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Supplement of

Regional Pliocene exhumation of the Lesser Himalaya in the Indus drainage

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Grain size (μm)	U1456A-11H-6W	U1456A-51F-3W	U1456A-61F-3W	U1456A-70F-2W	U1456D-5R-1W	U1456D-13R-1W	U1456D-22R-1W	U1456D-29R-2W	U1456E-19R-3W	U1457C-33R-3W	U1457C-43R-2W
0.375124	0.0359520	0.0049244	0.0040406	0.0654422	0.0477482	0.0193409	0.0511269	0.0553025	0.0209949	0.0090685	0.0220129
0.411798	0.0636541	0.0087650	0.0072009	0.1158970	0.0845817	0.0342759	0.0906187	0.0980067	0.0372230	0.0160961	0.0389926
0.452057	0.0956116	0.0130121	0.0106968	0.1743010	0.1272750	0.0512763	0.1378080	0.1486390	0.0553231	0.0239348	0.0585384
0.496252	0.1419270	0.0187614	0.0154183	0.2589950	0.1892620	0.0754769	0.2085260	0.2238820	0.0804431	0.0347733	0.0867294
0.544768	0.1887750	0.0238044	0.0195478	0.3445910	0.2519540	0.0990147	0.2843130	0.3033050	0.1036110	0.0447289	0.1148670
0.598027	0.2378420	0.0285252	0.0234315	0.4337320	0.3172320	0.1227760	0.3670750	0.3889120	0.1258570	0.0543565	0.1438710
0.656493	0.2907940	0.0331444	0.0272512	0.5291910	0.3870090	0.1475400	0.4587910	0.4828050	0.1480180	0.0640692	0.1746290
0.720675	0.3499720	0.0379301	0.0312255	0.6348950	0.4640920	0.1744700	0.5624420	0.5881320	0.1713210	0.0744048	0.2084770
0.791132	0.4138210	0.0424516	0.0349850	0.7476280	0.5459710	0.2024490	0.6755970	0.7021000	0.1944220	0.0847569	0.2442410
0.868477	0.4806620	0.0466468	0.0385278	0.8636550	0.6297300	0.2304850	0.7946240	0.8207650	0.2164110	0.0948508	0.2806730
0.953383	0.5495400	0.0506088	0.0419427	0.9808220	0.7135200	0.2581290	0.9161990	0.9407610	0.2372400	0.1047630	0.3170580
1.046590	0.6191110	0.0544248	0.0453215	1.0965900	0.7951880	0.2848730	1.0361500	1.0579900	0.2569780	0.1145290	0.3525900
1.148910	0.6883470	0.0581531	0.0486888	1.2095000	0.8734490	0.3105620	1.1510900	1.1692600	0.2761830	0.1242790	0.3868660
1.261230	0.7541620	0.0616308	0.0519477	1.3148500	0.9447240	0.3339460	1.2556800	1.2692700	0.2941730	0.1335730	0.4183210
1.384540	0.8143290	0.0649215	0.0551549	1.4100200	1.0070400	0.3545070	1.3461400	1.3544800	0.3112730	0.1424030	0.4461500
1.519900	0.8667590	0.0681044	0.0584022	1.4934200	1.0591200	0.3717930	1.4198000	1.4225500	0.3279080	0.1507180	0.4697490
1.668490	0.9109870	0.0713951	0.0618359	1.5666300	1.1021600	0.3863880	1.4767700	1.4741600	0.3457300	0.1588800	0.4897180
1.831610	0.9462430	0.0747656	0.0654305	1.6313100	1.1373800	0.3985410	1.5181900	1.5109000	0.3658050	0.1668410	0.5065090
2.010680	0.9722750	0.0782459	0.0692017	1.6898500	1.1667700	0.4088210	1.5464800	1.5356900	0.3895550	0.1746800	0.5209150
2.207250	0.9894140	0.0819677	0.0732800	1.7457100	1.1931400	0.4179530	1.5655200	1.5530100	0.4184480	0.1825480	0.5339660
2.423040	0.9990150	0.0860881	0.0777685	1.8034600	1.2201400	0.4270350	1.5802400	1.5684200	0.4543120	0.1907190	0.5471570
2.659930	1.0035100	0.0907368	0.0827213	1.8685300	1.2520300	0.4374540	1.5962700	1.5881800	0.4990830	0.1995190	0.5623020
2.919980	1.0053700	0.0959318	0.0881333	1.9445200	1.2918800	0.4502950	1.6176500	1.6167800	0.5541570	0.2090530	0.5807750
3.205450	1.0071300	0.1017870	0.0941014	2.0331700	1.3415900	0.4665210	1.6465200	1.6565800	0.6205290	0.2195570	0.6035150
3.518830	1.0106300	0.1083380	0.1006670	2.1335700	1.4011500	0.4864340	1.6823300	1.7072100	0.6981420	0.2310090	0.6305980
3.862840	1.0179800	0.1156740	0.1078290	2.2438800	1.4699800	0.5104530	1.7230800	1.7667100	0.7867700	0.2436240	0.6620450
4.240490	1.0306900	0.1238340	0.1156090	2.3607500	1.5461300	0.5385130	1.7650000	1.8311300	0.8852390	0.2573540	0.6973020
4.655060	1.0500300	0.1327840	0.1239400	2.4793600	1.6267400	0.5705780	1.8031500	1.8948900	0.9920300	0.2722290	0.7356660
5.110170	1.0763300	0.1425810	0.1329500	2.5936800	1.7080200	0.6060960	1.8320900	1.9516600	1.1046100	0.2881370	0.7758350
5.609760	1.1095400	0.1531280	0.1425050	2.6983400	1.7865900	0.6444590	1.8478200	1.9964200	1.2202500	0.3049770	0.8166580
6.158200	1.1497000	0.1646260	0.1527820	2.7909200	1.8606800	0.6851790	1.8498200	2.0277200	1.3361600	0.3228390	0.8575370
6.760250	1.1973500	0.1768930	0.1635090	2.8715600	1.9300300	0.7280020	1.8406600	2.0470100	1.4498100	0.3415530	0.8986160
7.421170	1.2535400	0.1903070	0.1751080	2.9403700	1.9946100	0.7732170	1.8233900	2.0557500	1.5590200	0.3614800	0.9405240
8.146690	1.3186000	0.2048130	0.1875190	2.9939300	2.0522400	0.8205380	1.7978200	2.0515800	1.6604300	0.3824970	0.9830200
8.943150	1.3925100	0.2211070	0.2012990	3.0263400	2.1000200	0.8698960	1.7619400	2.0299400	1.7503700	0.4052990	1.0258900
9.817480	1.4750800	0.2394090	0.2163610	3.0343800	2.1362200	0.9204950	1.7165500	1.9894400	1.8242700	0.4299150	1.0687500
10.777300	1.5682900	0.2608130	0.2335410	3.0236100	2.1649500	0.9732980	1.6720500	1.9389400	1.8805400	0.4575770	1.1141400
11.830900	1.6765900	0.2861540	0.2534130	3.0080100	2.1949400	1.0299800	1.6486900	1.8977300	1.9200300	0.4891810	1.1659100
12.987600	1.8062400	0.3170390	0.2770110	2.9997400	2.2355200	1.0937300	1.6662300	1.8848700	1.9471800	0.5266990	1.2287800
14.257300	1.9611800	0.3554760	0.3052900	2.9984500	2.2902800	1.1667000	1.7312700	1.9066100	1.9669700	0.5721170	1.3041800
15.651200	2.1408800	0.4039810	0.3392740	2.9866400	2.3540100	1.2495200	1.8283600	1.9491600	1.9840500	0.6274640	1.3891500
17.181300	2.3410200	0.4660210	0.3807220	2.9391700	2.4169600	1.3429100	1.9254000	1.9858000	2.0040100	0.6953790	1.4785700
18.861000	2.5570800	0.5446540	0.4308280	2.8397000	2.4699400	1.4484100	1.9937100	1.9964000	2.0329400	0.7775060	1.5671900
20.705000	2.7886000	0.6438650	0.4916100	2.6906200	2.5098400	1.5713200	2.0270500	1.9829000	2.0794900	0.8764810	1.6547000
22.729200	3.0365900	0.7662520	0.5638490	2.5111600	2.5380700	1.7162500	2.0482000	1.9713800	2.1491200	0.9929370	1.7428300
24.951300	3.2994600	0.9141050	0.6489950	2.3217700	2.5550100	1.8847500	2.0931100	1.9948000	2.2422700	1.1268100	1.8339000
27.390600	3.5655200	1.0871400	0.7482360	2.1295100	2.5563700	2.0698700	2.1842500	2.0691000	2.3505500	1.2751900	1.9260400
30.068500	3.8110800	1.2823500	0.8638180	1.9282300	2.5337300	2.2559900	2.3182500	2.1843000	2.4587500	1.4327700	2.0125200
33.008100	4.0061000	1.4938700	0.9992060	1.7064800	2.4791200	2.4238900	2.4612300	2.3037400	2.5525000	1.5934000	2.0855400
36.235200	4.1212100	1.7133100	1.1590100	1.4655100	2.3923700	2.5566500	2.5621300	2.3796100	2.6240000	1.7508100	2.1394400
39.777700	4.1374300	1.9328000	1.3498800	1.2265600	2.2822800	2.6478000	2.5842800	2.3821700	2.6788500	1.9021800	2.1760000
43.666500	4.0511500	2.1460200	1.5786300	1.0192300	2.1615200	2.7024700	2.5221800	2.3130400	2.7327700	2.0480800	2.2034500
47.935600	3.8731000	2.3504500	1.8514800	0.8676470	2.0476500	2.7341600	2.4185900	2.2154700	2.8029300	2.1924800	2.2329000
52.622000	3.6252200	2.5476400	2.1714100	0.7737200	1.9549100	2.7578900	2.3432100	2.1515000	2.8999800	2.3411900	2.2732900
57.766600	3.3338300	2.7431600	2.5369900	0.7120300	1.9001700	2.7822100	2.3494200	2.1646900	3.0191700	2.4995600	2.3264100
63.414100	3.0188600	2.9459500	2.9420100	0.6465940	1.9022500	2.8063200	2.4590900	2.2674600	3.1392600	2.6718000	2.3867400
69.613800	2.6904000	3.1661300	3.3755000	0.5391380	1.9669300	2.8211000	2.6276500	2.4129300	3.2301900	2.8601900	2.4436700
76.419600	2.3454700	3.4128300	3.8233700	0.3496110	2.0891900	2.8156400	2.7326000	2.4889200	3.2615400	3.0659000	2.4871400
83.890700	1.9679800	3.6912400	4.2689700	0.1565200	2.2284000	2.7867300	2.6345000	2.3737500	3.2210200	3.2898400	2.5144700
92.092300	1.5511200	4.0002100	4.6941600	0.0335343	2.2894200	2.7458500	2.2236900	1.9795800	3.1371800	3.5335400	2.5346000
101.096000	1.1078600	4.3304900	5.0792200	0.0030257	2.1731600	2.7191900	1.4274500	1.2565900	3.0495300	3.7984400	2.5675000
110.979000	0.6765640	4.6618300	5.4008600	0.0000000	1.8042800	2.7360800	0.6263370	0.5452020	2.9926100	4.0812700	2.6343300
121.829000	0.3176950	4.9626600	5.6323500	0.0000000	1.1430700	2.8116100	0.1321060	0.1140300	2.9382200	4.3675600	2.7433700
133.740000	0.0994622	5.1886500	5.7419000	0.0000000	0.4967590	2.9292700	0.0116922	0.0099716	2.7870700	4.6231500	2.8742600
146.815000	0.0159131	5.2906700	5.6995000	0.0000000	0.1042670	3.0380600	0.0000000	0.0000000	2.4423600	4.7963300	2.9761200
161.168000	0.0009104	5.2239200	5.4832500	0.0000000	0.0092200	3.0656700	0.0000000	0.0000000	1.8685700	4.8270300	2.9802400
176.925000	0.0000000	4.9654700	5.0921600	0.0000000	0.0000000	2.9524500	0.0000000	0.0000000	1.1535900	4.6711900	2.8345700
194.222000	0.0000000	4.5247100	4.5516200	0.0000000	0.0000000	2.6830100	0.0000000	0.0000000	0.5187180	4.3205000	2.5341300
213.210000	0.0000000	3.9455600	3.9124100	0.0000000	0.0000000	2.2967000	0.0000000	0.0000000	0.1420050	3.8119300	2.1305500
234.054000	0.0000000	3.2964800	3.2403800	0.0000000	0.0000000	1.8696000	0.0000000	0.0000000	0.0192866	3.2176400	1.7106200
256.936000	0.0000000	2.6508100	2.5991000	0.0000000	0.0000000	1.4784600	0.0000000	0.0000000	0.0006762	2.6190600	1.3597000
282.056000	0.0000000	2.0705400	2.0373900	0.0000000	0.0000000	1.1726400	0.0000000	0.0000000	0.0000000	2.0841400	1.1242600
309.631000	0.0000000	1.5920800	1.5792900	0.0000000	0.0000000	0.9635250	0.0000000	0.0000000	0.0000000	1.6479700	1.0073900
339.902000	0.0000000	1.2253600	1.2264900	0.0000000	0.0000000	0.8342670	0.0000000	0.0000000	0.0000000	1.3142100	0.9750050

Table S1

Grain size (μm)	U1456A-11H-6W	U1456A-51F-3W	U1456A-61F-3W	U1456A-70F-2W	U1456D-5R-1W	U1456D-13R-1W	U1456D-22R-1W	U1456D-29R-2W	U1456E-19R-3W	U1457C-33R-3W	U1457C-43R-2W
373.132000	0.0000000	0.9575050	0.9633810	0.0000000	0.0000000	0.7544790	0.0000000	0.0000000	0.0000000	1.0628200	0.9810160
409.611000	0.0000000	0.7610260	0.7662690	0.0000000	0.0000000	0.6921190	0.0000000	0.0000000	0.0000000	0.8600830	0.9742010
449.657000	0.0000000	0.6028910	0.6088150	0.0000000	0.0000000	0.6206540	0.0000000	0.0000000	0.0000000	0.6759660	0.9164850
493.617000	0.0000000	0.4569140	0.4693550	0.0000000	0.0000000	0.5248200	0.0000000	0.0000000	0.0000000	0.4923200	0.7895650
541.876000	0.0000000	0.3108570	0.3360330	0.0000000	0.0000000	0.4029700	0.0000000	0.0000000	0.0000000	0.3096380	0.6194420
594.852000	0.0000000	0.1662370	0.2087890	0.0000000	0.0000000	0.2655750	0.0000000	0.0000000	0.0000000	0.1495930	0.4437560
653.008000	0.0000000	0.0614321	0.1001100	0.0000000	0.0000000	0.1339610	0.0000000	0.0000000	0.0000000	0.0478743	0.2613360
716.849000	0.0000000	0.0113774	0.0322184	0.0000000	0.0000000	0.0454092	0.0000000	0.0000000	0.0000000	0.0077653	0.1130220
786.932000	0.0000000	0.0008461	0.0052644	0.0000000	0.0000000	0.0077443	0.0000000	0.0000000	0.0000000	0.0004477	0.0242778
863.866000	0.0000000	0.0000000	0.0003196	0.0000000	0.0000000	0.0005031	0.0000000	0.0000000	0.0000000	0.0000000	0.0022339
948.322000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1041.030000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1142.810000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1254.540000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1377.190000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1511.830000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1659.630000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1821.880000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Table S2

Sample	Age (Ma)	SiO_2 (%)	Al_2O_3 (%)	CaO (%)	Fe_2O_3 (%)	MgO (%)	Na_2O (%)	K_2O (%)	P_2O_5 (%)	MnO (%)	TiO_2 (%)	Ba (ppm)	Zr (ppm)	Sc (ppm)	Mean Grain Size (μm)
U1456A-11H-6W	0.84	56.53	14.00	3.14	8.68	2.86	1.98	1.96	0.21	0.04	1.44	323.5	174.4	244.1	31.9
U1456A-51F-3W	1.56	71.69	12.23	1.54	3.81	1.66	2.10	2.52	0.13	0.04	0.60	399.7	216.1	151.4	137.4
U1456A-61F-3W	1.92	72.28	11.36	1.87	3.33	1.40	2.03	2.22	0.11	0.04	0.54	321.7	223.8	158.3	142.2
1456A-70F-2W	3.02	60.92	16.16	1.06	5.87	2.69	1.37	3.23	0.12	0.04	0.80	491.7	168.7	130.5	13.5
U1456D-5R-1W	5.72	61.90	15.40	1.11	5.75	2.57	1.50	3.05	0.13	0.04	0.80	473.8	219.7	132.5	29.8
U1456D-13R-1W	7.07	63.84	13.55	1.60	4.84	2.37	1.95	2.62	0.12	0.04	0.68	336.2	156.7	163.8	99.1
U1456D-22R-1W	7.84	62.40	15.48	1.31	5.42	2.63	1.55	2.94	0.14	0.04	0.78	338.4	170.0	146.3	27.2
U1456D-29R-2W	8.27	62.11	15.26	1.13	5.38	2.68	1.50	2.81	0.14	0.04	0.78	352.3	181.0	133.2	25.5
U1456E-19R-3W	15.57	65.14	13.85	1.15	4.97	2.72	1.70	2.68	0.15	0.04	0.69	315.8	182.4	141.7	53.1
U1457C-33R-3W	3.39	66.93	13.55	1.38	4.72	2.31	1.89	2.74	0.12	0.05	0.71	409.6	142.2	147.2	132.1
U1457C-43R-2W	5.87	65.58	14.25	1.27	4.99	2.30	1.69	2.93	0.13	0.04	0.74	395.4	193.8	141.4	103.5

Supplement Table 3

Sample	Age (Ma)	$^{87}Sr/^{86}Sr$	$^{143}Nd/^{144}Nd$	Epsilon Nd
Indus Marine-1380	2.95	NA	0.512097	-10.4
Indus Marine-1620	3.6	0.7120612	0.512106	-10.22
Indus Marine-2200	5.16	0.7138875	0.512145	-9.46
Indus Marine-3180	6.93	0.7088484	0.512131	-9.73
Indus Marine-4180	8.68	0.7133831	0.512135	-9.66
Indus Marine-4940	10	0.7097633	0.512127	-9.81
Indus Marine-5920	11.67	0.7164013	0.512131	-9.73
Indus Marine-6890	13.19	0.7170159	0.512133	-9.7
Indus Marine-7190	13.66	0.7165856	0.512132	-9.71
Indus Marine-7820	14.64	0.7176035	0.512104	-10.26
Indus Marine-8140	15.15	0.7188951	0.512137	-9.62
Indus Marine-8650	15.94	0.7082171	0.512124	-9.87
Indus Marine-9170	16.76	0.7083871	0.512117	-10.01
Indus Marine-3960	8.29	0.7141223	0.512124	-9.87
Indus Marine-4840	9.83	0.7159458	0.512088	-10.57
Indus Marine-5360	10.72	0.7144107	0.512145	-9.46
Indus Marine-6360	12.35	0.7167418	0.512085	-10.63
Indus Marine-6460	12.51	0.7158462	0.512157	-9.23
Indus Marine-6680	12.86	0.7173456	0.512069	-10.94
Indus Marine-7090	13.5	0.7180933	0.512116	-10.03
Indus Marine-7400	13.99	0.7167017	0.512084	-10.65
Indus Marine-7500	14.14	0.7159295	0.512067	-10.98
Indus Marine-7620	14.33	0.7176660	0.512095	-10.44
Indus Marine-7720	14.49	0.7180107	0.512069	-10.94
Indus Marine-8040	14.99	0.7182513	0.512099	-10.36
Indus Marine-8240	15.3	0.7185714	0.51209	-10.53
Indus Marine-8340	15.46	0.7099594	0.512127	-9.81
Indus Marine-8950	16.42	0.7081667	0.512169	-8.99
U1456A-1H-2, 145-150 cm	0.03	0.7187844	0.512049	-11.33
U1456A-6H-5, 145-150 cm	0.5	0.7264901	0.511948	-13.3
U1456A-15H-5, 129-134 cm	1.13	0.7291807	0.511929	-13.67
U1456A-25F-3, 75-80 cm	1.31	0.7215368	0.512025	-11.8
U1456A-58F-1, 89-99 cm	1.63	0.7168947	0.512193	-8.52
U1456A-63F-1, 140-150 cm	2.49	0.7298778	0.511984	-12.6
U1456A-72X-4, 140-150 cm	3.29	0.7176433	0.512161	-9.15
U1456C-45X-2, 111-121 cm	3.57	0.7255041	0.512027	-11.76
U1456D-3R-CC, 10-15 cm	5.58	0.7246061	0.512051	-11.29
U1456D-6R-CC, 5-10 cm	5.79	0.7228969	0.512047	-11.37
U1456D-10R-3, 135-145 cm	6.79	0.7152890	0.512244	-7.53
U1456D-14R-CC, 10-15 cm	7.13	0.7161942	0.512108	-10.18
U1456D-17R-CC, 10-15 cm	7.55	0.7168895	0.512158	-9.21
U1456D-21R-2, 115-130 cm	7.79	0.7158691	0.512142	-9.52
U1456D-26R-CC, 5-10 cm	8.09	0.7162916	0.512126	-9.83
U1456D-29R-2, 128-143 cm	8.27	0.7166448	0.512112	-10.1
U1456D-30R-CC, 0-5 cm	9.27	0.7171650	0.512272	-6.98
U1456D-35R-4, 107-122 cm	9.76	0.7185477	0.512186	-8.66
U1456E-19R-CC, 17-22 cm	15.63	0.7255095	0.512193	-8.52

Supplement Table 3

Sample	Age (Ma)	$^{87}Sr/^{86}Sr$	$^{143}Nd/^{144}Nd$	Epsilon Nd
U1457A-1H-2, 83-87 cm	0.02	0.7100448	0.512098	-10.38
U1457A-6H-2, 53-55 cm	0.81	0.7102447	0.512198	-8.43
U1457A-7H-5, 135-137 cm	1.03	0.7092352	0.512244	-7.53
U1457C-3R-1, 59-61 cm	1.56	0.7200262	0.511985	-12.58
U1457C-24R-1, 87-89 cm	2.3	0.7108485	0.512269	-7.04
U1457C-25R-2, 59-61 cm	2.43	0.7110673	0.512273	-6.96
U1457C-29R-1, 30-32 cm	2.92	0.7170041	0.512038	-11.55
U1457C-31R-2, 72-74 cm	3.19	0.7160661	0.512057	-11.18
U1457C-32R-2, 56-58 cm	3.29	0.7166236	0.512053	-11.26
U1457C-33R-CC, 0-4 cm	3.4	0.7162847	0.512046	-11.39
U1457C-34R-3, 82-86 cm	3.48	0.7120931	0.512258	-7.26
U1457C-35R-2, 133-135 cm	3.6	0.7117463	0.512225	-7.9
U1457C-45R-6, 92-94 cm	6.74	0.7103641	0.512202	-8.35
U1457C-47R-6, 65-69 cm	7.35	0.7096024	0.512239	-7.63
U1457C-49R-4, 132-134 cm	7.63	0.7123418	0.512133	-9.7
U1457C-54R-1, 6-8 cm	7.83	0.7127770	0.512147	-9.42
U1457C-60R-4, 70-74 cm	7.97	0.7112487	0.51213	-9.75
U1457C-65R-6, 44-48 cm	8.08	0.7127424	0.512134	-9.68
U1457C-69R-1, 100-104 cm	8.78	0.7130545	0.512187	-8.64
U1457C-70R-5, 95-97 cm	9.61	0.7128972	0.512305	-6.34
U1457C-75R-1, 36-40 cm	10.01	0.7128950	0.512207	-8.25
U1457C-81R-1, 30-32 cm	10.55	0.7132235	0.512169	-8.99
U1457C-87R-1, 14-18 cm	11.03	0.7085103	0.512357	-5.33
U1457C-94R-2, 55-59 cm	11.6	0.7082147	0.512655	0.49
U1457C-96R-1, 62-66 cm	11.76	0.7091437	0.512348	-5.5
U1457C-34R-2, 140-150 cm	3.48	0.7172825	0.512231	-7.78
U1457C-35R-6, 140-150 cm	3.76	0.7204412	0.51217	-8.97
U1457C-37R-1, 140-150 cm	4.09	0.7211345	0.512067	-10.98
U1457C-39R-2, 140-150 cm	5.68	0.7199594	0.51207	-10.92
U1457C-41R-2, 92-102 cm	5.78	0.7225268	0.512051	-11.29
U1457C-43R-2, 90-100 cm	5.87	0.7210434	0.512055	-11.22
U1457C-44R-4, 132-142 cm	5.94	0.7166969	0.512198	-8.43
U1457C-45R-5, 75-85 cm	6.72	0.7162801	0.512156	-9.25
U1457C-47R-5, 140-150 cm	7.32	0.7142447	0.512279	-6.85
U1457C-48R-1, 35-45 cm	7.41	0.7160268	0.512235	-7.71
U1457C-49R-4, 135-150 cm	7.63	0.7177143	0.512124	-9.87
U1457C-51R-4, 133-148 cm	7.77	0.7187756	0.512141	-9.54
U1457C-54R-1, 89-104 cm	7.83	0.7137756	0.512184	-8.7
U1457C-58R-3, 91-106 cm	7.92	0.7181952	0.512178	-8.82
U1457C-60R-2, 135-150 cm	7.96	0.7164499	0.51214	-9.56
U1457C-64R-1, 135-150 cm	8.05	0.7177517	0.512162	-9.13
U1457C-66R-2, 121-136 cm	8.09	0.7174389	0.51216	-9.17
U1457C-68R-6, 86-101 cm	8.67	0.7192786	0.51215	-9.36
U1457C-69R-5, 136-148 cm	9.05	0.7177092	0.512196	-8.47
U1457C-70R-4, 137-152 cm	9.55	0.7176187	0.512197	-8.45
U1457C-71R-6, 18-28 cm	9.75	0.7193318	0.512147	-9.42

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456A-11H-6 60-69 cm	268.1	0.501	0.151	0.010	0.0222	0.0006	0.23247	141.6	8.9	141.2	3.7	160	130	141.2	3.7	0.3
U1456A-11H-6 60-69 cm	211	0.895	4.113	0.097	0.2665	0.0058	0.52878	1657	20	1522	30	1840	41	1840.0	41.0	17.3
U1456A-11H-6 60-69 cm	509	3.610	2.842	0.080	0.2219	0.0046	0.75194	1361	21	1290	24	1461	34	1461.0	34.0	11.7
U1456A-11H-6 60-69 cm	823	0.844	0.155	0.023	0.0203	0.0012	0.22659	146	20	129.7	7.7	360	310	129.7	7.7	11.2
U1456A-11H-6 60-69 cm	92.3	0.695	1.461	0.051	0.1474	0.0025	0.20208	911	21	886	14	923	75	923.0	75.0	4.0
U1456A-11H-6 60-69 cm	415	0.474	3.350	0.120	0.2217	0.0051	0.56972	1487	26	1290	27	1756	49	1756.0	49.0	26.5
U1456A-11H-6 60-69 cm	323	0.732	3.779	0.061	0.2715	0.0040	0.51163	1586	13	1551	19	1614	28	1614.0	28.0	3.9
U1456A-11H-6 60-69 cm	53.6	0.104	1.857	0.066	0.1464	0.0026	0.04576	1055	24	880	14	1407	76	DISC	DISC	37.5
U1456A-11H-6 60-69 cm	291	0.529	3.710	0.054	0.2704	0.0031	0.61491	1571	12	1542	15	1599	21	1599.0	21.0	3.6
U1456A-11H-6 60-69 cm	245	1.503	4.870	0.057	0.3055	0.0030	0.39815	1797	9.9	1718	15	1892	21	1892.0	21.0	9.2
U1456A-11H-6 60-69 cm	1465	0.477	0.016	0.001	0.0026	0.0001	0.02348	16.3	1.4	16.79	0.49	10	160	16.8	0.5	3.0
U1456A-11H-6 60-69 cm	739	0.740	1.352	0.045	0.1361	0.0038	0.57127	867	19	822	21	984	55	822.0	21.0	5.2
U1456A-11H-6 60-69 cm	399	6.240	4.076	0.057	0.2778	0.0035	0.54294	1647	11	1579	18	1734	26	1734.0	26.0	8.9
U1456A-11H-6 60-69 cm	380.1	0.754	11.310	0.280	0.4670	0.0110	0.66615	2547	22	2470	49	2609	33	2609.0	33.0	5.3
U1456A-11H-6 60-69 cm	324	3.440	1.531	0.035	0.1442	0.0020	0.35867	943	14	868	12	1098	46	1098.0	46.0	20.9
U1456A-11H-6 60-69 cm	372	0.540	4.340	0.110	0.2937	0.0056	0.37534	1698	20	1659	28	1739	46	1739.0	46.0	4.6
U1456A-11H-6 60-69 cm	1164	11.440	0.435	0.022	0.0519	0.0027	0.6613	366	16	326	17	611	91	326.0	17.0	10.9
U1456A-11H-6 60-69 cm	2249	8.460	3.323	0.087	0.2404	0.0065	0.71746	1484	20	1388	34	1612	38	1612.0	38.0	13.9
U1456A-11H-6 60-69 cm	592	0.792	2.871	0.094	0.2141	0.0058	0.56938	1372	25	1250	31	1553	53	1553.0	53.0	19.5
U1456A-11H-6 60-69 cm	158.3	0.665	4.574	0.084	0.2923	0.0046	0.50524	1746	15	1655	22	1843	30	1843.0	30.0	10.2
U1456A-11H-6 60-69 cm	3393	2.940	0.267	0.004	0.0363	0.0005	0.35715	240.4	3.5	229.6	2.9	341	38	229.6	2.9	4.5
U1456A-11H-6 60-69 cm	317	2.420	1.450	0.040	0.1499	0.0034	0.52356	909	16	900	19	938	49	938.0	49.0	4.1
U1456A-11H-6 60-69 cm	446	1.518	1.407	0.030	0.1378	0.0019	0.36318	890	13	832	11	1032	41	832.0	11.0	6.5
U1456A-11H-6 60-69 cm	230.3	0.429	1.733	0.069	0.1486	0.0052	0.52669	1018	26	893	29	1280	71	DISC	DISC	30.2
U1456A-11H-6 60-69 cm	638	0.308	3.370	0.130	0.2300	0.0110	0.85644	1494	32	1335	59	1749	47	1749.0	47.0	23.7
U1456A-11H-6 60-69 cm	296	1.870	0.613	0.022	0.0754	0.0016	0.27435	484	14	468.7	9.7	555	78	468.7	9.7	3.2
U1456A-11H-6 60-69 cm	428	2.040	7.620	0.190	0.3252	0.0081	0.90037	2183	22	1813	39	2572	24	2572.0	24.0	29.5
U1456A-11H-6 60-69 cm	107	0.561	4.012	0.084	0.2818	0.0042	0.40152	1634	17	1599	21	1690	39	1690.0	39.0	5.4
U1456A-11H-6 60-69 cm	124.6	0.743	7.830	0.200	0.3450	0.0100	0.55255	2209	23	1910	49	2510	45	2510.0	45.0	23.9
U1456A-11H-6 60-69 cm	291.9	0.670	4.480	0.140	0.2933	0.0078	0.63694	1722	27	1656	39	1769	46	1769.0	46.0	6.4
U1456A-11H-6 60-69 cm	160	0.670	1.168	0.051	0.0981	0.0030	0.58805	778	24	602	18	1264	70	DISC	DISC	22.6
U1456A-11H-6 60-69 cm	1467	1.150	1.591	0.038	0.1504	0.0032	0.62046	965	15	903	18	1073	39	1073.0	39.0	15.8
U1456A-11H-6 60-69 cm	352	1.126	1.132	0.036	0.1037	0.0030	0.51044	766	17	636	17	1121	59	DISC	DISC	17.0
U1456A-11H-6 60-69 cm	315	0.765	1.361	0.034	0.1474	0.0026	0.34549	872	15	886	15	854	53	854.0	53.0	3.7
U1456A-11H-6 60-69 cm	74.4	0.253	0.633	0.035	0.0792	0.0016	0.20609	492	22	491.3	9.8	490	110	491.3	9.8	0.1
U1456A-11H-6 60-69 cm	280.2	0.424	1.459	0.034	0.1409	0.0020	0.29528	911	14	850	11	1093	47	1093.0	47.0	22.2
U1456A-11H-6 60-69 cm	588	1.027	1.177	0.029	0.1311	0.0026	0.35838	788	13	794	15	818	50	794.0	15.0	0.8

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456A-11H-6 60-69 cm	203	0.849	4.400	0.100	0.2833	0.0053	0.54427	1708	19	1607	27	1857	38	1857.0	38.0	13.5
U1456A-11H-6 60-69 cm	1748	2.570	0.599	0.018	0.0765	0.0025	0.49918	476	11	475	15	490	75	475.0	15.0	0.2
U1456A-11H-6 60-69 cm	1079	1.600	13.120	0.290	0.4900	0.0079	0.84148	2686	22	2570	34	2766	22	2766.0	22.0	7.1
U1456A-11H-6 60-69 cm	750	2.778	0.697	0.014	0.0856	0.0011	0.36679	536.4	8.7	529.2	6.4	533	45	529.2	6.4	1.3
U1456A-11H-6 60-69 cm	400	1.720	0.805	0.035	0.0935	0.0033	0.73253	597	20	576	19	640	66	576.0	19.0	3.5
U1456A-11H-6 60-69 cm	24.93	0.506	13.280	0.320	0.4533	0.0081	0.49383	2693	23	2406	36	2895	36	2895.0	36.0	16.9
U1456A-11H-6 60-69 cm	360	3.540	2.862	0.064	0.2309	0.0041	0.34814	1369	17	1339	22	1416	47	1416.0	47.0	5.4
U1456A-11H-6 60-69 cm	1236	0.906	2.438	0.059	0.1740	0.0038	0.80662	1250	17	1033	21	1649	29	DISC	DISC	37.4
U1456A-11H-6 60-69 cm	411	1.075	27.940	0.370	0.6631	0.0078	0.74623	3416	13	3277	30	3510	15	3510.0	15.0	6.6
U1456A-11H-6 60-69 cm	1260	125.000	0.025	0.003	0.0039	0.0002	0.33883	25.3	2.6	25	1.4	80	190	25.0	1.4	1.2
U1456A-11H-6 60-69 cm	498	0.810	0.933	0.038	0.1028	0.0026	0.42813	668	20	631	15	822	80	631.0	15.0	5.5
U1456A-11H-6 60-69 cm	294	1.874	0.795	0.019	0.0957	0.0014	0.35935	593	11	588.8	8.3	622	53	588.8	8.3	0.7
U1456A-11H-6 60-69 cm	1560	0.722	0.023	0.001	0.0035	0.0001	0.02915	23	1.4	22.67	0.44	120	120	22.7	0.4	1.4
U1456A-11H-6 60-69 cm	872	18.600	0.082	0.005	0.0126	0.0003	0.19347	79.9	4.2	80.7	2	90	110	80.7	2.0	1.0
U1456A-11H-6 60-69 cm	329.5	1.015	2.530	0.064	0.1786	0.0038	0.71149	1278	18	1059	21	1678	34	DISC	DISC	36.9
U1456A-11H-6 60-69 cm	232	0.560	1.196	0.026	0.1272	0.0015	0.38733	796	12	771.5	8.7	862	42	771.5	8.7	3.1
U1456A-11H-6 60-69 cm	384	1.130	0.091	0.007	0.0136	0.0004	0.15149	90.7	7.3	87.1	2.7	160	150	87.1	2.7	4.0
U1456A-11H-6 60-69 cm	114.7	0.826	2.732	0.092	0.2313	0.0048	0.18634	1333	26	1341	25	1295	72	1295.0	72.0	3.6
U1456A-11H-6 60-69 cm	577	62.600	0.854	0.023	0.1008	0.0022	0.37786	625	12	619	13	597	61	619.0	13.0	1.0
U1456A-11H-6 60-69 cm	1475	1.463	1.521	0.027	0.1489	0.0022	0.64116	937	11	895	12	1009	29	1009.0	29.0	11.3
U1456A-11H-6 60-69 cm	471	0.761	3.703	0.050	0.2676	0.0032	0.55908	1572	11	1528	16	1607	23	1607.0	23.0	4.9
U1456A-11H-6 60-69 cm	256	0.984	1.559	0.033	0.1559	0.0021	0.27245	951	13	935	12	955	45	955.0	45.0	2.1
U1456A-11H-6 60-69 cm	1939	5.130	0.843	0.032	0.0960	0.0039	0.59862	619	17	591	23	715	74	591.0	23.0	4.5
U1456A-11H-6 60-69 cm	1153	1.076	1.341	0.028	0.1389	0.0020	0.29287	863	12	838	12	906	45	838.0	12.0	2.9
U1456A-11H-6 60-69 cm	233.2	0.936	6.310	0.210	0.3560	0.0130	0.50464	2012	29	1960	63	2056	63	2056.0	63.0	4.7
U1456A-11H-6 60-69 cm	351	0.488	0.050	0.005	0.0066	0.0002	0.04586	49.6	4.3	42.6	1.1	300	170	42.6	1.1	14.1
U1456A-11H-6 60-69 cm	1230	1.030	0.680	0.019	0.0856	0.0017	0.58752	524	11	529	10	521	45	529.0	10.0	1.0
U1456A-11H-6 60-69 cm	972	0.708	1.137	0.016	0.1227	0.0014	0.49718	770.1	7.5	745.6	7.8	858	27	745.6	7.8	3.2
U1456A-11H-6 60-69 cm	167.6	0.527	9.560	0.150	0.4354	0.0073	0.57418	2390	14	2335	33	2460	25	2460.0	25.0	5.1
U1456A-11H-6 60-69 cm	1442	7.670	0.727	0.014	0.0851	0.0014	0.6011	553.5	7.9	526.3	8.4	700	33	526.3	8.4	4.9
U1456A-11H-6 60-69 cm	831	1.088	3.250	0.057	0.2422	0.0041	0.67171	1467	14	1397	21	1592	26	1592.0	26.0	12.2
U1456A-11H-6 60-69 cm	284.9	0.713	3.906	0.067	0.2794	0.0044	0.50213	1613	14	1591	21	1660	31	1660.0	31.0	4.2
U1456A-11H-6 60-69 cm	1109	0.658	3.621	0.046	0.2644	0.0035	0.61393	1553	10	1512	18	1625	22	1625.0	22.0	7.0
U1456A-11H-6 60-69 cm	325	0.782	4.414	0.059	0.2961	0.0033	0.57809	1715	11	1671	16	1748	21	1748.0	21.0	4.4
U1456A-11H-6 60-69 cm	380	5.180	0.949	0.027	0.0980	0.0019	0.20652	677	14	603	11	900	67	603.0	11.0	10.9
U1456A-11H-6 60-69 cm	310	0.985	1.526	0.037	0.1490	0.0025	0.45128	939	15	895	14	996	46	996.0	46.0	10.1
U1456A-11H-6 60-69 cm	24.34	2.120	2.170	0.150	0.1644	0.0058	-0.038	1164	47	980	32	1450	150	DISC	DISC	32.4

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456A-11H-6 60-69 cm	442	1.656	2.953	0.042	0.2231	0.0028	0.55326	1395	11	1298	15	1488	24	1488.0	24.0	12.8
U1456A-11H-6 60-69 cm	600	3.490	0.563	0.022	0.0704	0.0019	0.39349	452	14	438	11	470	87	438.0	11.0	3.1
U1456A-11H-6 60-69 cm	1312	2.980	1.261	0.033	0.1265	0.0039	0.71551	827	15	767	22	959	47	767.0	22.0	7.3
U1456A-11H-6 60-69 cm	788	7.560	7.530	0.140	0.3604	0.0057	0.70095	2175	17	1983	27	2349	25	2349.0	25.0	15.6
U1456A-11H-6 60-69 cm	486	0.534	2.346	0.092	0.1659	0.0056	0.75081	1229	31	989	31	1662	57	DISC	DISC	40.5
U1456A-11H-6 60-69 cm	107	1.776	6.260	0.210	0.3510	0.0110	0.69331	2010	29	1935	53	2102	45	2102.0	45.0	7.9
U1456A-11H-6 60-69 cm	852	0.790	1.487	0.035	0.1511	0.0028	0.77556	923	14	907	16	985	31	985.0	31.0	7.9
U1456A-11H-6 60-69 cm	593	0.657	1.599	0.061	0.1422	0.0047	0.77414	968	24	857	27	1249	52	DISC	DISC	31.4
U1456A-11H-6 60-69 cm	191	0.484	11.640	0.170	0.4857	0.0058	0.56881	2576	13	2551	25	2586	22	2586.0	22.0	1.4
U1456A-11H-6 60-69 cm	345	0.579	6.400	0.110	0.3586	0.0052	0.43554	2030	15	1975	24	2076	31	2076.0	31.0	4.9
U1456A-11H-6 60-69 cm	161.4	0.624	3.202	0.068	0.2477	0.0032	0.54689	1452	16	1426	17	1481	33	1481.0	33.0	3.7
U1456A-11H-6 60-69 cm	58	1.607	1.950	0.120	0.1521	0.0044	0.29202	1088	42	912	24	1430	110	DISC	DISC	36.2
U1456A-11H-6 60-69 cm	61.3	0.137	1.874	0.073	0.1483	0.0034	0.1225	1065	26	891	19	1435	80	DISC	DISC	37.9
U1456A-11H-6 60-69 cm	263	2.100	1.869	0.062	0.1491	0.0039	0.45381	1067	22	895	22	1441	59	DISC	DISC	37.9
U1456A-11H-6 60-69 cm	2550	42.200	0.725	0.073	0.0819	0.0042	0.826	551	42	507	25	740	130	507.0	25.0	8.0
U1456A-11H-6 60-69 cm	266.4	1.136	9.770	0.260	0.4406	0.0095	0.51577	2410	25	2352	42	2473	40	2473.0	40.0	4.9
U1456A-11H-6 60-69 cm	679	1.440	1.473	0.046	0.1449	0.0042	0.45925	918	19	872	24	1039	65	1039.0	65.0	16.1
U1456A-11H-6 60-69 cm	270	2.580	1.650	0.037	0.1601	0.0023	0.44138	988	14	958	13	1039	41	1039.0	41.0	7.8
U1456A-11H-6 60-69 cm	138.6	1.060	3.764	0.078	0.2769	0.0054	0.62389	1582	17	1574	27	1584	32	1584.0	32.0	0.6
U1456A-11H-6 60-69 cm	453	1.820	2.228	0.081	0.1682	0.0054	0.34254	1188	26	1002	30	1520	78	DISC	DISC	34.1
U1456A-11H-6 60-69 cm	351	0.713	2.872	0.043	0.2344	0.0025	0.53807	1372	11	1357	13	1367	25	1367.0	25.0	0.7
U1456A-11H-6 60-69 cm	372.8	3.790	2.567	0.075	0.2085	0.0038	0.49435	1288	21	1220	20	1367	49	1367.0	49.0	10.8
U1456A-11H-6 60-69 cm	327	0.379	3.497	0.068	0.2535	0.0040	0.51818	1524	15	1456	20	1603	31	1603.0	31.0	9.2
U1456A-11H-6 60-69 cm	185	0.567	1.581	0.036	0.1573	0.0023	0.3451	959	14	941	13	986	47	986.0	47.0	4.6
U1456A-11H-6 60-69 cm	813	1.083	13.650	0.160	0.5272	0.0056	0.71374	2724	11	2728	23	2713	14	2713.0	14.0	0.6
U1456A-11H-6 60-69 cm	94.1	0.498	0.055	0.016	0.0089	0.0008	-0.1326	54	15	56.8	5.2	30	480	56.8	5.2	5.2
U1456A-11H-6 60-69 cm	537	0.593	5.780	0.230	0.2629	0.0096	0.84836	1937	34	1502	49	2446	37	DISC	DISC	38.6
U1456A-11H-6 60-69 cm	204.3	1.830	1.426	0.048	0.1429	0.0033	0.40356	900	21	860	19	986	68	986.0	68.0	12.8
U1456A-11H-6 60-69 cm	405	2.110	1.754	0.046	0.1608	0.0027	0.43698	1023	17	960	15	1149	50	1149.0	50.0	16.4
U1456A-11H-6 60-69 cm	243.3	0.763	1.792	0.045	0.1496	0.0025	0.56738	1039	16	898	14	1339	40	DISC	DISC	32.9
U1456A-11H-6 60-69 cm	294	0.626	6.560	0.160	0.2755	0.0057	0.82895	2047	21	1566	29	2567	22	DISC	DISC	39.0
U1456A-11H-6 60-69 cm	197.5	0.955	3.145	0.085	0.2398	0.0054	0.65452	1442	21	1385	28	1538	45	1538.0	45.0	9.9
U1456A-11H-6 60-69 cm	355	0.487	3.840	0.130	0.2799	0.0094	0.90254	1591	27	1584	48	1593	23	1593.0	23.0	0.6
U1456A-11H-6 60-69 cm	74.8	0.555	3.320	0.061	0.2658	0.0036	0.49845	1484	14	1519	18	1431	31	1431.0	31.0	6.1
U1456A-11H-6 60-69 cm	17.41	0.202	1.658	0.059	0.1481	0.0023	0.31324	986	22	892	13	1210	68	1210.0	68.0	26.3
U1456A-11H-6 60-69 cm	135.4	1.243	3.143	0.064	0.2400	0.0045	0.55698	1441	16	1386	23	1542	38	1542.0	38.0	10.1
U1456A-11H-6 60-69 cm	98.4	0.671	4.465	0.078	0.3082	0.0046	0.61401	1722	15	1731	23	1717	26	1717.0	26.0	0.8

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456A-11H-6 60-69 cm	154	0.575	2.418	0.046	0.2010	0.0039	0.66774	1246	13	1180	21	1366	29	1366.0	29.0	13.6
U1456A-11H-6 60-69 cm	400	0.845	0.699	0.012	0.0867	0.0014	0.51507	537.2	7.3	535.6	8.5	539	35	535.6	8.5	0.3
U1456A-11H-6 60-69 cm	193.6	5.210	3.958	0.060	0.2663	0.0035	0.64797	1623	12	1521	18	1757	22	1757.0	22.0	13.4
U1456A-11H-6 60-69 cm	221.3	3.094	2.356	0.033	0.2114	0.0031	0.58507	1228	9.8	1236	16	1218	26	1218.0	26.0	1.5
U1456A-11H-6 60-69 cm	237.6	1.725	3.427	0.065	0.2579	0.0050	0.72551	1509	15	1478	26	1555	27	1555.0	27.0	5.0
U1456A-11H-6 60-69 cm	184	1.483	1.544	0.029	0.1573	0.0026	0.64558	946	11	941	14	955	28	955.0	28.0	1.5
U1456A-11H-6 60-69 cm	294	0.740	1.537	0.033	0.1580	0.0036	0.74027	946	14	945	20	943	31	943.0	31.0	0.2
U1456A-11H-6 60-69 cm	213.6	0.347	1.407	0.021	0.1439	0.0016	0.47593	890.5	8.8	866.5	9.1	947	29	947.0	29.0	8.5
U1456A-11H-6 60-69 cm	123.2	0.441	3.379	0.046	0.2436	0.0025	0.48588	1498	11	1405	13	1634	24	1634.0	24.0	14.0
U1456A-11H-6 60-69 cm	631	2.890	0.773	0.029	0.0773	0.0030	0.59222	578	17	479	18	994	69	DISC	DISC	17.1
U1456A-11H-6 60-69 cm	184	1.742	0.887	0.017	0.1018	0.0015	0.54695	643.2	9.1	624.6	8.9	707	36	624.6	8.9	2.9
U1456A-11H-6 60-69 cm	429	2.510	11.260	0.130	0.4889	0.0074	0.38027	2543	11	2563	33	2537	27	2537.0	27.0	1.0
U1456A-11H-6 60-69 cm	277	0.420	0.180	0.004	0.0255	0.0003	0.13961	168.2	3.2	162.3	1.8	231	48	162.3	1.8	3.5
U1456A-11H-6 60-69 cm	87.6	1.104	3.860	0.080	0.2941	0.0059	0.72515	1605	17	1660	29	1540	31	1540.0	31.0	7.8
U1456A-11H-6 60-69 cm	17.49	0.924	2.486	0.075	0.1491	0.0042	0.39337	1270	23	897	24	1962	62	DISC	DISC	54.3
U1456A-11H-6 60-69 cm	53	4.390	1.327	0.034	0.1013	0.0015	0.04766	856	15	622.1	9	1520	56	DISC	DISC	27.3
U1456A-11H-6 60-69 cm	342.7	0.325	1.411	0.023	0.1426	0.0021	0.68987	892.5	9.7	859	12	977	25	977.0	25.0	12.1
U1456A-11H-6 60-69 cm	1318	1.300	0.065	0.003	0.0098	0.0005	0.47059	64	3.2	62.7	3	140	100	62.7	3.0	2.0
U1456A-11H-6 60-69 cm	257.6	1.343	11.120	0.120	0.4933	0.0056	0.64978	2532	10	2583	24	2480	16	2480.0	16.0	4.2
U1456A-11H-6 60-69 cm	114.7	1.081	3.700	0.120	0.2525	0.0078	0.82854	1565	27	1449	40	1723	35	1723.0	35.0	15.9
U1456A-11H-6 60-69 cm	12.29	0.288	4.600	0.120	0.2720	0.0048	0.44844	1740	22	1549	25	1972	46	1972.0	46.0	21.5
U1456A-11H-6 60-69 cm	64.6	1.140	0.273	0.012	0.0105	0.0003	0.15151	244	9.4	67.3	1.6	2679	81	DISC	DISC	72.4
U1456A-11H-6 60-69 cm	335	0.710	1.398	0.025	0.1424	0.0026	0.63965	886	11	858	15	954	30	954.0	30.0	10.1
U1456A-11H-6 60-69 cm	383	0.391	3.970	0.075	0.2527	0.0050	0.70935	1624	15	1450	26	1844	27	1844.0	27.0	21.4
U1456A-11H-6 60-69 cm	1913	3.410	0.338	0.008	0.0464	0.0009	0.5433	295.4	6.3	292.2	5.6	292	55	292.2	5.6	1.1
U1456A-11H-6 60-69 cm	135.4	0.882	2.847	0.054	0.2295	0.0039	0.8313	1364	14	1331	20	1410	21	1410.0	21.0	5.6
U1456A-11H-6 60-69 cm	279	0.539	1.320	0.021	0.1314	0.0018	0.73889	852.7	9.2	796	10	996	24	796.0	10.0	6.6
U1456A-11H-6 60-69 cm	162.7	0.502	1.155	0.017	0.1263	0.0013	0.37735	779.3	8.4	766.5	7.5	808	30	766.5	7.5	1.6
U1456A-11H-6 60-69 cm	298	1.440	3.678	0.052	0.2662	0.0034	0.7214	1565	11	1521	17	1613	22	1613.0	22.0	5.7
U1456A-11H-6 60-69 cm	155.9	0.526	1.834	0.036	0.1727	0.0040	0.71877	1055	13	1026	22	1117	30	1117.0	30.0	8.1
U1456A-11H-6 60-69 cm	294.6	0.790	1.185	0.015	0.1214	0.0014	0.63968	792.9	6.9	738.5	8.3	942	22	738.5	8.3	6.9
U1456A-11H-6 60-69 cm	67	0.157	1.534	0.032	0.1228	0.0016	0.2969	942	13	746.2	9	1419	39	DISC	DISC	20.8
U1456A-11H-6 60-69 cm	899	1.215	0.498	0.012	0.0576	0.0011	0.61536	409.4	7.9	360.7	6.9	682	42	360.7	6.9	11.9
U1456A-11H-6 60-69 cm	99.7	0.738	2.218	0.037	0.1899	0.0031	0.60919	1184	12	1122	17	1296	30	1296.0	30.0	13.4
U1456A-11H-6 60-69 cm	300	8.060	0.850	0.019	0.1008	0.0018	0.5316	623	10	619	10	617	41	619.0	10.0	0.6
U1456A-11H-6 60-69 cm	200.9	0.453	5.216	0.080	0.3010	0.0043	0.68044	1853	13	1695	21	2020	21	2020.0	21.0	16.1
U1456A-11H-6 60-69 cm	73.6	1.561	0.209	0.017	0.0294	0.0010	0.374	192	14	186.5	6.4	240	150	186.5	6.4	2.9

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456A-51F-3 100-110 cm	455	42.400	4.670	0.120	0.2876	0.0076	0.82778	1756	22	1625	38	1927	28	1927.0	28.0	15.7
U1456A-51F-3 100-110 cm	299	0.965	0.121	0.008	0.0178	0.0011	0.52834	115.6	6.8	113.4	7.1	260	110	113.4	7.1	1.9
U1456A-51F-3 100-110 cm	333	3.240	1.930	0.041	0.1813	0.0034	0.70154	1088	14	1073	19	1111	30	1111.0	30.0	3.4
U1456A-51F-3 100-110 cm	114.3	0.640	12.570	0.310	0.4940	0.0120	0.70263	2643	23	2589	52	2692	30	2692.0	30.0	3.8
U1456A-51F-3 100-110 cm	108.3	0.518	0.192	0.018	0.0166	0.0005	0.23733	177	14	105.8	3.2	1240	160	DISC	DISC	40.2
U1456A-51F-3 100-110 cm	439	0.587	0.939	0.024	0.1081	0.0020	0.50026	671	12	661	11	705	49	661.0	11.0	1.5
U1456A-51F-3 100-110 cm	397.6	8.750	3.918	0.098	0.2501	0.0051	0.71467	1614	20	1443	28	1848	33	1848.0	33.0	21.9
U1456A-51F-3 100-110 cm	69.8	0.530	4.754	0.082	0.3005	0.0045	0.55797	1776	15	1693	22	1873	28	1873.0	28.0	9.6
U1456A-51F-3 100-110 cm	221	5.910	0.202	0.013	0.0275	0.0016	0.40397	186	11	175	10	340	140	175.0	10.0	5.9
U1456A-51F-3 100-110 cm	120.2	1.007	0.078	0.005	0.0094	0.0002	0.0208	76.3	4.5	60.4	1.6	530	130	DISC	DISC	20.8
U1456A-51F-3 100-110 cm	853	1.437	1.433	0.033	0.1390	0.0038	0.71275	900	14	838	22	1061	42	838.0	22.0	6.9
U1456A-51F-3 100-110 cm	180	5.690	0.064	0.007	0.0078	0.0008	0.48841	62.2	6.8	50.2	5.1	660	210	DISC	DISC	19.3
U1456A-51F-3 100-110 cm	369	1.030	0.116	0.003	0.0171	0.0003	0.291	111.3	3	109.3	2	161	59	109.3	2.0	1.8
U1456A-51F-3 100-110 cm	285	2.280	1.894	0.050	0.1674	0.0039	0.50383	1073	17	999	22	1232	50	1232.0	50.0	18.9
U1456A-51F-3 100-110 cm	104.3	0.863	3.515	0.082	0.2371	0.0060	0.7728	1528	19	1369	31	1756	34	1756.0	34.0	22.0
U1456A-51F-3 100-110 cm	450	1.588	1.840	0.053	0.1623	0.0047	0.76904	1057	19	968	26	1262	39	1262.0	39.0	23.3
U1456A-51F-3 100-110 cm	71.5	1.166	1.115	0.031	0.1194	0.0035	0.40999	758	15	727	20	841	70	727.0	20.0	4.1
U1456A-51F-3 100-110 cm	194.5	2.492	4.919	0.088	0.3128	0.0059	0.69311	1804	15	1753	29	1865	26	1865.0	26.0	6.0
U1456A-51F-3 100-110 cm	1570	2.420	0.247	0.006	0.0330	0.0007	0.4175	223.9	4.7	209.4	4.1	393	51	209.4	4.1	6.5
U1456A-51F-3 100-110 cm	104.2	0.812	1.139	0.028	0.1081	0.0022	0.44646	771	13	664	12	1101	48	664.0	12.0	13.9
U1456A-51F-3 100-110 cm	126.2	1.347	2.070	0.050	0.1878	0.0050	0.61921	1138	16	1108	27	1195	45	1195.0	45.0	7.3
U1456A-51F-3 100-110 cm	1160	6.370	4.666	0.077	0.1933	0.0038	0.55341	1758	14	1141	20	2602	26	DISC	DISC	56.1
U1456A-51F-3 100-110 cm	484	6.230	4.029	0.060	0.2799	0.0044	0.82776	1638	12	1590	22	1700	18	1700.0	18.0	6.5
U1456A-51F-3 100-110 cm	469	0.719	0.153	0.020	0.0148	0.0018	0.08173	143	18	95	11	950	300	DISC	DISC	33.6
U1456A-51F-3 100-110 cm	122.1	1.178	5.530	0.140	0.3491	0.0093	0.73824	1902	22	1924	44	1884	33	1884.0	33.0	2.1
U1456A-51F-3 100-110 cm	202.1	1.162	1.966	0.045	0.1810	0.0044	0.42691	1103	15	1072	24	1165	54	1165.0	54.0	8.0
U1456A-51F-3 100-110 cm	140.5	1.513	4.931	0.095	0.3252	0.0065	0.6432	1805	16	1816	32	1789	30	1789.0	30.0	1.5
U1456A-51F-3 100-110 cm	427	3.150	5.680	0.160	0.3080	0.0100	0.57757	1922	26	1722	49	2162	50	2162.0	50.0	20.4
U1456A-51F-3 100-110 cm	148.3	0.828	0.090	0.004	0.0129	0.0003	0.19273	86.7	4.1	82.6	2.1	230	100	82.6	2.1	4.7
U1456A-51F-3 100-110 cm	368	1.385	2.225	0.052	0.1875	0.0046	0.55426	1186	17	1109	26	1339	44	1339.0	44.0	17.2
U1456A-51F-3 100-110 cm	1314	1.728	0.047	0.001	0.0073	0.0001	0.0813	46.6	1	46.82	0.54	48	47	46.8	0.5	0.5
U1456A-51F-3 100-110 cm	333.1	2.480	10.800	0.150	0.4740	0.0064	0.46299	2503	13	2499	28	2507	22	2507.0	22.0	0.3
U1456A-51F-3 100-110 cm	605	7.530	0.190	0.007	0.0264	0.0010	0.42356	175.9	5.8	167.9	6	298	76	167.9	6.0	4.5
U1456A-51F-3 100-110 cm	677	5.110	1.484	0.051	0.1403	0.0053	0.7238	927	21	845	30	1125	53	845.0	30.0	8.8
U1456A-51F-3 100-110 cm	658	118.100	0.024	0.002	0.0035	0.0002	0.25792	23.9	1.7	22.4	1.1	200	140	22.4	1.1	6.3
U1456A-51F-3 100-110 cm	152.4	1.409	2.190	0.150	0.1980	0.0140	0.52405	1161	49	1156	76	1190	130	1190.0	130.0	2.9

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456A-51F-3 100-110 cm	222	1.424	3.580	0.150	0.2563	0.0083	0.73159	1535	31	1468	43	1634	54	1634.0	54.0	10.2
U1456A-51F-3 100-110 cm	171.6	3.410	4.950	0.110	0.3014	0.0062	0.5905	1805	18	1695	31	1954	33	1954.0	33.0	13.3
U1456A-51F-3 100-110 cm	155.6	8.320	0.156	0.013	0.0123	0.0008	0.40893	146	11	78.4	5.2	1400	170	DISC	DISC	46.3
U1456A-51F-3 100-110 cm	793	3.360	0.471	0.021	0.0378	0.0019	0.59887	390	14	239	12	1416	81	DISC	DISC	38.7
U1456A-51F-3 100-110 cm	126.6	1.592	5.307	0.064	0.3352	0.0039	0.56698	1868	10	1862	19	1870	21	1870.0	21.0	0.4
U1456A-51F-3 100-110 cm	851	1.696	1.833	0.030	0.1714	0.0028	0.58843	1056	11	1019	16	1124	30	1124.0	30.0	9.3
U1456A-51F-3 100-110 cm	197.2	0.695	0.180	0.005	0.0266	0.0004	0.1867	168.1	4.8	169.2	2.3	167	64	169.2	2.3	0.7
U1456A-51F-3 100-110 cm	41.61	0.192	0.389	0.015	0.0133	0.0004	0.34391	333	11	85.1	2.5	2906	69	DISC	DISC	74.4
U1456A-51F-3 100-110 cm	241	0.765	3.558	0.096	0.2225	0.0069	0.65286	1537	22	1291	36	1910	45	DISC	DISC	32.4
U1456A-51F-3 100-110 cm	695	12.700	1.740	0.120	0.1605	0.0099	0.61271	1011	46	957	55	1160	110	1160.0	110.0	17.5
U1456A-51F-3 100-110 cm	323	0.850	3.018	0.089	0.2224	0.0067	0.78319	1406	22	1292	35	1593	36	1593.0	36.0	18.9
U1456A-51F-3 100-110 cm	123.1	0.858	6.520	0.390	0.3460	0.0200	0.80793	2043	53	1912	94	2182	70	2182.0	70.0	12.4
U1456A-51F-3 100-110 cm	155.3	0.866	3.570	0.060	0.2686	0.0044	0.47079	1544	12	1532	23	1568	29	1568.0	29.0	2.3
U1456A-51F-3 100-110 cm	355	1.400	1.352	0.021	0.1450	0.0020	0.52915	866.8	9.1	873	11	846	32	846.0	11.0	0.7
U1456A-51F-3 100-110 cm	872	7.200	0.228	0.005	0.0327	0.0006	0.63964	208.3	3.7	207.1	3.5	224	35	207.1	3.5	0.6
U1456A-51F-3 100-110 cm	1009	9.540	1.069	0.017	0.1210	0.0018	0.67628	737.2	8.2	736	10	737	26	736.0	10.0	0.2
U1456A-51F-3 100-110 cm	222	1.900	1.138	0.032	0.1207	0.0031	0.64452	769	15	736	18	879	50	736.0	18.0	4.3
U1456A-51F-3 100-110 cm	234	0.753	8.110	0.250	0.3436	0.0093	0.91064	2233	27	1900	44	2546	30	2546.0	30.0	25.4
U1456A-51F-3 100-110 cm	183	1.570	1.690	0.042	0.1712	0.0051	0.6207	1002	16	1016	28	982	50	982.0	50.0	3.5
U1456A-51F-3 100-110 cm	545	11.610	1.171	0.018	0.1282	0.0019	0.53509	785.7	8.6	779	11	801	29	779.0	11.0	0.9
U1456A-51F-3 100-110 cm	416	0.708	4.143	0.085	0.2901	0.0058	0.77701	1660	17	1641	29	1688	26	1688.0	26.0	2.8
U1456A-51F-3 100-110 cm	319	1.990	1.962	0.062	0.1851	0.0068	0.59401	1101	21	1102	39	1102	69	1102.0	69.0	0.0
U1456A-51F-3 100-110 cm	360	0.957	1.686	0.038	0.1678	0.0044	0.51748	1002	15	998	25	1000	47	1000.0	47.0	0.2
U1456A-51F-3 100-110 cm	188	1.710	1.663	0.042	0.1628	0.0035	0.64477	990	16	971	19	1042	41	1042.0	41.0	6.8
U1456A-51F-3 100-110 cm	316	1.360	13.480	0.470	0.4760	0.0180	0.66966	2695	33	2493	80	2874	49	2874.0	49.0	13.3
U1456A-51F-3 100-110 cm	209	3.570	4.330	0.160	0.2750	0.0110	0.61631	1692	30	1561	54	1864	59	1864.0	59.0	16.3
U1456A-51F-3 100-110 cm	601	1.040	1.298	0.020	0.1406	0.0019	0.65951	843.3	9	848	11	833	25	848.0	11.0	0.6
U1456A-51F-3 100-110 cm	652	0.714	0.032	0.003	0.0051	0.0003	0.19258	32.1	2.6	32.8	1.8	50	170	32.8	1.8	2.2
U1456A-51F-3 100-110 cm	276	1.249	2.795	0.063	0.2298	0.0053	0.5631	1352	17	1332	28	1374	43	1374.0	43.0	3.1
U1456A-51F-3 100-110 cm	64.7	0.813	2.121	0.049	0.1989	0.0031	0.31579	1153	16	1169	17	1127	45	1127.0	45.0	3.7
U1456A-51F-3 100-110 cm	228.5	0.921	1.942	0.028	0.1837	0.0022	0.57306	1095	9.9	1087	12	1119	26	1119.0	26.0	2.9
U1456A-51F-3 100-110 cm	135.1	0.527	24.790	0.310	0.6709	0.0091	0.70109	3299	12	3305	35	3287	16	3287.0	16.0	0.5
U1456A-51F-3 100-110 cm	643	11.600	1.564	0.045	0.1543	0.0047	0.57602	958	19	925	26	1051	58	1051.0	58.0	12.0
U1456A-51F-3 100-110 cm	321	0.656	7.560	0.160	0.3260	0.0057	0.61525	2179	19	1818	28	2538	29	2538.0	29.0	28.4
U1456A-51F-3 100-110 cm	125.9	0.852	0.101	0.005	0.0149	0.0003	0.09366	96.9	4.3	95	2	157	95	95.0	2.0	2.0
U1456A-51F-3 100-110 cm	193.1	2.160	0.895	0.019	0.1026	0.0019	0.42262	648	10	629	11	711	46	629.0	11.0	2.9
U1456A-51F-3 100-110 cm	688	1.780	0.018	0.001	0.0026	0.0001	0.08174	18.2	1.3	16.83	0.51	180	140	16.8	0.5	7.5

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456A-51F-3 100-110 cm	98.2	0.817	5.066	0.090	0.3269	0.0057	0.54275	1828	15	1822	28	1841	30	1841.0	30.0	1.0
U1456A-51F-3 100-110 cm	154	1.251	0.097	0.005	0.0141	0.0003	0.22117	94.6	4.5	90.5	2.1	210	98	90.5	2.1	4.3
U1456A-51F-3 100-110 cm	495	135.000	0.050	0.002	0.0071	0.0002	0.29284	49.9	1.8	45.8	1.3	250	79	45.8	1.3	8.2
U1456A-51F-3 100-110 cm	305.1	1.968	1.354	0.025	0.1414	0.0024	0.6464	868	11	852	13	899	28	899.0	28.0	5.2
U1456A-51F-3 100-110 cm	18.7	0.773	1.020	0.100	0.0210	0.0018	0.0258	694	47	134	12	3650	150	DISC	DISC	80.7
U1456A-51F-3 100-110 cm	128.2	0.951	1.001	0.036	0.1119	0.0024	0.36116	701	18	684	14	743	64	684.0	14.0	2.4
U1456A-51F-3 100-110 cm	376	1.390	0.123	0.005	0.0169	0.0004	0.47443	117.8	4	108	2.4	296	65	108.0	2.4	8.3
U1456A-51F-3 100-110 cm	131	1.350	1.376	0.054	0.1397	0.0049	0.6461	875	23	842	28	957	62	842.0	28.0	3.8
U1456A-51F-3 100-110 cm	195	1.316	0.892	0.017	0.1033	0.0016	0.52542	646	9.2	633.5	9.6	695	38	633.5	9.6	1.9
U1456A-51F-3 100-110 cm	30.2	0.148	2.350	0.110	0.1711	0.0080	0.46611	1227	30	1025	47	1610	89	DISC	DISC	36.3
U1456A-51F-3 100-110 cm	285	2.795	4.730	0.130	0.2631	0.0069	0.766	1768	23	1504	35	2098	49	2098.0	49.0	28.3
U1456A-51F-3 100-110 cm	104.9	2.650	5.341	0.093	0.3469	0.0060	0.71184	1871	15	1917	29	1822	23	1822.0	23.0	5.2
U1456A-51F-3 100-110 cm	183.5	1.365	0.739	0.015	0.0902	0.0015	0.53613	560.2	8.8	556.7	9	568	39	556.7	9.0	0.6
U1456A-51F-3 100-110 cm	85.5	0.471	10.190	0.160	0.4576	0.0081	0.67438	2450	14	2426	36	2467	23	2467.0	23.0	1.7
U1456A-51F-3 100-110 cm	63.4	1.835	9.530	0.450	0.4170	0.0150	0.70628	2374	44	2236	71	2509	49	2509.0	49.0	10.9
U1456A-51F-3 100-110 cm	89.1	2.650	5.090	0.110	0.3188	0.0065	0.58917	1829	17	1781	32	1884	35	1884.0	35.0	5.5
U1456A-51F-3 100-110 cm	404	2.550	1.405	0.041	0.1395	0.0042	0.57453	888	17	841	24	1009	56	841.0	24.0	5.3
U1456A-51F-3 100-110 cm	200	1.220	4.400	0.130	0.3035	0.0084	0.72013	1706	25	1703	42	1705	38	1705.0	38.0	0.1
U1456A-51F-3 100-110 cm	1011	3.665	0.405	0.007	0.0557	0.0009	0.63097	344.8	5.3	349.3	5.4	320	32	349.3	5.4	1.3
U1456A-51F-3 100-110 cm	124.3	1.560	5.030	0.140	0.3190	0.0100	0.5223	1819	23	1793	49	1862	52	1862.0	52.0	3.7
U1456A-51F-3 100-110 cm	561	0.881	0.067	0.002	0.0099	0.0001	0.14288	65.6	1.7	63.46	0.74	148	56	63.5	0.7	3.3
U1456A-51F-3 100-110 cm	315	0.922	2.457	0.082	0.1835	0.0055	0.79872	1255	24	1085	30	1577	40	DISC	DISC	31.2
U1456A-51F-3 100-110 cm	120	0.458	1.437	0.026	0.1514	0.0019	0.52141	902	11	908	11	887	31	887.0	31.0	2.4
U1456A-51F-3 100-110 cm	39.9	0.546	1.319	0.051	0.1364	0.0031	0.55986	850	22	824	18	921	65	824.0	18.0	3.1
U1456A-51F-3 100-110 cm	347.2	1.205	4.829	0.060	0.3209	0.0043	0.64697	1789	10	1793	21	1789	21	1789.0	21.0	0.2
U1456A-51F-3 100-110 cm	313	1.420	2.339	0.050	0.2110	0.0040	0.78143	1220	15	1233	21	1198	27	1198.0	27.0	2.9
U1456A-51F-3 100-110 cm	393.5	0.891	1.243	0.026	0.1287	0.0029	0.73867	819	12	780	16	921	30	780.0	16.0	4.8
U1456A-51F-3 100-110 cm	269.1	0.557	0.667	0.038	0.0717	0.0034	0.82977	516	23	446	20	812	70	446.0	20.0	13.6
U1456A-51F-3 100-110 cm	16.5	0.425	11.480	0.300	0.4940	0.0110	0.4942	2555	25	2582	48	2533	40	2533.0	40.0	1.9
U1456A-51F-3 100-110 cm	194	0.935	0.096	0.005	0.0141	0.0004	0.12668	92.7	4.5	90.1	2.2	170	90	90.1	2.2	2.8
U1456A-51F-3 100-110 cm	217	18.800	4.757	0.099	0.3171	0.0058	0.61925	1773	18	1778	27	1772	30	1772.0	30.0	0.3
U1456A-51F-3 100-110 cm	394	0.557	1.353	0.033	0.1302	0.0029	0.64078	865	14	790	17	1068	37	790.0	17.0	8.7
U1456A-51F-3 100-110 cm	641	1.154	12.780	0.290	0.5100	0.0140	0.84898	2660	21	2653	60	2665	23	2665.0	23.0	0.5
U1456A-51F-3 100-110 cm	2970	1.670	0.025	0.001	0.0035	0.0001	0.53152	24.7	0.97	22.5	0.85	258	76	22.5	0.9	8.9
U1456A-51F-3 100-110 cm	1153	1.600	0.273	0.010	0.0314	0.0006	0.61432	244.7	8.2	199.2	3.8	682	61	DISC	DISC	18.6
U1456A-51F-3 100-110 cm	286	2.650	0.687	0.045	0.0832	0.0035	0.60879	529	27	515	21	570	110	515.0	21.0	2.6
U1456A-51F-3 100-110 cm	355	2.640	1.333	0.016	0.1359	0.0016	0.56474	859.3	7.1	821.1	9.3	962	23	821.1	9.3	4.4

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456A-51F-3 100-110 cm	213.8	1.121	4.594	0.066	0.2949	0.0039	0.71737	1747	12	1665	20	1846	20	1846.0	20.0	9.8
U1456A-51F-3 100-110 cm	221.2	0.422	0.831	0.026	0.0929	0.0026	0.52978	613	15	572	15	763	63	572.0	15.0	6.7
U1456A-51F-3 100-110 cm	130.7	0.774	5.246	0.070	0.3326	0.0040	0.65864	1859	11	1850	19	1867	20	1867.0	20.0	0.9
U1456A-51F-3 100-110 cm	296	0.602	1.767	0.043	0.1733	0.0042	0.73929	1029	16	1029	23	1034	35	1034.0	35.0	0.5
U1456A-51F-3 100-110 cm	1223	5.070	0.592	0.019	0.0715	0.0026	0.70724	473	12	445	15	615	55	445.0	15.0	5.9
U1456A-51F-3 100-110 cm	46.6	7.460	10.680	0.190	0.4567	0.0072	0.68987	2490	16	2422	32	2542	23	2542.0	23.0	4.7
U1456A-51F-3 100-110 cm	354	11.500	0.232	0.007	0.0340	0.0008	0.59633	210.8	5.7	215.2	4.7	168	52	215.2	4.7	2.1
U1456A-51F-3 100-110 cm	819	2.550	2.799	0.022	0.1770	0.0016	0.6549	1355	5.8	1050	8.9	1864	13	DISC	DISC	43.6
U1456A-51F-3 100-110 cm	248	1.830	2.024	0.082	0.1679	0.0073	0.62224	1117	26	1001	41	1335	69	1335.0	69.0	25.0
U1456A-51F-3 100-110 cm	678	7.170	3.378	0.054	0.1843	0.0038	0.69247	1496	13	1089	21	2135	28	DISC	DISC	49.0
U1456A-51F-3 100-110 cm	570.4	4.130	4.420	0.180	0.1717	0.0060	0.94032	1710	32	1021	33	2698	20	DISC	DISC	62.2
U1456A-51F-3 100-110 cm	197.5	4.740	0.679	0.010	0.0826	0.0008	0.44705	525.2	5.8	511.3	4.6	575	29	511.3	4.6	2.6
U1456A-51F-3 100-110 cm	95.3	0.924	9.800	0.130	0.4335	0.0052	0.71318	2413	12	2320	23	2489	17	2489.0	17.0	6.8
U1456A-51F-3 100-110 cm	228.4	1.167	4.423	0.040	0.2806	0.0025	0.59299	1716	7.4	1595	13	1858	15	1858.0	15.0	14.2
U1456A-51F-3 100-110 cm	926	1.738	4.163	0.082	0.2369	0.0043	0.76459	1662	16	1369	23	2055	20	DISC	DISC	33.4
U1456A-51F-3 100-110 cm	43	1.237	1.088	0.025	0.1222	0.0014	-0.0062	745	12	742.9	8.1	722	51	742.9	8.1	0.3
U1456A-51F-3 100-110 cm	149.7	1.189	5.099	0.089	0.3190	0.0058	0.53389	1834	14	1783	28	1873	32	1873.0	32.0	4.8
U1456A-51F-3 100-110 cm	536	4.760	1.320	0.049	0.1337	0.0035	0.76639	853	21	809	20	967	51	809.0	20.0	5.2
U1456A-51F-3 100-110 cm	483	1.083	4.283	0.076	0.2377	0.0027	0.55585	1689	15	1374	14	2100	25	DISC	DISC	34.6
U1456A-51F-3 100-110 cm	790	8.200	0.771	0.015	0.0922	0.0017	0.56177	580	8.5	568.6	9.8	632	30	568.6	9.8	2.0
U1456A-51F-3 100-110 cm	203.6	0.782	1.070	0.018	0.1179	0.0012	0.43776	738.1	9	718.3	7.2	777	34	718.3	7.2	2.7
U1456A-51F-3 100-110 cm	2480	4.610	0.619	0.006	0.0779	0.0007	0.58329	489	3.6	483.3	4.1	508	18	483.3	4.1	1.2
U1456A-51F-3 100-110 cm	262.3	1.402	4.342	0.046	0.2748	0.0027	0.73767	1700	8.7	1565	14	1864	14	1864.0	14.0	16.0
U1456A-51F-3 100-110 cm	277.5	1.821	5.189	0.067	0.3263	0.0042	0.74851	1849	11	1819	20	1875	17	1875.0	17.0	3.0
U1456A-51F-3 100-110 cm	1202	103.700	0.091	0.004	0.0134	0.0005	0.48158	88.6	3.6	86	3.2	195	91	86.0	3.2	2.9
U1456A-51F-3 100-110 cm	420	0.843	5.163	0.068	0.3190	0.0038	0.66692	1846	11	1784	19	1913	19	1913.0	19.0	6.7
U1456A-51F-3 100-110 cm	789	0.610	3.185	0.032	0.2442	0.0024	0.76667	1454	7.6	1408	13	1506	13	1506.0	13.0	6.5
U1456A-51F-3 100-110 cm	669	0.955	1.057	0.013	0.1163	0.0014	0.47197	732.1	6.5	709.4	8.2	791	26	709.4	8.2	3.1
U1456A-51F-3 100-110 cm	595	56.600	0.053	0.004	0.0037	0.0003	-0.351	52.6	4.2	23.5	1.6	1700	240	DISC	DISC	55.3
U1456A-51F-3 100-110 cm	137.1	0.568	0.058	0.004	0.0084	0.0002	0.12555	57.1	3.5	53.6	1	180	120	53.6	1.0	6.1
U1456A-51F-3 100-110 cm	313.8	2.820	6.759	0.084	0.2962	0.0037	0.64427	2078	11	1672	18	2500	15	DISC	DISC	33.1
U1456A-51F-3 100-110 cm	258	1.124	4.497	0.036	0.2820	0.0021	0.57134	1730	6.6	1601	11	1878	13	1878.0	13.0	14.7
U1456A-51F-3 100-110 cm	179	1.712	4.914	0.071	0.2570	0.0044	0.72534	1803	12	1473	23	2197	21	DISC	DISC	33.0
U1456A-51F-3 100-110 cm	190.7	0.546	0.920	0.019	0.0997	0.0018	0.71873	662.5	9.7	613	10	812	30	613.0	10.0	7.5
U1456A-61F-3 40-50 cm	757	7.990	6.480	0.170	0.3010	0.0120	0.5042	2039	23	1699	60	2427	61	2427.0	61.0	30.0
U1456A-61F-3 40-50 cm	630	4.420	0.318	0.012	0.0444	0.0017	0.5684	278.7	9.5	280	10	301	75	280.0	10.0	0.5

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456A-61F-3 40-50 cm	239	1.780	4.110	0.110	0.2642	0.0077	0.60414	1654	22	1507	40	1849	46	1849.0	46.0	18.5
U1456A-61F-3 40-50 cm	186	1.218	2.624	0.097	0.2133	0.0075	0.57197	1300	27	1248	41	1377	62	1377.0	62.0	9.4
U1456A-61F-3 40-50 cm	476	1.740	0.133	0.004	0.0169	0.0005	0.40037	126.2	3.7	107.7	3.3	462	71	107.7	3.3	14.7
U1456A-61F-3 40-50 cm	780	1.479	1.678	0.059	0.1619	0.0059	0.65121	998	22	965	32	1069	54	1069.0	54.0	9.7
U1456A-61F-3 40-50 cm	160.9	2.282	0.652	0.021	0.0815	0.0023	0.60687	508	13	505	14	517	60	505.0	14.0	0.6
U1456A-61F-3 40-50 cm	913	5.040	0.601	0.008	0.0772	0.0009	0.69667	478	4.7	479.6	5	463	21	479.6	5.0	0.3
U1456A-61F-3 40-50 cm	328	5.800	0.453	0.007	0.0597	0.0006	0.41797	379.2	4.6	373.8	3.8	411	32	373.8	3.8	1.4
U1456A-61F-3 40-50 cm	479	1.018	0.109	0.003	0.0161	0.0004	0.45716	104.9	3.1	102.9	2.4	146	57	102.9	2.4	1.9
U1456A-61F-3 40-50 cm	1410	13.300	0.561	0.015	0.0706	0.0018	0.7177	451.3	9.9	440	11	504	42	440.0	11.0	2.5
U1456A-61F-3 40-50 cm	254	6.850	0.596	0.016	0.0743	0.0018	0.58018	474	10	461	11	526	50	461.0	11.0	2.7
U1456A-61F-3 40-50 cm	4.21	0.760	25.000	1.200	0.5410	0.0290	0.48179	3298	51	2770	120	3653	82	3653.0	82.0	24.2
U1456A-61F-3 40-50 cm	336	19.500	0.092	0.014	0.0114	0.0009	0.51865	89	13	73.3	5.6	490	300	DISC	DISC	17.6
U1456A-61F-3 40-50 cm	149.1	1.394	0.364	0.010	0.0480	0.0008	0.40391	314.4	7.8	302.1	5.2	377	63	302.1	5.2	3.9
U1456A-61F-3 40-50 cm	380	20.400	0.850	0.140	0.0900	0.0100	0.50201	613	73	552	62	820	260	552.0	62.0	10.0
U1456A-61F-3 40-50 cm	207.7	4.120	8.890	0.290	0.3670	0.0120	0.66788	2316	29	2006	58	2602	42	2602.0	42.0	22.9
U1456A-61F-3 40-50 cm	427	9.130	0.547	0.025	0.0639	0.0026	0.71926	440	16	399	15	637	68	399.0	15.0	9.3
U1456A-61F-3 40-50 cm	656	149.000	1.409	0.052	0.1424	0.0035	0.62523	895	23	858	19	979	59	979.0	59.0	12.4
U1456A-61F-3 40-50 cm	250.4	0.751	9.480	0.220	0.4220	0.0110	0.73505	2382	22	2268	48	2484	30	2484.0	30.0	8.7
U1456A-61F-3 40-50 cm	543	4.360	0.650	0.010	0.0823	0.0013	0.5632	508.4	6.5	509.9	7.5	487	33	509.9	7.5	0.3
U1456A-61F-3 40-50 cm	335	0.900	9.530	0.260	0.3960	0.0140	0.63727	2381	26	2140	65	2608	46	2608.0	46.0	17.9
U1456A-61F-3 40-50 cm	378	0.678	5.270	0.120	0.3091	0.0077	0.644	1862	19	1737	39	2013	35	2013.0	35.0	13.7
U1456A-61F-3 40-50 cm	414	3.540	1.588	0.030	0.1593	0.0031	0.70409	963	12	954	18	992	31	992.0	31.0	3.8
U1456A-61F-3 40-50 cm	473	3.630	1.827	0.037	0.1788	0.0037	0.67844	1052	13	1059	20	1045	34	1045.0	34.0	1.3
U1456A-61F-3 40-50 cm	325	0.541	1.460	0.014	0.1495	0.0014	0.52024	913.5	5.8	897.8	8	947	19	947.0	19.0	5.2
U1456A-61F-3 40-50 cm	1130	5.410	0.273	0.011	0.0382	0.0027	0.64127	245.1	8.4	242	17	360	130	242.0	17.0	1.3
U1456A-61F-3 40-50 cm	40.9	0.575	1.977	0.051	0.1841	0.0052	0.50495	1104	18	1091	29	1136	56	1136.0	56.0	4.0
U1456A-61F-3 40-50 cm	219	1.358	3.340	0.110	0.2346	0.0073	0.82864	1481	26	1355	38	1684	33	1684.0	33.0	19.5
U1456A-61F-3 40-50 cm	143.6	1.225	1.431	0.027	0.1507	0.0019	0.45527	900	11	906	10	884	36	884.0	36.0	2.5
U1456A-61F-3 40-50 cm	688	4.120	2.348	0.074	0.2093	0.0051	0.59349	1218	22	1223	27	1219	36	1219.0	36.0	0.3
U1456A-61F-3 40-50 cm	87.3	0.500	0.103	0.008	0.0110	0.0006	0.11212	98.7	7.4	70.2	3.5	800	170	DISC	DISC	28.9
U1456A-61F-3 40-50 cm	726	1.035	0.019	0.001	0.0029	0.0001	0.29917	19.5	1	18.5	0.5	150	93	18.5	0.5	5.1
U1456A-61F-3 40-50 cm	1191	1.261	0.036	0.002	0.0053	0.0002	0.28977	35.4	2.4	33.8	1.2	150	130	33.8	1.2	4.5
U1456A-61F-3 40-50 cm	140	1.620	14.500	0.350	0.5220	0.0110	0.69178	2773	24	2701	46	2838	29	2838.0	29.0	4.8
U1456A-61F-3 40-50 cm	443.4	7.490	1.526	0.027	0.1543	0.0031	0.57761	939	11	924	17	971	34	971.0	34.0	4.8
U1456A-61F-3 40-50 cm	1365	1.500	0.023	0.001	0.0036	0.0001	0.26403	23.2	0.84	23.14	0.64	70	74	23.1	0.6	0.3
U1456A-61F-3 40-50 cm	1600	5.330	0.592	0.010	0.0744	0.0014	0.52015	471	6.5	462.2	8.5	522	39	462.2	8.5	1.9
U1456A-61F-3 40-50 cm	405	2.369	0.678	0.011	0.0852	0.0013	0.56128	524.5	6.6	526.8	8	511	33	526.8	8.0	0.4

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456A-61F-3 40-50 cm	526	2.070	0.631	0.014	0.0802	0.0018	0.29403	495	8.9	497	11	500	55	497.0	11.0	0.4
U1456A-61F-3 40-50 cm	83.7	0.792	3.593	0.081	0.2588	0.0057	0.72615	1545	19	1485	30	1639	31	1639.0	31.0	9.4
U1456A-61F-3 40-50 cm	106.7	0.490	1.205	0.022	0.1292	0.0020	0.51461	801	10	783	11	848	35	783.0	11.0	2.2
U1456A-61F-3 40-50 cm	348	6.400	2.140	0.110	0.1749	0.0090	0.68194	1141	37	1032	49	1365	82	1365.0	82.0	24.4
U1456A-61F-3 40-50 cm	503	8.460	0.642	0.025	0.0840	0.0026	0.73823	501	15	520	15	425	59	520.0	15.0	3.8
U1456A-61F-3 40-50 cm	581	2.609	0.015	0.001	0.0023	0.0000	0.11668	15.56	0.85	14.93	0.3	120	100	14.9	0.3	4.0
U1456A-61F-3 40-50 cm	130	0.786	0.073	0.005	0.0109	0.0004	0.24442	71.5	4.8	70	2.6	160	130	70.0	2.6	2.1
U1456A-61F-3 40-50 cm	506	4.400	0.573	0.019	0.0729	0.0023	0.77889	457	12	453	14	483	63	453.0	14.0	0.9
U1456A-61F-3 40-50 cm	295	6.370	2.405	0.043	0.2108	0.0031	0.68023	1241	13	1232	16	1258	26	1258.0	26.0	2.1
U1456A-61F-3 40-50 cm	550	1.826	0.925	0.021	0.1046	0.0027	0.67497	666	12	643	16	754	40	643.0	16.0	3.5
U1456A-61F-3 40-50 cm	144	1.013	5.233	0.073	0.3308	0.0046	0.678	1857	12	1841	22	1878	22	1878.0	22.0	2.0
U1456A-61F-3 40-50 cm	29	0.771	8.950	0.350	0.3980	0.0140	0.71723	2319	38	2154	64	2479	48	2479.0	48.0	13.1
U1456A-61F-3 40-50 cm	100.1	1.846	1.489	0.054	0.1527	0.0054	0.61565	920	22	913	30	944	68	944.0	68.0	3.3
U1456A-61F-3 40-50 cm	509	1.620	5.146	0.099	0.3166	0.0068	0.58762	1839	16	1774	34	1921	32	1921.0	32.0	7.7
U1456A-61F-3 40-50 cm	660	0.894	1.275	0.026	0.1215	0.0020	0.49759	833	11	739	11	1102	37	739.0	11.0	11.3
U1456A-61F-3 40-50 cm	564	21.300	0.941	0.043	0.1006	0.0048	0.65344	671	22	617	28	856	78	617.0	28.0	8.0
U1456A-61F-3 40-50 cm	44.6	1.511	6.690	0.220	0.3780	0.0120	0.64244	2067	29	2064	58	2072	49	2072.0	49.0	0.4
U1456A-61F-3 40-50 cm	408	0.748	2.401	0.035	0.2144	0.0036	0.65881	1242	11	1253	18	1222	28	1222.0	28.0	2.5
U1456A-61F-3 40-50 cm	95	1.430	1.465	0.043	0.1462	0.0026	0.4301	913	18	879	14	984	48	984.0	48.0	10.7
U1456A-61F-3 40-50 cm	781	4.060	1.449	0.035	0.1541	0.0030	0.8722	907	15	923	17	878	27	878.0	27.0	5.1
U1456A-61F-3 40-50 cm	108	0.640	1.519	0.035	0.1570	0.0035	0.67374	938	13	944	18	933	37	933.0	37.0	1.2
U1456A-61F-3 40-50 cm	221	1.400	2.453	0.055	0.2076	0.0043	0.6804	1257	16	1215	23	1339	36	1339.0	36.0	9.3
U1456A-61F-3 40-50 cm	66.2	0.353	1.184	0.023	0.1289	0.0017	0.38143	794	11	781.3	9.9	822	38	781.3	9.9	1.6
U1456A-61F-3 40-50 cm	473	1.960	4.490	0.120	0.2899	0.0071	0.7349	1724	22	1639	36	1841	35	1841.0	35.0	11.0
U1456A-61F-3 40-50 cm	461.8	5.670	1.222	0.026	0.1314	0.0021	0.58733	809	12	796	12	849	33	796.0	12.0	1.6
U1456A-61F-3 40-50 cm	412	1.610	1.630	0.075	0.1432	0.0072	0.66424	976	29	861	41	1274	84	DISC	DISC	32.4
U1456A-61F-3 40-50 cm	143.3	0.396	11.210	0.140	0.4797	0.0058	0.70559	2540	11	2527	25	2550	16	2550.0	16.0	0.9
U1456A-61F-3 40-50 cm	71.2	0.594	1.324	0.027	0.1417	0.0021	0.44638	854	12	854	12	851	40	851.0	40.0	0.4
U1456A-61F-3 40-50 cm	251.7	1.650	0.067	0.004	0.0088	0.0003	0.42476	65.7	3.6	56.7	2	400	110	56.7	2.0	13.7
U1456A-61F-3 40-50 cm	1562	65.000	0.040	0.007	0.0053	0.0005	0.66011	39.6	6.9	33.8	3.2	350	240	33.8	3.2	14.6
U1456A-61F-3 40-50 cm	293	0.798	1.678	0.021	0.1665	0.0016	0.48154	999.1	7.8	992.8	8.8	1003	24	1003.0	24.0	1.0
U1456A-61F-3 40-50 cm	1123	1.273	0.046	0.001	0.0070	0.0001	0.52355	45.9	1.3	45.22	0.83	89	54	45.2	0.8	1.5
U1456A-61F-3 40-50 cm	79.4	0.844	0.868	0.027	0.1020	0.0023	0.47329	633	15	626	13	645	62	626.0	13.0	1.1
U1456A-61F-3 40-50 cm	40.89	0.440	1.183	0.043	0.1325	0.0021	0.25505	789	20	802	12	748	74	802.0	12.0	1.6
U1456A-61F-3 40-50 cm	763	1.137	0.018	0.001	0.0026	0.0001	0.17872	17.77	0.84	16.57	0.36	177	95	16.6	0.4	6.8
U1456A-61F-3 40-50 cm	387	4.390	0.082	0.003	0.0123	0.0003	0.4036	80.5	2.5	78.9	1.6	141	63	78.9	1.6	2.0
U1456A-61F-3 40-50 cm	599	5.230	4.758	0.089	0.2995	0.0056	0.72124	1775	16	1688	27	1885	24	1885.0	24.0	10.5

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456A-61F-3 40-50 cm	358	5.810	0.732	0.025	0.0885	0.0029	0.58003	555	15	546	17	603	69	546.0	17.0	1.6
U1456A-61F-3 40-50 cm	180.2	0.723	0.076	0.004	0.0114	0.0002	0.10226	73.8	3.7	73.3	1.2	106	99	73.3	1.2	0.7
U1456A-61F-3 40-50 cm	346	3.460	1.463	0.031	0.1466	0.0029	0.63077	913	13	881	16	989	41	989.0	41.0	10.9
U1456A-61F-3 40-50 cm	297	2.220	0.119	0.005	0.0172	0.0004	0.05902	113.6	4.2	110.1	2.4	190	88	110.1	2.4	3.1
U1456A-61F-3 40-50 cm	651	2.277	0.758	0.015	0.0933	0.0017	0.58845	571.8	8.8	575	10	574	41	575.0	10.0	0.6
U1456A-61F-3 40-50 cm	587	34.100	0.019	0.002	0.0028	0.0001	-0.1353	19	2.2	17.88	0.93	200	260	17.9	0.9	5.9
U1456A-61F-3 40-50 cm	421	1.784	1.668	0.033	0.1633	0.0030	0.81555	994	13	974	17	1036	25	1036.0	25.0	6.0
U1456A-61F-3 40-50 cm	283	1.926	5.210	0.140	0.3376	0.0099	0.69578	1853	23	1871	47	1839	37	1839.0	37.0	1.7
U1456A-61F-3 40-50 cm	219	0.809	0.136	0.005	0.0171	0.0003	0.03699	129.2	4.8	109	1.6	461	87	DISC	DISC	15.6
U1456A-61F-3 40-50 cm	950	2.680	0.198	0.008	0.0282	0.0010	0.6662	183.5	6.4	179.3	6.5	238	66	179.3	6.5	2.3
U1456A-61F-3 40-50 cm	247	1.760	0.125	0.005	0.0177	0.0004	0.31662	119.1	4.2	113	2.5	243	74	113.0	2.5	5.1
U1456A-61F-3 40-50 cm	259	3.900	0.755	0.026	0.0812	0.0027	0.59848	568	15	505	16	828	64	505.0	16.0	11.1
U1456A-61F-3 40-50 cm	865	5.520	1.226	0.023	0.1174	0.0020	0.68218	812	11	715	12	1073	26	715.0	12.0	11.9
U1456A-61F-3 40-50 cm	134.7	0.790	0.798	0.028	0.0700	0.0022	0.29673	593	16	436	14	1260	75	DISC	DISC	26.5
U1456A-61F-3 40-50 cm	572	1.225	1.192	0.021	0.1314	0.0020	0.67078	795	10	796	12	798	30	796.0	12.0	0.1
U1456A-61F-3 40-50 cm	201.5	2.391	6.290	0.110	0.3616	0.0067	0.65037	2017	16	1988	32	2046	26	2046.0	26.0	2.8
U1456A-61F-3 40-50 cm	239	1.329	5.179	0.093	0.3276	0.0066	0.64716	1846	15	1824	32	1868	29	1868.0	29.0	2.4
U1456A-61F-3 40-50 cm	147.7	0.853	1.095	0.023	0.1220	0.0025	0.5791	750	11	742	15	766	43	742.0	15.0	1.1
U1456A-61F-3 40-50 cm	553	0.530	1.603	0.024	0.1625	0.0026	0.69564	969.9	9.2	970	14	971	26	971.0	26.0	0.1
U1456A-61F-3 40-50 cm	161.4	1.553	4.692	0.083	0.2933	0.0051	0.72539	1763	14	1656	26	1887	24	1887.0	24.0	12.2
U1456A-61F-3 40-50 cm	1395	11.750	1.342	0.038	0.1245	0.0039	0.62798	861	17	755	22	1139	53	755.0	22.0	12.3
U1456A-61F-3 40-50 cm	328	5.530	1.423	0.030	0.1492	0.0026	0.61664	897	12	896	15	895	35	895.0	35.0	0.1
U1456A-61F-3 40-50 cm	220.6	1.762	10.590	0.240	0.4670	0.0110	0.70607	2480	22	2466	47	2505	30	2505.0	30.0	1.6
U1456A-61F-3 40-50 cm	309.3	1.254	3.573	0.081	0.2450	0.0057	0.67583	1538	18	1414	31	1697	33	1697.0	33.0	16.7
U1456A-61F-3 40-50 cm	627	32.400	0.073	0.007	0.0058	0.0004	0.3896	71.2	6.6	37.2	2.5	1400	190	DISC	DISC	47.8
U1456A-61F-3 40-50 cm	221	0.650	0.101	0.004	0.0143	0.0003	0.25132	97.5	4	91.5	1.7	219	81	91.5	1.7	6.2
U1456A-61F-3 40-50 cm	353	2.254	1.665	0.021	0.1649	0.0019	0.60401	994.3	7.9	984	10	1014	21	1014.0	21.0	3.0
U1456A-61F-3 40-50 cm	309	1.953	1.270	0.024	0.1301	0.0018	0.64118	830	11	788	10	945	31	788.0	10.0	5.1
U1456A-61F-3 40-50 cm	643	19.100	1.337	0.043	0.1362	0.0039	0.74891	859	18	823	22	951	44	823.0	22.0	4.2
U1456A-61F-3 40-50 cm	131	1.980	2.003	0.039	0.1852	0.0034	0.53016	1115	13	1095	19	1141	37	1141.0	37.0	4.0
U1456A-61F-3 40-50 cm	291	0.923	0.132	0.008	0.0170	0.0005	0.47562	125.6	7.3	108.8	2.9	420	110	108.8	2.9	13.4
U1456A-61F-3 40-50 cm	192.5	0.866	0.302	0.011	0.0368	0.0011	0.36661	267	8.5	233.1	6.8	548	75	233.1	6.8	12.7
U1456A-61F-3 40-50 cm	277	7.060	1.616	0.057	0.1560	0.0051	0.44989	973	22	934	29	1059	73	1059.0	73.0	11.8
U1456A-61F-3 40-50 cm	100.4	0.485	4.100	0.180	0.2877	0.0096	0.71649	1643	37	1627	48	1664	56	1664.0	56.0	2.2
U1456A-61F-3 40-50 cm	245.1	0.782	10.320	0.130	0.4603	0.0064	0.65668	2464	12	2439	28	2482	19	2482.0	19.0	1.7
U1456A-61F-3 40-50 cm	698	3.460	7.160	0.160	0.3546	0.0080	0.59445	2128	19	1954	38	2302	34	2302.0	34.0	15.1
U1456A-61F-3 40-50 cm	56	0.989	0.065	0.010	0.0094	0.0004	0.19865	63.1	9.2	60.4	2.5	70	230	60.4	2.5	4.3

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456A-61F-3 40-50 cm	260	0.612	0.111	0.004	0.0171	0.0003	0.22831	106.6	3.4	109.4	1.9	71	64	109.4	1.9	2.6
U1456A-61F-3 40-50 cm	210.7	2.170	0.133	0.005	0.0179	0.0005	0.26384	126.4	4.3	114.4	3.3	361	82	114.4	3.3	9.5
U1456A-61F-3 40-50 cm	219.7	0.544	0.030	0.002	0.0029	0.0001	0.22211	29.8	2.1	18.44	0.54	910	150	DISC	DISC	38.1
U1456A-61F-3 40-50 cm	404	3.900	0.124	0.006	0.0179	0.0004	0.35393	118.1	4.9	114.1	2.7	192	84	114.1	2.7	3.4
U1456A-61F-3 40-50 cm	393	3.330	4.860	0.130	0.3131	0.0091	0.67582	1788	23	1752	45	1837	44	1837.0	44.0	4.6
U1456A-61F-3 40-50 cm	102.3	0.541	1.276	0.030	0.1248	0.0020	0.38782	832	13	757	12	1027	47	757.0	12.0	9.0
U1456A-61F-3 40-50 cm	132.4	0.529	0.137	0.007	0.0176	0.0005	0.24289	129.7	5.8	112.7	2.9	408	97	112.7	2.9	13.1
U1456A-61F-3 40-50 cm	486	11.000	4.960	0.100	0.3029	0.0057	0.72904	1808	17	1709	29	1928	26	1928.0	26.0	11.4
U1456A-61F-3 40-50 cm	119.9	0.562	0.053	0.004	0.0076	0.0002	0.09951	52	3.8	48.9	1.2	150	140	48.9	1.2	6.0
U1456A-61F-3 40-50 cm	285	12.800	34.310	0.460	0.7245	0.0076	0.81469	3616	14	3510	29	3668	14	3668.0	14.0	4.3
U1456A-61F-3 40-50 cm	210	1.738	5.028	0.068	0.3174	0.0045	0.78109	1822	11	1778	22	1863	17	1863.0	17.0	4.6
U1456A-61F-3 40-50 cm	418	1.518	2.555	0.046	0.1955	0.0029	0.78037	1285	13	1151	16	1506	22	1506.0	22.0	23.6
U1456A-61F-3 40-50 cm	282	0.497	1.467	0.023	0.1461	0.0016	0.75191	915	9.4	879.1	8.8	985	21	985.0	21.0	10.8
U1456A-61F-3 40-50 cm	1401	1.164	0.036	0.001	0.0051	0.0001	0.2498	35.45	0.8	32.83	0.34	191	47	32.8	0.3	7.4
U1456A-61F-3 40-50 cm	17.87	1.372	0.809	0.033	0.0938	0.0018	0.07083	595	19	578	10	617	91	578.0	10.0	2.9
U1456A-61F-3 40-50 cm	451	1.270	7.260	0.100	0.3336	0.0049	0.66028	2142	13	1855	23	2417	20	2417.0	20.0	23.3
U1456A-61F-3 40-50 cm	203	1.895	1.255	0.025	0.1342	0.0023	0.56374	823	11	811	13	835	36	811.0	13.0	1.5
U1456A-61F-3 40-50 cm	69	1.038	1.232	0.037	0.1084	0.0022	0.30961	810	17	663	13	1220	60	DISC	DISC	18.1
U1456A-61F-3 40-50 cm	39.6	5.400	7.950	0.150	0.3711	0.0063	0.64443	2223	17	2033	30	2384	29	2384.0	29.0	14.7
U1456A-61F-3 40-50 cm	916	0.536	0.048	0.001	0.0074	0.0001	0.274	47.9	1.3	47.26	0.72	91	55	47.3	0.7	1.3
U1456A-61F-3 40-50 cm	288	3.900	4.621	0.068	0.2911	0.0043	0.77041	1750	13	1648	21	1867	18	1867.0	18.0	11.7
U1456A-61F-3 40-50 cm	140.2	1.884	0.142	0.008	0.0198	0.0005	0.28468	136	7.3	126.2	3.1	280	110	126.2	3.1	7.2
U1456A-61F-3 40-50 cm	1113	10.310	0.090	0.002	0.0132	0.0002	0.49627	87.4	1.8	84.4	1	149	37	84.4	1.0	3.4
U1456A-61F-3 40-50 cm	896	3.620	0.190	0.230	0.0181	0.0016	0.05795	120	190	116	10	400	190	116.0	10.0	3.3
U1456A-61F-3 40-50 cm	360	1.632	3.460	0.150	0.2082	0.0086	0.88419	1494	36	1213	46	1931	36	DISC	DISC	37.2
U1456A-61F-3 40-50 cm	167.1	0.751	1.319	0.043	0.1401	0.0048	0.49198	854	20	844	27	866	72	844.0	27.0	1.2
U1456A-61F-3 40-50 cm	87	2.270	4.500	0.110	0.3000	0.0100	0.66205	1732	22	1687	51	1780	48	1780.0	48.0	5.2
U1456A-61F-3 40-50 cm	341	0.635	0.051	0.002	0.0077	0.0002	0.24525	50.3	2.1	49.5	1	85	82	49.5	1.0	1.6
U1456A-61F-3 40-50 cm	665	3.430	0.570	0.012	0.0727	0.0019	0.55106	457.1	7.9	452	11	476	50	452.0	11.0	1.1
U1456A-61F-3 40-50 cm	1719	2.101	0.041	0.001	0.0062	0.0001	0.50417	41	1.2	39.62	0.76	111	55	39.6	0.8	3.4
U1456A-61F-3 40-50 cm	345.6	3.580	11.860	0.200	0.4745	0.0086	0.63012	2588	16	2504	38	2653	24	2653.0	24.0	5.6
U1456A-61F-3 40-50 cm	681	12.360	1.435	0.017	0.1412	0.0016	0.63159	903.1	7.1	851.4	8.9	1016	19	1016.0	19.0	16.2
U1456A-61F-3 40-50 cm	232.5	1.146	4.738	0.058	0.2992	0.0033	0.60806	1772	10	1686	16	1867	18	1867.0	18.0	9.7
U1456A-61F-3 40-50 cm	170.4	0.567	0.646	0.011	0.0815	0.0009	0.3269	505.1	6.9	504.7	5.3	480	38	504.7	5.3	0.1
U1456A-61F-3 40-50 cm	1170	0.234	0.118	0.004	0.0155	0.0004	0.40924	113.1	3.5	98.9	2.3	425	74	98.9	2.3	12.6
U1456A-70F-2 10-16 cm	1371	0.615	0.089	0.004	0.0130	0.0004	0.48513	86.4	3.5	83.1	2.3	183	79	83.1	2.3	3.8

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456A-70F-2 10-16 cm	1240	2.830	10.030	0.160	0.4491	0.0055	0.75103	2436	15	2391	24	2478	18	2478	18	3.5
U1456A-70F-2 10-16 cm	1097	2.850	6.065	0.053	0.3315	0.0022	0.69287	1984	7.6	1845	11	2134	11	2134	11	13.5
U1456A-70F-2 10-16 cm	369	1.296	5.047	0.064	0.3223	0.0035	0.83832	1825	11	1800	17	1858	14	1858	14	3.1
U1456A-70F-2 10-16 cm	491.8	3.632	0.559	0.008	0.0721	0.0006	0.30503	450.1	5.5	448.6	3.5	458	33	448.6	3.5	0.3
U1456A-70F-2 10-16 cm	570.1	1.606	1.435	0.023	0.1493	0.0013	0.59779	904.3	8.9	896.7	7.3	921	26	921	26	2.6
U1456A-70F-2 10-16 cm	141.1	0.388	0.687	0.017	0.0854	0.0008	0.06321	529	10	527.9	5	521	56	527.9	5	0.2
U1456A-70F-2 10-16 cm	1256	13.800	0.783	0.015	0.0949	0.0020	0.75361	587	8.7	584	12	604	32	584	12	0.5
U1456A-70F-2 10-16 cm	57	2.000	1.476	0.050	0.1550	0.0025	0.20042	916	21	929	14	870	74	870	74	6.8
U1456A-70F-2 10-16 cm	570	0.795	1.190	0.019	0.1271	0.0012	0.61310	794.9	8.8	771.4	6.7	870	25	771.4	6.7	3.0
U1456A-70F-2 10-16 cm	235	1.463	0.706	0.017	0.0885	0.0011	0.35931	541	10	546.5	6.8	510	52	546.5	6.8	1.0
U1456A-70F-2 10-16 cm	1219	1.433	0.098	0.003	0.0147	0.0003	0.31254	94.8	2.5	94.2	1.7	124	57	94.2	1.7	0.6
U1456A-70F-2 10-16 cm	2431	35.500	2.555	0.031	0.1702	0.0018	0.81372	1287	8.9	1013	10	1776	13	DISC	DISC	43.0
U1456A-70F-2 10-16 cm	19.83	-7.800	0.135	0.026	0.0045	0.0006	0.30015	121	23	28.9	3.6	1820	610	DISC	DISC	76.1
U1456A-70F-2 10-16 cm	90	1.122	0.257	0.024	0.0129	0.0006	0.01731	229	20	82.3	3.6	2110	220	DISC	DISC	64.1
U1456A-70F-2 10-16 cm	460	1.708	0.107	0.004	0.0160	0.0002	0.04384	103	3.5	102.5	1.3	143	75	102.5	1.3	0.5
U1456A-70F-2 10-16 cm	150.9	0.591	0.162	0.012	0.0238	0.0009	0.15317	152	11	151.7	5.4	160	140	151.7	5.4	0.2
U1456A-70F-2 10-16 cm	190.2	1.088	4.957	0.068	0.3174	0.0034	0.70295	1810	12	1776	17	1847	18	1847	18	3.8
U1456A-70F-2 10-16 cm	235.6	55.100	18.850	0.180	0.5687	0.0053	0.62521	3035	9.1	2901	22	3128	13	3128	13	7.3
U1456A-70F-2 10-16 cm	414	0.989	0.109	0.004	0.0163	0.0002	0.03393	105	3.6	104	1.3	142	76	104	1.3	1.0
U1456A-70F-2 10-16 cm	439.2	0.872	1.708	0.020	0.1670	0.0016	0.45167	1011	7.6	995.5	8.6	1038	23	1038	23	4.1
U1456A-70F-2 10-16 cm	354	1.318	0.114	0.004	0.0170	0.0002	0.19911	109.2	3.6	108.5	1.4	124	68	108.5	1.4	0.6
U1456A-70F-2 10-16 cm	182	1.178	0.744	0.019	0.0920	0.0013	0.36591	563	11	567	7.9	526	58	567	7.9	0.7
U1456A-70F-2 10-16 cm	55.6	-5.000	0.200	0.024	0.0214	0.0010	0.04703	183	20	136.8	6.6	730	250	DISC	DISC	25.2
U1456A-70F-2 10-16 cm	666	3.080	5.090	0.220	0.2327	0.0092	0.96407	1835	36	1346	49	2433	22	DISC	DISC	44.7
U1456A-70F-2 10-16 cm	128.9	2.640	0.888	0.026	0.0919	0.0015	0.33295	643	15	566.8	8.9	894	62	566.8	8.9	11.9
U1456A-70F-2 10-16 cm	787	7.160	1.103	0.066	0.1191	0.0037	0.49482	753	32	726	21	830	120	726	21	3.6
U1456A-70F-2 10-16 cm	3370	15.580	2.309	0.025	0.1611	0.0015	0.85092	1214	7.6	962.7	8.1	1687	10	DISC	DISC	42.9
U1456A-70F-2 10-16 cm	226.7	1.698	4.900	0.110	0.2811	0.0054	0.60898	1801	19	1596	27	2032	30	2032	30	21.5
U1456A-70F-2 10-16 cm	56.4	0.704	0.352	0.023	0.0486	0.0015	0.09230	304	17	305.7	9	290	140	305.7	9	0.6
U1456A-70F-2 10-16 cm	1578	2.060	2.623	0.048	0.2015	0.0030	0.88654	1305	14	1183	16	1505	17	1505	17	21.4
U1456A-70F-2 10-16 cm	1531	3.230	2.817	0.050	0.1632	0.0019	0.80048	1358	14	974	11	2021	19	DISC	DISC	51.8
U1456A-70F-2 10-16 cm	671	0.860	0.069	0.003	0.0097	0.0002	0.14198	67.5	3.2	62.5	1.1	215	97	62.5	1.1	7.4
U1456A-70F-2 10-16 cm	1219	5.020	0.547	0.012	0.0683	0.0013	0.44241	442.5	7.8	425.8	7.6	519	45	425.8	7.6	3.8
U1456A-70F-2 10-16 cm	171	1.610	0.112	0.027	0.0154	0.0011	0.06240	107	25	98.2	7.3	260	500	98.2	7.3	8.2

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456A-70F-2 10-16 cm	196.6	1.453	0.915	0.024	0.1034	0.0016	0.39042	658	13	634.2	9.6	722	55	634.2	9.6	3.6
U1456A-70F-2 10-16 cm	653	1.050	0.049	0.003	0.0064	0.0001	0.14859	48.3	2.5	41.02	0.73	360	110	DISC	DISC	15.1
U1456A-70F-2 10-16 cm	266	13.500	0.323	0.016	0.0369	0.0017	0.45426	283	12	234	11	700	120	DISC	DISC	17.3
U1456A-70F-2 10-16 cm	501	4.560	1.236	0.041	0.0889	0.0022	0.79192	814	19	549	13	1627	38	DISC	DISC	32.6
U1456A-70F-2 10-16 cm	1005	2.880	1.499	0.015	0.1531	0.0014	0.66391	929.4	6.3	917.9	7.6	951	16	951	16	3.5
U1456A-70F-2 10-16 cm	336.8	1.308	8.782	0.096	0.4191	0.0042	0.75652	2315	9.7	2258	18	2362	13	2362	13	4.4
U1456A-70F-2 10-16 cm	306	0.968	0.131	0.005	0.0192	0.0004	0.13944	124.8	4.2	122.7	2.3	173	76	122.7	2.3	1.7
U1456A-70F-2 10-16 cm	1920	2.921	0.131	0.005	0.0195	0.0005	0.64528	124.7	4.4	124.3	3.1	133	60	124.3	3.1	0.3
U1456A-70F-2 10-16 cm	913	20.070	0.294	0.016	0.0335	0.0010	0.63080	261	13	212.6	6.5	690	95	DISC	DISC	18.5
U1456A-70F-2 10-16 cm	347	1.420	5.760	0.150	0.2958	0.0067	0.70168	1938	24	1669	33	2235	34	2235	34	25.3
U1456A-70F-2 10-16 cm	225.2	0.346	1.097	0.021	0.1169	0.0014	0.45003	750	10	712.7	7.9	849	42	712.7	7.9	5.0
U1456A-70F-2 10-16 cm	493	2.990	1.264	0.021	0.1375	0.0018	0.61339	828.5	9.5	830	10	829	27	830	10	0.2
U1456A-70F-2 10-16 cm	2970	3.487	0.567	0.011	0.0733	0.0015	0.77012	455.8	7.2	456.2	8.9	451	30	456.2	8.9	0.1
U1456A-70F-2 10-16 cm	270	2.200	27.830	0.380	0.6436	0.0091	0.86088	3414	13	3201	36	3533	11	3533	11	9.4
U1456A-70F-2 10-16 cm	2149	2.680	0.052	0.002	0.0077	0.0002	0.32953	51.4	2.1	49.29	0.93	149	82	49.29	0.93	4.1
U1456A-70F-2 10-16 cm	481	0.785	1.637	0.020	0.1646	0.0017	0.62417	983.6	7.8	982.3	9.6	979	21	979	21	0.3
U1456A-70F-2 10-16 cm	346	1.529	3.290	0.110	0.2226	0.0062	0.71339	1474	26	1295	33	1726	35	1726	35	25.0
U1456A-70F-2 10-16 cm	248.4	1.459	1.504	0.035	0.1435	0.0024	0.71534	929	14	864	13	1076	31	1076	31	19.7
U1456A-70F-2 10-16 cm	335	1.209	9.140	0.310	0.3897	0.0094	0.92528	2353	32	2119	43	2556	25	2556	25	17.1
U1456A-70F-2 10-16 cm	126	0.988	14.510	0.190	0.5327	0.0068	0.70447	2782	13	2751	28	2801	16	2801	16	1.8
U1456A-70F-2 10-16 cm	450	16.200	1.401	0.078	0.1388	0.0069	0.72968	886	33	837	39	1016	79	837	39	5.5
U1456A-70F-2 10-16 cm	552	1.457	3.340	0.080	0.2305	0.0042	0.82575	1491	19	1336	22	1699	26	1699	26	21.4
U1456A-70F-2 10-16 cm	125.2	0.705	1.074	0.028	0.1229	0.0022	0.38809	738	14	747	12	707	51	747	12	1.2
U1456A-70F-2 10-16 cm	381	5.750	4.234	0.084	0.2658	0.0048	0.70374	1679	16	1519	25	1885	25	1885	25	19.4
U1456A-70F-2 10-16 cm	792	1.860	4.054	0.054	0.2818	0.0038	0.61180	1644	11	1600	19	1700	22	1700	22	5.9
U1456A-70F-2 10-16 cm	547	3.510	4.213	0.067	0.2617	0.0036	0.65124	1675	13	1498	19	1907	22	1907	22	21.4
U1456A-70F-2 10-16 cm	358	3.780	1.552	0.029	0.1563	0.0023	0.72432	949	12	936	13	978	27	978	27	4.3
U1456A-70F-2 10-16 cm	156.2	2.232	0.770	0.019	0.0926	0.0013	0.38843	577	11	570.6	7.6	588	51	570.6	7.6	1.1
U1456A-70F-2 10-16 cm	1070	5.160	0.604	0.011	0.0743	0.0010	0.49912	478.8	6.8	461.9	6.1	550	36	461.9	6.1	3.5
U1456A-70F-2 10-16 cm	2060	4.710	0.018	0.001	0.0027	0.0001	0.57940	18.5	1	17.2	0.57	195	93	17.2	0.57	7.0
U1456A-70F-2 10-16 cm	172.1	1.004	1.219	0.026	0.1325	0.0016	0.08938	807	12	801.8	8.8	805	52	801.8	8.8	0.6
U1456A-70F-2 10-16 cm	279	1.629	1.275	0.019	0.1374	0.0014	0.44370	833.2	8.5	829.8	7.9	836	29	829.8	7.9	0.4
U1456A-70F-2 10-16 cm	242.7	1.355	1.552	0.031	0.1575	0.0024	0.65466	949	12	942	14	966	31	966	31	2.5
U1456A-70F-2 10-16 cm	955	0.575	5.690	0.170	0.2544	0.0076	0.85503	1923	27	1461	40	2497	20	DISC	DISC	41.5

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456A-70F-2 10-16 cm	993	1.946	0.306	0.011	-0.0023	0.0001	0.64905	270.8	8.2	-14.7	0.37	367	61	DISC	DISC	105.4
U1456A-70F-2 10-16 cm	1283	39.200	1.776	0.047	0.1719	0.0039	0.81476	1032	17	1022	21	1069	32	1069	32	4.4
U1456A-70F-2 10-16 cm	1036	1.890	1.060	0.029	-0.0073	0.0005	0.01725	733	14	-47	3.2	830	36	DISC	DISC	106.4
U1456A-70F-2 10-16 cm	552	1.201	0.023	0.001	0.0034	0.0001	0.04980	23.3	1.2	21.57	0.48	190	100	21.57	0.48	7.4
U1456A-70F-2 10-16 cm	342	1.081	1.846	0.038	0.1746	0.0028	0.66613	1058	14	1037	15	1103	31	1103	31	6.0
U1456A-70F-2 10-16 cm	670	1.324	0.058	0.008	0.0069	0.0004	0.28078	57.3	7.3	44.5	2.8	590	300	DISC	DISC	22.3
U1456A-70F-2 10-16 cm	1720	0.933	0.018	0.001	0.0027	0.0001	0.42070	17.8	1.2	17.23	0.61	140	120	17.23	0.61	3.2
U1456A-70F-2 10-16 cm	183	1.531	1.770	0.057	0.1680	0.0046	0.59560	1031	21	1000	25	1112	55	1112	55	10.1
U1456A-70F-2 10-16 cm	109.8	3.920	0.917	0.035	0.1058	0.0025	0.67750	657	18	648	14	682	58	648	14	1.4
U1456A-70F-2 10-16 cm	839	1.520	9.980	0.260	0.4370	0.0100	0.86163	2423	25	2330	47	2519	22	2519	22	7.5
U1456A-70F-2 10-16 cm	74.1	0.542	0.693	0.026	0.0812	0.0018	0.48915	532	16	503	11	635	71	503	11	5.5
U1456A-70F-2 10-16 cm	442	1.255	0.094	0.004	-0.0019	0.0009	0.02950	90.6	3.9	-12.4	5.7	267	82	DISC	DISC	113.7
U1456A-70F-2 10-16 cm	405	1.518	0.093	0.007	0.0128	0.0006	0.49120	89.9	6.6	81.7	3.7	290	130	81.7	3.7	9.1
U1456A-70F-2 10-16 cm	165.4	1.513	0.088	0.005	0.0129	0.0003	0.10736	85.1	4.4	82.7	1.9	160	110	82.7	1.9	2.8
U1456A-70F-2 10-16 cm	348	0.814	0.090	0.004	0.0137	0.0003	0.41472	87.4	3.5	87.5	2.1	93	75	87.5	2.1	0.1
U1456A-70F-2 10-16 cm	150.8	0.404	3.112	0.074	0.2406	0.0050	0.56939	1431	18	1388	26	1496	41	1496	41	7.2
U1456A-70F-2 10-16 cm	450	1.268	0.592	0.033	0.0749	0.0019	0.31529	472	21	465	12	500	120	465	12	1.5
U1456A-70F-2 10-16 cm	665	1.010	1.488	0.069	0.1458	0.0031	0.40534	921	26	877	18	988	59	988	59	11.2
U1456A-70F-2 10-16 cm	770	1.664	4.090	0.270	0.2610	0.0150	0.90647	1646	54	1491	78	1849	56	1849	56	19.4
U1456A-70F-2 10-16 cm	280	1.142	1.878	0.031	0.1774	0.0027	0.62620	1071	11	1052	15	1112	27	1112	27	5.4
U1456A-70F-2 10-16 cm	285	0.998	1.090	0.024	0.1183	0.0024	0.82728	746	12	720	14	820	31	720	14	3.5
U1456A-70F-2 10-16 cm	362	25.800	0.065	0.004	0.0091	0.0003	0.49675	63.3	3.5	58.6	2.2	193	90	58.6	2.2	7.4
U1456A-70F-2 10-16 cm	242	2.030	5.278	0.070	0.3232	0.0037	0.79974	1864	11	1805	18	1921	14	1921	14	6.0
U1456A-70F-2 10-16 cm	169	1.007	1.510	0.040	0.1525	0.0030	0.55306	935	17	914	17	966	48	966	48	5.4
U1456A-70F-2 10-16 cm	262	1.285	0.905	0.018	0.1001	0.0018	0.59386	655	10	615	11	791	35	615	11	6.1
U1456A-70F-2 10-16 cm	833	1.330	1.530	0.057	0.1493	0.0042	0.71790	937	22	900	25	1020	52	1020	52	11.8
U1456A-70F-2 10-16 cm	2019	0.707	0.023	0.001	0.0034	0.0001	0.28679	23.4	1.1	22.12	0.57	146	91	22.12	0.57	5.5
U1456A-70F-2 10-16 cm	469	0.357	1.176	0.022	0.1291	0.0024	0.67633	788	10	782	14	806	31	782	14	0.8
U1456A-70F-2 10-16 cm	330	1.012	0.675	0.013	0.0831	0.0011	0.61248	522.8	7.9	514.8	6.8	542	39	514.8	6.8	1.5
U1456A-70F-2 10-16 cm	635	0.869	1.232	0.019	0.1343	0.0018	0.65741	813.6	8.7	812	10	811	25	812	10	0.2
U1456A-70F-2 10-16 cm	211.5	1.075	1.589	0.045	0.1556	0.0026	0.58023	964	17	932	15	1023	45	1023	45	8.9
U1456A-70F-2 10-16 cm	381	1.511	0.111	0.005	0.0164	0.0004	0.40281	107	4.4	104.7	2.8	152	85	104.7	2.8	2.1
U1456A-70F-2 10-16 cm	4140	3.290	0.012	0.000	0.0018	0.0000	0.43234	12.24	0.42	11.69	0.24	134	63	11.69	0.24	4.5
U1456A-70F-2 10-16 cm	164	1.890	1.490	0.069	0.1478	0.0030	0.66782	921	25	889	17	966	57	966	57	8.0

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456A-70F-2 10-16 cm	696	0.809	0.043	0.002	0.0068	0.0001	0.24416	43.1	1.6	43.76	0.79	45	70	43.76	0.79	1.5
U1456A-70F-2 10-16 cm	165.5	1.200	1.188	0.025	0.1322	0.0022	0.74204	794	12	802	13	773	30	802	13	1.0
U1456A-70F-2 10-16 cm	1150	1.644	1.158	0.028	0.1138	0.0025	0.80518	780	13	694	15	1042	29	694	15	11.0
U1456A-70F-2 10-16 cm	283	1.131	4.800	0.130	0.3115	0.0075	0.86508	1777	23	1744	37	1818	24	1818	24	4.1
U1456A-70F-2 10-16 cm	1296	122.000	0.031	0.004	0.0044	0.0004	0.75855	30.9	3.5	28	2.4	260	160	28	2.4	9.4
U1456A-70F-2 10-16 cm	689	1.624	0.055	0.002	0.0085	0.0002	0.36930	54.4	2	54.4	1	103	68	54.4	1	0.0
U1456A-70F-2 10-16 cm	1616	10.110	0.598	0.011	0.0764	0.0013	0.73859	475.3	6.7	474.5	7.5	477	27	474.5	7.5	0.2
U1456A-70F-2 10-16 cm	545	2.621	0.932	0.025	0.1084	0.0022	0.72601	667	13	663	13	668	41	663	13	0.6
U1456A-70F-2 10-16 cm	769	9.120	2.902	0.090	0.2263	0.0066	0.85559	1376	23	1313	34	1493	29	1493	29	12.1
U1456A-70F-2 10-16 cm	534	0.831	12.130	0.290	0.4690	0.0110	0.61356	2609	22	2473	47	2732	32	2732	32	9.5
U1456A-70F-2 10-16 cm	470	1.937	3.730	0.110	0.2503	0.0079	0.72986	1576	24	1439	41	1765	42	1765	42	18.5
U1456A-70F-2 10-16 cm	323	1.280	0.577	0.015	0.0728	0.0017	0.59916	460.8	9.5	453	10	489	49	453	10	1.7
U1456A-70F-2 10-16 cm	170.7	1.090	2.172	0.039	0.1982	0.0028	0.61801	1169	12	1165	15	1176	27	1176	27	0.9
U1456A-70F-2 10-16 cm	224	20.300	0.698	0.019	0.0835	0.0018	0.51293	536	11	517	10	609	48	517	10	3.5
U1456A-70F-2 10-16 cm	1313	1.469	2.047	0.048	0.1880	0.0035	0.78397	1130	17	1109	19	1156	30	1156	30	4.1
U1456A-70F-2 10-16 cm	986	5.510	1.084	0.030	0.1149	0.0033	0.79448	744	14	701	19	861	39	701	19	5.8
U1456A-70F-2 10-16 cm	509	1.510	0.065	0.004	0.0097	0.0005	0.60790	63.2	3.8	62	2.9	133	93	62	2.9	1.9
U1456A-70F-2 10-16 cm	116.5	2.424	1.096	0.028	0.1214	0.0024	0.37923	752	15	738	14	760	56	738	14	1.9
U1456A-70F-2 10-16 cm	1019	2.045	0.369	0.007	-0.0029	0.0002	0.02356	318.7	5.3	-18.8	1.1	434	37	DISC	DISC	105.9
U1456A-70F-2 10-16 cm	129.9	0.659	0.059	0.004	0.0084	0.0002	0.28099	58.1	4.2	54	1.4	200	130	54	1.4	7.1
U1456A-70F-2 10-16 cm	1044	2.796	1.348	0.023	0.1414	0.0019	0.64595	866	10	852	11	872	28	872	28	2.3
U1456A-70F-2 10-16 cm	525	2.066	8.960	0.230	0.4150	0.0093	0.74575	2330	23	2234	42	2406	30	2406	30	7.1
U1456A-70F-2 10-16 cm	215	1.795	0.712	0.058	0.0835	0.0053	0.73030	542	33	516	31	630	120	516	31	4.8
U1456A-70F-2 10-16 cm	179.8	2.725	1.482	0.035	0.1490	0.0028	0.69129	925	14	895	16	964	37	964	37	7.2
U1456A-70F-2 10-16 cm	385	1.457	0.113	0.004	0.0168	0.0004	0.24742	108	3.6	107.2	2.3	128	69	107.2	2.3	0.7
U1456A-70F-2 10-16 cm	374	1.065	2.114	0.061	0.1953	0.0045	0.74440	1153	19	1149	25	1136	38	1136	38	1.1
U1456A-70F-2 10-16 cm	2520	0.767	1.288	0.023	0.1365	0.0020	0.82166	839	10	825	12	857	22	825	12	1.7
U1456D-13R-1 30-38 cm	272	0.681	0.078	0.005	0.0118	0.0002	0.02588	75.9	4.4	75.3	1.3	110	120	75.3	1.3	0.8
U1456D-13R-1 30-38 cm	3010	9.100	0.622	0.019	0.0787	0.0024	0.79676	490	12	488	14	495	46	488	14	0.4
U1456D-13R-1 30-38 cm	1085	0.994	0.944	0.011	0.1061	0.0012	0.63945	674.5	5.5	650.1	7.1	756	18	650.1	7.1	3.6
U1456D-13R-1 30-38 cm	5440	219.000	0.445	0.012	0.0561	0.0015	0.93621	372.8	8.3	351.6	9.2	508	20	351.6	9.2	5.7
U1456D-13R-1 30-38 cm	331	0.838	5.394	0.081	0.3200	0.0039	0.84743	1882	13	1789	19	1984	14	1984	14	9.8
U1456D-13R-1 30-38 cm	215.5	1.026	1.182	0.018	0.1306	0.0015	0.52695	790.8	8.6	791.1	8.8	780	28	791.1	8.8	0.0

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456D-13R-1 30-38 cm	656	7.170	1.364	0.022	0.1421	0.0020	0.64799	872.5	9.4	856	11	910	30	910	30	5.9
U1456D-13R-1 30-38 cm	446	1.636	3.822	0.046	0.2648	0.0031	0.76057	1596	9.7	1514	16	1701	16	1701	16	11.0
U1456D-13R-1 30-38 cm	87.3	0.668	0.083	0.008	0.0117	0.0003	0.16777	79.5	7.6	75	1.9	170	170	75	1.9	5.7
U1456D-13R-1 30-38 cm	446	0.959	0.125	0.004	0.0185	0.0003	0.19381	119	4	117.9	2.1	158	75	117.9	2.1	0.9
U1456D-13R-1 30-38 cm	1458	22.340	0.553	0.015	0.0705	0.0017	0.65047	446.1	9.5	439	10	476	47	439	10	1.6
U1456D-13R-1 30-38 cm	1346	0.241	0.126	0.006	0.0176	0.0007	0.45475	119.9	5.4	112.6	4.2	230	92	112.6	4.2	6.1
U1456D-13R-1 30-38 cm	305.8	0.570	1.345	0.025	0.1287	0.0020	0.40451	864	11	780	11	1076	39	780	11	9.7
U1456D-13R-1 30-38 cm	755	0.589	0.073	0.002	0.0111	0.0002	0.18171	71.9	1.9	71	1	120	57	71	1	1.3
U1456D-13R-1 30-38 cm	535	0.678	0.131	0.004	0.0187	0.0004	0.38362	124.8	3.6	119.3	2.2	229	59	119.3	2.2	4.4
U1456D-13R-1 30-38 cm	531	11.100	1.467	0.023	0.1533	0.0023	0.63099	917.1	9.2	919	13	911	26	911	26	0.9
U1456D-13R-1 30-38 cm	262	1.633	0.914	0.026	0.1026	0.0027	0.68169	659	13	629	15	749	45	629	15	4.6
U1456D-13R-1 30-38 cm	1500	0.750	0.073	0.002	0.0112	0.0001	0.07119	71.5	2	71.63	0.91	72	57	71.63	0.91	0.2
U1456D-13R-1 30-38 cm	309.8	1.250	1.994	0.027	0.1880	0.0021	0.57248	1113	9	1110	12	1117	23	1117	23	0.6
U1456D-13R-1 30-38 cm	493	1.340	1.414	0.021	0.1416	0.0018	0.65302	893.5	8.8	853	10	977	25	977	25	12.7
U1456D-13R-1 30-38 cm	318	0.947	3.802	0.058	0.2730	0.0038	0.74255	1592	12	1555	19	1643	20	1643	20	5.4
U1456D-13R-1 30-38 cm	291.5	1.287	0.084	0.003	0.0117	0.0002	0.04547	81.2	3.1	74.74	0.96	259	83	74.74	0.96	8.0
U1456D-13R-1 30-38 cm	2149	1.708	0.035	0.001	0.0052	0.0001	0.18187	34.5	1	33.62	0.61	100	66	33.62	0.61	2.6
U1456D-13R-1 30-38 cm	633	0.626	0.788	0.013	0.0930	0.0010	0.58163	589.2	7	573	5.9	651	29	573	5.9	2.7
U1456D-13R-1 30-38 cm	307	0.602	0.054	0.004	0.0070	0.0002	0.17435	53.4	4.2	44.9	1	380	160	DISC	DISC	15.9
U1456D-13R-1 30-38 cm	899	0.962	0.066	0.002	0.0102	0.0002	0.32491	64.8	1.9	65.16	0.94	76	57	65.16	0.94	0.6
U1456D-13R-1 30-38 cm	1781	0.726	0.019	0.001	0.0027	0.0001	0.26064	18.94	0.99	17.34	0.34	210	100	17.34	0.34	8.4
U1456D-13R-1 30-38 cm	2560	1.791	0.630	0.014	0.0759	0.0018	0.57727	495.6	8.7	472	11	589	44	472	11	4.8
U1456D-13R-1 30-38 cm	164.4	5.200	4.052	0.046	0.2873	0.0029	0.47838	1643	9.2	1627	15	1666	20	1666	20	2.3
U1456D-13R-1 30-38 cm	132	1.027	0.106	0.007	0.0160	0.0003	0.06949	101.4	6.3	102.4	2.2	90	120	102.4	2.2	1.0
U1456D-13R-1 30-38 cm	4350	3.090	0.048	0.001	0.0072	0.0001	0.33845	47.35	0.96	46.09	0.7	119	44	46.09	0.7	2.7
U1456D-13R-1 30-38 cm	238.2	0.384	0.150	0.007	0.0192	0.0004	0.11126	141.4	5.9	122.8	2.6	432	98	122.8	2.6	13.2
U1456D-13R-1 30-38 cm	160.6	0.477	1.064	0.030	0.1180	0.0018	0.36895	732	15	719	11	774	56	719	11	1.8
U1456D-13R-1 30-38 cm	1440	1.194	0.080	0.003	0.0120	0.0002	0.09182	78.1	2.3	77	1.3	112	70	77	1.3	1.4
U1456D-13R-1 30-38 cm	454	0.678	0.052	0.003	0.0076	0.0002	0.40220	50.5	2.5	49.01	0.94	136	85	49.01	0.94	3.0
U1456D-13R-1 30-38 cm	345	0.576	1.884	0.038	0.1775	0.0034	0.69397	1073	13	1052	18	1112	22	1112	22	5.4
U1456D-13R-1 30-38 cm	1000	1.993	0.298	0.012	0.0377	0.0011	0.82851	264.3	9	238.8	6.7	496	46	238.8	6.7	9.6
U1456D-13R-1 30-38 cm	782	0.873	0.054	0.002	0.0080	0.0001	0.21953	53	2.3	51.24	0.75	160	89	51.24	0.75	3.3
U1456D-13R-1 30-38 cm	1300	1.400	0.114	0.003	0.0167	0.0002	0.13552	109	2.4	106.7	1.5	155	48	106.7	1.5	2.1
U1456D-13R-1 30-38 cm	246	0.635	1.372	0.026	0.1445	0.0020	0.60947	875	11	870	11	884	31	884	31	1.6

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456D-13R-1 30-38 cm	119.2	1.391	0.688	0.017	0.0844	0.0011	0.25473	531	10	522	6.7	559	54	522	6.7	1.7
U1456D-13R-1 30-38 cm	504	1.119	0.102	0.004	0.0147	0.0003	0.39537	98.6	3.7	94.3	2.1	198	77	94.3	2.1	4.4
U1456D-13R-1 30-38 cm	1100	0.764	0.051	0.002	0.0069	0.0002	0.43870	50.3	2.1	44.6	1.1	322	78	44.6	1.1	11.3
U1456D-13R-1 30-38 cm	1477	6.500	0.807	0.014	0.0937	0.0018	0.37046	600.2	8.1	578	11	681	45	578	11	3.7
U1456D-13R-1 30-38 cm	246	1.126	1.526	0.027	0.1557	0.0022	0.57133	940	11	933	12	951	31	951	31	1.9
U1456D-13R-1 30-38 cm	87.4	1.148	0.088	0.012	0.0092	0.0003	0.19507	85	11	58.9	2.1	700	260	DISC	DISC	30.7
U1456D-13R-1 30-38 cm	594	1.522	0.092	0.005	0.0080	0.0002	0.01563	89.2	4.5	51	1.3	1250	110	DISC	DISC	42.8
U1456D-13R-1 30-38 cm	396.3	2.013	2.852	0.042	0.2334	0.0032	0.60004	1368	11	1352	17	1387	24	1387	24	2.5
U1456D-13R-1 30-38 cm	479	1.408	4.660	0.063	0.3033	0.0039	0.69892	1758	11	1707	19	1820	19	1820	19	6.2
U1456D-13R-1 30-38 cm	457	11.200	0.931	0.017	0.1094	0.0019	0.47498	669	9.2	669	11	665	40	669	11	0.0
U1456D-13R-1 30-38 cm	784	1.390	0.125	0.004	0.0183	0.0003	0.33869	119.1	3.3	116.7	2	176	63	116.7	2	2.0
U1456D-13R-1 30-38 cm	740	1.108	0.133	0.006	0.0189	0.0006	0.58276	126.2	5.1	120.9	3.7	239	76	120.9	3.7	4.2
U1456D-13R-1 30-38 cm	1130	0.769	0.065	0.003	0.0089	0.0002	0.02592	63.5	2.7	57.2	1.3	300	100	57.2	1.3	9.9
U1456D-13R-1 30-38 cm	1506	1.846	0.160	0.003	0.0225	0.0003	0.50336	150.3	2.9	143.4	1.9	217	37	143.4	1.9	4.6
U1456D-13R-1 30-38 cm	744	5.260	0.719	0.012	0.0873	0.0013	0.63979	549.2	6.9	539.6	7.9	580	30	539.6	7.9	1.7
U1456D-13R-1 30-38 cm	274	2.170	0.240	0.008	0.0343	0.0007	0.21302	217.9	6.4	217.4	4.5	223	70	217.4	4.5	0.2
U1456D-13R-1 30-38 cm	1500	2.290	0.116	0.002	0.0170	0.0002	0.26047	111.1	2.1	108.9	1	142	37	108.9	1	2.0
U1456D-13R-1 30-38 cm	480	1.847	0.075	0.003	0.0114	0.0002	0.13246	73.5	2.5	73	1	121	73	73	1	0.7
U1456D-13R-1 30-38 cm	881	0.646	1.018	0.015	0.1148	0.0016	0.65688	712.2	7.3	700.6	9.3	744	24	700.6	9.3	1.6
U1456D-13R-1 30-38 cm	798	2.244	0.269	0.005	0.0377	0.0006	0.50245	241.3	3.8	238.4	3.6	248	36	238.4	3.6	1.2
U1456D-13R-1 30-38 cm	509	1.670	1.822	0.020	0.1669	0.0014	0.51964	1053	7.1	994.8	7.5	1169	18	1169	18	14.9
U1456D-13R-1 30-38 cm	423	0.688	0.074	0.003	0.0106	0.0001	0.20267	72.6	2.8	68.23	0.91	198	74	68.23	0.91	6.0
U1456D-13R-1 30-38 cm	665	0.542	0.351	0.007	0.0470	0.0006	0.39461	306.2	5.1	295.9	3.5	375	40	295.9	3.5	3.4
U1456D-13R-1 30-38 cm	175	0.629	0.059	0.006	0.0074	0.0003	0.31726	58.4	5.8	47.3	1.6	410	190	DISC	DISC	19.0
U1456D-13R-1 30-38 cm	243	0.725	0.061	0.004	0.0084	0.0002	0.11856	60.2	4.1	54	1.1	280	150	54	1.1	10.3
U1456D-13R-1 30-38 cm	575	0.490	1.391	0.018	0.1389	0.0017	0.50246	884.2	7.7	838.3	9.4	1001	25	838.3	9.4	5.2
U1456D-13R-1 30-38 cm	162	0.875	0.054	0.006	0.0078	0.0002	0.12223	53	5.8	50.3	1.3	80	190	50.3	1.3	5.1
U1456D-13R-1 30-38 cm	1210	8.400	0.224	0.020	0.0303	0.0025	0.84603	204	17	193	16	340	100	193	16	5.4
U1456D-13R-1 30-38 cm	324	0.954	0.799	0.019	0.0905	0.0019	0.58780	596	10	558	11	734	44	558	11	6.4
U1456D-13R-1 30-38 cm	81.9	0.490	1.946	0.040	0.1780	0.0028	0.60342	1095	14	1057	16	1172	33	1172	33	9.8
U1456D-13R-1 30-38 cm	538	2.210	1.747	0.048	0.1513	0.0039	0.76649	1024	18	907	22	1281	36	1281	36	29.2
U1456D-13R-1 30-38 cm	511	1.052	0.066	0.003	0.0093	0.0002	0.26115	65.1	2.4	59.55	0.94	262	76	59.55	0.94	8.5
U1456D-13R-1 30-38 cm	126	2.600	1.154	0.024	0.1184	0.0020	0.52238	777	11	721	12	939	39	721	12	7.2
U1456D-13R-1 30-38 cm	628	1.224	0.977	0.021	0.1072	0.0021	0.70345	691	11	656	12	819	37	656	12	5.1

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456D-13R-1 30-38 cm	453	0.724	0.114	0.004	0.0165	0.0003	0.39485	109.5	3.1	105.8	2.2	185	60	105.8	2.2	3.4
U1456D-13R-1 30-38 cm	109	1.182	1.322	0.025	0.1377	0.0015	0.39424	853	11	831.3	8.4	902	36	831.3	8.4	2.5
U1456D-13R-1 30-38 cm	874	5.510	0.609	0.009	0.0768	0.0008	0.60219	482.5	5.4	477	4.5	499	25	477	4.5	1.1
U1456D-13R-1 30-38 cm	208	0.392	0.075	0.008	0.0107	0.0004	0.18193	73.2	7.7	68.3	2.6	260	210	68.3	2.6	6.7
U1456D-13R-1 30-38 cm	1300	12.600	0.749	0.027	0.0920	0.0034	0.76638	566	15	567	20	563	53	567	20	0.2
U1456D-13R-1 30-38 cm	725	5.470	0.934	0.018	0.1074	0.0021	0.64542	669	9.6	658	12	705	35	658	12	1.6
U1456D-13R-1 30-38 cm	134	0.814	0.055	0.010	0.0081	0.0008	0.34553	54.1	9.9	52.1	5.4	240	320	DISC	DISC	3.7
U1456D-13R-1 30-38 cm	408.4	6.860	0.468	0.013	0.0569	0.0014	0.73636	389.1	9.2	356.6	8.4	592	44	356.6	8.4	8.4
U1456D-13R-1 30-38 cm	535	0.696	0.860	0.021	0.0977	0.0022	0.70594	633	14	601	13	743	45	601	13	5.1
U1456D-13R-1 30-38 cm	419	1.761	4.428	0.086	0.3008	0.0056	0.39267	1715	16	1694	28	1741	32	1741	32	2.7
U1456D-13R-1 30-38 cm	141.3	1.351	0.720	0.019	0.0878	0.0009	0.34577	551	11	542.6	5.3	565	55	542.6	5.3	1.5
U1456D-13R-1 30-38 cm	498	1.415	0.117	0.003	0.0167	0.0003	0.22843	111.9	3.1	106.7	1.7	229	63	106.7	1.7	4.6
U1456D-13R-1 30-38 cm	98.5	1.037	0.078	0.008	0.0112	0.0003	0.05458	75.1	7	71.6	2	160	180	71.6	2	4.7
U1456D-13R-1 30-38 cm	373.4	2.054	1.442	0.044	0.1469	0.0042	0.83203	903	18	882	24	957	41	957	41	7.8
U1456D-13R-1 30-38 cm	313	2.510	0.069	0.004	0.0102	0.0002	0.22392	67.4	3.3	65.4	1.2	120	88	65.4	1.2	3.0
U1456D-13R-1 30-38 cm	188	0.837	0.085	0.006	0.0126	0.0003	0.00607	83.2	5.3	80.6	1.6	160	130	80.6	1.6	3.1
U1456D-13R-1 30-38 cm	827	2.160	0.303	0.010	0.0396	0.0010	0.39518	268.7	7.7	250.3	5.9	421	74	250.3	5.9	6.8
U1456D-13R-1 30-38 cm	581	1.080	0.048	0.002	0.0076	0.0002	0.17902	47.8	2.1	48.7	0.96	26	82	48.7	0.96	1.9
U1456D-13R-1 30-38 cm	370	4.200	0.116	0.005	0.0174	0.0003	0.28818	110.7	4.3	111	2.1	133	81	111	2.1	0.3
U1456D-13R-1 30-38 cm	39.08	1.046	0.152	0.016	0.0206	0.0007	0.24386	140	14	131.4	4.4	220	190	131.4	4.4	6.1
U1456D-13R-1 30-38 cm	2230	1.310	0.023	0.001	0.0034	0.0001	0.28583	22.71	0.84	21.78	0.49	119	72	21.78	0.49	4.1
U1456D-13R-1 30-38 cm	214.6	0.471	1.240	0.024	0.1307	0.0020	0.42160	817	11	791	11	884	38	791	11	3.2
U1456D-13R-1 30-38 cm	1086	0.618	0.977	0.016	0.1060	0.0018	0.57596	691.6	8.3	649	11	833	28	649	11	6.2
U1456D-13R-1 30-38 cm	598	26.200	0.159	0.012	0.0240	0.0013	0.63733	150	10	152.9	7.9	100	110	152.9	7.9	1.9
U1456D-13R-1 30-38 cm	220	1.970	1.593	0.043	0.1542	0.0034	0.73742	965	17	924	19	1050	39	1050	39	12.0
U1456D-13R-1 30-38 cm	404	0.829	0.117	0.005	0.0168	0.0003	0.39115	111.9	4.5	107.2	2.1	194	77	107.2	2.1	4.2
U1456D-13R-1 30-38 cm	56	0.555	0.094	0.018	0.0126	0.0005	0.11098	89	17	80.7	3.3	120	330	80.7	3.3	9.3
U1456D-13R-1 30-38 cm	1858	0.458	0.780	0.010	0.0941	0.0011	0.70399	585	5.5	579.8	6.6	601	20	579.8	6.6	0.9
U1456D-13R-1 30-38 cm	475	0.884	1.169	0.018	0.1321	0.0018	0.56370	784.7	8.6	800	10	744	28	800	10	1.9
U1456D-13R-1 30-38 cm	461	3.230	0.735	0.025	0.0859	0.0035	0.61288	558	14	531	21	656	64	531	21	4.8
U1456D-13R-1 30-38 cm	1353	0.485	0.069	0.001	0.0101	0.0001	0.25229	67.8	1.4	64.95	0.77	178	47	64.95	0.77	4.2
U1456D-13R-1 30-38 cm	324	0.757	0.090	0.004	0.0135	0.0002	0.13578	86.9	3.9	86.5	1.4	103	87	86.5	1.4	0.5
U1456D-13R-1 30-38 cm	940	11.650	0.325	0.022	0.0427	0.0026	0.59807	285	17	269	16	400	110	269	16	5.6
U1456D-13R-1 30-38 cm	1105	2.300	0.927	0.014	0.1028	0.0014	0.78116	665.5	7.4	630.9	8	781	20	630.9	8	5.2

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456D-13R-1 30-38 cm	373	60.000	0.175	0.009	0.0242	0.0007	0.31864	163.1	7.8	154.3	4.4	280	110	154.3	4.4	5.4
U1456D-13R-1 30-38 cm	437	0.870	0.117	0.004	0.0175	0.0002	0.39599	112.5	3.8	112	1.4	128	67	112	1.4	0.4
U1456D-13R-1 30-38 cm	744	1.800	0.123	0.007	0.0181	0.0006	0.52625	117.3	6.6	115.9	3.8	150	100	115.9	3.8	1.2
U1456D-13R-1 30-38 cm	324	2.044	3.350	0.110	0.2235	0.0064	0.82234	1491	25	1300	34	1772	34	1772	34	26.6
U1456D-13R-1 30-38 cm	166.3	22.900	2.848	0.075	0.1846	0.0043	0.74503	1363	20	1091	23	1823	31	DISC	DISC	40.2
U1456D-13R-1 30-38 cm	3440	1.466	0.051	0.002	0.0074	0.0001	0.58250	50.8	1.5	47.39	0.75	175	43	47.39	0.75	6.7
U1456D-13R-1 30-38 cm	184.2	2.610	1.253	0.030	0.1379	0.0025	0.61202	822	14	832	14	810	39	832	14	1.2
U1456D-13R-1 30-38 cm	287	1.206	0.122	0.010	0.0179	0.0007	0.06818	116.3	8.8	114.5	4.3	110	120	114.5	4.3	1.5
U1456D-13R-1 30-38 cm	97.2	1.104	6.069	0.059	0.3556	0.0023	0.46540	1985	8.6	1961	11	2010	15	2010	15	2.4
U1456D-13R-1 30-38 cm	1266	0.483	0.014	0.001	0.0016	0.0000	0.05264	13.8	1.2	10.05	0.26	610	170	DISC	DISC	27.2
U1456D-13R-1 30-38 cm	1630	61.200	0.736	0.015	0.0893	0.0019	0.61897	559.3	8.6	551	11	591	35	551	11	1.5
U1456D-13R-1 30-38 cm	337.5	1.892	1.670	0.041	0.1644	0.0036	0.59548	996	16	981	20	1023	46	1023	46	4.1
U1456D-13R-1 30-38 cm	543	1.354	2.980	0.071	0.2199	0.0052	0.79599	1397	19	1280	28	1591	30	1591	30	19.5
U1456D-13R-1 30-38 cm	1119	1.068	0.143	0.002	0.0207	0.0002	0.26537	136	2.1	132.1	1.1	202	35	132.1	1.1	2.9
U1456D-13R-1 30-38 cm	4150	1.781	0.036	0.001	0.0053	0.0001	0.42963	35.7	0.92	34.1	0.51	160	50	34.1	0.51	4.5
U1456D-13R-1 30-38 cm	553.9	0.943	0.052	0.003	0.0078	0.0001	0.02670	51.4	2.3	49.82	0.68	119	81	49.82	0.68	3.1
U1456D-13R-1 30-38 cm	84.1	0.802	1.165	0.024	0.1253	0.0013	0.17416	783	11	760.8	7.2	834	43	760.8	7.2	2.8
U1456D-5R-1 12-20 cm	98.7	0.532	1.589	0.032	0.1625	0.0026	0.64782	963	13	970	14	920	31	920.0	31.0	5.4
U1456D-5R-1 12-20 cm	469	0.788	1.242	0.020	0.1347	0.0019	0.74492	818.7	8.9	814	11	798	22	814.0	11.0	0.6
U1456D-5R-1 12-20 cm	14.44	0.172	7.400	0.230	0.3724	0.0084	0.51897	2154	28	2045	41	2225	46	2225.0	46.0	8.1
U1456D-5R-1 12-20 cm	343.1	0.807	0.112	0.003	0.0170	0.0003	0.27802	108.3	2.5	108.7	1.6	86	50	108.7	1.6	0.4
U1456D-5R-1 12-20 cm	298	0.597	0.055	0.004	0.0086	0.0002	0.15253	54.4	3.5	55.3	1.4	60	120	55.3	1.4	1.7
U1456D-5R-1 12-20 cm	1270	12.700	0.111	0.003	0.0167	0.0004	0.58789	106.8	2.7	106.8	2.3	143	45	106.8	2.3	0.0
U1456D-5R-1 12-20 cm	127.7	0.446	0.069	0.003	0.0113	0.0002	0.03230	67.4	3	72.2	1.3	52	87	72.2	1.3	7.1
U1456D-5R-1 12-20 cm	230.7	2.250	6.490	0.190	0.3561	0.0087	0.63690	2040	25	1962	41	2110	40	2110.0	40.0	7.0
U1456D-5R-1 12-20 cm	60.6	0.589	10.140	0.150	0.4610	0.0073	0.66454	2448	14	2442	32	2441	22	2441.0	22.0	0.0
U1456D-5R-1 12-20 cm	105.8	0.905	0.173	0.020	0.0268	0.0013	0.55362	162	18	170.5	8.3	40	190	170.5	8.3	5.2
U1456D-5R-1 12-20 cm	167.8	1.837	0.689	0.019	0.0784	0.0018	0.27738	534	11	486	11	720	60	486.0	11.0	9.0
U1456D-5R-1 12-20 cm	547	1.234	0.104	0.002	0.0158	0.0002	0.31399	100.3	2.2	100.8	1.2	77	45	100.8	1.2	0.5
U1456D-5R-1 12-20 cm	594.8	6.150	0.057	0.002	0.0083	0.0002	0.25131	55.8	2.3	53.2	1.2	151	87	53.2	1.2	4.7
U1456D-5R-1 12-20 cm	159.8	0.517	0.057	0.003	0.0090	0.0002	#######	56.3	2.7	57.42	0.98	39	95	57.4	1.0	2.0
U1456D-5R-1 12-20 cm	185.4	0.928	0.868	0.015	0.1020	0.0014	0.47300	633.4	8.2	626.1	8.2	656	32	626.1	8.2	1.2
U1456D-5R-1 12-20 cm	36.92	0.527	0.283	0.020	0.0097	0.0005	0.02641	252	16	62.3	3.2	2900	150	DISC	DISC	75.3
U1456D-5R-1 12-20 cm	341.9	0.655	0.824	0.019	0.0994	0.0015	0.37302	609	10	610.4	8.8	630	45	610.4	8.8	0.2
U1456D-5R-1 12-20 cm	54.9	0.886	0.068	0.010	0.0091	0.0005	0.05041	66.8	9.6	58.6	2.9	360	300	58.6	2.9	12.3

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456D-5R-1 12-20 cm	155.5	2.150	1.019	0.033	0.1144	0.0031	0.78832	711	17	698	18	737	44	698.0	18.0	1.8
U1456D-5R-1 12-20 cm	207	0.744	7.840	0.240	0.3644	0.0084	0.90157	2207	27	2010	43	2379	23	2379.0	23.0	15.5
U1456D-5R-1 12-20 cm	332	1.770	5.410	0.110	0.3404	0.0070	0.88499	1881	18	1889	33	1864	18	1864.0	18.0	1.3
U1456D-5R-1 12-20 cm	159.9	5.160	14.470	0.200	0.5405	0.0078	0.69642	2778	13	2783	33	2757	19	2757.0	19.0	0.9
U1456D-5R-1 12-20 cm	38.5	0.648	1.204	0.029	0.1294	0.0017	0.44815	801	14	784	9.5	817	51	784.0	9.5	2.1
U1456D-5R-1 12-20 cm	38.9	1.313	0.537	0.024	0.0698	0.0016	0.34557	432	16	435.9	9.3	381	88	435.9	9.3	0.9
U1456D-5R-1 12-20 cm	284	1.496	0.611	0.011	0.0791	0.0012	0.44729	483.5	6.6	490.5	7	421	40	490.5	7.0	1.4
U1456D-5R-1 12-20 cm	106.9	0.704	0.444	0.024	0.0204	0.0009	0.32208	375	17	130.2	5.4	2415	96	DISC	DISC	65.3
U1456D-5R-1 12-20 cm	144.2	0.905	0.051	0.003	0.0080	0.0002	0.22903	51.1	2.7	51.5	1.1	90	100	51.5	1.1	0.8
U1456D-5R-1 12-20 cm	268	2.150	0.190	0.006	0.0273	0.0005	0.47326	175.9	5.2	173.7	3.2	201	62	173.7	3.2	1.3
U1456D-5R-1 12-20 cm	333	1.017	0.059	0.002	0.0090	0.0002	0.19628	58.2	2.1	57.5	1.1	96	71	57.5	1.1	1.2
U1456D-5R-1 12-20 cm	533	0.415	0.023	0.002	0.0035	0.0001	0.15441	23	2.1	22.52	0.73	90	160	22.5	0.7	2.1
U1456D-5R-1 12-20 cm	647	18.700	0.121	0.007	0.0182	0.0007	0.56503	116.3	5.9	116.2	4.4	128	93	116.2	4.4	0.1
U1456D-5R-1 12-20 cm	231	0.874	0.977	0.025	0.1005	0.0023	0.59962	691	13	617	13	942	45	617.0	13.0	10.7
U1456D-5R-1 12-20 cm	2079	76.600	0.025	0.001	0.0039	0.0001	0.37308	25.26	0.65	24.81	0.45	81	49	24.8	0.5	1.8
U1456D-5R-1 12-20 cm	366	3.260	0.088	0.003	0.0129	0.0002	0.14073	85.9	3	82.7	1.5	162	66	82.7	1.5	3.7
U1456D-5R-1 12-20 cm	1147	0.610	0.178	0.004	0.0260	0.0005	0.49472	166	3.4	165.7	3	168	45	165.7	3.0	0.2
U1456D-5R-1 12-20 cm	186.7	0.936	2.888	0.038	0.2317	0.0031	0.58145	1377	10	1343	16	1425	23	1425.0	23.0	5.8
U1456D-5R-1 12-20 cm	1540	23.300	0.606	0.008	0.0771	0.0010	0.40394	480.9	5.1	478.4	5.9	478	29	478.4	5.9	0.5
U1456D-5R-1 12-20 cm	1086	4.405	4.246	0.040	0.2505	0.0024	0.70770	1682	7.7	1441	13	1995	14	1995.0	14.0	27.8
U1456D-5R-1 12-20 cm	233.6	0.946	1.708	0.026	0.1701	0.0023	0.61636	1010	10	1013	13	996	27	996.0	27.0	1.7
U1456D-5R-1 12-20 cm	524	27.000	0.232	0.009	0.0325	0.0010	0.27233	211.2	7.6	206	6	269	77	206.0	6.0	2.5
U1456D-5R-1 12-20 cm	191	1.340	0.722	0.022	0.0878	0.0017	0.49165	551	13	542	10	578	60	542.0	10.0	1.6
U1456D-5R-1 12-20 cm	326	1.283	4.223	0.060	0.2857	0.0039	0.58071	1679	11	1619	19	1741	24	1741.0	24.0	7.0
U1456D-5R-1 12-20 cm	104.8	0.485	1.000	0.039	0.1140	0.0045	0.56482	703	20	695	26	718	78	695.0	26.0	1.1
U1456D-5R-1 12-20 cm	125.2	1.037	0.648	0.024	0.0801	0.0012	0.29076	506	15	496.5	7.2	528	79	496.5	7.2	1.9
U1456D-5R-1 12-20 cm	189.7	1.001	9.100	0.150	0.4399	0.0085	0.59248	2346	16	2346	38	2348	27	2348.0	27.0	0.1
U1456D-5R-1 12-20 cm	109.5	0.479	10.570	0.190	0.4709	0.0084	0.56088	2485	17	2484	37	2491	28	2491.0	28.0	0.3
U1456D-5R-1 12-20 cm	359.1	0.644	0.082	0.003	0.0127	0.0003	0.24370	79.6	2.6	81.4	1.9	87	67	81.4	1.9	2.3
U1456D-5R-1 12-20 cm	327.3	1.535	0.114	0.004	0.0171	0.0002	0.14848	109.2	3.3	109.2	1.5	146	67	109.2	1.5	0.0
U1456D-5R-1 12-20 cm	1046	9.680	0.716	0.032	0.0879	0.0063	0.58009	548	19	543	37	610	120	543.0	37.0	0.9
U1456D-5R-1 12-20 cm	365.1	4.660	1.563	0.028	0.1553	0.0030	0.63448	955	11	931	17	1044	33	1044.0	33.0	10.8
U1456D-5R-1 12-20 cm	1078	73.300	0.165	0.011	0.0224	0.0014	0.49365	154.7	9.7	142.8	8.8	380	140	142.8	8.8	7.7
U1456D-5R-1 12-20 cm	290.8	4.074	0.851	0.017	0.1027	0.0016	0.34422	624.7	9.4	630	9.2	631	47	630.0	9.2	0.8
U1456D-5R-1 12-20 cm	19.7	3.550	0.139	0.066	0.0112	0.0018	#######	125	56	72	11	750	920	DISC	DISC	42.4
U1456D-5R-1 12-20 cm	230	0.938	0.057	0.003	0.0090	0.0002	0.22408	56.5	2.5	57.8	1.1	79	86	57.8	1.1	2.3
U1456D-5R-1 12-20 cm	229	0.861	0.121	0.004	0.0178	0.0004	0.24048	115.6	3.9	113.5	2.5	172	69	113.5	2.5	1.8

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456D-5R-1 12-20 cm	528	7.610	0.700	0.025	0.0886	0.0019	0.63009	532	11	547	11	514	41	547.0	11.0	2.8
U1456D-5R-1 12-20 cm	281	1.696	1.250	0.020	0.1387	0.0019	0.32802	822.8	8.8	837	11	783	36	837.0	11.0	1.7
U1456D-5R-1 12-20 cm	479	47.600	0.126	0.009	0.0180	0.0008	0.47731	119.9	7.9	114.9	5	210	130	114.9	5.0	4.2
U1456D-5R-1 12-20 cm	33.46	0.688	0.718	0.055	0.0877	0.0022	#######	546	32	542	13	530	170	542.0	13.0	0.7
U1456D-5R-1 12-20 cm	223	2.247	1.178	0.026	0.1257	0.0022	0.48728	788	12	763	12	844	43	763.0	12.0	3.2
U1456D-5R-1 12-20 cm	675	2.060	0.128	0.008	0.0182	0.0010	0.52628	122.2	6.9	116.1	6.5	220	130	116.1	6.5	5.0
U1456D-5R-1 12-20 cm	41.1	1.093	1.769	0.066	0.1644	0.0052	0.59873	1038	27	981	29	1128	64	1128.0	64.0	13.0
U1456D-5R-1 12-20 cm	761	4.800	0.624	0.011	0.0773	0.0014	0.57877	491.6	6.7	479.8	8.6	509	35	479.8	8.6	2.4
U1456D-5R-1 12-20 cm	204	0.440	10.010	0.410	0.3360	0.0110	0.74409	2421	37	1860	52	2906	44	DISC	DISC	36.0
U1456D-5R-1 12-20 cm	187	0.961	0.061	0.003	0.0092	0.0002	0.15048	59.6	3.3	58.7	1.4	120	110	58.7	1.4	1.5
U1456D-5R-1 12-20 cm	295.7	0.628	1.262	0.033	0.1340	0.0035	0.54294	828	15	810	20	876	52	810.0	20.0	2.2
U1456D-5R-1 12-20 cm	143.6	3.590	1.846	0.034	0.1814	0.0034	0.65749	1061	12	1074	19	1037	33	1037.0	33.0	3.6
U1456D-5R-1 12-20 cm	210.2	1.249	2.172	0.065	0.2035	0.0062	0.55193	1171	21	1191	33	1135	56	1135.0	56.0	4.9
U1456D-5R-1 12-20 cm	199	1.246	1.784	0.021	0.1742	0.0019	0.59579	1041	7.8	1035	11	1041	21	1041.0	21.0	0.6
U1456D-5R-1 12-20 cm	332	0.478	1.626	0.060	0.1625	0.0062	0.66713	977	23	969	34	1002	59	1002.0	59.0	3.3
U1456D-5R-1 12-20 cm	735	2.940	0.035	0.001	0.0054	0.0001	0.25372	35.1	1.2	34.47	0.66	84	72	34.5	0.7	1.8
U1456D-5R-1 12-20 cm	596	57.300	0.282	0.023	0.0394	0.0038	0.74741	251	18	248	23	310	130	248.0	23.0	1.2
U1456D-5R-1 12-20 cm	41.3	0.821	0.101	0.009	0.0152	0.0006	0.20541	98	8	97.1	3.7	130	150	97.1	3.7	0.9
U1456D-5R-1 12-20 cm	483	3.830	1.440	0.065	0.1481	0.0051	0.63874	900	27	889	29	903	72	903.0	72.0	1.6
U1456D-5R-1 12-20 cm	681	3.000	0.119	0.003	0.0176	0.0004	0.49024	114.3	3	112.4	2.3	158	48	112.4	2.3	1.7
U1456D-5R-1 12-20 cm	190.8	1.401	1.302	0.049	0.1358	0.0043	0.59711	842	22	820	24	890	66	820.0	24.0	2.6
U1456D-5R-1 12-20 cm	534	1.091	6.560	0.100	0.3681	0.0060	0.64358	2052	14	2019	28	2079	21	2079.0	21.0	2.9
U1456D-5R-1 12-20 cm	1660	82.500	0.082	0.011	0.0110	0.0006	0.11071	80	11	70.4	3.7	350	280	70.4	3.7	12.0
U1456D-5R-1 12-20 cm	185.8	0.902	1.453	0.028	0.1514	0.0023	0.49948	910	11	908	13	930	35	930.0	35.0	2.4
U1456D-5R-1 12-20 cm	99.9	0.997	7.250	0.160	0.3214	0.0081	0.67408	2142	21	1794	39	2527	33	2527.0	33.0	29.0
U1456D-5R-1 12-20 cm	263	1.115	0.112	0.004	0.0167	0.0003	0.32604	107.6	3.2	106.6	1.6	145	60	106.6	1.6	0.9
U1456D-5R-1 12-20 cm	930	2.260	0.111	0.003	0.0165	0.0004	0.43368	106.9	2.8	105.5	2.5	140	59	105.5	2.5	1.3
U1456D-5R-1 12-20 cm	90.1	0.791	1.289	0.027	0.1398	0.0031	0.46633	838	12	845	18	847	49	845.0	18.0	0.8
U1456D-5R-1 12-20 cm	138.8	0.792	0.078	0.006	0.0115	0.0006	0.29589	76.2	5.2	73.7	3.7	150	130	73.7	3.7	3.3
U1456D-5R-1 12-20 cm	157.6	0.992	0.062	0.003	0.0092	0.0002	#######	60.9	2.6	59.3	1.1	125	89	59.3	1.1	2.6
U1456D-5R-1 12-20 cm	190.2	1.847	0.928	0.013	0.1105	0.0011	0.46892	666.3	6.8	675.5	6.2	628	28	675.5	6.2	1.4
U1456D-5R-1 12-20 cm	513	20.900	0.248	0.009	0.0350	0.0006	0.43650	224.6	7.3	221.6	3.4	257	73	221.6	3.4	1.3
U1456D-5R-1 12-20 cm	381	5.210	0.577	0.010	0.0732	0.0009	0.35815	462.5	6.1	455.5	5.5	485	40	455.5	5.5	1.5
U1456D-5R-1 12-20 cm	123.1	0.693	0.081	0.005	0.0125	0.0002	0.13838	79	4.4	80.2	1.5	60	100	80.2	1.5	1.5
U1456D-5R-1 12-20 cm	73.7	0.866	0.143	0.007	0.0219	0.0004	0.12672	134.8	6	139.9	2.5	78	89	139.9	2.5	3.8
U1456D-5R-1 12-20 cm	72.4	0.306	0.744	0.026	0.0904	0.0026	0.37581	563	15	558	15	575	76	558.0	15.0	0.9
U1456D-5R-1 12-20 cm	37.9	0.767	6.980	0.220	0.3420	0.0100	0.82722	2100	28	1891	49	2317	35	2317.0	35.0	18.4

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456D-5R-1 12-20 cm	82.4	1.447	3.100	0.120	0.2282	0.0050	0.37626	1429	29	1324	26	1583	63	1583.0	63.0	16.4
U1456D-5R-1 12-20 cm	537	0.689	0.066	0.002	0.0099	0.0002	0.46192	64.6	1.7	63.4	1.4	127	53	63.4	1.4	1.9
U1456D-5R-1 12-20 cm	682	32.300	1.330	0.017	0.1411	0.0019	0.54917	857.7	7.5	850	11	883	26	883.0	26.0	3.7
U1456D-5R-1 12-20 cm	1622	2.430	0.649	0.008	0.0805	0.0010	0.56107	507.3	4.9	498.8	5.8	542	23	498.8	5.8	1.7
U1456D-5R-1 12-20 cm	258	1.010	1.414	0.020	0.1530	0.0021	0.63752	893.3	8.5	917	12	847	23	847.0	12.0	2.7
U1456D-5R-1 12-20 cm	84.4	1.130	7.358	0.069	0.3969	0.0037	0.62772	2155	8.5	2154	17	2159	13	2159.0	13.0	0.2
U1456D-5R-1 12-20 cm	350	34.000	0.135	0.009	0.0195	0.0010	0.82219	128.4	7.6	124.6	6.4	202	75	124.6	6.4	3.0
U1456D-5R-1 12-20 cm	230	1.930	0.922	0.033	0.1012	0.0032	0.60900	663	17	621	19	804	60	621.0	19.0	6.3
U1456D-5R-1 12-20 cm	163.1	1.064	4.971	0.057	0.3226	0.0036	0.54080	1814	9.4	1801	17	1827	20	1827.0	20.0	1.4
U1456D-5R-1 12-20 cm	186	1.740	1.740	0.025	0.1717	0.0018	0.41803	1023	9.2	1021	9.8	1025	28	1025.0	28.0	0.4
U1456D-5R-1 12-20 cm	47.1	0.262	0.770	0.020	0.0901	0.0015	0.44220	577	12	555.6	9	663	55	555.6	9.0	3.7
U1456D-5R-1 12-20 cm	85.2	1.176	4.820	0.110	0.3150	0.0064	0.54344	1786	19	1764	32	1812	37	1812.0	37.0	2.6
U1456D-5R-1 12-20 cm	177.5	1.530	1.612	0.025	0.1588	0.0022	0.78193	973.7	9.9	950	12	1029	24	1029.0	24.0	7.7
U1456D-5R-1 12-20 cm	96	0.500	0.481	0.012	0.0641	0.0008	0.25869	397.1	8.5	401.1	4.8	365	55	401.1	4.8	1.0
U1456D-5R-1 12-20 cm	2745	1.328	0.013	0.001	0.0018	0.0001	0.17759	13	0.61	11.82	0.44	250	110	11.8	0.4	9.1
U1456D-5R-1 12-20 cm	1603	1.653	0.032	0.003	0.0047	0.0003	0.71786	32.2	2.6	30.1	1.9	190	130	30.1	1.9	6.5
U1456D-5R-1 12-20 cm	922	2.470	0.073	0.002	0.0103	0.0003	0.43286	71	2.3	66.1	1.7	238	71	66.1	1.7	6.9
U1456D-5R-1 12-20 cm	249.1	0.692	1.726	0.025	0.1688	0.0020	0.70426	1017	9.4	1005	11	1051	24	1051.0	24.0	4.4
U1456D-5R-1 12-20 cm	104	0.826	1.345	0.023	0.1410	0.0015	0.44934	866	10	849.8	8.3	905	32	849.8	8.3	1.9
U1456D-5R-1 12-20 cm	601	0.644	0.089	0.002	0.0125	0.0002	0.44966	86.8	2.1	79.7	1.2	296	53	79.7	1.2	8.2
U1456D-5R-1 12-20 cm	543	2.108	0.690	0.018	0.0811	0.0017	0.33365	532	11	503	10	686	64	503.0	10.0	5.5
U1456D-5R-1 12-20 cm	282.6	1.710	1.401	0.042	0.1428	0.0038	0.80661	887	18	860	21	968	34	968.0	34.0	11.2
U1456D-5R-1 12-20 cm	257.5	1.230	0.865	0.034	0.0963	0.0031	0.87212	630	18	593	18	773	40	593.0	18.0	5.9
U1456D-5R-1 12-20 cm	509	0.377	0.034	0.008	0.0052	0.0022	#######	32.8	7.7	33	14	200	58	DISC	DISC	0.6
U1456D-5R-1 12-20 cm	222.7	7.950	2.531	0.057	0.1794	0.0035	0.87475	1278	16	1063	19	1668	20	DISC	DISC	36.3
U1456D-5R-1 12-20 cm	358.2	0.967	1.106	0.018	0.1236	0.0021	0.68470	756	8.3	751	12	768	28	751.0	12.0	0.7
U1456D-5R-1 12-20 cm	208	0.627	1.764	0.021	0.1748	0.0015	0.55470	1032	7.3	1038	8.1	1019	18	1019.0	18.0	1.9
U1456D-5R-1 12-20 cm	84.7	1.346	2.943	0.084	0.2109	0.0048	0.83082	1384	22	1232	25	1634	29	1634.0	29.0	24.6
U1456D-5R-1 12-20 cm	170.6	3.760	0.321	0.012	0.0393	0.0012	0.61974	282	9.2	248.6	7.4	557	68	248.6	7.4	11.8
U1456D-5R-1 12-20 cm	289	11.060	0.609	0.012	0.0782	0.0014	0.63994	481.6	7.7	485.3	8.3	472	37	485.3	8.3	0.8
U1456D-5R-1 12-20 cm	326	10.720	0.992	0.017	0.1052	0.0018	0.64073	699.1	8.8	644	11	880	31	644.0	11.0	7.9
U1456D-5R-1 12-20 cm	1390	15.950	0.794	0.023	0.0941	0.0022	0.58816	593	13	580	13	645	58	580.0	13.0	2.2
U1456D-5R-1 12-20 cm	112	0.844	1.574	0.047	0.1593	0.0033	0.64124	963	20	952	18	978	51	978.0	51.0	2.7
U1456D-5R-1 12-20 cm	125	4.620	7.300	0.220	0.3810	0.0099	0.72939	2135	28	2080	45	2207	36	2207.0	36.0	5.8
U1456D-5R-1 12-20 cm	475	8.940	0.609	0.009	0.0758	0.0012	0.54677	482.4	5.8	471.1	7.1	515	34	471.1	7.1	2.3
U1456D-5R-1 12-20 cm	104.7	0.657	1.189	0.018	0.1284	0.0015	0.30263	795.5	8	778.3	8.8	832	34	778.3	8.8	2.2
U1456D-5R-1 12-20 cm	331	3.290	3.616	0.062	0.2386	0.0042	0.81456	1551	13	1379	22	1788	20	1788.0	20.0	22.9

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456D-5R-1 12-20 cm	431	1.930	1.736	0.055	0.1584	0.0048	0.88799	1014	21	946	27	1175	28	1175.0	28.0	19.5
U1456D-5R-1 12-20 cm	378	0.988	0.114	0.003	0.0172	0.0002	0.31290	109.4	2.4	109.7	1.3	113	47	109.7	1.3	0.3
U1456D-5R-1 12-20 cm	1370	5.240	0.177	0.006	0.0260	0.0006	0.54727	165.4	4.8	165.7	3.8	160	55	165.7	3.8	0.2
U1456D-5R-1 12-20 cm	71.2	0.568	0.058	0.004	0.0088	0.0002	#######	57.3	3.7	56.5	1.4	120	130	56.5	1.4	1.4
U1456D-5R-1 12-20 cm	511	4.490	0.579	0.016	0.0704	0.0018	0.58367	462	10	438	11	575	54	438.0	11.0	5.2
U1456D-5R-1 12-20 cm	551	3.130	0.091	0.002	0.0130	0.0002	0.36951	88.2	2.1	83.5	1.4	207	53	83.5	1.4	5.3
U1456D-5R-1 12-20 cm	92.7	0.539	0.058	0.004	0.0090	0.0002	0.11501	56.9	3.7	57.5	1.5	40	110	57.5	1.5	1.1
U1456D-5R-1 12-20 cm	239	1.210	0.100	0.004	0.0159	0.0003	0.56791	96.8	3.5	101.4	2	76	62	101.4	2.0	4.8
U1456D-5R-1 12-20 cm	223	4.750	0.403	0.020	0.0426	0.0017	0.61092	343	15	269	11	867	87	DISC	DISC	21.6
U1457C-33R-3 10-17 cm	63.7	1.381	0.063	0.007	0.0085	0.0004	0.06741	62.3	6.8	54.5	2.3	230	200	54.5	2.3	12.52006421
U1457C-33R-3 10-17 cm	287	10.130	0.758	0.018	0.0907	0.0017	0.53796	571	10	560	10	600	46	560	10	1.926444834
U1457C-33R-3 10-17 cm	422	20.570	1.719	0.045	0.1573	0.0027	0.35497	1013	17	941	15	1159	51	1159	51	18.80931838
U1457C-33R-3 10-17 cm	183.5	0.332	2.127	0.043	0.1965	0.0034	0.61612	1155	14	1156	18	1140	32	1140	32	1.403508772
U1457C-33R-3 10-17 cm	975	1.342	0.992	0.035	0.1081	0.0038	0.74590	697	18	661	22	803	51	661	22	5.164992826
U1457C-33R-3 10-17 cm	460	64.500	0.041	0.002	0.0061	0.0002	0.25511	40.3	2.4	39.2	1.1	120	120	39.2	1.1	2.729528536
U1457C-33R-3 10-17 cm	134.4	0.377	6.620	0.180	0.3789	0.0099	0.85280	2058	23	2069	47	2033	26	2033	26	1.770782095
U1457C-33R-3 10-17 cm	4740	33.500	0.487	0.036	0.0601	0.0042	0.61057	402	25	376	25	540	140	376	25	6.467661692
U1457C-33R-3 10-17 cm	477	0.887	1.352	0.030	0.1191	0.0023	0.73938	866	13	725	13	1226	30	DISC	DISC	16.2817552
U1457C-33R-3 10-17 cm	270	1.160	1.496	0.035	0.1511	0.0029	0.61060	926	14	906	16	959	37	959	37	5.526590198
U1457C-33R-3 10-17 cm	355	5.750	5.075	0.082	0.3289	0.0051	0.74761	1830	14	1832	25	1809	19	1809	19	1.271420674
U1457C-33R-3 10-17 cm	826	1.310	4.435	0.086	0.2840	0.0060	0.87189	1716	16	1610	30	1839	21	1839	21	12.45241979
U1457C-33R-3 10-17 cm	214	0.427	0.086	0.005	0.0125	0.0003	0.09115	83.5	4.5	79.9	2	180	110	79.9	2	4.311377246
U1457C-33R-3 10-17 cm	255	1.635	5.051	0.077	0.3215	0.0045	0.79840	1825	13	1796	22	1867	17	1867	17	3.802892341
U1457C-33R-3 10-17 cm	608	1.139	1.159	0.043	0.1078	0.0036	0.67571	779	21	659	21	1183	55	DISC	DISC	15.40436457
U1457C-33R-3 10-17 cm	1425	9.510	0.601	0.014	0.0675	0.0015	0.75040	477.2	8.6	421.1	8.9	787	30	421.1	8.9	11.75607712
U1457C-33R-3 10-17 cm	348	0.627	1.435	0.037	0.1452	0.0034	0.60908	901	15	873	19	985	45	985	45	11.37055838
U1457C-33R-3 10-17 cm	50.2	1.728	1.250	0.110	0.1209	0.0031	0.41576	779	32	735	18	910	100	735	18	5.648267009
U1457C-33R-3 10-17 cm	826	1.239	0.047	0.002	0.0071	0.0002	0.36021	46.3	1.7	45.7	1.1	123	72	45.7	1.1	1.295896328
U1457C-33R-3 10-17 cm	184	1.013	0.323	0.010	0.0457	0.0008	0.22561	282.8	7.8	288	4.9	266	67	288	4.9	1.838755304
U1457C-33R-3 10-17 cm	122.8	1.131	1.274	0.046	0.1292	0.0021	0.11746	829	20	783	12	943	62	783	12	5.548854041
U1457C-33R-3 10-17 cm	2820	0.822	0.096	0.003	0.0141	0.0004	0.72850	92.7	2.3	90.1	2.2	182	40	90.1	2.2	2.804746494
U1457C-33R-3 10-17 cm	321.4	1.971	0.055	0.003	0.0083	0.0002	0.21980	54.1	3	53.1	1.6	120	110	53.1	1.6	1.848428835
U1457C-33R-3 10-17 cm	581	0.693	0.124	0.004	0.0168	0.0003	0.34724	119.3	3.7	107.4	2.1	361	68	107.4	2.1	9.974853311
U1457C-33R-3 10-17 cm	136.4	0.934	2.628	0.087	0.2083	0.0051	0.58973	1302	24	1219	27	1466	50	1466	50	16.84856753
U1457C-33R-3 10-17 cm	705	4.810	0.960	0.014	0.1099	0.0016	0.66029	682.4	7.5	672	9.3	720	25	672	9.3	1.524032825
U1457C-33R-3 10-17 cm	227.1	0.881	18.860	0.340	0.5720	0.0110	0.67300	3031	17	2911	45	3117	24	3117	24	6.608918832

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1457C-33R-3 10-17 cm	251.9	1.199	1.102	0.020	0.1217	0.0016	0.47222	753.9	9.9	739.8	9.2	796	35	739.8	9.2	1.870274572
U1457C-33R-3 10-17 cm	577	2.450	1.955	0.055	0.1833	0.0047	0.80823	1096	19	1084	26	1131	33	1131	33	4.1556145
U1457C-33R-3 10-17 cm	932	29.500	1.284	0.029	0.1365	0.0026	0.58662	837	13	824	15	871	40	824	15	1.553166069
U1457C-33R-3 10-17 cm	162	2.392	3.380	0.200	0.2610	0.0092	0.80195	1492	47	1494	48	1517	66	1517	66	1.516150297
U1457C-33R-3 10-17 cm	604.5	5.170	5.853	0.087	0.3055	0.0046	0.75482	1952	13	1717	23	2211	17	2211	17	22.3428313
U1457C-33R-3 10-17 cm	673	1.072	0.864	0.021	0.0920	0.0022	0.85769	630	11	567	13	855	26	567	13	10
U1457C-33R-3 10-17 cm	97.2	1.254	1.459	0.041	0.1617	0.0035	0.63642	908	17	965	19	749	44	749	19	6.27753304
U1457C-33R-3 10-17 cm	248	0.715	1.030	0.026	0.1076	0.0022	0.50475	717	13	659	13	893	50	659	13	8.089260809
U1457C-33R-3 10-17 cm	258.9	9.590	4.574	0.060	0.3069	0.0038	0.70202	1743	11	1725	19	1755	19	1755	19	1.709401709
U1457C-33R-3 10-17 cm	196.5	1.174	1.174	0.022	0.1302	0.0017	0.60964	786	10	788.8	9.5	758	32	788.8	9.5	0.356234097
U1457C-33R-3 10-17 cm	287	1.040	0.974	0.027	0.1117	0.0026	0.52126	689	14	682	15	698	53	682	15	1.015965167
U1457C-33R-3 10-17 cm	293	2.020	15.580	0.830	0.4290	0.0220	0.82535	2810	55	2280	100	3249	54	3249	54	29.8245614
U1457C-33R-3 10-17 cm	477	4.850	0.598	0.015	0.0749	0.0014	0.55262	475.3	9.6	465.6	8.6	506	55	465.6	8.6	2.040816327
U1457C-33R-3 10-17 cm	429	1.920	0.790	0.015	0.0957	0.0012	0.50737	590.1	8.4	588.9	7.1	590	34	588.9	7.1	0.203355363
U1457C-33R-3 10-17 cm	480	1.370	1.845	0.033	0.1795	0.0036	0.77914	1059	12	1063	20	1052	26	1052	26	1.045627376
U1457C-33R-3 10-17 cm	82.6	0.509	5.960	0.230	0.3290	0.0110	0.74620	1955	32	1824	51	2109	45	2109	45	13.51351351
U1457C-33R-3 10-17 cm	1634	1.378	0.020	0.001	0.0032	0.0001	0.33125	20.54	0.99	20.44	0.53	71	90	20.44	0.53	0.486854917
U1457C-33R-3 10-17 cm	98.6	1.236	0.068	0.007	0.0092	0.0003	0.05566	65.8	6.1	59.2	1.9	260	180	59.2	1.9	10.03039514
U1457C-33R-3 10-17 cm	539	1.409	1.433	0.026	0.1411	0.0024	0.66875	901	11	851	14	1029	29	1029	29	17.29834791
U1457C-33R-3 10-17 cm	266	1.357	7.720	0.170	0.3943	0.0071	0.83229	2194	20	2141	33	2244	24	2244	24	4.590017825
U1457C-33R-3 10-17 cm	784	4.680	0.119	0.003	0.0175	0.0004	0.44012	114.5	3.2	112	2.2	151	58	112	2.2	2.183406114
U1457C-33R-3 10-17 cm	1772	7.610	1.282	0.026	0.1326	0.0024	0.78890	836	12	802	13	922	26	802	13	4.066985646
U1457C-33R-3 10-17 cm	122.5	1.420	1.249	0.031	0.1309	0.0020	0.60216	820	14	793	12	884	45	793	12	3.292682927
U1457C-33R-3 10-17 cm	869	3.670	5.182	0.070	0.3112	0.0037	0.83859	1847	11	1746	18	1957	13	1957	13	10.78180889
U1457C-33R-3 10-17 cm	1347	2.610	0.121	0.003	0.0178	0.0003	0.62319	115.6	2.5	113.4	1.7	150	40	113.4	1.7	1.903114187
U1457C-33R-3 10-17 cm	36.7	0.587	1.109	0.049	0.1249	0.0033	0.21041	755	25	758	19	710	100	758	19	0.397350993
U1457C-33R-3 10-17 cm	1610	4.910	1.807	0.036	0.1681	0.0030	0.79254	1046	13	1001	17	1138	25	1138	25	12.03866432
U1457C-33R-3 10-17 cm	902	2.008	0.414	0.013	0.0548	0.0014	0.69438	350.8	9.2	344.1	8.6	393	46	344.1	8.6	1.909920182
U1457C-33R-3 10-17 cm	317	8.410	1.385	0.027	0.1459	0.0026	0.64613	880	11	879	15	904	34	904	34	2.765486726
U1457C-33R-3 10-17 cm	102.2	0.945	1.057	0.035	0.1146	0.0027	0.61202	732	18	699	15	834	54	699	15	4.508196721
U1457C-33R-3 10-17 cm	267	2.740	1.197	0.036	0.1238	0.0035	0.64852	798	17	754	19	935	52	754	19	5.513784461
U1457C-33R-3 10-17 cm	330	1.630	0.973	0.029	0.1111	0.0033	0.72935	689	16	680	20	752	44	680	20	1.306240929
U1457C-33R-3 10-17 cm	112.2	1.309	0.087	0.006	0.0120	0.0004	0.19158	84	5.8	76.9	2.5	300	140	76.9	2.5	8.452380952
U1457C-33R-3 10-17 cm	655	1.557	5.150	0.160	0.3069	0.0092	0.90709	1839	26	1723	45	1992	22	1992	22	13.50401606
U1457C-33R-3 10-17 cm	163.2	0.969	1.541	0.027	0.1540	0.0018	0.51508	945	11	923	10	1007	32	1007	32	8.341608739
U1457C-33R-3 10-17 cm	534	0.948	0.154	0.004	0.0226	0.0004	0.38107	145.2	3.9	144	2.7	168	58	144	2.7	0.826446281
U1457C-33R-3 10-17 cm	246	0.956	1.275	0.024	0.1390	0.0023	0.71121	834	11	838	13	830	31	838	13	0.479616307

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1457C-33R-3 10-17 cm	261	1.024	4.950	0.092	0.3160	0.0048	0.75446	1807	16	1769	24	1844	22	1844	22	4.067245119
U1457C-33R-3 10-17 cm	857	22.800	0.757	0.014	0.0910	0.0017	0.77284	571.5	8.4	561	10	600	27	561	10	1.837270341
U1457C-33R-3 10-17 cm	1941	0.606	0.544	0.007	0.0685	0.0009	0.69494	440.8	4.6	427.2	5.7	493	23	427.2	5.7	3.085299456
U1457C-33R-3 10-17 cm	592	1.500	1.191	0.024	0.1248	0.0021	0.73728	795	11	758	12	900	26	758	12	4.65408805
U1457C-33R-3 10-17 cm	776	2.300	5.134	0.089	0.3265	0.0053	0.74023	1843	16	1820	26	1858	22	1858	22	2.045209903
U1457C-33R-3 10-17 cm	681	8.990	1.120	0.022	0.1226	0.0021	0.70470	761	11	745	12	796	31	745	12	2.102496715
U1457C-33R-3 10-17 cm	615	11.820	0.633	0.015	0.0783	0.0018	0.76640	497.4	9.5	486	11	535	38	486	11	2.291917973
U1457C-33R-3 10-17 cm	2793	16.400	0.640	0.029	0.0774	0.0035	0.80653	501	18	480	21	601	65	480	21	4.191616766
U1457C-33R-3 10-17 cm	258.9	0.831	1.110	0.030	0.1204	0.0027	0.67283	756	14	733	15	841	39	733	15	3.042328042
U1457C-33R-3 10-17 cm	1370	163.000	0.026	0.004	0.0038	0.0004	0.25117	25.8	3.5	24.7	2.7	170	300	DISC	DISC	4.263565891
U1457C-33R-3 10-17 cm	85.9	0.896	3.270	0.120	0.2538	0.0095	0.59003	1468	28	1456	49	1490	57	1490	57	2.281879195
U1457C-33R-3 10-17 cm	2880	0.793	0.039	0.001	0.0054	0.0001	0.50680	38.8	1.3	34.78	0.61	285	64	34.78	0.61	10.36082474
U1457C-33R-3 10-17 cm	969	9.850	5.054	0.081	0.3050	0.0049	0.87434	1825	13	1714	24	1977	14	1977	14	13.30298432
U1457C-33R-3 10-17 cm	1500	0.465	0.046	0.002	0.0069	0.0002	0.11982	45.9	2.2	44.1	1	160	100	44.1	1	3.921568627
U1457C-33R-3 10-17 cm	301	2.600	0.837	0.019	0.1001	0.0014	0.61735	616	10	614.7	8.4	642	36	614.7	8.4	0.211038961
U1457C-33R-3 10-17 cm	641	1.424	0.111	0.003	0.0165	0.0003	0.24011	106.7	3.1	105.3	1.6	157	61	105.3	1.6	1.312089972
U1457C-33R-3 10-17 cm	81.5	0.599	0.113	0.010	0.0120	0.0005	0.13504	107.6	8.7	77.1	3.4	760	190	DISC	DISC	28.34572491
U1457C-33R-3 10-17 cm	301	1.561	0.814	0.023	0.0923	0.0022	0.68544	603	13	569	13	721	47	569	13	5.638474295
U1457C-33R-3 10-17 cm	685	7.950	0.615	0.018	0.0756	0.0020	0.59337	485	11	469	12	533	47	469	12	3.298969072
U1457C-33R-3 10-17 cm	262.7	0.925	0.712	0.017	0.0814	0.0016	0.40526	546	10	504	9.4	681	52	504	9.4	7.692307692
U1457C-33R-3 10-17 cm	772	3.350	7.320	0.190	0.3650	0.0110	0.67754	2141	23	2000	52	2266	38	2266	38	11.73874669
U1457C-33R-3 10-17 cm	960	6.200	0.207	0.011	0.0251	0.0011	0.35181	190.7	8.9	159.5	7	590	120	DISC	DISC	16.36077609
U1457C-33R-3 10-17 cm	340	1.022	1.280	0.030	0.1379	0.0033	0.80449	834	14	832	19	823	32	832	19	0.239808153
U1457C-33R-3 10-17 cm	251.2	1.123	4.972	0.069	0.3157	0.0043	0.70157	1812	12	1768	21	1848	19	1848	19	4.329004329
U1457C-33R-3 10-17 cm	1819	4.860	1.069	0.016	0.1148	0.0016	0.80136	737	7.7	700.4	9	836	17	700.4	9	4.966078697
U1457C-33R-3 10-17 cm	649	0.867	0.052	0.003	0.0075	0.0002	0.39442	51.4	2.4	48.33	0.93	206	89	48.33	0.93	5.972762646
U1457C-33R-3 10-17 cm	1426	6.200	0.075	0.008	0.0108	0.0008	0.25042	73.4	7.5	69.3	5.4	130	250	69.3	5.4	5.585831063
U1457C-33R-3 10-17 cm	731	4.250	5.157	0.082	0.3265	0.0051	0.89121	1842	14	1820	25	1860	13	1860	13	2.150537634
U1457C-33R-3 10-17 cm	452	4.790	1.581	0.034	0.1600	0.0034	0.69730	959	13	956	19	996	36	996	36	4.016064257
U1457C-33R-3 10-17 cm	1128	16.500	0.057	0.002	0.0084	0.0003	0.70340	56.3	2.3	54	1.6	156	62	54	1.6	4.085257549
U1457C-33R-3 10-17 cm	437	1.374	1.686	0.048	0.1648	0.0031	0.71508	1000	18	983	17	1030	38	1030	38	4.563106796
U1457C-33R-3 10-17 cm	560	4.780	0.198	0.006	0.0286	0.0006	0.32433	182.9	5.4	181.7	3.4	201	66	181.7	3.4	0.656096227
U1457C-33R-3 10-17 cm	650	1.920	0.961	0.024	0.0961	0.0022	0.70135	682	12	591	13	996	37	591	13	13.3431085
U1457C-33R-3 10-17 cm	3350	3.240	0.100	0.002	0.0149	0.0002	0.69428	96.7	1.7	95.3	1.3	136	30	95.3	1.3	1.447776629
U1457C-33R-3 10-17 cm	257	0.566	0.061	0.004	0.0089	0.0002	0.03003	59.8	3.6	57.4	1.3	170	120	57.4	1.3	4.013377926
U1457C-33R-3 10-17 cm	489	1.025	0.111	0.004	0.0166	0.0003	0.30640	106.3	3.3	106	1.8	138	66	106	1.8	0.282220132
U1457C-33R-3 10-17 cm	263.8	1.425	5.042	0.069	0.3210	0.0043	0.69180	1826	11	1794	21	1864	19	1864	19	3.755364807

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1457C-33R-3 10-17 cm	171.2	0.885	0.080	0.005	0.0115	0.0003	0.08009	77.4	4.7	73.7	1.9	210	120	73.7	1.9	4.780361757
U1457C-33R-3 10-17 cm	4050	7.420	0.772	0.023	0.0750	0.0020	0.67078	580	13	466	12	1067	43	DISC	DISC	19.65517241
U1457C-33R-3 10-17 cm	172.6	3.470	5.249	0.097	0.3339	0.0060	0.78299	1858	16	1856	29	1875	23	1875	23	1.013333333
U1457C-33R-3 10-17 cm	2371	0.971	0.018	0.001	0.0028	0.0000	0.09146	18.35	0.62	18.29	0.26	78	70	18.29	0.26	0.326975477
U1457C-33R-3 10-17 cm	1049	2.180	0.790	0.017	0.0910	0.0017	0.74220	590.2	9.5	561	10	724	31	561	10	4.947475432
U1457C-33R-3 10-17 cm	732	6.990	0.344	0.008	0.0460	0.0008	0.62567	300	5.9	289.6	4.7	417	42	289.6	4.7	3.466666667
U1457C-33R-3 10-17 cm	635	1.707	0.106	0.004	0.0158	0.0003	0.26150	102.4	3.2	100.7	1.8	187	67	100.7	1.8	1.66015625
U1457C-33R-3 10-17 cm	125	0.952	5.231	0.076	0.3358	0.0039	0.59883	1855	12	1865	19	1871	22	1871	22	0.320684126
U1457C-33R-3 10-17 cm	366	4.060	0.039	0.003	0.0045	0.0001	0.03112	38.3	3.1	29.03	0.81	580	170	DISC	DISC	24.20365535
U1457C-33R-3 10-17 cm	345	3.020	8.850	0.170	0.3735	0.0065	0.70406	2318	17	2043	31	2565	24	2565	24	20.35087719
U1457C-33R-3 10-17 cm	472	0.783	0.050	0.002	0.0075	0.0002	0.24285	49.1	2.3	48.36	0.94	95	85	48.36	0.94	1.50712831
U1457C-33R-3 10-17 cm	702	2.430	1.309	0.024	0.1388	0.0024	0.59094	852	10	837	14	883	32	837	14	1.76056338
U1457C-33R-3 10-17 cm	606	1.051	0.647	0.012	0.0800	0.0011	0.66319	505.3	7.5	496.2	6.7	549	30	496.2	6.7	1.80091035
U1457C-33R-3 10-17 cm	924	7.700	1.673	0.026	0.1650	0.0022	0.66177	997.9	9.5	984	12	1028	24	1028	24	4.280155642
U1457C-33R-3 10-17 cm	798	8.200	5.147	0.079	0.3289	0.0050	0.79084	1841	13	1831	24	1857	18	1857	18	1.400107701
U1457C-33R-3 10-17 cm	445	0.932	1.271	0.028	0.1374	0.0023	0.61486	831	13	829	13	847	38	829	13	0.240673887
U1457C-33R-3 10-17 cm	400	8.520	0.795	0.013	0.0976	0.0012	0.41334	593.8	6.9	600.4	7	572	33	600.4	7	1.111485349
U1457C-33R-3 10-17 cm	1130	103.000	0.584	0.017	0.0728	0.0019	0.66238	466	11	453	12	528	52	453	12	2.789699571
U1457C-33R-3 10-17 cm	160.7	1.557	1.633	0.041	0.1611	0.0028	0.40150	981	16	962	16	1018	47	1018	47	5.500982318
U1457C-33R-3 10-17 cm	187.8	1.910	2.747	0.059	0.2289	0.0042	0.72880	1344	15	1327	22	1367	31	1367	31	2.926115582
U1457C-33R-3 10-17 cm	179.8	1.265	3.134	0.072	0.2439	0.0049	0.74638	1437	18	1405	25	1493	29	1493	29	5.894172806
U1457C-33R-3 10-17 cm	96.4	2.330	1.415	0.060	0.1501	0.0052	0.61953	889	25	900	29	861	70	861	70	4.529616725
U1457C-33R-3 10-17 cm	59	1.000	3.790	0.150	0.2860	0.0100	0.76532	1583	33	1617	51	1551	50	1551	50	4.255319149
U1457C-33R-3 10-17 cm	380	2.146	1.500	0.026	0.1547	0.0025	0.73401	930	10	927	14	940	25	940	25	1.382978723
U1457C-33R-3 10-17 cm	586	6.340	0.530	0.011	0.0679	0.0010	0.60926	431.1	7	423.6	6.1	464	34	423.6	6.1	1.73973556
U1457C-33R-3 10-17 cm	391	1.212	0.072	0.003	0.0104	0.0002	0.15632	70.2	3	66.4	1.3	196	89	66.4	1.3	5.413105413
U1457C-33R-3 10-17 cm	630	2.500	0.108	0.004	0.0160	0.0003	0.27850	103.6	3.4	102.3	1.6	137	67	102.3	1.6	1.254826255
U1457C-33R-3 10-17 cm	75.7	1.030	1.361	0.035	0.1418	0.0024	0.30896	870	15	854	13	919	52	919	52	7.072905332
U1457C-43R-1 55-63 cm	561	9.300	0.133	0.011	0.0193	0.0008	0.17954	126.5	9.9	123.2	5.1	160	150	123.2	5.1	2.608695652
U1457C-43R-1 55-63 cm	566	6.200	0.812	0.014	0.0946	0.0013	0.59881	604	7.9	582.4	7.9	686	30	582.4	7.9	3.57615894
U1457C-43R-1 55-63 cm	576	1.099	0.059	0.003	0.0092	0.0003	0.5161	58.4	3.1	58.9	1.6	49	85	58.9	1.6	0.856164384
U1457C-43R-1 55-63 cm	2816	2.810	0.559	0.005	0.0713	0.0006	0.56429	450.6	3.5	443.7	3.6	482	20	443.7	3.6	1.531291611
U1457C-43R-1 55-63 cm	114.5	0.557	1.360	0.033	0.1389	0.0023	0.51033	868	14	838	13	939	51	838	13	3.456221198
U1457C-43R-1 55-63 cm	240	0.670	3.248	0.048	0.2362	0.0025	0.50113	1469	11	1366	13	1622	25	1622	25	15.78298397
U1457C-43R-1 55-63 cm	63.5	1.870	3.070	0.200	0.1469	0.0093	0.76026	1418	52	880	52	2372	80	DISC	DISC	62.9005059
U1457C-43R-1 55-63 cm	144	0.877	1.262	0.050	0.1284	0.0021	0.32946	825	22	779	12	950	80	779	12	5.575757576

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1457C-43R-1 55-63 cm	138	2.158	5.389	0.080	0.3142	0.0043	0.57795	1881	13	1760	21	2024	24	2024	24	13.04347826
U1457C-43R-1 55-63 cm	815	1.461	1.215	0.019	0.1312	0.0018	0.59357	808.5	9.1	794	10	850	30	794	10	1.793444651
U1457C-43R-1 55-63 cm	236	30.500	0.785	0.022	0.0949	0.0019	0.64713	587	12	586	11	585	50	586	11	0.170357751
U1457C-43R-1 55-63 cm	560	2.220	9.100	0.110	0.4112	0.0051	0.86136	2345	11	2219	23	2453	14	2453	14	9.539339584
U1457C-43R-1 55-63 cm	533	1.146	1.322	0.046	0.1231	0.0035	0.55229	854	20	748	20	1116	62	748	20	12.41217799
U1457C-43R-1 55-63 cm	775	4.560	4.777	0.094	0.3060	0.0065	0.78531	1778	17	1719	32	1849	25	1849	25	7.030827474
U1457C-43R-1 55-63 cm	374	1.360	0.177	0.012	0.0252	0.0006	0.03553	165	10	160.5	3.8	210	140	160.5	3.8	2.727272727
U1457C-43R-1 55-63 cm	130.7	5.180	8.080	0.110	0.3871	0.0040	0.69746	2237	12	2108	18	2356	17	2356	17	10.52631579
U1457C-43R-1 55-63 cm	767	1.740	8.380	0.210	0.3937	0.0091	0.85716	2274	22	2138	42	2382	23	2382	23	10.24349286
U1457C-43R-1 55-63 cm	211.4	0.472	0.743	0.019	0.0891	0.0015	0.49945	562	11	550	8.9	585	53	550	8.9	2.135231317
U1457C-43R-1 55-63 cm	499	1.091	0.150	0.009	0.0214	0.0006	0.05261	141.4	7.5	136.6	3.5	200	130	136.6	3.5	3.394625177
U1457C-43R-1 55-63 cm	716	3.760	3.210	0.050	0.2222	0.0038	0.78261	1458	12	1293	20	1711	22	1711	22	24.4301578
U1457C-43R-1 55-63 cm	125.3	1.630	1.735	0.039	0.1666	0.0027	0.5303	1018	14	993	15	1071	38	1071	38	7.282913165
U1457C-43R-1 55-63 cm	566	44.200	0.088	0.004	0.0133	0.0003	0.21091	85.7	4.1	84.9	1.8	116	95	84.9	1.8	0.933488915
U1457C-43R-1 55-63 cm	195.2	1.940	0.106	0.006	0.0164	0.0004	0.00949	101.4	5.5	104.7	2.6	80	110	104.7	2.6	3.25443787
U1457C-43R-1 55-63 cm	177.4	0.621	0.593	0.017	0.0732	0.0010	0.33529	473	11	455	5.9	536	59	455	5.9	3.805496829
U1457C-43R-1 55-63 cm	170.5	1.057	0.993	0.028	0.1058	0.0017	0.33309	698	14	648	10	857	57	648	10	7.163323782
U1457C-43R-1 55-63 cm	116.7	0.920	0.062	0.006	0.0088	0.0003	0.03517	60.1	5.2	56.7	1.8	180	160	56.7	1.8	5.657237937
U1457C-43R-1 55-63 cm	1578	0.979	0.018	0.001	0.0028	0.0001	0.08851	17.7	1	17.77	0.33	60	110	17.77	0.33	0.395480226
U1457C-43R-1 55-63 cm	118.2	1.360	1.569	0.029	0.1572	0.0018	0.37285	956	11	941	10	978	36	978	36	3.783231084
U1457C-43R-1 55-63 cm	267.8	1.817	11.320	0.170	0.4659	0.0067	0.77437	2550	14	2464	29	2616	17	2616	17	5.810397554
U1457C-43R-1 55-63 cm	889	1.088	0.791	0.023	0.0750	0.0017	0.77505	590	13	466	10	1106	37	DISC	DISC	21.01694915
U1457C-43R-1 55-63 cm	214.6	0.891	1.049	0.025	0.1150	0.0019	0.37803	727	13	701	11	795	49	701	11	3.576341128
U1457C-43R-1 55-63 cm	115.2	0.892	5.320	0.110	0.2969	0.0048	0.69244	1869	18	1678	25	2084	29	2084	29	19.48176583
U1457C-43R-1 55-63 cm	436	1.850	1.574	0.023	0.1541	0.0020	0.52769	958.5	9.2	924	11	1038	28	1038	28	10.98265896
U1457C-43R-1 55-63 cm	482	1.032	0.060	0.003	0.0090	0.0002	0.24159	59	3	57.9	1.5	117	99	57.9	1.5	1.86440678
U1457C-43R-1 55-63 cm	394	1.166	1.315	0.042	0.1378	0.0039	0.83035	850	19	832	22	893	44	832	22	2.117647059
U1457C-43R-1 55-63 cm	176	1.156	0.119	0.008	0.0156	0.0003	0.00469	113.6	6.9	99.5	2	350	130	99.5	2	12.41197183
U1457C-43R-1 55-63 cm	922	8.600	0.586	0.027	0.0699	0.0027	0.77833	468	17	436	16	588	65	436.0	16.0	6.8
U1457C-43R-1 55-63 cm	568	4.760	1.390	0.034	0.1269	0.0027	0.76112	882	14	770	15	1175	33	770.0	15.0	12.7
U1457C-43R-1 55-63 cm	1047	6.400	0.694	0.009	0.0843	0.0012	0.46774	534.7	5.5	522.3	7.1	586	31	522.3	7.1	2.3
U1457C-43R-1 55-63 cm	459	6.180	0.678	0.014	0.0860	0.0014	0.39499	524.7	8.6	532.8	8	490	47	532.8	8.0	1.5
U1457C-43R-1 55-63 cm	392	4.300	0.572	0.010	0.0723	0.0010	0.08636	458.2	6.8	449.7	6.1	492	41	449.7	6.1	1.9
U1457C-43R-1 55-63 cm	508.3	2.255	1.019	0.013	0.1151	0.0011	0.44304	712.7	6.7	701.9	6.1	741	27	701.9	6.1	1.5
U1457C-43R-1 55-63 cm	600	2.050	0.554	0.011	0.0717	0.0011	0.51131	446.7	7.5	446.2	6.7	438	42	446.2	6.7	0.1
U1457C-43R-1 55-63 cm	172	3.630	10.220	0.130	0.4519	0.0056	0.46352	2452	12	2406	24	2495	22	2495.0	22.0	3.6
U1457C-43R-1 55-63 cm	140.8	1.215	0.939	0.038	0.1068	0.0034	0.47482	669	20	653	20	710	80	653.0	20.0	2.4

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1457C-43R-1 55-63 cm	839	6.100	4.010	0.065	0.2872	0.0038	0.80417	1633	13	1626	19	1639	18	1639.0	18.0	0.8
U1457C-43R-1 55-63 cm	2965	5.850	5.322	0.068	0.3164	0.0037	0.70834	1871	11	1772	18	1982	21	1982.0	21.0	10.6
U1457C-43R-1 55-63 cm	187.9	1.464	0.111	0.006	0.0167	0.0004	0.16862	106.4	5.5	107	2.2	110	100	107.0	2.2	0.6
U1457C-43R-1 55-63 cm	514	1.031	0.125	0.006	0.0165	0.0003	0.18832	119.2	5.5	105.3	1.9	370	100	105.3	1.9	11.7
U1457C-43R-1 55-63 cm	1880	1.140	0.079	0.003	0.0115	0.0003	0.39454	76.8	2.8	74	1.6	144	68	74.0	1.6	3.6
U1457C-43R-1 55-63 cm	1231	1.310	0.056	0.002	0.0081	0.0002	0.34461	55.4	1.8	52.2	1.1	185	67	52.2	1.1	5.8
U1457C-43R-1 55-63 cm	2010	217.000	0.111	0.008	0.0165	0.0008	0.67418	107	7.1	105.3	5.1	120	100	105.3	5.1	1.6
U1457C-43R-1 55-63 cm	357	6.730	0.681	0.023	0.0763	0.0021	0.60866	525	14	474	12	750	56	474.0	12.0	9.7
U1457C-43R-1 55-63 cm	843	0.731	0.680	0.041	0.0786	0.0042	0.71193	524	25	487	25	671	93	487.0	25.0	7.1
U1457C-43R-1 55-63 cm	1360	2.480	0.916	0.016	0.1048	0.0011	0.64409	659.2	8.4	642.4	6.7	716	26	642.4	6.7	2.5
U1457C-43R-1 55-63 cm	659	3.020	0.624	0.017	0.0788	0.0018	0.55992	491	10	489	11	489	48	489.0	11.0	0.4
U1457C-43R-1 55-63 cm	431	1.034	0.091	0.004	0.0137	0.0002	0.00584	88.4	3.3	87.9	1.4	113	75	87.9	1.4	0.6
U1457C-43R-1 55-63 cm	145.1	-68.000	0.593	0.018	0.0734	0.0014	0.34156	473	12	456.6	8.7	522	64	456.6	8.7	3.5
U1457C-43R-1 55-63 cm	54.3	1.069	12.140	0.520	0.4650	0.0210	0.87333	2609	40	2456	94	2730	37	2730.0	37.0	10.0
U1457C-43R-1 55-63 cm	514	1.996	1.160	0.020	0.1257	0.0023	0.67492	780.6	9.6	763	13	817	32	763.0	13.0	2.3
U1457C-43R-1 55-63 cm	104.7	1.087	0.123	0.008	0.0179	0.0004	0.06188	117.3	6.9	114.2	2.4	180	120	114.2	2.4	2.6
U1457C-43R-1 55-63 cm	188.7	1.026	5.141	0.083	0.3307	0.0045	0.67034	1839	14	1840	22	1839	21	1839.0	21.0	0.1
U1457C-43R-1 55-63 cm	94.2	0.649	1.177	0.043	0.1326	0.0030	0.38104	785	20	805	18	699	76	805.0	18.0	2.5
U1457C-43R-1 55-63 cm	2960	32.300	0.602	0.011	0.0760	0.0012	0.7707	477.8	7	472.1	7.2	491	26	472.1	7.2	1.2
U1457C-43R-1 55-63 cm	961	2.529	0.109	0.003	0.0160	0.0002	0.38601	104.7	2.5	102.5	1.3	161	49	102.5	1.3	2.1
U1457C-43R-1 55-63 cm	867	7.910	0.680	0.021	0.0830	0.0018	0.70077	525	13	514	10	564	48	514.0	10.0	2.1
U1457C-43R-1 55-63 cm	239	5.800	1.567	0.050	0.1539	0.0044	0.7056	955	20	922	25	1036	47	1036.0	47.0	11.0
U1457C-43R-1 55-63 cm	1566	1.800	1.049	0.055	0.1160	0.0053	0.81523	726	28	707	31	795	63	707.0	31.0	2.6
U1457C-43R-1 55-63 cm	2600	3.500	0.113	0.009	0.0176	0.0010	0.45818	108.2	8.3	112.5	6	60	130	112.5	6.0	4.0
U1457C-43R-1 55-63 cm	432	4.870	0.551	0.010	0.0720	0.0009	0.51433	444.7	6.5	448.6	5.5	428	37	448.6	5.5	0.9
U1457C-43R-1 55-63 cm	915	1.649	1.862	0.041	0.1713	0.0029	0.7555	1066	14	1019	16	1162	28	1162.0	28.0	12.3
U1457C-43R-1 55-63 cm	822	1.446	0.616	0.011	0.0762	0.0011	0.65508	486.4	6.9	473	6.5	546	31	473.0	6.5	2.8
U1457C-43R-1 55-63 cm	105	1.206	0.055	0.006	0.0084	0.0003	0.03543	53.3	5.9	53.9	1.8	-10	190	53.9	1.8	1.1
U1457C-43R-1 55-63 cm	407	1.100	1.222	0.022	0.1304	0.0020	0.64187	809	10	790	11	854	32	790.0	11.0	2.3
U1457C-43R-1 55-63 cm	154.6	1.052	1.448	0.034	0.1481	0.0026	0.4155	906	14	890	15	932	50	932.0	50.0	4.5
U1457C-43R-1 55-63 cm	177.5	0.725	4.868	0.073	0.3159	0.0046	0.7104	1796	13	1768	23	1827	21	1827.0	21.0	3.2
U1457C-43R-1 55-63 cm	308	1.104	0.343	0.011	0.0455	0.0012	0.67868	298	8.7	286.6	7.5	387	55	286.6	7.5	3.8
U1457C-43R-1 55-63 cm	1563	31.600	0.224	0.005	0.0322	0.0006	0.55803	204.9	4.3	204	3.5	215	42	204.0	3.5	0.4
U1457C-43R-1 55-63 cm	328	8.030	0.629	0.023	-0.0043	0.0001	0.70758	494	15	-27.9	0.84	543	59	DISC	DISC	105.6
U1457C-43R-1 55-63 cm	619	2.880	0.338	0.007	0.0469	0.0008	0.43718	296	5.6	295.4	4.9	309	46	295.4	4.9	0.2
U1457C-43R-1 55-63 cm	461	3.740	5.534	0.087	0.3495	0.0058	0.7195	1904	14	1930	27	1886	22	1886.0	22.0	2.3
U1457C-43R-1 55-63 cm	67.5	0.622	1.146	0.043	0.1132	0.0026	0.3994	769	20	691	15	988	72	691.0	15.0	10.1

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1457C-43R-1 55-63 cm	923	3.760	2.462	0.036	0.2002	0.0033	0.72301	1260	11	1176	18	1418	22	1418.0	22.0	17.1
U1457C-43R-1 55-63 cm	54.5	0.676	1.350	0.039	0.1402	0.0019	0.27411	862	17	845	11	891	59	845.0	11.0	2.0
U1457C-43R-1 55-63 cm	322	1.309	0.130	0.006	0.0189	0.0005	0.31432	124.2	5.6	120.5	3.3	213	95	120.5	3.3	3.0
U1457C-43R-1 55-63 cm	242	6.380	4.580	0.230	0.3050	0.0120	0.77008	1737	41	1714	58	1777	55	1777.0	55.0	3.5
U1457C-43R-1 55-63 cm	48.5	0.794	7.000	0.180	0.3888	0.0077	0.5225	2105	23	2115	36	2110	41	2110.0	41.0	0.2
U1457C-43R-1 55-63 cm	329	1.538	5.202	0.081	0.3321	0.0058	0.71403	1851	13	1847	28	1869	23	1869.0	23.0	1.2
U1457C-43R-1 55-63 cm	999	2.730	0.321	0.009	0.0408	0.0010	0.76491	282.1	6.5	257.5	6.4	488	38	257.5	6.4	8.7
U1457C-43R-1 55-63 cm	1077	4.140	0.723	0.041	0.0771	0.0037	0.26727	550	23	478	22	870	130	478.0	22.0	13.1
U1457C-43R-1 55-63 cm	579	17.100	0.682	0.022	0.0834	0.0023	0.51665	527	13	516	14	575	65	516.0	14.0	2.1
U1457C-43R-1 55-63 cm	240.6	1.573	0.744	0.030	0.0917	0.0033	0.59647	561	17	567	19	547	67	567.0	19.0	1.1
U1456D-22R-1 73-83 cm	191	12.600	4.703	0.057	0.3223	0.0032	0.72405	1766	10	1800	16	1751	15	1751.0	15.0	2.8
U1456D-22R-1 73-83 cm	87.1	0.789	1.165	0.022	0.1172	0.0016	0.48045	783	11	714.3	9.2	989	38	714.3	9.2	8.8
U1456D-22R-1 73-83 cm	279.3	0.404	0.720	0.014	0.0792	0.0014	0.77068	549.6	8.3	491.2	8.3	827	26	491.2	8.3	10.6
U1456D-22R-1 73-83 cm	149.2	0.848	0.368	0.006	0.0513	0.0005	0.3777	318.5	4.5	322.1	3.3	326	35	322.1	3.3	1.1
U1456D-22R-1 73-83 cm	91.5	0.827	0.070	0.003	0.0098	0.0002	0.24549	68.7	3.1	62.9	1.3	268	96	62.9	1.3	8.4
U1456D-22R-1 73-83 cm	188	1.242	2.016	0.031	0.1951	0.0021	0.66923	1121	10	1149	11	1094	23	1094.0	23.0	5.0
U1456D-22R-1 73-83 cm	42.4	0.884	0.073	0.005	0.0104	0.0003	0.24628	70.9	4.4	66.5	1.6	280	120	66.5	1.6	6.2
U1456D-22R-1 73-83 cm	25.71	1.006	0.132	0.009	0.0191	0.0004	-0.0169	126.2	7.8	121.7	2.4	190	130	121.7	2.4	3.6
U1456D-22R-1 73-83 cm	81.4	0.863	1.207	0.018	0.1321	0.0018	0.5887	804.2	8.3	799	10	830	28	799.0	10.0	0.6
U1456D-22R-1 73-83 cm	645	0.795	0.078	0.001	0.0119	0.0001	0.36333	76.2	1	75.97	0.73	92	30	76.0	0.7	0.3
U1456D-22R-1 73-83 cm	295	0.680	0.046	0.001	0.0068	0.0001	0.17819	45.2	1.3	43.81	0.58	121	60	43.8	0.6	3.1
U1456D-22R-1 73-83 cm	70.5	1.009	0.067	0.004	0.0091	0.0002	0.14749	65.8	3.5	58.4	1.1	290	110	58.4	1.1	11.2
U1456D-22R-1 73-83 cm	129.2	0.655	0.082	0.003	0.0126	0.0002	0.19114	80	2.5	80.5	1.2	86	64	80.5	1.2	0.6
U1456D-22R-1 73-83 cm	231.3	2.965	1.399	0.020	0.1423	0.0019	0.75103	888	8.5	857	11	951	20	951.0	20.0	9.9
U1456D-22R-1 73-83 cm	150	1.840	0.047	0.002	0.0071	0.0001	0.12614	46.8	1.9	45.64	0.76	116	82	45.6	0.8	2.5
U1456D-22R-1 73-83 cm	79.2	0.899	0.059	0.003	0.0073	0.0002	0.25542	57.7	2.7	47.1	1.3	490	110	DISC	DISC	18.4
U1456D-22R-1 73-83 cm	520.9	0.265	0.055	0.002	0.0079	0.0001	0.28752	54.2	1.4	50.82	0.67	228	65	50.8	0.7	6.2
U1456D-22R-1 73-83 cm	382	5.530	4.933	0.052	0.3178	0.0034	0.75831	1808	9	1780	16	1843	14	1843.0	14.0	3.4
U1456D-22R-1 73-83 cm	87.8	1.283	7.680	0.160	0.3756	0.0069	0.50205	2198	18	2055	32	2351	36	2351.0	36.0	12.6
U1456D-22R-1 73-83 cm	534	1.670	0.107	0.002	0.0159	0.0002	0.35145	103.1	1.5	101.4	0.98	132	32	101.4	1.0	1.6
U1456D-22R-1 73-83 cm	239	3.480	11.019	0.078	0.4716	0.0038	0.71539	2525	6.5	2490	17	2552	10	2552.0	10.0	2.4
U1456D-22R-1 73-83 cm	266.9	1.120	0.107	0.003	0.0158	0.0003	0.41948	103.7	2.3	101.1	1.6	137	46	101.1	1.6	2.5
U1456D-22R-1 73-83 cm	179	1.580	0.133	0.006	0.0104	0.0002	0.1809	126.1	5.1	66.4	1.1	1457	80	DISC	DISC	47.3
U1456D-22R-1 73-83 cm	824	5.110	0.192	0.004	0.0279	0.0005	0.78674	178.3	3.5	177.6	3.3	179	31	177.6	3.3	0.4
U1456D-22R-1 73-83 cm	141.8	0.891	7.870	0.100	0.3528	0.0039	0.76145	2218	12	1949	19	2475	15	2475.0	15.0	21.3
U1456D-22R-1 73-83 cm	564	1.774	5.806	0.098	0.3223	0.0064	0.58756	1947	15	1802	31	2099	22	2099.0	22.0	14.1

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456D-22R-1 73-83 cm	138.6	2.794	0.714	0.018	0.0893	0.0017	0.68451	546	10	553	10	516	36	553.0	10.0	1.3
U1456D-22R-1 73-83 cm	1036	1.388	0.167	0.002	0.0246	0.0002	0.51964	156.6	1.6	156.7	1.3	155	23	156.7	1.3	0.1
U1456D-22R-1 73-83 cm	732	1.638	0.044	0.003	0.0060	0.0004	0.72629	43.9	2.7	38.5	2.2	337	57	38.5	2.2	12.3
U1456D-22R-1 73-83 cm	340	1.549	1.310	0.015	0.1367	0.0015	0.61417	850.8	6.6	826.9	8.3	923	22	826.9	8.3	2.8
U1456D-22R-1 73-83 cm	257	0.608	0.047	0.002	0.0062	0.0001	0.07181	46.9	1.8	39.78	0.7	442	88	DISC	DISC	15.2
U1456D-22R-1 73-83 cm	295.6	1.044	1.164	0.013	0.1283	0.0009	0.53768	783.3	6.2	777.9	5.4	820	21	777.9	5.4	0.7
U1456D-22R-1 73-83 cm	5000	1.292	0.049	0.001	0.0064	0.0001	0.54002	48.6	1.2	41.37	0.5	462	45	41.4	0.5	14.9
U1456D-22R-1 73-83 cm	875	18.800	0.052	0.002	0.0076	0.0001	0.03131	51.8	1.7	48.46	0.88	210	70	48.5	0.9	6.4
U1456D-22R-1 73-83 cm	262	32.000	0.742	0.021	0.0896	0.0020	0.5609	562	12	553	12	616	49	553.0	12.0	1.6
U1456D-22R-1 73-83 cm	17.96	1.860	5.650	0.190	0.3159	0.0091	0.79387	1921	29	1768	45	2154	41	2154.0	41.0	17.9
U1456D-22R-1 73-83 cm	119.5	0.969	0.126	0.004	0.0174	0.0002	0.14392	120.5	3.6	111	1.2	321	67	111.0	1.2	7.9
U1456D-22R-1 73-83 cm	36.09	1.130	0.124	0.010	0.0195	0.0005	-0.0531	118.1	8.7	124.2	3.2	0	150	124.2	3.2	5.2
U1456D-22R-1 73-83 cm	349.9	4.070	1.578	0.015	0.1606	0.0012	0.69384	960.8	5.8	959.9	6.6	980	14	980.0	14.0	2.1
U1456D-22R-1 73-83 cm	415.6	0.801	4.677	0.066	0.2404	0.0041	0.81806	1762	12	1391	22	2259	20	DISC	DISC	38.4
U1456D-22R-1 73-83 cm	104.7	0.740	1.116	0.016	0.1236	0.0012	0.56716	760.3	7.8	751.1	7	809	26	751.1	7.0	1.2
U1456D-22R-1 73-83 cm	1386	4.230	0.530	0.014	0.0581	0.0016	0.69565	431.4	9.1	363.9	9.4	836	50	DISC	DISC	15.6
U1456D-22R-1 73-83 cm	336	2.200	1.497	0.022	0.1441	0.0018	0.74744	929.6	8.7	867.9	9.9	1112	18	1112.0	18.0	22.0
U1456D-22R-1 73-83 cm	98.2	0.654	0.108	0.008	0.0154	0.0004	0.12858	104.1	6.9	98.2	2.4	300	150	98.2	2.4	5.7
U1456D-22R-1 73-83 cm	80.1	0.626	4.362	0.061	0.3005	0.0033	0.62547	1704	12	1693	16	1721	20	1721.0	20.0	1.6
U1456D-22R-1 73-83 cm	46.4	1.158	6.950	0.100	0.3566	0.0036	0.68227	2103	13	1967	17	2249	20	2249.0	20.0	12.5
U1456D-22R-1 73-83 cm	1693	13.170	0.867	0.016	0.0929	0.0028	0.5346	633.5	8.5	573	16	853	48	573.0	16.0	9.6
U1456D-22R-1 73-83 cm	300.5	0.749	0.058	0.003	0.0080	0.0003	0.60968	57.1	3.2	51.2	1.8	341	93	51.2	1.8	10.3
U1456D-22R-1 73-83 cm	2290	1.043	0.039	0.001	0.0058	0.0001	0.41288	38.52	0.66	37.05	0.33	156	36	37.1	0.3	3.8
U1456D-22R-1 73-83 cm	293	0.612	3.628	0.055	0.2728	0.0042	0.84337	1557	12	1556	21	1565	16	1565.0	16.0	0.6
U1456D-22R-1 73-83 cm	561.7	0.713	6.590	0.140	0.2713	0.0059	0.89787	2056	19	1546	30	2624	16	DISC	DISC	41.1
U1456D-22R-1 73-83 cm	565	0.637	0.050	0.001	0.0077	0.0001	0.20395	49	1	49.53	0.56	41	44	49.5	0.6	1.1
U1456D-22R-1 73-83 cm	18.08	0.877	0.135	0.011	0.0203	0.0004	0.06928	127.3	9.6	129.6	2.7	110	140	129.6	2.7	1.8
U1456D-22R-1 73-83 cm	284	0.799	1.500	0.019	0.1446	0.0019	0.82562	931.1	7.7	870	11	1088	16	1088.0	16.0	20.0
U1456D-22R-1 73-83 cm	245	1.164	0.050	0.002	0.0079	0.0001	0.07889	49.2	1.5	50.53	0.59	7	62	50.5	0.6	2.7
U1456D-22R-1 73-83 cm	59.2	0.637	1.092	0.016	0.1227	0.0012	0.33505	749.3	7.6	745.8	7.1	745	29	745.8	7.1	0.5
U1456D-22R-1 73-83 cm	478	0.868	1.048	0.018	0.1068	0.0017	0.8184	726.8	8.7	654.1	9.6	960	20	654.1	9.6	10.0
U1456D-22R-1 73-83 cm	76.5	71.000	0.740	0.033	0.0915	0.0026	0.78682	561	19	564	15	552	56	564.0	15.0	0.5
U1456D-22R-1 73-83 cm	146.6	2.984	1.673	0.022	0.1635	0.0018	0.4898	997.6	8.3	976.2	9.7	1034	25	1034.0	25.0	5.6
U1456D-22R-1 73-83 cm	177.6	1.028	0.322	0.007	0.0437	0.0006	0.32609	283.8	5.1	275.7	3.8	324	44	275.7	3.8	2.9
U1456D-22R-1 73-83 cm	206	1.709	1.526	0.030	0.1486	0.0025	0.84701	944	12	894	14	1059	22	1059.0	22.0	15.6
U1456D-22R-1 73-83 cm	837	0.865	0.047	0.001	0.0068	0.0001	0.24941	46.4	1.1	43.58	0.6	225	51	43.6	0.6	6.1
U1456D-22R-1 73-83 cm	130.6	0.597	0.129	0.004	0.0186	0.0002	0.21087	123.3	3.9	118.5	1.5	221	72	118.5	1.5	3.9

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456D-22R-1 73-83 cm	73.4	1.016	9.080	0.190	0.4052	0.0084	0.74934	2346	19	2201	38	2477	25	2477.0	25.0	11.1
U1456D-22R-1 73-83 cm	232.9	0.869	1.922	0.019	0.1801	0.0017	0.67351	1089	6.7	1068	9.4	1115	16	1115.0	16.0	4.3
U1456D-22R-1 73-83 cm	65.4	1.029	4.963	0.062	0.3194	0.0027	0.57203	1813	11	1786	13	1839	19	1839.0	19.0	2.9
U1456D-22R-1 73-83 cm	76.7	0.522	0.085	0.003	0.0127	0.0002	-0.032	82.3	3	81.2	1.1	125	77	81.2	1.1	1.3
U1456D-22R-1 73-83 cm	538	43.400	0.218	0.004	0.0310	0.0006	0.50959	199.8	3.4	196.9	4	203	44	196.9	4.0	1.5
U1456D-22R-1 73-83 cm	141.3	1.780	1.112	0.033	0.1175	0.0018	0.32693	761	15	716	10	882	50	716.0	10.0	5.9
U1456D-22R-1 73-83 cm	111.9	0.730	0.078	0.003	0.0114	0.0002	0.07795	76.3	2.8	73	1.1	165	79	73.0	1.1	4.3
U1456D-22R-1 73-83 cm	182.8	1.066	0.096	0.002	0.0144	0.0002	0.1337	92.9	2.1	92.2	1	103	49	92.2	1.0	0.8
U1456D-22R-1 73-83 cm	67.2	0.835	0.095	0.006	0.0121	0.0003	0.11572	92.5	5.8	77.5	2	460	150	DISC	DISC	16.2
U1456D-22R-1 73-83 cm	99.4	0.714	1.265	0.021	0.1366	0.0014	0.48455	828.9	9.2	825.3	8.2	824	32	825.3	8.2	0.4
U1456D-22R-1 73-83 cm	118.3	0.849	0.053	0.003	0.0076	0.0001	0.37663	52.2	2.5	49.05	0.86	167	94	49.1	0.9	6.0
U1456D-22R-1 73-83 cm	256.5	0.718	0.642	0.008	0.0803	0.0008	0.52062	503.1	4.9	497.8	4.5	503	26	497.8	4.5	1.1
U1456D-22R-1 73-83 cm	362	3.530	0.312	0.008	0.0414	0.0009	0.86054	275.7	6.2	261.7	5.3	383	28	261.7	5.3	5.1
U1456D-22R-1 73-83 cm	479	2.030	0.206	0.008	0.0298	0.0008	0.61713	189.9	6.5	189.4	4.7	133	65	189.4	4.7	0.3
U1456D-22R-1 73-83 cm	1550	10.090	0.662	0.055	0.0814	0.0039	0.7328	514	33	505	23	600	130	505.0	23.0	1.8
U1456D-22R-1 73-83 cm	527.4	3.420	3.365	0.037	0.2212	0.0025	0.58123	1496	8.5	1290	13	1789	19	1789.0	19.0	27.9
U1456D-22R-1 73-83 cm	260	0.632	0.074	0.002	0.0109	0.0002	0.23034	72.8	2.3	70.2	1.4	126	64	70.2	1.4	3.6
U1456D-22R-1 73-83 cm	104.6	0.928	1.249	0.027	0.1334	0.0020	0.60307	823	12	809	12	870	35	809.0	12.0	1.7
U1456D-22R-1 73-83 cm	543	1.890	0.117	0.003	0.0175	0.0002	0.28265	112.2	2.4	111.6	1.5	126	43	111.6	1.5	0.5
U1456D-22R-1 73-83 cm	266	0.957	1.650	0.023	0.1616	0.0018	0.42611	990	8.7	965.4	9.8	1023	27	1023.0	27.0	5.6
U1456D-22R-1 73-83 cm	334	1.619	1.846	0.046	0.1607	0.0020	0.26852	1059	16	960	11	1214	44	1214.0	44.0	20.9
U1456D-22R-1 73-83 cm	119	1.990	1.200	0.018	0.1274	0.0017	0.66718	800.1	8.3	772.5	9.9	871	25	772.5	9.9	3.4
U1456D-22R-1 73-83 cm	326	1.442	0.824	0.032	0.0981	0.0040	0.71726	608	17	602	23	611	64	602.0	23.0	1.0
U1456D-22R-1 73-83 cm	99.7	0.853	1.090	0.014	0.1200	0.0010	0.42953	748.2	6.8	730.6	5.8	783	25	730.6	5.8	2.4
U1456D-22R-1 73-83 cm	118.6	1.703	5.160	0.052	0.3112	0.0030	0.61511	1845	8.6	1746	15	1926	16	1926.0	16.0	9.3
U1456D-22R-1 73-83 cm	134.4	0.846	0.286	0.008	0.0388	0.0008	0.15207	255	6.4	245.6	5	287	78	245.6	5.0	3.7
U1456D-22R-1 73-83 cm	696	2.150	0.066	0.002	0.0096	0.0002	0.7865	64.7	1.6	61.8	1.4	140	37	61.8	1.4	4.5
U1456D-22R-1 73-83 cm	192	0.532	0.052	0.002	0.0075	0.0001	0.06058	51.3	1.8	48.33	0.58	149	76	48.3	0.6	5.8
U1456D-22R-1 73-83 cm	46.1	0.929	0.058	0.004	0.0090	0.0002	0.08825	56.6	3.5	57.9	1.2	90	120	57.9	1.2	2.3
U1456D-22R-1 73-83 cm	403	1.896	1.546	0.018	0.1534	0.0015	0.79826	948.1	7.3	919.6	8.6	995	16	995.0	16.0	7.6
U1456D-22R-1 73-83 cm	166	0.765	0.064	0.003	0.0089	0.0001	0.3553	63.2	2.4	57.24	0.85	270	73	57.2	0.9	9.4
U1456D-22R-1 73-83 cm	551.5	1.238	10.750	0.140	0.4009	0.0096	0.12802	2504	12	2171	45	2751	35	2751.0	35.0	21.1
U1456D-22R-1 73-83 cm	108.3	2.847	1.358	0.017	0.1414	0.0010	0.46878	870.1	7.1	852.6	5.9	886	22	886.0	22.0	3.8
U1456D-22R-1 73-83 cm	368	0.680	0.068	0.002	0.0103	0.0001	0.30869	66.4	1.7	65.89	0.75	84	51	65.9	0.8	0.8
U1456D-22R-1 73-83 cm	498	1.556	6.131	0.088	0.2983	0.0041	0.84916	1996	12	1682	21	2317	13	2317.0	13.0	27.4
U1456D-22R-1 73-83 cm	285	0.960	0.049	0.002	0.0076	0.0001	0.19509	48.3	1.4	48.64	0.64	49	59	48.6	0.6	0.7
U1456D-22R-1 73-83 cm	167.2	1.041	0.089	0.003	0.0133	0.0002	0.04841	86.7	2.4	85.2	1.1	113	63	85.2	1.1	1.7

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456D-22R-1 73-83 cm	187	1.250	0.046	0.002	0.0068	0.0001	0.05452	45.3	1.8	43.97	0.58	120	86	44.0	0.6	2.9
U1456D-22R-1 73-83 cm	420	6.820	4.312	0.091	0.2644	0.0045	0.92939	1693	17	1511	23	1917	13	1917.0	13.0	21.2
U1456D-22R-1 73-83 cm	160.8	0.771	0.072	0.002	0.0095	0.0001	0.14843	70.5	1.9	61.15	0.85	365	65	61.2	0.9	13.3
U1456D-22R-1 73-83 cm	333.7	0.971	1.357	0.013	0.1430	0.0014	0.61504	871	5.5	861.4	7.7	895	17	895.0	17.0	3.8
U1456D-22R-1 73-83 cm	882.3	4.965	3.322	0.033	0.2149	0.0022	0.81926	1488	7.7	1255	12	1846	11	DISC	DISC	32.0
U1456D-22R-1 73-83 cm	418	1.650	1.227	0.010	0.1336	0.0011	0.39291	812.6	4.7	809	6.4	805	18	809.0	6.4	0.4
U1456D-22R-1 73-83 cm	172	1.084	1.906	0.027	0.1815	0.0023	0.74997	1083	9.3	1075	13	1105	21	1105.0	21.0	2.7
U1456D-22R-1 73-83 cm	285.9	0.659	0.059	0.002	0.0089	0.0001	0.17196	58.6	1.5	57.11	0.72	112	53	57.1	0.7	2.5
U1456D-22R-1 73-83 cm	2090	42.100	0.575	0.004	0.0743	0.0006	0.58681	461.2	2.3	462.1	3.5	456	13	462.1	3.5	0.2
U1456D-22R-1 73-83 cm	356	7.650	0.177	0.004	0.0259	0.0006	0.82462	164.8	3.6	164.8	3.5	156	29	164.8	3.5	0.0
U1456D-22R-1 73-83 cm	386	1.413	5.526	0.086	0.2971	0.0047	0.76226	1903	13	1676	23	2161	20	2161.0	20.0	22.4
U1456D-22R-1 73-83 cm	75.7	0.763	3.683	0.057	0.2705	0.0033	0.58798	1568	13	1545	17	1594	23	1594.0	23.0	3.1
U1456D-22R-1 73-83 cm	1080	11.420	0.446	0.019	0.0571	0.0023	0.5652	374	13	358	14	533	96	358.0	14.0	4.3
U1456D-22R-1 73-83 cm	63.68	1.111	2.055	0.053	0.1848	0.0043	0.68674	1132	18	1093	23	1192	39	1192.0	39.0	8.3
U1456D-22R-1 73-83 cm	98.2	0.504	0.744	0.013	0.0884	0.0008	0.42135	562.9	7.3	546.1	4.5	642	35	546.1	4.5	3.0
U1456D-22R-1 73-83 cm	464	2.790	0.176	0.005	0.0258	0.0004	0.31058	164.1	4	164.3	2.2	141	63	164.3	2.2	0.1
U1456D-22R-1 73-83 cm	753	16.800	0.595	0.013	0.0743	0.0015	0.7554	473.6	8.2	462	9.1	521	31	462.0	9.1	2.4
U1456D-22R-1 73-83 cm	467	0.420	0.050	0.001	0.0077	0.0001	0.33671	49.3	1.2	49.42	0.52	66	45	49.4	0.5	0.2
U1456D-22R-1 73-83 cm	64.5	0.532	4.187	0.045	0.2912	0.0032	0.71222	1672	9.1	1647	16	1707	16	1707.0	16.0	3.5
U1456D-22R-1 73-83 cm	388	12.330	4.552	0.041	0.2819	0.0027	0.7483	1740	7.4	1602	14	1903	12	1903.0	12.0	15.8
U1456D-22R-1 73-83 cm	720	1.041	0.141	0.005	0.0189	0.0005	0.6056	133.9	4.4	120.6	3.1	376	66	120.6	3.1	9.9
U1456D-22R-1 73-83 cm	496	46.600	0.214	0.007	0.0303	0.0007	0.52772	197	5.9	192.5	4.1	245	60	192.5	4.1	2.3
U1456D-22R-1 73-83 cm	78.5	1.056	3.070	0.063	0.2119	0.0034	0.58138	1424	16	1239	18	1713	27	1713.0	27.0	27.7
U1456D-22R-1 73-83 cm	69.5	0.641	0.115	0.009	0.0124	0.0007	0.01888	110.4	7.9	79.3	4.6	750	200	DISC	DISC	28.2
U1456D-22R-1 73-83 cm	438	1.840	1.127	0.092	0.1272	0.0085	0.81953	761	45	771	49	720	110	771.0	49.0	1.3
U1456D-22R-1 73-83 cm	451	4.420	2.331	0.036	0.2122	0.0033	0.74517	1221	11	1240	18	1173	22	1173.0	22.0	5.7
U1456D-22R-1 73-83 cm	1332	1.229	0.198	0.005	0.0271	0.0006	0.62315	183.1	4	172.5	3.6	299	44	172.5	3.6	5.8
U1456D-22R-1 73-83 cm	73	2.786	11.530	0.220	0.4975	0.0075	0.67428	2563	18	2600	32	2527	23	2527.0	23.0	2.9
U1456D-22R-1 73-83 cm	103.1	0.837	12.110	0.190	0.4888	0.0084	0.82042	2613	14	2563	36	2637	16	2637.0	16.0	2.8
U1456D-22R-1 73-83 cm	280	2.210	1.647	0.083	0.1563	0.0064	0.73914	973	32	933	35	1053	72	1053.0	72.0	11.4
U1456D-22R-1 73-83 cm	82.3	0.888	0.115	0.006	0.0166	0.0005	0.26319	109.6	5.1	106.4	3.2	171	94	106.4	3.2	2.9
U1456D-22R-1 73-83 cm	208.9	0.723	0.121	0.004	0.0178	0.0004	0.56146	116.1	3.9	113.5	2.7	187	67	113.5	2.7	2.2
U1456D-22R-1 73-83 cm	247	4.270	0.880	0.019	0.1045	0.0022	0.59207	639	10	640	13	613	41	640.0	13.0	0.2
U1456D-22R-1 73-83 cm	383	1.162	1.755	0.050	0.1618	0.0048	0.58097	1026	19	966	26	1146	54	1146.0	54.0	15.7
U1456D-22R-1 73-83 cm	335	3.600	1.880	0.130	0.1720	0.0120	0.61693	1062	47	1018	66	1170	120	1170.0	120.0	13.0
U1456D-22R-1 73-83 cm	181.9	0.725	3.640	0.160	0.2691	0.0087	0.75228	1553	35	1535	44	1542	58	1542.0	58.0	0.5
U1456D-22R-1 73-83 cm	13.86	0.285	0.695	0.036	0.0848	0.0019	0.33224	530	22	525	11	510	100	525.0	11.0	0.9

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456D-22R-1 73-83 cm	206	0.882	0.068	0.003	0.0107	0.0002	0.21818	66.7	3	68.8	1.3	34	85	68.8	1.3	3.1
U1456D-22R-1 73-83 cm	117.7	0.886	3.630	0.100	0.2609	0.0078	0.64251	1550	22	1491	40	1629	45	1629.0	45.0	8.5
U1456D-22R-1 73-83 cm	230	0.775	0.105	0.006	0.0155	0.0006	0.37162	101.1	5.2	98.9	3.6	160	100	98.9	3.6	2.2
U1456D-22R-1 73-83 cm	2230	140.000	0.574	0.012	0.0722	0.0017	0.74987	460.2	7.7	449	10	505	38	449.0	10.0	2.4
U1456D-22R-1 73-83 cm	65.4	2.060	0.828	0.024	0.0978	0.0028	0.45693	609	13	601	16	639	64	601.0	16.0	1.3
U1456D-29R-2 24-34 cm	255.3	0.728	0.068	0.002	0.0096	0.0001	0.10228	66.5	2	61.29	0.62	298	69	61.3	0.6	7.8
U1456D-29R-2 24-34 cm	2400	9.280	0.037	0.001	0.0057	0.0001	0.42237	36.89	0.88	36.47	0.6	83	48	36.5	0.6	1.1
U1456D-29R-2 24-34 cm	150.7	0.614	0.066	0.003	0.0100	0.0002	0.1248	65.2	2.6	64.3	1	135	91	64.3	1.0	1.4
U1456D-29R-2 24-34 cm	500	0.437	1.232	0.014	0.1327	0.0011	0.68816	814.9	6.2	803.8	6.3	855	17	803.8	6.3	1.4
U1456D-29R-2 24-34 cm	505	0.967	0.066	0.001	0.0099	0.0001	0.20877	64.8	1.3	63.63	0.65	106	43	63.6	0.7	1.8
U1456D-29R-2 24-34 cm	766	0.418	0.065	0.001	0.0100	0.0001	0.37092	64.2	1.2	64.2	0.64	61	37	64.2	0.6	0.0
U1456D-29R-2 24-34 cm	463	3.020	0.544	0.009	0.0697	0.0010	0.77608	440.7	6	434.1	6.3	487	24	434.1	6.3	1.5
U1456D-29R-2 24-34 cm	251.3	0.631	0.109	0.002	0.0163	0.0002	0.06159	105.1	2	104.5	0.96	95	46	104.5	1.0	0.6
U1456D-29R-2 24-34 cm	279.3	1.272	0.686	0.016	0.0855	0.0019	0.90547	529.4	9.5	529	12	544	29	529.0	12.0	0.1
U1456D-29R-2 24-34 cm	266	0.817	0.086	0.007	0.0124	0.0004	-0.4348	83.9	6.4	79.6	2.3	190	170	79.6	2.3	5.1
U1456D-29R-2 24-34 cm	93.3	4.680	0.078	0.006	0.0113	0.0006	0.30456	76.2	5.2	72.5	3.6	250	130	72.5	3.6	4.9
U1456D-29R-2 24-34 cm	787	310.000	0.100	0.004	0.0143	0.0009	0.58852	96.6	4	91.8	5.7	170	130	91.8	5.7	5.0
U1456D-29R-2 24-34 cm	511	1.738	1.264	0.017	0.1310	0.0019	0.60107	828.9	7.6	793	11	897	25	793.0	11.0	4.3
U1456D-29R-2 24-34 cm	113.2	1.639	1.068	0.013	0.1174	0.0009	0.36931	737.7	6.2	715.4	5.2	776	26	715.4	5.2	3.0
U1456D-29R-2 24-34 cm	122.8	0.765	0.109	0.004	0.0157	0.0003	0.1581	105	3.2	100.5	1.8	163	67	100.5	1.8	4.3
U1456D-29R-2 24-34 cm	93.3	0.583	1.663	0.026	0.1674	0.0018	0.45065	993.8	9.9	997.5	9.8	969	26	969.0	26.0	2.9
U1456D-29R-2 24-34 cm	703	10.420	0.731	0.009	0.0895	0.0010	0.48393	556.8	5	552.6	5.7	563	26	552.6	5.7	0.8
U1456D-29R-2 24-34 cm	638	3.110	0.787	0.021	0.0922	0.0017	0.53422	589	12	569	10	633	53	569.0	10.0	3.4
U1456D-29R-2 24-34 cm	327	2.270	1.477	0.019	0.1495	0.0016	0.73899	920.1	7.9	898.9	9.3	951	19	951.0	19.0	5.5
U1456D-29R-2 24-34 cm	60.1	0.727	0.066	0.004	0.0103	0.0002	0.15128	64.8	3.5	66.3	1.2	60	100	66.3	1.2	2.3
U1456D-29R-2 24-34 cm	621	1.672	1.521	0.022	0.1520	0.0022	0.85451	938.8	9.2	912	12	1005	16	1005.0	16.0	9.3
U1456D-29R-2 24-34 cm	352	3.030	0.039	0.001	0.0058	0.0001	0.11154	38.9	1.4	37.29	0.71	152	79	37.3	0.7	4.1
U1456D-29R-2 24-34 cm	310	2.136	5.476	0.091	0.3108	0.0036	0.74764	1894	15	1744	18	2047	21	2047.0	21.0	14.8
U1456D-29R-2 24-34 cm	119	0.515	1.900	0.025	0.1770	0.0021	0.65939	1081	8.8	1050	12	1134	24	1134.0	24.0	7.4
U1456D-29R-2 24-34 cm	659	1.423	1.504	0.019	0.1520	0.0017	0.67237	931.7	7.6	912.3	9.7	989	21	989.0	21.0	7.8
U1456D-29R-2 24-34 cm	1035	1.218	0.155	0.003	0.0213	0.0003	0.28038	146.4	2.3	136.1	1.9	322	42	136.1	1.9	7.0
U1456D-29R-2 24-34 cm	37.5	0.681	0.141	0.008	0.0191	0.0004	0.18373	135.9	7.5	121.7	2.2	320	120	121.7	2.2	10.4
U1456D-29R-2 24-34 cm	433	46.300	0.211	0.008	0.0308	0.0018	0.4648	194	6.4	195	11	220	110	195.0	11.0	0.5
U1456D-29R-2 24-34 cm	39.84	1.567	1.190	0.035	0.1225	0.0020	0.43876	794	16	745	12	913	55	745.0	12.0	6.2
U1456D-29R-2 24-34 cm	377	1.374	24.860	0.370	0.5610	0.0110	0.35764	3302	15	2867	45	3557	27	3557.0	27.0	19.4
U1456D-29R-2 24-34 cm	103.7	0.747	1.165	0.016	0.1290	0.0012	0.24802	783.2	7.5	782.2	7	782	31	782.2	7.0	0.1

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456D-29R-2 24-34 cm	63.8	1.291	0.953	0.038	0.1068	0.0025	0.59952	682	21	654	14	814	61	654.0	14.0	4.1
U1456D-29R-2 24-34 cm	483	0.960	0.069	0.002	0.0101	0.0001	0.28754	67.6	1.5	65.06	0.77	147	44	65.1	0.8	3.8
U1456D-29R-2 24-34 cm	1738	12.190	0.844	0.008	0.0932	0.0008	0.73351	621.4	4.3	574.2	4.9	806	14	574.2	4.9	7.6
U1456D-29R-2 24-34 cm	853	4.210	0.103	0.001	0.0155	0.0001	0.22625	99.1	1.1	99.28	0.7	100	27	99.3	0.7	0.2
U1456D-29R-2 24-34 cm	169	2.060	2.031	0.023	0.1886	0.0016	0.55109	1127	7.7	1114	8.8	1151	21	1151.0	21.0	3.2
U1456D-29R-2 24-34 cm	76.3	0.459	0.084	0.004	0.0132	0.0002	0.00419	81.4	3.2	84.7	1.4	41	82	84.7	1.4	4.1
U1456D-29R-2 24-34 cm	1488	0.921	0.274	0.003	0.0380	0.0004	0.6897	246.1	2.7	240.7	2.6	289	23	240.7	2.6	2.2
U1456D-29R-2 24-34 cm	208.6	0.826	6.260	0.110	0.3063	0.0059	0.70689	2013	16	1721	29	2325	27	2325.0	27.0	26.0
U1456D-29R-2 24-34 cm	109.5	1.128	0.052	0.002	0.0078	0.0001	-0.0608	51	2.2	49.76	0.81	134	94	49.8	0.8	2.4
U1456D-29R-2 24-34 cm	315	1.057	1.576	0.014	0.1622	0.0013	0.52363	960.2	5.5	969	7.3	948	18	948.0	18.0	2.2
U1456D-29R-2 24-34 cm	1090	18.900	0.239	0.014	0.0263	0.0022	0.88084	217	11	168	14	751	91	DISC	DISC	22.6
U1456D-29R-2 24-34 cm	114.9	0.993	1.224	0.015	0.1301	0.0011	0.41064	812.6	6.5	788.2	6.2	875	24	788.2	6.2	3.0
U1456D-29R-2 24-34 cm	180.5	1.587	0.047	0.002	0.0070	0.0002	0.32913	46.5	2.2	44.7	1	151	91	44.7	1.0	3.9
U1456D-29R-2 24-34 cm	432	36.500	0.130	0.009	0.0200	0.0008	0.75905	124.1	8.1	127.4	5.2	120	110	127.4	5.2	2.7
U1456D-29R-2 24-34 cm	336	1.560	1.052	0.024	0.1179	0.0023	0.80479	730	12	718	13	780	26	718.0	13.0	1.6
U1456D-29R-2 24-34 cm	666	23.000	0.204	0.003	0.0302	0.0002	0.28484	188.3	2.3	191.6	1.3	143	28	191.6	1.3	1.8
U1456D-29R-2 24-34 cm	295	9.230	0.568	0.007	0.0742	0.0006	0.43824	456.6	4.5	461.2	3.6	445	26	461.2	3.6	1.0
U1456D-29R-2 24-34 cm	259.4	0.814	1.185	0.013	0.1303	0.0012	0.33042	793.3	6.1	789.8	6.6	820	24	789.8	6.6	0.4
U1456D-29R-2 24-34 cm	52.3	1.146	0.771	0.016	0.0917	0.0010	0.27883	579.6	9.2	565.7	6	639	45	565.7	6.0	2.4
U1456D-29R-2 24-34 cm	3500	4.450	0.074	0.001	0.0111	0.0002	0.71142	72	1.1	70.97	0.93	99	24	71.0	0.9	1.4
U1456D-29R-2 24-34 cm	172	0.477	0.769	0.011	0.0937	0.0012	0.42257	578.7	6.4	577.5	6.8	584	32	577.5	6.8	0.2
U1456D-29R-2 24-34 cm	592	1.398	0.038	0.001	0.0056	0.0001	0.24701	37.5	1.2	35.96	0.61	161	69	36.0	0.6	4.1
U1456D-29R-2 24-34 cm	681	45.600	0.216	0.007	0.0307	0.0010	0.57849	198.5	5.8	195	6	243	64	195.0	6.0	1.8
U1456D-29R-2 24-34 cm	1113	5.580	0.834	0.011	0.0902	0.0009	0.64572	615.2	5.8	556.7	5.2	848	21	556.7	5.2	9.5
U1456D-29R-2 24-34 cm	976	115.000	0.134	0.004	0.0197	0.0005	0.59488	127.1	3.4	126	3.3	153	49	126.0	3.3	0.9
U1456D-29R-2 24-34 cm	350	2.920	1.479	0.027	0.1522	0.0027	0.64677	922	11	913	15	955	31	955.0	31.0	4.4
U1456D-29R-2 24-34 cm	908	1.160	0.037	0.002	0.0056	0.0001	0.45637	37.2	2.3	36.28	0.91	100	110	36.3	0.9	2.5
U1456D-29R-2 24-34 cm	682	1.650	0.037	0.001	0.0058	0.0001	0.25274	36.77	0.8	37.03	0.38	50	43	37.0	0.4	0.7
U1456D-29R-2 24-34 cm	805	1.248	0.111	0.001	0.0171	0.0002	0.44319	106.8	1.3	109.4	1.1	79	27	109.4	1.1	2.4
U1456D-29R-2 24-34 cm	184	0.933	0.113	0.003	0.0169	0.0002	0.23685	108.1	2.7	107.7	1.5	121	52	107.7	1.5	0.4
U1456D-29R-2 24-34 cm	70.4	0.387	1.090	0.024	0.1101	0.0017	0.60333	752	12	672.9	9.8	993	35	672.9	9.8	10.5
U1456D-29R-2 24-34 cm	562	15.500	0.359	0.008	0.0460	0.0010	0.68018	311.4	6.1	289.7	6.2	480	43	289.7	6.2	7.0
U1456D-29R-2 24-34 cm	1540	42.800	0.047	0.002	0.0072	0.0002	0.44141	46.7	1.7	46	1.4	124	76	46.0	1.4	1.5
U1456D-29R-2 24-34 cm	114.2	0.952	0.070	0.003	0.0102	0.0002	0.01948	68.8	2.7	65.1	1.2	200	88	65.1	1.2	5.4
U1456D-29R-2 24-34 cm	442	0.990	0.056	0.002	0.0087	0.0002	0.55459	55.5	1.6	55.6	1.1	83	51	55.6	1.1	0.2
U1456D-29R-2 24-34 cm	382	6.980	0.602	0.009	0.0789	0.0012	0.65312	478	5.7	489.4	7.1	436	28	489.4	7.1	2.4
U1456D-29R-2 24-34 cm	592	4.240	1.271	0.014	0.1297	0.0014	0.7001	833.6	6.4	785.9	8	969	17	785.9	8.0	5.7

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456D-29R-2 24-34 cm	553	26.980	0.232	0.009	0.0316	0.0009	0.55992	212	7.2	200.7	5.9	350	81	200.7	5.9	5.3
U1456D-29R-2 24-34 cm	126.5	1.036	1.639	0.028	0.1636	0.0020	0.37845	986	11	979	10	998	35	998.0	35.0	1.9
U1456D-29R-2 24-34 cm	351	0.756	0.050	0.002	0.0077	0.0001	0.42495	49.7	1.5	49.66	0.83	88	56	49.7	0.8	0.1
U1456D-29R-2 24-34 cm	99	0.611	0.044	0.003	0.0069	0.0002	-0.0401	44	2.5	44.43	0.95	50	110	44.4	1.0	1.0
U1456D-29R-2 24-34 cm	1044	1.251	0.198	0.006	0.0277	0.0008	0.44652	183.5	5.2	176	4.8	287	71	176.0	4.8	4.1
U1456D-29R-2 24-34 cm	482	31.000	0.526	0.021	0.0667	0.0023	0.66024	430	13	416	14	529	63	416.0	14.0	3.3
U1456D-29R-2 24-34 cm	166	0.938	10.070	0.110	0.4426	0.0041	0.62012	2440	10	2362	19	2509	16	2509.0	16.0	5.9
U1456D-29R-2 24-34 cm	277	1.152	10.700	0.160	0.4382	0.0062	0.70875	2495	14	2341	28	2620	21	2620.0	21.0	10.6
U1456D-29R-2 24-34 cm	261	1.241	0.123	0.003	0.0180	0.0004	0.54365	117.6	3.1	114.8	2.5	199	51	114.8	2.5	2.4
U1456D-29R-2 24-34 cm	100.1	1.389	0.742	0.020	0.0851	0.0020	0.59732	561	12	526	12	713	47	526.0	12.0	6.2
U1456D-29R-2 24-34 cm	774	0.583	0.034	0.001	0.0050	0.0001	0.27132	34.38	0.96	32.14	0.58	186	63	32.1	0.6	6.5
U1456D-29R-2 24-34 cm	673	0.555	6.570	0.130	0.2687	0.0065	0.5266	2055	18	1533	33	2576	28	DISC	DISC	40.5
U1456D-29R-2 24-34 cm	196	1.275	1.457	0.021	0.1497	0.0018	0.67538	912.5	8.4	899	10	939	22	939.0	22.0	4.3
U1456D-29R-2 24-34 cm	275	0.743	0.067	0.002	0.0101	0.0001	0.24479	65.9	1.7	64.7	0.7	119	55	64.7	0.7	1.8
U1456D-29R-2 24-34 cm	144.4	1.527	0.073	0.003	0.0103	0.0002	0.1468	71.1	2.6	65.91	0.99	286	85	65.9	1.0	7.3
U1456D-29R-2 24-34 cm	75.6	1.007	0.044	0.003	0.0066	0.0002	0.06918	43.5	3.2	42.7	1.3	90	140	42.7	1.3	1.8
U1456D-29R-2 24-34 cm	538	7.460	0.734	0.011	0.0793	0.0011	0.89573	558.3	6.6	492.1	6.6	825	15	492.1	6.6	11.9
U1456D-29R-2 24-34 cm	63.8	1.004	0.106	0.005	0.0168	0.0003	0.15507	102.6	4.3	107.5	1.6	12	81	107.5	1.6	4.8
U1456D-29R-2 24-34 cm	335.6	1.501	0.299	0.004	0.0412	0.0005	0.4585	265.7	3.1	260.5	2.8	289	29	260.5	2.8	2.0
U1456D-29R-2 24-34 cm	223.6	0.408	1.261	0.014	0.1308	0.0012	0.67933	827.5	6.4	792.1	6.6	903	17	792.1	6.6	4.3
U1456D-29R-2 24-34 cm	257	0.725	1.111	0.016	0.1253	0.0015	0.73392	759.9	7.3	761	8.6	754	19	761.0	8.6	0.1
U1456D-29R-2 24-34 cm	295.7	0.832	0.691	0.008	0.0836	0.0009	0.54667	533.1	4.9	517.6	5.6	589	23	517.6	5.6	2.9
U1456D-29R-2 24-34 cm	317	0.743	0.118	0.003	0.0166	0.0002	0.2309	114.1	2.2	105.9	1.1	263	47	105.9	1.1	7.2
U1456D-29R-2 24-34 cm	611	9.970	0.573	0.020	0.0743	0.0024	0.54006	463	13	462	14	419	69	462.0	14.0	0.2
U1456D-29R-2 24-34 cm	553.6	0.788	0.950	0.020	0.1063	0.0017	0.77237	679	10	651.1	9.7	783	28	651.1	9.7	4.1
U1456D-29R-2 24-34 cm	115.2	0.719	0.056	0.003	0.0084	0.0002	0.16572	55.5	3.1	53.7	1.1	160	110	53.7	1.1	3.2
U1456D-29R-2 24-34 cm	1290	100.000	0.113	0.001	0.0166	0.0002	0.39442	108.5	1.2	106.4	0.98	136	26	106.4	1.0	2.0
U1456D-29R-2 24-34 cm	1710	27.200	0.045	0.001	0.0070	0.0001	0.47388	44.8	1.1	44.89	0.61	44	44	44.9	0.6	0.2
U1456D-29R-2 24-34 cm	118.4	0.875	0.291	0.012	0.0410	0.0011	0.3654	260.9	9.8	259	6.5	286	95	259.0	6.5	0.7
U1456D-29R-2 24-34 cm	418	1.059	0.113	0.002	0.0170	0.0002	0.32608	108.4	2	108.6	1.3	100	41	108.6	1.3	0.2
U1456D-29R-2 24-34 cm	270	0.638	1.786	0.026	0.1704	0.0018	0.8065	1039	9.5	1015	10	1075	18	1075.0	18.0	5.6
U1456D-29R-2 24-34 cm	151.3	0.676	0.042	0.002	0.0064	0.0001	0.0059	41.4	1.9	41.27	0.62	33	90	41.3	0.6	0.3
U1456D-29R-2 24-34 cm	191.1	1.305	0.060	0.003	0.0092	0.0001	0.43734	59.2	2.6	59.31	0.9	64	79	59.3	0.9	0.2
U1456D-29R-2 24-34 cm	216.3	1.890	4.803	0.055	0.3128	0.0033	0.78492	1784	9.8	1754	16	1813	16	1813.0	16.0	3.3
U1456D-29R-2 24-34 cm	491	6.230	0.169	0.003	0.0248	0.0003	0.52102	158.5	2.7	157.7	1.6	164	38	157.7	1.6	0.5
U1456D-29R-2 24-34 cm	30.88	0.518	0.201	0.009	0.0270	0.0005	-0.0046	186.9	8	172	2.9	320	99	172.0	2.9	8.0
U1456D-29R-2 24-34 cm	599	3.080	1.376	0.021	0.1433	0.0019	0.45485	878.2	8.7	863	11	909	30	909.0	30.0	5.1

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456D-29R-2 24-34 cm	1100	3.350	0.079	0.002	0.0121	0.0001	0.35166	77.6	1.4	77.34	0.82	84	37	77.3	0.8	0.3
U1456D-29R-2 24-34 cm	670	0.820	0.071	0.001	0.0110	0.0001	0.28968	69.3	1.2	70.2	0.66	68	39	70.2	0.7	1.3
U1456D-29R-2 24-34 cm	175.8	0.762	0.066	0.002	0.0102	0.0002	0.12398	65	1.7	65.19	0.96	55	59	65.2	1.0	0.3
U1456D-29R-2 24-34 cm	177.6	0.774	1.518	0.014	0.1563	0.0011	0.57375	939.5	5.7	937.5	6.3	933	17	933.0	17.0	0.5
U1456D-29R-2 24-34 cm	206	1.092	0.054	0.002	0.0080	0.0001	0.24115	53.4	2.1	51.11	0.88	119	75	51.1	0.9	4.3
U1456D-29R-2 24-34 cm	281	0.964	0.047	0.002	0.0076	0.0001	0.11817	47	1.5	48.8	0.52	-28	60	48.8	0.5	3.8
U1456D-29R-2 24-34 cm	275	3.140	0.545	0.008	0.0706	0.0008	0.59857	440.9	5.4	439.9	4.7	458	27	439.9	4.7	0.2
U1456D-29R-2 24-34 cm	188	4.374	5.374	0.089	0.3448	0.0058	0.64956	1879	14	1908	28	1858	24	1858.0	24.0	2.7
U1456D-29R-2 24-34 cm	161	1.284	0.602	0.044	0.0751	0.0036	0.74257	477	28	467	22	501	93	467.0	22.0	2.1
U1456D-29R-2 24-34 cm	298.7	1.841	4.440	0.110	0.2774	0.0088	0.68287	1719	21	1581	43	1910	37	1910.0	37.0	17.2
U1456D-29R-2 24-34 cm	471	21.500	0.298	0.014	0.0406	0.0019	0.50721	264	11	257	12	371	96	257.0	12.0	2.7
U1456D-29R-2 24-34 cm	209	1.110	1.121	0.023	0.1232	0.0025	0.65723	763	11	749	15	837	35	749.0	15.0	1.8
U1456D-29R-2 24-34 cm	1440	3.380	0.106	0.003	0.0162	0.0005	0.56902	101.7	2.9	103.6	3.3	48	55	103.6	3.3	1.9
U1456D-29R-2 24-34 cm	149.5	0.984	1.171	0.018	0.1269	0.0018	0.50636	787.4	8.5	770	10	830	32	770.0	10.0	2.2
U1456D-29R-2 24-34 cm	895	8.420	0.021	0.001	0.0033	0.0001	0.67296	21.49	0.9	21.07	0.76	49	58	21.1	0.8	2.0
U1456D-29R-2 24-34 cm	227	0.490	4.980	0.100	0.3169	0.0072	0.65564	1813	18	1773	35	1885	35	1885.0	35.0	5.9
U1456D-29R-2 24-34 cm	286	1.029	0.118	0.003	0.0176	0.0003	0.14321	112.8	3.1	112.7	1.9	146	57	112.7	1.9	0.1
U1456D-29R-2 24-34 cm	208.3	1.206	0.999	0.027	0.1084	0.0033	0.587	702	14	663	19	863	50	663.0	19.0	5.6
U1456E-19R-3 10-20 cm	63.3	1.219	0.122	0.006	0.0175	0.0003	0.13588	116.6	5.8	111.9	2	220	110	111.9	2.0	4.0
U1456E-19R-3 10-20 cm	310	1.048	2.088	0.016	0.1917	0.0012	0.63031	1145	5.2	1131	6.5	1170	12	1170.0	12.0	3.4
U1456E-19R-3 10-20 cm	96.8	1.166	1.196	0.018	0.1289	0.0013	0.54167	799.3	8	782.7	7.4	843	28	782.7	7.4	2.1
U1456E-19R-3 10-20 cm	339	11.700	0.963	0.015	0.1070	0.0012	0.6739	683.9	7.5	654.9	6.9	782	24	654.9	6.9	4.2
U1456E-19R-3 10-20 cm	87.2	1.090	1.241	0.018	0.1289	0.0016	0.48233	818.6	8.3	781.4	9	915	28	781.4	9.0	4.5
U1456E-19R-3 10-20 cm	111.7	0.912	1.411	0.017	0.1450	0.0012	0.36764	893.7	7.4	872.9	6.6	936	25	936.0	25.0	6.7
U1456E-19R-3 10-20 cm	114.2	0.658	1.113	0.026	0.1206	0.0016	0.52913	760	12	733.7	9.3	814	43	733.7	9.3	3.5
U1456E-19R-3 10-20 cm	432	0.547	0.044	0.001	0.0070	0.0001	0.16618	44.1	1.2	44.84	0.49	45	56	44.8	0.5	1.7
U1456E-19R-3 10-20 cm	182.2	0.379	0.190	0.005	0.0269	0.0003	0.2244	176.5	4.4	170.9	1.8	241	60	170.9	1.8	3.2
U1456E-19R-3 10-20 cm	141.4	0.318	0.208	0.004	0.0301	0.0003	0.01029	191.6	3.4	190.8	1.7	176	46	190.8	1.7	0.4
U1456E-19R-3 10-20 cm	2330	2.820	0.035	0.001	0.0052	0.0001	0.37704	35.35	0.61	33.69	0.35	114	36	33.7	0.4	4.7
U1456E-19R-3 10-20 cm	340	0.812	1.455	0.018	0.1470	0.0018	0.76566	911	7.6	884	10	987	18	987.0	18.0	10.4
U1456E-19R-3 10-20 cm	153.7	0.234	0.045	0.004	0.0056	0.0002	0.22401	44.7	3.8	36	1.1	460	180	DISC	DISC	19.5
U1456E-19R-3 10-20 cm	1060	34.500	0.105	0.002	0.0029	0.0007	0.16675	101.3	2	18.4	4.4	54	45	DISC	DISC	81.8
U1456E-19R-3 10-20 cm	716	0.828	0.105	0.002	0.0158	0.0001	0.36435	101.6	1.5	101	0.9	99	33	101.0	0.9	0.6
U1456E-19R-3 10-20 cm	205	1.822	0.099	0.003	0.0147	0.0002	-0.0425	95.6	2.4	93.8	1	133	61	93.8	1.0	1.9
U1456E-19R-3 10-20 cm	892	1.401	4.353	0.058	0.2353	0.0031	0.74472	1702	11	1364	16	2129	18	DISC	DISC	35.9
U1456E-19R-3 10-20 cm	63.6	0.891	0.135	0.007	0.0186	0.0004	0.08826	128.3	5.7	118.6	2.2	299	98	118.6	2.2	7.6

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456E-19R-3 10-20 cm	556.1	0.952	1.532	0.013	0.1489	0.0009	0.64485	943.4	5	894.9	4.9	1051	13	1051.0	13.0	14.9
U1456E-19R-3 10-20 cm	893	309.000	0.102	0.004	0.0155	0.0004	0.47274	98.6	3.3	98.9	2.3	128	77	98.9	2.3	0.3
U1456E-19R-3 10-20 cm	172.3	4.477	4.550	0.100	0.2175	0.0049	0.80941	1740	19	1269	26	2339	29	DISC	DISC	45.7
U1456E-19R-3 10-20 cm	176.9	0.902	0.102	0.003	0.0146	0.0002	0.17454	98.7	2.6	93.3	1.1	207	64	93.3	1.1	5.5
U1456E-19R-3 10-20 cm	37.7	1.483	13.470	0.170	0.4988	0.0049	0.70057	2711	12	2610	21	2778	14	2778.0	14.0	6.0
U1456E-19R-3 10-20 cm	2190	1.100	0.068	0.002	0.0099	0.0001	0.35662	66.9	1.8	63.73	0.91	160	53	63.7	0.9	4.7
U1456E-19R-3 10-20 cm	8.45	0.420	3.707	0.098	0.2156	0.0045	0.39326	1576	21	1257	24	2041	48	DISC	DISC	38.4
U1456E-19R-3 10-20 cm	233.8	0.809	0.057	0.002	0.0079	0.0001	0.21565	56.4	2.1	50.81	0.9	332	81	50.8	0.9	9.9
U1456E-19R-3 10-20 cm	281.7	0.890	1.119	0.009	0.1226	0.0007	0.3332	762	4.3	745.7	3.8	818	18	745.7	3.8	2.1
U1456E-19R-3 10-20 cm	44.5	0.585	1.267	0.024	0.1357	0.0014	0.3152	832	11	820.4	7.9	853	37	820.4	7.9	1.4
U1456E-19R-3 10-20 cm	365	0.599	0.093	0.005	0.0137	0.0002	0.25412	90.2	4.4	87.7	1.3	150	100	87.7	1.3	2.8
U1456E-19R-3 10-20 cm	833	22.800	0.129	0.008	0.0189	0.0008	0.60832	123.2	7.5	120.6	4.9	132	98	120.6	4.9	2.1
U1456E-19R-3 10-20 cm	50.79	0.234	0.863	0.032	0.0977	0.0017	0.12358	631	17	600.7	9.8	750	70	600.7	9.8	4.8
U1456E-19R-3 10-20 cm	182.3	0.956	0.287	0.005	0.0386	0.0004	0.21556	255.9	4	244.2	2.3	395	39	244.2	2.3	4.6
U1456E-19R-3 10-20 cm	78.8	0.897	5.270	0.120	0.2893	0.0062	0.87212	1863	20	1636	31	2159	19	2159.0	19.0	24.2
U1456E-19R-3 10-20 cm	268.1	0.755	1.060	0.011	0.1181	0.0007	0.49142	734	5.1	719.5	4.2	794	18	719.5	4.2	2.0
U1456E-19R-3 10-20 cm	504	5.930	1.268	0.011	0.1384	0.0012	0.78116	831.2	5.1	835.7	7.1	841	14	835.7	7.1	0.5
U1456E-19R-3 10-20 cm	867	20.300	0.716	0.019	0.0923	0.0030	0.51929	548	11	569	18	501	65	569.0	18.0	3.8
U1456E-19R-3 10-20 cm	227	2.075	5.220	0.110	0.3054	0.0055	0.89005	1857	17	1720	27	2030	16	2030.0	16.0	15.3
U1456E-19R-3 10-20 cm	199.2	0.277	0.623	0.009	0.0769	0.0007	0.35782	491.5	5.4	477.6	3.9	580	30	477.6	3.9	2.8
U1456E-19R-3 10-20 cm	610	26.100	0.127	0.002	0.0179	0.0003	0.60231	121.4	1.9	114.4	1.7	261	34	114.4	1.7	5.8
U1456E-19R-3 10-20 cm	2172	3.240	1.053	0.015	0.1112	0.0015	0.67913	731.8	7.7	679.5	8.8	897	19	679.5	8.8	7.1
U1456E-19R-3 10-20 cm	370.6	33.300	0.069	0.006	0.0102	0.0003	0.32209	67.7	6.1	65.5	2.1	170	190	65.5	2.1	3.2
U1456E-19R-3 10-20 cm	363	1.960	0.658	0.010	0.0811	0.0012	0.72867	513.2	5.9	502.9	7	584	23	502.9	7.0	2.0
U1456E-19R-3 10-20 cm	145.4	0.873	0.101	0.003	0.0156	0.0002	0.06496	98	2.9	99.6	1.1	92	65	99.6	1.1	1.6
U1456E-19R-3 10-20 cm	787	0.606	0.041	0.001	0.0066	0.0001	0.03571	40.8	0.95	42.32	0.43	4	47	42.3	0.4	3.7
U1456E-19R-3 10-20 cm	546	0.876	0.060	0.002	0.0085	0.0001	0.38805	59	1.8	54.55	0.87	247	62	54.6	0.9	7.5
U1456E-19R-3 10-20 cm	1090	1.231	0.253	0.003	0.0365	0.0004	0.55952	228.9	2.6	230.8	2.3	241	25	230.8	2.3	0.8
U1456E-19R-3 10-20 cm	1123	9.240	0.699	0.006	0.0864	0.0007	0.70867	537.6	3.8	533.9	4.3	570	16	533.9	4.3	0.7
U1456E-19R-3 10-20 cm	588	1.980	0.551	0.007	0.0695	0.0009	0.66638	445.3	4.8	432.9	5.4	549	23	432.9	5.4	2.8
U1456E-19R-3 10-20 cm	138.5	0.915	0.086	0.003	0.0128	0.0002	0.17873	83.9	3.2	82.1	1.2	158	76	82.1	1.2	2.1
U1456E-19R-3 10-20 cm	138	1.723	0.088	0.003	0.0133	0.0002	0.07037	85.6	2.6	85.1	1	154	69	85.1	1.0	0.6
U1456E-19R-3 10-20 cm	638	4.260	1.353	0.020	0.1376	0.0022	0.65491	869.1	8.8	831	13	978	28	831.0	13.0	4.4
U1456E-19R-3 10-20 cm	190	2.111	0.028	0.003	0.0043	0.0001	0.18906	27.6	2.9	27.43	0.71	100	200	27.4	0.7	0.6
U1456E-19R-3 10-20 cm	104.3	2.127	12.720	0.160	0.4853	0.0072	0.79572	2659	12	2548	31	2748	14	2748.0	14.0	7.3
U1456E-19R-3 10-20 cm	339	23.200	5.288	0.038	0.3261	0.0024	0.72203	1867	6.1	1819	11	1921	9.5	1920.6	9.5	5.3
U1456E-19R-3 10-20 cm	185.4	1.849	2.887	0.038	0.2292	0.0029	0.80093	1378	10	1330	15	1447	17	1447.0	17.0	8.1

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456E-19R-3 10-20 cm	730	1.330	1.610	0.021	0.1624	0.0020	0.6493	974	8	971	11	989	18	989.0	18.0	1.8
U1456E-19R-3 10-20 cm	1031	47.400	0.048	0.001	0.0070	0.0001	0.26357	47.1	1	44.72	0.6	175	51	44.7	0.6	5.1
U1456E-19R-3 10-20 cm	188	1.193	0.791	0.009	0.0948	0.0008	0.48693	591.3	5.1	583.6	4.8	614	23	583.6	4.8	1.3
U1456E-19R-3 10-20 cm	365	0.655	0.165	0.003	0.0238	0.0002	0.26209	155	2.6	151.9	1.4	199	37	151.9	1.4	2.0
U1456E-19R-3 10-20 cm	627	17.330	0.120	0.002	0.0178	0.0003	0.45917	114.6	2.1	113.6	1.7	125	40	113.6	1.7	0.9
U1456E-19R-3 10-20 cm	196.9	5.380	1.345	0.020	0.1444	0.0023	0.78832	866	8.7	870	13	850	20	850.0	20.0	0.5
U1456E-19R-3 10-20 cm	84.6	0.918	0.121	0.005	0.0159	0.0003	0.30122	116	4.2	101.7	1.7	379	79	101.7	1.7	12.3
U1456E-19R-3 10-20 cm	186.6	1.031	1.174	0.010	0.1263	0.0009	0.42574	788.4	4.8	767.1	4.9	832	17	767.1	4.9	2.7
U1456E-19R-3 10-20 cm	328	1.201	1.342	0.015	0.1379	0.0013	0.51885	864.3	6.4	833.6	7.4	939	20	833.6	7.4	3.6
U1456E-19R-3 10-20 cm	42.4	0.506	0.136	0.007	0.0179	0.0004	0.17779	128.8	6.6	114.2	2.3	370	110	114.2	2.3	11.3
U1456E-19R-3 10-20 cm	100.7	1.062	1.620	0.022	0.1604	0.0013	0.4226	977.1	8.5	958.9	7	992	26	992.0	26.0	3.3
U1456E-19R-3 10-20 cm	1246	0.634	0.045	0.001	0.0065	0.0001	0.21911	44.3	0.84	42.03	0.35	149	41	42.0	0.4	5.1
U1456E-19R-3 10-20 cm	174	0.592	0.601	0.013	0.0739	0.0011	0.57647	480.5	8.1	459.4	6.7	554	39	459.4	6.7	4.4
U1456E-19R-3 10-20 cm	247	1.158	8.491	0.085	0.3835	0.0033	0.7349	2284	9	2092	16	2442	11	2442.0	11.0	14.3
U1456E-19R-3 10-20 cm	35.52	0.487	1.034	0.022	0.1080	0.0015	0.06503	723	11	661.2	8.5	897	51	661.2	8.5	8.5
U1456E-19R-3 10-20 cm	365	0.649	0.043	0.001	0.0067	0.0001	0.06312	42.9	1.1	43.03	0.43	43	52	43.0	0.4	0.3
U1456E-19R-3 10-20 cm	456	2.152	11.130	0.100	0.4417	0.0037	0.56433	2535	8.3	2357	17	2661	12	2661.0	12.0	11.4
U1456E-19R-3 10-20 cm	200	0.936	0.184	0.004	0.0276	0.0003	0.12823	171.2	3.4	175.2	1.9	134	48	175.2	1.9	2.3
U1456E-19R-3 10-20 cm	40.41	1.232	0.101	0.009	0.0106	0.0004	0.06829	97.4	8.4	67.6	2.5	890	200	DISC	DISC	30.6
U1456E-19R-3 10-20 cm	843.1	8.770	3.249	0.040	0.2260	0.0027	0.75646	1469	9.6	1313	14	1675	14	1675.0	14.0	21.6
U1456E-19R-3 10-20 cm	100.4	0.687	0.834	0.016	0.0964	0.0011	0.45071	616.3	8.7	593.3	6.4	682	37	593.3	6.4	3.7
U1456E-19R-3 10-20 cm	350	0.827	0.054	0.003	0.0067	0.0001	0.52826	53.3	3.1	43.13	0.84	520	120	DISC	DISC	19.1
U1456E-19R-3 10-20 cm	211.1	0.514	0.083	0.003	0.0125	0.0002	0.21046	80.6	2.3	80.2	0.93	121	61	80.2	0.9	0.5
U1456E-19R-3 10-20 cm	332	1.061	0.046	0.002	0.0071	0.0001	0.12455	45.7	1.6	45.58	0.6	58	70	45.6	0.6	0.3
U1456E-19R-3 10-20 cm	175.4	0.932	0.815	0.012	0.0954	0.0010	0.2986	605.4	6.7	587.7	5.8	671	35	587.7	5.8	2.9
U1456E-19R-3 10-20 cm	170.2	0.741	1.219	0.022	0.1244	0.0026	0.53554	809	10	755	15	961	41	755.0	15.0	6.7
U1456E-19R-3 10-20 cm	162.6	0.976	0.065	0.003	0.0094	0.0002	0.33697	63.5	2.4	60.4	1	147	75	60.4	1.0	4.9
U1456E-19R-3 10-20 cm	815	0.678	0.051	0.001	0.0007	0.0001	0.32244	50.7	1.1	4.6	0.75	83	42	DISC	DISC	90.9
U1456E-19R-3 10-20 cm	295.8	0.859	0.600	0.012	0.0731	0.0012	0.52995	476.8	7.6	454.8	7.5	582	44	454.8	7.5	4.6
U1456E-19R-3 10-20 cm	328	1.504	9.930	0.110	0.4360	0.0051	0.84134	2427	10	2331	23	2511	10	2511.0	10.0	7.2
U1456E-19R-3 10-20 cm	928	0.438	0.122	0.002	0.0183	0.0001	0.25282	117.1	1.4	117	0.79	111	26	117.0	0.8	0.1
U1456E-19R-3 10-20 cm	820	1.682	0.104	0.002	0.0151	0.0001	0.31834	100.2	1.4	96.69	0.91	174	34	96.7	0.9	3.5
U1456E-19R-3 10-20 cm	107.5	0.497	1.401	0.018	0.1409	0.0014	0.42975	889.2	7.7	849.4	7.7	989	26	849.4	7.7	4.5
U1456E-19R-3 10-20 cm	694	0.843	0.119	0.005	0.0105	0.0002	-0.0386	113.8	4.1	67	1.1	1254	83	DISC	DISC	41.1
U1456E-19R-3 10-20 cm	893	1.668	0.031	0.001	0.0047	0.0000	0.17449	30.99	0.77	30.09	0.3	42	51	30.1	0.3	2.9
U1456E-19R-3 10-20 cm	993	1.097	0.106	0.002	0.0155	0.0002	0.50961	102	1.6	98.9	1.1	160	32	98.9	1.1	3.0
U1456E-19R-3 10-20 cm	476	0.557	0.043	0.001	0.0067	0.0001	0.11801	42.9	1.1	43.03	0.51	32	54	43.0	0.5	0.3

Table S4

Sample name	U (ppm)	U/Th	207/235	2σ error	206/238	2σ error	RHO	207/235 Age (Ma)	2σ error	206/238 Age (Ma)	2σ error	207/206 Age (Ma)	2σ error	Best age (Ma)	2σ error	% Discordance*
U1456E-19R-3 10-20 cm	614	0.917	1.773	0.016	0.1686	0.0011	0.43844	1036	5.8	1005	6.2	1088	16	1088.0	16.0	7.7
U1456E-19R-3 10-20 cm	483	3.150	12.250	0.210	0.4938	0.0077	0.87084	2624	16	2585	33	2640	12	2640.0	12.0	2.1
U1456E-19R-3 10-20 cm	877	1.304	0.639	0.009	0.0794	0.0007	0.40145	501.4	5.4	492.2	4.4	546	28	492.2	4.4	1.8
U1456E-19R-3 10-20 cm	347	2.440	1.317	0.016	0.1316	0.0013	0.5702	853.4	7	796.9	7.3	985	20	796.9	7.3	6.6
U1456E-19R-3 10-20 cm	468	0.839	1.089	0.022	0.1134	0.0016	-0.124	747	10	692.3	9.1	885	40	692.3	9.1	7.3
U1456E-19R-3 10-20 cm	95.5	0.894	1.724	0.041	0.1579	0.0032	0.84145	1017	16	945	18	1172	29	1172.0	29.0	19.4
U1456E-19R-3 10-20 cm	394	0.994	0.056	0.002	0.0084	0.0001	0.15849	55.5	1.8	53.98	0.64	122	67	54.0	0.6	2.7
U1456E-19R-3 10-20 cm	438	0.626	0.051	0.002	0.0073	0.0001	0.04648	50.5	1.7	47.08	0.71	174	77	47.1	0.7	6.8
U1456E-19R-3 10-20 cm	68.7	0.917	0.127	0.004	0.0180	0.0003	0.05297	121.5	3.9	114.9	1.6	251	78	114.9	1.6	5.4
U1456E-19R-3 10-20 cm	1847	2.872	0.019	0.001	0.0028	0.0001	0.66699	18.74	0.53	18.11	0.37	89	45	18.1	0.4	3.4
U1456E-19R-3 10-20 cm	1040	5.500	0.819	0.019	0.0940	0.0016	0.70201	607	11	578.9	9.5	693	40	578.9	9.5	4.6
U1456E-19R-3 10-20 cm	49.3	0.633	7.710	0.230	0.3339	0.0087	0.63375	2209	27	1857	42	2525	40	2525.0	40.0	26.5
U1456E-19R-3 10-20 cm	129	0.944	1.167	0.013	0.1275	0.0011	0.30148	785.1	6	773.6	6.1	781	24	773.6	6.1	1.5
U1456E-19R-3 10-20 cm	130.3	0.613	0.070	0.003	0.0103	0.0001	0.18145	68.3	2.4	65.92	0.77	157	73	65.9	0.8	3.5
U1456E-19R-3 10-20 cm	198	0.375	0.045	0.002	0.0060	0.0001	0.00444	44.5	2.1	38.52	0.65	330	99	38.5	0.7	13.4
U1456E-19R-3 10-20 cm	186	0.606	0.067	0.005	0.0078	0.0002	-0.0368	65.7	4.8	49.9	1.3	640	170	DISC	DISC	24.0
U1456E-19R-3 10-20 cm	102.3	1.143	1.176	0.020	0.1269	0.0014	0.32745	788.5	9.5	770.8	8.2	826	37	770.8	8.2	2.2
U1456E-19R-3 10-20 cm	151.4	0.488	1.305	0.023	0.1344	0.0015	0.56483	849.6	9.5	812.7	8.8	929	26	812.7	8.8	4.3
U1456E-19R-3 10-20 cm	385.1	1.134	1.256	0.016	0.1307	0.0011	0.75605	825.8	7.1	791.8	6.4	911	16	791.8	6.4	4.1
U1456E-19R-3 10-20 cm	261	4.290	4.593	0.042	0.2961	0.0035	0.58025	1748	7.7	1671	17	1829	18	1829.0	18.0	8.6
U1456E-19R-3 10-20 cm	1070	1.650	0.066	0.003	0.0099	0.0002	0.40049	64.5	2.5	63.3	1.4	120	73	63.3	1.4	1.9
U1456E-19R-3 10-20 cm	200.2	0.729	0.290	0.005	0.0411	0.0004	0.34929	258.4	3.9	259.3	2.4	255	37	259.3	2.4	0.3
U1456E-19R-3 10-20 cm	294	0.738	1.206	0.014	0.1292	0.0010	0.59126	802.6	6.4	783.2	5.9	841	20	783.2	5.9	2.4
U1456E-19R-3 10-20 cm	539.6	0.519	0.059	0.001	0.0092	0.0001	0.12667	58.3	1.2	58.98	0.62	33	45	59.0	0.6	1.2
U1456E-19R-3 10-20 cm	1362	7.370	0.144	0.006	0.0207	0.0006	0.79143	136.4	5	132.2	3.7	171	64	132.2	3.7	3.1
U1456E-19R-3 10-20 cm	3840	6.470	0.097	0.002	0.0142	0.0002	0.6866	93.7	1.4	91	1.1	157	25	91.0	1.1	2.9
U1456E-19R-3 10-20 cm	248	1.527	4.739	0.038	0.2968	0.0024	0.61685	1775	6.7	1676	12	1899	12	1899.0	12.0	11.7
U1456E-19R-3 10-20 cm	810	5.780	1.320	0.011	0.1350	0.0010	0.74388	854	5	816.3	5.6	963	11	816.3	5.6	4.4
U1456E-19R-3 10-20 cm	178	1.070	0.059	0.004	0.0082	0.0001	0.12826	58.3	3.4	52.3	0.9	260	110	52.3	0.9	10.3
U1456E-19R-3 10-20 cm	1358	1.390	0.034	0.001	0.0053	0.0001	0.23886	34.07	0.73	33.87	0.39	61	44	33.9	0.4	0.6
U1456E-19R-3 10-20 cm	156.9	1.143	5.503	0.054	0.3226	0.0028	0.73429	1900	8.4	1802	14	2014	12	2014.0	12.0	10.5
U1456E-19R-3 10-20 cm	310	2.180	1.200	0.014	0.1311	0.0012	0.71501	799.6	6.7	794.3	6.6	833	18	794.3	6.6	0.7
U1456E-19R-3 10-20 cm	873	5.500	0.672	0.019	0.0857	0.0023	0.85236	521	11	530	14	524	35	530.0	14.0	1.7
U1456E-19R-3 10-20 cm	68.2	0.496	0.313	0.009	0.0432	0.0005	0.21684	275.4	6.8	272.6	3.1	309	62	272.6	3.1	1.0
U1456E-19R-3 10-20 cm	1475	6.960	0.213	0.002	0.0308	0.0002	0.57167	195.8	1.6	195.8	1.3	216	18	195.8	1.3	0.0
U1456E-19R-3 10-20 cm	491	0.887	0.051	0.001	0.0074	0.0001	0.10746	50.7	1.3	47.41	0.53	231	58	47.4	0.5	6.5
U1456E-19R-3 10-20 cm	276	2.450	1.520	0.018	0.1387	0.0013	0.42606	938.7	7	838.4	7.8	1192	20	838.4	7.8	10.7