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SITE INSPECTION AT FORT ALLEN, PUERTO RICO PRELIMINARY ASSESSMENTS AT SAN JUAN ASSF, PUERTO RICO AND BLAIR HANGAR AASF, ST. CROIX, USVI

FINAL MANAGEMENT PLAN

DATA ITEM A008

CONTRACT DACA31-94-D-0061
U.S. ARMY ENVIRONMENTAL CENTER
ABERDEEN PROVING GROUND, MARYLAND

NOVEMBER 1996

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FINAL MANAGEMENT PLAN
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CONTRACT DACA31-94-D-0061
DELIVERY ORDER 0010

Prepared for:

United States Army
Environmental Center
Aberdeen Proving Ground, Maryland

Prepared by:

ABB Environmental Services, Inc.
Portland, Maine 04112
Project No. 9890-01

NOVEMBER 1996

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1.0 INTRODUCTION

This Management Plan has been prepared in accordance with Data Item A008 for the U.S. Army Environmental Center (USAEC) by ABB Environmental Services, Inc. (ABB-ES) in response to Delivery Order 0010 of Contract DACA31-94-D-0061 for a Site Inspection (SI) at Fort Allen in Juana Diaz, Puerto Rico and Preliminary Assessments (PAs) at the San Juan Army Aviation Support Facility (AASF) Puerto Rico, and Blair Hangar AASF on the island of St. Croix, USVI. The objectives of this Delivery Order are to conduct SIs at several areas of contamination (AOCs) and study areas at Fort Allen and to document the findings of the investigations. An additional objective is the completion of two PAs, at San Juan AASF and Blair Hangar AASF.

The purpose of this Management Plan is to describe ABB-ES' organization, assignment of functions, duties and responsibilities, management procedures and policies, and reporting requirements for the completion of the work effort presented in the Accident Prevention Safety Program Plan (APSPP) and Quality Assurance Project Plan (QAPjP) (Data Item A004 and A006) and the Technical Plan (Data Item A003). Sections 2.0 and 3.0 of this plan describe the project management structure and controls to be used for this Delivery Order. Section 4.0 contains data management requirements which are specific to the Fort Allen SI.

Costs and schedules will be monitored through the use of a detailed schedule and a Resource Utilization Plan (RUP) for each element in the Work Breakdown Structure (WBS). The project schedule and RUPs are presented in Sections 5.0 and 6.0, respectively. Descriptions of the reports to be prepared and delivered to the USAEC throughout the course of this project are presented in Section 7.0.

2.0 PROJECT MANAGEMENT

2.1 WORK BREAKDOWN STRUCTURE

The SI/FS Project at Fort Allen has been divided into 7 work elements, as follows:

Work Element	WBS Identifier
Project Management	10.01
Project Plans	10.02
SI Field Investigation	10.03
Data Management	10.04
SI Report	10.05
San Juan AASF PA Report	10.06
Blair Hangar AASF PA Report	10.07

The project organization and management structure for these work elements are outlined in the following sections.

2.2 PROJECT ORGANIZATION/RESPONSIBILITIES

The project organization structure is illustrated in Figure 2-1. Solid lines on the figure depict direct lines of communication and control; dotted lines indicate channels of communication. The duties, functions, and responsibilities associated with each task are detailed in the following paragraphs. Resumes for the key project personnel are found in the Appendix to this plan.

2.2.1 Program Manager

The Program Manager for ABB-ES' USAEC efforts is Mr. Joseph T. Cuccaro. He is responsible for providing direction, coordination, and continuous monitoring and review of the program. His responsibilities include the following:

- initiating program activities;
- coordinating staff assignments;
- assisting in the identification and fulfillment of equipment and special resource needs;
- monitoring task activities to ensure compliance with schedule, fiscal, and technical objectives;
- maintaining communications both internally and with the USAEC Contracting Officer's Representative (COR), through continuous interaction, thereby eliminating and/or resolving potential problems;
- helping prepare and review performance and cost reports (PCRs);
- ensuring that appropriate project files and records are maintained;
- providing final review and approval of work plans, task deliverables, schedules, contract changes, and manpower allocations; and
- developing coordination among management, field teams, and support personnel to maintain consistency of performance.

2.2.2 Project Manager

The Project Manager for the Delivery Order, Mr. Rod Pendleton, P.G., has the day-to-day responsibility for the project. He was selected as Project Manager on the basis of the technical nature of the task and his corresponding experience and expertise. Mr. Pendleton has extensive experience as a Senior Hydrogeologist/Task

Manager with ABB-ES including management of tasks at numerous USAEC sites. The Project Manager is responsible for the following:

- ensuring the appropriateness and adequacy of the technical or engineering services provided for a specific task;
- developing the technical approach and level of effort required to address each element of a task;
- supervision of the work, including integrating the efforts of all supporting disciplines and subcontractors;
- overseeing the preparation of all reports and plans;
- providing for quality control (QC) and quality review during the performance of the work;
- ensuring technical integrity, clarity, and usefulness of task work products;
- forming a project team with expertise in disciplines appropriate to accomplish the work;
- reviewing and approving sampling tests and quality assurance (QA) plans, which include monitoring site locations, analysis methods to be used, and hydrologic and geophysical techniques;
- developing and monitoring task schedules;
- supervising task fiscal requirements (e.g., funds management for labor and materials), and reviewing and approving invoicing actions; and
- providing day-to-day communication, both within the ABB-ES team and with the USAEC COR, on task matters including task status reporting.

2.2.3 Corporate Officer

ABB-ES' Corporate Officer, Mr. John Barbera, V.P., is responsible for ensuring that a contract for the services to be provided has been executed; necessary corporate resources are committed to allow conduct of program activities; corporate level input and response is readily available to both the ABB-ES team and the USAEC COR; and assistance is provided to the Program and Task Managers for project implementation.

2.2.4 Technical Director and Technical Review Committee

The members of the Technical Review Committee for this task are Mr. Jeffrey Pickett, C.G., and Mr. Dirk Brunner, P.E.,. Mr. Pickett will serve as Technical Director and will be responsible for the overall technical quality of the work performed; he will also serve as Chairman of the review committee. The function of this group of senior technical and/or management personnel is to provide guidance and oversight on the technical aspects of the project. This is accomplished through periodic reviews of the services provided to ensure the services: represent the accumulated experience of the firm; are produced in accordance with corporate policy; and live up to the objectives of the program as established by ABB-ES and the client.

2.2.5 Quality Assurance Supervisor

Mr. Christian Ricardi is the QA Supervisor for this project. The QA function has been established to assure that appropriate protocols from USAEC, and U.S. Environmental Protection Agency (USEPA) Region II are followed. In addition, the QA Supervisor must ensure that QC plans are in place and implemented for each element of the task. The QA Supervisor reports directly to the Program Manager but is responsible to the Project Manager in matters related to management of the QA/QC work element. The QA Supervisor is independent of the Project Manager relative to corrective action. The QA Supervisor has authority to stop work that is not in compliance with the QC Plan, provided he/she has the concurrence of the USAEC Analytical Branch, the Program Manager, the COR, and the Contracting Officer (CO). Specific responsibilities include the following:

- providing periodic audits of chemical analysis and field sampling operations to verify that appropriate protocols are being used;

- reviewing all project analysis data to ensure compliance with QC requirements and technical accuracy;
- ensuring that all required and appropriate QC documentation is provided, transmitted, and filed;
- bringing any QC problems to the attention of the Program Manager and making certain that resolution is obtained in an expeditious manner; and
- interfacing with appropriate USAEC personnel for project QC matters, including data validation and questions relating to QA audits, protocols, and compliance.

2.2.6 Health and Safety Supervisor

Ms. Cynthia E. Sundquist is the Health and Safety Supervisor (HSS) for this project, reporting directly to the Program Manager. She has stop-work authority to prevent or mitigate any unacceptable health and safety risks to project personnel, the general public, or the environment. Responsibilities of this position include the following:

- ensuring that the project team and, in particular, field personnel, comply with the ABB-ES APSPP;
- helping the Program Manager and Project Manager develop the site-specific APSPP;
- making certain that the APSPP is distributed to appropriate personnel; and
- informing the Program Manager and the appropriate USAEC personnel in the specified manner when any health- or safety-related incident occurs.

2.2.7 Contract Manager

Ms. Johana Reed is the contract manager for the Delivery Order. The Contract Manager supports the Program Manager and Project Manager in all contractual

matters, providing a liaison between contract representatives for USAEC and all subcontracted services. Specific responsibilities include:

- communication with USAEC COR regarding contract pricing, contract modifications, and changes in scope
- maintenance of regular communications with USAEC to allow for expedient prevention and resolution of potential contractual problems
- development and negotiation of agreements with subcontracted services and issuance of modifications to subcontracts as scope changes as required

2.2.8 Work Element Leaders

Work Element Leaders are assigned to coordinate the activities of the work elements at Fort Allen: (1) Manuel Alonso is the SI Leader and is in charge of all activities associated with the SI; (2) Tim Dame is the Chemistry Management Leader; (3) Scott Donelick is the Field Operations Leader; (4) Karen Furey is the Document Production Leader. Activities performed under the remaining work elements fall under the direct leadership of the Task Manager, the QA Supervisor, the Health and Safety Supervisor, the DM Supervisor, or the FOL. In general, the individual Work Element Leaders are responsible for the following items:

- ensuring the appropriateness, adequacy, and timeliness of the technical or engineering services provided;
- developing the technical approach and level of effort required to address each task/subtask;
- conducting day-to-day work, including the integration of input from supporting disciplines and subcontractors (i.e., drilling or laboratory subcontractors);
- providing QC during performance of the work; and
- ensuring the technical integrity as well as the clarity and usefulness of all project work products.

SI Leader. The SI Leader, Mr. Manuel Alonso, is responsible for all activities related to the SI. He will work closely with the Project Manager to develop Work Plan rationale and data quality objectives. He has oversight responsibilities for field activities and will ensure that the SI report accurately reflects information from the field. Specifically, Mr. Alonso will:

- ensure that field activities are conducted in accordance with the Technical Plan;
- maintain close communication with the FOL to ensure that sampling procedures and sampling schedules are maintained; and
- prepare an SI report that accurately reflects information gathered in the field.

Chemistry Management Leader. The Chemistry Management Leader, Tim Dame, is responsible for implementing and maintaining the Fort Allen analytical program. He will be assisted in this role by Christian Ricardi, who has extensive experience handling analytical data on previous site investigations. His responsibilities will include coordination with the Project Manager, QA Supervisor, and the analytical subcontractor on overall project and individual site analytical efforts. Specific responsibilities are as follows:

- QA
  - implementing the USAEC QA program;
  - analyzing control samples, as required by the USAEC QA Program and the QA Supervisor;
  - directing analytical method certification programs;
  - participating in development of site-specific QA/QC programs in cooperation with the QA Supervisor and COR; and
  - reviewing and approving methods descriptions.

- Analytical Program
  - ensuring conformance with individual methods QC requirements;
  - ensuring timely completion of analytical programs and adherence to specified hold times;
  - assisting in the selection of appropriate analyses and methods, in cooperation with the COR, QA Supervisor, and analytical subcontractor;
  - providing direct technical input in day-to-day laboratory operations;
  - reviewing and approving all analytical output;
  - coordinating with the analytical subcontractor on field efforts and associated laboratory services;
  - maintaining analytical program control, with sufficient forensic documentation.

Field Operations Leader

Scott Donelick is the Field Operations Leader (FOL). He is responsible for conducting the field program in accordance with procedures outlined in the Technical Plan. Specific responsibilities of this position include the following:

- supervising and recordkeeping for all on-site sampling, boring, and well installation activities;
- collecting, shipping, and tracking of environmental samples;
- coordinating with the Health and Safety Officer to ensure that the field investigation is implemented safely;
- monitoring subcontracted drillers, and surveyors to ensure compliance with the technical plan;

- ensuring that monitoring wells are properly installed and developed;
- tracking all field expenditures;
- overseeing preparation of all field investigation-related reports.

Document Production Leader. The Document Production Leader, Ms. Karen Furey, is responsible for the production and distribution of both technical and administrative reports. She works closely with ABB-ES' technical editors to ensure that quality and consistency are maintained throughout project documents. Her specific responsibilities include the following:

- establishing document control procedures for the program, including a library, an adequate central filing system, and periodic submittals of communications to the USAEC COR.
- assisting with document planning to include development of a format and outline which affords clarity, consistency, and readability;
- assisting with development of the document generation schedule;
- coordinating the efforts of all contributors to the document;
- coordinating the development of tables, figures, and diagrams which require graphics support;
- providing for internal editing throughout production of the document;
- coordinating with appropriate USAEC staff regarding document structure and language usage requirements; and
- arranging for and monitoring the printing and distribution efforts.

2.2.9 Project Administrator

Ms. Dana Porter is the Project Administrator for the Delivery Order. The Project Administrator supports the Program Manager and Project Manager in the day-to-day monitoring of fiscal, schedule, and documentation requirements. She is responsible

for maintaining the necessary systems to support budget monitoring and controls, and schedule monitoring and maintenance; and for controlling the flow and processing of documentation. Specific responsibilities include the following:

- providing an interface between the program and the ABB-ES accounting systems;
- providing a fiscal variance monitoring and early warning system;
- providing periodic fiscal summary reports; and
- providing direct support for the Project Manager for communications to USAEC COR and CO staff personnel for fiscal matters.

2.3 SUBCONTRACTOR MANAGEMENT

The following services/activities will be performed by subcontractors during the SI at Fort Allen: field drilling and monitoring well installation, GeoProbe™ sampling, surveying, and on-site and off-site laboratory chemical analysis. Subcontractor management in each area is described in the following sections. ABB-ES will make good faith efforts to comply with the small business/small disadvantaged business subcontracting plan goals to award ten percent of the subcontracts to small disadvantaged business enterprises.

In general, management of subcontracts will be accomplished on the basis of each being an integral member of the project team. Subcontractor expenditures will be carefully monitored to ensure compliance with the RUP (Section 6.0); progress reporting (both technical and fiscal) will be required of subcontractors.

2.3.1 Drilling Services

ABB-ES is requesting bids for drilling services from qualified bidders (i.e., from companies with the experience and equipment needed to complete the drilling and monitoring well installation program in an efficient and timely manner). The program includes up to 8 soil borings, and 3 monitoring wells installations. The FOL will be responsible for coordinating and overseeing the activities of the drilling subcontractor.

2.3.2 GeoProbe™ Sampling

ABB-ES is requesting bids for GeoProbe™ sampling from qualified bidders (i.e., from companies with the experience and equipment needed to complete the sampling in an efficient and timely manner. The sampling program includes up to 38 sample locations at depths up to 10 feet. The FOL will be responsible for coordinating and overseeing the activities of the GeoProbe™ subcontractor.

2.3.3 Surveying

ABB-ES is requesting bids from professional land surveying companies registered in Puerto Rico to be subcontracted to establish elevations for new monitoring wells. Surveying activities will be coordinated and monitored by the FOL, who will keep the Project Manager informed on a day-to-day basis.

2.3.4 Laboratory Chemical Analysis

Analytical services for the Fort Allen SI will be subcontracted to a laboratory (Quanterra) capable of meeting the requirements in Engineering and Design Chemical Data Quality Management for Hazardous Waste Remedial Activities, U.S. Army Corps of Engineers (USACE) ER 110-1-263, October 1990 and the format, field, and data requirements in the USAEC Guidelines for Implementation of ER-1110-1-263 for USAEC projects, May 1993. The analytical program consists of inorganic and organic analyses of soil, groundwater, surface water, and sediment samples. Coordinating and monitoring the analytical services will be performed by Mr. Dame with QA Overnight by Mr. Ricardi.

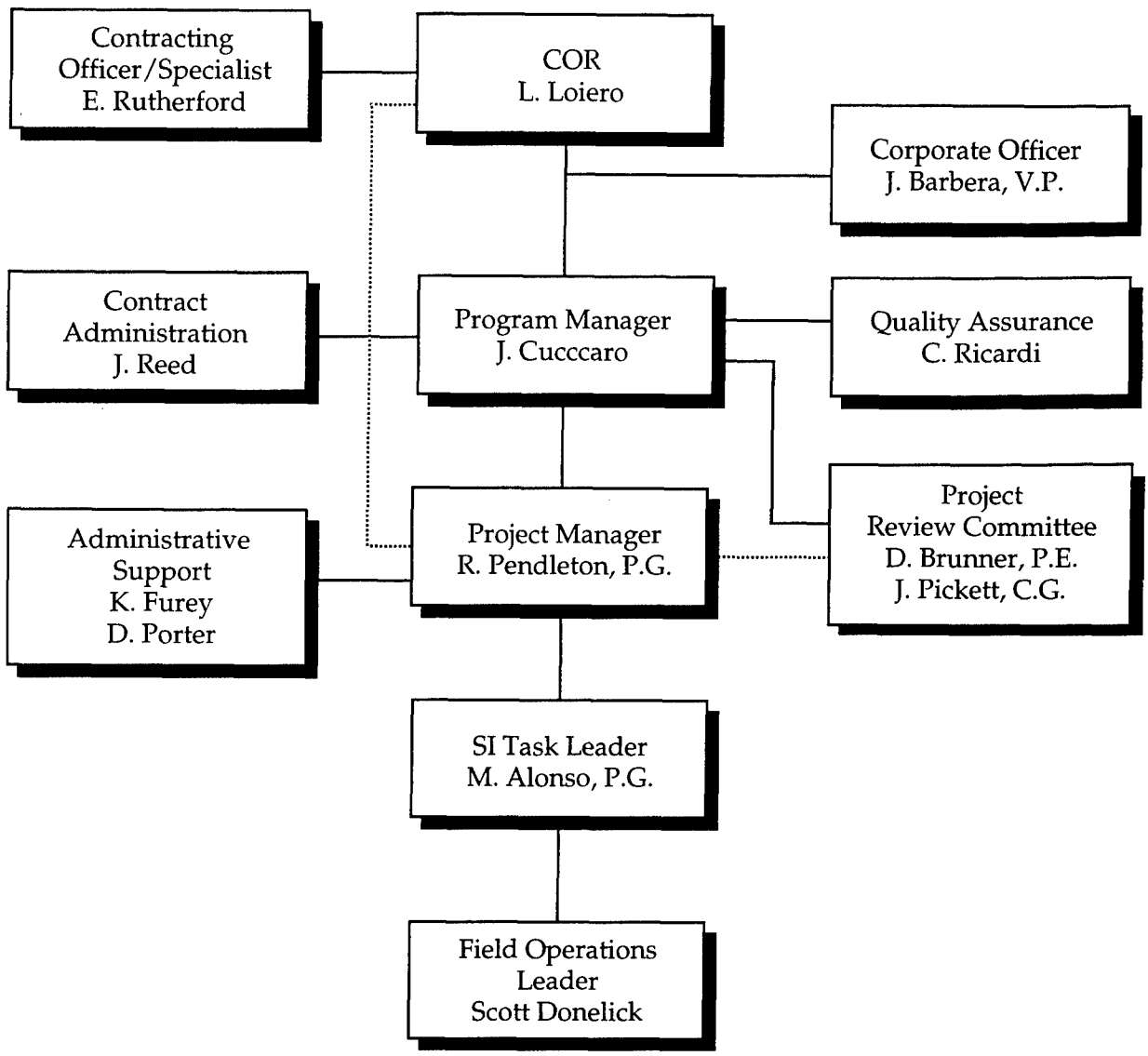

FIGURE 2-1
PROJECT ORGANIZATION
MANAGEMENT PLAN
SAN JUAN AND ST. CROIX PRELIMINARY ASSESSMENT
FORT ALLEN SITE INSPECTION
ABB Environmental Services, Inc.

3.0 PROJECT MANAGEMENT CONTROLS

3.1 OPERATIONS

The project control process requires careful monitoring of WBS, schedule, and RUPs to ensure effective project execution. Because changes in the work effort are likely, replanning must result if effective project control is to be maintained.

3.1.1 Day-to-Day Operations

Constant technical communication, definition of task subelements, and weekly comparison of level of effort expended to technical output are the keys to effective day-to-day management of the project. Day-to-day technical management, coordination, and cost control parameters are developed for each required work element based on the Technical Plan. This coordination is effected on a day-to-day basis by the Project Manager, who has budget, schedule, and technical supervisory responsibilities and other overall responsibilities, as described in Section 2.2.2. Direct technical supervision and conduct of the various work elements (e.g., chemical analysis, data management, and sampling) is done by the appropriate Work Element Leader assigned to the team.

Day-to-day control of each work element by the Project Manager is completed as follows. Within each work element, subtasks are developed and scheduled by the Project Manager and Work Element Leader and a level of effort (manhours) is estimated and agreed upon. All other non-labor costs are defined and scheduled. This detail provides the basis of the monthly resource allocation estimates and accomplishments, which are used in the PCR. Internal milestones are developed to monitor the technical progress and are tied to the level-of-effort estimates. These milestones are generally developed on a weekly basis. Such detail allows the Project Manager to judge the technical and cost status of each task element on a weekly basis and resolve and correct any potential schedule slippage, technical difficulty, or cost growth before an adverse effect on performance or cost occurs. The Project Manager controls costs and level of effort as follows:

- by directing approval/authority on all non-labor costs; and
- by receiving a weekly detailed printout of all labor charges and non-labor costs to each work element.

If the labor charged does not appear to balance the agreed-upon level based on the technical status, the Project Manager has the authority to remove excessive labor from the charge after discussion with the Work Element Leader; or, if the excess labor was as a result of unforeseen difficulties, appropriate corrective action can be taken. Potential problems not resolvable at this level are reviewed by the Program Manager, and corrective action recommendations are discussed with the COR.

Weekly project briefings for the Program Manager are made by the Project Manager during active task performance phases. Overall team coordination meetings are held at task initiation and as appropriate through the period of performance. The Project Manager meets on approximately a weekly basis with each Work Element Leader.

Day-to-day control of work in progress is effected by the Project Manager through (1) review of all field notes and chemical results; (2) comparison of performance with the detailed sampling plan, which describes in matrix form the environmental measurements and protocols to be performed at each sampling site location; (3) review and approval of all field effort plans and immediate debriefing after field effort conduct; and (4) constant communication with the FOL and/or Functional Leaders. Other points of day-to-day project control are provided by data entry reports and QA audit reports.

3.1.2 Subcontractor Operations

The Project Manager is responsible for subcontractor cost and performance tracking/oversight. However, the ABB-ES FOL is directly responsible for controlling the labor hours expended and the costs incurred by the subcontractors (i.e., drilling and surveying). The FOL will direct the activities of these subcontractors and, if potential problems surface, modify procedural steps to minimize them. USAEC approval will be obtained prior to initiating procedural modifications. Similarly, the Laboratory/Data Management Leader is responsible for controlling the work performed by the analytical laboratory subcontractor. Careful tracking of services rendered and costs incurred will be required in both areas.

3.2 COMMUNICATIONS

3.2.1 Internal

Within ABB-ES, the Project Manager has primary responsibility for overall project communications. Weekly meetings of project staff will be called by the Project Manager for the purpose of progress reporting, problem resolution, budget updating, and general information exchange.

Outside the regularly scheduled meetings, frequent communications among staff via informal meetings, telephone calls, and internal memoranda will occur. All telephone calls between project staff and external entities (e.g., USAEC, Fort Allen, and subcontractors) will be documented by telephone memoranda and distributed internally to key project staff and to the project file.

3.2.2 External

Overall communications with USAEC and Fort Allen representatives are the responsibility of the Project Manager. USAEC will be the first point of contact for coordination of all activities at Fort Allen. Most coordination with Fort Allen regarding logistical arrangements for field operations will be handled by the FOL, who will keep the appropriate Task Leader and Project Manager informed.

3.2.3 Regulatory Liaison

USEPA Region II is the regulatory agency directly involved in investigations at Fort Allen. USAEC has the lead regulatory liaison role. ABB-ES will facilitate communications with the regulators by supporting USAEC.

4.0 PROJECT DATA MANAGEMENT

Specific data management requirements for the Fort Allen SI are described in the following paragraphs.

4.1 DATA FILES

Data generated through implementation of the Fort Allen SI will be managed in accordance with USAEC data management procedures. Data for this project will include the geotechnical data from the field drilling program and the chemical analysis data from ABB-ES' subcontracted analytical laboratory. Both geotechnical and chemical analysis data will be entered into the IRDMIS by ABB-ES. Table 4-1 lists the IRDMIS geotechnical and sampling files which will be required during the SI. The maximum time allowed for data file submission is also shown in Table 4-1. These suspense dates are in accordance with Contract DAAA31-94-D-0061.

4.1.1 Field Records

For each well sampled, a Groundwater Field Data Record sheet will be completed. This sheet contains specific information on each well. Information such as the project name, sample site ID, sampling date, field sample number, weather, well depth, water level, sampling equipment, and sampling technique is recorded. A field notes section provides for any additional site information sampling personnel may need to include. Each well will have a Monitoring Well Construction and Development Form that will document structural details. The Monitoring Well Construction and Development Form and the Groundwater Field Sampling Data Record will be kept on file by ABB-ES.

For each soil and surface water sample collected, field information will be recorded in a field notebook and on a sampling data sheet. Information such as project name, job number, date sampled, site type, site ID, and any pertinent observations are included in this notebook. Field notes also provide for any additional site information the sampling personnel may need to add.

Where soil samples are taken from test borings, a Field Boring Log will be completed. On this log, the driller and geologist record notes from the soil sampling

TABLE 4-1
DATA FILE SUBMISSION TIME LIMITS

MANAGEMENT PLAN
FORT ALLEN SITE INSPECTION
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FILE TYPE	DUE	NOTES
GMA: Geotechnical	40 calendar days after completion of last monitoring well	Completion of well is realized upon placement of protective casing
GMA: Geotechnical	14 calendar days after sampling event	Encompasses soil, biota, sediment, surface water and air sampling sites
GGS: Geotechnical Groundwater Stabilized File	7 calendar days after measurement	
GFD: Geotechnical Field Drilling File	30 days after completion of last well in drilling, or last soil borings	
GWC: Well Construction	30 days after completion of last well installation	
GAQ: Geotechnical Aquifer Test File	14 days after analysis	
GPA: Geotechnical Physical Analysis File	14 days after analysis	
CGW: Chemical, Groundwater	40 calendar days after collection of sample	Complete submission is realized when data have passed Potomac Research, Inc. Level II record and group checks.
CSW: Chemical, Surface Water	40 calendar days after collection of sample	Complete submission is realized when data have passed Potomac Research, Inc. Level II record and group checks.
CSO: Chemical, Soil	40 calendar days after collection of sample	Complete submission is realized when data have passed Potomac Research, Inc. Level II record and group checks.
CSE: Chemical, Sediment	40 calendar days after collection of sample	Complete submission is realized when data have passed Potomac Research, Inc. Level II record and group checks.
CAR: Chemical, Air	40 calendar days after collection of sample	Complete submission is realized when data have passed Potomac Research, Inc. Level II record and group checks.
RGW: Radiological, Groundwater		USAEC approval

event. The Field Boring Log and the field notes are both kept on file by ABB-ES. Samples will be given unique field sample numbers that will be used for sample identification. These field sample numbers are the primary means for accessing boring data in the IRDMIS.

Chain-of-Custody (COC) records will be used to coordinate transfer of all samples from field sampling locations to the off-site analytical laboratory.

4.1.2 Geotechnical Data

Geotechnical field data will be entered by ABB-ES directly into the IRDMIS. All field-generated data will be entered on ABB-ES field log forms and field daily report forms for transmission to both the home office and USAEC. Data to be entered by ABB-ES will include the following files: Geophysical Map File, Geophysical Groundwater Stabilized File, Geophysical Field Drilling File, and Geotechnical Well Construction File.

4.1.3 Chemical Data

The chemical data files generated for the SI program will consist of a Chemical Groundwater File, Chemical Soil File, Chemical Surface Water File, and Chemical Sediment File. Only chemical data generated from USAEC-certified analytical methods will be processed for IRDMIS upload. The maximum time allowed for data file submission is shown in Table 4-1.

Samples received at the laboratory will be divided into sample lots according to method, matrix, and analytical QC groups. The analytical laboratory will maintain records of which samples belong to the designated lots. These lots will be referenced in a project-wide data tracking program coordinated by ABB-ES. Upon receipt of sample shipments, the laboratory will send ABB-ES a weekly laboratory summary of each sample lot.

The laboratory will analyze samples according to procedures defined by ER1110-1-263, Chemical Data Quality Management for Hazardous Waste Remedial Activities, (USACE) October 1990, and the format, field, and data requirements in the USATHAMA Guidelines for implementation of ER-1110-1-263 for USATHAMA projects, May 1993. On completion of analysis, data reduction, and review, the sample results will be sent to ABB-ES where group and record checks will be performed before the data are submitted to the USAEC Technical Branch for

approval. Laboratory results will be entered into the IRDMIS by ABB-ES. A tracking record summarizing the lots that have been transferred to USAEC, and those lots that are still in-house at the laboratory, will be maintained by ABB-ES. This record will list method numbers, analysis/matrix/instrument, lots transferred, date transferred, and lots in-house. Data to be entered into the IRDMIS will be coded, reviewed, and entered by ABB-ES prior to required maximum suspense dates tabulated barring unforeseen circumstances. Data sent to USAEC for approval are considered to be unprocessed until they are elevated to the IRDMIS computer (Pyramid) by USAEC.

Verification of the accuracy of data by the USAEC Technical Branch will occur prior to processing the data. Copies of all raw sample data, QC data, calibration results, and control charts, as well as any other information required by USAEC, will be provided. A decision will be made by USAEC to accept or reject the data on a lot-by-lot basis.

When data lots are accepted, ABB-ES will be notified by letter. This transfer of information will enable ABB-ES to continue tracking the progress of each data lot. After acceptance, data are ready to be elevated to Pyramid. USAEC will notify its data management subcontractor, Potomac Research Institute (PRI) that the data are ready to be elevated. If the data are rejected, USAEC will examine each lot to determine if the data can be used. All original logbooks, model output, and hardcopy of chemical/geotechnical data will be supplied as Data Items A010-A012 (Informal Technical Information).

To evaluate the status of project data from initial field sampling through production of validated data tables, a system of data tracking will be performed by ABB-ES and its subcontractor laboratories. With the assistance of each party involved in the data management process, it will be possible to produce a report summarizing the status of each data lot. Figure 4-1 is an example of the tracking summary report format submitted weekly by the subcontractor laboratories. There are six basic steps in the data tracking system:

Step 1: ABB-ES creates file with copies of field reports and COC forms.

Step 2: Laboratory completes COC form and organizes samples into lots.

Data Tracking Report

Project: _____ **SDG No:** _____

Laboratory: _____ **Week Ending:** _____

ABB-ES Site ID	LAB Sample ID	Lot Code	Date Sample Recv'd	Parameter to be Analyzed (by method)	Due Date for Extraction/ Preparation	Actual Date of Extraction/ Preparation	Due Date for Analysis	Actual Date of Analysis	Due Date for ABB-ES	Actual Date Data Sent ABB-ES	QC Summary Report Due	QC Summary Report to ABB-ES & USAEC

FIGURE 4-1
DATA TRACKING REPORT FORM
MANAGEMENT PLAN
SAN JUAN AND ST. CROIX PRELIMINARY ASSESSMENT
FORT ALLEN SITE INSPECTION

Step 3: Laboratory maintains data lot summary files and submits data tracking reports to ABB-ES weekly.

Step 4: Completed data lots are forwarded to ABB-ES for review. ABB-ES performs group and record checks and transmits clean data files to USAEC. At this point, the ABB-ES DM Supervisor begins to add information on the status of lots into the ABB-ES data tracking summary.

Step 5: USAEC Technical Branch reviews QC Summary Reports and data, then accepts or rejects lots based on QA/QC results. ABB-ES is notified which lots have been reviewed and accepted. The ABB-ES data tracking forms are again updated. Lots accepted are listed as unprocessed lots.

Step 6: USAEC directs PRI to elevate accepted lots to the USAEC IRDMIS computer. ABB-ES generates processed lot status report from the Pyramid computer.

Chemical data tracking will enable project personnel to know when all sample lots have been completed. When all lots have been processed, final summary tables will be generated by ABB-ES from the data in the USAEC computer. Summary tables of non-USAEC analytical data will also be generated. The tables will then be used as data appendices in the SI Report. Processed data will be analyzed using the various programs on the USAEC computer, as well as ABB-ES' in-house data management programs.

5.0 PROJECT SCHEDULE

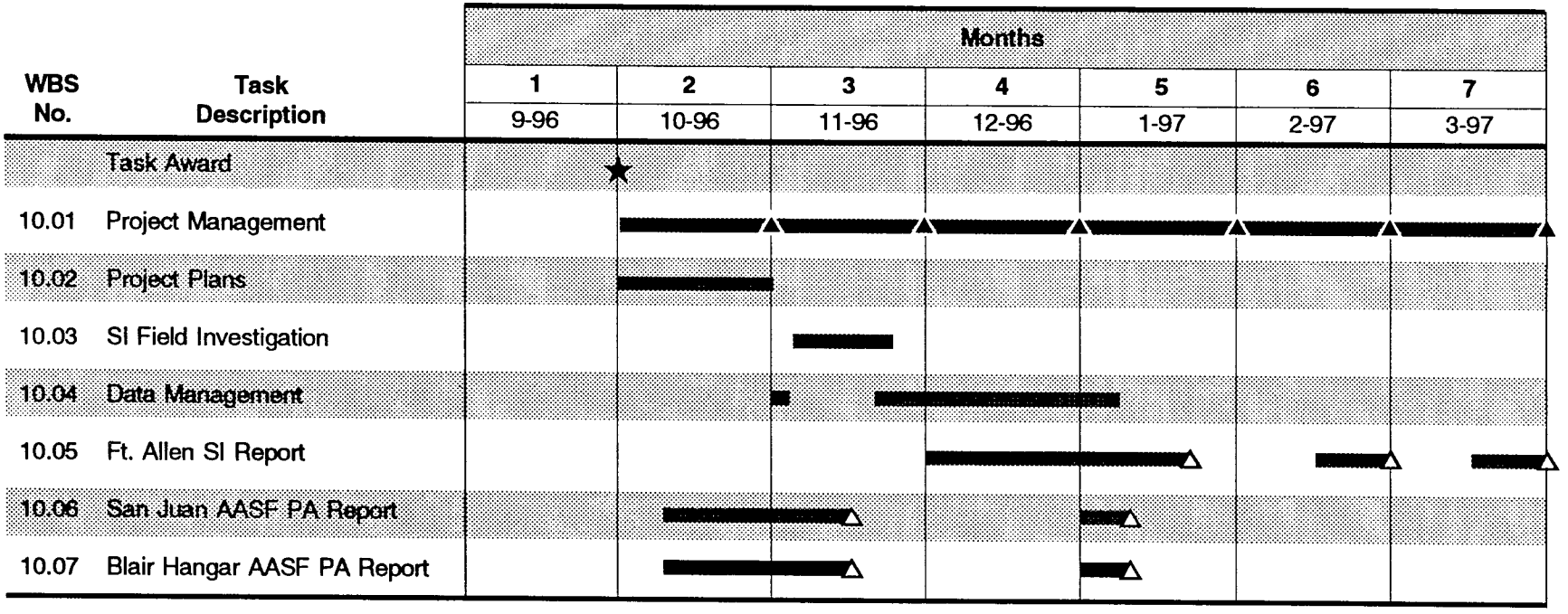
ABB-ES' projection of the schedule for the Fort Allen SI/PA project is discussed in this section. This schedule allows two months for regulatory review and approval of each draft of the project plans.

5.1 PROJECT IMPLEMENTATION SCHEDULE

The overall schedule for the SI/PA project is shown in Figure 5-1. This schedule is based on a 6-month period of performance and shows the relationships among major work elements and the schedule of deliverables.

5.2 FIELD ACTIVITIES SCHEDULE

Field activities are scheduled to begin in early November 1996 and end in mid-November 1996. The field tasks are scheduled to be completed in approximately 14 days.



NOTES:

WBS 10.01 - Monthly Performance and Cost Reports (▲)

WBS 10.02 - Technical Plan, QAPjP and APSPP

WBS 10.03 - Conduct SI field investigation and existing data review

WBS 10.05 - Draft SI Report due 60 days after end of WBS 10.03 (△), Draft Final (90 days)(△)

WBS 10.06 - Draft PA (△) due 30 days after facility visit, Final PA due in January 1997.

WBS 10.07 - Draft PA (△) due 30 days after facility visit, Final PA due in January 1997.

Each month has 30 days.

FIGURE 5-1
PROJECT SCHEDULE
MANAGEMENT PLAN
SAN JUAN AND ST. CROIX PRELIMINARY SITE ASSESSMENT
FORT ALLEN SITE INSPECTION

6.0 RESOURCE UTILIZATION PLANS

Table 6-1 presents the detailed RUP for the SI/PAs, broken out by task work element including an overall summary. This RUP is based on the scope of work as contained in the September 27, 1996 Technical and Cost Proposal and a 6-month period of performance. The utilization rates of labor and non-labor resources reflect the levels of effort projected on a monthly basis in conformance with the schedule developed in Section 5.0. Non-labor costs that are included in the "Other Direct Charges" category shown in the RUP are essentially nontangible charges (e.g., photocopying, word processing, field equipment rental [except for subcontractor equipment], computer time, telephone, and shipping charges). Materials and supplies charges include expendable field supplies (exclusive of well casing and construction materials supplied by subcontractors), laboratory supply, and graphics supply charges.

Direct hours indicate ABB-ES hours only. Subcontracts are as follows:

SUBCONTRACT	TYPE OF CONTRACT	MAXIMUM COST (EXCLUDING G&A COSTS)
Analytical Laboratories	Unit Rate/Not To Exceed	$61,933
Drilling	Unit Rate/Not To Exceed	$45,095
GeoProbe™ Sampling	Unit Rate/Not to Exceed	$7,900
Surveying	Unit Rate/Not To Exceed	$400

USAEC will be notified in writing 60 days in advance of the time when 75 percent of the approved resources are expected to be expended or committed. According to the projected expenditures shown in Table 6-1, the 75 percent complete milestone will be reached in November 1996. If actual expenditures and commitments differ significantly from projected expenditures, this date will change.

TABLE 6 - 1
RESOURCE UTILIZATION PLAN

SITE INSPECTION AT FORT ALLEN, PUERTO RICO
PRELIMINARY ASSESSMENTS AT SAN JUAN AASF, PUERTO RICO
BLAIR HANGAR AASF, ST CROIX, USVI

PROJECT SUMMARY								
	SEPT 1996 Monthly	SEPT 1996 Cumulative	OCT 1996 Monthly	OCT 1996 Cumulative	NOV 1996 Monthly	NOV 1996 Cumulative	DEC 1996 Monthly	DEC 1996 Cumulative
WORK HOURS	230	230	470	700	688	1,388	398	1,786
DIRECT LABOR	5,456	5,456	11,303	16,760	15,056	31,816	8,904	40,720
OVERHEAD	6,579	6,579	13,629	20,207	18,153	38,360	10,736	49,096
G&A	2,025	2,025	4,468	6,492	13,052	19,544	18,272	37,816
MATERIALS & SUPPLIES	0	0	0	0	2,717	2,717	0	2,717
CAPITAL EQUIPMENT	0	0	0	0	0	0	0	0
TRAVEL	0	0	1,586	1,586	10,080	11,666	0	11,666
OTHER DIRECT COSTS	163	163	395	558	7,290	7,848	431	8,279
SUBCONTRACTS	0	0	0	0	25,328	25,328	90,000	115,328
OUTSTANDING COMMITMENTS	0	115,328	0	115,328	0	90,000	0	0
TOTAL COSTS	14,223	14,223	31,381	45,603	91,676	137,279	128,343	265,622

TABLE 6 - 1
RESOURCE UTILIZATION PLAN

SITE INSPECTION AT FORT ALLEN, PUERTO RICO
PRELIMINARY ASSESSMENTS AT SAN JUAN AASF, PUERTO RICO
BLAIR HANGAR AASF, ST CROIX, USVI

PROJECT SUMMARY							
	JAN Monthly	1,997 Cumulative	FEB Monthly	1,997 Cumulative	MAR Monthly	1,997 Cumulative	Total Cumulative
WORK HOURS	172	1,958	70	2,028	86	2,114	2,114
DIRECT LABOR	3,928	44,648	1,634	46,283	2,008	48,291	48,291
OVERHEAD	4,736	53,832	1,970	55,803	2,422	58,224	58,224
G&A	1,492	39,308	653	39,961	775	40,736	40,736
MATERIALS & SUPPLIES	0	2,717	0	2,717	0	2,717	2,717
CAPITAL EQUIPMENT	0	0	0	0	0	0	0
TRAVEL	0	11,666	0	11,666	0	11,666	11,666
OTHER DIRECT COSTS	323	8,602	330	8,932	240	9,172	9,172
SUBCONTRACTS	0	115,328	0	115,328	0	115,328	115,328
OUTSTANDING COMMITMENTS	0	0	0	0	0	0	0
TOTAL COSTS	10,479	276,101	4,588	280,689	5,445	286,135	286,135

TABLE 6 - 1
RESOURCE UTILIZATION PLAN

SITE INSPECTION AT FORT ALLEN, PUERTO RICO
PRELIMINARY ASSESSMENTS AT SAN JUAN AASF, PUERTO RICO
BLAIR HANGAR AASF, ST CROIX, USVI

WBS ELEMENT: 10.01 - PROJECT MGMT								
	SEPT 1996 Monthly	SEPT 1996 Cumulative	OCT 1996 Monthly	OCT 1996 Cumulative	NOV 1996 Monthly	NOV 1996 Cumulative	DEC 1996 Monthly	DEC 1996 Cumulative
WORK HOURS	0	0	40	40	50	90	30	120
DIRECT LABOR	0	0	932	932	1,165	2,097	699	2,795
OVERHEAD	0	0	1,123	1,123	1,404	2,528	843	3,370
G&A	0	0	355	355	433	788	263	1,051
MATERIALS & SUPPLIES	0	0	0	0	0	0	0	0
CAPITAL EQUIPMENT	0	0	0	0	0	0	0	0
TRAVEL	0	0	0	0	0	0	0	0
OTHER DIRECT COSTS	0	0	85	85	40	125	40	165
SUBCONTRACTS	0	0	0	0	0	0	0	0
OUTSTANDING COMMITMENTS	0	0	0	0	0	0	0	0
TOTAL COSTS	0	0	2,496	2,496	3,042	5,538	1,844	7,382

TABLE 6 - 1
RESOURCE UTILIZATION PLAN

SITE INSPECTION AT FORT ALLEN, PUERTO RICO
PRELIMINARY ASSESSMENTS AT SAN JUAN AASF, PUERTO RICO
BLAIR HANGAR AASF, ST CROIX, USVI

WBS ELEMENT: 10.01 - PROJECT MGMT							
	JAN Monthly	1,997 Cumulative	FEB Monthly	1,997 Cumulative	MAR Monthly	1,997 Cumulative	Total Cumulative
WORK HOURS	20	140	30	170	30	200	200
DIRECT LABOR	466	3,261	699	3,960	699	4,659	4,659
OVERHEAD	562	3,932	843	4,775	843	5,617	5,617
G&A	176	1,226	261	1,487	263	1,750	1,750
MATERIALS & SUPPLIES	0	0	0	0	0	0	0
CAPITAL EQUIPMENT	0	0	0	0	0	0	0
TRAVEL	0	0	0	0	0	0	0
OTHER DIRECT COSTS	30	195	30	225	40	265	265
SUBCONTRACTS	0	0	0	0	0	0	0
OUTSTANDING COMMITMENTS	0	0	0	0	0	0	0
TOTAL COSTS	1,233	8,615	1,832	10,447	1,844	12,291	12,291

TABLE 6 - 1
RESOURCE UTILIZATION PLAN

SITE INSPECTION AT FORT ALLEN, PUERTO RICO
PRELIMINARY ASSESSMENTS AT SAN JUAN AASF, PUERTO RICO
BLAIR HANGAR AASF, ST CROIX, USVI

WBS ELEMENT: 10.02 PROJECT PLANS								
	SEPT Monthly	1996 Cumulative	OCT Monthly	1996 Cumulative	NOV Monthly	1996 Cumulative	DEC Monthly	1996 Cumulative
WORK HOURS	230	230	250	480	0	480	0	480
DIRECT LABOR	5,456	5,456	5,931	11,387	0	11,387	0	11,387
OVERHEAD	6,579	6,579	7,151	13,729	0	13,729	0	13,729
G&A	2,025	2,025	2,205	4,230	0	4,230	0	4,230
MATERIALS & SUPPLIES	0	0	0	0	0	0	0	0
CAPITAL EQUIPMENT	0	0	0	0	0	0	0	0
TRAVEL	0	0	0	0	0	0	0	0
OTHER DIRECT COSTS	163	163	200	363	0	363	0	363
SUBCONTRACTS	0	0	0	0	0	0	0	0
OUTSTANDING COMMITMENTS	0	0	0	0	0	0	0	0
TOTAL COSTS	14,223	14,223	15,486	29,709	0	29,709	0	29,709

TABLE 6 - 1
RESOURCE UTILIZATION PLAN

SITE INSPECTION AT FORT ALLEN, PUERTO RICO
PRELIMINARY ASSESSMENTS AT SAN JUAN AASF, PUERTO RICO
BLAIR HANGAR AASF, ST CROIX, USVI

WBS ELEMENT: 10.02 PROJECT PLANS							
	JAN Monthly	1,997 Cumulative	FEB Monthly	1,997 Cumulative	MAR Monthly	1,997 Cumulative	Total Cumulative
WORK HOURS	0	480	0	480	0	480	480
DIRECT LABOR	0	11,387	0	11,387	0	11,387	11,387
OVERHEAD	0	13,729	0	13,729	0	13,729	13,729
G&A	0	4,230	0	4,230	0	4,230	4,230
MATERIALS & SUPPLIES	0	0	0	0	0	0	0
CAPITAL EQUIPMENT	0	0	0	0	0	0	0
TRAVEL	0	0	0	0	0	0	0
OTHER DIRECT COSTS	0	363	0	363	0	363	363
SUBCONTRACTS	0	0	0	0	0	0	0
OUTSTANDING COMMITMENTS	0	0	0	0	0	0	0
TOTAL COSTS	0	29,709	0	29,709	0	29,709	29,709

TABLE 6 - 1
RESOURCE UTILIZATION PLAN

SITE INSPECTION AT FORT ALLEN, PUERTO RICO
PRELIMINARY ASSESSMENTS AT SAN JUAN AASF, PUERTO RICO
BLAIR HANGAR AASF, ST CROIX, USVI

	WBS ELEMENT: 10.03 SI FIELD INVESTIGATION						
	JAN Monthly	1,997 Cumulative	FEB Monthly	1,997 Cumulative	MAR Monthly	1,997 Cumulative	Total Cumulative
WORK HOURS	0	438	0	438	0	438	438
DIRECT LABOR	0	9,394	0	9,394	0	9,394	9,394
OVERHEAD	0	11,326	0	11,326	0	11,326	11,326
G&A	0	25,872	0	25,872	0	25,872	25,872
MATERIALS & SUPPLIES	0	2,717	0	2,717	0	2,717	2,717
CAPITAL EQUIPMENT	0	0	0	0	0	0	0
TRAVEL	0	10,080	0	10,080	0	10,080	10,080
OTHER DIRECT COSTS	0	7,010	0	7,010	0	7,010	7,010
SUBCONTRACTS	0	115,328	0	115,328	0	115,328	115,328
OUTSTANDING COMMITMENTS	0	0	0	0	0	0	0
TOTAL COSTS	0	181,727	0	181,727	0	181,727	181,727

TABLE 6 - 1
RESOURCE UTILIZATION PLAN

SITE INSPECTION AT FORT ALLEN, PUERTO RICO
PRELIMINARY ASSESSMENTS AT SAN JUAN AASF, PUERTO RICO
BLAIR HANGAR AASF, ST CROIX, USVI

WBS ELEMENT: 10.03 SI FIELD INVESTIGATION								
	SEPT 1996		OCT 1996		NOV 1996		DEC 1996	
	Monthly	Cumulative	Monthly	Cumulative	Monthly	Cumulative	Monthly	Cumulative
WORK HOURS	0	0	0	0	438	438	0	438
DIRECT LABOR	0	0	0	0	9,394	9,394	0	9,394
OVERHEAD	0	0	0	0	11,326	11,326	0	11,326
G&A	0	0	0	0	10,932	10,932	14,940	25,872
MATERIALS & SUPPLIES	0	0	0	0	2,717	2,717	0	2,717
CAPITAL EQUIPMENT	0	0	0	0	0	0	0	0
TRAVEL	0	0	0	0	10,080	10,080	0	10,080
OTHER DIRECT COSTS	0	0	0	0	7,010	7,010	0	7,010
SUBCONTRACTS	0	0	0	0	25,328	25,328	90,000	115,328
OUTSTANDING COMMITMENTS	0	115,328	0	115,328	0	90,000	0	0
TOTAL COSTS	0	0	0	0	76,787	76,787	104,940	181,727

TABLE 6 - 1
RESOURCE UTILIZATION PLAN

SITE INSPECTION AT FORT ALLEN, PUERTO RICO
PRELIMINARY ASSESSMENTS AT SAN JUAN AASF, PUERTO RICO
BLAIR HANGAR AASF, ST CROIX, USVI

	WBS ELEMENT: 10.04 DATA MANAGEMENT							
	SEPT 1996 Monthly	SEPT 1996 Cumulative	OCT 1996 Monthly	OCT 1996 Cumulative	NOV 1996 Monthly	NOV 1996 Cumulative	DEC 1996 Monthly	DEC 1996 Cumulative
WORK HOURS	0	0	0	0	80	80	160	240
DIRECT LABOR	0	0	0	0	1,640	1,640	3,279	4,919
OVERHEAD	0	0	0	0	1,977	1,977	3,954	5,931
G&A	0	0	0	0	610	610	1,216	1,826
MATERIALS & SUPPLIES	0	0	0	0	0	0	0	0
CAPITAL EQUIPMENT	0	0	0	0	0	0	0	0
TRAVEL	0	0	0	0	0	0	0	0
OTHER DIRECT COSTS	0	0	0	0	60	60	90	150
SUBCONTRACTS	0	0	0	0	0	0	0	0
OUTSTANDING COMMITMENTS	0	0	0	0	0	0	0	0
TOTAL COSTS	0	0	0	0	4,267	4,267	8,539	12,826

TABLE 6 - 1
RESOURCE UTILIZATION PLAN

SITE INSPECTION AT FORT ALLEN, PUERTO RICO
PRELIMINARY ASSESSMENTS AT SAN JUAN AASF, PUERTO RICO
BLAIR HANGAR AASF, ST CROIX, USVI

	WBS ELEMENT: 10.04 DATA MANAGEMENT						
	JAN Monthly	1,997 Cumulative	FEB Monthly	1,997 Cumulative	MAR Monthly	1,997 Cumulative	Total Cumulative
WORK HOURS	32	272	0	272	0	272	272
DIRECT LABOR	658	5,575	0	5,575	0	5,575	5,575
OVERHEAD	791	6,722	0	6,722	0	6,722	6,722
G&A	246	2,072	0	2,072	0	2,072	2,072
MATERIALS & SUPPLIES	0	0	0	0	0	0	0
CAPITAL EQUIPMENT	0	0	0	0	0	0	0
TRAVEL	0	0	0	0	0	0	0
OTHER DIRECT COSTS	33	183	0	183	0	183	183
SUBCONTRACTS	0	0	0	0	0	0	0
OUTSTANDING COMMITMENTS	0	0	0	0	0	0	0
TOTAL COSTS	1,725	14,551	0	14,551	0	14,551	14,551

TABLE 6 - 1
RESOURCE UTILIZATION PLAN

SITE INSPECTION AT FORT ALLEN, PUERTO RICO
PRELIMINARY ASSESSMENTS AT SAN JUAN AASF, PUERTO RICO
BLAIR HANGAR AASF, ST CROIX, USVI

WBS ELEMENT: 10.05 SI REPORT								
	SEPT 1996 Monthly	SEPT 1996 Cumulative	OCT 1996 Monthly	OCT 1996 Cumulative	NOV 1996 Monthly	NOV 1996 Cumulative	DEC 1996 Monthly	DEC 1996 Cumulative
WORK HOURS	0	0	0	0	80	80	160	240
DIRECT LABOR	0	0	0	0	1,871	1,871	3,742	5,613
OVERHEAD	0	0	0	0	2,256	2,256	4,511	6,767
G&A	0	0	0	0	692	692	1,397	2,088
MATERIALS & SUPPLIES	0	0	0	0	0	0	0	0
CAPITAL EQUIPMENT	0	0	0	0	0	0	0	0
TRAVEL	0	0	0	0	0	0	0	0
OTHER DIRECT COSTS	0	0	0	0	40	40	161	201
SUBCONTRACTS	0	0	0	0	0	0	0	0
OUTSTANDING COMMITMENTS	0	0	0	0	0	0	0	0
TOTAL COSTS	0	0	0	0	4,858	4,858	9,811	14,669

TABLE 6 - 1
RESOURCE UTILIZATION PLAN

SITE INSPECTION AT FORT ALLEN, PUERTO RICO
PRELIMINARY ASSESSMENTS AT SAN JUAN AASF, PUERTO RICO
BLAIR HANGAR AASF, ST CROIX, USVI

WBS ELEMENT: 10.05 SI REPORT							
	JAN Monthly	1,997 Cumulative	FEB Monthly	1,997 Cumulative	MAR Monthly	1,997 Cumulative	Total Cumulative
WORK HOURS	120	360	40	400	56	456	456
DIRECT LABOR	2,806	8,419	935	9,354	1,310	10,664	10,664
OVERHEAD	3,384	10,151	1,128	11,279	1,579	12,858	12,858
G&A	1,071	3,159	392	3,551	513	4,064	4,064
MATERIALS & SUPPLIES	0	0	0	0	0	0	0
CAPITAL EQUIPMENT	0	0	0	0	0	0	0
TRAVEL	0	0	0	0	0	0	0
OTHER DIRECT COSTS	260	461	300	761	200	961	961
SUBCONTRACTS	0	0	0	0	0	0	0
OUTSTANDING COMMITMENTS	0	0	0	0	0	0	0
TOTAL COSTS	7,521	22,190	2,756	24,945	3,601	28,547	28,547

TABLE 6 - 1
RESOURCE UTILIZATION PLAN

SITE INSPECTION AT FORT ALLEN, PUERTO RICO
PRELIMINARY ASSESSMENTS AT SAN JUAN AASF, PUERTO RICO
BLAIR HANGAR AASF, ST CROIX, USVI

WBS ELEMENT: 10.06 SAN JUAN AASF PA REPORT

	SEPT 1996 Monthly	SEPT 1996 Cumulative	OCT 1996 Monthly	OCT 1996 Cumulative	NOV 1996 Monthly	NOV 1996 Cumulative	DEC 1996 Monthly	DEC 1996 Cumulative
WORK HOURS	0	0	90	90	20	110	24	134
DIRECT LABOR	0	0	2,220	2,220	493	2,714	592	3,306
OVERHEAD	0	0	2,677	2,677	595	3,272	714	3,986
G&A	0	0	1,014	1,014	192	1,206	228	1,435
MATERIALS & SUPPLIES	0	0	0	0	0	0	0	0
CAPITAL EQUIPMENT	0	0	0	0	0	0	0	0
TRAVEL	0	0	1,157	1,157	0	1,157	0	1,157
OTHER DIRECT COSTS	0	0	55	55	70	125	70	195
SUBCONTRACTS	0	0	0	0	0	0	0	0
OUTSTANDING COMMITMENTS	0	0	0	0	0	0	0	0
TOTAL COSTS	0	0	7,124	7,124	1,351	8,474	1,604	10,079

TABLE 6 - 1
RESOURCE UTILIZATION PLAN

SITE INSPECTION AT FORT ALLEN, PUERTO RICO
PRELIMINARY ASSESSMENTS AT SAN JUAN AASF, PUERTO RICO
BLAIR HANGAR AASF, ST CROIX, USVI

WBS ELEMENT: 10.00 SAN JUAN AASF PA REPORT

	JAN Monthly	1,997 Cumulative	FEB Monthly	1,997 Cumulative	MAR Monthly	1,997 Cumulative	Total Cumulative
WORK HOURS	0	134	0	134	0	134	134
DIRECT LABOR	0	3,306	0	3,306	0	3,306	3,306
OVERHEAD	0	3,986	0	3,986	0	3,986	3,986
G&A	0	1,435	0	1,435	0	1,435	1,435
MATERIALS & SUPPLIES	0	0	0	0	0	0	0
CAPITAL EQUIPMENT	0	0	0	0	0	0	0
TRAVEL	0	1,157	0	1,157	0	1,157	1,157
OTHER DIRECT COSTS	0	195	0	195	0	195	195
SUBCONTRACTS	0	0	0	0	0	0	0
OUTSTANDING COMMITMENTS	0	0	0	0	0	0	0
TOTAL COSTS	0	10,079	0	10,079	0	10,079	10,079

TABLE 6 - 1
RESOURCE UTILIZATION PLAN

SITE INSPECTION AT FORT ALLEN, PUERTO RICO
PRELIMINARY ASSESSMENTS AT SAN JUAN AASF, PUERTO RICO
BLAIR HANGAR AASF, ST CROIX, USVI

WBS ELEMENT: 10.07 BLAIR HANGAR AASF PA REPORT

	SEPT Monthly	1996 Cumulative	OCT Monthly	1996 Cumulative	NOV Monthly	1996 Cumulative	DEC Monthly	1996 Cumulative
WORK HOURS	0	0	90	90	20	110	24	134
DIRECT LABOR	0	0	2,220	2,220	493	2,714	592	3,306
OVERHEAD	0	0	2,677	2,677	595	3,272	714	3,986
G&A	0	0	893	893	192	1,086	228	1,314
MATERIALS & SUPPLIES	0	0	0	0	0	0	0	0
CAPITAL EQUIPMENT	0	0	0	0	0	0	0	0
TRAVEL	0	0	429	429	0	429	0	429
OTHER DIRECT COSTS	0	0	55	55	70	125	70	195
SUBCONTRACTS	0	0	0	0	0	0	0	0
OUTSTANDING COMMITMENTS	0	0	0	0	0	0	0	0
TOTAL COSTS	0	0	6,275	6,275	1,351	7,626	1,604	9,230

TABLE 6 - 1
RESOURCE UTILIZATION PLAN

SITE INSPECTION AT FORT ALLEN, PUERTO RICO
PRELIMINARY ASSESSMENTS AT SAN JUAN AASF, PUERTO RICO
BLAIR HANGAR AASF, ST CROIX, USVI

WBS ELEMENT: 10.07 BLAIR HANGAR AASF PA REPORT

	JAN Monthly	1,997 Cumulative	FEB Monthly	1,997 Cumulative	MAR Monthly	1,997 Cumulative	Total Cumulative
WORK HOURS	0	134	0	134	0	134	134
DIRECT LABOR	0	3,306	0	3,306	0	3,306	3,306
OVERHEAD	0	3,986	0	3,986	0	3,986	3,986
G&A	0	1,314	0	1,314	0	1,314	1,314
MATERIALS & SUPPLIES	0	0	0	0	0	0	0
CAPITAL EQUIPMENT	0	0	0	0	0	0	0
TRAVEL	0	429	0	429	0	429	429
OTHER DIRECT COSTS	0	195	0	195	0	195	195
SUBCONTRACTS	0	0	0	0	0	0	0
OUTSTANDING COMMITMENTS	0	0	0	0	0	0	0
TOTAL COSTS	0	9,230	0	9,230	0	9,230	9,230

7.0 REPORTS

The reports scheduled for submission to USAEC during the SI/PAs are listed in Table 7-1. The table also lists the target deliverable dates and the distribution requirements. Reports will be prepared in accordance with MIL-STD-847, as directed by Contract Number DACA 31-94-D-0061.

Preparation of the Fort Allen SI Report will begin following completion of the field drilling program. The Army draft report will be submitted to USAEC in January 1997. Revisions resulting from these reviews will be incorporated in the Draft Final SI Report to be reviewed by USEPA Region II. The Draft Final SI Report is scheduled to be completed by mid-February 1997. All geotechnical and chemical data are programmed to be in the IRDMIS at the time of report submittal. Report development will involve drafting of text, and compilation of data, tables, and figures from geologic, hydrogeologic, and chemical work elements. Draft and Draft Final SI Reports will be prepared under the direction of the Task Manager, with review by ABB-ES management and the Technical Review Committee.

Preparation of the Final SI Report will begin when comments on the Draft Final SI are received. The Final SI Report is scheduled to be completed by the end of March 1997. Comments received from the regulators on the Draft Final Report will be addressed in the Final SI. The SI Leader will take the lead in developing the Final SI Report, with oversight by the Project Manager, the Technical Review Committee, and ABB-ES Management.

Preparation of the PA Reports for the San Juan AASF and Blair Hangar AASF will begin following completion of the site visits the week of October 14, 1996. The Army draft reports will be submitted to USAEC in early November 1996. Revisions resulting from these reviews will be incorporated in the PA Reports to be reviewed by USEPA Region II. The Draft PA Reports are scheduled to be completed by November 19, 1996. Draft PA Reports will be prepared under the direction of the Task Manager, with review by ABB-ES management and the Technical Review Committee. Preparation of the Final PA Reports will begin when comments on the Draft Final PA Reports are received from the USEPA Region II. The Final PA Report are scheduled to be completed by January 1997.

The monthly PCRs will provide USAEC and Fort Allen management personnel with the current status and projected requirements of manhours, costs, commitments,

TABLE 7-1
SI/PA REPORTS

MANAGEMENT PLAN
FORT ALLEN SITE INSPECTION
SAN JUAN AND ST. CROIX PRELIMINARY ASSESSMENTS

REPORT NAME	FREQUENCY	TYPE AND NUMBER OF REPORTS (BOUND/REPRODUCIBLE)
Performance and Cost Report	Monthly	2/0
Technical Plan	One	D 4/0 DF 10/0 F 10/0
Quality Assurance Project Plan	One	D 4/0 DF 10/0 F 10/0
Accident Prevention Safety Program Plan	One	D 4/0 DF 10/0 F 10/0
Management Resource Utilization Plan	One	D 2/0 F 2/0
SI Report	One	D 6/0 DF 12/0 F 12/0
San Juan AASF PA Report	One	D 2/0 DF 4/0 F 6/0
Blair Hangar AASF PA Report	One	D 2/0 DF 4/0 F 6/0

Notes:

D = Draft
DF = Draft Final
F = Final

and work completed. The reports will be prepared at the work element level, and will contain the following three sections:

Section I, Technical Performance Parameters. Section I describes planned and actual technical accomplishments for both the current and next reporting period. Section II, Resource Utilization Parameters. Section II contains planned and actual resources utilized and projected resource requirements.

Section III, Variance Analysis. Section III explains differences between planned and actual performance, any difference in resource utilization greater than or equal to the smaller of 5 percent or $5,000, a non-zero difference between the estimate at completion (EAC) and the latest approved resources, and any change in EAC from the previous reporting period.

Six PCRs will be prepared during the SI/FS/PP performance period.

ABB-ES	ABB Environmental Services, Inc.
APSPP	Accident Prevention Safety Program Plan
CO	Contracting Officer
COC	chain-of-custody
COR	Contracting Officer's Representative
DM	Data Management
EAC	estimate at completion
ELIN	Exhibit Line Item Number
FOL	Field Operations Leader
HSS	Health and Safety Supervisor
HSO	Health and Safety Officer
IRDMIS	Installation Restoration Data Management Information System
PA	Preliminary Assessment
PCRs	Performance and Cost Reports
PRI	Potomac Research Institute
QA	quality assurance
QAPjP	Quality Assurance Project Plan
QC	quality control
RUP	Resource Utilization Plan
SI	Site Inspection
USAEC	U.S. Army Environmental Center
USEPA	U.S. Environmental Protection Agency
WBS	Work Breakdown Structure

PROJECT PERSONNEL QUALIFICATIONS SUMMARIES

Dirk Brunner, P.E., Consulting Engineer; B.S. Civil Engineering, 1966, M.S. Civil Engineering, 1968

Mr. Brunner has 30 years of project management and environmental engineering experience with industrial and government clients in technical development, evaluation, and management of wastes by land disposal and in developing corrective measures to mitigate effects of mismanaged wastes. He has extensive experience with state and USEPA solid waste regulations and the related permitting and regulatory processes. He has conducted in-depth research in the area of solid and hazardous waste land disposal and has contributed his expertise to regulatory and guidance document development for the USEPA Office of Solid Waste and Office of Research and Development. Mr. Brunner has directed or reviewed the investigation, design, and preparation of technical specifications and plans, permit applications, and other administrative procedures for landfills, RCRA storage and disposal facilities, and CERCLA remedial actions.

He has provided his clients with expert testimony in matters of enforcement and cost recovery. He actively participates in a forum with the Maine DEP to maintain open communications, improve professional education opportunities, and to resolve issues and improve processes on technical matters.

As Technical Controller, Government Operations, Mr. Brunner is responsible for all aspects of technical services. He fosters, and relies on, the active involvement of the Chief Engineer and the Chief Scientist in each office to identify, develop, update, and monitor procedures to control the quality of work completed for Federal government clients. He also is responsible, through the Chiefs, for maintaining the professional development of associates quality of current associates and identifying and filling technical skill and capability gaps.

Joseph Cuccaro, Program Manager; B.S., Biology, 1959

As the ABB-ES Program Manager for the U.S. Army, Mr. Cuccaro is responsible for managing all ABB-ES projects awarded by the Army. Previously, as the first Department Manager for Storage Systems Management, Mr. Cuccaro was responsible for development of new business, management of the technical staff, and for monitoring project schedules and budgets.

Prior to joining ABB-ES, Mr. Cuccaro acquired more than twenty years of environmental, training, logistics and operations experience with the U.S. Army, leaving the service with the rank of Colonel. During his last 5 years with the Army, he served as the first Program Manager of a new environmental management area for the Department of Defense. Mr. Cuccaro managed the contracts with the U.S. Army, valued at more than $26 million, in support of the U.S. Army Installation Restoration Program. The projects ranged in complexity from an Enhanced Preliminary Assessment at The Presidio of San Francisco to control of a major field effort at Badger Army Ammunition Plant which resulted in the publication of both a Remedial Investigation Report and a complex Feasibility Study. Each of the projects required close scrutiny and management of scope, schedule, and budget in addition to providing appropriate direction to a number of technical field teams simultaneously. The U.S. Army program is the second largest program in the company. The projects also involved considerable interaction with State and Federal regulatory authorities and participation in public meetings.

Timothy C. Dame, Associate Environmental Scientist; B.S., Biology, 1989

Mr. Dame has five years of environmental chemistry experience as both a lab chemist and field technician. He has performed priority pollutant analyses according to USEPA methodology for organic pollutants. His instrumentation experience includes gas chromatography for pesticides and PCBs, gel-permeation chromatography, and infrared spectroscopy for petroleum analysis. He is familiar with many types of field analytical methods and instrumentation for screening purposes including IR, PID, immunoassay, X-ray fluorescence, and gas chromatography. His most recent experience includes groundwater and sediment sampling and well installation. He has prepared chemical sampling and analysis plans, conducted data validation, and managed chemical and geotechnical data using the USAEC's IRDMIS database.

Karen Furey, Project Assistant/Document Production Leader; Business Administration, 1990

As a Project Assistant in the Government Programs Division, Ms. Furey is responsible for providing assistance in tracking and producing client documents.

These duties encompass quality assurance checks for consistency, format, tables, and figures, as well as coordinating reviews and support services for document production and timely delivery.

Jeffrey S. Pickett, C.G., Senior Project Manager; B.S., Soil Science/Geology, 1980

Mr. Pickett is responsible for managing, coordinating, and monitoring the technical and geologic aspects of surface and subsurface investigations for hydrogeologic and geotechnical projects throughout the eastern United States. He has had significant roles in major site assessments and remedial investigations at numerous hazardous waste sites and non-hazardous waste sites. His responsibilities have included development and implementation of project proposals, site health and safety plans, work plans, surface and subsurface exploration programs, and preparation and presentation of written technical reports. Mr. Pickett has managed and directed remedial investigation programs, which have included test pits, borings, hydraulic pressure testing, undisturbed soil sampling, geotechnical instrumentation, and the installation of monitoring wells and piezometers. Mr. Pickett has extensive experience as Technical Remedial Investigation Leader for both government and private clients. As a result of this extensive experience, Mr. Pickett provides senior technical review and Quality Control to numerous ABB-ES' projects. This is provided by Mr. Pickett through periodic reviews of ABB-ES services to ensure they represent the accumulated experience of the firm, are being produced in accordance with corporate policy, and live up to the objectives of each project as established by the client and ABB-ES. Additionally, Mr. Pickett has had project management responsibility for the Badger Army Ammunition Plant Remedial Investigation/ Feasibility Study.

Dana Porter, Project Assistant; B.S., History, 1987

Ms. Porter is responsible for tracking financial and budget data and initiating monthly reporting activities. She works closely with the Program Manager, Project Manager, and Contract Manager, to ensure that all contractual requirements are met and fiscal progress of the project is monitored and reported regularly.

Johana Reed, Contract Administrator;

Her experience includes contract and financial administration for large government contracts. Her federal experience has given her expertise in many aspects of the Federal Acquisition Regulations. She reviews, amends, and negotiates contract terms and conditions, level-of-effort, and cost justifications with federal agencies and subcontractors.

As Contract Administrator, Ms. Reed manages contractual negotiations, change notices and modifications, and contractual communications on government contracts. She assists in developing proposals in response to requests for quotation. This includes coordination of all cost-pricing data, terms, and conditions, and in many cases the complete quotation sent to the customer. She records, reviews and accepts purchase orders and contracts as they are received.

Christian Ricardi, Environmental Chemist; B.S., Chemistry, 1980; M.A., Environmental Policy, 1993

Mr. Ricardi is an Environmental Chemist with more than 10 years of experience in environmental analysis. He is the lead chemist for development of analytical programs for SI/FS and monitoring projects and is responsible for data evaluation and project quality control procedures. His experience in environmental analysis enables him to interpret the significance of the analytical results. His other duties include descriptions of the behavior of chemicals in industrial processes and in the natural environment. In addition, Mr. Ricardi has significant experience involving the evaluation and interpretation of laboratory analytical results relative to gasoline contamination in groundwater.

Cynthia Sundquist, CIH, Manager, Health and Safety Department; B.S., Microbiology (Environmental Health), 1980; M.S., (equivalent), Industrial Hygiene, 1985

Ms. Sundquist has more than ten years of experience in the evaluation of physical, health and environmental hazards in the industrial, municipal and environmental sectors. She has conducted surveys to assess such site factors as chemical use, storage of hazardous materials, noise levels, and air quality. Ms. Sundquist is

instrumental in the development and implementation of corporate health and safety policies, and she updates health and safety guidelines. She currently serves as Chairperson of the corporate Personnel Health and Safety Committee and acts as liaison between the staff and managerial personnel on health and safety issues.

As Manager of the Health and Safety Department, Ms. Sundquist is responsible for the health and safety of all ABB-ES employees. Ms. Sundquist has developed and presented the annual refresher and supervisory training courses required by 29 CFR 1910.120, and oversees the medical surveillance program to ensure all applicable employees are enrolled in the program. She provides technical review and approval for all Health and Safety Plans to ensure compliance with company policies and applicable regulations. She checks to ensure that the level of personal protection selected is adequate for site conditions and that the monitoring equipment chosen will detect contaminants of concern. Ms. Sundquist conducts health and safety audits at hazardous waste sites to assess compliance with ABB-ES policies and applicable regulations.

D. Roderick Pendleton, P.G., Associate Project Manager/Senior; B.S., Geological Sciences, 1988; M.S., Environmental Science and Engineering, 1991

Mr. Pendleton's areas of expertise include task management, technical lead for site and remedial investigations, preparation of site and remedial investigation reports, hydrogeologic analysis, and supervision of field operations involving subsurface exploration and implementation of aquifer pumping tests. Since 1988, Mr. Pendleton has been involved in site and remedial investigations for the United States Army Environmental Center (USAEC), the United States Coast Guard (USCG), the United State Environmental Protection Agency (USEPA), and several private businesses.

Manual Alonso, P.G., Senior Geologist; B.S., Geology, 1980; M.S., Geology, 1985

Mr. Alonso has more than eight years of project management and environmental geology experience in Florida. This experience includes environmental site assessment for commercial property transactions, evaluation of subsurface conditions for petroleum discharges into the environment, preparation of contamination

assessment reports, groundwater monitoring plans and design of remedial action plans for the recovery of petroleum products from the subsurface. His experience also includes field exploration, environmental sampling and analysis, State and Federal regulatory permitting, and interfacing with the regulatory agencies on behalf of the clients.

Scott Donelick, Geologist; B.S., Geology, 1990

Mr. Donelick has more than five years geologic and hydrogeological experience in the environmental consulting industry. This experience includes project management of petroleum storage tank contamination assessments, stormwater permitting surveys and facility-wide environmental audits. He has participated in environmental studies for a variety of clients including private industries and State and Federal government agencies. Throughout his career, he has had experience with field explorations, environmental sampling and analysis, environmental compliance, and State and Federal regulatory permitting.