

WASTEWATER TECHNOLOGY

NSF/ANSI Standard 40 - *Residential Wastewater Treatment Systems*

Final Report:

Delta Environmental
ECOPOD E50-N Wastewater Treatment System
08/05/055/0030

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PLUMBING DEPT



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**Evaluation Report:
Delta Environmental
ECOPOD E50-N
Wastewater Treatment System**

**Under the provisions of NSF/ANSI Standard 40
Residential Wastewater Treatment Systems**

March 2010

EXECUTIVE SUMMARY

Testing of the Delta ECOPOD E50-N was conducted under the provisions of NSF/ANSI Standard 40 for Residential Wastewater Treatment Systems (August 2005 revision). NSF/ANSI Standard 40 was developed by the NSF Joint Committee on Wastewater Technology.

The performance evaluation was conducted at the Gulf Coast Test Facility located in Baton Rouge, Louisiana, using wastewater diverted from a lift station servicing a residential neighborhood in Ascension Parish. The Gulf Coast Test Facility is a Standard 40 subcontractor to NSF. The evaluation consisted of sixteen weeks of dosing at design flow, seven and one half weeks of stress testing, and two and one half weeks of dosing at design flow. Dosing was initiated on August 4, 2008. After a three-week start up period, test site operations were temporarily shut down due to a power outage caused by a hurricane. After power at the test site was restored and dosing of the system resumed, the test was officially started on September 17, 2008. Sampling started in the summer and continued through the winter, covering a range of operating temperatures.

Over the course of the evaluation, the average effluent CBOD₅ was 9 mg/L, ranging between 4 and 20 mg/L, and the average effluent total suspended solids was 8 mg/L, ranging between <2 mg/L and 30 mg/L.

The ECOPOD E50-N produced an effluent that successfully met the performance requirements established by NSF/ANSI Standard 40 for Class I effluent:

The maximum 7-day arithmetic mean was 15 mg/L for CBOD₅ and 24 mg/L for total suspended solids, both below the allowed maximums of 40 and 45 mg/L respectively. The maximum 30-day arithmetic mean was 9 mg/L for CBOD₅ and 13 mg/L for total suspended solids, both below the allowed maximums of 25 mg/L and 30 mg/L respectively.

The effluent pH during the entire evaluation ranged between, 6.7 and 7.7, within the required range of 6.0 to 9.0. The ECOPOD E50-N met the requirements for noise levels (less than 60 dbA at a distance of 20 feet), color, threshold odor, oily film and foam.

PREFACE

Performance evaluation of residential wastewater treatment systems is achieved within the provisions of NSF/ANSI Standard 40: Residential Wastewater Treatment Systems (revised August 2005), prepared by the NSF Joint Committee on Wastewater Technology and adopted by the NSF Board of Trustees.

Conformance with the Standard is recognized by issuance of the NSF Mark. This is not to be construed as an approval of the equipment, but a certification of the data provided by the test and an indication of compliance with the requirements expressed in the Standard.

Plants conforming to Standard 40 are classified as Class I or Class II plants according to the quality of effluent produced by the plant during the performance evaluation. Class I plants must meet the requirements of EPA Secondary Treatment Guidelines¹ for five day carbonaceous biochemical oxygen demand (CBOD₅), total suspended solids (TSS) and pH. Class I plants must also demonstrate performance consistent with the effluent color, odor, oily film and foam requirements of the Standard. Class II plant effluent must have no more than 1% of samples exceeding 60 mg/L CBOD₅ and 100 mg/L TSS.

Permission to use the NSF Mark is granted only after the equipment has been tested and found to perform satisfactorily, and all other requirements of the Standard have been satisfied. Continued use of the Mark is dependent upon evidence of compliance with the Standard and NSF General and Program Specific Policies, as determined by periodic reinspection of the equipment at the factory, distributors and reports from the field.

NSF Standard 40 requires the testing laboratory to provide the manufacturer of a residential wastewater treatment system, a report including significant data and appropriate commentary relative to the performance evaluation of the plant. NSF policy specifies provision of performance evaluation reports to appropriate state regulatory agencies at publication. Subsequent direct distribution of the report by NSF is made only at the specific request of or by permission of the manufacturer.

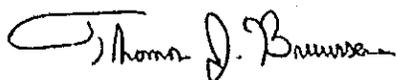
The following report contains results of the entire testing program, a description of the plant, its operation and key process control equipment, and a narrative summary of the test program, including test location, procedures and significant occurrences. The plant represented herein reflects the equipment authorized to bear the NSF Mark.

CERTIFICATION

NSF International has determined by performance evaluation under the provisions of NSF/ANSI Standard 40 (revised August 2005) that the ECOPOD E50-N manufactured by Delta Environmental has fulfilled the requirements of NSF/ANSI Standard 40. The ECOPOD E50-N has therefore been authorized to bear the NSF Mark so long as Delta Environmental continues to meet the requirements of Standard 40 and NSF General and Program Specific Policies.

General performance evaluation and stress tests were performed at the Gulf Coast Test Facility located in Baton Rouge, Louisiana, using wastewater diverted from a lift station servicing a residential neighborhood in Ascension Parish. The Gulf Coast Test Facility is a Standard 40 subcontractor to NSF. The characteristics of the wastewater during the test are included in the tabulated data of this report.

The observations and analyses included in this report are certified to be correct and true copies of the data secured during the performance tests conducted by NSF on the wastewater treatment system described herein. The manufacturer has agreed to present the data in this certification in its entirety whenever it is used in advertising, prospectuses, bids or similar uses.



Thomas J. Bruursema
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Wastewater Treatment Unit Certification



Thomas Stevens
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