

# EnviroLeach Technologies, Inc.

*Developing environmentally friendly and sustainable solutions for the extraction of precious metals for the Mining and E-waste Sectors...*

## Market Data

Trading Symbol:	CSE:ETI
Share Price:	\$0.32 CDN
12 Month High/Low:	\$1.00 - \$0.30
Market Capitalization:	\$16.3 M
Issued Shares:	51 M
Options & Warrants:	16.3 M
Cash Balance:	\$2.00 M
Top Shareholders:	Iberian Minerals: 4.0 % Management & Directors: 11.07 %
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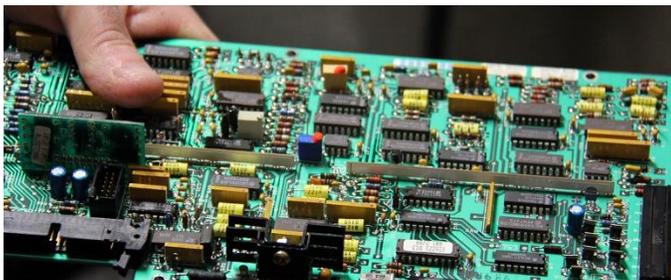
## Overview

EnviroLeach is a Canadian technology company that recovers precious metals from ores, concentrates and electronic waste using environmentally friendly technologies.

The company has developed a unique, cost-effective and environmentally friendly alternative to the current toxic methods used in the hydrometallurgical extraction of precious metals for the mining and Electronic Waste (E-Waste) sectors.

The primary ingredient is FDA approved for nutritional supplements. It is also used in medicines, including the treatment of some cancers. The reagent modifiers are FDA approved Food-Grade additives.

The patent-pending EnviroLeach Process is safe, eco-friendly, and provides comparable leach kinetics to that of cyanide or acid based reagents on most ores, concentrates, tailings and E-Waste. Broad demand for environmental responsibility and sustainability is driving necessity for change in both sectors.



Gold, as one of the most valuable of the precious metals, is produced by both conventional mining methods and more

recently, from end-of-life electronic waste, known today as “urban-mining”. Both of these methods require a safe and effective alternative to their current extractive technologies.

Conventional gold mining operations rely heavily on cyanide leaching as the predominant method for recovering gold from ores and concentrates. Cyanide has been the leach reagent of choice in gold mining because of its high gold recoveries, robustness and relatively low cost. As a result, over 76% of all gold extracted worldwide is produced by hydrometallurgical extraction with the use of cyanide.



Both industry sectors are being challenged by reduced grades, higher production costs, more complex ores and materials and increasingly more stringent environmental guidelines.

Some of the operational benefits of the Enviroleach formula and process include:

- Fast leach kinetics
- Stable & long term gold complex in solution
- Environmentally friendly & safe
- Broad applicability spectrum
- Operates at near neutral pH and at ambient temperature
- No off-gas or detox systems required
- Dry Stacked tailings
- Simplified recovery of metals from solution
- Accelerated permitting process
- Access to jurisdictions that prohibit cyanide
- Reagent is safe, reusable and offers a sustainable alternative to the toxic extraction methods used today

## The Chemistry and Technology

The EnviroLeach process is similar to a cyanide circuit but in fact much safer and simpler. The oxidizing reagent is the result of selective inorganic electro-chemistry which results in the dissolution of the precious metals into aqueous solution. This is followed by the extraction of the resulting gold ion complex using conventional methods such as electrowinning, carbon absorption or precipitation.

The operation is actually quite simple and does not require pressure, elevated temperatures, complex process circuits, intensive gas monitoring or costly detoxification systems.

The patent-pending reagent consists of water plus a base formula of non-toxic dry ingredients. The oxidant is uniquely generated and regenerated for re-use electrochemically. EnviroLeach has completed over 4,000 individual tests. Extensive independent testing and analysis (16 months) was performed by Met-Solve Laboratories Inc. in Langley, BC, and ALS Labs in North Vancouver, BC.

Using the proprietary formula and process, EnviroLeach extracts precious metals from the host material into solution in a safe, environmentally friendly and sustainable fashion.

### The Mining Sector

The hydrometallurgical extraction of gold from ores, concentrates, and tailings in a cost effective and environmentally safe manner offers an interesting challenge. Conventional gold mining operations rely heavily on cyanide leaching as the predominant method for recovering gold from ores and concentrates. Cyanide has been the leach reagent of choice in gold mining because of its high gold recoveries, robustness and relatively low cost.

Mining is one of the world's most important economic sectors. Globally, the gold mining industry directly contributed around US\$ 80 bn to the global economy in 2013. If the indirect economic effect of the industry's expenditure on supplementary goods and services is included, this amount increases to US\$ 171.6 bn.

A recent study by SME indicates that over 76% of gold is produced using cyanide extraction. The gold mining sector uses approximately 66,000 tons of sodium cyanide worldwide. Both the use and disposal of cyanide present significant safety and environmental risks.

### The E-Waste Sector

According to a report offered by US-based Market Research Store, the global e-waste management market was valued at US\$17.0bn in 2015. The E-Waste Management sector is expected to grow to US\$49.4bn by 2020, registering a CAGR of 23.5% during the forecast period 2015 - 2020. In terms of volume, it stood at 86.40 million tons in 2015. As reported, North America accounted for approximately 33.0 % of the total revenue generated in 2015.

It is one of the fastest growing waste streams in emerging as well as developed regions. The reduced life spans of electrical, electronic and consumer electronic devices are generating large quantities of E-Waste, which is growing rapidly every year. Other sector drivers can be attributed to the following:

- Decreasing life span of electronic devices
- Rate of Obsolescence
- Increased adoption of technologies
- High cost of recycling
- Limited eco-friendly recovery processes

Electronic waste - including mobile phones, TVs and computers, is thought to contain as much as 7% of all the world's gold. E-waste recycling will play a significant role in the coming decade and impact industries globally, thereby boosting economy through e-waste management. Currently, only a small portion of products is collected and directed into state-of-the art recycling chains. Significant improvements are needed here to fully utilise this secondary metal resource.



The demand for gold in electronics will undoubtedly continue to increase. The number of gold mines available is limited and they are often in challenging political and geographic locations. Economic uncertainty can influence the availability of gold. Gold accounts for more than half of the revenue from e-waste materials.

*Electronic waste is the fastest growing portion of the municipal waste stream expected to grow to 50 million tons by 2020...*

### Summary

EnviroLeach is uniquely positioned within 2 burgeoning industry sectors with a safe and environmentally friendly product which provides a cost effective solution to the current toxic methods of extraction used today. Both sectors are searching for a viable alternative.

The company has filed 2 patents to protect its intellectual property and has the first mover advantage. The company is actively pursuing strategic relationships in both sectors.