



COMMONWEALTH of VIRGINIA

Department of Health

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RICHMOND, VA 23218

KAREN REMLEY, MD, MBA, FAAP
STATE HEALTH COMMISSIONER

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May 23, 2012

Brian Borders, President
Quanics, Inc.
P.O. Box 1520
Crestwood, KY 40014

VIA ELECTRONIC AND REGULAR MAIL

Dear Mr. Borders:

We have completed our review of your request for listing of the following Bio-COIR wastewater treatment system models as "Evaluation Completed" under the Virginia Department of Health's (VDH's) GMP #147:

ATS-SCAT-3-BC-200
ATS-SCAT-4-BC-400
ATS-SCAT-6-BC-650
ATS-SCAT-8-BC-1000

ATS-SCAT-8-BC-C500
ATS-SCAT-86-BC-C750
ATS-SCAT-88-BC-C1000

We have also evaluated your request for compliance with the Treatment Level 3 (TL-3) general approval requirements in the *Regulations for Alternative Onsite Sewage Systems* (12 VAC5-613, *AOSS Regulations*).

The complete submittal for review consisted of the following:

1. Manufacturer Agreement; Memorandum of Understanding and Agreement, dated June 4, 2009
2. Professional Engineer's system performance and Operation and Maintenance Manual certification letter, dated May 29, 2009
3. Operation and Maintenance Manual, dated December, 2005
4. Technical plan sheets: VDH 1000 gpd BC system.pdf, VDH 1000 gpd NSF certified BC.pdf, VDH 200 gpd BC system.pdf, VDH 400 gpd BC system.pdf, VDH 500 gpd NSF certified BC system.pdf, VDH 650 gpd BC system.pdf, and VDH 750 gpd NSF certified BC system.pdf
5. Manufacturer Agreement Addendum #1; Memorandum of Understanding and Agreement, dated September 14, 2011
6. Virginia Bio-COIR Residential System Assessment; Quality Assurance Project Plan; Revision 1.2, dated September 14, 2011

7. Final Report, titled “*Performance Evaluation of New Wastewater Technologies – Experience with BioCOIR® Media Biofilters*” and presenting the influent and effluent sampling results from 20 residential systems in Virginia. Effluent results are summarized as follows:

<u>Effluent Parameter</u>	<u>n</u>	<u>Log-Transformed Upper 99% Confidence Interval Converted Back to Native Units</u>
BOD ₅	103	9.75 mg/L
TSS	83	5.4 mg/L
E. coli	84	4,708 cfu/100 mL

While the effluent results for BOD₅ and TSS meet GMP #147 requirements (≤ 10 mg/L each), the result for E. coli exceeds the GMP #147 criterion of $\leq 2,000$ cfu/100 mL. However, the *AOSS Regulations* require disinfection when the vertical separation to a limiting feature is less than 12 inches or the vertical separation includes less than 6 inches of naturally-occurring, *in situ* soil. Therefore the GMP #147 criterion of $\leq 2,000$ cfu/100 ml is superseded by the regulatory requirement.

Based on the information provided, VDH approves the above-referenced Bio-COIR wastewater treatment systems for listing as “Evaluation Completed” under GMP #147 and as “Generally Approved” for TL-3 effluent treatment under the *AOSS Regulations*.

Should you have any questions regarding this matter, please do not hesitate to contact me at (804) 864-7458 or by e-mail at allen.knapp@vdh.virginia.gov.

Sincerely,



Allen L. Knapp, Director
Division of Onsite Sewage, Water Supplies, Environmental
Engineering and Marina Programs

Cc: D. Roadcap
M. Degen
K. Loyd