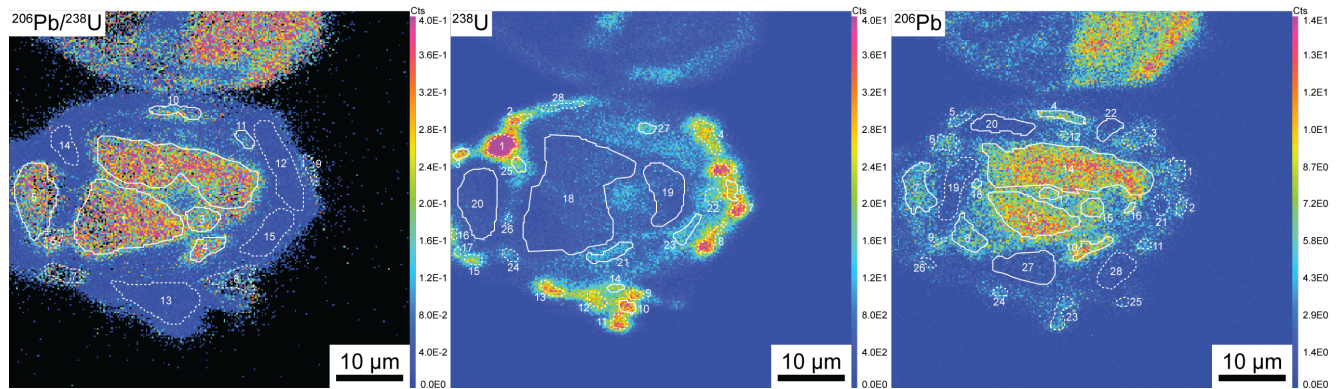


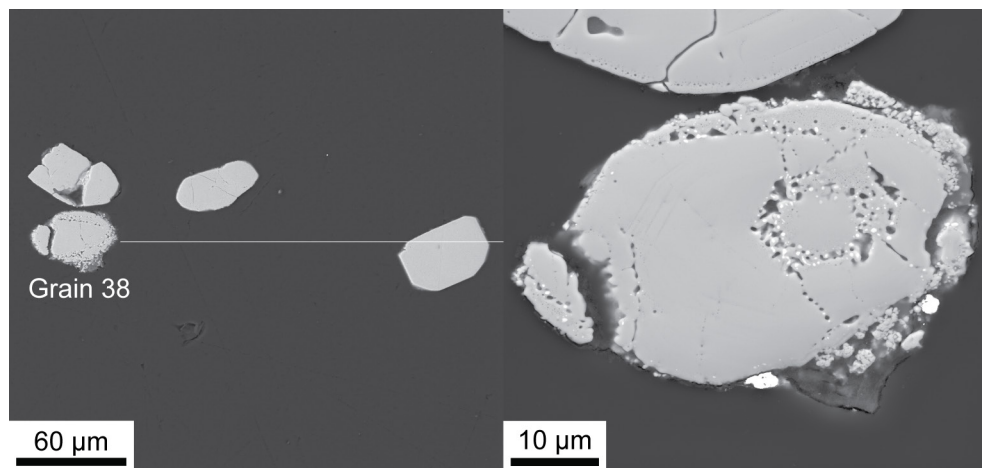
Item DR 4: SIMS ion imaging analyses - Clast-poor impact melt

Tables DR4 to DR6 only include ROIs where an age is calculated. ROIs suffering from common Pb ($f^{206}\text{Pb} > 2\%$) and with ages with high uncertainties (absolute error exceeds age value) are excluded (these ROIs are marked by dotted lines in the U-Pb distribution maps).

Ion image 52 grain 38



Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.

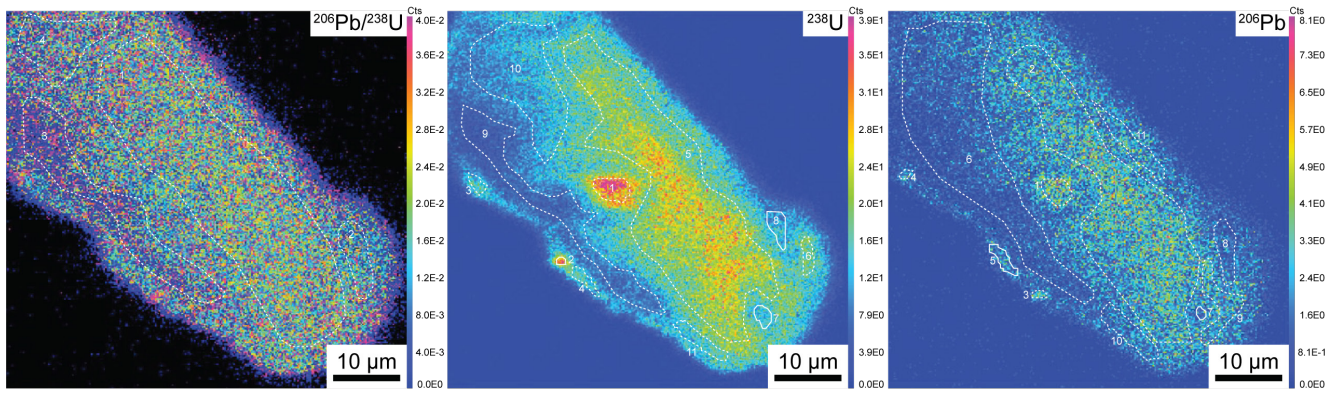


BSE images. Left) HV = 15 kV, WD = 9.97 mm, View Field = 274.0 µm. Right) HV = 15 kV, WD = 9.00 mm, View Field = 56.8 µm; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

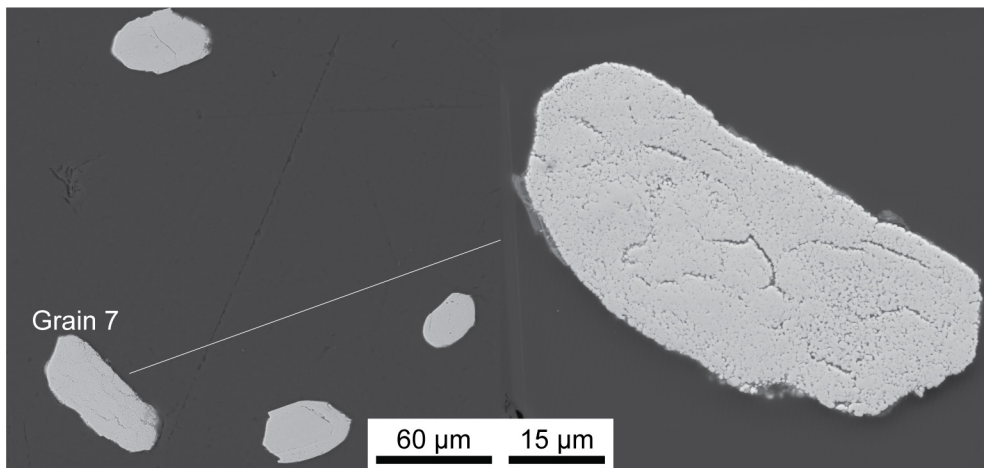
Area ID ¹	Area size [Pk-e]	Measured ratios ²				Uncorrected ratios						Corrected ratios ³						Age [Ma]								
		²⁰⁶ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²³⁸ U	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²³⁸ U	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²³⁸ U	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²³⁸ U	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁸ Pb	$\pm 1\sigma$	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm 1\sigma$			
²⁰⁶Pb/²³⁸U																										
1	2264	1.3906E-04	70.7	1.1243E-01	2.6	1.7334E-01	2.2	2.7326E-01	1.4	3.4155E+00	2.3	3.1533E+00	23.7	1.1243E-01	2.6	0.0026	0.0018	3.2069E+00	23.6	1.1055E-01	2.9	0.3	1.749.7	299.7	1808.4	53.3
2	2663	1.8874E-04	50.0	1.1121E-01	2.2	1.5788E-01	1.9	2.6737E-01	1.1	3.4284E+00	1.8	3.8994E+00	12.5	1.1121E-01	2.2	0.0035	0.0018	3.8756E+00	12.5	1.0865E-01	2.5	0.4	1479.7	148.8	1776.9	46.1
3	261	6.2343E-04	100.0	1.0411E-01	8.1	1.9264E-01	6.2	1.8287E-01	3.6	4.6763E+00	6.2	5.4662E+00	23.0	1.0411E-01	8.1	0.0117	0.0117	5.4024E+00	23.6	9.5484E-02	12.9	1.2	1094.8	195.4	1537.6	242.5
4	225	0.0000E+00	0.0	9.9134E-02	8.0	3.2853E-02	13.5	2.0541E-01	3.6	3.5573E+00	5.7	5.1713E+00	19.0	9.9134E-02	8.0	0.0000	0.0000	5.1713E+00	19.0	9.9134E-02	8.0	0.0	1139.6	168.7	1607.9	148.9
5	947	9.1967E-04	57.8	1.1220E-01	5.5	1.1895E-01	5.4	1.8148E-01	2.5	3.6870E+00	4.0	5.4236E+00	38.0	1.1220E-01	5.5	0.0172	0.0099	5.3303E+00	37.7	9.9540E-02	9.9	1.7	1108.4	285.2	1615.5	184.2
10	196	0.0000E+00	0.0	8.8267E-02	11.5	1.3993E-02	27.9	1.3106E-01	4.4	4.9544E+00	7.1	7.3875E+00	22.9	8.8267E-02	11.5	0.0000	0.0000	7.3875E+00	22.9	8.8267E-02	11.5	0.0	818.4	144.6	1388.3	221.1
11	91	0.0000E+00	0.0	8.3087E-02	19.7	3.8576E-02	28.3	6.5711E-02	6.4	5.5039E+00	8.7	1.7198E+01	18.4	8.3087E-02	19.7	0.0000	0.0000	1.7198E+01	18.4	8.3087E-02	19.7	0.0	364.3	55.4	1271.3	383.8
²⁰⁷Pb																										
3	46	0.0000E+00	0.0	1.6667E-01	28.9	3.0953E-01	22.4	1.1591E-02	11.3	3.6533E+01	17.6	7.0210E+01	81.3	1.6667E-01	28.9	0.0000	0.0000	7.0210E+01	81.3	1.6667E-01	28.9	0.0	91.2	40.7	2524.5	484.8
6	68	0.0000E+00	0.0	1.1640E-01	22.5	2.4868E-01	16.3	1.8355E-02	7.7	1.5860E+01	9.9	5.8897E+01	14.2	1.1640E-01	22.5	0.0000	0.0000	5.8897E+01	14.2	1.1640E-01	22.5	0.0	108.5	13.4	1901.7	404.9
10	69	0.0000E+00	0.0	1.5023E-01	19.0	3.7089E-01	13.2	1.7540E-02	7.2	3.7410E+01	13.8	4.7105E+01	38.2	1.5023E-01	19.0	0.0000	0.0000	4.7105E+01	38.2	1.5023E-01	19.0	0.0	135.4	37.2	2348.6	324.1
14	41	0.0000E+00	0.0	7.6924E-02	46.4	3.0770E-01	25.6	1.4955E-02	12.9	1.5117E+01	14.2	7.3742E+01	44.9	7.6924E-02	46.4	0.0000	0.0000	7.3742E+01	44.9	7.6924E-02	46.4	0.0	86.8	26.8	1119.2	925.8
18	3725	1.9820E-04	44.7	1.0782E-01	2.0	1.6011E-01	1.7	2.6997E-01	1.0	3.5027E+00	1.7	3.3687E+00	20.6	1.0782E-01	2.0	0.0037	0.0017	3.3562E+00	20.6	1.0511E-01	2.4	0.4	1681.2	257.4	1716.3	43.8
19	741	0.0000E+00	0.0	1.0847E-01	4.5	1.5123E-01	3.9	2.3272E-01	2.2	3.4476E+00	3.5	4.7705E+00	12.1	1.0847E-01	4.5	0.0000	0.0000	4.7705E+00	12.1	1.0847E-01	4.5	0.0	1226.8	121.9	1775.9	81.8
20	923	9.4220E-04	57.8	1.1778E-01	5.5	1.3191E-01	5.2	1.8289E-01	2.6	3.6800E+00	4.0	5.0325E+00	30.3	1.1778E-01	5.5	0.0176	0.0102	4.9438E+00	30.2	1.0490E-01	9.6	1.8	1187.5	256.8	1712.6	177.3
21	185	0.0000E+00	0.0	1.0069E-01	15.8	1.2357E-01	14.4	3.8114E-02	5.3	7.8170E+00	6.8	2.5377E+01	28.9	1.0069E-01	15.8	0.0000	0.0000	2.5377E+01	28.9	1.0069E-01	15.8	0.0	249.2	55.0	1636.8	293.8
23	130	0.0000E+00	0.0	7.4271E-02	19.6	6.1008E-02	21.5	3.9116E-02	5.7	5.9825E+00	6.6	2.9212E+01	16.8	7.4271E-02	19.6	0.0000	0.0000	2.9212E+01	16.8	7.4271E-02	19.6	0.0	217.0	30.8	1048.8	394.9
25	68	0.0000E+00	0.0	8.3334E-02	30.0	1.2500E-01	25.0	1.8463E-02	8.8	1.8804E+01	12.4	4.5117E+01	85.5	8.3334E-02	30.0	0.0000	0.0000	4.5117E+01	85.5	8.3334E-02	30.0	0.0	141.3	64.8	1277.0	585.9
27	56	0.0000E+00	0.0	9.3921E-02	25.4	4.9723E-02	34.2	4.0623E-02	8.3	7.4753E+00	10.7	2.7199E+01	29.5	9.3921E-02	25.4	0.0000	0.0000	2.7199E+01	29.5	9.3921E-02	25.4	0.0	232.8	52.3	1506.5	479.3
²⁰⁶Pb																										
4	146	0.0000E+00	0.0	9.1970E-02	12.4	1.2953E-02	31.8	1.3348E-01	4.8	5.5615E+00	8.3	7.3454E+00	25.0	9.1970E-02	12.4	0.0000	0.0000	7.3454E+00	25.0	9.1970E-02	12.4	0.0	822.8	156.6	1466.8	235.5
7	438	0.0000E+00	0.0	1.1092E-01	7.5	1.1897E-01	7.3	2.2858E-01	3.7	3.4008E+00	5.8	3.2336E+00	48.3	1.1092E-01	7.5	0.0000	0.0000	3.2336E+00	48.3	1.1092E-01	7.5	0.0	1737.0	516.2	1814.6	136.0
8	304	7.8124E-04	100.0	1.2109E-01	8.5	1.8047E-01	7.2	2.3924E-01	4.4	3.0273E+00	6.7	3.3926E+00	45.5	1.2109E-01	8.5	0.0146	0.0146	3.3431E+00	45.1	1.1050E-01	13.7	1.5	1687.0	478.6	1807.6	248.5
10	150	0.0000E+00	0.0	1.0252E-01	9.5	3.1092E-02	16.7	2.1261E-01	4.4	3.5269E+00	7.0	5.2578E+00	19.9	1.0252E-01	9.5	0.0000	0.0000	5.2578E+00	19.9	1.0252E-01	9.5	0.0	1122.4	173.3	1670.2	175.9
13	1055	1.1031E-04	100.0	1.1583E-01	3.3	1.9272E-01	2.6	2.8848E-01	1.7	4.0648E+00	3.1	3.0525E+00	26.1	1.1583E-01	3.3	0.0021	0.0021	3.0462E+00	26.0	1.1434E-01	3.6	0.2	1830.0	337.6	1869.5	64.2
14	2543	1.8264E-04	50.0	1.0991E-01	2.2	1.5593E-01	1.8	2.5189E-01	1.1	3.6746E+00	1.8	4.0624E+00	13.0	1.0991E-01	2.2	0.0034	0.0017	4.0485E+00	13.0	1.0742E-01	2.5	0.3	1423.0	148.7	1756.1	45.7
15	151	0.0000E+00	0.0	1.0521E-01	10.3	1.8036E-01	8.1	1.6700E-01	4.5	4.2482E+00	7.3	6.8502E+00	19.5	1.0521E-01	10.3	0.0000	0.0000	6.8502E+00	19.5	1.0521E-01	10.3	0.0	878.4	135.5	1718.0	188.6
16	28	0.0000E+00	0.0	8.7719E-02	26.9	1.2281E-01	23.1	1.8838E-01	11.2	3.8720E+00	18.0	6.5087E+00	21.6	8.7719E-02	26.9	0.0000	0.0000	6.5087E+00	21.6	8.7719E-02	26.9	0.0	921.3	154.1	1376.3	517.8
17	72	0.0000E+00	0.0	1.1905E-01	14.3	1.6017E-01	12.5	1.5684E-01	6.5	4.2987E+00	10.4	5.8148E+00	37.5	1.1905E-01	14.3	0.0000	0.0000	5.8148E+00	37.5	1.1905E-01	14.3	0.0	1023.0	263.2	1942.0	255.0
18	28	0.0000E+00	0.0	8.0883E-02	31.4	8.0883E-02	31.4	2.2899E-01	13.2	4.7151E+00	24.0	3.5950E+00	89.8	8.0883E-02	31.4	0.0000	0.0000	3.5950E+00	89.8	8.0883E-02	31.4	0.0	1582.1	700.4	1218.6	616.4
20	337	0.0000E+00	0.0	1.1069E-01	19.6	2.4809E-01	13.9	2.3059E-02	6.6	5.6422E+00	5.9	3.4817E+01	40.6	1.1069E-01	19.6	0.0000	0.0000	3.4817E+01	40.6	1.1069E-01	19.6	0.0	182.5	52.2	1810.7	355.6
22	150	0.0000E+00	0.0	8.8236E-02	22.8	5.8824E-02	27.5	3.3266E-02	7.1	4.7606E+00	7.0	3.4119E+01	21.6	8.8236E-02	22.8	0.0000	0.0000	3.4119E+01	21.6	8.8236E-02	22.8	0.0	186.2	32.7	1387.6	436.9
27	635	0.0000E+00	0.0	1.0472E-01	12.5	1.7852E-01	9.9	2.2599E-02	4.1	6.9124E+00	4.0	3.9662E+01	24.0	1.0472E-01	12.5	0.0000	0.0000	3.9662E+01	24.0	1.0472E-01	12.5	0.0	163.0	31.2	1709.4	229.4

Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above. Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors. Corrected ratios³ Values corrected for common Pb where ²⁰⁶Pb exceeds detection limit. ²⁰⁶Pb [%]¹⁴ Percentage of common Pb in measured ²⁰⁶Pb, calculated from the ²⁰⁴Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 53 grain 7



Ion imaging. Solid white lines mark the regions of interests (RIOs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. Left) HV = 15 kV, WD = 9.97 mm, View Field = 261.0 µm. Right) HV = 15 kV, WD = 9.00 mm, View Field = 78.0 µm; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [Pix-el]	Measured ratios ²						Uncorrected ratios						Corrected ratios ³						Age [Ma]													
		²⁰⁶ Pb/ ²⁰⁹ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁹ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²³⁵ U	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁷ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁷ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁹ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb [%] ⁴	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁷ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb [%]	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁹ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁷ Pb	$\pm\sigma$ [%]
2	25	0.0000E+00	0.0	1.7500E-01	41.0	9.4999E-01	22.6	8.9030E-03	16.2	2.0198E+01	16.8	6.7767E+01	78.8	1.7500E-01	78.8	1.7500E-01	41.0	0.0000	0.0000	0.0000	0.0000	6.7767E+01	78.8	1.7500E-01	78.8	1.7500E-01	41.0	0.0	0.0	94.4	41.5	2606.0	682.5
7	113	0.0000E+00	0.0	5.9072E-02	27.5	2.6160E-01	14.3	2.6139E-02	7.0	8.5217E+00	7.9	4.0687E+01	13.9	5.9072E-02	13.9	5.9072E-02	27.5	0.0000	0.0000	0.0000	4.0687E+01	13.9	5.9072E-02	13.9	5.9072E-02	27.5	0.0	0.0	156.5	18.9	569.7	598.4	
8	207	0.0000E+00	0.0	7.6191E-02	25.9	3.4286E-01	13.7	1.4775E-02	7.2	7.8813E+00	6.1	7.7244E+01	13.7	7.6191E-02	13.7	7.6191E-02	25.9	0.0000	0.0000	0.0000	7.7244E+01	13.7	7.6191E-02	13.7	7.6191E-02	25.9	0.0	0.0	82.9	9.9	1100.1	518.7	
²⁰⁶ Pb																																	
5	152	0.0000E+00	0.0	1.1236E-01	19.3	4.8315E-01	10.7	1.5667E-02	6.4	1.3829E+01	7.2	6.0387E+01	45.8	1.1236E-01	45.8	1.1236E-01	19.3	0.0000	0.0000	0.0000	6.0387E+01	45.8	1.1236E-01	45.8	1.1236E-01	19.3	0.0	0.0	105.9	33.1	1837.9	348.8	
7	36	0.0000E+00	0.0	3.2786E-02	71.9	3.1147E-01	26.3	2.2747E-02	13.6	9.1037E+00	15.1	4.7524E+01	34.7	3.2786E-02	34.7	3.2786E-02	71.9	0.0000	0.0000	0.0000	4.7524E+01	34.7	3.2786E-02	34.7	3.2786E-02	71.9	0.0	0.0	134.2	34.3	-894.1	2081.0	

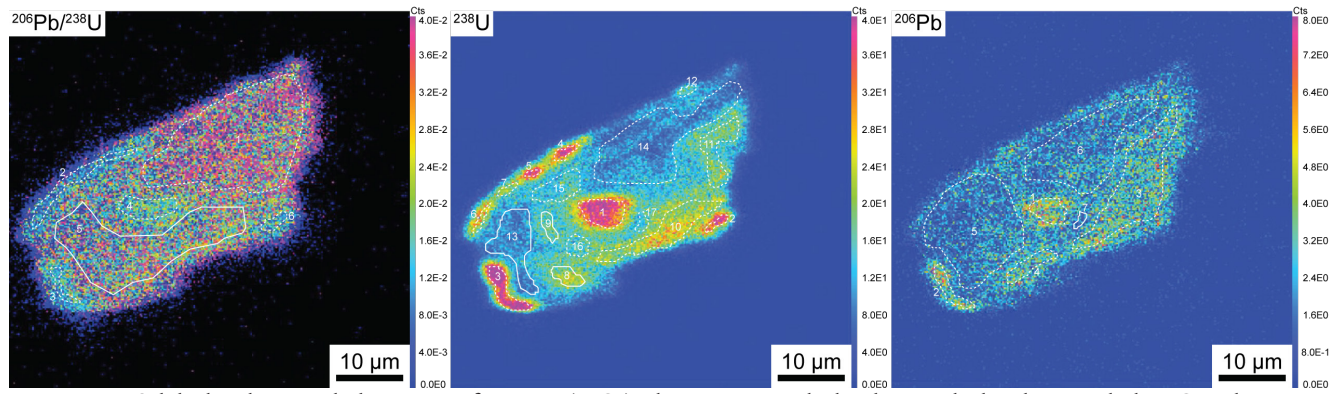
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors.

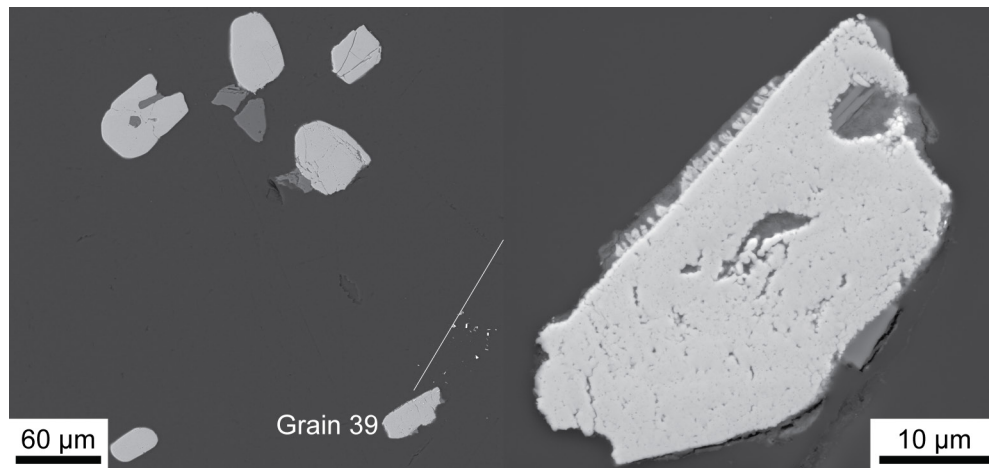
Corrected ratios³ Values corrected for common Pb where ²⁰⁴Pb exceeds detection limit.

²⁰⁶Pb [%]⁴ Percentage of common Pb in measured ²⁰⁶Pb, calculated from the ²⁰⁴Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 54 grain 39



Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. Left) HV = 15 kV, WD = 9.97 mm, View Field = 353.0 µm. Right) HV = 15 kV, WD = 9.00 mm, View Field = 48.6 µm; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [Pix-cel]	Measured ratios ²						Uncorrected ratios						Corrected ratios ³						Age [Ma]						
		$^{204}\text{Pb}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{207}\text{Pb}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{208}\text{Pb}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{238}\text{U}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{207}\text{Pb}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{207}\text{Pb}/^{238}\text{U}$	$\pm\sigma$ [%]	$^{206}\text{Pb}/^{207}\text{Pb}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{207}\text{Pb}/^{206}\text{Pb}$	$\pm\sigma$ [%]			
<i>²⁰⁶Pb/²³⁸U</i>																										
5	3477	9.8243E-04	35.4	6.4841E-02	4.5	2.0435E-01	2.7	2.3294E-02	1.2	1.2263E+01	1.5	4.0678E+01	15.5	6.4841E-02	4.5	0.0184	0.0065	3.9950E+01	30.9	5.0413E-02	12.0	1.8	189.5	37.3	214.1	278.9
<i>²³⁸U</i>																										
8	189	0.0000E+00	0.0	5.5452E-02	18.8	9.6119E-02	14.5	2.2484E-02	4.6	1.3387E+01	6.0	3.6464E+01	51.9	5.5452E-02	18.8	0.0000	0.0000	3.6464E+01	51.9	5.5452E-02	18.8	0.0	174.4	59.1	430.5	418.1
9	120	0.0000E+00	0.0	7.2035E-02	25.1	2.7543E-01	14.0	1.9305E-02	6.9	1.3121E+01	8.3	5.0509E+01	61.3	7.2035E-02	25.1	0.0000	0.0000	5.0509E+01	61.3	7.2035E-02	25.1	0.0	126.4	47.7	986.9	511.0
13	826	9.6805E-04	100.1	8.0350E-02	11.4	1.5973E-01	8.4	2.1929E-02	3.3	8.6683E+00	3.5	3.8311E+01	23.6	8.0350E-02	11.4	0.0181	0.0181	3.7617E+01	74.4	6.6423E-02	25.9	1.8	169.1	71.6	819.7	541.1
<i>²⁰⁶Pb</i>																										
7	43	0.0000E+00	0.0	7.6924E-02	46.4	2.9231E-01	26.1	1.9410E-02	13.1	1.5917E+01	17.4	5.6532E+01	35.1	7.6924E-02	46.4	0.0000	0.0000	5.6532E+01	35.1	7.6924E-02	46.4	0.0	113.0	29.2	1119.2	925.8

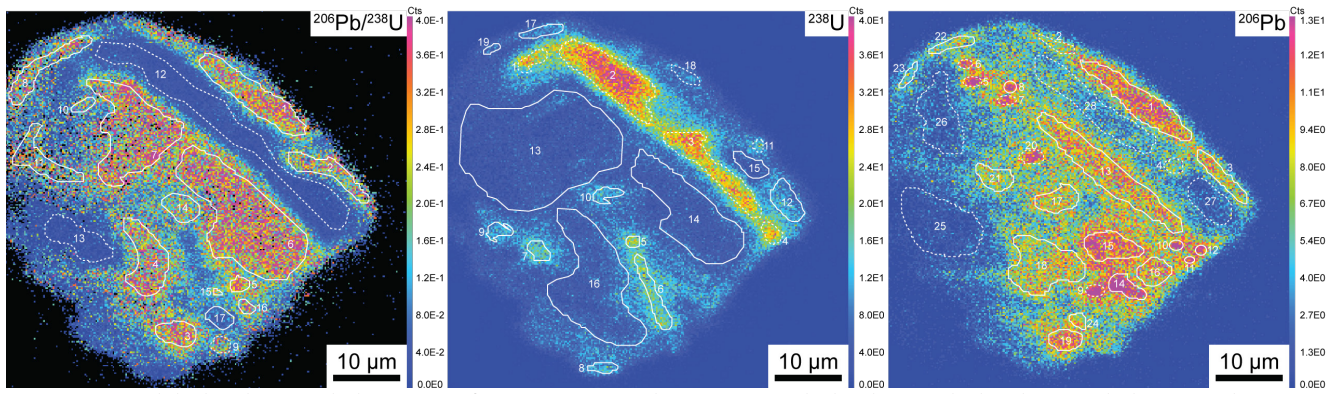
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors.

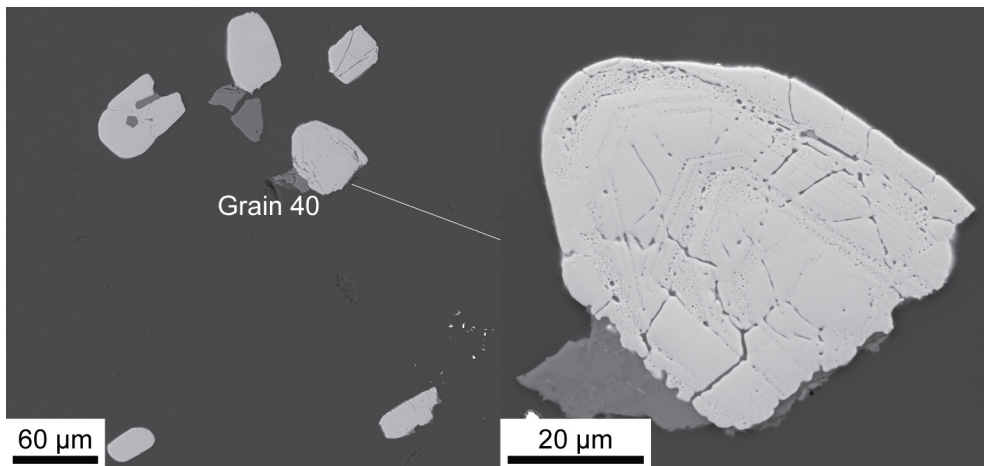
Corrected ratios³ Values corrected for common Pb where ^{209}Pb exceeds detection limit.

^{206}Pb [%]⁴ Percentage of common Pb in measured ^{206}Pb , calculated from the ^{209}Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 55 grain 40



Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. Left) HV = 15 kV, WD = 9.97 mm, View Field = 353.0 μm . Right) HV = 15 kV, WD = 9.00 mm, View Field = 73.9 μm ; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [Pix-el]	Measured ratios ²										Uncorrected ratios										Corrected ratios ³										Age [Ma]	
		²⁰⁶ Pb/ ²⁰⁴ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁴ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²³⁵ U	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁷ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁷ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁷ Pb	$\pm\sigma$ [%]		
1	1138	4.237E-04	44.7	1.078E-01	3.0	3.054E-02	5.3	2.520E-01	1.5	5.3169E+00	2.8	4.3420E+00	4.6815	1.0780E-01	3.0	0.0079	0.0035	4.3076E+00	4.9	1.0199E-01	4.1	0.8	1345.7	56.9	1660.7	75.4							
2	518	0.0000E+00	0.0	1.1289E-01	5.4	5.5280E-02	7.4	1.9885E-01	2.5	6.5643E+00	5.1	5.5944E+00	7.5686	1.1289E-01	5.4	0.0000	0.0000	5.5944E+00	7.6	1.1289E-01	5.4	0.0	1060.1	69.2	1846.4	97.0							
3	328	3.1938E-04	100.0	1.1370E-01	5.6	5.0143E-02	8.2	2.8107E-01	2.9	4.1551E+00	5.3	3.3502E+00	16.0599	1.1370E-01	5.6	0.0060	0.0060	3.3302E+00	16.1	1.0936E-01	7.1	0.6	1692.7	209.7	1788.8	129.2							
4	857	4.9439E-04	57.8	1.0514E-01	4.2	1.5705E-01	3.5	2.4577E-01	2.0	3.4085E+00	3.3	3.7095E+00	24.0022	1.0514E-01	4.2	0.0092	0.0083	3.6752E+00	23.9	9.8324E-02	6.1	0.9	1551.4	271.3	1592.6	113.3							
5	95	0.0000E+00	0.0	9.6100E-02	7.7	1.7142E-01	6.0	3.1546E-01	3.9	6.0425E+00	8.3	3.5483E+00	11.7394	9.6100E-02	7.7	0.0000	0.0000	3.5483E+00	11.7	9.6100E-02	7.7	0.0	1600.5	150.5	1549.7	144.6							
6	3521	1.8954E-04	40.8	1.1012E-01	1.8	1.3366E-01	1.6	3.0685E-01	0.9	2.5717E+00	1.4	3.6166E+00	8.8497	1.1012E-01	1.8	0.0035	0.0014	3.6038E+00	8.8	1.0754E-01	2.1	0.4	1578.7	114.7	1758.2	38.0							
7	2162	2.5626E-04	50.0	1.1538E-01	2.5	1.4889E-01	2.2	2.8722E-01	1.3	2.9477E+00	2.1	3.2028E+00	29.9219	1.1538E-01	2.5	0.0048	0.0024	3.1874E+00	23.8	1.1191E-01	3.0	0.5	1759.1	303.2	1830.7	54.7							
8	553	7.9050E-04	70.7	1.1146E-01	6.3	4.1106E-02	10.0	1.9629E-01	2.9	4.9982E+00	5.3	4.4703E+00	11.1589	1.1146E-01	6.3	0.0148	0.0105	4.4042E+00	12.0	1.0600E-01	10.6	1.5	1319.1	128.8	1635.1	196.5							
10	88	0.0000E+00	0.0	8.1633E-02	19.6	1.1079E-01	17.1	1.6830E-01	7.7	3.8527E+00	12.0	5.4957E+00	41.9050	8.1633E-02	19.6	0.0000	0.0000	5.4957E+00	41.9	8.1633E-02	19.6	0.0	1077.7	299.9	1236.7	385.3							
11	581	0.0000E+00	0.0	9.7020E-02	8.5	2.0926E-02	17.6	1.6572E-01	3.6	5.1398E+00	6.2	4.9592E+00	29.3109	9.7020E-02	8.5	0.0000	0.0000	4.9592E+00	29.3	9.7020E-02	8.5	0.0	1184.2	250.0	1567.6	158.7							
14	311	8.2883E-04	70.7	1.0651E-01	6.6	1.3676E-01	5.9	1.6010E-01	2.8	3.8221E+00	4.4	6.2523E+00	25.8692	1.0651E-01	6.6	0.0155	0.0110	6.1553E+00	26.4	9.8025E-02	11.6	1.6	970.4	191.0	1528.6	217.6							
15	15	0.0000E+00	0.0	1.0595E-01	18.6	2.3178E-01	13.3	2.1560E-01	8.7	9.3210E+00	21.0	5.8154E+00	65.4764	1.0595E-01	18.6	0.0000	0.0000	5.8154E+00	65.5	1.0595E-01	18.6	0.0	1022.9	385.6	1730.9	341.1							
16	71	0.0000E+00	0.0	1.1346E-01	13.7	1.1731E-01	13.5	2.1679E-01	6.7	3.1668E+00	10.2	5.2139E+00	26.2177	1.1346E-01	13.7	0.0000	0.0000	5.2139E+00	26.2	1.1346E-01	13.7	0.0	1131.1	219.2	1855.6	248.3							
17	172	0.0000E+00	0.0	8.5859E-02	11.3	2.6564E-01	7.0	6.1412E-02	3.7	9.0288E+00	6.1	1.7882E+01	18.3356	8.5859E-02	11.3	0.0000	0.0000	1.7882E+01	18.3	8.5859E-02	11.3	0.0	350.8	53.1	1335.0	218.5							
5	48	0.0000E+00	0.0	9.0185E-02	17.9	2.0955E-01	12.4	6.8971E-02	6.1	9.8834E+00	10.9	1.1859E+01	41.8	9.0185E-02	17.9	0.0000	0.0000	1.1859E+01	41.8	9.0185E-02	17.9	0.0	521.9	149.4	1429.5	341.9							
6	343	7.6568E-04	70.7	9.7626E-02	6.6	2.4732E-01	4.4	7.156E-02	2.4	9.3548E+00	4.3	1.3475E+01	14.6	9.7626E-02	6.6	0.0143	0.0101	1.3282E+01	20.0	8.6940E-02	11.7	1.4	467.9	75.6	1358.4	225.3							
7	135	0.0000E+00	0.0	5.7852E-02	27.5	2.6860E-01	14.0	2.0410E-02	6.8	1.3238E+01	8.5	5.5407E+01	45.6	5.7852E-02	27.5	0.0000	0.0000	5.5407E+01	45.6	5.7852E-02	27.5	0.0	115.3	35.9	524.2	602.9							
8	94	0.0000E+00	0.0	6.6607E-02	31.1	1.3940E-01	22.3	2.5552E-02	8.4	1.0962E+01	10.6	3.8488E+01	39.7	6.6607E-02	31.1	0.0000	0.0000	3.8488E+01	39.7	6.6607E-02	31.1	0.0	165.4	46.5	827.4	649.6							
9	121	0.0000E+00	0.0	1.0714E-01	27.2	1.3572E-01	24.5	1.7829E-02	8.9	2.1414E+01	13.1	5.5641E+01	46.0	1.0714E-01	27.2	0.0000	0.0000	5.5641E+01	46.0	1.0714E-01	27.2	0.0	114.8	36.0	1751.4	497.3							
10	117	0.0000E+00	0.0	9.5642E-02	11.0	1.6472E-01	8.7	1.2246E-01	4.3	4.9739E+00	6.8	7.1222E+00	36.7	9.5642E-02	11.0	0.0000	0.0000	7.1222E+00	36.7	9.5642E-02	11.0	0.0	847.0	216.8	1540.8	207.4							
12	343	0.0000E+00	0.0	1.0476E-01	10.6	8.1482E-02	11.9	4.3966E-02	3.7	1.0274E+01	5.6	2.4502E+01	10.0	1.0476E-01	10.6	0.0000	0.0000	2.4502E+01	10.0	1.0476E-01	10.6	0.0	257.9	23.1	1710.1	194.3							
13	5579	2.4482E-04	40.8	1.0997E-01	2.0	1.2609E-01	1.9	1.9771E-01	0.9	3.6900E+00	1.5	4.4844E+00	21.9	1.0997E-01	2.0	0.0046	0.0019	4.4638E+00	21.8	1.0663E-01	2.5	0.5	1303.1	215.1	1742.6	45.2							
14	2195	2.1293E-04	50.0	1.1308E-01	2.3	1.2676E-01	2.2	3.2405E-01	1.3	2.2774E+00	1.8	3.4255E+00	9.5	1.1308E-01	2.3	0.0040	0.0020	3.4119E+00	9.5	1.1019E-01	2.7	0.4	1657.0	128.2	1802.5	49.2							
15	211	0.0000E+00	0.0	1.2190E-01	9.6	8.6224E-02	11.2	1.7197E-01	4.5	5.2475E+00	8.0	6.4029E+00	14.1	1.2190E-01	9.6	0.0000	0.0000	6.4029E+00	14.1	1.2190E-01	9.6	0.0	935.5	108.2	1984.3	170.0							
16	2825	7.8509E-04	26.7	1.0677E-01	2.4	1.2506E-01	2.3	2.0310E-01	1.1	3.8850E+00	1.8	4.4681E+00	19.9	1.0677E-01	2.4	0.0147	0.0039	4.4025E+00	19.7	9.5912E-02	4.1	1.5	1319.5	199.1	1546.0	77.8							
17	143	0.0000E+00	0.0	1.2681E-01	11.9	8.8282E-02	14.1	8.3842E-02	4.9	9.4359E+00	9.2	1.1094E+01	25.2	1.2681E-01	11.9	0.0000	0.0000	1.1094E+01	25.2	1.2681E-01	11.9	0.0	556.3	108.2	2054.1	210.8							
19	43	0.0000E+00	0.0	1.5023E-01	19.0	6.5772E-02	27.6	1.2792E-01	9.1	8.3943E+00	18.4	8.8021E+00	55.6	1.5023E-01	19.0	0.0000	0.0000	8.8021E+00	55.6	1.5023E-01	19.0	0.0	693.7	239.4	2348.6	324.1							
1	1048	3.5099E-04	50.0	1.0319E-01	3.1	2.6675E-02	5.8	2.4086E-01	1.5	5.3875E+00	2.8	4.6042E+00	4.5	1.0319E-01	3.1	0.0066	0.0033	4.5740E+00	4.7	9.8352E-02	4.1	0.7	1274.6	52.5	1593.1	76.2							
3	306	0.0000E+00	0.0	1.0626E-01	6.6	4.9139E-02	9.5	1.7317E-01	2.9	7.7795E+00	6.2	6.4626E+00	8.6	1.0626E-01	6.6	0.0000	0.0000	6.4626E+00	8.6	1.0626E-01	6.6	0.0	927.5	69.0	1736.2	121.2							
8	24	0.0000E+00	0.0	1.0320E-01	13.8	1.6904E-01	11.1	4.4726E-01	8.1	3.4840E+00	14.6	2.1701E+00	46.8	1.0320E-01	13.8	0.0000	0.0000	2.1701E+00	46.8	1.0320E-01	13.8	0.0	2443.2	683.6	1682.5	254.6							
10	23	0.0000E+00	0.0	1.2382E-01	11.9	1.9749E-01	9.8	5.1268E-01	8.0	2.8754E+00	13.7	2.1145E+00	19.1	1.2382E-01	11.9	0.0000	0.0000	2.1145E+00	19.1	1.2382E-01	11.9	0.0	2496.4	340.8	2012.0	211.6							

Area ID ¹	Area size [Pix-el]	Measured ratios ²										Uncorrected ratios										Corrected ratios ³										Age [Ma]	
		$^{238}\text{Pb}/^{238}\text{U}$	$^{235}\text{Pb}/^{235}\text{U}$	$^{206}\text{Pb}/^{238}\text{U}$	$^{207}\text{Pb}/^{238}\text{U}$	$^{206}\text{Pb}/^{235}\text{U}$	$^{207}\text{Pb}/^{235}\text{U}$	$^{206}\text{Pb}/^{207}\text{Pb}$	$^{238}\text{U}/^{235}\text{U}$	$^{206}\text{Pb}/^{238}\text{U}$	$^{207}\text{Pb}/^{238}\text{U}$	$^{206}\text{Pb}/^{207}\text{Pb}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{235}\text{U}$	$^{206}\text{Pb}/^{238}\text{U}$	$^{207}\text{Pb}/^{238}\text{U}$	$^{206}\text{Pb}/^{207}\text{Pb}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{235}\text{U}$	$^{206}\text{Pb}/^{238}\text{U}$	$^{207}\text{Pb}/^{238}\text{U}$	$^{206}\text{Pb}/^{207}\text{Pb}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{235}\text{U}$	$^{206}\text{Pb}/^{238}\text{U}$	$^{207}\text{Pb}/^{238}\text{U}$	$^{206}\text{Pb}/^{207}\text{Pb}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{235}\text{U}$	$^{206}\text{Pb}/^{238}\text{U}$	$^{207}\text{Pb}/^{238}\text{U}$	$^{206}\text{Pb}/^{207}\text{Pb}$	$\pm\sigma$ [%]
11	8	0.0000E+00	0.0	1.0227E-01	20.2	2.0833E-01	14.8	2.3996E-01	9.6	4.4635E+00	17.3	4.7585E+00	34.0	1.0227E-01	20.2	0.0000	0.0000	4.7585E+00	34.0	1.0227E-01	20.2	0.0	1229.6	290.2	1665.7	373.9							
12	21	0.0000E+00	0.0	1.1304E-01	14.6	2.1956E-01	11.0	1.7629E-01	6.7	5.6372E+00	12.4	6.4161E+00	38.1	1.1304E-01	14.6	0.0000	0.0000	6.4161E+00	38.1	1.1304E-01	14.6	0.0	933.7	244.2	1848.9	264.6							
13	1557	1.4182E-04	70.7	1.0729E-01	2.7	1.3182E-01	2.5	1.6848E-01	1.4	2.9340E+00	2.1	4.0535E+00	9.0	1.0729E-01	2.7	0.0027	0.0019	4.0427E+00	9.0	1.0535E-01	3.1	0.3	1424.8	106.9	1720.5	56.2							
14	219	0.0000E+00	0.0	8.9996E-02	5.7	1.6675E-01	4.3	2.5484E-01	2.6	6.4069E+00	5.5	4.1472E+00	15.4	8.9996E-02	5.7	0.0000	0.0000	4.1472E+00	15.4	8.9996E-02	5.7	0.0	1392.6	169.0	1425.5	109.2							
15	505	0.0000E+00	0.0	1.0730E-01	4.1	1.3974E-01	3.7	2.9371E-01	2.1	3.3599E+00	3.5	3.6650E+00	7.9	1.0730E-01	4.1	0.0000	0.0000	3.6650E+00	7.9	1.0730E-01	4.1	0.0	1555.3	102.5	1754.1	75.2							
16	284	7.3419E-04	70.7	1.0316E-01	6.3	1.5198E-01	5.3	2.3587E-01	3.0	3.9288E+00	5.1	5.0545E+00	12.3	1.0316E-01	6.3	0.0137	0.0097	4.9851E+00	13.1	9.2958E-02	10.6	1.4	1178.5	126.1	1487.0	201.7							
17	336	7.2567E-04	70.7	1.0014E-01	6.3	1.4369E-01	5.4	1.5492E-01	2.7	4.2765E+00	4.2	6.1995E+00	22.9	1.0014E-01	6.3	0.0136	0.0096	6.1153E+00	23.4	9.0025E-02	10.8	1.4	976.3	174.2	1426.1	206.9							
18	1199	3.3123E-04	57.7	1.0522E-01	3.4	1.7025E-01	2.8	1.8981E-01	1.5	4.2631E+00	2.6	5.0457E+00	17.8	1.0522E-01	3.4	0.0062	0.0036	5.0144E+00	17.7	1.0067E-01	4.5	0.6	1172.2	163.5	1636.5	82.8							
19	225	8.2506E-04	70.7	1.0561E-01	6.6	3.3828E-02	11.2	2.9432E-01	3.4	4.2551E+00	6.2	3.0843E+00	13.8	1.0561E-01	6.6	0.0154	0.0109	3.0367E+00	14.0	9.4167E-02	11.6	1.5	1835.0	199.5	1511.5	219.0							
21	270	0.0000E+00	0.0	1.1517E-01	7.4	1.6348E-01	6.3	2.8859E-01	3.9	3.1866E+00	6.4	3.3949E+00	53.6	1.1517E-01	7.4	0.0000	0.0000	3.3949E+00	53.6	1.1517E-01	7.4	0.0	1664.3	533.6	1882.5	132.9							
22	165	9.6804E-04	100.1	1.0939E-01	9.9	5.4211E-02	13.7	1.8456E-01	4.5	6.1259E+00	8.8	5.0432E+00	24.3	1.0939E-01	9.9	0.0181	0.0181	4.9519E+00	25.6	9.5999E-02	18.5	1.8	1185.7	224.6	1547.8	347.3							
23	77	0.0000E+00	0.0	1.1346E-01	16.1	2.6385E-02	32.0	2.5018E-01	8.1	5.1432E+00	15.6	2.7486E+00	57.3	1.1346E-01	16.1	0.0000	0.0000	2.7486E+00	57.3	1.1346E-01	16.1	0.0	2000.3	659.1	1855.5	290.8							
24	78	0.0000E+00	0.0	9.7643E-02	13.8	1.9360E-01	10.2	1.5559E-01	5.7	5.0405E+00	9.8	6.2998E+00	23.9	9.7643E-02	13.8	0.0000	0.0000	6.2998E+00	23.9	9.7643E-02	13.8	0.0	949.7	172.4	1579.6	257.4							

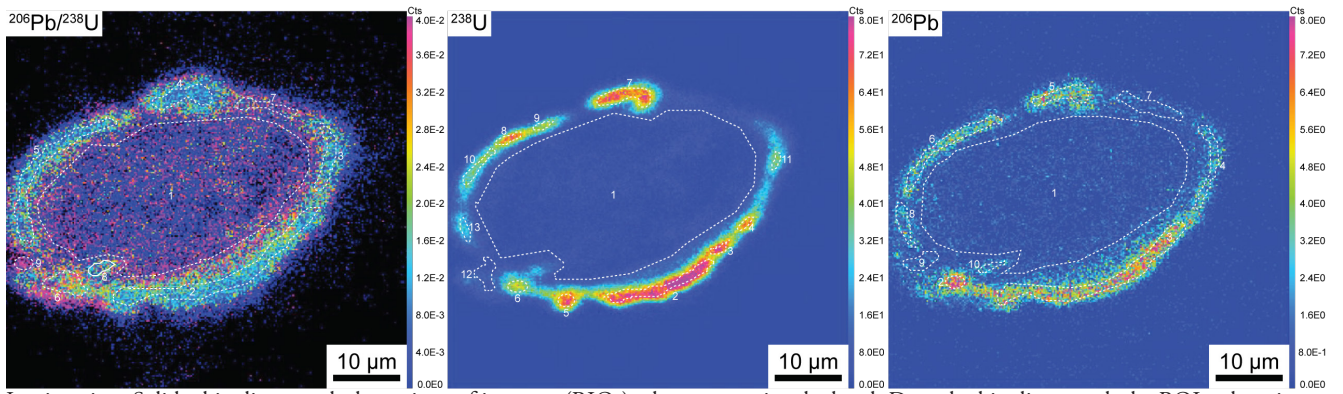
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected to detector gains. Uncertainties are counting statistic (Poisson) errors.

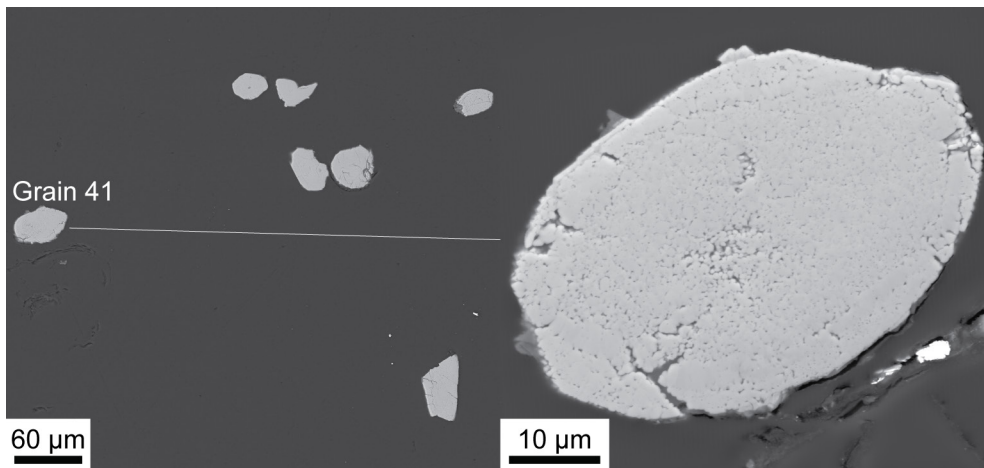
Corrected ratios³ Values corrected for common Pb where ^{204}Pb exceeds detection limit.

^{206}Pb [%]¹⁴ Percentage of common Pb in measured ^{206}Pb , calculated from the ^{204}Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 56 grain 41



Ion imaging. Solid white lines mark the regions of interests (RIOs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. Left) HV = 15 kV, WD = 9.97 mm, View Field = 444.0 µm. Right) HV = 15 kV, WD = 9.00 mm, View Field = 55.2 µm; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [Pb-cell]	Measured ratios ²				Uncorrected ratios				Corrected ratios ³				Age [Ma]								
		²⁰⁴ Pb/ ²⁰⁶ Pb ±σ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb ±σ [%]	²⁰⁸ Pb/ ²⁰⁶ Pb ±σ [%]	²⁰⁸ Pb/ ²³⁸ U ±σ [%]	²³⁸ U/ ²³⁵ U ±σ [%]	²³⁸ U/ ²⁰⁶ Pb ±σ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb ±σ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb ±σ [%]	²³⁸ U/ ²⁰⁶ Pb ±σ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb ±σ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb ±σ [%]	²⁰⁶ Pb [%] ¹⁴	²³⁸ U/ ²⁰⁶ Pb ±σ [%]	Age	±1σ						
8	96	0.0000E+00	0.0	2.0667E-01	19.7	5.2667E-01	13.9	1.4562E-02	8.5	2.0645E+01	11.2	6.3626E+01	74.6	2.0667E-01	74.6	2.0667E-01	19.7	0.0	100.5	42.8	2879.6	320.5

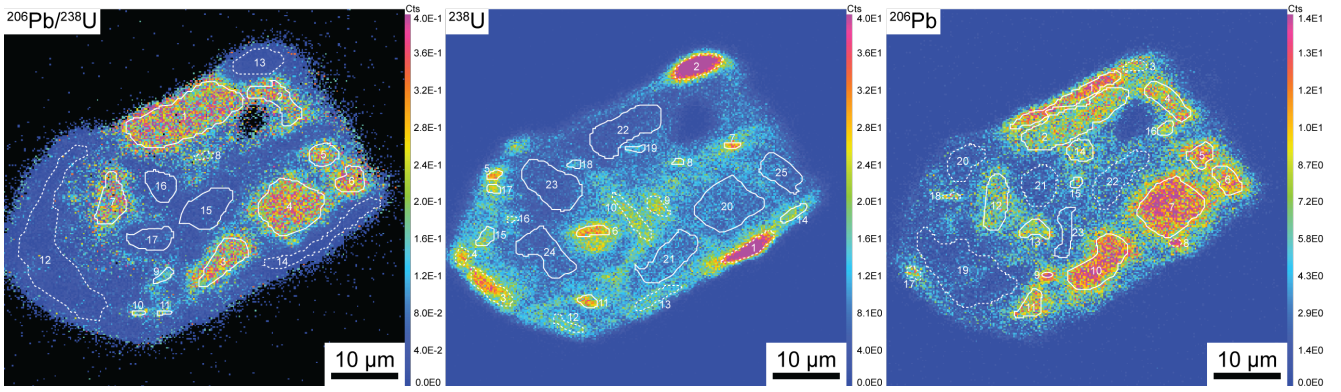
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors.

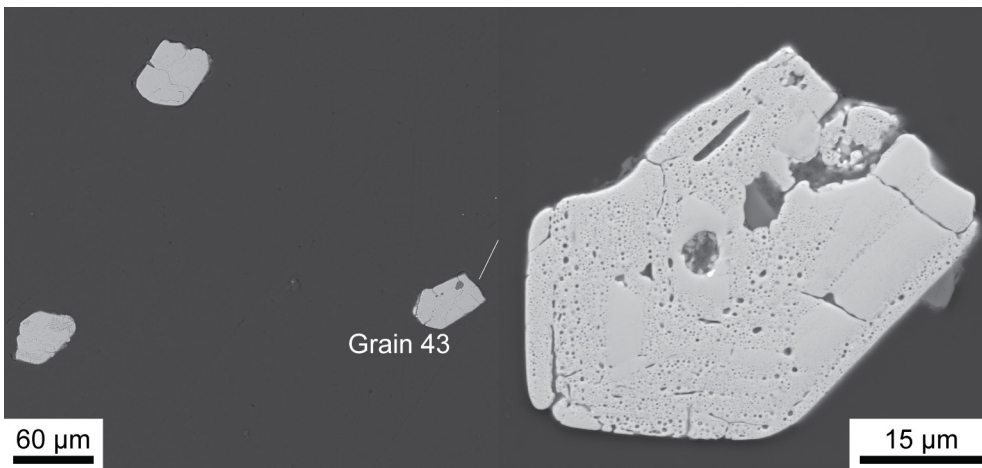
Corrected ratios³ Values corrected for common Pb where ²⁰⁴Pb exceeds detection limit.

²⁰⁶Pb [%]¹⁴ Percentage of common Pb in measured ²⁰⁶Pb, calculated from the ²⁰⁴Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 57 grain 43



Ion imaging. Solid white lines mark the regions of interests (RIOs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. Left) HV = 15 kV, WD = 9.97 mm, View Field = 373.0 µm. Right) HV = 15 kV, WD = 9.00 mm, View Field = 61.3 µm; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [Pixel]	Measured ratios ²										Uncorrected ratios										Corrected ratios ³										Age [Ma]	
		$^{206}\text{Pb}/^{238}\text{U}$		$^{207}\text{Pb}/^{235}\text{U}$		$^{206}\text{Pb}/^{238}\text{U}$		$^{207}\text{Pb}/^{235}\text{U}$		$^{206}\text{Pb}/^{238}\text{U}$		$^{207}\text{Pb}/^{235}\text{U}$		$^{206}\text{Pb}/^{238}\text{U}$		$^{207}\text{Pb}/^{235}\text{U}$		$^{206}\text{Pb}/^{238}\text{U}$		$^{207}\text{Pb}/^{235}\text{U}$		$^{206}\text{Pb}/^{238}\text{U}$		$^{207}\text{Pb}/^{235}\text{U}$		$^{206}\text{Pb}/^{238}\text{U}$	$^{207}\text{Pb}/^{235}\text{U}$						
		±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ						
1	1713	7.3500E-05	100.0	8.9278E-02	3.0	1.1356E-01	2.7	2.4366E-01	1.4	4.9277E+00	2.5	4.1910E+00	14.1	8.9378E-02	3.0	0.0014	0.0014	0.0014	0.0014	4.1852E+00	14.0	8.8351E-02	3.2	0.1	1381.2	154.9	1391.1	62.3					
2	426	6.0058E-04	70.7	1.0240E-01	5.7	1.3363E-01	5.1	1.9055E-01	2.5	5.4751E+00	4.7	5.8922E+00	7.2	1.0240E-01	5.7	0.0112	0.0079	0.0079	0.0079	5.8329E+00	8.6	9.4071E-02	9.0	1.1	1020.0	74.9	1509.5	109.2					
3	496	0.0000E+00	0.0	9.3592E-02	4.3	1.0618E-01	4.1	2.2325E-01	1.9	5.1895E+00	3.7	4.8425E+00	10.3	9.3592E-02	4.3	0.0000	0.0000	0.0000	0.0000	4.8425E+00	10.3	9.3592E-02	4.3	0.0	1210.2	103.9	1499.9	82.1					
4	1078	7.5515E-05	100.0	9.1147E-02	3.0	1.2875E-01	2.6	2.4920E-01	1.4	4.9781E+00	2.6	4.4932E+00	5.9	9.1147E-02	3.0	0.0014	0.0014	0.0014	0.0014	4.8688E+00	5.9	9.0094E-02	3.3	0.1	1297.0	66.0	1427.5	62.4					
5	211	0.0000E+00	0.0	9.2842E-02	7.3	2.1603E-01	5.1	2.0761E-01	3.2	6.3878E+00	6.5	5.4604E+00	11.1	9.2842E-02	7.3	0.0000	0.0000	0.0000	0.0000	5.4664E+00	11.1	8.9697E-02	7.3	0.0	1083.0	100.6	1484.7	138.3					
6	238	0.0000E+00	0.0	8.6097E-02	7.3	1.1412E-01	6.6	2.5007E-01	3.3	4.4323E+00	6.0	4.4264E+00	11.1	8.6097E-02	7.3	0.0000	0.0000	0.0000	0.0000	4.4264E+00	11.1	8.9697E-02	7.3	0.0	1313.1	119.6	1419.1	140.3					
7	427	3.9872E-04	100.0	8.7719E-02	7.0	1.2560E-01	6.0	2.0481E-01	3.0	4.5069E+00	5.2	4.1948E+00	28.1	8.7719E-02	7.0	0.0075	0.0075	0.0075	0.0075	4.1635E+00	28.1	8.2100E-02	10.3	0.7	1387.6	279.7	1247.9	201.1					
9	65	0.0000E+00	0.0	8.2757E-02	13.4	1.4483E-01	10.4	1.2254E-01	4.9	1.0471E+01	10.8	9.5123E+00	54.8	8.2757E-02	13.4	0.0000	0.0000	0.0000	0.0000	3.3192E+00	54.8	8.2757E-02	13.4	0.0	644.4	220.7	1263.5	262.3					
10	21	0.0000E+00	0.0	5.9137E-02	31.0	1.7741E-01	18.9	1.4191E-01	10.0	9.4804E+00	21.9	3.3392E+00	91.7	5.9137E-02	31.0	0.0000	0.0000	0.0000	0.0000	3.3392E+00	91.7	5.9137E-02	31.0	0.0	1688.7	752.8	572.2	675.0					
11	20	0.0000E+00	0.0	7.6433E-02	30.0	1.5923E-01	21.5	1.2677E-01	10.6	6.6443E+00	19.3	1.0547E+01	75.6	7.6433E-02	30.0	0.0000	0.0000	0.0000	0.0000	1.0547E+01	75.6	7.6433E-02	30.0	0.0	584.0	245.0	1106.4	598.6					
15	589	0.0000E+00	0.0	6.6476E-02	9.6	2.7966E-01	5.1	2.8682E-02	2.6	1.0317E+01	3.3	3.6861E+01	15.6	6.6476E-02	9.6	0.0000	0.0000	0.0000	0.0000	3.6861E+01	15.6	6.6476E-02	9.6	0.0	172.6	23.0	821.4	200.3					
16	296	0.0000E+00	0.0	8.5035E-02	14.7	3.2994E-01	8.3	2.7301E-02	4.4	8.8462E+00	5.2	3.2146E+01	29.5	8.5035E-02	14.7	0.0000	0.0000	0.0000	0.0000	3.2146E+01	29.5	8.5035E-02	14.7	0.0	197.5	44.5	1316.3	285.6					
17	333	5.8513E-04	100.0	7.2557E-02	9.3	2.2011E-01	5.7	3.9454E-02	2.7	9.0071E+00	3.7	2.4170E+01	23.7	7.2557E-02	9.3	0.0109	0.0109	0.0109	0.0109	2.3905E+01	35.5	6.4113E-02	17.2	1.1	264.2	68.2	745.4	362.8					
^{232}Th																																	
5	38	0.0000E+00	0.0	6.9565E-02	36.6	3.5632E-01	18.2	1.9453E-02	9.9	2.5214E+01	16.3	4.6526E+01	72.0	6.9565E-02	36.6	0.0000	0.0000	0.0000	0.0000	4.6526E+01	72.0	6.9565E-02	36.6	0.0	137.1	57.0	915.5	752.2					
6	116	1.3387E-03	100.1	7.4965E-02	13.9	2.1285E-01	8.7	4.1307E-02	4.1	1.0979E+01	6.3	3.0183E+01	31.5	7.4965E-02	13.9	0.0250	0.0251	0.0251	0.0251	2.9427E+01	83.4	5.5432E-02	41.8	2.5	130.9	38.4	306.5	986.8					
7	34	0.0000E+00	0.0	4.0698E-02	38.6	2.9070E-01	16.1	3.0360E-02	8.3	1.8124E+01	14.3	4.8747E+01	41.9	4.0698E-02	38.6	0.0000	0.0000	0.0000	0.0000	4.8747E+01	41.9	4.0698E-02	38.6	0.0	227.8	79.8	2084.8	539.6					
8	22	0.0000E+00	0.0	1.2903E-01	30.7	2.2581E-01	24.2	3.7565E-02	11.5	1.3805E+01	18.9	2.7801E+01	54.9	1.2903E-01	30.7	0.0000	0.0000	0.0000	0.0000	2.7801E+01	54.9	1.2903E-01	30.7	0.0	155.7	24.2	378.8	492.3					
11	75	0.0000E+00	0.0	7.5539E-02	16.0	1.5827E-01	11.5	5.0245E-02	4.8	1.6734E+01	9.8	1.8920E+01	47.8	7.5539E-02	16.0	0.0000	0.0000	0.0000	0.0000	1.8920E+01	47.8	7.5539E-02	16.0	0.0	332.0	105.5	1082.9	320.9					
14	94	0.0000E+00	0.0	8.3624E-02	21.3	2.0209E-01	14.4	2.8477E-02	6.4	1.4837E+01	9.7	4.2695E+01	29.7	8.3624E-02	21.3	0.0000	0.0000	0.0000	0.0000	4.2695E+01	29.7	8.3624E-02	21.3	0.0	149.2	33.9	1283.8	413.9					
15	91	0.0000E+00	0.0	2.6191E-01	19.5	6.4287E-01	14.2	1.3105E-02	9.3	2.6219E+01	13.1	5.8910E+01	55.4	2.6191E-01	19.5	0.0000	0.0000	0.0000	0.0000	5.8910E+01	55.4	2.6191E-01	19.5	0.0	108.5	38.5	3258.2	307.7					
17	40	0.0000E+00	0.0	4.2017E-02	45.7	2.3530E-01	21.0	2.3362E-02	9.8	1.9258E+01	15.5	3.0925E+01	94.1	4.2017E-02	45.7	0.0000	0.0000	0.0000	0.0000	3.0925E+01	94.1	4.2017E-02	45.7	0.0	206.2	98.7	225.5	1149.6					
18	39	0.0000E+00	0.0	1.6250E-01	29.9	2.3750E-01	25.5	3.1161E-02	12.2	1.4236E+01	18.9	3.0941E+01	38.9	1.6250E-01	29.9	0.0000	0.0000	0.0000	0.0000	3.0941E+01	38.9	1.6250E-01	29.9	0.0	206.0	56.8	2481.9	504.2					
19	35	0.0000E+00	0.0	7.0796E-02	25.9	8.4070E-02	23.9	9.4681E-02	8.3	8.1039E+00	15.1	9.9251E+00	48.0	7.0796E-02	25.9	0.0000	0.0000	0.0000	0.0000	9.9251E+00	48.0	7.0796E-02	25.9	0.0	618.8	194.3	951.5	529.3					
20	970	8.3593E-05	100.0	9.1621E-02	3.2	1.2673E-01	2.7	2.5100E-01	1.5	4.8698E+00	2.7	4.4565E+00	6.1	9.1621E-02	3.2	0.0016	0.0016	0.0016	0.0016	4.4495E+00	6.1	9.0456E-02	3.5	0.2	1306.9	68.7	1435.2	65.9					
21	634	0.0000E+00	0.0	8.9903E-02	4.0	1.0393E-01	3.7	2.2062E-01	1.7	4.9061E+00	3.2	4.8790E+00	7.9	8.9903E-02	4.0	0.0000	0.0000	0.0000	0.0000	4.8790E+00	7.9	8.9903E-02	4.0	0.0	1201.9	80.7	1423.5	75.8					
22	842	0.0000E+00	0.0	9.1896E-02	4.6	1.2377E-01	4.0	2.3628E-01	2.1	4.0977E+00	3.6	4.3035E+00	22.8	9.1896E-02	4.6	0.0000	0.0000	0.0000	0.0000	4.3035E+00	22.8	9.1896E-02	4.6	0.0	1346.9	229.6	1465.2	87.4					
23	793	0.0000E+00	0.0	8.7301E-02	6.1	1.3374E-01	5.0	1.3709E-01	2.3	4.6595E+00	3.7	6.5725E+00	19.6	8.7301E-02	6.1	0.0000	0.0000	0.0000	0.0000	6.5725E+00	19.6	8.7301E-02	6.1	0.0	915.0	141.2	1367.2	116.5					
24	610	8.6430E-04	100.0	7.8653E-02	10.9	1.9561E-01	7.3	4.9320E-02	3.3	7.9319E+00	4.8	1.7798E+01	31.1	7.8653E-02	10.9	0.0162	0.0162	0.0162	0.0162	1.7510E+01	42.3	6.6215E-02	23.4	1.6	358.0	104.4	913.2	490.3					
25	394	0.0000E+00	0.0	8.9146E-02	5.8	1.5393E-01	4.6	2.0547E-01	2.5	5.4867E+00	4.7	5.8805E+00	5.8	8.9146E-02	5.8	0.0000	0.0000	0.0000	0.0000	5.8805E+00	5.8	8.9146E-02	5.8	0.0	1061.2	54.3	1407.3	111.4					
^{207}Pb																																	
1	483	1.9330E-04	100.0	8.7762E-02	4.9	1.2623E-01	4.2	1.7920E-01	2.0	9.5661E+00	4.7	5.6147E+00	12.0	8.7762E-02	4.9	0.0036	0.0036	0.0036	0.0036	5.5944E+00	12.0	1.2127E+01	6.0	0.4	1060.1	106.6	1316.7	116.3					
2	1165	0.0000E+00	0.0	9.2734E-02	3.8	1.1544E-01	3.4	2.4195E-01	1.7	4.1661E+00	3.0	4.3685E+00	12.8	9.2734E-02	3.8	0.0000	0.0000	0.0000	0.0000	4.3685E+00	12.8	1.2843E+01	3.8	0.0	1328.8	138.1	1482.5	71.1					

Area ID ¹	Area size [Pixel]	Measured ratios ²						Uncorrected ratios						Corrected ratios ³						Age [Ma]					
		$^{206}\text{Pb}/^{208}\text{Pb}$	$\pm\sigma$ [%]	$^{207}\text{Pb}/^{208}\text{Pb}$	$\pm\sigma$ [%]	$^{206}\text{Pb}/^{238}\text{U}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{207}\text{Pb}$	$\pm\sigma$ [%]	$^{207}\text{Pb}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{207}\text{Pb}$	$\pm\sigma$ [%]	$^{207}\text{Pb}/^{206}\text{Pb}$	$\pm 1\sigma$	$^{238}\text{U}/^{206}\text{Pb}$	$\pm 1\sigma$				
4	362	3.3669E-04	100.0	1.0471E-01	6.0	1.2488E-01	5.5	1.9420E-01	2.7	5.5795E+00	5.1	5.8319E+00	7.4	1.0471E-01	6.0	0.0063	0.0063	5.7951E+00	8.2179E+00	1.0008E-01	1.0008E-01	1026.2	72.4	1625.6	145.7
5	194	0.0000E+00	0.0	9.1656E-02	7.6	2.2405E-01	8.2	2.0187E-01	3.3	6.3645E+00	6.6	5.7022E+00	17.0	9.1656E-02	7.6	0.0000	0.0000	5.7022E+00	1.7023E+01	9.1656E-02	9.1656E-02	1040.5	141.3	1460.3	144.5
6	233	0.0000E+00	0.0	9.0988E-02	7.3	1.1540E-01	6.6	2.4366E-01	3.3	4.9145E+00	6.2	4.5490E+00	12.1	9.0988E-02	7.3	0.0000	0.0000	4.5490E+00	1.2113E+01	9.0988E-02	9.0988E-02	1281.0	126.8	1446.4	139.0
7	1100	7.395E-05	100.0	9.1977E-02	3.0	1.2794E-01	2.5	2.4965E-01	1.4	4.9453E+00	2.6	4.5155E+00	5.4	9.1977E-02	3.0	0.0014	0.0014	4.5093E+00	5.3880E+00	9.0946E-02	9.0946E-02	1291.2	60.1	1445.5	61.1
9	10	0.0000E+00	0.0	7.4378E-02	20.0	1.4325E-01	14.8	1.3628E-01	7.1	1.2661E+01	17.6	6.7165E+00	61.4	7.4378E-02	20.0	0.0000	0.0000	6.7165E+00	6.1392E+01	7.4378E-02	7.4378E-02	894.7	325.9	1051.7	402.0
10	756	0.0000E+00	0.0	9.0876E-02	3.7	1.0708E-01	3.4	2.0665E-01	1.6	5.1219E+00	2.9	5.2925E+00	7.7	9.0876E-02	3.7	0.0000	0.0000	5.2925E+00	7.7020E+00	9.0876E-02	9.0876E-02	1115.7	73.7	1444.0	70.3
11	204	0.0000E+00	0.0	8.6305E-02	8.5	1.4614E-01	6.7	8.6403E-02	3.0	1.1343E+01	6.1	1.0626E+01	36.1	8.6305E-02	8.5	0.0000	0.0000	1.0626E+01	3.6127E+01	8.6305E-02	8.6305E-02	579.8	148.9	1345.0	164.3
12	446	3.8095E-04	100.0	8.8761E-02	6.8	1.2952E-01	5.8	1.9678E-01	2.9	4.6136E+00	5.0	4.0862E+00	27.2	8.8761E-02	6.8	0.0071	0.0071	4.0862E+00	2.7195E+01	8.3402E-02	8.3402E-02	1420.3	278.5	1278.6	191.3
13	165	9.1239E-04	100.1	8.4853E-02	10.8	1.9890E-01	7.4	4.5392E-02	3.4	1.0405E+01	5.3	2.1091E+01	16.5	8.4853E-02	10.8	0.0171	0.0171	2.0731E+01	4.0083E+01	7.1819E-02	7.1819E-02	303.7	85.4	980.8	465.2
14	194	8.7259E-04	100.0	8.4642E-02	10.6	1.3438E-01	8.6	1.1279E-01	3.8	6.6024E+00	6.7	9.0673E+00	24.0	8.4642E-02	10.6	0.0163	0.0163	8.9193E+00	2.7976E+01	7.2182E-02	7.2182E-02	685.0	143.7	991.1	444.3
15	44	0.0000E+00	0.0	1.1789E-01	19.6	1.2602E-01	19.1	1.0882E-01	8.2	5.6979E+00	13.4	1.0237E+01	46.8	1.1789E-01	19.6	0.0000	0.0000	1.0237E+01	4.6847E+01	1.1789E-01	1.1789E-01	600.8	185.7	1924.4	351.8
16	67	0.0000E+00	0.0	7.9769E-02	16.2	1.9066E-01	11.0	1.6072E-01	6.2	5.1650E+00	10.8	6.8473E+00	13.9	7.9769E-02	16.2	0.0000	0.0000	6.8473E+00	1.3863E+01	7.9769E-02	7.9769E-02	878.7	100.8	1191.3	320.4
23	242	0.0000E+00	0.0	5.5092E-02	17.9	2.7379E-01	8.8	2.9240E-02	4.4	1.0922E+01	5.9	3.2524E+01	28.6	5.5092E-02	17.9	0.0000	0.0000	3.2524E+01	2.8757E+01	5.5092E-02	5.5092E-02	195.2	42.9	415.9	399.5

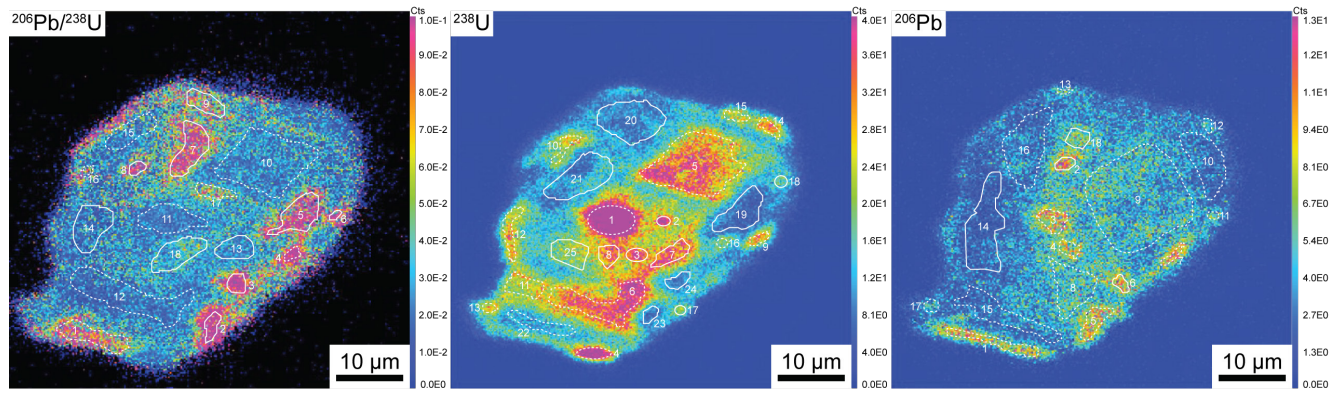
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors.

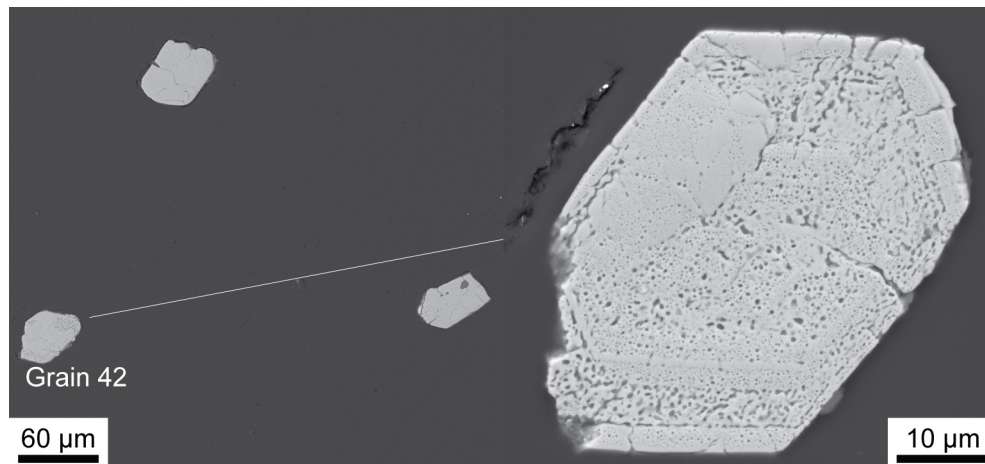
Corrected ratios³ Values corrected for common Pb where ^{206}Pb exceeds detection limit.

^{206}Pb [%]⁴ Percentage of common Pb in measured ^{206}Pb , calculated from the ^{208}Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 58 grain 42



Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. Left) HV = 15 kV, WD = 9.97 mm, View Field = 373.0 μm . Right) HV = 15 kV, WD = 9.00 mm, View Field = 54.4 μm ; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [Pix-cel]	Measured ratios ²						Uncorrected ratios						Corrected ratios ³						Age [Ma]						
		²⁰⁶ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²³⁸ U	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁷ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁷ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁷ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]					
<i>²⁰⁶Pb/²³⁸U</i>																										
2	132	0.0000E+00	0.0	8.7402E-02	10.3	7.3694E-02	11.2	1.5897E-01	4.1	6.6370E+00	7.9	6.2149E+00	24.8	8.7402E-02	10.3	0.0000	0.0000	6.2149E+00	24.8	8.7402E-02	10.3	0.0	961.8	180.0	1369.4	198.8
3	121	0.0000E+00	0.0	1.0331E-01	10.4	7.9236E-02	11.7	1.4470E-01	4.3	5.2820E+00	7.4	7.2058E+00	22.9	1.0331E-01	10.4	0.0000	0.0000	7.2058E+00	22.9	1.0331E-01	10.4	0.0	837.7	147.9	1684.4	191.0
5	449	0.0000E+00	0.0	9.3347E-02	7.8	8.8189E-02	8.0	1.0952E-01	2.9	6.5162E+00	5.1	1.0349E+01	8.0	9.3347E-02	7.8	0.0000	0.0000	1.0349E+01	8.0	9.3347E-02	7.8	0.0	594.6	42.3	1494.9	147.0
6	34	0.0000E+00	0.0	1.1111E-01	26.4	1.8750E-01	21.0	1.1141E-01	10.8	8.2703E+00	20.8	1.0159E+01	35.0	1.1111E-01	26.4	0.0000	0.0000	1.0159E+01	35.0	1.1111E-01	26.4	0.0	605.2	151.6	1817.7	478.4
7	483	0.0000E+00	0.0	8.4621E-02	6.1	3.0030E-02	9.9	1.0899E-01	2.2	8.4520E+00	4.2	9.1849E+00	21.8	8.4621E-02	6.1	0.0000	0.0000	9.1849E+00	21.8	8.4621E-02	6.1	0.0	666.2	114.5	1306.9	118.8
8	66	0.0000E+00	0.0	4.9429E-02	28.4	3.8022E-02	32.2	1.0491E-01	7.9	5.7130E+00	12.7	9.4871E+00	42.9	4.9429E-02	28.4	0.0000	0.0000	9.4871E+00	42.9	4.9429E-02	28.4	0.0	646.0	187.4	168.2	663.6
9	240	0.0000E+00	0.0	8.3028E-02	12.6	4.6398E-02	16.6	6.3449E-02	4.1	9.4593E+00	7.0	1.6118E+01	14.4	8.3028E-02	12.6	0.0000	0.0000	1.6118E+01	14.4	8.3028E-02	12.6	0.0	388.0	47.6	1269.9	246.3
13	285	7.9301E-04	100.0	7.1371E-02	10.9	3.0293E-01	5.8	2.3548E-02	3.0	2.4677E+01	5.4	4.5976E+01	16.1	7.1371E-02	10.9	0.0148	0.0148	4.5294E+01	71.0	5.9866E-02	23.8	1.5	140.8	58.1	598.7	515.5
14	542	0.0000E+00	0.0	8.2001E-02	11.5	3.1900E-01	6.4	1.8836E-02	3.3	2.1230E+01	5.0	4.7331E+01	24.4	8.2001E-02	11.5	0.0000	0.0000	4.7331E+01	24.4	8.2001E-02	11.5	0.0	134.8	26.2	1245.5	225.0
18	467	3.5906E-04	100.0	6.3554E-02	7.8	2.8869E-01	4.0	3.3003E-02	2.1	2.2072E+01	4.1	2.9657E+01	23.4	6.3554E-02	7.8	0.0067	0.0067	2.9458E+01	30.7	5.8355E-02	12.4	0.7	215.2	49.9	542.3	271.8
<i>²⁰⁷Pb</i>																										
2	23	0.0000E+00	0.0	5.5336E-02	27.5	2.2925E-01	14.6	2.4000E-02	6.7	2.3638E+01	11.9	4.3499E+01	31.4	5.5336E-02	27.5	0.0000	0.0000	4.3699E+01	31.4	5.5336E-02	27.5	0.0	145.9	34.6	425.8	612.5
3	64	0.0000E+00	0.0	7.1856E-02	14.9	2.8443E-01	8.2	3.2644E-02	4.2	2.3022E+01	8.4	3.4644E+01	26.8	7.1856E-02	14.9	0.0000	0.0000	3.4644E+01	26.8	7.1856E-02	14.9	0.0	183.4	38.3	981.9	304.2
7	220	9.4427E-04	100.1	7.1765E-02	11.9	2.6534E-01	6.7	2.2957E-02	3.3	2.8007E+01	6.2	4.7458E+01	15.5	7.1765E-02	11.9	0.0177	0.0177	4.6620E+01	86.7	5.8032E-02	28.7	1.8	136.8	63.2	531.0	629.4
8	149	0.0000E+00	0.0	8.0346E-02	12.9	2.9172E-01	7.4	2.7595E-02	3.8	2.4756E+01	7.3	3.5660E+01	30.1	8.0346E-02	12.9	0.0000	0.0000	3.5660E+01	30.1	8.0346E-02	12.9	0.0	178.3	40.8	1205.5	253.9
17	16	0.0000E+00	0.0	4.1283E-02	34.0	1.3302E-01	19.8	6.1658E-02	7.9	1.7295E+01	17.6	1.7759E+01	44.4	4.1283E-02	34.0	0.0000	0.0000	1.7759E+01	44.4	4.1283E-02	34.0	0.0	353.1	106.5	-270.1	864.1
18	24	0.0000E+00	0.0	6.0241E-02	46.0	2.7711E-01	23.6	1.9579E-02	11.6	2.4318E+01	19.0	5.9748E+01	35.8	6.0241E-02	46.0	0.0000	0.0000	5.9748E+01	35.8	6.0241E-02	46.0	0.0	107.0	28.0	612.2	995.0
19	535	0.0000E+00	0.0	9.1346E-02	7.2	9.0035E-02	7.3	1.0622E-01	2.7	7.0680E+00	4.7	1.0652E+01	6.9	9.1346E-02	7.2	0.0000	0.0000	1.0652E+01	6.9	9.1346E-02	7.2	0.0	578.5	35.8	1453.8	137.5
20	910	0.0000E+00	0.0	9.2655E-02	5.8	4.5198E-02	8.1	6.7920E-02	2.0	8.2890E+00	3.3	1.4948E+01	16.1	9.2655E-02	5.8	0.0000	0.0000	1.4948E+01	16.1	9.2655E-02	5.8	0.0	417.4	56.3	1480.8	109.4
21	783	4.3478E-04	100.0	9.5218E-02	7.1	8.4348E-02	7.5	4.2822E-02	2.3	1.0096E+01	3.5	2.1738E+01	23.6	9.5218E-02	7.1	0.0081	0.0081	2.1562E+01	29.4	8.9147E-02	10.3	0.8	292.3	65.3	1407.3	197.0
23	78	0.0000E+00	0.0	1.1111E-01	12.3	5.8558E-02	16.5	1.6887E-01	5.5	5.2072E+00	9.7	6.1498E+00	36.9	1.1111E-01	12.3	0.0000	0.0000	6.1498E+00	36.9	1.1111E-01	12.3	0.0	971.2	247.5	1817.6	222.4
24	114	0.0000E+00	0.0	9.4169E-02	11.4	8.5200E-02	11.9	1.3674E-01	4.5	5.9244E+00	8.0	7.7345E+00	13.8	9.4169E-02	11.4	0.0000	0.0000	7.7345E+00	13.8	9.4169E-02	11.4	0.0	783.8	90.3	1511.5	215.4
25	342	8.9685E-04	100.0	7.1749E-02	11.6	2.9148E-01	6.3	2.5943E-02	3.2	2.0139E+01	5.4	3.1292E+01	37.0	7.1749E-02	11.6	0.0168	0.0168	3.0767E+01	64.6	5.8717E-02	27.1	1.7	206.2	80.1	556.6	591.0
<i>²⁰⁶Pb</i>																										
2	83	0.0000E+00	0.0	8.8528E-02	12.4	2.9925E-02	20.7	1.1333E-01	4.6	1.1656E+01	10.4	8.9810E+00	31.6	8.8528E-02	12.4	0.0000	0.0000	8.9810E+00	31.6	8.8528E-02	12.4	0.0	680.6	157.0	1394.0	237.5
6	73	0.0000E+00	0.0	9.3095E-02	13.7	9.1490E-02	13.8	1.4332E-01	5.5	5.8314E+00	9.7	8.2323E+00	18.1	9.3095E-02	13.7	0.0000	0.0000	8.2323E+00	18.1	9.3095E-02	13.7	0.0	739.0	108.2	1489.8	259.9
14	1077	5.1203E-04	100.0	7.6805E-02	8.5	2.2632E-01	5.3	2.5000E-02	2.4	1.6224E+01	3.5	4.1817E+01	18.9	7.6805E-02	8.5	0.00958	0.00958	4.1417E+01	44.6	6.9468E-02	14.3	1.0	153.8	47.0	912.7	295.0
18	154	0.0000E+00	0.0	9.5439E-02	11.0	2.0148E-02	23.2	1.1507E-01	4.2	6.6500E+00	7.5	8.6473E+00	23.9	9.5439E-02	11.0	0.0000	0.0000	8.6473E+00	23.9	9.5439E-02	11.0	0.0	705.4	130.0	1536.8	207.5

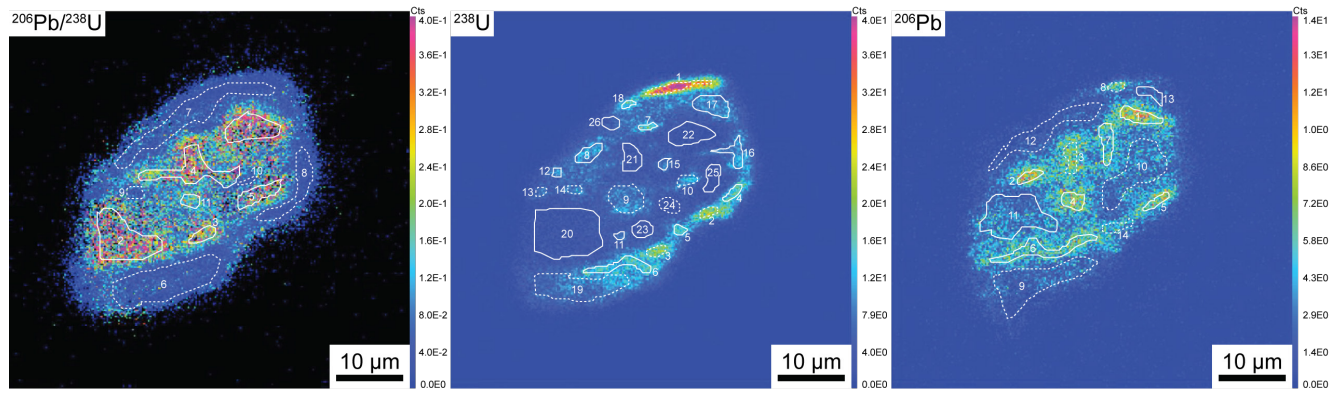
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected to detector gains. Uncertainties are counting statistic (Poisson) errors.

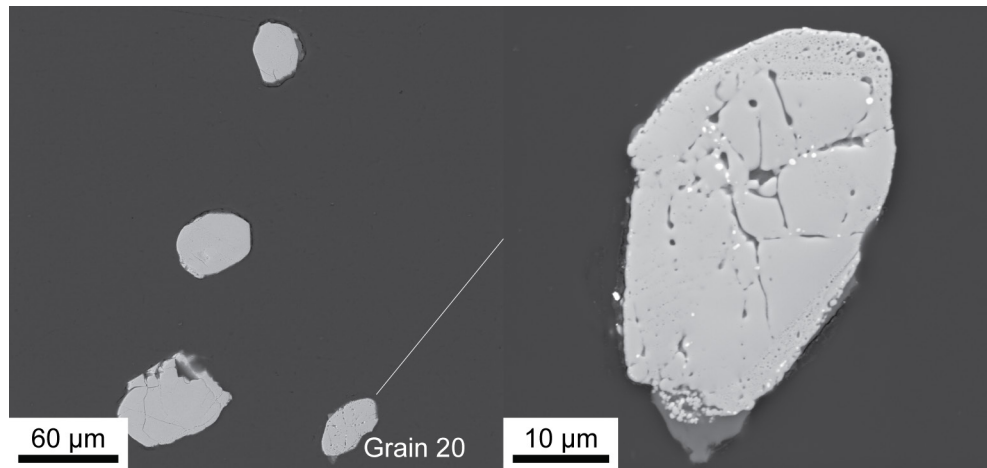
Corrected ratios³ Values corrected for common Pb where ²⁰⁴Pb exceeds detection limit.

²⁰⁶Pb [%]⁴ Percentage of common Pb in measured ²⁰⁶Pb, calculated from the ²⁰⁶Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 59 grain 20



Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 301.0 μm . Right) HV = 15 kV, WD = 9.00 mm, View Field = 52.1 μm ; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [Pix-el]	Measured ratios ²						Uncorrected ratios						Corrected ratios ³						Age [Ma]						
		²⁰⁶ Pb/ ²⁰⁴ Pb		²⁰⁷ Pb/ ²⁰⁴ Pb		²⁰⁶ Pb/ ²⁰⁷ Pb		²³⁸ U/ ²⁰⁶ Pb		²³⁵ U/ ²⁰⁶ Pb		²³⁸ U/ ²³⁵ U		²⁰⁶ Pb/ ²⁰⁷ Pb		²⁰⁶ Pb/ ²⁰⁴ Pb		²⁰⁷ Pb/ ²⁰⁴ Pb		²³⁸ U/ ²⁰⁶ Pb		²³⁸ U/ ²⁰⁷ Pb				
		±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ			
<i>²⁰⁶Pb/²³⁸U</i>																										
1	441	5.1519E-04	100.0	1.2004E-01	6.9	1.5765E-01	6.2	2.9897E-01	3.8	1.4754E+00	4.8	3.9808E+00	8.1	1.2004E-01	6.9	0.0096	0.0096	3.8703E+00	8.9	1.1308E-01	9.7	1.0	1481.5	109.1	1849.5	175.9
2	859	2.9257E-04	100.0	1.0767E-01	5.5	1.8110E-01	4.4	2.5962E-01	2.7	2.1556E+00	3.8	3.2959E+00	25.6	1.0767E-01	5.5	0.0055	0.0055	3.2779E+00	25.5	1.0366E-01	6.9	0.5	1716.4	314.0	1690.7	128.0
3	112	0.0000E+00	0.0	1.1913E-01	12.6	2.2148E-01	9.6	2.2948E-01	6.3	2.2859E+00	8.7	4.2577E+00	34.1	1.1913E-01	12.6	0.0000	0.0000	4.2577E+00	34.1	1.1913E-01	12.6	0.0	1360.0	319.7	1943.2	224.4
4	606	9.2164E-04	57.8	1.1091E-01	5.6	1.6590E-01	4.7	2.3228E-01	2.7	2.7297E+00	4.0	4.3733E+00	19.7	1.1091E-01	5.6	0.0172	0.0100	4.2979E+00	19.8	9.8194E-02	10.0	1.7	1348.5	204.6	1590.1	187.4
5	235	0.0000E+00	0.0	1.0579E-01	11.5	1.2091E-01	10.8	2.2088E-01	5.4	1.3499E+00	6.3	5.0159E+00	16.7	1.0579E-01	11.5	0.0000	0.0000	5.0159E+00	16.7	1.0579E-01	11.5	0.0	1171.9	155.4	1728.1	210.5
11	85	0.0000E+00	0.0	9.6344E-02	13.8	1.5947E-01	11.0	1.5803E-01	5.6	2.9676E+00	7.7	7.7017E+00	26.1	9.6344E-02	13.8	0.0000	0.0000	7.7017E+00	26.1	9.6344E-02	13.8	0.0	787.0	155.0	1554.5	258.1
<i>²⁰⁶Pb</i>																										
4	62	0.0000E+00	0.0	1.0067E-01	19.1	1.0738E-01	18.6	5.4945E-02	6.7	1.1002E+01	11.5	1.9602E+01	19.8	1.0067E-01	19.1	0.0000	0.0000	1.9602E+01	19.8	1.0067E-01	19.1	0.0	320.8	52.0	1636.5	355.6
5	40	0.0000E+00	0.0	2.1374E-01	20.8	3.2061E-01	17.7	4.4464E-02	9.8	1.1398E+01	15.9	2.8114E+01	41.9	2.1374E-01	20.8	0.0000	0.0000	2.8114E+01	41.9	2.1374E-01	20.8	0.0	225.3	65.7	2934.1	336.6
6	181	9.7798E-03	50.2	1.4914E-01	13.7	2.0783E-01	11.9	2.9609E-02	5.4	8.9334E+00	6.5	3.3300E+01	29.3	1.4914E-01	13.7	0.1529	0.0919	2.7209E+01	375.3	-4.5324E-03	-2610.7	18.3	142.7	41.5	3158.6	457.2
7	32	0.0000E+00	0.0	2.4590E-01	28.8	2.9509E-01	26.8	2.2955E-02	13.7	9.8237E+00	15.6	4.4680E+01	41.5	2.4590E-01	28.8	0.0000	0.0000	4.4680E+01	41.5	2.4590E-01	28.8	0.0	271.3	72.6	1708.2	322.4
8	140	0.0000E+00	0.0	1.0465E-01	17.5	4.6512E-02	25.6	4.3810E-02	6.1	9.1345E+00	8.8	2.3365E+01	37.3	1.0465E-01	17.5	0.0000	0.0000	2.3365E+01	37.3	1.0465E-01	17.5	0.0	721.4	129.4	1812.2	128.4
11	27	0.0000E+00	0.0	1.3793E-01	26.7	1.5517E-01	25.3	9.1438E-02	11.6	1.1007E+01	15.6	1.0074E+01	52.9	1.3793E-01	26.7	0.0000	0.0000	1.0074E+01	52.9	1.3793E-01	26.7	0.0	610.1	204.6	2201.4	463.1
12	31	0.0000E+00	0.0	1.7391E-01	38.3	1.7391E-01	38.3	2.7623E-02	15.9	8.6571E+00	18.7	2.9874E+01	79.6	1.7391E-01	38.3	0.0000	0.0000	2.9874E+01	79.6	1.7391E-01	38.3	0.0	212.3	93.2	2595.7	638.8
15	41	0.0000E+00	0.0	1.1927E-01	20.8	2.2936E-01	15.7	1.2634E-01	9.0	3.7770E+00	12.9	9.7081E+00	32.8	1.1927E-01	20.8	0.0000	0.0000	9.7081E+00	32.8	1.1927E-01	20.8	0.0	632.0	150.6	1945.3	371.0
16	142	0.0000E+00	0.0	1.1333E-01	18.1	1.7667E-01	14.9	3.8503E-02	6.4	5.0434E+00	6.8	2.9453E+01	18.9	1.1333E-01	18.1	0.0000	0.0000	2.9453E+01	18.9	1.1333E-01	18.1	0.0	215.2	33.7	1853.5	327.2
17	260	0.0000E+00	0.0	9.7356E-02	11.0	1.2722E-01	9.7	6.7293E-02	3.9	5.5965E+00	5.3	1.7767E+01	10.2	9.7356E-02	11.0	0.0000	0.0000	1.7767E+01	10.2	9.7356E-02	11.0	0.0	353.0	31.8	1573.5	205.6
18	30	0.0000E+00	0.0	3.8096E-01	29.4	7.6191E-01	23.5	1.6791E-02	16.2	2.8085E+01	22.9	6.0098E+01	46.5	3.8096E-01	29.4	0.0000	0.0000	6.0098E+01	46.5	3.8096E-01	29.4	0.0	106.4	33.6	3835.6	443.8
20	1280	2.1786E-04	100.0	1.1133E-01	4.7	1.9041E-01	3.7	2.3186E-01	2.3	2.2101E+00	3.1	3.6004E+00	27.2	1.1133E-01	4.7	0.0041	0.0041	3.5857E+00	27.1	1.0837E-01	5.5	0.4	1585.7	306.9	1772.1	101.2
21	182	8.9284E-04	100.0	1.1250E-01	9.4	2.3482E-01	6.8	3.0591E-01	5.0	2.3335E+00	7.4	3.2111E+00	33.1	1.1250E-01	9.4	0.0167	0.0167	3.1575E+00	33.0	1.0022E-01	16.6	1.7	1773.6	396.6	1628.1	308.8
22	318	8.6555E-04	100.0	1.2522E-01	8.8	1.5926E-01	8.0	2.8133E-01	4.8	1.2409E+00	5.7	4.2573E+00	12.9	1.2522E-01	8.8	0.0163	0.0163	4.1881E+00	13.8	1.1347E-01	14.6	1.6	1380.3	152.1	1855.8	263.6
23	118	0.0000E+00	0.0	8.0000E-02	15.3	1.7392E-01	10.8	2.3215E-01	6.4	2.4821E+00	9.2	4.1032E+00	32.6	8.0000E-02	15.3	0.0000	0.0000	4.1032E+00	32.6	8.0000E-02	15.3	0.0	1406.0	318.1	1197.0	302.1
25	138	0.0000E+00	0.0	1.0998E-01	16.4	9.1133E-02	17.2	1.9864E-01	7.3	1.3366E+00	8.3	5.3700E+00	14.3	1.0998E-01	16.4	0.0000	0.0000	5.3700E+00	14.3	1.0998E-01	16.4	0.0	1100.9	127.6	1642.3	304.2
26	78	0.0000E+00	0.0	1.4131E-01	29.6	2.5000E-01	23.3	4.2508E-02	11.7	4.8654E+00	12.8	2.1948E+01	39.1	1.4131E-01	29.6	0.0000	0.0000	2.1948E+01	39.1	1.4131E-01	29.6	0.0	287.2	79.4	2243.3	512.2
<i>²⁰⁶Pb</i>																										
1	186	7.2096E-04	100.0	1.1103E-01	8.5	1.4924E-01	7.4	2.9279E-01	4.5	2.7174E+00	6.9	3.9696E+00	17.3	1.1103E-01	8.5	0.0135	0.0135	3.9161E+00	17.9	1.0113E-01	13.8	1.3	1466.1	202.1	1644.9	256.1
2	80	0.0000E+00	0.0	1.0314E-01	12.6	2.6905E-02	23.9	2.0456E-01	5.8	6.6350E+00	11.9	4.7002E+00	37.2	1.0314E-01	12.6	0.0000	0.0000	4.7002E+00	37.2	1.0314E-01	12.6	0.0	1243.5	313.9	1681.3	233.4
4	137	0.0000E+00	0.0	1.0831E-01	10.4	1.8086E-01	8.3	1.4526E-01	4.4	3.0592E+00	6.1	7.6606E+00	28.0	1.0831E-01	10.4	0.0000	0.0000	7.6606E+00	28.0	1.0831E-01	10.4	0.0	796.3	165.9	1771.1	189.3
5	84	0.0000E+00	0.0	1.0427E-01	13.4	4.1025E-02	20.8	1.1681E-01	5.4	5.3751E+00	8.8	9.7530E+00	26.0	1.0427E-01	13.4	0.0000	0.0000	9.7530E+00	26.0	1.0427E-01	13.4	0.0	629.2	124.8	1701.5	247.7
6	391	9.6477E-04	70.7	1.1577E-01	6.8	1.7993E-01	5.6	1.9125E-01	3.2	2.8713E+00	4.6	4.4827E+00	21.7	1.1577E-01	6.8	0.0180	0.0128	4.4018E+00	22.1	1.0255E-01	12.3	1.8	1319.7	219.7	1670.7	227.2
7	179	0.0000E+00	0.0	9.6810E-02	11.2	1.4521E-01	9.3	2.1601E-01	5.0	2.5180E+00	7.1	5.3013E+00	18.2	9.6810E-02	11.2	0.0000	0.0000	5.3013E+00	18.2	9.6810E-02	11.2	0.0	1114.0	159.6	1563.5	209.2
11	977	3.6941E-04	100.0	1.1895E-01	5.9	2.0244E-01	4.7	1.4634E-01	2.6	2.8545E+00	3.5	5.7346E+00	25.4	1.1895E-01	5.9	0.0069	0.0069	5.6950E+00	25.5	1.1397E-01	7.6	0.7	1042.9	198.9	1863.6	137.5
13	100	0.0000E+00	0.0	1.6754E-01	19.1	2.9843E-01	15.1	2.6210E-02	7.8	7.6242E+00	8.4	4.6205E+01	15.6	1.6754E-01	19.1	0.0000	0.0000	4.6205E+01	15.6	1.6754E-01	19.1	0.0	137.9	18.4	2533.2	320.5

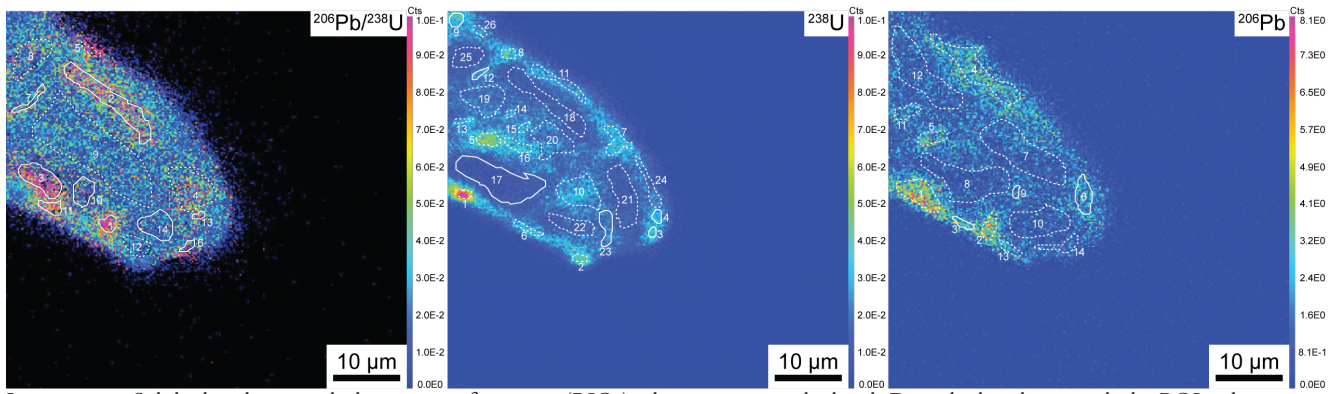
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors.

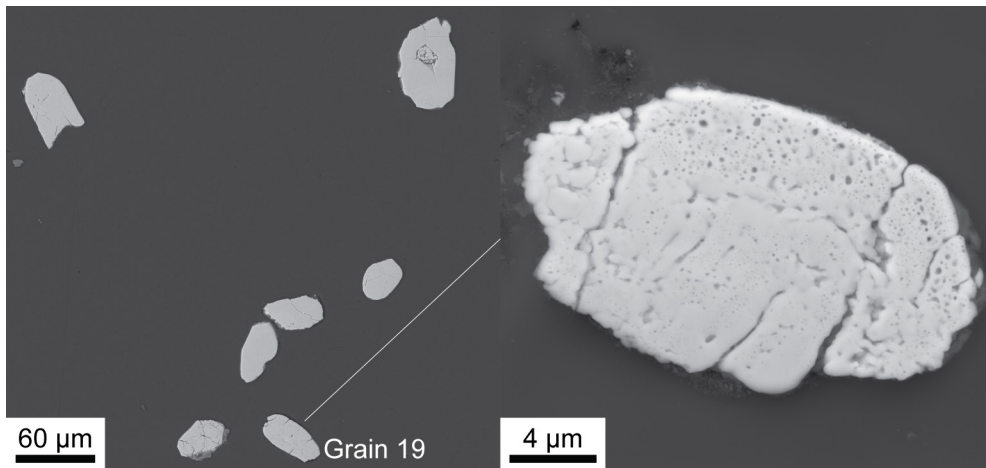
Corrected ratios³ Values corrected for common Pb where ²⁰⁴Pb exceeds detection limit.

²⁰⁶Pb [%]¹ Percentage of common Pb in measured ²⁰⁶Pb, calculated from the ²⁰⁴Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 60 grain 19



Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 379.0 µm. Right) HV = 15 kV, WD = 9.03 mm, View Field = 23.0 µm; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [PIX-el]	Measured ratios ²						Uncorrected ratios						Corrected ratios ³						Age [Ma]						
		²⁰⁶ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²³⁸ U	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁷ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb [%] ⁴	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	
²⁰⁶Pb/²³⁸U																										
1	93	0.0000E+00	0.0	9.5376E-02	18.2	1.6763E-01	14.2	1.2246E-01	7.1	5.2224E+00	11.5	8.0315E+00	63.5	9.5376E-02	18.2	0.0000	0.0000	8.0315E+00	63.5	0.0954	1.8220E-01	0.0	756.5	283.3	1535.5	342.6
2	696	6.8212E-04	100.0	9.5498E-02	8.9	1.5621E-01	7.1	6.4752E-02	3.1	5.0827E+00	4.0	1.3509E+01	29.8	9.5498E-02	8.9	0.0128	0.0128	1.3336E+01	34.2	0.0859	1.5157E-01	1.3	466.1	115.6	1336.7	293.0
3	358	0.0000E+00	0.0	1.0296E-01	11.7	1.5058E-01	9.9	1.1210E-01	4.6	5.3138E+00	7.4	8.2889E+00	32.2	1.0296E-01	11.7	0.0000	0.0000	8.2889E+00	32.2	0.1030	1.1740E-01	0.0	734.3	171.4	1678.2	216.9
6	49	0.0000E+00	0.0	4.3397E-01	25.0	7.7361E-01	20.8	3.8498E-02	15.2	8.4823E+00	20.4	2.2442E+01	34.8	4.3397E-01	25.0	0.0000	0.0000	2.2442E+01	34.8	0.4340	2.4970E-01	0.0	281.0	71.4	4031.2	372.6
7	70	0.0000E+00	0.0	6.1855E-02	42.1	1.5464E-01	27.7	3.0501E-02	11.1	6.2983E+00	11.8	3.8104E+01	95.4	6.1855E-02	42.1	0.0000	0.0000	3.8104E+01	95.4	0.0619	4.2070E-01	0.0	167.0	81.0	669.1	900.4
10	196	0.0000E+00	0.0	1.2069E-01	23.1	1.6092E-01	20.4	3.3154E-02	8.3	6.9292E+00	9.5	2.8265E+01	24.3	1.2069E-01	23.1	0.0000	0.0000	2.8265E+01	24.3	0.1207	2.3100E-01	0.0	224.6	43.4	1966.4	412.0
11	95	0.0000E+00	0.0	7.9294E-02	17.3	8.8105E-02	16.5	7.9321E-02	5.7	5.7703E+00	8.4	1.0603E+01	72.7	7.9294E-02	17.3	0.0000	0.0000	1.0603E+01	72.7	0.0793	1.7310E-01	0.0	581.0	238.2	1179.5	342.3
13	31	0.0000E+00	0.0	3.3898E-02	71.9	1.0169E-01	42.8	5.5137E-02	15.0	6.3566E+00	20.3	2.1671E+01	36.7	3.3898E-02	71.9	0.0000	0.0000	2.1671E+01	36.7	0.0339	7.1900E-01	0.0	290.8	76.8	-798.5	2039.3
14	308	0.0000E+00	0.0	5.4475E-02	27.4	2.9183E-01	13.1	1.8473E-02	6.6	8.9355E+00	6.6	4.9679E+01	25.1	5.4475E-02	27.4	0.0000	0.0000	4.9679E+01	25.1	0.0545	2.7440E-01	0.0	128.5	25.6	390.7	615.8
²⁰⁷Pb																										
3	26	0.0000E+00	0.0	1.3889E-01	47.7	1.6667E-01	44.1	1.6449E-02	17.5	4.5809E+01	35.7	6.2428E+01	76.3	1.3889E-01	47.7	0.0000	0.0000	6.2428E+01	76.3	1.3889E-01	4.7730E-01	0.0	102.4	44.1	2213.4	827.8
4	40	0.0000E+00	0.0	8.5715E-02	42.5	8.5715E-02	42.5	2.4254E-02	12.8	1.6556E+01	19.1	4.5164E+01	31.6	8.5715E-02	42.5	0.0000	0.0000	4.5164E+01	31.6	8.5715E-02	4.2540E-01	0.0	141.2	33.6	1331.8	823.0
6	66	0.0000E+00	0.0	3.2877E-01	23.5	5.2055E-01	20.0	1.2543E-02	12.1	6.0513E+01	25.2	8.2281E+01	57.4	3.2877E-01	23.5	0.0000	0.0000	8.2281E+01	57.4	3.2877E-01	2.3530E-01	0.0	77.9	28.3	3611.4	360.8
12	36	0.0000E+00	0.0	2.0588E-01	41.5	3.2353E-01	34.7	1.5579E-02	17.9	1.0675E+01	17.9	3.5835E+01	94.5	2.0588E-01	41.5	0.0000	0.0000	3.5835E+01	94.5	2.0588E-01	4.1510E-01	0.0	177.4	85.6	2873.4	674.6
17	924	0.0000E+00	0.0	1.1695E-01	9.0	1.6102E-01	7.8	5.8768E-02	3.4	6.1065E+00	4.6	1.5574E+01	11.4	1.1695E-01	9.0	0.0000	0.0000	1.5574E+01	11.4	1.1695E-01	9.0000E-00	0.0	401.2	40.0	1910.1	161.6
23	138	0.0000E+00	0.0	5.8824E-02	36.4	1.9118E-01	21.4	1.9568E-02	9.1	9.8817E+00	9.7	4.9570E+01	43.4	5.8824E-02	36.4	0.0000	0.0000	4.9570E+01	43.4	5.8824E-02	3.6380E-01	0.0	128.8	38.7	560.6	792.9
²⁰⁶Pb																										
3	55	0.0000E+00	0.0	7.1429E-02	31.2	1.2987E-01	23.8	3.6591E-02	8.9	7.4476E+00	11.0	2.5180E+01	90.8	7.1429E-02	31.2	0.0000	0.0000	2.5180E+01	90.8	7.1429E-02	3.1210E-01	0.0	251.1	118.3	969.7	636.8
6	200	0.0000E+00	0.0	6.0526E-02	21.5	1.0526E-01	16.6	4.3863E-02	5.8	8.2823E+00	8.0	2.6665E+01	22.2	6.0526E-02	21.5	0.0000	0.0000	2.6665E+01	22.2	6.0526E-02	2.1470E-01	0.0	237.5	42.5	622.4	463.1
9	26	0.0000E+00	0.0	1.7500E-01	41.0	3.7500E-01	30.3	2.1253E-02	16.8	1.1596E+01	20.1	4.4826E+01	76.9	1.7500E-01	41.0	0.0000	0.0000	4.4826E+01	76.9	1.7500E-01	4.0970E-01	0.0	142.2	61.5	2606.1	682.5

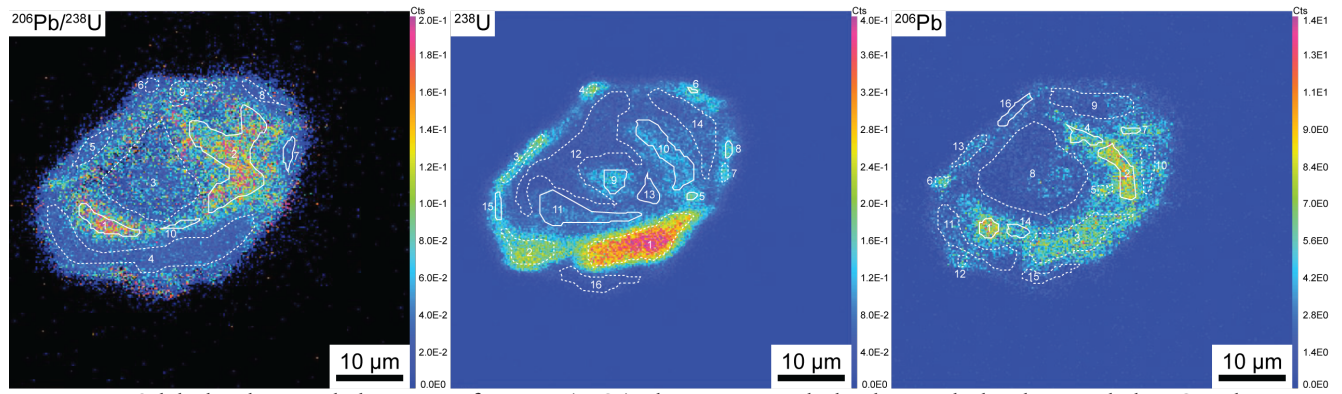
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors.

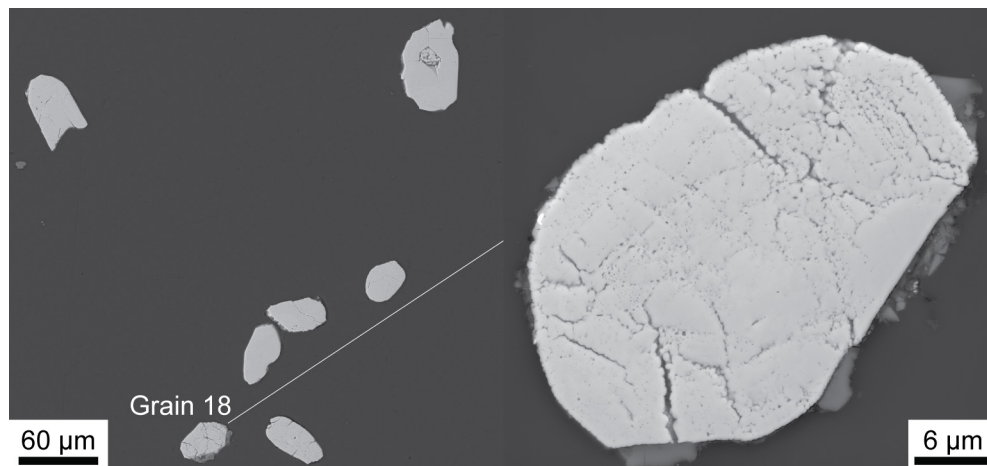
Corrected ratios³ Values corrected for common Pb where ²⁰⁴Pb exceeds detection limit.

²⁰⁶Pb [%]⁴ Percentage of common Pb in measured ²⁰⁶Pb, calculated from the ²⁰⁴Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 61 grain 18



Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 379.0 μm . Right) HV = 15 kV, WD = 9.03 mm, View Field = 39.2 μm ; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [Pixel]	Measured ratios ²						Uncorrected ratios						Corrected ratios ³						Age [Ma]						
		²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁴ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²³⁵ U	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁴ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb [%] ⁴	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	
<i>²⁰⁶Pb/²³⁸U</i>																										
1	314	0.000E+00	0.0	1.122E-01	7.4	2.011E-01	5.8	1.293E-01	3.2	7.0749E+00	5.9	7.1028E+00	37.4	1.1222E-01	7.4	0.0000	0.0000	7.1028E+00	37.4	1.1222E-01	7.4	0.0	849.1	220.3	1835.7	134.4
2	1554	5.8403E-04	44.7	1.0583E-01	3.5	2.8092E-01	2.3	1.0734E-01	1.4	6.4252E+00	2.4	1.0545E+01	8.6	1.0583E-01	3.5	0.0109	0.0049	1.0430E+01	10.0	9.7768E-02	5.4	1.1	590.2	51.5	1582.0	100.4
7	98	0.000E+00	0.0	1.1392E-01	24.9	3.9873E-01	14.9	2.4630E-02	8.5	2.1344E+01	14.5	4.8824E+01	25.3	1.1392E-01	24.9	0.0000	0.0000	4.8824E+01	25.3	1.1392E-01	24.9	0.0	130.7	26.2	1862.9	449.2
10	57	0.000E+00	0.0	8.1632E-02	26.0	3.2143E-01	14.5	5.6500E-02	8.3	6.7098E+00	11.6	1.6930E+01	33.6	8.1632E-02	26.0	0.0000	0.0000	1.6930E+01	33.6	8.1632E-02	26.0	0.0	370.0	91.2	1236.7	509.8
<i>²³⁸U</i>																										
5	26	0.000E+00	0.0	1.0112E-01	24.7	2.5280E-01	16.7	7.2379E-02	9.0	1.4108E+01	19.2	1.6386E+01	38.6	1.0112E-01	24.7	0.0000	0.0000	1.6386E+01	38.6	1.0112E-01	24.7	0.0	381.9	104.0	1644.8	488.8
6	10	0.000E+00	0.0	4.2858E-01	48.8	1.5714E+00	34.2	1.5020E-02	27.9	5.1686E+01	58.3	7.7382E+01	39.0	4.2858E-01	48.8	0.0000	0.0000	7.7382E+01	39.0	4.2858E-01	48.8	0.0	82.8	23.1	4012.5	729.0
8	35	0.000E+00	0.0	1.2500E-01	37.5	1.8750E-01	31.5	2.4699E-02	13.4	1.9594E+01	21.9	5.9583E+01	44.2	1.2500E-01	37.5	0.0000	0.0000	5.9583E+01	44.2	1.2500E-01	37.5	0.0	107.3	32.7	2028.8	663.9
9	175	0.000E+00	0.0	8.3336E-02	19.0	1.8611E-01	13.3	3.0881E-02	5.7	5.1032E+00	5.6	2.8065E+01	33.5	8.3336E-02	19.0	0.0000	0.0000	2.8065E+01	33.5	8.3336E-02	19.0	0.0	225.7	55.9	1277.1	370.4
10	611	2.5445E-04	100.0	9.9236E-02	5.3	3.0229E-01	3.3	1.1243E-01	2.1	6.7694E+00	3.7	9.6709E+00	13.0	9.9236E-02	5.3	0.0048	0.0048	9.6249E+00	13.7	9.5715E-02	6.7	0.5	637.2	73.7	1542.2	125.3
11	678	5.4495E-04	100.0	1.0572E-01	7.6	2.2398E-01	5.5	5.9279E-02	2.7	7.1631E+00	4.0	1.4077E+01	30.0	1.0572E-01	7.6	0.0102	0.0102	1.3934E+01	33.1	9.8207E-02	11.3	1.0	446.8	108.2	1590.3	211.8
13	146	0.000E+00	0.0	1.0080E-01	17.0	2.6791E-01	11.2	8.0190E-02	6.3	4.3691E+00	8.3	1.4661E+01	14.9	1.0080E-01	17.0	0.0000	0.0000	1.4661E+01	14.9	1.0080E-01	17.0	0.0	425.4	53.6	1638.8	316.0
15	66	0.000E+00	0.0	9.8214E-02	31.6	1.5179E-01	26.0	2.4005E-02	10.1	1.2320E+01	13.1	3.0561E+01	76.2	9.8214E-02	31.6	0.0000	0.0000	3.0561E+01	76.2	9.8214E-02	31.6	0.0	207.6	89.0	1590.5	590.4
<i>²⁰⁶Pb</i>																										
1	119	0.000E+00	0.0	1.0733E-01	10.5	1.8597E-01	8.2	1.3790E-01	4.4	7.9386E+00	8.9	6.0198E+00	44.8	1.0733E-01	10.5	0.0000	0.0000	6.0198E+00	44.8	1.0733E-01	10.5	0.0	990.7	290.4	1754.6	191.6
2	359	3.9400E-04	100.0	1.1181E-01	5.9	2.3515E-01	4.3	1.2554E-01	2.5	7.4802E+00	4.7	8.9614E+00	12.2	1.1181E-01	5.9	0.0065	0.0065	8.9028E+00	13.5	1.0705E-01	7.7	0.7	686.2	78.0	1749.7	140.2
4	121	0.000E+00	0.0	1.1150E-01	13.2	4.0070E-01	7.8	8.5777E-02	5.1	6.9144E+00	8.4	1.1702E+01	25.3	1.1150E-01	13.2	0.0000	0.0000	1.1702E+01	25.3	1.1150E-01	13.2	0.0	528.6	103.2	1824.0	239.1
7	39	0.000E+00	0.0	1.1905E-01	21.2	2.3334E-01	15.9	1.1526E-01	9.0	6.4481E+00	15.7	9.5079E+00	30.2	1.1905E-01	21.2	0.0000	0.0000	9.5079E+00	30.2	1.1905E-01	21.2	0.0	644.7	143.9	1942.0	378.4
14	95	0.000E+00	0.0	1.2230E-01	14.8	2.6139E-01	10.8	1.0082E-01	6.2	5.8943E+00	9.8	9.0734E+00	55.4	1.2230E-01	14.8	0.0000	0.0000	9.0734E+00	55.4	1.2230E-01	14.8	0.0	674.0	232.3	1990.1	263.7
16	131	0.000E+00	0.0	9.6774E-02	21.4	1.9385E-01	15.8	3.8479E-02	7.1	1.0830E+01	10.5	2.2748E+01	31.5	9.6774E-02	21.4	0.0000	0.0000	2.2748E+01	31.5	9.6774E-02	21.4	0.0	277.3	65.4	1562.9	400.9

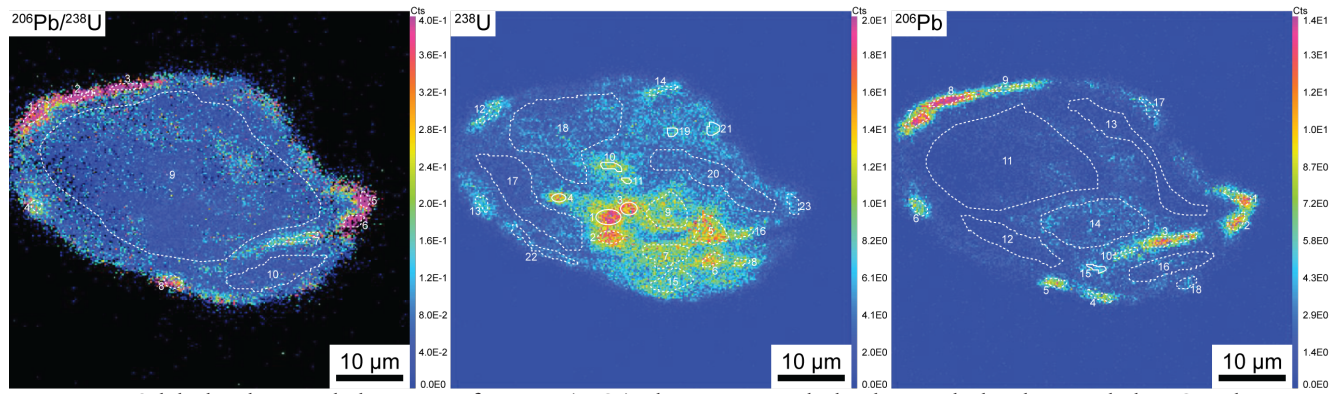
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors.

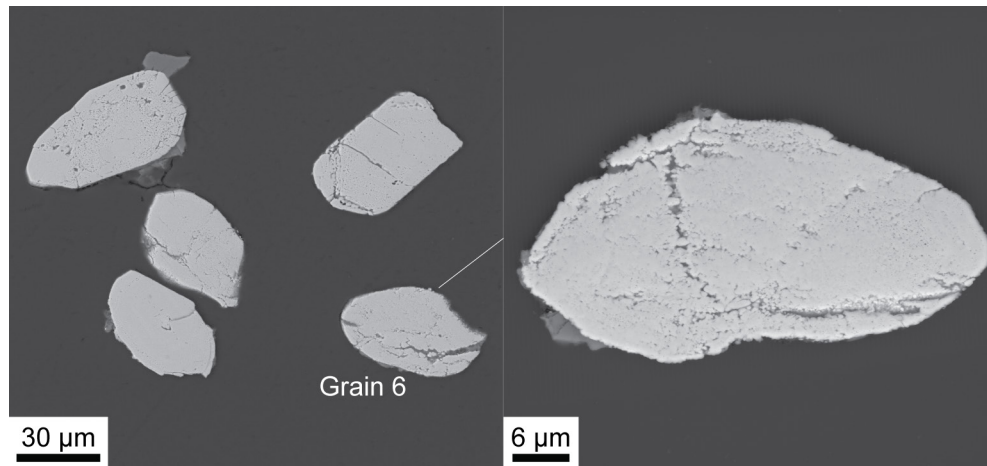
Corrected ratios³ Values corrected for common Pb where ²⁰⁶Pb exceeds detection limit.

²⁰⁶Pb [%]⁴ Percentage of common Pb in measured ²⁰⁶Pb, calculated from the ²⁰⁴Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 62 grain 6



Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 179.0 μm . Right) HV = 15 kV, WD = 9.03 mm, View Field = 53.4 μm ; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [Pix-cel]	Measured ratios ²				Uncorrected ratios				Corrected ratios ³				Age [Ma]													
		$^{204}\text{Pb}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{207}\text{Pb}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{206}\text{Pb}/^{238}\text{U}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{235}\text{U}/^{90}\text{Zr}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{207}\text{Pb}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{207}\text{Pb}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{206}\text{Pb}$	$\pm\sigma$ [%]								
1	94	0.0000E+00	0.0	9.5093E-02	18.8	1.0246E+00	7.8	2.5205E-02	5.9	1.2884E+01	8.0	3.3559E+01	45.6	9.5093E-02	18.8	0.0000	0.0000	3.3559E+01	45.6	9.5093E-02	18.8	0.0	189.3	58.7	1529.9	354.0	
3	43	0.0000E+00	0.0	5.9603E-02	34.3	7.2186E-01	12.6	2.5289E-02	8.7	1.1161E+01	11.1	3.9558E+01	43.7	5.9603E-02	34.3	0.0000	0.0000	3.9558E+01	43.7	5.9603E-02	34.3	0.0	160.9	48.6	589.2	744.2	
4	20	0.0000E+00	0.0	3.3964E-01	27.3	1.3774E+00	18.0	1.8099E-02	14.5	1.4762E+01	18.0	4.6169E+01	86.6	3.3964E-01	27.3	0.0000	0.0000	4.6169E+01	86.6	3.3964E-01	27.3	0.0	138.1	63.7	3661.2	416.9	
10	53	0.0000E+00	0.0	6.0241E-02	46.0	9.1567E-01	15.9	2.6550E-02	11.8	4.0950E+00	9.9	4.1009E+01	57.8	6.0241E-02	46.0	0.0000	0.0000	4.1009E+01	57.8	6.0241E-02	46.0	0.0	155.3	56.5	612.2	995.0	
11	15	0.0000E+00	0.0	1.1765E-01	74.8	5.2942E-01	41.2	1.7136E-02	25.5	5.3236E+00	19.6	4.1293E+01	65.2	1.1765E-01	74.8	0.0000	0.0000	4.1293E+01	65.2	1.1765E-01	74.8	0.0	154.3	60.5	1920.8	1340.2	
19	35	0.0000E+00	0.0	1.0526E-01	52.6	5.7897E-01	26.8	3.0243E-02	17.6	3.4263E+00	14.6	3.9580E+01	43.2	1.0526E-01	52.6	0.0000	0.0000	3.9580E+01	43.2	1.0526E-01	52.6	0.0	160.8	48.1	1718.9	966.1	
21	56	0.0000E+00	0.0	4.0219E-01	19.5	1.7609E+00	13.1	4.2986E-02	11.7	5.8367E+00	13.9	2.5003E+01	21.7	4.0219E-01	19.5	0.0000	0.0000	2.5003E+01	21.7	4.0219E-01	19.5	0.0	252.8	44.3	3917.3	292.6	
²⁰⁶ Pb																											
15	39	0.0000E+00	0.0	1.0448E-01	28.1	2.6866E-01	18.8	6.2782E-02	10.1	1.0145E+01	17.7	1.9000E+01	34.6	1.0448E-01	28.1	0.0000	0.0000	1.9000E+01	34.6	0.1	2.8090E+01	0.0	330.1	83.3	1705.1	517.1	

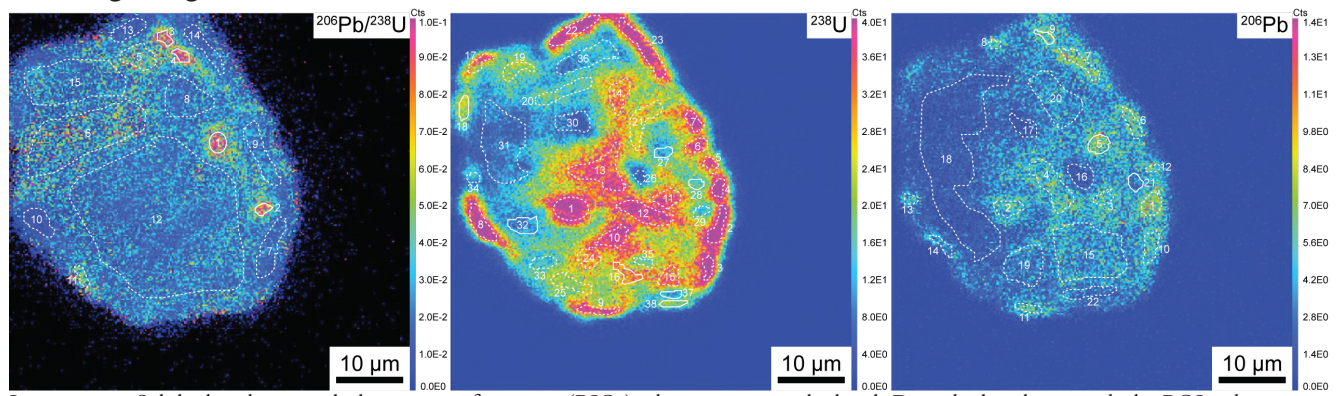
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors.

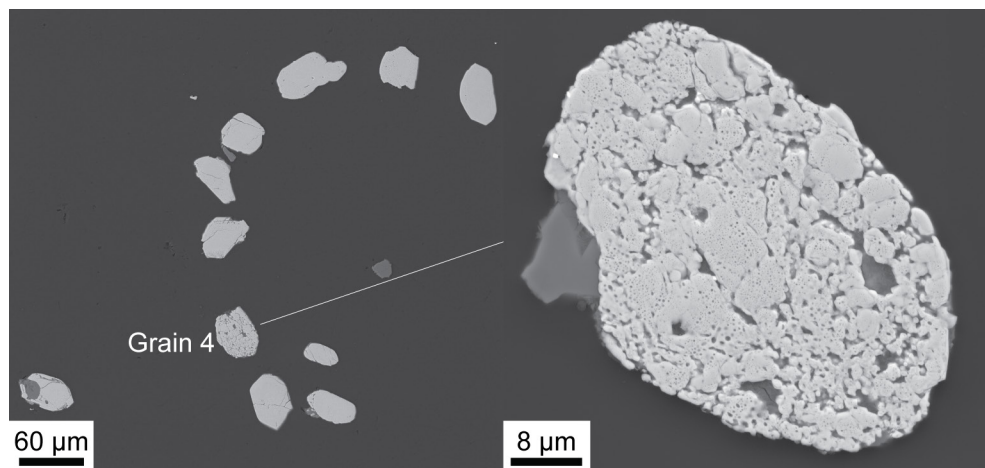
Corrected ratios³ Values corrected for common Pb where ^{204}Pb exceeds detection limit.

^{206}Pb [%]⁴ Percentage of common Pb in measured ^{206}Pb , calculated from the ^{204}Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 64 grain 4



Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 462.0 µm. Right) HV = 15 kV, WD = 9.03 mm, View Field = 55.9 µm; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [Pix-cl]	Measured ratios ²						Uncorrected ratios						Corrected ratios ³						Age [Ma]						
		²⁰⁶ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²³⁸ U	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb [%] ⁴	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	Age [Ma]	$\pm 1\sigma$			
<i>²⁰⁶Pb/²³⁸U</i>																										
1	85	0.0000E+00	0.0	9.3749E-02	12.9	4.9715E-02	17.3	8.2635E-02	4.6	7.0158E+00	7.5	1.3413E+01	22.9	9.3749E-02	12.9	0.0000	0.0000	1.3413E+01	22.9	9.3749E-02	12.9	0.0	463.5	83.9	1503.1	243.2
2	58	0.0000E+00	0.0	8.8168E-02	16.9	8.3556E-02	17.4	8.6882E-02	5.9	8.2522E+00	10.6	1.3059E+01	32.8	8.8168E-02	16.9	0.0000	0.0000	1.3059E+01	32.8	8.8168E-02	16.9	0.0	475.6	114.2	1386.2	324.9
3	59	0.0000E+00	0.0	9.2697E-02	18.2	1.0674E-01	17.1	8.5688E-02	6.5	9.3398E+00	12.2	1.2232E+01	27.7	9.2697E-02	18.2	0.0000	0.0000	1.2232E+01	27.7	9.2697E-02	18.2	0.0	506.6	106.6	1481.7	345.0
4	61	0.0000E+00	0.0	8.7556E-02	16.9	8.7558E-02	16.9	1.0789E-01	6.2	8.0623E+00	11.6	9.7972E+00	27.3	8.7556E-02	16.9	0.0000	0.0000	9.7972E+00	27.3	8.7556E-02	16.9	0.0	626.5	129.5	1372.8	325.5
<i>²³⁸U</i>																										
16	119	0.0000E+00	0.0	1.2128E-01	14.0	3.0638E-01	9.5	2.0838E-02	4.9	2.0803E+01	7.6	4.5156E+01	22.0	1.2128E-01	14.0	0.0000	0.0000	4.5156E+01	22.0	1.2128E-01	14.0	0.0	141.2	25.2	1975.1	250.0
18	84	0.0000E+00	0.0	1.3889E-01	21.3	3.4445E-01	14.7	1.5812E-02	7.8	4.0289E+01	14.8	5.5704E+01	75.4	1.3889E-01	21.3	0.0000	0.0000	5.5704E+01	75.4	1.3889E-01	21.3	0.0	114.7	49.1	2213.4	370.1
27	67	0.0000E+00	0.0	9.5360E-02	17.2	4.6391E-02	24.1	7.9082E-02	6.2	8.2440E+00	10.6	1.2778E+01	27.8	9.5360E-02	17.2	0.0000	0.0000	1.2778E+01	27.8	9.5360E-02	17.2	0.0	485.7	102.7	1535.2	323.9
28	56	0.0000E+00	0.0	9.4937E-02	27.0	1.3291E-01	23.2	2.9759E-02	8.6	9.3958E+00	10.9	4.1524E+01	25.7	9.4937E-02	27.0	0.0000	0.0000	4.1524E+01	25.7	9.4937E-02	27.0	0.0	153.4	31.0	1526.8	809.0
32	175	0.0000E+00	0.0	8.1396E-02	27.8	2.2093E-01	17.9	1.8004E-02	8.0	2.1771E+01	12.0	5.2754E+01	44.8	8.1396E-02	27.8	0.0000	0.0000	5.2754E+01	44.8	8.1396E-02	27.8	0.0	121.1	37.2	1231.0	545.4
37	51	0.0000E+00	0.0	1.8682E-01	26.4	3.0770E-01	21.6	2.5565E-02	11.3	1.9738E+01	18.7	4.4084E+01	27.3	1.8682E-01	26.4	0.0000	0.0000	4.4084E+01	27.3	1.8682E-01	26.4	0.0	144.6	30.7	2714.3	435.6
38	59	0.0000E+00	0.0	6.3291E-02	32.6	2.9747E-01	16.6	2.0611E-02	8.5	1.9857E+01	13.2	4.8402E+01	22.3	6.3291E-02	32.6	0.0000	0.0000	4.8402E+01	22.3	6.3291E-02	32.6	0.0	131.8	23.8	718.0	692.4
<i>²⁰⁶Pb</i>																										
5	126	0.0000E+00	0.0	9.2009E-02	12.0	4.8426E-02	16.2	7.9773E-02	4.2	7.9872E+00	7.2	1.3042E+01	20.3	9.2009E-02	12.0	0.0000	0.0000	1.3042E+01	20.3	9.2009E-02	12.0	0.0	476.3	77.9	1467.6	227.7
9	55	0.0000E+00	0.0	1.0029E-01	18.0	1.1209E-01	17.1	7.8638E-02	6.6	9.1941E+00	11.9	1.1677E+01	38.8	1.0029E-01	18.0	0.0000	0.0000	1.1677E+01	38.8	1.0029E-01	18.0	0.0	529.7	143.9	1629.6	334.4
21	80	0.0000E+00	0.0	7.2581E-02	24.4	1.3710E-01	18.3	3.0371E-02	6.9	1.0369E+01	9.1	4.2196E+01	20.6	7.2581E-02	24.4	0.0000	0.0000	4.2196E+01	20.6	7.2581E-02	24.4	0.0	151.0	25.5	1002.3	495.6

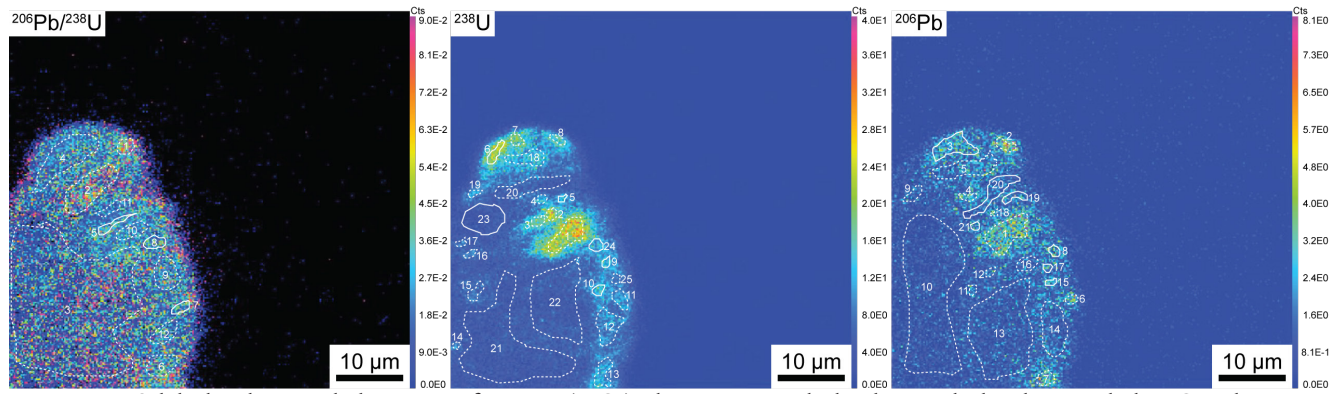
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors.

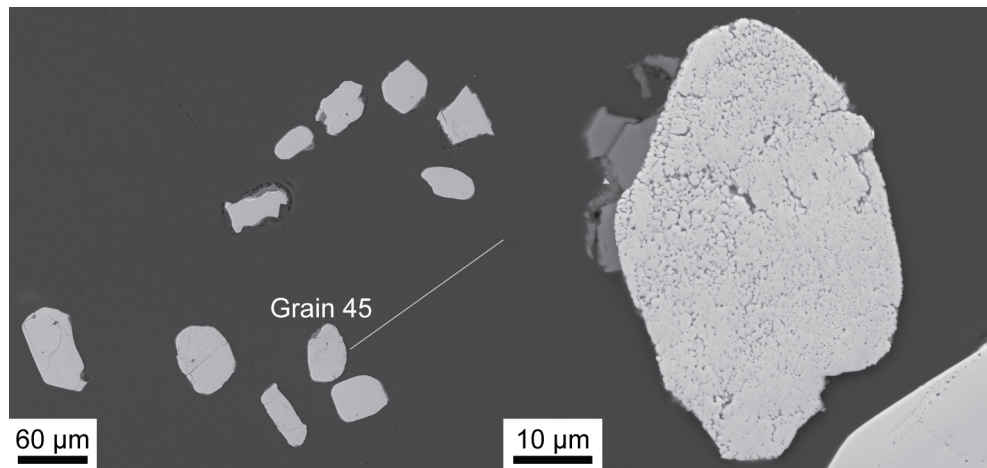
Corrected ratios³ Values corrected for common Pb where ²⁰⁶Pb exceeds detection limit.

²⁰⁶Pb [%]⁴ Percentage of common Pb in measured ²⁰⁶Pb, calculated from the ²⁰⁶Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 65 grain 45



Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 427.0 μm . Right) HV = 15 kV, WD = 9.04 mm, View Field = 63.2 μm ; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [PIX-e]	Measured ratios ²						Uncorrected ratios						Corrected ratios ³						Age [Ma]							
		²⁰⁶ Pb/ ²⁰⁴ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²³⁸ U	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁷ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁴ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁴ Pb	$\pm\sigma$ [%]	Age [Ma]	$\pm 1\sigma$		
²⁰⁶Pb/²³⁸U																											
5	74	0.0000E+00	0.0	1.1735E-01	22.0	1.1224E-01	22.5	3.0072E-02	7.8	8.6052E+00	9.4	3.3110E+01	62.4	1.1735E-01	22.0	0.0000	0.0000	3.3110E+01	62.4	1.1735E-01	22.0	0.0	0.0	191.8	73.0	1916.2	395.4
7	59	0.0000E+00	0.0	2.2619E-01	25.4	5.4762E-01	18.3	2.8749E-02	11.8	5.6520E+00	11.7	3.1950E+01	47.0	2.2619E-01	25.4	0.0000	0.0000	3.1950E+01	47.0	2.2619E-01	25.4	0.0	0.0	198.7	62.9	3025.3	407.4
8	88	0.0000E+00	0.0	8.0248E-02	28.8	1.6050E-01	21.1	2.8305E-02	8.5	6.7047E+00	9.0	3.2853E+01	34.0	8.0248E-02	28.8	0.0000	0.0000	3.2853E+01	34.0	8.0248E-02	28.8	0.0	0.0	193.3	48.5	1203.1	568.1
²⁰⁷Pb																											
5	21	0.0000E+00	0.0	1.2195E-01	47.4	7.3172E-02	59.8	2.8178E-02	16.9	7.1191E+00	18.3	2.8133E+01	97.8	1.2195E-01	47.4	0.0000	0.0000	2.8133E+01	97.8	1.2195E-01	47.4	0.0	0.0	225.2	110.3	1985.0	842.9
6	74	0.0000E+00	0.0	1.6848E-01	19.4	3.5870E-01	14.4	1.9378E-02	7.8	1.7950E+01	10.9	4.5265E+01	74.9	1.6848E-01	19.4	0.0000	0.0000	4.5265E+01	74.9	1.6848E-01	19.4	0.0	0.0	140.9	60.0	2542.6	325.4
9	28	0.0000E+00	0.0	5.7692E-02	59.4	1.1538E-01	43.1	2.5363E-02	14.9	7.7516E+00	16.0	4.4517E+01	53.1	5.7692E-02	59.4	0.0000	0.0000	4.4517E+01	53.1	5.7692E-02	59.4	0.0	0.0	143.2	49.3	518.1	1303.6
10	43	0.0000E+00	0.0	2.0000E-01	33.0	3.4546E-01	26.6	1.7763E-02	14.2	8.0481E+00	13.3	5.8775E+01	44.6	2.0000E-01	33.0	0.0000	0.0000	5.8775E+01	44.6	2.0000E-01	33.0	0.0	0.0	108.8	33.3	2826.2	539.1
23	419	0.0000E+00	0.0	1.0551E-01	21.9	2.2934E-01	15.7	2.2594E-02	7.2	3.2892E+00	5.2	4.3910E+01	45.9	1.0551E-01	21.9	0.0000	0.0000	4.3910E+01	45.9	1.0551E-01	21.9	0.0	0.0	145.2	45.3	1723.1	402.6
24	55	0.0000E+00	0.0	8.5107E-02	36.8	1.3830E-01	29.6	2.6189E-02	11.1	6.2846E+00	11.1	3.6718E+01	40.7	8.5107E-02	36.8	0.0000	0.0000	3.6718E+01	40.7	8.5107E-02	36.8	0.0	0.0	173.2	49.6	1318.0	713.9
²⁰⁶Pb																											
3	285	0.0000E+00	0.0	1.2672E-01	11.6	1.8015E-01	10.0	2.1974E-02	4.2	1.5842E+01	5.8	4.1348E+01	47.2	1.2672E-01	11.6	0.0000	0.0000	4.1348E+01	47.2	1.2672E-01	11.6	0.0	0.0	154.1	49.0	2052.9	205.7
8	39	0.0000E+00	0.0	5.6180E-02	46.0	1.4607E-01	29.7	3.8055E-02	11.8	8.8412E+00	15.9	2.5476E+01	44.0	5.6180E-02	46.0	0.0000	0.0000	2.5476E+01	44.0	5.6180E-02	46.0	0.0	0.0	248.2	74.8	459.5	1019.2
15	26	0.0000E+00	0.0	5.0848E-02	59.2	6.7797E-02	51.7	3.7031E-02	14.4	8.5500E+00	19.0	2.2879E+01	59.6	5.0848E-02	59.2	0.0000	0.0000	2.2879E+01	59.6	5.0848E-02	59.2	0.0	0.0	275.8	101.6	233.9	1365.8
17	27	0.0000E+00	0.0	1.0417E-01	47.0	1.6667E-01	38.2	2.9567E-02	15.7	5.4009E+00	15.4	3.1075E+01	41.2	1.0417E-01	47.0	0.0000	0.0000	3.1075E+01	41.2	1.0417E-01	47.0	0.0	0.0	204.2	59.0	1699.6	865.7
19	69	0.0000E+00	0.0	8.6957E-02	30.1	7.2464E-02	32.8	3.7751E-02	9.4	5.5788E+00	10.4	2.1085E+01	37.7	8.6957E-02	30.1	0.0000	0.0000	2.1085E+01	37.7	8.6957E-02	30.1	0.0	0.0	298.7	80.5	1359.5	580.1
20	250	0.0000E+00	0.0	1.7906E-01	14.9	2.7365E-01	12.5	3.1201E-02	6.3	4.6055E+00	6.0	4.0192E+01	47.5	1.7906E-01	14.9	0.0000	0.0000	4.0192E+01	47.5	1.7906E-01	14.9	0.0	0.0	158.4	50.6	2644.1	247.6
21	23	0.0000E+00	0.0	1.4706E-01	47.9	2.3390E-01	39.3	1.6296E-02	18.0	9.6410E+00	17.5	5.3209E+01	97.9	1.4706E-01	47.9	0.0000	0.0000	5.3209E+01	97.9	1.4706E-01	47.9	0.0	0.0	120.0	59.1	2312.0	822.0

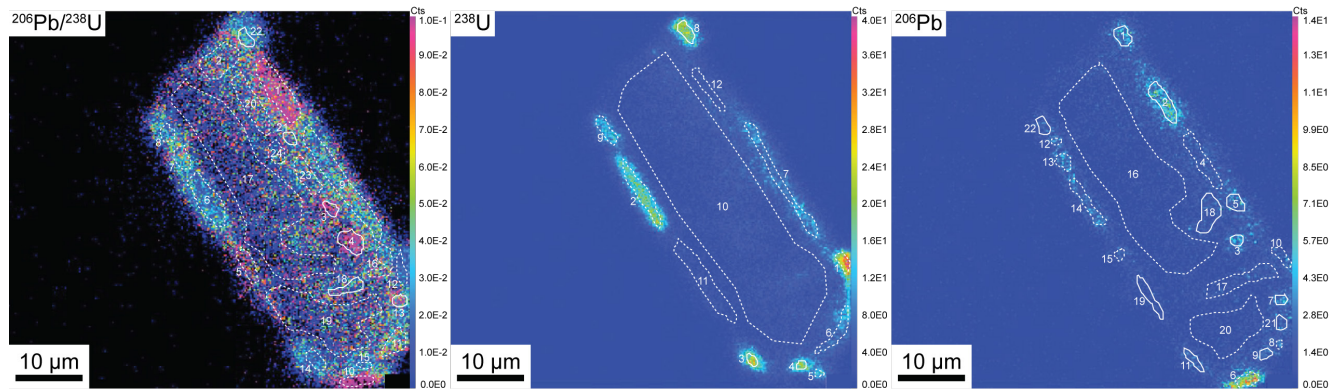
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors.

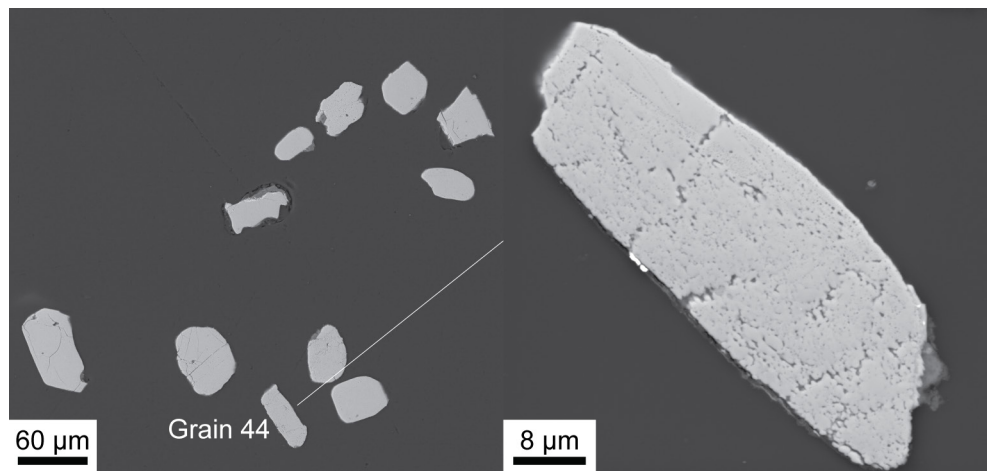
Corrected ratios³ Values corrected for common Pb where ²⁰⁴Pb exceeds detection limit.

²⁰⁶Pb [%]⁴ Percentage of common Pb in measured ²⁰⁶Pb, calculated from the ²⁰⁴Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 66 grain 44



Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 427.0 μm . Right) HV = 15 kV, WD = 9.03 mm, View Field = 55.2 μm ; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [Pix-el]	Measured ratios ²										Uncorrected ratios										Corrected ratios ³										Age [Ma]			
		²³⁸ U/ ²³⁵ U		²⁰⁶ Pb/ ²³⁸ U		²⁰⁶ Pb/ ²⁰⁷ Pb		²³⁸ U/ ²⁰⁶ Pb		²³⁸ U/ ²⁰⁷ Pb		²⁰⁶ Pb/ ²⁰⁷ Pb		²³⁸ U/ ²⁰⁶ Pb		²³⁸ U/ ²⁰⁷ Pb		²⁰⁶ Pb/ ²⁰⁷ Pb		²³⁸ U/ ²⁰⁶ Pb		²³⁸ U/ ²⁰⁷ Pb		²⁰⁶ Pb/ ²⁰⁷ Pb		²³⁸ U/ ²⁰⁶ Pb		²³⁸ U/ ²⁰⁷ Pb		²⁰⁶ Pb/ ²⁰⁷ Pb					
		±σ	[%]	±σ	[%]	±σ	[%]	±σ	[%]	±σ	[%]	±σ	[%]	±σ	[%]	±σ	[%]	±σ	[%]	±σ	[%]	±σ	[%]	±σ	[%]	±σ	[%]	±σ	[%]	±σ	[%]				
<i>²⁰⁶Pb/²³⁸U</i>																																			
3	55	0.0000E+00	0.0	1.5476E-01	29.8	9.5239E-02	37.0	1.2150E-01	14.4	1.1059E+00	13.5	1.0421E+01	27.6	1.5476E-01	29.8	0.0000	0.0000	1.0421E+01	27.6	1.5476E-01	29.8	0.0	0.0	590.7	123.4	2399.2	506.8								
4	176	0.0000E+00	0.0	1.1865E-01	16.3	1.9209E-01	13.2	1.5022E-01	7.3	1.4519E+00	7.9	8.0432E+00	11.8	1.1865E-01	16.3	0.0000	0.0000	8.0432E+00	11.8	1.1865E-01	16.3	0.0	0.0	755.4	75.5	1935.9	292.1								
13	64	0.0000E+00	0.0	1.9375E-01	19.6	3.8751E-01	15.0	7.1159E-02	9.4	4.0218E+00	11.6	1.2418E+01	22.1	1.9375E-01	19.6	0.0000	0.0000	1.2418E+01	22.1	1.9375E-01	19.6	0.0	0.0	493.3	87.4	2774.3	321.7								
18	123	0.0000E+00	0.0	2.1101E-01	23.0	5.8716E-01	15.8	3.7776E-02	10.6	2.4871E+00	8.5	2.8166E+01	21.3	2.1101E-01	23.0	0.0000	0.0000	2.8166E+01	21.3	2.1101E-01	23.0	0.0	0.0	224.9	38.9	2913.3	371.7								
21	59	0.0000E+00	0.0	2.0270E-01	28.3	2.8378E-01	24.7	5.0244E-02	13.3	2.4749E+00	11.9	2.0199E+01	26.3	2.0270E-01	28.3	0.0000	0.0000	2.0199E+01	26.3	2.0270E-01	28.3	0.0	0.0	311.5	63.6	2844.1	461.3								
22	81	0.0000E+00	0.0	9.7169E-02	21.4	9.3118E-02	21.8	2.6484E-02	6.8	1.9394E+01	11.5	4.5996E+01	17.0	9.7169E-02	21.4	0.0000	0.0000	4.5996E+01	17.0	9.7169E-02	21.4	0.0	0.0	138.6	20.0	1570.5	400.5								
<i>²³⁸U</i>																																			
3	42	0.0000E+00	0.0	7.1438E-02	42.3	3.3334E-01	21.8	1.6609E-02	11.4	3.0048E+01	19.2	7.0651E+01	32.6	7.1438E-02	42.3	0.0000	0.0000	7.0651E+01	32.6	7.1438E-02	42.3	0.0	0.0	90.6	22.2	970.0	862.2								
4	26	0.0000E+00	0.0	2.6230E-01	28.1	6.2296E-01	20.7	2.1402E-02	13.6	1.4568E+01	18.0	5.4278E+01	48.7	2.6230E-01	28.1	0.0000	0.0000	5.4278E+01	48.7	2.6230E-01	28.1	0.0	0.0	117.7	38.3	3260.6	442.1								
8	96	0.0000E+00	0.0	1.0070E-01	19.5	1.0417E-01	19.2	2.6447E-02	6.3	2.1065E+01	11.0	4.4195E+01	18.6	1.0070E-01	19.5	0.0000	0.0000	4.4195E+01	18.6	1.0070E-01	19.5	0.0	0.0	144.2	22.4	1637.0	361.7								
<i>²⁰⁶Pb</i>																																			
1	104	0.0000E+00	0.0	1.0443E-01	18.3	7.2785E-02	21.6	3.0661E-02	6.1	1.4169E+01	9.4	3.8150E+01	17.5	1.0443E-01	18.3	0.0000	0.0000	3.8150E+01	17.5	1.0443E-01	18.3	0.0	0.0	166.8	24.6	1704.3	336.7								
2	220	0.0000E+00	0.0	1.0799E-01	10.7	2.5872E-02	21.1	1.4205E-01	4.6	3.2232E+00	6.4	8.2058E+00	12.3	1.0799E-01	10.7	0.0000	0.0000	8.2058E+00	12.3	1.0799E-01	10.7	0.0	0.0	741.3	77.3	1765.7	196.2								
3	47	0.0000E+00	0.0	1.1613E-01	24.9	1.6774E-01	21.2	1.9834E-01	11.9	1.2264E+00	13.1	6.2334E+00	30.6	1.1613E-01	24.9	0.0000	0.0000	6.2334E+00	30.6	1.1613E-01	24.9	0.0	0.0	959.1	212.4	1897.5	447.7								
5	98	0.0000E+00	0.0	1.1489E-01	20.3	3.4043E-02	36.0	4.6150E-02	7.4	4.8683E+00	8.3	2.3719E+01	33.8	1.1489E-01	20.3	0.0000	0.0000	2.3719E+01	33.8	1.1489E-01	20.3	0.0	0.0	266.2	66.2	1878.2	366.2								
7	43	0.0000E+00	0.0	2.0635E-01	21.5	4.4444E-01	16.1	6.2371E-02	10.4	6.5896E+00	15.0	1.7967E+01	36.3	2.0635E-01	21.5	0.0000	0.0000	1.7967E+01	36.3	2.0635E-01	21.5	0.0	0.0	349.2	91.2	2877.1	350.0								
9	40	0.0000E+00	0.0	1.6304E-01	27.9	1.5217E-01	28.7	6.6529E-02	12.3	3.5945E+00	14.1	1.9135E+01	38.1	1.6304E-01	27.9	0.0000	0.0000	1.9135E+01	38.1	1.6304E-01	27.9	0.0	0.0	328.4	88.9	2487.5	469.4								
11	70	0.0000E+00	0.0	1.1853E-01	26.4	3.2593E-01	17.4	1.8524E-02	9.1	2.4248E+01	14.4	6.6690E+01	17.8	1.1853E-01	26.4	0.0000	0.0000	6.6690E+01	17.8	1.1853E-01	26.4	0.0	0.0	95.9	14.4	1934.1	473.3								
18	252	0.0000E+00	0.0	8.5045E-02	19.3	1.2903E-01	16.0	8.4664E-02	6.7	1.4471E+00	6.0	1.3482E+01	16.9	8.5045E-02	19.3	0.0000	0.0000	1.3482E+01	16.9	8.5045E-02	19.3	0.0	0.0	461.2	64.7	1316.6	375.0								
19	145	0.0000E+00	0.0	2.0721E-01	22.9	5.1352E-01	16.3	4.7714E-02	10.8	3.4864E+00	10.8	2.2589E+01	17.5	2.0721E-01	22.9	0.0000	0.0000	2.2589E+01	17.5	2.0721E-01	22.9	0.0	0.0	279.2	40.9	2883.8	372.0								
21	57	0.0000E+00	0.0	7.0707E-02	39.1	1.2121E-01	30.6	2.9563E-02	10.9	7.3298E+00	12.2	3.5798E+01	26.8	7.0707E-02	39.1	0.0000	0.0000	3.5798E+01	26.8	7.0707E-02	39.1	0.0	0.0	177.6	37.1	949.0	800.5								
22	72	0.0000E+00	0.0	1.0891E-01	31.8	3.7624E-01	19.0	2.3828E-02	10.6	1.3823E+01	14.5	4.0049E+01	37.5	1.0891E-01	31.8	0.0000	0.0000	4.0049E+01	37.5	1.0891E-01	31.8	0.0	0.0	159.0	43.0	1781.3	579.0								

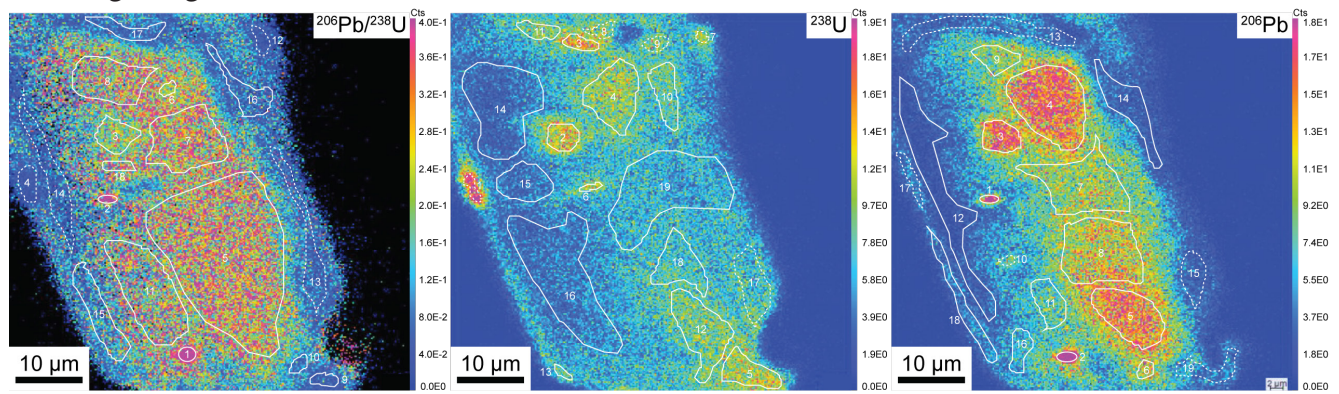
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors.

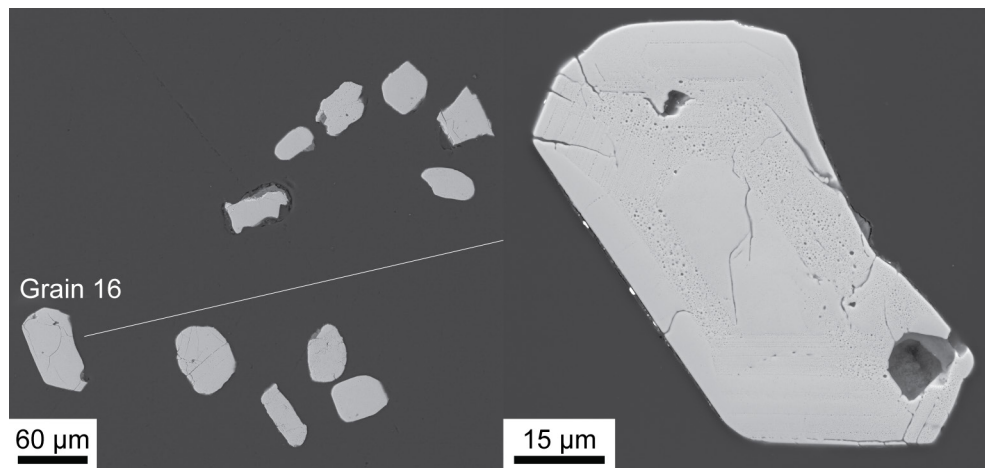
Corrected ratios³ Values corrected for common Pb where ²⁰⁶Pb exceeds detection limit.

²⁰⁶Pb [%]⁴ Percentage of common Pb in measured ²⁰⁶Pb, calculated from the ²⁰⁴Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 67 grain 16



Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 427.0 µm. Right) HV = 15 kV, WD = 9.04 mm, View Field = 83.0 µm; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [Pix-cel]	Measured ratios ²						Uncorrected ratios						Corrected ratios ³						Age [Ma]							
		²⁰⁶ Pb/ ²⁰⁴ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²³⁸ U	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁷ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²³⁸ U	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	Age [Ma]	$\pm 1\sigma$		
<i>²⁰⁶Pb/²³⁸U</i>																											
1	52	0.0000E+00	0.0	1.1209E-01	6.3	1.5539E-01	5.5	9.6496E-01	5.3	6.1744E+00	13.0	1.1786E+00	27.9	1.1209E-01	6.3	0.0000	0.0000	1.1786E+00	13.0	1.1209E-01	6.3	0.0	0.0	3960.4	680.1	1833.6	114.9
2	32	0.0000E+00	0.0	9.3385E-02	11.1	7.9744E-02	11.9	5.4109E-01	6.7	5.5285E+00	14.9	1.7033E+00	99.1	9.3385E-02	11.1	0.0000	0.0000	1.7033E+00	99.1	9.3385E-02	11.1	0.0	0.0	2977.7	1311.6	1495.7	209.6
3	455	0.0000E+00	0.0	9.4053E-02	4.2	1.5906E-01	3.3	2.0744E-01	1.8	5.9342E+00	3.6	4.3568E+00	33.3	9.4053E-02	4.2	0.0000	0.0000	4.3568E+00	33.3	9.4053E-02	4.2	0.0	0.0	1332.0	308.0	1509.2	78.9
5	7441	2.5649E-04	22.9	9.3030E-02	1.2	1.3306E-01	1.0	2.7847E-01	0.6	4.3463E+00	1.0	3.8518E+00	8.5	9.3030E-02	1.2	0.0042	0.0010	3.8518E+00	8.5	9.3030E-02	1.2	0.0	0.0	1403.5	105.3	1422.8	28.1
6	79	0.0000E+00	0.0	8.3733E-02	10.2	1.2399E-01	8.5	2.2429E-01	4.3	7.3110E+00	9.5	4.7212E+00	19.0	8.3733E-02	10.2	0.0000	0.0000	4.7212E+00	19.0	8.3733E-02	10.2	0.0	0.0	1238.5	182.3	1286.4	198.8
7	1697	0.0000E+00	0.0	9.0987E-02	2.4	1.3969E-01	2.0	2.7649E-01	1.1	4.5781E+00	2.1	3.6632E+00	17.7	9.0987E-02	2.4	0.0000	0.0000	3.6632E+00	17.7	9.0987E-02	2.4	0.0	0.0	1555.9	211.5	1446.3	46.1
8	1238	0.0000E+00	0.0	8.8358E-02	3.2	1.4114E-01	2.6	2.6424E-01	1.5	4.6288E+00	2.7	3.4080E+00	18.1	8.8358E-02	3.2	0.0000	0.0000	3.4080E+00	18.1	8.8358E-02	3.2	0.0	0.0	1658.6	228.5	1390.3	61.2
9	124	0.0000E+00	0.0	7.6062E-02	17.8	9.1722E-02	16.3	5.1307E-02	5.4	1.1323E+01	9.2	2.0197E+01	16.3	7.6062E-02	17.8	0.0000	0.0000	2.0197E+01	16.3	7.6062E-02	17.8	0.0	0.0	311.5	42.7	1096.7	356.1
10	95	0.0000E+00	0.0	7.7894E-02	17.1	1.6210E-01	12.3	7.9003E-02	5.6	6.7127E+00	8.8	1.4523E+01	12.2	7.7894E-02	17.1	0.0000	0.0000	1.4523E+01	12.2	7.7894E-02	17.1	0.0	0.0	429.3	45.2	1144.2	339.3
11	2116	1.5176E-04	70.7	9.2047E-02	3.0	1.3295E-01	2.5	2.3430E-01	1.4	4.3865E+00	2.4	3.7881E+00	20.7	9.2047E-02	3.0	0.0028	0.0020	3.7881E+00	20.7	9.2047E-02	3.0	0.0	0.0	1514.0	234.8	1424.0	67.0
15	861	6.4808E-04	70.7	1.0175E-01	5.9	1.2508E-01	5.4	1.1095E-01	2.3	6.6471E+00	4.1	4.7775E+00	26.6	1.0175E-01	5.9	0.0121	0.0086	4.7775E+00	26.6	1.0175E-01	5.9	0.0	0.0	355.0	76.5	1668.1	182.5
16	550	8.0450E-04	100.0	1.1344E-01	8.9	2.7434E-01	6.1	6.1097E-02	3.3	7.8042E+00	5.0	1.7933E+01	6.9	1.1344E-01	8.9	0.0150	0.0151	1.7933E+01	6.9	1.1344E-01	8.9	0.0	0.0	439.9	65.4	1644.3	155.3
17	388	0.0000E+00	0.0	1.0109E-01	8.4	1.8030E-01	6.5	6.5144E-02	3.0	8.8127E+00	5.0	1.4159E+01	18.1	1.0109E-01	8.4	0.0000	0.0000	1.4159E+01	18.1	1.0109E-01	8.4	0.0	0.0	1518.5	342.1	1601.6	196.6
18	135	0.0000E+00	0.0	9.8801E-02	10.5	1.1277E-01	9.9	2.3983E-01	4.9	4.2123E+00	8.7	3.7648E+00	32.7	9.8801E-02	10.5	0.0000	0.0000	3.7648E+00	32.7	9.8801E-02	10.5	0.0	0.0	1360.3	322.5	1510.0	90.8
<i>²³⁸U</i>																											
2	314	0.0000E+00	0.0	9.4096E-02	4.8	1.6168E-01	3.8	2.1010E-01	2.1	5.7728E+00	4.1	4.2565E+00	34.5	9.4096E-02	4.8	0.0000	0.0000	4.2565E+00	34.5	9.4096E-02	4.8	0.0	0.0	575.4	77.7	1167.1	205.8
3	173	0.0000E+00	0.0	7.8801E-02	10.4	1.5366E-01	7.7	9.0119E-02	3.5	1.0895E+01	7.1	1.0712E+01	16.3	7.8801E-02	10.4	0.0000	0.0000	1.0712E+01	16.3	7.8801E-02	10.4	0.0	0.0	1532.5	205.4	1365.4	50.1
4	1172	0.0000E+00	0.0	8.7224E-02	2.6	1.4081E-01	2.1	2.6429E-01	1.2	6.2479E+00	2.5	3.7264E+00	17.1	8.7224E-02	2.6	0.0000	0.0000	3.7264E+00	17.1	8.7224E-02	2.6	0.0	0.0	496.3	51.9	1253.5	190.9
5	587	5.8223E-04	70.7	9.0538E-02	5.9	1.4818E-01	4.8	8.9102E-02	2.1	8.0770E+00	3.8	1.2633E+01	7.2	9.0538E-02	5.9	0.0109	0.0077	1.2633E+01	7.2	9.0538E-02	5.9	0.0	0.0	630.7	211.0	1245.9	399.5
6	52	0.0000E+00	0.0	8.2018E-02	20.4	5.3627E-02	24.9	2.0982E-01	7.0	8.2196E+00	12.8	9.794E+00	52.8	8.2018E-02	20.4	0.0000	0.0000	9.794E+00	52.8	8.2018E-02	20.4	0.0	0.0	483.0	40.1	1222.8	154.4
10	544	0.0000E+00	0.0	8.1056E-02	7.9	2.0982E-01	5.2	7.9945E-02	2.6	6.9652E+00	4.2	1.2854E+01	9.4	8.1056E-02	7.9	0.0000	0.0000	1.2854E+01	9.4	8.1056E-02	7.9	0.0	0.0	477.0	116.6	1298.2	436.0
11	235	1.0537E-03	100.1	9.9052E-02	10.8	2.0443E-01	7.9	7.2471E-02	3.9	8.5763E+00	6.6	1.3283E+01	20.7	9.9052E-02	10.8	0.0197	0.0197	1.3283E+01	20.7	9.9052E-02	10.8	0.0	0.0	1387.0	95.4	1525.8	50.3
12	1276	5.5581E-05	100.0	9.5656E-02	2.5	1.4296E-01	2.1	2.6273E-01	1.2	5.4453E+00	2.4	4.1701E+00	8.2	9.5656E-02	2.5	0.0010	0.0010	4.1701E+00	8.2	9.5656E-02	2.5	0.0	0.0	773.5	268.3	1217.8	469.0
13	55	0.0000E+00	0.0	8.0851E-02	23.9	1.7872E-01	16.8	9.4192E-02	8.2	7.6854E+00	14.5	7.8446E+00	56.4	8.0851E-02	23.9	0.0000	0.0000	7.8446E+00	56.4	8.0851E-02	23.9	0.0	0.0	1304.8	160.5	1246.3	89.3
14	2362	1.2101E-04	100.0	8.3737E-02	4.0	1.3734E-01	3.2	1.8263E-01	1.6	4.2551E+00	2.6	4.4676E+00	15.5	8.3737E-02	4.0	0.0023	0.0023	4.4676E+00	15.5	8.3737E-02	4.0	0.0	0.0	1143.5	243.2	1267.4	137.3
15	715	0.0000E+00	0.0	8.2923E-02	7.0	1.2420E-01	5.8	1.6962E-01	2.8	4.8923E+00	4.7	5.1523E+00	29.5	8.2923E-02	7.0	0.0000	0.0000	5.1523E+00	29.5	8.2923E-02	7.0	0.0	0.0	1368.2	242.5	1383.6	67.4
16	3214	2.0381E-04	57.7	9.0903E-02	2.9	1.3269E-01	2.4	1.9927E-01	1.2	4.6491E+00	2.1	4.2455E+00	24.0	9.0903E-02	2.9	0.0038	0.0032	4.2455E+00	24.0	9.0903E-02	2.9	0.0	0.0	1533.3	93.5	1335.7	100.0
18	833	4.8641E-04	44.7	9.2711E-02	3.4	1.2550E-01	3.0	2.8975E-01	1.6	4.1915E+00	3.0	3.7583E+00	7.2	9.2711E-02	3.4	0.0091	0.0041	3.7583E+00	7.2	9.2711E-02	3.4	0.0	0.0	1337.1	118.3	1488.4	46.0
19	3101	1.8150E-04	44.7	9.5544E-02	2.0	1.4470E-01	1.7	2.4849E-01	0.9	4.3690E+00	1.7	4.3531E+00	10.8	9.5544E-02	2.0	0.0034	0.0015	4.3531E+00	10.8	9.5544E-02	2.0	0.0	0.0	3193.0	898.8	1414.9	214.0
<i>²⁰⁶Pb</i>																											
1	32	0.0000E+00	0.0	8.9502E-02	11.2	8.3329E-02	11.6	5.3368E-01	6.6	5.6112E+00	14.8	1.5600E+00	50.0	8.9502E-02	11.2	0.0000	0.0000	1.5600E+00	50.0	8.9502E-02	11.2	0.0	0.0	3788.5	753.5	1838.5	123.0
2	39	0.0000E+00	0.0	1.1240E-01	6.8	1.5857E-01	5.8	9.9352E-01	5.7	5.9838E+00	13.9	1.2503E+00	33.0	1.1240E-01	6.8	0.0000	0.0000	1.2503E+00	33.0	1.1240E-01	6.8	0.0	0.0	1366.2	297.6	1544.9	78.4
3	421	0.0000E+00	0.0	9.5852E-02	4.2	1.5726E-01	3.3	2.0977E-01	1.9	5.8734E+00	3.6	4.2362E+00	30.9	9.5852E-02	4.2	0.0000	0.0000	4.2362E+00	30.9	9.5852E-02	4.2	0.0	0.0	1366.2	297.6	1544.9	78.4

Area ID ¹	Area size [Pix-el]	Measured ratios ²						Uncorrected ratios						Corrected ratios ³						Age [Ma]							
		²⁰⁶ Pb/ ²⁰⁴ Pb	²⁰⁷ Pb/ ²⁰⁴ Pb	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁸ U	²⁰⁶ Pb/ ²³⁸ U/ ⁹⁰ Zr	²⁰⁷ Pb/ ²³⁸ U/ ⁹⁰ Zr	²⁰⁶ Pb/ ²⁰⁴ Pb	²⁰⁷ Pb/ ²⁰⁴ Pb	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁸ U	²⁰⁶ Pb/ ²⁰⁴ Pb	²⁰⁷ Pb/ ²⁰⁴ Pb	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁸ U	²⁰⁶ Pb/ ²⁰⁴ Pb	²⁰⁷ Pb/ ²⁰⁴ Pb	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁸ U	²⁰⁶ Pb/ ²⁰⁴ Pb	²⁰⁷ Pb/ ²⁰⁴ Pb	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁸ U	²⁰⁶ Pb/ ²⁰⁴ Pb	²⁰⁷ Pb/ ²⁰⁴ Pb	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁸ U
4	2057	3.2419E-05	100.0	8.8115E-02	2.0	1.4031E-01	1.6	2.7227E-01	0.9	5.7688E+00	1.9	3.6208E+00	16.4	8.8115E-02	2.0	0.0006	0.0006	3.6186E+00	16.4	8.7662E-02	2.1	0.1	1573.0	199.9	1375.1	39.9	
5	1230	1.6707E-04	57.7	9.2501E-02	2.6	1.4106E-01	2.1	2.7650E-01	1.2	5.1840E+00	2.4	3.9176E+00	9.3	9.2501E-02	2.6	0.0031	0.0018	3.9053E+00	9.3	9.0172E-02	3.0	0.3	1469.7	113.0	1429.2	57.9	
6	93	0.0000E+00	0.0	9.5889E-02	10.6	1.7416E-01	8.1	1.9562E-01	4.6	7.1825E+00	9.7	5.4564E+00	29.9	9.5889E-02	10.6	0.0000	0.0000	5.4564E+00	29.9	9.5889E-02	10.6	0.0	1084.8	233.8	1545.6	198.6	
7	1806	2.7839E-04	44.7	9.3094E-02	2.6	1.3313E-01	2.2	2.7188E-01	1.2	3.9401E+00	2.1	3.9413E+00	13.9	9.3094E-02	2.6	0.0052	0.0023	3.9208E+00	13.8	8.9208E-02	3.3	0.5	1464.5	161.3	1408.6	63.7	
8	1973	3.3999E-04	35.4	9.2395E-02	2.2	1.3013E-01	1.9	2.8844E-01	1.1	4.1755E+00	2.0	3.6460E+00	8.2	9.2395E-02	2.2	0.0064	0.0022	3.6228E+00	8.2	8.7638E-02	3.1	0.6	1571.3	106.7	1374.6	59.0	
9	377	0.0000E+00	0.0	8.6698E-02	5.9	1.5165E-01	4.6	2.3410E-01	2.6	5.1882E+00	5.0	3.9311E+00	23.0	8.6698E-02	5.9	0.0000	0.0000	3.9311E+00	23.0	8.6698E-02	5.9	0.0	1461.0	249.0	1353.8	114.8	
11	488	0.0000E+00	0.0	8.9478E-02	5.8	1.4316E-01	4.7	2.4286E-01	2.6	4.1754E+00	4.5	3.9292E+00	20.5	8.9478E-02	5.8	0.0000	0.0000	3.9292E+00	20.5	8.9478E-02	5.8	0.0	1461.7	226.5	1414.4	110.0	
12	2086	5.7372E-04	70.7	8.0035E-02	6.2	1.5032E-01	4.7	8.1342E-02	2.1	5.8677E+00	3.1	9.6193E+00	20.7	8.0035E-02	6.2	0.0107	0.0076	9.5161E+00	21.7	7.1839E-02	10.8	1.1	644.1	110.4	981.4	220.3	
14	834	1.0020E-03	70.8	1.0020E-01	7.4	2.5902E-01	4.9	6.3823E-02	2.6	7.5677E+00	4.1	1.7210E+01	6.4	1.0020E-01	7.4	0.0187	0.0133	1.6888E+01	24.1	8.6156E-02	14.9	1.9	370.8	70.3	1341.7	287.1	
16	289	5.8927E-04	100.0	9.0159E-02	8.4	1.4319E-01	6.9	1.8142E-01	3.5	6.1505E+00	6.8	4.1626E+00	19.7	9.0159E-02	8.4	0.0110	0.0110	4.1167E+00	20.0	8.1881E-02	14.0	1.1	1401.8	215.8	1242.0	274.4	
18	586	8.9445E-04	70.7	9.4812E-02	7.2	1.1896E-01	6.5	1.0893E-01	2.7	7.6836E+00	5.0	7.1930E+00	29.9	9.4812E-02	7.2	0.0167	0.0118	7.0726E+00	30.6	8.2208E-02	14.0	1.7	852.5	189.9	1250.5	274.7	

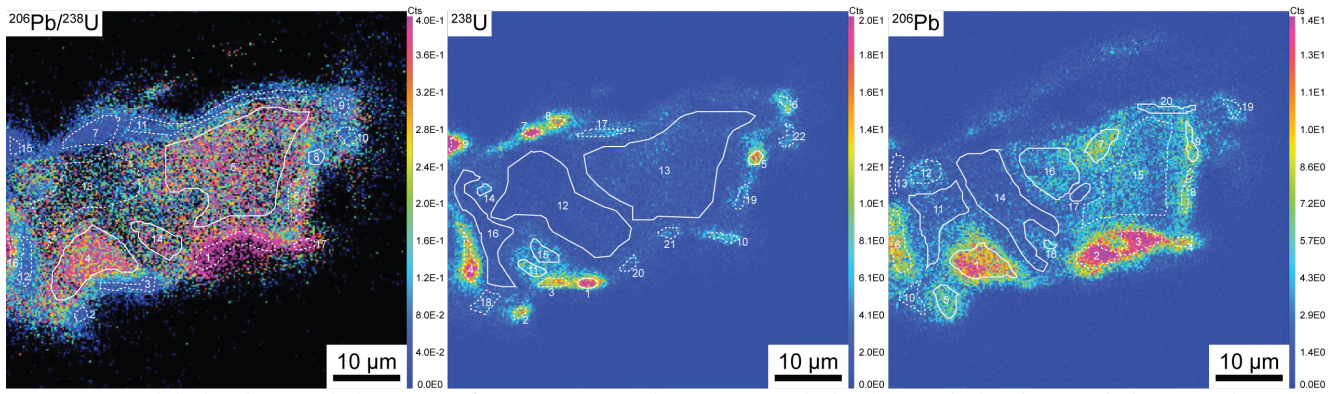
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors.

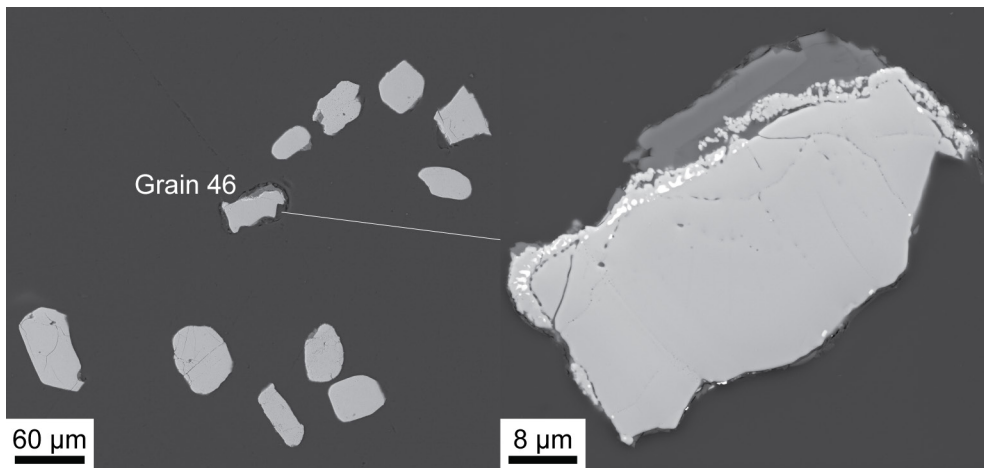
Corrected ratios³ Values corrected for common Pb where ²⁰⁴Pb exceeds detection limit.

²⁰⁶Pb [%]⁴ Percentage of common Pb in measured ²⁰⁶Pb, calculated from the ²⁰⁴Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 68 grain 46



Ion imaging. Solid white lines mark the regions of interests (RIOs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 427.0 μm. Right) HV = 15 kV, WD = 9.04 mm, View Field = 58.7 μm; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [Pixel]	Measured ratios ²										Uncorrected ratios										Corrected ratios ³										Age [Ma]						
		²⁰⁶ Pb/ ²⁰⁹ Pb		²⁰⁷ Pb/ ²⁰⁹ Pb		²⁰⁶ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁸ U		²⁰⁶ Pb/ ²⁰⁹ Pb		²⁰⁷ Pb/ ²⁰⁹ Pb		²⁰⁶ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁸ U		²⁰⁶ Pb/ ²⁰⁹ Pb		²⁰⁷ Pb/ ²⁰⁹ Pb		²⁰⁶ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁸ U		²⁰⁶ Pb		²⁰⁷ Pb										
		±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ									
<i>²⁰⁶Pb/²³⁸U</i>																																						
4	1438	1.7977E-04	70.7	1.0948E-01	3.0	1.7249E-01	2.5	3.5302E-01	1.7	2.6472E+00	2.6	2.4449E+00	25.8	1.0948E-01	3.0	0.0034	0.0024	2.4367E+00	25.7	1.0703E-01	3.5	0.3	2216.7	396.0	1749.5	64.1												
5	4394	7.7708E-04	27.8	1.0598E-01	2.5	1.6749E-01	2.0	3.2434E-01	1.3	1.0909E+00	1.6	3.4225E+00	7.4	1.0598E-01	2.5	0.0145	0.0040	3.3727E+00	7.4	9.5223E-02	4.3	1.5	1673.9	102.1	1532.5	80.8												
8	80	0.0000E+00	0.0	9.4594E-02	16.1	1.3513E-01	13.8	7.6209E-02	5.7	8.2839E+00	9.8	1.4260E+01	15.0	9.4594E-02	16.1	0.0000	0.0000	1.4260E+01	15.0	9.4594E-02	16.1	0.0	436.9	55.3	1520.0	304.3												
14	463	7.8247E-04	100.0	1.1268E-01	8.8	1.4006E-01	8.0	3.5033E-01	4.9	8.1315E-01	5.4	2.7549E+00	23.3	1.1268E-01	8.8	0.0146	0.0146	2.7146E+00	23.3	1.0948E-01	14.7	1.5	2021.8	337.1	1689.7	271.5												
<i>²⁰⁷Pb</i>																																						
1	39	0.0000E+00	0.0	8.8524E-02	20.1	1.0164E-01	18.9	4.2299E-02	6.4	1.3631E+01	11.0	2.1150E+01	42.2	8.8524E-02	20.1	0.0000	0.0000	2.1150E+01	42.2	8.8524E-02	20.1	0.0	297.8	86.9	1393.9	385.2												
5	58	0.0000E+00	0.0	9.3749E-02	19.1	1.3437E-01	16.2	7.2412E-02	6.7	8.9654E+00	11.6	1.5337E+01	15.1	9.3749E-02	19.1	0.0000	0.0000	1.5337E+01	15.1	9.3749E-02	19.1	0.0	407.2	52.0	1503.1	360.8												
11	115	0.0000E+00	0.0	1.0123E-01	8.4	1.7456E-01	6.6	3.2366E-01	4.4	5.1769E+00	8.8	2.5985E+00	62.0	1.0123E-01	8.4	0.0000	0.0000	2.5985E+00	62.0	1.0123E-01	8.4	0.0	2098.9	725.0	1646.8	155.8												
12	3091	7.4549E-04	50.0	1.0353E-01	4.4	1.5837E-01	3.7	2.8322E-01	2.2	7.7413E-01	2.4	3.1291E+00	21.6	1.0353E-01	4.4	0.0139	0.0070	3.0856E+00	21.4	9.3208E-02	7.6	1.4	1809.6	284.1	1492.1	143.6												
13	4702	7.5022E-04	27.8	1.0682E-01	2.5	1.6696E-01	2.0	3.1833E-01	1.3	1.1147E+00	1.5	3.4684E+00	8.4	1.0682E-01	2.5	0.0140	0.0039	3.4198E+00	8.4	9.6450E-02	4.1	1.4	1653.6	114.2	1556.5	77.4												
14	43	0.0000E+00	0.0	1.2150E-01	29.4	6.5421E-02	39.0	1.0056E-01	12.3	4.3169E+00	17.3	9.6974E+00	85.0	1.2150E-01	29.4	0.0000	0.0000	9.6974E+00	85.0	1.2150E-01	29.4	0.0	632.7	282.9	1978.3	523.0												
15	161	0.0000E+00	0.0	1.2032E-01	7.6	1.7082E-01	6.5	3.6400E-01	4.5	2.9090E+00	7.3	2.7248E+00	39.8	1.2032E-01	7.6	0.0000	0.0000	2.7248E+00	39.8	1.2032E-01	7.6	0.0	2015.3	512.5	1961.0	136.0												
<i>²⁰⁶Pb</i>																																						
1	611	0.0000E+00	0.0	1.0966E-01	3.9	1.6634E-01	3.2	3.1572E-01	2.1	3.8783E+00	3.7	2.5759E+00	30.3	1.0966E-01	3.9	0.0000	0.0000	2.5759E+00	30.3	1.0966E-01	3.9	0.0	2114.5	433.0	1793.8	70.5												
5	231	7.8615E-04	100.0	1.2500E-01	8.4	1.8003E-01	7.2	2.2438E-01	4.3	3.3204E+00	6.8	4.1975E+00	71.3	1.2500E-01	8.4	0.0147	0.0147	4.1358E+00	70.6	1.1440E-01	13.4	1.5	1396.0	541.4	1870.4	240.8												
7	271	6.1311E-04	100.0	1.1159E-01	7.8	1.6861E-01	6.5	3.4918E-01	4.4	1.7229E+00	5.9	3.2741E+00	15.2	1.1159E-01	7.8	0.0115	0.0115	3.2366E+00	15.5	1.0319E-01	11.9	1.1	1735.6	208.0	1682.2	220.5												
9	118	0.0000E+00	0.0	1.0444E-01	12.3	1.9742E-01	9.3	1.2692E-01	5.0	4.4257E+00	7.7	8.1843E+00	9.2	1.0444E-01	12.3	0.0000	0.0000	8.1843E+00	9.2	1.0444E-01	12.3	0.0	743.1	59.5	1704.4	226.5												
11	930	9.9949E-04	70.8	1.0945E-01	7.1	1.8491E-01	5.7	2.8820E-01	3.7	1.2977E+00	4.5	2.9283E+00	29.1	1.0945E-01	7.1	0.0187	0.0132	2.8735E+00	28.8	9.5612E-02	13.5	1.9	1925.1	383.6	1540.2	253.7												
14	1906	1.0359E-03	57.8	1.0774E-01	6.0	1.6609E-01	4.9	2.6239E-01	3.0	7.6885E-01	3.1	3.3405E+00	25.7	1.0774E-01	6.0	0.0194	0.0112	3.2758E+00	25.5	9.3354E-02	11.6	1.9	1717.4	313.4	1495.1	219.7												
16	944	6.3219E-04	70.7	9.7531E-02	5.9	1.5474E-01	4.8	2.8749E-01	2.9	1.1144E+00	3.4	3.3206E+00	23.1	9.7531E-02	5.9	0.0117	0.0083	3.2818E+00	23.0	8.8798E-02	9.7	1.2	1714.6	287.8	1399.8	186.0												
17	91	0.0000E+00	0.0	1.2209E-01	23.1	1.6279E-01	20.4	2.3453E-01	11.8	1.1845E+00	13.4	4.7791E+00	22.3	1.2209E-01	23.1	0.0000	0.0000	4.7791E+00	22.3	1.2209E-01	23.1	0.0	1224.8	207.0	1987.0	411.3												
18	30	0.0000E+00	0.0	8.2645E-02	32.9	8.2645E-02	32.9	3.5945E-01	16.2	1.3333E+00	20.4	3.2630E+00	52.6	8.2645E-02	32.9	0.0000	0.0000	3.2630E+00	52.6	8.2645E-02	32.9	0.0	1723.3	543.3	1260.8	642.9												
20	160	0.0000E+00	0.0	1.2348E-01	13.6	2.4899E-01	10.1	3.4675E-01	7.9	9.3674E-01	9.0	3.3576E+00	15.8	1.2348E-01	13.6	0.0000	0.0000	3.3576E+00	15.8	1.2348E-01	13.6	0.0	1680.5	205.6	2007.1	240.9												

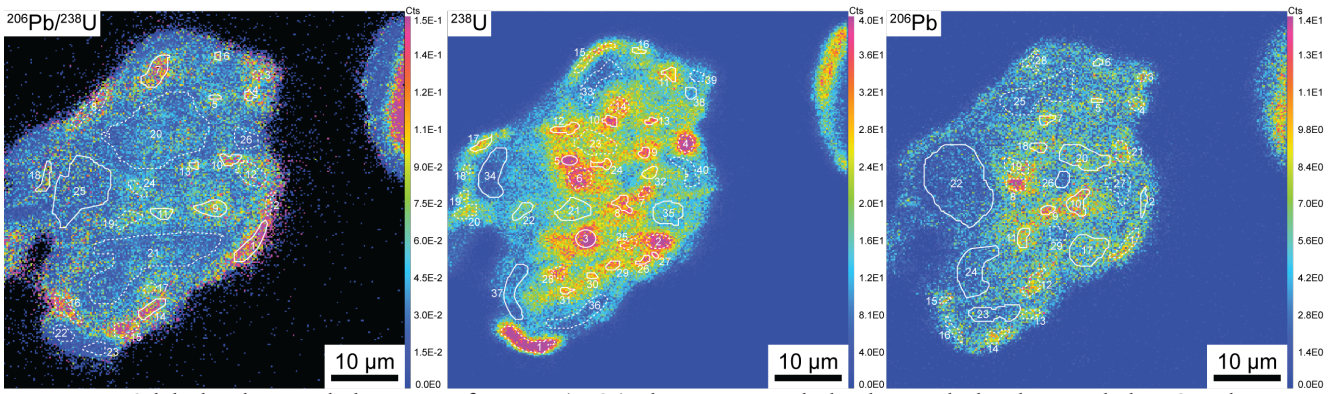
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors.

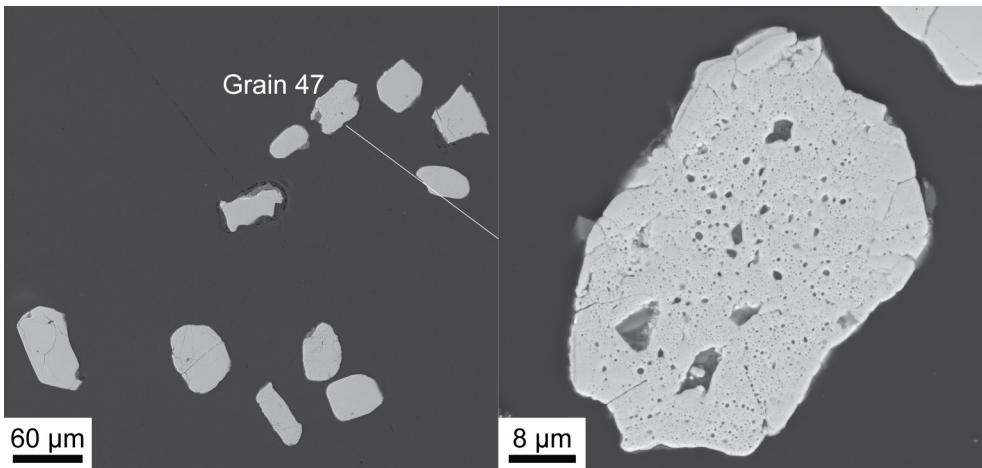
Corrected ratios³ Values corrected for common Pb where ²⁰⁶Pb exceeds detection limit.

²⁰⁶Pb [%]⁴ Percentage of common Pb in measured ²⁰⁶Pb, calculated from the ²⁰⁶Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 69 grain 47



Ion imaging. Solid white lines mark the regions of interests (RIOs) where an age is calculated. Dotted white lines mark the RIOs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 427.0 µm. Right) HV = 15 kV, WD = 9.04 mm, View Field = 59.7 µm; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [pix-cel]	Measured ratios ²										Uncorrected ratios										Corrected ratios ³										Age [Ma]			
		²⁰⁶ Pb/ ²⁰⁶ Pb	±σ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	±σ [%]	²⁰⁶ Pb/ ²³⁸ U	±σ [%]	²⁰⁷ Pb/ ²³⁸ U	±σ [%]	²³⁸ U/ ²³⁵ U	±σ [%]	²⁰⁶ Pb/ ²⁰⁹ Pb	±σ [%]	²⁰⁷ Pb/ ²⁰⁹ Pb	±σ [%]	²⁰⁶ Pb/ ²⁰⁹ Pb	±σ [%]	²⁰⁶ Pb/ ²⁰⁹ Pb	±σ [%]	²⁰⁷ Pb/ ²⁰⁹ Pb	±σ [%]	²⁰⁶ Pb/ ²⁰⁹ Pb	±σ [%]	²⁰⁷ Pb/ ²⁰⁹ Pb	±σ [%]	²⁰⁶ Pb/ ²⁰⁹ Pb	±σ [%]	²⁰⁷ Pb/ ²⁰⁹ Pb	±σ [%]	²³⁸ U/ ²⁰⁶ Pb	±σ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	±σ [%]	²³⁸ U/ ²⁰⁶ Pb	±σ [%]
35	243	7.588E-04	100.0	7.5586E-02	10.4	4.6863E-02	13.0	5.9027E-02	3.2	7.1609E+00	4.7	1.7787E+01	17.0	7.5586E-02	10.4	0.0141	0.0141	1.7536E+01	30.6	6.4687E-02	21.3	1.4	357.5	81.9	764.2	447.9									
37	295	1.020E-03	100.1	1.1837E-01	9.8	1.1837E-01	9.8	6.4686E-02	3.8	8.4326E+00	6.1	1.1623E+01	63.5	1.1837E-01	9.8	0.0191	0.0191	1.1402E+01	66.3	1.0441E-01	17.9	1.9	542.0	210.7	1704.0	330.4									
38	45	0.0000E+00	0.0	1.0480E-01	21.5	1.3974E-01	18.9	6.9251E-02	7.9	6.6279E+00	11.8	1.6532E+01	22.4	1.0480E-01	21.5	0.0000	0.0000	1.6532E+01	22.4	1.0480E-01	21.5	0.0	378.6	67.7	1710.9	394.8									
2	53	0.0000E+00	0.0	1.1154E-01	19.6	9.2308E-02	21.3	6.1774E-02	7.3	8.1408E+00	11.4	1.9248E+01	26.9	1.1154E-01	19.6	0.0000	0.0000	1.9248E+01	26.9	1.1154E-01	19.6	0.0	336.5	67.8	1824.6	355.1									
5	16	0.0000E+00	0.0	1.1017E-01	29.2	1.6949E-02	71.3	8.1092E-02	11.2	8.6456E+00	20.0	1.2324E+01	35.2	1.1017E-01	29.2	0.0000	0.0000	1.2324E+01	35.2	1.1017E-01	29.2	0.0	502.9	127.1	1802.2	531.5									
6	21	0.0000E+00	0.0	8.2645E-02	32.9	4.9587E-02	41.8	6.0985E-02	10.6	1.3753E+01	21.1	1.6470E+01	34.5	8.2645E-02	32.9	0.0000	0.0000	1.6470E+01	34.5	8.2645E-02	32.9	0.0	380.0	95.3	1260.8	642.9									
7	47	0.0000E+00	0.0	7.6293E-02	19.6	6.2669E-02	19.6	3.9212E-02	5.8	1.9960E+01	11.6	2.2362E+01	29.9	7.6293E-02	19.6	0.0000	0.0000	2.2362E+01	29.9	7.6293E-02	19.6	0.0	282.0	63.8	1102.8	392.1									
9	40	0.0000E+00	0.0	1.0024E-01	16.2	6.9211E-02	19.2	6.1925E-02	5.7	1.5209E+01	12.0	2.1718E+01	89.8	1.0024E-01	16.2	0.0000	0.0000	2.1718E+01	89.8	1.0024E-01	16.2	0.0	290.2	135.7	1628.5	301.0									
10	152	7.7759E-04	100.0	7.3872E-02	10.6	4.2768E-02	13.8	5.1390E-02	3.2	1.2929E+01	5.8	2.2206E+01	31.0	7.3872E-02	10.6	0.0145	0.0145	2.1883E+01	44.8	6.2630E-02	22.4	1.5	288.1	87.7	695.7	478.3									
11	80	0.0000E+00	0.0	7.3529E-02	15.4	4.5751E-02	19.3	2.9342E-02	4.4	2.7981E+01	9.1	3.6292E+01	44.8	7.3529E-02	15.4	0.0000	0.0000	3.6292E+01	44.8	7.3529E-02	15.4	0.0	175.2	53.7	1028.6	312.4									
17	385	9.8861E-04	70.8	8.5022E-02	7.9	6.1789E-02	9.2	2.7191E-02	2.4	1.7399E+01	3.8	3.6646E+01	15.3	8.5022E-02	7.9	0.0185	0.0131	3.5969E+01	51.1	7.0881E-02	17.6	1.8	176.8	59.2	954.0	359.4									
18	52	0.0000E+00	0.0	5.1282E-02	24.2	5.9829E-02	22.5	4.4117E-02	6.0	1.4871E+01	10.9	1.9636E+01	44.3	5.1282E-02	24.2	0.0000	0.0000	1.9636E+01	44.3	5.1282E-02	24.2	0.0	320.2	96.6	253.5	555.9									
20	367	5.2246E-04	100.0	7.6802E-02	8.6	6.5308E-02	9.2	3.8106E-02	2.5	1.2622E+01	4.0	2.7970E+01	18.2	7.6802E-02	8.6	0.0098	0.0098	2.7697E+01	33.0	6.9314E-02	14.6	1.0	228.6	56.0	908.1	300.8									
22	1710	8.6654E-04	57.8	7.6257E-02	6.4	5.8348E-02	7.2	2.9889E-02	1.9	1.1649E+01	2.6	2.9323E+01	16.2	7.6257E-02	6.4	0.0162	0.0094	2.8848E+01	32.1	6.3747E-02	14.0	1.6	219.7	52.7	733.2	297.5									
23	275	0.0000E+00	0.0	8.8165E-02	12.2	8.2126E-02	12.6	3.8114E-02	3.8	9.0118E+00	5.3	2.5606E+01	35.6	8.8165E-02	12.2	0.0000	0.0000	2.5606E+01	35.6	8.8165E-02	12.2	0.0	247.0	64.0	1386.1	234.5									
24	557	0.0000E+00	0.0	7.5950E-02	9.7	5.3298E-02	11.5	2.8672E-02	2.8	1.3095E+01	4.0	3.2146E+01	33.2	7.5950E-02	9.7	0.0000	0.0000	3.2146E+01	33.2	7.5950E-02	9.7	0.0	197.5	48.7	1093.7	194.6									
26	77	0.0000E+00	0.0	9.2897E-02	25.4	6.5574E-02	29.8	2.9404E-02	8.0	1.7768E+01	13.4	3.3504E+01	28.7	9.2897E-02	25.4	0.0000	0.0000	3.3504E+01	28.7	9.2897E-02	25.4	0.0	189.6	41.7	1485.8	480.4									

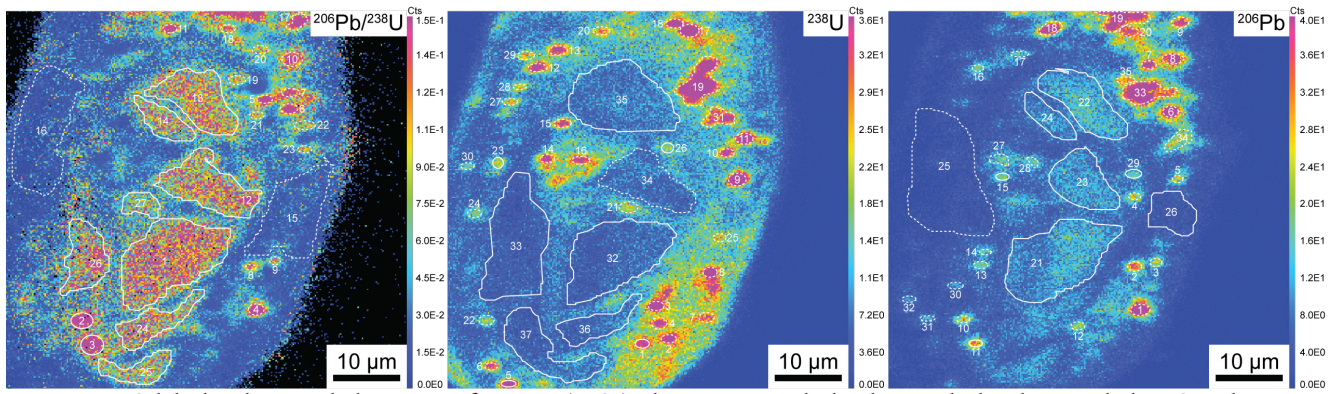
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors.

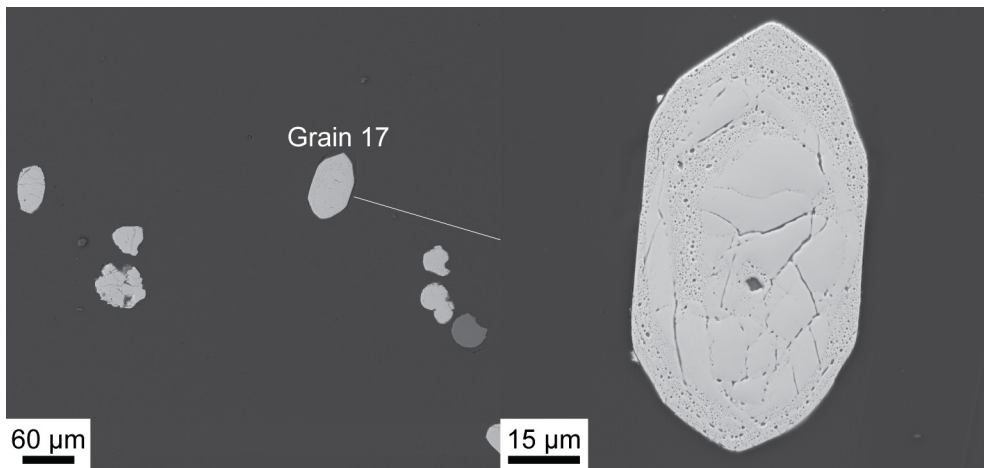
Corrected ratios³ Values corrected for common Pb where ²⁰⁶Pb exceeds detection limit.

²⁰⁶Pb [%]⁴ Percentage of common Pb in measured ²⁰⁶Pb, calculated from the ²⁰⁶Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 70 grain 17



Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.

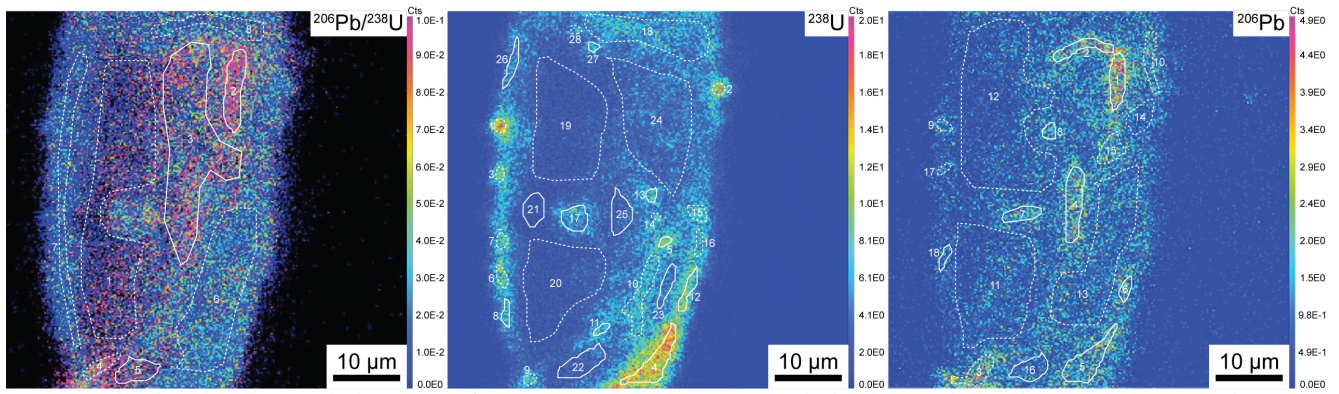


BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 583.0 μm . Right) HV = 15 kV, WD = 9.04 mm, View Field = 104.0 μm ; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

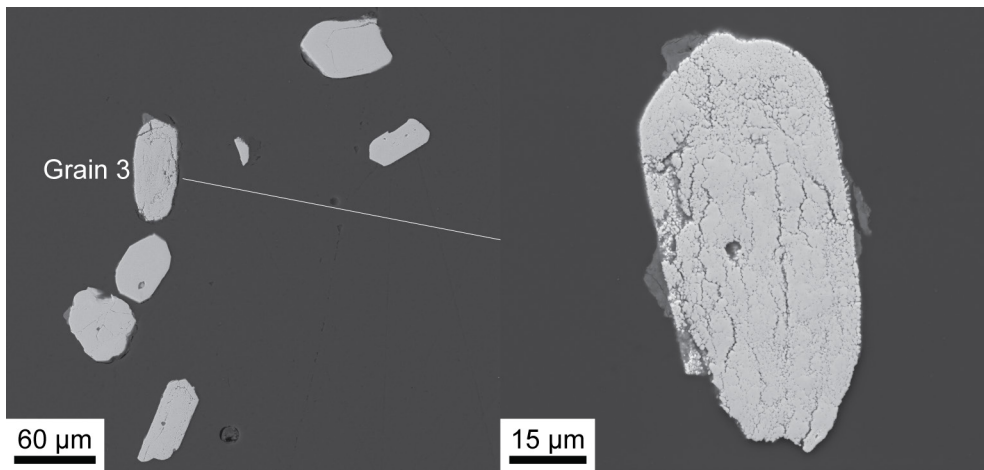
Area ID ¹	Area size [Pix-cel]	Measured ratios ²						Uncorrected ratios						Corrected ratios ³						Age [Ma]				
		²⁰⁶ Pb/ ²⁰⁸ Pb	²⁰⁷ Pb/ ²⁰⁸ Pb	²⁰⁶ Pb/ ²³⁸ U	²³⁵ U/ ²³⁸ U	²³⁵ U/ ²⁰⁷ Pb	²⁰⁶ Pb/ ²³⁸ U	²³⁵ U/ ²⁰⁶ Pb	²³⁸ U/ ²⁰⁶ Pb	²⁰⁷ Pb/ ²⁰⁶ Pb	²⁰⁷ Pb/ ²³⁸ U	²⁰⁶ Pb [%] ⁴	²⁰⁷ Pb [%]	²³⁵ U [%]	²³⁸ U [%]	²⁰⁶ Pb [%]	²⁰⁷ Pb [%]	²³⁵ U [%]	²³⁸ U [%]	²⁰⁶ Pb ± 1σ	²⁰⁷ Pb ± 1σ			
		±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ	±σ			
<i>²⁰⁶Pb/²³⁸U</i>																								
1	2609	2.7014E-04	37.8	1.1049E-01	2.0	1.5460E-01	1.7	3.0667E-01	1.0	3.0450E+00	1.0	1.1049E-01	2.0	0.0051	0.0019	3.0978E+00	14.4	1.0681E-01	2.4	0.5	1803.4	200.5	1745.6	44.6
2	84	0.0000E+00	0.0	1.3325E-01	7.1	7.4358E-02	9.3	6.3699E-01	5.4	3.2521E+00	9.8	1.3325E-01	7.1	0.0000	0.0000	1.5216E+00	56.1	1.3325E-01	7.1	0.0	3256.2	991.1	2141.2	124.3
3	124	7.6389E-04	70.7	1.1803E-01	6.0	7.1807E-02	7.6	6.2039E-01	4.3	3.8364E+00	8.3	1.1803E-01	6.0	0.0143	0.0101	1.4899E+00	30.4	1.0762E-01	9.7	1.4	3310.5	633.1	1759.6	177.6
12	1518	9.1692E-04	26.7	1.1252E-01	2.5	1.0676E-01	2.6	2.5708E-01	1.3	3.5888E+00	2.2	1.1252E-01	2.5	0.0171	0.0046	4.0679E+00	14.0	9.9904E-02	4.5	1.7	1416.9	158.0	1622.3	84.6
13	1388	2.4973E-04	50.0	1.1182E-01	2.5	5.3816E-02	3.5	2.5669E-01	1.3	4.7946E+00	2.4	1.1182E-01	2.5	0.0047	0.0023	4.1156E+00	11.1	1.0842E-01	3.0	0.5	1402.2	127.2	1773.0	55.2
14	562	2.1454E-04	100.0	1.0770E-01	4.7	5.9643E-02	6.2	2.0825E-01	2.2	4.7613E+00	3.9	1.0770E-01	4.7	0.0040	0.0028	4.4364E+00	23.0	1.0477E-01	5.6	0.4	1310.4	225.3	1710.3	103.3
24	769	1.5188E-04	100.0	1.1239E-01	3.9	1.6373E-01	3.3	2.3507E-01	1.9	3.8254E+00	3.2	1.1239E-01	3.9	0.0028	0.0028	3.9507E+00	24.2	1.1033E-01	4.4	0.3	1454.5	259.2	1804.9	79.8
25	564	0.0000E+00	0.0	1.0807E-01	4.4	5.3658E-02	6.1	2.0117E-01	2.0	5.3948E+00	3.8	1.0807E-01	4.4	0.0000	0.0000	4.3719E+00	14.3	1.0807E-01	4.4	0.0	1327.9	152.4	1767.1	80.2
26	962	4.9276E-04	57.8	1.1301E-01	4.0	4.4842E-02	6.2	2.5900E-01	2.0	4.1117E+00	3.6	1.1301E-01	4.0	0.0092	0.0053	3.2389E+00	28.6	1.0623E-01	5.7	0.9	1734.5	347.0	1736.7	104.5
27	301	0.0000E+00	0.0	1.0979E-01	5.9	1.2780E-01	5.5	1.6862E-01	2.6	4.8213E+00	4.5	1.0979E-01	5.9	0.0000	0.0000	5.3274E+00	21.7	1.0979E-01	5.9	0.0	1108.9	184.6	1795.9	106.7
<i>²⁰⁷Pb</i>																								
1	20	0.0000E+00	0.0	1.1780E-01	15.8	7.5914E-02	19.3	4.5429E-02	5.8	2.1195E+01	12.6	1.1780E-01	15.8	0.0000	0.0000	2.3268E+01	38.4	1.1780E-01	15.8	0.0	271.3	74.1	1923.1	282.5
5	20	0.0000E+00	0.0	7.9617E-02	20.8	7.6432E-02	21.2	2.6940E-02	6.1	8.4306E+01	21.0	7.9617E-02	20.8	0.0000	0.0000	4.7171E+01	85.9	7.9617E-02	20.8	0.0	135.2	62.1	1187.5	410.4
23	20	0.0000E+00	0.0	8.2759E-02	30.0	9.6552E-02	28.0	3.4106E-02	9.1	3.5363E+01	22.7	8.2759E-02	30.0	0.0000	0.0000	1.2177E+01	94.4	8.2759E-02	30.0	0.0	508.8	242.1	1263.5	586.8
26	22	0.0000E+00	0.0	1.0256E-01	21.4	1.0684E-01	21.0	5.9145E-02	7.6	7.3130E+00	11.2	1.0256E-01	21.4	0.0000	0.0000	1.8304E+01	35.3	1.0256E-01	21.4	0.0	342.9	87.7	1671.0	396.2
32	2488	8.1613E-05	70.7	1.1104E-01	2.0	1.5368E-01	1.8	3.2101E-01	1.1	2.9267E+00	1.8	1.1104E-01	2.0	0.0015	0.0011	2.9858E+00	15.0	1.0993E-01	2.2	0.2	1862.2	214.3	1798.2	39.4
33	2491	4.8533E-04	44.7	1.1153E-01	3.1	4.7563E-02	4.6	1.6872E-01	1.4	5.0111E+00	2.4	1.1153E-01	3.1	0.0091	0.0041	5.0772E+00	16.2	1.0490E-01	4.4	0.9	1159.0	149.4	1712.5	81.1
35	2446	4.2234E-04	31.6	1.1057E-01	2.1	5.4524E-02	2.9	2.2532E-01	1.0	4.9423E+00	1.8	1.1057E-01	2.1	0.0079	0.0025	4.4908E+00	12.8	1.0480E-01	2.8	0.8	1296.0	134.2	1710.7	51.8
36	715	3.1765E-04	70.7	1.1309E-01	4.0	1.6280E-01	3.4	2.4159E-01	2.0	3.7995E+00	3.3	1.1309E-01	4.0	0.0059	0.0042	3.9138E+00	25.4	1.0877E-01	5.0	0.6	1466.8	271.0	1778.9	91.5
37	1301	4.9442E-04	40.8	1.1454E-01	2.8	5.9249E-02	3.8	2.7400E-01	1.5	4.7169E+00	2.8	1.1454E-01	2.8	0.0092	0.0038	3.0036E+00	20.2	1.0781E-01	4.0	0.9	1852.6	276.6	1762.8	73.0
<i>²⁰⁸Pb</i>																								
11	17	0.0000E+00	0.0	1.1588E-01	10.1	9.1192E-02	11.3	1.1286E-01	9.1	3.3098E+00	9.1	1.1588E-01	10.1	0.0000	0.0000	1.3029E+00	83.2	1.1588E-01	10.1	0.0	3671.7	1415.8	1889.0	182.1
15	17	0.0000E+00	0.0	1.0439E-01	13.9	1.7215E-01	11.2	1.0834E-01	5.5	2.2064E+01	16.6	1.0439E-01	13.9	0.0000	0.0000	6.0219E+00	68.2	1.0439E-01	13.9	0.0	990.4	383.4	1703.6	256.3
21	2600	1.5321E-04	50.0	1.1058E-01	2.0	1.5475E-01	1.7	3.0801E-01	1.0	3.0639E+00	1.7	1.1058E-01	2.0	0.0029	0.0014	3.1285E+00	14.3	1.0850E-01	2.2	0.3	1788.0	198.0	1774.3	40.6
22	1370	2.5245E-04	50.0	1.1127E-01	2.5	5.3457E-02	3.5	2.6099E-01	1.3	4.7437E+00	2.4	1.1127E-01	2.5	0.0047	0.0024	4.0394E+00	10.8	1.0763E-01	3.1	0.5	1425.9	125.4	1763.1	55.9
23	1168	7.6593E-04	33.3	1.1166E-01	2.9	1.0732E-01	3.0	2.4303E-01	1.5	3.8798E+00	2.5	1.1166E-01	2.9	0.0143	0.0048	4.2446E+00	16.8	1.0114E-01	4.8	1.4	1363.7	178.9	1645.1	89.7
24	501	4.6947E-04	70.7	1.0892E-01	4.9	5.8215E-02	6.5	2.1816E-01	2.3	4.7770E+00	4.2	1.0892E-01	4.9	0.0088	0.0062	4.1938E+00	21.9	1.0248E-01	6.9	0.9	1378.6	227.4	1669.5	128.0
26	671	0.0000E+00	0.0	1.1408E-01	6.7	8.9236E-02	7.5	4.5561E-02	2.4	9.4045E+00	3.6	1.1408E-01	6.7	0.0000	0.0000	2.4212E+01	9.3	1.1408E-01	6.7	0.0	260.9	21.7	1865.3	120.9
29	24	0.0000E+00	0.0	1.3333E-01	11.9	9.6664E-02	13.8	2.5922E-01	6.5	4.5841E+00	12.0	1.3333E-01	11.9	0.0000	0.0000	4.9275E+00	37.7	1.3333E-01	11.9	0.0	1191.1	304.9	2142.3	208.0

Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above. Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors. Corrected ratios³ Values corrected for common Pb where ²⁰⁶Pb exceeds detection limit. ²⁰⁶Pb [%]⁴ Percentage of common Pb in measured ²⁰⁶Pb, calculated from the ²⁰⁶Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 71 grain 3



Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 369.0 µm. Right) HV = 15 kV, WD = 9.04 mm, View Field = 97.2 µm; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [Pix-cel]	Measured ratios ²						Uncorrected ratios						Corrected ratios ³						Age [Ma]						
		²⁰⁶ Pb/ ²⁰⁴ Pb	±σ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	±σ [%]	²⁰⁶ Pb/ ²³⁸ U	±σ [%]	²³⁸ U/ ²⁰⁶ Pb	±σ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	±σ [%]	²⁰⁶ Pb/ ²³⁸ U	±σ [%]	²³⁸ U/ ²⁰⁶ Pb	±σ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	±σ [%]	²⁰⁶ Pb [%] ⁴	±σ [%]	²³⁸ U/ ²⁰⁶ Pb	±σ [%]					
²⁰⁶Pb/²³⁸U																										
2	538	8.0710E-04	100.0	1.0008E-01	9.4	2.0988E-01	6.8	1.0553E-01	3.6	2.5104E+00	4.2	1.0197E+01	9.3	1.0008E-01	9.4	0.0151	0.0151	1.0043E+01	18.1	8.8008E-02	17.0	1.5	603.1	49.0	1625.6	175.2
3	3863	4.7858E-04	70.7	1.0984E-01	4.9	2.2182E-01	3.6	5.8743E-02	1.8	1.8240E+00	1.5	1.7547E+01	14.0	1.0984E-01	4.9	0.0090	0.0063	1.7390E+01	17.8	1.0328E-01	7.0	0.9	357.3	42.7	1796.7	89.5
5	323	0.0000E+00	0.0	1.1930E-01	18.1	1.7895E-01	15.2	6.5755E-02	7.0	1.8924E+00	6.3	1.2703E+01	23.1	1.1930E-01	18.1	0.0000	0.0000	1.2703E+01	23.1	1.1930E-01	18.1	0.0	488.5	89.0	1945.7	324.3
²³⁸U																										
4	439	0.0000E+00	0.0	6.0030E-02	16.1	1.2152E-01	11.6	1.9953E-02	4.1	7.4240E+00	3.8	5.0243E+01	11.5	6.0030E-02	16.1	0.0000	0.0000	5.0243E+01	11.5	6.0030E-02	16.1	0.0	127.0	13.0	604.6	347.9
5	34	0.0000E+00	0.0	9.3751E-02	60.4	3.1250E-01	36.2	1.7509E-02	18.6	4.5375E+00	13.5	7.0824E+01	42.3	9.3751E-02	60.4	0.0000	0.0000	7.0824E+01	42.3	9.3751E-02	60.4	0.0	90.4	26.7	1503.1	1141.1
8	66	0.0000E+00	0.0	1.4286E-01	61.7	5.2382E-01	37.2	9.4153E-03	22.4	8.0661E+00	15.6	9.6493E+01	91.4	1.4286E-01	61.7	0.0000	0.0000	9.6493E+01	91.4	1.4286E-01	61.7	0.0	66.5	31.7	2262.1	1064.8
11	47	0.0000E+00	0.0	5.3572E-02	59.3	3.9286E-01	25.2	3.3386E-02	14.6	3.0663E+00	12.1	2.6855E+01	56.7	5.3572E-02	59.3	0.0000	0.0000	2.6855E+01	56.7	5.3572E-02	59.3	0.0	235.7	84.3	353.1	1338.8
12	137	0.0000E+00	0.0	8.0645E-02	26.8	1.0215E-01	24.1	2.5096E-02	7.9	5.2810E+00	7.2	3.9471E+01	20.9	8.0645E-02	26.8	0.0000	0.0000	3.9471E+01	20.9	8.0645E-02	26.8	0.0	161.3	27.6	1212.8	528.1
13	46	0.0000E+00	0.0	2.4529E-01	31.0	3.7736E-01	26.2	3.0296E-02	14.9	4.0418E+00	13.2	4.3283E+01	32.8	2.4529E-01	31.0	0.0000	0.0000	4.3283E+01	32.8	2.4529E-01	31.0	0.0	147.2	36.1	3154.6	491.2
17	242	0.0000E+00	0.0	1.2500E-01	18.8	2.1875E-01	14.8	3.6179E-02	6.9	1.7942E+00	4.9	2.3244E+01	41.2	1.2500E-01	18.8	0.0000	0.0000	2.3244E+01	41.2	1.2500E-01	18.8	0.0	271.5	78.1	2028.8	332.0
21	234	0.0000E+00	0.0	1.0714E-01	35.1	1.3095E-01	32.1	4.7692E-02	12.4	1.7134E+00	9.6	1.9174E+01	35.6	1.0714E-01	35.1	0.0000	0.0000	1.9174E+01	35.6	1.0714E-01	35.1	0.0	327.7	84.4	1751.4	641.9
22	369	0.0000E+00	0.0	1.3937E-01	16.9	1.9513E-01	14.6	5.0255E-02	6.7	1.9270E+00	5.6	1.7151E+01	18.6	1.3937E-01	16.9	0.0000	0.0000	1.7151E+01	18.6	1.3937E-01	16.9	0.0	365.3	55.9	2219.4	292.6
23	150	0.0000E+00	0.0	1.0257E-01	30.3	1.9659E-01	22.8	3.2820E-02	10.1	2.4009E+00	7.6	3.5723E+01	19.9	1.0257E-01	30.3	0.0000	0.0000	3.5723E+01	19.9	1.0257E-01	30.3	0.0	178.0	29.2	1671.1	560.4
25	292	0.0000E+00	0.0	9.1176E-02	18.8	2.0294E-01	13.2	7.3168E-02	6.5	1.4210E+00	5.6	1.3193E+01	27.3	9.1176E-02	18.8	0.0000	0.0000	1.3193E+01	27.3	9.1176E-02	18.8	0.0	471.0	98.1	1450.3	357.1
26	146	0.0000E+00	0.0	1.3637E-01	43.5	2.0455E-01	36.6	1.2384E-02	15.6	5.9701E+00	10.9	9.1078E+01	29.9	1.3637E-01	43.5	0.0000	0.0000	9.1078E+01	29.9	1.3637E-01	43.5	0.0	70.4	16.1	2181.5	757.4
27	34	0.0000E+00	0.0	1.4286E-01	61.7	1.4286E-01	61.7	1.8482E-02	23.0	5.3999E+00	18.4	5.7803E+01	57.5	1.4286E-01	61.7	0.0000	0.0000	5.7803E+01	57.5	1.4286E-01	61.7	0.0	110.6	40.2	2262.1	1064.8
²⁰⁶Pb																										
1	300	0.0000E+00	0.0	1.2300E-01	10.6	2.1894E-01	8.3	1.1915E-01	4.6	2.6397E+00	5.7	9.1816E+00	10.9	1.2300E-01	10.6	0.0000	0.0000	9.1816E+00	10.9	1.2300E-01	10.6	0.0	666.4	62.5	2000.2	188.3
2	236	0.0000E+00	0.0	1.0246E-01	14.9	2.2951E-01	10.5	7.8813E-02	5.5	3.4799E+00	6.6	1.3718E+01	13.8	1.0246E-01	14.9	0.0000	0.0000	1.3718E+01	13.8	1.0246E-01	14.9	0.0	453.6	53.2	1669.2	274.6
4	451	0.0000E+00	0.0	1.1851E-01	11.2	2.4101E-01	8.3	7.1143E-02	4.4	2.0348E+00	4.2	1.4834E+01	23.8	1.1851E-01	11.2	0.0000	0.0000	1.4834E+01	23.8	1.1851E-01	11.2	0.0	420.5	78.8	1933.9	200.7
5	479	0.0000E+00	0.0	5.6579E-02	15.7	1.2369E-01	10.9	2.1084E-02	3.8	7.1811E+00	3.7	4.7041E+01	12.9	5.6579E-02	15.7	0.0000	0.0000	4.7041E+01	12.9	5.6579E-02	15.7	0.0	135.6	15.3	475.2	346.8
6	84	0.0000E+00	0.0	5.5556E-02	38.8	9.5238E-02	30.2	3.0200E-02	9.7	4.8533E+00	9.2	3.9539E+01	29.2	5.5556E-02	38.8	0.0000	0.0000	3.9539E+01	29.2	5.5556E-02	38.8	0.0	161.0	36.0	454.6	864.8
7	184	0.0000E+00	0.0	1.0788E-01	20.6	2.0332E-01	15.7	4.4691E-02	7.3	1.9332E+00	5.7	1.8273E+01	34.9	1.0788E-01	20.6	0.0000	0.0000	1.8273E+01	34.9	1.0788E-01	20.6	0.0	343.5	87.0	1764.0	377.2
8	72	0.0000E+00	0.0	6.0000E-02	42.0	2.1000E-01	24.0	1.0206E-01	12.7	1.5672E+00	12.6	1.1338E+01	48.3	6.0000E-02	42.0	0.0000	0.0000	1.1338E+01	48.3	6.0000E-02	42.0	0.0	544.9	172.6	603.6	909.4
16	282	0.0000E+00	0.0	1.2315E-01	21.2	1.6749E-01	18.5	4.2316E-02	7.9	2.0462E+00	6.2	2.2079E+01	17.5	1.2315E-01	21.2	0.0000	0.0000	2.2079E+01	17.5	1.2315E-01	21.2	0.0	285.5	41.7	2002.4	376.5
18	68	0.0000E+00	0.0	1.1765E-01	43.2	4.9022E-01	24.4	1.7454E-02	14.7	6.9435E+00	12.8	3.3558E+01	95.7	1.1765E-01	43.2	0.0000	0.0000	3.3558E+01	95.7	1.1765E-01	43.2	0.0	189.3	91.9	1920.8	773.8

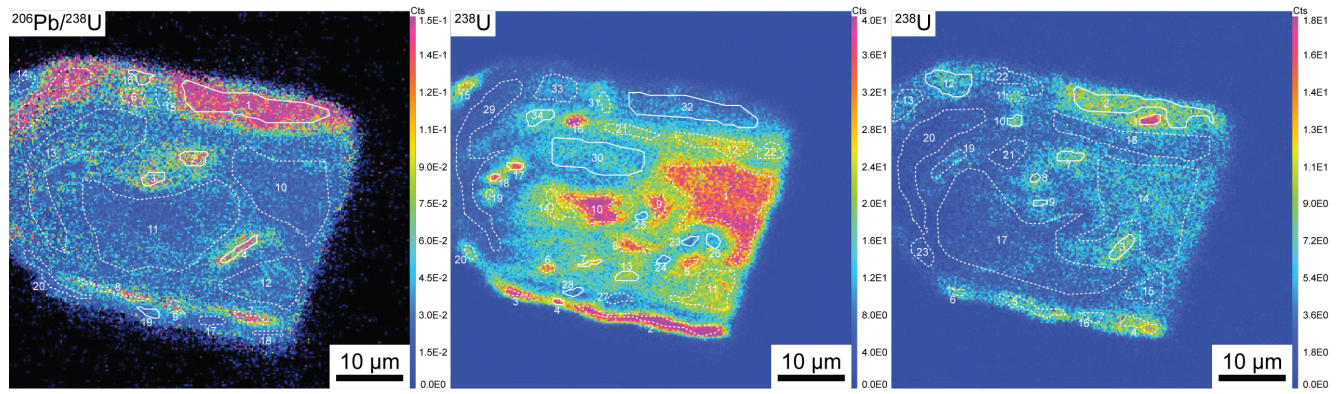
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors.

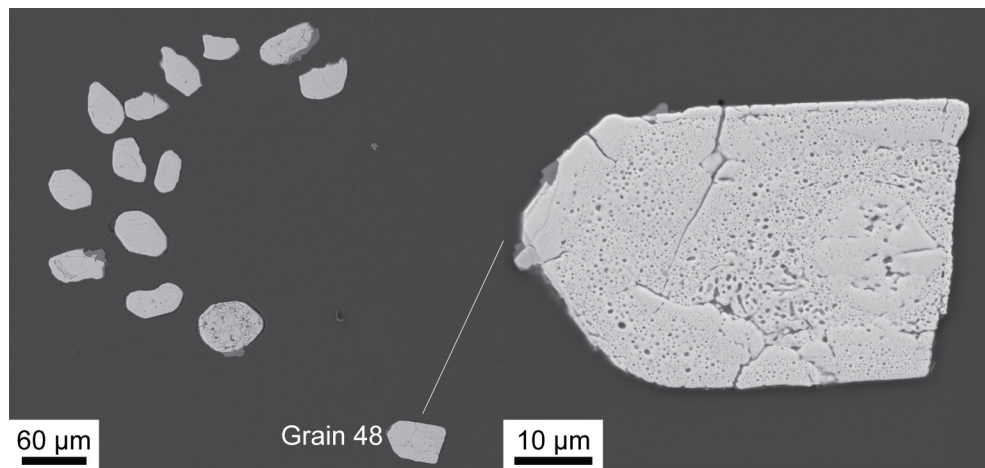
Corrected ratios³ Values corrected for common Pb where ²⁰⁴Pb exceeds detection limit.

²⁰⁶Pb [%]⁴ Percentage of common Pb in measured ²⁰⁶Pb, calculated from the ²⁰⁶Pb assuming present-day Stacy & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 72 grain 48

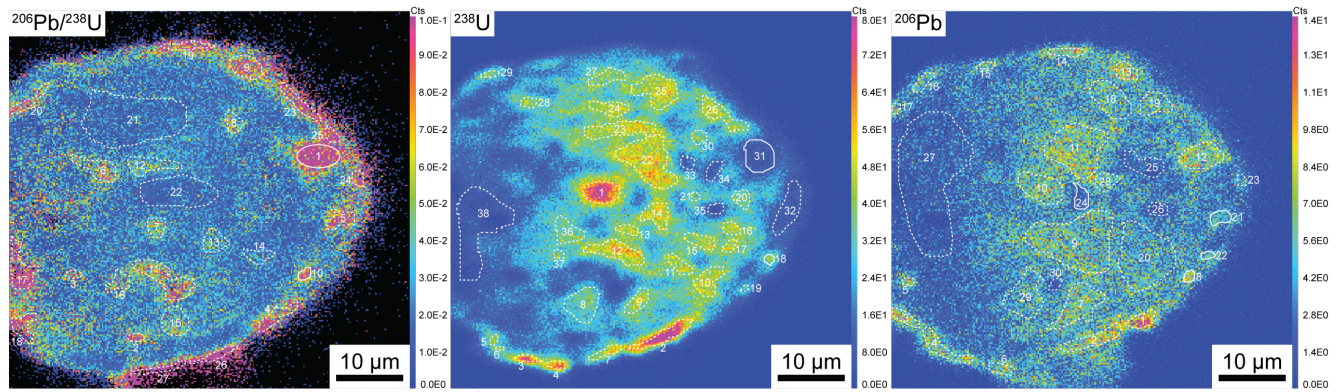


Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.

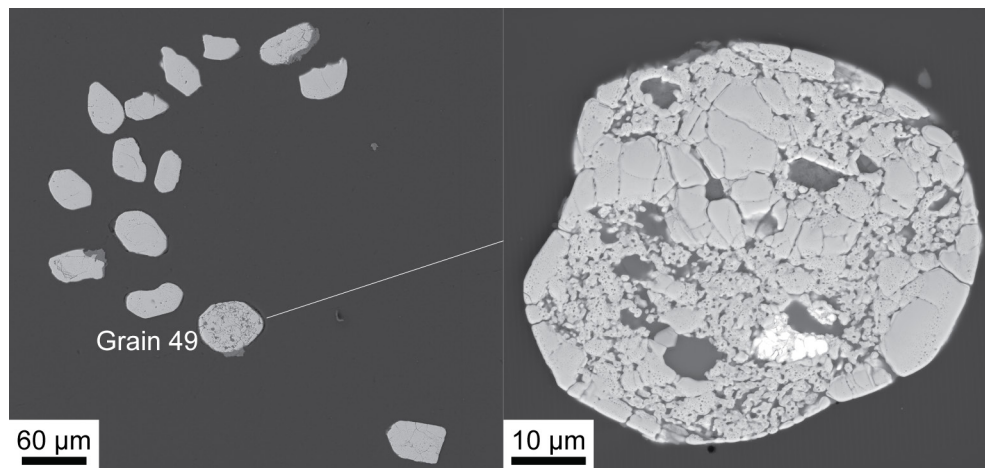


BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 464.0 µm. Right) HV = 15 kV, WD = 9.04 mm, View Field = 64.3 µm; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Ion image 73 grain 49



Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 464.0 µm. Right) HV = 15 kV, WD = 9.04 mm, View Field = 67.6 µm; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [Pixel]	Measured ratios ²										Uncorrected ratios										Corrected ratios ³										Age [Ma]																					
		$^{206}\text{Pb}/^{238}\text{U}$		$^{207}\text{Pb}/^{235}\text{U}$		$^{206}\text{Pb}/^{238}\text{U}$		$^{207}\text{Pb}/^{235}\text{U}$		$^{206}\text{Pb}/^{238}\text{U}$		$^{207}\text{Pb}/^{235}\text{U}$		$^{206}\text{Pb}/^{238}\text{U}$		$^{207}\text{Pb}/^{235}\text{U}$		$^{206}\text{Pb}/^{238}\text{U}$		$^{207}\text{Pb}/^{235}\text{U}$		$^{206}\text{Pb}/^{238}\text{U}$		$^{207}\text{Pb}/^{235}\text{U}$		$^{206}\text{Pb}/^{238}\text{U}$		$^{207}\text{Pb}/^{235}\text{U}$																									
		$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]																								
<i>$^{206}\text{Pb}/^{238}\text{U}$</i>																																																					
1	270	9.5922E-04	70.7	1.1799E-01	6.7	6.1870E-02	9.1	1.3067E-01	2.9	7.6059E+00	5.7	8.5534E+00	8.0	1.1799E-01	6.7	0.0179	0.0127	8.3999E+00	13.6	1.0488E-01	12.0	1.8	725.1	82.5	1712.1	220.5	10	49	0.0000E+00	0.0	9.0669E-02	17.9	6.9332E-02	20.3	8.7596E-02	6.4	1.2718E+01	13.9	1.3469E+01	26.9	9.0669E-02	17.9	0.0	461.7	95.2	1439.7	341.4						
<i>^{238}U</i>																																																					
18	32	0.0000E+00	0.0	5.0633E-02	36.2	2.2152E-01	18.7	2.2375E-02	8.5	2.9568E+01	16.1	4.6506E+01	27.9	5.0633E-02	36.2	0.0000	0.0000	4.6506E+01	27.9	5.0633E-02	36.2	0.0	137.1	29.7	224.2	837.9	31	342	4.7686E-04	100.0	1.2160E-01	6.6	6.2947E-02	9.0	1.2483E-01	2.9	7.6983E+00	5.6	8.9846E+00	8.4	1.2160E-01	6.6	0.0089	0.0089	8.9045E+00	11.6	1.1518E-01	9.1	0.9	686.1	68.2	1882.7	163.3
<i>^{206}Pb</i>																																																					
8	43	0.0000E+00	0.0	1.0703E-01	17.8	7.3393E-02	21.1	8.4450E-02	6.8	1.3706E+01	15.1	1.4173E+01	22.7	1.0703E-01	17.8	0.0000	0.0000	1.4173E+01	22.7	1.0703E-01	17.8	0.0	439.5	79.2	1749.5	325.5	21	99	0.0000E+00	0.0	9.3025E-02	16.5	5.8139E-02	20.6	6.9640E-02	5.7	9.4234E+00	10.1	1.5228E+01	13.8	9.3025E-02	16.5	0.0	410.0	48.4	1488.4	313.0						
22	34	0.0000E+00	0.0	1.3173E-01	22.7	1.6766E-01	20.4	2.6803E-02	8.3	2.3558E+01	15.4	4.2741E+01	34.1	1.3173E-01	22.7	0.0000	0.0000	4.2741E+01	34.1	1.3173E-01	22.7	0.0	149.1	37.6	2121.2	397.4	24	116	0.0000E+00	0.0	2.5641E-01	15.9	6.8206E-01	11.3	1.3799E-02	7.4	3.5084E+01	12.4	8.6672E+01	29.0	2.5641E-01	15.9	0.0	74.0	16.6	3224.8	250.1						

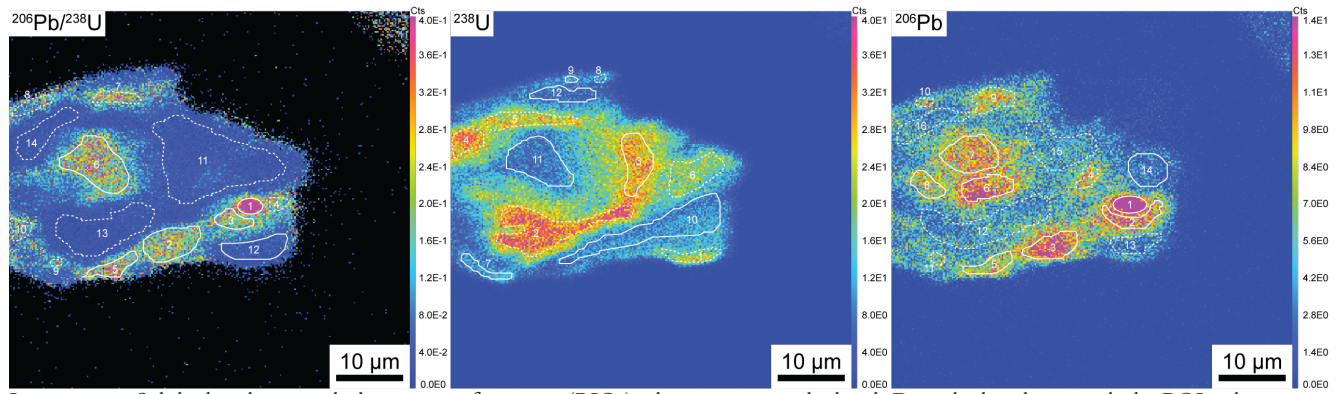
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors.

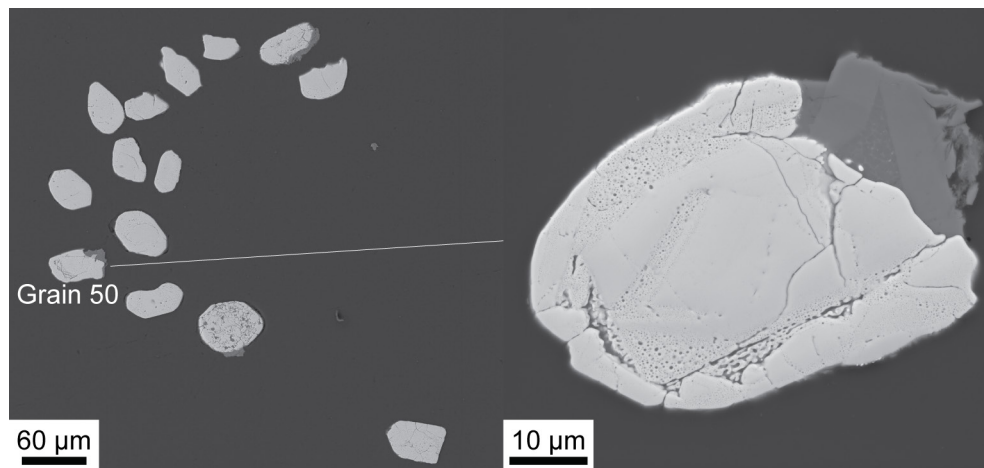
Corrected ratios³ Values corrected for common Pb where ^{206}Pb exceeds detection limit.

^{206}Pb [%]⁴ Percentage of common Pb in measured ^{206}Pb , calculated from the ^{204}Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 74 grain 50



Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 464.0 μm . Right) HV = 15 kV, WD = 9.04 mm, View Field = 63.9 μm ; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [Pixel]	Measured ratios ²				Uncorrected ratios										Corrected ratios ³				Age [Ma]						
		²³⁸ Pb/ ²³⁸ U	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁸ U	²⁰⁶ Pb/ ²⁰⁷ Pb	²³⁸ U/ ²³⁸ U	²³⁸ U/ ²⁰⁶ Pb	²³⁸ U/ ²⁰⁷ Pb	²⁰⁶ Pb/ ²⁰⁷ Pb	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁸ U	²⁰⁶ Pb/ ²⁰⁷ Pb	²³⁸ U/ ²⁰⁶ Pb	²³⁸ U/ ²⁰⁷ Pb	²⁰⁶ Pb/ ²⁰⁷ Pb	²⁰⁶ Pb [%] ⁴	²⁰⁶ Pb [%]	²³⁸ U/ ²⁰⁶ Pb	²³⁸ U/ ²⁰⁷ Pb	²⁰⁶ Pb [%]	²⁰⁶ Pb [%]	± 1σ	± 1σ			
<i>²⁰⁶Pb/²³⁸U</i>																										
1	94	6.9388E-04	57.8	1.2074E-01	4.6	4.9729E-02	7.0	6.4376E-01	3.4	6.0390E+00	7.9	1.8079E+00	24.9	1.2074E-01	4.6	0.0130	0.0075	1.7844E+00	24.6	1.1134E-01	7.1	1.3	2868.3	474.3	1821.4	129.5
2	624	2.8208E-04	70.7	1.0451E-01	3.9	3.2298E-02	6.7	1.9403E-01	1.8	6.2444E+00	3.6	4.7201E+00	24.0	1.0451E-01	3.9	0.0053	0.0037	4.6952E+00	23.9	1.0063E-01	4.9	0.5	1244.7	222.2	1635.8	90.7
3	208	0.0000E+00	0.0	1.0560E-01	6.7	3.4629E-02	11.3	1.9156E-01	3.0	6.4281E+00	6.1	5.5774E+00	17.8	1.0560E-01	6.7	0.0000	0.0000	5.5774E+00	17.8	1.0560E-01	6.7	0.0	1063.1	149.9	1724.8	122.9
5	244	0.0000E+00	0.0	1.3052E-01	6.7	5.9095E-02	9.6	2.2217E-01	3.5	4.8250E+00	6.3	3.2233E+00	35.0	1.3052E-01	6.7	0.0000	0.0000	3.2233E+00	35.0	1.3052E-01	6.7	0.0	1741.9	408.7	2105.0	117.1
6	1009	3.0638E-04	50.0	1.0544E-01	3.2	2.0394E-01	2.4	2.0323E-01	1.5	5.6460E+00	2.8	4.2488E+00	27.3	1.0544E-01	3.2	0.0074	0.0037	4.2173E+00	27.2	9.9985E-02	4.4	0.7	1371.7	269.4	1623.8	81.9
12	477	7.2463E-04	100.0	1.0435E-01	8.8	8.0435E-02	9.9	3.1725E-02	2.9	1.3133E+01	4.4	3.4777E+01	14.4	1.0435E-01	8.8	0.0136	0.0136	3.4368E+01	49.9	9.4301E-02	14.7	1.4	185.2	61.0	1514.1	277.7
<i>²³⁸U</i>																										
3	570	3.4059E-04	100.0	8.0722E-02	6.8	2.1458E-01	4.4	3.0438E-02	2.0	1.8486E+01	3.5	3.2510E+01	22.5	8.0722E-02	6.8	0.0064	0.0064	3.2303E+01	30.5	7.5882E-02	9.7	0.6	196.5	45.4	1092.0	194.2
7	166	0.0000E+00	0.0	8.2126E-02	14.6	4.6699E-02	19.0	5.9190E-02	4.7	9.9168E+00	7.9	1.8091E+01	61.6	8.2126E-02	14.6	0.0000	0.0000	1.8091E+01	61.6	8.2126E-02	14.6	0.0	346.8	130.0	1248.5	285.2
9	27	0.0000E+00	0.0	1.3699E-01	33.7	3.2877E-01	23.5	4.3991E-02	13.2	1.8299E+01	23.7	2.2933E+01	59.0	1.3699E-01	33.7	0.0000	0.0000	2.2933E+01	59.0	1.3699E-01	33.7	0.0	275.1	100.7	2189.4	586.3
10	1337	5.2309E-04	35.4	1.0534E-01	2.6	4.0671E-02	4.1	1.9303E-01	1.2	6.9235E+00	2.5	5.3859E+00	10.0	1.0534E-01	2.6	0.0098	0.0035	5.3323E+00	10.1	9.8123E-02	3.9	1.0	1107.8	93.7	1588.8	72.6
11	893	4.5650E-04	50.0	1.0739E-01	3.4	2.0874E-01	2.6	1.9756E-01	1.6	5.7866E+00	3.0	4.5613E+00	28.4	1.0739E-01	3.4	0.0085	0.0043	4.5224E+00	28.2	1.0112E-01	4.8	0.9	1287.8	262.0	1644.8	89.8
12	319	9.1406E-04	70.7	1.0512E-01	6.9	4.2047E-02	10.6	1.6880E-01	3.0	6.7382E+00	6.0	5.5866E+00	26.7	1.0512E-01	6.9	0.0171	0.0121	5.4911E+00	27.1	9.2413E-02	12.9	1.7	1078.5	215.4	1475.9	244.1
<i>²⁰⁶Pb</i>																										
1	150	7.0539E-04	50.0	1.2310E-01	4.0	5.0789E-02	6.0	5.1008E-01	2.7	6.3333E+00	6.3	2.2642E+00	20.09	1.2310E-01	4.0	0.0132	0.0066	2.2343E+00	19.9	1.1357E-01	6.2	1.3	2384.4	339.4	1857.3	111.3
2	295	3.2019E-04	100.0	9.8621E-02	6.0	3.8744E-02	9.3	1.6937E-01	2.5	6.5127E+00	4.9	6.1804E+00	15.13	9.8621E-02	6.0	0.0060	0.0060	6.1434E+00	15.5	9.4181E-02	7.9	0.6	972.2	122.2	1511.7	149.0
3	432	3.7756E-04	70.7	1.0307E-01	4.5	3.1904E-02	7.8	2.1174E-01	2.1	6.8322E+00	4.2	4.2537E+00	25.21	1.0307E-01	4.5	0.0071	0.0050	4.2236E+00	25.1	9.7865E-02	6.1	0.7	1369.8	252.7	1583.8	114.1
5	242	0.0000E+00	0.0	1.1559E-01	7.3	6.2158E-02	9.6	1.8115E-01	3.4	5.5884E+00	6.2	4.7112E+00	35.54	1.1559E-01	7.3	0.0000	0.0000	4.7112E+00	35.5	1.1559E-01	7.3	0.0	1240.8	303.0	1889.1	130.5
6	430	1.8743E-04	100.0	9.7092E-02	4.6	1.9250E-01	3.4	1.5693E-01	1.9	8.3166E+00	4.1	6.2461E+00	33.20	9.7092E-02	4.6	0.0035	0.0035	6.2242E+00	33.2	9.4494E-02	5.5	0.4	960.5	236.1	1518.0	103.6
7	692	2.9607E-04	70.7	1.0437E-01	4.0	1.9733E-01	3.0	2.0726E-01	1.8	5.7192E+00	3.5	3.9780E+00	36.42	1.0437E-01	4.0	0.0055	0.0039	3.9500E+00	36.3	1.0029E-01	5.1	0.6	1452.8	355.7	1629.5	94.0
8	252	0.0000E+00	0.0	9.2986E-02	7.8	1.8909E-01	5.7	7.9488E-02	2.8	7.8714E+00	4.7	1.5171E+01	75.14	9.2986E-02	7.8	0.0000	0.0000	1.5171E+01	75.1	9.2986E-02	7.8	0.0	411.5	173.3	1487.6	147.9
14	455	8.1366E-04	100.0	7.6485E-02	10.7	6.0212E-02	12.0	2.4995E-02	3.1	1.4401E+01	4.3	4.8041E+01	9.91	7.6485E-02	10.7	0.0152	0.0152	4.4356E+01	70.3	6.4754E-02	22.7	1.5	143.7	58.9	766.3	477.6

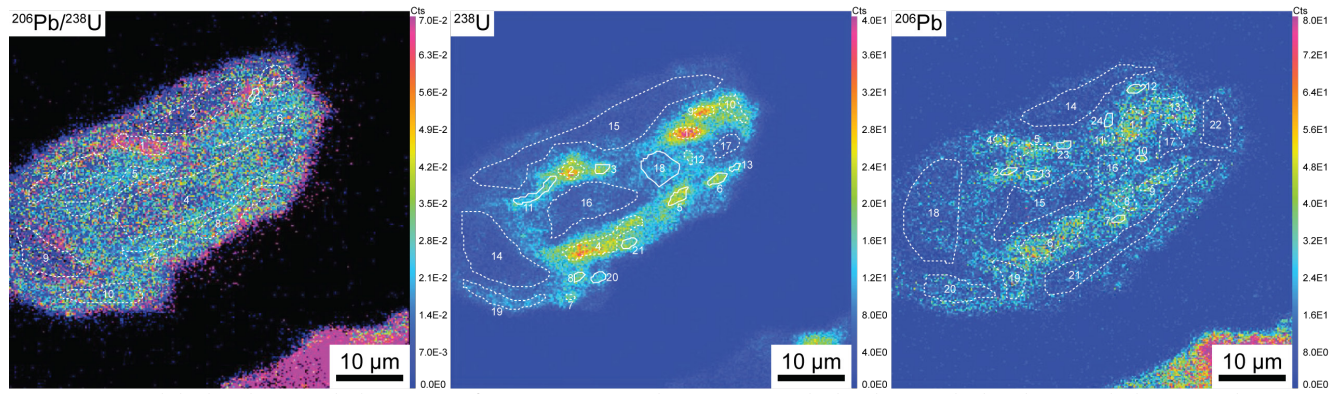
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors.

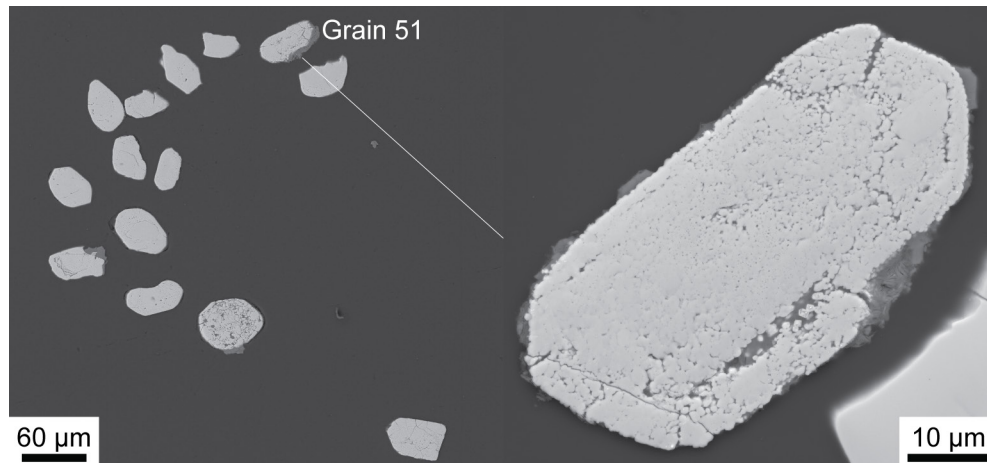
Corrected ratios³ Values corrected for common Pb where ²⁰⁶Pb exceeds detection limit.

²⁰⁶Pb [%]⁴ Percentage of common Pb in measured ²⁰⁶Pb, calculated from the ²⁰⁴Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 75 grain 51

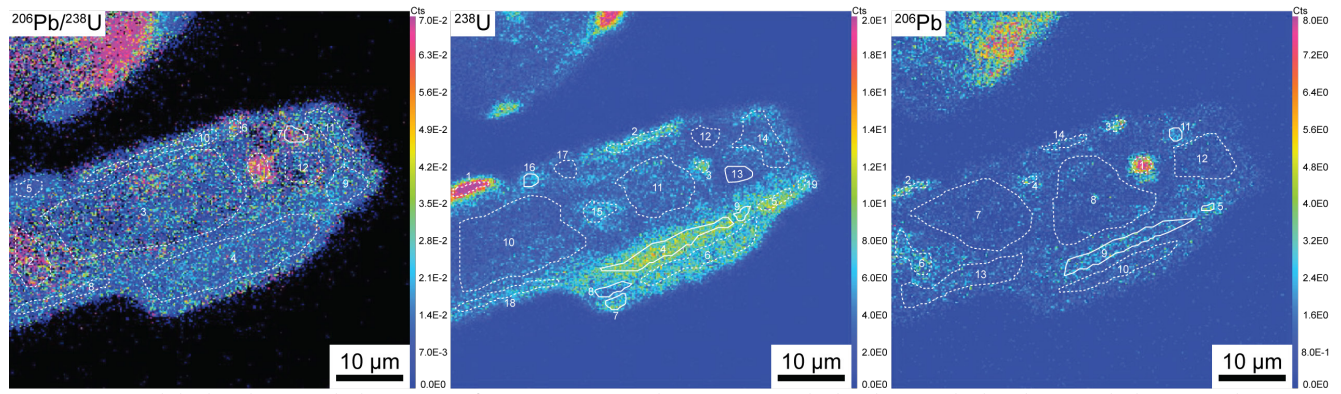


Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.

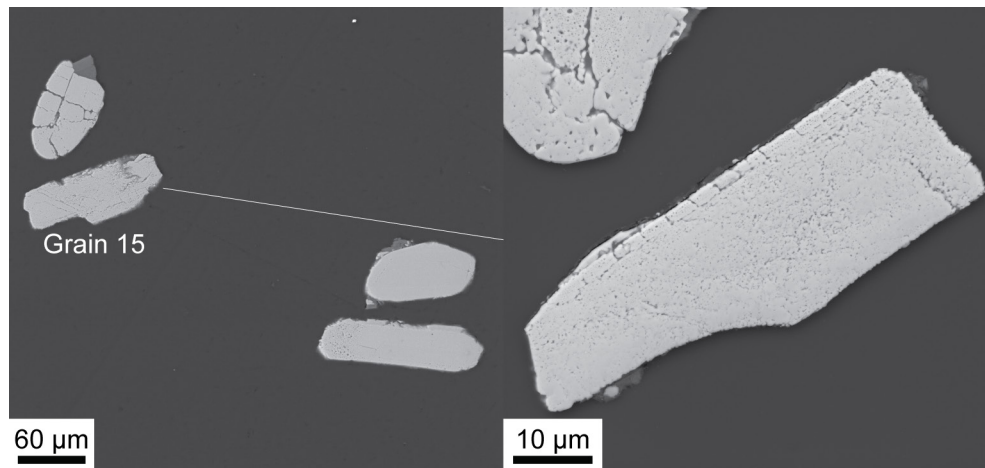


BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 464.0 μm . Right) HV = 15 kV, WD = 9.04 mm, View Field = 61.0 μm ; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Ion image 76 grain 15



Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 222.0 μm . Right) HV = 15 kV, WD = 9.04 mm, View Field = 62.7 μm ; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [Pix-cel]	Measured ratios ²						Uncorrected ratios						Corrected ratios ³						Age [Ma]							
		²⁰⁴ Pb/ ²⁰⁶ Pb	±σ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	±σ [%]	²⁰⁶ Pb/ ²³⁸ U	±σ [%]	²³⁵ U/ ²³⁸ U	±σ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	±σ [%]	²³⁵ U/ ²³⁸ U	±σ [%]	²⁰⁶ Pb/ ²⁰⁶ Pb	±σ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	±σ [%]	²³⁵ U/ ²³⁸ U	±σ [%]	²⁰⁶ Pb/ ²⁰⁶ Pb	±σ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	±σ [%]	±1σ	±1σ		
²⁰⁶Pb/²³⁸U																											
7	111	0.0000E+00	0.0	1.7544E-01	19.8	3.6257E-01	14.8	9.9808E-02	9.7	2.3172E+00	10.8	1.1989E+01	15.4	1.7544E-01	19.8	0.0000	0.0000	1.1989E+01	15.4	1.7544E-01	19.8	0.0	0.0	516.4	66.7	2610.2	329.5
²⁰⁷Pb/²⁰⁶Pb																											
4	644	0.0000E+00	0.0	8.7720E-02	11.3	4.2106E-01	5.9	2.6617E-02	3.5	5.3878E+00	3.3	4.0559E+01	9.9	8.7720E-02	11.3	0.0000	0.0000	4.0559E+01	9.9	8.7720E-02	11.3	0.0	0.0	157.0	14.0	1376.3	217.5
7	90	0.0000E+00	0.0	2.0001E-01	31.6	7.0001E-01	20.1	1.6945E-02	13.6	4.4625E+00	9.6	4.9483E+01	38.0	2.0001E-01	31.6	0.0000	0.0000	4.9483E+01	38.0	2.0001E-01	31.6	0.0	0.0	129.0	35.3	2826.3	516.1
8	113	0.0000E+00	0.0	8.7510E-02	39.4	4.1250E-01	20.7	2.6561E-02	12.0	3.1512E+00	9.1	3.8815E+01	39.5	8.7510E-02	39.4	0.0000	0.0000	3.8815E+01	39.5	8.7510E-02	39.4	0.0	0.0	164.0	46.0	1371.8	758.4
9	52	0.0000E+00	0.0	9.8562E-02	42.8	5.0820E-01	22.1	2.6017E-02	13.8	3.8236E+00	11.1	4.4473E+01	23.5	9.8562E-02	42.8	0.0000	0.0000	4.4473E+01	23.5	9.8562E-02	42.8	0.0	0.0	143.3	27.1	1593.3	799.1
13	156	0.0000E+00	0.0	2.7660E-01	22.2	8.5107E-01	15.2	6.2797E-02	12.1	1.7915E+00	10.6	1.9063E+01	23.6	2.7660E-01	22.2	0.0000	0.0000	1.9063E+01	23.6	2.7660E-01	22.2	0.0	0.0	329.6	61.6	3343.8	346.5
16	63	0.0000E+00	0.0	1.0526E-01	52.6	6.5790E-01	25.8	2.0861E-02	17.2	5.8275E+00	15.0	4.6673E+01	60.4	1.0526E-01	52.6	0.0000	0.0000	4.6673E+01	60.4	1.0526E-01	52.6	0.0	0.0	136.7	51.1	1718.9	966.1
²⁰⁶Pb																											
5	29	0.0000E+00	0.0	1.4706E-01	33.9	4.5588E-01	21.7	3.8468E-02	13.5	5.5480E+00	14.9	3.4983E+01	33.1	1.4706E-01	33.9	0.0000	0.0000	3.4983E+01	33.1	1.4706E-01	33.9	0.0	0.0	181.7	44.7	2312.0	581.2
9	680	0.0000E+00	0.0	8.7539E-02	11.3	4.6447E-01	5.7	2.6036E-02	3.5	5.2308E+00	3.2	4.2389E+01	7.3	8.7539E-02	11.3	0.0000	0.0000	4.2389E+01	7.3	8.7539E-02	11.3	0.0	0.0	150.3	10.1	1372.4	217.6
11	61	0.0000E+00	0.0	1.6000E-01	26.9	3.8000E-01	19.1	1.1472E-01	13.0	2.3017E+00	15.1	1.0458E+01	18.4	1.6000E-01	26.9	0.0000	0.0000	1.0458E+01	18.4	1.6000E-01	26.9	0.0	0.0	588.7	88.1	2455.7	455.3

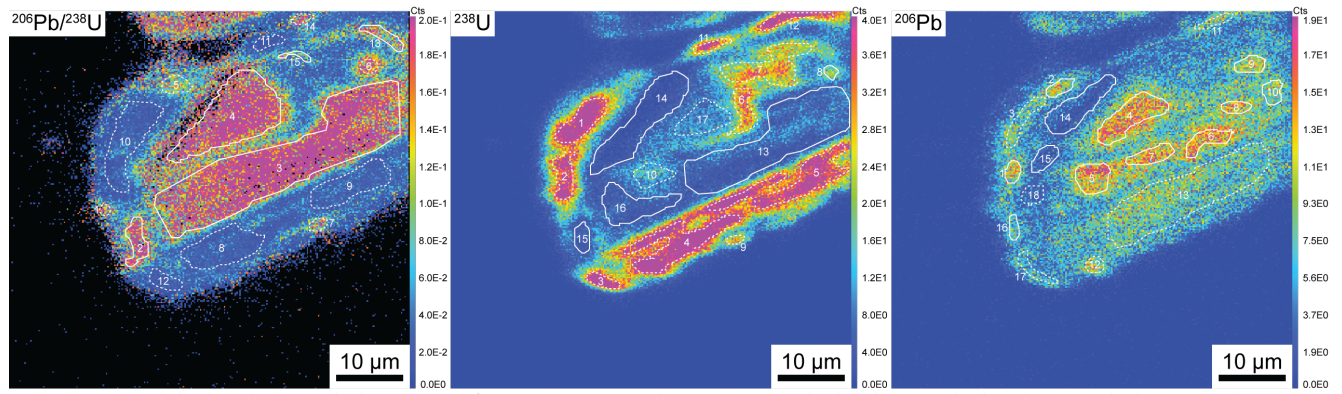
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors.

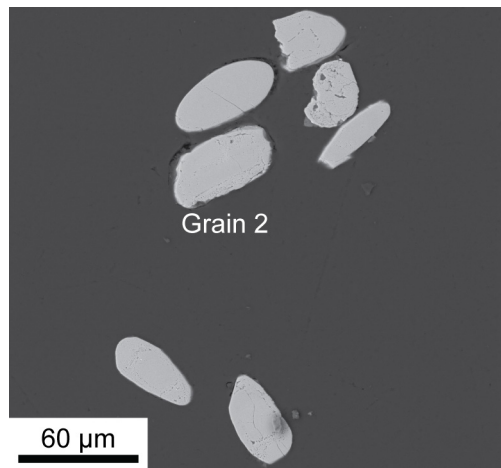
Corrected ratios³ Values corrected for common Pb where ²⁰⁴Pb exceeds detection limit.

²⁰⁶Pb [%]¹⁴ Percentage of common Pb in measured ²⁰⁶Pb, calculated from the ²⁰⁴Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 77 grain 2



Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. HV = 15 kV, WD = 9.04 mm, View Field = 251.0 μm ; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [Pixel]	Measured ratios ²				Uncorrected ratios										Corrected ratios ³										Age [Ma]			
		²⁰⁶ Pb/ ²⁰⁸ Pb	²⁰⁶ Pb/ ²⁰⁴ Pb	$\pm\sigma$ [%]	$\pm 1\sigma$	²⁰⁶ Pb/ ²³⁸ U	²⁰⁶ Pb/ ²³⁵ U	$\pm\sigma$ [%]	$\pm 1\sigma$	²⁰⁶ Pb/ ²⁰⁸ Pb	²⁰⁷ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	$\pm 1\sigma$	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	$\pm 1\sigma$	²⁰⁶ Pb [%] ⁴	$\pm\sigma$	$\pm 1\sigma$	²⁰⁶ Pb [%]	$\pm\sigma$	$\pm 1\sigma$	²⁰⁶ Pb [%]	$\pm\sigma$	$\pm 1\sigma$	²⁰⁶ Pb [%]	$\pm\sigma$	$\pm 1\sigma$
<i>²⁰⁶Pb/²³⁸U</i>																													
2	275	0.0000E+00	0.0	1.1815E-01	7.9	1.8416E-01	6.5	1.9475E-01	3.8	3.6454E+00	6.0	4.4599E+00	45.1	1.1815E-01	7.9	0.0000	0.0000	0.0000	4.4599E+00	45.1	1.1815E-01	7.9	0.0	1304.1	377.8	1928.5	141.5		
3	5684	3.0204E-04	25.8	1.1071E-01	1.4	2.1634E-01	1.1	2.3604E-01	0.7	3.8592E+00	1.2	4.7100E+00	4.5	1.1071E-01	1.4	0.0056	0.0015	4.6834E+00	4.6	1.0659E-01	1.8	0.6	1247.5	49.7	1741.9	32.9			
4	2151	5.8073E-04	30.2	1.0881E-01	2.3	3.7220E-02	3.8	2.4146E-01	1.1	5.0055E+00	2.2	4.5456E+00	6.9	1.0881E-01	2.3	0.0109	0.0033	4.4963E+00	7.0	1.0083E-01	3.5	1.1	1294.6	76.8	1639.4	65.3			
13	185	1.0183E-03	100.1	1.0794E-01	10.2	1.1711E-01	9.9	1.1134E-01	4.1	8.1964E+00	7.9	1.0226E+01	29.4	1.0794E-01	10.2	0.0190	0.0191	1.0031E+01	35.0	9.3814E-02	19.7	1.9	612.6	153.3	1504.4	372.6			
15	58	0.0000E+00	0.0	8.3032E-02	21.7	7.5812E-02	22.6	6.6571E-02	7.1	1.0332E+01	12.8	1.7397E+01	28.7	8.3032E-02	21.7	0.0000	0.0000	1.7397E+01	28.7	8.3032E-02	21.7	0.0	360.3	78.7	1270.0	423.5			
<i>²³⁸U</i>																													
8	58	0.0000E+00	0.0	1.1846E-01	16.1	1.4325E-01	14.8	5.6681E-02	6.1	1.6911E+01	13.0	2.0427E+01	31.6	1.1846E-01	16.1	0.0000	0.0000	2.0427E+01	31.6	1.1846E-01	16.1	0.0	308.1	72.6	1933.1	288.8			
13	3086	2.4658E-04	37.8	1.1258E-01	1.9	2.3083E-01	1.4	2.6877E-01	1.0	3.4157E+00	1.6	4.1866E+00	5.4	1.1258E-01	1.9	0.0046	0.0017	4.1673E+00	5.4	1.0923E-01	2.3	0.5	1386.5	64.2	1786.6	41.2			
14	1598	0.0000E+00	0.0	1.1225E-01	4.3	5.4360E-02	6.0	2.2172E-01	2.1	2.7344E+00	3.0	4.7136E+00	12.2	1.1225E-01	4.3	0.0000	0.0000	4.7136E+00	12.2	1.1225E-01	4.3	0.0	1240.3	123.8	1836.1	77.7			
15	152	0.0000E+00	0.0	1.2300E-01	10.6	1.8327E-01	8.9	2.1032E-01	5.3	3.2809E+00	8.2	4.4128E+00	52.2	1.2300E-01	10.6	0.0000	0.0000	4.4128E+00	52.2	1.2300E-01	10.6	0.0	1316.7	422.2	2000.2	188.3			
16	728	0.0000E+00	0.0	1.0970E-01	5.2	1.7223E-01	4.3	1.8590E-01	2.4	4.5257E+00	4.1	5.5482E+00	17.8	1.0970E-01	5.2	0.0000	0.0000	5.5482E+00	17.8	1.0970E-01	5.2	0.0	1068.3	150.5	1794.4	94.3			
<i>²⁰⁶Pb</i>																													
1	113	8.4671E-04	100.0	9.8219E-02	9.7	7.1124E-02	11.3	5.1724E-02	3.3	1.3913E+01	6.3	1.8338E+01	38.7	9.8219E-02	9.7	0.0158	0.0158	1.8048E+01	48.2	8.6354E-02	18.1	1.6	347.6	111.0	1346.1	349.6			
2	137	7.5243E-04	100.0	1.3318E-01	8.0	9.3302E-02	9.4	9.0542E-02	3.4	1.7196E+01	8.6	1.1392E+01	18.4	1.3318E-01	8.0	0.0141	0.0141	1.1232E+01	24.4	1.2316E-01	12.1	1.4	549.8	104.1	2002.5	215.5			
4	719	5.3054E-04	44.7	1.1035E-01	3.3	3.1302E-02	5.9	2.6796E-01	1.7	6.5371E+00	3.6	4.2386E+00	5.2	1.1035E-01	3.3	0.0099	0.0044	4.1965E+00	5.5	1.0309E-01	4.8	1.0	1377.8	64.8	1680.4	88.3			
5	364	0.0000E+00	0.0	1.0703E-01	4.6	2.2339E-01	3.3	2.0698E-01	2.1	4.4250E+00	3.7	5.3530E+00	20.8	1.0703E-01	4.6	0.0000	0.0000	5.3530E+00	20.8	1.0703E-01	4.6	0.0	1104.1	177.4	1749.5	83.8			
6	269	2.6616E-04	100.0	9.9811E-02	5.4	2.9225E-01	3.4	3.0738E-01	2.8	4.3634E+00	5.1	3.8127E+00	8.8	9.9811E-02	5.4	0.0050	0.0050	3.7937E+00	8.9	9.6130E-02	6.9	0.5	1508.2	111.3	1550.3	128.7			
7	251	0.0000E+00	0.0	1.1299E-01	5.6	2.9514E-01	3.7	2.8299E-01	2.9	4.6838E+00	5.5	4.0341E+00	8.3	1.1299E-01	5.6	0.0000	0.0000	4.0341E+00	8.3	1.1299E-01	5.6	0.0	1427.6	98.6	1848.0	100.4			
8	120	0.0000E+00	0.0	1.0888E-01	8.3	2.1205E-01	6.3	3.0732E-01	4.4	4.7628E+00	8.6	3.4995E+00	12.3	1.0888E-01	8.3	0.0000	0.0000	3.4995E+00	12.3	1.1088E-01	8.3	0.0	1620.3	158.6	1813.8	151.3			
9	174	5.7305E-04	100.0	1.0258E-01	7.8	4.8137E-02	11.2	1.5258E-01	3.3	7.1793E+00	6.6	7.4161E+00	22.9	1.0258E-01	7.8	0.0107	0.0107	7.3366E+00	24.1	9.4636E-02	12.1	1.1	823.7	151.8	1520.8	229.0			
10	156	0.0000E+00	0.0	1.0648E-01	8.9	1.8827E-01	7.0	1.9043E-01	4.1	4.6591E+00	7.1	6.3867E+00	27.7	1.0648E-01	8.9	0.0000	0.0000	6.3867E+00	27.7	1.0648E-01	8.9	0.0	937.7	192.0	1740.0	164.0			
14	694	0.0000E+00	0.0	1.0932E-01	8.3	5.1643E-02	11.7	8.2609E-02	3.2	4.1876E+00	4.2	1.2351E+01	15.9	1.0932E-01	8.3	0.0000	0.0000	1.2351E+01	15.9	1.0932E-01	8.3	0.0	501.9	66.7	1788.2	150.3			
15	195	0.0000E+00	0.0	1.2874E-01	14.2	6.6667E-02	19.2	1.3014E-01	6.4	3.2140E+00	8.7	7.8328E+00	26.3	1.2874E-01	14.2	0.0000	0.0000	7.8328E+00	26.3	1.2874E-01	14.2	0.0	774.6	153.7	2080.8	249.9			
16	82	0.0000E+00	0.0	9.8800E-02	14.4	1.8097E-01	11.0	1.5724E-01	6.0	4.6865E+00	10.0	5.6498E+00	73.3	9.8800E-02	14.4	0.0000	0.0000	5.6498E+00	73.3	9.8800E-02	14.4	0.0	1050.5	423.5	1603.1	268.6			

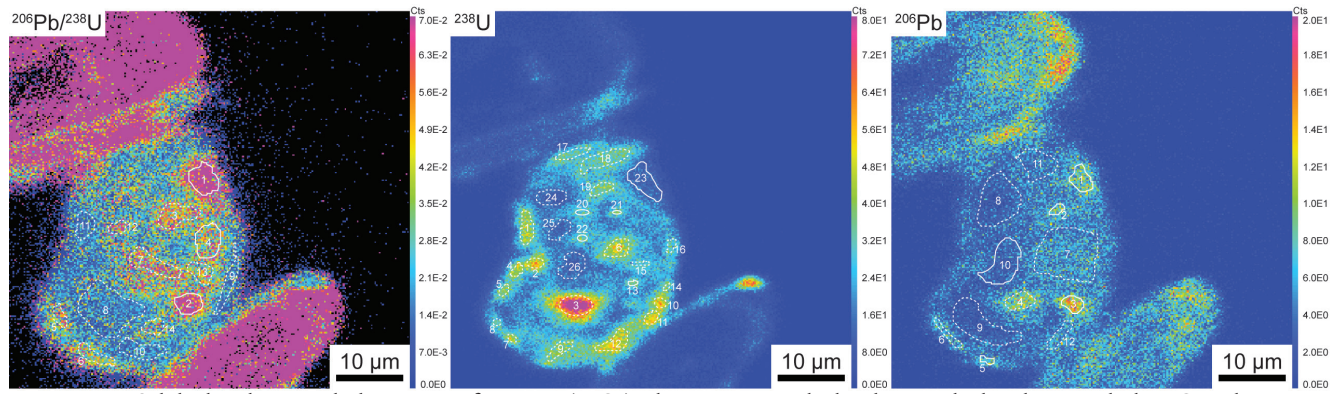
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors.

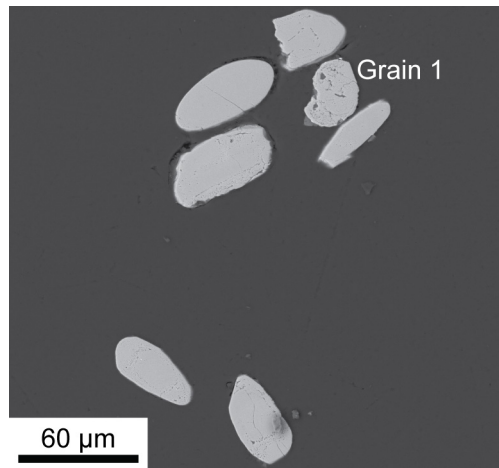
Corrected ratios³ Values corrected for common Pb where ²⁰⁶Pb exceeds detection limit.

²⁰⁶Pb [%]⁴ Percentage of common Pb in measured ²⁰⁶Pb, calculated from the ²⁰⁶Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 78 grain 1



Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



BSE images. HV = 15 kV, WD = 9.04 mm, View Field = 251.0 μm ; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [Pixel]	Measured ratios ²						Uncorrected ratios						Corrected ratios ³						Age [Ma]						
		²⁰⁶ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²³⁸ U	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁷ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²³⁸ U	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm 1\sigma$	²⁰⁷ Pb/ ²⁰⁸ Pb	$\pm 1\sigma$			
<i>²⁰⁶Pb/²³⁸U</i>																										
1	292	4.5330E-04	100.0	1.0063E-01	7.0	5.6210E-02	9.2	9.9565E-02	2.7	7.6628E+00	4.8	1.0851E+01	23.53	1.0063E-01	7.0	0.0085	0.0085	1.0759E+01	25.1	9.4348E-02	10.2	0.8	573.0	111.0	1515.1	191.8
2	194	4.9552E-04	100.0	8.6718E-02	7.9	2.0119E-01	5.4	7.9159E-02	2.7	1.2328E+01	5.6	1.2523E+01	29.48	8.6718E-02	7.9	0.0093	0.0093	1.2407E+01	31.5	7.9712E-02	12.5	0.9	499.7	116.1	1189.9	245.9
4	298	7.0521E-04	100.0	7.4048E-02	10.1	2.5529E-01	5.9	3.8267E-02	3.0	1.0949E+01	4.4	2.5803E+01	16.81	7.4048E-02	10.1	0.0132	0.0132	2.5462E+01	38.3	6.3868E-02	20.2	1.3	248.3	67.8	737.3	428.1
<i>²⁰⁷Pb</i>																										
13	16	0.0000E+00	0.0	1.9512E-01	27.3	2.0731E-01	26.6	2.4347E-02	11.8	1.7509E+01	18.2	6.0335E+01	79.5	1.9512E-01	27.3	0.0000	0.0000	6.0335E+01	79.5	1.9512E-01	27.3	0.0	106.0	46.7	2785.8	447.7
20	10	0.0000E+00	0.0	1.4000E-01	28.5	4.9000E-01	17.4	2.2377E-02	10.6	3.0976E+01	20.7	3.6654E+01	94.0	1.4000E-01	28.5	0.0000	0.0000	3.6654E+01	94.0	1.4000E-01	28.5	0.0	173.5	83.5	2227.2	494.2
21	4	0.0000E+00	0.0	9.0089E-02	33.0	2.1622E-01	22.5	3.6251E-02	10.5	2.3154E+01	21.8	2.6997E+01	83.5	9.0089E-02	33.0	0.0000	0.0000	2.6997E+01	83.5	9.0089E-02	33.0	0.0	234.5	105.6	1427.4	630.5
22	11	0.0000E+00	0.0	1.3095E-01	32.1	6.0717E-01	17.8	1.9424E-02	11.5	1.8447E+01	16.4	5.5467E+01	75.0	1.3095E-01	32.1	0.0000	0.0000	5.5467E+01	75.0	1.3095E-01	32.1	0.0	115.2	49.1	2110.8	562.4
23	293	4.5640E-04	100.0	9.5845E-02	7.2	5.5682E-02	9.3	9.7511E-02	2.7	7.7389E+00	4.8	1.1288E+01	20.9	9.5845E-02	7.2	0.0085	0.0085	1.1162E+01	22.9	8.9476E-02	10.6	0.9	553.1	99.6	1414.4	203.6
<i>²⁰⁶Pb</i>																										
1	170	0.0000E+00	0.0	9.2685E-02	9.2	5.2860E-02	12.0	1.0426E-01	3.4	7.4696E+00	6.2	1.0639E+01	30.8	9.2685E-02	9.2	0.0000	0.0000	1.0639E+01	30.8	9.2685E-02	9.2	0.0	579.1	131.7	1481.5	175.1
2	44	0.0000E+00	0.0	9.0140E-02	18.5	2.3944E-01	12.1	4.4078E-02	6.0	2.0934E+01	12.8	2.6661E+01	47.5	9.0140E-02	18.5	0.0000	0.0000	2.6661E+01	47.5	9.0140E-02	18.5	0.0	237.4	75.5	1428.5	352.4
3	113	7.2990E-04	100.0	8.1020E-02	9.9	1.9562E-01	6.7	8.1794E-02	3.3	1.2274E+01	6.9	1.2316E+01	24.1	8.1020E-02	9.9	0.0137	0.0137	1.2148E+01	29.2	7.0576E-02	19.1	1.4	509.9	111.9	945.2	390.5
5	33	0.0000E+00	0.0	1.6736E-01	17.1	1.0042E+00	9.1	3.6489E-02	7.1	4.1909E+01	19.8	2.7218E+01	84.0	1.6736E-01	17.1	0.0000	0.0000	2.7218E+01	84.0	1.6736E-01	17.1	0.0	232.6	105.1	2531.4	286.6
10	469	7.5585E-04	100.0	9.5995E-02	9.3	3.0915E-01	5.7	2.8109E-02	3.0	1.4159E+01	4.4	2.6421E+01	41.3	9.5995E-02	9.3	0.0141	0.0141	2.6048E+01	55.7	8.5389E-02	16.6	1.4	242.9	85.8	1324.4	321.6

Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

Measured ratios² are corrected for detector gains. Uncertainties are counting statistic (Poisson) errors.

Corrected ratios³ Values corrected for common Pb where ²⁰⁶Pb exceeds detection limit.

²⁰⁶Pb [%]⁴ Percentage of common Pb in measured ²⁰⁶Pb, calculated from the ²⁰⁶Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.