



Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

April 25, 2001

Ms. Rebecca C. Sherman
International Environmental Technologies, Inc.
Post Office Box 797
Petersburg, Ohio 43551

Re: **Biodrain® In-Situ Perforated Vertical Drain Treatment Platform**

Dear Ms. Sherman:

The Bureau of Petroleum Storage Systems hereby accepts Biodrain® In-Situ Perforated Vertical Drain Treatment Platform (Biodrain® delivery system) as an innovative technology for remediation of groundwater and soil at petroleum-contaminated sites, as long as the injected media meets the underground injection control requirements of Chapter 62-528, Florida Administrative Code (F.A.C.). This delivery system is also applicable for remediation of non-petroleum contaminants, although the review and approval of site-specific Remedial Action Plans in this area does not fall within the regulatory jurisdiction of this bureau.

As you indicated in a process description, the Biodrain® delivery system consists of an in-situ treatment platform that facilitates the application and distribution of bioremediation and physical/chemical agents for remediation of contaminated soil and groundwater. The delivery system consists of a series of perforated vertical tubes. Each of these tubes may be easily adapted to a combination of treatment technologies, such as extraction, or the injection of microorganisms, nutrients, air, oxygen, hydrogen, or other treatment gases. Each platform is designed specifically for the site-specific lithology and contaminants.

The Bureau recognizes the Biodrain® delivery system as a technically feasible method for the remediation of groundwater and soil at petroleum-contaminated sites in Florida. There are no objections to its use provided the injected media meets the underground injection control requirements of Chapter 62-528, F.A.C., for Class V, Group 4 injection-type aquifer remediation wells. This chapter requires that injected media meet the primary and secondary drinking water standards set forth by Chapter 62-550, F.A.C., and the minimum groundwater criteria described in Chapter 62-520, F.A.C.

Consultants preparing Remedial Action Plans (RAPs) prescribing the Biodrain® delivery system have the following options for compliance with the underground injection control regulations: (1) the site-specific RAP can propose to inject a fluid that meets primary and secondary drinking water standards and the minimum groundwater criteria, but it must include a complete physical and chemical analysis of the fluid; (2) the site-specific RAP can propose to inject a remediation product that has already been accepted by the bureau, provided it observes any conditions imposed by the

acceptance letter; (3) the site-specific RAP can propose to inject a remediation product for which the consultant is the holder of a Department-issued variance for an injection zone of discharge, provided it observes any conditions imposed by the order granting the variance; or (4) if the remediation fluid does not meet the primary and secondary drinking water standards and the minimum groundwater criteria, and a variance for an injection zone of discharge has not yet been obtained, then such a variance must be obtained before the proposed site-specific RAP can be implemented.

A copy of this letter should be provided in the appendix of site-specific RAPs proposing the Biodrain® delivery system, so that technical reviewers throughout the state will be informed that you have contacted the bureau to inquire about its acceptability from a regulatory standpoint.

While the bureau does not endorse specific or brand name remediation products or processes, it does recognize the need to determine their acceptability from an environmental standpoint with respect to applicable rules and regulations, and the interests of public health, safety, and welfare. Vendors must then market the products and processes on their own merits regarding performance, cost, and safety in comparison to competing alternatives in the marketplace. In no way, however, shall this letter by this bureau, stating regulatory acceptance (or the conditions of regulatory acceptance), be construed as certification of product or process performance.

The bureau reserves the right to revoke its acceptance of a product or process if any aspect of its nature, components, constituents, or performance has been falsely represented. Additionally, bureau acceptance of any product or process does not imply it has been deemed applicable for all cleanup situations, or that it is preferred over other treatment or cleanup techniques in any particular case. A site-specific evaluation of applicability and cost-effectiveness must be considered for any product or process, whether conventional or innovative, and adequate site-specific design details must be provided in Remedial Action Plans prescribing the product or process. You may contact Donna M. Cline, P.E., at (850) 222-6446 ext. 257 if there are any questions.

Sincerely,

Rick Ruscito, P.E.
Bureau of Petroleum Storage Systems

c: Jeff Davoli, Handex, 111 Kelsey Lane, Suite E, Tampa, Florida 33619
Donna M. Cline, PCS5, Tallahassee
T. Conrardy, PCS3, Tallahassee

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