



EcoSat



## XENTECH ELECTRO-CHEMICAL WATER REMEDIATION

**ECOSAT CARBON ENERGY AND WATER** successfully integrated the interdisciplinary properties of chemical engineering, environmental sciences and principles to provide cost effective sustainable Water Based Pollution (WBP) ameliorating and mitigatory solutions to the industry. Our team of dedicated Geo-hydrologists, Chemical Engineers, Geologists, Environmentalists and Enviro-Actuaries continue to deliver sustainable and cost effective environmental amelioration and mitigation solutions.

**ECOSAT TECHNOLOGY** represents a new generation of environmental remediation technologies. These technologies provide cost-effective solutions to most environmental remediation and cleanup problems. The technology is effective on both dust (micro particle) and aquatic environments.

**THE ELECTRO-CHEMICAL** technology manipulates the electrolytic charge in an aquatic medium to bring about chemical changes within the polluted medium (electrolyte). Metaliferous electrodes dissolve in the aquatic medium to liberate highly active ionic species that precipitates, immobilizes complexes and / or physically characteristics in pollutants.

**LIBERATED NANO** scale iron particles have large surface areas and high surface reactivity and provide enormous flexibility for *in situ* applications. Nano scale iron particles are effective for the transformation and detoxification of a wide variety of common environmental contaminants, such as chlorinated organic solvents, organo-chlorine pesticides, PCB's, FOG's, and Cr<sup>6+</sup> (to mention some)

### ***XECR 9000.***

*75 M<sup>3</sup> / hour Potable water from effluent.*



## CAPABILITIES AND ADVANTAGES

Electro-coagulation (EC) utilizes methods that precipitate out large quantities of contaminants in a single operation, the technology is the distinct economical and environmental choice for industrial, commercial and municipal waste treatment. The capital and operating costs are usually significantly less than chemical coagulation and dosing.

Capital recovery can be in less than one year, whilst sustaining a low operational and maintenance cost.

The **XECR** allows for simultaneous, spontaneous and versatile effluent results. This provides:

- Effective natural state stability restoration of radical pollutants;
- Cost effective non intervention pollution remediation process;
- Electrolytic pH restoration that result in the precipitation of the heavy base metals;
- Dissolves flocculation cations without inhibiting anions;
- Sacrificial electrodes extracts and precipitates sulphates, phosphates and metals associated with an effluent;
- Cost effective acid mine drainage amelioration;

### Reduces:

- Chemical Oxygen Demand (COD / BOD) to less toxic and complex units;
- Total Organic Carbon load [TOC] in the effluent;
- Organic loads (FOG's);
- Microbiological contamination;
- Complements desalination technologies;
- Flocculation is being replaced with a cost effective process;
- Complies to all International Safety requirements;
- Allows for low maintenance and periodic replacement of electrodes;

EcoSat Carbon Energy and Water.

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Chrome 6<sup>+</sup> Reduction Electroplating.



Chrome 6<sup>+</sup> Reduction: Ferro-Chrome furnace.



Remove Suspended Solids and Chemicals from River

Removal of COD's at an abattoir.

