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The following K-Ar dates were run in 1964 and 1965 by Geochron Laboratories, Inc. and in part reported by Wingard and Brookins (1964). More detailed descriptions are published at this time so that interested geologists can make use of the data. Chapman and Wingard (1958) and Wingard (1961) recognize four distinct sets of dikes emplaced from the Siluro-Devonian to the Triassic (?). These are referred to as Set I (oldest) to Set IV (youngest).

Constants used in the age calculations are: $\lambda_e = 0.585 \times 10^{-10}$/yr, $\lambda_\mu = 4.72 \times 10^{-10}$/yr, $K^{40}/K_{total} = 1.22 \times 10^{-4}$ gm/gm.

SAMPLE DESCRIPTIONS

1. C-122 K-Ar (whole rock) 348±20 m.y.
Dike, set I (44°15.94'N, 68°31.20'W; ME). Dark green, hypidiomorphic granular, hornblende schist (foliated diabase with segregation layers of quartz .15 mm thick and hornblende 0.4 mm thick; 51% quartz, 40% hornblende). Analytical data: K = 0.294%; $*Ar^{40}$ = 0.0080 ppm; $*Ar^{40}/\Sigma Ar^{40}$ = 19.1%.

2. 133 K-Ar (whole rock) 164±6 m.y.
Dike, set IV (44° 14.23'N, 68° 33.45'W; ME). Dark brown, fine grained, automorphic-granular, biotite monchiquite containing 65% titanaugite, 15% biotite, 10% olivine, and 9% titanmagnetite. Analytical data: K = 2.32%; $*Ar^{40}/\Sigma Ar^{40}$ = 74.7%.

3. C-95 K-Ar (whole rock) 470±50 m.y.
Dike, set I (44°22.57'N, 68°33.59'W; ME). Purplish-black, fine grained, lepidoblastic, foliated amphibolite containing 58% hornblende, 38% plagioclase, and 4% magnetite and others. Analytical data: K = 0.216%; $*Ar^{40}$ = 0.0082 ppm; $*Ar^{40}/\Sigma Ar^{40}$ = 10.1%. Comment: This date is too old (Wingard, 1961) although the lower limit set by the analytical uncertainty (e.g. 420 m.y.) may be close. This high age may be due to excess $*Ar^{40}$ or poor analytical control (note large air correction).

4. C-120 K-Ar (whole rock) 176±8 m.y.
Dike, set IV (44°19.83'N, 68°44.88'W; ME). Purplish, fine grained, holocrystalline, porphyritic camptonite containing 20% titanaugite, 40% andesine, 10% serpentinized olivine, 25% barkevikite, 5% biotite, and magnetite and accessories. Analytical data: K = 1.38%; $*Ar^{40}$ = 0.0183 ppm; $*Ar^{40}/\Sigma Ar^{40}$ = 36%.

5. C-559 K-Ar (whole rock) 348±15 m.y.
Penobscot diorite (44°26.26'N, 68°44.40'W; ME). Gray, fine-grained, hypautiomorphic granular, quartz-bearing diorite containing 8% biotite, 20% hornblende, 58% plagioclase (oligoclase), 4% quartz, and 10% others. Analytical data: K = 1.185%; $*Ar^{40}$ = 0.0324 ppm; $*Ar^{40}/\Sigma Ar^{40}$ = 15.2%. Comment: This rock intrudes the South Penobscot granite (see sample 11).

6. C-337 K-Ar (whole rock) 279±15 m.y.
Penobscot diorite (44°27.79'N, 68°44.82'W; ME). Gray, medium grained, hypautiomorphic granular, hornblende diorite containing 40% hornblende, 46% oligoclase-andesine, 6% biotite, 5% quartz, 2% apatite, magnetite, and others. Analytical data: K = 1.13%; $*Ar^{40}$ = 0.0243 ppm; $*Ar^{40}/\Sigma Ar^{40}$ = 28.5%. Comment: Date probably too low (compare with sample 5) for reasons unknown.

7. C-125-b K-Ar (biotite) 343±12 m.y.
Oak Point granite (44°15.90'N, 68°31.20'W; ME). Pink, hypidiomorphic-granular, biotite granite displaying repakivi type phenocrysts. Analytical data: K = 6.55%; $*Ar^{40}$ = 0.176 ppn., $*Ar^{40}/\Sigma Ar^{40}$ = 88.3%. Comment: Granite studied by Stewart (1956, 1959); previous ages reported by Faul and others (1963) and Brookins and Spooner (1970).

8. C-125-f K-Ar (K-feldspar) 264±15 m.y.
Oak Point granite (44°15.90'N, 68°31.20'W; ME). Analytical data: (K-feldspar concentrate consists of anhedral mocrocline and perthite; slight alteration to kaolin noted). K = 9.45%; $*Ar^{40}$ = 0.192 ppm; $*Ar^{40}/\Sigma Ar^{40}$ = 81%. Comment: Date probably too low due to diffusion of $*Ar^{40}$.

9. 711 K-Ar (biotite) 413±15 m.y.
Sedgwick granite (44°19.77'N, 68°44.07'W; ME). Gray, hypidiomorphic granular, medium grained, biotite granite containing 3% biotite. Analytical data: (concentrate 97% biotite) K = 6.58%; $*Ar^{40}$ = 0.217 ppm; $*Ar^{40}/\Sigma Ar^{40}$ = 92.2%.

10. 287 K-Ar (biotite) 369±10 m.y.
Ellsworth schist (44°25.48'N, 68°44.76'W; ME). Lavender, fine-grained, quartz-cordierite-biotite schist with quartz layers 1-2 mm thick interlayered with biotite layers 0.14 to 3-4 mm thick. Biotite constitutes 23% of rock. Analytical data: (concentrate 90% biotite) K = 5.57%; $*Ar^{40}$ = 0.162 ppm; $*Ar^{40}/\Sigma Ar^{40}$ = 91.8%. Comment: Sample collected from near, and presumably contact metamorphosed by, South Penobscot granite (see sample 11).

11. 552 K-Ar (biotite) 360±15 m.y.
South Penobscot granite (44°26.90'N, 68°44.16'W; ME). Gray, medium grained, hypautiomorphic-granular, biotite granite containing 5% biotite. Minor alteration to chlorite. Analytical data: (concentrate 98% biotite) K = 6.10%; $*Ar^{40}$ = 0.172 ppm; $*Ar^{40}/Ar^{40}$ = 46%. Comment: Both this sample and sample no. 10 (Ellsworth schist) may be effected by intrusion of diorite of South Penobscot (see Wingard, 1961).

12. 602 K-Ar (whole rock) 395±25 m.y.
Castine volcanics (44°23.20'N, 68°49.27'W; ME). Gray, dense, quartz leucorhyolite porphyry. This rock has a micro-cryptocrystalline matrix with well developed bipyramidal quartz crystals. Microcrystalline sericite is evident throughout the rock and shows fluidal banding around quartz grains. Feldspar is cryptocrystalline. Some calcite and epidote (less than 0.5%) noted. Analytical data: K = 1.85%; $*Ar^{40}$ = 0.0579 ppm; $*Ar^{40}/\Sigma Ar^{40}$ = 83.2%. Comment: This date is in surprisingly good agreement with the whole rock date of 390±5 m.y. reported by Brookins and others (1973).

13. C-254 K-Ar (whole rock) 207±6 m.y.
Castine volcanic (44°18.44'N, 68°47.81'W; ME). Black, dense, porphyritic, quartz keratophyre. This rock has a porphyritic texture of albitized orthoclase set in a matrix of quartz and kaolinized feldspar with intersertal chlorite, quartz and feldspar. Small cavities are filled with calcite. Analytical data: K = 6.99%; $*Ar^{40}$ = 0.1088; $*Ar^{40}/\Sigma Ar^{40}$ = 272.2%. Comment: The sample has acted as an open system (e.g. presence of secondary calcite, etc.) and the date is too low.

14. 290 K-Ar (whole rock) 260±12 m.y.
Felsite dike (44°24.63'N, 68°44.70'W; ME). Dike cuts Ellsworth schist. Gray, fine grained felsite containing microcline-perthite, quartz, plagioclase, and mafics; some secondary calcite. Analytical data: K = 3.80%; $*Ar^{40}$ = 0.0756 ppm; $*Ar^{40}/\Sigma Ar^{40}$ = 77%. Comment: This dike is similar to many of the Castine volcanics lithologies but has not been definitely catagorized as Castine; the date is probably too low (e.g. secondary calcite).

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