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Alteration and Element Distribution Associated with
Selected Uranium Deposits of the Great Divide Basin,
Sweetwater County, Wyoming

by

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ABSTRACT

The stratigraphic setting, alteration features and distribution of selected elements were studied in the REB uranium deposit, Sweetwater County, Wyoming. The purpose of the study was to determine ore guides that might be used in further exploration in the area.

The REB deposit occurs in the REB interval of the Lower Eocene Battle Spring Formation, an alluvial-fan complex deposited to the south of the uplifted Granite Mountains. The REB interval in the study area consists of interbedded coarse arkosic sandstones and carbonaceous siltstones. The unit is approximately 140 ft (50 m) thick, and is situated between two anomalously radioactive, carbonaceous mudstones of the Wasatch Formation.

Results of this study suggest that a stratigraphic control on uranium deposition in the REB interval does exist. The linear and continuous nature of the mineralization trend, the relationship of the terminus of the roll front to an increase in the number of fine-grained units, and the location of the deposit near and subparallel to the transition from coarse-grained rocks of the Battle Spring Formation to finer grained rocks of the Wasatch Formation all support the conjecture that uranium deposition may be related to that transition. The orientation of