AISRF Sample: IA11-121

SHRIMP zircon data summary

Sample Description

Granite

SHRIMP Mount

ID:	11-29B
Type:	grain mount
Pb/U standard:	BR266
Standard in:	11-29

Procedures

Zircon analyses followed established procedures (e.g. Smith et al., 1998).

Analysis date:	24/10/2011
Instrument:	SHRIMP-B
Primary ion current:	1.5 nA
Kohler aperture:	100 μm
Spot diameter:	~20 μm
M/ΔM (1%):	5280
Scans/spot:	6
Notes:	

Results

No. of Stds:	14
External precision:	1.3%

Twelve analyses were completed, on 11 grains (Table 1). All have <1% common ^{206}Pb but three are >5% discordant (Table 1, Fig. 1). There is excess scatter in ^{207}Pb/^{206}Pb for the eight concordant results (MSWD = 2.3), due mainly to one young outlier (>2σ from the mean; Fig. 2). Omitting this analysis leaves seven that are self-consistent in ^{207}Pb/^{206}Pb (MSWD = 1.5) and give a weighted mean age of 2565 ± 9 Ma.
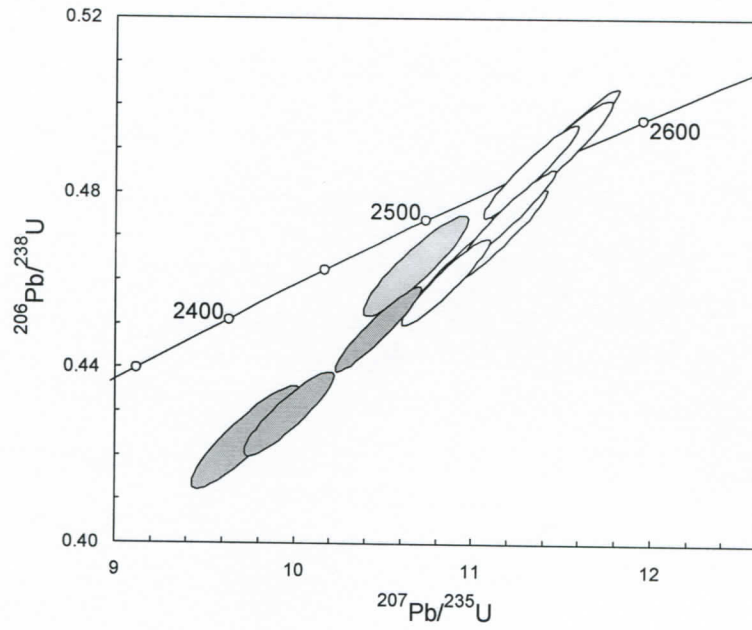
Figure 1: SHRIMP U–Pb data for zircons in IA11-121. Precision ellipses are 1σ. Coloured analyses is omitted from the age determination (see text).
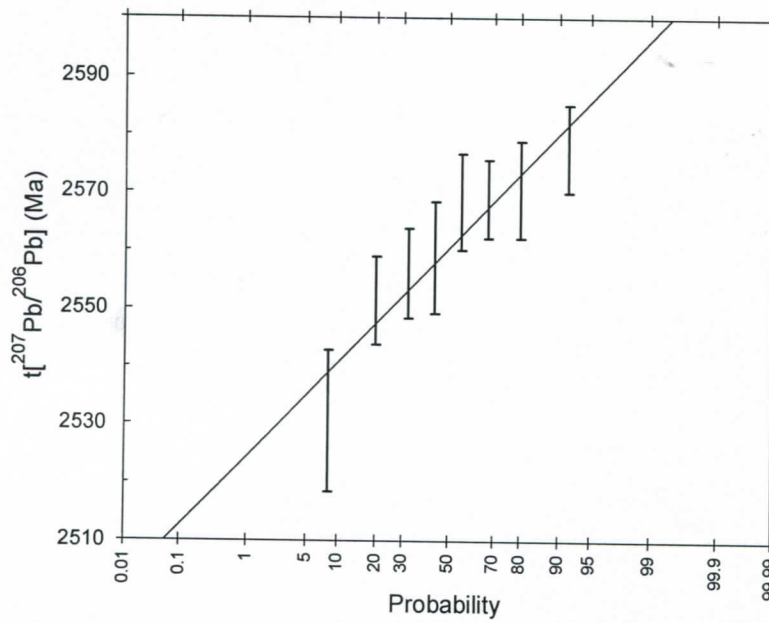

Figure 2: Linearised probability plot of SHRIMP $^{207}Pb/^{206}Pb$ dates from concordant U–Pb data for zircons in IA11-121. Precision bars are 1σ.

Table 1: SHRIMP U–Pb data for zircon in IA11-121.

Analysis	U (ppm)	Th (ppm)	Th/U	f206 (%)	$^{207}Pb*/^{206}Pb*$	±	$^{206}Pb*/^{238}U$	±	$^{207}Pb*/^{235}U$	±	$^{208}Pb*/^{232}Th$	±	Conc. (%)	t[$^{207}Pb*/^{206}Pb*$] (Ma)	±
Main group, in $^{207}Pb/^{206}Pb$ sequence															
1129B.3-1	172	109	0.65	0.03	0.1694	0.0008	0.4849	0.0071	11.323	0.174	0.1322	0.0022	100	2551	8
1129B.7-2	176	153	0.89	0.05	0.1698	0.0008	0.4891	0.0098	11.453	0.235	0.1328	0.0031	100	2556	8
1129B.9-1	103	58	0.58	-0.03	0.1701	0.0010	0.4896	0.0077	11.483	0.193	0.1304	0.0025	100	2559	10
1129B.1-1	140	32	0.23	-0.04	0.1711	0.0008	0.4626	0.0069	10.914	0.172	0.1247	0.0033	95	2568	8
1129B.8-1	252	70	0.29	0.06	0.1712	0.0007	0.4752	0.0067	11.214	0.165	0.1315	0.0023	98	2569	7
1129B.4-1	200	44	0.23	0.30	0.1713	0.0009	0.4594	0.0066	10.850	0.165	0.1342	0.0043	95	2571	8
1129B.6-1	165	33	0.21	0.01	0.1720	0.0008	0.4702	0.0069	11.153	0.171	0.1284	0.0025	96	2578	8
Young outlier															
1129B.7-1	79	44	0.58	0.19	0.1673	0.0012	0.4631	0.0077	10.680	0.193	0.1231	0.0027	97	2531	12
>5% discordant															
1129B.10-1	187	56	0.31	0.25	0.1693	0.0008	0.4485	0.0065	10.471	0.160	0.1131	0.0033	94	2551	8
1129B.5-1	130	74	0.59	0.47	0.1686	0.0012	0.4289	0.0065	9.974	0.166	0.1362	0.0032	90	2544	12
1129B.2-1	166	58	0.36	0.08	0.1667	0.0015	0.4236	0.0078	9.734	0.200	0.1230	0.0036	90	2524	15

Analysis labels: nnnnA.p-q, where nnnn is the mount number, A is the sample identifier on the mount, p is grain number and q is the analysis sequence for the grain. f206 is the proportion of common Pb in ^{206}Pb, determined using the measured ^{204}Pb and the Pb isotopic composition of Broken Hill galena.

All Pb isotope data and t[$^{207}Pb*/^{206}Pb*$] have been corrected for common Pb.

Conc. is apparent concordance, as 100*t[$^{206}Pb/^{238}U$]/t[$^{207}Pb/^{206}Pb$].

Precisions are 1σ.