U-005-409.2

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PRELIMINARY COST ESTIMATE FOR THE OPERABLE UNIT 3 PROPOSED PLAN FOR INTERIM REMEDIAL ACTION DRAFT AUGUST 1993

08/01/93

FERMCO/DOE-FN
196
REPORT
OU3

5445

PRELIMINARY COST ESTIMATE

FOR THE

OPERABLE UNIT 3

PROPOSED PLAN FOR

INTERIM REMEDIAL ACTION

Fernald Environmental

FERMCO

Restoration Management Corporation

DRAFT
AUGUST 1993

ESTIMATING SERVICES

0001

FERMCO
PROJECT & CONFIGURATION CONTROL
ESTIMATING SERVICES

21-JULY-93

INTRODUCTION TO OU3 PROPOSED WORK PLAN ESTIMATE

SCOPE OF WORK

The remedial action activities planned at the Fernald Environmental Management Project (FEMP) include the decontamination and dismantlement and removal of the deactivated uranium processing facilities. Other non-processing support buildings, site work and underground utilities are included as the responsibility of Operable Unit 3 (OU3).

The estimate for the Operable Unit 3 (OU3) Proposed Work Plan is divided into the following categories:

- o Facilities/Buildings
- o Site Work
- o Underground Utilities

FACILITIES/BUILDINGS

Operable Unit 3 (OU3) consists of the production area and production-associated facilities and equipment, including but not limited to all structures, equipment, utilities, drums, tanks, solid waste, waste product, effluent lines, K-65 transfer line, feedstocks, and coal piles.

SITE WORK

Responsibility of site related areas under Operable Unit 3 (OU3) include railroads, parking lots, site roads, storage pads, sidewalks, fences and poles. Also included in site work is the demolition and removal of building foundations and basements.

Specifically excluded from Operable Unit 3 (OU3) site work responsibility is excavation and backfill of all earth work. Operable Unit 5 (OU5) is responsible for this scope of work.

UNDERGROUND UTILITIES

Underground utilities include production/non-production support systems including underground piping such as steam and condensate, cooling water supply and return, and air lines. Underground electrical systems include ductbanks and electrical manholes.

BASIS OF ESTIMATE

A key activity within the development of the estimate involved assessing material quantities associated with all above-grade and below grade, equipment and utilities as well as development of unit manhour rates.

QUANTITY DEVELOPMENT

Due to compressed timing requirements that precluded the accomplishment of detailed material take-offs on all Operable Unit 3 (OU3) facilities a model was developed to categorize OU3 facilities according to the following general building types:

- o Type A - Structural Steel with Transite Siding and Roofing
- o Type B - Concrete Block with Built-up Roofing
- o Type C - Pre-Engineered with Metal Siding and Roofing
- o Type D - Wood Frame with Wood Siding and Metal Roofing
- o Type E - Tension Support Structures
- o Type F - Open Structural Steel Frame and/or Equipment

Within the above building types the model was further detailed to quantify the following building material components:

- o Concrete
- o Structural Steel
- o Buildings (HVAC/Transite Siding/Etc.)
- o Machinery and Equipment
- o Piping
- o Electrical
- o Instruments

Detailed material take-offs from existing drawings of the selected OU3 facilities deemed representive of each building type were utilized to develop typical material component "scaling factors". These scaling factors were used to calculate the total material quantities of all OU3 buildings and structures within each type based on total floor square footage.

The scaling factor produces quantities of building material components for each building type. For a complete detail of development of the scaling factor see "Operable Unit 3 Above Grade Material Quantities" by PARSONS INC.

FERMCO Estimating Services preformed detailed material take-offs for Site Work and Underground Utilities from drawings provided by OU3 Engineering to develop material quantites not provided by the PARSONS, INC. model. Therefore, the scaling factor utilized for "Operable Unit 3 Above Grade Material Quantities" by PARSONS, INC. for above grade material quantities was not applicable to Site Work or Underground Utilities quantities.

UNIT MANHOUR RATES

Unit Manhour Rates were developed by FERMCO Estimating Services utilizing the quantities established and reviewing with FERMCO Engineering and FERMCO Construction Groups the anticipated duration and Craft Mix.

These Unit Rates are based on the attached craft wage rate/craft mix (SEE UNIT MANHOUR SPREAD/CRAFT MIX ASSUMPTIONS) applied against the anticipated durations and incorporate the contract based wage rates.

The following activities have unit rates developed by Cost Category:

- o Site Work (Underground Utilities, Railroads, Roads & Parking Lots)
- o Concrete
- o Structural Steel
- o Buildings (HVAC, Interior Transite Siding, Exterior Transite Siding, Windows & Doors, Metal Roofing & Wall Panels, Masonry Walls, Roofing Built-up and Misc. Debris)
- o Machinery and Equipment
- o Piping
- o Electrical
- o Painting and Scaffold
- o Insulation

A separate section included with the OU3 Proposed Work Plan addresses the costs associated with the Central Storage Facility including:

A. Site Prep
B. Slab on Grade
C. Initial Purchase of Six (6) Tension Support Struc.
D. Skin Replacements
E. Operation and Maintenance Costs
F. Equipment Costs

In order to support the quantity of containers required during the dismantling of the OU3 facilities, a bulking factor was applied to Structural Steel Members, Pipe, Electrical Conduit and Concrete to determine volume and quantity of containers for interim storage.

Engineering requirements at the Fernald Environmental Restoration and Management Project cover a wide spectrum of engineering requirements above and beyond a standard non-D.O.E. project.

Due to the environmental monitoring and compliance requirements mandated by the D.O.E. as well as those mandated by the E.P.A., significant additional personnel are required. These requirements do not complete with the beginning of dismantling facilities as would normally be the case; Continued Monitoring, Environmental Health and Safety, QA, Administrative, Finance and Other Support Activities are required through completion and certification close out. Design engineering to support Title I/II provided by outside A/E firms such as Parsons, Inc. through subcontracts is also a component included in engineering.

FERMCO
PROJECT & CONFIGURATION CONTROL
ESTIMATING SERVICES

21-JULY-93

ESTIMATE ASSUMPTIONS

PROJECT DESCRIPTION:	OU3 PROPOSED WORK PLAN
PROJECT NUMBER:	REB02
PROJECT LOCATION:	FERNALD, OH
PROJECT ENGINEER:	FRED JEBENS
ESTIMATOR:	S. SPRING, P. LOVE, T. PERRONE, A. SCHLOTTMAN
ESTIMATE NUMBER:	C3-93-7-1

EXECUTION

The estimate is based on a 40 hour work week (4 - 10 Hour Days), and no allowance for premium time.

The estimate is based on 3rd Qtr, FY 1993 D.O.E. Fiscal Year Dollars, and no Escalation.

CONTINGENCY

Twenty percent (20%) of the total project cost has been included for contingency due to unforeseen conditions. Costs due to changes in scope are excluded from contingency.

GENERAL

Bulleted below are basic assumptions utilized in developing this estimate:

- o Full Anti-C's and Respirators for all areas except:
  1) Service Building - Bldg 11
  2) Admin. Building - Bldg 14A
  3) Security Building - Bldg 28A
  4) Human Resource Building - Bldg 28B
  5) IRS & T. Building - Bldg 53A
  6) Parking Lots

- o Demolition Sequencing Plan from FERMCO Construction
- o Asbestos Abatement from FERMCO Construction
- o Gross Decontamination by FERMCO Construction
- o Quantity provided by Parsons, Inc. for above Elevation 580 ONLY
  Elevation 580 = Top of Finished Floor Slab

FERMCO
PROJECT & CONFIGURATION CONTROL
ESTIMATING SERVICES

21-JULY-93

ESTIMATE INCLUSIONS AND EXCLUSIONS

PROJECT DESCRIPTION:	OU3 PROPOSED WORK PLAN
PROJECT NUMBER:	REB02
PROJECT LOCATION:	FERNALD, OH
PROJECT ENGINEER:	FRED JEBENS
PROJECT ESTIMATOR:	S. SPRING, P. LOVE, T. PERRONE, A. SCHLOTTMAN
ESTIMATE NUMBER:	C3-93-7-1

INCLUSIONS

o Take-off allowance of 10% is included in each cost category to allow for discrepancies between actual field conditions and drawings.

o A factor (Detailed Separately) has been added to all unit rates to address the impact of full dress "Anti-C's" on worker performance.

o 40 Hours Straight Time is based on 4 - 10 Hour Days

o Interim Storage of Dismantled Materials

EXCLUSIONS

o No Premium Time for 4 10 Hour Days

o No offsite disposal of dismantled materials

o No Scrap/Salvage Value of Dismantled Materials

o No Escalation - Estimate is Based on Instantaneous 4th Qtr., 1993 D.O.E. Fiscal Year

o No Costs for Inavailability of Manpower outside the Cincinnati, Ohio Area.

o No Costs for Excavation/Backfill of earth material. All earth material responsiblity of OU5.

EST FILE #:
CLIENT: US DOE
PROJECT TITLE:

F ERMC O

SUMMARY SHEET
OU3 PROPOSED WORK PLAN

DATE: 05-Aug-93
ESTIMATOR: S.S., P.L. T.P. & A.S.
LOCATION: FERNALD
REV: 2

DE	ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	TOTAL $
	SITE DEMO. (ROADS,RAILROADS,SIDEWALKS,PARKING LOTS,ETC.)	860,365	16.51	$17,394,626			$17,394,600
	CONCRETE	473,536	17.56	$8,315,252			$8,315,300
	STRUCTURAL STEEL	280,417	18.80	$5,425,000		$3,395,900	$8,820,900
	BUILDINGS	1,273,979	17.64	$43,007,500		$27,581,200	$70,588,700
	MACHINERY AND EQUIPMENT	880,123	19.75	$17,380,300			$17,380,300
	PIPING	259,770	19.00	$4,938,000			$4,938,000
	ELECTRICAL	118,911	18.09	$2,151,200			$2,151,200
	INSTRUMENTS						
	PAINTING AND SCAFFOLD	55,220	16.43	$907,100		$131,400	$1,038,500
	INSULATION	1,421,053	18.53	$24,729,600		$17,164,500	$41,894,100
	SEALAND CONTAINERS					$56,207,100	$56,207,100
	HAUL SEALAND CONTAINERS	22,042	19.49	$429,599			$429,700
DIRECT FIELD COSTS		5,645,415		$124,678,133		$104,480,100	$229,158,452
SUPERVISION - CONTRACTOR				$21,197,000			$21,197,000
SM TOOLS/CONSM'BLS						$7,480,800	$7,480,800
EQUIPMENT RENTAL						$27,476,500	$27,476,500
TEMP. FACILITIES				$2,618,300		$4,862,500	$7,480,800
TEMP UTL'S HOOK-UP				$1,309,400		$2,431,300	$3,740,700
JOB CLEAN-UP				$2,618,300		$4,862,500	$7,480,800
ETY				$1,309,400		$2,431,300	$3,740,700
ALTH PHYSICS				$7,168,500		$139,230,156	$146,398,700
CERCLA	$22,500 PER PERSON $1500 PER PERSON					$4,234,300	$4,234,300
BOND						$2,291,600	$2,291,600
OVERHEAD & PROFIT						$41,461,200	$41,461,200
EMISSION MODELING				$359,300		$666,800	$1,026,100
PSAR/FSAR(SAFE RPT)				$359,300		$666,800	$1,026,100
PAYRL BRD.&BENFT.				$84,041,200			$84,041,200
CONSTR MGMT				$23,529,400			$23,529,400
INDIRECT FIELD COSTS				$144,510,100		$238,095,800	$382,605,900
DIRECT & INDIRECT FIELD COSTS				$269,188,300		$342,575,900	$611,764,400
SOIL/WATER/AIR				$1,604,000		$2,979,100	$4,583,100
G&A (HO EXP)							$6,117,800
PROJ.MGMT-FERMCO							$48,941,300
ENGINEERRING	TITLE I	TITLE II		TITLE III			$224,356,300
ENGINEERING/FIELD SUPPORT/SUBCONTRACTS							$283,998,500
TOTAL FIELD & ENGINEERING COSTS							$895,762,900
SALES TAX	90.0% $342,575,900						$20,554,500
SUB-TOTAL							$916,317,400
ESCALATION							
SUB-TOTAL							$916,317,400
CONTINGENCY	290.0%						$178,482,700
TOTAL ESTIMATED INSTALLED COST	(FPSC bid w/cont.-)						$1,094,800,100

PRELIMINARY

0008

MEMO ITEM: LANDLORD COSTS	$954,472,000
ADJUSTED TOTAL	$2,049,272,100

EST FILE #:
CLIENT: US DOE
PROJECT TITLE:

FERMCO ESTIMATING SERVICES

SUMMARY SHEET
D&D PACKAGE #1

DATE: 05-Aug-93
ESTIMATOR: S.S., P.L. T.P. & A.S.
LOCATION: FERNALD
REV: 2

.DE	ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	TOTAL $
	EXCAVATION						
	CONCRETE						
	STRUCTURAL STEEL	45,057	18.80	$931,800		$566,000	$1,497,800
	BUILDINGS	53,039	17.64	$935,700			$935,700
	MACHINERY AND EQUIPMENT	112,070	19.75	$2,213,400			$2,213,400
	PIPING	9,905	19.00	$188,200			$188,200
	ELECTRICAL	6,626	18.09	$119,900			$119,900
	INSTRUMENTS						
	PAINTING AND SCAFFOLD	6,149	16.43	$101,000		$14,600	$115,600
	INSULATION	55,163	18.53	$962,200		$642,100	$1,604,300
	SEALAND CONTAINERS (20'x8'x8')($5,100 EA)(576 EA)					$2,937,600	$2,937,600
	HAUL SEALAND CONTAINERS (4 MILE ROUND TRIP)	1,152	19.49	$22,452			$22,500
DIRECT FIELD COSTS		289,162		$5,474,652		$4,160,300	$9,634,952
SUPERVISION - CONTRACTOR				$931,000			$931,000
SM TOOLS/CONSM'BLS						$328,500	$328,500
EQUIPMENT RENTAL						$1,526,600	$1,526,600
TEMP. FACILITIES				$115,000		$213,500	$328,500
TEMP UTL'S HOOK-UP				$57,500		$106,800	$164,300
JOB CLEAN-UP				$115,000		$213,500	$328,500
ETY				$57,500		$106,800	$164,300
ALTH PHYSICS				$337,500		$7,229,042	$7,566,500
CERCLA	$1,500 PER PERSON					$216,900	$216,900
BOND						$96,300	$96,300
OVERHEAD & PROFIT						$1,915,800	$1,915,800
EMISSION MODELING				$16,900		$31,300	$48,200
PSAR/FSAR(SAFE RPT)				$16,900		$31,300	$48,200
PAYRL BRD.&BENFT.				$3,703,400			$3,703,400
CONSTR MGMT				$1,080,100			$1,080,100
INDIRECT FIELD COSTS				$6,430,800		$12,016,300	$18,447,100
DIRECT & INDIRECT FIELD COSTS				$11,905,500		$16,176,600	$28,082,100
SOIL/WATER/AIR				$67,400		$125,300	$192,700
G&A (HO EXP)							$280,800
PROJ.MGMT-FERMCO							$2,246,600
ENGINEERRING	TITLE I	TITLE II		TITLE III			$10,309,400
ENGINEERING/FIELD SUPPORT/SUBCONTRACTS							$13,029,500
TOTAL FIELD & ENGINEERING COSTS							$41,111,600
SALES TAX	6.0% $16,176,600						$970,600
SUB-TOTAL							$42,082,200
ESCALATION							
SUB-TOTAL							$42,082,200
CONTINGENCY	20.0%						$8,416,400
TOTAL ESTIMATED INSTALLED COST	(FPSC bid w/cont.-)						$50,498,600

PRELIMINARY

0009

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 1 (BLDG 4A,4C)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	STRUCTURAL STEEL DEMOLITION												
	STRUCTURAL & MISC. STEEL	1,886	TONS	23.9	45,057	18.80				$847,072			$847,072
	SUB TOTAL (STRUCTURAL STEEL)	1,886	TONS		45,057					$847,072			$847,072
	MAJOR RENTAL EQUIPMENT												
	4600 MANIWOC CRANE (3 MO.)	1.00	EA						240,000			$240,000	$240,000
	MOB/DEMOB	1.00	LOT						100,000			$100,000	$100,000
	2 KOMATSU SHEARS (3 MO.)	2.00	EA						42,000			$84,000	$84,000
	977 LOADER W/GRAPPLE BUCKET (3 MO.)	1.00	EA						10,500			$10,500	$10,500
	LIFTING FRAME	1.00	LOT						80,000			$80,000	$80,000
	SUB TOTAL (STRUCTURAL STEEL)	6	TONS									$514,500	$514,500
	TAKE – OFF ALLOWANCE 10%	189	TONS							$84,710		$51,450	$136,160
	TOTAL (STRUCTURAL STEEL)	2,081	TONS		45,057					$931,800		$566,000	$1,497,800

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CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 1 (BLDG 4A, 4C)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	BUILDINGS												
	DUCTWORK DEMOLITION (AVE. 24x18)	7,910	LF	1.03	8,163	17.64				$144,000			$144,000
	INTERIOR TRANSITE PANELS (AVE. .5" THICK)	82,417	SF	0.21	16,978	17.64				$299,500			$299,500
	EXTERIOR TRANSITE PANELS (AVE. .5" THICK)	85,118	SF	0.26	22,046	17.64				$388,900			$388,900
	EXTERIOR METAL WALL PANELS (AVE. .5" THICK)	400	SF	0.20	78	17.64				$1,400			$1,400
	DOORS & WINDOWS	102	EA	3.26	333	17.64				$5,900			$5,900
	MISC. DEBRIS(FIXTURES ETC.)	2,590	CF	0.24	619	17.64				$10,900			$10,900
	SUB TOTAL (BUILDINGS)				48,217					$850,600			$850,600
	TAKE – OFF ALLOWANCE 10%				4,822					85,060			$85,060
	TOTAL (BUILDINGS)				53,039					$935,700			$935,700

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CONTR.NO.– ,321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 1 (BLDG 4A, 4C)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	MACHINERY & EQUIPMENT DEMOLITION												
	PROCESS EQUIPMENT	2,200	TONS	42.7	93,940	19.75				$1,855,300			$1,855,300
	HVAC EQUIPMENT	66	TONS	42.7	2,818	19.75				$55,700			$55,700
	ELECTRICAL EQUIPMENT	71	TONS	42.7	3,032	19.75				$59,900			$59,900
	MATERIAL HANDLING EQUIPMENT	49	TONS	42.7	2,092	19.75				$41,300			$41,300
	SUB–TOTAL	2,386	TONS		101,882					$2,012,200			$2,012,200
	TAKE – OFF ALLOWANCE 10%	239	TONS		10,188					$201,220			$201,220
	TOTAL (MACH. & EQUIP.)	2,625	TONS		112,070					$2,213,400			$2,213,400

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CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 1 (BLDG 4A, 4C)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PIPING DEMOLITION												
	PIPING DEMOLITION (AVG. 2" DIA)	25,155	LF	0.358	9,005	19.00				$171,104			$171,104
	SUB TOTAL (PIPING)	25,155	LF		9,005					$171,104			$171,104
	TAKE – OFF ALLOWANCE 10%	2,516	LF		900					$17,110			$17,110
	TOTAL (PIPING)	27,671	LF		9,905					$188,200			$188,200

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- 5445

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 1 (BLDG 4A, 4C)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	ELECTRICAL DEMOLITION												
	CONDUIT & WIRE	42,423	LF	0.142	6,024	18.09				$108,974			$108,974
	SUB TOTAL (ELECTRICAL)	42,423	LF		6,024					108,974			$108,974
	TAKE – OFF ALLOWANCE 10%	4,242	LF		602					10,897			$10,900
	TOTAL (ELECTRICAL)	46,665	LF		6,626					$119,900			$119,900

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5445

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 1 (BLDG 4A, 4C)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PAINTING & SCAFFOLDING												
	PAINT CONTAINMENT FOR TYPE A (MANHOURS)	159,704	SF	0.035	5,590	16.43				$91,844			$91,844
	PAINT CONTAINMENT FOR TYPE A (MATERIAL)	532	GAL						25.00			$13,300	$13,300
	SUB TOTAL (PAINT & SCAFFOLD)	159,704	SF		5,590					$91,844		$13,300	$105,144
	TAKE – OFF ALLOWANCE 10%	15,970	SF		559					$9,180		$1,330	$10,510
	TOTAL (PAINT & SCAFFOLD)	175,674	SF		6,149					$101,000		$14,600	$115,600

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5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 1 (BLDG 4A, 4C)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	INSULATION DEMOLITION												
	PIPING ASBESTOS REMOVAL (AVE. 1" THICK)	2,516	LF	19.00	47,804	17.39			232.00	$831,312		$583,712	$1,415,024
	WALL INSULATION REMOVAL (AVE. 2" THICK)	47,843	SF	0.05	2,344	18.53				$43,434			$43,434
	SUB TOTAL (INSULATION)	50,359	SF		50,148					$874,746		$583,712	$1,458,458
	TAKE – OFF ALLOWANCE 10%	5,036	SF		5,015					$87,470		$58,370	$145,840
	TOTAL (INSULATION)	55,395	SF		55,163					$962,200		$642,100	$1,604,300

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EST FILE #: - 5445

CLIENT: US DOE

PROJECT TITLE:

FERMCO ESTIMATING SERVICES

SUMMARY SHEET

D&D PACKAGE #2

DATE: 05-Aug-93

ESTIMATOR: S.S, P.L. T.P. & A.S.

LOCATION: FERNALD

REV: 2

JE	ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	TOTAL $
	EXCAVATION						
	CONCRETE	21,802	17.56	$382,839			$382,800
	STRUCTURAL STEEL	7,143	18.80	$147,700		$566,000	$713,700
	BUILDINGS	21,243	17.64	$374,800			$374,800
	MACHINERY AND EQUIPMENT	14,654	19.75	$289,400			$289,400
	PIPING	8,658	19.00	$164,200			$164,200
	ELECTRICAL	2,180	18.09	$39,400			$39,400
	INSTRUMENTS						
	PAINTING AND SCAFFOLD	2,911	16.43	$47,800		$6,900	$54,700
	INSULATION	46,604	18.53	$811,300		$560,200	$1,371,500
	SEA/LAND CONTAINERS (20'x8'x8')($5,100 EA)(103 EA)					$525,300	$525,300
	HAUL SEA/LAND CONTAINERS (2 MILE ROUND TRIP)	206	19.49	$4,015			$4,000
DIRECT FIELD COSTS		125,402		$2,261,454		$1,658,400	$3,919,900
SUPERVISION - CONTRACTOR				$384,000			$384,000
SM TOOLS/CONSM'BLS						$135,700	$135,700
EQUIPMENT RENTAL						$953,400	$953,400
TEMP. FACILITIES				$47,500		$88,200	$135,700
TEMP UTL'S HOOK-UP				$23,700		$44,100	$67,800
JOB CLEAN-UP				$47,500		$88,200	$135,700
ETY				$23,700		$44,100	$67,800
ALTH PHYSICS				$139,400		$3,135,046	$3,274,400
CERCLA	$1,500 PER PERSON					$94,100	$94,100
BOND						$39,200	$39,200
OVERHEAD & PROFIT						$828,700	$828,700
EMISSION MODELING				$6,900		$12,700	$19,600
PSAR/FSAR(SAFE RPT)				$6,900		$12,700	$19,600
PAYRL BRD.&BENFT.				$1,529,300			$1,529,300
CONSTR MGMT				$464,200			$464,200
INDIRECT FIELD COSTS				$2,673,100		$5,476,100	$8,149,200
DIRECT & INDIRECT FIELD COSTS				$4,934,600		$7,134,500	$12,069,100
SOIL/WATER/AIR				$27,400		$51,000	$78,400
G&A (HO EXP)							$120,700
PROJ.MGMT-FERMCO							$965,500
ENGINEERING	TITLE I	TITLE II		TITLE III			$4,194,300
ENGINEERING/FIELD SUPPORT/SUBCONTRACTS							$5,358,900
TOTAL FIELD & ENGINEERING COSTS							$17,428,000
SALES TAX	6.0%	$7,134,500					$428,100
SUB-TOTAL							$17,856,100
ESCALATION							
SUB-TOTAL							$17,856,100
CONTINGENCY	20.0%						$3,571,200
TOTAL ESTIMATED INSTALLED COST	(FPSC bid w/cont.-)						$21,427,300

PRELIMINARY

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 2 (BLDG 3B,3C,3D,3E,3F,3G,3J,39A,39B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	CONCRETE DEMOLITION												
	CONCRETE ABOVE GRADE	361	CY	54.9	19,820	17.56				$348,039			$348,039
	SUB–TOTAL (CONCRETE DEMOLITION)	361	CY		19,820					$348,039			$348,039
	TAKE–OFF ALLOWANCE 10%	36	CY		1,982					$34,800			
	TOTAL (CONCRETE)	397	CY		21,802					$382,839			$382,839

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CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 2 (BLDG 3B,3C,3D,3E,3F,3G,3J,39A,39B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	STRUCTURAL STEEL DEMOLITION												
	STRUCTURAL & MISC. STEEL	299	TONS	23.9	7,143	18.80				$134,288			$134,288
	SUB TOTAL (STRUCTURAL STEEL)	299	TONS		7,143					$134,288			$134,288
	MAJOR RENTAL EQUIPMENT												
	4600 MANIWOC CRANE (3 MO.)	1.00	EA						240,000			$240,000	$240,000
	MOB/DEMOB	1.00	LOT						100,000			$100,000	$100,000
	2 KOMATSU SHEARS (3 MO.)	2.00	EA						42,000			$84,000	$84,000
	977 LOADER W/GRAPPLE BUCKET (3 MO.)	1.00	EA						10,500			$10,500	$10,500
	LIFTING FRAME	1.00	LOT						80,000			$80,000	$80,000
	SUB TOTAL (STRUCTURAL STEEL)	6	TONS									$514,500	$514,500
	TAKE – OFF ALLOWANCE 10%	31	TONS							$13,430		$51,450	$64,880
	TOTAL (STRUCTURAL STEEL)	336	TONS		7,143					$147,700		$566,000	$713,700

0019

5445

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 2 (BLDG 3B,3C,3D,3E,3F,3G,3J,39A,39B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	BUILDINGS												
	DUCTWORK DEMOLITION (AVE. 24x18)	2,021	LF	1.03	2,086	17.64				$36,800			$36,800
	INTERIOR TRANSITE PANELS (AVE. .5" THICK)	38,410	SF	0.21	7,912	17.64				$139,600			$139,600
	EXTERIOR TRANSITE PANELS (AVE. .5" THICK)	33,349	SF	0.26	8,637	17.64				$152,400			$152,400
	EXTERIOR METAL WALL PANELS (AVE. .5" THICK)	1,123	SF	0.20	219	17.64				$3,900			$3,900
	ROOFING (METAL PANELS) (AVE. .5" THICK)	504	SF	0.20	98	17.64				$1,700			$1,700
	DOORS & WINDOWS	44	EA	3.26	143	17.64				$2,500			$2,500
	MISC. DEBRIS(FIXTURES ETC.)	909	CF	0.24	217	17.64				$3,800			$3,800
	SUB TOTAL (BUILDINGS)				19,312					$340,700			$340,700
	TAKE – OFF ALLOWANCE 10%				1,931					34,070			$34,070
	TOTAL (BUILDINGS)				21,243					$374,800			$374,800

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CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 2 (BLDG 3B,3C,3D,3E,3F,3G,3J,39A,39B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	MACHINERY & EQUIPMENT DEMOLITION												
	PROCESS EQUIPMENT	231	TONS	42.7	9,864	19.75				$194,800			$194,800
	HVAC EQUIPMENT	4	TONS	42.7	171	19.75				$3,400			$3,400
	ELECTRICAL EQUIPMENT	15	TONS	42.7	641	19.75				$12,600			$12,600
	EXTERIOR EQUIPMENT	62	TONS	42.7	2,647	19.75				$52,300			$52,300
	SUB–TOTAL	312	TONS		13,322					$263,100			$263,100
	TAKE – OFF ALLOWANCE 10%	31	TONS		1,332					$26,310			$26,310
	TOTAL (MACH. & EQUIP.)	343	TONS		14,654					$289,400			$289,400

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CONTR.NO.- 4321
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- D&D PACKAGE 2 (BLDG 3B,3C,3D,3E,3F,3G,3J,39A,39B)
LOCATION- FERNALD, OHIO
PROJ.CTL.-

BUDGET ESTIMATE DETAILS

CONTR.NO.- 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PIPING DEMOLITION												
	PIPING DEMOLITION (AVG. 2" DIA)	21,951	LF	0.358	7,858	19.00				$149,311			$149,311
	SUB TOTAL (PIPING)	21,951	LF		7,858					$149,311			$149,311
	TAKE – OFF ALLOWANCE 10%	2,195	LF		800					$14,930			$14,930
	TOTAL (PIPING)	24,146	LF		8,658					$164,200			$164,200

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 2 (BLDG 3B,3C,3D,3E,3F,3G,3J,39A,39B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	ELECTRICAL DEMOLITION												
	CONDUIT & WIRE	13,959	LF	0.142	1,982	18.09				$35,854			$35,854
	SUB TOTAL (ELECTRICAL)	13,959	LF		1,982					35,854			$35,854
	TAKE – OFF ALLOWANCE 10%	1,396	LF		198					3,585			$3,590
	TOTAL (ELECTRICAL)	15,355	LF		2,180					$39,400			$39,400

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CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 2 (BLDG 3B,3C,3D,3E,3F,3G,3J,39A,39B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PAINTING & SCAFFOLDING												
	PAINT CONTAINMENT FOR TYPE A (MANHOURS)	75,596	SF	0.035	2646	16.43				$43,474			$43,474
	PAINT CONTAINMENT FOR TYPE A (MATERIAL)	252	GAL						25.00			$6,300	$6,300
	SUB TOTAL (PAINT & SCAFFOLD)	75,848	SF		2,646					$43,474		$6,300	$49,774
	TAKE – OFF ALLOWANCE 10%	7,560	SF		265					$4,350		$630	$4,980
	TOTAL (PAINT & SCAFFOLD)	83,408	SF		2,911					$47,800		$6,900	$54,700

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CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 2 (BLDG 3B,3C,3D,3E,3F,3G,3J,39A,39B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	INSULATION DEMOLITION												
	PIPING ASBESTOS REMOVAL (AVE. 1" THICK)	2,195	LF	19.00	41,705	17.39			232.00	$725,250		$509,240	$1,234,490
	WALL INSULATION REMOVAL (AVE. 2" THICK)	13,507	SF	0.05	662	18.53				$12,267			$12,267
	SUB TOTAL (INSULATION)	15,702	SF		42,367					$737,517		$509,240	$1,246,757
	TAKE – OFF ALLOWANCE 10%	220	SF		4,237					$73,750		$50,920	$124,670
	TOTAL (INSULATION)	15,922	SF		46,604					$811,300		$560,200	$1,371,500

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ESTIMATING SERVICES

EST FILE #:
CLIENT: US DOE
PROJECT TITLE:

SUMMARY SHEET
D&D PACKAGE #3

DATE: 05-Aug-93
ESTIMATOR: S.S.,P.L.,T.P. & A.S.
LOCATION: FERNALD
REV: 2

DE	ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	TOTAL $
	EXCAVATION						
	CONCRETE	26,995	17.56	$474,040			$474,000
	STRUCTURAL STEEL	22,548	18.80	$423,900		$566,000	$989,900
	BUILDINGS	46,979	17.64	$828,700		$700	$829,400
	MACHINERY AND EQUIPMENT	78,111	19.75	$1,542,500			$1,542,500
	PIPING	19,669	19.00	$373,500			$373,500
	ELECTRICAL	7,334	18.09	$132,700			$132,700
	INSTRUMENTS						
	PAINTING AND SCAFFOLD	6,100	16.43	$100,200		$14,500.00	$114,700
	INSULATION	108,241	18.53	$1,886,800		$1,273,700	$3,160,500
	SEA/LAND CONTAINERS (20'x8'x8')($5,100 EA)(367 EA)					$1,871,700	$1,871,700
	HAUL SEA/LAND CONTAINERS (4 MILE ROUND TRIP)	734	19.49	$14,306			$14,300
DIRECT FIELD COSTS		316,711		$5,776,646		$3,726,600	$9,503,200
SUPERVISION - CONTRACTOR				$982,000			$982,000
SM TOOLS/CONSM'BLS						$346,600	$346,600
EQUIPMENT RENTAL						$1,623,000	$1,623,000
TEMP. FACILITIES				$121,300		$225,300	$346,600
TEMP UTL'S HOOK-UP				$60,700		$112,600	$173,300
JOB CLEAN-UP				$121,300		$225,300	$346,600
TY				$60,700		$112,600	$173,300
LTH PHYSICS				$356,100		$7,917,776	$8,273,900
CERCLA $1,500 PER PERSON						$237,500	$237,500
BOND						$95,000	$95,000
OVERHEAD & PROFIT						$1,989,100	$1,989,100
EMISSION MODELING				$16,600		$30,900	$47,500
PSAR/FSAR(SAFE RPT)				$16,600		$30,900	$47,500
PAYRL BRD.&BENFT.				$3,906,200			$3,906,200
CONSTR MGMT				$1,123,700			$1,123,700
INDIRECT FIELD COSTS				$6,765,200		$12,946,600	$19,711,800
DIRECT & INDIRECT FIELD COSTS				$12,541,800		$16,673,200	$29,215,000
SOIL/WATER/AIR				$66,500		$123,500	$190,000
G&A (HO EXP)							$292,200
PROJ.MGMT-FERMCO							$2,337,200
ENGINEERING	TITLE I TITLE II TITLE III						$10,168,400
ENGINEERING/FIELD SUPPORT/SUBCONTRACTS							$12,987,800
TOTAL FIELD & ENGINEERING COSTS							$42,202,800
SALES TAX	6.0% $16,673,200						$1,000,400
SUB-TOTAL							$43,203,200
ESCALATION							
SUB-TOTAL							$43,203,200
CONTINGENCY	20.0%						$8,640,600
TOTAL ESTIMATED INSTALLED COST	(FPSC bid w/cont.-)						$51,843,800

PRELIMINARY

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 3 (BLDG 2A,2D,2E,2F,2G,2H)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	CONCRETE DEMOLITION												
	CONCRETE ABOVE GRADE	447	CY	54.9	24,541	17.56				$430,940			$430,940
	SUB–TOTAL (CONCRETE DEMOLITION)	447	CY		24,541					$430,940			$430,940
	TAKE–OFF ALLOWANCE 10%	45	CY		2,454					$43,100			
	TOTAL (CONCRETE)	492	CY		26,995					$474,040			$474,040

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CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 3 (BLDG 2A,2D,2E,2F,2G,2H)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	STRUCTURAL STEEL DEMOLITION												
	STRUCTURAL & MISC. STEEL	858	TONS	23.9	20,498	18.80				$385,362			$385,362
	SUB TOTAL (STRUCTURAL STEEL)	858	TONS		20,498					$385,362			$385,362
	MAJOR RENTAL EQUIPMENT												
	4600 MANIWOC CRANE (3 MO.)	1.00	EA						240,000			$240,000	$240,000
	MOB/DEMOB	1.00	LOT						100,000			$100,000	$100,000
	2 KOMATSU SHEARS (3 MO.)	2.00	EA						42,000			$84,000	$84,000
	977 LOADER W/GRAPPLE BUCKET (3 MO.)	1.00	EA						10,500			$10,500	$10,500
	LIFTING FRAME	1.00	LOT						80,000			$80,000	$80,000
	SUB TOTAL (STRUCTURAL STEEL)	6	EA									$514,500	$514,500
	TAKE – OFF ALLOWANCE 10%	86	TONS		2,050					$38,540		$51,450	$89,990
	TOTAL (STRUCTURAL STEEL)	950	TONS		22,548					$423,900		$566,000	$989,900

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CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 3 (BLDG 2A,2D,2E,2F,2G,2H)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	BUILDINGS												
	DUCTWORK DEMOLITION (AVE. 24x18)	4,207	LF	1.03	4,342	17.64				$76,600			$76,600
	INTERIOR TRANSITE PANELS (AVE. .5" THICK)	76118	SF	0.21	15,680	17.64				$276,600			$276,600
	EXTERIOR TRANSITE PANELS (AVE. .5" THICK)	83212	SF	0.26	21,552	17.64				$380,200			$380,200
	MASONRY WALLS (AVE. 8" THICK)	572	SF	0.29	165	17.64				$2,900			$2,900
	ROOFING (BUILT-UP) (AVE. 2" THICK)	235	SF	1.04	244	17.64			$2.61	$4,300		$600	$4,900
	DOORS & WINDOWS	105	EA	3.26	342	17.64				$6,000			$6,000
	MISC. DEBRIS(FIXTURES ETC.)	1603	CF	0.24	383	17.64				$6,800			$6,800
	SUB TOTAL (BUILDINGS)				42,708					$753,400		$600	$754,000
	TAKE – OFF ALLOWANCE 10%				4,271					75,340		60	$75,400
	TOTAL (BUILDINGS)				46,979					$828,700		$700	$829,400

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5445

CONTR.NO.- 4321
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- D&D PACKAGE 3 (BLDG 2A,2D,2E,2F,2G,2H)
LOCATION- FERNALD, OHIO
PROJ.CTL.-

BUDGET ESTIMATE DETAILS

CONTR.NO.- 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	MACHINERY & EQUIPMENT DEMOLITION												
	PROCESS EQUIPMENT	1,499	TONS	42.7	64,007	19.75				$1,264,100			$1,264,100
	HVAC EQUIPMENT	102	TONS	42.7	4,355	19.75				$86,000			$86,000
	ELECTRICAL EQUIPMENT	20	TONS	42.7	854	19.75				$16,900			$16,900
	MATERIAL HANDLING EQUIPMENT	40	TONS	42.7	1,708	19.75				$33,700			$33,700
	EXTERIOR EQUIPMENT	2	TONS	42.7	85	18.91				$1,600			$1,600
	SUB-TOTAL	1,663	TONS		71,010					$1,402,300			$1,402,300
	TAKE - OFF ALLOWANCE 10%	166	TONS		7,101					$140,230			$140,230
	TOTAL (MACH. & EQUIP.)	1,829	TONS		78,111					$1,542,500			$1,542,500

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CONTR.NO.– .4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 3 (BLDG 2A,2D,2E,2F,2G,2H)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PIPING DEMOLITION												
	PIPING DEMOLITION (AVG. 2" DIA)	49,913	LF	0.358	17,869	19.00				$339,508			$339,508
	SUB TOTAL (PIPING)	49,913	LF		17,869					$339,508			$339,508
	TAKE – OFF ALLOWANCE 10%	4,991	LF		1,800					$33,950			$33,950
	TOTAL (PIPING)	54,904	LF		19,669					$373,500			$373,500

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5445

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 3 (BLDG 2A,2D,2E,2F,2G,2H)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	ELECTRICAL DEMOLITION												
	CONDUIT & WIRE	46,953	LF	0.142	6,667	18.09				$120,606			$120,606
	SUB TOTAL (ELECTRICAL)	46,953	LF		6,667					120,606			$120,606
	TAKE – OFF ALLOWANCE 10%	4,695	LF		667					12,061			$12,060
	TOTAL (ELECTRICAL)	51,648	LF		7,334					$132,700			$132,700

0032

-5445

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 3 (BLDG 2A,2D,2E,2F,2G,2H)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PAINTING & SCAFFOLDING												
	PAINT CONTAINMENT FOR TYPE A (MANHOURS)	158,430	SF	0.035	5545	16.43				$91,104			$91,104
	PAINT CONTAINMENT FOR TYPE A (MATERIAL)	528	GAL						25.00			$13,200	$13,200
	SUB TOTAL (PAINT & SCAFFOLD)	158,958	SF		5,545					$91,104		$13,200	$104,304
	TAKE – OFF ALLOWANCE 10%	158,430	SF		555					$9,110		$1,320	$10,430
	TOTAL (PAINT & SCAFFOLD)	317,388	SF		6,100					$100,200		$14,500	$114,700

0033

- 5445

CONTR.NO.- 4321
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- D&D PACKAGE 3 (BLDG 2A,2D,2E,2F,2G,2H)
LOCATION- FERNALD, OHIO
PROJ.CTL.-

BUDGET ESTIMATE DETAILS

CONTR.NO.- 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	INSULATION DEMOLITION												
	PIPING ASBESTOS REMOVAL (AVE. 1" THICK)	4,991	LF	19.00	94,829	17.39			232.00	$1,649,076		$1,157,912	$2,806,988
	WALL INSULATION REMOVAL (AVE. 2" THICK)	72,900	SF	0.05	3,572	18.53				$66,189			$66,189
	SUB TOTAL (INSULATION)	77,891	SF		98,401					$1,715,265		$1,157,912	$2,873,177
	TAKE - OFF ALLOWANCE 10%	7,290	SF		9,840					$171,530		$115,790	$287,320
	TOTAL (INSULATION)	85,181	SF		108,241					$1,886,800		$1,273,700	$3,160,500

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FERMCO ESTIMATING SERVICES

SUMMARY SHEET

D&D PACKAGE #4

ST FILE #:

LIENT: US DOE

ROJECT TITLE:

DATE: 05-Aug-93

ESTIMATOR: S.S.,P.L.,T.P. & A.S.

LOCATION: FERNALD

REV: 2

DE	ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	TOTAL $
	EXCAVATION						
	CONCRETE	33,941	17.56	$596,014			$596,000
	STRUCTURAL STEEL	3,180	18.80	$59,800			$59,800
	BUILDINGS	59,474	17.64	$1,049,200		$86,500	$1,135,700
	MACHINERY AND EQUIPMENT	16,205	19.75	$319,600			$319,600
	PIPING	22,167	19.00	$421,500			$421,500
	ELECTRICAL	2,847	18.09	$51,500			$51,500
	INSTRUMENTS						
	PAINTING AND SCAFFOLD	1,220	16.43	$20,000		$2,900	$22,900
	INSULATION	117,730	18.53	$2,047,300		$1,437,500	$3,484,800
	SEA/LAND CONTAINERS (20'x8'x8')($5,100 EA)(126 EA)					$642,600	$642,600
	HAUL SEA/LAND CONTAINERS (4 MILE ROUND TRIP)	252	19.49	$4,911			$4,900
IRECT FIELD COSTS		257,015		$4,569,825		$2,169,500	$6,739,300
JPERVISION - CONTRACTOR				$777,000			$777,000
M TOOLS/CONSM'BLS						$274,200	$274,200
QUIPMENT RENTAL						$1,414,100	$1,414,100
EMP. FACILITIES				$96,000		$178,200	$274,200
EMP UTL'S HOOK-UP				$48,000		$89,100	$137,100
)B CLEAN-UP				$96,000		$178,200	$274,200
ETY				$48,000		$89,100	$137,100
ALTH PHYSICS				$281,700		$6,425,371	$6,707,100
ERCLA	$1,500 PER PERSON					$192,800	$192,800
OND						$67,400	$67,400
VERHEAD & PROFIT						$1,529,500	$1,529,500
MISSION MODELING				$11,800		$21,900	$33,700
SAR/FSAR(SAFE RPT)				$11,800		$21,900	$33,700
AYRL BRD.&BENFT.				$3,088,900			$3,088,900
ONSTR MGMT				$867,200			$867,200
NDIRECT FIELD COSTS				$5,326,400		$10,481,800	$15,808,200
IRECT & INDIRECT FIELD COSTS				$9,896,200		$12,651,300	$22,547,500
OIL/WATER/AIR				$47,200		$87,600	$134,800
&A (HO EXP)							$225,500
ROJ.MGMT-FERMCO							$1,803,800
NGINEERING	TITLE I	TITLE II		TITLE III			$7,211,100
NGINEERING/FIELD SUPPORT/SUBCONTRACTS							$9,375,200
OTAL FIELD & ENGINEERING COSTS							$31,922,700
ALES TAX	6.0% $12,651,300						$759,100
SUB-TOTAL							$32,681,800
SCALATION							
SUB-TOTAL							$32,681,800
ONTINGENCY	20.0%						$6,536,400
TOTAL ESTIMATED INSTALLED COST	(FPSC bid w/cont.-)						$39,218,200

PRELIMINARY

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 4 (BLDG 13A,13B,13C,13D,19B,37,54A,54B,54C,68)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	CONCRETE DEMOLITION												
	CONCRETE ABOVE GRADE	562	CY	54.9	30,855	17.56				$541,814			$541,814
	SUB–TOTAL (CONCRETE DEMOLITION)	562	CY		30,855					$541,814			$541,814
	TAKE–OFF ALLOWANCE 10%	56	CY		3,086					$54,200			
	TOTAL (CONCRETE)	618	CY		33,941					$596,014			$596,014

CONTR.NO.– .4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 4 (BLDG 13A,13B,13C,13D,19B,37,54A,54B,54C,68)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	STRUCTURAL STEEL DEMOLITION												
	STRUCTURAL & MISC. STEEL	121	TONS	23.9	2,891	18.80				$54,351			$54,351
	SUB TOTAL (STRUCTURAL STEEL)	121	TONS		2,891					$54,351			$54,351
	TAKE – OFF ALLOWANCE 10%	12	TONS		289					$5,440			$5,440
	TOTAL (STRUCTURAL STEEL)	133	TONS		3,180					$59,800			$59,800

0037

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CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 4 (BLDG 13A,13B,13C,13D,19B,37,54A,54B,54C,68)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	BUILDINGS												
	DUCTWORK DEMOLITION (AVE. 24x18)	3,708	LF	1.03	3,827	17.64				$67,500			$67,500
	INTERIOR TRANSITE PANELS (AVE. .5" THICK)	130	SF	0.21	27	17.64				$500			$500
	EXTERIOR TRANSITE PANELS (AVE. .5" THICK)	23852	SF	0.26	6,178	17.64				$109,000			$109,000
	EXTERIOR METAL WALL PANELS (AVE. .5" THICK)	21540	SF	0.20	4,200	17.64				$74,100			$74,100
	MASONRY WALLS (AVE. 8" THICK)	23949	SF	0.29	6,921	17.64				$122,100			$122,100
	ROOFING (BUILT–UP) (AVE. 2" THICK)	30126	SF	1.04	31,331	17.64			$2.61	$552,700		$78,600	$631,300
	ROOFING (METAL PANELS) (AVE. .5" THICK)	5066	SF	0.20	988	17.64				$17,400			$17,400
	DOORS & WINDOWS	101	EA	3.26	329	17.64				$5,800			$5,800
	MISC. DEBRIS(FIXTURES ETC.)	1112	CF	0.24	266	17.64				$4,700			$4,700
	SUB TOTAL (BUILDINGS)				54,067					$953,800		$78,600	$1,032,400
	TAKE – OFF ALLOWANCE 10%				5,407					95,380		7,860	$103,240
	TOTAL (BUILDINGS)				59,474					$1,049,200		$86,500	$1,135,700

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- 5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 4 (BLDG 13A,13B,13C,13D,19B,37,54A,54B,54C,68)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	MACHINERY & EQUIPMENT DEMOLITION												
	PROCESS EQUIPMENT	235	TONS	42.7	10,035	19.75				$198,200			$198,200
	HVAC EQUIPMENT	50	TONS	42.7	2,135	19.75				$42,200			$42,200
	ELECTRICAL EQUIPMENT	29	TONS	42.7	1,238	19.75				$24,500			$24,500
	MATERIAL HANDLING EQUIPMENT	16.0	TONS	42.7	683	19.75				$13,500			$13,500
	EXTERIOR EQUIPMENT	15.0	TONS	42.7	641	18.91				$12,100			$12,100
	SUB–TOTAL	345	TONS		14,732					$290,500			$290,500
	TAKE – OFF ALLOWANCE 10%	35	TONS		1,473					$29,050			$29,050
	TOTAL (MACH. & EQUIP.)	380	TONS		16,205					$319,600			$319,600

0039

5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 4 (BLDG 13A,13B,13C,13D,19B,37,54A,54B,54C,68)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PIPING DEMOLITION												
	PIPING DEMOLITION (AVG. 2" DIA)	56,332	LF	0.358	20,167	19.00				$383,170			$383,170
	SUB TOTAL (PIPING)	56,332	LF		20,167					$383,170			$383,170
	TAKE – OFF ALLOWANCE 10%	5,633	LF		2,000					$38,320			$38,320
	TOTAL (PIPING)	61,965	LF		22,167					$421,500			$421,500

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- 5445

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 4 (BLDG 13A,13B,13C,13D,19B,37,54A,54B,54C,68)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	ELECTRICAL DEMOLITION												
	CONDUIT & WIRE	18,223	LF	0.142	2,588	18.09				$46,817			$46,817
	SUB TOTAL (ELECTRICAL)	18,223	LF		2,588					46,817			$46,817
	TAKE – OFF ALLOWANCE 10%	1,822	LF		259					4,682			$4,680
	TOTAL (ELECTRICAL)	20,045	LF		2,847					$51,500			$51,500

0041

- 5445

CONTR.NO.– .,24321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 4 (BLDG 13A,13B,13C,13D,19B,37,54A,54B,54C,68)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PAINTING & SCAFFOLDING												
	PAINT CONTAINMENT FOR TYPE A (MANHOURS)	31,674	SF	0.035	1,109	16.43				$18,221			$18,221
	PAINT CONTAINMENT FOR TYPE A (MATERIAL)	106	GAL						25.00			$2,650	$2,650
	SUB TOTAL (PAINT & SCAFFOLD)	31,780	SF		1,109					$18,221		$2,650	$20,871
	TAKE – OFF ALLOWANCE 10%	3,167	SF		111					$1,820		$270	$2,090
	TOTAL (PAINT & SCAFFOLD)	34,947	SF		1,220					$20,000		$2,900	$22,900

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5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 4 (BLDG 13A,13B,13C,13D,19B,37,54A,54B,54C,68)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	INSULATION DEMOLITION												
	PIPING ASBESTOS REMOVAL (AVE. 1" THICK)	5,633	LF	19.00	107,027	17.39			232.00	$1,861,200		$1,306,856	$3,168,056
	SUB TOTAL (INSULATION)	5,633	LF		107,027					$1,861,200		$1,306,856	$3,168,056
	TAKE – OFF ALLOWANCE 10%	563	LF		10,703					$186,120		$130,690	$316,810
	TOTAL (INSULATION)	6,196	LF		117,730					$2,047,300		$1,437,500	$3,484,800

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5445

EST FILE #:
CLIENT: US DOE
PROJECT TITLE:

F ERMC O
ESTIMATING SERVICES

SUMMARY SHEET
D&D PACKAGE #5

DATE: 05-Aug-93
ESTIMATOR: S.S., P.L., T.P., & A.S.
LOCATION: FERNALD
REV: 2

DE	ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	TOTAL $
	EXECAVATION						
	CONCRETE	27,599	17.56	$484,680			$484,700
	STRUCTURAL STEEL	52,689	18.80	$990,600		$1,131,900	$2,122,500
	BUILDINGS	86,876	17.64	$1,532,400		$18,000	$1,550,400
	MACHINERY AND EQUIPMENT	122,357	19.75	$2,415,200			$2,415,200
	PIPING	13,372	19.00	$254,400			$254,400
	ELECTRICAL	8,890	18.09	$160,800			$160,800
	INSTRUMENTS						
	PAINTING AND SCAFFOLD	8,195	16.43	$134,600		$19,500	$154,100
	INSULATION	73,921	18.53	$1,288,800		$867,700	$2,156,500
	SEA/LAND CONTAINERS (20'x8'x8')($5,100 EA)(654 EA)					$3,335,400	$3,335,400
	HAUL SEA/LAND CONTAINERS (4 MILE ROUND TRIP)	1,308	19.49	$25,493			$25,500
DIRECT FIELD COSTS		395,206		$7,286,973		$5,372,500	$12,659,500
SUPERVISION - CONTRACTOR				$1,239,000			$1,239,000
SM TOOLS/CONSM'BLS						$437,200	$437,200
EQUIPMENT RENTAL						$1,897,700	$1,897,700
TEMP. FACILITIES				$153,000		$284,200	$437,200
TEMP UTL'S HOOK-UP				$76,500		$142,100	$218,600
JOB CLEAN-UP				$153,000		$284,200	$437,200
ETY				$76,500		$142,100	$218,600
ALTH PHYSICS				$449,200		$9,880,154	$10,329,400
CERCLA	$1,500 PER PERSON					$296,400	$296,400
BOND						$126,600	$126,600
OVERHEAD & PROFIT						$2,546,800	$2,546,800
EMISSION MODELING				$22,200		$41,100	$63,300
PSAR/FSAR(SAFE RPT)				$22,200		$41,100	$63,300
PAYRL BRD.&BENFT.				$4,928,900			$4,928,900
CONSTR MGMT				$1,436,000			$1,436,000
INDIRECT FIELD COSTS				$8,556,500		$16,119,700	$24,676,200
DIRECT & INDIRECT FIELD COSTS				$15,843,500		$21,492,200	$37,335,700
SOIL/WATER/AIR				$88,600		$164,600	$253,200
G&A (HO EXP)							$373,400
PROJ.MGMT-FERMCO							$2,986,900
ENGINEERING	TITLE I	TITLE II		TITLE III			$13,545,700
ENGINEERING/FIELD SUPPORT/SUBCONTRACTS							$17,159,200
TOTAL FIELD & ENGINEERING COSTS							$54,494,900
SALES TAX	6.0%	$21,492,200					$1,289,500
SUB-TOTAL							$55,784,400
ESCALATION							
SUB-TOTAL							$55,784,400
CONTINGENCY	20.0%						$11,156,900
TOTAL ESTIMATED INSTALLED COST	(FPSC bid w/cont.-)						$66,941,300

PRELIMINARY

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 5 (BLDG 5A,5B,5C,5D,5E,5F,5G,55A,55B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	CONCRETE DEMOLITION												
	CONCRETE ABOVE GRADE	457	CY	54.9	25,090	17.56				$440,580			$440,580
	SUB–TOTAL (CONCRETE DEMOLITION)	457	CY		25,090					$440,580			$440,580
	TAKE–OFF ALLOWANCE 10%	46	CY		2,509					$44,100			
	TOTAL (CONCRETE)	503	CY		27,599					$484,680			$484,680

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5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 5 (BLDG 5A,5B,5C,5D,5E,5F,5G,55A,55B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	STRUCTURAL STEEL DEMOLITION												
	STRUCTURAL & MISC. STEEL	2,005	TONS	23.9	47,899	18.80				$900,501			$900,501
	SUB TOTAL (STRUCTURAL STEEL)	2,005	TONS		47,899					$900,501			$900,501
	MAJOR RENTAL EQUIPMENT												
	4600 MANIWOC CRANE (3 MO.)	2.00	EA						240,000			$480,000	$480,000
	MOB/DEMOB	1.00	LOT						200,000			$200,000	$200,000
	2 KOMATSU SHEARS (3 MO.)	4.00	EA						42,000			$168,000	$168,000
	977 LOADER W/GRAPPLE BUCKET (3 MO.)	2.00	EA						10,500			$21,000	$21,000
	LIFTING FRAME	1.00	LOT						160,000			$160,000	$160,000
	SUB TOTAL (STRUCTURAL STEEL)	10	EA									$1,029,000	$1,029,000
	TAKE – OFF ALLOWANCE 10%	202	TONS		4,790					$90,050		$102,900	$192,950
	TOTAL (STRUCTURAL STEEL)	2,217	TONS		52,689					$990,600		$1,131,900	$2,122,500

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5445

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 5 (BLDG 5A,5B,5C,5D,5E,5F,5G,55A,55B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	BUILDINGS												
	DUCTWORK DEMOLITION (AVE. 24x18)	10,793	LF	1.03	11,138	17.64				$196,500			$196,500
	INTERIOR TRANSITE PANELS (AVE. .5" THICK)	82570	SF	0.21	17,009	17.64				$300,000			$300,000
	EXTERIOR TRANSITE PANELS (AVE. .5" THICK)	128089	SF	0.26	33,175	17.64				$585,200			$585,200
	EXTERIOR METAL WALL PANELS (AVE. .5" THICK)	22293	SF	0.20	4,347	17.64				$76,700			$76,700
	MASONRY WALLS (AVE. 8" THICK)	1125	SF	0.29	325	17.64				$5,700			$5,700
	ROOFING (BUILT-UP) (AVE. 2" THICK)	6280	SF	1.04	6,531	17.64			$2.61	$115,200		$16,400	$131,600
	ROOFING (METAL PANELS) (AVE. .5" THICK)	25809	SF	0.20	5,033	17.64				$88,800			$88,800
	DOORS & WINDOWS	174	EA	3.26	567	17.64				$10,000			$10,000
	MISC. DEBRIS(FIXTURES ETC.)	3567	CF	0.24	853	17.64				$15,000			$15,000
	SUB TOTAL (BUILDINGS)				78,978					$1,393,100		$16,400	$1,409,500
	TAKE – OFF ALLOWANCE 10%				7,898					139,310		1,640	$140,950
	TOTAL (BUILDINGS)				86,876					$1,532,400		$18,000	$1,550,400

0047

- 5445

CONTR.NO.– 321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 5 (BLDG 5A,5B,5C,5D,5E,5F,5G,55A,55B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	MACHINERY & EQUIPMENT DEMOLITION												
	PROCESS EQUIPMENT	1,530	TONS	42.7	65,331	19.75				$1,290,300			$1,290,300
	HVAC EQUIPMENT	191	TONS	42.7	8,156	19.75				$161,100			$161,100
	ELECTRICAL EQUIPMENT	614	TONS	42.7	26,218	19.75				$517,800			$517,800
	MATERIAL HANDLING EQUIPMENT	232	TONS	42.7	9,906	19.75				$195,700			$195,700
	EXTERIOR EQUIPMENT	38	TONS	42.7	1,623	18.91				$30,700			$30,700
	SUB–TOTAL	2,605	TONS		111,234					$2,195,600			$2,195,600
	TAKE – OFF ALLOWANCE 10%	261	TONS		11,123					$219,560			$219,560
	TOTAL (MACH. & EQUIP.)	2,866	TONS		122,357					$2,415,200			$2,415,200

0048

- 5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 5 (BLDG 5A,5B,5C,5D,5E,5F,5G,55A,55B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PIPING DEMOLITION												
	PIPING DEMOLITION (AVG. 2" DIA)	33,999	LF	0.358	12,172	19.00				$231,261			$231,261
	SUB TOTAL (PIPING)	33,999	LF		12,172					$231,261			$231,261
	TAKE – OFF ALLOWANCE 10%	3,400	LF		1,200					$23,130			$23,130
	TOTAL (PIPING)	37,399	LF		13,372					$254,400			$254,400

0049

5445

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 5 (BLDG 5A,5B,5C,5D,5E,5F,5G,55A,55B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	ELECTRICAL DEMOLITION												
	CONDUIT & WIRE	56,912	LF	0.142	8,082	18.09				$146,203			$146,203
	SUB TOTAL (ELECTRICAL)	56,912	LF		8,082					146,203			$146,203
	TAKE – OFF ALLOWANCE 10%	5,691	LF		808					14,620			$14,620
	TOTAL (ELECTRICAL)	62,603	LF		8,890					$160,800			$160,800

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5445

CONTR.NO.- 4424321
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- D&D PACKAGE 5 (BLDG 5A,5B,5C,5D,5E,5F,5G,55A,55B)
LOCATION- FERNALD, OHIO
PROJ.CTL.-

BUDGET ESTIMATE DETAILS

CONTR.NO.- 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PAINTING & SCAFFOLDING												
	PAINT CONTAINMENT FOR TYPE A (MANHOURS)	212,845	SF	0.035	7,450	16.43				$122,404			$122,404
	PAINT CONTAINMENT FOR TYPE A (MATERIAL)	710	GAL						25.00			$17,750	$17,750
	SUB TOTAL (PAINT & SCAFFOLD)	213,555	SF		7,450					$122,404		$17,750	$140,154
	TAKE - OFF ALLOWANCE 10%	21,285	SF		745					$12,240		$1,780	$14,020
	TOTAL (PAINT & SCAFFOLD)	234,840	SF		8,195					$134,600		$19,500	$154,100

0051

5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 5 (BLDG 5A,5B,5C,5D,5E,5F,5G,55A,55B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	INSULATION DEMOLITION												
	PIPING ASBESTOS REMOVAL (AVE. 1" THICK)	3,400	LF	19.00	64,600	17.39			232.00	$1,123,394		$788,800	$1,912,194
	WALL INSULATION REMOVAL (AVE. 2" THICK)	53,082	SF	0.05	2,601	18.53				$48,197			$48,197
	SUB TOTAL (INSULATION)	56,482	SF		67,201					$1,171,591		$788,800	$1,960,391
	TAKE – OFF ALLOWANCE 10%	5,308	SF		6,720					$117,160		$78,880	$196,040
	TOTAL (INSULATION)	61,790	SF		73,921					$1,288,800		$867,700	$2,156,500

EST FILE #:
CLIENT: US DOE
PROJECT TITLE:

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ESTIMATING SERVICES

SUMMARY SHEET
D&D PACKAGE #6

DATE: 05-Aug-93
ESTIMATOR: S.S., P.L., T.P., & A.S.
LOCATION: FERNALD
REV: 2

DE	ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	TOTAL $
	EXCAVATION						
	CONCRETE	—					
	STRUCTURAL STEEL	41,704	18.80	$784,000			$784,000
	BUILDINGS	98,952	17.64	$1,745,500			$1,745,500
	MACHINERY AND EQUIPMENT	129,027	19.75	$2,548,300			$2,548,300
	PIPING	15,126	19.00	$286,900			$286,900
	ELECTRICAL	9,866	18.09	$178,500			$178,500
	INSTRUMENTS						
	PAINTING AND SCAFFOLD	11,901	16.43	$195,500		$28,300	$223,800
	INSULATION	80,883	18.53	$1,407,400		$978,400	$2,385,800
	SEA/LAND CONTAINERS (20'x8'x8')($5,100 EA)(595 EA)					$3,034,500	$3,034,500
	HAUL SEA/LAND CONTAINERS (4 MILE ROUND TRIP)	1,190	19.49	$23,193			$23,200
DIRECT FIELD COSTS		388,649		$7,169,293		$4,041,200	$11,210,500
SUPERVISION - CONTRACTOR				$1,219,000			$1,219,000
SM TOOLS/CONSM'BLS						$430,200	$430,200
EQUIPMENT RENTAL						$1,874,800	$1,874,800
TEMP. FACILITIES				$150,600		$279,600	$430,200
TEMP UTL'S HOOK-UP				$75,300		$139,800	$215,100
JOB CLEAN-UP				$150,600		$279,600	$430,200
ETY				$75,300		$139,800	$215,100
ALTH PHYSICS				$442,000		$9,716,224	$10,158,200
CERCLA	$1,500 PER PERSON					$291,500	$291,500
BOND						$112,100	$112,100
OVERHEAD & PROFIT						$2,392,800	$2,392,800
EMISSION MODELING				$19,600		$36,400	$56,000
PSAR/FSAR(SAFE RPT)				$19,600		$36,400	$56,000
PAYRL BRD.&BENFT.				$4,847,100			$4,847,100
CONSTR MGMT				$1,357,600			$1,357,600
INDIRECT FIELD COSTS				$8,356,700		$15,729,200	$24,085,900
DIRECT & INDIRECT FIELD COSTS				$15,526,000		$19,770,400	$35,296,400
SOIL/WATER/AIR				$78,500		$145,700	$224,200
G&A (HO EXP)							$353,000
PROJ.MGMT-FERMCO							$2,823,700
ENGINEERING	TITLE I	TITLE II		TITLE III			$11,995,200
ENGINEERING/FIELD SUPPORT/SUBCONTRACTS							$15,396,100
TOTAL FIELD & ENGINEERING COSTS							$50,692,500
SALES TAX	6.0%	$19,770,400					$1,186,200
SUB-TOTAL							$51,878,700
ESCALATION							
SUB-TOTAL							$51,878,700
CONTINGENCY	20.0%						$10,375,700
TOTAL ESTIMATED INSTALLED COST	(FPSC bid w/cont.-)						$62,254,400

PRELIMINARY

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 6 (BLDG 6A,6B,6C,6D,6E,6F)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	STRUCTURAL STEEL DEMOLITION												
	STRUCTURAL & MISC. STEEL	1,587	TONS	23.9	37,913	18.80				$712,764			$712,764
	SUB TOTAL (STRUCTURAL STEEL)	1,587	TONS		37,913					$712,764			$712,764
	TAKE – OFF ALLOWANCE 10%	159	TONS		3,791					$71,280			$71,280
	TOTAL (STRUCTURAL STEEL)	1,746	TONS		41,704					$784,000			$784,000

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CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 6 (BLDG 6A,6B,6C,6D,6E,6F)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	BUILDINGS												
	DUCTWORK DEMOLITION (AVE. 24x18)	11,366	LF	1.03	11,730	17.64				$206,900			$206,900
	INTERIOR TRANSITE PANELS (AVE. .5" THICK)	92,361	SF	0.21	19,026	17.64				$335,600			$335,600
	EXTERIOR TRANSITE PANELS (AVE. .5" THICK)	216,740	SF	0.26	56,136	17.64				$990,200			$990,200
	EXTERIOR METAL WALL PANELS (AVE. .5" THICK)	4,428	SF	0.20	863	17.64				$15,200			$15,200
	ROOFING (METAL PANELS) (AVE. .5" THICK)	4,759	SF	0.20	928	17.64				$16,400			$16,400
	DOORS & WINDOWS	97	EA	3.26	316	17.64				$5,600			$5,600
	MISC. DEBRIS(FIXTURES ETC.)	4,004	CF	0.24	957	17.64				$16,900			$16,900
	SUB TOTAL (BUILDINGS)				89,956					$1,586,800			$1,586,800
	TAKE – OFF ALLOWANCE 10%				8,996					158,680			$158,680
	TOTAL (BUILDINGS)				98,952					$1,745,500			$1,745,500

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CONTR.NO.– ,321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 6 (BLDG 6A,6B,6C,6D,6E,6F)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	MACHINERY & EQUIPMENT DEMOLITION												
	PROCESS EQUIPMENT	2,276	TONS	42.7	97,185	19.75				$1,919,400			$1,919,400
	HVAC EQUIPMENT	62	TONS	42.7	2,647	19.75				$52,300			$52,300
	ELECTRICAL EQUIPMENT	169	TONS	42.7	7,216	19.75				$142,500			$142,500
	MATERIAL HANDLING EQUIPMENT	84	TONS	42.7	3,587	19.75				$70,800			$70,800
	EXTERIOR EQUIPMENT	156	TONS	42.7	6,661	19.75				$131,600			$131,600
	SUB–TOTAL	2,747	TONS		117,297					$2,316,600			$2,316,600
	TAKE – OFF ALLOWANCE 10%	275	TONS		11,730					$231,660			$231,660
	TOTAL (MACH. & EQUIP.)	3,022	TONS		129,027					$2,548,300			$2,548,300

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CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 6 (BLDG 6A,6B,6C,6D,6E,6F)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PIPING DEMOLITION												
	PIPING DEMOLITION (AVG. 2" DIA)	38,341	LF	0.358	13,726	19.00				$260,795			$260,795
	SUB TOTAL (PIPING)	38,341	LF		13,726					$260,795			$260,795
	TAKE – OFF ALLOWANCE 10%	3,834	LF		1,400					$26,080			$26,080
	TOTAL (PIPING)	42,175	LF		15,126					$286,900			$286,900

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 6 (BLDG 6A,6B,6C,6D,6E,6F)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	ELECTRICAL DEMOLITION												
	CONDUIT & WIRE	63,165	LF	0.142	8,969	18.09				$162,249			$162,249
	SUB TOTAL (ELECTRICAL)	63,165	LF		8,969					162,249			$162,249
	TAKE – OFF ALLOWANCE 10%	6,317	LF		897					16,225			$16,230
	TOTAL (ELECTRICAL)	69,482	LF		9,866					$178,500			$178,500

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 6 (BLDG 6A,6B,6C,6D,6E,6F)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PAINTING & SCAFFOLDING												
	PAINT CONTAINMENT FOR TYPE A (MANHOURS)	309,101	SF	0.035	10,819	16.43				$177,756			$177,756
	PAINT CONTAINMENT FOR TYPE A (MATERIAL)	1,030	GAL						25.00			$25,750	$25,750
	SUB TOTAL (PAINT & SCAFFOLD)	310,131	SF		10,819					$177,756		$25,750	$203,506
	TAKE – OFF ALLOWANCE 10%	30,910	SF		1,082					$17,780		$2,580	$20,360
	TOTAL (PAINT & SCAFFOLD)	341,041	SF		11,901					$195,500		$28,300	$223,800

0059

5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 6 (BLDG 6A,6B,6C,6D,6E,6F)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	INSULATION DEMOLITION												
	PIPING ASBESTOS REMOVAL (AVE. 1" THICK)	3,834	LF	19.00	72,846	17.39			232.00	$1,266,792		$889,488	$2,156,280
	WALL INSULATION REMOVAL (AVE. 2" THICK)	13,966	SF	0.05	684	18.53				$12,675			$12,675
	SUB TOTAL (INSULATION)	17,800	SF		73,530					$1,279,466		$889,488	$2,168,954
	TAKE – OFF ALLOWANCE 10%	1,397	SF		7,353					$127,950		$88,950	$216,900
	TOTAL (INSULATION)	19,197	SF		80,883					$1,407,400		$978,400	$2,385,800

0060

5445

EST FILE #: -5445

CLIENT: US DOE

PROJECT TITLE:

FERMCO ESTIMATING SERVICES

SUMMARY SHEET

D&D PACKAGE #7

DATE: 05-Aug-93

ESTIMATOR: S.S., P.L., T.P. & A.S.

LOCATION: FERNALD

REV: 2

CODE	ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	TOTAL $
	EXCAVATION						
	CONCRETE						
	STRUCTURAL STEEL	13,192	18.80	$248,000			$248,000
	BUILDINGS	54,997	17.64	$970,200		$58,900	$1,029,100
	MACHINERY AND EQUIPMENT	52,372	19.75	$1,034,300			$1,034,300
	PIPING	3,671	19.00	$70,400			$70,400
	ELECTRICAL	3,564	18.09	$64,500			$64,500
	INSTRUMENTS						
	PAINTING AND SCAFFOLD	1,824	16.43	$30,000		$4,400	$34,400
	INSULATION	20,633	18.53	$359,900		$240,400	$600,300
	SEA/LAND CONTAINERS (20'x8'x8')($5,100 EA)(246 EA)					$1,254,600	$1,254,600
	HAUL SEA/LAND CONTAINERS (4 MILE ROUND TRIP)	492	19.49	$9,589			$9,600
DIRECT FIELD COSTS		150,744		$2,786,889		$1,558,300	$4,345,200
SUPERVISION - CONTRACTOR				$474,000			$474,000
SM TOOLS/CONSM'BLS						$167,200	$167,200
EQUIPMENT RENTAL						$1,042,100	$1,042,100
TEMP. FACILITIES				$58,500		$108,700	$167,200
TEMP UTL'S HOOK-UP				$29,300		$54,300	$83,600
JOB CLEAN-UP				$58,500		$108,700	$167,200
SAFETY				$29,300		$54,300	$83,600
HEALTH PHYSICS				$171,800		$3,768,602	$3,940,400
CERCLA	$1,500 PER PERSON					$113,100	$113,100
BOND						$43,500	$43,500
OVERHEAD & PROFIT						$956,400	$956,400
EMISSION MODELING				$7,600		$14,100	$21,700
PSAR/FSAR(SAFE RPT)				$7,600		$14,100	$21,700
PAYRL BRD.&BENFT.				$1,884,200			$1,884,200
CONSTR MGMT				$540,400			$540,400
INDIRECT FIELD COSTS				$3,261,200		$6,445,100	$9,706,300
DIRECT & INDIRECT FIELD COSTS				$6,048,100		$8,003,400	$14,051,500
SOIL/WATER/AIR				$30,400		$56,500	$86,900
G&A (HO EXP)							$140,500
PROJ.MGMT-FERMCO							$1,124,100
ENGINEERING	TITLE I TITLE II TITLE III						$4,649,400
ENGINEERING/FIELD SUPPORT/SUBCONTRACTS							$6,000,900
TOTAL FIELD & ENGINEERING COSTS							$20,052,400
SALES TAX	6.0% $8,003,400						$480,200
SUB-TOTAL							$20,532,600
ESCALATION							
SUB-TOTAL							$20,532,600
CONTINGENCY	20.0%						$4,106,500
TOTAL ESTIMATED INSTALLED COST	(FPSC bid w/cont.-)						$24,639,100

PRELIMINARY

0061

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 7 (BLDG 9A,9B,9C,9D,9E,9F,32A,32B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	STRUCTURAL STEEL DEMOLITION												
	STRUCTURAL & MISC. STEEL	502	TONS	23.9	11,993	18.80				$225,468			$225,468
	SUB TOTAL (STRUCTURAL STEEL)	502	TONS		11,993					$225,468			$225,468
	TAKE – OFF ALLOWANCE 10%	50	TONS		1,199					$22,550			$22,550
	TOTAL (STRUCTURAL STEEL)	552	TONS		13,192					$248,000			$248,000

0062

- 5445

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 7 (BLDG 9A,9B,9C,9D,9E,9F,32A,32B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	BUILDINGS												
	DUCTWORK DEMOLITION (AVE. 24x18)	5,814	LF	1.03	6,000	17.64				$105,800			$105,800
	INTERIOR TRANSITE PANELS (AVE. .5" THICK)	22,075	SF	0.21	4,547	17.64				$80,200			$80,200
	EXTERIOR TRANSITE PANELS (AVE. .5" THICK)	56,942	SF	0.26	14,748	17.64				$260,200			$260,200
	EXTERIOR METAL WALL PANELS (AVE. .5" THICK)	1,349	SF	0.20	263	17.64				$4,600			$4,600
	MASONRY WALLS (AVE. 8" THICK)	8,719	SF	0.29	2,520	17.64				$44,500			$44,500
	ROOFING (BUILT-UP) (AVE. 2" THICK)	20,505	SF	1.04	21,325	17.64			$2.61	$376,200		$53,500	$429,700
	ROOFING (METAL PANELS) (AVE. .5" THICK)	519	SF	0.20	101	17.64				$1,800			$1,800
	DOORS & WINDOWS	53	EA	3.26	173	17.64				$3,100			$3,100
	MISC. DEBRIS(FIXTURES ETC.)	1,340	CF	0.24	320	17.64				$5,600			$5,600
	SUB TOTAL (BUILDINGS)				49,997					$882,000		$53,500	$935,500
	TAKE – OFF ALLOWANCE 10%				5,000					88,200		5,350	$93,550
	TOTAL (BUILDINGS)				54,997					$970,200		$58,900	$1,029,100

0063

5449

CONTR.NO.– ,321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 7 (BLDG 9A,9B,9C,9D,9E,9F,32A,32B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	MACHINERY & EQUIPMENT DEMOLITION												
	PROCESS EQUIPMENT	895	TONS	42.7	38,217	19.75				$754,800			$754,800
	HVAC EQUIPMENT	150	TONS	42.7	6,405	19.75				$126,500			$126,500
	ELECTRICAL EQUIPMENT	47	TONS	42.7	2,007	19.75				$39,600			$39,600
	MATERIAL HANDLING EQUIPMENT	17	TONS	42.7	726	19.75				$14,300			$14,300
	EXTERIOR EQUIPMENT	6	TONS	42.7	256	19.75				$5,100			$5,100
	SUB–TOTAL	1,115	TONS		47,611					$940,300			$940,300
	TAKE – OFF ALLOWANCE 10%	112	TONS		4,761					$94,030			$94,030
	TOTAL (MACH. & EQUIP.)	1,227	TONS		52,372					$1,034,300			$1,034,300

0064

5445

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 7 (BLDG 9A,9B,9C,9D,9E,9F,32A,32B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	ELECTRICAL DEMOLITION												
	CONDUIT & WIRE	22,820	LF	0.142	3,240	18.09				$58,612			$58,612
	SUB TOTAL (ELECTRICAL)	22,820	LF		3,240					58,612			$58,612
	TAKE – OFF ALLOWANCE 10%	2,282	LF		324					5,861			$5,860
	TOTAL (ELECTRICAL)	25,102	LF		3,564					$64,500			$64,500

0065

- 5445

CONTR.NO.– .4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 7 (BLDG 9A,9B,9C,9D,9E,9F,32A,32B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PIPING DEMOLITION												
	PIPING DEMOLITION (AVG. 2" DIA)	9,415	LF	0.358	3,371	19.00				$64,041			$64,041
	SUB TOTAL (PIPING)	9,415	LF		3,371					$64,041			$64,041
	TAKE – OFF ALLOWANCE 10%	942	LF		300					$6,400			$6,400
	TOTAL (PIPING)	10,357	LF		3,671					$70,400			$70,400

0066

- 5445

CONTR.NO.– ..24321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 7 (BLDG 9A,9B,9C,9D,9E,9F,32A,32B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PAINTING & SCAFFOLDING												
	PAINT CONTAINMENT FOR TYPE A (MANHOURS)	47,378	SF	0.035	1658	16.43				$27,241			$27,241
	PAINT CONTAINMENT FOR TYPE A (MATERIAL)	158	GAL						25.00			$3,950	$3,950
	SUB TOTAL (PAINT & SCAFFOLD)	47,536	SF		1,658					$27,241		$3,950	$31,191
	TAKE – OFF ALLOWANCE 10%	4,738	SF		166					$2,720		$400	$3,120
	TOTAL (PAINT & SCAFFOLD)	52,274	SF		1,824					$30,000		$4,400	$34,400

0067

- 5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 7 (BLDG 9A,9B,9C,9D,9E,9F,32A,32B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	INSULATION DEMOLITION												
	PIPING ASBESTOS REMOVAL (AVE. 1" THICK)	942	LF	19.00	17,898	17.39			232.00	$311,246		$218,544	$529,790
	WALL INSULATION REMOVAL (AVE. 2" THICK)	17,529	SF	0.05	859	18.53				$15,917			$15,917
	SUB TOTAL (INSULATION)	18,471	SF		18,757					$327,163		$218,544	$545,707
	TAKE – OFF ALLOWANCE 10%	1,753	SF		1,876					$32,720		$21,850	$54,570
	TOTAL (INSULATION)	20,224	SF		20,633					$359,900		$240,400	$600,300

0068

5445

EST FILE #: 5445

CLIENT: US DOE

PROJECT TITLE:

FERMCO ESTIMATING SERVICES

SUMMARY SHEET

D&D PACKAGE #8

DATE: 05-Aug-93

ESTIMATOR: S.S., P.L., T.P. & A.S.

LOCATION: FERNALD

REV: 2

CODE	ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	TOTAL $
	EXCAVATION						
	CONCRETE	28,142	17.56	$494,155			$494,200
	STRUCTURAL STEEL	14,952	18.80	$281,100			$281,100
	BUILDINGS	30,413	17.64	$536,600		$11,000	$547,600
	MACHINERY AND EQUIPMENT	136,683	19.75	$2,699,400			$2,699,400
	PIPING	13,576	19.00	$258,700			$258,700
	ELECTRICAL	8,287	18.09	$149,900			$149,900
	INSTRUMENTS						
	PAINTING AND SCAFFOLD	2,329	16.43	$38,300		$5,600	$43,900
	INSULATION	72,251	18.53	$1,256,400		$882,200	$2,138,600
	SEA/LAND CONTAINERS (20'x8'x8')($5,100 EA)(466 EA)					$2,376,600	$2,376,600
	HAUL SEA/LAND CONTAINERS (4 MILE ROUND TRIP)	932	19.49	$18,165			$18,200
DIRECT FIELD COSTS		307,565		$5,732,700		$3,275,400	$9,008,200
SUPERVISION – CONTRACTOR				$975,000			$975,000
SM TOOLS/CONSM'BLS						$344,000	$344,000
EQUIPMENT RENTAL						$1,591,000	$1,591,000
TEMP. FACILITIES				$120,400		$223,600	$344,000
TEMP UTL'S HOOK-UP				$60,200		$111,800	$172,000
JOB CLEAN-UP				$120,400		$223,600	$344,000
TY				$60,200		$111,800	$172,000
LTH PHYSICS				$353,400		$7,689,137	$8,042,500
CERCLA	$1,500 PER PERSON					$230,700	$230,700
BOND						$90,100	$90,100
OVERHEAD & PROFIT						$1,918,200	$1,918,200
EMISSION MODELING				$15,800		$29,300	$45,100
PSAR/FSAR(SAFE RPT)				$15,800		$29,300	$45,100
PAYRL BRD.&BENFT.				$3,876,000			$3,876,000
CONSTR MGMT				$1,087,900			$1,087,900
INDIRECT FIELD COSTS				$6,685,100		$12,592,500	$19,277,600
DIRECT & INDIRECT FIELD COSTS				$12,417,800		$15,867,900	$28,285,800
SOIL/WATER/AIR				$63,100		$117,100	$180,200
G&A (HO EXP)							$282,900
PROJ.MGMT-FERMCO							$2,262,900
ENGINEERING	TITLE I	TITLE II		TITLE III			$9,638,800
ENGINEERING/FIELD SUPPORT/SUBCONTRACTS							$12,364,800
TOTAL FIELD & ENGINEERING COSTS							$40,650,600
SALES TAX	6.0%	$15,867,900					$952,100
SUB-TOTAL							$41,602,700
ESCALATION							
SUB-TOTAL							$41,602,700
CONTINGENCY	20.0%						$8,320,500
TOTAL ESTIMATED INSTALLED COST	(FPSC bid w/cont.-)						$49,923,200

PRELIMINARY

0069

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 8 (BLDG 10A,10B,10E,19A,19C,19D,19E,20A,20B,20H)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	CONCRETE DEMOLITION												
	CONCRETE ABOVE GRADE	466	CY	54.9	25,584	17.56				$449,255			$449,255
	SUB–TOTAL (CONCRETE DEMOLITION)	466	CY		25,584					$449,255			$449,255
	TAKE–OFF ALLOWANCE 10%	47	CY		2,558					$44,900			
	TOTAL (CONCRETE)	513	CY		28,142					$494,155			$494,155

0070

5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 8 (BLDG 10A,10B,10E,19A,19C,19D,19E,20A,20B,20H)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	STRUCTURAL STEEL DEMOLITION												
	STRUCTURAL & MISC. STEEL	569	TONS	23.9	13,593	18.80				$255,548			$255,548
	SUB TOTAL (STRUCTURAL STEEL)	569	TONS		13,593					$255,548			$255,548
	TAKE – OFF ALLOWANCE 10%	57	TONS		1,359					$25,550			$25,550
	TOTAL (STRUCTURAL STEEL)	626	TONS		14,952					$281,100			$281,100

0071

5449

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 8 (BLDG 10A,10B,10E,19A,19C,19D,19E,20A,20B,20H)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	BUILDINGS												
	DUCTWORK DEMOLITION (AVE. 24x18)	4,328	LF	1.03	4,466	17.64				$78,800			$78,800
	INTERIOR TRANSITE PANELS (AVE. .5" THICK)	14,080	SF	0.21	2,900	17.64				$51,200			$51,200
	EXTERIOR TRANSITE PANELS (AVE. .5" THICK)	46,483	SF	0.26	12,039	17.64				$212,400			$212,400
	EXTERIOR METAL WALL PANELS (AVE. .5" THICK)	8,276	SF	0.20	1,614	17.64				$28,500			$28,500
	MASONRY WALLS (AVE. 8" THICK)	3,488	SF	0.29	1,008	17.64				$17,800			$17,800
	ROOFING (BUILT–UP) (AVE. 2" THICK)	3,822	SF	1.04	3,975	17.64			$2.61	$70,100		$10,000	$80,100
	ROOFING (METAL PANELS) (AVE. .5" THICK)	4,301	SF	0.20	839	17.64				$14,800			$14,800
	DOORS & WINDOWS	86	EA	3.26	280	17.64				$4,900			$4,900
	MISC. DEBRIS(FIXTURES ETC.)	2,203	CF	0.24	527	17.64				$9,300			$9,300
	SUB TOTAL (BUILDINGS)				27,648					$487,800		$10,000	$497,800
	TAKE – OFF ALLOWANCE 10%				2,765					48,780		1,000	$49,780
	TOTAL (BUILDINGS)				30,413					$536,600		$11,000	$547,600

0072

5445

CONTR.NO.- ,321
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- D&D PACKAGE 8 (BLDG 10A,10B,10E,19A,19C,19D,19E,20A,20B,20H)
LOCATION- FERNALD, OHIO
PROJ.CTL.-

BUDGET ESTIMATE DETAILS

CONTR.NO.- 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	MACHINERY & EQUIPMENT DEMOLITION												
	PROCESS EQUIPMENT	2,879	TONS	42.7	122,933	19.75				$2,427,900			$2,427,900
	EXTERIOR EQUIPMENT	31	TONS	42.7	1,324	19.75				$26,100			$26,100
	SUB-TOTAL	2,910	TONS		124,257					$2,454,000			$2,454,000
	TAKE - OFF ALLOWANCE 10%	291	TONS		12,426					$245,400			$245,400
	TOTAL (MACH. & EQUIP.)	3,201	TONS		136,683					$2,699,400			$2,699,400

00173

5445

CONTR.NO. 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 8 (BLDG 10A,10B,10E,19A,19C,19D,19E,20A,20B,20H)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PIPING DEMOLITION												
	PIPING DEMOLITION (AVG. 2" DIA)	34,570	LF	0.358	12,376	19.00				$235,145			$235,145
	SUB TOTAL (PIPING)	34,570	LF		12,376					$235,145			$235,145
	TAKE – OFF ALLOWANCE 10%	3,457	LF		1,200					$23,510			$23,510
	TOTAL (PIPING)	38,027	LF		13,576					$258,700			$258,700

0074

5443

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 8 (BLDG 10A,10B,10E,19A,19C,19D,19E,20A,20B,20H)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	ELECTRICAL DEMOLITION												
	CONDUIT & WIRE	53,059	LF	0.142	7,534	18.09				$136,290			$136,290
	SUB TOTAL (ELECTRICAL)	53,059	LF		7,534					136,290			$136,290
	TAKE – OFF ALLOWANCE 10%	5,306	LF		753					13,629			$13,630
	TOTAL (ELECTRICAL)	58,365	LF		8,287					$149,900			$149,900

0073

5445

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 8 (BLDG 10A,10B,10E,19A,19C,19D,19E,20A,20B,20H)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PAINTING & SCAFFOLDING												
	PAINT CONTAINMENT FOR TYPE A (MANHOURS)	60,491	SF	0.035	2117	16.43				$34,782			$34,782
	PAINT CONTAINMENT FOR TYPE A (MATERIAL)	202	GAL						25.00			$5,050	$5,050
	SUB TOTAL (PAINT & SCAFFOLD)	60,693	SF		2,117					$34,782		$5,050	$39,832
	TAKE – OFF ALLOWANCE 10%	6,049	SF		212					$3,480		$510	$3,990
	TOTAL (PAINT & SCAFFOLD)	66,742	SF		2,329					$38,300		$5,600	$43,900

0076

5445

CONTR.NO.– .4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 8 (BLDG 10A,10B,10E,19A,19C,19D,19E,20A,20B,20H)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	INSULATION DEMOLITION												
	PIPING ASBESTOS REMOVAL (AVE. 1" THICK)	3,457	LF	19.00	65,683	17.39			232.00	$1,142,227		$802,024	$1,944,251
	SUB TOTAL (INSULATION)	3,457	SF		65,683					$1,142,227		$802,024	$1,944,251
	TAKE – OFF ALLOWANCE 10%	346	SF		6,568					$114,220		$80,200	$194,420
	TOTAL (INSULATION)	3,803	SF		72,251					$1,256,400		$882,200	$2,138,600

EST FILE #: 5445

CLIENT: US DOE

PROJECT TITLE:

FERMCO ESTIMATING SERVICES

SUMMARY SHEET

D&D PACKAGE #9

DATE: 05-Aug-93

ESTIMATOR: S.S., P.L., T.P. & A.S.

LOCATION: FERNALD

REV: 2

CODE	ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	TOTAL $
	EXCAVATION						
	CONCRETE	4,227	17.56	$74,183			$74,200
	STRUCTURAL STEEL	6,465	18.80	$121,500			$121,500
	BUILDINGS	56,531	17.64	$997,300		$33,800	$1,031,100
	MACHINERY AND EQUIPMENT	4,086	19.75	$80,700			$80,700
	PIPING	2,608	19.00	$50,300			$50,300
	ELECTRICAL	4,008	18.09	$72,500			$72,500
	INSTRUMENTS						
	PAINTING AND SCAFFOLD	6,354	16.43	$104,400		$15,100	$119,500
	INSULATION	14,066	18.53	$244,600		$171,700	$416,300
	SEA/LAND CONTAINERS (20'x8'x8')($5,100 EA)(91 EA)					$464,100	$464,100
	HAUL SEA/LAND CONTAINERS (4 MILE ROUND TRIP)	182	19.49	$3,547			$3,500
DIRECT FIELD COSTS		98,527		$1,749,000		$684,700	$2,433,700
SUPERVISION - CONTRACTOR				$297,000			$297,000
SM TOOLS/CONSM'BLS						$104,900	$104,900
EQUIPMENT RENTAL						$859,300	$859,300
TEMP. FACILITIES				$36,700		$68,200	$104,900
TEMP UTL'S HOOK-UP				$18,400		$34,100	$52,500
JOB CLEAN-UP				$36,700		$68,200	$104,900
TY				$18,400		$34,100	$52,500
ALTH PHYSICS				$107,800		$2,463,187	$2,571,000
CERCLA	$1,500 PER PERSON					$73,900	$73,900
BOND						$24,300	$24,300
OVERHEAD & PROFIT						$601,100	$601,100
EMISSION MODELING				$4,300		$7,900	$12,200
PSAR/FSAR(SAFE RPT)				$4,300		$7,900	$12,200
PAYRL BRD.&BENFT.				$1,181,800			$1,181,800
CONSTR MGMT				$339,400			$339,400
INDIRECT FIELD COSTS				$2,044,800		$4,347,100	$6,391,900
DIRECT & INDIRECT FIELD COSTS				$3,793,800		$5,031,800	$8,825,600
SOIL/WATER/AIR				$17,000		$31,600	$48,600
G&A (HO EXP)							$88,300
PROJ.MGMT-FERMCO							$706,000
ENGINEERING	TITLE I	TITLE II		TITLE III			$2,604,100
ENGINEERING/FIELD SUPPORT/SUBCONTRACTS							$3,447,000
TOTAL FIELD & ENGINEERING COSTS							$12,272,600
SALES TAX	6.0%	$5,031,800					$301,900
SUB-TOTAL							$12,574,500
ESCALATION							
SUB-TOTAL							$12,574,500
CONTINGENCY	20.0%						$2,514,900
TOTAL ESTIMATED INSTALLED COST	(FPSC bid w/cont.-)						$15,089,400

PRELIMINARY

CONTR.NO.- 4424321
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- D&D PACKAGE 9 (BLDG 12A,12B,12C,12D,24B,38A,38B)
LOCATION- FERNALD, OHIO
PROJ.CTL.-

BUDGET ESTIMATE DETAILS

CONTR.NO.- 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	CONCRETE DEMOLITION												
	CONCRETE ABOVE GRADE	70	CY	54.9	3,843	17.56				$67,483			$67,483
	SUB-TOTAL (CONCRETE DEMOLITION)	70	CY		3,843					$67,483			$67,483
	TAKE-OFF ALLOWANCE 10%	7	CY		384					$6,700			
	TOTAL (CONCRETE)	77	CY		4,227					$74,183			$74,183

0079

5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 9 (BLDG 12A,12B,12C,12D,24B,38A,38B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	STRUCTURAL STEEL DEMOLITION												
	STRUCTURAL & MISC. STEEL	246	TONS	23.9	5,877	18.80				$110,488			$110,488
	SUB TOTAL (STRUCTURAL STEEL)	246	TONS		5,877					$110,488			$110,488
	TAKE – OFF ALLOWANCE 10%	25	TONS		588					$11,050			$11,050
	TOTAL (STRUCTURAL STEEL)	271	TONS		6,465					$121,500			$121,500

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CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 9 (BLDG 12A,12B,12C,12D,24B,38A,38B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	BUILDINGS												
	DUCTWORK DEMOLITION (AVE. 24x18)	2,244	LF	1.03	2,316	17.64				$40,900			$40,900
	EXTERIOR TRANSITE PANELS (AVE. .5" THICK)	82,509	SF	0.26	21,370	17.64				$377,000			$377,000
	EXTERIOR METAL WALL PANELS (AVE. .5" THICK)	8,390	SF	0.20	1,636	17.64				$28,900			$28,900
	MASONRY WALLS (AVE. 8" THICK)	38,563	SF	0.29	11,145	17.64				$196,600			$196,600
	ROOFING (BUILT–UP) (AVE. 2" THICK)	11,748	SF	1.04	12,218	17.64			$2.61	$215,500		$30,700	$246,200
	ROOFING (METAL PANELS) (AVE. .5" THICK)	10,357	SF	0.20	2,020	17.64				$35,600			$35,600
	DOORS & WINDOWS	85	EA	3.26	277	17.64				$4,900			$4,900
	MISC. DEBRIS(FIXTURES ETC.)	1,715	CF	0.24	410	17.64				$7,200			$7,200
	SUB TOTAL (BUILDINGS)				51,392					$906,600		$30,700	$937,300
	TAKE – OFF ALLOWANCE 10%				5,139					90,660		3,070	$93,730
	TOTAL (BUILDINGS)				56,531					$997,300		$33,800	$1,031,100

0081

5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 9 (BLDG 12A,12B,12C,12D,24B,38A,38B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	MACHINERY & EQUIPMENT DEMOLITION												
	PROCESS EQUIPMENT	87	TONS	42.7	3,715	19.75				$73,400			$73,400
	SUB–TOTAL	87	TONS		3,715					$73,400			$73,400
	TAKE – OFF ALLOWANCE 10%	9	TONS		371					$7,340			$7,340
	TOTAL (MACH. & EQUIP.)	96	TONS		4,086					$80,700			$80,700

0082

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CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 9 (BLDG 12A,12B,12C,12D,24B,38A,38B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	ELECTRICAL DEMOLITION												
	CONDUIT & WIRE	25,660	LF	0.142	3,644	18.09				$65,920			$65,920
	SUB TOTAL (ELECTRICAL)	25,660	LF		3,644					65,920			$65,920
	TAKE – OFF ALLOWANCE 10%	2,566	LF		364					6,592			$6,590
	TOTAL (ELECTRICAL)	28,226	LF		4,008					$72,500			$72,500

0083

5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 9 (BLDG 12A,12B,12C,12D,24B,38A,38B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PIPING DEMOLITION												
	PIPING DEMOLITION (AVG. 2" DIA)	6,727	LF	0.358	2,408	19.00				$45,757			$45,757
	SUB TOTAL (PIPING)	6,727	LF		2,408					$45,757			$45,757
	TAKE – OFF ALLOWANCE 10%	673	LF		200					$4,580			$4,580
	TOTAL (PIPING)	7,400	LF		2,608					$50,300			$50,300

0084

5445

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 9 (BLDG 12A,12B,12C,12D,24B,38A,38B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PAINTING & SCAFFOLDING												
	PAINT CONTAINMENT FOR TYPE A (MANHOURS)	165,018	SF	0.035	5,776	16.43				$94,900			$94,900
	PAINT CONTAINMENT FOR TYPE A (MATERIAL)	550	GAL						25.00			$13,750	$13,750
	SUB TOTAL (PAINT & SCAFFOLD)	165,568	SF		5,776					$94,900		$13,750	$108,650
	TAKE – OFF ALLOWANCE 10%	16,502	SF		578					$9,490		$1,380	$10,870
	TOTAL (PAINT & SCAFFOLD)	182,070	SF		6,354					$104,400		$15,100	$119,500

0083

No 5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 9 (BLDG 12A,12B,12C,12D,24B,38A,38B)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	INSULATION DEMOLITION												
	PIPING ASBESTOS REMOVAL (AVE. 1" THICK)	673	LF	19.00	12,787	17.39			232.00	$222,366		$156,136	$378,502
	SUB TOTAL (INSULATION)	673	LF		12,787					$222,366		$156,136	$378,502
	TAKE – OFF ALLOWANCE 10%	67	LF		1,279					$22,240		$15,610	$37,850
	TOTAL (INSULATION)	740	LF		14,066					$244,600		$171,700	$416,300

0086

5445

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ESTIMATING SERVICES

5445

EST FILE #:
CLIENT: US DOE
PROJECT TITLE:

SUMMARY SHEET
D&D PACKAGE #10

DATE: 05-Aug-93
ESTIMATOR: S.S., P.L., T.P. & A.S.
LOCATION: FERNALD
REV: 2

DE	ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	TOTAL $
	EXAVATION						
	CONCRETE	262,284	17.56	$4,605,706			$4,605,700
	STRUCTURAL STEEL	9,535	18.80	$179,300			$179,300
	BUILDINGS	364,450	17.64	$6,429,000		$592,700	$7,021,700
	MACHINERY AND EQUIPMENT	19,727	19.75	$389,600			$389,600
	PIPING	8,142	19.00	$155,500			$155,500
	ELECTRICAL	20,219	18.09	$365,800			$365,800
	INSTRUMENTS						
	PAINTING AND SCAFFOLD						
	INSULATION	70,066	18.53	$1,218,700		$852,400	$2,071,100
	SEA/LAND CONTAINERS (20'x8'x8')($5,100 EA)(1162 EA)					$5,926,200	$5,926,200
	HAUL SEA/LAND CONTAINERS (4 MILE ROUND TRIP)	2,324	19.49	$45,295			$45,300
DIRECT FIELD COSTS		756,747		$13,388,900		$7,371,300	$20,760,200
SUPERVISION - CONTRACTOR				$2,276,000			$2,276,000
SM TOOLS/CONSM'BLS						$803,300	$803,300
EQUIPMENT RENTAL						$3,163,100	$3,163,100
TEMP. FACILITIES				$281,200		$522,200	$803,400
TEMP UTL'S HOOK-UP				$140,600		$261,100	$401,700
JOB CLEAN-UP				$281,200		$522,200	$803,400
'ETY				$140,600		$261,100	$401,700
ALTH PHYSICS				$825,400		$18,918,685	$19,744,100
CERCLA	$1,500 PER PERSON					$567,600	$567,600
BOND						$207,600	$207,600
OVERHEAD & PROFIT						$4,493,900	$4,493,900
EMISSION MODELING				$36,300		$67,500	$103,800
PSAR/FSAR(SAFE RPT)				$36,300		$67,500	$103,800
PAYRL BRD.&BENFT.				$9,051,400			$9,051,400
CONSTR MGMT				$2,547,400			$2,547,400
INDIRECT FIELD COSTS				$15,616,400		$29,855,800	$45,472,200
DIRECT & INDIRECT FIELD COSTS				$29,005,300		$37,227,100	$66,232,400
SOIL/WATER/AIR				$145,300		$269,900	$415,200
G&A (HO EXP)							$662,300
PROJ.MGMT-FERMCO							$5,298,600
ENGINEERING	TITLE I	TITLE II		TITLE III			$22,213,400
ENGINEERING/FIELD SUPPORT/SUBCONTRACTS							$28,589,500
TOTAL FIELD & ENGINEERING COSTS							$94,821,900
SALES TAX	6.0%	$37,227,100					$2,233,600
SUB-TOTAL							$97,055,500
ESCALATION							
SUB-TOTAL							$97,055,500
CONTINGENCY	20.0%						$19,411,100
TOTAL ESTIMATED INSTALLED COST	(FPSC bid w/cont.-)						$116,466,600

PRELIMINARY

0087

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 10 (BLDG 11,14A,15A,15B,28A,28B,44A,44C,44D,44E,45A,45B,53A,53B,T1–T99)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	CONCRETE DEMOLITION												
	DIRTY BUILDINGS												
	CONCRETE ABOVE GRADE	2,221	CY	54.9	121,937	17.56				$2,141,214			$2,141,214
	CLEAN BUILDINGS (11,14A,28A,28B,53A)												
	CONCRETE ABOVE GRADE	5,305	CY	22.0	116,503	17.56				$2,045,793			$2,045,793
	SUB–TOTAL (CONCRETE DEMOLITION)	7,526	CY		238,440					$4,187,006			$4,187,006
	TAKE–OFF ALLOWANCE 10%	753	CY		23,844					$418,700			$418,700
	TOTAL (CONCRETE)	8,279	CY		262,284					$4,605,706			$4,605,706

0088

- 5445

CONTR.NO.– .4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 10 (BLDG 11,14A,15A,15B,28A,28B,44A,44C,44D,44E,45A,45B,53A,53B,T1–T99)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	STRUCTURAL STEEL DEMOLITION												
	DIRTY BUILDINGS												
	STRUCTURAL & MISC. STEEL	330	TONS	23.9	7,884	18.80				$148,219			$148,219
	CLEAN BUILDINGS (11,14A,28A,28B,53A)												
	STRUCTURAL & MISC. STEEL	82	TONS	9.6	784	18.80				$14,739			$14,739
	SUB TOTAL (STRUCTURAL STEEL)	412	TONS		8,668					$162,958			$162,958
	TAKE – OFF ALLOWANCE 10%	41	TONS		867					$16,300			$16,300
	TOTAL (STRUCTURAL STEEL)	453	TONS		9,535					$179,300			$179,300

0089

5445

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 10 (BLDG 11,14A,15A,15B,28A,28B,44A,44C,44D,44E,45A,45B,53A,53B,T1–T99)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	BUILDINGS												
	DIRTY BUILDINGS												
	DUCTWORK DEMOLITION (AVE. 24x18)	8,261	LF	1.03	8,525	17.64				$150,400			$150,400
	EXTERIOR METAL WALL PANELS (AVE. .5" THICK)	3,610	SF	0.20	704	17.64				$12,400			$12,400
	MASONRY WALLS (AVE. 8" THICK)	66,383	SF	0.29	19,185	17.64				$338,400			$338,400
	ROOFING (BUILT–UP) (AVE. 2" THICK)	97,890	SF	1.04	101,806	17.64			$2.61	$1,795,900		$255,500	$2,051,400
	ROOFING (METAL PANELS) (AVE. .5" THICK)	16,295	SF	0.20	3,178	17.64				$56,100			$56,100
	DOORS & WINDOWS	117	EA	3.26	382	17.64				$6,700			$6,700
	MISC. DEBRIS(FIXTURES ETC.)	250,397	CF	0.24	59,845	17.64				$1,055,700			$1,055,700
	CLEAN BUILDINGS (11,14A,28A,28B,53A)												
	DUCTWORK DEMOLITION (AVE. 24x18)	13,277	LF	0.41	5,483	17.64				$96,700			$96,700
	MASONRY WALLS (AVE. 8" THICK)	134,375	SF	0.12	15,453	17.64				$272,600			$272,600
	ROOFING (BUILT–UP) (AVE. 2" THICK)	108,556	SF	1.04	112,898	17.64			$2.61	$1,991,500		$283,300	$2,274,800
	DOORS & WINDOWS	120	EA	1.30	156	17.64				$2,800			$2,800
	MISC. DEBRIS(FIXTURES ETC.)	38,577	CF	0.10	3,703	17.64				$65,300			$65,300
	SUB TOTAL (BUILDINGS)				331,318					$5,844,500		$538,800	$6,383,300
	TAKE – OFF ALLOWANCE 10%				33,132					584,450		53,880	$638,330
	TOTAL (BUILDINGS)				364,450					$6,429,000		$592,700	$7,021,700

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5445

CONTR.NO.– .4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 10 (BLDG 11,14A,15A,15B,28A,28B,44A,44C,44D,44E,45A,45B,53A,53B,T1–T99)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	MACHINERY & EQUIPMENT DEMOLITION												
	PROCESS EQUIPMENT	292	TONS	42.7	12,468	19.75				$246,300			$246,300
	EXTERIOR EQUIPMENT	128	TONS	42.7	5,466	19.75				$107,900			$107,900
	SUB–TOTAL	420	TONS		17,934					$354,200			$354,200
	TAKE – OFF ALLOWANCE 10%	42	TONS		1,793					$35,420			$35,420
	TOTAL (MACH. & EQUIP.)	462	TONS		19,727					$389,600			$389,600

0091

5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 10 (BLDG 11,14A,15A,15B,28A,28B,44A,44C,44D,44E,45A,45B,53A,53B,T1–T99)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PIPING DEMOLITION												
	DIRTY BUILDINGS												
	PIPING DEMOLITION (AVG. 2" DIA)	12,401	LF	0.358	4,440	19.00				$84,352			$84,352
	CLEAN BUILDINGS (11,14A,28A,28B,53A)												
	PIPING DEMOLITION (AVG. 2" DIA)	20,999	LF	0.143	3,003	19.00				$57,054			$57,054
	SUB TOTAL (PIPING)	33,400	LF		7,442					$141,406			$141,406
	TAKE – OFF ALLOWANCE 10%	3,340	LF		700					$14,140			$14,140
	TOTAL (PIPING)	36,740	LF		8,142					$155,500			$155,500

0092

54453

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 10 (BLDG 11,14A,15A,15B,28A,28B,44A,44C,44D,44E,45A,45B,53A,53B,T1–T99)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	ELECTRICAL DEMOLITION												
	DIRTY BUILDINGS												
	CONDUIT & WIRE	81,269	LF	0.142	11,540	18.09				$208,759			$208,759
	CLEAN BUILDINGS (11,14A,28A,28B,53A)												
	CONDUIT & WIRE	120,015	LF	0.057	6,841	18.09				$123,754			$123,754
	SUB TOTAL (ELECTRICAL)	201,284	LF		18,381					332,512			$332,512
	TAKE – OFF ALLOWANCE 10%	20,128	LF		1,838					33,251			$33,250
	TOTAL (ELECTRICAL)	221,412	LF		20,219					$365,800			$365,800

0093

- 5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 10 (BLDG 11,14A,15A,15B,28A,28B,44A,44C,44D,44E,45A,45B,53A,53B,T1–T99)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	INSULATION DEMOLITION												
	DIRTY BUILDINGS												
	PIPING ASBESTOS REMOVAL (AVE. 1" THICK)	1,240	LF	19.00	23,560	17.39			232.00	$409,708		$287,680	$697,388
	WALL INSULATION REMOVAL (AVE. 2" THICK)	4,811	SF	0.05	236	18.53				$4,373			$4,373
	CLEAN BUILDINGS (11,14A,28A,28B,53A)												
	PIPING ASBESTOS REMOVAL (AVE. 1" THICK)	2,100	LF	19.00	39,900	17.39			232.00	$693,861		$487,200	$1,181,061
	SUB TOTAL (INSULATION)	1,240	SF		63,696					$1,107,942		$774,880	$1,882,822
	TAKE – OFF ALLOWANCE 10%	124	SF		6,370					$110,790		$77,490	$188,280
	TOTAL (INSULATION)	1,364	SF		70,066					$1,218,700		$852,400	$2,071,100

0094

5445

EST FILE #:
CLIENT: US DOE
PROJECT TITLE:

F ERMC O
ESTIMATING SERVICES

SUMMARY SHEET
D&D PACKAGE #11

DATE: 05-Aug-93
ESTIMATOR: S.S., P.L., T.P. & A.S.
LOCATION: FERNALD
REV: 2

CODE	ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	TOTAL $
	EXAVATION						
	CONCRETE	51,756	17.56	$908,816			$908,800
	STRUCTURAL STEEL	19,735	18.80	$371,000			$371,000
	BUILDINGS	47,139	17.64	$831,500		$8,000	$839,500
	MACHINERY AND EQUIPMENT	144,620	19.75	$2,856,300			$2,856,300
	PIPING	13,133	19.00	$249,400			$249,400
	ELECTRICAL	5,295	18.09	$95,800			$95,800
	INSTRUMENTS						
	PAINTING AND SCAFFOLD	2,728	16.43	$44,800		$6,500	$51,300
	INSULATION	70,981	18.53	$1,235,900		$850,600	$2,086,500
	SEA/LAND CONTAINERS (20'x8'x8')($5,100 EA)(546 EA)					$2,784,600	$2,784,600
	HAUL SEA/LAND CONTAINERS (4 MILE ROUND TRIP)	1,092	19.49	$21,283			$21,300
DIRECT FIELD COSTS		**356,479**		**$6,614,800**		**$3,649,700**	**$10,264,500**
SUPERVISION - CONTRACTOR				$1,125,000			$1,125,000
SM TOOLS/CONSM'BLS						$396,900	$396,900
EQUIPMENT RENTAL						$1,762,200	$1,762,200
TEMP. FACILITIES				$138,900		$258,000	$396,900
TEMP UTL'S HOOK-UP				$69,500		$129,000	$198,500
JOB CLEAN-UP				$138,900		$258,000	$396,900
ETY				$69,500		$129,000	$198,500
ALTH PHYSICS				$407,800		$8,911,981	$9,319,800
CERCLA	$1,500 PER PERSON					$267,400	$267,400
BOND						$102,600	$102,600
OVERHEAD & PROFIT						$2,198,600	$2,198,600
EMISSION MODELING				$18,000		$33,400	$51,400
PSAR/FSAR(SAFE RPT)				$18,000		$33,400	$51,400
PAYRL BRD.&BENFT.				$4,472,200			$4,472,200
CONSTR MGMT				$1,248,100			$1,248,100
INDIRECT FIELD COSTS				**$7,705,900**		**$14,480,500**	**$22,186,400**
DIRECT & INDIRECT FIELD COSTS				**$14,320,700**		**$18,130,200**	**$32,450,900**
SOIL/WATER/AIR				$71,900		$133,400	$205,300
G&A (HO EXP)							$324,500
PROJ.MGMT-FERMCO							$2,596,100
ENGINEERING	TITLE I	TITLE II		TITLE III			$10,983,000
ENGINEERING/FIELD SUPPORT/SUBCONTRACTS							**$14,108,900**
TOTAL FIELD & ENGINEERING COSTS							**$46,559,800**
SALES TAX	6.0%	$18,130,200					$1,087,800
SUB-TOTAL							**$47,647,600**
ESCALATION							
SUB-TOTAL							**$47,647,600**
CONTINGENCY	20.0%						$9,529,500
TOTAL ESTIMATED INSTALLED COST	(FPSC bid w/cont.-)						**$57,177,100**

PRELIMINARY

0095

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 11 (BLDG 8A,8B,8C,8D,8E,8F,18B,18D,18H,25A,25B,25C,25D,25E,25G)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	CONCRETE DEMOLITION												
	CONCRETE ABOVE GRADE	857	CY	54.9	47,051	17.56				$826,216			$826,216
	SUB–TOTAL (CONCRETE DEMOLITION)	857	CY		47,051					$826,216			$826,216
	TAKE–OFF ALLOWANCE 10%	86	CY		4,705					$82,600			$82,600
	TOTAL (CONCRETE)	943	CY		51,756					$908,816			$908,816

0096

5448

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 11 (BLDG 8A,8B,8C,8D,8E,8F,18B,18D,18H,25A,25B,25C,25D,25E,25G)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	STRUCTURAL STEEL DEMOLITION												
	STRUCTURAL & MISC. STEEL	751	TONS	23.9	17,941	18.80				$337,291			$337,291
	SUB TOTAL (STRUCTURAL STEEL)	751	TONS		17,941					$337,291			$337,291
	TAKE – OFF ALLOWANCE 10%	75	TONS		1,794					$33,730			$33,730
	TOTAL (STRUCTURAL STEEL)	826	TONS		19,735					$371,000			$371,000

0097

5445

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 11 (BLDG 8A,8B,8C,8D,8E,8F,18B,18D,18H,25A,25B,25C,25D,25E,25G)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	BUILDINGS												
	DUCTWORK DEMOLITION (AVE. 24x18)	5,791	LF	1.03	5,976	17.64				$105,400			$105,400
	INTERIOR TRANSITE PANELS (AVE. .5" THICK)	46,442	SF	0.21	9,567	17.64				$168,800			$168,800
	EXTERIOR TRANSITE PANELS (AVE. .5" THICK)	24,520	SF	0.26	6,351	17.64				$112,000			$112,000
	EXTERIOR METAL WALL PANELS (AVE. .5" THICK)	53,461	SF	0.20	10,425	17.64				$183,900			$183,900
	MASONRY WALLS (AVE. 8" THICK)	7,728	SF	0.29	2,233	17.64				$39,400			$39,400
	ROOFING (BUILT–UP) (AVE. 2" THICK)	2,795	SF	1.04	2,907	17.64			$2.61	$51,300		$7,300	$58,600
	ROOFING (METAL PANELS) (AVE. .5" THICK)	18,939	SF	0.20	3,693	17.64				$65,100			$65,100
	DOORS & WINDOWS	136	EA	3.26	443	17.64				$7,800			$7,800
	MISC. DEBRIS(FIXTURES ETC.)	5,266	CF	0.24	1,259	17.64				$22,200			$22,200
	SUB TOTAL (BUILDINGS)				42,854					$755,900		$7,300	$763,200
	TAKE – OFF ALLOWANCE 10%				4,285					75,590		730	$76,320
	TOTAL (BUILDINGS)				47,139					$831,500		$8,000	$839,500

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5445

CONTR.NO.– 321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 11 (BLDG 8A,8B,8C,8D,8E,8F,18B,18D,18H,25A,25B,25C,25D,25E,25G)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	MACHINERY & EQUIPMENT DEMOLITION												
	PROCESS EQUIPMENT	2,969	TONS	42.7	126,776	19.75				$2,503,800			$2,503,800
	EXTERIOR EQUIPMENT	110	TONS	42.7	4,697	19.75				$92,800			$92,800
	SUB–TOTAL	3,079	TONS		131,473					$2,596,600			$2,596,600
	TAKE – OFF ALLOWANCE 10%	308	TONS		13,147					$259,660			$259,660
	TOTAL (MACH. & EQUIP.)	3,387	TONS		144,620					$2,856,300			$2,856,300

0099

5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 11 (BLDG 8A,8B,8C,8D,8E,8F,18B,18D,18H,25A,25B,25C,25D,25E,25G)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PIPING DEMOLITION												
	PIPING DEMOLITION (AVG. 2" DIA)	33,332	LF	0.358	11,933	19.00				$226,724			$226,724
	SUB TOTAL (PIPING)	33,332	LF		11,933					$226,724			$226,724
	TAKE – OFF ALLOWANCE 10%	3,333	LF		1,200					$22,670			$22,670
	TOTAL (PIPING)	36,665	LF		13,133					$249,400			$249,400

0100

5448

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 11 (BLDG 8A,8B,8C,8D,8E,8F,18B,18D,18H,25A,25B,25C,25D,25E,25G)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS			COST/UNIT			LABOR	SUB CONTRACT	MATERIAL	TOTAL
				UNIT	TOTAL	RATE	LABOR	SUB	MAT'L				
	ELECTRICAL DEMOLITION												
	CONDUIT & WIRE	33,902	LF	0.142	4,814	18.09				$87,085			$87,085
	SUB TOTAL (ELECTRICAL)	33,902	LF		4,814					87,085			$87,085
	TAKE – OFF ALLOWANCE 10%	3,390	LF		481					8,709			$8,710
	TOTAL (ELECTRICAL)	37,292	LF		5,295					$95,800			$95,800

0101

5445

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 11 (BLDG 8A,8B,8C,8D,8E,8F,18B,18D,18H,25A,25B,25C,25D,25E,25G)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PAINTING & SCAFFOLDING												
	PAINT CONTAINMENT FOR TYPE A (MANHOURS)	70,860	SF	0.035	2,480	16.43				$40,746			$40,746
	PAINT CONTAINMENT FOR TYPE A (MATERIAL)	236	GAL						25.00			$5,900	$5,900
	SUB TOTAL (PAINT & SCAFFOLD)	70,860	SF		2,480					$40,746		$5,900	$46,646
	TAKE – OFF ALLOWANCE 10%	7,086	SF		248					$4,070		$590	$4,660
	TOTAL (PAINT & SCAFFOLD)	77,946	SF		2,728					$44,800		$6,500	$51,300

0102

5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 11 (BLDG 8A,8B,8C,8D,8E,8F,18B,18D,18H,25A,25B,25C,25D,25E,25G)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	INSULATION DEMOLITION												
	PIPING ASBESTOS REMOVAL (AVE. 1" THICK)	3,333	LF	19.00	63,327	17.39			232.00	$1,101,257		$773,256	$1,874,513
	WALL INSULATION REMOVAL (AVE. 2" THICK)	24,520	SF	0.05	1,201	18.53				$22,255			$22,255
	SUB TOTAL (INSULATION)	24,520	SF		64,528					$1,123,511		$773,256	$1,896,767
	TAKE – OFF ALLOWANCE 10%	2,452	SF		6,453					$112,350		$77,330	$189,680
	TOTAL (INSULATION)	26,972	SF		70,981					$1,235,900		$850,600	$2,086,500

0103

5449

ST FILE #:
LIENT: US DOE
ROJECT TITLE:

F ERMC O
ESTIMATING SERVICES
SUMMARY SHEET
D&D PACKAGE #12

5445

DATE: 05-Aug-93
ESTIMATOR: S.S., P.L., T.P. & A.S.
LOCATION: FERNALD
REV: 2

DE	ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	TOTAL $
	EXAVATION						
	CONCRETE	5,134	17.56	$90,153			$90,200
	STRUCTURAL STEEL	14,952	18.80	$281,100			$281,100
	BUILDINGS	135,073	17.64	$2,382,700		$113,400	$2,496,100
	MACHINERY AND EQUIPMENT	34,946	19.75	$690,100			$690,100
	PIPING	8,489	19.00	$160,700			$160,700
	ELECTRICAL	7,744	18.09	$140,100			$140,100
	INSTRUMENTS						
	PAINTING AND SCAFFOLD						
	INSULATION	45,307	18.53	$788,400		$548,200	$1,336,600
	SEA/LAND CONTAINERS (20'x8'X8')($5,100 EA)(246 EA)					$1,254,600	$1,254,600
	HAUL SEA/LAND CONTAINERS (4 MILE ROUND TRIP)	492	19.49	$9,589			$9,600
DIRECT FIELD COSTS		252,136		$4,542,800		$1,916,200	$6,459,100
SUPERVISION – CONTRACTOR				$772,000			$772,000
SM TOOLS/CONSM'BLS						$272,600	$272,600
EQUIPMENT RENTAL						$1,397,000	$1,397,000
TEMP. FACILITIES				$95,400		$177,200	$272,600
TEMP UTL'S HOOK-UP				$47,700		$88,600	$136,300
JOB CLEAN-UP				$95,400		$177,200	$272,600
ETY				$47,700		$88,600	$136,300
LTH PHYSICS				$280,100		$6,303,407	$6,583,500
CERCLA	$1,500 PER PERSON					$189,100	$189,100
BOND						$64,600	$64,600
OVERHEAD & PROFIT						$1,490,000	$1,490,000
EMISSION MODELING				$11,300		$21,000	$32,300
PSAR/FSAR(SAFE RPT)				$11,300		$21,000	$32,300
PAYRL BRD.&BENFT.				$3,069,900			$3,069,900
CONSTR MGMT				$847,200			$847,200
INDIRECT FIELD COSTS				$5,278,000		$10,290,300	$15,568,300
DIRECT & INDIRECT FIELD COSTS				$9,820,800		$12,206,500	$22,027,400
SOIL/WATER/AIR				$45,200		$84,000	$129,200
G&A (HO EXP)							$220,300
PROJ.MGMT-FERMCO							$1,762,200
ENGINEERING	TITLE I	TITLE II		TITLE III			$6,911,200
ENGINEERING/FIELD SUPPORT/SUBCONTRACTS							$9,022,900
TOTAL FIELD & ENGINEERING COSTS							$31,050,300
SALES TAX	6.0%	$12,206,500					$732,400
SUB-TOTAL							$31,782,700
ESCALATION							
SUB-TOTAL							$31,782,700
CONTINGENCY	20.0%						$6,356,500
TOTAL ESTIMATED INSTALLED COST	(FPSC bid w/cont.–)						$38,139,200

PRELIMINARY

0104

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 12 (BLDG 4B,31A,60,61,62,63,64,65,69,77,78,79,80,81,82)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	CONCRETE DEMOLITION												
	CONCRETE ABOVE GRADE	85	CY	54.9	4,667	17.56				$81,953			$81,953
	SUB–TOTAL (CONCRETE DEMOLITION)	85	CY		4,667					$81,953			$81,953
	TAKE–OFF ALLOWANCE 10%	9	CY		467					$8,200			
	TOTAL (CONCRETE)	94	CY		5,134					$90,153			$90,153

0105

5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 12 (BLDG 4B,31A,60,61,62,63,64,65,69,77,78,79,80,81,82)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	STRUCTURAL STEEL DEMOLITION												
	STRUCTURAL & MISC. STEEL	569	TONS	23.9	13,593	18.80				$255,548			$255,548
	SUB TOTAL (STRUCTURAL STEEL)	569	TONS		13,593					$255,548			$255,548
	TAKE – OFF ALLOWANCE 10%	57	TONS		1,359					$25,550			$25,550
	TOTAL (STRUCTURAL STEEL)	626	TONS		14,952					$281,100			$281,100

0106

5445

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 12 (BLDG 4B,31A,60,61,62,63,64,65,69,77,78,79,80,81,82)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	BUILDINGS												
	DUCTWORK DEMOLITION (AVE. 24x18)	1,566	LF	1.03	1,616	17.64				$28,500			$28,500
	INTERIOR TRANSITE PANELS (AVE. .5" THICK)	902	SF	0.21	186	17.64				$3,300			$3,300
	EXTERIOR METAL WALL PANELS (AVE. .5" THICK)	138,643	SF	0.20	27,035	17.64				$476,900			$476,900
	MASONRY WALLS (AVE. 8" THICK)	47,390	SF	0.29	13,696	17.64				$241,600			$241,600
	ROOFING (BUILT–UP) (AVE. 2" THICK)	39,497	SF	1.04	41,077	17.64			$2.61	$724,600		$103,100	$827,700
	ROOFING (METAL PANELS) (AVE. .5" THICK)	189,262	SF	0.20	36,906	17.64				$651,000			$651,000
	DOORS & WINDOWS	297	EA	3.26	969	17.64				$17,100			$17,100
	MISC. DEBRIS(FIXTURES ETC.)	5,477	CF	0.24	1,309	17.64				$23,100			$23,100
	SUB TOTAL (BUILDINGS)				122,794					$2,166,100		$103,100	$2,269,200
	TAKE – OFF ALLOWANCE 10%				12,279					216,610		10,310	$226,920
	TOTAL (BUILDINGS)				135,073					$2,382,700		$113,400	$2,496,100

0107

5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 12 (BLDG 4B,31A,60,61,62,63,64,65,69,77,78,79,80,81,82)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	MACHINERY & EQUIPMENT DEMOLITION												
	PROCESS EQUIPMENT	744	TONS	42.7	31,769	19.75				$627,400			$627,400
	SUB–TOTAL	744	TONS		31,769					$627,400			$627,400
	TAKE – OFF ALLOWANCE 10%	74	TONS		3,177					$62,740			$62,740
	TOTAL (MACH. & EQUIP.)	818	TONS		34,946					$690,100			$690,100

0108

5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 12 (BLDG 4B,31A,60,61,62,63,64,65,69,77,78,79,80,81,82)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PIPING DEMOLITION												
	PIPING DEMOLITION (AVG. 2" DIA)	21,477	LF	0.358	7,689	19.00				$146,087			$146,087
	SUB TOTAL (PIPING)	21,477	LF		7,689					$146,087			$146,087
	TAKE – OFF ALLOWANCE 10%	2,148	LF		800					$14,610			$14,610
	TOTAL (PIPING)	23,625	LF		8,489					$160,700			$160,700

0109

5445

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 12 (BLDG 4B,31A,60,61,62,63,64,65,69,77,78,79,80,81,82)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	ELECTRICAL DEMOLITION												
	CONDUIT & WIRE	49,577	LF	0.142	7,040	18.09				$127,354			$127,354
	SUB TOTAL (ELECTRICAL)	49,577	LF		7,040					127,354			$127,354
	TAKE – OFF ALLOWANCE 10%	4,958	LF		704					12,735			$12,740
	TOTAL (ELECTRICAL)	54,535	LF		7,744					$140,100			$140,100

0110

5445

CONTR.NO.- .4321
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- D&D PACKAGE 12 (BLDG 4B,31A,60,61,62,63,64,65,69,77,78,79,80,81,82)
LOCATION- FERNALD, OHIO
PROJ.CTL.-

BUDGET ESTIMATE DETAILS

CONTR.NO.- 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	INSULATION DEMOLITION												
	PIPING ASBESTOS REMOVAL (AVE. 1" THICK)	2,148	LF	19.00	40,812	17.39			232.00	$709,721		$498,336	$1,208,057
	WALL INSULATION REMOVAL (AVE. 2" THICK)	7,674	SF	0.05	376	18.53				$6,967			$6,967
	SUB TOTAL (INSULATION)	7,674	SF		41,188					$716,688		$498,336	$1,215,024
	TAKE - OFF ALLOWANCE 10%	767	SF		4,119					$71,670		$49,830	$121,500
	TOTAL (INSULATION)	8,441	SF		45,307					$788,400		$548,200	$1,336,600

EST FILE #:
CLIENT: US DOE
PROJECT TITLE:

F ERMC O
ESTIMATING SERVICES

SUMMARY SHEET
D&D PACKAGE #13

DATE: 05-Aug-93
ESTIMATOR: S.S., P.L., T.P. & A.S.
LOCATION: FERNALD
REV: 2

DE	ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	TOTAL $
	EXAVATION						
	CONCRETE	11,656	17.56	$204,666			$204,700
	STRUCTURAL STEEL	29,265	18.80	$605,200		$566,000	$1,171,200
	BUILDINGS	142,604	17.64	$2,515,500		$70,000	$2,585,500
	MACHINERY AND EQUIPMENT	15,266	19.75	$301,500			$301,500
	PIPING	121,254	19.00	$2,304,300			$2,304,300
	ELECTRICAL	32,051	18.09	$579,800			$579,800
	INSTRUMENTS						
	PAINTING AND SCAFFOLD	5,509	16.43	$90,500		$13,100	$103,600
	INSULATION	645,207	18.53	$11,221,900		$7,859,400	$19,081,300
	SEA/LAND CONTAINERS (20'x8'x8')($5,100 EA)(536 EA)					$2,733,600	$2,733,600
	HAUL SEA/LAND CONTAINERS (4 MILE ROUND TRIP)	1,072	19.49	$20,893			$20,900
DIRECT FIELD COSTS		1,003,883		$17,844,300		$11,242,100	$29,086,400
SUPERVISION - CONTRACTOR				$3,034,000			$3,034,000
SM TOOLS/CONSM'BLS						$1,070,700	$1,070,700
EQUIPMENT RENTAL						$4,028,100	$4,028,100
TEMP. FACILITIES				$374,700		$695,900	$1,070,600
TEMP UTL'S HOOK-UP				$187,400		$348,000	$535,400
JOB CLEAN-UP				$374,700		$695,900	$1,070,600
ETY				$187,400		$348,000	$535,400
ALTH PHYSICS				$1,100,100		$25,097,068	$26,197,200
CERCLA	$1,500 PER PERSON					$752,900	$752,900
BOND						$290,900	$290,900
OVERHEAD & PROFIT						$6,090,500	$6,090,500
EMISSION MODELING				$50,900		$94,500	$145,400
PSAR/FSAR(SAFE RPT)				$50,900		$94,500	$145,400
PAYRL BRD.&BENFT.				$12,066,300			$12,066,300
CONSTR MGMT				$3,444,800			$3,444,800
INDIRECT FIELD COSTS				$20,871,200		$39,607,000	$60,478,200
DIRECT & INDIRECT FIELD COSTS				$38,715,500		$50,849,100	$89,564,600
SOIL/WATER/AIR				$203,600		$378,100	$581,700
G&A (HO EXP)							$895,600
PROJ.MGMT-FERMCO							$7,165,200
ENGINEERING	TITLE I	TITLE II		TITLE III			$31,122,400
ENGINEERING/FIELD SUPPORT/SUBCONTRACTS							$39,764,900
TOTAL FIELD & ENGINEERING COSTS							$129,329,500
SALES TAX	6.0%	$50,849,100					$3,050,900
SUB-TOTAL							$132,380,400
ESCALATION							
SUB-TOTAL							$132,380,400
CONTINGENCY	20.0%						$26,476,100
TOTAL ESTIMATED INSTALLED COST	(FPSC bid w/cont.-)						$158,856,500

PRELIMINARY

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 13 (BLDG 1A,1B,30A,30B,56A,56B,56C,66,67,71,72,TS1–6)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	CONCRETE DEMOLITION												
	CONCRETE ABOVE GRADE	193	CY	54.9	10,596	17.56				$186,066			$186,066
	SUB–TOTAL (CONCRETE DEMOLITION)	193	CY		10,596					$186,066			$186,066
	TAKE–OFF ALLOWANCE 10%	19	CY		1,060					$18,600			
	TOTAL (CONCRETE)	212	CY		11,656					$204,666			$204,666

0113

5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 13 (BLDG 1A,1B,30A,30B,56A,56B,56C,66,67,71,72,TS1–6)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	STRUCTURAL STEEL DEMOLITION												
	STRUCTURAL & MISC. STEEL	1,225	TONS	23.9	29,265	18.80				$550,182			$550,182
	SUB TOTAL (STRUCTURAL STEEL)	1,225	TONS		29,265					$550,182			$550,182
	MAJOR RENTAL EQUIPMENT												
	4600 MANIWOC CRANE (3 MO.)	1.00	EA						240,000			$240,000	$240,000
	MOB/DEMOB	1.00	LOT						100,000			$100,000	$100,000
	2 KOMATSU SHEARS (3 MO.)	2.00	EA						42,000			$84,000	$84,000
	977 LOADER W/GRAPPLE BUCKET (3 MO.)	1.00	EA						10,500			$10,500	$10,500
	LIFTING FRAME	1.00	LOT						80,000			$80,000	$80,000
	SUB TOTAL (STRUCTURAL STEEL)	6	EA									$514,500	$514,500
	TAKE – OFF ALLOWANCE 10%	123	TONS							$55,020		$51,450	$106,470
	TOTAL (STRUCTURAL STEEL)	1,354	TONS		29,265					$605,200		$566,000	$1,171,200

0114

548

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 13 (BLDG 1A,1B,30A,30B,56A,56B,56C,66,67,71,72,TS1–6)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	BUILDINGS												
	DUCTWORK DEMOLITION (AVE. 24x18)	35,113	LF	1.03	36,237	17.64				$639,200			$639,200
	INTERIOR TRANSITE PANELS (AVE. .5" THICK)	44,950	SF	0.21	9,260	17.64				$163,300			$163,300
	EXTERIOR TRANSITE PANELS (AVE. .5" THICK)	95,085	SF	0.26	24,627	17.64				$434,400			$434,400
	EXTERIOR METAL WALL PANELS (AVE. .5" THICK)	26,364	SF	0.20	5,141	17.64				$90,700			$90,700
	MASONRY WALLS (AVE. 8" THICK)	20,558	SF	0.29	5,941	17.64				$104,800			$104,800
	ROOFING (BUILT–UP) (AVE. 2" THICK)	24,365	SF	1.04	25,340	17.64			$2.61	$447,000		$63,600	$510,600
	ROOFING (METAL PANELS) (AVE. .5" THICK)	37,727	SF	0.20	7,357	17.64				$129,800			$129,800
	DOORS & WINDOWS	222	EA	3.26	724	17.64				$12,800			$12,800
	MISC. DEBRIS(FIXTURES ETC.)	62,814	CF	0.24	15,013	17.64				$264,800			$264,800
	SUB TOTAL (BUILDINGS)				129,640					$2,286,800		$63,600	$2,350,400
	TAKE – OFF ALLOWANCE 10%				12,964					228,680		6,360	$235,040
	TOTAL (BUILDINGS)				142,604					$2,515,500		$70,000	$2,585,500

0115

- 5445

CONTR.NO.– .321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 13 (BLDG 1A,1B,30A,30B,56A,56B,56C,66,67,71,72,TS1–6)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	MACHINERY & EQUIPMENT DEMOLITION												
	PROCESS EQUIPMENT	119	TONS	42.7	5,081	19.75				$100,400			$100,400
	HVAC EQUIPMENT	108	TONS	42.7	4,612	19.75				$91,100			$91,100
	ELECTRICAL EQUIPMENT	31	TONS	42.7	1,324	19.75				$26,100			$26,100
	MATERIAL HANDLING EQUIPMENT	56	TONS	42.7	2,391	19.75				$47,200			$47,200
	EXTERIOR EQUIPMENT	11	TONS	42.7	470	19.75				$9,300			$9,300
	SUB–TOTAL	325	TONS		13,878					$274,100			$274,100
	TAKE – OFF ALLOWANCE 10%	33	TONS		1,388					$27,410			$27,410
	TOTAL (MACH. & EQUIP.)	358	TONS		15,266					$301,500			$301,500

0116

5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 13 (BLDG 1A,1B,30A,30B,56A,56B,56C,66,67,71,72,TS1–6)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PIPING DEMOLITION												
	PIPING DEMOLITION (AVG. 2" DIA)	307,971	LF	0.358	110,254	19.00				$2,094,819			$2,094,819
	SUB TOTAL (PIPING)	307,971	LF		110,254					$2,094,819			$2,094,819
	TAKE – OFF ALLOWANCE 10%	30,797	LF		11,000					$209,480			$209,480
	TOTAL (PIPING)	338,768	LF		121,254					$2,304,300			$2,304,300

0117

5445

CONTR.NO.- 4424321
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- D&D PACKAGE 13 (BLDG 1A,1B,30A,30B,56A,56B,56C,66,67,71,72,TS1-6)
LOCATION- FERNALD, OHIO
PROJ.CTL.-

BUDGET ESTIMATE DETAILS

CONTR.NO.- 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	ELECTRICAL DEMOLITION												
	CONDUIT & WIRE	205,187	LF	0.142	29,137	18.09				$527,088			$527,088
	SUB TOTAL (ELECTRICAL)	205,187	LF		29,137					527,088			$527,088
	TAKE - OFF ALLOWANCE 10%	20,519	LF		2,914					52,709			$52,710
	TOTAL (ELECTRICAL)	225,706	LF		32,051					$579,800			$579,800

0118

5445

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 13 (BLDG 1A,1B,30A,30B,56A,56B,56C,66,67,71,72,TS1–6)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	PAINTING & SCAFFOLDING												
	PAINT CONTAINMENT FOR TYPE A (MANHOURS)	143,089	SF	0.035	5,008	16.43				$82,281			$82,281
	PAINT CONTAINMENT FOR TYPE A (MATERIAL)	477	GAL						25.00			$11,925	$11,925
	SUB TOTAL (PAINT & SCAFFOLD)	143,089	SF		5,008					$82,281		$11,925	$94,206
	TAKE – OFF ALLOWANCE 10%	14,309	SF		501					$8,230		$1,190	$9,420
	TOTAL (PAINT & SCAFFOLD)	157,398	SF		5,509					$90,500		$13,100	$103,600

0119

5445

CONTR.NO.– 24321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D PACKAGE 13 (BLDG 1A,1B,30A,30B,56A,56B,56C,66,67,71,72,TS1–6)
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	INSULATION DEMOLITION												
	PIPING ASBESTOS REMOVAL (AVE. 1" THICK)	30,797	LF	19.00	585,143	17.39			232.00	$10,175,637		$7,144,904	$17,320,541
	WALL INSULATION REMOVAL (AVE. 2" THICK)	28,761	SF	0.05	1,409	18.53				$26,109			$26,109
	SUB TOTAL (INSULATION)	28,761	SF		586,552					$10,201,746		$7,144,904	$17,346,650
	TAKE – OFF ALLOWANCE 10%	2,876	SF		58,655					$1,020,170		$714,490	$1,734,660
	TOTAL (INSULATION)	31,637	SF		645,207					$11,221,900		$7,859,400	$19,081,300

0120

5445

EST FILE #: 5445

CLIENT: US DOE

PROJECT TITLE:

F ERMC O

SUMMARY SHEET
D&D SITE DEMOLTION

DATE: 05-Aug-93
ESTIMATOR: S.S., P.L., T.P. & A.S.
LOCATION: FERNALD
REV: 2

CODE	ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	TOTAL $
	SITE DEMO (ROADS,RAILROADS,SIDEWALKS,PARKING LOTS,ETC.)	860,365	16.51	$17,394,626			$17,394,600
	CONCRETE						
	STRUCTURAL STEEL						
	BUILDINGS (TENSION SUPPORT STRUC. NOT INC.)			$13,479,900		$11,029,000	$24,508,900
	MACHINERY AND EQUIPMENT						
	PIPING						
	ELECTRICAL						
	INSTRUMENTS						
	PAINTING AND SCAFFOLD						
	INSULATION						
	SEALAND CONTAINERS (20'x8'x8')($5,100 EA)(5,307 EA)					$27,065,700	$27,065,700
	HAUL SEALAND CONTAINERS (4 MILE ROUND TRIP)	10,614	19.49	$206,867			$206,900
DIRECT FIELD COSTS		870,979		$31,081,400		$38,094,700	$69,176,100
SUPERVISION - CONTRACTOR				$5,284,000			$5,284,000
SM TOOLS/CONSM'BLS						$1,864,900	$1,864,900
EQUIPMENT RENTAL						$3,562,900	$3,562,900
TEMP. FACILITIES				$652,700		$1,212,200	$1,864,900
TEMP UTL'S HOOK-UP				$326,400		$606,100	$932,500
JOB CLEAN-UP				$652,700		$1,212,200	$1,864,900
ETY				$326,400		$606,100	$932,500
ALTH PHYSICS				$1,916,200		$21,774,475	$23,690,700
CERCLA	$1,500 PER PERSON					$653,200	$653,200
BOND						$691,800	$691,800
OVERHEAD & PROFIT						$9,946,700	$9,946,700
EMISSION MODELING				$121,100		$224,800	$345,900
PSAR/FSAR(SAFE RPT)				$121,100		$224,800	$345,900
PAYRL BRD.&BENFT.				$21,050,600			$21,050,600
CONSTR MGMT				$5,688,300			$5,688,300
INDIRECT FIELD COSTS				$36,139,500		$42,580,200	$78,719,700
DIRECT & INDIRECT FIELD COSTS				$67,220,900		$80,674,900	$147,895,800
SOIL/WATER/AIR				$484,200		$899,300	$1,383,500
G&A (HO EXP)							$1,479,000
PROJ.MGMT-FERMCO							$11,831,700
ENGINEERING	TITLE I TITLE II TITLE III						$74,018,400
ENGINEERING/FIELD SUPPORT/SUBCONTRACTS							$88,712,600
TOTAL FIELD & ENGINEERING COSTS							$236,608,400
SALES TAX	6.0% $80,674,900						$4,840,500
SUB-TOTAL							$241,448,900
ESCALATION							
SUB-TOTAL							$241,448,900
CONTINGENCY	20.0%						$48,289,800
TOTAL ESTIMATED INSTALLED COST	(FPSC bid w/cont.-)						$289,738,700

PRELIMINARY

CONTR.NO.- 4321
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- D&D FOR FERNALD SITE
LOCATION- FERNALD, OHIO
PROJ.CTL.-

BUDGET ESTIMATE DETAILS

CONTR.NO.- 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
PKG	EXCAVATION & CIVIL												
	UNDER GROUND DEMOLITION (REMOVE PIPE AND LOAD INTO SEA/LANDS)												
23	POTABLE WATER LINES	24,115	LF	0.576	13,890	16.51				$229,324			$229,324
	STEAM & CONDENSATE LINES	2,950	LF	0.576	1,699	16.51				$28,050			$28,050
	FUEL OIL LINES-	50	LF	0.576	29	16.51				$479			$479
	VENT LINES	50	LF	0.576	29	16.51				$479			$479
	PROCESS WATER LINES	9,425	LF	0.576	5,429	16.51				$89,633			$89,633
	COOLING WATER SUPPLY/RETURN LINES	9,300	LF	0.576	5,357	16.51				$88,444			$88,444
	SUMP LIQUOR LINES	1,225	LF	0.576	706	16.51				$11,656			$11,656
	FILTRATE/EFFLUENT LINES	8,975	LF	0.576	5,170	16.51				$85,357			$85,357
	FUEL GAS LINES	7,820	LF	0.576	4,504	16.51				$74,361			$74,361
	AIR LINES	1,215	LF	0.576	700	16.51				$11,557			$11,557
	DEIONIZED FEED LINES	2,375	LF	0.576	1,368	16.51				$22,586			$22,586
	CONTAMINATED SEWER LINES	2,570	LF	0.576	1,480	16.51				$24,435			$24,435
	RAW WATER LINES	2,690	LF	0.576	1,549	16.51				$25,574			$25,574
	DEIONIZED WATER LINES	2,045	LF	0.576	1,178	16.51				$19,449			$19,449
	BRINE WATER LINES	270	LF	0.576	156	16.51				$2,576			$2,576
	SANITARY SEWER LINES	16,622	LF	0.576	9,574	16.51				$158,067			$158,067
	STORM SEWER LINES	67,050	LF	0.576	38,621	16.51				$637,633			$637,633
	FIRE LINES	23,015	LF	0.576	13,257	16.51				$218,873			$218,873
	ELECTRICAL DUCTBANKS	65,365	LF	0.576	37,650	16.51				$621,602			$621,602
	SUB TOTAL (UNDER GROUND DEMOLITION)				142,346					$2,350,132			$2,350,132

0122

- 5445

CONTR.NO.– 4321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D FOR FERNALD SITE
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
PKG	GENERAL SITE DEMOLITION												
24	DIRTY SIDEWALK DEMOLITION	3,221	SY	0.537	1,730	16.51				$28,562			$28,562
24	CLEAN SIDEWALK DEMOLITION	2,147	SY	0.215	462	16.51				$7,628			$7,628
21	STORAGE PAD DEMO. (ASSUMED 8" THICK	94,033	SY	0.537	50,496	16.51				$833,689			$833,689
24	PARKING LOTS DEMOLITION	6,491	SY	0.215	1,396	16.51				$23,048			$23,048
24	FENCE DEMOLITION (MACHINE REMOVAL)	59,655	LF	0.130	7,755	16.51				$128,035			$128,035
24	– POLE REMOVAL	1	LOT							$200,000			$200,000
MISC	TRAILERS/MISC.	151	EA							$2,700,000			$2,700,000
24	SITE RAIL ROAD DEMOLITION	18,440	LF	1.215	22,405	16.51				$369,907			$369,907
24	DIRTY PAVED ROAD DEMOLITION	32,533	SY	0.537	17,470	16.51				$288,430			$288,430
24	CLEAN PAVED ROAD DEMOLITION	21,689	SY	0.215	4,663	16.51				$76,986			$76,986
22	BUILDING FOUNDATION DEMOLITION	41,674	CY	12.80	533,427	16.51				$8,806,880			$8,806,880
	SUB TOTAL (GENERAL SITE DEMOLITION)				639,804					$13,463,164			$13,463,164
	TAKE – OFF ALLOWANCE 10%				78,215					$1,581,330			$1,581,330
	TOTAL (GENERAL SITE WORK)				860,365					$17,394,626			$17,394,626

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CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D FOR FERNALD SITE
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	BUILDINGS												
17150	MISC. BUILDINGS (2B,2C,3A,3H,3K,3L,16A,16B, 16C,16D,16E,16F,16G,18A,18C,18E,18F,18G,18N,18P, 18Q,20D,20E,20F,20G,20J,22A,22C,22D,22E,23,24A, 25H,25J,26A,26B,26C,28C,28D,30C,34A,34B,34C,35A, 35B,39C,39D,46,51,88	234,535	SF							$12,254,454		$10,026,371	$22,280,825
25	IMPOUNDMENTS (INCLUDED ABOVE)												
	SUB TOTAL (BUILDINGS)									$12,254,454		$10,026,371	$22,280,825
	TAKE – OFF ALLOWANCE 10%									$1,225,445		$1,002,637	$2,228,080
	TOTAL (BUILDINGS)									$13,479,900		$11,029,000	$24,508,900

0124

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17-Jul-93

5445

BUILDINGS NOT REPRESENTED IN PARSONS QUANTITIES

BLDG #		TOTAL SQUARE FEET	
1C	PLANT 1 SILOS	(REMOVAL ACTION)	MIS
2B	LIME HANDLING BUILDING	2,652 SF	C
2C	BULK LINE HANDLING BLDG	505 SF	A
3A	MAINTENANCE BLDG	3,600 SF	A
3H	REFINERY SUMP	4,785 SF	MIS
3K	ELECTRICAL POWER CENTER BLDG	1,266 SF	MIS
3L	ELECTRICAL POWER CENTER BLDG	3,600 SF	
16A	MAIN ELECTRICAL STATION	500 SF	MIS
16B	SUPPORT EQUIPMENT	150 SF	MIS
16C	SUPPORT EQUIPMENT	95 SF	MIS
16D	SUPPORT EQUIPMENT	150 SF	MIS
16E	SUPPORT EQUIPMENT	200 SF	MIS
16F	TRAILER ELEC. SUBSTATION	167 SF	MIS
16G	TRAILER SUBSTATION #2	900 SF	
18A	BDN SURGE LAGOON (500x500)	25,000 SF	
18C	COAL PILE RUNOFF BASIN (200x500)	10,000 SF	
18E	STORM WATER RETENTION BASINS	85,000 SF	
18F	PIT #5 SLUICE GATE	100 SF	
18G	CLEARWELL PUMP HOUSE	242 SF	A
18N	WASTE PIT AREA STORM WATER RUNOFF CONTROL	300 SF	
18P	DISSOLVED OXYGEN BUILDING	300 SF	
18Q	IAWWT VALVE HOUSE	300 SF	
20D	ELEVATED POTABLE STORE TANK	5,659 SF	MIS
20E	WELL HOUSE #1	160 SF	B
20F	WELL HOUSE #2	160 SF	B
20G	WELL HOUSE #3	160 SF	B
20J	LIME SLURRY PITS	13,000 SF	
22A	GAS METER BLDG	332 SF	
22C	TRUCK SCALE	727 SF	MIS
22D	SCALE HOUSE & WEIGH SCALE	718 SF	A
22E	UTILITY TRENCH TO PIT AREA	500 SF	
23	METEOROLOGICAL TOWER	50 SF	
24A	RAILROAD SCALE HOUSE	187 SF	B
25H	TRICKLING FILTERS	100 SF	
25J	10 PLEXS SEWAGE LIFT STATION	100 SF	
26A	PUMP HOUSE HP FIRE PROT.	2,359 SF	B
26B	ELEVATED FIRE WATER STOR. TANK	5,659 SF	MIS
26C	MAIN ELE. STRAINER HOUSE	128 SF	B
28C	SECURITY CHECHPOINT	100 SF	C
28D	GUARD POST WEST END/2ND ST	225 SF	C
30C	OLD TEN TON SCALE	100 SF	MIS
34A	K-65 STORAGE TANK (NORTH)	5,000 SF	
34B	K-65 STORAGE TANK (SOUTH)	5,000 SF	
34C	RTS BLDG.	1,000 SF	
35A	METAL OXIDE STORAGE TANK (NORTH)	5,000 SF	
35B	METAL OXIDE STORAGE TANK (SOUTH)	5,000 SF	
39C	INCINERATOR BLDG SPRIN. RISER HOUSE	69 SF	B
39D	SEWAGE TRTMT PLANT INCINERATOR	729 SF	MIS
46	HEAVY EQUIPMENT BLDG	13,330 SF	C
51	6 TO 4 REDUCTION FACILITY #2	28,071 SF	C
73A	FIRE BRIGADE TRN CTR BLDG	(REMOVAL ACTION)	
73B	FIRE TRAINING POND	(REMOVAL ACTION)	
73C	FIRE TRAINING TANK	(REMOVAL ACTION)	
73D	FIRE TRAINING BURN THROUGH	(REMOVAL ACTION)	
73E	CONFINED SPACE BURN TANK	(REMOVAL ACTION)	
88	CLEARWELL LINE	1,100 SF	
	TOTAL:	234,535 SF	x $95 = **$22,280,825**

0125

NOTE: ASSUMING FOOT PRINT OF PLANT 7 3,362,100/35,476=$95 per SF
NOTE: ASSUMED 1,000 CONTAINERS AT $1,500 EA.

55% Labor
45% Material
(from Plant 7 Est.

OU3 PROPOSED WORK PLAN
UNDERGROUND UTILITIES

MATERIAL TAKEOFF
(per ERA, Inc. Radiological Survey Drawings)

POTABLE WATER LINES

Total Quantity	=	24,115 Lf
Average Size	=	6 in
Material Type	=	Ductile Iron

Assume :	4 ft	Trench Width (top)
	1.5 ft	Trench Width (bottom)
	3 ft	Trench Depth to Sand Bed
	1 ft	Depth of Sand Bed

Excavation –	9,825 cy	Machine Trench w/ Hand Trim

STEAM & CONDENSATE LINES

Total Quantity	=	2,950 Lf
Average Size	=	6 in
Material Type	=	Carbon Steel

Assume :	4 ft	Trench Width (top)
	1.5 ft	Trench Width (bottom)
	3 ft	Trench Depth to Sand Bed
	1 ft	Depth of Sand Bed

Excavation –	1,202 cy	Machine Trench w/ Hand Trim

OU3 PROPOSED WORK PLAN
UNDERGROUND UTILITIES

MATERIAL TAKEOFF
(per ERA, Inc. Radiological Survey Drawings)

FUEL OIL LINES

Total Quantity	=	50 Lf
Average Size	=	2 in
Material Type	=	Carbon Steel

Assume :	4 ft	Trench Width (top)
	1.5 ft	Trench Width (bottom)
	3 ft	Trench Depth to Sand Bed
	1 ft	Depth of Sand Bed
Excavation –	20 cy	Machine Trench w/ Hand Trim

VENT LINES

Total Quantity	=	50 Lf
Average Size	=	2 in
Material Type	=	Carbon Steel

Assume :	4 ft	Trench Width (top)
	1.5 ft	Trench Width (bottom)
	3 ft	Trench Depth to Sand Bed
	1 ft	Depth of Sand Bed
Excavation –	20 cy	Machine Trench w/ Hand Trim

OU3 PROPOSED WORK PLAN
UNDERGROUND UTILITIES

MATERIAL TAKEOFF
(per ERA, Inc. Radiological Survey Drawings)

PROCESS WATER LINES

Total Quantity	=	9,425 Lf	
Average Size	=	2 in	
Material Type	=	Carbon Steel	
Assume :		4 ft	Trench Width (top)
		1.5 ft	Trench Width (bottom)
		3 ft	Trench Depth to Sand Bed
		1 ft	Depth of Sand Bed
Excavation –		3,840 cy	Machine Trench w/ Hand Trim

COOLING WATER SUPPLY / RETURN LINES

Total Quantity	=	9,300 Lf	
Average Size	=	2 in	
Material Type	=	Carbon Steel	
Assume :		4 ft	Trench Width (top)
		1.5 ft	Trench Width (bottom)
		3 ft	Trench Depth to Sand Bed
		1 ft	Depth of Sand Bed
Excavation –		3,789 cy	Machine Trench w/ Hand Trim

OU3 PROPOSED WORK PLAN
UNDERGROUND UTILITIES

MATERIAL TAKEOFF
(per ERA, Inc. Radiological Survey Drawings)

SUMP LIQUOR LINES

Total Quantity	=	1,225 Lf
Average Size	=	2 in
Material Type	=	Carbon Steel

Assume :	4 ft	Trench Width (top)
	1.5 ft	Trench Width (bottom)
	3 ft	Trench Depth to Sand Bed
	1 ft	Depth of Sand Bed

Excavation –	499 cy	Machine Trench w/ Hand Trim

FILTRATE / EFFLUENT LINES

Total Quantity	=	8,975 Lf
Average Size	=	2 in
Material Type	=	Carbon Steel

Assume :	4 ft	Trench Width (top)
	1.5 ft	Trench Width (bottom)
	3 ft	Trench Depth to Sand Bed
	1 ft	Depth of Sand Bed

Excavation –	3,656 cy	Machine Trench w/ Hand Trim

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OU3 PROPOSED WORK PLAN
UNDERGROUND UTILITIES

MATERIAL TAKEOFF
(per ERA, Inc. Radiological Survey Drawings)

FUEL GAS LINES

Total Quantity	=	7,820 Lf
Average Size	=	2 in
Material Type	=	Carbon Steel

Assume :	4 ft	Trench Width (top)
	1.5 ft	Trench Width (bottom)
	3 ft	Trench Depth to Sand Bed
	1 ft	Depth of Sand Bed

Excavation –	3,186 cy	Machine Trench w/ Hand Trim

AIR LINES

Total Quantity	=	1,215 Lf
Average Size	=	2 in
Material Type	=	Carbon Steel

Assume :	4 ft	Trench Width (top)
	1.5 ft	Trench Width (bottom)
	3 ft	Trench Depth to Sand Bed
	1 ft	Depth of Sand Bed

Excavation –	495 cy	Machine Trench w/ Hand Trim

OU3 PROPOSED WORK PLAN
UNDERGROUND UTILITIES

MATERIAL TAKEOFF
(per ERA, Inc. Radiological Survey Drawings)

DEIONIZED FEED LINES

Total Quantity	=	2,375 Lf
Average Size	=	2 in
Material Type	=	Carbon Steel

Assume :	4 ft	Trench Width (top)
	1.5 ft	Trench Width (bottom)
	3 ft	Trench Depth to Sand Bed
	1 ft	Depth of Sand Bed

Excavation –	968 cy	Machine Trench w/ Hand Trim

CONTAMINATED SEWER LINES

Total Quantity	=	2,570 Lf
Average Size	=	8 in
Material Type	=	Ductile Iron

Assume :	6 ft	Trench Width (top)
	2.5 ft	Trench Width (bottom)
	5 ft	Trench Depth to Sand Bed
	1 ft	Depth of Sand Bed

Excavation –	2,427 cy	Machine Trench w/ Hand Trim

OU3 PROPOSED WORK PLAN
UNDERGROUND UTILITIES

MATERIAL TAKEOFF
(per ERA, Inc. Radiological Survey Drawings)

RAW WATER LINES

Total Quantity	=	2,690 Lf
Average Size	=	2 in
Material Type	=	Carbon Steel

Assume :	4 ft	Trench Width (top)
	1.5 ft	Trench Width (bottom)
	3 ft	Trench Depth to Sand Bed
	1 ft	Depth of Sand Bed

Excavation –	1,096 cy	Machine Trench w/ Hand Trim

DEIONIZED WATER LINES

Total Quantity	=	2,045 Lf
Average Size	=	2 in
Material Type	=	Carbon Steel

Assume :	4 ft	Trench Width (top)
	1.5 ft	Trench Width (bottom)
	3 ft	Trench Depth to Sand Bed
	1 ft	Depth of Sand Bed

Excavation –	833 cy	Machine Trench w/ Hand Trim

OU3 PROPOSED WORK PLAN
UNDERGROUND UTILITIES

MATERIAL TAKEOFF
(per ERA, Inc. Radiological Survey Drawings)

BRINE WATER LINES

Total Quantity	=	270 Lf
Average Size	=	2 in
Material Type	=	Carbon Steel

Assume :	4 ft	Trench Width (top)
	1.5 ft	Trench Width (bottom)
	3 ft	Trench Depth to Sand Bed
	1 ft	Depth of Sand Bed

Excavation –	110 cy	Machine Trench w/ Hand Trim

SANITARY SEWERS

Total Quantity	=	16,622 Lf
Average Size	=	8 in
Material Type	=	Ductile Iron

Assume :	6 ft	Trench Width (top)
	2.5 ft	Trench Width (bottom)
	5 ft	Trench Depth to Sand Bed
	1 ft	Depth of Sand Bed

Excavation –	15,699 cy	Machine Trench w/ Hand Trim

OU3 PROPOSED WORK PLAN
UNDERGROUND UTILITIES

MATERIAL TAKEOFF
(per ERA, Inc. Radiological Survey Drawings)

STORM SEWERS

Total Quantity	=	67,050 Lf
Average Size	=	24 in
Material Type	=	Reinforced Concrete Pipe

Assume :	8 ft	Trench Width (top)
	4 ft	Trench Width (bottom)
	5 ft	Trench Depth to Sand Bed
	1 ft	Depth of Sand Bed

Excavation –	89,400 cy	Machine Trench w/ Hand Trim

FIRE LINES

Total Quantity	=	23,015 Lf
Average Size	=	8 in
Material Type	=	Ductile Iron

Assume :	6 ft	Trench Width (top)
	2.5 ft	Trench Width (bottom)
	5 ft	Trench Depth to Sand Bed
	1 ft	Depth of Sand Bed

Excavation –	21,736 cy	Machine Trench w/ Hand Trim
P.I.V.'s	460 ea	every 50 Lf

OU3 PROPOSED WORK PLAN
UNDERGROUND UTILITIES

MATERIAL TAKEOFF
(per ERA, Inc. Radiological Survey Drawings)

ELECTRICAL DUCTBANKS

Total Quantity	=	65,365 Lf
Average Size	=	3 x 1 ft
Material Type	=	Concrete

Assume :	6 ft	Trench Width (top)
	3 ft	Trench Width (bottom)
	4 ft	Trench Depth to Sand Bed
	1 ft	Depth of Sand Bed
Concrete –	7,263 cy	Ductbank Debris
Excavation –	54,471 cy	Machine Trench w/ Hand Trim

OU3 PROPOSED WORK PLAN
SITE WORK

MATERIAL TAKEOFF
(per ERA, Inc. Radiological Survey Drawings)

STORAGE PADS (see attached calc)

Total Quantity	=	846,300 cf	
	or	846,300 sf	
Assume :		1 ft	Thickness
Containerization –		31,344 cy	Concrete Rubble
Excavation –			
Backfill –			

PARKING LOTS

Total Quantity	=	584,200 sf	Asphalt
	=	58,420	Gravel (10% of Asphalt Lots)
		642,620 sf	
Assume :		1 ft	Thickness
Containerization –		23,801 cy	Asphalt Rubble
Excavation –			
Backfill –			

FENCES

Total Quantity	=	59,655 Lf	
Containerization –		59,655 Lf	(& 1,667 cf for Poles)
Excavation –			
Backfill –			

OU3 PROPOSED WORK PLAN
SITE WORK

MATERIAL TAKEOFF
(per ERA, Inc. Radiological Survey Drawings)

SITE RAIL ROADS

Total Quantity	=	18,440 Lf	
Assume :		10 ft	Out / Out Ballast Width
		5 ft	I.E. Width
		4 ft	Avg Depth
		1 ft	Rise to Top of Ballast
		90 #/Lf	Rail Weight per Foot
Rails –		36,880 Lf	
		1,660 Tons	
Ties –		18,440 ea	1' Centers
Containerization –		20,489 cy	
Excavation –			
Backfill –			

PAVED ROADS

Total Quantity	=	24,400 Lf	or	488,000 sf
Assume :		20 ft	Width	
		1 ft	Thickness	
Containerization –		18,074 cy	Asphalt Rubble	
Excavation –				
Backfill –				

SIDEWALKS

Total Quantity	=	8,052 Lf	(33% of Paved Roads)
	or	48,312 sf	
Assume :		6 ft	Width
		0.67 ft	Thickness
Containerization –		1,193 cy	Concrete Rubble
Excavation –			
Backfill –			

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STORAGE PADS

74T PLANT 1 PAD ~ 775' X 775' = 600,625 SF

SAY 601,000 SF

74P DECON. PAD ~ 250' X 200' = 50,000 SF

601,000 SF
50,000

651,000 SF
X 1.30 MISC OTHER PADS

846,300 SF OR 94,033 SY

@ 1' THICKNESS

846,300 CF OR 31,344 CY

0138

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CRU3 IROD PROPOSED WORK PLAN - FENCES
(MTO PER SITE PLAN)

950	50	125	230	750
250	220	50	150	780
800	420	150	80	310
300	100	75	80	230
550	150	120	550	500
700	100	100	430	230
950	150	50	300	
350	100	100	425	2800
275	100	650	50	
400	60	275	450	
200	100	650	50	
100	25	100	410	
360	60	300	60	
300	75	380	100	
230	150	300	150	
220	50	450	250	
150	200	125	50	
75	350	100	75	
300	50	100	350	
250	50	110	350	
225	100	110	350	
50	20	310	775	
750	30	240	350	
200	25	50	150	
380	30	50	275	
2200	75	60	250	
475	550	60	620	
150	275	1850	125	
1300	160	2950	250	
900	150	2475	75	
300	125	400	50	
50	200	150	75	
200	125	50	200	
2800	240	60	450	
2200	650	190	290	
200	60	280	450	
200	75	150	120	
300	500	220	200	
325	60	60	370	
250	30	50	325	
60	150	70	200	
175	50	150	400	
75	25	275	250	
75	50	50	280	
21,550	6,315	14,720	14,270	

59,655 LF

11.3 MILES

0139

TRAILERS (SITEMAP DRAWINGS)

99 IDENTIFIED FROM SITE-MAP (IN PINK)

X 1.5 FOR TRAILERS BEHIND THE FENCE

150 TOTAL TRAILERS

$ 18,000 TO DISMANTLE
CUT UP
X150 UNHOOK
HAUL

$ 2,700,000 LABOR COST

42-381 60 SHEETS EYE-EASE® 5 SQUARE
42-382 100 SHEETS EYE-EASE® 5 SQUARE
42-389 200 SHEETS EYE-EASE® 5 SQUARE
42-392 100 RECYCLED WHITE 5 SQUARE
42-399 200 RECYCLED WHITE 5 SQUARE
Made in U.S.A.
National® Brand

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CRU3 PROPOSED WORK PLAN

PARKING LOTS

PER WORK PLAN ADDENDUM:
500' x 700'
425' x 500'

520 X 710 = 369,200 SF
430 X 500 = 215,000
584,200 SF (ASPHALT)

584,200
x 10%
58,400 SF (GRAVEL)

TEMPORARY LOTS

584,200 SF ASPHALT / CONCRETE
+ 58,420 GRAVEL
642,620 SF TOTAL
x 1 FT THICKNESS (DEPTH)
642,620 CF
÷ 27 CFT/CYD
23,801 CY

0141

F ERMC O
ESTIMATING SERVICES

ST FILE #:
LIENT: US DOE
ROJECT TITLE:

SUMMARY SHEET
TENSION SUPPORT STRUCTURES

DATE: 05-Aug-93
ESTIMATOR: S.S., P.L., T.P. & A.S.
LOCATION: FERNALD
REV: 2

DE	ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	TOTAL $
	EXCAVATION						
	CONCRETE	—					
	STRUCTURAL STEEL						
	BUILDINGS	76,209	17.64	$8,398,500		$15,559,200	$23,957,700
	MACHINERY AND EQUIPMENT						
	PIPING						
	ELECTRICAL						
	INSTRUMENTS						
	PAINTING AND SCAFFOLD						
	INSULATION						
	SEALAND CONTAINERS						
	HAUL SEALAND CONTAINERS						
IRECT FIELD COSTS		76,209		$8,398,500		$15,559,200	$23,957,700
UPERVISION – CONTRACTOR				$1,428,000			$1,428,000
M TOOLS/CONSM'BLS						$503,900	$503,900
QUIPMENT RENTAL						$781,200	$781,200
EMP. FACILITIES				$176,400		$327,500	$503,900
EMP UTL'S HOOK-UP				$88,200		$163,800	$252,000
OB CLEAN-UP				$176,400		$327,500	$503,900
TY				$88,200		$163,800	$252,000
LTH PHYSICS							
ERCLA	$1,500 PER PERSON					$57,200	$57,200
OND						$239,600	$239,600
VERHEAD & PROFIT						$2,563,100	$2,563,100
MISSION MODELING							
SAR/FSAR(SAFE RPT)							
AYRL BRD.&BENFT.				$5,385,000			$5,385,000
ONSTR MGMT				$1,457,100			$1,457,100
NDIRECT FIELD COSTS				$8,799,300		$5,127,600	$13,926,900
IRECT & INDIRECT FIELD COSTS				$17,197,800		$20,686,800	$37,884,600
OIL/WATER/AIR				$167,700		$311,500	$479,200
&A (HO EXP)							$378,800
ROJ.MGMT-FERMCO							$3,030,800
NGINEERING	TITLE I	TITLE II		TITLE III			$4,791,500
NGINEERING/FIELD SUPPORT/SUBCONTRACTS							$8,680,300
OTAL FIELD & ENGINEERING COSTS							$46,564,900
ALES TAX	6.0%	$20,686,800					$1,241,200
SUB-TOTAL							$47,806,100
SCALATION							
SUB-TOTAL							$47,806,100
ONTINGENCY	10.0%						$4,780,600
TOTAL ESTIMATED INSTALLED COST	(FPSC bid w/cont.-)						$52,586,700

PRELIMINARY

CONTR.NO.– 4424321
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– D&D FOR FERNALD SITE
LOCATION– FERNALD, OHIO
PROJ.CTL.–

BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO.
BY:
DATE: 08/05/93

COST CATEG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	BUILDINGS												
	TENSION SUPPORT STRUCTURES (6 EA)												
	EXCAVATION	463,000	CY	0.05	23,150	17.64				$408,400			$408,400
	BACKFILL	463,000	CY	0.03	11,575	17.64			12	$204,200		$5,556,000	$5,760,200
	INITIAL PURCHASE/ERECT	1	LOT						3,600,000			$3,600,000	$3,600,000
	6 SLABS ON GRADE	5,958	CY	6	34,556	17.64			90	$609,600		$536,200	$1,145,800
	6 SKIN REPLACEMENT COSTS	1	LOT						2,880,000	$1,920,000		$2,880,000	$4,800,000
	O&M COSTS	1	LOT							$4,492,800			$4,492,800
	EQUIPMENT	1	LOT						1,572,480			$1,572,500	$1,572,500
	SUB TOTAL (BUILDINGS)				69,281					$7,635,000		$14,144,700	$21,779,700
	TAKE – OFF ALLOWANCE 10%				6,928					$763,500		$1,414,470	$2,177,970
	TOTAL (BUILDINGS)				76,209					$8,398,500		$15,559,200	$23,957,700

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Building Types

Type A. Structural Steel with Transite Siding & Roofing

These buildings are either single or multi-level structures, consisting of structural steel framing on a foundation system of reinforced concrete spread footings. (Some buildings have partial basement sections.) The ground floor is a concrete grade slab, and the upper floors are steel floor plates and/or reinforced concrete flat slabs. The building enclosure is transite siding and roof panels (containing asbestos fibers), and the glass windows may have lead flashing.

Type B. Concrete Block with Built-Up Roofing

These buildings are either single or multi-level structures, consisting of reinforced concrete block load-bearing walls on a foundation system of reinforced concrete wall footings. The ground floor of a concrete grade slab, and the upper floors are reinforced concrete flat slabs. The roof covering is a built-up roofing system, supported on either a reinforced concrete flat slab or metal decking on steel bar joists. This type also includes buildings with reinforced concrete walls, floors, and roofs.

Type C. Pre-Engineered Steel with Metal Siding & Roofing

These buildings are either single or multi-level structures, consisting of pre-engineered steel framing on a foundation system of reinforced concrete spread footings. The ground floor of a concrete grade slab, and any upper floors are steel plate or bar grating. The building enclosure is metal siding and roofing panels.

Type D. Wood Frame with Wood Siding & Metal Roofing

These buildings are small single level structures, consisting of wood frame construction on a combination foundation and grade slab, with wood siding and metal roofing or shingles. This type of structure also includes wood cooling towers.

Type E. Tension Support Structure with Fabric Skin

These buildings are large single level structures, consisting of galvanized steel or aluminum frames on a foundation system of reinforced concrete grade walls or slabs. The building enclosure is a PVC coated polyester fabric, and the ground floor will typically be a new or existing concrete grade slab. This type of structure also includes temporary trailers.

Type F. Open Structural Steel Frame and/or Equipment

These buildings are either single or multi-level structures, consisting of open structural steel framing on a foundation system of reinforced concrete spread footings. This type includes open steel structures, such as weather covers over storage pads or frames supporting equipment and/or providing maintenance access. The roofing (if any) is similar to Type A or C buildings, but without any wall enclosures. The access platforms are typically open frames with plate floors. This type also includes free-standing outside equipment on concrete pads, such as tanks, dust collectors, generators, substations, or weighing scales.

Type G. Concrete Ground-Level or Subgrade Structure

These structures are at-grade and/or below-grade reinforced concrete structures, consisting of uncovered pavements, pads, pits, tunnels, trenches, sumps, basins, or dikes.

Type H. Earth Empoundments

These structures are above-grade and/or below grade earthen structures, consisting of pits, basins, tanks, dikes, and/or berms. These empoundments may be lined with flexible membrane liners.

PO-49 WORKPLAN, CRU 3

DISMANT. PACKAGE	BLDG #	DESCRIPTION	TYPE	LEVELS	FLOOR AREA (FT2)	HEIGHT (FT)	VOLUME (FT3)	PERIM (FT)	LNGH-INT WALLS (FT)	HT-INT WALLS (FT)	AREA-EXT WALLS (FT2)	ROOF AREA (FT2)	INS AREA-EXT WALLS (FT2)	TOTAL INT FLOOR AREA (FT2)	
01	04A	GREEN SALT PLANT	A	4	27,689	71	1,646,734	583	513	10	47,843	29,444	47,843	114,028	
01	04C	PLANT 4 MAINTENANCE BLDG	A	1	3,640	14	50,960	241	40	10	3,979	3,852	3,979	3,640	
02	03B	OZONE BUILDING	A	1	908	15	13,159	121	0	0	1,881	960	1,881	908	
02	03C	CONTROL HOUSE	A	1	2,905	11	30,748	273	132	11	3,008	3,075	3,008	2,905	
02	03D	MAR TOWERS	MISC	6	7,667	60	0	359	0	0	1,202	0	1,202	7,667	
02	03E	HOT RAFFIMATE BLDG.	A	3	4,050	33	115,343	244	140	10	7,556	4,637	7,556	9,223	
02	03F	HARSHAW DIGESTION FUME	MISC	3	837	36	29,990	123	0	0	4,407	345	4,407	1,278	
02	03G	REFRIGERATOR BLDG	A	1	704	12	8,272	120	57	1	1,453	745	1,453	704	
02	03J	COMBINED RAFFINATE TANKS	MISC	1	6,027	18	0	426	0	0	0	0	0	6,027	
02	03K	OLD COOLING WATER TOWER	MISC	0	1,266	0	0	143	0	0	0	0	0	1,266	
02	39A	INCINERATOR BLDG	A	2	2,818	37	104,254	212	155	21	7,012	1,820	7,012	4,482	
02	39B	SHELTER STORAGE BLDG	MISC	1	504	12	6,152	92	0	0	1,123	504	1,123	504	152,628
03	02A	CRE REFINERY PLANT	A	5	26,673	50	1,333,647	691	125	10	46,836	25,455	46,836	55,551	
03	02D	METAL DISSOLVER BLDG	A	2	2,101	21	43,075	179	45	7	3,936	2,097	3,936	2,101	
03	02E	NFS STORAGE & PUMP HOUSE	B	1	235	9	2,190	61	0	0	572	235	572	235	
03	02F	PLT 2 COLD SIDE ORE CONVEYOR	A	1	1,673	2	0	209	0	0	418	0	418	1,673	
03	02G	PLT 2 HOT SIDE ORE CONVEYOR	A	1	989	2	0	247	0	0	494	0	494	989	
03	02H	CONVEYER FORM PLANT 1 ORE	MISC	(1)	1,978	4	0	396	0	0	1,582	0	1,582	1,978	62,525
04	13A	PILOT PLANT WET SIDE	B	1	9,661	54	374,911	374	0	0	16,031	9,650	16,031	9,661	
04	13B	PILOT PLANT MAINTENANCE BLDG	B	1	1,800	12	21,299	180	105	12	2,167	1,800	2,167	1,800	
04	13C	SLUMP PUMP HOUSE	B	1	192	8	1,535	56	0	0	472	203	472	192	
04	13D	PILOT PLANT THORIUM TKFARM	MISC	0	1,992	0	0	277	0	0	0	0	0	1,992	
04	19B	PILOT PLT AMMONIA TANKFARM	MISC	0	2,065	3	0	184	0	0	551	0	551	2,065	
04	37	PILOT PLANT ANNEX	B	1	7,689	25	193,506	439	0	0	11,044	7,613	11,044	7,689	
04	54A	6 TO 4 REDUCTION FACILITY #1	B/C	1	10,658	32/12	204,056	588	150	11	10,616	10,650	10,796	10,658	
04	54B	PILOT PLANT WHSE	C	1	3,766	10	38,683	250	13	10	2,982	3,986	2,982	3,766	
04	54C	PILOT PLANT DISSOCIATOR SHELTER	C	1	960	19	18,240	136	0	0	2,591	973	2,591	960	
04	68	PILOT PLANT WHSE	A	1	5,356	14	74,978	303	21	9	4,260	5,382	4,260	5,356	44,339
05	05A	METALS PRODUCTION PLANT	A	3	62,306	35	2,220,041	704	1,210	12	53,082	67,346	31,152	126,257	
05	05B	PLT 5 W.SIDE SEPARATOR &	C	2/-1	1,771	16	27,447	119	150	9	1,847	1,771	1,847	1,771	
05	05C	SLAG MILLING & DERBY BKOUT BLD	C	4	480	12	5,734	62	0	0	756	487	756	480	
05	05D	PLANT 5 FILTER BUILDING	C	1	9,600	42	345,600	240	0	0	14,227	6,490	14,227	9,600	
05	05E	FILTER BLDG	C	1	3,627	22	91,635	195	0	0	5,101	3,680	5,101	3,627	
05	05F	PLT 5 COVER STORAGE	MISC	1	11,343	27	0	456	0	0	305	11,271	305	11,343	
05	05G	PLT 5 INGOT STORAGE SHELTER	MISC	1	1,912	11	0	186	0	0	58	1,938	58	1,912	
05	55A	SLAG RECYCLE BLDG	A	1/-1	2,006	42	84,016	189	32	9	9,630	2,125	9,630	4,549	
05	55B	SLAG RECYCLING PIT/ELEVATOR	A	2/-1	165	39	6,368	51	0	0	2,012	174	2,012	329	142,608
06	06A	METALS FABRICATION PLANT	A	1/-1	163,212	32	5,141,182	919	2,168	13	46,555	167,369	46,555	165,906	
06	06B	PLT 6 COVERED STORAGE AREA	MISC	1	2,520	10	0	204	0	0	147	2,529	147	2,520	
06	06C	ELECTRO. PRECIPITATOR SOUTH	C	1	491	14	6,178	93	0	0	1,349	519	1,349	491	
06	06D	ELECTRO.. PRESCIPITATOR CENTRAL	MISC	1	720	3	0	112	0	0	336	0	336	720	
06	06E	ELECTRO. PRECIPITATOR NORTH	C	1	491	14	6,178	93	0	0	1,349	519	1,349	491	
06	06F	SALT-OIL HEAT TREAT BLDG	A	1	DATA INCLUDED IN BLDG 6A TOTALS -- BLDG IS OF SAME MATERIAL										
06	06G	SUMP BLDG	C	2	3,825	40	151,088	175	113	9	6,976	4,048	6,976	7,650	
07	09A	SPECIAL PRODUCTS PLANT	A	1	49,639	20	1,020,316	695	317	11	15,595	56,064	13,661	49,639	
07	09B	SUMP TREATMENT	A	1	600	12	9,600	100	0	0	750	636	750	600	
07	09C	PLANT 9 DUST COLLECTOR	MISC	1	835	24	20,049	119	0	0	2,857	835	2,857	835	51,274

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PO-49 WORKPLAN, CRU 3

DISMANT. PACKAGE	BLDG #	DESCRIPTION	TYPE	LEVELS	FLOOR AREA (FT2)	HEIGHT (FT)	VOLUME (FT3)	PERIM (FT)	LNGH-INT WALLS (FT)	HT-INT WALLS (FT)	AREA-EXT WALLS (FT2)	ROOF AREA (FT2)	INS AREA-EXT WALLS (FT2)	TOTAL INT FLOOR AREA (FT2)	
07	09D	ELECTRICAL SUBSTATION	A	1	1,000	12	16,000	130	0	0	1,184	1,059	1,184	1,000	
07	09E	CYLINDER SHED	A	1	62	8	494	33	0	0	264	62	264	62	
07	09F	ELECTRO. PRECIPITATIOR HOUSE	C	1	491	14	8,176	93	0	0	1,349	519	1,349	491	
07	32A	MAGNESIUM STORAGE BLDG	B	1	5,029	18	108,916	306	71	16	7,234	4,173	7,234	3,951	
07	32B	MG STORAGE COVERED LOADING	MISC	1	1,078	12	0	100	0	0	390	1,200	0	1,078	6582
08	10A	BOILER PLANT	A	3/-1	18,932	58	618,760	469	302	17	25,643	12,434	25,643	25,333	
08	10B	BOILER PLANT MAINTENANCE BLDG	C	1	2,493	16	39,892	200	115	9	3,233	2,402	3,233	2,493	
08	10C	WET SALT STORAGE BIN	MISC	(1)	714	13	9,104	116	0	0	1,505	714	1,505	714	
08	10D	OIL BURNER/GRAPHITE BURNER PAD	MISC												
08	19A	MAIN METAL ANK FARM	MISC												
08	19C	MAIN TANK FARM CONTROL ROOM	C	1	924	11	9,943	145	43	9	1,556	930	1,556	924	
08	19D	OLD NORTH TANK FARM	MISC	0	2,168	0	0	463	0	0	0	0	0	2,168	
08	20A	VALVE CONTROL BLDG	A	1	1,464	13	18,668	202	45	13	2,631	1,550	2,631	1,464	
08	20B	FILTER/CHEMICAL BLDG	A/C	1	3,183	19	60,482	260	56	9	4,934	4,039	4,934	3,183	
08	20C	COGLING TOWER	MISC	1	3,048	43	130,296	256	0	0	10,937	6,096	10,937	3,048	
08	20H	PROCESS WATER STORAGE TANK	MISC												
08	22B	SEWER LIFT STATION	B	3	165	9	1,429	53	0	0	459	165	459	165	39,492
09	12A	MAIN MAINTENANCE BLDG	A/B	2	70,080	20	1,375,131	1,406	1,292	10	26,680	63,459	26,680	72,583	
09	12B	CYLINDER STORAGE BLDG	B/C	1	1,482	10	14,824	157	65	9	1,573	1,482	1,573	1,482	
09	12C	LUMBER STORAGE BLDG	C	1	2,024	14	28,336	181	0	0	2,561	2,143	2,561	2,024	
09	24B	RAILROAD ENGINE HOUSE	B	1	1,243	17	20,715	170	97	5	2,828	1,244	2,828	1,243	
09	38A	PROPANE STORAGE	B	1	777	10	7,774	113	23	10	1,133	778	1,133	777	
09	38B	CYLINDER FILLING SHED	C	1	71	8	569	35	0	0	277	80	277	71	78180
10	11	SERVICE BLDG	B	3	66,920	31	2,052,231	1,106	5,117	15	23,815	74,306	23,815	133,840	
10	14A	ADMINISTRATION BLDG	B	3	25,083	24	576,191	876	4,097	11	21,020	21,444	21,020	52,008	
10	14B	ECC EMERGENCY ELE. GENERATOR	MISC	3	100	0	0	40	0	0	0	0	0	100	
10	15	LABORATORIES	B	3	97,415	11	1,105,670	1,090	4,684	10	23,433	73,876	23,433	108,272	
10	28A	SECURITY BLDG.	B	3	17,522	10	170,666	481	1,617	9	5,255	13,909	5,255	17,522	
10	28B	HUMAN RESOURCES BLDG.	B	3	DATA INCLUDED IN BLDG 28A TOTALS -- BLDG IS OF SAME MATERIAL										
10	44A	TRAILERS	MISC												
10	44B	TRAILERS	MISC												
10	44C	TRAILERS	MISC												
10	44D	TRAILERS	MISC												
10	44E	TRAILERS	MISC												
10	45A	RUST ENG BLDG	C	1	14,276	14	189,154	261	1,492	10	6,014	15,360	6,014	14,276	
10	45B	UTILITY SHED	D	1	225	10	2,813	60	0	0	638	238	638	225	
10	53A	I.R.S. 3T. BLDG.	B	3	35,334	23	727,308	621	5,451	11	14,076	19,902	14,076	60,199	386,856
10	53B	IN-VIVO BLDG	B	3	2,616	15	39,894	197	275	11	3,010	2,264	3,010	2,616	
10	T1-T49														5445
11	06A	RECOVERY PLANT	A	2	15,600	48	670,800	670	538	10	24,520	16,440	24,520	31,200	
11	06B	MFS STORAGE & PUMP HOUSE	B	1	1,268	13	16,478	144	25	8	1,872	1,247	1,872	1,268	
11	06C	ROTARY KILN/DRUM	C	2	14,547	18	448,954	476	548	10	15,806	15,274	15,806	25,262	
11	06D	RAILROAD FILTER BLDG.	C	1	60	10	600	36	0	0	360	60	360	60	
11	X 06F	OLD DRUM WASHER	MISC	1	362	12	0	76	0	0	915	0	915	362	
11	18B	GENERAL SUMP	MISC	1	9,896	19	0	504	0	0	0	0	0	9,896	
11	18D	BIODENITRIFICATION EFFLUENT	C	6	4,386	16	185,393	176	47	11	17,211	1,629	17,211	8,569	77,057
11	18H	BON EFFLUENT TREATMENT FAC.	C	1	1,500	15	22,500	160	0	0	2,400	1,587	2,400	1,500	

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PO-49 WORKPLAN, CRU 3

DISMANT. PACKAGE	BLDG #	DESCRIPTION	TYPE	LEVELS	FLOOR AREA (FT2)	HEIGHT (FT)	VOLUME (FT3)	PERIM (FT)	LNGH-INT WALLS (FT)	HT-INT WALLS (FT)	AREA-EXT WALLS (FT2)	ROOF AREA (FT2)	INS AREA-EXT WALLS (FT2)	TOTAL INT FLOOR AREA (FT2)
11	18J	METHANOL TANK	MISC	1	1,319	6	0	146	0	0	880	0	880	1,319
11	18K	LOW NITRATE TANK	MISC	1										
11	18L	HIGH NATRATE TANK	MISC	1										
11	18M	HIGH NATRATE STORAGE TANK	MISC	1	9,652	3	0	351	0	0	1,055	0	1,055	9,652
11	25A	CHLORINATION BLDG	B	5	35	8	280	31	0	0	245	59	245	35
11	25B	MH #175 9VAULT)	C	5	182	10	1,538	48	17	6	644	169	644	182
11	25C	SEWAGE LIFT STATION	B	1	491	9	7,607	69	0	0	647	298	647	491
11	25D	U.V. DISINFECTION BLDG.	MISC	1	195	9	1,787	56	0	0	513	244	513	903
11	25E	DIGESTER CONTROL BLDG	B	5	9,161	17	152,627	204	0	0	3,390	1,209	3,390	9,561
11	25F	SLUDGE DRYING BEDS	MISC											
11	25G	CLARIFIER BEDS	MISC											
12	04B	PLANT 4 WHSE	C	1	12,120	14	163,620	524	0	0	7,674	12,826	7,674	12,120
12	31A	ENGINE HOUSE/GARAGE	B	3	6,101	16	144,474	444	223	8	7,924	5,160	7,924	6,533
12	31B	OLD TRUCK SCALE	MISC											
12	60	QUONSET HUT #1	C	1	4,950	21	80,028	323	41	22	18,129	0	18,129	4,950
12	61	QUONSET HUT #2	C	1	2,487	21	40,209	203	0	0	10,423	0	10,423	2,487
12	62	QUONSET HUT #3	C	1	2,487	21	40,209	203	0	0	10,423	0	10,423	2,487
12	63	KC-2 WHSE	B	1	26,268	16	420,609	851	515	13	13,617	27,465	13,617	26,268
12	64	THORIUM WHSE	C	1	16,134	22	354,955	742	101	22	16,744	17,100	16,744	16,134
12	65	(OLD) PLANT 5 WHSE	C	1	10,592	22	233,017	521	300	22	11,886	11,209	11,886	10,592
12	69	DECONTAMINATION BLDG	B	1	3,630	19	68,372	254	52	8	4,784	3,632	4,784	3,630
12	77	FINISHED PRODUCT WHSE	C	3	19,520	13	244,000	565	16	8	9,469	20,655	9,469	19,520
12	78	NEW D & D FACILITY	C	1	10,400	21	167,200	360	632	16	10,340	8,000	10,340	10,400
12	79	PLANT 6 WHSE	C	3	16,992	16	268,330	540	345	1	10,196	17,990	10,196	16,992
12	80	PLANT 8 WHSE	C	1	10,200	16	161,078	460	17	14	7,279	10,235	7,279	10,200
12	81	PLANT 9 WHSE	C	1	8,572	16	133,933	360	269	1	6,692	8,466	6,692	8,572
12	82	RECING/INCOMINT MAT'L INSPECT	C	3	12,172	18	216,048	400	170	15	7,142	10,035	7,142	12,172
13	01A	PREPARATION PLANT	A	4	17,525	51	747,416	815	647	14	28,761	16,084	28,761	53,286
13	01B	PLANT 1 STORAGE SHELTER	MISC	1	12,840	18	0	465	0	0	899	13,566	899	12,840
13	30A	CHEMICAL WHSE	A	1	26,616	16	425,860	808	40	10	14,071	26,166	14,071	26,616
13	30B	DRUM STORAGE WHSE	A	1	677	12	8,128	108	0	0	1,359	716	1,359	677
13	56A	CP STORAGE WHSE	C	1	9,000	15	130,500	460	25	8	7,086	4,524	7,086	7,086
13	56B	CONST. TOOL STOR. SHED WEST	C	1	864	14	12,096	120	0	0	1,776	914	1,776	864
13	56C	CONST. TOOL STOR. SHED EAST	C	1	1,500	14	21,000	160	0	0	2,390	1,568	2,390	1,500
13	66	DRUM RECONDITIONING BLDG	C	1	3,870	14	52,241	279	46	10	4,007	4,097	4,007	3,870
13	67	PLANT 1 THORIUM WHSE	C	1	4,000	22	88,000	280	0	0	6,427	4,233	6,427	4,000
13	71	BEN IN-PROCESS STORAGE WHSE	B	1	24,350	14	333,591	685	67	13	9,387	24,365	9,387	24,350
13	72	DRUM STORAGE BLDG	A	1	1,305	11	14,793	146	0	0	1,671	1,383	1,671	1,305
13	TS1	TENSION SUPPORT STRUCTURE 1	MISC											
13	TS2	TENSION SUPPORT STRUCTURE 2	MISC											
13	TS3	TENSION SUPPORT STRUCTURE 3	MISC											
13	TS4	TENSION SUPPORT STRUCTURE 4	MISC											
13	TS5	TENSION SUPPORT STRUCTURE 5	MISC											
13	TS6	TENSION SUPPORT STRUCTURE 6	MISC											
NIC	01C	PLANT 1 SILOS	MISC	1	2,092	7	14,125	244	0	0	1,666	872	1,666	2,092
NIC	02B	LIME HANDLING BUILDING	C	1	2,652	20	53,033	167	46	8	3,375	1,247	3,375	2,652
NIC	02C	BULK LIME HANDLING BLDG	A	1	505	11	5,298	93	0	0	2,493	224	2,493	505

22,323

165,077

5,249

279,023

0148

PO-49 WORKPLAN, CRU.3

DISMANT. PACKAGE	BLDG #	DESCRIPTION	TYPE	LEVELS	FLOOR AREA (FT2)	HEIGHT (FT)	VOLUME (FT3)	PERIM (FT)	LNGH-INT WALLS (FT)	HT-INT WALLS (FT)	AREA-EXT WALLS (FT2)	ROOF AREA (FT2)	INS AREA-EXT WALLS (FT2)	TOTAL INT FLOOR AREA (FT2)
NIC	03A	MAINTENANCE BLDG.	A	1	3,600	14	51,901	240	100	8	4,080	3,650	4,080	3,600
NIC	03H	REFINERY SUMP	MISC	(1)	4,765	0	0	403	0	0	0	0	0	4,765
NIC	07A	PLANT 7	A	7	8,130	102	831,938	389	532	10	48,855	7,116	48,855	35,476
NIC	07B	OVERHEAD CRANE	MISC	1	8,640	20	0	312	0	0	0	8,640	0	8,640
NIC	16C	SUPPORT EQUIPMENT	MISC	1	95	0	0	48	0	0	0	0	0	95
NIC	16E	SUPPORT EQUIPMENT	MISC	1	200	0	0	65	0	0	0	0	0	200
NIC	16F	TRAILER ELEC. SUBSTATION	MISC	1	167	0	0	66	0	0	0	0	0	167
NIC	16G	TRAILER ELEC. SUBSTATION	MISC	1	167	0	0	66	0	0	0	0	0	167
NIC	18G	CLEARWELL PUMP HOUSE	A	1	242	15	3,627	67	0	0	1,000	242	1,000	242
NIC	20D	ELEVATED POTABLE STORE. TANK	MISC	1	5,659	125	0	300	0	0	0	0	0	5,659
NIC	20E	WELL HOUSE #1	B	3	160	10	1,535	63	0	0	601	227	601	160
NIC	20F	WELL HOUSE #2	B	3	160	10	1,535	63	0	0	601	227	601	160
NIC	20G	WELL HOUSE #3	B	3	160	10	1,535	63	0	0	601	227	601	160
NIC	22A	GAS METER BLDG	B	3	332	12	3,907	73	0	0	663	332	663	332
NIC	22C	TRUCK SCALE	MISC	0	727	6	4,119	130	0	0	739	663	739	727
NIC	22D	SCALE HOUSE & WEIGH SCALE	A	1	716	10	316	144	0	0	31	62	31	716
NIC	23	METEOROLOGICAL TOWER	MISC	5	144	90	0	48	0	0	0	0	0	144
NIC	24A	RAILROAD SCALE HOUSE	B	1	187	10	1,851	55	0	0	542	187	542	187
NIC	26A	PUMP HOUSE HP FIRE PROT.	B	1	2,359	12	27,522	190	0	0	2,223	1,338	2,223	2,359
NIC	26B	ELEVATED FIRE WATER STOR. TANK	MISC	1	5,659	228	0	300	0	0	0	0	0	5,659
NIC	26C	MAIN ELE. STRAINER HOUSE	B	3	128	8	1,020	46	0	0	364	129	364	128
NIC	26C	SECURITY CHECKPOINT	C	1	100	10	1,000	40	0	0	400	100	400	100
NIC	26D	GUARD POST WEST END/2ND ST	D	1	225	10	2,250	60	0	0	600	225	600	225
NIC	39C	INCINERATOR BLG SPRIN. RISER HOU	B	1	68	9	586	31	0	0	266	56	266	68
NIC	39D	SEWAGE TRTMT PLANT INCINERAT.	MISC	5	729	12	3,840	165	0	0	864	339	864	729
NIC	46	HEAVY EQUIPMENT BLDG	C	3	13,330	18	238,639	563	60	18	10,693	14,107	10,693	13,330
NIC	51	6 TO 4 REDUCTION FACILITY #2	C	3	26,071	30	1,500,135	454	585	10	52,751	29,492	52,751	26,071
NIC	73A	FIRE BRIGADE TRN CTR BLDG	B	5	624	15	9,152	105	33	9	1,572	626	1,572	1,248
NIC	TS7	TENSION SUPPORT STRUCTURE 6	MISC											
NIC	TS8	TENSION SUPPORT STRUCTURE 6	MISC											
NIC	TS9	TENSION SUPPORT STRUCTURE 6	MISC											
NIC	TS10	TENSION SUPPORT STRUCTURE 6	MISC											
NIC	TS11	TENSION SUPPORT STRUCTURE 6	MISC											
NIC	TS12	TENSION SUPPORT STRUCTURE 6	MISC											

113,516

1,681,860

0149

5445

UNIT MANHOUR SPREAD/CRAFT MIX ASSUMPTIONS

21-Jul-93
12:28 PM

ACT. DESC	TRADE	# USED	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8	MONTH 9	MONTH 10	MONTH 11	MONTH 12	MONTH 13	MONTH 14	MONTH 15	TOTAL QTY	MHRS (PER UNIT)	TOTAL MHRS
GROSS DECONTAMINATION/ASBESTOS ABATEMENT																				
PAINTING CONTAINMENT																				
	APPR.	1 EA.			40	40	40	40												160
	CARP.	1 EA.			40	40	40	40												160
	PAINT	9 EA.			360	360	360	360												1,440
	FOREMAN	1 EA.			40	40	40	40												160
																		135,270 SF	0.014	1,920 HRS
																		PLANT 7		2.50
																		135,270 SF	0.035	4,800 HRS
	PROD. FACTOR	24 MIN.																		
EQUIPMENT DEMOLITION																				
	APPR.	3 EA.				200	200	200	200	200	200	200	200	200	200	200	200			1200
	B.M.	12 EA.				480	480	480	480	480	480	480	480	480	480	480	480			7680
	CARP.	1 EA.				40	40	40	40	40	40	40	40	40	40	40	40			640
	I.W.	5 EA.				200	200	200	200	200	200	200	200	200	200	200	200			3200
	LABOR	2 EA.				80	80	80	80	80	80	80	80	80	80	80	80			1280
	M.W.	11 EA.				440	440	440	440	440	440	440	440	440	440	440	440			7040
	OPER.	6 EA.				240	240	240	240	240	240	240	240	240	240	240	240			3840
	P.F.	3 EA.				200	200	200	200	200	200	200	200	200	200	200	200			3200
	TEAM	1 EA.				40	40	40	40	40	40	40	40	40	40	40	40			640
	FOREMAN	3 EA.				120	120	120	120	120	120	120	120	120	120	120	120			1920
	Q. FOREMAN	1 EA.				80	80	80	80	80	80	80	80	80	80	80	80			1280
		33 MEN																1,968 TONS	17.062	33,920 HRS
																		PLANT 4		2.50
																		1,968 TONS	42.656	84,800 HRS
	PROD. FACTOR	24 MIN.																		
HVAC DEMOLITION (AVG. SIZE 10X24")																				
	APPR.	1 EA.					40	40	40	40	40	40	40	40	40					600
	CARP.	2 EA.					80	80	80	80	80	80	80	80	80					800
	C.M.	2 EA.					80	80	80	80	80	80	80	80	80					800
	ELEC.	1 EA.					40	40	40	40	40	40	40	40	40					400
	I.W.	1 EA.					40	40	40	40	40	40	40	40	40					400
	LABOR	1 EA.					40	40	40	40	40	40	40	40	40					400
																		7,730 LF	0.413	3,200 HRS
																		PLANT 4		2.50
																		7,730 LF	1.032	8,000 HRS
	PROD. FACTOR	24 MIN.																		
PIPING DEMOLITION (AVG. SIZE 3")																				
	APPR.	1 EA.					40	40	40	40	40	40	40	40	40					600
	OPER.	1 EA.					40	40	40	40	40	40	40	40	40					600
	P.F.	6 EA.					240	240	240	240	240	240	240	240	240					2,400
	FOREMAN	1 EA.					40	40	40	40	40	40	40	40	40					600
																		23,155 LF	0.388	9,000 HRS
																		PLANT 4		2.50
																		23,155 LF	0.970	22,500 HRS
	PROD. FACTOR	24 MIN.																		
ELECTRICAL DEMOLITION (AVG. SIZE 1")																				
	ELEC.	6 EA.					240	240	240	240	240	240	240	240	240					2,880
	FOREMAN	1 EA.					40	40	40	40	40	40	40	40	40					480
																		42,190 LF	0.142	6,000 HRS
																		PLANT 4		2.50
																		42,190 LF	0.355	15,000 HRS
	PROD. FACTOR	24 MIN.																		
INTERIOR TRANSITE WALL DEMOLITION (AVG. SIZE 1/8" THICK)																				
	APPR.	3 EA.							80	80	80	80	80	80	80	80	80			640
	CARP.	3 EA.							120	120	120	120	120	120	120	120	120			1,200
	C.M.	2 EA.							80	80	80	80	80	80	80	80	80			800
	ELEC.	2 EA.							80	80	80	80	80	80	80	80	80			800
	I.W.	2 EA.							80	80	80	80	80	80	80	80	80			800
	LABOR	2 EA.							80	80	80	80	80	80	80	80	80			800
	PAINT	1 EA.							40	40	40	40	40	40	40	40	40			600
	P.F. WELD	1 EA.							40	40	40	40	40	40	40	40	40			600
	FOREMAN	1 EA.							40	40	40	40	40	40	40	40	40			600
	Q. FOREMAN	1 EA.							40	40	40	40	40	40	40	40	40			600
																		82,417 SF		6,800 HRS
																		PLANT 4		2.50
																		82,417 SF	0.206	17,000 HRS
	PROD. FACTOR	24 MIN.																		
INTERIOR WALL INSULATION (BATT) (AVG. SIZE 2" THICK)																				
	INSUL.	3 EA.							120	120	120	120	120	120	120	120	120			1,200
	FOREMAN	1 EA.							40	40	40	40	40	40	40	40	40			400
																		82,417 SF	0.019	1,600 HRS
																		PLANT 4		2.50
																		82,417 SF	0.049	4,000 HRS
	PROD. FACTOR	24 MIN.																		

01150

54

UNIT MANHOUR SPREAD/CRAFT MIX ASSUMPTIONS

11-Jul-93
12:28 PM

ACT. DESC. / TRADE	# USED	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8	MONTH 9	MONTH 10	MONTH 11	MONTH 12	MONTH 13	MONTH 14	MONTH 15	TOTAL QTY	HRS PER UNIT	TOTAL HRS
EXTERIOR TRANSITE WALL DEMOLITION																			
(AVG. SIZE 1/2" THICK)																			
APPR.	2 EA.									80 80 80 80 80 80 80 80 80 80									800
CARP.	4 EA.									160 160 160 160 160 160 160 160 160 160									1,600
C.M.	4 EA.									160 160 160 160 160 160 160 160 160 160									1,600
ELEC.	2 EA.									80 80 80 80 80 80 80 80 80 80									800
I.W.	2 EA.									80 80 80 80 80 80 80 80 80 80									800
LABOR	2 EA.									80 80 80 80 80 80 80 80 80 80									800
PAINT	1 EA.									60 60 60 60 60 60 60 60 60 60									600
F.P. WELD	1 EA.									60 60 60 60 60 60 60 60 60 60									600
FOREMAN	1 EA.									60 60 60 60 60 60 60 60 60 60									600
G. FOREMAN	1 EA.									60 60 60 60 60 60 60 60 60 60									600
																	77,187 SF	0.106	8,030 HRS
PROD. FACTOR	24 MIN.																PLANT 4		2.50
																	77,187 SF	0.259	20,000 HRS
WINDOW & DOOR DEMOLITION																			
LABORERS	2 EA.									60 60									120
PROD. FACTOR	24 MIN.																92 EA	1.304	120 HRS
																	PLANT 7		2.50
																	92 EA	3.261	300 HRS
STRUCTURAL STEEL DEMOLITION																			
APPR.	3 EA.												120 120 120 120 120 120 120 120 120 120 120 120 120 120 120						1,920
I.W.	19 EA.												760 760 760 760 760 760 760 760 760 760 760 760 760 760 760						12,160
LABOR	2 EA.												80 80 80 80 80 80 80 80 80 80 80 80 80 80 80						1,280
OPER.	1 EA.												40 40 40 40 40 40 40 40 40 40 40 40 40 40 40						640
TEAM	1 EA.												40 40 40 40 40 40 40 40 40 40 40 40 40 40 40						640
FOREMAN	1 EA.												40 40 40 40 40 40 40 40 40 40 40 40 40 40 40						640
G. FOREMAN	1 EA.												40 40 40 40 40 40 40 40 40 40 40 40 40 40 40						640
																	1,875 TONS	9.557	17,920 HRS
PROD. FACTOR	24 MIN.																PLANT 4		2.50
																	1,875 TONS	23.893	44,800 HRS
CONCRETE DEMOLITION																			
(PLANT 7 USED FOR MODEL)																			
APPR.	1 EA.												40 40 40 40						160
CARP.	3 EA.												120 120 120 120						480
C.M.	1 EA.												40 40 40 40						160
I.W.	1 EA.												40 40 40 40						160
LABOR	1 EA.												40 40 40 40						160
																	51 CY	21.961	1,120 HRS
PROD. FACTOR	24 MIN.																PLANT 7		2.50
																	51 CY	54.902	2,800 HRS
METAL ROOFING & WALL PANELS																			
CARP.	1 EA.												40 40 40						120
C.M.	1 EA.												40 40 40						120
ELEC.	1 EA.												40 40 40						120
I.W.	1 EA.												40 40 40						120
LABOR	1 EA.												40 40 40						120
																	7,674 SF	0.078	600 HRS
PROD. FACTOR	24 MIN.																PLANT 69		2.50
																	7,674 SF	0.195	1,500 HRS
MASONRY WALL DEMOLITION																			
APPR.	1 EA.												40 40 40 40						160
CARP.	1 EA.												40 40 40 40						160
C.M.	1 EA.												40 40 40 40						160
ELEC.	1 EA.												40 40 40 40						160
I.W.	1 EA.												40 40 40 40						160
LABOR	1 EA.												40 40 40 40						160
FOREMAN	1 EA.												40 40 40 40						160
																	9,700 SF	0.115	1,120 HRS
PROD. FACTOR	24 MIN.																PLANT 63		2.50
																	9,700 SF	0.289	2,800 HRS
ROOFING (BUILT-UP)																			
(UNIT WERE DEVELOPED FROM ESTIMATING SERVICES ESTIMATE ON LAB)																			0
																			0
																			0
																	9,700 SF	0.000	0 HRS
PROD. FACTOR	24 MIN.																CAROL'S ESTIMATE (LAB)		
																	9,700 SF	0.000	0 HRS
MISC. DEBRIS (FIXTURES,ETC)																			
LABORERS	2 EA.					60 60 60													240
PROD. FACTOR	24 MIN.																2,510 CF	0.096	240 HRS
																	PLANT 4A		2.50
																	2,510 CF	0.239	600 HRS

0151

545

UNIT MANHOUR SPREAD/CRAFT MIX ASSUMPTIONS

11-7-91
12:28 PM

ACT. DESC	TRADE	# USED	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8	MONTH 9	MONTH 10	MONTH 11	MONTH 12	MONTH 13	MONTH 14	MONTH 15	TOTAL QTY	HOURS PER UNIT	TOTAL HOURS
U.G. UTILITY DEMO																				
	APPR.	1 EA.	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40			1,920
	I.W.	1 EA.	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40			1,920
	LABOR	9 EA.	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360			17,280
	OPER.	1 EA.	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80			3,840
	TEAM	1 EA.	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40			1,920
	FOREMAN	1 EA.	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40			1,920
																		123,000 LF	0.330	38,800 HRS
																		EXCAV.		2.30
																		123,000 LF	0.576	72,000 HRS
	PROD. FACTOR	24 MIN.																		
RAILROAD DEMO.																				
	APPR.	1 EA.	40	40	40	40	40	40	40	40	40	40	40	40	40					640
	I.W.	1 EA.	40	40	40	40	40	40	40	40	40	40	40	40	40					640
	LABOR	8 EA.	320	320	320	320	320	320	320	320	320	320	320	320	320					5,120
	OPER.	1 EA.	80	80	80	80	80	80	80	80	80	80	80	80	80					1,280
	TEAM	1 EA.	40	40	40	40	40	40	40	40	40	40	40	40	40					640
	FOREMAN	1 EA.	40	40	40	40	40	40	40	40	40	40	40	40	40					640
																		18,440 LF	0.486	8,960 HRS
																		EXCAV.		2.30
																		18,440 LF	1.215	22,400 HRS
	PROD. FACTOR	24 MIN.																		
ROAD & PARKING LOTS																				
	APPR.	2 EA.	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80			2,560
	I.W.	1 EA.	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40			2,280
	LABOR	13 EA.	520	520	520	520	520	520	520	520	520	520	520	520	520	520	520			16,640
	OPER.	3 EA.	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120			3,840
	TEAM	1 EA.	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40			1,280
	FOREMAN	1 EA.	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40			1,280
	G. FOREMAN	1 EA.	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40			1,280
																		130,992 SY	0.215	28,160 HRS
																		EXCAV.		2.50
																		130,992 SY	0.537	70,400 HRS
	PROD. FACTOR	24 MIN.																		
CONC. BLDG. FDNS.																				
	APPR.	3 EA.	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120			3,760
	CARP.	10 EA.	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400			19,200
	C.M.	3 EA.	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120			3,760
	I.W.	4 EA.	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160			7,680
	LABOR	4 EA.	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160			7,680
	OPER.	1 EA.	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40			1,920
	TEAM	1 EA.	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40			1,920
	FOREMAN	1 EA.	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40			1,920
	G. FOREMAN	1 EA.	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40			1,920
		18																10,300 CY	5.120	53,760 HRS
																		EXCAV.		2.50
																		10,300 CY	12.800	134,400 HRS
	PROD. FACTOR	24 MIN.																		

0152

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CREW LOADING SUMMARY
UNIT MANHOUR RATES & AVERAGE CREW RATES FOR:
(2.5 PRODUCTIVITY FACTOR HAS ALREADY BEEN APPLIED)

23-Jul-93

ACTIVITY	UNIT MANHOUR	UNIT MAT'L DOLLARS	AVERAGE CREW RATE	BASE QUANTITY
	19.00	$227	$17.39	
GROSS DECON. & ASBESTOS ABATEMEN	~~24.14~~ MH/LF	~~$232~~ LF	~~$21.12~~	PLANT 7
PAINTING CONTAINMENT	0.035 MH/SF	$25 GAL	$16.43	PLANT 7
EQUIPMENT DEMOLITION	42.7 MH/TON		$19.75	PLANT 4
HVAC DEMOLITION	1.032 MH/LF		$17.64	PLANT 4
PIPING DEMOLITION	0.358 MH/LF		$19.00	PLANT 4
ELECTRICAL DEMOLITION	0.142 MH/LF		$18.09	PLANT 4
INTERIOR TRANSITE WALL DEMOLITION	0.206 MH/SF		$17.64	PLANT 4
INTERIOR WALL INSULATION (BATT)	0.049 MH/SF		$17.64	PLANT 4
EXTERIOR TRANSITE WALL DEMOLITION	0.259 MH/SF		$17.64	PLANT 4
WINDOW & DOOR DEMOLITION	3.261 MH/EA		$17.64	PLANT 7
STRUCTURAL STEEL DEMOLITION	23.9 MH/TON		$18.80	PLANT 4
CONCRETE DEMOLITION	54.902 MH/CY		$17.56	PLANT 7
METAL ROOFING & WALL PANEL REMOVA	0.195 MH/SF		$17.64	PLANT 4B
MASONRY WALL DEMOLITION	0.289 MH/SF		$17.64	PLANT 63
ROOFING (BUILT-UP)	1.04 MH/SF	$2.61	$17.64	CAROL/LAB.
MISC. DEBRIS (FIXTURES, ETC.)	0.239 MH/CF		$17.64	PLANT 4A
U.G. UTILITY DEMO	0.576 MH/SF		$16.51	EXCAV.
RAILROAD DEMO.	1.215 MH/SF		$16.51	EXCAV.
ROAD & PARKING LOTS	0.537 MH/SF		$16.51	EXCAV.
CONCRETE BLDG. FDNS.	12.8 MH/CF		$17.56	EXCAV.

CLIENT FERMCO
LOCATION FERNALD,OHIO
PROJECT ENVIRONMENTAL RESTORATION

CRAFT WAGE RATE
BASED ON
CRAFT MIX

PROJECT
BY WHO
DATE

	EXCAV			CONCRETE			STR STL			BLDG BLDG			EQUIP		
CRAFT	RATE	%	$ COST	RATE	%	$ COST	RATE	%	$ COST	RATE	%	$ COST	RATE	%	$ COST
APPRENTI	10.10	9%	0.91	11.70	9%	1.05	11.55	9%	1.04	11.70	9%	1.05	14.68	9%	1.32
B.M	21.75			21.75			21.75			21.75			21.75	23%	5.00
CARP	18.00	1%	0.18	16.00	36%	6.48	18.00			18.00	20%	3.60	18.00	1%	0.18
C.M	17.10	1%	0.17	17.10	10%	1.71	17.10			17.10	19%	3.25	17.10		0.00
ELEC.	19.00			19.00			19.00			19.00	10%	1.90	19.00		0.00
I.W	19.83	4%	0.79	19.83	15%	2.97	19.83	67%	13.29	19.83	12%	2.38	19.63	10%	1.96
LABOR	16.40	58%	9.51	16.40	15%	2.46	16.40	6%	0.98	16.40	10%	1.64	16.40	4%	0.66
M.W	19.35			19.35			19.35			19.35		0.00	19.35	22%	4.26
OPER	19.49	13%	2.53	19.49	5%	0.97	19.49	5%	0.97	19.49	2%	0.39	19.49	11%	2.14
PAINT	17.00			17.00			17.00			17.00	4%	0.68	17.00		0.00
INSUL	19.62			19.62			19.62			19.62			19.62		
P.F	19.94			19.94			19.94			19.94	2%	0.40	19.94	10%	1.99
PF WELD!	19.94			19.94			19.94			19.94	3%	0.60	19.94		0.00
TEAM	16.69	6%	1.00	16.69	2%	0.38	16.69	5%	0.83	16.69	1%	0.17	16.69	2%	0.38
FOREMN	17.40	5%	0.87	19.00	5%	0.95	20.83	5%	1.04	19.00	5%	1.00	22.75	5%	1.14
GFOREM	17.90	3%	0.54	19.50	3%	0.59	21.33	3%	0.64	19.50	3%	0.59	23.25	3%	0.70
TOTAL		1.00	16.51		1.00	17.56		1.00	18.80		1.00	17.64		1.00	19.75
	WAGE RATE MIXED BY COST CATEGORY		16.51	WAGE RATE MIXED BY COST CATEGORY		17.56	WAGE RATE MIXED BY COST CATEGORY		18.80	WAGE RATE MIXED BY COST CATEGORY		17.64	WAGE RATE MIXED BY COST CATEGORY		19.75

	PIPING			ELECTRICAL			INSTRUMENTS			PAINT			INSULATION		
CRAFT	RATE		$ COST	RATE	%	$ COST	RATE	%	$ COST	RATE	%	$ COST	RATE	%	$ COST
APPRENTI	9.95	9%	0.90	8.55	9%	0.77	8.55	9%	0.77	8.50	9%	0.77	8.50	9%	0.77
B.M	21.75		0.00	21.75		0.00	21.75		0.00	21.75		0.00	21.75		0.00
CARP	18.00	0%	0.00	18.00	0%	0.00	18.00	0%	0.00	18.00	5%	0.90	15.00	2%	0.36
C.M	17.10		0.00	17.10		0.00	17.10		0.00	17.10		0.00	17.10		0.00
ELEC.	19.00		0.00	19.00	76%	14.44	19.00	76%	14.44	19.00		0.00	19.00		0.00
I.W	19.83	5%	0.99	19.83		0.00	19.83		0.00	19.83		0.00	19.83		0.00
LABOR	16.40	2%	0.33	16.40	3%	0.49	16.40	3%	0.49	16.40	3%	0.49	16.40	4%	0.66
M.W	19.35		0.00	19.35		0.00	19.35		0.00	19.35		0.00	19.35		0.00
OPER	19.49	8%	1.56	19.49	2%	0.39	19.49	2%	0.39	19.49	1%	0.19	19.49	2%	0.39
PAINT	17.00		0.00	17.00		0.00	17.00		0.00	17.00	72%	12.24	17.00		0.00
INSUL	19.62			19.62			19.62		0.00	19.62			19.62	73%	14.32
P.F	19.94	66%	13.16	19.94		0.00	19.94		0.00	19.94		0.00	19.94		0.00
PF WELD!	19.94		0.00	19.94		0.00	19.94		0.00	19.94		0.00	19.94		0.00
TEAM	16.69	2%	0.37	16.69	2	0.38	16.69	2%	0.38	16.69	2%	0.38	16.69	2%	0.37
FOREMN	20.94	5%	1.05	20.00	5%	1.00	20.00	5%	1.00	18.00	5%	0.90	20.62	5%	1.03
GFOREM	21.44	3%	0.64	20.50	3%	0.62	20.50	3%	0.62	18.50	3%	0.56	21.12	3%	0.63
TOTAL		1.00	19.00		1.00	18.09		1.00	18.09		1.00	16.43		1.00	18.53
	WAGE RATE MIXED BY COST CATEGORY		19.00	WAGE RATE MIXED BY COST CATEGORY		18.09	WAGE RATE MIXED BY COST CATEGORY		18.09	WAGE RATE MIXED BY COST CATEGORY		16.43	WAGE RATE MIXED BY COST CATEGORY		18.53

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5445

DECON. & ASBESTOS ABATEMENT

ESTIMATE WAS DONE BY CONSTRUCTION FOR PLANT 7, CREW RATES AND UNIT MANHOUR RATES WERE DERIVED FROM CONSTRUCTION DECON. AND ASBESTOS REMOVAL ESTIMATE.

LABOR:

19,181 MH FROM CONSTRUCTION ESTIMATE MINUS CONTRACTOR SUPERVISION & TRAINING
DIVIDED BY 1,000 LF OF ASBESTOS (10% OF PIPE QUANTITIES)
19 MH/LF

MATERIAL:

$227,200 FROM CONSTRUCTION ESTIMATE MINUS SAFETY
DIVIDED BY 1,000 LF OF ASBESTOS (10% OF PIPE QUANTITIES)
$227.20 $/LF

AVERAGE CREW RATE:

$333,650 TOTAL LABOR $ FROM CONSTRUCTION ESTIMATE MINUS CONTRACTOR SUPERVISION & TRAINING
DIVIDED BY 19,181 MH FROM CONSTRUCTION ESTIMATE MINUS CONTRACTOR SUPERVISION & TRAINING
$17.39

SITE WORK, RAILROAD TRACK M.H. UNIT RATE CALCULATION

- 5445

1) ASSUME 4 MONTH DURATION.
QTY = 3 1/2 MILES or 18,440 LF
NEED PRODUCTION RATE OF (18,440/4) = 4,610 LF/MO

2) ALL EXCAVATION & SOIL WASHING BELOW ELEV. 580' IS TO BE DONE BY CRU-5.
LABORS TO CUT AND HELP LOAD TRACKS & CROSS TIES IN SEA/LANDS.
2 BACKHOE OPERATORS FOR LIFTING TRACKS AND MOVING HEAVY MATERIAL
1 TRUCK OPERATOR

3)

APPR.	1
I.W.	1
LABOR	8
OPER.	2
TEAM.	1
FOREMN.	1
	14

= 1.215 MH/LF (SEE UNIT M.H. SPREAD/CRAFT MIX ASSUMPTION)
AVG. CREW RATE = $16.51 (SEE CRAFT WAGE RATE MIX)

SITE WORK, U.G. UTILITIES M.H. UNIT RATE CALCULATION

1) ASSUME 2 YEAR DURATION.
QTY = 250,000 LF
NEED PRODUCTION RATE OF 250,000/2 = 125,000 LF/YR

2) NEED LABORS TO CUT AND LOAD PIPE IN SEA/LANDS.

3) ALL EXCAVATION & SOIL WASHING BELOW ELEV. 580' IS TO BE DONE BY CRU-5.

4) AVG. PIPE SIZE IS 12" AND 181,762 LF

6"	24,115	2"	50	8"	2,570	24"	67,050
	2,950		50		16,622	TIMES	2.000 FT DIA
	27,065 LF		9,425		23,015		134,100
TIMES	0.50 FT DIA		9,300		42,207		
	13,533		1,225	TIMES	0.667 FT DIA		
			8,975		28,138		
			7,820				
			1,215				
			2,375				
			2,690				
			2,045				
			270				
			45,440 LF				
		TIMES	0.167 FT DIA				
			7,573				

TOTAL LF: 183,344

TRENCH PIPE:

	183,344
DIVIDED	181,762
	1.009 FT
TIMES	12
	12 INCH AVG PIPE

5) AVG. DUCT BANK 3'x1', AND 65,365 LF or 196,095 CF

TOTAL TRENCH WORI	181,762
	65,365
	247,127
	SAY 250,000 LF

6)

APPR.	1
I.W.	1
LABOR	9
OPER.	2
TEAM.	1
FOREMN.	1
	15 = 0.576 MH/LF (SEE UNIT M.H. SPREAD/CRAFT MIX ASSUMPTION)
	AVG. CREW RATE = $16.51 (SEE CRAFT WAGE RATE MIX)

SITE WORK, M.H. UNIT RATE CALCULATION
DEMO SIDEWALKS, PARKING LOTS AND SERVICE ROADS

1) ASSUME 8 MONTH DURATION.
SIDEWALK QTY = 48,312 SF or 5,368 SY
PARKING LOTS QTY = 642,620 SF or 71,402 SY
PAVED ROADS QTY = 488,000 SF or 54,222 SY

2) NEED LABORS TO CUT AND LOAD TRACKS IN SEA/LANDS.
NEED 4 BACKHOE OPERATORS WITH DEMO ATTACHMENT
NEED 6 TRUCK OPERATORS
NEED 2 FRONT END LOADER OPERATORS

3)

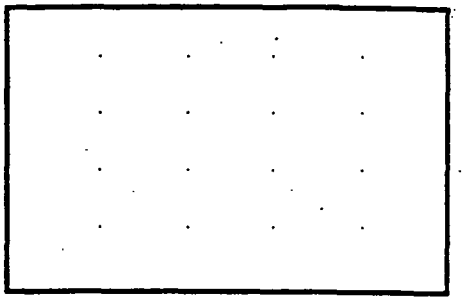
APPR.	2
I.W.	1
LABOR	13
OPER.	3
TEAM.	1
FOREMN.	1
GFOREM.	1
	22 = 0.537 MH/SY (SEE UNIT M.H. SPREAD/CRAFT MIX ASSUMPTION)

AVG. CREW RATE = $16.51 (SEE CRAFT WAGE RATE MIX)

SITE WORK, M.H. UNIT RATE CALCULATION
CONCRETE BUILDING FOUNDATION DEMOLITION

1) CUBIC YARD QUANTITY FOR FOUNDATIONS, PIER, BEAMS AND BASEMENTS WERE CALCULATED BY TAKING THE TOTAL FLOOR AREA GIVEN BY PARSONS IN DOCUMENT PO-49 (SEE ATTACH) AND MULTIPLYING THE ASSUMED SLAB THICKNESS OF 8".
C.Y. = 1,234,880 SF x .67' THICK = 827,369 CF/27 = 30,643 CY OF SLAB ONLY.

2) THE ASSUMPTION USED TO QUANTITY UNDERGROUND BEAMS, PIERS AND BASEMENTS ARE BASED ON USING A 100'X 100' SLAB WITH GRADE BEAMS ON THE OUTSIDE AND PIERS AT 20' INTERVALS AROUND AND UNDER THE SLAB. THE BEAMS WERE ASSUMED TO BE 2' DEEP BY 2' WIDE. PIERS WERE ASSUMED TO BE 2'X 2' IN SECTION AND 6' DEEP.



4 BEAMS (100' LONG) = 400 LF
400 LF x (2'X 2' CROSS SECTION) = 1,600 CF

36 PIERS AT 6' LONG = 216 LF
216 LF x (2'x 2' CROSS SECTION) = 864 CF

1,600 CF + 864 CF = 2,464 CF/27 = 91 CY OF UNDERGROUND BEAM & PIERS

3) FROM THE ABOVE CALCULATION, THE 8" SLAB IS 250 CY AND THE BEAM AND PIERS ARE 91 CY. USE 1 + (90/250) = 1.36 FACTOR TO BUMP SLAB WITHOUT BEAM, PIERS & BASEMENTS.

4) 30,643 CY x 1.36 = 41,674 CY

5) ASSUME 4 YEAR DURATION BASED ON 41,674 CY.

6) ASSUME PRODUCTION RATE OF (41,674 CY/4 YEARS) = 10,418 CY/YR.
SAY 10,500 CY/YR

7)

APPR.	3
CARP.	10
C.M.	3
I.W.	4
LABOR	4
OPER.	1
TEAM.	1
FOREMN.	1
GFOREM.	1
	28

= 12.8 MH/CY (SEE UNIT M.H. SPREAD/CRAFT MIX ASSUMPTION)
AVG. CREW RATE = $16.51 (SEE CRAFT WAGE RATE MIX)

8) UNIT RATE INCLUDES MACHINE DEMOLITION OF CONCRETE BELOW ELEVATION 580 FOR SLABS, GRADEBEAMS, PIERS AND BASEDMENTS. THE UNIT RATE ALSO INCLUDES DOWNSIZING AND LOADING INTO SEA/LAND CONTAINERS.

9) UNIT RATE EXCLUDES LABOR FOR EXCAVATING SOIL AROUND FOUNDATIONS AND HAULING TO TREATMENT SITE. THIS WILL BE DONE BY OU5. THE UNIT RATE ALSO EXCLUDES TEMPORARY SHORING THAT, IF NEEDED WILL BE SUPPLIED BY OU5.

CONCRETE CATAGORY, (ELEVATED SLAB) M.H. UNIT RATE CALCULATION

1) ASSUME 1 MONTH DURATION BASED ON PLANT 7 (DETAILED TAKE–OFF OF QUANTITIES) OF 51 CY.

2) NEED PRODUCTION RATE OF 51 CY PER MONTH.

3)

APPR.	1
CARP.	3
C.M.	1
I.W.	1
LABOR	1
	7 = 54.90 MH/CY (SEE UNIT M.H. SPREAD/CRAFT MIX ASSUMPTION)

AVG. CREW RATE = $17.56 (SEE CRAFT WAGE RATE MIX)

4) UNIT RATE INCLUDES SAW CUTTING ELEVATED SLAB TO PROPER SIZE TO FIT INTO SEA/LAND CONTAINER, LOWER TO GROUND AND LOAD INTO SEA/LAND CONTAINERS.

STRUCTURAL STEEEL CATAGORY, M.H. UNIT RATE CALCULATION

1) ASSUME 4 MONTH DURATION BASED ON PLANT 4 QUANTITIES OF 1,875 TONS PROVIDED BY PARSONS.

2) ASSUME SAME METHOD OF DEMOLITION AS CONSTRUCTION GROUP. THIS METHOD CALLS FOR REMOVING STEEL BY LIFTING THE WHOLE OR PARTIAL SECTIONS FLOOR BY FLOOR TO THE GROUND WITH A MANIWOC CRANE. ONCE ON THE GROUND THE STEEL WILL BE TAKEN CUT APART USING MECHANICAL SHEARS. THEN LOADED IN SEALAND CONTAINERS. (SEE CONSTRUCTION PLAN)

3) NEED PRODUCTION RATE OF (1,875 TON/4 MO.) = 468 TON/MO.

4)

APPR.	3
I.W.	19
LABOR	2
OPER.	1
TEAM.	1
FOREMN.	1
GFOREM.	1
	28 = 23.89 MH/TON (SEE UNIT M.H. SPREAD/CRAFT MIX ASSUMPTION)
	AVG. CREW RATE = $18.80 (SEE CRAFT WAGE RATE MIX)

5) UNIT RATE INCLUDES: LIFTING AND RIGGING, CUTTING, DOWNSIZING AND LOADING INTO SEA/LAND CONTAINERS.

BUILDING CATAGORY, WINDOW AND DOOR M.H. UNIT RATE CALCULATION

1) ASSUME 1.5 WEEK DURATION BASED ON PLANT 7 (DETAIL TAKE–OFF OF QUANTITIES) OF 92 EA (WINDOWS).

2) NEED PRODUCTION RATE OF (92 EA/1.5 WK) = 61 EA/WK.

3) LABOR $\frac{2}{2}$ = 3.261 MH/EA (SEE UNIT M.H. SPREAD/CRAFT MIX ASSUMPTION)
AVG. CREW RATE = $17.64 (SEE CRAFT WAGE RATE MIX)

4) UNIT RATE INCLUDES REMOVING WINDOWS & DOORS, PLACE ON PALLET, WRAP & LOAD INTO SEA/LAND CONTAINERS.

BUILDING CATAGORY, METAL WALL & ROOFING M.H. UNIT RATE CALCULATION

1) ASSUME 1 MONTH DURATION BASED ON PLANT 4 QUANTITIES OF 7,674 SF PROVIDED BY PARSONS.

2) ASSUME TYPICAL PRE-ENGINEERED BUILDING WITH 26 GAGE GALV. STEEL ROOF PANELS.

3) NEED PRODUCTION RATE OF (7,674 SF/1 MO.) = 7,674 SF/MO.

4)

CARP.	1
C.M.	1
ELEC.	1
I.W.	1
LABOR	1
	5 = 0.195 MH/SF (SEE UNIT M.H. SPREAD/CRAFT MIX ASSUMPTION)
	AVG. CREW RATE = $17.64 (SEE CRAFT WAGE RATE MIX)

5) UNIT RATE INCLUDES: REMOVING PANEL SCREWS WITH AIR CHISEL OR ELECTRICAL DRILL WITH FASTNER BIT, CUT TO 18' LENGTH, WRAP AND PLACE INTO SEA/LAND CONTAINERS.

BUILDING CATAGORY, MASONRY WALL M.H. UNIT RATE CALCULATION

1) ASSUME 1 MONTH DURATION BASED ON PLANT 63 QUANTITIES OF 9,700 SF PROVIDED BY PARSONS.

2) ASSUME 8"x 8"x 16" C.M.U. WALL

3) NEED PRODUCTION RATE OF (9,700 SF/1 MO.) ≅ 9,700 SF/MO.

4)

APPR.	1
CARP.	1
C.M.	1
ELEC.	1
I.W.	1
LABOR	1
FOREMN.	1
	7 = 0.289 MH/SF (SEE UNIT M.H. SPREAD/CRAFT MIX ASSUMPTION)
	AVG. CREW RATE = $17.64 (SEE CRAFT WAGE RATE MIX)

5) ASSUME WALLS WILL BE MADE INTO RUBBLE WITH EQUIPMENT.

BUILDING CATAGORY, MISC. DEBRIS M.H. UNIT RATE CALCULATION

1) ASSUME 3 WEEK DURATION BASED ON PLANT 4 QUANTITIES OF 2,510 CF PROVIDED BY PARSONS.

2) NEED PRODUCTION RATE OF (2,510 CF/3 WK.) = 837 CF/MO.

3) VOLUME WAS CALCULATED AT A RATE OF 0.22 CF/BUILDING AREA SF OF FLOOR AREA WHEN PARTITIONS WERE EITHER TRANSITE, MATEAL OR CMU.

4) LABOR $\frac{2}{2}$ = 0.239 MH/CF (SEE UNIT M.H. SPREAD/CRAFT MIX ASSUMPTION)
AVG. CREW RATE = $17.64 (SEE CRAFT WAGE RATE MIX)

5) UNIT RATE INCLUDES: REMOVING PLUMBING, LIGHT FIXTURES, INTERIOR PARTITIONS OTHER THAN TRANSITE, METAL OR C.M.U., INTERIOR DOORS, LOUVERS, ETC. AND WRAP & LOAD INTO SEA/LAND CONTAINERS.

BUILDING CATAGORY, EXTERIOR TRANSITE WALL M.H. UNIT RATE CALCULATION

1) ASSUME 2.5 MONTH DURATION BASED ON PLANT 4 QUANTITIES OF 77,287 SF PROVIDED BY PARSONS.

2) ASSUME .5" THICK FOR DEMOLITION.

3) NEED PRODUCTION RATE OF (77,287 SF/2.5 MO.) = 30,915 SF/MO.

4)

APPR.	2
CARP.	4
C.M.	4
ELEC.	2
I.W.	2
LABOR	2
PAINT.	1
P.F. WELD	1
FOREMN.	1
GFOREM.	1
	20

= 0.259 MH/SF (SEE UNIT M.H. SPREAD/CRAFT MIX ASSUMPTION)
AVG. CREW RATE = $17.64 (SEE CRAFT WAGE RATE MIX)

5) UNIT RATE INCLUDES: DETACH PANELS, PLACE ON PALLET, WRAPPING AND LOAD INTO SEA/LAND CONTAINERS.

BUILDING CATAGORY, HVAC M.H. UNIT RATE CALCULATION

1) ASSUME 2.5 MONTH DURATION BASED ON PLANT 4 QUANTITIES OF 7,750 LF PROVIDED BY PARSONS.

2) ASSUME TYPICAL SIZE OF 24"x 18" PROVIDED BY PARSONS.

3) NEED PRODUCTION RATE OF (7,750 LF/2.5 MO.) = 3,100 LF/MO.

APPR.	1
CARP.	2
C.M.	2
ELEC.	1
I.W.	1
LABOR	1
	8 = 1.032 MH/LF (SEE UNIT M.H. SPREAD/CRAFT MIX ASSUMPTION)
	AVG. CREW RATE = $17.64 (SEE CRAFT WAGE RATE MIX)

5) UNIT RATE INCLUDES: DOWNSIZE (CUT-UP), WIPE DOWN, WRAPPING AND LOAD INTO SEA/LAND CONTAINERS.

BUILDING CATAGORY, INTERIOR TRANSITE WALL M.H. UNIT RATE CALCULATION

1) ASSUME 2.5 MONTH DURATION BASED ON PLANT 4 QUANTITIES OF 82.417 SF PROVIDED BY PARSONS.

2) ASSUME .5" THICK FOR DEMOLITION.

3) NEED PRODUCTION RATE OF (82,417 SF/2.5 MO.) = 32,967 SF/MO.

4)

APPR.	2
CARP.	3
C.M.	2
ELEC.	2
I.W.	2
LABOR	2
PAINT.	1
P.F. WELD	1
FOREMN.	1
GFOREM.	1
	17

= 0.206 MH/SF (SEE UNIT M.H. SPREAD/CRAFT MIX ASSUMPTION)
AVG. CREW RATE = $17.64 (SEE CRAFT WAGE RATE MIX)

5) UNIT RATE INCLUDES: DETACH PANELS, PLACE ON PALLET, WRAPPING AND LOAD INTO SEA/LAND CONTAINERS.

EQUIPMENT CATAGORY, M.H. UNIT RATE CALCULATION

1) ASSUME 4 MONTH DURATION BASED ON PLANT 4 QUANTITIES OF 1,988 TONS PROVIDED BY PARSONS.

2) NEED PRODUCTION RATE OF (1,988 TON/4 MO.) = 497 TON/MO.

3) BY EXAMINING THE EQUIPMENT LIST (SEE O.U.-3 ABOVE GRADE MATERIAL QUANTITY BOOK) FOR ABNORMAL SIZE OR WEIGHT OF INDIVIDUAL COMPONENTS, THE CREW MIX BELOW WAS DEVELOPED TO DO THE GROSS DECONTAMINATION, DISMANTLING, DOWNSIZING / WRAPING, AND LOADING INTO SEA/LAND CONTAINERS.

4)

APPR.	5
B.M.	12
CARP.	1
I.W.	5
LABOR	2
M.W.	11
OPER.	6
P.F.	5
TEAM.	1
FOREMN.	3
GFOREM.	2
	53 = 42.65 MH/SF (SEE UNIT M.H. SPREAD/CRAFT MIX ASSUMPTION)
	AVG. CREW RATE = $19.75 (SEE CRAFT WAGE RATE MIX)

PIPE CATAGORY, M.H. UNIT RATE CALCULATION

1) ASSUME 2.5 MONTH DURATION BASED ON PLANT 4 QUANTITIES OF 25,155 LF PROVIDED BY PARSONS.

2) ASSUME AVERAGE PIPE SIZE OF 2" FOR DEMOLITION.

3) NEED PRODUCTION RATE OF (25,155 LF/2.5 MO.) = 10,062 LF/MO.

4)

APPR.	1
OPER.	1
P.F.	6
FOREMN.	1
	9 = 0.358 MH/LF (SEE UNIT M.H. SPREAD/CRAFT MIX ASSUMPTION)
	AVG. CREW RATE = $19.00 (SEE CRAFT WAGE RATE MIX)

5) UNIT RATE INCLUDES: CUT DOWN, DOWNSIZE, WRAPPING AND LOAD INTO SEA/LAND CONTAINERS.

ELECTRICAL CATAGORY, M.H. UNIT RATE CALCULATION

1) ASSUME 3 MONTH DURATION BASED ON PLANT 4 QUANTITIES OF 42,190 LF PROVIDED BY PARSONS.

2) ASSUME AVERAGE CONDUIT SIZE OF 1" FOR DEMOLITION.

3) NEED PRODUCTION RATE OF (42,190 LF/2.5 MO.) = 16,876 LF/MO.

4) ELEC. 4
FOREMN. 1
5 = 0.142 MH/LF (SEE UNIT M.H. SPREAD/CRAFT MIX ASSUMPTION)
AVG. CREW RATE = $18.09 (SEE CRAFT WAGE RATE MIX)

5) UNIT RATE INCLUDES: CUT DOWN, DOWNSIZE, WRAPPING AND LOAD INTO SEA/LAND CONTAINERS.

PAINT CATAGORY, M.H. UNIT RATE CALCULATION

1) ASSUME 1 MONTH DURATION BASED ON PLANT 7 (DETAILED TAKE-OFF OF QUANTITIES) OF 135,270 SF. BASED ON INTERIOR/EXTERIOR WALL TRANSITE AND TRANSITE ROOF FOR CONTAINMENT PURPOSES.

2) NEED PRODUCTION RATE OF (135,270 SF/MO.)

3)

APPR.	1
CARP.	1
PAINT.	9
FOREMN.	1
	12 = 0.035 MH/SF (SEE UNIT M.H. SPREAD/CRAFT MIX ASSUMPTION)
	AVG. CREW RATE = $16.43. (SEE CRAFT WAGE RATE MIX)

4) ASSUME SPRAY GUN PAINTING.

5) ASSUME 1 GAL. WILL COVER 300 SF FOR MATERIAL QUANTITY BASED ON LATEX PAINT ON MASONRY SURFACE.

INSULATION CATAGORY, INTERIOR WALL (BATT INS.) M.H. UNIT RATE CALCULATION

1) ASSUME 2.5 MONTH DURATION BASED ON PLANT 4 QUANTITIES OF 82,417 SF PROVIDED BY PARSONS.

2) ASSUME 2" THICK FOR DEMOLITION.

3) NEED PRODUCTION RATE OF (82,417 SF/2.5 MO.) = 32,967 SF/MO.

4) INSUL. 3
FOREMN. 1
4 = 0.049 MH/SF (SEE UNIT M.H. SPREAD/CRAFT MIX ASSUMPTION)
AVG. CREW RATE = $18.53 (SEE CRAFT WAGE RATE MIX)

5) UNIT RATE INCLUDES: REMOVAL OF INSULATION AFTER THE PANELS ARE DETACHED, WRAPPING WRAPPING AND LOAD INTO SEA/LAND CONTAINERS.

ESTIMATING SERVICES ESTIMATE ON BUILT-UP ROOFING DEMOLITION

07-01-93

- 5445

LABOR $:	MATERIAL $:	LABOR MH:
$15,100	$7,500	15,249 MH
$27,600	$22,400	
$24,000	$1,200	
$177,900	$5,085	
$1,993	$80	
$282	$200	
$141	$420	
$353	$631	
$15,400	$500	
$3,846	$38,016	
$8,908		
$882		
$2,787		
$282		
$2,787		
$5,133		
$2,399		
$18		
$741		
$1,252		
$212		
$295,085		

TOTAL SF: 14,550 SF (LAB BLDG)

$295,085 LABOR $
DIV. BY $15,249 MH
$19.35

$38,016 MATERIAL
DIV. BY 14,550 SF
2.61 $/SF FOR MATERAL

15,249 MH
DIV. BY 14,550 SF
1.05 UNIT/MH

DOLLARS INCLUDE SITE PREP, CONTAMINATED MATERIAL HANDLING, ROOF REMOVAL, PRODUCTIVITY FACTOR, SAFETY RAILS, TEMP WALKWAY ON ROOF, TEMP LIGHTING, INSTALL ACCESS LADDER, CHANGE OUT AREA, MEMBRANE & INSULATION DEMO, VACCUM ROOF SURFACE, DEWATER MATERIAL, BAGGING & LOAD INTO CONTAINERS.

FILE NAME: F:\LOTUS31\BLTROOF.WK3

CONTR.NO.- .424321
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- LAB BUILDING ROOF REPLACEMENT PHASE 1
LOCATION- LAB BUILDING - B-15
PROJ.CTL.-

BUDGET ESTIMATE DETAILS

CONTR.NO.- 4424321
EST. NO. 3109
BY: C. MARTIN
DATE: 06/29/93

COST CATAG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	DIRECT FIELD COST SUMMARY												
	SITE PREP AND DEMOLITION												
	GENERAL SITE PREP	1	LOT		173					$15,100		$7,500	$22,600
	PENTHOUSE SIDING REMOVAL	1	LOT		46					$900			$900
	ROOF REMOVAL USE SF	1	LOT		1488					$27,600		$22,400	$50,000
	CONTAMINATED MATERIAL HANDLING	1	LOT		1296					$24,000		$1,200	$25,200
	BUILDINGS												
	RAISE DUCTWORK	1	LOT		1432					$26,500		$9,400	$35,900
	NEW ROOF	1	LOT		5866					$108,700		$112,200	$220,900
	CONTAMINATED AREA WORK PRODUCTIVITY FACTOR	1	LOT		9604					$177,900			$177,900
	22,600 900 50,000 25,200												
	14,450 SF												
	DIRECT FIELD COST				19905					$380,700		$152,700	$533,400

0175

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BUDGET ESTIMATE DETAILS

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COST CATAG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	SITE WORK - SUMMARY												
	SITE PREP & DEMO												
	GENERAL SITE PREP & ROOF DEMOLITION				3003					$67,600		$31,100	$98,700
***	ITEMS MARKED WITH AN ASTERICK (*) ARE WORK ITEMS THAT WILL TAKE PLACE IN CONTAMINATED AREAS, AND ARE USED TO DETERMINE THE BURN-OUT FACTOR.												
	4415 - BASE <4968> - DRESS OUT 1325 - EFFICIENCY 6624 - BURN OUT 2208 - FACE MASK												
	9604 / 4415 = 2.175 FACTOR FOR CONTAMINATED AREA				9604					$177,900			$177,900
	SUB TOTAL (DEMOLITION)				12,607					$245,500		$31,100	$276,600
	SHIFT DIFFERENTIAL - 5% - IN BACKUP SHEETS					0.88							
	TAKE-OFF ALLOW (IN BACKUP SHEETS)												
	TOTAL (DEMOLITION)				12,607	18.00				$245,500		$31,100	$276,600

0176

- 5448

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BUDGET ESTIMATE DETAILS

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COST CATAG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	SITE PREP AND DEMO												
	GENERAL SITE PREP												
	SAFETY RAILINGS - WARNING LINE SYSTEM CONSIST OF WIRE AND SUPPORTING STANCHIONS	113	EA	1	113	17.64			$45.00	$1,993		$5,085	$7,078
***	FURNISH AND INSTALL TEMPORARY WALKWAY ON ROOF NOT BEING REPLACED	160	LF	0.10	16	17.64			$0.50	$282		$80	$362
	FURNISH TEMPORARY LIGHTING FOR OFF-SHIFT WORK - 3 EA FOR 3 MONTHS - TRAILER MOUNTED WITH GENERATOR	3	EA						$330	$10,800		$990	$11,790
***	FURNISH AND INSTALL ROOF ACCESS (LADDER)	1	EA	8	8	17.64			$200	$141		$200	$341
	FURNISH CHANGE OUT AREA	200	SF	0.10	20	17.64			$2.10	$353		$420	$773
	SUB-TOTAL (GENERAL SITE WORK)				157					$13,569		$6,775	$20,344
	SHIFT DIFFERENTIAL - 5%					0.88				$138			$138
	TAKE-OFF ALLOWANCE 10%				16					$1,370		$680	$2,050
	TOTAL (GENERAL SITE WORK)	477.0			173					$15,078		$7,455	$22,533

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- 5448

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BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
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COST CATAG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
***	PENTHOUSE SIDING REMOVAL												
	REMOVE METAL SKIRTING AND FLASHINGS ON NEW PENTHOUSE												
	FLASHING	112	LF	0.10	11	17.64				$194			$194
	SIDING, FRAME & INSULATION	224	SF	0.14	31	17.64				$547			$547
	SUB TOTAL (PENTHOUSE SIDING)				42					$741			$741
	SHIFT DIFFERENTIAL – 5%					0.88				$37			$37
	TAKE – OFF ALLOWANCE 10%		LF		4					$80			$80
	TOTAL (PENTHOUSE SIDING)		LF		46					$900			$900

0178

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BUDGET ESTIMATE DETAILS

CONTR.NO.– 4424321
EST. NO. 3109
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DATE: 06/29/93

COST CATAG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
***	DEMOLITION – ROOF REMOVAL												
	REMOVE EXISTING 5–PLY ROOF, INCL FLASHING AND CURBS												
	MEMBRANE AND INSULATION	14550	SF	0.06	873	17.64				$15,400			
	5–PLY ROOF AND GRAVEL (BASED ON 75% PREVIOUSLY REMOVED)	3638	SF	0.06	218	17.64				$3,846			$3,846
	PENETRATION FLASHINGS (1' X 1', 1' X 2', 1' X 3', 2' X 2', & 2' X 2') AVERAGED	85	EA	1.60	136	17.64				$2,399			$2,399
		LOWER											
	MISCELLANEOUS REMOVALS												
	ROOF DRAIN BASIN (REMOVE BUCKET)	1	EA	1.00	1	17.64				$18			$18
	EXPANSION JOINTS	210	LF	0.20	42	17.64				$741			$741
	PERIMETER GRAVEL STOP & NAILER	355	LF	0.20	71	17.64				$1,252			$1,252
	CONCRETE PIER REMOVAL	6	EA	2.00	12	17.64				$212			$212
	VOLUME OF ROOF WASTE FOR CONTAINMENT												
	ROOF MEMBRANE	4845	CF										
	5–PLY AND GRAVEL	303	CF										
	PENETRATIONS FLASHING AN SHEET METAL	425	F										
	ROOF DRAIN BUCKET	1	CF										
	EXPANSION JOINTS	85	CF										
	PERIMETER GRAVEL STOP & NAILER	141	CF										
	PENTHOUSE SIDING AND STUDS	100	CF										
	CONCRETE PIERS	12	CF										
	NEW WORK CONSTRUCTION WASTE	1975	CF										
		7887	CF										
	SEA / LAND CONTAINER = 8X8X20 = 1024 CF TOTAL NUMBER OF CONTAINERS REQUIRED	8	EA						$2,800			$22,400	$22,400
	SUB TOTAL (ROOF REMOVAL)				1,353					$23,867		$22,400	$46,267
	SHIFT DIFFERENTIAL – 5%					0.88				$1,191			$1,191
	TAKE – OFF ALLOWANCE 10%				135					$2,510			$2,510
	TOTAL (ROOF REMOVAL)				1,488					$27,600		$22,400	$50,000

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- 5445

CONTR.NO.- ,424321
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PROJ.CTL.-

BUDGET ESTIMATE DETAILS

CONTR.NO.- 4424321
EST. NO. 3109
BY: C. MARTIN
DATE: 06/29/93

COST CATAG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
***	CONTAMINATED MATERIAL HANDLING												
	BAGGING AND TRANPORTING TO GROUND	3,154	BGS	0.16	505	17.64			$0.20	$8,908		$631	$9,539
	7887 CF/3CF PER BAG = 3154 BAGS AT 80% FULL												
	10% FACTOR FOR RESPIRATORS	315		0.16	50	17.64				$882			$882
	LOWER BAGS TO SEA/LAND - 2 BAGS PER TRIP	1577	EA	0.10	158	17.64				$2,787			$2,787
	AVERAGE 500 FT ROUND TRIP												
	10% FACTOR FOR RESPIRATORS	158	EA	0.10	16	17.64				$282			$282
	DEWATER MATERIALS PRIOR TO BAGGING	7887	CF	0.02	158	17.64				$2,787			$2,787
	HEPA VACUUM ROOF SURFACE	14530	SF	0.02	291	17.64				$5,133			$5,133
	PRE-FILTER ASSEMBLIES AND FILTERS	1	LOT						$500			$500	$500
	SUB TOTAL (CONTAMINATED WASTE HANDLING)				1,178					$20,780		$1,131	$21,911
	SHIFT DIFFERENTIAL - 5%					0.88				$1,037			$1,037
	TAKE - OFF ALLOWANCE 10%				118					$2,180		$110	$2,290
	TOTAL (WASTE HANDLING)				1,296					$24,000		$1,200	$25,200

0180

- 5448

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BUDGET ESTIMATE DETAILS

CONTR.NO.- 4424321
EST. NO. 3109
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DATE: 06/29/93

COST CATAG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
***	RAISE DUCTWORK TO CLEAR ROOF												
	DISCONNECT DUCT - THRU WALL	5	EA	6.00	30	17.64				$529			$529
	DISCONNECT DUCT - ROOF PENETRATIONS	16	EA	2.00	32	17.64				$564			$564
	MOVE DUCT FOR CURBING AT NORTH WALL												
	WEST 5200#	5200	LB	0.02	104	17.64				$1,835			$1,835
	EAST 2300#	2300	LB	0.02	46	17.64				$811			$811
	BREAK DUCT & CUT INSUL TO ENABLE MOVEMEN	28	EA	2.50	70	17.64				$1,235			$1,235
	INSTALL NEW DUCT OR CUT OUT SECTION												
	NEW EXTENSION	16	EA	6.00	96	17.64			$102	$1,693		$1,632	$3,325
	DUCT CUT-OUT	5	EA	6.00	30	17.64			$56	$529		$280	$809
	INSTALL NORTH DUCT AFTER CURB PLACEMENT												
	WEST	5200	LB	0.01	52	17.64				$917			$917
	EAST	2300	LB	0.01	23	17.64				$406			$406
	ATTACH NEW LEGS OR EXTENSION TO EXISTING SUPPORT BASE												
	CUT & THREAD, ATTACH CPLG	300	EA	1.00	300	17.64			$4	$5,292		$1,200	$6,492
	CUT AND REWELD CROSS MEMBER	150	EA	1.00	150	17.64			$2	$2,646		$300	$2,946
	ADJUST AND TIGHTEN CONNECTIONS	68	EA	1.00	68	17.64				$1,200			$1,200
	FURNISH AND INSTALL NEW INSULATION												
	NEW - 2" THK	820	SF	0.20	164	17.64			$3	$2,893		$2,460	$5,353
	DAMAGED AND REPAIRED	350	SF	0.30	105	17.64			$3	$1,852		$1,050	$2,902
	INSTALL DUCT CROSS-OVER												
	IN WALKWAY - 30" HIGH	1	EA	8	8	17.64			$560	$141		$560	$701
	30" HIGH	1	EA	8	8	17.64			$1,040	$141		$1,040	$1,181
	PAINT	2	EA	8	16	17.64			$25	$282			
	SUB TOTAL (DUCT RAISING)				1302					$22,967		$8,522	$31,489
	SHIFT DIFFERENTIAL - 5%					0.88				$1,146			$1,146
	TAKE - OFF ALLOWANCE 10%				130					$2,410		$850	$3,260
	TOTAL (DUCT RAISING)		SF		1,432					$26,500		$9,400	$35,900

0181

5446

CONTR.NO.- ,424321
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PROJ.CTL.-

BUDGET ESTIMATE DETAILS

CONTR.NO.- 4424321
EST. NO. 3109
BY: C. MARTIN
DATE: 06/29/93

COST CATAG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	BUILDINGS -(NEW ROOF)												
	CONCRETE SLAB REPAIR ALLOW 500 FT	500	SF	0.30	150	17.64			$0.25	$2,646		$125	$2,771
	REMOVE/REPLACE ACCESS LADDER - 15 FT LONG	1	EA	8.00	8	17.64			$350	$141		$350	$491
	INSTALL NEW GLASS & ASPHALT ROOF W/GRAVEL	14530	SF	0.10	1453	17.64			$0.45	$25,631		$6,539	$32,170
	TAPERED ISOCYANURATE INSULATION	815	CBF	0.80	652	17.64			$36.40	$11,501		$29,666	$41,167
	TAPERING COST	14530	SF						$0.78			$11,333	$11,333
	1/2" HIGH DENSITY OVERLAY	14061	SF	0.01	141	17.64			$0.18	$2,487		$2,531	$5,018
	TAPERED EDGE BOARD	353	LF	0.01	4	17.64			$0.10	$71		$35	$106
	WALKWAY	80	EA	1	80	17.64			$10.00	$1,411		$800	$2,211
	MISCELLANEOUS MATERIAL	1	LOT	16	16	17.64			$250	$282		$250	$532
	SUB TOTAL (NEW ROOFING)	44,871	LF		2,504					$44,171		$51,629	$95,800
	SHIFT DIFFERENTIAL - 5%					0.88				$2,204			$2,204
	TAKE - OFF ALLOWANCE 10%				250					$4,640		$5,160	$9,800
	TOTAL (NEW ROOFING)	30	LF		2,754					$51,000		$56,800	$107,800

0182

- 5445

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BUDGET ESTIMATE DETAILS

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COST CATAG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	BUILDINGS –(PENET, EXP. JTS, CURBS)												
	CLOSE OPENINGS <4 SF W/1/4" GALV SHT METAL	16	EA	4.00	64	17.64				$1,129			$1,129
	BASED ON AVERAGE SIZE OF 1'6" X 2'												
	METAL PLATE	48	SF	0.50	24	17.64			$16.00	$423			
	EXPANSION ANCHORS	64	EA	0.10	6	17.64			$0.63	$106		$40	$146
	2–PLY FLASHING 7' X 2'	224	SF	0.02	4	17.64			$0.32	$71		$72	$143
	CANT STRIP – 7 LF EA	112	LF	0.05	6	17.64			$0.56	$106		$63	$169
	(NOTE "C")												
	CLOSE OPENING AT OLD PENTHOUSE, CURBING EXISTS	1	LOT	20.00	20	17.64				$353			$353
						17.64							
	1/4" GALV SHT METAL – 11' X 14'	154	SF	0.50	77	17.64			$16.00	$1,358		$2,464	$3,822
	<3 X 3 X 1/4" CROSS BRACING	353	LBS	0.02	7	17.64			$1.00	$123		$353	$476
	EXP. ANCHORS	24	EA	0.10	2	17.64			$0.63	$35		$15	$50
	2–PLY FLASHING	100	SF	0.02	2	17.64			$0.32	$35		$32	$67
	CANT STRIP	50	LF	0.05	3	17.64			$0.56	$53		$28	$81
	TEMPORARY SEALS	19	EA	1.00	19	17.64			$10.00	$335		$190	$525
	INSTALL NEW EXPANSION JOINT (DETAIL DWG. A–6)												
	COMPRESSION FILLER	192	LF	0.07	13	17.64			$3.26	$229		$626	$855
	WOOD NAILERS 2" X 10"	320	BF	0.04	13	17.64			$0.56	$229		$179	$408
	CANT STRIP	385	LF	0.55	212	17.64			$0.57	$3,740		$219	$3,959
	FORMED METAL CURB	385	LF	0.04	15	17.64			$5.41	$265		$2,083	$2,348
	COMPOSITION FLASHING	1155	SF	0.01	12	17.64			$0.37	$212		$423	$635
	SS JOINT COVER	288	LF	0.05	14	17.64			$7.21	$247		$2,076	$2,323
	CURB ANCHORS	270	EA	0.05	14	17.64			$0.61	$247		$165	$412
	MISC – CAULK, HARDWARE	1	LOT	8.00	8	17.64			$100	$141		$100	$241
	SUB TOTAL (EXPAN JT & PENETRAT)	4,161	LF		535					$9,437		$9,128	$18,565
	SHIFT DIFFERENTIAL – 5%					0.88				$471			$471
	TAKE – OFF ALLOWANCE 10%				54					$990		$910	$1,900
	TOTAL (EXPAN JTS, & PENETRATIONS)	30	LF		589					$10,900		$10,000	$20,900

0183

5448

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COST CATAG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	BUILDINGS –(PENET, EXP. JTS, CURBS, CONTD)												
	NEW PENTHOUSE SIDING					17.64							
	METAL STUDS – 2 X 6												
	INSULATION	48	SF	0.50	24	17.64			$16.00	$423			
	VERSAWALL SIDING	64	EA	0.10	6	17.64			$0.63	$106		$40	$146
	CLOSURE STRIP	224	SF	0.02	4	17.64			$0.32	$71		$72	$143
	MISC HARDWARE	112	LF	0.05	6	17.64			$0.56	$106		$63	$169
	CONCRETE CURB AT BLOCK WALL PER DETAIL 3, DWG A–6 INCLUDES, DRILL HOLES, FORMWORK, CONTROL JOINT, COMP FILLER, WOOD EMBEDS, ANCHORS, CONRETE AND STRIP FORMS	255	LF	0.64	163	17.64			$7.06	$2,875		$1,800	$4,675
	BLOCK WALL CURB CAP & NAILER PER DETAIL 3, DWG A–6 INCLUDES WOOD NAILER, CANT STRIIP, ANCHORS, COMP FLASHING, SS COUNTER FLASHING, SS REGLET FLASHING	255	LF	0.62	158	17.64			$27.38	$2,787		$6,982	$9,769
	CONCRETE CURB AT PENTHOUSE WALLS PER DETAIL 5, DWG A–6 INCLUDES RE–STL, CONTROL JOINT, COMP FILL, FORMWORK, WOOD EMBEDS, & ANCHORS	115	LF	0.62	71	17.64			$6.20	$1,252		$713	$1,965
	METAL WALL CURB CAP & NAILER PER DETAIL 3, DWG A–6 INCLUDES WOOD NAILER, CANT STRIIP, ANCHORS, COMP FLASHING, SS COUNTER FLASHING, SS REGLET FLASHING, RIBBED NEOPRENE CLOSURE	115	LF	0.70	81	17.64			$28.16	$1,429		$3,238	$4,667
	SUB TOTAL (SIDING & CURBS)	1,188	LF		513					$9,049		$12,908	$21,957
	SHIFT DIFFERENTIAL – 5%					0.88				$451			$451
	TAKE – OFF ALLOWANCE 10%				51					$950		$1,290	$2,240
	TOTAL (SIDING & CURBS)	30	LF		564					$10,500		$14,200	$24,700

0184

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PROJ.CTL.–

BUDGET ESTIMATE DETAILS

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COST CATAG.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	TOTAL
	BUILDINGS –(FLASHINGS, ROOF CURB, GUTTERS)												
	DUCT LEG FLASHING PER DETAIL DWG A–6	300	EA	4.00	1200	17.64			$37.00	$21,168		$11,100	$32,268
	TYPICAL VENT FLASHINGS PER DETAIL DWG A–6 INCLUDES NAILERS, CANT STRIP, AND FLASHING	9	EA	3.56	32	17.64			$41.56	$564		$374	$938
	ROOF CURB PER DETAIL DWG A–6 INCLUDES FORMED SHEET METAL CURB, ANCHORS, NAILERS, CANT STRIP AND FLASHING	60	EA	3.50	210	17.64			$151.7	$3,704		$9,100	$12,804
	PERIMETER PRE–FINISHED GRAVEL STOP AND NAILER INCLUDES NAILERS, ANCHORS, COMP FLASHING, GRAVEL STOP/FLASHING, AND SHT METAL FINISH	455	LF	0.21	96	17.64			$3.24	$1,693		$1,474	$3,167
	PRE–FINISHED GALV GUTTERS AND DOWNSPOUTS												
	PRE–FINISHED GUTTER, 22 GA GALV, 8" WIDE	455	LF	0.20	91	17.64			$5.66	$1,605		$2,575	$4,180
	CORRUGATED DOWNSPOUT	200	LF	0.10	20	17.64			$5.70	$353		$1,140	$1,493
	SPLASH BLOCKS	13	EA	0.15	2	17.64			$6.20	$35		$81	$116
***	ROOF DIVIDER												
	NAILERS AT AVERAGE OF 4" – 2 X 6 TREATED	234	BF	0.06	14	17.64			$0.56	$247		$131	$378
	4" WOOD CANT	156	LF	0.55	86	17.64			$0.57	$1,517		$89	$1,606
	B/U FLASHING SYSTEM	390	SF	0.03	12	17.64			$2.15	$212		$839	$1,051
	METAL CAP	235	SF	0.04	9	17.64			$5.41	$159		$1,271	$1,430
***	REPAIR EXISTING ROOF WHERE ROOF DIVIDER IS INSTALLED	312	SF	0.03	9	17.64			$0.50	$159		$156	$315
	SUB TOTAL (FLASHINGS, ROOF CURB, GUTTERS)				1,781					$31,417		$28,330	$59,747
	SHIFT DIFFERENTIAL – 5%					0.88				$1,567			$1,567
	TAKE – OFF ALLOWANCE 10%				178					$3,300		$2,830	$6,130
	TOTAL (FLASHINGS, CURBS, GUTTERS)				1,959					$36,300		$31,200	$67,500

0185

.5445

PRODUCTIVITY FACTOR
FOR WORKING IN A CONTAMINATED AREA

LABOR PRODUCTIVITY
BASED ON DRESS OUT & STAY TIME

ASSUMPTIONS:

1) 4 – 10 HR DAYS / WEEK
2) 4 DRESS AND 4 UNDRESS PERIODS AT 0.25 HRS (15 MINS) EACH (INCLUDES MID–MORNING, LUNCH & MID–AFTERNOON BREAKS)
3) 0.25 HRS (15 MINS) ROUND TRIP TO MOBILIZE & DEMOBILIZE (TIME SPENT EN ROUTE TO / FROM DRESS OUT & WORK AREA)
4) 60% STAY TIME

CALCULATION:

	10	TOTAL WORK HOURS / DAY
	8	DRESSOUT / UNDRESS PERIODS
x	0.25	HRS / DRESS PERIOD
LESS:	2	HRS FOR DRESSOUT / UNDRESS
	4	MOBILIZATION PERIODS
x	0.25	HRS / ROUND TRIP
LESS:	1	HR FOR MOBILIZATION
	7	WORK HOURS REMAINING
x	0.6	STAY TIME FACTOR
	4	PRODUCTIVE HRS / DAY

10	TOTAL WORK HOURS / DAY
4	PRODUCTIVE HRS / DAY
2.5	PRODUCTIVITY FACTOR

5445

ESTIMATING

Solving the haz-waste problem

Putting a price on cleaning up hazardous waste is one of the last frontiers in cost estimating and one of the riskiest. Contractors specializing in this market have developed their own techniques over the years but still have to rely on a variety of sources in the [illegible]

hazardous waste estimating with the Corps of Engineers' Missouri River Division office in Omaha. "This is an effort to get our arms around the problem." The standardization program was mandated for all the Corps' cleanup projects in April 1992. [illegible] standards are being developed [illegible] interagency cost estimating [illegible]

project and refining cost estimates for virtually all government-run cleanups. "Right now nobody is collecting costs in a way that can be used across agencies." [illegible] develop [illegible] public and private use of [illegible] costs and schedules of remediation [illegible]

Total support/lost time	125	165	285	305
Instruction/travel/other	85	85	85	85
Pick up tools	30	30	30	30
Suit measurement	10	10	10	10
Outfitting	0	30	120	120
Desuiting recovery	0	10	40	60
Actual available work time	355	283	136	70
Total time on job	355	315	195	175
Time lost to suits	0	32	59	105
Percent efficiency loss	0	10%	30%	60%
Percent of work to total	74%	59%	28%	15%
Adjustment factor	base	1.25	2.60	5.07

Source: AACE International and Weston Services Inc.
1990 data
Level D= disposable outer coveralls and boot covers, surgical gloves; hard hat and safety shield
Level C= same as D plus respirator; Level B= same as D plus self-contained breathing apparatus

0187

for bonding and some types of in-surance. But legal risk and uncertainty factors do not fit as easily into a cost engineer's calculations.

"Who's to say that 10 years from now some guy who walked by the site isn't going to sue me?" says Donald Rogers, senior vice president for Environmental Restoration at Ebasco Inc., Lyndhurst, N.J. "How do I price that?" He says the example is an extreme one but that it pinpoints the fundamental difference between costing heavy civil construction and hazardous waste remediation. The lack of federal government indemnification of contractors against third-party claims is "a cost factor in every job we bid," says the Corps' Peterson.

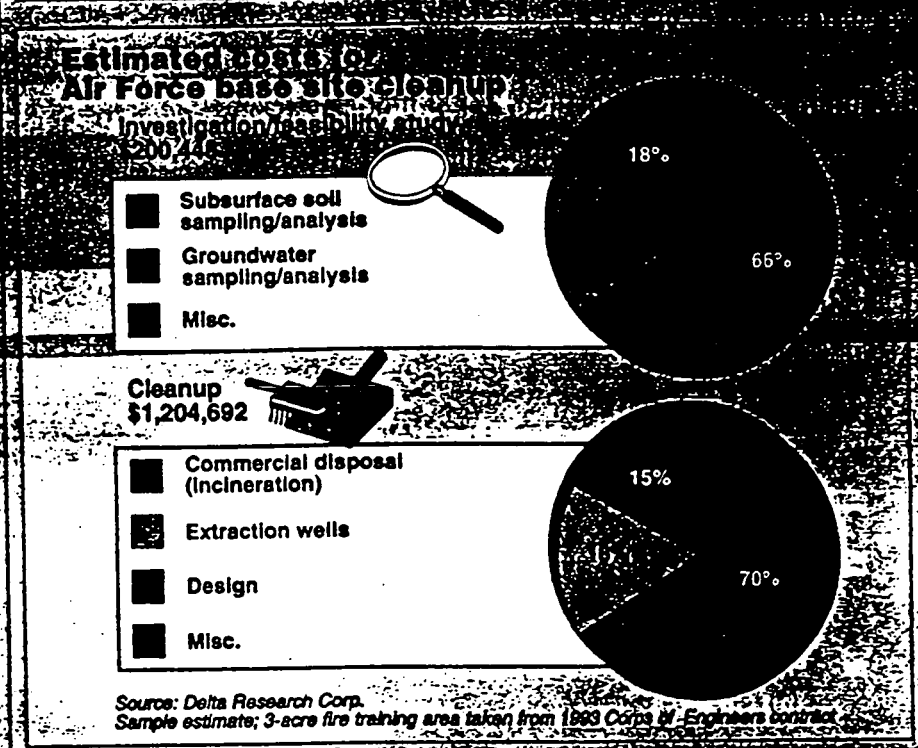
But indemnification is only the tip of the uncertainty iceberg on public sector remediation work, say cleanup contractors. The most difficult and most obvious cost to calculate is determining what lies beneath the surface and what it will take to clean it up. And the quality of the engineering work done on the site makes a big difference in the kind of comfort level that contractors have, how tightly they will estimate cleanup costs and whether they end up even in the ballpark.

"It's embarrassing to say out of [illegible] of the federal cleanup sites [illegible] gineering homework has been remi[illegible] says Alan Undley, director of the [illegible] Superfund [illegible] Department [illegible] quality [illegible] that no [illegible] costs. It's poor site characterization. Most of the really bad estimates are in the volume of materials to be [illegible]

Accuracy of site characterization is perhaps the key factor in predicting remediation costs, agrees Thomas McCracken, operations manager with Sevenson Environmental Services Inc., a $60-million per year Niagara Falls, New York-based cleanup contractor that got its start cleaning up Love Canal. "On some sites the engineering data is great, on others it's so poor we can't quantify our bid," he says. "If there is uncertainty I put more money in my bid. If the information is very accurate, they're going to get a lower bid."

Hard road. Creating standard line-item costs and estimating protocols will help, but both government and private sector officials say the hard-bid nature of government remediation contracting tends to drive up costs because of contractors' inability to deal with the inherent uncertainties of project costs. "Everybody wants to know what cleanup is going to cost, and they don't give a damn about the uncertainty," says [illegible]

[illegible] PA's Whelan. "We're [illegible] tors for a fixed price on a [illegible] The risk is on the contractor, but the [illegible] formation they have to bid on is often [illegible] inadequate. [illegible] "This is not like building a highway [illegible] abandon the hard-bid [illegible] says Ebasco's Rogers. "If the risk [illegible] fined, contractors will [illegible]



Source: Delta Research Corp.
Sample estimate; 3-acre fire training area taken from 1993 Corps of Engineers contract

[illegible] significant contingency pricing. Or else [illegible] the winner is the guy who can figure [illegible] out some sneaky way to get a lot of [illegible] change orders." Rogers says that the [illegible] government should use the [illegible] approach used by private sector [illegible] with remediation projects. The [illegible] tractors should be held accountable [illegible] their efficiency, but not [illegible]

The McGraw-Hill Construction Weekly June 28, 1993 $5

ENR

Engineering News-Record

Second Quarterly Cost Report

- Markets reflect growing inflation
- Cement prices come to life
- Shortages spike lumber prices

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1600 021427919 OCT93 S01 4451
DAVID Y CHANG
TEXAS A&M UNIV
4607 JAMAICA DR
SUGAR LAND TX 77479-2134

17-Jul-93

EQUIPMENT FOR TYVEX SUITS

COVERALLS (TYVEK)	$11.42
SARNEX	$12.43
BOOT COVERS	$12.70
HOOD (TYVEK)	$6.00
NITRILE GLOVES	$1.45
GLOVE LINER	$0.20
COTTON WORK GLOVE	$0.44
RESPIRATOR CARTRIDGES	$17.00
TOTAL	$61.64 per suit up

FOUR CHANGES PER DAY 4 x 61.64 = 246.56 say $250 per day

50 WEEKS PER YEAR (2 WEEKS OFF)
4 DAY WEEKS
200 DAYS PER YEAR

$250 PER DAY x 200 DAYS = $50,000 PER YEAR PER PERSON

REUSABLE EQUIPMENT:

FULL FACE RESPIRATOR	$428.00
COOL VEST	$137.50
THERMOSTRIPS	$50.00
TOTAL	$615.50

say $615.00 per man

FERMCO ESTIMATING SERVICES

ENGINEERING SUMMARY

OU-3 PROPOSED WORK PLAN

JULY, 1993

THE FERNALD ENVIRONMENTAL MANAGEMENT PROJECT (FEMP) LOCATED IN FERNALD, OHIO AND MANAGED BY FERNALD ENVIRONMENTAL RESTORATION MANAGEMENT COMPANY (FERMCO) IS CURRENTLY INVOLVED IN MULTIPLE ACTIVITIES AND STAGES OF COMPLETION OF ENGINEERING, FIELD SUPPORT AND SITE INVESTIGATIONS, AND SUBCONTRACTED DESIGN ENGINEERING TO BRING TO COMPLETION THE TOTAL REMEDIATION OF THE FEMP SITE.

OU-3 SCOPE OF WORK INCLUDES THE DESIGN, ENGINEERING, AND ENVIRONMENTAL IMPACTS OF THE REMEDIATION, DISMANTLEMENT, AND FINAL DISPOSITION OF ALL ABOVE GRADE STRUCTURES, SITE ROADS, PARKING LOTS, FENCES, TRAILERS, AND POLES. THE ABOVE GRADE STRUCTURES ARE CURRENTLY DEFINED AS ANYTHING ABOVE ELEVATION 580 (FINISHED FLOOR SLAB).

OU-3 IS ALSO CHARTERED WITH THE DESIGN, ENGINEERING, AND ENVIRONMENTAL IMPACTS OF THE REMEDIATION, DISMANTLEMENT AND FINAL DISPOSITION OF ALL ALL UNDERGROUND UTILITIES INCLUDING PIPE, DUCT BANKS, MANHOLES, AND FOUNDATIONS AND BASEMENTS BELOW SOME STRUCTURES.

THE CONCERNS, BOTH PUBLIC AND PRIVATE, OF HAZARDOUS MATERIALS REMAINING AT THE SITE, AND THE PROPER DISPOSITION OF THESE MATERIALS, CREATE ADDITIONAL ENGINEERING REQUIREMENTS AND STANDARDS TO INSURE ABSOLUTE COMPLIANCE WITH GUIDELINES AND PROCEDURES MANDATED BY THE DEPARTMENT OF ENERGY (D.O.E.) AND THE ENVIRONMENTAL PROTECTION AGENCY (E.P.A. & O.E.P.A) WHICH GREATLY EXCEED THE EFFORT AND ADD EXCESSIVE DOLLAR COSTS TO A PROJECT.

THESE REQUIREMENTS CAN BE SUMMARIZED INTO THE FOLLOWING WORK ACTIVITIES:

1. SCOPE DEFINITION
2. PERMISSIVES
3. DESIGN
4. CHARACTERIZATION
5. CONSTRUCTION (DISMANTLEMENT)
6. CLOSE OUT
7. WASTE MANAGEMENT

THESE OUTLINED ACTIVITES CAN BE BROKEN DOWN TO LOWER LEVELS WHICH IDENTIFY FERMCO DIVISONS AND GROUPS ASSOCIATED WITH THE INITIAL WORK PLAN, DESIGN, ENVIRONMENTAL IMPACT, DISMANTLEMENT, CLOSE OUT, AND DISPOSITION OF A SPECIFIC PROJECT.

THE CURRENT WORK BREAKDOWN STRUCTURE (WBS) IDENTIFIES THE PROJECTS OF OU-3.

THE ATTACHED SUPPORTING DOCUMENTATION INCLUDES:

1. RESOURCE MATRIX
2. ASSUMPTION OF MIX BASED ON MATRIX
3. BASE PROJECT "ENGINEERING"
4. FERMCO ONLY ENGINEERING RATES
5. AVERAGE RATE OF ASSUMED MIX

THE ENGINEERING REQUIREMENTS OF EACH PROJECT WERE ASSUMED TO GENERICALLY FOLLOW THE ACTIVITES OF PLANT 7. THE VARIABLE OF EACH PROJECT IS THE DURATION, VARIANCE FROM THE BASE PROJECT "ENGINEERING" REQUIREMENTS AND TIMING THROUGH THE LIFE OF THE REMEDIATION PROGRAM.

SUBCONTRACTED ENGINEERING IS ALSO ASSUMED TO FOLLOW THE ACTIVITES OF PLANT 7. NO OTHER INFORMATION IS AVAILABLE AT THIS TIME TO PRECLUDE THIS AS NOT BEING A VALID ASSUMPTION DUE TO THE DESIGN EFFORT OF PLANT 7 BEING HANDLED THROUGH PARSON'S AND OTHER SMALL PROJECTS BEING HANDLED THROUGH OTHER OUTSIDE FIRMS SUCH AS A.M. KINNEY, INC AND EBASCO.

THE FERMCO RATES HAVE BEEN ESTABLISHED USING HISTORICAL DATA PROVIDED BY THE ACQUISITION AND FINANCE GROUP. SUBCONTRACTED DESIGN ENGINEERING RATES ARE ASSUMED TO BE CLOSE TO THE SUBCONTRACTOR RATE OF $75.00 PER HOUR WHICH WAS PROVIDED BY THE SAME GROUP.

FERMCO
MARCH FORECAST
LABOR WORKSHEET

17-Feb-93
REV. 00

CONTROL ACCOUNT: RCH – PLANT 7 DISMANTLING
DIVISION – 17

DISCIPLINE PERSONNEL	DIV	ENTITY	BUDGET	FY 1993 DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	MANHOURS FERMCO	WEMCO	TOTAL	F/C RATE	DOLLARS FERMCO	WEMCO	TOTAL
QUALITY ASSURANCE	904																			
QA ENGINEER		F		0	0	12	12	12	12	12	12	140	140	352	0	352	32.53	11,500	0	11,500
TOTAL QUALITY ASSURANCE				0	0	12	12	12	12	12	12	140	140	352	0	352		11,500	0	11,500
ENVIRONMENTAL H&S	909																			
INDUSTRIAL HYGIENIST		F		0	0	15	15	15	15	15	15	140	140	370	0	370	27.61	10,200	0	10,200
RAD TECH		F				100	100	100	100	100	100	140	140	880	0	880	24.55	21,600	0	21,600
HEALTH & SAFETY ENGR		F				12	12	12	12	12	12	12	12	96	0	96	28.62	2,700	0	2,700
TOTAL ENVIRONMENTAL H&S				0	0	127	127	127	127	127	127	292	292	1,346	0	1,346		34,500	0	34,500
RSO	910																			
WAGE LABOR		F		0	0	0	0	400	400	400	400	840	840	3,280	0	3,280	21.71	71,200	0	71,200
TOTAL RSO				0	0	0	0	400	400	400	400	840	840	3,280	0	3,280		71,200	0	71,200
ENGINEERING	912																			
ENGINEER,PROJECT		F		0	0	70	70	70	70	70	70	70	70	560	0	560	39.07	21,900		21,900
ENGINEER,ENVIRONMENTAL		F		0	0	140	140	140	140	140	140	140	140	1,120	0	1,120	39.07	43,800		43,800
TOTAL ENGINEERING				0	0	210	210	210	210	210	210	210	210	1680	0	1680		65,700	0	65,700
CONSTRUCTION	913																			
CONSTRUCTION		F		0	0	140	140	140	140	140	140	140	140	1,120	0	1,120	38.69	43,300	0	43,300
TOTAL CONSTRUCTION				0	0	140	140	140	140	140	140	140	140	1120	0	1120		43300	0	43300
SUBCONTRACTS																				
PARSONS																		93 725,000		725,000
PROCUREMENT																		125,000		125,000 → 0.000000
ACTUALS THRU 1/93																		552,386		
TOTAL CONTROL ACCOUNT FORECAST				0	0	489	489	889	889	889	889	1622	1622	7778	0	7778		1,076,200		1,076,200

mar 95 1
Feb 95 for

0193

8445

FERMCO
JUNE FORECAST

LABOR WORKSHEET

AS OF: 5/93
RUN DATE: 30-Jun-93

CONTROL ACCOUNT: RCH – PLANT 7 DISMANTLING
DIVISION – 17

DISCIPLINE PERSONNEL	DIV.	ENTITY	(MAY 93) ACTUAL $ TO DATE CUML.	FY 93 JUN	JUL	AUG	SEP	FY 94 OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	FY 95 OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	FERMCO MHRS	F/C RATE	E.T.C FERMCO $	I.T.C
QUALITY ASSURANCE	904																														
QA ENGINEER		F		12	12	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	70	70	70	2,894	32.53	$94,142	
																												0		$0	
TOTAL QUALITY ASSURANCE				12	12	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	70	70	70	2,894		$94,142	
ENVIRONMENTAL H & S	909																														
INDUSTRIAL HYGIENIST		F		15	15	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	70	70	70	2,900	27.61	$80,069	
RAD TECH		F		100	100	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	70	70	70	3,070	24.55	$75,369	
HEALTH & SAFETY ENGR		F		12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	6	6	6	270	28.62	$7,727	
																												0		$0	
TOTAL ENVIRONMENTAL H & S				127	127	292	292	292	292	292	292	292	292	292	292	292	292	292	292	292	292	292	292	292	146	146	146	6,240		$163,165	
RSO	910																														
WAGE LABOR		F		400	400	840	840	840	840	840	840	840	840	840	840	840	840	840	840	840	840	840	840	840	420	420	420	18,020	21.71	$391,214	
																												0		$0	
TOTAL RSO				400	400	840	840	840	840	840	840	840	840	840	840	840	840	840	840	840	840	840	840	840	420	420	420	18,020		$391,214	
ENGINEERING	912																														
ENGINEER, PROJECT		F		70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	35	35	35	1,575	39.07	$61,535	
ENGINEER, ENVIRONMENTAL		F		140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	70	70	70	3,150	39.07	$123,071	
																												0		$0	
TOTAL ENGINEERING				210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	105	105	105	4,725		$184,606	
CONSTRUCTION	913																														
CONSTRUCTION		F		140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	70	70	70	3,150	38.69	$121,874	
																												0		$0	
TOTAL CONSTRUCTION				140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	70	70	70	3,150		$121,874	$121,874
FERMCO ACTUAL $ AS OF 5/93 =			$51,297	889	889	1622	1622	1622	1622	1622	1622	1622	1622	1622	1622	1622	1622	1622	1622	1622	1622	1622	1622	1622	811	811	811	35,029		$955,000	$1,006,297
SUBCONTRACTS																															
PARSONS			$702,615																											$906,485	$1,609,100
PROCUREMENT																														$125,000	$125,000
ACTUALS THRU 5/93			$753,912																											$1,986,485	$2,740,397

PLANT 7 DIRECTS= $3,132,100

ENGR. AS % OF DIRECTS= 87.5%

FILENAME: ENGR HRS.WK1

0194

- 5448

ENGR COST PLT. 7 DID

PARSONS

ACTUALS THRU JUN:	702 615
CURRENT FUNDING:	1,109,100
PROPOSED ADDL. FUNDING:	500,000
	1,609,100

INTERNAL ENGR COSTS

FY 92 ACTUALS:	7,538
OCT/NOV " :	7,446
DEC-MAY " :	36,313
JUN-SEP LABOR ETC	80,000
M) JUL-OCT	238,000
TILL END OF JOB	
SAY 10,000 HRS 235 =	~~350,000~~ ← see other worksheet
FERMCO ENGR. COST =	~~419,297~~
TOTAL	~~$2,328,597~~

PACKAGE DURATIONS

	DURATION BY YEAR
DISMANTLING PACKAGE #1	1995-97
DISMANTLING PACKAGE #2	1996-98
DISMANTLING PACKAGE #3	1997-99
DISMANTLING PACKAGE #4	1998-00
DISMANTLING PACKAGE #5	2000-03
DISMANTLING PACKAGE #6	2003-05
DISMANTLING PACKAGE #7	2003-05
DISMANTLING PACKAGE #8	2004-06
DISMANTLING PACKAGE #9	2005-07
DISMANTLING PACKAGE #10	2005-07
DISMANTLING PACKAGE #11	2009-11
DISMANTLING PACKAGE #12	2012-14
DISMANTLING PACKAGE #13	2014-17

NOTE: DURATIONS RECEIVED FOR FRED JEBENS