
Geochemical profiling as an indicator of potash in Windsor Group evaporites in the Sackville Subbasin

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The characteristics and depositional history of Windsor Group evaporites of the Pugwash Mine and Limekiln Brook formations, occurring in the Sackville Subbasin of southeastern New Brunswick has not been examined in detail. Results from drill holes near Dorchester indicate substantial thicknesses of halite, but demonstrate little or no direct evidence for potash mineralization. To date, the geochemical signature of the halite cuttings from these holes has not been determined.

The distribution of bromine in marine evaporites has been shown to provide very useful information in interpreting paleosalinities in evaporite basins. It is considered an important diagnostic tool in determining whether a salt deposit is in its original depositional condition or whether significant recrystallization and other post depositional changes have occurred affecting its primary mineralogic and textural characteristics.

Geochemical profiles, including the distribution of bromine are to be studied from evaporite drill cuttings from the Dorchester area. These will be compared with bromine profiles from stratigraphically equivalent, potash-bearing Windsor evaporites in the Moncton Subbasin, near Sussex. It is important to determine if depositional conditions within the western half of the Sackville Subbasin were favourable for the precipitation and preservation of potash mineralization.