CONSOREM

Mineral Exploration Research Consortium

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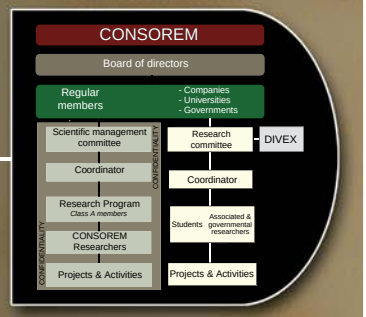

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What is CONSOREM ?

- Public Private partnership in applied research for mineral exploration
- Synergy between companies, governements and universities
- A unique research structure under industry control

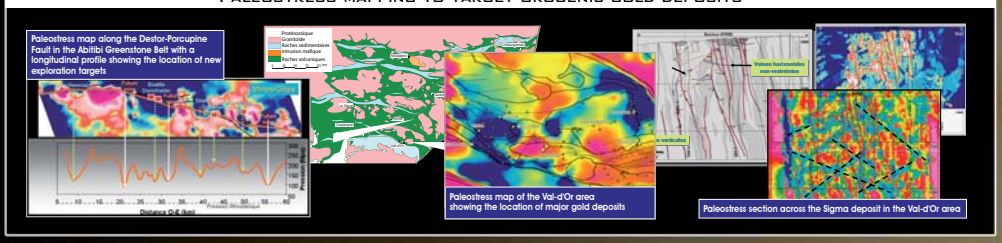
Mandate of the CONSOREM

- development of technologies and knowledge applied to mineral exploration;
- development of mineral exploration models;
- convey the knowledge towards the industry;
- training of highly qualified personnel in mineral exploration

EXAMPLES OF RESEARCH PROJECTS

GOLD

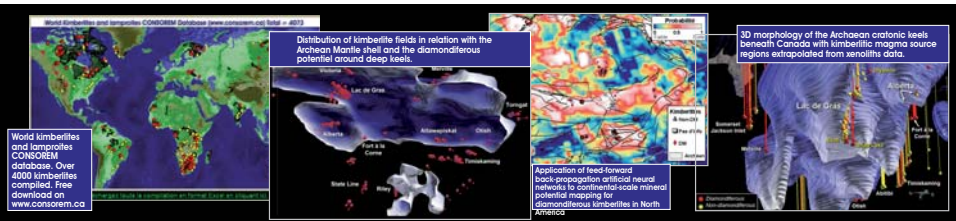
Paleostress mapping to target orogenic gold deposits



CONSOREM applies stress mapping techniques on several sites, along faults, across mines, and at the regional scale, in order to determine favorable parameters for orogenic gold deposits. Paleostress maps are constructed using the geomechanic modeler UDEC which simulates incremental displacements along discontinuities such as faults and lithologic contacts.

DIAMOND

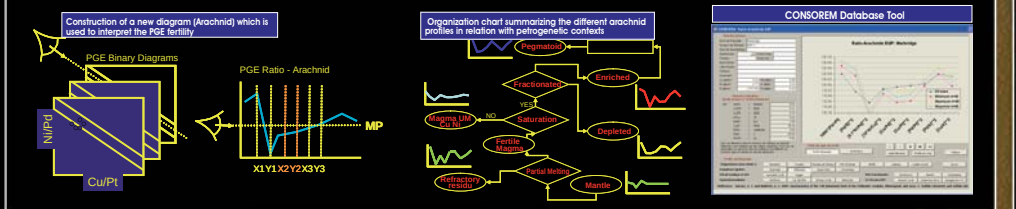
The architecture of the tomographic Archaean mantle and kimberlite fields of North America



A high resolution Rayleigh wave phase velocity model covering both Canada and the United States has been used to depict the morphology of the Archean mantle at depths down to 250 km. The tomographic model reveals the extent of cratonic roots far beyond the exposed Archean provinces. Most kimberlite fields are found at the periphery of the deepest lithospheric roots (160 to 190 km) and are vertically correlated with steep slope margins and/or to abrupt changes in the slope orientation.

PGE

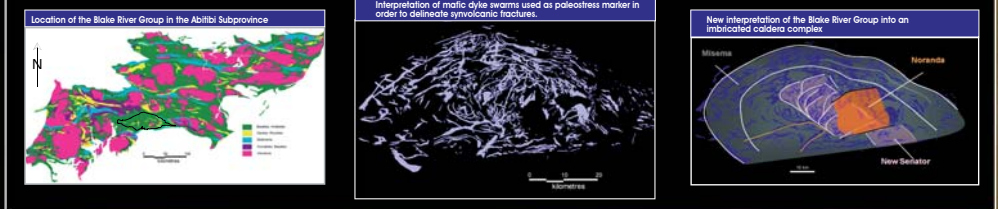
New tool in the interpretation of PGE fertile environments



CONSOREM has developed a unique interpretation tool for PGE and Ni fertility. The new arachnid diagram combines commonly used binary diagrams (Barnes et al. 1988) in order to interpret petrogenetic processes and discriminate fertile/depleted settings. CONSOREM's arachnid diagram is used in conjunction with a database to compare profiles with a collection of data from different environments around the world.

BASE METALS

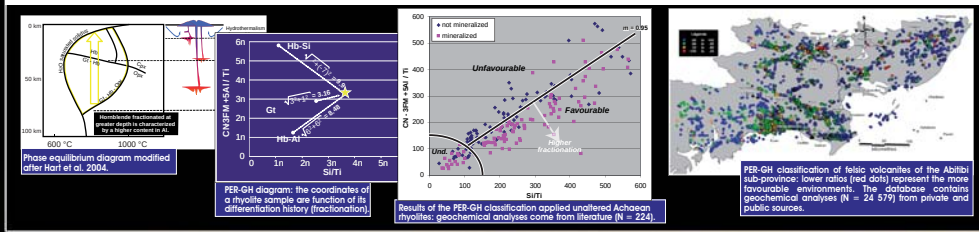
New exploration model in the Blake River Group, Abitibi Subprovince



Integration and interpretation of multi-source data (felsic intrusives, mafic dykes, faults, volcaniclastic deposits, alteration, and mineralization) allowing the proposition of a new paradigm for the genesis of the Archaean Blake River Group. Such a proposal has incidental implications for the interpretation of Archean sequences and for exploration strategies.

BASE METALS

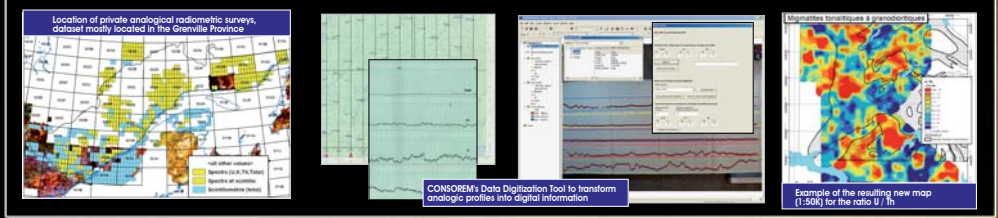
The PER-GH classification: a new tool to evaluate the fertility of felsic volcanic rocks



A new method has been developed to promote the utilisation of major elements in order to evaluate the fertility of felsic volcanic environments for VMS deposits. Based on theories about the petrogenesis of felsic volcanites and the 'Pearce Element Ratio' (PER), it is suggested that fractionation at depth of REE into garnet and hornblende is reflected onto the major elements signature. The PER-GH index, an acronym for Pearce Element Ratio - Garnet/Hornblende, is used to discriminate between non-fertile, fertile and highly fertile environments. Since hydrothermalism promotes the effects of fractionation on element mobility, alteration will accentuate the favourability criterion.

URANIUM

Uranium prospectivity in the Grenville Province based on a new data digitization tool



CONSOREM's Data digitization tool has been developed in order to transform analogical profiles coming from a private source (a CONSOREM industry member) into digital information. This new dataset for U, Th and K is part of an ongoing project whose objectives are the evaluation and identification of new targets for Uranium deposits, principally oriented toward the Rossing type model.