



# **FPPC**

*Farm Pilot Project Coordination, Inc.  
"Technologies for Nutrient Management"*

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April 12<sup>th</sup>, 2005

**To:** Mr. William Boyd - Leader, Animal Waste Utilization Team  
East National Technical Support Center

**From:** Bob Monley, General Manager, FPPC Inc.

**Copy:** Carolyn Adams, NRCS – Acting Director ENTSC  
Bruce Newton, NRCS - Director WNTSC  
Ron Williams, NRCS – Director CNTSC  
Richard Salem, Board Chairman & Executive Director – FPPC Inc.  
Robert Zaytoun, FPPC Board Director  
Hilliard Eure, FPPC Board Director  
Peter Hubbell, Principal - Water Resource Associates  
Sara Royer, FPPC Treasurer, Ex Officio  
Barry Kintzer, NRCS - HDQ/DC  
Frank Bordeaux, Executive Director – N.C. Agricultural Finance Authority  
Frank Lancaster, N.C. Agricultural Finance Authority  
Tim Robinson, FPPC Field Coordinator  
Susan Mcloud, NRCS – AWUT, ENTSC

**Re:** FPPC Quarterly Update – January 1<sup>st</sup> through March 31<sup>st</sup>, 2005

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## **Executive Summary**

This quarterly report is intended to update the NRCS and the FPPC Inc. Board of Directors on the status of the innovative technology pilot projects. Activity this quarter has been dominated with preparation efforts for the Technology Summit, bringing the website online, training and the restart of the Watson Dairy project. Four (4) 2002 pilot projects are now complete and the final reports have been reviewed and available on line at the FPPC website. Three (3) additional farm pilot demonstration projects have reached the field completion milestone and final reports are being drafted to document results.

Negotiations and price agreement for two (2) remaining 2003 projects await Board approval due to scope and the funding changes. These two (2) projects required system modifications from the original proposal. Follow-up site visits have been made to Utah and Iowa to confirm farm site selection, scope and new project participants. The Professional Review Panel (PRP) now endorses these revised projects based on the value offered, proposed shared funding and technical review of the detailed plan of work.

FPPC remains confident in the progress demonstrated to date on all projects and despite differences in economic viability believes each farm pilot demonstration will meet or exceed targeted levels for nutrient reduction of the waste stream.

**OPERATIONS Report** -----

1. The recent FPPC solicitation, an (RFP) issued in March, has generated an enormous amount of interest from existing technology providers as well as attracting newly interested parties from universities and agri-business. FPPC is encouraging all waste water technology suppliers to think about next generation systems, regional solutions for nutrient reduction and to consider how systems can be better integrated to deliver benefits for manure utilization. FPPC has averaged five daily email and phone inquiries related to this outstanding RFP. The most inquiries have come from the state of Ohio. Since proposals are due back April 24<sup>th</sup>, the professional review panel (PRP) is scheduled to convene May 4<sup>th</sup> to begin evaluating and scoring each response.
2. Final preparation for the first annual FPPC symposium continues. More than 1000 people have been invited to attend or participate at the May 4<sup>th</sup> thru May 6<sup>th</sup> event. The Technology Summit will feature keynote speaker Bruce Knight, Chief NRCS, presentations from each of the farm pilot demonstration principal investigators and panel discussions of select agri-business leaders. Key supporters of the nutrient reduction initiatives including Congressman Bill Young will be honored at the closing luncheon on Friday.
3. Over the past two months, the significant training was completed by FPPC staff. Bob Monley attended a three day seminar in Gainesville with key members of the NRCS for instruction on Administering Federal Grant Requirements. Ms. Sara Royer and David Ferrentino subsequently completed the same coursework in Orlando. In preparation for the symposium, Jeanette Anderson attended a two day session at USF related to Special Event Planning for non-profit organizations. Bob Monley attended a two day USF course on Strategic Planning and Board Effectiveness.
4. An engagement letter was signed with the accounting firm of Lewis, Birch and Ricardo, LLC to perform the annual A-133 audit. On-site inspection and the audit of FPPC's fiscal year 2004 are scheduled to commence the second week of May.
5. Workman's' compensation coverage was acquired this month for FPPC employees. Improved insurance coverage for D&O and potential environmental exposure continues to be pursued by Wachovia, who is acting as our agent.
6. Website development continued at a frantic pace this quarter as the internet tools are now supporting the critical and ongoing need for timely information and communication. Both quarterly and final reports are available on line and can be accessed at the Farm Pilot's new website: [www.fppcinc.org](http://www.fppcinc.org)
7. FPPC has received guidelines for final reports drafted by NRCS. A first look at these guidelines indicates that if followed reports will be likely more structured and technology providers will be more apt to meet documentation expectations. FPPC will begin phasing in the new guidelines as practical implementation allows and will formally address these requirements in the 05 cooperative agreements. All requested input from FPPC for the 05 agreement has been provided to NRCS.

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Progress at individual Pilot Demonstration sites is summarized below:

**RMG Strategies, Ltd and Microorganics -----**

**Process:**

- The use of "Bio-Regen Animal" product contains "Carboxx" and Bacillus microbes, a natural, supersaturated, highly soluble, high reactivity humic acid (HRHA)
- The ultra-pure formula provides an unprecedented capacity to capture and absorb a wide array of impurities found in soil or wastewater
- This process will provide a 75% nutrient reduction in the waste water column, concentrating nutrients in the sludge layer while decreasing odor

**Jacobs Ranch site #1 -----  
Layer hen facility in Carmine, Texas**

**Preliminary Sampling and Testing:**

Initial lab data collected revealed that the dissolved oxygen in the lagoons averages 1.2 to 1.6 ppm, but the aerobic microbes in Bio-Regen product require approximately 3 ppm for optimum efficiency.

**Problems Encountered:**

At present the lagoons have very little movement further inhibiting the mixing of product with wastewater. Homogenous mixing is required for optimum treatment results.

With lagoon temperatures averaging 50 degrees F during the winter months, the microbes have been unable to function in an optimum manner.

To address these issues, two (2) energy efficient, highly effective aeration units have been located for immediate purchase. The Blue Frog units are floating units operating on 2 hp motor and can treat a 1 acre surface area, while moving approximately 7 million gallons of wastewater within a lagoon. Unlike other aeration equipment the Blue Frog collects oxygen depleted water from a designated depth and pushes it along the surface allowing oxygenation through contact with the atmosphere. Additionally, the water movement during winter months will prevent freezing of lagoon water within the operating perimeter of the Blue Frog unit.

**Project Status:**

Authorization to purchase two (2) used Blue Frog units has been provided while the plan of work/ budget is being revised and resubmitted.

**Heritage Farm site # 2 -----  
Swine farm in Lamar, Colorado.**

**Problems Encountered:**

Since cold weather interfered with the cost effective dosing of microbes, this project was delayed until April when warmer temperatures would occur.

In the meantime, the Heritage Farms Environmental Manager has advised receipt of a notice from the State of Colorado that lagoon levels at all facilities must be lowered to minimum levels over the next 12 months. This mandate will require removal of as much as half the existing volume in some lagoons and redistribution of effluent between lagoons.

**Project Status:**

Since the Heritage Farms Environmental Manager, cannot assure that effluent from other lagoons would not mix/affect the FPPC demonstration and that making a request to delay compliance would be pointless, valid testing could be a real challenge. Based on these factors, Microganics has begun a search for an alternative site.

**Air Diffusion Systems -----**

**Cavanaugh Farm No. 1**

**Swine farm in Wallace, NC**

*“Advanced Microbial Treatment System (AMTS) at Cavanaugh Farm No. 1”*

**Process:**

- Retrofits existing effluent treatment systems with suspended curtains to subdivide lagoon into discrete cells.
- Uses both aerobic and anaerobic processes.
- Forced air system and enhanced microbial activity utilizing aqua mats.
- A portion of the lagoon is covered to increase temperature, enhance biological activity and odor control.
- Treated water is reused for flush and spraying irrigated for crop production.
- Applicability for cleanup of abandoned lagoons.

**Problems Encountered:**

On site investigation has determined that unanticipated spurious flow and stagnation is occurring at various times from one cell to another within the lagoon. Since this flow pattern/condition was not anticipated within the operating system design assumptions, a recirculation pump and timer was added to the system to promote a more continuous flow within the lagoon. These modifications as well as changes in farmer practice have stabilized flow, allowing predictable nutrient reduction results by improving microbe activity.

**Sampling and Testing:**

New samples have been taken but test data has not been reviewed by Sterling Scott, who is currently traveling overseas. Mr. Scott is attempting to analyze data by email and send results before issue of this report. If the results, are not available they will be added to this report and posted on the website as soon as they are available.

**Global Resource Recovery Organization -----**

**GRRO – site # I**

Burt Farm & Livestock Co.

Swine farm in Marshalltown, IA  
*"Pork Nutrient Management Demonstration"*

**Process:**

- System uses a coarse static screen with manure pumped from existing houses
- Followed by an advanced induced cyclonic dissolved air flotation (IC-SEP).
- Cyclonic drying system (GRRO's Tempest).
- Value added products can be developed to include slow release fertilizer and/or gasification for energy use

**Project Status:**

This system was fully completed and tested, but due to operational efficiency of the existing system together with the complexity of the IC-Sep features, a decision was made to discontinue operations now, rather than spend the remaining O & M funds budgeted in the original project budget. Equipment has been disassembled for cleaning and unused equipment is being sold for salvage value. The latest projection indicates the budget will be underun by approximately \$85,000.00 when unused funds and the value of equipment salvage is realized.

In the meantime, GRRO will capture lessons learned in a final report using guidelines provided for reference. Of particular interest is the energy requirements needed to support the processing manure with the tempest dryer. The final report will then be submitted for review and comment before issue.

In light of the next approved project GRRO II, together with the results demonstrated at the site, it became obvious that halting this project in favor of a more comprehensive approach was the most prudent course of action.

**Other Problems Encountered:**

In addition to the inefficiency of operating the ICEP under the range of manure conditions, the project experienced difficulty with delivering wet and variable consistency manure to the Tempest cyclone dryer. Significant experimental testing of various manure mixes (dried manure with wet manure) provided a practical/predictable solution to the material handling feed problem.

**GRRO – proposed site # 2  
Dave Minter Farm, Hardin County, Iowa**

**Process:**

- System will use a highly efficient scraper system, efficient manure transfer and capitalizes on new construction techniques, low water consumption, minimum odor
- Pre-Separation Cyclone (liquid removal)
- Modular designed cyclonic drying system (Tempest dryer).
- Development of value added/commercial grade product - slow release fertilizer and/or gasification for the production of energy.

**Project Status:**

Final negotiation and price agreement with each of the multiple stakeholders is pending until Board approval is obtained because the scope and the funding amounts required changes from the original proposal. As currently proposed, the total of this new construction project requires approximately \$1.5 M total funding with cost sharing of 52% requested from FPPC. Follow-up site visits have been made to Iowa to confirm farm site selection, scope and new project participants. The professional review panel (PRP) now endorses this revised project based on the integration value offered, proposed shared funding and technical review of the detailed plan of work.

**Super Soils Systems, USA -----**  
**Goshen Ridge Farms, LLC**  
**Swine farm in Clinton, NC**  
*“Solids Removal System to Reduce Environmental Impact of Swine Production”*

**Process:**

- Solids separation system and the use of polymers to enhance dewatering.
- Anaerobic and aerobic activity to clean water
- Solids removed offsite for composting and marketing as value added product.
- Process is modular design and can be farm fixed or mounted as a mobile unit.
- Applicability for the cleanup of abandoned lagoons.

**Status of Operation and Maintenance:**

During this quarter the system has been operating and data has been collected except when the system was down to replace a computer memory board.

Approximately 100,343 gallons of wastewater were processed during February and a total of 720 cu ft of solids were removed and transported to the Super Soil Regional Processing Facility. Approximately 640 cu ft of FPPC compost was produced and removed from compost bins to curing piles in February.

**Problems Encountered:**

None

**Project Status:**

Field operation and maintenance efforts were completed in early March. A final report is being prepared for review. A final report copy will be sent to Mike Williams for consideration as an “EST” (environmentally superior technology) and hopefully eligible for a state permit in North Carolina. If additional testing is required, FPPC will consider the impact of extending the project scope at that time.

**Applied Chemical Magnesiums Corp. (ACM) -----**  
**Bella Holstein Inc. - Dairy in Platteville, CO**

**Process:**

- Easily-assembled recovery system that utilizes the reaction capabilities of inexpensive, milled brucitic marble to extract between 75% - 90% of most nutrients
- Uses magnesium source to react with Nitrogen & Phosphorous to form a crystal precipitate.
- Uses mechanical cellulose separator, a series of reaction tanks (sized for the anticipated flow) with simple mechanical (paddle) agitation, and a hydro-cyclone separator and drying screen for the recovery of the precipitate.
- Precipitated crystals and liquid are sent to the drying screen; crystals are separated from the liquid then stored for various farmers to use as a slow release fertilizer. The remaining liquid flows to a lagoon for solids settling.

**Problems Encountered:**

With construction mostly complete, one real life concern affecting the process experimentation is consistent weather conditions. The reaction tanks tend to accumulate solids at the bottom and cleaning it out is problematic. Two shafts have failed due to excessive force and pressure from attempted mixing of the effluent and waste. Weather permitting; the ideal solution is to be able to reliably pump effluent from the screening unit directly into the tank into the tank.

Another problem relates to the relatively high pH of the effluent from the barn. The brucitic marble requires an acidic environment which can be achieved under anaerobic conditions (present in the lagoons). With cold weather inhibiting the micro bacterial growth in the reaction tanks and the high pH of the effluent, the reaction time is taking much longer than anticipated.

**Preliminary Sampling and Testing:**

Testing of effluent and waste nutrient levels has been inconclusive, reflecting the problems described above. Experimental testing of the effluent stream and the lagoon with Colorado State University will be reinitiated in the next couple of weeks. FPPC has scheduled a field visit in the next week, to understand the next steps planned and to assess the progress of the problem solving efforts underway.

**Utah State University -Center for Profitable Uses of Agricultural Byproducts -----  
Hardy Dairy in Tremonton, Utah****Process:**

- This system consists of an induced blanket reactor (IBR), a type of anaerobic digester converting organic carbon in the manure to methane and carbon dioxide.
- The (IBR) is followed by an electro-coagulation unit to concentrate nutrients from the effluent of the IBR. The anaerobic digestion system allows the electro-coagulation process to perform more efficiently.
- Effluent from the electro-coagulation unit will be combined with sludge from the IBR producing a valuable liquid fertilizer and soil conditioner.
- Treated water from the system is nearly odorless and contains less than 25% of the nutrients in the original waste stream.
- Biogas will be produced from this system and utilized to offset the electrical usage.

**Problems Encountered:**

The original objection concerning the size of the dairy has been overcome with a dairy site that is more prototypic. In addition, the cost of the original project has revised upward based on higher steel and concrete prices and the project cost at the larger dairy.

**Project Status:**

Final negotiation and price agreement is pending, until Board approval is obtained because the scope and the funding amounts required changes from the original proposal. Follow-up site visits have been made to Utah to confirm farm site selection, scope and new project participants. The current proposed project requests an additional \$65 K from FPPC for price increases and the new farm site and provides \$ 150 K in cost sharing from the farm owner.

The professional review panel (PRP) now endorses this revised project based on the value offered, proposed shared funding and technical review of the detailed plan of work. In the nearby vicinity, the Wade Dairy is utilizing a partially effective anaerobic digester. This project is currently being evaluated independent of FPPC by the NRCS in Utah for potential improvements and funding.

**Chemical Lime -----****Aprile Dairy in Riverview, FL**

*"Nutrient Removal from Dairy Farm Wastewater Using Lime"*

**Process:**

- Use of chemical lime to reduce nitrogen and phosphorous loading in dairy wastewater.
- Screening and sand removal.
- Dewatered effluent treated with lime to precipitate P and N.
- Ammonia captured as ammonium nitrate.
- PH reduced by utilization of CO2 gasses vented from flash composter.
- Treated water recycled as flush water.

**Percent Construction Completion:**

System construction and fabrication is 100% complete pending required modifications and debugging

**Problems Encountered:**

Intermittent operation of the system continues due to further debugging issues. Repairs to the farm from last year's hurricane are nearing completion, but have caused a debris problem. The feeding area that is flushed of animal solids daily has been equipped with a cloth shade covering. Some of the debris from this construction has made its way from the feeding area into the collection lagoon sometimes jamming the chopper pump, rendering it inoperable. Recovery plans continue.

Attempts to run the T-Rex system with new hydraulic fluid have not been successful. Specifically the system is not developing the required pressure to pump solids within the T-Rex throat. After analyzing the low flow rate at the treatment tanks and the inability of a T-Rex to perform, the project team determined that the flow rate through the separation screen within the T-Rex was inadequate. Alternatives to purchasing a new dewatering



system are being pursued. Presently, we are attempting to locate a better dewatering system that can be leased for a temporary fix in order to allow the chemical lime process to be tested. During a site visit to the dairy, the local dewatering supplier collected information concerning the current system and is checking on availability of a dewatering unit. A proposal for a leased screen from Vincent Inc. in Tampa has been received and is being evaluated.

The current problem solving punch list in addition to the replacement of the dewatering equipment includes:

1. recovering the jammed chopper pump and pumping the lagoon free of debris
2. replacing inoperable probes
3. protecting equipment from damage created by animals
4. inoperable water hose at the trailer
5. flow meter model MC208 working intermittently, may require replacement.

**AJT/Agrimond** -----  
**Watson Dairy in Trenton, FL**  
*"Florida Dairy Nutrient Management Demonstration Pilot Project for Watson Dairy"*

**Process:**

- Sand/grit removal.
- Solids separation.
- Primary anaerobic treatment and secondary aerobic treatment with enhanced aeration.
- Suspended solids precipitation using polymers.
- Anoxic treatment for denitrification prior to land application.

**Percent Construction Completion:**

The new waste water tank has been now been erected to take the place of the failed secondary basin. The photographs below show the failed basin on the left and the newly installed storage tank on the right.

Photos located on website.

The installation of the above ground Slurrystore effluent storage tank was completed at the end of March 2005.

Filling the failed secondary basin and installing the interconnecting piping, pumps and electrical and effluent controls are the next steps. Competitive quotes are being analyzed for the most advantageous proposal. At the latest site visit on 4/8/05, the proposed requirements for relocating irrigation and connecting electrical/effluent lines and pumps were reviewed with suppliers. In addition, the flanged fitting/connection and supporting concrete pad must also be completed to make the system operable. A purchase agreement with a subcontractor will be executed by April 20<sup>th</sup>. Once the agreement has been signed, the basin is scheduled to be filled and work completed within 30 days.

**Renewable Oil Inc., Alabama Operations -----  
Mills Poultry Farm in Russellville, AL**

*"Demonstrating Bio-oil Technology for Poultry Litter Nutrient Management"*

**Process:**

- Mobile processing plant to burn poultry litter.
- Poultry litter would be removed from houses and burned.
- Process produces nutrient rich ash and vapor that is converted to bio-oil.
- Bio-oil and ash would both be available as marketable products.
- Bio-oil is a low-grade fuel for furnaces or heaters to warm poultry houses.

**Percent Construction Completion:**

Construction of the system equipment is 100% complete except where planned system modifications require installation. The new condenser system will be installed in April.

**Project Status:**

A new condenser system has been designed and fabricated. The new condenser is designed to handle the heavier Bio-Oil fractions resulting from poultry litter.

Repairs on the grinder mixer were completed and the compression feed auger into the reactor was modified for better material handling and feeding.

**Testing and monitoring:**

A subcontracted testing concern has submitted a proposed testing protocol for review. Testing will be reinitiated once the condenser becomes operational.

## Completed Projects

### Royal Consulting Services, Inc. -----

#### Posey Dairy in Lake Placid, FL

*"Florida Dairy Nutrient Management Demonstration"*

#### Process:

- A Pond Enhanced Treatment & Recycle Operation (PETRO) process utilizing a series of lagoons, both aerobic and anaerobic, with a final polishing sand bed filter
- Includes enhanced aeration and fermentation processes.
- Polymeric ion exchange system provides for complete phosphorous removal.

#### Project Status:

The final report has been reviewed, issued and is posted on the FPPC website.

### McGill Environmental Systems -----

#### Delway, NC (Central Processing Facility) With

#### Poultry Litter Collected from Farms in Sampson County, NC

*"Nutrient Management Technology for Animal Feeding Operations"*

#### Process:

- Centralized static pile (a forced aeration composting facility for the handling of poultry litter from area farms)
- Test different formulas utilizing carbon sources such as cotton waste, hog waste
- Compost will be developed as a marketable compost/mulch product.
- The potential for utilization of compost as a substitute for methyl bromide will be analyzed.

#### Project Status:

The final report has been reviewed, issued and is posted on the FPPC website.

### Cape Fear Resource Conservation -----

#### Rose Hill, NC - Central Processing Facility

#### Poultry Litter Collected from Duplin County, NC

*"Demonstration Optimum Fertilizer of Ash from the BEST Solution for Swine and Poultry Manure Management"*

#### Process:

- BEST technology provides for gasification of poultry and swine litter.
- Gasification process byproduct is nutrient rich ash.
- ACT process will turn ash into portable, usable fertilizer.
- Test marketing product with multiple users.

#### Major Problem Encountered:

Elevated and variable silica levels collected in the turkey litter samples prevented consistent nutrient capture and commercial practice needed for fertilizer labeling.

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**Project Status:**

The final report has been reviewed, issued and posted on the FPPC website.

**Mountain Organic Materials (MOM) -----**

**Randy Johnson and David Parsons Farms**

**Wilkesboro, NC**

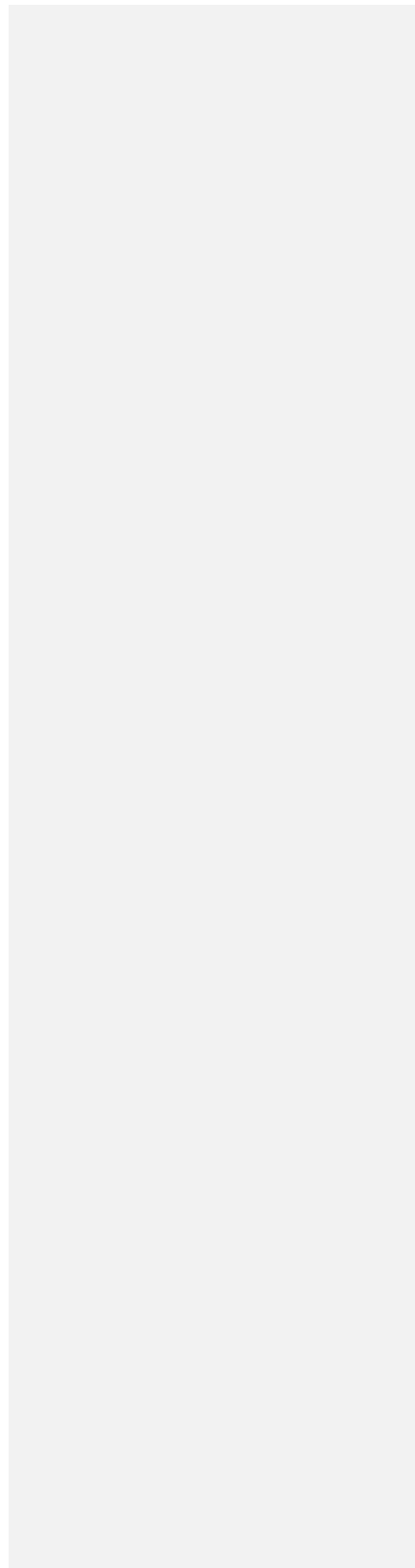
*“Demonstration of Poultry Manure and Mortality Forced Aeration Composting Bin Systems”*

**Process:**

- Portable on-farm forced aeration composting system.
- Handles both poultry litter and mortalities.
- Developed marketable compost products.

**Project Status:**

The final report has been reviewed, issued and posted on the FPPC website.



**FARM PILOT MACRO BUDGET  
SUMMARY  
JANUARY 2002 – MARCH 2005**

Congressional Appropriation- 2002	\$4,500,000.00
Congressional Appropriation- 2003	\$2,700,000.00
Congressional Appropriation -2004	\$4,700,000.00
<b>Total Appropriations</b>	<b><u>\$11,900,000.00</u></b>

	<b>Budget</b>	<b>Actual Outlays</b>	<b>Remaining Budget</b>
<b>2002 Working Agreement</b>			
Project Related Costs-2002	\$1,075,000.00	\$855,844.11	\$219,155.89
General and Administrative Costs-2002	\$317,000.00	\$309,120.84	\$7,879.16
Project Contingency	\$0.00	\$0.00	---- 0 ----
Agrimond	\$737,964.00	\$586,464.70	\$151,499.30
Air Diffusion System	\$298,510.00	\$284,897.21	\$13,612.79
Cape Fear RC & D	\$250,400.00	\$250,400.00	---- 0 ----
Chemical Lime	\$432,300.00	\$386,272.66	\$46,027.34
Global Resource Recovery - I	\$485,765.00	\$426,482.17	\$59,282.83
McGill Environmental	\$342,000.00	\$341,800.00	\$200.00
Renewable Oil Inc	\$447,114.00	\$408,920.54	\$38,193.46
Royal Consulting	\$493,832.00	\$493,832.00	---- 0 ----
Super Soil Systems	\$370,115.00	\$357,096.02	\$13,018.98
Mountain Organic Materials	\$60,000.00	\$60,000.00	---- 0 ----
<b>Total Expenditures-2002</b>	<b><u>\$5,310,000.00</u></b>	<b><u>\$4,761,130.25</u></b>	<b><u>\$548,869.75</u></b>
<b>2003 Working Agreement</b>			
Project Related Costs-2003	\$500,000.00	\$407,362.88	\$92,637.12
General and Administrative Costs-2003	\$142,000.00	\$89,775.50	\$52,224.50
Microganics	\$273,162.00	\$146,776.75	\$126,385.25
ACM, LLC.	\$264,260.00	\$173,812.00	\$90,448.00
Utah State University	\$431,000.00	\$0.00	\$431,000.00
Global Resource Recovery - II	\$231,578.00	\$0.00	\$231,578.00
Project Contingency	\$13,000.00	\$0.00	\$13,000.00
Compendium/Symposium	\$35,000.00	\$0.00	\$35,000.00
<b>Total Expenditures-2003</b>	<b><u>\$1,890,000.00</u></b>	<b><u>\$817,727.13</u></b>	<b><u>\$1,072,272.87</u></b>
<b>2004 Working Agreement</b>			
Project Related Costs	\$940,000.00	\$13,278.82	\$926,721.18
General And Administrative Projects	\$470,000.00	\$2,668.08	\$467,331.92
	\$3,290,000.00	\$0.00	\$3,290,000.00
<b>Total Expenditures – 2004</b>	<b><u>\$4,700,000.00</u></b>	<b><u>\$15,946.90</u></b>	<b><u>\$4,684,053.10</u></b>
<b>TOTAL</b>	<b><u>\$11,900,000.00</u></b>	<b><u>\$5,594,804.28</u></b>	<b><u>\$6,305,195.72</u></b>