
**BB&S TREATED LUMBER CORPORATION SUPERFUND SITE
REMEDIAL INVESTIGATION/FEASIBILITY STUDY (RI/FS)
WORK PLAN AMENDMENT**

Prepared For:

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL
CONSERVATION, DIVISION OF HAZARDOUS WASTE
REMEDICATION**

WORK ASSIGNMENT #D002852-15.2

**SEPTEMBER 1997
REVISED NOVEMBER 1997**

MALCOLM PIRNIE, INC.

**P. O. Box 1938
Buffalo, New York 14219**



**BB&S TREATED LUMBER CORPORATION SUPERFUND SITE
REMEDIAL INVESTIGATION/FEASIBILITY STUDY (RI/FS)
PROJECT SCOPING PLAN**

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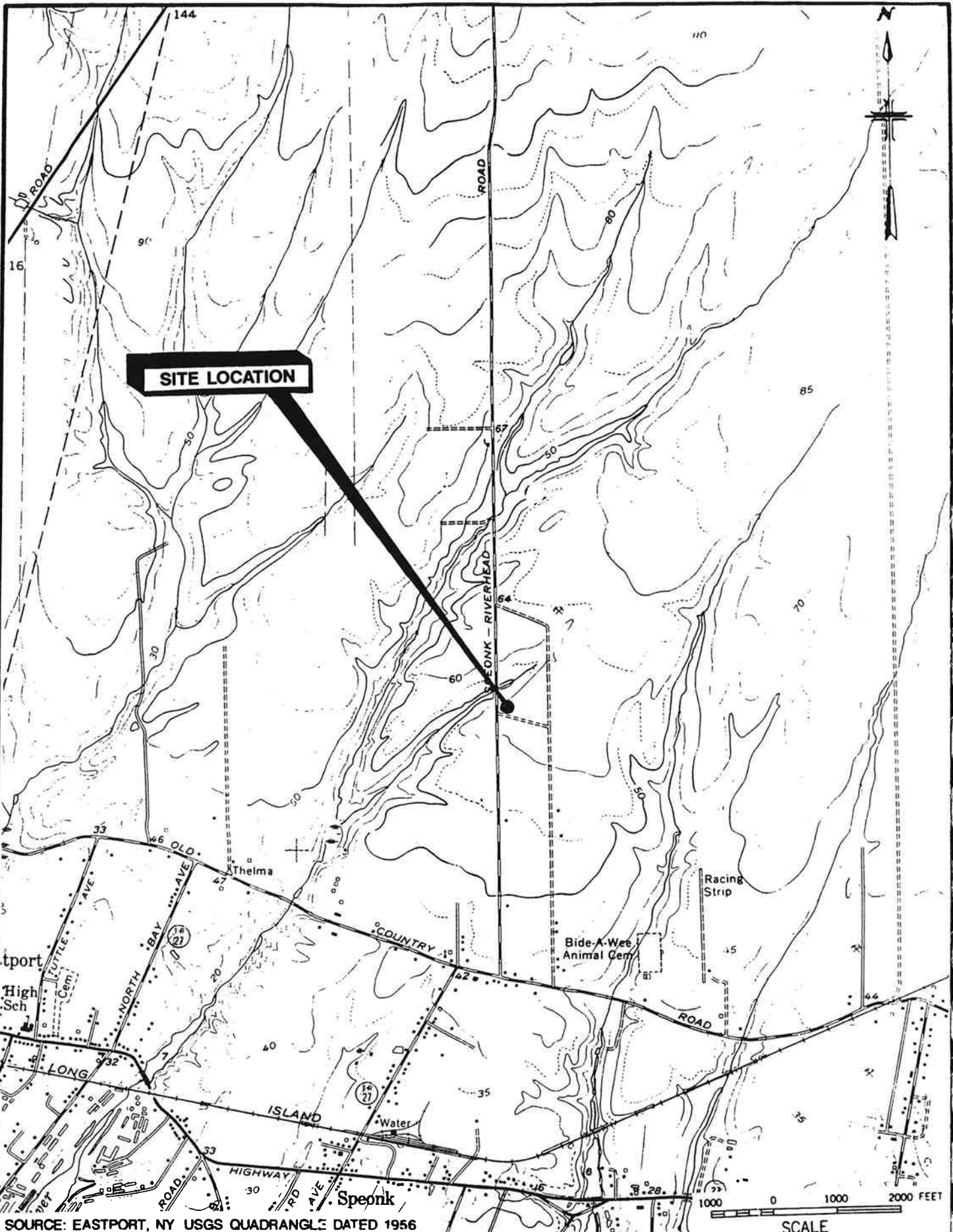
1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION

The New York State Department of Environmental Conservation (NYSDEC), Division of Hazardous Waste Remediation, requested Malcolm Pirnie, Inc. (Work Assignment #D002852-15) conduct a Remedial Investigation/Feasibility Study (RI/FS) at the BB&S Treated Lumber Corporation (1-52-123), Speonk-Riverhead Road, Town of Speonk, Long Island, New York (Figure 1-1). The BB&S Treated Lumber Corporation (Site) is an active wholesale lumber sales and distribution facility that has been in operation for more than 12 years. In addition to lumber sales, the facility formerly treated lumber on-site. The treatment procedure used chromate copper arsenate (CCA) as the preservative. Discharges of CCA to the ground have contaminated the in-site soil and groundwater in excess of applicable NYSDEC standards for arsenic, chromium, and copper.

Based upon the data collected during the Remedial Investigation, several conclusions were presented in the Draft November 1996 Remedial Investigation Report. Two of the conclusions were specifically relevant to the development of this Project Scoping Plan:

1. Arsenic, chromium, and copper were detected at concentrations exceeding appropriate NYSDEC standards in the surface soil samples collected near a catch basin located in front of the Site and near the catch basin outfall located west of Speonk-Riverhead Road. Results indicated that the transport of CCA compounds into the catch basin and ultimately across the street to the neighboring property has occurred. Subsequent off-site surface soil sample results indicated the arsenic, chromium, and copper contamination has migrated more than 100 feet west of the catch basin outfall.
2. The existing Reverse Osmosis (RO) groundwater treatment system was never fully effective in removing contaminants from the groundwater before reinjection of the effluent through the on-site infiltration gallery.



SOURCE: EASTPORT, NY USGS QUADRANGLE DATED 1956

SCALE
0 1000 2000 FEET

**MALCOLM
PIRNIE**

**BB & S TREATED LUMBER
SPEONK, NEW YORK
SITE LOCATION MAP**

MALCOLM PIRNIE, INC.
0266-323-100
FIGURE 1-1

148884

This Work Plan Amendment is prepared to outline the additional investigative work necessary to address these RI conclusions. This plan is organized as follows: Section 1.0 Introduction; Section 2.0 describes the amendment scope and the major tasks and subtasks that will be completed; Section 3.0 presents the revised Project Schedule; and Section 4.0 presents the Project Cost estimate.

1.2 SCOPE OF WORK

The proposed scope of work described in this Work Plan Amendment will be completed as Task 6 and will include the subtasks necessary to establish the following:

- The nature and extent of off-site surface soil contamination in the ditches along Speonk-Riverhead Road.
- The nature and extent of off-site surface soil contamination west of Speonk-Riverhead Road.
- The nature and extent of potential off-site groundwater contamination west of Speonk-Riverhead Road.
- The shallow on-site groundwater quality in the vicinity of the infiltration gallery.

A preliminary description of the major subtasks to be implemented as part of this Work Plan Amendment are presented in the following Sections.

2.0 PROJECT SCOPE

2.1 SUBTASK 1 - WORK PLAN AMENDMENT DEVELOPMENT

This Work Plan Amendment has been developed in response to the August 11, 1997 letter from the NYSDEC requiring additional field activities at the BB&S Treated Lumber Site. The work described in this Work Plan Amendment was completed in compliance with the February 1996 Work Plan, Field Activities Plan, Site Specific Health and Safety Plan, and Quality Assurance Project Plan. As such, this report is considered an amendment to the February 1996 Work Plan. General information, such as the number and locations of samples and the parameters to be analyzed is provided in this amendment. However, specific information such as sample procedures, handling, and preservation, decontamination procedures, and laboratory analytical methods are described in the February 1996 Work Plan and referenced in this document.

2.2 SUBTASK 2 - SUPPLEMENTAL REMEDIAL INVESTIGATION

2.2.1 Field Activities

A soil and groundwater investigation was proposed to be conducted as part of the Field Activities. Since previous investigatory work demonstrated that the off-site soil contamination is present primarily in the surficial (i.e., 0 to 3 inches) soils, the soil investigation consisted of the collection and laboratory analyses of surface soil samples. The groundwater investigation will consist of the collection and laboratory analyses of groundwater samples from newly drilled boreholes (Hydropunch). A summary of the analytical program is presented in Table 2-1. Each investigation is described in detail below and preliminary sampling locations are shown in Figure 2-1 (see cover back).

2.2.1.1 Soil Investigation

The soil investigation at the site focused on off-site surface soil sample collection and analyses from two general locations: in the ditches along Speonk-Riverhead Road and the

TABLE 2-1

**REMEDIAL INVESTIGATION WORK PLAN
BB&S TREATED LUMBER SITE**

ANALYTICAL PROGRAM

Field Event	Matrix	Arsenic Method 206.2	Copper Method 220.2	Chromium Method 218.2	Hexavalent Chromium 218.4	Lead Method 339.2	Zinc Method 289.2	MS/MSD	Blind Duplicates
Surface Soil Sampling	Soil	19	19	19	0	19	19	1	1
Hydropunch Sampling	Water	15	15	15	15	15	15	1	1

parcel(s) west of Speonk-Riverhead Road. Malcolm Pirnie completed the field work portion of the scope in October and early November 1997. Soil and groundwater samples collected for this investigation were analyzed for the site-specific contaminants of concern. Based on the results of the RI, a site-specific list of contaminants (viz. arsenic, chromium, copper, lead and zinc) has been developed for the site. The proposed scope of work for each sampling area is described below:

- **Speonk-Riverhead Road**

Thirteen surface soil samples were collected along Speonk-Riverhead Road from alternating locations on both sides of the street (Figure 2-1). Based on the grade of the street (gentle slope to the south) samples were collected in the vicinity of the drip pad and catch basin and progress every 60 feet on alternating sides of the street to the southern boundary of the Site. Additionally, two samples were collected from an area north of the Site to be used as background samples. The surface soil samples were collected 0 to 3 inches below the ground surface. Vegetative cover or other debris was cleared from the sample location before sample collection. The surface soil samples were collected using dedicated, decontaminated stainless steel trowels. Each of the surface soil samples was submitted to Mitkem Corporation of Warwick, Rhode Island. Initially, the two samples collected from the area north of the site and the first four samples (viz. 2 from each side of Speonk-Riverhead Road) were analyzed. Based on the results (viz. concentrations above the appropriate NYSDEC standards for arsenic, chromium, copper or lead), the NYSDEC authorized the analyses of the next two samples. Based on these results, further analyses was deemed unnecessary.

- **Parcel(s) West of Speonk-Riverhead Road**

A grid consisting of 30 surface sample locations was constructed around previous sample locations where arsenic, chromium, and copper concentrations exceeded applicable NYSDEC standards (Figure 2-1). The sample locations were spaced on 100-foot centers. The first row in the grid consisted of six surface soil sample locations; the second row consisted of ten locations; and the third row consisted of fourteen locations. The 30 soil

samples were submitted to Mitkem for arsenic, total chromium, copper, and lead analyses. Initially, only the first row of samples was analyzed. Based on the results (viz. concentrations below appropriate NYSDEC standards for arsenic, chromium, copper, or lead), the NYSDEC did not authorize the analyses of the remaining rows of samples. The surface soil samples were collected 0 to 3 inches below the ground surface. Vegetative cover or other debris was cleared from the sample location before sample collection. The surface soil samples were collected using dedicated, decontaminated stainless steel trowels.

During the soil investigation, one blind duplicate soil sample, one matrix spike sample, and one matrix spike duplicate sample were collected. Malcolm Pirnie completed the soil investigation in October 1997. The costs provided in Section 3 represent actual costs for completion of this work,

2.2.1.2 Groundwater Investigation

The groundwater investigation focused on the chemical quality analyses of the shallow groundwater in the upper glacial aquifer on the site. Initially, the groundwater investigation was to consist of Hydropunch sample collection and, if necessary, monitoring well installation and groundwater sample collection. Malcolm Pirnie completed the Hydropunch sampling in November 1997. Based on the sampling results, installation of monitoring wells was deemed unnecessary. The field methodologies followed are described below.

- **HydroPunch Sampling**

The horizontal and vertical extent of metals contamination in groundwater was evaluated by advancing HydroPunch probes in 5 deep boreholes (Figure 2-1). Four boreholes were located on the parcel(s) across Speonk-Riverhead Road. One borehole was located hydraulically downgradient from the on-site former groundwater collection and treatment system infiltration gallery.

A borehole was drilled to the depth of the water table at each location. Based upon field measurements made during the Remedial Investigation, the water table is estimated to be approximately 40 feet below ground surface. Nominal 4-inch inside diameter hollow

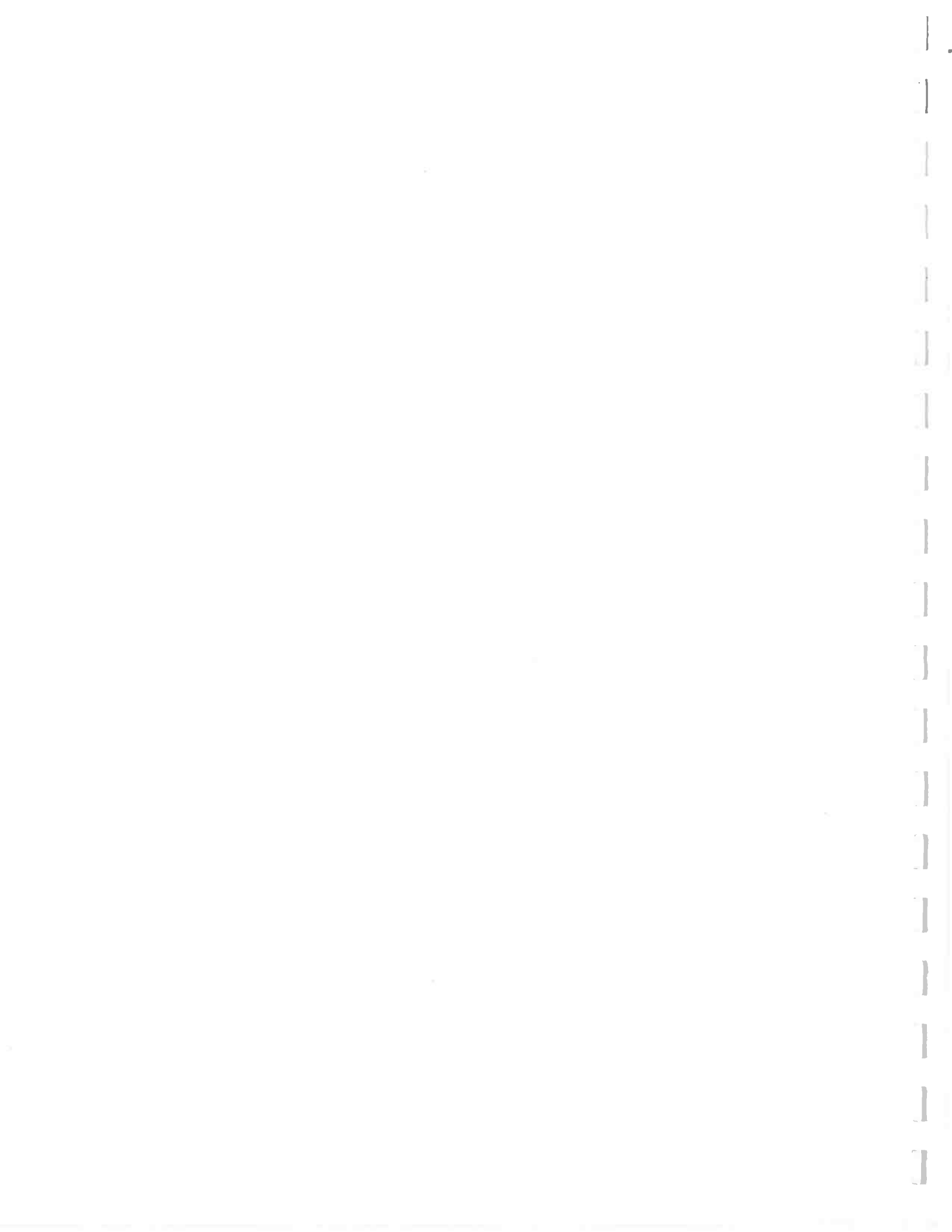
TABLE 3-1				
REMEDIAL INVESTIGATION WORK PLAN AMENDMENT				
BB&S TREATED LUMBER SITE				
<i>REVISED RI/FS SCHEDULE</i>				
Activity	Work Plan Scheduled Completion Date	Revised Schedule Completion Date	Actual Completion Date	Comments
Task 2: Remedial Investigation				
Well Rehabilitation/ Development	Feb. 26, 1996		April 8, 1996	Access to the site has been denied until the beginning of April.
Well Sampling	March 11, 1996		April 29, 1996	Recovery wells sampled May 9
Soil Sampling	April 1, 1996	(June 3, 1996)	June 10, 1996	The start of fieldwork was delayed due to problems with site access.
Hydropunch Sampling	April 8, 1996	(June 10, 1996)	June 17, 1996	
Fish and Wildlife Impact Analysis	June 17, 1996		June 10, 1996	
** Completion of Fieldwork (includes the pump test)	April 19, 1996	(July 12, 1996)	July 19, 1996	
Receive Data from first field visit	May 17, 1996 (Aug. 12, 1996)		July 2-30, 1996	
Commence Engineering Evaluation and develop possible IRM	May 31, 1996	(June 30, 1996)	June 15, 1996	
Second Round Groundwater Sampling	Aug. 5, 1996		Aug. 8, 1996	
Receive second round of data from Validator	June 17, 1996	(Sept. 5, 1996)	Oct. 3, 1996	
**Submit Preliminary Data analysis including data validation/ usability Report	July 1, 1996	(Sept. 19, 1996)	Oct. 17, 1996	Submitted two weeks after receipt of all validated data
Submit Draft Scope of Phase II RI (if needed)	July 19, 1996	(Sept. 30, 1996)	Oct. 17, 1996	
Complete Human Health Risk Assessment	Aug. 16, 1996	(Oct. 10, 1996)	Oct. 20, 1996	

TABLE 3-1				
REMEDIAL INVESTIGATION WORK PLAN AMENDMENT				
BB&S TREATED LUMBER SITE				
<i>REVISED RI/FS SCHEDULE</i>				
Activity	Work Plan Scheduled Completion Date	Revised Schedule Completion Date	Actual Completion Date	Comments
* Submit Draft RI/FS Report with Draft Engineering Evaluation and IRM Recommendations	Sept. 25, 1996	(Oct. 31, 1996)	Nov. 8, 1996	This report includes the engineering evaluation.
* Public Information Meeting - RI Results	Sept. 2, 1996	(Nov. 14, 1996)	Dec. 12, 1996	
Receive NYSDEC Comments	Oct. 25, 1996	(Nov. 29, 1996)	Nov. 19, 1996 and Nov. 26, 1996	
Task 4: Phase II Remedial Investigation				
Phase II RI Fieldwork	Feb. 10, 1997		Feb. 10, 1997	
Receive Data Validation Report	March 24, 1997		April 17, 1997	
Additional Soil Sampling	June 12, 1997		June 26, 1997	Difficulty in obtaining site access
Task 6: Supplemental Investigation				
Submit Draft Scoping Plan		Aug. 29, 1997	Aug. 29, 1997	
Receive NYSDEC Comments		Sept. 18, 1997	Sept. 10, 1997	
Submit Final Scoping Plan		Sept. 22, 1997	Sept. 22, 1997	
Approval of Scoping Plan		Sept. 26, 1997		
Property Ownership Assessment		Sept. 29, 1997		
Surface Soil Sampling		Oct. 23, 1997	Oct. 23, 1997	
Hydropunch Sampling		Nov. 7, 1997	Nov. 7, 1997	
Receive Last of Validated Data		Dec. 17, 1997		
Submit Updated RI Report	May 5, 1997	Jan. 30, 1998		

TABLE 3-1 REMEDIAL INVESTIGATION WORK PLAN AMENDMENT BB&S TREATED LUMBER SITE REVISED RI/FS SCHEDULE				
Activity	Work Plan Scheduled Completion Date	Revised Schedule Completion Date	Actual Completion Date	Comments
Approval of Remedial Investigation Report	Nov. 20, 1996	Feb. 13, 1998		
Task 5: Feasibility Study				
Initiate FS Report	Oct. 25, 1996	Jan. 20, 1997	Jan. 20, 1997	
** Submit Draft FS Report	Feb. 20, 1997	June 16, 1997 (Feb. 20, 1998)		
Approval of FS Report	March 27, 1997	July 14, 1997 (Mar. 6, 1998)		
** Submit Final FS Report	April 24, 1997	Aug. 11, 1997 (Mar. 27, 1998)		
Notes: * Project Milestone ** Project Milestone requiring Performance Evaluation				

4.0 PROJECT COST

The amended Schedule 2.11 forms for completion of Tasks 1 through 6 are attached.
Backup for these forms is provided in Appendix A.



Schedule 2.11 (a)

SUMMARY OF WORK ASSIGNMENT PRICE

D - 002852 - 15.2

BB&S RI/FS

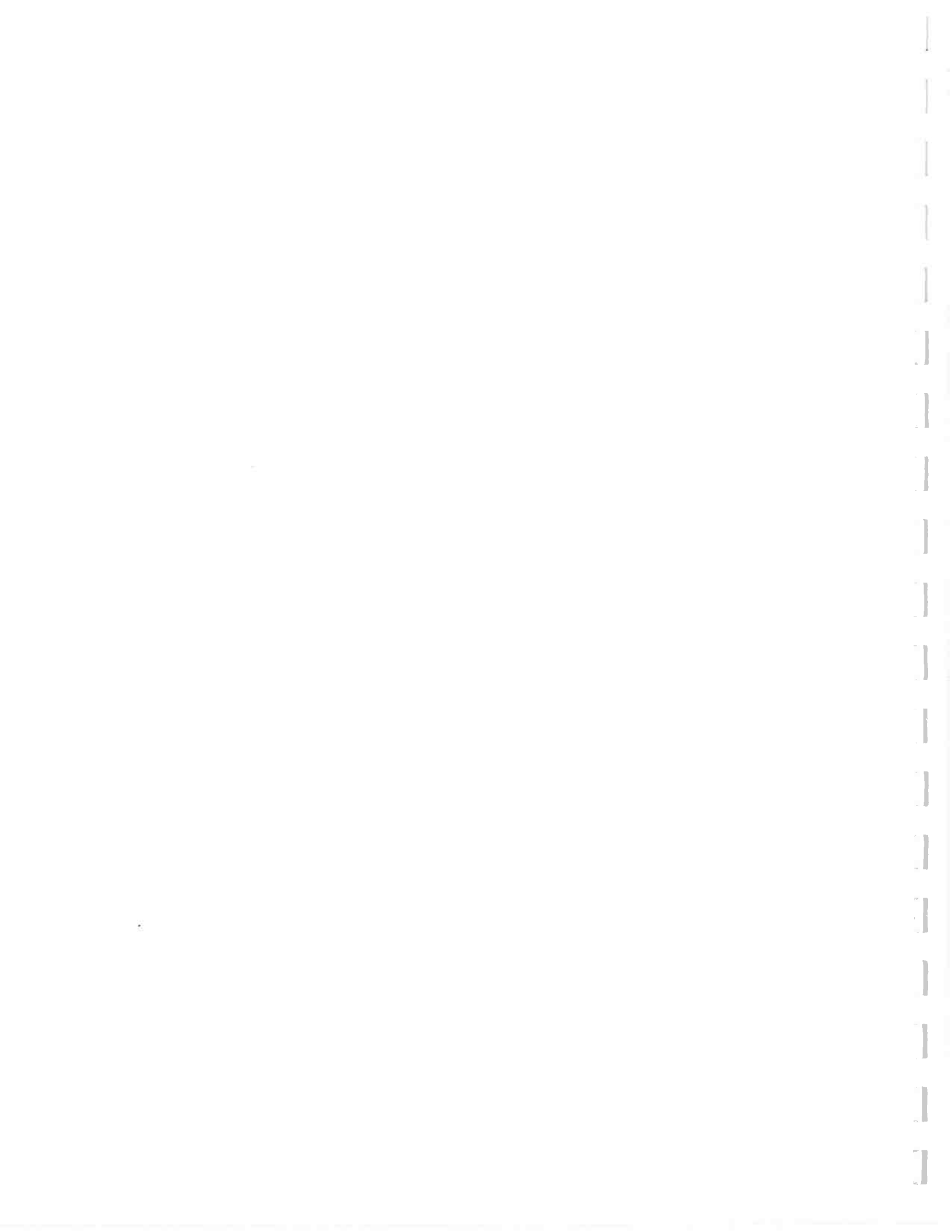
1. Direct Salary Costs [Schedule 2.11(b)]	\$81,630.49
2. Indirect Costs (1.538)	\$125,547.69
3. Direct Non-Salary Costs [Schedule 2.11(c)(d)]	\$33,245.50

Subcontract Costs:

Cost - Plus - Fixed - Fee Subcontracts [Schedule 2.11 (e)]		
Name of Subcontractor	Services To Be Performed	Subcontractor Price
A. Edward O. Watts, P.E., P.C.	Professional Services	\$40,631.19
4. Subtotal Cost-Plus-Fixed-Fee Subcontracts		\$40,631.19

Unit Price Subcontracts [Schedule 2.11(f)]		
Name of Subcontractor	Services To Be Performed	Subcontractor Price
A. Engineering & Environment	Analytical Services	\$44,350.00
B. A/E Blueprinting Inc.	Repro. Services	\$1,123.20
C. SJB Services, Inc.	Drilling Services	\$30,617.50
D. Nancy Potak	Data Validation	\$8,577.50
E. Nytest Analytical	Analytical	\$7,522.00
F. Wendel Engineers	Survey	\$4,000.00
G. Mitkem Corp.	Analytical	\$5,655.00
5. Total Unit Price Subcontracts		\$101,845.20

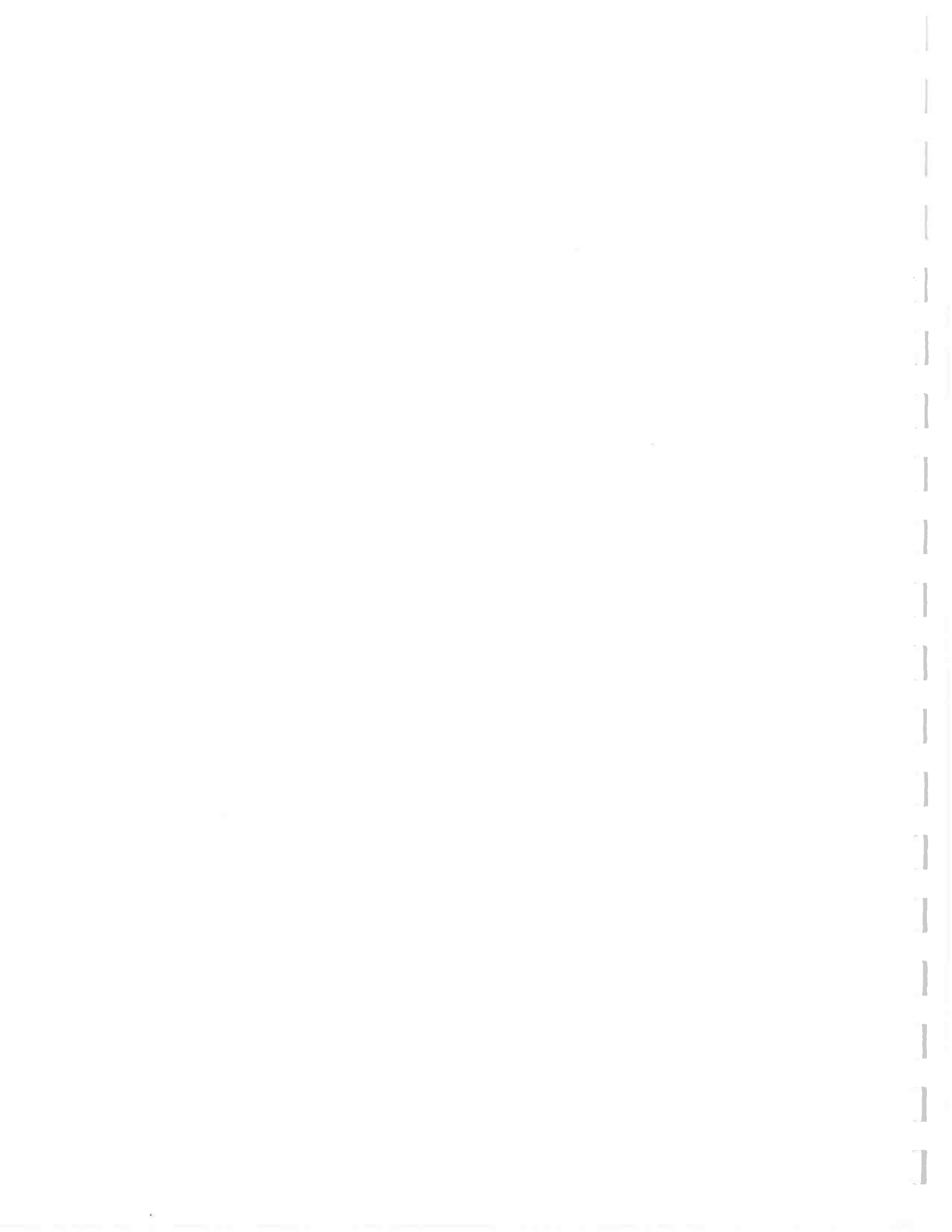
6. Subcontract Management Fee	\$3,748.38
7. Total Subcontract Costs (lines 4+5+6)	\$146,224.77
8. Fixed Fee	\$21,792.84
9. Total Work Assignment Price (lines 1+2+3+7+8)	\$408,441.29



SCHEDULE 2.11 (b) - Tasks 1 through 6

SUMMARY TOTAL OF DIRECT LABOR HOURS

NSPE Labor Classification		9	8	7	6	5	4	3	2	1	Tech	Total No. Direct Labor Hours Budgeted
Task #	Task Name											
Task 1A	Project Management Plan	1	0	0	13	0	0	42	36	11	8	111
Task 1B	Workplan	1	1	2	40	1	0	80	64	35	8	232
Task 1C	Public Participation Plan	0	0	0	16	0	0	16	16	10	4	62
Task 2	Remedial Investigation	5	0	4	65	0	10	462	659	323	66	1,593
Task 3	Engineering Evaluation	0	0	0	85	0	0	80	30	19	6	220
Task 4	Phase II RI	0	0	0	0	0	0	12	153	86	2	253
Task 5	Focused FS	14	0	0	92	0	0	152	190	58	0	506
Task 6	Supplemental Investigation	5	0	0	44	0	0	196	282	172	0	699
	Subtotal 1995 hours	2	1	2	69	1	0	138	116	56	20	405
	Subtotal 1996 hours	4	0	4	147	0	8	528	675	319	70	1,755
	Subtotal 1997 hours	20	0	0	139	0	2	374	639	339	3	1,516
Total hours		26	1	6	355	1	10	1,040	1,430	714	93	3,675
	Average 1995 Rates	\$56.55	\$45.50	\$37.25	\$35.17	\$27.25	\$30.05	\$25.00	\$18.52	\$10.81	\$9.65	\$9,055
	Average 1996 Rates	\$60.51	\$53.37	\$45.50	\$35.58	\$35.28	\$28.35	\$25.43	\$19.07	\$15.00	\$9.77	\$37,644
	Average 1997 Rates	\$64.74	\$57.11	\$49.41	\$35.58	\$37.75	\$29.20	\$26.50	\$20.00	\$17.46	\$10.19	\$34,931
Total Direct Labor Cost		\$1,622	\$46	\$257	\$12,603	\$27	\$285	\$26,788	\$27,801	\$11,301	\$903	\$81,630



SCHEDULE 2.11 (b) - Tasks 1 through 6

SUMMARY TOTAL OF DIRECT LABOR HOURS

[WORKSHEET - Not to be submitted]

NSPE		9	8	7	6	5	4	3	2	1	Tech	Total No. Direct Labor Hours Budgeted	Direct Labor Cost
Labor Classification	Task #	Task Name											
Task 1A	1	Project Management Plan	0	0	13	0	0	42	36	11	8	111	\$2,427
	1	1995			13			42	36	11	8	111	\$2,427
		1996										0	\$0
		1997										0	\$0
Task 1B	1	Workplan	1	2	40	1	0	80	64	35	8	232	\$5,223
	1	1995			40			80	64	35	8	232	\$5,223
		1996										0	\$0
		1997										0	\$0
Task 1C	0	Public Participation Plan	0	0	16	0	0	16	16	10	4	62	\$1,406
		1995			16			16	16	10	4	62	\$1,406
		1996										0	\$0
		1997										0	\$0
Task 2	5	Remedial Investigation	0	4	65	0	10	462	659	323	66	1,593	\$32,964
		1995										0	\$0
	4	1996		4	62	0	8	448	645	300	64	1,535	\$31,675
	1	1997			3		2	14	14	23	2	58	\$1,289
Task 3	0	Engineering Evaluation	0	0	85	0	0	80	30	19	6	220	\$5,970
		1995										0	\$0
	0	1996		0	85	0	0	80	30	19	6	220	\$5,970
		1997										0	\$0
Task 4	0	Phase II RI	0	0	0	0	0	12	153	86	2	253	\$4,895
		1995										0	\$0
	0	1996		0	0	0	0	0	0	0	0	0	\$0
	0	1997		0	0	0	0	12	153	86	2	253	\$4,895

