



Centia™ Biofuels Process Produces Bio-gasoline Similar to Traditional Unleaded Gasoline

January 9, 2008 – Gilbert, AZ – Diversified Energy Corporation announced today that the Centia™ process, during a recent demonstration, produced a bio-gasoline fuel very similar to traditional unleaded gasoline. Centia™ is an advanced biofuels production process that takes any renewable oil input source (e.g. oils derived from agriculture crops, algae, animal fats, waste greases, etc.) and produces transportation fuels that are 1-for-1 replacements for petroleum jet fuel, diesel, and gasoline. Fuels produced from Centia™ could be operated in engines, stored, and distributed in an identical manner to fossil fuels today. The process was developed in 2006 by North Carolina State University (NCSU) and has been licensed exclusively by Diversified Energy®.

The tests were conducted at NCSU using demonstration reactors, operated under temperature and pressure with a proprietary catalyst developed specifically for the Centia™ bio-gasoline process. Starting with an input mimicking what would have originated as soybean oil, the process generated a fuel closely resembling the carbon number profile and molecular composition of unleaded gasoline. A mass conversion efficiency in excess of 90% was achieved. Further development, optimization, and testing activities are being planned, including an end-to-end Centia™ system demonstration to make bio-gasoline, Jet A-1/JP-8 (jet fuel), and renewable diesel. Dr. Henry Lamb, NCSU Professor of Chemical and Biomolecular Engineering and lead investigator on the bio-gasoline work, remarked, “The team is extremely encouraged with the bio-gasoline results generated to date. With over 243 million vehicles on U.S. roads (with a majority using gasoline), finding an affordable renewable drop-in replacement would be a major achievement. While additional development work is still required, these results emphasize the potential of Centia™ to produce a variety of 2nd-generation biofuels.”

In addition to the bio-gasoline results, a number of other Centia™ achievements have occurred in the last year. First, the team has completed the construction and demonstration of a glycerol burner that will safely burn the glycerol byproduct from Centia™ and provide an energy source back into the process. This same burner could make productive use of the crude glycerol generated from traditional transesterification-based biodiesel plants. Next, continued development work has occurred on various steps in the process to show that the fundamental chemistry works regardless of renewable oil input source. Also, a bench-scale hydrolysis reactor (used for the first step in the process) has been fabricated in preparation for the end-to-end system demonstration. Lastly, Diversified Energy has formed relationships with other engineering companies to provide expertise in commercialization activities such as large-scale process design and construction and catalyst regeneration and recovery.

Changing the Balance of Power

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About Diversified Energy Corporation:

Headquartered in Gilbert, Arizona (a suburb of Phoenix), Diversified Energy Corporation (www.diversified-energy.com) is a privately held alternative and renewable energy company focused on maturing innovative technologies, developing commercial energy projects, and providing engineering services support to project developers. Principal areas of expertise include biofuels, gasification, and algae production.

About North Carolina State University:

A nationally recognized leader in science and technology with historic strengths in agriculture and engineering, North Carolina State University provides a high-quality education in the humanities and social sciences, design, education, life sciences, management, natural resources, physical and mathematical sciences, textiles and veterinary medicine. Whether educating students for the 21st century, improving lives through life-altering research, or partnering with communities, business, and government to create jobs, NC State's commitment to innovation creates a culture of excellence that spreads to every facet of the university and affects people's lives in relevant, powerful ways.

NC State's Office of Technology Transfer manages the University's patent and technology portfolio, currently consisting of 552 U.S. Patents and approximately 1600 proprietary technologies. Forming partnerships with innovative companies such as Diversified Energy fulfills NC State's mission of getting academic discovery to the market for the greater public good.

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