

Red Leaf Resources Clears Major Permitting Hurdle On the Path to Commercial-Scale Oil Shale Production

SALT LAKE CITY – Utah oil shale development company Red Leaf Resources has cleared a major regulatory hurdle and will soon launch the first commercial-scale oil shale production in North America in decades.

The Utah Division of Water Quality today issued a Groundwater Discharge Permit to Red Leaf Resources, which the company sought despite not producing any discharge water. In 2012, Red Leaf received a Large Mining Operation permit from the Utah Division of Oil, Gas & Mining, contingent upon issuance of the discharge permit.

"We are pleased to finally have the major permits required to move forward with construction of our commercial demonstration project, which will produce more than 300,000 barrels of oil and prove our clean oil shale technology works on a large scale," said Red Leaf CEO Adolph Lechtenberger. In 2009, Red Leaf successfully completed a pilot project on its lease holdings in Eastern Utah, from which it successfully produced more than 300 barrels of oil.

Red Leaf estimates it has up to 600 million barrels of recoverable oil under leases on school trust lands in Utah, which will be developed under a joint venture with the French energy conglomerate TOTAL SA. Red Leaf has another estimated 750 million barrels on land leased in Wyoming, which will be developed under a joint venture with the Canadian firm Questerre Energy.

"Red Leaf has more than 20 U.S. patents for our EcoShale[™] technology, which extracts oil with lower energy consumption, lower emissions, lower water use and less environmental impact than any oil shale technology deployed in the world today." Lechtenberger continued, "The EcoShale[™] process was specifically designed to address traditional environmental challenges of oil shale production."

"Not only do we have less environmental impact, our oil is of much higher quality than traditional oil shale production, equal to or better than the industry benchmark of light sweet West Texas Intermediate crude," said Lechtenberger.

OIL SHALE VS. SHALE OIL

Oil shale is often confused in the media with shale oil and shale gas production. When traditional oil and gas is extracted from shale rock formations like those in North Dakota, Pennsylvania and Texas, it is correctly called shale oil and shale gas, not oil shale. This extraction process involves drilling for the resource.

By contrast, oil shale development is the process by which a solid organic material rich in hydrocarbons called "kerogen" is converted to crude oil, condensate and natural gas through the application of heat. All traditional oil and gas was once kerogen. Over tens of millions of years, heat from the earth's core caused deposits of kerogen to transform into oil and natural gas. Modern oil shale production simply speeds up the natural process of turning kerogen into oil and gas, either by mining the ore and heating it at the surface or heating it underground (in-situ). EcoShale[™] is a surface mining and processing technology.

