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## ***Itronics Invents Process to Recover Zinc From Zinc-Bearing Brass and Bronze Smelter Flue Dust; Contained Silver and Gold Also to Be Recovered***

- Breakthrough Invention

RENO, NV--(Marketwired - Jan 15, 2014) - Itronics Inc. (PINKSHEETS: ITRO), a growing and diversified fertilizer, silver, and minerals producer, today announced that it has successfully tested a new process to recover zinc oxide from secondary brass and bronze smelter flue dust for use in its GOLD'n GRO zinc micronutrient fertilizers, the highest volume fertilizers the Company sells. The new process is named the Itromet ZinLix Process.

The objective of the new process is to develop a lower cost source of zinc oxide as a substitute for the very high purity zinc oxide that the Company purchases to make its GOLD'n GRO zinc micronutrient fertilizers. The highest purity zinc oxide produces the best crop response. The high purity zinc oxide is more expensive than lower quality zinc typically used in competing zinc micronutrient fertilizers. Replacing purchased high purity zinc oxide with recycled high purity zinc oxide in the Company's GOLD'n GRO zinc micronutrient fertilizers could provide both a price and effectiveness advantage in the marketplace. Further development may also allow the Company to produce high purity zinc metal for commercial sale as a separate product.

In recent years the Company has been investigating zinc oxide bearing waste streams where the Company's hydrometallurgical technology could be used to recover and produce zinc oxide with purity suitable for use in its GOLD'n GRO zinc micronutrient fertilizers. Zinc-bearing flue dusts from steel mini-mills and secondary brass and bronze smelters have been identified as potential large scale sources. It is estimated that there are approximately one million tons of zinc-bearing steel mini-mill flue dust generated annually in the United States and that there are an estimated 300,000 tons of secondary brass and bronze smelter zinc-bearing flue dusts generated in this country. A significant percentage of both of these zinc bearing waste streams are disposed of at a significant cost as hazardous waste due to varying levels of non-nutrient metal impurities.

In 2013 the Company made a decision to begin testing the zinc oxide recovery concept using high zinc content secondary brass/bronze smelter flue dust first due to lower impurity content and simpler composition. A secondary brass/bronze smelter operator was identified as a potential supplier for high zinc content flue dust and samples were obtained for evaluation. The tests were conducted in the 2013 third and fourth quarters. The results were very satisfactory and give the Company confidence to proceed with development. The new process is based on the Company's proprietary GOLD'n GRO zinc micronutrient fertilizer manufacturing technology that has been proven over more than 10 years of commercial operation.

The Company believes that a second process using a combination of the ZinLix and its already developed FeLix technologies would be necessary for processing steel mini-mill flue dusts. The technology for processing steel mini-mill flue dusts could be developed after the ZinLix technology is demonstrated at a large pilot scale.

The ZinLix technology is a "breakthrough invention," that could solve a longstanding industrial waste management problem in the United States and other countries worldwide that have steel mini-mills and secondary brass and bronze smelters. Information published by the former U.S. Bureau of Mines has stressed that "effective recycling of flue dusts is a continuing problem for steel mini-mills and brass and bronze secondary smelters."

The timing for this new development is excellent since market analysts are forecasting that zinc prices will rise substantially over the next two or three years due to existing mine closures, delays in new mine developments, and continuing growth in worldwide demand for zinc products. Sourcing high purity zinc oxide from a low quality raw material is expected to improve the Company's profitability by reducing raw material cost and would allow the Company to continue to offer competitive GOLD'n GRO zinc micronutrient fertilizer pricing to its distributor. Also, zinc flue dust suppliers could realize significant environmental and disposal cost savings.

Commercial sale of process residuals which have a high silver and gold content are expected to contribute to an increase in silver/gold sales and profitability. Present technology available to zinc flue dust generators does not provide economic recovery of the silver and gold contained in the zinc bearing flue dusts and so these metals are permanently lost when the waste is disposed in permitted solid waste dumps.

Another potential major benefit of the technology is the possibility that high purity zinc metal can be recovered for sale. This would provide year round income because there is a continuous non-seasonal global end market for high purity zinc metal. If further testing proves positive, it opens up the opportunity to establish a large scale "stand alone" zinc refining plant, possibly in northern Nevada, for complete processing of zinc rich flue dusts into commercially saleable goods.

A review by the Company of the relevant global technical literature suggests that zinc metal recovery from chemistries with important similarities to the ZinLix chemistry may require up to 40 percent less electrical energy compared to conventional zinc refining. Electric energy cost is a major component of current refined zinc metal production cost and so significantly lower electrical energy cost would provide a strong economic driver for this part of the technology development.

"Our goal with the new technology is to completely convert the zinc-bearing flue dust into saleable goods, analogous to what we are doing with the silver-bearing photographic liquids," said Dr. John Whitney, Itronics President. "We believe that our fertilizer manufacturing technology and related fertilizer market access and our existing permitting will make this possible. Materials that are currently classified as hazardous waste will become commercial raw materials when used in our new ZinLix manufacturing process."

"Pilot scale development work will provide very high purity secondary source zinc oxide that will be gradually substituted in our GOLD'n GRO micronutrient zinc manufacturing for the high purity zinc oxide now being purchased. In the early stages of development the main time delay factors will be environmental and building permits and capital acquisition to fund the development work. Modular process unit development at progressively larger scale will be used to mitigate permitting delay factors and to shorten development time. Early stage pilot work can be done under the Company's existing facility R&D permitting," Dr. Whitney said.

About Itronics:

Headquartered in Reno, Nevada, Itronics Inc. is a "Creative Clean Technology" company that produces GOLD'n GRO liquid fertilizers and pure silver bullion. Itronics, through its subsidiary, Itronics Metallurgical, Inc. is the only company with a fully permitted "Beneficial Use Photochemical, Silver, and Water Recycling" plant in the United States that converts spent photoliquids into pure silver and GOLD'n GRO liquid fertilizers. The Company is developing environmentally compatible mining technology, and is developing the Fulstone Iron Oxide Copper Gold exploration property in Nevada.

Itronics has received numerous domestic and international awards that recognize its ability to successfully create and implement new environmentally clean recycling and fertilizer technologies.

The Company's environmentally friendly GOLD'n GRO liquid fertilizers, which are extensively used in agriculture, can be used for lawns and houseplants, and are available, along with liquid fertilizer injectors, at the Company's "e-store" catalog at <http://goldngro.com>. Its popular Silver Nevada Miner bars are available at the Company's "e-store" catalog at <http://www.itromet.com>.

VISIT OUR WEB SITE: <http://www.itronics.com>

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