Col. 1 of 1

AM-90-430

Metamorphic fluids in the Notch Peak contact-metamorphic aureole: Evidence from fluid inclusions

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For deposit: App. 1

American Mineralogist, 75, 3-4, 387-391. pp. 1 - 9

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AM-90-430
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Appendix 1

Appendix Fluid Inclusion Data

The following list contains the notations that used in this appendix.

T_m Melting temperature of fluid inclusion.
T_h Homogenization temperature of fluid inclusion.
T_e Eutectic temperature of fluid inclusion, determined or approximated when possible.
a Fluid inclusions from granite and skarn samples are secondary and from quartz grains.
b The numbers in parenthesis represent 1s standard deviations for three replicate analyses in terms of the last digit cited for the value to their immediate left, thus -4.3(1) indicates a standard deviation of 0.1.
c Total number of inclusions analyzed for the sample.
d Fluid inclusions from this sample are secondary and found in vesuvianite.
e Fluid inclusions from this sample are secondary and found in feldspar.
f Fluid inclusion data are from diopside, they are secondary in occurance.
g Salinities measured in equivalent weight percent NaCl. Values were calculated using Nicholls and Crawford's (1985) program HALWAT.
h Salinities were not calculated for inclusions that had a melting temperature above 0 C or decrepitated before freezing runs were performed.
* Inclusion decrepitated or leaked before replicate analyses were performed.

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Fluid inclusion data

sample type & number	T_m	T_h	T_e	salinity[g]
Granite samples[a]				
80-NP-159-1	-3.4(0)[b]	172.3(0)	-6.6	5.55
n = 37[c]	-4.5(3)	167.8(0)		7.15
	-4.8(3)	167.8(0)		7.57
	-4.3(3)	167.8(0)		6.89
	-0.9(5)	155.9(0)		1.55
	-1.6(5)	155.9(0)		2.72
	-3.4(0)	172.3(0)		5.55
	-1.8(5)	155.9(0)		3.05
	-3.3(0)	194.6(1)		5.40
	-3.3(0)	194.7(1)		5.40
	-2.1(3)	194.3(1)	-7.8	3.53
	-3.4(0)	172.3(0)		5.55
	-1.8(3)	194.2(1)		3.05
	-2.4(3)	194.2(1)		4.01

	-3.1(1)	139.5(1)		5.09
	-3.2(1)	139.5(1)		5.25
	*	139.4(1)		h
	-3.3(0)	194.7(1)		5.40
	*	147.0(*)		h
	*	167.6(*)		h
	-3.4(1)	155.1(0)		5.55
	-3.5(1)	155.1(0)		5.70
	-3.3(2)	154.0(1)	-20	5.40
	-3.2(2)	154.2(1)		5.25
	-3.5(2)	154.1(1)		5.70
	*	162.3(*)	-6.6	h
	-1.4(1)	153.5(1)		2.40
	-6.3(2)	156.9(1)		9.60
	-1.5(1)	153.6(1)		2.56
	-1.3(1)	153.4(1)		2.23
	-6.0(2)	157.1(1)		9.21
	-4.3(1)	138.0(1)		6.87
	-6.1(2)	158.0(1)		9.34
	*	133.9(9)		h
	*	135.1(9)		h
	-4.2(1)	137.8(1)		6.72
	-4.1(1)	137.9(1)		6.58
80-NP-165-2	-24.0(0)	166.5(0)		25.35
n = 27	-18.8(0)	172.3(2)		21.79
	-20.2(1)	159.7(0)		22.80
	-24.0(0)	166.5(0)		25.35
	-22.7(0)	137.3(2)		24.50
	-24.0(0)	166.5(0)		25.35
	-18.8(0)	172.3(2)		21.79
	-20.0(1)	159.7(0)		22.66
	-22.7(0)	137.6(2)		24.50
	-20.2(1)	159.7(0)		22.80
	-22.7(0)	137.6(2)		24.50
	-18.8(0)	172.5(2)		21.79
	-8.6(0)	209.9(2)		12.42
	-7.6(0)	196.7(1)		11.23
	-8.6(0)	209.6(2)		12.42
	-7.2(1)	*		10.74
	-8.6(0)	209.7(2)		12.42
	-7.6(0)	196.6(1)		11.23
	-4.2(1)	195.9(0)		6.72
	-7.6(0)	196.6(1)		11.23
	-7.2(1)	*		10.74
	-7.3(1)	*		10.86
	-3.2(0)	145.4(1)		5.25
	-4.2(1)	145.4(1)		6.72
	-3.2(0)	145.2(1)		5.25
	-4.2(1)	195.9(0)		6.72
	-4.3(1)	195.9(0)		6.87

Skarn samples[a]
80-NP-8P1
n = 61

-14.3(0)	162.7(1)	-20.8	18.18
-9.1(1)	152.4(1)		12.99
-8.9(1)	148.2(2)		12.76
-9.0(1)	148.3(2)	-20.8	12.88
-14.3(0)	162.5(1)		18.18
-14.3(0)	162.6(1)		18.18
-9.1(1)	148.5(2)		12.99
-8.9(1)	152.4(1)	-20.8	12.76
-8.9(1)	152.3(1)		12.76
-10.6(1)	151.2(2)		14.62
-10.8(1)	150.9(2)		14.83
-10.6(1)	151.1(2)		14.62
1.6(1)	136.3(4)		h
-10.2(0)	147.1(1)		14.20
1.6(1)	135.8(4)		h
-14.1(0)	*		18.00
1.7(1)	136.5(4)		h
-14.1(0)	*		18.00
-14.1(0)	*	-20.8	18.00
-13.4(*)	*		17.37
-1.9(2)	140.0(1)		3.21
-1.6(2)	139.8(1)		2.72
-1.8(2)	139.9(1)		3.05
-1.7(1)	197.6(1)		2.89
-10.2(0)	147.2(1)		14.20
-1.9(1)	197.4(1)		3.21
-10.2(0)	147.2(1)	<-30	14.20
-1.7(1)	197.6(1)		2.89
-8.1(5)	144.6(1)		11.83
-8.5(5)	144.8(1)	<-30	12.30
-9.1(5)	144.8(1)		12.99
-11.6(2)	158.8(2)		12.65
-11.0(1)	153.6(1)		15.04
-11.3(2)	159.0(2)	<-30	15.35
-10.5(1)	151.3(1)		14.52
-10.1(0)	152.1(1)		14.09
-11.4(2)	158.8(2)		15.45
-11.0(1)	153.7(1)	-38	15.04
-10.1(0)	152.2(1)		14.09
-10.7(1)	153.7(1)	-38	14.73
-10.5(1)	151.3(1)		14.52
-10.6(1)	151.4(1)		14.62
-10.1(0)	152.2(1)		14.09
-10.1(1)	163.2(1)	<-30	14.09
-10.0(1)	163.3(1)		13.99
-9.9(1)	163.3(1)		13.88
-11.4(1)	152.6(0)	-38	15.44
-12.7(1)	136.4(1)	-20	16.74
-12.4(2)	148.0(1)		16.54
-12.2(2)	153.6(0)	<-30	16.24

	-11.4(3)	160.2(1)		15.44
	-11.9(3)	160.3(1)		15.95
	-12.4(2)	153.7(0)		16.54
	-12.3(2)	148.0(1)		16.34
	*	136.6(1)		h
	-11.7(3)	152.7(0)		15.74
	-12.4(3)	152.6(0)		16.24
	*	136.6(1)		h
	-12.1(2)	148.3(1)		16.14
	-12.5(2)	153.0(0)		16.64
	-11.4(3)	160.4(1)		15.44
86-NP-205a	-14.9(2)	*		18.70
n = 39	-15.3(2)	*		19.04
	-20.9(9)	141.3(3)	-36.6	23.29
	-19.4(9)	141.2(3)		22.23
	-16.0(2)	*		19.62
	-19.3(9)	141.7(3)		22.16
	-16.2(2)	*		19.79
	-20.9(4)	191.5(2)		23.29
	-20.2(4)	191.4(2)		22.80
	-22.4(6)	*		24.30
	-15.1(2)	*		18.88
	-23.5(6)	*	-23.2	25.02
	-20.4(4)	191.2(2)		22.94
	-7.9(1)	137.3(1)		11.59
	-15.9(2)	*		19.54
	-22.4(6)	*		24.30
	-8.1(1)	137.2(1)		11.83
	-8.9(1)	163.1(0)		12.76
	-8.8(1)	163.1(0)		12.65
	-8.1(1)	137.2(1)		11.83
	-8.7(1)	163.1(0)		12.53
	-9.1(1)	190.6(1)	-23.0	12.99
	-8.9(1)	190.7(1)	-23.1	12.76
	-9.1(1)	190.7(1)		12.99
	-8.6(1)	245.0(1)	-22.7	12.42
	-8.5(1)	245.2(1)	-22.9	12.30
	-9.1(1)	186.9(1)	-20.0	12.99
	-9.0(1)	186.9(1)	-22.2	12.88
	-8.9(1)	187.1(1)		12.76
	-8.6(1)	245.2(1)	-22.9	12.42
	*	176.8(*)		h
	-5.4(1)	216.2(2)		8.40
	-5.5(1)	215.9(2)	-22.0	8.54
	-5.5(1)	215.9(2)		8.54
	-8.7(1)	173.1(1)	-23.1	12.53
	*	266.5(1)		h
	-8.6(1)	173.2(1)		12.42
	-8.5(1)	173.1(1)		12.30
	*	266.6(1)		h

86-NP-205b	-16.1(2)	132.0(2)		19.71
n = 48	-15.9(2)	132.2(2)		19.54
	-11.2(2)	145.3(1)		15.24
	-16.2(2)	132.3(2)		19.79
	-17.9(2)	159.2(0)		21.12
	-17.6(2)	159.2(0)		20.89
	-11.0(2)	145.3(1)		15.03
	-10.9(2)	145.4(1)		14.94
	-15.3(7)	*		19.04
	-15.3(7)	*		19.04
	-17.9(2)	159.2(0)		21.12
	-16.5(7)	*		20.02
	-13.5(2)	146.6(1)		17.46
	-11.4(2)	159.6(2)		15.44
	-13.4(2)	146.7(1)		17.37
	-13.7(2)	146.8(1)		17.64
	-11.2(2)	159.5(2)	<-30	15.24
	-11.4(3)	164.8(1)		15.45
	-11.7(3)	164.9(1)		15.74
	-14.7(1)	160.5(7)		18.53
	-11.6(2)	159.8(2)		15.65
	-14.5(1)	159.5(7)		18.36
	-14.6(1)	160.8(7)		18.44
	-10.1(3)	153.2(1)		14.09
	-9.8(3)	153.2(1)		13.77
	-11.2(3)	164.9(1)		15.24
	-10.4(3)	153.3(1)		14.41
	-12.2(2)	*		16.24
	-12.0(2)	*		16.04
	-19.4(1)	155.6(1)		22.23
	-20.2(1)	157.5(1)		22.80
	-20.4(1)	157.5(1)		22.94
	-23.3(2)	138.5(1)		24.89
	-19.6(1)	155.8(1)		22.38
	-17.7(1)	*		20.97
	-23.3(2)	138.6(1)		24.90
	-22.9(2)	138.6(1)		24.63
	-12.3(2)	*		16.34
	-20.9(3)	139.7(1)		23.29
	-20.4(3)	139.8(1)		22.94
	-17.7(0)	143.2(2)		20.97
	-17.7(0)	143.4(2)		20.97
	-19.6(1)	155.6(1)		22.38
	-20.9(3)	139.8(1)		23.29
	-20.2(1)	157.5(2)		22.80
	-17.9(1)	*		21.12
	-17.7(0)	143.5(2)		20.97
	-17.9(1)	*		21.12
Metamorphic samples				
86-NP-195[d]	-4.2(0)	134.6(1)		6.72
n = 21	-6.7(0)	135.5(1)		10.11

	-4.2(0)	134.6(1)		6.72
	-2.5(0)	116.7(1)		4.17
	-6.7(0)	135.6(1)		10.11
	-4.2(1)	151.1(2)		6.72
	-2.5(0)	116.7(1)		4.17
	-6.7(0)	135.4(1)		10.11
	*	170.5(1)		h
	-4.1(1)	122.6(0)		6.58
	-4.0(1)	122.6(0)		6.43
	-4.2(0)	134.5(1)		6.72
	-5.5(1)	141.8(1)		8.54
	-4.1(1)	150.8(2)		6.58
	-4.3(1)	151.0(2)		6.87
	-5.6(1)	141.9(1)		8.67
	-5.4(1)	141.8(1)		8.40
	*	170.5(1)		h
	*	170.4(1)		h
	-2.5(0)	116.8(1)		4.17
	-4.1(1)	122.6(0)		6.58
86-NP-207a[d]	-8.1(1)	172.3(1)		11.83
n = 30	-3.6(1)	280.0(1)		5.85
	-13.3(1)	221.1(1)		17.28
	-8.0(1)	172.4(1)		11.71
	-7.9(1)	172.3(1)		11.59
	-13.2(1)	221.0(1)	<-30	17.19
	-3.7(1)	279.9(1)		5.99
	-13.2(1)	221.0(1)		17.27
	-3.7(1)	279.9(1)		5.99
	-4.8(1)	164.6(2)		7.58
	-4.6(0)	141.7(1)		7.29
	-3.4(1)	143.1(0)		5.55
	-5.6(1)	130.9(1)		8.67
	-4.6(1)	164.5(2)		7.29
	-5.5(1)	130.8(1)		8.54
	-3.3(1)	143.1(0)		5.40
	-5.4(1)	130.7(1)		8.40
	-4.6(0)	141.8(1)		7.29
	-4.8(1)	164.3(2)		7.58
	-3.4(1)	143.1(0)		5.55
	-4.6(0)	141.9(1)		7.29
	-3.8(1)	117.8(1)		6.14
	-3.0(1)	142.1(1)		4.94
	-3.7(1)	117.8(1)		5.99
	-3.6(1)	142.5(1)		5.84
	-3.8(1)	142.5(1)		6.14
	-3.1(1)	142.3(1)		5.09
	-3.9(1)	117.7(1)		6.29
	-3.1(1)	142.2(1)		5.09
86-NP-208a[d]	-2.9(2)	169.0(3)		4.79
n = 27	-3.3(2)	168.6(3)		5.40

	-5.9(1)	164.5(2)		9.07
	-6.7(1)	159.9(2)		10.11
	-6.1(0)	191.2(1)	<-30	9.34
	-6.1(1)	160.5(2)		9.34
	-6.0(1)	160.8(2)		9.21
	-6.1(0)	191.3(1)		9.34
	-6.1(0)	191.2(1)		9.34
	-6.1(1)	160.7(2)		9.34
	-6.0(1)	164.2(2)		9.21
	-5.9(1)	164.4(2)		9.07
	-3.2(2)	168.6(3)		5.25
	-6.7(1)	160.3(2)		10.11
	-5.8(1)	172.7(1)		8.94
	-6.8(1)	160.2(2)		10.24
	-5.9(1)	172.8(1)		9.07
	-6.1(1)	173.1(1)		9.34
	-6.1(0)	201.8(1)		9.34
	-5.7(1)	172.9(1)		8.81
	-6.1(1)	173.1(1)		9.34
	-6.0(1)	173.2(1)		9.21
	-6.1(0)	201.9(1)		9.34
	-6.1(0)	201.8(1)		9.34
	-10.8(2)	123.9(1)		14.83
	-11.0(2)	123.8(1)		15.04
	-11.1(2)[f]	123.7(1)[f]		15.14
86-NP-211[d] n = 9	-4.1(1)	256.2(1)		6.58
	-4.9(0)	183.5(1)		7.72
	-4.5(1)	280.9(0)		7.15
	-4.1(1)	256.4(1)		6.58
	-4.9(0)	183.3(1)		7.72
	-4.2(1)	256.3(1)		6.72
	-4.5(1)	280.9(0)		7.15
	-4.9(0)	183.3(1)		7.72
	-4.4(1)	280.9(0)		7.01
86-NP-212[e] n = 12	-28.1(1)	143.4(0)		27.96
	-14.1(2)	141.8(1)		18.00
	-28.3(1)	143.3(0)	<-50	28.09
	-28.1(0)	141.7(0)		27.97
	-28.1(0)	146.3(0)		27.97
	-28.1(1)	143.3(0)		27.97
	-13.7(2)	142.0(1)	<-20	17.65
	-28.1(0)	141.7(0)	<-50	27.97
	-28.1(0)	146.3(0)		27.97
	-13.9(2)	141.8(1)		17.83
	-28.1(0)	141.7(0)		27.97
	-28.1(0)	146.3(0)		27.97
86-NP-226b[e] n = 30	-21.2(1)	128.7(2)	<-40	23.49
	-8.9(1)	116.3(0)		12.76
	-21.1(1)	129.0(2)		23.43

	-21.3(1)	127.5(1)		23.56
	-19.7(1)	143.1(2)		22.44
	-19.8(1)	143.2(2)		22.52
	-21.2(1)	127.6(1)		23.49
	-19.8(1)	143.4(2)		22.52
	-19.9(1)	143.1(1)		22.59
	-19.8(1)	142.9(1)		22.52
	-21.3(1)	127.4(1)		23.56
	-12.0(0)	115.3(1)	<-20	16.04
	-19.9(1)	143.1(1)		22.59
	-12.0(1)	113.9(1)		16.04
	-11.9(1)	113.8(1)		15.95
	-18.7(0)	156.8(1)		21.72
	-11.9(1)	113.9(1)		15.95
	-18.7(0)	156.9(1)		21.72
	-18.7(0)	156.8(1)		21.72
	-9.0(1)	116.3(0)		12.88
	-21.1(1)	129.0(2)		23.43
	-8.9(1)	116.3(0)		12.76
	-12.0(2)	118.3(1)		16.04
	-11.7(2)	118.2(1)		15.75
	-12.0(0)	115.2(1)		16.04
	-11.8(3)	115.3(2)	<-20	15.85
	-12.0(0)	115.4(1)		16.04
	-11.8(2)	118.2(1)		15.85
	-11.4(3)	115.1(2)		15.45
	-11.9(3)	115.4(2)		15.95
86-NP-229[b] n = 30	-4.0(1)	120.9(1)		6.43
	-4.8(1)	178.6(1)		7.58
	-4.4(1)	198.5(3)		7.01
	-4.8(1)	178.4(1)		7.58
	-4.0(1)	120.8(1)		6.43
	-3.9(1)	121.0(1)		6.29
	-4.4(1)	198.0(3)		7.01
	-4.3(1)	198.4(3)		6.87
	-4.9(1)	178.5(1)		7.71
	-4.9(1)	194.2(1)		7.44
	-2.9(1)	179.4(4)		4.79
	-2.8(1)	120.1(2)		4.63
	-3.0(1)	179.3(4)		4.94
	-3.1(1)	180.0(4)		5.01
	-4.7(1)	194.3(1)		7.44
	-4.6(1)	194.4(1)		7.29
	-3.0(1)	119.8(2)		4.94
	-3.2(1)	194.3(1)		5.25
	-3.6(1)	234.4(1)		5.85
	-3.5(1)	241.5(2)		5.70
	0.6(1)	150.8(1)		h
	-3.4(1)	194.1(1)		5.55
	-2.9(1)	120.2(2)		4.79
	-3.7(1)	234.2(1)		5.99

-3.6(1)	234.3(1)	5.85
-3.2(1)	194.2(1)	5.25
0.5(1)	150.8(1)	h
-3.4(1)	241.6(2)	5.55
-3.5(1)	241.3(2)	5.70
0.6(1)	150.9(1)	h