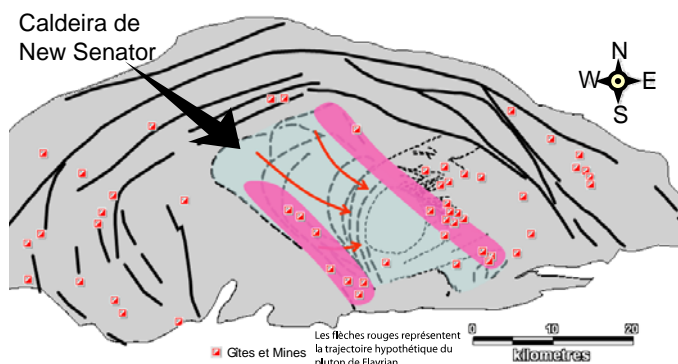


## Project 2006-1: Recognition criteria for calderas in the Abitibi Subprovince — the New Senator Caldera, Rouyn, Blake River Group

This project is a follow-up to project 2005-10 that proposed a new model for nested calderas of the Blake River Group in the Abitibi. The results of the project represent a significant break-through for exploration based on geological concepts with an emphasis on field data.

Project 2006-1 was carried out in two phases. The subject of the first phase was the characterisation and impact on the exploration of the New Senator Caldera, a completely new structure. The subject of the second phase was recognition criteria for calderas elsewhere in the Abitibi. In addition to supporting the model presented in 2005, several new features helped to clarify the limits of the New Senator Caldera and to compare the distribution of known mineralisations and thus to propose new exploration targets and new areas of interest for exploration.

Several areas in the Abitibi were analysed using an approach similar to the one developed for the Blake River Group, despite the fact that these new areas were affected by a more severe deformation. The affected areas were Normétal, Joutel, Brouillan and Hunter Mine. For each case study, the available data (SIGEOM and members of CONSOREM) were integrated and interpreted based on criteria established in the Blake River model. In fact, the recognition of synvolcanic structures remains the primary objective. This recognition is based on the distribution of dikes, volcanic and alteration facies, and known faults that allow us to make certain conclusions on the volcanic architecture and to provide guidelines for VMS exploration.



*Migration model for the magma chamber (Flavrian Pluton) producing successive collapses of the New Senator Caldera in the Blake River Group, Abitibi.*

<b>Summary: Project 2006-1</b>	
<b>Objectives</b>	<ul style="list-style-type: none"> <li>To document the characteristics and metallogenic context of the New Senator Caldera.</li> <li>To apply the caldera concept to other areas in the Abitibi.</li> </ul>
<b>Results</b>	<ul style="list-style-type: none"> <li>Updating of the nested caldera model in the Blake River ;</li> <li>Delimitation of the New Senator Caldera ;</li> <li>Applying the caldera model in the Selbaie, Joutel and Normétal sectors with exploration targets proposed in each of them.</li> </ul>
<b>Innovations</b>	<ul style="list-style-type: none"> <li>New exploration concepts by reconstructing the volcanic environment.</li> </ul>
<b>Notes</b>	<ul style="list-style-type: none"> <li>The project has contributed to several CONSOREM activities, including excursions, field work, seminars and several conferences.</li> <li>Two Master's and two Doctoral projects are associated with the project.</li> <li>An article entitled "An Archean megacaldera complex: The Blake River Group, Abitibi Greenstone Belt" was published in <i>Precambrian Research</i>.<sup>1</sup></li> </ul>

<sup>1</sup> The manuscript is currently available on the journal's Web site. Reference: Pearson, V., Daigneault, R., An Archean megacaldera complex: The Blake River Group, Abitibi Greenstone Belt, *Precambrian Research* (2008), doi:10.1016/j.precamres.2008.03.009