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Itronics Announces New Silver-Gold Mine Technology Developments; Could Increase Cash Flow Year-Round and Increase Mine Production

RENO, NV--(Marketwired - Dec 12, 2013) - Itronics Inc. (PINKSHEETS: ITRO), a growing and diversified fertilizer, silver, and minerals producer, today provided a technology update for new applications to improve silver-gold mine recoveries and operating results.

The new work could: (1) improve cash flow issues because of the seasonality of selling fertilizer; (2) provide mines an alternative to the use of cyanide, which could increase the production of valuable metals from the mine while also assisting in mine safety and (3) diversify Itronics' products mix. Itronics has won worldwide environmental awards for its ability to take photowastes, a toxic waste, extract out valuable silver and other metals, and to turn the resulting de-silvered liquid into award winning fertilizers sold mostly in the nation's breadbasket in Central California.

In a press release dated August 14, 2013 Itronics updated its plans for applications for silver-gold mines that have a silver to gold ratio exceeding 4 to 1 in the ore. Going forward these will be referred to as "silver-gold" mines.

The Company is reviewing potential uses for our de-silvered photoliquids in silver-gold ore processing where the de-silvered liquids would be used to neutralize cyanide tailings or to replace cyanide. The Company is reviewing historical data from silver and gold mining reports from the middle 1800s onward which provides information that may be useable to improve operating results at existing silver-gold mines that use cyanidation recovery technology and for silver-gold mines that would use cyanidation recovery technology and are in the planning and development stage. The plan being implemented envisions that Itronics' already proven silver recovery technologies would be modified to fit specific silver-gold mine requirements. Application modifications would be tailored to fit the operational needs of individual mines.

The potential benefits of the Company's technologies in silver-gold mines are (1) improved silver and gold recovery, (2) reduced cyanide consumption and related costs, (3) environmentally attractive cyanide tailings remediation, and (4) potential for remediation and recycling of certain mine waste streams. Cost savings and improvement in recovery are equivalent to mine expansion for which the value can be calculated, providing a basis for measuring the value of the technologies at specific mine operations.

In the third quarter of 2013 the Company began laboratory and small pilot scale test work to evaluate whether some of the information in the historical published literature could be utilized to improve the Company's refining process in anticipation of developing specific mine applications. In August a new refining process for recovering silver from the Company's silver-iron-sulfur concentrates (the solids resulting from the photoliquid de-silvering process) was formulated. This new approach has been under small pilot scale testing since then. As of early December the new process has been working, with the last test melts performing according to expectations. The Company is now going to start the scale up to commercial size melts, work that should be completed during the first quarter of 2014.

Benefits of the new process are improved first pass recovery, elimination of an intermediate processing step that is now required to achieve full recovery, and a reduction in glass slag production. The result is a significant improvement in silver refining economics and productivity. A secondary benefit is that this process will be useable for refining a wider variety of silver bearing materials, including products from silver-gold mines.

The Company is developing a liquid product that will be able to neutralize cyanide, recover residual silver and gold in process tailings that are being neutralized, and that will be environmentally compatible. The Company believes that development of a liquid to neutralize cyanide, that is safe and easy to handle in the work place, will be attractive to many mines and laboratories. The product should be an especially good fit for those operations where "in plant" neutralization is desirable for worker and environmental safety.

Most of the theoretical work to create this product is complete. The liquid will essentially be a low analysis fertilizer that can be registered in Nevada. It is based on the Company's proven fertilizer manufacturing technology which is used to make award winning GOLD'n GRO fertilizers. In future reports this will be referred to as the Itronics "KAM Thio" process. The liquid is being named "KAM Thio" and may be labeled with a fertilizer analysis.

Development of the KAM Thio process was started during the third quarter by using the Company's de-silvered photoliquids, which are being re-formulated as KAM Thio, to recover silver from the Company's internally generated glass refining slag. Preliminary results are positive with good recoveries being achieved. This testing will be continued and will be extended and expanded in 2014 to silver-gold mine ore and tailings samples from Nevada silver-gold mines.

Evaluation of KAM Thio ability to neutralize cyanide will also be started in 2014. The Company believes, based on testing it performed on gold mill tailings in the early 1990's, that this chemistry will be able to neutralize cyanide in contaminated liquids and solids. In tailing neutralization it will simultaneously recover some of the residual silver and gold that is left in the ore, but which cannot be recovered economically with conventional technology. The Company's initial testing on its own internally generated glass slag is demonstrating the validity of the earlier work and of the overall concept.

Itronics is planning to move into silver-gold mining by seeking joint venture opportunities at existing and planned projects. The joint ventures would be developed specifically to adopt certain of the Company's technologies to improve operating results at selected mine sites that the Company believes may have ore that is amenable to application of this technology. Initially, heap leach projects in Nevada are preferred due to the Company's familiarity with Nevada silver-gold deposits and Nevada environmental permitting requirements. Planning and early stage discussion with potentially interested parties (including permitting authorities) for this is underway, but actual solicitation of joint venture interest has not yet commenced.

Sales of chemical products into the Nevada mining market would be less seasonal than fertilizer utilization. Due to strong seasonality in the fertilizer segment, the manufacturing plant operates at a small fraction of its single shift capacity about 6 months of the year. Additional benefits of expanding photochemical throughput would be expansion of silver recovery, refining, and sales and an increase in the market for Value-Added recycling of spent silver-bearing photochemicals. Moving in this direction should make it possible for Itronics to expand its services in the spent silver bearing photochemical segment.

"Development of technology assets by the Company makes it possible to capitalize on its intellectual property and technical expertise and to create the opportunity for potentially rapid increases in the value of those assets," said Dr. John Whitney, Itronics President. "Moving into silver-gold mine applications is a major development for the Company. We expect this expansion to create many exciting new business opportunities."

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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