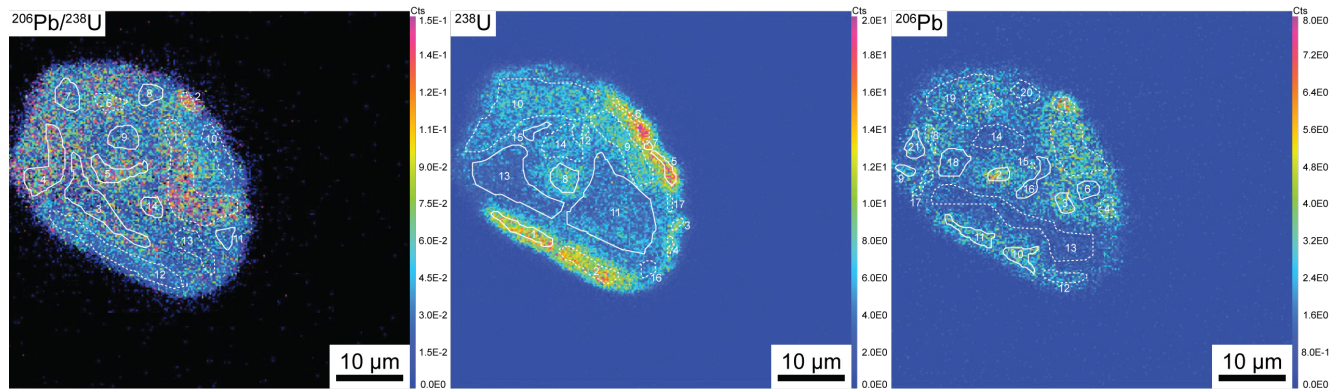
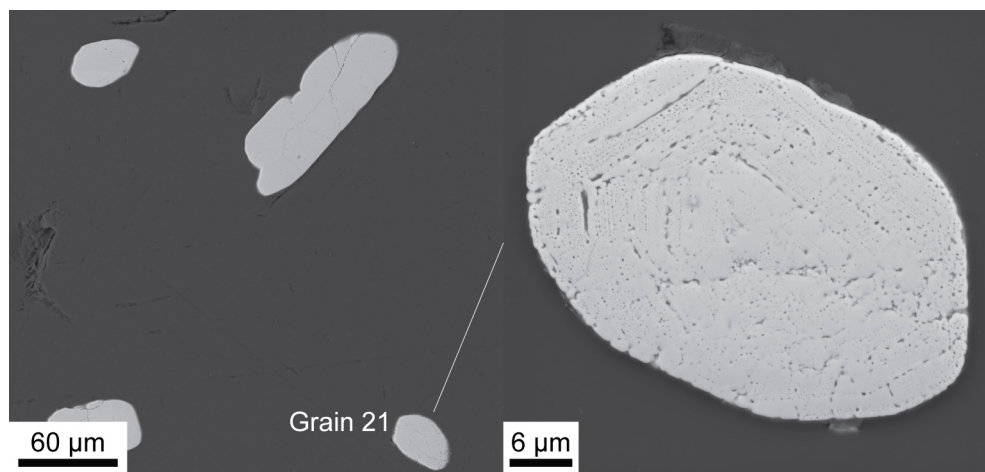


Item DR 5: SIMS ion imaging analyses - Clast-rich impact melt

Ion image 53 grain 21



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 = 301.0 µm. Right) HV = 15 kV, WD = 9.06 mm, View Field = 48.0 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 [Px-cl]	Measured ratios ²				Uncorrected ratios				Corrected ratios ³				Age [Ma]							
		²³⁸ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁷ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm 1\sigma$				
<i>²⁰⁶Pb/²³⁸U</i>																					
3	843	0.0000E+00	0.0	9.0063E-02	11.2	2.2050E-01	7.6	5.1207E-02	3.7	3.5621E+00	3.8	1.6625E+01	24.2	9.0063E-02	11.2	0.0	376.5	71.6	1426.9	213.7	
4	631	0.0000E+00	0.0	9.4098E-02	10.0	2.2070E-01	6.9	8.8631E-02	3.6	3.3094E+00	4.4	9.5033E+00	26.6	9.4098E-02	10.0	0.0	645.0	130.1	1510.1	188.2	
5	323	0.0000E+00	0.0	1.0402E-01	11.2	1.6194E-01	9.2	7.5292E-02	4.1	2.9528E+00	4.6	1.2201E+01	35.3	1.0402E-01	11.2	0.0	507.8	128.7	1697.1	206.4	
7	246	0.0000E+00	0.0	8.5938E-02	18.1	2.5000E-01	11.4	4.7776E-02	5.8	4.2445E+00	6.3	1.7894E+01	33.0	8.5938E-02	18.1	0.0	350.6	85.3	1336.8	350.7	
8	169	0.0000E+00	0.0	1.2083E-01	19.7	2.4583E-01	14.5	3.9802E-02	7.2	3.9964E+00	7.1	2.2485E+01	33.5	1.2083E-01	19.7	0.0	280.5	69.2	1968.6	350.5	
9	250	0.0000E+00	0.0	7.7465E-02	22.1	1.9366E-01	14.7	3.7272E-02	6.6	3.2375E+00	5.8	2.4700E+01	29.8	7.7465E-02	22.1	0.0	255.8	57.9	1133.2	440.5	
11	110	0.0000E+00	0.0	1.1818E-01	29.3	3.3637E-01	19.0	2.6215E-02	10.3	3.0480E+00	7.6	4.3722E+01	18.1	1.1818E-01	29.3	0.0	145.8	22.1	1928.9	525.4	
14	147	0.0000E+00	0.0	9.3137E-02	24.0	2.1078E-01	16.8	7.0111E-02	8.4	2.5211E+00	8.5	1.2830E+01	39.1	9.3137E-02	24.0	0.0	483.8	132.4	1490.7	454.1	
<i>²³⁸U</i>																					
1	258	0.0000E+00	0.0	8.0359E-02	15.5	6.9644E-02	16.6	2.9055E-02	4.6	9.3095E+00	5.7	3.0771E+01	36.7	8.0359E-02	15.5	0.0	206.2	54.7	1205.8	305.1	
5	103	0.0000E+00	0.0	1.0502E-01	21.9	1.3242E-01	19.8	2.4711E-02	7.2	9.8948E+00	8.6	4.7078E+01	18.8	1.0502E-01	21.9	0.0	135.5	21.2	1714.7	403.0	
7	20	0.0000E+00	0.0	7.6922E-02	73.4	3.4615E-01	38.7	1.6382E-02	20.5	8.5173E+00	19.0	6.6803E+01	57.6	7.6922E-02	73.4	0.0	95.8	34.8	1119.2	1463.8	
8	256	0.0000E+00	0.0	1.0386E-01	12.6	1.7507E-01	10.0	6.5142E-02	4.5	2.8927E+00	4.8	1.3368E+01	23.5	1.0386E-01	12.6	0.0	465.0	85.9	1694.2	231.5	
11	2204	3.2851E-04	100.0	8.7386E-02	6.4	2.1189E-01	4.3	5.6174E-02	2.1	2.6150E+00	2.0	1.6978E+01	20.3	8.7386E-02	6.4	0.061	1.6874E+01	371.1	67.2	1263.6	172.7
13	1252	6.8533E-04	100.0	1.0599E-01	8.3	2.1791E-01	6.1	6.5905E-02	3.0	3.2521E+00	3.3	1.3092E+01	14.0	1.0599E-01	8.3	0.0123	1.2931E+01	21.4	480.2	1565.2	249.3
15	78	0.0000E+00	0.0	3.8961E-02	58.8	3.7663E-01	21.8	4.2272E-02	12.8	2.3490E+00	10.5	1.8930E+01	64.4	3.8961E-02	58.8	0.0	331.8	127.9	-419.4	1541.0	
<i>²⁰⁶Pb</i>																					
2	98	0.0000E+00	0.0	1.0497E-01	17.0	1.7403E-01	13.6	8.6268E-02	6.5	3.0615E+00	7.6	1.3929E+01	82.4	1.0497E-01	17.0	0.0	446.9	198.0	1713.8	313.5	
3	119	0.0000E+00	0.0	8.8888E-02	19.7	1.0793E-01	18.0	1.0174E-01	7.2	2.3626E+00	8.1	1.0133E+01	22.4	8.8888E-02	19.7	0.0	606.7	106.9	1401.7	377.8	
6	138	0.0000E+00	0.0	7.4236E-02	25.1	2.4891E-01	14.8	5.3198E-02	7.6	2.6134E+00	7.1	2.2424E+01	23.1	7.4236E-02	25.1	0.0	281.2	51.9	1047.9	506.9	
9	63	0.0000E+00	0.0	1.3768E-01	24.5	1.6667E-01	22.5	1.2341E-01	11.2	3.4448E+00	15.5	6.6109E+00	89.8	1.3768E-01	24.5	0.0	907.3	413.4	2198.3	425.1	
10	192	0.0000E+00	0.0	8.4234E-02	16.7	7.5594E-02	17.5	3.4640E-02	5.1	8.0270E+00	6.4	2.2890E+01	39.6	8.4234E-02	16.7	0.0	275.7	77.0	1298.0	324.1	
11	219	0.0000E+00	0.0	5.7035E-02	18.8	6.6500E-02	17.5	3.3698E-02	4.8	8.7722E+00	6.1	2.3721E+01	49.7	5.7035E-02	18.8	0.0	266.2	87.1	492.9	413.8	
16	208	0.0000E+00	0.0	6.0837E-02	25.8	1.9392E-01	15.3	5.2020E-02	7.1	3.1381E+00	7.0	1.8193E+01	24.4	6.0837E-02	25.8	0.0	344.9	66.2	633.5	554.4	
18	283	0.0000E+00	0.0	1.0840E-01	16.6	2.6288E-01	11.4	7.2900E-02	6.2	2.5517E+00	6.5	1.2591E+01	22.3	1.0840E-01	16.6	0.0	492.7	87.0	1772.7	303.9	
21	149	0.0000E+00	0.0	8.8983E-02	22.8	2.2881E-01	15.1	5.9300E-02	7.6	3.6177E+00	8.4	1.4147E+01	53.9	8.8983E-02	22.8	0.0	440.3	150.8	1403.8	436.2	

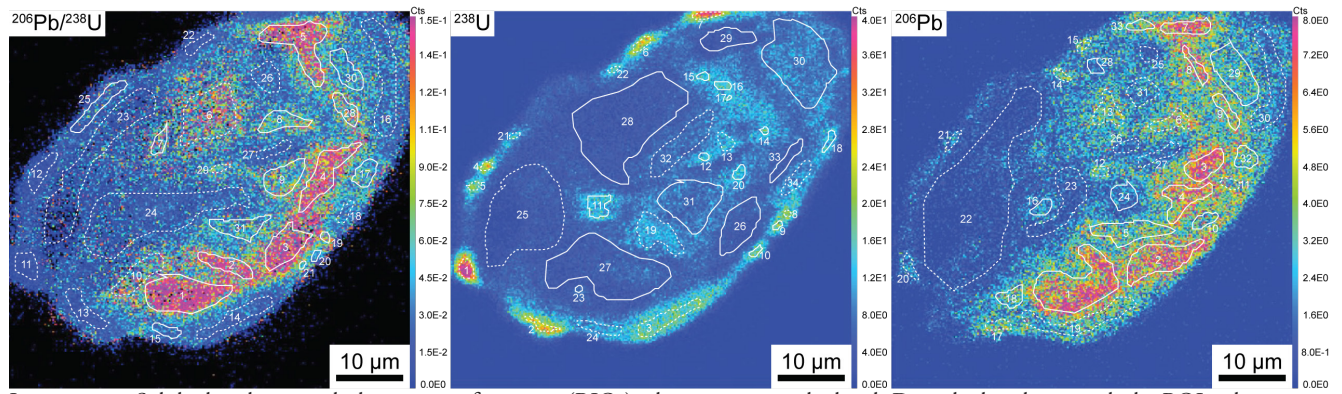
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

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

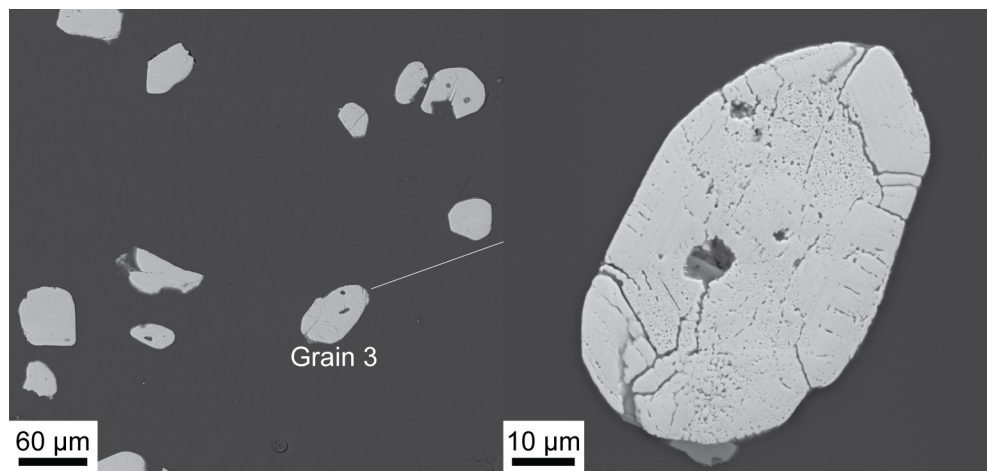
Corrected ratios³ Values corrected for common Pb where ²⁰⁴Pb exceeds detection limit.

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 54 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 = 438.0 μm . Right) HV = 15 kV, WD = 9.01 mm, View Field = 80.0 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	Area size [Pix-el]	Measured ratios ²										Uncorrected ratios										Corrected ratios ³										Age [Ma]	
		²⁰⁶ Pb/ ²⁰⁴ Pb		²⁰⁷ Pb/ ²⁰⁴ Pb		²⁰⁶ Pb/ ²⁰⁸ Pb		²⁰⁷ Pb/ ²⁰⁸ Pb		²³⁸ U/ ²³⁵ U		²⁰⁶ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁸ U		²⁰⁶ Pb/ ²⁰⁷ Pb		²³⁸ U/ ²⁰⁶ Pb		²³⁸ U/ ²⁰⁷ Pb		²⁰⁶ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁸ U		²⁰⁶ Pb/ ²⁰⁷ Pb		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				
1	1014	6.2014E-04	50.0	1.1380E-01	3.9	1.4915E-01	3.5	2.2455E-01	1.9	3.2150E+00	3.0	4.4700E+00	15.8	1.1380E-01	3.9	0.0116	0.0058	4.4241E+00	15.8	1.0533E-01	5.9	1.2	1313.7	164.5	1720.0	108.9							
2	293	0.0000E+00	0.0	1.0136E-01	7.6	2.1744E-01	5.4	2.0020E-01	3.4	3.3237E+00	5.2	5.3810E+00	12.0	1.0136E-01	7.6	0.0000	0.0000	5.3810E+00	12.0	1.0136E-01	7.6	0.0	1098.8	109.2	1649.3	140.0							
3	493	3.4071E-04	100.0	1.0255E-01	6.1	1.7887E-01	4.7	2.3472E-01	2.9	2.2488E+00	4.0	4.8414E+00	13.2	1.0255E-01	6.1	0.0064	0.0064	4.8106E+00	13.5	9.7854E-02	8.0	0.6	1217.5	133.1	1583.6	150.1							
4	617	0.0000E+00	0.0	9.9974E-02	5.3	1.9056E-01	4.0	1.8608E-01	2.3	3.2897E+00	3.5	6.1137E+00	6.6	9.9974E-02	5.3	0.0000	0.0000	6.1137E+00	6.6	9.9974E-02	5.3	0.0	976.6	56.0	1623.6	98.2							
5	840	4.3001E-04	70.7	1.1159E-01	4.6	1.9007E-01	3.7	1.7963E-01	2.1	4.0256E+00	3.4	1.1159E+00	5.9	1.1159E-01	4.6	0.0080	0.0057	6.0609E+00	6.8	1.0572E-01	6.3	0.8	984.5	58.4	1726.8	116.4							
7	113	0.0000E+00	0.0	1.1505E-01	20.7	2.6549E-01	14.5	9.0806E-02	8.3	3.1603E+00	10.0	1.0410E+00	43.8	1.1505E-01	20.7	0.0000	0.0000	1.0410E+00	43.8	1.1505E-01	20.7	0.0	591.3	174.4	1880.6	373.1							
8	288	8.6132E-04	100.0	9.0853E-02	9.8	3.7985E-01	5.6	7.6479E-02	3.5	5.5625E+00	5.1	1.4654E+00	9.6	9.0853E-02	9.8	0.0161	0.0161	1.4418E+00	25.8	8.6993E-02	18.3	1.6	432.3	86.3	1360.3	351.8							
9	424	5.0683E-04	100.0	9.2245E-02	7.8	2.4075E-01	5.1	8.1837E-02	2.8	5.6406E+00	4.1	1.3817E+00	11.2	9.2245E-02	7.8	0.0095	0.0095	1.3686E+00	17.3	8.5131E-02	12.0	0.9	454.6	65.0	1318.5	233.0							
15	110	0.0000E+00	0.0	6.1776E-02	25.8	4.6332E-02	29.5	3.6568E-02	6.9	8.1920E+00	8.8	2.5771E+00	39.3	6.1776E-02	25.8	0.0000	0.0000	2.5771E+00	39.3	6.1776E-02	25.8	0.0	245.4	68.3	666.4	551.6							
17	186	0.0000E+00	0.0	1.1234E-01	12.5	6.1709E-02	16.5	6.1188E-02	4.7	6.4352E+00	6.6	1.8908E+00	15.9	1.1234E-01	12.5	0.0000	0.0000	1.8908E+00	15.9	1.1234E-01	12.5	0.0	332.2	44.5	1837.6	236.7							
19	37	0.0000E+00	0.0	8.7719E-02	23.3	1.5351E-01	18.1	1.2475E-01	8.8	4.6773E+00	13.7	1.0462E+00	31.3	8.7719E-02	23.3	0.0000	0.0000	1.0462E+00	31.3	8.7719E-02	23.3	0.0	588.5	135.6	1376.3	448.4							
20	33	0.0000E+00	0.0	1.5862E-01	22.4	2.0900E-01	20.1	4.7189E-02	9.4	1.1888E+00	15.9	2.6120E+00	35.4	1.5862E-01	22.4	0.0000	0.0000	2.6120E+00	35.4	1.5862E-01	22.4	0.0	242.2	62.4	2441.0	380.0							
21	15	0.0000E+00	0.0	1.5789E-01	31.1	1.0526E-01	37.2	7.1014E-02	13.7	8.9018E+00	23.6	1.6689E+00	38.3	1.5789E-01	31.1	0.0000	0.0000	1.6689E+00	38.3	1.5789E-01	31.1	0.0	375.1	101.6	1824.2	526.4							
25	301	0.0000E+00	0.0	1.1153E-01	19.3	1.9703E-01	15.0	2.5193E-02	6.5	6.6031E+00	6.5	3.4443E+00	36.3	1.1153E-01	19.3	0.0000	0.0000	3.4443E+00	36.3	1.1153E-01	19.3	0.0	184.5	48.7	1824.4	349.2							
28	197	0.0000E+00	0.0	1.0397E-01	11.1	1.8341E-01	8.7	1.0333E-01	4.3	4.8017E+00	6.5	1.0511E+00	12.8	1.0397E-01	11.1	0.0000	0.0000	1.0511E+00	12.8	1.0397E-01	11.1	0.0	585.9	64.0	1096.2	205.3							
30	326	0.0000E+00	0.0	7.743E-02	12.1	7.1353E-02	12.6	5.3746E-02	3.8	6.6203E+00	5.1	2.0855E+00	11.2	7.743E-02	12.1	0.0000	0.0000	2.0855E+00	11.2	7.743E-02	12.1	0.0	301.9	29.8	1140.3	241.6							
31	384	7.9132E-04	100.0	9.8894E-02	9.4	3.8371E-01	5.3	6.0499E-02	3.3	4.7806E+00	4.1	1.8185E+00	13.7	9.8894E-02	9.4	0.0148	0.0148	1.7916E+00	30.5	8.7829E-02	16.8	1.5	350.1	80.1	1378.7	323.7							
²⁰⁶ Pb/ ²³⁸ U																																	
9	21	0.0000E+00	0.0	6.9767E-02	42.2	1.9767E-01	26.5	3.6298E-02	11.9	1.2714E+01	18.6	3.1091E+01	45.9	6.9767E-02	42.2	0.0000	0.0000	3.1091E+01	45.9	6.9767E-02	42.2	0.0	204.1	63.5	921.5	867.8							
10	35	0.0000E+00	0.0	1.1837E-01	19.6	1.8367E-01	16.2	6.9524E-02	7.6	1.0108E+01	13.8	1.6274E+01	32.4	1.1837E-01	19.6	0.0000	0.0000	1.6274E+01	32.4	1.1837E-01	19.6	0.0	384.4	91.9	1931.7	351.7							
11	177	0.0000E+00	0.0	6.3830E-02	22.5	3.5258E-01	10.8	2.4158E-02	5.9	6.3461E+00	5.7	3.7961E+00	27.6	6.3830E-02	22.5	0.0000	0.0000	3.7961E+00	27.6	6.3830E-02	22.5	0.0	167.6	35.9	736.0	476.5							
12	26	0.0000E+00	0.0	2.2727E-01	35.0	5.2272E-01	25.7	2.0498E-02	16.0	9.9194E+00	17.5	6.0681E+00	32.3	2.2727E-01	35.0	0.0000	0.0000	6.0681E+00	32.3	2.2727E-01	35.0	0.0	105.4	25.5	3032.9	501.5							
14	22	0.0000E+00	0.0	1.4286E-01	35.6	3.6509E-01	24.4	3.2136E-02	13.8	1.1246E+01	19.4	4.1621E+00	57.8	1.4286E-01	35.6	0.0000	0.0000	4.1621E+00	57.8	1.4286E-01	35.6	0.0	153.1	55.6	2362.1	614.7							
15	32	0.0000E+00	0.0	7.2465E-02	46.3	6.5218E-01	19.2	2.7786E-02	13.0	8.4306E+00	15.1	4.4215E+00	30.7	7.2465E-02	46.3	0.0000	0.0000	4.4215E+00	30.7	7.2465E-02	46.3	0.0	144.2	33.6	999.0	940.6							
16	45	0.0000E+00	0.0	1.0569E-01	29.2	4.8782E-01	15.8	2.9388E-02	9.8	1.2004E+01	13.7	3.6145E+00	28.5	1.0569E-01	29.2	0.0000	0.0000	3.6145E+00	28.5	1.0569E-01	29.2	0.0	175.9	38.6	1726.4	535.4							
17	14	0.0000E+00	0.0	6.8966E-02	73.1	6.2070E-01	30.0	2.6071E-02	20.0	8.8117E+00	23.0	4.7024E+00	51.0	6.8966E-02	73.1	0.0000	0.0000	4.7024E+00	51.0	6.8966E-02	73.1	0.0	135.6	45.5	897.7	1508.4							
18	52	0.0000E+00	0.0	7.6272E-02	34.6	1.2712E-01	27.4	3.1003E-02	10.0	1.0917E+01	13.7	3.2449E+00	51.8	7.6272E-02	34.6	0.0000	0.0000	3.2449E+00	51.8	7.6272E-02	34.6	0.0	195.7	66.1	1102.2	691.5							
20	55	0.0000E+00	0.0	1.1450E-01	19.3	1.2596E-01	18.5	6.2337E-02	7.2	6.9907E+00	10.7	1.7658E+00	40.8	1.1450E-01	19.3	0.0000	0.0000	1.7658E+00	40.8	1.1450E-01	19.3	0.0	355.1	100.8	1872.1	347.5							
23	19	0.0000E+00	0.0	9.3333E-02	39.5	1.6000E-01	31.1	8.4290E-02	14.2	3.8953E+00	18.2	1.1120E+01	84.0	9.3333E-02	39.5	0.0000	0.0000	1.1120E+01	84.0	9.3333E-02	39.5	0.0	555.1	247.5	1494.6	747.7							
26	623	3.3840E-04	100.0	9.1370E-02	6.4	1.6684E-01	4.9	1.8605E-01	2.7	2.4442E+00	3.6	5.8497E+00	7.9	9.1370E-02	6.4	0.0063	0.0063	5.8127E+00	8.7	8.6630E-02	8.7	0.6	1023.3	76.1	1352.3	168.5							
27	2140	3.9745E-04	57.8	1.1248E-01	3.6	1.7965E-01	3.0	1.2648E-01	1.5	3.3225E+00	2.1	7.1833E+00	13.5	1.1248E-01	3.6	0.0074	0.0043	7.6609E+00	13.8	1.0706E-01	4.8	0.7	790.9	91.0	1750.0	88.7							
28	2955	7.5651E-04	50.0	9.8093E-02	4.5	2.6330E-01	3.0	8.0162E-02	1.6	3.2574E+00	1.9	1.2613E+00	13.6	9.8093E-02	4.5	0.0138	0.0069	1.2439E+00	16.0	8.8400E-02	7.9	1.4	498.4	66.6	1391.2	151.3							
29	377	5.9665E-04	100.0	1.3126E-01	7.2	2.1181E-01	5.8	1.9044E-01	3.6	4.0110E+00	5.8	5.7622E+00	9.9	1.3126E-01	7.2	0.0112	0.0112	5.6979E+00	11.7	1.2332E-01	10.2	1.1	1042.4	101.8	2004.7	180.2							

Area ID ¹	Area size [Pix ²]	Measured ratios ²				Uncorrected ratios				Corrected ratios ³				Age [Ma]												
		²⁰⁶ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁹ Pb	$\pm\sigma$ [%]									
30	1760	6.7934E-04	57.8	9.8959E-02	5.0	7.7899E-02	5.6	5.0333E-02	1.7	6.9765E+00	2.3	2.2619E+01	12.0	9.8959E-02	5.0	0.0127	0.0073	2.2331E+01	20.6	8.9479E-02	8.4	1.3	282.4	47.3	1414.4	161.1
31	958	0.0000E+00	0.0	8.4834E-02	7.8	3.6588E-01	4.2	4.8077E-02	2.5	4.2322E+00	2.7	2.3355E+01	12.0	8.4834E-02	7.8	0.0000	0.0000	2.3355E+01	12.0	8.4834E-02	7.8	0.0	270.3	28.4	1311.8	150.9
33	172	0.0000E+00	0.0	1.1072E-01	10.9	1.4723E-01	9.6	1.7350E-01	4.9	3.1071E+00	7.1	6.2057E+00	16.2	1.1072E-01	10.9	0.0000	0.0000	6.2057E+00	16.2	1.1072E-01	10.9	0.0	963.1	125.8	1811.2	197.5
²⁰⁹Pb																										
1	1374	4.5693E-04	50.0	1.1206E-01	3.4	1.6461E-01	2.8	2.0910E-01	1.6	3.2560E+00	2.5	4.8571E+00	9.0	1.1206E-01	3.4	0.0085	0.0043	4.8156E+00	9.2	1.0583E-01	4.7	0.9	1216.3	94.0	1728.7	86.0
2	748	4.1718E-04	70.7	1.0365E-01	4.7	1.7376E-01	3.8	1.6431E-01	2.0	3.4398E+00	3.0	6.7853E+00	9.9	1.0365E-01	4.7	0.0078	0.0055	6.3244E+00	10.5	9.7284E-02	6.6	0.8	892.8	79.8	1572.7	123.6
3	321	0.0000E+00	0.0	1.0199E-01	6.9	2.3929E-01	4.8	1.6331E-01	3.0	4.1646E+00	4.7	7.1661E+00	13.8	1.0199E-01	6.9	0.0000	0.0000	7.1661E+00	13.8	1.0199E-01	6.9	0.0	842.1	96.4	1660.6	127.9
4	409	4.2918E-04	100.0	1.0086E-01	6.8	2.1717E-01	4.9	1.5051E-01	2.9	3.4199E+00	4.1	7.5940E+00	9.1	1.0086E-01	6.8	0.0080	0.0080	7.5330E+00	10.9	9.4912E-02	9.7	0.8	803.5	74.9	1526.3	182.9
5	538	1.0256E-03	70.8	9.3334E-02	7.8	3.4359E-01	4.5	6.9915E-02	2.7	4.6865E+00	3.5	1.6158E+01	11.2	9.3334E-02	7.8	0.0192	0.0136	1.5848E+01	24.9	7.8817E-02	16.5	1.9	394.4	76.7	1167.5	326.1
7	285	0.0000E+00	0.0	1.2225E-01	7.3	1.6454E-01	6.4	1.8777E-01	3.5	5.1315E+00	6.3	5.8138E+00	18.3	1.2225E-01	7.3	0.0000	0.0000	5.8138E+00	18.3	1.2225E-01	7.3	0.0	1023.1	148.1	1989.3	129.7
8	124	0.0000E+00	0.0	1.0477E-01	11.8	1.9496E-01	9.0	1.6415E-01	5.1	3.9388E+00	8.0	6.4713E+00	18.1	1.0477E-01	11.8	0.0000	0.0000	6.4713E+00	18.1	1.0477E-01	11.8	0.0	926.3	133.7	1710.4	217.6
9	152	0.0000E+00	0.0	9.1042E-02	13.3	1.9824E-01	9.4	1.1431E-01	5.0	4.7417E+00	7.6	9.7148E+00	13.5	9.1042E-02	13.3	0.0000	0.0000	9.7148E+00	13.5	9.1042E-02	13.3	0.0	631.6	71.9	1447.5	252.7
10	114	0.0000E+00	0.0	1.2500E-01	15.5	1.1436E-01	16.1	1.0023E-01	6.5	3.3018E+00	8.3	1.1246E+01	24.9	1.2500E-01	15.5	0.0000	0.0000	1.1246E+01	24.9	1.2500E-01	15.5	0.0	549.1	105.9	2028.8	273.9
16	101	0.0000E+00	0.0	4.9751E-02	32.4	3.2836E-01	14.2	2.7423E-02	7.6	5.3951E+00	7.2	3.5611E+01	29.7	4.9751E-02	32.4	0.0000	0.0000	3.5611E+01	29.7	4.9751E-02	32.4	0.0	178.5	40.5	183.4	754.7
18	166	0.0000E+00	0.0	9.1778E-02	15.1	1.3002E-01	12.9	1.0394E-01	5.6	4.2926E+00	7.9	7.2246E+00	50.9	9.1778E-02	15.1	0.0000	0.0000	7.2246E+00	50.9	9.1778E-02	15.1	0.0	835.7	270.0	1462.8	286.5
24	230	0.0000E+00	0.0	8.6568E-02	19.4	3.4926E-01	10.7	3.3012E-02	6.0	4.1272E+00	5.5	3.5003E+01	18.9	8.6568E-02	19.4	0.0000	0.0000	3.5003E+01	18.9	8.6568E-02	19.4	0.0	181.6	28.5	1350.9	373.6
28	73	0.0000E+00	0.0	1.4563E-01	27.6	3.2039E-01	20.0	4.7328E-02	11.2	4.7018E+00	12.6	2.2982E+01	25.2	1.4563E-01	27.6	0.0000	0.0000	2.2982E+01	25.2	1.4563E-01	27.6	0.0	274.6	54.4	2295.3	475.2
29	690	5.1151E-04	100.0	9.4119E-02	7.7	6.4450E-02	9.2	5.4051E-02	2.6	6.5400E+00	3.5	2.0515E+01	11.6	9.4119E-02	7.7	0.0096	0.0096	2.0319E+01	22.9	8.6956E-02	11.9	1.0	309.7	56.6	1359.5	229.3
32	168	0.0000E+00	0.0	1.0694E-01	13.9	9.7562E-02	14.5	6.8673E-02	5.2	5.5652E+00	7.1	1.6375E+01	11.9	1.0694E-01	13.9	0.0000	0.0000	1.6375E+01	11.9	1.0694E-01	13.9	0.0	382.1	39.6	1748.0	255.3
33	92	0.0000E+00	0.0	1.0915E-01	17.3	9.4396E-02	18.5	5.8305E-02	6.3	8.6351E+00	10.0	1.5688E+01	21.2	1.0915E-01	17.3	0.0000	0.0000	1.5688E+01	21.2	1.0915E-01	17.3	0.0	399.1	68.2	1785.2	315.5

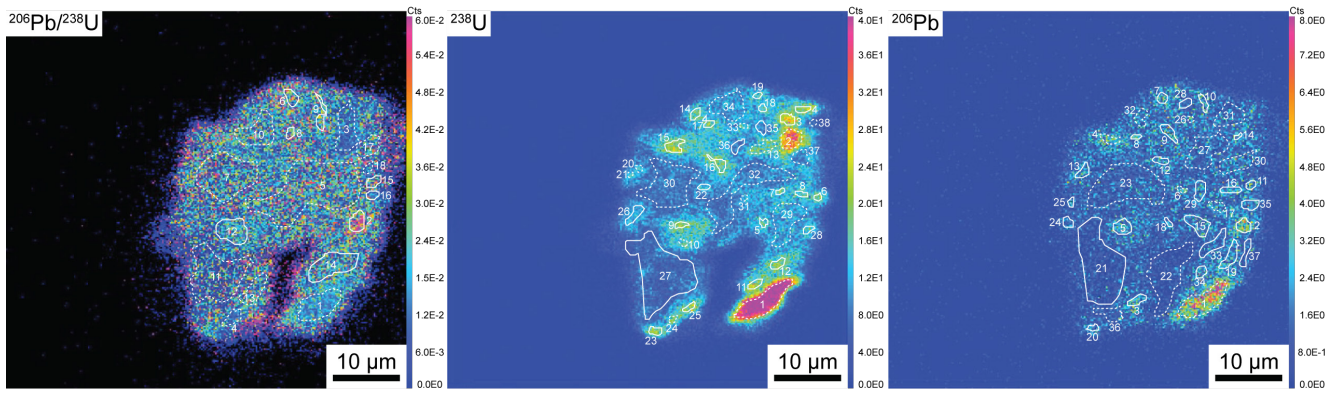
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

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

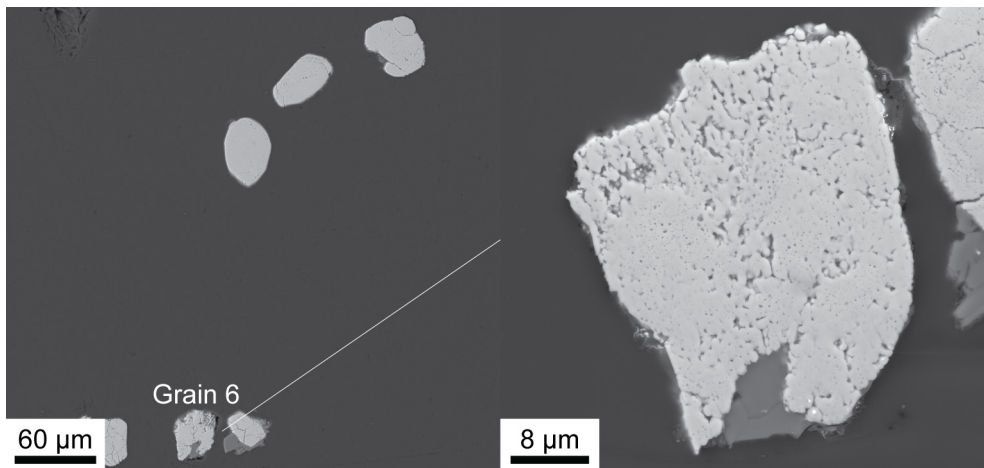
Corrected ratios³ Values corrected for common Pb where ²⁰⁹Pb exceeds detection limit.

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

Ion image 56 grain 6



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 = 369.0 µm. Right) HV = 15 kV, WD = 9.03 mm, View Field = 50.9 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 ^a	Area size [Pix-el]	Measured ratios ^b				Uncorrected ratios				Corrected ratios ^c				Age [Ma]					
		$^{238}\text{Pb}/^{235}\text{Pb}$	$^{206}\text{Pb}/^{238}\text{U}$	$^{206}\text{Pb}/^{207}\text{Pb}$	$^{206}\text{Pb}/^{204}\text{Pb}$	$^{238}\text{U}/^{90}\text{Zr}$	$^{238}\text{U}/^{206}\text{Pb}$	$^{206}\text{Pb}/^{207}\text{Pb}$	$^{206}\text{Pb}/^{204}\text{Pb}$	$^{238}\text{U}/^{206}\text{Pb}$	$^{206}\text{Pb}/^{207}\text{Pb}$	$^{206}\text{Pb}/^{204}\text{Pb}$	$^{206}\text{Pb}/^{207}\text{Pb}$	$^{238}\text{U}/^{206}\text{Pb}$	$^{206}\text{Pb}/^{207}\text{Pb}$	$\pm 1\sigma$	$\pm 1\sigma$		
2	106	0.0000E+00	0.0	6.7278E-02	22.0	1.7737E-01	14.3	4.9578E-02	6.3	5.5981E+00	7.8	2.2038E+01	23.3	6.7278E-02	22.0	0.0	286.1	846.4	458.2
6	70	0.0000E+00	0.0	1.4167E-01	25.9	1.5833E-01	24.7	2.8676E-02	9.9	6.3286E+00	10.3	3.9075E+01	14.8	1.4167E-01	25.9	0.0	162.9	20.7	2247.7
8	31	0.0000E+00	0.0	9.8362E-02	42.8	1.3115E-01	37.6	2.7349E-02	13.8	7.7288E+00	15.3	5.0501E+01	31.2	9.8362E-02	42.8	0.0	126.4	29.8	1593.3
9	62	0.0000E+00	0.0	2.0354E-01	22.9	4.6903E-01	16.6	2.7759E-02	10.2	9.0287E+00	12.2	4.5377E+01	30.0	2.0354E-01	22.9	0.0	140.3	32.1	2854.8
12	271	0.0000E+00	0.0	7.2211E-02	18.0	2.4289E-01	10.6	1.8968E-02	4.9	7.4083E+00	4.6	5.8031E+01	11.3	7.2211E-02	18.0	0.0	110.1	11.1	991.9
14	403	0.0000E+00	0.0	9.5506E-02	12.7	2.4579E-01	8.4	2.0224E-02	4.0	9.4156E+00	4.2	5.2085E+01	7.2	9.5506E-02	12.7	0.0	122.6	8.1	1538.1
15	55	0.0000E+00	0.0	1.0769E-01	39.8	3.8462E-01	23.5	2.3501E-02	13.3	9.3900E+00	15.0	4.2166E+01	42.4	1.0769E-01	39.8	0.0	151.1	44.6	1760.7
16	39	0.0000E+00	0.0	1.3044E-01	43.4	5.2174E-01	25.2	1.1627E-02	15.3	1.1966E+01	14.0	9.7753E+01	28.8	1.3044E-01	43.4	0.0	65.6	14.6	2103.8
<i>^{238}\text{U}</i>																			
3	56	0.0000E+00	0.0	2.0513E-01	27.4	4.2308E-01	20.8	9.4253E-03	11.6	1.6586E+01	11.3	1.1732E+02	26.3	2.0513E-01	27.4	0.0	54.7	11.4	2867.5
4	36	0.0000E+00	0.0	1.7647E-01	36.2	4.1178E-01	25.9	1.1476E-02	14.5	2.3848E+01	18.3	1.2000E+02	54.0	1.7647E-01	36.2	0.0	53.5	18.7	2620.0
5	23	0.0000E+00	0.0	7.4999E-02	59.9	1.7500E-01	41.0	1.8635E-02	16.7	1.3734E+01	20.3	6.6203E+01	30.5	7.4999E-02	59.9	0.0	96.6	22.5	1068.5
6	17	0.0000E+00	0.0	1.3333E-01	75.3	6.6667E-01	40.8	7.9446E-03	26.4	1.2080E+01	20.4	1.2514E+02	67.0	1.3333E-01	75.3	0.0	51.3	20.5	2142.3
7	18	0.0000E+00	0.0	1.2821E-01	47.5	3.3334E-01	32.0	2.3248E-02	17.1	1.4685E+01	23.7	5.2685E+01	49.4	1.2821E-01	47.5	0.0	121.2	39.8	2073.5
8	24	0.0000E+00	0.0	1.1111E-01	52.7	4.1669E-01	30.7	1.5965E-02	17.5	8.3358E+00	15.8	8.2454E+01	70.7	1.1111E-01	52.7	0.0	77.7	32.1	1817.7
9	24	0.0000E+00	0.0	3.7037E-02	72.0	2.0370E-01	33.1	1.8214E-02	14.3	9.8633E+00	14.8	7.7159E+01	53.6	3.7037E-02	72.0	0.0	83.0	28.8	553.9
11	38	0.0000E+00	0.0	1.4706E-01	33.9	2.6471E-01	26.5	1.4011E-02	12.6	1.1873E+01	12.6	7.2197E+01	22.1	1.4706E-01	33.9	0.0	88.7	16.0	2312.0
12	46	0.0000E+00	0.0	1.1651E-01	30.5	1.5534E-01	26.9	1.9311E-02	10.4	1.2497E+01	12.3	4.9560E+01	29.5	1.1651E-01	30.5	0.0	128.8	29.1	1903.3
14	36	0.0000E+00	0.0	8.8236E-02	42.6	2.0588E-01	29.4	1.8973E-02	12.8	1.3551E+01	15.6	5.2281E+01	31.6	8.8236E-02	42.6	0.0	122.1	29.1	1387.6
15	70	0.0000E+00	0.0	8.1762E-02	28.9	2.7673E-01	17.0	1.7627E-02	8.3	1.6673E+01	10.9	6.7819E+01	23.7	8.1762E-02	28.9	0.0	94.4	17.9	1239.8
16	51	0.0000E+00	0.0	8.0000E-02	36.7	1.8000E-01	25.6	1.7921E-02	10.5	1.7515E+01	14.1	6.4977E+01	24.9	8.0000E-02	36.7	0.0	98.5	19.5	1097.0
17	22	0.0000E+00	0.0	2.5714E-01	37.4	6.8571E-01	26.5	1.4963E-02	17.6	1.1792E+01	18.1	7.6476E+01	48.8	2.5714E-01	37.4	0.0	83.7	27.4	3229.3
18	20	0.0000E+00	0.0	8.6957E-02	52.1	3.0435E-01	30.5	2.4056E-02	15.8	1.3254E+01	21.2	4.7120E+01	50.2	8.6957E-02	52.1	0.0	135.4	44.9	1359.6
19	14	0.0000E+00	0.0	9.0910E-02	60.3	2.7273E-01	37.6	2.5645E-02	18.7	1.2592E+01	25.2	5.0373E+01	48.5	9.0910E-02	60.3	0.0	126.7	41.1	1444.7
22	25	0.0000E+00	0.0	7.8948E-02	60.0	2.8948E-01	34.2	2.0452E-02	17.2	9.9676E+00	18.8	5.8168E+01	39.7	7.8948E-02	60.0	0.0	109.9	31.0	1170.8
23	35	0.0000E+00	0.0	1.5000E-01	35.8	5.1667E-01	22.1	1.5027E-02	13.5	5.5352E+01	29.1	7.2160E+01	72.8	1.5000E-01	35.8	0.0	88.7	37.2	2345.9
25	26	0.0000E+00	0.0	2.5000E-01	29.9	5.5358E-01	22.4	1.7944E-02	14.1	3.2448E+01	25.4	6.8415E+01	35.5	2.5000E-01	29.9	0.0	93.5	24.4	3184.8
26	72	0.0000E+00	0.0	5.0001E-02	51.2	3.0000E-01	23.3	1.6529E-02	11.7	9.7001E+00	11.5	6.2225E+01	36.0	5.0001E-02	51.2	0.0	102.8	27.1	195.0
27	1313	0.0000E+00	0.0	9.9220E-02	11.1	2.6087E-01	7.3	1.7531E-02	3.5	5.9023E+00	2.8	6.0539E+01	8.6	9.9220E-02	11.1	0.0	105.6	8.3	1609.5
28	31	0.0000E+00	0.0	1.2821E-01	33.6	3.3333E-01	22.6	3.2033E-02	12.4	8.8060E+00	15.6	3.2887E+01	38.8	1.2821E-01	33.6	0.0	193.1	53.4	2073.5
35	44	0.0000E+00	0.0	1.6883E-01	30.0	1.9481E-01	28.2	3.1010E-02	12.4	7.0013E+00	13.9	3.8601E+01	25.8	1.6883E-01	30.0	0.0	164.9	33.5	2546.1
36	44	0.0000E+00	0.0	2.3810E-02	71.6	1.1905E-01	33.5	3.7562E-02	12.1	7.9146E+00	15.5	3.1751E+01	26.6	2.3810E-02	71.6	0.0	199.9	41.5	#NUM!

Area ID ¹	Area size [Pt%-el]	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 [%]	²³⁸ U/ ²⁰⁷ Pb	±σ [%]	²⁰⁶ Pb/ ²⁰⁶ Pb	±σ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	±σ [%]	²³⁸ U/ ²⁰⁶ Pb	±σ [%]	²³⁸ U/ ²⁰⁷ Pb	±σ [%]	²⁰⁶ Pb [%] ⁴	±σ	²⁰⁶ Pb [%] ⁴	±σ			
2	71	0.0000E+00	0.0	7.9051E-02	23.2	1.5020E-01	17.4	5.7410E-02	7.3	5.6829E+00	9.6	1.9165E+01	24.1	7.9051E-02	23.2	0.0000	0.0000	1.9165E+01	24.1	7.9051E-02	23.2	0.0	327.9	62.4	1173.4	459.7
3	50	0.0000E+00	0.0	1.8965E-01	23.3	3.6207E-01	18.0	2.5450E-02	10.0	1.6483E+01	15.2	4.1950E+01	25.1	1.8965E-01	23.3	0.0000	0.0000	4.1950E+01	25.1	1.8965E-01	23.3	0.0	151.9	30.1	2739.2	382.5
5	86	0.0000E+00	0.0	5.9140E-02	31.0	1.9355E-01	18.2	2.0250E-02	7.8	8.8805E+00	8.0	5.8997E+01	24.1	5.9140E-02	31.0	0.0000	0.0000	5.8997E+01	24.1	5.9140E-02	31.0	0.0	108.4	20.9	572.2	675.0
7	38	0.0000E+00	0.0	1.1458E-01	31.8	2.6042E-01	22.5	4.2021E-02	11.4	8.0863E+00	15.5	2.7593E+01	28.8	1.1458E-01	31.8	0.0000	0.0000	2.7593E+01	28.8	1.1458E-01	31.8	0.0	229.5	50.6	1873.4	573.9
8	18	0.0000E+00	0.0	5.8823E-02	59.4	2.3529E-01	32.1	3.5196E-02	15.4	1.0481E+01	21.8	4.7075E+01	68.3	5.8823E-02	59.4	0.0000	0.0000	4.7075E+01	68.3	5.8823E-02	59.4	0.0	135.5	54.6	560.6	1294.8
9	65	0.0000E+00	0.0	4.2858E-02	41.7	1.5714E-01	22.9	2.8818E-02	9.1	9.8557E+00	11.6	3.7721E+01	16.1	4.2858E-02	41.7	0.0000	0.0000	3.7721E+01	16.1	4.2858E-02	41.7	0.0	168.7	23.2	-175.9	1039.6
10	39	0.0000E+00	0.0	6.8183E-02	42.2	3.0682E-01	22.0	2.6089E-02	11.5	1.2469E+01	15.5	4.0544E+01	29.8	6.8183E-02	42.2	0.0000	0.0000	4.0544E+01	29.8	6.8183E-02	42.2	0.0	157.1	35.7	874.1	873.7
11	30	0.0000E+00	0.0	6.6667E-02	51.6	2.0000E-01	31.6	2.6330E-02	13.9	6.8925E+00	14.4	5.3224E+01	68.8	6.6667E-02	51.6	0.0000	0.0000	5.3224E+01	68.8	6.6667E-02	51.6	0.0	120.0	48.6	827.4	1077.3
12	39	0.0000E+00	0.0	9.3333E-02	39.5	9.3333E-02	39.5	1.0900E-02	12.1	1.7169E+01	15.7	6.6336E+01	26.0	9.3333E-02	39.5	0.0000	0.0000	6.6336E+01	26.0	9.3333E-02	39.5	0.0	96.5	19.8	1494.7	747.7
13	52	0.0000E+00	0.0	4.9505E-02	45.8	1.8812E-01	25.0	3.0377E-02	10.8	6.8285E+00	11.9	3.6899E+01	30.0	4.9505E-02	45.8	0.0000	0.0000	3.6899E+01	30.0	4.9505E-02	45.8	0.0	173.8	39.6	171.8	1069.3
14	14	0.0000E+00	0.0	1.0811E-01	52.6	2.7027E-01	35.6	1.2922E-02	17.1	1.9053E+01	20.5	7.9672E+01	56.8	1.0811E-01	52.6	0.0000	0.0000	7.9672E+01	56.8	1.0811E-01	52.6	0.0	80.4	29.0	1767.8	961.3
15	142	0.0000E+00	0.0	6.1476E-02	26.6	2.3361E-01	14.7	2.5476E-02	6.9	7.1126E+00	7.1	4.1438E+01	18.7	6.1476E-02	26.6	0.0000	0.0000	4.1438E+01	18.7	6.1476E-02	26.6	0.0	153.7	23.9	655.9	570.6
16	52	0.0000E+00	0.0	7.9647E-02	34.6	3.2744E-01	18.9	2.4695E-02	10.1	9.3966E+00	10.1	4.2842E+01	20.8	7.9647E-02	34.6	0.0000	0.0000	4.2842E+01	20.8	7.9647E-02	34.6	0.0	148.7	25.3	1188.3	684.0
18	19	0.0000E+00	0.0	8.3334E-02	60.1	2.2222E-01	39.1	3.6511E-02	18.4	1.1716E+01	27.8	2.8770E+01	54.2	8.3334E-02	60.1	0.0000	0.0000	2.8770E+01	54.2	8.3334E-02	60.1	0.0	220.3	76.6	1277.1	1171.6
19	105	0.0000E+00	0.0	8.0852E-02	23.9	1.4468E-01	18.4	2.3629E-02	7.0	9.5636E+00	8.0	4.5206E+01	18.4	8.0852E-02	23.9	0.0000	0.0000	4.5206E+01	18.4	8.0852E-02	23.9	0.0	141.0	21.7	1217.8	469.0
20	28	0.0000E+00	0.0	8.3333E-02	52.0	1.8020E-01	27.1	1.8020E-02	15.2	1.6412E+01	19.8	5.1941E+01	65.0	8.3333E-02	52.0	0.0000	0.0000	5.1941E+01	65.0	8.3333E-02	52.0	0.0	122.9	48.2	1277.0	1014.6
21	1131	0.0000E+00	0.0	9.0910E-02	13.1	2.5710E-01	8.3	1.5928E-02	4.0	6.0466E+00	3.1	6.5105E+01	8.1	9.0910E-02	13.1	0.0000	0.0000	6.5105E+01	8.1	9.0910E-02	13.1	0.0	98.3	7.3	1444.7	248.8
24	35	0.0000E+00	0.0	7.6924E-02	51.9	1.9231E-01	34.5	2.3760E-02	14.8	1.9708E+01	17.9	4.7843E+01	48.2	7.6924E-02	51.9	0.0000	0.0000	4.7843E+01	48.2	7.6924E-02	51.9	0.0	133.4	43.1	1119.2	1035.1
25	18	0.0000E+00	0.0	1.6666E-01	48.3	9.9999E-02	60.5	3.0058E-02	19.8	5.3552E+00	19.6	4.6991E+01	67.7	1.6666E-01	48.3	0.0000	0.0000	4.6991E+01	67.7	1.6666E-01	48.3	0.0	135.7	54.4	2524.4	811.1
28	39	0.0000E+00	0.0	1.4754E-01	35.7	1.4754E-01	35.7	2.3057E-02	13.7	8.4636E+00	14.7	4.5876E+01	32.1	1.4754E-01	35.7	0.0000	0.0000	4.5876E+01	32.1	1.4754E-01	35.7	0.0	139.0	33.5	2317.6	612.4
29	72	0.0000E+00	0.0	6.1539E-02	36.4	2.1539E-01	20.8	2.7792E-02	9.5	7.2051E+00	10.3	4.0549E+01	29.7	6.1539E-02	36.4	0.0000	0.0000	4.0549E+01	29.7	6.1539E-02	36.4	0.0	157.0	35.6	658.1	781.1
33	135	0.0000E+00	0.0	9.2593E-02	27.0	3.8272E-01	14.9	2.1083E-02	8.3	6.5866E+00	7.7	5.5181E+01	16.6	9.2593E-02	27.0	0.0000	0.0000	5.5181E+01	16.6	9.2593E-02	27.0	0.0	115.8	16.3	1479.6	511.7
34	45	0.0000E+00	0.0	1.2359E-01	32.0	3.2584E-01	21.4	2.3347E-02	11.3	9.4650E+00	12.9	4.9757E+01	30.7	1.2359E-01	32.0	0.0000	0.0000	4.9757E+01	30.7	1.2359E-01	32.0	0.0	128.3	29.9	2008.8	567.2
35	65	0.0000E+00	0.0	1.0714E-01	30.4	2.4107E-01	21.4	2.4804E-02	10.1	5.7341E+00	9.5	4.6815E+01	41.2	1.0714E-01	30.4	0.0000	0.0000	4.6815E+01	41.2	1.0714E-01	30.4	0.0	136.3	39.4	1751.4	555.9
37	67	0.0000E+00	0.0	1.2346E-01	33.5	2.7161E-01	24.0	1.7938E-02	11.7	7.8248E+00	10.8	6.0017E+01	32.2	1.2346E-01	33.5	0.0000	0.0000	6.0017E+01	32.2	1.2346E-01	33.5	0.0	106.5	25.8	2006.8	595.0

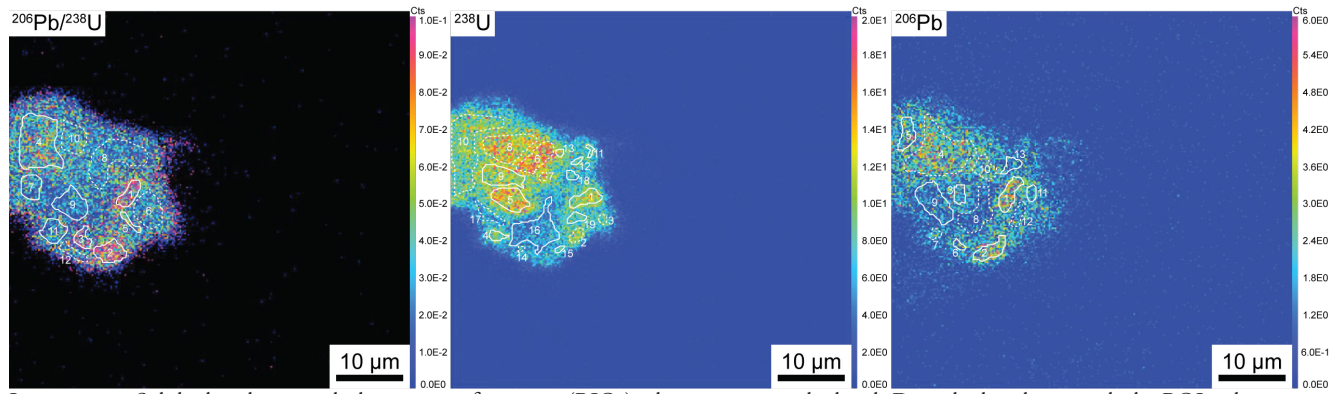
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

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

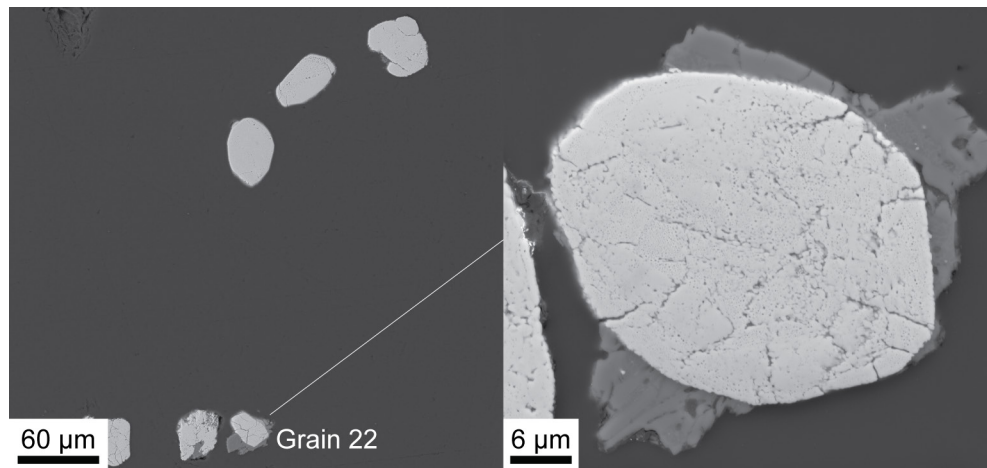
Corrected ratios³ Values corrected for common Pb where ²⁰⁶Pb exceeds detection limit.

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

Ion image 57 grain 22



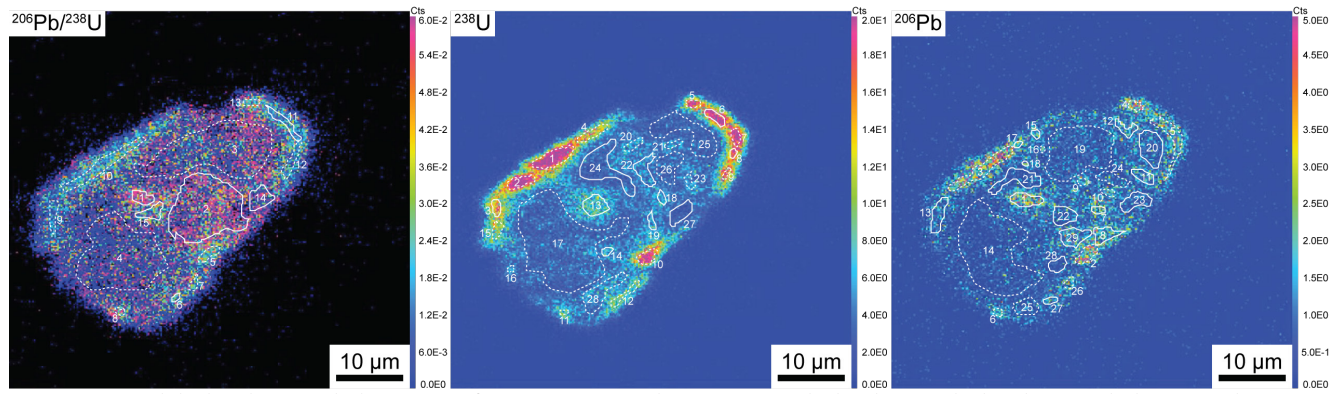
Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



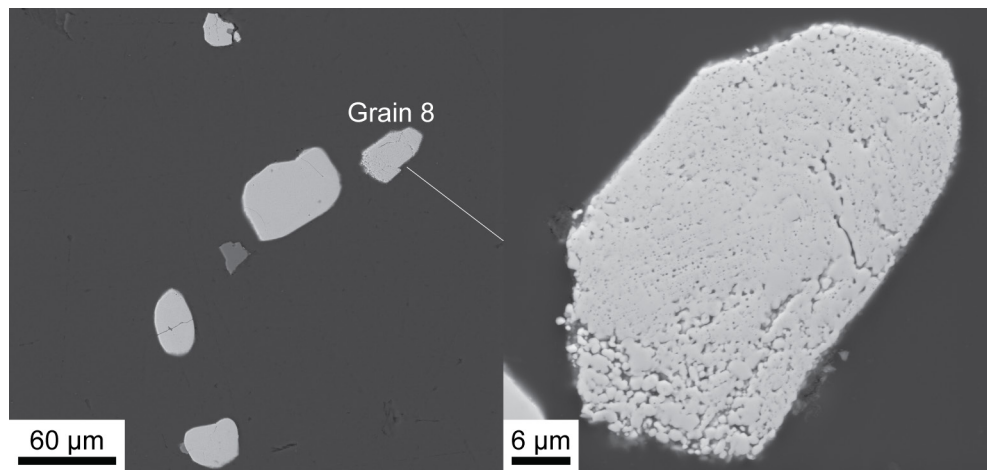
BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 369.0 μm . Right) HV = 15 kV, WD = 9.06 mm, View Field = 49.2 μm ; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [PIX-el]	Measured ratios ²										Uncorrected ratios										Corrected ratios ³										Age [Ma]																			
		$^{206}\text{Pb}/^{238}\text{U}$		$^{206}\text{Pb}/^{207}\text{Pb}$		$^{206}\text{Pb}/^{235}\text{U}$		$^{206}\text{Pb}/^{207}\text{Pb}$		$^{238}\text{U}/^{206}\text{Pb}$		$^{238}\text{U}/^{207}\text{Pb}$		$^{238}\text{U}/^{206}\text{Pb}$		$^{238}\text{U}/^{207}\text{Pb}$		$^{206}\text{Pb}/^{207}\text{Pb}$		$^{206}\text{Pb}/^{207}\text{Pb}$		$^{206}\text{Pb}/^{207}\text{Pb}$		$^{238}\text{U}/^{206}\text{Pb}$		$^{238}\text{U}/^{207}\text{Pb}$		$^{206}\text{Pb}/^{207}\text{Pb}$		$^{206}\text{Pb}/^{207}\text{Pb}$																					
		$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]																				
1	147	0.0000E+00	0.0	1.1752E-01	14.0	1.8350E-01	11.5	7.5233E-02	5.5	4.1038E+00	6.9	1.1157E+01	27.2	1.1752E-01	14.0	0.0000	0.0000	0.0000	1.1157E+01	27.2	1.1752E-01	14.0	0.0000	0.0000	0.0000	1.1157E+01	27.2	1.1752E-01	14.0	0.0	553.3	114.4	1918.9	251.1																	
2	220	0.0000E+00	0.0	1.0145E-01	13.2	9.0177E-02	13.9	8.4251E-02	4.9	2.7616E+00	5.5	1.1178E+01	39.7	1.0145E-01	13.2	0.0000	0.0000	0.0000	1.1178E+01	39.7	1.0145E-01	13.2	0.0000	0.0000	0.0000	1.1178E+01	39.7	1.0145E-01	13.2	0.0	552.4	152.2	1650.8	245.1																	
3	99	0.0000E+00	0.0	1.3333E-01	22.7	1.2727E-01	23.2	6.2803E-02	9.1	2.8752E+00	9.4	1.0454E+01	49.3	1.3333E-01	22.7	0.0000	0.0000	0.0000	1.0454E+01	49.3	1.3333E-01	22.7	0.0000	0.0000	0.0000	1.0454E+01	49.3	1.3333E-01	22.7	0.0	588.9	188.6	2142.3	396.8																	
4	817	1.0081E-03	70.8	8.5686E-02	8.0	3.1250E-02	12.9	4.0623E-02	2.5	7.4562E+00	3.2	2.9706E+01	69.3	8.5686E-02	8.0	0.0189	0.0133	0.0133	2.9146E+01	79.1	7.1275E-02	17.8	1.9	217.5	95.1	965.3	363.3	661.7	129.0	1464.0	661.7																				
5	50	0.0000E+00	0.0	9.1837E-02	34.8	1.2245E-01	30.6	4.0853E-02	11.3	4.5343E+00	11.8	1.9989E+01	71.2	9.1837E-02	34.8	0.0000	0.0000	0.0000	1.9989E+01	71.2	9.1837E-02	34.8	0.0000	0.0000	0.0000	1.9989E+01	71.2	9.1837E-02	34.8	0.0	314.7	129.0	1464.0	661.7																	
7	186	0.0000E+00	0.0	1.4760E-01	16.9	1.8081E-01	15.5	2.7603E-02	6.6	6.5331E+00	6.8	4.5418E+01	88.7	1.4760E-01	16.9	0.0000	0.0000	0.0000	4.5418E+01	88.7	1.4760E-01	16.9	0.0000	0.0000	0.0000	4.5418E+01	88.7	1.4760E-01	16.9	0.0	140.4	65.6	2318.3	290.5																	
9	307	0.0000E+00	0.0	5.3880E-02	20.5	2.9310E-01	9.8	1.9611E-02	4.9	5.6959E+00	4.1	4.4501E+01	46.4	5.3880E-02	20.5	0.0000	0.0000	0.0000	4.4501E+01	46.4	5.3880E-02	20.5	0.0000	0.0000	0.0000	4.4501E+01	46.4	5.3880E-02	20.5	0.0	143.3	45.1	366.0	462.8																	
11	190	0.0000E+00	0.0	1.1060E-01	21.5	1.4286E-01	19.2	2.7955E-02	7.3	5.3395E+00	7.0	2.7494E+01	53.9	1.1060E-01	21.5	0.0000	0.0000	0.0000	2.7494E+01	53.9	1.1060E-01	21.5	0.0000	0.0000	0.0000	2.7494E+01	53.9	1.1060E-01	21.5	0.0	230.3	79.7	1809.3	390.9																	
^{238}U																		1	154	0.0000E+00	0.0	8.7838E-02	20.5	6.4189E-02	23.7	2.9270E-02	6.3	6.5970E+00	6.7	3.2586E+01	34.7	8.7838E-02	20.5	0.0000	0.0000	3.2586E+01	34.7	8.7838E-02	20.5	0.0000	0.0000	0.0000	3.2586E+01	34.7	8.7838E-02	20.5	0.0	196.2	50.0	1378.9	393.1
4	57	0.0000E+00	0.0	7.0589E-02	42.2	1.7647E-01	28.0	2.8652E-02	11.7	6.2311E+00	12.0	2.7685E+01	83.5	7.0589E-02	42.2	0.0000	0.0000	0.0000	2.7685E+01	83.5	7.0589E-02	42.2	0.0000	0.0000	0.0000	2.7685E+01	83.5	7.0589E-02	42.2	0.0	228.7	103.1	945.5	865.0																	
5	272	0.0000E+00	0.0	5.4374E-02	21.4	3.3806E-01	9.7	1.9445E-02	5.1	5.6988E+00	4.3	4.6159E+01	39.6	5.4374E-02	21.4	0.0000	0.0000	0.0000	4.6159E+01	39.6	5.4374E-02	21.4	0.0000	0.0000	0.0000	4.6159E+01	39.6	5.4374E-02	21.4	0.0	138.2	38.9	386.6	480.8																	
9	285	0.0000E+00	0.0	7.9929E-02	15.5	8.7034E-02	14.9	3.0353E-02	4.6	6.8872E+00	5.1	2.7749E+01	43.7	7.9929E-02	15.5	0.0000	0.0000	0.0000	2.7749E+01	43.7	7.9929E-02	15.5	0.0000	0.0000	0.0000	2.7749E+01	43.7	7.9929E-02	15.5	0.0	228.2	68.6	1195.2	305.6																	
11	17	0.0000E+00	0.0	1.6667E-01	62.4	6.6667E-01	37.3	2.4745E-02	25.3	1.3445E+01	34.5	4.2403E+01	79.4	1.6667E-01	62.4	0.0000	0.0000	0.0000	4.2403E+01	79.4	1.6667E-01	62.4	0.0000	0.0000	0.0000	4.2403E+01	79.4	1.6667E-01	62.4	0.0	150.3	66.1	2524.5	1047.2																	
12	23	0.0000E+00	0.0	1.1111E-01	52.7	2.7778E-02	101.4	3.1515E-02	18.2	4.6350E+00	17.2	3.2860E+01	94.1	1.1111E-01	52.7	0.0000	0.0000	0.0000	3.2860E+01	94.1	1.1111E-01	52.7	0.0000	0.0000	0.0000	3.2860E+01	94.1	1.1111E-01	52.7	0.0	193.3	93.0	1817.7	956.7																	
13	19	0.0000E+00	0.0	6.2499E-02	72.9	1.5625E-01	48.1	2.3973E-02	18.9	7.1621E+00	19.2	4.0384E+01	77.3	6.2499E-02	72.9	0.0000	0.0000	0.0000	4.0384E+01	77.3	6.2499E-02	72.9	0.0000	0.0000	0.0000	4.0384E+01	77.3	6.2499E-02	72.9	0.0	157.7	68.3	691.2	1554.4																	
15	18	0.0000E+00	0.0	1.0526E-01	42.9	5.2632E-02	59.2	7.5246E-02	16.0	4.2000E+00	20.3	1.4731E+01	90.3	1.0526E-01	42.9	0.0000	0.0000	0.0000	1.4731E+01	90.3	1.0526E-01	42.9	0.0000	0.0000	0.0000	1.4731E+01	90.3	1.0526E-01	42.9	0.0	423.4	197.4	1718.9	788.8																	
16	503	0.0000E+00	0.0	9.4980E-02	12.5	1.7368E-01	9.6	5.0305E-02	4.2	3.1899E+00	4.2	1.7462E+01	31.0	9.4980E-02	12.5	0.0000	0.0000	0.0000	1.7462E+01	31.0	9.4980E-02	12.5	0.0000	0.0000	0.0000	1.7462E+01	31.0	9.4980E-02	12.5	0.0	359.0	83.1	1527.7	235.7																	
18	40	0.0000E+00	0.0	6.8965E-02	42.2	9.1954E-02	37.0	6.2376E-02	12.6	3.9327E+00	14.6	1.2806E+01	63.0	6.8965E-02	42.2	0.0000	0.0000	0.0000	1.2806E+01	63.0	6.8965E-02	42.2	0.0000	0.0000	0.0000	1.2806E+01	63.0	6.8965E-02	42.2	0.0	484.7	183.0	897.7	870.9																	
19	57	0.0000E+00	0.0	9.1838E-02	34.8	1.0204E-01	33.2	3.6631E-02	11.2	4.8376E+00	11.4	2.3113E+01	46.4	9.1838E-02	34.8	0.0000	0.0000	0.0000	2.3113E+01	46.4	9.1838E-02	34.8	0.0000	0.0000	0.0000	2.3113E+01	46.4	9.1838E-02	34.8	0.0	273.0	85.3	1464.0	661.7																	
^{206}Pb																		1	184	0.0000E+00	0.0	1.1074E-01	12.9	1.6694E-01	10.8	7.3805E-02	4.9	4.0993E+00	6.1	1.1043E+01	23.9	1.1074E-01	12.9	0.0000	0.0000	1.1043E+01	23.9	1.1074E-01	12.9	0.0000	0.0000	0.0000	1.1043E+01	23.9	0.0	558.8	104.2	1811.7	234.0		
2	177	0.0000E+00	0.0	1.0372E-01	14.4	8.0235E-02	16.2	8.0486E-02	5.4	2.8700E+00	6.1	1.3964E+01	37.8	1.0372E-01	14.4	0.0000	0.0000	0.0000	1.3964E+01	37.8	1.0372E-01	14.4	0.0000	0.0000	0.0000	1.3964E+01	37.8	1.0372E-01	14.4	0.0	445.9	119.4	1691.7	266.1																	
3	76	0.0000E+00	0.0	6.8965E-02	32.7	3.0345E-01	17.2	2.5311E-02	8.9	5.4105E+00	8.2	2.4226E+01	64.2	6.8965E-02	32.7	0.0000	0.0000	0.0000	2.4226E+01	64.2	6.8965E-02	32.7	0.0000	0.0000	0.0000	2.4226E+01	64.2	6.8965E-02	32.7	0.0	260.7	100.7	897.7	674.7																	
5	164	0.0000E+00	0.0	6.8494E-02	20.7	2.1918E-02	35.7	3.7706E-02	5.8	7.2537E+00	7.2	2.8823E+01	62.9	6.8494E-02	20.7	0.0000	0.0000	0.0000	2.8823E+01	62.9	6.8494E-02	20.7	0.0000	0.0000	0.0000	2.8823E+01	62.9	6.8494E-02	20.7	0.0	219.9	84.0	883.5	427.4																	
6	29	0.0000E+00	0.0	7.6923E-02	51.9	1.5385E-01	38.0	5.0286E-02	15.8	3.5836E+00	16.3	1.4344E+01	78.8	7.6923E-02	51.9	0.0000	0.0000	0.0000	1.4344E+01	78.8	7.6923E-02	51.9	0.0000	0.0000	0.0000	1.4344E+01	78.8	7.6923E-02	51.9	0.0	434.4	187.8	1119.2	1035.1																	
9	391	0.0000E+00	0.0	1.0262E-01	15.3	2.8384E-01	9.9	2.0478E-02	4.9	5.6890E+00	4.2	4.4335E+01	36.6	1.0262E-01	15.3	0.0000	0.0000	0.0000	4.4335E+01	36.6	1.0262E-01	15.3	0.0000	0.0000	0.0000	4.4335E+01	36.6	1.0262E-01	15.3	0.0	143.8	38.2	1672.1	283.2																	
11	55	0.0000E+00	0.0	8.2475E-02	36.8	5.1547E-02	45.9	2.5649E-02	10.9	8.7569E+00	12.4	3.8669E+01	50.2	8.2475E-02	36.8	0.0000	0.0000	0.0000	3.8669E+01	50.2	8.2475E-02	36.8	0.0000	0.0000	0.0000	3.8669E+01	50.2	8.2475E-02	36.8	0.0	167.1	55.4	1256.8	719.2																	
13	78	0.0000E+00	0.0	8.5471E-02	33.0																																														

Ion image 58 grain 8

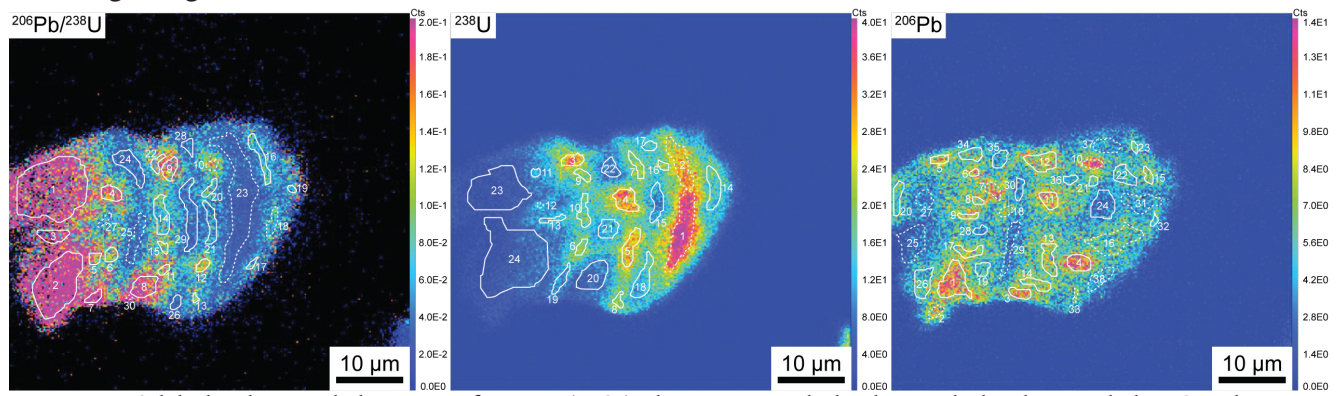


Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.

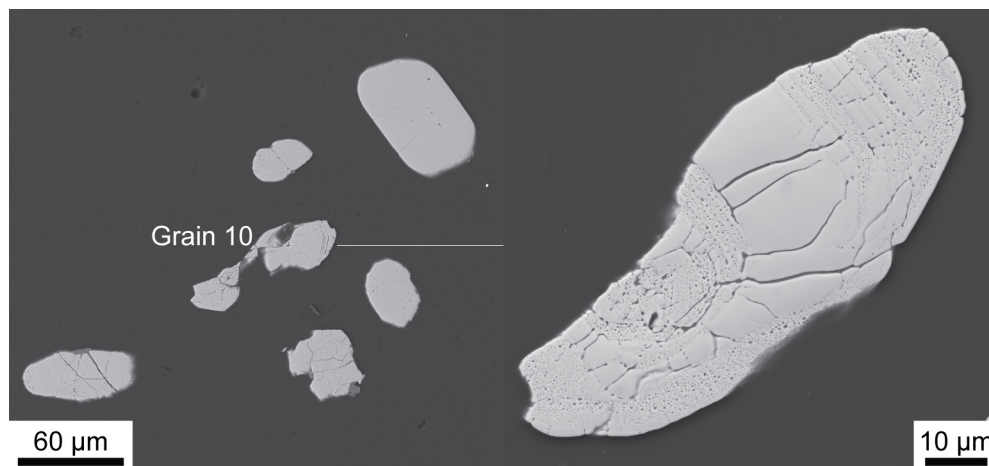


BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 305.0 µm. Right) HV = 15 kV, WD = 9.03 mm, View Field = 51.6 µm; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Ion image 59 grain 10



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 = 283.0 μm . Right) HV = 15 kV, WD = 9.03 mm, View Field = 80.7 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/ ²³⁸ U		²⁰⁷ Pb/ ²³⁵ U		²⁰⁶ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁵ U		²⁰⁶ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁵ U		²⁰⁶ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁵ U		²⁰⁶ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁵ U		²⁰⁶ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁵ U		$\pm 1\sigma$	$\pm 1\sigma$						
		$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]								
²⁰⁶ Pb/ ²³⁸ U																																	
1	1574	2.4795E-04	70.7	1.0935E-01	3.5	2.1126E-01	2.7	2.4801E-01	1.8	3.0463E+00	2.7	3.3998E+00	12.7	1.0935E-01	12.7	1.0935E-01	3.5	0.0046	0.0033	3.3840E+00	12.7	1.0596E-01	4.3	0.5	1669.0	1682.2	1731.1	79.4					
2	920	0.0000E+00	0.0	1.0488E-01	3.8	2.3334E-01	2.7	3.3911E-01	2.0	3.1976E+00	3.4	2.4900E+00	20.0	1.0488E-01	20.0	1.0488E-01	3.8	0.0000	0.0000	2.4900E+00	20.0	1.0488E-01	3.8	0.0	2176.4	315.7	1712.2	69.9					
3	146	0.0000E+00	0.0	1.2167E-01	13.2	2.2653E-01	10.3	2.5290E-01	6.9	2.7032E+00	10.4	3.8431E+00	51.5	1.2167E-01	51.5	1.2167E-01	13.2	0.0000	0.0000	3.8431E+00	51.5	1.2167E-01	13.2	0.0	1490.9	468.8	1980.9	235.7					
4	107	0.0000E+00	0.0	9.4471E-02	10.8	2.0703E-01	7.7	1.6750E-01	4.5	3.6462E+00	6.9	6.6763E+00	52.2	9.4471E-02	52.2	9.4471E-02	10.8	0.0000	0.0000	6.6763E+00	52.2	9.4471E-02	10.8	0.0	899.7	294.5	1517.6	203.5					
5	58	0.0000E+00	0.0	1.0992E-01	15.8	2.6835E-01	10.4	1.8130E-01	6.9	5.0641E+00	12.3	4.9067E+00	94.6	1.0992E-01	94.6	1.0992E-01	15.8	0.0000	0.0000	4.9067E+00	94.6	1.0992E-01	15.8	0.0	1195.7	553.8	1641.1	293.6					
6	67	0.0000E+00	0.0	1.1796E-01	15.9	1.8230E-01	13.2	1.1119E-01	6.7	4.9826E+00	10.4	9.6914E+00	69.0	1.1796E-01	69.0	1.1796E-01	15.9	0.0000	0.0000	9.6914E+00	69.0	1.1796E-01	15.9	0.0	633.0	250.9	1925.6	285.6					
7	57	0.0000E+00	0.0	9.8538E-02	14.3	2.1167E-01	10.2	3.1648E-01	7.3	3.5561E+00	12.6	3.2931E+00	80.5	9.8538E-02	80.5	9.8538E-02	14.3	0.0000	0.0000	3.2931E+00	80.5	9.8538E-02	14.3	0.0	1709.4	707.0	1596.6	266.2					
8	182	6.7795E-04	100.0	1.0780E-01	8.4	1.4508E-01	7.3	2.1985E-01	4.0	3.9025E+00	6.6	4.3679E+00	33.5	1.0780E-01	33.5	1.0780E-01	8.4	0.0127	0.0127	4.3126E+00	33.5	9.8448E-02	13.4	1.3	1344.4	312.0	1594.9	251.0					
9	104	0.0000E+00	0.0	9.9192E-02	11.3	1.4879E-01	9.4	1.6351E-01	4.8	5.4445E+00	8.6	6.0744E+00	32.5	9.9192E-02	32.5	9.9192E-02	11.3	0.0000	0.0000	6.0744E+00	32.5	9.9192E-02	11.3	0.0	982.4	227.7	1609.0	210.8					
11	32	0.0000E+00	0.0	6.2745E-02	25.8	1.5294E-01	17.2	1.4330E-01	8.5	6.4357E+00	15.9	7.5197E+00	62.9	6.2745E-02	62.9	6.2745E-02	25.8	0.0000	0.0000	7.5197E+00	62.9	6.2745E-02	25.8	0.0	804.9	298.9	699.6	548.8					
12	55	0.0000E+00	0.0	8.8922E-02	13.8	1.7629E-01	10.2	1.2018E-01	5.2	8.6984E+00	10.5	7.8371E+00	42.3	8.8922E-02	42.3	8.8922E-02	13.8	0.0000	0.0000	7.8371E+00	42.3	8.8922E-02	13.8	0.0	774.1	181.4	1402.5	264.8					
13	18	0.0000E+00	0.0	1.4000E-01	28.5	1.8000E-01	25.6	8.1141E-02	12.2	7.0699E+00	19.8	2.0883E+01	42.3	1.4000E-01	42.3	1.4000E-01	28.5	0.0000	0.0000	2.0883E+01	42.3	1.4000E-01	28.5	0.0	301.5	88.2	2277.2	494.2					
14	194	0.0000E+00	0.0	1.0503E-01	8.8	1.6776E-01	7.1	7.4955E-02	3.3	9.1376E+00	5.8	1.2544E+01	35.8	1.0503E-01	35.8	1.0503E-01	8.8	0.0000	0.0000	1.2544E+01	35.8	1.0503E-01	8.8	0.0	494.4	126.7	1714.9	161.1					
15	35	0.0000E+00	0.0	9.1525E-02	20.1	1.0847E-01	18.6	1.0439E-01	7.4	7.0165E+00	13.1	9.7259E+00	55.4	9.1525E-02	55.4	9.1525E-02	20.1	0.0000	0.0000	9.7259E+00	55.4	9.1525E-02	20.1	0.0	630.9	217.9	1457.6	382.4					
16	147	0.0000E+00	0.0	1.0259E-01	11.3	1.3797E-01	9.9	6.6746E-02	4.1	1.0729E+01	7.4	1.7454E+01	14.8	1.0259E-01	14.8	1.0259E-01	11.3	0.0000	0.0000	1.7454E+01	14.8	1.0259E-01	11.3	0.0	359.1	45.3	1671.6	208.2					
17	21	0.0000E+00	0.0	1.3433E-01	35.5	3.4329E-01	24.2	4.7819E-02	13.9	8.6328E+00	20.3	2.9165E+01	57.7	1.3433E-01	57.7	1.3433E-01	35.5	0.0000	0.0000	2.9165E+01	57.7	1.3433E-01	35.5	0.0	217.3	78.6	2155.3	619.6					
19	20	0.0000E+00	0.0	3.1746E-02	71.8	2.3811E-01	28.7	5.5442E-02	14.6	9.4516E+00	23.5	1.5945E+01	41.9	3.1746E-02	41.9	3.1746E-02	71.8	0.0000	0.0000	1.5945E+01	41.9	3.1746E-02	71.8	0.0	392.1	113.3	-988.4	2133.7					
20	52	0.0000E+00	0.0	7.1427E-02	21.6	1.4596E-01	15.6	7.7280E-02	6.7	1.1002E+01	13.2	1.4786E+01	28.5	7.1427E-02	28.5	7.1427E-02	21.6	0.0000	0.0000	1.4786E+01	28.5	7.1427E-02	21.6	0.0	421.9	91.3	969.7	440.3					
21	138	0.0000E+00	0.0	9.4031E-02	14.5	2.0253E-01	10.4	4.8053E-02	4.8	1.0461E+01	7.7	2.3081E+01	16.4	9.4031E-02	16.4	9.4031E-02	14.5	0.0000	0.0000	2.3081E+01	16.4	9.4031E-02	14.5	0.0	273.4	37.8	1508.7	273.8					
22	49	0.0000E+00	0.0	1.1461E-01	16.7	2.2349E-01	12.5	9.4379E-02	6.7	9.7639E+00	13.2	1.2429E+01	54.7	1.1461E-01	54.7	1.1461E-01	16.7	0.0000	0.0000	1.2429E+01	54.7	1.1461E-01	16.7	0.0	498.8	171.9	1873.8	300.9					
24	227	9.5510E-04	100.1	8.0230E-02	11.3	2.7985E-01	6.6	3.2002E-02	3.4	1.3559E+01	5.2	3.0262E+01	19.0	8.0230E-02	19.0	8.0230E-02	11.3	0.0179	0.0179	2.9721E+01	58.1	6.6491E-02	25.6	1.8	213.3	77.6	821.9	533.8					
26	48	0.0000E+00	0.0	7.4866E-02	27.7	2.0321E-01	17.8	3.5023E-02	8.1	1.2873E+01	12.5	3.3132E+01	52.1	7.4866E-02	52.1	7.4866E-02	27.7	0.0000	0.0000	3.3132E+01	52.1	7.4866E-02	27.7	0.0	191.7	65.0	1064.9	557.2					
28	54	0.0000E+00	0.0	7.7347E-02	27.7	2.2099E-01	17.5	3.3007E-02	8.1	1.6291E+01	13.8	3.0399E+01	43.8	7.7347E-02	43.8	7.7347E-02	27.7	0.0000	0.0000	3.0399E+01	43.8	7.7347E-02	27.7	0.0	208.6	62.8	1130.1	552.5					
29	284	0.0000E+00	0.0	8.1518E-02	9.1	2.1095E-01	6.0	3.6296E-02	2.8	1.3105E+01	4.4	2.6925E+01	25.3	8.1518E-02	25.3	8.1518E-02	9.1	0.0000	0.0000	2.6925E+01	25.3	8.1518E-02	9.1	0.0	235.1	46.8	1234.0	178.3					
²⁰⁷ Pb																																	
3	92	0.0000E+00	0.0	6.6039E-02	17.5	2.6226E-01	9.5	3.2624E-02	4.8	1.3931E+01	7.4	3.4804E+01	70.0	6.6039E-02	70.0	6.6039E-02	17.5	0.0000	0.0000	3.4804E+01	70.0	6.6039E-02	17.5	0.0	182.6	74.5	807.6	365.2					
4	182	0.0000E+00	0.0	7.8241E-02	10.1	1.5946E-01	7.4	4.1282E-02	3.0	1.2289E+01	5.0	2.3652E+01	34.5	7.8241E-02	34.5	7.8241E-02	10.1	0.0000	0.0000	2.3652E+01	34.5	7.8241E-02	10.1	0.0	266.9	67.5	1153.0	201.1					
5	166	0.0000E+00	0.0	7.0790E-02	11.1	1.8877E-01	7.2	4.5453E-02	3.2	1.3386E+01	5.7	2.1663E+01	31.5	7.0790E-02	31.5	7.0790E-02	11.1	0.0000	0.0000	2.1663E+01	31.5	7.0790E-02	11.1	0.0	290.9	68.5	951.4	226.9					
6	55	0.0000E+00	0.0	9.8815E-02	21.0	2.0949E-01	15.1	3.7935E-02	7.0	1.3208E+01	11.3	2.1155E+01	59.7	9.8815E-02	59.7	9.8815E-02	21.0	0.0000	0.0000	2.1155E+01	59.7	9.8815E-02	21.0	0.0	298.0	109.8	1601.9	391.0					
7	83	0.0000E+00	0.0	7.4766E-02	18.3	2.1966E-01	11.3	4.3111E-02	5.4	1.4897E+01	9.8	2.2951E+01	42.6	7.4766E-02	42.6	7.4766E-02	18.3	0.0000	0.0000	2.2951E+01	42.6	7.4766E-02	18.3	0.0	274.9	80.9	1062.2	368.8					
8	40	0.0000E+00	0.0	1.0345E-01	27.1	2.3448E-01	19.0	3.0067E-02	9.0	1.2156E+01	12.8	2.7667E+01	55.2	1.0345E-01	55.2	1.0345E-01	27.1	0.0000	0.0000	2.7667E+01	55.2	1.0345E-01	27.1	0.0	228.9	80.5	1686.9	500.4					
9	50	0.0000E+00	0.0	6.5326E-02	28.6	2.1608E-01	16.8	3.2539E-02	7.8	1.3937E+01	12.1	3.4124E+01	56.8	6.5326E-02	56.8	6.5326E-02	28.6	0.0000	0.0000	3.4124E+01	56.8	6.5326E-02	28.6	0.0	186.2	66.8	784.9	601.3					
10	110	0.0000E+00	0.0	7.5342E-02	18.0	2.3288E-01	11.0	3.8358E-02	5.3	1.1240E+01	8.0	2.1338E+01	44.2	7.5342E-02	44.2	7.5342E-02	18.0	0.0000	0.0000	2.1338E+01	44.2	7.5342E-02	18.0	0.0	295.2	89.0	1077.6	362.3					

Area ID ¹	Area size [Pix ²]	Measured ratios ²										Uncorrected ratios										Corrected ratios ³										Age [Ma]	
		²⁰⁷ Pb/ ²⁰⁶ Pb		²⁰⁷ Pb/ ²⁰⁸ Pb		²⁰⁷ Pb/ ²³² Th		²⁰⁷ Pb/ ²³⁵ U		²⁰⁷ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁸ 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	±σ	±σ				
11	29	0.0000E+00	0.0	1.1721E-01	18.7	2.1978E-01	14.3	1.2613E-01	8.0	6.6679E+00	14.6	3.7710E+00	76.2	1.1721E-01	18.7	0.0000	0.0000	3.7710E+00	76.2	1.1721E-01	18.7	0.0	1516.3	612.5	1914.2	335.4							
13	47	0.0000E+00	0.0	1.0619E-01	21.5	2.8318E-01	14.2	6.0236E-02	7.8	8.1045E+00	12.1	1.6109E+01	82.9	1.0619E-01	21.5	0.0000	0.0000	1.6109E+01	82.9	1.0619E-01	21.5	0.0	388.3	173.1	1735.1	393.8							
14	190	0.0000E+00	0.0	9.9268E-02	10.8	1.9227E-01	8.1	5.5148E-02	3.7	1.0237E+01	6.2	1.0237E+01	13.1	9.9268E-02	10.8	0.0000	0.0000	2.0137E+01	13.1	9.9268E-02	10.8	0.0	312.4	35.5	1610.4	200.5							
15	150	0.0000E+00	0.0	1.1389E-01	14.9	1.9362E-01	11.9	4.8322E-02	5.4	1.2188E+01	9.3	2.6073E+01	23.1	1.1389E-01	14.9	0.0000	0.0000	2.6073E+01	23.1	1.1389E-01	14.9	0.0	242.6	44.9	1862.5	269.6							
16	32	0.0000E+00	0.0	1.0714E-01	19.2	2.0357E-01	14.5	7.1746E-02	7.2	1.0643E+01	13.4	1.5982E+01	44.8	1.0714E-01	19.2	0.0000	0.0000	1.5982E+01	44.8	1.0714E-01	19.2	0.0	391.2	118.6	1751.4	351.6							
17	44	0.0000E+00	0.0	7.6142E-02	26.8	1.3706E-01	20.5	5.4971E-02	8.2	9.4631E+00	13.3	1.7627E+01	36.4	7.6142E-02	26.8	0.0000	0.0000	1.7627E+01	36.4	7.6142E-02	26.8	0.0	355.7	93.0	1098.8	535.8							
18	195	7.8676E-04	100.0	9.1266E-02	9.7	1.8253E-01	7.1	8.1997E-02	3.4	8.1342E+00	5.9	1.3049E+01	25.6	9.1266E-02	9.7	0.0147	0.0147	1.2857E+01	31.9	8.0149E-02	18.2	1.5	482.9	113.5	1200.7	358.1							
19	86	0.0000E+00	0.0	9.1644E-02	17.9	1.8059E-01	13.3	7.3461E-02	6.2	5.6385E+00	8.9	1.0641E+01	54.7	9.1644E-02	17.9	0.0000	0.0000	1.0641E+01	54.7	9.1644E-02	17.9	0.0	579.0	198.8	1460.0	340.6							
20	283	4.9211E-04	100.0	1.0285E-01	7.3	1.4715E-01	6.2	1.7696E-01	3.2	4.4947E+00	5.4	5.2019E+00	29.8	1.0285E-01	7.3	0.0092	0.0092	5.1540E+00	30.0	9.6046E-02	10.7	0.9	1143.1	246.1	1548.7	200.3							
21	132	0.0000E+00	0.0	1.0724E-01	11.8	1.7292E-01	9.5	7.9131E-02	4.4	7.9204E+00	7.5	1.2693E+01	20.7	1.0724E-01	11.8	0.0000	0.0000	1.2693E+01	20.7	1.0724E-01	11.8	0.0	488.9	81.2	1753.0	215.2							
22	100	0.0000E+00	0.0	1.0628E-01	11.2	1.5821E-01	9.4	1.6920E-01	4.9	5.1194E+00	8.7	6.0431E+00	22.2	1.0628E-01	11.2	0.0000	0.0000	6.0431E+00	22.2	1.0628E-01	11.2	0.0	987.1	168.5	1736.5	205.6							
23	880	5.1853E-04	70.7	1.1278E-01	5.1	2.0793E-01	3.9	2.6166E-01	2.6	2.8513E+00	4.0	3.4199E+00	47.3	1.1278E-01	5.1	0.0097	0.0069	3.3868E+00	46.9	1.0570E-01	7.3	1.0	1667.8	487.0	1726.6	133.7							
24	1641	1.8709E-04	70.7	1.0795E-01	3.1	2.4490E-01	2.2	2.3744E-01	1.5	3.8706E+00	2.5	3.6520E+00	19.7	1.0795E-01	3.1	0.0035	0.0025	3.6520E+00	19.6	1.0540E-01	3.6	0.3	1565.0	232.0	1721.2	66.6							
<i>²⁰⁶Pb</i>																																	
1	328	0.0000E+00	0.0	9.6809E-02	5.7	2.5682E-01	3.8	3.2975E-01	2.9	4.1418E+00	5.4	3.0142E+00	46.0	9.6809E-02	5.7	0.0000	0.0000	3.0142E+00	46.0	9.6809E-02	5.7	0.0	1846.9	527.0	1563.5	106.9							
3	78	0.0000E+00	0.0	9.0794E-02	12.3	1.3493E-01	10.3	3.0965E-01	6.0	3.3544E+00	10.1	3.4035E+00	40.7	9.0794E-02	12.3	0.0000	0.0000	3.4035E+00	40.7	9.0794E-02	12.3	0.0	1660.6	438.0	1442.3	234.6							
4	139	0.0000E+00	0.0	9.9263E-02	8.2	1.7953E-01	6.3	9.3647E-02	3.1	1.0698E+01	6.3	1.0365E+01	20.0	9.9263E-02	8.2	0.0000	0.0000	1.0365E+01	20.0	9.9263E-02	8.2	0.0	597.1	95.8	1610.3	153.5							
5	60	0.0000E+00	0.0	1.0484E-01	14.6	2.8628E-01	9.5	2.7061E-01	7.3	4.8418E+00	13.8	2.3801E+00	93.1	1.0484E-01	14.6	0.0000	0.0000	2.3801E+00	93.1	1.0484E-01	14.6	0.0	2261.2	992.3	1711.4	268.2							
6	24	0.0000E+00	0.0	1.1245E-01	19.9	2.1285E-01	15.1	1.4635E-01	8.7	6.5825E+00	16.4	6.9508E+00	75.5	1.1245E-01	19.9	0.0000	0.0000	6.9508E+00	75.5	1.1245E-01	19.9	0.0	866.5	358.6	1839.3	360.9							
8	28	0.0000E+00	0.0	1.0373E-01	21.0	1.7012E-01	16.9	2.1208E-01	9.7	4.1096E+00	16.4	3.1189E+00	81.0	1.0373E-01	21.0	0.0000	0.0000	3.1189E+00	81.0	1.0373E-01	21.0	0.0	1792.8	741.7	1692.0	387.4							
9	40	0.0000E+00	0.0	1.3202E-01	15.5	2.1910E-01	12.5	1.8919E-01	7.8	5.1319E+00	14.0	6.4227E+00	63.8	1.3202E-01	15.5	0.0000	0.0000	6.4227E+00	63.8	1.3202E-01	15.5	0.0	932.8	347.3	2125.0	271.8							
11	115	0.0000E+00	0.0	8.4368E-02	10.7	1.2344E-01	9.0	6.8033E-02	3.5	9.9389E+00	6.3	1.3432E+01	23.8	8.4368E-02	10.7	0.0000	0.0000	1.3432E+01	23.8	8.4368E-02	10.7	0.0	462.9	86.6	1301.0	207.5							
12	199	0.0000E+00	0.0	1.0133E-01	8.1	1.7913E-01	6.3	1.2000E-01	3.2	8.2082E+00	6.3	8.7947E+00	27.2	1.0133E-01	8.1	0.0000	0.0000	8.7947E+00	27.2	1.0133E-01	8.1	0.0	694.2	142.4	1648.5	150.2							
13	157	0.0000E+00	0.0	9.1926E-02	9.7	1.4309E-01	8.0	1.0847E-01	3.6	6.6013E+00	6.3	8.4789E+00	29.9	9.1926E-02	9.7	0.0000	0.0000	8.4789E+00	29.9	9.1926E-02	9.7	0.0	718.7	158.5	1465.9	185.0							
14	96	0.0000E+00	0.0	9.4391E-02	12.6	1.6279E-01	9.9	1.7673E-01	5.3	5.2527E+00	9.5	5.9744E+00	43.1	9.4391E-02	12.6	0.0000	0.0000	5.9744E+00	43.1	9.4391E-02	12.6	0.0	997.7	284.6	1515.9	237.5							
15	47	0.0000E+00	0.0	1.1006E-01	17.8	1.1949E-01	17.2	6.5453E-02	6.6	1.1384E+01	12.4	1.6806E+01	33.1	1.1006E-01	17.8	0.0000	0.0000	1.6806E+01	33.1	1.1006E-01	17.8	0.0	372.6	90.6	1800.4	324.0							
17	92	0.0000E+00	0.0	1.4427E-01	10.6	2.8147E-01	8.0	2.2273E-01	5.8	4.7448E+00	10.4	4.4247E+00	51.0	1.4427E-01	10.6	0.0000	0.0000	4.4247E+00	51.0	1.4427E-01	10.6	0.0	1313.5	414.6	1823.0	182.4							
19	70	0.0000E+00	0.0	1.1144E-01	17.1	2.1408E-01	12.9	1.0238E-01	6.9	5.9880E+00	11.2	7.4213E+00	74.1	1.1144E-01	17.1	0.0000	0.0000	7.4213E+00	74.1	1.1144E-01	17.1	0.0	814.9	334.2	1823.0	310.2							
20	108	0.0000E+00	0.0	1.1552E-01	13.2	1.9133E-01	10.6	3.3268E-01	7.4	2.6637E+00	11.5	2.7525E+00	173.1	1.1552E-01	13.2	0.0000	0.0000	2.7525E+00	173.1	1.1552E-01	13.2	0.0	1997.8	1192.7	1888.0	237.6							
21	33	0.0000E+00	0.0	7.1111E-02	25.9	2.0899E-01	16.0	8.1893E-02	8.1	1.0628E+01	15.9	1.3902E+01	46.5	7.1111E-02	25.9	0.0000	0.0000	1.3902E+01	46.5	7.1111E-02	25.9	0.0	447.8	138.9	960.6	528.6							
22	132	0.0000E+00	0.0	8.1204E-02	14.1	2.1203E-01	9.3	2.9268E-02	4.2	1.5241E+01	6.6	3.7170E+01	17.4	8.1204E-02	14.1	0.0000	0.0000	3.7170E+01	17.4	8.1204E-02	14.1	0.0	171.1	25.1	1226.4	277.9							
23	27	0.0000E+00	0.0	1.1875E-01	24.3	1.3125E-01	23.2	6.5223E-02	9.3	1.1660E+01	17.6	2.2249E+01	39.6	1.1875E-01	24.3	0.0000	0.0000	2.2249E+01	39.6	1.1875E-01	24.3	0.0	283.4	79.2	1937.5	434.3							
24	224	0.0000E+00	0.0	9.8616E-02	13.9	2.1107E-01	10.0	3.0613E-02	4.5	1.3597E+01	6.8	3.5971E+01	16.3	9.8616E-02	13.9	0.0000	0.0000	3.5971E+01	16.3	9.8616E-02	13.9	0.0	176.8	24.5	1598.1	259.1							
26	185	0.0000E+00	0.0	9.5288E-02	11.0	1.7173E-01	8.4	3.7467E-01	5.8	1.8845E+00	8.3	2.1094E+00	41.8	9.5288E-02	11.0	0.0000	0.0000	2.1094E+00	41.8	9.5288E-02	11.0	0.0	2501.4	642.2	1533.8	206.5							

Area ID ¹	Area size [Pix-el]	Measured ratios ²						Uncorrected ratios						Corrected ratios ³						Age [Ma]							
		²³⁴ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²³⁸ U	$\pm\sigma$ [%]	²³⁸ U/ ⁹⁹ Zr	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ 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	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	$\pm\sigma$ [%]	Age [Ma]	$\pm 1\sigma$		
28	39	0.0000E+00	0.0	8.8234E-02	30.1	3.2352E-01	17.3	7.0035E-02	10.2	5.5694E+00	14.3	8.4201E+00	97.0	8.8234E-02	30.1	0.0000	0.0000	8.4201E+00	97.0	8.8234E-02	30.1	0.0	0.0	723.4	346.0	1387.6	578.0
30	59	0.0000E+00	0.0	9.0000E-02	24.6	2.4500E-01	15.9	3.4046E-02	7.8	1.0980E+01	11.1	2.6556E+01	40.3	9.0000E-02	24.6	0.0000	0.0000	2.6556E+01	40.3	9.0000E-02	24.6	0.0	0.0	238.3	67.6	1425.5	470.0
32	21	0.0000E+00	0.0	1.2745E-01	29.5	1.5687E-01	26.9	6.1238E-02	11.6	1.0263E+01	20.2	2.0973E+01	26.0	1.2745E-01	29.5	0.0000	0.0000	2.0973E+01	26.0	1.2745E-01	29.5	0.0	0.0	300.3	60.8	2063.1	519.4
34	106	0.0000E+00	0.0	6.8038E-02	15.8	2.1044E-01	9.5	1.1267E-01	5.2	7.5249E+00	9.6	6.4276E+00	40.5	6.8038E-02	15.8	0.0000	0.0000	6.4276E+00	40.5	6.8038E-02	15.8	0.0	0.0	932.2	255.2	869.7	326.6
35	87	0.0000E+00	0.0	9.5522E-02	18.5	2.8358E-01	11.6	3.3043E-02	6.0	1.2133E+01	8.8	4.3887E+01	96.8	9.5522E-02	18.5	0.0000	0.0000	4.3887E+01	96.8	9.5522E-02	18.5	0.0	0.0	145.2	71.0	1538.4	348.0
36	44	0.0000E+00	0.0	1.1111E-01	23.0	1.5873E-01	19.6	4.5623E-02	8.2	1.2530E+01	14.0	2.4303E+01	48.1	1.1111E-01	23.0	0.0000	0.0000	2.4303E+01	48.1	1.1111E-01	23.0	0.0	0.0	259.9	83.3	1817.7	417.5

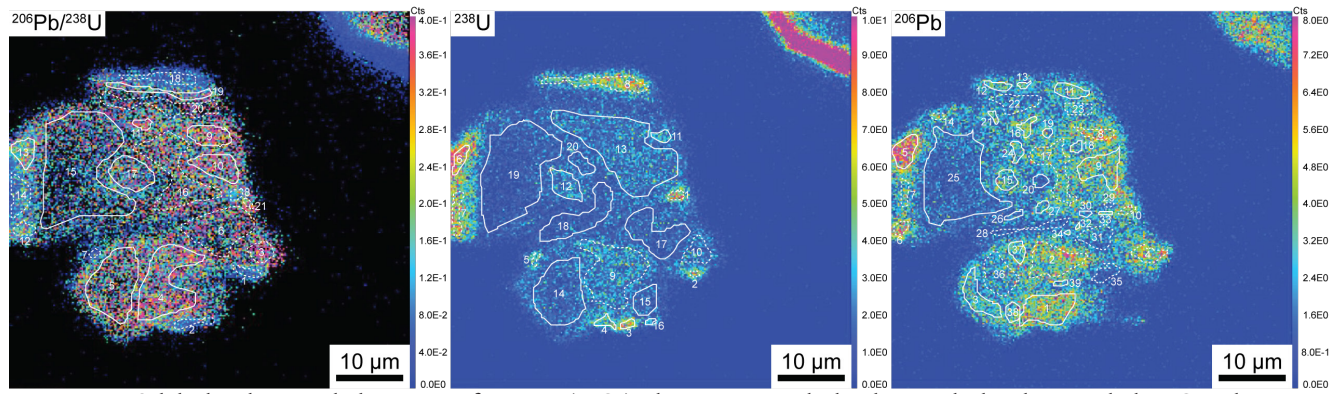
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

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

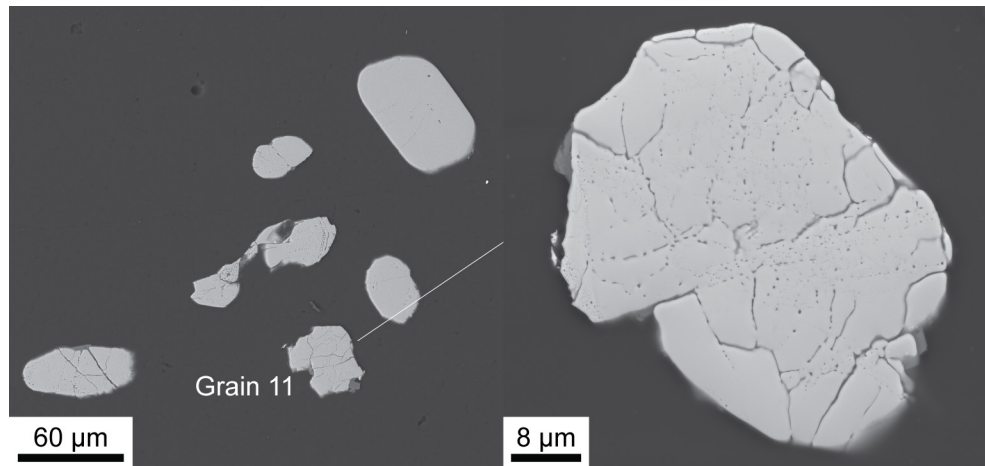
Corrected ratios³ Values corrected for common Pb where ²⁰⁶Pb exceeds detection limit.

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 60 grain 11



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 = 283.0 μm . Right) HV = 15 kV, WD = 9.04 mm, View Field = 57.5 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	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	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²³⁸ U	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁷ 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	$\pm\sigma$ [%]	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	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²³⁸ U	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²³⁸ U	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁷ 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	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁷ Pb	$\pm\sigma$ [%]		
<i>²⁰⁶Pb/²³⁸U</i>																																	
4	1228	6.2695E-04	57.8	1.0090E-01	4.6	1.4232E-01	4.1	2.8520E-01	4.1	1.4949E-00	3.0	3.2749E-00	18.1	1.0090E-01	4.6	0.0117	0.0068	3.2516E+00	18.1	1.0047E-01	7.2	1.2	1735.7	237.0	1632.8	133.2							
5	1174	9.9370E-04	57.8	1.1925E-01	5.6	1.5966E-01	4.9	2.9577E-01	3.0	1.2540E-00	3.6	2.6879E-00	32.4	1.1925E-01	5.6	0.0186	0.0107	2.6379E+00	31.9	1.0568E-01	10.0	1.9	2072.0	443.7	1726.2	184.0							
9	307	8.0127E-04	100.0	1.3862E-01	8.1	2.1154E-01	6.8	3.2088E-01	4.8	1.1763E-00	5.8	3.3541E-00	16.5	1.3862E-01	8.1	0.0150	0.0150	3.3039E+00	17.0	1.2802E-01	12.3	1.5	1704.6	221.7	2070.9	217.5							
10	404	0.0000E+00	0.0	1.1246E-01	8.2	2.1347E-01	6.2	3.1073E-01	4.4	1.0530E-00	5.1	3.5299E-00	12.5	1.1246E-01	8.2	0.0000	0.0000	3.5299E+00	12.5	1.1246E-01	8.2	0.0	1607.9	160.6	1839.5	147.7							
11	63	0.0000E+00	0.0	7.8602E-02	24.5	1.5720E-01	17.9	3.1225E-01	11.2	1.4879E-00	14.3	2.7083E-00	39.1	7.8602E-02	24.5	0.0000	0.0000	2.7083E+00	39.1	7.8602E-02	24.5	0.0	2025.8	507.8	1162.1	485.3							
13	216	6.6268E-04	100.0	1.2392E-01	7.8	6.6931E-02	10.3	1.8745E-01	3.8	5.7230E-00	7.1	6.5608E-00	70.5	1.2392E-01	7.8	0.0124	0.0124	6.4795E+00	70.1	1.1499E-01	11.6	1.2	925.2	365.5	1879.7	209.3							
15	3213	7.0671E-04	57.8	1.1567E-01	4.8	1.9176E-01	3.8	2.2075E-01	2.3	9.1820E-01	2.5	3.7950E-00	22.0	1.1567E-01	4.8	0.0132	0.0076	3.7448E+00	21.9	1.0602E-01	7.5	1.3	1525.7	248.7	1732.1	138.4							
17	482	0.0000E+00	0.0	1.1364E-01	9.4	2.0637E-01	7.3	2.0377E-01	4.5	9.9553E-01	4.7	4.3220E-00	24.7	1.1364E-01	9.4	0.0000	0.0000	4.3220E+00	24.7	1.1364E-01	9.4	0.0	1341.7	244.4	1858.4	170.5							
19	251	0.0000E+00	0.0	9.4815E-02	13.1	1.3630E-01	11.1	2.1718E-01	5.8	1.4401E-00	6.9	4.3703E-00	24.2	9.4815E-02	13.1	0.0000	0.0000	4.3703E+00	24.2	9.4815E-02	13.1	0.0	1326.7	238.1	1524.4	246.5							
<i>²³⁸U</i>																																	
3	44	0.0000E+00	0.0	7.671E-02	36.7	1.3592E-01	28.5	5.9700E-02	11.5	4.6285E-00	14.0	1.6183E-01	39.6	7.671E-02	36.7	0.0000	0.0000	1.6183E+01	39.6	7.671E-02	36.7	0.0	386.5	107.3	1138.5	730.0							
4	62	0.0000E+00	0.0	1.4575E-01	17.8	2.2672E-01	14.8	1.6839E-01	9.0	2.3018E-00	11.6	6.7186E-00	49.7	1.4575E-01	17.8	0.0000	0.0000	6.7186E+00	49.7	1.4575E-01	17.8	0.0	894.5	283.5	2296.6	306.6							
6	119	0.0000E+00	0.0	1.2635E-01	10.4	5.1744E-02	15.6	1.4658E-01	4.8	7.2548E-00	9.4	9.1507E-00	91.6	1.2635E-01	10.4	0.0000	0.0000	9.1507E+00	91.6	1.2635E-01	10.4	0.0	668.6	311.0	2047.8	183.0							
11	70	0.0000E+00	0.0	1.3253E-01	16.0	2.1386E-01	13.1	2.7893E-01	9.0	1.5590E-00	11.4	4.3299E-00	24.3	1.3253E-01	16.0	0.0000	0.0000	4.3299E+00	24.3	1.3253E-01	16.0	0.0	1339.5	240.7	2131.8	280.7							
12	285	0.0000E+00	0.0	1.2446E-01	11.4	2.2175E-01	8.9	1.9156E-01	5.6	1.0566E-00	5.8	4.2492E-00	23.1	1.2446E-01	11.4	0.0000	0.0000	4.2492E+00	23.1	1.2446E-01	11.4	0.0	1362.4	234.6	2021.2	201.5							
13	2314	5.6769E-04	50.0	1.1723E-01	3.7	2.0593E-01	2.9	2.6381E-01	1.9	1.1160E-00	2.2	3.8543E-00	18.7	1.1723E-01	3.7	0.0106	0.0053	3.8134E+00	18.6	1.0932E-01	5.4	1.1	1501.3	213.7	1791.4	97.7							
14	1122	9.9932E-04	57.8	1.1326E-01	5.7	1.5523E-01	5.0	3.0525E-01	3.1	1.1924E-00	3.7	2.6652E-00	32.0	1.1326E-01	5.7	0.0187	0.0108	2.6154E+00	31.6	9.9500E-02	10.6	1.9	2087.3	442.6	1614.7	197.8							
15	238	0.0000E+00	0.0	1.1628E-01	12.6	1.6944E-01	10.7	2.9894E-01	6.8	8.0334E-01	7.3	3.7939E-00	23.3	1.1628E-01	12.6	0.0000	0.0000	3.7939E+00	23.3	1.1628E-01	12.6	0.0	1508.1	259.0	1899.8	277.0							
16	21	0.0000E+00	0.0	2.0690E-01	44.8	2.4138E-01	42.1	8.7707E-02	23.0	1.9644E-00	23.2	1.3741E-01	71.2	2.0690E-01	44.8	0.0000	0.0000	1.3741E+01	71.2	2.0690E-01	44.8	0.0	452.8	184.5	2881.4	728.4							
17	700	7.0871E-04	100.0	1.0843E-01	8.5	2.0482E-01	6.5	2.7745E-01	4.3	6.7787E-01	4.4	3.8784E-00	13.0	1.0843E-01	8.5	0.0133	0.0133	3.8270E+00	13.8	9.8666E-02	13.9	1.3	1496.5	164.1	1599.1	259.5							
18	706	9.0662E-04	100.1	1.1152E-01	9.5	2.2484E-01	7.0	2.4998E-01	4.8	8.3693E-01	5.0	3.3911E-00	28.3	1.1152E-01	9.5	0.0170	0.0170	3.3336E+00	28.4	9.9025E-02	17.0	1.7	1691.2	337.7	1665.8	317.1							
19	2459	6.4893E-04	70.7	1.1324E-01	5.7	1.8170E-01	4.6	2.1966E-01	2.7	8.9494E-01	2.8	3.7409E-00	25.0	1.1324E-01	5.7	0.0121	0.0086	3.6955E+00	24.9	1.0436E-01	8.7	1.2	1543.9	279.9	1703.1	161.1							
20	146	0.0000E+00	0.0	8.5960E-02	19.0	2.0630E-01	12.9	2.8046E-01	8.8	1.0615E-00	10.0	3.1897E-00	26.8	8.5960E-02	19.0	0.0000	0.0000	3.1897E+00	26.8	8.5960E-02	19.0	0.0	1757.9	333.9	1337.3	367.9							
<i>²⁰⁶Pb</i>																																	
1	569	8.6933E-04	70.7	1.1396E-01	6.5	1.6007E-01	5.6	2.5361E-01	3.3	1.8213E-00	4.3	3.6187E-00	24.7	1.1396E-01	6.5	0.0163	0.0115	3.5598E+00	24.7	1.0203E-01	11.3	1.6	1596.0	286.0	1661.3	209.4							
3	319	0.0000E+00	0.0	1.2557E-01	10.1	1.5158E-01	9.3	2.8666E-01	5.6	1.2857E-00	6.7	2.8297E-00	33.3	1.2557E-01	10.1	0.0000	0.0000	2.8297E+00	33.3	1.2557E-01	10.1	0.0	1950.8	434.4	2036.8	178.1							
5	243	0.0000E+00	0.0	1.1671E-01	7.5	6.3929E-02	9.9	1.7950E-01	3.5	6.0314E-00	6.7	5.7993E-00	64.8	1.1671E-01	7.5	0.0000	0.0000	5.7993E+00	64.8	1.1671E-01	7.5	0.0	1025.5	384.1	1906.5	134.5							
9	421	6.3612E-04	100.0	1.1514E-01	7.8	2.2328E-01	5.9	3.0549E-01	4.3	1.1234E-00	5.0	3.6359E-00	13.9	1.1514E-01	7.8	0.0119	0.0119	3.5925E+00	14.4	1.0646E-01	12.0	1.2	1583.0	179.4	1759.8	219.6							
11	164	0.0000E+00	0.0	1.1262E-01	13.9	1.2039E-01	13.4	1.3663E-01	5.9	2.4211E-00	7.4	7.0238E-00	20.1	1.1262E-01	13.9	0.0000	0.0000	7.0238E+00	20.1	1.1262E-01	13.9	0.0	858.1	136.0	1842.1	250.7							
12	81	0.0000E+00	0.0	6.3025E-02	26.6	1.8487E-01	16.4	2.3289E-01	10.0	1.5597E-00	12.3	3.4603E-00	49.0	6.3025E-02	26.6	0.0000	0.0000	3.4603E+00	49.0	6.3025E-02	26.6	0.0	1636.5	493.6	709.1	566.0							
13	27	0.0000E+00	0.0	6.5933E-02	42.2	1.4286E-01	29.6	1.5448E-01	14.6	2.8824E-00	19.9	7.9198E-00	57.5	6.5933E-02	42.2	0.0000	0.0000	7.9198E+00	57.5	6.5933E-02	42.2	0.0	766.5	269.4	804.3	882.6							
15	139	0.0000E+00	0.0	1.1932E-01	16.3	2.3864E-01	12.1	2.0618E-01	8.0	8.9302E-01	8.2	4.5884E-00	18.7	1.1932E-01	16.3	0.0000	0.0000	4.5884E+00	18.7	1.1932E-01	16.3	0.0	1271.0	184.7	1946.0	291.7							
16	74	0.0000E+00	0.0	6.2730E-02	25.0	1.4022E-01	17.3	3.5499E-01	10.8	1.1869E-00	13.1	2.4818E-00	33.8	6.2730E-02	25.0	0.0000	0.0000	2.4818E+00	33.8	6.2730E-02	25.0	0.0	2182.5	485.7	699.1	532.5							

Area ID	Area size [Pix-el]	Measured ratios ²										Uncorrected ratios										Corrected ratios ³										Age [Ma]	
		$\frac{^{206}\text{Pb}}{^{204}\text{Pb}}$	$\pm\sigma$ [%]	$\frac{^{207}\text{Pb}}{^{204}\text{Pb}}$	$\pm\sigma$ [%]	$\frac{^{206}\text{Pb}}{^{208}\text{Pb}}$	$\pm\sigma$ [%]	$\frac{^{207}\text{Pb}}{^{208}\text{Pb}}$	$\pm\sigma$ [%]	$\frac{^{206}\text{Pb}}{^{238}\text{U}}$	$\pm\sigma$ [%]	$\frac{^{207}\text{Pb}}{^{238}\text{U}}$	$\pm\sigma$ [%]	$\frac{^{206}\text{Pb}}{^{208}\text{Pb}}$	$\pm\sigma$ [%]	$\frac{^{207}\text{Pb}}{^{208}\text{Pb}}$	$\pm\sigma$ [%]	$\frac{^{238}\text{U}}{^{206}\text{Pb}}$	$\pm\sigma$ [%]	$\frac{^{238}\text{U}}{^{207}\text{Pb}}$	$\pm\sigma$ [%]	$\frac{^{206}\text{Pb}}{^{208}\text{Pb}}$	$\pm\sigma$ [%]	$\frac{^{207}\text{Pb}}{^{208}\text{Pb}}$	$\pm\sigma$ [%]	$\frac{^{238}\text{U}}{^{206}\text{Pb}}$	$\pm\sigma$ [%]	$\frac{^{238}\text{U}}{^{207}\text{Pb}}$	$\pm\sigma$ [%]	$\frac{^{206}\text{Pb}}{^{208}\text{Pb}}$	$\pm\sigma$ [%]	$\frac{^{207}\text{Pb}}{^{208}\text{Pb}}$	$\pm\sigma$ [%]
18	43	0.0000E+00	0.0	9.3458E-02	33.1	2.1495E-01	23.0	2.6566E-01	15.6	9.8536E-01	17.2	3.5748E+00	36.7	9.3458E-02	33.1	0.0000	0.0000	3.5748E+00	36.7	9.3458E+00	36.7	9.3458E-02	33.1	0.0	1590.0	389.7	1497.2	625.5					
19	32	0.0000E+00	0.0	1.3208E-01	28.4	9.4339E-02	33.1	3.3271E-01	16.8	8.9824E-01	18.9	3.5536E+00	65.6	1.3208E-01	28.4	0.0000	0.0000	3.5536E+00	65.6	1.3208E+00	65.6	1.3208E-01	28.4	0.0	1598.4	586.7	2125.7	498.0					
20	67	0.0000E+00	0.0	6.4102E-02	46.1	2.3077E-01	26.1	1.7535E-01	16.3	9.7368E-01	16.3	5.9856E+00	63.9	6.4102E-02	46.1	0.0000	0.0000	5.9856E+00	63.9	6.4102E+00	63.9	6.4102E-02	46.1	0.0	995.9	370.4	745.0	975.2					
21	29	0.0000E+00	0.0	1.0588E-01	35.0	1.8823E-01	27.3	2.2807E-01	16.7	1.9997E+00	22.0	3.4737E+00	65.7	1.0588E-01	35.0	0.0000	0.0000	3.4737E+00	65.7	1.0588E+00	65.7	1.0588E-01	35.0	0.0	1630.9	598.2	1729.7	643.3					
24	78	0.0000E+00	0.0	9.3023E-02	23.4	2.3256E-01	15.7	3.1374E-01	11.6	1.0654E+00	13.5	4.1676E+00	80.7	9.3023E-02	23.4	0.0000	0.0000	4.1676E+00	80.7	9.3023E+00	80.7	9.3023E-02	23.4	0.0	1386.4	582.7	1488.4	442.7					
25	2190	0.0000E+00	0.0	1.1247E-01	6.3	1.8786E-01	5.1	2.1043E-01	3.0	8.8142E-01	3.1	4.0097E+00	18.6	1.1247E-01	6.3	0.0000	0.0000	4.0097E+00	18.6	1.1247E+00	18.6	1.1247E-01	6.3	0.0	1435.4	205.3	1839.7	115.0					
26	40	0.0000E+00	0.0	7.4628E-02	46.4	1.0448E-01	39.7	2.7185E-01	19.8	6.8328E-01	20.3	2.7449E+00	77.3	7.4628E-02	46.4	0.0000	0.0000	2.7449E+00	77.3	7.4628E+00	77.3	7.4628E-02	46.4	0.0	2002.6	798.2	1058.5	933.2					
27	52	0.0000E+00	0.0	9.3751E-02	30.2	2.1875E-01	20.9	3.2263E-01	15.1	7.7639E-01	16.4	3.3147E+00	38.1	9.3751E-02	30.2	0.0000	0.0000	3.3147E+00	38.1	9.3751E+00	38.1	9.3751E-02	30.2	0.0	1699.7	426.1	1503.1	570.6					
30	26	0.0000E+00	0.0	2.0000E-01	36.5	4.4445E-01	26.9	2.3390E-01	23.1	1.4547E+00	27.7	6.0641E+00	67.9	2.0000E-01	36.5	0.0000	0.0000	6.0641E+00	67.9	2.0000E+00	67.9	2.0000E-01	36.5	0.0	984.0	380.1	2826.2	595.9					
32	8	0.0000E+00	0.0	5.8824E-02	72.8	8.8236E-02	60.2	5.6561E-01	36.0	7.1406E-01	41.4	1.1072E+00	77.1	5.8824E-02	72.8	0.0000	0.0000	1.1072E+00	77.1	5.8824E+00	77.1	5.8824E-02	72.8	0.0	4148.4	1491.4	560.6	1585.8					
33	17	0.0000E+00	0.0	6.6666E-02	51.6	1.3333E-01	37.6	2.9357E-01	21.5	1.0625E+00	24.6	4.3737E+00	47.3	6.6666E-02	51.6	0.0000	0.0000	4.3737E+00	47.3	6.6666E+00	47.3	6.6666E-02	51.6	0.0	1327.4	397.1	827.4	1077.3					
34	7	0.0000E+00	0.0	1.2500E-01	61.2	2.5000E-01	45.6	2.8518E-01	33.6	2.0000E+00	46.3	2.9865E+00	92.7	1.2500E-01	61.2	0.0000	0.0000	2.9865E+00	92.7	1.2500E+00	92.7	1.2500E-01	61.2	0.0	1861.8	829.0	2028.8	1084.2					
37	120	0.0000E+00	0.0	9.4241E-02	17.4	1.3089E-01	15.0	3.0700E-01	8.6	1.3269E+00	10.6	2.3358E+00	47.2	9.4241E-02	17.4	0.0000	0.0000	2.3358E+00	47.2	9.4241E+00	47.2	9.4241E-02	17.4	0.0	2297.3	651.3	1513.0	329.0					
38	92	0.0000E+00	0.0	9.3247E-02	19.4	1.6399E-01	15.1	3.4036E-01	9.9	1.2667E+00	12.2	3.4835E+00	68.9	9.3247E-02	19.4	0.0000	0.0000	3.4835E+00	68.9	9.3247E+00	68.9	9.3247E-02	19.4	0.0	1626.9	615.2	1492.9	367.5					
39	26	0.0000E+00	0.0	9.9998E-02	46.9	2.4000E-01	32.2	1.5402E-01	19.6	1.3170E+00	20.7	6.5029E+00	68.9	9.9998E-02	46.9	0.0000	0.0000	6.5029E+00	68.9	9.9998E+00	68.9	9.9998E-02	46.9	0.0	922.1	360.4	1624.1	872.4					

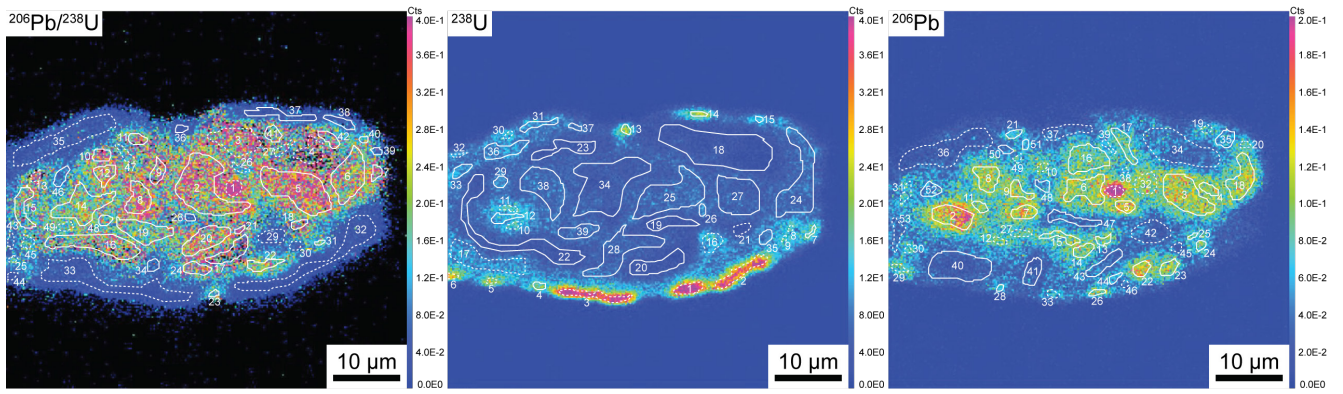
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

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

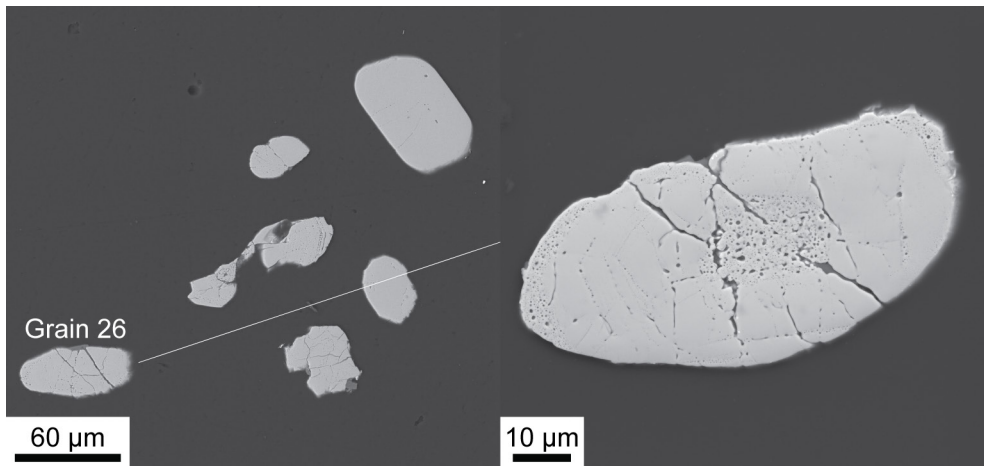
Corrected ratios³ Values corrected for common Pb where ^{204}Pb exceeds detection limit.

^{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 61 grain 26



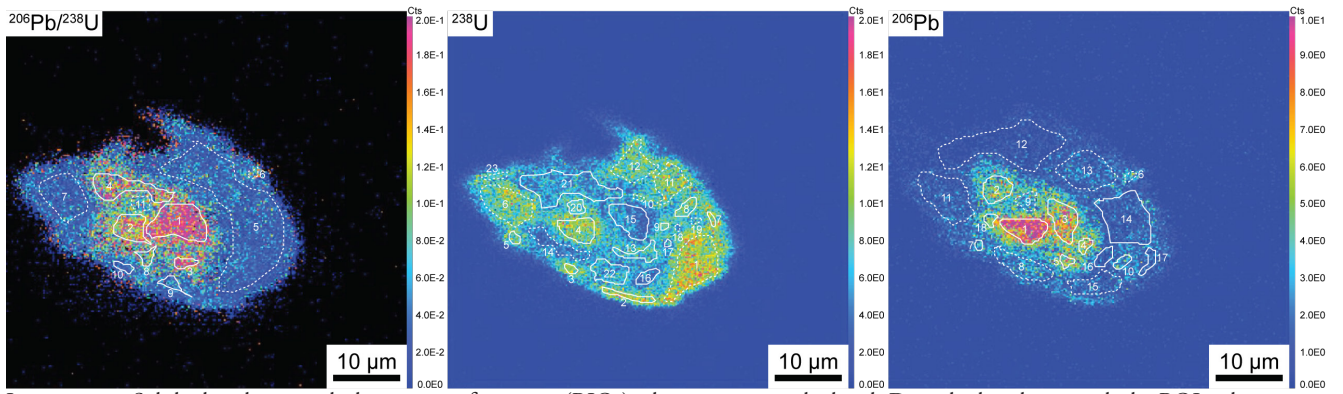
Ion imaging. Solid white lines mark the regions of interests (RIOs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



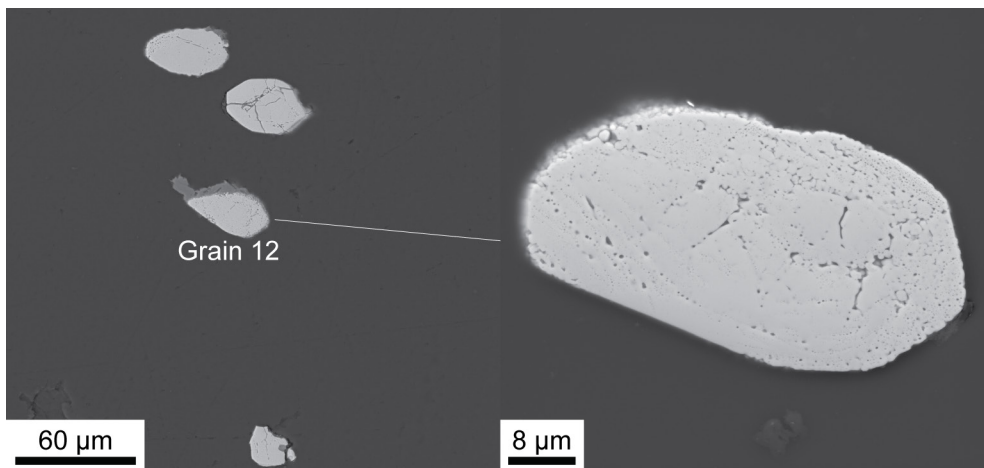
BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 283.0 µm. Right) HV = 15 kV, WD = 9.04 mm, View Field = 86.6 µm; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID	Area size [Pix-el]	Measured ratios ²				Uncorrected ratios				Corrected ratios ³				Age [Ma]						
		$\frac{^{206}\text{Pb}}{^{204}\text{Pb}}$	$\frac{^{207}\text{Pb}}{^{206}\text{Pb}}$	$\frac{^{208}\text{Pb}}{^{206}\text{Pb}}$	$\frac{\pm\sigma}{\%}$	$\frac{^{206}\text{Pb}}{^{238}\text{U}}$	$\frac{^{207}\text{Pb}}{^{238}\text{U}}$	$\frac{^{208}\text{Pb}}{^{238}\text{U}}$	$\frac{\pm\sigma}{\%}$	$\frac{^{206}\text{Pb}}{^{238}\text{U}}$	$\frac{^{207}\text{Pb}}{^{238}\text{U}}$	$\frac{^{208}\text{Pb}}{^{238}\text{U}}$	$\frac{\pm\sigma}{\%}$	$\frac{^{206}\text{Pb}}{^{208}\text{Pb}}$	$\frac{^{207}\text{Pb}}{^{208}\text{Pb}}$	$\pm 1\sigma$				
2	1009	0.0000E+00	0.0	1.0210E-01	3.3	1.0649E-01	3.3	2.9492E-01	3.3	3.3686E+00	2.8	3.7781E+00	14.4	1.0210E-01	14.4	3.7781E+00	1513.8	171.9	1662.7	61.5
5	860	6.9300E-04	40.8	1.0740E-01	3.3	9.9945E-02	3.4	3.2796E-01	1.8	3.8577E+00	3.2	3.4704E+00	7.2	1.0740E-01	7.3	3.4289E+00	1649.7	99.7	1597.6	97.5
6	516	0.0000E+00	0.0	1.0525E-01	4.7	4.0824E-02	7.4	2.4227E-01	2.3	5.9803E+00	4.7	4.7018E+00	7.9	1.0525E-01	7.9	4.7018E+00	1243.1	83.6	1718.7	86.9
7	53	0.0000E+00	0.0	1.1943E-01	13.8	4.2509E-02	22.3	2.9483E-01	7.5	5.0733E+00	14.8	3.4056E+00	34.2	1.1943E-01	34.2	3.4056E+00	1659.7	384.1	1947.7	246.1
8	251	7.4127E-04	70.7	1.0637E-01	6.2	1.9866E-01	4.7	3.1494E-01	3.3	3.6542E+00	5.7	2.7752E+00	27.4	1.0637E-01	27.2	2.7752E+00	2007.7	379.8	1558.1	195.9
9	106	0.0000E+00	0.0	1.0996E-01	11.4	1.2031E-01	11.4	3.0044E-01	6.0	2.5630E+00	9.1	3.5604E+00	32.2	1.0996E-01	32.2	3.5604E+00	1595.7	354.0	1798.7	208.0
10	80	0.0000E+00	0.0	1.1382E-01	14.1	8.7398E-02	15.9	2.9978E-01	7.6	2.4161E+00	11.2	2.1212E+00	64.1	1.1382E-01	64.1	2.1212E+00	2489.8	861.9	1861.3	254.6
11	68	0.0000E+00	0.0	1.0553E-01	16.2	7.7889E-02	18.6	2.5964E-01	8.0	2.9308E+00	12.4	3.7962E+00	51.5	1.0553E-01	51.5	3.7962E+00	1507.3	474.2	1723.5	297.9
12	134	0.0000E+00	0.0	1.0981E-01	7.9	1.3253E-01	7.6	2.9101E-01	4.3	4.9945E+00	8.4	4.0939E+00	76.1	1.0981E-01	76.1	4.0939E+00	1408.8	571.4	1953.4	141.3
14	518	0.0000E+00	0.0	1.1159E-01	4.0	1.5979E-01	4.0	2.0667E-01	1.9	5.2443E+00	3.5	4.3696E+00	19.2	1.1159E-01	19.2	4.3696E+00	1328.5	196.4	1825.5	72.7
15	202	0.0000E+00	0.0	1.1583E-01	9.2	1.1229E-01	9.4	1.8984E-01	4.3	4.6749E+00	7.6	4.0179E+00	65.9	1.1583E-01	65.9	4.0179E+00	1432.7	531.9	1892.8	166.0
16	569	0.0000E+00	0.0	1.0653E-01	5.9	1.1363E-01	5.8	2.3671E-01	2.9	3.0831E+00	4.4	3.5110E+00	31.4	1.0653E-01	31.4	3.5110E+00	1615.6	351.1	1740.8	108.7
17	221	0.0000E+00	0.0	1.0209E-01	11.5	1.1808E-01	10.8	2.4589E-01	5.5	1.4066E+00	6.6	4.4072E+00	14.2	1.0209E-01	14.2	4.4072E+00	1318.2	150.2	1662.5	213.2
18	49	0.0000E+00	0.0	1.5644E-01	19.6	1.3917E-01	20.5	2.8559E-01	11.8	1.8252E+00	15.9	3.6366E+00	27.9	1.5644E-01	27.9	3.6366E+00	1566.0	310.3	2397.9	333.7
19	366	3.6556E-04	100.0	1.0851E-01	6.1	1.9328E-01	4.8	1.9250E-01	2.8	4.2616E+00	4.7	5.0754E+00	27.5	1.0851E-01	27.5	5.0754E+00	1166.6	234.4	1688.0	149.4
20	353	3.3601E-04	100.0	1.0853E-01	5.9	1.8246E-01	4.7	2.7922E-01	3.0	3.2144E+00	4.9	3.7777E+00	15.3	1.0853E-01	15.3	3.5553E+00	1597.8	191.1	1695.6	140.4
21	20	0.0000E+00	0.0	1.4049E-01	25.9	8.2643E-02	32.9	2.8755E-01	15.0	3.0437E+00	24.0	4.7626E+00	62.7	1.4049E-01	62.7	4.7626E+00	1228.6	446.1	2233.3	448.2
22	116	0.0000E+00	0.0	1.1470E-01	8.6	5.8505E-02	11.8	2.0212E-01	4.1	6.3263E+00	8.3	6.1277E+00	17.7	1.1470E-01	17.7	6.1277E+00	974.5	137.2	1875.2	155.9
23	24	0.0000E+00	0.0	1.3967E-01	21.4	7.8211E-02	27.8	1.6268E-01	10.5	6.5373E+00	20.3	6.3804E+00	58.7	1.3967E-01	58.7	6.3804E+00	938.6	331.4	2233.1	369.9
24	111	0.0000E+00	0.0	1.1815E-01	12.7	1.3014E-01	12.2	2.5564E-01	6.6	2.5505E+00	9.7	4.2206E+00	18.6	1.1815E-01	18.6	4.2206E+00	1370.7	196.9	1928.4	228.0
28	27	0.0000E+00	0.0	2.0000E-01	27.4	3.5000E-01	22.0	5.9942E-02	13.0	8.2232E+00	20.4	1.8393E+01	46.8	2.0000E-01	46.8	2.0000E+01	341.3	106.8	2826.2	447.0
31	16	0.0000E+00	0.0	6.6666E-02	32.7	3.3333E-02	45.5	1.7572E-01	11.7	6.7623E+00	23.4	8.2545E+00	64.5	6.6666E-02	64.5	8.2545E+00	737.2	279.1	827.4	681.3
34	53	0.0000E+00	0.0	5.0505E-02	45.8	2.2222E-01	23.6	4.7869E-02	11.4	5.4611E+00	13.7	1.9935E+01	44.6	5.0505E-02	44.6	5.0505E+01	315.5	95.7	218.3	1061.0
36	31	0.0000E+00	0.0	1.2150E-01	29.4	2.3365E-01	22.2	2.8794E-02	10.5	2.2896E+01	19.7	3.8735E+01	41.7	1.2150E-01	41.7	1.2150E+01	164.3	48.0	1978.3	523.0
37	191	0.0000E+00	0.0	1.3986E-01	16.9	4.5804E-01	10.6	2.6295E-02	6.4	2.3197E+01	11.6	4.6054E+01	16.5	1.3986E-01	16.5	4.6054E+01	138.5	19.4	2225.5	292.4
38	91	0.0000E+00	0.0	1.1811E-01	19.3	2.4409E-01	14.2	5.0173E-02	7.2	2.2762E+01	16.8	2.1213E+01	13.7	1.1811E-01	13.7	1.1811E+01	296.9	35.0	1927.8	345.9
39	30	0.0000E+00	0.0	1.3913E-01	26.7	8.6956E-02	33.0	7.6214E-02	11.3	1.2551E+01	23.2	1.2506E+01	41.0	1.3913E-01	41.0	1.2506E+01	495.9	140.3	2216.4	462.6
40	21	0.0000E+00	0.0	1.1409E-01	25.6	6.4022E-02	34.3	1.8494E-01	11.9	6.7016E+00	24.0	7.6741E+00	55.4	1.1409E-01	55.4	7.6741E+00	789.6	270.5	1865.6	462.0
41	82	0.0000E+00	0.0	1.2428E-01	16.2	1.2139E-01	16.3	2.2308E-01	8.2	2.6229E+00	11.9	5.0812E+00	17.2	1.2428E-01	17.2	5.0812E+00	1158.1	157.3	2018.5	286.6
42	90	0.0000E+00	0.0	1.1531E-01	13.9	5.8463E-02	15.6	2.5779E-01	7.1	3.5593E+00	11.7	5.0137E+00	18.3	1.1531E-01	18.3	5.0137E+00	1172.4	167.7	1884.7	249.8
46	82	0.0000E+00	0.0	1.0746E-01	17.5	1.5821E-01	14.8	8.0522E-02	6.7	7.3629E+00	11.0	1.4453E+01	92.4	1.0746E-01	92.4	1.4453E+01	431.3	203.6	1756.8	320.8
48	48	0.0000E+00	0.0	1.0054E-01	17.3	1.5761E-01	14.1	1.7098E-01	7.4	6.2815E+00	14.3	5.6191E+00	66.2	1.0054E-01	66.2	5.6191E+00	1055.8	400.0	1634.1	320.5

Ion image 62 grain 12



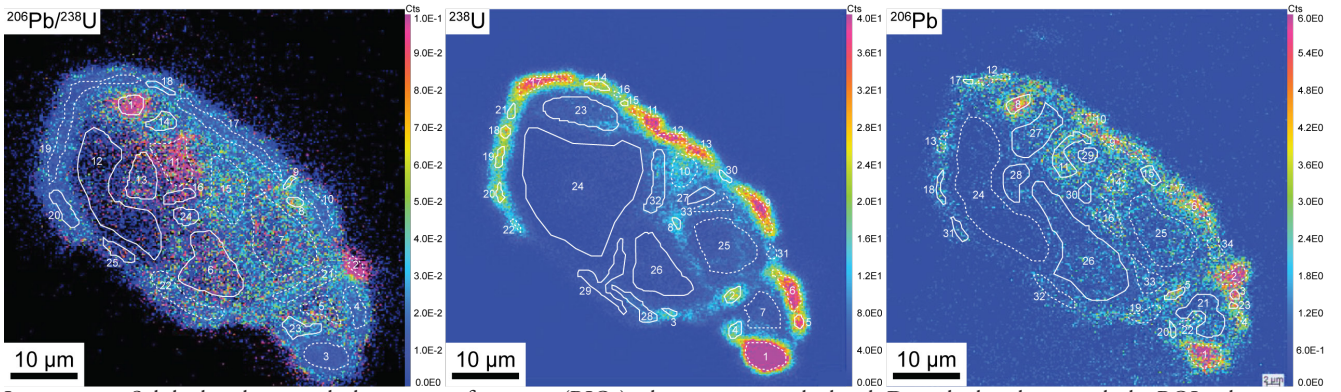
Ion imaging. Solid white lines mark the regions of interests (RIOs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



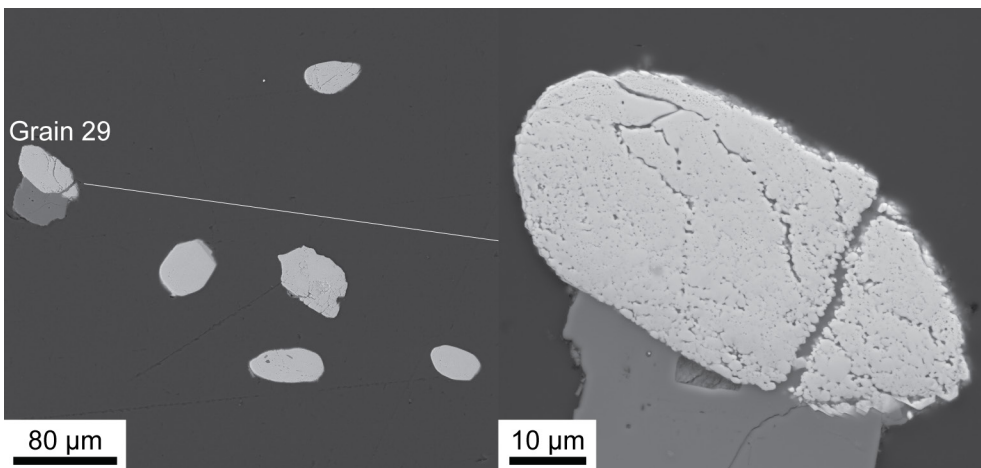
BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 251.0 µm. Right) HV = 15 kV, WD = 9.04 mm, View Field = 59.7 µm; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [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/ ⁹⁰ Zr		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		± 1σ	± 1σ						
		±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 [%]									
²⁰⁶Pb/²³⁸U																																			
1	712	0.0000E+00	0.0	1.0120E-01	4.8	2.2984E-01	3.3	2.0566E-01	2.2	3.2437E+00	3.3	4.5572E+00	20.9	1.0120E-01	4.8	0.0000	0.0000	4.5572E+00	20.9	1.0120E-01	4.8	0.0	0.0000	0.0000	4.5572E+00	20.9	1.0120E-01	4.8	0.0	0.0000	0.0000	1278.9	203.6	1666.3	88.3
2	319	0.0000E+00	0.0	1.0914E-01	6.6	2.1871E-01	4.9	1.3542E-01	2.8	4.1346E+00	4.3	6.1738E+00	41.7	1.0914E-01	6.6	0.0000	0.0000	6.1738E+00	41.7	1.0914E-01	6.6	0.0	0.0000	0.0000	6.1738E+00	41.7	1.0914E-01	6.6	0.0	0.0000	0.0000	967.7	269.8	1785.1	120.8
3	85	0.0000E+00	0.0	9.9173E-02	15.1	1.6735E-01	12.0	1.9686E-01	6.7	2.9930E+00	9.9	5.3378E+00	25.6	9.9173E-02	15.1	0.0000	0.0000	5.3378E+00	25.6	9.9173E-02	15.1	0.0	0.0000	0.0000	5.3378E+00	25.6	9.9173E-02	15.1	0.0	0.0000	0.0000	1107.0	210.9	1608.6	282.0
4	511	9.6431E-04	70.7	1.2088E-01	5.2	2.2228E-01	6.7	1.2388E-01	2.9	3.6031E+00	4.1	7.2920E+00	25.7	1.2088E-01	5.2	0.0180	0.0128	7.1605E+00	26.9	1.0741E-01	11.8	1.8	842.7	169.8	1755.9	215.6	1.0741E-01	11.8	1.8	842.7	169.8	1755.9	215.6		
8	79	0.0000E+00	0.0	7.2464E-02	26.7	2.1739E-01	16.5	9.0852E-02	8.6	5.1922E+00	12.8	9.9623E+00	47.5	7.2464E-02	26.7	0.0000	0.0000	9.9623E+00	47.5	7.2464E-02	26.7	0.0	0.0000	0.0000	9.9623E+00	47.5	7.2464E-02	26.7	0.0	0.0000	0.0000	616.6	192.3	999.0	543.1
9	83	0.0000E+00	0.0	1.1278E-01	27.2	1.2782E-01	25.8	3.7179E-02	9.6	3.9674E+00	9.1	2.5672E+00	28.6	1.1278E-01	27.2	0.0000	0.0000	2.5672E+00	28.6	1.1278E-01	27.2	0.0	0.0000	0.0000	2.5672E+00	28.6	1.1278E-01	27.2	0.0	0.0000	0.0000	246.3	53.9	1844.7	492.9
10	62	0.0000E+00	0.0	8.8497E-02	33.0	1.1505E-01	29.3	3.3244E-02	10.3	6.9767E+00	11.9	2.9996E+00	80.4	8.8497E-02	33.0	0.0000	0.0000	2.9996E+00	80.4	8.8497E-02	33.0	0.0	0.0000	0.0000	2.9996E+00	80.4	8.8497E-02	33.0	0.0	0.0000	0.0000	211.4	93.3	1393.3	632.8
²⁰⁷Pb																																			
2	110	0.0000E+00	0.0	1.0046E-01	22.4	1.0046E-01	22.4	2.9186E-02	7.3	6.8965E+00	7.9	3.6963E+00	24.9	1.0046E-01	22.4	0.0000	0.0000	3.6963E+00	24.9	1.0046E-01	22.4	0.0	0.0000	0.0000	3.6963E+00	24.9	1.0046E-01	22.4	0.0	0.0000	0.0000	172.1	33.9	1632.6	415.7
3	41	0.0000E+00	0.0	8.0461E-02	39.3	1.4949E-01	33.4	3.4867E-02	11.8	6.0159E+00	13.0	2.6680E+00	65.0	8.0461E-02	39.3	0.0000	0.0000	2.6680E+00	65.0	8.0461E-02	39.3	0.0	0.0000	0.0000	2.6680E+00	65.0	8.0461E-02	39.3	0.0	0.0000	0.0000	237.2	92.4	1208.3	773.6
4	305	0.0000E+00	0.0	1.2148E-01	5.7	2.5546E-01	4.1	1.5655E-01	2.6	4.1936E+00	4.1	5.6911E+00	28.9	1.2148E-01	5.7	0.0000	0.0000	5.6911E+00	28.9	1.2148E-01	5.7	0.0	0.0000	0.0000	5.6911E+00	28.9	1.2148E-01	5.7	0.0	0.0000	0.0000	1043.5	219.5	1978.1	100.8
5	42	0.0000E+00	0.0	8.3333E-02	46.5	1.6667E-01	34.2	2.8351E-02	14.0	5.8674E+00	14.0	1.8595E+00	98.4	8.3333E-02	46.5	0.0000	0.0000	1.8595E+00	98.4	8.3333E-02	46.5	0.0	0.0000	0.0000	1.8595E+00	98.4	8.3333E-02	46.5	0.0	0.0000	0.0000	337.7	165.2	1277.0	907.6
7	29	0.0000E+00	0.0	1.1539E-01	43.1	7.6924E-02	51.9	2.6775E-02	14.9	5.8743E+00	14.6	3.6214E+00	37.2	1.1539E-01	43.1	0.0000	0.0000	3.6214E+00	37.2	1.1539E-01	43.1	0.0	0.0000	0.0000	3.6214E+00	37.2	1.1539E-01	43.1	0.0	0.0000	0.0000	175.6	47.1	1885.9	776.4
8	105	0.0000E+00	0.0	2.2557E-02	58.4	8.2708E-02	31.4	2.3890E-02	9.3	4.3889E+00	7.6	5.1505E+00	21.5	2.2557E-02	58.4	0.0000	0.0000	5.1505E+00	21.5	2.2557E-02	58.4	0.0	0.0000	0.0000	5.1505E+00	21.5	2.2557E-02	58.4	0.0	0.0000	0.0000	124.0	21.8	#N/MI!	#N/MI!
9	22	0.0000E+00	0.0	1.4815E-01	53.6	3.7037E-02	101.8	2.2452E-02	20.5	5.2638E+00	17.7	4.5331E+00	74.5	1.4815E-01	53.6	0.0000	0.0000	4.5331E+00	74.5	1.4815E-01	53.6	0.0	0.0000	0.0000	4.5331E+00	74.5	1.4815E-01	53.6	0.0	0.0000	0.0000	140.7	59.7	2324.7	918.2
13	143	0.0000E+00	0.0	9.9145E-02	13.8	1.7456E-01	10.7	9.6150E-02	5.2	4.8144E+00	7.3	1.0852E+00	16.6	9.9145E-02	13.8	0.0000	0.0000	1.0852E+00	16.6	9.9145E-02	13.8	0.0	0.0000	0.0000	1.0852E+00	16.6	9.9145E-02	13.8	0.0	0.0000	0.0000	568.2	78.1	1608.1	256.7
15	423	0.0000E+00	0.0	1.0109E-01	6.9	2.3282E-01	4.8	2.0568E-01	3.1	2.7099E+00	4.5	4.6528E+00	21.1	1.0109E-01	6.9	0.0000	0.0000	4.6528E+00	21.1	1.0109E-01	6.9	0.0	0.0000	0.0000	4.6528E+00	21.1	1.0109E-01	6.9	0.0	0.0000	0.0000	1255.0	201.9	1644.3	128.0
16	97	0.0000E+00	0.0	1.1382E-01	28.2	1.7886E-01	23.1	5.6057E-02	10.4	2.5526E+00	9.9	1.8345E+00	28.2	1.1382E-01	28.2	0.0000	0.0000	1.8345E+00	28.2	1.1382E-01	28.2	0.0	0.0000	0.0000	1.8345E+00	28.2	1.1382E-01	28.2	0.0	0.0000	0.0000	342.2	74.6	1861.3	509.4
17	16	0.0000E+00	0.0	1.5000E-01	61.9	0.0000E+00	0.0	3.7381E-02	24.8	4.4502E+00	24.8	4.4519E+00	61.8	1.5000E-01	61.9	0.0000	0.0000	4.4519E+00	61.8	1.5000E-01	61.9	0.0	0.0000	0.0000	4.4519E+00	61.8	1.5000E-01	61.9	0.0	0.0000	0.0000	143.2	54.3	2345.9	1058.6
20	88	0.0000E+00	0.0	1.0601E-01	19.2	1.8375E-01	15.1	6.9631E-02	7.1	4.7612E+00	9.2	1.4945E+00	56.4	1.0601E-01	19.2	0.0000	0.0000	1.4945E+00	56.4	1.0601E-01	19.2	0.0	0.0000	0.0000	1.4945E+00	56.4	1.0601E-01	19.2	0.0	0.0000	0.0000	417.5	147.5	1731.9	352.3
21	895	3.5112E-04	100.0	1.0955E-01	6.0	1.9628E-01	4.6	1.0153E-01	2.4	3.5059E+00	3.1	8.8866E+00	22.4	1.0955E-01	6.0	0.0066	0.0066	8.8866E+00	23.0	1.0475E-01	7.8	0.7	691.7	123.8	1710.0	143.6	1.0475E-01	7.8	0.7	691.7	123.8	1710.0	143.6		
22	276	0.0000E+00	0.0	9.1521E-02	12.7	1.8304E-01	9.3	7.7680E-02	4.4	3.6578E+00	5.4	1.2815E+00	23.4	9.1521E-02	12.7	0.0000	0.0000	1.2815E+00	23.4	9.1521E-02	12.7	0.0	0.0000	0.0000	1.2815E+00	23.4	9.1521E-02	12.7	0.0	0.0000	0.0000	484.4	89.2	1457.5	240.9
²⁰⁶Pb																																			
1	363	0.0000E+00	0.0	1.1494E-01	5.2	2.5077E-01	3.8	1.6605E-01	2.4	4.2688E+00	3.8	5.8313E+00	26.5	1.1494E-01	5.2	0.0000	0.0000	5.8313E+00	26.5	1.1494E-01	5.2	0.0	0.0000	0.0000	5.8313E+00	26.5	1.1494E-01	5.2	0.0	0.0000	0.0000	1062.1	208.5	1878.9	94.2
2	266	0.0000E+00	0.0	1.0554E-01	9.7	1.7441E-01	7.7	1.2964E-01	4.0	4.0445E+00	5.9	6.7422E+00	34.5	1.0554E-01	9.7	0.0000	0.0000	6.7422E+00	34.5	1.0554E-01	9.7	0.0	0.0000	0.0000	6.7422E+00	34.5	1.0554E-01	9.7	0.0	0.0000	0.0000	891.5	217.4	1670.6	179.5
3	362	8.6653E-04	70.7	1.0702E-01	6.7	2.3960E-01	4.7	2.0842E-01	3.1	3.1926E+00	4.8	4.8671E+00	25.3	1.0702E-01	6.7	0.0162	0.0115	4.4930E+00	25.5	9.5015E-02	12.0	1.6	1295.4	242.7	1528.4	226.0	9.5015E-02	12.0	1.6	1295.4	242.7	1528.4	226.0		
4	66	0.0000E+00	0.0	1.0769E-01	16.2	1.4872E-01	14.1	1.6137E-01	7.1	3.4360E+00	10.5	6.1362E+00	29.3	1.0769E-01	16.2	0.0000	0.0000	6.1362E+00	29.3	1.0769E-01	16.2	0.0	0.0000	0.0000	6.1362E+00	29.3	1.0769E-01	16.2	0.0	0.0000	0.0000	973.3	207.8	1760.8	296.9
5	54	0.0000E+00	0.0	9.8101E-02	18.8	1.5506E-01	15.4	1.9909E-01	8.3	3.0349E+00	12.4	5.1620E+00	43.5	9.8101E-02	18.8	0.0000	0.0000	5.1620E+00	43.5	9.8101E-02	18.8	0.0	0.0000	0.0000	5.1620E+00	43.5	9.8101E-02	18.8	0.0	0.0000	0.0000	1141.5	325.0	1588.3	351.7
7	30	0.0000E+00	0.0	1.1111E-01	35.1	2.2222E-01	26																												

Ion image 63 grain 29



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 = 386.0 µm. Right) HV = 15 kV, WD = 9.04 mm, View Field = 64.9 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]	
		$^{238}\text{U}/^{206}\text{Pb}$		$^{235}\text{U}/^{207}\text{Pb}$		$^{206}\text{Pb}/^{209}\text{Pb}$		$^{238}\text{U}/^{92}\text{Zr}$		$^{238}\text{U}/^{206}\text{Pb}$		$^{235}\text{U}/^{207}\text{Pb}$		$^{206}\text{Pb}/^{209}\text{Pb}$		$^{238}\text{U}/^{206}\text{Pb}$		$^{235}\text{U}/^{207}\text{Pb}$		$^{206}\text{Pb}/^{209}\text{Pb}$		$^{238}\text{U}/^{206}\text{Pb}$		$^{235}\text{U}/^{207}\text{Pb}$		$^{206}\text{Pb}/^{209}\text{Pb}$							
		±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					
3	28	0.0000E+00	0.0	1.9403E-01	21.4	2.9851E-01	18.0	2.0033E-02	9.1	2.7816E+01	16.1	5.9168E+01	50.7	1.9403E-01	21.4	0.0000	0.0000	5.9168E+01	50.7	1.9403E-01	21.4	0.0	108.0	36.2	2776.6	351.3							
5	56	0.0000E+00	0.0	5.8139E-02	32.5	8.1959E-02	27.8	2.5402E-02	8.2	1.0777E+01	10.2	5.2712E+01	25.2	5.8139E-02	32.5	0.0000	0.0000	5.2712E+01	25.2	5.8139E-02	32.5	0.0	121.1	24.2	558.0	712.1							
8	115	0.0000E+00	0.0	1.0664E-01	14.4	4.4265E-02	21.8	1.4327E-01	6.1	4.9320E+00	10.1	5.8507E+00	27.8	1.0664E-01	14.4	0.0000	0.0000	5.8507E+00	27.8	1.0664E-01	14.4	0.0	1017.2	207.8	1742.8	264.8							
11	298	1.8233E-03	100.1	1.1234E-01	12.5	1.6614E-01	10.5	8.4574E-02	4.9	2.8022E+00	5.3	1.1930E+01	18.3	1.1234E-01	12.5	0.0296	0.0296	1.1577E+01	40.5	9.0288E-02	30.5	3.0	82.3	26.9	1417.5	457.9							
15	108	0.0000E+00	0.0	7.8534E-02	26.8	1.5183E-01	19.9	2.5722E-02	7.8	6.3346E+00	7.7	4.1981E+01	14.6	7.8534E-02	26.8	0.0000	0.0000	4.1981E+01	14.6	7.8534E-02	26.8	0.0	151.8	19.1	1160.4	531.6							
17	17	0.0000E+00	0.0	1.2121E-01	52.9	4.8488E-01	30.5	9.3630E-03	17.9	1.9544E+02	57.9	6.8677E+01	67.0	1.2121E-01	52.9	0.0000	0.0000	6.8677E+01	67.0	1.2121E-01	52.9	0.0	93.2	37.2	1974.2	943.3							
18	71	0.0000E+00	0.0	1.0588E-01	35.0	3.1765E-01	22.1	1.0424E-02	11.2	4.8446E+01	19.1	7.6126E+01	91.3	1.0588E-01	35.0	0.0000	0.0000	7.6126E+01	91.3	1.0588E-01	35.0	0.0	84.1	40.0	1729.7	643.3							
20	32	0.0000E+00	0.0	9.0909E-02	46.7	3.0910E-01	27.8	1.7726E-02	14.2	1.2588E+01	16.2	6.9052E+01	49.3	9.0909E-02	46.7	0.0000	0.0000	6.9052E+01	49.3	9.0909E-02	46.7	0.0	92.7	30.5	1444.7	889.7							
21	472	0.0000E+00	0.0	1.4099E-01	14.5	4.0471E-01	9.5	2.8453E-02	5.5	3.2977E+00	4.4	3.7074E+01	10.0	1.4099E-01	14.5	0.0000	0.0000	3.7074E+01	10.0	1.4099E-01	14.5	0.0	171.6	15.4	2239.4	251.5							
23	17	0.0000E+00	0.0	7.8432E-02	51.9	2.5490E-01	31.1	2.3960E-02	15.0	8.4308E+00	16.3	3.1693E+01	39.2	7.8432E-02	51.9	0.0000	0.0000	3.1693E+01	39.2	7.8432E-02	51.9	0.0	200.3	55.7	1157.8	1029.8							
26	2083	0.0000E+00	0.0	8.2793E-02	10.3	1.8182E-01	7.3	3.8328E-02	3.2	1.8256E+00	2.3	2.6473E+01	9.6	8.2793E-02	10.3	0.0000	0.0000	2.6473E+01	9.6	8.2793E-02	10.3	0.0	239.0	20.5	1264.3	201.2							
27	626	0.0000E+00	0.0	9.8808E-02	13.8	1.3118E-01	12.1	3.0665E-02	4.5	3.7157E+00	3.8	3.0480E+01	24.4	9.8808E-02	13.8	0.0000	0.0000	3.0480E+01	24.4	9.8808E-02	13.8	0.0	208.1	40.3	1601.8	256.7							
28	292	0.0000E+00	0.0	7.5950E-02	29.9	2.1519E-01	18.9	4.7018E-02	9.0	1.4297E+00	6.6	1.8848E+01	22.9	7.5950E-02	29.9	0.0000	0.0000	1.8848E+01	22.9	7.5950E-02	29.9	0.0	333.3	60.9	1093.7	599.5							
29	97	0.0000E+00	0.0	1.3415E-01	32.1	4.3903E-01	20.0	2.5881E-02	11.8	3.5277E+00	8.7	5.6265E+01	30.0	1.3415E-01	32.1	0.0000	0.0000	5.6265E+01	30.0	1.3415E-01	32.1	0.0	113.6	26.0	2153.0	560.6							
30	84	0.0000E+00	0.0	1.8310E-01	30.2	2.5352E-01	26.4	3.2715E-02	13.0	2.4394E+00	9.8	3.7631E+01	31.8	1.8310E-01	30.2	0.0000	0.0000	3.7631E+01	31.8	1.8310E-01	30.2	0.0	169.1	40.4	2681.2	499.0							
31	79	0.0000E+00	0.0	1.6981E-01	36.0	5.0944E-01	23.6	9.4074E-03	14.1	3.2318E+01	18.9	6.8790E+01	80.3	1.6981E-01	36.0	0.0000	0.0000	6.8790E+01	80.3	1.6981E-01	36.0	0.0	93.0	41.3	2555.8	603.5							

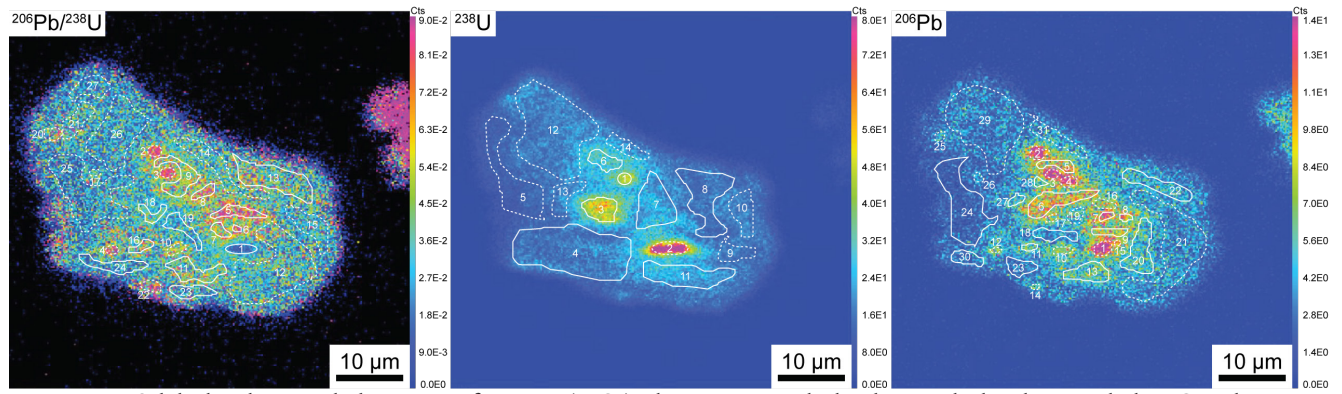
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

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

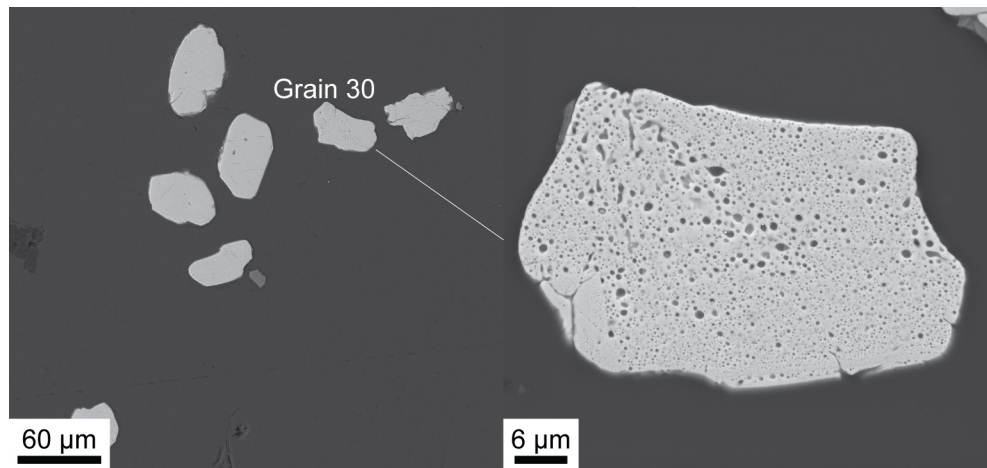
Corrected ratios³ Values corrected for common Pb where ^{206}Pb exceeds detection limit.

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

Ion image 64 grain 30



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 = 358.0 μm . Right) HV = 15 kV, WD = 9.04 mm, View Field = 57.2 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	Area size [µm ²]	Measured ratios ^a										Uncorrected ratios										Corrected ratios ^b										Age [Ma]	
		²⁰⁶ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁵ U		²⁰⁶ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁵ U		²⁰⁶ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁵ U		²⁰⁶ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁵ U		²⁰⁶ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁵ U		²⁰⁶ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁵ U		± 1σ	± 1σ						
		±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]								
²⁰⁶ Pb/ ²³⁸ U																																	
1	66	0.0000E+00	0.0	8.6781E-02	12.9	1.8024E-01	9.4	1.6911E-02	3.8	4.3855E+01	7.8	6.2531E+01	12.5	8.6781E-02	12.9	0.0000	0.0000	6.2531E+01	12.5	8.6781E-02	12.9	0.0	0.0000	6.2531E+01	12.5	8.6781E-02	12.9	0.0	102.3	11.3	1355.6	249.3	
5	176	6.4849E-04	100.0	6.9389E-02	10.0	1.8806E-01	6.4	7.6565E-02	3.1	1.1235E+01	6.0	1.5237E+01	14.0	6.9389E-02	10.0	0.0121	0.0121	1.5052E+01	23.3	5.9981E-02	19.9	1.2	0.0121	1.5052E+01	23.3	5.9981E-02	19.9	1.2	414.6	76.3	602.9	430.4	
6	20	0.0000E+00	0.0	6.7900E-02	31.2	1.6666E-01	20.8	6.7352E-02	9.3	1.2503E+01	18.4	1.8063E+01	52.0	6.7900E-02	31.2	0.0000	0.0000	1.8063E+01	52.0	6.7900E-02	31.2	0.0	0.0000	1.8063E+01	52.0	6.7900E-02	31.2	0.0	347.4	116.8	865.5	646.1	
7	74	0.0000E+00	0.0	7.7033E-02	14.3	2.1366E-01	9.1	5.6410E-02	4.4	1.6103E+01	9.2	2.0753E+01	39.2	7.7033E-02	14.3	0.0000	0.0000	2.0753E+01	39.2	7.7033E-02	14.3	0.0	0.0000	2.0753E+01	39.2	7.7033E-02	14.3	0.0	303.4	84.0	1122.0	284.3	
8	79	0.0000E+00	0.0	7.9999E-02	13.2	2.1419E-01	8.6	7.5490E-02	4.3	1.2026E+01	8.7	1.4997E+01	16.8	7.9999E-02	13.2	0.0000	0.0000	1.4997E+01	16.8	7.9999E-02	13.2	0.0	0.0000	1.4997E+01	16.8	7.9999E-02	13.2	0.0	416.1	58.3	1197.0	260.3	
9	328	6.2832E-04	70.7	6.5600E-02	7.1	1.8976E-01	4.4	4.9561E-02	2.0	1.8976E+01	4.3	1.9306E+01	24.1	6.5600E-02	7.1	0.0118	0.0083	1.9080E+01	28.8	5.6505E-02	14.4	1.2	0.0118	1.9080E+01	28.8	5.6505E-02	14.4	1.2	329.3	72.2	472.2	319.3	
11	344	0.0000E+00	0.0	6.6417E-02	9.3	1.6069E-01	6.2	4.2907E-02	2.6	1.5207E+01	4.7	2.4088E+01	16.0	6.6417E-02	9.3	0.0000	0.0000	2.4088E+01	16.0	6.6417E-02	9.3	0.0	0.0000	2.4088E+01	16.0	6.6417E-02	9.3	0.0	262.2	35.5	819.5	193.6	
13	728	6.7544E-04	70.7	6.8220E-02	7.3	2.0466E-01	4.5	4.4022E-02	2.1	1.0144E+01	3.2	2.5856E+01	8.7	6.8220E-02	7.3	0.0126	0.0089	2.5550E+01	24.9	5.8402E-02	14.9	1.3	0.0126	2.5550E+01	24.9	5.8402E-02	14.9	1.3	247.7	48.7	544.9	326.2	
16	80	0.0000E+00	0.0	5.4502E-02	21.4	1.7062E-01	12.8	4.7546E-02	5.5	1.6970E+01	11.0	1.6173E+01	55.5	5.4502E-02	21.4	0.0000	0.0000	1.6173E+01	55.5	5.4502E-02	21.4	0.0	0.0000	1.6173E+01	55.5	5.4502E-02	21.4	0.0	386.8	135.4	391.9	480.4	
18	111	0.0000E+00	0.0	5.5079E-02	13.5	1.8233E-01	7.8	3.8939E-02	3.4	2.2451E+01	7.2	2.2903E+01	33.5	5.5079E-02	13.5	0.0000	0.0000	2.2903E+01	33.5	5.5079E-02	13.5	0.0	0.0000	2.2903E+01	33.5	5.5079E-02	13.5	0.0	275.5	68.0	415.5	301.4	
19	190	0.0000E+00	0.0	7.6190E-02	13.0	2.1072E-01	8.3	2.7205E-02	3.7	2.0382E+01	6.4	3.5155E+01	18.7	7.6190E-02	13.0	0.0000	0.0000	3.5155E+01	18.7	7.6190E-02	13.0	0.0	0.0000	3.5155E+01	18.7	7.6190E-02	13.0	0.0	180.8	28.2	1100.1	259.5	
23	193	0.0000E+00	0.0	1.4130E-01	12.1	3.4239E-01	8.4	3.3069E-02	4.7	1.0323E+01	6.4	3.2759E+01	16.0	1.4130E-01	12.1	0.0000	0.0000	3.2759E+01	16.0	1.4130E-01	12.1	0.0	0.0000	3.2759E+01	16.0	1.4130E-01	12.1	0.0	193.8	26.4	2243.3	209.2	
24	274	0.0000E+00	0.0	6.7935E-02	14.6	2.0381E-01	9.0	2.5328E-02	4.0	1.4389E+01	5.6	3.3100E+01	47.8	6.7935E-02	14.6	0.0000	0.0000	3.3100E+01	47.8	6.7935E-02	14.6	0.0	0.0000	3.3100E+01	47.8	6.7935E-02	14.6	0.0	191.9	61.5	866.6	302.9	
²³⁸ U																																	
1	30	0.0000E+00	0.0	6.7141E-02	15.1	2.0285E-01	9.2	4.9031E-02	4.3	2.6390E+01	10.7	2.0464E+01	30.8	6.7141E-02	15.1	0.0000	0.0000	2.0464E+01	30.8	6.7141E-02	15.1	0.0	0.0000	2.0464E+01	30.8	6.7141E-02	15.1	0.0	307.6	71.2	842.2	313.6	
3	277	0.0000E+00	0.0	6.3137E-02	8.1	1.8706E-01	5.0	3.2072E-02	2.2	2.2494E+01	4.2	2.7844E+01	28.9	6.3137E-02	8.1	0.0000	0.0000	2.7844E+01	28.9	6.3137E-02	8.1	0.0	0.0000	2.7844E+01	28.9	6.3137E-02	8.1	0.0	227.5	50.4	712.8	172.8	
4	2127	8.5448E-04	37.8	6.8360E-02	4.4	1.8201E-01	2.8	3.7988E-02	1.2	1.4601E+01	2.1	2.3276E+01	23.3	6.8360E-02	4.4	0.0160	0.0060	2.2904E+01	27.1	5.5898E-02	10.3	1.6	0.0160	2.2904E+01	27.1	5.5898E-02	10.3	1.6	275.5	57.7	448.3	228.0	
6	182	5.0554E-04	100.0	7.3305E-02	8.6	1.9110E-01	5.6	6.1427E-02	2.6	1.7114E+01	5.8	1.6114E+01	22.4	7.3305E-02	8.6	0.0095	0.0095	1.5901E+01	27.0	6.6029E-02	14.8	0.9	0.0095	1.5901E+01	27.0	6.6029E-02	14.8	0.9	391.7	81.4	807.3	309.8	
7	634	1.0119E-03	44.7	7.2049E-02	5.5	2.0178E-01	3.5	5.9039E-02	1.7	1.3465E+01	3.2	1.8853E+01	12.5	7.2049E-02	5.5	0.0189	0.0085	1.8497E+01	20.4	5.7319E-02	13.9	1.9	0.0189	1.8497E+01	20.4	5.7319E-02	13.9	1.9	339.4	56.2	503.8	305.1	
8	856	5.5111E-04	70.7	7.5227E-02	6.3	2.0474E-01	4.0	4.7793E-02	1.9	9.6352E+00	2.9	2.3574E+01	8.4	7.5227E-02	6.3	0.0103	0.0073	2.3331E+01	19.3	6.7308E-02	11.1	1.0	0.0103	2.3331E+01	19.3	6.7308E-02	11.1	1.0	270.5	42.9	847.3	230.2	
11	683	9.6586E-04	57.8	7.7592E-02	6.7	1.8513E-01	4.5	3.4446E-02	2.0	1.5015E+01	3.3	3.1860E+01	6.9	7.7592E-02	6.7	0.0181	0.0104	3.1284E+01	34.5	6.3646E-02	15.5	1.8	0.0181	3.1284E+01	34.5	6.3646E-02	15.5	1.8	202.8	51.5	729.9	329.2	
²⁰⁶ Pb																																	
5	117	0.0000E+00	0.0	6.6162E-02	12.3	1.8620E-01	7.8	5.0546E-02	3.5	1.5685E+01	6.9	2.1304E+01	29.1	6.6162E-02	12.3	0.0000	0.0000	2.1304E+01	29.1	6.6162E-02	12.3	0.0	0.0000	2.1304E+01	29.1	6.6162E-02	12.3	0.0	295.7	65.4	811.5	288.1	
6	406	0.0000E+00	0.0	6.8181E-02	6.4	1.9227E-01	4.0	4.1436E-02	1.8	1.8997E+01	3.6	2.4453E+01	21.6	6.8181E-02	6.4	0.0000	0.0000	2.4453E+01	21.6	6.8181E-02	6.4	0.0	0.0000	2.4453E+01	21.6	6.8181E-02	6.4	0.0	258.4	45.1	874.1	132.5	
7	40	0.0000E+00	0.0	5.9303E-02	19.1	1.5951E-01	12.2	8.4796E-02	5.6	1.1992E+01	11.6	1.1595E+01	36.7	5.9303E-02	19.1	0.0000	0.0000	1.1595E+01	36.7	5.9303E-02	19.1	0.0	0.0000	1.1595E+01	36.7	5.9303E-02	19.1	0.0	533.3	138.9	578.2	415.3	
8	33	0.0000E+00	0.0	8.2065E-02	20.0	1.5805E-01	14.9	7.4029E-02	6.6	1.1551E+01	13.0	1.4898E+01	39.5	8.2065E-02	20.0	0.0000	0.0000	1.4898E+01	39.5	8.2065E-02	20.0	0.0	0.0000	1.4898E+01	39.5	8.2065E-02	20.0	0.0	418.8	115.8	1247.1	392.0	
9	96	0.0000E+00	0.0	6.8626E-02	13.8	2.1446E-01	8.3	5.7519E-02	4.1	1.4658E+01	8.1	2.0667E+01	29.9	6.8626E-02	13.8	0.0000	0.0000	2.0667E+01	29.9	6.8626E-02	13.8	0.0	0.0000	2.0667E+01	29.9	6.8626E-02	13.8	0.0	304.6	68.8	887.5	285.4	
11	38	0.0000E+00	0.0	5.4546E-02	29.6	1.9092E-01	16.8	5.0254E-02	7.7	1.4860E+01	14.8	1.4235E+01	71.7	5.4546E-02	29.6	0.0000	0.0000	1.4235E+01	71.7	5.4546E-02	29.6	0.0	0.0000	1.4235E+01	71.7	5.4546E-02	29.6	0.0	437.6	179.2	393.7	664.9	
13	270	6.5616E-04	100.0	5.7086E-02	11.0	1.7060E-01	6.7	4.1444E-02	2.9	1.6805E+01	5.4	2.5309E+01	13.5	5.7086E-02	11.0	0.0123	0.0123	2.4998E+01	34.2	4.7413E-02	24.9	1.2	0.0123	2.4998E+01	34.2	4.7413E-02	24.9	1.2	252.9	63.5	70.1	591.4	
18	162	0.0000E+00	0.0	5.5456E-02	18.5	1.8247E-01	10.8	3.2873E-02	4.6	2.0954E+01	8.8	3.0243E+01	25.6	5.5456E-02	18.5	0.0000	0.0000	3.0243E+01	25.6	5.5456E-02	18.5	0.0	0.0000	3.0243E+01	25.6	5.5456E-02	18.5	0.0	209.7	42.2	430.7	411.2	
20	430	4.6210E-04	100.0	6.9778E-02	8.4	1.8762E-01	5.4	3.6873E-02	2.4	1.3731E+01	3.9	3.1220E+01	10.7	6.9778E-02	8.4	0.0086	0.0086	3.0950E+01	29.2	6.3101E-02	14.3	0.9	0.0086	3.0950E+01	29.2	6.3101E-02	14.3	0.9	205.0	45.8	711.6	303.7	
22	364	6.3451E-04	100.0	6.5990E-02	10.1	2.1320E-01	6.0	4.5805E-02	2.8	9.9370E+00	4.4	2.4635E+01	8.7	6.5990E-02	10.1	0.0119	0.0119	2.4343E+01	30.8	5.6747E-02	20.5	1.2	0.0119	2.4343E+01	30.8	5.6747E-02	20.5	1.2	259.5	60.2	481.7	452.9	
23	174	0.0000E+00	0.0	8.2224E-02	17.1	1.7778E-01	12.1	2.6462E-02	5.1	1.3867E+01	7.3	3.2623E+01	52.2	8.2224E-02	17.1	0.0000	0.0000	3.2623E+01	52.2	8.2224E-02	17.1	0.0	0.0000	3.2623E+01	52.2	8.2224E-02	17.1	0.0	194.6	66.1	1250.9	334.6	

Area ID ¹	Area size [Pb ²⁺ cell]	Measured ratios ²										Uncorrected ratios										Corrected ratios ³										Age [Ma]		
		²⁰⁴ Pb/ ²⁰⁶ Pb	²⁰⁴ Pb/ ²⁰⁶ Pb ±σ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	²⁰⁷ Pb/ ²⁰⁶ Pb ±σ [%]	²⁰⁸ Pb/ ²⁰⁶ Pb	²⁰⁸ Pb/ ²⁰⁶ Pb ±σ [%]	²³⁸ U/ ²⁰⁶ Pb	²³⁸ U/ ²⁰⁶ Pb ±σ [%]	²³⁵ U/ ²⁰⁶ Pb	²³⁵ U/ ²⁰⁶ Pb ±σ [%]	²³⁸ U/ ²⁰⁶ Pb	²³⁸ U/ ²⁰⁶ Pb ±σ [%]	²³⁵ U/ ²⁰⁶ Pb	²³⁵ U/ ²⁰⁶ Pb ±σ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	²⁰⁷ Pb/ ²⁰⁶ Pb ±σ [%]	²⁰⁸ Pb/ ²⁰⁶ Pb	²⁰⁸ Pb/ ²⁰⁶ Pb ±σ [%]	²³⁸ U/ ²⁰⁶ Pb	²³⁸ U/ ²⁰⁶ Pb ±σ [%]	²³⁵ U/ ²⁰⁶ Pb	²³⁵ U/ ²⁰⁶ Pb ±σ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	²⁰⁷ Pb/ ²⁰⁶ Pb ±σ [%]	²⁰⁸ Pb/ ²⁰⁶ Pb	²⁰⁸ Pb/ ²⁰⁶ Pb ±σ [%]	²³⁸ U/ ²⁰⁶ Pb	²³⁸ U/ ²⁰⁶ Pb ±σ [%]	²³⁵ U/ ²⁰⁶ Pb	²³⁵ U/ ²⁰⁶ Pb ±σ [%]	Age [Ma]	± 1σ	
24	1050	1.0438E-03	70.8	7.6723E-02	8.6	2.2652E-01	5.3	2.5185E-02	2.5	1.3449E-01	3.4	3.4166E+01	17.7	7.6723E-02	8.6	0.0195	0.0138	3.3499E+01	51.2	6.1612E-02	21.1	2.0	189.6	63.6	660.7	451.6	204.0	83.0	267.6	267.6	204.0	83.0	267.6	267.6
27	56	0.0000E+00	0.0	6.8441E-02	24.4	2.0532E-01	14.9	2.9327E-02	6.7	1.8192E+01	11.3	2.9947E+01	46.6	6.8441E-02	24.4	0.0000	0.0000	2.9947E+01	46.6	6.8441E-02	24.4	0.0	211.7	66.6	881.9	503.8	211.7	66.6	881.9	503.8	211.7	66.6	881.9	503.8
28	34	0.0000E+00	0.0	4.4776E-02	34.1	2.0398E-01	17.1	4.2308E-02	7.9	1.6464E+01	14.9	2.8174E+01	59.2	4.4776E-02	34.1	0.0000	0.0000	2.8174E+01	59.2	4.4776E-02	34.1	0.0	224.8	82.7	67.8	832.0	224.8	82.7	67.8	832.0	224.8	82.7	67.8	832.0
30	151	0.0000E+00	0.0	5.1597E-02	22.4	1.8919E-01	12.4	2.6043E-02	5.3	1.3903E+01	7.6	3.1095E+01	69.7	5.1597E-02	22.4	0.0000	0.0000	3.1095E+01	69.7	5.1597E-02	22.4	0.0	204.0	83.0	267.6	513.4	204.0	83.0	267.6	513.4	204.0	83.0	267.6	513.4

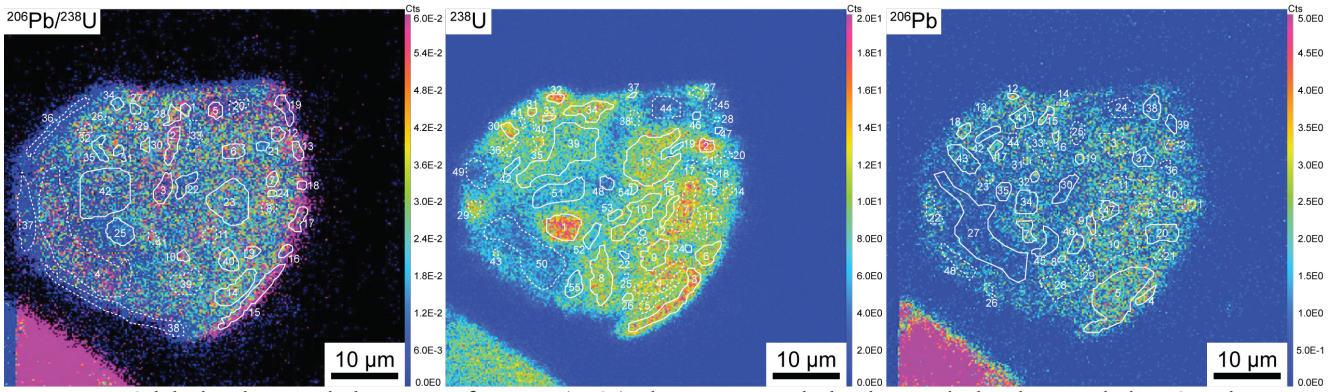
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

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

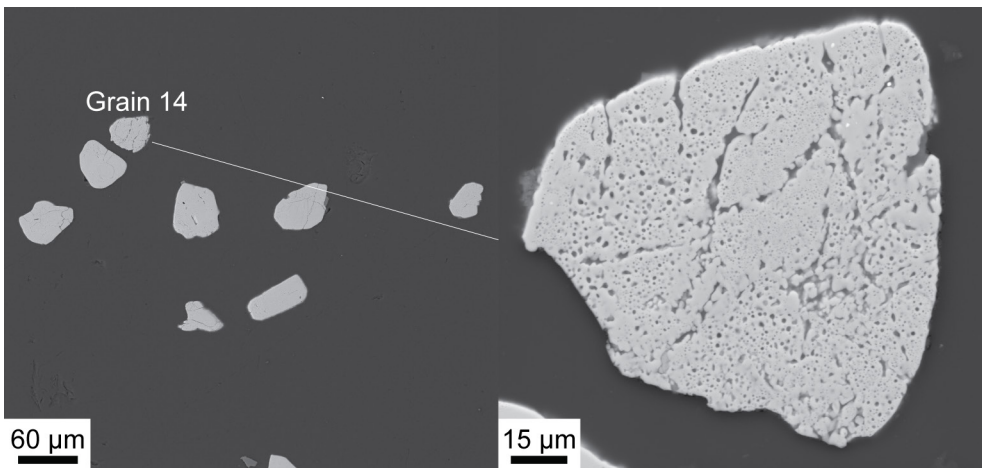
Corrected ratios³ Values corrected for common Pb where ²⁰⁴Pb exceeds detection limit.

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 65 grain 14



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 = 506.0 µm. Right) HV = 15 kV, WD = 9.04 mm, View Field = 53.3 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	Area size [Pix-el]	Measured ratios ²										Uncorrected ratios										Corrected ratios ³										Age [Ma]		
		$^{206}\text{Pb}/^{208}\text{Pb}$		$^{206}\text{Pb}/^{207}\text{Pb}$		$^{206}\text{Pb}/^{235}\text{U}$		$^{206}\text{Pb}/^{238}\text{U}$		$^{206}\text{Pb}/^{90}\text{Zr}$		$^{206}\text{Pb}/^{207}\text{Pb}$		$^{206}\text{Pb}/^{208}\text{Pb}$		$^{206}\text{Pb}/^{235}\text{U}$		$^{206}\text{Pb}/^{238}\text{U}$		$^{206}\text{Pb}/^{207}\text{Pb}$		$^{206}\text{Pb}/^{208}\text{Pb}$		$^{206}\text{Pb}/^{235}\text{U}$		$^{206}\text{Pb}/^{238}\text{U}$		$^{206}\text{Pb}/^{207}\text{Pb}$		$^{206}\text{Pb}/^{208}\text{Pb}$				
		±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	±σ				
1	38	0.0000E+00	0.0	4.4118E-02	59.0	1.7647E-01	31.3	4.3172E-02	13.6	5.8228E+00	16.1	2.7009E+01	36.6	4.4118E-02	59.0	0.0000	0.0000	2.7009E+01	36.6	4.4118E-02	36.6	4.4118E-02	59.0	0.0	234.4	62.0	-104.1	1450.6						
2	158	0.0000E+00	0.0	8.6778E-02	22.8	1.6529E-01	17.1	5.1083E-02	7.3	4.7472E+00	8.5	1.9243E+01	35.6	8.6778E-02	22.8	0.0000	0.0000	1.9243E+01	35.6	8.6778E-02	35.6	8.6778E-02	22.8	0.0	326.6	84.1	1355.6	438.7						
3	152	0.0000E+00	0.0	1.2338E-01	24.3	2.8975E-01	17.8	3.7449E-02	8.9	5.3866E+00	9.7	2.3442E+01	31.2	1.2338E-01	24.3	0.0000	0.0000	2.3442E+01	31.2	1.2338E-01	31.2	1.2338E-01	24.3	0.0	269.3	63.0	2005.6	431.7						
5	82	0.0000E+00	0.0	8.6022E-02	36.8	3.0108E-01	21.6	6.1389E-02	12.1	3.8185E+00	13.8	1.6883E+01	24.5	8.6022E-02	36.8	0.0000	0.0000	1.6883E+01	24.5	8.6022E-02	24.5	8.6022E-02	36.8	0.0	370.9	71.4	1338.7	712.1						
6	126	0.0000E+00	0.0	4.4355E-02	30.8	1.3307E-01	18.5	3.8732E-02	7.1	5.8848E+00	8.0	3.0453E+01	16.4	4.4355E-02	30.8	0.0000	0.0000	3.0453E+01	16.4	4.4355E-02	16.4	4.4355E-02	30.8	0.0	208.3	28.9	-90.9	755.7						
7	60	0.0000E+00	0.0	3.8835E-02	51.0	7.671E-02	36.7	3.9021E-02	10.9	3.8857E+00	10.6	2.7151E+01	16.7	3.8835E-02	51.0	0.0000	0.0000	2.7151E+01	16.7	3.8835E-02	16.7	3.8835E-02	51.0	0.0	233.2	32.8	-427.9	1336.7						
9	61	0.0000E+00	0.0	3.9604E-02	51.0	9.9010E-02	33.2	3.8093E-02	11.0	4.9007E+00	11.6	2.8389E+01	27.8	3.9604E-02	51.0	0.0000	0.0000	2.8389E+01	27.8	3.9604E-02	27.8	3.9604E-02	51.0	0.0	233.2	47.8	-376.7	1323.3						
10	47	0.0000E+00	0.0	6.3291E-02	46.1	1.7722E-01	29.0	4.4541E-02	12.7	4.0978E+00	13.1	2.7029E+01	53.1	6.3291E-02	46.1	0.0000	0.0000	2.7029E+01	53.1	6.3291E-02	53.1	6.3291E-02	46.1	0.0	234.2	80.2	718.0	979.0						
12	69	0.0000E+00	0.0	2.2078E-01	26.8	5.0650E-01	29.0	3.7560E-02	12.6	7.5787E+00	15.9	2.8489E+01	24.2	2.2078E-01	26.8	0.0000	0.0000	2.8489E+01	24.2	2.2078E-01	24.2	2.2078E-01	26.8	0.0	222.4	42.7	2986.4	431.3						
13	62	0.0000E+00	0.0	2.7972E-02	50.7	9.0909E-02	29.0	5.9614E-02	9.8	4.5347E+00	11.8	2.0823E+01	25.0	2.7972E-02	50.7	0.0000	0.0000	2.0823E+01	25.0	2.7972E-02	25.0	2.7972E-02	50.7	0.0	302.4	59.4	#NUM!	#NUM!						
14	324	0.0000E+00	0.0	7.1976E-02	15.1	2.4655E-01	8.8	2.8325E-02	4.2	8.0397E+00	4.9	3.7721E+01	14.0	7.1976E-02	15.1	0.0000	0.0000	3.7721E+01	14.0	7.1976E-02	14.0	7.1976E-02	15.1	0.0	168.7	20.5	985.3	307.3						
15	334	0.0000E+00	0.0	9.1884E-02	13.5	2.6647E-01	8.5	3.4401E-02	4.3	9.3872E+00	5.7	3.2727E+01	10.1	9.1884E-02	13.5	0.0000	0.0000	3.2727E+01	10.1	9.1884E-02	10.1	9.1884E-02	13.5	0.0	193.8	17.5	1465.0	256.3						
16	48	0.0000E+00	0.0	2.5641E-02	71.6	1.0256E-01	37.1	3.2677E-02	12.4	7.4923E+00	14.6	3.6885E+01	27.0	2.5641E-02	71.6	0.0000	0.0000	3.6885E+01	27.0	2.5641E-02	27.0	2.5641E-02	71.6	0.0	173.8	36.5	#NUM!	#NUM!						
17	108	0.0000E+00	0.0	3.0220E-01	15.4	7.2528E-01	11.4	4.0633E-02	8.3	5.9137E+00	9.6	2.7743E+01	15.7	3.0220E-01	15.4	0.0000	0.0000	2.7743E+01	15.7	3.0220E-01	15.7	3.0220E-01	15.4	0.0	228.3	30.5	3481.5	238.2						
18	32	0.0000E+00	0.0	4.1667E-02	72.2	1.8750E-01	36.3	3.5639E-02	15.9	5.4647E+00	17.0	4.1201E+01	42.1	4.1667E-02	72.2	0.0000	0.0000	4.1201E+01	42.1	4.1667E-02	42.1	4.1667E-02	72.2	0.0	154.6	45.5	-246.6	1825.0						
19	125	0.0000E+00	0.0	1.8018E-02	71.3	8.1081E-02	34.7	4.3858E-02	10.7	2.9443E+00	9.7	2.5848E+01	21.3	1.8018E-02	71.3	0.0000	0.0000	2.5848E+01	21.3	1.8018E-02	21.3	1.8018E-02	71.3	0.0	244.7	42.4	#NUM!	#NUM!						
21	39	0.0000E+00	0.0	2.2728E-01	35.0	1.1364E-01	47.2	1.0921E-02	15.6	1.1341E+01	14.5	1.1532E+02	30.4	2.2728E-01	35.0	0.0000	0.0000	1.1532E+02	30.4	2.2728E-01	30.4	2.2728E-01	35.0	0.0	55.7	12.9	3033.0	561.5						
22	129	0.0000E+00	0.0	1.1765E-01	37.4	5.1471E-01	20.8	9.7252E-03	12.5	7.4081E+00	8.5	1.0491E+02	27.9	1.1765E-01	37.4	0.0000	0.0000	1.0491E+02	27.9	1.1765E-01	27.9	1.1765E-01	37.4	0.0	61.2	13.3	1920.8	670.2						
23	597	1.0277E-03	100.1	1.0380E-01	10.4	2.6311E-01	7.0	2.5113E-02	3.4	6.8934E+00	3.5	4.4474E+01	12.7	1.0380E-01	10.4	0.0192	0.0192	4.3620E+01	88.1	8.9461E-02	88.1	8.9461E-02	20.8	1.9	146.1	68.0	1414.0	397.1						
24	20	0.0000E+00	0.0	9.0910E-02	60.3	2.1212E-01	41.6	3.1728E-02	19.0	4.9436E+00	18.5	3.5933E+01	40.2	9.0910E-02	60.3	0.0000	0.0000	3.5933E+01	40.2	9.0910E-02	40.2	9.0910E-02	60.3	0.0	177.0	50.2	1444.7	1148.6						
25	227	0.0000E+00	0.0	1.0811E-01	23.5	4.6487E-01	13.1	8.6615E-03	7.5	9.0873E+00	5.3	1.0288E+02	51.3	1.0811E-01	23.5	0.0000	0.0000	1.0288E+02	51.3	1.0811E-01	51.3	1.0811E-01	23.5	0.0	62.4	21.1	1767.8	430.9						
27	39	0.0000E+00	0.0	6.9445E-02	46.3	1.1111E-01	37.3	2.8788E-02	12.8	1.3002E+01	18.3	2.9566E+01	63.2	6.9445E-02	46.3	0.0000	0.0000	2.9566E+01	63.2	6.9445E-02	63.2	6.9445E-02	46.3	0.0	216.6	83.0	912.0	952.1						
28	75	0.0000E+00	0.0	7.1435E-02	32.7	6.4286E-02	34.4	3.0082E-02	9.2	7.2357E+00	10.3	3.0165E+01	30.7	7.1435E-02	32.7	0.0000	0.0000	3.0165E+01	30.7	7.1435E-02	30.7	7.1435E-02	32.7	0.0	210.2	48.7	969.9	667.8						
30	39	0.0000E+00	0.0	7.4075E-02	51.8	1.8519E-01	34.4	3.3387E-02	14.9	5.8491E+00	16.0	3.2291E+01	46.6	7.4075E-02	51.8	0.0000	0.0000	3.2291E+01	46.6	7.4075E-02	46.6	7.4075E-02	51.8	0.0	196.6	61.8	1043.5	1045.5						
31	32	0.0000E+00	0.0	3.6364E-02	72.0	1.4546E-01	37.8	3.5319E-02	14.9	7.8501E+00	18.5	3.2477E+01	44.2	3.6364E-02	72.0	0.0000	0.0000	3.2477E+01	44.2	3.6364E-02	44.2	3.6364E-02	72.0	0.0	195.5	59.3	-603.5	1958.2						
34	45	0.0000E+00	0.0	1.9512E-01	38.7	2.1951E-01	36.8	1.0042E-02	16.1	1.4451E+01	15.1	1.1527E+02	48.7	1.9512E-01	38.7	0.0000	0.0000	1.1527E+02	48.7	1.9512E-01	48.7	1.9512E-01	38.7	0.0	55.7	18.2	2785.8	633.1						
35	88	0.0000E+00	0.0	7.6924E-02	39.2	1.7583E-01	27.1	1.7337E-02	11.0	9.5944E+00	11.0	4.9565E+01	56.2	7.6924E-02	39.2	0.0000	0.0000	4.9565E+01	56.2	7.6924E-02	56.2	7.6924E-02	39.2	0.0	128.8	46.0	1119.2	782.4						
40	142	0.0000E+00	0.0	8.5021E-02	22.7	2.3887E-01	14.5	2.5232E-02	6.8	7.4692E+00	7.2	4.0888E+01	18.5	8.5021E-02	22.7	0.0000	0.0000	4.0888E+01	18.5	8.5021E-02	18.5	8.5021E-02	22.7	0.0	144.6	22.4	1316.0	440.7						
42	948	0.0000E+00	0.0	7.8684E-02	14.0	2.2032E-01	8.9	1.8003E-02	4.0	7.1288E+00	3.5	5.1409E+01	19.5	7.8684E-02	14.0	0.0000	0.0000	5.1409E+01	19.5	7.8684E-02	19.5	7.8684E-02	14.0	0.0	124.2	20.1	1164.2	277.4						
1	312	0.0000E+00	0.0	9.7644E-02	19.5	4.0404E-01	10.8	1.0324E-02	6.0	8.9115E+00	4.6	8.4891E+01	40.3	9.7644E-02	19.5	0.0000	0.0000	8.4891E+01	40.3	9.7644E-02	40.3	9.7644E-02	19.5	0.0	75.5	21.6	1579.6	364.1						
3	398	0.0000E+00	0.0	1.1241E-01	12.0	3.2555E-01	7.7	2.1100E-02	4.1	1.0652E+01	4.7	4.6545E+01	17.8	1.1241E-01	12.0	0.0000	0.0000	4.6545E+01	17.8	1.1241E-01	17.8	1.1241E-01	12.0	0.0	137.0	20.5	1838.7	217.6						
6	158	0.0000E+00	0.0	1.6157E-01	17.7	3.1878E-01	13.4	2.0410E-02	7.0	8.9296E+00	7.3	5.2816E+01	18.0	1.6157E-01	17.7	0.0000	0.0000	5.2816E+01	18.0	1.6157E-01	18.0	1.6157E-01	17.7	0.0	120.9	18.3	2472.2	299.1						

Area ID ¹	Area size [Pix-el]	Measured ratios ²										Uncorrected ratios										Corrected ratios ³										Age [Ma]	
		$^{206}\text{Pb}/^{206}\text{Pb}$		$^{207}\text{Pb}/^{206}\text{Pb}$		$^{208}\text{Pb}/^{206}\text{Pb}$		$^{238}\text{U}/^{238}\text{U}$		$^{238}\text{U}/^{235}\text{U}$		$^{238}\text{U}/^{206}\text{Pb}$		$^{238}\text{U}/^{207}\text{Pb}$		$^{238}\text{U}/^{208}\text{Pb}$		$^{235}\text{U}/^{206}\text{Pb}$		$^{235}\text{U}/^{207}\text{Pb}$		$^{235}\text{U}/^{208}\text{Pb}$		$^{238}\text{U}/^{206}\text{Pb}$		$^{238}\text{U}/^{207}\text{Pb}$		$^{238}\text{U}/^{208}\text{Pb}$		$\pm 1\sigma$	$\pm 1\sigma$		
		$\pm\sigma$ [%]	Value	$\pm\sigma$ [%]	Value	$\pm\sigma$ [%]	Value	$\pm\sigma$ [%]	Value	$\pm\sigma$ [%]	Value	$\pm\sigma$ [%]	Value	$\pm\sigma$ [%]	Value	$\pm\sigma$ [%]	Value	$\pm\sigma$ [%]	Value	$\pm\sigma$ [%]	Value	$\pm\sigma$ [%]	Value	$\pm\sigma$ [%]	Value	$\pm\sigma$ [%]	Value	$\pm\sigma$ [%]	Value				
12	21	0.000E+00	0.0	8.1632E-02	52.0	2.0408E-01	34.7	4.4289E-02	16.1	6.8157E+00	20.6	1.5171E+01	62.1	8.1632E-02	52.0	0.0000	0.0000	1.5171E+01	62.1	8.1632E-02	52.0	0.0	0.0	411.5	154.5	1236.7	1019.7						
15	44	0.000E+00	0.0	4.1096E-02	58.9	6.8494E-02	46.2	2.5292E-02	12.6	8.2783E+00	13.9	3.4732E+01	46.1	4.1096E-02	58.9	0.0000	0.0000	3.4732E+01	46.1	4.1096E-02	58.9	0.0	0.0	183.0	57.2	-281.6	1500.2						
16	23	0.000E+00	0.0	6.6667E-02	59.6	1.1111E-01	47.1	7.7972E-02	18.1	8.0077E+00	30.6	1.6581E+01	55.7	6.6667E-02	59.6	0.0000	0.0000	1.6581E+01	55.7	6.6667E-02	59.6	0.0	0.0	377.5	132.6	827.4	1244.0						
17	62	0.000E+00	0.0	4.6297E-02	45.7	1.0185E-01	31.6	3.5854E-02	10.6	8.9483E+00	14.1	3.5688E+01	93.8	4.6297E-02	45.7	0.0000	0.0000	3.5688E+01	93.8	4.6297E-02	45.7	0.0	0.0	178.1	85.6	13.1	1099.8						
18	61	0.000E+00	0.0	6.1856E-02	42.1	2.2680E-01	23.6	3.1448E-02	11.1	1.2828E+01	16.4	2.7811E+01	77.8	6.1856E-02	42.1	0.0000	0.0000	2.7811E+01	77.8	6.1856E-02	42.1	0.0	0.0	227.7	98.7	669.1	904.4						
19	31	0.000E+00	0.0	7.4075E-02	51.8	1.1111E-01	43.0	3.1078E-02	14.8	6.8822E+00	16.5	3.2968E+01	44.2	7.4075E-02	51.8	0.0000	0.0000	3.2968E+01	44.2	7.4075E-02	51.8	0.0	0.0	192.6	58.4	1043.5	1045.5						
20	238	0.000E+00	0.0	6.4246E-02	21.5	1.3966E-01	15.1	3.2916E-02	5.8	5.1540E+00	5.8	3.4962E+01	13.0	6.4246E-02	21.5	0.0000	0.0000	3.4962E+01	13.0	6.4246E-02	21.5	0.0	0.0	181.8	20.7	749.7	454.4						
27	1331	0.000E+00	0.0	8.6103E-02	13.8	3.1722E-01	7.9	1.2531E-02	4.0	7.6022E+00	3.1	6.6949E+01	24.7	8.6103E-02	13.8	0.0000	0.0000	6.6949E+01	24.7	8.6103E-02	13.8	0.0	0.0	95.6	18.8	1340.5	266.7						
30	152	0.000E+00	0.0	1.0465E-01	35.0	4.4187E-01	19.5	1.1639E-02	11.1	5.8531E+00	7.5	8.9833E+01	32.7	1.0465E-01	35.0	0.0000	0.0000	8.9833E+01	32.7	1.0465E-01	35.0	0.0	0.0	71.4	17.5	1708.2	644.6						
32	28	0.000E+00	0.0	7.8948E-02	60.0	0.0000E+00	0.0	3.3266E-02	17.8	5.1560E+00	18.0	3.7850E+01	79.6	7.8948E-02	60.0	0.0000	0.0000	3.7850E+01	79.6	7.8948E-02	60.0	0.0	0.0	168.1	74.0	1170.8	1187.2						
34	198	0.000E+00	0.0	5.9460E-02	31.0	2.0000E-01	18.0	2.9292E-02	7.9	5.7417E+00	7.2	3.8378E+01	33.6	5.9460E-02	31.0	0.0000	0.0000	3.8378E+01	33.6	5.9460E-02	31.0	0.0	0.0	165.8	41.3	584.0	673.6						
35	94	0.000E+00	0.0	7.0175E-02	51.7	2.4561E-01	29.8	1.6722E-02	13.9	5.7862E+00	10.9	4.7254E+01	42.7	7.0175E-02	51.7	0.0000	0.0000	4.7254E+01	42.7	7.0175E-02	51.7	0.0	0.0	135.0	40.1	933.5	1061.1						
37	116	0.000E+00	0.0	5.1725E-02	41.9	1.7242E-01	24.2	1.7963E-02	9.8	5.4256E+00	7.7	6.5727E+01	14.2	5.1725E-02	41.9	0.0000	0.0000	6.5727E+01	14.2	5.1725E-02	41.9	0.0	0.0	97.3	12.0	273.3	959.5						
38	156	0.000E+00	0.0	2.6087E-02	58.5	7.8261E-02	34.6	3.3978E-02	10.2	3.7042E+00	9.1	3.5402E+01	17.6	2.6087E-02	58.5	0.0000	0.0000	3.5402E+01	17.6	2.6087E-02	58.5	0.0	0.0	179.6	26.5	#NUM!	#NUM!						
39	64	0.000E+00	0.0	1.0257E-01	52.5	3.5898E-01	31.2	5.1082E-02	18.3	3.7351E+00	19.3	2.6098E+01	25.4	1.0257E-01	52.5	0.0000	0.0000	2.6098E+01	25.4	1.0257E-01	52.5	0.0	0.0	242.4	48.3	1671.1	970.7						
41	147	0.000E+00	0.0	5.7523E-02	28.5	6.1947E-02	27.5	2.4680E-02	7.1	7.8117E+00	7.6	3.4352E+01	34.0	5.7523E-02	28.5	0.0000	0.0000	3.4352E+01	34.0	5.7523E-02	28.5	0.0	0.0	185.0	46.4	511.6	626.8						
42	74	0.000E+00	0.0	1.2500E-01	37.5	2.1876E-01	29.5	1.5316E-02	13.1	8.0831E+00	11.4	5.6492E+01	47.1	1.2500E-01	37.5	0.0000	0.0000	5.6492E+01	47.1	1.2500E-01	37.5	0.0	0.0	113.1	36.0	2028.8	663.9						
43	237	0.000E+00	0.0	7.7254E-02	24.5	2.4893E-01	14.7	1.8849E-02	6.9	1.0386E+01	7.4	4.5238E+01	50.6	7.7254E-02	24.5	0.0000	0.0000	4.5238E+01	50.6	7.7254E-02	24.5	0.0	0.0	140.9	47.0	1127.8	487.3						
45	160	0.000E+00	0.0	8.6957E-02	33.0	3.3044E-01	18.7	1.2584E-02	9.7	7.0056E+00	7.3	7.2392E+01	27.4	8.6957E-02	33.0	0.0000	0.0000	7.2392E+01	27.4	8.6957E-02	33.0	0.0	0.0	88.4	18.9	1359.6	635.4						
46	89	0.000E+00	0.0	1.6340E-01	21.6	6.0785E-01	13.1	3.5003E-02	8.9	6.9252E+00	10.4	2.5110E+01	31.2	1.6340E-01	21.6	0.0000	0.0000	2.5110E+01	31.2	1.6340E-01	21.6	0.0	0.0	251.7	58.9	2491.1	363.4						
47	118	0.000E+00	0.0	9.0909E-02	24.6	2.9292E-01	14.9	2.5788E-02	7.6	6.9416E+00	7.9	4.4563E+01	22.4	9.0909E-02	24.6	0.0000	0.0000	4.4563E+01	22.4	9.0909E-02	24.6	0.0	0.0	143.1	26.0	1444.7	469.0						

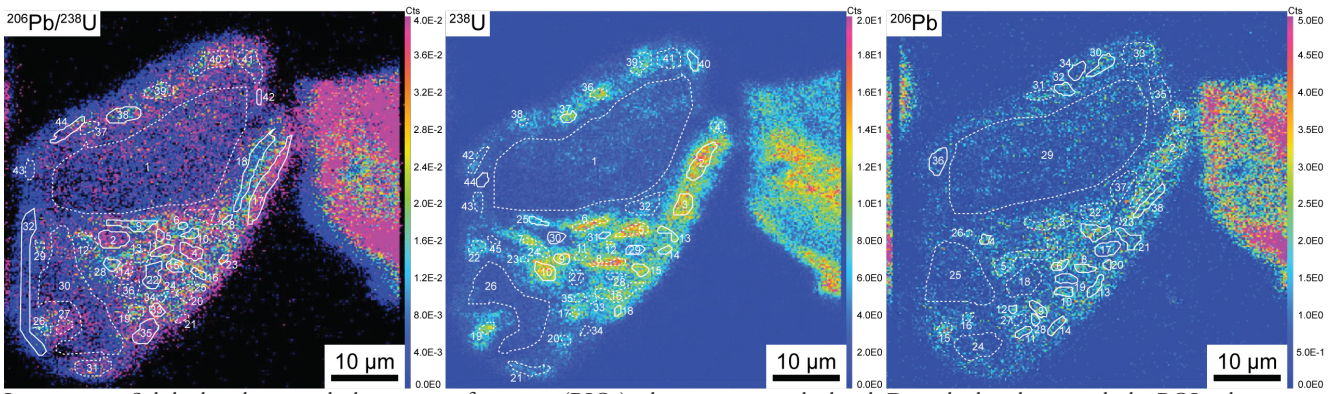
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

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

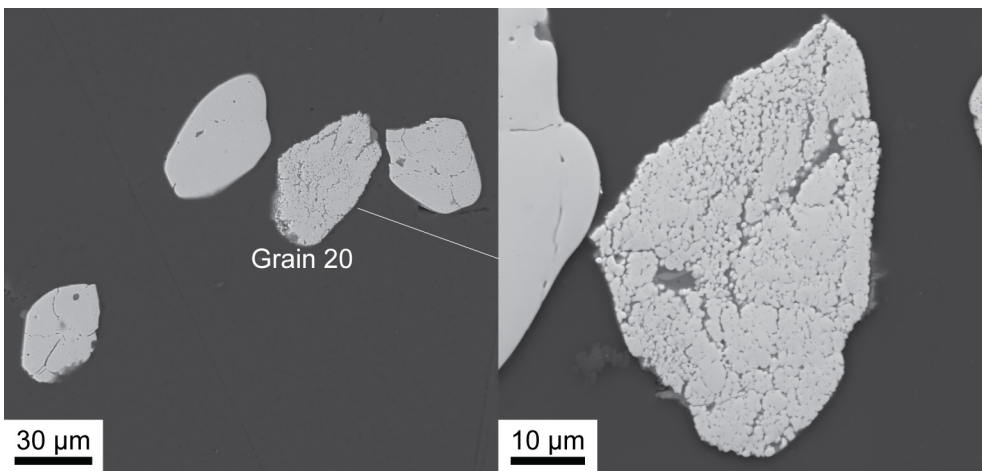
Corrected ratios³ Values corrected for common Pb where ^{206}Pb exceeds detection limit.

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

Ion image 66 grain 20



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 = 193.0 μm . Right) HV = 15 kV, WD = 9.04 mm, View Field = 67.3 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 [Pix-el]	Measured ratios ²				Uncorrected ratios				Corrected ratios ³				Age [Ma]												
		$^{206}\text{Pb}/^{238}\text{U}$	$^{206}\text{Pb}/^{207}\text{Pb}$	$^{206}\text{Pb}/^{207}\text{Pb}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{90}\text{Zr}$	$^{238}\text{U}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{206}\text{Pb}/^{207}\text{Pb}$	$\pm\sigma$ [%]	$^{206}\text{Pb}/^{207}\text{Pb}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{206}\text{Pb}/^{207}\text{Pb}$	$\pm\sigma$ [%]								
2	195	0.0000E+00	0.0	7.7386E-02	28.8	1.7857E-01	19.8	5.1278E-02	8.8	3.1873E+00	8.8	1.4847E+01	57.4	7.7386E-02	28.8	0.0	0.0000	1.4847E+01	57.4	7.7386E-02	28.8	0.0	420.2	150.0	1131.2	573.3
4	122	0.0000E+00	0.0	5.5901E-02	34.3	1.2422E-01	23.7	4.4044E-02	8.9	2.8683E+00	8.0	2.2117E+01	30.2	5.5901E-02	34.3	0.0000	0.0000	2.2117E+01	30.2	5.5901E-02	34.3	0.0	285.1	65.0	448.4	761.0
5	36	0.0000E+00	0.0	3.4482E-02	71.9	1.3793E-01	37.7	4.7998E-02	14.9	3.6550E+00	15.2	3.2223E+01	59.2	3.4482E-02	71.9	0.0000	0.0000	3.2223E+01	59.2	3.4482E-02	71.9	0.0	197.0	72.6	-750.3	2018.7
6	25	0.0000E+00	0.0	4.3478E-02	72.2	2.1739E-01	34.9	4.2037E-02	16.5	6.0680E+00	19.7	2.4387E+01	53.7	4.3478E-02	72.2	0.0000	0.0000	2.4387E+01	53.7	4.3478E-02	72.2	0.0	259.1	89.4	-140.2	1788.7
8	22	0.0000E+00	0.0	1.0345E-01	60.7	6.8966E-02	73.1	2.5519E-02	19.9	7.5620E+00	21.3	4.3648E+01	70.2	1.0345E-01	60.7	0.0000	0.0000	4.3648E+01	70.2	1.0345E-01	60.7	0.0	146.0	59.8	1686.9	1119.1
9	157	0.0000E+00	0.0	1.6936E-01	23.6	2.6613E-01	19.6	1.4524E-02	9.4	8.8217E+00	8.3	5.9500E+01	41.7	1.6936E-01	23.6	0.0000	0.0000	5.9500E+01	41.7	1.6936E-01	23.6	0.0	107.4	31.4	2551.3	395.2
10	49	0.0000E+00	0.0	1.2245E-01	43.3	2.0408E-01	34.7	1.1777E-02	14.8	8.5455E+00	11.7	7.1275E+01	37.3	1.2245E-01	43.3	0.0000	0.0000	7.1275E+01	37.3	1.2245E-01	43.3	0.0	89.8	24.3	1992.2	769.0
11	77	0.0000E+00	0.0	4.8077E-02	45.8	1.9231E-01	24.4	3.0891E-02	10.7	5.5445E+00	10.8	3.4939E+01	27.4	4.8077E-02	45.8	0.0000	0.0000	3.4939E+01	27.4	4.8077E-02	45.8	0.0	181.9	38.7	1031.1	1082.3
15	70	0.0000E+00	0.0	4.2553E-02	41.7	1.7731E-01	21.7	2.3542E-02	9.0	8.4431E+00	9.7	4.1028E+01	48.9	4.2553E-02	41.7	0.0000	0.0000	4.1028E+01	48.9	4.2553E-02	41.7	0.0	155.2	50.6	-193.7	1043.0
16	46	0.0000E+00	0.0	1.2500E-01	37.5	1.2500E-01	37.5	2.2745E-02	13.3	6.0791E+00	12.3	5.2422E+01	36.7	1.2500E-01	37.5	0.0000	0.0000	5.2422E+01	36.7	1.2500E-01	37.5	0.0	121.8	32.5	2028.8	663.9
17	40	0.0000E+00	0.0	6.6166E-02	15.6	1.2632E-01	11.6	3.1238E-02	4.2	6.0947E+00	4.7	3.6172E+01	10.2	6.6166E-02	15.6	0.0000	0.0000	3.6172E+01	10.2	6.6166E-02	15.6	0.0	175.8	16.1	811.6	325.6
18	300	0.0000E+00	0.0	1.9412E-01	19.0	6.4707E-01	12.2	8.1501E-03	7.9	8.4423E+00	5.2	1.4462E+02	13.5	1.9412E-01	19.0	0.0000	0.0000	1.4462E+02	13.5	1.9412E-01	19.0	0.0	44.4	5.3	2777.4	311.8
22	154	0.0000E+00	0.0	2.3810E-01	28.7	2.2222E-01	29.5	8.7907E-03	12.9	5.9312E+00	7.6	1.1429E+02	31.4	2.3810E-01	28.7	0.0000	0.0000	1.1429E+02	31.4	2.3810E-01	28.7	0.0	56.2	13.4	3107.3	457.7
23	25	0.0000E+00	0.0	2.2222E-01	78.2	2.2222E-01	78.2	7.7557E-03	34.1	4.1966E+00	16.4	1.5109E+02	66.5	2.2222E-01	78.2	0.0000	0.0000	1.5109E+02	66.5	2.2222E-01	78.2	0.0	42.5	17.0	2996.9	1256.9
28	63	0.0000E+00	0.0	1.2699E-01	37.5	2.5397E-01	28.0	1.4493E-02	13.1	7.9475E+00	11.1	6.0136E+01	92.4	1.2699E-01	37.5	0.0000	0.0000	6.0136E+01	92.4	1.2699E-01	37.5	0.0	106.3	50.8	2056.7	662.3
32	580	0.0000E+00	0.0	9.0245E-01	22.7	3.3171E+00	17.8	3.9582E-03	15.8	4.0930E+00	5.4	1.7969E+02	64.2	9.0245E-01	22.7	0.0000	0.0000	1.7969E+02	64.2	9.0245E-01	22.7	0.0	35.8	14.0	5092.7	320.6
33	62	0.0000E+00	0.0	6.4517E-02	42.1	4.4909E-02	42.1	4.4909E-02	11.7	4.0473E+00	12.1	2.1946E+01	42.0	6.4517E-02	42.1	0.0000	0.0000	2.1946E+01	42.0	6.4517E-02	42.1	0.0	287.2	83.7	758.6	888.4
35	181	0.0000E+00	0.0	8.3334E-02	26.9	3.1111E-01	15.3	5.2348E-02	8.6	2.5424E+00	7.9	1.7959E+01	39.5	8.3334E-02	26.9	0.0000	0.0000	1.7959E+01	39.5	8.3334E-02	26.9	0.0	348.6	96.8	1277.1	523.9
38	181	0.0000E+00	0.0	1.1881E-01	30.5	3.4654E-01	19.6	1.4532E-02	10.4	7.8188E+00	8.7	5.7335E+01	46.4	1.1881E-01	30.5	0.0000	0.0000	5.7335E+01	46.4	1.1881E-01	30.5	0.0	111.5	35.1	1938.4	546.3
42	30	0.0000E+00	0.0	1.2000E-01	61.1	6.0011E-01	32.7	7.1708E-02	23.9	2.0000E+00	22.7	1.3809E+01	39.4	1.2000E-01	61.1	0.0000	0.0000	1.3809E+01	39.4	1.2000E-01	61.1	0.0	450.7	124.3	1956.2	1090.9
44	134	0.0000E+00	0.0	8.5715E-01	39.3	1.7143E+00	33.6	6.8095E-03	27.3	3.6776E+00	11.7	1.3868E+02	57.3	8.5715E-01	39.3	0.0000	0.0000	1.3868E+02	57.3	8.5715E-01	39.3	0.0	46.3	16.8	5019.8	557.9
2	222	0.0000E+00	0.0	8.7559E-02	23.9	2.4885E-01	15.2	1.2649E-02	7.0	9.2652E+00	6.0	9.3995E+01	15.4	8.7559E-02	23.9	0.0000	0.0000	9.3995E+01	15.4	8.7559E-02	23.9	0.0	68.2	9.1	1372.8	460.1
3	137	0.0000E+00	0.0	9.9338E-02	27.1	2.0530E-01	19.7	1.4860E-02	8.5	7.7189E+00	7.2	7.9254E+01	18.3	9.9338E-02	27.1	0.0000	0.0000	7.9254E+01	18.3	9.9338E-02	27.1	0.0	80.8	12.4	1611.7	504.3
9	54	0.0000E+00	0.0	1.4545E-01	37.8	4.3636E-01	24.5	1.5529E-02	14.1	8.4170E+00	12.6	5.1944E+01	62.8	1.4545E-01	37.8	0.0000	0.0000	5.1944E+01	62.8	1.4545E-01	37.8	0.0	122.9	47.2	2293.2	650.7
10	121	0.0000E+00	0.0	2.7451E-01	30.2	4.1176E-01	25.9	5.8577E-03	14.3	7.1346E+00	7.5	1.3461E+02	68.1	2.7451E-01	30.2	0.0000	0.0000	1.3461E+02	68.1	2.7451E-01	30.2	0.0	47.7	19.3	3332.0	472.2
13	50	0.0000E+00	0.0	3.0769E-02	71.8	6.1538E-02	51.5	2.5085E-02	13.3	6.4330E+00	13.1	4.2607E+01	29.3	3.0769E-02	71.8	0.0000	0.0000	4.2607E+01	29.3	3.0769E-02	71.8	0.0	149.6	33.6	-1081.8	2167.6
14	32	0.0000E+00	0.0	1.6000E-01	53.8	8.0001E-02	73.5	1.4744E-02	20.9	6.0016E+00	15.8	8.2970E+01	47.9	1.6000E-01	53.8	0.0000	0.0000	8.2970E+01	47.9	1.6000E-01	53.8	0.0	77.2	24.9	2485.7	910.5
15	65	0.0000E+00	0.0	1.0227E-01	35.0	1.2500E-01	32.0	2.1099E-02	11.3	6.4273E+00	10.3	5.0402E+01	32.3	1.0227E-01	35.0	0.0000	0.0000	5.0402E+01	32.3	1.0227E-01	35.0	0.0	126.6	30.7	1665.8	647.6
18	26	0.0000E+00	0.0	2.0834E-01	49.2	4.5834E-01	36.4	1.8062E-02	21.5	5.5259E+00	17.2	5.5890E+01	86.0	2.0834E-01	49.2	0.0000	0.0000	5.5890E+01	86.0	2.0834E-01	49.2	0.0	114.9	52.9	2892.6	797.6
25	40	0.0000E+00	0.0	1.5000E-01	61.9	3.0000E-01	46.5	1.4527E-02	23.3	7.3880E+00	19.1	4.6958E+01	68.9	1.5000E-01	61.9	0.0000	0.0000	4.6958E+01	68.9	1.5000E-01	61.9	0.0	135.8	55.1	2345.9	1058.6
29	61	0.0000E+00	0.0	1.5152E-01	33.9	1.5152E-01	33.9	3.5758E-02	13.6	3.4496E+00	12.0	2.9684E+01	38.7	1.5152E-01	33.9	0.0000	0.0000	2.9684E+01	38.7	1.5152E-01	33.9	0.0	213.6	58.9	2363.1	579.2
30	74	0.0000E+00	0.0	1.1113E-01	43.0	1.4815E-01	37.9	5.1623E-02	15.6	2.7190E+00	14.6	1.3810E+01	64.0	1.1113E-01	43.0	0.0000	0.0000	1.3810E+01	64.0	1.1113E-01	43.0	0.0	450.7	172.2	1817.9	781.1

Area ID ¹	Area size [Pix-el]	Measured ratios ²				Uncorrected ratios				Corrected ratios ³				Age [Ma]						
		²⁰⁶ Pb/ ²⁰⁹ Pb	²⁰⁶ Pb/ ²⁰⁷ Pb	²⁰⁶ Pb/ ²³⁸ U	²⁰⁶ Pb/ ²³⁵ U	²⁰⁶ Pb/ ²⁰⁹ Pb	²⁰⁶ Pb/ ²⁰⁷ Pb	²³⁸ U/ ²⁰⁶ Pb	²³⁵ U/ ²⁰⁶ Pb	²⁰⁶ Pb/ ²⁰⁹ Pb	²⁰⁶ Pb/ ²⁰⁷ Pb	²³⁸ U/ ²⁰⁶ Pb	²³⁵ U/ ²⁰⁶ Pb	²⁰⁶ Pb/ ²⁰⁹ Pb	²⁰⁶ Pb/ ²⁰⁷ Pb	²³⁸ U/ ²⁰⁶ Pb	²³⁵ U/ ²⁰⁶ Pb	±1σ	±1σ	
31	21	0.0000E+00	0.0	8.3332E-02	75.6	2.5000E-01	45.6	3.3547E-02	22.4	2.5323E+00	17.2	3.7075E+01	52.3	8.3332E-02	75.6	0.0	171.6	58.4	1277.0	1435.0
37	51	0.0000E+00	0.0	2.0834E-01	49.2	2.0834E-01	49.2	8.9006E-03	21.0	1.0927E+01	16.3	1.1561E+02	64.3	2.0834E-01	49.2	0.0	56.5	22.1	2892.6	797.6
40	65	0.0000E+00	0.0	1.6667E-01	40.8	6.1905E-01	25.0	1.9732E-02	16.3	5.5322E+00	13.6	4.7985E+01	23.9	1.6667E-01	40.8	0.0	133.0	25.5	2524.5	685.5
44	55	0.0000E+00	0.0	2.5000E-01	64.6	2.5000E-01	64.6	3.3835E-02	31.7	1.6387E+00	21.1	2.4467E+01	71.1	2.5000E-01	64.6	0.0	258.2	106.0	3184.8	1021.9
²⁰⁶Pb																				
4	36	0.0000E+00	0.0	5.2632E-02	59.2	1.5789E-01	35.9	6.6302E-02	15.7	4.2064E+00	19.1	1.4990E+01	82.1	5.2632E-02	59.2	0.0	416.3	184.4	312.9	1347.7
6	58	0.0000E+00	0.0	4.3103E-02	45.7	1.2069E-01	28.3	2.8082E-02	10.0	7.0122E+00	10.8	3.2821E+01	48.0	4.3103E-02	45.7	0.0	193.5	62.2	-161.6	1136.0
7	147	0.0000E+00	0.0	5.3942E-02	28.5	1.0373E-01	21.0	3.0003E-02	7.0	6.8168E+00	7.7	3.5656E+01	18.0	5.3942E-02	28.5	0.0	178.3	26.8	368.6	641.4
8	56	0.0000E+00	0.0	1.0345E-01	35.0	1.0345E-01	35.0	2.4985E-02	11.5	6.2487E+00	11.2	3.9010E+01	46.7	1.0345E-01	35.0	0.0	163.2	51.5	1686.9	646.2
9	79	0.0000E+00	0.0	6.8628E-02	39.1	3.7787E-02	39.1	3.7787E-02	11.0	3.7420E+00	10.3	2.6977E+01	29.6	6.8628E-02	39.1	0.0	234.6	52.9	887.6	807.4
10	64	0.0000E+00	0.0	3.0613E-02	58.6	5.1021E-02	45.8	2.8748E-02	10.9	6.2318E+00	11.3	4.5444E+01	32.8	3.0613E-02	58.6	0.0	140.3	34.4	-1097.2	1775.8
11	49	0.0000E+00	0.0	3.7037E-02	72.0	1.4815E-01	37.9	6.5508E-02	16.1	2.1078E+00	15.1	1.3127E+01	49.6	3.7037E-02	72.0	0.0	473.3	153.1	-553.8	1938.7
12	24	0.0000E+00	0.0	7.1429E-02	73.2	2.1429E-01	45.0	2.4770E-02	20.3	7.2325E+00	20.9	4.8096E+01	75.2	7.1429E-02	73.2	0.0	132.7	56.6	969.7	1493.3
13	68	0.0000E+00	0.0	2.0000E-01	26.6	4.3531E-01	19.7	6.8639E-02	12.9	4.2919E+00	16.0	1.6340E+01	28.7	2.0000E-01	26.6	0.0	382.9	83.5	2826.2	433.6
14	71	0.0000E+00	0.0	8.1395E-02	39.3	2.6744E-01	23.5	1.5600E-01	14.9	3.3929E+00	21.5	6.4309E+00	30.8	8.1395E-02	39.3	0.0	931.7	207.8	1231.0	771.3
17	123	0.0000E+00	0.0	8.3334E-02	36.8	1.0417E-01	33.2	1.5608E-02	10.7	5.6528E+00	8.1	7.2496E+01	31.2	8.3334E-02	36.8	0.0	88.3	20.9	1277.1	717.5
19	73	0.0000E+00	0.0	1.1865E-01	40.0	1.8644E-01	32.8	2.1103E-02	13.8	3.6335E+00	10.0	5.0606E+01	29.8	1.1865E-01	40.0	0.0	126.1	28.8	1935.9	715.5
20	28	0.0000E+00	0.0	1.0204E-01	47.0	1.0204E-01	47.0	5.1912E-02	16.4	4.6184E+00	18.9	2.4748E+01	45.3	1.0204E-01	47.0	0.0	255.4	78.6	1661.6	869.1
21	113	0.0000E+00	0.0	4.8388E-02	41.8	5.6452E-02	38.8	5.6661E-02	10.4	5.4337E+00	13.3	2.0807E+01	23.2	4.8388E-02	41.8	0.0	302.6	55.8	118.3	985.4
28	29	0.0000E+00	0.0	8.3334E-02	60.1	1.6667E-01	44.1	4.6782E-02	18.9	2.8447E+00	17.3	3.8090E+01	76.2	8.3334E-02	60.1	0.0	167.1	71.7	1277.1	1171.6
30	118	0.0000E+00	0.0	3.2000E-02	50.8	1.6000E-01	24.1	3.8576E-02	9.9	4.6069E+00	10.2	2.8848E+01	15.2	3.2000E-02	50.8	0.0	219.7	28.5	-964.9	1494.0
32	82	0.0000E+00	0.0	1.2162E-01	35.3	1.8919E-01	29.1	3.6633E-02	12.8	5.7938E+00	14.2	2.6686E+01	33.0	1.2162E-01	35.3	0.0	237.2	58.0	1980.2	628.5
34	91	0.0000E+00	0.0	9.3024E-02	52.3	2.7907E-01	32.7	1.2218E-02	15.8	6.8949E+00	11.6	8.6160E+01	26.1	9.3024E-02	52.3	0.0	74.4	15.3	1488.4	989.8
36	147	0.0000E+00	0.0	1.5000E-01	35.8	3.8333E-01	24.5	4.2837E-02	14.5	2.7739E+00	12.7	2.0809E+01	69.9	1.5000E-01	35.8	0.0	302.6	122.8	2345.9	611.3
38	119	0.0000E+00	0.0	6.7074E-02	31.1	1.2195E-01	23.7	7.9762E-02	9.5	6.9805E+00	15.3	1.4500E+01	21.6	6.7074E-02	31.1	0.0	429.9	74.4	840.1	648.5

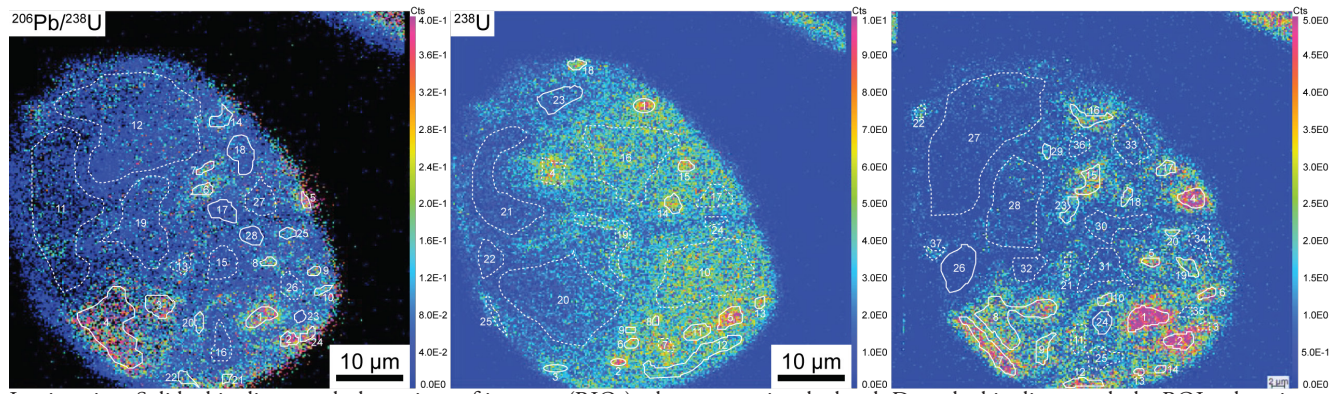
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

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

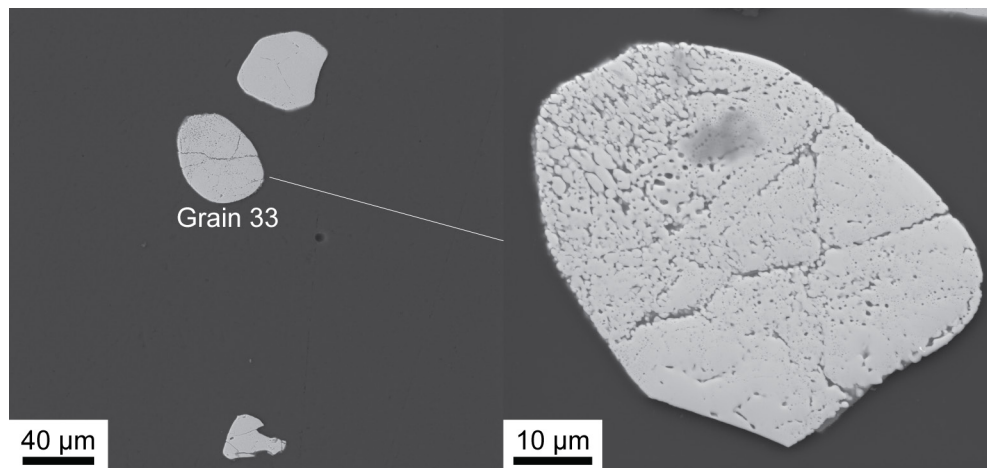
Corrected ratios³ Values corrected for common Pb where ²⁰⁴Pb exceeds detection limit.

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 67 grain 33



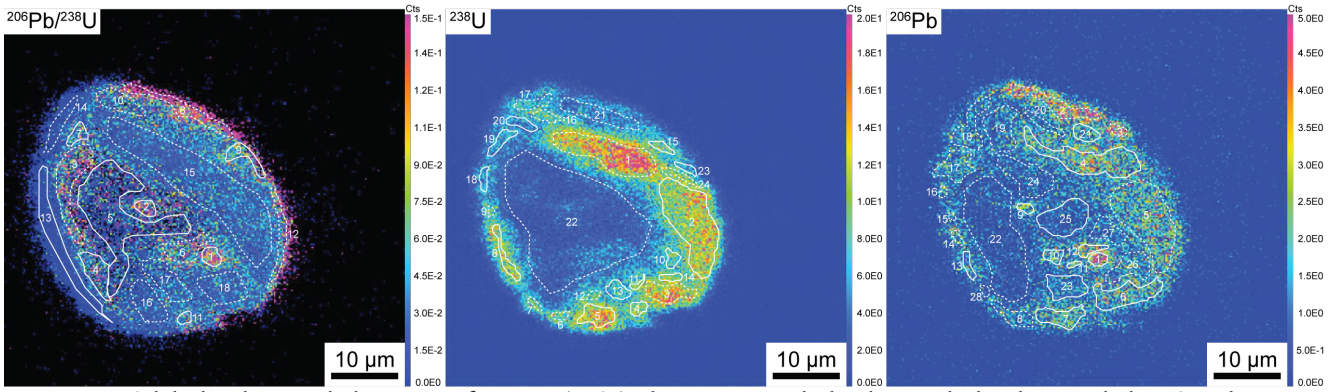
Ion imaging. Solid white lines mark the regions of interests (ROIs) where an age is calculated. Dotted white lines mark the ROIs where it was not possible to calculate an age due to common Pb content higher than 2%, and high uncertainty, i.e., absolute error higher than age value.



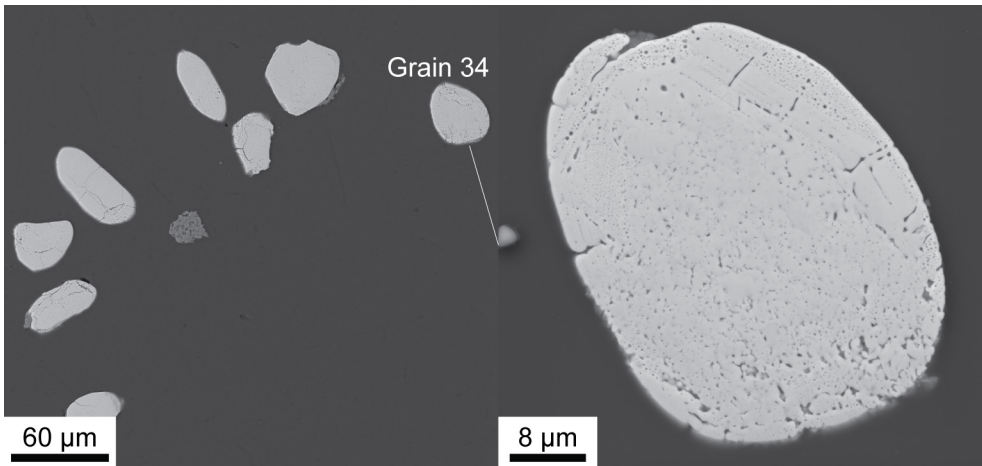
BSE images. Left) HV = 15 kV, WD = 9.94 mm, View Field = 279.0 μm . Right) HV = 15 kV, WD = 9.04 mm, View Field = 63.6 μm ; close-up of the grain from the left image. Right image shows the grain after a further polishing to remove Au coating of the SIMS ion imaging and U-Pb spot analyses.

Area ID ¹	Area size [Pix-cel]	Measured ratios ²										Uncorrected ratios										Corrected ratios ³										Age [Ma]					
		²³⁸ Pb/ ²³⁸ U		²⁰⁶ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁸ U		²⁰⁶ Pb/ ²⁰⁷ Pb		²⁰⁷ Pb/ ²⁰⁶ Pb		²³⁸ U/ ⁹⁰ Zr		²³⁸ U/ ²⁰⁶ Pb		²³⁸ U/ ²⁰⁷ Pb		²⁰⁶ Pb/ ²⁰⁷ Pb		²⁰⁷ Pb/ ²⁰⁶ 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 [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]					
²⁰⁶ Pb/ ²³⁸ U																																					
1	167	0.000E+00	0.0	1.0375E-01	10.3	2.1640E-01	7.4	2.2935E-01	4.8	2.8340E+00	7.2	4.7234E+00	18.2	4.7234E+00	18.2	1.0375E-01	18.2	1.0375E-01	10.3	0.0000	0.0000	4.7234E+00	18.2	4.7234E+00	18.2	1.0375E-01	10.3	0.0	1237.9	1760	1692.3	189.0					
2	81	0.000E+00	0.0	9.9794E-02	15.0	1.8941E-01	11.3	3.1174E-01	7.7	2.1655E+00	11.0	3.4716E+00	15.5	3.4716E+00	15.5	9.9794E-02	15.5	9.9794E-02	15.0	0.0000	0.0000	3.4716E+00	15.5	3.4716E+00	15.5	9.9794E-02	15.0	0.0	1631.8	1967	1620.3	278.8					
3	232	0.000E+00	0.0	5.9937E-02	16.7	1.1514E-01	12.4	2.2583E-01	6.1	2.0756E+00	8.1	4.3159E+00	26.2	4.3159E+00	26.2	5.9937E-02	16.7	5.9937E-02	16.7	0.0000	0.0000	4.3159E+00	26.2	4.3159E+00	26.2	5.9937E-02	16.7	0.0	1343.4	256.6	601.3	361.5					
4	1185	0.000E+00	0.0	8.6095E-02	6.3	1.1087E-01	5.6	2.7630E-01	2.9	2.1270E+00	4.0	3.0373E+00	23.1	3.0373E+00	23.1	8.6095E-02	6.3	8.6095E-02	6.3	0.0000	0.0000	3.0373E+00	23.1	3.0373E+00	23.1	8.6095E-02	6.3	0.0	1834.7	306.9	1340.3	120.8					
5	43	0.000E+00	0.0	1.4423E-01	19.5	1.5385E-01	19.0	2.5257E-01	11.0	2.2833E+00	15.5	4.8919E+00	23.2	4.8919E+00	23.2	1.4423E-01	19.5	1.4423E-01	19.5	0.0000	0.0000	4.8919E+00	23.2	4.8919E+00	23.2	1.4423E-01	19.5	0.0	1199.0	209.4	2278.6	336.3					
6	78	0.000E+00	0.0	5.5814E-02	29.7	1.0233E-01	22.4	1.4716E-01	9.4	2.1132E+00	11.3	8.2587E+00	27.5	8.2587E+00	27.5	5.5814E-02	29.7	5.5814E-02	29.7	0.0000	0.0000	8.2587E+00	27.5	8.2587E+00	27.5	5.5814E-02	29.7	0.0	736.8	151.9	448.0	659.4					
7	48	0.000E+00	0.0	1.5267E-02	71.3	9.9237E-02	29.1	1.4625E-01	12.0	2.2924E+00	14.9	8.8560E+00	38.0	8.8560E+00	38.0	1.5267E-02	71.3	1.5267E-02	71.3	0.0000	0.0000	8.8560E+00	38.0	8.8560E+00	38.0	1.5267E-02	71.3	0.0	689.7	182.5	#NUM!	#NUM!					
8	41	0.000E+00	0.0	4.0000E-02	45.6	1.1200E-01	28.2	1.4960E-01	12.3	2.4822E+00	15.8	8.0781E+00	19.2	8.0781E+00	19.2	4.0000E-02	45.6	4.0000E-02	45.6	0.0000	0.0000	8.0781E+00	19.2	8.0781E+00	19.2	4.0000E-02	45.6	0.0	752.4	115.4	-350.9	1177.8					
9	38	0.000E+00	0.0	6.9445E-02	58.9	6.9445E-02	46.3	9.5050E-02	14.8	2.0325E+00	15.5	1.2223E+01	38.3	1.2223E+01	38.3	4.1667E-02	58.9	4.1667E-02	58.9	0.0000	0.0000	1.2223E+01	38.3	1.2223E+01	38.3	4.1667E-02	58.9	0.0	506.9	136.3	-246.6	1490.2					
10	44	0.000E+00	0.0	8.3333E-02	30.0	1.3194E-01	24.4	1.2674E-01	11.1	4.6102E+00	17.2	9.4205E+00	27.9	9.4205E+00	27.9	8.3333E-02	30.0	8.3333E-02	30.0	0.0000	0.0000	9.4205E+00	27.9	9.4205E+00	27.9	8.3333E-02	30.0	0.0	650.4	136.5	1277.0	585.9					
14	120	0.000E+00	0.0	8.3333E-02	22.7	1.6667E-01	16.7	8.7513E-02	7.8	3.1104E+00	9.3	1.1426E+01	19.6	1.1426E+01	19.6	8.3333E-02	22.7	8.3333E-02	22.7	0.0000	0.0000	1.1426E+01	19.6	1.1426E+01	19.6	8.3333E-02	22.7	0.0	540.8	88.7	1770.0	442.8					
17	202	0.000E+00	0.0	1.0769E-01	28.1	3.0000E-01	18.3	2.4054E-02	9.4	3.3798E+00	7.0	4.7033E+01	16.4	4.7033E+01	16.4	1.0769E-01	28.1	1.0769E-01	28.1	0.0000	0.0000	4.7033E+01	16.4	4.7033E+01	16.4	1.0769E-01	28.1	0.0	135.6	18.9	1760.8	514.3					
18	311	0.000E+00	0.0	1.3420E-01	19.1	4.4889E-01	11.9	2.8870E-02	7.1	3.3193E+00	5.7	3.9070E+01	14.5	3.9070E+01	14.5	1.3420E-01	19.1	1.3420E-01	19.1	0.0000	0.0000	3.9070E+01	14.5	3.9070E+01	14.5	1.3420E-01	19.1	0.0	162.9	20.4	2153.6	334.0					
20	71	0.000E+00	0.0	4.6875E-02	41.8	1.5625E-01	24.0	8.7983E-02	10.9	2.8140E+00	12.6	1.0124E+01	29.2	1.0124E+01	29.2	4.6875E-02	41.8	4.6875E-02	41.8	0.0000	0.0000	1.0124E+01	29.2	1.0124E+01	29.2	4.6875E-02	41.8	0.0	607.2	132.2	42.9	998.7					
21	34	0.000E+00	0.0	1.6667E-01	27.9	2.3333E-01	24.2	1.5123E-01	14.6	3.5575E+00	21.4	7.8387E+00	53.9	7.8387E+00	53.9	1.6667E-01	27.9	1.6667E-01	27.9	0.0000	0.0000	7.8387E+00	53.9	7.8387E+00	53.9	1.6667E-01	27.9	0.0	774.0	260.7	2524.4	468.3					
22	65	0.000E+00	0.0	1.6438E-01	22.0	2.6028E-01	18.2	1.2328E-01	10.9	3.3967E+00	14.9	7.5315E+00	37.6	7.5315E+00	37.6	1.6438E-01	22.0	1.6438E-01	22.0	0.0000	0.0000	7.5315E+00	37.6	7.5315E+00	37.6	1.6438E-01	22.0	0.0	803.7	210.0	2501.3	370.8					
23	40	0.000E+00	0.0	1.7778E-01	38.4	4.0000E-01	27.9	3.1714E-02	16.3	4.6283E+00	15.4	3.9752E+01	40.0	3.9752E+01	40.0	1.7778E-01	38.4	1.7778E-01	38.4	0.0000	0.0000	3.9752E+01	40.0	3.9752E+01	40.0	1.7778E-01	38.4	0.0	160.2	45.4	263.3	637.6					
24	55	0.000E+00	0.0	5.6140E-02	25.7	1.5088E-01	16.4	2.2575E-01	9.1	2.9581E+00	13.7	5.3800E+00	29.7	5.3800E+00	29.7	5.6140E-02	25.7	5.6140E-02	25.7	0.0000	0.0000	5.3800E+00	29.7	5.3800E+00	29.7	5.6140E-02	25.7	0.0	1099.0	235.4	457.9	569.8					
25	62	0.000E+00	0.0	8.8496E-02	33.0	1.3274E-01	27.5	8.4675E-02	11.6	2.7072E+00	12.9	1.2770E+01	26.3	1.2770E+01	26.3	8.8496E-02	33.0	8.8496E-02	33.0	0.0000	0.0000	1.2770E+01	26.3	1.2770E+01	26.3	8.8496E-02	33.0	0.0	486.0	98.4	1393.3	632.8					
28	147	0.000E+00	0.0	1.5888E-01	26.1	3.2711E-01	19.5	3.7236E-02	10.7	2.1341E+00	8.1	3.2337E+01	24.7	3.2337E+01	24.7	1.5888E-01	26.1	1.5888E-01	26.1	0.0000	0.0000	3.2337E+01	24.7	3.2337E+01	24.7	1.5888E-01	26.1	0.0	196.3	38.4	2443.8	442.0					
²³⁸ U																																					
1	76	0.000E+00	0.0	1.5789E-01	25.4	3.1579E-01	19.1	2.5975E-02	10.1	4.8675E+00	9.0	4.5224E+01	20.5	4.5224E+01	20.5	1.5789E-01	25.4	1.5789E-01	25.4	0.0000	0.0000	4.5224E+01	20.5	4.5224E+01	20.5	1.5789E-01	25.4	0.0	141.0	23.7	2433.2	429.8					
2	20	0.000E+00	0.0	1.7045E-01	27.9	3.9773E-01	20.0	5.0475E-02	12.2	7.2508E+00	16.9	1.9901E+01	61.5	1.9901E+01	61.5	1.7045E-01	27.9	1.7045E-01	27.9	0.0000	0.0000	1.9901E+01	61.5	1.9901E+01	61.5	1.7045E-01	27.9	0.0	316.0	118.5	2562.1	467.3					
3	30	0.000E+00	0.0	3.0000E-01	19.0	4.6666E-01	16.2	8.9516E-02	11.3	5.0685E+00	16.5	1.2473E+01	87.5	1.2473E+01	87.5	3.0000E-01	19.0	3.0000E-01	19.0	0.0000	0.0000	1.2473E+01	87.5	1.2473E+01	87.5	3.0000E-01	19.0	0.0	497.1	227.3	3470.2	294.3					
5	166	0.000E+00	0.0	3.1343E-02	22.2	1.2089E-01	11.8	9.5579E-02	4.8	5.4493E+00	7.4	1.1916E+01	21.2	1.1916E+01	21.2	3.1343E-02	22.2	3.1343E-02	22.2	0.0000	0.0000	1.1916E+01	21.2	1.1916E+01	21.2	3.1343E-02	22.2	0.0	519.5	87.9	-1026.4	660.8					
6	49	0.000E+00	0.0	6.2501E-02	42.1	1.9792E-01	25.1	6.6810E-02	12.1	3.3199E+00	13.4	1.4121E+01	31.7	1.4121E+01	31.7	6.2501E-02	42.1	6.2501E-02	42.1	0.0000	0.0000	1.4121E+01	31.7	1.4121E+01	31.7	6.2501E-02	42.1	0.0	441.1	103.5	691.3	897.4					
8	19	0.000E+00	0.0	2.0000E-01	63.3	7.3334E-01	39.7	2.6264E-02	27.8	2.8791E+00	20.2	4.9176E+01	58.0	4.9176E+01	58.0	2.0000E-01	63.3	2.0000E-01	63.3	0.0000	0.0000	4.9176E+01	58.0	4.9176E+01	58.0	2.0000E-01	63.3	0.0	129.8	47.3	2826.2	1032.3					
9	24	0.000E+00	0.0	6.3830E-02	59.5	1.0638E-01	47.0	6.8574E-02	17.3	5.7009E+00	24.2	1.7538E+01	58.9	1.7538E+01	58.9	6.3830E-02	59.5	6.3830E-02	59.5	0.0000	0.0000	1.7538E+01	58.9	1.7538E+01	58.9	6.3830E-02	59.5	0.0	357.5	130.3	736.0	1260.7					
11	138	0.000E+00	0.0	9.7969E-02	14.4	1.5157E-01	11.9	1.2177E-01	5.7	3.5364E+00	7.8	1.0833E+01	15.9	1.0833E+01	15.9	9.7969E-02	14.4	9.7969E-02	14.4	0.0000	0.0000	1.0833E+01	15.9	1.0833E+01	15.9	9.7969E-02	14.4	0.0	569.2	75.2	1588.8	269.0					
12	534	6.7475E-04	100.0	1.3495E-01	7.5	2.7800E-01	5.6	1.3030E-01	3.5	2.6876E+00	4.4	8.1704E+00	8.8	8.1704E+00	8.8	1.3495E-01	7.5	1.3495E-01	7.5	0.0126	0.0126	8.1704E+00	13.6	8.0673E+00	13.6	1.2600E-01	11.0	1.3	753.3	85.8	2042.8	193.6					
13	40	0.000E+00	0.0	9.7087E-02	33.1	2.1359E-01	23.5	7.7176E-02	11.9	3.7625E+00	14.6	1.2700E+01	26.5	1.2700E+01	26.5	9.7087E-02	33.1	9.7087E-02	33.1	0.0000	0.0000	1.2700E+01	26.5	1.2700E+01	26.5	9.7087E-02	33.1	0.0	488.6	99.3	1568.9	620.5					
14	105	0.000E+00	0.0	1.5909E-01	28.8	2.8409E-01	22.7	2.7006E-02	11.5	3.8995E+00	9.2	4.3404E+01																									

Ion image 68 grain 34



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 = 306.0 µm. Right) HV = 15 kV, WD = 9.04 mm, View Field = 52.3 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 [Px-el]	Measured ratios ²				Uncorrected ratios				Corrected ratios ³				Age [Ma]						
		$^{206}\text{Pb}/^{238}\text{U}$	$^{206}\text{Pb}/^{207}\text{Pb}$	$^{206}\text{Pb}/^{235}\text{U}$	$^{206}\text{Pb}/^{207}\text{Pb}$	$^{238}\text{U}/^{207}\text{Pb}$	$^{238}\text{U}/^{206}\text{Pb}$	$^{207}\text{Pb}/^{206}\text{Pb}$	$^{207}\text{Pb}/^{206}\text{Pb}$	$^{238}\text{U}/^{206}\text{Pb}$	$^{207}\text{Pb}/^{206}\text{Pb}$	$^{207}\text{Pb}/^{206}\text{Pb}$	$^{238}\text{U}/^{206}\text{Pb}$	$^{207}\text{Pb}/^{206}\text{Pb}$	$\pm 1\sigma$	$\pm 1\sigma$				
		$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]	$\pm\sigma$ [%]						
<i>²⁰⁶Pb/²³⁸U</i>																				
1	123	0.0000E+00	1.4031E-01	14.4	1.1242E-01	6.5	2.9746E+00	8.3	8.9260E+00	19.2	6.8878E-02	19.9	0.0000	0.0000	0.0000	0.0000	684.5	105.5	895.1	410.7
2	84	0.0000E+00	7.6923E-02	38.6	1.2476E-01	10.6	1.2382E+00	10.4	6.4034E+00	43.9	4.4872E-02	38.6	0.0000	0.0000	0.0000	0.0000	935.4	271.2	-62.6	942.6
4	335	0.0000E+00	1.5161E-01	15.6	4.5875E-02	6.4	4.6083E+00	7.1	1.6004E+01	54.8	5.4839E-02	24.9	0.0000	0.0000	0.0000	0.0000	390.7	135.7	405.7	557.6
5	2119	9.9305E-04	1.9430E-02	10.7	1.7478E-01	3.5	1.7478E+00	2.6	2.1221E+01	23.5	4.8340E-02	10.7	0.0186	0.0186	0.0186	0.0186	302.3	94.2	1204.7	437.9
7	114	0.0000E+00	0.0	3.6497E-02	45.5	2.1898E-01	20.2	4.4163E-02	10.6	1.9515E+01	60.0	3.6497E-02	45.5	0.0000	0.0000	0.0000	322.2	119.0	-593.6	1236.1
9	190	0.0000E+00	0.0	9.7222E-02	17.7	1.5556E-01	14.4	6.1292E-02	6.2	6.9296E+00	9.0	9.7222E-02	17.7	0.0000	0.0000	0.0000	320.9	39.9	1571.5	331.7
11	58	0.0000E+00	0.0	8.8497E-02	33.0	1.7700E-01	24.3	4.4643E-02	14.0	2.0623E+01	32.0	8.8497E-02	33.0	0.0000	0.0000	0.0000	305.2	72.7	1393.3	632.8
13	655	0.0000E+00	0.0	8.2342E-00	16.8	8.2342E+00	15.4	1.6296E-03	14.7	1.3073E+01	5.4	3.1064E+00	16.8	0.0000	0.0000	0.0000	13.4	3.9	6787.8	224.2
<i>²³⁸U</i>																				
2	1412	9.0785E-04	7.9438E-02	7.8	2.6600E-01	4.7	2.2840E-02	2.3	7.6099E+00	2.3	4.9451E+01	10.1	0.0170	0.0120	0.0120	0.0120	131.3	49.5	818.3	361.2
4	82	0.0000E+00	0.0	9.6297E-02	29.0	3.1112E-01	17.7	2.8032E-02	9.3	8.9017E+00	11.1	3.9548E+01	42.9	0.0000	0.0000	0.0000	161.0	47.9	1553.6	545.2
5	246	0.0000E+00	0.0	1.2539E-01	16.6	4.0367E-01	10.3	1.6905E-02	5.8	1.1874E+01	6.3	6.0850E+01	32.1	0.0000	0.0000	0.0000	105.1	25.4	2034.2	293.2
8	149	0.0000E+00	0.0	8.1580E-01	24.2	2.6316E+00	19.1	3.8796E-03	16.4	1.4549E+01	9.8	1.8483E+02	54.7	0.0000	0.0000	0.0000	34.8	12.3	4949.6	344.2
10	78	0.0000E+00	0.0	4.7619E-02	36.2	1.9048E-01	19.3	4.4356E-02	8.7	5.3393E+00	10.0	2.5888E+01	25.8	0.0000	0.0000	0.0000	244.3	49.3	80.4	89.2
11	34	0.0000E+00	0.0	1.1111E-01	60.9	6.2964E-01	31.0	1.4302E-02	20.1	7.3035E+00	16.3	7.5241E+01	48.2	0.0000	0.0000	0.0000	85.1	27.6	1817.7	1104.8
13	132	0.0000E+00	0.0	1.4516E-01	25.2	4.2742E-01	16.4	2.3927E-02	9.6	5.6347E+00	8.8	4.4024E+01	28.6	0.0000	0.0000	0.0000	144.8	31.9	2289.7	433.8
14	64	0.0000E+00	0.0	3.1579E-02	58.6	3.1579E-01	20.9	2.4419E-02	11.0	7.3899E+00	11.8	4.2809E+01	26.8	0.0000	0.0000	0.0000	148.9	31.1	-1004.0	1740.0
15	70	0.0000E+00	0.0	1.3274E-01	27.5	1.5044E-01	26.0	3.0168E-02	10.2	6.2941E+00	10.8	3.6760E+01	36.5	0.0000	0.0000	0.0000	173.0	45.8	2134.6	480.7
18	68	0.0000E+00	0.0	2.3334E-00	48.8	8.8334E+00	43.1	2.9095E-03	41.2	7.6235E+00	15.9	3.3950E+02	90.6	0.0000	0.0000	0.0000	19.0	9.0	6403.2	659.2
19	125	0.0000E+00	0.0	1.8644E-01	32.8	7.7967E-01	19.7	1.4474E-02	13.6	5.0383E+00	9.9	8.9789E+01	58.3	0.0000	0.0000	0.0000	71.4	26.2	2711.0	541.7
20	106	0.0000E+00	0.0	1.0526E-01	37.2	3.2895E-01	23.1	2.5438E-02	12.3	5.2323E+00	11.2	3.0004E+01	59.2	0.0000	0.0000	0.0000	211.3	77.8	1718.9	683.1
23	57	0.0000E+00	0.0	8.9110E-02	34.8	2.8713E-01	21.1	5.0756E-02	11.4	5.2545E+00	13.8	2.0626E+01	37.3	0.0000	0.0000	0.0000	304.7	81.3	1406.5	666.2
<i>²⁰⁶Pb</i>																				
1	82	0.0000E+00	0.0	3.7855E-02	29.4	1.1041E-01	17.8	1.2177E-01	7.4	3.0283E+00	9.6	8.9919E+00	27.7	0.0000	0.0000	0.0000	679.8	141.3	-495.4	782.2
4	931	5.0968E-04	100.0	7.7473E-02	8.4	1.2640E-01	6.7	3.0426E-02	2.5	9.7871E+00	3.2	3.5565E+01	13.0	0.0095	0.0095	0.0095	180.5	47.9	933.5	290.5
6	514	1.0604E-03	100.1	7.6352E-02	12.2	2.3648E-01	7.4	2.8557E-02	3.5	9.7054E+00	4.4	3.7707E+01	10.9	0.0198	0.0198	0.0198	172.1	74.3	638.8	656.8
7	293	0.0000E+00	0.0	9.2981E-02	14.9	3.2638E-01	8.8	2.8301E-02	4.7	1.0057E+01	6.0	3.4908E+01	20.7	0.0000	0.0000	0.0000	182.1	30.9	1487.5	285.9
9	48	0.0000E+00	0.0	5.4945E-02	45.9	7.6923E-02	39.2	1.2510E-01	13.9	1.1525E+00	13.3	7.3444E+00	48.4	0.0000	0.0000	0.0000	822.9	257.0	410.0	1027.3
10	98	0.0000E+00	0.0	1.1111E-01	25.6	2.8758E-01	17.1	6.0738E-02	9.4	3.0465E+00	9.8	1.6393E+01	24.5	0.0000	0.0000	0.0000	381.7	73.4	1817.7	464.2
11	25	0.0000E+00	0.0	1.5094E-01	37.9	2.2641E-01	32.0	7.4092E-02	16.5	3.0513E+00	18.5	1.9190E+01	55.6	0.0000	0.0000	0.0000	327.5	115.1	2356.6	647.9
12	88	0.0000E+00	0.0	5.5249E-02	32.5	2.2653E-01	17.3	9.0420E-02	9.2	2.4307E+00	10.1	1.2261E+01	41.1	0.0000	0.0000	0.0000	505.4	143.2	423.3	724.9
13	82	0.0000E+00	0.0	2.8038E-02	58.5	1.3084E-01	28.4	4.9301E-02	11.0	5.4700E+00	13.4	1.4871E+01	64.1	0.0000	0.0000	0.0000	419.5	160.6	#NUM!	#NUM!
21	140	0.0000E+00	0.0	3.1859E-01	13.5	7.5665E-01	10.1	4.1811E-02	7.4	4.9677E+00	8.1	2.7238E+01	25.6	0.0000	0.0000	0.0000	232.4	46.7	3563.0	208.2
23	339	0.0000E+00	0.0	7.7442E-02	21.6	4.1078E-01	10.8	2.0643E-02	6.2	5.7809E+00	5.3	5.0989E+01	19.2	0.0000	0.0000	0.0000	125.2	20.0	1132.6	430.8
25	560	0.0000E+00	0.0	1.2874E-01	16.2	2.2455E-01	12.8	4.1493E-02	6.1	1.6531E+00	4.4	2.3955E+01	23.4	0.0000	0.0000	0.0000	263.6	49.2	2080.9	285.1

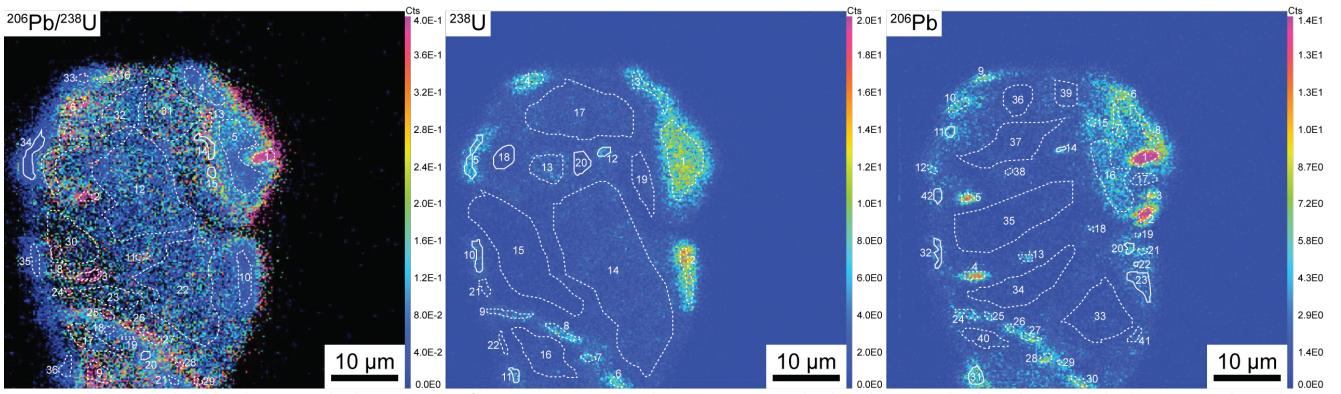
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

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

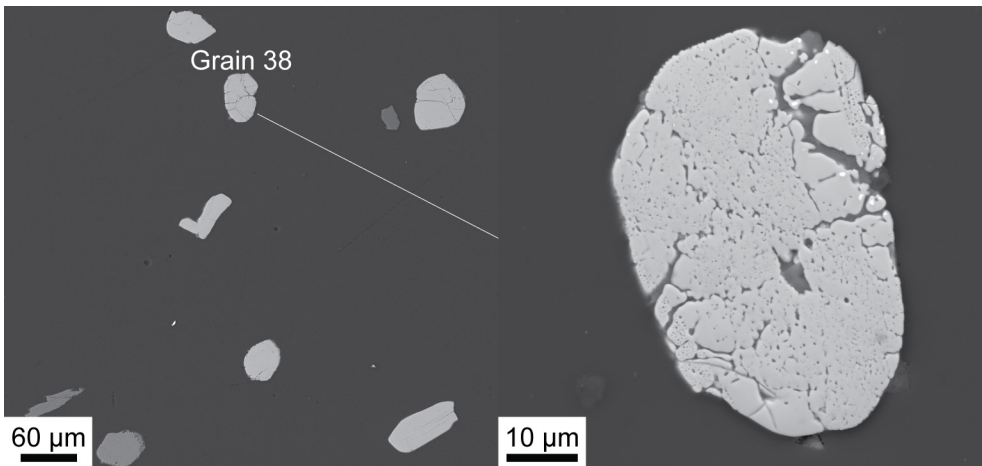
Corrected ratios³ Values corrected for common Pb where ²⁰⁶Pb exceeds detection limit.

²⁰⁶Pb [%]¹⁴ 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 38



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 = 306.0 µm. Right) HV = 15 kV, WD = 9.04 mm, View Field = 52.3 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]	
		²⁰⁴ Pb/ ²⁰⁶ Pb		²⁰⁷ Pb/ ²⁰⁶ Pb		²⁰⁸ Pb/ ²⁰⁶ Pb		²⁰⁶ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²⁰⁶ Pb		²⁰⁸ Pb/ ²⁰⁶ Pb		²³⁸ U/ ⁹⁰ Zr		²³⁸ U/ ²⁰⁶ Pb		²³⁸ U/ ²⁰⁸ Pb		²⁰⁶ Pb/ ^{±σ}		²⁰⁷ Pb/ ^{±σ}		²⁰⁸ Pb/ ^{±σ}		²³⁸ U/ ^{±σ}		²⁰⁶ Pb/ ^{±σ}		²⁰⁷ Pb/ ^{±σ}		²⁰⁸ 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 [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	
14	78	0.0000E+00	0.0	1.1374E-01	21.5	3.8389E-01	13.1	2.3092E-01	10.6	1.0629E+00	11.6	5.0460E+00	28.0	1.1374E-01	21.5	0.0000	0.0000	5.0460E+00	28.0	1.1374E-01	21.5	0.0	0.0	1.1374E-01	21.5	0.0	1165.5	237.2	1860.1	389.0			
15	28	0.0000E+00	0.0	1.5278E-01	32.4	3.0557E-01	24.4	2.2181E-01	18.0	1.1739E+00	20.1	4.7189E+00	46.9	1.5278E-01	32.4	0.0000	0.0000	4.7189E+00	46.9	1.5278E-01	32.4	0.0	0.0	1.5278E-01	32.4	0.0	1239.0	370.1	2377.3	551.7			
20	30	0.0000E+00	0.0	2.3715E+00	20.1	5.7145E+00	18.3	3.7804E-02	18.7	7.7009E+00	23.8	2.8356E+01	84.1	2.3715E+00	20.1	0.0000	0.0000	2.8356E+01	84.1	2.3715E+00	20.1	0.0	0.0	2.3715E+00	20.1	0.0	223.4	101.1	6425.1	272.0			
34	173	0.0000E+00	0.0	1.9460E+00	20.2	3.0811E+00	18.9	6.5750E-03	16.8	6.6393E+00	9.0	1.2390E+02	64.8	1.9460E+00	20.2	0.0000	0.0000	1.2390E+02	64.8	1.9460E+00	20.2	0.0	0.0	1.9460E+00	20.2	0.0	51.8	20.3	6157.1	275.2			
²³² U																																	
5	111	0.0000E+00	0.0	1.5135E+00	21.2	2.0541E+00	20.0	9.8000E-03	16.9	6.5424E+00	11.0	6.8916E+01	94.0	1.5135E+00	21.2	0.0000	0.0000	6.8916E+01	94.0	1.5135E+00	21.2	0.0	0.0	1.5135E+00	21.2	0.0	92.9	44.8	5813.4	291.5			
10	98	0.0000E+00	0.0	2.3684E-00	27.4	4.8422E+00	25.2	1.0936E-02	23.7	4.3791E+00	13.6	7.7005E+01	89.6	2.3684E-00	27.4	0.0000	0.0000	7.7005E+01	89.6	2.3684E-00	27.4	0.0	0.0	2.3684E-00	27.4	0.0	83.2	39.2	6423.4	369.4			
11	39	0.0000E+00	0.0	2.2414E-01	30.7	3.4483E-01	25.9	5.9186E-02	15.3	4.6572E+00	18.6	2.0509E+01	68.3	2.2414E-01	30.7	0.0000	0.0000	2.0509E+01	68.3	2.2414E-01	30.7	0.0	0.0	2.2414E-01	30.7	0.0	306.9	122.8	3010.7	492.9			
12	38	0.0000E+00	0.0	1.5161E+00	23.1	4.9357E+00	19.7	3.2842E-02	19.6	3.4132E+00	16.8	3.6069E+01	65.5	1.5161E+00	23.1	0.0000	0.0000	3.6069E+01	65.5	1.5161E+00	23.1	0.0	0.0	1.5161E+00	23.1	0.0	176.3	69.2	5815.7	318.3			
18	155	0.0000E+00	0.0	6.3674E-02	25.0	1.0487E-01	19.9	2.4139E-01	9.6	1.8587E+00	12.5	4.4095E+00	38.3	6.3674E-02	25.0	0.0000	0.0000	4.4095E+00	38.3	6.3674E-02	25.0	0.0	0.0	6.3674E-02	25.0	0.0	1317.6	339.0	730.8	529.9			
20	132	0.0000E+00	0.0	5.2632E-02	41.9	2.6316E-01	20.5	8.9032E-02	11.6	1.2172E+00	10.2	1.0188E+01	26.0	5.2632E-02	41.9	0.0000	0.0000	1.0188E+01	26.0	5.2632E-02	41.9	0.0	0.0	5.2632E-02	41.9	0.0	603.6	120.0	312.9	953.2			
²⁰⁶ Pb																																	
11	38	0.0000E+00	0.0	1.1594E-01	26.4	7.2464E-02	32.8	3.4264E-01	14.9	2.3929E+00	22.5	2.3019E+00	88.2	1.1594E-01	26.4	0.0000	0.0000	2.3019E+00	88.2	1.1594E-01	26.4	0.0	0.0	1.1594E-01	26.4	0.0	2325.6	986.8	1894.6	475.0			
14	12	0.0000E+00	0.0	1.5385E-01	43.8	1.0257E-01	52.5	4.3252E-01	30.4	9.9970E-01	36.5	1.5937E+00	66.7	1.5385E-01	43.8	0.0000	0.0000	1.5937E+00	66.7	1.5385E-01	43.8	0.0	0.0	1.5385E-01	43.8	0.0	3139.5	1079.8	2389.1	746.5			
20	32	0.0000E+00	0.0	1.2712E-01	27.4	2.6271E-01	20.2	5.4509E-02	10.6	1.2004E+01	19.0	2.1200E+01	34.5	1.2712E-01	27.4	0.0000	0.0000	2.1200E+01	34.5	1.2712E-01	27.4	0.0	0.0	1.2712E-01	27.4	0.0	297.1	74.9	2058.5	483.6			
22	6	0.0000E+00	0.0	1.4815E-01	53.6	3.7036E-02	101.8	1.4035E-01	26.1	6.4009E+00	48.1	1.3986E+01	69.0	1.4815E-01	53.6	0.0000	0.0000	1.3986E+01	69.0	1.4815E-01	53.6	0.0	0.0	1.4815E-01	53.6	0.0	445.2	178.1	2324.6	918.2			
23	185	0.0000E+00	0.0	6.2842E-02	21.5	7.3771E-02	19.9	9.8184E-02	6.6	5.3922E+00	10.1	1.1985E+01	13.5	6.2842E-02	21.5	0.0000	0.0000	1.1985E+01	13.5	6.2842E-02	21.5	0.0	0.0	6.2842E-02	21.5	0.0	516.6	59.2	702.9	457.6			
31	89	0.0000E+00	0.0	6.7632E-02	19.5	1.1353E-01	15.4	6.3771E-01	10.8	1.4400E+00	15.0	1.4121E+00	24.9	6.7632E-02	19.5	0.0000	0.0000	1.4121E+00	24.9	6.7632E-02	19.5	0.0	0.0	6.7632E-02	19.5	0.0	3451.5	556.5	857.3	405.5			
32	64	0.0000E+00	0.0	1.1111E-01	26.4	3.0558E-01	17.2	6.1424E-01	18.0	1.2579E+00	24.1	1.0919E+00	95.7	1.1111E-01	26.4	0.0000	0.0000	1.0919E+00	95.7	1.1111E-01	26.4	0.0	0.0	1.1111E-01	26.4	0.0	4191.2	1716.0	1817.7	478.4			
42	46	0.0000E+00	0.0	9.3580E-01	13.8	2.5230E+00	11.3	3.9411E-01	17.6	1.6432E+00	24.0	1.6910E+00	99.9	9.3580E-01	13.8	0.0000	0.0000	1.6910E+00	99.9	9.3580E-01	13.8	0.0	0.0	9.3580E-01	13.8	0.0	2995.0	1324.0	5144.0	194.4			

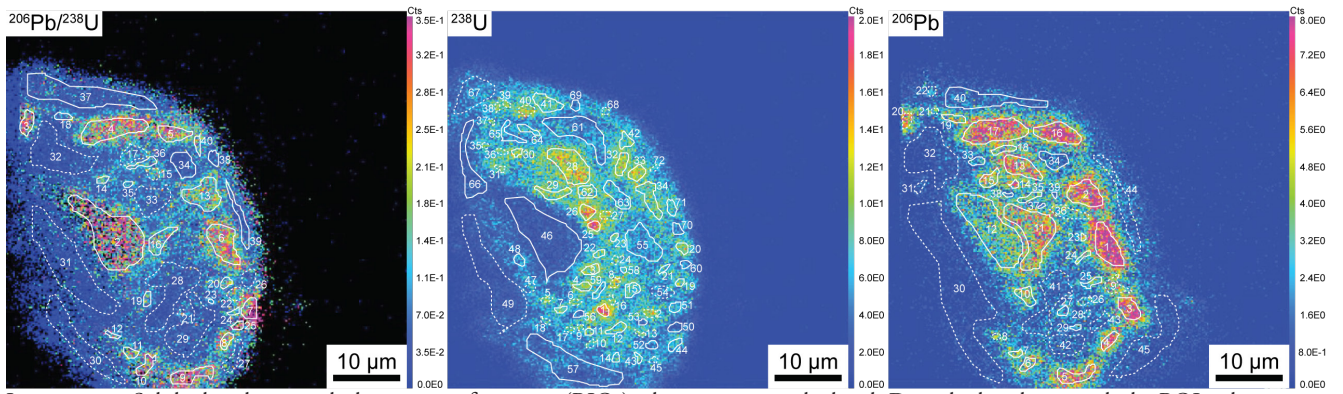
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

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

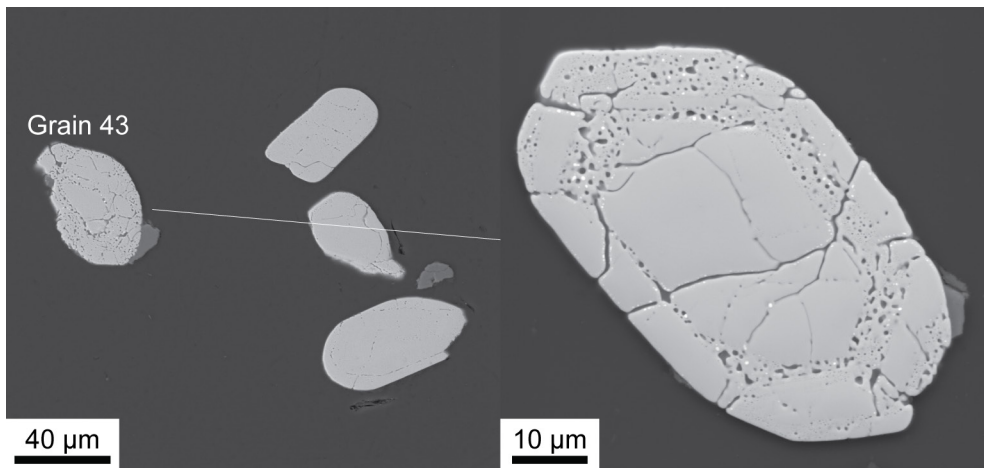
Corrected ratios³ Values corrected for common Pb where ²⁰⁶Pb exceeds detection limit.

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 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 = 9.94 mm, View Field = 208.0 μm . Right) HV = 15 kV, WD = 9.04 mm, View Field = 66.0 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	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/ ²³⁸ U	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁹ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁹ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁹ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁹ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁹ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁹ Pb	$\pm\sigma$ [%]	²³⁸ U/ ²⁰⁹ Pb	$\pm\sigma$ [%]	²⁰⁶ Pb/ ²⁰⁹ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁹ Pb	$\pm\sigma$ [%]	#NUM!	#NUM!
2	1202	5.1880E+04	70.7	1.5850E-01	4.3	2.4817E-01	2.5	1.8903E+00	3.3	3.4103E+00	29.4	1.5850E-01	4.3	0.0097	0.0069	3.3772E+00	29.3	1.5186E-01	5.6	1.0	1672.0	342.3	2367.0	2367.0	94.9		
3	103	0.0000E+00	0.0	3.0435E-02	27.1	1.2319E-01	7.4	4.2058E+00	13.0	2.2824E+00	83.9	3.0435E-02	27.1	0.0000	0.0000	2.2824E+00	83.9	3.0435E-02	27.1	0.0	2342.2	964.7	-1114.9	825.3			
4	493	0.0000E+00	0.0	1.0470E-01	5.6	2.1709E-01	4.1	3.4783E+00	4.4	3.4783E+00	40.7	1.0470E-01	5.6	0.0000	0.0000	3.4783E+00	40.7	1.0470E-01	5.6	0.0	1629.0	430.8	1709.1	102.9			
5	163	0.0000E+00	0.0	7.9709E-02	9.9	1.3406E-01	4.2	4.1482E+00	7.3	4.4843E+00	34.6	7.9709E-02	9.9	0.0000	0.0000	4.4843E+00	34.6	7.9709E-02	9.9	0.0	1297.7	309.3	1189.8	195.7			
6	368	0.0000E+00	0.0	5.2897E-02	7.9	1.2733E-01	5.8	4.2319E+00	4.9	4.6997E+00	14.4	5.2897E-02	7.9	0.0000	0.0000	4.6997E+00	14.4	5.2897E-02	7.9	0.0	1246.0	144.3	324.4	180.3			
7	112	0.0000E+00	0.0	6.4268E-02	14.6	1.2082E-01	10.9	3.0495E+00	9.7	3.5146E+00	17.8	6.4268E-02	14.6	0.0000	0.0000	3.5146E+00	17.8	6.4268E-02	14.6	0.0	1606.0	218.3	750.5	308.1			
8	61	0.0000E+00	0.0	3.0534E-02	29.3	1.2468E-01	15.1	4.5656E+00	13.3	5.1219E+00	37.4	3.0534E-02	29.3	0.0000	0.0000	5.1219E+00	37.4	3.0534E-02	29.3	0.0	1753.2	377.7	1011.4	223.8			
9	198	0.0000E+00	0.0	7.2908E-02	11.0	1.2262E-01	8.7	2.9286E+00	7.5	3.1996E+00	31.4	7.2908E-02	11.0	0.0000	0.0000	3.1996E+00	31.4	7.2908E-02	11.0	0.0	1588.0	247.6	-637.7	773.6			
10	87	0.0000E+00	0.0	3.5912E-02	28.2	1.0497E-01	17.0	1.8975E+00	13.3	3.5800E+00	20.9	3.5912E-02	28.2	0.0000	0.0000	3.5800E+00	20.9	3.5912E-02	28.2	0.0	1588.0	247.6	-637.7	773.6			
11	48	0.0000E+00	0.0	9.9415E-02	25.4	2.4561E-01	17.2	1.4815E+00	10.5	5.1897E+00	18.0	9.9415E-02	25.4	0.0000	0.0000	5.1234E+00	62.8	9.9415E-02	25.4	0.0	1149.4	419.3	1613.2	473.7			
12	21	0.0000E+00	0.0	1.0526E-01	42.9	2.6316E-01	29.0	1.3170E+00	17.7	3.6000E+00	25.3	1.0526E-01	42.9	0.0000	0.0000	6.8763E+00	88.2	1.0526E-01	42.9	0.0	875.3	395.5	1718.9	788.8			
13	352	8.5104E-04	70.7	7.1063E-02	8.0	1.3447E-01	6.0	4.8688E+00	4.6	8.0186E+00	16.2	7.1063E-02	8.0	0.0159	0.0113	7.8910E+00	18.4	5.8696E-02	18.3	1.6	769.2	113.6	555.9	398.6			
14	29	0.0000E+00	0.0	7.8946E-02	30.0	9.8682E-02	27.1	1.2274E+00	10.7	5.8862E+00	18.3	7.8946E-02	30.0	0.0000	0.0000	7.0418E+00	99.8	7.8946E-02	30.0	0.0	856.0	413.5	1170.8	593.7			
16	166	0.0000E+00	0.0	5.0604E-02	15.1	1.3641E-01	9.6	4.3791E+00	7.0	7.5208E+00	26.1	5.0604E-02	15.1	0.0000	0.0000	7.5208E+00	26.1	5.0604E-02	15.1	0.0	804.8	158.6	222.8	349.4			
18	42	0.0000E+00	0.0	1.0769E-01	28.1	2.6923E-01	19.0	8.6842E+00	10.8	5.5400E+00	16.2	1.0769E-01	28.1	0.0000	0.0000	1.3163E+01	62.7	1.0769E-01	28.1	0.0	472.0	177.9	1760.7	514.3			
19	34	0.0000E+00	0.0	2.3077E-02	58.4	8.4615E-02	31.4	1.0812E+00	11.3	4.7623E+00	17.0	2.3077E-02	58.4	0.0000	0.0000	8.4126E+00	50.3	2.3077E-02	58.4	0.0	724.0	233.2	#NUM!	#NUM!			
20	37	0.0000E+00	0.0	4.2254E-02	41.7	2.3239E-01	19.3	1.2979E+00	11.2	3.3092E+00	15.4	4.2254E-02	41.7	0.0000	0.0000	8.4752E+00	57.0	4.2254E-02	41.7	0.0	719.0	251.7	-211.4	1046.7			
23	6	0.0000E+00	0.0	1.3333E-01	75.3	5.3331E-01	43.8	6.7428E+00	30.6	7.4018E+00	47.7	1.3333E-01	75.3	0.0000	0.0000	1.1549E+01	89.5	1.3333E-01	75.3	0.0	535.3	247.4	2142.3	1315.8			
24	20	0.0000E+00	0.0	2.2580E-01	24.2	3.0107E-01	21.6	1.2891E+00	13.8	4.1385E+00	20.7	2.2580E-01	24.2	0.0000	0.0000	9.5277E+00	73.6	2.2580E-01	24.2	0.0	643.4	265.0	3022.5	387.6			
25	37	0.0000E+00	0.0	9.6296E-02	29.0	1.7037E-01	22.6	2.6421E+00	13.9	2.0238E+00	18.9	9.6296E-02	29.0	0.0000	0.0000	4.1289E+00	32.7	9.6296E-02	29.0	0.0	1398.1	317.5	1553.6	545.2			
34	201	0.0000E+00	0.0	1.6802E-01	13.7	2.8997E-01	11.0	3.0762E+00	5.7	6.1779E+00	6.0	1.6802E-01	13.7	0.0000	0.0000	3.2818E+01	19.8	1.6802E-01	13.7	0.0	193.5	31.6	2538.0	230.2			
35	21	0.0000E+00	0.0	2.9629E-02	50.7	1.4074E-01	24.5	1.0699E+00	10.9	7.6914E+00	19.7	2.9629E-02	50.7	0.0000	0.0000	1.2653E+01	69.3	2.9629E-02	50.7	0.0	490.3	196.3	#NUM!	#NUM!			
36	62	0.0000E+00	0.0	4.2071E-02	28.3	1.2945E-01	16.8	1.0341E+00	7.2	5.8482E+00	11.7	4.2071E-02	28.3	0.0000	0.0000	9.7154E+00	32.7	4.2071E-02	28.3	0.0	631.6	149.9	-222.3	712.5			
37	946	0.0000E+00	0.0	9.3346E-02	10.4	1.4787E-01	8.5	3.6031E+00	3.3	4.9266E+00	3.4	9.3346E-02	10.4	0.0000	0.0000	2.3695E+01	22.3	9.3346E-02	10.4	0.0	266.5	47.9	1494.9	196.8			
38	48	0.0000E+00	0.0	8.8236E-02	42.6	1.3235E-01	35.5	4.8133E+00	13.8	3.3099E+00	13.5	8.8236E-02	42.6	0.0000	0.0000	2.9384E+01	33.1	8.8236E-02	42.6	0.0	215.7	53.0	1387.6	817.6			
39	156	0.0000E+00	0.0	8.0000E-02	22.2	1.1273E-01	19.0	5.0047E+00	6.9	4.1173E+00	7.5	8.0000E-02	22.2	0.0000	0.0000	2.2724E+01	15.6	8.0000E-02	22.2	0.0	277.6	36.8	1197.0	437.0			
40	41	0.0000E+00	0.0	5.2082E-02	32.4	3.6458E-02	38.5	1.4194E+00	9.8	3.1250E+00	13.5	5.2082E-02	32.4	0.0000	0.0000	6.6730E+00	27.5	5.2082E-02	32.4	0.0	900.2	183.7	289.0	741.3			
1	45	0.0000E+00	0.0	1.0204E-01	47.0	4.6939E-01	25.3	1.0939E+00	14.8	1.0645E+00	12.6	1.0204E-01	47.0	0.0000	0.0000	1.0551E+02	53.5	1.0204E-01	47.0	0.0	60.8	21.1	1661.6	869.1			
3	53	0.0000E+00	0.0	4.7414E-02	30.9	1.1207E-01	20.7	7.0026E+00	7.8	8.8959E+00	13.4	4.7414E-02	30.9	0.0000	0.0000	1.2595E+01	44.1	4.7414E-02	30.9	0.0	492.5	146.8	70.1	734.1			
4	50	0.0000E+00	0.0	5.4217E-02	34.2	1.9277E-01	19.3	6.0417E+00	9.1	7.4931E+00	13.6	5.4217E-02	34.2	0.0000	0.0000	1.9327E+01	74.3	5.4217E-02	34.2	0.0	325.2	136.7	380.1	769.6			
7	24	0.0000E+00	0.0	2.3530E-01	55.6	9.4119E-01	34.8	1.5796E+00	25.4	9.9462E+00	24.7	2.3530E-01	55.6	0.0000	0.0000	4.2079E+01	85.9	2.3530E-01	55.6	0.0	151.4	69.5	3088.4	886.7			
11	18	0.0000E+00	0.0	2.5000E-01	45.6	2.9167E-01	43.0	3.1681E+00	22.3	8.4015E+00	27.3	2.5000E-01	45.6	0.0000	0.0000	2.5212E+01	85.6	2.5000E-01	45.6	0.0	250.7	114.4	3184.8	722.6			

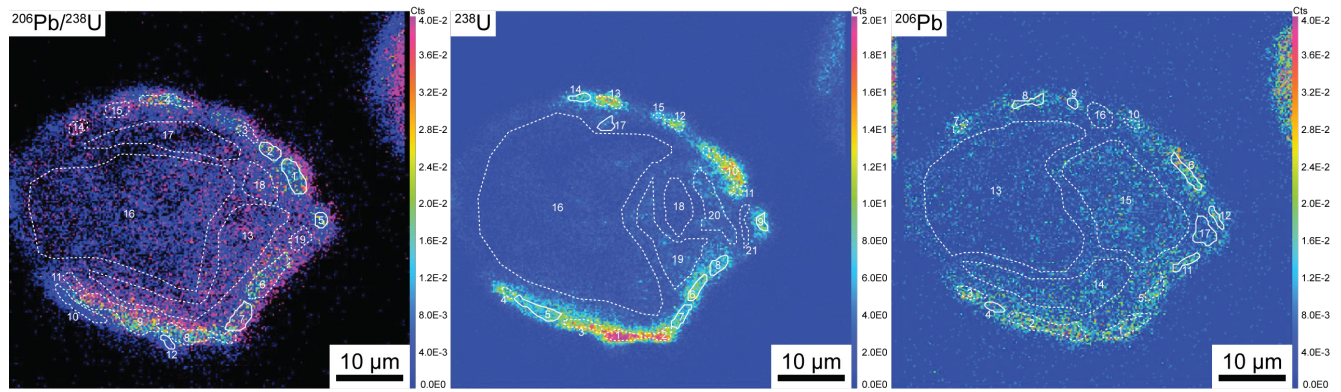
Area ID	Area size [Pix-cel]	Measured ratios ^a										Uncorrected ratios										Corrected ratios ^b										Age [Ma]				
		²⁰⁶ Pb/ ²⁰⁶ Pb	²⁰⁷ Pb/ ²⁰⁶ Pb	²⁰⁷ Pb/ ²³⁵ U	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²⁰⁶ Pb	²³⁸ U/ wtZr	²³⁸ U/ ²⁰⁶ Pb	²⁰⁷ Pb/ ²⁰⁶ Pb	²⁰⁶ Pb [σ]	²⁰⁷ Pb/ ²⁰⁶ Pb	²³⁸ U/ ²⁰⁶ Pb	²⁰⁷ Pb/ ²⁰⁶ Pb	²⁰⁶ Pb [σ]	²⁰⁷ Pb/ ²⁰⁶ Pb	²³⁸ U/ ²⁰⁶ Pb	²⁰⁶ Pb [σ]	²⁰⁷ Pb/ ²⁰⁶ Pb	²⁰⁶ Pb [σ]	²⁰⁷ Pb/ ²⁰⁶ Pb	²³⁸ U/ ²⁰⁶ Pb	²⁰⁶ Pb [σ]	²⁰⁷ Pb/ ²⁰⁶ Pb	²³⁸ U/ ²⁰⁶ Pb	²⁰⁶ Pb [σ]	²⁰⁷ Pb/ ²⁰⁶ Pb	²³⁸ U/ ²⁰⁶ Pb	²⁰⁶ Pb [σ]	²⁰⁷ Pb/ ²⁰⁶ Pb	²³⁸ U/ ²⁰⁶ Pb	±1σ	±1σ				
12	51	0.0000E+00	0.0	4.4616E-01	22.3	2.7509E-02	13.4	4.9757E+00	12.3	4.0835E+01	50.6	6.1539E-02	51.5	0.0000	0.0000	4.0835E+01	50.6	6.1539E-02	51.5	0.0	0.0000	4.0835E+01	50.6	6.1539E-02	51.5	0.0	0.0000	4.0835E+01	50.6	6.1539E-02	51.5	0.0	156.0	52.0	688.1	1104.7
14	26	0.0000E+00	0.0	5.8064E-01	29.6	3.2633E-02	19.6	4.7883E+00	19.1	4.0937E+01	42.8	1.2903E-01	53.1	0.0000	0.0000	4.0937E+01	42.8	1.2903E-01	53.1	0.0	0.0000	4.0937E+01	42.8	1.2903E-01	53.1	0.0	0.0000	4.0937E+01	42.8	1.2903E-01	53.1	0.0	155.6	46.3	2084.8	934.7
15	70	0.0000E+00	0.0	5.2778E-01	16.4	3.3391E-02	10.5	5.7241E+00	11.2	3.3276E+01	38.4	8.3344E-02	34.7	0.0000	0.0000	3.3276E+01	38.4	8.3344E-02	34.7	0.0	0.0000	3.3276E+01	38.4	8.3344E-02	34.7	0.0	0.0000	3.3276E+01	38.4	8.3344E-02	34.7	0.0	190.9	52.4	1277.0	676.3
19	24	0.0000E+00	0.0	2.0548E-01	28.4	6.0407E-02	13.7	6.0921E+00	18.8	1.5068E-01	51.5	1.5068E-01	32.3	0.0000	0.0000	1.5068E-01	51.5	1.5068E-01	32.3	0.0	0.0000	1.5068E-01	51.5	1.5068E-01	32.3	0.0	0.0000	1.5068E-01	51.5	1.5068E-01	32.3	0.0	334.2	111.6	2353.7	552.6
20	45	0.0000E+00	0.0	2.8708E-02	41.4	4.3062E-02	8.4	8.1606E-02	13.7	1.2317E+01	31.2	2.8708E-02	41.4	0.0000	0.0000	1.2317E+01	31.2	2.8708E-02	41.4	0.0	0.0000	1.2317E+01	31.2	2.8708E-02	41.4	0.0	0.0000	1.2317E+01	31.2	2.8708E-02	41.4	0.0	503.2	116.1	#NUM!	#NUM!
21	20	0.0000E+00	0.0	1.1236E-01	33.3	2.9214E-01	22.3	9.9348E-02	13.4	1.1401E+01	39.6	1.1236E-01	33.3	0.0000	0.0000	1.1401E+01	39.6	1.1236E-01	33.3	0.0	0.0000	1.1401E+01	39.6	1.1236E-01	33.3	0.0	0.0000	1.1401E+01	39.6	1.1236E-01	33.3	0.0	542.0	149.1	1837.9	603.9
22	28	0.0000E+00	0.0	3.4482E-02	45.5	1.0034E-01	26.3	1.0091E-01	10.5	5.0859E+00	16.0	3.4482E-02	45.5	0.0000	0.0000	5.0859E+00	16.0	3.4482E-02	45.5	0.0	0.0000	5.0859E+00	16.0	3.4482E-02	45.5	0.0	0.0000	5.0859E+00	16.0	3.4482E-02	45.5	0.0	521.1	216.7	-750.3	1276.8
23	21	0.0000E+00	0.0	4.6875E-02	59.1	4.3750E-01	22.7	6.1530E-02	14.6	6.6552E+00	21.0	4.6875E-02	59.1	0.0000	0.0000	6.6552E+00	21.0	4.6875E-02	59.1	0.0	0.0000	6.6552E+00	21.0	4.6875E-02	59.1	0.0	0.0000	6.6552E+00	21.0	4.6875E-02	59.1	0.0	605.7	246.8	42.9	1412.3
25	42	0.0000E+00	0.0	9.9999E-02	22.4	1.6818E-01	17.8	5.4205E-02	7.8	7.6000E+00	11.4	9.9999E-02	22.4	0.0000	0.0000	7.6000E+00	11.4	9.9999E-02	22.4	0.0	0.0000	7.6000E+00	11.4	9.9999E-02	22.4	0.0	0.0000	7.6000E+00	11.4	9.9999E-02	22.4	0.0	490.8	157.8	1624.1	415.9
26	69	0.0000E+00	0.0	7.9872E-02	20.8	1.4058E-01	16.1	1.4058E-01	6.5	9.1077E+00	10.3	7.9872E-02	20.8	0.0000	0.0000	9.1077E+00	10.3	7.9872E-02	20.8	0.0	0.0000	9.1077E+00	10.3	7.9872E-02	20.8	0.0	0.0000	9.1077E+00	10.3	7.9872E-02	20.8	0.0	393.0	118.5	1193.8	410.0
28	414	0.0000E+00	0.0	8.6183E-02	7.6	1.5139E-01	5.9	1.5139E-01	2.6	6.5289E+00	4.0	8.6183E-02	7.6	0.0000	0.0000	6.5289E+00	4.0	8.6183E-02	7.6	0.0	0.0000	6.5289E+00	4.0	8.6183E-02	7.6	0.0	0.0000	6.5289E+00	4.0	8.6183E-02	7.6	0.0	503.4	86.4	1342.3	146.4
29	100	0.0000E+00	0.0	7.6926E-02	23.2	1.7308E-01	16.1	4.4800E-02	7.0	7.5797E+00	9.4	7.6926E-02	23.2	0.0000	0.0000	7.5797E+00	9.4	7.6926E-02	23.2	0.0	0.0000	7.5797E+00	9.4	7.6926E-02	23.2	0.0	0.0000	7.5797E+00	9.4	7.6926E-02	23.2	0.0	329.6	122.6	1119.3	462.8
30	31	0.0000E+00	0.0	3.5295E-01	33.6	1.8602E-02	18.1	9.2165E+00	18.3	3.8920E+01	79.0	1.7647E-01	44.3	0.0000	0.0000	3.8920E+01	79.0	1.7647E-01	44.3	0.0	0.0000	3.8920E+01	79.0	1.7647E-01	44.3	0.0	0.0000	3.8920E+01	79.0	1.7647E-01	44.3	0.0	163.5	71.7	2620.0	736.7
32	84	0.0000E+00	0.0	1.7949E-01	23.7	3.1624E-01	18.9	2.1887E-02	9.8	6.8600E+00	9.3	1.7949E-01	23.7	0.0000	0.0000	6.8600E+00	9.3	1.7949E-01	23.7	0.0	0.0000	6.8600E+00	9.3	1.7949E-01	23.7	0.0	0.0000	6.8600E+00	9.3	1.7949E-01	23.7	0.0	132.2	32.1	2648.1	393.2
33	80	0.0000E+00	0.0	1.8577E-01	15.0	1.8597E-02	6.8	5.9937E+00	8.9	2.3339E+01	35.5	1.0877E-01	18.9	0.0000	0.0000	2.3339E+01	35.5	1.0877E-01	18.9	0.0	0.0000	2.3339E+01	35.5	1.0877E-01	18.9	0.0	0.0000	2.3339E+01	35.5	1.0877E-01	18.9	0.0	270.5	69.8	1779.0	344.9
34	181	0.0000E+00	0.0	4.0656E-02	14.1	6.8803E-02	11.0	1.3559E-01	3.8	5.3377E+00	6.4	4.0656E-02	14.1	0.0000	0.0000	5.3377E+00	6.4	4.0656E-02	14.1	0.0	0.0000	5.3377E+00	6.4	4.0656E-02	14.1	0.0	0.0000	5.3377E+00	6.4	4.0656E-02	14.1	0.0	701.3	108.8	-309.1	362.3
41	147	0.0000E+00	0.0	1.1716E-01	20.0	1.2552E-01	19.4	3.6437E-02	7.1	5.4557E+00	7.7	1.1716E-01	20.0	0.0000	0.0000	5.4557E+00	7.7	1.1716E-01	20.0	0.0	0.0000	5.4557E+00	7.7	1.1716E-01	20.0	0.0	0.0000	5.4557E+00	7.7	1.1716E-01	20.0	0.0	248.2	62.0	1913.3	358.4
42	61	0.0000E+00	0.0	3.4063E-02	27.2	5.1094E-02	22.4	1.4764E-01	6.8	5.6888E+00	11.5	3.4063E-02	27.2	0.0000	0.0000	5.6888E+00	11.5	3.4063E-02	27.2	0.0	0.0000	5.6888E+00	11.5	3.4063E-02	27.2	0.0	0.0000	5.6888E+00	11.5	3.4063E-02	27.2	0.0	879.9	248.1	-784.8	768.6
43	18	0.0000E+00	0.0	1.8182E-01	44.4	3.6564E-01	33.7	4.7320E-02	19.7	4.8339E+00	22.4	1.8182E-01	44.4	0.0000	0.0000	4.8339E+00	22.4	1.8182E-01	44.4	0.0	0.0000	4.8339E+00	22.4	1.8182E-01	44.4	0.0	0.0000	4.8339E+00	22.4	1.8182E-01	44.4	0.0	278.5	105.5	2669.5	734.9
44	47	0.0000E+00	0.0	2.0161E-02	45.2	7.2581E-02	24.4	1.3013E-01	8.5	5.0322E+00	13.8	2.0161E-02	45.2	0.0000	0.0000	5.0322E+00	13.8	2.0161E-02	45.2	0.0	0.0000	5.0322E+00	13.8	2.0161E-02	45.2	0.0	0.0000	5.0322E+00	13.8	2.0161E-02	45.2	0.0	694.4	167.7	#NUM!	#NUM!
46	1230	3.0367E-04	100.0	1.6155E-01	4.7	1.9132E-01	4.3	2.2834E-01	2.7	1.8440E+00	3.4	1.6155E-01	4.7	0.0057	0.0057	3.7489E+00	27.9	1.5770E-01	5.4	0.6	0.0057	3.7489E+00	27.9	1.5770E-01	5.4	0.6	0.0057	3.7489E+00	27.9	1.5770E-01	5.4	0.6	1524.2	303.4	2431.2	91.7
48	37	0.0000E+00	0.0	1.7391E-01	54.2	6.0870E-01	33.9	1.9620E-02	22.0	5.4169E+00	18.1	1.7391E-01	54.2	0.0000	0.0000	5.4169E+00	18.1	1.7391E-01	54.2	0.0	0.0000	5.4169E+00	18.1	1.7391E-01	54.2	0.0	0.0000	5.4169E+00	18.1	1.7391E-01	54.2	0.0	134.2	73.0	2595.7	903.3
50	44	0.0000E+00	0.0	1.2338E-01	24.3	1.8182E-01	20.5	2.1348E-01	12.2	1.9048E+00	15.6	1.2338E-01	24.3	0.0000	0.0000	1.9048E+00	15.6	1.2338E-01	24.3	0.0	0.0000	1.9048E+00	15.6	1.2338E-01	24.3	0.0	0.0000	1.9048E+00	15.6	1.2338E-01	24.3	0.0	1188.3	309.6	2005.6	431.7
51	39	0.0000E+00	0.0	1.1224E-01	22.5	3.1122E-01	14.7	1.4888E-01	9.8	4.6598E+00	16.1	1.1224E-01	22.5	0.0000	0.0000	4.6598E+00	16.1	1.1224E-01	22.5	0.0	0.0000	4.6598E+00	16.1	1.1224E-01	22.5	0.0	0.0000	4.6598E+00	16.1	1.1224E-01	22.5	0.0	877.9	213.4	1836.0	407.2
52	42	0.0000E+00	0.0	3.5066E-01	22.4	7.6625E-01	17.3	6.7768E-02	13.5	3.4567E+00	15.3	3.5066E-01	22.4	0.0000	0.0000	3.4567E+00	15.3	3.5066E-01	22.4	0.0	0.0000	3.4567E+00	15.3	3.5066E-01	22.4	0.0	0.0000	3.4567E+00	15.3	3.5066E-01	22.4	0.0	335.4	87.4	3709.9	340.7
53	15	0.0000E+00	0.0	2.5000E-01	55.9	5.1169E-02	28.6	4.0014E+00	31.0	2.3014E+01	86.7	2.5000E-01	55.9	0.0000	0.0000	2.3014E+01	86.7	2.5000E-01	55.9	0.0	0.0000	2.3014E+01	86.7	2.5000E-01	55.9	0.0	0.0000	2.3014E+01	86.7	2.5000E-01	55.9	0.0	274.2	125.9	3184.8	885.0
55	364	6.9155E-04	100.0	2.2130E-01	6.2	5.1245E-01	4.5	1.3044E-01	3.5	3.0482E+00	4.7	2.2130E-01	6.2	0.0129	0.0129	7.2929E+00	18.6	2.1325E-01	7.6	1.3	0.0129	7.2929E+00	18.6	2.1325E-01	7.6	1.3	0.0129	7.2929E+00	18.6	2.1325E-01	7.6	1.3	828.8	123.2	2930.4	122.3
56	23	0.0000E+00	0.0	1.0811E-01	52.6	4.5946E-01	29.3	6.0937E-02	19.2	9.1826E+00	31.8	1.0811E-01	52.6	0.0000	0.0000	9.1826E+00	31.8	1.0811E-01	52.6	0.0	0.0000	9.1826E+00	31.8	1.0811E-01	52.6	0.0	0.0000</									

Area ID ¹	Area size [Pix ²]	Measured ratios ²				Uncorrected ratios				Corrected ratios ³				Age [Ma]																	
		²⁰⁶ Pb/ ²⁰⁹ Pb	$\pm \sigma$ [%]	²⁰⁷ Pb/ ²⁰⁹ Pb	$\pm \sigma$ [%]	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	$\pm \sigma$ [%]	²³⁸ U/ ²⁰⁶ Pb	$\pm \sigma$ [%]	²⁰⁶ Pb/ ²⁰⁹ Pb	$\pm \sigma$ [%]												
63	156	0.0000E+00	0.0	2.2944E-01	10.8	5.1298E-01	8.0	8.2102E-02	5.7	3.6422E+00	7.0	1.1575E+01	28.4	2.2944E-01	10.8	0.0000	0.0000	1.1575E+01	28.4	2.2944E-01	10.8	0.0	534.2	1144.4	3048.1	172.4					
64	49	0.0000E+00	0.0	1.6279E-01	16.6	3.3333E-01	12.4	1.3495E-01	8.4	5.8779E+00	14.4	6.2798E+00	70.2	1.6279E-01	16.6	0.0000	0.0000	6.2798E+00	70.2	1.6279E-01	16.6	0.0	952.6	375.9	2484.8	280.5					
65	76	0.0000E+00	0.0	4.0278E-01	15.6	5.6249E-01	13.9	6.1103E-02	9.7	4.8402E+00	12.2	2.6380E+01	86.1	4.0278E-01	15.6	0.0000	0.0000	2.6380E+01	86.1	4.0278E-01	15.6	0.0	239.8	109.8	3919.5	233.6					
66	329	0.0000E+00	0.0	8.1851E-02	21.7	2.4555E-01	13.4	5.3483E-02	6.9	4.4368E+00	7.9	2.3162E+01	79.9	8.1851E-02	21.7	0.0000	0.0000	2.3162E+01	79.9	8.1851E-02	21.7	0.0	272.5	119.6	1241.9	425.0					
69	32	0.0000E+00	0.0	9.8361E-02	42.8	1.1477E-01	19.1	7.2996E-02	15.4	3.3907E+00	17.8	1.2174E+01	65.3	9.8361E-02	42.8	0.0000	0.0000	1.2174E+01	65.3	9.8361E-02	42.8	0.0	508.9	196.2	1593.3	799.1					
70	39	0.0000E+00	0.0	7.6922E-02	34.6	3.0769E-01	19.1	1.0351E-01	11.8	3.8370E+00	16.0	1.1116E+01	33.9	7.6922E-02	34.6	0.0000	0.0000	1.1116E+01	33.9	7.6922E-02	34.6	0.0	585.3	136.0	1119.2	690.0					
71	45	0.0000E+00	0.0	5.5118E-02	38.8	5.5118E-02	38.8	6.9708E-02	10.6	4.8105E+00	13.9	1.9490E+01	36.8	5.5118E-02	38.8	0.0000	0.0000	1.9490E+01	36.8	5.5118E-02	38.8	0.0	322.6	85.2	417.0	867.2					
²⁰⁶Pb																															
1	331	0.0000E+00	0.0	4.4811E-02	9.0	1.0996E-01	5.9	2.3688E-01	2.9	4.4874E+00	5.2	4.8080E+00	16.76	4.4811E-02	9.0	0.0000	0.0000	4.8080E+00	16.76	4.4811E-02	9.0	0.0	1218.1	161.3	65.9	218.7					
2	287	4.9259E-04	100.0	6.9950E-02	8.7	1.2561E-01	6.6	1.4331E-01	3.0	5.2480E+00	5.2	7.8607E+00	18.20	6.9950E-02	8.7	0.0092	0.0092	7.8607E+00	18.20	6.9950E-02	8.7	0.0092	7.782E+00	19.5	6.2830E-02	15.1	0.9	778.7	120.6	702.5	321.7
3	150	0.0000E+00	0.0	5.5710E-02	13.3	1.0585E-01	9.9	3.1150E-01	5.2	3.0687E+00	8.4	3.4398E+00	14.39	5.5710E-02	13.3	0.0000	0.0000	3.4398E+00	14.4	5.5710E-02	13.3	0.0	1645.1	185.3	440.8	295.0					
4	74	0.0000E+00	0.0	1.6227E-02	35.6	9.5335E-02	15.3	2.0998E-01	6.7	4.841E+00	11.6	5.1487E+00	24.45	1.6227E-02	35.6	0.0000	0.0000	5.1487E+00	24.4	1.6227E-02	35.6	0.0	1144.2	209.3	#NUM!	#NUM!					
5	166	0.0000E+00	0.0	7.8125E-02	11.6	1.1035E-01	9.9	2.7429E-01	5.1	3.3211E+00	8.3	3.3267E+00	24.33	7.8125E-02	11.6	0.0000	0.0000	3.3267E+00	24.3	7.8125E-02	11.6	0.0	1694.3	298.4	1150.1	230.5					
6	61	0.0000E+00	0.0	4.8327E-02	28.4	1.0409E-01	19.9	2.0520E-01	9.1	3.8033E+00	14.1	3.8879E+00	40.96	4.8327E-02	28.4	0.0000	0.0000	3.8879E+00	41.0	4.8327E-02	28.4	0.0	1475.5	395.1	115.3	669.9					
7	32	0.0000E+00	0.0	6.6182E-02	34.4	2.2794E-01	19.9	1.6882E-01	12.2	7.4454E+00	25.1	3.3827E+00	49.19	6.6182E-02	34.4	0.0000	0.0000	3.3827E+00	49.2	6.6182E-02	34.4	0.0	1669.5	504.2	812.1	719.8					
10	85	0.0000E+00	0.0	2.8902E-02	32.1	1.3295E-01	15.7	9.1641E-02	6.7	6.3444E+00	10.8	8.5386E+00	39.21	2.8902E-02	32.1	0.0000	0.0000	8.5386E+00	39.2	2.8902E-02	32.1	0.0	713.9	193.2	#NUM!	#NUM!					
11	717	2.7048E-04	100.0	6.1130E-02	6.8	1.4823E-01	4.6	9.9540E-02	2.1	5.3364E+00	3.3	9.0144E+00	21.46	6.1130E-02	6.8	0.0051	0.0051	9.0144E+00	21.8	5.7192E-02	10.1	0.5	681.4	117.0	499.0	223.0					
12	1041	6.0331E-04	70.7	1.5777E-01	4.7	1.6410E-01	4.6	2.2182E-01	2.7	2.0979E+00	3.5	3.7874E+00	25.50	1.5777E-01	4.7	0.0113	0.0080	3.7447E+00	25.4	1.5003E-01	6.2	1.1	1525.8	281.3	2346.3	106.8					
13	246	0.0000E+00	0.0	6.1736E-02	10.8	1.2483E-01	7.8	9.6594E-02	3.3	6.8794E+00	5.6	9.8424E+00	33.78	6.1736E-02	10.8	0.0000	0.0000	9.8424E+00	33.8	6.1736E-02	10.8	0.0	623.8	151.9	665.0	231.3					
14	20	0.0000E+00	0.0	5.0420E-02	41.8	1.8966E-01	24.7	8.5305E-02	11.3	8.9257E+00	20.7	1.3093E+01	61.00	5.0420E-02	41.8	0.0000	0.0000	1.3093E+01	61.0	5.0420E-02	41.8	0.0	474.5	175.7	214.4	969.1					
15	99	0.0000E+00	0.0	1.0272E-01	15.0	1.8239E-01	11.7	9.7467E-02	5.8	6.1215E+00	9.4	8.3213E+00	54.63	1.0272E-01	15.0	0.0000	0.0000	8.3213E+00	54.6	1.0272E-01	15.0	0.0	731.6	249.1	1673.9	277.2					
16	297	0.0000E+00	0.0	7.3908E-02	8.0	1.2199E-01	6.4	2.1885E-01	3.2	4.0349E+00	5.4	4.7385E+00	28.82	7.3908E-02	8.0	0.0000	0.0000	4.7385E+00	28.8	7.3908E-02	8.0	0.0	1244.3	266.4	1039.0	162.3					
17	527	0.0000E+00	0.0	1.0419E-01	5.4	2.0672E-01	4.0	2.2954E-01	2.6	3.7349E+00	4.2	3.5534E+00	35.34	1.0419E-01	5.4	0.0000	0.0000	3.5534E+00	35.3	1.0419E-01	5.4	0.0	1598.5	380.7	1700.0	99.5					
18	60	0.0000E+00	0.0	7.3771E-02	24.4	1.8033E-01	16.4	7.8648E-02	7.8	7.8648E+00	11.8	1.0981E+01	50.71	7.3771E-02	24.4	0.0000	0.0000	1.0981E+01	50.7	7.3771E-02	24.4	0.0	561.9	183.6	1035.2	493.3					
19	63	0.0000E+00	0.0	1.3420E-01	19.1	2.6407E-01	14.4	9.0191E-02	8.2	5.681E+00	12.5	1.0288E+01	81.04	1.3420E-01	19.1	0.0000	0.0000	1.0288E+01	81.0	1.3420E-01	19.1	0.0	598.0	260.8	2153.6	334.0					
23	13	0.0000E+00	0.0	2.1052E-01	31.8	6.3158E-01	21.3	2.0614E-01	19.8	2.5556E+00	27.8	4.8715E+00	84.48	2.1052E-01	31.8	0.0000	0.0000	4.8715E+00	84.5	2.1052E-01	31.8	0.0	1203.6	523.5	2909.6	514.5					
24	26	0.0000E+00	0.0	2.0431E-01	25.2	5.4839E-01	17.4	1.0594E-01	13.3	3.4329E-01	16.1	1.1210E+01	33.86	2.0431E-01	25.2	0.0000	0.0000	1.1210E+01	33.9	2.0431E-01	25.2	0.0	550.8	134.9	2860.9	409.7					
25	46	0.0000E+00	0.0	1.9404E-01	21.4	3.4329E-01	17.1	8.0762E-02	10.5	3.7811E+00	13.2	1.3698E+01	27.67	1.9404E-01	21.4	0.0000	0.0000	1.3698E+01	27.7	1.9404E-01	21.4	0.0	454.2	95.8	2776.7	351.3					
27	31	0.0000E+00	0.0	3.8961E-02	58.8	1.4286E-01	32.2	8.2102E-02	13.9	3.3195E+00	16.6	1.4333E+01	61.47	3.8961E-02	58.8	0.0000	0.0000	1.4333E+01	61.5	3.8961E-02	58.8	0.0	434.8	162.1	-419.4	1541.0					
29	22	0.0000E+00	0.0	7.8432E-02	51.9	2.3530E-01	32.1	5.2043E-02	16.0	6.5209E+00	21.5	1.3893E+01	62.79	7.8432E-02	51.9	0.0000	0.0000	1.3893E+01	62.8	7.8432E-02	51.9	0.0	448.1	169.2	1157.8	1029.8					
33	43	0.0000E+00	0.0	2.1277E-01	24.6	3.8298E-01	19.6	4.1690E-02	11.5	8.9306E+00	16.3	2.5110E+01	63.71	2.1277E-01	24.6	0.0000	0.0000	2.5110E+01	63.7	2.1277E-01	24.6	0.0	251.7	96.8	2926.7	398.3					
34	155	0.0000E+00	0.0	1.5207E-01	18.7	3.5023E-01	13.3	3.0227E-02	7.4	7.4638E+00	8.4	3.0961E+01	24.23	1.5207E-01	18.7	0.0000	0.0000	3.0961E+01	24.2	1.5207E-01	18.7	0.0	204.9	39.5	2389.4	318.6					
35	54	0.0000E+00	0.0	1.3158E-01	21.3	2.1053E-01	17.4	6.6809E-02	8.6	6.3080E+00	12.4	1.4939E+01	46.93	1.3158E-01	21.3	0.0000	0.0000	1.4939E+01	46.9	1.3158E-01	21.3	0.0	417.7	130.5	2119.2	372.9					
37	17	0.0000E+00	0.0	2.1212E-01	41.6	5.4546E-01	29.3	3.6592E-02	19.2	4.6883E+00	19.5	2.9643E+01	82.89	2.1212E-01	41.6	0.0000	0.0000	2.9643E+01	82.9	2.1212E-01	41.6	0.0	213.9	96.1	2921.8	673.4					

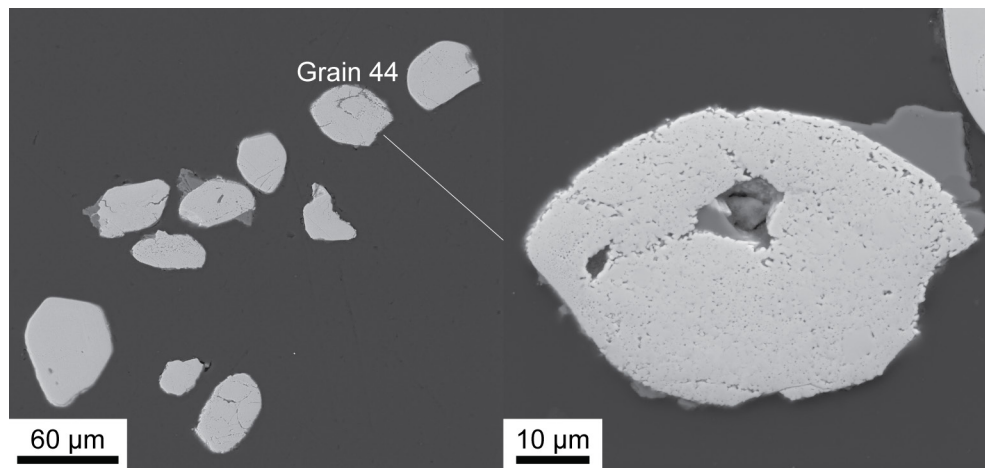
Area ID ¹	Area size [Pixel]	Measured ratios ²						Uncorrected ratios						Corrected ratios ³						Age [Ma]							
		$^{206}\text{Pb}/^{208}\text{Pb}$	$\pm\sigma$ [%]	$^{207}\text{Pb}/^{208}\text{Pb}$	$\pm\sigma$ [%]	$^{206}\text{Pb}/^{238}\text{U}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{90}\text{Zr}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{207}\text{Pb}/^{206}\text{Pb}$	$\pm\sigma$ [%]	^{206}Pb	$\pm\sigma$ [%]	$^{207}\text{Pb}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{206}\text{Pb}$	$\pm\sigma$ [%]	^{206}Pb	$\pm\sigma$ [%]	$^{207}\text{Pb}/^{206}\text{Pb}$	$\pm 1\sigma$	$^{238}\text{U}/^{206}\text{Pb}$	$\pm 1\sigma$		
38	14	0.000E+00	0.0	2.5929E-01	42.4	3.7037E-01	37.0	3.7743E-02	21.3	6.2634E+00	24.7	2.0186E+01	77.01	2.5929E-01	42.4	0.0000	0.0000	2.0186E+01	77.0	2.5929E-01	42.4	0.0	0.0	311.7	133.8	3242.4	668.4
39	12	0.000E+00	0.0	2.0000E-01	54.8	7.5001E-01	34.2	4.4850E-02	25.2	4.6881E+00	27.5	2.4452E+01	56.47	2.0000E-01	54.8	0.0000	0.0000	2.4452E+01	56.5	2.0000E-01	54.8	0.0	0.0	258.4	92.1	2826.2	893.9
40	524	0.000E+00	0.0	1.0383E-01	13.0	1.7252E-01	10.4	3.2803E-02	4.4	5.4826E+00	4.5	2.6161E+01	24.56	1.0383E-01	13.0	0.0000	0.0000	2.6161E+01	24.6	1.0383E-01	13.0	0.0	0.0	241.8	47.0	1693.8	240.2

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 ^{206}Pb assuming present-day Stacey & Kramers (1975) model terrestrial Pb isotope composition.

Ion image 71 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 = 296.0 μm . Right) HV = 15 kV, WD = 9.04 mm, View Field = 68.0 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/ ²⁰⁸ Pb	$\pm\sigma$ [%]	²⁰⁷ Pb/ ²⁰⁸ 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	$\pm 1\sigma$			
<i>²⁰⁶Pb/²³⁸U</i>																				
1	232	0.0000E+00	0.0	1.5610E-01	19.0	6.1952E-01	11.3	1.5640E-02	7.3	1.4346E+01	8.4	7.3272E+01	16.3	1.5610E-01	19.0	0.0	87.4	12.1	2413.8	322.8
2	112	0.0000E+00	0.0	4.2648E-01	22.2	8.8236E-01	17.7	1.4920E-02	12.7	1.3785E+01	14.0	7.8376E+01	18.0	4.2648E-01	22.2	0.0	81.7	12.4	4005.2	331.5
5	69	0.0000E+00	0.0	2.9167E-01	43.0	9.1668E-01	29.5	8.5850E-03	20.9	1.0814E+01	15.9	1.3773E+02	41.1	2.9167E-01	43.0	0.0	46.6	13.6	3426.5	667.6
7	189	0.0000E+00	0.0	1.2667E-01	24.4	2.6000E-01	18.0	2.0417E-02	8.6	5.9758E+00	7.5	5.1125E+01	16.3	1.2667E-01	24.4	0.0	124.9	17.3	2052.2	430.0
12	47	0.0000E+00	0.0	2.2222E+00	40.1	4.5556E+00	36.8	2.8455E-03	33.6	2.9231E+01	24.0	3.6127E+02	47.6	2.2222E+00	40.1	0.0	17.8	5.7	6337.3	543.2
<i>²⁰⁷Pb</i>																				
5	177	0.0000E+00	0.0	3.4178E-01	22.3	1.0760E+00	15.6	1.0959E-02	11.6	6.4126E+00	7.9	6.3130E+01	38.8	3.4178E-01	22.3	0.0	101.3	28.1	3670.7	340.4
6	91	0.0000E+00	0.0	3.2653E-01	28.8	4.4898E-01	25.7	1.0584E-02	14.7	8.8571E+00	11.1	9.9949E+01	24.7	3.2653E-01	28.8	0.0	64.2	12.7	3600.9	441.8
7	88	0.0000E+00	0.0	1.6949E-01	34.2	3.0508E-01	26.9	1.6978E-02	13.7	5.2554E+00	10.4	6.1873E+01	17.6	1.6949E-01	34.2	0.0	103.4	15.4	2552.6	572.7
8	101	0.0000E+00	0.0	1.9231E-01	28.2	3.0769E-01	23.3	2.1915E-02	12.1	4.2905E+00	9.4	5.3427E+01	21.8	1.9231E-01	28.2	0.0	119.5	21.2	2762.0	462.8
9	54	0.0000E+00	0.0	4.2858E-01	48.8	8.5715E-01	39.3	5.1747E-03	27.1	8.6552E+00	14.6	2.3348E+02	37.7	4.2858E-01	48.8	0.0	27.6	7.5	4012.5	729.0
17	59	0.0000E+00	0.0	2.5000E-01	50.0	7.0001E-01	34.8	1.8079E-02	23.5	2.9209E+00	14.6	5.3121E+01	45.3	2.5000E-01	50.0	0.0	120.2	37.2	3184.8	791.6
<i>²⁰⁶Pb</i>																				
4	55	0.0000E+00	0.0	8.6957E-02	42.6	1.4493E-01	33.8	3.3955E-02	13.2	5.8285E+00	14.2	3.3010E+01	65.0	8.6957E-02	42.6	0.0	192.4	75.1	1359.6	820.2
6	142	0.0000E+00	0.0	8.3334E-02	25.2	1.6667E-01	18.5	6.5006E-02	8.3	1.7402E+01	18.8	1.7216E+01	12.7	8.3334E-02	25.2	0.0	364.0	40.1	1277.0	492.1
8	82	0.0000E+00	0.0	1.3333E-01	33.7	5.2000E-01	19.7	2.1546E-02	12.3	6.9769E+00	11.7	4.4530E+01	33.8	1.3333E-01	33.7	0.0	143.2	35.9	2142.3	588.5
9	44	0.0000E+00	0.0	1.2121E-01	52.9	5.1516E-01	29.9	7.5202E-02	21.0	6.0833E+00	31.1	1.4587E+01	36.1	1.2121E-01	52.9	0.0	427.4	110.6	1974.2	943.3
11	81	0.0000E+00	0.0	1.3890E-01	33.8	4.0278E-01	22.0	9.9810E-02	14.9	3.0001E+00	18.3	1.1670E+01	22.6	1.3890E-01	33.8	0.0	530.0	94.6	2213.5	585.3
12	63	0.0000E+00	0.0	3.0769E-02	71.8	1.0769E-01	39.8	3.3786E-01	21.6	6.4009E+00	48.1	3.3832E+00	35.5	3.0769E-02	71.8	0.0	1669.3	396.9	-1081.8	2167.6
17	195	0.0000E+00	0.0	3.0589E-01	22.4	4.1177E-01	20.1	1.5334E-02	11.3	6.3159E+00	8.9	7.0950E+01	17.8	3.0589E-01	22.4	0.0	90.2	13.5	3500.3	346.4

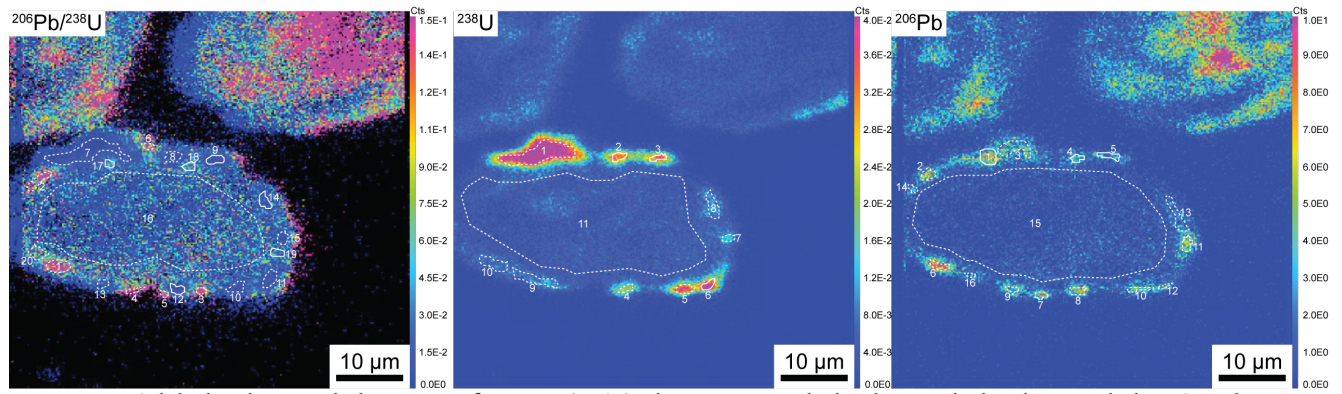
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

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

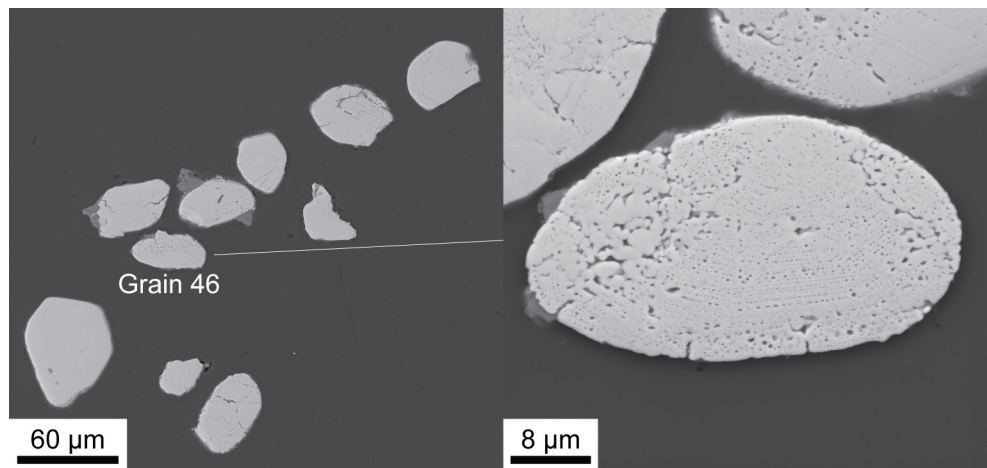
Corrected ratios³ Values corrected for common Pb where ²⁰⁴Pb exceeds detection limit.

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 72 grain 46



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 = 296.0 μm . Right) HV = 15 kV, WD = 9.04 mm, View Field = 68.0 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 [Pb-cel]	Measured ratios ²										Uncorrected ratios										Corrected ratios ³										Age [Ma]			
		$^{206}\text{Pb}/^{238}\text{U}$	$\pm\sigma$ [%]	$^{207}\text{Pb}/^{235}\text{U}$	$\pm\sigma$ [%]	$^{206}\text{Pb}/^{207}\text{Pb}$	$\pm\sigma$ [%]	$^{206}\text{Pb}/^{238}\text{U}$	$\pm\sigma$ [%]	$^{207}\text{Pb}/^{235}\text{U}$	$\pm\sigma$ [%]	$^{206}\text{Pb}/^{207}\text{Pb}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{235}\text{U}/^{207}\text{Pb}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{235}\text{U}/^{207}\text{Pb}$	$\pm\sigma$ [%]	$^{206}\text{Pb}/^{207}\text{Pb}$	$\pm\sigma$ [%]	$^{206}\text{Pb}/^{207}\text{Pb}$	$\pm\sigma$ [%]	$^{206}\text{Pb}/^{207}\text{Pb}$	$\pm\sigma$ [%]	$^{238}\text{U}/^{206}\text{Pb}$	$\pm\sigma$ [%]	$^{235}\text{U}/^{207}\text{Pb}$	$\pm\sigma$ [%]				
<i>²⁰⁶Pb/²³⁸U</i>																																			
9	57	0.0000E+00	0.0	4.3836E-01	21.2	1.0685E+00	16.3	8.5648E-03	12.0	3.7313E+01	16.4	1.3178E+02	23.3	4.3836E-01	21.2	0.0000	0.0000	1.3178E+02	23.3	4.3836E-01	21.2	0.0000	0.0000	1.3178E+02	23.3	4.3836E-01	21.2	0.0	0.0	48.7	9.2	4046.2	316.1		
12	45	0.0000E+00	0.0	1.2708E+00	19.3	3.2918E+00	16.5	1.1132E-02	14.9	1.3282E+01	14.1	1.0260E+02	56.5	1.2708E+00	19.3	0.0000	0.0000	1.0260E+02	56.5	1.2708E+00	19.3	0.0000	0.0000	1.0260E+02	56.5	1.2708E+00	19.3	0.0	0.0	62.5	22.5	5572.0	267.6		
14	59	0.0000E+00	0.0	2.2222E-01	45.1	7.4075E-01	29.5	8.6027E-03	19.7	8.1580E+00	13.2	1.3021E+02	33.4	2.2222E-01	45.1	0.0000	0.0000	1.3021E+02	33.4	2.2222E-01	45.1	0.0000	0.0000	1.3021E+02	33.4	2.2222E-01	45.1	0.0	0.0	49.3	12.3	2996.9	725.6		
17	26	0.0000E+00	0.0	8.9552E-02	30.1	1.1941E-01	26.5	3.3498E-02	9.5	1.7986E+01	16.9	3.5394E+01	72.3	8.9552E-02	30.1	0.0000	0.0000	3.5394E+01	72.3	8.9552E-02	30.1	0.0000	0.0000	3.5394E+01	72.3	8.9552E-02	30.1	0.0	0.0	179.6	74.8	1416.0	576.2		
18	36	0.0000E+00	0.0	8.5714E-02	42.5	1.2857E-01	35.4	4.9549E-02	13.6	5.5957E+00	16.8	1.8282E+01	34.8	8.5714E-02	42.5	0.0000	0.0000	1.8282E+01	34.8	8.5714E-02	42.5	0.0000	0.0000	1.8282E+01	34.8	8.5714E-02	42.5	0.0	0.0	343.3	86.9	1331.7	823.0		
19	40	0.0000E+00	0.0	6.9232E-01	25.0	2.4103E+00	19.0	3.2110E-02	17.5	3.7417E+00	15.3	3.5527E+01	34.8	6.9232E-01	25.0	0.0000	0.0000	3.5527E+01	34.8	6.9232E-01	25.0	0.0000	0.0000	3.5527E+01	34.8	6.9232E-01	25.0	0.0	0.0	178.9	45.7	4714.9	360.1		
<i>²³⁸U</i>																																			
2	38	0.0000E+00	0.0	7.7779E-01	25.2	1.4445E+00	21.7	5.1593E-03	16.9	3.6274E+01	17.9	1.7788E+02	46.2	7.7779E-01	25.2	0.0000	0.0000	1.7788E+02	46.2	7.7779E-01	25.2	0.0000	0.0000	1.7788E+02	46.2	7.7779E-01	25.2	0.0	0.0	36.1	11.4	4881.6	359.6		
3	31	0.0000E+00	0.0	3.4921E-01	24.8	8.890E-01	18.4	1.0643E-02	13.0	3.9388E+01	20.3	1.4063E+02	48.7	3.4921E-01	24.8	0.0000	0.0000	1.4063E+02	48.7	3.4921E-01	24.8	0.0000	0.0000	1.4063E+02	48.7	3.4921E-01	24.8	0.0	0.0	45.7	14.9	3705.6	377.3		
6	40	9.7087E-03	100.5	4.2719E-01	18.0	8.2527E-01	14.6	1.0904E-02	10.2	5.4186E+01	18.7	1.0492E+02	20.9	4.2719E-01	18.0	0.1816	0.1825	8.5869E+01	23.92	3.3657E-01	49.1	18.2	66.2	12.1	3286.5	441.9									
<i>²⁰⁶Pb</i>																																			
1	91	0.0000E+00	0.0	6.0659E-02	19.2	1.5946E-01	12.9	2.3676E-02	5.1	3.0541E+01	10.1	4.1926E+01	61.6	6.0659E-02	19.2	0.0000	0.0000	4.1926E+01	61.6	6.0659E-02	19.2	0.0000	0.0000	4.1926E+01	61.6	6.0659E-02	19.2	0.0	0.0	152.0	57.5	808.3	401.1		
4	31	0.0000E+00	0.0	2.1650E-01	24.1	3.0928E-01	20.9	2.6703E-02	10.9	4.3164E+01	27.0	4.0443E+01	66.2	2.1650E-01	24.1	0.0000	0.0000	4.0443E+01	66.2	2.1650E-01	24.1	0.0000	0.0000	4.0443E+01	66.2	2.1650E-01	24.1	0.0	0.0	157.5	62.3	2954.8	388.4		
5	44	0.0000E+00	0.0	1.3750E-01	32.2	4.6251E-01	19.9	2.8610E-02	12.1	5.1688E+01	33.7	4.4773E+01	23.3	1.3750E-01	32.2	0.0000	0.0000	4.4773E+01	23.3	1.3750E-01	32.2	0.0000	0.0000	4.4773E+01	23.3	1.3750E-01	32.2	0.0	0.0	142.4	26.7	2196.0	558.8		

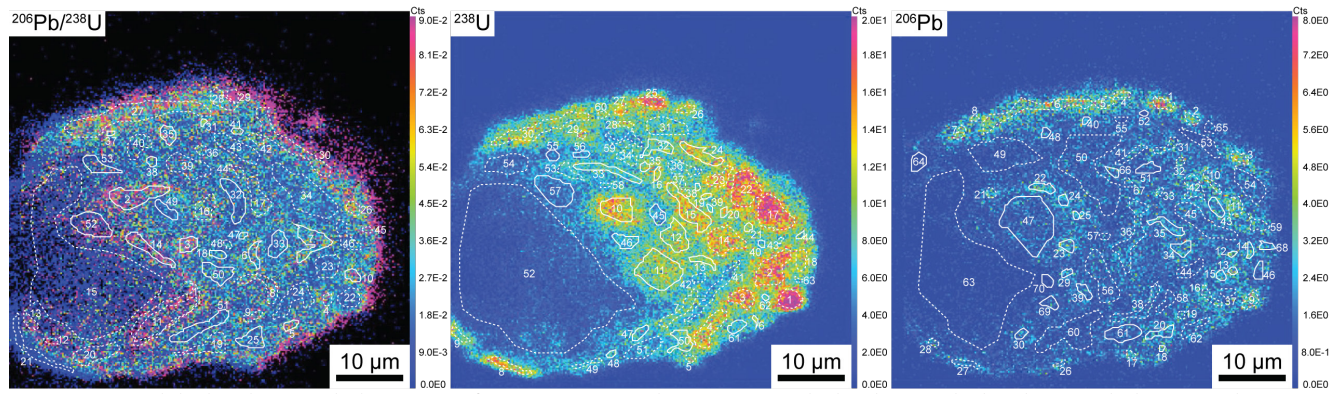
Area ID¹ corresponds to regions of interests (ROIs) used for calculation outlined in Figure above.

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

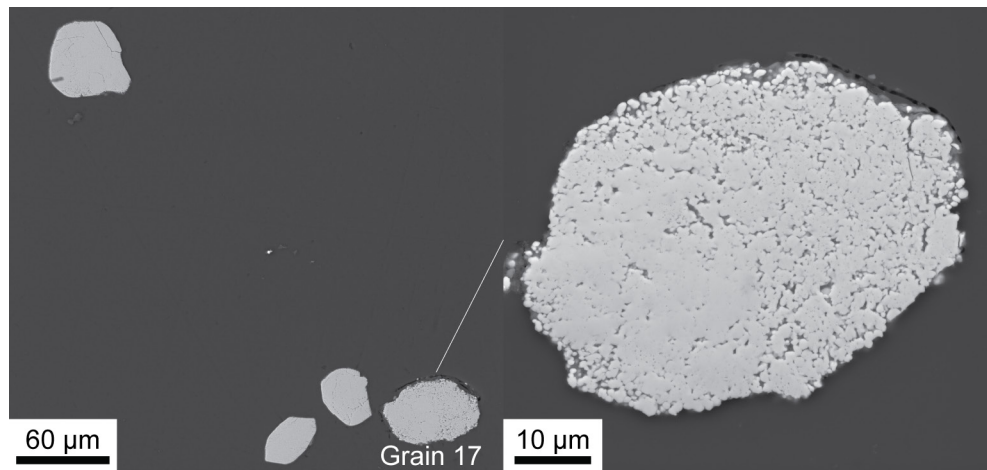
Corrected ratios³ Values corrected for common Pb where ^{206}Pb exceeds detection limit.

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

Ion image 73 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 = 296.0 μm . Right) HV = 15 kV, WD = 9.04 mm, View Field = 68.0 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	Area size [µm ²]	Measured ratios ²						Uncorrected ratios						Corrected ratios ³						Age [Ma]					
		²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁵ U	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁵ U	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁵ U	²³⁸ U/ ²⁰⁶ Pb	²³⁸ U/ ²⁰⁷ Pb	²³⁸ U/ ²⁰⁶ Pb	²³⁸ U/ ²⁰⁷ Pb	²³⁸ U/ ²⁰⁶ Pb	²³⁸ U/ ²⁰⁷ Pb	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁵ U	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁵ U	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁵ U	± 1σ	± 1σ				
		±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]	±σ [%]			
2	358	0.0000E+00	0.0	9.5071E-02	14.2	2.4290E-01	9.5	5.7927E-02	4.9	4.6872E+00	5.9	1.5042E+01	32.9	9.5071E-02	14.2	0.0000	1.5042E+01	32.9	9.5071E-02	14.2	0.0	414.9	100.2	1529.5	268.2
3	99	0.0000E+00	0.0	7.1749E-02	25.9	2.0628E-01	16.2	5.9343E-02	7.8	4.6306E+00	9.5	1.5881E+01	34.5	7.1749E-02	25.9	0.0000	1.5881E+01	34.5	7.1749E-02	25.9	0.0	393.7	98.6	978.8	527.3
5	49	0.0000E+00	0.0	1.0417E-01	33.2	1.6667E-01	27.0	4.7242E-02	11.6	5.3656E+00	13.7	2.3921E+01	29.6	1.0417E-01	33.2	0.0000	2.3921E+01	29.6	1.0417E-01	33.2	0.0	264.0	59.4	1699.7	612.2
6	75	0.0000E+00	0.0	1.1024E-01	28.2	2.9134E-01	18.7	3.0927E-02	9.7	5.1361E+00	9.5	3.6877E+01	23.0	1.1024E-01	28.2	0.0000	3.6877E+01	23.0	1.1024E-01	28.2	0.0	172.5	31.9	1803.3	512.1
7	262	0.0000E+00	0.0	1.8043E-01	11.9	4.6522E-01	8.3	3.2255E-02	5.1	6.0987E+00	5.5	3.3648E+01	15.8	1.8043E-01	11.9	0.0000	3.3648E+01	15.8	1.8043E-01	11.9	0.0	188.8	25.4	2656.9	197.8
10	64	0.0000E+00	0.0	4.5161E-02	38.6	1.2903E-01	23.8	3.9002E-02	8.9	7.5980E+00	11.4	2.7161E+01	34.7	4.5161E-02	38.6	0.0000	2.7161E+01	34.7	4.5161E-02	38.6	0.0	233.1	59.3	46.9	939.8
14	189	0.0000E+00	0.0	4.6154E-02	34.1	2.8205E-01	15.3	4.7630E-02	8.1	2.8142E+00	7.5	1.8799E+01	48.5	4.6154E-02	34.1	0.0000	1.8799E+01	48.5	4.6154E-02	34.1	0.0	334.1	107.3	5.7	820.8
18	45	0.0000E+00	0.0	1.0938E-01	39.8	5.0250E-01	20.8	2.2892E-02	13.3	6.2008E+00	12.4	4.7104E+01	22.0	1.0938E-01	39.8	0.0000	4.7104E+01	22.0	1.0938E-01	39.8	0.0	135.4	24.2	1789.0	725.3
25	161	0.0000E+00	0.0	1.7964E-01	19.8	7.7247E-01	11.7	1.6406E-02	8.1	9.8452E+00	8.0	7.0618E+01	18.2	1.7964E-01	19.8	0.0000	7.0618E+01	18.2	1.7964E-01	19.8	0.0	90.6	13.9	2649.6	329.0
31	15	0.0000E+00	0.0	2.3500E-01	39.3	3.8236E-01	32.6	4.2302E-02	19.2	7.0521E+00	24.5	2.4952E+01	50.8	2.3500E-01	39.3	0.0000	2.4952E+01	50.8	2.3500E-01	39.3	0.0	253.3	84.2	3088.4	627.1
32	231	0.0000E+00	0.0	1.6279E-01	20.4	8.3141E-01	11.3	1.0869E-02	7.9	7.6304E+00	5.7	1.0525E+02	17.6	1.6279E-01	20.4	0.0000	1.0525E+02	17.6	1.6279E-01	20.4	0.0	61.0	9.1	2484.9	343.6
33	156	0.0000E+00	0.0	1.1979E-01	22.1	5.9896E-01	11.8	1.5183E-02	7.5	7.5940E+00	6.4	7.6851E+01	25.3	1.1979E-01	22.1	0.0000	7.6851E+01	25.3	1.1979E-01	22.1	0.0	83.3	16.7	1853.1	394.2
35	95	0.0000E+00	0.0	6.5217E-02	34.4	1.9565E-01	21.0	4.1283E-02	9.5	5.1015E+00	10.5	2.5361E+01	37.3	6.5217E-02	34.4	0.0000	2.5361E+01	37.3	6.5217E-02	34.4	0.0	249.3	66.8	781.4	722.9
38	33	0.0000E+00	0.0	6.4515E-02	73.0	3.5483E-01	35.1	2.5031E-02	19.3	4.6824E+00	16.6	3.5071E+01	49.3	6.4515E-02	73.0	0.0000	3.5071E+01	49.3	6.4515E-02	73.0	0.0	181.2	59.3	758.6	1538.9
41	25	0.0000E+00	0.0	2.4138E-01	42.1	3.4483E-01	36.7	2.6073E-02	20.0	5.6069E+00	18.9	4.3471E+01	46.3	2.4138E-01	42.1	0.0000	4.3471E+01	46.3	2.4138E-01	42.1	0.0	146.6	46.0	3129.1	669.7
47	19	0.0000E+00	0.0	1.8519E-01	48.7	4.4445E-01	34.7	2.6263E-02	20.7	4.7506E+00	18.3	3.7014E+01	48.6	1.8519E-01	48.7	0.0000	3.7014E+01	48.6	1.8519E-01	48.7	0.0	171.9	55.7	2699.9	803.9
49	94	0.0000E+00	0.0	1.9231E-01	24.4	7.2116E-01	15.1	1.3492E-02	10.2	7.4988E+00	8.1	7.0668E+01	41.1	1.9231E-01	24.4	0.0000	7.0668E+01	41.1	1.9231E-01	24.4	0.0	90.6	26.2	2762.0	400.9
50	197	0.0000E+00	0.0	1.2956E-01	18.8	5.0276E-01	10.6	2.0780E-02	6.8	6.4409E+00	6.1	4.9659E+01	14.3	1.2956E-01	18.8	0.0000	4.9659E+01	14.3	1.2956E-01	18.8	0.0	128.5	15.9	2091.9	330.3
51	285	0.0000E+00	0.0	3.5583E-01	15.3	1.1902E+00	10.6	1.6998E-02	8.2	5.3890E+00	6.3	5.7657E+01	24.0	3.5583E-01	15.3	0.0000	5.7657E+01	24.0	3.5583E-01	15.3	0.0	110.8	21.3	3732.2	232.5
52	307	0.0000E+00	0.0	1.2069E-01	23.1	3.2759E-01	15.3	4.1408E-02	8.5	2.7521E+00	7.3	2.1387E+01	32.6	1.2069E-01	23.1	0.0000	2.1387E+01	32.6	1.2069E-01	23.1	0.0	294.6	71.2	1966.5	411.9
53	150	0.0000E+00	0.0	1.1538E-01	35.2	3.7180E-01	21.8	1.9899E-02	12.0	5.6702E+00	10.1	4.2347E+01	40.9	1.1538E-01	35.2	0.0000	4.2347E+01	40.9	1.1538E-01	35.2	0.0	150.5	43.3	1885.9	633.8
6	14	0.0000E+00	0.0	8.1819E-01	45.0	2.4546E+00	35.8	1.1880E-02	31.2	8.1067E+00	24.3	9.9481E+01	74.5	8.1819E-01	45.0	0.0000	9.9481E+01	74.5	8.1819E-01	45.0	0.0	64.5	27.4	4953.7	639.3
10	271	0.0000E+00	0.0	1.0698E-01	15.5	4.3721E-01	8.7	1.9876E-02	5.1	7.0292E+00	4.7	4.7341E+01	23.1	1.0698E-01	15.5	0.0000	4.7341E+01	23.1	1.0698E-01	15.5	0.0	134.8	25.1	1748.5	284.0
11	525	0.0000E+00	0.0	1.5542E-01	10.8	5.9813E-01	6.5	2.0773E-02	4.2	6.5500E+00	3.8	5.1697E+01	9.3	1.5542E-01	10.8	0.0000	5.1697E+01	9.3	1.5542E-01	10.8	0.0	123.5	10.4	2406.4	183.5
12	249	0.0000E+00	0.0	1.3688E-01	17.8	6.0837E-01	10.0	1.6663E-02	6.5	6.0494E+00	5.2	6.5488E+01	11.2	1.3688E-01	17.8	0.0000	6.5488E+01	11.2	1.3688E-01	17.8	0.0	97.7	9.8	2188.1	309.0
13	70	0.0000E+00	0.0	1.7822E-01	25.6	6.8318E-01	15.6	2.4032E-02	10.6	6.8540E+00	10.6	4.6272E+01	22.8	1.7822E-01	25.6	0.0000	4.6272E+01	22.8	1.7822E-01	25.6	0.0	137.8	25.4	2636.4	424.9
15	312	0.0000E+00	0.0	1.1286E-01	16.1	5.4856E-01	8.6	1.6235E-02	5.4	7.1629E+00	4.6	6.8606E+01	17.6	1.1286E-01	16.1	0.0000	6.8606E+01	17.6	1.1286E-01	16.1	0.0	93.3	13.9	1846.0	291.1
16	26	0.0000E+00	0.0	1.2500E-01	53.0	5.0001E-01	30.6	1.7860E-02	18.6	6.4791E+00	15.8	6.3941E+01	54.9	1.2500E-01	53.0	0.0000	6.3941E+01	54.9	1.2500E-01	53.0	0.0	100.0	35.3	2028.8	938.9
19	18	0.0000E+00	0.0	6.6667E-02	73.0	4.0000E-01	34.2	2.5888E-02	19.6	5.1320E+00	17.7	4.9568E+01	51.4	6.6667E-02	73.0	0.0000	4.9568E+01	51.4	6.6667E-02	73.0	0.0	128.8	43.4	827.4	1523.5
20	23	0.0000E+00	0.0	1.2821E-01	47.5	2.8205E-01	34.1	2.4112E-02	17.1	6.1152E+00	16.3	4.2588E+01	45.1	1.2821E-01	47.5	0.0000	4.2588E+01	45.1	1.2821E-01	47.5	0.0	149.7	46.2	2073.5	836.7
21	25	0.0000E+00	0.0	8.3334E-02	52.0	3.3334E-01	28.9	2.9566E-02	15.7	9.0024E+00	19.3	4.1620E+01	38.7	8.3334E-02	52.0	0.0000	4.1620E+01	38.7	8.3334E-02	52.0	0.0	153.1	45.4	1277.1	1014.6
24	168	0.0000E+00	0.0	1.9725E-01	16.7	3.6698E-01	13.1	1.7703E-02	7.1	8.7538E+00	6.9	6.2035E+01	13.7	1.9725E-01	16.7	0.0000	6.2035E+01	13.7	1.9725E-01	16.7	0.0	103.1	12.3	2803.6	273.0

Area ID	Area size [µm ²]	Measured ratios ²										Uncorrected ratios										Corrected ratios ³										Age [Ma]	
		²⁰⁶ Pb/ ²⁰⁸ Pb		²⁰⁷ Pb/ ²⁰⁸ Pb		²⁰⁶ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁸ U		²⁰⁶ Pb/ ⁹⁰ Zr		²⁰⁶ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁸ U		²⁰⁶ Pb/ ²⁰⁸ Pb		²⁰⁷ Pb/ ²⁰⁸ Pb		²⁰⁶ Pb/ ²³⁸ U		²⁰⁷ Pb/ ²³⁸ U		²⁰⁶ Pb/ ²⁰⁸ Pb		²⁰⁷ Pb/ ²⁰⁸ 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 [%]			±σ [%]			
32	123	0.0000E+00	0.0	9.0910E-02	33.0	3.4546E-01	18.8	1.7114E-02	10.0	5.7790E+00	8.0	5.6773E+01	26.1	9.0910E-02	26.1	9.0910E-02	33.0	0.0000	0.0000	5.6773E+01	26.1	9.0910E-02	33.0	0.0	112.6	23.2	1444.7	629.2					
33	179	0.0000E+00	0.0	1.4286E-01	22.3	5.2174E-01	13.5	1.9600E-02	8.3	6.2393E+00	7.3	4.8853E+01	22.8	1.4286E-01	22.8	1.4286E-01	22.3	0.0000	0.0000	4.8853E+01	22.8	1.4286E-01	22.3	0.0	130.6	24.0	2262.1	384.5					
35	29	0.0000E+00	0.0	1.8181E-01	54.4	4.0908E-01	39.6	1.2930E-02	22.1	7.2571E+00	17.1	7.7291E+01	47.0	1.8181E-01	47.0	1.8181E-01	54.4	0.0000	0.0000	7.7291E+01	47.0	1.8181E-01	54.4	0.0	82.9	26.4	2669.5	900.1					
38	13	0.0000E+00	0.0	2.0000E-01	54.8	5.0004E-01	38.7	3.0798E-02	24.3	6.0017E+00	25.5	4.1099E+01	73.1	2.0000E-01	73.1	2.0000E-01	54.8	0.0000	0.0000	4.1099E+01	73.1	2.0000E-01	54.8	0.0	155.0	65.0	2826.2	893.9					
39	15	0.0000E+00	0.0	7.1426E-02	73.2	1.4285E-01	53.5	4.3128E-02	21.2	5.4004E+00	24.3	3.1174E+01	54.1	7.1426E-02	54.1	7.1426E-02	73.2	0.0000	0.0000	3.1174E+01	54.1	7.1426E-02	73.2	0.0	203.5	70.7	969.6	1493.3					
40	18	0.0000E+00	0.0	2.2222E-01	45.1	8.5186E-01	28.4	3.4280E-02	21.1	5.0395E+00	21.5	3.4133E+01	51.6	2.2222E-01	51.6	2.2222E-01	45.1	0.0000	0.0000	3.4133E+01	51.6	2.2222E-01	45.1	0.0	186.1	62.7	2996.9	725.6					
44	13	0.0000E+00	0.0	4.6154E-01	49.3	6.4539E-01	44.9	2.0992E-02	29.4	8.5852E+00	30.5	5.8155E+01	54.0	4.6154E-01	54.0	4.6154E-01	49.3	0.0000	0.0000	5.8155E+01	54.0	4.6154E-01	49.3	0.0	109.9	38.3	4122.8	732.4					
45	86	0.0000E+00	0.0	3.1250E-02	58.6	2.1875E-01	24.1	3.5885E-02	11.3	5.9330E+00	12.5	3.2240E+01	17.6	3.1250E-02	17.6	3.1250E-02	58.6	0.0000	0.0000	3.2240E+01	17.6	3.1250E-02	58.6	0.0	196.9	29.1	-1035.2	1751.8					
46	115	0.0000E+00	0.0	1.4546E-01	18.9	2.2733E-01	14.6	5.1323E-02	7.7	4.7226E+00	9.0	1.8465E+01	37.7	1.4546E-01	37.7	1.4546E-01	18.9	0.0000	0.0000	1.8465E+01	37.7	1.4546E-01	18.9	0.0	340.0	91.4	2293.2	325.3					
47	59	0.0000E+00	0.0	5.0001E-01	28.1	1.6316E+00	20.6	1.6164E-02	17.0	5.8370E+00	13.2	5.1586E+01	33.4	5.0001E-01	33.4	5.0001E-01	28.1	0.0000	0.0000	5.1586E+01	33.4	5.0001E-01	28.1	0.0	123.8	30.8	4241.2	414.2					
48	19	0.0000E+00	0.0	4.3749E-01	45.3	9.3747E-01	35.9	1.8742E-02	26.4	6.4556E+00	22.9	5.4896E+01	80.9	4.3749E-01	80.9	4.3749E-01	45.3	0.0000	0.0000	5.4896E+01	80.9	4.3749E-01	45.3	0.0	116.4	51.8	4043.2	675.8					
50	133	0.0000E+00	0.0	3.0076E-01	18.0	8.3460E-01	12.9	1.8747E-02	9.1	1.0087E+01	9.7	5.6923E+01	24.8	3.0076E-01	24.8	3.0076E-01	18.0	0.0000	0.0000	5.6923E+01	24.8	3.0076E-01	18.0	0.0	112.3	22.1	3474.1	279.2					
55	51	0.0000E+00	0.0	3.7037E-01	37.0	7.0371E-01	29.9	2.4408E-02	20.6	3.6884E+00	15.9	3.6024E+01	65.9	3.7037E-01	65.9	3.7037E-01	37.0	0.0000	0.0000	3.6024E+01	65.9	3.7037E-01	37.0	0.0	176.5	69.5	3793.0	560.8					
56	36	0.0000E+00	0.0	1.8182E-01	54.4	3.1819E-01	43.4	2.2178E-02	22.7	4.1256E+00	17.6	4.9566E+01	63.8	1.8182E-01	63.8	1.8182E-01	54.4	0.0000	0.0000	4.9566E+01	63.8	1.8182E-01	54.4	0.0	128.8	49.9	2669.5	900.1					
57	355	0.0000E+00	0.0	1.0750E-01	16.0	2.8250E-01	10.6	4.9727E-02	5.7	3.9011E+00	6.1	1.8794E+01	37.1	1.0750E-01	37.1	1.0750E-01	16.0	0.0000	0.0000	1.8794E+01	37.1	1.0750E-01	16.0	0.0	334.2	88.7	1757.5	293.5					
61	69	0.0000E+00	0.0	1.6807E-01	24.2	2.0168E-01	22.4	4.1936E-02	10.3	5.0757E+00	11.4	2.7018E+01	22.3	1.6807E-01	22.3	1.6807E-01	24.2	0.0000	0.0000	2.7018E+01	22.3	1.6807E-01	24.2	0.0	234.3	42.0	2538.5	405.3					
62	17	0.0000E+00	0.0	9.3024E-02	52.3	1.1628E-01	47.3	5.3775E-02	17.5	1.0232E+01	29.1	2.0723E+01	45.8	9.3024E-02	45.8	9.3024E-02	52.3	0.0000	0.0000	2.0723E+01	45.8	9.3024E-02	52.3	0.0	303.8	93.9	1488.4	989.8					
12	18	0.0000E+00	0.0	8.6957E-02	52.1	4.3479E-02	72.2	2.9771E-02	16.0	1.3528E+01	23.8	4.1668E+01	27.5	8.6957E-02	27.5	8.6957E-02	52.1	0.0000	0.0000	4.1668E+01	27.5	8.6957E-02	52.1	0.0	152.9	32.7	1359.6	1004.7					
13	23	0.0000E+00	0.0	2.8986E-02	71.7	1.5942E-01	32.5	4.7618E-02	13.6	8.0351E+00	19.4	2.1888E+01	37.6	2.8986E-02	37.6	2.8986E-02	71.7	0.0000	0.0000	2.1888E+01	37.6	2.8986E-02	71.7	0.0	288.0	77.4	#NUM!	#NUM!					
14	34	0.0000E+00	0.0	2.2472E-02	71.5	5.6180E-02	46.0	4.0889E-02	11.8	9.2834E+00	16.9	2.4806E+01	40.2	2.2472E-02	40.2	2.2472E-02	71.5	0.0000	0.0000	2.4806E+01	40.2	2.2472E-02	71.5	0.0	254.8	72.0	#NUM!	#NUM!					
15	35	0.0000E+00	0.0	4.2857E-02	59.0	2.4286E-01	27.0	2.1013E-02	12.7	1.3517E+01	16.2	5.0232E+01	30.0	4.2857E-02	30.0	4.2857E-02	59.0	0.0000	0.0000	5.0232E+01	30.0	4.2857E-02	59.0	0.0	127.1	29.1	-175.9	1470.3					
18	15	0.0000E+00	0.0	1.5152E-01	48.0	3.6504E-01	33.7	1.0165E-01	22.1	9.0007E+00	43.0	9.5232E+00	82.0	1.5152E-01	82.0	1.5152E-01	48.0	0.0000	0.0000	9.5232E+00	82.0	1.5152E-01	48.0	0.0	643.7	282.1	2363.1	819.1					
20	82	0.0000E+00	0.0	1.6667E-01	20.8	3.2716E-01	15.8	3.6660E-02	8.7	6.8062E+00	10.3	3.0136E+01	29.9	1.6667E-01	29.9	1.6667E-01	20.8	0.0000	0.0000	3.0136E+01	29.9	1.6667E-01	20.8	0.0	210.4	47.8	2524.4	349.1					
22	74	0.0000E+00	0.0	7.2917E-02	27.7	1.7188E-01	18.8	6.6506E-02	8.5	5.3347E+00	11.5	1.2908E+01	38.8	7.2917E-02	38.8	7.2917E-02	27.7	0.0000	0.0000	1.2908E+01	38.8	7.2917E-02	27.7	0.0	481.0	130.8	1011.6	561.1					
23	66	0.0000E+00	0.0	7.8432E-02	30.0	2.2876E-01	18.7	6.0592E-02	9.4	4.5659E+00	11.5	1.5337E+01	47.8	7.8432E-02	47.8	7.8432E-02	30.0	0.0000	0.0000	1.5337E+01	47.8	7.8432E-02	30.0	0.0	407.2	129.0	1157.8	594.7					
24	39	0.0000E+00	0.0	1.5493E-01	32.4	2.8169E-01	25.3	2.2928E-02	12.7	6.8685E+00	12.4	4.7907E+01	28.8	1.5493E-01	28.8	1.5493E-01	32.4	0.0000	0.0000	4.7907E+01	28.8	1.5493E-01	32.4	0.0	133.2	29.5	2401.1	550.9					
25	19	0.0000E+00	0.0	9.3024E-02	52.3	3.2559E-01	30.8	3.2067E-02	16.7	7.6921E+00	19.7	3.3473E+01	55.9	9.3024E-02	55.9	9.3024E-02	52.3	0.0000	0.0000	3.3473E+01	55.9	9.3024E-02	52.3	0.0	189.8	67.4	1488.4	989.8					
29	29	0.0000E+00	0.0	5.7693E-02	59.4	3.0770E-01	28.6	4.9425E-02	15.8	3.8048E+00	16.6	3.1971E+01	55.4	5.7693E-02	55.4	5.7693E-02	59.4	0.0000	0.0000	3.1971E+01	55.4	5.7693E-02	59.4	0.0	198.5	70.0	518.1	1303.6					
30	38	0.0000E+00	0.0	7.0176E-02	51.7	2.4562E-01	29.8	9.8764E-02	16.7	1.8824E+00	17.3	7.2312E+00	66.1	7.0176E-02	66.1	7.0176E-02	51.7	0.0000	0.0000	7.2312E+00	66.1	7.0176E-02	51.7	0.0	835.0	319.5	933.5	1061.1					
34	95	0.0000E+00	0.0	1.4045E-01	21.4	3.7640E-01	14.3	2.8492E-02	8.1	7.2170E+00	8.9	3.8706E+01	20.0	1.4045E-01	20.0	1.4045E-01	21.4	0.0000	0.0000	3.8706E+01	20.0	1.4045E-01	21.4	0.0	164.4	27.1	2322.8	369.7					
35	112	0.0000E+00	0.0	8.6125E-02	24.6	2.2488E-01	16.1	2.6986E-02	7.5	7.0789E+00	7.9	4.2406E+01	18.5	8.6125E-02	18.5	8.6125E-02	24.6	0.0000	0.0000	4.2406E+01	18.5	8.6125E-02	24.6	0.0	150.3	23.3	1341.0	474.6					
39	60	0.0000E+00	0.0	7.6088E-02	39.2	2.9348E-01	21.9	5.5319E-02	12.0	3.8789E+00	13.0	2.1693E+01	31.8	7.6088E-02	31.8	7.6088E-02	39.2	0.0000	0.0000	2.1693E+01	31.8	7.6088E-02	39.2	0.0	290.5	68.9	1097.4	784.7					
40	18	0.0000E+00	0.0	3.1250E-01	36.2	5.0001E-01	30.6	3.4338E-02	19.4	8.6126E+00	24.9	3.6189E+01	38.6	3.1250E-01	38.6	3.1250E-01	36.2	0.0000	0.0000	3.6189E+01	38.6	3.1250E-01	36.2	0.0	175.7	48.5	3533.3	558.6					

Area ID ¹	Area size [pix-el]	Measured ratios ²										Uncorrected ratios										Corrected ratios ³										Age [Ma]			
		²⁰⁶ Pb/ ²⁰⁶ Pb	±σ [%]	²⁰⁷ Pb/ ²⁰⁶ Pb	±σ [%]	²⁰⁶ Pb/ ²³⁵ U	±σ [%]	²⁰⁷ Pb/ ²³⁵ U	±σ [%]	²⁰⁶ Pb/ ⁹² Zr	±σ [%]	²³⁸ U/ ²⁰⁶ Pb	±σ [%]	²³⁸ U/ ²⁰⁷ Pb	±σ [%]	²⁰⁶ Pb	±σ [%]	²⁰⁷ Pb	±σ [%]	²³⁸ U/ ²⁰⁶ Pb	±σ [%]	²³⁸ U/ ²⁰⁷ Pb	±σ [%]	²⁰⁶ Pb	±σ [%]	²³⁸ U/ ²⁰⁶ Pb	±1σ	²⁰⁶ Pb	±1σ	²³⁸ U/ ²⁰⁶ Pb	±1σ	²⁰⁶ Pb	±1σ		
43	78	0.0000E+00	0.0	1.946E-01	20.3	4.228E-01	15.0	1.694E-02	8.6	1.250E+01	9.6	6.528E+01	18.7	1.946E-01	20.3	0.0000	0.0000	6.528E+01	18.7	1.946E-01	20.3	0.0	0.0	1.946E-01	15.3	98.0	15.3	2781.8	332.6						
46	55	0.0000E+00	0.0	8.196E-02	46.5	1.311E-01	37.6	7.865E-02	15.5	8.600E+00	27.3	1.281E+01	29.6	8.196E-02	46.5	0.0000	0.0000	1.281E+01	29.6	8.196E-02	46.5	0.0	0.0	8.196E-02	107.4	484.4	107.4	1244.8	911.2						
47	937	1.038E+03	100.1	1.059E-01	10.4	3.188E-01	6.6	2.889E-02	3.5	5.086E+00	3.3	3.112E+01	25.7	1.059E-01	10.4	0.0194	0.0194	3.052E+01	66.6	9.146E-02	20.5	1.9	1.9	9.146E-02	82.3	207.8	82.3	1456.3	390.4						
48	31	0.0000E+00	0.0	9.433E-02	46.8	9.433E-02	46.8	5.091E-02	15.7	3.844E+00	16.7	1.903E+01	45.8	9.433E-02	46.8	0.0000	0.0000	1.903E+01	45.8	9.433E-02	46.8	0.0	0.0	9.433E-02	101.8	330.0	101.8	1514.9	882.7						
51	81	0.0000E+00	0.0	6.172E-02	46.1	3.703E-01	21.4	1.913E-02	11.7	6.069E+00	10.0	6.474E+01	29.0	6.172E-02	46.1	0.0000	0.0000	6.474E+01	29.0	6.172E-02	46.1	0.0	0.0	6.172E-02	22.1	98.8	22.1	664.7	987.0						
52	15	0.0000E+00	0.0	2.000E+00	46.3	6.000E+00	40.8	1.403E-02	39.4	9.222E+00	35.1	7.006E+01	67.1	2.000E+00	46.3	0.0000	0.0000	7.006E+01	67.1	2.000E+00	46.3	0.0	0.0	2.000E+00	36.5	91.4	36.5	6194.5	629.1						
61	203	0.0000E+00	0.0	2.535E-01	15.2	7.840E-01	10.3	1.925E-02	7.2	8.403E+00	7.2	5.582E+01	19.7	2.535E-01	15.2	0.0000	0.0000	5.582E+01	19.7	2.535E-01	15.2	0.0	0.0	2.535E-01	18.7	114.5	18.7	3206.9	240.8						
64	99	0.0000E+00	0.0	9.412E-01	34.8	3.294E+00	27.7	6.732E-03	24.7	7.637E+00	14.3	2.079E+02	73.3	9.412E-01	34.8	0.0000	0.0000	2.079E+02	73.3	9.412E-01	34.8	0.0	0.0	9.412E-01	13.1	30.9	13.1	5152.1	491.1						
66	20	0.0000E+00	0.0	5.714E-02	72.7	1.428E-01	47.8	3.933E-02	18.8	4.934E+00	20.0	2.947E+01	43.0	5.714E-02	72.7	0.0000	0.0000	2.947E+01	43.0	5.714E-02	72.7	0.0	0.0	5.714E-02	63.9	215.1	63.9	497.0	1601.7						
68	39	0.0000E+00	0.0	3.125E-02	71.8	7.812E-02	46.4	2.877E-01	20.6	9.250E+00	52.6	4.251E+00	45.7	3.125E-02	71.8	0.0000	0.0000	4.251E+00	45.7	3.125E-02	71.8	0.0	0.0	3.125E-02	397.1	1361.8	397.1	-1035.2	2145.7						
69	59	0.0000E+00	0.0	6.153E-02	51.5	1.692E-01	32.6	6.430E-02	14.6	2.100E+00	13.6	1.527E+01	42.0	6.153E-02	51.5	0.0000	0.0000	1.527E+01	42.0	6.153E-02	51.5	0.0	0.0	6.153E-02	408.8	408.8	118.3	658.1	1104.7						
70	60	0.0000E+00	0.0	7.000E-01	49.3	1.900E+00	39.1	1.052E-02	32.6	2.106E+00	14.0	9.406E+01	45.8	7.000E-01	49.3	0.0000	0.0000	9.406E+01	45.8	7.000E-01	49.3	0.0	0.0	7.000E-01	21.3	68.2	21.3	4730.7	708.1						

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 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.