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2012 KAUFMAN INSTOC SYMPOSIUM

WHAT HAPPENS WHEN CONTINENTS EXPLODE: IGNIMBRITE FLARE UPS AND ORE DEPOSITS

Saturday, September 8, 2012

Cornell University

2146 Snee Hall

During the Laramide orogeny volcanic activity migrated 1000km west in southwestern North America and 400km west in Mexico. At the end of the Laramide, it swept back east, accompanied by a massive ignimbrite flare up and epithermal ore deposit formation. Flat subduction of the Farrallon plate is thought to have produced the Laramide deformation, and the roll back, buckling or delamination of the flat slab is thought to have advected hot asthenosphere to the exposed lithosphere, inducing basaltic sill injection, crustal injection, crustal extension and melting, and the formation of a great many epithermal (boiling) precious metal ore deposits of great value. The causes of ignimbrite flare ups and ore deposit formation in the silicious ignimbrite setting remain unclear. For example, what made the crust fertile (e.g., water-rich enough to melt easily), and did the silicic magmas form by crustal melting basalt or by fractional crystallization of the basalt? Are the precious metals in the deposits supplied by the mantle or the crust, and are variations in metal content the result of simple factors like fluid salinity or the result of more complex processes? This year's Kaufman INSTOC Symposium will address some of these issues and others in the context of post-Laramide events in North America and Mexico and a Mesozoic magmatic flare up in northeastern China.

8:00-9:00	Continental Breakfast and Registration	<i>Snee Hall Atrium</i>
9:00-9:30	Welcome and Overview	Larry Cathles, Cornell INSTOC Director
9:30-12:30	IGNIMBRITE FLARE UPS	
	SESSION I	Session Chair: Larry Cathles (Cornell)
9:30-10:00	Laramide and post Laramide evolution of North America	Gene Humphreys (University of Oregon)
10:00-10:30	Ignimbrite flare ups, plateaus, crustal recycling in South America	Suzanne M. Kay (Cornell University)
10:30-11:00	Break and Poster Viewing	<i>Snee Hall Atrium</i>
	SESSION II	Session Chair: Bill White (Cornell)
11:00-11:45	Keynote: Decratonization of the North China craton, with consequences for ore formation	Roberta Rudnick (University of Maryland), <i>Jack E. Oliver Visiting Professor</i>
11:45-12:15	Nature and origin of the Oligocene ignimbrite flare-up in the Great Basin, western USA	Eric Christiansen (Brigham Young Univ.)
12:15-12:30	Discussion and Questions	Chair: Brian Skinner (Yale)
12:30-1:45	Lunch and Poster Viewing	<i>Snee Hall Atrium</i>
1:45-4:45	ORE DEPOSITS	
	SESSION III	Session Chair: Bob Kay (Cornell)
1:45-2:15	Magma links (and contributions of metals) to epithermal systems	Jeff Hedenquist (Ottawa)
2:15-2:45	Epithermal deposits of Mexico & southwest USA: A comparative analysis with modern epithermal environments	Stuart Simmons (Colorado School of Mines)
2:45-3:15	Death of a craton, Mesozoic magmatism, and gold in eastern China	Richard Goldfarb (USGS – Central Mineral and Environmental Resources Center)
3:15-3:45	Break and Poster Viewing	<i>Snee Hall Atrium</i>
	SESSION IV	Session Chair: Muawia Barazangi (Cornell)
3:45-4:15	Mafic magmatism and influence on hydrothermal mineralization	Keiko Hattori (Univ. of Ottawa)
4:15-4:45	Metals in magmatic fluids	Steve Scott (Univ. of Toronto)
4:45-5:30	General Discussion and Wrap Up	Chair: Brian Skinner (Yale)
5:30-6:30	Hors d'oeuvres and Poster Viewing	<i>Snee Hall Atrium</i>
6:30-9:00	Dinner	<i>Snee Hall Atrium</i>

Organized by the Institute for the Study of the Continents (INSTOC) and the Department of Earth and Atmospheric Sciences (EAS), Cornell University, Ithaca, New York