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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: $\lambda_{235\text{U}} = 9.8485 \times 10^{-10}\text{yr}^{-1}$, $\lambda_{238\text{U}} = 1.55125 \times 10^{-10}\text{yr}^{-1}$. 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%, $^{204}\text{Pb} = 0.1055$ (at%), $^{206}\text{Pb} = 90.987$ (at%), $^{207}\text{Pb} = 5.742$ (at%), $^{208}\text{Pb} = 3.165$ (at%). *Collected by:* D. G. Brookins, J. Carter.
 (impure uranophane) $\text{U}_{238}\text{-Pb}_{206}$: 9.2 m.y.
 $\text{U}_{237}\text{-Pb}_{207}$: 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%, $^{204}\text{Pb} = 0.180$ (at%), $^{206}\text{Pb} = 87.960$ (at%), $^{207}\text{Pb} = 6.384$ (at%), $^{208}\text{Pb} = 5.476$ (at%). *Collected by:* D. G. Brookins.
 (uranophane) $\text{U}_{238}\text{-Pb}_{206}$: 2.8 m.y.
 $\text{U}_{235}\text{-Pb}_{207}$: 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%, $^{204}\text{Pb} = 0.153$ (at%), $^{206}\text{Pb} = 89.337$ (at%), $^{207}\text{Pb} = 5.816$ (at%), $^{208}\text{Pb} = 4.694$ (at%). *Collected by:* D. G. Brookins.
 (uranophane) $\text{U}_{238}\text{-Pb}_{206}$: 4.0 m.y.
 $\text{U}_{235}\text{-Pb}_{207}$: 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%, $^{204}\text{Pb} = 0.210$ (at%), $^{206}\text{Pb} = 87.380$ (at%), $^{207}\text{Pb} = 6.194$ (at%), $^{208}\text{Pb} = 6.216$ (at%). *Collected by:* D. G. Brookins.
 (uranophane) $\text{U}_{238}\text{-Pb}_{206}$: 2.7 m.y.
 $\text{U}_{235}\text{-Pb}_{207}$: 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%, $^{204}\text{Pb} = 0.252$ (at%), $^{206}\text{Pb} = 85.315$ (at%), $^{207}\text{Pb} = 6.893$ (at%), $^{208}\text{Pb} = 7.542$ (at%). *Collected by:* D. G. Brookins.
 (uranophane-tyuyamunite-''X'')
 $\text{U}_{238}\text{-Pb}_{206}$: 6.6 m.y.
 $\text{U}_{235}\text{-Pb}_{207}$: 7.4 m.y.

