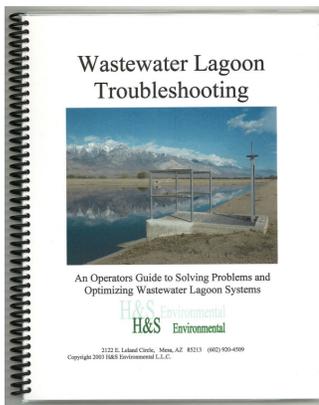


# How to remove the single greatest obstacle to your wastewater pond's performance

- 11 possible causes of high BOD and their 50 possible solutions
- How to troubleshoot nitrogen removal problems
- How to get 12 inches of sludge reduction without draining or dredging your lagoon
- What to test for, when to test, how to test, and why



Dear Lagoon Operator,

**Wastewater Lagoon Troubleshooting** comes with a 90-day money back guarantee.

If this book doesn't deliver every thing I promise, send it back. I'm betting you'll find it such a valuable tool, you won't even loan it to your engineer.

- The 10 things you **must** know to effectively solve problems in your wastewater lagoon system. **Page 20**
- Leverage these 11 key factors to accelerate the rate of nitrogen removal in your pond. **Page 128**
- A simple ratio that will reveal the source of your TSS and BOD problems. **Page 30**
- How one simple modification to the BOD<sub>5</sub> test can cut your BOD<sub>5</sub> results in half. **Page 42**
- 15 things that affect the rate of sludge accumulation and how to accelerate its removal. **Page 90**
- 21 techniques to accelerate nitrogen removal from your lagoon. **Page 143-144**
- 7 things you can do to maximize your ponds ability to naturally disinfect. **Page 155**
- Why the upper 12 inches of your pond's surface may be the most important part of your pond. **Page 10**
- 9 in-pond management strategies you can use to control algae. **Page 54-62**
- 7 signs indicating oxygen stressed conditions. **Page 117**
- How to determine if your pond can effectively handle new connections, septage, or industrial waste. **Page 37**
- 14 things to consider when draining your lagoon to remove sludge. **Page 101**

(Continued...)

- Your 4 basic sludge removal options. **Page 99**
- The 7 possible causes of TSS problems and the 44 specific techniques you can use to reduce it. **Pages 66-70**
- How to tell if your pond short-circuits and why this is such a serious problem. **Pages 74-79**
- The **# 1** cause of BOD<sub>5</sub> problems and how to eliminate it. **Page 43**
- Ten signs indicating it may be time to remove sludge from your lagoon system. **Page 90**
- 27 testing protocols you can use to pinpoint the exact cause of problems in your ponds. **Pages 27-35**
- Discover the variables that affect your pond's performance and how to use them to maximize efficiency. **Pages 25-29**
- Discover what a more thorough TSS analysis will reveal about your ponds. **Pages 65-70**
- Follow these 6 simple steps to discover the cause of BOD<sub>5</sub> problems. **Pages 36-40**
- Specific recommendations and modifications for winter time operations. **Page 179-182**
- The latest discoveries in optimizing your pond's hydraulic performance revealed. **Page 73-84**
- The 8 key differences between lagoons treating industrial and domestic wastewater. **Page 184**
- The critical importance of nutrients and alkalinity in industrial lagoons. **Page 187-190**
- How temperature affects lagoon mixing and why this is so critically important to you. **Pages 175-178**
- What EPA inspectors will look for when inspecting your lagoons. **Page 166**
- What to look for when solving TSS problems. **Pages 67-69**. Plus pond colors and what they mean. **Page 64**
- 6 things that interfere with your pond's retention time. **Page 73**
- The 6 beneficial effects of algae and how it can help you solve problems in your lagoon system. **Pages 50-52**
- Leverage these 30 factors affecting bacteria, virus, and parasite die-off rates for greater pathogen control. **Page 152**
- The 10 critical effects temperature has on your lagoon system. **Page 174**
- What causes low dissolved oxygen in your system and how to increase it naturally, chemically, and mechanically. **Pages 110-125**
- A more accurate and useful method to measure dissolved oxygen revealed. **Page 117**
- Discover how water quality changes with changing depth and location throughout your pond and what this means for where and how you discharge your effluent. **Pages 4-6**
- Effective control strategies for phosphorous removal. **Page 146**

(Continued...)

- A simple and systematic method for troubleshooting TSS problems in your lagoons. **Pages 65-70**
- The easiest way to get greater control over your lagoon system is by discovering how and why lagoons work to lower BOD'S, reduce TSS, control odors, kill pathogens, and cycle nutrients. **See pages 10-15**
- Why installing a baffle might fail. Learn about the best possible positioning for baffles in your system. **Pages 81-84**
- Nitrification in cold weather. **Pages 180-181**
- How to counter the effects of spring thaw and pond turnover. **Page 181**
- How to use your test results to troubleshoot problems in your lagoon. **Pages 27-35**
- Solutions to solving low dissolved oxygen and odor problems in your lagoon system. **Pages 120-125**
- How to extend the life of your lagoon another 10, 20 or even 30 years. **Pages 1-217**

This exciting new manual is one of the best, most complete books ever published on the subject of wastewater lagoon optimization and troubleshooting. *Wastewater Lagoon Troubleshooting* pulls together years of research and time tested operational strategies proven to enhance your lagoon's performance.

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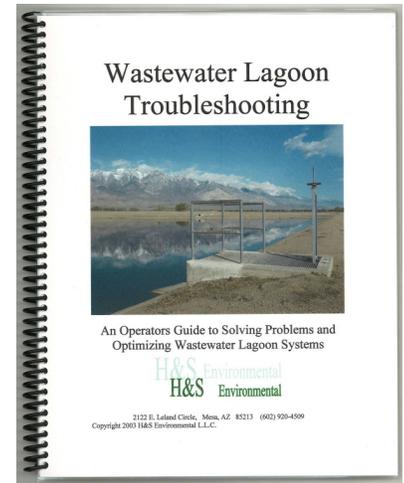
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