Appendix A: Pre/Post Test

Lagoon Processes

Complete the following questions. Place your answers on the answer sheet.

1. The term troubleshooting, as generally used, is the application of problem-solving skills to:
   a. find the cause(s) of poor effluent quality.
   b. increase process efficiency.
   c. justify the cost of a plant upgrade.
   d. verify poor personnel performance.

2. Good troubleshooters are:
   a. consultants or engineers.
   b. experienced operators.
   c. investigators, problem solvers, mechanics, and psychologists.
   d. very knowledgeable and reach conclusions quickly.

3. A lagoon effluent has high concentrations of algae, BOD_5 and TSS. The TSS/BOD_5 ratio would be:
   a. 0.1 or less.
   b. 0.5
   c. 1.0
   d. 1.5 or higher.

4. Lagoon effluent ammonia concentration usually increases in the wintertime due to:
   a. higher BOD concentration.
   b. less beer consumption in the community.
   c. low algae growth.
   d. low temperature.

5. List 5 sources of information needed before effective troubleshooting/optimization can begin.

6. List 4 ways that you can operate a lagoon system to improve performance. Provide detail. Write the correct response in the space provided on the answer sheet.

7. Lagoons (can, cannot) be operated to influence their effluent quality.

8. Lagoon pH (increases, decreases) during heterotrophic bacteria degradation of BOD.

9. Lagoon pH (increases, decreases) when algae grow in a lagoon.

10. (Series, Parallel) operation of multiple lagoon cells is best in the winter and early spring.

The Division of Water Quality
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any answers provided herein.