GSA Data Repository Item

TABLE 1. NEW Ar/Ar AGE DETERMINATIONS FOR MAGMATIC ROCKS FROM THE CORDILLERA DE TALAMANCA AREA.

Sample	Furnace-total fusion	Furnace-largest step	Laser mean age	Laser weighted mean	Inverse isochron
ALT 16	18.33 ± 0.40	**16.87 ± 0.27**	17.46 ± 1.05	17.36 ± 0.37	—
BRI 25	7.42 ± 0.34	—	5.64 ± 0.58	**5.82 ± 0.09**	5.88 ± 0.23
GUA 28	4.54 ± 0.15	**4.39 ± 0.14**	3.77 ± 0.61	3.92 ± 0.11	—
TAL 104	1.92 ± 0.10	—	1.89 ± 0.93	**1.90 ± 0.17**	—

Note: Ages are in Ma. Age differences result from different analytical methods and interpretation methods. Uncertainties are 2σ of the mean. Boldface entries are the most reliable age values on the basis of an evaluation of the different methods; see Abratis (1998) for details.

Miocene to Pliocene rocks of SE Costa Rica - sample descriptions

sample		group	lithology	locality	map	right	high	kg	thin-s	XRF	ICP-M	Sr/Nd	Pb
ALT-01	◇	Tholeiite	basalt	Cerro Irkibi	Unión 3642-IV	592 975	324 950						
ALT-02	◇	Tholeiite	basalt	Cerro Chai	Unión 3642-IV	592 250	324 540	1	x	x	x	x	x
ALT-03	◇	Tholeiite	basalt	Cerro Chai	Unión 3642-IV	592 145	324 400	4.5	x	x	x		
ALT-04	◇	Tholeiite	andesite	Cerro Chai	Unión 3642-IV	592 300	324 115	1.4	x	x	x		
ALT-05	◇	Tholeiite	bas.trachyand.	Cerro Bellavista	Unión 3642-IV	595 510	322 580	1.5	x	x	x		
ALT-06	◇	Tholeiite	trachyandesite	Cerro Bellavista	Unión 3642-IV	595 540	323 420	1.7	x	x	x		
ALT-07	◇	Tholeiite	andesite	Cerro Bellavista	Unión 3642-IV	595 545	323 095						
ALT-08	◇	Tholeiite	andesite	Cerro Bellavista	Unión 3642-IV	595 545	323 095						
ALT-09	◇	Tholeiite	bas.andesite	Cerro Bellavista	Unión 3642-IV	595 490	322 925	1	x	x	x		
ALT-10	◇	Tholeiite	basalt	Cerro Bellavista	Unión 3642-IV	595 465	322 785	1.8	x	x	x		
ALT-11	◇	Tholeiite	bas.andesite	Brus	Unión 3642-IV	594 350	322 570	2.5	x	x			
ALT-12	◇	Tholeiite	basalt	Brus	Unión 3642-IV	594 350	322 570	3	x	x	x	x	x
ALT-13	◇	Tholeiite	basalt	Brus	Unión 3642-IV	594 285	322 510						
ALT-14	◇	Tholeiite	basalt	Brus	Unión 3642-IV	594 285	322 510	3	x	x	x	x	
ALT-15	◇	Tholeiite	basalt	Brus	Unión 3642-IV	593 870	322 500	3.6	x	x	x		
ALT-16	◇	Tholeiite	bas.andesite	Brus	Unión 3642-IV	593 870	322 500	3	x	x	x		
UVI-19	◇	Tholeiite	gabbro	Punta Uvita	Coronado 3443-II	495 250	342 500	4	x	x			
NUE-76	◇	Tholeiite	gabbro	Alto Correviento	Changuena 3542-IV	540 300	326 620	5.9	x	x	x		
NUE-77	◇	Tholeiite	gabbro	Interamericana	Changuena 3542-IV	540 775	325 510						
INA-82	◇	Tholeiite	bas.andesite	General Viejo	San Isidro 3444-II	503 260	369 190	3	x	x			
INA-83	◇	Tholeiite	gabbro	Division	San Isidro 3444-II	496 725	382 350						
INA-84	◇	Tholeiite	gabbro	Alto Macho Mora	Cuerici 3444-I	495 800	386 400	2.5	x	x	x	x	
INA-88	◇	Tholeiite	gabbro	Int.am. Km 90	Vueltas 3444-IV	490 825	391 225	3.9	x	x			
NUE-92	◇	Tholeiite	gabbro	Quebr. Boruca	Changuena 3542-IV	539 510	325 550	5.3	x	x	x	x	
DOT-99	◇	Tholeiite	basalt	San Jeronimo	Dota 3344-I	450 650	398 000						
DOT-102	◇	Tholeiite	gabbro	San Josecito	Dota 3344-I	448 500	397 450						
CHI-113	◇	Tholeiite	bas.andesite	Cerro Pyramida	Durika 3544-III	519 500	381 075	3	x	x	x	x	
CHI-117	◇	Tholeiite	bas.andesite	Cerro Sin Fe	San Isidro 3444-II	515 105	377 185	6	x	x	x	x	x
CHI-118	◇	Tholeiite	andesite	Fila C.d.l.Maquina	San Isidro 3444-II	514 350	377 200						
TAL-79	○	Calc-alkal	tonalite	Ujarraz	Buenos Aires 3543-IV	540 450	354 400	3.3	x	x	x	x	x
TAL-80	○	Calc-alkal	tonalite	Quebr. Tirgra	Buenos Aires 3543-IV	541 050	355 900	3	x	x	x		
TAL-81	○	Calc-alkal	monzogranite	Rio Skra	Buenos Aires 3543-IV	539 300	357 040	3.6	x	x	x		
INA-67	○	Calc-alkal	dacite	Cerro Jaboncillo	Vueltas 3444-IV	486 575	394 925	5.3	x	x	x		
INA-85	○	Calc-alkal	alkali granite	Siberia	Cuerici 3444-I	494 825	388 175	5.6	x	x	x	x	
INA-86	○	Calc-alkal	andesite	La Ese	San Isidro 3444-II	494 560	375 480						
INA-87	○	Calc-alkal	andesite	Cerr. de la Muerte	Vueltas 3444-IV	490 075	390 175	2.5	x	x	x		
INA-89	○	Calc-alkal	granite	Division-Piedra	Cuerici 3444-I	497 175	384 350						
INA-90	○	Calc-alkal	granite	Division-Piedra	Cuerici 3444-I	498 950	384 400						
INA-91	○	Calc-alkal	tonalite	Piedra	Cuerici 3444-I	499 575	384 300						
ALT-95	○	Calc-alkal	monzodiorite	Sitio Coto Brus	Unión 3642-IV	599 540	325 725	7.2	x	x	x	x	
INA-96	○	Calc-alkal	andesite	Rivas	San Isidro 3444-II	500 900	375 900						
DOT-97	○	Calc-alkal	alkali granite	Copey	Vueltas 3444-IV	469 350	400 300	2.5	x	x	x		
DOT-98	○	Calc-alkal	monzodiorite	Santa Maria	Vueltas 3444-IV	469 250	400 525	7	x	x	x		
TAL-103	○	Calc-alkal	trachyandesite	Rio Lori	Siola 3544-II	550 000	366 700	2.5	x	x	x	x	
TAL-108	○	Calc-alkal	trachyandesite	Rio Lori	Siola 3544-II	548 750	367 850	4.8	x	x			
TAL-109	○	Calc-alkal	monzonite	Rio Lori	Siola 3544-II	549 850	367 775	0.5	x	x	x		
CHI-110	○	Calc-alkal	diorite	Alaska	Cuerici 3444-I	500 875	386 200	6.5	x	x			
CHI-111	○	Calc-alkal	diorite	San Juan Norte	San Isidro 3444-II	500 350	381 750	4.7	x	x	x		
CHI-112	○	Calc-alkal	diorite	San Juan Norte	San Isidro 3444-II	500 390	381 700	4	x	x			
CHI-114	○	Calc-alkal	diorite	Cerro Pyramida	Durika 3544-III	519 300	381 350						
CHI-115	○	Calc-alkal	tonalite	Cerro Chirripo	Durika 3544-III	519 300	381 725	5.5	x	x	x		
CHI-116	○	Calc-alkal	tonalite	Cerro Uran	Cuerici 3444-I	514 625	384 350	4.5	x	x	x	x	x
CHI-119	○	Calc-alkal	diorite	Fila C.d.l.Maquina	San Isidro 3444-II	510 485	379 400	4.5	x	x	x		
CHI-120	○	Calc-alkal	diorite	San Gerardo	San Isidro 3444-II	506 650	379 010	3	x	x	x		
NEI-18	△	Backarc	CA-lamprophyr	Cerro Bola, Neily	Canoas 3641-IV	582 350	286 850	12.2	x	x	x	x	x
BRI-20	△	Backarc	trachybasalt	s. Piedra Grande	Amubri 3644-IV	586 200	393 275	5.2	x	x			
BRI-21	△	Backarc	basalt	s. Piedra Grande	Amubri 3644-IV	586 200	393 275	16.2	x	x	x	x	x
BRI-22	△	Backarc	basalt	Shiroles	Amubri 3644-IV	574 100	393 400		x				
BRI-23	△	Backarc	basalt	s. Piedra Grande	Amubri 3644-IV	586 200	393 275	16.5	x	x	x	x	
BRI-24	△	Backarc	trachybasalt	s. Piedra Grande	Amubri 3644-IV	586 250	393 475	9.8	x	x	x		
BRI-25	△	Backarc	bas.trachyand.	Piedra Grande	Amubri 3644-IV	586 300	393 775	5.6	x	x	x		
GUA-26	△	Backarc	teschenite	Linda Vista	Bonilla 3446-II	583 050	220 990	4.7	x	x	x		
GUA-27	△	Backarc	teschenite	Bajo Tigre	Bonilla 3446-II	585 750	221 825	7	x	x	x	x	
GUA-28	△	Backarc	teschenite	Bajo Tigre	Bonilla 3446-II	585 750	221 825	8	x	x	x		
GUA-29	△	Backarc	teschenite	Bajo Tigre	Bonilla 3446-II	585 650	222 800						
GUA-30	△	Backarc	bas.andesite	Bajo Tigre	Bonilla 3446-II	585 650	222 800	2	x	x			
GUA-31	△	Backarc	teschenite	Bajo Tigre	Bonilla 3446-II	585 725	222 700			x			
GUA-32	△	Backarc	alkali basalt	Guayacan	Bonilla 3446-II	585 750	225 060						
GUA-34	△	Backarc	teschenite	Petroleo	Bonilla 3446-II	582 485	224 075						

Miocene to Pliocene rocks of SE Costa Rica - sample descriptions

sample		group	lithology	locality	map	right	high	kg	thin s.	XRF	ICP-M	S/Nd	Pb
GUA-35	△	Backarc	teschenite	Petroleo	Bonilla 3446-II	582 735	223 250						
GUA-36	△	Backarc	teschenite	Petroleo	Bonilla 3446-II	582 760	223 600						
GUA-37	△	Backarc	alkali basalt	Petroleo	Bonilla 3446-II	583 045	223 500						
GUA-38	△	Backarc	teschenite	Petroleo	Bonilla 3446-II	583 760	223 450	2.6	x	x			
GUA-39	△	Backarc	teschenite	Petroleo	Bonilla 3446-II	584 700	223 700						
GUA-40	△	Backarc	alkali basalt	Moravia	Bonilla 3446-II	585 250	227 860						
GUA-41	△	Backarc	teschenite	Fila Tunel	Bonilla 3446-II	579 890	224 960	5	x	x	x		
GUA-42	△	Backarc	teschenite	Rio Blanco	Bonilla 3446-II	578 210	225 750	3	x	x	x	x	x
GUA-43	△	Backarc	alkali basalt	Rio Blanco	Bonilla 3446-II	578 400	225 600						
GUA-44	△	Backarc	teschenite	Fila Tunel	Bonilla 3446-II	579 890	224 960						
GUA-45	△	Backarc	alkali basalt	Moravia	Bonilla 3446-II	585 850	229 000						
GUA-46	△	Backarc	alkali basalt	Moravia	Bonilla 3446-II	585 700	228 910						
GUA-47	△	Backarc	alkali basalt	Moravia	Bonilla 3446-II	585 380	228 665						
GUA-49	△	Backarc	alkali basalt	Moravia	Bonilla 3446-II	585 565	228 230						
GUA-50	△	Backarc	alkali basalt	Rio Siquirres	Bonilla 3446-II	585 500	227 550		x				
GUA-51	△	Backarc	alkali basalt	Rio Siquirres	Bonilla 3446-II	585 500	227 550						
ALT-17	☆	Adakite	andesite	Alturas	Uniòn 3642-IV	591 260	321 950						
ALT-56	☆	Adakite	andesite	Cerro Chivo	Uniòn 3642-IV	599 840	321 300						
ALT-57	☆	Adakite	andesite	Cerro Chivo	Uniòn 3642-IV	599 760	321 350						
ALT-58	☆	Adakite	andesite	Cerro Chivo	Uniòn 3642-IV	599 800	321 500	9	x	x	x		
ALT-59	☆	Adakite	bas.andesite	Tajo Cerro Pelon	Uniòn 3642-IV	596 690	319 000	7	x	x			
ALT-60	☆	Adakite	bas.andesite	Tajo Cerro Pelon	Uniòn 3642-IV	596 690	319 000	4	x	x	x	x	x
ALT-61	☆	Adakite	andesite	Tajo Cerro Pelon	Uniòn 3642-IV	596 745	319 060	3	x	x			
ALT-62	☆	Adakite	andesite	Tajo Cerro Pelon	Uniòn 3642-IV	596 585	319 020	16.6	x	x	x	x	
ALT-63	☆	Adakite	andesite	Fila Coton	Uniòn 3642-IV	599 380	320 400	8	x	x	x	x	x
ALT-94	☆	Adakite	andesite	Tajo Cerro Pelon	Uniòn 3642-IV	596 585	319 020						
VIT-52	☆	Adakite	andesite	north of San Vito	Uniòn 3642-IV	579 300	312 175	2	x	x	x	x	
VIT-53	☆	Adakite	andesite	north of San Vito	Uniòn 3642-IV	578 595	312 110						
VIT-54	☆	Adakite	bas.andesite	San Bosco	Canas Gordas 3642-III	580 450	304 500	5	x	x	x	x	x
VIT-55	☆	Adakite	andesite	San Bosco	Canas Gordas 3642-III	580 450	304 575	14	x	x	x		
VIT-93	☆	Adakite	andesite	San Bosco	Canas Gordas 3642-III	580 550	305 100						
TAL-104	☆	Adakite	dacite	northern Dome	Siola 3544-II	546 900	368 450	8	x	x	x	x	x
TAL-105	☆	Adakite	dacite	southern Dome	Siola 3544-II	546 650	367 800	3.5	x	x	x	x	
TAL-106	☆	Adakite	bas.trachyand.	southern Dome	Siola 3544-II	546 950	367 925	6	x	x	x	x	
TAL-107	☆	Adakite	dacite	Rio Lori	Siola 3544-II	547 600	367 875	5	x	x			
PAS-74	□	Forearc	bas.trachyand.	Mano de Tigre	General 3543-III	540 390	333 380	5.1	x	x	x		
PAS-75	□	Forearc	basalt	San Antonio	General 3543-III	540 895	331 870	2.5	x	x	x	x	x
PAS-78	□	Forearc	basalt	Paso Real	Cabagra 3543-II	548 225	328 750	3.2	x	x	x		
PEJ-68	□	Forearc	basalt	Ojo de Agua	General 3543-III	524 650	340 210	6	x	x	x		
PEJ-69	□	Forearc	basalt	Alto de Agua	General 3543-III	524 980	329 440	3.4	x	x	x	x	x
PEJ-70	□	Forearc	basalt	Pejibaye	General 3543-III	524 330	341 020	2.9	x	x	x	x	
PEJ-71	□	Forearc	basalt	Pejibaye	General 3543-III	524 330	341 020						
PEJ-72	□	Forearc	basalt	Cerro las Bolas	General 3543-III	521 080	341 820	3.5	x	x			
PEJ-73	□	Forearc	granite	China Kicha	Repunta 3443-I	516 300	349 650						
GUA-33	active arc		basalt	Guayacan	Bonilla 3446-II	582 900	224 830	3	x	x	x		
GUA-48	active arc		basalt	Moravia	Bonilla 3446-II	585 470	228 440	2	x	x			
TUR-64	active arc		trachyandesite	Rio Reventazon	Tucurrique 3445-I	574 825	207 250	5.1	x	x	x		
TUR-65	active arc		andesite	Rio Reventazon	Tucurrique 3445-I	574 850	208 550						
TUR-66	active arc		bas.trachyand.	Rio Reventazon	Tucurrique 3445-I	575 175	208 350	5	x	x	x		
TUR-100	active arc		andesite	Rio Guayabo	Tucurrique 3445-I	569 075	217 575	8	x	x	x		
TUR-101	active arc		bas.andesite	Rio Guayabo	Tucurrique 3445-I	569 500	217 700	8	x	x			

Geochemical data from Miocene to Pliocene rocks of SE Costa Rica

Sample		ALT02	ALT03	ALT04	ALT05	ALT06	ALT09	ALT10	ALT12	ALT14	ALT15	ALT16	CHI113	CHI117	INA82	INA84	NUE76	NUE92
SiO2		47.38	50.70	56.27	59.42	53.55	53.62	48.13	48.50	45.95	50.07	51.82	53.86	51.43	51.17	53.60	47.34	49.44
TiO2		1.07	1.03	1.07	1.20	1.18	1.13	1.02	1.08	1.10	1.01	1.16	0.91	0.81	0.90	0.80	0.83	0.95
Al2O3		18.82	19.40	15.16	14.76	15.47	14.86	20.46	19.40	19.54	18.74	18.36	16.81	18.17	20.09	16.25	19.75	14.99
FeO		5.83	6.35	6.65	4.33	6.40	7.09	7.16	4.85	5.84	5.81	5.89	6.64	5.70	5.75	6.55	5.96	7.60
Fe2O3		5.12	2.85	3.75	4.90	3.93	4.58	3.35	5.84	5.99	4.18	3.99	2.77	4.56	2.94	3.07	3.58	3.77
MnO		0.20	0.18	0.25	0.27	0.25	0.26	0.21	0.21	0.19	0.19	0.23	0.15	0.23	0.19	0.19	0.19	0.21
MgO		6.73	3.40	2.82	1.55	3.51	3.68	4.30	5.74	4.85	3.75	3.87	4.35	4.13	2.95	4.50	3.53	6.45
CaO		9.02	10.12	7.23	4.51	6.65	9.67	10.32	10.48	9.63	9.83	8.57	7.74	9.33	9.34	8.82	10.67	10.51
Na2O		2.85	2.33	3.20	4.01	3.89	2.17	2.15	1.96	3.22	2.55	2.90	2.83	2.36	3.19	2.81	2.89	2.47
K2O		0.12	1.20	0.95	1.88	2.43	0.30	0.08	0.16	0.08	1.12	0.56	1.18	0.44	0.44	1.53	0.68	1.12
P2O5		0.13	0.30	0.35	0.46	0.42	0.27	0.23	0.12	0.07	0.31	0.17	0.19	0.13	0.15	0.20	0.18	0.27
LOI		2.11	1.18	1.22	1.50	1.21	1.11	1.20	1.34	2.37	1.30	1.88	1.35	1.56	1.46	0.62	3.52	1.33
Sum		99.38	99.04	98.93	98.78	98.86	98.75	98.61	99.67	98.83	98.86	99.40	98.77	98.84	98.56	98.92	99.11	99.11
FeOt		10.66	9.05	10.18	8.93	10.10	11.39	10.36	10.21	11.56	9.75	9.66	9.30	10.02	8.59	9.40	9.53	9.42
Na2O+K2O		3.04	3.58	4.22	6.02	6.42	2.51	2.27	2.17	3.40	3.74	3.52	4.08	2.86	3.71	4.38	3.70	3.15
Mg#		57	44	40	29	45	43	47	54	48	45	48	52	49	44	52	45	47
Li	ICP	12.14	6.51	5.95	3.58	5.94	1.85	3.44	9.38	12.47	8.59	6.28	17.01	4.70	3.88	7.18	7.83	3.22
Be	ICP	0.38	0.88	1.12	1.26	0.89	0.61	0.38	0.37	0.20	1.04	0.42	1.34	0.53	0.35	0.85	0.36	0.40
Sc	ICP	36.55	19.69	27.36	22.52	23.76	28.21	20.78	23.92	25.86	25.52	19.60	34.76	30.57	17.19	23.78	21.55	21.30
V	XRF	341.00	246.00	166.00	16.33	251.00	351.00	267.00	344.00	393.00	273.00	216.00	235.00	276.00	188.00	269.00	310.00	299.00
Cr	XRF	235.00	247.00	203.00	79.00	89.00	156.00	236.00	101.00	138.00	258.00	181.00	312.50	237.50	67.00	63.00	69.00	33.50
Co	XRF	47.00	27.00	24.00	8.67	29.00	31.00	34.00	29.67	35.00	29.00	24.00	27.00	32.00	19.00	31.00	30.00	28.00
Ni	XRF	126.00	120.00	97.00	33.67	45.00	71.00	121.00	49.00	66.00	137.00	84.00	142.50	116.50	34.00	30.00	33.00	16.00
Cu	ICP	46.68	260.70	28.39	23.93	153.01	231.29	144.31	110.11	130.41	220.17	53.83	61.27	111.86	702.22	160.97	244.24	138.46
Zn	XRF	78.00	85.00	122.00	143.00	116.00	122.00	76.00	78.33	68.00	71.00	83.00	98.00	86.50	68.00	82.00	78.00	76.00
Ga	XRF	17.00	17.00	17.00	16.00	15.00	18.00	15.00	18.00	17.00	<5	16.00	18.00	16.50	16.00	15.00	17.00	22.00
Rb	ICP	2.25	20.43	13.70	27.27	48.06	4.77	1.72	2.30	1.42	17.41	5.69	24.03	6.50	3.86	34.47	9.14	4.79
Sr	XRF	388.00	548.00	422.00	431.33	322.00	726.00	456.00	400.33	381.00	588.00	415.00	430.50	440.00	631.00	494.00	1007.00	526.00
Y	ICP	18.56	27.53	35.73	59.21	32.18	27.49	20.37	18.66	15.41	25.05	23.83	24.57	19.12	17.24	24.31	17.50	16.09
Zr	XRF	37.00	99.00	92.00	150.67	99.00	67.00	55.00	42.00	36.00	75.00	53.00	81.00	33.00	32.00	109.00	27.00	35.50
Nb	ICP	3.08	7.63	5.69	8.07	5.95	3.32	3.58	1.92	1.30	5.15	3.52	7.11	1.72	1.35	3.21	1.94	1.49
Cs	ICP	0.11	0.10	0.10	0.32	0.92	0.05	0.36	0.17	0.14	0.32	0.25	0.22	0.07	0.03	0.84	0.25	0.02
Ba	XRF	193.00	508.00	698.00	1606.33	1607.00	217.00	191.00	202.67	164.00	703.00	416.00	620.50	414.50	566.00	745.00	563.00	458.50
La	ICP	3.64	13.93	13.93	21.28	14.61	10.92	6.29	3.82	1.97	12.15	5.33	12.78	3.86	4.56	12.12	6.38	4.88
Ce*	ICP	9.70	33.14	32.70	51.06	34.88	25.96	16.21	10.10	5.81	29.22	14.29	29.07	10.28	11.70	27.93	15.23	12.06
Pr	ICP	1.51	4.58	4.45	7.13	4.84	3.59	2.45	1.57	0.99	4.09	2.24	3.80	1.60	1.76	3.71	2.12	1.74
Nd	ICP	7.86	19.49	20.63	32.71	22.26	16.94	11.93	7.84	5.33	18.71	11.53	17.18	7.76	8.75	16.25	9.84	8.37
Sm	ICP	2.34	4.92	5.40	8.36	5.71	4.56	3.40	2.42	1.80	4.61	3.54	4.02	2.36	2.49	4.11	2.98	2.38
Eu	ICP	0.89	1.53	1.66	2.45	1.55	1.42	1.06	0.89	0.69	1.44	1.22	1.32	0.93	1.01	1.03	1.08	0.87
Gd	ICP	2.62	4.70	5.52	8.47	5.33	4.53	3.34	2.61	2.08	4.36	3.67	3.77	2.69	2.54	3.86	3.00	2.38
Tb	ICP	0.45	0.74	0.90	1.33	0.83	0.71	0.54	0.45	0.36	0.70	0.62	0.63	0.48	0.42	0.60	0.45	0.40
Dy	ICP	2.93	3.92	5.47	8.19	5.06	4.58	3.39	2.89	2.30	4.25	3.99	4.25	3.04	2.65	3.74	2.61	2.47
Ho	ICP	0.59	0.81	1.13	1.65	0.98	0.89	0.68	0.58	0.48	0.81	0.81	0.78	0.58	0.53	0.74	0.54	0.51
Er	ICP	1.72	2.50	3.37	4.66	2.91	2.61	2.01	1.78	1.43	2.37	2.39	2.12	1.82	1.56	2.22	1.62	1.48
Tm	ICP	0.25	0.37	0.51	0.64	0.41	0.37	0.29	0.27	0.21	0.36	0.34	0.36	0.29	0.22	0.34	0.22	0.22
Yb	ICP	1.73	2.18	3.29	3.95	2.70	2.33	1.83	1.65	1.36	2.33	2.23	2.50	1.85	1.49	2.13	1.45	1.42
Lu	ICP	0.25	0.34	0.51	0.57	0.39	0.35	0.27	0.25	0.20	0.33	0.33	0.34	0.27	0.22	0.31	0.22	0.21
Hf	ICP	0.84	2.26	2.51	2.73	1.76	1.21	1.03	0.88	0.63	1.95	1.39	2.08	0.92	0.85	0.77	0.82	0.86
Ta	ICP	0.42	0.38	0.27	0.48	0.31	0.19	0.29	0.16	0.18	0.36	0.26	0.44	0.15	0.24	0.23	0.61	0.14
Tl	ICP	0.00	0.05	0.07	0.15	0.18	0.02	0.01	0.02	0.00	0.08	0.04	0.11	0.02	0.02	0.11	0.01	0.02
Pb	ICP	1.26	14.43	4.59	9.62	3.83	3.55	1.77	0.77	1.22	2.51	2.38	3.65	2.21	2.56	2.67	2.21	2.72
Th	ICP	0.48	3.29	3.92	1.64	0.96	0.89	0.34	0.15	0.18	2.54	0.30	3.54	0.82	0.22	2.22	1.17	0.40
U	ICP	0.08	0.77	0.88	1.02	0.60	0.53	0.27	0.10	0.04	0.62	0.17	0.88	0.21	0.20	1.36	0.27	0.27

Geochemical

Sample		ALT95	CHI111	CHI115	CHI116	CHI119	CHI120	DOT97	DOT98	INA67	INA85	INA87	TAL79	TAL80	TAL81	BRI21	BRI23	BRI24
		○	○	○	○	○	○	○	○	○	○	○	○	○	○	△	△	△
SiO2		57.91	55.94	60.85	60.49	58.08	57.16	73.56	57.61	65.85	74.02	56.80	59.20	59.63	67.49	47.29	47.18	46.35
TiO2		0.76	0.72	0.62	0.62	0.77	0.72	0.28	0.79	0.43	0.26	0.69	0.67	0.62	0.39	1.44	1.58	1.73
Al2O3		16.98	16.62	16.59	16.43	16.50	16.73	13.46	16.24	14.39	13.29	16.93	15.66	16.13	14.81	16.14	16.48	16.89
FeO		4.51	4.51	2.97	3.11	3.43	4.33	0.95	4.22	2.36	0.64	5.02	4.44	3.05	1.71	6.57	5.79	6.36
Fe2O3		2.28	3.81	3.31	3.23	3.62	3.31	1.00	3.33	1.37	1.29	2.26	2.30	3.47	1.90	3.10	3.99	3.05
MnO		0.15	0.20	0.16	0.12	0.13	0.19	0.04	0.18	0.10	0.13	0.16	0.15	0.10	0.08	0.17	0.17	0.16
MgO		2.24	3.58	2.50	2.81	3.11	3.37	0.41	2.80	1.08	0.13	2.17	2.75	2.36	1.24	6.32	6.37	5.42
CaO		5.94	7.65	5.65	6.06	6.89	7.16	0.99	6.04	3.15	0.21	6.48	5.60	5.00	3.05	9.86	10.12	10.03
Na2O		3.38	2.91	3.78	3.19	3.54	3.07	2.96	3.75	4.05	3.12	3.37	3.04	3.21	3.32	2.97	2.79	3.06
K2O		3.46	2.43	2.28	1.97	2.12	2.74	5.61	2.93	2.43	5.90	2.16	3.74	3.99	4.27	1.85	1.84	1.83
P2O5		0.28	0.20	0.18	0.16	0.18	0.17	0.05	0.18	0.11	0.04	0.29	0.19	0.18	0.13	0.65	0.80	0.74
LOI		0.68	0.89	0.79	1.61	0.60	0.18	0.68	1.00	3.91	0.65	2.56	0.64	0.73	0.64	1.89	1.85	2.45
Sum		98.55	99.46	99.68	99.78	99.40	99.82	99.98	99.07	99.22	99.67	98.87	98.39	98.47	99.03	98.26	98.94	98.09
FeOt		6.67	8.01	6.00	6.11	7.33	7.67	1.86	7.32	3.76	1.82	7.28	6.63	6.29	3.47	9.64	9.59	9.52
Na2O+K2O		6.96	5.39	6.10	5.23	5.69	5.82	8.62	6.78	6.78	9.10	5.70	6.90	7.34	7.70	4.97	4.74	5.06
Mg#		45	50	50	52	47	48	36	48	42	16	42	51	48	47	59	59	56
Li	ICP	14.10	3.86	12.62	6.51	4.56	8.26	6.09	3.93	1.71	2.59	1.69	18.61	7.17	11.46	9.03	4.20	8.86
Be	ICP	1.77	0.82	1.09	0.91	0.88	0.87	1.47	1.20	1.06	1.90	0.97	1.38	1.19	1.35	2.30	2.32	2.20
Sc	ICP	14.95	19.51	14.39	15.60	20.00	19.23	3.99	19.27	7.90	4.19	14.28	16.54	15.59	6.78	22.87	20.23	13.41
V	XRF	128.50	214.00	145.00	165.00	201.50	211.50	25.00	200.00	59.60	16.00	133.00	149.00	140.00	65.00	261.40	247.00	261.00
Cr	XRF	69.00	91.00	105.50	59.00	60.00	41.00	118.00	46.00	69.00	113.00	57.50	77.00	57.00	26.00	166.20	190.00	80.00
Co	XRF	17.00	28.00	18.00	15.50	18.50	23.50	*3.14*	23.00	8.60	*1.87*	21.00	21.00	11.00	10.00	38.40	34.00	33.50
Ni	XRF	29.50	48.00	50.00	27.50	29.00	19.00	42.00	19.00	26.20	41.00	30.50	29.00	24.00	*8.70*	74.40	89.00	61.00
Cu	ICP	65.42	143.13	59.64	18.25	257.54	125.99	12.77	111.17	39.73	7.14	74.46	96.36	74.68	34.92	76.10	103.03	111.70
Zn	XRF	60.00	96.00	106.50	40.00	51.50	104.00	23.00	58.00	51.40	50.00	90.50	96.00	43.00	30.00	81.60	88.00	96.50
Ga	XRF	16.00	17.00	20.50	24.00	15.50	16.50	23.00	13.00	13.40	12.00	16.00	15.00	15.00	14.00	17.20	18.00	18.50
Rb	ICP	109.71	54.42	44.47	38.06	43.64	66.92	125.53	56.84	82.14	141.60	34.76	104.53	150.56	106.92	42.52	42.66	34.79
Sr	XRF	496.50	530.00	623.50	662.50	601.00	555.00	165.00	503.00	280.40	83.00	771.50	397.00	396.00	391.00	988.00	1101.00	1195.00
Y	ICP	42.81	22.41	20.13	17.68	22.62	21.69	19.01	25.35	28.26	38.97	28.27	29.05	23.98	22.66	25.34	25.78	24.68
Zr	XRF	212.00	121.00	97.00	75.50	138.00	206.00	149.00	151.00	184.60	275.00	117.50	198.00	263.00	175.00	166.00	174.50	181.50
Nb	ICP	15.34	5.49	4.78	4.89	5.65	6.70	13.91	7.42	6.41	12.90	4.83	9.47	8.75	9.35	34.79	30.03	13.80
Cs	ICP	2.52	1.44	1.28	0.64	0.71	2.17	1.77	0.55	2.92	0.77	3.96	3.51	1.13	1.23	0.39	2.83	0.56
Ba	XRF	1234.00	1280.00	1328.50	1171.50	1123.00	1045.50	713.00	1969.00	1806.40	1026.00	1314.50	1324.00	1321.00	1298.00	680.20	663.50	809.50
La	ICP	27.71	17.32	15.34	16.40	15.90	17.91	19.14	14.65	14.83	27.12	15.48	23.29	17.25	21.04	47.19	47.48	48.35
Ce*	ICP	64.10	38.14	33.79	35.61	35.38	39.18	40.84	32.98	33.47	59.76	36.04	51.23	38.50	44.62	100.37	101.43	102.39
Pr	ICP	8.56	4.77	4.22	4.36	4.49	4.85	4.87	4.25	4.33	7.48	4.85	6.39	4.91	5.27	11.92	12.12	12.07
Nd	ICP	35.12	19.51	17.48	17.79	18.61	19.37	17.72	17.81	17.71	28.78	20.63	25.37	19.59	20.14	45.20	47.26	46.58
Sm	ICP	7.97	4.33	3.79	3.80	4.34	4.31	3.40	4.20	4.14	6.18	5.06	5.53	4.39	4.15	8.45	8.58	8.61
Eu	ICP	1.46	1.12	1.07	1.06	1.17	1.06	0.57	1.30	0.97	0.63	1.38	1.20	1.06	0.99	2.42	2.43	2.56
Gd	ICP	6.88	3.89	3.41	3.30	3.79	3.71	2.86	3.89	3.78	5.47	4.55	4.88	3.89	3.54	6.66	6.98	6.98
Tb	ICP	1.05	0.59	0.52	0.47	0.56	0.55	0.43	0.61	0.63	0.86	0.70	0.75	0.59	0.55	0.89	0.89	0.91
Dy	ICP	6.22	3.45	2.98	2.75	3.47	3.32	2.52	3.79	3.87	5.09	4.18	4.29	3.56	3.24	4.51	4.54	4.55
Ho	ICP	1.24	0.68	0.59	0.52	0.68	0.66	0.52	0.74	0.81	1.04	0.85	0.86	0.69	0.66	0.80	0.78	0.81
Er	ICP	3.78	1.97	1.73	1.53	1.99	1.93	1.61	2.22	2.58	3.25	2.55	2.60	2.06	2.02	2.19	2.16	2.21
Tm	ICP	0.58	0.28	0.26	0.22	0.28	0.28	0.26	0.34	0.41	0.51	0.37	0.39	0.31	0.32	0.30	0.29	0.29
Yb	ICP	3.78	1.83	1.66	1.37	1.84	1.83	1.66	2.19	2.74	3.25	2.47	2.46	2.02	2.11	1.88	1.75	1.81
Lu	ICP	0.54	0.27	0.24	0.19	0.27	0.27	0.25	0.33	0.42	0.46	0.37	0.36	0.29	0.33	0.27	0.25	0.25
Hf	ICP	0.78	0.40	0.30	0.43	0.53	0.73	0.78	0.81	4.90	2.09	3.11	0.77	0.87	0.35	3.63	3.58	3.80
Ta	ICP	0.81	0.33	0.28	0.28	0.38	0.39	1.03	0.41	0.45	0.82	0.33	0.57	0.51	0.67	1.64	1.77	0.42
Tl	ICP	0.38	0.23	0.09	0.15	0.15	0.27	0.43	0.17	0.42	0.47	0.13	0.34	0.27	0.34	0.04	0.02	0.09
Pb	ICP	6.06	11.03	7.16	3.76	4.49	8.51	7.24	4.82	7.92	8.58	6.81	7.67	6.60	9.35	3.57	6.51	3.49
Th	ICP	6.04	2.62	1.90	2.07	2.35	2.58	9.50	2.93	3.25	7.83	2.04	4.19	3.74	5.62	13.33	4.35	9.45
U	ICP	2.78	1.41	0.80	0.80	1.11	1.43	3.95	1.46	2.52	2.96	1.54	2.20	1.87	2.62	2.44	2.08	1.78

Geochemical

Sample		BRI25	GUA26	GUA27	GUA28	GUA33	GUA41	GUA42	NEI18	ALT58	ALT60	ALT62	ALT63	TAL104	TAL105	TAL106	VIT62	VIT54
SiO2		50.00	43.81	42.57	46.72	44.35	46.88	44.59	55.61	57.40	53.77	60.69	57.74	62.04	61.19	52.74	59.32	55.37
TiO2		1.24	1.75	1.70	2.02	1.82	2.01	1.75	1.18	0.79	1.01	0.63	0.77	0.52	0.51	0.80	0.72	0.74
Al2O3		16.83	16.49	13.13	17.15	13.91	16.49	13.54	14.07	15.87	15.97	17.51	16.04	17.63	17.47	17.50	16.45	15.76
FeO		4.52	4.34	4.50	4.15	5.11	4.21	4.64	1.97	2.71	4.33	1.35	1.84	1.16	1.03	4.33	2.03	1.60
Fe2O3		3.56	4.13	5.43	3.59	4.46	3.64	4.56	4.45	3.03	2.93	4.05	3.97	2.95	3.13	3.56	3.77	4.97
MnO		0.17	0.17	0.14	0.19	0.15	0.13	0.14	0.08	0.09	0.11	0.09	0.10	0.06	0.07	0.18	0.09	0.11
MgO		4.59	5.28	9.25	3.48	8.91	4.59	9.34	5.08	4.81	6.05	1.44	3.75	1.30	1.86	3.90	3.35	4.96
CaO		7.45	10.30	14.73	7.64	12.38	8.34	9.96	8.09	6.95	7.94	5.00	6.96	3.56	2.64	7.50	6.64	7.97
Na2O		4.48	4.21	2.29	5.47	3.17	4.95	3.35	2.99	3.25	3.25	3.49	3.32	3.66	3.15	3.37	3.56	3.43
K2O		2.33	1.90	0.84	2.66	1.36	2.31	1.47	3.69	2.35	1.67	2.03	2.53	2.15	2.21	2.50	1.73	2.02
P2O5		0.56	1.53	0.81	1.05	1.06	1.19	0.90	0.52	0.24	0.27	0.21	0.31	0.21	0.14	0.29	0.20	0.35
LOI		2.36	4.64	2.84	3.82	1.80	3.84	4.51	0.91	0.98	0.81	2.22	0.78	2.88	4.85	1.49	0.52	0.72
Sum		98.08	98.54	98.22	97.95	98.49	98.59	98.75	98.62	98.44	98.12	98.69	98.10	98.11	98.22	98.15	98.37	97.99
FeOt		8.02	8.53	9.79	7.81	9.39	7.86	9.23	6.10	5.55	7.13	5.17	5.55	4.00	4.11	7.76	5.52	6.22
Na2O+K2O		7.07	6.48	3.26	8.59	4.66	7.63	5.09	6.82	5.72	5.09	5.71	6.00	6.09	5.73	6.04	5.39	5.57
Mg#		58	60	67	52	67	59	71	67	67	65	40	62	45	54	55	59	64
Li	ICP	19.42	9.25	4.42	11.86	6.60	7.98	9.56	7.99	3.09	3.34	3.19	3.54	5.91	6.49	4.29	3.38	4.59
Be	ICP	2.94	2.28	1.05	2.91	1.54	2.49	1.63	2.57	1.19	0.96	1.37	1.88	1.40	1.68	1.50	1.10	1.54
Sc	ICP	15.20	13.62	34.13	8.11	24.33	13.83	21.32	19.96	14.99	14.36	11.20	12.85	7.24	7.93	22.57	12.24	14.78
V	XRF	193.00	319.00	223.00	370.00	256.50	264.00	220.00	194.50	173.00	216.00	142.50	165.00	116.50	108.00	248.50	179.00	197.50
Cr	XRF	108.00	51.00	259.00	27.00	336.00	60.00	332.00	126.50	192.50	185.00	57.50	104.00	31.50	72.00	109.00	70.00	236.50
Co	XRF	29.00	33.00	39.00	22.00	43.00	31.00	42.00	27.00	21.50	31.50	18.50	23.00	13.00	15.50	23.50	20.00	26.00
Ni	XRF	45.00	35.00	121.00	14.00	183.00	74.00	211.50	89.50	105.50	124.00	43.00	69.00	19.50	51.50	59.50	35.00	114.00
Cu	ICP	55.49	203.13	95.41	391.78	135.49	140.02	92.71	87.56	105.16	110.91	84.96	159.24	105.11	88.35	143.15	90.56	91.24
Zn	XRF	85.00	99.00	76.00	115.00	89.00	86.00	86.00	69.00	63.00	74.50	58.00	68.00	58.50	55.00	80.50	66.00	78.00
Ga	XRF	17.00	18.00	17.00	19.00	16.00	16.00	16.50	19.00	18.00	19.50	18.00	18.00	18.50	18.50	17.00	18.00	19.00
Rb	ICP	59.49	29.18	14.40	40.09	22.87	36.20	22.73	87.12	43.30	23.52	34.43	43.13	43.18	38.95	38.11	24.95	35.05
Sr	XRF	838.00	2594.00	1634.00	2584.00	1836.50	2010.00	1730.50	2046.00	1225.00	1132.50	1118.00	1635.00	927.50	598.00	949.50	1077.00	1497.00
Y	ICP	24.69	29.46	24.01	36.74	26.03	30.79	25.31	18.42	11.63	12.26	10.27	14.12	8.29	8.16	18.84	10.06	12.89
Zr	XRF	189.00	155.00	119.00	221.00	139.50	200.00	151.50	238.50	113.50	124.00	94.50	129.00	67.00	62.50	90.50	86.00	120.50
Nb	ICP	46.11	71.04	27.81	100.80	44.60	52.16	33.49	18.75	8.11	9.03	5.33	8.54	5.51	5.22	9.21	5.27	7.90
Cs	ICP	1.60	0.52	0.24	0.81	0.35	0.36	0.27	0.25	0.28	0.17	0.50	0.42	0.48	0.60	0.48	0.37	0.38
Ba	XRF	914.00	1451.00	635.00	1963.00	896.50	1029.00	787.50	1956.00	809.50	718.50	1029.50	1273.00	1471.00	1949.50	1030.50	867.00	1161.00
La	ICP	48.72	91.32	48.60	143.82	60.50	78.47	59.94	72.31	31.22	21.80	23.16	49.63	18.51	15.98	25.36	19.06	40.51
Ce*	ICP	104.67	187.30	104.64	272.00	127.79	165.12	127.39	153.63	63.92	46.83	48.34	103.80	39.32	35.63	53.92	39.92	85.61
Pr	ICP	12.62	20.95	12.66	26.03	15.01	19.27	15.11	18.21	7.13	5.64	5.57	12.00	4.66	4.53	6.40	4.62	10.06
Nd	ICP	41.32	74.46	50.36	89.99	57.37	70.73	56.66	66.77	27.26	22.28	20.96	45.39	18.20	18.00	25.08	17.89	37.59
Sm	ICP	7.62	11.73	9.17	14.01	9.84	11.77	9.66	10.56	4.52	4.11	3.75	6.84	3.22	3.21	4.88	3.30	6.16
Eu	ICP	2.36	3.30	2.65	4.03	2.87	3.30	2.75	2.78	1.29	1.25	1.17	1.92	1.05	1.02	1.47	1.00	1.70
Gd	ICP	5.91	8.79	7.20	10.29	7.77	8.86	7.49	6.77	3.29	3.20	2.75	4.73	2.30	2.18	3.99	2.46	4.24
Tb	ICP	0.88	1.08	0.91	1.32	0.97	1.14	0.95	0.76	0.39	0.44	0.34	0.51	0.28	0.26	0.55	0.33	0.49
Dy	ICP	4.13	5.24	4.43	6.52	4.84	5.60	4.61	3.36	1.91	2.26	1.74	2.35	1.37	1.28	2.91	1.69	2.24
Ho	ICP	0.71	0.92	0.78	1.15	0.83	0.96	0.82	0.55	0.34	0.41	0.32	0.39	0.23	0.23	0.55	0.30	0.38
Er	ICP	2.12	2.51	2.02	3.26	2.26	2.68	2.18	1.49	0.92	1.11	0.86	1.06	0.67	0.67	1.60	0.87	1.00
Tm	ICP	0.32	0.34	0.26	0.45	0.29	0.35	0.29	0.20	0.13	0.16	0.13	0.14	0.09	0.09	0.23	0.12	0.14
Yb	ICP	1.81	2.10	1.56	2.84	1.81	2.25	1.78	1.25	0.80	0.96	0.82	0.85	0.56	0.57	1.44	0.79	0.88
Lu	ICP	0.27	0.30	0.22	0.41	0.25	0.29	0.25	0.17	0.11	0.14	0.12	0.13	0.09	0.08	0.21	0.12	0.13
Hf	ICP	4.42	3.83	3.36	5.06	3.62	4.61	3.82	7.48	2.48	2.80	1.84	3.45	1.61	1.39	1.99	1.88	2.63
Ta	ICP	2.05	2.49	1.13	3.31	1.57	2.20	1.31	0.82	0.48	0.75	0.50	0.61	0.39	0.38	0.45	0.53	0.58
Tl	ICP	0.16	0.05	0.02	0.09	0.05	0.04	0.01	0.17	0.08	0.06	0.08	0.10	0.10	0.13	0.11	0.08	0.07
Pb	ICP	3.80	7.61	3.00	11.79	4.69	6.09	4.03	11.11	6.71	4.14	6.95	9.60	7.22	8.38	6.58	5.58	8.49
Th	ICP	15.23	17.45	6.46	23.08	10.76	13.23	9.79	31.80	3.77	2.92	2.88	7.59	1.66	1.33	4.81	2.38	5.29
U	ICP	3.09	2.85	1.15	3.76	1.57	2.30	1.52	5.73	1.65	1.27	1.43	3.07	1.25	1.05	1.27	1.21	2.55

Geochemical

Sample		VIT55	PAS74	PAS75	PAS78	PEJ68	PEJ69	PEJ70	TAL103	TAL109	TUR100	TUR64	TUR68
SiO2		58.48	55.79	48.30	50.32	49.99	51.77	51.08	55.56	54.05	58.52	55.46	55.41
TiO2		0.76	0.73	0.86	0.67	0.99	1.05	1.01	0.56	0.69	1.14	1.10	1.07
Al2O3		16.97	17.50	20.69	18.61	17.46	17.37	17.84	20.34	18.09	15.71	17.27	17.06
FeO		1.11	3.72	5.83	4.96	5.83	5.63	5.40	2.47	3.68	4.02	3.24	4.46
Fe2O3		4.69	3.45	3.83	3.95	3.60	4.10	3.96	1.95	3.10	2.12	3.95	2.50
MnO		0.10	0.14	0.19	0.17	0.18	0.25	0.18	0.10	0.16	0.10	0.11	0.12
MgO		2.59	3.26	3.94	4.46	4.94	4.78	5.05	1.42	2.73	4.07	3.25	3.95
CaO		6.04	6.99	10.91	9.63	8.90	8.47	9.09	6.38	6.17	6.33	6.44	7.06
Na2O		3.42	3.43	2.53	2.61	2.72	2.86	2.78	3.73	3.26	3.79	3.69	3.52
K2O		2.65	2.44	0.57	1.06	1.68	1.88	1.72	4.11	4.12	2.20	2.35	2.47
P2O5		0.30	0.35	0.15	0.25	0.41	0.45	0.41	0.33	0.41	0.49	0.42	0.41
LOI		1.21	0.77	1.45	1.82	1.36	0.10	0.52	0.98	2.20	0.35	1.16	0.89
Sum		98.29	98.58	99.25	98.52	98.06	99.90	99.48	97.91	98.67	98.85	98.44	98.91
FeOt		5.48	6.95	11.15	8.76	9.72	9.91	9.32	4.35	6.68	5.99	6.96	6.81
Na2O+K2O		6.24	5.98	3.64	3.78	4.73	4.75	4.52	8.06	7.62	6.06	6.19	6.08
Mg#		53	53	55	52	49	50	53	45	51	62	54	58
Li	ICP	3.81	8.59	10.49	2.34	6.08	3.13	7.51	5.63	3.74	4.55	5.46	8.02
Be	ICP	2.20	1.47	0.58	0.77	1.14	1.44	1.40	3.86	3.09	1.34	1.43	1.39
Sc	ICP	12.68	15.50	32.38	21.95	21.35	22.56	23.37	9.54	14.00	11.96	16.10	17.65
V	XRF	166.00	201.00	346.00	260.00	273.00	296.50	273.00	99.00	178.00	140.00	190.00	196.00
Cr	XRF	56.50	194.00	143.00	83.00	62.00	84.50	89.00	102.00	56.00	190.00	75.00	110.00
Co	XRF	18.50	22.00	43.00	35.00	27.00	33.50	32.00	10.50	20.00	20.00	23.00	23.00
Ni	XRF	44.00	84.00	62.00	41.00	40.00	51.00	41.00	44.50	19.00	92.00	35.00	56.00
Cu	ICP	137.22	132.73	239.05	148.74	270.74	294.79	267.06	65.15	173.25	61.04	119.36	158.49
Zn	XRF	66.00	79.00	99.00	75.00	100.00	105.50	91.00	61.00	89.00	76.00	77.00	79.00
Ga	XRF	21.00	17.00	16.00	17.00	17.00	16.50	15.00	17.50	17.00	17.00	19.00	18.00
Rb	ICP	45.01	45.20	19.73	18.05	42.50	37.30	36.33	86.56	99.07	52.23	59.45	59.71
Sr	XRF	1520.50	1103.00	565.00	848.00	990.00	927.50	975.00	1751.00	1252.00	822.00	861.00	878.00
Y	ICP	18.02	21.47	23.34	14.72	24.06	26.10	23.70	19.12	19.32	19.45	21.42	20.43
Zr	XRF	134.50	93.00	67.00	47.00	93.00	105.50	77.00	155.00	184.00	214.00	199.00	197.00
Nb	ICP	8.19	11.39	3.95	3.39	6.01	6.33	6.64	18.94	15.46	30.61	19.79	24.51
Cs	ICP	0.44	0.33	0.67	0.26	1.22	1.00	0.55	0.42	0.70	0.53	0.81	0.75
Ba	XRF	1471.50	1107.00	834.00	705.00	1229.00	1200.50	1038.00	1482.50	1242.00	957.00	1023.00	964.00
La	ICP	66.41	29.11	10.15	16.28	25.78	27.15	24.47	47.97	45.36	48.15	44.46	42.17
Ce*	ICP	138.27	61.41	23.58	36.11	56.41	59.73	54.33	98.90	96.05	100.30	94.28	84.75
Pr	ICP	15.87	7.20	3.17	4.56	6.99	7.46	6.78	11.16	11.33	11.52	11.14	9.15
Nd	ICP	60.47	27.99	14.57	19.23	29.43	30.58	28.08	40.70	41.97	42.31	41.14	37.61
Sm	ICP	9.32	5.33	3.90	4.07	6.20	6.37	5.79	6.95	7.88	7.13	7.18	6.76
Eu	ICP	2.44	1.59	1.26	1.20	1.66	1.75	1.71	2.04	1.88	1.85	1.76	1.63
Gd	ICP	6.45	4.29	3.92	3.23	4.92	5.33	4.93	5.13	5.59	5.29	5.33	5.09
Tb	ICP	0.67	0.58	0.58	0.45	0.69	0.75	0.69	0.64	0.68	0.67	0.69	0.61
Dy	ICP	2.92	3.03	3.47	2.49	3.87	4.17	3.78	3.16	3.33	3.40	3.62	3.43
Ho	ICP	0.47	0.58	0.72	0.46	0.73	0.80	0.72	0.55	0.56	0.59	0.65	0.67
Er	ICP	1.32	1.70	2.24	1.32	2.13	2.30	2.09	1.55	1.55	1.60	1.85	1.80
Tm	ICP	0.17	0.25	0.30	0.18	0.31	0.33	0.30	0.23	0.20	0.22	0.25	0.23
Yb	ICP	1.00	1.65	1.99	1.17	1.95	2.10	1.92	1.46	1.29	1.39	1.64	1.68
Lu	ICP	0.15	0.26	0.31	0.18	0.29	0.31	0.29	0.22	0.18	0.20	0.24	0.26
Hf	ICP	3.37	2.38	1.24	1.32	2.19	2.31	2.02	3.67	1.36	4.43	4.46	3.90
Ta	ICP	0.58	0.57	0.34	0.28	0.34	0.34	0.38	0.89	0.70	1.71	1.06	1.20
Tl	ICP	0.18	0.06	0.02	0.05	0.06	0.07	0.05	0.13	0.29	0.11	0.10	0.08
Pb	ICP	12.05	4.97	3.45	4.09	8.87	7.74	7.47	10.88	14.15	6.15	7.36	6.34
Th	ICP	9.09	7.64	2.34	1.13	2.45	2.93	5.13	16.65	7.76	5.60	6.73	18.11
U	ICP	3.22	1.42	0.56	0.67	1.46	1.58	1.32	5.07	3.54	3.24	3.70	3.21

Isotope data from Miocene to Pliocene rocks of SE Costa Rica

Sample name		$^{87}Sr/^{86}Sr_{ul}$	2σ	Rb (ppm)	Sr (ppm)	$^{87}Sr/^{86}Sr_i$	$^{143}Nd/^{144}Nd$	2σ	Sm (ppm)	Nd (ppm)	$^{143}Nd/^{144}Nd_i$	εNd	Pb (ppm)	$^{206}Pb/^{204}Pb$	$^{207}Pb/^{204}Pb$	$^{208}Pb/^{204}Pb$
ALT-02	◇	0.70380	6.0E-06	3	388	**0.70378**							1.3	18.734	15.547	38.411
ALT-12	◇	0.70373	1.1E-05	3	400	**0.70360**	0.512999	4.9E-06	3	8	**0.512999**	7.10	0.8	18.751	15.546	38.420
ALT-14	◇	0.70369	1.9E-05	2	381	**0.70365**	0.513027	6.0E-06	2	6	**0.513027**	7.65				
CHI-113	◇	0.70429	1.4E-05	25	431	**0.70415**	0.513012	2.9E-06	4	18	**0.513004**	7.36				
CHI-117	◇	0.70382	2.3E-05	7	440	**0.70379**	0.513032	5.0E-06	3	9	**0.513022**	7.70	2.6	18.789	15.542	38.442
INA-84	◇	0.70390	2.0E-05	51	494	**0.70384**	0.513045	9.4E-06	4	17	**0.513036**	8.01				
NUE-92	◇	0.70383	1.6E-05	24	565	**0.70380**	0.513015	5.0E-06	4	15	**0.513002**	7.43				
ALT-95	○	0.70389	1.5E-05	160	497	**0.70377**	0.513019	5.4E-06	8	36	**0.513010**	7.50				
CHI-116	○	0.70390	4.9E-06	55	663	**0.70385**	0.513013	4.7E-06	4	18	**0.513005**	7.40	3.7	18.899	15.560	38.593
INA-85	○	0.70473	2.1E-05	202	83	**0.70399**	0.513042	5.8E-06	7	30	**0.513034**	7.97				
TAL-79	○	0.70390	1.1E-05	154	397	**0.70376**	0.513025	5.5E-06	6	26	**0.513017**	7.64	7.4	18.745	15.520	38.328
BRI-21	△	0.70363	1.2E-05	47	988	**0.70354**	0.512967	2.9E-06	9	48	**0.512967**	6.54	3.7	19.12	15.548	38.725
BRI-23	△	0.70381	1.1E-05	63	1101	**0.70356**	0.512977	5.4E-06	9	48	**0.512977**	6.75				
GUA-27	△	0.70367	1.4E-05	21	1634	**0.70366**	0.513022	1.2E-05	10	54	**0.513022**	7.61				
GUA-42	△	0.70379	8.3E-06	27	1731	**0.70362**	0.512982	6.4E-06	11	63	**0.512982**	6.83	4.5	19.058	15.555	38.692
NEI-18	△	0.70341	1.5E-05	110	2046	**0.70332**	0.512953	5.0E-06	12	73	**0.512953**	6.14	12.2	19.335	15.578	38.981
ALT-60	☆	0.70352	1.5E-05	35	1133	**0.70347**	0.512988	5.4E-06	5	23	**0.512988**	6.90	4.2	19.137	15.594	38.852
ALT-62	☆	0.70354	1.0E-05	51	1118	**0.70352**	0.512988	4.4E-06	4	22	**0.512988**	6.89				
ALT-63	☆	0.70340	2.0E-05	64	1635	**0.70338**	0.512979	5.2E-06	7	46	**0.512979**	6.72	9.6	19.245	15.600	38.971
TAL-103	☆	0.70379	1.7E-05	87	1751	**0.70377**	0.513000	9.0E-06	7	41	**0.512995**	7.16				
TAL-104	☆	0.70371	1.4E-05	63	928	**0.70364**	0.512990	6.3E-06	4	19	**0.512990**	6.92	7.0	19.085	15.555	38.731
TAL-105	☆	0.70370	1.8E-05	56	598	**0.70367**	0.512995	6.9E-06	4	18	**0.512995**	7.02				
TAL-106	☆	0.70370	1.6E-05	38	950	**0.70368**	0.512976	3.2E-06	5	25	**0.512970**	6.69				
VIT-52	☆	0.70356	1.8E-05	36	1077	**0.70355**	0.512985	6.3E-06	4	19	**0.512985**	6.84				
VIT-54	☆	0.70357	1.3E-05	51	1497	**0.70357**	0.512987	5.7E-06	7	39	**0.512987**	6.87	8.4	19.174	15.552	38.781
PAS-75	□	0.70378	1.6E-05	7	526	**0.70376**	0.513034	6.1E-06	3	9	**0.513029**	7.75	2.6	18.859	15.584	38.615
PEJ-69	□						0.512998	3.7E-06	6	31	**0.512994**	7.06		18.852	15.730	38.583
PEJ-70	□	0.70428	1.9E-05	49	975	**0.70368**	0.513033	9.2E-06	6	29	**0.513028**	7.74	7.2			

subscript ul indicates unleached values
subscript i indicates initial values

Ar/Ar single crystal laser fusion data from Miocene to Pliocene rocks of SE Costa Rica

	CORR. INTENSITIES (errors: 2SD/abs.)						RESULTS (errors: 2SD/abs.)										
Sample	**40Ar***	**+/-**	**39Ar**	**+/-**	**37Ar**	**+/-**	**40K/ 40Ar**	**+/-**	**36/ 40Ar**	**+/-**	**37Ar 39Ar**	**+/-**	**R/ R+A**	**+/-**	**Date Ma**	**+/-int.**	**+/-ext.**
AMPH "ALT" - - - Sample ALT-16 - - -																	
ALT001	19.93	0.27	2.53	0.03	44.56	0.20	17.62	0.22	2.58E-03	2.2E-04	17.62	0.22	23.75	5.81	18.33	4.77	4.77
ALT002	87.58	0.34	12.32	0.04	229.75	0.29	18.65	0.06	1.93E-03	1.0E-04	18.65	0.06	42.97	2.49	16.54	1.11	1.11
ALT003	101.27	0.93	13.44	0.06	258.38	0.54	19.23	0.10	2.76E-03	7.2E-05	19.23	0.10	18.58	1.33	17.53	2.07	2.07
ALT004	71.79	0.26	9.12	0.05	168.64	0.21	18.49	0.11	2.14E-03	8.6E-05	18.49	0.11	36.68	1.93	18.30	1.22	1.22
ALT005	86.96	0.38	10.81	0.04	199.04	0.31	18.41	0.08	2.03E-03	9.2E-05	18.41	0.08	40.06	2.20	18.70	1.24	1.24
ALT006	54.81	0.26	7.32	0.04	133.96	0.27	18.29	0.10	2.04E-03	1.3E-04	18.29	0.10	39.62	3.32	17.40	1.61	1.62
ALT007	62.39	0.27	9.09	0.06	170.69	0.37	18.77	0.12	1.94E-03	1.6E-04	18.77	0.12	42.67	4.26	15.96	1.71	1.71
ALT008	80.43	0.45	11.66	0.04	217.18	0.53	18.63	0.08	2.05E-03	8.5E-05	18.63	0.08	39.41	1.92	16.05	0.99	0.99
ALT009	107.04	0.56	13.57	0.03	258.20	0.34	19.02	0.05	2.06E-03	7.5E-05	19.02	0.05	39.07	1.66	18.34	1.04	1.04
Total-Gas	672.19	1.39	89.87	0.13	1680.40	1.08	18.70	0.03	2.25E-03	5.3E-05	18.70	0.03	33.47	0.76	17.40	0.88	0.88
Weight. MEAN															17.36	0.44	0.37
MEAN ± 1SD											18.57	0.46	35.87	8.64	17.46	1.05	
Minimum											17.62		18.58		15.96		
Maximum											19.23		42.97		18.70		
AMPH "GUA" - - - Sample GUA-28 - - -																	
GUA001	65.45	0.17	34.68	0.05	167.74	0.32	4.84	0.01	1.75E-03	1.4E-04	4.84	0.01	48.21	3.37	4.44	0.34	0.34
GUA002	54.75	0.26	32.85	0.05	156.49	0.23	4.76	0.01	2.28E-03	1.0E-04	4.76	0.01	32.76	2.44	3.92	0.35	0.35
GUA003	58.48	0.11	32.50	0.06	159.77	0.33	4.92	0.01	1.16E-03	2.1E-04	4.92	0.01	65.85	4.62	4.24	0.31	0.31
GUA004	53.70	0.27	34.34	0.08	164.91	0.31	4.80	0.01	2.62E-03	9.1E-05	4.80	0.01	22.68	2.10	3.68	0.44	0.44
GUA005	61.60	0.15	37.18	0.05	184.59	0.23	4.96	0.01	1.79E-03	1.3E-04	4.96	0.01	47.21	3.04	3.90	0.28	0.28
GUA006	68.90	0.41	41.93	0.08	210.08	0.17	5.01	0.01	2.86E-03	6.6E-05	5.01	0.01	15.35	0.95	3.87	0.51	0.51
GUA007	70.48	0.24	44.46	0.08	224.16	0.46	5.04	0.01	1.73E-03	1.2E-04	5.04	0.01	48.98	2.92	3.73	0.25	0.25
single crysta																	
GUA008	24.54	0.23	12.96	0.05	62.20	0.18	4.80	0.02	1.75E-03	3.2E-04	4.80	0.02	48.25	7.85	4.46	0.75	0.75
GUA009	8.86	0.11	8.03	0.05	42.85	0.15	5.34	0.04	2.09E-03	6.0E-04	5.34	0.04	38.23	14.53	2.60	1.02	1.02
GUA010	37.18	0.24	20.70	0.06	110.15	0.26	5.32	0.02	1.63E-03	2.3E-04	5.32	0.02	51.96	5.45	4.23	0.46	0.46
GUA011	11.31	0.13	11.33	0.03	58.06	0.13	5.12	0.02	2.50E-03	2.7E-04	5.12	0.02	25.99	6.80	2.35	0.65	0.65
GUA012	16.36	0.09	10.56	0.04	52.22	0.10	4.94	0.02	1.41E-03	5.9E-04	4.94	0.02	58.19	13.11	3.65	0.84	0.84
GUA013	36.30	0.25	20.11	0.06	94.69	0.23	4.71	0.02	1.47E-03	2.9E-04	4.71	0.02	56.64	6.81	4.25	0.53	0.53
GUA014	19.46	0.22	11.10	0.07	55.16	0.15	4.97	0.03	1.67E-03	4.5E-04	4.97	0.03	50.51	10.46	4.13	0.88	0.88
GUA015	17.98	0.23	10.97	0.06	54.22	0.18	4.94	0.03	1.78E-03	4.3E-04	4.94	0.03	47.53	10.06	3.86	0.84	0.84
GUA016	16.76	0.22	12.81	0.05	63.45	0.14	4.95	0.02	1.73E-03	4.8E-04	4.95	0.02	48.81	10.92	3.08	0.71	0.71
Total-Gas	622.11	0.88	376.54	0.24	1860.73	0.96	4.94	0.00	2.18E-03	5.5E-05	4.94	0.00	35.68	0.92	3.89	0.19	0.19
Weight. MEAN															3.92	0.11	0.11
MEAN ± 1SD											4.96	0.18	44.20	13.69	3.77	0.61	
Minimum											4.71		15.35		2.35		
Maximum											5.34		65.85		4.46		

Ar/Ar single crystal laser fusion data from Miocene to Pliocene rocks of SE Costa Rica

	CORR. INTENSITIES (errors: 2SD/abs.)						RESULTS (errors: 2SD/abs.)										
Sample	40Ar*	+/-	39Ar	+/-	37Ar	+/-	40K/ 40Ar	+/-	36/ 40Ar	+/-	37Ar 39Ar	+/-	R/ R+A	+/-	Date Ma	+/-int.	+/-ext.
AMPH "TAL" - - - Sample TAL-104 - - -																	
TAL_01	1.89	0.14	11.83	0.04	100.55	0.19	5203.3	55.2	2.99E-03	8.5E-04	8.50	0.04	11.70	24.39	0.39	0.83	0.83
TAL_02	9.42	0.24	17.17	0.06	174.73	0.37	1158.2	7.5	3.08E-03	2.3E-04	10.18	0.04	8.96	6.64	1.33	1.05	1.05
TAL_03	19.55	0.34	29.97	0.20	241.35	0.48	5057.1	58.5	1.81E-03	5.3E-04	8.05	0.06	46.53	15.29	1.58	0.54	0.54
TAL_04	60.31	0.95	47.75	0.39	405.46	1.66	1682.6	18.0	2.37E-03	1.7E-04	8.49	0.08	29.98	4.90	3.06	0.54	0.54
Tal_05	26.67	1.00	23.95	0.17	302.40	1.17	915.6	9.4	2.90E-03	1.1E-04	12.62	0.10	14.37	3.25	2.70	0.71	0.71
TAL_06	46.03	1.92	26.02	0.17	231.37	0.95	557.9	5.7	2.91E-03	9.2E-05	8.89	0.07	13.92	2.64	4.29	1.01	1.01
TAL_07																	
TAL_08	15.91	1.03	21.37	0.19	289.30	0.95	1010.3	12.3	3.03E-03	1.9E-04	13.54	0.13	10.61	5.36	1.81	0.99	0.99
TAL_09	10.71	0.31	15.92	0.11	123.88	0.22	2517.6	27.4	2.58E-03	4.3E-04	7.78	0.05	23.88	12.30	1.63	0.87	0.87
TAL_10	5.85	0.34	11.79	0.08	114.33	0.33	1871.8	21.3	2.94E-03	3.8E-04	9.70	0.07	13.10	10.86	1.20	1.04	1.04
TAL_11	4.87	0.32	12.70	0.08	112.58	0.22	1939.7	20.9	3.03E-03	3.5E-04	8.87	0.06	10.49	10.14	0.93	0.94	0.94
TAL_12	12.96	0.32	10.85	0.10	103.99	0.39	1789.1	23.7	2.36E-03	4.3E-04	9.58	0.10	30.14	12.42	2.90	1.24	1.24
TAL_13	16.03	0.34	24.42	0.19	199.44	0.63	2867.8	30.7	2.49E-03	3.1E-04	8.17	0.07	26.54	8.76	1.59	0.55	0.55
TAL_14	9.71	0.26	17.14	0.15	163.22	0.30	2011.7	21.8	2.84E-03	3.3E-04	9.52	0.08	16.07	9.43	1.37	0.84	0.84
TAL_15	23.70	0.34	33.77	0.15	253.11	0.66	4209.9	37.7	1.97E-03	3.8E-04	7.50	0.04	41.67	10.95	1.70	0.46	0.46
TAL_16	26.52	0.45	26.64	0.18	192.77	0.73	3335.6	38.8	1.80E-03	4.3E-04	7.24	0.06	46.83	12.33	2.41	0.66	0.66
TAL_17	2.85	0.34	11.78	0.09	138.91	0.32	1812.6	21.6	3.17E-03	4.6E-04	11.79	0.10	6.19	13.23	0.59	1.31	1.31
TAL_18	10.85	0.20	17.27	0.13	142.28	0.27	2022.0	19.3	2.78E-03	3.5E-04	8.24	0.06	17.91	9.90	1.52	0.88	0.88
TAL_19																	
TAL_20	9.90	0.29	10.93	0.07	190.04	0.50	611.9	5.1	3.12E-03	1.9E-04	17.38	0.12	7.82	5.55	2.20	1.69	1.69
TAL_21	3.67	0.27	11.39	0.06	91.28	0.18	2631.3	29.8	2.98E-03	6.5E-04	8.01	0.04	11.97	18.73	0.78	1.27	1.27
TAL_22	8.08	0.29	12.58	0.06	98.16	0.28	2644.2	29.0	2.57E-03	5.5E-04	7.80	0.04	23.96	15.84	1.56	1.07	1.07
TAL_23a																	
TAL_23b																	
TAL_24																	
TAL_25	13.59	0.23	24.25	0.14	145.63	0.34	2475.8	20.3	2.72E-03	2.3E-04	6.01	0.04	19.56	6.64	1.36	0.49	0.49
TAL_26a	13.35	0.28	12.20	0.07	104.12	0.22	965.3	8.2	2.88E-03	2.6E-04	8.53	0.05	14.90	7.39	2.65	1.39	1.39
TAL_26b	21.37	0.32	18.66	0.08	162.30	0.31	1868.4	15.1	2.36E-03	2.5E-04	8.70	0.04	30.17	7.31	2.78	0.71	0.71
TAL_26c	26.24	0.37	21.16	0.13	183.34	0.33	2212.7	21.2	2.07E-03	3.9E-04	8.67	0.05	38.70	11.30	3.01	0.91	0.91
Total-Gas	400.01	2.92	471.50	0.72	4264.54	3.01	1452.4	7.8	2.83E-03	4.7E-05	9.04	0.02	16.38	1.35	1.94	0.27	0.27
Weight. MEAN															1.90	0.16	0.17
MEAN ± 2SD											9.32	2.41	21.50	12.34	1.89	0.93	
Minimum											6.01		6.19		0.39		
Maximum											17.38		46.83		4.29		

Ar/Ar single crystal laser fusion data from Miocene to Pliocene rocks of SE Costa Rica

	CORR. INTENSITIES (errors: 2SD/abs.)						RESULTS (errors: 2SD/abs.)										
Sample	40Ar*	+/-	39Ar	+/-	37Ar	+/-	40K/ 40Ar	+/-	36/ 40Ar	+/-	37Ar 39Ar	+/-	R/ R+A	+/-	Date Ma	+/-int.	+/-ext.
AMPH "BRI" - - - Sample BRI-25 - - -																	
BRI25_2	55.88	0.88	24.17	0.25	77.96	0.52	511.6	5.9	2.82E-03	1.2E-04	3.23	0.04	16.68	3.48	5.60	1.34	1.34
BRI25_02b	12.26	0.13	5.70	0.09	19.19	0.11	1868.7	33.3	1.47E-03	5.9E-04	3.37	0.06	56.69	17.06	5.21	1.60	1.60
BRI25_03	20.95	0.19	9.17	0.05	49.19	0.15	1323.5	11.3	1.94E-03	4.6E-04	5.36	0.03	42.64	13.24	5.54	1.77	1.77
BRI25_04	19.43	0.24	9.55	0.06	37.87	0.15	1602.2	15.5	1.83E-03	4.0E-04	3.97	0.03	45.99	11.44	4.93	1.27	1.27
BRI25_4b	9.65	0.17	4.69	0.07	19.61	0.13	1527.2	25.7	1.88E-03	1.1E-03	4.18	0.07	44.33	30.37	4.99	3.51	3.51
BRI25_06	30.36	0.37	15.36	0.09	75.66	0.29	656.3	5.3	2.76E-03	1.1E-04	4.93	0.04	18.30	3.19	4.79	0.97	0.97
BRI25_07	26.26	0.32	11.71	0.09	51.73	0.26	1172.7	12.3	2.13E-03	2.6E-04	4.42	0.04	37.08	7.59	5.43	1.16	1.16
Br25_08	28.95	0.26	12.00	0.07	60.65	0.15	1391.6	12.5	1.78E-03	2.5E-04	5.05	0.03	47.35	7.27	5.85	0.93	0.93
BRI_09	31.54	0.27	14.68	0.09	73.52	0.23	1032.4	8.4	2.33E-03	1.6E-04	5.01	0.03	31.28	4.55	5.21	0.82	0.82
BRI_10	78.29	1.82	30.62	0.19	151.14	0.62	568.9	5.3	2.69E-03	7.6E-05	4.94	0.04	20.51	2.18	6.19	0.85	0.85
BRI_11	41.61	0.41	16.17	0.09	85.72	0.26	1044.3	8.9	2.10E-03	1.7E-04	5.30	0.03	37.90	4.81	6.24	0.85	0.85
BRI_12	52.58	0.56	20.30	0.12	95.87	0.36	628.1	5.1	2.61E-03	1.0E-04	4.72	0.03	22.94	2.92	6.28	0.94	0.94
BRI_13	57.75	0.19	25.52	0.10	103.04	0.17	1353.6	8.7	1.92E-03	1.1E-04	4.04	0.02	43.20	3.26	5.48	0.46	0.46
BRI_14	41.54	0.26	16.09	0.10	74.06	0.17	1386.3	11.9	1.68E-03	2.2E-04	4.60	0.03	50.46	6.38	6.25	0.82	0.83
BRI_15	25.81	0.25	11.48	0.07	61.14	0.32	1105.1	9.6	2.20E-03	2.9E-04	5.33	0.04	35.04	8.47	5.45	1.37	1.37
BRI_16	27.71	0.42	11.17	0.09	50.11	0.20	654.4	6.6	2.61E-03	1.9E-04	4.49	0.04	22.89	5.48	6.01	1.54	1.54
BR_18(b)	58.66	0.27	24.25	0.13	98.70	0.29	1743.5	13.5	1.37E-03	1.8E-04	4.07	0.02	59.49	5.21	5.86	0.54	0.54
BRI_19	13.52	0.20	5.69	0.08	25.83	0.11	985.5	14.8	2.27E-03	3.4E-04	4.54	0.06	33.00	9.65	5.75	1.75	1.75
BRI_20	65.98	0.30	26.02	0.12	96.84	0.23	1809.0	13.6	1.19E-03	1.7E-04	3.72	0.02	64.70	4.93	6.15	0.49	0.49
BRI_21	44.97	0.25	18.88	0.06	83.78	0.29	1935.5	13.5	1.18E-03	2.3E-04	4.44	0.02	65.01	6.72	5.77	0.62	0.62
BRI_22	24.54	0.29	9.56	0.11	43.92	0.16	427.0	5.2	2.86E-03	1.1E-04	4.59	0.05	15.45	3.06	6.22	1.45	1.45
BRI_23	35.59	0.33	13.04	0.08	64.57	0.15	1120.3	9.9	1.93E-03	2.2E-04	4.95	0.03	43.11	6.29	6.61	1.01	1.01
BRI_24	19.63	0.24	8.56	0.06	38.50	0.15	1219.4	12.3	2.05E-03	3.9E-04	4.50	0.04	39.45	11.07	5.56	1.61	1.61
BRI_25a	8.68	0.24	4.55	0.04	21.66	0.16	605.0	6.7	2.83E-03	3.1E-04	4.76	0.05	16.25	8.90	4.62	2.65	2.65
BRI_25b	35.81	0.27	17.48	0.10	84.48	0.18	2002.8	17.4	1.43E-03	3.1E-04	4.83	0.03	57.85	8.89	4.96	0.79	0.79
BRI_26	54.81	0.28	20.41	0.09	89.27	0.26	1623.0	12.2	1.30E-03	1.7E-04	4.37	0.02	61.47	4.88	6.51	0.54	0.54
BRI_27	32.02	0.56	15.69	0.11	74.68	0.29	411.8	3.7	2.98E-03	8.2E-05	4.76	0.04	11.85	2.34	4.95	1.26	1.26
BRI_28	26.82	0.72	12.08	0.10	54.03	0.17	200.1	1.9	3.17E-03	9.2E-05	4.47	0.04	6.26	2.63	5.38	2.84	2.84
BRI_29	38.73	0.45	13.96	0.11	63.18	0.17	727.8	7.3	2.42E-03	1.5E-04	4.53	0.04	28.47	4.43	6.72	1.14	1.14
BRI_30a	12.91	0.43	6.80	0.08	34.53	0.18	358.9	4.8	3.06E-03	2.1E-04	5.07	0.07	9.60	6.05	4.60	3.11	3.11
BRI_30b	13.49	0.26	5.56	0.05	30.11	0.11	1708.4	25.7	1.41E-03	8.6E-04	5.41	0.05	58.41	24.92	5.87	2.57	2.57
BRI_31	36.08	0.33	16.18	0.08	76.54	0.25	1001.6	7.4	2.32E-03	2.9E-04	4.73	0.03	31.51	8.47	5.41	1.52	1.52
Total-Gas	1082.80	2.74	457.12	0.58	2067.09	1.43	836.5	4.3	2.45E-03	3.2E-05	4.52	0.01	27.46	0.91	5.64	0.38	0.38
Weight. MEAN															5.82	0.16	0.09
MEAN ± 2SD											4.58	0.53	36.72	17.30	5.64	0.58	
Minimum											3.23		6.26		4.60		
Maximum											5.41		65.01		6.72		

Ar/Ar step heating data from Miocene to Pliocene rocks of SE Costa Rica

Sample	CORR. INTENSITIES 40Ar*	+/-	39Ar	+/-	37Ar	+/-	RESULTS 40K/ 40Ar	+/-	36/ 40Ar	+/-	37Ar 39Ar	+/-	R/ R+A	+/-	Date Ma	+/-int.	+/-ext.
AMPH ALT																	
600°	1.92	1.68	1.26	0.06	8.54	0.13	33.0	1.6	3.36E-03	2.0E-04	6.79	0.35	0.69	5.93	3.58	30.52	30.52
1000°	199.41	4.13	13.28	0.06	211.79	0.57	84.6	0.5	2.80E-03	4.0E-05	15.94	0.08	17.29	1.20	34.84	2.46	2.47
1200°	1389.92	9.91	192.13	0.74	3469.11	8.69	505.1	2.7	1.70E-03	2.2E-05	18.06	0.08	49.75	0.65	16.87	0.26	0.27
1550°	117.31	6.56	10.60	0.09	55.07	0.21	480.0	19.8	9.38E-04	3.7E-04	5.19	0.05	72.29	10.94	25.74	4.07	4.07
1550°																	
total gas	1708.57	12.70	217.28	0.75	3744.51	8.71	363.6	1.7	2.07E-03	2.6E-05	17.23	0.07	38.92	0.77	18.33	0.39	0.40
AMPH BRI																	
1550°	2286.26	18.72	745.15	2.66	3497.54	7.78	1080.1	5.7	1.81E-03	7.0E-05	4.69	0.02	46.65	2.09	7.42	0.33	0.34
1550°																	
total gas	2286.26	18.72	745.15	2.66	3497.54	7.78	1080.1	5.7	1.81E-03	7.0E-05	4.69	0.02	46.65	2.09	7.42	0.33	0.34
AMPH GUA																	
600°	7.67	1.61	7.68	0.06	4.01	0.14	222.3	2.3	3.28E-03	2.1E-04	0.52	0.02	3.06	6.15	2.37	4.70	4.70
1200°	1328.25	9.14	716.14	2.55	3444.28	8.81	2092.6	10.7	1.57E-03	5.4E-05	4.81	0.02	53.47	1.63	4.39	0.14	0.14
1550°	113.87	6.48	32.85	0.14	182.49	0.48	943.8	24.5	1.86E-03	2.1E-04	5.56	0.03	45.07	6.20	8.20	1.18	1.18
1550°																	
1550°																	
total gas	1449.79	11.32	756.67	2.56	3630.78	8.83	1838.4	9.4	1.74E-03	5.2E-05	4.80	0.02	48.53	1.54	4.54	0.15	0.15
AMPH TAL																	
1550°	1059.02	17.28	1338.17	5.03	12883.89	28.55	2459.7	13.6	2.45E-03	4.6E-05	9.63	0.04	27.48	1.38	1.92	0.10	0.10
1550°																	
1550°																	
1550°																	
total gas	1059.02	17.28	1338.17	5.03	12883.89	28.55	2459.7	13.6	2.45E-03	4.6E-05	9.63	0.04	27.48	1.38	1.92	0.10	0.10