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Preliminary report of CHIME dating on detrital monazite grains from the Namurian Poruba Beds and the Stephanian Kwaczala Arkose in the Upper Silesia Coal Basin, Poland

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ABSTRACT

This paper reports on preliminary results of the CHIME (chemical Th-U-total Pb isochron method) dating of detrital monazites from sandstone samples of the Upper Silesia Coal Basin. A total of 1012 spots on 203 monazite grains were dated for the Poruba Beds of the Namurian Paralic Series (sample POR1/12), and a total of 1060 spots on 212 monazite grains for the Stephanian Kwaczala Arkose (sample KA1/12). The ages of detrital monazite grains in POR1/12 cluster around 300 Ma with subordinate concentrations around 330 Ma, 360 Ma, 420 Ma and 530 Ma. Most monazite grains in KA1/12 have ages that range from 310 Ma to 330 Ma, and the rest yield a *c.* 300 Ma age. Monazite grains older than 360 Ma are rare in KA1/12. Although *c.* 300 Ma monazite ages are inconsistent with the Namurian fauna age for the Poruba Beds, the predominance of 300–330 Ma detrital monazites suggests a very fast denudation of the crystalline source areas. A major source area may be the Variscan lithologies of the Bohemian Massif.

INTRODUCTION

The Upper Silesia Coal Basin, a large marine to non-marine sedimentary basin of late Carboniferous age, is located in southwestern Poland and the northeastern Czech Republic (Fig. 1). It covers an area of around 7400 km^2, 5800 km^2 of which lies within Poland. The basin is one of the largest coal basins in Europe, and has been mined for over 200 years.

It represents the erosional remnants of the Moravian-Silesian Basin, which was situated within a foreland of orogenic zones of the Variscan system during the Carboniferous (Kotas, 1977). The basement of the Moravian-Silesian Basin consists of the Precambrian crystalline rocks of Cadomian Brno-Upper Silesia Massif (Moravo-Silesian foreland) and Devonian strata. The profile includes pre-flysh carbonate associations, marine clastic sediments of flysh association, and a coal-bearing molasse of a foredeep depression (Fig. 2). Petrological study of clasts in flysh and molasse associations suggests that the clastic materials were mostly derived from gneisses and granitoids of the Bohemian Massif (Paszkowski *et al.*, 1995). Further studies are needed to establish this conclusion. Clastic sediments contain monazite as detrital grains. We

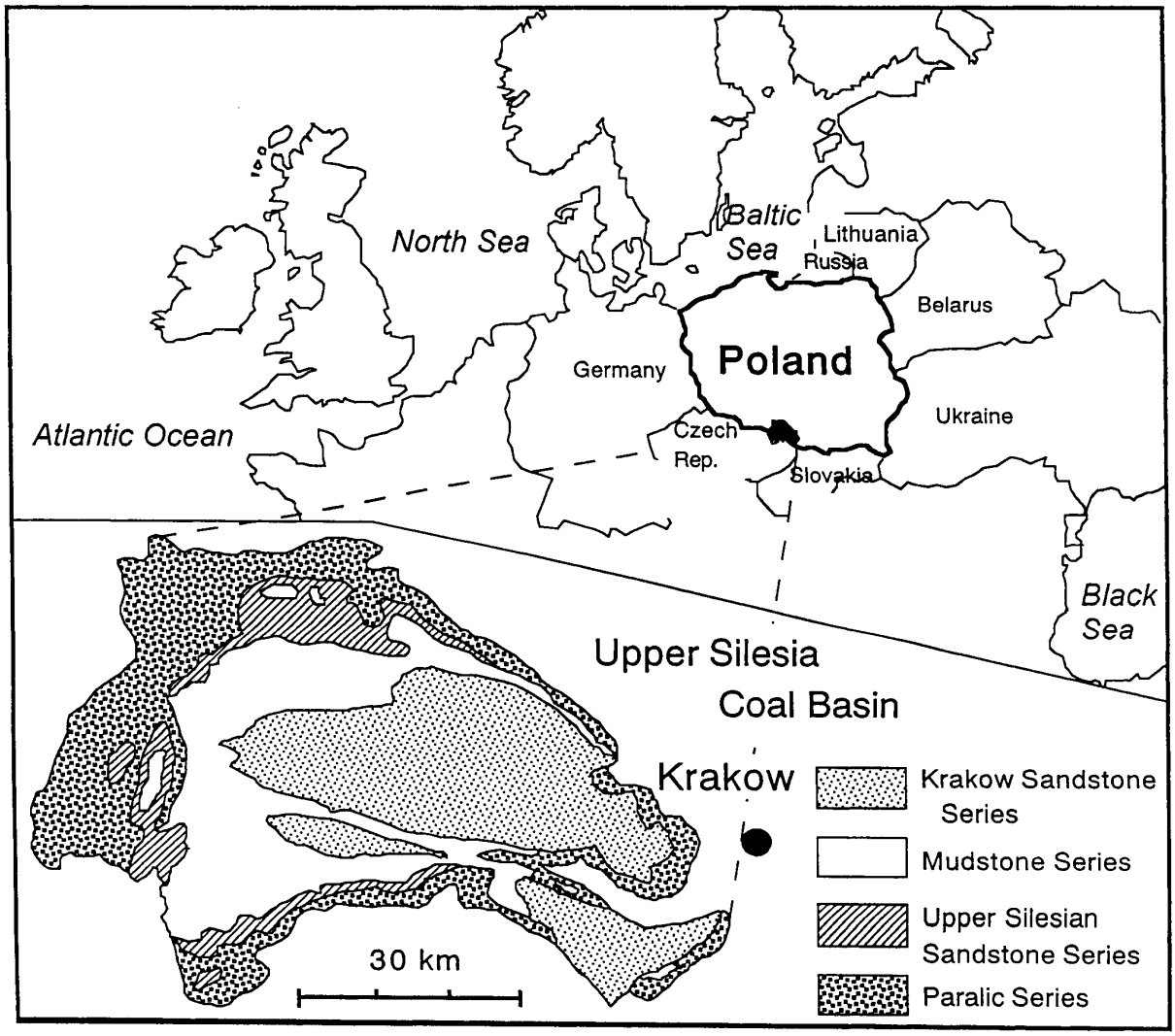

Fig. 1. Location and simplified geologic sketch map of the Upper Silesia Coal Basin.

anticipate that the ages of individual monazite grains can provide an important criterion to clarify provenance. For single grain and/or sub-grain dating of monazite, the chemical Th-U-total Pb isochron method (CHIME) has been developed on the basis of precise electron probe microanalysis (Suzuki *et al.*, 1991; Suzuki and Adachi, 1991 a, b). This method, offering high spatial resolution, is well suited to the study of sedimentary rocks where monazite grains are not chronologically uniform and many age data are required to characterize age populations. To understand the provenance and sedimentation processes of the Upper Silesia Coal Basin, CHIME age determinations were conducted on detrital monazite grains from sandstone samples. Although CHIME dating is still in progress, we present the dating results of monazite grains from the Namurian Poruba Beds and the Stephanian Kwaczala Arkose, and discuss their meaning.

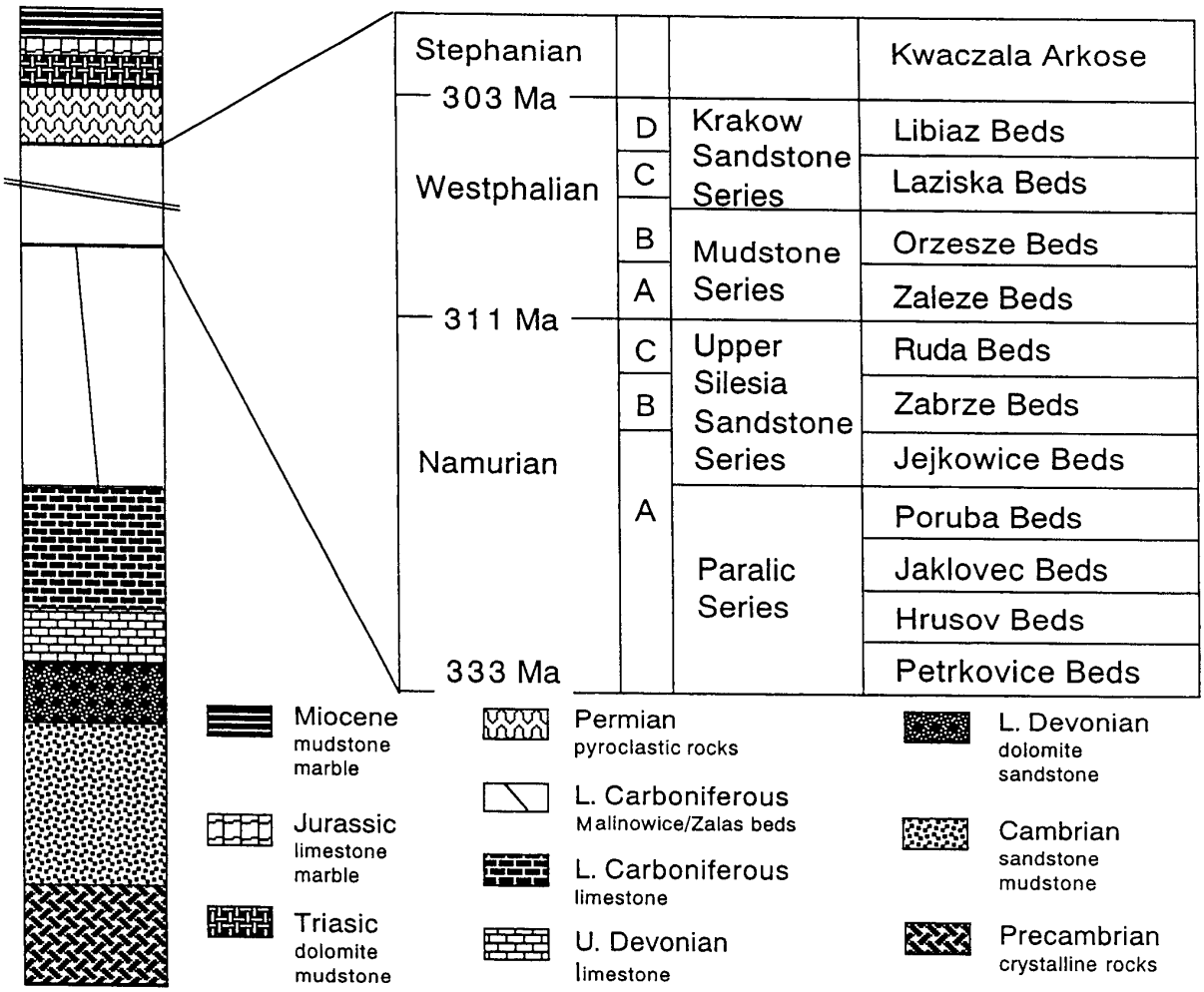

Fig. 2. Stratigraphic classification and generalized sequence of late Carboniferous formations in the Upper Silesia Coal Basin.

STRATIGRAPHY AND SAMPLING

The coal-bearing rocks of the Upper Silesia Coal Basin concordantly overlie sediments of the lower Carboniferous flysh association, and include 4 lithostratigraphic series: the Paralic Series, the Upper Silesia Sandstone Series, the Mudstone Series and the Krakow Sandstone Series (Fig. 1). The total thickness is about 8500 m (Kotas, 1994, Jureczka and Kotas, 1995). The basal Paralic Series features a conspicuous influence of periodic marine transgressions, and is separated by a sedimentary gap from the overlying series (Fig. 2). The uppermost Krakow Sandstone Series is overlain by the Kwaczala Arkose, which was deposited in an arid environment (Kotas, 1995). The Kwaczala Arkose contains silicified tree trunks identified as *Dadoxylon*, and is assigned to the Stephanian stage (Siedlecki, 1954).

The Paralic Series is a nearshore sedimentary sequence assigned to the Namurian A stage (Kotas and Malczyk, 1972). It is subdivided into the Petrkovice, Hrusov, Jaklovec and Poruba Beds (Jureczka and Kotas, 1995). Individual beds are composed of conglomerate, sandstone, siltstone, claystone and phytogenic rocks (coaly shales

and coals). The diagnostic feature of the Paralic Series is the presence of numerous horizons with marine, brackish and fresh water fauna. The Upper Silesia Sandstone Series is distinguished by the predominance of sandstone and conglomerate over claystone and siltstone, and the lack of horizons with marine fauna. This series has been grouped into the Zabrze Beds (up to 290 m in thickness) and the overlying Ruda Beds (as much as 810 m in thickness). In the eastern part of the basin, the Jejkowice Beds of sandstone and conglomerate around 150 m thick lie beneath the Zabrze Beds. The Mudstone Series, characterized by the presence of abundant fauna and thick stigmaria soils, is composed of the Zaleze Beds of about 1200 m in thickness and the Orzesze Beds of about 600 m in thickness. This series is assigned to the whole of the Westphalian A stage and the lower Westphalian B stage (Stopa, 1957 and 1967). The Krakow Sandstone Series (Dembowski, 1972) bears a sharp lithologic contrast with the underlying Mudstone Series, and terminates the limnic sedimentation of the coal-bearing Carboniferous. This series is subdivided into Laziska Beds (1100 m in maximum thickness) and Libiaz Beds (560 m in maximum thickness), separated by a stratigraphic gap. Both beds consist mainly of sandstone, pebbly sandstone and conglomerate. The Krakow Sandstone Series lies within the upper Westphalian B, Westphalian C and Westphalian D stages.

The sediments of the Upper Silesia Coal Basin are covered by Quaternary, Miocene, and Triassic rocks, and in the southernmost part by rocks of the alpine Carpathian overthrust. Carboniferous outcrops are very sparse, and exposures are accessible almost exclusively in mines. Exceptionally good outcrops of the Namurian Paralic Series are exposed at a cliff excavation in the housing estate of Rydultowy, about 100 km west of Krakow. A sandstone sample for monazite separation (POR1/12) was collected from the cliff excavation. It is a medium- to coarse-grained sandstone belonging to the Poruba Beds of the upper Paralic Series. Another sample (KA1/12) was collected from a sandstone horizon of the Kwaczala Arkose in Grodek Gorge. About 25 kg of each sample were crushed on a stamp mill. Size reduction was undertaken only to the extent necessary for the desegregation of monazite, through periodic sieving with 60 mesh before further crushing and sieving. Monazite and other heavy minerals were concentrated from each powdered sample using magnetohydrostatic separator and an isodynamic magnetic separator. Monazite grains were hand-picked and mounted on a glass slide with an Epoxy resin. After setting on a hot plate at 150°C for 15 minutes, the samples were polished with diamond paste until the grains were thinned to approximately half-thickness.

CHIME AGE CALCULATION AND MONAZITE ANALYSIS

Monazite contains both Th and U. Natural Th consists mainly of the radioactive isotope ^{232}Th, and natural U consists of two radioactive isotopes, ^{235}U and ^{238}U. These radioactive isotopes decay into Pb:

^{232}Th $\Rightarrow$ 6 alphas + 4 betas + ^{208}Pb
^{235}U $\Rightarrow$ 7 alphas + 4 betas + ^{207}Pb
^{238}U $\Rightarrow$ 8 alphas + 6 betas + ^{206}Pb

The number of atoms of ^{208}Pb, ^{207}Pb and ^{206}Pb that accumulate over time τ is given in terms of the present-day amounts of ^{232}Th, ^{235}U and ^{238}U;

$$^{208}Pb = {}^{232}Th\{\exp(\lambda_{232}\tau) - 1\}$$
$$^{207}Pb = {}^{235}U\{\exp(\lambda_{235}\tau) - 1\}$$
$$^{206}Pb = {}^{238}U\{\exp(\lambda_{238}\tau) - 1\}$$

where λ symbolizes the decay constant of each isotope; $\lambda_{232} = 4.9475\times10^{-11}y^{-1}$, $\lambda_{235} = 9.8485\times10^{-10}y^{-1}$ and $\lambda_{235} = 1.55125\times10^{-10}y^{-1}$ (Steiger and Jäger, 1977).

Monazite contains initial (common) Pb as well as radiogenic Pb:

$$\begin{aligned}\text{Total Pb} &= Pb_{initial} + {}^{208}Pb + {}^{207}Pb + {}^{206}Pb \\ &= Pb_{initial} + {}^{232}Th\{\exp(\lambda_{232}\tau) - 1\} \\ &\quad + {}^{235}U\{\exp(\lambda_{235}\tau) - 1\} + {}^{238}U\{\exp(\lambda_{238}\tau) - 1\}\end{aligned}$$

Since $^{238}U/^{235}U = 137.88$ (Steiger and Jäger, 1977) and $^{232}Th = Th$, the above equation can be written:

$$\text{Total Pb} = Pb_{initial} + Th\{\exp(\lambda_{232}\tau) - 1\} + U\left\{\frac{\exp(\lambda_{235}\tau) + 137.88\exp(\lambda_{238}\tau)}{138.88}\right\} - 1$$

Normally, individual parts of a single grain and/or monogenetic grains of a particular mineral contain nearly the same amounts of $Pb_{initial}$ but different amounts of Th and U. Ages and $Pb_{initial}$ values can be obtained by means of an isochron method from a data set of electron microprobe analyses for ThO_2, UO_2 and PbO. Although the details of the CHIME age calculation had been reported elsewhere (Suzuki *et al.*, 1991 and 1994; Suzuki and Adachi, 1991 a, b, 1994, 1998), an outline of isochron calculations for Th-rich monazite is given below for convenience. First, we calculate an apparent age (t) from each set of ThO_2, UO_2 and PbO analyses (wt.%) by solving the equation:

$$\frac{PbO}{W_{Pb}} = \frac{ThO_2}{W_{Th}}\{\exp(\lambda_{232}\tau) - 1\} + \frac{UO_2}{W_U}\left\{\frac{\exp(\lambda_{235}\tau) + 137.88\exp(\lambda_{238}\tau)}{138.88} - 1\right\}$$

where W symbolizes the gram-molecular weight of each oxide ($W_{Pb} = 224$ for Th-rich monazite, $W_{Th} = 264$ and $W_U = 270$). To eliminate the effect of variations in the Th/U ratio on total Pb produced over a given time span, we turn the sum of ThO_2 and UO_2 into ThO_2* by:

$$ThO_2^* = ThO_2 + \frac{UO_2 W_{Th}}{W_U\{\exp(\lambda_{232}\tau) - 1\}}\left\{\frac{\exp(\lambda_{235}\tau) + 137.88\exp(\lambda_{238}\tau)}{138.88} - 1\right\}$$

If individual parts of a single monazite grain and/or co-genetic monazite grains contain the same amounts of initial Pb but different amounts of Th and U, all analytical data will plot on a straight line with the slope (m) and intercept (b); *i.e.*:

$$PbO = m\ ThO_2^* + b$$

A best-fit regression line is determined through the procedure of York (1966), taking account of uncertainties in the microprobe analyses, and the first approximation of age (T) is calculated from the slope (m) of equations:

$$T = \frac{1}{\lambda_{232}} \ln \left\{ 1 + m \frac{W_{Th}}{W_{Pb}} \right\}$$

Then, a second approximation by replacing the apparent ages (t) with the first approximation (T), and so on. The intercept (b) of the line is assumed to represent the concentration (wt.%) of the initial PbO. A significant amount of initial Pb or Pb-loss, if present, would shift the intercept of the regression line from the origin, or would not form an isochronal. Normally, the regression for monazite passes through the origin. Evidently, the CHIME age calculation is not applicable for monazite that shows little variation in the Th and U concentrations. If this is the case, an arithmetic average of apparent ages approximates the date of monazite formation.

Monazite was analyzed on a JEOL JCXA-733 electron probe microanalyzer equipped with four wavelength-dispersive type spectrometers (Rowland circle diameter = 280mm). The accelerating voltage was 15 kV, the probe current was around 300 nA, and the probe diameter was 5–7 μm. We used 4 PET crystals to analyze ThMα, UMβ, PbMα and YLα simultaneously. Comparison standards were euxenite provided by Smellie *et al.* (1978) for Th and U, and a synthesized glass (10.18 wt. % PbO, Suzuki and Adachi, 1998) for Pb. X-ray intensities were integrated for 300s for the line and 150s for the background at two optimum positions on both side of the line, by means of 5 times cyclic stepping of spectrometers on individual peak and background positions. The spectral interference of YLγ on PbMα was corrected with:

$$\text{Net PbM}\alpha\text{ (sample)} = \text{measured PbM}\alpha\text{ (sample)} - \text{measured YL}\alpha\text{ (sample)}\ \frac{\text{PbM}\alpha\text{ position YL}\gamma}{\text{YL}\alpha\text{ (Pb free Y standard)}}$$

Raw intensity data of ThMα, UMβ, PbMα and YLα were converted into concentrations using an analytical data-set of natural monazite as the matrix composition (0.905 SiO_2, 11.2% La_2O_3, 27.4% Ce_2O_3, 2.68% Pr_2O_3, 12.0% Nd_2O_3, 2.12% Sm_2O_3, 0.705% Gd_2O_3, 0.16% Tb_2O_3, 0.21% Dy_2O_3, 1.29% CaO and 28.6% P_2O_5 with 10.3% ThO_2, 0.08 UO_2, 0.90 Y_2O_3 and 0.525% PbO). Evidently, individual spots will have different compositions from the above, but small differences in the matrix composition barely affect the ThO_2, UO_2, PbO and Y_2O_3 determinations. The maximum error in this calculation, around 1% of the concentration, is close to or less than the uncertainty in the X-ray counting.

The detection limit of PbO at the 2σ-confidence level is 0.007%, and the relative error in the PbO determination is around 6% for 0.1 wt.% concentration. The relative errors in the ThO_2 and UO_2 determinations are around 2–3% at 0.5 wt.% concentrations and much better (<2%) for higher concentrations. The ThO_2, UO_2, PbO and Y_2O_3 analytical data of monazite together with apparent ages and calculated ThO_2* concentrations are given in the Appendix.

RESULTS

POR1/12: A total of 1012 spots on 203 monazite grains were analyzed. Although the ThO_2 contents range from 0.945 to 27.9 wt.%, and the UO_2 from 0.069 to 2.5 wt.%, individual grains show little internal variation in ThO_2 and UO_2 contents. The analytical data are plotted on a PbO *vs.* ThO_2* diagram (Fig. 3). Most data points lie around the 300 Ma reference isochron, and the rest between the 350 and 500 Ma reference isochrons. Most grains are chronologically homogeneous with apparent ages of 290–350, 440 and 530 Ma. Zoned grains fall into two groups: 280–350 Ma grains with cores of *c.* 500 Ma and 280–350 Ma grains with portions as young as 250 Ma along grain margins and/or cracks. Apparent ages younger than 280 Ma may be ascribed to partial reopening of the Th-U-Pb system after crystallization.

Figure 4 shows the PbO *vs.* ThO_2* plots of several monazite grains, which show a wide variation in ThO_2* content. Four monazite grains yield five-point isochrons with ages of 299±36 Ma for M002, 277±23 Ma for M003, 287±27 Ma for M005 and 307±44 Ma for M160. These isochrons have low MSWD values (0.14–0.70). The larger MSWD value for M005 (1.41) is owing to a data-point with a higher Y_2O_3 concentration (2.31%) than the other data (0.78–1.71 wt%). If we discard M005-5 data point, we obtain a 298±7 Ma CHIME age with a MSWD value of 0.10. Since these isochrons are well defined and pass through the origin, *c.* 300 Ma CHIME ages appear to be reliable. Monazite grains M071, M101, M121 and M143 yield slightly older isochrons of 321±46 Ma, 326±20 Ma, 339±29 Ma and 322±41 Ma, respectively. Monazite grains from high-grade metamorphic rocks show little intra-grain variation in composition, unless they have undergone subsequent recrystallization and/or multistage growth. In contrast, monazite crystallized from a magma may contain growth zoning with variable compositions. The wide variation in the ThO_2 and UO_2 contents but almost uniform apparent ages suggests that the *c.* 300 and 320 Ma monazite grains were derived from magmatic source rocks.

KA1/12: A total of 1060 spots on 212 monazite grains were analyzed. Y_2O_3 contents range from 0.01 to 3.77 wt.%, ThO_2 contents from 2.13 to 17.9 wt.% and UO_2 contents from 0.056 to 3.03 wt.%. Most data points, like those in sample POR1/12, plot around the 300 Ma reference isochron (Fig. 4). The frequency of 330–350 Ma ages is higher in this sample than in sample POR1/12, despite the lower stratigraphic position of the latter (POR1/12) sample. Lower Paleozoic (>400 Ma) ages are rare in sample KA1/12.

Most grains are compositionally and chronologically homogeneous, but several grains show sizable variation in the ThO_2 and UO_2 contents (Fig. 5). Four monazite grains yield five-point isochrons with ages of 315±44 Ma for M003, 304±19 Ma for M081, 318±47 Ma for M097 and 342±46 Ma for M115.

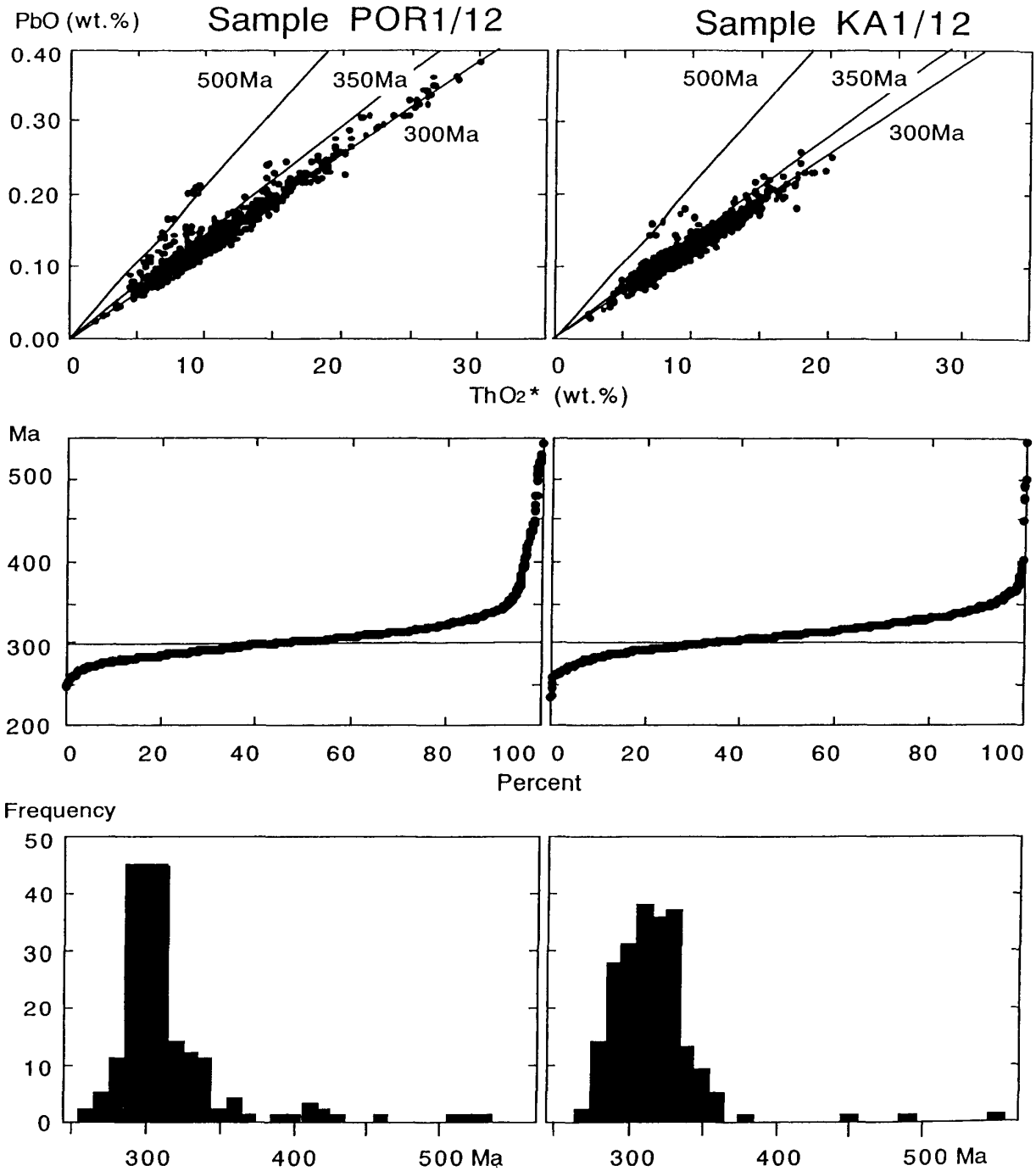

Fig. 3. Plots of PbO *vs.* ThO_2*, cumulative distributions and frequency distribution of apparent ages for detrital monazite grains in sandstone samples of the Poruba Beds (POR1/12) and the Kwaczala Arkose (KA1/12).

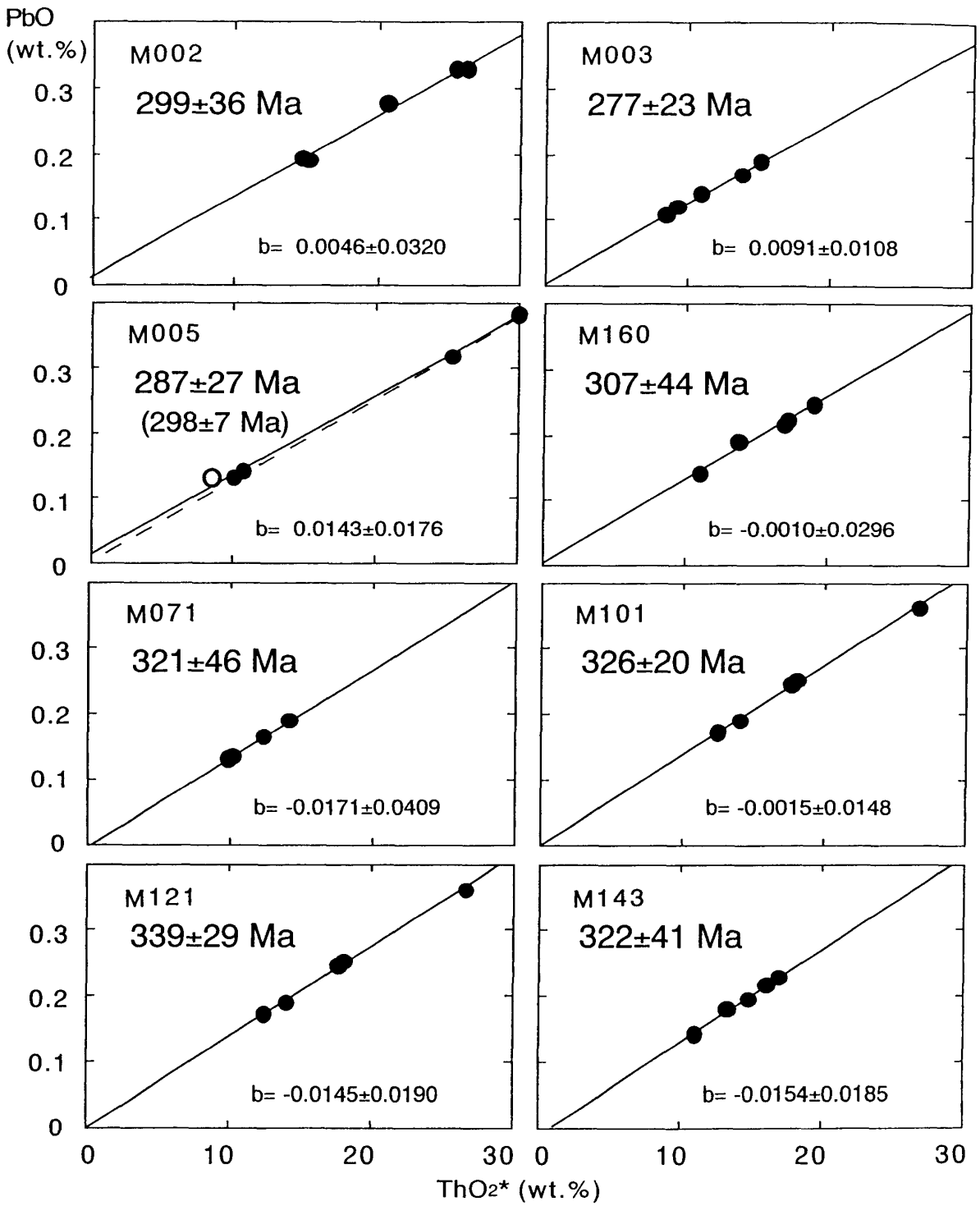

Fig. 4. Plots of PbO *vs.* ThO_2* for monazite grains from sample POR1/12. Errors given in age and intercept value are 2σ.

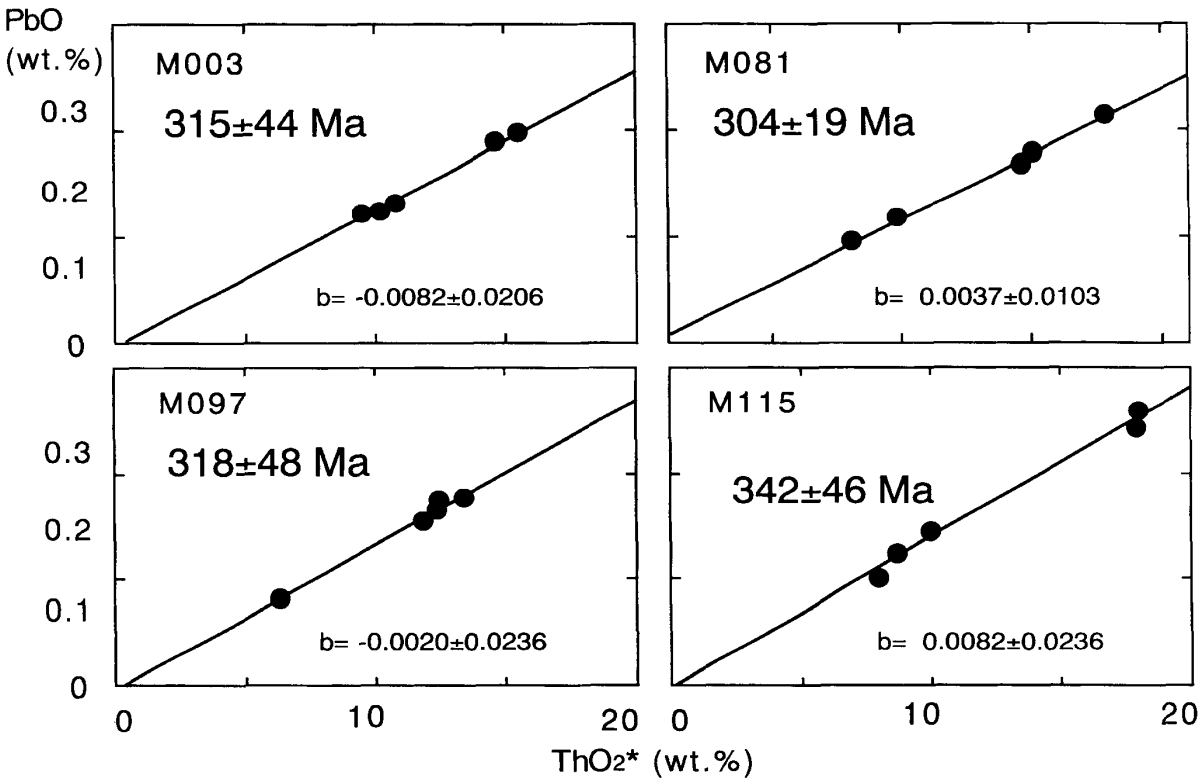

Fig. 5. Plots of PbO *vs.* ThO_2* for monazite grains from sample KA1/12. Errors given in age and intercept value are 2σ.

DISCUSSION

A surprising result of this study is the considerable number of *c.* 300 Ma monazite grains in sandstones from both the Poruba Beds and the Kwaczala Arkose. These ages place a constraint on the timing of sedimentation for the Poruba Beds. However, the 300 Ma ages points to the Stephanian stage of Carboniferous according to Harland *et al.* (1990), and is inconsistent with the fauna age of the Namurian stage (Jureczka and Kotas, 1995) for the Poruba Beds. It is possible that the monazites are older, and the Th-U-Pb isotopic systems were reset by post-sedimentary processes. The lack of metamorphism in the sandstones, however, make this unlikely. It is also possible that, despite field relationships, the sandstone is unrelated to the paleontologically dated beds; however, a preliminary K-Ar age of detrital white mica from the Poruba Beds (313.2 Ma) is slightly but distinctly younger than the faunal and stratigraphic age of 330 Ma (Banas *et al.*, 1995). If this is the case, the stratigraphic age of the Poruba Beds is slightly younger than has been thought.

The well-defined *c.* 320 Ma CHIME ages point to the Namurian stage, and are in good agreement with the fauna and stratigraphic age for the Poruba beds. If these ages are taken as representing crystallisation ages of the source rocks, rapid denudation of the crystalline source areas must have occurred. A likely source is the Variscan crystalline rocks of the Bohemian Massif. $^{40}Ar/^{39}Ar$ ages of 283±3 to 330±6 Ma for biotite and hornblende have been obtained for the Desna, Keprnik and Snieznik domes

of the northeastern Bohemian Massif (Maluski *et al.*, 1995). $^{40}Ar/^{39}Ar$ and Sm-Nd isochron ages of 330 to 360 Ma have been determined for eclogitic rocks in the Erzgebrige Crystalline Complex of northern Bohemian Massif (Schmadicke *et al.*, 1995). Maluski and Patocka (1997) reported phengite ages of the 287±5 to 359±2 Ma for the Rychory Mountain complex of the northeastern Bohemian Massif, and 340±1 to 345±5 Ma U-Pb monazite and zircon ages have been obtained for granulites in the southeastern part of the Bohemian Massif (Schenk and Todt, 1981; van Breemen *et al.*, 1982). Crystalline rocks in the northeastern Bohemian Massif appear to be a likely source of detrital materials in the Carboniferous basin. On the basis of petrological study of clasts, Paszkowski *et al.* (1995) considered several metamorphic complexes in the Bohemian Massif as potential sources of detrital material. They are: (1) a complex mega-dome (terrane) of Moldanubian metamorphic and magmatic rocks, Moravicum-Silesicum crystalline nappes and domes, and Krusne Hory crystallinicum in the Czech Republic; and (2) Sudetes crystalline domes (e.g. Klodzko-Orlica dome and Sowie Gory dome) occurring mainly in Poland. This preliminary results are consistent with the provenance suggested by Paszkowski *et al.* (1995).

Aside from the 360–300 Ma monazite ages, the 420 and 530 Ma age-clusters point to late Cadomian and Caledonian to early Variscan (Bretonian) crystalline terranes in the provenance. Alternatively these ages may represent populations of polygenetic, recycled or inherited grains in younger source rocks.

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Appendix Electron microprobe analyses of Y_2O_3, ThO_2, UO_2 and PbO together with ThO_2* (sum of the measured ThO_2 and ThO_2 equivalent of measured UO_2) and apparent age (Ma) in detrital monazite grains from sandstone samples of the Poruba beds (POR1/12) and the Kwaczala Arkose (KA1/12).

Spot	Y2O3	ThO2	UO2	PbO	Age	ThO2*
Sample POR1/12						
M001-1	0.37	9.97	0.186	0.128	286	10.6
M001-2	0.39	9.85	0.173	0.124	281	10.4
M001-3	0.37	9.36	0.169	0.119	283	9.91
M001-4	0.35	9.52	0.170	0.120	282	10.1
M001-5	0.33	9.36	0.181	0.116	276	9.95
M002-1	0.91	22.7	1.07	0.329	297	26.2
M002-2	0.90	22.9	0.743	0.328	305	25.4
M002-3	0.84	19.1	0.458	0.276	316	20.6
M002-4	0.82	13.6	0.462	0.191	298	15.1
M002-5	0.74	13.3	0.448	0.193	310	14.7
M003-1	0.48	6.26	0.710	0.108	297	8.57
M003-2	0.36	7.94	0.927	0.140	301	11.0
M003-3	0.30	12.2	0.972	0.190	292	15.4
M003-4	0.31	10.9	0.936	0.169	287	13.9
M003-5	0.26	6.66	0.815	0.120	303	9.31
M004-1	0.39	5.85	0.746	0.0904	258	8.27
M004-2	0.28	6.92	0.436	0.0948	269	8.33
M004-3	0.29	7.86	1.28	0.141	276	12.0
M004-4	0.29	6.67	0.722	0.101	264	9.01
M004-5	0.95	5.86	0.945	0.113	299	8.94
M005-1	0.78	27.9	0.634	0.383	302	30.0
M005-2	0.85	23.5	0.548	0.319	298	25.3
M005-3	1.42	8.56	0.484	0.130	303	10.1
M005-4	1.71	9.64	0.369	0.141	306	10.8
M005-5	2.31	7.85	0.235	0.129	353	8.62
M006-1	1.76	6.80	0.420	0.127	366	8.17
M006-2	2.78	8.89	0.254	0.153	372	9.72
M006-3	2.75	5.95	0.330	0.119	398	7.03
M006-4	2.81	6.18	0.561	0.122	359	8.01
M006-5	2.82	6.80	0.509	0.157	435	8.47
M007-1	2.59	5.27	0.238	0.105	409	6.05
M007-2	3.00	5.09	0.251	0.108	429	5.92
M007-3	2.93	5.14	0.481	0.119	416	6.72
M007-4	2.01	5.46	0.410	0.0927	322	6.80
M007-5	2.09	5.63	0.420	0.0981	331	6.99
M008-1	0.25	6.52	0.450	0.0851	252	7.98
M008-2	0.19	6.04	0.451	0.0882	277	7.51
M008-3	0.26	6.48	0.520	0.0965	279	8.17
M008-4	0.77	5.14	0.469	0.0837	297	6.66
M008-5	0.94	5.36	0.535	0.0942	313	7.10
M009-1	0.35	11.2	0.272	0.139	272	12.0
M009-2	0.36	11.4	0.275	0.140	270	12.3
M009-3	0.34	11.6	0.282	0.148	279	12.5
M009-4	0.35	11.0	0.252	0.132	265	11.8
M009-5	0.34	10.2	0.249	0.129	277	11.0
M010-1	0.22	18.2	0.261	0.231	287	19.0
M010-2	0.24	19.3	0.268	0.227	267	20.1
M010-3	0.22	16.9	0.249	0.227	302	17.7
M010-4	0.23	18.0	0.264	0.237	297	18.8
M010-5	0.22	16.8	0.254	0.215	288	17.6
M011-1	0.32	9.83	0.202	0.128	288	10.5
M011-2	0.35	10.9	0.218	0.137	277	11.7
M011-3	0.37	10.9	0.222	0.135	274	11.6
M011-4	0.32	8.87	0.179	0.107	268	9.46
M011-5	0.30	8.28	0.168	0.109	290	8.83
M012-1	2.59	4.60	0.674	0.100	347	6.81
M012-2	2.51	4.09	0.565	0.0829	329	5.94
M012-3	2.43	3.86	0.247	0.0781	394	4.67
M012-4	2.47	3.81	0.236	0.0865	444	4.59
M012-5	2.64	4.79	0.266	0.0974	405	5.66
M013-1	3.11	7.53	0.431	0.149	392	8.94
M013-2	3.11	7.62	0.409	0.157	413	8.96
M013-3	2.59	7.38	0.374	0.143	391	8.60
M013-4	2.71	8.22	0.399	0.148	367	9.52
M013-5	3.36	7.16	0.415	0.153	422	8.52
M014-1	0.94	4.81	0.211	0.0834	358	5.50
M014-2	0.82	5.80	0.203	0.0924	337	6.46
M014-3	0.66	9.84	0.215	0.138	308	10.5
M014-4	0.76	12.1	0.292	0.181	327	13.0
M014-5	0.79	5.28	0.171	0.0776	314	5.84
M015-1	2.91	9.54	0.312	0.168	374	10.6
M015-2	2.79	9.60	0.300	0.165	367	10.6
M015-3	3.22	12.0	0.283	0.196	357	12.9
M015-4	3.19	11.3	0.270	0.175	338	12.2
M015-5	2.45	10.1	0.208	0.163	356	10.8
M016-1	1.91	4.90	0.284	0.108	436	5.83
M016-2	0.93	4.54	0.238	0.0861	382	5.32
M016-3	2.87	4.57	0.312	0.106	444	5.59
M016-4	2.93	4.99	0.300	0.112	439	5.97
M016-5	0.77	4.38	0.254	0.0893	403	5.21
M017-1	2.07	12.7	0.583	0.242	390	14.6
M017-2	1.84	12.4	0.609	0.240	393	14.4
M017-3	2.70	14.3	0.436	0.243	364	15.8
M017-4	2.65	13.0	0.434	0.223	366	14.4
M017-5	2.14	12.7	0.718	0.228	357	15.0
M018-1	1.35	8.61	0.402	0.129	306	9.92
M018-2	1.28	8.88	0.374	0.139	324	10.1
M018-3	0.84	7.95	0.254	0.107	287	8.78
M018-4	0.78	9.27	0.192	0.129	307	9.90
M018-5	0.83	9.27	0.195	0.118	281	9.90
M019-1	2.93	5.47	0.619	0.109	343	7.49
M019-2	1.51	3.35	0.781	0.0766	307	5.89
M019-3	0.71	2.61	0.671	0.0689	339	4.80
M019-4	2.82	5.67	0.589	0.106	330	7.59
M019-5	3.06	5.66	0.667	0.120	360	7.84
M020-1	2.97	8.93	0.868	0.163	328	11.8
M020-2	2.80	8.03	0.795	0.154	342	10.6
M020-3	2.77	8.09	0.753	0.147	329	10.5
M020-4	3.01	8.46	0.797	0.162	345	11.1
M020-5	2.88	7.84	0.795	0.150	339	10.4
M021-1	0.91	9.53	0.311	0.137	308	10.5
M021-2	0.80	9.51	0.268	0.137	311	10.4
M021-3	0.97	9.23	0.300	0.136	314	10.2
M021-4	1.11	10.2	0.306	0.143	303	11.2
M021-5	1.07	10.4	0.285	0.140	291	11.4
M022-1	1.84	9.30	0.208	0.124	292	9.97
M022-2	1.04	8.12	0.138	0.109	299	8.57
M022-3	1.98	7.97	0.674	0.140	326	10.2
M022-4	1.18	9.95	0.333	0.138	296	11.0
M022-5	1.04	9.89	0.262	0.128	282	10.7
M023-1	0.12	24.1	0.768	0.349	310	26.6
M023-2	0.14	24.3	0.766	0.349	307	26.8
M023-3	0.14	22.7	0.693	0.329	311	24.9
M023-4	0.14	20.8	0.544	0.293	306	22.6
M023-5	0.15	20.9	0.614	0.295	304	22.9
M024-1	2.45	5.30	1.09	0.120	319	8.84
M024-2	2.94	5.30	1.04	0.137	370	8.71
M024-3	0.85	6.60	1.42	0.143	302	11.2
M024-4	0.84	5.95	1.37	0.147	332	10.4
M024-5	1.68	5.84	0.863	0.119	323	8.65
M025-1	0.66	7.78	0.234	0.109	301	8.55
M025-2	0.62	8.80	0.266	0.118	288	9.66
M025-3	0.60	8.05	0.241	0.120	321	8.83
M025-4	0.63	9.07	0.262	0.130	310	9.92

Spot	Y_2O_3	ThO_2	UO_2	PbO	Age	ThO_2*
M025-5	0.63	7.48	0.214	0.104	300	8.17
M026-1	1.03	6.33	0.725	0.109	297	8.69
M026-2	1.02	6.38	0.743	0.117	313	8.80
M026-3	1.07	6.27	0.772	0.117	313	8.79
M026-4	1.09	6.12	0.784	0.110	300	8.67
M026-5	1.25	6.05	0.756	0.103	287	8.51
M027-1	2.27	8.00	0.191	0.112	308	8.62
M027-2	2.26	7.94	0.175	0.116	321	8.52
M027-3	2.29	7.96	0.196	0.108	296	8.59
M027-4	2.23	8.15	0.199	0.119	320	8.80
M027-5	2.32	8.65	0.189	0.118	300	9.26
M028-1	2.66	5.36	0.724	0.110	335	7.72
M028-2	0.32	6.27	0.713	0.111	306	8.59
M028-3	2.52	5.52	0.679	0.108	330	7.74
M028-4	2.02	5.14	1.10	0.117	317	8.72
M028-5	2.57	5.59	0.686	0.101	304	7.82
M029-1	1.62	8.05	0.316	0.110	285	9.07
M029-2	1.12	6.86	0.159	0.0907	290	7.38
M029-3	0.99	6.49	0.138	0.0803	273	6.94
M029-4	1.74	7.30	0.282	0.107	308	8.21
M029-5	1.52	7.70	0.300	0.109	297	8.68
M030-1	2.71	4.01	1.05	0.0962	306	7.42
M030-2	2.55	4.10	0.885	0.0999	337	6.98
M030-3	0.47	5.79	0.887	0.112	305	8.67
M030-4	0.49	7.13	0.927	0.136	317	10.2
M030-5	2.55	4.48	0.959	0.108	335	7.61
M031-1	0.88	8.06	0.441	0.114	283	9.49
M031-2	1.83	6.69	1.24	0.140	308	10.7
M031-3	1.53	4.75	0.745	0.101	333	7.19
M031-4	1.79	6.23	1.22	0.143	330	10.2
M031-5	1.62	5.71	0.985	0.123	326	8.92
M032-1	0.65	3.67	0.934	0.0929	326	6.72
M032-2	0.45	4.39	0.822	0.0865	289	7.07
M032-3	0.44	7.32	1.02	0.143	316	10.7
M032-4	0.53	6.03	0.976	0.120	307	9.21
M032-5	0.64	6.22	1.04	0.124	305	9.59
M033-1	2.25	7.31	0.578	0.118	304	9.19
M033-2	1.53	6.03	0.487	0.0915	284	7.62
M033-3	2.12	6.33	0.873	0.126	323	9.18
M033-4	2.18	6.60	0.854	0.121	305	9.38
M033-5	2.02	7.01	0.651	0.129	334	9.13
M034-1	0.40	14.5	0.205	0.179	279	15.1
M034-2	0.49	12.6	0.196	0.167	298	13.3
M034-3	0.42	12.7	0.183	0.171	302	13.3
M034-4	0.33	13.9	0.205	0.174	283	14.5
M034-5	0.33	13.3	0.191	0.175	295	14.0
M035-1	2.76	5.36	0.962	0.117	323	8.50
M035-2	2.75	5.51	1.02	0.117	314	8.83
M035-3	2.32	6.66	0.747	0.120	311	9.09
M035-4	2.01	6.12	0.691	0.111	312	8.37
M035-5	2.14	5.54	0.816	0.107	308	8.20
M036-1	1.13	8.34	0.317	0.120	302	9.37
M036-2	1.09	8.10	0.310	0.109	282	9.11
M036-3	1.17	8.72	0.338	0.122	294	9.81
M036-4	2.31	8.51	1.34	0.155	285	12.9
M036-5	1.35	8.64	0.424	0.125	295	10.0
M037-1	2.66	5.63	1.07	0.113	294	9.11
M037-2	2.21	6.21	0.657	0.110	311	8.35
M037-3	2.26	6.86	0.699	0.119	307	9.14
M037-4	2.36	6.93	0.718	0.111	283	9.26
M037-5	2.37	6.33	0.670	0.109	302	8.51
M038-1	2.13	5.64	0.460	0.0871	288	7.13
M038-2	2.39	5.67	0.404	0.0848	287	6.98
M038-3	2.46	5.25	0.503	0.0914	313	6.89
M038-4	2.59	5.30	0.469	0.0956	330	6.83
M038-5	2.43	5.38	0.508	0.0920	309	7.04
M039-1	0.73	5.18	0.232	0.0698	278	5.93
M039-2	0.71	4.87	0.216	0.0652	277	5.57
M039-3	0.76	4.54	0.223	0.0607	272	5.26
M039-4	0.72	4.12	0.230	0.0556	270	4.87
M039-5	0.74	5.46	0.242	0.0719	272	6.24
M040-1	0.54	15.0	0.795	0.217	290	17.6
M040-2	0.66	15.8	0.692	0.220	289	18.0
M040-3	0.84	15.0	0.928	0.231	303	18.0
M040-4	0.75	13.0	0.868	0.198	295	15.9
M040-5	0.69	12.2	0.820	0.184	292	14.9
M041-1	2.35	5.58	0.706	0.100	300	7.88
M041-2	2.93	5.27	0.513	0.0892	303	6.94
M041-3	1.26	6.56	0.879	0.109	273	9.41
M041-4	1.21	6.52	0.875	0.120	303	9.37
M041-5	1.11	6.98	0.835	0.124	302	9.70
M042-1	0.29	8.87	0.247	0.117	286	9.67
M042-2	0.31	6.42	0.194	0.0839	281	7.05
M042-3	0.31	6.88	0.209	0.0870	272	7.56
M042-4	0.31	4.79	0.154	0.0644	288	5.29
M042-5	0.30	10.9	0.301	0.149	296	11.9
M043-1	0.61	9.74	0.568	0.145	294	11.6
M043-2	0.65	8.71	0.571	0.128	287	10.6
M043-3	0.51	11.5	0.683	0.167	286	13.8
M043-4	0.66	8.60	0.561	0.132	299	10.4
M043-5	0.63	9.09	0.581	0.131	281	11.0
M044-1	1.96	10.5	0.395	0.145	292	11.7
M044-2	1.91	10.5	0.395	0.143	286	11.8
M044-3	1.88	9.40	0.345	0.129	288	10.5
M044-4	1.93	9.97	0.364	0.147	311	11.2
M044-5	1.94	10.2	0.371	0.135	280	11.4
M045-1	0.56	8.71	0.204	0.113	284	9.38
M045-2	0.54	9.42	0.215	0.135	315	10.1
M045-3	0.55	9.68	0.225	0.124	282	10.4
M045-4	0.56	9.92	0.221	0.128	284	10.6
M045-5	0.55	9.72	0.215	0.126	285	10.4
M046-1	2.80	8.16	0.403	0.130	324	9.47
M046-2	2.79	7.90	0.386	0.111	286	9.15
M046-3	2.81	7.70	0.381	0.107	282	8.94
M046-4	2.61	8.12	0.341	0.112	286	9.23
M046-5	2.16	8.03	0.322	0.110	286	9.08
M047-1	2.98	5.80	0.737	0.110	316	8.20
M047-2	2.25	6.99	0.484	0.101	277	8.57
M047-3	0.22	7.87	0.730	0.123	283	10.2
M047-4	0.49	8.46	0.719	0.130	284	10.8
M047-5	2.89	5.63	0.616	0.0987	305	7.63
M048-1	0.69	3.12	0.094	0.0431	297	3.43
M048-2	0.94	5.92	0.149	0.0768	283	6.40
M048-3	0.82	5.99	0.158	0.0787	286	6.50
M048-4	0.78	7.01	0.178	0.0935	291	7.59
M048-5	0.77	7.15	0.172	0.0928	284	7.70
M049-1	0.56	8.45	0.529	0.125	290	10.2
M049-2	0.52	8.66	0.503	0.118	271	10.3
M049-3	0.55	8.01	0.531	0.115	279	9.73
M049-4	0.54	8.14	0.526	0.124	296	9.85
M049-5	0.55	8.15	0.532	0.122	293	9.88
M050-1	2.19	6.71	0.178	0.0904	293	7.29
M050-2	2.30	7.67	0.170	0.103	295	8.23
M050-3	1.75	7.78	0.190	0.104	293	8.40
M050-4	2.07	8.55	0.258	0.115	290	9.39
M050-5	3.01	13.8	0.741	0.209	304	16.2
M051-1	0.22	6.04	1.16	0.130	313	9.81
M051-2	0.22	6.10	1.14	0.131	315	9.81
M051-3	0.18	6.28	1.08	0.138	332	9.81
M051-4	0.21	5.86	1.10	0.131	326	9.46
M051-5	0.97	5.47	1.13	0.125	321	9.16
M052-1	1.63	6.16	0.553	0.101	299	7.96
M052-2	1.59	6.83	0.539	0.109	300	8.59
M052-3	1.14	6.63	0.477	0.100	289	8.18
M052-4	1.77	6.17	0.550	0.0940	279	7.96
M052-5	1.49	5.81	0.579	0.101	308	7.69
M053-1	0.18	7.09	0.214	0.0933	283	7.79
M053-2	0.19	6.85	0.232	0.0943	293	7.60
M053-3	0.19	6.62	0.231	0.0871	279	7.37
M053-4	0.19	5.93	0.245	0.0850	298	6.73

Spot	Y_2O_3	ThO_2	UO_2	PbO	Age	ThO_2*
M053-5	0.20	6.31	0.235	0.0774	258	7.08
M054-1	1.86	4.88	0.866	0.137	418	7.72
M054-2	2.22	4.83	0.787	0.133	423	7.41
M054-3	2.09	4.93	0.824	0.146	450	7.65
M054-4	2.95	4.91	0.822	0.136	421	7.61
M054-5	2.42	4.70	0.577	0.122	436	6.60
M055-1	1.13	10.1	0.288	0.127	273	11.0
M055-2	0.95	9.87	0.252	0.125	276	10.7
M055-3	0.97	9.91	0.270	0.139	303	10.8
M055-4	0.94	9.79	0.265	0.127	281	10.7
M055-5	0.90	9.81	0.261	0.128	283	10.7
M056-1	0.95	7.18	0.116	0.0897	280	7.56
M056-2	1.38	7.11	0.129	0.0825	259	7.52
M056-3	1.27	7.17	0.122	0.0815	254	7.57
M056-4	0.99	6.98	0.112	0.0889	286	7.35
M056-5	1.88	7.63	0.153	0.101	293	8.13
M057-1	3.33	6.43	0.757	0.121	320	8.90
M057-2	3.08	5.95	0.746	0.111	313	8.38
M057-3	3.22	5.58	0.828	0.106	303	8.27
M057-4	3.17	5.42	0.790	0.107	316	8.00
M057-5	2.78	6.05	0.329	0.0946	314	7.12
M058-1	0.57	10.6	0.351	0.147	295	11.7
M058-2	0.57	10.6	0.348	0.144	291	11.7
M058-3	0.64	10.7	0.370	0.145	288	11.9
M058-4	0.60	10.4	0.338	0.140	288	11.5
M058-5	0.65	11.3	0.362	0.150	285	12.5
M059-1	1.87	7.84	0.247	0.102	279	8.65
M059-2	1.59	9.12	0.304	0.131	306	10.1
M059-3	1.76	8.83	0.287	0.121	291	9.76
M059-4	1.91	9.45	0.396	0.135	297	10.7
M059-5	1.43	8.41	0.261	0.113	288	9.26
M060-1	0.37	11.5	0.253	0.148	283	12.3
M060-2	0.41	8.67	0.223	0.110	276	9.39
M060-3	0.47	9.73	0.250	0.122	273	10.5
M060-4	0.50	9.53	0.242	0.129	295	10.3
M060-5	0.94	8.52	0.293	0.116	288	9.47
M061-1	2.88	7.78	0.999	0.158	337	11.0
M061-2	3.03	7.58	0.969	0.160	352	10.7
M061-3	3.04	7.19	0.903	0.143	332	10.1
M061-4	2.75	6.65	0.892	0.141	348	9.56
M061-5	2.94	7.78	1.04	0.157	331	11.2
M062-1	2.25	1.67	0.907	0.0677	345	4.63
M062-2	1.63	1.91	0.998	0.0708	323	5.17
M062-3	2.23	1.64	1.01	0.0697	334	4.92
M062-4	2.06	3.84	0.796	0.0911	334	6.44
M062-5	2.56	1.80	0.838	0.0702	365	4.54
M063-1	1.49	6.58	0.435	0.0928	274	7.99
M063-2	2.23	5.98	0.502	0.0977	303	7.61
M063-3	2.51	6.68	0.462	0.108	312	8.19
M063-4	2.81	6.21	0.968	0.120	303	9.36
M063-5	2.26	6.66	0.880	0.133	330	9.53
M064-1	0.80	8.02	0.264	0.105	280	8.88
M064-2	0.64	6.96	0.151	0.0890	282	7.45
M064-3	2.33	4.87	0.771	0.0891	285	7.38
M064-4	0.59	6.91	0.169	0.0907	287	7.46
M064-5	2.30	5.11	0.756	0.110	341	7.57
M065-1	0.35	5.11	0.230	0.115	462	5.87
M065-2	0.78	5.27	0.451	0.149	518	6.76
M065-3	0.68	5.53	0.340	0.143	504	6.65
M065-4	0.29	6.53	0.348	0.166	509	7.67
M065-5	1.55	6.25	0.944	0.208	521	9.38
M066-1	0.94	13.9	0.948	0.217	301	17.0
M066-2	0.66	13.2	0.719	0.191	289	15.6
M066-3	0.61	15.3	0.851	0.218	285	18.1
M066-4	0.60	15.6	0.864	0.236	302	18.4
M066-5	0.72	15.8	0.947	0.236	294	18.9
M067-1	0.41	13.7	0.343	0.182	289	14.9
M067-2	0.44	14.6	0.332	0.198	298	15.7
M067-3	0.47	13.4	0.332	0.183	298	14.4
M067-4	0.53	7.15	0.238	0.0924	276	7.92
M067-5	0.56	13.0	0.347	0.182	304	14.1
M068-1	2.49	4.14	0.502	0.0788	322	5.77
M068-2	2.60	4.37	0.551	0.0898	343	6.17
M068-3	2.57	4.39	0.554	0.0864	329	6.20
M068-4	3.17	5.25	0.722	0.110	342	7.61
M068-5	3.35	5.88	0.748	0.121	343	8.32
M069-1	2.35	4.58	0.520	0.0836	314	6.27
M069-2	1.71	4.19	0.792	0.0866	302	6.77
M069-3	1.40	3.94	0.826	0.0892	317	6.63
M069-4	1.55	3.99	0.642	0.0767	298	6.08
M069-5	2.09	5.13	0.428	0.0815	295	6.52
M070-1	2.00	5.05	0.716	0.0992	317	7.38
M070-2	0.63	8.13	0.122	0.147	406	8.53
M070-3	0.77	6.87	1.27	0.148	316	11.0
M070-4	0.78	7.05	1.15	0.140	307	10.8
M070-5	0.77	6.04	1.13	0.128	311	9.71
M071-1	0.27	24.1	0.638	0.334	301	26.2
M071-2	0.27	24.6	0.622	0.348	309	26.6
M071-3	0.37	17.7	0.564	0.256	309	19.6
M071-4	0.20	16.8	0.576	0.230	290	18.7
M071-5	0.15	16.7	0.457	0.232	301	18.1
M072-1	0.70	8.03	0.187	0.100	274	8.63
M072-2	0.51	7.50	0.161	0.105	307	8.02
M072-3	0.50	7.24	0.154	0.0950	290	7.74
M072-4	0.81	7.99	0.199	0.0985	269	8.64
M072-5	0.91	8.33	0.222	0.116	302	9.05
M073-1	2.66	6.63	0.761	0.124	320	9.11
M073-2	2.17	8.89	0.521	0.142	317	10.6
M073-3	1.91	9.73	0.439	0.140	297	11.2
M073-4	2.09	9.94	0.625	0.153	301	12.0
M073-5	2.78	7.36	0.801	0.136	321	9.97
M074-1	2.93	9.09	1.57	0.205	340	14.2
M074-2	1.42	9.03	1.12	0.181	338	12.7
M074-3	2.92	9.59	1.43	0.205	339	14.3
M074-4	2.74	10.3	1.38	0.215	341	14.9
M074-5	2.59	8.25	1.87	0.206	339	14.4
M075-1	2.11	10.2	1.22	0.189	316	14.2
M075-2	1.45	9.74	0.820	0.165	314	12.4
M075-3	0.88	8.59	0.419	0.130	307	9.95
M075-4	0.85	8.66	0.427	0.133	313	10.0
M075-5	0.93	8.79	0.465	0.136	311	10.3
M076-1	1.63	9.60	0.344	0.147	324	10.7
M076-2	1.89	11.6	0.460	0.172	311	13.1
M076-3	1.72	11.8	0.448	0.171	305	13.3
M076-4	1.68	11.5	0.437	0.164	298	13.0
M076-5	1.64	11.5	0.431	0.168	309	12.9
M077-1	0.72	9.69	0.262	0.135	303	10.5
M077-2	0.74	9.74	0.258	0.134	298	10.6
M077-3	0.69	9.52	0.262	0.125	285	10.4
M077-4	0.90	8.95	0.250	0.117	282	9.77
M077-5	0.74	7.39	0.562	0.118	303	9.22
M078-1	0.97	6.46	0.220	0.0838	276	7.17
M078-2	1.23	6.85	0.500	0.106	296	8.48
M078-3	2.36	6.35	0.225	0.0916	305	7.08
M078-4	0.47	7.25	0.136	0.0853	262	7.69
M078-5	0.58	7.69	0.280	0.111	305	8.60
M079-1	2.74	4.72	0.719	0.0986	329	7.07
M079-2	2.57	4.95	0.666	0.0964	319	7.12
M079-3	2.65	4.95	0.692	0.0952	312	7.21
M079-4	2.73	4.89	0.711	0.0951	312	7.20
M079-5	2.48	4.64	0.638	0.0897	315	6.72
M080-1	2.58	5.21	0.362	0.0863	319	6.38
M080-2	2.45	4.82	0.597	0.0920	321	6.77
M080-3	2.88	5.45	0.582	0.101	324	7.34
M080-4	2.76	4.95	0.620	0.0961	325	6.97
M080-5	2.87	4.77	0.672	0.0997	338	6.96
M081-1	0.81	10.1	0.332	0.146	309	11.2
M081-2	0.78	10.1	0.371	0.133	279	11.3
M081-3	0.72	9.97	0.286	0.131	283	10.9
M081-4	0.75	9.87	0.349	0.140	300	11.0

Spot	Y_2O_3	ThO_2	UO_2	PbO	Age	ThO_2*
M081-5	0.71	9.85	0.277	0.135	296	10.8
M082-1	0.46	8.14	0.275	0.105	275	9.04
M082-2	0.49	8.52	0.311	0.113	279	9.53
M082-3	0.41	7.40	0.261	0.0938	269	8.25
M082-4	0.46	6.74	0.248	0.0911	285	7.54
M082-5	1.19	9.03	0.436	0.134	303	10.4
M083-1	2.91	5.70	0.658	0.114	343	7.84
M083-2	2.93	5.47	0.642	0.107	334	7.57
M083-3	2.58	5.52	0.603	0.106	335	7.49
M083-4	2.09	5.86	0.676	0.116	340	8.07
M083-5	2.99	5.31	0.839	0.116	339	8.04
M084-1	0.53	7.89	0.164	0.113	317	8.43
M084-2	0.51	7.73	0.155	0.0942	270	8.23
M084-3	0.79	8.03	0.193	0.101	275	8.65
M084-4	0.43	6.63	0.120	0.0775	261	7.02
M084-5	0.61	7.64	0.159	0.0972	281	8.16
M085-1	1.05	5.59	0.546	0.0911	292	7.36
M085-2	1.17	8.05	0.715	0.138	314	10.4
M085-3	0.98	6.12	0.581	0.0999	294	8.01
M085-4	1.11	7.13	0.774	0.117	288	9.64
M085-5	2.53	4.43	0.652	0.0951	342	6.56
M086-1	1.03	10.4	0.397	0.153	308	11.7
M086-2	1.10	6.39	0.258	0.0868	283	7.23
M086-3	0.93	15.0	0.475	0.216	308	16.5
M086-4	0.76	15.8	0.459	0.216	295	17.3
M086-5	0.72	16.9	0.481	0.222	284	18.5
M087-1	0.51	5.20	0.299	0.0721	276	6.17
M087-2	0.59	6.66	0.369	0.0941	283	7.86
M087-3	0.55	5.05	0.101	0.0629	276	5.38
M087-4	0.49	4.68	0.091	0.0603	286	4.98
M087-5	0.59	6.47	0.178	0.0835	280	7.05
M088-1	1.87	6.65	0.601	0.117	321	8.61
M088-2	0.48	7.70	0.950	0.143	312	10.8
M088-3	1.07	7.21	0.764	0.129	314	9.70
M088-4	1.50	7.54	0.700	0.131	316	9.82
M088-5	1.95	7.88	0.650	0.141	332	10.00
M089-1	1.71	5.78	0.994	0.119	312	9.02
M089-2	2.56	5.69	1.22	0.140	342	9.68
M089-3	2.58	5.75	1.24	0.140	338	9.79
M089-4	2.19	5.73	1.15	0.142	353	9.50
M089-5	2.33	5.13	0.723	0.111	348	7.49
M090-1	0.61	14.6	0.431	0.204	301	16.0
M090-2	0.80	15.0	0.461	0.215	307	16.5
M090-3	0.71	14.9	0.411	0.209	302	16.3
M090-4	0.77	15.1	0.479	0.222	315	16.7
M090-5	0.79	15.3	0.474	0.229	321	16.8
M091-1	2.39	9.52	0.709	0.157	313	11.8
M091-2	1.92	9.36	0.194	0.123	291	9.99
M091-3	2.16	9.76	0.240	0.131	292	10.5
M091-4	2.41	11.1	0.308	0.169	327	12.1
M091-5	2.11	9.23	0.224	0.134	316	9.96
M092-1	2.03	17.0	0.726	0.264	321	19.4
M092-2	2.34	15.9	0.716	0.247	320	18.2
M092-3	2.02	9.64	0.476	0.149	314	11.2
M092-4	2.05	11.9	0.592	0.188	319	13.9
M092-5	2.24	14.0	0.664	0.221	322	16.2
M093-1	0.65	4.44	1.33	0.116	313	8.76
M093-2	0.61	5.80	1.41	0.133	301	10.4
M093-3	1.14	6.62	1.14	0.133	303	10.3
M093-4	1.14	4.98	1.17	0.114	306	8.79
M093-5	1.19	5.37	1.02	0.122	330	8.70
M094-1	2.62	6.74	0.399	0.123	361	8.04
M094-2	2.61	6.55	0.393	0.106	320	7.83
M094-3	2.61	7.09	0.429	0.119	331	8.49
M094-4	2.66	6.74	0.440	0.107	308	8.18
M094-5	2.62	6.47	0.419	0.108	325	7.83
M095-1	1.04	7.83	0.153	0.103	290	8.33
M095-2	1.08	9.36	0.199	0.133	314	10.0
M095-3	1.07	9.14	0.198	0.120	289	9.78
M095-4	1.04	5.44	0.121	0.0680	275	5.83
M095-5	1.97	6.14	0.472	0.113	347	7.68
M096-1	0.24	6.53	0.103	0.0781	269	6.86
M096-2	0.35	11.7	0.204	0.157	301	12.3
M096-3	0.34	11.4	0.198	0.146	287	12.0
M096-4	0.34	11.1	0.181	0.142	288	11.7
M096-5	0.34	10.3	0.198	0.136	292	11.0
M097-1	1.00	10.0	0.687	0.161	310	12.2
M097-2	0.67	11.8	0.604	0.182	314	13.7
M097-3	0.68	11.7	0.589	0.180	312	13.6
M097-4	0.68	11.8	0.601	0.187	322	13.7
M097-5	0.70	11.8	0.610	0.178	305	13.8
M098-1	1.59	5.50	0.598	0.0944	299	7.45
M098-2	1.94	5.33	0.419	0.0906	319	6.70
M098-3	2.08	5.63	0.436	0.0933	312	7.05
M098-4	1.23	5.17	0.424	0.0855	308	6.55
M098-5	2.30	5.46	0.456	0.0915	311	6.94
M099-1	1.71	12.1	0.607	0.177	297	14.1
M099-2	1.50	12.5	0.568	0.181	299	14.3
M099-3	2.47	12.2	0.551	0.180	305	13.9
M099-4	1.21	12.9	0.557	0.182	292	14.7
M099-5	1.73	13.3	0.494	0.193	306	14.9
M100-1	0.03	6.58	0.203	0.0820	268	7.24
M100-2	0.03	6.54	0.192	0.0793	262	7.16
M100-3	0.04	6.60	0.199	0.0791	258	7.24
M100-4	0.03	6.61	0.196	0.0781	255	7.24
M100-5	0.03	6.60	0.196	0.0819	267	7.23
M101-1	2.13	9.91	0.800	0.171	321	12.5
M101-2	1.93	11.7	0.751	0.189	316	14.1
M101-3	1.69	15.6	0.752	0.251	328	18.1
M101-4	0.73	23.5	0.927	0.361	321	26.6
M101-5	0.72	15.5	0.670	0.245	327	17.7
M102-1	0.37	13.3	0.406	0.190	307	14.6
M102-2	0.19	14.9	0.493	0.217	309	16.5
M102-3	0.38	14.7	0.449	0.205	301	16.1
M102-4	0.37	14.5	0.447	0.214	318	15.9
M102-5	0.38	14.6	0.457	0.217	318	16.1
M103-1	0.95	8.16	0.168	0.110	298	8.71
M103-2	1.58	7.51	0.156	0.0968	285	8.02
M103-3	1.52	7.41	0.141	0.0985	296	7.87
M103-4	1.52	7.47	0.145	0.0893	266	7.94
M103-5	1.48	7.42	0.142	0.0935	280	7.88
M104-1	0.28	7.29	0.176	0.0944	284	7.86
M104-2	0.32	6.84	0.169	0.0877	280	7.39
M104-3	0.29	6.73	0.166	0.0796	259	7.27
M104-4	0.32	6.91	0.174	0.0848	268	7.47
M104-5	0.73	7.80	0.244	0.106	290	8.60
M105-1	1.14	10.00	0.600	0.152	300	12.0
M105-2	1.06	9.45	0.576	0.149	311	11.3
M105-3	1.12	9.87	0.575	0.160	321	11.7
M105-4	1.11	9.66	0.560	0.146	300	11.5
M105-5	1.16	10.1	0.597	0.159	310	12.1
M106-1	2.98	9.09	0.746	0.164	336	11.5
M106-2	2.99	8.83	0.755	0.153	319	11.3
M106-3	2.88	8.55	0.727	0.152	328	10.9
M106-4	2.69	9.10	0.583	0.147	316	11.0
M106-5	2.66	8.55	0.637	0.145	322	10.6
M107-1	2.63	6.16	0.616	0.118	339	8.17
M107-2	2.78	6.57	0.668	0.123	331	8.75
M107-3	2.43	6.15	0.611	0.114	330	8.14
M107-4	2.42	6.23	0.586	0.112	325	8.14
M107-5	2.37	6.28	0.578	0.110	319	8.16
M108-1	1.21	4.02	0.632	0.0756	294	6.08
M108-2	1.47	5.54	0.876	0.104	293	8.39
M108-3	1.44	5.52	0.946	0.119	327	8.61
M108-4	1.49	5.60	0.883	0.112	313	8.48
M108-5	1.57	4.84	0.965	0.103	306	7.98
M109-1	0.77	6.43	0.183	0.129	433	7.03
M109-2	0.78	6.46	0.191	0.129	430	7.09
M109-3	0.76	6.46	0.184	0.144	480	7.06
M109-4	0.75	6.41	0.188	0.140	469	7.03

Spot	Y_2O_3	ThO_2	UO_2	PbO	Age	ThO_2*
M109-5	0.76	6.39	0.185	0.143	480	7.00
M110-1	0.02	6.62	0.557	0.103	289	8.43
M110-2	0.03	5.99	0.448	0.0848	269	7.44
M110-3	0.06	5.12	0.637	0.0882	290	7.19
M110-4	0.02	5.39	0.542	0.0867	286	7.15
M110-5	0.10	5.69	0.439	0.0844	280	7.12
M111-1	1.71	7.29	0.188	0.111	331	7.91
M111-2	1.20	6.52	0.125	0.0855	291	6.93
M111-3	1.01	6.27	0.100	0.0882	315	6.60
M111-4	1.02	6.44	0.106	0.0855	297	6.78
M111-5	1.61	7.01	0.200	0.0943	290	7.67
M112-1	0.77	7.75	0.222	0.0955	266	8.47
M112-2	0.93	7.71	0.323	0.102	275	8.75
M112-3	1.02	7.76	0.287	0.107	291	8.69
M112-4	1.37	8.52	0.553	0.119	273	10.3
M112-5	1.23	8.02	0.443	0.121	303	9.46
M113-1	2.49	9.21	0.843	0.157	310	12.0
M113-2	2.96	11.3	1.23	0.214	331	15.3
M113-3	2.80	10.5	1.18	0.201	330	14.4
M113-4	3.09	10.5	1.20	0.201	327	14.5
M113-5	3.02	11.0	1.17	0.198	316	14.8
M114-1	3.20	4.75	0.752	0.107	349	7.20
M114-2	2.88	4.48	0.848	0.106	346	7.25
M114-3	2.75	4.64	0.801	0.109	355	7.26
M114-4	3.23	4.22	0.895	0.105	347	7.15
M114-5	2.81	4.58	0.835	0.0939	304	7.30
M115-1	0.16	7.49	0.533	0.209	530	9.25
M115-2	0.22	7.38	0.530	0.205	528	9.13
M115-3	0.32	7.08	0.480	0.201	545	8.67
M115-4	0.58	5.24	0.609	0.168	544	7.26
M115-5	0.29	7.31	0.526	0.199	517	9.05
M116-1	1.67	15.1	0.650	0.228	314	17.2
M116-2	1.57	14.8	0.648	0.217	302	16.9
M116-3	1.74	16.4	0.656	0.242	308	18.5
M116-4	1.88	17.3	0.742	0.257	308	19.7
M116-5	1.64	17.4	0.729	0.258	308	19.8
M117-1	0.54	6.05	0.373	0.0919	299	7.26
M117-2	1.91	6.73	0.567	0.111	306	8.57
M117-3	0.57	8.66	0.570	0.136	305	10.5
M117-4	0.64	8.26	0.550	0.127	298	10.0
M117-5	3.00	6.08	0.741	0.114	317	8.50
M118-1	0.32	4.58	0.496	0.0746	285	6.19
M118-2	0.33	4.85	0.512	0.0843	305	6.52
M118-3	0.39	4.73	0.506	0.0768	285	6.37
M118-4	0.39	5.06	0.542	0.0851	294	6.82
M118-5	0.45	5.31	0.512	0.0857	290	6.97
M119-1	0.25	12.4	0.281	0.156	276	13.3
M119-2	0.46	12.1	0.415	0.170	298	13.5
M119-3	0.88	11.8	0.406	0.163	295	13.1
M119-4	0.68	12.5	0.415	0.175	299	13.8
M119-5	1.14	12.7	0.391	0.188	316	14.0
M120-1	0.50	6.84	0.859	0.121	297	9.63
M120-2	2.23	5.61	0.522	0.104	336	7.31
M120-3	0.48	8.34	0.785	0.149	322	10.9
M120-4	2.54	5.47	0.566	0.105	338	7.32
M120-5	0.46	8.26	0.825	0.144	310	10.9
M121-1	0.14	9.36	0.575	0.137	287	11.2
M121-2	0.04	12.6	0.289	0.168	293	13.5
M121-3	0.06	10.3	0.328	0.145	300	11.4
M121-4	0.11	7.99	0.415	0.112	284	9.33
M121-5	0.02	9.34	0.172	0.120	287	9.90
M122-1	0.23	11.1	0.206	0.144	288	11.7
M122-2	0.27	14.0	0.269	0.182	288	14.9
M122-3	0.24	12.3	0.227	0.155	282	13.0
M122-4	0.25	12.4	0.235	0.164	295	13.1
M122-5	0.24	9.85	0.200	0.131	295	10.5
M123-1	0.13	7.06	0.284	0.0919	272	7.98
M123-2	0.13	9.06	0.411	0.134	303	10.4
M123-3	0.14	7.50	0.340	0.108	296	8.61
M123-4	0.14	7.57	0.340	0.0987	269	8.68

Spot	Y_2O_3	ThO_2	UO_2	PbO	Age	ThO_2*
M124-1	1.02	7.87	0.172	0.104	291	8.43
M124-2	1.10	7.99	0.209	0.120	326	8.67
M124-3	1.54	8.78	0.360	0.119	282	9.94
M124-4	0.76	7.01	0.123	0.0967	308	7.41
M124-5	0.96	7.57	0.156	0.0973	284	8.08
M125-1	1.64	5.47	1.25	0.134	330	9.55
M125-2	2.23	5.31	1.54	0.156	356	10.3
M125-3	0.94	5.73	0.544	0.107	337	7.50
M125-4	2.21	5.54	1.61	0.157	343	10.8
M125-5	2.18	5.50	1.61	0.158	346	10.7
M126-1	2.02	4.97	0.682	0.101	330	7.19
M126-2	1.88	5.13	0.667	0.106	342	7.31
M126-3	1.98	5.13	0.667	0.104	336	7.31
M126-4	1.51	5.00	0.548	0.0894	311	6.79
M126-5	1.84	4.84	0.538	0.0949	340	6.59
M127-1	1.38	3.20	0.943	0.0872	328	6.27
M127-2	1.27	2.86	1.06	0.0942	351	6.32
M127-3	1.24	3.04	1.03	0.0861	318	6.39
M127-4	0.40	2.50	2.15	0.129	319	9.50
M127-5	2.96	2.87	1.19	0.109	377	6.78
M128-1	2.27	7.26	0.084	0.100	314	7.53
M128-2	3.13	4.41	0.129	0.0787	384	4.83
M128-3	3.09	5.22	0.075	0.0824	355	5.47
M128-4	2.97	4.34	0.122	0.0659	328	4.73
M128-5	2.86	4.25	0.120	0.0676	344	4.64
M129-1	1.89	6.00	0.643	0.110	320	8.10
M129-2	1.57	8.38	0.401	0.130	316	9.68
M129-3	1.70	7.96	0.391	0.114	293	9.23
M129-4	2.13	8.27	0.402	0.123	302	9.58
M129-5	2.33	8.18	0.531	0.139	330	9.91
M130-1	0.65	4.32	0.724	0.0925	327	6.68
M130-2	0.59	4.85	0.573	0.0788	277	6.71
M130-3	0.58	5.71	0.495	0.0905	292	7.32
M130-4	0.60	5.72	0.401	0.0834	280	7.03
M130-5	0.53	5.85	0.438	0.0921	299	7.28
M131-1	1.74	3.48	0.533	0.0691	313	5.21
M131-2	1.77	3.69	0.560	0.0660	283	5.51
M131-3	1.81	3.40	0.533	0.0669	308	5.13
M131-4	2.49	4.11	0.746	0.0910	328	6.54
M131-5	1.81	3.31	0.532	0.0617	289	5.04
M132-1	0.25	6.01	1.01	0.113	287	9.30
M132-2	0.07	5.81	0.961	0.110	291	8.94
M132-3	1.95	5.62	0.588	0.103	321	7.53
M132-4	2.03	5.57	0.588	0.0982	310	7.49
M132-5	1.85	5.48	0.654	0.0990	307	7.60
M133-1	2.63	4.80	0.614	0.0931	323	6.80
M133-2	2.48	4.99	0.543	0.0871	304	6.76
M133-3	1.51	3.13	1.04	0.0912	330	6.53
M133-4	2.21	4.64	0.991	0.113	338	7.87
M133-5	2.57	4.89	0.877	0.112	341	7.75
M134-1	1.85	5.79	0.356	0.0955	324	6.95
M134-2	0.97	5.87	0.347	0.0861	290	7.00
M134-3	1.78	5.89	0.367	0.0939	313	7.08
M134-4	0.61	7.27	0.401	0.106	291	8.57
M134-5	0.37	6.87	0.404	0.0947	273	8.18
M135-1	2.94	5.19	0.551	0.0836	283	6.98
M135-2	2.72	5.68	0.522	0.0935	299	7.38
M135-3	2.51	8.08	0.281	0.111	291	8.99
M135-4	2.79	4.44	0.531	0.0818	313	6.17
M135-5	2.81	4.07	0.653	0.0791	301	6.19
M136-1	0.75	14.0	0.363	0.186	289	15.2
M136-2	0.71	7.48	0.313	0.107	296	8.50
M136-3	1.27	7.99	0.470	0.125	311	9.52
M136-4	0.58	8.75	0.252	0.121	299	9.57
M136-5	1.29	12.2	0.351	0.168	297	13.3
M137-1	0.05	22.8	0.290	0.308	306	23.7
M137-2	0.04	22.9	0.287	0.308	305	23.8
M137-3	0.04	19.2	0.267	0.255	299	20.1
M137-4	0.05	20.8	0.274	0.280	304	21.7
M137-5	0.04	21.5	0.265	0.291	306	22.4

Spot	Y_2O_3	ThO_2	UO_2	PbO	Age	ThO_2*
M138-1	0.47	5.92	0.235	0.0851	300	6.69
M138-2	0.59	5.79	0.479	0.0935	300	7.35
M138-3	0.66	5.79	0.517	0.0928	293	7.47
M138-4	0.55	7.54	0.427	0.109	288	8.92
M138-5	0.57	8.12	0.421	0.114	284	9.49
M139-1	2.83	4.84	1.06	0.121	345	8.30
M139-2	1.66	5.07	0.642	0.0983	324	7.16
M139.3	1.62	4.05	0.521	0.0753	309	5.75
M139-4	1.33	4.26	0.897	0.0997	327	7.19
M139-5	1.37	4.42	0.847	0.0862	284	7.17
M140-1	1.50	8.18	1.10	0.164	329	11.8
M140-2	1.91	8.71	1.01	0.175	345	12.0
M140-3	1.23	7.74	0.782	0.141	324	10.3
M140-4	2.31	7.82	1.16	0.160	326	11.6
M141-1	2.63	4.89	1.37	0.139	351	9.35
M141-2	1.89	4.89	0.279	0.0836	340	5.80
M141-3	2.67	5.05	1.20	0.136	357	8.99
M141-4	2.64	4.75	1.45	0.141	351	9.50
M141-5	2.11	4.56	0.532	0.0948	355	6.30
M142-1	0.37	6.27	0.400	0.0976	304	7.57
M142-2	0.27	5.93	0.379	0.0894	295	7.17
M142-3	0.17	5.93	0.284	0.0901	310	6.86
M142-4	0.16	5.77	0.260	0.0796	284	6.61
M142-5	0.17	7.69	0.427	0.106	277	9.07
M143-1	1.70	11.5	1.42	0.218	320	16.1
M143-2	1.38	12.6	1.38	0.227	315	17.0
M143-3	1.33	10.5	0.906	0.180	317	13.4
M143-4	1.28	11.2	1.11	0.194	309	14.9
M143-5	3.02	8.25	0.882	0.143	304	11.1
M144-1	2.73	6.78	1.10	0.135	308	10.4
M144-2	0.33	13.2	0.274	0.180	301	14.1
M144-3	0.27	9.41	0.192	0.131	308	10.0
M144-4	1.81	11.4	0.482	0.168	305	13.0
M144-5	2.13	11.3	0.740	0.178	305	13.8
M145-1	0.48	8.89	0.177	0.212	524	9.48
M145-2	0.47	8.87	0.179	0.207	514	9.46
M145-3	0.47	8.83	0.177	0.200	499	9.42
M145-4	0.46	8.81	0.173	0.209	524	9.38
M145-5	0.45	9.01	0.172	0.212	520	9.58
M146-1	0.40	7.28	0.080	0.0961	301	7.54
M146-2	0.38	7.30	0.095	0.0860	267	7.61
M146-3	0.41	7.44	0.097	0.0926	282	7.76
M146-4	0.41	7.31	0.083	0.0940	293	7.57
M146-5	0.52	7.00	0.106	0.0876	282	7.35
M147-1	3.04	5.24	0.809	0.108	323	7.88
M147-2	3.17	5.31	0.823	0.0981	290	7.99
M147-3	3.19	5.34	0.831	0.110	324	8.05
M147-4	3.20	5.38	0.837	0.111	322	8.11
M147-5	3.29	5.28	0.872	0.105	305	8.12
M148-1	0.06	14.1	0.291	0.189	295	15.1
M148-2	0.06	13.8	0.284	0.197	315	14.8
M148-3	0.05	12.8	0.274	0.176	302	13.7
M148-4	0.06	12.5	0.272	0.160	282	13.4
M148-5	0.07	12.5	0.271	0.168	297	13.3
M149-1	0.55	7.39	0.649	0.124	309	9.50
M149-2	0.33	6.91	0.639	0.114	300	8.99
M149-3	0.49	7.13	0.595	0.117	304	9.07
M149-4	0.48	7.01	0.639	0.115	299	9.09
M149-5	0.52	7.22	0.615	0.117	299	9.22
M150-1	0.76	7.73	1.01	0.152	325	11.0
M150-2	1.32	5.60	0.588	0.100	315	7.51
M150-3	0.91	5.14	0.440	0.0803	288	6.57
M150-4	1.54	5.61	0.377	0.104	359	6.84
M150-5	1.79	9.05	0.796	0.172	348	11.6
M151-1	2.41	5.58	0.554	0.101	324	7.39
M151-2	2.40	5.38	0.550	0.0967	318	7.17
M151-3	2.50	4.31	0.489	0.0798	319	5.91
M151-4	2.53	3.85	0.263	0.0610	306	4.71
M151-5	2.44	4.85	0.543	0.0848	303	6.61
M152-1	2.67	5.96	0.530	0.0975	299	7.69
M152-2	1.87	5.95	0.508	0.103	318	7.60
M152-3	2.54	5.72	0.646	0.102	307	7.83
M152-4	2.86	5.79	0.626	0.105	316	7.83
M152-5	2.86	6.03	0.631	0.109	319	8.08
M153-1	2.74	4.87	0.643	0.0903	306	6.97
M153-2	0.83	4.99	0.528	0.0777	274	6.71
M153-3	1.48	5.68	0.415	0.0906	304	7.03
M153-4	2.54	5.61	0.747	0.110	323	8.05
M153-5	0.37	6.64	0.882	0.123	305	9.51
M153-6	2.57	5.83	0.686	0.104	304	8.06
M153-7	2.86	4.95	0.713	0.0994	322	7.28
M154-1	0.53	22.7	0.557	0.309	298	24.5
M154-2	0.52	22.8	0.556	0.307	294	24.6
M154-3	0.51	23.0	0.554	0.308	293	24.9
M154-4	0.45	26.3	0.640	0.357	297	28.4
M154-5	0.47	26.2	0.635	0.362	302	28.3
M155-1	1.54	5.15	0.643	0.0926	302	7.24
M155-2	1.65	5.14	0.666	0.0888	287	7.31
M155-3	1.29	5.47	0.599	0.0939	299	7.42
M155-4	1.43	5.39	0.643	0.0949	299	7.49
M155-5	1.43	5.47	0.677	0.0967	297	7.67
M156-1	2.55	4.68	1.12	0.121	343	8.34
M156-2	2.57	4.98	1.13	0.120	328	8.66
M156-3	2.44	4.94	1.10	0.113	313	8.52
M156-4	2.46	4.89	1.13	0.121	334	8.57
M156-5	1.20	5.42	1.10	0.124	324	9.02
M157-1	1.04	5.10	0.578	0.0885	299	6.98
M157-2	0.33	5.53	0.481	0.0877	292	7.09
M157-3	1.63	5.50	0.516	0.0865	285	7.18
M157-4	1.19	5.66	0.667	0.104	313	7.83
M157-5	1.42	5.57	0.650	0.101	310	7.69
M158-1	1.17	12.3	0.397	0.177	309	13.5
M158-2	1.21	12.3	0.417	0.167	289	13.7
M158-3	1.14	12.1	0.382	0.173	305	13.3
M158-4	1.19	12.2	0.394	0.167	293	13.5
M158-5	1.21	12.2	0.402	0.174	304	13.5
M159-1	3.04	6.43	0.716	0.113	305	8.76
M159-2	2.99	6.48	0.690	0.120	324	8.73
M159-3	2.21	6.69	0.448	0.107	310	8.15
M159-4	2.61	6.65	0.450	0.100	292	8.11
M159-5	2.79	6.44	0.608	0.104	293	8.41
M160-1	1.47	15.1	0.635	0.223	306	17.2
M160-2	2.33	11.8	0.623	0.190	323	13.8
M160-3	2.65	9.04	0.628	0.140	297	11.1
M160-4	1.68	14.7	0.719	0.216	300	17.0
M160-5	2.62	16.0	0.941	0.246	305	19.0
M161-1	1.53	8.66	0.246	0.111	278	9.46
M161-2	1.52	8.37	0.228	0.110	286	9.11
M161-3	1.62	8.28	0.222	0.117	306	9.00
M161-4	1.53	8.24	0.222	0.114	301	8.96
M161-5	1.16	8.47	0.227	0.110	282	9.21
M162-1	1.79	4.60	1.06	0.106	310	8.06
M162-2	1.78	4.97	0.879	0.0942	284	7.83
M162-3	1.71	4.57	0.983	0.102	309	7.77
M162-4	1.66	4.40	0.911	0.0904	290	7.36
M162-5	1.40	5.06	0.736	0.0964	305	7.45
M163-1	2.14	6.95	0.452	0.100	281	8.42
M163-2	1.03	8.30	0.656	0.125	284	10.4
M163-3	1.02	8.15	0.665	0.133	304	10.3
M163-4	0.96	7.01	0.539	0.110	296	8.77
M163-5	1.01	7.48	0.599	0.107	268	9.42
M164-1	0.39	6.93	0.150	0.0907	289	7.42
M164-2	0.32	9.19	0.204	0.121	291	9.86
M164-3	0.37	9.27	0.130	0.122	298	9.69
M164-4	0.36	8.24	0.156	0.105	282	8.75
M164-5	0.11	7.31	0.111	0.0957	294	7.67
M165-1	0.27	11.0	0.795	0.178	311	13.5
M165-2	0.28	11.6	0.775	0.181	303	14.1
M165-3	0.28	11.0	0.795	0.181	315	13.6
M165-4	0.27	11.5	0.772	0.181	304	14.0

Spot	Y_2O_3	ThO_2	UO_2	PbO	Age	ThO_2*
M165-5	0.28	11.5	0.793	0.184	309	14.1
M166-1	2.71	8.52	1.83	0.195	317	14.5
M166-2	2.77	8.63	2.14	0.206	312	15.6
M166-3	2.79	9.27	2.06	0.214	316	16.0
M166-4	2.74	9.71	1.94	0.218	321	16.0
M166-5	3.05	5.21	0.735	0.108	334	7.61
M167-1	2.20	6.20	0.592	0.0987	287	8.12
M167-2	2.41	5.38	0.541	0.0963	318	7.14
M167-3	2.46	5.39	0.541	0.0908	300	7.15
M167-4	2.39	5.49	0.551	0.0942	305	7.28
M167-5	2.35	5.93	0.576	0.0958	290	7.80
M168-1	1.82	0.945	0.297	0.0232	287	1.91
M168-2	1.58	1.06	0.473	0.0305	277	2.60
M168-3	1.60	1.17	0.519	0.0329	273	2.85
M168-4	1.42	1.11	0.765	0.0478	313	3.60
M168-5	1.71	1.28	0.711	0.0441	290	3.59
M169-1	1.83	16.0	0.996	0.253	310	19.3
M169-2	1.39	16.4	0.904	0.263	321	19.4
M169-3	0.48	15.4	0.586	0.229	312	17.3
M169-4	1.44	15.3	1.06	0.243	305	18.7
M169-5	2.02	15.3	1.04	0.248	313	18.7
M170-1	0.49	8.02	0.246	0.0980	262	8.82
M170-2	0.69	11.0	0.354	0.141	272	12.2
M170-3	0.71	10.1	0.327	0.138	292	11.2
M170-4	0.71	8.97	0.290	0.122	289	9.91
M171-1	1.09	4.69	0.377	0.0682	272	5.91
M171-2	0.94	8.95	0.540	0.125	275	10.7
M171-3	0.94	9.02	0.596	0.139	298	11.0
M171-4	1.14	7.41	0.778	0.116	276	9.93
M171-5	1.09	2.62	0.376	0.0440	270	3.84
M172-1	1.32	9.00	0.471	0.125	280	10.5
M172-2	1.43	8.53	0.505	0.137	317	10.2
M172-3	1.46	8.64	0.518	0.128	293	10.3
M172-4	1.47	9.13	0.546	0.133	289	10.9
M172-5	1.41	8.67	0.511	0.127	290	10.3
M173-1	2.88	6.01	0.410	0.0982	315	7.35
M173-2	3.09	5.75	0.360	0.0927	316	6.92
M173-3	3.09	5.70	0.343	0.0916	317	6.82
M173-4	2.91	5.59	0.330	0.0839	297	6.67
M173-5	2.29	5.64	0.778	0.112	322	8.18
M174-1	0.61	4.92	0.171	0.0729	314	5.47
M174-2	0.60	4.83	0.168	0.0626	275	5.37
M174-3	0.63	4.79	0.172	0.0629	278	5.35
M174-4	0.58	5.13	0.174	0.0692	287	5.70
M175-1	3.11	6.00	0.393	0.0955	310	7.28
M175-2	3.51	6.07	0.639	0.115	333	8.16
M175-3	2.99	7.24	0.482	0.118	316	8.82
M175-4	0.78	9.58	0.217	0.121	278	10.3
M175-5	1.62	6.24	0.216	0.0895	304	6.95
M176-1	0.96	5.00	0.967	0.104	301	8.15
M176-2	0.89	4.14	0.816	0.0782	272	6.79
M176-3	0.92	5.82	0.950	0.107	284	8.91
M176-4	0.99	6.91	1.41	0.139	286	11.5
M176-5	0.89	4.93	0.984	0.0931	271	8.12
M177-1	0.71	5.95	0.157	0.0768	281	6.45
M177-2	0.69	6.17	0.152	0.0823	292	6.67
M177-3	0.73	6.65	0.181	0.0932	304	7.24
M177-4	0.63	7.23	0.148	0.0990	303	7.71
M177-5	0.74	6.50	0.169	0.0800	268	7.05
M178-1	1.06	6.91	0.371	0.0974	283	8.11
M178-2	0.54	5.48	0.589	0.0866	277	7.39
M178-3	2.08	5.01	0.666	0.0933	307	7.18
M178-4	0.32	5.52	0.589	0.0935	297	7.43
M178-5	1.96	6.55	0.467	0.101	295	8.07
M179-1	1.43	6.28	0.691	0.119	328	8.54
M179-2	1.28	6.17	0.718	0.112	312	8.51
M179-3	1.43	6.42	0.685	0.111	303	8.65
M179-4	1.46	6.39	0.694	0.114	312	8.65
M179-5	0.81	6.23	0.764	0.103	280	8.71
M180-1	2.80	5.21	0.542	0.0927	314	6.97
M180-2	2.30	4.94	0.558	0.0898	313	6.76
M180-3	2.71	5.29	0.489	0.0955	327	6.89
M180-4	2.45	5.24	0.528	0.0879	298	6.96
M180-5	2.74	5.16	0.536	0.0808	277	6.90
M181-1	1.44	18.9	0.530	0.265	304	20.6
M181-2	1.29	17.7	0.476	0.250	306	19.3
M181-3	1.30	17.3	0.461	0.239	300	18.8
M181-4	1.44	18.5	0.529	0.256	299	20.2
M182-1	1.25	4.72	0.660	0.0915	314	6.87
M182-2	1.34	4.60	0.704	0.0817	280	6.89
M182-3	1.29	4.45	0.695	0.0807	284	6.71
M182-4	1.25	4.18	0.684	0.0791	292	6.40
M182-5	1.38	4.68	0.728	0.0858	287	7.05
M183-1	3.24	3.52	1.58	0.114	310	8.65
M183-2	3.58	3.52	1.61	0.116	311	8.75
M183-3	3.57	3.49	1.58	0.113	309	8.63
M183-4	3.55	3.51	1.62	0.116	311	8.77
M183-5	3.50	3.63	1.51	0.119	327	8.55
M184-1	0.63	5.85	0.171	0.0740	273	6.41
M184-2	0.81	7.61	0.227	0.0983	278	8.35
M184-3	0.83	6.61	0.201	0.0772	251	7.26
M184-4	0.80	5.63	0.155	0.0702	270	6.14
M184-5	0.73	4.66	0.131	0.0596	277	5.08
M185-1	1.09	6.86	0.573	0.103	278	8.72
M185-2	1.08	6.63	0.539	0.0966	272	8.38
M185-3	1.89	5.47	0.668	0.0940	291	7.64
M185-4	2.86	5.41	0.982	0.106	290	8.60
M185-5	2.73	5.39	0.935	0.109	304	8.44
M186-1	0.19	11.1	0.667	0.166	294	13.3
M186-2	0.19	10.8	0.705	0.166	298	13.1
M186-3	0.19	10.9	0.709	0.169	301	13.2
M186-4	0.19	10.7	0.732	0.167	303	13.0
M186-5	0.20	10.5	0.725	0.165	304	12.9
M187-1	0.70	8.76	0.598	0.135	297	10.7
M187-2	0.52	12.0	0.732	0.185	303	14.4
M187-3	2.76	7.57	0.222	0.111	316	8.30
M187-4	0.38	7.93	0.203	0.100	276	8.59
M187-5	0.36	7.34	0.347	0.103	288	8.47
M188-1	2.70	6.59	0.560	0.114	318	8.41
M188-2	2.92	6.82	0.601	0.113	305	8.77
M188-3	2.82	6.80	0.588	0.115	312	8.72
M188-4	2.62	6.58	0.577	0.113	314	8.46
M188-5	2.93	6.78	0.608	0.115	311	8.76
M189-1	2.98	5.03	1.00	0.112	318	8.31
M189-2	2.77	5.85	1.43	0.137	309	10.5
M189-3	3.96	3.61	1.96	0.131	310	9.98
M189-4	3.41	4.31	1.55	0.133	334	9.38
M189-5	3.31	4.67	1.91	0.137	297	10.9
M190-1	2.37	3.58	0.678	0.0697	284	5.79
M190-2	2.27	3.60	0.645	0.0651	270	5.69
M190-3	2.33	3.36	0.629	0.0712	311	5.41
M190-4	2.62	3.94	0.787	0.0899	326	6.51
M190-5	2.75	3.94	0.797	0.0791	286	6.53
M191-1	0.46	6.46	0.117	0.0731	252	6.84
M191-2	0.53	6.31	0.140	0.0746	261	6.76
M191-3	0.95	6.57	0.327	0.0843	261	7.63
M191-4	1.09	6.00	0.261	0.0805	278	6.84
M191-5	0.80	6.67	0.232	0.0882	281	7.42
M192-1	1.66	6.21	0.084	0.0703	256	6.48
M192-2	1.55	6.21	0.087	0.0765	278	6.49
M192-3	1.42	5.28	0.069	0.0600	258	5.50
M192-4	1.37	5.36	0.072	0.0590	249	5.60
M192-5	1.33	5.47	0.080	0.0681	280	5.73
M193-1	0.18	24.4	0.371	0.324	299	25.6
M193-2	0.17	24.3	0.369	0.325	301	25.5
M193-3	0.17	24.9	0.361	0.341	309	26.1
M193-4	0.17	25.2	0.374	0.336	300	26.5
M193-5	0.18	24.7	0.377	0.343	312	25.9
M194-1	0.91	12.4	0.648	0.181	295	14.5
M194-2	0.94	12.3	0.658	0.188	308	14.4

Spot	Y_2O_3	ThO_2	UO_2	PbO	Age	ThO_2*
M194-3	0.93	12.1	0.646	0.182	303	14.2
M194-4	0.90	11.8	0.606	0.178	305	13.8
M194-5	0.78	13.0	0.637	0.194	305	15.1
M195-1	1.38	12.6	0.701	0.187	296	14.9
M195-2	2.46	10.6	0.994	0.189	322	13.9
M195-3	3.13	10.8	1.12	0.181	296	14.4
M195-4	2.33	11.7	0.828	0.183	301	14.4
M195-5	2.98	9.69	1.00	0.167	304	13.0
M196-1	4.54	13.9	2.35	0.305	334	21.5
M196-2	4.49	13.1	2.50	0.306	339	21.3
M196-3	4.31	14.9	2.14	0.309	332	21.9
M196-4	3.93	12.2	2.22	0.276	334	19.5
M196-5	4.05	13.6	2.12	0.287	331	20.5
M197-1	0.42	5.09	0.352	0.0720	273	6.23
M197-2	0.28	4.79	0.934	0.0940	283	7.83
M197-3	0.29	6.13	1.23	0.128	298	10.1
M197-4	0.75	5.25	0.403	0.0807	290	6.56
M197-5	1.19	5.20	0.891	0.0956	279	8.09
M198-1	2.81	5.85	1.92	0.162	316	12.1
M198-2	3.17	5.56	1.63	0.157	341	10.9
M198-3	2.29	5.54	1.60	0.143	313	10.8
M198-4	2.95	6.78	2.01	0.187	331	13.3
M198-5	3.21	6.77	2.09	0.189	328	13.6
M199-1	0.10	9.88	0.260	0.132	291	10.7
M199-2	0.15	9.42	0.305	0.122	277	10.4
M199-3	0.06	10.3	0.304	0.137	287	11.3
M199-4	0.19	8.25	0.277	0.111	285	9.15
M199-5	0.19	11.8	0.296	0.163	303	12.7
M200-1	1.34	5.39	0.493	0.0875	295	7.00
M200-2	1.62	5.44	0.496	0.0948	317	7.06
M200-3	1.37	5.40	0.499	0.0832	280	7.02
M200-4	1.03	5.96	0.514	0.0977	302	7.64
M200-5	0.55	5.29	0.546	0.0872	291	7.07
M201-1	1.77	8.33	0.778	0.138	300	10.9
M201-2	1.61	8.61	0.671	0.135	295	10.8
M201-3	0.68	7.58	0.207	0.0914	262	8.25
M201-4	0.68	7.79	0.196	0.102	285	8.43
M201-5	0.75	8.05	0.223	0.115	309	8.77
M202-1	0.38	4.64	0.354	0.0709	289	5.79
M202-2	2.29	5.65	0.562	0.0926	292	7.47
M202-3	0.32	6.13	0.689	0.101	286	8.37
M202-4	0.27	5.06	0.328	0.0738	284	6.13
M202-5	3.09	4.57	0.393	0.0850	342	5.85
M203-1	0.33	9.60	0.703	0.148	293	11.9
M203-2	0.32	9.14	0.704	0.143	296	11.4
M203-3	0.34	9.02	0.722	0.140	291	11.4
M203-4	0.93	6.30	0.757	0.111	299	8.77
M203-5	1.18	5.29	0.778	0.101	305	7.82

Sample KA1/12

Spot	Y_2O_3	ThO_2	UO_2	PbO	Age	ThO_2*
M001-1	1.79	7.17	0.263	0.112	328	8.03
M001-2	1.62	6.63	0.215	0.103	330	7.33
M001-3	1.00	5.81	0.125	0.0812	308	6.22
M001-4	1.11	6.50	0.126	0.0867	296	6.91
M001-5	1.73	7.16	0.199	0.104	314	7.80
M002-1	0.85	9.35	0.402	0.126	280	10.7
M002-2	0.25	9.21	0.407	0.133	299	10.5
M002-3	0.23	9.04	0.379	0.130	299	10.3
M002-4	0.22	8.69	0.386	0.117	277	9.94
M002-5	0.37	8.17	0.437	0.123	304	9.59
M003-1	3.04	13.3	0.686	0.197	299	15.5
M003-2	1.71	9.30	0.271	0.124	287	10.2
M003-3	1.80	8.76	0.232	0.123	304	9.51
M003-4	2.28	12.5	0.628	0.190	308	14.6
M003-5	2.03	9.65	0.338	0.134	295	10.8
M004-1	1.60	9.25	0.255	0.134	314	10.1
M004-2	1.23	7.87	0.185	0.116	322	8.47
M004-3	0.80	11.0	0.247	0.141	283	11.8
M004-4	0.79	9.25	0.212	0.129	307	9.94
M004-5	0.61	9.73	0.198	0.130	296	10.4
M005-1	2.77	4.96	0.779	0.113	354	7.50
M005-2	2.85	5.05	0.781	0.104	324	7.60
M005-3	1.23	4.58	0.876	0.0943	299	7.43
M005-4	3.08	5.14	0.871	0.112	332	7.98
M005-5	1.38	6.03	1.34	0.139	316	10.4
M005-6	3.08	5.20	0.887	0.116	339	8.09
M006-1	1.23	6.89	0.357	0.101	295	8.05
M006-2	1.09	13.2	0.558	0.177	279	15.0
M006-3	0.97	16.6	0.647	0.230	290	18.7
M006-4	1.71	12.8	0.570	0.180	290	14.6
M006-5	1.02	15.6	0.576	0.216	292	17.5
M007-1	2.69	3.30	0.759	0.0874	356	5.78
M007-2	2.73	3.29	0.777	0.0859	347	5.83
M007-3	2.10	5.50	0.545	0.0982	318	7.28
M007-4	2.99	4.12	0.917	0.102	337	7.11
M007-5	2.12	5.99	0.540	0.0984	300	7.74
M008-1	2.14	4.94	0.404	0.0948	357	6.26
M008-2	1.88	5.13	0.290	0.0870	338	6.07
M008-3	2.77	4.91	0.809	0.110	345	7.55
M008-4	2.85	5.01	0.857	0.122	368	7.81
M008-5	2.59	4.83	0.585	0.0870	305	6.73
M009-1	1.46	8.99	0.178	0.126	310	9.57
M009-2	1.45	8.85	0.186	0.117	293	9.46
M009-3	1.65	8.85	0.233	0.126	310	9.61
M009-4	2.26	8.94	0.374	0.141	328	10.2
M009-5	2.33	8.33	0.306	0.120	304	9.32
M010-1	2.09	5.20	1.17	0.123	321	9.01
M010-2	1.00	7.56	0.895	0.140	315	10.5
M010-3	1.63	5.91	1.05	0.125	318	9.31
M010-4	2.06	4.82	1.06	0.114	326	8.28
M010-5	2.04	5.27	1.15	0.127	332	9.03
M011-1	1.26	6.38	0.370	0.0989	308	7.58
M011-2	0.14	5.39	0.505	0.0819	275	7.03
M011-3	0.97	6.41	0.310	0.0955	304	7.42
M011-4	1.07	6.17	0.357	0.0944	304	7.33
M011-5	0.10	5.46	0.526	0.0956	314	7.18
M012-1	0.83	8.80	0.187	0.117	295	9.41
M012-2	0.72	7.99	0.180	0.0982	270	8.58
M012-3	0.73	8.57	0.173	0.119	308	9.13
M012-4	0.71	8.53	0.176	0.110	284	9.10
M012-5	0.70	8.56	0.186	0.114	293	9.17
M013-1	0.59	9.10	0.413	0.120	272	10.4
M013-2	0.60	8.24	0.384	0.124	307	9.49
M013-3	0.59	8.44	0.390	0.122	297	9.71
M013-4	0.59	9.07	0.414	0.128	289	10.4
M013-5	0.62	8.31	0.392	0.118	291	9.59
M014-1	0.76	5.76	0.617	0.0980	298	7.76
M014-2	1.52	4.99	0.860	0.103	311	7.79
M014-3	1.52	5.21	0.891	0.110	321	8.11
M014-4	1.53	4.91	0.860	0.0967	296	7.71
M014-5	1.53	5.04	0.836	0.101	308	7.76
M015-1	2.86	14.2	0.754	0.195	277	16.7
M015-2	2.80	13.1	0.713	0.195	299	15.4
M015-3	2.93	13.4	0.551	0.191	298	15.2
M015-4	2.17	10.9	0.314	0.151	300	11.9
M015-5	2.85	14.1	0.692	0.199	287	16.4
M016-1	2.22	6.89	0.699	0.119	305	9.16
M016-2	0.96	6.48	0.643	0.102	281	8.56
M016-3	2.38	8.90	0.426	0.123	283	10.3
M016-4	2.37	9.43	0.438	0.132	287	10.9
M016-5	2.33	9.25	0.425	0.137	303	10.6
M017-1	2.35	14.7	0.919	0.222	297	17.7
M017-2	1.92	10.7	0.565	0.164	307	12.6
M017-3	2.05	15.7	0.815	0.229	295	18.3
M017-4	2.16	15.0	0.820	0.229	306	17.7
M017-5	2.51	11.9	0.723	0.182	301	14.3
M018-1	2.85	8.48	0.362	0.129	316	9.65
M018-2	1.69	12.5	0.388	0.167	288	13.7

Spot	Y_2O_3	ThO_2	UO_2	PbO	Age	ThO_2*
M018-3	1.32	11.2	0.354	0.152	290	12.4
M018-4	0.86	10.9	0.315	0.143	284	11.9
M018-5	1.15	8.36	0.298	0.124	313	9.33
M019-1	2.41	3.40	0.629	0.0834	360	5.46
M019-2	2.31	3.19	0.655	0.0817	361	5.33
M019-3	2.76	3.34	0.829	0.0880	343	6.05
M019-4	2.65	4.27	1.11	0.121	363	7.89
M019-5	2.77	4.47	0.936	0.105	330	7.52
M020-1	0.76	7.14	0.159	0.0858	265	7.65
M020-2	0.77	7.15	0.164	0.0925	284	7.69
M020-3	0.98	7.57	0.195	0.102	295	8.21
M020-4	0.89	7.13	0.172	0.0942	289	7.69
M020-5	0.77	7.08	0.155	0.0919	286	7.58
M021-1	2.57	6.34	0.809	0.123	323	8.98
M021-2	2.57	8.04	1.71	0.182	316	13.6
M021-3	2.52	7.25	1.83	0.194	345	13.2
M021-4	2.44	7.13	1.78	0.180	328	12.9
M021-5	2.32	4.63	0.723	0.0980	331	6.99
M022-1	1.67	6.00	0.839	0.111	299	8.73
M022-2	1.84	6.99	0.866	0.121	290	9.81
M022-3	1.91	7.29	0.862	0.126	294	10.1
M022-4	1.85	7.14	0.865	0.126	299	9.96
M022-5	1.81	7.09	0.838	0.120	288	9.81
M023-1	2.92	4.77	1.56	0.136	325	9.84
M023-2	1.63	5.29	1.19	0.133	342	9.17
M023-3	2.67	4.70	1.28	0.124	330	8.89
M023-4	2.82	5.29	1.30	0.136	337	9.52
M023-5	2.51	5.53	1.17	0.125	316	9.34
M024-1	2.40	5.36	1.27	0.129	321	9.49
M024-2	2.75	5.30	1.29	0.131	326	9.50
M024-3	2.76	6.43	0.718	0.119	320	8.77
M024-4	2.34	5.49	0.820	0.117	339	8.17
M024-5	2.62	4.91	0.533	0.0945	335	6.65
M025-1	2.53	5.04	0.615	0.104	347	7.05
M025-2	2.47	4.67	0.583	0.0921	331	6.57
M025-3	2.51	4.94	0.646	0.0937	314	7.05
M025-4	2.48	4.79	0.585	0.0859	303	6.70
M025-5	2.39	4.58	0.555	0.0864	319	6.39
M026-1	0.44	3.91	0.063	0.0466	268	4.11
M026-2	0.47	3.86	0.056	0.0460	269	4.04
M026-3	0.45	4.10	0.076	0.0501	272	4.35
M026-4	0.47	4.19	0.072	0.0525	280	4.42
M026-5	0.46	3.94	0.063	0.0543	309	4.14
M027-1	2.33	7.21	2.14	0.184	307	14.2
M027-2	2.24	7.57	2.00	0.184	309	14.1
M027-3	2.62	6.80	3.03	0.225	318	16.7
M027-4	2.73	10.0	0.971	0.164	295	13.2
M027-5	2.42	7.37	2.27	0.199	318	14.8
M028-1	1.91	6.75	0.745	0.129	332	9.18
M028-2	1.81	6.73	0.689	0.121	317	8.97
M028-3	2.23	6.16	0.697	0.117	326	8.43
M028-4	2.39	5.50	0.687	0.113	344	7.74
M028-5	2.23	6.19	0.641	0.112	320	8.28
M029-1	0.45	8.81	0.388	0.123	288	10.1
M029-2	0.45	8.81	0.412	0.132	306	10.2
M029-3	0.39	10.00	0.327	0.139	296	11.1
M029-4	0.45	11.5	0.411	0.161	296	12.8
M029-5	0.45	7.83	0.235	0.105	288	8.59
M030-1	1.81	7.64	0.207	0.105	297	8.32
M030-2	0.89	6.50	0.102	0.0840	290	6.83
M030-3	1.71	7.72	0.215	0.115	321	8.42
M030-4	1.77	7.87	0.237	0.105	288	8.64
M030-5	2.28	8.70	0.295	0.119	292	9.66
M031-1	1.03	8.46	0.280	0.117	294	9.38
M031-2	1.04	8.44	0.279	0.119	301	9.35
M031-3	1.01	8.49	0.271	0.118	297	9.37
M031-4	0.97	7.85	0.249	0.107	292	8.66
M031-5	1.02	8.48	0.279	0.121	305	9.39
M032-1	0.84	7.55	0.143	0.101	296	8.02
M032-2	0.91	6.65	0.134	0.0920	307	7.08
M032-3	1.01	7.84	0.161	0.104	293	8.36
M032-4	1.21	8.27	0.193	0.109	288	8.89
M032-5	1.45	7.75	0.229	0.109	303	8.50
M033-1	2.43	4.95	0.792	0.0985	309	7.53
M033-2	2.41	5.16	1.04	0.119	328	8.56
M033-3	2.34	4.81	0.669	0.107	360	7.00
M033-4	2.47	5.02	0.636	0.0955	318	7.09
M034-5	2.36	4.75	0.612	0.0921	322	6.75
M034-1	1.13	8.25	0.403	0.115	283	9.56
M034-2	1.26	8.85	0.307	0.115	277	9.84
M034-3	1.04	7.96	0.360	0.116	300	9.14
M034-4	1.13	8.78	0.312	0.124	299	9.79
M034-5	0.92	7.61	0.331	0.107	290	8.68
M035-1	0.43	9.59	0.321	0.119	263	10.6
M035-2	0.43	8.44	0.315	0.106	264	9.46
M035-3	0.62	11.7	0.582	0.163	283	13.6
M035-4	0.45	8.20	0.297	0.109	282	9.16
M035-5	0.44	8.73	0.314	0.131	316	9.76
M036-1	0.86	5.93	0.552	0.102	312	7.73
M036-2	0.77	6.91	0.484	0.103	286	8.49
M036-3	2.09	6.64	0.480	0.104	298	8.20
M036-4	1.85	6.40	0.506	0.111	326	8.05
M036-5	1.81	6.41	0.527	0.113	329	8.13
M037-1	0.57	9.84	0.192	0.128	288	10.5
M037-2	0.55	10.2	0.198	0.143	310	10.8
M037-3	0.54	11.2	0.215	0.147	291	11.9
M037-4	0.53	11.3	0.217	0.146	287	12.0
M037-5	0.57	11.7	0.232	0.156	295	12.5
M038-1	0.44	7.64	0.274	0.105	290	8.53
M038-2	1.99	5.74	0.665	0.105	313	7.91
M038-3	0.27	6.87	0.267	0.0895	273	7.74
M038-4	0.48	6.05	0.385	0.0857	277	7.30
M038-5	0.29	7.73	0.432	0.115	296	9.14
M039-1	2.19	2.77	0.690	0.0656	309	5.01
M039-2	2.06	6.43	0.687	0.121	328	8.67
M039-3	1.92	2.64	0.622	0.0694	350	4.67
M039-4	2.09	3.19	0.700	0.0770	332	5.47
M039-5	2.55	5.30	1.21	0.120	307	9.23
M040-1	2.43	4.82	0.389	0.0832	323	6.08
M040-2	2.73	4.91	0.451	0.0826	306	6.37
M040-3	2.68	4.89	0.430	0.0950	356	6.29
M040-4	2.71	4.89	0.416	0.0972	367	6.25
M040-5	2.63	4.95	0.440	0.0986	364	6.39
M041-1	0.90	8.01	0.169	0.0963	266	8.56
M041-2	0.84	8.07	0.168	0.102	280	8.61
M041-3	0.76	8.14	0.158	0.107	292	8.66
M041-4	0.84	8.76	0.178	0.121	305	9.34
M041-5	0.85	8.90	0.182	0.125	311	9.49
M042-1	1.45	5.12	0.818	0.0948	288	7.77
M042-2	0.40	5.09	0.728	0.0976	309	7.46
M042-3	0.39	5.13	0.666	0.0887	287	7.29
M042-4	0.84	5.92	0.702	0.101	290	8.21
M042-5	1.35	5.22	0.725	0.0979	305	7.58
M043-1	2.16	5.05	1.52	0.128	303	9.99
M043-2	2.13	4.82	1.66	0.126	290	10.2
M043-3	1.97	4.58	1.34	0.117	308	8.93
M043-4	2.01	4.82	1.58	0.122	289	9.94
M043-5	1.96	4.27	1.49	0.121	314	9.12
M044-1	0.52	5.91	0.430	0.0731	237	7.30
M044-2	0.92	6.90	0.710	0.107	274	9.20
M044-3	1.22	8.89	0.896	0.131	263	11.8
M044-4	2.14	9.60	0.825	0.152	293	12.3
M044-5	1.51	9.71	0.540	0.135	277	11.5
M045-1	0.52	6.12	0.460	0.0911	282	7.62
M045-2	0.67	7.21	0.479	0.0993	268	8.76
M045-3	0.85	7.13	0.463	0.103	281	8.63
M045-4	1.34	7.28	0.514	0.107	282	8.95
M045-5	1.09	7.47	0.547	0.108	276	9.25
M046-1	1.78	8.96	0.609	0.132	286	10.9
M046-2	2.26	8.16	0.447	0.114	280	9.62

Spot	Y_2O_3	ThO_2	UO_2	PbO	Age	ThO_2*
M046-3	2.31	8.78	0.428	0.120	278	10.2
M046-4	2.51	9.73	0.429	0.136	288	11.1
M046-5	2.54	9.41	0.369	0.123	273	10.6
M047-1	0.85	17.2	0.797	0.234	279	19.8
M047-2	0.87	13.8	0.736	0.193	280	16.2
M047-3	0.90	9.81	0.515	0.134	276	11.5
M047-4	0.92	12.3	0.627	0.177	292	14.3
M047-5	0.89	14.3	0.757	0.197	277	16.8
M048-1	1.83	5.85	0.540	0.0910	283	7.60
M048-2	1.41	6.35	0.119	0.0760	267	6.74
M048-3	1.02	7.10	0.606	0.101	262	9.06
M048-4	1.35	5.73	0.105	0.0759	295	6.07
M048-5	2.38	6.58	0.871	0.116	290	9.42
M049-1	0.86	6.68	0.429	0.0960	281	8.07
M049-2	2.33	5.86	0.825	0.108	299	8.54
M049-3	0.94	6.77	0.474	0.101	286	8.31
M049-4	2.34	5.58	0.849	0.115	325	8.35
M050-1	0.74	6.61	0.532	0.116	329	8.34
M050-2	0.62	6.16	0.510	0.0925	280	7.81
M050-3	0.60	6.33	0.519	0.0987	291	8.02
M050-4	0.79	6.43	0.537	0.101	292	8.18
M050-5	0.82	6.44	0.519	0.107	309	8.13
M051-1	2.09	3.43	1.40	0.102	302	7.99
M051-2	2.14	3.15	1.22	0.0876	290	7.12
M051-3	2.12	2.99	1.31	0.0943	307	7.25
M051-4	2.04	3.03	1.14	0.0854	299	6.75
M051-5	1.43	3.05	0.681	0.0701	314	5.27
M052-1	1.98	3.40	0.585	0.0712	317	5.31
M052-2	1.86	4.14	0.549	0.0816	325	5.93
M052-3	1.81	4.72	0.776	0.0965	314	7.25
M052-4	1.79	4.65	0.798	0.0995	324	7.25
M052-5	1.83	4.60	0.757	0.0946	316	7.07
M053-1	1.35	5.21	0.651	0.0905	292	7.33
M053-2	0.58	3.60	0.127	0.0473	278	4.01
M053-3	1.20	4.39	0.490	0.0772	304	5.99
M053-4	1.09	5.15	0.532	0.0823	283	6.88
M053-5	1.75	4.37	0.650	0.0803	292	6.49
M054-1	1.56	5.18	0.307	0.0844	322	6.18
M054-2	1.49	5.35	0.313	0.0838	311	6.37
M054-3	1.47	5.23	0.294	0.0847	323	6.19
M054-4	1.54	5.28	0.299	0.0838	316	6.25
M054-5	1.34	4.60	0.283	0.0732	313	5.52
M055-1	0.90	7.50	0.853	0.130	298	10.3
M055-2	1.08	6.72	0.927	0.123	297	9.73
M055-3	1.12	6.67	1.01	0.131	310	9.97
M055-4	0.14	6.11	0.669	0.107	306	8.29
M055-5	1.05	6.26	0.976	0.119	297	9.43
M056-1	1.23	5.28	1.60	0.134	302	10.5
M056-2	1.34	5.27	1.63	0.142	315	10.6
M056-3	0.85	4.88	1.22	0.116	309	8.86
M056-4	1.11	6.18	1.82	0.159	309	12.1
M056-5	1.34	7.10	2.34	0.190	304	14.7
M057-1	1.14	8.00	0.173	0.107	295	8.56
M057-2	1.31	7.64	0.226	0.105	296	8.37
M057-3	1.26	5.42	0.870	0.108	309	8.25
M057-4	1.04	8.30	0.244	0.114	295	9.09
M057-5	1.15	6.27	1.14	0.123	291	9.96
M058-1	0.53	9.00	0.168	0.118	291	9.54
M058-2	0.54	9.32	0.185	0.110	263	9.92
M058-3	0.96	9.77	0.250	0.121	270	10.6
M058-4	1.03	9.14	0.215	0.114	275	9.84
M058-5	1.05	9.27	0.198	0.119	285	9.91
M059-1	0.91	10.2	0.199	0.125	272	10.9
M059-2	0.90	9.22	0.295	0.122	282	10.2
M059-3	0.67	10.1	0.181	0.123	271	10.7
M059-4	0.73	10.3	0.178	0.128	279	10.8
M059-5	0.40	10.5	0.169	0.124	264	11.1
M060-1	0.96	3.71	0.723	0.0770	300	6.06
M060-2	1.18	4.97	0.669	0.101	333	7.15
M060-3	1.38	4.54	0.743	0.0916	311	6.96
M060-4	1.34	4.67	0.715	0.0971	327	7.00
M060-5	1.55	5.36	0.825	0.0997	293	8.04
M061-1	1.76	6.80	1.26	0.128	276	10.9
M061-2	1.87	6.69	1.17	0.128	288	10.5
M061-3	1.95	7.01	1.29	0.139	292	11.2
M061-4	1.95	6.67	1.26	0.130	286	10.8
M061-5	1.56	5.55	1.20	0.115	288	9.44
M062-1	1.27	5.54	0.670	0.0970	297	7.72
M062-2	1.34	6.20	0.650	0.107	305	8.31
M062-3	1.34	7.15	0.566	0.115	302	8.99
M062-4	1.33	6.11	0.645	0.107	308	8.21
M062-5	1.45	7.18	0.562	0.114	297	9.01
M063-1	1.03	5.26	0.565	0.0932	310	7.10
M063-2	0.95	5.76	0.577	0.105	325	7.64
M063-3	0.35	6.08	0.358	0.0919	299	7.25
M063-4	0.52	5.96	0.548	0.101	308	7.74
M064-1	2.09	4.84	0.431	0.0958	361	6.25
M064-2	2.51	5.02	0.417	0.0889	329	6.38
M064-3	2.87	4.94	0.384	0.0845	322	6.19
M064-4	0.86	4.34	0.607	0.0785	293	6.32
M064-5	2.12	4.93	0.484	0.0921	334	6.51
M065-1	0.19	7.85	0.513	0.127	314	9.52
M065-2	0.16	7.91	0.504	0.118	292	9.55
M065-3	0.18	7.73	0.494	0.120	302	9.34
M065-4	0.18	7.81	0.512	0.124	308	9.48
M065-5	0.17	7.87	0.502	0.130	323	9.50
M066-1	2.06	9.84	0.222	0.136	303	10.6
M066-2	2.69	9.88	0.570	0.157	315	11.7
M066-3	1.68	10.1	0.237	0.139	302	10.9
M066-4	2.58	9.77	0.583	0.156	315	11.7
M066-5	2.54	9.84	0.598	0.159	319	11.8
M067-1	3.25	6.08	0.388	0.109	350	7.35
M067-2	2.52	6.17	0.244	0.105	356	6.97
M067-3	2.28	6.62	0.210	0.106	342	7.31
M067-4	2.27	6.63	0.196	0.0993	322	7.27
M067-5	2.91	4.91	0.600	0.104	356	6.87
M068-1	0.36	5.97	0.283	0.0831	285	6.89
M068-2	0.26	5.25	0.191	0.0675	271	5.87
M068-3	0.37	2.17	0.099	0.0317	300	2.49
M068-4	0.34	2.30	0.115	0.0302	267	2.67
M068-5	0.32	2.14	0.105	0.0353	336	2.48
M069-1	1.57	9.43	0.229	0.134	312	10.2
M069-2	1.70	9.20	0.303	0.135	313	10.2
M069-3	2.58	9.82	0.746	0.168	323	12.2
M069-4	1.57	9.00	0.214	0.128	311	9.70
M069-5	2.73	12.3	0.842	0.173	273	15.0
M070-1	2.08	4.77	0.801	0.109	348	7.38
M070-2	2.08	4.94	0.825	0.104	321	7.62
M070-3	1.74	4.04	1.11	0.111	342	7.66
M070-4	1.77	4.64	1.38	0.130	336	9.14
M070-5	1.49	4.33	0.846	0.0998	332	7.09
M071-1	0.01	9.89	0.255	0.118	259	10.7
M071-2	0.17	8.36	0.182	0.103	272	8.95
M071-3	0.02	7.90	0.179	0.103	287	8.48
M071-4	0.02	10.6	0.250	0.144	297	11.4
M071-5	0.03	7.99	0.206	0.103	281	8.66
M072-1	2.64	4.63	0.643	0.100	351	6.73
M072-2	2.69	4.61	0.646	0.104	364	6.72
M072-3	2.76	4.36	0.685	0.103	367	6.60
M072-4	2.58	2.98	1.07	0.102	372	6.49
M072-5	2.21	3.59	1.06	0.106	355	7.05
M073-1	1.98	6.05	0.814	0.120	325	8.70
M073-2	2.08	5.68	0.729	0.124	361	8.06
M073-3	1.86	5.50	0.751	0.114	337	7.95
M073-4	2.49	5.63	0.853	0.113	318	8.41
M073-5	2.01	6.17	0.815	0.122	326	8.82
M074-1	2.23	4.60	0.663	0.0951	332	6.77
M074-2	2.19	4.49	0.741	0.105	357	6.92
M074-3	1.07	4.54	0.691	0.0900	313	6.79
M074-4	1.75	4.95	0.726	0.103	332	7.32

Spot	Y_2O_3	ThO_2	UO_2	PbO	Age	ThO_2*
M074-5	1.94	4.17	0.999	0.102	325	7.43
M075-1	2.24	10.3	0.270	0.147	311	11.2
M075-2	2.17	10.4	0.257	0.150	313	11.3
M075-3	2.27	10.3	0.267	0.146	309	11.2
M075-4	2.24	9.58	0.335	0.147	325	10.7
M075-5	2.71	9.85	0.376	0.147	313	11.1
M076-1	2.25	7.90	0.449	0.119	300	9.36
M076-2	2.25	6.99	0.461	0.118	328	8.49
M076-3	2.38	7.28	0.476	0.116	310	8.83
M076-4	2.19	7.59	0.435	0.119	311	9.01
M076-5	2.27	8.09	0.482	0.116	283	9.66
M077-1	2.35	5.03	0.979	0.118	339	8.22
M077-2	1.68	5.58	1.05	0.122	321	9.00
M077-3	1.54	5.02	0.598	0.163	546	7.01
M077-4	1.85	5.42	0.986	0.112	307	8.63
M077-5	2.22	5.09	1.12	0.119	320	8.75
M078-1	1.92	5.55	0.314	0.0970	348	6.57
M078-2	2.65	5.35	0.403	0.0982	347	6.66
M078-3	1.99	5.69	0.310	0.0953	335	6.71
M078-4	2.58	5.48	0.302	0.102	372	6.47
M078-5	1.42	6.03	0.190	0.0932	330	6.65
M079-1	2.39	5.29	1.04	0.116	317	8.66
M079-2	2.39	5.20	1.04	0.114	315	8.57
M079-3	2.41	5.22	1.04	0.123	338	8.60
M079-4	2.35	5.40	1.06	0.124	331	8.86
M079-5	2.18	5.25	0.995	0.118	328	8.50
M080-1	0.69	6.73	0.138	0.0798	263	7.18
M080-2	1.92	6.23	0.450	0.107	327	7.70
M080-3	0.51	6.66	0.105	0.0780	263	7.00
M080-4	1.08	6.99	0.184	0.0959	298	7.59
M080-5	0.92	7.10	0.171	0.105	323	7.66
M081-1	1.92	15.0	0.593	0.215	301	16.9
M081-2	1.28	8.27	0.340	0.118	296	9.38
M081-3	0.86	12.7	0.485	0.179	295	14.3
M081-4	0.23	6.63	0.328	0.0951	292	7.70
M081-5	0.80	12.4	0.459	0.170	289	13.9
M082-1	1.20	8.14	0.315	0.109	280	9.17
M082-2	1.16	8.03	0.304	0.111	291	9.02
M082-3	1.23	7.19	0.306	0.104	301	8.19
M082-4	1.19	7.74	0.329	0.108	291	8.81
M082-5	1.27	7.28	0.322	0.105	298	8.33
M083-1	2.06	8.69	0.386	0.138	328	9.94
M083-2	2.58	8.79	0.391	0.133	312	10.1
M083-3	1.37	7.31	0.204	0.108	318	7.97
M083-4	1.98	7.81	0.521	0.126	313	9.51
M083-5	2.57	6.94	0.375	0.106	306	8.16
M084-1	2.41	5.34	0.762	0.165	493	7.86
M084-2	1.80	5.38	0.468	0.147	500	6.93
M084-3	1.43	5.75	0.468	0.148	477	7.30
M084-4	2.99	5.02	1.08	0.123	339	8.54
M084-5	2.69	5.04	1.00	0.115	326	8.31
M085-1	3.37	5.16	0.621	0.111	365	7.19
M085-2	1.71	5.48	0.379	0.0967	339	6.72
M085-3	1.65	5.25	0.405	0.0905	325	6.57
M085-4	1.39	5.94	0.359	0.0961	319	7.11
M085-5	2.81	4.79	0.556	0.102	362	6.60
M086-1	0.45	7.10	0.533	0.102	272	8.83
M086-2	0.53	6.48	0.564	0.0959	273	8.31
M086-3	0.53	8.24	0.725	0.116	260	10.6
M086-4	0.52	7.92	0.679	0.129	300	10.1
M086-5	0.51	8.16	0.681	0.121	275	10.4
M087-1	2.53	5.38	0.657	0.101	316	7.52
M087-2	2.14	5.09	0.683	0.0905	292	7.31
M087-3	0.23	7.33	1.18	0.140	296	11.2
M087-4	0.19	8.49	1.16	0.153	295	12.2
M087-5	0.83	5.69	0.700	0.102	301	7.96
M088-1	2.25	6.98	1.38	0.155	318	11.5
M088-2	2.22	7.41	1.75	0.169	305	13.1
M088-3	0.23	7.46	0.153	0.0905	269	7.95
M088-4	0.36	7.52	0.178	0.0956	279	8.10
M088-5	1.95	7.72	1.96	0.181	304	14.1
M089-1	1.65	6.64	0.287	0.0983	306	7.57
M089-2	1.83	6.48	0.293	0.0990	314	7.44
M089-3	1.62	5.07	0.473	0.0861	307	6.61
M089-4	1.85	4.58	0.744	0.102	344	7.01
M089-5	1.92	4.83	0.808	0.106	333	7.46
M090-1	2.83	11.5	1.23	0.200	305	15.5
M090-2	3.43	11.6	1.23	0.219	330	15.7
M090-3	3.33	11.9	1.23	0.207	308	15.9
M090-4	2.93	12.7	1.12	0.204	295	16.3
M090-5	2.94	13.0	1.14	0.208	294	16.7
M091-1	1.88	6.65	0.969	0.133	321	9.81
M091-2	1.93	6.68	0.999	0.133	316	9.94
M091-3	1.86	6.97	1.00	0.141	324	10.2
M091-4	1.47	5.69	0.747	0.119	345	8.13
M091-5	1.43	5.91	0.699	0.108	312	8.19
M092-1	0.31	6.70	0.748	0.114	294	9.14
M092-2	0.25	6.44	0.568	0.106	301	8.28
M092-3	0.26	6.39	0.555	0.108	311	8.20
M092-4	0.29	6.16	0.664	0.106	301	8.32
M092-5	0.25	6.08	0.484	0.0927	286	7.66
M093-1	1.89	6.89	0.672	0.124	323	9.08
M093-2	2.16	6.81	0.791	0.121	303	9.39
M093-3	2.04	6.08	0.713	0.116	325	8.40
M093-4	1.96	5.05	0.612	0.0913	306	7.04
M093-5	1.81	5.21	0.618	0.102	332	7.22
M094-1	2.12	8.17	0.215	0.116	308	8.87
M094-2	1.91	6.95	0.158	0.0937	296	7.46
M094-3	1.92	8.31	0.222	0.122	319	9.03
M094-4	1.49	8.44	0.233	0.113	289	9.20
M094-5	1.87	11.9	0.536	0.167	287	13.7
M095-1	1.19	5.47	0.526	0.0893	294	7.18
M095-2	2.65	5.00	1.21	0.121	319	8.93
M095-3	1.82	5.41	0.836	0.0995	289	8.12
M095-4	1.99	4.97	1.00	0.105	300	8.23
M095-5	1.99	4.97	0.968	0.107	311	8.12
M096-1	2.06	6.60	0.441	0.103	303	8.03
M096-2	2.22	6.36	0.521	0.110	323	8.05
M096-3	2.93	5.57	0.403	0.0925	317	6.88
M096-4	2.27	5.73	0.309	0.0950	332	6.74
M096-5	2.14	5.79	0.463	0.0917	297	7.29
M097-1	2.49	5.48	0.272	0.0840	311	6.37
M097-2	2.31	5.96	1.80	0.154	307	11.8
M097-3	2.43	5.84	2.33	0.177	310	13.4
M097-4	2.43	5.88	2.02	0.175	331	12.5
M097-5	2.41	6.11	1.95	0.164	311	12.4
M098-1	0.79	10.9	0.236	0.141	286	11.7
M098-2	0.41	3.33	0.081	0.0410	269	3.59
M098-3	1.78	10.2	0.534	0.144	285	11.9
M098-4	1.21	8.87	0.215	0.115	283	9.56
M098-5	1.22	10.7	0.282	0.147	299	11.6
M099-1	1.87	5.27	0.460	0.0986	344	6.77
M099-2	2.94	5.02	0.435	0.0991	363	6.44
M099-3	2.60	5.04	0.669	0.0988	323	7.23
M099-4	3.26	5.01	0.639	0.109	363	7.10
M099-5	0.64	4.42	0.547	0.0779	297	6.20
M100-1	1.90	6.73	0.570	0.118	325	8.59
M100-2	1.60	12.7	0.494	0.180	297	14.3
M100-3	0.80	13.4	0.416	0.181	290	14.7
M100-4	1.81	8.04	0.807	0.137	304	10.7
M100-5	1.30	8.11	0.668	0.130	298	10.3
M101-1	3.77	4.23	1.19	0.121	352	8.10
M101-2	3.03	5.95	2.66	0.201	324	14.6
M101-3	2.77	7.17	2.20	0.190	312	14.3
M101-4	2.84	7.44	2.23	0.204	327	14.7
M101-5	2.05	6.31	1.09	0.134	319	9.86
M102-1	2.37	14.3	1.03	0.182	244	17.6
M102-2	2.53	12.1	0.773	0.178	288	14.6
M102-3	2.24	11.7	0.784	0.174	288	14.3
M102-4	2.44	11.5	0.804	0.177	297	14.1

Spot	Y_2O_3	ThO_2	UO_2	PbO	Age	ThO_2*
M102-5	2.35	11.8	1.04	0.181	281	15.2
M103-1	2.96	6.00	1.21	0.149	352	9.97
M103-2	2.64	6.35	1.11	0.146	345	9.98
M103-3	2.71	6.27	1.13	0.139	330	9.95
M103-4	2.94	6.19	1.19	0.142	332	10.1
M103-5	2.83	6.13	1.27	0.146	336	10.3
M104-1	0.90	8.09	0.329	0.115	296	9.16
M104-2	1.24	7.84	0.247	0.105	285	8.65
M104-3	1.03	7.37	0.268	0.120	342	8.24
M104-4	0.55	7.71	0.149	0.103	297	8.19
M104-5	0.66	8.20	0.173	0.115	310	8.76
M105-1	2.32	3.58	0.660	0.0815	335	5.74
M105-2	2.28	3.73	0.500	0.0719	317	5.36
M105-3	2.26	3.44	0.528	0.0723	330	5.17
M105-4	2.38	4.06	0.699	0.0825	307	6.34
M105-5	2.15	3.15	0.555	0.0824	391	4.97
M106-1	0.91	6.68	0.894	0.127	313	9.59
M106-2	1.02	6.39	0.969	0.124	307	9.55
M106-3	1.07	6.13	1.03	0.124	308	9.50
M106-4	1.23	5.21	1.16	0.120	316	9.00
M106-5	1.10	6.17	0.994	0.126	315	9.41
M107-1	2.04	2.13	0.850	0.0733	353	4.90
M107-2	1.01	2.43	0.611	0.0633	338	4.42
M107-3	1.61	4.54	0.674	0.0939	329	6.74
M107-4	1.52	4.82	0.682	0.0929	311	7.04
M107-5	1.35	4.56	0.697	0.0864	299	6.83
M108-1	3.38	7.72	0.803	0.154	350	10.3
M108-2	3.30	8.03	0.770	0.152	339	10.5
M108-3	3.52	7.48	0.771	0.152	359	10.0
M108-4	3.37	7.38	0.720	0.136	330	9.73
M108-5	3.29	8.47	0.702	0.154	338	10.8
M109-1	0.98	8.09	0.156	0.108	297	8.60
M109-2	1.09	8.19	0.168	0.118	317	8.74
M109-3	0.99	8.50	0.151	0.118	310	8.99
M109-4	1.31	8.94	0.189	0.128	316	9.55
M109-5	1.05	8.56	0.160	0.117	304	9.08
M110-1	2.69	6.14	1.31	0.139	314	10.4
M110-2	2.67	6.08	1.31	0.154	350	10.4
M110-3	2.67	6.06	1.31	0.143	327	10.3
M110-4	2.70	6.03	1.32	0.148	337	10.3
M110-5	2.85	6.12	1.28	0.151	346	10.3
M111-1	2.19	4.39	0.816	0.101	338	7.05
M111-2	2.13	4.34	0.823	0.0978	328	7.02
M111-3	2.23	4.34	0.797	0.101	344	6.94
M111-4	2.21	4.47	0.797	0.0953	318	7.06
M111-5	2.15	4.36	0.785	0.101	343	6.92
M112-1	3.24	9.22	1.86	0.225	347	15.3
M112-2	3.05	9.35	1.45	0.194	325	14.1
M112-3	3.12	8.70	1.84	0.217	348	14.7
M112-4	2.76	10.9	1.14	0.204	329	14.6
M112-5	2.58	10.6	1.10	0.193	320	14.2
M113-1	1.90	4.90	0.235	0.0791	329	5.67
M113-2	1.62	4.87	0.219	0.0642	272	5.58
M113-3	0.30	5.11	0.360	0.0700	263	6.28
M113-4	0.31	5.72	0.398	0.0748	252	7.01
M113-5	0.31	5.86	0.414	0.0918	301	7.21
M114-1	0.62	8.53	0.567	0.133	302	10.4
M114-2	0.64	8.71	0.557	0.131	295	10.5
M114-3	0.60	8.72	0.547	0.133	299	10.5
M114-4	0.58	8.61	0.557	0.132	299	10.4
M114-5	0.57	7.29	0.513	0.115	302	8.96
M115-1	2.44	6.10	0.807	0.124	336	8.73
M115-2	3.27	11.4	2.01	0.258	338	18.0
M115-3	1.03	6.68	0.419	0.101	297	8.04
M115-4	2.74	11.1	2.08	0.243	320	17.9
M115-5	2.66	6.21	1.17	0.145	341	10.0
M116-1	1.94	10.2	1.25	0.182	301	14.3
M116-2	2.05	10.1	1.30	0.189	310	14.3
M116-3	2.11	4.50	0.835	0.102	332	7.22
M116-4	2.09	4.03	0.731	0.0907	334	6.41
M116-5	1.92	4.70	0.734	0.0982	327	7.09
M117-1	2.25	5.48	0.374	0.0928	327	6.70
M117-2	2.32	5.34	0.386	0.101	361	6.61
M117-3	2.24	5.45	0.452	0.0931	317	6.92
M117-4	2.28	5.37	0.375	0.0888	318	6.59
M117-5	0.83	5.51	0.831	0.104	300	8.21
M118-1	1.75	4.30	0.686	0.0944	341	6.53
M118-2	1.87	4.97	0.651	0.100	333	7.09
M118-3	1.90	5.85	0.627	0.112	333	7.89
M118-4	1.57	3.94	0.771	0.0909	332	6.45
M118-5	1.86	5.94	0.624	0.106	312	7.97
M119-1	2.49	5.23	1.45	0.137	324	9.96
M119-2	2.69	6.13	1.46	0.129	281	10.9
M119-3	1.73	4.93	0.916	0.102	304	7.92
M119-4	1.78	5.51	1.03	0.119	317	8.87
M119-5	1.92	6.07	1.15	0.129	310	9.82
M120-1	0.87	8.51	0.202	0.115	297	9.17
M120-2	0.54	8.59	0.212	0.113	288	9.28
M120-3	0.68	9.10	0.240	0.127	302	9.88
M120-4	0.96	8.76	0.483	0.131	298	10.3
M120-5	0.68	10.9	0.385	0.161	312	12.1
M121-1	1.93	5.34	1.39	0.136	326	9.86
M121-2	2.05	5.37	1.40	0.131	310	9.94
M121-3	1.58	5.63	0.691	0.106	317	7.88
M121-4	1.47	5.68	0.896	0.116	317	8.60
M121-5	2.01	5.40	1.37	0.142	338	9.89
M122-1	2.37	4.89	0.621	0.0982	335	6.92
M122-2	2.77	4.56	0.649	0.0912	322	6.68
M122-3	2.76	4.78	0.707	0.0967	322	7.08
M122-4	2.40	4.53	0.622	0.0982	353	6.57
M122-5	2.66	4.80	0.680	0.0886	298	7.01
M123-1	2.37	8.69	0.311	0.124	301	9.70
M123-2	1.80	10.3	0.257	0.145	308	11.1
M123-3	1.58	10.3	0.247	0.144	306	11.1
M123-4	1.95	9.82	0.233	0.137	305	10.6
M123-5	2.21	9.80	0.319	0.139	302	10.8
M124-1	2.05	6.28	0.730	0.123	334	8.66
M124-2	2.13	6.00	0.723	0.117	330	8.35
M124-3	0.35	7.19	0.980	0.134	305	10.4
M124-4	2.29	6.33	0.755	0.126	338	8.79
M124-5	2.29	6.13	0.754	0.123	337	8.59
M125-1	0.72	4.87	0.621	0.0860	294	6.89
M125-2	1.04	4.67	0.689	0.0900	307	6.91
M125-3	1.05	4.63	0.708	0.0925	315	6.93
M125-4	1.04	4.64	0.707	0.0910	309	6.94
M125-5	0.98	4.88	0.655	0.0909	306	7.01
M126-1	2.51	5.93	0.779	0.118	330	8.47
M126-2	2.51	6.17	0.662	0.108	306	8.32
M126-3	2.57	6.13	0.720	0.116	322	8.48
M126-4	2.46	5.95	0.816	0.111	303	8.60
M126-5	2.62	6.15	0.928	0.117	301	9.17
M127-1	2.56	5.15	0.690	0.105	335	7.40
M127-2	2.90	4.85	0.746	0.101	327	7.28
M127-3	2.24	4.37	0.501	0.0843	331	6.00
M127-4	2.78	5.50	0.810	0.109	316	8.14
M127-5	2.30	5.07	0.506	0.0984	345	6.72
M128-1	1.72	10.2	0.238	0.136	292	11.0
M128-2	1.16	10.3	0.214	0.143	308	11.0
M128-3	0.89	8.58	0.143	0.113	294	9.04
M128-4	2.01	9.89	0.250	0.137	301	10.7
M128-5	1.11	8.59	0.172	0.113	292	9.15
M129-1	1.07	6.54	0.226	0.0950	308	7.27
M129-2	1.37	6.60	0.314	0.0988	306	7.63
M129-3	0.63	6.71	0.163	0.0897	293	7.24
M129-4	0.50	5.91	0.136	0.0724	269	6.35
M129-5	0.48	5.37	0.132	0.0720	293	5.80
M130-1	2.90	4.41	1.23	0.118	331	8.41
M130-2	2.84	4.60	1.29	0.129	344	8.81
M130-3	2.95	5.26	0.679	0.102	322	7.47
M130-4	2.85	4.59	1.19	0.127	353	8.48

Spot	Y_2O_3	ThO_2	UO_2	PbO	Age	ThO_2*
M130-5	2.92	4.48	0.960	0.108	336	7.61
M131-1	0.06	5.05	0.976	0.0985	283	8.23
M131-2	0.06	6.31	1.19	0.125	291	10.2
M131-3	1.39	5.83	0.579	0.103	315	7.72
M131-4	1.72	5.39	0.620	0.104	332	7.41
M131-5	1.82	5.30	0.386	0.0933	336	6.56
M132-1	1.68	5.37	1.06	0.125	334	8.82
M132-2	1.75	5.27	1.00	0.116	321	8.53
M132-3	2.03	7.60	0.900	0.147	328	10.5
M132-4	2.25	7.67	0.890	0.144	321	10.6
M132-5	0.25	9.79	1.44	0.181	295	14.5
M133-1	0.85	9.60	0.225	0.128	292	10.3
M133-2	0.86	11.4	0.261	0.148	286	12.3
M133-3	0.92	12.0	0.265	0.155	285	12.9
M133-4	1.00	11.7	0.269	0.159	298	12.6
M133-5	0.91	10.4	0.233	0.139	293	11.2
M134-1	2.26	9.39	0.644	0.142	292	11.5
M134-2	2.95	8.50	0.868	0.155	322	11.3
M134-3	1.96	8.49	0.566	0.136	310	10.3
M134-4	2.38	8.70	0.678	0.155	335	10.9
M134-5	3.44	6.81	0.961	0.136	324	9.94
M135-1	2.87	6.66	0.899	0.131	322	9.59
M135-2	3.63	6.75	0.690	0.130	340	9.00
M135-3	2.99	6.43	0.822	0.128	331	9.11
M135-4	2.66	6.80	1.10	0.144	326	10.4
M135-5	2.53	6.34	0.954	0.135	337	9.46
M136-1	2.60	4.49	0.643	0.0881	316	6.58
M136-2	1.97	4.20	0.572	0.0878	341	6.07
M136-3	2.79	5.25	0.581	0.101	332	7.15
M136-4	0.37	6.26	0.894	0.121	310	9.17
M136-5	0.95	5.59	0.699	0.103	310	7.86
M137-1	3.18	4.87	0.452	0.0976	362	6.35
M137-2	0.87	4.87	0.440	0.0825	309	6.30
M137-3	0.71	4.97	0.387	0.0842	319	6.24
M137-4	0.56	4.63	0.355	0.0731	298	5.79
M137-5	0.21	4.47	0.427	0.0754	304	5.86
M138-1	1.40	5.62	1.06	0.121	314	9.07
M138-2	1.52	5.49	1.12	0.133	344	9.14
M138-3	1.42	5.24	1.05	0.127	346	8.65
M138-4	1.33	4.77	1.08	0.110	314	8.28
M138-5	1.42	5.55	1.12	0.124	318	9.20
M139-1	2.60	5.78	0.337	0.100	344	6.87
M139-2	2.55	7.87	0.399	0.121	311	9.17
M139-3	2.55	5.95	0.339	0.0924	309	7.05
M139-4	2.66	5.15	0.267	0.0856	335	6.02
M139-5	2.66	5.54	0.283	0.0958	349	6.47
M140-1	2.13	4.27	0.547	0.0843	328	6.06
M140-2	2.51	5.47	0.936	0.121	334	8.52
M140-3	2.59	5.45	0.955	0.110	304	8.56
M140-4	2.16	4.31	0.748	0.0961	336	6.75
M140-5	1.98	3.78	0.496	0.0797	348	5.40
M141-1	0.88	5.88	0.471	0.0910	290	7.41
M141-2	1.69	5.73	0.664	0.106	318	7.89
M141-3	3.09	5.79	0.698	0.114	334	8.06
M141-4	0.56	6.12	0.363	0.0938	303	7.30
M141-5	0.59	6.20	0.377	0.0993	315	7.43
M142-1	3.43	12.5	0.874	0.197	303	15.4
M142-2	3.40	12.6	0.880	0.204	312	15.4
M142-3	3.39	12.6	0.860	0.214	329	15.4
M142-4	3.33	12.7	0.914	0.208	313	15.6
M142-5	3.28	12.7	0.897	0.209	316	15.6
M143-1	2.55	4.56	0.824	0.0989	322	7.25
M143-2	1.49	4.94	0.683	0.104	341	7.17
M143-3	1.84	4.67	0.703	0.0979	332	6.96
M143-4	1.66	5.05	0.721	0.105	336	7.40
M143-5	2.56	4.78	0.741	0.114	373	7.20
M144-1	0.57	5.42	0.769	0.112	334	7.93
M144-2	0.61	5.49	0.863	0.112	319	8.31
M144-3	0.62	5.60	0.921	0.110	301	8.60
M144-4	0.65	5.45	0.926	0.109	305	8.46
M145-1	0.41	4.32	0.424	0.0692	287	5.70
M145-2	0.45	5.37	0.553	0.0903	297	7.17
M145-3	0.43	5.14	0.492	0.0769	270	6.73
M145-4	0.43	5.22	0.526	0.0791	270	6.93
M145-5	0.42	5.21	0.518	0.0909	311	6.89
M146-1	0.71	7.85	0.209	0.0983	272	8.53
M146-2	0.37	6.25	0.138	0.0665	235	6.70
M146-3	0.51	6.68	0.147	0.0813	268	7.16
M146-4	0.30	4.98	0.103	0.0586	260	5.32
M146-5	0.40	5.15	0.158	0.0622	260	5.66
M147-1	0.59	4.98	0.669	0.0870	287	7.15
M147-2	0.41	5.00	0.273	0.0683	274	5.89
M147-3	0.25	5.89	0.159	0.0777	286	6.41
M147-4	0.26	5.94	0.153	0.0800	294	6.43
M147-5	0.25	5.63	0.160	0.0777	298	6.15
M148-1	0.43	6.82	0.197	0.0924	293	7.46
M148-2	0.45	7.50	0.204	0.107	308	8.16
M148-3	0.45	7.69	0.208	0.0994	280	8.37
M148-4	0.45	7.79	0.211	0.0983	274	8.48
M148-5	0.47	8.06	0.206	0.105	285	8.73
M149-1	0.41	6.60	0.084	0.0857	294	6.87
M149-2	0.41	6.61	0.087	0.0787	270	6.89
M149-3	1.26	7.07	0.286	0.105	310	8.00
M149-4	0.71	6.84	0.150	0.0887	286	7.33
M149-5	0.62	7.05	0.113	0.0832	265	7.42
M149-6	0.41	6.42	0.080	0.0855	302	6.68
M150-1	0.61	3.71	0.116	0.0492	284	4.09
M150-2	1.19	5.65	0.536	0.0992	316	7.40
M150-3	1.25	5.73	0.547	0.101	316	7.51
M150-4	1.21	5.72	0.555	0.0999	313	7.53
M150-5	1.19	5.65	0.548	0.0989	314	7.44
M151-1	2.25	4.66	0.560	0.0918	334	6.48
M151-2	1.65	4.86	0.420	0.0864	327	6.23
M151-3	1.67	4.92	0.439	0.0814	303	6.35
M151-4	1.64	4.83	0.412	0.0822	314	6.17
M151-5	2.68	5.08	0.303	0.0917	356	6.07
M152-1	2.83	4.98	0.600	0.108	367	6.95
M152-2	3.13	4.97	0.848	0.118	360	7.75
M152-3	3.04	5.04	0.778	0.107	334	7.58
M152-4	3.09	5.12	0.790	0.114	348	7.70
M152-5	3.03	4.83	0.817	0.115	361	7.50
M153-1	0.59	3.65	0.696	0.0763	304	5.92
M153-2	0.59	3.40	0.722	0.0773	317	5.75
M153-3	1.43	4.10	0.737	0.0963	349	6.51
M153-4	0.62	3.71	0.798	0.0840	314	6.31
M153-5	0.63	4.64	0.954	0.103	314	7.75
M154-1	1.99	7.40	0.986	0.140	312	10.6
M154-2	1.62	9.64	0.971	0.168	310	12.8
M154-3	2.68	9.65	0.998	0.167	306	12.9
M154-4	3.32	6.46	1.40	0.148	318	11.0
M154-5	1.71	6.89	1.03	0.123	283	10.2
M155-1	2.02	5.11	0.671	0.0989	320	7.30
M155-2	2.35	5.39	0.607	0.0986	316	7.37
M155-3	2.19	5.62	0.752	0.107	312	8.07
M155-4	2.12	5.47	0.639	0.101	314	7.55
M155-5	2.45	5.66	0.908	0.117	321	8.62
M156-1	1.41	8.59	0.944	0.157	317	11.7
M156-2	1.81	4.63	0.864	0.102	323	7.45
M156-3	1.83	4.67	0.930	0.106	326	7.70
M156-4	1.92	4.92	0.974	0.107	313	8.09
M156-5	1.86	4.55	0.924	0.102	317	7.56
M157-1	2.34	5.86	1.23	0.140	335	9.88
M157-2	2.73	5.21	1.15	0.128	336	8.97
M157-3	2.98	5.36	1.59	0.162	362	10.5
M157-4	1.11	5.84	0.966	0.118	309	8.98
M157-5	2.57	5.42	1.28	0.142	348	9.60
M158-1	2.01	5.64	0.898	0.117	322	8.56
M158-2	2.22	5.29	0.893	0.115	331	8.20
M158-3	2.42	5.27	0.790	0.114	343	7.85
M158-4	2.35	5.39	1.22	0.127	319	9.38

Spot	Y_2O_3	ThO_2	UO_2	PbO	Age	ThO_2*
M158-5	2.85	5.09	1.03	0.123	343	8.46
M159-1	1.78	4.87	0.376	0.0858	332	6.09
M159-2	1.91	5.82	0.433	0.0992	324	7.23
M159-3	2.58	5.06	0.807	0.107	328	7.70
M159-4	1.73	5.99	0.299	0.0929	315	6.97
M159-5	1.73	4.63	0.342	0.0826	339	5.75
M160-1	0.88	8.99	0.189	0.125	307	9.60
M160-2	0.85	7.92	0.186	0.112	310	8.52
M160-3	1.09	8.24	0.283	0.120	310	9.16
M160-4	0.77	8.34	0.151	0.117	312	8.83
M160-5	0.77	8.04	0.147	0.111	307	8.52
M161-1	1.34	5.18	0.487	0.0844	294	6.77
M161-2	1.80	5.09	0.505	0.0912	320	6.73
M161-3	1.19	5.78	0.672	0.110	326	7.97
M161-4	0.32	6.30	0.723	0.107	292	8.65
M161-5	2.22	5.65	0.639	0.113	346	7.73
M162-1	2.74	11.6	0.363	0.174	321	12.8
M162-2	2.17	9.55	0.236	0.147	336	10.3
M162-3	2.17	9.44	0.240	0.141	326	10.2
M162-4	2.22	9.61	0.255	0.139	313	10.4
M162-5	2.47	10.6	0.329	0.156	314	11.7
M163-1	0.87	7.55	0.994	0.140	305	10.8
M163-2	0.83	8.20	1.06	0.160	324	11.6
M163-3	0.83	7.62	1.14	0.149	309	11.3
M163-4	0.78	5.96	1.03	0.128	324	9.33
M163-5	0.93	5.60	1.27	0.131	317	9.75
M164-1	0.04	6.78	0.736	0.132	339	9.18
M164-2	0.05	6.86	0.981	0.122	287	10.0
M164-3	0.05	6.72	1.17	0.143	320	10.5
M164-4	0.03	6.83	1.08	0.137	311	10.4
M164-5	0.04	6.77	0.959	0.128	305	9.89
M165-1	0.37	14.2	0.186	0.190	304	14.8
M165-2	0.31	12.4	0.151	0.153	280	12.9
M165-3	0.34	11.1	0.142	0.145	294	11.6
M165-4	0.33	12.0	0.137	0.154	293	12.4
M165-5	0.38	14.5	0.180	0.188	296	15.0
M166-1	2.11	5.38	0.372	0.0858	307	6.60
M166-2	2.25	5.14	0.345	0.0780	294	6.26
M166-3	0.36	5.07	0.372	0.0830	312	6.29
M166-4	2.23	5.43	0.439	0.0947	326	6.86
M166-5	2.24	5.10	0.316	0.0797	307	6.12
M167-1	3.11	5.87	0.308	0.101	347	6.88
M167-2	3.19	5.89	0.326	0.0981	333	6.95
M167-3	3.07	5.73	0.311	0.0959	335	6.74
M167-4	3.02	5.76	0.314	0.0998	347	6.79
M167-5	3.07	5.91	0.297	0.0899	309	6.88
M168-1	0.73	4.27	0.524	0.0849	335	5.98
M168-2	1.14	5.09	0.744	0.0958	301	7.51
M168-3	1.17	5.02	0.653	0.106	348	7.15
M168-4	0.97	4.43	0.657	0.0839	302	6.56
M168-5	0.17	5.84	0.527	0.0982	307	7.55
M169-1	1.24	6.21	0.254	0.102	341	7.04
M169-2	1.71	6.41	0.333	0.106	333	7.50
M169-3	1.38	6.46	0.262	0.0909	294	7.31
M169-4	1.42	6.92	0.277	0.0978	295	7.82
M169-5	1.66	6.89	0.360	0.112	327	8.06
M170-1	2.62	4.68	0.673	0.100	344	6.88
M170-2	2.79	5.12	0.545	0.104	355	6.90
M170-3	2.12	6.25	0.512	0.109	324	7.92
M170-4	2.12	4.87	0.612	0.102	350	6.87
M170-5	2.59	4.79	0.523	0.0990	359	6.50
M171-1	2.31	5.35	0.509	0.105	352	7.01
M171-2	2.19	5.46	0.523	0.106	350	7.16
M171-3	1.22	8.56	0.504	0.127	294	10.2
M171-4	1.66	5.22	0.597	0.0975	321	7.16
M171-5	1.39	5.08	0.589	0.101	339	7.00
M172-1	1.75	5.45	1.17	0.122	310	9.26
M172-2	0.52	9.22	0.295	0.172	398	10.2
M172-3	1.09	7.33	0.673	0.182	449	9.54
M172-4	1.35	6.22	0.889	0.175	450	9.14
M172-5	0.49	7.96	0.241	0.149	401	8.75
M173-1	1.62	10.1	1.16	0.199	336	13.9
M173-2	2.05	7.50	1.04	0.146	317	10.9
M173-3	2.07	7.86	0.960	0.152	327	11.0
M173-4	2.09	7.94	0.990	0.158	333	11.2
M173-5	2.11	7.70	1.00	0.155	334	11.0
M174-1	1.66	5.75	0.980	0.117	308	8.94
M174-2	1.63	5.90	0.936	0.120	316	8.95
M174-3	1.66	5.57	0.938	0.124	338	8.63
M174-4	1.83	6.97	1.40	0.163	332	11.5
M174-5	1.59	4.08	1.19	0.112	330	7.96
M175-1	1.94	6.08	0.997	0.129	327	9.34
M175-2	2.06	8.35	1.47	0.189	339	13.1
M175-3	1.69	5.92	0.704	0.124	355	8.22
M175-4	1.91	6.12	1.69	0.162	328	11.6
M175-5	1.81	6.55	0.861	0.133	336	9.36
M176-1	0.28	4.92	0.609	0.0770	264	6.89
M176-2	0.38	4.70	1.30	0.142	372	8.96
M176-3	0.38	4.65	1.29	0.133	354	8.85
M176-4	0.39	4.66	1.30	0.135	356	8.90
M176-5	0.78	4.51	1.29	0.128	346	8.73
M177-1	1.50	2.40	1.05	0.0908	368	5.82
M177-2	1.52	2.25	1.05	0.0843	351	5.66
M177-3	1.41	3.82	0.879	0.0884	312	6.69
M177-4	1.47	2.38	1.04	0.0882	359	5.79
M177-5	1.55	3.55	1.15	0.103	334	7.29
M178-1	1.26	5.95	0.602	0.104	309	7.91
M178-2	1.59	5.55	0.603	0.100	314	7.52
M178-3	1.22	5.90	0.574	0.108	327	7.77
M178-4	1.61	5.71	0.633	0.110	332	7.78
M178-5	1.59	5.68	0.618	0.109	335	7.69
M179-1	0.49	4.94	0.975	0.105	306	8.11
M179-2	0.49	4.76	0.944	0.113	340	7.84
M179-3	0.48	4.53	0.874	0.0970	310	7.37
M179-4	0.53	5.88	1.14	0.126	309	9.61
M179-5	1.28	4.87	0.983	0.114	334	8.07
M180-1	0.44	8.06	0.668	0.130	300	10.2
M180-2	1.19	7.55	1.18	0.143	295	11.4
M180-3	1.26	6.91	1.26	0.153	327	11.0
M180-4	0.86	7.11	1.06	0.137	307	10.6
M180-5	1.27	7.19	1.16	0.145	313	11.0
M181-1	0.72	5.99	0.179	0.0799	287	6.57
M181-2	0.72	5.79	0.172	0.0828	308	6.35
M181-3	0.63	5.92	0.224	0.0896	318	6.65
M181-4	0.51	5.77	0.248	0.0843	302	6.58
M181-5	0.66	5.82	0.194	0.0841	308	6.45
M182-1	0.72	8.66	1.42	0.168	299	13.3
M182-2	0.67	8.51	1.39	0.168	304	13.0
M182-3	0.67	8.48	1.37	0.166	302	12.9
M182-4	0.67	8.60	1.41	0.173	309	13.2
M182-5	0.69	8.77	1.44	0.177	310	13.5
M183-1	0.04	5.42	0.306	0.0791	291	6.41
M183-2	0.28	4.96	0.496	0.0907	325	6.57
M183-3	0.25	5.62	0.505	0.101	329	7.26
M183-4	0.17	5.05	0.398	0.0774	288	6.35
M183-5	0.15	4.80	0.408	0.0814	313	6.13
M184-1	1.14	16.0	0.692	0.231	299	18.3
M184-2	1.07	15.4	0.655	0.212	286	17.5
M184-3	1.01	16.0	0.693	0.228	296	18.2
M184-4	0.77	17.9	0.700	0.251	294	20.2
M184-5	1.16	16.6	0.718	0.230	287	19.0
M185-1	1.39	6.07	0.550	0.113	338	7.87
M185-2	1.38	6.18	0.480	0.115	349	7.74
M185-3	1.32	6.40	0.494	0.106	312	8.01
M185-4	1.45	6.35	0.576	0.107	306	8.22
M185-5	1.35	5.91	0.538	0.110	339	7.66
M186-1	1.07	5.96	0.310	0.103	347	6.97
M186-2	1.03	6.02	0.285	0.103	349	6.95
M186-3	1.04	5.72	0.304	0.0986	346	6.71
M186-4	0.46	6.77	0.416	0.106	308	8.13

Spot	Y_2O_3	ThO_2	UO_2	PbO	Age	ThO_2*
M186-5	1.85	4.94	0.588	0.106	364	6.87
M187-1	1.61	5.12	0.643	0.0939	307	7.21
M187-2	1.57	5.65	0.621	0.119	365	7.69
M187-3	1.59	6.35	0.621	0.114	322	8.38
M187-4	1.64	6.23	0.558	0.121	353	8.05
M187-5	2.00	7.61	0.786	0.139	323	10.2
M188-1	0.51	5.48	0.145	0.0742	294	5.96
M188-2	0.52	5.86	0.149	0.0731	272	6.34
M188-3	0.56	6.58	0.168	0.0816	271	7.12
M188-4	0.52	5.80	0.139	0.0699	264	6.25
M188-5	0.54	5.31	0.131	0.0700	288	5.74
M189-1	0.60	11.1	0.149	0.142	289	11.6
M189-2	0.64	10.8	0.154	0.137	286	11.3
M189-3	0.69	12.0	0.177	0.160	299	12.6
M189-4	0.39	9.47	0.125	0.118	281	9.88
M189-5	0.79	12.0	0.200	0.156	291	12.6
M190-1	1.29	5.89	0.588	0.103	311	7.80
M190-2	1.33	5.91	0.591	0.101	303	7.83
M190-3	1.94	5.21	0.885	0.110	320	8.09
M190-4	1.39	6.21	0.617	0.111	319	8.22
M190-5	1.69	5.71	0.725	0.114	333	8.07
M191-1	0.87	6.28	0.667	0.106	296	8.44
M191-2	0.89	6.65	0.641	0.108	293	8.74
M191-3	0.79	5.88	0.459	0.0952	305	7.38
M191-4	1.93	5.28	0.990	0.123	342	8.51
M191-5	1.64	5.72	0.806	0.117	331	8.35
M192-1	1.72	4.45	0.654	0.0944	338	6.58
M192-2	1.76	4.29	0.740	0.109	382	6.71
M192-3	1.83	4.60	0.785	0.106	348	7.17
M192-4	1.78	4.31	0.764	0.0971	337	6.81
M192-5	1.73	4.40	0.687	0.0975	346	6.64
M193-1	0.91	13.4	0.520	0.193	301	15.1
M193-2	0.95	13.4	0.531	0.198	309	15.1
M193-3	0.89	13.1	0.506	0.183	294	14.7
M193-4	0.89	12.4	0.488	0.175	296	14.0
M193-5	0.85	12.3	0.476	0.169	289	13.8
M194-1	0.85	5.78	0.267	0.0951	337	6.65
M194-2	0.87	5.37	0.241	0.0843	323	6.15
M194-3	0.91	5.27	0.252	0.0862	334	6.09
M194-4	0.81	5.41	0.247	0.0909	345	6.21
M194-5	0.74	4.99	0.213	0.0881	365	5.68
M195-1	0.40	5.74	0.897	0.118	322	8.67
M195-2	1.02	5.15	0.654	0.100	324	7.29
M195-3	1.19	4.72	0.586	0.100	357	6.63
M195-4	0.36	4.52	0.717	0.0932	321	6.86
M195-5	1.19	4.55	0.606	0.0974	352	6.53
M196-1	1.28	4.33	0.541	0.0868	336	6.10
M196-2	1.35	4.48	0.638	0.104	372	6.57
M196-3	1.50	4.24	0.692	0.107	389	6.50
M196-4	1.23	4.79	0.819	0.110	348	7.46
M196-5	0.97	4.91	0.799	0.112	351	7.51
M197-1	1.26	4.64	0.634	0.107	375	6.72
M197-2	1.22	4.61	0.609	0.102	364	6.60
M197-3	2.19	5.34	0.529	0.0904	302	7.07
M197-4	2.51	4.79	0.630	0.0970	334	6.85
M197-5	2.47	4.87	0.624	0.102	349	6.91
M198-1	1.98	5.02	0.751	0.0994	314	7.46
M198-2	0.74	5.76	0.508	0.0951	303	7.41
M198-3	0.12	8.85	0.883	0.151	304	11.7
M198-4	0.15	8.95	0.886	0.150	300	11.8
M198-5	0.14	9.24	0.985	0.157	297	12.4
M199-1	2.25	5.79	1.25	0.137	327	9.87
M199-2	1.76	5.74	0.656	0.110	328	7.88
M199-3	2.45	5.22	0.717	0.0992	310	7.56
M199-4	2.31	5.55	1.19	0.127	317	9.45
M199-5	2.36	4.97	0.954	0.113	330	8.09
M200-1	1.70	5.52	0.742	0.106	314	7.93
M200-2	1.09	5.41	0.690	0.0887	274	7.65
M200-3	0.93	5.39	0.697	0.0922	284	7.66
M200-4	0.22	5.19	0.662	0.0894	287	7.34
M200-5	2.01	5.30	0.700	0.0954	297	7.57
M201-1	0.93	6.61	0.544	0.119	336	8.38
M201-2	2.18	9.79	0.519	0.154	316	11.5
M201-3	2.36	5.22	0.675	0.104	330	7.43
M201-4	2.38	8.82	0.763	0.140	292	11.3
M201-5	2.59	9.31	0.638	0.145	300	11.4
M202-1	2.40	5.29	0.740	0.0989	303	7.70
M202-2	2.32	5.31	0.714	0.113	348	7.64
M202-3	2.55	5.50	0.768	0.103	303	8.00
M202-4	2.41	5.05	0.702	0.101	325	7.34
M202-5	2.53	5.34	0.717	0.105	322	7.68
M203-1	2.00	5.41	0.397	0.0986	347	6.71
M203-2	1.99	5.28	0.367	0.0832	303	6.47
M203-3	2.20	7.26	0.479	0.118	317	8.82
M203-4	1.54	6.55	0.397	0.0990	298	7.84
M203-5	1.56	6.51	0.397	0.107	324	7.80
M204-1	2.59	5.15	0.668	0.105	336	7.33
M204-2	0.78	5.68	0.557	0.105	330	7.49
M204-3	3.16	6.30	0.719	0.124	337	8.65
M204-4	2.65	5.37	0.859	0.109	314	8.17
M204-5	2.65	4.91	1.11	0.115	318	8.52
M205-1	3.61	8.23	0.466	0.125	302	9.74
M205-2	3.19	8.37	0.470	0.125	299	9.90
M205-3	2.91	7.25	0.517	0.118	312	8.94
M205-4	3.42	8.43	0.459	0.132	314	9.93
M205-5	3.37	8.77	0.474	0.130	298	10.3
M206-1	0.70	8.48	0.335	0.119	295	9.57
M206-2	0.73	8.88	0.368	0.133	310	10.1
M206-3	0.83	8.64	0.507	0.129	297	10.3
M206-4	0.86	8.59	0.514	0.137	315	10.3
M206-5	0.81	9.35	0.539	0.147	311	11.1
M207-1	1.23	12.0	0.297	0.166	302	13.0
M207-2	1.29	11.7	0.297	0.158	294	12.7
M207-3	1.42	13.7	0.365	0.182	290	14.8
M207-4	1.46	13.7	0.357	0.178	283	14.9
M207-5	1.00	12.7	0.206	0.158	280	13.3
M208-1	2.76	5.96	1.25	0.131	309	10.0
M208-2	2.38	6.08	1.30	0.139	317	10.3
M208-3	2.05	6.07	1.37	0.140	314	10.5
M208-4	2.33	6.48	1.44	0.149	315	11.2
M208-5	2.65	6.01	1.26	0.135	315	10.1
M209-1	0.42	6.56	0.299	0.0916	287	7.53
M209-2	0.39	5.89	0.282	0.0748	259	6.81
M209-3	0.38	5.94	0.271	0.0852	295	6.82
M209-4	0.40	5.91	0.283	0.0858	296	6.84
M209-5	0.40	5.88	0.283	0.0795	276	6.80
M210-1	1.62	11.1	0.287	0.164	322	12.0
M210-2	1.82	11.5	0.303	0.168	317	12.5
M210-3	1.77	11.2	0.304	0.152	293	12.2
M210-4	2.78	5.00	0.589	0.0988	337	6.92
M210-5	2.75	4.53	0.561	0.103	380	6.37
M211-1	0.96	4.92	0.901	0.102	306	7.85
M211-2	0.97	4.74	0.879	0.103	320	7.61
M211-3	0.94	3.85	0.757	0.0819	306	6.32
M211-4	0.89	4.65	0.833	0.0965	310	7.36
M211-5	0.91	4.84	0.827	0.103	321	7.54
M212-1	2.04	5.94	0.650	0.117	341	8.06
M212-2	2.00	5.66	0.639	0.106	322	7.74
M212-3	2.84	5.22	0.475	0.0902	315	6.76
M212-4	2.28	5.23	0.474	0.102	356	6.78
M212-5	1.44	5.92	0.497	0.107	336	7.54