



*Maine Center for Disease
Control and Prevention*
An Office of the
Department of Health and Human Services

John E. Boldacci, Governor

Brenda M. Harvey, Commissioner

Department of Health and Human Services
Maine Center for Disease Control and Prevention
286 Water Street
11 State House Station
Augusta, Maine 04333-0011
Tel: (207) 287-5689
Fax: (207) 287-3165; TTY: 1-800-606-0215

March 31, 2010

SludgeHammer
Attn.: Dan Wickham, Pres.
336 South Division Road
Petoskey, MI 49770

Subject: NSF/ANSI Standard #40 Approval, SludgeHammer S-400 and S-600

Dear Mr. Wickham:

The Division of Environmental Health has reviewed the information you have provided, which documents certification of the SludgeHammer S-400 and S-600 models, by the National Sanitation Foundation, for Standard #40.

Pursuant to Section 1802.4(4) of the Subsurface Wastewater Disposal Rules, the S-400 and S-600 models are approved for general use in Maine, based upon the NSF certification.

Sincerely,

James A. Jacobsen, Environmental Specialist IV
Project Manager, Webmaster
Division of Environmental Health
Drinking Water Program
Subsurface Wastewater Unit
286 Water Street, Augusta, ME 04333
e-mail: james.jacobsen@maine.gov

xc: File


Jacobsen, James

From: Dan Wickham [dwickham@sludgehammer.net]
Sent: Wednesday, August 26, 2009 12:43 PM
To: Jacobsen, James
Subject: NSF 40 approvals for Maine
Follow Up Flag: Follow up
Flag Status: Red
Attachments: Revised listing.pdf

Jim,
In a recent discussion with you I mentioned that we had received NSF 40 certification for two of our models of SludgeHammer. You mentioned that I should send you the listing so you could go ahead and approve these models for sale in Maine. I am attaching the listing document so we can proceed along those lines. Thanks for any help you can give.

Dan Wickham



OFFICIAL LISTING

NSF International Certifies that the products appearing on this Listing conform to the requirements of
NSF/ANSI Standard 40 - Residential Wastewater Treatment Systems

This is the Official Listing recorded on August 5, 2009.

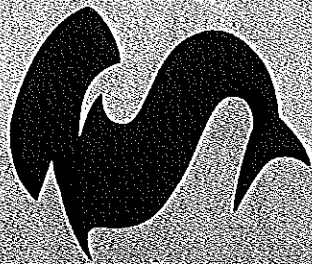
SLUDGEHAMMER GROUP LTD.
336 SOUTH DIVISION ROAD
PETOSKEY, MI 49770
800-426-3349
231-348-5866

Facility: HARBOR SPRINGS, MI

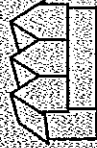
Model Number	Rated Capacity Gallons/Day	Classification
S-400	400	Class I
S-600	600	Class I

Note: Additions shall not be made to this document without prior evaluation and acceptance by NSF International.

1 of 1



commercial & industrial



communities



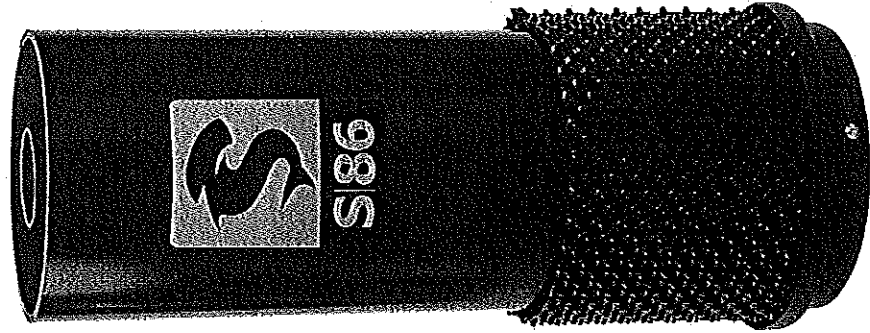
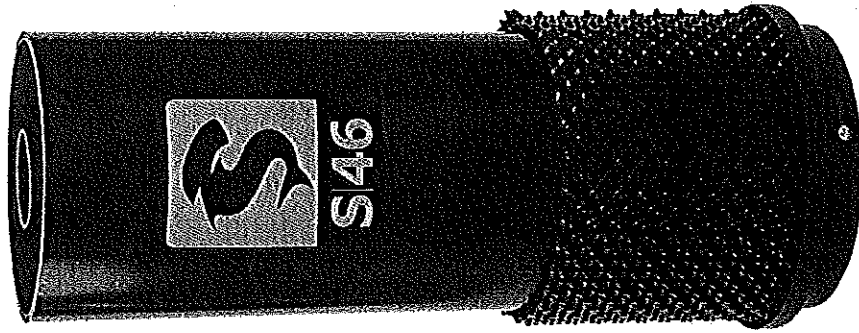
marine



residential

SludgeHammer®

nature called. we answered.



The latest advance in wastewater treatment



Model S-400/500
Certified by NSF to
NSF/ANSI Standard #40



IMO - MARPOL
MEPC-199 (55)
International

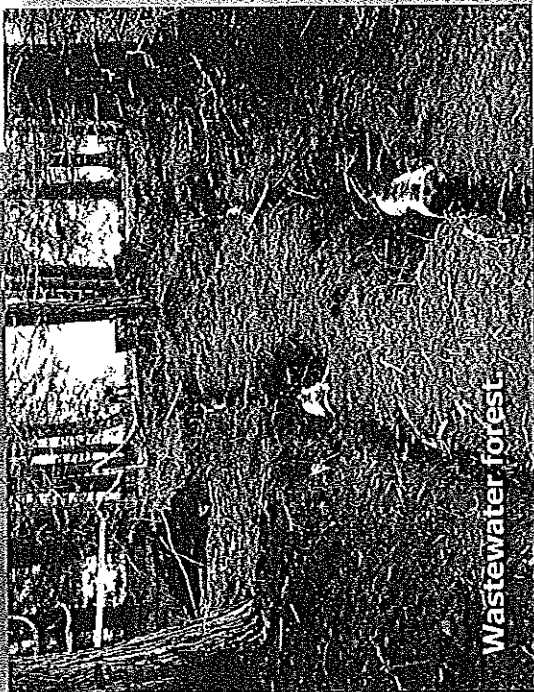


IAPMO STANDARD
IBC 180-2003

Putting nature to work. Naturally.

For millions of years forests have been the most important part of the terrestrial ecosystem. They produce billions of pounds of dead leaves and detritus every year and over the eons a rich community of specially adapted bacteria have co-evolved with the forests to convert all this organic matter into rich soil. The trees benefit as the soil gets more and more porous and nutrient filled. The bacteria benefit because healthy trees mean an endless supply of new food.

Almost two decades ago Dr. Daniel Wickham, Research Ecologist with the University of California, shifted his attention to these bacteria and began a career in applying the best of these strains to cleaning up the human waste going into our natural environments. With the development of the SludgeHammer he was able to culture these bacteria in septic systems, first to simply keep the soil porous and healthy in septic leachfields. But with experience SludgeHammer Group found that the device, along with the SludgeHammer Blend bacteria, opened entirely new avenues to economically and efficiently treat all types of waste on virtually any scale.



SludgeHammer®
nature collect. we encourage.

Advanced SludgeHammer Bio-technology.

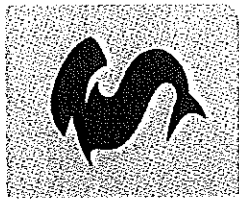
■ In homes the SludgeHammer is installed as a single unit directly into the septic tank. For larger communities or industrial systems multiple SludgeHammers can be installed in any size tank or pond depending on the load being treated.

■ The SludgeHammer aerates, circulates and inoculates the entire tank using a fraction of the energy of most other systems. Up to 33,000 gallons per day pass around, over and through the 150 square feet of cusped plastic where the colonies of waste-eating microbes attach and thrive.

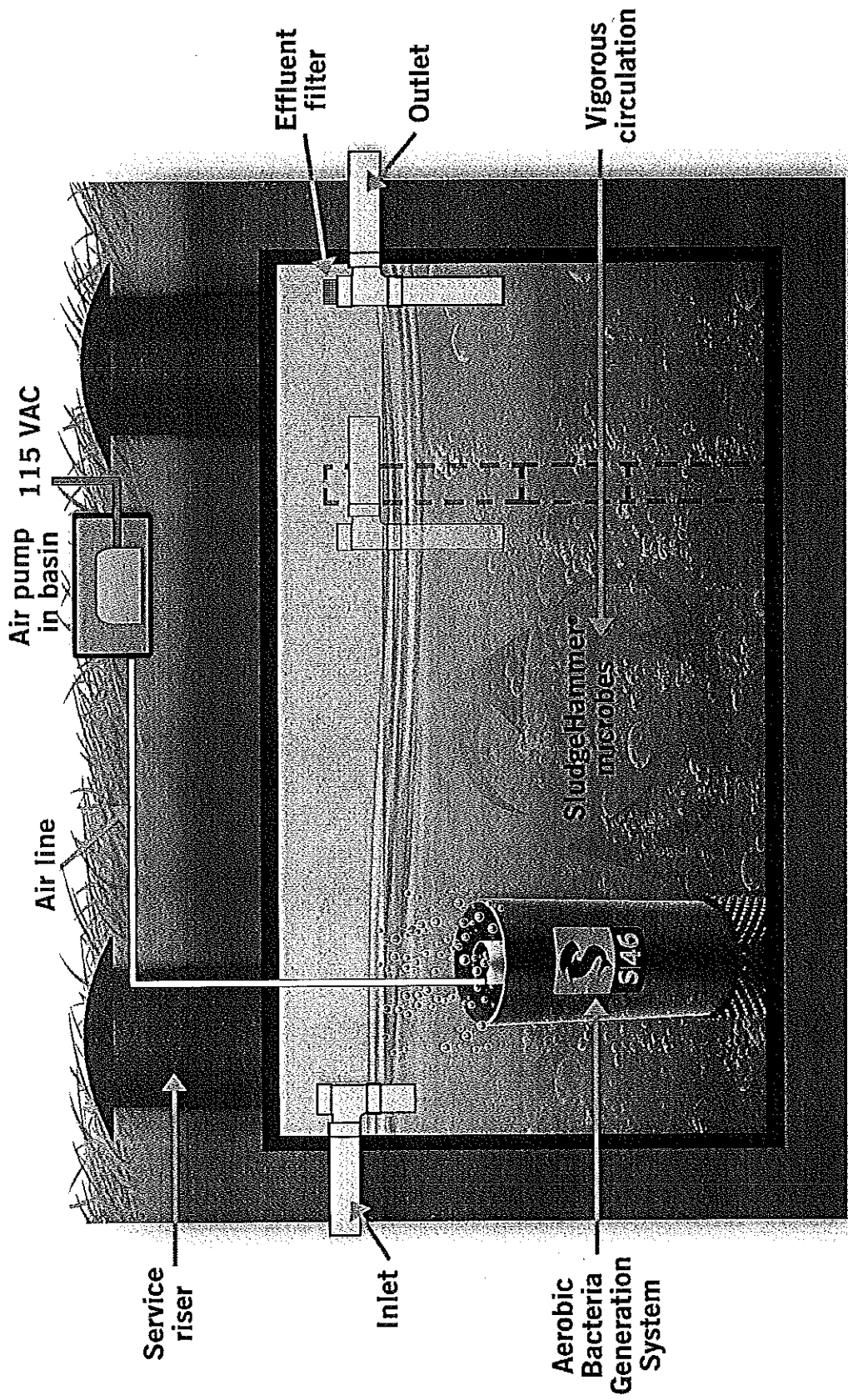
■ Organic wastes pass over the bacteria and are rapidly digested. Digestion is so complete that the need to pump biosolids is reduced to the point of almost being eliminated.

■ The aggressive SludgeHammer Blend bacteria migrate into the leach field where they consume the biomat that clogs the soil. As this opens up the fields it further increases the efficiency of the entire system.

■ For advanced treatment needs the SludgeHammer provides a base to which any number of added features such as UV sterilization, filtration, denitrification, or other processes can easily be accommodated.

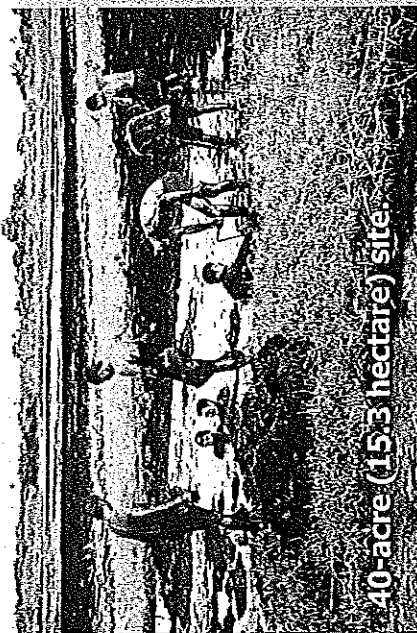


SludgeHammer® Keeps All Systems Clean Naturally



The power of the bugs.

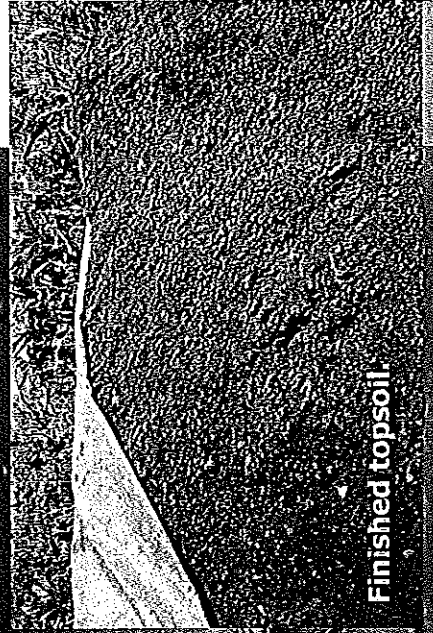
A Mexican oil company needed to clean up an extensive 40-acre (15.3 hectare) site contaminated with 80-year old tar-like crude oil. No equipment could be used because the site had oil pipelines buried throughout the region. With simple equipment and our versatile, powerful bacterial blend, the soil was turned from black muck to high quality topsoil.



40-acre (15.3 hectare) site.



Contaminated soil.



Finished topsoil.



SludgeHammer®

nature calls. we answer.

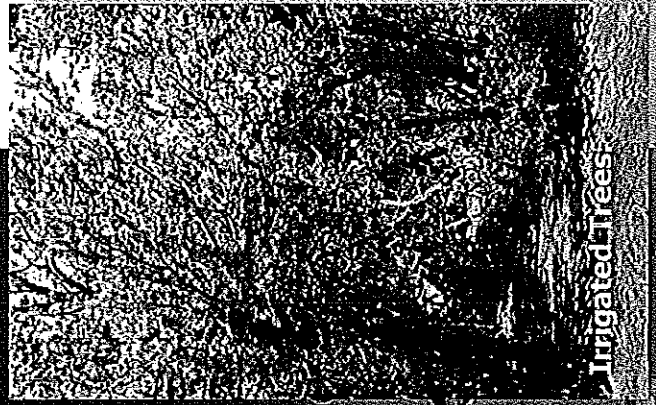
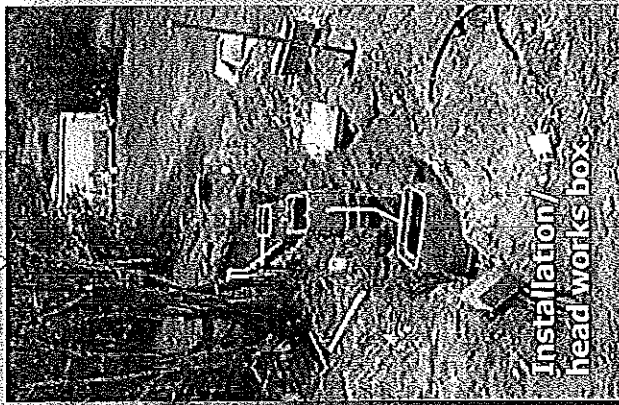
SludgeHammer's status as the ultimate "Green" technology is dramatically illustrated by the vivid contrast between rich SludgeHammer irrigated foliage and the severe xeriscape in the distant New Mexico hills.



Constructed ecosystems with a SludgeHammer Aerobic Bacteria Generator.

Tijeras, New Mexico—

A SludgeHammer Aerobic Bacteria Generator was used at a single family residence to provide a high quality effluent for irrigation. Surrounding soils are clay with very slow percolation rates and trees had begun showing signs of drought stress. A water budget was created based on the design flows of the residence, and key trees and groves on the site were marked and coded. The effluent was allocated to the chosen trees and a demand driven system was designed and built. The final result of the system is that effluent is treated as a resource instead of a disposal problem. By using the effluent in this way, the leach field sizing was reduced by 75%.



SludgeHammer®
effluent collector • air recycler

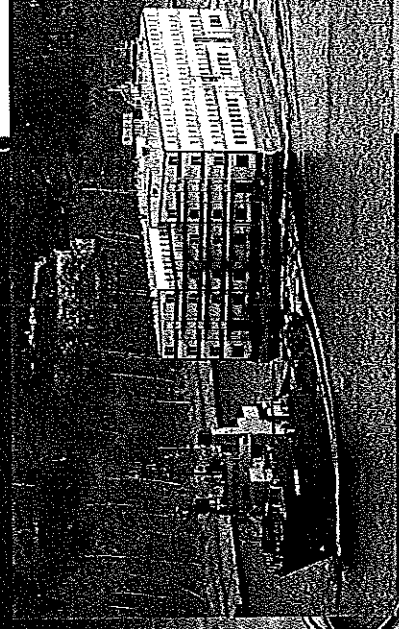
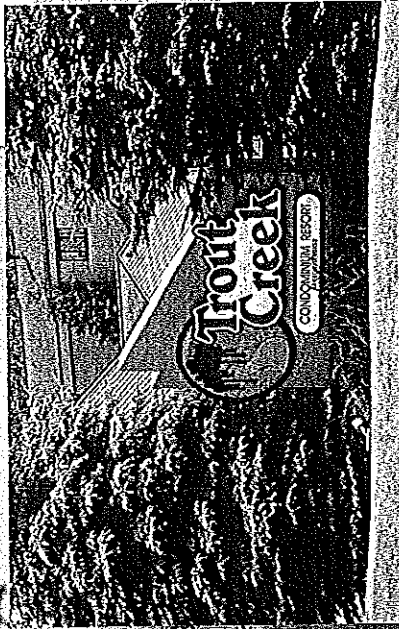
Community scaled SludgeHammer systems.

Trout Creek Condominiums—

This community of 120 residences is served by clustered SludgeHammer treatment systems that reclaim all wastewater with subsurface drip irrigation fields.

Bibby Progress - Bibby Challenge - Bibby Renaissance—

SludgeHammer offered the best way to convert these floating communities of 600+ people into self-contained habitats with complete advanced wastewater treatment systems.



SludgeHammer®

nature called. we answered.

Marine SludgeHammer systems.

Hurricane Katrina Project

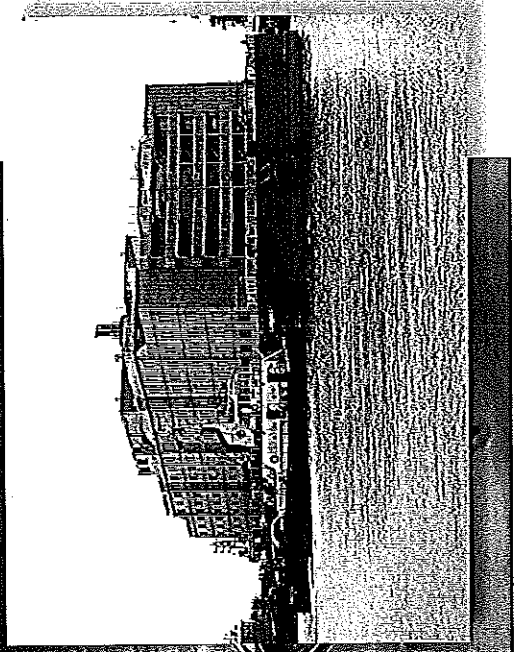
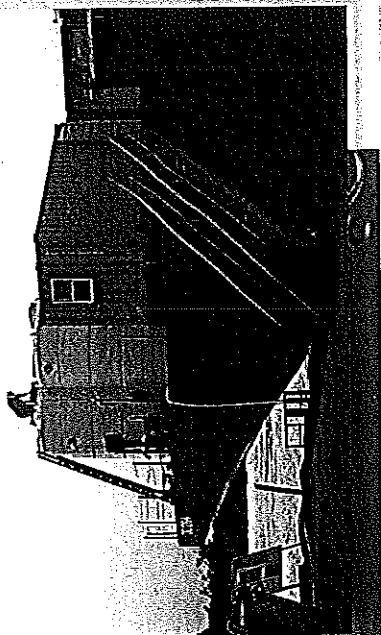
Chevron needed immediate housing for 120 workers after Katrina's devastation, but no sewer hookups were available for their housing barge so the ship needed to be self-contained. SludgeHammer had a fully functional advanced treatment system up and running for them in less than three weeks.

Escravos, Nigeria—The Bibby Progress

Chevron's next project was a multi-billion dollar natural gas plant which needed housing for 600+ workers. The Bibby Progress was converted and brought along it's own SludgeHammer-based treatment system to operate at the site without a sewer hookup.

China/New Guinea—The Bibby Renaissance

This five story floating vessel can be chartered for short or long-term use for customers worldwide. A practical and flexible alternative to land based accommodations, the Renaissance includes 332 bedrooms with toilet, washbasin and shower accommodations in each room, a dining/restaurant area that seats 350, multi-purpose rooms and much more. A MARPOL approved SludgeHammer sewage treatment system is installed so overboard discharge is safe and environmentally friendly and waste tanks are cleared within a matter of days.



Shipboard SludgeHammers.

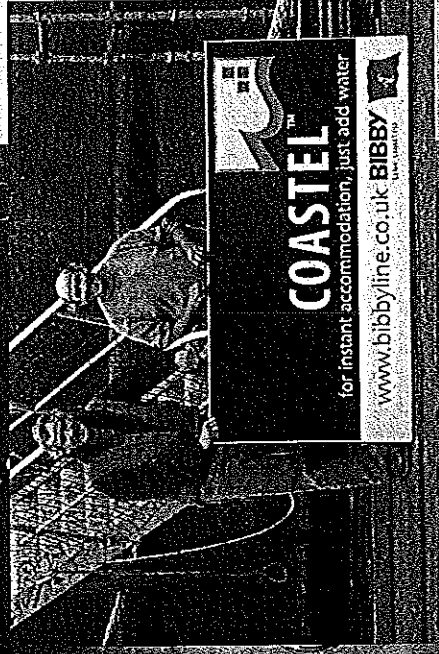
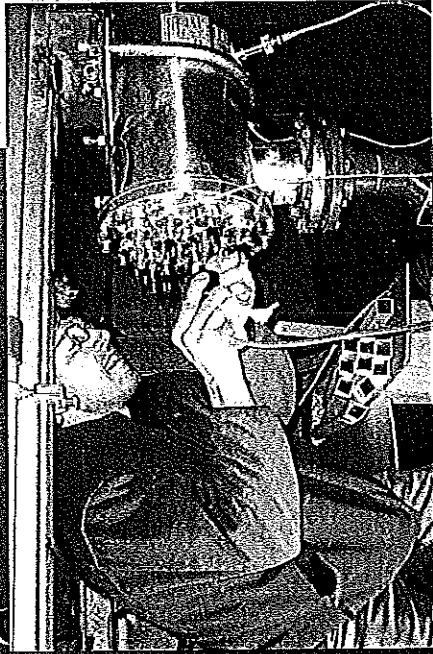
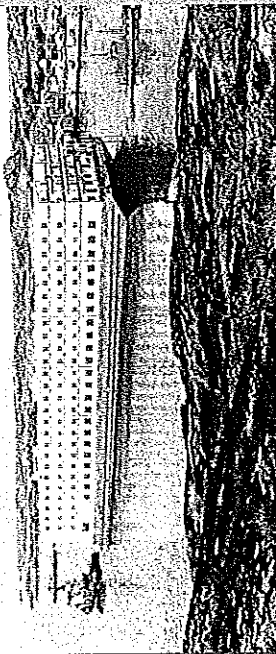
SludgeHammer developed a full municipal scale Wastewater Treatment System on board floating hotels like Bibby Maritime Challenge. The "Coastel" is a 600-man residence that serves the needs for temporary worker housing at a shipyard near Bergen, Norway.

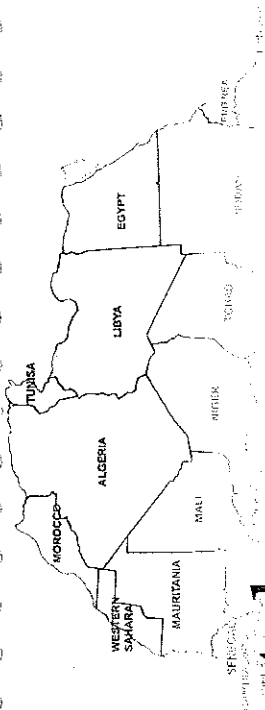
SludgeHammer personnel were able to insert their technology directly into the hull of the barge with virtually no change to the ships structure. Because of the portability and modularity of SludgeHammer's technology, it resulted in a fully functional wastewater plant at a price far less than the competition.

Bibbyline's coastels now can berth in ports without sewage facilities to hook to. This opens most of the world to coastal housing.



SludgeHammer®
without collect. 40% RECYCLED.



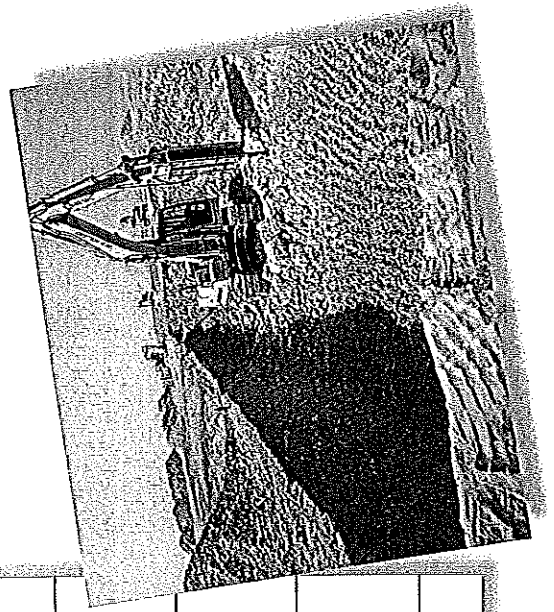


Krainia Marketplace.

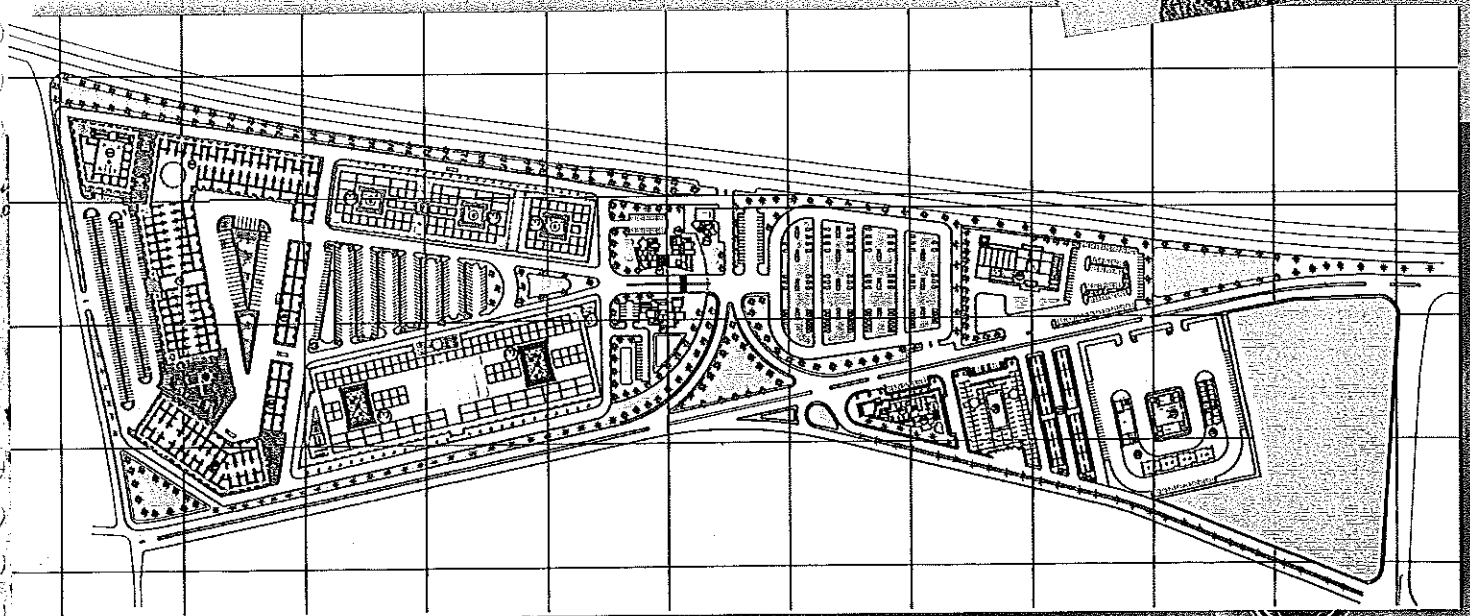
The Krainia marketplace in Tripoli, Libya, is literally a city within a city. With 270,000 gallons of high strength waste coming from a major slaughterhouse on site, and another 140,000 gallons of human waste from the meat market, produce market and all the associated offices and work places, the load is equivalent to what a city of over 10,000 people would produce.

SludgeHammer North Africa was able to tuck the entire system in underground tanks with almost 200 SludgeHammer units and an array of extra design features. The dramatic reduction in solids makes the system easy to maintain and the final effluent can be reused on site with simple subsurface drip irrigation systems.

The arid Libyan desert can be made to bloom with SludgeHammer treated wastewater.



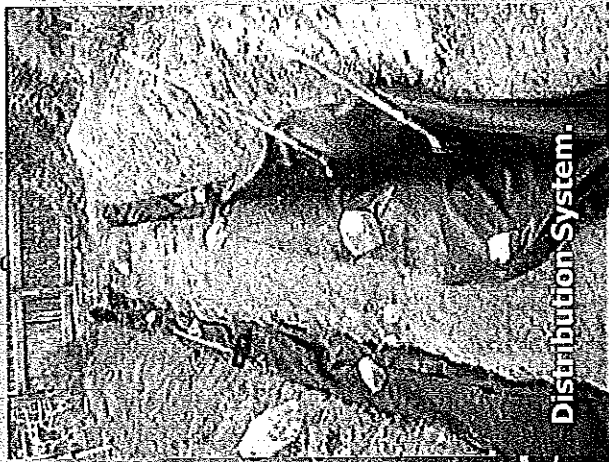
SludgeHammer®
nature called. we answered.



Low pressure dosed manifold for treated effluent to an orchard.

Santa Fe, New Mexico—

With the SludgeHammer S46, this project uses treated residential effluent as a valuable resource for irrigation. The objective of this project is to use these resources to create an oasis in a semi-arid area. The intent is to offset the CO₂ used in the treatment and distribution of the effluent to create a miniature carbon neutral system.



Distribution System.



Heritage Trees.

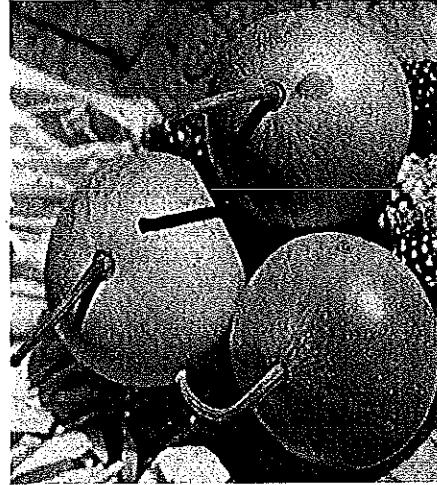
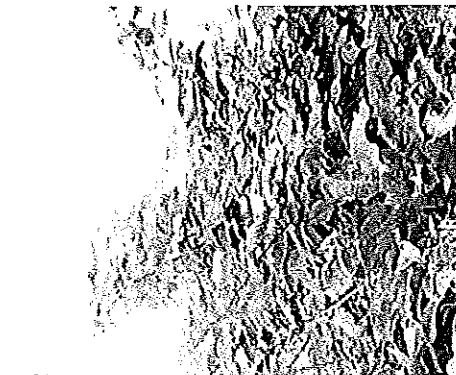
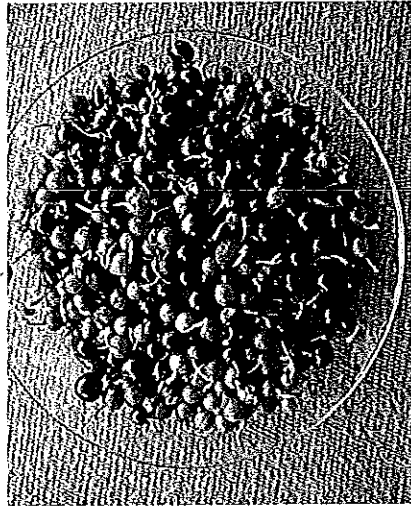
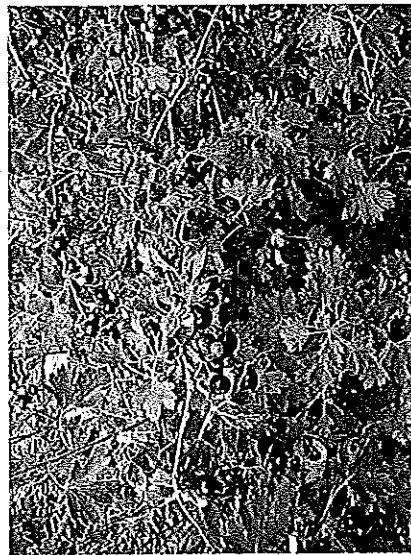


SludgeHammer®

ATURE DALLA. 006 300047600.

Produce from Greywater Systems

Santa Fe, New Mexico

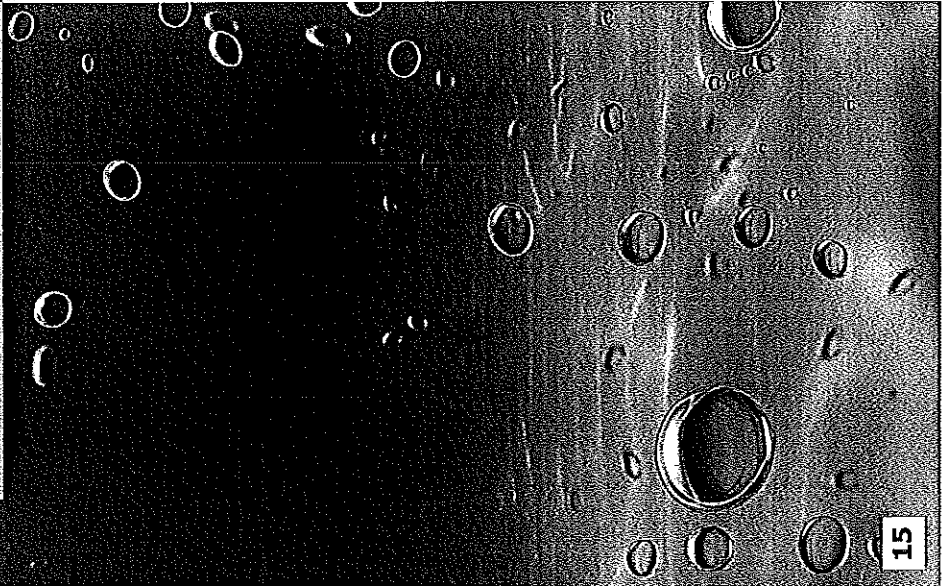
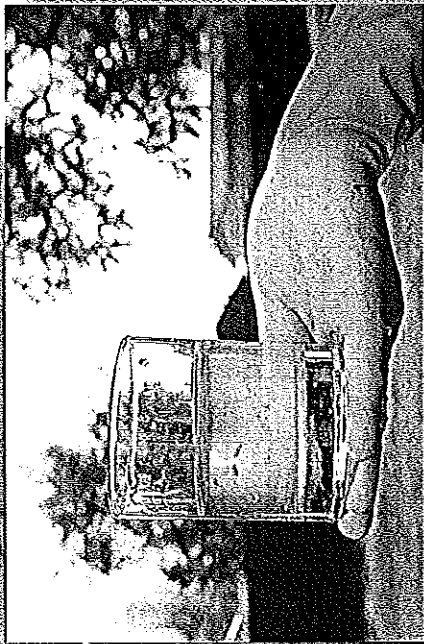


Clockwise from upper left: Hopi Turquoise Corn, Golden Current Bush, Golden Currents Harvested, Acoma Tobacco Box Gourds, Hopi Red Squash, Heritage Raspberry Bush.

The results are clear.

Standard septic tanks release only partially clarified waste to the soil. There it is processed by natural micro-organisms to purify it before it reaches the groundwater. But soil can only do so much and the increased density of homes with septic tanks poses an increasing threat to our precious water supplies. The SludgeHammer converts septic tanks into powerful generators of teeming colonies of special bacteria that supplement the soil colony so nature can keep up with the load.

An added benefit is that the SludgeHammer also cleans the septic tank reducing the volume of waste that nature has to deal with right up front. The combination of reduced pollution from the tank and the supplement of bacteria to the soil protect our vital freshwater resources in a way that no other technology can.



SludgeHammer®
nature called. we answered.

The man behind the brand.

Dr. Dan Wickham, a Ph.D. in biology, worked for many years detoxifying petroleum contaminated soil with the use of micro-organisms. In order to bring the same technology into wastewater treatment, he used his decades of experience as a research ecologist at the University of California to guide the introduction of applied microbiology to the industry. He experimented with blends of microbes and tried them out in a variety of circulating containers. Eventually he developed his break-through concept, the Aerobic Bacterial Generator (ABG), and opened the pathway to apply advanced biotechnology to wastewater treatment in a simple and economic fashion.

His latest version, the SludgeHammer, is fully refined, tested and is now working in thousands of septic systems and larger industrial waste systems throughout the world.



SludgeHammer®
nature calls. we answer.

Corporate leadership.

The SludgeHammer Group northern Michigan corporate headquarters is located for optimum manufacturing and distribution throughout the United States and internationally. Since 2001, our regional distributors and installers have served customers from California to Maine, Louisiana to New York and globally in Canada, Mexico, Europe, Latin America, Africa and China.

OFFICERS:

Inventor and President Dan Wickham, PhD, is based in northern California, served in the United States Navy and has practiced ecological research and science since 1972. He directed the Marine Aquaculture Facility of the University of California-Berkeley and continues to lead SludgeHammer to assure we stay at the forefront of wastewater biotechnology.

CEO Buzz Jenks has helped to guide the company from the start. After serving in the United States Air Force, he graduated from Michigan State University and has since accumulated over 35 years of experience in manufacturing, marketing and contracting. His focus is strategic—creating world-wide opportunities for SludgeHammer.

Kathy Beer, Vice President of Operations, brings accounting and operations management expertise to the Corporation. She holds a Bachelor of Science degree in Accounting and has 30 years of experience managing high-income producing, multiple-lawyer firms.

Our excellent staff.

Brian Connolly, Director of Technical and Service Operations, has a Bachelor of Science degree in Physical Geography from Northern Michigan University, where coursework included environmental policy, restoration, management, regulation and impact assessment.

Harry Luzius, Engineer, has more than 25 years of experience in the field of civil engineering. He has designed and administered the construction of several million-dollar projects, including sewer collection systems, lift stations, and wastewater treatment systems. Harry is a graduate of the U.S. Military Academy at Westpoint and earned a Master of Science in Foreign Service from Georgetown University.

Greg Andrews is focusing on sales for the SludgeHammer Group. Educated at the University of Michigan, his background includes work in manufacturing sales and management. Greg's experience in military sales and procurement has positioned SludgeHammer for service within the U.S. Federal Government and abroad.

Tim Statler, International Representative, has worked throughout Latin America, the Caribbean, Spain and Portugal for the past 30 years. With a background in the construction industry, fluent in Spanish and with extensive experience building distributor networks, Tim is overseeing our growing presence in Latin America. Tim earned a Bachelor of Arts in Spanish from Western Michigan University, and was awarded the WMU Alumni Achievement Award, College of Arts and Sciences, in 2005.

Certification.

NSF 40 Certification

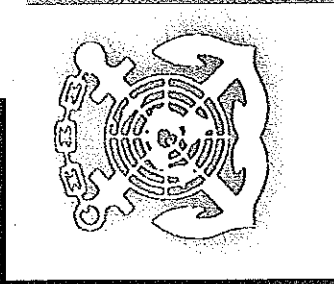
SludgeHammer now meets the NSF 40 Standard as a Class 1 Advanced Treatment Unit. Testing at the NSF facility in Comox, BC, demonstrated that our new S-400 model produced an effluent with an average BOD of 14 mg/l and TSS of 17 mg/l under their rigorous six month protocol. Since most jurisdictions in the U.S. and Canada accept the NSF 40 Standard, we expect to see much wider applicability for our technology.

IMO - MARPOL Certification

The International Maritime Organization (IMO) created the MARPOL MEPC-159 (55) standard to certify marine-based systems that discharge to open water. SludgeHammer recently completed the exhaustive testing necessary for the MARPOL certification and can now market their SludgeHammer Marine Treatment System for use throughout the world's oceans and ports.

IAPMO Certification

The International Association of Plumbing and Mechanical Officials (IAPMO) has granted certification to SludgeHammer's revolutionary product. After rigorous testing, our technology was the first to restore function to septic leach systems that have become clogged with organic material under the IAPMO's new standard (#IGC180-2003). This standard defines the Aerobic Bacterial Generator and the new SludgeHammer is the only such product certified to this standard.



Making a cleaner world.

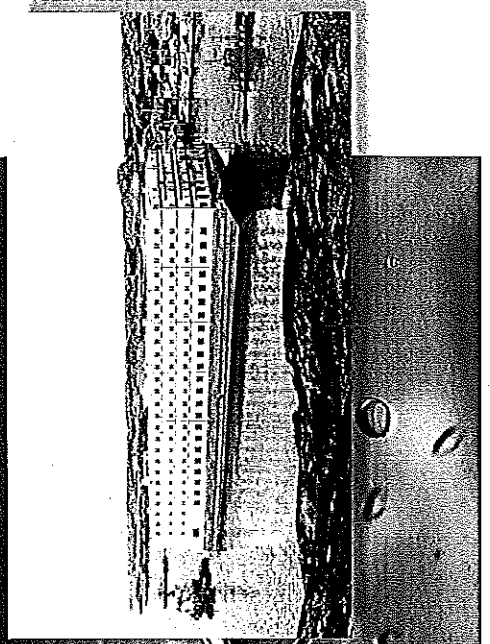
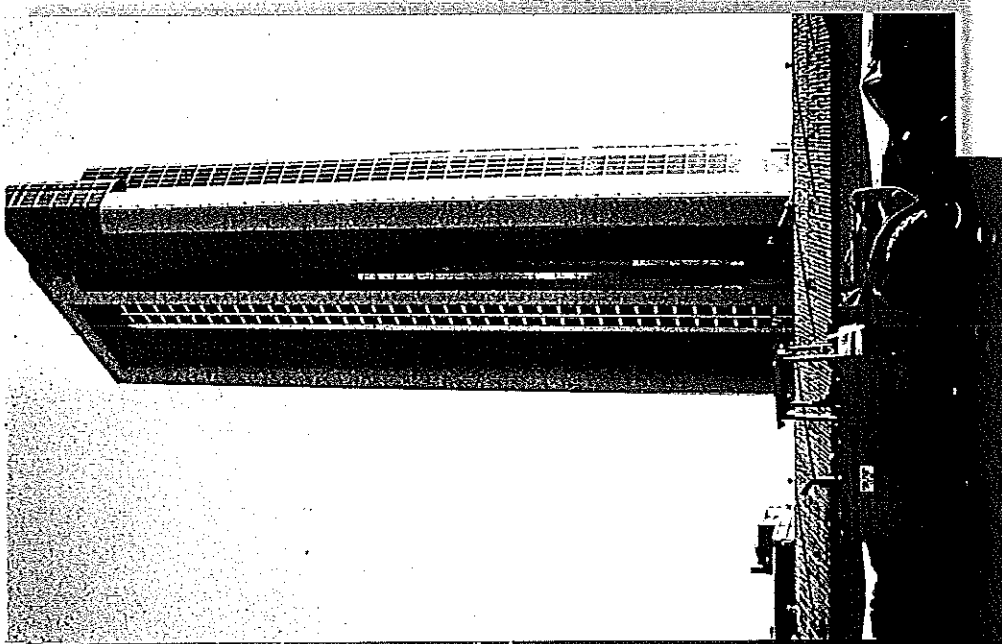
Our original ABG advanced bio-technology revolutionized the industry in 2000 providing a highly effective, all natural, non-toxic wastewater solution. Now, our second generation SludgeHammer is tried, tested and reengineered for commercial and industrial applications, as well as communities, marine and residential use. Every day, new applications allow us to mobilize trillions of powerful SludgeHammer blend bacteria into septic systems and their surrounding soils. This makes a cleaner world. Whether it's for one homeowner, a new industrial park, or the needs of an entire community, SludgeHammer is flexible and powerful enough to serve any purpose.

For proven results, insist only on SludgeHammer products!

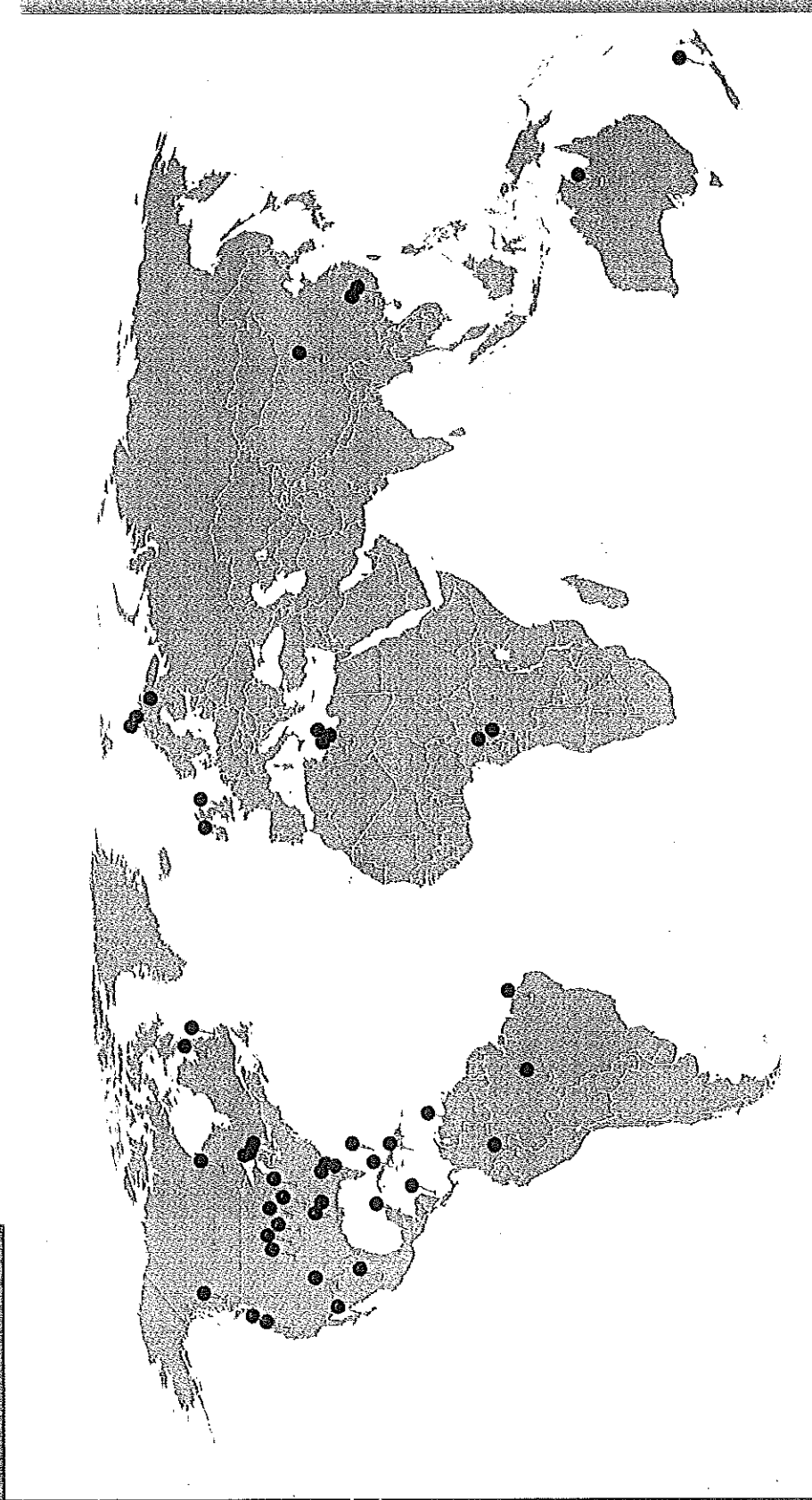
- Retrofits into any system or tank—new or old
- Is working biologically in 12 hours
- Patented—the only NSF-40, MARPOL and IAPMO certified ABG
- Eliminates nitrates from the soil
- Protects environmentally sensitive areas



SludgeHammer®
nature called. we answered.



Global distribution.



SludgeHammer®
entire planet. we answer.

Contact us.

SludgeHammer Group, Ltd. provides design consultation and engineering for industrial applications and community scale systems. For more information about our SludgeHammer systems, scientific data and analysis and our growing list of satisfied customers, please contact us:

SludgeHammer Group, Ltd.
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SludgeHammer®
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