

Age determinations from other publications—list 4,

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Isochron/West was published at irregular intervals from 1971 to 1996. The journal was patterned after the journal *Radiocarbon* and covered isotopic age-dating (except carbon-14) on rocks and minerals from the Western Hemisphere. Initially, the geographic scope of papers was restricted to the western half of the United States, but was later expanded. The journal was sponsored and staffed by the New Mexico Bureau of Mines (now *Geology*) & Mineral Resources and the Nevada Bureau of Mines & Geology.



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AGE DETERMINATIONS FROM OTHER PUBLICATIONS—LIST 4

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This is the fourth list summarizing age determinations that have appeared in recent months in other publications. The dates are grouped alphabetically by country; for Canada, and the United States, by state or province. Under each geographical subdivision the ages are listed from youngest to oldest. The numbers in the citation columns correspond with the numbered references at the end of the article. Because of the abbreviated and generalized nature of the data presented here, the user should refer to the original article for additional details.

This fourth list completes coverage of the following journals issued during 1979: American Association of

Petroleum Geologists Bulletin (vol. 63); American Journal of Science (vol. 279); Canadian Journal of Earth Science (vol. 16); Earth and Planetary Science Letters (vol. 42-46, no. 1); Economic Geology (vol. 74); Geochimica et Cosmochimica Acta (vol. 43); Geological Society of America Abstracts with Programs (vol. 10, no. 4, vol. 11); Geological Society of America Bulletin (vol. 90); Geology (vol. 7); and Journal of Geology (vol. 86, nos. 3-6, vol. 87).

I would appreciate receiving any suggestions of additional journals which should be included. Also appreciated would be any corrections and/or suggested improvements.

AGE (MY)	METHOD	MINERAL	FORMATION/ROCK	LOCATION	REFERENCE
BOLIVIA					
6.2-6.4	K-Ar	biotite	dacite ignimbrite	Morococala	40
7.4-7.5	K-Ar	biotite	dacite ignimbrite	Los Frailes	40
11.7	K-Ar	biotite	Huakachi rhyolite	Potosi	39
12.2-13.8	K-Ar	—	Chocaya rocks	Chocaya	39
12.5-14.4	K-Ar	—	rhyodacite lava	Chocaya	40
13.2-14.1	K-Ar	whole rock	Cerro Rico stock	Potosi	40
13.3-13.8	K-Ar	whole rock	Cerro Rico stock	Potosi	39
15.4-16.0	K-Ar	biotite	rhyodacite lava	Tatasi	40
16.0-18.4	K-Ar	whole rock	rhyodacite lava	Chorolque	40
16.2-16.5	K-Ar	whole rock	quartz porphyry dike	Tasna	40
16.5	K-Ar	biotite	tuff under Chocaya complex	Chocaya	39
16.8-17.2	K-Ar	biotite	rhyodacite tuff	Atocha	40
20.0-24.8	K-Ar	—	porphyry	San Pablo-Morococala	40
20.5	K-Ar	—	Llallaqua intrusion	Llallaqua	39
20.6-21.6	K-Ar	—	Salvadora stock	Llallaqua	40
20.6-21.7	K-Ar	biotite	rhyodacite porphyry	Kari-Kari	40
21.7-22.6	K-Ar	—	quartz latite	Colquechaca	40
134-142	K-Ar	—	Velasco alkaline province	north of San Ignacio de Velasco	25
140, 143	Rb-Sr	whole rock	Velasco alkaline province	north of San Ignacio de Velasco	25
1323, 1336	K-Ar	hornblende	gneiss	north of San Ignacio de Velasco	25
BRAZIL					
479	Rb-Sr	mineral	charnockitic fm	coast of São Paulo State	37
546-558	Rb-Sr	whole rock	charnockitic fm	coast of São Paulo State	37
CANADA					
British Columbia					
7.3-46	FT	—	Quottoon pluton	near Prince Rupert	45
12.1-37.8	FT	—	Kasiks pluton	near Prince Rupert	45
31-83	Rb-Sr	—	pegmatite, qtz monzonite	56°22'30"N, 125°20'10"W	76
33, 70	Rb-Sr	—	schist	56°22'00"N, 125°20'10"W	76
36	Rb-Sr	—	Central Gneiss Complex	near Kwinitsa	4
36.2-59.7	FT	—	Ecstall pluton	near Prince Rupert	45
37.3-59.8	K-Ar	biotite	Nicola batholith	19 km NE of Merritt	81
39.5-49.6	K-Ar	—	Quottoon pluton	near Prince Rupert	45
40, 122	Rb-Sr	—	quartzite	56°29'51"N, 125°10'56"W	76
41.1-44.6	K-Ar	—	Kasiks pluton	near Prince Rupert	45
42-62	Rb-Sr	—	Blackpine Lake stock, qtz monzonite	56°21'05"N, 125°21'30"W	76
43.7	K-Ar	biotite	schist	56°22'00"N, 125°20'10"W	76
44.7	K-Ar	hornblende	dike	56°32'N, 125°19'W	76
48	Rb-Sr	biotite	Quottoon pluton	near Prince Rupert	45
51	Rb-Sr	whole rock	Quottoon pluton	near Prince Rupert	4
52	K-Ar	biotite	porphyritic monzonite	Dunhamel Creek on Warm of Kootenay Lake	29
60	U-Pb	zircon	Quottoon pluton	near Prince Rupert	4
60	Rb-Sr	biotite	Ecstall pluton	near Prince Rupert	45
60.2-70.6	K-Ar	hornblende	Nicola batholith	19 km NE of Merritt	81

CANADA
British Columbia (continued)

62	Rb-Sr	—	Blackpine Lake stock, qtz monzonite	56°21'00"N, 125°21'10"W	76
63.2	K-Ar	biotite	quartzite	56°29'51"N, 125°10'56"W	76
65, 116	Rb-Sr	—	layered quartzite and schist	56°32'40"N, 125°07'40"W	76
65, 154	Rb-Sr	—	schist	56°34'52"N, 125°15'10"W	76
66-97	U-Pb	—	Quottoon pluton, gneiss	near Kwinitza	4
68.9	K-Ar	biotite	Rey Lake qtz monzonite stock	19 km NNE of Merritt	81
70.4-74.0	K-Ar	—	Ecstall pluton	near Prince Rupert	45
76, 166	Rb-Sr	—	schist	56°32'N, 125°18'W	76
78	Rb-Sr	feldspar	Ecstall pluton, pegmatite	near Prince Rupert	4
79	Rb-Sr	feldspar	Ecstall pluton, pegmatite	near Prince Rupert	4
83.6, 104	K-Ar	—	layered quartzite and schist	56-32'40"N, 125°07'40"W	76
91.1, 94.5	K-Ar	—	schist	56°32'N, 125°18'W	76
93.3, 116	K-Ar	—	schist	56°34'52"N, 125°15'10"W	76
99.2-101	K-Ar	—	Summers Creek stock, qtz monzonite	along Summers Creek	81
104	Rb-Sr	whole rock	porphyritic monzonite	Dunhamel Creek on Warm of Kootenay Lake	29
112	Rb-Sr	whole rock	Kingsvale volcanic sequence	20 km N of Princeton	81
115-171	Rb-Sr	—	Central Gneiss Complex	Hawkesbury Island	4
137	Rb-Sr	plagioclase	porphyritic monzonite	Dunhamel Creek on Warm of Kootenay Lake	29
139	K-Ar	hornblende	porphyritic monzonite	Dunhamel Creek on Warm of Kootenay Lake	29
141	K-Ar	biotite	Mount Martley batholith	W of Nicola Belt	81
150	Rb-Sr	whole rock	granodiorite	Nelson batholith	29
+150	Rb-Sr	whole rock	Mt Carlyle pluton	N of Nelson batholith	29
165	Rb-Sr	whole rock	Kitkiata pluton	near Prince Rupert	4
181-203	K-Ar	hornblende	Thuya batholith, granodiorite	80 km N of Kamloops	81
190	Rb-Sr	—	Ecstall pluton, pegmatite	near Prince Rupert	4
194-209	K-Ar	biotite	Iron Mask batholith	W of Kutsford	81
200, 203	K-Ar	hornblende	Wildhorse batholith	13 km SE of Kamloops	81
205	Rb-Sr	whole rock	Guichon Creek batholith	40 km NW of Merritt	81
204, 207	K-Ar	—	Allison batholith	40 km S of Merritt	81
215, 234	K-Ar	hornblende	Coldwater stock	19 km S of Merritt	81
267	K-Ar	biotite	Coldwater stock	19 km S of Merritt	81
524	Rb-Sr	whole rock	schist	near Prince Rupert	4
New Brunswick					
409	Rb-Sr	whole rock	Costigan Mtn Fm volcanics	Gulquac Lake area	36
409	Rb-Sr	whole rock	Redstone Mtn granite	Gulquac Lake area	36
Newfoundland					
332	Rb-Sr	whole rock	Newport granite	Bonavista Bay	10
443	Rb-Sr	—	Loon Pond pluton	Loon Pond	16
445	Rb-Sr	—	Spencer's Dock pluton	Spencer's Dock	16
447	Rb-Sr	—	felsite, Roberts Arm Group	Roberts Arm	16
464	Rb-Sr	—	Sunday Cove granite pluton	Sunday Cove	16
594	Pb-Pb	zircon	Mansfield Cove oceanic plagiogranite complex	Mansfield Cove	16
2515-2573	U-Pb	zircon	Nulliak gneiss	northern Labrador coast	7
2530	U-Pb	sphene	gneiss and granite	northern Labrador coast	7
~2530	U-Pb	zircon	Qorqut granite	northern Labrador coast	7
2600-2800	U-Pb	zircon	intrusive	northern Labrador coast	7
2698-3006	U-Pb	—	Uivak augen gneiss	Saglek area, Labrador	100
~2800	U-Pb	whole rock	Uivak gneiss	northern Labrador coast	7
~3600	U-Pb	zircon	Uivak gneiss I and II	northern Labrador coast	7
Northwest Territories					
345	K-Ar	biotite	qtz monzonite stock	Axel Heiberg Island	97
360	K-Ar	biotite	qtz diorite pluton	Axel Heiberg Island	97
376	K-Ar	biotite	gabbro-vorite pluton	Cape Fanshawe Martin, N Ellesmere Island	97
390	K-Ar	hornblende	syenite-qtz monzonite complex	Cape Richards, N Ellesmere Island	97
390	K-Ar	hornblende	granitic rock	M'Clintock Inlet	97
2057	K-Ar	riebeckite	granite	Blachford Lake complex	9
Nova Scotia					
125-196	K-Ar	—	North Mtn Basalt	southern shore, Bay of Fundy	46
Ontario					
873-1130	K-Ar	—	Umfraville Gabbro	20 km S of Bancroft	74
911	Ar-Ar	whole rock	Umfraville Gabbro	20 km S of Bancroft	74
1160	U-Pb	zircon	syenite	20 km S of Bancroft	74
1897-2572	Ar-Ar	—	Shelley Lake granite	Quetico area, NW Ontario	11
2150	Ar-Ar	—	diabase dike, Abitibi swarm	SW of Lake Abitibi	41

CANADA					
Ontario (continued)					
2534	Rb-Sr	whole rock	Stephen Lake stock	Kakagi Lake area	104
2616	Rb-Sr	whole rock	Rainy Lake batholithic complex	Wabigoon belt	13
Saskatchewan					
494-1281	Pb-U	—	pitchblende	Rabbit Lake uranium deposit	24
Yukon					
51	K-Ar	whole rock	tuffs, flows, and breccias	Whitehorse map area	64
51.2, 55.0	K-Ar	biotite	qtz monzonite	Whitehorse map area	64
52	K-Ar	whole rock	rhyolite stocks, plugs, and dikes	Whitehorse map area	64
59-113	K-Ar	—	granodiorite-qtz monzonite	Whitehorse map area	64
64.3, 75.3	K-Ar	—	qtz monzonite	Whitehorse map area	64
75, 92	Rb-Sr	whole rock	qtz monzonite	Whitehorse map area	64
92, 116	Rb-Sr	whole rock	granodiorite-qtz diorite	Whitehorse map area	64
92.1-116	K-Ar	—	granodiorite-qtz diorite	Whitehorse map area	64
97.3, 98.6	K-Ar	—	qtz monzonite	Whitehorse map area	64
108	K-Ar	plogopite	skarn	Whitehorse map area	64
144	K-Ar	hornblende	altered qtz diorite-granodiorite	Whitehorse map area	64
177	K-Ar	biotite	mineralized gneiss	Minto copper deposit	78
180	K-Ar	biotite	Klotassin granodiorite	Minto copper deposit	78
CHILE					
4.4-16	K-Ar	whole rock	upper olivine basalt	Meseta Buenos Aires	19
57	K-Ar	whole rock	lower olivine basalt	Meseta Buenos Aires	19
MEXICO					
33	Pb-Pb	—	mineralization	northern Mexico	23
1438	Pb-Pb	—	basement rocks	northern Mexico	23
PERU					
9.1	K-Ar	biotite	transition zone	Antamina district	60
9.6	K-Ar	K-feldspar	alteration	Antamina district	60
10.1	K-Ar	biotite	alteration	Antamina district	60
10.2	K-Ar	K-feldspar	alteration	Antamina district	60
10.4	K-Ar	K-feldspar	alteration	Antamina district	60
18.7-23.3	K-Ar	—	Nazca Tuff	E of Nazca	71
31.1	K-Ar	plagioclase	Casapalca Fm	12°24.0', 75°18.4'	73
31.2	K-Ar	biotite	rhyolitic tuff	13°19.7', 74°59.3'	73
34.9	K-Ar	sanidine	ash-flow tuff	12°29.2', 75°37.8'	73
35.2	K-Ar	plagioclase, qtz	volcanic strata	12°26.2', 75°40.5'	73
36.7	K-Ar	sanidine	rhyolitic tuff	12°01.2', 75°29.7'	73
38.0	K-Ar	plagioclase	volcanic strata	12°46.9', 75°31.3'	73
39.2	K-Ar	plagioclase	volcanic strata	12°36.2', 74°57.0'	73
39.8	K-Ar	plagioclase, qtz	volcanic strata	11°33.5', 76°18.0'	73
39.8	K-Ar	biotite	Altiplano volcanic sandstone	12°00.7', 75°28.6'	73
40.2	K-Ar	plagioclase, qtz	unaltered ash-flow sheet	12°08.1', 76°34.6'	73
40.2	K-Ar	plagioclase, qtz	tuff	Santo Domingo de los Olleros	72
40.9	K-Ar	biotite	volcanic breccia	13°05.4', 75°03.2'	73
41.2	K-Ar	biotite	volcanic breccia	13°05.2', 75°03.3'	73
41.3	K-Ar	biotite	tuff	Santo Domingo de los Olleros	72
41.3	K-Ar	biotite	unaltered ash-flow sheet	12°08.1', 76°34.6'	73
41.4	K-Ar	plagioclase	dacite	13°24.9', 74°54.8'	73
UNITED STATES					
Alabama					
282-407	K-Ar	—	Conasauga shale	Alabama, NW Georgia, or Tennessee	88
363-599	K-Ar	—	Conasauga shale	Alabama, NW Georgia, or Tennessee	88
382-1097	K-Ar	—	Conasauga shale	Alabama, NW Georgia, or Tennessee	88
444, 458	Pb-Pb	zircon	Hillabee Chlorite Schist	Clay County	85
Alaska					
6-10	K-Ar	—	Devil's batholith	south of Chignik	103
9.4	K-Ar	—	mafic intrusion	Chiginagak Bay	103
19-31	—	—	granite plutons	Coast Mtns, near Kitchikan	91
21.2	K-Ar	—	altered quartz diorite	Mallard Duck Bay copper prospect	103
22.3-27.1	K-Ar	—	volcanic rocks	Mallard Duck Bay copper prospect	103

UNITED STATES
Alaska (continued)

22.8	K-Ar	biotite	pluton	near mouth of Burroughs Bay, N side	48
22.9, 26.8	K-Ar	—	granite	west shore Portland Canal, 1 km S of Tombstone Bay	48
23.8	K-Ar	biotite	gabbro	3.7 km E of south shore Upper Checats Lake	48
26.9	K-Ar	biotite	Quartz Hill stock	1 km SW of Quartz Hill	48
29.6, 30.4	K-Ar	biotite	granite, Divide stock	head of Tunnel Creek	48
30.2-34.7	K-Ar	—	Meshik Fm	Chignik and Sutwik Island area	103
33.5-39.1	K-Ar	—	andesite plugs	Capes Kumlik and Kunmik	103
42-52	—	—	granite and granodiorite	eastern Portland Peninsula	91
51	Rb-Sr	whole rock	granitic rock	Sanak and Shumagin Islands	63
56-66	K-Ar	—	schist	Willow Creek area	90
56-66	K-Ar	—	qtz vein	Willow Creek area	90
58	K-Ar	—	propylitized tonalite	Willow Creek area	90
59	K-Ar	biotite	granitic rock	Sanak and Shumagin Islands	63
59.3	K-Ar	—	granodiorite pluton	Semidi Islands	103
65-67	K-Ar	—	biotite granite	Willow Creek area	90
66-67	K-Ar	—	dikes	Willow Creek area	90
69-78	K-Ar	—	tonalite	Willow Creek area	90
89-91	K-Ar	—	ultramafic	Willow Creek area	90
90	—	—	granodiorite	northern Revillagigedo Island	91
90.0-758	K-Ar	—	metasediments	southwestern Brooks Range	98
140	—	—	tonalite and granodiorite	Revillagigedo Island	91
205	—	—	Texas Creek Granodiorite	Coast Mtns, near Ketchikan	91
325	Rb-Sr	whole rock	plutons	Mt Igikpak, Arrigetch Peak, Survey Pass quad	70
360	U-Pb	zircon	plutons	Mt Igikpak, Arrigetch Peak, Survey Pass quad	70
360	U-Pb	zircon	Arrigetch and Wild River plutons	Arctic Camp and Wiseman quad	28
360-970	U-Pb	zircon	Ernie Lake and Sixtymile plutons	south-central Brooks Range	28
Arizona					
5.5	FT	—	Big Sandy Fm	south of Wikieup, approx. 9 km	57
19.4	K-Ar	phlogopite	minette	Outlet Neck, Navajo Field	83
24.3-33.9	K-Ar	phlogopite	minette	Buell Park, Navajo Field	83
25.8	K-Ar	phlogopite	minette	Black Rock, Navajo Field	83
25.9	K-Ar	phlogopite	minette	Fluted Rock, Navajo Field	83
California					
0.006-0.172	U-Th	—	pedogenic carbonates	Vidal Valley	54
0.078	U-Th	—	first marine terrace	San Pedro	47
0.080	U-Th	—	first marine terrace	Dume, Santa Monica coast	47
0.610-0.620	U-trend	—	Pearlette type-O ash tuff	Lake Tecopa area	84
0.700	U-trend	—	Bishop ash tuff	Lake Tecopa area	84
>0.900	U-trend	—	tuff	Lake Tecopa area	84
2.52	K-Ar	—	rhyodacite flows	NW flank of the Coso Range, east of Haiwee Reservoir	8
2.99	K-Ar	—	rhyodacite pumice-fall	SE of ridge of Coso Range	8
3.14	K-Ar	—	rhyolite pumice-flow	between N end of ridge and Haiwee Reservoir	8
3.56	K-Ar	—	basalt flow	near Centennial Flats	8
5-10	K-Ar	—	basalt	Modoc County	59
5.3-6.0	K-Ar	—	5 basalts	between Coso Range and Inyo Mtns	8
5.7	K-Ar	—	rhyolite plug	Sugarloaf	8
5.9	K-Ar	—	rhyolite dome	between Coso Range and Inyo Mtns	8
6.0	K-Ar	—	rhyolite plug	3 km NE of Sugarloaf	8
6.7, 7.4	K-Ar	whole rock	basalt	Elsinore fault zone	65
6.8	K-Ar	whole rock	basalt	Mesa de Burro	65
10.1	K-Ar	—	Dike 4	Wildwood Park, Santa Monica Mtns	50
10.4, 10.8	K-Ar	whole rock	basalt	Hogback Ridge	65
13.1-56.4	K-Ar	—	capping volcanic, Sequence Cb	Mojave and Colorado Deserts	22
15.4-24.3	K-Ar	—	volcanic rocks	Transverse Ranges	22
22.0-26.0	K-Ar	—	plutonic rocks	Chocolate Mtns	22
22.1-35.0	K-Ar	—	silicic volcanic, Sequence B	Mojave and Colorado Deserts	22
25.1-30.0	K-Ar	—	capping volcanic, Sequence Ca	Mojave and Colorado Deserts	22
25.5-34.7	K-Ar	plagioclase	basal volcanic, Sequence A	Mojave and Colorado Deserts	22
62.8, 66.3	K-Ar	biotite	quartzo-feldspathic schist	Sierra de Salinas	82

UNITED STATES

California (continued)

67.4	Ar-Ar	biotite	quartz monzonite	Pine Canyon	82
73.16	Ar-Ar	biotite	quartz monzonite	34 °36.48'N, 117 °18.55'W, Victorville quad	61
76.59	Ar-Ar	biotite	monzonite	34 °37.37'N, 117 °07.65'W, Apple Valley quad	61
103	U-Pb	zircon	postdike pluton	Alabama Hills and Argus Range	21
128.8	Ar-Ar	hornblende	Sidewinder Mtn stock	34 °38.42'N, 117 °05.02'W, Stoddard Well quad	61
144, 145	U-Pb	zircon	pluton	Sage Hen Flat	38
148	U-Pb	zircon	silicic dikes	Alabama Hills and Argus Range	21
149-198	U-Pb	zircon	predike plutons	Alabama Hills and Argus Range	21
152	Rb-Sr	whole rock	argillite	NW Sierran foothills	58
159, 160	U-Pb	zircon	pluton	Joshua Flat	38
159-175	Pb-Pb	zircon	ophiolite dike	Smartville	86
161, 180	U-Pb	zircon	pluton	Beer Creek	38
165, 166	U-Pb	zircon	pluton	Mt Barcroft	38
179, 180	U-Pb	zircon	pluton	Eureka Valley	38
186-783	U-Pb	zircon	ophiolite dike	Smartville	86
197.9	Ar-Ar	hornblende	monzonite	34 °37.37'N, 117 °07.65'W, Apple Valley quad	61
216-255	U-Pb	zircon	peridotite body	Feather River	86
233	Ar-Ar	hornblende	monzonite	34 °37.37'N, 117 °07.65'W, Apple Valley quad	61
275-290	Pb-Pb	zircon	peridotite body	Feather River	86
1650	U-Pb	zircon	Harkless Fm	White Mtns	38
Colorado					
3-4	K-Ar/FT	—	alaskite porphyry dikes	Rico	69
4-5	K-Ar/FT	—	Calico Peak stock	Rico	69
5.5	K-Ar	sericite	vein	Argentine tunnel	69
< 6	FT	—	hornblende-latitude porphyry sills	Rico	69
511	Sr-Sr	—	syenite	Democrat Creek	2
530	Sr-Sr	—	syenite	McClure Mtn	2
Connecticut					
180.8, 194.2	Ar-Ar	—	Cross Rocks dike	Hartford Basin area	96
181.4	Ar-Ar	—	Fairhaven dike	Hartford Basin area	96
181.6	Ar-Ar	—	Buttress dike	Hartford Basin area	96
191.1	Ar-Ar	—	Mt Carmel sill	Hartford Basin area	96
Delaware					
282-302	K-Ar	K-feldspar	Arden pluton, granite	Wilmington Complex	32
340	K-Ar	quartz	Arden pluton, granite	Wilmington Complex	32
342-380	Rb-Sr	biotite	Arden pluton, granite	Wilmington Complex	32
363-592	K-Ar	biotite	Arden pluton, granite	Wilmington Complex	32
368	Rb-Sr	biotite	gneiss	Wilmington Complex	32
423	K-Ar	biotite	gneiss	Wilmington Complex	32
426-539	K-Ar	hypersthene	Arden pluton, granite	Wilmington Complex	32
Georgia					
281	Rb-Sr	—	Siloam pluton	eastern and central Piedmont	34
282-407	K-Ar	—	Conasauga shale	NW Georgia, Alabama, or Ten- nessee	88
363-599	K-Ar	—	Conasauga shale	NW Georgia, Alabama, or Ten- nessee	88
382-1097	K-Ar	—	Conasauga shale	NW Georgia, Alabama, or Ten- nessee	88
Idaho					
41.3	K-Ar	muscovite	molybdenum mineralized granite	Ima Mine, Lemhi County	3
44	—	—	small granitic plutons	NE Idaho batholith	20
66	—	—	granite-granodiorite magma	NE Idaho batholith	20
68, 72	U-Pb	zircon	batholith	Idaho batholith	27
78	—	—	quartz-diorite intrusion	NE Idaho batholith	20
88.4	K-Ar	biotite	granodiorite stock	Thompson Creek deposit	87
1755-2075	U-Pb	zircon	batholith	NE Idaho batholith	20
Iowa					
0.002- 0.025	U-Th	—	speleothems	Coldwater Cave	43

UNITED STATES (continued)

Kentucky

0.106– 0.217	U-Th	—	speleothems	Flint Ridge-Mammoth Cave System	43
0.121	U-Th	—	stalagmite 72041	Flint Ridge-Mammoth Cave System	42
0.159	U-Th	—	stalagmite 72041	Flint Ridge-Mammoth Cave System	42
0.202	U-Th	—	stalagmite 72041	Flint Ridge-Mammoth Cave System	42
894	K-Ar	biotite	marble	Monitor Petroleum 1 Blanton, Morgan County, 1,300 ft	1
913	K-Ar	biotite	marble	Monitor Petroleum 1 Blanton, Morgan County, surface	1

Maryland

171.2, 183.7	Ar-Ar	—	Gettysburg sill	Gettysburg Basin area	96
175.2, 177.0	K-Ar	whole rock	Frederick dike	Gettysburg Basin area	96
180.4, 194.2	Ar-Ar	—	Frederick dike	Gettysburg Basin area	96

Massachusetts

191	K-Ar	whole rock	Medford dike	Newark trend	96
325, 361	K-Ar	hornblende	Belchertown pluton	Chicopee River, south bank	5
380	U-Pb	zircon	Belchertown pluton	Three Rivers railroad cut	5

Minnesota

1234	Sr-Sr	—	Partridge River Troctolite	Partridge River	62
2000	Sm-Nd	—	anorthosite inclusion	north shore Lake Superior	6

Missouri

0.025– 0.236	U-Th	—	speleothems	Tumbling Creek Cave	43
360	Rb-Sr	glauconite	Davis Shale and Bonnetterre Fm	Magmont Mine, near Bixby	53

Montana

71–74	K-Ar	—	Tobacco Root Batholith	Tobacco Root Mtns	99
2565	Rb-Sr	—	quartzo-feldspathic dike, post-F ₃	eastern Beartooth Mtns	67
2638	Rb-Sr	—	quartzo-feldspathic dike, post-F ₂	eastern Beartooth Mtns	67
2640	Rb-Sr	whole rock	granitic rock	Yellowstone Nat'l Park	105
2670	Rb-Sr	zircon	granodiorite	Yellowstone Nat'l Park	105
2694	Rb-Sr	—	pink granite	eastern Beartooth Mtns	67
2701	Sm-Nd	—	gabbro	Stillwater complex	26
2740	Rb-Sr	muscovite	quartz monzonite stock	Yellowstone Nat'l Park	105
2745	Rb-Sr	whole rock	granitic intrusive event	eastern Beartooth Mtns	106

Nevada

3.3	K-Ar	—	basalt	S25,T17N,R23E	94
3.5	K-Ar	—	basalt	S25,T17N,R23E	94
10.6–11.9	FT	zircon	red sandstone–silver tuff	eastern Clark County	15
13.0	FT	zircon	tuff	Lovell Wash	15
13.2–17.4	FT	zircon	tuff, limestone of Bitter Ridge	Bitter Ridge	15
17	K-Ar	whole rock	basalt dike	northern Ruby Mtns	92
24	K-Ar	biotite	biotite schist	northern Ruby Mtns	92
72–1408	Pb-U-Th	—	biotite schist	northern Ruby Mtns	92
110	K-Ar	hornblende	quartz gabbro intrusive	northern Ruby Mtns	92
>1000	Pb-Pb	—	granitic orthogneiss	northern Ruby Mtns	92

New Mexico

20.7, 24.9	K-Ar	phlogopite	minette	The Beast, Navajo Field	83
85	Rb-Sr	—	Mancos Fm	Laguna district	18
92	Rb-Sr	—	Dakota Fm	Laguna district	18
110–115	Rb-Sr	—	reprecipitation	Laguna district	18
135–138	Rb-Sr	chlorite	mineralization	Ambrosia Lake, Smith Lake districts	18
140–145	Rb-Sr	montmorillonite	sedimentation	Ambrosia Lake, Smith Lake districts	18
1313	K-Ar	biotite	monzonite	Sandia Mtns	31
1334	K-Ar	biotite	orbicular rocks	Sandia Mtns	31
1335	K-Ar	biotite	orbicular rocks	Sandia Mtns	31

New York

387	Rb-Sr	—	granite dikes	Croton Falls area	17
555	Rb-Sr	whole rock	Manhattan Schist	Manhattan Prong	66

UNITED STATES (continued)

North Carolina

34.8	Rb-Sr	glauconite	Castle Hayne Limestone	near Wilmington	44
78.7	K-Ar	—	trachyte	Halifax County	95
282	Rb-Sr	—	Churchland pluton	eastern and central Piedmont	34
285	Rb-Sr	—	Wilton pluton	eastern and central Piedmont	34
292	Rb-Sr	—	Landis pluton	eastern and central Piedmont	34
313	Rb-Sr	—	Castalia pluton	eastern and central Piedmont	34
322-430	K-Ar	hornblende	country rock	4-11 km from Ore Knob	35
326	Rb-Sr	—	Lilesville pluton	eastern and central Piedmont	34
392-868	K-Ar	hornblende	ore zone	Ore Knob	35
483	K-Ar	whole rock	metasediments	Carolina slate belt	51

Oklahoma

1370	U-Pb	zircon	Spavinaw Granite	Mayes County	12
1374	U-Pb	zircon	Tishomingo Granite	E Arbuckle Mtns	12
1396	U-Pb	zircon	Blue River Gneiss	E Arbuckle Mtns	12
1399	U-Pb	zircon	Troy Granite	E Arbuckle Mtns	12

South Carolina

162-204	K-Ar	—	basalt	Clubhouse Crossroads #2	49
278	Rb-Sr	—	Coronaca pluton	eastern and central Piedmont	34
285	Rb-Sr	—	Columbia pluton	eastern and central Piedmont	34
292	Rb-Sr	—	Lexington pluton	eastern and central Piedmont	34
292	Rb-Sr	whole rock	Augen gneiss	Batesburg	52
293	Rb-Sr	—	Edgefield pluton	eastern and central Piedmont	34
293	Rb-Sr	—	Liberty Hill pluton	eastern and central Piedmont	34
296	Rb-Sr	—	Pageland pluton	eastern and central Piedmont	34
298	Rb-Sr	whole rock	Lexington pluton	Kiokee belt	52
313	Rb-Sr	—	Lake Murray pegmatites	Lake Murray spillway	52
313	Rb-Sr	—	Clouds Creek pluton	eastern and central Piedmont	34
322	Rb-Sr	—	York pluton	eastern and central Piedmont	34
323	Rb-Sr	—	Catawba pluton	eastern and central Piedmont	34
325	Rb-Sr	whole rock	Clouds Creek pluton	Carolina slate belt	52
356	Rb-Sr	whole rock	lineated gneiss	Batesburg	52
550	Rb-Sr	—	andesite tuff from Badin Greenstone	Carolina slate belt	14

South Dakota

1777	Rb-Sr	whole rock	Harney Peak Granite, stream quartz	Black Hills	80
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Tennessee

282-407	K-Ar	—	Conasauga shale	Tennessee, NW Georgia or Alabama	88
363-599	K-Ar	—	Conasauga shale	Tennessee, NW Georgia or Alabama	88
382-1097	K-Ar	—	Conasauga shale	Tennessee, NW Georgia or Alabama	88
400	Ar-Ar	—	—	Ducktown	35
635	K-Ar	hornblende	ore zone	Ducktown	35

Texas

32.1	K-Ar	biotite	quartz monzonite	Cave Peak breccia pipe complex	89
33.8	K-Ar	amphibole	intrusion	W of Paisano Peak	75
35.3	K-Ar	feldspar	Decie Fm	Paisano Pass area	75
35.6	K-Ar	feldspar	Barrel Springs Fm	Barrilla and NE Davis Mtns	75
36.1	K-Ar	biotite	quartz monzonite porphyry	Cave Peak breccia pipe complex	89
36.2	K-Ar	feldspar	Sleeping Lion Fm	Fort Davis area	75
36.6	K-Ar	feldspar	Gomes Tuff	Barrilla and NE Davis Mtns	75
36.8	K-Ar	feldspar	Goat Canyon Fm	Fort Davis area	75
36.9	K-Ar	feldspar	intrusion	W of Paisano Peak	75
37.1	K-Ar	feldspar	Adobe Canyon Fm	NE Davis Mtns	75
37.2	K-Ar	feldspar	Star Mtn Rhyolite	Limpia Valley	75
38.4	K-Ar	plagioclase	Huelster Fm	mouth of Madera Canyon	75
39.5	K-Ar	whole rock	rhyodacite plug	Cave Peak breccia pipe complex	89

Utah

3.4-4.8	U-Pb	—	fracture-filling opal	Spor Mtn	56
8-21	U-Pb	—	opal, Spor Mtn Fm	Spor Mtn	56

Virginia

46.1	Rb-Sr	glauconite	Nanjemoy Fm	near Hopewell	44
300-340	U-Pb/ Rb-Sr	—	Falmouth Intrusive Suite	near Fredericksburg	77
385-415	U-Pb/ Rb-Sr	—	Falls Run Granite Gneiss	near Fredericksburg	77

UNITED STATES (continued)

Virgin Islands

66.0	K-Ar	hornblende	East End Member, Caledonia Fm	Pull Point	93
66.1	K-Ar	hornblende	East End Member, Caledonia Fm	Green Cay	93
70.1	K-Ar	hornblende	East End Member, Caledonia Fm	Grapetree Point	93
71.8	K-Ar	hornblende	East End Member, Caledonia Fm	East Point	93
75.2	K-Ar	hornblende	East End Member, Caledonia Fm	Robin Bay	93

Washington

0.68	FT	glass	volcanic ash	Auburn	30
41.3	FT	—	Tukwila Fm, volcanic	western foothills	33
43	K-Ar	—	Naches Fm, volcanic	central Cascades	33
45.9	K-Ar	—	Tukwila Fm, volcanic	western foothills	33
47	K-Ar	—	Teanaway Basalt	central Cascades	33
47	K-Ar	—	basalt	Frost Mtn	33
49.8	FT	zircon	Chuckanut Fm, volcanic cobble	western foothills	33
50	FT	zircon	Silver Pass Volcanics of Foster	central Cascades	33
51.0	U-Pb	—	quartz/uraninite	Midnite Mine	101
51.8	FT	—	tuffs, Taneum Andesite of Smith	central Cascades	33
52-55	FT	—	quartz/uraninite	Midnite Mine	101
145	K-Ar	hornblende	Shuksan blueschist	north Cascades	102
160	K-Ar	muscovite	Shuksan blueschist	north Cascades	102

Washington, D.C.

469	Rb-Sr	muscovite	pegmatite	near Great Falls on the Potomac River	68
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West Virginia

0.060- 0.159	U-Th	—	speleothems	Grapevine Cave	43
0.169- 0.200	U-Th	—	speleothems	Norman-Bone Cave	43

Wisconsin

1545, 1655	Rb-Sr	mineral	granitic pluton	northern Wisconsin	79
1598, 1615	K-Ar	biotite	granitic pluton	northern Wisconsin	79
1885	Rb-Sr	—	granitic pluton	northern Wisconsin	79

Wyoming

12.2, 17.8	U-Pb	whole rock	arkose	Union Carbide Mine, Gas Hills district	55
16.8-33.3	U-Pb	whole rock	arkose	Lucky McMine, Gas Hills district	55
17.3, 21.3	U-Pb	whole rock	arkose	Golden Goose Mine, Crooks Gap district	55
17.5, 40.8	U-Pb	whole rock	ore	Union Carbide Mine, Gas Hills district	55
18.7, 22.1	U-Pb	whole rock	arkose	West Gas Hills	55
19.3-28.4	U-Pb	whole rock	ore	Lucky McMine, Gas Hills district	55
25.4, 26.3	U-Pb	whole rock	ore	Lucky McMine, Gas Hills district	55
27.6-32.1	U-Pb	whole rock	arkose	Seismic Mine, Crooks Gap district	55
27.8, 30.1	U-Pb	whole rock	breccia	Lucky McMine, Gas Hills district	55
32.7, 35.4	U-Pb	whole rock	ore	Golden Goose Mine, Crooks Gap district	55
2640	Rb-Sr	whole rock	granitic rock	Yellowstone Nat'l Park	105
2670	Rb-Sr	zircon	granodiorite	Yellowstone Nat'l Park	105
2740	Rb-Sr	muscovite	quartz monzonite stock	Yellowstone Nat'l Park	105
2745	Rb-Sr	whole rock	granitic intrusive event	eastern Beartooth Mtns	106

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