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## **JDC Receives Patent Recognizing Sustainable-Agriculture Breakthroughs in Phosphate Fertilizer Production**

San Francisco —JDC Phosphate (JDC) announced today that it has been granted a patent for the Improved Hard Process, a Kiln Phosphoric Acid (IHP/KPA) production method. The patent, no. 7,378,070, protects technological breakthroughs that cut production cost while increasing phosphoric-acid purity and environmental friendliness. Compared to the conventional wet-acid process, which has remained essentially the same since the middle of the 19<sup>th</sup> Century, the IHP/KPA production method provides a three-fold advance. The first is a more concentrated SPA (Super Phosphoric Acid) product; the second is a valuable co-product—an inert, silica-rich aggregate; and the third is an overall process that significantly improves the land stewardship and industry sustainability of phosphate manufacturing.

George Sibbald, CEO of JDC Phosphate, said: “JDC built on Occidental Research's pilot-plant breakthroughs to discover the advances that give the IHP/KPA process commercial viability. Importantly, our process is a dry, high-temperature manufacturing method. Thanks to this innovation, we have demonstrated that many of the environmental shortcomings of the established, wet-acid process can be successfully overcome. As an added benefit, the IHP/KPA method accommodates low-grade ore with high contamination levels. That gives our dry process the potential to as much as double the commercially viable reserves in several ore bodies.”

Among the environmental issues faced by current phosphate-production methods are: large waste gypsum piles, ground- and surface-water contamination, and radiation, radon and fluoride pollution. The IHP/KPA production process can largely overcome every one of these problems. According to Sibbald, JDC is proceeding with plans for building a commercial plant and selecting a location for its Phosphate Production and Environmental Engineering Research

Center. “The objective of our research and development efforts is to bring advanced phosphate-manufacturing technology and know-how to the industry by reshaping production and logistics. Best of all, we will be doing this from an agricultural perspective that has as its goals sustainability and improved environmental stewardship,” he said.

Research documents concerning the process were published in a technical article in the May-June issue of *Fertilizer International* that carried the title “A credible alternative to the WPA [Wet Phosphoric Acid] process.”

Founded by Joseph A. Megy, Ph.D in 1985, JDC Phosphate is dedicated to improving the performance of the phosphate-production industry through innovative manufacturing methods, techniques for more profitable operation, and enhanced environmental stewardship. Visit the company’s website at: [www.phosphatesustainability.com](http://www.phosphatesustainability.com)