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WIPP Conceptual Design Report

Addendum C: Cost Worksheets for Waste Isolation Pilot Plant
(WIPP) Conceptual Design Report,
Edited By Nuclear Waste Engineering Division 1142

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2	Cost Estimate for Surface Facilities
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Summary Cost Estimate

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INTRODUCTION

The WIPP conceptual design cost estimate was developed from information submitted by Fenix & Scisson and Holmes & Narver. The Fenix & Scisson estimate was modified to include material, labor, overhead and profit multipliers. The revised estimate is summarized in Pages I through XI of Tab. 3. Numerous minor changes were made to the Holmes & Narver input and are reflected in the body of the estimate (see Tab. 2).

The cost estimate which has an effective date of April 1977, was escalated at 8% compounded annually to account for the actual construction schedule. The cost for each individual building or facility was escalated to the mid-point of construction or the order date on that item. The escalated costs are summarized in Table I.

For convenience, the WIPP summary estimates that appear in the main report, are repeated in this addenda as well as backup data for the obligation and costing schedule.

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June 2, 1977

Table I
WIPP CONSTRUCTION AND STANDARD EQUIPMENT ESCALATION SUMMARY

Item	Mid Point of Const. (Cal.Qtr.) (or Order Placement)	Escalation Factor	Present Cost (April 1,1977)	Escalated Cost	Total
					Construction
Off-Site Utilities	4th 79	1.21	13,225,140	16,000,000	153,330,000
On-Site Utilities*	2nd 80	1.26	9,240,133	11,640,000	
Gate House	4th 79	1.21	49,048	60,000	
Administration Building	2nd 81	1.36	3,129,874	4,300,000	
Warehouse/Shops	4th 79	1.21	933,330	1,130,000	
Vehicle Maintenance Facility	2nd 80	1.26	142,486	180,000	
Man/Materials Building	4th 81	1.41	700,354	990,000	
Suspect Waste/Laundry Building	3rd 81	1.39	744,058	1,040,000	
Water Pump Houses (2)	1st 80	1.24	517,670	640,000	
RH & TRU Hoist House & Cable Tunnels	1st 81	1.33	3,745,239	4,980,000	
M/M Hoist House	1st 81	1.33	663,781	880,000	
RH Waste Facility (includes Aerojet costs)	2nd 82	1.47	19,865,245	29,200,000	
TRU Waste Facility	2nd 82	1.47	13,746,703	20,200,000	
Emergency Power Building	3rd 80	1.28	1,283,542	1,640,000	
Mine Storage Filter Building	4th 81	1.41	3,586,894	5,060,000	
Construction Vent Shaft (Surface)	3rd 81	1.39	93,549	130,000	
RH Shaft & Underground Transfer Cell	1st 82	1.44	5,987,300	8,620,000	
RH Level	2nd 82	1.47	9,007,600	13,240,000	
TRU Shaft	1st 82	1.44	4,362,300	6,280,000	
TRU Level	3rd 82	1.50	4,711,900	7,070,000	
M/M Shaft	2nd 80	1.26	8,974,000	11,310,000	
TRU-RH Vent. Shaft & R.M. Prog.	4th 79	1.21	3,330,400	4,030,000	
Const. Vent. Shaft	1st 81	1.33	3,540,400	4,710,000	
					Equipment
Generators	3rd 79	1.19	3,065,491	3,650,000	32,170,000
Computer System	- -	-	-	2,000,000	
Mining Equipment	1st 80	1.24	12,877,600	15,980,000	
Surface Equipment	1st 83	1.50	2,359,500	3,540,000	
Waste Handling Equipment	- -	-	-	7,000,000	

* Includes security costs shown on the following two pages.

SECURITY COSTS
(Includes Installation)

Perimeter:

Double Fence:

(1600 m + 670 m) x 2 fences x \$55/m =	\$249,700
Single Fence: 405 m x \$55/m =	22,275
Lights: (40 m spacing) 62 x 2000 /light =	124,000
E Sensor & Microwave: (1600 m + 670 m) x \$49/m =	111,230
CCTV Stationary: 13 x \$15,000/CCTV =	<u>195,000</u>
	\$702,205

Site:

Area Lights: 16 x \$2500/light =	\$ 40,000
Scanning and Zooming CCTV: 2 x \$20,000/CCTV =	<u>40,000</u>
	\$ 80,000

Buildings:

	<u>Door Alarms</u>	<u>Loop Badge Portals</u>
Administration	26	2
Man & Material	10	3
TRU	14	1
RH	6	1
Hoist	9	0
Motor Pool	6	0
Suspect Waste	3	0
Sewage	2	0
Warehouse	20	0
Emergency Power	6	0
Water Treatment	4	0
Waste Storage Vent	4	0
Underground	<u>2</u>	<u>2</u>
	112	9

Door Alarms 112 x \$120	\$ 13,440
Space Sensors 20 x \$300	6,000
Duress Alarms 20 x \$250	5,000
Loop Badge Portals 9 x \$5,000	45,000
CCTV in Security Operations 5 x \$3,000	15,000
CCTV in Hoisthouse 3 x \$3,000	9,000
Mardix Booth in Security Operations	<u>25,000</u>
	\$118,440

Personnel:

Loop Badges for employees and visitors

500 x \$130 = \$ 65,000

Control Panel:

Display panel, control system and cables \$100,000

Total Security Costs \$1,065,645

David L. Poli
April 19, 1977

June 2, 1977

WIPP CONCEPTUAL DESIGN CAPITAL COST ESTIMATE
(\$ in thousands)

I.	Engineering Design and Inspection (@ ~15% of construction costs)	32,000
II.	Land and Land Rights	33,000
III.	Construction Costs	153,330
a.	Improvements to land	10,230
	- Roads	3,760
	- Railroad	4,580
	- Site work and site improvements	1,890
b.	Buildings	70,430
	- TRU Waste Surface Facility	20,200
	- RH Waste Surface Facility	29,200
	- Administration Building	4,300
	- RH & TRU Hoist House and Tunnels	4,980
	- M/M Hoist House	880
	- Mine Storage Filter Building	5,060
	- M/M Building	990
	- Emergency Power Building	1,640
	- Suspect Waste/Laundry Building	1,040
	- Warehouse/Shops	1,130
	- Misc. Buildings	1,010
c.	Other Structures	55,260
	- TRU Shaft	6,280
	- RH Shaft & Transfer Cell	8,620
	- M/M Shaft	11,310
	- TRU-RH Ventilation Shaft	4,030
	- Construction Ventilation Shaft	4,710
	- TRU Level (Initial Development)	7,070
	- RH Level (Initial Develop- ment)	13,240
d.	Utilities	17,410
	- Water	8,490
	- Electrical	3,150
	- Telephone	1,440
	- Sanitary Sewer	390
	- Storm Sewer	200
	- Process Waste System	240
	- Radiation Monitor System	1,930
	- Misc. Alarm & Control Systems	670
	- Misc. Tanks	900

IV. Standard Equipment		32,170
a. Generators	3,650	
b. Computer System	2,000	
c. Mining Equipment	15,980	
d. Surface Equipment	3,540	
e. Waste Handling Equipment	7,000	
V. Construction Management		<u>6,000</u>
	Subtotal	256,500
VI. Contingency (~30%)		<u>73,500</u>
	Total	330,000

June 2, 1977

WIPP CONCEPTUAL DESIGN ENGINEERING, DESIGN AND INSPECTION ESTIMATE
(\$ in thousands)

<u>Construction</u>				27,240
	Cost	%	Fee	
Improvements to Land	10,230	15	1,530	
Building				
TRU Waste	20,200	20	4,040	
RH Waste	29,200	20	5,840	
Admin. Bldg.	4,300	18	770	
RH & TRU Hoist House & Cable Tunnels	4,980	15	750	
M/M Hoist House	880	15	130	
Misc. Storage Filter Bldg.	5,060	20	1,000	
M/M Bldg.	990	15	150	
Emerg. Power Bldg.	1,640	20	330	
Suspect. Waste/Laundry Bldg.	1,040	18	190	
Warehouse/Shops	1,130	15	170	
Misc. Bldgs.	1,010	15	150	
Other Structures				
TRU Shaft	6,280	18	1,130	
RH Shaft & Underground Transfer Cell	8,620	20	1,720	
M/M Shaft	11,310	15	1,700	
TRU-RH Vent. Shaft	4,030	18	730	
Construction Vent. Shaft	4,710	15	710	
TRU Level (Initial Development)	7,070	15	1,060	
RH Level (Initial Development)	13,240	18	2,380	
Utilities				
Process Waste, Rad Monitor, Alarms and Control Systems	2,840	20	570	
Other Systems	14,570	15	2,190	
Standard Equipment	32,170	15	4,825	4,825
Total				32,065
Say				32,000

June 2, 1977

WIPP CONCEPTUAL DESIGN CONTINGENCY ESTIMATE
(\$ in thousands)

	Cost	%	Contingency	
I. Engineering, Design & Construction	32,000	25	8,000	8,000
II. Land and Land Rights	33,000	35	11,500	11,500
III. Construction				44,190
Improvements to Land	10,230	15	1,530	
Buildings				
TRU Waste Surface Facility	20,200	35	7,070	
RH Waste Surface Facility	29,200	35	10,220	
Administration Building	4,300	25	1,075	
RH & TRU Hoist House and				
Cable Tunnels	4,980	25	1,245	
M/M Hoist House	880	15	130	
Mine Storage Filter Bldg.	5,060	35	1,770	
M/M Building	990	15	150	
Emerg. Power Bldg.	1,640	25	410	
Suspect Waste/Laundry Bldg.	1,040	35	360	
Warehouse/Shops	1,030	15	170	
Misc. Bldgs.	1,010	15	150	
Other Structures				
TRU Shaft	6,280	30	1,890	
RH Shaft & Underground				
Transfer Cell	8,620	35	3,020	
M/M Shaft	11,310	25	2,830	
TRU-RH Vent. Shaft	4,030	25	1,000	
Construction Vent. Shaft	4,710	25	1,180	
TRU Level (Initial				
Development)	7,070	30	2,120	
RH Level (Initial Development)	13,240	30	3,970	
Utilities				
Process Waste, Rad Monitor				
Alarms & Control Systems	2,840	35	990	
Other Systems	14,570	20	2,910	
IV. Standard Equipment				8,010
Generators	3,650	20	730	
Computer System	2,000	15	300	
Mining Equipment	15,980	25	4,000	
Surface Equipment	3,540	15	530	
Waste Handling Equipment	7,000	35	2,450	
V. Construction Management	6,000	25	1,500	1,500
			Total	73,200
			Say	73,500

June 2, 1977

WIPP OBLIGATION AND COSTING SCHEDULE
(\$ in thousands)

	FY'77	FY'78	FY'79	FY'80	FY'81	FY'82	FY'83	FY'84	Total
Eng. Design & Inspection	-	10,000	8,000	8,000	2,500	2,500	1,000	-	32,000
Land & Land Rights	4,000	2,500	26,500	-	-	-	-	-	33,000
Construction	-	-	39,300	49,000	64,000	1,030	-	-	153,330
Standard Equipment	-	5,000	3,600	13,000	-	10,570	-	-	32,170
Construction Management	-	-	1,000	1,500	1,500	1,500	500	-	6,000
Subtotal	4,000	17,500	78,400	71,500	68,000	15,600	1,500	-	256,500
Contingency	-	6,500	23,600	20,500	18,000	4,400	500	-	73,500
Total (Obligations)	4,000	24,000	102,000	92,000	86,000	20,000	2,000	-	330,000
(Costing)	2,000	13,000	48,000	70,000	88,000	67,000	35,000	7,000	330,000

June 2, 1977

WIPP CONSTRUCTION OBLIGATION SCHEDULE
BACKUP DATA

FY 1979 (Contract Awards)

<u>Item</u>	<u>Cost</u>	
Water Line (to site)	7,794,000	
Telephone Line (to site)	1,437,500	
Site Preparation; Initial on Site Roads;		
Water, Sewer, Storm Drain Systems;)		
Suspect Waste System; Concrete Drainage)	4,807,600	
Ditch; Paving; Sewage Treatment Plant)		
Road (to site)	3,246,200	
Warehouse/Shops	1,130,000	
RR (to site)	3,525,900	
Security Fence, Lighting, Gatehouse	1,401,200	
Water Pump House	640,000	
TRU RH Vent Shaft	4,030,000	
M/M Shaft	11,310,000	
	<hr/>	
	\$39,322,500	Say \$39,300,000

FY 1980 (Contract Awards)

<u>Item</u>	<u>Cost</u>	
Elec. Dist. System, Switch Yard,		
Communication System	3,073,300	
Vehicle Maintenance Facility	180,000	
Emergency Power Building	1,640,000	
Hoist Houses	5,860,000	
Administration Building	4,300,000	
Miscellaneous Building	130,000	
Construction Vent. Shaft	4,710,000	
RH Surface Facility	29,200,000	
	<hr/>	
	\$49,093,000	Say \$49,000,000

FY 1981 (Contract Awards)

<u>Item</u>	<u>Cost</u>
Rad. Monitor System	1,389,800
Suspect Waste/Laundry Building	1,040,000
TRU Waste Surface Facility	20,200,000
Mine Storage Filter Building	5,060,000
M/M Building	990,000
RH Shaft	8,620,000
RH Level	13,240,000
TRU Shaft	6,280,000
TRU Level	7,070,000
	<hr/>
	\$63,889,800 Say \$64,000,000

FY 1983 (Contract Awards)

<u>Item</u>	<u>Cost</u>
On-Site RR	1,030,000

Summary

FY 1979	39,300,000
FY 1980	49,000,000
FY 1981	64,000,000
FY 1982	1,030,000
	<hr/>
	\$153,330,000

Cost Estimate for Surface Facilities

CONCEPTUAL DESIGN COST ESTIMATE

FOR A

WASTE ISOLATION PILOT PLANT

SUBMITTED TO

FENIX & SCISSON, INC.

TULSA, OKLAHOMA

APRIL 18, 1977

By

HOLMES & NARVER, INC.
ANAHEIM, CALIFORNIA

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3. SUPPLEMENTAL COST DATA

B. COST ESTIMATE

A. INTRODUCTORY INFORMATION

1. DESCRIPTION OF ESTIMATE

Holmes & Narver, Inc. has prepared a cost estimate for the WIPP aboveground facilities conceptual design. The estimate is summarized in Section 3 with details provided in Section 4.

2. LIST OF ASSUMPTIONS AND INSTRUCTIONS

- (1) H&N has prepared costs based on 4-1-77 dollars. All escalation and other time adjustment factors to be developed by Sandia and applied by Sandia.
- (2) H&N will provide fiscal year expenditure breakdown on the basis of per cent per year of the 1977 costs, in accordance with the preliminary construction schedule.
- (3) A/E costs are included in the cost estimate based on 15% of constructed value.
- (4) H&N has included in the capital costs for those types of operating machinery (forklifts, diesel truck tractors, railcar donkeys, etc.) required for waste handling operations.
- (5) Contingency is included as a line item in the estimate.
- (6) F&S will provide cost for the collar on all shafts.
- (7) F&S will estimate the cost of all hoisting equipment, including floor and head sheaves, and installation.
- (8) The electrical power system for underground, from the collar down will be estimated by F&S.

3. SUPPLEMENTAL COST DATA

(1) Material Multipliers

As indicated during the meeting, all materials are included as F.O.B. site.

Materials include 15% for subcontractors overhead and profit. As an example, the following data is provided on concrete and structural steel cost breakdown:

Concrete

Material - delivered to site, mixed, including batch plant, \$/yd ³	\$ 30.00
Onsite transit - to pour point, hoisting, pumping, etc. \$/yd ³	5.00
Total \$/yd ³	\$ 35.00
Subcontractor's overhead and profit, 15%	5.25
Total (rounded) \$/yd ³	\$ 40.00

Structural Steel

Structural steel is being purchased today for an erected price of \$1,200/ton for structures comparable to the warehouse.

Erected cost, \$/Ton	\$ 1,200
Subcontractor's overhead and profit, 15%	180
Total (rounded) \$/Ton	\$ 1,400

(2) Spares

An allowance has been made for the first contingent of spares. It is based on 10% of the cost of materials which will require spares.

(3) Electrical Distribution

Cost of manholes and pull boxes are included in the per foot cost for labor and materials.

(4) Facility Furnishings and Equipment

Costs are provided in the revised estimate sheets. Furnishings are of average grade and are estimated at \$2.00 per square foot for office space in all office areas. This estimate is based on recent purchases of furnishings for large office installations.

Mechanical equipment for maintenance shops is included in the estimate. Hanging baskets, benches, etc. for the M/M building are included in the estimate.

(5) Electrical - Transformers

One main 30 MVA transformer has been included in the switch-yard.

(6) Administration Building - Fire Protection

The estimate includes sprinklers in the large office spaces and halon units in the computer/control area.

(7) Hazard Definitions

Hazard types referred to in the estimate (Extra Hazard, Double Extra Hazard) are based on definitions contained in National Fire Protection Association, National Fire Codes, Volume 9, Occupancy Standards and Process Hazards.

(8) Standby Generators

The generator costs include the provision for automatic start.

B. COST ESTIMATE

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SA 7680-FF(6-75) PROJECT ESTIMATE SUMMARY

PREPARED BY: RCP		Rev 5-20-77 WEW	PROJECT: WIPP	PAGE 1	OF 17
APPROVED BY:		DATE: 4-16-77	LOCATION:	CLASS OF ESTIMATE	
DESCRIPTION: TOTAL PROJECT (SURFACE FACILITIES)			☒ CONCEPTUAL ☐ DESIGN CRITERIA ☐ TITLE I ☐ BID OR TITLE II		
			P.O. NO.		
SUMMARY					
ITEM NO.	ITEM			AMOUNT	
	SUB TOTAL CONSTRUCTION CARRIED FORWARD			\$ 71,876,869	
	ROLLING STOCK & MISC. EQUIPMENT			1,303,000	
	FURNISHINGS			556,500	
	SPARE PARTS			500,000	
	SUB TOTAL			74,236,369	
	CONTINGENCY 25%			18,559,092	
	SUB TOTAL			92,795,546	
	ENGINEERING 15%			13,919,319	
	SUB TOTAL			106,714,780	
	SPECIAL REMOTE HANDLING EQUIPMENT			2,479,014	
	TOTAL PROJECT			109,193,794	
	Round			* 109,200,000	

EFFECTIVE DATE OF THIS ESTIMATE 4-1-77

PREPARED BY: KEB <i>Rev 5-20-77 WELW</i>		PROJECT: WIPP		PAGE 1A OF 17	
APPROVED BY:		DATE: 4-18-77		LOCATION:	
DESCRIPTION: SPECIAL REMOTE HANDLING EQUIPMENT				CLASS OF ESTIMATE	
				☒ CONCEPTUAL ☐ DESIGN CRITERIA ☐ TITLE I ☐ BID OR TITLE II	
				P.O. NO.	
SUMMARY					
ITEM NO.	ITEM	QUAN	UNIT	AMOUNT	TOTAL AMOUNT
	CASK TRANSPORT VEHICLE	2	EA.	\$150,549	301,098
	CASK PALLET	5	EA.	58,302	291,510
	CASK ELEVATOR	1	EA.	126,578	126,578
	OVERPACK WELDER	1	EA.	305,346	305,346
	CANISTER DECONTAMINATION VEHICLE	2	EA.	350,000	700,000
	SUBTOTAL				1,724,532
	CONTINGENCY 25%				431,133
	SUB TOTAL				2,155,665
	ENGINEERING 15%				323,349
	TOTAL REMOTE EQUIPMENT				\$2,479,014

EFFECTIVE DATE OF THIS ESTIMATE 4-1-77

SA 7650-FF(6-75) PROJECT ESTIMATE SUMMARY

PREPARED BY: WEW		PROJECT: WIPP		PAGE 2 OF 17	
APPROVED BY:		DATE: 5-20-77	LOCATION: New Mexico		
DESCRIPTION: Surface Facilities				CLASS OF ESTIMATE	
				☒ CONCEPTUAL ☐ DESIGN CRITERIA ☐ TITLE I ☐ BID OR TITLE II	
				P.O. NO.	
SUMMARY					
Page #	ITEM				AMOUNT
3	OFF-Site Utilities				\$ 13,225,140
3	On-Site Utilities				8,174,488
4	Gate House				49,048
5	Administration Building				3,129,874
6	Warehouse / Shops				933,330
7	Vehicle Maintenance Facility				142,486
8	Man / Materials Building				700,354
9	Suspect Waste / Laundry Building				744,058
10	Water Pump Houses (2)				517,670
11	RH & TRU Hoist House & Cable Tunnels				3,745,239
12	M/M Hoist House				663,781
13	RH Waste Facility				18,140,713
14	TRU Waste Facility				13,746,703
15	Emergency Power Building				4,283,542
16	Mine Storage Filter Building				3,586,894
17	Mine Shaft Ventilation				93,549
	Subtotal Construction				71,876,869

EFFECTIVE DATE OF THIS ESTIMATE _____

[illegible]

[illegible]

[illegible]

EFFECTIVE DATE OF THIS ESTIMATE

[illegible]

EFFECTIVE DATE OF THIS ESTIMATE _____

PREPARED BY: RCP	REV 4-20-77 WZW	PROJECT: WIPP	PAGE 11 OF 17
APPROVED BY:	DATE: 4-15-77	LOCATION: New Mexico	CLASS OF ESTIMATE
DESCRIPTION: RH & TRU Hoist House & Cable Tunnels			☒ CONCEPTUAL
			☐ DESIGN CRITERIA
			☐ TITLE I
			☐ BID OR TITLE II
			P.O. NO.

[illegible]

EFFECTIVE DATE OF THIS ESTIMATE _____

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EFFECTIVE DATE OF THIS ESTIMATE _____

[illegible]

EFFECTIVE DATE OF THIS ESTIMATE _____

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[illegible]

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SUMMARY ESTIMATE SHEET		WIPP		RCP 4-16-77	
FROM PAGE NUMBER	DESCRIPTION	MANHOURS	LABOR	MATERIAL	CONTRACT
2 OF 139	SUB TOTAL CARRIED FORWARD	452,033	9,169,617	9,605,070	47,784,042
	G & A & PROFIT				5325000
	SUB TOTAL (CONSTRUCTION)				71,883,729
138 OF 139	ROLLING STOCK & MISC EQUIP				1,303,000
129 OF 139	FURNISHINGS				556,500
139 OF 139	SPARE PARTS				500,000
	SUB TOTAL				74,243,229
	CONTINGENCY 25%				18,560,750
	SUB TOTAL				72,803,979
	ENGINEERING 15%				13,920,600
	TOTAL PROJECT				106,724,579
					ROUND 106,725,000
	TOTAL				

FACILITY: WIPP
 OWNER: SANDIA LABORATORIES
 CONCEPT: 825100
 LOCATION: NEW MEXICO
 DATE: 1-139

SUMMARY ESTIMATE SHEET

WIPP

G. 1-15-77
Revised WSW 5-19-77

From Page Number	DESCRIPTION	MANPOWER	LABOR	MATERIAL		
6 of 139	OFF SITE UTILITIES & ACCESS				12,245,500	12,245,500
8	ON SITE UTILITIES & SITE WORK				7,568,970	7,568,970
	BUILDINGS					
15	GATE HOUSE	687	8,293	9,607	18,709	36,609
22	ADMINISTRATION FACILITY	2,7248	352,395	350,550	1,849,237	2,552,182
34	WAREHOUSE/SHOPS	8,787	102,786	81,917	588,529	773,292
42	VEHICLE MAINT. FACILITY	1,487	18,151	13,593	84,570	116,314
50	MAN/MATERIALS BLDG.	3,682	52,927	61,843	471,237	572,009
58	SUSPECT WASTE/LAUNDRY BLDG.	8,888	100,932	69,167	435,155	605,254
68	PUMP HOUSES (2)	4,720	54,196	53,760	318,254	426,210
74	RH & TRU HOIST HOUSE & TUNNEL	31,084	355,891	235,831	2,584,965	3,176,687
84	M/M HOIST HOUSE FACILITY	5,583	60,211	151,667	298,490	510,368
94	RH WASTE FACILITY	140,940	1,719,103	5,073,830	6,661,900	13,464,833
106	TRU WASTE FACILITY	168,269	1,936,603	1,814,000	7,134,020	10,883,623
117	EMERGENCY POWER BLDG.	17,440	203,323	100,451	351,302	3,216,786
126	MINE STORAGE FILTER BLDG.	31,248	360,106	274,294	2,374,673	3,009,073
136	CONSTRUCTION SHAFT VENT. EQUIP.	1,970	-	-	86,619	86,619
	Subtotal	452,033	5,323,917	8,290,570	46,239,842	57,859,329
5 of 139	INDIRECTS		3,845,700	1,314,500	1,544,200	6,704,400
	Total Surface Construct.		9,169,617	9,605,070	47,784,042	66,590,729

WIPP

LOCATION

NEW MEXICO

CONCEPT

8251

2-139

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE
								PRICED	GND		9-15-77		
								EXTENSIONS					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	TEMPORARY CONSTRUCTION												
	OFFICE	42	HO								700	29,400	
	TRUCKS (10)	420	HR								50	21,000	
	STORAGE	2000	SF									32,000	
	SHOPS	2000	SF				8,000		8,000				
	TEL & TOL	42	HO								300	12,600	
	ELECT UTILITIES	42	HO								600	25,200	
	WATER	42	HO								300	12,600	
	DRINKING WATER	42	HO								100	4,200	
	FURN & EQUIP.	42	HO								1100	46,200	
	PROJECT SIGNS	1	LS									1,000	
	PROGRESS PHOTOS	1	LS									10,000	
	MEDICAL	1	LS							1,000			
	FIRE PROT.	1	LS							1,000			
	WEATHER	1	LS							1,500			
	OFFICE SUPPLIES	42	HO						300	12,600			
	GUARD SERVICE	42	HO								5000	210,000	
	SUB-TOTAL						8,000		8,000			409,200	436,300
FACILITY INDIRECT COSTS													
WIPP													
TYPE OF ESTIMATE CONCEPT JOB NO. 8251 SHEET NO. 3 OF 139													

DETAIL ESTIMATE SHEET				WIPE				ACTION		BY		DATE		DATE	
								EXTENSIONS		G.D.		7-15-67			
ACCT NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACT		TOTAL COST			
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT				
	SUPERVISION														
	PROJECT MGR	44	MO			2500	154000								
	SUPERINTENDENT	84	MO			3000	252000								
	GEN FOREMAN (9)	36	MO			2500	240000								
	OFFICE MGR	44	MO			1800	79200								
	FIELD ENGINEER (3)	120	MO			2100	252000								
	WAREHOUSE MAN	40	MO			1600	64000								
	TIME KEEPER	84	MO			1600	134400								
	STENO/CLERICAL	160	MO			800	128000								
	TEAMSTER	20	MO			1600	128000								
	SUB-TOTAL						1431600					1431600			
	INSPECTION & TESTING														
	SOILS	1	LS								15000				
	CONCRETE	1	LS								60000				
	FACTORY REPS	1	LS								10000				
	SUB-TOTAL										85000	85000			
	EQUIPMENT RENTAL	1	LS								1055000	1055000			
	SMALL TOOL & SUPPLIES	1	LS								421000	421000			
	PREMIUM PAY	1	LS				50000					50000			
	UNADJUSTABLE LABOR	1	LS				210000					210000			
FACILITY INDIRECT COSTS													WIPE		
CONCEPT													SHEET NO. 4 OF 139		

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DETAIL ESTIMATE SHEET				WIPP				ACTION	BY	DATE	CHECKED	DATE	
								PRICED	GND A-5-77				
								EXTENSIONS					
ACCT. NO.	DESCRIPTION	QUANTY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	ACCESS ROAD	12	MI									20TK 2994.000	
	RAIL ROAD	8.5	MI									31TK 2697.500	
	WATER LINE 10" & GEM. LINED	28	M.									213K 5944.000	
	TELEPHONE SIPR	90	MI									27SK 1100.000	
	TRANSMISSION LINE WSKV	11	MI									BY OTHERS*	
	TOTAL OFF SITES											12245.500	12245.500
<p>* Transmission Line Provide by Southwestern Public Service Co.</p>													
FACILITY	OFF SITES											WIPP	
TYPE OF ESTIMATE	CONCENT												
JOB NO.	8251												
SHEET NO.	6 OF 139												
PRINCIPAL SUB ACCT NO.													

DETAIL ESTIMATE SHEET				WIPP				ACTION PRICED EXTENSION		BY GNO	DATE 1-5-77	CHECKED	DATE
ACCT NO	DESCRIPTION	QUANTITY	UNIT	LABOR UNIT	TOTAL MRS	RATE HR.	AMOUNT	MATERIAL COST UNIT	AMOUNT	SUBCONTRACTS COST UNIT	AMOUNT	TOTAL COST	
	SITE WORK												
	CUT	90,000	CY							.80	72,000		
	FILL	40,000	CY							.95	38,000		
	DIVERSION DITCH	7000	CY							.90	6,300		
	SUB-TOTAL										176,300		176,300
	FENCING	—	—							BY OTHERS			
	PAVING												
	ROADS 3' AC 4" B	54,000	SY							.93	240,900		
	PARKING	28,000	SY							.40	11,200		
	SIDEWALKS	5,000	SY							.80	4,000		
	SUB-TOTAL										365,200		365,200
	RAILROAD												
	RAIL 110"	12,000	TF							.55	6,600		
	TURNOUTS #8	12	BA							.80	9,600		
	SUB-TOTAL										16,200		16,200
	SUSPECT WASTE POND	1	LS								100,000		100,000
	SEWAGE EFFL. LAGOON	1	LS								40,000		40,000
	BOX CULVERT	120	LT							12.90	1,548.00		1,548.00
FACILITY <u>ON SITE</u> WIPP													
TYPE OF ESTIMATE <u>CONCEPT</u> JOB NO. <u>8201</u> SHEET NO. <u>7</u> OF <u>139</u>													

DETAIL ESTIMATE SHEET				WIPR			DATE		GND 9-5-77	
ACC NO	DESCRIPTION	QUANTITY	UNIT	LABOR UNIT	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	TOTAL COST
	AIR TUNNEL	100	LF						2600	260000
	AREA LIGHTING PARK, STR, & PERI	1	LS						BY OTHERS	
	COMMUNICATIONS ELECT RIST SUB STA & SWITCH YD	see sheet 80 thru 84 for breakout							2,254.00	2,254.00
	SEWER UTILITIES								237800	237800
	WATER UTILITIES								499170	499170
	STORM DRAIN								144600	144600
	FIRE ALARM SYST								430000	430000
	RAD. MONITOR SYST								1,380,000	1,380,000
	RADIO COMM. SYST								50000	50000
	TANKAGE									
	WATER	2	AA						2025	404000
	FUEL (500,000)	2	LB						1000	200000
	- (10,000)	4	EA						1000	40000
	SUB-TOTAL								644000	644000
	SUSPECT WASTE								74400	74400
	TOTAL ON SITES									7518970
	ON SITES								WIPR	
	CENCERT	8251							8 139	

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SUMMARY ESTIMATE SHEET		WIPP		ACTL PRICED EXTENSIONS	BY ERV	DATE 4/7/77	ISSUED	DATE
ACCT. NO.	DESCRIPTION	HOURS	LABOR	MATERIAL	SUB- CONTRACT			TOTAL COST
	SWITCH/GEAR	1640	20160	950000	2000			972160
	CONDUIT	7114	99596	204056	61000			364652
	WIRE	9926	108164	231380	38100			377664
		16280	227920	1385436	101100			1714656
	.05 SALES TAX		-0-	69272	-0-			69272
			227920	1454703	101100			1785728
	.15 O.H.		34188	218206	15165			267559
			262108	1672914	116265			2051287
	.10 FEE		26211	167291	11627			205129
			288519	1840205	127892			
	TOTAL							2256416
FACILITY		SITE DISTR., PWR & COMM		LOCATION				
TOWN		WIPP		AREA				
TYPE OF ESTIMATE		ELECT.		JOB NO.		8251.00		
				SHEET NO		8a		

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4/7/77

EXHIBIT C

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SITE DISTR. (SWITCHGEAR)

WIPP

TYPE OF ESTIMATE ELECT

ISS NO. 8251.00

NO. 86 OF 139

125. 4514. 3. 2. 9.

DETAIL ESTIMATE SHEET				WIPP				ACTION PRICED EXTENSIONS		BY ERV	DATE 4/6/77	CHECKED	DATE
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT	TOT. HRS.	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	4" PVC	24100		.075	1808	14	25312	2.20	53020				78332
	3" "	22400		.065	1456		20384	1.85	41440				61824
	2" "	7000		.056	392		5488	1.40	9800				15288
	4" GRC E4C	85		2.90	247		3458	39.	3315				6773
	3" " "	146		1.90	277		3878	22.	3212				7090
	4 " THC	85		1.90	162		2268	15.	1275				3543
	3" " "	146		1.40	204		2856	9.	1314				4170
	COND. ENTRY TO M.H.	336		2	672		9408	5.	1680				11088
	THBF	LOT		-	1000		14000	-	-0-		55000		69000
	ADDER FOR RED CONC.	LOT		-	-		-	-	5000				5000
	MAN HOLES	56		16	896		12544	1500	84000		6000		102544
					7114		99396		206056		61000		364652
WIPP SITE DISTR. (PWR & COMM.) TYPE OF ESTIMATE ELECT. JOB NO. 8251.00 SHEET NO. 2 OF 39 PRINCIPAL EST. NO. 12.													

DETAIL ESTIMATE SHEET				WIPP				ACTION FIELD		BY ERV	DATE 4/6/77	CHECKED	DATE
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT	TOTAL HOURS	RATE PER HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	500 15KV SHLD, GRD	40,000		.075	3000	14	42,000		100,000				142,000
	1/0 " " "	20,000		.060	80		1,120		1,800				2,920
	2 " " "	34,000		.030	1020		14,280		25,500				39,780
	300 THW STR CUW	4000		.042	168		2,352	1.56	6,360				8,712
	250 " " "	8000		.037	296		4,144	1.28	10,240				14,384
	4/0 " " "	3000		.034	102		1,428	1.16	3,480				4,908
	TELE DISTR CABLE	LOT		-	100		1,400	-	22,000				23,400
	F.R. " "	LOT		-	850		11,900	-	17,000				28,900
	I.C., P.A. " "	LOT		-	700		9,800	-	15,000				24,800
	INTR. " "	LOT		-	1000		14,000	-	130,000				44,000
	15 KV TMW	330		-	330		4,620	-	-0-	85	28,100		32,720
	H1 POT TEST	LOT		-	80		11,200	-	-0-		10,000		11,120
					7726		108,764		231,580		38,100		377,644

WIPP

SITE DISTR. (PWR, COM)

TYPE OF ESTIMATE ELECT JOB NO. 8251.00 SHEET NO. 04 OF 39 PRINCIPAL SUB AGENT, CO.

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[illegible]

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DETAIL ESTIMATE SHEET				WIPP				ACTION PRICED EXTENSION		B:	DATE	CHECKED	DATE
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	SUBCONTRACTS COST UNIT	AMOUNT	TOTAL COST	
	<u>SANITARY SEWER</u>												
	8" AC EPOXY LINED	5500	LF	.14	770			452	24 750				
	6"	175		.13	21			352	413				
	4"	1500		.10	150			328	4 500				
	4" FORCE MAIN	900		.10	90			322	2 700				
	8x6 WYE	2	EA	1.5					80				
	8x4	7							280				
	6x6	1			60				40				
	8x4	10							300				
	6" 1/8	3							75				
	4" 1/8	17							270				
	EXCAVATION & BACKFILL	3600	CY							13	96 800		
	SEWER MANHOLE	17	EA							500	8 500		
	6" CLEANOUT	1			2				80				
	4"	10			15				300				
	TEST & SURV	49			200								
	SEWAGE PLANT	1	EA		900				60 000				
	SEWAGE PUMP	1	EA		100				8 000				
					1800	15 ⁰⁰	28 385		102 058		553 00	185 743	
FACILITY <u>WIPP</u>													
DATE OF ESTIMATE _____ JOB NO. <u>8251.20</u> SHEET NO. <u>14</u> OF <u>139</u> PRINCIPAL JOB ACCT. NO. <u>UTILITIES</u>													

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SUMMARY ESTIMATE SHEET		WIPP		ACTION BY DATE CHECKED DATE		PRICED 6/10 4-6-77		EXTENSIONS	
ACCT. NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL	SUB-CONTRACT		TOTAL COST		
	EARTHWORK	6	48		253		301		
	CONCRETE	348	4120	2590	2800		9500		
	MASONRY				3680		3680		
	MISS. METAL	50	715	1500	1190		3405		
	STUCCO				969		969		
	SASH & DOORS	58	760	3559			4319		
	INTERIOR FINISHES	147	1920	758	1323		4007		
	ROOFING				1714		1714		
	PAINTING				1050		1050		
	MILLWORK	50	655	1200			1855		
	PLUMBING				2950		2950		
	AIR CONDITIONING				1480		1480		
	ELECTRICAL & COMMUNICATIONS				1300		1300		
	FINISH CLEAN-UP	8	69	10			79		
	SUB-TOTAL	687	8293	9607	18709		36609		
	TOTAL								

FACILITY	GATE HOUSE	WIPP	LOCATION	NEW MEXICO
OWNER			AREA	520
TYPE OF ESTIMATE	CONCEPT	108 NO. 8251	SHEET NO. 15 OF 139	DATE 4-6-77

DETAIL ESTIMATE SHEET				WIFF				ACTION PRICE EXTENSIONS		BY GNO	DATE 9-6-77	PREPARED BY	DATE
ACCT NO.	DESCRIPTION	QUANTITY	UNIT	LABOR UNIT	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	SUBCONTRACTS		TOTAL COST	
	EARTHWORK												
	EXCAVATE	55	CY							2.50	138		
	FINE GRADE	960	SF			.05	48						
	BACKFILL	40	CY							2.50	100		
	DISPOSE	15	CY							1.00	15		
	SUB-TOTAL						48				253		301
	CONCRETE												
	FORMS	800	SF	.25	200	12.00	2,400	.80	640				
	REBAR	8000	LB							.35	2,800		
	CONCRETE	55	CY	3	165	10.00	1,650	.35	1,925				
	PROTECTIVE CURB	56	SF		3	10.00	30		15				
	SUB-TOTAL				368		4,120		2,580		2,800		9,500
	MASONRY												
	CONCRETE BLOCK	920	SF							4.00	3,680		3,680
	MISS. METAL												
	METAL DECK	952	SF							1.25	1,190		
	MISC. IRON	1	LS		50	14.00	715		1,500				
	SUB-TOTAL				50		715		1,500		1,190		3,405
	STUCCO	102	SF							9.50	969		969
FACILITY: GATE HOUSE													
DRAWN BY: CONCEPT FOR NO. 9251													
REV 16 139													

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DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE
								PRICED		GNO	9-6-77		
								EXTENSIONS					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	SASH & DOORS												
	ALUM. ENTRANCE	2	EA	8	16			11.00	22.00				
	H.M. DOOR	3	EA	8	24			2.50	7.50				
	ALUM SASH	87	SF		18			7.00	609				
	SUB-TOTAL				58	13.00	760		3.559				4319
	INTERIOR FINISHES												
	PARTITIONS	460	SF	15	69			.80	368				
	FURF/INEUL/GSPAR	520	SF	16	78			.75	390				
	SUSP. CEILING	520	SF							.80	416		
	V.A. TILE	972	SF							1.60	283		
	CERAMIC TILE	208	SF							3.00	624		
	SUB-TOTAL				147	13.00	1926		758		1323		4007
	ROOFING	952	SF							1.82	1714		1714
	PAINTING	3000	SF							.33	1050		1050
	MILLWORK	1	LS		50	13.00	650		1200				1850
	PLUMBING	1	LS								2950		2950
	AIR CONDITIONING	1	LS								1980		1980
	ELECTRICAL	520	SF							2.50	1300		1300
FACILITY <u>GATE HOUSE</u> WIPP													
TYPE OF ESTIMATE <u>CONCEPT</u> JOB NO. <u>8251</u> SHEET NO. <u>17</u> OF <u>139</u> PRINTED FOR THE PROJECT NO.													

SUMMARY ESTIMATE SHEET		WIPP		DATE 4-6-77		EXTENSION	
ACCT. NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL	SUB-CONTRACT	TOTAL COST	
	<u>PLUMBING RECAP</u>						
	FORWARDED	63	989	1450			2089
	TEMP CORR. ST.			50			50
	FIELD STAFF		129				129
	EQUIPMENT				129		129
	TOOLS & EXPENDABLES			50			50
	PRT & INS.		168				168
	SUB TOTAL		1286	1450	129		2565
	MARKUP						385
	TOTAL						2950
	TOTAL						
FACILITY <u>GATE HOUSE</u> LOCATION <u>AREA</u>							
OWNER <u>TYPE OF ESTIMATE</u>							
JOB NO. <u>825120</u> SHEET NO. <u>18</u> OF <u>139</u> SYSTEM NO. <u>PLUMBING</u>							

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SUMMARY ESTIMATE SHEET

W157

GNO 4-19-77 Rev 5/4/77

NO.	DESCRIPTION	MANHOURS	LABOR	MATERIALS	CONTRACT	TOTAL
	EARTHWORK	185	1850		11,200	13050
	CONCRETE	20455	204550	125,900	80,500	440,500
	STRUCTURAL STEEL				117,600	117,600
	MISC. METAL	2400	34,320	60,000		94,320
	METAL WALL PANELS		28,500	76,000		104,500
	DOORS & WINDOWS	1570	19,912	40,850	4,200	64,962
	INTERIOR FINISHES	2188	28,665	47,500	91,154	157,617
	PAINTING				45,000	45,000
	ELECTRICAL				243,606	243,606
	PLUMBING				83,926	83,926
	FIRE PROTECTION				65,000	65,000
	HEAT VENT & AIR COND.				741,212	741,212
	FOOD SERVICE EQUIPMENT				59,208	59,208
	SPECIAL EQUIPMENT				16,000	16,000
	COMMUNICATIONS				50,000	50,000
	INSTRUMENTATION				100,000	100,000
	FINAL CLEAN UP	500	5,000	500		5,500
	ROOFING				65,880	65,880
	ROOF DECK				45,751	45,751
	SUB-TOTAL	27,248	352,395	350,550	1,809,237	2,512,182
	MECH SYST. ADJUSTMENT: (SEE ADDENDUM M3) COOLING TOWER & A/C CHILLERS FOR CHARTER				40,000	40,000
	SUB-TOTAL				1,849,237	2,552,182
	TOTAL					

ADMINISTRATION FACILITY

LOCATION NEW MEXICO

DATE

36,601

CONCEPT

JOB NO. 8251

22, 139

DETAIL ESTIMATE SHEET				WIPP				ACTION PRICE EXTENSIONS		DATE 4-14-77 REV		CHECKED 5/4/77	
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR			MATERIAL		SUBCONTRACTS		TOTAL COST		
				LABOR UNIT	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT	TOTAL COST	
	EARTHWORK												
	EXCAVATE	2000	CY							2.50	5000		
	IMP. FILL	750	CY							4.00	3000		
	FINE GRADE	37000	SF			.06	1850						
	BASE FILL	800	CY							2.50	2000		
	DISPOSE	1200	CY							1.00	1200		
	SUB-TOTAL				185		1850				11200	13050	
	CONCRETE												
	FORMS	53000	SF	.25	13250	12.34	161650	.80	42400				
	REBAR	115	Ton							7.00	80500		
	CONCRETE	2300	CY	3	6900	16.50	113850	35.50	80500				
	PROTECT FLOOR	2300	SF			1.00	2300		1.00				
	IMBEDS	1	LS		105		1500		1500				
	SUB-TOTAL				20950		234150		125400		80500	440050	
	STRUCTURAL STEEL	98	Ton							12.00	117600	117600	
	MISC. METAL	1	LS		2400	14.34	34320		60000			94320	
	ROOF DECK	36,601	SF							1.25	45751	45751	
	METAL WALL PANELS	9500	SF		28,500	3		8	76000			104500	
	ROOFING	366	SQ							180	65880	65880	
FACILITY <u>ADMINISTRATIVE FACILITY</u> WIPP													
TYPE OF ESTIMATE <u>CONCEPT</u> JOB NO. <u>8251</u> SHEET NO. <u>23</u> OF <u>139</u>													

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE
								PRICED	EXTENSIONS	GNO	4-14-77	REV	5/4/77
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	DOORS & WINDOWS												
	GLASS-DOORS	8	EA	14	128			1500	12000				
	H.M.	13	EA	8	104			250	3250				
	H.M. EXCHY	5	EA	8	40			600	2500				
	ROLL-UP	2	EA								4200		
	G.C.	81	EA	8	648			100	8100				
	CAULKING	1	LS		400				5000				
	ALUM WINDOWS	1200	SF		200				10000				
	SUB-TOTAL				1520	13 ¹ / ₂	19918		40850		4200		64962
	INTERIOR FINISHES												
	PARTITIONS	28507	SF	125	1428			100	22200				
	RAISED FLOOR	2808	SF							8 ⁰ / ₂	22964		
	SUSP. CEILING	35450	SF							18 ¹ / ₂	28360		
	VINYL TILE	32068	SF							10	19230		
	CERAMIC TILE	2500	SF							3 ⁰ / ₂	7500		
	TERAZZO	600	SF							2 ⁵ / ₂	1500		
	HILLWORK	1	LS		763				25000				
	TOILET PART	14	EA							150	2100		
	SUB-TOTAL				2188	13 ¹ / ₂	28663		47800		81154		157617
	PAINTING	1	LS								45000		45000
	ELECTRICAL	36601	SF							6 ⁰ / ₂	219606		
	UPS	30	KW								24000		
	SUB-TOTAL										243606		243606
FACILITY <u>ADMINISTRATION FACILITY</u> <u>WIPP</u>													
TYPE OF ESTIMATE <u>CONCANT</u> JOB NO. <u>8251</u> SHEET NO. <u>24</u> OF <u>139</u> CONTRACTOR'S SUB. ACCT. NO.													

DETAIL ESTIMATE SHEET				WIPP				ACTION PRICED EXTENDING		BY AW	DATE 9-2-77	CHECKED	DATE
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT	TOTAL MRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	<u>PLUMBING</u>												
	WATER CLOSET	16	EA		64				3200				
	URINALS	7			42				1400				
	LAVATORIES	16			48				2800				
	SERVICE SINK	3			18				1200				
	FLOOR DRAINS	10			15				500				
	FLOOR SINKS	6			12				1200				
	ELEC WATER COOLERS	4			32				1600				
	WASH SINK	2			24				400				
	WATER STATION	1			8				200				
	BOOMPT SINK	2			16				600				
	GARBAGE DISPOSAL	1			8				200				
	DISH WASHER	1			16				1000				
	FREEZER DRAIN	2			3				100				
	ICE MACHINE	1			8				100				
	URN STAND	2			12				200				
	SUMP PUMP	4			32				1800				
	WATER HEATER	1			24				5000				
	ROUGH UNITS	80			800				9000				
	ROOF DRAINS	6			120				2000				
	TEST & SUPERVISION				175								
					1477	15 ⁷⁰	23	189	37,500				60,689

FACILITY WIPP

TYPE OF ESTIMATE _____ JOB NO. 8251.10 SHEET NO. 26 OF 139 PROJECT NO. ADMI PLUMBING

HL

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AWD 9-11-77

TOTAL

10041 194

2000

1997

..- 40- 8251.20

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DETAIL ESTIMATE SHEET				WIPP				ACTION PRICED EXTENSIONS		BY <i>QW</i>	DATE <i>4-11-77</i>	CHECKED	DATE
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	<u>HEAT VENT. & AC</u>												
	POLAR ASSIST PKG	1	EA									123,000	
	CHILLED WATER STG TK.												
	INSUL. & UNDER GND	1	EA		80				15,000				
	EXCAVATE & BACKFILL	256	CY								13	3,328	
	HEAT PUMP (2075 TON)	2	EA		100				49,000				
	COOLING TOWER (2075)	2										5,000	
	PUMPS	4			64				4,000				
	HEAT EXCHANGER ETC.	1			16				1,500				
	PIPE-VALVE-FTG	48			2,000				25,000				
	AH UNIT 30000 CFM	1	EA		80				10,000				
	5187	1			30				2,500				
	4082	1			30				2,500				
	6938	1			40				3,800				
	3800	1			25				2,600				
	3000	1			20				1,600				
	EX FAN	1			20				800				
					2505	15 ⁰⁰	39,329		113,300			131,328	283,957
FACILITY <u>WIPP</u>													
TYPE OF ESTIMATE _____ JOB NO. <u>025120</u> SHEET NO. <u>29 OF 139</u> ADMIN <u>8/26</u> BY <u>QW</u>													

DETAIL ESTIMATE SHEET			WIPP				ALY GR		PRICED		EXTRAS-DWG		DATE		SHEET		PAGE	
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT	TOTAL COST						
	<u>HEAT VENT & A.C.</u>																	
	DUCTWORK	90000	LB		9000				22500									
	GRILLES & DIFFUSERS	45			300				3000									
	INSULATION	30000	SF								30000							
	CONTROLS	45									20000							
	TEST & SUPV.	45			1700													
					11000	15 ⁷⁵	172700		25500		50000	248200						

FACILITY - WIPP

DATE OF ESTIMATE 8251-20 SHEET NO. 30 OF 139

ADMIN. BUILDING H.V.A.C.

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SUMMARY ESTIMATE SHEET		WIPP		DATE: 9-6-77		PAGE: 1	
ACCT. NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL	SUB-CONTRACT	TOTAL COST	
	<u>FOOD SERVICE EQUIP.</u>						
	FORWARDED	231	3 627	49 200			47 827
	TEMP. CONST			181			181
	FIELD STAFF		472				472
	EQUIPMENT				472		472
	TOOLS & EXPENDABLES			181			181
	PRT & INS.		617				617
	SUB TOTAL		4 716	49 562	472		49 750
	MARKUP						8 158
	TOTAL						58 208
	TOTAL						
FACILITY WIPP		LOCATION		AREA		EST. COST	
OWNER		JOB NO. 8251.20		SHEET NO. 31 OF 139		ITEM NO. FOOD SERVICE EQUIP	
TYPE OF ESTIMATE							

DETAIL ESTIMATE SHEET				WIPP				ACTION		DATE		REMARKS		DATE	
								PROPOSED		4-6-77					
								EXTENDING							
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACT		TOTAL			
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT	COST			
	<u>FOOD SERVICE EQUIP</u>														
	1675 STAND LOWERATOR	2	EA		2				1500						
	HOT FOOD UNIT	2			8				3200						
	COLD PAN	4			32				3600						
	TABLE TOP UNIT	2			2				1000						
	SKELETON	2			2				1000						
	URN STAND	2			2				1000						
	5 GAL ELECTRIC URN	2			4				2400						
	MILK DISP. & STAND	2			2				900						
	REFRIGERATED DISP	2			3				1000						
	CASHIER STAND	1			2				300						
	WATER STATION	1			3				1500						
	ELECTRIC GRILLE	1			2				1200						
	" RANGE	1			8				1500						
	DISH WASHER	1			16				1000						
	CORK TABLE & POT RACK	2			2				2000						
	WORK TABLE	2			2				400						
	8' X 12' WALK IN FREEZER	2			60				18000						
	500 LB DAY ICE MAKER	1			3				1400						
	2000 PT SINK	2			4				800						
	SNEEZE GUARD	2			16				1400						
	TRAY SLIDE	2			10				1200						
	GARBAGE DISPOSER	1			8				500						
	DIRTY DISH COUNTER	1			10				1400						
					231	15 ⁷⁰	3627		44200					97017	

FACILITY WIPP

NO. OF ESTIMATE 825120 JOB NO. 32 OF 139 PROJECT NO. FOOD SERVICE EQUIP

[illegible]

SUMMARY ESTIMATE SHEET

WIFF

GNO 4-7-77 REV. 5-4-77

ACCT. NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL	SUB CONTRACT	TOTAL COST
	EARTHWORK	1.05	1.050		10.950	11.500
	CONCRETE	7080	90460	51200	47250	178910
	MASONRY				19200	19200
	MISS. METAL	500	7150	15200	2300	24650
	PREFAB BLDG				121100	121100
	DOORS	272	3569	6100	5600	15243
	INTERIOR FINISHES	730	9563	9577	11370	30519
	PAINTING				2900	2900
	PLUMBING				59209	59209
	FIRE PROTECTION				39450	39450
	HEAT, VENT & AIR COND.				86026	86026
	ELECTRICAL				66000	66000
	INSTRUMENTATION				10000	10000
	COMMUNICATIONS				3000	3000
	FINAL SCRAM-UP	1.00	1.000	1.00		1100
	SUB-TOTAL	8787	102786	81977	485959	670722
	MECHANICAL EST. ADJUSTMENTS: (SEE ADDENDUM)					
	FILTER CLEANING EQUIP.				28000	28000
	SHOP EQUIP				70000	70000
	EXHAUSTERS				4570	4570
	SUB-TOTAL				588529	773292
	TOTAL					

FACILITY WAREHOUSE / SHOPSLOCATION NEW MEXICO

OWNER

AREA 18,868TYPE OF ESTIMATE CONCEPT JOB NO. 0251SHEET NO. 34 139DATE 10/1/78

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE
								PRICED	620	9-7-77			
								EXTENSIONS					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	EARTHWORK												
	EXCAVATE	1200	CY							2.50	3000		
	FILL	1300	CY							4.00	5200		
	FINE GRADE	2400	SF			.05	1050						
	BACKFILL	700	CY							2.50	1750		
	DISPOSE	500	CY							1.00	500		
	SUB-TOTAL						1050				10450		11500
	CONCRETE												
	FORMS	16000	SF	.25	4000	12.50	48000	.80	12800				
	REBAR	135000	LB							.35	47250		
	CONCRETE	900	CY	3	2700	10.00	27000	36.00	31500				
	PROTECT & CURB	900	CY			10.00	1800		900				
	IMBERS	1	LS		200	19.30	2860		6000				
	SUB-TOTAL				7400		80460		61200		47250		178910
	MASONRY												
	CONCRETE BLOCK	4800	SF							4.00	19200		19200
	MISC METAL												
	MISC IRON	1	LS		500	19.30	7150		15000				
	DOCK LEVELER	1	EA								2500		
	SUB-TOTAL				500		7150		15000		2500		24650
	PREFAB BLDG	17300								7.00	121100		121100
FACILITY <u>WAREHOUSE/SHOPS</u> WIPP													
TYPE OF ESTIMATE <u>CONCEPT</u> JOB NO. <u>8261</u> SHEET NO. <u>36</u> OF <u>139</u>													

DETAIL ESTIMATE SHEET				WIFF				ACTION PRICED EXTENSION		DATE 4-7-77		SHEETED DATE	
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR			MATERIAL		SUBCONTRACTS		TOTAL COST		
				LABOR UNIT	TOTAL MHS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	LOG UNIT		AMOUNT	
	DOORS												
	BUCK-NL 10X12	7	EA							800	5600		
	H.M. 6070	2	PR		32			500	1000				
	3070	14	EA	8	112			250	3500				
	S.C. 3070	16	EA	8	128			100	1600				
	SUB-TOTAL				272	13 ²	3563		6100		5600	15263	
	INTERIOR FINISHES												
	PARTITIONS	3440	SF	.08	275			.80	2752				
	FUR/INSUL GYP	9100	SF	.05	455			.75	6825				
	VINYL TILE	2604	SF							160	1568		
	CERAMIC TILE	1792	SF							50	2376		
	SUSPENDED CEILING	4320	SF							80	3456		
	LATH & PLASTER	40	SF							200	80		
	TOILET PARTITIONS	6	EA							150	900		
	SUB-TOTAL				730	13 ²	9563		9577		11374	30514	
	PAINTING	28000	SF							.35	9800	9800	
	ELECTRICAL	18068	SF								66000	66000	
	INSTRUMENTATION	1	LS								10000	10000	
	COMMUNICATIONS	1	LS								3000	3000	
FACILITY <u>WAREHOUSE/SHOPS</u> WIFF													
TYPE OF ESTIMATE <u>CONCEPT</u> JOB NO. <u>8251</u> SHEET NO <u>36</u> OF <u>139</u>													

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SUMMARY ESTIMATE SHEET		WIPP		ACTION PRICED EXTENSIONS		BY	DATE	DATE
ACCT. NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL	SUB-CONTRACT			
	<u>PLUMBING RECAP</u>							
	FORWARDED	1005	15 778	23 000				38 778
	TEMP. CONST.			788				788
	FIELD STAFF		2 051					2 051
	EQUIPMENT				2 051			2 051
	TOOLS & EXPENDABLES			788				788
	PRT & INSURANCE		2 682					2 682
	SUB TOTAL		20 511	24 576	2 051			47 138
	MARK UP							7 071
	TOTAL							54 209
	TOTAL							
FACILITY <u>WAREHOUSE & SHOPS</u>		LOCATION						
OWNER <u>WIPP</u>		AREA						
TYPE OF ESTIMATE		JOB NO. <u>825120</u>		SHEET NO. <u>37</u> OF <u>139</u>		BID ITEM NO. <u>PLUMBING</u>		

DETAIL ESTIMATE SHEET				WIPD				ACTION BY DATE		DATE		DATE	
ACCT NO	DESCRIPTION	QUANTITY	UNIT	LABOR			MATERIAL		SUBCONTRACTS		TOTAL COST		
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT		AMOUNT	
	<u>PLUMBING</u>												
	WATER CLOSET	6	ETA		24			800					
	URINAL	3			18			600					
	LAVATORY	6			18			1,100					
	STALL SHOWER	2			16			900					
	SERVICE SINK	1			18			400					
	FLOOR DRAIN	5			8			200					
	" SINK	5			8			1,000					
	ELECT. WATER COOLER	2			16			800					
	2 COMP. SINK	2			24			1,000					
	AIR COMPRESSOR	1			32			3,000					
	AIR PIPING	40			100			5,000					
	WATER HEATER	1			8			600					
	ROUGH UNITS	33			300			3,000					
	ROOF DRAIN	4			80			4,600					
	TEST & SUPV	1/2			135								
					1005	15.78	15,778	23,000			38,778		
FACILITY WIPD													
CONTRACT NO. B251.10 UNIT NO. 38 139 WUSE. & SHOPS PLUMBING													

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4-12-77

WAREHOUSE - SHOPS K V 3 AC					
FORWARDED	1782	27.977	26500	5500	59.977
TEMP CONST			1399		1399
FIELD STAFF		3637			3637
EQUIPMENT				3637	3637
TOOLS & EXPENDABLES			1399		1399
PRT # INS		9756			9756
SUB TOTAL		36320	29298	9137	74805
MARKUP					11221
TOTAL					86026

WAREHOUSE & SHOPS

8251.20

40 139

HEAT VETUT 8 AC

DETAIL ESTIMATE SHEET				WIPP				ACTION BY		DATE		CHECKED		DATE	
								PRICED		9-12-77					
								EXTENSION							
ACCT NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST			
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT				
	<u>HEAT VENT 9 AC</u>														
	LOCKER & OFFICE														
	ROOF TR. UNIT	1	EA		60				8000						
	SHOPS AREA	1	EA		60				13000						
	STORAGE AREA														
	SPOOT HEAT	4	EA		64				1600						
	DUCT WORK	13900	LB		1390				3500						
	" INSULATION	45									2000				
	CONTROLS	1/3									2500				
	EXHAUST FAN	1	EA		8				400						
	TEST & SUPV				200										
					1782	15 ⁰⁰	27 977		26 500		5 500	59 927			
FACILITY <u>WIPP</u>															
TYPE OF ESTIMATE															
JOB NO. <u>8251.20</u> SHEET NO. <u>41 OF 139</u> PRINCIPAL <u>SHOP - W H 50</u>															
H. U. E. S.															

SUMMARY ESTIMATE SHEET

WJPP

GAIO 4-6-77

ACCT. NO.	DESCRIPTION	MANHOURS	LABOR	MA. CAPITAL	CONTRACT	TOTAL
	FOUNDATION	16	160		540	700
	CONCRETE	869	10065	6845	3500	20410
	PRE-FAB BLDG				14992	14992
	MISS. METAL	40	551	1570		2121
	GLASS & DOORS	40	524	1229	6000	7748
	INTERIOR FINISHES	523	6851	3954	1057	11862
	PAINTING				2807	2800
	PLUMBING				38984	38984
	HEAT/VENT & AIR COND.				3006	3006
	ELECTRICAL				7068	7068
	SPECIAL EQUIPMENT					W/P 400
	PROCESS PIPING					W/P 400
	FIRE PROTECTION				4123	4123
	COMMUNICATIONS				1000	1000
	INSTRUMENTATION					
	SUB-TOTAL	1987	18151	13593	84570	116314
	TOTAL					

FACILITY VEHICLE MAINT. FACILITY

WJPP LOCATION NEW MEXICO

CITY

AREA 2356

CONCEPT CONCEPT

SHEET 5251

SHEET 42 139

SHEET 40

DETAIL ESTIMATE SHEET				WIPP				ACTION PRICED EXTENSIONS		BY GND	DATE 7-6-77	CHECKED	DATE
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	EARTHWORK												
	EXCAVATE	120	CY							2.50	300		
	FINE GRADE	3200	SA			.05	160						
	BACK FILL	80	CY							2.50	200		
	DISPOSE	40	CY							1.00	40		
	SUB-TOTAL						160				540		700
	CONCRETE												
	FORMS	2000	SF	.25	500	12.00	6000	.80	1600				
	REBAR	10,000	LB							.35	3500		
	CONCRETE	106	CY	3	318	10.00	3180	3.50	3710				
	PROTECT & CORE	106	CY		7	10.00	70			.35			
	IMBERS	1	LS		50	14.00	700		1500				
	SUB-TOTAL				868		10065		6845		3500		20410
	PRE-FAB GIRD	2354	SA							7.00	16492		16492
	MISC METAL												
	MESH PARTITIONS	380	SM		10	12.00	120	1.50	570				
	MISC. IRON	1	LS		30	14.00	420		1000				
	SUB-TOTAL						551		1570				2121
FACILITY <u>VEHICLE MAINT. FACILITY</u> WIPP													
TYPE OF ESTIMATE <u>CONCEPT</u> JOB NO. <u>8251</u> WIP NO. <u>43</u> 139													

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE
								PRICE	GNO		4-6-77		
								EXTENSIONS					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	543H & DOORS												
	543H	32	LF		8			7 ⁰⁰	224				
	ROLL-UP DOORS	4	EA							1500	6000		
	H.M.	4	EA	8	32			250	1000				
	SUB-TOTAL				40	13 ⁰⁰	528		1224		6000		7728
	INTERIOR FINISHES												
	PARTITIONS	630	SF	.1	63			.80	504				
	SUSP. CEILING	216	SF							.80	173		
	V.A. TILE	144	SF							.60	86		
	CERAMIC TILE	216	SF							3 ⁰⁰	648		
	TOILET PARTITION	1	EA								150		
	FUR/INSUL/GYP OB	4600	SF	.1	460			.75	3450				
	SUB-TOTAL				523	13 ⁰⁰	6851		3954		1057		11862
	PAINTING	8000	SF							.35	2800		2800
	PLUMBING	1	LF								38984		38984
	ELECTRICAL	2356	SF							3 ⁰⁰	7068		7068
	COMMUNICATIONS										1000		1000
FACILITY <u>VEHICLE MAINT. FACILITY</u> WIPP													
TYPE OF ESTIMATE <u>CONCEPT</u> JOB NO. <u>8251</u> SHEET NO <u>44</u> OF <u>139</u> PRINCIPAL SUB ACCT. NO.													

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SUMMARY ESTIMATE SHEET		WIPP		ACTION PRICED EXTENSIONS		BY	DATE	SHEET	DATE
ACCT. NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL	SUB-CONTRACT				TOTAL COST
	<u>VEHICLE MAINTENANCE</u>								
	FORWARDED	639	10,082	18,550					28,582
	TEMP. CONST.			502					502
	FIELD STAFF		1,304						1,304
	EQUIPMENT				1,304				1,304
	TOOLS & EXPENDABLES			502					502
	PRT & INS.		1,705						1,705
	SUB TOTAL		13,091	19,554	1,304				33,949
	MARK UP								5,085
	TOTAL								38,984
	TOTAL								
FACILITY <u>WIPP</u> LOCATION _____ OWNER _____ AREA _____ S F COST _____ TYPE OF ESTIMATE _____ JOB NO. <u>825110</u> SHEET NO. <u>45</u> OF <u>139</u> BID ITEM NO. <u>PLUMBING</u>									

[illegible]

96

SUMMARY ESTIMATE SHEET		WIPP		ACTION BY DATE CHECKED DATE		
				PRICED <u>W</u> 4-7-77		
				EXTENSIONS		
ACCT. NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL	SUB-CONTRACT	TOTAL COST
	<u>VEHICLE MAINTENANCE</u>					
	FORWARDED	38	597	1700		2297
	TEMP. CONST.			30		30
	FIELD STAFF		78			78
	EQUIPMENT				78	78
	TOOLS & EXPENDABLES			30		30
	PAT & INS		101			101
	SUB TOTAL		776	1760	78	2614
	MARK UP					392
	TOTAL					3006
	TOTAL					
FACILITY <u>VEHICLE MAINTENANCE WIPP</u>		LOCATION				
OWNER		AREA		S F COST		
TYPE OF ESTIMATE		JOB NO. <u>8251.20</u>		SHEET NO. 47 OF 139		2-0 1 PM 40 HERTYEN 7810

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[illegible]

SUMMARY ESTIMATE SHEET

WIPP

SECTION

3

DATE

4/12/77

EXTENSION

GND 4-12-77

ACCT. NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL	SUB-CONTRACT	TOTAL COST
	EARTHWORK	85	850	600	3070	4520
	CONCRETE	2976	33980	22675	22050	79605
	MASONRY				18600	18600
	PREFAB. BUILDING				82650	82650
	MISC. IRON	200	2060	9600		11660
	DOORS & SASH	322	4218	11960		16678
	INTERIOR FINISHES	803	10519	18908	28551	57478
	PAINTING				7350	7350
	SPECIAL EQUIPMENT				16000	16000
	PLUMBING				79283	79283
	HEAT, VENT & AIR COND				125581	125581
	FIRE PROTECTION				18100	18100
	ELECTRICAL				61992	61992
	INSTRUMENTATION				10000	10000
	COMMUNICATIONS				5000	5000
	FINAL CLEANUP	100	1000	100		1100
	SUB-TOTAL	3682	52927	61993	977239	592009
	TOTAL					

FACILITY

MAN/MATERIALS BLDG

LOCATION

NEW MEXICO

OWNER

AREA

10,822

S F COST

TYPE OF ESTIMATE

CONCEPT

JOB NO.

8251

SHEET NO.

50 OF 139

910 ITEM NO

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE
								PRICED		END	9-11-77		
								EXTENSIONS					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	EARTHWORK												
	EXCAVATE	475	CY							2 ⁵⁰		1,488	
	FINE GRADE	11,000	SF			1.05	550						
	FILL	200	CY			1.50	300	3 ⁰⁰		600			
	BACKFILL	475	CY							2 ⁵⁰		1,188	
	DISPOSE	200	CY							1 ¹⁸		200	
	SUB-TOTAL				85		850		600		3076	4,526	
	CONCRETE												
	FORMS	6000	SF	26	1,500	12 ²⁵	18,300	80	4800				
	REBAR	6300	LB							35		220,500	
	CONCRETE	425	CY	3	1275	10 ⁰⁰	12,750	35	14,875				
	PROTECT & CURE	425	CY			140	1400		500				
	IMBEDS	1	LS			100	1400		2,500				
	SUB-TOTAL				2975		33,480		22,675		220,500	78,205	
	MASONRY												
	CONCRETE BLOCK	4650	SF							4 ⁰⁰		18,600	18,600
	PREFAB BLDG	10,332	SF							8 ⁰⁰		82,656	82,656
	MISC. IRON												
	MISC. PL & SHAPES	1	LS		200	17 ⁰⁰	2,060		8,600			11,460	
FACILITY <u>MAN/MATERIALS BLDG</u> <u>WIPP</u>													
TYPE OF ESTIMATE <u>CONCEPT</u> JOB NO. <u>8201</u> SHEET NO. <u>51</u> OF <u>139</u> PRINCIPAL SUB ACCT. NO.													

DETAIL ESTIMATE SHEET				WIPP				NOTATION REVISED EXTENSIONS		BY GND		DATE 9-11-77		DATE	
ADDT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIALS		SUBCONTRACTS		TOTAL COST			
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT				
	DOORS & SASH														
	GLASS 6070	2	PR	IL	32			1100	2200						
	H.M.L. 8010	1	PR		16				700						
	" 3070	1	PR		16			500	500						
	" 3070	30	EA	8	240			250	7500						
	SASH - ALUMI	80	SF		18			700	560						
	SUB-TOTAL				322	13 ¹⁴	4218		11460						15678
	INTERIOR FINISHES														
	PARTITIONS 3.5/41P	7400	SF	.05	370			100	5920						
	" TOILET	16	EA							150	2400				
	SUSP. CEILING	8236	SF							180	4589				
	VINYL TILE	5964	SF							.60	3578				
	CERAMIC TILE	4368	SF							300	13104				
	MILKWORK	1	LS		200					2000					
	TERRAZZO	1152	SF							200	2880				
	FURR/GYP	4650	SF	.05	233			.75	3488						
	SUB-TOTAL				803	13 ¹⁴	10519		18405		28551				57478
	PAINTING	21000	SF							.35	7350				7350
	SPECIAL EQUIPMENT														
	ELEV. BASKET 3407	1	LS								15000				15000
FACILITY <u>MAN/MATERIALS Bldg</u> <u>WIPP</u>															
TYPE OF ESTIMATE <u>CONCENT</u> JOB NO. <u>8251</u> SHEET NO. <u>52 OF 139</u> DRAWING NO. <u>SLB 1001, NO.</u>															

SUMMARY ESTIMATE SHEET		WIPP		ACTION PRICED		DATE 9-2-77	CHECKED	DATE
ACCT. NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL	SUB- CONTRACT	TOTAL COST		
	<u>MAN-MATERIALS</u>							
	FORWARDED	1990	23,393	33,150				56,543
	TEMP. CONST.			1,170				1,170
	FIELD STAFF		3,091					3,091
	EQUIPMENT				3,091			3,091
	TOOLS & EXPENDITURES			1,170				1,170
	PRT & ING.		3,977					3,977
	SUB TOTAL		30,461	35,490	3,091			68,992
	MARKUP							10,391
	TOTAL							79,283
	TOTAL							
FACILITY <u>MAN-MATERIALS</u> LOCATION _____								
OWNER <u>WIPP</u> AREA _____ S F COST _____								
TYPE OF ESTIMATE _____ JOB NO. <u>8251.20</u> SHEET NO. <u>53</u> OF <u>139</u> BID ITEM NO. <u>PLUMBING</u>								

DETAIL ESTIMATE SHEET			WIPP		DATE 9-7-77		TOTAL				
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR		AMOUNT	MATERIAL		SUBTOTAL		TOTAL COST
				LABOR UNIT	TOTAL MHRS		RATE HR.	COST UNIT	AMOUNT	COST UNIT	
	<u>PLUMBING</u>										
	WATER CLOSET	10	EA		40			2.000			
	URINALS	6			36			1.200			
	LAVATORIES	10			30			1.750			
	SERVICE SINK	2			12			800			
	STALL SHOWER	4			32			1.600			
	GANG SHOWER (19 HZ)	1/8			40			7.000			
	FIRST AID ROOM SINK	1			6			250			
	ELEC. WATER COOLER	1			8			400			
	BOAT WASH SMALL	2			12			300			
	" " LARGE	2			12			450			
	FLOOR DRAIN	10			15			500			
	FLOOR SINK	2			3			400			
	WATER HEATER	1			24			3.500			
	PIPE VALVE FTE	49			900			10.000			
	ROOF DRAINS	6			120			3.000			
	TEST & SUPV.				200						
					1490	15.75	23.393	33.150			56.543

FACILITY WIPP

TYPE OF ESTIMATE MAN-MATERIAL PLUMBING

JOB NO. 825120

SHEET NO. 54 of 139

SUMMARY ESTIMATE SHEET		WIPP		ACTION BY DATE CHECKED DATE		PRICED 4-11-77		EXTENSIONS	
ACCT. NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL	SUB-CONTRACT			TOTAL COST	
	<u>HEAT VENT & AC</u>								
	FORWARDED	2756	43 269	33 000	10 000				86 269
	TEMP. CONST.			2 163					2 163
	FIELD STAFF		5 625						5 625
	EQUIPMENT				5 625				5 625
	TOOLS & EXPENDABLES			2 163					2 163
	PRTS & INS		7 356						7 356
	SUB TOTAL		56 250	37 326	15 625				109 201
	MARK UP								16 380
	TOTAL								125 581
	TOTAL								
FACILITY <u>MAN & MATERIALS WIPP</u> LOCATION _____									
OWNER _____ AREA _____ S F COST _____									
TYPE OF ESTIMATE _____ JOB NO. <u>825670</u> SHEET NO. <u>55</u> OF <u>139</u> 9'D ITEM NO <u>HEAT VENT & AC</u>									

[illegible]

SUMMARY ESTIMATE SHEET

WIFE

GNO 9-14-77 REV. 5-4-77

ACCT. NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL	MECHANICAL	TOTAL COST
	CONCRETE	30	300		3040	3340
	STRUCTURAL STEEL	8980	95680	40.100	42.000	197780
	ROOFING				24000	24000
	SHEET METAL				10.080	10.080
	DOORS	26	1258	3.000	3.000	6.058
	INTERIOR FINISHES	282	3194	6.067	2293	12054
	PAINTING				3400	3400
	ELECTRICAL				34458	34458
	INSTRUMENTATION				5000	5000
	COMMUNICATIONS				1000	1000
	PLUMBING EQUIP.				175328	175328
	FIRE PROTECTION				25000	25000
	HEAT, VENT & AIR COND				92256	92256
	SUB-TOTAL	8888	100932	69.167	425955	595554
	MECH SYST. ADJ.: (SEE ADDENDA M2)					
	HEPA FILTER BANKS				9700	9700
	SUB-TOTAL				435155	605254
	TOTAL					

FACILITY SUSPECT/LAUNDRY BULKY

LOCATION NEW MEXICO

OWNER

AREA 5773 3 F COST

TYPE OF ESTIMATE CONCEPT JOB NO. 8261

SHEET NO. 58 OF 139

JOB NO.

DETAIL ESTIMATE SHEET				WIPP				ACTION PRICES EXTENSIONS		BY GNO	DATE 4-14-77	CHECKED	DATE
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR UNIT	TOTAL MTRS	RATE HR.	AMOUNT	MATERIAL COST UNIT	AMOUNT	SUBCONTRACTS COST UNIT	AMOUNT	TOTAL COST	
	EARTHWORK												
	EXCAVATE	610	CY							2.50	1525		
	FILL	110	CY							4.00	440		
	FINE GRADE	4000	SF			.15	300						
	BACKFILL	310	CY							2.50	775		
	DISPOSE	300	CY							1.10	330		
	SUB-TOTAL						300				3045		3340
	CONCRETE												
	FORMS	19000	SF	1.25	9750	12.20	57950	.80	15200				
	REBAR	60	CY							700	42000		
	CONCRETE	1160	CY	3	3480	10.10	34800	.95	40600				
	PROTECT & CURE	1160	CY			150	10.20	1500			800		
	LABELS	1	EA		100	14.30	1430		9500				
	SUB-TOTAL				9480		96680		60100		42000		197780
	STRUCTURAL STEEL	20	TON							1200	24000		24000
	ROOFING	56	SQ							180	10080		10080
	SHEET METAL	1	KS								3000		3000
	DOORS												
	H.C.A.	12	EA		96				3000				
	ROLL-UP	1	EA								1800		
	SUB-TOTAL				96	134	1258		3000		1800		4658
FACILITY <u>SUSPECT/LAUNDRY BLDG</u> WIPP													
TYPE OF ESTIMATE <u>CONCEPT</u> JOB NO. <u>8251</u> SHEET NO. <u>59</u> OF <u>139</u> IS NOTED TOP SET NO.													

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DETAIL ESTIMATE SHEET			WIPP				ADD ON PRICED EXTENSIONS		BY 9-7-77		DATE	
ACCT. NO	DESCRIPTION	QUANTITY	UNIT	LABOR			MATERIAL		SUB CONTRACTS		TOTAL COST	
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT		AMOUNT
	<u>PLUMBING EQUIP</u>											
	WATER CLOSET	1	EA		4				200			
	LAVATORY	1			4				100			
	FLOOR WATER COOLER	2			14				700			
	SINK	1			8				500			
	WATER HEATER	1			8				200			
	FLOOR DRAIN	8			12				400			
	FLOOR SINK	1			2				200			
	IRONER	1			40				5000			
	DRYER	1			40				3600			
	EXTRACTOR	1			40				3000			
	WASHETTE	1			32				1400			
	TABLES	2			4				1100			
	PIPE-VALVE-FTG	43			590				6000			
	ROOF DRAIN	2			40				800			
	TEST & SUPV	43			130							
					1072	15 ⁰⁰	16830		24000		40830	

DATE OF ORDER
MAKE
JOB NO. 8251.20
SHEET NO. 62 OF 139
PLUMBING

DETAIL ESTIMATE SHEET				WIPP				ACTION PRICE EXTENSIONS		BY <i>WJ</i>	DATE <i>11-77</i>	ORDERED	DATE
ACCT. NO	DESCRIPTION	QUANTITY	UNIT	LABOR			MATERIAL		SUBCONTRACTS		TOTAL COST		
				LABOR UNIT	TOTAL MRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	<u>EQUIP SUSPECT WASTE LAUNDRY BUILDING</u>												
	MISC. WASTE TANK	1	EA		24				8.900				
	DETERGENT WASTE TK	1	EA		24				8.900				
	MONITOR TANK	2	EA		48				10.000				
	MIXED BED ION EXCH.	1	UNIT		40				10.000				
	RADIATION MONITOR	1	EA		24				6.000				
	MISCL WASTE FILTER	1	EA		24				5.000				
	DETERGENT FILTER	1	EA		24				5.000				
	RE CYCLE WATER TK	1	EA		24				8.900				
					232	15 ²⁰	3.692		62.700			66.392	
FACILITY <u>WIPP</u>													
TYPE OF ESTIMATE _____ JOB NO <u>8251-20</u> SHEET NO. <u>63</u> OF <u>139</u> PRINCIPAL SHE ACCT. NO. <u>WASTE LAUNDRY</u>													

DETAIL ESTIMATE SHEET				WIPP				DATE		4477	
ITEM NO.	DESCRIPTION	QUANTITY	UNIT	LABOR			MATERIAL		STEEL, WOOD, ETC.		TOTAL COST
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	
	<u>EQUIP. SUSPECT WASTE LAUNDRY BUILDING</u>										
	PUMP MISCEL WASTE TR.	2	EA		24			2.000			
	PUMP DEBRID.	2	EA		24			2.000			
	PUMP MONITOR TANK	2	EA		24			2.000			
	PUMP FROM MINE LEVEL	1	EA		18			1.500			
	SUSPECT WATER POND	1	EA		0			0			
	PROCESS PIPING VALVES & FTGS	1/2			630			7.000			
	TEST & SURV.	4/2			110			0			
					830	15 ⁰⁰	13.031	14.500			27.531

THE CITY WIPP
 PROJECT NO. 8251.20 SHEET NO. 64 OF 139 PROJECT NAME WASTE LAUNDRY

DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT	TOTAL
EARTHWORK	10	86	-	37.197	37283
CONCRETE	2220	25170	14880	16800	56850
MISC. METAL	100	1450	10800	-	12250
METAL DOORS	20	262	1000	-	1262
FURNISHINGS	10	130	200	-	330
PAINTING	-	-	-	1560	1560
MECH. EQUIP.	-	-	-	39570	39570
PLUMBING	-	-	-	2000	2000
FIRE PROTECTION	-	-	-	2500	2500
ELECTRICAL	-	-	-	6000	6000
COMMUNICATIONS	-	-	-	1000	1000
INSTRUMENTATION	-	-	-	1000	1000
SUB TOTAL (1)	2360	27098	26880	107627	161605
SUB TOTAL (2)	4120	54196	53760	215254	323210
MECH SYST. ADJ. (SEE ADDENDUM, M2)					
DIESEL FIRE PUMPS (2)				91 000	91 000
HEADER, VALVES & METERS				12 000	12 000
SUB TOTAL (2)				318 254	426 210
TOTAL					

PROJECT: WATER PUMP HOUSE - 2 EA
 OWNER: SANDIA LAB.

LOCATION: NEW MEXICO
 TOTAL 1716* (FOR 2 EA) 1716*

DATE: 12/1/77
 CONTRACT NO. 825400

DATE: 6/8/77

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DETAIL ESTIMATE SHEET				WIPP				ACTION PRICED EXTENSIONS		BY	DATE	CHECKED	DATE
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT	TOTAL COST	
	<u>EARTHWORK</u>												
	EXCAVATE - REG.	280	CY							2.50	700		
	" " - CALICHE	390	CY							90	35100		
	FINE GRADE	1000	SF		10								
	BACKFILL	370	CY							2.50	925		
	CR. AGG.	20	CY							8.00	160		
	DISPOSE	390	CY							8.00	312		
	SUB TOTAL				10		86				37197	37283	
	<u>CONCRETE</u>												
	FORMWORK	5200	SF	25	1300	12.50	15860	.90	4680				
	REBAR	24	Ton								16800		
	CONCRETE	240	CY	3.5	840	10.50	8400	35	8400				
	IMBROS	1	LS		50	12.50	610		1500				
	CURB & PROTECT	240	CY		10	10.00	100		50				
	FLOOR HARDENER	720	SF		20	10.00	200		250				
	SUB TOTAL				2220		25170		14880		16800	56850	
	<u>MISC. METAL</u>												
	MISC. SHAPES & PL.	1	LS		50				500				
	LADDER	14	LF		20				300				
	REMOVABLE HATCH	1	EA		30				10000				
	SUB TOTAL				100	1450	1450		10800			12250	
FACILITY <u>H₂O Pump House (1)</u>													
TYPE OF ESTIMATE <u>CONCRETE</u> JOB NO. <u>8251.00</u> SHEET NO. <u>69</u> OF <u>139</u>													

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SUMMARY ESTIMATE SHEET		WIPP		ACTION PRICED EXTENSIONS		BY <i>OW</i>	DATE <i>1-11-77</i>	CHECKED	DATE
ACCT. NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL	SUB- CONTRACT			TOTAL COST	
	<u>PUMP HOUSE EQUIPMENT</u>								
	FORWARDED	350	5 495	26 000					31 495
	TEMP. CONST.			275					275
	FIELD STAFF		715						715
	EQUIPMENT				715				715
	TOOLS & EXPENDABLES			275					275
	PRT & INS.		935						935
	SUB TOTAL		7 145	26 550	715				34 410
	MARK UP								5 160
	TOTAL								39 570
	TOTAL								
FACILITY <u>PUMP HOUSE EQUIPMENT WIPP (1)</u> LOCATION _____ OWNER _____ AREA _____ S F COST _____ TYPE OF ESTIMATE _____ JOB NO. <u>825120</u> SHEET NO. <u>71</u> OF <u>139</u> S D TEM NO <u>EQUIP & PIPING</u>									

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[illegible]

RCP 4-14-77

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DETAIL ESTIMATE SHEET				WEEK				DATE		DATE		DATE	
ACCT NO.	DESCRIPTION	QUANTITY	UNIT	LABOR			MATERIAL		SUBTOTAL		TOTAL COST		
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT		AMOUNT	
	EARTHWORK												
	EXCAVATE - REG.	5600	CY						2.50	14000			
	- CALICHE	21600	CY						90	1944000			
	FINE GRADE	20000	SF		200								
	BACKFILL	16800	CY						2.50	42000			
	CR. ACC.	350	CY						8.00	2800			
	DISPOSE	21600	CY						.80	17280			
	SUB TOTAL				200		1720		-	2020080	2021800		
	CONCRETE												
	FORMWORK	96000	SF	2	19200	12.50	234240	90	84400				
	REBAR	310	Ton		-				-	217000			
	CONCRETE	3500	CY	3.0	10500	10	105000	35	122500				
	IMBROS	1	LS		250	12.50	3125		5000				
	CURE & PROTECT	3500	CY	.02	70	10	700	.20	700				
	FLOOR HARDENER	7300	SF	.02	146	10	1460	.35	2555				
	SUB TOTAL				30166		344450		217155	217000	778605		
	MISC METAL												
	MISC. SHAPES & P.	15000	LBS	.015	225			.45	6750				
	STAIRS	126	RISER	1.75	221			.36	4536				
	SUB TOTAL				446	14.50	6467		11286		17753		
FACILITY RH & TRU Hoist House													
TYPE OF ESTIMATE CONCEPT JOB NO 8251.00 SHEET NO. 75 OF 139 PRINCIPAL SUB ACCT. NO.													

DETAIL ESTIMATE SHEET				WIFF				LOCATION		DATE	
								RCP		4-14-77	
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT
	SHORT METAL	1	LS				-		-		2,000
	ROOFING	67	SQ						180		12,060
	METAL DOORS										
	BLAST - 3070	5	EA		50				2,500		
	6070	1	PR		20				1,000		
	REG. 3070	4	EA		32				1,000		
	6070	3	EA		45				1,500		
	SUB TOTAL				147		1,926		6,000		7,926
	WALL, CEILING & FLOOR COVER										
	ST. STUD W/ GYP. 2 SIDES	400	SF		30			80	320		
	SUSP. CEILING	1000	SF						1		1,000
	V.A. FLOOR TILES	940	SF						.75		705
	BASS	10.0	LF								100
	CERAMIC	320	SF						4		1,280
	SUB TOTAL				30		393		320		3,085
FACILITY <u>RH & TRU HOIST HOUSE</u>											
TYPE OF ESTIMATE <u>CONCEPT</u> JOB NO. <u>8251,00</u> SHEET NO. <u>76 OF 139</u>											

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DETAIL ESTIMATE SHEET				WIPP				ACTION PRICED EXTENSIONS		BY RCP	DATE 4-14-77	CHECKED	DATE
ACCT NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	<u>FURNISHINGS</u>												
	TRILT PART.	1	EA		2				270				
	SHRVLING	1	LS		18				500				
	SUB TOTAL				20		290		770				1060
	<u>PAINTING</u>												
	CONC. / G.V.P.	28,000	SF						140		11,200		
	DAMP PROOFING	54,000	SF						160		32,400		
	SUB TOTAL										43600		43600
	<u>FINAL CLAN</u>	7300	SF		75		645		300				945
	<u>ELECTRICAL</u>	7334	SF								107	73340	73340
FACILITY <u>RH & TRU Hoist House</u>													
TYPE OF ESTIMATE <u>CONCEPT</u> JOB NO. <u>8251.00</u> SHEET NO. <u>77</u> OF <u>139</u> PRINCIPAL SUB ACCT. NO.													

W 4-12-77

HOIST HOUSE PLUMBING

FORWARDED	356	5589	4925	10514
TEMP. CONST.			279	279
FIELD STAFF		227		227
EQUIPMENT			227	227
TOOLS & EXPENDABLES			279	279
PAT & INS		950		950
SUB TOTAL		7266	5983	13249
MARKUP				2021
TOTAL				15270
			Round	15600
TOTAL				

HOIST HOUSE WIPP

LOCATION

OWNED

DATE

8251.20

78 137

DATE

24-7844007
PLUMBING

[illegible]

[illegible]

ew 9-12-77

TOTAL

LOCATION

1551

62 10. 8251.20

REF ID: A6139

HEAT VENT & C.

[illegible]

SUMMARY ESTIMATE SHEET

RCP 4-14-77

NO.	DESCRIPTION	UNIT	QTY	UNIT PRICE	AMOUNT	TOTAL
	EARTHWORK		50	430	3700	4,130
	CONCRETE		3930	43854	26165	35000
	STRUCTURAL STEEL		-	-	-	128000
	MISC. METAL		225	3698	7350	23550
	SHEET METAL		-	-	-	2000
	METAL DOORS		90	1179	4750	-
	WALL, CEILING & FLOOR COVER		58	760	892	1880
	FURNISHINGS		20	290	770	-
	SPECIAL EQUIP.		660	9570	101500	-
	PAINTING		-	-	-	12800
	FINAL CLEAN		50	430	240	-
	PLUMBING		-	-	-	14100
	FIRE PROTECTION		-	-	-	13100
	HEATING		-	-	-	4000
	COMMUNICATIONS		-	-	-	4000
	INSTRUMENTATION		-	-	-	4000
	ELECTRICAL		-	-	-	52360
	SUB TOTAL		5583	60211	151667	298490
	TOTAL					510368

FACILITY M/M Hoist House Facility

LOCATION NEW MEXICO

OWNER SANDIA LAB.

AREA 5236

DATE OF ESTIMATE CONCEPT

JOB NO 825100

SHEET NO 84 OF 139

DATE 4-14-77

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE
								PRICED		RCP	4-14-77		
								EXTENSION					
ACCT NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	<u>EARTHWORK</u>												
	EXCAVATE - BRG	700	CY							2.50		1750	
	FINE GRADE	6000	SF		50							-	
	BACKFILL	300	CY							2.50		750	
	CR. AGG	110	CY							8.00		880	
	DISPOSE	400	CY							.80		320	
	SUB TOTAL				50		430					3700	4130
	<u>CONCRETE</u>												
	FORMWORK	8850	SF	.2	1770	12.20	21594	.90	7965				
	REBAR	50	Ton		-		-		-			35000	
	CONCRETE	580	CY	3.0	1740	10.00	17400	35.00	20300				
	IMBROS	1	LS		300	12.20	3660		4000				
	CURE & PROTECT	580	CY		20	10.00	200		100				
	FLOOR HARDWARE	5200	SF		100	10.00	1000		1800				
	SUB TOTAL				3930		43854		36165			35000	115019
	<u>STRUCTURAL STEEL</u>	100	Ton							12800		128000	128000
FACILITY <u>M/M HOIST HOUSE</u>													
TYPE OF ESTIMATE <u>CONCEPT</u> JOB NO. <u>8251.00</u> SHEET NO. <u>85</u> OF <u>139</u> PRINCIPAL SUB ACCT. NO.													

DETAIL ESTIMATE SHEET

WIPP

RCP 4-14-77

ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACT		TOTAL COST
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT	
	MISC. METAL											
	MISC. SHAPES & P.	15000	LBS.	.015	225			.45	6.750			
	SIDING - NOT INSUL.	10500	SF		-					1.50	15.750	
	ROOFING - "	5200	SF		-					1.50	7.800	
	LADDER	30	LF		30			20	400			
	SUB TOTAL				255		3698		7.350		23.550	34.598
	SHIRT METAL	1	LS								2.000	2.000
	METAL DOORS											
	3070	7	EA	8.0	56			250	1.750			
	O.H. 12' X 12'	2	EA		34			1500	3.000			
	SUB TOTAL				90	13.2	1.179		4.750			5.929
	WALL CEILING & FLOOR COVER											
	ST. STUD. W/ GYP. 2 SIDES	440	SF	.05	22			.80	352			
	" " W/ GYP 1 SIDE & INSUL.	720	SF	.05	36			.75	540			
	SUSP CEILING	400	SF							1.4	400	
	V.A. TILE	360	SF							.75	270	
	CERAMIC	270	SF							4	1080	
	BASS	130	LF							1	130	
	SUB TOTAL				58	13.2	760		892		1.880	3.532
FACILITY M/M Hoist House												
TYPE OF ESTIMATE CONCRET JOB NO. 8251.00 SHEET NO. 86 OF 139 PRINCIPAL & ASSOCIATES, INC.												

135

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE
								PRICED	RCP	4-14-77			
								EXTENSIONS					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	FURNISHINGS												
	TOILET PART. & ACCESS	1	EA		2				270				
	SHREVLING	1	LS		18				500				
	SUB TOTAL				20	14.50	290		770			1060	
	SPECIAL EQUIPMENT												
	BRIDGE CRANE 25T	1	EA		600				100,000				
	CABOT OPG. CLOSURES	3	EA		60				1500				
	SUB TOTAL				660	14.50	9570		101500			111070	
	PAINTING												
	STRUCT. & MISC.	32,000	SF							.40	12800	12800	
	FINAL CLEAN	5200	SF		50		430		240			670	
FACILITY <u>M/M Hoist House</u>													
TYPE OF ESTIMATE <u>CONCEPT</u> JOB NO. <u>8251.00</u> SHEET NO. <u>87 OF 139</u> PRINCIPAL SUB ACCT. NO.													

9.336

276

276

716

716

211

216

276

274

937

937

7164

4377

216

12.257

1839

14096

Round	14.100
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LOC 21: 06

244

444

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

DB 40. 9251.20

88 139

PLUMBING

[illegible]

SUMMARY ESTIMATE SHEET

WIPP

W 4-12-77

ACCT. NO	DESCRIPTION	MANHOURS	LABOR	MATERIAL	OVERHEAD	TOTAL
	<u>MAN & MATERIAL HOIST HOUSE HEATING</u>					
	FORWARDED	60	992	2000		2992
	TEMP. CONST.			47		47
	FIELD STAFF		122			122
	EQUIPMENT			122		122
	TOOLS & EXPENDABLES			97		97
	PRT & INS.		160			160
	SUB TOTAL		1224	2099	122	3445
	MARK UP					516
	TOTAL					3961
					Round	4000
	TOTAL					

FACILITY MAN & MATERIAL HOIST HOUSE WIPP

LOCATION

OWNER

AREA

TYPE OF ESTIMATE

JOB NO. 8251.20SHEET NO. 91 OF 139

HEATING

[illegible]

2452

M/M HOIST HOUSE

CONCEPT

8251.00

93 - 139

EARTHWORK	200	1720	-	1886000	1887720
CONCRETE	97,372	1095600	759270	710000	2764870
STRUCTURAL STEEL	-	-	-	160000	160000
MISC. METAL	2795	40528	120000	96120	256648
SHEET METAL	-	-	-	17800	17800
ROOFING	-	-	-	37800	37800
METAL DOORS & WINDOWS	703	9210	28500	-	37710
WALL, CEILING & FLOOR COVER	1980	25940	30000	26780	82800
MILLWORK	250	3275	6000	-	9275
SPECIAL EQUIPMENT	37,000	536500	4121000	-	4457500
FURNISHINGS	140	2030	6780	-	8810
PAINTING	-	-	-	93000	93000
FINAL CLEAN	500	4300	2200	-	6500
PLUMBING	-	-	-	111000	111000
FIRE PROTECTION	-	-	-	255000	255000
HVAC	-	-	-	1368300	1368300
ELECTRICAL	-	-	-	1212500	1212500
COMMUNICATIONS	-	-	-	50000	50000
INSTRUMENTATION	-	-	-	175000	175000
SUB TOTAL	140940	1719103	5073830	6399300	13192233

MECH SYST. ADJ.: (SEE ADDENDA, M1)

CASK COOLING SYSTEM

188500

188500

TORNADO DAMPER

2600

2600

HEAT EXCHANGERS

50000

50000

COOLING TOWER

21500

21500

SUB-

6661900

13454833

RH WASTE FACILITY

NEW MEXICO

SANDIA LAB.

13,500 #

CONCRETE 825100

94 157

DATA - ESTIMATE						RCP 4-11-77	
ADD NO	DESCRIPTION	QUANTITY	UNIT	LABOR UNIT	TOTAL PRICE	RATE PER HOUR	
	<u>EARTHWORK</u>						
	EXCAVATE - REG.	6000	CY			2 ⁵⁰	15,000
	" " - CAUSEWAY	20,000	CY			9 ⁰⁰	1800,000
	FINE GRADE	22,000	SF		200		-
	BACKFILL	14,000	CY			2 ⁵⁰	35,000
	CR. ASS.	2500	CY			8 ⁰⁰	20,000
	DISPOSE	20,000	CY			18 ⁰⁰	16,000
	SUB TOTAL				200	1720	1886,000 1887,720
	<u>CONCRETE</u>						
	FORMWORK	272,000	SF	20	54400	12 ²⁵	263,680
	REBAR	1300	Ton				700 910,000
	CONCRETE	13,600	CY	3.0	40,800	10 ⁰⁰	408,000 35 ⁰⁰ 474,000
	IMBEDS	1	LS		1000	12 ²⁵	12,200 20,000
	CURB & PROTECT	13,600	CY	.02	272	10 ⁰⁰	2,720 20 2,720
	FLOOR HARDENER	45,000	SF	.02	900	10 ⁰⁰	9,000 .35 15,750
	SUB TOTAL				97,372	1095,600	759,270 910,000 2764,870
	<u>STRUCTURAL STEEL</u>	125	Ton				1285 160,000 160,000
	RH FACILITY						
	CONCEPT	825,100				95 139	

ESTIMATE PRICE

7/10

RCP 4-11-77

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	LABOR	TOTAL	RATE	AMOUNT	PERCENT	TOTAL
	<u>MISC. METAL</u>								
	MISC. SHAPES & PL.	100,000	LBS.	.015	1500	.45	45,000		
	GRATING	1200	SF	.5	600	.15	18,000		
	INSUL. MTL ROOF DECK	7360	SF	-	-	-	-	45%	33,120
	✓ - SIDING	14,000	SF	-	-	-	-	45%	63,000
	LADDERS W/CAGE	240	LF	1.0	240	.20	4,800		
	STAIRS	150	RUN	1.75	262	.36	5,400		
	SS. WALL & FLOOR COVER	3400	SF	.02	68	.12	40,800		
	HAND RAIL	500	LF	.25	125	.12	6,000		
	SUB TOTAL				2795	145%	40,528	120,000	96,120
									256,648
	<u>SHEET METAL</u>								
	SCUPPERS	10	EA	-	-	-	500	5,000	
	LOUVERS	140	SF	-	-	-	20	2,800	
	MISC. FLASHING	1	LS	-	-	-	-	10,000	
	SUB TOTAL							17,800	17,800
	<u>ROOFING</u>								
	BUILT UP W/INSUL.	210	SQ	-	-	-	180	37,800	37,800

RH FACILITY

CONCEPT

8251.00

96.139

441

DETAIL ESTIMATE SHEET			WIP		DATE		RCP		4-11-77		TOTAL COST	
ACCT NO.	DESCRIPTION	QUANTITY	UNIT	LABOR UNIT	TOTAL MATERIAL	RATE	AMOUNT	COST	LABOR	TOTAL	TOTAL	TOTAL
	<u>METAL DOORS & WINDOWS</u>											
	BLAST DOORS - 3070	5	EA	10.0	50			500		2500		
	✓ - 6070	1	PR	20.0	20					1000		
	H.M. DOORS - 3070	46	EA	8.0	368			250		11500		
	✓ - 6070	1	PR		15					500		
	ROLL UP DOOR (ELECT. OPER.)	2	EA		150			4000		8000		
	ACCESS DOOR TO SUPPLY RM	1	EA		100					5000		
	SUB TOTAL				703	13 ¹⁰	9210			28500		37710
	<u>WALL, CEILING & FLOOR COVER</u>											
	FURR EXT. WALL w/ 2" INSUL + SP GYP	32,000	SF	.05	1600			.75		24,000		
	STL STUD w/ GYP 2 SIDES	7600	SF	.05	380			.80		6080		
	SUSP. CEILING	7900	SF						.80	6320		
	VA FLOOR TILE	6600	SF						.60	3960		
	CERAMIC TILE	4800	SF						.30	14400		
	BASR	3000	LR						.70	2100		
	SUB TOTAL				1980	13 ¹⁰	25940			30080		82800
	MILLWORK	1	LS		250	13 ¹⁰	3275			6000		9275
FACILITY R.H. FACILITY												
TOTAL ESTIMATE CONCEPT 8251.00 SHEET NO. 97 139												

REVISION 10/11/77

WIP

RCP 4-11-77

DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE
SPECIAL EQUIP.								
BRIDGE CRANE 110T	2	EA		5000		375K	750,000	
PROGRAMED BRIDGE CRANE 25T	2	EA		3000			380,000	
REMOTE MANIPULATOR	2	EA		3000			400,000	
MASTER SLAVE MANIPULATOR	1	EA		1500			150,000	
CASK TRANSPORT VEHICLES	2	EA		-			By AIRCRAFT	
CASK PALLET	5	EA		-			"	
TURN TABLE 125T	1	EA		2500			200,000	
CASK ELEVATOR	1	EA		-			By AIRCRAFT	
OVERPACK WELDER	1	EA		-			"	
OVERPACK VACUUM TEST SYS.	1	LS		2000			20,000	
CANISTER COOLING PIT	8	EA	300	2400		32K	256,000	
CANISTER DE-CON VEHICLE	2	EA		-			By AIRCRAFT	
CASK DE-CON EQUIP.	1	LS		2000			300,000	
CANISTER PALLET	8	EA		400		10K	80,000	
CAROUSEL	1	EA		500			200,000	
REMOTE T.V. CAMERAS	2	EA		100			2,000	
BAGGING SYSTEM	1	LS		600			92,000	
LEAD WINDOWS	8	EA	250	2000		27K	216,000	
TRANSFER DOORS	7	EA	500	3500		45K	315,000	
CASEL TRANSPORT HATCH	1	EA	500	500			45,000	
ELEVATOR HATCH	1	EA	500	500			45,000	
DE-CON HATCH	4	EA	250	1000		20K	80,000	
CRANK MAINT. DOOR	1	EA		6000			550,000	
SURVIVOR ROOM HATCH	1	EA		500			40,000	
Sub Total				37000 1450	536500		4121,000	4 657,500
RH FACILITY								
CONCEPT				8251,00		18 134		

7/11

DETAIL ESTIMATE SHEET			W.D.F.		RCP 4-11-77			
ACCT NO.	DESCRIPTION	QUANTITY	UNIT	LABOR UNIT	MATERIAL	SUBCONTRACT	TOTAL	
	<u>FURNISHINGS</u>							
	LOCKERS	29	EA	30	20	580		
	BENCHES	4	EA	5	40	160		
	TOILET PARTITIONS	7	EA	15	270	1890		
	URINAL SCREEN	5	EA	5	90	450		
	SHOWER STALL/DRESSING	5	EA	50	500	2500		
	TOILET/SHOWER ACCESS	1	LS	35		1200		
	SUB TOTAL			140	145	2030	6780	8810
	<u>PAINTING</u>							
	CARBOLINE SYSTEM	50,000	SF			50	25,000	
	BALANCE OF PAINTING	140,000	SF			40	56,000	
	DAMP PROOFING	20,000	SF			60	12,000	
	SUB TOTAL						93,000	93,000
	FINAL CLEAN	48500		500	860	4300	2,100	4,500
RH. FACILITY								
CONCEPT 8251.00								
99 139								

20 4-15

RH WASTE FACILITY PLUMBING

FORWARDED	1989	23 337	60 800	84 137
TEMP. CONSTRUCTION			1 167	1 167
FIELD STAFF		3 034		3 034
EQUIPMENT			3 034	3 034
TOOLS & EXPENDABLES			1 167	1 167
PRT. & INS.		3 967		3 967
SUB TOTAL		30 338	63 134	96 506
MARK UP				14 976
TOTAL				110 982
				Round 111 000

RH WASTE FACILITY WIPD

2251.20

100 139

PLUMBING

641

DETAIL ESTIMATE SHEET				WIPP		DATE		BY		4-7-77					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR UNIT	TOTAL MHPS	RATE HR.	AMOUNT	TEST UNIT	AMOUNT	TEST UNIT	AMOUNT	TEST UNIT	AMOUNT	TEST UNIT	AMOUNT
	<u>PLUMBING</u>														
	SUSPECT WASTE TK	2	EA		200						15.000				
	SUSPECT WASTE PUMP	3	EA		36						6.000				
	SUSPECT WASTE PIPING	45			180						4.000				
	WATER CLOSET	7	EA		28						1.900				
	URINAL	5			30						1.000				
	LAUNDRY	2			28						1.300				
	FLOOR DRAIN	2			3						100				
	FLOOR SINK	5			8						1.000				
	WATER HEATER	1			16						1.500				
	SHOWERS	5			40						2.000				
	ELEC WATER COOLER	2			16						700				
	SERVICE SINK	2			12						800				
	SEWAGE EJECTOR	1			12						800				
	ROOF DRAINS	4			120						6.000				
	PIPE VALVE & FTC	45			300						20.000				
	TEST & SUPV.	45			180										
					1989	15.20	23.337				60.800				84.137

WIPP

8251.20

101.139

RH WASTE FACILITY
PLUMBING

DATE: 06/04/01 14:57

ew 9-7-77

DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE	DATE
AUTOMATIC FIRE PROTECTION DELUGE TYPE 48479				255 000	
				255 000	255 000

WIPB

8251.20

102 139

**RH WASTE FACILITY
FIRE PROTECTION**

152

aw 4-12-77

RH WASTE FACILITY H V & AC

FORWARDED	15720	296804	583850	228328	1058982
TEMP. CONST.			12340		12340
FIELD STAFF		32085			32085
EQUIPMENT				32085	32085
TOOLS & EXPENDABLES			12340		12340
PRT & INS.		41957			41957
SUB TOTAL		320846	608530	260413	1189789
MARKUP					178968
TOTAL					1368257

Round 1368300

RH WASTE FACILITY WIPD

8251.20

103 139

HEAT VENT & AC

9-12-77

HEAT VENT & AC

SOLAR ASSIST PKG.	45	—	—	123 000
CH.W. STG. TANK	1 EA	80	15 000	
EXCAVATION	45	—	—	3 328
HEAT PUMP (2 @ 150 TON)	45	120	78 000	
COOLING TOWER	2	—	—	7 000
PUMPS	4	64	5 000	
HEAT EXCHANGER	1	16	1 000	
PIPE VALVE & FTC	45	3000	30 000	
FILTER HEAD FRAME	2	80	150 000	
PREP & DECON	2	60	116 500	
HOT CELL	2	40	56 600	
DECON	2	40	63 000	
AIR HANDLING UNITS	5	300	39 000	
EXHAUST FAN	3	60	2 500	
A.B. LOCK	5	60	3 000	
DUCTWORK & GRILLES	97 000 LB	9700	29 250	
INSULATION	45	—	—	45 000
CONTROLS	45	—	—	50 000
TEST & SUPV	45	2100	—	
		15720	583 850	218 328
		15720	246 804	1 058 982

WIPP

8251.20

104 139

RH WASTE
HEAT VENT & AC

SUMMARY OF COST SHEET

ERV 4/3/77

BUD NO	DESCRIPTION	MANHOURS	4815	1212500	1212500
	ELECTRICAL LIGHTING RECEPTACLES IN HSE. SWGR CONNECTIONS COND. & WIRE	48500		1212500	1212500
	COMMUNICATION	1 LS		50000	50000
	INSTRUMENTATION	1 LS		175000	175000
	TOTAL				

FACILITY

R.H. WASTE FACILITY, BLDG #12

LOCATION

OWNER

WIPP

PRICE

48,479.0

CONCEPT

CONCEPT

8251.00

105

137

DESCRIPTION	400	3440	-	145010	148450
EARTHWORK	400	3440	-	145010	148450
CONCRETE	154233	1749730	1145580	1393700	4289010
MISC. METAL	4978	72181	172800	-	244981
SHEET METAL	-	-	-	28200	28200
ROOFING	-	-	-	133020	133020
METAL DOORS & WINDOWS	1515	19847	70850	-	90697
WALL, CEILING, FLOOR CURR	4550	59605	68800	18940	147345
Millwork	250	3275	6000	-	9275
SPECIAL EQUIPMENT & FURNISHINGS	1250	18125	344970	-	363095
PAINTING	-	-	-	190000	190000
PLUMBING	-	-	-	90000	90000
FIRE PROTECTION	-	-	-	519300	519300
HVAC	-	-	-	2320000	2320000
ELECTRICAL	-	-	-	1366500	1366500
COMMUNICATIONS	-	-	-	90000	90000
INSTRUMENTATION	-	-	-	500000	500000
FINAL CLEAN	1093	9400	5000	-	14400
SUB TOTAL	168269	1935603	1814000	6794670	10544273
MECH. SYST. ADJ.: (SEE ADDENDA, M1)					
HEPA FILTER BANKS				217600	217600
TORNADO DAMPER				2600	2600
SOLID WASTE COMPACTOR				10000	10000
COOLING TOWER				34150	34150
HEAT EXCHANGERS				75000	75000
SUB-				7134020	10885623

TRU WASTE FACILITY
SANDIA LAB

NEW MEXICO

109,320

CONCEPT 8251.00

106 134

DETAIL & TAKE SHEET				WIFE				RCP 4-6-77			
NO.	DESCRIPTION	QUANTITY	UNIT	LABOR UNIT	TOTAL HOURS	RATE PER HR	AMOUNT				
	<u>MISC. METAL</u>										
	MISC. SHAPES & P	100,000	LBS	.015	15.00		.45	45.000			
	CRANE RAIL	740	LF	1.0	740		.45	33.300			
	GRATING	160	SF	.5	80		.15	2.400			
	ACCESS HATCH 14' x 20'	1	EA		150		9.000	9.000			
	BLAST DOORS	4	EA	300	1200		13.500	54.000			
	MONORAIL	100	LF	1.0	100		.15	15.000			
	WALL PROTECTION (1/8" R)	40,000	LBS	.015	600		.27	10.800			
	COL. PROTECTION (1/8" R)	12,000	LBS	.015	180		.27	3.240			
	STAIRS	110	RISERS	1.75	193		.36	5.960			
	LADDER W/CAGE	60	LF	1.0	60		.20	1.200			
	HANDRAIL	700	LF	.25	175		.12	8.400			
	SUB TOTAL				4978	14.50	72.181	172.800			244.981
	<u>SHIRT METAL</u>										
	SCUPPERS	30	EA					.500	15.000		
	LOUVERS	160	SF					.20	3.200		
	MISC. FLASHING	1	LS						10.000		
	SUB TOTAL								28.200		28.200
	<u>ROOFING</u>										
	BUILT UP W/ 3 1/2" INSUL	739	SQ					.180	133.020		133.020
	TRU										
	CONCEPT				8251.00		108	139			

DATE: 4-6-77				RCP 4-6-77							
EXTENSION											
ITEM NO.	DESCRIPTION	QUANTITY	UNIT	AS BUILT	TOTAL	UNIT PRICE	AMOUNT	COST	UNIT PRICE	AMOUNT	TOTAL
<u>METAL DOORS & WINDOWS</u>											
	BLAST DOORS 3070	9	EA	10.0	90			500		4500	
✓	✓ 6070	1	EA	20.0	20					1000	
	H.M. 3070	45	EA	8.0	360			250		11250	
✓	6070	1	EA		15			500		500	
	CRANE MAINT. DOOR	1	EA		100					5000	
	H.M. WINDOWS	100	SF		50			4		400	
	ROLL UP (ELECTRICAL OPER)	16	EA	55.0	880			3000		48000	
	SUB TOTAL				1515	13 ¹⁰	19847			70850	90497
<u>WALL, CEILING, FLOOR COVER</u>											
	FURR EXT. WALL 1/2" INSUL + 3/8 GW	80,000	S.F.	.05	4000			.75		60000	
	STL STUB 1/4" GYP 2 SIDES	11,000	S.F.	.05	550			.80		8800	
	SUSP. CEILING	6500	SF						.80	5200	
	V.A. FLOOR TILES	4800	SF						.60	2880	
	CERAMIC TILES	3200	SF						3 ⁰⁰	9600	
	BASS	1800	LF						.70	1260	
	SUB TOTAL				4550	13 ¹⁰	59605			68800	18940
	MILLWORK	1	LS		250	13 ¹⁰	3275			4000	9275
FACILITY TRU											
CONCEPT 8251.00 109 139											

RCP 4-6-77

SPECIAL EQUIP & FURNISHING								
LOCKERS	52	EA	50		20-	1040		
BENCHES	5	EA	5		40-	200		
TOILET PARTITIONS	5	EA	10		270-	1350		
URINAL SCREEN	2	EA	5		90-	180		
DRESSING CUBICLES	4	EA	20		300-	1200		
SHOWER STALLS W/ DRESSING	8	EA	80		500-	4000		
TOILET/SHOWER ACCESSORIES	1	LS	40			1400		
BRIDGE CRANES 25 TON	3	EA	600			300000		
MONORAIL HOIST 6 TON	1	EA	20			2000		
" " 10 TON	1	EA	20			3000		
DOCK LEVELERS	2	EA	160			6000		
TRUCK LIFT	1	EA	80			5000		
TORNADO DAMPENER	1	EA	100			10000		
BATTERY CHARGERS	6	EA	60		1600	9600		
SUB TOTAL			1250	1450	18125	344970		363095
PAINTING								
CARTRIDGE SYSTEM	300,000					.50	150,000	
BALANCE PAINTING	100,000					.40	40,000	
SUB TOTAL							190,000	190,000
FINAL CRAN	109,317	S.F.	01	1093,840	9400	5000		14,400
TRU								
CONCEPT			8251.00	110	134			

SUMMARY ESTIMATE SHEET

DATE

DU 4-11-77

ITEM NO.	DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL PRICE	REMARKS
	<u>TRU WASTE PLUMBING</u>				
	FORWARDED	1878	29.485	33.200	62.685
	TEMP. CONST.			1.974	1.974
	FIELD STAFF		3.833		3.833
	EQUIPMENT			3.833	3.833
	TOOLS & EXPENDABLES			1.974	1.974
	P.R.T. & INS.		5.012		5.012
	SUB TOTAL		38.330	36.198	3.833
	MARK UP				11.747
	TOTAL				90.058
					ROUND 90.000
	TOTAL				

FACILITY TRU WASTE BUILDING WIPP

OWNER

LOCATION

1554

DATE

ESTIMATE NO.

8251.20

111

139

139

139

PLUMBING

✓

4-11-77

PLUMBING

SUSPECT WASTE PUMP
SHOWER

1 EA

12

2300

SUSPECT WASTE PUMP
COLLECTION TANK

2 EA

24

4000

PIPE VALVE FTGS. FOR
SUSPECT WASTE

48

180

3500

WATER CLOSET

5 EA

20

1000

URINALS

3

18

500

LAVATORIES

5

20

200

STALL SHOWERS

8

64

3200

SERVICE SINK

1

6

500

FLOOR DRAIN

10

15

300

" SINKS

12

18

2100

ELEC WATER COOLER

2

16

300

ROOF DRAINS

8

290

6000

PIPE FTG & VALVES

48

1000

6000

TEST & SURV

48

245

1878.1572

29.985

33.200

62.685

WIPP

8251.70

112.139

TRU WASTE
PLUMBING

162

[illegible]

JANUARY 1977

OW 9-11-77

<u>TRU WASTE HEAT VENT FAC</u>					
FORWARDED	30 975	478 458	918 450	366 800	1 763 708
TEMP. CONST.			23 923		23 923
FIELD STAFF		62 200			62 200
EQUIPMENT				62 200	62 200
TOOLS & EXPENDABLES			23 923		23 923
RET. FINS.		81 338			81 338
SUB TOTAL	30 975	621 396	966 296	429 000	2 017 292
MARKUP					302 594
TOTAL					2 319 886
				Round	2 320 000

TRU WASTE BUILDING, VEI PP

DWR

8251.20

114 139

HEAT VENT FAC

162

DETAIL ESTIMATE SHEET				WIPP				ACTION PRICED EXTENSIONS		BY WLD	DATE 4-11-77	CHECKED	DATE
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT	TOTAL MTRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	<u>HEAT VENT & R.C.</u>												
	SOLAR ASSIST PKG	1	ET								184,000		
	CHILLED WATER STG. TK	1			100				22,500				
	EXCAVATION	43									4,200		
	HEAT PUMP (20,225 TON)	2			375				130,000				
	COOLING TOWER	2									8,600		
	PUMPS	4			64				5,000				
	HEAT EXCHANGER	1			16				1,100				
	PIPE VALVE & F.T.G.S	43			3000				30,000				
	FILTER HEADHOUSE	2			100				10,500				
	HOIST LOADING	2			24				16,000				
	BATTERY CHARGING	1			12				6,000				
	INSTRUMENT PREPARATION	4			160				360,000				
	MINOR REPAIRS	1			12				4,000				
	LOAD & UNLOAD	1			40				75,000				
	OVERPACK LAB	1			40				41,600				
	AIR HANDLING UNITS	9			600				70,000				
	EXHAUST FAN	1			32				1,000				
	CONTROLS	43									100,000		
	DUCTWORK & GRILLES	219,000	LB		219,000				54,750				
	INSULATION	43									70,000		
	TEST & SHIP	43			4,000								
					30,475	15 ²⁰	478,458		918,450		366,800	1,763,708	
FACILITY <u>WIPP</u>													
TYPE OF ESTIMATE <u>WIPP</u> JOB NO. <u>8251.20</u> SHEET NO. <u>11501 139</u> PRINC. PL. JOB ACCT. NO. <u>TRU WASTE</u> <u>HEAT VENT & R.C.</u>													

SUMMARY ESTIMATE SHEET

WIPP

ERV 4/3/77

ACCT. NO.	DESCRIPTION	MANHOURS	BASE	MATERIAL	LABOR	TOTAL COST
	ELECTRICAL LIGHTING RECEPTACLE IN HSE SWGR CONNECTIONS COND. & WIRE	109320.37			1366500	1366500
	COMMUNICATION				90000	90000
	INSTRUMENTATION				500000	500000
	TOTAL					

TRU WASTE FACILITY, BLDG #10

WIPP

LOCATION

AREA

109,319.4

DATE 4/3/77

JOB NO.

8251.00

NO. 116

139

511

SUMMARY ESTIMATE SHEET		WIPP		ESTIMATE NO. 610 4-7-77		DATE 4-7-77	
ACCT. NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL	SUB-CONTRACT	TOTAL COST	
	EARTHWORK	51	515		6100	6615	
	CONCRETE	16700	193600	91200	105000	389800	
	STRUCTURAL STEEL				38900	38900	
	MASONRY				17600	17600	
	MISC. METAL	410	5863	5288	6000	17151	
	SHEET METAL				16000	16000	
	ROOFING				18590	18590	
	DOOR & WINDOWS	104	1362	3460		4822	
	INTERIOR FINISHES	76	993	403	1149	2535	
	PAINTING				14000	14000	
	PLUMBING				67764	67764	
	AIR COND/HEAT/VENT				60625	60625	
	ROOF DRAIN					W/ALB	
	PROCESS PIPING					W/ALB	
	ELECTRICAL				36043	36043	
	GENERATORS & SWGR				3065491	3065491	
	FIRE PROTECTION				59300	59300	
	COMMUNICATIONS				1000	1000	
	FINAL CLEANUP	100	1000	100		1100	
	SUB-TOTAL	17440	203323	100961	3513012	3816786	
	TOTAL						

FACILITY EMERGENCY POWER BLDG LOCATION NEW MEXICO

OWNER 10,298

DATE OF ESTIMATE 8251 JOB NO. 117 139

DETAIL ESTIMATE SHEET				WIPP				ACTION PRICED EXTENSIONS		BY ENO	DATE 4-7-77	CHECKED	DATE
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT	TOTAL MTRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	EARTHWORK												
	EXCAVATE	1400	CY							2.50	3500		
	FINE GRAD	10,300	SF			.05	515						
	BACK FILL	800	CY							2.50	2000		
	DISPOSE	600	CY							1.00	600		
	SUB-TOTAL						515				6100		6615
	CONCRETE												
	FORMS	33000	SF	3	11700	12.00	140400	.80	31200				
	REBAR	330000	LB							.35	115500		
	CONCRETE	1500	CY	3	4500	10.00	45000	35	52500				
	PROTECT & CURB	1500	CY		300	14.00	4200		1500				
	IMBERS	1	CS		200	14.00	2800		6000				
	SUB-TOTAL				16700		193600		71200		105000		329800
	STRUCTURAL STEEL	32	TON							1200	38400		38400
	MASONRY												
	CONCRETE BLOCK	4900	SF							7.00	17600		17600
	MISC METAL												
	CHK. PL.	550	SF	12	110			325	1780				
	MISC (BAR)	12000	LB		300			135	3500				
	MONORAIL - 10T	1	EA								6000		
	SUB-TOTAL				400	1400	5860		5280		6000		17151
FACILITY <u>EMERGENCY POWER BLDG</u> WIPP													
TYPE OF ESTIMATE <u>CONCEPT</u> JOB NO. <u>8251</u> SHEET NO. <u>118</u> OF <u>139</u> PRINCIPAL S&R ACCT. NO.													

167

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE
								PRICED		GNO	4-7-77		
								EXTENSIONS					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	SHEET METAL	1	LS								16.000	16.000	
	ROOFING	10,300	SF							1.80	18.540	18.540	
	SASH & DOORS												
	WIND. DOORS	10	EA		80			2.50	2.500				
	TORNADO	1	EA		16				8.00				
	SASH	32	24		8			5.00	1.60				
	SUB-TOTAL				104	13.19	1.362		3.910			4.822	
	INTERIOR FINISHES												
	PARTITIONS - GYP	504	SF	.15	75			.80	4.03				
	VINYL TILE	336	SF						1.60		2.02		
	CERAMIC TILE	160	SF						5.12		4.80		
	SUSP. CEILING	396	SF						1.80		3.17		
	TOILET PARTITION	1	EA								1.60		
	SUB-TOTAL				75	13.19	9.83		4.03		1.149	2.535	
	PAINTING	40,000	SF							.35	14.000	14.000	
	PLUMBING	(See pg 121)											
	AIR CONDITIONING/REF	(See pg 123)											
FACILITY <u>EMERGENCY POWER BLDG</u> WIPP													
TYPE OF ESTIMATE <u>CONCEPT</u> JOB NO. <u>8251</u> SHEET NO. <u>119</u> OF <u>139</u> PERMIT NO. <u>800-1000</u>													

[illegible]

691

SUMMARY ESTIMATE SHEET		WIPP		ACTION BY DATE CHECKED DATE		PRICE EXTENSIONS	
ACCT. NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL	SUB-CONTRACT	TOTAL COST	
	<u>EMERGENCY POWER PLANT</u>						
	FORWARDED	1136	17 815	20 475	10 000		58 310
	TEMP. CONSTRUCTION			892			892
	FIELD STAFF		2 319				2 319
	EQUIPMENT				2 319		2 319
	TOTAL EXPENDABLES			892			892
	PRT & INS.		3 032				3 032
	SUB TOTAL	1136	23 136	22 259	22 319		67 764
	MARGIN						
	TOTAL						
	TOTAL						
FACILITY <u>POWER PLANT WIPP</u> LOCATION _____							
OWNER _____ AREA _____							
TYPE OF ESTIMATE _____ JOB NO. <u>B251.20</u> SHEET NO. <u>121</u> OF <u>139</u> S.D. NO. <u>PLUMBING</u>							

W.I.F.

5

$\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

DATE:

W

4-7-77
✓

! F A T E N S : 042

QUALITY WLP

1950

JOB NO. 8251.00

946: AC 122 139

POWER PLANT PLUMBING

ACCT. NO.		DESCRIPTION	MANHOURS	LABOR	MATERIAL	SUB-CONTRACT	TOTAL COST
		<u>HEAT VENT & AC</u>					
		FORWARDED	800	12560	33500		46060
		TEMP. CONST.			628		628
		FIELD STAFF		1633			1633
		EQUIPMENT				1633	1633
		TOOLS & EXPENDABLES			628		628
		PRT. & INS.		2135			2135
		SUB TOTAL		16328	39756	1633	52717
		MARKUP					7908
		TOTAL					60625
		TOTAL					

FACILITY

POWER PLANT

OWNER

TYPE OF ESTIMATE

JOB NO.

825120

SHEET NO.

123 OF 139

LOCATION

AREA

S.F. COST

SIG. ITEM NO.

HEAT VENT & AC

WJFF

1 25:00

10

PAGE

0-1000

DATE _____

100-255

INTERCOM

22

4-7-77

4

504-294-7844

633

1007
NC

DESCRIPTION

QUANTITY

JN: T

LABOR
UNIT

TOTAL
HRS

RATE
NO.

الزكاة :

10

AMCEN:

2021
2022

AMCUM :

97A
2937

HEAT VENT & AC

H V & AC

10289 2F

800

33.600

800 15²⁰

1520

12 560

33 500

46 060

AC: L: 'Y

1.5" x 1.5" MATS

495 N2.

124 139

1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 26

POWER PLAY
HUB

SUMMARY ESTIMATE SHEET

RCP 4-13-77

DESCRIPTION	QTY	UNIT	PRICE	AMOUNT	TOTAL
EARTHWORK	100		860	-	227170
CONCRETE	29300		334580	212860	210000
MISC. METAL	880		12760	25010	-
SHEET METAL	-		-	-	6000
ROOFING	-		-	-	16500
METAL DOORS	420		5502	22100	-
WALL, CEILING & FLOOR CUR.	48		629	724	1803
SPECIAL EQUIP.	240		3480	12000	-
FURNISHINGS	10		145	500	-
PAINTING	-		-	-	26500
FINAL CURAN	250		2150	1100	-
PLUMBING	-		-	-	18200
FIRE PROTECTION	-		-	-	100000
HVAC	-		-	-	661000
ELECTRICAL	-		-	-	321500
COMMUNICATIONS	-		-	-	10000
INSTRUMENTATION	-		-	-	40000
SUB TOTAL	31248		360106	274294	1638673
MECH. SYST. ADJ. : (SEE ADDENDA, MZ)					
HEPA FILTER BANKS					716000
FILTER WASH EQUIP.					20000
SUB - TOTAL					2374673
TOTAL					3009073
PROJECT NAME	MINE STORAGE FILTER BUILDING		LOCATION	NEW MEXICO	
OWNER	SANDIA LAB.		AREA	2,430⁺	
DATE	CONCEPT		DATE NO.	825100	
REVISION	126		139	139	

DETAIL ESTIMATE SHEET				WIPP				ACTION PRINTED EXTENSIONS		DATE RCP 4-12-77		DATE	
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	<u>EARTHWORK</u>												
	EXCAVATE - REG.	1600	CY							2.50	4.000		
	" - CALICHE	2400	CY							90	216.000		
	FINE GRADE	12000	SF		100								
	BACKFILL	1300	CY							2.50	3.250		
	CR. AGG.	220	CY							8	1.760		
	DISPOSE	2700	CY							.80	2.160		
	SUB TOTAL				100	8.60	860				227.170		228.030
	<u>CONCRETE</u>												
	FORMWORK	93000	SF	20	18600	12.50	232.500	.90	83.700				
	REBAR	300	TON		-		-		-	700	210.000		
	CONCRETE	3300	CY	30	9900	10	99.000	35	115.500				
	IMBROS	1	LS		300	12.50	3.750		6.000				
	CURB & PROTECT	3300	CY		100	10	1.000	120	6.600				
	FLOOR HARDENER	20,000	SF	02	400	10	4.000	35	7.000				
	SUB TOTAL				29300		334.580		212.860		210.000		757.440
	<u>MISC. METAL</u>												
	MISC. SHAPES & R	50,000	LS	.015	750			.45	22.500				
	SNIPS LADDER	16	RISER	2.5	40				1.000				
	STAIRS	32	RISER	2.5	80			36	11.500				
	HAND RAIL	30	LF		10			12	3.600				
	SUB TOTAL				880	14.50	12.760		25.010				37.770
FACILITY <u>FILTER BUILDING</u>													
TYPE OF ESTIMATE <u>CONCEPT</u> JOB NO. <u>8251.00</u> SHEET NO. <u>127 OF 139</u>													

DETAIL ESTIMATE SHEET				WIFF				ACTION PRICED EXTENSION		BY RCF	DATE 4-13-77	CHECKED	DATE
ACCT NO	DESCRIPTION	QUANTITY	UNIT	LABOR			MATERIAL		SUBCONTRACTS		TOTAL COST		
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT		AMOUNT	
	<u>SHEET METAL</u>												
	SCUPPERS	4	EA							2.000			
	MISC. FLASHING	1	LS							4.000			
	SUB TOTAL									6.000	6.000		
	<u>ROOFING</u>												
	BUILT UP	110	SQ							14.500	14.500		
	<u>METAL DOORS</u>												
	BLAST TYPE 3070	25	EA		250			5.00	12.500				
	6070	1	PA		20				1.000				
	8070	1	PA		30				1.400				
	5070	8	EA		120			2.00	7.200				
	SUB TOTAL				420	13.10	5.502		22.100		27.602		
	<u>WALL, CEILING & FLOOR COVER</u>												
	ST'L STUD w/GR 2 SIDES	280	SF	.10	28			.80	22.4				
	SUSP. CEILING	120	SF						1.2	12.0			
	CERAMIC	400	SF						4.2	16.00			
	V.A. TILE	70	SF						.75	5.3			
	BASS	30	SF						1.2	3.0			
	MILLWORK	1	LS		20				5.00				
	SUB TOTAL				48	13.10	6.29		72.4		31.56		
FACILITY <u>FILTER BLDG</u>													
TYPE OF ESTIMATE <u>CONCEPT</u> JOB NO. <u>8251.00</u> SHEET NO. <u>128</u> OF <u>139</u> PRINCIPAL SUB ACCT. NO.													

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE
ACCT. NO.		DESCRIPTION	QUANTITY	UNIT	LABOR			MATERIAL		SUBCONTRACTS		TOTAL COST	
					LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT	
		SPECIAL EQUIP DAMPERS	12	EA		240	14.50	3480		12000			15480
		FURNISHING SHOWER STALLS & ACCESS	1	LS		10	14.50	145		500			645
		PAINTING CARBOLINE SYS	37,000	SF							.50	18500	
		PAINT	20,000	SF							.40	8000	
		SUB TOTAL										26500	26500
		FINAL CLEAN	21,500	SF		250	8.60	2150		1100			3250
FACILITY <u>FILTER BLOC</u>													
TYPE OF ESTIMATE <u>CONCEPT</u> JOB NO. <u>8251.00</u> SHEET NO. <u>129</u> OF <u>139</u> PRINCIPAL SUB ACCT. NO.													

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MINE FILTER BLDG WIPD

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OS 40.8251,20

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10 10 10 PLUMBING

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[illegible]

[illegible]

DETAIL ESTIMATE SHEET				WYFF				LOCATION		BY		DATE		PROJECT		DATE	
								PRICES		0200		9-7-77					
								EXTENS. DWS		✓		✓					
SHEET NO	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACT		TOTAL COST					
				LABOR UNIT	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT						
	<u>VENTILATION</u>																
	EXHAUST FAN	4	EA		160				32.000								
	HETNA FILTERS	684	✓		1368				205.300								
	MED "	228	✓		228				17.100								
	WIRE MESH FILTER	228	✓		228				11.900								
	STEELWORK	20	EA		200				30.000								
	DUCTWORK	60000	LB		6000				14.000								
	SPRAY PIPING	43			160				15.000								
	STEEL GRATING	300	9F									4.500					
	ELIMINATOR	4	EA		160				4.000								
	UNITARY STACK	43			40				1.500								
	PIPING	43			13				600								
	TEST & SUPV	43			1390												
					9967	15 th	156.623		330.800			9.500		491.923			
FACILITY: MINE FILTER BLDG																	
JOB NO: 8251.20 NO. 134 139 MINE / FILTER BLDG H.V. & P.E.																	

[illegible]

4-13-77

MINE SHAFT VENTILATION

FORWARDED	1970	30 929	28000	58 929
TEMP. CONST.			1546	1546
FIELD STAFF		4021		4021
EQUIPMENT			4021	4021
TOOLS & EXPENDABLES			1546	1546
PRT & INS		5258		5258
SUB TOTAL		40 208	31 092	75 321
MARK UP				11 298
TOTAL				86 619

MINE SHAFT WIPP

2251.20

136 139

VENTILATION

ESTIMATE SHEET

DATE

RCP 4-16-77

DESCRIPTION	QUANTITY	UNIT	LABOR UNIT	TOTAL HRS	WASH HRS	AMOUNT	AMOUNT	AMOUNT	AMOUNT
<u>MOBILE EQUIPMENT</u>									
FORK LIFT 1500 ^{lb}	3	EA					45,000		
" 2000 ^{lb}	1						15,000		
" 4000 ^{lb}	1						20,000		
" 5000 ^{lb}	5						100,000		
" 16,500 ^{lb}	2						104,000		
" 40,000 ^{lb}	1						94,000		
ACCESS LIFT 35'	1						6,000		
ISCO SHUTTLE WAGON	4						272,000		
8' x 20' DOLLY	1						7,000		
8.5' x 12.5' PALLET	80						240,000		
RAMPS	35						18,000		
SPREADERS	2						3,000		
8' x 20' SPREADER	2						4,000		
10' x 17' "	2						2,000		
FORK LIFT ATTACHMENTS	5						37,000		
SLINGS	6						3,000		
PALLET-ELECT	1						5,000		
FIRE ENGINE	1						100,000		
PARAMEDIC VEHICLE	1						40,000		
FLOOR SWEEPER	2						18,000		
" SCRUBBER	2						28,000		
LAWN MOWER	1						4,000		
PICK-UP/VANS	10						80,000		
AUTO - SEDAN	5						42,000		
" - STATION WAGON	2	EA					16,000		
<u>SUB TOTAL</u>							1,303,000		1,303,000

ROLLING STOCK & Misc. Equip.

CONCRETE

8251.00

SHEET NO 138-139

[illegible]

PREPARED BY: <i>Eg</i>		PROJECT: <i>WIPP</i>		PAGE <i>M1</i> OF <i>3</i>	
APPROVED BY:		DATE: <i>5-3-77</i>	LOCATION: <i>CARLSBAD</i>		CLASS OF ESTIMATE ☒ CONCEPTUAL ☐ DESIGN CRITERIA ☐ TITLE I ☐ BID OR TITLE II P.O. NO.
DESCRIPTION: <i>COST ESTIMATE ADDENDA</i>					
MECHANICAL SUMMARY					
ITEM NO.	ITEM				AMOUNT
1	RH BLDG.:				
	A. CASK COOLING SYSTEM				\$188,495
	B. TORNADO DAMPER				2,600
	C. COOLING TOWER				21,500
	D. HEPA FILTER BANKS				(DELETED)
	E. HEAT EXCHANGERS				50,000
	TOTAL →				\$262,595
2	TRU BLDG.:				
	A. HEPA FILTER BANKS				\$217,611
	B. TORNADO DAMPER				2,600
	C. WASTE COMPACTOR				10,000
	D. HEAT EXCHANGERS				75,000
	E. COOLING TOWER				34,150
	TOTAL				\$339,361

SA 7650-FF(6-75) PROJECT ESTIMATE SUMMARY

PREPARED BY: <i>Erg</i>		PROJECT: <i>WIPP</i>		PAGE <i>M2</i> OF <i>3</i>	
APPROVED BY:		DATE: <i>5-3-77</i>	LOCATION: <i>CARLSBAD</i>		
DESCRIPTION:				CLASS OF ESTIMATE	
				☒ CONCEPTUAL ☐ DESIGN CRITERIA ☐ TITLE I ☐ BID OR TITLE II	
				P.O. NO.	
SUMMARY					
ITEM NO.	ITEM				AMOUNT
3	MINE STORAGE FILTER BLDG.				\$
	A. HEPA FILTER BANKS				\$ 716,152
	B. FILTER WASHING EQUIP.				20,000
	TOTAL —				\$ 736,152
4	SUSPECT WASTE & LAUNDRY BLDG.				
	A. HEPA FILTER BANKS				\$ 9,659
					\$ 9,659
5	PUMP HOUSE (1)				
	A. ADD DIESEL FIRE PUMP				91,018
	B. ADD HEADER, VALVES & METER				12,000
					\$ 103,000
	SECOND PUMP HOUSE				103,000

PREPARED BY:	Eng	PROJECT:	PAGE	M3	OF	3
APPROVED BY:	DATE:	LOCATION:	CLASS OF ESTIMATE			
DESCRIPTION:			☒ CONCEPTUAL ☐ DESIGN CRITERIA ☐ TITLE I ☐ BID OR TITLE II			
			P.O. NO.			

[illegible]

SYSTEM RECAP SHEET

PREPARED BY: <u>WEW</u>	PROJECT NUMBER:	LOCATION:	SQ. FT.	PAGE NO. <u>I</u> OF					
APPROVED BY:	PROJECT DESCRIPTION: <u>WIPP Underground Construction</u>			CLASS OF ESTIMATE					
DATE: <u>May 25, 1977</u>				☐ CONCEPTUAL ☐ DESIGN CRITERIA ☐ TITLE I ☐ BID OR TITLE II					
COLUMN LETTERS		T	U	V	W	X	Y	Z	
ITEM NO.	SYSTEM DESCRIPTION	FROM SHEET NO.	MATERIAL			LABOR			TOTAL SYSTEM COST
			BARE COST	MULTIPLIER	LOADED COST	BARE COST	MULTIPLIER	LOADED COST	
①	RH Shaft	II	—	—	4,212,700	—	—	1,625,500	5,838,200
②	RH Level	III	—	—	9,844,200	—	—	6,772,000	16,616,200
③	TRU Shaft	IV	—	—	2,880,700	—	—	1,323,700	4,204,400
④	TRU Level	V	—	—	6,867,200	—	—	3,113,700	9,980,900
⑤	Man and Material Shaft	VI	—	—	6,573,400	—	—	2,308,300	8,881,700
⑥	TRU - RH Ventilation Shaft	VII	—	—	1,488,900	—	—	969,100	2,458,000
⑦	Construction Ventilation Shaft	VIII	—	—	2,070,700	—	—	1,469,700	3,540,400
⑧	Rock Mechanics Exp. Program - Cap. Costs	IX	—	—	347,800	—	—	524,600	872,400
⑨	Hoist Foundations	X	—	—	107,100	—	—	57,800	161,900
⑩	Hoist Sheaves and Idlers	XI	—	—	237,400	—	—	6,400	243,800
TOTAL JOB COSTS					34,630,100	18,167,800			52,797,900

EFFECTIVE DATE FOR THIS ESTIMATE April 1, 1977

SYSTEM RECAP SHEET

PREPARED BY: WSEW	PROJECT NUMBER:	LOCATION:	SQ. FT.	PAGE NO. II	OF				
APPROVED BY:	PROJECT DESCRIPTION: WIPP Underground Construction-RH Shaft			CLASS OF ESTIMATE					
DATE: May 25, 1977				☒ CONCEPTUAL ☐ DESIGN CRITERIA		☐ TITLE I ☐ BID OR TITLE II			
COLUMN LETTERS			T	U	V	W	X	Y	Z
ITEM NO.	SYSTEM DESCRIPTION	FROM SHEET NO.	MATERIAL			LABOR			TOTAL SYSTEM COST
			BARE COST	MULTI-PLIER	LOADED COST	BARE COST	MULTI-PLIER	LOADED COST	
	RH SHAFT								
	Construction								
	Shaft	28	77,120	1.25	96,400	676,622	1.4	947,300	1,043,700
	Level Station & U.G. Cell	28	878,940	1.25	1,098,600	432,610	1.4	605,700	1,704,300
	Equipping								
	Shaft	63	45,135	1.25	56,420	32,472	1.4	45,500	101,920
	U.G. Transfer Cell	63	37,500	1.25	46,880	19,250	1.4	27,000	73,880
	Equipment								
	Shaft Sinking	158	1,100,000	1.1	1,210,000				1,210,000
	Shaft	131	878,180	1.1	966,000				966,000
	Underground Transfer Cell	131	458,750	1.1	504,600				504,600
	Sub Contracts								
	Shaft	63	34,214	1.1	37,600				37,600
	U.G. Transfer Cell	28	45,596	1.1	50,200				50,200
		63	132,750	1.1	146,000				146,000
TOTAL JOB COSTS					4,212,700			1,625,500	5,838,200

EFFECTIVE DATE FOR THIS ESTIMATE April 1, 1977

1

EFFECTIVE DATE FOR THIS ESTIMATE April 1, 1977

EFFECTIVE DATE FOR THIS ESTIMATE.

145

SF 6310-AC(6-75)

SYSTEM RECAP SHEET

PREPARED BY: <u>WEW</u>		PROJECT NUMBER:		LOCATION:		SQ. FT.		PAGE NO. <u>V</u> OF	
APPROVED BY:		PROJECT DESCRIPTION: <u>WIPP Underground Construction</u>						CLASS OF ESTIMATE	
DATE: <u>May 25, 1977</u>		TRU Level						☒ CONCEPTUAL ☐ DESIGN CRITERIA ☐ TITLE I ☐ BID OR TITLE II	
COLUMN LETTERS			T	U	V	W	X	Y	Z
ITEM NO.	SYSTEM DESCRIPTION	FROM SHEET NO.	MATERIAL			LABOR			TOTAL SYSTEM COST
			BARE COST	MULTIPLIER	LOADED COST	BARE COST	MULTIPLIER	LOADED COST	
	TRU Level								
	Mining	9	—	—	—	1,429,165	1.4	2,000,800	2,000,800
	Operating	9	—	—	—	576,502	1.1	634,200	634,200
	Equipping	73	35,485	1.25	44,400	3,612	1.4	5,000	49,400
	Equipment	135	5,268,981	1.10	5,795,900	—	—	—	5,795,900
	Construction	43	85,770	1.25	107,200	45,438	1.4	63,600	170,800
	Electrical	115	—	—	919,700	—	—	410,100	1,329,800
TOTAL JOB COSTS						6,867,200		3,113,700	9,980,900

EFFECTIVE DATE FOR THIS ESTIMATE April 6, 1977

SYSTEM RECAP SHEET

EFFECTIVE DATE FOR THIS ESTIMATE April 1, 1977

EFFECTIVE DATE FOR THIS ESTIMATE

EFFECTIVE DATE FOR THIS ESTIMATE April 1, 1977

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SYSTEM RECAP SHEET

PREPARED BY: <u>W.C.W.</u>		PROJECT NUMBER:	LOCATION:	SQ. FT.	PAGE NO. <u>18</u> OF				
APPROVED BY:		PROJECT DESCRIPTION: <u>WIPP Underground Construction</u>			CLASS OF ESTIMATE				
DATE: <u>May 25, 1977</u>		REVISIONS: <u>Rev. Mechanics Exp. Program - Capital cost.</u>			☒ CONCEPTUAL ☐ DESIGN CRITERIA ☐ TITLE I ☐ BID OR TITLE II				
COLUMN LETTERS			T	U	V	W	X	Y	Z
ITEM NO.	SYSTEM DESCRIPTION	FROM SHEET NO.	MATERIAL			LABOR			TOTAL SYSTEM COST
			BARE COST	MULTIPLIER	LOADED COST	BARE COST	MULTIPLIER	LOADED COST	
	Mine Exp. Drills	11	2138	1.25	2672.50	7,982	1.10	8780.20	13,700
	Subcontract	11	226	1.1	248.60	—	—	—	300
	Eg. of 18" dia								
	vent shaft	87	234,827	1.25	293,534	226,711	1.10	249,382	806,900
	Subcontract	87	46,667	1.10	51,334	—	—	—	51,300
TOTAL JOB COSTS			541,500			524,600			876,000

EFFECTIVE DATE FOR THIS ESTIMATE April 1, 1977

SYSTEM RECAP SHEET

PREPARED BY:		PROJECT NUMBER:	LOCATION:	SQ. FT.	PAGE NO.	OF			
APPROVED BY:		PROJECT DESCRIPTION:			CLASS OF ESTIMATE				
DATE:					☒ CONCEPTUAL ☐ DESIGN CRITERIA	☐ TITLE I ☐ BID OR TITLE II			
COLUMN LETTERS		T	U	V	W	X	Y	Z	
ITEM NO.	SYSTEM DESCRIPTION	FROM SHEET NO.	MATERIAL			LABOR			TOTAL SYSTEM COST
			BARE COST	MULTIPLIER	LOADED COST	BARE COST	MULTIPLIER	LOADED COST	
	RH Shift								
	TRD Shift								
	M/W Shift								
TOTAL JOE COSTS									

EFFECTIVE DATE FOR THIS ESTIMATE 12/1/77

201-202

SF 6310-AC(6-75)

SYSTEM RECAP SHEET

PREPARED BY: <u>NEW</u>		PROJECT NUMBER:	LOCATION:	SQ. FT.	PAGE NO. <u>XL</u> OF				
APPROVED BY:		PROJECT DESCRIPTION: <u>WIPP Underground Construction</u>			CLASS OF ESTIMATE				
DATE: <u>May 22, 1977</u>		<u>Hoisting Sheave and Idlers</u>			☒ CONCEPTUAL ☐ TITLE I ☐ DESIGN CRITERIA ☐ BID OR TITLE II				
COLUMN LETTERS			T	U	V	W	X	Y	Z
ITEM NO.	SYSTEM DESCRIPTION	FROM SHEET NO.	MATERIAL			LABOR			TOTAL SYSTEM COST
			BARE COST	MULTIPLIER	LOADED COST	BARE COST	MULTIPLIER	LOADED COST	
	TRU Building	151	—	—	—	2288	1.40	3200	3,200
	Subcontract	151	107,916	1.10	118,700	—	—	—	118,700
	RH Building	151	—	—	—	2288	1.40	3200	3,200
	Subcontract	151	107,916	1.10	118,700	—	—	—	118,700
TOTAL JOB COSTS					237,400			6,400	143,800

EFFECTIVE DATE FOR THIS ESTIMATE Apr. 1977

Cost Estimate for Shafts and Underground Facilities

UNDERGROUND CONCEPTUAL DESIGN
FOR THE
WASTE ISOLATION PILOT PLANT (WIPP)

COST ESTIMATE

Prepared for

Sandia Laboratories
Nuclear Waste Engineering
Division 1142
Albuquerque, New Mexico 87115

By

Fenix & Scisson, Inc.
Tulsa, Oklahoma 74112

Under

Contract No. 02-5193

April 1977

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INTRODUCTION

This cost estimate, prepared by Fenix & Scisson, Inc., covers the cost of constructing and operating the underground portion of the Waste Isolation Pilot Plant (WIPP) complex proposed for Southeastern New Mexico near Carlsbad, based upon the Fenix & Scisson Conceptual Design submitted to Sandia Laboratories. The conceptual design and cost estimate for the surface facilities was prepared by Holmes & Narver, Inc. and is contained in a separate report.

The division of the conceptual design into surface and underground portions is not absolute. Several items included in the underground portion of the design are located on surface. Those items that overlap are discussed in the following list of assumptions and bases for the cost estimate.

BASES AND ASSUMPTIONS

1. Costs are predicated upon the design by Fenix & Scisson, Inc. Revisions or changes to the design will necessitate modification of the cost estimate.
2. The estimated costs are based upon April 1, 1977 dollars. No escalation or time adjustment figures are included as instructed by Sandia.
3. Contingency is included as a line item in the Project Summary at a rate of 15 percent. A-E costs are also included as a line item at a rate of 15 percent of the overall construction cost.
4. Quarterly expenditures are included in the estimate, prorated in accordance with the preliminary construction schedule submitted by Holmes & Narver (H&N).
5. Costs prior to the commencement of waste storage operations (May 1, 1983), considered as capital costs, also include estimated costs for those pieces of equipment used underground in the TRU waste storage operations.
6. No electrical power costs are included in this estimate. Electrical demands for the overall WIPP complex were estimated and furnished by H&N for inclusion in the overall facility power costs.
7. The cost estimate for the underground electrical power and communication system includes all components at the collar of the shafts and below, except for instrumentation and experimentation, as instructed by Sandia.
8. All shaft costs include the collar construction.
9. Estimated costs for hoisting equipment includes all hoists, hoist ropes and sheaves, plus installation costs. All hoisthouses are to be included in the H&N design and estimate. The "headframes" for the TRU and RH Shafts are also to be estimated by H&N as they are an integral part of

the facility buildings. Costs for all other headframes appear in this estimate.

10. The cost of the main ventilating fans is estimated by H&N due to the special filtering requirements for the exhaust air from the storage operations. Installation costs of those fans in the Filter Building are to be included in the H&N estimate. The installation of the fans for the ventilation of the underground construction operation is included in this estimate.

PREPARED BY: <i>FENIX & SCISSON, INC.</i>		PROJECT: <i>WASTE ISOLATION FOOT PLANT (WIPP)</i>	PAGE <i>9</i> OF
APPROVED BY:	DATE:	LOCATION: <i>PROJECT IS IN SOUTHEASTERN NEW MEXICO NEAR CARLSBAD</i>	CLASS OF ESTIMATE
DESCRIPTION: <i>PROJECT SUMMARY FOR UNDERGROUND FACILITIES</i>			☒ CONCEPTUAL
			☐ DESIGN CRITERIA
			☐ TITLE I
			☐ BID OR TITLE II
			P.O. NO.
SUMMARY			
ITEM NO.	ITEM	AMOUNT	
<i>I</i>	<i>2H SHAFT</i>	<i>\$ 3,750,080</i>	
	<i>CONSTRUCTION</i>	<i>2,111,830</i>	
	<i>EQUIPPING</i>	<i>301,380</i>	
	<i>EQUIPMENT</i>	<i>1,336,870</i>	
<i>II</i>	<i>2H LEVEL</i>	<i>19,319,950</i>	
	<i>MINING</i>	<i>9,666,230</i>	
	<i>CONSTRUCTION</i>	<i>211,375</i>	
	<i>EQUIPPING</i>	<i>39,100</i>	
	<i>ELECTRICAL</i>	<i>1,793,700</i>	
	<i>EQUIPMENT</i>	<i>7,608,625</i>	
<i>III</i>	<i>2BU SHAFT</i>	<i>2,919,815</i>	
	<i>CONSTRUCTION</i>	<i>916,695</i>	
	<i>EQUIPPING</i>	<i>638,870</i>	
	<i>EQUIPMENT</i>	<i>869,250</i>	
<i>IV</i>	<i>2BU LEVEL</i>	<i>8,779,770</i>	
	<i>MINING</i>	<i>2,005,865</i>	
	<i>CONSTRUCTION</i>	<i>131,210</i>	
	<i>EQUIPPING</i>	<i>39,100</i>	
	<i>ELECTRICAL</i>	<i>1,329,815</i>	

EFFECTIVE DATE OF THIS ESTIMATE _____

PREPARED BY:		PROJECT:		PAGE <u>5</u> OF
APPROVED BY:	DATE:	LOCATION:		CLASS OF ESTIMATE
DESCRIPTION:				☒ CONCEPTUAL
				☐ DESIGN CRITERIA
				☐ TITLE I
				☐ BID OR TITLE II
				P.O. NO.
SUMMARY				
ITEM NO.	ITEM			AMOUNT
	<i>EQUIPMENT</i>			<i>5,868,980</i>
<i>V</i>	<i>MAN AND MATERIAL SHAFT</i>			<i>8,410,705</i>
	<i>CONSTRUCTION</i>			<i>1,708,400</i>
	<i>EQUIPPING</i>			<i>1,177,850</i>
	<i>EQUIPMENT</i>			<i>3,530,955</i>
<i>VI</i>	<i>TEU-RH VENTILATION SHAFT</i>			<i>959,615</i>
	<i>CONSTRUCTION</i>			<i>910,720</i>
	<i>EQUIPPING</i>			<i>48,895</i>
<i>VII</i>	<i>CONSTRUCTION VENTILATION SHAFT</i>			<i>1,806,960</i>
	<i>CONSTRUCTION</i>			<i>890,085</i>
	<i>EQUIPPING</i>			<i>632,200</i>
	<i>EQUIPMENT</i>			<i>338,675</i>
<i>VIII</i>	<i>ROCK MECHANICS EXPERIMENTAL PROGRAM CONSTRUCTION</i>			<i>658,520</i>
	<i>MINING OF EXPERIMENTAL DRIFTS</i>			<i>10,395</i>
	<i>EQUIPPING OF TEU-RH VENT. SHAFT</i>			<i>698,175</i>
	<i>INSTALLATION</i>			<i>590,795</i>
	<i>REMOVAL</i>			<i>57,380</i>

EFFECTIVE DATE OF THIS ESTIMATE _____

PREPARED BY:		PROJECT:		PAGE 6 OF
APPROVED BY:	DATE:	LOCATION:		CLASS OF ESTIMATE
DESCRIPTION:				☒ CONCEPTUAL
				☐ DESIGN CRITERIA
				☐ TITLE I
				☐ BID OR TITLE II
				P.O. NO.
SUMMARY				
ITEM NO.	ITEM			AMOUNT
IX	HOIST FOUNDATIONS			\$ 125,875
	EH SHAFT HOIST 23,565			
	TRU SHAFT HOIST 30,535			
	MAN & MAT'L SHAFT PRODUCTION HOIST 71,105			
	MAN & MAT'L SHAFT SERVICE HOIST 30,670			
X	SURFACE INSTALLED HOISTING SHEAVES AND IDLERS			220,950
	SUBTOTAL			39,990,820
XI	CONTINGENCY AT 15 %			5,916,125
	SUBTOTAL OF OVERALL CONSTRUCTION			45,906,945
	ARCHITECT - ENGINEER COSTS AT 15 %			6,803,590
	TOTAL COST OF UNDERGROUND CONSTRUCTION			52,160,995
	(ROUNDED)			52,150,000

EFFECTIVE DATE OF THIS ESTIMATE APRIL 1, 1977

SUMMARY ESTIMATE SHEET		WETP		ACTION PRICES EXTENSIONS		BY	DATE	CHECKED	DATE
AMOUNT	DESCRIPTION	MANHOURS	LABOR	MATERIAL		SUB-CONTRACT		OPERATING	TOTAL COST
	SHAFT AREA OPENINGS								590 906
2,885	DRILL AND BLAST		389 928					11 388	
132,719	BOREING MACHING		349 080					192 010	
263,532	MAIN ENTRIES AND BREAKTHROUS		693 197					281 980	975 127
	EXPERIMENTAL AREA								1 671 582
90,913	ACCESS ENTRIES		259 900					105 730	
352,836	AREA OPENINGS		928 037					977 535	
116,391	BLOCK 1 ENTRIES AND BREAKTHROUS		706 002					129 485	930 987
173,902	PANEL 1		256 086					185 590	691 626
53,313	PANEL 2		140 225					57 895	197 270
53,313	PANEL 3		140 225					57 895	197 270
9,336	BLOCK 3 ENTRIES AND BREAKTHROUS		8 774					3 570	12 394
2,885 THIS 1,247,605 THIS	TOTAL		3 919 902					1 346 328	9 666 232
FACILITY: RH LEVEL MINING LOCATION: _____									
DATE: _____ AREA: _____ S F COST: _____									
CONCEPTUAL USE NO. _____ DATE: 7 50 SITE ITEM NO. _____									

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	LATE	
				PAID										
				EXTENSIONS										
ACCT. NO	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST		
				LABOR UNIT	TOTAL HRS	RATE PER H.R.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT			
	<i>LABOR</i>													
	<i>DIRECT</i>	<i>5200</i>	<i>Tons</i>			<i>0.52</i>	<i>33 908</i>							<i>33 908</i>
	<i>SUPPORT</i>	<i>5200</i>	<i>Tons</i>			<i>0.87</i>	<i>4 520</i>							
	<i>EQUIPMENT</i>													<i>1 022</i>
	<i>FRONT-END LOADER</i>	<i>5200</i>	<i>Tons</i>							<i>1.03</i>	<i>156</i>			
	<i>5-BURN JUMBO</i>	<i>5200</i>	<i>Tons</i>							<i>0.18</i>	<i>256</i>			
	<i>EXPENDABLES</i>													<i>10 296</i>
	<i>EXPLOSIVES</i>	<i>5200</i>	<i>Tons</i>					<i>1.20</i>	<i>6 240</i>					
	<i>BLASTING CAPS</i>	<i>5200</i>	<i>Tons</i>					<i>0.12</i>	<i>629</i>					
	<i>GROUND SUPPORT</i>	<i>5200</i>	<i>Tons</i>					<i>0.38</i>	<i>1 976</i>					
	<i>MISC. SUPPLIES</i>	<i>5200</i>	<i>Tons</i>					<i>0.28</i>	<i>1 356</i>					
FACILITY <i>BN LEVEL BREAKTHRU BETWEEN N/M AND CONST. VENT. SHAFTS</i>														
TYPE OF ESTIMATE <i>CONCEPTUAL</i> SHEET NO. <i>8</i> OF <i>00</i> PRINCIPAL SUB ACCT. NO.														

SUMMARY ESTIMATE SHEET		WIPP		ACTION PRICED EXTENSIONS		BY	DATE	CHECKED	DATE
ACT. NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL		SUB- CONTRACT		OPERATING	TOTAL COST
	SHAFT AREA OPENINGS								326 930
9,623	DRILL AND BLAST		49 390					15 140	
72,685	BORING MACHINE		191 177					77 773	
180,786	MAIN ENTRIES AND BREAKTHROUS		975 508					183 991	668 999
283,910	PANEL 1		691 538					260 989	902 522
19,562	PANEL 2		38 301					15 582	53 883
19,562	PANEL 8		38 301					15 582	53 883
9,623,7045 526,585,7045	TOTAL		1 469 165					576 582	2 005 667
TEU LEVEL MINING				LOCATION					
				AREA				S F COST	
CONCEPTUAL				SHEET NO. 9 OF				210 ITEM NO.	

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Conclusions:

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APPENDIX

200-
CONTRACT

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5173

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7.982

2.138

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LOC AT: 98

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CONCEPTUAL

1941 10 11

316 1128 49.

217-218

DETAIL ESTIMATE SHEET				WIPP				ACTION PRICED EXTENSIONS	BY	DATE	CHECKED	DATE
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR UNIT	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	SUBCONTRACTS		TOTAL COST
	TEL Level											5173
	LABOR					PER TON						
	DRIFT	590	Tons			6.52	3821					
	SUPPORT	590	Tons			0.87	513					
	EQUIPMENT	590	Tons							0.21	123	
	EXPENDABLES	590	Tons					1.98	1069			
	TEL Level - IS IDENTICAL TO THE TEL Level						3991		1069		113	5173

See Mechanisms Experimental Drifts Mining

CONCEPTUAL

12

TONNAGES MINED BY CONTINUOUS BORING MACHINES

RH LEVEL

878.90 for the RH SHAFT STATION (used 44 feet)
 12,938.23 for the SHOP
 2,526.82 for the FUEL and LUBE STATION
 1,952.87 for the RADSAFE CHECK STATION
 1,307.33 for the DECONTAMINATION STATION
 113,993.31 for the shaft area ENTRIES and BREAKTHRU's
 263,531.76 for the main ENTRIES and BREAKTHRU's
 98,813.05 for the EXPERIMENTAL AREA ACCESS ENTRIES
 352,836.00 for the EXPERIMENTAL AREA OPENINGS (20 acres @ 30% ext.)
 116,340.74 for the Block 1 ENTRIES and BREAKTHRU's (used 5760 + 94.5 feet)
 115,431.88 for the Block 2 ENTRIES and BREAKTHRU's (used 5714.5 + 94.5 feet)
 128,775.11 for the Block 3 ENTRIES and BREAKTHRU's (used 6382.5 + 94.5 feet)
 24,229.55 per Panel ENTRY for Panels 1, 2 and 3 (used 1213 feet)
 20,674.02 per Panel ENTRY for Panel 4 (used 1035 feet)
 20,044.81 per Panel ENTRY for Panels 5, 6 and 7 (used 1003.5 feet)
 25,897.46 per Panel ENTRY for Panel 8 (used 1296.5 feet)
 25,268.25 per Panel ENTRY for Panels 9, 10 and 11 (used 1265 feet)
 11,235.88 per ROOM
 1,258.42 per ROOM STUB

REQUIRED FOR STORAGE IN FIRST PANEL

$878.90 + 12,938.23 + 2526.82 + 1952.87 + 1307.33 + 113,993.31 +$
 $263,531.76 + 19.9749(83.5 + 83.5) + 116,340.74 + 19,9749(4)(562.5 +$
 $115 + 31.5 + 63) + 2(24,229.55) + 14(11,235.88) + 10(1258.42) =$
 796,833.88

REQUIRED FOR STORAGE IN SECOND AND THIRD PANELS

$2(24,229.55) - 19.9749(2)(562.5 + 115 + 31.5 + 63) + 8(11,235.88) =$
 107,504.89

REQUIRED FOR STORAGE IN FOURTH PANEL

$115,431.88 + 128,775.11 - 19.9749(8)(83.5) + 2(20,674.02) + 19.9749(31.5$
 $+ 31.5) + 10(11,235.88) = 385,829.02$

REQUIRED FOR STORAGE IN FIFTH, SIXTH AND SEVENTH PANELS

$2(20,044.81) + 8(11,235.88) = 129,976.66$

REQUIRED FOR STORAGE IN EIGHTH PANEL

$19.9749(12)(31.5 + 83.5) + 2(25,897.46) - 19.9749(31.5 + 31.5) +$
 $17(11,235.88) = 269,111.82$

REQUIRED FOR STORAGE IN NINTH, TENTH AND ELEVENTH PANELS

$2(25,268.25) - 19.9749(2)(31.5 + 83.5 + 31.5) + 9(11,235.88) =$
 145,806.77

REQUIRED FOR THE EXPERIMENTAL AREA

$98,813.05 + 352,836.00 = 451,649.05$

TOTAL REQUIRED = 2,945,783.84

TONNAGES MINED BY CONTINUOUS BORING MACHINES
TRU LEVEL

5,490.40 for the TRU SHAFT STATION
12,938.23 for the SHOP
1,498.12 for the FUEL and LUBE STATION
1,952.87 for the RADSAFE CHECK STATION
1,137.54 for the DECONTAMINATION STATION
55,158.01 for the shaft area ENTRIES and BREAKTHRU's
87,339.67 for the main ENTRIES and BREAKTHRU's to the panels
54,087.94 for the main ENTRIES and BREAKTHRU's at a panel
7,430.66 for the main ENTRIES between panels
5,033.67 for the main ENTRY STUBS
24,569.1270 per panel ENTRY
1,797.7410 per panel ENTRY STUB
22,638.6384 per ROOM
1,258.4187 per ROOM STUB
14,561.68 for additional development in one panel (used 729 feet of
1 pass high by 2 pass wide opening)

REQUIRED FOR STORAGE IN FIRST PANEL

$5490.40 + 12,938.23 + 1498.12 + 1952.87 + 1137.54 + 55,158.01 + 87,339.67 +$
 $54,0087.94 + 2(24,569.1270 + 1797.7410) + 8(22,638.6384 + 1258.4187) +$
 $7430.66 + 54,087.94 - 19.9749(480 + 480 + 106.5) - 13.6012(31.5 + 31.5)$
 $+ 2(14,561.68) = 531,994.83$

REQUIRED FOR STORAGE IN SECOND AND THIRD PANELS

$54,087.94 + 7430.66 + 2(24,569.1270 + 1797.7410) + 8(22,638.6384) +$
 $14,561.68 = 309,923.12$

REQUIRED FOR STORAGE IN FOURTH PANEL

$19.9749(480 + 480 + 106.5) + 13.6012(31.5 + 31.5) + 5033.67 +$
 $2(24,569.1270 + 1797.7410) + 8(22,638.6384) = 261,036.62$

REQUIRED FOR STORAGE IN FIFTH, SIXTH, SEVENTH AND EIGHTH PANELS

$2(24,569.1270) + 8(22,638.6384) - 14,561.68 = 215,685.68$

TOTAL REQUIRED = 2,275,620.41

TONNAGES MINED BY CONTINUOUS BORING MACHINES

Qtr.	FY	Mo.	No. Days	TRU Level Ma- chine Sheets				RH Level Ma- chine Sheets				TRU Level Tonnage	RH Level Tonnage	Total Mine Tonnage
				A	B	C	Tot.	A	B	C	Tot.			
4th	1981	Aug	15	-	-	-	-	1	1	-	2		13,500	13,500
		Aug	6	-	-	-	-	2	2	-	4		10,800	10,800
		Sept	9	-	-	-	-	2	2	-	4		16,200	16,200
		Sept	12	-	-	-	-	2	2	2	6		32,400	32,400
TOTAL												72,900	72,900	
1st	1982	Oct	6	-	-	-	-	2	2	2	6		16,200	16,200
		Oct	15	1	1	-	2	2	2	2	6	13,500	40,500	54,000
		Nov	21	1	1	1	3	2	2	2	6	28,350	56,700	85,050
		Dec	21	1	1	1	3	2	2	2	6	28,350	56,700	85,050
TOTAL												70,200	170,100	240,300
2nd	1982	Jan	21	1	2	-	3	3	1	3	7	28,350	66,150	94,500
		Feb	21	1	2	-	3	3	1	3	7	28,350	66,150	94,500
		Mar	21	1	2	-	3	3	1	3	7	28,350	66,150	94,500
TOTAL												85,050	198,450	283,500
3rd	1982	Apr	21	1	2	-	3	3	1	3	7	28,350	66,150	94,500
		May	21	1	2	-	3	3	1	3	7	28,350	66,150	94,500
		June	21	1	2	-	3	3	1	3	7	28,350	66,150	94,500
TOTAL												85,050	198,450	283,500
4th	1982	July	21	1	2	-	3	3	1	3	7	28,350	66,150	94,500
		Aug	21	1	2	-	3	3	1	3	7	28,350	66,150	94,500
		Sept	21	1	2	-	3	3	1	3	7	28,350	66,150	94,500
TOTAL												85,050	198,450	283,500
1st	1983	Oct	21	1	2	-	3	3	1	3	7	28,350	66,150	94,500
		Nov	21	1	2	-	3	3	1	3	7	28,350	66,150	94,500
		Dec	21	1	2	-	3	3	1	3	7	28,350	66,150	94,500
TOTAL												85,050	198,450	283,500

Tonnages Mined by Continuous Boring Machines (Cont'd)

Qtr.	FY	Mo.	No. Days	TRU Level Ma- chine Sheets				RH Level Ma- chine Sheets				TRU Level Tonnage	RH Level Tonnage	Total Mine Tonnage
				A	B	C	Tot.	A	B	C	Tot.			
2nd	1983	Jan	21	2	1	1	4	2	2	2	6	37,800	56,700	94,500
		Feb	21	2	1	1	4	2	2	2	6	37,800	56,700	94,500
		Mar	21	2	1	1	4	2	2	2	6	37,800	56,700	94,500
		TOTAL										113,400	170,100	283,500
3rd	1983	Apr	16	1	-	-	1	2	2	2	6	7,200	43,200	50,400
		Apr	3	1	-	-	1	1	-	-	1	1,350	1,350	2,700
		Apr	2	1	-	-	1	1	-	-	1	900	900	1,800
		May	21	1	-	-	1	1	-	-	1	9,450	9,450	18,900
		June	21	1	-	-	1	1	-	-	1	9,450	9,450	18,900
		TOTAL										28,350	64,350	92,700
4th	1983	July	21	1	-	-	1	1	-	-	1	9,450	9,450	18,900
		Aug	21	1	-	-	1	1	-	-	1	9,450	9,450	18,900
		Sept	21	1	-	-	1	1	-	-	1	9,450	9,450	18,900
		TOTAL										28,350	28,350	56,700
1st	1984	Oct	21	1	-	-	1	1	-	-	1	9,450	9,450	18,900
		Nov	21	1	-	-	1	1	-	-	1	9,450	9,450	18,900
		Dec	21	1	-	-	1	1	-	-	1	9,450	9,450	18,900
		TOTAL										28,350	28,350	56,700
2nd	1984	Jan	21	1	-	-	1	1	-	-	1	9,450	9,450	18,900
		Feb	21	1	-	-	1	1	-	-	1	9,450	9,450	18,900
		Mar	21	1	-	-	1	1	-	-	1	9,450	9,450	18,900
		TOTAL										28,350	28,350	56,700
3rd	1984	Apr	21	1	-	-	1	1	-	-	1	9,450	9,450	18,900
		May	21	1	-	-	1	1	-	-	1	9,450	9,450	18,900
		June	21	1	-	-	1	1	-	-	1	9,450	9,450	18,900
		TOTAL										28,350	28,350	56,700

**Daily Wages for Supervisory Personnel
(Day Shift Only)**

	Cost per Month during Shaft Sinking	Average Cost per Man Hour per Shaft	Cost per Month during Underground Development	Average Cost per Man Hour	Cost per Month after Storage Operations Commence	Average Cost per Man Hour
Underground Manager	3,000	-	3,000	-	3,000	-
Secretary	900	-	900	-	900	-
Underground Superintendent		-	2,500	-	-	-
Ventilation Safety Engineer	2,000	-	-	-	2,000	-
Ventilation Assistant	-	-	1,400	-	-	-
Safety Assistant	-	-	1,400	-	1,400	-
First Aid Man	-	-	1,100	-	-	-
Warehouseman	1,200	-	-	-	-	-
Chief Engineer	2,500	-	2,500	-	2,500	-
Mechanical Engineer	-	-	2,000	-	-	-
Electrical Engineer	-	-	2,000	-	-	-
Mine Engineer	2,000	-	2,000	-	2,000	-
Instrument Man	1,200	-	1,200	-	-	-
Instrument Man	-	-	1,200	-	-	-
Rodman	1,000	-	1,000	-	1,000	-
Rodman	<u>1,000</u>	-	<u>1,000</u>	-	<u>-</u>	-
TOTAL	14,800		25,200		12,800	
Plus 30 percent for fringes	19,240	6.36	32,760	13.93	16,640	14.15

Daily Mining Labor Wages for
1st 15 working days of August 1981

		A	B	C	Tot.
Boring Machines Operating	TRU Level	0	0	0	0
	RH Level	1	1	0	2

Labor Classification	No. Required				Wages			Total
	A	B	C	Tot.	A	B	C	
Surface & Shafts								
Shift Foreman	1	1	-	2	77.17	78.73		155.90
Shaft Boss	1	1	-	2	71.97	73.53		145.50
Hoistman	2	2	-	4	127.72	130.84		258.56
Top Lander	1	1	-	2	60.01	61.57		121.58
Skip Tender	1	1	-	2	63.86	65.42		129.28
Cager	1	1	-	2	63.86	65.42		129.28
Conveyor Man	1	1	-	2	63.86	65.42		129.28
Truck Driver	1	1	-	2	60.01	61.57		121.58
Laborer	1	-	-	1	58.03	59.59		117.62
TRU Level								
Construction Boss								
Miner Operator								
Scoop Operator								
Feeder Operator								
Conveyor Clean Up								
Laborer								
Vent Man								
Service Boss								
Mechanic								
Electrician								
Lube Man								
Warehouse Man								
Utility Equip. Oper.								
RH Level								
Construction Boss	1	1	-	2	71.97	73.53		145.50
Miner Operator	1	1	-	2	66.17	68.33		134.50
Scoop Operator	1	1	-	2	63.86	65.42		129.28
Feeder Operator	1	1	-	2	63.86	65.42		129.28
Conveyor Clean Up	2	2	-	4	120.02	123.14		243.16
Laborer	2	2	-	4	120.02	123.14		243.16
Vent Man	2	2	-	4	127.72	130.84		258.56
Service Boss	1	1	-	2	71.97	73.53		145.50
Mechanic	4	4	-	8	262.92	269.16		532.08
Electrician	3	2	-	5	194.70	198.42		393.12
Lube Man	1	1	-	2	63.86	65.42		129.28
Warehouse Man	1	1	-	2	60.01	61.57		121.58
Utility Equip. Oper.	1	1	-	2	63.86	65.42		129.28
TOTAL	31	29	-	60	1,997.43	2,045.43		4,042.86

Daily Mining Labor Wages for
Last 6 working days of August and
1st 9 working days of Sept. '81

	A	B	C	Tot.
Boring Machines Operating	0	0	0	0
TRU Level	2	2	0	4
RH Level				

Labor Classification	No. Required				Wages			Total
	A	B	C	Tot.	A	B	C	
Surface & Shafts								
Shift Foreman	1	1	-	2	77.17	78.73		155.90
Shaft Boss	1	1	-	2	71.97	73.53		145.50
Hoistman	2	2	-	4	127.72	130.84		258.56
Top Lander	1	1	-	2	60.01	61.57		121.58
Skip Tender	1	1	-	2	63.86	65.42		129.28
Cager	1	1	-	2	63.86	65.42		129.28
Conveyor Man	1	1	-	2	63.86	65.42		129.28
Truck Driver	1	1	-	2	60.01	61.57		121.58
Laborer	1	-	-	1	58.03	59.59		117.62
TRU Level								
Construction Boss								
Miner Operator								
Scoop Operator								
Feeder Operator								
Conveyor Clean Up								
Laborer								
Vent Man								
Service Boss								
Mechanic								
Electrician								
Lube Man								
Warehouse Man								
Utility Equip. Oper.								
RH Level								
Construction Boss	2	2	-	4	143.94	147.06		291.00
Miner Operator	2	2	-	4	132.34	136.66		269.00
Scoop Operator	2	2	-	4	127.72	130.84		258.56
Feeder Operator	2	2	-	4	127.72	130.84		258.56
Conveyor Clean Up	2	2	-	4	120.02	123.14		243.16
Laborer	2	2	-	4	120.02	123.14		243.16
Vent Man	2	2	-	4	127.72	130.84		258.56
Service Boss	1	1	-	2	71.97	73.53		145.50
Mechanic	4	4	-	8	262.92	269.16		532.08
Electrician	3	2	-	5	194.70	198.42		393.12
Lube Man	1	1	-	2	63.86	65.42		129.28
Warehouse Man	1	1	-	2	60.01	61.57		121.58
Utility Equip. Oper.	1	1	-	2	127.72	130.84		258.56
TOTAL	35	33		68	2,327.15	2,383.55		4,710.70

Daily Mining Labor Wages for
Last 12 working days of Sept. and
1st 6 working days of Oct. '81

	A	B	C	Tot.
Boring Machines Operating TRU Level	0	0	0	0
RH Level	2	2	2	6

Labor Classification	No. Required				Wages			Total
	A	B	C	Tot.	A	B	C	
Surface & Shafts								
Shift Foreman	1	1	1	3	77.17	78.73	80.29	236.19
Shaft Boss	1	1	1	3	71.97	73.53	75.09	220.59
Hoistman	2	2	2	6	127.72	130.84	133.96	392.52
Top Lander	1	1	1	3	60.01	61.57	63.13	184.71
Skip Tender	1	1	1	3	63.86	65.42	66.98	196.26
Cager	1	1	1	3	63.86	65.42	66.98	196.26
Conveyor Man	1	1	1	3	63.86	65.42	66.98	196.26
Truck Driver	1	1	-	2	60.01	61.57	-	121.58
Laborer	1	-	-	1	58.03	59.59	-	117.62
TRU Level								
Construction Boss								
Miner Operator								
Scoop Operator								
Feeder Operator								
Conveyor Clean Up								
Laborer								
Vent Man								
Service Boss								
Mechanic								
Electrician								
Lube Man								
Warehouse Man								
Utility Equip. Oper.								
RH Level								
Construction Boss	2	2	2	6	143.94	147.06	150.18	441.18
Miner Operator	2	2	2	6	132.34	136.66	139.78	408.78
Scoop Operator	2	2	2	6	127.72	130.84	133.96	392.52
Feeder Operator	2	2	2	6	127.72	130.84	133.96	392.52
Conveyor Clean Up	2	2	2	6	120.02	123.14	126.26	369.42
Laborer	2	2	2	6	120.02	123.14	126.26	369.42
Vent Man	2	2	-	4	127.72	130.84	-	258.56
Service Boss	1	1	1	3	71.97	73.53	75.09	220.59
Mechanic	4	4	4	12	262.92	269.16	275.40	807.48
Electrician	3	2	3	8	194.70	198.42	189.39	582.51
Lube Man	1	1	1	3	63.86	65.42	66.98	196.26
Warehouse Man	1	1	1	3	60.01	61.57	63.13	184.71
Utility Equip. Oper.	1	1	1	3	127.72	130.84	66.98	325.54
TOTAL	35	33	31	99	2,327.15	2,383.55	2,100.78	6,811.48

Daily Mining Labor Wages for
Last 15 working days of Oct. '81

		A	B	C	Tot.
Boring Machines Operating	TRU Level	1	1	0	2
	RH Level	2	2	2	6

Labor Classification	No. Required				Wages			Total
	A	B	C	Tot.	A	B	C	
Surface & Shafts								
Shift Foreman	1	1	1	3	77.17	78.73	80.29	236.19
Shaft Boss	1	1	1	3	71.97	73.53	75.09	220.59
Hoistman	2	2	2	6	127.72	130.84	133.96	392.52
Top Lander	1	1	1	3	60.01	61.57	63.13	184.71
Skip Tender	1	1	1	3	63.86	65.42	66.98	196.26
Cager	1	1	1	3	63.86	65.42	66.98	196.26
Conveyor Man	1	1	1	3	63.86	65.42	66.98	196.26
Truck Driver	1	-	-	1	60.01	-	-	60.01
Laborer	1	1	1	3	58.03	59.59	61.15	178.77
TRU Level								
Construction Boss	1	1	0	2	71.97	73.53	-	145.50
Miner Operator	1	1	0	2	66.17	68.33	-	134.50
Scoop Operator	1	1	0	2	63.86	65.42	-	129.28
Feeder Operator	1	1	0	2	63.86	65.42	-	129.28
Conveyor Clean Up	2	2	0	4	120.02	123.14	-	243.16
Laborer	2	2	0	4	120.02	123.14	-	243.16
Vent Man	2	-	-	2	127.72	-	-	127.72
Service Boss	1	1	0	2	71.97	73.53	-	145.50
Mechanic	5	3	0	8	328.65	201.87	-	530.52
Electrician	2	2	0	4	129.80	132.28	-	262.08
Lube Man	1	1	0	2	63.86	65.42	-	129.28
Warehouse Man	1	1	0	2	60.01	61.57	-	121.58
Utility Equip.Oper.	1	1	0	2	63.86	65.42	-	129.28
RH Level								
Construction Boss	1	2	2	5	71.97	147.06	150.18	369.21
Miner Operator	2	2	2	6	132.34	136.66	139.78	408.78
Scoop Operator	2	2	2	6	127.72	130.84	133.96	392.52
Feeder Operator	2	2	2	6	127.72	130.84	133.96	392.52
Conveyor Clean Up	2	2	2	6	120.02	123.14	126.26	369.42
Laborer	2	2	2	6	120.02	123.14	126.26	369.42
Vent Man	2	-	-	2	127.72	-	-	127.72
Service Boss	1	1	1	3	71.97	73.53	75.09	220.59
Mechanic	5	4	4	13	328.65	269.16	275.40	873.21
Electrician	3	3	3	9	194.70	198.42	202.17	595.29
Lube Man	1	1	1	3	63.86	65.42	66.98	196.26
Warehouse Man	1	1	1	3	60.01	61.57	63.13	184.71
Utility Equip.Oper.	1	1	1	3	63.86	65.42	66.98	196.26
TOTAL	56	49	32	137	3,608.82	3,244.79	2,174.71	9,028.32

Daily Mining Labor Wages for
November and December 1981

		A	B	C	Tot.
Boring Machines Operating	TRU Level	1	1	1	3
	RH Level	2	2	2	6

Labor Classification	No. Required				Wages			
	A	B	C	Tot.	A	B	C	Total
Surface & Shafts								
Shift Foreman	1	1	1	3	77.17	78.73	80.29	236.19
Shaft Boss	1	1	1	3	71.97	73.53	75.09	220.59
Hoistman	2	2	2	6	127.72	130.84	133.96	392.52
Top Lander	1	1	1	3	60.01	61.57	63.13	184.71
Skip Tender	1	1	1	3	63.86	65.42	66.98	196.26
Cager	1	1	1	3	63.86	65.42	66.98	196.26
Conveyor Man	1	1	1	3	63.86	65.42	66.98	196.26
Truck Driver	1	-	-	1	60.01	-	-	60.01
Laborer	1	1	1	3	58.03	59.59	61.15	178.77
TRU Level								
Construction Boss	1	1	1	3	71.97	73.53	75.09	220.59
Miner Operator	1	1	1	3	66.17	68.33	69.89	204.39
Scoop Operator	1	1	1	3	63.86	65.42	66.98	196.26
Feeder Operator	1	1	1	3	63.86	65.42	66.98	196.26
Conveyor Clean Up	2	2	2	6	120.02	123.14	126.26	369.42
Laborer	2	2	2	6	120.02	123.14	126.26	369.42
Vent Man	2	-	-	2	127.72	-	-	127.72
Service Boss	1	1	1	3	71.97	73.53	75.09	220.59
Mechanic	5	3	3	11	328.65	201.87	206.55	737.07
Electrician	2	2	2	6	129.80	132.28	134.78	396.86
Lube Man	1	1	1	3	63.86	65.42	66.98	196.26
Warehouse Man	1	1	1	3	60.01	61.57	63.13	184.71
Utility Equip. Oper.	1	1	1	3	63.86	65.42	66.98	196.26
RH Level								
Construction Boss	1	2	2	5	71.97	147.06	150.18	369.21
Miner Operator	2	2	2	6	132.34	136.66	139.78	408.78
Scoop Operator	2	2	2	6	127.72	130.84	133.96	392.52
Feeder Operator	2	2	2	6	127.72	130.84	133.96	392.52
Conveyor Clean Up	2	2	2	6	120.02	123.14	126.26	369.42
Laborer	2	2	2	6	120.02	123.14	126.26	369.42
Vent Man	2	-	-	2	127.72	-	-	127.72
Service Boss	1	1	1	3	71.97	73.53	75.09	220.59
Mechanic	5	4	4	13	328.65	269.16	275.40	873.21
Electrician	3	3	3	9	194.70	198.42	202.17	595.29
Lube Man	1	1	1	3	63.86	65.42	66.98	196.26
Warehouse Man	1	1	1	3	60.01	61.57	63.13	184.71
Utility Equip. Oper.	1	1	1	3	63.86	65.42	66.98	196.26
TOTAL	56	49	49	154	3,608.82	3,244.79	3,319.68	10,173.29

Daily Mining Labor Wages for
January through December 1982

	TRU Level	A	B	C	Tot.
		1	2	0	3
Boring Machines Operating	RH Level	3	1	3	7

Labor Classification	No. Required				Wages			
	A	B	C	Tot.	A	B	C	Total
Surface & Shafts								
Shift Foreman	1	1	1	3	77.17	78.73	80.29	236.19
Shaft Boss	1	1	1	3	71.97	73.53	75.09	220.59
Hoistman	2	2	2	6	127.72	130.84	133.96	392.52
Top Lander	1	1	1	3	60.01	61.57	63.13	184.71
Skip Tender	1	1	1	3	63.86	65.42	66.98	196.26
Cager	1	1	1	3	63.86	65.42	66.98	196.26
Conveyor Man	1	1	1	3	63.86	65.42	66.98	196.26
Truck Driver	1	-	-	1	60.01	-	-	60.01
Laborer	1	1	1	3	58.03	59.59	61.15	178.77
TRU Level								
Construction Boss	1	1	-	2	71.97	73.53	-	145.50
Miner Operator	1	2	-	3	66.17	136.66	-	202.83
Scoop Operator	1	2	-	3	63.86	130.84	-	194.70
Feeder Operator	1	2	-	3	63.86	130.84	-	194.70
Conveyor Clean Up	2	2	-	4	120.02	123.14	-	243.16
Laborer	2	2	-	4	120.02	123.14	-	243.16
Vent Man	2	-	-	2	127.72	-	-	127.72
Service Boss	1	1	-	2	71.97	73.53	-	145.50
Mechanic	5	4	-	9	328.65	269.16	-	597.81
Electrician	2	2	-	4	129.80	132.28	-	262.08
Lube Man	1	1	-	2	63.86	65.42	-	129.28
Warehouse Man	1	1	-	2	60.01	61.57	-	121.58
Utility Equip. Oper.	1	1	-	2	63.86	65.42	-	129.28
RH Level								
Construction Boss	2	1	2	5	143.94	73.53	150.18	367.65
Miner Operator	3	1	3	7	200.31	68.33	209.67	478.31
Scoop Operator	3	1	3	7	191.58	65.42	200.94	457.94
Feeder Operator	3	1	3	7	191.58	65.42	200.94	457.94
Conveyor Clean Up	3	2	3	8	180.03	123.14	189.39	492.56
Laborer	2	2	2	6	120.02	123.14	126.26	369.42
Vent Man	2	-	-	2	127.72	-	-	127.72
Service Boss	1	1	1	3	71.97	73.53	75.01	220.59
Mechanic	5	4	4	13	328.65	269.16	275.40	873.21
Electrician	3	3	3	9	194.70	198.42	202.42	595.54
Lube Man	1	1	1	3	63.86	65.42	66.98	196.26
Warehouse Man	1	1	1	3	60.01	61.57	63.13	184.71
Utility Equip. Oper.	1	1	1	3	63.86	65.42	66.98	196.26
TOTAL	61	49	36	146	3,936.49	3,238.55	2,441.94	9,616.98

Daily Mining Labor Wages for
January, February and March 1983

		A	B	C	Tot.
Boring Machines Operating	TRU Level	2	1	1	4
	RH Level	2	2	2	6

Labor Classification	No. Required				Wages			Total
	A	B	C	Tot.	A	B	C	
Surface & Shafts								
Shift Foreman	1	1	1	3	77.17	78.73	80.29	236.19
Shaft Boss	1	1	1	3	71.97	73.53	75.09	220.59
Hoistman	2	2	2	6	127.72	130.84	133.96	392.52
Top Lander	1	1	1	3	60.01	61.57	63.13	184.71
Skip Tender	1	1	1	3	63.86	65.42	66.98	196.26
Cager	1	1	1	3	63.86	65.42	66.98	196.26
Conveyor Man	1	1	1	3	63.86	65.42	66.98	196.26
Truck Driver	1	-	-	1	60.01	-	-	60.01
Laborer	1	1	1	3	58.03	59.59	61.15	178.77
TRU Level								
Construction Boss	1	1	-	2	71.97	73.53	-	145.50
Miner Operator	1	2	-	3	66.17	136.66	-	202.83
Scoop Operator	1	2	-	3	63.86	130.84	-	194.70
Feeder Operator	1	2	-	3	63.86	130.84	-	194.70
Conveyor Clean Up	2	2	-	4	120.02	123.14	-	243.16
Laborer	2	2	-	4	120.02	123.14	-	243.16
Vent Man	2	-	-	2	127.72	-	-	127.72
Service Boss	1	1	-	2	71.97	73.53	-	145.50
Mechanic	5	4	-	9	328.65	269.16	-	597.81
Electrician	2	2	-	4	129.80	132.28	-	262.08
Lube Man	1	1	-	2	63.86	65.42	-	129.28
Warehouse Man	1	1	-	2	60.01	61.57	-	121.58
Utility Equip. Oper.	1	1	-	2	63.86	65.42	-	129.28
RH Level								
Construction Boss	2	1	2	5	143.94	73.53	150.18	367.65
Miner Operator	3	1	3	7	200.31	68.33	209.67	478.31
Scoop Operator	3	1	3	7	191.58	65.42	200.94	457.94
Feeder Operator	3	1	3	7	191.58	65.42	200.94	457.94
Conveyor Clean Up	3	2	3	8	180.03	123.14	189.39	492.56
Laborer	2	2	2	6	120.02	123.14	126.26	369.42
Vent Man	2	-	-	2	127.72	-	-	127.72
Service Boss	1	1	1	3	71.97	73.53	75.01	220.59
Mechanic	5	4	4	13	328.65	269.16	275.40	873.21
Electrician	3	3	3	9	194.70	198.42	202.42	595.54
Lube Man	1	1	1	3	63.86	65.42	66.98	196.26
Warehouse Man	1	1	1	3	60.01	61.57	63.13	184.71
Utility Equip. Oper.	1	1	1	3	63.86	65.42	66.98	196.26
TOTAL	61	49	36	146	3,936.49	3,238.55	2,441.94	9,616.98

Daily Mining Labor Wages for
1st 16 working days of April 1983

	A	B	C	Tot.
Boring Machines Operating TRU Level	1	0	0	1
RH Level	2	2	2	6

Labor Classification	No. Required				Wages			Total
	A	B	C	Tot.	A	B	C	
Surface & Shafts								
Shift Foreman	1	1	1	3	77.17	78.73	80.29	236.19
Shaft Boss	1	1	1	3	71.97	73.53	75.09	220.59
Hoistman	2	2	2	6	127.72	130.84	133.96	392.52
Top Lander	1	1	1	3	60.01	61.57	63.13	184.71
Skip Tender	1	1	1	3	63.86	65.42	66.98	196.26
Cager	1	1	1	3	63.86	65.42	66.98	196.26
Conveyor Man	1	1	1	3	63.86	65.42	66.98	196.26
Truck Driver	1	-	-	1	60.01	-	-	60.01
Laborer	1	1	1	3	58.03	59.59	61.15	178.77
TRU Level								
Construction Boss	1	-	-	1	71.97	-	-	71.97
Miner Operator	1	-	-	1	66.17	-	-	66.17
Scoop Operator	1	-	-	1	63.86	-	-	63.86
Feeder Operator	1	-	-	1	63.86	-	-	63.86
Conveyor Clean Up	2	-	-	2	120.02	-	-	120.02
Laborer	2	-	-	2	120.02	-	-	120.02
Vent Man	2	-	-	2	127.72	-	-	127.72
Service Boss	1	-	-	1	71.97	-	-	71.97
Mechanic	5	-	-	5	328.65	-	-	328.65
Electrician	2	-	-	2	129.80	-	-	129.80
Lube Man	1	-	-	1	63.86	-	-	63.86
Warehouse Man	1	-	-	1	60.01	-	-	60.01
Utility Equip. Oper.	1	-	-	1	63.86	-	-	63.86
RH Level								
Construction Boss	1	1	1	3	71.97	73.53	75.09	220.59
Miner Operator	2	2	2	6	132.34	136.66	139.78	408.78
Scoop Operator	2	2	2	6	127.72	130.84	133.96	392.52
Feeder Operator	2	2	2	6	127.72	130.84	133.96	392.52
Conveyor Clean Up	2	2	2	6	120.02	123.14	126.26	369.42
Laborer	2	2	2	6	120.02	123.14	126.26	369.42
Vent Man	2	-	-	2	127.72	-	-	127.72
Service Boss	1	1	1	3	71.97	73.53	75.09	220.59
Mechanic	5	4	4	13	328.65	269.16	275.40	873.21
Electrician	3	3	3	9	194.70	198.42	202.17	595.29
Lube Man	1	1	1	3	63.86	65.42	66.98	196.26
Warehouse Man	1	1	1	3	60.01	61.57	63.13	184.71
Utility Equip. Oper.	1	1	1	3	63.86	65.42	66.98	196.26
TOTAL	56	31	31	118	3,608.82	2,052.19	2,099.62	7,760.63

Conventional Mining Costs
Applicable on Either Level for Drill, Blast, Muck

Assume Shaft Crew from Man/Material Shaft
Add 2 Operators plus 2 FE Loaders
and 1 - 2 Boom Jumbo

	Base	30% Fringe	1st Shift	2nd Shift	3rd Shift	Daily
Operators	6.14	7.982	63.86	65.42	66.98	196.26
2nd Opera.						196.26
						392.52
Shaft Crew						2,721.06
						Daily Labor Cost
						3,113.58
						Add 10% Profit
						3,424.94

Advance per day will be 8 ft/shift or 24 ft/day or 525 TPD, 288 CY/D

Direct Labor Cost per Ton = 6.52 (incl. O & P)

Direct Labor Cost per Yard = 11.86 (incl. O & P)

Support crew charges of 57.26/hr x 8 hrs = 458.08/D

Support Labor Cost per Ton = 0.87 (No Profit to Contn.)

Support Labor Cost per Yard = 1.59 (No Profit to Contn.)

Additional Equipment Charges

FE Loaders @ 0.03/Ton or 0.06/CY (No Profit-Proj. Owned)

2 Boom Jumbo @ 14.10/hr @ 6 hrs/D = 84.60/Day

or 0.16/Ton or 0.29/CY (Add 10% Profit)

Expendable Items

Explosives at 2#/Ton or 1052 #/D @ 54.45 CWT = \$572.81/D

or \$1.09/T or \$1.98/CY + 10% Profit

Caps at 32/Round, 96/D @ 0.60 ea. = 57.60/D

or \$0.11/T or \$0.20/CY + 10% Profit

Due to conventional mining (blasting) it is assumed ground support will be required.

24 ft/day = 4 rows bolts & mats/day, 4 bolts/mat

16 bolts @ 4.00 = 64.00) 185.00 or 0.35/Ton

64 cartridges @ 0.80 = 51.20) or 0.64/CY

Nuts, plates @ 0.70 = 44.80) Add 10% Profit

Mats, 4 @ 6.25 = 25.00)

Add 0.25/Ton or 0.46/CY for Misc. Supplies + 10% Profit

Summary Unit Costs

Conventional Mining

	<u>Cost/Ton</u>	<u>Cost/Yard</u>
Direct Labor	6.52	11.86
Support Labor	0.87	1.59
Equipment	0.21	0.38
Expendables	1.98	3.61
TOTAL COST	9.58	17.44

Operating Cost For Mining

	Men per Day	Cost per Man	Cost per Month	Unit Cost per Hour	Oper. Hours per Day	Cost per Day	Cost per Ton
Equipment Fuel, Consumables and Repair Parts							
Boring Machine Maint.				100.00	10	1,000	0.20
Bits				30.00	10	300	0.06
Trailing Cable				0.83	60	50	0.01
2½-yard Front-End Loader				4.96	30	149	0.03
Heading Conveyors, Feeder Breaker				24.94	20	499	0.10
Main Line Conveyors				18.20	16.5	300	0.06
Trucks-Maint, Lube, Elect & Vent				3.38	60	203	0.04
Tractor and Trailers				5.00	5	25	0.01
Buggys - 23 Used				83.70	276	23,101	0.05
Misc. Equipment							0.05
Surface Vehicles, Cherry Picker				8.19	3	24.57	0.03
Gas Welder				0.47	3	1.41	
Front-End Loader				22.05	4	83.20	
2-Ton Stake Truck				5.08	8	40.64	
Manager's Car				0.84	3	10.05	
Pick-ups-4 Used				2.51			
Surface Conveyor				5.55	18	100	0.02
Hoisting, Skips, Pockets, Etc.				2.56	19.5	50	0.01
TOTAL							0.67
Expendable Supplies							
Safety Equipment	174	0.50	1,827			87	0.02
Small Tools	174	0.25	913.50			44	0.01
Miner's Lamps	200		600			29	0.01
Ventilation			5,250			250	0.05
Welding			640			31	0.01
Electrical Maint. Supplies			3,735			178	0.04
General and Misc.			10,500			500	0.10
TOTAL							0.24
Indirect Costs							
Office Supplies			250	}			0.05
Engineering Supplies			75				
Telephone			800				
Travel and Expense Accounts			250				
Licenses and Fees			400				
Printing			150				
First Aid Supplies			300				
Consultants			1,000				
Legal Fees			500				
Safety Signs			150				
Key Personnel Relocation			500				
Safety Engineer Supplies			300				
Vent. Engineer Supplies			150				
Visitor Supplies			250				
Insurance			11,100		529	0.11	
TOTAL						0.16	
TOTAL OPERATING COST BASED ON 5000 TPD PRODUCTION =							\$1.07

SUMMARY ESTIMATE SHEET		W1211		BY		DATE		CHECKED		DATE	
ACCT. NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL	SUB-CONTRACT	OPERATING	TOTAL COST				
	SHAFT							753,742			
	SITE PREP AND COLLAR CONSTRUCTION	7632	60,610	6,805							
	SINKING AND LINING TO TOP OF SALT	31,328	276,560	57,996							
	SINKING THRU SALT	36,192	312,275	12,819							
	DEMOLITION	2092	21,177								
	LEVEL STATION AND UNDERGROUND TRANSFER CELL							1,358,090			
	STATION EXCAVATION, BY BOOMING MACHINE		2,312			991					
	UNDERGROUND TRANSFER CELL EXCAVATION	8,960	79,088	27,902	261						
	BUILDING		250,200	361,836	45,335						
	SPECIAL CONSTRUCTION		86,000	974,000							
	INTERIOR FINISHES		7,010	16,105							
	TOTAL	86,204	1,109,232	956,063	45,596	991	2,111,832				

PROJECT: RH SHAFT CONSTRUCTION LOCATION: _____
 DATE: _____ AREA: _____ S F COST: _____
 SCALE: CONCEPTUAL SHEET NO. 28 OF _____ AND ITEM NO. _____

DETAIL ESTIMATE SHEET			WIPP					ACTION		BY	DATE	CHECKED	DATE
								PRICED					
								EXTENSIONS					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR			MATERIAL		SUBCONTRACTS		TOTAL COST		
				LABOR UNIT \$/DAY	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
60 FT	SITE PREP & COLLAR CONST.											75,415	
	MOBILIZATION			12	864	0.72	7,539						
	EXCAVATION	280	CY	66	876	0.89	7,788	2.91	815				
	REBAR	5270	LBS	66	9224	0.89	37,552	0.26	1,370				
	CONCRETE LINING	154	CY	66	1236	0.89	10,988	30.00	4,620				
	O'HEAD			9.5	432	6.36	2,748						
936 FT	SINK AND LINE TO TOP OF SALT											339,056	
	SET HEADFRAME & DIG UP SINK STAKE				704	17.51	12,327						
	EXCAVATION	3294	CY	39	15,356	0.89	119,624	2.91	9,586				
	CONCRETE LINING & BARGE RING	1597	CY	39	14,000	0.89	124,460	30.00	47,970				
	O'HEAD			9.5	3,168	6.36	20,149						
1740 FT	SINK THROUGH SALT											325,094	
	EXCAVATE TO UNDER TRANS. CELL	4905	CY	39	32,940	0.89	288,943	2.91	12,819				
	O'HEAD			9.5	3,744	6.36	23,812						
	DEMOLITION AND			39	1,560	0.89	13,868					2,177	
	REINFORCE HEADFRAME				352	17.51	6,169						
	O'HEAD			9.5	180	6.36	1,145						

FACILITY: EH SHAFT - CONSTRUCTION
TYPE OF ESTIMATE: CONCEPTUAL
SHEET NO.: 29 OF 31
PRINCIPAL SUB ACCT. NO.:

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE	
								PRICED						
								EXTENSIONS						
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR			MATERIAL		SUBCONTRACTS		TOTAL COST			
				LABOR UNIT HR/DAY	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT			
	STATION EXCAVATION, BORING MACH.	879	Tons			2.63		2,312			1.07		941	3,253
	UNDERGROUND TRANSFER CELL EXCAVATION												1,359,837 (106,751)	
	LABOR	672	Hrs	13	8736	8.89		77,663						
	O'HEAD				229	6.36		1,485						
	EXPLOSIVES	9770	CY					3.39		16,170				
	GROUND SUPPORT	9770	CY					1.99		9,492				
	DRILL STEEL & BITS	8700	Tons					0.10		870				
	AIR HOSES, MISC.	8700	Tons					0.10		870				
	FRONT END LOADER	8700	Tons							0.18		261		
	BUILDING												(668,971)	
	CONCRETE, INCLUDING FORMING & REINFORCING	1900	CY			99.77		189,768	89.19	169,761	16.91	31,179		
	STRUCTURAL STEEL INSTALLED IN PLACE	315	Tons			270.14		59,792	63.95	185,750	65.81	19,456		
	ISOLATION CELL, INCLUDING EXCAVATION & CONCRETING							7,100		3,360				
	PARTITIONS	500	SF					1,020		575				
	STAIRWAY	49	CUBES					580		1,990				
	DOORS	7	EA					260		1,150				

FACILITY: PH SMART LEVEL STATION AND UNDERGROUND TRANSFER CELL - CONSTRUCTION

ESTIMATE: CONCEPTUAL SHEET NO. 30 OF 30 PRINCIPAL SUB ACCT. NO.

DETAIL ESTIMATE SHEET				W.I.P.				ACTION		BY	DATE	CHECKED	DATE			
								PRICES								
								EXTENSIONS								
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS				TOTAL COST		
				LABOR UNIT	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT					
	SPECIAL CONSTRUCTION															(540,000)
	TRANSFER ROOM															
	SHIELDED WINDOWS	4	EA				20,000		20,000							
	MANIPULATORS	4	EA				20,000		100,000							
	WELDER PASS-THRU	2	EA				10,000		50,000							
	TRANSFER TRANSFER															
	PARTS	2	EA				10,000		50,000							
	CANISTER HOLDING BLOCKS	2	EA				1,000		4,000							
	FILTER BANK	1	EA				5,000		50,000							
	ISOLATION CELL															
	TRANSFER PORT	1	EA				5,000		25,000							
	FILTER BANK	1	EA				5,000		35,000							
	EQUIP. MAINT. ROOM															
	EQUIPMENT PASS-THRU	1	EA				5,000		25,000							
	SHAFT CASE	1	EA				5,000		25,000							
	INTERIOR FINISHES															(25,115)
	PAINT, SPECIAL															
	TRANSFER ROOM	8060	SF			0.50	4,030	0.50	4,030							
	EQUIP. MAINT. ROOM	1100	SF			0.50	550	0.50	550							
	STAINLESS STEEL SHEETING															
	TRANSFER ROOM	1700	SF				1,355		5,100							
	ISOLATION CELL	925	SF				375		1,275							
	FLOOR TILE	1550	SF				400		3,700							
	PAINTING, GENERAL	5300	SF				300		1,550							
BN SHUTTLE LEVEL STATION AND UNDERGROUND TRANSFER CELL - CONSTRUCTION																
TYPE OF DESIGN: CONCEPTUAL SHEET NO. 31 OF PRINCIPAL SUB ACCT. NO.																

SUMMARY ESTIMATE SHEET		WIPP		ACTION		BY		DATE		CHECKED		DATE	
				PRICED									
				EXTENSIONS									
ACCT. NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL	SUB-CONTRACT					TOTAL COST			
	SHOP AND WAREHOUSE AREA												59,766
	POOR SUPPORT	890	6,582	7,985	656								
	CONCRETE FLOOR	569	7,525	6,229									
	PARTITIONS	556	5,819	2,990									
	FUEL AND LUBRICANT STORAGE	120	1,819	1,445									3,259
	RADIOGRAPH CRACK STATION	69	715	3,146									3,861
	DECONTAMINATION STATION												5,235
	FLOOR SLAB	72	829	915	500								
	CURTAIN	69	891	2,105									
	AMBULANCE AND FIRE TRUCK STATION	69	716	1,228	600								2,549
	VENTILATION STRUCTURES												181,988
	STANDARD STOPPINGS ~ 30 REQUIRED	1440	11,990	23,650									
	STANDARD OVERPASSES ~ 13 REQUIRED	2288	29,926	74,696									
	EQUIPMENT OVERPASS ~ 1 REQUIRED	592	6,819	10,957									
	TOTAL	6600	70,091	132,526	1,756								211,373

FACILITY RH LEVEL CONSTRUCTION
LOCATION _____

OWNER _____
AREA _____ S F COST _____

TYPE OF ESTIMATE CONCEPTUAL
JOB NO. _____

SHEET NO. 32 OF _____
BID ITEM NO. _____

DETAIL ESTIMATE SHEET			WIPP					ACTION		BY	DATE	CHECKED	DATE
								PRICED					
								EXTENSIONS					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT HR/DAY	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	ROCK SUPPORT												15,193
	CREW = LEADMAN, 2 BOLTERS, 1/2 MESH WELDER, 9 CARPERS, HOISTMAN, CASE, & TOPPLANDER	80	Hrs	10.5	840	7.00	6,532						
	2RS EDGE BOLTS 1" x 6'	2610	LF					0.85	2,217				
	EPXY GROUT CARTRIDGES	2175	EA					0.80	1,740				
	NUTS AND PLATES	500	Pcs					0.70	350				
	SCREEN, LINE	4569	SF					0.30	1,371				
	DRILL STEEL AND BITS	435	FOOT					3.00	1,305				
	FREIGHT, EST.								1,000				
	EDGE BOLTER	80	Hrs							3.00		240	
	SCAFFOLDING	2								150.00		300	
	INFANT WRENCHES, ELECTRIC	80	Hrs							1.25		116	
	CONCRETE FLOOR												10,964
	PREPARATION CREW = FOREMAN												
	GRADE M'S, MUCK & CARPERS	36	Hrs	5	180	8.07	1,453						
	FORMING & REBAR CREW = FOREMAN												
	2 COONEN & 2 CARPERS	98	Hrs	5	240	8.00	1,920						
	MESH CREW = FOREMAN & 2 CARPERS	8	Hrs	3	24	3.00	192						
	POURING CREW = FOREMAN FINISHER, OPERATOR & CARPERS, HOISTMAN, CASE, & TOPPLANDER	12	Hrs	10	120	8.00	960	19.67	176				
	ROBNS	110	LF					1.22	134				
	REBAR, #8	10,309	LBS					2.215	2,290				
	WIRE MESH	19	CSF					7.68	139				
	CONCRETE	125	CY					30.00	3,750				
FACILITY <u>UNDERGROUND SAMP AND WAREHOUSE - CONSTRUCTION</u>													
TYPE OF ESTIMATE <u>CONCEPTUAL</u> JOB NO. _____ SHEET NO. <u>23</u> OF _____ PRINCIPAL SUB ACCT. NO. _____													

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DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE
								PRICED					
								EXTENSIONS					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	L&SOP				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT MS/DAY	TOTAL MIRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	STANDARD STOPPING, 31.5' x 10'												1,338
	VENT CREW	16	Hrs	3	78	7.98	383						
	PIPE COLUMNS	4	Ea					15.50	62				
	ROCK BOLTS 1" x 2" GROUTED	16	Ea					3.10	50				
	BOLTER AND LOADER	6	Hrs					4.96	30				
8.1-10-129	DOOR FRAME, 6' x 7'	1	Ea					41.74	42				
8.1-10-125	HOLLOW METAL DOOR, 6' x 7'	1	Ea					230.12	230				
	FAN FRAME	1	Ea					100	100				
	EYE BOLTS	10	Ea					3.75	38				
	CABLE AND TWIN BUCKLES	5	Ea					7.50	38				
	BEATTIES	331	SF					0.80	265				
	RIGID FRAM		LOT						100				
	STANDARD OVERPASS w/WALKWAY												8,098
	PREPARATION CREW - LEARNER												
	RUNNER OPS & 2 LABORS	8	Hrs	3.5	32	2.86	252	4.96	20				
5.1-65-80	FERRONKEL	4720	LBS	4	69	17.35	1111	0.95	2129				
	2 BEAMS, 5F x 10" x 25.5 LF	510											
	DECK, 65 x 6.7" x 350 LF	2900											
	SIDES, 65 x 6.7" x 200 LF	1400											
	CATWALK, 63 x 9.1" x 100 LF	910											
	WALKWAY			4	32	17.35	556						
5.9-10-85	FLOOR PLATE, 100 SF	910	LBS					0.37	333				
5.9-2-88	STAIRS	19	EVER					67.50	997				
6.9-10-88	RANKING	51	LF					14.14	518				
	VENT CREW	16	Hrs	3	78	7.98	383						
	BEATTIES	1750	SF					0.80	1400				
	RIGID FRAM		LOT						400				
FACILITY <u>VENTILATION STRUCTURES - CONSTRUCTION</u>													
TYPE OF ESTIMATE <u>CONCEPTUAL</u> JOB NO. _____ SHEET NO. <u>37</u> OF _____ PRINCIPAL SUB ACCT. NO. _____													

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SUMMARY ESTIMATE SHEET						WIPP		ACTION PRICED EXTENSIONS	BY	DATE	CHECKED	DATE
ACCT. NO.	DESCRIPTION	HOURS	Labor	MATERIAL	SUB- CONTRACT		TOTAL COST					
<i>SHAFT</i>							<i>836,401</i>					
	<i>SITE PREP AND COLLAR CONSTRUCTION</i>	<i>9,806</i>	<i>89,621</i>	<i>14,591</i>								
	<i>SINKING AND LINING TO TOP OF SALT</i>	<i>33,270</i>	<i>293,091</i>	<i>24,335</i>								
	<i>SINKING THROUGH SALT</i>	<i>29,135</i>	<i>250,023</i>	<i>41,852</i>								
	<i>DENASSALIZATION</i>	<i>22,12</i>	<i>22,278</i>									
<i>LEVEL STATION</i>							<i>80,992</i>					
	<i>EXCAVATION</i>	<i>2232</i>	<i>33,778</i>	<i>6,292</i>	<i>5,875</i>							
	<i>RAMP SUPPORT</i>	<i>1860</i>	<i>9,828</i>	<i>9,679</i>	<i>834</i>							
	<i>CONCRETE FLOOR</i>	<i>936</i>	<i>4,696</i>	<i>4,695</i>	<i>999</i>							
	<i>GRAVELS, ETC.</i>	<i>267</i>	<i>2,790</i>	<i>1,536</i>								
	TOTAL	<i>78,618</i>	<i>701,505</i>	<i>297,900</i>	<i>7,808</i>		<i>916,193</i>					
FACILITY:	<i>TEL SHAFT CONSTRUCTION</i>						LOCATION:					
DESIGN:							AREA:					
	<i>CONCEPTUAL</i>						\$ P COST:					
							VOL ITEM NO.					
							PAGE NO. 39					

DETAIL ESTIMATE SHEET				WIPP				ACTION PRICED EXTENSIONS	BY	DATE	CHECKED	DATE
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR UNIT HR/DAY	TOTAL HOURS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT	TOTAL COST
80 FT	SITE PEEP & COLLAR CONST.											181 212
	MOBILIZATION			12	1056	8.72	9 209					
	EXCAVATION	791	CY	89	953	8.91	8 991	2.91	2 302			
	CEMENT	22,449	CS	89	6008	8.91	53 531	8.26	5 829			
	CONCRETE LINING	282	CY	68	1544	8.91	11 975	30.00	8 460			
	O'HEAD			2.25	495	3.18	1 915					
919 FT	SNC AND LINE TO TOP OF SALT											417 336
	SAT. HEADFRAME 60% UP SNC STAGE				709	17.51	12 327					
	EXCAVATION	12,799	CY	92	15,120	8.91	134 719	2.91	31 425			
	CONCRETE LINING & WATER BOND	3897	CY	92	15,790	8.91	140 689	30.00	82 910			
	O'HEAD			2.25	1856	3.18	5 866					
1193 FT	SNC THRU SALT											695 575
	EXCAVATION TO TEL LEVEL	14,695	CY	92	26,800	8.91	239 501	2.91	42 617			
	CONCRETE LEVEL SILL	58	CY					30.00	1 740			
8 FT	EXCAVATION TO SHAFT BOTTOM	92	CY	92	672	8.91	5 988	2.91	285			
	CONCRETE SHAFT BOTTOM	7	CY					31.10	210			
	O'HEAD			2.25	1583	3.18	5 039					
	DEMOLITION AND REMOVE HEADFRAME			42	1680	8.91	14 969					22 278
	O'HEAD			4.5	180	6.36	1 145					
FACILITY TEL SHAFT ~ CONSTRUCTION												
TYPE OF ESTIMATE CONCEPTUAL SUB NO. SHEET NO. 90 OF PRINCIPAL SUB ACCT. NO.												

DETAIL ESTIMATE SHEET				WIPP				ACTION PRICED EXTENSIONS		BY	DATE	CHECKED	DATE
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT PER DAY	TOTAL HRS	RATE PER HOUR	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	CONCRETE FLOOR												9,890
	PREPARATION CEMENT - GRADMAN, 2 MIXES, PROUDMAN, LADDER GR, COMPRESSOR AIR, MOUNTAIN, CAGE & TUNNELING	29	Hrs	8.36	192	2.97	1,530						
	EXPLOSIVES, 70% GEL	120	LBS					0.96			97		
	BLASTING CAPS	200	EA					0.50			100		
	LEAD WIRE, SHOVELS, MISC		LOT								100		
	COMPRESSOR	29	Hrs							5.025		140	
	JACKHAMMER	29	Hrs							1.75		42	
	FRONT END LOADER	29	Hrs							9.96		119	
	FORMING	190	SFCA	2	16	14.18	227	0.97			90		
	EXPANSION JOINTS	90	LF	1/2	9	15.80	63	1.37			123		
	REBAR	5.9	TON	9	69	18.20	1,145	97.35			2,589		
	WIRE MESH	12	GSF	1	8	18.20	146	8.01			96		
	CONCRETE	50	CY	7	56	14.02	785	30.00		1,500	3.95	198	
	UNDER SUPPORT LAMP	29	Hrs	9	96	0.12	780						
	OPENCES, ETC												4,316
9.3-165-79	WALLS, 9' HIGH - 36' x 26' x 20'	972	SF	5.25	105	12.12	1,278	0.65			632		
9.1-85-88	PRECAST CONCRETE LINTEL	29	LF	0.25	2	11.79	29	2.59			62		
9.1-300-125	HOLLOW METAL DOORS	9	EA	1	16	13.98	216	128.99			519		
9.1-100-128	DOOR FRAMES	9	EA	1	8	14.05	113	37.90			150		
9.6-315-132	WINDOWS	2	EA	1	8	16.25	130	88.84			178		
	UNDER SUPPORT LAMP	90	Hrs	9	128	8.00	1,024						
TELL SHAFT LEVEL STATION - CONSTRUCTION													
CONCEPTUAL													
SHEET NO. 92 OF													
PRINCIPAL OR ACCT. NO.													

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DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE
								PRICED					
								EXTENSIONS					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT \$/DAY	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	ROOF SUPPORT												15,193
	CREW = LEADMAN, 2 BOLTERS, 1 MESN WELDER, 4 LABBERS, HOISTMAN, CASE, 1 TROLMAN	80	Hrs	22.5	800	7.00	6,552						
	3/8" ECL BOLTS 1" x 6"	2610	LF					0.85	2,219				
	EPXY GROUT CARTRIDGES	2175	EA					0.80	1,740				
	NUTS AND PLATES	500	Pcs					0.70	350				
	SCREEN, LINK	4569	SF					0.30	1,371				
	DRILL STEEL AND BITS	435	HOLES					3.00	1,305				
	FREIGHT, EST								1,000				
	ROOF BOLTER	80	Hrs							3.00	240		
	SCAFFOLDING	2								150.00	300		
	IMPACT WRENCHES, ELECTRIC	80	Hrs							1.85	148		
	CONCRETE FLOOR												10,964
	PREPARATION CREW = FOREMAN, GRADE OP, MIXER & LABBERS	36	Hrs	5	180	8.07	1,453						
	FORMING & ERECT CREW = FOREMAN, 2 BODMEN & 2 LABBERS	98	Hrs	5	240	8.00	1,920						
	MESH CREW = FOREMAN & 2 LABBERS	8	Hrs	3	24	8.00	192						
	POURING CREW = FOREMAN FINISHER, OPERATOR, 4 LABBERS, HOISTMAN, CASE, 1 TROLMAN	12	Hrs	10	120	8.00	960	18.67	176				
	ROBNS	110	LF					1.43	157				
	REBAR, #8	10,300	LBS					0.215	2,215				
	WIRE MESH	19	GSE					7.29	139				
	CONCRETE	125	CY					30.00	3,750				
FACILITY <u>UNDERGROUND SHIP AND WAREHOUSE ~ CONSTRUCTION</u>													
TYPE OF ESTIMATE <u>CONCEPTUAL</u> JOB NO. _____ SHEET NO. <u>99</u> OF _____ PRINCIPAL SUB ACCT. NO. _____													

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DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE
								PRICED					
								EXTENSIONS					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				WATER - A.		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT MS/DAY	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	STANDARD STAPPING, 31.5' x 10'												1338
	VENT CREW	16	Hrs	3	98	7.98	383						
	PIPE COLUMNS	9	EA					15.50		62			
	ROCK BOLTS 1" x 8" GROUTED	16	EA					3.10		50			
	BOLTER AND LOADER	6	Hrs					4.96		30			
8.1-50-129	DOOR FRAME, 6' x 7'	1	EA					41.74		42			
8.1-320-125	HOLLOW METAL DOOR, 6' x 7'	1	EA					230.12		230			
	FAN FRAME	1	EA					100		100			
	TYE BOLTS	10	EA					3.75		38			
	CABLE AND TURN BUCKLES	5	EA					7.50		38			
	BEATTICE	231	SF					4.80		1105			
	RIGID FOAM		LOT							100			
	STANDARD OVERPASS w/ WALKWAY												8048
	PREPARATION CREW - GRADYMAN,												
	1/2 LOADER OPE, 6 LABOREES	8	Hrs	3.5	32	7.86	252	4.96		20			
5.1-65-00	FRAMEWORK	4750	LBS	4	69	17.35	1111	0.85		2129			
	2 BEAMS, 5F-10" x 25.5 LF	510											
	ASKE, 65-6.7" x 350 LF	2800											
	SIDES, 65-6.7" x 200 LF	1400											
	CATWALK, 65-4.1" x 100 LF	410											
	WALKWAY			4	32	17.35	556						
5.8-10-08	FLOOR PLATE, 10 SF	240	LBS					0.37		333			
5.9-2-08	STAIRS	14	EVER					67.50		947			
6.1-10-08	RAILING	51	LF					14.15		518			
	VENT CREW	16	Hrs	3	98	7.98	383						
	BEATTICE	1750	SF					0.60		1050			
	RIGID FOAM		LOT							400			
FACILITY <u>VENTILATION STRUCTURES - CONSTRUCTION</u>													
TYPE OF ESTIMATE <u>CONCEPTUAL</u> JOB NO. _____ SHEET NO. <u>80</u> OF _____ PRINCIPAL SUB ACCT. NO. _____													

SUMMARY ESTIMATE SHEET		WIPP		ACTION PRICED EXTENSIONS		BY	DATE	CHECKED	DATE
ACCT NO.	DESCRIPTION	HANHOURS	LABOR	MATERIAL	SUB- CONTRACT				TOTAL COST
	<u>SHAFT</u>								1 251 076
	SITE PREP AND COLLAR CONSTRUCTION	8717.5	79 165	12 397					
	SINKING AND LINING TO TOP OF SALT	91 292.5	360 813	195 328					
	SINKING THRU SALT	56 690	988 160	214 190					
	DEMOLITION	970	6 223						
	<u>PUMP STATION</u>	1076	9 323	206					9 529
	<u>TRU LEVEL STATION</u>								69 127
	EXCAVATION	5208	95 118	10 973					
	STRUCTURES	900	3 209	5 327					
	<u>EH LEVEL STATION</u>								69 127
	EXCAVATION	5208	95 118	10 973					
	STRUCTURES	900	3 209	5 327					
	<u>SALT LOADING FACILITY</u>								239 585
	LOADING PIERS	9950	97 728	29 912					
	MUCK RAISE		2 361	639	67				
	TRANSFER GALLERY		3 997	939	99				
	EH SURGE BIN		77 819	59 000	2 140				
	TRU-EH MUCK TRANSFER RAISE		960	320	29 609				
	<u>SHAFT BOTTOM INCLINE</u>		57 060	15 286	1 622				73 958
	TOTAL		1 214 053	454 812	32 537				1 701 402
FACILITY	MAN AND MATERIAL SHAFT CONSTRUCTION				LOCATION				
PHASE	CONCEPTUAL				S F COST				
DATE	JUL 20 1984				DRAWN BY				

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE
								PRICED					
								EXTENSIBLE					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT PER DAY	TOTAL HRS	RATE NR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	PUMP STATION, 12' x 8' x 16' LONG ONHEAD	57	CY	42 4.5	972 189	2.91 6.36	8661 602	3.61		206.			9529
	TEU LEVEL STATION												69127
	Excavation ONHEAD	2901	CY	42 4.5	9709 509	2.91 6.36	91913 3205	3.61	10973				
	STRUCTURES												
	PREPARATION CEMENT = FILLING, LARGE DOW, MIXER & 2 LADDER	29	Hrs	5	120	8.07	969						
	FORMING & Cedar CROW = FILLING, 2 CROWNS & 2 LADDER	90	Hrs	5	220	8.00	1600						
	POURING CROW = FILLING, FINISHING, OPERATOR 4 LADDER, CASE, WITNESS & TEMPLAR	8	Hrs	10	80	8.00	690	16.67	118				
	PIERS	220	LF					1.22	269				
	REBAR, #8	18,800	LBS						2290				
	CONCRETE	90	CY					20.00	2700				
	2H LEVEL STATION ~ IS IDENTICAL TO THE TEU LEVEL STATION				5608		90327		15800				69127

FACILITY: MAN AND MATERIAL SHAW STATIONS ~ CONSTRUCTION

TYPE OF ESTIMATE: CONCEPTUAL JDS NO. _____ SHEET NO. 32 OF PRINCIPAL SUB ACCT. NO. _____

DETAIL ESTIMATE SHEET				WIPP				NOTION PRICED EXTENSIONS	BY	DATE	CHECKED	DATE
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR UNIT HR/DAY	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT	TOTAL COST
	BN SURGE BAY											130,959
	EXCAVATION, 21.5' x 20' x 30'					182.00						
	LABOR	3,150	CY			12.45	42,368					
	EQUIPMENT & EXPENDABLES	3,150	CY					3.61	11,372	0.38	1,197	
	STRUCTURE											
	STEELWORK											
	COLUMNS, W12-65, 1500 LF	51	TONS					675.00	39,425			
	CHANNEL, C6-13, 870 LF	6	TONS					675.00	4,050			
	PLATE, 3/8", 5000 SF	4	TONS					675.00	2,700			
	CEATING	100	SF					11.20	1,120			
5.9-270-88	RAILING	100	LF					12.25	1,225			
5.9-271-87	LADDER	30	LF					36.00	1,080			
	RESPIRATION			42	396	0.91	2,998					
	ERECTOR	80	HRS	42	3360	0.91	29,938			11.79	943	
	O'HEAD			4.5	396	0.36	2,519					
	20U-BN NUCLE TRANSFER CASE											30,389
	EXCAVATION, 6' DIA	500	LF							31.85	29,689	
	FORMING			42	48	0.91	428					
	ROCK BOLTING	32	EA					18.00	320			
	O'HEAD			4.5	5	6.36	32					
MAN AND MATERIAL SHUTTLE SALT LOADING FACILITY - CONSTRUCTION												
1.00.00	CONCEPTUAL	000.00					59.00					
INITIAL SUB ACCT. NO.												

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Daily Labor Wages for
Shaft Sinking Crews

	No. Required				Base	Wages (incl. Fringe)			
	A	B	C	Total	Hourly Rate	A	B	C	Total
<u>Common To All Shafts</u>									
Mobilization Crew									
Foreman	2	-	-	2	6.42	133.54	-	-	133.54
Crane Operator	2	-	-	2	6.14	127.72	-	-	127.72
Oiler	2	-	-	2	6.00	124.80	-	-	124.80
Mechanic	2	-	-	2	6.21	129.16	-	-	129.16
Loader Oper. (FE)	2	-	-	2	6.00	124.80	-	-	124.80
Laborer	2	-	-	2	5.83	121.26	-	-	121.26
TOTAL				12					761.28
Structural Crew									
Foreman	1	1	1	3	6.21	64.58	66.14	67.70	198.42
Mechanic	2	2	2	6	8.00	124.80	127.92	131.04	383.76
Miners	2	2	2	6	6.10	126.88	130.00	133.12	390.00
TOTAL				15					972.18
<u>TRU, Man & Material, Ventilation Shafts</u>									
Sinking Crew									
Foreman	1	1	1	3	6.42	66.77	68.33	69.89	204.99
Hoist Operator	1	1	1	3	6.14	63.86	65.42	66.98	196.26
Oiler	1	1	1	3	6.00	62.40	63.96	65.52	191.88
Teamster	1	1	1	3	5.77	60.01	61.57	63.13	184.71
Lampman/Janitor	1	1	1	3	5.77	60.01	61.57	63.13	184.71
Electrician	2	2	2	6	6.24	129.80	132.92	136.04	398.76
Mechanic	1	1	1	3	6.00	62.40	63.96	65.52	191.88
Laborer	1	1	1	3	5.83	60.63	62.19	63.75	186.57
Miner	4	4	4	12	6.14	255.44	261.68	267.92	785.04
Powderman	1	1	1	3	6.14	63.86	65.42	66.98	196.26
TOTAL				42					2,721.06
<u>RH Shaft</u>									
Sinking Crew									
Foreman	1	1	1	3	6.42	66.77	68.33	69.89	204.99
Hoist Operator	1	1	1	3	6.14	63.86	65.42	66.98	196.26
Oiler	1	1	1	3	6.00	62.40	63.96	65.52	191.88
Teamster	1	1	1	3	5.77	60.01	61.57	63.13	184.71
Lampman/Janitor	1	1	1	3	5.77	60.01	61.57	63.13	184.71
Electrician	1	1	1	3	6.24	64.90	66.46	68.02	199.38
Mechanic	1	1	1	3	6.00	62.40	63.96	65.52	191.88
Laborer	1	1	1	3	5.83	60.63	62.19	63.75	186.57
Miner	4	4	4	12	6.14	255.44	261.68	267.92	785.04
Powderman	1	1	1	3	6.14	63.86	65.42	66.98	196.26
TOTAL				39					2,521.68

DETAIL ESTIMATE SHEET				WPPP				ACTION		BY	DATE	CHECKED	DATE
								PRICED					
								EXTENSIONS					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT 80/DAY	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	PIPE GUIDES & CABLE INSTALLATION												6,506
	CREW - FROGMAN, 6 MECHANICS & HOISTMAN	40	Hrs	8	309	8.37	3,229						
	CHERRY PICKER	40	Hrs							50.25	2,912		
	80-TON CRANE	8	Hrs							110	880		
	HOIST												70,215
	CREW, FROGMAN	269	Hrs	1	269	14.72	3,986						
	5 WILLOWRIGHTS	269	Hrs	5	1320	12.14	17,245						
	HOIST MANING ERECTION EMER	10	DAYS							33.50	3,350		
	SHIM BAGS AND STIFF		LOT							200			
	GREASE AND OIL		LOT							3,000			
	CLEANING MATERIALS		LOT							400			
	SUNGS		LOT							300			
	GRUNT		LOT							500			
	PAINT AND SUPPLIES		LOT							200			
	CHERRY PICKER, 25-TON	20	Hrs							55.00	1,320		
	AIR AND SMALL TOOLS		LOT								560		
	SPECIAL WRENCHES & SOCKETS		LOT								300		
	ENGINEERING	16	Hrs							35.10	560		
	ELECTRICAL FROGMAN	80	Hrs	1	80	14.77	1,182						
	6 ELECTRICIANS	80	Hrs	6	480	14.26	6,845						
	MATERIALS		LOT							90.135			
	LINE COATING	25,032	SF							1.00	25,032		25,032
FACILITY: R4 SHANT - EQUIPPING													
TYPE OF INSTALL: CONCEPTUAL													
DRAWING NO. 69 OF													
PRINCIPAL SUB ACCT. NO.													

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DETAIL ESTIMATE SHEET				WIPP				ACTION PRICED EXTENSIONS		BY	DATE	CHECKED	DATE
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	CONTROL CONSOLES												
	SMART CONVEYANCE						9,000		2,000				
	TURNABLE						1,000		2,000				
	BRIDGE CRANE						1,000		4,000				
	BRIDGE MANIPULATOR						2,000		6,000				
	STANDARD MANIPULATOR						1,000		2,000				
	TRANSFER PARTS						2,000		2,000				
	VENTILATION						2,000		4,000				
	CLOSED CIRCUIT TV						4,000		9,500				
	COMMUNICATIONS						1,000		2,000				
	DECONTAMINATION PUMPS						500		1,000				
	LIGHTING						500		1,000				
	FURNISHINGS - DESKS, CHAIRS, ETC.		LOT				250		2,000				2,250
	EQUIPMENT INSTALLATION												132,750
	TURNABLE											25,000	
	15-TON BRIDGE CRANE											35,000	
	2.5-TON BOOM-MOUNTED MANIP.											50,000	
	STANDARD MANIPULATORS	4								5,000		20,000	
	DISCON. PRESSURE PUMP											500	
	FANS	2								250		500	
	ROTOR-OPERATED DAMPERS	11								40		1,100	
	AIR COND. IN CONTROL ROOM											150	
	5-TON DERRAIL											500	
FACILITY UNDERGROUND TRANSFER CELL - EQUIPPING													
CONCEPTUAL SHEET NO. 65													

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DETAIL ESTIMATE SHEET				WIPP				ACTION PRICE		BY	DATE	CHECKED	DATE
								UNIT PRICES					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT PRICE / DAY	TOTAL HRS	RATE PER HRS	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	SHAFT												367,863
979 FT	SETS TO TOP OF SALT	77,102	LBS	92	11,140	8.91	99,436	0.26	20,097				
1201 FT	TO SHAFT BOTTOM	223,720	LBS	92	11,080	8.91	98,546	0.27	60,409				
	GUIDES, STEEL							0.26	85,258				
	TO TOP OF SALT	179,068	LBS					0.26	40,571				
	TO SHAFT BOTTOM	156,093	LBS										
	O'HEAD			2.25	1189	3.18	3,781						
	CAGE & CWT. INSTALLATION												6919
	CREW = FUGMAN, 9 MECHANICS & HOISTMAN	24	HRS	6	198	8.92	1,723			50.25	1,206		
	CREEPY PRESS	24	HRS										
	LANDING CHAIRS	2	PAIR		240	8.91	2,138						10,050
	HYDRAULICS, DRIVE & COMP.	2	LOTS					3,699	7,298				
	STEEL	2398	LBS					0.26	624				
TOTAL TRU SHAFT - EQUIPPING													
ESTIMATE CONCEPTUAL													
SHEET NO. 69 OF													
PRINCIPAL SUB ACCT. NO.													

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE	
				PRICE										
				ESTIMATOR										
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR			MATERIAL			SUBCONTRACTS			TOTAL COST	
				LABOR UNIT HRS/DAY	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT			
	HOIST													80.283
	COEN, FOREMAN	269	Hrs	1	269	14.72	3,986							
	SMALL WEIGHTS	269	Hrs	5	1320	13.19	17,395							
	HOIST MANU. ERECTION EMB.	10	DAYS							200		3,250		
	SHIM BARS AND STAKE		LOT							3,000				
	GREASE AND OIL		LOT							800				
	CLEANING MATERIALS		LOT							300				
	SLINGS		LOT							500				
	GRUNT		LOT							200				
	PAINY AND SUPPLIES		LOT											
	CHEERY PICKER, 25 TON	24	Hrs								55.00	1,320		
	AIR AND SMALL TOOLS		LOT										360	
	SPECIAL WIREMAN'S & SPOOLS		LOT										300	
	ENGINEERING	16	Hrs								35.10	560		
	ELECTRICAL FOREMAN	80	Hrs	1	80	14.71	1,182							
	6 ELECTRICIANS	80	Hrs	6	360	14.26	6,095							
	MATERIALS		LOT							40,135				
	LINER COATING	58,823	SF								1.00	58,823		58,823
FACILITY TRU SHAFY ~ EQUIPPING														
TYPE OF ESTIMATE CONCEPTUAL														
SHEET NO. 70 OF														
PRINCIPAL SUB ACCT. NO.														

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE
								PRICED					
								EXTRADITIONS					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT MO/DAY	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	FLOORS												20,380
	INSTALLATION CREW = LEADMAN, OPERATOR, 2 LABORERS, WELDER, CARP & TOLMAN	32	Hrs	9	288	7.75	2,232						
	HEAVY DUTY LANDING MAT, FIBERGLASS TYPE	19,500	SF					6.00	87,000				
	PERMIT								760				
	POLE LIFTS	16	Hrs							68.00		912	
	UNLOADING DOLLS												42,595
	INSTALLATION CREW = LEADMAN, 3 MEN WELDER, 2 CARPENTERS, WELDER, CARP & TOLMAN	32	Hrs	9	288	7.97	2,296						
	ROLLER CANNOTYRE												
	10' SECT. 2 1/2" ROLLERS ON 3" GRS	16	SECT					335.35	8,566				
	GUIDE RAILS, 6" x 13"	20	LF					5.76	961				
	FABRICATION		LOT									600	
	BOLTS		LOT						185				
	PERMIT								200				
	WELDING MACHINE	32	Hrs							1.75		56	
	DRILL, ELECTRIC	32	Hrs							7.20		231	
	STRUCTURES												1,911
	LUNCH TABLE AND BENCHES	8	Hrs	2	16	2.00	128		300				
	CONTROLLER'S OFFICE CREMENTEY	24	Hrs	1	24	13.78	329		500				
	LAVATORY AND TOILET INSTALLATION	16	Hrs	3	96	12.73	639						
FACILITY: TRU SHANT LEVEL STATION - EQUIPPING													
TYPE OF ESTIMATE: CONCEPTUAL													
SHEET NO. 71 OF													
PRINCIPAL SUB ACCT. NO.													

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE
				LABOR		MATERIAL		SUBCONTRACTS		TOTAL COST			
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR UNIT 15/DAY	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	ENCLOSURE												14,534
5.1-390-81	COLUMNS, W12x58, 160 FEET	4.7	TONS					941	9,923				
	BRIMS W12x58, 59.170 FEET	2.1	TONS					941	1,976				
	STEEL PLATE GUARD, 18"x1' SCHE3	2.6	TONS					929	255				
5.1-395-127	DOES, BOLL-UP, 12"x16"	2	EA					1140	2,280				
	NOTRE OPERATION	2	EA					528	1,056				
	INSTALLATION	2A	HRS	2	70	12.85	915						
	SCREEN, LINE	1000	SP					0.30	300				
	WELDING MATERIALS	2A	HRS					9.89	116				
	SHAFT CREW SUPPORT			42	336	8.91	2,999						
	OVERHEAD			2.5	36	6.36	229						
FACILITY <u>TRU SHAFT LEVEL STATION - EQUIPPING</u>													
TYPE OF ESTIMATE <u>CONCEPTUAL</u> SHEET NO. <u>72</u> OF <u>72</u> PROJECTAL SUB ACCT. NO.													

[illegible]

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE
								PRICED					
								EXTENSIONS					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT HS/MY	TOTAL MHRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	SHOP AND WAREHOUSE AREA												3,997
10.1-30-158	PARTS BINS, WAREHOUSE	174	LF	2	98	7.98	782	89.33	14,674				
	PARTS BINS, ELEC. SHOP & CONV.	51	LF	2	47	7.98	216	89.33	4,391				
	WORKMAN BENCHES AND TABLE			2	16	7.98	128		700				
	ELECTRICIANS WORK BENCH			2	16	7.98	128		500				
	CANNISTER PARTS			2	16	7.98	128		300				
	BELT STORAGE			2	12	7.98	96		450				
	WINGER PARTS STORAGE			2	16	7.98	128		700				
	VENT. PIPE REPAIR AND SUPPLIES			2	32	7.98	256		500				
	CABLE AND WAREHOUSE FURNISHINGS		LOT						4,500				
	WORK BENCHES AND TOOL CRANES		LOT						4,000				
	ELECT. 25-TON BENCH CRANE - FURNISHING, 1 STEEL BENCH, 1000 LB. W.C. 1000 LB. TONNAGE CRANE & CRANES	16	ACS	9	179	8.08	1,279						
	SUPPLIES		LOT						200				
	EQUIPMENT ARE	16	ACS							10.00	160		
	CRANE AND CRANE SECTION												1,500
	MISC. EQUIPMENT & SUPPLIES		LOT						1,500				
	AMBULANCE & FIRE TRUCK STATION												1,511
	WORK BENCH & STORAGE CABINET		LOT	4	64	7.98	511		1,000				
	SUPPLIES		LOT						3,000				
FACILITY <u>UNDESIGNED SUPPORT FACILITIES - EQUIPPING</u>													
TYPE OF ESTIMATE <u>CONCEPTUAL</u> JOB NO. _____ SHEET NO. <u>74</u> OF _____ PRINCIPAL SUB ACCT. NO. _____													

SUMMARY ESTIMATE SHEET		WEEK		ACTION		BY	DATE	APPROVED	DATE
				PRICED					
				EXTENSIONS					
NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL	SUB-CONTRACT				TOTAL COST
	SHAFT								799,936
	SETS AND GUIDES		322,483	286,117					
	SCIPS, CASE AND COUNTERWEIGHT	192	1,617		1,760				
	LANDING CHAINS - 3 PAIR REQUIRED	360	3,248	11,867					
	PRODUCTMAN HOIST	2560	35,043	62,390	6,590				
	SERVILE HOIST	2144	29,258	45,185	5,890				
	HEADFRAME ERECTION	288	4,930		8,698				
	PUMP STATION	112	980	100					1,098
	TELL LEVEL STATION								34,376
	CRANE ERECTION	312	2,750	900	320				
	ENCLOSURE	576	5,821	24,585					
	EN LEVEL STATION								32,737
	CRANE ERECTION	168	1,471	70	160				
	ENCLOSURE	576	5,821	24,585					
	SALT LOADING FACILITY								27,006
	LOADING PIGGY	1240	10,792						
	TENSER GALLERY	239	2,078	19	298				
	EN SURGE BIN	872	7,416	3,589	1,598				
	TELL-EN NINE TENSER ENDS	124	1,074	11	293				
	SURFACE SALT STORAGE FACILITY				337,696				337,696
	TOTAL	9763	488,702	379,980	363,149				1,177,849
PROJECT	MAN AND MATERIAL SHAFT EQUIPPING			LOCATION					
REVENUE				AREA					
DATE	CONCEPTUAL			S.F. COST					
DATE				JOB NO. 750					
DATE				JOB ITEM NO.					

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE	
								PRINTED						
								PAGE NO.						
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST		
				LABOR UNIT PER DAY	TOTAL HOURS	RATE PER HOUR	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT			
	SHAFT												528	600
200 FT	SETS TO TOP OF SALT	122,990	LBS	92	14,319	8.91	127,358	0.26	31,978					
71 FT	TO PUMP STATION	2530	LBS	92	1080	8.91	9,623	0.26	1,958					
1122 FT	TO TEL LEVEL	148,841	LBS	92	11,160	8.91	99,936	0.26	36,611					
578 FT	TO RH LEVEL	7,535	LBS	92	5760	8.91	57,322	0.26	18,599					
78 FT	TO LOADING PILEET	2785	LBS	92	960	8.91	8,559	0.26	2,289					
97 FT	TO SHAFT BOTTOM	3820	LBS	92	290	8.91	2,138	0.26	1,305					
	GUIDES, WOOD 6"x8"x20'	11,490	LF					0.20	50,336					
	GUIDES, STEEL 5T 6"x8"x20'													
	TO TOP OF SALT	121,667	LBS					0.26	26,398					
	TO PUMP STATION	6990	LBS					0.26	1,687					
	TO TEL LEVEL	144,813	LBS					0.26	38,371					
	TO RH LEVEL	2789	LBS					0.26	703					
	TO LOADING PILEET	6990	LBS					0.26	1,687					
	TO SHAFT BOTTOM	8653	LBS					0.26	2,250					
	ONHEAD			2.65	1903	3.10	6,052							
	SCIPS, CASE & CONT. INSTALLATION												3	577
	CORN = FOREMAN, 3 MECHANICS	32	Hrs	6	192	8.92	1,617							
	6 HOISTMAN	32	Hrs							55.00	1,760			
	CREEPY PEEPER													
	LANDING CHAIRS	3	PAIR		360	8.91	3,208							15,075
	HYDRAULICS, DRIVE & COMP.	3	PAIR					3698	10,932					
	STEEL	3597	LBS					0.26	935					
MAN AND MATERIAL SHAFT ~ EQUIPPING														
CONCEPTUAL														
SHEET NO. 76 OF														
SUB ACCT. NO.														

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE			
				PRICED												
				EXTENSIONS												
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL			SUBCONTRACTS			TOTAL COST		
				LABOR UNIT 60/DAY	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT					
	PRODUCTION HOIST															109 023
	LEAD FOREMAN	296	Hrs	1	296	14.72	4358									
	5 MILLWRIGHTS	296	Hrs	5	1480	13.14	19447									
	HOIST MANUA ERECTION ENDR	10	DAYS								32.50		3350			
	SHIM BARS AND STOCK		LOT								200					
	GEARSS AND OIL		LOT								3 000					
	CLEANING MATERIALS		LOT								800					
	SCNDS		LOT								1 000					
	CUBING AND BLOCCING		LOT								500					
	GROUT		LOT								500					
	PAINT AND SUPPLIES		LOT								200					
	CREEPY PICKER, 25 TON	69	Hrs									55.00		1 320		
	AIR AND SMALL TOOLS		LOT											360		
	SPECIAL NEEDLES & SOLETS		LOT											1 000		
	ENGINEERING	16	Hrs									35.00		560		
	ELECTICAL FOREMAN	112	Hrs	1	112	14.77	1655									
	6 ELECTRICIANS	112	Hrs	6	672	14.26	9593									
	MATERIALS		LOT								54 190					

FACILITY

MAN AND MATERIAL SHAFT ~ EQUIPPING

TYPE OF ESTIMATE

CONCEPTUAL

SUB NO.

SHEET NO.

77 OF

PRINCIPAL SUB ACCT. NO.

DETAIL ESTIMATE SHEET				WIPP						ACTION	BY	DATE	CHECKED	DATE		
										PRICED						
										EXTENSIONS						
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR						MATERIAL		SUBCONTRACTS		TOTAL COST		
				LABOR UNIT HR./DAY	TOTAL HRS	RATE HR.	AMOUNT		COST UNIT	AMOUNT	COST UNIT	AMOUNT				
	SERVICE HOIST		Hrs	1	269	14.72	3886								80	283
	CREW, ROPEMAN	269	Hrs	5	1320	13.19	17395									
	5 MILLWRIGHTS	269	Hrs													
	HOIST MANUF ERECTION ENGR	10	DAYS									33.50		3350		
	SWAY BARS AND STOLE		LOT									200				
	GREASE AND OIL		LOT									3000				
	CLEANING MATERIALS		LOT									800				
	SLINGS		LOT									300				
	GRUNT		LOT									500				
	PAINT AND SUPPLIES		LOT									200				
	CREEPY PILEER, 25 TON	24	Hrs									35.00		1320		
	AIR AND SMALL TOOLS		LOT											860		
	SPECIAL WRENCHES & SOCKETS		LOT											300		
	ENGINEERING	16	Hrs									35.00		560		
	ELECTRICAL ROPEMAN	80	Hrs	1	80	14.77	1182									
	6 ELECTRICIANS	80	Hrs	6	480	14.24	6895									
	MATERIALS		LOT									40135				
	HEADFRAME ERECTION															13578
	ROPEMAN	32	Hrs	1	32	17.56	562									
	8 STEEL WHEELS	32	Hrs	8	256	17.06	4368									
	CREEPY PILEER	32	Hrs									58.25		1608		
	4 TRUCK CARRIES	32	Hrs									220		7090		
FACILITY	MAN AND MATERIAL SHUTT ~ EQUIPPING															
<div style="display: flex; justify-content: space-between;"> USEFUL FOR CONCEPTUAL PROJECT NO. 78-01 PRINCIPAL SUB ACCT. NO. </div>																

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE
								PAID					
								EXTENSIONS					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR			MATERIAL		SUBCONTRACTS		TOTAL COST		
				LABOR UNIT HOUR/DAY	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	PUMP STATION		LOT	42	112	8.91	998		100				1,098
	TEU LEVEL STATION												
	CRANE ERECTION												3,970
	25-TON BRIDGE		LOT	9	144	8.88	1,279		200				
	TROLLEY HOIST		LOT		24	8.00	192		500				
	25-TON BRIDGE CRANE REMOVAL		LOT	9	144	8.88	1,279		200				
	EQUIPMENT USE	32	HRS						14.05		320		
	ENCLOSURE												30,986
5.1-290-01	COLUMNS, W/C-SB, 28' L, 11' DIA	9.3	TONS					991	8,751				
	BEAMS, W/C-SB, 18" x 200" DEEP	8.7	TONS					991	8,187				
	STEEL PLATE GUARD, 24" x 1/2" x 25' x 3'	0.75	TONS					909	318				
8.1-605-127	COILS, COIL-UP, 12' x 30'	360	SF					14.30	5,148				
	ANTHE OPERATION		LOT						528				
	INSTALLATION	40	HRS	2	80	19.05	1,524						
	GATE, 6' x 12'	12	LF					22.00	264				
	VERTICAL GATE	2	EA					268	528				
	SCREEN, 1/2"	2352	SF					0.30	706				
	WELDING MATERIALS	32	HRS					4.89	155				
	SHAFT COIN SUPPORT			42	448	8.91	3,992						
	O'HEAD			9.5	90	6.36	305						
	EN LEVEL STATION												
	CRANE ERECTION												2,331
	25-TON BRIDGE		LOT	9	144	8.88	1,279		200				
	TROLLEY HOIST		LOT		24	8.00	192		500				
	EQUIPMENT USE	16	HRS						10.00		160		
	ENCLOSURE - SAME AS TEU LEVEL STA				576		5,821		29,585				30,986
MAN AND MATERIAL SHAF STATIONS - EQUIPPING													
TYPE OF CONTRACT: CONCEPTUAL SHEET NO. 79 OF PRINCIPAL SUB ACCT. NO.													

DETAIL ESTIMATE SHEET				MIPP				ACTION		BY	DATE	CHECKED	DATE
								PRICE					
								EXTENSION					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT HRS/PAY	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	LOADING POCKET												
	SELF LOADING EQUIPMENT			42	1120	8.91	9979						10742
	O'HEAD			9.5	120	6.36	763						
	TRANSFER GALLERY												2387
	CONVEYOR INSTALLATION	16	NES	42	128	8.91	1140		11	11.79		129	
	DISCHARGE CHUTE	16	NES	42	64	8.91	570		6	6.83		109	
	GRIZLEY			42	24	8.91	214		2				
	O'HEAD			9.5	23	6.36	196						
	PH SURGE BIN												12549
	MONORAIL	60	LF	42	12	8.91	107	12.00		720			
	TROLLEY	1	EA							300			
	NOIST	1	EA							6500			
	DISCHARGE CHUTE	16	NES	42	64	8.91	570		6	6.83		109	
	GRIZLEY			42	24	8.91	214		2				
	DEEP CHUTE	48	NES	42	192	8.91	1571		16	6.83		326	
	FEEDERS	24	NES	42	96	8.91	855		9	11.79		283	
	CHUTES WITH SKIRT BOARDS	24	NES	42	96	8.91	855		9	6.83		149	
	BOLT TIGHTEN AND BARS	24	NES	42	96	8.91	855		9	11.79		283	
	CONVEYOR INSTALLATION	32	NES	42	256	8.91	2281		23	11.79		377	
	O'HEAD			4.5	84	6.36	534						
	TCU- PH MIXE TRANSFER CHUTE												1328
	CONVEYOR INSTALLATION	8	NES	42	64	8.91	570		6	11.79		94	
	FEEDER	8	NES	42	32	8.91	285		3	11.79		94	
	CHUTE WITH SKIRT BOARDS	8	NES	42	16	8.91	143		2	6.83		55	
	O'HEAD			4.5	12	6.36	76						

FACILITY: MAN AND MATERIAL SHAFt SKT LOADING FACILITY - EQUIPPING
 TYPE OF ESTIMATE: CONCEPTUAL
 SHEET NO. 80 OF 80
 PRINCIPAL SUB ACCT. NO.

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE
								PRICED					
								EXTENSIONS					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT HRS/DAY	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	SHAFT LINER COATING	92,839	SF							1.00	92,839		92,839
	TRU LEVEL STATION ENCLOSURE												529
	POSTS, 3-INCH DIA X 10 FT LONG	3	EA					50.00	150				
	ROOF BOLTS	6	EA					5.00	30				
	FENCING,	140	SF					4.30	602				
	INSTALLATION			12	12	8.91	285						
	O'HEAD			9.5	35	6.36	223						
	EN LEVEL STATION ENCLOSURE ~ IS IDENTICAL TO TRU LEVEL STA				35.5		307		322				529

FACILITY: **TRU-EN VENTILATION SHAFT ~ EQUIPPING**

TYPE OF CONTRACT: **CONCEPTUAL**

JOB NO.:

SHEET NO. **82** OF

PRINCIPAL SUB ACCT. NO.:

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE	
				PRICED										
				ESTERSON										
ACCT NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST		
				LAUNCH UNIT 08/20/01	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT			
	SHAFT													967 857
979 FT	SATS TO TOP OF SALT	111,328	LBS	92	9600	8.91	85,536	0.26	28,995					
1192 FT	TO TEL LEVEL	990,221	LBS	92	19,668	8.91	130,692	0.26	68,958					
339 FT	TO CH LEVEL	162,963	LBS	92	7066	8.91	62,682	0.26	42,370					
	GUIDES, WIND 6" x 8" x 20'	3560	LF					9.40	29,069					
	O'HEAD			2.25	1876	3.18	5,330							
	EMERGENCY CAGE INSTALLATION													886
	CREW - FOREMAN, 9 MECHANICS													
	8 HOSTMAN	8	HRS	6	90	8.92	909							
	CREEPY PICKER	8	HRS							50.25		702		
	EMERGENCY HOST INSTALLATION													65,026
	CREW, FOREMAN	190	HRS	1	190	14.72	6,915							
	5 MILLWRIGHTS	190	HRS	5	990	13.44	13,009							
	EXPENDABLE SUPPLIES		LOT						3,700					
	CREEPY PICKER, 25 TON	24	HRS							53.00		1,320		
	SMALL TOOLS		LOT										360	
	ENGINEERING	16	HRS							35.10		560		
	ELECTRICAL FOREMAN	80	HRS	1	80	14.77	1,182							
	6 ELECTRICIANS	80	HRS	6	480	14.26	6,845							
	MATERIALS		LOT						35,135					

FACILITY: CONSTRUCTION VENTILATION SHAFT - EQUIPPING

TYPE OF ESTIMATE: CONCEPTUAL

JOB NO.

SHEET NO. 84 OF

PRINCIPAL SUB ACCT. NO.

OK

DETAIL ESTIMATE SHEET				WPPP				ACTION PRICED EXTENSIONS		BY	DATE	CHECKED	DATE
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR COST \$/DAY	TOTAL HOURS	RATE \$/HR.	AMOUNT	MATERIAL COST UNIT	AMOUNT	SUBCONTRACTS COST UNIT	AMOUNT	TOTAL COST	
	HEADFRAMES SECTION												4,903
	FOREMAN	29	HRS	1	29	17.56	507						
	8 STEEL UNDESSES	29	HRS	8	192	17.86	3,428						
	CHECK PRICER	29	HRS							30.15	1,206		
	HOIST HOIST INSTALLATION												52,105
	BUILDING, 20x30x11 H MAX	6000	SF							3.97	23,820		
	INSULATION	6000	SF							0.59	3,540		
	ELECT. UTILITIES		JOB								5,000		
	FLOOR	112	CY							66.82	7,484		
	HOIST FOUNDATION												
	SITE PREP, 63 CY	8	HRS	4	32	12.90	413			78.625	589		
	FILLING	412	SFCA	5	60	12.17	730	0.90	371				
	SUPPORT FOREMAN			1	40	15.60	624						
	CEBAR	1.5	TMS	4	32	14.75	472	429	636				
	SETTING FOUNDN BOLTS		LOT	5	40	13.17	527		9,200				
	CONCRETE	23	CY	6	24	12.00	288	23.00	529				
	VIBRATOR	1 HRS 1	PAY							16	16		
	STRIPPING & REINFORCING			6	40	12.00	480						
	PRIMARY VENT. SYS. DUCTING												35,700
	DUCTWORK	14,500	LBS		1224	14.66	17,939		6,923				
	FAN BASES	5000	LBS		30	17.20	516		1,430				
	PILES	400	SF		68	17.14	1,167		5,058				
	FAN MAKEUP		JOB		16	17.62	282		1,500				
FACILITY: CONSTRUCTION VENTILATION SHAFT ~ EQUIPPING													
TYPE OF ESTIMATE: CONCEPTUAL JOB NO. _____ DATE: NO. 85 OF _____ PRINCIPAL SUB ACCT. NO. _____													

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE
								PRINTED					
								CATERING					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT HRS/DAY	TOTAL HRS	RATE HR.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	TRU LOVEL STATION ENCLOSURE												3,310
	COLUMNS, 48x16x10 FEET, 60 LF	12	Tons					124	509				
	FLANGE BEAMS, 48x16x5 FT, 25 LF												
	CROWN, 57 LF												
	GRATING	96	SF					7.30	701				
	SCREEN, LINE	100	SF					0.30	30				
	GATE	1	EA						220				
	BOLT BOLTS AND BENTY BENT	10	EA					10.00	100				
	WELDING SUPPLIES	10	Hrs					9.89	98				
	INSTALLATION			42	148	8.91	1,197						
	O'HEAD			2.5	18	6.36	115						
	EN LOVEL STATION ENCLOSURE												2,391
	COLUMNS, 48x16x10 FEET, 90 LF	12	Tons					124	509				
	FLANGE BEAMS, 48x16, 76 LF												
	CROWN, 50 LF												
	GRATING	48	SF					7.30	350				
	SCREEN, LINE	100	SF					0.30	30				
	GATE	1	EA						220				
	BOLT BOLTS AND BENTY BENT	10	EA					10.00	100				
	WELDING SUPPLIES	10	Hrs					9.89	98				
	INSTALLATION			42	148	8.91	998						
	O'HEAD			2.5	12	6.36	76						
FACILITY: CONSTRUCTION VENTILATION SHAFT STATIONS - EQUIPPING													
TYPE OF ESTIMATE: CONCEPTUAL JOB NO. SHEET NO. 06 OF PRINCIPAL SUB ACCT. NO.													

FACILITY		DATE	LOCATION	AREA	DATE	DATE
ELECTRIC		1977				
INSTALLATION						
SETS AND GUNDS	50,970	64,120	183,797			594,797
CAGE	78	404		402		
TEMPORARY HOIST	1798	23,851	38,885	2,290		
TEMPORARY HEADPHONE	216	3,637		1,206		
HOIST HOUSE	276	3,670	10,966	37,749		
REPAIRS						57,378
SETS AND GUNDS	5016	71,141	1,229			
CAGE	88	75				
TEMPORARY HOIST	152	2,235		3,186		
TEMPORARY HEADPHONE	76	1,686		2,124		
HOIST HOUSE	120	1,992				
TOTAL		40,730	366,741	234,827	46,607	698,175
ELECTRIC MECHANICS EXP. PROB. EQUIPPING OF TRU-PH VENT. SHED						
CONCEPTUAL						
87						

DETAIL ESTIMATE SHEET				WIPP				ACTION	BY	DATE	CHECKED	DATE
								PRICED				
								EXTENSIBLE				
ACT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST
				LABOR UNIT #/DAY	TOTAL HOURS	RATE NO.	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT	
	INSTALLATION											
979 FT	SETS TO TOP OF SALT	111,328	CS	42	9600	0.91	85,536	0.26	28,995			767,957
1198 FT	TO TELL LEVEL	399,661	CS	42	14,648	0.91	130,692	0.26	88,458			
560 FT	TO EH LEVEL	166,963	CS	42	7026	0.91	62,602	0.26	42,370			
	GUIDES, WOOD	9560	LF					4.90	47,029			
	O'HEAD			225	1676	3.18	5330					
	CAGE INSTALLATION											806
	CEG + ROOFMAN, 2 BREWMAKERS											
	& ASSISTMAN	8	HES	6	78	0.92	704			50.25	412	
	CHECKY PAPER	8	HES									
	TEMPERARY TRUST INSTALLATION											45,026
	CEG, FACEMAN	198	HES	1	198	14.72	2,915					
	5 MILLWRIGHTS	198	HES	5	990	13.14	13,009					
	EXPENDABLE SUPPLIES		COT						3,700			
	CHECKY PAPER, 65 TON	24	HES							55.00	1,320	
	SMALL TOOLS		COT								560	
	ENGINEERING	14	HES							35.00	560	
	ELECTICAL PERSON	80	HES	1	80	14.77	1,182					
	& ELECTRICIANS	80	HES	6	480	14.76	6,845					
	MATERIALS		COT						35,135			
	TEMPERARY HEADFRAME ERECTION											
	FACEMAN	28	HES	1	28	17.56	491					
	& STEEL WORKERS	28	HES	8	192	17.06	3,276					
	CHECKY PAPER	28	HES							50.25	1,206	
FACILITY: ENG MECHANICS EXP PERG. EQUIPMENT OF TELL EH VENT. SHAF												
DATE OF ESTIMATE: CONCEPTUAL												
SHEET NO. 88 OF												
PRINCIPAL SUB ACCT. NO.												

142

DETAIL ESTIMATE SHEET				WIPP				ACTION		BY	DATE	CHECKED	DATE
								PREP'D					
								EXTENDED					
ACCT. NO.	DESCRIPTION	QUANTITY	UNIT	LABOR				MATERIAL		SUBCONTRACTS		TOTAL COST	
				LABOR UNIT PER DAY	TOTAL HRS	RATE PER HRS	AMOUNT	COST UNIT	AMOUNT	COST UNIT	AMOUNT		
	REMOVAL												
	SETS AND GUIDES	19	DAYS	83	506	0.80	404.80						404.80
	CUTTING SUPPLIES	612.512	LBS					0.002	1.229				1.229
	CAGE	8	HRS	11	88	2.80	246.40						246.40
	TEMPORARY HOIST												5.971
	CREW, FOREMAN	8	HRS	1	8	17.56	140.48						140.48
	5 STEEL WORKERS	8	HRS	5	40	17.06	682.40						682.40
	2 MECHANICS	16	HRS	2	32	19.14	612.48						612.48
	CRANE	24	HRS							110		2,690	2,690
	TOWER	3	DAYS							182		596	596
	ELECTRICAL FOREMAN	24	HRS	1	24	14.77	354.48						354.48
	2 ELECTRICIANS	24	HRS	2	48	14.26	684.48						684.48
	TEMPORARY HANDPICK												3,770
	FOREMAN	16	HRS	1	16	17.56	280.96						280.96
	5 STEEL WORKERS	16	HRS	5	80	17.06	1,364.80						1,364.80
	CRANE	16	HRS							110		1,760	1,760
	TOWER	2	DAYS							182		596	596
	HOIST HOUSE												1,992
	CREW, FOREMAN	16	HRS	1	16	17.56	280.96						280.96
	5 STEEL WORKERS	16	HRS	5	80	17.06	1,364.80						1,364.80
	ELECTRICAL FOREMAN	8	HRS	1	8	14.77	118.16						118.16
	2 ELECTRICIANS	8	HRS	2	16	14.26	228.16						228.16
FACILITY: ROCK MECHANICS EXP. PROG. EQUIPPING OF TEL-PH VENT. SHAFT													
TYPE OF ESTIMATE: CONCEPTUAL JOB NO. SHEET NO. 90 OF PRINCIPAL SUB ACCT. NO.													

462

SF 63-0-AC(6-78)

SYSTEM RECAP SHEET

PREPARED BY:		PROJECT NUMBER:	LOCATION:	SQ. FT.	PAGE NO. <u>91</u> OF				
APPROVED BY:		PROJECT DESCRIPTION:			CLASS OF ESTIMATE				
DATE:					☒ CONCEPTUAL ☐ DESIGN CRITERIA ☐ TITLE I ☐ BID OR TITLE II				
COLUMN LETTERS			T	U	V	W	X	Y	Z
ITEM NO.	SYSTEM DESCRIPTION	FROM SHEET NO.	MATERIAL			LABOR			TOTAL SYSTEM COST
			BARE COST	MULTIPLIER	LOADED COST	BARE COST	MULTIPLIER	LOADED COST	
1	GENERO BUS FROM TRU LEVEL DISCONNECTS								
	TO RH LEVEL DISCONNECTS		9,980	0.967	9,816	2,990	0.81	2,017	6,833
2	POWER FEEDER F7 FROM TRU LEVEL DIS-								
	CONNECTS TO RH LEVEL DISCONNECTS		51,500		49,601	35,500		28,755	78,556
3	POWER FEEDER F8 FROM TRU LEVEL DIS-								
	CONNECTS TO RH LEVEL DISCONNECTS		39,320		38,022	25,120		20,397	58,369
4	POWER FEEDER F9 FROM TRU LEVEL DIS-								
	CONNECTS TO RH LEVEL DISCONNECTS		39,320		38,022	25,120		20,397	58,369
5	POWER FEEDER F10 RH LEVEL DISCONNECTS								
	TO CONVEYOR LOAD AND BORING								
	MACHINE POWER CENTERS		110,170		106,539	95,130		77,055	183,589
6	POWER FEEDER F12 RH LEVEL DISCONNECTS								
	TO CONVEYOR LOAD AND BORING								
	MACHINE POWER CENTERS		77,920		75,399	52,230		42,306	117,655
7	POWER FEEDER F13 RH LEVEL DISCONNECTS								
	TO CONVEYOR LOAD AND BORING								
	MACHINE POWER CENTERS		155,000		149,885	142,420		115,368	265,253
8	POWER FEEDER F14 & F14-A RH LEVEL DISCON-								
	NECTS TO SHOP & UNDER TRANSFER CELL		28,230		27,298	20,410		16,532	43,830
	LOAD CENTERS		TOTAL JOB COSTS						

EFFECTIVE DATE FOR THIS ESTIMATE _____

SYSTEM RECAP SHEET

PREPARED BY:		PROJECT NUMBER:	LOCATION:	SQ. FT.	PAGE NO. <u>22</u> OF				
APPROVED BY:		PROJECT DESCRIPTION:			CLASS OF ESTIMATE				
DATE:					☒ CONCEPTUAL ☐ DESIGN CRITERIA ☐ TITLE I ☐ BID OR TITLE II				
COLUMN LETTERS			T	U	V	W	X	Y	Z
ITEM NO.	SYSTEM DESCRIPTION	FROM SHEET NO.	MATERIAL			LABOR			TOTAL SYSTEM COST
			BARE COST	MULTIPLIER	LOADED COST	BARE COST	MULTIPLIER	LOADED COST	
9	POWER FEEDER FIS & FIS-A 24 LEVEL DISCON- NEETS TO EXPERIMENTAL AREA LOAD CENTER		158,720	0.967	153,982	39,360	0.81	31,882	185,369
10	LOAD CENTERS AND BORING MACHINE POWER CENTERS		379,000		366,993	19,000		11,340	377,833
11	24 LEVEL BUS-TIE		8,900		8,606	1,080		875	9,981
12	COMPUTER AREA, UPS AND AIR CONDITIONING SYS.		62,900		60,591	52,220		42,298	102,639
13	24 LEVEL ALTERNATE POWER		41,200		39,890	35,060		28,399	68,239
14	BORING MACHINE ELECTRICAL MATERIALS		28,990		27,985	10,920		8,990	36,975
15	LIGHTING: COMPUTER, UPS, TRANSFER CELL		9,100		8,800	11,200		9,072	17,872
16	LIGHTING: CONSTRUCTION AND WASTE HAULAGE		11,190		10,821	16,150		13,082	23,903
17	LIGHTING: SHOP AREA		7,240		7,001	11,100		8,991	15,992
18	COMMUNICATIONS AND ALARMS		5,100		4,932	5,100		4,131	9,063
19	COMMUNICATION & ALARM CABLE DISTRIBUTION		29,850		28,865	29,850		29,179	53,044
20	TELEPHONES		11,590		11,208	5,800		4,698	15,906
21	CAGE-HOIST COMMUNICATIONS		13,990		13,480	13,990		11,291	29,771
22	SMOKE DETECTORS AND OXYGEN SENSORS		22,910		22,154	22,910		18,557	40,711
TOTAL JOB COSTS			1,253,735			539,962			1,793,697

EFFECTIVE DATE FOR THIS ESTIMATE _____

BAC

324

SF 6310-AC(6-75)

SYSTEM RECAP SHEET

PREPARED BY:	PROJECT NUMBER:	LOCATION:	SQ. FT.	PAGE NO. <u>115</u>	OF				
APPROVED BY:	PROJECT DESCRIPTION:			CLASS OF ESTIMATE					
DATE:				☒ CONCEPTUAL ☐ DESIGN CRITERIA					
			☐ TITLE I ☐ BID OR TITLE II						
COLUMN LETTERS			T	U	V	W	X	Y	Z
ITEM NO.	SYSTEM DESCRIPTION	FROM SHEET NO.	MATERIAL			LABOR			TOTAL SYSTEM COST
			BARE COST	MULTIPLIER	LOADED COST	BARE COST	MULTIPLIER	LOADED COST	
1	GROUND BUS TO TRU LEVEL DISCONNECTS		7,120	0.967	6,885	5,620	0.81	4,552	11,937
2	POWER FEEDER F2 TO TRU LEVEL DISCONNECTS		81,700		79,009	80,740		65,900	144,909
3	POWER FEEDER F3 TO TRU LEVEL DISCONNECTS		73,900		71,962	84,160		68,170	139,632
4	POWER FEEDER F4 TO TRU LEVEL DISCONNECTS		73,900		71,962	84,160		68,170	139,632
5	POWER FEEDER F5 TRU LEVEL BUS TO SHAP		18,780		18,160	11,230		9,096	27,256
6	POWER FEEDER F6 TRU LEVEL BUS TO CONVEYER LOAD & BORING MACH. POWER CENTERS		123,060		118,999	85,580		69,309	188,303
7	LOAD CENTERS AND BORING MACHINE POWER CENTERS		903,000		339,701	9,000		7,290	396,991
8	TRU LEVEL BUS - TIE CIRCUIT BREAKER		22,110		21,371	2,900		1,994	23,315
9	MISC. CABLES AND MATERIAL FOR BORING MACHINES		28,940		27,985	10,920		8,940	36,925
10	COMMUNICATIONS AND ALARMS CABLE FROM SURFACE TO TRU LEVEL TERMINAL BOX		12,590		12,175	12,590		10,198	22,373
11	COMMUNICATIONS AND ALARMS CABLE DISTRIBUTION		18,500		17,890	18,500		14,985	32,875
12	TELEPHONES		10,830		10,473	5,420		4,390	14,863
13	EMERGENCY PHONE: CAGE-HOIST		13,940		13,980	13,940		11,291	24,771
14	SMOKE DETECTORS AND OXYGEN SENSORS		12,800		12,378	12,800		10,368	22,746
15	CONSTRUCTION AND WASTE HAULAGE LIGHTING		49,970		48,321	69,720		56,473	104,794
TOTAL JOB COSTS					919,746			410,071	1,929,817

EFFECTIVE DATE FOR THIS ESTIMATE _____

SUMMARY ESTIMATE SHEET		WIPP		ACTION PRICE EXTENSION		BY	DATE	CHECKED	DATE
NO.	DESCRIPTION	HOURS	LABOR	MATERIAL	SUB- CONTRACT			TOTAL COST	
	SHAFT								878,180
	CONVEYANCE						156,800		
	MAN CASE					18,000			
	CONVETER CASE					20,000			
	SAFETY HARNESS					107,000			
	SAFETY CABLE, 6x29-1 1/2" DIA, 6000 FEET					19,000			
	ROPE GUIDES						68,765		
	CABLE, 1 1/2" DIA, 3500 FEET			31,565					
	ROPE GLANDS AND CLEVISSES, 9 REQUIRED			30,000					
	TENSION SPRING TAKE-UP, 2 REQUIRED			7,000					
	BOTTOM BEAMS			200					
	HOIST						627,980		
	HASTING CABLE, 1 3/4" DIA, 3500 FEET						22,925		
	CABLE CLAMPS, 20 REQUIRED						600		
	THIMBLE						1,000		
	UNDERGROUND TENSILE CELL								458,750
	TURNABLE						100,000		
	15-TON BRIDGE CRANE						115,000		
	2.5-TON BOOM-MOUNTED MANIPULATOR						150,000		
	STANDARD MANIPULATOR ~ 4 REQUIRED						80,000		
	DECONTAMINATION PRESSURE PUMP						1,000		
	SUMP PUMP						500		
	FANS ~ 2 REQUIRED						1,500		
	MOTOR-OPERATED DAMPERS ~ 11 REQUIRED						5,500		
	AIR CONDITIONING IN CONTROL ROOM						250		
	5-TON BOLLARD						2,500		
	MISC. TOOLS						2,500		
	TOTAL								1,336,930
FACILITY	RN SHAFT EQUIPMENT								
LOCATION	AREA S F COST								
STATUS	CONCEPTUAL								
DATE	1981								

SUMMARY ESTIMATE SHEET		WIPP		ACTION PRICED EXTENSIONS		BY	DATE	CHECKED	DATE
ACCT. NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL	SUB- CONTRACT			TOTAL COST	
	MINING								6 615 008
	HOADING UNITS ~ 3 REQUIRED							5 578 972	
	MAIN CONVEYORS, 42-INCH							690 236	
	DRUM MINER							339 400	
	COOF BALTER (IS ALSO USED ON THE TELL LEVEL)							15 900	
	MOBILE SUPPORT AND SERVICE								709 529
	2 1/2-YARD FRONT END LOADERS ~ 3 REQUIRED							212 160	
	FOUR WHEEL CORNER							92 000	
	TRUCKS ~ MACH, LUBS, ELECT, VENT ~ 9 REQUIRED							188 320	
	GENERAL PURPOSE TRACTOR							37 400	
	FLAT BED TRAILER							19 852	
	LOW BOY TRAILER							9 860	
	TANK TRAILERS ~ 12 REQUIRED							28 960	
	VISITING TRANSPORT							24 990	
	MINING CREW BUGGY ~ 3 REQUIRED							23 400	
	STANDARD CREW BUGGY ~ 9 REQUIRED							58 032	
	AMBULANCE							31 700	
	FUEL TANK							42 900	
	SHOP AND SUPPORT FACILITIES								289 091
	SHOP MACHINERY AND TOOLS							90 468	
	SAFETY EQUIPMENT							20 980	
	PORTABLE LUNCH EXHNS ~ 3 REQUIRED							7 500	
	SHOP CAVATREY							900	
	TOILETS ~ 5 REQUIRED							7 200	
	RADIANS CHECKING EQUIPMENT							7 500	
	PH LEVEL CHANGE PROPORTION OF SUB. EQUIP.							150 397	
	TOTAL								7 608 623
FACILITY PH LEVEL EQUIPMENT				LOCATION					
OWNER				AREA		S F 0001			
STAGE CONCEPTUAL				SHEET NO. 132 OF		SHEET NO.			

WIPP

ACTION
PRICED
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34

DATE

CHECKED

DATE _____

[illegible]

1901-11 TRU SHAFT EQUIPMENT

LOCATION

ALLA

SF 0037

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CONCEPTUAL

100-2-3, 1.

PAGE NO. **133**

510 1 FEB 56.

SUMMARY ESTIMATE SHEET		WIPP		ACTION PRICED EXTENSIONS		BY	DATE	CHECKED	DATE
ACCT. NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL	SUB- CONTRACT			TOTAL COST	
	MINING								4 020 909
	HEADING UNITS ~ 2 REQUIRED							3 716 698	
	MAIN CONVEYORS, 42" HIGH							309 256	
	MOBILE SUPPORT AND SERVICE								685 169
	3/4-YARD FRONT END LOADERS ~ 2 REQUIRED							191 440	
	PORT LIFT CRANE							25 000	
	TRUCKS ~ MISC, CURB, ELECT, VENT ~ 4 REQUIRED							138 320	
	GENERAL PURPOSE TRACTOR							37 400	
	FLAT BED TRAILER							14 852	
	LOW BOY TRAILER							9 860	
	TANK TRAILERS ~ 14 REQUIRED							29 120	
	VISITORS TRANSPORT							29 440	
	MINING CREW BUGGY ~ 2 REQUIRED							15 600	
	STANDARD CREW BUGGY ~ 9 REQUIRED							58 032	
	AMBULANCE							31 700	
	FIRE TRUCK							22 400	
	SHOP AND SUPPORT FACILITIES								193 869
	SHOP MACHINERY AND TOOLS							90 169	
	SAFETY EQUIPMENT							20 400	
	PORTABLE LUNCH EXCHG ~ 2 REQUIRED							5 000	
	SHOP LAVATORY							900	
	TOILETS ~ 4 REQUIRED							5 740	
	RADIATION CHECKING EQUIPMENT							7 500	
	TRUCK LEVEL TOWAGE PROPORTION OF SHOP EQUIP							69 065	
	TOTAL								
FACILITY	TRUCK LEVEL EQUIPMENT		LOCATION						
OWNER			AREA		S F COST				
TYPE OF ESTIMATE	CONCEPTUAL		HEET NO. 154		BID ITEM NO.				

14E

COMPANY QUOTE SHEET		WEEK	ACTION	BY	DATE	CHECKED	DATE
DESCRIPTION		HOURS	LABOR	MATERIAL	SUB-CONTRACT		TOTAL COST
WASTE HANDLING							419,094
PRIME MOVER FOR WASTE HANDLING TRAILERS							99,172
WASTE HANDLING TRAILERS ~ 2 REQUIRED							191,776
FORK LIFTS, 7-TON ~ 2 REQUIRED							80,531
FORK LIFT, 2.5-TON							19,928
DEUM HANDLING ATTACHMENT FOR FORK LIFT ~ 2 REQ'D							5,808
GRADER							70,537
MAINTENANCE TRUCK							26,000
STANDARD CEN BUGGY ~ 1 REQUIRED							65,792
TOTAL							5,268,981

PROJECT: TELU LEVEL EQUIPMENT LOCATION: _____

DATE: _____

STATUS: CONCEPTUAL SHEET NO. 135

SUMMARY ESTIMATE SHEET		WIPP		ACTION PRICED EXTENSIONS		BY	DATE	CHECKED	DATE
ACCT. NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL		SUB- CONTRACT		TOTAL COST	
	SHAFT								2,593,800
	SKIPS, 2 REQUIRED							70,000	
	CAGE							30,000	
	COUNTERWEIGHT							15,000	
	PRODUCTION HOIST							1,317,720	
	SEEVICE HOIST							672,360	
	HOISTING CABLE, SKIPS, 2-INCH DIA, 7000 FEET							59,920	
	HOISTING CABLE, CAGE, 2-INCH DIA, 7000 FEET							59,920	
	CABLE CLAMPS, 80 REQUIRED							2,900	
	THIMBLS, 9 REQUIRED							3,000	
	HEADFRAMES							919,500	
	STEEL, 146 TONS						193,500		
	SHEAVES, CAGE & CWT, 14-FT DIA, 2 REQUIRED						40,000		
	SHEAVES, SKIPS, 14-FT DIA, 2 REQUIRED						30,000		
	SCIP SCROLLS, 2 PAIR REQUIRED						16,000		
	BIN, 250-TON CAPACITY						12,500		
	BOLTS AND MISCELLANEOUS						1,500		
	PUMP STATION								9,800
	PUMP							2,500	
	TANK							950	
	2-INCH PUMP DISCHARGE LINE, 1000 FEET							1,350	
	TRI LEVEL STATION								2,057
	TORLEY HOIST							2,057	
	TOTAL								
FACILITY MAN AND MATERIAL SHAFT EQUIPMENT		LOCATION							
OWNER		AREA		S F COST					
TYPE OF DESIGN CONCEPTUAL		SHEET NO. 136		SIC ITEM NO.					

SUMMARY ESTIMATE SHEET		DATE		CHECKED		DATE	
DESCRIPTION		MANHOURS	LABOR	MATERIAL	SUB-CONTRACT	TOTAL COST	
EH LEVEL STATION							29,757
25-TON BRIDGES CRANE						42,700	
TRUCKLEY HUNT						2,057	
SALT LOADING FACILITY							279,089
LOADING FACILITY, SHIP LOADERS EQUIPMENT						75,000	
TRANSFER GALLERY						33,690	
110-FT CONVEYOR					31,190		
DISCHARGE CHUTE					500		
GRIBLEY					2,000		
EH SURGE BIN						120,148	
DISCHARGE CHUTE					500		
GRIBLEY					2,000		
STEEL DEEP CHUTE					10,000		
FEEDERS ~ 3 REQUIRED					18,000		
CHUTES WITH SLAT BOARDS ~ 3 REQUIRED					6,000		
BELT JOINER AND RAILS					17,500		
110-FT CONVEYOR BENEATH BIN					30,828		
200-FT CONVEYOR OVER BIN					35,390		
72U-EH WALK TRANSFER RAHE						51,080	
200-FT TRANSFER CONVEYOR					35,080		
FEEDER					6,000		
CHUTE WITH SLAT BOARDS					2,000		
CONVEYOR OVERPASS, INSTALLED					8,000		
SURFACE SALT STORAGE FACILITY (see sheets 137a thru 137c)							605,133
TOTAL							3,530,155

FACILITY NAME AND MATERIAL SHIP EQUIPMENT

LOCATION

AREA

S F CODE

DATE

CONCEPTUAL

DATE NO. 137

DATE NO.

[illegible]

LONG-AIRBOX COMPANY

A DIVISION OF THE MARION GROUP, INC.

Post Office Box 1231 Pulaski, Virginia 24301 ☎ 703/980-6022

January 27, 1977

RECEIVED

FEB 11 1977

Fenix & Scissons Inc.
P.O. Box 15609
Tulsa, Okla. 74115

FENIX & SCISSON, INC.

Attention: Mr. George Schafer

Subject: Surface Salt Disposal For Wipp Facility.
Long-Airbox Company Budgetary Proposal No. PL 121476

Dear Mr. Schafer,

This letter will serve to confirm the verbal quotation phoned to you on December 14, 1976 for the above subject proposal. The proposal is predicated on price and cost information for December 1976 and a system designed to handle 400 T.P.H. of radio active waste in accordance with a conceptual sketch furnished by Fenix & Scissons, dated November 19, 1976.

Long-Airbox Company will furnish complete the system for the LUMP SUM PRICE of \$816,370.00.

The system consists of the following listed components;

1. 50 ton surge bin complete with the necessary structure, feeder, chute work and etc..
2. 30"x 1200' wire rope structure conveyor.
3. 30"x 300' rigid structure conveyor complete with the necessary structural steel, overhead guard and etc..
4. A second surge bin complete with necessary structure, feeder, chute work and etc..
5. 30"x 1000' skid conveyors, segmented in 100' increments.
6. 2-30"x 150' radial stacking conveyors, electric powered, complete.
7. Foundations complete.

ADDITIONS 22,676
EQUIPMENT 523,924
ELECTRICS 50,375
ERECTION 219,325
TOTAL 816,300
TELECON 12/14/76

Sheet 1376

LONG-AIRBOX COMPANY

A DIVISION OF THE MARMON GROUP, INC.

Post Office Box 1231 Pulaski, Virginia 24301 ☎ 703/980-6022

8. Erection complete.

9. Electrical complete with field power wiring.
Service to be furnished within 25' of the surge bin.

We have enclosed photo's, data sheets and drawings which will further describe the subject equipment.

We are pleased to be able to quote you on this project and are looking forward to the time of a "hard bid" for the project.

If you have any questions or if we may be of any additional service, please do not hesitate calling this office.

Sincerely,

Donald J. Seaborn
Engineered Material Handling Systems

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WILSON ESTIMATE SHEET

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CONSTRUCTION VENTILATION SHAFT EQUIPMENT

LOCATION

4574

3 1 6037

124

CONCEPTUAL

457 55. 138

210 1722 30

EQUIPMENT COST

	Unit Cost	4% Use Tax	Freight	On Site Handling Charges	Total Cost
Heading Equipment					
Continuous Boring Machine	1,500,500	60,020	45,000	25,000	1,630,520
Dismantling and Loading for Shipment	50,000	-	-	-	50,000
Piggy-back Conveyor	15,000	600	700	1,000	17,300
Feeder Breaker	49,000	1,960	1,500	1,000	53,460
Crawler, Belt Take-up	42,000	1,680	1,300	1,000	45,980
Auto Belt Take-up Storage	20,000	800	800	500	22,100
Head Section, T-Drive, 50 HP	13,700	548	900	1,000	16,148
36" Rope Conveyor, 600 ft	7,900	316	500	200	8,916
36" Conveyor Belt, 1200 ft	8,000	320	500	200	9,020
Fan	4,300	180	200	-	4,880
TOTALS	1,710,600	66,424	51,400	29,900	1,858,324
Mobile Support and Service Equipment					
2½-yard Front-end Loader	68,000	2,720	-	-	70,720
Forklift Crane	87,500	3,500	1,000	-	92,000
Trucks, Maintenance	25,000	1,000	-	-	26,000
Lube	56,000	2,240	-	-	58,240
Electric	25,000	1,000	-	-	26,000
Ventilation	27,000	1,080	-	-	28,080
Tractor, General Purpose	35,000	1,400	1,000	-	37,400
Trailers, Flat Bed	15,800	552	500	-	14,852
Heavy Duty Low Boy	9,000	360	500	-	9,860
Tank	2,000	80	-	-	2,080
Visitors Transport	23,500	940	-	-	24,440
Mining Crew Buggy	7,500	300	-	-	7,800
Standard Crew Buggy	6,200	248	-	-	6,448
Ambulance	30,000	1,200	500	-	31,700
Fire Truck	40,000	1,600	800	-	42,400
Drum Miner	310,000	12,400	5,000	2,000	329,400
Dismantling and Loading for Shipment	5,000	-	-	-	5,000
Roof Bolter	60,000	2,400	3,000	-	65,400

EQUIPMENT COST

	Unit Cost	4% Use Tax	Freight	On Site Handling Charges	Total Cost
Underground Shop Equipment					
25-ton Bridge Crane	30,000	1,200	2,000	500	33,700
Bridge Crane Steel Assembly	9,000	-	-	-	9,000
Elect. Welder - 2 required	2,000	80	200	-	2,280
Diesel Welder, Portable	3,600	144	400	-	4,144
Air Compressor, 100 CFM	5,500	220	300	-	6,020
Air Receiver	1,000	40	200	-	1,240
Hydraulic Press	1,500	60	100	-	1,660
Drill Press	1,000	40	100	-	1,140
Conduit Bender	500	20	-	-	520
Threading Machine	1,500	60	-	-	1,560
Lube Equipment	2,000	80	-	-	2,080
Elect. Test Equipment	7,500	300	100	-	7,900
Elect. Misc. Equipment	3,000	120	-	-	3,120
Shop Misc. Equipment	10,000	400	200	-	10,600
Small Tools	5,000	200	-	-	5,200
TOTALS	83,100	2,964	3,600	500	90,164
Safety Equipment					
Extinguishers, Hand	5,000	200	-	-	5,200
First Aid Equipment	5,000	200	100	-	5,300
Dust Sampling	1,500	60	-	-	1,560
Self Rescuers	5,000	200	-	-	5,200
Gas Detection	2,000	80	100	-	2,180
Supplies	1,000	40	-	-	1,040
TOTALS	19,500	780	200	-	20,480
Surface Equipment					
Office Furniture	10,000	400	100	-	10,500
Office Equipment	5,000	200	-	-	5,200
Drafting Equipment	2,000	80	-	-	2,080
Surveying Equipment	7,000	280	-	-	7,280
Cherry Picker	65,000	2,600	1,700	-	69,300
Gas Welder	1,800	72	-	-	1,872
Front-end Loader	70,000	2,800	1,700	-	74,500
2-ton Stake Truck	18,000	720	-	-	18,720
Manager's Car	6,000	240	-	-	6,240
Pick-ups - 4 required	18,000	720	-	-	18,720
TOTALS	202,800	8,112	3,500	-	214,412
Hoists					
Production	1,293,000	51,720	18,000	5,000	1,367,720
Service	634,000	25,360	10,000	3,000	672,360
TRU Shaft	718,000	28,720	11,000	3,500	761,220
RH Shaft	592,000	23,680	9,500	2,800	627,980
Emergency	245,000	9,800	4,500	1,500	260,800

EQUIPMENT COST
TRU Level Conveyors

	Unit Cost	4% Use Tax	Freight	On Site Handling Charges	Total Cost
<u>Main Line</u>					
Length 400 feet					
Head & Drive, 50 HP	14,500	580	900	1,000	16,980
Hydraulic Take-up	6,900	276	500	500	8,176
Tail Section	1,800	72	500	400	2,772
Conveyor Components	5,700	228	400	200	6,528
Belt 42-inch	<u>6,800</u>	<u>272</u>	<u>400</u>	<u>200</u>	<u>7,672</u>
Subtotal	35,700	1,428	2,700	2,300	42,128
Length 1800 feet					
Head & Drive, 75 HP	17,200	688	1,000	1,000	19,888
Hydraulic Take-up	6,900	276	500	500	8,176
Tail Section	1,800	72	500	400	2,772
Conveyor Components	25,600	1,024	800	500	27,924
Belt 42-inch	<u>30,400</u>	<u>1,216</u>	<u>1,200</u>	<u>200</u>	<u>33,016</u>
Subtotal	81,900	3,276	4,000	2,600	91,776
Length 1800 feet					
Head & Drive, 75 HP	17,200	688	1,000	1,000	19,888
Hydraulic Take-up	6,900	276	500	500	8,176
Tail Section	1,800	72	500	400	2,772
Conveyor Components	25,600	1,024	800	500	27,924
Belt 42-inch	<u>30,400</u>	<u>1,216</u>	<u>1,200</u>	<u>200</u>	<u>33,016</u>
Subtotal	81,900	3,276	4,000	2,600	91,776
<u>Storage Room</u>					
Length 1400 feet					
Head & Drive, 75 HP	17,200	688	1,000	1,000	19,888
Hydraulic Take-up	6,900	276	500	500	8,176
Tail Section	1,800	72	500	400	2,772
Conveyor Components	19,900	796	800	500	21,996
Belt 42-inch	<u>23,600</u>	<u>944</u>	<u>1,000</u>	<u>200</u>	<u>25,744</u>
Subtotal	69,400	2,776	3,800	2,600	78,576
TOTAL	268,900	10,756	14,500	10,100	304,256

EQUIPMENT COST
RH Level Conveyor Belt Equipment

	Unit Cost	4% Use Tax	Freight	On Site Handling Charges	Total Cost
<u>RH Experimental Area</u>					
Length 400 feet					
Head & Drive, 50 HP	14,500	580	1,000	1,000	17,080
Hydraulic Take-up	6,900	276	500	500	8,176
Tail Section	1,800	72	500	400	2,772
Conveyor Components	5,700	228	400	200	6,528
Belt 42-inch	<u>6,800</u>	<u>272</u>	<u>400</u>	<u>200</u>	<u>7,672</u>
Subtotal	35,700	1,428	2,800	2,300	42,228
Length 2000 feet					
Head & Drive, 75 HP	17,200	688	1,000	1,000	19,888
Hydraulic Take-up	6,900	276	500	500	8,176
Tail Section	1,800	72	500	400	2,772
Conveyor Components	28,400	1,136	1,000	500	31,036
Belt 42-inch	<u>33,700</u>	<u>1,348</u>	<u>1,400</u>	<u>300</u>	<u>36,748</u>
Subtotal	88,000	3,520	4,400	2,700	98,620
Length 1000 feet					
Head & Drive, 50 HP	14,500	580	1,000	1,000	17,080
Hydraulic Take-up	6,900	276	500	500	8,176
Tail Section	1,800	72	500	400	2,772
Conveyor Components	14,200	568	800	500	16,068
Belt 42-inch	<u>16,900</u>	<u>676</u>	<u>700</u>	<u>200</u>	<u>18,476</u>
Subtotal	54,300	2,172	3,500	2,600	62,572
Total Experimental Area	178,000	7,120	10,700	7,600	203,420

EQUIPMENT COST
RH Level Conveyor Belt Equipment

	Unit Cost	4% Use Tax	Freight	On Site Handling Charges	Total Cost
<u>RH Main Line</u>					
Length 700 feet					
Head & Drive, 50 HP	14,500	580	1,000	1,000	17,080
Hydraulic Take-up	6,900	276	500	500	8,176
Tail Section	1,800	72	500	400	2,772
Conveyor Components	10,000	400	800	500	11,700
Belt 42-inch	11,800	472	600	200	13,072
Subtotal	45,000	1,800	3,400	2,600	52,800
Length 1800 feet					
Head & Drive, 75 HP	17,200	688	1,000	1,000	19,888
Hydraulic Take-up	6,900	276	500	500	8,176
Tail Section	1,800	72	500	400	2,772
Conveyor Components	25,600	1,024	800	500	27,924
Belt 42-inch	30,400	1,216	1,200	200	33,016
Subtotal	81,900	3,276	4,000	2,600	91,776
Length 1500 feet					
Head & Drive, 75 HP	17,200	688	1,000	1,000	19,888
Hydraulic Take-up	6,900	276	500	500	8,176
Tail Section	1,800	72	500	400	2,772
Conveyor Components	21,300	852	800	500	23,452
Belt 42-inch	25,300	1,012	1,000	200	27,512
Subtotal	72,500	2,900	3,800	2,600	81,800
Length 2000 feet					
Head & Drive, 75 HP	17,200	688	1,000	1,000	19,888
Hydraulic Take-up	6,900	276	500	500	8,176
Tail Section	1,800	72	500	400	2,772
Conveyor Components	28,400	1,136	1,000	500	31,036
Belt 42-inch	33,700	1,348	1,400	300	36,748
Subtotal	88,000	3,520	4,400	2,700	98,620
Length 2400 feet					
Head & Drive, 75 HP	17,200	688	1,000	1,000	19,888
Hydraulic Take-up	6,900	276	500	500	8,176
Tail Section	1,800	72	500	400	2,772
Conveyor Components	34,100	1,364	1,100	500	37,064
Belt 42-inch	40,500	1,620	1,500	300	43,920
Subtotal	100,500	4,020	4,600	2,700	111,820
Total RH Main Line	387,900	15,516	20,200	13,200	436,816
TOTAL RH LEVEL	565,900	22,636	30,900	20,800	640,236

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EQUIPMENT COST

Man and Material Shaft Salt Loading Facility Conveyors

	Unit Cost	4% Use Tax	Freight	On Site Handling Charges	Total Cost
RH Salt Bin Feed					
Length 200 feet					
Head & Drive, 50 HP	14,500	580	900	1,000	16,980
Hydraulic Take-up	6,900	276	500	500	8,176
Tail Section	1,800	72	500	400	2,772
Conveyor Components	2,900	116	200	100	3,316
Belt 42-inch	<u>3,400</u>	<u>136</u>	<u>200</u>	<u>100</u>	<u>3,836</u>
Subtotal	29,500	1,180	2,300	2,100	35,080
TRU Salt Transfer					
Length 200 feet					
Head & Drive, 50 HP	14,500	580	900	1,000	16,980
Hydraulic Take-up	6,900	276	500	500	8,176
Tail Section	1,000	72	500	400	2,772
Conveyor Components	3,150	126	200	100	3,576
Belt 42-inch	<u>3,400</u>	<u>136</u>	<u>200</u>	<u>100</u>	<u>3,836</u>
Subtotal	29,750	1,190	2,300	2,100	35,340
RH Salt Bin Transfer					
Length 100 feet					
Head & Drive, 50 HP	14,500	580	900	1,000	16,980
Hydraulic Take-up	6,900	276	500	500	8,176
Tail Section	1,800	72	500	400	2,772
Conveyor Components	1,500	60	100	50	1,710
Belt 42-inch	<u>1,000</u>	<u>40</u>	<u>100</u>	<u>50</u>	<u>1,190</u>
Subtotal	25,700	1,028	2,100	2,000	30,828
Loading Pocket Transfer					
Length 110 feet					
Head & Drive, 50 HP	14,500	580	900	1,000	16,980
Hydraulic Take-up	6,900	276	500	500	8,176
Tail Section	1,500	72	500	400	2,772
Conveyor Components	1,700	68	100	50	1,918
Belt 42-inch	<u>1,100</u>	<u>44</u>	<u>100</u>	<u>50</u>	<u>1,294</u>
Subtotal	26,000	1,040	2,100	2,000	31,140
TOTAL	110,950	4,438	8,800	8,200	132,388

EQUIPMENT COST
TRU Waste Handling

	Unit Cost	4% Use Tax	Freight	On Site Handling Charges	Total Cost
Fork Lift (5000#)	18,200	728	500	-	19,428
Waste Haulage Trailer	67,600	2,704	2,000	-	72,304
Prime Mover for Trailers	46,800	1,872	500	-	49,172
Fork Lift (1400#)	38,140	1,526	1,200	-	40,866
Drum Handling Attachment for Fork Lift	2,600	104	400	-	3,104
Grader	66,670	2,667	1,200	-	70,537
Storage Crew Buggy	6,200	248	-	-	6,448
Foreman Buggy	6,200	248	-	-	6,448
Maintenance Truck	25,000	1,000	-	-	26,000
Electrician Buggy	6,200	248	-	-	6,448
Spare or General Use Buggy	<u>6,200</u>	<u>248</u>	<u>-</u>	<u>-</u>	<u>6,448</u>
TOTAL	289,810	11,593	5,800	-	307,203

SUMMARY ESTIMATE SHEET		PROJECT		SECTION	BY	DATE	REVISION	DATE
NO.	DESCRIPTION	MANHOURS	LABOR	MATERIAL	CONTRACT			TOTAL COST
	RH SHAFT							23,566
	Site Prep	70	538		1,592			
	Sub Base	69	892	3,036	16			
	Main Foundation	256	1,258	11,236	98			
	TRU SHAFT							30,535
	Site Prep	98	662		2,313			
	Sub Base	72	1,010	5,996	16			
	Main Foundation	532	7,631	12,859	98			
	MAN AND MATERIAL SHAFT PRODUCTION HOIST							91,183
	Site Prep	98	662		2,313			
	Sub Base	72	1,010	5,527	16			
	Main Foundation	816	11,173	20,319	98			
	MAN AND MATERIAL SHAFT SINKING HOIST							20,672
	Site Prep	98	662		2,313			
	Sub Base	72	1,010	5,308	16			
	Main Foundation	532	7,631	13,689	98			
	TOTAL	2890	39,139	78,000	8,737			125,876
FACILITY: HOIST FOUNDATIONS		LOCATION:						
OWNER:		CITY:		EST. COST:				
TYPE OF CONTRACT: CONCEPTUAL		SHEET NO. 146 OF		JOB ITEM NO.				

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SUMMARY ESTIMATE SHEET		DATE		ACTION PRICE EXTENSION		BY	DATE	CHECKED	DATE
ACCT NO.	DESCRIPTION	HOURS	LABOR	MATERIAL	SUB-CONTRACT			TOTAL COST	
	TEL SURETY SURETY TUNNEL	70	76		35,366			36,132	
	TEL BUNDLES	70	1,532		72,560			74,092	
	EL SURETY SURETY TUNNEL	70	76		35,366			36,132	
	EL BUNDLES	70	1,532		72,560			74,092	
TOTAL		280	1,596		205,892			210,976	

FACILITY SURETY INSTALLED HUSKING SURETY AND INGRES LOCATION _____
 OWNER _____ S F COST _____
 TYPE OF ESTIMATE CONCEPTUAL REF NO. 181 LID TIER NO. _____

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Underground Operating Costs During Storage Operations
Mining Cost Reflects a Two Machine Shift per Day Operation
TRU Waste Costs Are at Maximum Handling Rate, One Shift Only

	Cost per Day	Cost per Month	Cost per Quarter	Cost per Year
Mining 900 Tons per Day				
Supervisory Personnel	792.38	16,640.00	49,920.00	199,680.00
Mining Labor	3,414.93	71,713.53	215,140.59	860,562.36
Repairs & Consumables	603.00	12,663.00	37,989.00	151,956.00
Expendable Supplies	216.00	4,536.00	13,608.00	54,432.00
Indirect Costs	<u>144.00</u>	<u>3,024.00</u>	<u>9,072.00</u>	<u>36,288.00</u>
MINING TOTAL	5,170.31	108,576.53	325,729.59	1,302,918.36
TRU Waste Handling				
Labor	1,280.30	26,886.30	80,658.90	322,635.60
Repairs & Consumables	<u>319.43</u>	<u>6,708.03</u>	<u>20,124.09</u>	<u>80,496.36</u>
TOTAL	1,599.73	33,594.33	100,782.99	403,131.96

Daily Mining Labor Wages for
Last 5 working days of April 1983 and
from May 1, 1983 to March 31, 1996

	A	B	C	Tot.
Boring Machines Operating TRU Level	1	0	0	1
RH Level	1	0	0	1

Labor Classification	No. Required				Wages			Total
	A	B	C	Tot.	A	B	C	
Surface & Shafts								
Shift Foreman	1	-	-	1	77.17	-	-	77.17
Shaft Boss	1	-	-	1	71.97	-	-	71.97
Hoistman	2	-	-	2	127.72	-	-	127.72
Top Lander	1	-	-	1	60.01	-	-	60.01
Skip Tender	1	-	-	1	63.86	-	-	63.86
Cager	1	-	-	1	63.86	-	-	63.86
Conveyor Man	1	-	-	1	63.86	-	-	63.86
Truck Driver	1	-	-	1	60.01	-	-	60.01
Laborer	1	-	-	1	58.03	-	-	58.03
TRU Level								
Construction Boss	1	-	-	1	71.97	-	-	71.97
Miner Operator	1	-	-	1	66.17	-	-	66.17
Scoop Operator	1	-	-	1	63.86	-	-	63.86
Feeder Operator	1	-	-	1	63.86	-	-	63.86
Conveyor Clean Up	2	-	-	2	120.02	-	-	120.02
Laborer	2	-	-	2	120.02	-	-	120.02
Vent Man	2	-	-	2	127.72	-	-	127.72
Service Boss	1	-	-	1	71.97	-	-	71.97
Mechanic	5	-	-	5	328.65	-	-	328.65
Electrician	2	-	-	2	129.80	-	-	129.80
Lube Man	1	-	-	1	63.86	-	-	63.86
Warehouse Man	1	-	-	1	60.01	-	-	60.01
Utility Equip. Oper.	1	-	-	1	63.86	-	-	63.86
RH Level								
Construction Boss	1	-	-	1	71.97	-	-	71.97
Miner Operator	1	-	-	1	66.17	-	-	66.17
Scoop Operator	1	-	-	1	63.86	-	-	63.86
Feeder Operator	1	-	-	1	63.86	-	-	63.86
Conveyor Clean Up	2	-	-	2	120.02	-	-	120.02
Laborer	2	-	-	2	120.02	-	-	120.02
Vent Man	2	-	-	2	127.72	-	-	127.72
Service Boss	1	-	-	1	71.97	-	-	71.97
Mechanic	5	-	-	5	328.65	-	-	328.65
Electrician	3	-	-	3	194.70	-	-	194.70
Lube Man	1	-	-	1	63.86	-	-	63.86
Warehouse Man	1	-	-	1	60.01	-	-	60.01
Utility Equip. Oper.	1	-	-	1	63.86	-	-	63.86
TOTAL	53			53	3,414.93			3,414.93

Daily Wages for TRU Waste Handling

Labor Classification	No. Required				A	B	C	Total
	A	B	C	Tot.				
Foreman	1	-	-	1	77.17	-	-	77.17
Hoistman	1	-	-	1	63.86	-	-	63.86
Top Lander	1	-	-	1	60.01	-	-	60.01
Cager	1	-	-	1	63.86	-	-	63.86
Controller	1	-	-	1	71.97	-	-	71.97
Prims Mover Operator	1	-	-	1	63.86	-	-	63.86
Fork Lift Operators	2	-	-	2	127.72	-	-	127.72
Laborers	3	-	-	3	180.03	-	-	180.03
Mechanics	2	-	-	2	131.46	-	-	131.46
Electricians	1	-	-	1	64.90	-	-	64.90
Technicians	3	-	-	3	191.58	-	-	191.58
Record Clerks	2	-	-	2	120.02	-	-	120.02
Radsafe Technician	<u>1</u>	-	-	<u>1</u>	<u>63.86</u>	-	-	<u>63.86</u>
TOTAL	20			20	1,280.30			1,280.30

OPERATING COST FOR TRU WASTE HANDLING

	Unit Cost per Hour	Operating Hours per Day	Cost per Day
Fork Lift	3.07	7	21.49
Waste Haulage Trailer	10.51	7	73.57
Prime Mover	7.28	7	50.96
Fork Lift	5.66	7	39.62
Drum Handling Attachment	0.68	7	4.76
Grader	11.26	4	45.04
Maintenance	4.88	3	14.64
Buggys	<u>4.84</u>	4	<u>19.34</u>
Subtotal			269.42
Miscellaneous Supplies			50.00
TOTAL COST PER DAY			319.43
TOTAL COST PER 21-DAY MONTH			6,707.82

SUMMARY ESTIMATE SHEET						WIPP								ACTION PRICED EXTENSIONS	BY	DATE	CHECKED	DATE
ACCT. NO.	DESCRIPTION	MANHOURS	Labor	MATERIAL	SUB- CONTRACT	TOTAL COST												
	PLAN + MATERIAL SHAFT SINKING EQUIPMENT					1099758											21924983	
	RH SHAFT SINKING EQUIPMENT					222643												
	TRU - RH VENTILATION SHAFT					1076804												
	CONSTRUCTION VENTILATION SHAFT					200823												
	TRU SHAFT					324955												
																	(171650)	
	SALVAGE CREDIT M+M AND RH SHAFT SINKING EQUIPMENT					(90750)												
	SALVAGE CREDIT TRU-RH VENT, CONST.VENT., TRU SHAFT					(80700)												
	Note: No credit for salvage re use of sinking equipment has been included in the summary estimate.																	
	TOTAL																21753333	

FACILITY South Bethune ADDENDUM LOCATION _____

OWNER _____ AREA _____ \$ F COST _____

Pg 158

NO OPERATING POINTS

1977 64 92 104 115 1

RH SHAFT 8' Ø

EQUIPMENT FROM 17th - 18th MONTH

10 OPERATING MONTHS

		QUANTITY	UNIT PRICE	ESTIMATED COST	REPAIRS - MONTH COSTS		MODIFICATION		TOTAL COST
					AVG Hrs/Mo	Total Hrs	Total Reps	REPAIRS MONTHLY	
1	1	SINKING HEADFRAME		NC				15000	
2	2	SINKING STAGE 2 DR	1	7000	100				
3	3	SINKING WHEEL 60"		NC					
4	4	SINKING FOR STAGE 25"		NC					
5	5	STAGE HOIST 10,000 FPM		NC				1000	
6	6	SINKING STRIP	1	7000					
7	7	DAMP SCROLLS	100	3000					
8	8	SHOULDER COVER		NC					
9	9	VENT LINE 18"	3200	5.44					
10	10	VENT 90° EL	3	50					
11	11	4" AIR LINE SEN 40		NC				1000	
12	12	2" WATER LINE SEN 40		NC				500	
13	13	CONCRETE MORTAR		NC				50	
14	14	CONCRETE FORM	1	18700	100				
15	15	FLUOR BETSY		24000	4.00	8	210	6720	
16	16	SHOULDER SUPPORT DRUM		NC	14.85	112	210	4750	12000
17	17	PHONE LINE	3250	24					
18	18	BLASTING LINE	3250	97					
19	19	BLASTING MACHINE		NC					
20	20	MISC SHARP TOOLS		5000					
21	21	PAVING OPERATOR		NC					
22	22	AIR HOSE 2" NB	250	10.70					
23	23	AIR HOSE 1" NB	500	7.10					
24	24	COMMUNICATIONS SIGNALS		NC				500	
25	25	CONCRETE BUCKET		NC					
26	26	SILVER LINE		NC				1000	
27	27	REPAIR CHANDLER		NC					
28	28	ESCHWART TRUNK	500	6.75					
29	29	SHOULDER COVER		NC					
30	30	MINERS CAP LAMPS	1000	15.30					
31	31	25 TEN MID CABLE	170	7.85					
32	32	20 TEN TRUCK	1	NC	5.85	9	210	11400	
33	33	CLAMSHORE 3/4 L4		NC					
34	34	HOIST 1000 FPM		NC				7500	10000
35	35	HOIST ROPE		NC					
36	36	FAN		NC				1000	
37	37	SINKING STAGE ROPE		NC					
38	38	AIR COMPRESSORS	1	24000	4.10	16	210	13800	
39									
40		NC = NO CHARGE							
		TOTAL		136723			43570	42050	222643

TRU-RH VENTILATION SHAFT

		2	UNIT	EST	AVG	HRS	TOTAL	TOTAL	REPAIRS	TOTAL
		QTY	PRICE	COST	HR	DAY	BEFORE	TRBM	MOVING	COST
					COST		UPPS	EVD		
1	1	SINKING HEADFRAME	1	74113						
2	2	SINKING STAGE	1	25000						
3	3	SHEAVE WHEEL 60"	1	8000						
4	4	SHEAVE FOR STAGE	1	8400						
5	5	STAGE HOIST	1	50000						
6	6	SINKING SKIP	2	12500	25000					
7	7	DUMP SCROLLS	PC	2000	2000					
8	8	SHAFT COVER	1	15000	15000					
9	9	VENT LINE 18"	3100	5.85	18150					
10	10	VENT 90° ELL	3	50	150					
11	11	4" AIR LINE 3CH	325	3.42	1113					
12	12	2" WATER LINE 3CH	11	450	4950					
13	13	CONCRETE VIB	2	115	230					
14	14	CONC FARM	1	42000						
15	15	MUCKER BATTERY	1	20500	20500	4.00	8	210	6720	
16	16	SHAFT JUMBO	1	71000	71000	1.00	1/2	210	4750	12000
17	17	PHONE LINE	3250	0.22	715					
18	18	BLASTING LINE	3250	0.97	3153					
19	19	BLASTING MCH.	1	750	750					
20	20	MISC SMALL TOOLS	1	500	500					
21	21	PAVING BREAKER	2	1125	2250					
22	22	AIR HOSE 2" W/B	500	10.25	5125					
23	23	AIR HOSE 1" W/B	750	7.50	5625				500	
24	24	COMMUNICATION SIGNAL	1	3000	3000				1000	
25	25	CONCRETE BUCKET	2	1000	2000					
26	26	SUCK LINE	500	11.47	5735					
27	27	REMIX CHAMBER	1	2000	2000					
28	28	ELEPHANT TRUNK	500	6.75	3375					
29	29	SHAFT COVER	1	2000	2000					
30	30	MINER SCAP LAMP	1000	1.55	1550					
31	31	25 TON HYD CRANE	1	20700	20700					
32	32	20 TON TRUCK	2	30000	60000	5.00	10	510	23100	
33	33	CLAM SHELL	2	25	50					
34	34	HOLST 1000 FPM	1	227000					7500	
35	35	HOLST ROPE	500	6.25	3125					
36	36	FAN	1	15000	15000					
37	37	SINKING STAGE	1	4000	4000					
38	38	AIR COMPRESSOR	2	53000	106000	4.10	16	210	13800	
				100000				510	590	107600

11 Ma

GREEN 7108 BUFF

17-6" 10 ft.

	QTY	UNIT	ESTIMATE COST	REPAIR - HUNT COST		REPAIR - HUNT COST		REPAIR - HUNT COST	TOTAL COST
				NO	UNIT	NO	UNIT		
1	1	SHOULDER HEADFRAME	NC						
2	1	SHOULDER, STAGE 2 DR	300000						
3	1	SHOULDER, STAGE 2 DR	NC						
4	1	SHOULDER, STAGE 2 DR	NC						
5	1	SHOULDER, STAGE 2 DR	NC						
6	1	SHOULDER, STAGE 2 DR	7000						
7	1	SHOULDER, STAGE 2 DR	7000						
8	1	SHOULDER, STAGE 2 DR	NC						
9	1	SHOULDER, STAGE 2 DR	11200						
10	1	SHOULDER, STAGE 2 DR	11200						
11	1	SHOULDER, STAGE 2 DR	NC						
12	1	SHOULDER, STAGE 2 DR	NC						
13	1	SHOULDER, STAGE 2 DR	NC						
14	1	SHOULDER, STAGE 2 DR	40000						
15	1	SHOULDER, STAGE 2 DR	2100						
16	1	SHOULDER, STAGE 2 DR	NC						
17	1	SHOULDER, STAGE 2 DR	1500						
18	1	SHOULDER, STAGE 2 DR	2100						
19	1	SHOULDER, STAGE 2 DR	NC						
20	1	SHOULDER, STAGE 2 DR	5000						
21	1	SHOULDER, STAGE 2 DR	NC						
22	1	SHOULDER, STAGE 2 DR	5000						
23	1	SHOULDER, STAGE 2 DR	5000						
24	1	SHOULDER, STAGE 2 DR	1000						
25	1	SHOULDER, STAGE 2 DR	NC						
26	1	SHOULDER, STAGE 2 DR	NC						
27	1	SHOULDER, STAGE 2 DR	NC						
28	1	SHOULDER, STAGE 2 DR	1500						
29	1	SHOULDER, STAGE 2 DR	NC						
30	1	SHOULDER, STAGE 2 DR	1500						
31	1	SHOULDER, STAGE 2 DR	1500						
32	1	SHOULDER, STAGE 2 DR	NC						
33	1	SHOULDER, STAGE 2 DR	NC						
34	1	SHOULDER, STAGE 2 DR	NC						
35	1	SHOULDER, STAGE 2 DR	NC						
36	1	SHOULDER, STAGE 2 DR	NC						
37	1	SHOULDER, STAGE 2 DR	NC						
38	1	SHOULDER, STAGE 2 DR	2100						
39	1	SHOULDER, STAGE 2 DR	NC						
40	1	SHOULDER, STAGE 2 DR	NC						
		TOTAL	210000						

SALVAGE VALUE

TRU - RN VENT, CONST VENT, TRU SHAETS

20164

		1	2	3	4	5	6
		TRU - RN VENT	CONST VENT	TRU SHAET		TOTAL	
1	1	SINKING HEADFRAME	—	—	10000	10000	
2	2	SINKING STAGE 2 DWT	—	200	200	400	
3	3	SINKING WHEEL 60"	—	—	500	500	
4	4	SINKING STAGE 25"	—	—	100	100	
5	5	STAGE HOIST 10000 FPM	—	—	5000	5000	
6	6	SINKING SHIP	—	—	—	—	
7	7	DUMP SKIBBLE	—	—	—	—	
8	8	SHARP COVER	—	—	100	100	
9	9	VENT LINE 18"	—	—	—	—	
10	10	VENT 90° EL	—	—	—	—	
11	11	4" AIR LINE SEN 40	—	—	100	100	
12	12	2" WATER LINE SEN 40	—	—	50	50	
13	13	CONCRETE PUMP	—	—	50	50	
14	14	CONCRETE FIRM	—	200	300	500	
15	15	HILKER BETSY	—	2000	5000	7000	
16	16	SHARP TURNER PUMP	—	—	1000	1000	
17	17	PHONE LINE	—	—	—	—	
18	18	BLASTING LINE	—	—	—	—	
19	19	BLASTING MACHINE	—	—	50	50	
20	20	MISC SMALL TOOLS	—	—	—	—	
21	21	PUMP BEATER	—	—	500	500	
22	22	AIR HOSE 2" NB	—	—	—	—	
23	23	AIR HOSE 1" NB	—	—	—	—	
24	24	COMMUNICATIONS SIGNALS	—	—	500	500	
25	25	CONCRETE BUCKET	—	—	500	500	
26	26	SILVER LINE	—	—	100	100	
27	27	REPAIR CHAMBER	—	—	—	—	
28	28	ESTIMATE TRUCK	—	—	—	—	
29	29	SHARP COVER	—	—	100	100	
30	30	MISCELLANEOUS LAMPS	—	—	—	—	
31	31	25 TON MID CRANE	—	—	—	—	
32	32	20 TON TRUCK 2	—	—	5000	5000	
33	33	CRANEWHEEL 1/4 CY	—	—	100	100	
34	34	HOIST 1000 FPM	—	—	45000	45000	
35	35	HOIST ROPE	—	—	—	—	
36	36	FAN	—	—	750	750	
37	37	SINKING STAGE REEL	—	—	—	—	
38	38	AIR COMPRESSORS	—	—	—	—	
39							
40		NC = NO CHARGE					
		TOTAL	—	2400	76300	80700	

SALVAGE VALUE
PLANT MNT. & RM
SHAFT SINKING EQUIPMENT

page 5

		1	2	3	4	5	6
		M+M	Rd	M+M & Rd		Total	
1	1 SINKING HEADFRAME			10000		10000	1
2	2 SINKING STAGE 2 PCH	200	100			300	2
3	3 SHEAVE WHEEL 60"			500		500	3
4	4 SHEAVES FOR STAGE			100		100	4
5	5 STAGE HOIST			5000		5000	5
6	6 SINKING SHIP	—	—	—		—	6
7	7 DUMP SCROLLS	—	—	—		—	7
8	8 SHAFT COVER	—	—	100		100	8
9	9 VENT LINE	—	—	—		—	9
10	10 VENT 90° ELB	—	—	—		—	10
11	11 4" AIR LINE	—	—	100		100	11
12	12 2" WATER LINE	—	—	50		50	12
13	13 CONCRETE VIBRATOR	—	—	50		50	13
14	14 CONCRETE FORMS	300	200	—		500	14
15	15 EIMCO & BETSY	5000	4000	—		9000	15
16	16 SHAFT JUMBO	—	—	1000		1000	16
17	17 PHONE LINE	—	—	—		—	17
18	18 PLEASTIC LINE	—	—	—		—	18
19	19 PLEASTIC MACHINE	—	—	50		50	19
20	20 MISC SMALL TOOLS	—	—	—		—	20
21	21 PAVING BREAKER	—	—	500		500	21
22	22 AIR HOSE 2" WB	—	—	—		—	22
23	23 AIR HOSE 1" WB	—	—	—		—	23
24	24 COMMUNICATIONS SIGNALS	—	—	500		500	24
25	25 CONCRETE BUCKETS	—	—	500		500	25
26	26 SLICK LINE	—	—	100		100	26
27	27 PERCUSSION CHAMBER	—	—	—		—	27
28	28 ELEPHANT TRUNK	—	—	—		—	28
29	29 SHAFT COVER	—	—	200		200	29
30	30 MINERS CAP LAMPS	—	—	—		—	30
31	31 2.5 TON HYD. CRANE	—	—	—		—	31
32	32 20 TON TRUCK	7000	4000	—		11000	32
33	33 CLASHWELL 3/4 CY	—	—	100		100	33
34	34 HOIST	—	—	5000		5000	34
35	35 HOIST ROPE	—	—	—		—	35
36	36 FAN	—	—	1000		1000	36
37	37 SINKING STAGE ROPE	—	—	—		—	37
38	38 AIR COMPRESSORS	—	—	—		—	38
39							39
40	TOTAL	12500	8300	70150		90950	40