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THE LOST CREEK SCHROECKINGERITE DEPOSIT, SWEETWATER COUNTY
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Trace Elements Memorandum Report 10A

UNITED STATES DEPARTMENT OF THE INTERIOR
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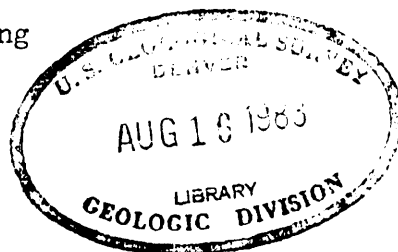
The Lost Creek Schroeckingerite Deposit

Sweetwater County Wyoming

A Memorandum Report

By

Donald G. Wyant



The schroeckingerite deposit at Lost Creek, Sweetwater County, Wyoming, is mostly in sections 30 and 31, T.26 N., 94 W., sixth Principal meridian. It is owned by Mrs. Minnie McCormick of Wamsutter, Wyoming, and her associates. The deposit was leased and prospected in 1948 by Uranium, Inc., of Denver, Colorado, Walter Byron, president.

The deposit has been examined by geologists of the U.S. Geological Survey in 1944, 1945, 1948, and 1949. It has been examined briefly by engineers and geologists of the Manhattan district, and of the Atomic Energy Commission.

Schroeckingerite, $\text{Ca}_3\text{Na}[\overset{\text{Geology}}{\text{UO}_2}(\text{CO}_3)_3(\text{SO}_4)\text{F}] \cdot 10\text{H}_2\text{O}$, is a yellow, platy, micaceous mineral that fluoresces brilliant yellow-green under ultra-violet light.

At Lost Creek the host rocks are probably of Wasatch (lower Eocene) or younger age. In the vicinity of the deposits the rocks dip from 50 to more than 30° northeastward and strike northwestward. The surface is covered by a mantle of stream-laid gravel probably of Pleistocene or Recent age. The schroeckingerite at the Lost Creek locality occurs characteristically in rounded aggregates as much as one inch in diameter in green, brown, or purple clay, but also occurs as tiny flakes disseminated in sand or sandy clay.

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Individual schroeckingerite ore "zones" averaging about one foot in thickness, have been traced, with but short interruptions, for as much as 700 feet along the strike, and in some places extend to a depth of 7 feet beneath the surface of the ground. This continuity of ore is a favorable feature that may affect plans for mining.

The deposit is associated with a northwestward trending fault zone, and the schroeckingerite is mainly localized in clay beds within this zone. The source of the uranium may be the mildly radioactive Tertiary-Pleistocene (?) sediments adjacent to the deposit.

Suggestions for Prospecting

Careful observation indicates that the Geiger counter is of little value in detecting schroeckingerite if the mineral is covered by even a thin mantle of overburden. The ultra-violet light is the most useful single tool to use in prospecting; and if the "light" and the "counter" are used together, positive identification of schroeckingerite may be made. It was observed that wherever efflorescent salts coating the surface of the ground had a decidedly greenish-yellow color under ultra-violet light, schroeckingerite was found by digging shallow pits.

Prospecting should be guided by the localization of the schroeckingerite-bearing clay beds within the fault zone.

Schroeckingerite has been found to a maximum depth of 7 feet beneath the present land surface but the bottom of the deposits may not have been exposed. It is probable that schroeckingerite, an efflorescent salt, is formed only relatively near the surface; however, it is possible that it may be found at greater depths by additional work. The maximum depth of exploration to date has been 8 or 9 feet and deeper exploration might discover uranium-bearing minerals or material other than schroeckingerite.