



# COMMONWEALTH of VIRGINIA

## STATE WATER CONTROL BOARD

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March 6, 1990

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RE: BOD<sub>5</sub> Procedures

Dear Gary:

The clarification of the BOD<sub>5</sub> procedure you requested in your February 26, 1990 letter is as follows. The glucose glutamic acid (GGA) procedure serves as a check of the quality of your dilution water, seed material and analytical techniques. Rather than rejecting data, data should be flagged at your Discharge Monitoring Report when the GGA results fall outside of the  $200 \pm 37$  mg/l range. An explanation accompanying your DMR should detail your efforts to find the source of the error. All data should be considered suspect until the source of the error is determined and a successful GGA procedure is completed. We feel that this is the most reasonable approach, since BOD<sub>5</sub> can be a highly variable test and it takes 5 days to produce results.

BOD<sub>5</sub> data is rejected only when there are no dilutions that satisfy the "2 - 1" criteria. By running a wide range of dilutions, it is possible to avoid rejecting data. Naturally, the exception is when a 100% sample doesn't contain sufficient organic material to deplete 2 mg/l O<sub>2</sub>.

As part of a laboratory inspection our inspectors review GGA results. If a GGA result is detected that is out of the required range, the laboratory will receive a satisfactory with qualifications rating for BOD<sub>5</sub>. The overall laboratory rating will be satisfactory provided no significant deficiency is found. If the GGA test is found to be out of range for two consecutive laboratory inspections, the overall inspection will be rated as unsatisfactory.

The maximum holding time for BOD<sub>5</sub> is 48 hours (stored at 4°C) after the end of the compositing period. However, samples should be kept at 4°C during the compositing period and be analyzed as soon after collection as practical to provide the best results.

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The five items listed at the beginning of your letter that Bruce Honts and I discussed are accurate and correct.

Your thoughtful questions are appreciated. Should you have further questions, please direct them to Mr. Steve Stell at (804) 367-6129 of our Piedmont Regional Office.

Sincerely,



William E. Purcell  
P. C. Engineer  
Office of Water Resources  
Management

bp12/sph

cc: Regional Offices  
Richard Ayers  
Wayne Staples

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