



BLACKWATER
HOLDING SYSTEMS LLC.

BIOTECHNOLOGY

APPLIED TO THE TREATMENT
OF WASTEWATER

BIOREMEDIATION

APPLIED TO THE REMEDIATION
OF SOILS AND WATER BODIES



ABOUT US



We are a company founded to design, promote and install infrastructure and sanitation systems for the treatment of industrial and domestic wastewater, as well as a wide variety of Environmental Solutions.

Our headquarters are located in Miami, Florida, USA, and we also have presence in Colombia, Panama, Puerto Rico, Chile, Argentina and Uruguay.

PRODUCTS AND SERVICES

STABILIZATION OF EXISTING TREATMENT PLANTS

- ELIMINATION OF ODORS
- REDUCTION OF TSS AND BOD BY MORE THAN 90%
- FATS TREATMENT
- METABOLIZATION AND VOLUME REDUCTION
- PH STABILIZATION

DESIGN AND INSTALLATION OF WASTEWATER TREATMENT SYSTEMS

- HIGH CONTAMINANT REMOVAL
- SLUDGE TREATMENT

STABILIZATION AND CLEANING OF OXIDATION PONDS

- INCREASE OF CULTIVABLE BORDERS
- RECOVERY OF ECOSYSTEMS
- WATER REUSE FOR IRRIGATION

REMOVAL OF HYDROCARBONS

- CONTAINMENT AND CLEANING OF OIL SPILLS
- CLEANING OF CRUDE OIL STORAGE TANKS
- CLEANING OF VEGETABLE OIL STORAGE TANKS
- CLEANING OF EXTRACTED WATER
- CLEANING OF INDUSTRIAL PROCESSES AND PLANTS



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BIOREMEDIATION

It is the use of microorganisms that are found in the environment and that allow the decomposition of harmful substances, converting them into non-toxic components.



BIOTECHNOLOGY

Technological solutions that go hand in hand with the care of the environment.



VARIETY OF INDUSTRIES

These products can be used in a wide range of industries, reducing the use of chemical substances.



SUSTAINABILITY

Improvement of the quality of life for people, offering a healthy and sustainable environment for future generations.

HYGEA® SEPTIC



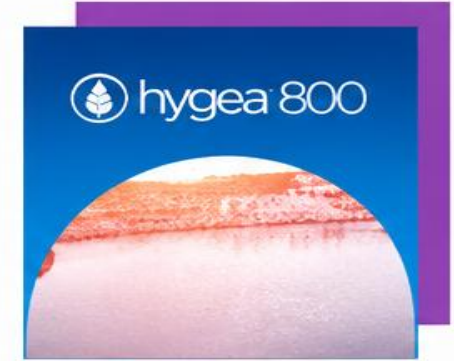
Degrades organic compounds in restaurants, hospitals, slaughterhouses, as well as in any establishment that uses septic tanks or treatment systems for wastewater.

HYGEA® 700



Organic solution of selected and specialized bacterial cultures to obtain a degradation accelerator in residential septic tanks and industrial wastewater applications.

HYGEA® 800



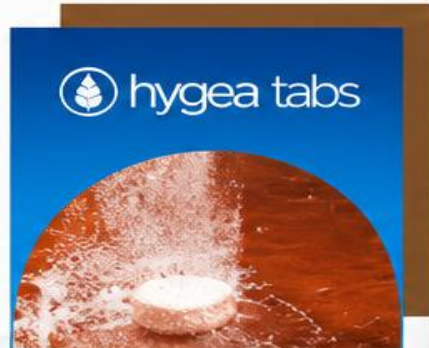
Organic solution of selected and specialized bacterial cultures for use in grease digesters, promoting and accelerating their digestion process.

HYGEA® POWER 10X



Eliminates odors caused by the decomposition of organic waste.

HYGEA® TABS



An organic solution that acts directly on fats, oils and detergents retained in grease traps, septic tanks, lift stations and drainage systems.

HYGEA® OLEOCLEAN



Degrades hydrocarbons.



**SOME SUCCESS
CASES THROUGH
THE USE
OF OUR
MICROORGANISMS**



Stabilization of a production plant of jars

Colonia Sacramento, Uruguay

Stabilization of the WWTP of Ciudad de Rivera

Rivera Department, Uruguay

Cleaning of the force mains of the Pando System – La Tahona

Canelones Department, Uruguay

Stabilization of the WWTP of Ciudad de la Costa

Canelones Department, Uruguay

Decontamination of the “La Cachimba” sanitation lagoons

Ciudad de Young, Río Negro Department



Obras Sanitarias del Estado
Uruguay



BLACKWATER
HOLDING SYSTEMS LLC.

DECONTAMINATION AND STABILIZATION
Pas Carolina, San Juan de Puerto Rico 30 MGD



BLACKWATER
PUERTO RICO INC.



GREENWATER
ENVIRONMENTAL CLEAR CORP.



**Aqueduct and Sewer
Authority**

GOVERNMENT OF PUERTO RICO



Cleaning, capacity expansion and bioremediation of the grease trap system of the Almirante Padilla Naval School.

Cartagena de Indias.

Stabilization of the wastewater treatment plant and reuse of water for irrigation

Marina Barú, Isla Barú, Cartagena de Indias.

Recovery and stabilization of a lagoon for tilapia farming.

Marina Barú, Isla Barú, Cartagena de Indias.

Design, installation and commissioning of 3 domestic wastewater treatment plants for irrigation.

Marina Barú, Isla Barú, Cartagena de Indias.





- 💧 **Bioremediation and stabilization of the treated wastewater receiving lagoon at Parque Central Free Trade Zone.**

Cartagena de Indias, Colombia.

- 💧 **Stabilization of the wastewater treatment plant and water reuse for irrigation.**

Palma Real Residential Community, Cartagena de Indias, Colombia.

- 💧 **Bioremediation of wastewater from the Spectacled Caiman (*Caiman crocodilus*) breeding facility.**
Biological digestion of fats and grease for water reuse.

Croco de Colombia S.A.S. / Bai de Colombia S.A.S.,
Cartagena de Indias, Colombia.



Condominio
Palma Real

- Manzanillo del Mar /
Cartagena -



PROJECT: STATE SERVICE CONTRACT No. 158-2018

BIOREMEDIATION OF A WATER BODY CONTAMINATED WITH MERCURY AND SLUDGE

SAN MIGUEL CORREGIMIENTO, SONSON MUNICIPALITY,
ANTIOQUIA DEPARTMENT, COLOMBIA

2018

CLIENT:



REGIONAL AUTONOMOUS CORPORATION
OF THE RIO NEGRO AND NARE
RIVER BASINS



TECHNICAL SUPPORT:



CONTRACTOR:

BIOTECH ALLIANCE



CORNARE BIOLOGICAL INDICATORS



PRODUCT DESCRIPTION (SUMMARY)

During project execution, biological indicators of decontamination in the water body were identified by analyzing the balance between native microorganisms and those introduced by IOS BIOTECHNOLOGIES LLC. The first sign of activity was the appearance of aquatic insects and dragonflies. This was followed by a high survival rate of fish fry between the second and third week and, later, tadpoles.



KEY BENEFITS (SUMMARY)

Indicators appear naturally in the water body. Biotech Alliance introduced 10 native fish species that serve as self-monitoring indicators: catfish and mojarras.



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PROJECT:
LEACHATE TREATMENT PLANT STABILIZATION
SANITARY LANDFILL OF OLAVARRÍA
MUNICIPALITY (2019-2020)

CLIENT:



CONTRACTOR:



TECHNICAL SUPPORT:



BACKGROUND

- ✓ The Sanitary Landfill of Olavarría City receives approximately 100 tons/day of MSW (Municipal Solid Waste), in addition to a small amount of special industrial waste (RINs) and commercial waste.
- ✓ Due to their bacteriological and chemical load, leachates must be treated before being discharged into natural environments to prevent contamination of surface and groundwater.



PROJECT PERIOD:
2019-2020



LOCATION:
Olavarría, Province of Buenos Aires, Argentina

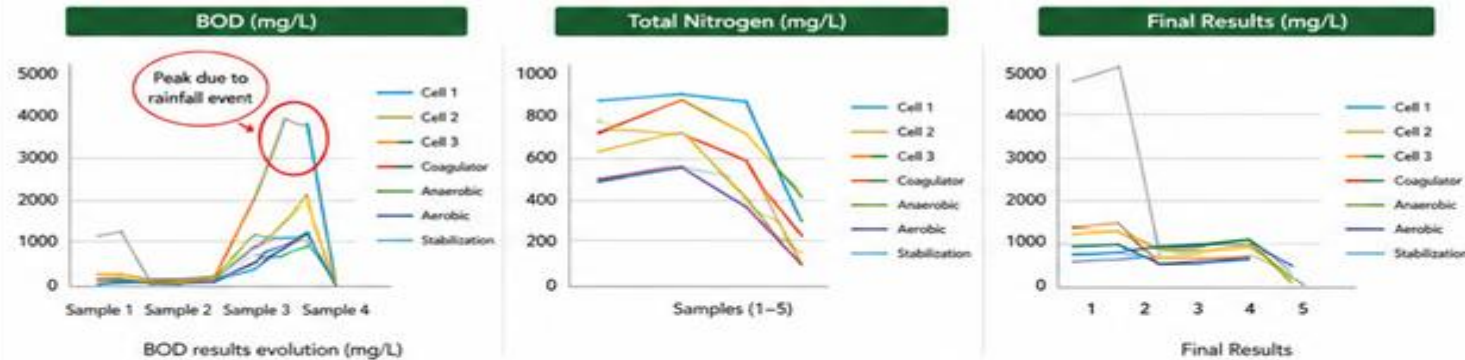


SYSTEM TYPE:
Leachate treatment plant



OBJECTIVE:
Stabilize the treatment system, improve efficiency and reduce the pollutant load in the final discharge.

LABORATORY RESULTS: BEFORE AND AFTER



CONCLUSIONS

The results obtained during the first month (Samples 4 and 5) show a clear increase compared to the values of the analyzed treatment units.

This is due to the system settling in, where microorganisms digest solids adhered to the installations and equipment, producing a decrease in BOD (Sample 9).

ACHIEVED BENEFITS



Reduce organic load (BOD) by up to 41.5%.



Reduce homogenization tank outlet load by 63.5%.



Reduce final discharge load by 84.1% prior to discharge.



Optimize efficiency and environmental sustainability.