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## MRCSP Begins Field Tests in Michigan

*Part of national effort to develop methods for carbon storage*

July 9, 2013

COLUMBUS, OH—[Battelle](#) has announced the beginning of a large-scale carbon dioxide (CO<sub>2</sub>) injection by the Midwest Regional Carbon Sequestration Partnership ([MRCSP](#)) program in the oil fields of Michigan's Northern Reef Trend.

The MRCSP is one of seven Regional Carbon Sequestration Partnerships in the United States established by the U.S. Department of Energy's (DOE's) National Energy Technology Laboratory (NETL). This multi-year research program (led by Battelle) will identify, test, and further develop the best approaches to CO<sub>2</sub> utilization and storage in the nine-state region in the Midwest and Northeast U.S. encompassed by MRCSP. This significant milestone builds on the work completed by MRCSP's industry and research members during earlier phases of the program that included smaller-scale testing and mapping of geologic formations across the region.

The current project in Michigan is designed to inject and monitor at least one million metric tons of CO<sub>2</sub> into a series of oil fields that are in different stages of their production life-cycles. The first test in the series will inject up to 500,000 metric tons of CO<sub>2</sub> into a depressurized, late-stage oil field that has undergone primary production and enhanced oil recovery (EOR) for several years and is now near the end of its productive life. Such late-stage fields are ideal for conducting research on monitoring and modeling of CO<sub>2</sub> storage and evaluating incremental production of residual oil still trapped in the pore spaces.

During the last year, Battelle's MRCSP team has worked with Core Energy, LLC, the owner and operator of the oil fields, to conduct baseline geologic characterization and advanced monitoring and to prepare the wells for the injection phase. These fields already are permitted for injection as part of the routine EOR operations. In this first leg of the field test, MRCSP expects injection rates of approximately 1,000 metric tons of CO<sub>2</sub> per day.

MRCSP will be using state-of-the-art techniques to track the CO<sub>2</sub> and quantify the amount that is retained in the formation after the oil is removed - during and after the active injection phase. The CO<sub>2</sub> will be injected into the geologic structures known as the northern Niagaran pinnacle reef trend. These oil fields comprise closely spaced but highly-compartmentalized ancient coral reefs buried about 6,000 feet below the ground surface. This reef trend formed millions of years ago when the area was under an ocean in a setting similar to what is now observed in the Great Barrier Reef.

One way to combat global climate change is to limit greenhouse gas (such as CO<sub>2</sub>) emissions from large-scale emitters such as coal burning power plants. Carbon capture, utilization and storage seeks to capture CO<sub>2</sub> as it goes up smokestacks, pressurize and dry it, then inject it deep beneath the ground (in this case, 6,000 feet), in formations known to hold hydrocarbons for millions of years. Carbon capture, utilization and storage is an important class of technologies and represent means for a secure energy future. The knowledge gained from this research will be of broad value to the regional economy and its industrial base.

**About Battelle** - Every day, the people of Battelle apply science and technology to solving what matters most. At major technology centers and national laboratories around the world, Battelle conducts research and development, designs and manufactures products, and delivers critical services for government and commercial customers. Headquartered in Columbus, Ohio since its founding in 1929, Battelle serves the national security, health and life sciences, and energy and environmental industries. For more information, visit [www.battelle.org](http://www.battelle.org).

**About Core Energy, LLC** - Core Energy, LLC is actively involved in innovative oil and gas exploration and production technologies throughout Michigan. Core was the first company in Michigan to utilize carbon dioxide on a commercial scale to produce oil that would otherwise be stranded from existing oil fields. The company is also using modern techniques to explore for new reserves located near existing oil fields. Core Energy is headquartered in Traverse City, MI. More information about the company is available on the Internet at: [www.coreenergyholdings.com](http://www.coreenergyholdings.com).

Contact T.R. Massey at (614) 424-5544 or [masseytr@battelle.org](mailto:masseytr@battelle.org) for more information.