

GSA Data Repository Item 2016237

Zhou, R., Schoenbohm, L.M., Sobel, E.R., Davis, D.W., and Glodny, J., 2016, New constraints on orogenic models of the southern Central Andean Plateau: Cenozoic basin evolution and bedrock exhumation: GSA Bulletin, doi:10.1130/B31384.1.

Data Repository

Renjie Zhou*

Lindsay M. Schoenbohm

Edward R. Sobel

Donald W. Davis

Johannes Glodny

* Renjie Zhou: renjie.zhou@uq.edu.au; renjiemail@gmail.com

- Descriptions for zircon U-Pb analysis, apatite fission-track analysis, and apatite (U-Th-Sm)/He analysis
- Results from sandstone modal composition point-counting
- Results of zircon U-Pb geochronology for detrital samples from the ANT region (plots, peak ages, and full tables)

NOTES: RhoXY – Error correlation coefficient for concordia coordinates Disc. – Discordance Relation between ages and concordia coordinates: $Y = 206Pb/238U = EXP(L238(206-238Age)) - 1$; $X = 207Pb/235U = EXP(L235*(207-235Age)) - 1$ $207Pb/206Pb = 137.88*X/Y$; U decay constants (L238 & L235) from Jaffey et al. (1971).*
- Results of zircon U-Pb geochronology for bedrock samples from the LB range (tables)
- Results of the cross-correlation coefficients for zircon U-Pb ages of the PV region, the ANT region, the LB range and the Puncoviscana Fm.
- Results of apatite fission-track thermochronology for detrital samples from the ANT region (grain-age data and track length data)
- Results of apatite fission-track thermochronology for bedrock samples from the ANT region (grain-age data and track length data)

Citation: Jaffey, A.H., Flynn, K.F., Glendenin, L.E., Bentley, W.C. and Essling, A.M. 1971. Precision measurement of half-lives and specific activities of ^{235}U and ^{238}U . Physical Review 4: 1889-1906.

Zircon U-Pb Geochronology

We dated zircon using U-Pb from eight detrital samples from the ANT region and four bedrock samples from the LB range by laser ablation ICP-MS (a VG Series 2 Plasmaquad ICP-MS and a 213-nm New Wave laser system) at the Jack Satterly Geochronology Laboratory at University of Toronto. Zircon grains were mounted in epoxy and polished, then imaged with cathodoluminescence (CL) and backscattered electrons (BSE) using a JEOL JSM6610-Lv scanning electron microscope. CL and BSE images were used to avoid cracks and target specific crystal domains when conducting laser ablation. Details are included in the Data Repository.

We focus on analyses that yield less than $\pm 15\%$ discordance, but also report analyses with discordance ranging from ± 15 - 40% (Fig. 6). Because $^{206}\text{Pb}/^{207}\text{Pb}$ ages are most reliable for old zircons, we use $^{206}\text{Pb}/^{238}\text{U}$ age for an analysis when younger than 1000 Ma and use its $^{206}\text{Pb}/^{207}\text{Pb}$ age if the $^{206}\text{Pb}/^{238}\text{U}$ age is older than 1000 Ma in histograms and probability density function plots (e.g., Gehrels, 2014).

Apatite Fission-Track Thermochronology

We performed apatite fission-track (AFT) thermochronology on six detrital and two bedrock samples from the ANT region at the Universität Potsdam using the external detector method (Table 1) (Gleadow, 1981; Hurford and Green, 1983). Apatite grains were mounted on glass slides with epoxy, ground, polished and etched with 21°C, 5.5 N HNO_3 for 20 seconds (Carlson et al., 1999; Donelick et al., 2005). We then attached a low-U mica sheet to each sample and irradiated them in the Oregon State University Radiation Center together with CN5 dosimeters. Following irradiation, the mica external

detectors were etched with 21°C, 40% hydrofluoric acid (HF) for 45 minutes. We also treated an aliquot of apatite grains from each bedrock sample (ABD2 and ABD22) with heavy ion irradiation at the Materials Research Department of the GSI Helmholtzzentrum (Darmstadt, Germany), in order to enhance yields of measurable confined tracks (Jonckheere et al., 2007). Heavy ion-treated slides were etched under the same condition as the regular grain-mount slides.

C-axis parallel apatite grains were analyzed with reflected and transmitted light at 1250x magnification under a Leica DMRM microscope with drawing tube located above a digitizing tablet and a Kinetek computer-controlled stage driven by the FTStage program (Dumitru, 1994). AFT ages and Chi-squared (χ^2) values were calculated using the Trackkey program (Dunkl, 2002) following the procedures of Galbraith (1981). We used the ζ calibration method (Hurford and Green, 1983) with a ζ value of 370.1 ± 12.6 (R. Zhou). We measured horizontal confined fission tracks from as many c-axis parallel grains as possible; only track-in-tracks were measured (Donelick et al., 2005). D_{par} values (the etch figure length parallel to c-axis, Donelick et al., 2005) were used to parameterize the kinetic properties for grains that were either counted or containing track lengths. We averaged at least four measured D_{par} from each grain and report corrected values following Sobel and Seward (2010) using a factor of 0.88 (R. Zhou) (Fig. 7). We used the program BinomFit (Brandon, 2002) under the auto-mode to deconvolve the component ages for detrital samples (Fig. 7).

Single-grain Apatite (U-Th-Sm)/He Thermochronology

Clear apatite grains without apparent inclusions and other impurities were selected and packed individually in platinum tubes under a binocular microscope. We analyzed four to seven single-grain aliquots from each sample and used grain dimensions and number of terminations to calculate the F_T correction factor (Farley et al., 1996). Sample-containing tubes were loaded into a 25-spot laser chamber of an ASI Alphachron He extraction and analysis system at Universität Potsdam, equipped with a 30W Coherent 978 nm diode laser (FAP-98-30C-800-B) and a Pfeiffer Prisma 200 Quadrupole mass spectrometer. Blank tubes and age standards (Durango apatite) were routinely run together with samples. Samples were heated by the laser system at 8 amps (\sim 3.5W) for 5 minutes to release all He from the apatite crystals. The released gas was purified by exposure for 1 minute to a hot getter (SAES AP10N), designed to remove chemically active gas species. The amounts of ^4He in the purified gas were determined by isotope dilution using a ^3He tracer, calibrated against a manometrically determined ^4He standard. Each sample was re-extracted and analyzed a second time to make sure that the grain was degassed entirely in the first step. In this study, average ^4He blanks are ca. 0.76 fmol (0.017 ncc) and sample-to-blank ratios are averaged to 19. Sample-specific sample-to-blank ratios averaged over all aliquots was 27 for sample ABD22.

After degassing, the samples were recovered from the laser chamber, transferred to a clean lab at GFZ Potsdam, and prepared for analysis of U, Th, and Sm by isotope dilution. Samples and their Pt wraps were placed in 3 ml Savillex PFA screw-cap vials, spiked with a HNO_3 -based ^{235}U - ^{230}Th spike and a HNO_3 -based ^{149}Sm spike, and dissolved with \sim 0.5 ml 7N HNO_3 . The spikes are calibrated against NIST-traceable, Certified Reference Material ICP concentration standards. To ensure complete sample

dissolution and isotopic homogenization between sample and spikes, the vials were placed for at least 24 h on a hotplate at \sim 100°C. No significant amounts of Pt are dissolved during this process. The solution was then evaporated to dryness and re-dissolved for another 24 h in 1.5 ml 2% HNO₃. The solution was then analyzed for U, Th and Sm isotopic composition on a Thermo Element 2 XR ICP-MS instrument at GFZ Potsdam, equipped with a CETAC ASX-520 auto-sampler system, and run in low-resolution mode to maximize transmission of ions. Beside ²³⁸U, ²³⁵U, ²³²Th, ²³⁰Th, ¹⁴⁷Sm and ¹⁴⁹Sm, we also analyzed mass 234, which is used to detect potential Pt-Ar isobaric interferences on the U mass spectrum. Such interferences were generally found to be negligible. Instrumental mass fractionation was monitored by repeated analysis of ¹⁴⁹Sm/¹⁴⁷Sm ratios of naturally occurring Sm, and of the NIST SRM material U-500. Total procedural blanks were <0.005 pmol for ²³²Th, <0.0006 pmol for ¹⁴⁷Sm, and <0.003 pmol for ²³⁸U. Due to total blank levels commonly considerably lower than the above values and the high variability of total blank levels, no useful blank correction can be applied to the analytical data. Sample results with potentially significant contributions of the procedural blank on the overall U, Th, Sm abundances were discarded. Reproducibility (2SD) of standard solution concentration data is in the range of 0.4% for U, 1.3% for Th, and 0.6% for Sm.

Ages are calculated following Meesters and Dunai (2005) using U, Th, Sm abundances, blank-corrected He abundances, the F_T correction factor and the alpha-particle stopping distance described by Ketcham et al. (2011). The mean age determined for 66 Durango apatite aliquots in the Potsdam labs (excluding outliers) is 30.82 \pm 0.54 Ma (1SD), with a standard error (2SE) of \pm 0.21 Ma and reproducibility (2SD weighted

error/mean age) of $\pm 3.5\%$. This mean age is in good agreement with the $^{40}\text{Ar}/^{39}\text{Ar}$ reference age (31.44 ± 0.18 Ma) and related (U-Th-Sm)/He ages for the Durango apatite (mean of 31.02 ± 1.01 Ma, 1σ ; McDowell et al., 2005). For samples, we report a weighted error which weights the uncertainty of the isotopic abundance by the relative contribution to the total helium production and also includes the uncertainty on the blank-corrected measured ^4He . We report concentrations based on measured abundances and a mass calculated from grain dimensions converted to an equivalent spherical radius (ESR) and an assumed apatite density of 3.15 gm/cc (Table 2).

Results of sandstone modal composition point-counting

counted data

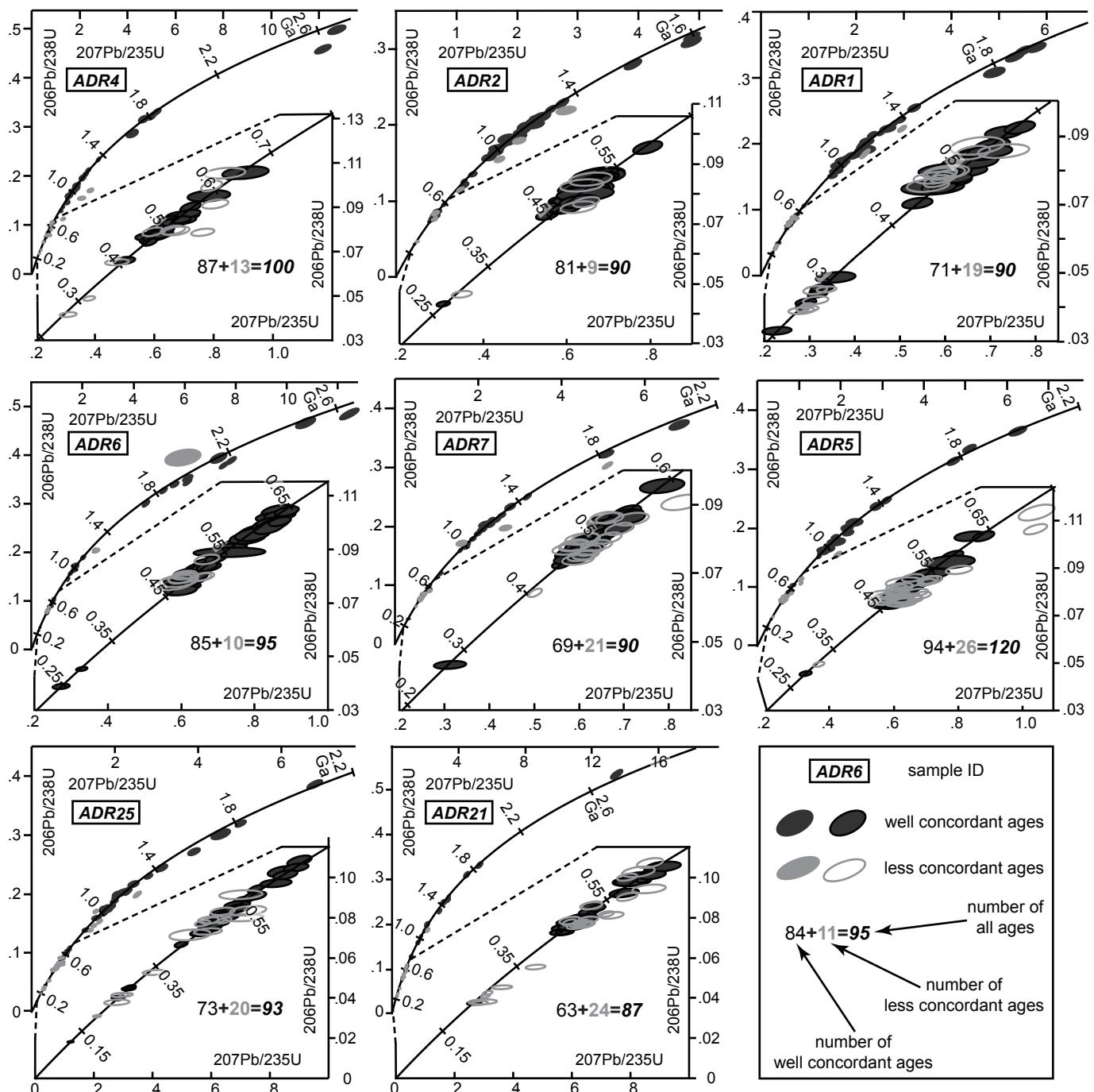
Section #	Sample ID	Qm	Qp	Qpt	Qms	C	S	K	P	Lvma	LvF	Lvv	LvX	Lvl	Lsh	Lph	Lsm	Lc	Acc	Fe-Ti	total	re-calculated data							
																						Qt	F	Lv	Lm	Ls	Lt	L	Ac
S1	A-DR-04	223	45	5		12	10	108	26	0	0	0	0	0	1	5	9	2	3	10	459	295	134	0	19	25	89	17	3
S1	A-PS-01	224	21	20		3	7	113	13	0	0	0	0	0	0	1	50	1	3	4	460	275	126	0	71	11	103	52	3
S1	A-SS-03	185	44	18		3	5	124	7	0	0	0	0	0	1	8	44	7	3	6	455	255	131	0	70	16	130	60	3
S1	A-SS-02	128	49	51		3	0	109	35	0	0	0	0	0	0	0	74	1	2	1	453	231	144	0	125	4	178	75	2
S1	A-DR-03	182	13	1		2	0	75	104	0	0	1	0	0	0	23	42	3	5	17	468	198	179	1	66	5	85	69	5
S1	A-SS-01	188	23	8		8	5	51	62	0	0	0	0	0	5	28	66	1	2	9	456	232	113	0	102	19	144	100	2
S1	A-DR-02	184	34	2		5	1	62	79	0	0	0	0	0	2	21	46	4	4	9	453	226	141	0	69	12	115	73	4
S1	A-DR-01	179	20	9		5	3	40	53	0	0	0	1	0	11	79	32	14	5	11	462	216	93	1	120	33	174	137	5
S2	A-DR-06	200	17	2		4	0	11	109	0	0	0	0	0	0	13	42	8	32	22	460	223	120	0	57	12	86	63	32
S2	A-DR-07	238	61	1		13	1	58	42	0	0	5	0	0	0	3	21	2	13	6	464	314	100	5	25	16	107	31	13
S2	A-DR-05	210	48	32		0	0	90	42	0	0	0	0	0	0	0	29	0	0	1	452	290	132	0	61	0	109	29	0
S3	A-PS-21	212	17	14		4	0	137	44	0	0	0	0	0	3	1	18	0	7	0	457	247	181	0	33	7	57	22	7
S3	A-DR-24	235	58	21		1	1	121	20	0	0	0	0	0	0	0	14	0	4	0	475	316	141	0	35	2	95	14	4
S3	A-DR-25	268	55	8		10	9	77	9	0	0	0	0	0	2	0	6	1	1	6	452	350	86	0	14	22	91	9	1
S3	A-DR-26	92	33	1		2	1	22	85	0	0	3	0	1	3	75	99	12	2	26	456	128	107	4	174	18	229	193	2
S3	A-DR-21	146	40	1		0	0	30	98	0	0	3	0	0	2	45	53	4	8	26	455	186	128	3	98	6	147	107	8

counted data

Qm	monocrystalline quartz
Qp	polycrystalline quartz
Qpt	foliated polycrystalline quartz
Qms	monocrystalline quartz in sandstone or quartzite lithic grain
C	chert
S	siltstone
K	potassium feldspar (including perthite, myrmekite, microcline)
P	plagioclase feldspar (including Na and Ca varieties)
Lvma	mafic volcanic grains (epidote ± pyx ± plag)
Lvf	felsic volcanic grains (sericite + qtz ± feldspar)
Lvv	vitric volcanic grains
Lvx	microlitic volcanic grains
Lvl	lathwork volcanic grains
Lsh	Mudstone
Lph	Phyllite
Lsm	schist (mica schist)
Lc	carbonate lithic grains
Acc	Epidote/Zoisite, Chlorite, Muscovite, Biotite, Zircon, Sphene, Clinopyroxene, Orthopyroxene, Monazite, Magnetite

re-calculated data

Qt	total quartzose grains (Qm+Qp+Qpt+Qms+C+S)
F	total felspar grains (K+P)
Lv	total volcanic grains (Lvm+Lvf+Lvv+Lvx+Lvl)
Lm	total metamorphic grains (Lph+Lsm+Qpt)
Ls	total sedimentary grains (Lsh+Lc+C+S+Qms)
Lt	total lithic grains (Ls+Lv+Lm+Qp)
L	total non-quartzose lithic grains (Lv+Lsh+Lph+Lsm+Lc)
L'	total non-quartzose lithic grains, excluding volcanic lithic grains (L-Lv)
Lt'	total lithic grains, excluding volcanic lithic grains (Lt-Lv)
Acc	acc. min.



Zhou et al.
Data Repository
Detrital zircon U-Pb data for samples in the Antofagasta de la Sierra region, southern Puna Plateau

DR TABLE. PEAK AGES FROM DETRITAL ZIRCON U-PB AGES

sample ID	# of analyses with <15% discordance	results from the Age Pick program*											
ADR4	87	peak ages (Ma): 486 517 527 954 990 1031 1201 1848											
		# of grains: 15 11 9 8 13 8 8 3											
ADR2	81	peak ages (Ma): 482 506 525 942 995 1043 1092 1180 1275											
		# of grains: 16 5 7 6 9 8 8 13 8											
ADR1	71	peak ages (Ma): 257 467 482 496 513 525 907 949 995 1174 1302 1384 1436 1900											
		# of grains: 4 3 6 4 3 5 5 9 12 11 3 3 3 4											
ADR6	85	peak ages (Ma): 476 485 494 594 614 628 638 985											
		# of grains: 14 19 16 4 5 3 3 4											
ADR7	69	peak ages (Ma): 479 519 530 537 991 1039 1175 1307											
		# of grains: 16 5 4 5 5 6 3 3											
ADR5	94	peak ages (Ma): 484 517 527 951 982 1034 1210											
		# of grains: 18 16 14 6 12 11 8											
ADR25	73	peak ages (Ma): 284 467 480 507 521 534 1002 1034 1149 1233											
		# of grains: 3 6 9 6 4 3 9 11 5 3											
ADR21	63	peak ages (Ma): 474 486 614 646 966 1105											
		# of grains: 12 17 5 3 3 5											

* Age Pick program is a routine that calculates the ranges of ages and the peak ages that are present in a set of detrital zircon ages, developed at the Arizona LaserChron Center.

Sample ID	Measurements:		Standardized Concordia:				<u>88Sr Kcps</u>	<u>U ppm</u>	<u>Pb206 ppm</u>	<u>Th/U</u>	Ages Ma		<u>207Pb/206Pb</u>	<u>SigM</u>	<u>207Pb/235U</u>	<u>SigM</u>	<u>206Pb/238U</u>	<u>SigM</u>	%Disc	<u>SigM</u>	Reported	
	Analysis	<u>207Pb/235U</u>	<u>SigM</u>	<u>206Pb/238U</u>	<u>SigM</u>	<u>RhoXY</u>					<u>207Pb/206Pb</u>	<u>SigM</u>	<u>207Pb/235U</u>	<u>SigM</u>	<u>206Pb/238U</u>	<u>SigM</u>	<u>ages Ma</u>	<u>SigM</u>	<u>ages Ma</u>	<u>SigM</u>		
ANT-25-15		0.6198	0.0108	0.0773	0.0007	0.4955	1.3	755	58	0.22	536	33	490	7	480	4	10.9	5.5	479.9	4.0		
ANT-25-3		0.6055	0.0124	0.0755	0.0006	0.3851	0.5	182	14	0.46	535	41	481	8	469	4	12.7	6.5	469.4	3.6		
ANT-25-32.2o		0.5972	0.0078	0.0747	0.0005	0.5606	0.4	225	17	0.06	530	23	475	5	464	3	12.9	3.9	464.2	3.3		
ANT-25-26		0.6116	0.0099	0.0761	0.0006	0.4536	0.7	262	20	0.22	541	31	485	6	473	3	13.1	5.0	472.7	3.3		
ANT-25-33		0.6577	0.0143	0.0804	0.0007	0.4188	0.4	85	7	0.37	579	42	513	9	498	4	14.5	6.2	498.5	4.4		
ANT-25-7		0.5700	0.0107	0.0772	0.0006	0.4236	0.6	302	23	0.09	352	38	458	7	480	4	-37.7	14.0	479.5	3.7		
A-DR-25-52		0.7007	0.0301	0.0915	0.0009	0.2301	0.2	56	5	0.12	434	91	539	18	564	5	-31.5	23.6	564.5	5.3		
A-DR-25-20		1.5364	0.0230	0.1704	0.0013	0.5017	0.2	246	42	0.19	787	27	945	9	1014	7	-31.2	4.8	787	27		
ANT-y-25-10		0.5271	0.0286	0.0715	0.0011	0.2894	8.4	279	20	0.87	350	113	430	19	445	7	-28.0	32.3	444.9	6.8		
ANT-25-14		0.2887	0.0121	0.0415	0.0004	0.2578	0.4	70	3	1.14	215	91	258	10	262	3	-22.3	37.2	262.2	2.8		
ANT-y-25-21		0.5966	0.0111	0.0785	0.0007	0.4932	1.1	631	50	0.25	416	36	475	7	487	4	-17.7	9.8	487.4	4.3		
ANT-25-21		0.6388	0.0167	0.0831	0.0008	0.3483	0.2	107	9	0.60	441	54	502	10	515	5	-17.3	13.3	514.8	4.5		
ANT-y-25-12		0.2106	0.0055	0.0309	0.0002	0.2987	0.6	707	22	0.56	169	58	194	5	196	2	-16.5	30.5	196.2	1.5		
A-DR-25-44		0.6031	0.0195	0.0790	0.0007	0.2849	0.5	135	11	0.54	427	68	479	12	490	4	-15.5	16.4	490.3	4.3		
ANT-25-31		1.4902	0.0244	0.1464	0.0011	0.4516	0.1	86	13	0.31	1036	29	926	10	881	6	16.0	2.6	880.9	6.1		
A-DR-25-28		0.6438	0.0097	0.0787	0.0006	0.5281	1.1	742	58	0.16	580	28	505	6	488	4	16.5	4.1	488.1	3.7		
A-DR-25-9		0.5886	0.0193	0.0731	0.0007	0.2808	0.2	149	11	0.92	545	67	470	12	455	4	17.1	9.6	454.8	4.0		
ANT-25-11		1.6258	0.0231	0.1531	0.0014	0.6550	0.2	257	39	0.20	1121	21	980	9	918	8	19.4	1.8	918.5	8.0		
A-DR-25-1.2c		1.4140	0.0203	0.1383	0.0010	0.5143	0.3	75	10	0.38	1046	25	895	9	835	6	21.5	2.0	835.0	5.8		
A-DR-25-4		2.5343	0.0358	0.1990	0.0021	0.7580	0.2	237	47	0.16	1475	17	1282	10	1170	11	22.6	1.3	1475	17		
A-DR-25-2		0.7248	0.0252	0.0835	0.0010	0.3419	0.1	16	1	0.55	708	68	553	15	517	6	28.1	6.7	516.8	5.9		
ANT-25-16		0.4078	0.0169	0.0527	0.0005	0.2368	0.3	61	3	1.78	457	87	347	12	331	3	28.3	11.9	331.0	3.2		
ANT-25-4		0.3097	0.0092	0.0416	0.0004	0.3090	0.2	186	8	0.53	370	62	274	7	263	2	29.6	10.5	262.8	2.4		
ANT-25-20		0.2782	0.0175	0.0379	0.0006	0.2338	0.2	38	1	1.08	340	133	249	14	240	3	29.9	20.3	239.8	3.5		
A-DR-25-39.2o		0.7083	0.0280	0.0800	0.0007	0.2257	1.3	270	22	1.07	748	79	544	17	496	4	34.9	6.7	496.3	4.3		

Sample ID	Measurements:		Standardized Concordia:				88Sr				U	Pb206	Th/U	Ages Ma		Reported				
	Analysis	207Pb/235U	SigM	206Pb/238U	SigM	RhoXY	Kcps	ppm	ppm	207Pb/206Pb	SigM	207Pb/235U	SigM	206Pb/238U	SigM	%Disc	SigM	ages Ma	SigM	
ANT-y-21-14		0.6156	0.0110	0.0762	0.0006	0.4362	1.0	350	27	0.23	553	35	487	7	473	4	14.9	5.3	473.2	3.6
ANT-21-21		0.7875	0.0137	0.1003	0.0007	0.4234	0.3	152	15	0.84	489	34	590	8	616	4	-27.2	8.8	616.1	4.3
A-DR-21-35		0.5929	0.0147	0.0787	0.0007	0.3832	0.7	179	14	0.65	398	50	473	9	488	4	-23.4	14.4	488.2	4.5
A-DR-21-38		0.8663	0.0180	0.1073	0.0010	0.4500	0.1	163	18	0.24	551	40	634	10	657	6	-20.3	8.6	657.1	5.8
A-DR-21-19		0.8265	0.0228	0.1030	0.0011	0.3872	0.2	60	6	0.60	538	55	612	13	632	6	-18.3	11.5	631.8	6.4
ANT-21-15		0.6657	0.0153	0.0861	0.0007	0.3750	0.3	132	11	0.63	457	47	518	9	532	4	-17.2	11.3	532.2	4.4
ANT-21-12		0.5904	0.0093	0.0777	0.0006	0.5034	0.8	256	20	0.11	416	30	471	6	482	4	-16.6	8.2	482.5	3.7
A-DR-21-18		0.6686	0.0140	0.0862	0.0008	0.4508	0.2	86	7	0.70	463	41	520	8	533	5	-15.7	9.9	532.9	4.8
ANT-21-28		2.1371	0.0389	0.1860	0.0016	0.4796	0.3	79	15	0.43	1277	31	1161	13	1100	9	15.1	2.3	1277	31
ANT-21-5		0.6307	0.0112	0.0776	0.0006	0.4162	1.1	187	15	0.25	564	35	497	7	482	3	15.2	5.2	481.9	3.4
ANT-y-21-19		0.6138	0.0130	0.0758	0.0006	0.3498	0.8	219	17	0.77	556	43	486	8	471	3	15.9	6.3	471.1	3.4
ANT-21-2		0.6293	0.0149	0.0767	0.0006	0.3452	0.6	71	5	0.92	587	48	496	9	476	4	19.6	6.4	476.1	3.8
ANT-21-8		0.6546	0.0142	0.0790	0.0006	0.3795	0.4	149	12	0.41	606	43	511	9	490	4	19.9	5.6	490.3	3.9
ANT-21-44		0.3126	0.0066	0.0426	0.0004	0.4541	0.1	219	9	0.60	341	42	276	5	269	3	21.6	8.9	268.6	2.5
ANT-21-30		0.6371	0.0135	0.0770	0.0006	0.3708	1.2	230	18	0.29	605	42	500	8	478	4	21.8	5.4	477.9	3.6
ANT-21-7		0.7876	0.0143	0.0905	0.0008	0.5038	1.0	194	18	0.72	713	33	590	8	558	5	22.7	3.7	558.2	4.9
A-DR-21-28		0.6487	0.0120	0.0767	0.0007	0.4935	1.8	256	20	0.67	651	34	508	7	476	4	27.8	3.9	476.4	4.2
ANT-21-37		0.8631	0.0234	0.0944	0.0009	0.3339	0.5	51	5	1.18	815	53	632	13	582	5	30.0	4.6	581.7	5.0
ANT-y-21-03		0.3051	0.0062	0.0410	0.0003	0.3974	0.5	701	29	1.09	371	41	270	5	259	2	30.7	7.3	259.0	2.0
ANT-y-21-06		0.7168	0.0108	0.0818	0.0006	0.4662	3.6	578	47	0.70	725	28	549	6	507	3	31.3	2.8	507.2	3.4
ANT-21-34		0.7360	0.0162	0.0812	0.0007	0.3779	0.6	145	12	0.21	798	42	560	9	503	4	38.4	3.3	503.3	4.0
ANT-y-21-31		0.2852	0.0114	0.0375	0.0004	0.2860	0.1	179	7	0.24	418	84	255	9	237	3	44.1	9.7	237.3	2.7
ANT-y-21-20		0.3618	0.0141	0.0454	0.0004	0.2311	0.3	94	4	0.73	524	81	314	10	286	3	46.4	7.5	286.0	2.5
ANT-21-41		0.2961	0.0199	0.0381	0.0005	0.2025	0.3	28	1	0.61	466	140	263	15	241	3	49.1	12.2	241.2	3.2
ANT-21-6		0.4756	0.0137	0.0554	0.0005	0.3046	0.4	208	12	0.54	684	57	395	9	348	3	50.5	4.1	347.5	3.0

Sample ID	Measurements:		Standardized Concordia:				<u>88Sr</u> Kcps	U ppm	<u>Pb206</u> ppm	Th/U	Ages Ma			<u>207Pb/235U</u>	SigM	<u>207Pb/206Pb</u>	SigM	<u>206Pb/238U</u>	SigM	%Disc	SigM	Reported	
	Analysis	207Pb/235U	SigM	206Pb/238U	SigM	RhoXY					207Pb/206Pb	SigM	207Pb/235U	SigM	206Pb/238U	SigM	ages Ma	SigM	206Pb/238U	SigM	%Disc	SigM	ages Ma
ANT-07-34		0.6134	0.0152	0.0768	0.0007	0.3765	0.4	53	4	0.44	528	50	486	10	477	4.30	10.1	8.1	476.7	4.3			
ANT-y-07-45		0.5913	0.0128	0.0744	0.0007	0.4183	1.0	83	6	0.31	517	43	472	8	462	4.03	11.0	7.1	462.4	4.0			
ANT-y-07-76		0.6385	0.0124	0.0790	0.0006	0.4055	0.8	406	32	0.52	552	38	501	8	490	3.72	11.7	6.1	490.3	3.7			
ANT-07-30		0.3126	0.0146	0.0432	0.0005	0.2322	0.3	45	2	0.65	308	100	276	11	272	2.89	11.7	22.3	272.5	2.9			
A-DR-07-24		0.7125	0.0139	0.0861	0.0007	0.4247	0.3	139	12	0.28	604	38	546	8	532	4.22	12.3	5.5	532.5	4.2			
ANT-y-07-72		0.6247	0.0111	0.0773	0.0006	0.4552	1.0	378	29	0.21	552	34	493	7	480	3.73	13.4	5.3	480.2	3.7			
ANT-y-07-51		0.6187	0.0102	0.0767	0.0006	0.4829	0.8	187	14	0.38	549	31	489	6	476	3.67	13.7	4.9	476.4	3.7			
ANT-y-07-34		0.6121	0.0091	0.0760	0.0007	0.5975	1.8	296	23	0.45	545	26	485	6	472	4.06	13.9	4.2	472.2	4.1			
ANT-07-8		0.6059	0.0099	0.0753	0.0006	0.5072	0.8	275	21	0.17	543	31	481	6	468	3.74	14.3	4.8	468.1	3.7			
ANT-y-07-48		0.6864	0.0140	0.0831	0.0006	0.3739	0.3	68	6	0.12	600	41	531	8	515	3.78	14.7	5.7	514.7	3.8			
ANT-y-07-02		0.6573	0.0133	0.0863	0.0007	0.3810	0.2	594	51	0.20	422	41	513	8	534	3.94	-27.7	12.0	533.7	3.9			
ANT-07-23		0.5755	0.0143	0.0770	0.0006	0.3313	0.7	158	12	0.74	380	52	462	9	478	3.78	-26.8	15.7	478.1	3.8			
ANT-y-07-29		0.5887	0.0137	0.0782	0.0007	0.4005	0.7	494	39	0.95	397	47	470	9	485	4.35	-22.9	13.6	485.1	4.3			
A-DR-07-7		1.5910	0.0482	0.1715	0.0018	0.3549	0.1	76	13	0.40	847	58	967	19	1020	10.14	-22.2	8.5	847	58			
A-DR-07-8.1c		0.6081	0.0157	0.0800	0.0007	0.3364	1.0	346	28	0.22	417	53	482	10	496	4.15	-19.8	14.2	496.2	4.1			
ANT-y-07-03		0.5920	0.0135	0.0780	0.0006	0.3240	0.8	552	43	0.88	414	47	472	9	484	3.44	-17.7	12.7	484.3	3.4			
ANT-y-07-07		0.6136	0.0122	0.0802	0.0006	0.4037	0.4	720	58	0.60	432	40	486	8	497	3.83	-15.8	10.3	497.4	3.8			
ANT-y-07-74		0.6682	0.0123	0.0861	0.0006	0.4032	0.9	404	35	0.49	463	37	520	7	533	3.78	-15.6	8.9	532.5	3.8			
ANT-y-07-31		0.7163	0.0158	0.0858	0.0008	0.4037	0.4	496	43	1.61	624	43	549	9	531	4.52	15.5	5.8	530.6	4.5			
ANT-07-20		5.1029	0.0481	0.3036	0.0023	0.7977	0.2	583	177	0.42	1984	10	1837	8	1709	11.28	15.8	0.8	1984	10			
ANT-07-7		0.6064	0.0131	0.0750	0.0006	0.3752	0.6	145	11	0.30	553	43	481	8	466	3.64	16.1	6.4	466.4	3.6			
ANT-07-9		0.6224	0.0104	0.0766	0.0006	0.4921	0.7	380	29	0.16	565	31	491	6	476	3.76	16.3	4.7	475.8	3.8			
A-DR-07-27		0.6387	0.0141	0.0781	0.0006	0.3627	1.0	138	11	0.20	578	44	502	9	485	3.73	16.7	6.2	484.9	3.7			
ANT-07-19		0.6890	0.0125	0.0830	0.0007	0.4907	0.4	278	23	0.35	612	34	532	7	514	4.40	16.7	4.7	513.8	4.4			
ANT-07-17		0.5023	0.0062	0.0643	0.0005	0.6307	1.9	1490	96	0.22	479	21	413	4	402	3.01	16.8	3.7	401.5	3.0			
ANT-07-35		0.5975	0.0145	0.0740	0.0006	0.3425	0.4	49	4	0.74	551	49	476	9	460	3.70	17.1	7.1	460.1	3.7			
ANT-y-07-38		0.6282	0.0118	0.0770	0.0007	0.4930	0.8	141	11	0.11	574	35	495	7	478	4.27	17.3	5.1	478.1	4.3			
ANT-07-12		0.6659	0.0118	0.0803	0.0007	0.4779	0.7	434	35	0.63	610	33	518	7	498	4.06	19.1	4.5	497.7	4.1			
ANT-07-1		0.6152	0.0118	0.0754	0.0006	0.3889	0.8	141	11	0.22	574	38	487	7	468	3.37	19.1	5.3	468.4	3.4			
ANT-07-37		2.6504	0.0563	0.1972	0.0017	0.4120	0.2	24	5	1.23	1577	36	1315	16	1160	9.28	28.9	1.9	1577	36			
ANT-y-07-54		0.8290	0.0190	0.0907	0.0009	0.4475	1.9	203	18	1.13	815	42	613	10	560	5.49	32.7	3.6	559.8	5.5			

Sample ID	Measurements:		Standardized Concordia:							Ages Ma										Reported	
	Analysis	207Pb/235U	SigM	206Pb/238U	SigM	RhoXY	88Sr	U	Pb206	Th/U	207Pb/206Pb	SigM	207Pb/235U	SigM	206Pb/238U	SigM	%Disc	SigM	ages Ma	SigM	
A-DR-06-39		4.4784	0.0524	0.3003	0.0026	0.7380	0.2	338	102	0.50	1769	14	1727	10	1693	13	4.9	1.2	1769	14	
A-DR-06-54		0.8442	0.0164	0.1001	0.0008	0.4084	1.3	192	19	0.62	645	38	621	9	615	5	4.9	5.6	614.9	4.6	
A-DR-06-26		6.1136	0.0746	0.3526	0.0028	0.6485	0.2	108	38	1.35	2039	16	1992	11	1947	13	5.2	1.2	2039	16	
ANT-06-17		0.6325	0.0102	0.0795	0.0006	0.4620	0.7	550	44	0.29	519	31	498	6	493	4	5.3	5.7	492.9	3.5	
ANT-06-18		0.6147	0.0084	0.0776	0.0006	0.5881	1.2	1276	99	0.15	508	24	487	5	482	4	5.4	4.6	481.9	3.7	
A-DR-06-58		0.6002	0.0214	0.0761	0.0008	0.2791	0.1	94	7	0.39	499	74	477	14	473	5	5.4	12.8	472.9	4.5	
ANT-06-25		0.5972	0.0193	0.0757	0.0008	0.3095	0.5	226	17	0.18	499	66	475	12	471	5	5.8	11.6	470.7	4.5	
A-DR-06-10		0.5866	0.0099	0.0746	0.0007	0.5261	1.1	285	21	0.27	494	31	469	6	464	4	6.4	5.9	463.6	4.0	
A-DR-06-46		0.6200	0.0109	0.0780	0.0008	0.5973	0.7	342	27	0.24	517	31	490	7	484	5	6.7	5.5	484.0	4.9	
A-DR-06-59		0.6244	0.0093	0.0784	0.0006	0.4960	1.3	671	53	0.14	520	28	493	6	487	3	6.7	5.1	486.7	3.5	
ANT-06-21		1.7666	0.0208	0.1698	0.0011	0.5589	0.3	636	108	0.37	1080	19	1033	8	1011	6	6.9	1.9	1080	19	
A-DR-06-2		12.4281	0.1477	0.4853	0.0047	0.8113	0.1	186	90	0.31	2705	11	2637	11	2550	20	6.9	1.0	2705	11	
ANT-06-11.1c		0.7310	0.0399	0.0889	0.0007	0.1488	0.3	271	24	0.57	590	113	557	23	549	4	7.1	15.7	549.2	4.3	
ANT-06-9		0.6397	0.0129	0.0799	0.0006	0.3663	0.7	364	29	0.52	533	41	502	8	495	4	7.3	6.9	495.4	3.5	
A-DR-06-3		1.6921	0.0311	0.1646	0.0017	0.5513	0.2	161	27	0.49	1056	31	1006	12	982	9	7.6	3.0	982.4	9.2	
A-DR-06-56		0.6003	0.0104	0.0758	0.0006	0.4516	0.7	601	46	0.62	509	34	477	7	471	4	7.7	6.1	471.0	3.6	
A-DR-06-20		0.6238	0.0104	0.0781	0.0007	0.5463	1.3	399	31	0.15	527	30	492	6	485	4	8.3	5.3	484.9	4.2	
ANT-06-44		0.3290	0.0062	0.0453	0.0003	0.3767	0.2	495	22	0.57	313	39	289	5	286	2	8.7	10.6	285.9	2.0	
ANT-06-20		7.7997	0.0778	0.3892	0.0031	0.7947	0.4	1091	424	0.02	2292	10	2208	9	2119	14	8.9	0.9	2292	10	
A-DR-06-49		6.0921	0.0643	0.3450	0.0028	0.7669	0.4	358	123	0.19	2072	12	1989	9	1911	13	9.0	1.0	2072	12	
ANT-06-29		0.6444	0.0105	0.0799	0.0006	0.4771	1.0	324	26	0.25	549	31	505	6	495	4	10.1	5.1	495.5	3.7	
ANT-06-6		7.5176	0.0666	0.3794	0.0027	0.7927	0.1	1492	566	0.23	2272	9	2175	8	2074	12	10.2	0.8	2272.3	9.3	
A-DR-06-9		0.5955	0.0114	0.0748	0.0007	0.5008	0.5	167	12	0.48	519	36	474	7	465	4	10.7	6.1	465.3	4.3	
A-DR-06-43		0.8533	0.0157	0.0995	0.0009	0.4736	0.3	207	21	0.38	682	34	626	9	611	5	10.8	4.6	611.3	5.1	
A-DR-06-8		0.8389	0.0167	0.0981	0.0010	0.5156	0.3	200	20	1.02	674	36	619	9	604	6	10.9	4.9	603.5	5.9	
A-DR-06-40		1.4321	0.0175	0.1447	0.0014	0.7627	0.7	628	91	0.36	979	16	902	7	871	8	11.8	1.7	871.4	7.6	
A-DR-06-30		0.6102	0.0105	0.0761	0.0007	0.5416	0.7	417	32	0.86	536	31	484	7	473	4	12.3	5.2	472.7	4.2	
ANT-06-40		0.8686	0.0122	0.1004	0.0007	0.5060	0.3	446	45	1.32	700	26	635	7	617	4	12.5	3.3	616.6	4.2	
ANT-06-15		2.4625	0.0275	0.2042	0.0015	0.6742	0.5	775	158	0.48	1371	16	1261	8	1198	8	13.8	1.3	1371	16	
A-DR-06-32		0.5994	0.0175	0.0747	0.0007	0.3391	0.6	106	8	0.85	538	59	477	11	464	4	14.3	8.9	464.1	4.4	
A-DR-06-1		0.5759	0.0224	0.0771	0.0009	0.3158	0.2	81	6	0.55	377	81	462	14	479	6	-28.1	23.5	479.1	5.7	
A-DR-06-6		5.9176	0.2820	0.3952	0.0067	0.3562	0.1	6	3	1.34	1776	79	1964	41	2147	31	-24.6	6.4	1776	79	
ANT-06-33		0.6085	0.0137	0.0804	0.0007	0.3718	0.5	172	14	0.29	408	46	483	9	498	4	-23.0	13.0	498.5	4.0	
A-DR-06-44		0.6009	0.0145	0.0794	0.0009	0.4557	0.6	159	13	0.16	407	47	478	9	493	5	-21.8	13.2	492.7	5.2	
A-DR-06-36		0.5926	0.0213	0.0782	0.0009	0.3215	0.2	65	5	0.50	412	74	473	13	485	5	-18.4	18.8	485.1	5.4	
ANT-06-30		0.6695	0.0137	0.0863	0.0007	0.4191	0.4	177	15	0.79	464	41	520	8	533	4	-15.6	9.8	533.4	4.4	
A-DR-06-12		0.6057	0.0168	0.0793	0.0008	0.3431	0.3	79	6	1.09	428	57	481	11	492	5	-15.4	14.1	491.9	4.5	
ANT-06-16		0.6527	0.0117	0.0796	0.0006	0.4228	0.7	581	46	0.19	584	35	510	7	494	4	16.0	5.0	493.9	3.6	
A-DR-06-24.1c		2.5294	0.0493	0.2040	0.0017	0.4220	0.3	86	18	1.32	1424	33	1281	14	1197	9	17.5	2.2	1424	33	
ANT-06-4		0.6628	0.0110	0.0798	0.0006	0.4634	0.9	613	49	0.20	611	32	516	7	495	4	19.7	4.2	495.2	3.7	

Sample ID	Measurements:		Standardized Concordia:														Reported			
	Analysis	207Pb/235U	SigM	206Pb/238U	SigM	RhoXY	88Sr	U	Pb206	Th/U	Ages Ma	207Pb/206Pb	SigM	207Pb/235U	SigM	206Pb/238U	SigM	%Disc	SigM	ages Ma
A-DR-04-18		0.6924	0.0104	0.0858	0.0007	0.5153	0.7	610	52	0.09	548	28	534	6	531	4	3.3	5.0	530.9	3.9
ANT-04-55		0.6772	0.0260	0.0843	0.0009	0.2778	0.2	67	6	0.69	539	79	525	16	522	5	3.4	12.9	521.8	5.3
A-DR-04-15		1.5847	0.0348	0.1594	0.0013	0.3771	0.1	132	21	0.31	989	41	964	14	954	7	3.8	4.2	953.5	7.3
A-DR-04-4		12.7147	0.1471	0.4984	0.0036	0.6241	0.3	112	56	0.39	2698	15	2659	11	2607	15	4.1	0.9	2698	15
A-DR-04-38.1c		1.7976	0.0196	0.1732	0.0012	0.6129	0.4	672	116	0.40	1076	17	1045	7	1030	6	4.6	1.8	1076	17
ANT-04-28		1.7086	0.0232	0.1673	0.0015	0.6399	0.6	730	122	1.02	1043	21	1012	9	997	8	4.7	2.2	997.3	8.0
ANT-04-45		0.6689	0.0154	0.0832	0.0008	0.4024	0.4	348	29	0.57	541	46	520	9	515	5	4.9	7.8	515.3	4.6
ANT-04-34		0.6706	0.0183	0.0833	0.0008	0.3547	0.4	319	27	0.39	543	55	521	11	516	5	5.2	9.2	516.0	4.8
ANT-y-04-25		0.6235	0.0112	0.0785	0.0008	0.5576	1.2	584	46	0.19	513	33	492	7	487	5	5.2	6.0	487.4	4.7
ANT-04-27		0.9071	0.0319	0.1056	0.0012	0.3152	0.1	92	10	0.59	684	70	656	17	647	7	5.6	9.3	647.4	6.8
ANT-04-7		0.6193	0.0116	0.0780	0.0007	0.4860	0.6	1000	78	0.80	514	35	489	7	484	4	6.0	6.5	484.2	4.2
ANT-04-54		0.5840	0.0100	0.0743	0.0007	0.5127	0.6	320	24	0.56	491	32	467	6	462	4	6.0	6.1	462.2	3.9
A-DR-04-13		4.1706	0.0974	0.2865	0.0031	0.4634	0.1	34	10	1.07	1724	38	1668	19	1624	16	6.6	2.5	1724	38
ANT-y-04-18		0.6170	0.0115	0.0776	0.0006	0.3974	0.8	889	69	0.08	518	37	488	7	482	3	7.4	6.6	481.5	3.4
ANT-y-04-31		0.6900	0.0127	0.0848	0.0008	0.5043	0.7	185	16	0.29	568	34	533	8	525	5	7.9	5.6	524.7	4.7
ANT-04-4		0.6322	0.0104	0.0789	0.0007	0.5447	1.9	1111	88	0.20	535	30	497	6	489	4	8.8	5.2	489.4	4.2
ANT-y-04-21		0.6234	0.0164	0.0780	0.0008	0.3951	0.4	229	18	0.72	529	52	492	10	484	5	8.9	8.6	484.0	4.8
ANT-y-04-09		0.7162	0.0157	0.0871	0.0007	0.3902	0.5	326	28	0.84	590	43	548	9	538	4	9.1	6.6	538.4	4.4
A-DR-04-40		1.2968	0.0134	0.1360	0.0010	0.6799	0.3	1052	143	0.06	904	16	844	6	822	5	9.7	1.8	821.8	5.4
A-DR-04-24		1.7838	0.0284	0.1692	0.0012	0.4535	0.3	322	54	0.86	1107	28	1040	10	1008	7	9.7	2.5	1107	28
A-DR-04-7.2o		0.6908	0.0127	0.0844	0.0006	0.4124	0.1	267	23	0.13	579	36	533	8	523	4	10.2	5.6	522.5	3.8
ANT-04-20		0.6423	0.0102	0.0796	0.0007	0.5663	0.9	621	49	0.17	548	28	504	6	494	4	10.3	4.7	494.0	4.3
ANT-04-52		1.8354	0.0237	0.1718	0.0015	0.6813	0.5	484	83	0.25	1133	19	1058	8	1022	8	10.6	1.8	1133	19
A-DR-04-6		1.2118	0.0210	0.1283	0.0008	0.3812	0.5	183	24	0.30	884	33	806	10	778	5	12.7	3.4	778.0	4.8
A-DR-04-26		12.1333	0.1322	0.4585	0.0035	0.7037	0.1	178	82	0.36	2759	13	2615	10	2433	16	14.1	0.8	2759	13
A-DR-04-7.1c		1.9312	0.0219	0.1749	0.0016	0.8248	0.8	952	166	0.44	1200	13	1092	8	1039	9	14.5	1.3	1200	13
ANT-04-10		1.4672	0.0369	0.1455	0.0014	0.3871	0.3	234	34	0.49	1018	46	917	15	876	8	14.9	4.1	875.7	8.0
A-DR-04-29		0.4745	0.0163	0.0652	0.0006	0.2501	0.1	197	13	0.48	319	74	394	11	407	3	-28.4	24.9	407.2	3.4
ANT-04-32		0.8375	0.0280	0.1054	0.0010	0.2826	0.1	161	17	0.54	515	69	618	15	646	6	-26.8	15.7	646.2	5.8
ANT-y-04-30		0.5950	0.0141	0.0789	0.0008	0.4383	0.7	199	16	0.14	399	47	474	9	490	5	-23.6	13.6	489.7	4.9
ANT-04-29		0.7928	0.0144	0.0996	0.0009	0.5200	0.1	341	34	0.27	520	34	593	8	612	6	-18.6	7.7	612.0	5.5
ANT-04-11		0.6622	0.0168	0.0797	0.0008	0.4005	0.6	356	28	0.28	613	49	516	10	494	5	20.1	6.3	494.3	4.8
ANT-04-40		0.8048	0.0179	0.0915	0.0008	0.4173	0.4	396	36	0.55	735	42	600	10	564	5	24.3	4.4	564.3	5.0
ANT-04-9		0.6750	0.0178	0.0794	0.0008	0.3878	0.8	484	38	0.44	664	51	524	11	492	5	26.8	5.6	492.3	4.9
ANT-04-51		0.3099	0.0115	0.0416	0.0004	0.2891	0.3	201	8	1.13	373	78	274	9	263	3	30.2	12.6	262.7	2.8
ANT-04-13		0.3809	0.0081	0.0489	0.0004	0.4182	0.3	925	45	0.31	472	42	328	6	308	3	35.7	5.5	307.7	2.7
ANT-04-31		2.4344	0.0477	0.1705	0.0015	0.4468	0.2	155	26	0.32	1689	32	1253	14	1015	8	43.1	1.3	1689	32
A-DR-04-32		2.0626	0.0614	0.1546	0.0014	0.2970	0.3	112	17	0.48	1563	52	1136	20	927	8	43.7	2.1	926.6	7.6
ANT-04-39		1.2977	0.0339	0.1121	0.0012	0.3951	1.9	200	22	1.40	1292	46	845	15	685	7	49.5	2.0	684.8	6.7
A-DR-04-20		0.7629	0.0160	0.0787	0.0007	0.3972	2.5	418	33	0.87	937	39	576	9	488	4	49.7	2.2	488.4	3.9

Sample ID	Measurements:		Standardized Concordia:				<u>Kcps</u>	<u>U ppm</u>	<u>Pb206 ppm</u>	<u>Th/U</u>	Ages Ma				Reported					
	Analysis	207Pb/235U	SigM	206Pb/238U	SigM	RhoXY					207Pb/206Pb	SigM	207Pb/235U	SigM	206Pb/238U	SigM	%Disc	SigM	ages Ma	SigM
A-DR-02-13.20		2.0942	0.0274	0.1913	0.0017	0.6661	0.2	334	64	0.08	1182	19	1147	9	1128.4	9.0	5	2	1182	19
ANT-02-34		0.6190	0.0209	0.0781	0.0008	0.3020	0.3	417	33	1.25	510	69	489	13	484.8	4.8	5	12	484.8	4.8
ANT-02-1		2.2447	0.0439	0.1995	0.0017	0.4281	0.6	60	12	0.60	1236	34	1195	14	1172.5	9.0	6	3	1236	34
A-DR-02-49		0.6817	0.0116	0.0844	0.0007	0.5117	0.2	223	19	0.38	553	31	528	7	522.1	4.3	6	5	522.1	4.3
A-DR-02-30		0.5890	0.0128	0.0749	0.0006	0.3814	0.8	203	15	0.59	494	44	470	8	465.5	3.7	6	8	465.5	3.7
A-DR-02-39		1.2656	0.0251	0.1351	0.0012	0.4602	0.2	93	13	0.86	866	36	830	11	817.1	7.0	6	4	817.1	7.0
A-DR-02-22		2.0264	0.0274	0.1865	0.0015	0.5999	0.3	344	64	0.41	1168	21	1124	9	1102.1	8.2	6	2	1168	21
A-DR-02-15		0.5929	0.0089	0.0752	0.0007	0.5917	0.5	466	35	1.06	500	26	473	6	467.2	4.0	7	5	467.2	4.0
A-DR-02-45		0.5938	0.0090	0.0753	0.0006	0.5339	1.0	305	23	0.82	501	28	473	6	467.7	3.7	7	5	467.7	3.7
ANT-02-37		0.6285	0.0137	0.0788	0.0007	0.3964	0.7	1238	98	0.12	524	43	495	9	489.0	4.1	7	8	489.0	4.1
A-DR-02-41		4.8719	0.0653	0.3095	0.0028	0.6780	0.4	111	34	0.75	1866	18	1797	11	1738	14	8	1	1866	18
A-DR-02-16		2.0238	0.0424	0.1848	0.0016	0.4219	0.2	75	14	0.51	1183	37	1124	14	1093.1	8.9	8	3	1183	37
ANT-02-10		0.6577	0.0177	0.0815	0.0007	0.3425	0.3	304	25	0.40	549	54	513	11	505.1	4.5	8	9	505.1	4.5
A-DR-02-59		2.0356	0.0466	0.1854	0.0018	0.4172	0.2	22	4	0.58	1188	41	1127	16	1096.2	9.6	8	3	1188	41
A-DR-02-6		2.3103	0.0515	0.2008	0.0020	0.4488	0.3	38	8	1.74	1279	38	1215	16	1180	11	9	3	1279	38
ANT-02-40		0.6406	0.0103	0.0797	0.0007	0.5161	0.7	2405	192	0.13	541	30	503	6	494.3	4.0	9	5	494.3	4.0
ANT-02-14		0.6438	0.0278	0.0800	0.0010	0.2938	0.9	217	17	0.69	543	88	505	17	496.2	6.1	9	13	496.2	6.1
A-DR-02-14		0.5981	0.0141	0.0752	0.0007	0.3764	0.7	175	13	0.22	516	47	476	9	467.7	4.0	10	8	467.7	4.0
ANT-02-8		0.6197	0.0120	0.0770	0.0007	0.4431	0.8	498	38	0.23	544	37	490	7	478.2	3.9	13	6	478.2	3.9
A-DR-02-1		1.1276	0.0265	0.1213	0.0014	0.5040	0.7	250	30	0.90	851	42	767	13	737.9	8.3	14	4	737.9	8.3
ANT-02-21		0.6206	0.0121	0.0767	0.0006	0.4298	1.2	701	54	0.58	554	38	490	8	476.6	3.8	15	6	476.6	3.8
ANT-02-4		0.6289	0.0192	0.0775	0.0009	0.3646	0.6	154	12	0.26	561	61	495	12	481.2	5.2	15	9	481.2	5.2
A-DR-02-56		0.6357	0.0210	0.0828	0.0008	0.3084	0.2	40	3	1.06	438	68	500	13	513.1	5.0	-18	17	513.1	5.0
ANT-02-20		0.6564	0.0208	0.0849	0.0009	0.3319	0.3	182	15	0.63	455	65	512	13	525.3	5.3	-16	15	525.3	5.3
A-DR-02-13.1c		2.8066	0.0638	0.2191	0.0021	0.4173	2.2	42	9	0.82	1486	39	1357	17	1277	11	15	3	1486	39
A-DR-02-54		2.0302	0.0418	0.1793	0.0017	0.4483	0.2	44	8	0.54	1248	36	1126	14	1063.4	9.0	16	3	1248	36
A-DR-02-55.2o		1.0620	0.0240	0.1144	0.0014	0.5541	0.2	64	7	0.37	849	39	735	12	698.0	8.3	19	4	698.0	8.3
ANT-02-41		1.7077	0.0330	0.1550	0.0015	0.4959	0.3	559	87	0.43	1195	33	1011	12	928.9	8.3	24	2	928.9	8.3
ANT-02-17		0.6274	0.0174	0.0756	0.0008	0.3692	0.5	260	20	0.58	610	55	494	11	469.8	4.6	24	7	469.8	4.6
ANT-02-35		0.6461	0.0126	0.0773	0.0007	0.4622	1.9	1693	131	0.48	627	37	506	8	479.7	4.2	24	5	479.7	4.2
ANT-02-28.1c		0.3491	0.0099	0.0465	0.0004	0.3407	0.2	745	35	0.70	388	59	304	7	293.3	2.8	25	10	293.3	2.8

Sample ID	Measurements:		Standardized Concordia:			88Sr Kcps	U ppm	Pb206 ppm	Th/U	Ages Ma		207Pb/235U	SigM	207Pb/206Pb	SigM	Reported				
	Analysis	207Pb/235U	SigM	206Pb/238U	SigM	RhoXY				%Disc	SigM	ages Ma	SigM	206Pb/238U	SigM	%Disc	SigM	ages Ma	SigM	
A-DR-01-38		0.6921	0.0166	0.0852	0.0009	0.4390	0.3	272	23	0.38	563	46	534	10	527.3	5.3	7	8	527.3	5.3
ANT-01-34		1.9701	0.0523	0.1827	0.0017	0.3593	0.2	64	12	0.68	1152	48	1105	18	1081.7	9.5	7	4	1152	4.8
ANT-01-26		0.6982	0.0203	0.0856	0.0008	0.3080	0.2	181	15	0.58	574	59	538	12	529.3	4.6	8	9	529.3	4.6
ANT-01-47		0.6156	0.0130	0.0773	0.0006	0.3811	0.6	118	9	0.12	521	42	487	8	480.0	3.7	8	7	480.0	3.7
ANT-01-37		1.4948	0.0379	0.1508	0.0014	0.3787	0.2	62	9	0.51	982	47	928	15	905.7	8.1	8	5	905.7	8.1
A-DR-01-15		0.2872	0.0068	0.0402	0.0004	0.4426	0.3	238	10	1.32	278	48	256	5	254.0	2.6	9	14	254.0	2.6
ANT-01-32		4.8965	0.0884	0.3083	0.0030	0.5435	1.7	269	83	0.70	1883	27	1802	15	1732	15	9	2	1883	27
A-DR-01-47		0.5958	0.0117	0.0749	0.0007	0.4533	0.3	416	31	0.31	519	38	475	7	465.4	4.0	11	6	465.4	4.0
ANT-01-18		0.6262	0.0138	0.0777	0.0006	0.3342	0.7	242	19	0.29	547	45	494	9	482.4	3.4	12	7	482.4	3.4
A-DR-01-36		0.3579	0.0178	0.0486	0.0006	0.2675	0.2	164	8	0.62	348	105	311	13	305.8	4.0	12	21	305.8	4.0
ANT-01-27		0.2938	0.0064	0.0408	0.0003	0.3320	0.5	562	23	0.68	296	47	262	5	257.7	1.8	13	12	257.7	1.8
A-DR-01-17		2.1827	0.0850	0.1899	0.0024	0.3302	0.1	12	2	0.49	1278	70	1176	27	1121	13	13	5	1278	70
A-DR-01-48		0.3181	0.0089	0.0437	0.0004	0.3475	0.1	306	13	0.16	322	58	280	7	275.5	2.6	15	14	275.5	2.6
ANT-01-8		0.5766	0.0190	0.0779	0.0007	0.2761	0.4	147	11	0.34	359	70	462	12	483.3	4.2	-36	23	483.3	4.2
ANT-01-10		0.5896	0.0149	0.0793	0.0006	0.3184	0.6	209	17	0.25	369	53	471	9	491.7	3.8	-34	18	491.7	3.8
A-DR-01-7		0.5621	0.0190	0.0757	0.0008	0.3050	0.2	41	3	0.42	366	71	453	12	470.2	4.7	-29	22	470.2	4.7
A-DR-01-10		0.3128	0.0105	0.0449	0.0005	0.3348	0.2	74	3	0.62	220	71	276	8	283.0	3.1	-29	32	283.0	3.1
A-DR-01-24		0.5973	0.0188	0.0793	0.0008	0.3269	0.3	276	22	0.49	397	65	476	12	491.9	4.9	-25	18	491.9	4.9
A-DR-01-1		0.6707	0.0243	0.0872	0.0011	0.3349	0.1	28	2	0.37	443	74	521	15	539.2	6.3	-23	18	539.2	6.3
A-DR-01-41		0.6062	0.0192	0.0796	0.0008	0.3118	0.4	157	13	0.33	423	66	481	12	493.5	4.7	-17	16	493.5	4.7
A-DR-01-13o		0.5831	0.0124	0.0769	0.0007	0.4472	0.9	228	18	0.13	411	42	466	8	477.7	4.4	-17	11	477.7	4.4
A-DR-01-35		0.5961	0.0112	0.0783	0.0008	0.5196	0.6	515	40	0.11	422	35	475	7	485.7	4.6	-16	9	485.7	4.6
A-DR-01-3.1o		0.6605	0.0159	0.0852	0.0008	0.3981	0.5	53	5	0.12	460	48	515	10	527.3	4.8	-15	11	527.3	4.8
A-DR-01-18		2.9596	0.0348	0.2224	0.0019	0.7339	0.4	252	56	1.08	1558	15	1397	9	1295	10	19	1	1558	15
A-DR-01-39o		2.1794	0.0398	0.1841	0.0028	0.8452	0.1	633	117	0.12	1335	19	1174	13	1090	15	20	2	1335	19
A-DR-01-58		0.7292	0.0231	0.0857	0.0008	0.3059	0.1	106	9	0.57	664	63	556	13	530.1	4.9	21	7	530.1	4.9
A-DR-01-55		0.2867	0.0059	0.0394	0.0004	0.4608	0.5	560	22	0.89	319	41	256	5	249.2	2.3	22	9	249.2	2.3
ANT-01-21		0.2821	0.0116	0.0388	0.0004	0.2573	0.2	246	10	0.54	319	88	252	9	245.2	2.5	24	17	245.2	2.5
A-DR-01-8.1o		0.2944	0.0059	0.0402	0.0003	0.4195	0.5	315	13	0.40	334	41	262	5	254.0	2.1	24	8	254.0	2.1
ANT-01-29		0.3377	0.0089	0.0451	0.0003	0.2871	0.2	407	18	0.38	385	56	295	7	284.2	2.1	27	10	284.2	2.1
A-DR-01-59		0.3141	0.0114	0.0419	0.0005	0.3050	0.3	191	8	0.81	389	76	277	9	264.4	2.9	33	11	264.4	2.9
A-DR-01-40		0.2958	0.0099	0.0393	0.0004	0.2666	0.3	326	13	0.91	394	71	263	8	248.7	2.2	38	10	248.7	2.2

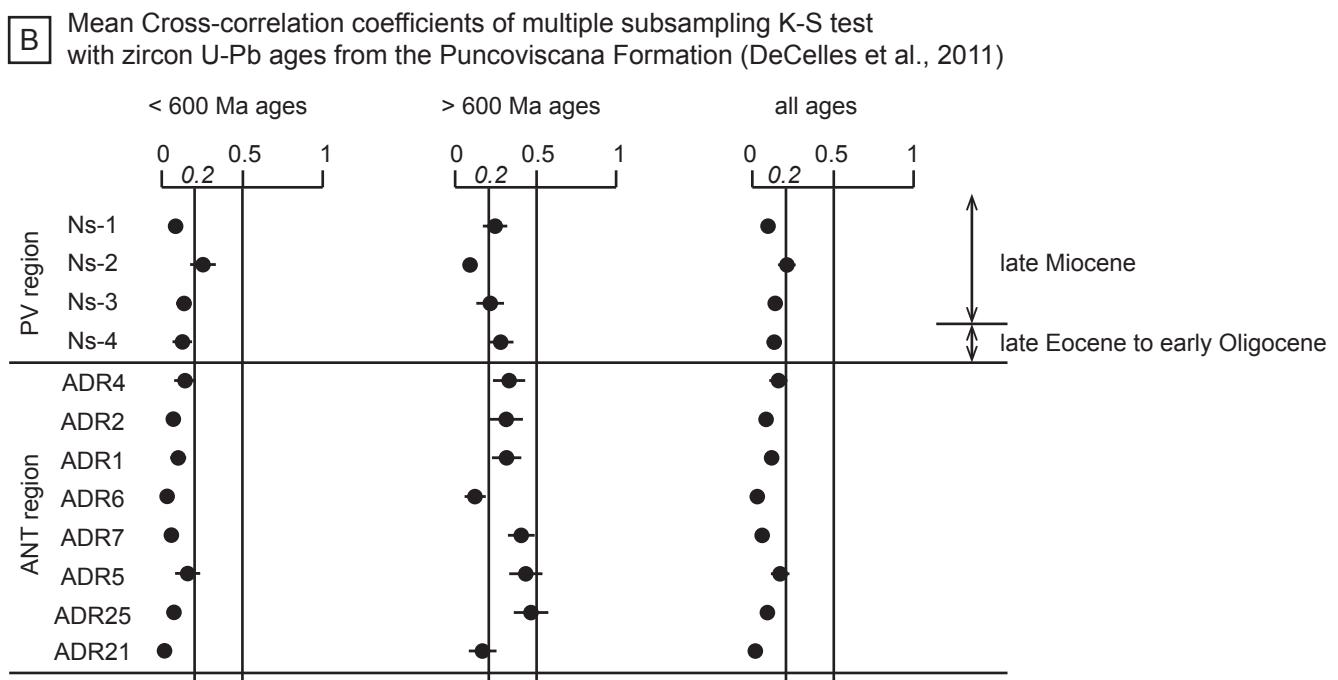
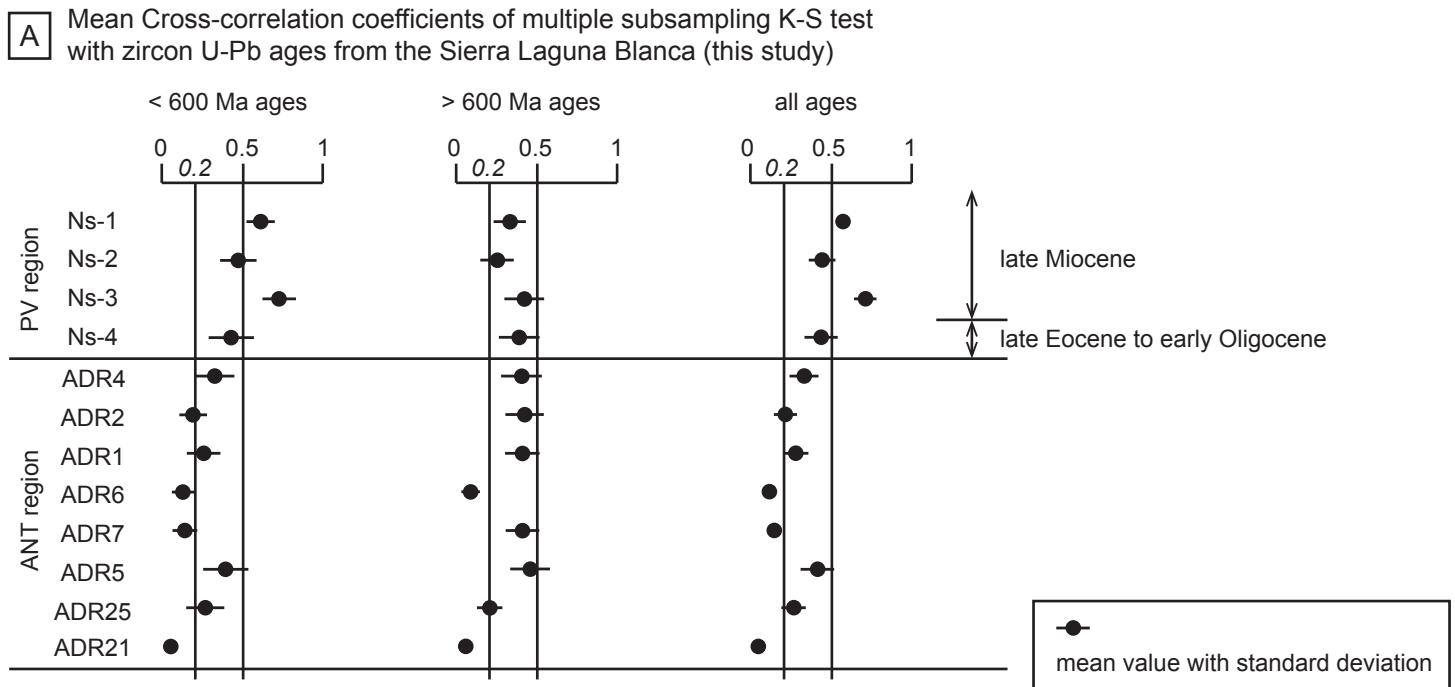
Sample ID	Analysis ID	88Sr	U	Pb206	Th/U	Standardized Concordia:						Ages Ma								age reported	
		Kcps	ppm	ppm		207Pb/235U	SigM	206Pb/238U	SigM	RhoXY	207Pb/ 206Pb	SigM	207Pb/ 235U	SigM	206Pb/ 238U	SigM	%Disc	SigM	age (Ma)	SigM	
LB4992-3		0.26	126	10	0.15	0.66226	0.01414	0.08233	0.00066	0.37651	542	43	516	9	510	4	6	7	510.0	3.9	
LB4992-6		0.31	295	24	0.64	0.64249	0.01367	0.08233	0.00057	0.32394	476	44	504	8	510	3	-7	9	510.0	3.4	
LB4992-20		0.30	162	13	0.59	0.67975	0.02813	0.08242	0.00075	0.22090	597	85	527	17	511	4	15	11	510.5	4.5	
LB4992-7.2r		0.23	140	12	0.52	0.67871	0.01864	0.08308	0.00066	0.29112	576	56	526	11	514	4	11	8	514.5	4.0	
LB4992-11		0.34	158	13	0.37	0.67046	0.02764	0.08366	0.00081	0.23383	534	85	521	17	518	5	3	14	517.9	4.8	
LB4992-16.2r		0.33	604	51	0.25	0.65647	0.01335	0.08397	0.00074	0.43425	480	40	512	8	520	4	-9	9	519.8	4.4	
LB4992-5.2r		0.32	215	18	0.22	0.65551	0.01478	0.08418	0.00059	0.31009	471	47	512	9	521	3	-11	10	521.0	3.5	
LB4992-14.2r		0.29	533	45	0.08	0.67432	0.01141	0.08440	0.00064	0.44767	528	33	523	7	522	4	1	6	522.3	3.8	
LB4992-18.2r		0.29	409	35	0.27	0.67764	0.01810	0.08482	0.00079	0.34670	528	54	525	11	525	5	1	10	524.8	4.7	
LB4992-19.2r		0.27	309	26	0.21	0.70298	0.01913	0.08559	0.00072	0.30953	588	55	541	11	529	4	10	8	529.4	4.3	
LB4992-5.1c		0.25	101	17	0.62	1.66940	0.03149	0.16577	0.00121	0.38673	1015	35	997	12	989	7	3	4	988.8	6.7	
LB4992-12.2r		0.22	610	102	0.14	1.71924	0.01802	0.16708	0.00113	0.64436	1059	16	1016	7	996	6	6	2	996.0	6.2	
LB4992-13		0.18	38	7	0.34	1.86419	0.08636	0.17039	0.00203	0.25766	1181	86	1068	30	1014	11	15	6	1181	86	
LB4992-22.2		0.20	144	25	2.00	1.83314	0.06495	0.17239	0.00184	0.30170	1124	66	1057	23	1025	10	10	6	1124	66	
LB4992-9		0.26	129	22	0.57	1.80693	0.03136	0.17316	0.00130	0.43391	1087	31	1048	11	1029	7	6	3	1087	31	
LB4992-12.1c		0.29	235	41	0.32	1.78598	0.02982	0.17327	0.00132	0.45691	1062	30	1040	11	1030	7	3	3	1062	30	
LB4992-19.1c		0.28	903	162	0.13	1.84420	0.02332	0.17892	0.00158	0.70022	1062	18	1061	8	1061	9	0	2	1062	18	
LB4992-22.1		0.23	81	15	1.30	1.93932	0.08069	0.17987	0.00192	0.25694	1152	78	1095	28	1066	11	8	6	1152	78	
LB4992-8		0.26	106	20	0.42	2.04610	0.03139	0.19234	0.00148	0.49999	1125	26	1131	10	1134	8	-1	3	1125	26	
LB4992-10		0.29	144	28	1.02	2.24535	0.03784	0.19485	0.00174	0.52875	1283	28	1195	12	1148	9	11	2	1283	28	
LB4992-15		0.34	223	44	0.92	2.17118	0.03508	0.19539	0.00169	0.53675	1212	27	1172	11	1150	9	6	2	1212	27	
LB4992-2.1c		0.21	39	8	0.75	2.30345	0.04349	0.19901	0.00169	0.44850	1291	33	1213	13	1170	9	10	3	1291	33	
LB4992-7.1c		0.29	146	32	0.37	2.61859	0.03641	0.22150	0.00166	0.54041	1332	22	1306	10	1290	9	4	2	1332	22	
LB4992-16.1c		0.23	186	50	0.50	3.61575	0.05587	0.26747	0.00231	0.55783	1587	24	1553	12	1528	12	4	2	1587	24	
LB4992-17		0.24	777	107	0.21	1.37534	0.01985	0.13800	0.00104	0.52353	994	25	878	8	833	6	17	2	833.4	5.9	
LB4992-14.1c		0.25	44	9	1.58	2.35558	0.08653	0.19490	0.00189	0.26450	1375	67	1229	26	1148	10	18	4	1375	67	
LB4992-18.1c		0.28	288	79	2.31	4.36425	0.06434	0.27543	0.00260	0.64141	1879	20	1706	12	1568	13	19	1	1879	20	
LB4992-2.2r		0.26	85	7	0.38	0.69311	0.01910	0.08292	0.00071	0.31175	626	55	535	11	514	4	19	7	513.5	4.2	
LB4992-1		0.20	196	22	0.18	1.06760	0.01414	0.11291	0.00095	0.63335	886	21	738	7	690	5	23	2	689.7	5.5	
LB4992-21		0.31	96	8	0.53	0.79310	0.04921	0.08383	0.00098	0.18786	887	121	593	28	519	6	43	7	518.9	5.8	
LB4621	LB4621-7.2r	0.29	631	51	0.11	0.66315	0.01045	0.08128	0.00064	0.49781	573	29	517	6	504	4	13	5	503.8	3.8	
	LB4621-23.2r	0.38	201	16	0.03	0.65607	0.00969	0.08150	0.00065	0.53605	544	27	512	6	505	4	7	5	505.1	3.8	
	LB4621-18	0.23	169	14	0.52	0.64411	0.01883	0.08164	0.00071	0.29612	500	60	505	12	506	4	-1	11	505.9	4.2	
	LB4621-16.2r	0.32	177	15	0.21	0.64519	0.01559	0.08289	0.00066	0.32999	470	50	506	10	513	4	-10	11	513.3	3.9	

Concordia Age = 510.7 ?5.2 Ma
 (95% confidence, decay-const. errs ignored)
 MSWD (of concordance) = 3.7,
 Probability (of concordance) = 0.054

Sample ID	Analysis ID	88Sr U Pb206 Th/U				Standardized Concordia:					Ages Ma								age reported	
		Kcps ppm ppm				207Pb/235U	SigM	206Pb/238U	SigM	RhoXY	207Pb/206Pb	SigM	207Pb/235U	SigM	206Pb/238U	SigM	%Disc	SigM	age (Ma)	SigM
LB4621-17.2r	0.25	143	12	0.23	0.66446	0.01914	0.08353	0.00075	0.31000	518	59	517	12	517	4	0	11	517.2	4.4	
LB4621-9.2r	0.31	370	31	0.27	0.68642	0.01795	0.08412	0.00072	0.32586	574	53	531	11	521	4	10	8	520.7	4.3	
LB4621-3.2r	0.28	530	45	0.24	0.70721	0.02073	0.08553	0.00072	0.28646	603	60	543	12	529	4	13	8	529.0	4.3	
LB4621-13.2r	0.28	377	34	0.57	0.75245	0.01977	0.08925	0.00075	0.32075	644	53	570	11	551	4	15	7	551.1	4.5	
LB4621-12	0.22	149	14	1.23	0.77198	0.03822	0.09383	0.00104	0.22393	592	101	581	22	578	6	2	15	578.1	6.1	
LB4621-10	0.25	125	17	0.63	1.31667	0.05313	0.13604	0.00130	0.23688	934	78	853	23	822	7	13	7	822.2	7.4	
LB4621-1.1c	0.25	597	91	0.24	1.52214	0.01798	0.15255	0.00118	0.65435	996	18	939	7	915	7	9	2	915.2	6.6	
LB4621-23.1c	0.20	11	2	0.49	1.50118	0.07361	0.15789	0.00189	0.24373	897	95	931	29	945	10	-6	11	945	10	
LB4621-2	0.23	627	100	0.38	1.61165	0.02312	0.15950	0.00118	0.51631	1022	25	975	9	954	7	7	2	954.0	6.6	
LB4621-21	0.24	72	12	0.37	1.64649	0.03177	0.16053	0.00130	0.42068	1052	35	988	12	960	7	9	3	959.7	7.2	
LB4621-17.1c	0.21	136	22	0.20	1.66003	0.02487	0.16350	0.00123	0.50028	1031	26	993	9	976	7	6	3	976.2	6.8	
LB4621-7.1c	0.20	48	8	0.50	1.70612	0.08096	0.16398	0.00174	0.22302	1081	90	1011	30	979	10	10	8	978.9	9.6	
LB4621-22	0.21	24	4	0.25	1.59676	0.04849	0.16422	0.00178	0.35591	944	57	969	19	980	10	-4	6	980.2	9.8	
LB4621-9.1c	0.22	579	106	0.43	2.03309	0.02143	0.18353	0.00117	0.60396	1205	16	1127	7	1086	6	11	1	1205	16	
LB4621-14	0.23	113	22	0.74	2.21369	0.05491	0.19605	0.00186	0.38209	1243	44	1185	17	1154	10	8	4	1243	44	
LB4621-15	0.27	105	21	0.45	2.07011	0.04644	0.19684	0.00169	0.38329	1102	41	1139	15	1158	9	-6	4	1102	41	
LB4621-16.1c	0.39	114	25	1.22	2.54548	0.04118	0.21899	0.00178	0.50238	1300	27	1285	12	1277	9	2	2	1300	27	
LB4621-13.1c	0.17	59	15	0.62	3.52271	0.11948	0.25898	0.00308	0.35026	1599	58	1532	27	1485	16	8	4	1599	58	
LB4621-11	0.29	803	221	0.58	3.64490	0.04189	0.27548	0.00204	0.64587	1547	16	1559	9	1569	10	-2	1	1547	16	
LB4621-3.1c	0.28	901	265	0.55	4.32393	0.04958	0.29366	0.00224	0.66507	1745	16	1698	9	1660	11	6	1	1745	16	
LB4621-20	0.20	149	69	0.15	11.26249	0.10587	0.46136	0.00337	0.77735	2625	10	2545	9	2446	15	8	1	2625.4	9.8	
LB4621-8	0.32	228	19	0.82	0.66757	0.01969	0.08100	0.00066	0.27613	595	60	519	12	502	4	16	8	502.1	3.9	
LB4621-6.2r	0.34	415	35	0.17	0.71113	0.01650	0.08463	0.00069	0.35215	637	46	545	10	524	4	19	6	523.7	4.1	
LB4621-6.1c	0.23	322	45	0.38	1.44448	0.03260	0.14097	0.00124	0.38849	1050	41	908	13	850	7	20	3	850.2	7.0	
LB4621-1.2r	0.28	193	16	0.26	0.70431	0.02597	0.08250	0.00071	0.23433	671	75	541	15	511	4	25	8	511.0	4.2	
LB4621-24	0.26	41	3	0.42	0.60857	0.01918	0.08144	0.00073	0.28355	379	67	483	12	505	4	-34	21	504.7	4.3	
LB4621-19	0.22	108	9	0.60	0.63749	0.02200	0.08300	0.00076	0.26467	440	72	501	14	514	5	-17	17	514.0	4.5	
LB4025	LB4025-13	0.29	106	8	0.67	0.58137	0.03471	0.07544	0.00079	0.17477	448	126	465	22	469	5	-5	24	468.8	4.7
		0.35	427	33	0.23	0.60034	0.01453	0.07632	0.00066	0.36000	493	49	477	9	474	4	4	9	474.1	4.0
		0.46	340	26	0.57	0.61887	0.01606	0.07703	0.00068	0.33771	540	53	489	10	478	4	12	8	478.4	4.0
		0.27	1008	86	0.77	0.70429	0.01221	0.08528	0.00067	0.45330	600	33	541	7	528	4	13	5	527.6	4.0
		0.16	26	4	0.49	1.76248	0.11145	0.17092	0.00210	0.19387	1063	120	1032	40	1017	12	5	11	1063	120
		0.37	447	175	0.91	7.48572	0.08013	0.39137	0.00323	0.77075	2211	12	2171	10	2129	15	4	1	2211.3	11.8
		0.28	241	19	1.19	0.58060	0.02986	0.07820	0.00083	0.20580	365	110	465	19	485	5	-34	32	485.4	4.9

Concordia Age = 474.4 ?4.9 Ma
 (2 σ , decay-const. errs ignored)
 MSWD (of concordance) = 0.95,
 Probability (of concordance) = 0.33

Sample ID	Analysis ID	88Sr U Pb206 Th/U				Standardized Concordia:					Ages Ma								age reported	
		Kcps ppm ppm				207Pb/235U	SigM	206Pb/238U	SigM	RhoXY	207Pb/ 206Pb	SigM	207Pb/ 235U	SigM	206Pb/ 238U	SigM	%Disc	SigM	age (Ma)	SigM
LB4025-23	0.25	52	4	0.51	0.57116	0.03720	0.07622	0.00078	0.15766	386	138	459	24	473	5	-24	34	473.5	4.7	
LB4025-17.2r	0.28	193	15	0.43	0.59284	0.02206	0.07816	0.00072	0.24919	413	79	473	14	485	4	-18	20	485.1	4.3	
LB4025-11.1c	0.31	565	56	0.22	0.86578	0.01551	0.09901	0.00074	0.41505	722	34	633	8	609	4	17	4	608.6	4.3	
LB4025-21	0.40	236	18	0.48	0.63064	0.01746	0.07671	0.00062	0.29159	590	56	496	11	476	4	20	7	476.4	3.7	
LB4025-24	0.48	239	18	0.08	0.63502	0.01499	0.07712	0.00065	0.35713	593	47	499	9	479	4	20	6	478.9	3.9	
LB4025-15	0.42	215	16	1.10	0.61410	0.02259	0.07440	0.00076	0.27785	599	75	486	14	463	5	24	9	462.6	4.6	
LB4025-14	0.28	114	9	0.49	0.66299	0.03314	0.07868	0.00081	0.20698	643	102	516	20	488	5	25	11	488.2	4.9	
LB4025-19	0.35	159	12	0.54	0.62641	0.02168	0.07525	0.00076	0.29009	617	70	494	13	468	5	25	8	467.7	4.5	
LB4025-8	0.46	817	61	1.68	0.70914	0.02237	0.07465	0.00073	0.31124	896	61	544	13	464	4	50	3	464.1	4.4	



Sample ADR1

crystal #	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
1	11	53	100	1.13	5.44	35.97	12.00	6.84	2.00
2	46	53	100	4.72	5.44	149.12	30.57	6.84	1.89
3	96	236	100	9.85	24.21	70.32	8.92	30.44	1.56
4	4	35	64	0.64	5.61	19.83	10.50	7.05	2.80
5	154	190	100	15.80	19.49	139.36	16.00	24.51	1.53
6	24	32	36	6.84	9.12	129.06	35.19	11.47	1.69
7	7	6	100	0.72	0.62	199.66	111.34	0.77	2.77
8	14	38	100	1.44	3.90	63.72	20.07	4.90	1.68
9	192	503	100	19.69	51.59	66.01	6.13	64.89	1.42
10	4	65	100	0.41	6.67	10.69	5.52	8.39	2.17
11	48	42	36	13.68	11.97	195.64	41.99	15.05	1.56
12	8	6	100	0.82	0.62	227.68	123.26	0.77	2.74
13	139	190	100	14.26	19.49	125.92	14.84	24.51	1.51
14	4	12	80	0.51	1.54	57.68	33.37	1.94	1.85
15	5	25	100	0.51	2.56	34.67	17.03	3.23	1.60
16	2	8	64	0.32	1.28	43.31	34.28	1.61	2.49
17	36	129	36	10.26	36.76	48.32	9.29	46.22	1.54
18	13	29	60	2.22	4.96	77.45	26.02	6.24	1.56
19	24	40	100	2.46	4.10	103.45	27.00	5.16	1.53
20	26	151	100	2.67	15.49	29.86	6.44	19.48	1.50
21	6	12	60	1.03	2.05	86.33	43.29	2.58	2.25
22	5	23	100	0.51	2.36	37.68	18.64	2.97	2.75
23	48	75	100	4.92	7.69	110.29	20.81	9.68	2.02
24	44	74	100	4.51	7.59	102.53	19.90	9.55	1.90
25	1	3	100	0.10	0.31	57.68	66.64	0.39	1.30
26	8	20	100	0.82	2.05	69.15	29.05	2.58	1.51
27	8	9	36	2.28	2.56	152.68	74.41	3.23	1.40
28	30	39	64	4.81	6.25	132.34	32.52	7.86	1.69
29	30	79	64	4.81	12.66	65.67	14.30	15.92	1.42
30	15	31	100	1.54	3.18	83.56	26.47	4.00	1.48
31	8	9	36	2.28	2.56	152.68	74.41	3.23	1.82
32	18	43	100	1.85	4.41	72.35	20.49	5.55	1.72
33	6	42	100	0.62	4.31	24.78	10.86	5.42	2.54
34	30	27	36	8.55	7.69	190.29	50.99	9.68	1.66
35	26	74	100	2.67	7.59	60.78	14.05	9.55	1.47
36	10	77	70	1.47	11.28	22.53	7.62	14.19	2.93
37	52	93	64	8.33	14.91	96.46	17.10	18.75	1.65
38	3	16	64	0.48	2.56	32.51	20.49	3.23	1.81
39	21	27	100	2.15	2.77	133.79	39.25	3.48	1.54
40	134	245	100	13.75	25.13	94.37	10.75	31.60	1.60
41	24	74	80	3.08	9.49	56.13	13.35	11.93	1.49

Sample ADR1

crystal #	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
42	19	118	100	1.95	12.10	27.93	6.98	15.22	2.46
43	32	53	64	5.13	8.49	104.10	23.63	10.68	1.57
44	52	61	64	8.33	9.78	146.49	28.20	12.30	1.71
45	186	363	100	19.08	37.23	88.45	8.65	46.83	1.59
46	16	38	64	2.56	6.09	72.77	21.86	7.66	2.69
47	77	133	64	12.34	21.32	99.85	14.79	26.81	1.53
48	19	65	64	3.05	10.42	50.61	13.34	13.10	1.79
49	5	23	100	0.51	2.36	37.68	18.64	2.97	2.82

Sample ID ADR1 (ANT-DR-01)

FT slide ID UP132-1, UP132-2

Length #	Length in micro	angle to C	Dpar
1	9.73	68.0	1.57
2	10.94	56.3	1.57
3	8.98	53.8	1.57
4	11.63	44.3	1.57
5	11.49	47.8	1.57
6	8.97	73.0	1.57
7	12.13	65.4	1.57
8	10.62	27.5	1.57
9	11.28	38.3	1.57
10	9.16	71.2	1.57
11	12.45	74.8	1.53
12	8.30	55.9	1.53
13	7.61	66.9	1.53
14	9.42	38.5	1.53
15	11.31	23.2	1.53
16	9.37	50.0	1.53
17	9.39	30.0	1.53
18	9.40	36.8	1.53
19	6.04	73.0	1.53
20	10.21	44.8	1.62
21	14.02	48.1	1.62
22	9.19	72.4	1.62
23	14.78	21.5	1.62
24	9.52	85.4	1.62
25	12.10	66.3	1.62
26	9.37	45.6	1.62
27	9.54	59.5	1.62
28	8.36	47.0	1.62
29	8.27	70.3	1.62
30	11.50	21.8	1.62
31	7.68	56.5	1.62
32	9.78	27.9	1.62
33	9.12	84.4	1.62
34	9.48	47.5	1.62
35	10.12	48.7	1.56
36	9.42	74.4	1.56
37	9.32	76.7	1.56
38	10.88	29.1	1.56
39	8.72	41.2	1.44
40	9.08	42.5	1.44
41	8.58	56.3	1.44
42	9.96	70.4	1.44
43	8.33	56.4	1.44

total N	89
Mean=	10.18
STDEV=	1.55
Skewness=	0.26
Kurtosis=	0.71

Length range	Count	Normalized%
0_to_1	0	0.00
1_to_2	0	0.00
2_to_3	0	0.00
3_to_4	0	0.00
4_to_5	0	0.00
5_to_6	0	0.00
6_to_7	2	0.02
7_to_8	2	0.02
8_to_9	12	0.13
9_to_10	30	0.34
10_to_11	19	0.21
11_to_12	13	0.15
12_to_13	7	0.08
13_to_14	2	0.02
14_to_15	2	0.02
15_to_16	0	0.00
16_to_17	0	0.00
17_to_18	0	0.00
18_to_19	0	0.00
19_to_20	0	0.00

44	8.43	49.8	1.44
45	9.64	55.3	1.44
46	11.76	13.9	1.44
47	10.26	24.0	1.44
48	6.24	58.1	1.58
49	9.97	69.5	1.58
50	9.48	63.3	1.58
51	9.07	73.7	1.58
52	12.63	56.7	1.58
53	9.96	50.7	1.58
54	8.17	45.1	1.58
55	9.70	75.5	1.47
56	10.21	46.0	1.47
57	9.39	77.2	1.47
58	10.66	66.9	1.47
59	10.57	30.6	1.47
60	11.40	44.2	1.47
61	9.43	72.2	1.47
62	10.63	50.8	1.47
63	9.93	54.1	1.47
64	10.99	25.4	1.43
65	10.82	44.1	1.43
66	11.02	71.7	1.43
67	8.76	47.9	1.43
68	13.18	75.5	2.08
69	11.71	54.4	1.63
70	8.04	54.0	1.63
71	10.66	54.0	2.05
72	10.55	78.2	2.05
73	11.54	27.9	1.53
74	12.55	39.2	1.53
75	9.34	59.4	1.53
76	11.50	40.5	1.53
77	10.47	19.5	1.53
78	10.88	40.8	1.71
79	11.11	60.2	1.71
80	10.08	57.5	1.60
81	9.79	77.2	1.60
82	10.79	79.7	1.60
83	13.30	58.0	1.60
84	12.92	43.9	1.60
85	9.74	55.2	1.60
86	9.43	67.2	1.60
87	10.26	60.5	1.60
88	11.22	63.9	1.56
89	12.20	68.2	1.56

Sample ADR2

crystal #	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
1	78	112	100	8.00	11.49	117.35	17.87	14.77	1.84
2	14	56	100	1.44	5.74	42.37	12.76	7.38	1.52
3	15	20	36	4.27	5.70	126.28	43.40	7.33	1.46
4	11	38	60	1.88	6.50	49.04	16.89	8.35	1.93
5	25	95	100	2.56	9.74	44.59	10.16	12.53	1.56
6	9	27	36	2.56	7.69	56.43	21.83	9.89	1.68
7	240	370	100	24.62	37.95	109.36	9.96	48.79	1.55
8	50	93	100	5.13	9.54	90.78	16.29	12.26	1.60
9	16	82	100	1.64	8.41	33.09	9.13	10.81	1.56
10	52	72	60	8.89	12.31	121.65	22.61	15.82	1.60
11	12	34	64	1.92	5.45	59.74	20.18	7.01	1.63
12	9	14	36	2.56	3.99	108.39	46.49	5.13	1.38
13	31	53	60	5.30	9.06	98.70	22.63	11.65	1.46
14	8	37	40	2.05	9.49	36.66	14.36	12.20	1.35
15	8	25	36	2.28	7.12	54.18	22.10	9.16	1.55
16	36	34	100	3.69	3.49	177.57	42.99	4.48	1.62
17	20	45	36	5.70	12.82	75.13	20.39	16.48	1.59
18	10	16	64	1.60	2.56	105.41	42.68	3.30	1.56
19	9	30	100	0.92	3.08	50.81	19.41	3.96	1.68
20	12	52	100	1.23	5.33	39.12	12.62	6.86	1.87
21	16	26	100	1.64	2.67	103.80	33.21	3.43	1.71
22	12	32	36	3.42	9.12	63.45	21.61	11.72	1.53
23	130	107	36	37.04	30.49	203.35	27.63	39.19	1.57
24	5	12	40	1.28	3.08	70.46	37.60	3.96	2.33
25	253	301	100	25.95	30.87	141.36	13.19	39.69	1.60
26	5	32	36	1.43	9.12	26.51	12.79	11.72	1.59
27	46	114	100	4.72	11.69	68.25	12.20	15.03	0.85
28	15	46	36	4.27	13.11	55.21	16.55	16.85	1.58
29	27	89	100	2.77	9.13	51.38	11.45	11.74	1.64
30	30	57	64	4.81	9.14	88.88	20.33	11.74	1.51
31	1	2	40	0.26	0.51	84.46	103.50	0.66	1.60
32	69	201	100	7.08	20.62	58.11	8.40	26.50	1.64
33	7	43	64	1.12	6.89	27.62	11.31	8.86	1.63
34	20	78	100	2.05	8.00	43.45	11.01	10.29	1.68
35	8	46	36	2.28	13.11	29.50	11.36	16.85	1.58
36	34	54	64	5.45	8.65	106.18	23.59	11.13	1.68
37	18	110	64	2.89	17.63	27.76	7.14	22.66	1.61
38	15	68	100	1.54	6.98	37.40	10.76	8.97	1.70
39	7	30	64	1.12	4.81	39.55	16.67	6.18	1.38
40	73	117	100	7.49	12.00	105.23	16.19	15.43	1.48
41	13	10	80	1.67	1.28	217.35	91.79	1.65	1.52

Sample ADR2

crystal #	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
42	22	31	100	2.26	3.18	119.56	33.63	4.09	2.26
43	6	11	100	0.62	1.13	92.09	46.87	1.45	1.48
44	21	167	100	2.15	17.13	21.35	5.01	22.02	1.36
45	26	52	64	4.17	8.33	84.46	20.54	10.71	1.65
46	154	208	100	15.80	21.34	124.68	14.07	27.43	1.76
47	21	143	64	3.37	22.92	24.92	5.90	29.46	1.26
48	21	107	100	2.15	10.98	33.29	8.04	14.11	1.49
49	24	81	64	3.85	12.98	50.19	11.82	16.69	1.62
50	30	153	64	4.81	24.52	33.26	6.76	31.52	1.63
51	30	141	80	3.85	18.08	36.08	7.38	23.24	1.55
52	30	56	60	5.13	9.57	90.46	20.75	12.31	1.39
53	17	51	100	1.74	5.23	56.43	15.95	6.73	1.59
54	35	105	100	3.59	10.77	56.43	11.22	13.85	1.48
55	3	22	36	0.86	6.27	23.15	14.27	8.06	1.50
56	18	56	100	1.85	5.74	54.43	14.89	7.38	1.59
57	6	29	60	1.03	4.96	35.09	15.79	6.37	1.87
58	5	38	100	0.51	3.90	22.33	10.66	5.01	2.51
59	10	47	80	1.28	6.03	36.08	12.64	7.75	1.41
60	16	64	80	2.05	8.21	42.37	11.95	10.55	1.33
61	40	79	64	6.41	12.66	85.53	16.91	16.28	1.40
62	40	48	100	4.10	4.92	140.17	30.47	6.33	2.25
63	16	108	100	1.64	11.08	25.14	6.80	14.24	1.74
64	7	21	100	0.72	2.15	56.43	24.72	2.77	1.46
65	7	49	100	0.72	5.03	24.25	9.84	6.46	1.92
66	31	80	64	4.97	12.82	65.56	14.09	16.48	1.60
67	14	93	64	2.24	14.91	25.55	7.39	19.16	1.62
68	7	32	60	1.20	5.47	37.09	15.54	7.03	1.53
69	4	25	100	0.41	2.56	27.15	14.66	3.30	1.99
70	7	25	100	0.72	2.56	47.44	20.36	3.30	1.62
71	7	38	60	1.20	6.50	31.25	12.91	8.35	1.50
72	54	133	100	5.54	13.64	68.67	11.38	17.54	1.62
73	18	28	64	2.89	4.49	108.39	33.00	5.77	1.44
74	17	31	64	2.73	4.97	92.58	28.16	6.39	1.72
75	25	43	64	4.01	6.89	98.11	24.95	8.86	1.48
76	46	66	100	4.72	6.77	117.44	22.99	8.70	1.78
77	21	15	100	2.15	1.54	233.77	79.52	1.98	1.90
78	13	45	100	1.33	4.62	48.94	15.52	5.93	1.45
79	22	40	100	2.26	4.10	92.85	24.89	5.27	1.62
80	17	136	100	1.74	13.95	21.22	5.52	17.93	1.47
81	12	33	64	1.92	5.29	61.54	20.87	6.80	1.54
82	20	67	100	2.05	6.87	50.56	13.02	8.83	1.54

Sample ADR2

crystal #	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
83	4	10	100	0.41	1.03	67.66	40.11	1.32	1.82
84	16	83	100	1.64	8.51	32.70	9.01	10.94	1.67
85	20	73	100	2.05	7.49	46.42	11.85	9.63	1.55
86	4	12	36	1.14	3.42	56.43	32.65	4.40	1.53
87	34	102	100	3.49	10.46	56.43	11.38	13.45	1.51
88	4	45	100	0.41	4.62	15.10	7.90	5.93	1.54
89	31	123	60	5.30	21.03	42.71	8.73	27.03	1.52
90	20	29	36	5.70	8.26	116.22	34.06	10.62	1.47
91	57	106	100	5.85	10.87	90.79	15.30	13.98	1.52
92	28	111	60	4.79	18.98	42.75	9.18	24.39	1.76
93	4	5	60	0.68	0.86	134.62	90.45	1.10	1.56
94	32	91	100	3.28	9.33	59.52	12.44	12.00	1.53
95	32	60	100	3.28	6.15	90.06	20.01	7.91	1.47
96	19	17	36	5.41	4.84	187.30	62.93	6.23	1.46
97	8	31	100	0.82	3.18	43.73	17.42	4.09	1.74
98	4	28	100	0.41	2.87	24.25	12.99	3.69	2.43
99	34	111	100	3.49	11.39	51.88	10.36	14.64	1.69
100	16	59	100	1.64	6.05	45.95	13.07	7.78	1.80
101	14	55	60	2.39	9.40	43.14	13.02	12.09	1.46
102	8	34	16	5.13	21.80	39.89	15.75	28.02	1.96
103	37	162	100	3.80	16.62	38.72	7.21	21.36	1.44
104	60	155	100	6.15	15.90	65.49	10.26	20.44	1.42
105	28	61	100	2.87	6.26	77.58	17.95	8.04	1.69
106	4	20	64	0.64	3.21	33.92	18.62	4.12	1.63
107	52	125	100	5.33	12.82	70.35	11.91	16.48	1.51
108	13	82	80	1.67	10.51	26.90	8.09	13.52	1.76
109	190	309	100	19.49	31.70	103.72	10.33	40.74	1.51
110	4	29	100	0.41	2.98	23.41	12.52	3.82	1.54
111	19	72	100	1.95	7.39	44.72	11.66	9.49	1.54
112	8	71	100	0.82	7.28	19.13	7.17	9.36	1.74
113	16	109	100	1.64	11.18	24.91	6.74	14.37	1.62
114	10	41	64	1.60	6.57	41.34	14.66	8.45	1.68
115	22	44	100	2.26	4.51	84.46	22.29	5.80	1.64

Sample ID ADR2 (ANT-DR-02)

FT slide ID UP132-3, UP132-7

Length #	Length in micro	angle to C	Dpar
1	8.82	62.2	1.61
2	12.90	78.0	1.48
3	7.65	79.8	1.49
4	6.57	88.9	1.70
5	11.37	86.7	1.50
6	10.81	81.4	1.52
7	9.17	69.4	1.52
8	9.22	85.1	1.59
9	10.24	43.5	1.48
10	13.84	74.3	1.66
11	16.34	25.2	1.81
12	9.65	78.8	1.58
13	11.00	60.3	1.50
14	11.13	78.0	1.50
15	10.42	77.1	1.50
16	8.15	72.7	1.50
17	13.49	18.8	1.50
18	6.72	90.0	1.50
19	10.78	22.2	1.50
20	9.75	34.8	1.50
21	11.88	33.8	1.50
22	12.02	70.7	1.50
23	11.18	23.3	1.50
24	11.67	46.3	1.50
25	10.78	60.9	1.50
26	9.89	68.1	1.43
27	10.68	38.5	1.43
28	11.33	52.5	1.43
29	12.18	35.2	1.43
30	11.59	79.9	1.43
31	10.97	64.7	1.43
32	10.39	46.9	1.43
33	9.81	65.2	1.43
34	10.34	54.6	1.43
35	12.66	54.6	1.43
36	10.63	68.4	1.43
37	12.39	79.7	1.43
38	10.47	66.8	1.43
39	12.34	68.0	1.43
40	8.56	72.2	1.43

total N	46
Mean=	10.76
STDEV=	1.91
Skewness=	-0.06
Kurtosis=	1.14

Length range	Count	Normalized%
0_to_1	0	0.00
1_to_2	0	0.00
2_to_3	0	0.00
3_to_4	0	0.00
4_to_5	0	0.00
5_to_6	0	0.00
6_to_7	3	0.07
7_to_8	1	0.02
8_to_9	3	0.07
9_to_10	6	0.13
10_to_11	13	0.28
11_to_12	9	0.20
12_to_13	8	0.17
13_to_14	2	0.04
14_to_15	0	0.00
15_to_16	0	0.00
16_to_17	1	0.02
17_to_18	0	0.00
18_to_19	0	0.00
19_to_20	0	0.00

41	10.55	30.8	1.43
42	12.83	83.4	1.43
43	10.81	45.1	1.43
44	12.58	33.8	1.43
45	11.91	23.9	1.43
46	6.60	39.3	1.43

Sample ADR4

crystal #	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
1	63	97	16	40.39	62.18	107.09	17.80	81.75	1.62
2	157	269	64	25.16	43.11	96.32	10.34	56.68	1.56
3	125	164	60	21.37	28.04	125.50	15.64	36.86	1.60
4	58	72	36	16.53	20.51	132.56	23.92	26.97	1.45
5	230	291	64	36.86	46.64	130.09	12.49	61.32	1.77
6	53	65	36	15.10	18.52	134.17	25.34	24.35	1.58
7	224	297	60	38.29	50.77	124.20	11.95	66.75	1.60
8	9	19	36	2.56	5.41	78.28	31.81	7.12	1.68
9	180	201	36	51.29	57.27	147.20	16.10	75.29	1.58

Sample ID ADR4 (ANT-DR-04)

FT slide ID UP132-8, UP132-9

Length #	Length in micro	angle to C	Dpar
1	10.49	54.2	1.65
2	10.17	40.4	1.65
3	9.27	83.7	1.65
4	10.13	55.9	1.65
5	9.56	81.6	1.65
6	10.84	77.4	1.65
7	11.00	76.7	1.65
8	10.94	64.0	1.65
9	12.09	53.0	1.55
10	10.74	58.0	1.55
11	11.29	44.5	1.55
12	9.48	48.6	1.55
13	13.54	82.8	1.55
14	12.11	70.3	1.55
15	11.32	72.4	1.55
16	10.20	59.3	1.55
17	10.97	65.2	1.55
18	10.57	57.0	1.55
19	11.70	75.4	1.55
20	9.97	40.5	1.45
21	4.17	67.2	1.45
22	8.39	69.5	1.45
23	10.13	64.2	1.45
24	10.68	40.4	1.83
25	10.16	62.5	1.83
26	14.04	55.9	1.83
27	12.36	37.7	1.83
28	9.32	59.6	1.83
29	12.37	20.6	1.83
30	11.49	77.0	1.83
31	11.51	58.9	1.83
32	10.95	68.7	1.83
33	11.66	50.0	1.83
34	11.29	47.1	1.83
35	13.83	23.3	1.83
36	12.01	27.2	1.83
37	11.49	77.0	1.83
38	10.31	62.1	1.66
39	14.58	83.2	1.66
40	11.54	44.9	1.66
41	10.05	81.5	1.66
42	10.06	66.0	1.66
43	7.92	83.3	1.66

total N	53
Mean=	10.84
STDEV=	1.62
Skewness=	-0.97
Kurtosis=	4.98

Length range	Count	Normalized%
0_to_1	0	0.00
1_to_2	0	0.00
2_to_3	0	0.00
3_to_4	0	0.00
4_to_5	1	0.02
5_to_6	0	0.00
6_to_7	0	0.00
7_to_8	1	0.02
8_to_9	1	0.02
9_to_10	8	0.15
10_to_11	20	0.38
11_to_12	11	0.21
12_to_13	7	0.13
13_to_14	2	0.04
14_to_15	2	0.04
15_to_16	0	0.00
16_to_17	0	0.00
17_to_18	0	0.00
18_to_19	0	0.00
19_to_20	0	0.00

44	10.33	80.7	1.64
45	12.38	46.2	1.64
46	10.33	44.0	1.64
47	12.33	77.6	1.64
48	10.86	55.1	1.64
49	11.26	51.3	1.64
50	9.44	66.1	1.64
51	9.83	80.4	1.64
52	11.69	58.0	1.64
53	9.70	56.6	1.64

Sample ADR5

crystal #	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
1	13	105	100	1.33	10.77	20.29	6.01	14.35	1.40
2	34	370	100	3.49	37.95	15.06	2.76	50.55	1.52
3	8	132	64	1.28	21.16	9.94	3.64	28.18	1.48
4	16	139	40	4.10	35.64	18.86	5.03	47.48	1.34
5	25	272	60	4.27	46.50	15.07	3.20	61.94	1.52
6	11	111	100	1.13	11.39	16.24	5.17	15.17	1.48
7	13	168	64	2.08	26.93	12.69	3.68	35.86	1.48
8	11	89	36	3.13	25.36	20.25	6.52	33.78	1.61
9	42	635	100	4.31	65.13	10.85	1.78	86.76	1.57
10	22	213	36	6.27	60.69	16.93	3.84	80.84	1.37
11	16	142	36	4.56	40.46	18.46	4.92	53.89	1.52
12	23	289	100	2.36	29.64	13.05	2.87	39.48	1.58
13	9	127	100	0.92	13.03	11.62	4.03	17.35	1.78
14	12	111	100	1.23	11.39	17.72	5.43	15.17	1.48
15	27	345	100	2.77	35.39	12.83	2.61	47.14	1.69

Sample ID ADR5 (ANT-DR-05)

FT slide ID UP132-10, UP132-11

Length #	Length in micro	angle to C	Dpar
1	15.01	34.3	1.48
2	15.02	73.2	1.38
3	13.62	56.1	1.38
4	12.73	78.0	1.38
5	12.60	34.8	1.59
6	13.69	50.6	1.59
7	13.06	52.7	1.63
8	16.16	12.4	1.66
9	13.84	83.7	1.66
10	10.53	15.9	1.66
11	13.67	75.7	1.66
12	14.21	83.4	1.66
13	9.13	59.6	1.66
14	10.34	50.8	1.61
15	15.39	27.4	1.33
16	12.50	7.5	1.33
17	15.22	41.5	1.42
18	14.67	48.1	1.42

total N	18
Mean=	13.41
STDEV=	1.89
Skewness=	-0.86
Kurtosis=	0.30

Length range	Count	Normalized%
0_to_1	0	0.00
1_to_2	0	0.00
2_to_3	0	0.00
3_to_4	0	0.00
4_to_5	0	0.00
5_to_6	0	0.00
6_to_7	0	0.00
7_to_8	0	0.00
8_to_9	0	0.00
9_to_10	1	0.06
10_to_11	2	0.11
11_to_12	0	0.00
12_to_13	3	0.17
13_to_14	5	0.28
14_to_15	2	0.11
15_to_16	4	0.22
16_to_17	1	0.06
17_to_18	0	0.00
18_to_19	0	0.00
19_to_20	0	0.00

Sample ADR6

crystal #	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
1	5	37	100	0.51	3.80	21.92	10.48	5.11	1.40
2	4	33	64	0.64	5.29	19.67	10.44	7.12	2.55
3	4	40	100	0.41	4.10	16.23	8.53	5.52	1.70
4	11	160	100	1.13	16.41	11.16	3.50	22.08	1.57
5	9	78	100	0.92	8.00	18.72	6.63	10.76	1.84
6	3	29	60	0.51	4.96	16.79	10.20	6.67	1.87
7	7	70	100	0.72	7.18	16.23	6.46	9.66	1.52
8	13	170	100	1.33	17.44	12.41	3.60	23.46	1.75
9	5	91	100	0.51	9.33	8.92	4.11	12.56	1.82
10	5	69	100	0.51	7.08	11.76	5.47	9.52	1.86
11	3	70	100	0.31	7.18	6.96	4.11	9.66	1.21
12	11	134	100	1.13	13.75	13.33	4.21	18.49	1.83
13	3	42	36	0.86	11.97	11.60	6.94	16.10	1.54
14	3	32	100	0.31	3.28	15.22	9.21	4.42	3.14
15	4	52	60	0.68	8.89	12.49	6.50	11.96	1.55
16	5	79	100	0.51	8.10	10.28	4.75	10.90	1.64
17	3	28	100	0.31	2.87	17.39	10.58	3.86	3.21
18	3	56	100	0.31	5.74	8.70	5.17	7.73	1.33
19	4	67	100	0.41	6.87	9.69	5.00	9.25	1.73
20	8	99	100	0.82	10.16	13.12	4.85	13.66	1.43
21	5	57	100	0.51	5.85	14.24	6.66	7.87	1.28
22	5	23	100	0.51	2.36	35.23	17.43	3.17	2.90
23	3	51	100	0.31	5.23	9.55	5.69	7.04	1.55
24	1	22	64	0.16	3.53	7.38	7.55	4.74	1.27
25	3	34	36	0.86	9.69	14.32	8.64	13.03	1.47
26	4	37	100	0.41	3.80	17.54	9.26	5.11	2.99
27	2	16	36	0.57	4.56	20.28	15.23	6.13	1.76
28	4	55	36	1.14	15.67	11.81	6.13	21.08	1.33
29	3	25	64	0.48	4.01	19.47	11.92	5.39	1.20
30	9	115	100	0.92	11.80	12.70	4.42	15.87	1.52
31	5	42	100	0.51	4.31	19.32	9.17	5.80	2.61
32	5	34	60	0.86	5.81	23.85	11.46	7.82	1.65
33	4	40	100	0.41	4.10	16.23	8.53	5.52	2.92

Sample ID ADR6 (ANT-DR-06)

FT slide ID UP132-12, UP132-13, UP132-14

Length #	Length in micro	angle to C	Dpar
1	14.40	61.3	1.42
2	15.73	28.7	1.34
3	14.26	49.4	1.57
4	14.43	56.5	1.58
5	10.06	51.4	1.77
6	9.16	46.5	1.69

total N	6
Mean=	13.01
STDEV=	2.70
Skewness=	-0.83
Kurtosis=	-1.51

Length range	Count	Normalized%
0_to_1	0	0.00
1_to_2	0	0.00
2_to_3	0	0.00
3_to_4	0	0.00
4_to_5	0	0.00
5_to_6	0	0.00
6_to_7	0	0.00
7_to_8	0	0.00
8_to_9	0	0.00
9_to_10	1	0.17
10_to_11	1	0.17
11_to_12	0	0.00
12_to_13	0	0.00
13_to_14	0	0.00
14_to_15	3	0.50
15_to_16	1	0.17
16_to_17	0	0.00
17_to_18	0	0.00
18_to_19	0	0.00
19_to_20	0	0.00

Sample ADR21

crystal #	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
1	20	75	60	3.42	12.82	45.19	11.50	16.48	1.68
2	82	679	100	8.41	69.65	20.50	2.52	89.53	1.41
3	36	108	80	4.62	13.85	56.43	11.07	17.80	1.35
4	48	91	64	7.69	14.58	89.07	16.24	18.75	1.54
5	32	57	100	3.28	5.85	94.76	21.24	7.52	1.69
6	67	166	100	6.87	17.03	68.27	10.21	21.89	1.60
7	37	83	100	3.80	8.51	75.36	15.17	10.94	1.48
8	39	126	100	4.00	12.92	52.42	9.81	16.61	1.42
9	38	60	64	6.09	9.62	106.80	22.51	12.36	1.54
10	39	97	100	4.00	9.95	68.01	13.15	12.79	1.84
11	40	98	64	6.41	15.71	69.03	13.21	20.19	1.41
12	17	25	36	4.84	7.12	114.60	36.29	9.16	1.46
13	19	56	40	4.87	14.36	57.44	15.40	18.46	1.76
14	39	133	64	6.25	21.32	49.67	9.24	27.40	1.52
15	33	44	36	9.40	12.54	126.28	29.47	16.12	1.54
16	23	47	36	6.55	13.39	82.68	21.27	17.22	1.53
17	62	99	100	6.36	10.16	105.62	17.57	13.05	1.57
18	32	116	100	3.28	11.90	46.74	9.50	15.30	1.62
19	43	88	80	5.51	11.28	82.56	15.67	14.50	1.50
20	13	26	36	3.70	7.41	84.46	28.87	9.52	1.54
21	31	133	100	3.18	13.64	39.51	8.02	17.54	1.37
22	42	59	64	6.73	9.46	119.92	24.63	12.16	1.39
23	49	95	64	7.85	15.23	87.11	15.67	19.57	1.43
24	14	44	36	3.99	12.54	53.88	16.66	16.12	1.26
25	38	92	64	6.09	14.75	69.85	13.73	18.96	1.59
26	42	127	100	4.31	13.03	55.99	10.19	16.75	1.51
27	56	95	100	5.74	9.74	99.46	17.17	12.53	1.53
28	31	68	36	8.83	19.38	77.06	16.95	24.91	1.48
29	17	22	40	4.36	5.64	130.07	42.29	7.25	1.51
30	6	24	36	1.71	6.84	42.37	19.41	8.79	1.49
31	16	45	36	4.56	12.82	60.18	17.66	16.48	1.26
32	27	93	40	6.92	23.85	49.18	10.91	30.66	1.34
33	48	71	100	4.92	7.28	113.94	21.72	9.36	1.46
34	92	134	100	9.44	13.75	115.70	16.26	17.67	1.46
35	29	82	80	3.72	10.51	59.86	13.13	13.52	1.65
36	55	187	100	5.64	19.18	49.82	7.87	24.66	1.38
37	22	59	64	3.53	9.46	63.09	15.94	12.16	1.58
38	34	109	100	3.49	11.18	52.82	10.57	14.37	1.96
39	22	78	40	5.64	20.00	47.78	11.68	25.71	1.63
40	51	141	100	5.23	14.46	61.21	10.27	18.59	1.60
41	29	69	100	2.98	7.08	71.07	15.96	9.10	1.58

Sample ADR21

crystal #	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
42	24	81	64	3.85	12.98	50.19	11.82	16.69	1.63
43	36	86	80	4.62	11.03	70.79	14.31	14.18	1.61
44	64	94	64	10.26	15.07	114.74	19.09	19.37	1.61
45	8	11	36	2.28	3.13	122.49	57.11	4.03	1.46
46	68	145	64	10.90	23.24	79.25	12.03	29.87	1.44
47	34	103	64	5.45	16.51	55.89	11.25	21.22	1.46
48	8	18	36	2.28	5.13	75.13	32.05	6.59	1.83
49	20	21	36	5.70	5.98	159.94	50.34	7.69	1.60
50	60	97	64	9.62	15.55	104.33	17.58	19.99	1.50
51	71	88	64	11.38	14.10	135.75	22.26	18.13	1.57
52	40	73	60	6.84	12.48	92.51	18.53	16.04	1.52
53	28	63	100	2.87	6.46	75.13	17.30	8.31	1.72
54	51	106	80	6.54	13.59	81.30	14.19	17.47	1.58
55	20	52	64	3.21	8.33	65.07	17.30	10.71	1.56

Sample ID ADR21 (ANT-DR-21)

FT slide ID UP132-4, UP132-5, UP132-6

Length #	Length in micro	angle to C	Dpar
1	13.50	75.9	1.46
2	12.96	55.5	1.46
3	12.23	18.7	1.62
4	9.49	50.2	1.47
5	9.24	77.4	1.58
6	10.05	27.4	1.40
7	9.37	67.2	1.23
8	10.36	75.9	1.44
9	9.61	52.8	1.45
10	7.36	64.8	1.59
11	9.01	86.0	1.59
12	7.69	65.6	1.48
13	10.48	76.1	1.51
14	9.60	75.2	1.51
15	9.77	49.4	1.51
16	8.19	33.3	1.66
17	10.08	21.5	1.66
18	9.86	23.2	1.37
19	12.56	41.6	1.53
20	9.33	72.3	1.61
21	12.62	49.9	1.58
22	7.76	78.8	1.58
23	12.73	28.4	1.58
24	9.86	76.2	1.58
25	10.91	55.4	1.58
26	7.83	79.5	1.45
27	11.07	47.3	1.65
28	7.59	78.9	1.65
29	8.08	88.6	1.65
30	9.82	40.0	1.65
31	4.63	58.3	1.53
32	8.98	67.2	1.53
33	7.69	66.8	1.62
34	9.53	66.3	1.61
35	12.03	27.5	1.55
36	9.83	29.8	1.54

total N	40
Mean=	9.78
STDEV=	1.90
Skewness=	-0.03
Kurtosis=	0.25

Length range	Count	Normalized%
0_to_1	0	0.00
1_to_2	0	0.00
2_to_3	0	0.00
3_to_4	0	0.00
4_to_5	1	0.03
5_to_6	0	0.00
6_to_7	0	0.00
7_to_8	7	0.18
8_to_9	4	0.10
9_to_10	13	0.33
10_to_11	6	0.15
11_to_12	1	0.03
12_to_13	7	0.18
13_to_14	1	0.03
14_to_15	0	0.00
15_to_16	0	0.00
16_to_17	0	0.00
17_to_18	0	0.00
18_to_19	0	0.00
19_to_20	0	0.00

37	10.37	40.6	1.54
38	8.94	65.8	1.54
39	7.36	52.3	1.54
40	12.77	66.7	1.54

Sample ABD2
UP134-13 ABD2a

Cryst	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
1	37	58	100	3.80	5.95	102.70	21.95	8.01	1.57
2	21	38	64	3.37	6.09	89.06	24.45	8.20	1.61
3	7	7	36	1.99	1.99	160.27	85.88	2.69	1.72
4	11	19	36	3.13	5.41	93.27	35.51	7.29	1.52
5	37	74	64	5.93	11.86	80.63	16.52	15.98	1.67
6	18	42	36	5.13	11.97	69.18	19.66	16.12	1.63
7	31	58	100	3.18	5.95	86.16	19.44	8.01	1.68
8	19	39	40	4.87	10.00	78.58	22.18	13.47	1.74
9	45	41	60	7.69	7.01	175.69	38.51	9.44	1.66
10	5	27	64	0.80	4.33	29.98	14.64	5.83	1.53
11	38	49	64	6.09	7.85	124.64	27.35	10.58	1.75
12	28	68	100	2.87	6.98	66.48	15.14	9.40	1.44
13	10	34	100	1.03	3.49	47.55	17.20	4.70	1.63
14	10	10	36	2.85	2.85	160.27	71.93	3.84	1.68
15	31	49	100	3.18	5.03	101.86	23.69	6.77	1.58
16	25	51	80	3.21	6.54	79.06	19.53	8.81	1.47
17	25	41	100	2.56	4.21	98.20	25.19	5.67	1.64
18	21	47	36	5.98	13.39	72.10	19.12	18.04	1.79
19	7	15	36	1.99	4.27	75.29	34.58	5.76	1.65

Sample ABD2

UP134-13 ABD2a

Length angle to C Dpar

12.05	50.3	1.51
7.19	82.2	1.68
6.26	64.9	1.68
10.43	83.5	1.56
5.84	75.1	1.56
7.43	51.2	1.56
9.43	30.6	1.62
7.55	71.5	1.62
13.71	76.2	1.66
11.47	51.2	1.66
11.47	54.8	1.66
5.20	68.0	1.49
9.77	43.2	1.50
9.79	44.1	1.50
9.20	63.9	1.50
9.81	73.6	1.75
8.86	63.5	1.75
7.79	71.5	1.75
9.43	68.2	1.75
5.16	71.3	1.75
12.25	55.8	1.59
11.05	45.1	1.59
9.23	0.0	1.77
7.73	68.1	1.68
9.12	14.2	1.58
9.41	21.4	1.58
11.02	0.5	1.58
11.32	45.1	1.58
9.25	74.1	1.63
9.98	32.4	1.69
6.41	83.3	1.64
12.18	73.5	1.64
9.35	74.5	1.64
9.96	71.3	1.64
10.82	33.0	1.64
5.59	52.2	1.64
5.55	85.3	1.64
12.90	81.3	1.80
10.21	47.8	1.80
10.62	82.5	1.80
10.88	32.2	1.80
10.18	70.3	1.64
10.03	45.5	1.64
10.06	74.0	1.71
11.48	58.7	1.71
9.08	48.4	1.71
13.41	70.8	1.73
10.73	74.3	1.55
8.37	82.9	1.41
12.49	60.3	1.72

Sample ABD2

UP134-13 ABD2a

Length angle to C Dpar

9.91	49.6	1.72
12.03	46.6	1.72
9.97	73.5	1.72
10.50	66.0	1.72
9.11	50.3	1.61
10.57	36.2	1.61
9.65	79.5	1.72
8.72	80.2	1.53
13.91	39.4	1.79
4.45	75.8	1.62
11.83	35.4	1.62
13.62	50.3	1.72

Sample ABD22
UP134-12 ABD22a

Cryst	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
1	19	213	100	1.95	21.85	14.54	3.52	29.27	1.75
2	45	264	100	4.62	27.08	27.75	4.60	36.28	1.65
3	52	547	100	5.33	56.11	15.49	2.32	75.17	1.75
4	7	76	36	1.99	21.65	15.01	5.96	29.01	1.60
5	15	122	36	4.27	34.76	20.03	5.53	46.57	1.53
6	6	69	64	0.96	11.06	14.17	6.06	14.82	1.42
7	69	471	100	7.08	48.31	23.86	3.21	64.72	1.63
8	19	104	40	4.87	26.67	29.74	7.50	35.73	1.65
9	6	103	36	1.71	29.35	9.50	4.00	39.32	1.47
10	53	451	100	5.44	46.26	19.15	2.87	61.98	1.56
11	9	58	64	1.44	9.30	25.27	9.10	12.45	1.41
12	20	305	60	3.42	52.14	10.69	2.50	69.85	1.79
13	3	39	100	0.31	4.00	12.54	7.53	5.36	1.82
14	15	99	36	4.27	28.21	24.67	6.90	37.79	1.62
15	43	259	64	6.89	41.51	27.03	4.57	55.61	1.66
16	10	121	80	1.28	15.51	13.47	4.46	20.78	1.56
17	12	82	64	1.92	13.14	23.83	7.42	17.61	1.65
18	34	235	100	3.49	24.10	23.56	4.41	32.29	1.52
19	18	106	60	3.08	18.12	27.65	7.13	24.28	1.86
20	33	302	64	5.29	48.40	17.80	3.33	64.84	1.72
21	8	51	60	1.37	8.72	25.54	9.76	11.68	1.69

Sample ABD22

UP134-12 ABD22a

Length	angle to C	Dpar
12.83	68.3	1.52
14.08	58.8	1.58
15.21	43.9	1.58
13.38	57.1	1.75
13.78	56.7	1.75
12.11	54.2	1.75
11.33	58.3	1.75
11.37	45.9	1.75
14.37	47.8	1.77
11.93	85.7	1.77
9.30	57.3	1.77
13.67	79.5	1.78
14.54	29.6	1.78
13.09	55.0	1.78
12.76	74.1	1.78
16.29	41.8	1.78
12.52	75.2	1.73
13.45	76.6	1.77
14.53	76.9	1.70
12.27	56.0	1.70
5.03	38.1	1.70
13.81	71.2	1.70
10.37	76.4	1.57
11.72	57.1	1.57
11.09	82.4	1.57
10.04	62.8	1.57
14.07	79.9	1.90
14.29	66.3	1.90
4.16	77.4	1.90
15.33	64.0	2.11
13.86	23.0	2.11
10.69	61.7	2.11
12.43	19.7	2.11
12.21	78.6	2.11
11.86	53.2	2.11
10.23	33.5	2.11
11.85	71.3	1.50
8.16	79.9	1.50
10.06	49.0	1.56
12.30	76.6	1.70
13.99	57.0	1.70
14.82	84.7	1.70
11.00	65.8	1.70
11.83	54.8	1.70
14.51	84.7	1.75
13.93	60.0	1.75
13.14	53.8	1.35
14.24	66.1	1.56

Sample ABD22

UP134-12 ABD22a

Length	angle to C	Dpar
12.92	50.3	1.56
13.47	54.2	1.56
12.70	58.9	1.56
12.78	62.8	1.56
14.25	53.5	1.47
9.95	89.2	1.47
8.68	52.9	1.53
15.43	25.1	1.69
12.57	88.3	1.69
14.61	14.1	1.69
13.60	50.5	1.73
7.02	82.6	1.73
11.67	53.3	1.57
15.83	63.4	1.47
12.57	61.7	1.47
12.86	53.9	1.47
14.10	68.8	1.47
10.10	23.5	1.47
14.26	24.6	1.68
14.47	33.2	1.68
8.81	55.2	1.68
14.10	53.5	1.70
11.92	50.0	1.86
14.63	48.1	1.86
14.01	31.5	1.86
13.35	66.4	1.86
13.30	49.2	1.86
10.11	62.1	1.86
14.46	52.4	1.84
13.96	51.7	1.84
13.72	47.3	1.85
12.72	67.1	1.85
11.34	28.9	1.85
15.13	57.7	1.90
14.28	70.8	1.90
14.38	20.6	1.90
14.52	72.4	1.90
13.64	72.3	1.90
12.92	80.5	1.82
15.24	21.5	1.82
13.75	60.4	1.82
14.22	50.1	1.94
11.63	65.2	1.94
9.34	51.6	1.94
12.43	65.9	1.94
14.15	70.7	1.77
10.93	88.5	1.77
8.43	58.4	1.77

Sample ABD22

UP134-12 ABD22a

Length	angle to C	Dpar
16.29	74.8	1.77
13.10	53.4	1.77
14.92	75.6	2.26
15.77	39.9	2.26
14.88	52.0	1.99
11.92	52.5	1.99
14.63	51.8	1.80
12.28	46.8	1.80
15.20	58.4	1.80
13.60	48.2	1.80
13.19	75.6	1.80
14.25	83.4	1.81
12.93	53.0	1.81
12.33	62.1	1.73
8.98	73.2	1.73
13.97	40.3	1.73
14.56	57.4	1.72
12.75	68.4	1.72
12.69	46.3	1.72
7.27	44.4	1.72
14.97	65.0	1.72
7.94	51.2	1.72
15.36	70.7	1.64
11.92	51.9	1.64
10.20	72.0	1.64
13.27	43.5	1.42
13.58	51.4	1.42
9.21	79.1	1.59
14.32	46.7	1.59
12.01	41.8	1.59
4.69	82.1	1.59
14.50	55.6	1.71
3.94	43.0	1.71
13.26	36.6	1.48
11.45	46.1	1.78
14.44	54.7	1.78
14.44	67.8	1.81
13.49	87.3	1.81
6.02	50.6	1.81
4.59	64.6	1.81
13.80	87.2	1.81
9.28	34.2	1.81
10.94	35.4	1.81
13.34	81.4	1.83
13.76	50.9	1.83
14.44	85.2	1.83
13.69	28.2	1.83
14.92	41.9	1.83

Sample ABD22

UP134-12 ABD22a

Length	angle to C	Dpar
14.33	66.4	1.83
13.95	51.8	1.52
13.34	75.3	1.52
13.06	81.1	1.52
13.61	83.6	1.52
15.57	45.3	1.66
14.12	55.2	1.66
15.12	87.9	1.77
13.87	60.4	1.77
10.35	14.5	1.75
9.60	61.1	1.63
10.63	56.3	1.72
12.73	61.0	1.72
14.87	62.7	1.72
11.70	61.8	1.72
13.79	72.7	1.81
16.97	51.6	1.81
10.34	71.2	1.81
12.44	36.4	1.81
12.10	17.4	1.81
10.84	28.4	1.81
13.90	73.2	1.86
10.71	31.4	1.86
14.58	33.5	1.86
14.76	53.4	1.86
14.81	52.3	1.86
10.60	46.6	1.86
13.26	50.3	1.86
11.23	89.4	1.86
12.12	63.6	2.08
13.51	14.8	1.79
11.34	78.0	1.79
9.32	12.5	1.79
10.66	66.0	1.79
11.29	78.0	1.65
12.39	66.8	1.87
14.08	47.5	1.95
10.02	78.9	1.95
14.70	41.1	1.58
13.25	83.4	1.58
6.76	66.5	1.58
13.91	48.8	1.58
14.18	64.7	1.80
15.71	53.0	1.80
13.28	57.3	1.80
8.11	72.8	1.80
14.81	42.7	1.41
15.04	19.8	1.76

Sample ABD22

UP134-12 ABD22a

Length	angle to C	Dpar
10.24	27.1	1.76
8.67	50.6	1.76
15.64	52.5	1.64
14.92	18.7	1.64
13.77	76.9	1.76
14.40	54.5	1.76
15.23	58.8	1.76
13.13	78.6	1.76
10.96	42.8	1.76
8.85	86.1	1.76
14.55	41.7	1.61
15.91	49.2	1.61
14.26	55.7	1.61
11.99	78.3	1.61
12.15	57.6	1.61
9.19	79.4	1.61
15.26	39.0	1.61
14.81	74.5	1.83
14.82	61.7	1.83
11.44	58.1	1.83
10.64	29.5	1.83
14.50	51.0	1.83
12.97	76.2	1.83
13.50	53.2	1.83
13.26	56.3	1.63
14.57	75.4	1.63
13.10	71.8	1.63
14.14	40.7	1.63
9.74	70.1	1.63
11.44	68.0	1.63
14.18	87.9	1.63
15.52	51.8	1.65
9.58	50.4	1.65
14.46	71.6	1.78
11.43	42.3	1.78
13.58	46.9	1.78

Zircon U-Pb Geochronology

We dated zircon using U-Pb from eight detrital samples from the ANT region and four bedrock samples from the LB range by laser ablation ICP-MS (a VG Series 2 Plasmaquad ICP-MS and a 213-nm New Wave laser system) at the Jack Satterly Geochronology Laboratory at University of Toronto. Zircon grains were mounted in epoxy and polished, then imaged with cathodoluminescence (CL) and backscattered electrons (BSE) using a JEOL JSM6610-Lv scanning electron microscope. CL and BSE images were used to avoid cracks and target specific crystal domains when conducting laser ablation. Details are included in the Data Repository.

We focus on analyses that yield less than $\pm 15\%$ discordance, but also report analyses with discordance ranging from ± 15 - 40% (Fig. 6). Because $^{206}\text{Pb}/^{207}\text{Pb}$ ages are most reliable for old zircons, we use $^{206}\text{Pb}/^{238}\text{U}$ age for an analysis when younger than 1000 Ma and use its $^{206}\text{Pb}/^{207}\text{Pb}$ age if the $^{206}\text{Pb}/^{238}\text{U}$ age is older than 1000 Ma in histograms and probability density function plots (e.g., Gehrels, 2014).

Apatite Fission-Track Thermochronology

We performed apatite fission-track (AFT) thermochronology on six detrital and two bedrock samples from the ANT region at the Universität Potsdam using the external detector method (Table 1) (Gleadow, 1981; Hurford and Green, 1983). Apatite grains were mounted on glass slides with epoxy, ground, polished and etched with 21°C, 5.5 N HNO_3 for 20 seconds (Carlson et al., 1999; Donelick et al., 2005). We then attached a low-U mica sheet to each sample and irradiated them in the Oregon State University Radiation Center together with CN5 dosimeters. Following irradiation, the mica external

detectors were etched with 21°C, 40% hydrofluoric acid (HF) for 45 minutes. We also treated an aliquot of apatite grains from each bedrock sample (ABD2 and ABD22) with heavy ion irradiation at the Materials Research Department of the GSI Helmholtzzentrum (Darmstadt, Germany), in order to enhance yields of measurable confined tracks (Jonckheere et al., 2007). Heavy ion-treated slides were etched under the same condition as the regular grain-mount slides.

C-axis parallel apatite grains were analyzed with reflected and transmitted light at 1250x magnification under a Leica DMRM microscope with drawing tube located above a digitizing tablet and a Kinetek computer-controlled stage driven by the FTStage program (Dumitru, 1994). AFT ages and Chi-squared (χ^2) values were calculated using the Trackkey program (Dunkl, 2002) following the procedures of Galbraith (1981). We used the ζ calibration method (Hurford and Green, 1983) with a ζ value of 370.1 ± 12.6 (R. Zhou). We measured horizontal confined fission tracks from as many c-axis parallel grains as possible; only track-in-tracks were measured (Donelick et al., 2005). D_{par} values (the etch figure length parallel to c-axis, Donelick et al., 2005) were used to parameterize the kinetic properties for grains that were either counted or containing track lengths. We averaged at least four measured D_{par} from each grain and report corrected values following Sobel and Seward (2010) using a factor of 0.88 (R. Zhou) (Fig. 7). We used the program BinomFit (Brandon, 2002) under the auto-mode to deconvolve the component ages for detrital samples (Fig. 7).

Single-grain Apatite (U-Th-Sm)/He Thermochronology

Clear apatite grains without apparent inclusions and other impurities were selected and packed individually in platinum tubes under a binocular microscope. We analyzed four to seven single-grain aliquots from each sample and used grain dimensions and number of terminations to calculate the F_T correction factor (Farley et al., 1996). Sample-containing tubes were loaded into a 25-spot laser chamber of an ASI Alphachron He extraction and analysis system at Universität Potsdam, equipped with a 30W Coherent 978 nm diode laser (FAP-98-30C-800-B) and a Pfeiffer Prisma 200 Quadrupole mass spectrometer. Blank tubes and age standards (Durango apatite) were routinely run together with samples. Samples were heated by the laser system at 8 amps (\sim 3.5W) for 5 minutes to release all He from the apatite crystals. The released gas was purified by exposure for 1 minute to a hot getter (SAES AP10N), designed to remove chemically active gas species. The amounts of ^4He in the purified gas were determined by isotope dilution using a ^3He tracer, calibrated against a manometrically determined ^4He standard. Each sample was re-extracted and analyzed a second time to make sure that the grain was degassed entirely in the first step. In this study, average ^4He blanks are ca. 0.76 fmol (0.017 ncc) and sample-to-blank ratios are averaged to 19. Sample-specific sample-to-blank ratios averaged over all aliquots was 27 for sample ABD22.

After degassing, the samples were recovered from the laser chamber, transferred to a clean lab at GFZ Potsdam, and prepared for analysis of U, Th, and Sm by isotope dilution. Samples and their Pt wraps were placed in 3 ml Savillex PFA screw-cap vials, spiked with a HNO_3 -based ^{235}U - ^{230}Th spike and a HNO_3 -based ^{149}Sm spike, and dissolved with \sim 0.5 ml 7N HNO_3 . The spikes are calibrated against NIST-traceable, Certified Reference Material ICP concentration standards. To ensure complete sample

dissolution and isotopic homogenization between sample and spikes, the vials were placed for at least 24 h on a hotplate at ~100°C. No significant amounts of Pt are dissolved during this process. The solution was then evaporated to dryness and re-dissolved for another 24 h in 1.5 ml 2% HNO₃. The solution was then analyzed for U, Th and Sm isotopic composition on a Thermo Element 2 XR ICP-MS instrument at GFZ Potsdam, equipped with a CETAC ASX-520 auto-sampler system, and run in low-resolution mode to maximize transmission of ions. Beside ²³⁸U, ²³⁵U, ²³²Th, ²³⁰Th, ¹⁴⁷Sm and ¹⁴⁹Sm, we also analyzed mass 234, which is used to detect potential Pt-Ar isobaric interferences on the U mass spectrum. Such interferences were generally found to be negligible. Instrumental mass fractionation was monitored by repeated analysis of ¹⁴⁹Sm/¹⁴⁷Sm ratios of naturally occurring Sm, and of the NIST SRM material U-500. Total procedural blanks were <0.005 pmol for ²³²Th, <0.0006 pmol for ¹⁴⁷Sm, and <0.003 pmol for ²³⁸U. Due to total blank levels commonly considerably lower than the above values and the high variability of total blank levels, no useful blank correction can be applied to the analytical data. Sample results with potentially significant contributions of the procedural blank on the overall U, Th, Sm abundances were discarded. Reproducibility (2SD) of standard solution concentration data is in the range of 0.4% for U, 1.3% for Th, and 0.6% for Sm.

Ages are calculated following Meesters and Dunai (2005) using U, Th, Sm abundances, blank-corrected He abundances, the F_T correction factor and the alpha-particle stopping distance described by Ketcham et al. (2011). The mean age determined for 66 Durango apatite aliquots in the Potsdam labs (excluding outliers) is 30.82±0.54 Ma (1SD), with a standard error (2SE) of ±0.21 Ma and reproducibility (2SD weighted

error/mean age) of $\pm 3.5\%$. This mean age is in good agreement with the $^{40}\text{Ar}/^{39}\text{Ar}$ reference age (31.44 ± 0.18 Ma) and related (U-Th-Sm)/He ages for the Durango apatite (mean of 31.02 ± 1.01 Ma, 1σ ; McDowell et al., 2005). For samples, we report a weighted error which weights the uncertainty of the isotopic abundance by the relative contribution to the total helium production and also includes the uncertainty on the blank-corrected measured ^4He . We report concentrations based on measured abundances and a mass calculated from grain dimensions converted to an equivalent spherical radius (ESR) and an assumed apatite density of 3.15 gm/cc (Table 2).

Results of sandstone modal composition point-counting

counted data

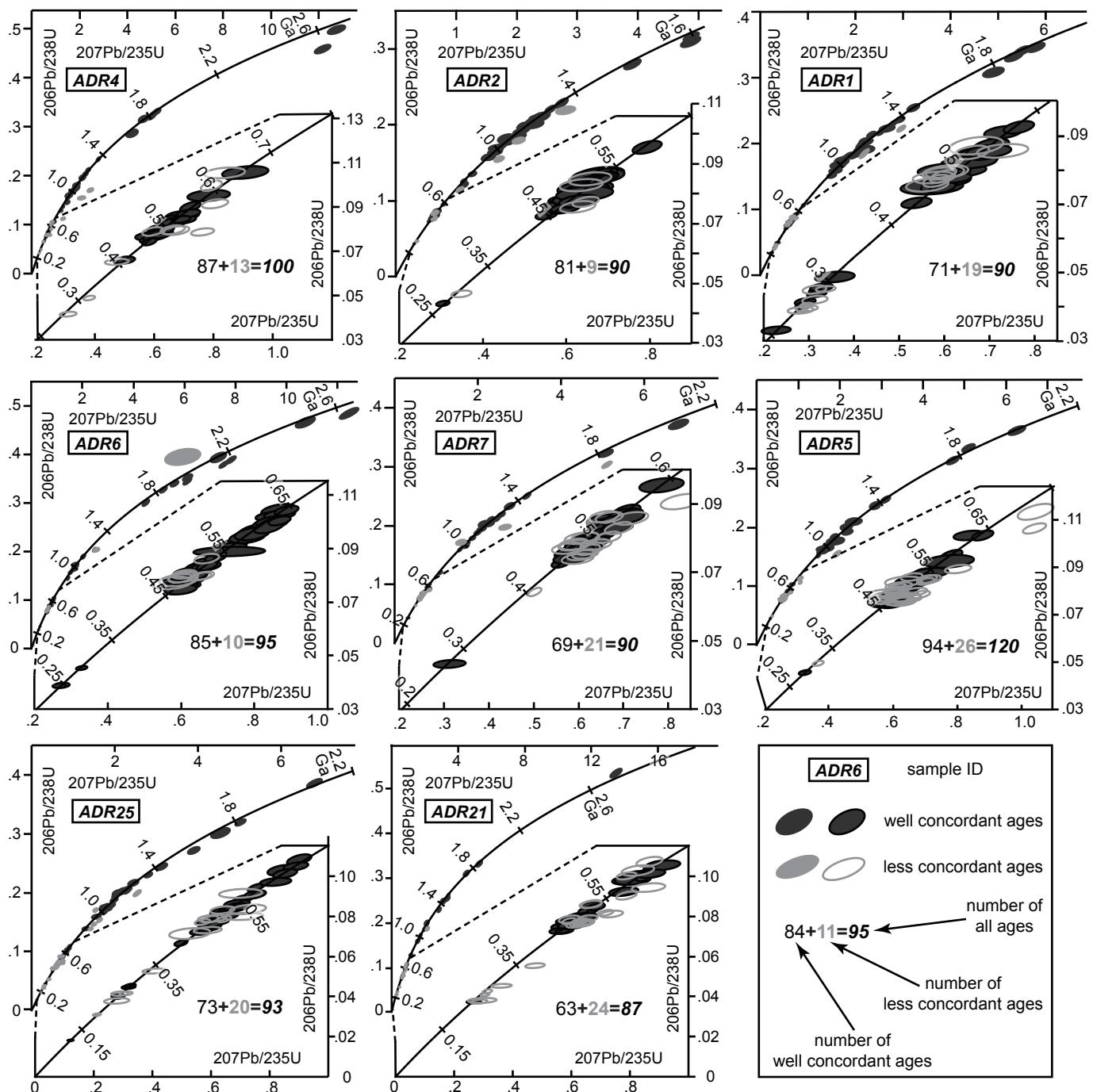
Section #	Sample ID	Qm	Qp	Qpt	Qms	C	S	K	P	Lvma	LvF	Lvv	LvX	Lvl	Lsh	Lph	Lsm	Lc	Acc	Fe-Ti	total	re-calculated data							
																						Qt	F	Lv	Lm	Ls	Lt	L	Ac
S1	A-DR-04	223	45	5		12	10	108	26	0	0	0	0	0	1	5	9	2	3	10	459	295	134	0	19	25	89	17	3
S1	A-PS-01	224	21	20		3	7	113	13	0	0	0	0	0	0	1	50	1	3	4	460	275	126	0	71	11	103	52	3
S1	A-SS-03	185	44	18		3	5	124	7	0	0	0	0	0	1	8	44	7	3	6	455	255	131	0	70	16	130	60	3
S1	A-SS-02	128	49	51		3	0	109	35	0	0	0	0	0	0	0	74	1	2	1	453	231	144	0	125	4	178	75	2
S1	A-DR-03	182	13	1		2	0	75	104	0	0	1	0	0	0	23	42	3	5	17	468	198	179	1	66	5	85	69	5
S1	A-SS-01	188	23	8		8	5	51	62	0	0	0	0	0	5	28	66	1	2	9	456	232	113	0	102	19	144	100	2
S1	A-DR-02	184	34	2		5	1	62	79	0	0	0	0	0	2	21	46	4	4	9	453	226	141	0	69	12	115	73	4
S1	A-DR-01	179	20	9		5	3	40	53	0	0	0	1	0	11	79	32	14	5	11	462	216	93	1	120	33	174	137	5
S2	A-DR-06	200	17	2		4	0	11	109	0	0	0	0	0	0	13	42	8	32	22	460	223	120	0	57	12	86	63	32
S2	A-DR-07	238	61	1		13	1	58	42	0	0	5	0	0	0	3	21	2	13	6	464	314	100	5	25	16	107	31	13
S2	A-DR-05	210	48	32		0	0	90	42	0	0	0	0	0	0	0	29	0	0	1	452	290	132	0	61	0	109	29	0
S3	A-PS-21	212	17	14		4	0	137	44	0	0	0	0	0	3	1	18	0	7	0	457	247	181	0	33	7	57	22	7
S3	A-DR-24	235	58	21		1	1	121	20	0	0	0	0	0	0	0	14	0	4	0	475	316	141	0	35	2	95	14	4
S3	A-DR-25	268	55	8		10	9	77	9	0	0	0	0	0	2	0	6	1	1	6	452	350	86	0	14	22	91	9	1
S3	A-DR-26	92	33	1		2	1	22	85	0	0	3	0	1	3	75	99	12	2	26	456	128	107	4	174	18	229	193	2
S3	A-DR-21	146	40	1		0	0	30	98	0	0	3	0	0	2	45	53	4	8	26	455	186	128	3	98	6	147	107	8

counted data

Qm	monocrystalline quartz
Qp	polycrystalline quartz
Qpt	foliated polycrystalline quartz
Qms	monocrystalline quartz in sandstone or quartzite lithic grain
C	chert
S	siltstone
K	potassium feldspar (including perthite, myrmekite, microcline)
P	plagioclase feldspar (including Na and Ca varieties)
Lvma	mafic volcanic grains (epidote ± pyx ± plag)
Lvf	felsic volcanic grains (sericite + qtz ± feldspar)
Lvv	vitric volcanic grains
Lvx	microlitic volcanic grains
Lvl	lathwork volcanic grains
Lsh	Mudstone
Lph	Phyllite
Lsm	schist (mica schist)
Lc	carbonate lithic grains
Acc	Epidote/Zoisite, Chlorite, Muscovite, Biotite, Zircon, Sphene, Clinopyroxene, Orthopyroxene, Monazite, Magnetite

re-calculated data

Qt	total quartzose grains (Qm+Qp+Qpt+Qms+C+S)
F	total feldspar grains (K+P)
Lv	total volcanic grains (Lvm+Lvf+Lvv+Lvx+Lvl)
Lm	total metamorphic grains (Lph+Lsm+Qpt)
Ls	total sedimentary grains (Lsh+Lc+C+S+Qms)
Lt	total lithic grains (Ls+Lv+Lm+Qp)
L	total non-quartzose lithic grains (Lv+Lsh+Lph+Lsm+Lc)
L'	total non-quartzose lithic grains, excluding volcanic lithic grains (L-Lv)
Lt'	total lithic grains, excluding volcanic lithic grains (Lt-Lv)
Acc	acc. min.



Zhou et al.
Data Repository
Detrital zircon U-Pb data for samples in the Antofagasta de la Sierra region, southern Puna Plateau

DR TABLE. PEAK AGES FROM DETRITAL ZIRCON U-PB AGES

sample ID	# of analyses with <15% discordance	results from the Age Pick program*											
ADR4	87	peak ages (Ma): 486 517 527 954 990 1031 1201 1848											
		# of grains: 15 11 9 8 13 8 8 3											
ADR2	81	peak ages (Ma): 482 506 525 942 995 1043 1092 1180 1275											
		# of grains: 16 5 7 6 9 8 8 13 8											
ADR1	71	peak ages (Ma): 257 467 482 496 513 525 907 949 995 1174 1302 1384 1436 1900											
		# of grains: 4 3 6 4 3 5 5 9 12 11 3 3 3 4											
ADR6	85	peak ages (Ma): 476 485 494 594 614 628 638 985											
		# of grains: 14 19 16 4 5 3 3 4											
ADR7	69	peak ages (Ma): 479 519 530 537 991 1039 1175 1307											
		# of grains: 16 5 4 5 5 6 3 3											
ADR5	94	peak ages (Ma): 484 517 527 951 982 1034 1210											
		# of grains: 18 16 14 6 12 11 8											
ADR25	73	peak ages (Ma): 284 467 480 507 521 534 1002 1034 1149 1233											
		# of grains: 3 6 9 6 4 3 9 11 5 3											
ADR21	63	peak ages (Ma): 474 486 614 646 966 1105											
		# of grains: 12 17 5 3 3 5											

* Age Pick program is a routine that calculates the ranges of ages and the peak ages that are present in a set of detrital zircon ages, developed at the Arizona LaserChron Center.

Sample ID	Measurements:		Standardized Concordia:				<u>88Sr Kcps</u>	<u>U ppm</u>	<u>Pb206 ppm</u>	<u>Th/U</u>	Ages Ma		<u>207Pb/206Pb</u>	<u>SigM</u>	<u>207Pb/235U</u>	<u>SigM</u>	<u>206Pb/238U</u>	<u>SigM</u>	%Disc	<u>SigM</u>	Reported	
	Analysis	207Pb/235U	SigM	206Pb/238U	SigM	RhoXY					207Pb/206Pb	SigM	207Pb/235U	SigM	206Pb/238U	SigM	ages Ma	SigM				
ANT-25-15		0.6198	0.0108	0.0773	0.0007	0.4955	1.3	755	58	0.22	536	33	490	7	480	4	10.9	5.5	479.9	4.0		
ANT-25-3		0.6055	0.0124	0.0755	0.0006	0.3851	0.5	182	14	0.46	535	41	481	8	469	4	12.7	6.5	469.4	3.6		
ANT-25-32.2o		0.5972	0.0078	0.0747	0.0005	0.5606	0.4	225	17	0.06	530	23	475	5	464	3	12.9	3.9	464.2	3.3		
ANT-25-26		0.6116	0.0099	0.0761	0.0006	0.4536	0.7	262	20	0.22	541	31	485	6	473	3	13.1	5.0	472.7	3.3		
ANT-25-33		0.6577	0.0143	0.0804	0.0007	0.4188	0.4	85	7	0.37	579	42	513	9	498	4	14.5	6.2	498.5	4.4		
ANT-25-7		0.5700	0.0107	0.0772	0.0006	0.4236	0.6	302	23	0.09	352	38	458	7	480	4	-37.7	14.0	479.5	3.7		
A-DR-25-52		0.7007	0.0301	0.0915	0.0009	0.2301	0.2	56	5	0.12	434	91	539	18	564	5	-31.5	23.6	564.5	5.3		
A-DR-25-20		1.5364	0.0230	0.1704	0.0013	0.5017	0.2	246	42	0.19	787	27	945	9	1014	7	-31.2	4.8	787	27		
ANT-y-25-10		0.5271	0.0286	0.0715	0.0011	0.2894	8.4	279	20	0.87	350	113	430	19	445	7	-28.0	32.3	444.9	6.8		
ANT-25-14		0.2887	0.0121	0.0415	0.0004	0.2578	0.4	70	3	1.14	215	91	258	10	262	3	-22.3	37.2	262.2	2.8		
ANT-y-25-21		0.5966	0.0111	0.0785	0.0007	0.4932	1.1	631	50	0.25	416	36	475	7	487	4	-17.7	9.8	487.4	4.3		
ANT-25-21		0.6388	0.0167	0.0831	0.0008	0.3483	0.2	107	9	0.60	441	54	502	10	515	5	-17.3	13.3	514.8	4.5		
ANT-y-25-12		0.2106	0.0055	0.0309	0.0002	0.2987	0.6	707	22	0.56	169	58	194	5	196	2	-16.5	30.5	196.2	1.5		
A-DR-25-44		0.6031	0.0195	0.0790	0.0007	0.2849	0.5	135	11	0.54	427	68	479	12	490	4	-15.5	16.4	490.3	4.3		
ANT-25-31		1.4902	0.0244	0.1464	0.0011	0.4516	0.1	86	13	0.31	1036	29	926	10	881	6	16.0	2.6	880.9	6.1		
A-DR-25-28		0.6438	0.0097	0.0787	0.0006	0.5281	1.1	742	58	0.16	580	28	505	6	488	4	16.5	4.1	488.1	3.7		
A-DR-25-9		0.5886	0.0193	0.0731	0.0007	0.2808	0.2	149	11	0.92	545	67	470	12	455	4	17.1	9.6	454.8	4.0		
ANT-25-11		1.6258	0.0231	0.1531	0.0014	0.6550	0.2	257	39	0.20	1121	21	980	9	918	8	19.4	1.8	918.5	8.0		
A-DR-25-1.2c		1.4140	0.0203	0.1383	0.0010	0.5143	0.3	75	10	0.38	1046	25	895	9	835	6	21.5	2.0	835.0	5.8		
A-DR-25-4		2.5343	0.0358	0.1990	0.0021	0.7580	0.2	237	47	0.16	1475	17	1282	10	1170	11	22.6	1.3	1475	17		
A-DR-25-2		0.7248	0.0252	0.0835	0.0010	0.3419	0.1	16	1	0.55	708	68	553	15	517	6	28.1	6.7	516.8	5.9		
ANT-25-16		0.4078	0.0169	0.0527	0.0005	0.2368	0.3	61	3	1.78	457	87	347	12	331	3	28.3	11.9	331.0	3.2		
ANT-25-4		0.3097	0.0092	0.0416	0.0004	0.3090	0.2	186	8	0.53	370	62	274	7	263	2	29.6	10.5	262.8	2.4		
ANT-25-20		0.2782	0.0175	0.0379	0.0006	0.2338	0.2	38	1	1.08	340	133	249	14	240	3	29.9	20.3	239.8	3.5		
A-DR-25-39.2o		0.7083	0.0280	0.0800	0.0007	0.2257	1.3	270	22	1.07	748	79	544	17	496	4	34.9	6.7	496.3	4.3		

Sample ID	Measurements:		Standardized Concordia:				88Sr				U	Pb206	Th/U	Ages Ma		Reported				
	Analysis	207Pb/235U	SigM	206Pb/238U	SigM	RhoXY	Kcps	ppm	ppm	207Pb/206Pb	SigM	207Pb/235U	SigM	206Pb/238U	SigM	%Disc	SigM	ages Ma	SigM	
ANT-y-21-14		0.6156	0.0110	0.0762	0.0006	0.4362	1.0	350	27	0.23	553	35	487	7	473	4	14.9	5.3	473.2	3.6
ANT-21-21		0.7875	0.0137	0.1003	0.0007	0.4234	0.3	152	15	0.84	489	34	590	8	616	4	-27.2	8.8	616.1	4.3
A-DR-21-35		0.5929	0.0147	0.0787	0.0007	0.3832	0.7	179	14	0.65	398	50	473	9	488	4	-23.4	14.4	488.2	4.5
A-DR-21-38		0.8663	0.0180	0.1073	0.0010	0.4500	0.1	163	18	0.24	551	40	634	10	657	6	-20.3	8.6	657.1	5.8
A-DR-21-19		0.8265	0.0228	0.1030	0.0011	0.3872	0.2	60	6	0.60	538	55	612	13	632	6	-18.3	11.5	631.8	6.4
ANT-21-15		0.6657	0.0153	0.0861	0.0007	0.3750	0.3	132	11	0.63	457	47	518	9	532	4	-17.2	11.3	532.2	4.4
ANT-21-12		0.5904	0.0093	0.0777	0.0006	0.5034	0.8	256	20	0.11	416	30	471	6	482	4	-16.6	8.2	482.5	3.7
A-DR-21-18		0.6686	0.0140	0.0862	0.0008	0.4508	0.2	86	7	0.70	463	41	520	8	533	5	-15.7	9.9	532.9	4.8
ANT-21-28		2.1371	0.0389	0.1860	0.0016	0.4796	0.3	79	15	0.43	1277	31	1161	13	1100	9	15.1	2.3	1277	31
ANT-21-5		0.6307	0.0112	0.0776	0.0006	0.4162	1.1	187	15	0.25	564	35	497	7	482	3	15.2	5.2	481.9	3.4
ANT-y-21-19		0.6138	0.0130	0.0758	0.0006	0.3498	0.8	219	17	0.77	556	43	486	8	471	3	15.9	6.3	471.1	3.4
ANT-21-2		0.6293	0.0149	0.0767	0.0006	0.3452	0.6	71	5	0.92	587	48	496	9	476	4	19.6	6.4	476.1	3.8
ANT-21-8		0.6546	0.0142	0.0790	0.0006	0.3795	0.4	149	12	0.41	606	43	511	9	490	4	19.9	5.6	490.3	3.9
ANT-21-44		0.3126	0.0066	0.0426	0.0004	0.4541	0.1	219	9	0.60	341	42	276	5	269	3	21.6	8.9	268.6	2.5
ANT-21-30		0.6371	0.0135	0.0770	0.0006	0.3708	1.2	230	18	0.29	605	42	500	8	478	4	21.8	5.4	477.9	3.6
ANT-21-7		0.7876	0.0143	0.0905	0.0008	0.5038	1.0	194	18	0.72	713	33	590	8	558	5	22.7	3.7	558.2	4.9
A-DR-21-28		0.6487	0.0120	0.0767	0.0007	0.4935	1.8	256	20	0.67	651	34	508	7	476	4	27.8	3.9	476.4	4.2
ANT-21-37		0.8631	0.0234	0.0944	0.0009	0.3339	0.5	51	5	1.18	815	53	632	13	582	5	30.0	4.6	581.7	5.0
ANT-y-21-03		0.3051	0.0062	0.0410	0.0003	0.3974	0.5	701	29	1.09	371	41	270	5	259	2	30.7	7.3	259.0	2.0
ANT-y-21-06		0.7168	0.0108	0.0818	0.0006	0.4662	3.6	578	47	0.70	725	28	549	6	507	3	31.3	2.8	507.2	3.4
ANT-21-34		0.7360	0.0162	0.0812	0.0007	0.3779	0.6	145	12	0.21	798	42	560	9	503	4	38.4	3.3	503.3	4.0
ANT-y-21-31		0.2852	0.0114	0.0375	0.0004	0.2860	0.1	179	7	0.24	418	84	255	9	237	3	44.1	9.7	237.3	2.7
ANT-y-21-20		0.3618	0.0141	0.0454	0.0004	0.2311	0.3	94	4	0.73	524	81	314	10	286	3	46.4	7.5	286.0	2.5
ANT-21-41		0.2961	0.0199	0.0381	0.0005	0.2025	0.3	28	1	0.61	466	140	263	15	241	3	49.1	12.2	241.2	3.2
ANT-21-6		0.4756	0.0137	0.0554	0.0005	0.3046	0.4	208	12	0.54	684	57	395	9	348	3	50.5	4.1	347.5	3.0

Sample ID	Measurements:		Standardized Concordia:				<u>88Sr</u> Kcps	U ppm	<u>Pb206</u> ppm	Th/U	Ages Ma			<u>207Pb/235U</u>	SigM	<u>207Pb/206Pb</u>	SigM	<u>206Pb/238U</u>	SigM	%Disc	SigM	Reported	
	Analysis	207Pb/235U	SigM	206Pb/238U	SigM	RhoXY					207Pb/206Pb	SigM	207Pb/235U	SigM	206Pb/238U	SigM	ages Ma	SigM	206Pb/238U	SigM	%Disc	SigM	ages Ma
ANT-07-34		0.6134	0.0152	0.0768	0.0007	0.3765	0.4	53	4	0.44	528	50	486	10	477	4.30	10.1	8.1	476.7	4.3			
ANT-y-07-45		0.5913	0.0128	0.0744	0.0007	0.4183	1.0	83	6	0.31	517	43	472	8	462	4.03	11.0	7.1	462.4	4.0			
ANT-y-07-76		0.6385	0.0124	0.0790	0.0006	0.4055	0.8	406	32	0.52	552	38	501	8	490	3.72	11.7	6.1	490.3	3.7			
ANT-07-30		0.3126	0.0146	0.0432	0.0005	0.2322	0.3	45	2	0.65	308	100	276	11	272	2.89	11.7	22.3	272.5	2.9			
A-DR-07-24		0.7125	0.0139	0.0861	0.0007	0.4247	0.3	139	12	0.28	604	38	546	8	532	4.22	12.3	5.5	532.5	4.2			
ANT-y-07-72		0.6247	0.0111	0.0773	0.0006	0.4552	1.0	378	29	0.21	552	34	493	7	480	3.73	13.4	5.3	480.2	3.7			
ANT-y-07-51		0.6187	0.0102	0.0767	0.0006	0.4829	0.8	187	14	0.38	549	31	489	6	476	3.67	13.7	4.9	476.4	3.7			
ANT-y-07-34		0.6121	0.0091	0.0760	0.0007	0.5975	1.8	296	23	0.45	545	26	485	6	472	4.06	13.9	4.2	472.2	4.1			
ANT-07-8		0.6059	0.0099	0.0753	0.0006	0.5072	0.8	275	21	0.17	543	31	481	6	468	3.74	14.3	4.8	468.1	3.7			
ANT-y-07-48		0.6864	0.0140	0.0831	0.0006	0.3739	0.3	68	6	0.12	600	41	531	8	515	3.78	14.7	5.7	514.7	3.8			
ANT-y-07-02		0.6573	0.0133	0.0863	0.0007	0.3810	0.2	594	51	0.20	422	41	513	8	534	3.94	-27.7	12.0	533.7	3.9			
ANT-07-23		0.5755	0.0143	0.0770	0.0006	0.3313	0.7	158	12	0.74	380	52	462	9	478	3.78	-26.8	15.7	478.1	3.8			
ANT-y-07-29		0.5887	0.0137	0.0782	0.0007	0.4005	0.7	494	39	0.95	397	47	470	9	485	4.35	-22.9	13.6	485.1	4.3			
A-DR-07-7		1.5910	0.0482	0.1715	0.0018	0.3549	0.1	76	13	0.40	847	58	967	19	1020	10.14	-22.2	8.5	847	58			
A-DR-07-8.1c		0.6081	0.0157	0.0800	0.0007	0.3364	1.0	346	28	0.22	417	53	482	10	496	4.15	-19.8	14.2	496.2	4.1			
ANT-y-07-03		0.5920	0.0135	0.0780	0.0006	0.3240	0.8	552	43	0.88	414	47	472	9	484	3.44	-17.7	12.7	484.3	3.4			
ANT-y-07-07		0.6136	0.0122	0.0802	0.0006	0.4037	0.4	720	58	0.60	432	40	486	8	497	3.83	-15.8	10.3	497.4	3.8			
ANT-y-07-74		0.6682	0.0123	0.0861	0.0006	0.4032	0.9	404	35	0.49	463	37	520	7	533	3.78	-15.6	8.9	532.5	3.8			
ANT-y-07-31		0.7163	0.0158	0.0858	0.0008	0.4037	0.4	496	43	1.61	624	43	549	9	531	4.52	15.5	5.8	530.6	4.5			
ANT-07-20		5.1029	0.0481	0.3036	0.0023	0.7977	0.2	583	177	0.42	1984	10	1837	8	1709	11.28	15.8	0.8	1984	10			
ANT-07-7		0.6064	0.0131	0.0750	0.0006	0.3752	0.6	145	11	0.30	553	43	481	8	466	3.64	16.1	6.4	466.4	3.6			
ANT-07-9		0.6224	0.0104	0.0766	0.0006	0.4921	0.7	380	29	0.16	565	31	491	6	476	3.76	16.3	4.7	475.8	3.8			
A-DR-07-27		0.6387	0.0141	0.0781	0.0006	0.3627	1.0	138	11	0.20	578	44	502	9	485	3.73	16.7	6.2	484.9	3.7			
ANT-07-19		0.6890	0.0125	0.0830	0.0007	0.4907	0.4	278	23	0.35	612	34	532	7	514	4.40	16.7	4.7	513.8	4.4			
ANT-07-17		0.5023	0.0062	0.0643	0.0005	0.6307	1.9	1490	96	0.22	479	21	413	4	402	3.01	16.8	3.7	401.5	3.0			
ANT-07-35		0.5975	0.0145	0.0740	0.0006	0.3425	0.4	49	4	0.74	551	49	476	9	460	3.70	17.1	7.1	460.1	3.7			
ANT-y-07-38		0.6282	0.0118	0.0770	0.0007	0.4930	0.8	141	11	0.11	574	35	495	7	478	4.27	17.3	5.1	478.1	4.3			
ANT-07-12		0.6659	0.0118	0.0803	0.0007	0.4779	0.7	434	35	0.63	610	33	518	7	498	4.06	19.1	4.5	497.7	4.1			
ANT-07-1		0.6152	0.0118	0.0754	0.0006	0.3889	0.8	141	11	0.22	574	38	487	7	468	3.37	19.1	5.3	468.4	3.4			
ANT-07-37		2.6504	0.0563	0.1972	0.0017	0.4120	0.2	24	5	1.23	1577	36	1315	16	1160	9.28	28.9	1.9	1577	36			
ANT-y-07-54		0.8290	0.0190	0.0907	0.0009	0.4475	1.9	203	18	1.13	815	42	613	10	560	5.49	32.7	3.6	559.8	5.5			

Sample ID	Measurements:		Standardized Concordia:				Ages Ma												Reported	
	Analysis	207Pb/235U	SigM	206Pb/238U	SigM	RhoXY	Kcps	U ppm	Pb206 ppm	Th/U	207Pb/206Pb	SigM	207Pb/235U	SigM	206Pb/238U	SigM	%Disc	SigM	ages Ma	SigM
A-DR-02-13.20		2.0942	0.0274	0.1913	0.0017	0.6661	0.2	334	64	0.08	1182	19	1147	9	1128.4	9.0	5	2	1182	19
ANT-02-34		0.6190	0.0209	0.0781	0.0008	0.3020	0.3	417	33	1.25	510	69	489	13	484.8	4.8	5	12	484.8	4.8
ANT-02-1		2.2447	0.0439	0.1995	0.0017	0.4281	0.6	60	12	0.60	1236	34	1195	14	1172.5	9.0	6	3	1236	34
A-DR-02-49		0.6817	0.0116	0.0844	0.0007	0.5117	0.2	223	19	0.38	553	31	528	7	522.1	4.3	6	5	522.1	4.3
A-DR-02-30		0.5890	0.0128	0.0749	0.0006	0.3814	0.8	203	15	0.59	494	44	470	8	465.5	3.7	6	8	465.5	3.7
A-DR-02-39		1.2656	0.0251	0.1351	0.0012	0.4602	0.2	93	13	0.86	866	36	830	11	817.1	7.0	6	4	817.1	7.0
A-DR-02-22		2.0264	0.0274	0.1865	0.0015	0.5999	0.3	344	64	0.41	1168	21	1124	9	1102.1	8.2	6	2	1168	21
A-DR-02-15		0.5929	0.0089	0.0752	0.0007	0.5917	0.5	466	35	1.06	500	26	473	6	467.2	4.0	7	5	467.2	4.0
A-DR-02-45		0.5938	0.0090	0.0753	0.0006	0.5339	1.0	305	23	0.82	501	28	473	6	467.7	3.7	7	5	467.7	3.7
ANT-02-37		0.6285	0.0137	0.0788	0.0007	0.3964	0.7	1238	98	0.12	524	43	495	9	489.0	4.1	7	8	489.0	4.1
A-DR-02-41		4.8719	0.0653	0.3095	0.0028	0.6780	0.4	111	34	0.75	1866	18	1797	11	1738	14	8	1	1866	18
A-DR-02-16		2.0238	0.0424	0.1848	0.0016	0.4219	0.2	75	14	0.51	1183	37	1124	14	1093.1	8.9	8	3	1183	37
ANT-02-10		0.6577	0.0177	0.0815	0.0007	0.3425	0.3	304	25	0.40	549	54	513	11	505.1	4.5	8	9	505.1	4.5
A-DR-02-59		2.0356	0.0466	0.1854	0.0018	0.4172	0.2	22	4	0.58	1188	41	1127	16	1096.2	9.6	8	3	1188	41
A-DR-02-6		2.3103	0.0515	0.2008	0.0020	0.4488	0.3	38	8	1.74	1279	38	1215	16	1180	11	9	3	1279	38
ANT-02-40		0.6406	0.0103	0.0797	0.0007	0.5161	0.7	2405	192	0.13	541	30	503	6	494.3	4.0	9	5	494.3	4.0
ANT-02-14		0.6438	0.0278	0.0800	0.0010	0.2938	0.9	217	17	0.69	543	88	505	17	496.2	6.1	9	13	496.2	6.1
A-DR-02-14		0.5981	0.0141	0.0752	0.0007	0.3764	0.7	175	13	0.22	516	47	476	9	467.7	4.0	10	8	467.7	4.0
ANT-02-8		0.6197	0.0120	0.0770	0.0007	0.4431	0.8	498	38	0.23	544	37	490	7	478.2	3.9	13	6	478.2	3.9
A-DR-02-1		1.1276	0.0265	0.1213	0.0014	0.5040	0.7	250	30	0.90	851	42	767	13	737.9	8.3	14	4	737.9	8.3
ANT-02-21		0.6206	0.0121	0.0767	0.0006	0.4298	1.2	701	54	0.58	554	38	490	8	476.6	3.8	15	6	476.6	3.8
ANT-02-4		0.6289	0.0192	0.0775	0.0009	0.3646	0.6	154	12	0.26	561	61	495	12	481.2	5.2	15	9	481.2	5.2
A-DR-02-56		0.6357	0.0210	0.0828	0.0008	0.3084	0.2	40	3	1.06	438	68	500	13	513.1	5.0	-18	17	513.1	5.0
ANT-02-20		0.6564	0.0208	0.0849	0.0009	0.3319	0.3	182	15	0.63	455	65	512	13	525.3	5.3	-16	15	525.3	5.3
A-DR-02-13.1c		2.8066	0.0638	0.2191	0.0021	0.4173	2.2	42	9	0.82	1486	39	1357	17	1277	11	15	3	1486	39
A-DR-02-54		2.0302	0.0418	0.1793	0.0017	0.4483	0.2	44	8	0.54	1248	36	1126	14	1063.4	9.0	16	3	1248	36
A-DR-02-55.20		1.0620	0.0240	0.1144	0.0014	0.5541	0.2	64	7	0.37	849	39	735	12	698.0	8.3	19	4	698.0	8.3
ANT-02-41		1.7077	0.0330	0.1550	0.0015	0.4959	0.3	559	87	0.43	1195	33	1011	12	928.9	8.3	24	2	928.9	8.3
ANT-02-17		0.6274	0.0174	0.0756	0.0008	0.3692	0.5	260	20	0.58	610	55	494	11	469.8	4.6	24	7	469.8	4.6
ANT-02-35		0.6461	0.0126	0.0773	0.0007	0.4622	1.9	1693	131	0.48	627	37	506	8	479.7	4.2	24	5	479.7	4.2
ANT-02-28.1c		0.3491	0.0099	0.0465	0.0004	0.3407	0.2	745	35	0.70	388	59	304	7	293.3	2.8	25	10	293.3	2.8

Sample ID	Measurements:		Standardized Concordia:					88Sr					U	Pb206	Th/U	Ages Ma					Reported				
	Analysis	207Pb/235U	SigM	206Pb/238U	SigM	RhoXY	Kcps	ppm	ppm	ppm	207Pb/206Pb	SigM	207Pb/235U	SigM	206Pb/238U	SigM	%Disc	SigM	ages Ma	SigM					
A-DR-01-38		0.6921	0.0166	0.0852	0.0009	0.4390	0.3	272	23	0.38	563	46	534	10	527.3	5.3	7	8	527.3	5.3					
ANT-01-34		1.9701	0.0523	0.1827	0.0017	0.3593	0.2	64	12	0.68	1152	48	1105	18	1081.7	9.5	7	4	1152	4.8					
ANT-01-26		0.6982	0.0203	0.0856	0.0008	0.3080	0.2	181	15	0.58	574	59	538	12	529.3	4.6	8	9	529.3	4.6					
ANT-01-47		0.6156	0.0130	0.0773	0.0006	0.3811	0.6	118	9	0.12	521	42	487	8	480.0	3.7	8	7	480.0	3.7					
ANT-01-37		1.4948	0.0379	0.1508	0.0014	0.3787	0.2	62	9	0.51	982	47	928	15	905.7	8.1	8	5	905.7	8.1					
A-DR-01-15		0.2872	0.0068	0.0402	0.0004	0.4426	0.3	238	10	1.32	278	48	256	5	254.0	2.6	9	14	254.0	2.6					
ANT-01-32		4.8965	0.0884	0.3083	0.0030	0.5435	1.7	269	83	0.70	1883	27	1802	15	1732	15	9	2	1883	27					
A-DR-01-47		0.5958	0.0117	0.0749	0.0007	0.4533	0.3	416	31	0.31	519	38	475	7	465.4	4.0	11	6	465.4	4.0					
ANT-01-18		0.6262	0.0138	0.0777	0.0006	0.3342	0.7	242	19	0.29	547	45	494	9	482.4	3.4	12	7	482.4	3.4					
A-DR-01-36		0.3579	0.0178	0.0486	0.0006	0.2675	0.2	164	8	0.62	348	105	311	13	305.8	4.0	12	21	305.8	4.0					
ANT-01-27		0.2938	0.0064	0.0408	0.0003	0.3320	0.5	562	23	0.68	296	47	262	5	257.7	1.8	13	12	257.7	1.8					
A-DR-01-17		2.1827	0.0850	0.1899	0.0024	0.3302	0.1	12	2	0.49	1278	70	1176	27	1121	13	13	5	1278	70					
A-DR-01-48		0.3181	0.0089	0.0437	0.0004	0.3475	0.1	306	13	0.16	322	58	280	7	275.5	2.6	15	14	275.5	2.6					
ANT-01-8		0.5766	0.0190	0.0779	0.0007	0.2761	0.4	147	11	0.34	359	70	462	12	483.3	4.2	-36	23	483.3	4.2					
ANT-01-10		0.5896	0.0149	0.0793	0.0006	0.3184	0.6	209	17	0.25	369	53	471	9	491.7	3.8	-34	18	491.7	3.8					
A-DR-01-7		0.5621	0.0190	0.0757	0.0008	0.3050	0.2	41	3	0.42	366	71	453	12	470.2	4.7	-29	22	470.2	4.7					
A-DR-01-10		0.3128	0.0105	0.0449	0.0005	0.3348	0.2	74	3	0.62	220	71	276	8	283.0	3.1	-29	32	283.0	3.1					
A-DR-01-24		0.5973	0.0188	0.0793	0.0008	0.3269	0.3	276	22	0.49	397	65	476	12	491.9	4.9	-25	18	491.9	4.9					
A-DR-01-1		0.6707	0.0243	0.0872	0.0011	0.3349	0.1	28	2	0.37	443	74	521	15	539.2	6.3	-23	18	539.2	6.3					
A-DR-01-41		0.6062	0.0192	0.0796	0.0008	0.3118	0.4	157	13	0.33	423	66	481	12	493.5	4.7	-17	16	493.5	4.7					
A-DR-01-13o		0.5831	0.0124	0.0769	0.0007	0.4472	0.9	228	18	0.13	411	42	466	8	477.7	4.4	-17	11	477.7	4.4					
A-DR-01-35		0.5961	0.0112	0.0783	0.0008	0.5196	0.6	515	40	0.11	422	35	475	7	485.7	4.6	-16	9	485.7	4.6					
A-DR-01-3.1o		0.6605	0.0159	0.0852	0.0008	0.3981	0.5	53	5	0.12	460	48	515	10	527.3	4.8	-15	11	527.3	4.8					
A-DR-01-18		2.9596	0.0348	0.2224	0.0019	0.7339	0.4	252	56	1.08	1558	15	1397	9	1295	10	19	1	1558	15					
A-DR-01-39o		2.1794	0.0398	0.1841	0.0028	0.8452	0.1	633	117	0.12	1335	19	1174	13	1090	15	20	2	1335	19					
A-DR-01-58		0.7292	0.0231	0.0857	0.0008	0.3059	0.1	106	9	0.57	664	63	556	13	530.1	4.9	21	7	530.1	4.9					
A-DR-01-55		0.2867	0.0059	0.0394	0.0004	0.4608	0.5	560	22	0.89	319	41	256	5	249.2	2.3	22	9	249.2	2.3					
ANT-01-21		0.2821	0.0116	0.0388	0.0004	0.2573	0.2	246	10	0.54	319	88	252	9	245.2	2.5	24	17	245.2	2.5					
A-DR-01-8.1o		0.2944	0.0059	0.0402	0.0003	0.4195	0.5	315	13	0.40	334	41	262	5	254.0	2.1	24	8	254.0	2.1					
ANT-01-29		0.3377	0.0089	0.0451	0.0003	0.2871	0.2	407	18	0.38	385	56	295	7	284.2	2.1	27	10	284.2	2.1					
A-DR-01-59		0.3141	0.0114	0.0419	0.0005	0.3050	0.3	191	8	0.81	389	76	277	9	264.4	2.9	33	11	264.4	2.9					
A-DR-01-40		0.2958	0.0099	0.0393	0.0004	0.2666	0.3	326	13	0.91	394	71	263	8	248.7	2.2	38	10	248.7	2.2					

Sample ID	Analysis ID	88Sr	U	Pb206	Th/U	Standardized Concordia:				Ages Ma										age reported	
		Kcps	ppm	ppm		207Pb/235U	SigM	206Pb/238U	SigM	RhoXY	207Pb/ 206Pb	SigM	207Pb/ 235U	SigM	206Pb/ 238U	SigM	%Disc	SigM	age (Ma)	SigM	
Concordia Age = 510.4 ?4.1 Ma (95% confidence, decay-const. errs ignored) MSWD (of concordance) = 1.7, Probability (of concordance) = 0.19																					
LB5369	LB5369-13.2r	0.32	267	22	0.22	0.63917	0.01578	0.08101	0.00063	0.31341	500	51	502	10	502	4	0	10	502.1	3.7	
	LB5369-9.1r	0.32	101	8	0.70	0.65331	0.02706	0.08109	0.00067	0.20062	546	86	511	16	503	4	8	13	502.6	4.0	
	LB5369-19.2r	0.24	243	20	0.53	0.66263	0.01631	0.08178	0.00066	0.32586	558	50	516	10	507	4	10	8	506.8	3.9	
	LB5369-1	0.48	190	16	0.40	0.66325	0.00971	0.08191	0.00082	0.68092	557	23	517	6	508	5	9	4	507.5	4.9	
	LB5369-23	0.25	51	4	0.14	0.66946	0.01878	0.08196	0.00072	0.31351	576	57	520	11	508	4	12	8	507.8	4.3	
	LB5369-20.1r	0.30	185	15	0.15	0.67052	0.01572	0.08234	0.00067	0.34488	569	47	521	10	510	4	11	7	510.1	4.0	
	LB5369-15.2r	0.22	251	21	0.28	0.67554	0.01808	0.08305	0.00074	0.33222	567	54	524	11	514	4	10	8	514.3	4.4	
	LB5369-5	0.26	117	10	0.57	0.64864	0.01137	0.08377	0.00093	0.63061	459	30	508	7	519	6	-14	7	518.6	5.5	
	LB5369-3.2c	0.22	151	13	0.54	0.66281	0.01099	0.08420	0.00086	0.61270	495	29	516	7	521	5	-6	6	521.2	5.1	
	LB5369-21	0.29	55	5	0.53	0.69962	0.02442	0.08460	0.00076	0.25844	603	71	539	14	524	5	14	10	523.5	4.5	
	LB5369-4	0.22	135	11	0.51	0.66796	0.01141	0.08470	0.00080	0.55308	499	31	519	7	524	5	-5	7	524.1	4.8	
	LB5369-6.1c	0.20	178	27	0.37	1.55625	0.02569	0.15294	0.00116	0.45915	1036	29	953	10	917	6	12	3	917.4	6.5	
	LB5369-24.2c	0.20	13	2	0.34	1.52520	0.07462	0.15317	0.00207	0.27672	992	93	941	30	919	12	8	9	919	12	
	LB5369-17	0.26	661	110	0.17	1.72626	0.01994	0.16614	0.00134	0.69837	1078	17	1018	7	991	7	9	2	990.8	7.4	
	LB5369-16	0.29	268	45	1.32	1.66195	0.02349	0.16814	0.00142	0.59683	977	23	994	9	1002	8	-3	3	977	23	
	LB5369-24.1c	0.19	11	2	0.40	1.70235	0.08303	0.17122	0.00200	0.24009	989	93	1009	31	1019	11	-3	10	989	93	
	LB5369-20.2c	0.30	66	13	0.72	2.08111	0.04504	0.19094	0.00173	0.41935	1173	38	1143	15	1126	9	4	3	1173	38	
	LB5369-13.1c	0.29	95	21	0.63	2.70115	0.05545	0.22109	0.00204	0.44925	1396	35	1329	15	1288	11	9	3	1396	35	
	LB5369-19.1c	0.27	329	75	0.45	2.70462	0.03590	0.22904	0.00186	0.61187	1330	20	1330	10	1329	10	0	2	1330	20	
	LB5369-9.2c	0.28	261	23	0.32	0.76043	0.01739	0.08984	0.00066	0.31919	653	46	574	10	555	4	16	6	554.6	3.9	
	LB5369-6.2r	0.39	552	52	0.12	0.81769	0.01406	0.09424	0.00081	0.50055	706	31	607	8	581	5	19	4	580.6	4.8	
	LB5369-18	0.29	233	20	0.21	0.70525	0.02280	0.08366	0.00074	0.27317	644	65	542	13	518	4	20	8	517.9	4.4	
	LB5369-22	0.24	58	5	0.42	0.69488	0.01898	0.08238	0.00070	0.31317	645	55	536	11	510	4	22	6	510.3	4.2	
	LB5369-15.1c	0.29	228	18	0.82	0.67083	0.01975	0.08009	0.00069	0.29171	630	60	521	12	497	4	22	7	496.6	4.1	
	LB5369-8	0.30	65	5	0.86	0.62160	0.03176	0.08252	0.00087	0.20623	397	108	491	20	511	5	-30	29	511.1	5.2	
	LB5369-12	0.29	124	40	0.64	0.58977	0.02020	0.08350	0.00074	0.17096	251	409	471	19	517	4	-110	65	517.0	4.2	
	LB5369-10	0.34	380	32	0.74	0.61810	0.01204	0.08554	0.00062	0.34611	303	44	489	8	520	4	-78	23	520.1	3.7	
LB4992	LB4992-20.2	0.40	264	22	0.84	0.64427	0.02599	0.08204	0.00090	0.27146	490	83	505	16	508	5	-4	16	508.3	5.4	

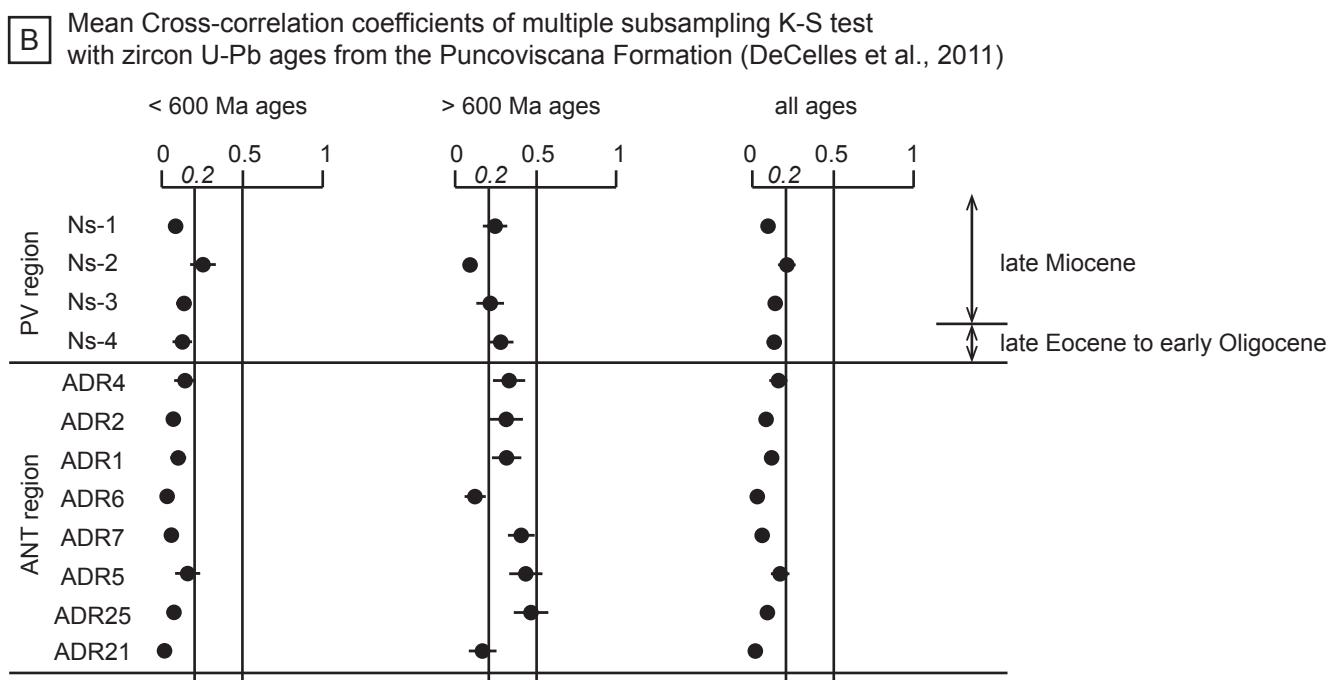
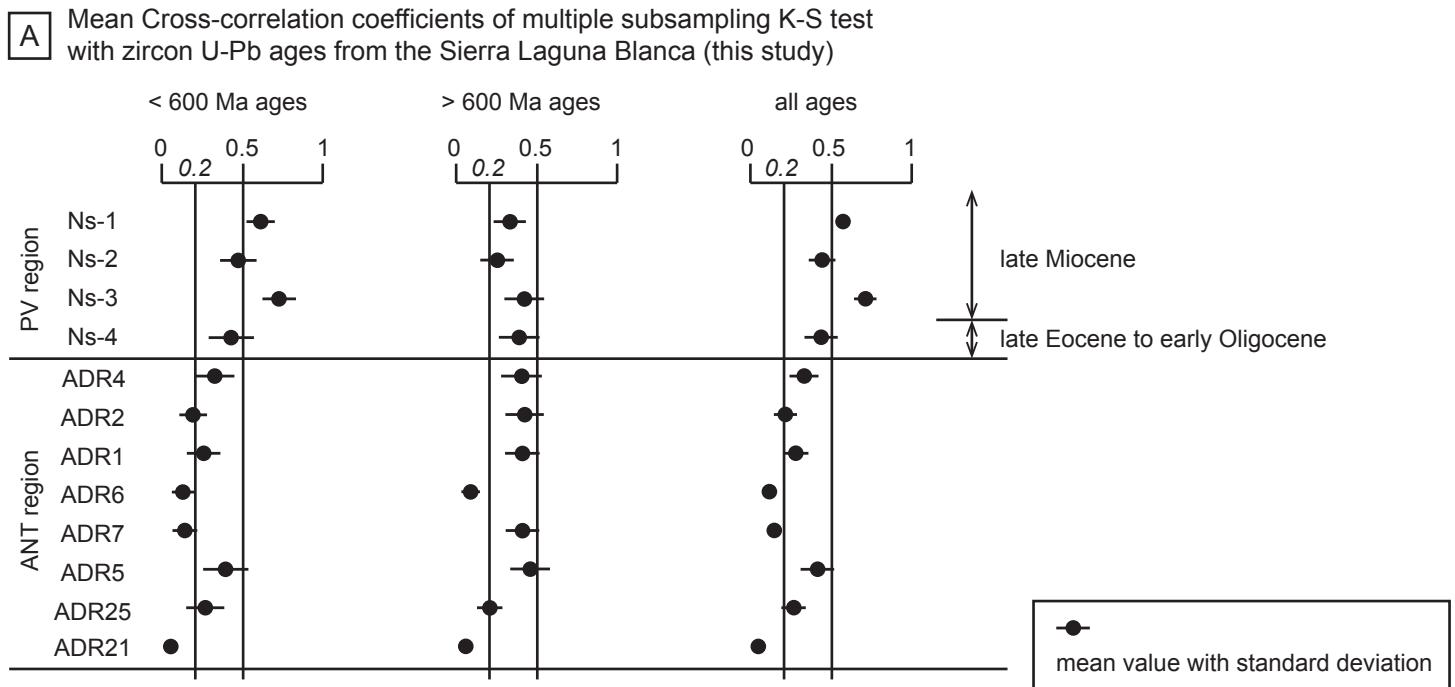
Sample ID	Analysis ID	88Sr	U	Pb206	Th/U	Standardized Concordia:						Ages Ma								age reported	
		Kcps	ppm	ppm		207Pb/235U	SigM	206Pb/238U	SigM	RhoXY	207Pb/206Pb	SigM	207Pb/235U	SigM	206Pb/238U	SigM	%Disc	SigM	age (Ma)	SigM	
LB4992-3		0.26	126	10	0.15	0.66226	0.01414	0.08233	0.00066	0.37651	542	43	516	9	510	4	6	7	510.0	3.9	
LB4992-6		0.31	295	24	0.64	0.64249	0.01367	0.08233	0.00057	0.32394	476	44	504	8	510	3	-7	9	510.0	3.4	
LB4992-20		0.30	162	13	0.59	0.67975	0.02813	0.08242	0.00075	0.22090	597	85	527	17	511	4	15	11	510.5	4.5	
LB4992-7.2r		0.23	140	12	0.52	0.67871	0.01864	0.08308	0.00066	0.29112	576	56	526	11	514	4	11	8	514.5	4.0	
LB4992-11		0.34	158	13	0.37	0.67046	0.02764	0.08366	0.00081	0.23383	534	85	521	17	518	5	3	14	517.9	4.8	
LB4992-16.2r		0.33	604	51	0.25	0.65647	0.01335	0.08397	0.00074	0.43425	480	40	512	8	520	4	-9	9	519.8	4.4	
LB4992-5.2r		0.32	215	18	0.22	0.65551	0.01478	0.08418	0.00059	0.31009	471	47	512	9	521	3	-11	10	521.0	3.5	
LB4992-14.2r		0.29	533	45	0.08	0.67432	0.01141	0.08440	0.00064	0.44767	528	33	523	7	522	4	1	6	522.3	3.8	
LB4992-18.2r		0.29	409	35	0.27	0.67764	0.01810	0.08482	0.00079	0.34670	528	54	525	11	525	5	1	10	524.8	4.7	
LB4992-19.2r		0.27	309	26	0.21	0.70298	0.01913	0.08559	0.00072	0.30953	588	55	541	11	529	4	10	8	529.4	4.3	
LB4992-5.1c		0.25	101	17	0.62	1.66940	0.03149	0.16577	0.00121	0.38673	1015	35	997	12	989	7	3	4	988.8	6.7	
LB4992-12.2r		0.22	610	102	0.14	1.71924	0.01802	0.16708	0.00113	0.64436	1059	16	1016	7	996	6	6	2	996.0	6.2	
LB4992-13		0.18	38	7	0.34	1.86419	0.08636	0.17039	0.00203	0.25766	1181	86	1068	30	1014	11	15	6	1181	86	
LB4992-22.2		0.20	144	25	2.00	1.83314	0.06495	0.17239	0.00184	0.30170	1124	66	1057	23	1025	10	10	6	1124	66	
LB4992-9		0.26	129	22	0.57	1.80693	0.03136	0.17316	0.00130	0.43391	1087	31	1048	11	1029	7	6	3	1087	31	
LB4992-12.1c		0.29	235	41	0.32	1.78598	0.02982	0.17327	0.00132	0.45691	1062	30	1040	11	1030	7	3	3	1062	30	
LB4992-19.1c		0.28	903	162	0.13	1.84420	0.02332	0.17892	0.00158	0.70022	1062	18	1061	8	1061	9	0	2	1062	18	
LB4992-22.1		0.23	81	15	1.30	1.93932	0.08069	0.17987	0.00192	0.25694	1152	78	1095	28	1066	11	8	6	1152	78	
LB4992-8		0.26	106	20	0.42	2.04610	0.03139	0.19234	0.00148	0.49999	1125	26	1131	10	1134	8	-1	3	1125	26	
LB4992-10		0.29	144	28	1.02	2.24535	0.03784	0.19485	0.00174	0.52875	1283	28	1195	12	1148	9	11	2	1283	28	
LB4992-15		0.34	223	44	0.92	2.17118	0.03508	0.19539	0.00169	0.53675	1212	27	1172	11	1150	9	6	2	1212	27	
LB4992-2.1c		0.21	39	8	0.75	2.30345	0.04349	0.19901	0.00169	0.44850	1291	33	1213	13	1170	9	10	3	1291	33	
LB4992-7.1c		0.29	146	32	0.37	2.61859	0.03641	0.22150	0.00166	0.54041	1332	22	1306	10	1290	9	4	2	1332	22	
LB4992-16.1c		0.23	186	50	0.50	3.61575	0.05587	0.26747	0.00231	0.55783	1587	24	1553	12	1528	12	4	2	1587	24	
LB4992-17		0.24	777	107	0.21	1.37534	0.01985	0.13800	0.00104	0.52353	994	25	878	8	833	6	17	2	833.4	5.9	
LB4992-14.1c		0.25	44	9	1.58	2.35558	0.08653	0.19490	0.00189	0.26450	1375	67	1229	26	1148	10	18	4	1375	67	
LB4992-18.1c		0.28	288	79	2.31	4.36425	0.06434	0.27543	0.00260	0.64141	1879	20	1706	12	1568	13	19	1	1879	20	
LB4992-2.2r		0.26	85	7	0.38	0.69311	0.01910	0.08292	0.00071	0.31175	626	55	535	11	514	4	19	7	513.5	4.2	
LB4992-1		0.20	196	22	0.18	1.06760	0.01414	0.11291	0.00095	0.63335	886	21	738	7	690	5	23	2	689.7	5.5	
LB4992-21		0.31	96	8	0.53	0.79310	0.04921	0.08383	0.00098	0.18786	887	121	593	28	519	6	43	7	518.9	5.8	
LB4621	LB4621-7.2r	0.29	631	51	0.11	0.66315	0.01045	0.08128	0.00064	0.49781	573	29	517	6	504	4	13	5	503.8	3.8	
	LB4621-23.2r	0.38	201	16	0.03	0.65607	0.00969	0.08150	0.00065	0.53605	544	27	512	6	505	4	7	5	505.1	3.8	
	LB4621-18	0.23	169	14	0.52	0.64411	0.01883	0.08164	0.00071	0.29612	500	60	505	12	506	4	-1	11	505.9	4.2	
	LB4621-16.2r	0.32	177	15	0.21	0.64519	0.01559	0.08289	0.00066	0.32999	470	50	506	10	513	4	-10	11	513.3	3.9	

Concordia Age = 510.7 ?5.2 Ma
 (95% confidence, decay-const. errs ignored)
 MSWD (of concordance) = 3.7,
 Probability (of concordance) = 0.054

Sample ID	Analysis ID	88Sr	U	Pb206	Th/U	Standardized Concordia:					Ages Ma								age reported	
		Kcps	ppm	ppm		207Pb/235U	SigM	206Pb/238U	SigM	RhoXY	207Pb/ 206Pb	SigM	207Pb/ 235U	SigM	206Pb/ 238U	SigM	%Disc	SigM	age (Ma)	SigM
LB4621-17.2r	0.25	143	12	0.23	0.66446	0.01914	0.08353	0.00075	0.31000	518	59	517	12	517	4	0	11	517.2	4.4	
LB4621-9.2r	0.31	370	31	0.27	0.68642	0.01795	0.08412	0.00072	0.32586	574	53	531	11	521	4	10	8	520.7	4.3	
LB4621-3.2r	0.28	530	45	0.24	0.70721	0.02073	0.08553	0.00072	0.28646	603	60	543	12	529	4	13	8	529.0	4.3	
LB4621-13.2r	0.28	377	34	0.57	0.75245	0.01977	0.08925	0.00075	0.32075	644	53	570	11	551	4	15	7	551.1	4.5	
LB4621-12	0.22	149	14	1.23	0.77198	0.03822	0.09383	0.00104	0.22393	592	101	581	22	578	6	2	15	578.1	6.1	
LB4621-10	0.25	125	17	0.63	1.31667	0.05313	0.13604	0.00130	0.23688	934	78	853	23	822	7	13	7	822.2	7.4	
LB4621-1.1c	0.25	597	91	0.24	1.52214	0.01798	0.15255	0.00118	0.65435	996	18	939	7	915	7	9	2	915.2	6.6	
LB4621-23.1c	0.20	11	2	0.49	1.50118	0.07361	0.15789	0.00189	0.24373	897	95	931	29	945	10	-6	11	945	10	
LB4621-2	0.23	627	100	0.38	1.61165	0.02312	0.15950	0.00118	0.51631	1022	25	975	9	954	7	7	2	954.0	6.6	
LB4621-21	0.24	72	12	0.37	1.64649	0.03177	0.16053	0.00130	0.42068	1052	35	988	12	960	7	9	3	959.7	7.2	
LB4621-17.1c	0.21	136	22	0.20	1.66003	0.02487	0.16350	0.00123	0.50028	1031	26	993	9	976	7	6	3	976.2	6.8	
LB4621-7.1c	0.20	48	8	0.50	1.70612	0.08096	0.16398	0.00174	0.22302	1081	90	1011	30	979	10	10	8	978.9	9.6	
LB4621-22	0.21	24	4	0.25	1.59676	0.04849	0.16422	0.00178	0.35591	944	57	969	19	980	10	-4	6	980.2	9.8	
LB4621-9.1c	0.22	579	106	0.43	2.03309	0.02143	0.18353	0.00117	0.60396	1205	16	1127	7	1086	6	11	1	1205	16	
LB4621-14	0.23	113	22	0.74	2.21369	0.05491	0.19605	0.00186	0.38209	1243	44	1185	17	1154	10	8	4	1243	44	
LB4621-15	0.27	105	21	0.45	2.07011	0.04644	0.19684	0.00169	0.38329	1102	41	1139	15	1158	9	-6	4	1102	41	
LB4621-16.1c	0.39	114	25	1.22	2.54548	0.04118	0.21899	0.00178	0.50238	1300	27	1285	12	1277	9	2	2	1300	27	
LB4621-13.1c	0.17	59	15	0.62	3.52271	0.11948	0.25898	0.00308	0.35026	1599	58	1532	27	1485	16	8	4	1599	58	
LB4621-11	0.29	803	221	0.58	3.64490	0.04189	0.27548	0.00204	0.64587	1547	16	1559	9	1569	10	-2	1	1547	16	
LB4621-3.1c	0.28	901	265	0.55	4.32393	0.04958	0.29366	0.00224	0.66507	1745	16	1698	9	1660	11	6	1	1745	16	
LB4621-20	0.20	149	69	0.15	11.26249	0.10587	0.46136	0.00337	0.77735	2625	10	2545	9	2446	15	8	1	2625.4	9.8	
LB4621-8	0.32	228	19	0.82	0.66757	0.01969	0.08100	0.00066	0.27613	595	60	519	12	502	4	16	8	502.1	3.9	
LB4621-6.2r	0.34	415	35	0.17	0.71113	0.01650	0.08463	0.00069	0.35215	637	46	545	10	524	4	19	6	523.7	4.1	
LB4621-6.1c	0.23	322	45	0.38	1.44448	0.03260	0.14097	0.00124	0.38849	1050	41	908	13	850	7	20	3	850.2	7.0	
LB4621-1.2r	0.28	193	16	0.26	0.70431	0.02597	0.08250	0.00071	0.23433	671	75	541	15	511	4	25	8	511.0	4.2	
LB4621-24	0.26	41	3	0.42	0.60857	0.01918	0.08144	0.00073	0.28355	379	67	483	12	505	4	-34	21	504.7	4.3	
LB4621-19	0.22	108	9	0.60	0.63749	0.02200	0.08300	0.00076	0.26467	440	72	501	14	514	5	-17	17	514.0	4.5	
LB4025	LB4025-13	0.29	106	8	0.67	0.58137	0.03471	0.07544	0.00079	0.17477	448	126	465	22	469	5	-5	24	468.8	4.7
		0.35	427	33	0.23	0.60034	0.01453	0.07632	0.00066	0.36000	493	49	477	9	474	4	4	9	474.1	4.0
		0.46	340	26	0.57	0.61887	0.01606	0.07703	0.00068	0.33771	540	53	489	10	478	4	12	8	478.4	4.0
		0.27	1008	86	0.77	0.70429	0.01221	0.08528	0.00067	0.45330	600	33	541	7	528	4	13	5	527.6	4.0
		0.16	26	4	0.49	1.76248	0.11145	0.17092	0.00210	0.19387	1063	120	1032	40	1017	12	5	11	1063	120
		0.37	447	175	0.91	7.48572	0.08013	0.39137	0.00323	0.77075	2211	12	2171	10	2129	15	4	1	2211.3	11.8
		0.28	241	19	1.19	0.58060	0.02986	0.07820	0.00083	0.20580	365	110	465	19	485	5	-34	32	485.4	4.9

Concordia Age = 474.4 ?4.9 Ma
 (2 σ , decay-const. errs ignored)
 MSWD (of concordance) = 0.95,
 Probability (of concordance) = 0.33

Sample ID	Analysis ID	88Sr U Pb206 Th/U				Standardized Concordia:					Ages Ma								age reported	
		Kcps ppm ppm				207Pb/235U	SigM	206Pb/238U	SigM	RhoXY	207Pb/ 206Pb	SigM	207Pb/ 235U	SigM	206Pb/ 238U	SigM	%Disc	SigM	age (Ma)	SigM
LB4025-23	0.25	52	4	0.51	0.57116	0.03720	0.07622	0.00078	0.15766	386	138	459	24	473	5	-24	34	473.5	4.7	
LB4025-17.2r	0.28	193	15	0.43	0.59284	0.02206	0.07816	0.00072	0.24919	413	79	473	14	485	4	-18	20	485.1	4.3	
LB4025-11.1c	0.31	565	56	0.22	0.86578	0.01551	0.09901	0.00074	0.41505	722	34	633	8	609	4	17	4	608.6	4.3	
LB4025-21	0.40	236	18	0.48	0.63064	0.01746	0.07671	0.00062	0.29159	590	56	496	11	476	4	20	7	476.4	3.7	
LB4025-24	0.48	239	18	0.08	0.63502	0.01499	0.07712	0.00065	0.35713	593	47	499	9	479	4	20	6	478.9	3.9	
LB4025-15	0.42	215	16	1.10	0.61410	0.02259	0.07440	0.00076	0.27785	599	75	486	14	463	5	24	9	462.6	4.6	
LB4025-14	0.28	114	9	0.49	0.66299	0.03314	0.07868	0.00081	0.20698	643	102	516	20	488	5	25	11	488.2	4.9	
LB4025-19	0.35	159	12	0.54	0.62641	0.02168	0.07525	0.00076	0.29009	617	70	494	13	468	5	25	8	467.7	4.5	
LB4025-8	0.46	817	61	1.68	0.70914	0.02237	0.07465	0.00073	0.31124	896	61	544	13	464	4	50	3	464.1	4.4	



Sample ADR1

crystal #	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
1	11	53	100	1.13	5.44	35.97	12.00	6.84	2.00
2	46	53	100	4.72	5.44	149.12	30.57	6.84	1.89
3	96	236	100	9.85	24.21	70.32	8.92	30.44	1.56
4	4	35	64	0.64	5.61	19.83	10.50	7.05	2.80
5	154	190	100	15.80	19.49	139.36	16.00	24.51	1.53
6	24	32	36	6.84	9.12	129.06	35.19	11.47	1.69
7	7	6	100	0.72	0.62	199.66	111.34	0.77	2.77
8	14	38	100	1.44	3.90	63.72	20.07	4.90	1.68
9	192	503	100	19.69	51.59	66.01	6.13	64.89	1.42
10	4	65	100	0.41	6.67	10.69	5.52	8.39	2.17
11	48	42	36	13.68	11.97	195.64	41.99	15.05	1.56
12	8	6	100	0.82	0.62	227.68	123.26	0.77	2.74
13	139	190	100	14.26	19.49	125.92	14.84	24.51	1.51
14	4	12	80	0.51	1.54	57.68	33.37	1.94	1.85
15	5	25	100	0.51	2.56	34.67	17.03	3.23	1.60
16	2	8	64	0.32	1.28	43.31	34.28	1.61	2.49
17	36	129	36	10.26	36.76	48.32	9.29	46.22	1.54
18	13	29	60	2.22	4.96	77.45	26.02	6.24	1.56
19	24	40	100	2.46	4.10	103.45	27.00	5.16	1.53
20	26	151	100	2.67	15.49	29.86	6.44	19.48	1.50
21	6	12	60	1.03	2.05	86.33	43.29	2.58	2.25
22	5	23	100	0.51	2.36	37.68	18.64	2.97	2.75
23	48	75	100	4.92	7.69	110.29	20.81	9.68	2.02
24	44	74	100	4.51	7.59	102.53	19.90	9.55	1.90
25	1	3	100	0.10	0.31	57.68	66.64	0.39	1.30
26	8	20	100	0.82	2.05	69.15	29.05	2.58	1.51
27	8	9	36	2.28	2.56	152.68	74.41	3.23	1.40
28	30	39	64	4.81	6.25	132.34	32.52	7.86	1.69
29	30	79	64	4.81	12.66	65.67	14.30	15.92	1.42
30	15	31	100	1.54	3.18	83.56	26.47	4.00	1.48
31	8	9	36	2.28	2.56	152.68	74.41	3.23	1.82
32	18	43	100	1.85	4.41	72.35	20.49	5.55	1.72
33	6	42	100	0.62	4.31	24.78	10.86	5.42	2.54
34	30	27	36	8.55	7.69	190.29	50.99	9.68	1.66
35	26	74	100	2.67	7.59	60.78	14.05	9.55	1.47
36	10	77	70	1.47	11.28	22.53	7.62	14.19	2.93
37	52	93	64	8.33	14.91	96.46	17.10	18.75	1.65
38	3	16	64	0.48	2.56	32.51	20.49	3.23	1.81
39	21	27	100	2.15	2.77	133.79	39.25	3.48	1.54
40	134	245	100	13.75	25.13	94.37	10.75	31.60	1.60
41	24	74	80	3.08	9.49	56.13	13.35	11.93	1.49

Sample ADR1

crystal #	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
42	19	118	100	1.95	12.10	27.93	6.98	15.22	2.46
43	32	53	64	5.13	8.49	104.10	23.63	10.68	1.57
44	52	61	64	8.33	9.78	146.49	28.20	12.30	1.71
45	186	363	100	19.08	37.23	88.45	8.65	46.83	1.59
46	16	38	64	2.56	6.09	72.77	21.86	7.66	2.69
47	77	133	64	12.34	21.32	99.85	14.79	26.81	1.53
48	19	65	64	3.05	10.42	50.61	13.34	13.10	1.79
49	5	23	100	0.51	2.36	37.68	18.64	2.97	2.82

Sample ID ADR1 (ANT-DR-01)

FT slide ID UP132-1, UP132-2

Length #	Length in micro	angle to C	Dpar
1	9.73	68.0	1.57
2	10.94	56.3	1.57
3	8.98	53.8	1.57
4	11.63	44.3	1.57
5	11.49	47.8	1.57
6	8.97	73.0	1.57
7	12.13	65.4	1.57
8	10.62	27.5	1.57
9	11.28	38.3	1.57
10	9.16	71.2	1.57
11	12.45	74.8	1.53
12	8.30	55.9	1.53
13	7.61	66.9	1.53
14	9.42	38.5	1.53
15	11.31	23.2	1.53
16	9.37	50.0	1.53
17	9.39	30.0	1.53
18	9.40	36.8	1.53
19	6.04	73.0	1.53
20	10.21	44.8	1.62
21	14.02	48.1	1.62
22	9.19	72.4	1.62
23	14.78	21.5	1.62
24	9.52	85.4	1.62
25	12.10	66.3	1.62
26	9.37	45.6	1.62
27	9.54	59.5	1.62
28	8.36	47.0	1.62
29	8.27	70.3	1.62
30	11.50	21.8	1.62
31	7.68	56.5	1.62
32	9.78	27.9	1.62
33	9.12	84.4	1.62
34	9.48	47.5	1.62
35	10.12	48.7	1.56
36	9.42	74.4	1.56
37	9.32	76.7	1.56
38	10.88	29.1	1.56
39	8.72	41.2	1.44
40	9.08	42.5	1.44
41	8.58	56.3	1.44
42	9.96	70.4	1.44
43	8.33	56.4	1.44

total N	89
Mean=	10.18
STDEV=	1.55
Skewness=	0.26
Kurtosis=	0.71

Length range	Count	Normalized%
0_to_1	0	0.00
1_to_2	0	0.00
2_to_3	0	0.00
3_to_4	0	0.00
4_to_5	0	0.00
5_to_6	0	0.00
6_to_7	2	0.02
7_to_8	2	0.02
8_to_9	12	0.13
9_to_10	30	0.34
10_to_11	19	0.21
11_to_12	13	0.15
12_to_13	7	0.08
13_to_14	2	0.02
14_to_15	2	0.02
15_to_16	0	0.00
16_to_17	0	0.00
17_to_18	0	0.00
18_to_19	0	0.00
19_to_20	0	0.00

44	8.43	49.8	1.44
45	9.64	55.3	1.44
46	11.76	13.9	1.44
47	10.26	24.0	1.44
48	6.24	58.1	1.58
49	9.97	69.5	1.58
50	9.48	63.3	1.58
51	9.07	73.7	1.58
52	12.63	56.7	1.58
53	9.96	50.7	1.58
54	8.17	45.1	1.58
55	9.70	75.5	1.47
56	10.21	46.0	1.47
57	9.39	77.2	1.47
58	10.66	66.9	1.47
59	10.57	30.6	1.47
60	11.40	44.2	1.47
61	9.43	72.2	1.47
62	10.63	50.8	1.47
63	9.93	54.1	1.47
64	10.99	25.4	1.43
65	10.82	44.1	1.43
66	11.02	71.7	1.43
67	8.76	47.9	1.43
68	13.18	75.5	2.08
69	11.71	54.4	1.63
70	8.04	54.0	1.63
71	10.66	54.0	2.05
72	10.55	78.2	2.05
73	11.54	27.9	1.53
74	12.55	39.2	1.53
75	9.34	59.4	1.53
76	11.50	40.5	1.53
77	10.47	19.5	1.53
78	10.88	40.8	1.71
79	11.11	60.2	1.71
80	10.08	57.5	1.60
81	9.79	77.2	1.60
82	10.79	79.7	1.60
83	13.30	58.0	1.60
84	12.92	43.9	1.60
85	9.74	55.2	1.60
86	9.43	67.2	1.60
87	10.26	60.5	1.60
88	11.22	63.9	1.56
89	12.20	68.2	1.56

Sample ADR2

crystal #	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
1	78	112	100	8.00	11.49	117.35	17.87	14.77	1.84
2	14	56	100	1.44	5.74	42.37	12.76	7.38	1.52
3	15	20	36	4.27	5.70	126.28	43.40	7.33	1.46
4	11	38	60	1.88	6.50	49.04	16.89	8.35	1.93
5	25	95	100	2.56	9.74	44.59	10.16	12.53	1.56
6	9	27	36	2.56	7.69	56.43	21.83	9.89	1.68
7	240	370	100	24.62	37.95	109.36	9.96	48.79	1.55
8	50	93	100	5.13	9.54	90.78	16.29	12.26	1.60
9	16	82	100	1.64	8.41	33.09	9.13	10.81	1.56
10	52	72	60	8.89	12.31	121.65	22.61	15.82	1.60
11	12	34	64	1.92	5.45	59.74	20.18	7.01	1.63
12	9	14	36	2.56	3.99	108.39	46.49	5.13	1.38
13	31	53	60	5.30	9.06	98.70	22.63	11.65	1.46
14	8	37	40	2.05	9.49	36.66	14.36	12.20	1.35
15	8	25	36	2.28	7.12	54.18	22.10	9.16	1.55
16	36	34	100	3.69	3.49	177.57	42.99	4.48	1.62
17	20	45	36	5.70	12.82	75.13	20.39	16.48	1.59
18	10	16	64	1.60	2.56	105.41	42.68	3.30	1.56
19	9	30	100	0.92	3.08	50.81	19.41	3.96	1.68
20	12	52	100	1.23	5.33	39.12	12.62	6.86	1.87
21	16	26	100	1.64	2.67	103.80	33.21	3.43	1.71
22	12	32	36	3.42	9.12	63.45	21.61	11.72	1.53
23	130	107	36	37.04	30.49	203.35	27.63	39.19	1.57
24	5	12	40	1.28	3.08	70.46	37.60	3.96	2.33
25	253	301	100	25.95	30.87	141.36	13.19	39.69	1.60
26	5	32	36	1.43	9.12	26.51	12.79	11.72	1.59
27	46	114	100	4.72	11.69	68.25	12.20	15.03	0.85
28	15	46	36	4.27	13.11	55.21	16.55	16.85	1.58
29	27	89	100	2.77	9.13	51.38	11.45	11.74	1.64
30	30	57	64	4.81	9.14	88.88	20.33	11.74	1.51
31	1	2	40	0.26	0.51	84.46	103.50	0.66	1.60
32	69	201	100	7.08	20.62	58.11	8.40	26.50	1.64
33	7	43	64	1.12	6.89	27.62	11.31	8.86	1.63
34	20	78	100	2.05	8.00	43.45	11.01	10.29	1.68
35	8	46	36	2.28	13.11	29.50	11.36	16.85	1.58
36	34	54	64	5.45	8.65	106.18	23.59	11.13	1.68
37	18	110	64	2.89	17.63	27.76	7.14	22.66	1.61
38	15	68	100	1.54	6.98	37.40	10.76	8.97	1.70
39	7	30	64	1.12	4.81	39.55	16.67	6.18	1.38
40	73	117	100	7.49	12.00	105.23	16.19	15.43	1.48
41	13	10	80	1.67	1.28	217.35	91.79	1.65	1.52

Sample ADR2

crystal #	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
42	22	31	100	2.26	3.18	119.56	33.63	4.09	2.26
43	6	11	100	0.62	1.13	92.09	46.87	1.45	1.48
44	21	167	100	2.15	17.13	21.35	5.01	22.02	1.36
45	26	52	64	4.17	8.33	84.46	20.54	10.71	1.65
46	154	208	100	15.80	21.34	124.68	14.07	27.43	1.76
47	21	143	64	3.37	22.92	24.92	5.90	29.46	1.26
48	21	107	100	2.15	10.98	33.29	8.04	14.11	1.49
49	24	81	64	3.85	12.98	50.19	11.82	16.69	1.62
50	30	153	64	4.81	24.52	33.26	6.76	31.52	1.63
51	30	141	80	3.85	18.08	36.08	7.38	23.24	1.55
52	30	56	60	5.13	9.57	90.46	20.75	12.31	1.39
53	17	51	100	1.74	5.23	56.43	15.95	6.73	1.59
54	35	105	100	3.59	10.77	56.43	11.22	13.85	1.48
55	3	22	36	0.86	6.27	23.15	14.27	8.06	1.50
56	18	56	100	1.85	5.74	54.43	14.89	7.38	1.59
57	6	29	60	1.03	4.96	35.09	15.79	6.37	1.87
58	5	38	100	0.51	3.90	22.33	10.66	5.01	2.51
59	10	47	80	1.28	6.03	36.08	12.64	7.75	1.41
60	16	64	80	2.05	8.21	42.37	11.95	10.55	1.33
61	40	79	64	6.41	12.66	85.53	16.91	16.28	1.40
62	40	48	100	4.10	4.92	140.17	30.47	6.33	2.25
63	16	108	100	1.64	11.08	25.14	6.80	14.24	1.74
64	7	21	100	0.72	2.15	56.43	24.72	2.77	1.46
65	7	49	100	0.72	5.03	24.25	9.84	6.46	1.92
66	31	80	64	4.97	12.82	65.56	14.09	16.48	1.60
67	14	93	64	2.24	14.91	25.55	7.39	19.16	1.62
68	7	32	60	1.20	5.47	37.09	15.54	7.03	1.53
69	4	25	100	0.41	2.56	27.15	14.66	3.30	1.99
70	7	25	100	0.72	2.56	47.44	20.36	3.30	1.62
71	7	38	60	1.20	6.50	31.25	12.91	8.35	1.50
72	54	133	100	5.54	13.64	68.67	11.38	17.54	1.62
73	18	28	64	2.89	4.49	108.39	33.00	5.77	1.44
74	17	31	64	2.73	4.97	92.58	28.16	6.39	1.72
75	25	43	64	4.01	6.89	98.11	24.95	8.86	1.48
76	46	66	100	4.72	6.77	117.44	22.99	8.70	1.78
77	21	15	100	2.15	1.54	233.77	79.52	1.98	1.90
78	13	45	100	1.33	4.62	48.94	15.52	5.93	1.45
79	22	40	100	2.26	4.10	92.85	24.89	5.27	1.62
80	17	136	100	1.74	13.95	21.22	5.52	17.93	1.47
81	12	33	64	1.92	5.29	61.54	20.87	6.80	1.54
82	20	67	100	2.05	6.87	50.56	13.02	8.83	1.54

Sample ADR2

crystal #	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
83	4	10	100	0.41	1.03	67.66	40.11	1.32	1.82
84	16	83	100	1.64	8.51	32.70	9.01	10.94	1.67
85	20	73	100	2.05	7.49	46.42	11.85	9.63	1.55
86	4	12	36	1.14	3.42	56.43	32.65	4.40	1.53
87	34	102	100	3.49	10.46	56.43	11.38	13.45	1.51
88	4	45	100	0.41	4.62	15.10	7.90	5.93	1.54
89	31	123	60	5.30	21.03	42.71	8.73	27.03	1.52
90	20	29	36	5.70	8.26	116.22	34.06	10.62	1.47
91	57	106	100	5.85	10.87	90.79	15.30	13.98	1.52
92	28	111	60	4.79	18.98	42.75	9.18	24.39	1.76
93	4	5	60	0.68	0.86	134.62	90.45	1.10	1.56
94	32	91	100	3.28	9.33	59.52	12.44	12.00	1.53
95	32	60	100	3.28	6.15	90.06	20.01	7.91	1.47
96	19	17	36	5.41	4.84	187.30	62.93	6.23	1.46
97	8	31	100	0.82	3.18	43.73	17.42	4.09	1.74
98	4	28	100	0.41	2.87	24.25	12.99	3.69	2.43
99	34	111	100	3.49	11.39	51.88	10.36	14.64	1.69
100	16	59	100	1.64	6.05	45.95	13.07	7.78	1.80
101	14	55	60	2.39	9.40	43.14	13.02	12.09	1.46
102	8	34	16	5.13	21.80	39.89	15.75	28.02	1.96
103	37	162	100	3.80	16.62	38.72	7.21	21.36	1.44
104	60	155	100	6.15	15.90	65.49	10.26	20.44	1.42
105	28	61	100	2.87	6.26	77.58	17.95	8.04	1.69
106	4	20	64	0.64	3.21	33.92	18.62	4.12	1.63
107	52	125	100	5.33	12.82	70.35	11.91	16.48	1.51
108	13	82	80	1.67	10.51	26.90	8.09	13.52	1.76
109	190	309	100	19.49	31.70	103.72	10.33	40.74	1.51
110	4	29	100	0.41	2.98	23.41	12.52	3.82	1.54
111	19	72	100	1.95	7.39	44.72	11.66	9.49	1.54
112	8	71	100	0.82	7.28	19.13	7.17	9.36	1.74
113	16	109	100	1.64	11.18	24.91	6.74	14.37	1.62
114	10	41	64	1.60	6.57	41.34	14.66	8.45	1.68
115	22	44	100	2.26	4.51	84.46	22.29	5.80	1.64

Sample ID ADR2 (ANT-DR-02)

FT slide ID UP132-3, UP132-7

Length #	Length in micro	angle to C	Dpar
1	8.82	62.2	1.61
2	12.90	78.0	1.48
3	7.65	79.8	1.49
4	6.57	88.9	1.70
5	11.37	86.7	1.50
6	10.81	81.4	1.52
7	9.17	69.4	1.52
8	9.22	85.1	1.59
9	10.24	43.5	1.48
10	13.84	74.3	1.66
11	16.34	25.2	1.81
12	9.65	78.8	1.58
13	11.00	60.3	1.50
14	11.13	78.0	1.50
15	10.42	77.1	1.50
16	8.15	72.7	1.50
17	13.49	18.8	1.50
18	6.72	90.0	1.50
19	10.78	22.2	1.50
20	9.75	34.8	1.50
21	11.88	33.8	1.50
22	12.02	70.7	1.50
23	11.18	23.3	1.50
24	11.67	46.3	1.50
25	10.78	60.9	1.50
26	9.89	68.1	1.43
27	10.68	38.5	1.43
28	11.33	52.5	1.43
29	12.18	35.2	1.43
30	11.59	79.9	1.43
31	10.97	64.7	1.43
32	10.39	46.9	1.43
33	9.81	65.2	1.43
34	10.34	54.6	1.43
35	12.66	54.6	1.43
36	10.63	68.4	1.43
37	12.39	79.7	1.43
38	10.47	66.8	1.43
39	12.34	68.0	1.43
40	8.56	72.2	1.43

total N	46
Mean=	10.76
STDEV=	1.91
Skewness=	-0.06
Kurtosis=	1.14

Length range	Count	Normalized%
0_to_1	0	0.00
1_to_2	0	0.00
2_to_3	0	0.00
3_to_4	0	0.00
4_to_5	0	0.00
5_to_6	0	0.00
6_to_7	3	0.07
7_to_8	1	0.02
8_to_9	3	0.07
9_to_10	6	0.13
10_to_11	13	0.28
11_to_12	9	0.20
12_to_13	8	0.17
13_to_14	2	0.04
14_to_15	0	0.00
15_to_16	0	0.00
16_to_17	1	0.02
17_to_18	0	0.00
18_to_19	0	0.00
19_to_20	0	0.00

41	10.55	30.8	1.43
42	12.83	83.4	1.43
43	10.81	45.1	1.43
44	12.58	33.8	1.43
45	11.91	23.9	1.43
46	6.60	39.3	1.43

Sample ADR4

crystal #	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
1	63	97	16	40.39	62.18	107.09	17.80	81.75	1.62
2	157	269	64	25.16	43.11	96.32	10.34	56.68	1.56
3	125	164	60	21.37	28.04	125.50	15.64	36.86	1.60
4	58	72	36	16.53	20.51	132.56	23.92	26.97	1.45
5	230	291	64	36.86	46.64	130.09	12.49	61.32	1.77
6	53	65	36	15.10	18.52	134.17	25.34	24.35	1.58
7	224	297	60	38.29	50.77	124.20	11.95	66.75	1.60
8	9	19	36	2.56	5.41	78.28	31.81	7.12	1.68
9	180	201	36	51.29	57.27	147.20	16.10	75.29	1.58

Sample ID ADR4 (ANT-DR-04)

FT slide ID UP132-8, UP132-9

Length #	Length in micro	angle to C	Dpar
1	10.49	54.2	1.65
2	10.17	40.4	1.65
3	9.27	83.7	1.65
4	10.13	55.9	1.65
5	9.56	81.6	1.65
6	10.84	77.4	1.65
7	11.00	76.7	1.65
8	10.94	64.0	1.65
9	12.09	53.0	1.55
10	10.74	58.0	1.55
11	11.29	44.5	1.55
12	9.48	48.6	1.55
13	13.54	82.8	1.55
14	12.11	70.3	1.55
15	11.32	72.4	1.55
16	10.20	59.3	1.55
17	10.97	65.2	1.55
18	10.57	57.0	1.55
19	11.70	75.4	1.55
20	9.97	40.5	1.45
21	4.17	67.2	1.45
22	8.39	69.5	1.45
23	10.13	64.2	1.45
24	10.68	40.4	1.83
25	10.16	62.5	1.83
26	14.04	55.9	1.83
27	12.36	37.7	1.83
28	9.32	59.6	1.83
29	12.37	20.6	1.83
30	11.49	77.0	1.83
31	11.51	58.9	1.83
32	10.95	68.7	1.83
33	11.66	50.0	1.83
34	11.29	47.1	1.83
35	13.83	23.3	1.83
36	12.01	27.2	1.83
37	11.49	77.0	1.83
38	10.31	62.1	1.66
39	14.58	83.2	1.66
40	11.54	44.9	1.66
41	10.05	81.5	1.66
42	10.06	66.0	1.66
43	7.92	83.3	1.66

total N	53
Mean=	10.84
STDEV=	1.62
Skewness=	-0.97
Kurtosis=	4.98

Length range	Count	Normalized%
0_to_1	0	0.00
1_to_2	0	0.00
2_to_3	0	0.00
3_to_4	0	0.00
4_to_5	1	0.02
5_to_6	0	0.00
6_to_7	0	0.00
7_to_8	1	0.02
8_to_9	1	0.02
9_to_10	8	0.15
10_to_11	20	0.38
11_to_12	11	0.21
12_to_13	7	0.13
13_to_14	2	0.04
14_to_15	2	0.04
15_to_16	0	0.00
16_to_17	0	0.00
17_to_18	0	0.00
18_to_19	0	0.00
19_to_20	0	0.00

44	10.33	80.7	1.64
45	12.38	46.2	1.64
46	10.33	44.0	1.64
47	12.33	77.6	1.64
48	10.86	55.1	1.64
49	11.26	51.3	1.64
50	9.44	66.1	1.64
51	9.83	80.4	1.64
52	11.69	58.0	1.64
53	9.70	56.6	1.64

Sample ADR5

crystal #	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
1	13	105	100	1.33	10.77	20.29	6.01	14.35	1.40
2	34	370	100	3.49	37.95	15.06	2.76	50.55	1.52
3	8	132	64	1.28	21.16	9.94	3.64	28.18	1.48
4	16	139	40	4.10	35.64	18.86	5.03	47.48	1.34
5	25	272	60	4.27	46.50	15.07	3.20	61.94	1.52
6	11	111	100	1.13	11.39	16.24	5.17	15.17	1.48
7	13	168	64	2.08	26.93	12.69	3.68	35.86	1.48
8	11	89	36	3.13	25.36	20.25	6.52	33.78	1.61
9	42	635	100	4.31	65.13	10.85	1.78	86.76	1.57
10	22	213	36	6.27	60.69	16.93	3.84	80.84	1.37
11	16	142	36	4.56	40.46	18.46	4.92	53.89	1.52
12	23	289	100	2.36	29.64	13.05	2.87	39.48	1.58
13	9	127	100	0.92	13.03	11.62	4.03	17.35	1.78
14	12	111	100	1.23	11.39	17.72	5.43	15.17	1.48
15	27	345	100	2.77	35.39	12.83	2.61	47.14	1.69

Sample ID ADR5 (ANT-DR-05)

FT slide ID UP132-10, UP132-11

Length #	Length in micro	angle to C	Dpar
1	15.01	34.3	1.48
2	15.02	73.2	1.38
3	13.62	56.1	1.38
4	12.73	78.0	1.38
5	12.60	34.8	1.59
6	13.69	50.6	1.59
7	13.06	52.7	1.63
8	16.16	12.4	1.66
9	13.84	83.7	1.66
10	10.53	15.9	1.66
11	13.67	75.7	1.66
12	14.21	83.4	1.66
13	9.13	59.6	1.66
14	10.34	50.8	1.61
15	15.39	27.4	1.33
16	12.50	7.5	1.33
17	15.22	41.5	1.42
18	14.67	48.1	1.42

total N	18
Mean=	13.41
STDEV=	1.89
Skewness=	-0.86
Kurtosis=	0.30

Length range	Count	Normalized%
0_to_1	0	0.00
1_to_2	0	0.00
2_to_3	0	0.00
3_to_4	0	0.00
4_to_5	0	0.00
5_to_6	0	0.00
6_to_7	0	0.00
7_to_8	0	0.00
8_to_9	0	0.00
9_to_10	1	0.06
10_to_11	2	0.11
11_to_12	0	0.00
12_to_13	3	0.17
13_to_14	5	0.28
14_to_15	2	0.11
15_to_16	4	0.22
16_to_17	1	0.06
17_to_18	0	0.00
18_to_19	0	0.00
19_to_20	0	0.00

Sample ADR6

crystal #	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
1	5	37	100	0.51	3.80	21.92	10.48	5.11	1.40
2	4	33	64	0.64	5.29	19.67	10.44	7.12	2.55
3	4	40	100	0.41	4.10	16.23	8.53	5.52	1.70
4	11	160	100	1.13	16.41	11.16	3.50	22.08	1.57
5	9	78	100	0.92	8.00	18.72	6.63	10.76	1.84
6	3	29	60	0.51	4.96	16.79	10.20	6.67	1.87
7	7	70	100	0.72	7.18	16.23	6.46	9.66	1.52
8	13	170	100	1.33	17.44	12.41	3.60	23.46	1.75
9	5	91	100	0.51	9.33	8.92	4.11	12.56	1.82
10	5	69	100	0.51	7.08	11.76	5.47	9.52	1.86
11	3	70	100	0.31	7.18	6.96	4.11	9.66	1.21
12	11	134	100	1.13	13.75	13.33	4.21	18.49	1.83
13	3	42	36	0.86	11.97	11.60	6.94	16.10	1.54
14	3	32	100	0.31	3.28	15.22	9.21	4.42	3.14
15	4	52	60	0.68	8.89	12.49	6.50	11.96	1.55
16	5	79	100	0.51	8.10	10.28	4.75	10.90	1.64
17	3	28	100	0.31	2.87	17.39	10.58	3.86	3.21
18	3	56	100	0.31	5.74	8.70	5.17	7.73	1.33
19	4	67	100	0.41	6.87	9.69	5.00	9.25	1.73
20	8	99	100	0.82	10.16	13.12	4.85	13.66	1.43
21	5	57	100	0.51	5.85	14.24	6.66	7.87	1.28
22	5	23	100	0.51	2.36	35.23	17.43	3.17	2.90
23	3	51	100	0.31	5.23	9.55	5.69	7.04	1.55
24	1	22	64	0.16	3.53	7.38	7.55	4.74	1.27
25	3	34	36	0.86	9.69	14.32	8.64	13.03	1.47
26	4	37	100	0.41	3.80	17.54	9.26	5.11	2.99
27	2	16	36	0.57	4.56	20.28	15.23	6.13	1.76
28	4	55	36	1.14	15.67	11.81	6.13	21.08	1.33
29	3	25	64	0.48	4.01	19.47	11.92	5.39	1.20
30	9	115	100	0.92	11.80	12.70	4.42	15.87	1.52
31	5	42	100	0.51	4.31	19.32	9.17	5.80	2.61
32	5	34	60	0.86	5.81	23.85	11.46	7.82	1.65
33	4	40	100	0.41	4.10	16.23	8.53	5.52	2.92

Sample ID ADR6 (ANT-DR-06)

FT slide ID UP132-12, UP132-13, UP132-14

Length #	Length in micro	angle to C	Dpar
1	14.40	61.3	1.42
2	15.73	28.7	1.34
3	14.26	49.4	1.57
4	14.43	56.5	1.58
5	10.06	51.4	1.77
6	9.16	46.5	1.69

total N	6
Mean=	13.01
STDEV=	2.70
Skewness=	-0.83
Kurtosis=	-1.51

Length range	Count	Normalized%
0_to_1	0	0.00
1_to_2	0	0.00
2_to_3	0	0.00
3_to_4	0	0.00
4_to_5	0	0.00
5_to_6	0	0.00
6_to_7	0	0.00
7_to_8	0	0.00
8_to_9	0	0.00
9_to_10	1	0.17
10_to_11	1	0.17
11_to_12	0	0.00
12_to_13	0	0.00
13_to_14	0	0.00
14_to_15	3	0.50
15_to_16	1	0.17
16_to_17	0	0.00
17_to_18	0	0.00
18_to_19	0	0.00
19_to_20	0	0.00

Sample ADR21

crystal #	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
1	20	75	60	3.42	12.82	45.19	11.50	16.48	1.68
2	82	679	100	8.41	69.65	20.50	2.52	89.53	1.41
3	36	108	80	4.62	13.85	56.43	11.07	17.80	1.35
4	48	91	64	7.69	14.58	89.07	16.24	18.75	1.54
5	32	57	100	3.28	5.85	94.76	21.24	7.52	1.69
6	67	166	100	6.87	17.03	68.27	10.21	21.89	1.60
7	37	83	100	3.80	8.51	75.36	15.17	10.94	1.48
8	39	126	100	4.00	12.92	52.42	9.81	16.61	1.42
9	38	60	64	6.09	9.62	106.80	22.51	12.36	1.54
10	39	97	100	4.00	9.95	68.01	13.15	12.79	1.84
11	40	98	64	6.41	15.71	69.03	13.21	20.19	1.41
12	17	25	36	4.84	7.12	114.60	36.29	9.16	1.46
13	19	56	40	4.87	14.36	57.44	15.40	18.46	1.76
14	39	133	64	6.25	21.32	49.67	9.24	27.40	1.52
15	33	44	36	9.40	12.54	126.28	29.47	16.12	1.54
16	23	47	36	6.55	13.39	82.68	21.27	17.22	1.53
17	62	99	100	6.36	10.16	105.62	17.57	13.05	1.57
18	32	116	100	3.28	11.90	46.74	9.50	15.30	1.62
19	43	88	80	5.51	11.28	82.56	15.67	14.50	1.50
20	13	26	36	3.70	7.41	84.46	28.87	9.52	1.54
21	31	133	100	3.18	13.64	39.51	8.02	17.54	1.37
22	42	59	64	6.73	9.46	119.92	24.63	12.16	1.39
23	49	95	64	7.85	15.23	87.11	15.67	19.57	1.43
24	14	44	36	3.99	12.54	53.88	16.66	16.12	1.26
25	38	92	64	6.09	14.75	69.85	13.73	18.96	1.59
26	42	127	100	4.31	13.03	55.99	10.19	16.75	1.51
27	56	95	100	5.74	9.74	99.46	17.17	12.53	1.53
28	31	68	36	8.83	19.38	77.06	16.95	24.91	1.48
29	17	22	40	4.36	5.64	130.07	42.29	7.25	1.51
30	6	24	36	1.71	6.84	42.37	19.41	8.79	1.49
31	16	45	36	4.56	12.82	60.18	17.66	16.48	1.26
32	27	93	40	6.92	23.85	49.18	10.91	30.66	1.34
33	48	71	100	4.92	7.28	113.94	21.72	9.36	1.46
34	92	134	100	9.44	13.75	115.70	16.26	17.67	1.46
35	29	82	80	3.72	10.51	59.86	13.13	13.52	1.65
36	55	187	100	5.64	19.18	49.82	7.87	24.66	1.38
37	22	59	64	3.53	9.46	63.09	15.94	12.16	1.58
38	34	109	100	3.49	11.18	52.82	10.57	14.37	1.96
39	22	78	40	5.64	20.00	47.78	11.68	25.71	1.63
40	51	141	100	5.23	14.46	61.21	10.27	18.59	1.60
41	29	69	100	2.98	7.08	71.07	15.96	9.10	1.58

Sample ADR21

crystal #	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
42	24	81	64	3.85	12.98	50.19	11.82	16.69	1.63
43	36	86	80	4.62	11.03	70.79	14.31	14.18	1.61
44	64	94	64	10.26	15.07	114.74	19.09	19.37	1.61
45	8	11	36	2.28	3.13	122.49	57.11	4.03	1.46
46	68	145	64	10.90	23.24	79.25	12.03	29.87	1.44
47	34	103	64	5.45	16.51	55.89	11.25	21.22	1.46
48	8	18	36	2.28	5.13	75.13	32.05	6.59	1.83
49	20	21	36	5.70	5.98	159.94	50.34	7.69	1.60
50	60	97	64	9.62	15.55	104.33	17.58	19.99	1.50
51	71	88	64	11.38	14.10	135.75	22.26	18.13	1.57
52	40	73	60	6.84	12.48	92.51	18.53	16.04	1.52
53	28	63	100	2.87	6.46	75.13	17.30	8.31	1.72
54	51	106	80	6.54	13.59	81.30	14.19	17.47	1.58
55	20	52	64	3.21	8.33	65.07	17.30	10.71	1.56

Sample ID ADR21 (ANT-DR-21)

FT slide ID UP132-4, UP132-5, UP132-6

Length #	Length in micro	angle to C	Dpar
1	13.50	75.9	1.46
2	12.96	55.5	1.46
3	12.23	18.7	1.62
4	9.49	50.2	1.47
5	9.24	77.4	1.58
6	10.05	27.4	1.40
7	9.37	67.2	1.23
8	10.36	75.9	1.44
9	9.61	52.8	1.45
10	7.36	64.8	1.59
11	9.01	86.0	1.59
12	7.69	65.6	1.48
13	10.48	76.1	1.51
14	9.60	75.2	1.51
15	9.77	49.4	1.51
16	8.19	33.3	1.66
17	10.08	21.5	1.66
18	9.86	23.2	1.37
19	12.56	41.6	1.53
20	9.33	72.3	1.61
21	12.62	49.9	1.58
22	7.76	78.8	1.58
23	12.73	28.4	1.58
24	9.86	76.2	1.58
25	10.91	55.4	1.58
26	7.83	79.5	1.45
27	11.07	47.3	1.65
28	7.59	78.9	1.65
29	8.08	88.6	1.65
30	9.82	40.0	1.65
31	4.63	58.3	1.53
32	8.98	67.2	1.53
33	7.69	66.8	1.62
34	9.53	66.3	1.61
35	12.03	27.5	1.55
36	9.83	29.8	1.54

total N	40
Mean=	9.78
STDEV=	1.90
Skewness=	-0.03
Kurtosis=	0.25

Length range	Count	Normalized%
0_to_1	0	0.00
1_to_2	0	0.00
2_to_3	0	0.00
3_to_4	0	0.00
4_to_5	1	0.03
5_to_6	0	0.00
6_to_7	0	0.00
7_to_8	7	0.18
8_to_9	4	0.10
9_to_10	13	0.33
10_to_11	6	0.15
11_to_12	1	0.03
12_to_13	7	0.18
13_to_14	1	0.03
14_to_15	0	0.00
15_to_16	0	0.00
16_to_17	0	0.00
17_to_18	0	0.00
18_to_19	0	0.00
19_to_20	0	0.00

37	10.37	40.6	1.54
38	8.94	65.8	1.54
39	7.36	52.3	1.54
40	12.77	66.7	1.54

Sample ABD2
UP134-13 ABD2a

Cryst	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
1	37	58	100	3.80	5.95	102.70	21.95	8.01	1.57
2	21	38	64	3.37	6.09	89.06	24.45	8.20	1.61
3	7	7	36	1.99	1.99	160.27	85.88	2.69	1.72
4	11	19	36	3.13	5.41	93.27	35.51	7.29	1.52
5	37	74	64	5.93	11.86	80.63	16.52	15.98	1.67
6	18	42	36	5.13	11.97	69.18	19.66	16.12	1.63
7	31	58	100	3.18	5.95	86.16	19.44	8.01	1.68
8	19	39	40	4.87	10.00	78.58	22.18	13.47	1.74
9	45	41	60	7.69	7.01	175.69	38.51	9.44	1.66
10	5	27	64	0.80	4.33	29.98	14.64	5.83	1.53
11	38	49	64	6.09	7.85	124.64	27.35	10.58	1.75
12	28	68	100	2.87	6.98	66.48	15.14	9.40	1.44
13	10	34	100	1.03	3.49	47.55	17.20	4.70	1.63
14	10	10	36	2.85	2.85	160.27	71.93	3.84	1.68
15	31	49	100	3.18	5.03	101.86	23.69	6.77	1.58
16	25	51	80	3.21	6.54	79.06	19.53	8.81	1.47
17	25	41	100	2.56	4.21	98.20	25.19	5.67	1.64
18	21	47	36	5.98	13.39	72.10	19.12	18.04	1.79
19	7	15	36	1.99	4.27	75.29	34.58	5.76	1.65

Sample ABD2

UP134-13 ABD2a

Length angle to C Dpar

12.05	50.3	1.51
7.19	82.2	1.68
6.26	64.9	1.68
10.43	83.5	1.56
5.84	75.1	1.56
7.43	51.2	1.56
9.43	30.6	1.62
7.55	71.5	1.62
13.71	76.2	1.66
11.47	51.2	1.66
11.47	54.8	1.66
5.20	68.0	1.49
9.77	43.2	1.50
9.79	44.1	1.50
9.20	63.9	1.50
9.81	73.6	1.75
8.86	63.5	1.75
7.79	71.5	1.75
9.43	68.2	1.75
5.16	71.3	1.75
12.25	55.8	1.59
11.05	45.1	1.59
9.23	0.0	1.77
7.73	68.1	1.68
9.12	14.2	1.58
9.41	21.4	1.58
11.02	0.5	1.58
11.32	45.1	1.58
9.25	74.1	1.63
9.98	32.4	1.69
6.41	83.3	1.64
12.18	73.5	1.64
9.35	74.5	1.64
9.96	71.3	1.64
10.82	33.0	1.64
5.59	52.2	1.64
5.55	85.3	1.64
12.90	81.3	1.80
10.21	47.8	1.80
10.62	82.5	1.80
10.88	32.2	1.80
10.18	70.3	1.64
10.03	45.5	1.64
10.06	74.0	1.71
11.48	58.7	1.71
9.08	48.4	1.71
13.41	70.8	1.73
10.73	74.3	1.55
8.37	82.9	1.41
12.49	60.3	1.72

Sample ABD2

UP134-13 ABD2a

Length angle to C Dpar

9.91	49.6	1.72
12.03	46.6	1.72
9.97	73.5	1.72
10.50	66.0	1.72
9.11	50.3	1.61
10.57	36.2	1.61
9.65	79.5	1.72
8.72	80.2	1.53
13.91	39.4	1.79
4.45	75.8	1.62
11.83	35.4	1.62
13.62	50.3	1.72

Sample ABD22
UP134-12 ABD22a

Cryst	Ns	Ni	A	RhoS	Rhol	Age	+1s	Uran.	Dpar
1	19	213	100	1.95	21.85	14.54	3.52	29.27	1.75
2	45	264	100	4.62	27.08	27.75	4.60	36.28	1.65
3	52	547	100	5.33	56.11	15.49	2.32	75.17	1.75
4	7	76	36	1.99	21.65	15.01	5.96	29.01	1.60
5	15	122	36	4.27	34.76	20.03	5.53	46.57	1.53
6	6	69	64	0.96	11.06	14.17	6.06	14.82	1.42
7	69	471	100	7.08	48.31	23.86	3.21	64.72	1.63
8	19	104	40	4.87	26.67	29.74	7.50	35.73	1.65
9	6	103	36	1.71	29.35	9.50	4.00	39.32	1.47
10	53	451	100	5.44	46.26	19.15	2.87	61.98	1.56
11	9	58	64	1.44	9.30	25.27	9.10	12.45	1.41
12	20	305	60	3.42	52.14	10.69	2.50	69.85	1.79
13	3	39	100	0.31	4.00	12.54	7.53	5.36	1.82
14	15	99	36	4.27	28.21	24.67	6.90	37.79	1.62
15	43	259	64	6.89	41.51	27.03	4.57	55.61	1.66
16	10	121	80	1.28	15.51	13.47	4.46	20.78	1.56
17	12	82	64	1.92	13.14	23.83	7.42	17.61	1.65
18	34	235	100	3.49	24.10	23.56	4.41	32.29	1.52
19	18	106	60	3.08	18.12	27.65	7.13	24.28	1.86
20	33	302	64	5.29	48.40	17.80	3.33	64.84	1.72
21	8	51	60	1.37	8.72	25.54	9.76	11.68	1.69

Sample ABD22

UP134-12 ABD22a

Length	angle to C	Dpar
12.83	68.3	1.52
14.08	58.8	1.58
15.21	43.9	1.58
13.38	57.1	1.75
13.78	56.7	1.75
12.11	54.2	1.75
11.33	58.3	1.75
11.37	45.9	1.75
14.37	47.8	1.77
11.93	85.7	1.77
9.30	57.3	1.77
13.67	79.5	1.78
14.54	29.6	1.78
13.09	55.0	1.78
12.76	74.1	1.78
16.29	41.8	1.78
12.52	75.2	1.73
13.45	76.6	1.77
14.53	76.9	1.70
12.27	56.0	1.70
5.03	38.1	1.70
13.81	71.2	1.70
10.37	76.4	1.57
11.72	57.1	1.57
11.09	82.4	1.57
10.04	62.8	1.57
14.07	79.9	1.90
14.29	66.3	1.90
4.16	77.4	1.90
15.33	64.0	2.11
13.86	23.0	2.11
10.69	61.7	2.11
12.43	19.7	2.11
12.21	78.6	2.11
11.86	53.2	2.11
10.23	33.5	2.11
11.85	71.3	1.50
8.16	79.9	1.50
10.06	49.0	1.56
12.30	76.6	1.70
13.99	57.0	1.70
14.82	84.7	1.70
11.00	65.8	1.70
11.83	54.8	1.70
14.51	84.7	1.75
13.93	60.0	1.75
13.14	53.8	1.35
14.24	66.1	1.56

Sample ABD22

UP134-12 ABD22a

Length	angle to C	Dpar
12.92	50.3	1.56
13.47	54.2	1.56
12.70	58.9	1.56
12.78	62.8	1.56
14.25	53.5	1.47
9.95	89.2	1.47
8.68	52.9	1.53
15.43	25.1	1.69
12.57	88.3	1.69
14.61	14.1	1.69
13.60	50.5	1.73
7.02	82.6	1.73
11.67	53.3	1.57
15.83	63.4	1.47
12.57	61.7	1.47
12.86	53.9	1.47
14.10	68.8	1.47
10.10	23.5	1.47
14.26	24.6	1.68
14.47	33.2	1.68
8.81	55.2	1.68
14.10	53.5	1.70
11.92	50.0	1.86
14.63	48.1	1.86
14.01	31.5	1.86
13.35	66.4	1.86
13.30	49.2	1.86
10.11	62.1	1.86
14.46	52.4	1.84
13.96	51.7	1.84
13.72	47.3	1.85
12.72	67.1	1.85
11.34	28.9	1.85
15.13	57.7	1.90
14.28	70.8	1.90
14.38	20.6	1.90
14.52	72.4	1.90
13.64	72.3	1.90
12.92	80.5	1.82
15.24	21.5	1.82
13.75	60.4	1.82
14.22	50.1	1.94
11.63	65.2	1.94
9.34	51.6	1.94
12.43	65.9	1.94
14.15	70.7	1.77
10.93	88.5	1.77
8.43	58.4	1.77

Sample ABD22

UP134-12 ABD22a

Length	angle to C	Dpar
16.29	74.8	1.77
13.10	53.4	1.77
14.92	75.6	2.26
15.77	39.9	2.26
14.88	52.0	1.99
11.92	52.5	1.99
14.63	51.8	1.80
12.28	46.8	1.80
15.20	58.4	1.80
13.60	48.2	1.80
13.19	75.6	1.80
14.25	83.4	1.81
12.93	53.0	1.81
12.33	62.1	1.73
8.98	73.2	1.73
13.97	40.3	1.73
14.56	57.4	1.72
12.75	68.4	1.72
12.69	46.3	1.72
7.27	44.4	1.72
14.97	65.0	1.72
7.94	51.2	1.72
15.36	70.7	1.64
11.92	51.9	1.64
10.20	72.0	1.64
13.27	43.5	1.42
13.58	51.4	1.42
9.21	79.1	1.59
14.32	46.7	1.59
12.01	41.8	1.59
4.69	82.1	1.59
14.50	55.6	1.71
3.94	43.0	1.71
13.26	36.6	1.48
11.45	46.1	1.78
14.44	54.7	1.78
14.44	67.8	1.81
13.49	87.3	1.81
6.02	50.6	1.81
4.59	64.6	1.81
13.80	87.2	1.81
9.28	34.2	1.81
10.94	35.4	1.81
13.34	81.4	1.83
13.76	50.9	1.83
14.44	85.2	1.83
13.69	28.2	1.83
14.92	41.9	1.83

Sample ABD22

UP134-12 ABD22a

Length	angle to C	Dpar
14.33	66.4	1.83
13.95	51.8	1.52
13.34	75.3	1.52
13.06	81.1	1.52
13.61	83.6	1.52
15.57	45.3	1.66
14.12	55.2	1.66
15.12	87.9	1.77
13.87	60.4	1.77
10.35	14.5	1.75
9.60	61.1	1.63
10.63	56.3	1.72
12.73	61.0	1.72
14.87	62.7	1.72
11.70	61.8	1.72
13.79	72.7	1.81
16.97	51.6	1.81
10.34	71.2	1.81
12.44	36.4	1.81
12.10	17.4	1.81
10.84	28.4	1.81
13.90	73.2	1.86
10.71	31.4	1.86
14.58	33.5	1.86
14.76	53.4	1.86
14.81	52.3	1.86
10.60	46.6	1.86
13.26	50.3	1.86
11.23	89.4	1.86
12.12	63.6	2.08
13.51	14.8	1.79
11.34	78.0	1.79
9.32	12.5	1.79
10.66	66.0	1.79
11.29	78.0	1.65
12.39	66.8	1.87
14.08	47.5	1.95
10.02	78.9	1.95
14.70	41.1	1.58
13.25	83.4	1.58
6.76	66.5	1.58
13.91	48.8	1.58
14.18	64.7	1.80
15.71	53.0	1.80
13.28	57.3	1.80
8.11	72.8	1.80
14.81	42.7	1.41
15.04	19.8	1.76

Sample ABD22

UP134-12 ABD22a

Length	angle to C	Dpar
10.24	27.1	1.76
8.67	50.6	1.76
15.64	52.5	1.64
14.92	18.7	1.64
13.77	76.9	1.76
14.40	54.5	1.76
15.23	58.8	1.76
13.13	78.6	1.76
10.96	42.8	1.76
8.85	86.1	1.76
14.55	41.7	1.61
15.91	49.2	1.61
14.26	55.7	1.61
11.99	78.3	1.61
12.15	57.6	1.61
9.19	79.4	1.61
15.26	39.0	1.61
14.81	74.5	1.83
14.82	61.7	1.83
11.44	58.1	1.83
10.64	29.5	1.83
14.50	51.0	1.83
12.97	76.2	1.83
13.50	53.2	1.83
13.26	56.3	1.63
14.57	75.4	1.63
13.10	71.8	1.63
14.14	40.7	1.63
9.74	70.1	1.63
11.44	68.0	1.63
14.18	87.9	1.63
15.52	51.8	1.65
9.58	50.4	1.65
14.46	71.6	1.78
11.43	42.3	1.78
13.58	46.9	1.78