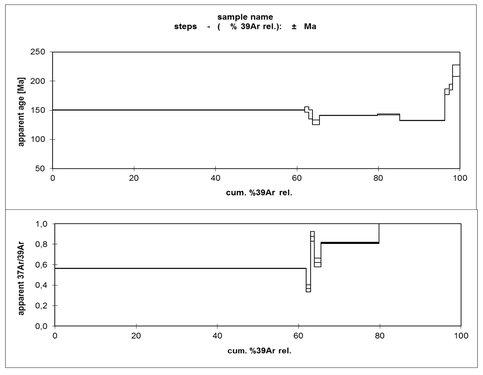
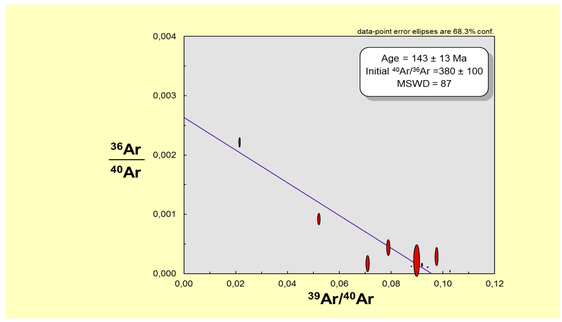
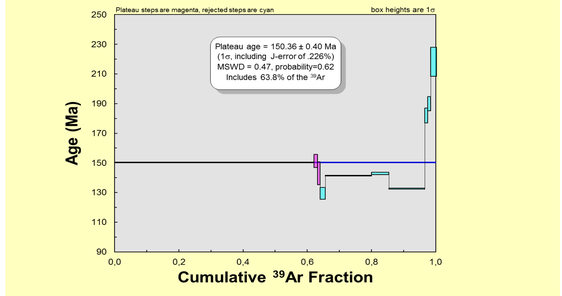
Geochronology - Mineralogy - Geodating

sample field number	BDG-92	material:	Polyhalit
project description	FWF P22,728	grain size:	200-250 µm
number of measurement	09b0638	number:	5
number of irradiation	25-145	notes:	Berchtesgarden mine
J-value of irradiation	0,007917 0,000018	(+/- 1sigma)	
duration of irradiation [hr]	16,0		
year of irradiation	2008		
julian day of irradiation	346		

				+/- 1sigma	
conversion from [V] to [cps] by:			6E+07		
composition of atmospheric argon:	(40Ar/36Ar)atm.	=	295,5		(Steiger & Jäger 1977)
half-life of 37Ar [d]		=	35,1	0,1	(Stoenner et al. 1965)
decay constant of 37Ar [dE-01]		=	1,975E-02		(Stoenner et al. 1965)
decay constant of 39Ar [dE-1]		=	7,064E-06		(Stoenner et al. 1965)
decay constant of 40K [aE-01]		=	5,543E-10	1,000E-12	(Steiger & Jäger 1977)
correction for Ca-derived Ar:	(36Ar/37Ar)Ca	=	2,2500E-04		Measured
correction for Ca-derived Ar:	(39Ar/37Ar)Ca	=	6,1400E-04		Measured
correction for K-derived Ar:	(40Ar/39Ar)K	=	2,6600E-02		Measured
correction for K-derived Ar:	(38Ar/39Ar)K	=	1,1700E-02		Measured

sample:
blank-corrected intensities

36Ar	+/-[%]	37Ar	+/-[%]	38Ar	+/-[%]	39Ar	+/-[%]	40Ar	+/-[%]	date of measurement: year	j-day	days elapsed	post-irrad. 37Ar decay factor	number of steps	mean of dec.37Ar corr.factor
09b0618c 9,10449E-07	6,3177	1,07085E-06	5,4701	1,07218E-06	4,2328	3,18866E-06	2,5970	1,13279E-04	0,4937	2009	154			10	3,652E+01
a 3.6% 6,50617E-06	1,3490	6,58757E-05	0,4245	5,27230E-05	0,6322	3,52766E-03	0,0923	4,04077E-02	0,0784	2009	154	173	3,066E+01		
9,10449E-07	6,3177	1,07085E-06	5,4701	1,07218E-06	4,2328	3,18866E-06	2,5970	1,13279E-04	0,4937	2009	154				
b 3.7% 1,25447E-06	2,9184	1,79735E-06	1,9790	2,93098E-06	3,4518	6,36375E-05	0,3759	8,82481E-04	0,3429	2009	154	173	3,066E+01		
09b0638a 8,79914E-07	9,9114	1,07085E-06	5,4701	1,39744E-06	4,8200	4,07346E-06	3,0346	2,04617E-04	0,3001	2009	154				
c 3.9% 1,01793E-06	5,0830	2,54750E-06	2,1798	2,12555E-06	1,7727	5,57366E-05	0,7344	7,81693E-04	0,1052	2009	154	173	3,066E+01		
8,79914E-07	9,9114	1,07085E-06	5,4701	1,39744E-06	4,8200	4,07346E-06	3,0346	2,04617E-04	0,3001	2009	154				
d 4.1% 1,17152E-06	3,3253	2,96201E-06	3,8732	2,28169E-06	3,1877	9,75212E-05	0,3068	1,16666E-03	0,1035	2009	154	173	3,066E+01		
09b0659e 6,39363E-07	6,2260	8,63395E-07	5,6253	1,04207E-06	3,8067	2,75175E-06	5,7116	9,44054E-05	0,6952	2009	168				
e 4.3% 1,76731E-06	1,9432	1,72773E-05	0,7112	1,14053E-05	1,2785	8,18169E-04	0,1081	8,79273E-03	0,0438	2009	168	187	4,042E+01		
6,39363E-07	6,2260	8,63395E-07	5,6253	1,04207E-06	3,8067	2,75175E-06	5,7116	9,44054E-05	0,6952	2009	168				
f 4.5% 1,24471E-06	3,7394	1,08698E-05	0,9102	5,44357E-06	1,6823	3,12827E-04	0,1746	3,47832E-03	0,0543	2009	168	187	4,042E+01		
09b0638b 7,90571E-07	4,0530	9,77602E-07	3,5180	1,06112E-06	3,1075	2,55005E-06	6,2639	1,00315E-04	0,5640	2009	168				
g 4.8% 1,35513E-06	3,7057	3,36553E-05	0,5888	9,53886E-06	1,0775	6,32041E-04	0,0986	6,24526E-03	0,0469	2009	168	187	4,042E+01		
7,90571E-07	4,0530	9,77602E-07	3,5180	1,06112E-06	3,1075	2,55005E-06	6,2639	1,00315E-04	0,5640	2009	168				
h 5.1% 1,75157E-06	3,8674	9,09011E-05	0,4718	4,57358E-06	1,8688	6,30484E-05	0,3669	9,24350E-04	0,2547	2009	168	187	4,042E+01		
7,90571E-07	4,0530	9,77602E-07	3,5180	1,06112E-06	3,1075	2,55005E-06	6,2639	1,00315E-04	0,5640	2009	168				
i 5.5% 2,82573E-06	1,3747	1,41593E-04	0,8281	6,83604E-06	1,4080	4,86548E-05	0,4927	9,22399E-04	0,0863	2009	168	187	4,042E+01		
7,90571E-07	4,0530	9,77602E-07	3,5180	1,06112E-06	3,1075	2,55005E-06	6,2639	1,00315E-04	0,5640	2009	168				
j 6.0% 1,51027E-05	1,5088	5,39178E-04	0,3551	2,72191E-05	0,7957	1,06775E-04	0,6969	4,35964E-03	0,2336	2009	168	187	4,042E+01		

blank- and background-corrected intensities and absolute errors (1-sigma abs.):

36Ar	+/-	37Ar	+/-	38Ar	+/-	39Ar	+/-	40Ar	+/-	%39Ar	cum%39Ar	%40Ar*	36Ar/39Ar meas.	+/- [1-sigma abs.]	37Ar/39Ar meas.	+/- [1-sigma abs.]	38Ar/39Ar meas.	+/- [1-sigma abs.]	40Ar/39Ar meas.	+/- [1-sigma abs.]	37Ar/39Ar cor r ect ed	+/- [1-sigma abs.]	39ArK cor r ect ed	+/- [1-sigma abs.]	40Ar* cor r ect ed	+/- [1-sigma abs.]	40Ar*/39ArK cal cul at ed	+/- [1-sigma abs.]	age [Ma]	+/- 1sigma [Ma]	+/- 1sigma +σ/n [Ma]
a 3.6% 3,49296E+02	6,55E+00	4,04525E+03	1,78E+01	3,22415E+03	2,10E+01	2,20004E+05	2,03E+02	2,51526E+06	1,98E+03	61,88	61,88	96,22	0,001587677	2,98099E-05	0,018387	8,28268E-05	0,014655	9,64002E-05	11,432756	0,013872474	0,563739245	0,002539426	219928,3017	203,313825	2,41444E+06	2767,629690	10,978288	0,016167	150,4	0,4	4,745E-01
b 3.7% 2,14745E-01	4,26E+00	4,53496E+01	4,28E+00	1,16030E+02	6,92E+00	3,77334E+03	1,58E+01	1,80151E+04	1,92E+02	1,06	62,94	86,95	0,005691	0,001128184	0,012018	0,001134808	0,030750	0,001838864	12,724843	0,073696079	0,368478702	0,034792625	3772,482128	15,801776	41661,49619	1272,282454	11,043524	0,340411	151,2	4,5	4,491E+00
c 3.9% 8,61523E+00	6,33E+00	9,21754E+01	5,04E+00	4,54501E+01	4,82E+00	3,22492E+03	2,67E+01	3,60222E+04	6,41E+01	0,91	63,85	93,44	0,002671	0,001962945	0,028582	0,001580132	0,014093	0,001498445	11,169975	0,094558009	0,876317561	0,048446014	3223,179912	26,691014	33578,58187	1871,619123	10,417843	0,587048	143,0	7,8	7,756E+00
d 4.1% 1,82026E+01	5,96E+00	1,18050E+02	8,04E+00	5,51966E+01	6,19E+00	5,83319E+03	2,02E+01	6,00526E+04	8,46E+01	1,64	65,49	91,42	0,003121	0,001022201	0,020238	0,001380238	0,009463	0,00106133	10,294984	0,038497871	0,620474895	0,042317363	5830,969979	20,208122	54759,28469	1763,982818	9,391111	0,304265	129,4	4,1	4,062E+00
e 4.3% 7,04087E-01	3,28E+00	1,02459E+03	8,25E+00	4,66893E+02	9,43E+00	5,09000E+04	5,61E+01	5,42967E+05	2,44E+02	14,32	79,80	96,67	0,001383	6,44924E-05	0,020129	0,000163546	0,012709	0,000185852	10,667330	0,012696099	0,813702609	0,006611099	50874,52288	56,073841	523561,294	1000,194509	10,291228	0,022698	141,3	0,4	4,993E-01
f 4.5% 3,77870E+01	3,82E+00	6,24620E+02	6,88E+00	2,74750E+02	6,23E+00	1,93555E+04	3,55E+01	2,11231E+05	1,25E+02	5,44	85,25	95,50	0,001952	0,00019755	0,032271	0,000360335	0,014195	0,000322906	10,913204	0,021017288	1,304501737	0,014566006	19340,00567	35,478508	201228,8977	1136,736337	10,404800	0,061798	142,8	0,9	9,098E-01
g 4.8% 3,52409E+01	3,72E+00	2,03981E+03	1,26E+01	5,29197E+02	6,74E+00	3,92941E+04	4,02E+01	3,83580E+05	1,86E+02	11,05	96,30	98,71	0,000897	9,46344E-05	0,051911	0,000323879	0,013468	0,000172025	9,761769	0,011044852	2,09843563	0,013092296	39243,43876	40,159612	377604,3286	1114,965061	9,622101	0,030069	132,4	0,5	5,475E-01
h 5.1% 5,99875E+01	4,68E+00	5,61320E+03	2,66E+01	2,19255E+02	5,72E+00	3,77643E+03	1,75E+01	5,14379E+04	1,51E+02	1,06	97,36	94,86	0,015885	0,001240844	1,486379	0,009913582	0,058059	0,001538119	13,620785	0,074884098	60,08462431	0,400741488	3637,106575	17,560400	48701,20738	1392,359489	13,390096	0,388241	181,8	5,0	5,040E+00
i 5.5% 1,27039E+02	3,14E+00	8,77749E+03	7,32E+01	3,60482E+02	6,35E+00	2,87795E+03	1,80E+01	5,13161E+04	6,10E+01	0,81	98,17	72,78	0,044142	0,001126474	3,049911	0,031787874	0,125257	0,002341443	17,830788	0,113403468	123,2880253	1,284976457	2660,091982	18,073172	37296,30409	951,409935	14,020682	0,370129	189,9	4,8	4,788E+00
j 6.0% 9,93391E+02	1,44E+01	3,35955E+04	1,20E+02	1,63283E+03	1,37E+01	6,50593E+03	4,75E+01	2,65875E+05	6,37E+02	1,83	100,00	34,63	0,137320	0,002424869	5,163835	0,041945123	0,250976	0,00278872	40,866654	0,314051621	208,7401575	1,695567807	5672,08536	47,599796	92020,68563	4304,056147	16,223431	0,770931	218,0	9,8	9,777E+00
total 1,62144E+03	2,03E+01	5,59761E+04	1,45E+02	7,10423E+03	3,14E+01	3,55546E+05	2,27E+02	4,16575E+06	2,12E+03	100,00	88,49821106	0,004560432	5,72972E-05	0,157437	0,000420477	0,019981	8,91271E-05	11,716505	0,009573717	5,749266	0,015354921	3,54291E+05	227,203110	3813102,033	6385,204710	10,762639	0,019299	147,5	0,4	4,878E-01