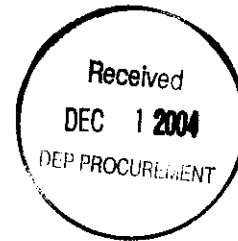




2301 Maitland Center Parkway, Suite 300
Maitland, Florida 32751
tel: 407 660-2552
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December 1, 2004

Bureau of Mine Reclamation
Division of Water Resource Management
Florida Department of Environmental Protection (Department)
Ms. Gwenn D. Godfrey
Procurement Section, Room 235
3800 Commonwealth Boulevard, MS93
Tallahassee, Florida 32399-3000

Subject: BAFO - DEP Solicitation Number: 2005002C entitled "Invitation to Negotiate (ITN) for the Closure of the Piney Point Phosphogypsum Stack System"

Dear Ms. Godfrey:

On behalf of the entire Camp Dresser & McKee organization, CDM Constructors Inc. (CDM) is pleased to submit this proposal in response to your Invitation to Negotiate, dated July 16, 2004. Our qualifications, experience, up-front pricing, coupled with a complete scope of services assures FDEP of a successful, on-time, and under budget project.

The CDM Team's Qualifications are the best in the industry: Our project team includes an experienced project manager, Dean Carter, with over \$400 million in construction and related experience for scope and schedule management. Our team leader, John Brafford, is well known as one of the leaders in the phosphate industry. Our operations and maintenance operator, Paul Roberts, has completed numerous projects of this type; more than any of our competitors. Specialists in water treatment and consumption from Mosaic (formerly IMC) represented by Dr. Astley and Mr. Ben Nickel provide the in depth process experience needed to successfully treat every drop of water leaving the facility to the strictest interpretation of the permit that FDEP would impose. Moretrench and Quiet Earth provide unsurpassed experience in closure construction and treatment compliance respectively.

Local and seamless execution assured: Further, because our team is local, our team will easily mobilize and is ready to go at a moments notice. In addition, because team members have worked with each other, seamless execution is guaranteed. Mr. Steve Solters, the CDM team on-site overall project manager is intimately familiar with the facility due to his earlier experience as a PM with US Filter installing the currently successful pretreatment system. Mr. Solter lives in the immediate vicinity of Piney Point.

Complete scope of services compared to our competitors: In preparing our scope of services, the CDM team has provided a complete scope to FDEP to minimize the possibility of any change orders.



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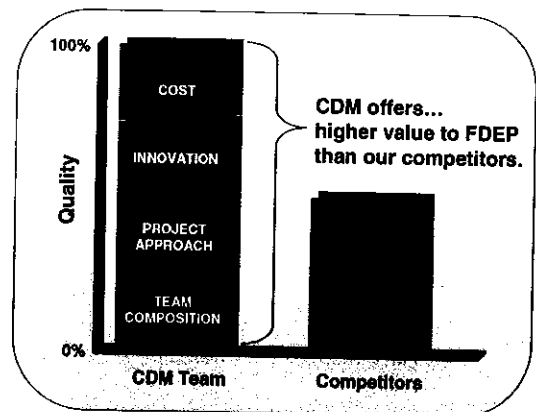


December 1, 2004

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- Our operations and maintenance scope is complete and includes all needed elements of operations and compliance.
- Our water consumption is conservative assuring FDEP of adequate scope to treat all of the water from this site, including the only capability of the three respondents to treat process water by RO through the entire 5-year length of the contract.
- Closure construction contractor and construction schedule assure FDEP of timely project completion.
- Redundancy of technical staff to ensure complete backup for all critical project roles.

CDM's project pricing meets the strictest interpretation of project requirements: In developing our proposed pricing, CDM has worked diligently to minimize cost. By finding a borrow pit adjacent to the site and by including RO as an alternative, the CDM team is providing the best combination of cost and quality with a complete scope to make sure that FDEP's needs are met. CDM's approach of maximizing value by providing the right combination of price and scope for FDEP is further defined in the attached graphic.



Our proposal further illustrates our qualifications, scope, and pricing. As an Officer of CDM Constructors Inc., I have the authority to bind CDM Constructors Inc. and will be available to be contacted by telephone and attend meetings, as may be appropriate regarding the solicitation schedule. CDM understands that time is of the essence in the contract negotiation process and we are committed to work with the FDEP in a timely manner to transition the work and stand ready to execute this project.

Very truly yours,

Richard A. Slovarp
Vice President
CDM Constructors Inc.

Subject 1 Resume/Experience of Personnel

Each of the individuals who are part of the CDM Team brings unique skills to the project, along with the proven ability to apply those skills successfully in a team environment. They are among the most capable, qualified and experienced people on a per-project-element basis in the environmental remedial construction and phosphate industry today. They bring decades of experience in the operation and closure of Phosphogypsum stacks and are specialists in each of their roles. In addition, CDM has formulated a team that is seamless and redundant in skills, for example if one member drops out, there are one or more others on the current team that can fill that spot with no delay or interruption. In the following pages we provide a brief bio and a full resume for each member of the CDM Team including; executive, management, and supervisory staff and our current professional staff that will be involved in this project. We have included; experience, licenses, continuing education/training, and professional designations and affiliations for each team member. We have also included awards or special recognition for sustained productivity and leadership in the resumes.

Project Controls

Officer-in-Charge, Richard A. Slovarp, CDM

Mr. Slovarp is the manager of CDM construction and design/build (D/B) project operations in the Southeast. He oversees all construction and design/build projects and pursuits in the region, and manages CDM's staff of estimators, schedulers, project managers, construction managers, and superintendents. He brings more than 30 years of experience to the CDM team, including expertise in both the D/B and traditional project delivery approaches. Mr. Slovarp's responsibilities have included project management, estimating, procurement, design/drafting oversight, subcontractor coordination, quality control, and business development. He has completed projects including, water and wastewater treatment plants, refineries, power plants, pipelines, and industrial buildings. Mr. Slovarp will be the Officer-in-Charge for this project and will be responsible for client satisfaction, and will ensure that CDM meets budget commitments.

Richard A. Slovarp Project Relevance

Responsible for all construction and design/build projects and pursuits in the Southeast region, and manages CDM's staff of estimators, schedulers, project managers, construction managers, and superintendents.

FDEP should be confident that Mr. Slovarp has a team in place and is committed to have the resources available to successfully negotiate a contract and ensure project execution year after year.

Principal, Kartik Vaith, P.E., CDM

Mr. Vaith is currently serving as Vice President and Sr. Officer in CDM. In this role Mr. Vaith serves as project manager or principal in charge for major infrastructure projects including those that are delivered using the design/build method.

For the City of Valdosta, Mr. Vaith is serving as the Principal in Charge for a 7.5 mgd \$19 million expansion to a water treatment plant (WTP). For this project, CDM helped solve the City's water quality problems, addressed capacity constraints to maximize plant throughput, and is currently delivering the WTP using the design build (DB) approach. The WTP DB delivery will be accomplished by dividing the project up into components to maximize local participation and minimize cost. To further save sales tax related costs, equipment will be purchased directly by the City. Plant processes CDM will be constructing include packed tower stripping for sulfide removal, packed tower scrubbing for odor control, ozonation for disinfection, and final chemical stabilization followed by high service pumping and distribution. As Principal in Charge for the design and construction phases of this project, Mr. Vaith has the ultimate responsibility for project schedule, budget, and performance with the client.

Kartik Vaith, P.E.

Project Relevance

For St. Johns County, Florida, Mr. Vaith is serving as the Principal in Charge for the design build delivery of 2 WTPs.

For the City of St. Augustine, Florida, Mr. Vaith is serving as the Project Manager for a 2 mgd RO WTP.

For the TP Smith WWTP in Tallahassee, Florida, Mr. Vaith is serving as the Project Manager for a process and operations evaluation of a 22.5 mgd WWTP.

Mr. Vaith is also serving as the principal in charge for the design build delivery of 2 WTPs. The St. Johns County Road 215 (CR 214) WTP is converting from lime softening to brackish water RO for an estimated cost of \$9 million for a 4 mgd facility and at the City of St. Augustine for the design and construction phases. Mr. Vaith has the ultimate responsibility for project schedule, budget, and performance with the client.

Project Management

Overall Program Manager, Dean Carter, P.E., CDM

Mr. Carter will be Overall Program Manager for this project. As Program Manager, Mr. Carter will monitor and control the overall project scope, safety compliance, operations, quality assurance/quality controls, schedule and cost. It will be his responsibility to provide overall project direction, coordination and interface with the various project representatives and team members.

Mr. Carter has 22 years of construction and engineering experience on a variety of project types ranging from building construction and renovation projects to heavy construction

Dean Carter

Project Relevance

Well versed in environmental and construction regulations in Florida and the Southeast.

22 years of construction and engineering experience on a variety of project types ranging from building construction and renovation projects to heavy construction and environmental remediation projects.

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

and environmental remediation projects. He is experienced in all phases of project management, from bid preparation to project execution to final closeout. He has managed projects under various contract types, including D/B, lump sum, cost plus, and time and materials contracts. Mr. Carter's responsibilities have included estimating, procurement, subcontractor management, quality control, budget and schedule management, onsite construction supervision, design, and health and safety management. He is particularly well versed in environmental and construction regulations in Florida and the Southeast.

Team Leader, John Brafford, CDM

John Brafford will be the Team Leader for the CDM Piney Point Phosphogypsum Stack Closure Team. He will serve as the point of contact between the FDEP and the CDM team and is responsible for coordination of all activities and reporting to the Department under this contract. His integrity and experience are well known and respected in the community.

His professional experience consists of 37 years of service to the phosphate industry, leading technical project engineering teams. He has extensive familiarity interfacing with public agencies and interest groups. He is knowledgeable in dealing with a variety of regulators and public entities including Polk County Commissioners, Central Florida Regional Planning Council members, staff of the Florida Dept. of Environmental Protection, news media editorial boards such as The Lakeland Ledger and The St. Petersburg Times, environmental groups such as the Audubon Society and the Sierra Club and industry organizations like Florida Institute for Phosphate Research (FIPR) and the Florida Phosphate Council (FPC). He also was an Expert Witness in several permitting hearings, and in an intervention suit brought by the environmental watchdog group Manasota-88.

Mr. Brafford is especially adept at managing diverse groups in difficult times. After the development of a sinkhole under the active gypsum stack at the IMC New Wales Plant, he was involved in development of a remediation plan with Ardaman & Assocs., and their sub-contractors. He also acted as the IMC contact person with all interested parties and the news media, including newspapers and television.

His success in interacting with environmental groups is proven by his receipt of an award from the Florida Audubon Society "For Your Lifelong Leadership in Promoting Conservation in Florida".

With the expansion of the gypsum storage area at the IMC New Wales plant, he was involved in the design, permitting, and construction of the state-of-the-art, first ever HDPE-lined gypsum stack with Ardaman & Associates as the Engineer.

John Brafford

Project Relevance

One of the leading authorities on the operation, maintenance and inspection of chemical complexes and phosphate mines.

Public relations representative and dealings with all aspects of gypsum stack closure.

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

On-Site Overall Project Manager, Steve Solter, CDM

Mr. Solter is a project manager offering over 23 years of work in the construction and engineering industry. He has extensive experience in managing direct performance projects including subcontract administration, permitting, purchasing, estimating, cost control, scheduling, operations coordination, and start up assistance.

Mr. Solter was the Project Manager for the US Filter Piney Point Phosphate Mine Water Pre- treatment project using the Actiflo technology. Mr. Solters provided design management, EPC procurement and construction execution of improvements to a clarification system that was not performing to standards. This project was originally developed, engineered, constructed and operated by US Filter Services and Products (S&P) branch in Tampa. The project consisted of MMF and RO filtration with other polishing and chemical system additions. This system did not perform well due to the ever changing nature of the water in the stack and the high concentration of solids and algae. US Filter S&P called upon the US Filter Operating Services E&C construction group to add two (2) Actiflo High Rate clarification systems in front of the existing equipment. Chemical, coagulation, and additional frac tanks were also added. This combination of new equipment and process systems, once completed and optimized, vastly improved the operation of the original system allowing US Filter to reach its quality and quantity contract obligations to the receivership. The system is still being run successfully by US Filter. Mr. Solter was hired specifically for the Piney Point project team to ensure the success of the CDM project team. Mr. Solter lives approximately 10 miles from the Piney Point plant.

Steve Solter

Project Relevance

Mr. Solters provided design management, EPC procurement and construction execution of improvements to the clarification system for the Piney Point Phosphate Plant.

Health and Safety Director, Stephen M. Robinson, CDM

Mr. Robinson has 31 years of experience coordinating and directing health and safety programs and personnel. His expertise includes writing and implementing corporate health and safety programs, performing site and facility audits, enforcing subcontractor and intra-company compliance with applicable state and federal regulations, and conducting employee health and safety training. Aside from his management duties, Mr. Robinson also has nine years of experience serving as a safety consultant for various private and public projects.

Steve Robinson

Project Relevance

Oversees the health and safety of construction projects, supervises the writing of health and safety plans, performs required OSHA training for employees and supervisors, and acts as a CDM liaison with OSHA.

Operation and Maintenance

Paul Roberts, Operator, CDM

Mr. Roberts will be the Operator for this project. As Operator, Mr. Roberts will be in charge of the overall operation and maintenance of the Gypsum Stack System. He will provide direction and coordination to field staff and team members on the operation and closure of the system.

Mr. Roberts has 41 years of demonstrated phosphate chemical plant experience operating, inspecting and maintaining active phosphogypsum stack systems and phosphogypsum stack systems undergoing closure. He progressed through operations, engineering, senior corporate staff, technology development and environmental to Operations Manager while associated with six (6) chemical plant sites, including five (5) with gypsum stacks, a phosphate mine, corporate office assignments and port facilities. He spent eight (8) years on the shutdown of a major phosphate chemical complex leading activities as follows: studies to remediate and upgrade plants within the facility to more competitive technologies, development of closure plans and permits to close a major gypsum stack at the site including borrow sites, and technology development for the gypsum stack closure activities with major cost reductions working with Ardaman & Associates as the Engineer. In addition, Paul developed several innovative water consumption techniques using spray evaporation along with Craig Kovach.

Paul Roberts

Project Relevance

41 years of phosphate chemical plant experience.

Managed six (6) chemical plant sites, including five (5) with gypsum stacks, phosphate mine.

Eight years at a shutdown of a major phosphate chemical complex.

Fellow of the National Section of the American Institute of Chemical Engineers (AIChE).

On-site Operations and Maintenance Manager, George Curry, CDM

Mr. Curry has 45 years of phosphate chemical plant experience including 10 years as an Operator and 35 years as a Supervisor at the IMC and CF Industries, Inc. facilities. He has worked extensively with Ardaman & Assoc. staff.

His responsibilities in these positions have included:

- Supervising shift foreman and hourly operators for closure activities at the inactive CF Industries, Inc. Bartow, Florida facility during closure
- Water treatment and disposal by **two-stage liming and spray evaporation**
- Disposal of plant process wastes
- Gypsum stack reconfiguration by mechanical and ditch-slucide methods
- Administrative functions including personnel, security and EHS.
- Site person in charge of the idle plant prior to closure work
- Plant demolition

George Curry

Project Relevance

45 years of phosphate chemical plant experience including 10 years as an Operator and 35 years as a Supervisor at the IMC and CF Industries, Inc. facilities.

Permitting and Regulatory Compliance, Craig A. Kovach, P.G., QuietEarth

As a senior-level environmental professional with over 17 years of experience in consulting and industry, Mr. Kovach's range of experience in the environmental field is extensive. His responsibilities have most recently included management and direction of environmental affairs and programs for CF Industries, Inc., one of the five (5) phosphate fertilizer producers in Florida, with facilities in Hillsborough, Polk, and Hardee Counties. From 1996 through 2003, Mr. Kovach was directly responsible for all environmental permitting and regulatory compliance for the company's 2800-acre Bartow Phosphate Complex and two (2) Port terminal facilities on Tampa Bay. The former facility is an idle processing plant that has not produced fertilizer since 1989; therefore, process water management and gypsum stack closure have comprised critical environmental program areas under Craig's management.

Craig A. Kovach

Project Relevance

Management and direction of environmental affairs and programs for CF Industries, Inc.

Directly responsible for all environmental permitting and regulatory compliance for the company's 2800-acre Bartow Phosphate Complex and two Port terminal facilities on Tampa Bay

Lead On-site Operation and Maintenance Superintendent, Wayne Winner, CDM

Mr. Winner will serve as Lead On-site Operation and Maintenance Superintendent on this project. In this position he will be responsible for the day-to-day supervision of the field activities. Mr. Winner will be responsible for ensuring fieldwork is performed safely and in accordance with the project schedule and budget.

Wayne Winner

Project Relevance

30 years of experience in all aspects of earthwork and pipeline construction, and project supervision.

Experience includes fulfilling OSHA requirements relative to site work and excavation, coordinating transportation and disposal of hazardous wastes.

Mr. Winner is a construction superintendent with over 30 years experience in all aspects of earthwork and pipeline construction, and project supervision. He has experience with large earthwork projects including landfill construction and closures, and gypsum stack closure and maintenance. Mr. Winner has participated in and supervised emergency and planned hazardous waste remedial actions, including excavation and removal of waste-contaminated surface and subsurface soils, underground storage tank removal and cleaning, spill response, drum sampling and disposal, and recovery of oil and debris. His supervisory experience includes fulfilling OSHA requirements relative to site work and excavation, coordinating transportation and disposal of hazardous wastes, soliciting and receiving bids for services and materials, and working with clients and on-site coordinators.

Field Sampling, Jason Mills P.G. CDM

Jason Mills has 19 years experience in environmental sampling and assessment work and is a registered Professional Geologist in Florida. He is adept at sampling both groundwater monitoring

Jason Mills

Project Relevance

Adept at sampling both groundwater monitoring wells and surface water effluent discharges using proper FDEP 62-160 Field Sampling Methods

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

wells and surface water effluent discharges using proper FDEP 62-160 Field Sampling Methods. He attended the course for these methods in 2002 and has sampled hundreds of monitor wells and surface water stations in his career. He will oversee all crews performing sampling and site investigation activities at the Piney Point facility.

Water Consumption

The CDM Team has enlisted the services of Mosaic and PENN PRO to provide subcontractor services for the Water Consumption component of the ITN. We have provided below, and in the following resumes, the personnel information for the staff members of Mosaic and PENN PRO, that will be responsible for providing these services. These firms will be backed up by the more than 350 CDM staff in Florida and several thousand in the United States.

On-site Water Consumption Manager, Dr. Vaughn V. Astley, Mosaic

Dr. Astley has 35 plus years of professional experience in phosphate production and process water treatment operations, with progressive responsibility in managerial positions in Technical Services and Research and Development roles. For the past five (5) years he led the team at IMC to develop a proprietary pretreatment technology that allows pond water to be purified using RO. He is responsible for research and development related to all aspects of the mining of phosphate rock, the manufacture of phosphate fertilizers and the development process water treatment technologies. His staff includes 10 professional and four (4) permanent and five (5) temporary technicians. In addition, he has successfully developed several innovative and proven processes in many areas of water treatment and consumption operations.

Dr. Vaughn V Astley

Project Relevance

Responsible for research and development related to all aspects of the mining of phosphate rock, the manufacture of phosphate fertilizers and the development of new products and processes.

Lead On-site Water Consumption Superintendent, Ben T. Nickel, Mosaic

Mr. Nickel has 30 years of extensive experience ranging from electrical drafter to designer to field service engineer in the water treatment field. He has an excellent working knowledge of Reverse Osmosis process and related equipment, electrical, air and hydraulics, pumps and control panels. Mr. Nickel has been involved in system design and programming of controllers for several years. His expertise includes debugging, troubleshooting

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

and maintenance of specially designed machinery. Mr. Nickel most recent experience includes that of Maintenance Supervisor, Florida Pines Water Venture (IMC RO unit). His responsibilities included maintenance and operation of a 24 hour water purification facility at the Piney Point facility which included a Reverse Osmosis water treatment system, Clarifiers, Water Softeners, 6" PVC Piping, Electrical - 480 & 120 volts, Tank Agitators, Pumps, pH Control and Oil Filtration. He was responsible for the training and supervision of a crew of 10 technicians & Electrical, Piping and Jetting Contractors. Additional duties included:

- Chemicals - Dry & Premixed Flocculant, 50% Caustic Soda, 98% Sulfuric Acid, 32% Hydrochloric Acid, Powdered Caustic Soda, Sodium Chloride, DDBSA RO Cleaner & Synthetic Gear Lube.
- Ordered, Supervised & Coordinated supplies & daily chemical deliveries.
- Designed, Built & Implemented a cost saving synthetic oil filtration system.
- Increased production by 50% using existing pressures for reject waters.
- Redesigned water softener piping to improve and simplify regenerations.

Water Treatment Process Engineer, Kenneth Jardine,
Mosaic

Mr. Jardine has over 25 years of experience in the Florida phosphate industry centered mainly in the process development area. He has worked in a number of diverse areas including uranium recovery from phosphoric acid, breakthrough technology for fertilizer grade DAP production and HF grade calcium fluoride production from phosphate rock. In several cases he has worked on these projects from early research through full scale production. For the past five (5) years he has worked as part of a team at IMC to develop a pretreatment technology that allows pond water to be purified using reverse osmosis (RO).

This effort resulted in the granting of two (2) U.S. Patents. The technology was successfully demonstrated, on a plant scale at the Piney Point Phosphate Plant with the production of over 45 million gallons (mg) of excellent quality RO permeate.

Water Treatment Process Engineer, Dennis Michalski,
Mosaic

Mr. Michalski has worked almost exclusively for the last 3 years on the pre-treatment of phosphate plant pond waters. The pre-treatments are necessary to use RO for treatment. Most recently Mr. Michalski was on a team that discharged 46-mg of permeate made from Piney Point pond water. From 1994 until 1999, Mr. Michalski was the Engineering Manager for Mulberry Phosphates. In this capacity, he designed the system which treated phosphate cooling pond water and released 18-mg of RO permeate.

Kenneth Jardine

Project Relevance

Developed, with others, a pretreatment technology that allows pond water to be purified using RO.

Technology was successfully demonstrated at the Piney Point Phosphate Plant.

Dennis Michalski

Project Relevance

Engineering Manager for Mulberry Phosphates from 1994-99. He has worked almost exclusively for the last three (3) years on the pre-treatment of many phosphate plant pond waters. Most recently Mr. Michalski was on a team that discharged 46-mg of permeate made from Piney Point pond water.

Water Treatment Process Engineer, John O'Connor, Penn Pro

Mr. O'Connor has over 40 years of experience in multi-disciplined project engineering and management. Other activities include FIPR Chemical Process TAC, Supervisor-Manatee River Soil and Water Conservation District (Elected), Founder/President Florida West Coast Resource Conservation and Development Council, and Founder/Former President-Palmetto FFA Alumni Chapter. His relevant experience includes: Project Manager for PENN PRO - Designed and installed portions of gypsum stack closure including HDPE pipelines, energy dissipator structures, several pumping systems and bridges. He is currently managing a dredge to remove gypsum from process water cooling pond. Mr. O'Connor will be developing long-term water management strategies for the reuse of water from the Piney Point plant.

John O'Connor

Project Relevance

Project Manager for PENN PRO
- Designed and installed portions of gypsum stack closure including HDPE pipe lines, energy dissipater structure, several pumping systems and bridges.

Mr. O'Connor will be developing long-term water management strategies for the reuse of water from the Piney Point plant.

Water Treatment Operator, Kristina M. Miller, Mosaic

Ms. Miller works as a Water Technician Operator, Florida Pines Water Venture Piney Point Phosphate Plant, Port Manatee, Florida, operating large scale reverse osmosis treatment system, collected data for maintaining entire working system, analyzed data including pH, ammonia, calcium and fluoride testing using scientific equipment, controlled flow of entire system manually maintaining chemically balanced water and automatically using a PLC, Programmable Logic Controller.

Kristina M. Miller

Project Relevance

Operated large scale reverse osmosis treatment system.

Collected data for maintaining entire working system.

Analyzed data including pH, ammonia, calcium and fluoride testing using scientific equipment.

As a Laboratory Technician for IMC Phosphates, New Wales, Florida Ms. Miller operated the Phosphoric Acid Simulator, operated a small scale Reverse Osmosis system, set up and ran various water filtration methods, analyzed data including specific gravity, pH, conductivity, and sulfates, computer work using Microsoft Excel, general lab maintenance, calibration, and cleaning.

Water Treatment Operator, Osvaldo (Shell) Ellis, Mosaic

Mr. Ellis will serve as a water treatment operator for this project. His most recent experience includes working at Cargill Crop Nutrition as a pilot plant operator. This project turned black phosphate acid into clear food grade acid. His duties included testing the percent P₂O₅, SO₄, and fluoride of many samples, measuring densities of samples and the use of Excel Spreadsheets to store experimental data. For Florida Pines at the Piney Point project he was a Plant Operator involved in process water

Osvaldo (Shell) Ellis

Project Relevance

For the Piney Point project he was a Plant Operator involved in process water treatment using high purity reverse osmosis filtration.

Duties for this project included daily tests including: ppm of ammonia, ppm of calcium using a colorimeter, conductivity, pH, and turbidity.

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

treatment using high purity reverse osmosis filtration. His duties for this project included daily tests including: ppm of ammonia, ppm of calcium using a colorimeter, conductivity, pH, and turbidity.

Closure Construction

On-Site Construction Manager, Michael A. Cruz, CDM

Mr. Cruz will serve as On-Site Construction Manager for this project. He will assist Mr. Carter in the day-to-day management of the site activities. He will be responsible for preparing project status reports, assisting with cost budgeting and control, schedule preparation and interfacing with the project representatives and their members.

Mr. Cruz has more than 24 years of experience in consulting, remedial construction and engineering. Mr. Cruz's responsibilities have included field supervision and management, cost estimating, procurement, schedule development and management, quality control, data management and reporting and health and safety management.

Michael A. Cruz

Project Relevance

Mr. Cruz's responsibilities have included field supervision and management, cost estimating, procurement, schedule development and management, quality control, data management and reporting and health and safety management.

Earthwork/Sodding

The CDM Team has enlisted the services of Moretrench Environmental Services, Inc. (MES) to provide subcontractor services for the following three (3) components of the ITN; Earthwork, HDPE Pipe and Drain Work and Grassing. We have provided below, and in the following resumes, the personnel information for the three (3) staff members of MES that will be responsible for providing these services.

Senior Project Manager, Al Schuman, MES

Mr. Schuman is responsible for executive-level responsibilities and direction of civil construction, industrial infrastructure, groundwater control and treatment, and geotechnical projects for MES. His experience includes the bidding, negotiating, construction, management and close-out of a wide variety of civil and industrial projects for a diverse group of owners including phosphate, utility, food processing, and various manufacturing companies. His specific project work has included phosphogypsum stack closures, piping and drain systems, relief well systems, construction dewatering, plant maintenance service and repair, wastewater treatment plants, slurry walls, drydocks, subways and tunnels, landfill gas and leachate collection systems, groundwater treatment and remediation systems, hydraulic barriers, pipe-fusing and slip-lining, drilling, grouting, and ground freezing for the purpose of groundwater control.

Al Schuman

Project Relevance

His specific project work has included phosphogypsum stack closures, piping and drain systems, relief well systems, construction dewatering, plant maintenance service and repair, and wastewater treatment plants.

Project Manager, Michael Panny, MES

Mr. Panny is Project Manager /Superintendent for MES. In his role as project manager/superintendent he is directly involved in all phases of project work on job sites including site supervision, safety, budget control, coordination with vendors, subcontractor relations, client relations, project estimates, project administration, and timely completion of each project. During his 19 years with MES, Mr. Panny has acted as field lead for a variety of phosphate related construction projects including phosphogypsum stack closures, toe drain installations, relief well systems, grouting, boil remediation, gypsum stack maintenance, geotechnical drilling, plant service and maintenance work, and groundwater control. Mr. Panny will be responsible for overseeing the site grading; dike construction; compaction; reinforced concrete drainage structure construction; installation of relief drains with collector pipes, filter gravel and filter fabric; fine grading and maintenance of surfaces to receive a geomembrane liner.

Michael Panny

Project Relevance

During his 19 years with Moretrench, Mr. Panny has acted as field lead for a variety of construction projects including phosphogypsum stack closures, toe drain installations, relief well systems, grouting, boil remediation, gypsum stack maintenance, geotechnical drilling, plant service and maintenance work, and groundwater control.

**Earthwork Superintendent/ Designated Site Supervisor,
Harley Frady, MES**

Mr. Frady has worked as a Moretrench superintendent for over 3 years. Mr. Frady previously worked as superintendent for an earthwork contractor, Florida Site & Underground, for 4 years prior to coming to Moretrench.

Mr. Frady has a combined 7 years experience working on and supervising a variety phosphate and earthwork construction projects that have included excavation and grading work, stack closures, drain installations, liner installations, liming operations, and gypsum stack maintenance.

Harley Frady

Project Relevance

Mr. Frady has a combined 7 years experience working on and supervising a variety phosphate and earthwork construction projects that have included excavation and grading work, stack closures, drain installations, liner installations, liming operations, and gypsum stack maintenance.

Mr. Frady has acted as superintendent for a variety of construction projects in the phosphate industry while with Moretrench. A partial listing follows below.

- Cargill Mulberry – North Gypsum Stack Closure
- IMC - New Wales - Phase III-A - North & East Slope Regrading
- IMC - New Wales - Phase III-B - Southeast Slope Regrading
- IMC - New Wales - Phase III-C - West & Southwest Slope Regrading
- IMC - New Wales - Top Cover Construction of West & Southwest Areas
- IMC - South Pierce - Lined Emergency Holding Pond Construction

Liner

The CDM Team has enlisted the services of Comanco (CEC) to provide subcontractor services for the Liner component of the ITN. CEC is currently installing all liners at the Piney Point facility. We have provided below, and in the following resumes, the personnel information for the staff members of Comanco that will be responsible for providing these services.

Liner Sr. Project Manager, Tommy Topp, CEC

Mr. Tommy Topp has more than 14 years of experience installing HDPE smooth and texture liners. Mr. Topp has executive level responsibilities and direction for the Civil Group of CEC. His experience includes bidding, negotiating, constructing, management and close out of all projects related to Phosphogypsum stacks for CEC. As one of the first employees of CEC in 1989, Mr. Topp represents this company at the highest level of expertise. He has managed and supervised projects involving more than 27 million square feet of HDPE liner. His role as Group VP has most recently involved him in the management responsibilities for the Piney Point NGS North Stack Closure consisting of 35 acres of 80 mil HDPE Liner.

Tommy Topp Project Relevance

More than 14 years of experience installing HDPE smooth and texture liners.

Has managed and supervised projects involving more than 27 million square feet of HDPE liner.

Management responsibilities for the Piney Point NGS North Stack Closure consisting of 35 acres of 80 mil HDPE Liner.

Liner Project Manager, Joe Benz, CEC,

Mr. Benz will be the on-site project manager for the Liner requirements of this project. Mr. Joe Benz has four (4) years of experience installing HDPE smooth and texture liners. Mr. Benz has recently managed a project similar to the Piney Point Project that involved installing liners on a phosphogypsum stack system. Mr. Benz is directly involved in all phases of project work including supervision, safety, subcontractor relations, customer relations, administration and completion. Mr. Benz has supervised projects involving more than 23 million square feet of HDPE liner. His role as Project Manager has most recently involved him in the management responsibilities at the IMC Phase II Expansion project which consisted of 320 acres of 60 mil HDPE Liner.

Joe Benz

Project Relevance

Has supervised projects involving more than 23 million square feet of HDPE liner.

Most recently involved in the management responsibilities at the IMC Phase II Expansion project which consisted of 320 acres of 60 mil HDPE Liner.

Site Supervisor, Dragan Milosavljevic, CEC

Mr. Dragan Milosavljevic has more than 10 years of experience installing HDPE smooth and texture liners. Mr. Milosavljevic has recently managed a project similar to the Piney Point Project that involved installing liners on a phosphogypsum stack system. His 10 plus years of experience includes working on and supervising a variety of phosphate construction projects including closures,

Dragan Milosavljevic Project Relevance

Ten years experience includes working on and supervising a variety of phosphate construction projects including closures, liner installation, drain installation and excavation.

He has supervised projects involving more than 23 million square feet of HDPE liner.

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

liner installation, drain installation and excavation. Mr. Milosaljevic has supervised projects involving more than 23 million square feet of HDPE liner. His role as General Superintendent has most recently involved him in the supervisory responsibilities at the IMC Phase II Expansion project which consisted of 320 acres of 60 mil HDPE Liner.

Drain Work, Todd Kirkman, CEC

Mr. Kirkland has more than 12 years of experience with the installation and fusion welding of HDPE pipe and installation of dewatering drains. Mr. Kirkman has been an employee of CEC for 11 years during which his roles from Technician to Superintendent have always involved HDPE Pipe and various dewatering applications. Mr. Kirkman was the Project Superintendent for the Pipe and Drain portion of a Farmland Hydro, L.P. project in 2000/2001. Pipe installation included various sizes from 6" to 24" totaling 12.3 miles of HDPE drain piping installed for a gypsum stack expansion project.

Todd Kirkman

Project Relevance

Twelve years of experience with the installation and fusion welding of HDPE pipe and installation of dewatering drains

Richard A. Slovarp

Vice President, Southeast Regional Manager

Education

Coursework at Montana State University, Billings, Montana

10 hour OSHA Certified First Aid CPR

Mr. Slovarp is the manager of CDM construction and design/build project operations in the Southeast. He oversees all construction and design/build projects and pursuits in the region, and manages CDM's staff of estimators, schedulers, project managers, construction managers, and superintendents. He brings more than 30 years of experience to the CDM team, including expertise in both the design/build and traditional project delivery approaches.

Mr. Slovarp's responsibilities have included project management, estimating, procurement, design/drafting oversight, subcontractor coordination, quality control, and business development. He has completed projects including water and wastewater treatment plants, refineries, power plants, pipelines, and industrial buildings. His experience includes managing the Southern office of a major general contractor.

Project Manager, South Water Reclamation Facility Phase IVA and IVB Improvements, Orange County, Florida. For Orange County Utilities, Mr. Slovarp is managing the completion of Phase IV improvements and expansion at the South Water Reclamation Facility using a

design/construction management-at-risk approach. Working in a joint venture with Sverdrup Civil, Inc., CDM is expanding the existing wastewater treatment plant to a capacity of 43 million gallons per day (mgd).

Experience Highlights

- Manager, Design/Build Operations in Southeast
- Project Manager, South Water Reclamation Facility Phase IVA and IVB Improvements
- Over 30 years of experience in construction industry

Phase IVA was completed on a budget of \$17.8 million and consisted of upgrading portions of the plant to provide additional liquid treatment capacity. This phase included modification of an existing aeration basin; addition of two new 165-foot diameter secondary clarifiers; addition of a new return activated sludge/waste activated sludge (RAS/WAS) pumping station; modifications to headworks, yard piping, and air piping; and construction of a new electrical building.

Mr. Slovarp is currently managing Phase IVB, which will complete the plant expansion to 43 mgd, including upgrading the existing influent pumping, preliminary treatment, North Plant liquid treatment facilities, solids handling, and odor control facilities. This phase, with an estimated budget of \$38.7 million, also includes installing the hardware required to implement the facility-wide automation program.

Project Executive, Design/Build and Construction Projects, Florida. As project executive for several design/build and construction projects in Florida, Mr. Slovarp has participated in constructibility reviews, value engineering reviews and provided technical, schedule, and budget oversight as appropriate for the projects. These projects have included the \$3.2 million

design/build of effluent pump station improvements for Orange County; the construction of wastewater pipeline and pumping facilities at the Kennedy Space Center; and the \$5.6 million design/build of county-wide supervisory control and data acquisition (SCADA) facilities for Orange County, the City of South Bay WTP improvements, over \$5 million in remediation work for a private client, the addition of \$3 million Biofilter for the Solid Waste Authority of Palm Beach County, Design Build work for National Parks Services associated with the Everglades.

Project Manager, Anaerobic Digester Facilities Construction, Durham, North Carolina. Mr. Slovarp managed the \$13 million construction of anaerobic digester facilities for the City of Durham. The project included the construction of four new digesters with support facilities, rehabilitation of six existing digesters, yard piping, extensive sitework, and plant operations interface to coordinate shutdowns and tie-ins.

His industrial facility experience includes managing the construction of refinery turnaround work at the Exxon and Continental Oil Refinery in Billings, Montana. In addition, Mr. Slovarp has managed projects including the following:

- Philadelphia Steam Pilot Plant, Philadelphia, Pennsylvania. Mr. Slovarp was responsible for the estimate proposal and project kick-off for this \$400,000 design/build project.
- Ocean County Utilities Authority Sludge Dryer Facility, Toms River, New Jersey. As project manager, Mr. Slovarp oversaw estimating, building/design, startup, and completion of this \$9 million D/B project.
- Upper Blackstone Wastewater Treatment Plant, Worcester, Massachusetts. For this \$13 million D/B project, Mr. Slovarp managed the joint venture team proposal, estimate, negotiations, and project kickoff.
- Tri-County Water Treatment Plant, Cinnaminson, New Jersey. For the New Jersey-American Water Company, Mr. Slovarp provided mechanical construction consulting during the final design of the Tri-County Water Treatment Plant.
- Massachusetts Water Resources Authority (MWRA) Boston Harbor cleanup projects. The projects included the \$59 million construction of the North Main pump station; \$111 million Secondary Reaction and Batteries A and B project; \$54 million construction of a 7-megaWatt cogeneration plant; and \$141 million construction of secondary treatment facilities for Secondary Clarification Batteries A and B.

Professional Activities

Member, American Water Works Association

Member, Water Environment Federation

Kartik Vaith, P.E.

Vice President

Education

M.S. – Chemical Engineering,
Michigan Technological
University, 1988

B.T. – Chemical Engineering
(specialization in Environmental
Engineering), Institute of
Technology, India, 1986

Registration

Professional Engineer Florida
(1991) and Texas

Experience Highlights

- Vice President/ Sr. Officer for CDM
- Principal in Charge for \$19 million Water Treatment Plant expansion.
- Over 16 years of experience with civil and sanitary projects

Mr. Vaith is currently serving as Vice President and Sr. Officer in CDM. In this role Mr. Vaith serves as project manager or principal in charge for major infrastructure projects including those that are delivered using the design/build method.

Principal in Charge, City of Valdosta. Mr. Vaith is serving as the Principal in Charge for a 7.5 mgd \$19 million expansion to a water treatment plant (WTP). For this project, CDM helped solve the City's red water problems, addressed capacity constraints to maximize water treatment plant throughput, and is currently delivering the WTP using the design build (DB) approach. The WTP DB delivery will be accomplished by dividing the project up into components to maximize local participation and minimize cost. To further save sales tax related costs, equipment will be purchased directly by the City. Plant processes the CDM will be constructing include packed tower stripping for sulfide removal, packed tower scrubbing for odor control, ozonation for disinfection, and final chemical stabilization followed by high service pumping and distribution. As Principal in Charge for the design and construction phases of this project, Mr. Vaith has the ultimate responsibility for project schedule, budget, and performance with the client.

Principal in Charge, St. Johns County, Florida. Mr. Vaith is serving as the Principal in Charge for the design build delivery of 2 WTPs. The County Road 215 (CR 214) WTP is converting from lime softening to brackish water RO for an estimated cost of \$9 million for a 4 mgd facility. The project included pilot testing for RO followed by preliminary design and construction by CDM. The 4 mgd WTP processes include prefilters, chemical feed systems, RO skids, degassifiers, scrubbers, and high service pumping improvements. As Principal in Charge, Mr. Vaith has the ultimate responsibility for project schedule, budget, and performance with the client. As Principal in Charge for the design and construction phases of this project, Mr. Vaith has the ultimate responsibility for project schedule, budget, and performance with the client.

Project Manager, City of St. Augustine, Florida. Mr. Vaith is serving as the Project Manager for a 2 mgd RO WTP. The City of St. Augustine has chosen to convert from lime softening to brackish water RO and CDM is completing a pilot study for the WTP. WTP processes will include prefilters, chemical feed systems, RO skids, degassifiers, scrubbers, high service pumping, and disinfection improvements. For this project the City desires portions to be constructed with City crews, and the CDM team is working to develop design packages that will lend themselves to City crew construction to save cost.

Project Manager, Tallahassee, Florida. Mr. Vaith is serving as the Project Manager for TP Smith WWTP. He is overseeing a process and operations evaluation of a 22.5 mgs WWTP. The WWTP is currently made up of 4 separate treatment trains including tricking filters, splash aerators, coarse bubble diffusers, and fine bubble diffusers in a BNR train. Mr. Vaith and the CDM team are evaluating the unit processes and making recommendations to simplify and combine WWTP process trains. Mr. Vaith and his team are also making recommendations for reliability and redundancy improvements with the addition of redundant equipment. The team is also developing a data management and reporting process to allow managers to identify WWTP operations issues in a proactive manner.

Mr. Vaith worked with a number of utilities in the Tampa Bay area with their wastewater effluent management programs ranging from wastewater treatment technology development and design, to acting as the design build contractor to construct improvements for wastewater treatment.

Lead Engineer, Confidential Client in Central Florida. For a confidential client in Central Florida, Mr. Vaith was involved in designing a WWTP expansion from 3-mgd to 15-mgd. His responsibilities included the preliminary and primary treatment processes at the WWTP. In addition, he was also responsible for the design of a two-stage countercurrent packed tower odor control system for hydrogen sulfide odor control at the headworks and primary clarifiers. For the same facility, Mr. Vaith was also responsible for the design of a two-stage countercurrent acid/base scrubber system for ammonia and hydrogen sulfide odor control. For this project Mr. Vaith was also responsible for the WWTP hydraulics that included all unit processes in the WWTP.

Project Manager, City of Temple Terrace. For the City of Temple Terrace, Mr. Vaith managed design, permitting, bidding services, construction, startup, and operator training for a municipal water supply improvement project that increased the WTP capacity by 5-mgd. Components of the design included piping and pump station design, piping, caustic, fluoride, and chlorine storage and feed systems; ground storage tank, and water supply well improvements.

Professional Activities

Water Environment Federation

American Water Works Association

Former Treasurer, Florida Water Environment Association

Dean E. Carter, P.E.

Senior Project Manager

Education

B.S. – Civil Engineering,
University of Maine (1984)

Registration

Professional Engineer: Maine
(1990)

Training

OSHA 40-hour Site Safety
Training

OSHA 8-hour Annual Refresher
Training

OSHA Construction Standard
for Lead Training, 29 CFR
1926.62

Experience Highlights

- Over 22 years of construction and engineering experience.
- Project Manager, Site Remediation, Lantana Landfill in Lake Worth which includes converting a landfill facility into a golf course.
- Project Manager, Interim Remedial Action project which included excavating petroleum-contaminated soil.

Mr. Carter has 22 years of construction and engineering experience on a variety of project types ranging from building construction and renovation projects to heavy construction and environmental remediation projects. He is experienced in all phases of project management, from bid preparation to project execution to final closeout. He has managed projects under various contract types, including design/build, lump sum, cost plus, and time and materials contracts. Mr. Carter's responsibilities have included estimating, procurement, subcontractor management, quality control, budget and schedule management, onsite construction supervision, design, and health and safety management. He is particularly well versed in environmental and construction regulations in Florida and the Southeast.

Project Manager, Site Remediation Lantana Landfill, Lake Worth, Florida.

Mr. Carter is managing the site development efforts for the Solid Waste Authority of Palm Beach County. This project consists of converting a former landfill to a golf course facility. Work includes the placement and grading of over 500,000 linear yards of fill materials, installation of a stormwater management system, installation of irrigation supply wells, and installation of an irrigation water distribution system.

Project Manager, Site Remediation, Orlando, Florida. Currently, Mr. Carter is the program manager for a confidential client in Orlando, Florida. In this role, he is responsible for providing a turn-key approach to project execution, from pre-construction activities (including project scope development,

permit coordination, engineering/design, cost estimating, value engineering, constructibility) to execution and closeout of the project (including staffing, project and construction management, scheduling, client relations and coordination, timely and cost effective completion of work activities). Projects at this site include the design/build of stormwater conveyance/piping systems, large holding ponds, diversion channels, site restoration and backfilling, landfill excavation, materials handling, and soil and groundwater treatment and disposal.

Project Manager, Interim Remedial Action, Auburndale, Florida.

Mr. Carter managed the execution of a source removal project for a private client in Auburndale, Florida. The project consisted of excavating and offsite disposal of approximately 9,000 tons of petroleum-contaminated soil from the site. The project also included injection of an oxygen-reducing compound into the groundwater to provide in situ treatment of the ground water and a barrier to offsite migration of the contaminated groundwater.

Project Manager, Butler Oaks Dairy Stormwater Treatment. Mr. Carter managed the design and construction of a dairy stormwater treatment

system designed to reduce phosphorus discharge from the dairy. The system consisted of stormwater collection swales, chemical injection system and pumps, settling pond, and a sludge drying bed.

Project Manager, Wingate Road Landfill Design/Build Closure, Fort Lauderdale, Florida. Mr. Carter managed the design and construction of the closure of the Wingate Road Municipal Incinerator and Landfill Superfund Site. The project was executed as a design/build project with three phases to expedite the closure schedule. Phase One consisted of debris removal and clearing work. Phase Two consisted of demolition of the existing incinerators and other structures at the site. Phase Three consisted of the installation of the 37-acre geomembrane cover system in the landfill area, overall site grading, and stormwater system installation for the site.

Project Manager, North Central Landfill, Exposed Geomembrane Cover, Polk County, Florida. Mr. Carter managed the installation of a 15-acre temporary exposed geomembrane cover system at the North Central Landfill in Polk County. The cover system consists of a 60-mil textured geomembrane installed on a 3-to-1 slope. The project also included constructing a paved access road to the top of the landfill and installing catch basins and stormwater piping on the north and west slopes of the landfill.

Program Manager, Florida Department of Transportation (FDOT) District 4, Fort Lauderdale, Florida. Mr. Carter managed the FDOT District 4 environmental services contract. The projects performed consisted of environmental services in support of right-of-way acquisition for roadway expansion projects. Services provided to FDOT included Phase I and Phase II assessments, coordination of environmental requirements with roadway designers, asbestos removal, and underground storage tank (UST) removals.

Project Manager, Concourse C Remedial System Installation, Miami International Airport, Miami, Florida. Mr. Carter managed the installation of a \$7 million groundwater treatment system consisting of two 500-gallon per minute (gpm) air stripping tower systems and eight groundwater recovery wells, soil vapor extraction wells, and a 1,400-linear foot recharge gallery. The system is located airside and required strict scheduling and coordination with airside operations to complete. Also at Concourse C, Mr. Carter managed a \$3.5 million project for a groundwater and soil vapor extraction piping system. Work was performed in conjunction with the construction of a new baggage handling facility. The project was fast-track design/build to allow installation of the piping work without impacting the new baggage facility schedule.

John Brafford

Team Leader

Mr. Brafford is one of North America's leading authorities on the operation, maintenance and inspection of chemical complexes and phosphate mines.

Education

Mr. Brafford graduated from Virginia Polytechnic Institute, Blacksburg, Virginia, in 1958 with a Bachelor of Science degree in Chemical Engineering.

General Phosphate Industry Experience

Mr. Brafford's employment in the phosphate industry has consisted of 25 years of service with IMC (name evolved from International Minerals & Chemical Corp. through IMC Fertilizers, Inc., to IMC-Agrico Co.), a 5 year loan to Coromandel Fertilizers, Ltd., and 7 years of employment with CF Industries, Inc.

During his time with IMC and CF Industries, Mr. Brafford was stationed in Central Florida. His experience with Coromandel Fertilizers was in New York, NY, and Visakhapatnam, AP, India.

Initial employment with IMC in 1964 as a Shift Foreman in charge of 2 DAP Plants, a GTSP Plant, and 2 Sulfuric Acid Plants. Mr. Brafford retired in 1996 from the position of Vice President -Phosphate Operations. In this capacity he was responsible for the operation of 6 Chemical Complexes and 8 Phosphate Mines. During the intervening years, he worked as a Project Engineer, Production Superintendent, Senior Process Engineer, Development Engineer, Chief Process Engineer, Production Manager, Operations Manager, and Vice President & General Manager. During these years he was involved in numerous de-bottlenecking and upgrading projects, several major plant expansions, and one grass roots plant construction, as well as general management duties.

Mr. Brafford was selected as ENGINEER OF THE YEAR in 1991 by the local chapter of the American Institute of Chemical Engineers professional society. Upon his retirement in 1996, he was honored by IMC-Agrico Co. with the naming of the New Wales Plant's engineering building as "THE BRAFFORD ENGINEERING BUILDING". He was also honored by the Florida Audubon Society and presented with a bronze eagle statue engraved "FOR YOUR LIFELONG LEADERSHIP IN PROMOTING CONSERVATION IN FLORIDA".

Specific Gypsum Storage and Handling Experience

In many of the production and engineering positions he held throughout his career, Mr. Brafford was responsible for the operation or monitoring of the gypsum storage areas of the plants.

With the expansion of the gypsum storage area at the IMC New Wales plant, he was involved in the design, permitting, and construction of the state-of-the-art, first ever HDPE-lined gypsum stack. This involved attending numerous coordination meetings with the IMC engineering staff, the

Honors/Awards

ENGINEER OF THE YEAR in
1991 by the local chapter of the
American Institute of Chemical
Engineers

designers, Ardaman & Assocs., and construction contractors, and making numerous informational presentations. The latter to regulators, including Polk County Commissioners, Central Florida Regional Planning Council members, Florida Dept. of Environmental Protection employees, news media editorial boards, such as those of The Lakeland Ledger and The St. Petersburg Times, environmentalist on the IMC Environmental Advisory Board, such as the Audubon Society and the Sierra Club, company representatives on the Florida Phosphate Council, and IMC employee groups. Also was an Expert Witness in several permitting hearings, an intervention suit brought by the environmental watchdog group Manasota-88, and an Arbitration Hearing for lack of performance by a slurry wall contractor.

With the development of a sinkhole under the active gypsum stack at the New Wales Plant, was involved in development of a remediation plan with Ardaman & Assocs., and their sub-contractors. He also acted as the IMC contact person with all interested parties and the news media, including newspapers and television.

Stephen M. Solters

Construction Project Manager

Education

Business Administration and
Life Sciences, University of
Pittsburgh, Pittsburgh, PA

Allegheny County Community
College, Pittsburgh, PA

NYU School of Real Estate and
Construction Technology

Honors/Awards

Value Engineering Award
Bonus for Cooling Tower
Installation Work for Semi-
conductor Fabrication Facility

Tampa Bay Surface Water
Treatment Plant Design-Build-
Operate Project 2003 AAEE
Grand Award in Design

Mr. Solters is a construction project manager offering over 23 years of work in the construction and engineering industry. He has extensive experience in managing direct performance projects including subcontract administration, permitting, purchasing, estimating, cost control, scheduling, operations coordination, and start up assistance.

Project Manager. Piney Point Phosphate Mine Water Treatment with Act flow. Mr. Solters provided design management, EPC procurement and construction execution of improvements to the clarification system that was not performing to standards. This project was originally developed, engineered, constructed and operated by US Filter Services and Products (S&P) branch in Tampa. The project consisted of MMF and RO filtration with other polishing and chemical system additions. This system did not perform well due to the ever changing nature of the water in the stack and the high concentration of solids and algae, etc. US Filter S&P called upon the US Filter Operating Services E&C construction group to add two (2) Actiflo High Rate clarification systems in front of the existing equipment. Chemical, coagulation, and additional frac tanks were also added. This combination of new equipment and process systems, once completed and optimized, vastly improved the operation of the original system allowing US Filter to reach its quality and quantity contract obligations to the receivership. The system is still being run successfully by US Filter.

Senior Project Manager. Engineering and Construction Management Services for Tampa Bay Water Design-Build-Operate (DBO) Surface Water Treatment Plant Project. February 2000 – October 2004. Mr. Solters, as a construction manager for Veolia Water North America, formerly US Filter, provided engineering and construction services of a 66-mgd Surface Water Treatment Plant and Alkalinity Adjustment Facility in Hillsborough County, Florida. In addition to construction and design management, he provided operations coordination and client relations. For this \$87 million design build operate facility, he developed and maintained a \$6.3 million positive cash flow position. CDM was chief design partner and the engineer of record for the engineering and construction of the DBO Surface Water Treatment project, as well as being in charge of all the permitting aspects of the project. CDM coordinated and worked closely and successfully with all state and local regulators to ensure a smooth permitting transition from construction to operations. Mr. Solters worked closely with CDM personnel and management at all levels and on every aspect of the project for over 3 years from the initial design through the start up and successful completion of the final acceptance test. CDM was instrumental and indispensable in contributing to the projects and the team's goal oriented work ethic and worked closely with Mr. Solters and the Project Team to successfully resolve every challenge to maintain schedule and budget with no sacrifice of quality and performance.

Some of the project's challenges and highlights of that success are as follows;

- The projects design and construction value was \$ 87 million and was successfully completed on time and within the contract value with **no unsolicited change orders being asserted against or paid for by the public client Tampa Bay Water.**
- Unsuitable soil conditions were encountered early in the project that constituted an uncontrollable circumstance to the team. This \$ 100k claim was settled with Tampa Bay Water for no cost and no schedule delay to the client in exchange for a reduction in retainage and the acceleration of cash flow due to the project team's attainment of early finish schedule milestones.
- An environmental group, Save Our Bay and Canals (SOBAC), asserted a legal and permit challenge protest that resulted in a court review and delay to the project start of over eight months. The US Filter/CDM team accelerated design procurement and construction to strategically overcome this delay. In addition to this and at the same time the client requested an additional 6 mgd of capacity be added to the plant. This change resulted in a compressed redesign and procurement effort and construction acceleration for which the client issued an \$ 8.8 million change order to increase the plant's capacity and complete it on the original end date.
- During start up of the main 66 mgd plant the client requested the design and construction of a separate Alkalinity Adjustment Facility. This \$3 million facility was designed priced in less than 25 days and approved by Tampa Bay Water board of directors. The project was concurrently constructed and placed into operation with the main facility.
- CDM and US Filter's Tampa team worked three shifts around the clock for over 70 days straight to successfully overcome startup problems to meet and exceed many of the customer's high standards of quality and acceptance test conditions embodied in the service agreement that were far more stringent than the federal and state drinking water provisions.
- The Tampa Bay Surface Water Treatment plant has won numerous domestic awards both for design and execution of DBO public private partnerships in North America.

Stephen M. Robinson

Health and Safety Director

Certification

Certified Safety Technician
Certified OSHA Instructor (10
and 30 hours)
Certified Construction Safety
Specialist
Certified Occupational Health
and Safety Technician

Mr. Robinson has 31 years of experience coordinating and directing health and safety programs and personnel. His expertise includes writing and implementing corporate health and safety programs, performing site and facility audits, enforcing subcontractor and intra-company compliance with applicable state and federal regulations, and conducting employee health and safety training. Aside from his management duties, Mr. Robinson also has nine years of experience serving as a safety consultant for various private and public projects.

Currently, Mr. Robinson manages all health and safety activities for CDM's general construction and design/build projects throughout the United States. In this role, he oversees the health and safety of construction projects, supervises the writing of health and safety plans, performs required OSHA training for employees and supervisors, and acts as a CDM liaison with OSHA. Mr. Robinson also supports the parent company's efforts in the health and safety realm by performing health and safety field audits at CDM's Eastern United States field sites to ensure compliance with CDM policy and OSHA law.

Experience Highlights

- CDM's Health and Safety Director - provides oversight for health and safety activities and design/build projects throughout the United States.
- Certified OSHA Instructor and Health and Safety Technician
- Over 31 years of experience in directing health and safety programs and personnel

As a certified and experienced safety trainer and supervisor, Mr. Robinson oversees employee development and training on the following topics:

- Lockout/Tagout
- Hazard communication and Confined space entry
- Respiratory protection
- Supervisory health and safety
- New hire health and safety orientation
- 8 hour Hazardous Waste Refresher Training and OSHA 10- and 30-hour safety classes

Mr. Robinson's most recent project experience includes the following:

Health and Safety Oversight, Flamingo Water Treatment Plant Project, Everglades, Florida. Mr. Robinson is providing health and safety oversight for this water treatment plant project for the National Park Service. The first project phase, valued at \$2.4 million, involves the design/build of water system improvements to the Flamingo area of the Everglades National Park, including developing an adequate water source, modifying the existing water treatment facilities, and completely replacing the water distribution

system. CDM is currently in the first option year of the contract, awarded in 2002.

Health and Safety Oversight, Alcoa Central Impoundment, Massena, New York. For The Aluminum Company of America (Alcoa), Mr. Robinson provided health and safety oversight for the remediation of a PCB-contaminated waste treatment lagoon covering 80 acres at their aluminum refining and production facility in Massena, New York. This project involved evaluating various remedial alternatives and draining the impoundment, excavation, treatment, on-site landfill disposal, and capping.

Health and Safety Oversight, Alcoa Slurry Wall Construction, St. Louis, Missouri. Mr. Robinson provided health and safety oversight for this slurry wall construction project for Alcoa in St. Louis, Missouri. The project involved constructing a cement-bentonite slurry wall along the Mississippi River. CDM value engineered the design proposed by another consultant and constructed the containment wall and collection wells behind the slurry wall.

Health and Safety Oversight, Stouffer Chemical Site Remediation, Louisville, Kentucky. Mr. Robinson provided health and safety oversight for a site remediation project at the former Stouffer Chemical site in Louisville, Kentucky. Mr. Robinson provided hazardous waste training for on-site personnel and acted as liaison between CDM and Stouffer Chemical in matters related to safety and health.

Professional Activities

State Safety Consultant, Associated Builder's and Contractors

Past President, Safety Committee, New York State Associated General Contractors

Member, Level 3 United Nations Consultants, World Safety Organization

Member, Associated General Contractors of America

Paul Roberts

Facilities Project Manager

Education

B.S. Chemical Engineering –
Auburn University 1962

Attended Annual Ardaman and
Association Classes on Dam
Inspection and Maintenance
(Rule 62 – 672 F.A.C.)

Mr. Roberts has 41 years of phosphate chemical plant experience. He progressed through operations, engineering, senior corporate staff, technology development and environmental to Operations Manager while associated with six (6) chemical plant sites, including five (5) with gypsum stacks, phosphate mine, corporate office assignments and port facilities.

Mr. Roberts spent eight years at a shutdown of a major phosphate chemical complex with activities as follows:

- Lead studies to remediate and upgrade plants within the facility to more competitive technologies,
- Lead development of closure plans and permits to close a major gypsum stack at the site including borrow sites,
- Lead technology development for the gypsum stack closure activities with major cost reductions in:
- The movement of gypsum for lining and closure reconfiguration and grading
- Acid water disposal with conventional facility rate and performance upgrades and alternative technologies
- Water treatment sludge disposal methods,
- Burrow soil cover costs
- All site administration, safety, security, human relations, engineering and environmental issues
- Lead 30 years of positive environmental agency interaction
- Thirty years of interaction with Hydro-geological consulting and engineering companies
- Supervised and/or interacted with all industry technical disciplines in addition to operation, maintenance and administrative staff
- Manager in charge at two facilities including Gypsum Stack Closure facility
- Developed, patented, designed, constructed and startup of a new chemical process plant

- Attended Annual Ardaman and Association Classes on Dam Inspection and Maintenance (Rule 62 – 672 F.A.C.)

Activities:

- American Institute of Chemical Engineers
- National Fellow and Session Chairman
- Local Section Chairman
- Community Youth Groups and Church
- Numerous committees for environmental, Trade organizations, Governmental and Technology

George W. Curry

On-Site Operation/Maintenance Manager

Mr. Curry has more than 45 years experience in phosphate chemical plant operations, administration, and supervision. During his career with IMC and CF Industries, Inc. he served as an operator for 10 years and a plant supervisor for 35 years.

Phosphate Chemical Plant Supervisor, CF Industries, Inc., Bartow, Florida.

At the inactive Bartow Florida CF Industries phosphate chemical plant facility, Mr. Curry supervised the shift foremen and hourly operators. His responsibilities included: water treatment/disposal by two-stage liming and spray evaporation; disposal of plant process wastes; and gypsum stack reconfiguration by mechanical and ditch-sluice methods. His administrative functions included oversight of personnel, security, and EHS. Mr. Curry was the site person in charge of the idle plant prior to closure work. He also oversaw demolition of the facility.

Mr. Kovach is a highly capable and experienced environmental manager and consultant with extensive experience in the phosphate fertilizer manufacturing industry. His areas of specialty include phosphogypsum stack management/closure; phosphoric acid process water treatment and inventory reduction techniques; phosphate chemical plant closure, including process waste, PCB, asbestos, lead paint, and radioactive materials abatement; environmental regulatory compliance and programs; all phases and types of environmental permitting with particular expertise in surface and groundwater discharge and monitoring programs; contamination assessment and remediation; pollutant storage tank management; hazardous waste management; and pollution prevention/waste minimization.

EDUCATION AND PROFESSIONAL REGISTRATION:

B.S. Geology, *magna cum laude*. 1987. University of South Florida
Registered Professional Geologist (P.G.), Florida, No. 1438

PROFESSIONAL ASSOCIATIONS AND BOARDS:

- Florida Phosphate Council Air and Water Quality and Resources Committees, Member/Past Chair
- Florida Institute of Phosphate Research, Process Water Technical Advisory Committee, Member
- Tampa Bay Estuary Program, Management Board Member
- Tampa Bay Estuary Program, Technical Advisory Committee, Member
- Tampa Bay Nitrogen Management Consortium, Co-Chair
- Tampa Port Industrial Stormwater Discussion Group, Chair
- Florida Association of Professional Geologists, Member

PROFESSIONAL EXPERIENCE:

As a senior-level environmental professional with over 17 years of application in consulting and industry, Mr. Kovach's range of experience in the environmental field is extensive. His responsibilities have most recently included management and direction of environmental affairs and programs for CF Industries, Inc., one of the five phosphate fertilizer producers in Florida, with facilities in Hillsborough, Polk, and Hardee Counties. From 1996 through 2003, Mr. Kovach was directly responsible for all environmental permitting and regulatory compliance for the company's 2800-acre Bartow Phosphate Complex and two Port terminal facilities on Tampa Bay. The former facility is an idle processing plant that has not produced fertilizer since 1989; therefore, process water management and gypsum stack closure have comprised critical environmental program areas. Mr. Kovach's environmental management responsibilities at the Bartow Phosphate Complex have encompassed all associated site operations and activities, but in particular have included the following:

- Process Water Management – Oversight of NPDES treatment, discharge, and monitoring of over 2 billion gallons of phosphoric acidic process water using two-stage liming and aeration in compliance with FDEP permitting requirements and state surface water quality criteria; instrumental in the design and development of the industry's first large scale implementation of spray evaporative systems to reduce treated surface water discharges; designed and permitted wetland treatment systems and routing/storage enhancements to process and non-process effluent disposal systems in order to reduce nutrient loadings.
- Phosphogypsum Stack Closure – Permitting, design/alternatives collaboration, and compliance oversight for the \$60 million phased closure of the site's 900-acre gypsum stack and cooling pond; directly responsible for development of an innovative and highly cost effective cooling pond design; successful ERP permitting of 2.5 million cubic yard borrow pits to provide soil cover

- material for closure; development of long-term closure care and monitoring plans; preparation of associated regulatory and permitting submittals.
- Long-term Site Closure – Responsible for the development of all long-term site closure plans for the chemical plant and surrounding areas beyond the footprint of the gypsum stack, including process waste and sludge management; PCB, asbestos, and radioactive materials abatement; long-term process and non-process wastewater management; stormwater and groundwater management and monitoring, etc. Most recently (July 2004) oversaw the successful removal and TSCA disposal of all PCB transformers and large capacitors from the site, representing the largest quantity of PCBs at any single facility in Florida.
- Management and supervision of sight remediation and consent order compliance associated with process water impacts to groundwater.
- Participation on the FIPR Process Water TAC, which is currently working on long-term and short-term process water management and water balance strategies.

In addition to ongoing site closure work and environmental management for CF Industries, Mr. Kovach has recently been sought and retained for environmental management consultation for Coronet Industries, Inc., a phosphatic animal feed supplement producer in Hillsborough County that shut down all production in March 2004. Mr. Kovach is currently responsible for the preparation of internal environmental standard operating procedures (SOPs) to be used during facility shut-down and decommissioning as site operators move through closure. Coronet shares many of the water management issues associated with phosphate fertilizer producers in the region.

Mr. Kovach's professional experience also includes:

- Manager for permitting and compliance of CFI's one million ton-per-year anhydrous ammonia and bulk fertilizer terminal facilities in the Port of Tampa.
- Design, execution, management, and reporting of various environmental assessment, remediation, reclamation and closure projects
- Development and implementation of corporate environmental training programs; preparation of technical conference presentations; and public speaking. Over the past 10 years, Mr. Kovach has specialized in client/company representation with a focus on regulatory agency negotiations and stakeholder facilitation. He played a key role in facilitating industry participation in the Tampa Bay National Estuary Program's *Comprehensive Conservation and Management Plan* and in the development and success of the Nitrogen Management Consortium, a public-private partnership committed to an effective, non-regulatory approach to reducing nutrient loads to the Tampa Bay estuary which remains a model for watershed management nationwide.
- Development and implementation of regulatory program compliance plans (BMP/pollution prevention/waste minimization plans; Spill Control and Countermeasure (SPCC) plans; emergency response and contingency plans, health and safety plans; groundwater monitoring plans; operation and maintenance plans; decommissioning plans; etc.).
- Extensive experience in the preparation, negotiation, supervision, and administration of contracts; field supervision; contractor direction and supervision; and data quality assurance/quality control.
- Extensive technical writing and editing experience; close collaboration with legal counsel and strong practical background in environmental law and liability concepts and issues; has assisted in the negotiation of numerous settlement agreements, consent orders, and decrees.

Work History:

- 2003 – 2004: **QUIETEARTH CONSULTANTS, INC.**, Riverview, FL
President, Principal Scientist
- 1996 – 2003: **CF Industries, Inc.**, Bartow, FL
Superintendent Environmental Affairs, Bartow Phosphate Complex/
Tampa Port Facilities
- 1995 – 1996: **QUIETEARTH CONSULTANTS, INC.**, Lutz, FL
President, Principal Scientist
- 1992 – 1995: **ENVIRONMENTAL CONSULTING AND TECHNOLOGY, INC.**, Tampa, FL
Senior Project Manager
- 1987 – 1992: **J.B. BUTLER & ASSOCIATES, INC.**, Tampa, FL
Hydrogeologist/Senior Scientist

Other Skills and Experience:

- Extensive experience involving review and interpretation of state and federal environmental regulations; public comment during rulemaking.
- Prepared FDEP-approved site specific and comprehensive QA Plans.
- Multidisciplinary project management experience.
- Monitor and recovery well design, geologic logging, drilling direction, and supervision.
- Extensive experience in environmental sampling and interpretation of environmental data.
- Variety of construction and engineering experience.
- Computer literate; AutoCAD® drafting skills.
- Occupational Safety and Health Administration (OSHA) hazardous waste site safety certification.
- Mine Safety and Health Administration (MSHA) mining facility safety certification.
- DOT Hazardous Materials/Waste Transportation Certification.

PUBLICATIONS:

Young, E.B.J., and C.A. Kovach, 1995. Study of the Durability of a PVC Geomembrane-Lined Pond without Soil Cover. In *Geosynthetics '95 Conference Proceedings*. Industrial Fabrics Association International, St. Paul, Minnesota. Vol. 3, p. 907-919.

Wayne D. Winner, Sr.

Superintendent

Training and Certifications

OSHA 40-hour Hazardous
Waste Safety Training
OSHA 8-hour Annual Refresher
Training
OSHA Competent Person
Course for Trench Safety
Lead Awareness Training
Commercial Drivers License

Mr. Winner is a construction superintendent with over 30 years experience in all aspects of earthwork and pipeline construction, and project supervision. He has experience with large earthwork projects including landfill construction and closures, and gypsum stack closure and maintenance. Mr. Winner has participated in and supervised emergency and planned hazardous waste remedial actions, including excavation and removal of waste-contaminated surface and subsurface soils, underground storage tank removal and cleaning, spill response, drum sampling and disposal, and recovery of oil and debris. His supervisory experience includes fulfilling OSHA requirements relative to site work and excavation, coordinating transportation and disposal of hazardous wastes, soliciting and receiving bids for services and materials, and working with clients and on-site coordinators.

Supervisor. Earthwork for Landfill Cells. For CDM in Maitland, Florida, Mr. Winner has supervised several jobsites, including Universal projects in Orlando and Solid Waste Authority (SWA) in West Palm Beach. He supervised earthwork associated with the construction of new landfill cells. Mr. Winner has supervised the dewatering of excavation and fill areas for new landfill cells. He is providing oversight during all phases of construction, coordinating project scheduling, and tracking man-hour usage and subcontractor management for projects.

Experience Highlights

- Over 30 years of experience in Earthwork and Pipeline Construction
- Supervisor, Gypsum Stacks Closure and Waste Disposal project Central Florida

Supervisor. Gypsum Stacks Closure and Waste Disposal. For IT Corporation in Clermont, Florida, he supervised the closure of gypsum stacks and disposal of high phosphorus waters resulting from phosphate.

Supervisor. Storm Drainage, Groundwater Treatment Systems Installation, and Disposal of Contaminants. For IT Corporation in Clermont, Florida, Mr. Winner also worked in conjunction with Florida Department of Transportation (FDOT) in several cities supervising the installation of storm drainage and utilities throughout contaminated areas, setup and take down of groundwater treatment systems, and excavation of contaminated soil. Additionally, while with IT Corporation, Mr. Winner supervised the installation and operation of groundwater and soil treatment systems for cleanup of petroleum hydrocarbon-contaminated sites. He supervised installation of retention ponds and a liner in Atlanta, Georgia. Mr. Winner oversaw tank pulls and disposal. He supervised excavation, transportation, and disposal of landfill debris. For a fertilizer spill in Sebring, Florida, Mr. Winner supervised the cleanup. He also supervised removal of illegal tanks in Mims, Florida. Moreover, Mr. Winner supervised cleanup of a glue spill in Ocala, Florida.

Owner. Family-Owned Construction Business. For 10 years, Mr. Winner owned and operated his own construction business dealing primarily with excavation, land clearing and fill material.

Mechanic. Construction Equipment and Vehicle Repair. For a concrete company in Freeport, Texas, Mr. Winner serviced and repaired construction equipment and vehicles.

Commercial Truck Driver. Tire Company. Mr. Winner has his commercial drivers license and was a truck driver for a tire company.

Platoon Sergeant. U.S. Infantry Airborne. From 1966-1972 Mr. Winner was a Platoon Sergeant in the U.S. Infantry Airborne and supervised his platoon during training and served in Vietnam.

Jason M. Mills, P.G.

Geologist

Education

B.S. - Geology, University of
Florida (1985)

Mr. Mills is a professional geologist experienced in environmental sampling of a variety of media including groundwater and surface water, , environmental assessments, water resources and restoration projects.

Registration

Professional Geologist: Florida
(1998)

Senior Geologist, Universal Corporation Property Management (UCPM) Inc. (formerly owned by Universal Studios Inc.) Expansion Property, Orlando, Florida. He has served as the senior geologist performing geological services for the UCPM Inc. expansion property in Orlando, Florida. The 2,000-acre property, previously owned by Lockheed Martin and used for weapons systems production, is being developed for recreational and resort uses. CDM is handling permitting, assessment, design, and cleanup of six existing onsite hazardous waste landfills on a turnkey basis. Mr. Mills aided CDM in providing exceptional client service with revenues of more than \$15 million in work performed from 2001 to present. He has provided training for CDM personnel on implementing the new FDEP SOPs for surface water and groundwater sampling. The FDEP performed an audit on one of the UCPM semiannual groundwater sampling events, which Mr. Mills led, receiving one of the highest marks given by the state agency. Mr. Mills has sampled hundreds of monitoring wells and collected numerous surface water samples as part of an existing HSWA Permit requirement.

Geological Services, St. Johns River Water Management District (SJRWMD)/Seminole County Aquifer Storage and Recovery (ASR) Program, Markham, Florida.

Mr. Mills was responsible for the complete implementation and testing of the Lower Floridan exploratory well at the Markham site to obtain site specific data on hydrogeology and water quality in order to further assess ASR feasibility. Mr. Mills' responsibilities for program implementation included cost estimates, subcontractor negotiations (saving SJRWMD ~\$200K), providing technical geological input and field oversight.

Experience Highlights

- Senior Geologist, Universal Corporation Property Management project
- Experienced in environmental sampling and other remedial action tasks

Geological Technical Review and Oversight, St. Johns County Utility Department, St. Johns County, Florida. Mr. Mills provided technical input and oversight for the expansion of St. Johns County's well fields at their Tillman Ridge and World Golf Village sites. The program involved installing and testing Lower Floridan Aquifer exploratory wells and installing associated production wells.

Geologist, Various Water Resource Projects. Mr. Mills has served as a geologist providing technical input and oversight for deep well rehabilitations, Floridan Aquifer performance testing, and hydraulic load testing for a wetlands-based water reclamation project.

Project Manager, Various Environmental Assessment and Restoration Projects, U.S. Army Corps of Engineers. Mr. Mills was also project manager for several environmental assessment and restoration projects at the Avon Park Air Force range completed under the Total Environmental Restoration Contract (TERC) issued by the U.S. Army Corps of Engineers. He was responsible for management of all aspects of projects including proposal preparation, bid solicitation, subcontracting, work plans, feasibility studies, preliminary assessments, site assessments, NPDES permitting, right-of-way permitting, budgeting, cost tracking, scheduling, regulatory review, and client development. Mr. Mills was also project task manager for multiple environmental assessment and restoration projects at the Avon Park Air Force range completed under the TERC issues by the U.S. Army Corps of Engineers.

Field Work and Environmental Due Diligence Assessment, Sand Lake Road Complex, Orlando, Florida. Mr. Mills also provided field work for an environmental due diligence assessment at the Sand Lake Road complex. Responsibilities included surface water, sediment and soil sampling, oversight of 69 test pits in six landfills determining the depths and lateral extent of landfilled wastes, characterizing landfilled waste materials and soils, and confirmation of previous geophysical survey findings.

Co-Founder/President, J-Flo Systems, Inc., Orlando, Florida. Mr. Mills served as co-founder and president of J-Flo Systems, Inc. in Orlando, Florida. He developed an environmental company providing consulting services for restoring eutrophic lakes through inversion and organic biocatalytic technology. He installed two systems utilizing micro-bubble diffusers and organic biocatalytic enzymes to create inversion of lakes and reduce organic pollutants.

Field Work, Phase II Site and Remedial Investigations and Feasibility Studies, former McCoy Air Force Base, Orlando, Florida. He provided fieldwork for Phase II site and remedial investigations and feasibility studies at the former McCoy Air Force Base in Orlando. He provided soil and groundwater assessments for volatiles and semi-volatiles, pesticides, metals, sulfates, sulfides, and radionuclides under CERCLA and SARA guidelines.

CARs and Data Compilation, Petroleum Contaminated Sites. He completed Contamination Assessment Reports (CARs) and data compilation for petroleum contaminated sites in accordance with the requirements of the FDEP. Work included aquifer pump tests, topographic surveys, groundwater sampling, headspace analysis of soils using an organic vapor analyzer, monitoring well installations, and development. He assisted in the development of remedial action plans, compiled data for petroleum contaminated sites in accordance with FDEP requirements, and supervised numerous tank closure assessments involving the removal of petroleum underground storage tanks and contaminated soils.

VAUGHN V ASTLEY

2120 CLUBHOUSE ROAD, LAKE LAND, FLORIDA 33813
PHONE (863) 619-9765 • E-MAIL REDWARF246@AOL.COM

EXPERIENCE

Thirty five plus years of professional experience in the phosphate and water treatment businesses, with progressive responsibility in managerial positions in Technical Services and Research and Development roles. Experience has included the management of R&D, process and project engineering, and the resolution of problems requiring significant chemical process insight. Extensive international project evaluation work has been carried out together with the development of major projects to commercialization.

EDUCATION

Graduate of Royal Society of Chemistry, Salford University, Manchester, England, 1969
PhD Chemistry, Salford University, Manchester, England. 1972
Chemical Engineering Courses at Tulane University, New Orleans, La. 1983-85

TECHNICAL MEMBERSHIPS

Member of Technical Sub-Committee, International Fertilizer Association, Paris;
Chemical Processing Technical Advisory Committee, Florida Institute of Phosphate Research;
Engineering Advisory Council, University of South Florida;
Member of Engineering Advisory Council, Florida Institute of Technology;
Member of the American Chemical Society, and the Society of Mining Engineers;
Member of the Royal Society of Chemistry, MRSC, CChem, CSci.

PROFESSIONAL WORK HISTORY

IMC Phosphates

1996-Present Vice President Technology Development, New Wales, Florida

In 1996 I was instrumental in the justification and inception of the new Technology Development Group. I am solely responsible for an annual budget of about \$4 million of which 50 percent is spent externally on University research, consultants, contractors, and on technical demonstrations. I am responsible for research and development related to all aspects of the mining of phosphate rock, the manufacture of phosphate fertilizers and the development of new products and processes.

- Staff includes 10 professional and 4 permanent and 5 temporary technicians.
- Successfully developed several novel processes in many areas of our operations, and challenged many paradigms related to manufacturing methodologies.
- A consolidated mine concept, generated by our TD group, will save over \$100MM of NPV savings in capital expenditures avoiding the building of a new beneficiation facility.
- Developed a thickened clay process which reduced dam construction and increased water utilization rates.
- Computer controlled process automation in both rock flotation and phosphoric acid manufacture has resulted in improved recoveries and plant capacities.

1991-1996

Technical Services Manager, Louisiana Operations Uncle Sam, Faustina and Taft, Louisiana

As technical manager for Agrico's Faustina, Uncle Sam, and Taft phosphoric acid and DAP production sites, I was responsible for all the laboratories, process and project engineering groups, and all development and co-ordination of the process improvement efforts. The Louisiana pond water balances, although somewhat different to Florida, dictated a thorough understanding of the issues of handling the various water streams and resulted in an excellent water management plan. The covering of the gypsum stacks and the modifications to the water shed and the stack under-drains, contributed much to the ability to handle the abnormal rain events that can occur in Louisiana.

1981-1991

Manager Chemical Process Development, Belle Chasse, New Orleans, Louisiana

Since joining Freeport-McMoran in 1981, experience included the planning and direction of Research & Development programs related to FMI's frash sulphur, fertilizer, uranium, and geothermal operating units. Major projects included Main Pass 299 and process manager for a modular 1MM tpa sulphur purification plant built in Tulsa, Oklahoma, relocated to, and commissioned in Mosul, Iraq.

A significant proportion of the sulphur related work included the treatment of seawater to enable heating to 300 F, and the reheating of bleedwater to Frasch mining temperatures, both without the formation of scale. The control of calcium scaling compounds was an integral part of the development work, and led to much of the current insight and the development of our present pond water pre-treatment technologies. The experience gleaned in the geothermal brine industry also was invaluable in developing a solid understanding of scaling solutions.

Albright & Wilson, England

1973-1981

Technical Manager Phosphates Complex Whitehaven, Cumbria, England

After graduation, industrial research included laboratory, pilot plant operations and full scale test-work, which was coordinated with respect to the production of wet process and purified technical grade phosphoric acid, and various phosphate products, including detergents, fertilizers, and food grade phosphates.

1964-1969

Assistant Chemist Oldbury, Worchestershire, England.

Initial work with Albright and Wilson was in the thermal phosphorus and technical grade phosphoric acid areas. I was responsible for design, construction and completion of laboratory experimental test work and various phosphate plant troubleshooting and commissioning.

Ben T. Nickel

QUALIFICATIONS

Thirty years experience from electrical drafter to designer to field service engineer. Have excellent working knowledge of R.O. and related equipment, electrical, air and hydraulics, pumps and control panels. Have been involved in system design and programming of controllers. Capable of debugging, troubleshooting and maintenance of specially designed machinery.

EMPLOYMENT

*Maintenance Supervisor, **Florida Pines Water Venture** - Palmetto, FL - Kelly Scientific*
2004-Present

- Responsible for the maintenance and operation of a 24 Hour Water Purification Facility at an abandoned Phosphate Mine to include Reverse Osmosis 800,000 GPD, Clarifiers, Water Softeners, 6" PVC Piping, Electrical - 480 & 120 volts, Tank Agitators, Pumps, pH Control and Oil Filtration.
- Trained & Supervised crew of 10 technicians & Electrical, Piping and Jetting Contractors.
- Chemicals - Dry & Premixed Flocculant, 50% Caustic Soda, 98% Sulfuric Acid, 32% Hydrochloric Acid, Powdered Caustic Soda, Sodium Chloride, DDBSA RO Cleaner & Synthetic Gear Lube.
- Ordered, Supervised & Coordinated supplies & daily chemical deliveries.
- Designed, Built & Implemented a cost saving synthetic oil filtration system.
- Increased production by 50% using existing pressures for reject waters.
- Redesigned water softener piping to improve and simplify regenerations.
- Redesigned Caustic Soda storage & delivery to increase safety.
- Maintained Spare Parts stockroom.
- On Call 24 hours, 7 days per week.

*Senior Field Service Specialist, **Water Equipment Services, Inc.** -Sarasota, FL*
2002-2003

- Responsible for startup, trouble shooting, maintenance and training for water purification equipment to include Reverse Osmosis, Water Softeners, Filters, Demineralizers, Rayox Ultraviolet Disinfection and pH neutralization.
- Contaminated groundwater equipment operation and maintenance, filter media change-outs, lift station maintenance, irrigation system design and installation, general construction, lawn maintenance and salvage/demolition supervision, heavy equipment pickup and delivery utilizing fork lifts and man lifts and training of field personnel.
- Sites of responsibility include Lockheed -Martin, Honeywell, Chevron, Augusta Water Utilities, New Gate Montessori School and Best Western.

*Senior Field Service Specialist, **Associated Air and Pump Ind.** - Sarasota, FL*
2002-2003

- Counter and phone sales, book keeping, parts ordering, warehouse control, field customer service in Florida and surrounding states.
- Repair and reconditioning of air compressors, nail guns, electric motors, pumps and lift station installation and maintenance.
- Responsible for the design and build of a mobile display unit for compressors, pumps and motors.

*Senior Field Service Engineer, **Crane Environmental Company** - Venice, FL*
1999-2001

- Responsible for worldwide startup, trouble shooting, maintenance and training for water purification equipment to include Reverse Osmosis, Water Softeners, Filters, Demineralizers and pH neutralization in residential, commercial and governmental sectors.
- Additional responsibilities include seminar speaker and Telephone Technical Support and training of field personnel. Major sites located in Albania, Kenya, Indonesia, Turkey and Turkmenistan.

*Field Service Engineer, **Kemco Systems** - Clearwater, FL
1997-1999*

- Responsible for worldwide startup, trouble shooting and maintenance of industrial direct contact, gas fired water heaters and steam generators.
- Telephone Technical Support for field personnel.

*Sales / Service, **Water Conditioning Systems Company** - Round Rock, TX
1995-1997*

- Responsible for water conditioning equipment sales to new and existing client base on a residential and commercial level.
- Installation, startup, trouble shooting and service of water equipment.

*Field Service Engineer, **Bruner Corporation** - Milwaukee, WI
1990-1995*

- Responsible for worldwide startup, trouble shooting, maintenance and training for water purification equipment to include Reverse Osmosis, Water Softeners, Filters, Demineralizers and pH neutralization.
- Additional responsibilities include expert knowledge of Bruner's IQS-3 electronic controller, Telephone Technical Support and training of field personnel.

Prior To 1990, I spent 17 years designing, building, testing and debugging electrical control panels. I have worked for: A.C. Spark Plug, Kearney and Trecker, Harnischfeger and Schlitz Beer to name a few. I have been involved with Electrical Controls for over thirty years.

SKILLS

Microsoft Office 2000 and ME

Water Sampling - potable and contaminated

Piping Material: PVC, Galvanized, Copper, Stainless, Black

Machinery: forklift, scissor lift, boom lift, 1 ton truck with trailer, engine lathe, walk behind trencher, skid loader, jack hammer

Hand Tools: hammer drill, grinder, pvc welder, arc welder,

Chemicals used: 50% hydrogen peroxide, 32% hydrochloric acid, 50% sulfuric acid, 50% sodium hydroxide, ucar foodfreeze,

Programmable Controller Software: Allen Bradley, Square D, Telemanique

Test Equipment: electrical multi meter, megger, amp clamp, ultrameter 6P, manometer, oxygen percentage meter

Toxic Waste Handling and Disposal

Tee square, triangles, protractor, rapidograph pens

EDUCATION / CERTIFICATION

1974 - 1976 MATC - Electrical Technology

1981 WCTC -IBM CADAM 5080

1989 AUTOCAD - 5000 hours

1991 Dale Carnegie graduate

2001 Water Quality Assoc. ozone disinfections

2002 Rotary Screw Air Compressor Maintenance - 3 manufacturers

2002 OSHA Hazard Communication

2002 OSHA Confined Space / Vessel Entry
2002 OSHA Medical Examination Certificate
2004 OT6 Professional Forklift Operator
2004 Professional Boom Lift Operator

KENNETH J. JARDINE

324 EASTWAY DRIVE LAKELAND, FLORIDA 33803

PHONE (863) 646-1644

EXPERIENCE

I have over twenty five years professional experience with progressive responsibility in technical positions. Experience has included basic process research, process development, pilot plant design operation and supervision and commercial plant start-up and operation.

EDUCATION

BA in Chemistry, Long Island University, C.W. Post College, 1969

Graduate Chemistry Courses, Ohio University Graduate College, 1970

PROFESSIONAL WORK HISTORY

1996-Present

IMC Phosphates

Technology Development Group

Chief Engineer

Responsible for the development and application of advanced technology to phosphate mining and fertilizer production.

- Worked as member of team that developed a pretreatment technology that allows phosphate plant pond water to be purified using reverse osmosis. This effort resulted in the granting of two patents and with the technology being successfully demonstrated on a 600,000 GPD plant scale at the Piney Point Phosphate Plant.
- Developed processes for producing tri-ammonium phosphate and incorporating it into DAP. Process was successfully demonstrated at 800 pound/hour pilot scale. Obtained two patents covering process.
- Developed test methods and mathematical models for testing and evaluating small samples of phosphate rock for the production of phosphoric acid.
- Responsible for patent and trademark searches. Routinely handle transmittal and receipt of department confidentially and secrecy agreements.
- Worked as contract engineer during formation of Technology Development Group on projects directed at indirect sensing of phosphate rock quality and up-grading low grade rock.

1995

Phosphate Engineering and Construction Company

Senior Process Engineer

Managed pilot plant project to produce HF grade calcium fluoride and phosphoric acid from fluosilicic acid and phosphate rock.

- Responsible for hiring and training operators, plant start-up and pilot test program.
- Developed heat and material balances and coordinated pilot operations with client.

1981-1993

IMC Fertilizer

Development Engineering Group

Senior Development Engineer

Responsible for new product and process development, process improvement, plant trouble-shooting and the application of new technology at the New Wales fertilizer and uranium recovery plants.

- Developed and installed computer based electronic log sheets incorporating artificial intelligence for various production plants.
- Developed improved method for measuring phosphoric acid plant recovery based on automatic composite sampling of gypsum sluice lines. Designed sample probe assemblies for pressurized lines that allowed probes to be removed while line was in use.
- Supervised major pilot program to produce technical grade phosphoric acid from wet process acid using solvent extraction.

1976-1981

Wyoming Mineral Corporation / Westinghouse Electric

Associate Process Engineer

Responsible for pilot plant operations, commercial plant start-up and process improvement of a solvent extraction uranium recovery plant.

- Responsible for design, fabrication and operation of bench scale, second cycle, uranium refinery portion of process.
- Served as shift engineer during start-up of commercial plant.
- Participated in several overseas business development ventures.

April 1976-Nov. 1976

Conserv, Inc.

Shift Chemist

Responsible for routine quality control analyses and analytical methods development of a phosphate fertilizer plant.

Nov. 1975-April 1976

Gulf Oil Chemicals Company

Operator Analyst

Responsible for operation, maintenance and analytical testing at a pilot plant to recover uranium from phosphoric acid.

Sept. 1970-Nov. 1975

Construction Industry Experience

Employed in various types of construction (residential to heavy industrial) in capacities ranging from carpenter to general foreman.

PATENTS

4,446,114	Method of Increasing the Strip Coefficient of the Strip Solution in a Reductive Stripping Uranium Recovery Operation
6,241,796	Method for Producing Fertilizer Grade DAP Having an Increased Nitrogen Concentration from Recycle
6,280,494	Method for Producing Fertilizer Grade DAP Having an Increased Nitrogen Concentration in a Spray Column
6,758,976	Simplified Purification of Phosphoric Acid Plant Pond Water
6,758,977	Purification of Phosphoric Acid Plant Pond Water

Dennis Michalski

Education:

B.S. from Univ. of Illinois 1967, Post graduate work in Chemistry at Loyola of Chicago in the 1980's, Post graduate work in Chemistry at Univ. of South Florida in the 1990's.

Experience:

IMC 2000-2004: Chief Engineer Technology Development I have worked heavily the last 3 years on pre-treatment of many phosphate plant pond waters. The pre-treatments are necessary to use reverse osmosis for treatment. Most recently was on team that discharged 46million gallons of permeate made from Piney Point pond water.

Mulberry Phosphates 1994-1999: Engineering Manager. Designed system which treated phosphate cooling pond water and released 18 million gallons of reverse osmosis permeate.

IMC 1985-1993: Senior Engineer at New Wales Pilot Plant

IMC 1979-1984: Chief Chemist in Florida at New Wales Phosphate facility.

IMC 1970-1978: Worked in Corporate Research both Organic and Inorganic in Illinois and Indiana.

Achievements:

Have been granted 7 patents for work in Phosphates, two are for treating pond water for discharge.

Member of Florida Institute for Phosphate Research Technical Advisory Committee.

Received annual Presidents award in 2003 for innovative plant project with Phosphates.

Name: John O'Connor

Title: Project Engineering Manager

Education: Manhattan College, BCE 1964, Villanova University Graduate Work 1969

Mr. O'Connor has over forty years experience in multi-disciplined project engineering and management. Other activities include FIPR Chemical Process TAC, Supervisor-Manatee River Soil and Water Conservation District (Elected), Founder/President Florida West Coast Resource Conservation and Development Council, and Founder/Former President-Palmetto FFA Alumni Chapter.

Representative project assignments include:

- Project Manager for Penn Pro - Designed and installed portions of gypsum stack closure including HDPE pipe lines, energy dissipater structure, several pumping systems and bridges. Currently managing dredge to remove gypsum from process water cooling pond.
- Project Superintendent for Environmental and Geotechnical Projects for IMC, recruited and assigned to unique multi-million dollar projects. Responsible for selecting and overseeing staff for projects.
- Carried out unique design to remediate and repair 110'x185' sinkhole in 200' gypsum stack/injecting 4,000 cu. yd special mix grout using 50 injection casings, re-establishing impermeable layer, protecting Floridian aquifer, and providing round the clock project control. Completed on schedule and within budget (\$7MM).
- Supervised demolition of uranium processing facility developing action plan/scope of project/soliciting proposals for salvage/demolition/environmental remediation (\$1MM).
- Designed/constructed level control structure under emergency conditions in phosphate chemical complex cooling pond passing flow in excess of 120,000 GPM reducing downstream water level/avoiding complete plant shutdown/saving millions
- Supervised design/installation HDPE liner for cooling pond-gypsum stack/sustaining continuous plant operation (\$16MM).
- Supervised design/installation of 4000 ft. bentonite cut off wall, 20,000 GPM pond water pumping station and 40 acre HDPE lined storm surge pond with associated dam modifications (\$4MM).
- Project Engineering Superintendent, for world's largest phosphate chemical complex, responsible for department of 10-20 multi-discipline project engineers, outside consultants, and designers providing all capital project requirements.

Kristina M. Miller

EDUCATION

Bachelor of Science Degree, Magna Cum Laude
Marine Science Major, Biology and Environmental Science Minors
Coastal Carolina University, Conway, South Carolina
Cumulative G.P.A. 3.534, Senior Year 3.933

EXPERIENCE

Laboratory Technician, Technology Development

Aug. 2004-Present

IMC Phosphates, New Wales, Florida (through Kforce)

- Operated Phosphoric Acid Simulator.
- Operated small scale Reverse Osmosis system.
- Set up and ran various water filtration methods.
- Analyzed data including specific gravity, pH, conductivity, and sulfates.
- Computer work using Microsoft Excel.
- General lab maintenance, calibration, and cleaning.

Laboratory Technician, QA Department

July 2004-Aug. 2004

Mastertaste, Lakeland, Florida (through Kforce)

- Performed general laboratory tasks for quantitative and qualitative analysis for the development and manufacturing of flavor application system.
- Measured pH and wet aldehyde percentage using auto titration (Mettler Toledo).
- Measured specific gravity, density, alcohol concentration and brix % using a densitometer.
- Calculated optical rotation and refractive index of liquids.
- Calibrated all instrumentation.
- Data entry and computer work using Agilisys, Microsoft Excel and Microsoft Access.

Water Technician Operator, Florida Pines Water Venture

Jan. 2004-July 2004

Piney Point Phosphate Plant, Port Manatee, Florida (Mobile Process Technology through Kforce)

- Operated large scale reverse osmosis treatment system.
- Collected data for maintaining entire working system.
- Analyzed data including pH, ammonia, calcium and fluoride testing using scientific equipment.
- Controlled flow of entire system manually maintaining chemically balanced water and automatically using a PLC, Programmable Logic Controller.
- General cleaning and maintenance including equipment calibration.

Volunteer, Animal Health Department

Mar. 2002-June 2003

Florida Aquarium, Tampa Bay, Florida

- Conducted laboratory work, including water system quality for entire aquarium, medicating animals, and necropsies.
- Prepared meals and administer feeding for a variety of aquatic species.
- Performed general tank maintenance and cleaning.
- Assisted in terrestrial animal medication and care with veterinarian technician.

Intern, Marine Laboratory

Sept. 2001-Dec. 2001

Mote Marine Laboratory, Sarasota, Florida

- Conducted laboratory work and fieldwork in shark research and histology.
- Performed chemistry labs and fieldwork for water system quality and feeding in Marine and Freshwater environments.
- Prepared slides from tissue extraction to paraffin mounting and staining.
- Cared for, fed, medicated and assured a clean environment for sharks and fish.
- Assisted in elasmobranch surgeries and medical cases.

Field Student, Bimini Biological Field Station

Dec. 1999

Bimini, Bahamas

- Two-Week course led by Dr. Samuel Gruber.
- Hands-on experience with Marine Animals and equipment in their natural habitat. Elasmobranch emphasis.
- Classroom and fieldwork were included over the 2-week stay.

Teacher's Assistant, Senior Marine Science Instructor Dr. Abel

Jan. 2000-May 2000

Coastal Carolina University, Conway, SC

- Helped conduct species abundance fieldtrips off the South Carolina coast.
- Analyzed and logged data.

AFFILIATIONS AND ACCREDITATIONS

Dolphin Survey team member, CCU, Fall 1999.

Certified diver, NASDS, Mar. 1998

Additional Experience: Pharmaceutical Technician, The Medicine Shoppe, 1992-1995.
Service Industry, 1994-2003.

References

Casey Melton
Volunteer Coordinator
Florida Aquarium
701 Channelside Drive
Tampa, FL 33602
813.273.4121
Cmelton@flaquarium.org

Osvaldo (Shell) Ellis

EDUCATION

The University of South Carolina Columbia, SC

Department of Biological Sciences

Major: Bachelor of Science in Biology, *Minor:* Computer Science

August 2002

RELATED

COARSE WORK

BIOLOGY - including some of the following:

- Bacteriology
- Bioinformatics
- Ecology with Lab
- Molecular Biology with Lab
- Plants and the Environment with Lab

CHEMISTRY

- General Chemistry I and II with Labs
- Organic Chemistry I and II with Labs

EXPERIENCE

Cargill Crop Nutrition May 19, 2003 -

mid November 2003 (KForce Staffing)

- Pilot plant operator involving solvent extraction
- This project turned black phos. acid into clear food grade acid
- Tested percent P_2O_5 , SO_4 , and Fluoride of many samples
- Measured densities of many samples
- Used Excel Spreadsheets to store experimental data

Florida Pines at Piney Point January 7, 2004 -

June 29, 2004 (KForce Staffing)

- Plant operator involving wastewater cleanup using high purity reverse osmosis filtration
- Daily tests including:
 - ppm of ammonia
 - ppm of calcium using a colorimeter
 - conductivity, pH, and turbidity

IMC Phosphates

August 4, 2004 -

present (KForce Staffing)

- Lab technician for technology development

Michael A. Cruz, CHMM

Project Engineer

Education

A.A. - Southeast Iowa Area
Community College

Coursework Missouri Western State
College and University of South
Carolina

Iowa Military Academy

U.S. Army School of Engineering,
Ft. Belvoir, Virginia

Training

Certified Hazardous Materials Manager-
2002 -Master's Level #011677

OSHA 40-Hour H&S

8-hour HAZWOPER Refresher

OSHA 8-Hour Supervisor

Certified Chevron Maintenance
Supervisor

DOT/HM 126F HAZMAT

Practical Loss Control Leadership

CPR/First Aid

Radiation Worker

Mr. Cruz has over 20 years of experience providing consulting, engineering, and construction services targeted at hazardous materials management and site cleanup. He has developed environmental legislation at state and federal levels, assisted owners with regulatory compliance, managed site cleanups under the U.S. Environmental Protection Agency's (U.S. EPA) REM III and ARCS programs, performed remedial investigations/feasibility studies under the Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response Compensation and Liability Act (CERCLA); and provided public relations support during site cleanup. Mr. Cruz's responsibilities have included project management, field supervision, cost estimating, procurement, schedule development and management, quality control, data management and reporting, and health and safety management.

Project Engineer. Site Remediation. Mr. Cruz is responsible for the quality and timely execution of work during the turn-key remediation of several cold war era landfills on a property in Orlando, Florida. The project includes the excavation, characterization, and disposal of soil and debris. Mr. Cruz has directed the removal of over 100,000 cubic yards of material. Mr. Cruz developed the project administrative system that includes schedule management, material tracking, transportation and disposal, excavation inspection, chemical analyses, and waste characterization. Mr. Cruz will write an Interim Measures Report for each landfill.

Project Engineer. Groundwater Extraction System. Mr. Cruz performed cost estimating, procurement, and constructibility review for a \$1.4 million groundwater extraction system for a confidential client in Orlando, Florida. The project included a stacked air stripper with a design flow of 1,000 gallons per minute (gpm). Mr. Cruz also developed subcontractor bid packages, evaluated subcontractor bids, and developed subcontracts.

Experience Highlights

- Over 20 years of construction and engineering experience
- Certified Hazardous Materials Manager
- Expertise in RCRA and CERCLA

Resident Engineer. Stormwater Retention Modification. Mr. Cruz served as quality control representative for a confidential client in Orlando, Florida. The project involved the relocation of two 10-acre stormwater retention ponds and the installation of over 3,000 feet of 10-foot by 10-foot concrete box culverts and ancillary reinforced concrete pipe that ranged in size from 36 inches to 96 inches. Mr. Cruz provided oversight for the owner as another contractor performed the work. In the end, the project was completed ahead of schedule and significantly under budget.

Construction Manager. Naval Undersea Warfare Center Remediation. Mr. Cruz managed site operations on this U.S. Navy Naval Undersea Warfare Center remediation project in New London, Connecticut. His responsibilities included client relations, onsite construction supervision,

health and safety, payroll, procurement, onsite sampling and analyses, and quality control. This \$3 million project consisted of removing polychlorinated biphenyls (PCBs) contaminated soil from numerous onsite locations, asbestos abatement, removal of PCB contamination from transformer pads, building demolition, underground storage tank removal and disposal, and the remediation of a fort built in the late 18th century.

Resident Engineer. American Thermostat EPA Superfund Site

Remediation. Mr. Cruz was resident engineer on this U.S. Environmental Protection Agency (U.S. EPA) three-phased remediation project at the American Thermostat Superfund Site in South Cairo, New York. The first two phases involved the excavation and onsite low temperature thermal treatment of approximately 100,000 cubic yards of soil contaminated with volatile organic compounds. The excavation, which extended to 35 feet below ground surface, required extensive shoring and bracing. The third phase involved the installation of 64 extraction and injection wells, the construction of a groundwater treatment facility, and placement of the majority of over 9,000 feet of double-wall HDPE transmission pipe with a directional drill. In this role, Mr. Cruz conducted constructibility reviews, analyzed subcontractor bids, and reviewed subcontractor submittals. Mr. Cruz also negotiated access agreements with impacted property owners. Mr. Cruz was also instrumental in developing excellent relations with those impacted by remediation; this phase of the project received an "exceeds expectations" evaluation from the U.S. EPA. The project was ISO 14001 audited with no deficiencies found.

Civil Superintendent. Interim Remedial Action. Mr. Cruz was responsible for the construction and operation of a temporary groundwater treatment system (30 gpm) at the Redstone Arsenal site in Huntsville, Alabama, for the U.S. Army Corps of Engineers. He also supervised the construction of several wells to depths of 150 feet as part of this interim remedial action program.

Resident Engineer. Crystal City Airport Superfund Site Remediation. At the Crystal City Airport superfund site in Crystal City, Texas, Mr. Cruz managed quality control for a project involving contaminated soil excavation, onsite chemical analyses of excavated soil, construction of a clay lined burial cell, transport of soil to the cell, and construction of a RCRA cap. This work was performed for the Texas Water Commission.

Field Operations Lead. Confidential Refinery, Texas City, Texas. Mr. Cruz wrote the Final Report and took part field activities in a Sensitive Receptor Survey of properties surrounding this facility. He also authored a Post Remedial Activities Report as a part of State requirements for the facility. Mr. Cruz was also the field operations lead for the annual and semi-annual sampling of over three hundred refinery monitor wells.

Professional Resume

AL SCHUMAN
President

Experience Summary

As Moretrench Environmental Services, Inc. (MES) president and a member of the firm's Board of Directors, Mr. Schuman maintains executive-level responsibilities and direction of civil construction, industrial infrastructure, groundwater control and treatment, and geotechnical projects throughout the nation. Mr. Schuman also has extensive national experience in civil construction as superintendent and project manager. He has been with Moretrench since 1973.

Mr. Schuman has managed all aspects of MES's Florida based operations since 1982. He has been responsible for the bidding, negotiating, construction, management and close-out of a wide variety of civil and industrial projects for a diverse group of owners including phosphate, utility, food processing, and various manufacturing companies.

Specific project work has included phosphogypsum stack closures, piping and drain systems, relief well systems, construction dewatering, plant maintenance service and repair, wastewater treatment plants, slurry walls, drydocks, subways and tunnels, landfill gas and leachate collection systems, groundwater treatment and remediation systems, hydraulic barriers, pipe-fusing and slip-lining, drilling, grouting, and ground freezing for the purpose of groundwater control.

Education

- A.S., Construction Technology, New Jersey Institute of Technology, 1976
- Associated General Contractors Advanced Management Program 1992
- Associated General Contractors & Florida Construction Industry Licensing Board Continuing Education, ~200 hours

Licenses

State of Florida General Contractor's License - CG-C034173

Phosphate Industry Project Experience

Gypsum Stack Closure – Polk County, FL

As Principal in Charge, completed phosphogypsum stack closure services for an 80 acre gypsum stack in Mulberry Florida. The project involved the dewatering of three cells at the top of the stack, draining and drying the wet gypsum at the top of the stack, preparation of the subgrade for installation of a liner system, installation of 15,000' of toe drains and 2000' of mid level drains, grading of side slopes, excavation and placement of ~550,000 cubic yards of top soil cover including 2' soil cover on the top of stack and 6" of soil cover on the side, placement of grass seed on 60 acres at the top of the stack and on 40 acres of side slopes, grading, placement of 2' of topsoil cover, and seeding of a stormwater collection ditch.

32 Acre Lined Cooling Pond and Closure - Hillsborough County, FL

Directed and provided construction management for a nineteen-month project to excavate and line two active cooling ponds for process water at a phosphate fertilizer plant. During the 21-month project, Moretrench, acting as the general contractor, faced the challenge of managing a continuous flow of process water (in excess of 50,000 gpm) while constructing 32 acres of liner systems, associated piping, diversion structures, and pumping stations. Gypsum with moisture content of up to 50-60% was excavated, dried, and relocated to construct the liner system and berms for the new containment system. Water management provided an additional challenge given heavy volumes of rain and related stormwater runoff during critical stages of the project. Moretrench engineered and constructed several

structures that played integral roles in the completed liner system. Structures included a process water diversion structure activated in October 1999, a bridge across the hot process water channel, and a cold water pump station and platform.

Pressure Relief Well System – White Springs, FL

Directed and engineered the installation of a 5200' pressure relief well system on the perimeter of a phosphogypsum stack at a fertilizer plant facility. 94 relief wells, consisting of double 3-inch wells with 50 foot and 60 foot spacings, were installed to approximately 50 feet below the ground surface and connected to a common 12" PVC header. The header connected the wells to a 36" SDR 11 manifold and a liquid ring vacuum pump system that included a 316 stainless steel pump and 25HP / 460V motor. The system provided an important process water and gypsum stack management tool for the facility.

Gypsum Stack Surge Pond and Intake Structure – Polk County, FL

Directed and managed a nine-month project involving earthwork, dewatering, permanent under drains, synthetic liner, and concrete work for a surge pond located along the western boundary of an active phosphogypsum stack. Moretrench constructed an intake structure at the northern end of the pond to assist the management and movement of stormwater and process water between the pond and the plant.

Gypsum Stack Drains and Outlets Installation – Polk County, FL

Directed and managed the installation of approximately 20,000 LF of HDPE collection pipes, and solid outlet pipes, at a newly constructed gypsum stack at a Polk County fertilizer plant. Slotted collection pipes were enclosed with an envelope of pea gravel, and compacted under 18" of gypsum. The project also included installation of silica gravel collection zones with non-woven filter fabric, and several concrete fabriform outlets pads.

Phosphogypsum Stack Boil Remediation Projects - Central FL

Managed and directed the remediation of numerous boils and piping paths associated with phosphogypsum stacks involving flows ranging from 500-2,000 GPM. The high velocities and movement of fines at the toe of slopes, causing slope instabilities, were remediated through the introduction grouts, additives, and/or aggregates to seal flow paths from the upstream side. Upon reduction of flows voids were grouted and sealed back up under the stacks to eliminate the flow paths.

Professional Affiliations and Memberships

- National Center for Construction Education and Research - NCCER
- Florida Phosphate Committee
- Florida Construction Users Roundtable - FCURT
- Florida Electric Municipal Association - FEMA
- Bay Area Manufacturers Association - BAMA
- First Coast Manufacturers Association - FCMA
- Florida Citrus Processors Association - FCPA
- Florida Limerock and Aggregate Association - FLAI
- Association of State Dam Safety Officials - ASDSO
- Association of General Contractors - AGC
- Florida Brownfields Coalition
- Florida Association of Environmental Professionals - FAEP
- Solid Waste Association of North America - SWANA
- Society for American Military Engineers – SAME
- Polyurea Development Association – PDA
- Florida Fruit and Vegetable Association - FFVA
- National Groundwater Association
- National Association of Corrosion Engineers – NACE
- Society for Protective Coatings – SSPC
- Florida Citrus Mutual
- Florida Concrete Products Association - FCPA

Professional Resume

MICHAEL PANNY

Project Manager/Superintendent

Experience Summary

Mr. Panny is Project Manager / Superintendent for Moretrench Environmental Services, Inc. He frequently supervises project activities on several sites concurrently. In his role as project manager / superintendent he is directly involved in all phases of project work on jobsites including site supervision, safety, budget control, coordination with vendors, subcontractor relations, client relations, project estimates, project administration, and timely completion of each project.

During his 19 years with Moretrench, Mr. Panny has acted as field lead for a variety of construction projects including phosphogypsum stack closures, toe drain installations, relief well systems, grouting, boil remediation, gypsum stack maintenance, geotechnical drilling, plant service and maintenance work, and groundwater control.

Education

Mr. Panny is a high school graduate and regularly participates in continuing education courses.

AGC Advanced Management Course, 1992

Phosphate Industry Project Experience

Mr. Panny has acted as project manager / superintendent for a large number of construction projects in the phosphate industry. A partial listing follows below.

Cargill Mulberry North Stack Closure – Mulberry, FL

Supervised phosphogypsum stack closure services for an 80 acre gypsum stack in Mulberry Florida. The project involved the dewatering of three cells at the top of the stack, draining and drying the wet gypsum at the top of the stack, preparation of the subgrade for installation of a liner system, installation of 15,000' of toe drains and 2000' of mid level drains, grading of side slopes, excavation and placement of ~550,000 cubic yards of top soil cover including 2' soil cover on the top of stack and 6" of soil cover on the side, placement of grass seed on 60 acres at the top of the stack and on 40 acres of side slopes, grading, placement of 2' of topsoil cover, and seeding of a stormwater collection ditch.

Holding Pond Excavation and Drain Work, IMC - Fort Meade, FL

Supervised excavation services for the construction of a new, 25-acre holding pond. Approximately 75,000 cubic yards of gypsum fill was drained and excavated from the middle of the existing basin. On and offsite gypsum fill material was placed and compacted to complete the construction of pond and the surrounding dikes.

32 Acre Pond Project, Cargill Fertilizer - Riverview, FL

Supervised a nineteen-month project to excavate and line two active cooling ponds for process water at a phosphate fertilizer plant. During the 21-month project, Moretrench, acting as the

general contractor, faced the challenge of managing a continuous flow of process water (in excess of 50,000 gpm) while constructing 32 acres of liner systems, associated piping, diversion structures, and pumping stations. Gypsum with moisture content of up to 50-60% was excavated, dried, and relocated to construct the liner system and berms for the new containment system. Water management provided an additional challenge given heavy volumes of rain and related stormwater runoff during critical stages of the project. Moretrench engineered and constructed several structures that played integral roles in the completed liner system. Structures included a process water diversion structure activated in October 1999, a bridge across the hot process water channel, and a cold water pump station and platform.

PSC Phosphates Pressure Relief Well System – White Springs, FL

Directed and engineered the installation of a 5200' pressure relief well system on the perimeter of a phosphogypsum stack at a fertilizer plant facility. 94 relief wells, consisting of double 3-inch wells with 50 foot and 60 foot spacings, were installed to approximately 50 feet below the ground surface and connected to a common 12" PVC header. The header connected the wells to a 36" SDR 11 manifold and a liquid ring vacuum pump system that included a 316 stainless steel pump and 25HP / 460V motor. The system provided an important process water and gypsum stack management tool for the facility.

Phase 1A and 1B, Cargill Fertilizer - Bartow, FL

Supervised the installation of approximately 20,000 LF of HDPE collection pipes, and solid outlet pipes, at a newly constructed gypsum stack at a Polk County fertilizer plant. Slotted collection pipes were enclosed with an envelope of pea gravel, and compacted under 18" of gypsum. The project also included installation of silica gravel collection zones with non-woven filter fabric, and several concrete fabriform outlets pads.

Health & Safety

Phosphate Council Safety Training
MSHA Mine Safety Training
OSHA 40-hour Health & Safety Training
OSHA 8-hour Annual Updates
OSHA Supervisory Training
OSHA Confined Space Entry
OSHA Competent Persons in Excavations
Red Cross First Aid & CPR

Professional Resume

HARLEY FRADY Superintendent

Experience Summary

Mr. Frady is a Superintendent for Moretrench Environmental Services, Inc. He has worked as a Moretrench superintendent for over 3 years. Mr. Frady previously worked as superintendent for an earthwork contractor, Florida Site & Underground, for 4 years prior to coming to Moretrench.

Mr. Frady has a combined 7 years experience working on and supervising a variety phosphate and earthwork construction projects that have included excavation and grading work, stack closures, drain installations, liner installations, liming operations, and gypsum stack maintenance.

Education

Mr. Frady is a high school graduate from North Carolina.

Phosphate Industry Project Experience

Mr. Frady has acted as superintendent for a variety of construction projects in the phosphate industry while with Moretrench. A partial listing follows below.

- *Cargill Mulberry – North Gypsum Stack Closure*
- *IMC - New Wales - Phase III-A - North & East Slope Regrading*
- *IMC - New Wales - Phase III-B - Southeast Slope Regrading*
- *IMC - New Wales - Phase III-C - West & Southwest Slope Regrading*
- *IMC - New Wales - Top Cover Construction of West & Southwest Areas*
- *IMC - South Pierce - Lined Emergency Holding Pond Construction*

Health & Safety

Phosphate Council Safety Training
MSHA Mine Safety Training
OSHA 40-hour Health & Safety Training
OSHA Confined Space Entry
OSHA Trench and Excavation Safety
OSHA Welding and Cutting Safety
NCCER Mobile Equipment Training
Red Cross First Aid & CPR

Thomas Topp, Liner Group Vice President

Experience Summary

Mr. Thomas Topp

Experience

2001 – Present: Group Vice President, COMANCO

1995 – 2001: Civil Group Project Manager, CEC

1989 – 1995: Project Supervisor

Total Geotextile Installation Quantity: 10,177,350
 Total Geomembrane Installation Quantity: 27,398,702
 Total HDPE Piping Installation Quantity: 351,320
 Total Clay Liner Installation Quantity: 15,200,560
 Totally Composite Installation Quantity: 20,258
 Total Venting Installation Quantity: 10,000

FDEP Required Qualifications	Mr. Thomas Topp's Qualifications
√ Experience in the installation of HDPE smooth and textured liners on phosphogypsum stack systems or other similar type systems	√ Mr. Tommy Topp has more than fourteen years of experience installing HDPE smooth and texture liners. Mr. Topp has Executive level responsibilities and direction for the Civil Group of CEC. His experience includes bidding, negotiating, constructing, management and close out of all projects related to Phosphogypsum stacks for CEC. As one of the first employees of CEC in 1989, Mr. Topp is represents this company at the highest level of expertise.
√ Experience working on projects that involved installing more than 3 million square feet of HDPE Liner.	√ Mr. Topp has managed and supervised projects involving more than 27 million square feet of HDPE liner. His role as Group VP has most recently involved him in the management responsibilities for the Piney Point NGS North Stack Closure consisting of 35 acres of 80 mil HDPE Liner.
√ Experience placing and compacting soil above a liner.	√ Mr. Topp has more than fourteen years experience placing and compacting soil above a liner. He has managed more than 35 projects that involved the placement of various protective soil covers and is very accomplished in managing such operations.
√ Experience with two projects of similar size and scope.	√ Mr. John Doe has worked on the Piney Point site and IMC Phase II Expansion site. These two projects combined the installation of over 15 million sf of 60 and 80 mil HDPE Liner.
√ Experience handling and installing geonet/geotextile composites, geotextiles, concrete erosion control mats, straw erosion mats, and sod.	√ Mr. Topp has equivalent experience handling and installing geonet/geotextile composites, geotextiles, concrete erosion control mats, straw erosion mats, and sod.
√ Licenses	√
√ Education/Training	√
√ Certifications/Affiliations	√

Joe Benz, Liner Project Manager

Experience Summary

Mr. Joe Benz

Total Geotextile Installation Quantity: 10,177,350
 Total Geomembrane Installation Quantity: 27,398,702
 Total HDPE Piping Installation Quantity: 351,320
 Total Clay Liner Installation Quantity: 15,200,560
 Totally Composite Installation Quantity: 20,258
 Total Venting Installation Quantity: 10,000

Experience

2001 – Present: Project Manager, COMANCO Environmental Corporation, Tampa, FL.

FDEP Required Qualifications	Mr. Joe Benz's Qualifications
√ Experience in the installation of HDPE smooth and textured liners on phosphogypsum stack systems or other similar type systems	√ Mr. Joe Benz has four years of experience installing HDPE smooth and texture liners. Mr. Benz has recently managed a project similar that involved installing liners on a phosphogypsum stack system. Mr. Benz is directly involved in all phases of project work including supervision, safety, subcontractor relations, customer relations, administration and completion
√ Experience working on projects that involved installing more than 3 million square feet of HDPE Liner.	√ Mr. Benz has supervised project involving more than 23 million square feet of HDPE liner. His role as Project Manager has most recently involved him in the management responsibilities at the IMC Phase II Expansion project which consisted of 320 acres of 60 mil HDPE Liner.
√ Experience placing and compacting soil above a liner.	√ Mr. Benz has more than four years experience placing and compacting soil above a liner. He has managed more than 20 projects that involved the placement of various protective soil covers and is accomplished in supervising such operations.
√ Experience with two projects of similar size and scope.	√ Mr. Benz has managed the Piney Point NGS North Pond project consisting of 35 Acres of 80 mil liner and the C.F. Industries Area 12 project which consisted of 60 Acres of 60 and 40 mil liner.
√ Experience handling and installing geonet/geotextile composites, geotextiles, concrete erosion control mats, straw erosion mats, and sod.	√ Mr. Benz has equivalent experience handling and installing geonet/geotextile composites, geotextiles, concrete erosion control mats, straw erosion mats, and sod.
√ Licenses	√
√ Education/Training	√
√ Certifications/Affiliations	√

Dragon Milosaljevic, Liner General Superintendent

Experience Summary

Mr. Dragon Milosaljevic

(Project List Attached)

Experience

2002 – Present: Liner General Superintendent,

COMANCO Environmental Corp., Tampa, FL.

1994 – 2002: Superintendent, COMANCO

FDEP Required Qualifications	Mr. Dragon Milosaljevic's Qualifications
√ Experience in the installation of HDPE smooth and textured liners on phosphogypsum stack systems or other similar type systems	√ Mr. Dragon Milosaljevic has more than ten years of experience installing HDPE smooth and texture liners. Mr. Milosaljevic has recently managed a project similar that involved installing liners on a phosphogypsum stack system. His ten plus years of experience include working on and supervising a variety of phosphate construction projects including closures, liner installation, drain installation and excavation.
√ Experience working on projects that involved installing more than 3 million square feet of HDPE Liner.	√ Mr. Milosaljevic has supervised projects involving more than 23 million square feet of HDPE liner. His role as General Superintendent has most recently involved him in the supervisory responsibilities at the IMC Phase II Expansion project which consisted of 320 acres of 60 mil HDPE Liner.
√ Experience placing and compacting soil above a liner.	√ Mr. Milosaljevic has more than ten years experience placing and compacting soil above a liner. He has managed more than 20 projects that involved the placement of various protective soil covers and is accomplished in supervising such operations.
√ Experience with two projects of similar size and scope.	√ Mr. Milosaljevic has worked on the Piney Point NGS North Pond project consisting of 35 Acres of 80 mil liner and the C.F. Industries Area 12 project which consisted of 60 Acres of 60 and 40 mil liner.
√ Experience handling and installing geonet/geotextile composites, geotextiles, concrete erosion control mats, straw erosion mats, and sod.	√ Mr. Milosaljevic has equivalent experience handling and installing geonet/geotextile composites, geotextiles, concrete erosion control mats, straw erosion mats, and sod.
√ Licenses	√
√ Education/Training	√
√ Certifications/Affiliations	√

Mr. Todd Kirkman, HDPE and Drain Superintendent

Experience Summary

Mr. Todd Kirkman

Experience

2000 – Present: Superintendent, COMANCO
Environmental Corporation, Tampa, FL.

1997-2000: Foreman, CEC

1992-1997: Field Technician, Liner and Pipe, CEC

Total Geotextile Installation Quantity: 10,577,350
 Total Geomembrane Installation Quantity: 37,701,708
 Total HDPE Piping Installation Quantity: 442,320
 Total Clay Liner Installation Quantity: 15,200,560
 Total Composite Installation Quantity: 20,158
 Total Venting Installation Quantity: 10,000

FDEP Required Qualifications	Mr. Todd Kirkman's Qualifications
√ At least 5 years of experience with the installation and fusion welding of HDPE pipe and installation of dewatering drains,	√ More than twelve years of experience with the installation and fusion welding of HDPE pipe and installation of dewatering drains. Mr. Kirkman has been an employee of CEC for 11 years during which his rolls from Technician to Superintendent have always involved HDPE Pipe and various dewatering applications.
√ Has successfully completed at least one project on a phosphogypsum stack of similar size and scope.	√ Mr. Kirkman was the Project Superintendent for the Pipe and Drain portion of a Farmland Hydro, L.P. project in 2000 / 2001. Pipe installation included various sizes from 6" to 24" totaling 12.3 miles of HDPE drain piping installed for a gypsum stack expansion project.
√ Experience installing corrugated HDPE drainage tubing, HDPE geonets, and field sewing of non-woven geotextiles.	√ Mr. Kirkman has more than twelve years experience installing corrugated HDPE drainage tubing, HDPE geonets, and field sewing of non-woven geotextiles. As with most drain pipe installations, the practice of geotextile installation and field sewing are common themes which Mr. Kirkman's skills have been time tested.
√ Experience placing and compacting drain aggregates and soil or gypsum trench backfill.	√ Mr. Kirkman has been involved with and served as a supervisor for numerous pipe and aggregate drain projects during his twelve year employment with CEC. The protective nature of backfilling and stone placement to avoid collapsing the drain pipe is one area where Mr. Kirkman serves CEC as a field trainer to assist in the education of upcoming Foreman and Superintendents.
√ Licenses	√
√ Education/Training	√
√ Certifications/Affiliations	√

Subject 2 Qualifications of Respondent/Subcontractor in Meeting Areas of Expertise Needed

The CDM Team is highly qualified and prepared to provide services for the management, operation and closure of the Piney Point Phosphates Phosphogypsum Stack System and to meet the goals of the FDEP. CDM is one of the nation's top environmental engineering firms and the subcontractors we have chosen for this project are unparalleled in the industry and together we possess the technical expertise and management know-how that will ensure a successful project for the FDEP. The CDM team has a special understanding of the environmental and regulatory situation of this facility and within Florida, and comes prepared with proven technical solutions and skills from decades of experience within the phosphate industry. Provided in the following pages is the experience and expertise of the CDM Team in each of the areas/categories identified in the BAFO.

A. Operator Qualifications

Mr. Paul Roberts, an employee of CDM, has been assigned the position of Operator and therefore, as per the BAFO, Section 2, Subject 4, A, "Alternatively, respondent must have on its staff one or more employee(s) that would be assigned to this project having at least 5 years demonstrated experience in operation, inspection, and maintenance of a phosphogypsum stack system," we have included below Mr. Roberts' demonstrated, extensive experience associated with the operation, inspection, and maintenance of a phosphogypsum stack system, process water management and emergency dike repair. His experience also includes the successful operation, inspection, and maintenance of an active phosphogypsum stack system and a phosphogypsum stack system undergoing closure.

Process Water Management, Operations Manager and Engineering Manager CF Industries, Inc. 1994-2003

Process Water Management on 2,800 Acre CF Industries, Inc. Facility Shutdown, Bartow, Florida - Phosphate Chemical Complex with 900 Acre Phosphogypsum Stack System

- 2 billion gallons of acidic process water were discharged in compliance with FDEP permit requirements using two-stage liming and air stripping systems.
- The two-stage liming facility and air stripper design were upgraded to ensure discharge compliance.

Mr. Roberts was responsible for the permitting, overseeing design alternative reviews, and construction of a \$60 million phased closure of the 900 acre gypsum stack and process water pond system. Mr. Roberts supervised the dike inspection team at CF Industries, Inc., Plant City site from 1980 to 1994.

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

- Designed, constructed and operated four large scale spray evaporation systems with major cost savings for process water disposal and reduced environmental impact.
- Waste lime neutralization of all of the phosphogypsum process water system preceding spray evaporation to preclude fluoride emissions.
- Designed, constructed and operated wetland nutrient reduction sludge handling system and studied ion exchange water treating option.

Phosphogypsum Stack Closure

- Permitted and oversaw design alternative reviews and construction of the \$60 million phased closure of the 900 acre gypsum stack and process water pond system,
- Responsible for the 1995 Phase 1 completion and oversaw the closure of 350 acres by 2003.
- Permitted 2.5 million cubic yard borrow pits for closure soil cover.
- Used unconventional hydraulic gypsum movement methods for closure reconfiguration which resulted in major cost savings.
- Managed rain water collection/storage to optimize treated process water discharges.
- Optimized treated process water discharges.

Emergency Dike Repair

Phosphogypsum Dike Repairs – routine and scheduled inspections of dikes were completed. Maintenance and repairs were completed in conjunction with third party engineers from Ardaman and Associates. Repairs included spillways, foundation toe boils, rainwater washouts, cuts and back fills for drainage of stored process water, settlement cracks, new dike construction associated with phased closure of the phosphogypsum stack system and other associated constructions and repairs.

The dike construction and repair teams were supervised at the CF Industries, Inc, Plant City site from 1995 to 2003 as operations and engineering manager. Mr. Roberts supervised the dike inspection team at CF Industries, Inc., Plant City site from 1980 to 1994. Annual dam training was received as specified by Rule 62-672, F.A.C. for each of the above time periods.

General Site Duties

- Oversight of site remediation and consent order compliance associated with process water impacts to groundwater.
- Developed long-term closure plans for the chemical plant and areas outside the gypsum stack footprint including demolition of plants with management of process waste and sludges, PCB, Asbestos, and radioactive materials abatement and management of non-process stormwater and groundwater.

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

Engineering Manager CF Industries, Inc., Plant City, Florida 1980 to 1994

Phosphate Chemical complex with 525 acre Phosphogypsum Stack System

- Responsible for the management of the following activities:
- Permitting of 1987 groundwater monitoring plan
- Permitting and lining of 93 acre process water pond with clay, 60 MIL, HPDE Liner, and Gypsum completed October 1995
- All site environmental activities

Chief Process Engineer from 1973 to 1980 at CF Industries, Inc. Bartow, Florida
Phosphate Chemical Complex responsibilities included the following:

- Supervised environmental monitoring program, permitting and technical solutions
- Coordinated environmental agency and industry trade association interactions for the Florida Region including two (2) chemical plant complexes, port facility and phosphate mining operations.

QuietEarth

Mr. Roberts will be assisted in his responsibilities by Mr. Craig Kovach. Mr. Kovach's experience most recently included management and direction of environmental affairs and programs for CF Industries, Inc., one of the five phosphate fertilizer producers in Florida, with facilities in Hillsborough, Polk, and Hardee Counties. From 1996 through 2003, Mr. Kovach was directly responsible for all environmental permitting and regulatory compliance for the company's 2800-acre Bartow Phosphate Complex and two Port terminal facilities on Tampa Bay. The former facility is an idle processing plant that has not produced fertilizer since 1989; therefore, process water management and gypsum stack closure have comprised critical environmental program areas. Full experience for Mr. Kovach can be found in Section B – Subject 1 (Resumes and Experience of Personnel).

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

B. Team Leader Qualifications

Mr. John Brafford will serve as the Team Leader for the CDM Piney Point Phosphogypsum Stack Closure Team. He will serve as the point of contact between the Department and the CDM team and be responsible for coordination of all activities and reporting to the Department under this contract. His integrity and experience are well known and respected in the community.

His professional experience consists of 37 years of service to the phosphate industry leading technical project engineering teams. He has extensive familiarity interfacing with public agencies and interest groups. He is knowledgeable in dealing with a variety of regulators and public entities including Polk County Commissioners, Central Florida Regional Planning Council members, staff of the Florida Dept. of Environmental Protection, news media editorial boards such as The Lakeland Ledger and The St. Petersburg Times, environmental groups such as the Audubon Society and the Sierra Club and industry organizations like Florida Institute for Phosphate Research (FIPR) and the Florida Phosphate Council (FPC). He also has experience as an Expert Witness in several permitting hearings, and an intervention suit brought by the environmental watchdog group Manasota-88.

Mr. Brafford is especially adept at managing diverse groups in difficult times. After the development of a sinkhole under the active gypsum stack at the IMC New Wales Plant, he was involved in the development of a remediation plan with Ardaman & Associates., and their sub-contractors.

Mr. Brafford is especially adept at managing diverse groups in difficult times. After the development of a sinkhole under the active gypsum stack at the IMC New Wales Plant, he was involved in development of a remediation plan with Ardaman & Associates, and their sub-contractors. He also acted as the IMC contact person with all interested parties and the news media, including newspapers and television.

His success in interacting with environmental groups is proven by his receipt of an award from the Florida Audubon Society "For Your Lifelong Leadership in Promoting Conservation in Florida".

C. Water Treatment Contractor(s) Qualifications

Mosaic's primary responsibilities will be for water treatment, using a variety of tried and proven technologies, to reduce the volume for water on the site and treatment discharge to meet permit requirements. Mosaic will be assisted by Penn Pro for process engineering design. Successful treatment of the water on-site is essential to the success of this project. We have assembled the best team available to meet these dynamic challenges. The treatment of the pond water in the near term to allow closure activities to proceed and the gyp stack pore water in the long run to minimize environmental impacts is critical. We understand that and we have the best, most experienced technical staff available for the job.

The goal of the CDM team is to treat the water on site to reduce the volume as quickly as possible and dispose of it with the least cost and environmental impact.

Mosaic and Penn Pro

The goal of the CDM team is to treat the water on site to reduce the volume as quickly as possible and dispose of it with the least cost and environmental impact. A summary of some of the tried and proven yet innovative water treatment technologies to be employed are included below, however more detail can be found in the Section B - Subject 5 Detailed Project Proposal/Scope of Services.

The CDM team has proven success treating pond and gyp stack water at numerous Mosaic (IMC) plants and other phosphate facilities in the central Florida area. Our team has successfully designed, fabricated, operated and maintained all of the necessary treatment options from spray evaporation to double liming to Reverse Osmosis (RO). We have the only RO pretreatment capability to allow this technology to be employed for the entire duration of the project, if necessary. Although the team has the best RO process water treatment capacity in the world, we will utilize available tried and proven methods to achieve our goals. A history of the development of Mosaic's (IMC) technical qualifications follows in this section.

US Filter and Veolia Water

Additionally, CDM has been in contact with US Filter regarding the current contract with the FDEP and the work that US Filter is engaged in at the Piney Point site. Bill Perpich with US Filter is in agreement that it is the intention of CDM and US Filter to continue to provide the best level of service to the FDEP possible. It may require US Filter to assign the contract to CDM and it's subcontractors to ensure the continued water volume reduction and water quality treatment to meet or exceed discharge standards. CDM has also been in contact with Veolia Water, the design engineering team that supported US Filter on the Piney Point project. Robert Zick of Veolia has also committed to work with CDM to maintain the US Filter plant or other water treatment and sludge handling needs, if called upon. We believe this is the best solution to continued, uninterrupted service at the site now and in the future.

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

Mosaic (IMC) Qualifications for Water Treatment Technology

A detailed discussion of the history of the technology development for Mosaic (IMC) qualifications for water treatment follows.

Use of Unique Pre-Treatment Technology, Freeport Sulphur Company, Caminada, and Grand Isle Off-Shore Sulphur Mines, New Orleans, Louisiana – 1980

The production of Frasch sulphur requires that several millions of gallons per day of seawater are heated to about 350 degrees Fahrenheit and pumped into the sulphur bearing formation in order to melt the sulphur. The liberated sulphur pools at the bottom of the well and the hydrostatic pressure brings the sulphur to within a few hundred feet of the surface, being brought the rest of the way to the surface by air lifting. Seawater contains significant quantities of calcium, sulphate and dissolved carbon dioxide and has a propensity to scale during heating as calcium sulphate has a reverse solubility relationship with temperature. The technology that was developed hinged upon the addition of various chemical additives and manipulation of the pH which allowed the resultant water to be heated with neither calcium sulphate nor calcium carbonate scaling, and with acceptable corrosion performance.

In addition, during Frasch mining the formation pressures are relieved by removing water from the periphery of the dome, and as the mine life extends, this water becomes ever more scaling, corrosive and superheated. Typically, this water is saturated with calcium sulphate, calcium carbonate and contains large amounts of dissolved carbon dioxide, hydrogen sulphide and methane. This offshore project involved the piloting and commercial demonstration of a process that would reheat this bleed-water stream to 300 degrees Fahrenheit without scaling or corrosion of the mild steel heat exchangers, and any subsequent re-injection piping. After several months of test work IMC pilot operations succeeded in re-heating this water to 320 F without scaling or corroding the mild steel equipment.

Manipulation of Phase Equilibria to Inhibit Scale, Freeport McMoRan, Salton Sea Geothermal Brine Facilities, California 1984-1985

The recovery of energy and the valuable mineral and salt content of the superheated brines located deep underground in Southern California are problematic due to the very high super-saturated nature of these brines. The ability to process these brines by manipulating the chemistry to flash off the steam and recover both the energy and the valuable minerals without encumbering the equipment with massive amounts of scale was a challenging undertaking. However, research was undertaken to understand the scaling species and to develop process enhancements to alleviate the scale. Our success in mitigating the scaling problems made commercial mineral recovery operations feasible in the Salton Sea area in Southern California.

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The experience learned in both the Sulphur and the geothermal brine industry has been invaluable in developing a solid understanding of mechanisms involved in handling processes that operate in a scaling environment. The control of calcium scaling compounds was an integral part of the above development work, and led to much of the current insight and the development of our present pond water pre-treatment technologies.

Phosphate Containing Pond Water Treatment Technology and Experience Using Conventional Tried and Proven Treatment Methods

IMC also has extensive experience with pond water treatment using conventional double liming technology. Large scale double liming operations are currently being operated at the IMC Nichols plant in Florida and the IMC Faustina plant in Louisiana.

Since the Nichols plant was idled permanently in late 1999, the facility has been treating process water for discharge to reduce the inventory on site and allow closure construction activities to proceed. The capacity of the lime treating facility is about 1.8 MGD. Actual operation has been at about 0.9 MGD. Discharge of the treated water is via an internal outfall which combines with other plant water streams before discharging to waters of the state.

The Faustina plant in Louisiana temporarily suspended phosphoric acid production in November 1999 and has treated and discharged process water to maintain control of the process water inventory within the existing gypsum stack systems. Prior to this plant shutdown period, the water treatment rates were about 0.9 MGD. Following the shutdown, modifications were made to phosphoric acid plant vessels to utilize them for increased treatment capacity. Monthly average treatment rates in the past year have been as high as 1.8 MGD with the typical rates in the range of 1.8 MGD.

Use of Novel Pre-Treatment Technology, IMC Uncle Sam Plant (Internal Client), Uncle Sam, Louisiana Plant Contact: B. J. McAllister, Staff Process Engineer January 2001 (225-473-5905)

Due to the temporary suspension of production at Uncle Sam and abnormally heavy rainfall, the IMC Uncle Sam concentrates plant in Louisiana was rapidly approaching the point at which process (pond) water would have to be treated and discharged. After considerable laboratory testing IMC Technology Development Group in Florida developed a process for pre-treating the process water that was considered adequate for feeding to a reverse osmosis (RO) system. The pretreatment process consists of first adding a calcium compound, generally hydrated lime, to the pond water to form insoluble calcium compounds such as calcium fluoride (CaF_2) and calcium fluosilicate (CaSiF_6). The quantity of calcium added is based on the molar balance of calcium and fluorine in the pond water. Next a second base is added to pond water-lime slurry to

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

raise the pH to the value of minimum fluoride solubility. The Uncle Sam water requires a pH of approximately 5.7. An important consideration for this second base is that its phosphate salts must remain soluble in the pond water. For the Uncle Sam plant both caustic (NaOH) and ammonia (NH₃) were found to be viable basic compounds. However, when it is desirable to minimize the ammonia concentration of the final permeate from the RO system, caustic is preferred. The pond water slurry is then transferred to a clarifier where the solids are separated, either with or without the use of flocculents. The overflow from the clarifier is then aged for about 36 hours to allow the silicic acid present in the liquid to decompose into hydrated silicon dioxide. A flocculent is then added to the pond water to settle and remove the hydrated silicon dioxide. For pond water with a high silicon concentration, such as the Uncle Sam pond water, this is a critical step. Otherwise the silicon dioxide would quickly foul the RO membranes. At this point the pond water is still saturated with respect to Ca, F and possibly SiO₂. Thus, a small quantity of sulfuric acid is added to the pond water to increase the solubility of the ions remaining in solution. Typically about 160 ppm of sulfuric acid is sufficient to decrease the pH to 3. This pH is acceptable for the RO membranes and is low enough to prevent precipitate formation in the RO reject (concentrate) stream.

Pilot scale testing of the pretreatment and RO processes during June and July of 2001 confirmed the ability of the processes to produce excellent quality discharge water. Preliminary engineering work was then started on design and cost estimates for a 2,000,000 GPM water treatment plant (WTP) at the Uncle Sam site. This work consisted of equipment sizing, specification and cost estimating, construction cost estimates and operating cost estimates. However, after the restart of production at the Uncle Sam plant in September of 2001, water balance model predictions indicated that water treatment and discharge would not be required; thus, this project was terminated in November 2001.

Based on the work at Uncle Sam two U.S. patent applications were filed during February 2002 for the pond water pretreatment technology (No. 10/082,841 – Purification of Phosphoric Acid Plant Pond Water and No. 10/082,564 – Simplified Purification of Phosphoric Acid Plant Pond Water), with the patents (No. 6,758,976 and No. 6,758,977) being issued July 6, 2004.

Mulberry Corporation, Piney Point Plant – Receiver: Louis Timchak, Attorney at Law
November 2003 to July 2004 (813-948-6644)

IMC began test work with the Piney Point pond water in January 2002. At this time the pH of the pond water sample provided was 2.86, with a fluorine concentration of 455 ppm and a calcium concentration of 582 ppm. After some initial screening tests a pretreatment process was selected based on previous work at the IMC Uncle Sam plant.

This process consisted of adding a small amount of lime slurry to the pond water and then adjusting the pH with caustic. A flocculent was then used to help separate the

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

sludge and the pH of the clear liquid was adjusted again with sulfuric acid. The pretreatment produced a feed solution that was believed suitable for feed to a medium pressure RO system. Using this process approximately 900 gallons of Piney Point pond water were pretreated and approximately 800 gallons of the pretreated water were processed through a single membrane, pilot scale, first pass RO system. Average RO feed conductivity was about 9000 mmho/cm and average permeate conductivity was 415 mmho/cm. Approximately 310 gallons of the first pass RO permeate were then used for second pass RO tests. These tests were run at several feed pH values and at pressures from 200 psig to 350 psig. These tests indicated that, at optimum conditions, permeate recoveries approaching 95 percent could be obtained with permeate fluoride concentrations less than 0.50 mg/L. A final test was run with about 55 gallons of the second pass permeate and a water softening resin. This test indicated that it was possible to lower the ammonia concentration in the second pass permeate to less than 0.1 mg/L (as N). After the conclusion of the above pilot scale work, IMC independently started engineering work on an 800,000 GPD RO based pond WTP for the Piney Point site.

This work consisted of developing flow sheets, P&ID's, operating and capital cost estimates and specific equipment lists, with long lead time items identified. At this time IMC purchased four skid mounted RO modules for potential use at Piney Point. One of the novel features considered during the preliminary design, both to reduce costs and speed construction time, was the use of some of the existing double liming equipment at the Piney Point site. After forming a joint venture with Mobile Process Technology that resulted in the formation of Florida Pines LLC, this work eventually resulted in the awarding of a contract to treat Piney Point process water on October 7, 2003.

Florida Pines started operation at Piney Point on November 6, 2003 with a 20 gpm pretreatment pilot plant. The purpose of the pilot plant was to fulfill a contractual obligation of producing 5,000 gallons of pretreated pond water containing low enough fluoride and calcium concentrations to be deemed acceptable for feeding to a RO system. This contractual obligation was achieved on November 20.

Pretreatment pilot operations continued through January of 2004 to fine tune the pretreatment process parameters for the full scale plant. This work was needed due to the significant changes that had occurred in the chemical composition of the Piney Point pond water since the initial testing that was conducted in 2002. Starting December 8, 2003, large samples of the pretreated pond water from the pilot plant were transported to the IMC Technology Development laboratory near Mulberry, Florida for processing through a single element pilot scale RO system. This system was set up as the 1st pass RO. The objectives of this work were to confirm earlier RO test results and to obtain extended operating time with the RO to check for potential membrane fouling. The pilot RO was operated for approximately 10 days, with no evidence of irreversible membrane fouling. Water quality from the pilot scale RO was excellent with an average 1st pass permeate conductivity of less than 515 mmho/cm.

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Concurrently with the pilot operations, the design and construction of the full scale plant was in progress. As a result of the pilot testing, several pretreatment process changes were needed to accommodate the different pond water composition (compared to 2002). Thus, some design changes were required in the full scale plant and were solved quickly without significant construction delays.

From initial start-up on February 19, 2004 until contractual shut down on June 30, 2004, the Florida Pines RO based WTP produced 46,020,000 gallons of permeate, of which 45,890,000 gallons (99.74%) met specifications for discharge. All out of spec. water was produced during the first two days of operation, with 67,500 gallons from February 19 being out pH spec. and 53,500 gallons from February 20 being discounted due an instrument malfunction. Permeate from several other days was initially contested as being out of specifications in terms of the ammonia concentration. However, subsequent analyses of back-up 24-hour composite samples by an EPA accredited laboratory indicated that the ammonia concentration in all disputed samples was within the contract limit.

Of the 133 days between February 19 and June 30, the Piney Point plant was scheduled to operate 124 days. Nine days of scheduled down time were taken from April 11 through April 19 to upgrade some piping and several pumps to permit increased production in the 1st pass RO modules. During the 124 days of scheduled production the operating factor of the plant was 92 percent with an average daily permeate production of 402,600 gallons, while operating. Average daily production after the retrofit was 412,000 gallons per day.

IMC Phosphates, New Wales Plant (Internal Client) July 2004

Research into pond water pretreatment for RO processing continues to be a high priority project in the Technology Development Group at IMC. Present efforts are directed at processing highly concentrated pond waters, lowering costs and improving recoveries. Full-time resources devoted to this project consist of a manager, two professionals and three technicians, with additional professionals and technicians used on an as-needed basis.

As previously stated, in addition to IMC's primary role as water treatment contractor, IMC will utilize their extensive global experience in gyp stack management to assist the CDM Team in the gyp stack closure.

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D. Liner Contractor Qualifications

The CDM Team has enlisted the service of COMANCO (CEC) to provide sub-consultant services for the Liner component of the ITN. CEC has 16 years of diverse experience and is respected as one of the nation's most qualified environmental lining construction companies. CEC is a qualified Liner Installer and is trained and licensed to install the HDPE liner used for this project.

CEC has built the foundation of its company around the clients and gypsum stack projects located in Central Florida and elsewhere in the Southeast United States. They are presently working for all four major phosphate processing companies in Florida, including the Piney Point facility; CEC holds the most complete understanding of Phosphogypsum Stack Lining and related Engineering CQA requirements of any firm in the country.

- CEC is an approved contractor trained and licensed to install smooth and textured HDPE lining for use on the Piney Point Phosphogypsum Stack Closure Project.
- The firm has installed liners manufactured by Agru-America, Inc., GSE Lining Technology, Inc., and Poly-Flex, Inc. at numerous phosphate facilities over the last 16 years. These installations make up in excess of 300,000,000 square feet of installed 40-mil to 80-mil liner products in the phosphogypsum stacks of Florida alone. Attached is a partial list of relevant experience of Liner related projects
- Attached CEC list of "Master Seamers" have in excess of 5 million square feet of certified installation.
- CEC is presently working for all four major phosphate processing companies in Florida, including the Piney Point facility. Scopes of work actively being performed include liner installation, geonets, geotextile and geocomposite installation, erosion control measures, HDPE Drain piping, protective soil placement and compaction, ballast trench construction and other related construction scopes.
- The firm holds the most complete understanding of Phosphogypsum Stack Lining and related Engineering CQA requirements of any firm in the United States.

The following is a partial list of over 4 million square feet of relevant project experience of COMANCO including; the name, location and date of installation, name of the Owner, Engineer, Liner Manufacturer, the type and thickness of HDPE liner installed and surface area covered and the type of field seaming/welding performed.

Section B – Subject 2

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

Project 1 Name:	Cooling Pond	Project 2 Name:	Gypsum Stack Expansion
Location:	Bartow, Florida	Location:	Bartow, Florida
Date:	1997	Date:	December, 2000 - September, 2001
Owner:	C.F. Industries, Inc.	Owner:	Farmland Hydro L.P. Now Cargill Fertilizer
Liner Manufacturer:	GSE - Houston, TX	Liner Manufacturer:	Agru America - Georgetown, SC
Project Contact:	Walt Wolverton 863-533-0528	Project Contact:	Ralph Remmert 863-534-9601
Type of Thickness:	60 Mil Smooth & Textured HDPE Liner & Geocomposite	Type of Thickness:	60 Mil Textured and Smooth HDPE Liner
Surface Area Covered:	80 Acre Cooling Pond of Acid Solution 3.5 Million Sq. Ft. of 60 Mil HDPE Liner & Geotextiles	Surface Area Covered:	300 Acres 14,000,000 Square Feet of 60 Mil HDPE Liner 2,000,000 Square Feet of Geonet Composite 1,400,000 Square Feet of 802 Nonwoven Geotextile
Type of Field Seaming and Welding Performed:	Double Fusion Hot Wedge Weld And Extrusion Welding.	Type of Field Seaming and Welding Performed:	Double Fusion Hot Wedge Weld and Extrusion Welding
Project Manager:	Mark Topp	Project Manager:	Tommy Topp
Project Supervisor:	Jerry Pryor	Project Supervisor:	Dragan Milosavljevic
	All Engineering was performed by: Ardaman & Associates, 407-855-3860		All Engineering was performed by: Ardaman & Associates, 407- 855-3860

Section B – Subject 2

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

Project 3 Name:	Ditch Lining	Project 4 Name:	Retention Pond
Location:	Ft. Meade, Florida	Location:	Riverview, Florida
Date:	June, 2004	Date:	1999
Owner:	U.S. Agri Chemicals	Owner:	Cargill Fertilizer
Liner Manufacturer:	Poly-Flex - Grand Prairie, TX	Liner Manufacturer:	GSE - Houston, TX
Project Contact:	Phong Vo 863-285-8121	Project Contact:	Ralph Remmert 863-534-9601
Type of Thickness:	60 Mil Textured HDPE Liner	Type of Thickness:	60 Mil HDPE Smooth & Textured
Surface Area Covered:	230,000 Sq. Ft. of 60 Mil Textured & 33,000 Sq. Ft. of Geotextile Composite.	Surface Area Covered:	565,000 Sq. Ft. Smooth & Textured HDPE Liner and Composite
Type of Field Seaming and Welding Performed:	Double Fusion Hot Wedge Weld and Extrusion Welding.	Type of Field Seaming and Welding Performed:	Double Fusion Hot Wedge Weld and Extrusion Welding.
Project Manager:	Tommy Topp	Project Manager:	Mark Topp
Project Supervisor:	Stuart Taylor	Project Supervisor:	Jerry Pryor
	All Engineering was performed by: Ardaman & Associates, 407- 855-3860		All Engineering was performed by: Ardaman & Associates, 407- 855-3860

Section B – Subject 2

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

Project 5 Name:	Gypsum Stack Closure	Project 6 Name:	Gypsum Stack Closure
Location:	Riverview, Florida	Location:	Bartow, Florida
Date:	December, 1992 - 1994	Date:	1994 - 2004 Total of 6 Cells
Owner:	Cargill Fertilizer, Inc.	Owner:	C.F. Industries, Inc.
Liner Manufacturer:	GSE - Houston, TX	Liner Manufacturer:	GSE & Agru - Houston, TX & Georgetown, SC
Project Contact:	Ralph Remmert 863-534-9601	Project Contact:	Lynn Vadelund 863-533-3181
Type of Thickness:	60 Mil & 80 Mil Smooth & Textured HDPE Liner	Type of Thickness:	40 Mil Smooth & Textured & Geotextile
Surface Area Covered:	100 Acre Closure System 4.4 million Sq. Ft. of HDPE Liner and 4.4 million Sq. Ft. of Geotextile Fabric.	Surface Area Covered:	A total of 6 Cell Closures with a total of over 225 Acres of HDPE Liner; 9.8 million square feet.
Type of Field Seaming and Welding Performed:	Double Fusion Hot Wedge Weld and Extrusion Welding.	Type of Field Seaming and Welding Performed:	Double Fusion Hot Wedge Weld and Extrusion.
Project Manager:	Mark Topp	Project Manager:	Tommy Topp
Project Supervisor:	Jerry Pryor	Project Supervisor:	Dragan Milosavijevic
	All Engineering was performed by: Ardaman & Associates, 407- 855-3860		All Engineering was performed by: Ardaman & Associates, 407- 855-3860

Section B – Subject 2

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

Project 7 Name:	Gypsum Stack Closure	Project 8 Name:	Gypsum Stack Expansion
Location:	Geismar, LA	Location:	Mulberry, Florida
Date:	January, 2001 to date	Date:	2002 - 2003
Owner:	PCS Nitrogen	Owner:	IMC Phosphate
Liner Manufacturer:	GSE & Agru - Houston, TX & Georgetown, SC	Liner Manufacturer:	GSE, Houston, TX
Project Contact:	Mike Bilowich 225-621-1659	Project Contact:	Johnny Prewitt 863-428-7388
Type of Thickness:	60 Mil Smooth & Textured HDPE Liner	Type of Thickness:	60 Mil Smooth & Textured
Surface Area Covered:	2,800,000 Sq. Ft. 60 Mil & Composite	Surface Area Covered:	320 Acres (13.9 million square feet) HDPE Liner with Geocomposite Expansion
Type of Field Seaming and Welding Performed:	Double Fusion Hot Wedge Weld and Extrusion Welding.	Type of Field Seaming and Welding Performed:	Double Fusion Hot Wedge Weld and Extrusion Welding.
Project Manager:	Jerry Pryor	Project Manager:	Joe Benz
Project Supervisor:	Dragon Milosaljevic	Project Supervisor:	Dragan Milosavijevic
	All Engineering was performed by: Ardaman & Associates, 407- 855-3860		All Engineering was performed by: Ardaman & Associates, 407- 855-3860

Section B – Subject 2

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

Project 9 Name:	Gypsum Stack Vertical Expansion	Project 10 Name:	New Gypsum Field
Location:	Bartow, Florida	Location:	Plant City, Florida
Date:	June 2002	Date:	1998 - 1999
Owner:	Cargill Fertilizer, Inc.	Owner:	C.F. Industries, Inc.
Liner Manufacturer:	GSE, Houston, TX	Liner Manufacturer:	GSE, Houston, TX
Project Contact:	Ralph Remmert 863-534-9601	Project Contact:	Walt Wolverton 863-533-0528
Type of Thickness:	60 Mil Smooth & Textured HDPE Liner	Type of Thickness:	60 Mil & 80 Mil Smooth & Textured HDPE Liner
Surface Area Covered:	5,400,000 Sq. Ft. of 60 Mil HDPE Textured Liner and 4,500,000 Sq. Ft. of 60 Mil Smooth Liner.	Surface Area Covered:	400 Acre double Lined Industrial Waste Containment System to Store Phosphate Gypsum.
Type of Field Seaming and Welding Performed:	Double Fusion Hot Wedge Weld and Extrusion Welding.	Type of Field Seaming and Welding Performed:	Double Fusion Hot Wedge Weld and Extrusion Welding.
Project Manager:	Tommy Topp	Project Manager:	Mark Topp
Project Supervisor:	Dragan Milosavijevic	Project Supervisor:	Jerry Pryor
	All Engineering was performed by: Ardaman & Associates, 407- 855-3860		All Engineering was performed by: Ardaman & Associates, 407- 855-3860

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

Master Seamer(s)/Welder(s)

The following CEC Liner Master Seamer(s)/Welder(s) assigned to this project have similar-type experience on similar-type completed facilities totaling over 5 million square feet of certified HDPE liner installation each. CEC is experienced in placing and compacting soil above a liner, and in the handling and installation of geonet/geotextile composites, geotextiles, concrete erosion control mats, straw erosion mats, sod and all other materials required to complete the work. The following list of "Master Seamers" all have in excess of 5 million square feet of certified installation.

Liner Contractor Personnel	Installation of Smooth HDPE Liner (3 million sf minimum)	Installation of Textured HDPE Liner (3 million sf minimum)	Installation of Geonets / Geotextiles (3 million sf minimum)	Installation of Erosion Controls	Seaming & Welding	Quality Control
Thomas Topp	✓	✓	✓	✓	✓	✓
Joe Benz	✓	✓	✓	✓	✓	✓
Dragon Milosajevic	✓	✓	✓	✓	✓	✓
Stuart Taylor	✓	✓	✓	✓	✓	✓
Encarnacion Osorio	✓	✓	✓	✓	✓	✓
Gerardo Rosales	✓	✓	✓	✓	✓	✓
Juan Padilla	✓	✓	✓	✓	✓	✓
Roberto Serrano	✓	✓	✓	✓	✓	✓
Justino Ruiz	✓	✓	✓	✓	✓	✓
Roberto Zabeleta	✓	✓	✓	✓	✓	✓

Designated Project Manager - Joe Benz, CEC,

Mr. Joe Benz has four (4) years of experience installing HDPE smooth and texture liners. Mr. Benz has recently managed a project similar to the Piney Point Project that involved installing liners on a phosphogypsum stack system. Mr. Benz is directly involved in all phases of project work including supervision, safety, subcontractor relations, customer relations, administration and completion. Mr. Benz has supervised projects involving more than 23 million square feet of HDPE liner. His role as Project Manager has most recently involved him in the management responsibilities at the IMC Phase II Expansion project which consisted of 320 acres of 60 mil HDPE Liner.

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

Site Supervisor, - Dragan Milosavljevic, CEC

Mr. Dragan Milosavljevic has more than 10 years of experience installing HDPE smooth and texture liners. Mr. Milosavljevic has recently managed a project similar to the Piney Point Project that involved installing liners on a phosphogypsum stack system. His 10 plus years of experience includes working on and supervising a variety of phosphate construction projects including closures, liner installation, drain installation and excavation. Mr. Milosavljevic has supervised projects involving more than 23 million square feet of HDPE liner. His role as General Superintendent has most recently involved him in the supervisory responsibilities at the IMC Phase II Expansion project which consisted of 320 acres of 60 mil HDPE Liner. Similar projects in size and scope also include stack closures for Cargill and CF Industries in Bartow, FL. and PSC Nitrogen in Geismar, LA.

Full resumes for Mr. Benz and Mr. Milosavljevic are included in Section B – Subject 1(Resumes/Experience of Personnel) of this submittal.

E. Earthwork Contractor Qualifications

Moretrench has extensive experience handling earthwork projects in, on, and around phosphogypsum stacks. As illustrated in Moretrench job references and projects descriptions, they have acted as contracting lead for stack closures, dike raisings, and other related excavation project work. Moretrench managed and completed the entire 80+ acre gyp stack closure at the Cargill Mulberry site formerly owned by Mulberry Corporation. They also have ongoing gypsum stack maintenance contracts at several client sites.

Designated Project Manager – Michael Panny

Mr. Panny is Project Manager/ Superintendent for MES. During his 19 years with MES, he has acted as field lead for a variety of construction projects including phosphogypsum stack closures, toe drain installations, relief well systems, grouting, boil remediation, gypsum stack maintenance, geotechnical drilling, plant service and maintenance work, and groundwater control. Mr. Panny will be responsible for overseeing the site grading; dike construction; compaction; reinforced concrete drainage structure construction; installation of relief drains with collector pipes, filter gravel and filter fabric; fine grading and maintenance of surfaces to receive a geomembrane liner.

Designated Site Supervisor - Harley Frady

Mr. Frady is a Superintendent for Moretrench Environmental Services, Inc. He has worked as a Moretrench superintendent for over 3 years. Mr. Frady previously worked as superintendent for an earthwork contractor, Florida Site & Underground, for 4 years prior to coming to Moretrench. Mr. Frady has a combined 7 years experience working on and supervising a variety phosphate and earthwork construction projects that have included excavation and grading work, stack closures, drain installations, liner installations, liming operations, and gypsum stack maintenance. Mr. Frady has acted as superintendent for a variety of construction projects in the phosphate industry while with Moretrench.

Full resumes for Mr. Panny and Mr. Frady are included in Section B – Subject 1 (Resumes/Experience of Personnel) of this submittal.

Project 1 - Cargill Mulberry, Florida - North Gypsum Stack Closure Project - November 2003

Owner: Cargill Fertilizer, Owner's Contact: Ralph Remmert (863-534-9601)

Engineer: Ardaman & Associates, Engineer's Contact: Ashraf Riad (407-855-3860)

Moretrench provided closure services for an approximately 80-acre gypsum stack in Mulberry Florida. The facility where the stack is located was previously owned and operated by the Mulberry Corporation. Some months after the corporation declared bankruptcy in 2001, Cargill agreed to take over management of the site from the FDEP. Moretrench's work at the gypsum stack has included:

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

- Dewatering of three cells at the top of the stack
- Draining and drying the wet gypsum at the top of the stack
- Preparation of the subgrade for installation of a liner system.
- Installing 15,000 feet of toe drains and 2000 feet of mid level drains
- Grading of side slopes to finished grades varying from 2½: 1 to 3½:1
- Excavation and placement of 550,000 cubic yards of top soil cover including 2 foot soil cover on the top of stack, and 6 inch of soil cover on the side slopes
- Placement of grass seed on 60 acres at the top of the stack, and on 40 acres of side slopes
- Grading, placement of 2 feet of topsoil cover and seeding of a stormwater collection system

Project 2 - IMC New Wales North Stack Closure - Phase I Northside - February 2004

Owner: IMC, Owner's Contact: Bill Maisel (deceased)

Engineer: Ardaman & Associates, Engineer's Contact: Nadim Fuleihan (407-855-3860)

Moretrench was responsible for the excavation and placement of over 204,000 cubic yards of gypsum and soil.

Project 3 - IMC New Wales North Stack Closure - W and SW areas Ongoing

Owner: IMC, Owner's Contact: Johnny Prewitt (863-428-7388)

Engineer: Ardaman & Associates, Engineer's Contact: Nadim Fuleihan (407-855-3860)

Moretrench is responsible for the excavation and placement of over 261,000 cubic yards of gypsum and soil.

Project 4 - IMC New Wales - North Stack Closure - Phase III B - SE slope - Ongoing

Owner: IMC, Owner's Contact: Johnny Prewitt (863-428-7388)

Engineer: Ardaman & Associates, Engineer's Contact: Nadim Fuleihan (407-855-3860)

Moretrench is responsible for the excavation and placement of over 260,000 cubic yards of gypsum and soil.

Project 5 - Cargill Bartow, Florida - North Stack Closure - North Cell - Ongoing

Owner: Cargill Fertilizer, Owner's Contact: Ralph Remmert (863-534-9601)

Engineer: Ardaman & Associates, Engineer's Contact: Ashraf Riad (407-855-3860)

Moretrench is responsible for the excavation and placement of over 500,000 cubic yards of gypsum and soil.

Project 6 - IMC South Pierce Holding Pond - September 2003

Owner: IMC, Owner's Contact: Bill Maisel (deceased)

Engineer: Ardaman & Associates, Engineer's Contact: Bill Jackson (407-855-3860)

Moretrench provided excavation services for the construction of a new, 25-acre holding pond at their South Pierce plant. Approximately 75,000 cubic yards of gypsum fill was drained and excavated from the middle of the existing basin. In all, over 250,000 cubic yards of gypsum fill was placed and compacted to complete the construction of a pond and the surrounding dikes.

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

Project 7 - Cargill Bartow, Florida - South Pond Divider Dike - September 2003**Owner:** Cargill Fertilizer, **Owner's Contact:** Ralph Remmert (863-534-9601)**Engineer:** Ardaman & Associates, **Engineer's Contact:** Ashraf Riad (407-855-3860)

Moretrench constructed a new divider dike in the SR South Pond at Cargill Bartow to assist liming operations of the process water. The construction of the dike required the hauling, placement, and compaction of 267,000 cubic yards of gypsum fill material. The project was completed in September 2003.

Project 8 - Cargill Mulberry, Florida - South Stack Earthwork - Ongoing**Owner:** Cargill Fertilizer, **Owner's Contact:** Ralph Remmert (863-534-9601)**Engineer:** Ardaman & Associates, **Engineer's Contact:** Ashraf Riad (407-855-3860)

Moretrench is responsible for the excavation and placement of over 450,000 cubic yards of gypsum and soil.

Project 9 - Cargill Bartow, Florida - North Dike Raising- July 2003**Owner:** Cargill Fertilizer, **Owner's Contact:** Ralph Remmert (863-534-9601)**Engineer:** Ardaman & Associates, **Engineer's Contact:** Ashraf Riad (407-855-3860)

Moretrench raised the elevation of a portion of the dike at Cargill Bartow's North Stack. The project required the hauling, placement, and compaction of over 260,000 cubic yards of gypsum fill material to raise the dike at North end of the stack by 12 feet. The project was completed in July 2003.

Project 10 - PCS Phosphates Pressure Relief Well System - White Springs, Florida - March 2002**Owner:** PCS, **Owner's Contact:** Sam Akly (904-397-8480)**Engineer:** Ardaman & Associates, **Engineer's Contact:** Bill Jackson (407-855-3860)

Moretrench installed a 5,200 foot pressure relief well system around a gypsum stack at PSC Phosphate's facility in White Springs, Florida. Ninety-four (94) relief wells, with 50-foot and 60-foot spacings, were predrilled with a Failing CF15 rotary drill rig. Twelve inch steel casings with a 6-inch punch were jetted and washed in the borehole using a once through freshwater supply. Once the casing for each well reached full depth, the punch was pulled out, and the well was installed. Wells were sanded inside the casing to approximately five (5) feet below the ground surface with 6/20 sand, and the casings were extracted following the sanding. Each well was developed using airlift pumping methods to ensure maximum efficiency and removal of fines. Double 3-inch wells were installed to approximately 50 feet below the ground surface. The wells were screened with slot screen (each with about 40 feet of screen), filter packed with a select silica sand, and included 1/8 inch by 8-inch polyethylene dividers between the two screens in each well to facilitate cleaning. One-inch observation wells were installed for troubleshooting and maintenance of the system. Following construction of the wells, a common 12 inch PVC header was built to connect the wells to a 36 inch SDR 11 manifold and a liquid ring vacuum pump system that included a 316 stainless steel pump and 25HP/460V motor. The manifold level was controlled by a Drexelbrook Level Sensor, connected to a Variable Frequency Drive motor on the water transfer pump.

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

Project 11 - Farmland Hydro (now Cargill Green Bay) Construction of Lined, Concrete Process Ditch including Earthwork, Grading, and Relief Well Extension for site dewatering - Bartow, Florida - September 2000

Owner: Farmland Hydro, L.P. - **Owner's Contact:** Robert Dobson

Engineer: Ardaman & Associates, **Engineer's Contact:** Ashraf Riad (407-855-3860)

Moretrench installed a concrete-lined process water ditch for a phosphate fertilizer manufacturing plant in Bartow Florida. The installation of the concrete ditch was preceded by the extension of a relief well system previously installed by Moretrench at the base of an existing gypsum stack. The 450 foot extension consisted of 18 relief wells connected to a 12 inch PVC header mounted on concrete pedestals. Once the project area was dewatered, and final grading was completed, Moretrench installed approximately 1,000 LF of 24 foot wide concrete ditch coupled with 270 LF of 5 feet wide concrete ditch. The entire length of ditch was lined with HDPE liner prior to the pouring and forming of the concrete. The structure included 2,200 LF of 10 inch HDPE pipe, over 1,300 LF of 36 inch and 48 inch culverts, and over 750 LF of 48 inch overflow piping.

Project 12 - Cargill Riverview, Florida - 32 Acre Process Ponds Lining Project - October 2000

Owner: Cargill Fertilizer, **Owner's Contact:** Ralph Remmert (863-534-9601)

Engineer: Ardaman & Associates, **Engineer's Contact:** Ashraf Riad (407-855-3860)

This project involved the lining of two (2) holding ponds totaling 32 acres; integral parts of a closed-loop, process water system for a private industrial client in Riverview, Florida. The phosphate manufacturer installed a double-lined system for their process water ponds to meet FDEP permit conditions. During the 21-month project, Moretrench, acting as the general contractor, faced the challenge of managing a continuous flow of process water (up to 50,000 gpm) while constructing 32 acres of liner systems, associated piping, diversion structures, and pumping stations. Gypsum with moisture content of up to 50-60 percent was excavated, dried, and relocated to construct the liner system and berms for the new containment system. Water management provided an additional challenge given heavy volumes of rain and related stormwater runoff during critical stages of the project. Moretrench engineered and constructed several structures that played integral roles in the completed liner system. Structures included a process water diversion structure activated in October 1999, a bridge across the hot process water channel, and a cold water pump station and platform.

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

F. HDPE Pipe and Drain Subcontractor Qualifications

Moretrench has arguably installed as much or more HDPE pipe, including 24-inch, as any piping contractor in the Southeast. As illustrated in their job references and projects descriptions, they have over 5 years experience with the installation of process and drain piping with a number of phosphate industry clients. They own and maintain a full compliment of HDPE pipe fusion equipment which is operated by well-trained Moretrench field crews. They are a preferred drain installation contractor for Cargill Fertilizer.

Project 1 - Mulberry Corporation, Florida - Emergency HDPE Pipeline - August 2001

Receiver: Louis Timchak, Attorney at Law (813-948-6644)

Engineer: Ardaman and Associates, Orlando

Moretrench worked as subcontractor for attorney/receiver Louis Timchak and IT Corporation to install 3½ miles of dual containment HDPE pipeline for Mulberry Corporation's (former owner of Piney Point) closed fertilizer plant in Mulberry, FL. The closed facility, mired in Chapter 11 bankruptcy, was holding a dangerously high level of low pH process water within an inactive gypsum stack. Additional water, generated by the impending rainy season, threatened to raise water levels and cause an overflow into the neighboring Alafia River. In 1997, an overflow of process water from this facility caused a massive fish kill in the river, and untold environmental damage. Moretrench, working during the rainy season under a 31 day time schedule, fused and installed 3½ miles of dual-contained 10 inch and 12 inch HDPE pipeline, assembled two (2) booster pump stations, and completed two (2) jack and bores within the required timeframe. Upon completion of the project, process water from the Mulberry facility was delivered across the properties of two neighboring phosphate fertilizer plants, and into a holding pond with the capacity to handle millions of gallons of acid water and eliminate the threat of its release to the environment.

Project 2 - Cargill Mulberry, (Former Mulberry Corporation) - North Gypsum Stack Closure Project - November 2003

Owner: Cargill Fertilizer, Owner's Contact: Ralph Remmert (863-534-9601); Engineer: Ardaman & Associates, Engineer's Contact: Ashraf Riad (407-855-3860)

Moretrench provided closure services for an approximately 80-acre gypsum stack in Mulberry, Florida. The facility where the stack is located was previously owned and operated by Mulberry Corporation, former owner of Piney Point. Some months after the corporation declared bankruptcy in 2001, Cargill agreed to take over management of the site from the FDEP. Moretrench's work at the gypsum stack has included:

- Dewatering of three (3) cells at the top of the stack.
- Draining and drying the wet gypsum at the top of the stack
- Preparation of the sub grade for installation of a liner system.
- Installing 15,000 feet of toe drains and 2000 feet of mid-level drains.
- Grading of side slopes to finished grades varying from 2½: 1 to 3½:1.

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

- Excavation and placement of ~550,000 cubic yards of top soil cover including 2 feet soil cover on the top of stack, and 6 inch of soil cover on the side slopes.
- Placement of grass seed on 60 acres at the top of the stack, and on 40 acres of side slopes.
- Grading, placement of 2 feet of topsoil cover, and seeding of a stormwater collection system.

Project 3 - Cargill Bartow, Florida - 1-A and 1-B Gypsum Stack, Drains and Outlets - February 2001

Owner: Cargill Fertilizer, Owner's Contact: Ralph Remmert (863-534-9601)

Engineer: Ardaman & Associates (407-855-3860)

Moretrench installed approximately 20,000 LF of corrugated and smooth HDPE collection pipes, and solid outlet pipes, at a newly constructed gypsum stack at their Bartow fertilizer plant. Slotted collection pipes were enclosed with an envelope of pea gravel, and compacted under 18 inches of gypsum. The project also included installation of silica gravel collection zones with non-woven filter fabric wrapping, and several concrete fabriform outlets pads.

Project 4 - Cargill Bartow, Florida - Installation of Process/Cooling Water Transfer Lines May 2001

Owner: Cargill Fertilizer, Owner's Contact: Steve Johnson (813-671-6200);

Engineer: Ardaman & Associates (407-855-3860)

Moretrench fused and installed 5,400 LF of dual contained 36 inch and 48 inch HDPE pipe at the Cargill Riverview fertilizer plant, just south of Tampa Florida. The HDPE piping was part of a closed-loop system that transferred and circulated process water between two cooling ponds and the plant. Since the cooling ponds were located on the opposite side of a four-lane highway (State Road 41), the project included dewatering, jack and bore services and subsequent backfilling of excavations at the cooling ponds and at the highway crossing.

Project 4 - Farmland Hydro (now Cargill Green Bay) Construction of Lined, Concrete Process Ditch including Earthwork, Grading, and Relief Well Extension for site dewatering - Bartow, Florida - September 2000

Owner: Farmland Hydro. L.P. / Owner's Contact: Robert Dodson

Engineer: Ardaman & Associates (407-855-3860)

Moretrench installed a concrete-lined process water ditch for a phosphate fertilizer manufacturing plant in Bartow, Florida. The installation of the concrete ditch was preceded by the extension of a relief well system previously installed by Moretrench at the base of an existing gypsum stack. The 450 foot extension consisted of 18 relief wells connected to a 12 inch PVC header mounted on concrete pedestals. Once the project area was dewatered, and final grading was completed, Moretrench installed approximately 1,000 LF of 24 foot wide concrete ditch coupled with 270 LF of 5 feet wide concrete ditch. The entire length of ditch was lined with HDPE liner prior to the pouring and forming of the concrete. The structure included 2,200 LF of 10 inch HDPE pipe, over 1,300 LF of 36 inch and 48 inch culverts, and over 750 LF of 48 inch overflow piping.

G. Grassing Contractor or Subcontractor Qualifications

In Moretrench's work with the phosphate industry, they have also gained over 5 years significant experience in sodding and seeding of closed gypsum stacks in Florida. Moretrench has experience in ground preparation, amending phosphogypsum with dolomitic limestone, applying fertilizer and mulch and seeding and sodding. As illustrated in their job references and projects descriptions, Moretrench has handled phosphate stack grassing projects as large as 200 acres. Moretrench is very familiar with the challenges of establishing a successful grass cover on closed gypsum stack side slopes and covers.

Project 1 - Cargill Riverview, Florida- New Gypsum Field 80' Level - April 1998

Moretrench was responsible for the supply of all labor, supervision, equipment and materials necessary to transport and place approximately 6,180 CY of fill at the 80 foot level of the side slope of the new gypsum field. Hydro seed the newly placed fill with Japanese Millet at 40 lbs. per acre, Bermuda grass at 35 lbs. per acre, and fertilizer mixture 10-10-10 at 500 lbs. per acre.

Project 2 - Cargill Riverview, Florida - West Gypsum Field 100' Level - April 1998

Moretrench was responsible for the supply of all labor, supervision, equipment and materials necessary to install 30,000 SF of Bermuda sod on the north and east side slopes at the 100 foot level of the stack.

Project 3 - Cargill Riverview, Florida - Old Gypsum Field Fire Breaks - April 1998

Moretrench was responsible for the supply of all labor, supervision, equipment and materials necessary to transport and place approximately 800 CY of fill along the fire breaks; regrade the charred areas on the closed gypsum field. Hydro seed the newly placed or graded fill with Japanese Millet at 40lbs. per acre, Bermuda grass at 35lbs. per acre, and fertilizer mixture 10-10-10 at 500 lbs. per acre.

Project 4 - Cargill Mulberry, Florida - North Stack Closure - May 2003

Moretrench was responsible for the placement of 2 feet of top soil cover on the top of stack atop the geomembrane liner, and 6 inch of soil cover on the side slopes. Placement of grass seed on 60 acres at the top of the stack, and on 40 acres of side slopes. Grading, placement of 2 feet of topsoil cover and seeding of a stormwater collection ditch.

Project 5 - Cargill Green Bay, Bartow Florida - Main Gypsum Stack Side Slope Topsoil Placement and Grassing - April 2003

Moretrench was responsible for the placement of 162,000 CY of soil covering and on the side slope seeding of 201 acres of gypsum stack with millet/Bermuda grass seed mix.



Richard Krakowski
Vice President

Mosaic Phosphates Company
Post Office Box 2000
Mulberry, Florida 33860
863.428.2601
863.428.2694 Fax

November 30, 2004

Michael H. Edgar, Associate
CDM
325 John Knox Road
Building M, Suite 100
Tallahassee, Florida 32303

Re: Subject: BAFO - DEP Solicitation Number: 2005002C entitled "Invitation to Negotiate (ITN) for the Closure of the Piney Point Phosphogypsum Stack System"

Dear Michael,

Mosaic will continue to support the CDM team on the Closure of the Piney Point Phosphogypsum Stack System invitation to negotiate. The support will include limited technical resources as well as available equipment to treat process and and other contaminated waters by reverse osmosis. The support is contingent on reaching agreeable terms.

Very truly yours,

A handwritten signature in black ink, appearing to read "Rich Krakowski". The signature is written in a cursive, flowing style.

RK/d

James W. Van Nortwick, Jr., Ph.D., P.E.
Director of Environmental Affairs



IMC Global Operations Inc.
100 S. Saunders Road, Suite 300
Lake Forest, Illinois 60045-2561
847.739.1814
847.739.1612 Fax

August 17, 2004

Florida Department of Environmental Protection
Procurement Section, Carr Building, Room 235
3900 Commonwealth Boulevard, MS#93
Tallahassee, Florida 32399-3000

**RE: Subcontracting Commitment
Department Solicitation Number 2005002C
Closure of the Piney Point Phosphate Phosphogypsum Stack System**

To Whom It May Concern:

IMC Global Inc. has agreed to subcontract technical services to CDM for the subject project.

Sincerely,

A handwritten signature in black ink, appearing to read "James W. Van Nortwick, Jr.", written over a horizontal line.

James W. Van Nortwick, Jr., Ph.D., P.E.
Director of Environmental Affairs

Subject 3 Organizational Chart

The organizational chart on the following page identifies all positions, their associated duties and all officers and senior management personnel of the CDM Team.

Program

Overall Prog
Dear

Team
John

On Site Overall

Steve

Closure Construction

On-Site Construction Manager
Michael A. Cruz

Water Co

Mc

On-Site Water Co
Vaughn V.

Lead On-Site W
Superi
Ben

Earthwork/Grassing

Moretrench

Senior Project Manager
Al Schuman

Project Manager
Michael Panny

Earthwork Superintendent/
Site Supervisor
Harley Frady

Liner

COMANCO

Senior Project Manager
Thomas Topp

Project Manager
Joe Benz

Site Supervisor
Dragan Milosavljevic

Drain Work
Todd Kirkman

Water Treatment
Operations

Mosiatic

Operator
Kristina M. Miller
Shell Ellis

EP

Manager
Team Manager
Carter
Leader
rafford

Project Controls
Principal
Kart Vaith, P.E.
Office-in-Charge
Richard A. Slovarp

Health & Safety
Stephen M. Robinson

Project Manager
Solters

Consumption
Mosaic
Consumption Manager
astley, Ph.D.
Water Consumption
tendent
lickel

Operation & Maintenance
Operator
Paul Roberts
On-Site Operation & Maintenance Manager
George Curry

Engineering & Technology
Mosaic
Senior Process Engineers
Ken Jardine
Dennis Michalski
John O'Connor (PENN PRO)

Field Operations
Lead On-Site
Operation & Maintenance
Superintendent
Wayne Winner

Permitting & Compliance
QuietEarth
Craig A. Kovach, P.G.

Field Sampling
Project Geologist
Jason Mills, P.G.

Subject 4 Key Staffing Assignments

The following specific individuals will be assigned to fill the listed functions. The resumes for these individuals are included under Section B- Subject 1, Resume/Experience of Personnel of this submittal.

Project Management

Overall Program Manager

Dean Carter - Mr. Carter will monitor and control the overall project scope, safety compliance, operations, quality assurance/quality controls, schedule and cost. He has 22 years of construction and engineering experience and is committed to the success of this project.

Onsite Overall Project Manager

Steve Solters is a project manager offering over 23 years of work in the construction and engineering industry. He was the Project Manager for the US Filter Piney Point Phosphate Mine Water Pre- treatment project and is therefore very familiar with the facility.

Team Leader

John Brafford will serve as the point of contact between the FDEP and the CDM team and is responsible for coordination of all activities and reporting to the Department under this contract. His integrity and experience are well known and respected in the community.

Operation and Maintenance

On-Site Operation and Maintenance (O&M) Manager

George Curry has 45 years of phosphate chemical plant experience including 10 years as an Operator and 35 years as a Supervisor at the IMC and CF Industries, Inc. facilities. He has worked extensively with Ardaman & Assoc. staff.

Lead On-Site Operations and Maintenance Superintendent

Wayne Winner is a construction superintendent with over 30 years experience in all aspects of earthwork and pipeline construction, and project supervision. He has experience with large earthwork projects including landfill construction and closures, and gypsum stack closure and maintenance.

Water Consumption

On-Site Water Consumption Manager

Vaughn V. Astley, Ph. D, has 35 plus years and is an expert in the phosphate and water treatment technology fields.

Invitation to Negotiate for the Closure of the Piney Point Phosphogypsum Stack System

Lead On-Site Water Consumption Superintendent

Ben Nichols has 30 years of extensive experience ranging from designer to field service engineer in the water treatment field. He has an excellent working knowledge of Reverse Osmosis and double lime treatment processes and related equipment, electrical, air and hydraulics, pumps and control panels.

Closure Construction

On-Site Construction Manager

Michael A. Cruz will serve as On-Site Construction Manager, he has more than 24 years of experience in consulting, remedial construction and engineering.

Earthwork Superintendent

Harley Frady has 7 years experience working on and supervising a variety of phosphate and earthwork construction projects that have included excavation and grading work, stack closures, drain installations, liner installations, liming operations, and gypsum stack maintenance.

Subject 5 Detailed Project Proposal/Scope of Services

A. Facility Operation & Maintenance, including Gyp Stack Systems and Ponds

1. Site Operation & Maintenance

Operation and Maintenance Staffing and Transition Plan

CDM has put significant effort into bringing the best team to the FDEP for the Piney Point Project and we are committed to joining the FDEP in its efforts to minimize the adverse impacts to existing employees and minimizing employee turnover at the site. CDM proposes to offer continued employment to all current field staff during the transition of the contracts. During the transition period, CDM will provide comparable or equal salaries, positions and current levels of benefits. CDM will review the abilities of the current employees and the staffing needs of the site and will offer continued employment to those qualified to fill the identified positions.

CDM's philosophy toward employees is based on the following fundamental principals:

- We consider our employees our most valuable asset
- We provide continued employment opportunities for employees
- We develop an effective and efficient on-site staffing plan supported with high quality management
- We invest in extensive and widespread training of employees to raise skill levels and increase job opportunities
- We provide a drug-free work environment

CDM is keenly aware of the challenges involved with the transition of employees due to mergers and contract changes. We have faced the challenges posed by transitions with a great deal of understanding and sensitivity precisely because many of our present staff joined us as a result of similar transitions and are aware first-hand of the personal impact such change can have.

The success of any operation depends principally upon those individuals assigned to operate the system. We recognize that many of the current Piney Point employees came from the old Mulberry Corporation operation and have a firsthand knowledge of the nuances of the site facilities and systems. We seek to improve operations through the empowerment of employees, the application of their creativity to their job, and the provision of appropriate training. Because employees are our most important resource, we are committed to providing the education, training and cross-training we believe necessary to achieve the highest level of economy and efficiency under the safest

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operating conditions. CDM takes pride in maintaining an excellent relationship with its employees. CDM has built a reputation in the industry as a good place to work and is one of the industry leaders in low employee turnover. We recognize that it is expensive to train an employee and hope that employees consider their position with CDM as a career rather than a job.

CDM's management team has successfully developed and implemented many startup/transition plans. We have implemented these plans with minimal disruption of customer service or quality of service provided. The first step in a successful transition is the development and implementation of a plan to take the facility from one private contractor to a second. Our technical approach and corresponding project management and staffing are based upon our experience at other industrial facilities. Our transition team will work closely with the FDEP during the transition period to implement CDM's project approach. Members of the team will remain on site throughout the start-up/transition until all plans, programs, procedures, and O&M systems are fully implemented.

CDM is committing to making the transition in contractors with no disruption in the work efforts at the site. CDM will retain if possible key existing staff members from the site including the Operations Manager - Ivan Nance, Maintenance Supervisor – Elijah Johnson, and the gypsum stack runners and other field personnel that are interested in staying with the project.

Operation and Maintenance Plan and Contingency Plan

CDM will develop and implement a site Operation and Maintenance (O&M) plan and a contingency plan in accordance with applicable laws, regulations and rules. CDM will review the existing Operations and Maintenance Plan and Contingency Plan and will utilize them to the greatest extent possible to minimize operational changes and disruptions to the site operations. The intent will be to not reinvent the wheel in the production of these plans.

Inspections

CDM staff will inspect dikes, dams, and water control structures on a daily and weekly basis as necessary to ensure safe conditions and to meet applicable regulatory criteria. The existing gypsum stack system will be inspected and maintained to ensure the integrity of the impoundments. These structures and ancillary equipment will be maintained or repaired as necessary. Any emergency repairs uncovered by the inspections will be performed immediately utilizing the equipment resources at the kept at the site.

Permitting and Regulatory Compliance

CDM will review the existing permits for the site and will obtain or renew the applicable permits for the continued operation and maintenance of the site and the closure construction. CDM will perform the work in accordance with the interim operating permit and the draft administrative agreement when it becomes effective.

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CDM will perform the necessary data collection and recording to ensure regulatory compliance with the permits for the site and the applicable statutes and laws. CDM will measure and record rainfall data, piezometer levels, impoundment water levels, and other water management information and report necessary data to Ardaman and FDEP. CDM will perform the groundwater and surface water monitoring as described below.

Site Operations

CDM will operate the gypsum stack system to maintain the integrity of the stack system and to efficiently manage the consumption of the process water at the site. The operations will be 24 hours a day seven days a week until closure of the gypsum stack system is achieved. CDM will staff the site with the appropriate personnel and equipment to safely and efficiently operate the stack system. Day to day operations will generally consist of the daily stack system inspections, operation of the process water management system, sampling and analysis operations and maintenance functions.

Process Water Management

The process water system will be operated to safely maintain the transfer of process water among the impoundments and to provide water to the water treatment processes. The existing infrastructure consisting of pumps, spillways, pipelines, power systems, etc. will be operated and maintained in compliance with the O&M plan and the contingency plan. Seepage water and runoff will be collected and pumped to impoundments for treatment or discharge as may be appropriate. The process water system will also be operated to deliver water for treatment and manage the reject waters and lime sludges. The consumption of the process water on the site is described in detail in Item B - Process Water Consumption - Water Consumption Plan for Piney Point Closure.

Mowing

CDM has included provisions for the mowing of the gypsum stack system and the surrounding site facilities as a part of the routine operation and maintenance of the site. The mowing will be performed using a specially designed side slope mower on the gypsum stack and other sloped areas and a bush hog mower for flat areas around the facility.

Equipment and Facilities Maintenance

CDM will perform routine maintenance of the equipment and structures associated with the gypsum stacks and process water management system. The stack system and seepage collection ditches will be maintained to ensure integrity of the stack system and proper water flow will be maintained by making sure the collection ditches aren't blocked by vegetation, soil or other debris.

The buildings and other structures utilized to perform the work and the electrical equipment utilized in the process water management, process water treatment and other electrical services will be maintained in good working condition.

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O&M Equipment and Emergency Equipment

CDM will have the following equipment onsite for operation and maintenance of the gypsum stack system and the associated facilities. This equipment will also be used for responding to any emergency situations that may arise during the work,

One - 3 CY Wheel Loader with accessory attachments

Two - 1500 GPM Diesel Pumps

One - 4000 GPM Diesel Pump

Long Stick Excavator

Pickup Trucks

Throughout the course of closure work there will be a great deal of construction equipment on site which will be utilized to respond to emergency situations if they arise.

Project Facilities and Utilities

CDM proposes to continue the use of the existing office building as the project office. CDM will takeover responsibility for the utilities (potable water, electricity, wastewater and trash collection) for the site. The existing guard gate building will be utilized for the site access security checkpoint. Other structures (such as double lime plant) at the site will be utilized for operations as applicable. These structures will be maintained in safe condition and utilities to each of the structures will be provided.

2. Site Security and Safety Compliance

Site Security

CDM will implement a site security plan for the Piney Point facility. Site access will be restricted to authorized personnel only and will be limited to one entry/exit point that will be manned by a security guard. The guard will maintain a log of all persons entering and exiting the site on a daily basis. Additionally, the field operations personnel will act as security observers during their normal activities around the site and will alert the security staff of any suspected intrusions. The site security staff and field operations personnel will be on the same radio system to afford timely communication.

Health and Safety Compliance

CDM has one of the best safety records in the construction industry. The CDM operations in Florida have performed work for 1,572 calendars days without a recordable or lost time incident. CDM has a safety incentive program in place and awards each employee on a quarterly basis for safe operations. CDM and our subcontractors and consultants will perform the work at Piney Point with the highest safety standards.

CDM will perform all work in accordance with all applicable safety regulations and standards including all federal, state and local laws, ordinances, rules and regulations. CDM and our subcontractors will strictly comply with the requirements for site specific safety training and the Florida Phosphate Councils (FPC) Member Facilities Contractor Health and Safety Training program. CDM will ensure that all employees and

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subcontractor employees on the project have current valid certifications of the site specific and FPC training prior to conducting any work under the contract.

CDM will also ensure that all employees performing routine inspection and maintenance work on the gypsum stack system will have satisfactorily completed training in earthen dikes and phosphogypsum stack system inspection in accordance with Chapter 62-672 F.A.C. prior to performing any work on the contract.

CDM will develop a project specific Health and Safety Plan. The site health and safety officer will be responsible for the implementation of this plan. The Health and Safety Plan will address the physical, chemical, biological and radiological hazards associated with site operations and each specific work task to be performed. The Health and Safety Plan will specify the work procedures and personal protective equipment required for each task to minimize or mitigate the risk to personnel during the execution of the project.

The site safety officer will hold daily safety meetings relevant to the work being performed each day. The site safety officer will also be responsible for oversight of all health and safety employee training and for certification of all medical criteria, as appropriate and required.

3. Groundwater Monitoring Plan Implementation

Groundwater Monitoring Plan

CDM will implement the groundwater-monitoring plan that will be prepared by Ardaman & Associates Inc in accordance with the Administrative Agreement that will be in effect between the State of Florida Department of Environmental Protection (FDEP) and CDM. The work will comply with Rule 62-522.600 F.A.C. CDM will perform all monitoring well sampling, water level measurements, and field parameter collection.

Groundwater Sampling and Analysis

All groundwater sampling will be performed in accordance with FDEP Standard Operating Procedures (SOP) for groundwater sampling and field analyses. CDM staff, under the guidance of Jason Mills, P.G. have extensive experience in groundwater monitoring and sampling and are thoroughly trained in FDEP field SOP's. Groundwater samples will be sent to an approved laboratory for analyses in accordance with the approved monitoring plan.

Data Management, Analysis and Reporting

CDM will prepare and submit the groundwater quality reports on a quarterly basis in accordance with the draft Administrative Agreement requirements. The reports will present the data collected in summary form and will contain an appendix with the laboratory results. The report will discuss the finding obtained from the data and make recommendations for any actions to be implemented based on the results of the data.

4. Surface Water Monitoring Plan Implementation

Surface Water Monitoring Plan

CDM will implement a surface water monitoring plan in accordance with the draft Administrative Agreement that will be in effect between FDEP and CDM for sampling analysis and reporting of surface water discharges from Outfall 002 and Outfall 003. The surface water monitoring plan will be prepared by CDM and submitted to FDEP and Ardaman for approval.

Surface Water Sampling and Analysis

All surface water sampling will be performed in accordance with FDEP Standard Operating Procedures (SOP) for surface sampling and field analyses. CDM staff, under the guidance of Jason Mills, P.G. have extensive experience in surface water monitoring and sampling and are thoroughly trained in FDEP field SOP's. All samples will be analyzed by a laboratory certified in accordance with Chapter 62-160 F.A.C.

Data Management, Analysis and Reporting

CDM will collect flow data and perform sampling whenever surface water discharges occur as required by the Agreement. CDM will submit a report with the results of surface water quality monitoring in accordance with the schedule in the Agreement or subsequent NPDES permit, as applicable. The reports will present the data collected in summary form and will contain an appendix with the laboratory results. The report will discuss the finding obtained from the data and make recommendations for any actions to be implemented based on the results of the data.

5. Project Coordination, Direction & Reporting

The CDM project team will be led by the Team Leader, John Brafford; Facilities Project Manager, Paul Roberts; and the Project Manager, Steve Soltare. CDM will coordinate on a daily basis with the FDEP, Receiver and Ardaman & Associates to maintain proper project communication. Weekly meetings will be held to resolve current issues, plan work schedules and update the project status to all parties.

Project Kick- Off Meeting

CDM will conduct a project kickoff meeting with all contractors and subcontractors, the Engineer, and the Project Manager after the work is awarded and before construction is started. The purpose of the meeting will be to introduce team members, define relationships between the team members, develop general SOPs and details, and reaffirm project execution and coordination.

During the project kickoff meeting, CDM and each of its subcontractors will submit Gantt bar chart type construction schedules to the Receiver and FDEP. The schedule will show all construction activities, and it will be updated weekly and provided to the Engineer as the work progresses. CDM principal team members and its subcontractor's designated site supervisors will also attend coordination meeting(s).

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Weekly Construction Meetings

The Receiver and Engineer will hold a weekly construction meeting at the project site on a day of the week and time to be determined. CDM principal team members and its subcontractor representatives shall be present at the weekly construction meetings.

Communications

CDM will employ a variety of communications methods to operate the site. The standard telephone and fax lines will be employed in the field office and all management and supervisory personnel will have cell phones and Nextel radio communications. CDM typically maintains all project records and data in electronic format so that data and reports can be transmitted via email and website.

Additionally, weekly meetings, and day to day interaction at the site and other meetings provide valuable personal contact with the FDEP and Engineer to ensure effective communications and reporting.

B. Process Water Consumption - Water Consumption Plan for Piney Point Closure

Phase 1

During Phase 1 we will continue with the present treatment plan with a target consumption rate of 1,000,000 gallons per day (GPD) or a total of more than 1 billion gallons treated during the initial five years of the contract term. Phase 1 will conclude when US Filter's contract is completed and a concurrent assessment has been carried out to confirm the projected water evaporation rates that will be realized from the spray evaporation and the spray irrigation water consumptive methods. In addition, the disparity between the wet summer and dry winter climatic conditions will be assessed, not only to adjust for this seasonality of the evaporation rates, but also to quantify the volumes of rainfall and run-off that can be used as dilution of the ammonia and conductivity to acceptable discharge levels during the first two years. The CDM team will be in a position to have zero offsite discharge after two years, barring some failure of the slurry wall or an extreme rainfall event.

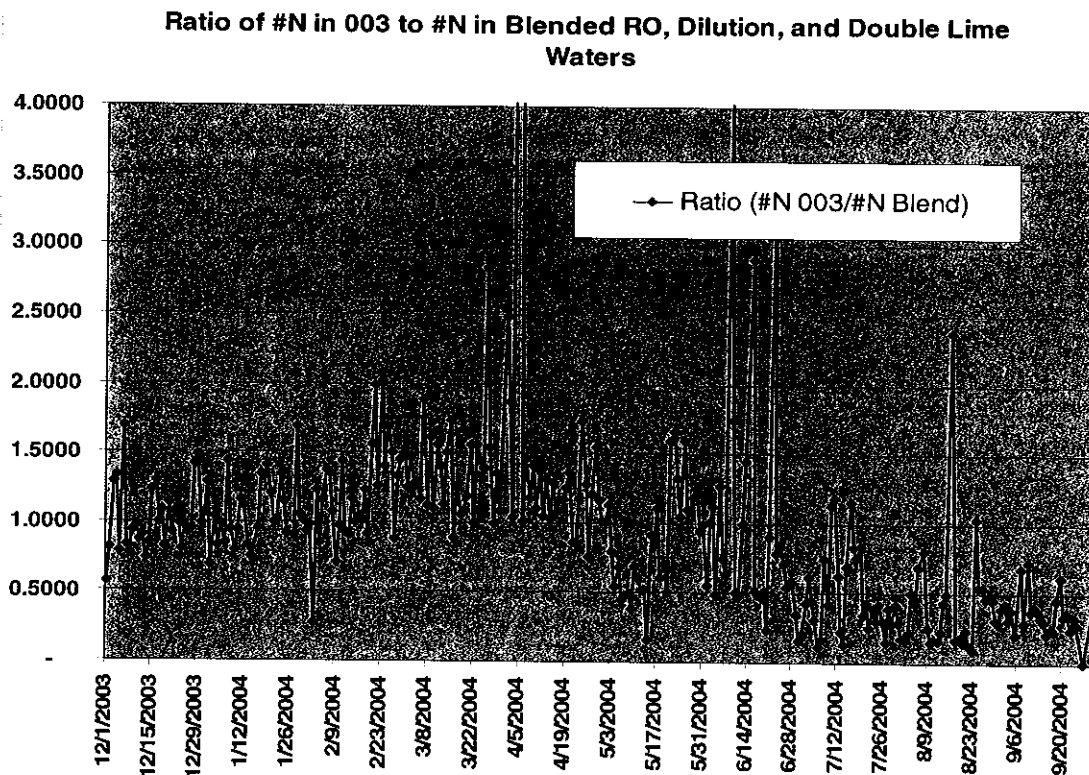
Of significant importance is the recent evaluation of the YTD analytical data which indicates that a substantial mass (~60%) of the residual ammonia nitrogen is disappearing from the blended double limed water and the RO permeate, presumably as a result of residual oxidation. See Figure 1. In addition, the low levels of ammonia produced by the existing double lime air spray systems have, since May, been below 50# per day of ammonia N loading, and have also averaged below 20# per day of ammonia N since mid-July. Thus the requirement to re-activate and utilize the RO for ammonia reduction may not be required at the present ammonia levels being achieved, or those projected during the first two years. Thus, the above initial assessment will determine if RO is needed to achieve the desired 20# per day discharge level and the 6000 conductivity during the first

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two years. The CDM team does have the capability to rapidly initiate water treatment by Reverse Osmosis due to the fact that we have a complete operable system onsite.

Historical lime consumption costs were reportedly averaging around \$12 per 1000 gallons of produced water, but our test work indicates that at a \$140/ton delivered lime cost; only \$7 per thousand gallons is required, thus we have based our numbers on the latter number.

Figure 1



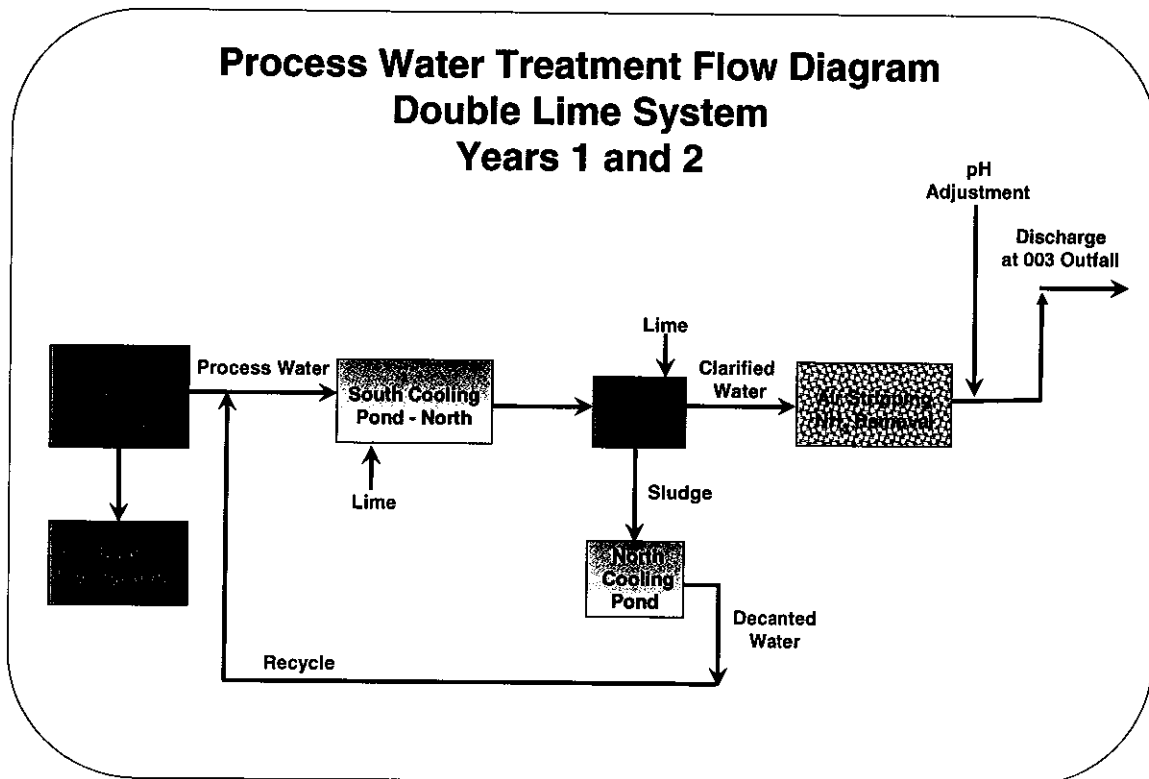
Phase 2, 2005-2006

Phase 2 will commence within four months of the start of the contract. Based upon the recent data it is expected that the activation of the Mosaic Reverse Osmosis (RO) system can be deferred until 2007 or if the other innovative techniques are not efficacious deferred to late in 2005. These innovative techniques include ammonia (struvite) precipitation and/or enhanced ammonia volatilization by pH control during spraying. Thus the double lime plant and the spray systems will be operated to remove 1 million gallons per day of water from the facility while the total ammonia nitrogen loading would be held at or below 20 pounds per day or less, and the conductivity to below 6000 to Outfall 003.

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Conductivities will be controlled by dilution with segregated rain and surface run-off water.

Should the Mosaic RO system be required we would utilize the lime clarifier not currently operating. The acidification section will be relocated from within the DAP warehouse to near the lime clarifier. This will ensure that the delivery pipe line to the



AP warehouse will be non-scaling. The target consumption rate will be 1,000,000 GPD (or as needed) to eliminate ponded water inventory by the end of 2006. Again the maximum total ammonia nitrogen loading will be held at 20 pounds per day or less, and the conductivity to below 6000 to the Outfall 003. The Mosaic RO units will produce a reject stream which is only about 40% of the RO feed. This RO reject stream will be processed directly to the double lime treatment system as per the instructions from the FDEP to limit the overall concentrating effect of the RO reject stream on the pond system. It should be noted that this innovative technical approach was developed by the CDM team. This is an example of the depth of process water treatment knowledge; whether RO, double lime treatment optimization, spray irrigation or evaporation that we uniquely bring to the project.

The remaining contaminated process water in the New Gyp Stack South (NGS-S) will be consolidated with the contaminated process water in the lined NGS-N, where the evaporation spray field is located. This will allow construction to start closing the NGS-S as soon as possible. The Mosaic innovative but proven pretreatment system will be

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relocated to the idle lime treatment clarifier. This pretreatment system will allow the CDM team to treat process water by RO during the entire project; the other two respondents cannot offer this and must suspend RO treatment upon completion of the US Filter contract. US Filter does not have this capability either. Underflow will report back to the SCP-N. Underflow will be 10% to 15% of the feed stream and very low percent solids. These solids will be fast settling and compact. The underflow transport water will be fed forward to RO pretreatment. Greater than 85% of the clarifier feed stream will be effluent and will be fed forward to two first pass RO units. Each unit will produce 400,000 to 500,000 gallons per day permeate. Yield on these units will be about 60%. The reject stream will be well below all RCRA limits (See Table A for a more detailed characterization of the reject stream). Note - Final polishing of the RO permeate will consist of processing through ion exchange units and pH adjustment. The typical RO permeate produced will be less than 1 mg/L ammonia nitrogen (refer to Table B for a more detailed characterization of the final permeate). While improvements to the Mosaic pretreatment system will result in excess RO capacity, if abnormally heavy rainfall or other conditions make it necessary to increase discharge capacity to 1,500,000 gallons per day, a third first pass rental RO unit could be added. Table C shows anticipated water treatment capacity by category.

Note that the treatment residuals of a Bevill excluded waste retain Bevill exclusion status under RCRA.

Table A: Typical Reverse Osmosis Reject

Parameter	Units	Concentration
pH	Std. Units	2.4
Conductivity	mho/cm	22,700
Arsenic	mg/L	0.76
Barium	mg/L	0.018
Cadmium	mg/L	0.065
Lead	mg/L	<0.0075
Mercury	mg/L	<0.0001
Selenium	mg/L	<0.026
Silver	mg/L	<0.0095
Total Phosphorus	mg/L	2,200
Fluoride	mg/L	90
Sulfate	mg/L	14,500
Ammonia Nitrogen	mg/L	1,500

Note: This stream will be fed directly to the double lime plant, a Mosaic innovation.

Table B: Typical Reverse Osmosis Permeate

Parameter	Units	Concentration
pH	Std. Units	6.5
Conductivity	mho/cm	650
Turbidity	NTU	0.5
Alkalinity	mg/L	10
Gross Alpha	pCi/L	0.103
Radium 226	pCi/L	0.00319
Radium 228	pCi/L	1.46
Total Nitrogen	mg/L	0.751
Ammonia Nitrogen	mg/L	0.257
Un-ionized Ammonia	mg/L	0.00056
Total Phosphorus	mg/L	1.9
Antimony	mg/L	0.0041
Arsenic	mg/L	0.0035
Beryllium	mg/L	0.0006
Cadmium	mg/L	0.0007
Chlorine (total residual)	mg/L	0.01
Chromium	mg/L	0.0017
Copper	mg/L	0.0013
Detergents (MBAs)	mg/L	0.117
Dissolved Oxygen	mg/L	7.8
Fluoride	mg/L	1.4
Trihalomethanes	g/L	13.44
Iron	mg/L	0.037
Lead	mg/L	0.0015
Mercury	g/L	0.00085
Nickel	mg/L	0.0047
Oil and Grease	mg/L	0.73
Phthalate Esters	g/L	3.4
Selenium	mg/L	0.0045
Thallium	mg/L	0.0050
Zinc	mg/L	0.0059

Table C: Treatment Capacity

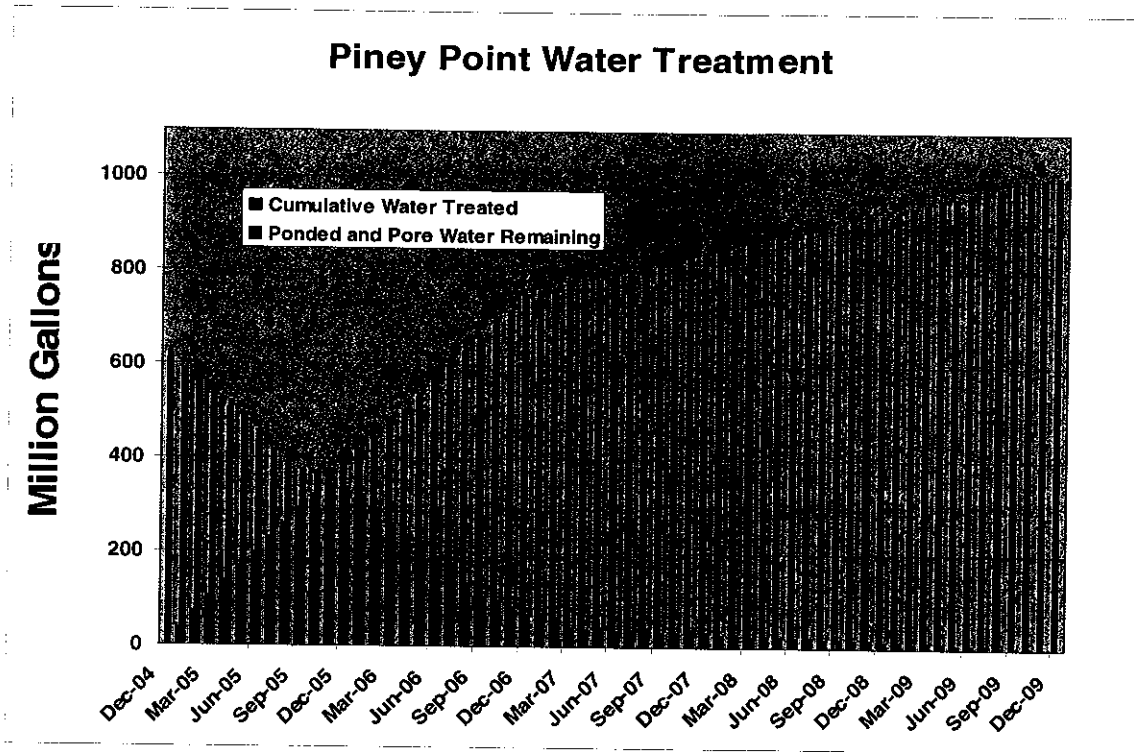
	1000 gallons / day		
Mosaic Proprietary Pretreatment plus R.O.	200	to	1,000
Evaporation Spray Field	100	to	250
Double Lime	100	to	1000
TOTAL	400	to	2,250

The initial split between RO and double lime treated water will be forced by the 60% permeate to 40% reject split of the RO units. This will meet the 20 pound ammonia nitrogen discharge target during warm months. The degree of blending permeate with aerated double limed water needed to attain the 20 pound ammonia nitrogen discharge target is a function of the residual aerated ammonia levels. As an example with aerated limed water at 15mg/l these ratios would be 6:1 and 2:1 respectively. During cooler months, if needed, we will utilize an enhanced method of ammonia air stripping employing down stream pH control. As further insurance that we can meet the 20 pound per day ammonia discharge criteria, the excess RO capacity can be used to recycle double limed air stripped effluent to the Mosaic proprietary treatment system for processing through the RO units. This will ensure the ability to control discharge below the 20 pound per day criteria. As mentioned above, the low levels of ammonia presently seen will in almost certainly not require the need to operate the RO's but they would still be available should the need be realized, a distinct and unique advantage that the CDM team brings to the FDEP on this project.

Phase 3, 2007 through 2009

It is anticipated that by the end of 2006, the volumes of water requiring treatment will decrease to about 250,000 GPD and continue at this rate through the remainder of the contract. Figure 2 on the following page shows anticipated water treatment volumes and water remaining on site through the end of this period. If at this time due to changing water quality conditions RO is required for treatment prior to spray evaporation or irrigation, the CDM can employ this without the need for extensive additional equipment.

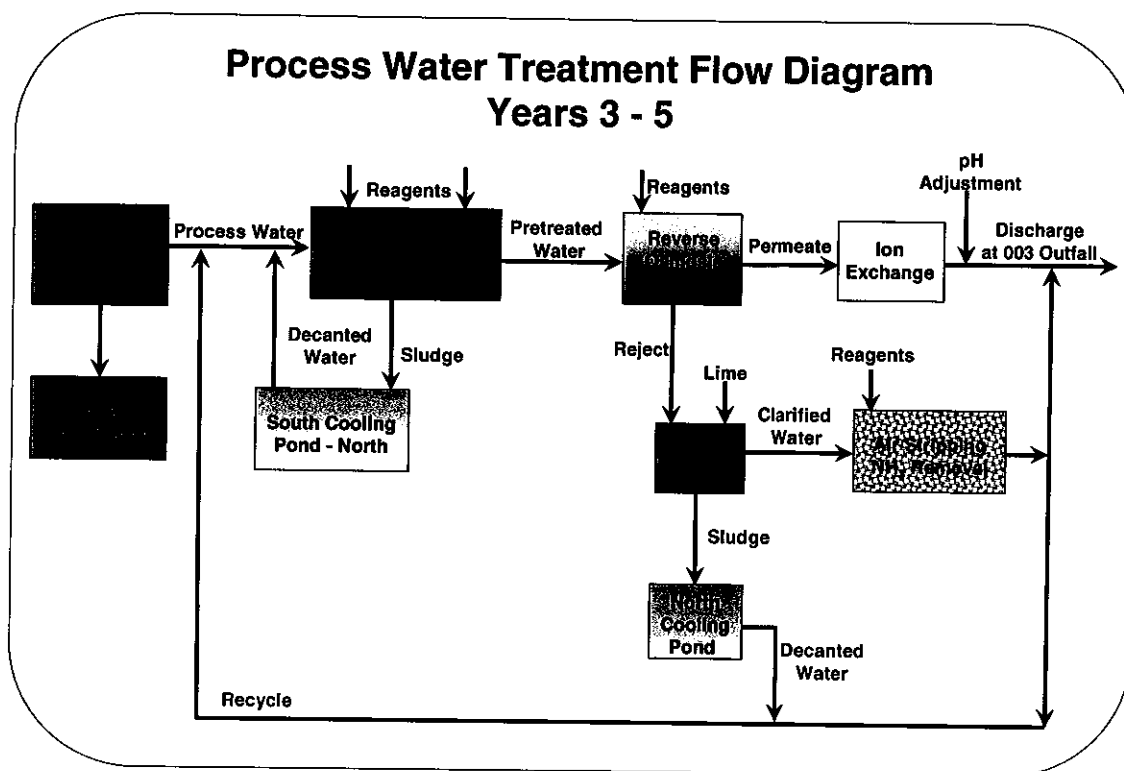
Figure 2



During this three year phase the ability to remove water would be limited somewhat by the concentrating effects of evaporation, and thus the use of our RO/Lime Treatment combination technology would allow rejection of much of these dissolved components, whilst maintaining excellent quality discharge water.

In order to further ensure that the RO permeate meets whole effluent toxicity (WET) requirements, minimal other water streams will be added prior to reuse. In order of priority: double lime treated water, uncontaminated storm water, and as a last resort, well water. Tests reported on the FDEP (ITN) website show that 1.6% well water added to 98.4% RO permeate produces an effluent meeting WET requirements. This ratio will ensure that the 25,000 gallons per day maximum well water usage will be maintained even if only RO permeate and well water are reused or evaporated.

Once all ponded process water has been treated, the stack has been closed, and seepage water is the only stream necessary to treat, the proven and innovative Mosaic pretreatment/RO process with the reject stream recycle will be managed by second stage lime treatment which will remain effective through closure. CDM proposes an alternate cooling pond closure plan to facilitate this water treatment strategy. Spray evaporation and irrigation will continue to be an important part of water treatment as long as possible. Given the water situation at surrounding plants it is unlikely that the transportation of any of the waters to an operating plant would be acceptable. Our water consumption strategy does not require the ability to transfer water off-site unless for reuse purposes at MARS or other willing recipients.



Once treatment volumes decrease, contaminated seepage water will be collected and treated on an intermittent basis (for example 12 hours shifts 3 or 4 days/week as needed).

The CDM team brings decades of experience managing contaminated watersheds within operating and idle phosphate plants which will be invaluable in managing the Piney Point watershed to ensure as little excess rainfall as possible is added to the process water system. This will allow us to minimize the amount of water that must be treated and to manage such water with the best available treatment or disposal option.

Once areas of the stack are closed and grassed, to maintain the zero discharge limit in years 3-5, it may be necessary to install treatment equipment specifically to handle this stormwater run-off. Although this water would be suitable for direct discharge based on normal criteria, the low nitrogen limit allowable will probably dictate treatment through sand filters and ion exchange to lower the ammonia level. Installation and operation of this equipment could be included at a later juncture as an amendment.

C. Closure Construction

The closure construction planned for the Piney Point facility consists of the major work tasks as follows:

- Construct Lined Pond at NGS-S
- Construct NGS-S Cap
- Construct Lined Drainage Channels, Ditches, Swales and Ponds
- Construct OGS Cap
- Construct NGS-N Relief Ditch
- Construct Seepage Collection Drain and Transfer Piping Network
- Dispose Plant Scale and Sludge
- Close GYP Stack Side Slopes
- Construct Lined Stormwater Transfer Pond
- Close South Cooling Pond
- Close North Cooling Pond
- Close Remaining Top Gradients

The design for the closure work will be completed by Ardaman & Associates prior to award of the contract. CDM will perform the work in accordance with the design plans and specifications.

This section describes the activities that will be performed to complete the closure construction for the Piney Point facility. The sequence of activities for the closure work is presented in Subject 5 - D of this technical proposal.

Closure of New Gyp Stack South

The closure of the New South Gyp Stack (NGS-S) consists of the construction of approximately 100 acres of high density polyethylene (HDPE)-lined reservoir and/or conventional top gradient cover. The closure will consist of site preparation and dewatering, gypsum earthwork, liner installation, cover soil placement, grassing and other associated work required to complete the closure. The activities to be performed are further described as follows.

Site Preparation and Dewatering

The majority of the dewatering work will have been completed by the current contractor onsite prior to contract award. The site preparation work planned will include the construction of haul roads, maintenance of the network of dewatering trenches previously constructed, clearing of work areas and construction of any temporary structures required for the construction of NGS-S pond. In addition, ditch grades will be established and maintained to promote gravity drainage of seepage and rainfall runoff towards a sump area.

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CDM will convey all remaining process water, extracted gypsum pore water, and rainwater runoff from the NGS-S pond during the closure construction to the New Gyp Stack North (NGS-N) or to the seepage collection ditch in a manner and to a location approved by the Engineer.

Gypsum Earthwork

The gypsum earthwork will consist of the excavation of the gyp stack pond area and the placement of fill to construct the gypsum dikes. The gypsum earthwork will be performed by CDM team member Moretrench Environmental.

Prior to placement of any fill for constructing the dikes, the existing surface will be wetted or dried, as needed, recompacted and scarified to provide for proper bonding between the existing gypsum surface and new gypsum fill. The dikes will be constructed by placement and compaction of gypsum fill in successive layers. The gypsum material for the construction of the dikes will be obtained from the excavation of the pond area of the gyp stack and from side slope closures. The earthwork will be performed in accordance with the technical requirements in the design plans and specifications.

All gypsum surfaces to receive the HDPE liner will be free from all deleterious materials and will be fine graded to within the grading tolerances specified.

HDPE Liner Installation

Prior to lining in any given area, Comanco and the Quality Control project representative will inspect the condition of the surfaces to receive the liner for compliance with the Specifications, and will accept and approve, in writing, the condition of the surfaces on which the liner will be installed.

Comanco will submit a panel layout plan indicating the proposed liner panel configuration, and identifying field seams, anchor trenches, permanent wind ballast trenches, permanent bag wind ballast atop the liner, vents, inlet structure connections, and other details needed to complete the work. The liner will be anchored in anchor trenches in the crest of the dikes at the locations shown on the Design Drawings and specified in the Specifications. Comanco will place adequate temporary loading over the liner that will not cause damage during installation as needed to prevent uplift by wind and by rapid changes in barometric pressure.

The liner on the pond bottom area and dike slopes will be anchored using permanent wind ballast trenches at the locations and to the lines and dimensions shown on the Drawings.

Cover Soil Placement

Soil materials used for cover on the lined areas will be non-cemented and free from rocks, stones, gravel and other deleterious materials. Placement of the cover will be undertaken by light track-mounted or rubber-tired equipment exerting a relatively low contact stress (e.g., low ground pressure D-4 or D-5 dozer exerting less than 4.5 lb/in² of contact stress) and traveling on a minimum of 18 inches of soil end dumped ahead of the equipment with

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front-end loaders. Care will be exercised during placement to not damage the HDPE liner and pipe vents, or damage or displace the geonet/geotextile drainage layer and plywood protection sheets above the HDPE liner with the blade, bucket, tracks or tires of the equipment.

Grassing

The cover soil on the interior side slopes of the gypsum stack compartments will be grassed by installing sod as soon as possible after the placement of the cover soil. The sod will be watered with a temporary irrigation system during periods of insufficient rainfall. Other flatter areas on the stack system (such as access roads) will be seeded using a mix of grass seed most suitable for the season of application. The seed will be sown only when the soil is moist and in proper condition to induce growth. Four thousand pounds per acre of dry hay mulch material will be applied uniformly over the seeded area, and the mulch material cut into the soil.

The newly grassed areas will be watered as required to prevent the grass from drying out and to maintain the necessary soil moisture for a period of 60 days following planting until acceptance of the work by the Receiver and Engineer

Closure of Gyp Stack Side Slopes - Grassing

The exterior side slopes of the new and old gyp stacks will be closed by amending the gypsum surface and grassing to prevent erosion. The closure of the gyp stack side slopes consist of site preparation and regrading of the side slope area, amendment of the gypsum surface and grassing of the amended side slope. This work will be accomplished as described below.

Site preparation will consist of clearing the work area of any obstructions and temporary facilities such as access roads, transfer piping and other structures which may be present. Temporary stormwater controls shall be installed to direct runoff away from the work area. Erosion control measures will also be installed as necessary.

The side slopes to be closed will be regraded as necessary to conform to the design plans and specifications. The grading will be performed primarily using bulldozers to shape the side slopes. In areas of significant cuts the gypsum material will be excavated and loading into off road trucks for placement in other fill areas. Any excess gypsum material will be removed from the side slopes and placed in other areas requiring gypsum fill.

The regraded side slopes of the gypsum stack will be amended with dolomitic limestone or second stage lime sludge to increase the pH of the gypsum to not less than 5.0.

Based on results of limited testing performed in conjunction with a test plot on the west slope of the New Gypsum Stack - North (NGS-N) dolomitic limestone will be applied at a rate in the range of 2 to 4 tons per acre where the near surface gypsum is leached, and at rates of about 8 to 10 tons per acre where the gypsum is freshly exposed or consists of gypsum fill obtained from pond interior areas in conjunction with other stack closure

Closure of the Piney Point Phosphogypsum Stack System Invitation to Negotiate

operations. Lime sludge, if used for gypsum amendment, will be applied as needed to raise the pH into the appropriate range.

The amended side slopes will be seeded using a mix of grass seed most suitable for the season of application. The seed will be sown only when the soil is moist and in proper condition to induce growth. Four thousand pounds per acre of dry hay mulch material will be applied uniformly over the seeded area, and the mulch material cut into the soil. The newly grassed areas will be watered as required to prevent the grass from drying out and to maintain the necessary soil moisture for a period of 60 days following planting until acceptance of the work by the Receiver and Engineer.

Closure of Cooling Ponds and Aeration Basins

Closure of the cooling ponds, sludge ponds and aeration basins which contain varying amounts of lime treatment sludges will involve grading of the outer dikes, desiccation of the sludge surface, gradually placing soil (with reinforcement) using light equipment to minimize mud-waving of the sludge, and installation of a 40-mil HDPE liner in turn protected with a 2-foot thick grassed soil cover. Closure of the cooling ponds and sludge ponds also includes installation of a buried drain system to collect seepage and construction of an 80 mil lined sump pond and runoff collection and transfer ditches.

Construction of Lined Runoff Collection Ditches and Seepage Drains

The lined runoff collection ditches and perimeter seepage drains will be constructed concurrently. The seepage drains will be constructed after completion of the side slope closure on each of the exterior sides of the gyp stack system. The lined runoff ditch will be constructed on top of the seepage drain as the construction progresses.

The perimeter seepage pipe will consist of a 6-inch diameter slotted corrugated HDPE pipe bedded on twelve inches of silica gravel. One of two 12-inch HDPE header pipe(s) will also be installed with the seepage pipe. Following installation of the HDPE pipes, silica gravel will then be placed on both sides of each pipe and above the pipe to the minimum thickness and dimensions shown on the Drawings. The silica gravel will be encased in a nonwoven geotextile filter fabric with field sewn seams and a HDPE geonet/geotextile composite will be installed under the liner on the gyp stack side slope in accordance with the design.

The lined runoff collection ditch will be constructed by placing an 80 mil HDPE textured liner over the seepage drain and extending the liner up the side slopes of the collection ditch. The liner will be covered with 2 feet of cover soil. The lined ditch will then be seeded and mulched to provide a grass cover for erosion protection.

Stormwater Detention Ponds

The lined stormwater detention pond on the north side of the new gyp stack will be constructed at the same time as the lined runoff ditch and perimeter seepage drain. The seepage drain will be constructed after completion of the side slope closure on each of the exterior sides of the gyp stack system. The lined runoff ditch will be constructed on top of the seepage drain as the construction progresses.

Closure of the Piney Point Phosphogypsum Stack System Invitation to Negotiate

The perimeter seepage pipe will consist of a 6-inch diameter slotted corrugated HDPE pipe bedded on twelve inches of silica gravel. One of two 12-inch HDPE header pipe(s) will also be installed with the seepage pipe. Following installation of the HDPE pipe, silica gravel will then be placed on both sides of each pipe and above the pipes to the minimum thickness and dimensions shown on the Drawings. The silica gravel will be encased in a nonwoven geotextile filter fabric with field sewn seams and a HDPE geonet/geotextile composite will be installed on the gyp stack slope in accordance with the design plans.

The lined runoff collection ditch will be constructed by placing an 80 mil HDPE textured liner over the seepage drain and extending the liner up the side slopes of the collection ditch. The liner will be covered with 2 feet of cover soil. The lined ditch will then be seeded and mulched to provide a grass cover for erosion protection.

Outlet Structure Construction

During the closure activities an estimated twelve outlet structures will be constructed to permit the conveyance of stormwater to various ponds and impoundments. The outlets structures will be constructed at the same time as the earthwork associated with each stormwater feature is being performed. As an example the outlet structure to convey the stormwater from the Old Gyp Stack South (OGS-S) cap area will be constructed during the earthwork portion of the closure of the cap area. The structures will be constructed in accordance with the design plans and specifications.

Disposal of Plant Scale

If this work is selected by the FDEP, designated solid waste material from the plant related to the production and conveyance of phosphogypsum and cooling pond water, including plant scale and radioactive waste material subject to licensure by the Department of Health, will be disposed of by CDM on the phosphogypsum stack in the NGS-N Relief Ditch unless specifically designated otherwise by the third party engineer. All such, waste material will be encapsulated and covered with sluiced or slurried gypsum, integral with disposal, as needed to produce a suitable foundation for the liner and final cover. We believe there may be alternative methods of plant scale disposal/encapsulation that could result in significant cost savings, and we look forward to discussing such alternates with FDEP and Ardaman.

D. Closure Sequence and Closure Schedule

The sequence of work to be followed during the Piney Point Phosphogypsum Stack System Closure was developed to expedite the completion of this project in a timely manner. The sequence described below is designed to reduce the watershed area that contributes to the generation of contaminated runoff and seepage water at the site in the most efficient manner. The closure activities are sequenced to cover the gypsum stacks in logical progression while maintaining the ability of the system to collect, process and discharge runoff and seepage water. The sequence is also scheduled in a logical manner that utilizes an economy of material gypsum movement to fully exploit the cut and fill balance of the site.

The closure of the gypsum stack system can generally be divided into three phases of work. The first phase consists of the closure of the New Gyp Stack South (NGS-S) and the side slope closures for the Old Gyp Stack (OGS) and the west slope of the northern compartment of the New Gyp Stack (NGS-N). The second phase consists of the closure of the remaining gyp stack side slope areas and the south cooling pond (SCP). The third phase of the closure consists of the closure of the remaining pond areas and final closure of relief ditch used for the disposal of plant scale and other gypsum materials. The Phased Bar Chart Schedule at the end of this section details graphically the proposed sequence of work described below.

Phase 1

Work will begin within the NGS-S Pond with the installation of a temporary network of drainage ditches. The ditch network will dewater the area in preparation of bottom grading and dike construction to build the pond. Once gypsum is workable, grading within the pond will begin. Gypsum removed from the bottom elevation of the pond will be used primarily to construct the western dike of the pond.

Concurrent with the installation of the dewatering ditches in the NGS-S Pond, the first phase of the gypsum stack slope closures will begin with grading along the northern and western slope of OGS. The toe of the slopes of the OGS will be rough graded to form the lined drainage channel underlain by a seepage collection drain. The seepage collection drain and header pipes will be installed and the channel will be fine graded; lined, covered and grassed after all slope closures are complete to prevent damage from equipment.

Slope closure will continue in a southerly direction. Rough grading of the lined drainage ditch will continue with the elevation gradually decreasing in a southerly direction. When the OGS-N northern slope is completed, grading the OGS Cap will begin. Two inlet structures will be constructed as part of the OGS Cap. After the structures are complete the OGS Cap area will be fine graded and the liner and cover will be installed. Gypsum removed during the OGS Cap construction that is acceptable for use as construction material will be used to construct dikes for NGS-S Pond.

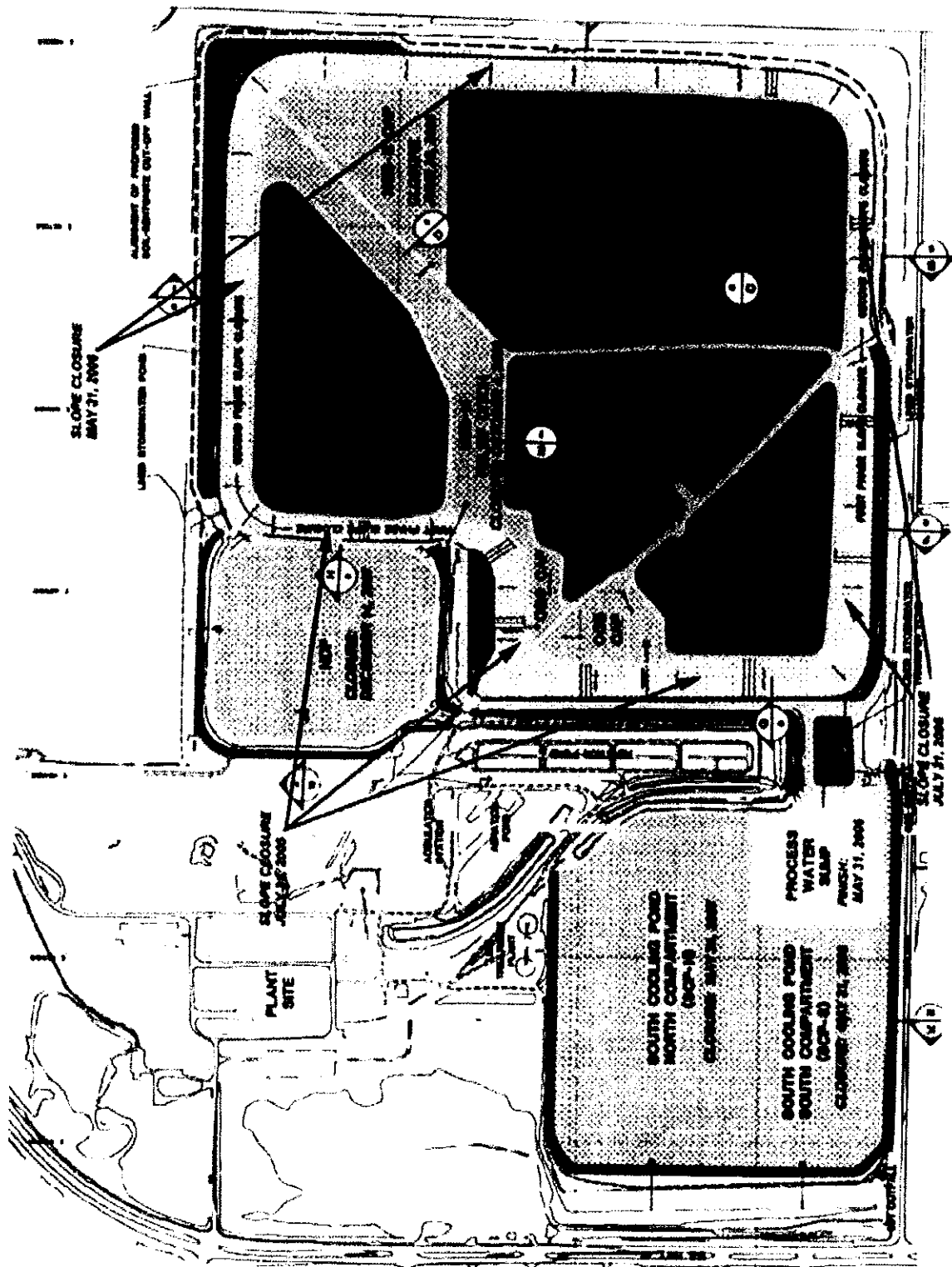


Figure 3

Closure of the Piney Point Phosphogypsum Stack System Invitation to Negotiate

As the first phase of the slope closure continues a quantity of gypsum will be cut from both the western and southern slopes of the OGS-S. Gypsum removed from the area will be used to construct dikes at the NGS-S Pond or as construction material in other areas.

Construction of the northern dike of the NGS-S Pond will coincide with the start of construction of the NGS-S Cap because the cap is contiguous to the pond. Grading will begin on the NGS-N Relief Ditch, working from the northern end of the ditch toward the OGS Cap. Liner will be placed on the northern end of the NGS-N Relief Ditch after it has been fine graded. The liner at the southern end of the NGS-N Relief Ditch will be placed after an outlet structure had been constructed in that end of the ditch.

Fine grading and liner installation of the NGS-S Pond will begin with the completion of the northern dike. An outlet structure will be constructed between the NGS-S Cap and the NGS-N Relief Ditch.

At the completion of Phase 1 the contaminated watershed area will be reduced to approximately 215 acres and the water inventory onsite is projected at 400 acre-feet.

Phase 2

The second phase of slope closure will start with the NGS-N northern slope. The toe of the northern slope of the NGS-N will be graded to form the high end of the eastern lined drainage channel. As slope closure continues in an easterly then southerly direction, rough grading of the lined drainage ditch will continue with the elevation gradually decreasing toward the southeast corner of the NGS-S Pond. The existing HDPE pipeline in the outer slope of OGS-N will be removed and relocated to OGS-S Crest Road.

The lined stormwater pond, seepage collection drain, header pipe(s) and drainage ditch will be constructed after all the grading work is complete on the NGS-N north slope. Work on the seepage collection ditch and the lined drainage ditch will continue to the east and follow the NGS-N north slope and NGS-S east and south slope closure work. Construction of the western portion of the seepage collection drain and lined stormwater ditch will begin after the lined stormwater pond is complete.

Concurrent with the construction of the stormwater pond, closure of the South Cooling Pond (SCP) will begin and the Process Water Sump and Lined Stormwater Transfer Pond will be constructed.

At the end of Phase 2 the watershed area will have been further reduced to approximately 130 acres and the water inventory is projected at 0 acre-feet. The remaining water to treat during Phase 3 will consist of pore water collected in the seepage ditches.

Phase 3

After the SCP Closure has been completed closure of the North Cooling Pond (NCP) will begin. The eastern portion of the liner will be tied into the stormwater drainage ditch constructed at the toe of the NGS-N west slope. The outlet structure for the NCP will be constructed during the pond closure. The NCP will be closed by construction of a lined cover over the existing materials. The liner system will be covered with two feet of cover soil and seeded to provide vegetative cover. The seepage drain and lined stormwater ditch will then be constructed along the west and north side of the NCP. All grassing will be completed and the site will be in a maintenance operation at the end of Phase 3.

At the end of Phase 3 the watershed area will consist of the plant area watershed.

E. Innovative Proposal Opportunities for Piney Point Site Development

UCPM

CDM and Universal City Property Management (UCPM) have worked together for seven years on a very large and high profile site remediation and redevelopment project in Orlando, Florida. UCPM is a subsidiary of Stan Thomas Enterprises Inc, one of the largest retail - commercial mixed use and industrial developers in the southeast United States. In the mid-1990's Lockheed- Martin Corporation sold over 2000 acres of a former weapons test and manufacturing facility in Orlando to UCPM. Since that time, UCPM and CDM have partnered to execute one of the premier site remediation and redevelopment projects in US EPA Region 4. Site activities have included the excavation and disposal of over 300,000 cubic yards. of contaminated soil and waste, and treatment of millions of gallons of water for disposal by spray irrigation. The redevelopment effort has resulted in the expansion of the Orange County Convention Center with 1,000,000 square feet of meeting space, over \$180,000,000.00 in land sales for hotel and golf course use, and two Awards of Excellence from US EPA Region 4.

CDM and UCPM have entered into discussion regarding the future site use strategy for the Piney Point site. Many legal hurdles regarding the bankruptcy court and site closure need to be addressed, including recent court rulings by Judge Alexander Paskay regarding the assets, but we believe that some conceptual preliminary plans may be:

- Develop the linear strip fronting Highway 41 as mixed use industrial commercial related to light manufacturing, shipping, and warehouse. The proximity to multi-modal transportation (Port of Manatee, rail and truck) makes this prime real estate with tremendous potential.
- Use of the lined ponds for potable, agricultural and reuse water supply. This was discussed above.
- Proper decommissioning, dismantling, and recycle/disposal of the existing chemical plant facilities.

Although much of the facility infrastructure is of scrap value or needs to be disposed of in the gypsum stack closure, there are many sections of the plant with high re-sale value. An example is the cooling towers installed just before the bankruptcy. CDM, our Facilities Project Manager and the members of our team such as John O'Connor and Moretrench have extensive experience in plant decommissioning for maximum value retention. CDM has decommissioned facilities ranging from radioactive sludge removal at Oak Ridge National Labs to metal foundries and petrochemical refineries.

UCPM has the proven experience and financial resources to bring these and other site redevelopment plans to fruition. The CDM team looks forward to discussing these with the FDEP during the negotiation stage of this selection process.

ID	Task Name	Duration	Start	Finish	2005						2006
					Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1
1	Contract Award	0 days	Mon 1/3/05	Mon 1/3/05			◆ 1/3				
2	Facility Maintenance and Operations	1305 days	Mon 1/3/05	Fri 1/1/10							
3	Site Safety Activities	1305 days	Mon 1/3/05	Fri 1/1/10							
4	Develop and Update O&M Plan	20 days	Mon 1/3/05	Fri 1/28/05							
5	Develop Contingency Plan	20 days	Mon 1/3/05	Fri 1/28/05							
6	Routine Maintenance and Operations Activities	1260 days	Mon 1/3/05	Fri 10/30/09							
7	Process Water Consumption	1305 days	Mon 1/3/05	Fri 1/1/10							
8	Top Gradient Closure (Phase I Construction)	128 days	Mon 1/3/05	Wed 6/29/05							
9	Close Top Gradient of NGS-N	40 days	Mon 1/3/05	Fri 2/25/05							
10	Close Remaining Top Gradient of OGS-N	40 days	Mon 2/28/05	Fri 4/22/05							
11	Close Remaining Top Gradient of OGS-S	35 days	Mon 4/25/05	Fri 6/10/05							
12	Construct Lined Pond at NGS-S	107 days	Tue 2/1/05	Wed 6/29/05							
13	Construct NGS-S Cap	90 days	Mon 2/7/05	Fri 6/10/05							
14	Construct OGS Cap	90 days	Wed 1/26/05	Tue 5/31/05							
15	NGS-N Relief Ditch (Phase I Construction)	152 days	Mon 11/1/04	Tue 5/31/05							
16	Construct NGS-N Relief Ditch Stage 1	43 days	Fri 4/1/05	Tue 5/31/05							
17	Construct Seepage Collection Drain	43 days	Mon 11/1/04	Wed 12/29/04							
18	Slope Closures (Phase I Construction)	135 days	Mon 1/3/05	Fri 7/8/05							
19	Close NGS-N West Slope	60 days	Mon 1/3/05	Fri 3/25/05							
20	Close OGS South Slope	45 days	Mon 3/7/05	Fri 5/6/05							
21	Close OGS West Slope	45 days	Mon 5/9/05	Fri 7/8/05							
22	Construct Seepage Collection Drain Bordering OGS Area	90 days	Mon 1/24/05	Fri 5/27/05							
23	Construct Lined Drainage Channel Bordering OGS Area	90 days	Mon 1/24/05	Fri 5/27/05							
24	Slope Closures (Phase II Construction)	260 days	Thu 6/16/05	Wed 6/14/06							
25	Close NGS-N North Slope	100 days	Mon 7/11/05	Fri 11/25/05							
26	Close NGS East Slope	200 days	Thu 9/8/05	Wed 6/14/06							
27	Construct Lined Stormwater Pond	90 days	Thu 1/26/06	Wed 5/31/06							
28	Construct Seepage Collection Drain Bordering NGS Area	243 days	Mon 6/27/05	Wed 5/31/06							
29	Construct Lined Stormwater Swales	218 days	Mon 8/1/05	Wed 5/31/06							
30	Construct Inspection Road w/ Weir Sections	250 days	Thu 6/16/05	Wed 5/31/06							
31	South Cooling Pond (SC) Closure (Phase II Construction)	261 days	Wed 10/5/05	Wed 10/4/06							
32	Close South Cooling Pond (South Compartment)	120 days	Wed 10/5/05	Tue 3/21/06							
33	Construct 10 Acre Lined Process Water Sump	60 days	Wed 3/1/06	Tue 5/23/06							
34	Construct NGS-N Relief Ditch Stage 2	90 days	Thu 6/1/06	Wed 10/4/06							
35	Place Plant Scale and Sludge on Liner	60 days	Mon 6/19/06	Fri 9/8/06							
36	Closure of Other Areas (Phase III Construction)	328 days	Wed 9/13/06	Fri 12/14/07							
37	Construct Seepage Collection Drain Bordering NCP Area	100 days	Wed 9/13/06	Tue 1/30/07							
38	Construct Lined Stormwater Ditch Bordering NCP Area	100 days	Mon 10/9/06	Fri 2/23/07							
39	Close South Cooling Pond (North Compartment)	60 days	Mon 2/26/07	Fri 5/18/07							
40	North Cooling Pond Closure	180 days	Mon 4/9/07	Fri 12/14/07							

Closure of Piney Point Phosphogypsum Stack System
Tue 11/30/04

Task



Progress



Summary



External

Split



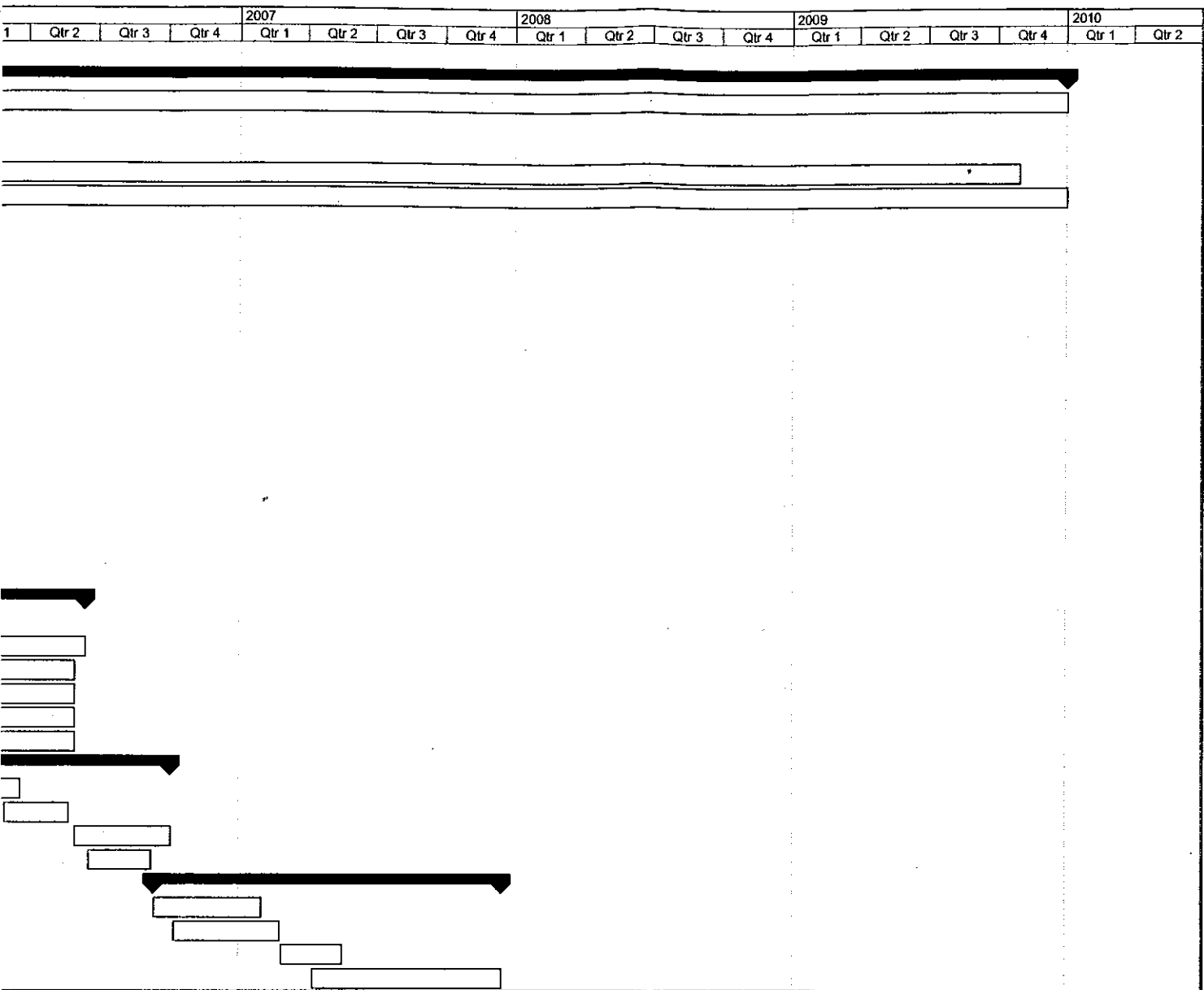
Milestone



Project Summary



External



External Tasks  Deadline 

External Milestone 

Subject 6 Proposed Pricing

CDM is proposing to perform the work on this contract on a lump sum basis in accordance with the instructions contained in the Best and Final Offer package.

The proposed pricing is based on the information contained in the FDEP Solicitation #2005002C dated 7/16/04, a site visit at the Piney Point Facility held on 8/5/04, Addendum #1 dated 8/23/04, Addendum #2 dated 8/26/04, Addendum #3 dated 8/30/04 and Addendum #4 dated 9/3/04, information made available through the FDEP website and the instructions contained in the Best and Final Offer package dated November 15, 2004. The price proposal is based on the following assumptions and clarifications:

General

- Technical Specifications contained within the ITN Package and used for the purposes of this estimation will be virtually the same as those under development for the Work covered by this Proposal.
- Adjustments to pricing may be made based on a fully developed Technical Design made available prior to negotiation of pricing.
- No costs for Performance and Payment Bonds have been included in this proposal
- CDM and its subcontractors will be allowed equitable time and contract price adjustment for Force Majeure delays or standby.
- A mutual waiver of consequential damage will be discussed during negotiations with the DEP.
- The cost of the 1% MyFloridaMarketPlace Transaction Fee has been included in our lump sum price.
- The cost of insurance as described in Attachment 1, Section 1.14 A of the Best and Final Offer package has been included in the lump sum price on line A7.
- CDM has accounted for an annual inflation rate of 3% in the proposal.

Item A Operation and Maintenance

- The Operation and Maintenance staffing and equipment meets the requirements of the contingency plan currently in place for the site.
- A full-time site safety officer has been included in the safety training line item A3 for the first two and half years of the project. This is to provide adequate safety monitoring and training during the closure construction and process water consumption work.

Item B Process Water Consumption

- The costs for process water consumption include the estimated electricity costs for the operation of the proposed treatment system. The electricity cost has been estimated based on the current rate at the site of \$0.063/KWH.
- The cost of electricity for the spray evaporation system has been included in the cost of operation of the spray evaporation system. CDM has assumed the spray evaporation system will be available for use after May 2005.
- The US Filter R.O. costs include the estimated cost of electricity for the operation of the R.O. system. Our proposal is based on the US Filter contract with the receiver being assigned to CDM as of January 1, 2005.

Item C Closure Construction

- The closure construction requires approximately 1,100,000 cubic yards of clean fill material which will be obtained from offsite sources. CDM is confident that we can locate a close borrow source and we will discuss this further with FDEP during final negotiation.

C1 – NGS-N, OGS-S & OGS-N

- We have included the costs for the import, placement and compaction of 278,103 CY's of clean fill to be installed on the interior slopes of the NGS-N, OGS-N & OGS-S Compartments.
- We have included the cost for full coverage of the OGS caps with one layer of SKAPS 315 woven geo-textile fabric prior to the initial layer of soil cover.
- We have included the costs for sodding 40 acres of the newly placed soil fill with Bahia sod & 4 acres of seeding and mulching.
- We have included the costs for two Type 'E' outlet structures and 200 LF of 12" HDPE SDR 21 pipe to be installed on top of the OGS-S & OGS-N cap area.
- We have included the costs for 1,000 LF of a 6" gravel drain wrapped in geotextile fabric, as explained in the instructions for the BAFO, to be installed on top of the OGS-S & OGS-N cap area.

C2 – NGS-S Compartment

- We have included the costs for the excavation of 5,000 CY's of sludge from the NGS-S Compartment. This material will be hauled and placed in the North Cooling Pond prior to placement of the soil cover and liner.
- We have included the costs for the excavation, placement and compaction of 393,740 CY's of Gypsum to construct the NGS-S Compartment. Approximately 43,122 CY's of the material will be excavated and hauled from the South and West slopes of the Old Gyp Stack. The balance of the required material will be excavated from the center of the existing NGS-S.
- We have included the costs for the import, placement and compaction of 237,303 CY's of clean fill to be installed on the interior slopes of the NGS-S Compartment.

Closure of the Piney Point Phosphogypsum Stack System Invitation to Negotiate

- We have included the costs for sodding 18 acres of soil cover with Bahia sod and 24 acres of seeding & mulching.
- We have included the costs for one outlet structure to be installed through the South wall of the NGS-S compartment. This outlet will be installed per Phase II Construction Drawing #D-2 and will include 300 LF of 18" HDPE SDR 11.
- We have included the costs for one Type 'E' outlet structure and 100 LF of 12" HDPE SDR 21 pipe to be installed through the North wall of the NGS-S cap.
- We have included the costs for 500 LF of a 6" gravel drain wrapped in geotextile fabric, as explained in the instructions for the BAFO, to be installed on top of the NGS-S cap area.
- We have included the costs for the installation of one 12" HDPE inlet structure and 300 LF of 12" HDPE SDR 21 pipe, as explained in the Instructions for The BAFO.
- Liner materials required for Item C2-NGS-S, C3 and C4 Compartments – To be delivered by June 30, 2005. Liner resin index, through above mentioned delivery date, assumed to be \$.64 per pound. Materials not delivered before July 1st, 2005 will be subject to price escalation based on industry resin pricing index for Volume Thermoplastics. (index reflects price of raw resin only, not manufactured product)

C3 – Stack Slopes & Ditches

- We have included the cost for the excavation, placement and compaction of 188,637 CY's of Gypsum in order to achieve final grade. We have assumed that the necessary gypsum required for the fill areas are with-in 150 LF (on average), therefore, we have included no costs for hauling any of this material by truck.
- We have included the costs for the supply and installation of 12,500 LF of seepage collection drain to include one run of 6" Corrugated/Perforated HDPE pipe, one run of 12" HDPE SDR 21 Solid-Wall pipe, silica gravel, 12 oz/sy geo-textile and geo-net/geo-textile. We have included the costs for connecting the 6" drain pipe to the 12" header pipe every 200 LF. We have included no costs for additional piping, valves or fittings.
- We have included the costs for the import, placement and compaction of 166,459 CY's of clean fill to be installed over the liner.
- We have included the costs for 55 acres of gypsum amendment with dolomitic limestone (7.5 Tons/Acre). 71 acres of the stack slopes and ditches will be seeded & mulched & 19 acres will be grassed with Bahia sod.
- We have included the cost for the supply and installation of 4 each Type "E" Inlets. We have also included the costs for the following quantities of HDPE SDR 17 culvert pipe; 40 LF of 18", 650 LF of 24", 80 LF of 30" & 240 LF of 36". These culverts and transfer pipes will be installed per Figure #4 of the ITN Background Information.

C4 – Cooling/Sludge Ponds and Ditches

- We have included the cost for full coverage of the NCP and SCP with one layer of SKAPS 315 woven geo-textile fabric prior to the initial layer of soil cover.
- We have included the costs for the placement and compaction of 247,558 CY's of clean fill over the reinforcement layer of woven geo-textile fabric (2' average thickness). Approximately 210,000 CY's of this material will be excavated from the existing perimeter & interior berms of the SCP, and pushed into the center. The balance of the required fill will be imported from an off-site borrow source.
- We have included no costs associated with the construction of the process water sump.
- We have included the costs for the supply and installation of 9,000 LF of seepage collection drain to include one run of 6" Corrugated/Perforated HDPE pipe, one run of 12" HDPE SDR 21 Solid-Wall pipe, silica gravel and 12 oz/sy geo-textile. We have included the costs for connecting the 6" drain pipe to the 12" header pipe every 200 LF. We have included no costs for additional piping, valves or fittings. Since the cross sections of the Cooling/Sludge Ponds do not show the geo-net/geo-textile, we have assumed that the geo-net/geo-textile is only required with the 12,500 LF of seepage collection drain surrounding the gyp stack compartments.
- We have included the costs for the import, placement and compaction of 396,554 CY's of clean fill to be installed over top of the HDPE Liner.
- We have included the costs for seeding & mulching 130 acres of the newly placed soil fill & 20 acres of Bahia sod.
- We have included the cost for the supply and installation of 4 each, Type 'E' inlets and 700 LF of 12" HDPE SDR 21 to be installed per Figure #4 of the ITN Background Information.

Optional Re-Closure of NGS-N Relief Ditch & Disposal of Plant Scale

- We have included the costs for the loading, transport & placement of 25,000 CY's of plant scale.
- We have included the costs for the decontamination of our equipment. All contaminated waste water will be disposed of by others.
- We have included the costs for the removal & replacement of 25,000 CY's of soil cover atop the NGS-S cap area.
- We have included the costs for the excavation, placement of 75,000 CY's of sluiced Gypsum to encapsulate the plant scale. The Gypsum will be placed over the plant scale and saturated with a water truck.
- We have included the cost for the placement & compaction of 50,000 CY's of soil fill to be installed over top of the liner.

ATTACHMENT 4

BAFO PRICING SUMMARY
ITN 2005002C

ITEM	DESCRIPTION	TOTAL (Years 1-5)	Years 1-2	Years 3-5	Years 6-10 If Contract is Renewed
A. OPERATION AND MAINTENANCE					
A1	Site Operation and Maintenance (Including Process Water and Runoff Management, Inspections, Site Security, Mowing, Repairs, and Post-Closure Care & Maintenance)	\$ 5,839,406	\$ 4,030,220	\$ 1,809,186	\$ 3,317,000
A2	Utilities (Power, excluding power used in process water consumption, Water, Domestic Wastewater, Refuse Collection, etc.)	\$ 480,183	\$ 218,002	\$ 242,181	\$ 444,000
A3	Safety Training and Safety Compliance	\$ 720,870	\$ 313,190	\$ 407,680	\$ 747,000
A4	Groundwater Monitoring Plan Implementation	\$ 1,060,547	\$ 525,679	\$ 534,868	\$ 981,000
A5	Surface Water Monitoring Plan Implementation	\$ 224,758	\$ 89,903	\$ 134,855	\$ 247,000
A6	Project Coordination, Direction & Reporting	\$ 1,862,886	\$ 1,067,273	\$ 795,613	\$ 1,459,000
A7	Liability Insurance Coverage (Including Pollution Liability)	\$ 342,807	\$ 308,527	\$ 34,280	\$ 63,000
ITEM A SUBTOTAL		\$ 10,511,457	\$ 6,552,794	\$ 3,958,663	\$ 7,258,000

B. PROCESS WATER CONSUMPTION (Including Power Usage, Staffing & Overhead)					
B1	Years 1 & 2 - Department's Option 1 With ≤ 20 lb NH3-N/day		BAFO BID PRICE	Unit Cost \$/1,000 Gal	
	Consumption Method	Projected Quantity (Mgal)			
	Spray Evaporation	175	\$ 447,109	\$ 2.55	
	US Filter R.O. (Existing Contract)	50	\$ 1,067,325	\$ 21.35	
	New R.O. (with Reject Treated by Double-Line)	0	\$ -	\$ -	
B2	Years 1 & 2 - Department's Option 2 With ≤ 50 lb NH3-N/day		BAFO BID PRICE	Unit Cost \$/1,000 Gal	
	Consumption Method	Projected Quantity (Mgal)			
	Spray Evaporation	175	\$ 447,109	\$ 2.55	
	US Filter R.O. (Existing Contract)	50	\$ 1,067,325	\$ 21.35	
	New R.O. (with Reject Treated by Double-Line)	0	\$ -	\$ -	
B3	Years 1 & 2 - Department's Option 3 With ≤ 100 lb NH3-N/day		BAFO BID PRICE	Unit Cost \$/1,000 Gal	
	Consumption Method	Projected Quantity (Mgal)			
	Spray Evaporation	175	\$ 447,109	\$ 2.55	
	US Filter R.O. (Existing Contract)	50	\$ 1,067,325	\$ 21.35	
	New R.O. (with Reject Treated by Double-Line)	0	\$ -	\$ -	
B4	Years 1 & 2 - Department's Option 4 With ≤ 200 lb NH3-N/day		BAFO BID PRICE	Unit Cost \$/1,000 Gal	
	Consumption Method	Projected Quantity (Mgal)			
	Spray Evaporation	175	\$ 447,109	\$ 2.55	
	US Filter R.O. (Existing Contract)	50	\$ 1,067,325	\$ 21.35	
	New R.O. (with Reject Treated by Double-Line)	0	\$ -	\$ -	
ITEM B SUBTOTAL (B1 + B2 + B3 + B4) for Department's Option 1					
ITEM B SUBTOTAL (B1 + B2 + B3 + B4) for Department's Option 2					

If Yes, a contingency allowance of \$1,000,000 will be added to the subtotal

C. CLOSURE CONSTRUCTION

Respondent's Estimated Quantities		Engineer's Estimate	Respondent's Estimate	BAFO BID PRICE	Unit Costs
C1	NGS-N, OGS-S & OGS-N				
	Soil Cover	cy	270,000	270,000	
	60-Mil HDPE Liner	sf	175,000	175,000	12.41
	Drain Composite	sy	50,000	50,000	0.69
	Sodding (Soil Slope Cover)	ac	40	40	9.60
C2	Seed or Sod (Soil Crest Cover)	ac	4	4	8,792.50
	Other Ancillary	lump	4	9,400	2,350.00
	ITEM C1 SUBTOTAL			\$ 68,000	\$ 4,379,100
	NGS-S Compartment				
	Sludge Excavation	cy	5,000	5,000	8.80
C3	Gypsum Fill	cy	400,000	393,740	5.97
	80-Mil HDPE Liner	sf	3,000,000	2,352,000	5.97
	60-Mil HDPE Liner	sf	750,000	2,054,000	0.68
	40-Mil HDPE Liner	sf	500,000	353,000	0.47
	Soil Cover	cy	200,000	500,000	0.40
	Drain Composite	sy	35,000	237,303	11.29
	Sodding (Soil Slope Cover)	ac	18	35,000	9.60
	Seed or Sod (Cap Areas, Relief Ditch & Crest Roads)	ac	24	188	8,794.44
	Outlet Structures	lump	24	24	2,341.67
	Other Ancillary	lump	lump	lump	
	ITEM C2 SUBTOTAL			\$ 489,000	\$ 8,749,200
	Re-Closure of NGS-N Relief Ditch if Used for Disposal of Plant Scale (at FDEP's Option)				
	60-Mil HDPE Liner	sf	500,000	500,000	0.47
	Soil Cover	cy	50,000	50,000	10.62
	Sodding	ac	12	12	8,750.00
	Outlet Structure Modification	lump	lump	lump	
C4	Gypsum Fill (Encapsulate Scale)	cy	75,000	3,800	
	Gypsum Borrow Area Work	cy	25,000	25,000	3.74
	Remove & Restore Soil Cover	sf	350,000	350,000	0.40
	Restore & Replace 40-Mil Liner	ac	8	8	2,300.00
	Restore Grass (Seed or Sod)	lump	lump	lump	
	Other Ancillary	lump	lump	14,300	14,300
	ITEM C3 SUBTOTAL			\$ 5,604,700	
	Stack Slopes and Ditches				
	Gypsum Earthwork	cy	100,000	188,637	2.06
	80-Mil HDPE Liner	sf	800,000	800,000	0.69
	60-Mil HDPE Liner	sf	700,000	700,000	0.47
	Drains	lf	12,500	12,750	115.37
	Soil Cover	cy	150,000	166,459	12.63
	Seeding (Stormwater Ponds)	ac	16	16	2,343.75
	Sodding (Runoff Ditches)	ac	19	19	8,789.47
	Amended Gypsum Grassing	ac	55	55	6,663.64
	Seeding or Sodding	lump	lump	lump	
C5	Other Ancillary	lump	lump	153,000	
	ITEM C4 SUBTOTAL			\$ 31,010,600	
	Cooling/Sludge Ponds & Ditches				
	Earthwork (Soil)	cy	250,000	247,558	6.82
	80-Mil HDPE Liner	sf	1,000,000	1,000,000	0.69
	40-Mil HDPE Liner	sf	4,500,000	4,500,000	0.40
	Drains	lf	9,000	9,225	114.80
	Soil Cover	cy	400,000	396,554	12.64
	Seeding (Cap Areas)	ac	130	130	2,343.08
	Sodding (Runoff Ditches)	ac	20	20	8,795.00
	Other Ancillary	lump	lump	155,000	
	ITEM C5 SUBTOTAL			\$ 10,864,500	
D. TOTAL PRICE					
TOTAL PRICE (A+B+C) for Department's Option 1					
				\$ 51,956,878	
TOTAL PRICE (A+B+C) for Department's Option 2					
				\$ 51,956,878	
E. & F. MISCELLANEOUS					
E2	Transport Plant Scale to Stack (Assume 25,000 cy)			\$ 250,000	
F5	Florida Sales Tax			\$ 956,000	