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New Mexico Institute of Mining and Technology

$^{40}Ar/^{39}Ar$ Data Repository for *"Sour Gas" hydrothermal jarosite: Ancient to Modern Acid-Sulfate Mineralization in the Southern Rio Grande Rift*

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Table 1. $^{40}Ar/^{39}Ar$ analytical data.

ID	Power (Watts/˚C)	$^{40}Ar/^{39}Ar$	$^{37}Ar/^{39}Ar$	$^{36}Ar/^{39}Ar$ (x 10^{-3})	$^{39}Ar_K$ (x 10^{-15} mol)	K/Ca	$^{40}Ar^*$ (%)	^{39}Ar (%)	Age (Ma)	±1σ (Ma)
Sunshine #5 9841533-01, 7.71 mg Jarosite, J=0.0034738, D=1.00292, NM-91, Lab#=9344-01										
A	340	5.831	0.0412	17.03	10.74	12.4	13.4	4.3	4.85	0.36
B	380	2.749	0.0262	6.181	16.5	19.4	33.0	10.8	5.63	0.21
C	410	2.102	0.0253	3.954	16.4	20.1	43.8	17.1	5.69	0.15
D	420	1.778	0.0237	3.073	77.5	21.5	48.3	44.1	5.29	0.06
E	455	1.545	0.0219	2.375	166.4	23.3	53.9	91.0	5.12	0.06
F	480	1.926	0.0196	3.594	26.9	26.0	44.2	97.5	5.25	0.10
G	*500*	*7.814*	*0.0174*	*22.58*	*6.70*	*29.3*	*14.3*	*99.1*	*6.99*	*0.50*
H	*550*	*117.4*	*0.1654*	*377.1*	*0.480*	*3.1*	*5.1*	*99.2*	*37.0*	*8.5*
I	*600*	*113.1*	*0.1735*	*358.2*	*0.789*	*2.9*	*6.4*	*99.4*	*44.8*	*7.3*
J	*750*	*38.21*	*0.1779*	*84.96*	*1.92*	*2.9*	*34.3*	*99.8*	*80.3*	*2.3*
K	*900*	*79.40*	*6.453*	*104.6*	*0.728*	*0.079*	*61.8*	*100.0*	*285.1*	*6.1*
Integrated age ± 2σ			n=11		325.1		K2O=4.66 %		6.53	0.15
Plateau ± 2σ	steps A-F		n=6	MSWD=3.67	314.5	22.4		96.7	5.25	0.14
Sunshine #2 9841423, 6.82mg jarosite, J=0.0034494, D=1.00292, NM-91, Lab#=9343-01										
A	*340*	*7.751*	*1.529*	*21.96*	*2.11*	*0.33*	*17.7*	*0.5*	*8.5*	*1.2*
B	*380*	*1.525*	*0.1010*	*0.9432*	*9.60*	*5.1*	*82.0*	*2.7*	*7.63*	*0.23*
C	*410*	*1.349*	*0.0597*	*0.5959*	*19.8*	*8.5*	*87.1*	*7.4*	*7.15*	*0.10*
D	420	1.295	0.0576	0.7339	34.7	8.9	83.3	15.5	6.57	0.06
E	455	1.304	0.0607	0.7208	67.8	8.4	83.7	31.4	6.64	0.04
F	480	1.319	0.0404	0.6168	141.1	12.6	86.2	64.4	6.92	0.10
G	500	1.208	0.0211	0.4624	119.6	24.2	88.6	92.5	6.50	0.04
H	550	1.293	0.0536	0.8399	22.9	9.5	80.8	97.8	6.35	0.09
I	*600*	*2.950*	*0.4973*	*5.410*	*4.41*	*1.0*	*46.8*	*98.9*	*8.50*	*0.60*
J	*750*	*25.71*	*4.008*	*83.31*	*3.19*	*0.13*	*5.5*	*99.6*	*8.8*	*1.2*
K	*900*	*277.8*	*14.50*	*838.4*	*1.64*	*0.035*	*11.3*	*100.0*	*186.7*	*8.2*
Integrated age ± 2σ			n=11		427.0		K2O=6.97 %		7.49	0.13
Plateau ± 2σ	steps D-H		n=5	MSWD=5.81	386.2	14.9		90.4	6.57	0.12
Barret Dark, 20.5mg, natrojarosite, J=0.0034717, D=1.00292, NM-91, Lab#=9352-01										
B	*380*	*116.5*	*0.1758*	*396.2*	*3.22*	*2.9*	*-0.5*	*0.4*	*-3.8*	*4.4*
D	*420*	*2.597*	*0.0107*	*4.783*	*14.4*	*47.7*	*45.1*	*2.0*	*7.24*	*0.17*
E	*455*	*1.875*	*0.0081*	*2.500*	*34.9*	*63.2*	*60.1*	*6.0*	*6.94*	*0.08*
F	*480*	*1.561*	*0.0075*	*1.644*	*62.0*	*67.7*	*68.4*	*13.1*	*6.56*	*0.05*
G	500	1.539	0.0066	1.708	69.4	77.0	66.7	21.0	6.30	0.06
H	550	1.441	0.0042	1.387	171.1	122.9	71.1	40.6	6.28	0.04
I	600	1.256	0.0039	0.7450	490.0	132.3	82.1	96.6	6.31	0.02
J	*750*	*5.283*	*0.0210*	*13.81*	*28.5*	*24.3*	*22.4*	*99.9*	*7.37*	*0.22*
K	*900*	*124.3*	*5.518*	*343.4*	*1.112*	*0.092*	*18.8*	*100.0*	*141.0*	*5.9*
Integrated age ± 2σ			n=9		874.7		K2O=4.72 %		6.54	0.09
Plateau ± 2σ	steps G-I		n=3	MSWD=0.29	730.6	124.9		83.5	6.30	0.04

ID	Power (Watts/˚C)	$^{40}Ar/^{39}Ar$	$^{37}Ar/^{39}Ar$	$^{36}Ar/^{39}Ar$ (x 10^{-3})	$^{39}Ar_K$ (x 10^{-15} mol)	K/Ca	$^{40}Ar^*$ (%)	^{39}Ar (%)	Age (Ma)	±1σ (Ma)
TEAA #1 9841512, 20.6 mg, natrojarosite, J=0.0035445, D=1.00292, NM-91, Lab#=9353-01										
A	*340*	*263.9*	*0.1926*	*888.6*	*4.01*	*2.6*	*0.5*	*1.8*	*8.5*	*9.7*
B	*380*	*48.29*	*0.0580*	*156.3*	*1.192*	*8.8*	*4.3*	*2.3*	*13.2*	*3.1*
C	*410*	*14.02*	*0.0479*	*48.28*	*0.247*	*10.7*	*-1.9*	*2.4*	*-1.7*	*5.7*
D	420	20.03	0.0297	65.78	10.98	17.2	2.8	7.2	3.64	0.86
E	455	19.82	0.0297	65.19	25.3	17.2	2.7	18.2	3.42	0.75
F	480	7.172	0.0210	22.26	55.8	24.3	8.0	42.6	3.63	0.29
G	500	3.629	0.0175	10.06	11.71	29.2	17.5	47.7	4.04	0.23
H	550	2.583	0.0192	6.660	100.6	26.5	23.1	91.6	3.77	0.09
I	*600*	*4.311*	*0.0234*	*10.96*	*16.0*	*21.8*	*24.5*	*98.6*	*6.70*	*0.29*
J	*750*	*206.7*	*0.2935*	*595.6*	*1.65*	*1.7*	*14.9*	*99.3*	*186.6*	*6.5*
K	*900*	*68.06*	*2.515*	*154.0*	*1.50*	*0.20*	*33.4*	*100.0*	*140.1*	*3.4*
Integrated age ± 2σ			n=11		229.1		K2O=1.20 %		6.35	0.80
Plateau ± 2σ	steps D-H		n=5	MSWD=0.43	204.4	24.4		89.2	3.79	0.16
Sunshine #6 9852814, 14.12mg natrojarosite, J=0.0034759, D=1.00292, NM-91, Lab#=9345-01										
A	340	6.746	0.1820	17.91	5.52	2.8	21.7	4.5	9.12	0.58
B	380	3.112	0.1435	5.826	8.28	3.6	44.7	11.4	8.63	0.34
C	410	2.988	0.1296	6.027	15.0	3.9	40.3	23.7	7.46	0.23
D	420	3.799	0.1199	8.142	16.4	4.3	36.5	37.1	8.62	0.26
E	455	5.410	0.1149	14.06	37.7	4.4	23.1	68.2	7.77	0.28
F	480	5.899	0.0994	15.75	25.6	5.1	20.9	89.2	7.70	0.26
G	500	6.508	0.0940	18.04	7.73	5.4	18.0	95.5	7.32	0.52
H	*550*	*8.117*	*0.3531*	*19.83*	*2.58*	*1.4*	*30.1*	*97.7*	*15.2*	*1.4*
I	*600*	*32.11*	*1.677*	*69.71*	*0.442*	*0.30*	*39.2*	*98.0*	*77.2*	*7.5*
J	*750*	*394.7*	*9.088*	*1302.3*	*0.564*	*0.056*	*3.5*	*98.5*	*86*	*17*
K	*900*	*67.62*	*7.792*	*196.5*	*1.85*	*0.065*	*17.6*	*100.0*	*73.4*	*3.2*
Integrated age ± 2σ			n=11		121.6		K2O=0.95 %		9.40	0.49
Plateau ± 2σ	steps A-G		n=7	MSWD=3.63	116.2	4.4		95.5	7.97	0.44
Sunshine #1 9841416, 3.13 mg Jarosite, J=0.003457, D=1.00292, NM-91, Lab#=9346-01										
A	*340*	*9.918*	*0.0714*	*28.65*	*3.84*	*7.1*	*14.5*	*2.1*	*8.9*	*1.0*
B	*380*	*2.500*	*0.0101*	*4.069*	*8.78*	*50.5*	*51.4*	*6.8*	*7.92*	*0.28*
C	*410*	*1.672*	*0.0098*	*1.470*	*12.02*	*52.1*	*73.7*	*13.3*	*7.54*	*0.13*
D	*420*	*1.428*	*0.0073*	*1.074*	*26.0*	*69.5*	*77.4*	*27.3*	*6.75*	*0.08*
E	455	1.339	0.0043	1.096	59.5	119.5	75.4	59.4	6.16	0.05
F	480	1.332	0.0031	1.099	54.2	166.4	75.1	88.7	6.11	0.05
G	*500*	*1.509*	*0.0053*	*1.217*	*17.7*	*96.2*	*75.8*	*98.3*	*7.00*	*0.10*
H	*550*	*6.265*	*0.1067*	*9.912*	*1.260*	*4.8*	*53.2*	*98.9*	*20.6*	*1.3*
I	*600*	*13.40*	*0.3106*	*23.63*	*0.979*	*1.6*	*48.1*	*99.5*	*39.7*	*2.8*
J	*750*	*28.34*	*5.368*	*46.62*	*0.502*	*0.095*	*53.0*	*99.7*	*91.7*	*5.1*
K	*900*	*91.49*	*26.11*	*59.36*	*0.493*	*0.020*	*83.3*	*100.0*	*429.5*	*8.4*
Integrated age ± 2σ			n=11		185.2		K2O=6.58 %		8.32	0.11
Plateau ± 2σ	steps E-F		n=2	MSWD=0.44	113.6	141.8		61.4	6.13	0.07

ID	Power (Watts/˚C)	$^{40}Ar/^{39}Ar$	$^{37}Ar/^{39}Ar$	$^{36}Ar/^{39}Ar$ (x 10^{-3})	$^{39}Ar_K$ (x 10^{-15} mol)	K/Ca	$^{40}Ar^*$ (%)	^{39}Ar (%)	Age (Ma)	±1σ (Ma)
98417124, 8.28 mg Jarosite, J=0.0034387, D=1.00292, NM-91, Lab#=9336-01										
A	*340*	*21.59*	*-0.0716*	*75.59*	*1.61*	*-*	*-3.6*	*0.5*	*-5*	*11*
B	*380*	*3.575*	*-0.0012*	*12.68*	*5.27*	*-*	*-5.6*	*2.1*	*-1.2*	*2.7*
C	*410*	*2.895*	*0.0093*	*6.912*	*7.41*	*54.9*	*28.9*	*4.4*	*5.13*	*0.39*
D	*420*	*3.303*	*0.0045*	*7.278*	*8.12*	*113.5*	*34.4*	*6.9*	*6.98*	*0.44*
E	455	2.157	0.0077	4.448	36.0	66.0	38.4	17.9	5.07	0.11
F	480	1.049	0.0030	0.6949	135.2	172.6	80.0	58.2	5.07	0.03
G	500	0.8965	0.0016	0.1680	89.6	318.4	94.4	84.1	5.09	0.09
H	550	0.9249	-0.0005	0.3605	38.1	-	88.2	94.9	4.91	0.06
I	*600*	*1.349*	*-0.0005*	*1.537*	*17.3*	*-*	*65.7*	*99.8*	*5.38*	*0.15*
J	*750*	*49.04*	*0.6728*	*150.2*	*0.460*	*0.76*	*9.6*	*100.0*	*28.9*	*5.7*
K	*900*	*52.45*	*0.3761*	*158.6*	*0.173*	*1.4*	*10.7*	*100.0*	*34*	*13*
Integrated age ± 2σ			n=11		339.2		K2O=4.58 %		5.02	0.16
Plateau ± 2σ	steps E-H		n=4	MSWD=1.81	298.9	181.5		88.1	5.04	0.07
98417129, 8.04 mg Jarosite, J=0.0034047, D=1.00292, NM-91, Lab#=9335-01										
A	340	7.951	0.0397	23.61	2.08	12.8	12.0	0.4	5.8	1.1
B	380	3.817	0.0141	10.11	5.13	36.1	21.2	1.4	4.93	0.40
C	410	2.375	0.0071	4.834	7.96	72.2	39.2	2.9	5.65	0.25
D	420	2.310	0.0085	4.884	10.59	59.8	36.8	4.9	5.16	0.21
E	455	2.364	0.0143	4.993	31.0	35.6	37.0	10.7	5.30	0.11
F	480	1.478	0.0060	2.092	103.4	85.3	57.5	29.8	5.11	0.05
G	500	0.9669	0.0025	0.4117	127.4	207.7	87.1	53.0	5.02	0.03
H	550	0.9647	0.0046	0.4743	88.5	110.1	85.1	68.8	4.90	0.03
I	*600*	*1.065*	*0.0075*	*0.6987*	*149.2*	*68.0*	*80.2*	*95.0*	*5.11*	*0.03*
J	*750*	*3.024*	*0.0814*	*7.025*	*28.4*	*6.3*	*31.0*	*99.9*	*5.70*	*0.17*
K	*900*	*29.95*	*4.819*	*70.90*	*0.418*	*0.11*	*31.4*	*100.0*	*57.0*	*5.4*
Integrated age ± 2σ			n=11		554.2		K2O=7.78 %		5.15	0.06
Plateau ± 2σ	steps A-H		n=8	MSWD=4.25	376.1	126.4		67.9	5.01	0.08
98417136, 9.88 mg Jarosite, J=0.0034308, D=1.00292, NM-91, Lab#=9338-01										
A	*340*	*3.209*	*-0.0115*	*7.546*	*5.93*	*-*	*30.0*	*2.1*	*5.89*	*0.41*
B	*380*	*1.482*	*-0.0016*	*1.733*	*10.06*	*-*	*64.9*	*5.8*	*5.84*	*0.23*
C	*410*	*1.287*	*0.0104*	*1.144*	*14.5*	*49.0*	*73.3*	*11.0*	*5.71*	*0.15*
D	*420*	*1.561*	*0.0122*	*2.171*	*15.0*	*41.8*	*58.3*	*16.3*	*5.53*	*0.14*
E	*455*	*1.339*	*0.0108*	*1.531*	*58.7*	*47.4*	*65.6*	*37.0*	*5.32*	*0.06*
F	*480*	*1.132*	*0.0087*	*0.9781*	*98.5*	*58.8*	*74.0*	*70.9*	*5.05*	*0.04*
G	500	0.9380	0.0092	0.5202	46.1	55.6	83.3	86.4	4.69	0.05
H	550	0.9563	0.0113	0.6180	38.4	45.0	80.5	99.1	4.63	0.05
I	*600*	*8.249*	*0.1483*	*17.30*	*1.98*	*3.4*	*38.0*	*99.8*	*19.2*	*1.4*
J	*750*	*193.8*	*0.7288*	*610.9*	*0.426*	*0.70*	*6.9*	*99.9*	*81*	*11*
K	*900*	*59.97*	*0.3859*	*167.7*	*0.328*	*1.3*	*17.4*	*100.0*	*63.5*	*7.0*
Integrated age ± 2σ			n=11		289.9		K2O=3.29 %		5.37	0.09
Plateau ± 2σ	steps G-H		n=2	MSWD=0.86	84.4	50.8		29.1	4.66	0.07
Isochron±2σ	steps D-H		n=5	MSWD=2.5		$^{40}Ar/^{36}Ar$=401±22			4.34	0.14

ID	Power (Watts/˚C)	$^{40}Ar/^{39}Ar$	$^{37}Ar/^{39}Ar$	$^{36}Ar/^{39}Ar$ (x 10^{-3})	$^{39}Ar_K$ (x 10^{-15} mol)	K/Ca	$^{40}Ar^*$ (%)	^{39}Ar (%)	Age (Ma)	±1σ (Ma)
98417127, 8.64 mg jarosite, J=0.0033719, D=1.00292, NM-91, Lab#=9341-01										
A	*340*	*33.19*	*0.0211*	*111.4*	*3.56*	*24.2*	*0.8*	*1.0*	*1.5*	*1.7*
B	*380*	*5.143*	*0.0115*	*14.92*	*11.46*	*44.4*	*13.9*	*4.1*	*4.31*	*0.28*
C	*410*	*2.042*	*0.0072*	*4.804*	*9.95*	*70.8*	*29.7*	*6.9*	*3.63*	*0.14*
D	420	1.513	0.0071	2.815	12.76	72.0	44.1	10.3	3.99	0.11
E	455	1.015	0.0055	0.9875	78.0	93.0	70.6	31.4	4.24	0.03
F	480	0.8529	0.0035	0.4656	120.5	147.4	83.5	63.2	4.19	0.02
G	500	0.8055	0.0030	0.3164	52.0	168.5	88.1	76.7	4.17	0.03
H	550	0.8376	0.0052	0.4124	77.5	98.8	85.1	96.4	4.19	0.02
I	*600*	*1.028*	*0.0164*	*0.5650*	*14.2*	*31.1*	*83.5*	*100.0*	*5.08*	*0.11*
Integrated age ± 2σ			n=9		379.9		K2O=5.01 %		4.18	0.07
Plateau ± 2σ	steps D-H		n=5	MSWD=1.62	340.8	124.3		89.7	4.19	0.03
98417128, 9.77 mg Jarosite, J=0.0033868, D=1.00292, NM-91, Lab#=9334-01										
A	*340*	*38.45*	*0.0270*	*128.0*	*7.91*	*18.9*	*1.6*	*1.4*	*3.6*	*2.4*
B	*380*	*7.385*	*0.0103*	*21.39*	*35.4*	*49.6*	*14.2*	*7.8*	*6.35*	*0.35*
C	410	2.900	0.0117	6.950	36.6	43.4	28.6	14.3	5.02	0.29
D	420	2.291	0.0111	5.020	60.0	45.8	34.7	25.0	4.79	0.19
E	455	1.890	0.0077	3.688	187.7	66.2	41.7	57.7	4.74	0.10
F	480	1.416	0.0062	2.152	176.8	81.8	54.4	87.7	4.61	0.06
G	500	1.315	0.0053	1.757	61.3	96.6	59.8	97.9	4.70	0.16
H	*550*	*1.810*	*0.0081*	*2.959*	*9.67*	*62.7*	*51.1*	*99.5*	*5.56*	*0.22*
I	*600*	*6.257*	*0.0551*	*12.72*	*1.82*	*9.3*	*39.8*	*99.8*	*15.1*	*1.4*
J	*750*	*62.98*	*0.2553*	*200.2*	*0.808*	*2.0*	*6.1*	*99.9*	*23.2*	*4.7*
K	*900*	*19.10*	*0.2599*	*52.26*	*0.478*	*2.0*	*19.2*	*100.0*	*22.2*	*4.1*
Integrated age ± 2σ			n=11		578.5		K2O=6.72 %		4.88	0.17
Plateau ± 2σ	steps C-G		n=5	MSWD=0.83	522.5	71.1		90.3	4.67	0.10
8977, 11.2 mg Jarosite, J=0.0034147, D=1.00292, NM-91, Lab#=9349-01										
A	*340*	*6.928*	*0.0068*	*20.72*	*1.82*	*74.6*	*11.3*	*0.2*	*4.79*	*0.84*
B	*380*	*2.718*	*0.0074*	*6.945*	*4.84*	*68.6*	*23.8*	*0.9*	*3.94*	*0.34*
C	*410*	*1.601*	*0.0034*	*3.623*	*5.94*	*149.7*	*32.0*	*1.7*	*3.11*	*0.28*
D	*420*	*2.545*	*0.0089*	*6.523*	*3.05*	*57.4*	*23.5*	*2.1*	*3.64*	*0.53*
E	455	1.168	0.0031	2.403	21.2	163.6	37.8	5.0	2.66	0.11
F	480	0.5451	0.0011	0.4304	150.6	482.9	75.5	24.2	2.41	0.03
G	500	0.4841	0.0003	0.2223	327.5	1527.1	85.7	60.2	2.41	0.02
H	550	0.4211	0.0001	0.1048	221.9	4104.6	92.2	80.9	2.24	0.02
I	600	0.4665	0.0002	0.2094	219.9	2184.1	86.0	99.1	2.33	0.02
J	*750*	*13.44*	*0.0039*	*41.20*	*10.51*	*132.2*	*9.2*	*99.9*	*7.62*	*0.60*
K	*900*	*178.0*	*0.1805*	*81.35*	*0.826*		*86.5*	*100.0*	*762*	*11*
Integrated age ± 2σ			n=11		968.2		K2O=9.72 %		3.24	0.05
Plateau ± 2σ	steps E-I		n=5	MSWD=12.70	941.2	2090.6		97.2	2.34	0.08

ID	Power (Watts/˚C)	$^{40}Ar/^{39}Ar$	$^{37}Ar/^{39}Ar$	$^{36}Ar/^{39}Ar$ (x 10^{-3})	$^{39}Ar_K$ (x 10^{-15} mol)	K/Ca	$^{40}Ar^*$ (%)	^{39}Ar (%)	Age (Ma)	±1σ (Ma)
PM89711, 13.20mg jarosite, J=0.0035918, D=1.00292, NM-91, Lab#=9364-01										
A	340	152.2	0.7631	515.7	1.266	0.67	-0.1	0.5	-1.0	7.4
B	380	32.82	0.3006	101.4	1.215	1.7	8.7	1.0	18.3	3.2
D	420	7.058	0.1120	19.77	8.84	4.6	17.1	4.5	7.76	0.50
E	455	4.889	0.0787	12.42	9.80	6.5	24.7	8.3	7.77	0.33
F	480	3.173	0.0394	6.558	29.2	12.9	38.5	19.3	7.84	0.14
G	500	2.899	0.0278	5.647	38.7	18.4	42.0	33.0	7.80	0.12
H	550	2.037	0.0307	2.610	148.8	16.6	61.8	77.4	8.03	0.07
I	*600*	*2.646*	*0.1046*	*3.006*	*64.9*	*4.9*	*66.5*	*93.6*	*11.25*	*0.09*
J	*750*	*22.81*	*4.943*	*31.47*	*16.6*	*0.10*	*61.0*	*97.5*	*88.25*	*0.68*
K	*900*	*27.98*	*0.8272*	*16.42*	*10.70*	*0.62*	*82.9*	*100.0*	*144.34*	*0.84*
Integrated age ± 2σ			n=10		330.1		K2O=2.67 %		17.31	0.24
Plateau ± 2σ	steps A-H		n=7	MSWD=2.66	237.9	15.4		72.1	7.95	0.18
SDM97021, 10.8mg natrojarosite, J=0.003587, D=1.00292, NM-91, Lab#=9361-01										
A	340	21.70	0.0354	73.62	7.57	14.4	-0.4	1.6	-0.5	1.1
B	380	4.729	0.0133	15.57	23.1	38.2	2.2	6.3	0.67	0.26
C	410	2.342	0.0107	7.723	27.2	47.8	1.5	11.8	0.22	0.16
D	420	1.632	0.0097	5.246	53.5	52.4	3.5	22.1	0.37	0.08
E	455	1.230	0.0095	3.914	96.2	53.5	4.0	39.3	0.31	0.19
F	480	1.655	0.0075	5.428	25.0	68.3	1.6	43.5	0.16	0.13
G	500	0.8904	0.0066	2.643	309.2	76.9	9.7	88.0	0.54	0.04
J	*550*	*4.315*	*0.0121*	*13.31*	*86.8*	*42.2*	*8.3*	*98.6*	*2.32*	*0.16*
K	*600*	*74.86*	*0.5142*	*214.4*	*3.25*	*0.99*	*15.4*	*99.0*	*73.3*	*2.8*
L	*750*	*97.39*	*2.931*	*226.6*	*4.38*	*0.17*	*31.6*	*99.5*	*189.1*	*3.2*
M	*900*	*84.44*	*8.404*	*149.5*	*4.58*	*0.061*	*48.6*	*100.0*	*249.1*	*2.9*
Integrated age ± 2σ			n=11		640.8		K2O=6.35 %		4.32	0.21
Plateau ± 2σ	steps A-G		n=7	MSWD=2.46	541.8	65.9		84.5	0.47	0.10
MM6127-07, 11.95 mg jarosite, J=0.0036216, D=1.00292, NM-91, Lab#=9365-01										
B	*380*	*59.45*	*0.0417*	*195.4*	*0.523*	*12.2*	*2.9*	*0.1*	*11.1*	*6.5*
D	*420*	*7.467*	*0.0042*	*19.20*	*1.54*	*122.4*	*23.8*	*0.3*	*11.5*	*1.0*
E	*455*	*16.69*	*0.0057*	*52.92*	*10.44*	*88.9*	*6.1*	*1.5*	*6.68*	*0.72*
F	*480*	*2.848*	*0.0009*	*4.713*	*70.2*	*577.9*	*50.6*	*10.0*	*9.31*	*0.08*
G	*500*	*1.785*	*0.0004*	*0.6138*	*209.0*	*1146.8*	*89.7*	*32.6*	*10.27*	*0.16*
H	550	1.530	0.0001	0.1563	398.2	4929.5	96.9	68.9	9.50	0.05
I	600	1.495	0.0001	0.1165	343.1	5687.9	97.7	94.5	9.35	0.04
J	750	5.975	0.0089	15.15	75.1	57.4	24.8	99.7	9.59	0.20
K	*900*	*31.74*	*3.730*	*72.65*	*3.82*	*0.14*	*33.3*	*100.0*	*67.9*	*1.5*
Integrated age ± 2σ			n=9		1111.9		K2O=9.87 %		9.77	0.11
Plateau ± 2σ	steps H-J		n=3	MSWD=3.34	816.4	4800.3		73.4	9.42	0.11
9841822, 3.89mg jarosite, J=0.0032806, D=1.00676, NM-104, Lab#=50201-01										
A	*1*	*389.6*	*0.2070*	*1347.2*	*0.62*	*2.5*	*-2.1*	*0.3*	*-49*	*18*
B	*3*	*50.82*	*0.0732*	*173.5*	*6.8*	*7.0*	*-0.8*	*3.6*	*-2.5*	*1.8*
C	5	1.928	0.0091	4.577	58.4	55.9	29.0	38.6	3.27	0.07
D	7	1.044	0.0082	1.670	57.9	61.9	51.8	92.5	3.12	0.05
E	*9*	*3.957*	*0.0466*	*10.98*	*6.1*	*10.9*	*17.7*	*100.0*	*4.10*	*0.35*
Integrated age ± 2σ			n=5		129.8		K2O=3.91 %		2.67	0.39
Plateau ± 2σ	steps C-D		n=2	MSWD=2.82	116.3	58.9		89.6	3.17	0.14

ID	Power (Watts/˚C)	$^{40}Ar/^{39}Ar$	$^{37}Ar/^{39}Ar$	$^{36}Ar/^{39}Ar$ (x 10^{-3})	$^{39}Ar_K$ (x 10^{-15} mol)	K/Ca	$^{40}Ar^*$ (%)	^{39}Ar (%)	Age (Ma)	±1σ (Ma)
9841831, 4.4mg Jarosite, J=0.0032848, D=1.00676, NM-104, Lab#=50200-01										
A	*1*	*87.53*	*0.0831*	*297.3*	*0.578*	*6.1*	*-0.4*	*0.5*	*-1.9*	*4.8*
B	*3*	*20.32*	*0.0154*	*67.44*	*4.36*	*33.1*	*1.8*	*3.9*	*2.21*	*0.90*
C	*5*	*7.764*	*0.0139*	*24.71*	*8.1*	*36.7*	*5.7*	*10.8*	*2.61*	*0.37*
D	*7*	*3.071*	*0.0116*	*7.910*	*14.0*	*44.0*	*23.3*	*24.3*	*4.20*	*0.14*
E	8	1.866	0.0119	4.276	15.3	42.8	31.5	41.7	3.43	0.09
F	9	1.280	0.0083	2.160	19.1	61.4	49.3	68.8	3.66	0.07
G	10	1.416	0.0155	2.741	17.1	33.0	41.9	100.0	3.45	0.10
Integrated age ± 2σ			n=7		78.5		K2O=2.09 %		3.43	0.27
Plateau ± 2σ	steps E-G		n=3	MSWD=2.47	51.5	46.4		65.6	3.54	0.16
98417119, 3.22 mg Jarosite, J=0.0032738, D=1.00676, NM-104, Lab#=50202-01										
A	*1*	*13.79*	*0.0533*	*46.71*	*0.72*	*9.6*	*-0.2*	*0.8*	*-0.1*	*1.4*
B	*3*	*4.499*	*0.0178*	*13.41*	*3.66*	*28.7*	*11.5*	*4.8*	*3.04*	*0.41*
C	5	2.197	0.0104	5.137	8.0	48.9	30.2	14.4	3.87	0.16
D	7	1.570	0.0077	2.893	15.3	66.2	44.8	36.0	4.08	0.11
E	8	1.432	0.0084	2.380	14.8	60.8	50.1	63.0	4.16	0.08
F	*9*	*1.353*	*0.0075*	*1.846*	*14.6*	*67.9*	*59.1*	*98.0*	*4.63*	*0.08*
G	*10*	*10.24*	*0.0509*	*29.44*	*0.70*	*10.0*	*14.9*	*100.0*	*8.9*	*1.5*
Integrated age ± 2σ			n=7		57.8		K2O=2.11 %		4.14	0.15
Plateau ± 2σ	steps C-E		n=3	MSWD=1.39	38.1	60.4		65.9	4.10	0.14
CJ96-124, 4.92 mg jarosite, J=0.0037845, D=1.0074, NM-53, Lab#=6873-10										
A	*350*	*202.6*	*-0.0046*	*674.0*	*3.43*	*-*	*1.7*	*2.1*	*23*	*10*
B	400	49.23	-0.0104	163.2	6.58	-	2.0	6.1	6.7	2.7
C	425	5.984	0.0100	17.56	32.5	51.0	12.9	24.2	5.25	0.32
D	450	1.376	0.0051	2.273	103.3	100.5	50.3	68.5	4.63	0.06
E	475	0.9714	0.0008	0.8470	52.0	650.4	73.6	85.4	4.74	0.05
F	500	1.074	0.0047	1.300	16.2	109.6	63.4	90.1	4.53	0.14
G	550	0.9875	-0.0021	0.7627	29.9	-	76.6	98.3	5.02	0.08
H	600	1.350	-0.0072	1.830	6.61	-	59.1	100.0	5.33	0.31
Integrated age ± 2σ			n=9		250.7		K2O=5.17 %		5.13	0.53
Plateau ± 2σ	steps B-H		n=7	MSWD=3.98	247.2	198.0		98.6	4.75	0.14
Bingham (snake pit), 1.42 mg jarosite, J=0.0037813, D=1.0074, NM-53, Lab#=6874-01										
A	350	1.111	-0.0778	0.5959	3.36	-	83.5	6.1	6.16	0.57
B	400	1.282	-0.0083	1.315	6.89	-	69.1	17.8	5.90	0.29
C	425	1.424	-0.0112	1.632	9.79	-	65.5	32.8	6.23	0.18
D	450	1.117	-0.0108	0.5190	34.2	-	85.9	74.0	6.38	0.05
E	475	0.9309	-0.0052	0.0147	24.9	-	99.5	96.2	6.13	0.06
F	*500*	*1.167*	*-0.1707*	*-1.4022*	*1.88*	*-*	*135.2*	*97.7*	*10.48*	*0.70*
G	*550*	*-0.8013*	*0.3276*	*-4.7041*	*1.495*	*1.6*	*-71.0*	*98.9*	*4.0*	*1.3*
H	*600*	*0.0578*	*0.6338*	*0.0315*	*1.446*	*0.80*	*238.6*	*100.0*	*0.5*	*1.3*
Integrated age ± 2σ			n=8		84.0		K2O=6.01 %		6.18	0.12
Plateau ± 2σ	steps A-E		n=5	MSWD=3.04	79.2	0.0		94.3	6.25	0.13

ID	Power (Watts/˚C)	$^{40}Ar/^{39}Ar$	$^{37}Ar/^{39}Ar$	$^{36}Ar/^{39}Ar$ (x 10^{-3})	$^{39}Ar_K$ (x 10^{-15} mol)	K/Ca	$^{40}Ar^*$ (%)	^{39}Ar (%)	Age (Ma)	±1σ (Ma)
WGND-42, 3.25 mg, jarosite, J=0.0037802, D=1.0074, NM-53, Lab#=6875-10										
A	350	1.773	0.0245	4.252	389.7	20.8	28.1	90.7	3.35	0.11
B	400	1.859	-0.0016	4.671	452.1	-	24.7	98.7	3.08	0.11
C	*425*	*1.971*	*-0.0085*	*4.791*	*98.44*	*-*	*27.2*	*99.5*	*3.60*	*0.20*
D	*450*	*1.882*	*-0.0247*	*3.886*	*68.67*	*-*	*38.0*	*100.0*	*4.80*	*0.37*
Integrated age ± 2σ			n=6		1011.8		K2O=31.63 %		2.94	0.60
Plateau ± 2σ	steps A-B		n=2	MSWD=2.87	841.8	9.6		83.2	3.21	0.27
PM97-01, 2.89 mg jarosite, J=0.0007846, D=1.0075, NM-72, Lab#=8189-02										
A	475	11.02	0.0250	33.64	0.441	20.4	9.6	2.3	1.50	0.60
B	510	5.462	0.0082	2.887	18.0	62.1	84.3	92.8	6.48	0.03
C	550	7.518	-0.0145	-42.9323	0.098	-	269.3	93.3	28.34	3.47
D	575	17.49	0.0237	40.39	0.854	21.6	31.7	97.8	7.81	0.53
E	600	306.2	0.1181	1044.6	0.055	4.3	-0.8	98.0	-3.47	8.80
F	625	671.4	0.5727	2311.3	0.044	0.89	-1.7	98.3	-16.34	15.00
G	650	1749.1	0.9920	5708.8	0.005	0.51	3.6	98.3	86.16	73.30
H	675	686.8	0.9640	2369.7	0.116	0.53	-1.9	98.9	-19.05	7.29
I	700	507.3	0.2623	1654.2	0.233	1.9	3.7	100.0	26.03	5.24
Integrated age ± 2σ			n=9		19.8		K2O=3.35 %		6.56	0.21
BC97-011, 2.34 mg Jarosite, J=0.0007798, D=1.0057, NM-72, Lab#=8192-02										
A	300	17.42	0.0395	45.34	0.421	12.9	23.0	15.4	5.62	0.51
B	375	4.851	0.0486	2.405	2.51	10.5	85.4	69.5	5.79	0.08
C	450	4.966	0.0883	5.156	0.962	5.8	69.3	81.3	4.81	0.15
D	500	4.149	0.0396	1.679	2.164	12.9	88.1	99.9	5.10	0.07
E	*550*	*39.53*	*8.156*	*113.8*	*0.018*	*0.063*	*16.5*	*100.0*	*9.21*	*7.71*
F	*600*	*166.8*	*42.91*	*152.6*	*0.004*	*0.012*	*75.0*	*100.0*	*172.86*	*55.09*
Integrated age ± 2σ			n=6		6.08		K2O=1.28 %		5.49	0.14
Plateau ± 2σ	steps A-D		n=4	MSWD=18.49	6.06	10.8		99.6	5.34	0.43

Notes:

Isotopic ratios corrected for blank, radioactive decay, and mass discrimination, not corrected for interfering reactions.
Ages calculated relative to FC-1 Fish Canyon Tuff sanidine interlaboratory standard at 27.84 Ma.
Errors quoted for individual analyses include analytical error only, without interfering reaction or J uncertainties.
Integrated age calculated by recombining isotopic measurements of all steps.
Integrated age error calculated by recombining errors of isotopic measurements of all steps.
Plateau age is inverse-variance-weighted mean of selected steps.
Plateau age error is inverse-variance-weighted mean error (Taylor, 1982) times root MSWD where MSWD>1.
Plateau and integrated ages incorporate uncertainties in interferring reaction corrections and J factors.
Decay constants and isotopic abundances after Steiger and Jaeger (1977).
Italics denotes analyses excluded from plateau age calculations.

Discrimination = 1.00292 ± 0.00118

Correction factors:

$(^{39}Ar/^{37}Ar)_{Ca}$ = 0.00078 ± 3e-05
$(^{36}Ar/^{37}Ar)_{Ca}$ = 0.00029 ± 5e-06
$(^{38}Ar/^{39}Ar)_K$ = 0.01077
$(^{40}Ar/^{39}Ar)_K$ = 0.0265 ± 0.0024