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FINAL WORK PLAN FOR SHERMAN FIELD FUEL FARM PILOT STUDY UPGRADE NAS  
PENSACOLA FL  
2/1/1991  
ABB ENVIRONMENTAL

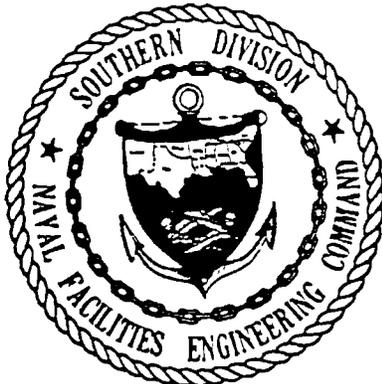


# FINAL

WORK PLAN  
SHERMAN FIELD FUEL FARM PILOT STUDY  
SYSTEM UPGRADE  
PENSACOLA NAVAL AIR STATION  
PENSACOLA, FLORIDA

STATEMENT OF WORK NO. 0001  
NAVY CLEAN - DISTRICT I  
CONTRACT NO. N62467-89-D-0317

FEBRUARY 1991



**ABB Environmental Services, Inc.**

**ABB**  
**ASEA BROWN BOVERI**

WORK PLAN

CONTRACT NO. N62467-89-D-0317  
SOW NO.001

INSTALLATION RESTORATION (IR) PROGRAM AT  
SHERMAN FIELD FUEL FARM  
PENSACOLA NAVAL AIR STATION  
PENSACOLA, FLORIDA

FEBRUARY 1991

Submitted By:

ABB ENVIRONMENTAL SERVICES, INC.  
2571 EXECUTIVE CENTER CIRCLE EAST  
TALLAHASSEE, FLORIDA 32301

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- Attachment A - Schedule
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## I. INTRODUCTION

On September 6, 1990, Southern Division (SDIV) Naval Facilities Engineering Command (NAFACENCOM) contracted ABB Environmental, Inc. (ABB-ES) (contract No. N62467-89-D-0317) to assist the Navy's Environmental Engineering Program by providing engineering support services for the Installation Restoration (IR) Program. The first step in the process of executing a Contract Task Order (CTO) is for ABB-ES to respond to a Statement of Work (SOW) by participating in a site visit to define the SOW and to develop a Work Plan. Under this CTO, since the Engineer-in-Charge and ABB-ES's Task Manager have visited the site the site visit was waived. The Work Plan presents a description of the scope of services, a schedule showing the duration of the tasks, and estimated costs associated with the defined tasks.

This Work Plan describes the scope of services, presents milestone and Gantt schedules, and provides cost estimates for upgrading the Pilot Study System which was installed at the Sherman Field Fuel Farm site on Pensacola Naval Air Station. The Pilot Study system was installed under Southern Division Indefinite Delivery Contract No. 62467-87-0263, Amendments 7 and 19. The upgrade of the Pilot Study System will include the following tasks:

### o Management Activities

Management responsibilities include: cost tracking, internal and external cost reporting, communication, construction and installation coordination and contracting, and deliverable processing and review.

Task 1 - Prepare Monthly Progress Reports

### o Technical Activities

Task 2 - Designing Upgrade Equipment.

Task 3 - Preparing a System Operation Manual.

### o Construction Activities

Task 4 - Upgrade Installation.

Task 5 - Removing Contaminated Soil.

The following Section present the scope of services (Section II), key personnel (Section III), schedule (Section IV), cost estimates for each task (Section V), and fee itemization (Section VI). Days refer to a standard 8 hour day unless otherwise noted.

## II. SCOPE OF SERVICES

### Task 1 - Monthly Progress Reports

ABB-ES will prepare Technical/Financial Monthly Reports (TFMR) for the duration of the project in accordance with the provisions of Part V, Section 3 of the contract. Each report will be in the format required in the contract (part IX, Attachment A) and will summarize activities performed, any problems encountered, and proposed problem resolutions. The reports will also include a schedule update in the form of a Gantt chart. ABB-ES will notify SDIV immediately upon discovery of any significant new site conditions, including imminent hazard or substantial endangerment, and any deviation from the project schedule, plan, or budget. The cost estimates reflect the preparation of 2 monthly reports.

The key personnel and level of effort (LOE) estimated for this task include: Task Order Manager (2 days) and Program Assistant (1 day).

### Task 2 - Upgrade Equipment Design

This task will include sizing and specifying the equipment necessary to upgrade the remedial system and a letter report which describes the recommended system upgrade equipment. The upgrade equipment included under this task are a transfer pump, a skimmer pump and a petroleum product sensing probe. A petroleum product skimmer pump will be specified that is capable of removing emulsified JP-4 from the separator tanks water surface at a rate of approximate of 1 gallon per minute. The specifications will include a float probe which will be installed in the product tank. The probe will signal a control on the skimmer pump that will shut off the pump. Three candidate choices will be given for this pump with our recommended choice. To bring the system to design flow rate, a transfer pump, to replace the existing transfer pump in the separator tank, will be specified to potential vendors. This pump will be capable of pumping 65 gpm against a head of approximately 50 feet. A petroleum sensing probe will also be specified for the system as a fail safe measure to shutoff the transfer pump if product is sensed near the pump intake. The number of choices for the transfer pump and the product sensing probe will depend on compatibility with the existing logic system.

The key personnel and LOE estimated for this task include : Task Order Manager (1 day), Engineer (3 days), Technical Expert (one 6 hr day), Technician (.5 day), Project Assistant (.5 day), Graphics support (.5 day) and Clerical support (1 day).

### Task 3 - Write Operation Manual

This task will include preparing an operation and maintenance manual for the Pilot Study equipment. The document will provide the manufacturers operation and maintenance information and warranty information for each component of the system including the existing equipment and the upgrade equipment. An explanation with examples and figures will be given for the operation of the system. In addition, maintenance and trouble shooting information will be provided as part of this plan.

The key personnel and LOE estimate for this task include the Task Order Manager (1 day), Engineer (4 days), Technical Expert (1 day), Project Assistant (.5 day), Graphics support (.5 day) and Clerical support (1 day).

#### Task 4 - Upgrade Equipment Installation

This task will include the purchasing and installation of the upgraded pilot study equipment. ABB-ES will purchase the upgrade equipment authorized by SouthDiv (SDIV) from an equipment supplier. An experienced environmental remediation contractor will be subcontracted by ABB-ES to install the upgraded equipment. ABB-ES will provide construction management and technical expertise to the installation contractor during the installation of this equipment. ABB-ES will monitor the system's operation for a 24 hour period after the upgrade equipment is installed for performance compliance.

The key personnel and LOE estimated for this task include Task Order Manager (2 days), Technical Expert (one 4 hr day), Purchasing Agent (1.5 days), Engineer (five 10 hr days), Field Technician (three 10 hr days).

ODC's will include the upgrade equipment and an installation contractor, safety equipment, travel costs, and per diem.

#### Task 5 - Removing Contaminated Soil

This task includes contracting and monitoring the services of an excavation contractor to remove soil in the existing infiltration gallery that was contaminated when product was pumped from the separator tank through the air stripper and disposed of in the gallery. ABB-ES estimates that approximately 50 tons of contaminated soil will be removed from the gallery. This soil will be hauled away and disposed of in a licensed hazardous waste land fill. A copy of all bills of lading and chain-of-custody receipts, along with a letter report of the field operations, will be provided to SDIV.

The Key personnel and LOE estimated for this task include Task Order Manager (1 day), Technical Expert (one 4 hr day), Engineer (1 day), Technician (2 days), Project Assistant (0.5 days) and Purchasing Agent (1 day).

ODC's will include the excavation and removal contractor, safety equipment, expendable, travel costs, and per diem.

### III. KEY PERSONNEL

The designated roles for the Pilot Study System Upgrade are as follows:

- o Program Manager. The Program Manager, Tony Allen, is responsible for oversight and management of the overall multi-installation Navy CLEAN contract for District I. In this position, Mr. Allen is able to identify overall program needs, promote technology and other information transfer between various Navy CLEAN projects, and direct resources as appropriate, for effective and timely completion of program activities.

- o Task Order Manager The Task Order Manager for the Pilot Study System Upgrade at the Sherman Field Fuel Farm on the Pensacola Naval Air Station will be Peter Redfern, CPE. Mr. Redfern will be responsible for the project and for developing the LOE required to address each of the Work Plan tasks. Mr. Redfern is responsible for the day-to-day conduct of the work, including the integration of the input of Engineering staff and subcontractors. He will review ongoing quality control during the performance of the work, conclusions, recommendations, clarity and usefulness of all project work products.

Specific responsibilities of this role include:

- o initiating project activities;
  - o participating in the work plan preparation and staff assignments;
  - o identify contractors to install the upgrade equipment;
  - o identifying and fulfilling equipment and other resource requirements;
  - o monitoring task activities to ensure compliance with established budgets, schedules, and scope of work; and
  - o regularly interacting with the EIC, the Program Manager, and others as appropriate, on the status of the project.
- o Project Engineer. The Project Engineer for the Pilot Study System Upgrade at the Sherman Field Fuel Farm will be Kevin Warner. Mr. Warner is responsible for conducting engineering design and sizing equipment, preparing technical reports, evaluating technical options, overseeing equipment installation and developing the technical approach for upgrading the system. He will interact with the Task Order Manager in all phases of the work.
  - o Quality Review Board. A quality Review Board comprised of senior technical staff from the ABB-ES team will assist the Task Order Manager by providing review of the technical aspects of the projects to assure they are produced in accordance with corporate policy, and meet the requirement of SDIV.

Mr. Michael Keirn, Ph.D., and Mr. Ken Busen, P.G., will comprise the ABB-ES quality review board and will be actively involved in assuring the overall quality of the project.

- o Technical Expert. Myron Hayden, Ph.D., P.E. will serve as the Technical Expert for this task. Dr. Hayden will be responsible for the appropriateness and adequacy of the technical engineering services provided.

#### IV. SCHEDULE

Attachment A includes a Gantt chart presenting the proposed schedule for completion of the tasks described above. Additionally, a milestone report is included presenting the key deadline dates in the project. These schedules assume receipt of Notice to Proceed on February 25, 1991; as this schedule changes, scheduled dates must change proportionally.

#### V. COST

Attachment B (Table 1 and the fee itemization form) presents the cost estimate to complete the scope of services described herein. A supplement sheet has been added to allow the itemization of field equipment and supplies proposed for Tasks 4 and 5.

#### VI. FEE ITEMIZATION FOR SCOPE LIMITATION

The purpose of this paragraph is to clearly define the scope and assumptions made for this fee proposal should it be necessary to enact provisions delineated at Part VII, Paragraph 22 of the subject contract in accordance with FAR 5243-2.

Specific Parameters:

As outlined specifically in Tasks 1 through 5 of this work plan.

Period of Performance Parameters:

Costs presented are estimated to be incurred through April, 1991 (refer to Milestone Chart).

ATTACHMENT A

SCHEDULE



NAVY CLEAN  
 SOUTHERN DIVISION -- NAVAL FACILITIES ENGINEERING COMMAND  
 CONTRACT N62467-89-D-0317  
 SOW #001 MILESTONES  
 FEBRUARY 1991

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CTO	TASK	MILESTONE	STATUS	-----WORK PLAN-----		-----DELIVERY-----		-----NOTES-----
				ORIGINAL DATE	REVISED DATE	PLANNED = P ACTUAL = A	VARIANCE	
CTO-018	2	VENDOR & CONTRACTOR SELECTED & CONTRACTED	I	03/04/91		P		
CTO-018	2	LETTER REPORT FOR UPGRADE SYSTEM	I	03/04/91		P		
CTO-018	3	O & M MANUAL	I	04/19/91		P		
CTO-018	4	EQUIPMENT INSTALLATION	I	04/08/91		P		
CTO-018	5	SOIL REMOVAL	I	02/25/91		P		

**ATTACHMENT B**

**COST ESTIMATE**

**TABLE 1**  
**Cost Estimate for CLEAN Contract Number N62467-89-D-0317**  
**Sherman Field Fuel Farm Work Plan, SOW No. 001**  
**SITE LOCATION: Pensacola, Florida**

TASK	Task Breakdown														TOTAL LOE	TOTAL LABOR COSTS	Subcontract & Other Costs										SUBTOTAL ODC's	TOTAL ODC's	TOTAL PROJECT COSTS
	Program Manager	QA Manager	H&S Manager	Order Manager	Suppl. Eng.	Sc/L Eng.	Contract Mana	QA Ass't	Technical Technicians	H&S Expert	Project Ass't	Draft-person	Clerical	Shipping & Fed-Ex			Phone & Telex	Subcontract Report	Other Subcontra	Auto Expense	Per Diem	Air Fare	Computer	Equipment/Expendables					
<b>Task 1: Monthly Progress Reports</b>	0	0	0	16	0	0	0	0	0	0	0	0	0	24	\$1,251	0	0	0	0	0	0	0	0	0	0	0	0	\$1,351	
<b>Task 2: Upgrade Equipment Design</b>	0	0	0	8	0	24	0	0	4	6	0	4	4	54	\$2,361	0	0	0	0	0	0	0	0	0	0	0	0	\$2,550	
<b>Task 3: Write Operation Manual</b>	0	0	0	8	0	32	0	0	0	8	0	4	4	64	\$2,814	0	0	0	0	0	0	0	0	0	0	0	0	\$3,040	
<b>Task 4: Upgrade Equipment Installation</b>	0	0	0	16	0	50	0	0	30	4	0	0	0	100	\$4,228	0	50	0	0	350	553	0	0	9300	10253	11005	\$16,449		
<b>Task 5: Removing Contaminated Soil</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	0	50	0	4000	100	156	0	0	4308	4624	\$4,843			
<b>TOTAL Hours &amp; Cost</b>	0	0	0	48	0	106	0	0	34	18	0	16	8	242	\$10,652	\$0	\$100	\$0	\$4,000	\$450	\$711	\$0	\$0	\$0,300	\$14,561	\$16,628	\$28,232		

**NOTES:**

1. Tasks correspond to the Work Plan dated February 18, 1991.
2. Total Labor Costs include overhead, fringe, and G & A.
3. Total ODC's (Other Direct Costs) include G & A.
4. Total Project Costs include 8% fee on Total Labor and Total ODC's.

Project Name: CLEAN - Sherman Field (SOW #001)  
 Task Manager: TOM: Peter Redfern  
 Date Prepared: February 18, 1991  
 Job # & File Name: 750\_-\_ / CTO-00\_WK1

CONFIDENTIAL INFORMATION - DO NOT QUOTE, CITE OR DUPLICATE

**CLEAN FEE ITEMIZATION FORM  
SOUTH DIV ENVIRONMENTAL DIVISION**

SOW: 001      DATE OF SCOPE: 19 February 1991      A&E FIRM: ABB Environmental Services, Inc.  
DATE OF ESTIMATE: 19 February 1991      CONTRACT NO.: N62467-89-D-0317

PROJECT: Installation Restoration (IR) Program at Sherman Field Fuel Farm

FUNDING: Defense Environmental Restoration Act (DERA)

ACTIVITY: Pensacola Naval Air Station

UIC CODE: N00204      LOCATION: Pensacola, Florida

ITEM	RATE/HR.	OFFICE		FIELDWORK		TOTAL	
		LABOR HOURS	COST(S)	LABOR HOURS	COST(S)	LABOR HOURS	COST(S)
Program Manager	\$36.50						
Quality Assurance Manager	25.50						
Task Order Manager	29.00	48	\$1,392.00			48	\$1,392.00
Senior Engineer	29.00						
Senior Scientist	29.10						
Engineer	18.50	106	\$1,961.00			106	\$1,961.00
Geologist	19.00						
Technician **	13.00	34	\$442.00			34	\$442.00
Toxicologist	18.00						
Program Assistant	13.00	16	\$208.00			16	\$208.00
Clerical/Word Processing	10.00	12	\$120.00			12	\$120.00
Accounting	14.00						
Contract Manager	19.50						
Technical Editor	13.26						
Health & Safety Assistant	12.50						
Health & Safety Manager (CIH)	24.00						
Quality Assurance Assistant	19.71						
Cad Operator/Sr. Draftsperson	15.60						
Draftsperson	10.50	8	\$84.00			8	\$84.00
Air Quality Engineer/Scientist	16.94						
Senior Hydrologist	33.79						
Senior Chemist (CLP Qual.)	22.44						
Chemist	16.35						
Computer Programmer	19.71						
Senior Contract Manager	28.50						
Technical Expert (PhD-Sci/Eng)	35.00	18	\$630.00			18	\$630.00
<b>TOTAL DIRECT LABOR</b>	<b>XXXXX</b>	<b>242</b>	<b>4,837.00</b>			<b>242</b>	<b>\$4,837.00</b>
X Fringe (.3312)	XXXXX	XXXXX	\$1,602.01	XXXXX		XXXXX	\$1,602.01
X Overhead (.5413)	XXXXX	XXXXX	\$3,485.44	XXXXX		XXXXX	\$3,485.44
X G&A (.0733)	XXXXX	XXXXX	\$727.46	XXXXX		XXXXX	\$727.46
<b>Total Burdened Dir. Labor</b>	<b>XXXXX</b>	<b>XXXXX</b>	<b>\$10,651.91</b>	<b>XXXXX</b>		<b>XXXXX</b>	<b>\$10,651.91</b>

\*\* Replaced Hydrologist labor category with technician to agree with work plan.

**PART II - OTHER DIRECT COSTS (Itemized on Supplement Sheets)**

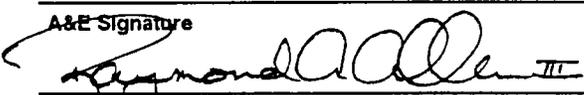
ITEM	UNIT COST(S)	QUANTITY	TOTAL
Telephone/Communications	\$5.00/Call	20	\$100.00
Postage/Freight			
Equipment Rental	(See Attached Sheet-Task 4)		\$9,300.00
Word Processing Computer			
Subtotal			\$9,400.00
X G&A (.0733)			\$689.02
<b>TOTAL</b>	XXXXXXX	XXXXXXX	\$10,089.02

**PART III - TRAVEL (Itemized on Supplement Sheets)**

Subsistence	\$79/person/day	9	\$711.00
Field Van Rental and Fuel	\$50/day	9	\$450.00
Meals, Expenses & Incidentals (ME&I)			
Roundtrip Airfare (Tallahassee to Atlanta)			
Subtotal			\$1,161.00
X G&A (.0733)			\$85.10
<b>TOTAL TRAVEL EXPENSES</b>	XXXXX	XXXXX	\$1,246.10

**PART IV - SUBCONTRACTOR SERVICES (Itemized on Supplement Sheets)**

Well/Borings/Drilling	\$37.483/foot		
Copies & Report Binding	\$8.00/report		
Soil Removal			\$4,000.00
Subtotal			\$4,000.00
X G&A (.0733)			\$293.20
<b>TOTAL SUBCONTRACTOR EXPENSES</b>	XXXXX	XXXXX	\$4,293.20

	TOTAL			
	LABOR HOURS	COST(S)		
TOTAL PART I (Direct Labor)	242	\$10,651.91		
TOTAL PART II (Other Direct Costs)		\$10,089.02		
TOTAL PART III (Travel Expenses)		\$1,246.10		
<b>SUBTOTAL (Parts I, II, &amp; III)</b>		<b>\$21,987.03</b>		
Award Fee Pool @ <u>8</u> % x Parts I, II, & III		\$1,758.96		
Enter Award Fee % here <u>8</u> %				
<b>Parts I, II, &amp; III TOTAL</b>		<b>\$23,745.99</b>		
TOTAL PART IV (Subcontractor Expenses)		\$4,293.20		
Award Fee Pool @ <u>4.5</u> % x Part IV		\$193.19		
Enter Award Fee % here <u>4.5</u> %				
<b>Part IV TOTAL</b>		<b>\$4,486.39</b>		
TOTAL: (Parts I, II, & III)		\$23,745.99		
(Part IV)		\$4,486.39		
<b>GRAND TOTAL</b>		<b>\$28,232.38</b>		
A&E Signature 	Date 2-19-91	Telephone		
EIC Signature	Date	Code	Code 18C Approval	Date

TASK: Task 1 - MONTHLY PROGRESS REPORTS  
 DURATION: Compiled By: K. Warner  
 PROJECT NAME: SHERMAN FIELD FUEL FARM Checked By: K. Hodak  
 RESPONSIBLE: K. WARNER  
 FILE NAME: SOW#1.WK1

TASK/SUBTASK: MONTHLY PROGRESS REPORTS Job Number: 750-\_\_  
 Date : 01-27-91  
 TASK/SUBTASK DESCRIPTION: PREPARE TECHNICAL FINANCIAL MONTHLY REPORTS

ITEM DESCRIPTION	QUANTITY		HOUR	ODC**
PROFESSIONAL TITLE	DAYS	HR/DAY		
Program Manager	0		0	
Quality Assurance Manager			0	
Health and Safety Manager			0	
Task Order Manager	2	8	16	
Senior Engineer	0	0	0	
Senior Scientist	0	0	0	
Engineer			0	
Contract Manager	0	0	0	
Quality Assurance Assistant			0	
Technician			0	
Technical Expert			0	
Health and Safety Assistant			0	
Project Assistant	1	8	8	
Drafting			0	
Clerical/Wordprocessor	0	0	0	

EXPENSES:	TIME	UNITS	\$/UNIT	
Airfare (#Tickets,\$/Ticket) To/From:	0	0	\$0.00	\$0
Car/Fuel (#Days,#Cars,\$/Day)	0	0	\$0.00	\$0
Subsistence(#Days,#People,\$/Day)	0	0	\$0.00	\$0
Phone & Telex (#Calls,\$/Call)	0	0	\$0.00	\$0
Computer Time (#Hours,\$20/Hour)	0	0		\$0
Shipping (#Packages,\$/Package)	0	0	\$0.00	\$0
SUBCONTRACT:				\$0
	0	0	\$0.00	\$0.00
EQUIPMENT:				\$0
				\$0
EXPENDABLES:				\$0
				\$0
SAFETY:				\$0
				\$0

TOTALS: MANHOURS 24  
 \*\* OTHER DIRECT COSTS \$0

TASK: Task 2 - UPGRADE EQUIPMENT DESIGN  
 DURATION:  
 PROJECT NAME: SHERMAN FIELD FUEL FARM  
 RESPONSIBLE: K. WARNER  
 FILE NAME: SOW#1.WK1

Compiled By: K. Warner  
 Checked By: K. Hodak

TASK/SUBTASK: SIZING AND SPECIFYING THE EQUIPMENT NECESSARY  
 Job Number: 750-\_\_  
 Date: 01-27-91

TASK/SUBTASK DESCRIPTION: SIZING AND SPECIFYING THE EQUIPMENT NECESSARY  
 TO UPGRADE THE REMEDIAL SYSTEM AND A LETTER REPORT

ITEM DESCRIPTION	QUANTITY		HOURLY	ODC**
PROFESSIONAL TITLE	DAYS	HR/DAY		
Program Manager	0	0		0
Quality Assurance Manager	0	0		0
Health and Safety Manager	0	0		0
Task Order Manager	1	8		8
Senior Engineer	0	0		0
Senior Scientist				0
Engineer	3	8		24
Contract Manager	0	0		0
Quality Assurance Assistant	0	0		0
Technician	1	4		4
Technical Expert	1	6		6
Health and Safety Assistant	0	0		0
Project Assistant	1	4		4
Drafting	1	4		4
Clerical/Wordprocessor	1	4		4

EXPENSES:	TIME	UNITS	\$/UNIT	
Airfare (#Tickets,\$/Ticket) To/From:				\$0
Car/Fuel (#Days,#Cars,\$/Day)				\$0
Subsistence(#Days,#People,\$/Day)				\$0
Phone (#Calls,\$/Call)	0	0	\$0.00	\$0
Computer Time (#Hours,\$20/Hour)	0	0	\$0.00	\$0
Shipping (#Packages,\$/Package)	0	0	\$0.00	\$0
SUBCONTRACT:				\$0
	0	0	\$0.00	\$0.00
EQUIPMENT:				\$0
EXPENDABLES:				\$0
SAFETY:				\$0

TOTALS: MANHOURS 54  
 \*\* OTHER DIRECT COSTS \$0

TASK:	Task 3 - WRITE OPERATION MANUAL	Compiled By:	K. Warner			
DURATION:		Checked By:	K. Hodak			
PROJECT NAME:	SHERMAN FIELD FUEL FARM					
RESPONSIBLE:	K. WARNER					
FILE NAME:	SOW#1.WK1					
TASK/SUBTASK:	WRITE OPERATION MANUAL	Job Number:	750-__			
		Date:	01-27-91			
TASK/SUBTASK DESCRIPTION:	PREPARE AN OPERATION AND MAINTENANCE MANUAL					
ITEM DESCRIPTION	QUANTITY		HOUR	ODC**		
PROFESSIONAL TITLE	DAYS	HR/DAY				
Program Manager			0			
Quality Assurance Manager			0			
Health and Safety Manager			0			
Task Order Manager	1	8	8			
Senior Engineer			0			
Senior Scientist			0			
Engineer	4	8	32			
Contract Manager			0			
Quality Assurance Assistant			0			
Technician	0	0	0			
Technical Expert	1	8	8			
Health and Safety Assistant			0			
Project Assistant	1	4	4			
Drafting	1	4	4			
Clerical/Wordprocessor	1	8	8			
EXPENSES:			TIME	UNITS	\$/UNIT	
Airfare (#Tks,\$/Tkt) To/From:TLH/CHS					\$0.00	\$0
Car Fuel			0	0	\$0.00	\$0
Subsistence(#Days,#People,\$/Day)			0	0	\$0.00	\$0
Airfare (#Tks,\$/Tkt) To/From:TLH/CHS					\$0.00	\$0
Phone (#Calls,\$/Call)			0	0	\$0.00	\$0
			0	0	\$0.00	\$0
			0	0	\$0.00	\$0
Shipping (#Packages,\$/Package)			0	0	\$0.00	\$0
SUBCONTRACT:						\$0
			0	0	\$0.00	\$0.00
						\$0
EQUIPMENT:						
SAFETY:						\$0
						\$0
TOTALS:					MANHOURS	64
			**	OTHER DIRECT COSTS		\$0

TASK:	Task 4 - UPGRADE EQUIPMENT INSTALLATION	Compiled By:	K. Warner		
DURATION:		Checked By:	K. Hodak		
PROJECT NAME:	SHERMAN FIELD FUEL FARM				
RESPONSIBLE:	K. WARNER				
FILE NAME:	SOW#1.WK1				
TASK/SUBTASK:	UPGRADE EQUIPMENT INSTALLATION	Job Number:	750_--		
		Date:	01-27-91		
TASK/SUBTASK DESCRIPTION:	PURCHASING AND INSTALLATION OF THE UPGRADED PILOT STUDY EQUIPMENT				
ITEM DESCRIPTION	QUANTITY	HOUR	ODC**		
PROFESSIONAL TITLE	DAYS	HR/DAY			
Program Manager			0		
Quality Assurance Manager			0		
Health and Safety Manager			0		
Task Order Manager	2	8	16		
Senior Engineer			0		
Senior Scientist			0		
Engineer	5	10	50		
Contract Manager	0	0	0		
Quality Assurance Assistant	0	0	0		
Technician	3	10	30		
Technical Expert	1	4	4		
Health and Safety Assistant	0	0	0		
Project Assistant	0	0	0		
Drafting	0	0	0		
Clerical/Wordprocessor	0	0	0		
EXPENSES:		TIME	UNITS	\$/UNIT	
Airfare (#Tickets,\$/Ticket) To/From:		0	0		\$0
Car/Fuel (#Days,#Cars,\$/Day)		7	1	\$50.00	\$350
Subsistence(#Days,#People,\$/Day)		7	1	\$79.00	\$553
Phone (#Calls,\$/Call)		1	10	\$5.00	\$50
		0	0	\$0.00	\$0
		0	0	\$0.00	\$0
Shipping (#Packages,\$/Package)		0	0	\$0.00	\$0
SUBCONTRACTOR:					\$0
					\$0
					\$0
EQUIPMENT:					
Install Upgrade Equipment		1	1	\$3,500.00	\$3,500
Skimmer Pump with Control		1	1	\$4,500.00	\$4,500
Transfer Pump		1	1	\$800.00	\$800
Product Probe		1	1	\$500.00	\$500
					\$0
					\$0
					\$0
					\$0
EXPENDABLES:					\$0
					\$0
SAFETY:					\$0
TOTALS:			MANHOURS	100	
		** OTHER DIRECT COSTS			\$10,253

TASK:	Task 5 - REMOVING CONTAMINATED SOIL	Compiled By:	K. Warner	
DURATION:		Checked By:	K. Hodak	
PROJECT NAME:	SHERMAN FIELD FUEL FARM			
RESPONSIBLE:	K. WARNER			
FILE NAME:	SOW#1.WK1			
TASK/SUBTASK:	REMOVING CONTAMINATED SOIL	Job Number:	750_	
		Date:	01-27-91	
TASK/SUBTASK DESCRIPTION:	SUBCONTRACTING AN EXCAVATION CONTRACTOR TO REMOVE SOIL IN EXISTING INFILTRATION GALLERY			
ITEM DESCRIPTION	QUANTITY		HOUR	ODC**
PROFESSIONAL TITLE	DAYS	HR/DAY		
Program Manager			0	
Quality Assurance Manager			0	
Health and Safety Manager	0	0	0	
Task Order Manager	0	0	0	
Senior Engineer	0	0	0	
Senior Scientist			0	
Engineer	0	0	0	
Contract Manager	0	0	0	
Quality Assurance Assistant			0	
Technician	0	0	0	
Technical Expert	0	0	0	
Health and Safety Assistant	0	0	0	
Project Assistant	0	0	0	
Drafting	0	0	0	
Clerical/Wordprocessor	0	0	0	
EXPENSES:		TIME	UNITS	\$/UNIT
Airfare (#Tickets,\$/Ticket) To/From:		0	0	\$0
Car/Fuel (#Days,#Cars,\$/Day)		2	1	\$50.00
Subsistence(#Days,#People,\$/Day)		2	1	\$79.00
Phone (#Calls,\$/Call)		1	10	\$5.00
Outside Copies & Binding (#Binders, \$/Binder)		0	0	\$0.00
Wordprocessing Computer (#Hours,\$20/Hour)		0	0	\$0.00
Shipping (#Packages,\$/Package)		0	0	\$0.00
		0	0	\$0
SUBCONTRACT:	Soil Removal	1	1	\$4,000.00
				\$4,000
				\$0
EQUIPMENT:				\$0
EXPENDABLES:				\$0
				\$0
SAFETY:				\$0
				\$0
TOTALS:			MANHOURS	0
		** OTHER DIRECT COSTS		\$4,308

WORK PLAN

CONTRACT NO. N62467-89-D-0317  
SOW NO.001

INSTALLATION RESTORATION (IR) PROGRAM AT  
SHERMAN FIELD FUEL FARM  
PENSACOLA NAVAL AIR STATION  
PENSACOLA, FLORIDA

FEBRUARY 1991

Submitted By:

ABB ENVIRONMENTAL SERVICES, INC.  
2571 EXECUTIVE CENTER CIRCLE EAST  
TALLAHASSEE, FLORIDA 32301

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ATTACHMENTS

- Attachment A - Schedule
- Attachment B - Cost Estimate

## I. INTRODUCTION

On September 6, 1990, Southern Division (SDIV) Naval Facilities Engineering Command (NAFACENCOM) contracted ABB Environmental, Inc. (ABB-ES) (contract No. N62467-89-D-0317) to assist the Navy's Environmental Engineering Program by providing engineering support services for the Installation Restoration (IR) Program. The first step in the process of executing a Contract Task Order (CTO) is for ABB-ES to respond to a Statement of Work (SOW) by participating in a site visit to define the SOW and to develop a Work Plan. Under this CTO, since the Engineer-in-Charge and ABB-ES's Task Manager have visited the site the site visit was waived. The Work Plan presents a description of the scope of services, a schedule showing the duration of the tasks, and estimated costs associated with the defined tasks.

This Work Plan describes the scope of services, presents milestone and Gantt schedules, and provides cost estimates for upgrading the Pilot Study System which was installed at the Sherman Field Fuel Farm site on Pensacola Naval Air Station. The Pilot Study system was installed under Southern Division Indefinite Delivery Contract No. 62467-87-0263, Amendments 7 and 19. The upgrade of the Pilot Study System will include the following tasks:

### o Management Activities

Management responsibilities include: cost tracking, internal and external cost reporting, communication, construction and installation coordination and contracting, and deliverable processing and review.

Task 1 - Prepare Monthly Progress Reports

### o Technical Activities

Task 2 - Designing Upgrade Equipment.

Task 3 - Preparing a System Operation Manual.

### o Construction Activities

Task 4 - Upgrade Installation.

Task 5 - Removing Contaminated Soil.

The following Section present the scope of services (Section II), key personnel (Section III), schedule (Section IV), cost estimates for each task (Section V), and fee itemization (Section VI). Days refer to a standard 8 hour day unless otherwise noted.

## II. SCOPE OF SERVICES

### Task 1 - Monthly Progress Reports

ABB-ES will prepare Technical/Financial Monthly Reports (TFMR) for the duration of the project in accordance with the provisions of Part V, Section 3 of the contract. Each report will be in the format required in the contract (part IX, Attachment A) and will summarize activities performed, any problems encountered, and proposed problem resolutions. The reports will also include a schedule update in the form of a Gantt chart. ABB-ES will notify SDIV immediately upon discovery of any significant new site conditions, including imminent hazard or substantial endangerment, and any deviation from the project schedule, plan, or budget. The cost estimates reflect the preparation of 2 monthly reports.

The key personnel and level of effort (LOE) estimated for this task include: Task Order Manager (2 days) and Program Assistant (1 day).

### Task 2 - Upgrade Equipment Design

This task will include sizing and specifying the equipment necessary to upgrade the remedial system and a letter report which describes the recommended system upgrade equipment. The upgrade equipment included under this task are a transfer pump, a skimmer pump and a petroleum product sensing probe. A petroleum product skimmer pump will be specified that is capable of removing emulsified JP-4 from the separator tanks water surface at a rate of approximate of 1 gallon per minute. The specifications will include a float probe which will be installed in the product tank. The probe will signal a control on the skimmer pump that will shut off the pump. Three candidate choices will be given for this pump with our recommended choice. To bring the system to design flow rate, a transfer pump, to replace the existing transfer pump in the separator tank, will be specified to potential vendors. This pump will be capable of pumping 65 gpm against a head of approximately 50 feet. A petroleum sensing probe will also be specified for the system as a fail safe measure to shutoff the transfer pump if product is sensed near the pump intake. The number of choices for the transfer pump and the product sensing probe will depend on compatibility with the existing logic system.

The key personnel and LOE estimated for this task include : Task Order Manager (1 day), Engineer (3 days), Technical Expert (one 6 hr day), Technician (.5 day), Project Assistant (.5 day), Graphics support (.5 day) and Clerical support (1 day).

### Task 3 - Write Operation Manual

This task will include preparing an operation and maintenance manual for the Pilot Study equipment. The document will provide the manufacturers operation and maintenance information and warranty information for each component of the system including the existing equipment and the upgrade equipment. An explanation with examples and figures will be given for the operation of the system. In addition, maintenance and trouble shooting information will be provided as part of this plan.

The key personnel and LOE estimate for this task include the Task Order Manager (1 day), Engineer (4 days), Technical Expert (1 day), Project Assistant (.5 day), Graphics support (.5 day) and Clerical support (1 day).

#### Task 4 - Upgrade Equipment Installation

This task will include the purchasing and installation of the upgraded pilot study equipment. ABB-ES will purchase the upgrade equipment authorized by SouthDiv (SDIV) from an equipment supplier. An experienced environmental remediation contractor will be subcontracted by ABB-ES to install the upgraded equipment. ABB-ES will provide construction management and technical expertise to the installation contractor during the installation of this equipment. ABB-ES will monitor the system's operation for a 24 hour period after the upgrade equipment is installed for performance compliance.

The key personnel and LOE estimated for this task include Task Order Manager (2 days), Technical Expert (one 4 hr day), Purchasing Agent (1.5 days), Engineer (five 10 hr days), Field Technician (three 10 hr days).

ODC's will include the upgrade equipment and an installation contractor, safety equipment, travel costs, and per diem.

#### Task 5 - Removing Contaminated Soil

This task includes contracting and monitoring the services of an excavation contractor to remove soil in the existing infiltration gallery that was contaminated when product was pumped from the separator tank through the air stripper and disposed of in the gallery. ABB-ES estimates that approximately 50 tons of contaminated soil will be removed from the gallery. This soil will be hauled away and disposed of in a licensed hazardous waste land fill. A copy of all bills of lading and chain-of-custody receipts, along with a letter report of the field operations, will be provided to SDIV.

The Key personnel and LOE estimated for this task include Task Order Manager (1 day), Technical Expert (one 4 hr day), Engineer (1 day), Technician (2 days), Project Assistant (0.5 days) and Purchasing Agent (1 day).

ODC's will include the excavation and removal contractor, safety equipment, expendable, travel costs, and per diem.

### III. KEY PERSONNEL

The designated roles for the Pilot Study System Upgrade are as follows:

- o Program Manager. The Program Manager, Tony Allen, is responsible for oversight and management of the overall multi-installation Navy CLEAN contract for District I. In this position, Mr. Allen is able to identify overall program needs, promote technology and other information transfer between various Navy CLEAN projects, and direct resources as appropriate, for effective and timely completion of program activities.

- o Task Order Manager The Task Order Manager for the Pilot Study System Upgrade at the Sherman Field Fuel Farm on the Pensacola Naval Air Station will be Peter Redfern, CPE. Mr. Redfern will be responsible for the project and for developing the LOE required to address each of the Work Plan tasks. Mr. Redfern is responsible for the day-to-day conduct of the work, including the integration of the input of Engineering staff and subcontractors. He will review ongoing quality control during the performance of the work, conclusions, recommendations, clarity and usefulness of all project work products.

Specific responsibilities of this role include:

- o initiating project activities;
  - o participating in the work plan preparation and staff assignments;
  - o identify contractors to install the upgrade equipment;
  - o identifying and fulfilling equipment and other resource requirements;
  - o monitoring task activities to ensure compliance with established budgets, schedules, and scope of work; and
  - o regularly interacting with the EIC, the Program Manager, and others as appropriate, on the status of the project.
- o Project Engineer. The Project Engineer for the Pilot Study System Upgrade at the Sherman Field Fuel Farm will be Kevin Warner. Mr. Warner is responsible for conducting engineering design and sizing equipment, preparing technical reports, evaluating technical options, overseeing equipment installation and developing the technical approach for upgrading the system. He will interact with the Task Order Manager in all phases of the work.
  - o Quality Review Board. A quality Review Board comprised of senior technical staff from the ABB-ES team will assist the Task Order Manager by providing review of the technical aspects of the projects to assure they are produced in accordance with corporate policy, and meet the requirement of SDIV.

Mr. Michael Keirn, Ph.D., and Mr. Ken Busen, P.G., will comprise the ABB-ES quality review board and will be actively involved in assuring the overall quality of the project.

- o Technical Expert. Myron Hayden, Ph.D., P.E. will serve as the Technical Expert for this task. Dr. Hayden will be responsible for the appropriateness and adequacy of the technical engineering services provided.
- o Contract Manager. The position of contract manager is established because of the importance of day-to-day scope, schedule and budget monitoring between ABB-ES and SDIV contracts. It is expected that program decisions will be occurring frequently. Therefore, it is necessary to anticipate and immediately implement contractual actions (i.e., amend subcontracts, initiate procurement actions, etc.) to carry out the program plans. Les Herring will

be responsible to the U.S. Navy SDIV contract officer. Three specific tasks for which Mr. Herring will be responsible are the following:

- o establish and oversee all subcontract actions to support the project;
- o review technical/financial monthly reports for contractual conformance; and
- o ensure that appropriate financial record and reporting requirements are met.

#### IV. SCHEDULE

Attachment A includes a Gantt chart presenting the proposed schedule for completion of the tasks described above. Additionally, a milestone report is included presenting the key deadline dates in the project. These schedules assume receipt of Notice to Proceed on February 11, 1991; as this schedule changes, scheduled dates must change proportionally.

#### V. COST

Attachment B (Table 1 and the fee itemization form) presents the cost estimate to complete the scope of services described herein. A supplement sheet has been added to allow the itemization of field equipment and supplies proposed for Tasks 4 and 5.

#### VI. FEE ITEMIZATION FOR SCOPE LIMITATION

The purpose of this paragraph is to clearly define the scope and assumptions made for this fee proposal should it be necessary to enact provisions delineated at Part VII, Paragraph 22 of the subject contract in accordance with FAR 5243-2.

Specific Parameters:

As outlined specifically in Tasks 1 through 5 of this work plan.

Period of Performance Parameters:

Costs presented are estimated to be incurred through April, 1991 (refer to Milestone Chart).

**ATTACHMENT A**

**SCHEDULE**



NAVY CLEAN  
 SOUTHERN DIVISION -- NAVAL FACILITIES ENGINEERING COMMAND  
 CONTRACT N62467-89-D-0317  
 SOW #001 MILESTONES  
 JANUARY 1991

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CTO	TASK	MILESTONE	STATUS	-----WORK PLAN-----		-----DELIVERY-----		-----NOTES-----
				ORIGINAL DATE	REVISED DATE	PLANNED = P ACTUAL = A	VARIANCE	
CTO-018	2	VENDOR & CONTRACTOR SELECTED & CONTRACTED	I	02/20/91		P		
CTO-018	2	LETTER REPORT FOR UPGRADE SYSTEM	I	02/20/91		P		
CTO-018	3	O & M MANUAL	I	04/09/91		P		
CTO-018	4	EQUIPMENT INSTALLATION	I	03/29/91		P		
CTO-018	5	SOIL REMOVAL	I	02/15/91		P		

**ATTACHMENT B**  
**COST ESTIMATE**



**CLEAN FEE ITEMIZATION FORM  
SOUTH DIV ENVIRONMENTAL DIVISION**

SOW: 001      DATE OF SCOPE: 05 February 1991      A&E FIRM: ABB Environmental Services, Inc.  
DATE OF ESTIMATE: 05 February 1991      CONTRACT NO.: N62467-89-D-0317

PROJECT: Installation Restoration (IR) Program at Sherman Field Fuel Farm

FUNDING: Defense Environmental Restoration Act (DERA)

ACTIVITY: Pensacola Naval Air Station

UIC CODE: N00204      LOCATION: Pensacola, Florida

ITEM	RATE/HR.	OFFICE		FIELDWORK		TOTAL	
		LABOR HOURS	COST(S)	LABOR HOURS	COST(S)	LABOR HOURS	COST(S)
Program Manager	\$36.50						
Quality Assurance Manager	25.50						
Task Order Manager	29.00	56	\$1,624.00			56	\$1,624.00
Senior Engineer	29.00						
Senior Scientist	29.10						
Engineer	18.50	114	\$2,109.00			114	\$2,109.00
Geologist	19.00						
Technician **	13.00	50	\$650.00			50	\$650.00
Toxicologist	18.00						
Program Assistant	13.00	20	\$260.00			20	\$260.00
Clerical/Word Processing	10.00	12	\$120.00			12	\$120.00
Accounting	14.00						
Contract Manager	19.50	20	\$390.00			20	\$390.00
Technical Editor	13.26						
Health & Safety Assistant	12.50						
Health & Safety Manager (CIH)	24.00						
Quality Assurance Assistant	19.71						
Cad Operator/Sr. Draftsperson	15.60						
Draftsperson	10.50	8	\$84.00			8	\$84.00
Air Quality Engineer/Scientist	16.94						
Senior Hydrologist	33.79						
Senior Chemist (CLP Qual.)	22.44						
Chemist	16.35						
Computer Programmer	19.71						
Senior Contract Manager	28.50						
Technical Expert (PhD-Sci/Eng)	35.00	22	\$770.00			22	\$770.00
<b>TOTAL DIRECT LABOR</b>	<b>XXXXX</b>	<b>302</b>	<b>6,007.00</b>			<b>302</b>	<b>\$6,007.00</b>
X Fringe (.3312)	XXXXX	XXXXX	\$1,989.52	XXXXX		XXXXX	\$1,989.52
X Overhead (.5413)	XXXXX	XXXXX	\$4,328.52	XXXXX		XXXXX	\$4,328.52
X G&A (.0733)	XXXXX	XXXXX	\$903.43	XXXXX		XXXXX	\$903.43
<b>Total Burdened Dir. Labor</b>	<b>XXXXX</b>	<b>XXXXX</b>	<b>\$13,228.47</b>	<b>XXXXX</b>		<b>XXXXX</b>	<b>\$13,228.47</b>

\*\* Replaced Hydrologist labor category with technician to agree with work plan.

**PART II - OTHER DIRECT COSTS (Itemized on Supplement Sheets)**

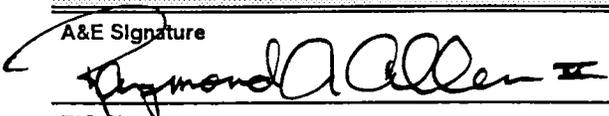
ITEM	UNIT COST(S)	QUANTITY	TOTAL
Telephone/Communications	\$5.00/Call	20	\$100.00
Postage/Freight			
Equipment Rental	(See Attached Sheet-Task 4)		\$9,300.00
Word Processing Computer			
Subtotal			\$9,400.00
X G&A (.0733)			\$689.02
<b>TOTAL</b>	XXXXXXX	XXXXXXX	\$10,089.02

**PART III - TRAVEL (Itemized on Supplement Sheets)**

Subsistence	\$72/person/day	9	\$648.00
Field Van Rental and Fuel	\$50/day	9	\$450.00
Meals, Expenses & Incidentals (ME&I)			
Roundtrip Airfare (Tallahassee to Atlanta)			
Subtotal			\$1,098.00
X G&A (.0733)			\$80.48
<b>TOTAL TRAVEL EXPENSES</b>	XXXXX	XXXXX	\$1,178.48

**PART IV - SUBCONTRACTOR SERVICES (Itemized on Supplement Sheets)**

Well/Borings/Drilling	\$37.483/foot		
Copies & Report Binding	\$8.00/report		
Soil Removal			\$4,000.00
Subtotal			\$4,000.00
X G&A (.0733)			\$293.20
<b>TOTAL SUBCONTRACTOR EXPENSES</b>	XXXXX	XXXXX	\$4,293.20

	TOTAL			
	LABOR HOURS	COST(S)		
TOTAL PART I (Direct Labor)	302	\$13,228.47		
TOTAL PART II (Other Direct Costs)		\$10,089.02		
TOTAL PART III (Travel Expenses)		\$1,178.48		
<b>SUBTOTAL (Parts I, II, &amp; III)</b>		<b>\$24,495.97</b>		
Award Fee Pool @ <u>10</u> % x Parts I, II, & III		\$2,449.60		
Enter Award Fee % here <u>10</u> %				
<b>Parts I, II, &amp; III TOTAL</b>		<b>\$26,945.57</b>		
TOTAL PART IV (Subcontractor Expenses)		\$4,293.20		
Award Fee Pool @ <u>4.5</u> % x Part IV		\$193.19		
Enter Award Fee % here <u>4.5</u> %				
<b>Part IV TOTAL</b>		<b>\$4,486.39</b>		
TOTAL: (Parts I, II, & III)		\$26,945.57		
(Part IV)		\$4,486.39		
<b>GRAND TOTAL</b>		<b>\$31,431.96</b>		
A&E Signature 	Date 2-7-91	Telephone		
EIC Signature	Date	Code	Code 18C Approval	Date

TASK: Task 4 - UPGRADE EQUIPMENT INSTALLATION  
 DURATION:  
 PROJECT NAME: SHERMAN FIELD FUEL FARM  
 RESPONSIBLE: K. WARNER  
 FILE NAME: SOW#1.WK1

Compiled By: K. Warner  
 Checked By: K. Hodak

TASK/SUBTASK: UPGRADE EQUIPMENT INSTALLATION  
 Job Number: 750-\_\_  
 Date: 01-27-91

TASK/SUBTASK DESCRIPTION: PURCHASING AND INSTALLATION OF THE UPGRADED PILOT STUDY EQUIPMENT

ITEM DESCRIPTION	QUANTITY		HOUR	ODC**
PROFESSIONAL TITLE	DAYS	HR/DAY		
Program Manager				
Quality Assurance Manager				
Health and Safety Manager				
Task Order Manager	2	8	16	
Senior Engineer				
Senior Scientist				
Engineer	5	10	50	
Contract Manager	1.5	8	12	
Quality Assurance Assistant				
Technician	3	10	30	
Technical Expert	1	4	4	
Health and Safety Assistant				
Project Assistant				
Drafting				
Clerical/Wordprocessor				

EXPENSES:	TIME	UNITS	\$/UNIT	
Airfare (#Tickets,\$/Ticket) To/From:				
Car/Fuel (#Days,#Cars,\$/Day)	7	1	\$50.00	\$350
Subsistence(#Days,#People,\$/Day)	7	1	\$72.00	\$504
Phone (#Calls,\$/Call)	1	10	\$5.00	\$50

Shipping (#Packages,\$/Package)  
 SUBCONTRACTOR:

EQUIPMENT:	TIME	UNITS	\$/UNIT	
Install Upgrade Equipment	1	1	\$3,500.00	\$3,500
Skimmer Pump with Control	1	1	\$4,500.00	\$4,500
Transfer Pump	1	1	\$800.00	\$800
Product Probe	1	1	\$500.00	\$500

EXPENDABLES:

SAFETY:

TOTALS:	MANHOURS	112		
	** OTHER DIRECT COSTS			\$10,204