

11/1/03-03743

**QUALITY CONTROL PLAN  
FOR  
LONG TERM MONITORING AND OPERATION & MAINTENANCE  
AT  
MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA**

Prepared for:

**DEPARTMENT OF THE NAVY**

Contract No. N62470-03-D-4000



Atlantic Division  
Naval Facilities Engineering Command  
6506 Hampton Boulevard  
Building A (South East Wing) 3<sup>rd</sup> Floor  
Norfolk, Virginia 23508

Prepared by:

**Engineering and Environment, Inc.**  
195 South Rosemont Road, Suite 118  
Virginia Beach, Virginia 23452

Contract Task Order 0010

November 2003

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We hereby certify that the Quality Control (QC) Plan shown and marked in this submittal is proposed to be incorporated into Contract Number N62470-03-D-4000, is in compliance with the contract drawings and specifications, can be installed in the allocated spaces, and is submitted for Government approval.

  
\_\_\_\_\_  
Certified by Submittal Reviewer / Program Manager  
Martin M. Schlesinger, P.E.

  
\_\_\_\_\_  
Certified by QC Program Manager  
Michael Slade, E.I.T.

November 2003

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## **1.0 STATEMENT OF QC PROGRAM**

Engineering & Environment, Inc. (EEI) will provide and maintain effective Quality Control (QC) through the QC Program of Shaw Environmental, Inc. (Shaw), subcontracted to provide some of the services for this Task Order (TO). This program will be performed in accordance with the Program Quality Control Plan (PQCP) developed by Shaw to be responsive to the Atlantic Division, Naval Facilities Engineering Command contract and to the TO specification(s) made applicable to each project, task or work activity. EEI, along with Shaw Environmental, Inc., will perform the quality control, inspections and tests required to ensure that materials, workmanship, and operations conform to drawings, specification, and contract requirements.

### **Note to Employees**

Quality control should not be considered a person or an organization of personnel, but a concept to perform in such a manner that the end products of our efforts meet established criterion and the customer's needs. The quality control individual or group cannot inspect quality into the final product, but only inspect and document the results of our efforts. The only people that can build quality into the product are the individuals performing the task of producing the end product.

All employees should note that the documentation requirements of EEI procedures, plans, and the delivery order specifications are considered equally as important as the end product itself. When it is stated that the documentation will be approved prior to the start of work, this is exactly what is intended. To eliminate problems in this area requires careful planning and execution by everyone.

We would do well to remember that our livelihood depends on how well we satisfy our customer. To accomplish this requires teamwork and attention to detail by all employees and contractors.

## **2.0 QUALITY CONTROL ORGANIZATION**

The QC organization for the execution of Long Term Monitoring and Operation & Maintenance of remediation systems is depicted in the Organizational Chart, EXHIBIT 2.0. EEI's in place Camp Lejeune crew and Project QC Manager will execute day-to-day site QC activities, reporting to EEI management.

Mr. William Morris will function as the Project QC Manager and also as the Site Superintendent for this Task Order. Mr. Morris has more than 10 years environmental project management and QA/QC experience and maintains current US Army Corps of Engineers (USACE) Construction Quality Management for Contractors, QC certification.

Mr. Randy Smith will function as the Alternate Project QC Manager when Mr. Morris is not on-site. Mr. Smith has more than 10 years of construction management and QA/QC experience and also maintains current US Army Corps of Engineers (USACE) Construction Quality Management for Contractors, QC certification.

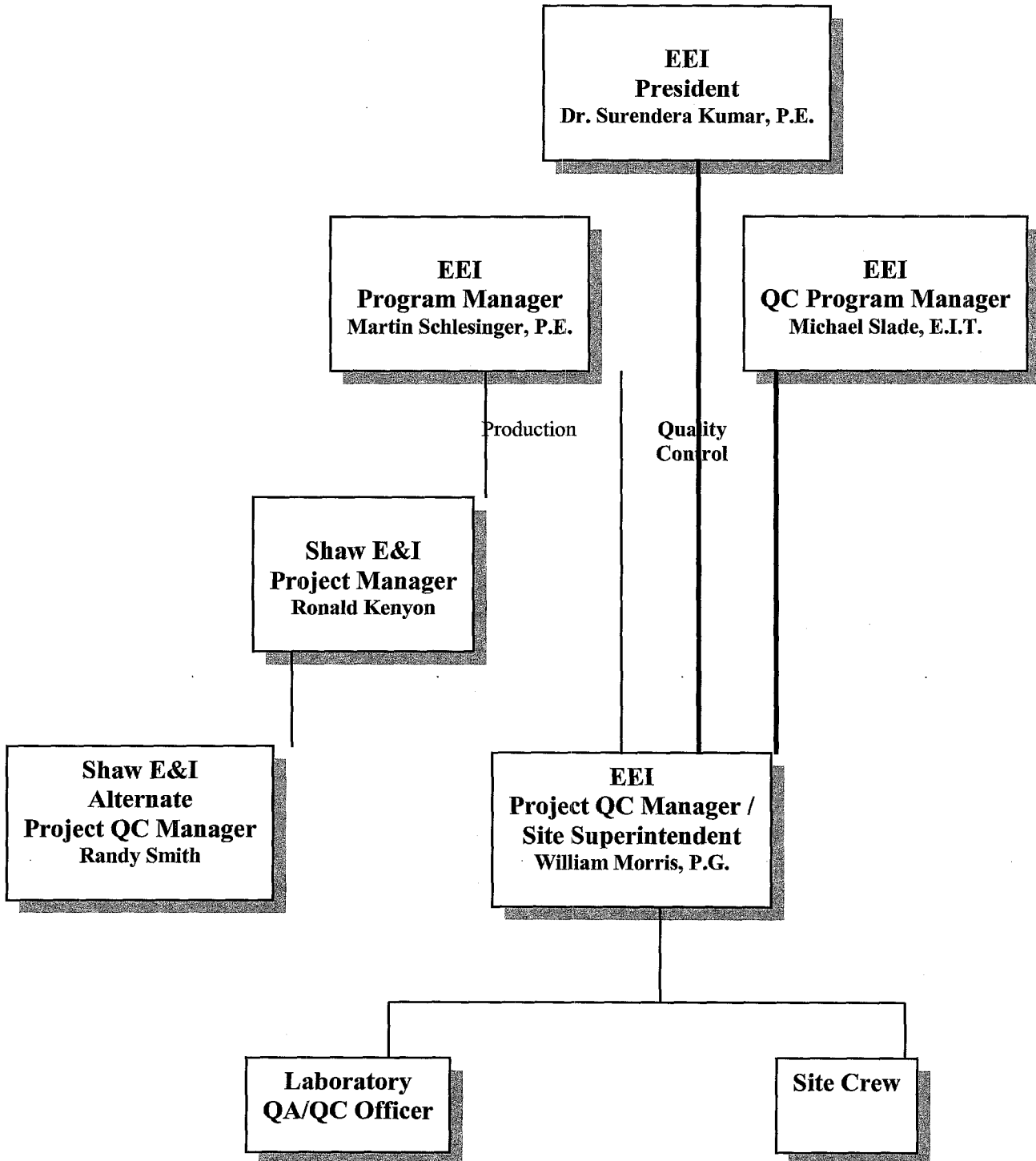
Mr. Ron Kenyon, Shaw Project Manager will be in direct contact with Mr. Morris who is also the Site Superintendent, concerning the operational activities at the sites.

Mr. Michael Slade, E.I.T., QC Program manager of EEI will serve to resolve any QC related issues, which need his involvement. The Project QC Manager will have a direct line of communication to Mr. Slade on issues that can not be resolved at the project level.

The resumes of any additional Shaw QC staff members that may become involved with the project at later dates will be submitted to EEI for review and acceptance prior to submission to the CO for approval prior to assignment.

**EXHIBIT 2.0**

**QUALITY CONTROL ORGANIZATIONAL CHART**



### **3.0 RESUMES OF QC PERSONNEL**

The resumes of the QC Manager and personnel in the QC Organization are provided in EXHIBIT 3.0.

**EXHIBIT 3.0**

**RESUMES OF QC PERSONNEL**



**Martin Schlesinger, P.E.**  
***Program Manager*****Education**

MS / Civil Engineering (Environmental), 1987  
BS / Biological Sciences, 1970

**Registrations**

Registered Professional Engineer in Pennsylvania, 1989  
Registered Professional Engineer in Maryland, 1990  
US Army Corps of Engineers Certification for Construction Quality Control Management, 2003

**Experience Overview**

Mr. Schlesinger has over 30 years experience in the management of environmental projects. He has extensive experience in wastewater treatment processes, site assessments, environmental compliance and civil engineering. His experience includes design of industrial and municipal wastewater treatment facilities and pump stations, storm water management and pollution prevention, as well as operation and maintenance.

**Representative Experience:**

- He was project manager for evaluation of spill containment structures for a chemical manufacturing facility and site characterization studies of steel and chemical manufacturing plants. He provided regulatory interpretations for client firms and managed the development of RCRA Closure Plans for container storage facilities and industrial wastewater treatment plants.
- Mr. Schlesinger's experience includes environmental assessments for Merger & Acquisitions, insurance claim validations, environmental audits and site characterizations of manufacturing plants, RCRA Permitting and Closure Plans, and regulatory interpretations and management and direction of a multi-media site investigation of a secondary lead smelter in New York State. The extent and concentration of airborne lead both on and off-site were determined in subsurface and surface waters, as well as in soil and air pollution. As a part of this project, a comprehensive maintenance and monitoring program was developed and implemented.
- Mr. Schlesinger evaluated and updated an existing Pollution Prevention (P2) Plan at a commercial metal finishing operation. Because the facility was a generator of hazardous waste; had the potential for accidental pollution maintained aboveground storage tank facilities; maintained over 1,320 gallons of petroleum products, and operated under a General Storm Water Permit he combined all of the appropriate emergency response plans into the revised P2 Plan.
- As environmental engineer for a synthetic organic chemical facility, he completed many projects that included preparing hazardous and residual waste reports; developing a PCB Document Log; reviewing the NPDES permit requirements; evaluating the facility's

hazardous waste generator's status; evaluating lab sampling handling practices; and determining the implications for the removal and disposal of flood damaged products.

- As engineering Program Manager, Mr. Schlesinger directed the development and delivery of environmental and Health and Safety training programs.
- As Senior Project Engineer for eight years, for environmental firms, Mr. Schlesinger supervised multi-media site investigations, environmental surveys and remediation projects. He directed teams conducting long-term multiphase environmental surveys to complete aspect analysis including scheduling and budgeting. Directed investigations for insurance companies related to environmental impairment of properties, developed industry specific processes, operations and assessment protocols and supervised a professional staff conducting site assessments, and compliance audits, developing permit documents and interfacing with regulators.
- He directed the preparation of 15 RCRA Part B permit applications for hazardous waste storage, treatment and disposal units. He designed remedial action measures for a solid/hazardous waste disposal area, developed protocol and managed a privately financed PCB site remediation, coordinated and directed CERCLA activities at Previously Operated Properties, managed many other environmental projects and developed specifications for remediation projects at a military installation.
- As Senior Process Engineer for 14 years for industrial clients, Mr. Schlesinger directed new product and treatment process development activities. He developed treatment processes and equipment design for industrial wastewater treatment plants and commercial hazardous waste facilities. Mr. Schlesinger managed the start-up of a \$10.0 million Mobile Waste Treatment Operations, supervised construction and operation of pilot-scale and full-size wastewater treatment systems, evaluated separation process for technical effectiveness and commercial viability.

**Michael A. Slade**  
**QC Program Manager****Education**

MS / Environmental Engineering, Ohio State University, Ohio, 1994

BS / Civil Engineering, Central State University, Wilberforce, Ohio, 1988

**Registrations**

OSHA 40-hr Certification Training

Residence Officer in Charge of Construction (ROICC) Certification; Ft. Sill, OK 1988; NIOSH Safety and Health Course; and PC Computer/Software Training, GIS, Arch View, BRADD, AutoCAD.

US Army Training: Nuclear Biological Chemical, and Weapons Training Course; Blister Training Course; and Army Leadership Development Program

US Army Corp of Engineers Certification for Construction Quality Control Management, June 1997 and June 2003.

**Experience Overview**

Mr. Slade has a background based on formal education and 12 years of relevant experience demonstrating leadership initiative, technical expertise, spontaneous creativity, and reliable performance success. Mr. Slade's experience includes management of many projects under LANTDIV's CLEAN and RAC contracts. He is an expert in the structural, operation, maintenance, troubleshooting and repair of the full array of construction projects and systems. Adept in conducting thorough site inspection with Navy quality control techniques as well as emergency response management.

**Representative Experience:**

- As QA/QC Manager/Construction Manager of New Transit Engineering & Transportation – Newark, New Jersey, Mr. Slade worked on a 4.8 million dollar super structure / substructure bridge restoration project for New Jersey Transit. He spent time renovating piers, substructure piling, piling caps, caisson and counterweight on a Draw Bridge. He performed oversight for the entire delivery order ensuring work was performed in compliance with design specification. His responsibilities also included submittal review, submittal approval testing plan and log, three-phase control, weekly QC meetings and minutes. He also evaluated all contractors and vendors alike in their work performance that was graded toward award fees in cost plus contract.
- Mr. Slade served as a structural engineer and Bridge inspector for CH2M Hill in Virginia Beach, Virginia, performing linear, nonlinear, static and dynamic analysis for Virginia department of Transportation, (VDOT) under AASHTO regulators project Richmond, Virginia. He managed work crews, prepared bids and proposals for new and augmented services. Consistently maintained contact with client base to resolve problems and ensure 100% compliance and quality of provided services. Reviewed initial design package. Prepared/reviewed/implemented the work plan. Developed environmental protection plan, quality control plan, and health and safety plan. Effectively staffed and directed on-site construction team and subcontractors.

- Managed Project on Navy Clean II Contract. Responsibilities included Preliminary Assessments, Site Investigations, Remedial Investigation, Implementing (CERCLA, RCRA, SARA) process studies designs, monitoring and oversight of Landfill design and implementation for construction. Served as Project Manager under BRAC Closure permit at the Naval Weapon Station (SouthDiv) RAC, Waco Texas. Managed and implemented Design Build project for landfill Cap/Wastewater Treatment plant.
- He was responsible for all phases of project engineering for environmental remediation construction projects which included retention ponds, design landfill with liners, under a United States Navy Multi RAC Contract, these phases included implementing client proposal request, negotiations, site investigation, bench scale treat ability studies, engineering design, submittals, scheduling, cost analysis, procurement, construction, as-built records, and administrative records reports. Managed quality control deliverables such as submittals, inspections, and test reports.
- As Field Engineer/Project Manager for OHM Remediation Services Corporation/The IT Group in Trenton New Jersey and Virginia Beach, Virginia, Mr. Slade was responsible for administering quality assurance/quality control procedures at various project sites, ensuring environment remediation and construction work performed meets job specification.
- Served as a field engineer and CQC Manager for the design and implementation of a 10M, 500 gpm, groundwater treatment system using a liquid-phase groundwater and dual-phase vacuum extraction system to remediated identified groundwater inside and adjacent to a landfill.

**William C. Morris P.G.**  
***Project Quality Control Manager / Site Superintendent***

**Education**

BS / Geology, University of Georgia, 1982

**Registrations**

North Carolina Licensed Geologist No. 218 / 1993

Association of Ground Water Scientist and Engineers / National Ground Water Association

OSHA 40-Hour Hazardous Waste Site Training Course / 1985

US Army Corps of Engineers Certification for Quality Control Management, 2003

**Experience Overview**

Mr. Morris has over 17 years experience in environmental consulting. He has extensive experience in management of environmental investigation and remediation projects and mobile laboratory services; as well as, developing and executing site investigations involving fixed base and mobile laboratories. Mr. Morris also has approximately 2 years experience in geotechnical testing and engineering.

**Representative Experience:**

- He was task manager for soil investigation of multiple sites at a petroleum refinery in Coastal Plain Province, Virginia (2000-2002). The contract value was approximately \$200,000 in which he led investigations on six sites at a petroleum refinery. Field investigations included subsurface soil sampling at more than 150 boring locations across the refinery. He incorporated extensive background soil and groundwater data in developing work scope providing Quality Control functions and interpreting data. He organized the investigation, was primary author of reports, and coordinated with lead agency (Virginia Department of Environmental Quality, AST Program) to integrate the program into a refinery-wide RCRA RFI / CMS / CMI.
- He was project manager for soil and groundwater investigation and remediation at a former light manufacturing facility in Piedmont Province, North Carolina (1998-2000). The contract value was approximately \$2,100,000 in which Mr. Morris conducted an initial investigation of multiple potential source areas at an industrial facility, and then implemented a focused comprehensive investigation. He identified, characterized, and delineated four discrete source areas and two commingled shallow aquifer CVOC plumes. Hydrogeology evaluated from bedrock and surficial aquifer pumping tests, bedrock core samples, and borehole geophysics. Immediately proceeded to develop and implement interim remedial responses, including excavation and on-site thermal desorption of CVOC-affected soils from two source areas and installation of four pairs of horizontal AS / SVE wells with a total horizontal well footage of 4500 feet. Conducted AS / SVE pilot study and developed equipment design specifications.
- Mr. Morris was project manager for the investigation and interim remedial response at an active pulp and paper mill in Blue Ridge Province, North Carolina (1994-1998). Following

observation of seeps along a riverbank adjacent to the facility, Mr. Morris conducted an investigation to evaluate groundwater quality and hydrogeologic characteristics at the facility. He installed overburden and bedrock monitor wells. He also conducted variable rate and constant rate aquifer pumping tests and slug test. He monitored for pH, color, and conductivity at multiple discrete depths in each well's water column; selected one discrete depth for sampling alkali earth metals primarily in overburden aquifer. As an interim remedial response, he installed a series of groundwater recovery wells to arrest groundwater flow prior to its discharge to the river. Mr. Morris also conducted performance monitoring and periodic rehabilitation of recovery wells.

- Mr. Morris delineated and remediated petroleum-affect soils at seven discrete sites. Soil remediation involved excavation and off-site thermal treatment. Delineation conducted concurrently via field colormetric screening tests confirmed with rapid turnaround analyses. Installed monitor wells at the seven sites and conducted quarterly groundwater monitoring and reporting for one year. All sites received closure from NC DENR.
- As a project manager, Mr. Morris investigated a leaking petroleum UST and a nearby waste accumulation storage at a former electronics manufacturing facility. Performed additional investigations of two leaking petroleum UST areas not included in the original scope, modified the CAP accordingly, installed a vertical AS / SVE remediation system, and initiated O&M program. Subsequently investigated another area of affected groundwater, conducted multiple variable rate and constant rate aquifer pumping tests, conducted groundwater flow modeling, and designed a pump-and-treat (P&T) system to arrest off-site flow of affected groundwater. Prepared and submitted a CAP Addendum, installed the P&T system and modified O&M program accordingly. Substantial concentration decreases observed for all constituents of concern.

**Ronald B. Kenyon**  
**Shaw Environmental & Infrastructure, Inc.**  
***Project Manager***

**Education**

BS / Biology, 1984

AAS / Chemistry, 1984

**Experience Overview**

Mr. Kenyon is a degreed biologist with eight years of in-field project management experience and over 17 years of experience on a wide range of restoration/remedial action projects as a program manager, project manager and project chemist. Experience includes program management of a \$35M emergency response and remediation contract for EPA Region 4 and Technical Lead for LANTDIV RAC remediation of Camp Lejeune, NC. He participated in the Partnering Team meetings for Camp Lejeune. Since 1995 he has been responsible for the direction and management of a large, multi-disciplinary technical staff, consisting of engineering, hydrogeology, geology, and chemistry professionals and field crews. Mr. Kenyon has directed field remediation and emergency responses in every state within EPA Region 4, performing remedial action activities and supporting designs and investigations for both the government and commercial customers. In addition to program and project management, his technical strengths include field laboratory operation, analytical, RCRA and state regulatory compliance, QA/QC, and government programs.

**Representative Experience:**

- As a Field Analytical manager, he was responsible for the daily management of a 20-person regional technical group located in four different offices, comprised primarily of field analytical and staff engineering personnel supporting an average of twenty to thirty projects simultaneously. Duties included evaluation and costing of incoming RFPs and task orders, preparation and revision of project submittals, site work, and subcontractor procurement and management. Mr. Kenyon is knowledgeable in the analysis of soil, water, and sludges according to accepted analytical methods. He was also responsible for laboratory sample and waste disposal, health and safety aspects within the laboratory, and maintaining the laboratory compliance with state and federal environmental regulations as a small quantity hazardous waste generator.
- Technical Lead, Camp Lejeune Marine Corps Base, NC, 1999-2002 (Project 3). For the past three years, served as technical lead for all LANTDIV III work conducted at this base. Responsible for the generation of required submittals including work plans, final reports, and annual performance reports. Developed scopes of work for procurement of subcontract services. Participated in partnering meetings with the client and regulators and served as client liaison in absence of project manager.
- Program Manager, EPA Region 4 ERRS. Responsible for direction and management of a \$35M emergency response and remediation contract. He managed all program requirements including fiscal, estimating, scheduling, reporting, and resources management. Responded

within 12 hours to Boca Raton, FL, to supply a crew for anthrax decontamination. Total obligated delivery orders to date exceed \$13M.

- Project Manager and Technical Lead for several solid waste and RCRA SWMU closures at Norfolk Naval Shipyard.
- Task Leader, Edgemere Landfill Drum Removal, New York City, NY, 1994. Involved in the set-up and management of mobile laboratory and all field sampling in support of the removal of 7,000 drums from an active landfill. Directed all waste characterization, transportation, and disposal.
- Task Manager, USACE Rapid Response, Former Raritan Arsenal, NJ, 1993. Supervised field team consisting of operational, technical personnel, and a mobile laboratory responsible for sampling, characterization, and T&D management for the emergency removal of buried unknown drums at a local college.
- Field Chemist, Norpak Drum site, Newark, NJ, 1992. Responsible for the on-site characterization and management of approximately 1,500 unknown drums of waste during an emergency removal action. Waste types included solvents, acids, and reactives.
- Project Chemist, Non-Ferrous Metals Site, EPA Region II, Plainfield, NJ, 1992. Served as Chemist and T&D Coordinator for an ERCS removal at abandoned plating facility. Responsible for identification of unknown wastes, characterization, on-site management and consolidation, and disposal coordination.
- Project Manager for CERCLA landfill closure. Managed project personnel consisting of chemists, T&D Coordinators, and site operations team responsible for the identification, on-site management, transportation, and disposal of 500 drums of unknown waste during capping of a CERCLA landfill site. Site construction activities included road building and maintenance, drum storage cell construction, and drainage culvert upgrades.
- Project Manager directing multi-disciplinary personnel including chemists, T&D Coordinators, and operations personnel for the execution of a \$1.8 million remediation at the William Dick Lagoons Site in Pennsylvania. This project involved investigation, excavation, and low temperature thermal desorption of nearly 40,000 tons of soil and included an SVE pilot test to ensure this alternate remedial approach.
- Site Manager responsible for supervision of field technicians and operations personnel involved in the rapid delineation and removal of contaminated soils at a fuel farm located on McGuire AFB, NJ.
- Technical support to various delivery orders issued under EPA Regions I, II, and III contracts including site walks, high hazard conditions, sampling and analysis, site operational procedures, and transportation and disposal of wastes. Provided input for health and safety issues in high hazard scenarios.



**Randy E. Smith**  
**Shaw Environmental & Infrastructure Inc.**  
***Alternate Project Quality Control Manager***

**Additional Training**

Health and Safety Training – 29 CFR 1910.120, 40 Hour OSHA Training / 1990  
USACOE Construction Quality Management / 1997

**Experience Overview**

Mr. Smith, while being employed with Shaw Environmental from 1990 to the present, has over 11 years of direct on-scene response experience in the clean up of hazardous substances, oil and other contaminants, or pollutants at various sites. Experience includes the development of site safety plans, heavy equipment operation and field construction. He has been responsible for supporting and initiating emergency efforts in clean up activities including: POL sites, hazardous waste storage facilities and remedial sites. Mr. Smith has supervised up to 8 personnel in Level A PPE for cleaning out reactors. He has over 8 years experience as a site project superintendent, with Quality Control functions, supervising up to 35 multi-action contracts. He has performed as Site Foreman supervising up to 5 personnel during the staging and initial sampling phase of containers of unknown materials. He has supervised up to 20 personnel including supervisors, general foreman, equipment operators, recovery technicians, sample technicians, chemists, engineers, hydrogeologists, project accountants, and all subcontractors.

**Representative Experience:**

- Supervises, with Quality Control functions, on-site multidisciplinary personnel and subcontractors. He directs the utilization of heavy equipment and field construction activities at chemical and hazardous waste remediation sites. He is responsible for the preparation and adherence to remedial site plans, including financial documentation, cost tracking, work plans, spill prevention plans, and health and safety plans.
- Mr. Smith supervised (with QC functions) the installation of a 500 gpm groundwater pump and treat system and SVE system to remediate contaminated with vinyl chloride, mercury, TCE, and BTEX. Assisted in the development of project plans (e.g., work plans, sampling and analysis plans, health and safety plans, etc.). He supervised a crew of 16, as well as electrical, welding, and construction subcontractors. Work was performed in Levels B, C, and D PPE. Equipment used on site included cranes, trackhoes, backhoes, dozers, and drill rigs. Mr. Smith reviewed project costs, and the project was completed on time within the budget.
- Delineate, excavate transport and dispose of approximately 1,000 yd<sup>3</sup> of pesticide contaminated soil and debris. He supervised (with QC functions) three recovery technicians, two chemists, and an equipment operator working on Level C PPE and managed a surveying subcontractor. He worked with the Project Accountant to track costs for this CPAF project. He directed heavy equipment operations, including trackhoe, compactor, and backhoe. The project was completed on schedule and on budget, with no OSHA recordable incidents.

#### **4.0 DUTIES, RESPONSIBILITIES AND AUTHORITIES OF QUALITY CONTROL STAFF**

The duties, responsibilities and authorities of the members of the Quality Control staff are presented below.

##### ***QC Program Manager***

The QC Program Manager is responsible for managing and implementing the contract-wide QC program and ensures that all aspects of the Program are completed in accordance with the contractual requirements, including scheduling, budgetary and Quality Control. This includes developing, maintaining, and enforcing the QC Program. He is readily available for consultation when required by the contract or the Contracting Officer or designated representative.

##### ***Project Quality Control Manager***

The Project QC Manager assists and represents the QC Program Manager. The Project Quality Control Manager is responsible for developing, maintaining, and enforcing the QC program and for taking or recommending measures to ensure the fulfillment of the quality objectives in the most efficient manner commensurate with ensuring the continued accuracy and precision of the data collected and presented. As the Project Manager, he is responsible for the successful completion of the Project, including the successful execution of the Work as described in the Work Plan, Scope of Work, etc. As such, he is responsible for providing data of acceptable and known quality, the analysis and design of tests, and the review and approval of all project tasks. In addition, he identifies the list of project documents, records, etc. generated by the project activities.

The QC Manager has the authority to direct removal and replacement or correction of nonconforming materials or work and stop work authority when continuation would be unsafe to personnel, harmful to the environment, or result in a significant degradation of quality

##### ***Alternate Quality Control Manager***

The Alternate QC Manager performs the duties of the Project QC Manager in absence of the Project QC Manager and assists the Project QC Manager in completing the project according to plan including the preparation and documentation of the appropriate QC documentation required by the project.

The Alternate QC Manager also has the authority to direct removal and replacement or correction of nonconforming materials or work and stop work authority when continuation would be unsafe to personnel, harmful to the environment, or result in a significant degradation of quality

**5.0 APPOINTMENT LETTERS**

The Site QC Manager and Alternate QC Manager appointment letters are provided in EXHIBIT 5.0.

**EXHIBIT 5.0**

**APPOINTMENT LETTERS**

November 28, 2003

William Morris  
Engineering & Environment, Inc.  
824 Gum Branch, Suite s  
Jacksonville, NC 28546

Re: QC Manager Appointment for Long Term Monitoring and Operation & Maintenance  
Contract N62470-03-D-4000

Dear Mr. Morris:

This letter will serve as your appointment as the QC Manager on the referenced project and will also clarify your duties and authority in this position. In this position you will be authorized to use available resources to satisfy all applicable requirements of the Task Order Quality Control Plan.

As QC Manager you will be responsible for the daily implementation and maintenance of the QC requirements of this project as outlined in this Site Specific QC Plan.

This authorization specifically gives you the authority to direct removal and replacement or correction of nonconforming materials or work and stop work authority when continuation would be unsafe to personnel, harmful to the environment, or result in a significant degradation of quality.

You will be expected to work closely with the Program Manager and other project personnel, but you will not be directly responsible to anyone but the QC Program Manager and myself for resolution of quality issues when working in the capacity of QC Manager.

If you have any questions in this matter, please contact me.

Sincerely,

Dr. Surendera Kumar, P.E.  
President

Pc: R. Kenyon-Shaw  
File

November 28, 2003

Mr. Randy Smith  
Shaw Environmental, Inc.  
Lot 203, Piney Green Road  
MCB Camp Lejeune, NC

Re: Alternate QC Manager Appointment for Long Term Monitoring and Operation & Maintenance Contract N62470-03-D-4000

Dear Mr. Smith:

This letter will serve as your appointment as the Alternate QC Manager on the referenced project and will also clarify your duties and authority in this position. During the absence of the QC Manager you will function as the QC Manager and be authorized to use available resources to satisfy all applicable requirements of the Task Order Quality Control Plan.

As QC Manager you will be responsible for the daily implementation and maintenance of the QC requirements of this project as outlined in this Site Specific QC Plan.

This authorization specifically gives you the authority to direct removal and replacement or correction of nonconforming materials or work and stop work authority when continuation would be unsafe to personnel, harmful to the environment, or result in a significant degradation of quality.

You will be expected to work closely with the Program Manager and other project personnel, but you will not be directly responsible to anyone but the QC Program Manager and myself for resolution of quality issues when working in the capacity of QC Manager.

If you have any question in this matter, please contact me.

Sincerely,

Dr. Surendera Kumar, P.E.  
President

Pc: R. Kenyon-Shaw  
File

## **6.0 PROCEDURES FOR REVIEWING, CERTIFYING AND APPROVING SUBMITTALS**

The Project QC Manager will be responsible for coordinating and certifying that submittals are in compliance with the contract requirements. The approving authority for submittals is the QC Program Manager unless otherwise designated. When designated for government approval the Contracting Officer/ROICC is the approving authority for that submittal item.

The Program Manager or technical representative will coordinate the preparation and processing of submittals with performance of work so that work will not be delayed by submittal processing. The submittal will be prepared after verifying field measurements, materials, construction and performance criteria are in compliance with the requirements of the work and contract documents. The reviewer will then certify the submittal by signing the Transmittal Form and marking it for the appropriate approving authority and forward it to the Project QC Manager.

The Project QC Manager will then record the receipt of the submittal in the submittal register and verify that the submittal is in conformance with the project design documents and in compliance with the contract documents. If the submittal requires government approval the Project QC Manager will certify the submittal and forward it to the Contracting Officer for approval. The Transmittal Form for Government approval is provided in EXHIBIT 6.0. The certifying statement is printed on the form for review. Three copies of the submittal will be provided to the government for their review and approval.

When the approving authority is the QC Program Manager, a different Transmittal Form with certification is used. When the QC Program Manager is the approving authority the Program Manager or technical representative will sign the transmittal form certifying the submittal and forward it to the QC Program Manager for approval. Two copies of the submittal will be provided to the government for record purposes when QC approval is required. The Transmittal Form for QC approval is also provided in EXHIBIT 6.1.

### **6.1 Initial Submittal Register**

The initial Submittal Register for this Task Order is the Contractor's Submittal Transmittal form: LANTDIV NORFOLK 4-4355/3 (Rev. 11-99). An example is provided in EXHIBIT 6.3. The major initial submittals identified for this project include this QC Plan, the Site Specific Health and Safety Plan (SSHASP), the Environmental Protection Plan, and the Basewide Field Sampling Plan. Other submittals include monthly reports and the monthly analytical data collected for system performance and compliance monitoring.

### **6.2 Submittal Acquisition, Preparation and Initial Review**

The EEI Site Supervisor or Technical Representative will:

- (a) Coordinate the preparation and processing of submittals with performance of work so that work will not be delayed by submittal processing. No work will begin until submittals

for that work have been returned as “approved” or “approved as noted” except to the extent that a portion of the work must be accomplished as a basis of the submittal.

- (b) Determine and verify field measurements, materials, and field construction criteria; review each submittal; check and coordinate each submittal with requirements of the work and contract documents.
- (c) Ensure that the format and required number of copies for each submittal is provided in accordance with the requirements of the specification, or as requested by LANTDIV. Prepare each submittal by completing the applicable portions of Section 1 of the Submittal Package Transmittal Form, as appropriate for the required approval authority.
- (d) Transmit submittals to the QC organization in orderly sequence, in accordance with the submittal register allowing for the required review time.
- (e) Stamp each sheet of each submittal with the appropriate stamp, except that data submitted in bound volume or on one sheet printed on two sides may be stamped on the front of the first sheet only. When agreed to by LANTDIV, the Submittal Package Transmittal Form, containing the required certification statements may be utilized instead of the stamp. In either case the stamp or the form used will contain the following statements:

- When the approval authority is the government, the QC organization will certify submittals forwarded to the government with the following certifying statement:

I hereby certify that the (equipment) (material) (article) shown and marked in this submittal is that proposed to be incorporated into Contract Number N62470-03-D-4000, is in compliance with the Contract drawings and specification, can be installed in the allocated spaces, and is submitted for Government approval. Government approval of proposed variation, if any is recommended.

Certified by Submittal Reviewer \_\_\_\_\_, Date \_\_\_\_\_

Certified by QC Manager \_\_\_\_\_, Date \_\_\_\_\_

- When the approving authority is the QC Manager, the QC Manager will use the following approval statement when returning submittals to EEI staff as “Approved” or “Approved as Notes.”

I hereby certify that the (equipment) (material) (article) shown and marked in this submittal is that proposed to be incorporated into Contract Number N62470-03-D-4000, is in compliance with the Contract drawings and specification, can be installed in the allocated spaces, and is \_\_\_\_\_ Approved for use, \_\_\_\_\_ Approved for use subject to Government approval of proposed variation.

Certified by Submittal Reviewer \_\_\_\_\_, Date \_\_\_\_\_

Approved by QC Manager \_\_\_\_\_, Date \_\_\_\_\_

- (f) Sign the certifying or approval statement and date. Stamped signatures will not be acceptable.



- (g) Update the submittal register as submittal actions occur and maintain the submittal register at the project site until project completion and final acceptance by the government.
- (h) Identify the appropriate action (Not Reviewed, Approved or Approved as Submitted, Approved as Noted, Revise and Resubmit or Disapproved) on the Submittal Package Transmittal Form, as appropriate.
- (i) Retain a copy of approved submittals at the project site, including the EEI copy of approved samples.
- (j) When the approving authority is the Project QC Manager, forward two copies of each approved submittal, except "samples," where only one set is required, to the government.

### **6.3 Personnel Authorized To Review And Certify Submittals**

Personnel authorized to review and certify submittals other than the Site QC Manager/Representative are identified on EXHIBIT 6.2. Any additional personnel assigned to perform submittal review and certification will be provided for CO review and approval.

**EXHIBIT 6.0**  
**SUBMITTAL PACKAGE TRANSMITTAL FORM**  
**(CONTRACTING OFFICER APPROVAL)**

SUBMITTAL PACKAGE TRANSMITTAL FORM – LANTDIV CONTRACT NO. N62470-03-D-4000 (For Transmitting Product Data, Shop Drawings, Material Samples and Administrative Data – See Instruction on reverse side)					Date 7/31/03	Transmittal No.
<b>SECTION 1 – REQUEST FOR CONTRACT OFFICER APPROVAL</b>						
To: ROICC Brent Rowse	From: Engineering & Environment, Inc.	Project Title: Long Term Monitoring and O&M Location: Camp Lejeune, North Carolina T.O. No.:			Check One ( ) Initial Submittal ( ) Re-submittal	
Project / Job No.		Specification Section:			SD Number: SD-01	
Item No.	Description of Item(s) Submitted	Contract Reference Document			FOR CO REVIEW ONLY	
		Spec. Para No.	Dwg. Sht. No	No. of Copies	ACTION CODE	DATE
Action Code Comments/Explanation		<p>Certification Statement: I hereby certify that the equipment, material, or article shown and marked in this submittal is proposed to be incorporated into Contract Number N62470-03-D-4000, is in compliance with the contract drawings and specifications, can be installed in the allocated spaces, and is submitted for Government approval.</p> <p>Certified by Submittal Reviewer _____, Date _____</p> <p>Certified by QC Manager _____, Date _____</p> <p align="center">(Use Continuation Sheet, if necessary)</p>				
<b>SECTION II – APPROVAL ACTION (Please provide action code(s) in above review block)</b>						
Distribution:		<p>Approving Authority:</p> <p>_____</p> <p>Signature _____ Title _____ Date _____</p>				

**EXHIBIT 6.1**  
**SUBMITTAL PACKAGE TRANSMITTAL FORM**  
**(PROJECT QC MANAGER APPROVAL)**

SUBMITTAL PACKAGE TRANSMITTAL FORM – LANTDIV CONTRACT NO. N62470-03-D-4000 (For Transmitting Product Data, Shop Drawings, Material Samples and Administrative Data – See Instruction on reverse side)					Date	Transmittal No.
<b>SECTION I – REQUEST FOR QC ORGANIZATION APPROVAL</b>						
To:	From:	Project Title Location: T.O. No.			Check One ( ) Initial Submittal ( ) Re-submittal	
Project / Job No.		Specification Section:			SD Number:	
Item No.	Description of Item(s) Submitted	Contract Reference Document			FOR QC REVIEW ONLY	
		Spec. Para No.	Dwg. Sht. No	No. of Copies	ACTION CODE	DATE
Action Code Comments/Explanation						
(Use Continuation Sheet, if necessary)						
<b>SECTION II – APPROVAL ACTION (Please provide action code(s) in above review block)</b>						
Distribution:		Certification Statement: I hereby certify that the equipment, material, or article shown and marked in this submittal is proposed to be incorporated into Contract Number N62470-03-D-4000, is in compliance with the contract drawings and specifications, can be installed in the allocated spaces, and is approved for use.  Certified by Submittal Reviewer _____, Date _____  Approved by Project QC Manager _____, Date _____				

**EXHIBIT 6.2****LIST OF PERSONNEL AUTHORIZED TO REVIEW AND CERTIFY  
SUBMITTALS FOR THE CONTRACTOR**

<b>SPECIFICATION</b>	<b>SUBMITTAL TYPE:</b>	<b>AUTHORIZED PERSONNEL:</b>
N/A	ALL	Bill Morris - EEI
N/A	ALL	Martin Schlesinger - EEI
N/A	ALL	Mike Slade - EEI
N/A	ALL	Ronald Kenyon - Shaw

**LIST OF PERSONNEL AUTHORIZED TO REVIEW AND APPROVE  
SUBMITTALS FOR THE CONTRACTOR**

<b>SPECIFICATION</b>	<b>SUBMITTAL TYPE:</b>	<b>AUTHORIZED PERSONNEL:</b>
N/A	ALL	Bill Morris – EEI Project QC Manager
N/A	ALL	Randy Smith – Shaw Alternate Project QC Manager when Bill Morris is absent
N/A	ALL	Mike Slade - EEI

**EXHIBIT 6.3**

**CONTRACTOR'S SUBMITTAL TRANSMITTAL FORM:  
LANTDIV NORFOLK 4-4355/3 (Rev. 11-99)**

**CONTRACTOR'S SUBMITTAL TRANSMITTAL**

**Contract Number:**  
N62470-03-D-4000

**Transmittal Number:**

**Date:**

**From Contractor:**  
Engineering and Environment, Inc.  
95 South Rosemont Road, Suite 118, VA Beach, VA 23452  
**To:**

**Project Title and Location:**

**CONTRACTOR USE ONLY**

**REVIEWER USE ONLY**

*\*List only one specification division per form.*

*List only one of the following categories on each transmittal Form, and indicate which is being submitted.*

**\*\*ACTION CODES**  
A - Approved  
D - Disapproved  
AN - Approved as noted  
RA - Receipt acknowledged  
C - Comments  
R - Resubmit

Contractor Approved    Government Approved    Variation for Government Approval

Item No	Proj. Spec. Sect. & Para. And/or Proj. Dwg. No.	Item Identification (Type, size, model no., Mfg. Name, dwg. or brochure number)	No. of Copies	Action Codes	Reviewer Initials Code Date

**Contractor's Comments:**

**Copy of transmittal and submittals to ROICC:**

**Contractor Representative (Signature):**

**Date Received by Reviewer:**

**From (Reviewer):**

**To:**

Submittals are returned with action indicated. Approval of an item does not include approval of any variation from the contract requirements unless the contractor calls attention to and supports the variation.

Submittals are forwarded to ROICC with A-E recommendations indicated in REVIEWER USE ONLY section and in comments below on ONE COPY of the transmittal form.

**Reviewer's Comments:**

**Copies To:**

ROICC (2)  
LANTDIV (1)  
A-E (1)

**Date:**

**Signature:**

## **7.0 TESTING LABORATORY ACCREDITATION**

Testing Laboratory accreditation requirements as defined in the contract specifications will be followed. Environmental testing laboratories that will be utilized for this project have been audited and have the necessary accreditation to assure compliance with contract and State requirements. Laboratory accreditations for Severn Trent laboratory are provided as EXHIBIT 7.0.

**EXHIBIT 7.0**

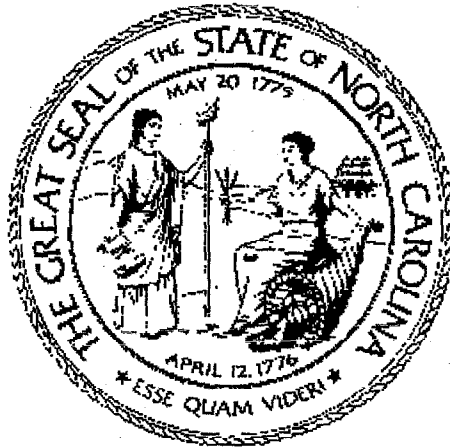
**SEVERN TRENT LABORATORY ACCREDITATION**



STATE OF NORTH CAROLINA DEPARTMENT OF THE  
ENVIRONMENT AND NATURAL RESOURCES

## DIVISION OF WATER QUALITY LABORATORY CERTIFICATION PROGRAM

*In accordance with the provisions of N.C.G.S. 143-215.3 (a) (1), 143-215.3 (a)(10) and NCAC 2H.0800:*



### ACCUTEST LABORATORIES SOUTHEAST, INC.

*Is hereby certified to perform environmental analysis as listed on Attachment I and report monitoring data to DWQ for compliance with NPDES effluent, surface water, groundwater, and pretreatment regulations.*

*By reference 15A NCAC 2H .0800 is made a part of this certificate.*

*This certificate does not guarantee validity of data generated, but indicates the methodology, equipment, quality control procedures, records, and proficiency of the laboratory have been examined and found to be acceptable.*

*This certificate shall be valid until December 31, 2003*

Certificate No.

573

  
Steve W. Tedder

**Attachment I  
North Carolina Wastewater/Groundwater Laboratory Certification  
Certified Parameters Listing**

Name: Accutest Laboratories Southeast, Inc.  
Address: 4405 Vineland Road, Suite C-15  
Orlando, FL 32811-

Certificate Number: 573  
Effective Date: 01/01/2003  
Expiration Date: 12/31/2003  
Date of Last Amendment: 05/30/2003

The above named laboratory, having duly met the requirements of 15A NCAC 2H.0800, is hereby certified for the measurement of the parameters listed below.

**CERTIFIED PARAMETERS**

<b>INORGANICS</b>	SW846 Method 6010B	EPA Method 601
<b>CHLORIDE</b>	CALCIUM	SW846 Method 8021B/5030B
EPA Method 300	EPA Method 200.7	<b>PURGEABLE AROMATICS</b>
<b>RESIDUAL CHLORINE</b>	SW846 Method 6010B	EPA Method 602
EPA Method 330.4	<b>CHROMIUM TOTAL</b>	SW846 Method 8021B/5030B
<b>CYANIDE TOTAL</b>	EPA Method 200.7	<b>ORGANOCHLORINE PESTICIDES &amp; PCBs</b>
EPA Method 335.2	SW846 Method 6010B	EPA Method 608
<b>NO2 + NO3 NITROGEN</b>	<b>COBALT</b>	<b>ORGANOCHLORINE PESTICIDES</b>
EPA Method 300	EPA Method 200.7	SW846 Method 8081A
<b>NITRATE NITROGEN</b>	SW846 Method 6010B	<b>POLYCHLORINATED BIPHENYLS (PCB'S)</b>
EPA Method 300	<b>COPPER</b>	EPA SW846 Method 8082
<b>NITRITE NITROGEN</b>	EPA Method 200.7	<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>
EPA Method 300	SW846 Method 6010B	EPA Method 610
<b>OIL &amp; GREASE</b>	<b>IRON</b>	SW846 Method 8310
EPA Method 413.1	EPA Method 200.7	SW846 Method 8100
SW846 Method 9071A	SW846 Method 6010B	<b>PURGEABLE ORGANICS</b>
<b>pH</b>	<b>LEAD</b>	EPA Method 624
EPA Method 150.1	EPA Method 200.7	SW846 Method 8260B/5030B
<b>INORGANIC PHENOLS</b>	SW846 Method 6010B	<b>BASE NEUTRAL/ACID ORGANICS</b>
EPA Method 420.1	<b>MAGNESIUM</b>	EPA Method 625
<b>SIDUE DISSOLVED 180 C</b>	EPA Method 200.7	SW846 Method 8270C
EPA Method 160.1	SW846 Method 6010B	<b>TPH DIESEL RANGE ORGANICS</b>
<b>RESIDUE SUSPENDED</b>	<b>MANGANESE</b>	California Method
EPA Method 160.2	EPA Method 200.7	SW846 Method 8015B
<b>SULFATE</b>	SW846 Method 6010B	<b>TPH GASOLINE RANGE ORGANICS</b>
EPA Method 300	<b>MERCURY</b>	California Method
<b>SULFIDE</b>	EPA Method 245.1	SW846 Method 8015B
EPA Method 376.1	SW846 Method 7470A	<b>1,2, DIBROMOETHANE (EDB)</b>
<b>TOTAL ORGANIC CARBON</b>	<b>NICKEL</b>	EPA Method 504.1 (Includes DBCP & TCP)
Std Method 5310C	EPA Method 200.7	SW846 Method 8011 (Includes DBCP)
<b>METALS</b>	SW846 Method 6010B	<b>EXTRACTABLE PETROLEUM HYDROCARBONS</b>
<b>ALUMINUM</b>	<b>SELENIUM</b>	Massachusetts Method
EPA Method 200.7	EPA Method 200.7	<b>VOLATILE PETROLEUM HYDROCARBONS</b>
SW846 Method 6010B	SW846 Method 6010B	Massachusetts Method
<b>ANTIMONY</b>	<b>SILVER</b>	
EPA Method 200.7	EPA Method 200.7	
SW846 Method 6010B	SW846 Method 6010B	
<b>ARSENIC</b>	<b>THALLIUM</b>	
EPA Method 200.7	EPA Method 200.7	
SW846 Method 6010B	SW846 Method 6010B	
<b>BARIUM</b>	<b>VANADIUM</b>	
EPA Method 200.7	EPA Method 200.7	
SW846 Method 6010B	SW846 Method 6010B	
<b>BERYLLIUM</b>	<b>ZINC</b>	
EPA Method 200.7	EPA Method 200.7	
SW846 Method 6010B	SW846 Method 6010B	
<b>CADMIUM</b>	<b>ORGANICS</b>	
EPA Method 200.7	<b>PURGEABLE HALOCARBONS</b>	

This certification requires maintenance of an acceptable quality assurance program, use of approved methodology, and satisfactory performance on evaluation samples. Laboratories are subject to civil penalties and/or decertification for infractions as set forth in 15A NCAC 2H.0807.



DEPARTMENT OF THE NAVY

NAVAL FACILITIES ENGINEERING SERVICE CENTER  
1100 23RD AVE  
PORT HUENEME CA 93043-4370

IN REPLY REFER TO:

NFESC 413  
April 21, 2003

Mr. Harry Behzadi  
Laboratory Director  
Accutest Laboratories, SE  
4405 Vineland Road Suite C-15  
Orlando, FL 32811

Dear Mr. Behzadi,

This correspondence addresses the status of Accutest Laboratories, SE (Accutest) of Orlando, Florida, in the Navy Installation Restoration (IR) Quality Assurance (QA) Program as administered by the Naval Facilities Engineering Service Center (NFESC).

Your laboratory is accepted to perform sample analysis for the methods listed in Table 1. The period of acceptance expires October 18, 2003. This acceptance does not guarantee the delivery of any analytical samples. Acceptance is facility specific and can not be transferred to an affiliated or subcontract laboratory.

Acceptance is based on the last assessment executed under the auspices of the Navy IR QA Program. The period of acceptance is consistent with the evaluation cycle identified by the Navy IR QA Program. The assessment included an onsite inspection performed June 26-27, 2001, and the processing of proficiency testing (PT) samples.

The Navy reserves the right to conduct additional laboratory assessments or to suspend or revoke acceptance status for any or all of the listed parameters if deemed necessary.

Table 1

METHOD	PARAMETER	MATRIX
314.0	Perchlorate	Water
300 Series	Anions	Water <sup>1</sup>
8081A	Chlorinated Pesticides	Water <sup>1</sup> /Solid
8082	Polychlorinated Biphenyls	Water <sup>1</sup> /Solid <sup>1</sup>
8100, 8310	Polynuclear Aromatic Hydrocarbons	Water <sup>1</sup> /Solid

NFESC 413  
April 21, 2003

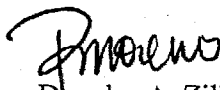
8270C	Semivolatile Organics	Water <sup>1</sup> /Solid <sup>1</sup>
SW-846	TAL Metals: Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, and Zinc	Water <sup>1</sup> / Solid <sup>1</sup>
Modified 8015B	TPH – DRO/GRO	Water/ Solids
8021B	Volatile Organics (BTEX)	Water <sup>1</sup> / Solid
8260B	Volatile Organics	Water <sup>1</sup> / Solid
7196A	Chromium hexavalent	Water
9012	Cyanide	Water/ Solid
8330, 8332, 8095, 8091	Explosives	Water/ Solid <sup>1</sup>

Acceptance for use for parameters not identified on the table will be determined by Navy project personnel.

The laboratory should notify NFESC if there are parameters not presented on Table 1 that the laboratory expects to run on a routine basis in support of Navy installation restoration projects. In these circumstances the laboratory's capability to run the tests will be reviewed and the table will be modified accordingly.

Questions concerning the information provided should be directed to the NFESC IR QA Program coordinator, Ms. Patricia Moreno at (805) 982-1659, or via email at [morenop@nfesc.navy.mil](mailto:morenop@nfesc.navy.mil).

Sincerely,

  
Douglas A. Zillmer  
Supervisor, Consultation/Information  
Management Branch

<sup>1</sup> Successfully processed a PT sample sent by USACE-HTRW for this parameter/matrix.

## **8.0 TESTING PLAN AND LOG PREPARATION**

All QC testing conducted in association with this project will be recorded on the Testing Plan and Log. A copy is attached as EXHIBIT 8.0. The Testing Log will be maintained by the Project QC Manager and will be available for inspection by the Contracting personnel during business hours. The testing will comply with the Field Sampling Plan for Site and Laboratory requirements. Members of the field staff will conduct the field-testing. The Contracting Authority will be notified prior to field-testing and invited to observe the testing. The testing will be tailored to each of the Identifiable Feature of the Work. Deficiencies in the Testing Plan and Log will be tracked and corrected as described under Section 9.0.

Site activities for this TO include the collection of samples of environmental media (i.e. soil, groundwater, soil vapor, untreated water influent, treated water effluent, etc.). Planned QC activities are:

- Collection of Trip Blanks to be analyzed for volatile organic compounds by those methods used for primary sample analyses, with one Trip Blank collected per ground water sampling event per site (as identified in the TO).
- Collection of Duplicate Samples to be analyzed for the full groundwater analytic suite by those methods used for primary sample analysis, with one Duplicate Sample collected per ground water sampling event per site (as identified in the TO).

### EXHIBIT 8.0 TESTING PLAN AND LOG

CONTRACT NUMBER: N62470-03-D-4000			PROJECT TITLE AND LOCATION LTM AND O&M AT MCB CAMP LEJEUNE, NORTH CAROLINA						CONTRACTOR: EEI		
SPECIFICATION SECTION AND PARAGRAPH NUMBER	ITEM OF WORK	TEST REQUIRED	ACCREDITED /APPROVED LAB		SAMPLED BY	TESTED BY	LOCATION OF TEST		DATE COMPLETED	DATE FORWARDED TO CONT. OFF.	REMARKS
			YES	NO			ON SITE	OFF SITE			

## **9.0 PROCEDURES TO COMPLETE REWORK ITEMS**

A deficiencies tracking system will be implemented as part the project QC Program. A cumulative list of project deficiencies will be maintained continuously by the Project QC Manager on a deficiencies tracking list. The list will include items identified by QA personnel and QC personnel. Dates of corrective action will be presented on the list. For this scope of work, typical rework items might include: repair of failed remediation system components; environmental samples damaged, lost or delayed in transit to the testing laboratory; or environmental samples analyzed outside of holding times or otherwise not meeting laboratory QC criteria. For the first of the above examples, the deficiencies tracking list would identify the failed remediation system component, name of the person identifying the failure, date failure identified, date failed component repaired or replaced, and date system returned to service. Similarly, the laboratory receiving damaged samples or conducted sample analyses not meeting laboratory QC criteria would notify EEI of the discrepancy, EEI would update the deficiencies tracking list, resample the affected location(s), and note the re-sampling date on the tracking list. A blank deficiencies tracking list is provided in EXHIBIT 9.0.

### EXHIBIT 9.0 DEFICIENCIES TRACKING LIST

Item #	Site ID	Location ID	Spec #	Deficient Item /Nature of Deficiency	Personnel Noting Deficiency	Date Noted	Corrective Action Applied to Deficiency	Personnel Applying Corrective Action	Date Corrective Action Applied	Corrective Action Successful (Y/N)



## 10.0 DOCUMENTATION PROCEDURES

The objective of the documentation procedure is to provide a written reference allowing efficient quality control over the work, including scheduling, rework items and corrective actions. This will ensure that controlled documents are identified, controlled and distributed for use in the work locations where they are needed. This procedure provides a controlled process that requires the identification of controlled documents, the identification of document holders receiving such documents and the accountability of those copies distributed for use.

The Project Manager will retain the overall responsibility for ensuring that this procedure is implemented at the project level and shall also ensure that controlled documents are appropriately prepared, reviewed, and approved prior to issuance. For each project, the Project Manager will designate a document custodian who will be accountable for all controlled documents received by, or initiated at the site. Generally, this responsibility will be assigned to the on-site engineer or site supervisor.

The document custodian will identify controlled documents and record the receipt of such documents to be used at the site. This individual will be responsible for the timely distribution of controlled documents to site personnel, and the requested retrieval, destruction, or identification of superseded revisions retained for reference.

The Site QC Manager will periodically check controlled documents at the site to ensure that current documents are available and are being used.

The daily activities performed under the TO will be documented on the Contractor Quality Control Report EXHIBIT 10.0. This form will act as documentation for the QC procedures related to field activities identified for each specific site covered by the TO. The field activities will be documented on the Contractors Production Report EXHIBIT 10.1. Copies of these forms are attached.

### 10.1 Definable Features of Work

EEl has identified the following Definable Features of work expected to be conducted under this contract. Should additional Definable Features be identified, a revision to this section will be prepared, and submitted to the contracting authority in a timely manner.

#### *Remediation System Operations and Maintenance*

- Equipment Performance Data Recording
- Equipment Inspection
- Equipment Maintenance
- Equipment Repair

#### *Site Monitoring*

- Well Gauging
- Groundwater Sampling

**EXHIBIT 10.0**

**CONTRACTOR QUALITY CONTROL REPORT**





**EXHIBIT 10.1**

**CONTRACTOR PRODUCTION REPORT**

<b>CONTRACTOR PRODUCTION REPORT</b> (ATTACH ADDITIONAL SHEETS IF NECESSARY)					DATE	
CONTRACT NO		TITLE AND LOCATION		REPORT NO		
CONTRACTOR			SUPERINTENDENT			
AM WEATHER		PM WEATHER		MAX TEMP	MIN TEMP	
<b>WORK PERFORMED TODAY</b>						
Schedule Activity No.	WORK LOCATION AND DESCRIPTION	EMPLOYER	NUMBER	TRADE	HRS	
<b>JOB SAFETY</b>	WAS A JOB SAFETY MEETING HELD THIS DATE? (If YES attach copy of the meeting minutes)			<input type="checkbox"/> YES	<input type="checkbox"/> NO	TOTAL WORK HOURS ON JOB SITE THIS DATE INCL CON'T SHEETS
	WERE THERE ANY LOST TIME ACCIDENTS THIS DATE? (If YES attach copy of completed OSHA report)			<input type="checkbox"/> YES	<input type="checkbox"/> NO	CUMULATIVE TOTAL OF WORK HOURS FROM PREVIOUS REPORT
	WAS CRANE/MANLIFT/TRENCHING/SCAFFOLD/EV ELEC/HIGH WORK/ HAZMAT WORK DONE? (If YES attach statement or checklist showing inspection performed.)			<input type="checkbox"/> YES	<input type="checkbox"/> NO	TOTAL WORK HOURS FROM START OF CONSTRUCTION
	WAS HAZARDOUS MATERIAL/WASTE RELEASED INTO THE ENVIRONMENT? (If YES attach description of incident and proposed action.)			<input type="checkbox"/> YES	<input type="checkbox"/> NO	
Schedule Activity No.	LIST SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED				<input type="checkbox"/> SAFETY REQUIREMENTS HAVE BEEN MET.	
EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB (INDICATE SCHEDULE ACTIVITY NUMBER)						
Schedule Activity No.	Submittal	Description of Equipment/Material Received				
Schedule Activity No.	Owner	CONSTRUCTION AND PLANT EQUIPMENT ON JOB SITE TODAY. INDICATE HOURS USED AND SCHEDULE ACTIVITY NUMBER. Description of Construction Equipment Used Today (incl Make and Model)			Hours Used	
Schedule Activity No.	REMARKS					

**CONTRACTOR PRODUCTION REPORT**

(CONTINUATION SHEET)

DATE

CONTRACT NO

TITLE AND LOCATION

REPORT NO

**WORK PERFORMED TODAY**

Schedule Activity No.	WORK LOCATION AND DESCRIPTION	EMPLOYER	NUMBER	TRADE	HRS

Schedule Activity No.	LIST SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED

Schedule Activity No.	Submittal	Description of Equipment/Material Received

Schedule Activity No.	Owner	Description of Construction Equipment Used Today (incl Make and Model)	Hours Used

Schedule Activity No.	REMARKS

INCLUDE ALL PERSONNEL WORK HOURS IN THE WORK PERFORMED SECTION ON THIS SHEET INTO THE FRONT CONTRACTOR PRODUCTION REPORT

Surface Water Sampling  
Soil Sampling  
Vapor Stream Sampling  
Effluent Sampling  
Laboratory Analyses

*Site Decommissioning*

Well Abandonment  
Remediation System Equipment Removal  
Site Restoration

*Reporting*

Monthly Report Preparation  
Annual Report Preparation

## **10.2 Procedures for Performing the Three Phases of Control**

### **10.2.1 Preparatory Phase**

Each of the following items will be conducted during the preparatory phase of control, EXHIBIT 10.2:

- a) Review each applicable section of the FSAP, CAP, and/or O&M manual
- b) Review site maps, system layouts, and/or equipment, PIDs
- c) Verify that equipment and supplies have been ordered and that the orders have been received and approved
- d) Review QC testing requirements identified in the FSAP and CAP
- e) Examine the work area to ensure preliminary work has been completed
- f) Examine equipment and materials received to ensure they are of the required type and quantity, and are operational and calibrated, as applicable
- g) Review the HASP including applicable hazard analyses and MSDSs
- h) Discuss field methods to be used

The Contracting Officer or designated representative will be notified at least two working days in advance of each preparatory phase. The preparatory phase will be conducted with the field team leader responsible for the definable feature of work. Results of the preparatory phase of work will be documented in the daily Contractor Quality Control Report.

As applied to the Remediation System Operations and Monitoring, the preparatory phase of control will involve:

- a) Review of the system O&M manual and field data recording forms
- b) Review of the site map, system layout, and PID, as available
- c) Review of requisitions and order confirmations



**EXHIBIT 10.2**

**PREPARATORY PHASE CHECKLIST**

# INITIAL PHASE CHECKLIST

SPEC SECTION

DATE

CONTRACT NO

DEFINABLE FEATURE OF WORK

SCHEDULE ACT NO.

INDEX #

PERSONNEL PRESENT

GOVERNMENT REP NOTIFIED _____ HOURS IN ADVANCE:	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
NAME	POSITION	COMPANY/GOVERNMENT	

PROCEDURE COMPLIANCE

IDENTIFY FULL COMPLIANCE WITH PROCEDURES IDENTIFIED AT PREPARATORY. COORDINATE PLANS, SPECIFICATIONS, AND SUBMITTALS.  
COMMENTS: \_\_\_\_\_

PRELIMINARY WORK

ENSURE PRELIMINARY WORK IS COMPLETE AND CORRECT. IF NOT, WHAT ACTION IS TAKEN?

WORKMANSHIP

ESTABLISH LEVEL OF WORKMANSHIP.  
WHERE IS WORK LOCATED? \_\_\_\_\_

IS SAMPLE PANEL REQUIRED? YES  NO   
 WILL THE INITIAL WORK BE CONSIDERED AS A SAMPLE? YES  NO   
 (IF YES, MAINTAIN IN PRESENT CONDITION AS LONG AS POSSIBLE AND DESCRIBE LOCATION OF SAMPLE)

RESOLUTION

RESOLVE ANY DIFFERENCES.  
COMMENTS: \_\_\_\_\_

CHECK SAFETY

REVIEW JOB CONDITIONS USING EM 385-1-1 AND JOB HAZARD ANALYSIS  
COMMENTS: \_\_\_\_\_

OTHER

OTHER ITEMS OR REMARKS

QC MANAGER

DATE

# PREPARATORY PHASE CHECKLIST

(CONTINUED ON SECOND PAGE)

SPEC SECTION

DATE

CONTRACT NO

DEFINABLE FEATURE OF WORK

SCHEDULE ACT NO.

INDEX #

<b>PERSONNEL PRESENT</b>	GOVERNMENT REP NOTIFIED _____ HOURS IN ADVANCE:      YES <input type="checkbox"/> NO <input type="checkbox"/>																		
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%; padding: 2px;">NAME</th> <th style="width: 30%; padding: 2px;">POSITION</th> <th style="width: 30%; padding: 2px;">COMPANY/GOVERNMENT</th> </tr> </thead> <tbody> <tr><td style="height: 20px;"> </td><td> </td><td> </td></tr> <tr><td style="height: 20px;"> </td><td> </td><td> </td></tr> <tr><td style="height: 20px;"> </td><td> </td><td> </td></tr> <tr><td style="height: 20px;"> </td><td> </td><td> </td></tr> <tr><td style="height: 20px;"> </td><td> </td><td> </td></tr> </tbody> </table>	NAME	POSITION	COMPANY/GOVERNMENT															
	NAME	POSITION	COMPANY/GOVERNMENT																
<b>SUBMITTALS</b>	REVIEW SUBMITTALS AND/OR SUBMITTAL REGISTER. HAVE ALL SUBMITTALS BEEN APPROVED?      YES <input type="checkbox"/> NO <input type="checkbox"/> IF NO, WHAT ITEMS HAVE NOT BEEN SUBMITTED? _____																		
	ARE ALL MATERIALS ON HAND?      YES <input type="checkbox"/> NO <input type="checkbox"/> IF NO, WHAT ITEMS ARE MISSING? _____																		
	CHECK APPROVED SUBMITTALS AGAINST DELIVERED MATERIAL. (THIS SHOULD BE DONE AS MATERIAL ARRIVES.) COMMENTS: _____																		
<b>MATERIAL STORAGE</b>	ARE MATERIALS STORED PROPERLY?      YES <input type="checkbox"/> NO <input type="checkbox"/> IF NO, WHAT ACTION IS TAKEN? _____																		
<b>SPECIFICATIONS</b>	REVIEW EACH PARAGRAPH OF SPECIFICATIONS.																		
	DISCUSS PROCEDURE FOR ACCOMPLISHING THE WORK.																		
<b>PRELIMINARY WORK &amp; PERMITS</b>	ENSURE PRELIMINARY WORK IS CORRECT AND PERMITS ARE ON FILE. IF NOT, WHAT ACTION IS TAKEN? _____																		

### PREPARATORY PHASE CHECKLIST

(CONTINUED FROM FIRST PAGE)

SPEC SECTION

DATE

CONTRACT NO

DEFINABLE FEATURE OF WORK

SCHEDULE ACT NO.

INDEX #

**TESTING**

IDENTIFY TEST TO BE PERFORMED, FREQUENCY, AND BY WHOM.

WHEN REQUIRED?

WHERE REQUIRED?

REVIEW TESTING PLAN.

HAS TEST FACILITIES BEEN APPROVED?

**SAFETY**

ACTIVITY HAZARD ANALYSIS APPROVED?

YES  NO

REVIEW APPLICABLE PORTION OF EM 385-1-1.

**MEETING COMMENTS**

NAVY/ROICC COMMENTS DURING MEETING.

**OTHER ITEMS OR REMARKS**

OTHER ITEMS OR REMARKS:

QC MANAGER

DATE

- d) Review of the FSAP and site-specific CAP (and any amendments to the CAP) with respect to QC testing requirements (primarily field instrument calibration requirements)
- e) Examine the site to ensure preliminary work has been completed (primarily associated with work requiring major system component replacement or repair)
- f) Examine equipment and materials (e.g., PID, vacuum box, Tedlar bags, data recording forms, replacement parts, etc.) to verify operation and condition (properly charged, zeroed, calibrated, correct size, etc.)
- g) Review of the HASP, hazard analysis sheets, and MSDSs
- h) Discuss field methods to be used for recording system operational parameters (e.g., flow rates, pressures, vacuums, temperatures, etc.), field parameters measurements (e.g., PID readings of SVE system vapor streams), equipment inspections (e.g., oil levels, belt tightness, conveyance piping, breaker status, etc.)

As applied to the Site Monitoring, the preparatory phase of control will involve:

- a) Review of the FASP and review of the field data recording forms
- b) Review of the site map
- c) Review of requisitions and order confirmations
- d) Review of the FSAP and site-specific CAP (and any amendments to the CAP) with respect to QC testing requirements (e.g., trip blank samples, field duplicate samples, rinsate blanks samples, etc.)
- e) Examine the site to ensure preliminary work has been completed (primarily associated with verifying site access)
- f) Examine equipment and materials (e.g., well pumps and controllers, sample containers, water quality meters, data recording forms, etc.) to verify operation and condition (properly charged, zeroed, calibrated, correct number, etc.)
- g) Review of the HASP, hazard analysis sheets, and MSDSs
- h) Discuss field methods to be used for recording field data parameters (e.g., depth to water, pH, conductivity, purge flow rates) and collecting samples of environmental media (e.g., sampling sequence, sample container filling requirements, equipment decontamination procedures, etc.)

As applied to the Site Decommissioning, the preparatory phase of control will involve:

- a) Review of the FASP, CAP, well construction logs, and field data recording forms
- b) Review of the site map and system layout, as applicable
- c) Review of requisitions and order confirmations
- d) Review of the FSAP and site-specific CAP (and any amendments to the CAP) with respect to QC testing requirements (primarily confirmation sampling requirement)
- e) Examine the site to ensure preliminary work has been completed (primarily associated with verifying site access, underground utility clearances, and overhead utility clearances)
- f) Examine equipment and materials (e.g., grout pumps, tremie lines, concrete saws, cement, bentonite powder, well abandonment forms etc.) to verify operation,

- condition, and quantity (e.g., bagged material present in sufficient quantity with packaging unbroken, etc.)
- g) Review of the HASP, hazard analysis sheets, and MSDSs
  - h) Discuss field methods to be used for recording field data parameters (e.g., depth to water, total well depth, etc.), well abandonment procedures (e.g., grout placement methods, well head removal, surface restoration), equipment removal of equipment and structures (e.g., de-energizing equipment, disconnecting lines, etc.), and surface restoration (e.g., concrete pad removal methods, reseeding methods, repaving requirements, etc.)

### **10.2.2 Initial Phase of Control**

Each of the following items will be performed during the initial phase of control:

- a) Establish the quality of workmanship required
- b) Resolve conflicts
- c) Review the HASP, relevant activity hazard analyses, and MSDSs to ensure work is conducted safely and that applicable safety requirements are met
- d) Ensure that required QC tests and samples are conducted

The Contracting Officer or designated representative will be notified at least two working days in advance of each initial phase. The initial phase of control is conducted at the beginning of each monitoring event and will be conducted with the field team responsible for the monitoring. The initial phase will be repeated for each new field team that works at the site, or when acceptable levels of specified quality are not being met. The initial segment of the monitoring will be observed to ensure the work complies with requirements of the work plan and contract. Results of the initial phase of work will be documented in the daily Contractor Quality Control Report.

As applied to the Remediation System Operations and Monitoring, the initial phase of control will involve:

- a) Observe O&M system inspection and performance data recording, including accuracy and completeness of system operation parameters (e.g., pressures, vacuums, flow rates, etc.), adherence to monitoring protocols (e.g., collection of SVE vapor stream aliquots and subsequent PID measurements of aliquots), thoroughness of system inspection (e.g., above ground conveyance lines are walked and inspected, oil levels checked, belt tightness checked, etc.), proper maintenance is conducted (e.g., oil changes conducted per manufactures schedule using correct grad of oil, belt replacement conducted per manufactures schedule using replacement part and properly tensioned, etc.)
- b) Resolve differences so that required level of workmanship is understood and agreed upon by the field team
- c) Review safety requirements and ensure that field team is aware of safety procedures and is in compliance (e.g., proper PPE such as hard hats, ear plugs,

etc. is worn, potential hazards are understood, emergency notification procedures are understood, route to medical facility is known, etc.)

- d) Ensure QC testing requirements are understood (primarily associated with meter calibration procedures)

As applied to the Site Monitoring, the initial phase of control will involve:

- a) Observe gauging and sampling methods, including adherence to procedures established in the FSAP (e.g., well gauging data referenced to correct point on well casing, purging flow rates are held within acceptable range, meter calibrations conducted in accordance with manufactures specification; correct sampling location sequence is followed, equipment decontamination procedures are adhered to, etc.)
- b) Resolve differences so that required level of workmanship is understood and agreed upon by the field team
- c) Review safety requirements and ensure that field team is aware of safety procedures and is in compliance (e.g., proper PPE such as hard hats, nitrile gloves, etc. is worn, potential hazards are understood, emergency notification procedures are understood, route to medical facility is known, etc.)
- d) Ensure QC testing requirements are understood (correct number and type of QC samples such as trip blanks, field blanks, duplicate samples, etc. are collected) and meter calibration procedures are followed

As applied to the Site Decommissioning, the initial phase of control will involve:

- a) Observe well abandonment methods, including adherence to specified procedures (total well depth sounded and compare to well construction data, tremie line place near base of well, bentonite/cement ratio for grout within specification, well head removed below grade, etc.); observe equipment and structure removal conducted according to plan (piping removed, filled, and/or capped, wiring removed, etc.), observe surface restoration (grading, reseeding, resurfacing, etc. conducted according to specifications)
- b) Resolve differences so that required level of workmanship is understood and agreed upon by the field team
- c) Review safety requirements and ensure that field team is aware of safety procedures and is in compliance (e.g., proper PPE such as hard hats, work boots, work gloves, etc. is worn, potential hazards are understood, emergency notification procedures are understood, route to medical facility is known, etc.)
- d) Ensure QC testing requirements are understood (correct number and type of confirmation samples are collected, correct number and type of material strength test samples are collected)

### **10.2.3 Follow-Up Phase of Control**

Each of the following items will be performed during the follow-up phase of control:

- a) Ensure that work is in compliance with the FSAP and contract
- b) Maintain the quality of workmanship
- c) Ensure that QC testing is performed
- d) Ensure that rework items are being corrected

The follow-up phase of control will be conducted daily or more frequently as warranted for on-going work for each site until the remediation is completed. Results of the follow-up phase of work will be documented in the daily Contractor Quality Control Report.

As applied to the Remediation System Operations and Monitoring, the follow-up phase of control will involve:

- a) Observe O&M procedures to ensure work continues to be conducted as per the FSAP and contract (e.g., flow rate, pressure, and vacuum readings are recorded fully and accurately)
- b) Observe O&M procedures to ensure work continues to be conducted to the level of workmanship established in the initial phase of control
- c) Observe O&M procedures to ensure that data recording, meter calibration, system inspection, maintenance, and repair is being performed properly
- d) Observe O&M procedures to ensure that rework items are being corrected (e.g., collection of another SVE vapor stream aliquot is collected and re-examined with PID if initial aliquot compromised due to Tedlar bag failure)

As applied to the Site Monitoring, the follow-up phase of control will involve:

- a) Observe sampling and gauging activities to ensure work continues to be conducted as per the FSAP and contract (e.g., sample location sequencing is being followed)
- b) Observe sampling and gauging activities to ensure work continues to be conducted to the level of workmanship established in the initial phase of control (e.g., equipment decontamination procedures are followed, meter calibrations are conducted correctly, etc.)
- c) Observe sampling activities to ensure required QC samples are collected (trip blanks, field blanks, duplicates, etc.)
- d) Review QC sample results to evaluate adequacy of the field and
- e) Observe sampling and gauging activities to ensure rework items are being corrected (e.g., a volatile organic sample is recollected if a no-headspace aliquot is not obtained)

As applied to the Site Decommissioning, the follow-up phase of control will involve:

- a) Observe site-decommissioning activities (well abandonment, equipment and structure removal, regarding / resurfacing) to ensure work continues to adhere to specified procedures



- b) Observe site-decommissioning activities to ensure work continues to be conducted to the level of workmanship established in the initial phase of control
- c) Observe site decommissioning activities to ensure QC testing requirements continue to be followed (e.g., correct number and type of confirmation samples are collected)
- d) Observe site decommissioning activities to ensure rework items are being corrected (e.g., additional seeding is conducted if initial seeding fails)

## 11.0 OUTSIDE ORGANIZATIONS TO BE UTILIZED

The purpose of the identification of outside organizations whose services will be utilized is to provide the contracting authority with information related to the subcontractors to be utilized in the performance of this project.

Engineering & Environment, Inc. will be assisted in executing the scope of work by Shaw Environmental and Infrastructure, Inc. (Shaw). Shaw is a full service environmental consulting firm and currently is conducting environmental monitoring activities at Camp Lejeune. To fulfill the current contract requirements, Shaw has entered into a partnering agreement with EEI wherein Shaw will assist EEI in conducting O&M, site monitoring, reporting, and site decommissioning.

To ensure that the required level of quality control is maintained, Mr. Randy Smith of Shaw has been designated the Alternate Project QC Manager. Contact information for Mr. Smith is as follows:

Mr. Randy Smith  
Shaw Environmental & Infrastructure, Inc.  
Lot 203 Piney Green Road, Building 626  
Camp Lejeune, North Carolina 28542  
Office: (910) 451-2390  
Fax: (910) 451-1809  
Mobile: (910) 389-4345  
Pager: (910)346-7110  
E-mail: [randy.smith@shawgrp.com](mailto:randy.smith@shawgrp.com)

EEI will utilize outside testing laboratories to perform chemical analytical services for environmental samples collected as part of this scope of work. Information regarding testing laboratories is presented in Section 7.0.

## **12.0 PERSONNEL MATRIX**

The objective of this section is to provide information identifying those individuals who will be responsible for the QC control of the various Identifiable Feature of the work required under this project.

The members of the Quality Control Staff have been selected based on their training and experiences conducting Environmental Remediation. The responsibilities are as follows:

**QC Program Manager – Michael Slade, E.I.T.**

The QC Program Manager is responsible for the overall QC of the contract. This includes both field activities and documentation.

**Project QC Manager – Bill Morris, PG**

The Project QC Manager is responsible for the overall QC of the project, including day-to-day QC functions. This includes both field activities and documentation.

**Alternate Project QC Manager – Randy Smith**

The Alternate QC Manager is responsible for assisting the QC manager in the overall QC activities of the project. In addition, he is directly responsible for the QC activities associated with those Definable Features related to Site Decommissioning in the absence of the Project QC Manager.

EXHIBIT 12.0 presents the personnel matrix.

**EXHIBIT 12.0**

**QUALITY CONTROL PERSONNEL MATRIX**

Personnel	Defined Feature			
	Remediation System O&M	Site Monitoring	Site Decommissioning	Reporting
QC Program Manager Mike Slade – EEI	X	X	X	X
Project QC Manager Bill Morris – EEI	X	X	X	X
Alternate Project QC Randy Smith – Shaw	X	X	X	

### **13.0 PROCEDURES FOR COMPLETION INSPECTION**

The purpose of these Procedures for Completion Inspection is to provide an acceptable means for EEI to document that they have completed the project in accordance with the Plans and Specifications of the contract.

The following procedures that will be utilized by EEI to ensure that the plans and specification of the project are completed: The procedures will vary depending on the Definable Feature that is being addressed.

#### *Remediation System Operation & Maintenance*

The Project QC manager will review the Maintenance Logs on a weekly basis to identify any items that require rework. Those items requiring rework will be addressed as described in Section 9. The results of this review will be noted in the Monthly Report, and summarized in the Annual Final Report. The Project QC Manager will include the certification that the O&M activities have been conducted according to this QC Plan in the Monthly report. The Project QC Manager will schedule a site meeting with the contracting authority's representative to review these logs and/or conduct a site visit(s).

#### *Site Monitoring Activities*

The Project QC Manager will review the Field Logs and Laboratory Analysis Reports to identify any items that are in non-compliance with the Project Plans and Specifications. Those items in non-compliance will be identified and addressed as described in Section 9. The results of this review will be noted in the Monthly Report, and summarized in the Annual Final Report. The Project QC Manager will include the certification that the O&M activities have been conducted according to this QC Plan in the Monthly report. The Project QC Manager will schedule a site meeting with the contracting authority's representative to review these logs and/or conduct a site visit(s).

#### *Site Decommissioning*

The Alternate QC Manager will notify the Project QC Manager and the contracting authority in writing prior to the start of decommissioning activities. The Project QC Manager and the contracting authority will inspect the sites while they are undergoing each decommissioning feature. Any items of non-compliance shall be noted ("Punch list items") and added to the rework list. The rework list will be addressed in a timely manner. Following the completion of all rework items the Project QC Manager will invite the contracting authority to conduct a second inspection to determine that the "Punch List" has been completed. Following agreement by the contracting authority that the Punch List is complete, the Project QC Manager will submit a written notification of completion of the Definable Feature to the contracting authority for their certification of completion.

*Reporting*

The monthly reporting and the Annual Report will be considered complete upon their acceptance by the contracting authority.

EXHIBIT 13.0 presents an example rework items list.

### EXHIBIT 13.0 REWORK ITEMS LIST

Contract No. and Title: \_\_\_\_\_  
 Contractor: \_\_\_\_\_

NUMBER	DATE IDENTIFIED	DESCRIPTION	CONTRACT REQUIREMENT (Spec. Section and Par. No., Drawing No. and Detail No., etc.)	ACTION TAKEN BY QC MANAGER	RESOLUTION	DATE COMPLETED