



EnviroLeach Technologies – urban e-waste miner

by Kathrine Moore

ENVIROLEACH TECHNOLOGIES INC. [ETI-CSE, EVLLF.-OTCQB], based in Burnaby, British Columbia has developed an environmentally-friendly method of extracting gold from ores, concentrates and e-waste using only FDA approved ingredients. Duane Nelson, founder, President and CEO of EnviroLeach Technologies told *Resource World* the environmental impact of EnviroLeach’s proprietary, non-cyanide, non-strong acid based extractive technology will be world altering.

EnviroLeach has partnered with the world’s third largest electronics manufacturer, Jabil, a \$20 billion company operating in over 100 locations in 28 countries employing over 175,000 workers. They are the company behind brands like Apple, Dell and Cisco. Jabil is looking to offer a cradle-to-grave solution for the products they manufacture. EnviroLeach Technologies has the winning formula.

Leslie Michael, Director Corporate Communications for EnviroLeach Technologies said “Jabil went in search of a process which can extract precious metals from electronic waste that is economic and environmentally friendly. They selected our formula because it is a safe, scalable, cost

effective process that dissolves gold into solution. The formula is near neutral pH, using only FDA approved ingredients and no off gases are produced. All the boxes are checked.”

Nelson told *Resource World* EnviroLeach Technologies is focusing on e-waste and is working with Jabil to set up the first e-waste plant in Memphis, Tennessee. The 10 tonne-per-day plant has been delivered and is in full scale testing right now. “We are putting materials into solution We hope to be in full-scale production by the end of January.” Nelson said that Jabil plans to scale up to 50 tonnes a day in the near future.

Besides the plant in Tennessee, EnviroLeach plans to open three company owned e-waste plants, One in Vancouver, Canada in 2019, an American city in 2020 and a third plant in 2021. Nelson said each plant will scale up to process 50 tonnes of e-waste per day at an estimated average grade 90 g/t gold for over ~40,000 ounces per year. As well, each plant will annually produce an estimated 1,500 tonnes of copper.

Eventually, Jabil and EnviroLeach will be mining e-waste in other parts of the

world. Nelson stated, “e-waste is a 50 million tonne per year problem and opportunity. And it is growing. It is expected to be 76 million tonnes by 2026.”

Nelson said, “Jabil wants to own this space; they want to control the e-waste space around the world. Though they have not provided their timelines yet, they are certainly going to be looking at adding more plants throughout the world.

Nelson described the unique chemistry of the leaching process. “We mix five individual FDA approved ingredients together with ambient temperature water. Each of the ingredients are FDA approved for human consumption. That part alone is incredible.”

EnviroLeach has also partnered with Element Six, a De Beers Group Company. Nelson said “Element Six grows pure diamond anodes for use in a unique and proprietary new electrochemical process. It is inorganic chemistry with an electrochemical twist. This is something brand new. The power going through the diamond anodes alters the original chemistry, so it will dissolve the metals into solution. We even do selective dissolution; whereby we can select which metals we want to go into the solu-



Images courtesy of EnviroLeach Technologies Inc.

tion and we can recover metals out of the solution using conventional precipitation, electrowinning or carbon absorption. When we are done and have taken the metals out, the solution goes back through the electrochemical process for reuse again and again.”

Nelson says the waste that is left after the

leaching process is still very rich containing some 15% copper and 5% nickel. “The waste is shipped to smelters around the world. We have a near zero environmental footprint. There is no off gassing, there is no effluent and there are no solids left.

Though EnviroLeach is focused on

the e-waste sector right now, Nelson says they have not forgotten the mining sector and are testing ores and concentrates on a daily basis with “very positive results”. Nelson was the CEO and co-founder of gold and silver producer Silvermex Resources Inc. ■