

Jupiter Oxygen Corporation

**The Clearwater Conference in Florida, U.S.A.
International Technical Conference on Coal Utilization & Fuel Systems
April 17 - 21, 2005**

**Proof of Concept for Integrating Oxy-Fuel Combustion and the Removal of All
Pollutants from a Coal Fired Flame**

Tom Ochs²
Brian Patrick¹
Danylo Oryshchyn²
Alex Gross¹
Cathy Summers²
William Simmons³
Mark Schoenfield¹
Paul Turner²

¹Jupiter Oxygen Corporation
____²USDOE/Albany Research Center
____³CoalTeck LLC

e-mail: m_schoenfield@jupiteroxygen.com

ABSTRACT

The USDOE/Albany Research Center and Jupiter Oxygen Corporation, working together under a Cooperative Research and Development Agreement, have demonstrated proof-of-concept for the integration of Jupiter's oxy-fuel combustion and an integrated system for the removal of all stack pollutants, including CO₂, from a coal-fired flame. The components were developed using existing process technology with the addition of a new oxy-coal combustion nozzle. The results of the test showed that the system can capture SO_x, NO_x, particulates, and even mercury as a part of the process of producing liquefied CO₂ for sequestration. This is part of an ongoing research project to explore alternative methods for CO₂ capture that will be applicable to both retrofit and new plant construction.