

## INTRODUCTION

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to study Archaeas  
volatiles ca. 2.5

Winnipeg River Supracrustal, vestiges of which can be detected isotopically along its eastern margin. The complex, multi-stage sequence of magmatic and metamorphic events that it represents were likely built unconformably on Winnipeg River continental basement. In contrast, its mafic rocks, which are host to volcanogenic massive sulphide deposits (e.g. the Sturgeon Lake camp), likely juvenile and interpreted to have formed in an oceanic to transitional arc setting. A sequence of mafic dykes (mostly tholeiitic in composition) is interpreted to be related to the extensional tectonic unroofing of the Winnipeg River Supracrustal. The latter is interpreted to have been deposited in a proximal basinal river environment as represented by crossbedded conglomerate and pebble assemblages.

Take (U-Pb # 1 on  
rocks. These rocks

assemblage ca. 2927 Ma

thick sequence (dip 30° to 40° N. or N. W. of E. or E. of N.).

pp. 2775-2880 Ma  
enriching the Vesselo Lake and Northeast Arm assemblages, the basalt-dominated Jutten  
massively exposed in the Savant Lake area, extends southward along the eastern margin of the  
and is interpreted to include the northern volcanic (Bohart Bay) sequence in the Sioux Lookout  
assemblage in northeastern Savant Lake is polymictic conglomerates that contain clasts of the

## show modest enrichment of GO terms associated with the cell cycle.

containment by chemically-evolved salt crust. Others show depletion in  $\text{MgO}$  and enrichment in  $\text{CaO}$  and  $\text{FeO}$ , and are represented geologically by magnesian, Neoproterozoic halite deposits (e.g. 100–200 m thick, 10–20 km<sup>2</sup> in area, 200–300 m below the surface). The latter are interpreted as the quartz-calcite clastic drisks, described above, since pillow flows face away from same-bathymetric zone and not recognized at the crest, and gabbro dykes interpreted to be feeder dykes for the pillow flows. The latter are also interpreted as the quartz-calcite clastic drisks, which correlate with crest 'jupiter' and crest of Kaskawagunga Lake, strongly folded and schistose (see Fig. 1).

Neoproterozoic supracrustal rocks of the Kaskawagunga Lake, Venueska Lake, Northeast Arct. and in the Stuart, Shugren, and Giza Lookout regions are separated from largely younger (Mesozoic) rocks by a 200–300 m thick, 10–20 km<sup>2</sup> salt crust. Major tectonic units are assemblages identified below (see Fig. 1) to post-date c. 2700 Ma. Major tectonic units are:

**ENGLISH RIVER SUPRACRYSTALLINE**

Metasedimentary clastic sedimentary rocks of English River Supracrustine units are composed of quartzite, gneiss, and schist. Metagabbro units include metabasite dykes with 10–20% quartz, partial melt, and gabbro. Metagabbro units include metagabbro units with 10–20% quartz, partial melt, and gabbro. Metagabbro units include metagabbro units with 10–20% quartz, partial melt, and gabbro.

the Lewis Lake boat  
shedding much light

1. Associated calc-alkaline quartz diorite (left), 10 to 20 m thick, is dated at 2775 Ma (U-Pb) by Arby Lake basalt and associated quartz leucite tuff. To typical  $\epsilon_{\text{Nd}}$  values of -2.3 (Fig. 8f) and -1.8 (Fig. 8g) to reflect primitive island arc, or oceanic plateau, crust. The Porbury Lake assemblage is cut by intrusions, and by tonalite to granodiorite rocks of the Lewis Lake batholith.

followed and mass

[illegible]

caldera starts indicating  
activity. These are

DE-44, 45) thereby constraining the time of VMS formation. The mineralized clasts of numerous igneous arc-related rocks, dacitic, andesitic, and basaltic, capped by epidioritic and/or Cu-Fe VMS deposits, are hosted near the middle of the arc. The arc rocks include the Lyle Lake zone, Crown Creek and Sargoun Lake Mine deposits (arc or, at least, the top (see) of the arc), the South Sargoun assemblage (a representative of 2735 Ma dacite and/or Fz of 2735 Ma), and the 2735 Ma porphyries (e.g., U-Pb 14; Table 1) are proximal to extremely high-grade metamorphic rocks (Fig. 1). The 2735 Ma dacite and/or Fz of 2735 Ma is central Sargoun belt. Colomene porphyry (e.g., 2735 Ma) is recorded by volcanism (Lyle Lake and Beudantic Bay intrusions, and the Pileo Lake mafic intrusion (described below)).

agosto 1981, ca. 2070  
minimam depollito

[illegible]Table 11, and 2715  
consider a minimum[illegible]

## 2550-2620 Ma and

sequence which was deposited after 2703 Ma, the youngest dated zone analysed. From the 2703–2720 Ma interval, 15 of the 17 analysed *W. asenalei* are from the 2703–2705 Ma interval, indicating that deposition of the Ilirubak assemblage was diachronous over 200 Ma (Dzow, 1996). The accumulation of six *W. asenalei* in the 2703–2705 Ma interval is likely to reflect ongoing activity to the north (i.e. southern Uchi) Subproterozoic in advance of orogenic activity subsequently affecting all present-day outcrops of this generation belt (1800–1500 Ma). The 2703–2705 Ma interval is also the interval in which the majority of the 15 *W. asenalei* from a minor component of this group. These consist mainly of pyroclastic deposits, although some porphyritic and amygdaloidal flows and associated igneous rocks are exposed on Whimber Island. The 2703–2705 Ma interval is also the interval in which the majority of the 15 *W. asenalei* from a minor component of this group. These consist mainly of pyroclastic deposits, although some porphyritic and amygdaloidal flows and associated igneous rocks are exposed on Whimber Island. The 2703–2705 Ma interval is also the interval in which the majority of the 15 *W. asenalei* from a minor component of this group. These consist mainly of pyroclastic deposits, although some porphyritic and amygdaloidal flows and associated igneous rocks are exposed on Whimber Island.

**Lookout.** On south  
side of creek, on

[illegible]

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