



ADVANCE
ALLIANCE

Nature in a bottle

Industrial & Municipal Waste Water Remediation

Cost effective bio-remedial agent.
Brought to you by Advance Alliance

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Industrial & Municipal Waste Water

- Currently one of the most important issues faced by most governments and municipalities is the effective handling of both municipal and industrial waste water.
- The major issue within waste water treatment is overloaded systems, where infrastructure has not kept up with increasing populations, placing stress on waste water treatment systems.





How does it affect you?

- The majority of waste water treatment plants are unable to effectively treat waste water. In these environments, the pathogens within waste water thrive, contaminating both surface and ground water upon discharge, resulting in serious human and environmental hazards.
- Operators attempt to manage this with the use of filters, chlorination, and UV lighting amongst other methods - Many of these methods are proving to become less effective and efficient, as the waste water burden increases.

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What do we do?

Advance Alliance presents the 100% environmentally friendly Waste Water Remediator. The most cost effective and efficient means of rapidly metabolising the pollutants of both industrial and municipal waste water into harmless proteins and amino acids.

The resulting products will be pathogen and odour free.

The product is cost effective, environmentally friendly, easy to apply and harmless to humans.

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What do we do?

Cleaning waste water is the action of separating the water from everything else. Common pollutants include: sewage, fats, oils, greases, chemicals, heavy metals and pathogens.

While traditional means, such as filters, other bacteria and chemicals are frequently used, they are unable to perform effectively in a safe or economical way.

Ergofito cleans waste water biologically, decomposing all pollutants and organic matter into proteins and amino acids.

We are able to operate in any aerobic environment :

- In nature - such as polluted oceans, rivers, or lakes.
- Or in closed filtering systems - such as sewage or effluent treating plants - requiring only an aerated tank in which to operate.



Advantages

- Ergofito is highly cost-effective in remediating industrial and municipal waste water, rapidly.
- By making use of our solution, you will produce active sludge that is both pathogen, and odor free.
- You will produce water and humus that can be used in agriculture.
- Ergofito is environmentally friendly, safe for human contact, and easy to apply.
- The product is far more effective than traditional means of waste water remediation.
- All pH adjusting & chlorination can cease.

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Visible Benefits

- Phosphorus Reduction
- Nitrogen Reduction (*eliminates floating sludge problems*)
- Lower Fats, Oils and Greases
- Significant Odor Reduction
- Pathogen Reduction / Elimination
- Sludge (*Class A – Pathogen Free*)
- Eliminates Struvite Problems
- Lower Cost of Operations

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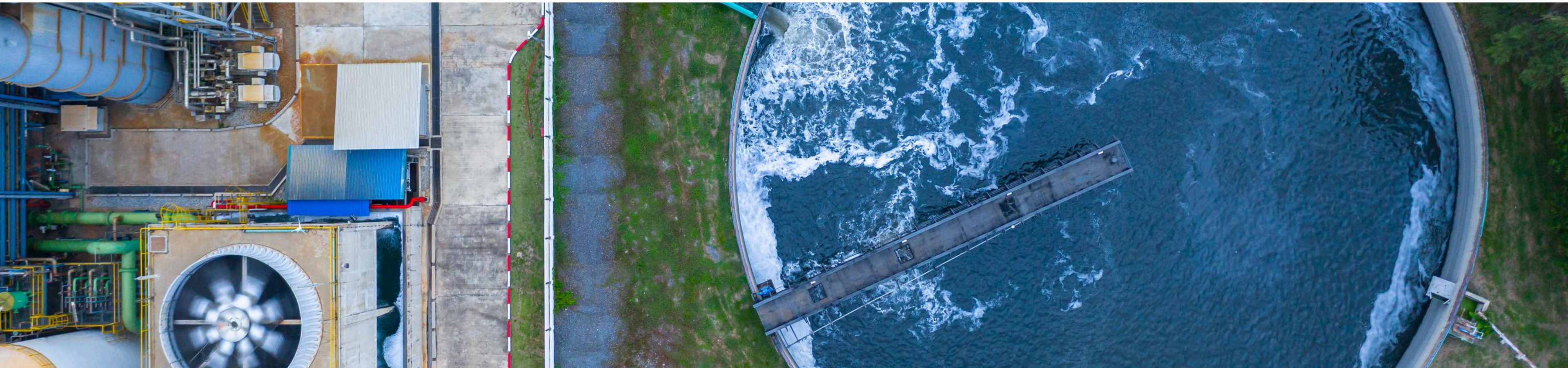
Tested

In a test conducted by Musa Group in waste water analysis in Saudi Arabia, H₂S levels decreased from a base of 92ppm in the air, to 0ppm in the air after 3 hours.

NH₃ levels in air decreased from 18ppm, to 2ppm in the air after 3 hours

NH₄ will also be metabolised.

In the water, levels decreased from 3.6ppm to 1.5ppm in the same 3 hour period.





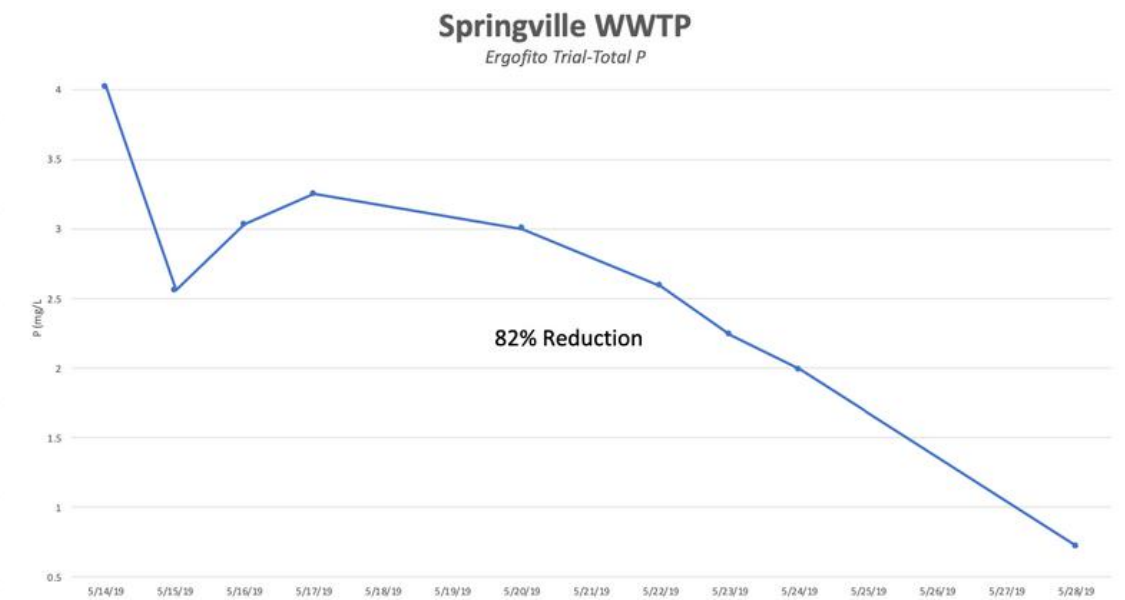
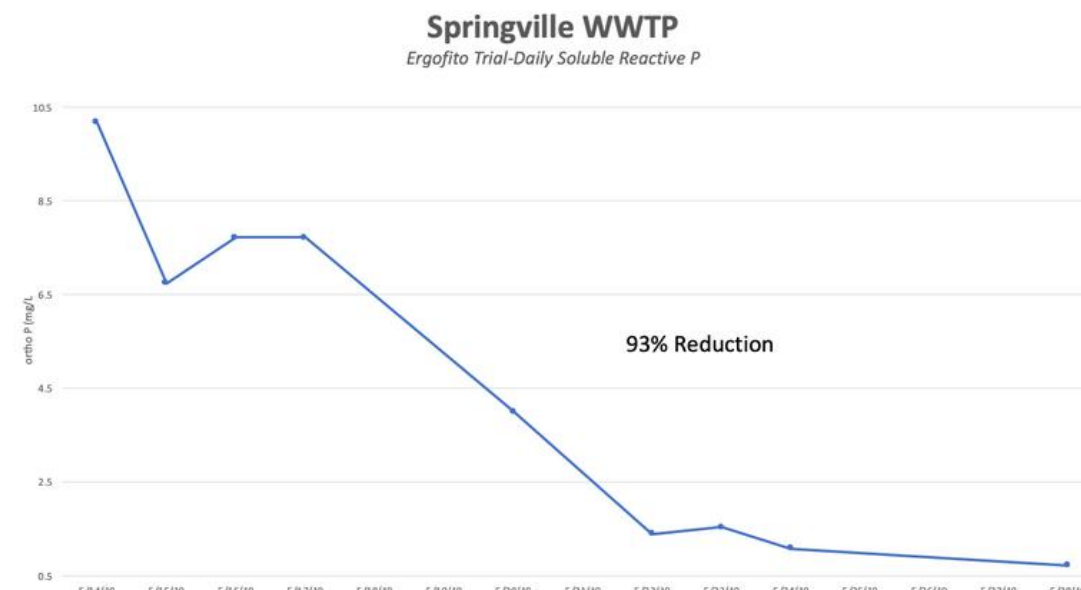
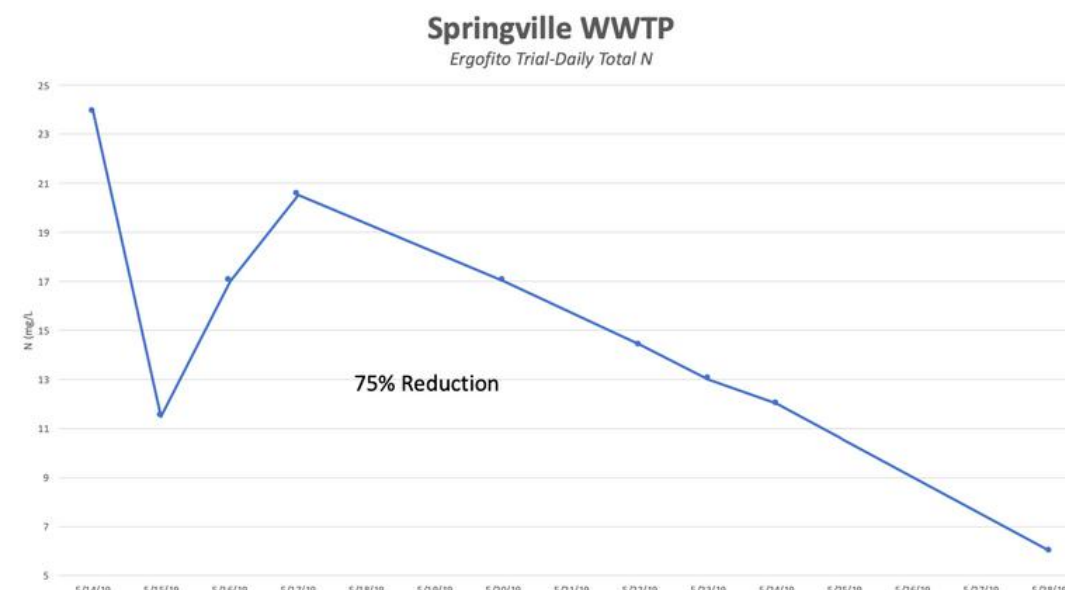
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Tested

Results from a 2 week trial at the City of Springville (USA) Waste Water Plant:

With our solution, they are the first Waste Water Treatment Plant in the USA to be compliant with the updated nutrient standards.

Additionally, with our system, they already meet the proposed 2025 nutrient standards.



Full study reports and additional trials available on request.



Tested

RED : Compounds increase from untreated sludge

GREEN : Compounds decrease less than 50%

GREY : Irrelevant changes

BLUE : High level decrease, more than 50%

JACKSON WWTP TABLE

TEST	BEFORE TREATMENT	AFTER TREATMENT	UNITS	CHANGE
AMMONIA NITROGEN	873	27,9	mg/Kg	-96,80
NITRATE (NO3-N)	0,487	2,04	mg/Kg	319
NITRITE (NO2-N)	9,76	2,75	mg/Kg	-71,82
NITRATE+NITRITE-N	9,76	4,51	mg/Kg	-53,79
PH	6,7	6,3	s.u.	
TOTAL SOLIDS	20,5	98,1	%	378,54
TOTAL VOLATILE SOLIDS	4,75	9,7	%	104,2
TOTAL KJELDAHL NITROGEN	28 500	6 500	mg/Kg	-77,19
TOTAL PHOSPHORUS	18900	5 160	mg/Kg	-72,70
TOTAL ARSENIC	9,27	4,72	mg/Kg	-49,08
TOTAL CADNIUM	0,659	0,667	mg/Kg	1,21
TOTAL CHRONIUM	28,8	16,6	mg/Kg	-42,36
TOTAL COPPER	334	59,4	mg/Kg	-82,22
TOTAL LEAD	22,1	13	mg/Kg	-41,18
TOTAL MERCURY	0,458	0,175	mg/Kg	-61,79
TOTAL MOLYBDENUM	6,44	2,21	mg/Kg	-65,68
TOTAL NICKEL	21,1	12,2	mg/Kg	-42,18
TOTAL POTASSIUM	2 060	2 690	mg/Kg	30,58
TOTAL SELENIUM	4,88	1,31	mg/Kg	-73,16
TOTAL ZINC	507	152	mg/Kg	-70,02
TOTAL COLIFORM	293 000	611	cfu/g	-99,79
MOISTURE	79,5	1,9	%	-97,61



Tested

- During natural decomposition of the sludge, some N components will change due to the bio initiation of the de-nitrification shown in this report.
- The NO₃- N has increased due to the natural de-nitrification processes triggered by the Ergofito bacteria introduced to treat the sludge.
- Overall the N group has decreased substantially as it has been made ready for plant absorption.
- The increase in solids in the soil is the result of the applied Ergofito bacteria.
- The slight increase in Cadmium reading is due to the ability of the treated soil to release all heavy metals trapped initially by the original hydrophobic sludge.
- Potassium increase is due to the release from the soil during the decomposition stage. The Potassium was always in the soil but could not be accurately read in the clumped up sludge.
- Potassium is not produced but released from the sludge.
- The decrease in most heavy metals is only due to the chelation reaction of the Ergofito bacteria where organic bonds are decomposed.
- The coliform units are mostly eliminated as Ergofito bacteria will compete for food with all known pathogens found in Fecal coliform.



Tested

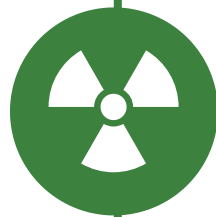
CONCLUSION:

The before and after laboratory reports clearly demonstrate that the sludge has severely transformed into an beneficial agricultural soil. Once the sludge is bio treated by Ergofito, it can be safely be disposed as top soil. It is pathogen free and has sufficient nutrients to support plant life. It is also safe for all life forms, water tables and soils.

COMPARISON OF SOLUTIONS

COMMERCIAL FEASIBILITY STUDY BY CITY OF SPRINGVILLE WASTE WATER TREATMENT PLANT

TRADITIONAL / CHEMICAL TREATMENT



- Anoxic Basic
- Chemical Precipitation
- DAF
- Est. Capital Requirements: \$1.7M+
- Est. Op. Ex.: \$595K+ (for 1mg/l P)
- Est. Op. Ex.: \$ 1.6M+ (for 0.1mg/l P)

ADVANCE ALLIANCE SOLUTION



- 42 Biological Enzymes
- 100% natural & EPA approved
- Apply directly to headworks
- No capital expenses or upgrade
- No long-term commitments
- Monthly service charge
- Meet 2020 compliance in 15 days (USA)
- Meet estimated 2025 compliance in 15 days (USA)

Certification

✓ South Africa

✓ USA

✓ New Zealand

✓ Nigeria

✓ Hong Kong & China

✓ Saudi Arabia

✓ Oman

✓ Europe

✓ Kuwait



Emergency Management

http://www.epa.gov/oem/content/ncp/products/ergofit.htm
Last updated on Tuesday, August 09, 2011

You are here: [EPA Home](#) [Emergency Management](#) [NCP Subpart J](#) [NCP Product Schedule](#)
ERGOFIT MICRO MIX AQUA

ERGOFIT MICRO MIX AQUA

TECHNICAL PRODUCT BULLETIN: B-67
USEPA, OIL PROGRAM CENTER
LISTING DATE: JULY 27, 2011
"ERGOFIT MICRO MIX AQUA"

I. NAME, BRAND, OR TRADEMARK

ERGOFIT MICRO MIX AQUA
Type of Product: Bioremediation Agent (Microbiological Culture, Enzyme Additive, Nutrient Additive)

II. NAME, ADDRESS, AND TELEPHONE NUMBER OF MANUFACTURER/CONTACT

ERGOFIT USA LLC
40 E. Main Street #379
Newark, DE 19711
Phone: (302) 235-3085
Fax: (801) 846-8043
Mobile: (985) 722-8882 or (310) 739-9773
E-mail: info@micromix-usa.com
Web Site: www.micromix-usa.com
(Mr. Warren Russell, US Factory Representative)

III. NAME, ADDRESS, AND TELEPHONE NUMBER OF PRIMARY DISTRIBUTORS

Systems Research International, Inc.
13 Hermitage Court
Destrehan, LA 70047-3626
Phone: (985) 764-1692
Mobile: (985) 722-8882
E-mail: info@micromix-usa.com
Web Site: www.micromix-usa.com
(Mr. Ram Ramachandran, Principal Engineer)

IV. SPECIAL HANDLING AND WORKER PRECAUTIONS FOR STORAGE AND FIELD APPLICATION

1. Flammability: Water-based, Non-flammable
2. Ventilation: Needs no ventilation; aqueous-based organic product; does not emit hazardous vapors. Some CO2 may build up.
3. Skin and eye contact; protective clothing; treatment in case of contact: ERGOFIT MICRO MIX AQUA is not a dermal irritant. Avoid eye contact, and wear goggles when using product. Eyewash for quick and copious eye flushing should be available on site. Seek prompt medical attention should contact occur and if irritation persists. Protective rubber gloves are suggested during handling. ERGOFIT MICRO MIX AQUA has a smell of fermentation and yeast. The product does not give off harmful vapors. Long storage will cause build CO2 in water vapor.
- 4.a. Maximum storage temperature: 104°F
- 4.b. Minimum storage temperature: 32°F
- 4.c. Optimum storage temperature range: 57°F to 97°F
- 4.d. Temperatures of phase separation and chemical changes: above 113°F

V. SHELF LIFE

ERGOFIT MICRO MIX AQUA has a recommended shelf life of 5 years. After 5 years at

VII. TOXICITY AND EFFECTIVENESS

a. Toxicity:
NA

b. Effectiveness:
Bioremediation Agent Effectiveness Test (40 CFR 300.900), Federal Register September 15, 1994:

Summary Data Table:

DAYS	PRODUCT	TOTAL MEAN 3 REPS/PROD ALKANES (ppm)	RED% 28 DAYS	TOTAL MEAN AROMATICS (ppm)	RED% 28 DAYS
0	CONTROL PRODUCT	239,235 239,686	0 0	16,502 17,431	0 0
7	CONTROL PRODUCT	217,023 17,819	9.30 92.6	10,942 9,606	33.70 44.90
28	CONTROL PRODUCT	188,379 2,216	21.3 99.10	8,989 3,100	45.50 82.20

Results of Gravimetric Analysis:

Percentage (%) Decrease in Weight of Oil on Day 28

Control: 1.7%
Product: 45.6%



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OPPORTUNITY FOR A TRIAL WITH ALL WASTE WATER TREATMENT PLANTS:

BEST PLACE TO TRIAL THE PRODUCT:

At a Waste Water Treatment Plant (WWTP) of any size. A trial will take a minimum of 15 full days. The smaller the treatment plant, the cheaper the trial will be.

MONITORING AND EVALUATION:

In terms of tracking and monitoring, no additional equipment is needed over the standard monitoring equipment available at most WWTP's. The only thing we need is for the water to be tested by independent labs, either daily or pre and post trial.

IS THIS SUSTAINABLE AND ECO-FRIENDLY?

We have a huge amount of backup for this, being EPA approved, approved for use in Europe, Saudi Arabia, New Zealand and Australia. Additionally, our product is approved for use in waterways and rivers in the state of California- a notoriously difficult certification to attain.

COST SAVINGS?

The cost savings would come from being able to eliminate the use of many chemicals in the WWTP. Once using our product you can cease the use of chlorination, or lime, and cease UV treatment of the water, and come out with a far higher level of water quality. Sludge and water that is usable in agriculture will be produced.

COST OF THE TRIAL?

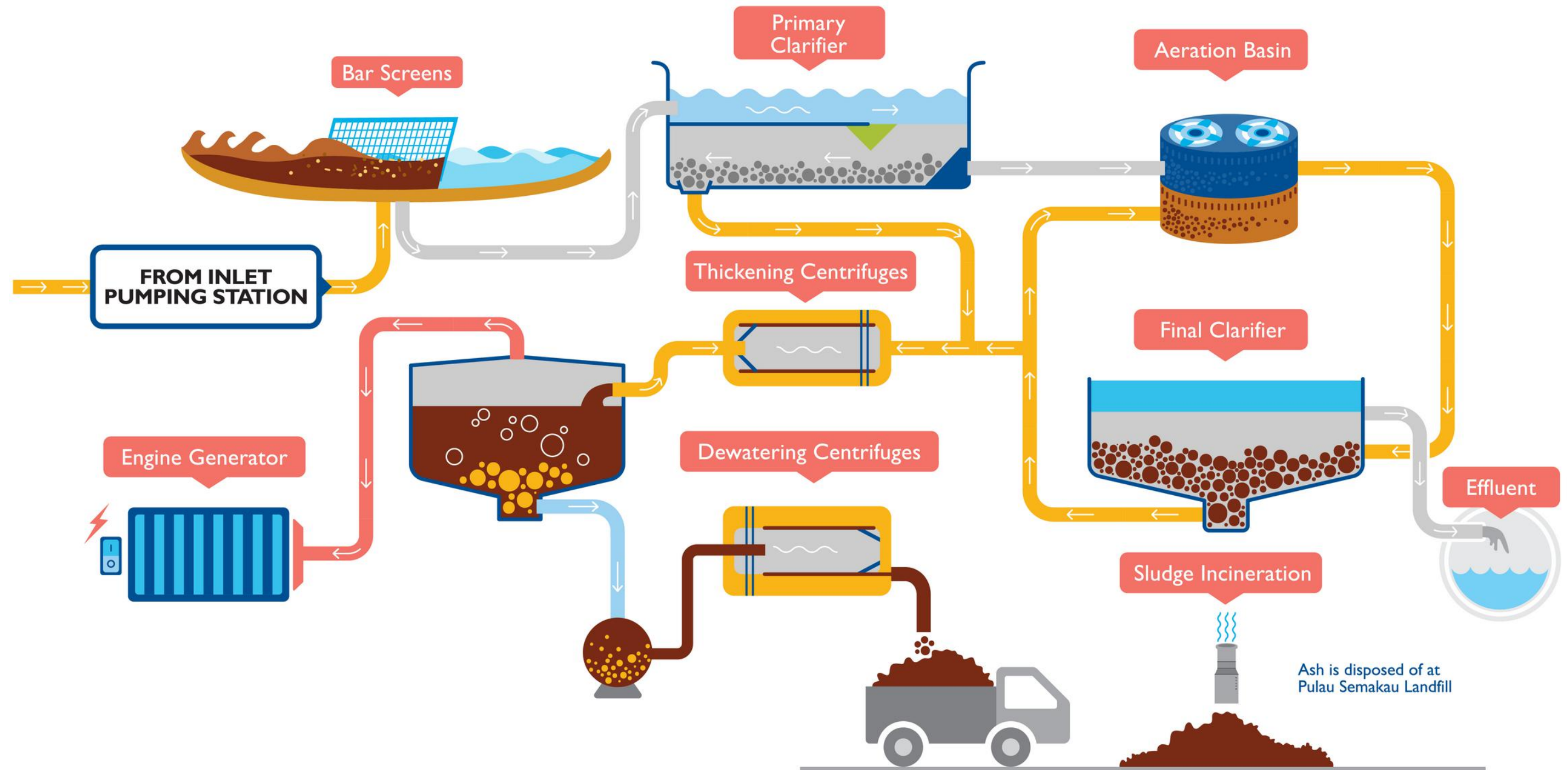
This will be determined once the site of the trial is confirmed. Once we understand how many m³ per day the WWTP treats, we are able to quote the cost of the product. Other costs will include transport of product, and third party testing of water and sludge quality.



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Ideally, Ergofito is added as early in the process of water treatment as possible.

In this case, the application is very simple, as our solution is added at the inlet pipe, or behind the bar screens (whichever is easier / more accessible)





WHAT CAN YOU EXPECT?

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Visible Benefits

- Phosphorus Reduction
- Nitrogen Reduction (*eliminates floating sludge problems*)
- Lower Fats, Oils and Greases
- Significant Odor Reduction
- Pathogen Reduction / Elimination
- Sludge (*Class A – Pathogen Free*)
- Eliminates Struvite Problems
- Lower Cost of Operations



IMPROVE HEALTH & SAFETY IN LOW INCOME / RURAL AREAS

We offer the perfect solution to pit latrine sewage management

- Our bacteria begin eliminating all odours within minutes
- Sewage is rapidly decomposed into water, CO₂, and topsoil
- Sewage volume reduction- therefore the life of the pit latrine is extended.
- Eliminate all harmful pathogens. Eliminate the risk of pit latrine sewage contaminating fresh water sources
- Pathogenically neutralized sewage has no offensive odour and can simply be used as a fertilizer for food or for non-food crops (bio diesel, shrubs, pasture, flowers etc.). In pit latrines there are no heavy metals or dangerous compounds once bacterially treated.

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Contact Us

For any questions or clarifications on our presentation.

Website

www.advalli.com

Phone Number

+27 82 678 0070

Email Address

Cheyne@advalli.com