Supplementary online information for "U-Pb zircon dating evidence for a Pleistocene Sarasvati River and capture of the Yamuna River

CHRONOLOGY BY AMS RADIOCARBON DATING

Mollusc shells, as well as wood and plant remains were the primary material for AMS radiocarbon dating at the National Ocean Sciences Accelerator Mass Spectrometry Facility (NOSAMS) at the Woods Hole Oceanographic Institution, USA. Sample locations are shown in the sedimentary logs of the cored sections (Fig. 1). The coring locations are listed in Table DR-1 and shown graphically in Figure 1. The methodology for AMS radiocarbon dating is presented on the NOSAMS site http://nosams.whoi.edu and discussed in McNichol et al. (1995). All radiocarbon dates and their calibrated equivalents together with the location information in core for the dated samples and location of the boreholes are presented in Table DR-1.

All dates discussed in this paper have been converted to calendar ages (2 sigma range) using Calib 5.0.1 software (Stuiver et al., 1998). For the wood or other plant samples we used the terrestrial IntCal04 calibration dataset (Reimer et al., 2004).

CHRONOLOGY BY OPTICALLY STIMULATED LUMINESENCE (OSL) DATING

For optically stimulated luminescence (OSL) measurement, all samples were prepared in subdued red light conditions in the Aberystwyth Luminescence Research Laboratory. The 90–125 μm grain-size fraction was used for dating, after treatment with hydrochloric acid and hydrogen peroxide to remove carbonates and organic matter respectively. Heavy liquid density

separation ($2.62 < \rho < 2.70$ g.cm^3) was carried out to isolate the quartz grains, and the resulting material was etched using hydrofluoric acid to remove the alpha-irradiated outer surface of the quartz grains and remove any non-quartz minerals still present. OSL measurements were made using a Risø TL/OSL luminescence reader, and OSL was stimulated using blue light emitting diodes (470 Δ 20 nm). The resulting signal was measured through a bialkali photo multiplier tube fitted with 7.5mm U340 filters. Equivalent dose (D_e) measurements were made following the single-aliquot regenerative dose (SAR) protocol (Murray and Wintle, 2000) on small aliquots (2 mm in diameter (Duller, 2008)) of sample, with a pre-heat of 220°C for 10 sec and a cut-heat of 160°C for 0 sec used during the measurement cycles. A standard set of rejection criteria (Jacobs et al., 2006) were applied, including the OSL IR depletion ratio of Duller (2003) to check for signal contamination by feldspar. The overdispersion parameter σ_d of Galbraith et al. (1999) used to assess the dose distribution. The protocol of Rodnight et al. (2006) was followed to decide whether to use the central age model (CAM) or the finite mixture model (FMM) to calculate a D_e for age calculation (Table DR-2). The environmental dose rate to grains was calculated using a combination of thick source alpha and beta counting, to assess the impact of radioactivity resulting from the decay of Uranium, Thorium and Potassium. The environmental dose due to cosmic rays was calculated using the equations of Prescott and Hutton (1994).

PB DATING OF ZIRCONS

Detrital zircons were extracted from core and trench sample the locations of which are shown in Figure 1 and detailed in Table DR-1. The location of the zircon samples within each stratigraphy are shown in Figure 1. Statistically adequate datasets of detrital zircon U-Pb ages were measured using the London Thermochronology Research Group facilities at University College London based on a New Wave Nd:YAG 213 nm laser ablation system, coupled to an

Agilent 7500a quadrupole ICP-MS. Real time data were processed using GLITTER 4.4 data reduction software. Repeated measurements of external zircon standard Plesovice (TIMS reference age 337.13±0.37 Myr ago)(Sláma et al., 2008) and NIST 612 silicate glass (Pearce et al., 1997) were used to correct for instrumental mass bias and depth-dependent inter-element fractionation of Pb, Th and U. Ages and probability density functions were calculated using Isoplot (Ludwig, 2003). The data are provided in Table DR-3.

STATISTICAL TESTING

Zircon age populations for each sample were compared with those from modern river sediments to test the hypothesis that the older river channels had a different drainage network and may have supplied the river channels now abandoned and infilled on the western edge of the Thar desert. We employed the Kolmogorov–Smirnov (K-S) test which quantifies the distance between the empirical distribution function of any sample with that from any other sample (Corder and Foreman, 2009). The null distribution of this statistic is calculated under the null hypothesis that the samples are drawn from the same distribution. While the test is able to tell whether two samples are very similar it is not able to tell whether a sample might be a mixture between two different samples. The results of the tests are shown in Table DR-4.

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TABLE CAPTIONS

Table DR-1. Results of AMS ^{14}C dating of organic materials recovered from the trenches and drill cores shown in Figure 1. Calendar ages are derived using OxCal version 4.1(Bronk Ramsey, 2009) using the IntCal09 calibration curve of Reimer et al. (2009).

Table DR-2. OSL age analytical data for the samples used in this study. Location of OSL samples within the section is shown in Figure 1.

Table DR-3. Data for laser ablation ICP-MS Zircon U-Pb ages for sand grains considered in this study.

Table DR-4. Results of K-S statistical tests comparing zircon U-Pb age spectra for Holocene river sands and modern sands.

Table DR-1

Type	Location	Latitude	Longitude	$\delta^{13}C$	F Modern	Fm Error	^{14}C Age (yr BP)	Age error (yr)	Calendar age (2 sigma)
Mollusc	Fort Abbas 080421-3, 348 cm	29° 11.409’	72° 52.909’	-2.4	0.5334	0.0023	5050	35	4906-5716
Gastropod	Yazman, Chak DB102, 270 cm depth	29° 7.386’	71° 46.167’	-2.47	0.5978	0.0016	4130	20	4569-4726
Gastropod	Marot, 081122-3, 9.37 m depth	29° 12.812’	72° 20.471’	-3.51	0.4454	0.0027	6500	50	7308-7508
Plant/Wood	Tilwalla, 43.7 m depth	29° 5.702’	72° 34.055’	-22.91	0.0036	0.0003	45100	670	49929-46750

Table DR- 2

Location	Depth (m)	Aliquots[a]	H_2O content (%)	σ_d[b]	Age Model[c]	Equivalent dose (Gy)[d]	Infinite-matrix beta dose-rate (Gy/ka)[d]	Gamma dose-rate (Gy/ka)[d]	Cosmic dose-rate (Gy/ka)[d]	Total dose-rate (Gy/ka)[d]	Age (ka)[d]
Fort Abbas	2.22	60 (23)	5 ± 2	0.19	CAM	17.8 ± 1.38	1.87 ± 0.06	1.36 ± 0.10	0.15 ± 0.02	3.01 ± 0.13	5.91 ± 0.52
Fort Abbas	3.99	96 (46)	5 ± 2	0.23	CAM	15.1 ± 0.54	1.81 ± 0.06	1.19 ± 0.08	0.13 ± 0.01	2.81 ± 0.11	5.38 ± 0.28
Chak 102	0.95	72 (39)	5 ± 2	0.28	FMM	4.34 ± 0.14	1.95 ± 0.06	1.25 ± 0.08	0.18 ± 0.02	3.08 ± 0.11	1.43 ± 0.07
Chak 102	1.25	108 (29)	5 ± 2	0.37	FMM	4.84 ± 0.16	2.20 ± 0.07	1.43 ± 0.09	0.17 ± 0.02	3.42 ± 0.13	1.42 ± 0.07
Tilwalla	3.69-3.72	72 (36)	25 ± 5	0.46	FMM	13.6 ± 0.57	2.33 ± 0.08	1.48 ± 0.10	0.13 ± 0.01	2.91 ± 0.14	4.88± 0.31
Tilwalla	44.68-44.74	120 (20)	25 ± 5	0.44	FMM	116 ± 7.42	2.27 ± 0.07	1.38 ± 0.06	0.01 ± 0.001	2.67 ± 0.12	43.58 ± 3.42
Marot	10.86-10.92	48 (43)	25 ± 5	0.11	CAM	23.87 ± 0.46	3.24 ± 0.10	1.95 ± 0.13	0.06 ± 0.006	3.87 ± 0.19	6.17 ± 0.32
Marot	34.32-34.38	96 (34)	25 ± 5			> 140	2.25 ± 0.07	1.62 ± 0.13	0.01 ± 0.001	2.84 ± 0.15	> 49.0[e]

[a] The number of aliquots measured is shown, with the number of aliquots passing all rejection criteria (and used in age calculation) shown in parentheses.
[b] σ_d refers to the overdispersion parameter of Galbraith et al. (1999) used to assess the dose distribution.
[c] CAM refers to the central age model and FMM to the finite mixture model.
[d] The equivalent doses, dose-rates and ages are shown to three significant figures. All calculations were made prior to rounding.
[e] The luminescence signal of sample at the base of Marot is saturated. Therefore, a minimum age is given.

SAMPLE: Marot-6

Grain	Pb (ppm)	U (ppm)	Atomic Th/U	206Pb / 238U	± 1 sigma	207Pb / 235U	± 1 sigma	Apparent Ages (Ma) 206Pb / 238U	± 2 sigma	207Pb / 235U	± 2 sigma	207Pb / 206Pb	± 2 sigma	Corr.% discordant 206/238 / 207/235	Corr.% discordant 207/206 / 206/238	Best age (Ma)	± 2 sigma
G59	8	2552	0.16	0.0034	0.0000	0.0237	0.0007	21.6	0.9	23.8	1.9	236.8	13.3	9.2	90.9	21.6	0.9
G121	13	3099	0.33	0.0042	0.0044	0.0288	7.4233	27.1	57.5	28.8	62.1	201.5	75.3	5.8	86.5	27.1	57.5
G27	9	988	1.71	0.0065	0.0001	0.0420	0.0018	42.0	1.5	41.8	4.0	61.9	5.4	-0.5	32.2	42.0	1.5
G25	7	814	0.71	0.0074	0.0001	0.0465	0.0020	47.3	1.8	46.1	4.5	48.7	4.4	-2.5	3.0	47.3	1.8
G93	17	1940	0.90	0.0075	0.0001	0.0507	0.0011	47.9	2.8	50.2	3.9	163.1	7.9	4.5	70.6	47.9	2.8
G88	4	415	1.20	0.0079	0.0001	0.0492	0.0022	51.0	3.1	48.8	6.0	50.8	5.7	-4.5	-0.5	51.0	3.1
G95	4	496	0.52	0.0081	0.0001	0.0497	0.0021	51.7	3.1	49.2	5.9	57.8	6.0	-5.0	10.6	51.7	3.1
G92	9	777	1.56	0.0085	0.0001	0.0550	0.0019	54.2	3.1	54.4	5.3	56.3	5.0	0.3	3.7	54.2	3.1
G104	5	565	0.25	0.0096	0.0002	0.0688	0.0025	61.7	3.4	67.6	6.7	381.4	24.1	8.7	83.8	61.7	3.4
G24	36	3221	0.27	0.0115	0.0001	0.0768	0.0013	74.0	1.9	75.1	3.1	81.4	2.9	1.6	9.2	74.0	1.9
G37	40	2571	0.21	0.0163	0.0002	0.1106	0.0018	104.2	2.4	106.5	3.9	157.4	4.6	2.1	33.8	104.2	2.4
G116	9	546	0.29	0.0166	0.0003	0.1064	0.0030	105.9	4.5	102.6	7.3	79.4	5.3	-3.2	-33.4	105.9	4.5
G67	25	1592	0.21	0.0166	0.0002	0.1121	0.0023	106.0	2.7	107.9	4.8	163.5	6.0	1.8	35.2	106.0	2.7
G83	12	624	0.69	0.0166	0.0003	0.1099	0.0036	106.1	4.8	105.8	8.8	245.3	14.9	-0.3	56.7	106.1	4.8
G42	57	2840	1.14	0.0168	0.0002	0.1120	0.0021	107.5	2.6	107.8	4.4	116.9	4.1	0.3	8.0	107.5	2.6
G4	95	5831	0.12	0.0173	0.0002	0.1137	0.0013	110.5	2.4	109.4	3.4	82.4	2.1	-1.1	-34.1	110.5	2.4
G73	21	1117	0.62	0.0176	0.0002	0.1233	0.0034	112.3	3.1	118.1	6.6	244.4	11.2	4.8	54.0	112.3	3.1
G110	4	194	0.57	0.0178	0.0003	0.1142	0.0058	113.9	5.5	109.8	12.2	100.7	10.4	-3.8	-13.1	113.9	5.5
G102	9	472	0.47	0.0183	0.0003	0.1261	0.0039	116.6	5.0	120.6	9.1	288.0	15.8	3.3	59.5	116.6	5.0
G45	51	2755	0.26	0.0189	0.0002	0.1330	0.0025	120.5	2.9	126.8	5.1	235.9	7.3	5.0	48.9	120.5	2.9
G108	21	1170	0.11	0.0189	0.0003	0.1401	0.0024	120.5	4.8	133.1	6.6	359.7	10.6	9.5	66.5	120.5	4.8
G125	13	637	0.63	0.0189	0.0045	0.1332	0.0827	120.6	57.7	127.0	58.9	292.0	14.0	5.0	58.7	120.6	57.7
G80	19	1039	0.14	0.0192	0.0003	0.1366	0.0023	122.3	4.8	130.0	6.5	252.1	8.4	6.0	51.5	122.3	4.8
G111	9	478	0.10	0.0197	0.0003	0.1266	0.0038	125.9	5.3	121.0	8.7	108.1	6.9	-4.0	-16.4	125.9	5.3
G52	40	1292	1.50	0.0241	0.0003	0.1680	0.0033	153.5	3.5	157.7	6.4	243.5	7.9	2.7	37.0	153.5	3.5
G114	14	558	0.26	0.0265	0.0004	0.2033	0.0042	168.9	6.2	187.9	9.6	503.5	15.8	10.1	66.5	168.9	6.2
G47	13	486	0.28	0.0274	0.0003	0.1961	0.0056	174.4	4.4	181.8	9.6	303.8	13.4	4.0	42.6	174.4	4.4
G61	38	1313	0.18	0.0275	0.0003	0.2161	0.0061	175.1	4.5	198.6	10.2	522.6	20.0	11.8	66.5	175.1	4.5
G43	32	1100	0.34	0.0280	0.0003	0.2029	0.0055	177.9	4.4	187.6	9.3	309.4	12.8	5.2	42.5	177.9	4.4
G31	134	4157	0.53	0.0306	0.0003	0.2188	0.0025	194.4	4.0	200.9	5.3	236.3	4.5	3.2	17.7	194.4	4.0
G46	176	3489	0.24	0.0518	0.0005	0.4130	0.0056	325.4	6.5	351.0	8.9	496.2	8.8	7.3	34.4	325.4	6.5

Table DR-3

				Apparent Ages (Ma)										Corr.% discordant	Corr.% discordant		
Grain	Pb (ppm)	U (ppm)	Atomic Th/U	206Pb 238U	± 1 sigma	207Pb 235U	± 1 sigma	206Pb 238U	± 2 sigma	207Pb 235U	± 2 sigma	207Pb 206Pb	± 2 sigma	206/238 207/235	207/206 206/238	Best age (Ma)	± 2 sigma
G81	7	105	0.89	0.0557	0.0010	0.4148	0.0180	349.3	12.9	352.3	25.0	544.1	29.6	0.9	35.8	349.3	12.9
G55	97	1677	0.45	0.0557	0.0006	0.4231	0.0072	349.4	7.2	358.3	10.4	417.5	9.5	2.5	16.3	349.4	7.2
G40	670	8287	0.77	0.0730	0.0007	0.5880	0.0064	454.0	8.7	469.6	9.9	488.8	7.2	3.3	7.1	454.0	8.7
G28	182	2556	0.16	0.0743	0.0007	0.5907	0.0066	462.0	8.8	471.3	10.0	485.3	7.2	2.0	4.8	462.0	8.8
G9	60	667	1.05	0.0752	0.0007	0.6295	0.0098	467.5	9.1	495.8	12.3	684.4	11.7	5.7	31.7	467.5	9.1
G118	89	1049	0.69	0.0759	0.0011	0.5780	0.0087	471.7	14.0	463.2	14.8	421.9	9.3	-1.8	-11.8	471.7	14.0
G101	123	1657	0.19	0.0766	0.0011	0.6043	0.0071	475.8	13.9	480.0	13.9	478.3	8.3	0.9	0.5	475.8	13.9
G10	185	2277	0.56	0.0767	0.0007	0.6141	0.0066	476.4	9.0	486.1	10.0	496.6	7.0	2.0	4.1	476.4	9.0
G120	56	739	0.24	0.0771	0.0044	0.5873	6.3420	478.7	53.9	469.2	145.7	450.8	133.8	-2.0	-6.2	478.7	53.9
G34	155	2048	0.20	0.0779	0.0007	0.6044	0.0074	483.3	9.2	480.0	10.6	457.9	7.4	-0.7	-5.6	483.3	9.2
G89	42	466	0.80	0.0783	0.0011	0.5779	0.0102	486.1	14.5	463.1	16.0	483.0	11.2	-5.0	-0.7	486.1	14.5
G109	145	1716	0.53	0.0786	0.0011	0.6174	0.0078	487.9	14.4	488.2	14.5	481.8	8.9	0.1	-1.3	487.9	14.4
G94	22	279	0.34	0.0788	0.0012	0.6955	0.0197	489.0	15.6	536.1	22.8	932.7	24.8	8.8	47.6	489.0	15.6
G103	28	376	0.13	0.0789	0.0012	0.5782	0.0139	489.3	15.1	463.3	18.8	481.4	14.5	-5.6	-1.6	489.3	15.1
G53	96	1263	0.09	0.0810	0.0008	0.6269	0.0096	501.8	9.8	494.2	12.4	512.7	9.6	-1.5	2.1	501.8	9.8
G22	73	861	0.42	0.0821	0.0008	0.6480	0.0101	508.5	9.9	507.3	12.3	529.4	9.6	-0.3	3.9	508.5	9.9
G44	46	541	0.42	0.0823	0.0008	0.6381	0.0120	509.8	10.3	501.1	13.9	526.4	11.5	-1.7	3.2	509.8	10.3
G97	25	308	0.16	0.0838	0.0012	0.6912	0.0175	518.5	16.0	533.5	20.7	681.7	18.6	2.8	23.9	518.5	16.0
G75	126	1166	1.46	0.0887	0.0009	0.7980	0.0152	548.0	11.1	595.7	15.5	783.1	14.9	8.0	30.0	548.0	11.1
G82	124	1397	0.23	0.0900	0.0013	0.7681	0.0113	555.3	16.1	578.7	16.5	617.2	11.0	4.0	10.0	555.3	16.1
G74	27	210	1.78	0.0962	0.0011	0.6948	0.0217	592.3	13.4	535.7	21.9	565.2	18.8	-10.6	-4.8	592.3	13.4
G30	81	662	1.31	0.0980	0.0010	0.7986	0.0155	602.7	11.9	596.0	15.2	566.4	11.7	-1.1	-6.4	602.7	11.9
G69	89	805	0.55	0.1044	0.0011	0.8898	0.0223	640.0	13.5	646.2	19.5	749.9	17.7	1.0	14.6	640.0	13.5
G86	63	591	0.25	0.1060	0.0015	0.9312	0.0127	649.7	18.5	668.3	18.0	778.5	11.7	2.8	16.6	649.7	18.5
G15	155	1326	0.43	0.1131	0.0011	1.0229	0.0120	690.8	12.7	715.4	13.3	772.7	9.6	3.4	10.6	690.8	12.7
G56	174	1481	0.38	0.1157	0.0011	1.0641	0.0150	706.0	13.3	735.8	15.1	834.0	12.0	4.1	15.4	706.0	13.3
G50	79	525	1.06	0.1245	0.0013	1.0458	0.0211	756.4	14.8	726.8	18.2	807.6	14.9	-4.1	6.4	756.4	14.8
G3	143	869	1.17	0.1333	0.0013	1.1720	0.0149	806.7	14.6	787.6	14.5	762.0	9.7	-2.4	-5.9	762.0	9.7
G119	10	71	0.38	0.1290	0.0020	1.0943	0.0385	782.3	23.7	750.6	29.8	773.7	24.3	-4.2	-1.1	782.3	23.7
G113	165	1128	0.74	0.1294	0.0018	1.1667	0.0156	784.2	21.7	785.1	19.7	754.8	11.8	0.1	-3.9	784.2	21.7
G100	210	1390	0.95	0.1298	0.0018	1.3461	0.0164	786.5	21.8	865.9	20.3	1052.6	12.8	9.2	25.3	786.5	21.8
G90	182	1446	0.15	0.1303	0.0018	1.1976	0.0142	789.6	21.8	799.5	19.0	791.4	10.6	1.2	0.2	789.6	21.8
G19	85	533	1.11	0.1330	0.0013	1.2173	0.0193	805.0	15.0	808.5	16.1	883.4	12.3	0.4	8.9	805.0	15.0

Table DR-3

Grain	Pb (ppm)	U (ppm)	Atomic Th/U	206Pb/238U	± 1 sigma	207Pb/235U	± 1 sigma	Apparent Ages (Ma) 206Pb/238U	± 2 sigma	207Pb/235U	± 2 sigma	207Pb/206Pb	± 2 sigma	Corr.% discordant 206/238 207/235	Corr.% discordant 207/206 206/238	Best age (Ma)	± 2 sigma
G23	251	1753	0.67	0.1332	0.0013	1.2227	0.0172	806.3	14.8	811.0	15.4	868.2	11.2	0.6	7.1	806.3	14.8
G72	36	202	1.25	0.1434	0.0016	1.2657	0.0393	863.9	18.7	830.5	25.9	998.0	23.4	-4.0	13.4	863.9	18.7
G33	65	394	0.79	0.1459	0.0014	1.2162	0.0228	877.7	16.6	808.0	18.0	800.3	13.2	-8.6	-9.7	877.7	16.6
G18	60	384	0.57	0.1464	0.0014	1.2176	0.0211	881.0	16.4	808.7	17.3	821.8	12.6	-8.9	-7.2	881.0	16.4
G68	66	431	0.41	0.1478	0.0015	1.3324	0.0275	888.4	17.2	859.9	19.8	861.8	15.5	-3.3	-3.1	888.4	17.2
G87	76	492	0.36	0.1502	0.0021	1.4815	0.0221	902.0	24.7	922.8	21.7	1007.3	13.3	2.3	10.4	902.0	24.7
G60	199	1299	0.34	0.1519	0.0015	1.4808	0.0264	911.4	17.2	922.5	18.8	982.0	14.8	1.2	7.2	911.4	17.2
G99	171	1169	0.12	0.1522	0.0021	1.5322	0.0190	913.2	24.7	943.4	21.3	999.7	12.4	3.2	8.7	913.2	24.7
G8	135	814	0.48	0.1577	0.0015	1.5178	0.0191	944.0	16.9	937.6	16.0	978.3	10.9	-0.7	3.5	944.0	16.9
G70	140	888	0.26	0.1589	0.0016	1.5082	0.0245	950.8	17.9	933.7	18.5	901.4	13.5	-1.8	-5.5	950.8	17.9
G65	48	263	0.38	0.1764	0.0018	1.5769	0.0383	1047.2	20.6	961.2	22.9	961.4	17.9	-9.0	-8.9	961.4	17.9
G36	228	1066	1.34	0.1704	0.0016	1.6521	0.0222	1014.1	18.2	990.4	17.0	969.2	11.6	-2.4	-4.6	969.2	11.6
G105	229	1464	0.02	0.1677	0.0023	1.8638	0.0233	999.4	26.9	1068.3	22.9	1192.3	13.7	6.5	16.2	999.4	26.9
G48	104	537	0.90	0.1680	0.0017	1.5957	0.0277	1000.9	18.6	968.5	18.6	933.6	13.4	-3.3	-7.2	1000.9	18.6
G29	209	1213	0.31	0.1699	0.0016	1.6888	0.0234	1011.8	18.2	1004.3	17.1	1003.1	11.8	-0.7	-0.9	1003.1	11.8
G128	111	641	0.25	0.1732	0.0047	1.7241	0.0996	1029.5	53.3	1017.6	44.2	1039.8	25.6	-1.2	1.0	1029.5	53.3
G16	134	741	0.37	0.1754	0.0017	1.7389	0.0234	1042.0	18.5	1023.1	16.9	1031.6	11.5	-1.9	-1.0	1031.6	11.5
G91	36	189	0.38	0.1817	0.0026	1.8166	0.0381	1076.5	29.3	1051.5	25.4	1075.2	16.5	-2.4	-0.1	1076.5	29.3
G106	69	355	0.24	0.1929	0.0027	1.9199	0.0409	1137.3	30.7	1088.0	26.2	1065.6	16.9	-4.5	-6.7	1137.3	30.7
G79	37	172	0.35	0.2051	0.0029	2.0877	0.0370	1202.7	31.9	1144.8	25.0	1156.8	14.6	-5.1	-4.0	1156.8	14.6
G58	352	1644	0.48	0.2033	0.0020	2.2666	0.0358	1192.9	21.6	1202.0	19.9	1162.1	14.3	0.8	-2.7	1162.1	14.3
G85	167	840	0.24	0.1983	0.0027	2.2104	0.0237	1166.4	30.6	1184.3	23.1	1206.3	11.7	1.5	3.3	1166.4	30.6
G98	130	609	0.25	0.2124	0.0029	2.3104	0.0363	1241.7	32.6	1215.5	25.1	1233.5	14.5	-2.2	-0.7	1241.7	32.6
G39	111	488	0.24	0.2257	0.0022	2.3656	0.0417	1311.9	23.5	1232.3	20.8	1252.2	14.7	-6.5	-4.8	1252.2	14.7
G51	172	728	0.30	0.2313	0.0022	2.5412	0.0405	1341.1	23.9	1283.9	20.7	1295.1	14.7	-4.5	-3.6	1295.1	14.7
G20	192	828	0.54	0.2156	0.0020	2.5422	0.0327	1258.6	21.8	1284.2	18.5	1396.4	12.5	2.0	9.9	1396.4	12.5
G115	72	233	0.67	0.2717	0.0038	3.3539	0.0807	1549.6	40.3	1493.7	30.5	1519.7	20.0	-3.7	-2.0	1549.6	40.3
G62	437	1540	0.34	0.2753	0.0027	3.9557	0.0549	1567.7	27.2	1625.2	22.2	1688.9	16.0	3.5	7.2	1688.9	16.0
G124	369	1269	0.02	0.3041	0.0054	5.0631	0.1362	1711.4	54.4	1829.9	38.3	1949.7	23.5	6.5	12.2	1711.4	54.4
G127	131	425	0.17	0.3079	0.0003	4.5602	0.0046	1730.5	4.4	1742.0	25.7	1832.6	25.9	0.7	5.6	1730.5	4.4
G7	409	1044	1.07	0.3188	0.0029	4.7273	0.0529	1783.8	29.1	1772.1	19.8	1747.7	12.1	-0.7	-2.1	1747.7	12.1
G123	264	828	0.12	0.3222	0.0001	5.6212	0.0006	1800.2	1.9	1919.3	15.0	2033.3	15.2	6.2	11.5	1800.2	1.9
G129	95	259	0.61	0.3252	0.0043	4.7960	0.0930	1815.0	43.3	1784.2	31.2	1841.8	21.1	-1.7	1.5	1815.0	43.3

Table DR-3

Grain	Pb (ppm)	U (ppm)	Atomic Th/U	206Pb/238U	± 1 sigma	207Pb/235U	± 1 sigma	Apparent Ages (Ma) 206Pb/238U	± 2 sigma	207Pb/235U	± 2 sigma	207Pb/206Pb	± 2 sigma	Corr.% discordant 206/238 207/235	Corr.% discordant 207/206 206/238	Best age (Ma)	± 2 sigma
G13	172	554	0.42	0.2959	0.0028	4.4339	0.0841	1670.8	28.7	1718.7	22.0	1823.8	15.1	2.8	8.4	1823.8	15.1
G6	155	507	0.24	0.2986	0.0028	4.4877	0.0746	1684.2	28.4	1728.7	21.2	1834.4	14.2	2.6	8.2	1834.4	14.2
G35	269	727	0.41	0.3446	0.0033	5.3714	0.0774	1908.9	31.7	1880.3	21.9	1835.5	14.5	-1.5	-4.0	1835.5	14.5
G66	98	261	0.42	0.3488	0.0035	4.8915	0.1100	1928.7	33.9	1800.8	26.1	1846.8	19.2	-7.1	-4.4	1846.8	19.2
G11	162	485	0.11	0.3348	0.0031	5.1247	0.0757	1861.7	30.7	1840.2	21.0	1848.1	13.3	-1.2	-0.7	1848.1	13.3
G64	248	759	0.22	0.3217	0.0031	5.0067	0.0801	1797.9	30.9	1820.5	23.8	1853.8	17.1	1.2	3.0	1853.8	17.1
G12	109	247	1.11	0.3558	0.0034	4.9835	0.0937	1962.1	32.8	1816.5	22.4	1855.7	14.8	-8.0	-5.7	1855.7	14.8
G77	222	602	0.53	0.3380	0.0034	5.1132	0.1065	1877.1	33.1	1838.3	25.9	1856.5	19.3	-2.1	-1.1	1856.5	19.3
G2	185	524	0.17	0.3461	0.0032	5.3456	0.0751	1916.0	31.2	1876.2	20.8	1859.9	13.0	-2.1	-3.0	1859.9	13.0
G63	100	253	0.55	0.3541	0.0036	5.0083	0.1106	1954.2	34.2	1820.7	25.7	1864.0	18.8	-7.3	-4.8	1864.0	18.8
G71	208	671	0.37	0.2964	0.0030	4.5162	0.0938	1673.6	29.9	1734.0	25.3	1864.0	19.3	3.5	10.2	1864.0	19.3
G5	221	712	0.13	0.3112	0.0029	4.7864	0.0679	1746.6	29.0	1782.5	20.7	1865.1	13.3	2.0	6.4	1865.1	13.3
G32	101	256	0.45	0.3599	0.0035	4.9174	0.0982	1981.5	33.7	1805.3	23.5	1867.3	16.1	-9.8	-6.1	1867.3	16.1
G17	238	573	0.93	0.3477	0.0033	5.2311	0.0717	1923.6	31.5	1857.7	21.0	1870.6	13.2	-3.5	-2.8	1870.6	13.2
G38	152	380	0.70	0.3499	0.0034	5.1106	0.0899	1933.9	32.6	1837.9	23.0	1881.5	15.7	-5.2	-2.8	1881.5	15.7
G126	156	456	0.18	0.3395	0.0042	5.4850	0.0706	1884.1	41.8	1898.3	28.9	2019.8	18.8	0.7	6.7	1884.1	41.8
G76	609	2000	0.05	0.3142	0.0031	5.0876	0.0834	1761.2	30.6	1834.0	24.6	1911.0	18.2	4.0	7.8	1911.0	18.2
G1	195	562	0.42	0.3274	0.0031	5.2385	0.0765	1825.6	30.1	1858.9	21.0	1942.0	13.5	1.8	6.0	1942.0	13.5
G26	724	1944	0.22	0.3621	0.0034	6.1883	0.0637	1992.3	32.3	2002.8	21.0	1975.0	13.0	0.5	-0.9	1975.0	13.0
G54	287	733	0.15	0.3834	0.0037	6.3973	0.1075	2092.3	35.0	2031.9	24.1	2021.7	16.7	-3.0	-3.5	2021.7	16.7
G21	571	1444	0.13	0.3889	0.0036	6.9480	0.0726	2117.6	33.9	2104.8	21.1	2077.7	12.9	-0.6	-1.9	2077.7	12.9
G122	256	631	0.29	0.3877	0.0011	8.0666	0.0087	2112.3	11.3	2238.5	10.6	2308.0	9.3	5.6	8.5	2112.3	11.3
G57	346	933	0.27	0.3601	0.0035	6.5086	0.1014	1982.5	33.4	2047.1	24.0	2144.8	16.8	3.2	7.6	2144.8	16.8
G112	72	148	0.56	0.4311	0.0061	9.1093	0.2277	2310.8	55.9	2349.0	33.1	2426.5	20.1	1.6	4.8	2310.8	55.9
G107	207	418	0.39	0.4491	0.0062	9.5607	0.1511	2391.3	56.4	2393.4	31.2	2423.3	17.1	0.1	1.3	2391.3	56.4
G117	129	231	0.95	0.4495	0.0063	9.4401	0.1977	2392.9	57.0	2381.7	33.0	2439.1	19.9	-0.5	1.9	2392.9	57.0
G14	772	1703	0.35	0.4253	0.0039	9.2455	0.0912	2284.3	35.9	2362.6	21.4	2408.2	12.9	3.3	5.1	2408.2	12.9
G96	41	51	2.87	0.4592	0.0070	9.7833	0.5186	2435.9	63.4	2414.6	39.7	2475.4	27.3	-0.9	1.6	2435.9	63.4
G41	181	272	1.24	0.5023	0.0049	10.2923	0.2059	2623.5	42.3	2461.4	24.8	2495.2	16.6	-6.6	-5.1	2495.2	16.6
G84	264	467	0.41	0.4981	0.0068	10.5750	0.1292	2605.6	60.0	2486.5	29.8	2492.6	13.8	-4.8	-4.5	2605.6	60.0
G49	129	825	1.22	0.7047	0.0068	25.8171	0.4310	3438.6	51.5	3339.6	25.6	3345.3	17.2	-3.0	-2.8	3345.3	17.2

SAMPLE:Marot-12

Grain	Pb (ppm)	U (ppm)	Atomic Th/U	206Pb 238U	± 1 sigma	207Pb 235U	± 1 sigma	Apparent Ages (Ma) 206Pb 238U	± 2 sigma	207Pb 235U	± 2 sigma	207Pb 206Pb	± 2 sigma	Corr.% discordant 206/238 207/235	Corr.% discordant 207/206 206/238	Best age (Ma)	± 2 sigma
G78	24	5192	0.15	0.0049	0.0001	0.0305	0.0011	31.3	2.8	30.5	4.2	67.4	6.2	-2.4	53.6	31.3	2.8
G85	25	3100	2.04	0.0055	0.0001	0.0364	0.0012	35.0	2.9	36.3	4.3	194.5	12.3	3.5	82.0	35.0	2.9
G86	52	5813	1.06	0.0076	0.0001	0.0493	0.0011	48.7	3.2	48.9	4.1	115.5	5.8	0.4	57.8	48.7	3.2
G72	17	1646	1.28	0.0081	0.0002	0.0581	0.0031	52.2	3.8	57.4	7.8	420.7	34.2	9.0	87.6	52.2	3.8
G15	3	278	1.09	0.0093	0.0002	0.0629	0.0047	59.4	6.4	61.9	14.5	435.2	56.9	4.1	86.4	59.4	6.4
G56	38	2200	1.65	0.0129	0.0002	0.0851	0.0031	82.8	4.1	82.9	6.4	-16.1	0.9	0.2	615.0	82.8	4.1
G60	18	1249	0.87	0.0130	0.0002	0.0868	0.0042	82.9	4.2	84.6	6.7	-35.2	-0.3	1.9	335.6	82.9	4.2
G17	49	2982	0.60	0.0155	0.0002	0.1050	0.0021	99.2	6.2	101.3	7.7	109.6	7.4	2.2	9.5	99.2	6.2
G48	6	310	1.04	0.0159	0.0003	0.0956	0.0091	101.5	5.9	92.7	15.2	643.1	51.4	-9.5	84.2	101.5	5.9
G4	54	3140	0.64	0.0161	0.0002	0.1099	0.0021	102.9	6.4	105.8	7.7	120.3	7.4	2.8	14.5	102.9	6.4
G32	23	1212	0.93	0.0163	0.0002	0.1101	0.0030	104.5	6.6	106.1	9.7	208.0	13.3	1.5	49.8	104.5	6.6
G75	6	300	0.69	0.0176	0.0004	0.1116	0.0132	112.5	6.7	107.4	16.4	363.5	37.2	-4.7	69.1	112.5	6.7
G83	7	339	0.65	0.0180	0.0004	0.1243	0.0169	114.8	7.0	119.0	17.0	267.7	30.9	3.5	57.1	114.8	7.0
G61	64	3137	0.80	0.0182	0.0002	0.1158	0.0035	116.5	4.8	111.2	7.2	181.0	8.4	-4.8	35.6	116.5	4.8
G11	8	376	0.69	0.0185	0.0003	0.1135	0.0056	117.9	7.6	109.1	15.2	103.2	13.5	-8.0	-14.2	117.9	7.6
G99	14	755	0.38	0.0187	0.0012	0.1293	0.0175	119.4	17.0	123.5	17.3	236.8	7.7	3.3	49.6	119.4	17.0
G88	6	277	0.62	0.0192	0.0007	0.1423	0.0387	122.9	10.5	135.0	30.1	191.3	41.5	9.0	35.8	122.9	10.5
G67	11	589	0.17	0.0199	0.0004	0.1432	0.0098	127.1	6.2	135.9	12.4	295.5	21.1	6.5	57.0	127.1	6.2
G47	33	1049	0.27	0.0317	0.0004	0.1999	0.0072	201.1	7.0	185.0	10.6	264.6	10.8	-8.7	24.0	201.1	7.0
G55	50	1192	0.65	0.0383	0.0005	0.2830	0.0112	242.5	8.0	253.0	12.2	544.8	16.5	4.2	55.5	242.5	8.0
G42	243	3906	0.28	0.0623	0.0008	0.5265	0.0075	389.8	11.0	429.5	11.9	570.8	9.2	9.2	31.7	389.8	11.0
G18	944	14578	0.01	0.0705	0.0007	0.5978	0.0095	439.3	12.5	475.8	14.1	561.9	12.1	7.7	21.8	439.3	12.5
G38	153	2103	0.38	0.0719	0.0008	0.5558	0.0115	447.4	13.2	448.8	17.8	469.7	15.8	0.3	4.8	447.4	13.2
G50	535	6245	0.94	0.0734	0.0009	0.5376	0.0088	456.8	12.6	436.9	13.1	459.9	8.6	-4.6	0.7	456.8	12.6
G25	118	1600	0.27	0.0751	0.0008	0.5964	0.0110	466.5	13.3	475.0	16.3	505.4	14.1	1.8	7.7	466.5	13.3
G71	574	6307	1.11	0.0751	0.0010	0.5413	0.0075	466.6	14.3	439.3	13.7	402.8	7.4	-6.2	-15.8	466.6	14.3
G37	77	968	0.53	0.0760	0.0008	0.5915	0.0123	471.9	13.8	471.8	18.5	512.7	16.7	0.0	8.0	471.9	13.8
G6	248	3431	0.04	0.0781	0.0008	0.6340	0.0105	484.8	13.4	498.6	14.9	510.4	11.9	2.8	5.0	484.8	13.4
G80	66	827	0.38	0.0784	0.0011	0.6826	0.0329	486.3	15.4	528.4	18.2	462.6	13.4	8.0	-5.1	486.3	15.4
G35	54	700	0.20	0.0788	0.0008	0.5870	0.0131	488.8	14.2	468.9	19.6	464.2	16.8	-4.2	-5.3	488.8	14.2

Table DR-3

Grain	Pb (ppm)	U (ppm)	Atomic Th/U	206Pb/238U	± 1 sigma	207Pb/235U	± 1 sigma	Apparent Ages (Ma) 206Pb/238U	± 2 sigma	207Pb/235U	± 2 sigma	207Pb/206Pb	± 2 sigma	Corr.% discordant 206/238 207/235	Corr.% discordant 207/206 206/238	Best age (Ma)	± 2 sigma
G52	79	993	0.31	0.0792	0.0010	0.5882	0.0237	491.3	13.9	469.7	17.0	500.0	13.4	-4.6	1.7	491.3	13.9
G69	115	1445	0.24	0.0797	0.0011	0.6979	0.0202	494.5	15.3	537.6	18.0	817.1	15.8	8.0	39.5	494.5	15.3
G64	125	1649	0.09	0.0802	0.0010	0.6972	0.0263	497.1	14.0	537.1	17.1	574.1	14.2	7.5	13.4	497.1	14.0
G98	37	451	0.34	0.0818	0.0024	0.3711	0.0621	506.7	30.0	320.5	27.8	411.4	13.1	-58.1	-23.2	506.7	30.0
G9	106	1394	0.02	0.0824	0.0008	0.6537	0.0110	510.1	14.0	510.8	15.6	515.7	12.3	0.1	1.1	510.1	14.0
G22	108	1328	0.29	0.0826	0.0008	0.6852	0.0127	511.4	14.2	529.9	17.5	625.1	15.8	3.5	18.2	511.4	14.2
G97	196	2254	0.44	0.0845	0.0001	0.7229	0.0017	522.9	3.2	552.4	20.6	563.4	21.5	5.3	7.2	522.9	3.2
G13	38	403	0.57	0.0879	0.0010	0.7300	0.0170	543.0	15.7	556.6	22.4	753.2	22.5	2.4	27.9	543.0	15.7
G1	64	573	1.11	0.0921	0.0010	0.7660	0.0148	567.9	15.4	577.4	19.1	727.4	17.4	1.6	21.9	567.9	15.4
G43	217	2201	0.59	0.0923	0.0011	0.8521	0.0140	569.2	15.1	625.8	15.3	703.5	10.5	9.0	19.1	569.2	15.1
G76	260	2462	0.83	0.0929	0.0013	0.8284	0.0184	572.8	17.1	612.7	18.2	777.2	13.6	6.5	26.3	572.8	17.1
G5	53	553	0.42	0.0935	0.0010	0.8068	0.0171	576.1	15.9	600.6	21.1	791.7	20.5	4.1	27.2	576.1	15.9
G89	128	1399	0.07	0.0980	0.0014	0.8402	0.0275	602.6	18.2	619.3	19.4	658.5	14.1	2.7	8.5	602.6	18.2
G94	110	1148	0.10	0.1009	0.0008	0.7786	0.0030	619.6	11.0	584.7	99.0	845.2	115.1	-6.0	26.7	619.6	11.0
G26	40	368	0.50	0.1017	0.0011	0.8614	0.0207	624.1	17.4	630.9	24.7	816.8	24.2	1.1	23.6	624.1	17.4
G19	96	919	0.33	0.1040	0.0011	0.8977	0.0176	637.7	16.7	650.5	20.3	710.9	17.7	2.0	10.3	637.7	16.7
G8	133	909	1.37	0.1152	0.0012	1.0384	0.0183	702.6	17.5	723.1	19.3	813.0	16.0	2.8	13.6	702.6	17.5
G81	76	580	0.60	0.1224	0.0019	0.9585	0.0641	744.6	23.0	682.5	27.6	798.4	22.6	-9.1	6.7	744.6	23.0
G27	43	346	0.24	0.1255	0.0014	0.9972	0.0226	762.3	19.7	702.4	25.0	737.0	21.3	-8.5	-3.4	762.3	19.7
G79	258	2041	0.41	0.1258	0.0018	1.2238	0.0285	763.6	21.9	811.5	20.5	839.9	13.0	5.9	9.1	763.6	21.9
G51	136	1075	0.23	0.1275	0.0016	1.2158	0.0465	773.4	20.2	807.9	21.7	1027.8	17.3	4.3	24.8	773.4	20.2
G44	60	442	0.40	0.1295	0.0017	1.2506	0.0708	784.8	21.1	823.7	24.7	999.7	21.1	4.7	21.5	784.8	21.1
G24	78	515	1.08	0.1301	0.0014	1.2926	0.0261	788.2	19.6	842.5	24.0	1063.4	22.0	6.4	25.9	788.2	19.6
G57	366	2947	0.03	0.1330	0.0016	1.2783	0.0298	805.0	20.5	836.1	20.2	878.3	14.4	3.7	8.3	805.0	20.5
G68	137	833	1.10	0.1356	0.0019	1.1002	0.0440	819.4	23.6	753.4	22.6	787.9	15.0	-8.8	-4.0	819.4	23.6
G90	426	3272	0.04	0.1388	0.0020	1.2869	0.0270	837.8	23.9	839.9	21.3	761.0	12.7	0.3	-10.1	837.8	23.9
G66	33	242	0.10	0.1402	0.0021	4.4299	1.9921	846.0	25.8	1717.9	29.8	901.1	24.3	50.8	6.1	846.0	25.8
G77	109	783	0.21	0.1419	0.0021	1.3375	0.0693	855.6	25.0	862.1	26.2	1090.3	20.5	0.8	21.5	855.6	25.0
G40	96	672	0.33	0.1405	0.0017	1.6652	0.0646	847.7	21.5	995.4	20.1	870.7	13.3	14.8	2.6	870.7	13.3
G46	195	1173	0.47	0.1581	0.0019	1.7784	0.0387	946.0	23.3	1037.6	20.3	982.8	12.7	8.8	3.7	982.8	12.7
G96	166	942	0.51	0.1660	0.0024	1.5875	0.0498	990.1	28.7	965.3	27.0	1056.9	19.1	-2.6	6.3	990.1	28.7
G74	171	972	0.19	0.1792	0.0025	1.8152	0.0732	1062.7	29.5	1050.9	25.1	1040.4	15.9	-1.1	-2.1	1040.4	15.9
G7	229	1251	0.34	0.1803	0.0018	1.9289	0.0318	1068.4	23.5	1091.2	22.0	1103.0	16.4	2.1	3.1	1103.0	16.4

Table DR-3

Grain	Pb (ppm)	U (ppm)	Atomic Th/U	206Pb/238U	± 1 sigma	207Pb/235U	± 1 sigma	Apparent Ages (Ma) 206Pb/238U	± 2 sigma	207Pb/235U	± 2 sigma	207Pb/206Pb	± 2 sigma	Corr.% discordant 206/238 207/235	Corr.% discordant 207/206 206/238	Best age (Ma)	± 2 sigma
G16	214	979	0.69	0.1985	0.0020	2.1320	0.0360	1167.3	25.3	1159.2	23.4	1168.4	17.6	-0.7	0.1	1168.4	17.6
G93	143	706	0.16	0.2069	0.0001	1.9518	0.0022	1212.1	3.3	1099.1	44.2	1168.9	43.7	-10.3	-3.7	1168.9	43.7
G30	349	1208	1.08	0.2413	0.0024	2.9511	0.0542	1393.5	29.4	1395.1	27.7	1410.0	22.1	0.1	1.2	1410.0	22.1
G31	72	236	0.51	0.2782	0.0030	3.0068	0.0668	1582.1	34.2	1409.3	32.1	1480.5	26.1	-12.3	-6.9	1480.5	26.1
G91	213	706	0.57	0.2759	0.0039	3.0257	0.1288	1570.6	41.2	1414.1	30.0	1557.3	18.6	-11.1	-0.9	1557.3	18.6
G53	697	2304	0.49	0.2818	0.0035	4.2329	0.1017	1600.6	36.5	1680.4	26.3	1585.3	16.4	4.7	-1.0	1585.3	16.4
G36	232	744	0.79	0.2759	0.0028	3.6550	0.0724	1570.8	32.8	1561.6	30.9	1606.3	25.4	-0.6	2.2	1606.3	25.4
G84	146	397	0.56	0.3310	0.0047	3.3087	0.2041	1843.3	47.4	1483.1	31.6	1716.1	19.3	-24.3	-7.4	1716.1	19.3
G2	108	302	0.72	0.3125	0.0032	4.1519	0.0805	1753.1	35.6	1664.6	28.2	1740.2	21.1	-5.3	-0.7	1740.2	21.1
G63	188	585	0.20	0.3171	0.0042	5.2221	0.6679	1775.7	42.8	1856.2	35.0	1786.3	26.6	4.3	0.6	1786.3	26.6
G65	292	847	0.66	0.3077	0.0040	4.5060	0.3477	1729.4	41.0	1732.1	33.6	1804.9	25.3	0.2	4.2	1804.9	25.3
G3	237	619	0.69	0.3387	0.0033	5.1448	0.0867	1880.2	36.4	1843.5	26.4	1829.9	18.6	-2.0	-2.8	1829.9	18.6
G54	250	651	0.96	0.3211	0.0040	5.3569	0.3506	1795.3	40.7	1878.0	28.9	1832.4	19.1	4.4	2.0	1832.4	19.1
G14	237	795	0.28	0.2922	0.0029	4.4331	0.0818	1652.4	33.5	1718.5	27.7	1844.0	21.1	3.8	10.4	1844.0	21.1
G59	295	858	0.23	0.3346	0.0043	4.6940	0.2786	1860.4	43.0	1766.2	32.1	1846.0	22.9	-5.3	-0.8	1846.0	22.9
G21	167	495	0.37	0.3201	0.0032	4.7793	0.0897	1790.4	35.7	1781.3	29.1	1850.8	22.4	-0.5	3.3	1850.8	22.4
G49	712	2358	0.31	0.2939	0.0036	4.7895	0.0957	1661.0	37.5	1783.1	26.1	1853.0	15.5	6.8	10.4	1853.0	15.5
G70	431	1434	0.02	0.3130	0.0043	4.8731	0.1418	1755.3	44.4	1797.6	28.8	1856.7	15.5	2.4	5.5	1856.7	15.5
G92	201	574	0.48	0.3244	0.0026	6.1806	0.0527	1811.2	26.8	2001.7	22.7	1856.7	17.9	9.5	2.4	1856.7	17.9
G100	267	802	0.69	0.2945	0.0037	4.5728	0.2229	1664.1	38.4	1744.3	28.2	1858.1	18.3	4.6	10.4	1858.1	18.3
G33	153	428	0.58	0.3245	0.0034	4.7159	0.0966	1811.4	36.9	1770.1	32.2	1865.9	26.0	-2.3	2.9	1865.9	26.0
G82	270	783	0.55	0.3137	0.0044	4.7183	0.2004	1758.9	44.9	1770.5	29.8	1867.6	17.0	0.7	5.8	1867.6	17.0
G10	347	1017	0.38	0.3236	0.0032	5.1513	0.0847	1807.1	35.2	1844.6	26.3	1876.3	18.8	2.0	3.7	1876.3	18.8
G34	93	237	0.27	0.3720	0.0039	5.0993	0.1094	2038.8	40.9	1836.0	33.9	1880.5	27.3	-11.0	-8.4	1880.5	27.3
G29	146	399	0.13	0.3592	0.0038	5.2310	0.1146	1978.4	40.1	1857.7	32.9	1884.1	26.2	-6.5	-5.0	1884.1	26.2
G28	195	529	0.34	0.3498	0.0036	5.2353	0.1074	1933.5	38.7	1858.4	31.7	1886.3	25.1	-4.0	-2.5	1886.3	25.1
G20	196	557	0.45	0.3292	0.0033	5.1151	0.0974	1834.4	36.5	1838.6	29.3	1898.1	22.5	0.2	3.4	1898.1	22.5
G23	192	527	0.26	0.3517	0.0035	5.3899	0.0981	1942.7	37.8	1883.2	29.3	1907.8	22.3	-3.2	-1.8	1907.8	22.3
G45	478	1474	0.10	0.3291	0.0040	6.2981	0.1335	1834.2	40.6	2018.2	26.4	1925.9	15.1	9.1	4.8	1925.9	15.1
G62	578	1190	1.74	0.3560	0.0045	5.9311	0.3133	1963.1	44.7	1965.8	32.7	2007.1	23.5	0.1	2.2	2007.1	23.5
G95	231	720	0.04	0.3349	0.0030	5.1528	0.0978	1862.1	30.5	1844.9	21.5	2322.5	14.1	-0.9	19.8	2322.5	14.1
G39	425	1001	0.30	0.4069	0.0049	8.7102	0.1921	2200.9	47.1	2308.1	27.5	2391.9	15.2	4.6	8.0	2391.9	15.2
G12	512	978	1.06	0.4301	0.0042	9.5823	0.1615	2306.0	42.3	2395.5	28.2	2490.6	20.1	3.7	7.4	2490.6	20.1

Table DR-3

Grain	Pb (ppm)	U (ppm)	Atomic Th/U	206Pb/238U	± 1 sigma	207Pb/235U	± 1 sigma	Apparent Ages (Ma) 206Pb/238U	± 2 sigma	207Pb/235U	± 2 sigma	207Pb/206Pb	± 2 sigma	Corr.% discordant 206/238 207/235	Corr.% discordant 207/206 206/238	Best age (Ma)	± 2 sigma
G73	256	433	1.00	0.4750	0.0070	9.7637	1.1931	2505.5	63.3	2412.7	37.0	2495.0	23.7	-3.8	-0.4	2495.0	23.7
G58	702	1198	1.08	0.4734	0.0059	10.4823	0.4417	2498.5	53.6	2478.3	32.9	2662.5	22.4	-0.8	6.2	2662.5	22.4
G87	286	508	0.85	0.4902	0.0069	12.3856	0.9865	2571.6	61.6	2634.1	33.4	2687.2	19.0	2.4	4.3	2687.2	19.0
G41	1927	4138	0.02	0.4717	0.0057	11.9088	0.1525	2491.1	51.7	2597.3	28.0	2757.4	15.0	4.1	9.7	2757.4	15.0
SAMPLE: Marot-15																	
G78	16	2679.1	0.73	0.0055	0.0012	0.0401	0.0232	35.6	17.7	39.9	18.3	166.4	8.2	10.8	78.6	35.6	17.7
G74	13	1965.7	1.02	0.0058	0.0012	0.0396	0.0222	37.2	17.3	39.4	17.2	51.3	3.9	5.8	27.5	37.2	17.3
G59	9	1247.5	0.59	0.0065	0.0001	0.0405	0.0015	41.6	3.4	40.3	5.0	141.1	10.1	-3.1	70.5	41.6	3.4
G33	33	4322.6	0.69	0.0071	0.0001	0.0470	0.0017	45.4	3.4	46.6	4.9	64.9	5.6	2.6	30.0	45.4	3.4
G108	60	7054.0	1.15	0.0071	0.0001	0.0503	0.0014	45.5	2.0	49.9	3.5	204.7	10.0	8.6	77.8	45.5	2.0
G54	3	308.4	0.97	0.0085	0.0002	0.0387	0.0025	54.2	4.2	38.6	8.8	465.0	39.6	-40.6	88.3	54.2	4.2
G42	6	525.7	1.19	0.0086	0.0002	0.0598	0.0030	55.0	3.9	58.9	6.5	165.9	13.0	6.7	66.8	55.0	3.9
G115	17	1042.9	1.17	0.0137	0.0010	0.0924	0.0163	87.5	13.0	89.8	13.8	185.7	9.5	2.6	52.9	87.5	13.0
G56	29	1642.2	0.55	0.0170	0.0003	0.1195	0.0034	108.4	5.2	114.6	7.1	219.9	9.4	5.4	50.7	108.4	5.2
G28	462	9115.1	1.33	0.0433	0.0006	0.3175	0.0065	273.5	9.4	280.0	10.9	481.1	10.0	2.3	43.1	273.5	9.4
G40	223	3254.9	0.17	0.0713	0.0010	0.6139	0.0116	443.9	14.2	486.0	14.5	467.8	9.5	8.7	5.1	443.9	14.2
G112	151	2145.1	0.24	0.0721	0.0038	0.5717	0.1286	448.6	46.4	459.1	46.6	481.4	26.7	2.3	6.8	448.6	46.4
G4	118	1530.8	0.43	0.0751	0.0010	0.6595	0.0116	466.9	14.5	514.3	14.5	487.3	9.1	9.2	4.2	466.9	14.5
G31	134	1873.7	0.12	0.0756	0.0011	0.5263	0.0142	469.6	14.8	429.3	16.8	509.2	12.6	-9.4	7.8	469.6	14.8
G106	125	1677.1	0.28	0.0757	0.0008	0.6245	0.0130	470.3	10.3	492.6	15.3	586.5	14.6	4.5	19.8	470.3	10.3
G24	270	3676.0	0.20	0.0760	0.0011	0.6518	0.0137	472.1	14.7	509.6	15.5	520.3	10.8	7.4	9.3	472.1	14.7
G6	50	534.7	1.07	0.0785	0.0011	0.5691	0.0178	487.3	15.3	457.4	16.5	520.7	11.7	-6.5	6.4	487.3	15.3
G51	86	1088.9	0.26	0.0796	0.0011	0.5891	0.0151	493.8	15.6	470.3	16.3	502.3	10.9	-5.0	1.7	493.8	15.6
G85	87	1154.4	0.10	0.0798	0.0008	0.6270	0.0124	494.8	10.7	494.2	14.5	516.9	12.2	-0.1	4.3	494.8	10.7
G43	31	365.7	0.52	0.0799	0.0012	0.6562	0.0462	495.3	16.6	512.3	21.9	567.1	19.1	3.3	12.7	495.3	16.6
G102	56	725.6	0.16	0.0799	0.0009	0.5936	0.0137	495.5	11.1	473.2	17.2	521.8	15.3	-4.7	5.0	495.5	11.1
G22	58	741.8	0.18	0.0801	0.0011	0.7310	0.0312	496.4	15.6	557.1	17.8	523.7	13.5	10.9	5.2	496.4	15.6
G98	63	811.5	0.16	0.0802	0.0009	0.6250	0.0158	497.0	11.6	493.0	18.9	547.4	17.6	-0.8	9.2	497.0	11.6
G73	65	784.7	0.43	0.0804	0.0028	0.5796	0.2117	498.6	35.4	464.2	34.2	534.3	19.0	-7.4	6.7	498.6	35.4
G76	68	883.2	0.08	0.0816	0.0014	0.5967	0.0387	505.4	18.9	475.1	21.6	662.7	17.5	-6.4	23.7	505.4	18.9
G58	49	456.0	1.63	0.0823	0.0012	0.5960	0.0255	509.8	16.4	474.7	20.0	848.9	18.4	-7.4	40.0	509.8	16.4
G114	43	485.8	0.47	0.0836	0.0036	0.6067	0.1316	517.3	43.7	481.5	46.5	513.1	30.2	-7.4	-0.8	517.3	43.7

Table DR-3

Grain	Pb (ppm)	U (ppm)	Atomic Th/U	206Pb/238U	± 1 sigma	207Pb/235U	± 1 sigma	Apparent Ages (Ma) 206Pb/238U	± 2 sigma	207Pb/235U	± 2 sigma	207Pb/206Pb	± 2 sigma	Corr.% discordant 206/238 207/235	Corr.% discordant 207/206 206/238	Best age (Ma)	± 2 sigma
G97	48	532.5	0.28	0.0900	0.0010	0.7300	0.0186	555.4	12.9	556.6	20.9	684.4	20.4	0.2	18.8	555.4	12.9
G75	56	567.3	0.43	0.0952	0.0001	0.7951	0.0019	586.2	3.2	594.1	29.0	669.6	31.0	1.3	12.5	586.2	3.2
G29	112	1164.6	0.16	0.1005	0.0014	0.8469	0.0238	617.1	18.5	623.0	19.1	643.8	13.2	0.9	4.1	617.1	18.5
G46	44	428.4	0.26	0.1013	0.0015	0.8928	0.0389	621.8	19.1	647.9	21.3	982.3	17.4	4.0	36.7	621.8	19.1
G83	138	1210.0	0.49	0.1061	0.0011	0.9652	0.0172	649.9	13.3	686.0	16.0	847.7	13.7	5.3	23.3	649.9	13.3
G47	72	624.2	0.22	0.1165	0.0017	1.0450	0.0451	710.1	21.4	726.4	22.1	743.6	15.8	2.2	4.5	710.1	21.4
G87	122	1033.0	0.07	0.1239	0.0013	1.2408	0.0235	752.7	15.3	819.2	18.7	1035.5	16.6	8.1	27.3	752.7	15.3
G20	139	1071.7	0.19	0.1328	0.0019	1.2043	0.0311	804.0	23.2	802.6	21.6	869.2	14.0	-0.2	7.5	804.0	23.2
G21	993	7032.7	0.41	0.1375	0.0019	1.2678	0.0219	830.7	23.7	831.4	20.8	834.0	12.2	0.1	0.4	830.7	23.7
G1	104	626.1	0.90	0.1406	0.0020	1.3858	0.0413	848.3	24.2	882.9	18.2	-21.4	1.6	3.9	4070.6	848.3	24.2
G66	86	654.7	0.32	0.1302	0.0048	1.0306	0.1474	789.0	57.1	719.2	48.1	852.9	23.4	-9.7	7.5	852.9	23.4
G37	116	714.9	0.88	0.1429	0.0021	1.1345	0.0578	860.9	25.4	769.9	26.7	888.2	20.3	-11.8	3.1	860.9	25.4
G19	129	965.3	0.04	0.1431	0.0020	1.4156	0.0399	861.9	24.6	895.5	22.7	995.0	15.0	3.8	13.4	861.9	24.6
G116	316	2087.6	0.52	0.1440	0.0002	1.4481	0.0037	867.1	3.1	909.1	33.0	949.9	34.3	4.6	8.7	867.1	3.1
G53	24	141.2	0.95	0.1433	0.0022	0.9950	0.1097	863.1	26.3	701.3	28.2	874.6	21.6	-23.1	1.3	874.6	21.6
G103	57	353.3	0.63	0.1486	0.0017	1.3011	0.0338	893.2	19.7	846.2	27.4	959.7	24.3	-5.6	6.9	893.2	19.7
G91	277	1611.3	0.83	0.1549	0.0015	1.5418	0.0275	928.4	18.0	947.2	19.1	979.7	14.8	2.0	5.2	928.4	18.0
G71	309	2098.4	0.05	0.1566	0.0016	1.5749	0.0364	937.9	19.7	960.4	22.6	945.3	18.4	2.3	0.8	945.3	18.4
G86	364	2352.8	0.12	0.1609	0.0016	1.6207	0.0266	961.7	18.3	978.3	17.7	956.3	12.6	1.7	-0.6	956.3	12.6
G72	37	186.7	0.48	0.1856	0.0023	1.7525	0.0436	1097.3	26.7	1028.1	24.5	1002.0	17.1	-6.7	-9.5	1002.0	17.1
G16	86	458.2	0.43	0.1796	0.0026	1.7461	0.0870	1064.9	30.0	1025.7	26.7	1066.6	18.1	-3.8	0.2	1066.6	18.1
G70	126	686.9	0.42	0.1766	0.0054	1.6244	0.7667	1048.6	61.3	979.7	49.7	1096.7	27.8	-7.0	4.4	1096.7	27.8
G65	118	614.0	0.54	0.1810	0.0041	1.6844	0.1629	1072.5	46.2	1002.6	38.5	1102.4	23.4	-7.0	2.7	1102.4	23.4
G55	265	1456.5	0.08	0.1904	0.0027	2.1207	0.0487	1123.6	31.3	1155.6	25.1	1114.7	14.7	2.8	-0.8	1114.7	14.7
G94	76	369.0	0.38	0.1964	0.0021	1.8869	0.0435	1156.1	23.7	1076.5	26.5	1155.8	21.7	-7.4	0.0	1155.8	21.7
G117	72	319.1	0.63	0.2042	0.0015	1.9947	0.0324	1197.8	17.1	1113.7	24.6	1197.5	22.2	-7.5	0.0	1197.5	22.2
G38	214	1036.1	0.15	0.2116	0.0030	2.5424	0.1067	1237.2	34.0	1284.3	30.1	1263.1	21.4	3.7	2.0	1263.1	21.4
G36	119	439.6	1.30	0.2169	0.0032	2.2949	0.1791	1265.5	35.6	1210.7	33.2	1313.3	25.1	-4.5	3.6	1313.3	25.1
G30	211	805.7	0.65	0.2389	0.0034	2.3187	0.0723	1380.9	37.0	1218.0	29.5	1461.6	19.4	-13.4	5.5	1461.6	19.4
G12	188	624.8	0.24	0.2952	0.0041	4.7493	0.1918	1667.7	42.9	1776.0	28.7	1611.4	16.0	6.1	-3.5	1611.4	16.0
G81	328	992.7	0.62	0.2981	0.0030	4.0228	0.0752	1681.9	30.6	1638.8	24.0	1642.2	17.1	-2.6	-2.4	1642.2	17.1
G63	75	230.2	0.57	0.2936	0.0048	2.6403	0.1859	1659.5	49.9	1312.0	35.1	1651.2	21.5	-26.5	-0.5	1651.2	21.5
G35	107	285.4	0.58	0.3365	0.0048	2.3657	0.1175	1869.7	48.7	1232.3	35.4	1739.7	24.5	-51.7	-7.5	1739.7	24.5

Table DR-3

Grain	Pb (ppm)	U (ppm)	Atomic Th/U	206Pb/238U	± 1 sigma	207Pb/235U	± 1 sigma	Apparent Ages (Ma) 206Pb/238U	± 2 sigma	207Pb/235U	± 2 sigma	207Pb/206Pb	± 2 sigma	Corr.% discordant 206/238 207/235	Corr.% discordant 207/206 206/238	Best age (Ma)	± 2 sigma
G109	157	494.8	0.30	0.3070	0.0033	4.1848	0.1037	1725.8	33.8	1671.1	33.6	1775.7	28.3	-3.3	2.8	1775.7	28.3
G8	420	1338.9	0.30	0.3049	0.0042	5.3202	0.1071	1715.3	43.6	1872.1	28.4	1814.1	14.8	8.4	5.4	1814.1	14.8
G84	355	932.3	0.68	0.3375	0.0033	5.0735	0.0874	1874.4	32.8	1831.7	23.7	1827.6	16.3	-2.3	-2.6	1827.6	16.3
G57	124	313.0	0.81	0.3419	0.0049	3.8320	0.2005	1895.9	49.2	1599.5	32.2	1835.2	19.6	-18.5	-3.3	1835.2	19.6
G82	307	798.4	0.49	0.3511	0.0035	5.1687	0.0902	1939.8	34.0	1847.5	23.9	1846.0	16.3	-5.0	-5.1	1846.0	16.3
G45	261	679.2	1.42	0.3097	0.0044	4.6623	0.1476	1739.3	44.9	1760.5	29.7	1847.4	16.5	1.2	5.9	1847.4	16.5
G61	192	514.0	0.39	0.3493	0.0050	4.9994	0.2154	1931.1	49.9	1819.2	32.3	1853.6	19.6	-6.2	-4.2	1853.6	19.6
G44	205	612.8	0.12	0.3348	0.0047	4.9271	0.1570	1861.7	47.4	1806.9	29.9	1854.6	16.3	-3.0	-0.4	1854.6	16.3
G7	342	993.1	0.50	0.3181	0.0044	5.1503	0.1154	1780.6	45.1	1844.4	28.8	1859.2	15.1	3.5	4.2	1859.2	15.1
G25	335	887.4	0.63	0.3380	0.0047	4.4439	0.1362	1876.8	47.5	1720.6	31.3	1859.9	19.0	-9.1	-0.9	1859.9	19.0
G68	182	527.0	0.35	0.3296	0.0033	4.6493	0.3180	1836.4	33.7	1758.2	33.3	1861.3	28.4	-4.5	1.3	1861.3	28.4
G14	229	748.2	0.26	0.3007	0.0042	4.9336	0.1907	1694.7	43.6	1808.0	29.8	1863.3	17.3	6.3	9.1	1863.3	17.3
G62	144	432.1	0.12	0.3341	0.0048	4.1803	0.1859	1858.2	48.4	1670.2	32.5	1863.5	20.1	-11.3	0.3	1863.5	20.1
G111	148	417.6	0.17	0.3481	0.0106	5.1281	5.9777	1925.3	101.9	1840.8	258.5	1863.5	251.6	-4.6	-3.3	1863.5	251.6
G77	191	551.4	0.27	0.3344	0.0014	4.3077	0.0318	1859.6	15.2	1694.8	17.3	1864.0	15.6	-9.7	0.2	1864.0	15.6
G92	637	2156.2	0.04	0.3065	0.0030	4.9350	0.0846	1723.5	30.4	1808.3	24.4	1866.3	18.0	4.7	7.7	1866.3	18.0
G50	132	333.7	0.65	0.3486	0.0050	3.7442	0.1538	1927.7	49.3	1580.9	31.1	1866.5	17.7	-21.9	-3.3	1866.5	17.7
G69	100	245.8	0.51	0.3679	0.0048	6.4403	0.2895	2019.6	47.6	2037.8	33.4	1872.7	23.4	0.9	-7.8	1872.7	23.4
G15	127	384.7	0.22	0.3227	0.0045	3.8814	0.1451	1803.0	45.9	1609.8	29.9	1874.7	16.9	-12.0	3.8	1874.7	16.9
G96	290	794.6	0.27	0.3509	0.0035	5.3774	0.1014	1939.1	34.3	1881.3	26.8	1875.2	20.2	-3.1	-3.4	1875.2	20.2
G52	200	586.9	0.29	0.3288	0.0047	3.9931	0.1265	1832.7	47.1	1632.8	30.5	1875.8	17.2	-12.2	2.3	1875.8	17.2
G104	323	856.2	0.63	0.3406	0.0035	5.2145	0.1062	1889.3	34.2	1855.0	29.7	1875.8	23.7	-1.9	-0.7	1875.8	23.7
G95	331	1005.8	0.28	0.3191	0.0031	5.0253	0.0900	1785.5	31.6	1823.6	25.6	1876.7	19.3	2.1	4.9	1876.7	19.3
G3	116	325.8	0.30	0.3397	0.0048	4.9422	0.2248	1885.4	47.7	1809.5	30.0	1878.3	16.5	-4.2	-0.4	1878.3	16.5
G23	220	592.6	0.31	0.3541	0.0050	4.8758	0.2056	1954.0	49.2	1798.1	31.9	1879.1	19.4	-8.7	-4.0	1879.1	19.4
G101	131	319.9	0.31	0.3803	0.0040	5.2667	0.1199	2077.7	38.3	1863.5	31.1	1879.7	24.5	-11.5	-10.5	1879.7	24.5
G60	332	868.2	0.46	0.3598	0.0051	5.2148	0.1577	1981.2	50.7	1855.0	31.9	1880.4	18.7	-6.8	-5.4	1880.4	18.7
G48	188	584.4	0.18	0.3182	0.0045	4.4270	0.1537	1781.1	45.9	1717.4	30.1	1880.8	16.9	-3.7	5.3	1880.8	16.9
G79	256	808.9	0.18	0.3153	0.0049	4.8447	0.1918	1766.6	50.3	1792.7	36.9	1880.8	24.9	1.5	6.1	1880.8	24.9
G27	149	513.4	0.14	0.2919	0.0041	3.7686	0.1508	1650.8	42.8	1586.1	31.4	1883.3	20.2	-4.1	12.3	1883.3	20.2
G49	133	415.3	0.11	0.3232	0.0046	4.4272	0.1867	1805.2	46.5	1717.4	30.5	1884.7	17.3	-5.1	4.2	1884.7	17.3
G67	152	413.5	0.16	0.3608	0.0019	5.6121	0.0428	1986.1	20.0	1918.0	18.0	1885.5	15.1	-3.6	-5.3	1885.5	15.1
G39	209	547.1	1.13	0.3155	0.0045	3.8030	0.1839	1767.5	46.1	1593.4	35.1	1887.4	24.9	-10.9	6.4	1887.4	24.9

Table DR-3

Grain	Pb (ppm)	U (ppm)	Atomic Th/U	206Pb/238U	± 1 sigma	207Pb/235U	± 1 sigma	Apparent Ages (Ma) 206Pb/238U	± 2 sigma	207Pb/235U	± 2 sigma	207Pb/206Pb	± 2 sigma	Corr.% discordant 206/238 207/235	Corr.% discordant 207/206 206/238	Best age (Ma)	± 2 sigma
G99	159	447.9	0.34	0.3377	0.0035	5.0092	0.1072	1875.5	34.6	1820.9	29.2	1888.2	23.1	-3.0	0.7	1888.2	23.1
G90	222	668.8	0.17	0.3301	0.0033	5.0083	0.0930	1838.7	32.8	1820.7	25.4	1889.4	18.6	-1.0	2.7	1889.4	18.6
G118	313	928.7	0.26	0.3279	0.0024	5.1525	0.0578	1828.3	24.1	1844.8	28.9	1894.8	26.1	0.9	3.5	1894.8	26.1
G13	138	424.8	0.24	0.3168	0.0044	4.0220	0.1509	1774.0	45.2	1638.6	29.7	1895.3	16.7	-8.3	6.4	1895.3	16.7
G89	122	248.0	1.44	0.3786	0.0041	4.9272	0.1163	2069.6	39.1	1806.9	30.0	1895.8	22.8	-14.5	-9.2	1895.8	22.8
G100	195	547.0	0.18	0.3497	0.0035	5.3640	0.1066	1933.1	34.7	1879.1	28.5	1898.3	22.2	-2.9	-1.8	1898.3	22.2
G32	215	613.7	0.46	0.3290	0.0046	3.8007	0.1348	1833.6	46.9	1592.9	33.3	1898.9	22.1	-15.1	3.4	1898.9	22.1
G64	211	603.0	0.31	0.3360	0.0045	4.1008	0.2411	1867.4	45.3	1654.5	34.6	1902.0	25.3	-12.9	1.8	1902.0	25.3
G2	228	654.6	0.54	0.3152	0.0044	5.7515	0.1806	1766.2	45.0	1939.1	29.1	1916.4	15.5	8.9	7.8	1916.4	15.5
G26	254	785.3	0.17	0.3216	0.0045	5.4286	0.2539	1797.3	46.2	1889.4	32.4	1918.4	20.8	4.9	6.3	1918.4	20.8
G17	358	1168.5	0.03	0.3166	0.0044	4.8710	0.1223	1773.0	45.1	1797.2	29.8	1923.4	16.8	1.3	7.8	1923.4	16.8
G105	154	345.5	1.03	0.3672	0.0039	5.3085	0.1269	2016.4	38.0	1870.2	33.2	1956.4	27.1	-7.8	-3.1	1956.4	27.1
G110	399	1136.8	0.07	0.3545	0.0036	5.9729	0.1236	1955.8	35.4	1971.9	31.9	1988.0	26.4	0.8	1.6	1988.0	26.4
G113	255	763.5	0.09	0.3378	0.0001	5.5958	0.0020	1876.0	1.7	1915.5	33.7	2040.9	34.2	2.1	8.1	2040.9	34.2
G34	271	786.7	0.20	0.3408	0.0048	4.9267	0.1902	1890.6	48.4	1806.8	34.5	2055.2	23.5	-4.6	8.0	2055.2	23.5
G80	216	555.2	0.13	0.3827	0.0047	6.1660	0.2295	2089.0	45.6	1999.6	33.1	2074.4	24.3	-4.5	-0.7	2074.4	24.3
G11	219	579.9	0.16	0.3712	0.0052	7.4083	0.2931	2035.2	50.5	2162.0	30.5	2100.7	16.6	5.9	3.1	2100.7	16.6
G107	405	1113.2	0.11	0.3641	0.0037	6.5677	0.1331	2001.3	35.8	2055.0	31.2	2102.7	25.6	2.6	4.8	2102.7	25.6
G5	210	500.5	0.27	0.3979	0.0055	9.2183	0.4495	2159.3	53.1	2359.9	30.7	2124.3	16.3	8.5	-1.6	2124.3	16.3
G41	272	556.1	0.52	0.4332	0.0061	12.4038	0.5657	2320.1	56.7	2635.5	31.6	2373.8	16.8	12.0	2.3	2373.8	16.8
G93	603	1260.3	0.51	0.4350	0.0043	9.6251	0.1843	2328.1	39.8	2399.6	27.5	2435.4	20.3	3.0	4.4	2435.4	20.3
G10	279	564.3	0.81	0.4208	0.0058	8.1563	0.2516	2263.9	54.9	2248.5	31.1	2450.5	16.3	-0.7	7.6	2450.5	16.3
G18	534	739.9	1.81	0.5018	0.0070	12.0332	0.3903	2621.5	61.8	2607.0	32.2	2516.5	17.4	-0.6	-4.2	2516.5	17.4
G88	1041	1835.6	0.93	0.4747	0.0046	11.5264	0.1862	2504.0	41.0	2566.7	25.3	2584.6	17.4	2.4	3.1	2584.6	17.4
G9	370	647.9	0.43	0.5076	0.0070	12.7626	0.4502	2646.3	62.2	2662.3	31.9	2650.7	16.6	0.6	0.2	2650.7	16.6
SAMPLE: Tilwalla-8																	
G13	5	1624	0.2	0.00291	0.00004	0.0180	0.00096	18.7	1.5	18.1	3.0	-34.7	-2.9	-3.5	154.0	18.7	1.5
G16	24	4252	0.5	0.00555	0.00006	0.0385	0.00060	35.7	1.7	38.3	2.4	193.6	6.4	6.9	81.6	35.7	1.7
G105	26	4049	0.2	0.00656	0.00008	0.0440	0.00145	42.2	2.0	43.7	3.8	73.9	5.5	3.5	43.0	42.2	2.0
G1	5	531	0.7	0.0078	0.00011	0.0514	0.00198	50.1	2.4	50.9	5.1	188.5	14.1	1.6	73.4	50.1	2.4
G92	88	11102	0.1	0.00846	0.00009	0.0608	0.00108	54.3	2.1	60.0	3.2	237.7	7.9	9.4	77.1	54.3	2.1
G116	17	1198	0.3	0.01466	0.00034	0.0975	0.00812	93.8	5.3	94.4	15.6	66.9	11.2	0.7	-40.2	93.8	5.3

Table DR-3

Grain	Pb (ppm)	U (ppm)	Atomic Th/U	206Pb/238U	± 1 sigma	207Pb/235U	± 1 sigma	Apparent Ages (Ma) 206Pb/238U	± 2 sigma	207Pb/235U	± 2 sigma	207Pb/206Pb	± 2 sigma	Corr.% discordant 206/238 207/235	Corr.% discordant 207/206 206/238	Best age (Ma)	± 2 sigma
G58	102	6511	0.3	0.01591	0.00016	0.1066	0.00156	101.8	3.0	102.9	4.2	113.0	3.8	1.1	10.0	101.8	3.0
G96	41	2331	0.8	0.01613	0.00018	0.1108	0.00288	103.2	3.2	106.7	6.2	136.8	7.0	3.3	24.6	103.2	3.2
G11	10	345	0.4	0.02918	0.0005	0.2178	0.01243	185.4	7.2	200.0	21.8	571.5	45.3	7.3	67.6	185.4	7.2
G32	6	171	0.1	0.03922	0.00087	0.2712	0.02020	248.0	11.7	243.6	34.8	693.6	63.4	-1.8	64.2	248.0	11.7
G65	139	2538	0.2	0.05657	0.0011	0.4243	0.02996	354.7	14.4	359.1	35.6	461.1	39.8	1.2	23.1	354.7	14.4
G41	39	666	0.4	0.05762	0.00079	0.4800	0.02034	361.1	10.6	398.1	23.3	644.9	30.3	9.3	44.0	361.1	10.6
G101	284	4690	0.2	0.06293	0.00066	0.5148	0.01165	393.4	9.0	421.7	14.4	535.0	14.8	6.7	26.5	393.4	9.0
G22	486	8217	0.0	0.06446	0.00059	0.4969	0.00425	402.7	8.1	409.6	8.8	419.9	6.1	1.7	4.1	402.7	8.1
G102	274	4618	0.0	0.06464	0.00064	0.5302	0.00952	403.8	8.7	431.9	12.4	488.4	11.4	6.5	17.3	403.8	8.7
G67	111	1763	0.2	0.06506	0.00065	0.4919	0.00956	406.3	8.8	406.2	13.0	466.6	11.8	0.0	12.9	406.3	8.8
G45	125	1848	0.3	0.0691	0.00071	0.5398	0.01158	430.7	9.5	438.3	13.9	405.7	11.3	1.7	-6.2	430.7	9.5
G89	114	1584	0.4	0.07124	0.00072	0.5546	0.01113	443.6	9.6	448.0	13.9	476.8	12.1	1.0	7.0	443.6	9.6
G44	46	666	0.2	0.07131	0.00071	0.5564	0.01043	444.0	9.5	449.2	13.5	549.7	12.5	1.1	19.2	444.0	9.5
G30	627	9366	0.1	0.07152	0.00066	0.5645	0.00464	445.3	8.9	454.5	9.4	464.2	6.2	2.0	4.1	445.3	8.9
G71	200	2961	0.1	0.07173	0.00068	0.5706	0.00757	446.6	9.1	458.4	11.1	472.9	8.7	2.6	5.6	446.6	9.1
G115	111	1667	0.0	0.07208	0.00073	0.5931	0.01238	448.7	9.7	472.8	14.7	575.9	14.3	5.1	22.1	448.7	9.7
G111	55	811	0.1	0.07301	0.00081	0.5456	0.01522	454.3	10.7	442.1	18.2	529.4	17.6	-2.8	14.2	454.3	10.7
G26	109	1556	0.2	0.07319	0.00069	0.5681	0.00671	455.3	9.2	456.8	10.7	484.9	8.0	0.3	6.1	455.3	9.2
G95	71	1039	0.0	0.07342	0.00076	0.5397	0.01227	456.7	10.1	438.2	15.2	436.4	12.7	-4.2	-4.7	456.7	10.1
G117	79	1131	0.1	0.07382	0.00079	0.6023	0.01536	459.1	10.4	478.7	17.4	630.0	18.1	4.1	27.1	459.1	10.4
G36	261	3764	0.1	0.07441	0.00069	0.5980	0.00636	462.7	9.2	476.0	10.4	513.8	7.8	2.8	10.0	462.7	9.2
G54	202	2923	0.1	0.0748	0.00073	0.6557	0.01094	465.0	9.7	512.0	13.4	712.9	13.3	9.2	34.8	465.0	9.7
G47	173	2523	0.0	0.07484	0.00072	0.6153	0.00934	465.2	9.6	486.9	12.3	578.5	10.8	4.4	19.6	465.2	9.6
G63	53	717	0.3	0.07499	0.00077	0.5887	0.01280	466.1	10.2	470.0	15.8	675.5	16.4	0.8	31.0	466.1	10.2
G53	86	1143	0.3	0.07607	0.00075	0.5992	0.01103	472.6	9.9	476.7	13.8	545.2	12.2	0.9	13.3	472.6	9.9
G21	184	2441	0.3	0.07631	0.00072	0.6199	0.00773	474.1	9.6	489.8	11.4	565.6	9.2	3.2	16.2	474.1	9.6
G8	189	2466	0.3	0.07662	0.00071	0.6009	0.00535	475.9	9.4	477.8	10.0	482.2	6.6	0.4	1.3	475.9	9.4
G3	139	1869	0.2	0.07687	0.00071	0.6096	0.00612	477.4	9.4	483.3	10.3	502.7	7.3	1.2	5.0	477.4	9.4
G10	114	1476	0.3	0.07705	0.00072	0.6137	0.00643	478.5	9.6	485.9	10.6	504.6	7.6	1.5	5.2	478.5	9.6
G34	121	1677	0.1	0.07731	0.00074	0.6377	0.00883	480.0	9.8	500.9	12.2	639.2	10.7	4.2	24.9	480.0	9.8
G9	199	2783	0.0	0.07792	0.00072	0.6213	0.00604	483.7	9.6	490.7	10.2	476.0	6.9	1.4	-1.6	483.7	9.6
G18	43	573	0.2	0.07806	0.00079	0.6059	0.01211	484.5	10.4	480.9	14.5	522.2	12.5	-0.7	7.2	484.5	10.4
G80	289	3829	0.2	0.07811	0.00074	0.6229	0.00799	484.8	9.8	491.7	11.6	502.7	8.8	1.4	3.6	484.8	9.8

Table DR-3

Grain	Pb (ppm)	U (ppm)	Atomic Th/U	206Pb/238U	± 1 sigma	207Pb/235U	± 1 sigma	Apparent Ages (Ma) 206Pb/238U	± 2 sigma	207Pb/235U	± 2 sigma	207Pb/206Pb	± 2 sigma	Corr.% discordant 206/238 207/235	Corr.% discordant 207/206 206/238	Best age (Ma)	± 2 sigma
G97	42	543	0.1	0.08143	0.00089	0.6335	0.01724	504.7	11.6	498.2	19.5	727.4	20.7	-1.3	30.6	504.7	11.6
G85	35	442	0.2	0.08207	0.00113	0.6637	0.03005	508.5	14.4	516.9	29.7	772.1	33.9	1.6	34.1	508.5	14.4
G48	34	303	1.3	0.09014	0.00095	0.6815	0.01667	556.4	12.2	527.7	18.5	676.2	17.5	-5.4	17.7	556.4	12.2
G108	39	405	0.3	0.09234	0.00135	0.8391	0.04172	569.4	16.9	618.6	35.2	1050.7	42.2	8.0	45.8	569.4	16.9
G38	63	501	0.8	0.1129	0.00126	1.0221	0.03207	689.6	15.5	714.9	23.6	856.0	22.5	3.5	19.4	689.6	15.5
G66	82	723	0.3	0.11305	0.00112	0.9840	0.01872	690.4	13.9	695.6	17.3	808.6	14.8	0.7	14.6	690.4	13.9
G7	186	1702	0.2	0.11457	0.00109	1.0816	0.01649	699.2	13.6	744.4	15.1	811.8	11.9	6.1	13.9	699.2	13.6
G23	100	750	0.6	0.12319	0.0012	1.0903	0.01951	748.9	14.7	748.6	16.8	761.0	13.1	0.0	1.6	748.9	14.7
G119	292	2513	0.1	0.12414	0.00121	1.1798	0.02143	754.3	14.8	791.2	18.2	839.3	15.3	4.7	10.1	754.3	14.8
G110	104	717	1.5	0.12481	0.00131	1.1726	0.02956	758.2	16.0	787.9	22.3	1017.6	21.2	3.8	25.5	758.2	16.0
G70	228	1810	0.2	0.12818	0.00122	1.2835	0.01847	777.5	14.9	838.4	16.7	1029.1	13.8	7.3	24.5	777.5	14.9
G60	82	593	0.6	0.1291	0.00128	1.1269	0.02226	782.7	15.6	766.3	18.5	841.5	15.1	-2.1	7.0	782.7	15.6
G73	231	1864	0.1	0.13027	0.00126	1.2199	0.02025	789.4	15.3	809.7	17.3	891.5	13.9	2.5	11.5	789.4	15.3
G25	178	1338	0.3	0.13344	0.00127	1.2138	0.01881	807.5	15.4	806.9	16.3	844.6	12.2	-0.1	4.4	807.5	15.4
G12	92	668	0.3	0.13484	0.0013	1.2543	0.02079	815.4	15.7	825.3	16.8	874.3	12.8	1.2	6.7	815.4	15.7
G52	74	560	0.2	0.13661	0.00142	1.1770	0.02982	825.5	17.1	789.9	21.7	876.8	18.5	-4.5	5.9	825.5	17.1
G69	357	2668	0.1	0.14203	0.00133	1.4331	0.01782	856.1	16.0	902.8	16.4	1000.0	12.4	5.2	14.4	856.1	16.0
G76	143	989	0.3	0.14458	0.00144	1.4555	0.03100	870.5	17.2	912.2	20.5	1084.2	17.7	4.6	19.7	870.5	17.2
G4	30	191	0.4	0.15251	0.0015	1.3886	0.02805	915.0	17.7	884.1	19.5	975.7	15.5	-3.5	6.2	915.0	17.7
G51	72	437	0.2	0.16595	0.00195	1.4918	0.05691	989.8	22.5	927.0	30.4	1037.9	26.8	-6.8	4.6	989.8	22.5
G79	146	727	0.3	0.1956	0.00189	1.9547	0.03448	1151.6	21.3	1100.1	20.6	1131.8	15.4	-4.7	-1.8	1131.8	15.4
G17	153	721	0.4	0.20438	0.00193	2.2726	0.03595	1198.8	21.6	1203.8	19.0	1218.0	13.2	0.4	1.6	1218.0	13.2
G56	159	567	0.1	0.28539	0.00299	3.9644	0.12457	1618.5	30.9	1626.9	27.9	1759.8	22.1	0.5	8.0	1759.8	22.1
G46	205	609	0.4	0.31999	0.00306	4.6768	0.08851	1789.7	30.8	1763.1	23.1	1851.9	16.1	-1.5	3.4	1851.9	16.1
G68	189	575	0.4	0.31095	0.00299	4.3653	0.08205	1745.4	30.4	1705.8	23.7	1857.8	17.2	-2.3	6.1	1857.8	17.2
G5	260	838	0.1	0.31402	0.0029	4.8532	0.05219	1760.5	29.4	1794.2	20.3	1858.7	12.5	1.9	5.3	1858.7	12.5
G55	176	485	0.2	0.35169	0.00336	5.1011	0.09569	1942.7	33.0	1836.3	23.4	1868.2	16.2	-5.8	-4.0	1868.2	16.2
G57	160	397	0.5	0.36595	0.00351	5.0016	0.09622	2010.3	34.1	1819.6	23.8	1872.8	16.5	-10.5	-7.3	1872.8	16.5
G14	274	918	0.1	0.30382	0.00283	4.6600	0.06453	1710.2	28.9	1760.1	20.9	1875.5	13.5	2.8	8.8	1875.5	13.5
G77	707	1516	0.3	0.43785	0.00415	9.2079	0.16161	2341.0	38.2	2358.9	24.9	2409.6	17.5	0.8	2.8	2409.6	17.5
G99	294	553	1.1	0.4385	0.00472	9.1924	0.35388	2343.9	43.3	2357.4	31.8	2445.1	24.8	0.6	4.1	2445.1	24.8
G84	439	878	0.4	0.45941	0.00441	10.6185	0.21128	2437.0	39.9	2490.3	26.0	2552.8	18.7	2.1	4.5	2552.8	18.7

Table DR-3

SAMPLE: Fort Abbas

								Apparent Ages (Ma)						Corr.% discordant	Corr.% discordant		
Grain	Pb (ppm)	U (ppm)	Atomic Th/U	206Pb/238U	± 1 sigma	207Pb/235U	± 1 sigma	206Pb/238U	± 2 sigma	207Pb/235U	± 2 sigma	207Pb/206Pb	± 2 sigma	206/238 207/235	207/206 206/238	Best age (Ma)	± 2 sigma
L4	8	2977.7	0.498	0.0025	0.00003	0.0165	0.00060	16.1	5.4	16.6	6.2	14.8	6.1	3.0	-8.6	16.1	5.4
L16	8	766.06	0.7599	0.00869	0.00009	0.0598	0.00150	55.8	6.1	59.0	7.9	173.9	12.5	5.5	67.9	55.8	6.1
L19	4	367.05	0.8439	0.01068	0.00013	0.0671	0.00226	68.5	6.6	65.9	9.4	51.3	8.1	-3.9	-33.6	68.5	6.6
L38	11	889.75	0.7857	0.01072	0.00011	0.0737	0.00172	68.7	6.4	72.2	8.2	188.5	12.2	4.8	63.5	68.7	6.4
L59	4	251.02	0.7405	0.01469	0.00016	0.1037	0.00241	94.0	7.0	100.2	9.3	302.0	15.2	6.2	68.9	94.0	7.0
L14	16	916.87	0.6689	0.01536	0.00014	0.1030	0.00203	98.3	6.8	99.5	8.6	75.9	7.5	1.3	-29.4	98.3	6.8
L47	8	483.41	0.5305	0.0158	0.00015	0.1095	0.00201	101.1	6.9	105.5	8.5	163.5	9.6	4.2	38.2	101.1	6.9
L27	5	300.48	0.489	0.01584	0.00019	0.0978	0.00330	101.3	7.4	94.8	11.0	25.7	6.5	-6.9	-294.4	101.3	7.4
L56	24	1347.2	0.4311	0.01681	0.00016	0.1117	0.00178	107.5	7.0	107.5	8.1	115.0	7.6	0.0	6.5	107.5	7.0
L66	51	2984.4	0.2853	0.01701	0.00016	0.1153	0.00183	108.7	7.0	110.8	8.0	137.3	7.8	1.9	20.8	108.7	7.0
L62	23	1283.2	0.3037	0.01788	0.00017	0.1224	0.00194	114.2	7.1	117.3	8.3	148.8	8.2	2.6	23.2	114.2	7.1
L49	181	2820.8	0.0666	0.0685	0.0006	0.5352	0.00656	427.1	12.2	435.3	13.5	404.5	10.7	1.9	-5.6	427.1	12.2
L24	84	1087.4	0.6792	0.06972	0.00056	0.5511	0.00727	434.5	11.7	445.7	13.5	461.1	11.6	2.5	5.8	434.5	11.7
L43	125	1825.8	0.1853	0.07042	0.0006	0.5608	0.00704	438.7	12.2	452.1	13.7	454.0	11.4	3.0	3.4	438.7	12.2
L50	67	900.49	0.3044	0.07433	0.00065	0.5876	0.00798	462.2	12.8	469.3	14.4	447.2	11.7	1.5	-3.4	462.2	12.8
L61	188	2437.1	0.3985	0.07467	0.00068	0.5867	0.00822	464.2	13.1	468.8	14.7	465.0	12.0	1.0	0.2	464.2	13.1
L58	71	942.77	0.2327	0.07635	0.0007	0.6073	0.00920	474.3	13.4	481.9	15.3	493.5	12.8	1.6	3.9	474.3	13.4
L78	62	770.09	0.3722	0.07841	0.00079	0.6079	0.01150	486.6	14.4	482.2	16.9	483.0	13.9	-0.9	-0.8	486.6	14.4
L71	266	3537	0.0749	0.08016	0.00077	0.6236	0.01002	497.1	14.2	492.1	15.9	470.1	12.7	-1.0	-5.7	497.1	14.2
L87	84	1005.5	0.3182	0.08187	0.00086	0.6521	0.01323	507.3	15.2	509.8	17.8	529.0	14.9	0.5	4.1	507.3	15.2
L72	134	1687.4	0.1321	0.08279	0.0008	0.6474	0.01071	512.8	14.5	506.9	16.3	474.4	12.9	-1.2	-8.1	512.8	14.5
L95	238	2841.5	0.3165	0.08301	0.00093	0.6642	0.01541	514.1	16.0	517.2	18.8	511.5	15.5	0.6	-0.5	514.1	16.0
L10	37	426.68	0.4023	0.08355	0.00069	0.6215	0.01255	517.3	13.2	490.8	16.7	472.1	14.1	-5.4	-9.6	517.3	13.2
L57	213	2593.7	0.1791	0.08475	0.00076	0.6754	0.00907	524.4	14.0	524.0	15.4	483.8	12.0	-0.1	-8.4	524.4	14.0
L82	140	1640.8	0.2363	0.08657	0.00088	0.6964	0.01293	535.2	15.4	536.6	17.7	531.3	14.4	0.3	-0.7	535.2	15.4
L55	57	634.05	0.2648	0.0889	0.00081	0.7421	0.01174	549.0	14.6	563.6	16.8	624.0	14.5	2.6	12.0	549.0	14.6
L17	110	1129.8	0.4959	0.09239	0.00073	0.7935	0.01042	569.7	13.6	593.1	15.3	668.9	13.2	4.0	14.8	569.7	13.6
L102	39	413.85	0.381	0.09247	0.00111	0.7744	0.02136	570.1	18.1	582.3	22.2	647.0	19.5	2.1	11.9	570.1	18.1
L5	61	631.47	0.2927	0.09606	0.00076	0.7613	0.01299	591.3	13.9	574.7	16.2	544.8	13.4	-2.9	-8.5	591.3	13.9
L91	107	1061.9	0.3088	0.09957	0.00106	0.8363	0.01755	611.9	17.4	617.1	20.0	634.3	16.6	0.8	3.5	611.9	17.4
L8	56	487.28	0.7177	0.10083	0.00082	0.8064	0.01555	619.3	14.6	600.4	17.4	574.8	14.5	-3.1	-7.7	619.3	14.6
L69	10	75.605	1.3696	0.09788	0.00102	0.7585	0.01968	602.0	17.0	573.2	21.8	606.5	19.0	-5.0	0.7	602.0	17.0

Table DR-3

				Apparent Ages (Ma)										Corr.% discordant	Corr.% discordant		
Grain	Pb (ppm)	U (ppm)	Atomic Th/U	206Pb 238U	± 1 sigma	207Pb 235U	± 1 sigma	206Pb 238U	± 2 sigma	207Pb 235U	± 2 sigma	207Pb 206Pb	± 2 sigma	206/238 207/235	207/206 206/238	Best age (Ma)	± 2 sigma
L79	314	3250.8	0.1157	0.10207	0.00102	0.8693	0.01550	626.5	16.9	635.2	19.0	676.5	15.8	1.4	7.4	626.5	16.9
L51	1	12.83	0.1709	0.10393	0.00172	0.8117	0.05405	637.4	25.1	603.4	46.1	979.4	50.7	-5.6	34.9	637.4	25.1
L76	41	385.77	0.1748	0.10768	0.00108	0.9369	0.01824	659.3	17.5	671.2	20.1	726.7	17.1	1.8	9.3	659.3	17.5
L13	290	2455.7	0.2397	0.11918	0.00091	1.0634	0.01064	725.8	15.5	735.5	15.7	727.0	12.2	1.3	0.2	725.8	15.5
L45	67	518.75	0.4947	0.11994	0.00105	1.1449	0.01664	730.2	17.1	774.9	18.6	863.7	15.6	5.8	15.5	730.2	17.1
L100	65	521.01	0.3239	0.12166	0.00142	1.2039	0.03102	740.1	21.3	802.4	25.2	964.9	22.5	7.8	23.3	740.1	21.3
L68	71	530.85	0.5656	0.1222	0.00117	1.2451	0.02118	743.2	18.4	821.2	21.0	1043.4	18.7	9.5	28.8	743.2	18.4
L41	148	1157.9	0.4405	0.12253	0.00103	1.0999	0.01301	745.1	16.8	753.3	17.3	755.8	13.6	1.1	1.4	745.1	16.8
L9	77	628.4	0.1624	0.12624	0.00099	1.1516	0.01915	766.4	16.3	778.0	17.9	809.5	14.9	1.5	5.3	766.4	16.3
L25	267	2251.7	0.0683	0.1268	0.001	1.1973	0.01267	769.6	16.4	799.4	16.8	849.2	13.3	3.7	9.4	769.6	16.4
L86	116	842.55	0.3648	0.13386	0.0014	1.2595	0.02540	809.8	20.9	827.7	22.8	842.1	18.6	2.2	3.8	809.8	20.9
L65	236	1685.3	0.3127	0.13769	0.00128	1.2707	0.01907	831.6	19.5	832.7	20.2	800.0	15.7	0.1	-3.9	831.6	19.5
L73	261	1867.4	0.1988	0.14237	0.00139	1.3560	0.02258	858.1	20.7	870.2	21.7	888.2	17.4	1.4	3.4	858.1	20.7
L60	189	1350.2	0.1073	0.14613	0.00133	1.4491	0.02053	879.2	19.9	909.5	20.4	943.8	16.3	3.3	6.8	879.2	19.9
L94	26	157.02	0.6793	0.14677	0.00164	1.3087	0.03287	882.8	23.4	849.6	25.9	874.3	21.1	-3.9	-1.0	882.8	23.4
L103	188	1217.5	0.4192	0.14726	0.00174	1.3892	0.03628	885.6	24.5	884.3	26.6	884.3	21.5	-0.1	-0.1	885.6	24.5
L75	270	1890.1	0.1354	0.14782	0.00145	1.4118	0.02415	888.7	21.3	893.9	22.0	875.5	17.4	0.6	-1.5	888.7	21.3
L104	125	796.56	0.3071	0.15346	0.00183	1.4312	0.03785	920.3	25.4	902.1	27.1	867.0	21.5	-2.0	-6.1	920.3	25.4
L67	222	1483.8	0.1398	0.15452	0.00146	1.5758	0.02482	926.3	21.3	960.7	22.1	1033.5	18.0	3.6	10.4	926.3	21.3
L44	269	1710.2	0.177	0.16029	0.00137	1.7316	0.02054	958.4	20.2	1020.3	20.0	1106.6	15.9	6.1	13.4	958.4	20.2
L98	104	577.81	0.1642	0.18414	0.00211	1.8268	0.04516	1089.6	27.9	1055.1	28.3	993.3	22.2	-3.3	-9.7	993.3	22.2
L105	142	780.34	0.1268	0.18767	0.00226	1.8888	0.05126	1108.7	29.5	1077.2	29.9	1019.8	23.4	-2.9	-8.7	1019.8	23.4
L89	89	488.17	0.2793	0.17926	0.0019	1.8359	0.03870	1062.9	25.7	1058.4	26.1	1029.1	20.6	-0.4	-3.3	1029.1	20.6
L23	521	3194	0.0678	0.17173	0.00134	1.8334	0.01756	1021.6	19.7	1057.5	18.4	1068.8	14.0	3.4	4.4	1068.8	14.0
L70	106	580.23	0.3021	0.17902	0.00172	1.8640	0.03173	1061.6	23.8	1068.4	23.6	1084.2	18.7	0.6	2.1	1084.2	18.7
L74	203	967.05	0.163	0.21277	0.00208	2.3228	0.03998	1243.6	27.1	1219.3	25.3	1173.6	19.6	-2.0	-6.0	1173.6	19.6
L85	83	380.37	0.3687	0.21032	0.00219	2.2866	0.04764	1230.5	28.3	1208.2	27.4	1209.5	21.7	-1.9	-1.7	1209.5	21.7
L54	173	882.57	0.2735	0.1928	0.00173	2.2200	0.03247	1136.5	23.7	1187.4	22.8	1246.7	18.1	4.3	8.8	1246.7	18.1
L18	187	786.63	0.4074	0.22652	0.00176	2.7392	0.03641	1316.2	23.5	1339.2	20.7	1381.2	15.8	1.7	4.7	1381.2	15.8
L36	341	1165.5	0.6725	0.25948	0.00213	3.5278	0.04525	1487.2	26.8	1533.5	22.6	1535.4	17.1	3.0	3.1	1535.4	17.1
L31	420	1695.7	0.2623	0.24379	0.00196	3.3192	0.03902	1406.4	25.3	1485.6	21.9	1562.4	16.7	5.3	10.0	1562.4	16.7
L37	458	1460.2	0.994	0.25039	0.00207	3.4795	0.04832	1440.5	26.3	1522.6	22.8	1563.9	17.5	5.4	7.9	1563.9	17.5
L80	398	1459.6	0.1149	0.27793	0.0028	4.0568	0.07411	1580.9	33.2	1645.7	29.3	1737.9	23.3	3.9	9.0	1737.9	23.3

Table DR-3

Grain	Pb (ppm)	U (ppm)	Atomic Th/U	206Pb / 238U	± 1 sigma	207Pb / 235U	± 1 sigma	Apparent Ages (Ma) 206Pb / 238U	± 2 sigma	207Pb / 235U	± 2 sigma	207Pb / 206Pb	± 2 sigma	Corr.% discordant 206/238 / 207/235	Corr.% discordant 207/206 / 206/238	Best age (Ma)	± 2 sigma
L22	410	1410.4	0.1281	0.29524	0.0023	4.5754	0.05114	1667.7	27.9	1744.8	22.2	1796.6	16.5	4.4	7.2	1796.6	16.5
L6	128	389.89	0.1999	0.32419	0.0025	4.9095	0.09177	1810.2	29.3	1803.9	23.1	1890.2	17.6	-0.3	4.2	1890.2	17.6
L64	219	621.46	0.2439	0.34072	0.00316	5.9936	0.09345	1890.1	35.4	1974.9	28.1	2022.1	21.7	4.3	6.5	2022.1	21.7
L96	195	544.33	0.2	0.34759	0.00394	6.2638	0.15162	1923.1	42.7	2013.4	35.3	2100.8	28.3	4.5	8.5	2100.8	28.3
L101	322	798.74	0.4735	0.36746	0.00429	6.8564	0.17488	2017.4	45.4	2093.0	36.8	2162.7	29.4	3.6	6.7	2162.7	29.4
L90	236	480.02	0.4559	0.43738	0.00463	9.1000	0.19386	2338.9	46.5	2348.1	34.1	2368.9	26.8	0.4	1.3	2368.9	26.8
L88	437	933.89	0.2724	0.44314	0.00465	9.8941	0.20018	2364.7	46.5	2425.0	33.9	2462.5	26.6	2.5	4.0	2462.5	26.6
L83	470	876.12	0.4819	0.4736	0.00486	10.6040	0.20389	2499.3	47.5	2489.1	33.3	2477.9	25.9	-0.4	-0.9	2477.9	25.9
L92	224	393.84	0.604	0.48699	0.00528	11.4791	0.25771	2557.6	50.8	2562.9	35.6	2579.5	28.0	0.2	0.8	2579.5	28.0

Two-sample Kolmogorov-Smirnov goodness-of-fit hypothesis test.
Determines if independent random samples, X1 and X2, are drawn from the same underlying continuous population.
0 = Do not reject the null hypothesis at significance level
1= Reject the null hypothesis at significance level
*The asymptotic p-value becomes very accurate for large sample sizes, and is believed to be reasonably accurate for sample sizes n1 and n2 such that (n1*n2)/(n1 + n2) >= 4.*
The test statistic k is the maximum difference between the curves.
Typically used levels of significance (p-values) are 10% (0.1), 5% (0.05), 1% (0.01) and 0.1% (0.001)

K-S Test

								Accuracy (based on sample sizes)	
Sample 1	**N1**	**Sample 2**	**N2**	**Significance level**	**Null hypothesis**	**p value**	**test statistic**	**>=4 is considered accurate**	**Comments**
Yamuna	115	Sutlej	112	0.05	0	0.109000	0.1573	57	**They are the same at 5% and 10% significance level**
Yamuna, 1700-2000 Ma	46	Sutlej, 1700-2000 Ma	34	0.05	1	0.000001	0.5895	20	**They are NOT the same at 5% and 10%**
Marot-15	118	Sutlej	112	0.05	0	0.058900	0.1721	57	**They are the same at the 5% significance level**
Marot-15	118	Yamuna	115	0.05	1	0.003900	0.2275	58	**They are NOT the same at 5% and 10%.**
Marot-15	118	Thar Desert	109	0.05	1	0.000214	0.279		**They are NOT the same at 5% and 10%.**
Marot-15, 1700-2000 Ma	44	Sutlej, 1700-2000 Ma	34	0.05	1	0.000152	0.4813	19	**They are NOT the same at 5% and 10%.**
Marot-15, 1700-2000 Ma	44	Yamuna, 1700-2000 Ma	46	0.05	0	0.063600	0.2688	22	**They are the same at the 5% significance level**
Marot-12	100	Sutlej	112	0.05	1	0.000000	0.4171	53	**They are NOT the same at 5% and 10%.**
Marot-12	100	Yamuna	115	0.05	1	0.000000	0.463	53	**They are NOT the same at 5% and 10%.**
Marot-12	100	Marot-15	118	0.05	1	0.000757	0.2649	54	**They are NOT the same at 5% and 10%.**
Marot-12	100	Ghaggar	112	0.05	1	0.000003	0.3701	53	**They are NOT the same at 5% and 10%.**
Marot-6	127	Yamuna	115	0.05	1	0.000001	0.3814	60	**They are NOT the same at 5% and 10%.**
Marot-6	127	Ghaggar	112	0.05	1	0.000630	0.3039	60	**They are NOT the same at 5% and 10%.**
Marot-6	127	Sutlej	112	0.05	1	0.000023	0.3434	60	**They are NOT the same at 5% and 10%.**
Marot-6	127	Thar Desert	109	0.05	0	0.781600	0.0951	59	**They are the same at 5% and 10% significance level.**
Sutlej	112	Thar Desert	109	0.05	1	0.000000	0.458	55	**They are NOT the same at 5% and 10%.**
Yamuna	115	Thar Desert	109	0.05	1	0.000000	0.3704	56	**They are NOT the same at 5% and 10%.**
Indus at Thatta	95	Thar Desert	109	0.05	0	0.3866	0.1246	51	**They are the same at 5% and 10% significance level.**
Yamuna	115	Beas	102	0.05	1	0.000000	0.5053	54	**They are NOT the same at 5% and 10%.**
Sutlej	112	Beas	102	0.05	1	0.000000	0.4583	53	**They are NOT the same at 5% and 10%.**
Yamuna	115	Ghaggar	112	0.05	1	0.000052	0.3184	57	**They are NOT the same at 5% and 10%.**
Sutlej	112	Ghaggar	112	0.05	1	0.000073	0.315	56	**They are NOT the same at 5% and 10%.**
Yamuna	115	Fort Abbas	101	0.05	1	0.000000	0.5035	54	**They are NOT the same at 5% and 10%.**
Sutlej	112	Fort Abbas	101	0.05	1	0.000000	0.4695	53	**They are NOT the same at 5% and 10%.**
Beas	102	darwar	62	0.05	0	0.078800	0.2	39	**They are the same at 5% and 10% significance level.**
Beas	102	Ghaggar	112	0.05	1	0.000000	0.4329	53	**They are NOT the same at 5% and 10%.**
Beas	102	Fort Abbas	101	0.05	1	0.005100	0.2376	51	**They are NOT the same at 5% and 10%.**
Tilwalla	71	Beas	102	0.05	1	0.034800	0.215	42	**They are NOT the same at 5% and 10%.**
Tilwalla	71	Sutlej	112	0.05	1	0.000000	0.6407	43	**They are NOT the same at 5% and 10%.**
Tilwalla	71	Ghaggar	112	0.05	1	0.000000	0.5696	43	**They are NOT the same at 5% and 10%.**
Tilwalla	71	Thar Desert	109	0.05	1	0.000530	0.3031	43	**They are NOT the same at 5% and 10%.**
Tilwalla	71	Yamuna	115	0.05	1	0.000000	0.6736	44	**They are NOT the same at 5% and 10%.**
Tilwalla	71	Attock	87	0.05	1	0.000000	0.531	39	**They are NOT the same at 5% and 10%.**
Tilwalla	71	Thatta	95	0.05	1	0.000017	0.3712	41	**They are NOT the same at 5% and 10%.**