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Itronics Reports Positive Results From KAM-Thio Tests to Recover Silver, Gold and Neutralize Cyanide From Leached Mine Tailings

RENO, Nev., Dec. 14, 2017 (GLOBE NEWSWIRE) -- Itronics Inc. (OTC:ITRO), a diversified producer of GOLD'n GRO zinc fertilizers and silver products and a green technology development company today reported positive results from initial testing of its KAM-Thio technology on silver-gold heap leach tailings.

The mining company's cyanide leaching process recovered approximately 90 percent of the gold and about 60 percent of the silver that was in the ore. KAM-Thio leaching test results are demonstrating that the residual silver, gold, base metals, and cyanide are being recovered from the leached ore, making this an environmentally attractive new process. Measurements indicate that zinc is the principal base metal being recovered by the KAM-Thio solution, but small amounts of copper and cobalt are also being recovered.

Itronics proprietary silver recovery technology, which is used to remove silver from spent photographic liquids, is then used to treat the KAM-Thio leaching solution to remove silver, gold, and base metals from the liquid. The metals were successfully removed and the leach solution was partially regenerated by the metal removal process, thereby reducing consumption of KAM-Thio liquid, further validating the effectiveness of this "Breakthrough" technology in the mining application. The metal concentrate produced by the metal recovery process contains zinc as the major metal, silver and gold as the metals of value, and small amounts of copper and cobalt.

Test results are showing that the cyanide residual in the cyanide leached ore is completely removed by the KAM-Thio leaching solution and that the cyanide is neutralized to the drinking water standard in KAM-Thio solution that has been treated to remove silver, gold, and base metals. Elimination of residual cyanide from the cyanide leached ore adds value by making it easier for a mining company to recover its reclamation bond funds, and producing clean rock to be evaluated for other uses. Recovering residual silver and gold provides a revenue stream to offset the costs of the remediation.

"These preliminary results are very positive and provide justification for continuing the work", said Dr. John Whitney, Itronics President. "Process economics have not yet been evaluated, but analysis done to date indicates that KAM-Thio consumption may be relatively modest. Most importantly, results obtained to date indicate that the residual silver, gold, base metals, and cyanide can be removed from the cyanide leached ore by the KAM-Thio leaching solution and that the leached silver, gold, and base metals can be completely recovered from the leaching solution."

Additional testing is required to optimize recoveries and to optimize the use of KAM-Thio to achieve those recoveries. The optimization studies will provide the technical basis for developing a process flow sheet for a scoping study, to be followed by a series of feasibility studies needed to put the KAM-Thio technology into commercial use at a mine company's operations.

Based on work completed to date, the Company believes that the KAM-Thio can work on virgin ore that has not been leached by cyanide. Samples of virgin ore have been obtained for testing. If the KAM-Thio technology recovers a sufficient percentage of the silver and gold from this ore, then it would become a substitute for the use of cyanide. Elimination of cyanide could significantly change the permitting cost profile of a mining project.

Itronics' wholly-owned subsidiary, Itronics Metallurgical, Inc., is performing the test work. All samples are being analyzed by qualified independent laboratories. Preliminary technical flow sheet development and engineering scoping is being performed by Itronics' wholly-owned technical services subsidiary, Whitney & Whitney, Inc.

The Company's plan is to generate substantial additional revenues by developing site specific KAM-Thio technology use through mining joint ventures. The Company expects that joint ventures would generate significant non-seasonal revenues year round.

Itronics is favorably located in Reno, Nevada. Much of Nevada's gold and silver is produced using cyanide heap leach technology. Nevada, as one of the top 10 gold producing areas in the world, is one of the largest potential markets in the world for adoption of KAM-Thio technology. This market is literally in Itronics' backyard.

About Itronics

Headquartered in Reno, Nevada, Itronics Inc. is a "Creative Green Technology" Company which produces GOLD'n GRO specialty liquid fertilizers, silver bullion, and silver-bearing glass. The Company's goal is to achieve profitable green technology driven organic growth in specialty GOLD'n GRO fertilizers, silver, zinc, and minerals. The Company's technologies maximize the recovery and uses of metals and minerals and by doing this maximize sustainability.

Through its subsidiary, Itronics Metallurgical, Inc., Itronics is the only company with a fully permitted "Beneficial Use Photochemical, Silver, and Water Recycling" plant in the United States that converts 100 percent of the spent photoliquids into GOLD'n GRO liquid fertilizers, silver bullion, and silver bearing glass. This is internationally recognized award winning "Zero Waste" Technology. The Company is developing a portfolio of environmentally beneficial "Zero waste" processing and mining technologies. Itronics has received numerous domestic and international awards that recognize its ability to successfully use chemical science and engineering to create and implement new environmentally green recycling and fertilizer technologies.

The Company's environmentally friendly award winning GOLD'n GRO liquid fertilizers, which are extensively used in agriculture, can be used for lawns and houseplants, and are available at the Company's "e-store" on Amazon.Com at: https://www.amazon.com/s/ref=nb_sb_noss_2?url=search-alias%3Daps&field-keywords=GOLD%27n+GRO. Due to expanded retail customer interest, GOLD'n GRO fertilizer may now be purchased in Reno, Nevada at "Buy Nevada First Gift Shop", 4001 S. Virginia St., Reno, NV 89502. As retail interest expands, new retailers will be added.

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