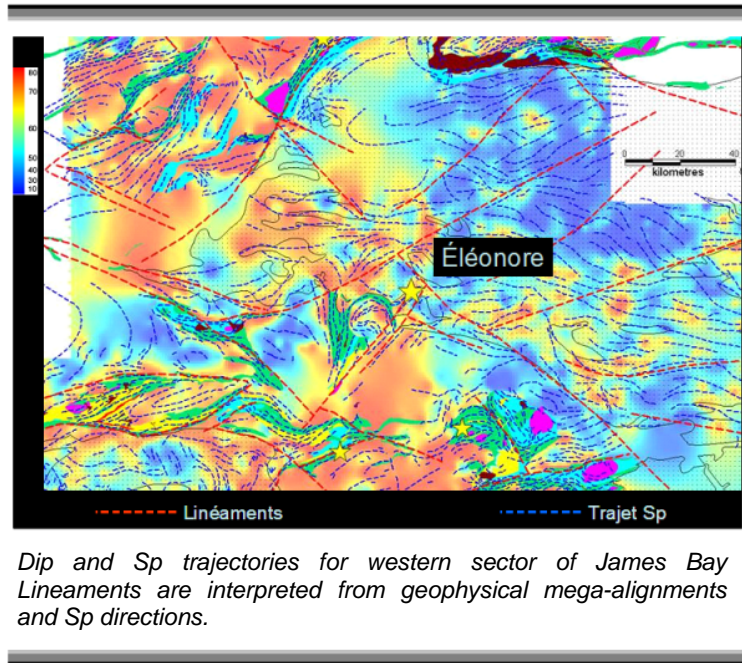


2007-7: Auriferous sedimentary environments in a high-grade metamorphic terrane

The main objective of this project was to test the model on a metamorphic core complex in James Bay. Hence, the underlying hypothesis was that the high metamorphic gradients located at the periphery of the Laguiche Complex (Opinaca basin) reflect the limits, or thrust faults, of a metamorphic core complex. In order to justify the relevance of this exercise for exploration, examples of gold mineralisation associated with the exhumation of these types of complexes were reported in the literature. These gold mineralisations are mostly located on the edges of the complexes.

The interpretation of structural data derived from SIGEOM showed that the structural signature of the James Bay region is consistent with a metamorphic core complex model. The interpretation of structural data derived from SIGEOM showed that the structural signature of the James Bay region is consistent with a metamorphic core complex model. Moreover, the main foliation directions (Sp) combined with the density map of the geophysical mega-alignments of the Superior Province (from the 2002-03 CONSOREM project) helped trace favourable lineaments.



Dip and Sp trajectories for western sector of James Bay Lineaments are interpreted from geophysical mega-alignments and Sp directions.

Moreover, the main foliation directions (Sp) combined with the density map of the geophysical mega-alignments of the Superior Province (from the 2002-03 CONSOREM project) helped trace favourable lineaments. Finally, it was suggested that areas with steep Sp dips represent interesting targets for exploration. Nearly thirty target areas were identified on this basis.

Project 2007-7: Summary	
Objectives	<ul style="list-style-type: none"> • To determine the controls on the gold mineralisation in a high-grade metamorphic sedimentary environment. • To apply the controls to the Opinaca, Némiscau and Pontiac sedimentary basins.
Results	<ul style="list-style-type: none"> • Literature review on the subject of gold mineralisation in high-grade metamorphic sedimentary environments and gold mineralisation associated with the exhumation of core metamorphic complexes. • Opinaca-Némiscau sedimentary basins are proposed as core metamorphic complexes. • Nearly thirty favourable zones were identified in the James Bay for the emplacement of gold mineralisation.
Innovations	<ul style="list-style-type: none"> • New model was proposed to explain the distribution of gold mineralisation along the edges of the Opinaca-Némiscau sedimentary basins.