

37Ar/39Ar ratios

sample field number	ALT-37B	material:	Polyhailt
project description	PWF P22-728	grain size:	200-250 µm
number of measurement	074066	number:	5
number of irradiation	21-92	notes:	Altusee mine
value of irradiation	0.010563	(±1-sigma)	
duration of irradiation [h]	16.0		
year of irradiation	2007		
julian day of irradiation	157		

conversion from [V] to [eps] by:
 composition of atmospheric argon: (40Ar/36Ar)atm. = 295.5
 half-life of 37Ar [a]: = 35.1
 decay constant of 37Ar [E-01]: = 1.975E-02
 decay constant of 39Ar [E-01]: = 7.984E-06
 decay constant of 40K [E-01]: = 5.543E-10
 correction for Ca-derived Ar: (36Ar/37Ar)Ca = 2.250E-04
 correction for K-derived Ar: (40Ar/39Ar)K = 2.600E-02
 correction for K-derived Ar: (38Ar/39Ar)K = 1.170E-02

±1-sigma
 (Steiger & Jäger 1977)
 (Stoerner et al. 1965)
 (Steiger & Jäger 1977)
 Measured
 Measured
 Measured

sample	36Ar	37Ar	38Ar	39Ar	40Ar	40Ar/39Ar	date of measurement	days elapsed	post-irrad. 37Ar decay factor	number of steps	mean of dec 37Ar corr. factor					
0707056a	3.28184E-06	2.1675	2.24784E-06	6.6030	5.26736E-06	2.1784	1.28607E-05	2.1251	2.59825E-04	0.3524	2007	324	167	2.723E+01	16	2.925E+01
b 2.6%	4.51072E-06	2.0244	3.67802E-06	4.7190	3.17020E-06	0.9714	2.53896E-03	0.1461	2.21892E-02	0.0119	2007	324				
c 2.7%	4.20880E-06	2.3157	2.31471E-06	5.2917	1.45065E-05	0.8516	9.40002E-04	0.1823	7.81071E-03	0.1055	2007	324	167	2.723E+01		
d 2.8%	3.72918E-06	1.3355	4.38829E-06	3.7222	9.49852E-06	2.3650	4.20781E-04	0.3962	3.33276E-03	0.1756	2007	324	167	2.723E+01		
e 2.9%	3.80347E-06	2.9890	3.43579E-06	4.1900	1.14518E-05	1.2466	5.74639E-04	0.2525	4.78419E-03	0.1488	2007	324	167	2.723E+01		
f 3.1%	3.28184E-06	2.1675	2.24784E-06	6.6030	5.26736E-06	2.1784	1.28607E-05	2.1251	2.59825E-04	0.3524	2007	324	167	2.723E+01		
g 3.1%	3.95594E-06	2.0360	4.75248E-06	3.8266	1.35951E-05	1.1011	8.29706E-04	0.0931	5.54309E-03	0.1028	2007	324	167	2.723E+01		
h 3.2%	3.79889E-06	1.8783	5.43500E-06	1.1981	1.03178E-05	1.1223	4.83466E-04	0.1466	3.34679E-03	0.0814	2007	324	167	2.723E+01		
i 3.3%	3.81593E-06	2.0559	4.15977E-06	3.7797	5.96609E-06	1.6423	1.41358E-05	1.3385	2.98638E-04	0.3212	2007	324	167	2.723E+01		
0707056b	2.34848E-06	2.4148	3.62566E-06	1.4921	3.44413E-06	4.3048	7.20410E-06	1.8160	1.62166E-04	0.4405	2007	331	174	3.127E+01		
j 3.4%	2.72074E-06	3.2007	4.83302E-06	2.5866	9.44418E-06	1.4870	5.38384E-04	0.1094	3.79884E-03	0.1125	2007	331	174	3.127E+01		
k 3.6%	3.04889E-06	2.0360	4.44898E-06	2.3217	7.85388E-06	1.6467	3.74314E-04	0.2331	2.73179E-03	0.1167	2007	331	174	3.127E+01		
0707056c	2.73048E-06	2.7141	4.34806E-06	2.6833	3.75660E-06	1.7784	8.11704E-06	1.9762	1.60716E-04	0.6504	2007	331	174	3.127E+01		
l 3.8%	4.24535E-06	2.2009	5.15386E-06	2.8689	6.55220E-05	0.3880	4.70848E-04	0.0058	3.53235E-02	0.0430	2007	331	174	3.127E+01		
m 3.9%	2.73048E-06	2.7141	4.34806E-06	2.6833	3.75660E-06	1.7784	8.11704E-06	1.9762	1.60716E-04	0.6504	2007	331	174	3.127E+01		
n 4.0%	3.46908E-06	2.7141	5.02458E-06	2.0424	2.38882E-05	0.8344	1.67556E-03	0.0714	1.36240E-02	0.0737	2007	331	174	3.127E+01		
0707056d	3.00303E-06	2.9389	4.46317E-06	2.8925	4.46618E-06	2.8465	6.79526E-06	1.0763	1.66078E-04	0.9428	2007	331	174	3.127E+01		
p 4.3%	3.03410E-06	6.1330	4.67523E-06	1.8972	6.64615E-06	2.2557	2.40466E-04	0.2757	2.08052E-03	0.1157	2007	331	174	3.127E+01		
q 4.4%	3.02032E-06	2.9589	4.46317E-06	2.8925	4.46618E-06	2.8465	6.79526E-06	1.0763	1.66078E-04	0.9428	2007	331	174	3.127E+01		
r 4.6%	3.46251E-06	1.8998	5.02579E-06	2.4925	2.03193E-05	1.5884	1.43858E-03	0.1439	1.21616E-02	0.1168	2007	331	174	3.127E+01		

blank- and background-corrected intensities and absolute errors (1-sigma abs.)	36Ar	37Ar	38Ar	39Ar	40Ar	40Ar/39Ar	36Ar/39Ar	37Ar/39Ar	38Ar/39Ar	39Ar/39Ar	40Ar/39Ar	40Ar/39Ar	40Ar/39Ar	40Ar/39Ar	40Ar/39Ar	40Ar/39Ar	age [Ma]	±1-sigma [Ma]	±1-sigma [Ma]															
b 2.6%	1.01678E+02	7.63E+00	8.90187E+01	1.42E+01	1.65012E+03	2.05E+01	1.57555E+05	2.32E+02	1.36887E+06	9.98E+02	10.52	10.52	97.81	0.000645349	4.84493E-05	0.000565	9.04258E-05	0.010473	0.000131114	8.688241	0.014273805	0.015387077	0.002462629	157553.3991	231.988827	1.33480E+06	2465.760893	8.472044	0.000014	155.9	0.8	8.641E-01		
c 2.7%	5.73738E+01	7.53E+00	4.71418E+00	1.20E+01	5.76725E+02	1.08E+01	5.78740E+04	1.08E+02	4.71341E+05	5.18E+02	3.86	14.39	96.37	0.000998	0.000130116	0.000072	0.000207563	0.000072	0.000207563	0.000965	0.000182809	8.144266	0.017672694	0.001964229	0.00652701	57973.91897	108.371953	452747.7199	2284.491249	7.823001	0.042102	144.4	1.0	1.046E+00
d 2.8%	2.76245E+01	5.42E+00	1.38117E+02	1.31E+01	2.84177E+02	1.96E+01	2.94639E+04	1.09E+02	1.91818E+05	3.70E+02	1.70	16.09	95.81	0.001097	0.00021917	0.000247	0.000414252	0.010372	0.00020473	7.532990	0.024411418	0.142897867	0.014049377	26451.57981	105.457588	193131.6351	1644.039630	7.192469	0.071110	133.2	1.4	1.439E+00		
e 2.9%	3.26512E+01	8.37E+00	7.41542E+01	1.29E+01	3.88542E+02	1.16E+01	3.50873E+04	9.22E+01	2.82420E+05	4.51E+02	2.34	18.43	96.63	0.000929	0.00023873	0.000215	0.000361017	0.011080	0.000328016	8.053649	0.024767227	0.05789038	0.010024925	35066.06964	92.164966	271999.4746	2514.567864	7.766771	0.074551	143.2	1.5	1.510E+00		
f 3.0%	3.61787E+02	1.19E+01	2.04142E+02	1.29E+01	5.10462E+03	2.68E+01	4.73074E+05	4.62E+02	3.39311E+06	1.84E+03	31.59	50.02	96.85	0.000765	2.521179E-05	0.000432	2.72076E-05	0.010789	0.00001596	7.175018	0.00001596	0.011761937	0.00074995	473070.2007	461.870850	3275189.671	3974.925365	6.923264	0.010784	128.4	0.6	6.617E-01		
g 3.1%	1.01138E+01	7.00E+00	3.69861E+01	1.50E+01	4.76218E+02	1.12E+01	5.07222E+04	4.9E+01	3.37368E+05	3.61E+02	5.39	53.41	99.10	0.000169	0.000137918	0.000729	0.000256854	0.000269	0.000223699	6.454153	0.004907618	0.019864973	0.00027191	60721.61604	49.474967	323268.2651	2088.79841	6.370031	0.041838	116.5	0.9	9.695E-01		
h 3.2%	3.10237E+01	6.65E+00	7.96024E+01	1.06E+01	2.71642E+02	9.47E+00	2.92959E+04	4.58E+01	1.90272E+05	1.89E+02	1.96	55.36	100.03	0.000011	0.000225129	0.000217	0.00036263	0.000272	0.000323532	6.494824	0.011871362	0.073999008	0.00987546	29294.56156	45.771089	189544.8861	1957.342660	6.470310	0.067577	120.3	1.3	1.361E+00		
i 3.3%	1.37391E+01	7.79E+00	1.00519E+02	1.33E+01	1.89989E+02	1.09E+01	2.05973E+04	3.16E+01	1.35262E+05	1.25E+02	1.38	56.74	99.83	0.000067	0.000370251	0.000480	0.000465073	0.002616	0.000527347	6.567972	0.011762421	0.132894274	0.01158771	26565.58524	31.590021	134510.4334	2326.737546	6.531032	0.112400	121.4	2.1	2.115E+00		
j 3.4%	2.03402E+01	6.64E+00	6.29439E+01	1.95E+01	3.80777E+02	1.89E+01	3.51795E+04	3.75E+01	2.27098E+05	2.71E+02	2.21	58.95	97.40	0.000613	0.000200227	0.001898	0.000267068	0.001484	0.000385997	6.846279	0.011258906	0.059361778	0.008351658	33156.7128	37.478415	220246.7352	1980.584675	6.842599	0.062004	123.4	1.2	1.250E+00		
k 3.6%	4.08240E+01	5.30E+00	3.89151E+01	7.37E+00	2.75272E+02	1.23E+01	2.29174E+04	5.50E+01	1.60401E+05	2.05E+02	1.53	60.48	92.50	0.001781	0.000231113	0.001698	0.000321472	0.012011	0.000536963	6.999089	0.019014813	0.050399911	0.010062738	22916.6623	64.951537	147808.8419	1578.394227	6.448842	0.070990	119.9	1.4	1.409E+00		
l 3.8%	4.46248E+01	7.44E+00	5.02986E+01	1.17E+01	3.29372E+03	1.43E+01	2.93283E+05	1.98E+01	2.19493E+06	9.95E+02	10.59	80.08	98.73	0.000322	2.53899E-05	0.000171	3.99535E-05	0.011225	4.87761E-05	7.480293	0.00327953	0.00363048	0.001240318	29347.4337	19.722557	215926.551	2396.417038	7.358493	0.008162	136.2	0.7	7.074E-01		
m 3.9%	4.31623E+01	6.31E+00	2.08571E+01	8.89E+00	9.11985E+02	1.52E+01	7.99877E+04	1.00E+02	6.11297E+05	4.39E+02	5.34	85.42	97.90	0.000540	7.88285E-05	-0.000261	-0.000111092	0.0114021	0.000190448	7.642392	0.011218863	-0.008154003	-0.003473962	7.99881E+04	102.366778	596371.8715	1914.302021	7.455757	0.025765	137.9	0.8	8.375E-01		
n 4.0%	4.61051E+01	7.48E+00	4.22297E+01	9.66E+00	1.25665E+03	1.31E+01	1.04085E+05	7.53E+01	8.40405E+05	6.30E+02	6.95	92.37	98.38	0.000443	7.18595E-05	0.000406	9.27852E-05	0.012073	0.0004126377	8.074210	0.008415281	0.012887345	0.002901794	1.04084E+05	75.347039	824099.5458	2288.339643	7.917619	0.022813	146.1	0.8	8.441E-01		
p 4.3%	1.67578E+01	1.29E+01	1.32033E+01	9.76E+00	1.36078E+02	1.22E+01	1.44670E+04	4.18E+01	1.19503E+05	1.79E+02	0.97	93.34	99.81	0.000000	0.000000072	0.000513	0.000874308	0.000406	0.000446666	8.292424	0.00889852	0.02838551	0.0219882											