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U-PB AGES FOR U(VI) HYDROSILICATES, GRANTS, NEW MEXICO

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As part of a study of the stability of naturally occurring U(VI) minerals, data for five samples are presented. Constants used are: $\lambda_{235}U = 9.8485 \times 10^{-10}yr^{-1}$, $\lambda_{238}U = 1.55125 \times 10^{-10}yr^{-1}$. Samples were analyzed by Teledyne Isotopes, 50 VanBuren Ave., Westwood, NJ 07675.

SAMPLE DESCRIPTIONS

1. *UNP-1(U-80-1)* U-Pb
Uranophane-cemented sandstone. (35°76'00"N, 107°52'02"W; Section 23 Mine, McKinley County, NM). Poorly sorted, coarse sandstone cemented by uranophane, calcite, barite, hematite. *Analytical data:* (uranophane) U = 22.135%, Pb = 0.02867%, ^{204}Pb = 0.1055 (at%), ^{206}Pb = 90.987 (at%), ^{207}Pb = 5.742 (at%), ^{208}Pb = 3.165 (at%). *Collected by:* D. G. Brookins, J. Carter.
(impure uranophane) U_{238}–Pb_{206}: 9.2 m.y.
U_{237}–Pb_{207}: 10.3 m.y.

2. *U-81-1* U-Pb
Uranophane from limestone. (35°19'19"N, 107°49'17"W; near Flat Top Mine, McKinley Co., NM). Blades of uranophane in impure, fluorite-bearing limestone. Uranophane is younger than other minerals. *Analytical data:* (uranophane) U = 54.43%, Pb = 0.0215%, ^{204}Pb = 0.180 (at%), ^{206}Pb = 87.960 (at%), ^{207}Pb = 6.384 (at%), ^{208}Pb = 5.476 (at%). *Collected by:* D. G. Brookins.
(uranophane) U_{238}–Pb_{206}: 2.8 m.y.
U_{235}–Pb_{207}: 3.2 m.y.

3. *U-81-2* U-Pb
Uranophane from limestone. (35°19'19"N, 107°49'17"W; near Flat Top Mine, McKinley Co., NM). Blades of uranophane in argillaceous limestone. Uranophane is secondary. *Analytical data:* (uranophane) U = 53.84%, Pb = 0.0304%, ^{204}Pb = 0.153 (at%), ^{206}Pb = 89.337 (at%), ^{207}Pb = 5.816 (at%), ^{208}Pb = 4.694 (at%). *Collected by:* D. G. Brookins.
(uranophane) U_{238}–Pb_{206}: 4.0 m.y.
U_{235}–Pb_{207}: 4.2 m.y.

4. *U-81-3* U-Pb
Uranophane from limestone. (35°19'19"N, 107°49'17"W; near Flat Top Mine, McKinley Co., NM). Blades of uranophane in fluorite-bearing limestone. Uranophane is younger than uraninite-bearing fluorite. *Analytical data:* U = 53.55%, Pb = 0.0204%, ^{204}Pb = 0.210 (at%), ^{206}Pb = 87.380 (at%), ^{207}Pb = 6.194 (at%), ^{208}Pb = 6.216 (at%). *Collected by:* D. G. Brookins.
(uranophane) U_{238}–Pb_{206}: 2.7 m.y.
U_{235}–Pb_{207}: 2.8 m.y.

5. *U-81-4* U-Pb
Impure U(VI) hydrosilicates. (35°19'19"N, 107°49'17"W; near Flat Top Mine, McKinley Co., NM). Impure U(VI) minerals including uranophane with some tyuyamunite and possibly other phases in fluorite-bearing limestone. *Analytical data:* (uranophane-tyuyamunite ± other minerals): U = 29.08%, Pb = 0.0270%, ^{204}Pb = 0.252 (at%), ^{206}Pb = 85.315 (at%), ^{207}Pb = 6.893 (at%), ^{208}Pb = 7.542 (at%). *Collected by:* D. G. Brookins.
(uranophane-tyuyamunite-"X")
U_{238}–Pb_{206}: 6.6 m.y.
U_{235}–Pb_{207}: 7.4 m.y.