

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

December 6, 2011

Satya Ganti
Sarva Bio Remed, LLC
310 B Emig Road
Emigsville, Pennsylvania 17318

Re: **SpillRemed (Industrial)**
(a.k.a. HydroRemed; a.k.a. AgroRemed)

Dear Mr. Ganti:

The Bureau of Petroleum Storage Systems (Bureau) hereby reaffirms and updates its acceptance of SpillRemed (Industrial) a product for bioremediation of petroleum and other suitable contaminants in groundwater and soil. This update supersedes the original acceptance issued on June 12, 2003. The most significant items to be updated are the ingredients and their proportions, and a correction to the required process by which permission must be obtained for a temporary injection zone of discharge (ZOD). For SpillRemed, permission for a temporary ZOD shall be obtained by way of Rule 62-520.310(8)(c), Florida Administrative Code (F.A.C.), not by variance as incorrectly required by the original acceptance issued on June 12, 2003.

Based on a formulation update provided by Sarva Bio Remed on November 16, 2011, the Bureau of Petroleum Storage Systems describes SpillRemed as a suspension of vegetable oil in water that also contains non-pathogenic, aerobic oil-degrading bacteria, urea, a fatty acid, a phosphate ester, and a glycol ether. These ingredients provide the necessary microorganisms and a source of carbon, nitrogen, and phosphorus for bioremediation. Enclosure 1 is a listing of the ingredients; Enclosure 2 contains regulatory information; Enclosure 3 contains supplemental information; and Enclosure 4 is an Underground Injection Control Notification.

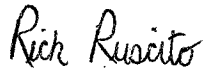
The Bureau does not provide endorsement of specific or brand name remediation products or processes. It does, however, recognize the need to determine their acceptability in the context of environmental regulations, safety and the protection of public health. For that reason, the Bureau issues an "acceptance" letter, not an approval. In no way shall an acceptance be construed as a certification of performance. Additionally, vendors, upon receipt of an acceptance, must market their product or process on its own merits regarding performance, cost, and safety in comparison to competing alternatives in the marketplace.

Remedial Action Plans that propose the use of an accepted product or process should include a copy of the acceptance letter in the plan's appendix, and reference it in the text of the document. It is not a requirement that a particular remediation product or process have an official acceptance letter in order for it to be proposed in a site-specific Remedial Action Plan. The plan, however, must contain sufficient information about the product or process to show that it meets all applicable rules and regulations.

This acceptance is issued for the purposes of the Florida Department of Environmental Protection's Bureau of Petroleum Storage Systems, for the cleanup of petroleum pursuant to Chapter 62-770, Florida Administrative Code (F.A.C.). Other state agencies and local governments may choose to recognize it if their needs are similar, but the Bureau shall not be responsible in any way for applications beyond its jurisdiction.

The Bureau reserves the right to revoke its acceptance of a product or process if it 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 a Remedial Action Plan submitted for Bureau review and approval. If you have any questions, please contact Rick Ruscito at (850) 877-1133, extension 3720

Sincerely,



Rick Ruscito, P.E.
Ecology and Environment, Inc.
Bureau of Petroleum Storage Systems
Petroleum Cleanup Section 6 - MS 4590



Rebecca S. Lockenbach
FDEP Section Leader
Bureau of Petroleum Storage Systems
Petroleum Cleanup Section 6

Enclosures: (1) SpillRemed (Industrial) Ingredients
(2) Regulatory Information
(3) Supplemental Information

c: Tom Conrardy - FDEP/Tallahassee

History:

inn_109.doc
6/12/2003
inn_109a.doc
12/6/2011

SPILLREMED (INDUSTRIAL) INGREDIENTS
(a.k.a. HydroRemed; a.k.a. AgroRemed)

<u>Ingredient</u>	<u>Percent (by Volume)</u>
Water.....	95.0
Vegetable Oil.....	4.5
Additives (pre-mixed, proprietary source).....	0.5
Urea	
Fatty Acid ‡	
Phosphate Ester ‡ §	
Glycol Ether ‡ ▲	
Water	
Non-Pathogenic Bacteria *	5,000,000 CFU/milliliter

Notes

Since SpillRemed is more than 95% water by volume, the Bureau of Petroleum Storage Systems used a specific gravity of 1.0 for calculations associated with this acceptance.

The pH of SpillRemed (as-shipped by Sarva Bio Remed) per a recent Material Safety Data Sheet is in the range of 5.5-6.9.

‡ Chemical family name. The specific name of the molecular ingredient is proprietary.

§ The Bureau of Petroleum Storages Systems advises that the phosphate ester be handled as an anionic surfactant for zone of discharge purposes pursuant to Rule 62-520.310(8)(c), Florida Administrative Code (F.A.C.).

▲ The Bureau of Petroleum Storages Systems advises that the glycol ether be handled as a nonionic surfactant for zone of discharge purposes pursuant to Rule 62-520.310(8)(c), F.A.C.

* A test report dated November 18, 1999 by Celsis Laboratory Group, presented to the Bureau of Petroleum Storage Systems by Sarva Bio Remed LLC, indicates that SpillRemed microbes tested negative for the following pathogens: Beta Hemolytic Streptococci, Fecal Coliforms, S. aureus, Salmonella, and Shigella.

REGULATORY INFORMATION

- a. Regulations: Chapters of the Florida Administrative Code (F.A.C.) that may be applicable, either in part or in their entirety, include but are not necessarily limited to Chapter 62-550, F.A.C., for primary and secondary water quality standards; Chapter 62-520, F.A.C. for groundwater classes and standards, and groundwater permitting and monitoring requirements; Chapter 62-528, F.A.C., for Underground Injection Control (UIC), particularly Part V, for Class V, Group 4 aquifer remediation projects; Chapters 62-770, 62-780, 62-782, and 62-785 F.A.C., for cleanup criteria; and Chapter 62-777, F.A.C., for cleanup target levels.

Users of SpillRemed shall comply with all applicable regulations. This includes meeting applicable groundwater cleanup target levels for the contaminants of concern, the residual concentrations of ingredients, and any byproducts of concern produced by chemical and biological reactions induced by those ingredients during the timeframe of the cleanup project. For the ingredients of concern that are present in excess of their groundwater standards, the timeframe is that which is permitted for a temporary injection zone of discharge (ZOD) as described below.

- b. Pilot study: Per Rule 62-770.700(2), Florida Administrative Code (F.A.C.), a pilot study proposal shall be submitted for review, and a pilot test shall be performed prior to designing a treatment system. If conditions or the situation at a site do not warrant a pilot study, then a proposal explaining the rationale for the decision not to perform a pilot study shall be submitted for review.
- c. UIC and ZOD permission: Per Rule 62-528.630(2)(c), F.A.C., Class V injection-type aquifer remediation wells are exempt from the permitting requirements of Rule 62-528.635, F.A.C., when authorized by a Department-approved Remedial Action Plan or other enforceable mechanism, provided the requirements of the rules governing the remediation project, as well as the construction, operation, and monitoring requirements of Chapter 62-528, F.A.C., are met. Per Rule 62-528.630(2)(c), F.A.C., the issuance of an enforceable, site-specific Remedial Action Plan Approval Order by the Department for injection-type aquifer remediation constitutes the granting of a Class V injection well construction/clearance permit. And per Rule 62-520.310(8)(c), F.A.C., if a temporary ZOD is necessary, and permissible by way of that rule, then the issuance of the site-specific Remedial Action Plan Approval Order also constitutes the granting of permission for the temporary ZOD.
- d. UIC notification: Remedial Action Plans proposing in-situ, injection-type aquifer remediation shall include information pursuant to Rules 62-528.630(2)(c)1 through 6, F.A.C., for the inventory purposes of the UIC program. Reviewers of those plans, upon issuance of an enforceable Remedial Action Plan Approval Order by the Department, must submit a completed copy of the Enclosure 4 UIC inventory notification form to the UIC program in Tallahassee.

- e. General information about temporary ZODs: For in-situ aquifer remediation, the composition of an injected material must meet the primary and secondary drinking water standards set forth in Chapter 62-550, F.A.C., and the minimum groundwater criteria of Chapter 62-520, F.A.C., pursuant to UIC Rule 62-528.600(2)(d), F.A.C. Aquifer remediation products that do not meet these requirements must seek relief from water quality criteria by one of two mechanisms. The first mechanism is permission for a temporary ZOD by way of Rule 62-520.310(8)(c), F.A.C. If a ZOD cannot be obtained by way of this rule, then it will be necessary to use the second mechanism to seek a variance from Department rules in accordance with Section 120.542, Florida Statutes.

Rule 62-520.310(8)(c), F.A.C., allows for a temporary ZOD for closed-loop re-injection systems, for the prime constituents of the reagents used to remediate site contaminants, and for groundwater secondary standards. In order to obtain permission for a temporary ZOD by rule, a site-specific Remedial Action Plan must indicate: (a) the chemical ingredients of concern in the fluid to be injected that will be present in excess of groundwater standards; (b) the size of the ZOD that is needed; (c) the amount of time that the ZOD will be needed; and (d) a plan for monitoring the injected chemical ingredients of concern. The size of the temporary ZOD will usually be the injection well radius of influence when the treatment system is a single injection point. For a multiple point system, the ZOD can usually be expressed and illustrated as the total area of the cluster formed by all the injection points, located side-by-side with overlapping radii of influence.

- f. Specific ZOD information for SpillRemed: Table 1 shows the parameters for which zone of discharge permission must be sought and for which the groundwater must be monitored pursuant to Rule 62-520.310(8)(c), F.A.C., as described in paragraph e above, when SpillRemed Industrial is injected for the purpose of in situ aquifer remediation. The number of parameters that require ZOD permission and monitoring depends on the amount of water that is added to the as-shipped SpillRemed Industrial concentrate prior to injection. The maximum number of parameters that may require ZOD permission and monitoring is four (4), as follows: ammoniacal nitrogen, surfactant, vegetable oil and fatty acid, and pH.
- g. ZOD monitoring advice for SpillRemed: In most cases, quarterly monitoring of groundwater should suffice for the ZOD parameters associated with SpillRemed. The number of monitoring wells to be sampled should be representative of the SpillRemed treatment area, and should include at least one monitoring well at the downgradient edge of the treatment area. Upon expiration of the time period granted for the ZOD, each parameter must meet its respective groundwater standard or its natural-occurring background value at the specific cleanup site, whichever is less stringent. The current groundwater standards for the parameters associated with SpillRemed are as follows: ammoniacal nitrogen, 2.8 milligrams per

liter (mg/L); surfactant, 0.5 mg/L; pH, range 6.5-8.5, and vegetable oil and fatty acid [not regulated, but it is recommended that the presence of these edible substances not cause the concentration of residual Total Recoverable "Petroleum" Hydrocarbons (TRPH) to exceed the 5 mg/L groundwater standard for TRPH]. See paragraph h below for more about the analysis of groundwater samples that contain a mixture of petroleum contaminants (detectable as TRPH) and vegetable oil and fatty acid (detectable as "false positive" TRPH).

- h. Analytical methods: The Bureau of Petroleum Storage Systems, in some cases, might provide information or advice about an analytical method for a zone of discharge parameter to be monitored, but the onus is ultimately on the user of an injection-type remediation product to ensure ahead of time that an analytical method and a laboratory is available for each ZOD parameter that must be sampled.
1. Surfactants: Chapter 62-550, F.A.C., regulates surfactants as foaming agents and establishes a 0.5 mg/L secondary drinking water standard for them, although all surfactants do not necessarily cause foam. SpillRemed contains a phosphate ester, which can be classified as an anionic surfactant and analyzed by Standard Method SM 5540 C, and a glycol ether which can be classified as a nonionic surfactant and analyzed by Standard Method 5540 D.
 2. Vegetable oil and fatty acid: The vegetable oil and fatty acid ingredients of SpillRemed Industrial are edible and are not regulated as specific groundwater contaminants in Florida, but they are also not natural-occurring substances in groundwater. At the very least, their presence as residuals at elevated concentrations after a cleanup might be a nuisance. For that reason, the Bureau of Petroleum Storage Systems recommends, as a guideline, that the residual concentration of vegetable oil and fatty acid in the groundwater not cause the TRPH concentration, as detected by the FL-PRO (Florida Petroleum Range Organics) analytical method without the silica gel cleanup step, to exceed the 5 mg/L groundwater standard for TRPH.

The rationale behind the recommendation is that vegetable oil and fatty acid are similar to petroleum range organics in that they are long-chain hydrocarbon molecules of relatively lower toxicity, and that they can conveniently be detected by the FL-PRO analysis, provided the otherwise mandatory silica gel cleanup step of the method is omitted. The omission of the cleanup step allows the vegetable oil and fatty acid, which would otherwise be removed to prevent "false positives", to be included in the analysis.

If there is a desire or need to separate a sample into its petroleum TRPH and its non-petroleum SpillRemed-related TRPH components, then the sample (provided it is large enough) can be split in half and analyzed separately: one half being analyzed without the usual mandatory silica gel cleanup step, and the

other half being analyzed with the silica gel cleanup step. The difference between the concentrations detected by the two methods can be considered to be the concentration of the vegetable oil and fatty acid alone.

- i. Utilization of wells: If a remediation site happens to have an abundance of monitoring wells, then the Bureau has no objection to the use of some wells for the application of SpillRemed. However, no "designated" monitoring well, dedicated to the tracking of remediation progress (by sampling) shall be used to apply SpillRemed. This will avoid premature conclusion that the entire site meets cleanup goals. By making sure that designated tracking wells are not also used for treatment, there will be more assurance that the treatment process has permeated the entire site and that it did not remain localized to the area immediately surrounding each injection well.
- j. Avoidance of migration: For injection-type, in-situ aquifer remediation projects, pursuant to Rule 62-528.630(3), F.A.C., injection of SpillRemed shall be performed in such a way, and at such a rate and volume, that no undesirable migration of either the ingredients of concern, site contaminants, or remediation byproducts results.
- k. Abandonment of wells: Upon issuance of a Site Rehabilitation Completion Order, injection wells shall be abandoned pursuant to Section 62-528.645, F.A.C., and the Underground Injection Control Section of the Department shall be notified so that the treatment wells can be removed from the injection well inventory-tracking list.
- l. Open-pit application: The direct application of SpillRemed to an open pit in which the groundwater is exposed is not an injection, and notification of the UIC Section is not required, but the user must still be mindful of groundwater quality. Therefore, for open-pit applications, the groundwater in the application area should be monitored for the same parameters that would have required ZOD monitoring, had the application actually been an injection.
- m. Phosphorus: This element is present in SpillRemed. It is essential for life, and occurs naturally in Florida's groundwater. It is not regulated as a groundwater contaminant, but it is regulated as a surface water contaminant. At a Panama City, Florida site, total phosphorus in the groundwater was measured at 800 to 1,100 micrograms per liter (ug/L). At a Volusia County site in Florida, it was measured at 1,200 ug/L, as PO₄. For comparison purposes, the European Community Guide level for phosphorus in drinking water is 400 ug/L, as P₂O₅. While phosphorus may not be a matter of great toxicological concern for in situ injection-type groundwater remediation projects, the Bureau of Petroleum Storage Systems would like to remind users of SpillRemed that it could become an environmental concern if a surface water body is very close to the treatment area of a remediation site. In such a case, if there is potential for interaction between the groundwater being treated and the nearby surface water body, then the state's surface water regulations should be reviewed first for requirements regarding phosphorus.

Table 1. Zone of Discharge (ZOD) Trigger Points for SpillRemed (Industrial) [a.k.a. HydroRemed; a.k.a. AgroRemed]

If the number of liters of water added to 1 liter of SpillRemed Industrial concentrate prior to injection is greater than but not greater than ...	Then obtain zone of discharge permission pursuant to Rule 62-520.310(8)(c), F.A.C., and monitor the groundwater for ...			
		Ammoniacal Nitrogen	Surfactant	Vegetable Oil and Fatty Acid	pH
0	150	X	X	X	X
150	3,810		X	X	X
3,810	9,249			X	X
9,249	∞	2.8 ■	0.5 †	5 †	6.5-8.5 ▲
Florida Groundwater Standard (max. allowable mg/L) --->					

■ Urea is the source of ammoniacal nitrogen in SpillRemed (Industrial). The minimum groundwater criterion established by Chapter 62-777, F.A.C., for ammonia nitrogen is 2.8 milligrams per liter (mg/L).

† The phosphate ester component of SpillRemed (Industrial) shall be handled as an anionic surfactant, and the glycol ether component shall be handled as a nonionic surfactant. The sum of the two surfactants shall not exceed the secondary "foaming agent" standard of 0.5 mg/L established by Chapter 62-550, F.A.C. For analytical advice, see Enclosure 2, paragraph h.1.

‡ Users should not construe it as acceptable to leave unlimited residual concentrations of vegetable oil and fatty acid in an aquifer after a cleanup, even though these two components of SpillRemed (Industrial) are edible and not regulated as specific chemical species by Chapter 62-777, F.A.C. Neither of these substances is natural-occurring in groundwater, and at some threshold concentration they could become at the least a nuisance, or harmful to plants and animals in violation of the minimum groundwater criteria of Chapter 62-520, F.A.C., or exceed the secondary standard of Chapter 62-550, F.A.C., for odor. For these reasons, the Bureau of Petroleum Storage Systems recommends that the residual concentration of the vegetable oil and fatty acid ingredients of SpillRemed, and the total recoverable petroleum hydrocarbon contaminants (TRPH) combined not exceed the established 5-mg/L cleanup standard for TRPH. For analytical advice and additional discussion, see Section 2, paragraph h.2.

▲ The pH of as-shipped SpillRemed (Industrial) ranges from 5.5-6.9, which is marginal in comparison to Florida's secondary groundwater standard of range 6.5-8.5. Since it is impossible for the Bureau of Petroleum Storage Systems to know ahead of time the pH and quantity of location-specific dilution water needed to adjust 1 liter of SpillRemed concentrate to pH range of 6.5-8.5, the Bureau advises, as a prudent measure, that ZOD permission be obtained for pH for all injection concentrations of SpillRemed.

SUPPLEMENTAL INFORMATION

- a. Dosage: The Bureau of Petroleum Storage Systems recommends that those who prepare Remedial Action Plans consult with Sarva Bio Remed LLC to determine a site-specific dosage of SpillRemed that is appropriate for the type and concentration of contaminants to be remediated.

For information purposes only, the Bureau would like to indicate to users that the original application of SpillRemed was for surface water cleanup of petroleum. The dosage for this type of application is one (1) part by volume of SpillRemed to ten (10) parts by volume of petroleum contamination to be remediated. The 10 parts petroleum is the pure free product petroleum volume, not the combined volume of the petroleum and water it has contaminated. The volume of the water does not enter into this dosage calculation.

For subsurface cleanup of dissolved petroleum in groundwater, the dosage will be less than that of surface cleanups. In cases where the amount of petroleum contamination is less than one (1) percent of the total volume of petroleum-contaminated water, the dosage may be as low as one (1) part by volume of SpillRemed to one thousand (1000) parts by volume of petroleum contamination to be remediated. As in the surface applications, the volume of petroleum here is the volume of only the pure petroleum contaminant, not the combined volume of the petroleum and the water it has contaminated.

- b. Dissolved oxygen: For in situ aquifer remediation, if dissolved oxygen is not present in sufficient concentration for bioremediation by SpillRemed, then the site-specific Remedial Action Plan should propose a means by which to supply the necessary oxygen.

Memorandum

**Florida Department of
Environmental Protection**

TO: Cathy McCarty, P.G.
Florida Department of Environmental Protection
Bureau of Water Facilities Regulation
Underground Injection Control Section - MS 3530
2600 Blair Stone Road, Tallahassee, Florida 32399-2400

FROM: _____
(An employee of Div. of Waste Management or DEP District Office)

DATE: _____

SUBJECT: **Remediation Product Injection Well(s) for In Situ Aquifer
Remediation at a Contaminated Site**

Pursuant to paragraph 62-528.630(2)(c), F.A.C., inventory information is hereby provided in regard to the proposed construction of temporary injection well(s) for the purpose of in situ aquifer remediation at a petroleum contaminated site.

Facility name: _____

Facility address: _____

City/County: _____

Latitude/Longitude: _____

FDEP Facility Number: _____

Facility owner's name: _____

Facility owner's address: _____

Well contractor's name: _____

Well contractor's address: _____

AFFECTED AQUIFER

Name of aquifer: _____
Depth to groundwater (feet): _____
Aquifer thickness (feet): _____
Areal extent of contamination (square feet): _____

INJECTION WELLS

A site map showing the location and spacing of injection wells, the areal extent of the groundwater contamination plume, and associated monitoring wells is attached. The injection well(s) features are summarized below, and/or a schematic of the injection well(s) is attached.

Direct-push or HSA/Mud rotary (*circle the appropriate well type*) _____
Diameter of well(s) (i.e., riser pipe & screen) (inches): _____
Total depth of well(s) (feet): _____
Screened interval: _____ to _____ feet below land surface
Grouted interval, if applicable: _____ to _____ feet below land surface
Casing diameter, if applicable (inches): _____
Cased depth, if applicable: _____ to _____ feet below land surface
Casing material, if applicable: _____
If a remediation product will be injected as a DP rod is inserted, indicate injection interval: _____ to _____ feet below land surface.

PROJECT DESCRIPTION

The in situ, injection-type aquifer remediation product/process remediates contaminants by:
(check those that apply)

- use of a bioremediation product,
- use of a chemical oxidation product,
- recirculation of partially treated contaminated groundwater, or
- other (describe) _____

Brief description of the project: _____

Summary of major design considerations and features of the project:

Number of injection wells: _____
Injection volume per well (gallons): _____
Single or multiple injection events: _____
Injection volume total (all wells, all events): _____
For continuous recirculation of partially treated water, indicate total daily design flow rate:
_____ gallons per day

FLUID TO BE INJECTED

Brand name of remediation product(s): _____

Has an innovative technology acceptance letter been issued for this product by the BPSS:
__ yes __ no (Note: it is not required that an innovative technology acceptance letter be issued for the technology or product to be proposed in a RAP)

If product formula is proprietary then non-disclosure of the formula to the PE reviewing the RAP for the Department is only acceptable if there is an innovative technology acceptance letter issued by the Department with an attached proprietary voucher of confidential disclosure and it is verified that the proposed application rates (dosage) is limited to the rates specified in the innovative technology acceptance letter.

Is product formulation proprietary? __ yes __ no.

If product formulation is proprietary are proposed application rates limited to that indicated in innovative technology acceptance correspondence? __ yes __ no __ N/A

Composition of injected fluid (e.g. ingredient, wt. %): _____

TEMPORARY INJECTION ZONE OF DISCHARGE (ZOD)

(check those that apply)

- No ZOD needed. The fluid to be injected meets the primary and secondary groundwater standards of Chapter 62-550, F.A.C., and the minimum groundwater criteria of Chapters 62-520 and 62-777, F.A.C. _____
- ZOD permission by rule 62-520.310(8)(c) †, F.A.C., for reagent chemical species and/or parameter(s) in the fluid to be injected (or re-injected) that exceed secondary groundwater standards. ZOD permission by this rule also applies to chemical species in the fluid to be injected that exceed primary groundwater standards or minimum groundwater criteria, provided those species are prime constituents of the reagents used to remediate site contaminants. The chemical species and parameters for which the approved Remedial Action Plan identifies zone size and duration, and addresses groundwater monitoring are summarized below.

Chemical species & parameters: _____

Zone size (sq. ft.) _____ Duration (mos.) _____ Yes, monitoring addressed.

- ZOD permission by rule 62-520.310(8)(c) †, F.A.C., for the following contaminants of concern that exceed their groundwater standards in the fluid to be re-injected as part of a closed-loop re-injection system for which the approved Remedial Action Plan identifies zone size and duration, and groundwater monitoring:

Contaminants of concern: _____

Zone size (sq. ft.) _____ Duration (mos.) _____ Yes, monitoring addressed.

- ZOD permission by variance because the fluid to be injected contains the following impurities that are not prime constituents of the reagents used to remediate the site's contaminants, and the

concentrations of those impurities in the fluid to be injected are in excess of their primary groundwater standards:

Impurities regulated as primary groundwater contaminants: _____

Zone size (sq. ft.) _____ Duration (mos.) _____ Yes, monitoring addressed.

A variance needs to be granted before the remediation can be conducted.

A variance has already been granted for the impurities listed above:

Date variance granted: _____

Zone size (sq.ft.): _____

Duration (mos.): _____

If ZOD permission by rule 62-520.310(8)(c) †, F.A.C., or by variance is checked above, then a figure that delineates the ZOD is attached. (Use the lines below to more fully describe the ZOD if a figure alone will not suffice).

CLEANUP CRITERIA AND ENFORCEABLE APPROVAL ORDER

The in situ injection-type aquifer remediation plan for this contaminated site is intended to meet the groundwater cleanup criteria set forth in Chapter 62-777, F.A.C. Additionally, all other groundwater standards will be met at the time of project completion for any residuals associated with the ingredients of the injected remediation products, and any by-products or intermediates produced as a result of the chemical or biochemical reactions induced by those ingredients or the contaminants of concern during their use. Applicable primary and secondary groundwater standards are set forth in Chapter 62-550, F.A.C., and minimum groundwater criteria are set forth in Chapter 62-520, F.A.C.

The remediation plan estimates that site remediation will take _____ months. We will notify you if there are any modifications to the remediation strategy which will affect the injection well design or the chemical composition and volume of the injected remediation product(s).

The proposed remediation plan was approved on _____ by an enforceable approval order. A copy is attached. The remediation system installation is expected to commence within 60 days. Please call me at _____ if you require additional information.

† Effective July 12, 2009, rule 62-522.300(2)(c), Florida Administrative Code (F.A.C.), was relocated to Chapter 62-520, F.A.C., and renumbered as rule 62-520.310(8)(c), F.A.C.