

Dr. James W. Patten, President & CEO
Ecoshale, Inc.
jpatten@ecoshale.com
(801) 878-8100 phone, (801) 878-8101 fax
www.ecoshale.com

Anton R. Dammer, Senior Vice President
adammer@ecoshale.com
(801) 664-4311

Red Leaf Resources has developed a proprietary and patent-pending surface extraction method for hydrocarbon resources known as the EcoShale In-Capsule Process TM.

The EcoShale In-Capsule Process employs a low cost, earthen impoundment structure to contain a treatment zone where oil shale is roasted to extract kerogen oil. EcoShale develops integrated projects using standard mining practices to produce crude oil from shale, coal, lignite and tar sands using our proprietary EcoShale In Capsule Process TM.

When filled with hydrocarbon resources, such as oil shale or oil sands, the capsule is heated using pipe circulated hot gases derived from burning natural gas, coal bed methane or recycled gases produced from the process. The EcoShale technology can be delivered both domestically and internationally for cleaner and more efficient extraction of oil from a spectrum of unconventional resources. The EcoShale In Capsule Process is capable of producing kerogen oil from oil shale around the world in the range of 30-35 API quality oil, which means higher market prices for our finished products.

By placing the shale in impoundments that are engineered with an impermeable barrier, the depleted shale is safely sequestered and ground water protected.

Rapid surface reclamation occurs as the process advances and can be completed within weeks of extraction.

In terms of energy efficiency, the process heat used in one capsule can be recovered by circulating lower temperature gases which transfer remaining heat into adjacent capsules.

The environmental benefits of this process include: extraction without using water, rapid reclamation of mining, impoundment of depleted shale consistent with EPA standards, protection of surface and ground water, no aquifer interaction, reduction in CO₂ emissions, amenability to carbon capture and sequestration, and rapid and extensive restoration of the topography.

The economic benefits of the process result from the avoidance of large steel construction, the utilization of standard mining equipment, project scalability, and the production of a very high-quality oil/refinery feedstock.

For more information on EcoShale, visit our website at: www.ecoshale.com