

0128

# Sunnyside Coal Company

Operations • Highway 123 • P.O. Box 99 • Sunnyside, Utah 84539

February 4, 1994

RECEIVED

FEB 17 1994

DIVISION OF  
OIL, GAS & MINING

Ms. Pamela Grubaugh-Littig  
Utah Division of Oil, Gas & Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

Dear Pam:

Re: Bond Recalculation

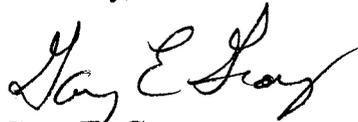
*ACT/007/007 #4*  
*Copy from lead?*  
*Wayne*  
*Double-*  
*sides*

Attached is a preliminary set of Bond Calculations that I have prepared. These still need some refinement; but I am sending them to you as needed without the Amendment to Remove SCA's Permit Area.

Due to troubles with my computer, I am not able to send this amendment until next Tuesday. When I send in the amendment, the correct calculations should be included.

I hope these calculations help you.

Sincerely,



Gary E. Gray  
Chief Engineer

GEG:th

Enclosures

**Corporate Offices**  
The Registry  
1113 Spruce Street  
Boulder, CO 80302  
303-938-1506  
FAX: 303-938-5050

**Operations**  
Highway 123  
P.O. Box 99  
Sunnyside, UT 84539  
801-888-4421  
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FEB 07 1994

SUNNYSIDE COAL COMPANY  
SUNNYSIDE MINE - RECLAMATION COST ESTIMATE  
REVISED 2/1/94

TABLE III-1

DIVISION OF

ESTIMATED COST OF DISMANTLING AND REMOVING FACILITIES

OIL, GAS & MINING

AREA	ITEM	APPROXIMATE YEAR OF COMPLETION	CONSTRUCTION & NOTES	STRUCTURE							FOUNDATION							TOTAL COST
				LENGTH	WIDTH	EAVE HEIGHT	VOLUME	COST /UNIT	UNITS	COST	LENGTH	WIDTH	THICK	VOLUME	COST /UNIT	UNITS	COST	
ALL	Power Lines	pre-1950	Costs on a per pole cost.	88.0				\$100	POLE	\$8,800							\$0	\$8,800
ALL	Minewater Pipelines	1993	Costs on a per foot of pipe basis.	7,700				\$1.87	L.F.	\$14,400							\$0	\$14,400
1	Parking Lot						11,400	\$1.45	S.Y.	\$1,837							\$0	\$1,837
1	Materials Track	pre-1950		5,750				\$12.20	L.F.	\$70,150							\$0	\$70,150
1	Main Office	1974	Foundation covered by regrade	51.0	50.0	14.2	36,210	\$0.17	C.F.	\$6,156							\$0	\$6,156
1	Warehouse	1953	Foundation covered by regrade	199.0	72.0	23.0	329,544	\$0.17	C.F.	\$56,022							\$0	\$56,022
1	Main Changehouse	1953	Foundation covered by regrade	175.0	71.0	23.0	285,775	\$0.17	C.F.	\$48,582							\$0	\$48,582
1	Training Building		Foundation covered by regrade	120.0	37.0	17.0	60,000	\$0.17	C.F.	\$10,200							\$0	\$10,200
1	Shop	1953	Foundation covered by regrade	202.0	102.0	37.0	762,348	\$0.17	C.F.	\$129,599							\$0	\$129,599
1	Warehouse Annex	1960's	Foundation covered by regrade	204.0	30.0	13.5	82,620	\$0.17	C.F.	\$14,045							\$0	\$14,045
1	Engineering Office	1975-76	Foundation covered by regrade	54.0	39.0	13.5	28,431	\$0.17	C.F.	\$4,833							\$0	\$4,833
1	Backfill Building		Metal Building	81.0	49.0	54.0	214,328	\$0.17	C.F.	\$36,435	81.0	49.0	1.5	5,954	\$7.40	C.F.	\$44,058	\$80,491
1	Preparation Plant	pre-1950		120.0	80.0	50.0	708,000	\$0.22	C.F.	\$155,320	120.0	80.0	3.0	28,800	\$3.00	C.F.	\$86,400	\$241,720
1	Crusher	pre-1950	Foundation covered by regrade	60.0	30.0	39.0	70,200	\$0.17	C.F.	\$11,934							\$0	\$11,934
1	Blending Bins	pre-1950	Foundation covered by regrade	140.0	35.0	69.0	250,000	\$0.22	C.F.	\$55,000							\$0	\$55,000
1	Clean Coal Stockpile Belt									\$0	18.0	3.8	3.0	182	\$3.00	C.F.	\$547	\$547
1	Concrete Pier	1968-69								\$0	10.5	6.4	3.0	202	\$3.00	C.F.	\$605	\$605
1	Concrete Pier - 2	1968-69								\$0	18.0	4.0	3.0	384	\$3.00	C.F.	\$1,152	\$1,152
1	Concrete Pier @ Tower	1968-69	Foundation covered by regrade							\$0							\$0	\$0
1	Concrete Pier - 14	1968-69								\$0	3.0	6.0	3.0	54	\$3.00	C.F.	\$162	\$162
1	Loadout Conveyor	1968-69		1,230				\$10.00	L.F.	\$12,300							\$0	\$12,300
1	Rotary Car Dump	pre-1950	Foundation covered by regrade	70.0			15,120	\$0.17	C.F.	\$2,570							\$0	\$2,570
1	Prep Plant Office	pre-1950	Block Walls	20.0	16.0	8.9	2,848	\$0.17	C.F.	\$484	20.0	16.0	0.5	160	\$7.40	C.F.	\$1,184	\$1,668
1	Prep Plant Belt MCC Bldg	pre-1950	Block Walls	18.8	20.7	9.4	3,658	\$0.17	C.F.	\$622	18.8	20.7	0.5	185	\$7.40	C.F.	\$1,440	\$2,062
4	Material Foreman's Office	pre-1950	Block Walls	16.0	20.0	8.1	2,592	\$0.17	C.F.	\$441	16.0	20.0	0.5	160	\$7.40	C.F.	\$1,184	\$1,625
1	No. 2 Canyon Wash Arches	1992-93	Steel Arches (see Table III-41)							\$0							\$0	\$3,968
1	Holst House, No. 3 Mine			64.0	33.0	18.0	38,016	\$0.17	C.F.	\$6,463	64.0	33.0	1.5	3,168	\$3.00	C.F.	\$9,504	\$15,967
9	Manshaft Bathhouse	1973	Metal Frame	100.0	40.0	15.2	60,800	\$0.17	C.F.	\$10,338	100.0	40.0	0.5	2,000	\$7.40	C.F.	\$14,800	\$25,138
9	Holst House, Manshaft	1973	Block Walls, Frndtn cvrd by regrade	24.0	27.0	11.4	7,387	\$0.17	C.F.	\$1,256							\$0	\$1,256
9	Headframe, Manshaft	1973		15.0	12.0	40.0	7,200	\$0.17	C.F.	\$1,224	15.0	12.0	1.0	180	\$7.40	C.F.	\$1,332	\$2,556
1	Bulk Rock Dust Tank	1977		8.0		30.0	1,508	\$0.17	C.F.	\$256							\$0	\$256
5	Water Canyon Holst House	pre-1950	Removed 1991							\$0							\$0	\$0
1	No. 3 Mine Milk Building		Block Walls	21.3	18.7	8.7	3,457	\$0.17	C.F.	\$588	21.3	18.7	0.5	199	\$7.40	C.F.	\$1,470	\$2,058
1	Garage @ Mouth No. 2 Cyn	pre-1950	Block Walls	24.0	28.0	9.0	6,048	\$0.17	C.F.	\$1,028	24.0	28.0	0.5	336	\$7.40	C.F.	\$2,486	\$3,515
1	No. 2 Canyon Trestle Bldg	pre-1950	Concrete	25.3	16.0	11.0	4,453	\$0.22	C.F.	\$980	25.3	16.0	0.5	202	\$7.40	C.F.	\$1,498	\$2,477
4	Lunch Shed		Removed 1993	9.0	12.0	7.6	821	\$0.17	C.F.	\$0							\$0	\$0
4	No. 2 Canyon Storage Bldg		Removed 1993	11.0	12.0	7.3	964	\$0.17	C.F.	\$0							\$0	\$0
4	No. 2 Canyon Repair Shop		Wood Frame & Floor w/Crrgtd Walls	12.0	16.5	8.9	1,762	\$0.17	C.F.	\$300							\$0	\$300
4	No. 2 Canyon Material Shed		Wood Frame w/Corrugated Walls	130.0	19.4	9.0	22,698	\$0.17	C.F.	\$3,859	130.0	19.4	0.5	1,291	\$7.40	C.F.	\$9,331	\$13,190
9	Manshaft Milk Building		Block Walls, Frndtn cvrd by regrade	18.0	14.0	9.5	2,394	\$0.17	C.F.	\$407							\$0	\$407
5	Water Canyon Bridge	pre-1950	Removed 1991							\$0							\$0	\$0
2	Substation, Fan Canyon	pre-1950	Removed 1993							\$0							\$0	\$0
8	Substation, Outcrop	pre-1950		50.0	50.0	20.0	50,000	\$0.17	C.F.	\$8,500							\$0	\$8,500
1	Substation, Hillside	pre-1950		50.0	50.0	20.0	50,000	\$0.17	C.F.	\$8,500							\$0	\$8,500
1	Substation, Roadside	1979		50.0	50.0	20.0	50,000	\$0.17	C.F.	\$8,500							\$0	\$8,500
3	Substation, Whitmore Fan	late-1950's		50.0	50.0	20.0	50,000	\$0.17	C.F.	\$8,500							\$0	\$8,500
6	Substation, Manshaft	early 1980's		50.0	50.0	20.0	50,000	\$0.17	C.F.	\$8,500							\$0	\$8,500
2	Fan, No. 2 Mine Fan Cyn	early 1950's	Removed 1993							\$0							\$0	\$0
1	Fan, Shop Fan	early 1950's		60.0	25.0	12.0	18,000	\$0.17	C.F.	\$3,060	60.0	25.0	0.5	750	\$7.40	C.F.	\$5,550	\$8,610
4	Fan, No. 2 Cyn Air Shaft	1977	Removed 1993							\$0							\$0	\$0
8	Fan, Outcrop	early 1950's		60.0	25.0	12.0	18,000	\$0.17	C.F.	\$3,060	60.0	25.0	0.5	750	\$7.40	C.F.	\$5,550	\$8,610
3	Fan, Whitmore Cyn	late-1950's		60.0	25.0	12.0	18,000	\$0.17	C.F.	\$3,060	60.0	25.0	0.5	750	\$7.40	C.F.	\$5,550	\$8,610
9	Fan, Twin Shafts	1975	Foundation covered by regrade	60.0	25.0	12.0	18,000	\$0.17	C.F.	\$3,060							\$0	\$3,060
1	Powder Magazine		Concrete Cvr'd by cut slope regrade							\$0							\$0	\$0
4	Detonator Caps Magazine		Concrete	10.0	12.0	8.0	960	\$0.22	C.F.	\$211	10.0	12.0	1.0	120	\$7.40	C.F.	\$888	\$1,099
1	Mine Water Tank (015)	1955	Foundation covered by regrade	70.0		18.0	69,272	\$0.17	C.F.	\$11,776							\$0	\$11,776
1	Mine Water Tank (015)	1955	Foundation covered by regrade	70.0		18.0	69,272	\$0.17	C.F.	\$11,776							\$0	\$11,776
3	Cullinary Water Tank	1953	Permanent (Sunnyside City)							\$0							\$0	\$0
9	CH4 Vent Shack (Planned)	1994	Skidmounted, Steel	9.0	12.0	7.8	821	\$0.17	C.F.	\$140							\$0	\$140
TOTALS										\$745,070							\$194,690	\$943,727

SUNNYSIDE COAL COMPANY  
SUNNYSIDE MINE  
RECLAMATION COST ESTIMATE -- REVISED 2/1/94

TABLE III-6  
MINE PORTAL SEALS

AREA	I.D. NUMBER	DESCRIPTION	MINE	COMMENTS	SEAL STATUS	LENGTH FEET	HEIGHT FEET	AREA SQ. FT.	NUMBER of BLOCKS	BLOCK COS	MORTAR MIX	SEALANT @	LABORS MD	TOTAL SEAL COST
										\$1.05 EACH	\$3.85 /2 CF BAG	\$5.20 /20 SF BCKT	\$35.00 /HOUR	
1	P 18	Rock Tunnel	No. 1 Mine		Open	20	10	200	450	\$472.50	\$69.30	\$104.00	\$1,400.00	\$2,046
8	P 20	Outcrop (Lower Sunnyside Seam)	No. 1 Mine	Stopping	Sealed	14	12	0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
8	P 21	Outcrop (Lower Sunnyside Seam)	No. 1 Mine	Regulator	Open	14	12	168	396	\$415.80	\$61.60	\$88.40	\$1,400.00	\$1,966
8	P 22	Outcrop (Lower Sunnyside Seam)	No. 1 Mine	Stopping	Sealed	14	12	0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
8	P 23	Outcrop (Lower Sunnyside Seam)	No. 1 Mine	Stopping	Sealed	14	12	0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
8	P 24	Outcrop (Lower Sunnyside Seam)	No. 1 Mine	Fan	Open	14	12	168	396	\$415.80	\$61.60	\$88.40	\$1,400.00	\$1,966
8	P 25	Outcrop (Lower Sunnyside Seam)	No. 1 Mine	Regulator	Open	14	12	168	396	\$415.80	\$61.60	\$88.40	\$1,400.00	\$1,966
8	P 26	Outcrop (Lower Sunnyside Seam)	No. 1 Mine	Backfilled	Sealed			0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
8	P 27	Inside Raise at Outcrop - Upper Seam	No. 1 Mine		Open	14	12	168	396	\$415.80	\$61.60	\$88.40	\$1,400.00	\$1,966
8	P 28	Inside Raise at Outcrop - Lower Seam	No. 1 Mine		Sealed			0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
8	P 31	Inside Raise at Outcrop	No. 1 Mine	Not on map	Sealed			0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
9	P 29	B Canyon Portal	No. 1 Mine		Sealed	0	0	0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
7	P 1	Columbia Bleeder No. 1	No. 2 Mine		Sealed			0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
7	P 2	Columbia Bleeder No. 2	No. 2 Mine		Sealed			0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
7	P 3	Columbia Bleeder No. 3	No. 2 Mine		Sealed			0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
2	P 4	Fan Canyon Portal 1	No. 2 Mine		Sealed			0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
2	P 5	Fan Canyon Portal 2	No. 2 Mine		Sealed			0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
2	P 6	Fan Canyon Portal 3	No. 2 Mine		Sealed			0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
5	P 7	Upper Seam (Not on map)	No. 2 Mine	Part Backfilled	Sealed			0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
5	P 8	Motor Road to No. 2 Mine	No. 2 Mine		Sealed			0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
6	P 9.0	Upper Seam Portal 2	No. 2 Mine		Sealed			0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
5	P 9.1	Upper Seam Portal 1	No. 2 Mine	Part Backfilled	Sealed			0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
5	P 9.2	Upper Seam	No. 2 Mine		Sealed			0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
5	P 10	Water Canyon	No. 2 Mine		Sealed			0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
5	P 11	Fowler	No. 2 Mine		Sealed			0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
5	P 12	Water Canyon Motor Road	No. 2 Mine		Sealed			0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
4	P 13	No. 2 Canyon Motor Road	No. 2 Mine		Sealed			0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
1	P 14	Intake	No. 3 Mine		Open	11	9	99	224	\$235.20	\$34.65	\$52.00	\$1,400.00	\$1,722
1	P 14.1	No. 3 Mine Beltway	No. 3 Mine		Open	14	9	126	308	\$323.40	\$50.05	\$67.60	\$1,400.00	\$1,841
1	P 15	Manway (old)	No. 3 Mine		Open	16	9	144	336	\$352.80	\$53.90	\$72.80	\$1,400.00	\$1,880
1	P 16	By Old Manway	No. 3 Mine		Open	6	9	54	140	\$147.00	\$23.10	\$26.00	\$1,400.00	\$1,596
4	P 30	Fowler Outcrop (Lower Sunnyside Seam)	No. 2 Mine	Not on map	Sealed			0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
4	P 13.1	No. 2 Canyon Portal 2	No. 2 Mine	Not on map	Sealed			0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0
TOTAL SEAL COST														\$16,948

Block, mortar, and sealant costs were from 1993 vendor quotes.  
Labor cost is based on UMWA wages, including fringes.

SUNNYSIDE COAL COMPANY  
 SUNNYSIDE MINE  
 RECLAMATION COST ESTIMATE -- REVISED 2/1/94

TABLE III-6  
 SHAFT SEALING COST

AREA	I.D. NUMBER	DESCRIPTION	MINE	COMMENTS	STATUS	DIAMETER FEET	COST /SEAL
1	S 1	Shop Fan Shaft Exhaust	No. 3 Mine		Open	16	\$2,400
4	S 2	No. 2 Canyon Exhaust Shaft	No. 2 Mine		Sealed	8	\$0
3	S 3	Whitmore Intake Fan Shaft	No. 1 Mine		Open	16	\$2,400
3	S 4	Whitmore Return	No. 1 Mine		Open	16	\$2,400
9	S 5	Pole Canyon Shaft	No. 1 Mine		Capped	7	\$1,000
9	S 6	Manshaft	No. 1 Mine		Open	8	\$1,000
9	S 7	Twinshaft No. 1	No. 1 Mine		Open	7	\$1,000
9	S 8	Twinshaft No. 2	No. 1 Mine		Open	7	\$1,000
8	S 9	Outcrop	No. 1 Mine		Capped	7	\$1,000
TOTAL SHAFT SEAL COST							\$12,200

Material costs are from 1993 vendor quotes. Labor cost is 1993 UMWA wage.  
 See "Shaft Seal Cost Estimate" sheet for cost details.

SUNNYSIDE COAL COMPANY  
SUNNYSIDE MINE  
RECLAMATION COST ESTIMATE -- REVISED 2/1/94

TABLE III-8  
SHAFT SEAL COST ESTIMATE

There are basically two sizes of shafts, 8' diameter and 16' diameter. The Shafts will be covered with a 1/4" reinforced plate cover that extends at least 2' past the shaft edge on all sides. A 2" vent pipe, will extend through the plate at least 25' above the seal to allow gas escape through the seal. A 6" slab of concrete will be poured over the plate for a distance of 1' beyond the plate on all sides.

8' Diameter Shaft

1/4" plate 12' x 12' x 10.21 lb/SF = 1470 lb.  
1470 lb. \* \$.26/lb. = \$382

3" x 3" x 1/4" angle reinforcing x 2 sections 12' long = 24'  
4.9 lb./ft. x 24' x \$.20/lb. = \$24

25' of 2" black iron schedule 40 pipe @ \$1.53/ft. = \$38

Concrete - (13' x 13' x .5')/27cf/cy = 3.2 CY concrete  
3.2 CY x \$62/CY = \$198

Welding Labor 24'/120 LF/day = 1.6 hrs. x \$35 = \$56  
Laborers - 2 to set steel over shaft in 1 hr. x \$35 = \$70  
Laborers for concrete - 2 x 3 hrs. x \$35 = \$210

TOTAL COST = \$978 Use \$1,000

16' Diameter Shaft

1/4" plate 20' x 20' x 10.21 lb/SF = 4,084 lb.  
4,084 lb. \* \$.26/lb. = \$1,062

3" x 3" x 1/4" angle reinforcing x 3 sections 20' long = 60'  
4.9 lb./ft. x 60' x \$.20/lb. = \$59

25' of 2" black iron schedule 40 pipe @ \$1.53/ft. = \$38

Concrete - (22' x 22' x .5')/27cf/cy = 9.0 CY concrete  
9.0 CY x \$62/CY = \$558

Welding Labor 60'/120 LF/day = 4.0 hrs. x \$35 = \$140  
Laborers - 3 to set steel over shaft in 2 hr. x \$35 = \$210  
Laborers for concrete - 3 x 3 hrs. x \$35 = \$315

TOTAL COST = \$2,382 Use \$2,400

TABLE III-9  
 PORTAL CLOSURE AND FILL

AREA	DESCRIPTION	NO. OF PORTALS	CY @ 230 CY/PORTAL	CAT 769C TRUCK						CAT 988B LOADER			TOTAL COST	
				TRUCK C.Y.	ONE WAY HAUL (FT)	HAUL GRADE %	CYCLE TIME	RATE CY/HOUR	COST /CY	TRUCK COST	LOADER C.Y.	RATE /C.Y.		LOADER COST
1	Portal - No. 3 Slope (SSSF Area) 4 Portals in highwall reduction CY Haul material from #3 Hoisthouse fill area	1	230	230	2,700	3%	6.979	238.2	\$0.667	\$153	230	\$0.445	\$102	\$256
2	Fan Canyon Portals (Reclaimed)													
3	None (Whitmore Cyn Fan Area)													
4	No. 2 Canyon Mine Portals included in cut slope reduction. No road access to open portal (Fowler) above cliff. Note (1)	1												\$2,100
5	Water Canyon Portals (Reclaimed)													
6	None (Manshaft Area)													
7	Portals - Columbia Bleeders No road access. Note (1)	3												\$6,300
8	Outcrop Fan Portals (7) included in Cut Slope Reduction Portal w/no road access. Note (1)	1												\$2,100
9														
SUB-TOTAL				230						\$153	230		\$102	
TOTAL			230											\$10,756

NOTES:

- 1) Shoot portals using 2 men 3 days per portal = \$1,522.50  
 Add pack horse rental, portable drill, and powder & primers--use \$550.00  


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- 2) See equipment operating cost sheets for hourly and unit cost backup. \$2,072.50 use \$2,100/portal

CHAPTER III

SUNNYSIDE COAL COMPANY  
SUNNYSIDE MINE  
RECLAMATION COST ESTIMATE -- REVISED 2/1/94

TABLE III-10  
DRILL HOLE CEMENTING ESTIMATE

Two holes are presently known to be open. The holes are DH 86-1 and the Manshaft Power Borehole. The proposed CH4 Vent Borehole is also included.

DH 86-1

8" diameter to 680' depth  
Volume = 237.4 cu. ft. = 8.79 Cubic Yards

Manshaft Power Borehole

8" diameter to 1,220' depth  
Volume = 425.9 cu. ft. = 15.8 Cubic Yards

Proposed CH4 Vent Borehole

8" diameter to 1,120' depth  
Volume = 391.0 cu. ft. = 14.5 Cubic Yards

Total Cost:

Concrete: 39.1 Cubic Yards x \$62/CY = \$2,424  
Labor: 1 man x 2 days x 8 hrs. x \$35/hr. = \$560

TOTAL DRILL HOLE CEMENTING COST = \$2,984

Concrete is from a 1993 vendor quote with extra truck time  
Labor cost based on 1993 UMWA rates including burden.

SUNNYSIDE COAL COMPANY  
SUNNYSIDE MINE  
RECLAMATION COST ESTIMATE -- REVISED 2/1/94

TABLE III-11  
REVEGETATION COST SUMMARY

AREA NUMBER	AREA DESCRIPTION	VEGETATION TYPE	TOTAL ACRES	% STEEP SLOPES	HYDROSEEDING			DRILLING			TOTAL REVEGETATION COST
					ACRES	COST /ACRE	COST	ACRES	COST /ACRE	DRILLED COST	
1	Main complex, including offices, shop, warehouse, parking lot, unit train, preparation plant, No. 3 Mine fan, industrial water tanks, mine portals, & substations.	Sagebrush grass	52.9	0%	0.00	\$670	\$0	52.90	\$412	\$21,802	\$21,802
2	Fan Cyn fan, substations, portals, & road.	Sagebrush grass	3.3	0%	0.00	\$670	\$0	3.30	\$412	\$1,360	\$1,360
3	Whitmore Ventilation shafts, road, & pond.	Sagebrush grass	3.0	0%	0.00	\$670	\$0	3.00	\$412	\$1,236	\$1,236
4	No. 2 Canyon Yard, Fan & Portal.	Sagebrush grass	8.0	0%	0.00	\$670	\$0	8.00	\$412	\$3,297	\$3,297
5	Water Canyon portals & road.	Sagebrush grass	11.3	0%	0.00	\$670	\$0	11.30	\$412	\$4,657	\$4,657
6	Manshaft Substation area, manshaft pond road, and Twinshafts mine water pond. water discharge.	Sagebrush grass	3.0	0%	0.00	\$670	\$0	3.00	\$454	\$1,362	\$1,362
7	Sacco Flats, RR Loop, & Refuse Haul Road  No revegetation at Columbia bleeders.	Pinyon - juniper & grass	13.9	20%	2.78	\$739	\$2,053	11.12	\$454	\$5,047	\$7,101
8	Outcrop Fan Area, fan, substations, Outside Raise portals & roads.	Pinyon - juniper	8.8	36%	3.17	\$739	\$2,340	5.63	\$526	\$2,965	\$5,305
9	Manshaft - Twinshafts Area, fan, shafts, hoisthouse, bathhouse, Pole Canyon shaft, and B Canyon portal.	Mountain brush	11.2	100%	11.20	\$803	\$8,990	0.00	\$0	\$0	\$8,990
TOTAL REVEGETATION			115.4		17.15		\$13,383	98.25		\$41,726	\$55,109

See equipment operating cost sheets for hourly and unit cost backup.

Average Revegetation Cost/Acre

\$478

SUNNYSIDE COAL COMPANY  
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TABLE III-12  
 SOIL TESTING, FERTILIZING, & SEED BED PREPARATION

EQUIPMENT & LABOR COSTS	UNIT JOB TIME Hrs./Acre	HOURLY LABOR RATE	UNIT LABOR COST	HOURLY EQUIPMENT COST	UNIT EQUIPMENT COST	EQUIPMENT & LABOR COST /ACRE
TRACTOR & FERTILIZER SPREADER	1.0	\$22.00	\$22.00	\$20.00	\$20.00	\$42.00
TRACTOR & DISC	1.0	\$22.00	\$22.00	\$20.00	\$20.00	\$42.00
TOTAL EQUIPMENT & LABOR COST/ACF						\$84.00

DRILLING MATERIAL COSTS

MATERIAL COSTS	UNITS	UNIT COST	UNITS /ACRE	COST /ACRE
SOIL TESTING	Sample	\$45.000	3	\$135.00
PHOSPHORUS	Lbs	\$0.118	30	\$3.54
AMMONIUM NITRATE	Lbs	\$0.097	40	\$3.86
				\$142.40

SUMMARY OF SOIL TESTING, FERTILIZING, & SEED BED PREPARATION COSTS

	EQUIPMENT & LABOR COSTS	MATERIAL COSTS	TOTAL COST /ACRE
TOTAL COST/ACRE	\$84.00	\$142.40	\$226.40

Labor, equipment, & material rates are from 1993 suppliers.

SUNNYSIDE COAL COMPANY  
 SUNNYSIDE MINE  
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TABLE III-13  
 HYDROSEEDING REVEGETATION COSTS

EQUIPMENT & LABOR COSTS	UNIT JOB TIME Hrs./Acre	HOURLY LABOR RATE	UNIT LABOR COST	HOURLY EQUIPMENTS COST
HYDROSEEDER (seed)	0.5	\$22.00	\$11.00	\$41.20
	0.5	\$15.00	\$7.50	
			\$18.50	
HAY BLOWER	0.5	\$22.00	\$11.00	\$19.50
	0.5	\$15.00	\$7.50	
			\$18.50	
HYDROSEEDER (mud & tackifier)	0.5	\$22.00	\$11.00	\$41.20
	0.5	\$15.00	\$7.50	
			\$18.50	
<b>TOTAL EQUIPMENT &amp; LABOR COST/ACRE</b>				

HYDROSEEDING MATERIAL COSTS

MATERIAL COSTS	UNITS	UNIT COST	UNITS /ACRE	COST /ACRE
HAY	Tons	\$75.00	2	\$150.00
TACKIFIER	Lbs.	\$0.90	120	\$108.00
WOOD FIBER	Tons	\$220.00	0.15	\$33.00
				\$291.00

SUMMARY OF HYDROSEEDING COSTS BY VEGETATION TYPE

VEGETATION TYPE	EQUIPMENTS & LABOR COSTS	MATERIAL COSTS	SEED COSTS	HYDRO-SEEDING COST /ACRE
Pinyon-Juniper	\$106.45	\$291.00	\$341.15	\$738.60
Mountain Brush	\$106.45	\$291.00	\$405.20	\$802.65
Pinyon-Juniper/Grass	\$106.45	\$291.00	\$336.65	\$734.10
Sagebrush/Grass	\$106.45	\$291.00	\$272.73	\$670.18

Labor, equipment, & material rates are from 1993 suppliers.

SUNNYSIDE COAL COMPANY  
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TABLE III-14  
 DRILLING REVEGETATION COSTS

EQUIPMENT & LABOR COSTS	UNIT JOB TIME Hrs./Acre	HOURLY LABOR RATE	UNIT LABOR COST	HOURLY EQUIPMENT COST
SEED DRILL	0.5	\$22.00	\$11.00	\$20.00
HAY BLOWER	0.5	\$22.00	\$11.00	\$19.50
	0.5	\$15.00	\$7.50	
			\$18.50	
HAY CRIMPER	0.5	\$22.00	\$11.00	\$21.50
TOTAL EQUIPMENT & LABOR COST/ACF				

DRILLING MATERIAL COSTS

MATERIAL COSTS	UNITS	UNIT COST	UNITS /ACRE	COST /ACRE
HAY	Tons	\$75.00	2	\$150.00
				\$150.00

SUMMARY OF DRILLING COSTS BY VEGETATION TYPE

VEGETATION TYPE	EQUIPMEN & LABOR COSTS	MATERIAL COSTS	SEED COSTS	TOTAL DRILLING COST /ACRE
Pinyon-Juniper	\$71.00	\$150.00	\$233.65	\$454.65
Mountain Brush	\$71.00	\$150.00	\$305.40	\$526.40
Pinyon-Juniper/Grass	\$71.00	\$150.00	\$232.90	\$453.90
Sagebrush/Grass	\$71.00	\$150.00	\$191.13	\$412.13

Labor, equipment, & material rates are from 1993 suppliers.

SUNNYSIDE COAL COMPANY  
 SUNNYSIDE MINE  
 RECLAMATION COST ESTIMATE -- REVISED 2/1/94

TABLE III-15  
 SEED COSTS FOR MOUNTAIN BRUSH VEGETATION TYPE

SEED	COST/LB. PLS	DRILLING		BROADCAST	
		RATE	COST/ ACRE	RATE	COST/ ACRE
<b>GRASSES</b>					
Agropyron smithii	\$4.00	1.9	\$7.60	2.8	\$11.20
Bouteloua gracilis	\$21.00	0.6	\$12.60	0.2	\$4.20
Elymus salina	\$16.00	2.6	\$41.60	3.9	\$62.40
Koeleria cristata	\$40.00	0.8	\$32.00	1.2	\$48.00
Oryzopsis hymenoides	\$6.50	0.4	\$2.60	0.6	\$3.90
Poa pratensis	\$2.00	0.1	\$0.20	0.2	\$0.40
<b>FORBS AND SHRUBS</b>					
Amelanchier alnifolia	\$45.00	1.3	\$58.50	2.0	\$90.00
Achillea millefollium	\$13.00	0.1	\$1.30	0.1	\$1.30
Artemesia ludoviciana	\$40.00	0.1	\$4.00	0.1	\$4.00
Balsamorhiza sagittata	\$18.00	0.2	\$3.60	0.2	\$3.60
Castilleja chromosa	\$150.00	0.1	\$15.00	0.1	\$15.00
Cercocarpus ledifolius	\$20.00	0.2	\$4.00	0.2	\$4.00
Cercocarpus montanus	\$28.00	1.1	\$30.80	1.7	\$47.60
Gaillardia aristata	\$41.00	0.1	\$4.10	0.1	\$4.10
Gilia aggregata	\$95.00	0.1	\$9.50	0.1	\$9.50
Hedysarum boreale	\$60.00	0.7	\$42.00	1.0	\$60.00
Penstemon strictus	\$20.00	0.1	\$2.00	0.1	\$2.00
Petalostemon purpureum	\$40.00	0.1	\$4.00	0.1	\$4.00
Potentilla fruticosa	\$45.00	0.1	\$4.50	0.1	\$4.50
Rhus trilobata	\$18.00	0.5	\$9.00	0.5	\$9.00
Rosa woodsii	\$12.00	0.5	\$6.00	0.5	\$6.00
Solidago canadensis	\$25.00	0.1	\$2.50	0.1	\$2.50
Symphoricarpos oreophilis	\$40.00	0.2	\$8.00	0.2	\$8.00
<b>TOTAL</b>			<b>\$305.40</b>		<b>\$405.20</b>

Seed costs from 1993 vendor quotes.

SUNNYSIDE COAL COMPANY  
SUNNYSIDE MINE  
RECLAMATION COST ESTIMATE -- REVISED 2/1/94

TABLE III-16  
SEED COSTS FOR PINYON-JUNIPER VEGETATION TYPE

SEED	COST/LB. PLS	DRILLING		BROADCAST	
		RATE	COST/ ACRE	RATE	COST/ ACRE
<b>GRASSES</b>					
Agropyron smithii	\$6.50	5.9	\$38.35	8.9	\$57.85
Bouteloua gracilis	\$16.00	0.3	\$4.80	0.5	\$8.00
Elymus salina	\$16.00	0.3	\$4.80	0.4	\$6.40
Hilaria jamesii	\$21.00	0.7	\$14.70	1.0	\$21.00
Oryzopsis hymenoides	\$6.00	2.3	\$13.80	3.5	\$21.00
Sitanion hystrix	\$18.00	0.6	\$10.80	0.9	\$16.20
<b>FORBS AND SHRUBS</b>					
Artemisia nova	\$28.00	0.1	\$2.80	0.1	\$2.80
Cercocarpus ledifolius	\$20.00	0.4	\$8.00	0.6	\$12.00
Cercocarpus montanus	\$22.00	1.8	\$39.60	2.8	\$61.60
Cowania mexicana	\$14.00	1.0	\$14.00	1.5	\$21.00
Ephedra viridis	\$12.00	0.4	\$4.80	0.7	\$8.40
Gilia aggregata	\$95.00	0.1	\$9.50	0.1	\$9.50
Hedysarum boreale	\$40.00	1.3	\$52.00	1.9	\$76.00
Oenothera pallida	\$50.00	0.1	\$5.00	0.1	\$5.00
Penstemon bridgesii	\$18.00	0.1	\$1.80	0.1	\$1.80
Penstemon palmeria	\$14.00	0.1	\$1.40	0.1	\$1.40
Petalostemon purpureum	\$37.00	0.1	\$3.70	0.2	\$7.40
Sphaeralcea coccinea	\$38.00	0.1	\$3.80	0.1	\$3.80
<b>TOTAL</b>			<b>\$233.65</b>		<b>\$341.15</b>

Seed costs from 1993 vendor quotes.

SUNNYSIDE COAL COMPANY  
SUNNYSIDE MINE  
RECLAMATION COST ESTIMATE -- REVISED 2/1/94

TABLE III-17  
SEED COSTS FOR PINYON-JUNIPER/GRASS VEGETATION TY

SEED	COST/LB. PLS	DRILLING		BROADCAST	
		RATE	COST/ ACRE	RATE	COST/ ACRE
<b>GRASSES</b>					
Agropyron smithii	\$6.50	5.9	\$38.35	8.9	\$57.85
Bouteloua gracilis	\$16.00	0.3	\$4.80	0.5	\$8.00
Elymus salina	\$16.00	0.3	\$4.80	0.4	\$6.40
Hilaria jamesii	\$16.00	0.7	\$11.20	1.0	\$16.00
Oryzopsis hymenoides	\$6.00	2.3	\$13.80	3.5	\$21.00
Sitanion hystrix	\$21.00	0.6	\$12.60	0.9	\$18.90
<b>FORBS AND SHRUBS</b>					
Artemesia ludoviciana	\$45.00	0.1	\$4.50	0.1	\$4.50
Artemesia nova	\$25.00	0.1	\$2.50	0.1	\$2.50
Cercocarpus ledifolius	\$20.00	0.4	\$8.00	0.6	\$12.00
Cercocarpus montanus	\$22.00	1.8	\$39.60	2.8	\$61.60
Cowania mexicana	\$12.50	1.0	\$12.50	1.5	\$18.75
Ephedra viridis	\$4.00	0.4	\$1.60	0.7	\$2.80
Gilia aggregata	\$95.00	0.1	\$9.50	0.1	\$9.50
Hedysarum boreale	\$40.00	1.3	\$52.00	1.9	\$76.00
Oenothera pallida	\$52.50	0.1	\$5.25	0.1	\$5.25
Penstemon bridgesii	\$25.00	0.1	\$2.50	0.1	\$2.50
Penstemon palmeria	\$22.00	0.1	\$2.20	0.1	\$2.20
Petalostemon purpureum	\$37.00	0.1	\$3.70	0.2	\$7.40
Sphaeralcea coccinea	\$35.00	0.1	\$3.50	0.1	\$3.50
<b>TOTAL</b>			<b>\$232.90</b>		<b>\$336.65</b>

Seed costs from 1993 vendor quotes.

SUNNYSIDE COAL COMPANY  
 SUNNYSIDE MINE  
 RECLAMATION COST ESTIMATE -- REVISED 2/1/94

TABLE III-18  
 SEED COSTS FOR SAGEBRUSH-GRASS TYPE

SEED	COST/LB. PLS	DRILLING		BROADCAST	
		RATE	COST/ ACRE	RATE	COST/ ACRE
<b>GRASSES</b>					
Agropyron smithii	\$6.50	3.0	\$19.50	5.9	\$38.35
Agropyron spicatum	\$4.50	1.5	\$6.75	2.2	\$9.90
Bouteloua gracilis	\$16.00	0.2	\$3.20	0.2	\$3.20
Oryzopsis hymenoides	\$6.00	3.2	\$19.20	4.9	\$29.40
Sitanion hystrix	\$21.00	0.2	\$4.20	0.3	\$6.30
Sporobolis cryptandrus	\$1.80	0.1	\$0.18	0.1	\$0.18
Stipa comata	\$35.00	1.9	\$66.50	2.8	\$98.00
<b>FORBS AND SHRUBS</b>					
Amelanchier alnifolia	\$45.00	0.1	\$4.50	0.1	\$4.50
Artemesia ludoviciana	\$45.00	0.1	\$4.50	0.1	\$4.50
Artemisia tridentata	\$20.00	0.1	\$2.00	0.1	\$2.00
Balsamorhiza sagittata	\$20.00	0.2	\$4.00	0.3	\$6.00
Chrysothamnus nauseosus	\$24.00	0.1	\$2.40	0.1	\$2.40
Eurotia lanata	\$18.00	0.3	\$5.40	0.4	\$7.20
Hedysarum boreale	\$40.00	0.7	\$28.00	1.0	\$40.00
Penstemon palmeria	\$22.00	0.1	\$2.20	0.1	\$2.20
Petalostemon purpureum	\$37.00	0.1	\$3.70	0.1	\$3.70
Solidago canadensis	\$24.00	0.1	\$2.40	0.1	\$2.40
Sphaeralcea coccinea	\$35.00	0.1	\$3.50	0.1	\$3.50
Symphoricarpos oreophilis	\$45.00	0.2	\$9.00	0.2	\$9.00
<b>TOTAL</b>			<b>\$191.13</b>		<b>\$272.73</b>

Seed costs from 1993 vendor quotes.

SUNNYSIDE COAL COMPANY  
SUNNYSIDE MINE  
RECLAMATION COST ESTIMATE -- REVISED 2/1/94

TABLE III-19  
REGRADE AREAS OUTSIDE CUT SLOPES

AREA	DESCRIPTION	ACRES	CY @ 18" DEPTH	CAT D8L WITH S BLADE				CAT D8L TRIPLE SHANK RIPPER				CAT 769C TRUCK			CAT 988B LOADER			TOTAL COST	
				C.Y.	PUSH DIST	RATE /C.Y.	DOZING COST	C.Y.	RIP DIST	RATE /C.Y.	RIPPING COST	C.Y.	HAUL MILES	RATE /C.Y.	TRUCK COST	C.Y.	RATE /C.Y.		LOADER COST
1	General Area Grading SSSF Area - Total 68.3 ac	9.5	22,990	22,990	150	\$0.435	\$10,001	22,990	400	\$0.076	\$1,747	0		\$0	0	\$0			
		22.1	53,482					53,482	400	\$0.076	\$4,065								
2	General Area Grading Fan Cyn Portal Area - 3.3 ac	0.2	484									484	2.0	\$2,000	\$968	484	\$0.912	\$441	\$1,409
3	General Area Grading Whitmore Fan Area - 3.8 ac	0.5	1,210	1,210	50	\$0.200	\$242	1,210	400	\$0.076	\$92	0		\$0	0	\$0			
		1.1	2,662					2,662	400	\$0.076	\$202								
4	General Area Grading - No. 2 Cyn Yard & Fan Pad - 14.1 ac	1.8	4,356	4,356	150	\$0.435	\$1,895	4,356	400	\$0.076	\$331	0		\$0	0	\$0			
		2.2	5,324					5,324	400	\$0.076	\$405								
5	General Area Grading Water Canyon: Refuse Area Portal Area Total 11.3 ac. Access Road	3.7	8,954	8,954	50	\$0.200	\$1,791	8,954	300	\$0.078	\$698	8,954	2.0	\$2,000	\$17,908	8,954	\$0.912	\$8,166	
		0.1	242									242	2.0	\$2,000	\$484	242	\$0.912	\$221	
		5.4	13,068									13,068	100	\$0.088	\$1,150	0		\$0	
6	General Area Grading - 8.8 ac Manshaft Substation Area	0.6	1,452	1,452	50	\$0.200	\$290	1,452	100	\$0.088	\$128	0		\$0	0	\$0			
		0.5	1,210					1,210	100	\$0.088	\$106								
7	General Area Grading - 19.4 ac Areas @ 18" Cover Areas Not Covered by Borrow	1.0	2,420	2,420	50	\$0.200	\$484	2,420	400	\$0.076	\$184	2,420	0.5	\$1,250	\$3,025	2,420	\$0.445	\$1,077	
		12.9	31,218					31,218	400	\$0.076	\$2,373								
8	General Area Grading - 8.8 ac Outcrop Fan Area & Road	2.0	4,840	4,840	50	\$0.200	\$968	4,840	100	\$0.088	\$426	0		\$0	0	\$0			
		6.4	15,488					15,488	100	\$0.088	\$1,363								
9	General Area Grading - 18.6 ac Manshaft - Twinshaft Area, 002B	1.5	3,630	3,630	150	\$0.435	\$1,579	3,630	300	\$0.078	\$283	0		\$0	0	\$0			
		1.9	4,598					4,598	300	\$0.078	\$359								
SUB-TOTAL		73.4		49,852			\$17,250	176,902			\$13,912	12,100		\$22,385	12,100		\$9,905		
TOTAL			177,628																\$63,451

See equipment operating cost sheets for hourly and unit cost backup.

TABLE III-20

CUT SLOPE REGRADING

AREA	DESCRIPTION	LENGTH FT.	AVERAGE X/C AREA C.Y./FT.	CAT D8L WITH S BLADE					CAT D8L TRIPLE SHANK RIPPER				CAT 633D SCRAPER			CAT 225 BACKHOE/8' STICK		TOTAL COST			
				C.Y.	C.Y.	PUSH DIST	RATE /C.Y.	DOZING COST	C.Y.	RIP DIST	RATE /C.Y.	RIPPING COST	C.Y.	HAUL DIST	RATE /C.Y.	SCRAPER COST	C.Y.		RATE /C.Y.	BACKHOE COST	
1	Unit Train Loadout Cut Slope		See Cut/Fill	71,519	45,444	250	\$0.705	\$32,038	45,444	300	\$0.078	\$3,545	26,075	300	\$0.604	\$15,749				\$51,332	
	Preparation Plant Cut Slope		See Cut/Fill	68,037	25,833	400	\$0.987	\$25,497	25,833	300	\$0.078	\$2,015	42,204	900	\$0.997	\$42,077				\$69,590	
			0																		
2	Fan Canyon, #2 Mine		Finish Amount	484	484	150	\$0.435	\$211									484	\$1.106	\$535	\$746	
			0																		
3	Whitmore Canyon Fan	130	7.71	924	924	100	\$0.318	\$294	462	150	\$0.083	\$38					139	\$1.106	\$153	\$486	
			0																		
4	No. 2 Canyon Mine Fan	360	1.71	615	615	150	\$0.435	\$267	307	300	\$0.078	\$24					92	\$1.106	\$102	\$393	
	No. 2 Mine Portals Cut Slope	1300	2.07	2,693	2,693	150	\$0.435	\$1,171	1,346	400	\$0.078	\$102					404	\$1.106	\$447	\$1,721	
			0																		
5	Water Canyon Cut Slopes		Finish Amount	242	242	150	\$0.435	\$105									242	\$1.106	\$268	\$373	
			0																		
6	None -- Manshaft (Valley)			0	0																
				0	0																
7	None -- Refuse Disposal Area			0	0																
				0	0																
8	Outcrop Fan Area	570	30.70	17,500	17,500	150	\$0.435	\$7,612	8,750	300	\$0.078	\$682					2,625	\$1.106	\$2,903	\$11,198	
				0																	
9	Twinshaft Cut Slope	220	49.82	10,959	10,959	150	\$0.435	\$4,787	5,480	200	\$0.080	\$438					1,644	\$1.106	\$1,818	\$7,024	
	Manshaft Cut Slope	900	18.07	16,263	16,263	150	\$0.435	\$7,074	8,132	400	\$0.078	\$618					2,439	\$1.106	\$2,698	\$10,390	
	Pole Canyon Shaft Cut Slope	330	14.12	4,660	4,660	150	\$0.435	\$2,027	2,330	300	\$0.078	\$182					699	\$1.106	\$773	\$2,982	
				0																	
SUB-TOTAL					125,616			\$81,065	98,084			\$7,645	68,279			\$57,827	8,768		\$9,697		
TOTAL				193,895																	\$156,234

See equipment operating cost sheets for hourly and unit cost backup.

SUNNYSIDE COAL COMPANY  
 SUNNYSIDE MINE  
 RECLAMATION COST ESTIMATE -- REVISED 2/1/94

TABLE III-21  
 POND REMOVAL COST

AREA	POND DESCRIPTION	CY CAPACITY	DOZER PUSH DISTANCE	COST /C.Y.	TOTAL COST
1	No. 3 Hoist House Sediment Pond (Removed during Prep Plant cut slope regrade)				
1	Lower No. 2 Canyon Sediment Pond	2,010	50	\$0.200	\$402
1	Sunnyside Surface Facilities Sediment Pond	9,350	300	\$0.779	\$7,284
4	Upper No. 2 Canyon Sediment Pond	630	50	\$0.200	\$126
9	Manshaft Sediment Pond	2,480	50	\$0.200	\$496
9	Twin Shaft Mine Water Discharge 001 Pond	10,100	100	\$0.318	\$3,212
3	Whitmore Mine Water Discharge 002A Pond	5,030	50	\$0.200	\$1,006
3	Whitmore Mine Water Discharge 002B Pond	11,180	100	\$0.318	\$3,555
TOTAL SEDIMENT POND REMOVAL COST					\$16,081

- 1) See "Estimated Dozer Production - D8L", 50' Push distance for Cost/CY
- 2) Volume of Redistributed Material = Pond Capacity to top of embankment

TABLE III-22  
 CULVERT REMOVAL COST ESTIMATE

CULVERT	MAP I.D.	TYPE	DIAMETER INCHES	SLOPE %	LENGTH FEET	COST /LF	REMOVAL COST
SSSF Ditch/Refuse Road	RC1-1	CMP	36	3.00%	120.0	\$2.00	\$240
Refuse Road	RC1-2	CMP	16	10.00%	120.0	\$2.00	\$240
Refuse Road-Sacco Flats	RC1-3	CMP	36	5.53%	85.0	\$2.00	\$170
Does not Exist	RC1-4						
Does not Exist	RC1-5						
Railroad	RC1-6	CMP	30	7.50%	32.0	\$2.00	\$64
SSSF Pond Access Rd	RC1-7	CMP	12	8.33%	60	\$2.00	\$120
Water Cyn Rd	RC2-1	CMP	24	3.25%	40	\$2.00	\$80
Old Coarse Refuse Drainage	RC2-2	CMP	24	4.38%	48.0	\$2.00	\$96
Water Cyn Rd	RC2-3	CMP	18	3.00%	40.0	\$2.00	\$80
Water Cyn Rd	RC2-4	CMP	36	8.80%	25.0	\$2.00	\$50
Water Cyn Rd	RC2-5	CMP	24	2.27%	44.0	\$2.00	\$88
No.2 Cyn Rd-Top of Supply Yd	RC3-1	CMP	36	2.54%	29.5	\$2.00	\$59
No.2 Cyn Rd-6th up from Top	RC3-2	CMP	36	5.33%	30.0	\$2.00	\$60
No.2 Cyn Rd-5th up from Top	RC3-3	CMP	36	2.67%	30.0	\$2.00	\$60
No.2 Cyn Rd-4th up from Top	RC3-4	CMP	36	2.76%	29.0	\$2.00	\$58
No.2 Cyn Rd-2nd up from Top	RC3-5	CMP	48	5.50%	32.0	\$2.90	\$93
No.2 Cyn Rd-Switchback	RC3-6	CMP	36	5.25%	40.0	\$2.00	\$80
No.2 Cyn Rd-Bottom	RC3-7	CMP	12	1.52%	93.0	\$2.00	\$186
No.2 Cyn Rd-3rd up from Top	RC3-8	CMP	18	3.33%	21.0	\$2.00	\$42
No.2 Cyn Supply Yd-1st blw Top	RC-C1	CMP	18	0.32%	119.0	\$2.00	\$238
No.2 Cyn Supply Yd-2nd blw Top	RC-C2	CMP	12	2.13%	155.0	\$2.00	\$310
No.2 Cyn Supply Yd-3rd blw Top	RC-C3	CMP	24	1.83%	126.0	\$2.00	\$252
No.2 Cyn Supply Yd-4th blw Top	RC-C4	CMP	18	0.73%	172.0	\$2.00	\$344
Does not Exist	RC-C5						
Btm Supply Yd to Lwr No.2 Pond	RC-C6	CMP	12	3.91%	51.2	\$2.00	\$102
North side to Lwr No.2 Pond	RC-C7						
Triangle Undisturbed North No.2 Cyn	RC-C8	CMP	12	2.41%	33.2	\$2.00	\$66
Part of RC-C8	RC-C9	CMP	12	6.00%	50.0	\$2.00	\$100
South Yard Triangle to LWR #2 Pond	RC-C10	CMP	12	7.18%	74.5	\$2.00	\$149
Trestle to LWR #2 Pond	RC-C11	CMP	6	4.00%	51.6	\$2.00	\$103
Grassy Trail CRK/Manshaft RD	RC7-1	CMP	84	5.00%	60	\$4.50	\$270
South of Bathhouse #2	RC7-2	CMP	8	15.75%	9	\$2.00	\$18
Manshaft/Twinshaft Rd Intersection	RC7-3	CMP	8	57.74%	20	\$2.00	\$40
Twinshaft Pad Drain Ditch	RC7-4	CMP	18	2.91%	55	\$2.00	\$110
Manshaft Rd Corner	RC7-5	CMP	12	23.27%	15	\$2.00	\$30
Manshaft Sub Drain/County Rd	RC7-6	CMP	18	1.43%	42	2	
South of Bathhouse #1	RC7-7	CMP	8	33.66%	21	\$2.00	\$42
Grassy Trail CRK/West Ridge RD	RC7-8	CMP	96	5.00%	20	\$6.55	\$131
Whitmore Sub Drain/County Rd	RC7-9	CMP	15	2.00%	40	County	
Engineer Office Rd/Undisturbed Ditch	RC10-1	CMP	36	5.18%	56	\$2.00	\$112
South of Shop	RC10-2	CMP	18	5.00%	20	\$2.00	\$40
SSSF Ditch/Access Rd @ Plant Office	RC10-3	CMP	28	1.30%	124	\$2.00	\$248
No.2 Cyn Wash	RC10-4	CMP	144	10.00%	150	\$6.55	\$983
Bath House Sump	RC10-5	CMP	12	1.82%	110	\$2.00	\$220
#3 Milkhouse	RC10-6	CMP	24	5.45%	110	\$2.00	\$220
Yard X-sing North of RR	RC10-7	CMP	12	1.36%	103	\$2.00	\$206
North Ramp coal pile	RC10-8	CMP	36	2.67%	300	\$2.00	\$600
Water Loadout/North Access Stckpl	RC10-9	CMP	12	3.94%	164	\$2.00	\$328
No. 3 Slope Conveyor-Prep Plant	RC10-10	CMP	18	12.61%	43	\$2.00	\$86
Hillside Sub Undisturbed to Pond	RC10-11	CMP	30	9.00%	320	\$2.00	\$640
Hillside Sub Ramp X-sing	RC10-12	CMP	24	2.08%	24	\$2.00	\$48
Hoisthouse Pond Inlet	RC10-13	CMP	18	4.02%	51	\$2.00	\$102
No.2 Cyn Bridge above Arches	RC10-14	Box Culvert	89x102	15.00%	60	\$12.50	\$750
Clean Coal Belt/No.2 Cyn Wash Arches	RC10-15	Arches	192			Table III-1	
SSSF Ditch/Rd to Fuel Station	RC10-16	CMP	24	1.43%	35	\$2.00	\$70
RR Tracks/No.2 Cyn Wash	RC10-17	CMP	42x28	3.57%	43.4	\$2.90	\$126
North End Loadout Tunnel	RC10-18	CMP	24	4.54%	205.0	\$2.00	\$410
Stckpl Pad Drain Downspout	RC10-19	CMP	8	45.50%	73.0	\$2.00	\$146
Between Stckpl & RR Tracks-SSSF Ditch	RC10-20	Alum Pipe	6	1.36%	22	\$2.00	\$44
Sump Outlet under RR Tracks	RC10-21a	Iron Pipe	12	3.81%	21.0	\$2.00	\$42
Sump Outlet under RR Tracks	RC10-21b	Iron Pipe	12	2.38%	21.0	\$2.00	\$42
Mine Track Sump	RC10-22	Iron Pipe	16	9.76%	20.5	\$2.00	\$41
No.2 Cyn/North Rd near #2 Cyn Pond	RC10-23	Box Culvert	127x60	3.00%	25.7	\$12.50	\$321
Refuse Rd West Ditch/Coal Haul Rd	C-11a	CMP	12	5.83%	60.0	\$2.00	\$120
Slurry Ditch/RR @ Bermuda Tri	C-13	CMP	36	2.55%	235.0	\$2.00	\$470
Undisturbed Drains @ Bermuda Tri	C-14-1	Perf CMP	6	2.25%	40.0	\$2.00	\$80
Undisturbed Drains @ Bermuda Tri	C-14-2a	G. Iron Pipe	6	0.50%	20.0	\$2.00	\$40
Undisturbed Drains @ Bermuda Tri	C-14-2b	G. Iron Pipe	6	3.00%	20.0	\$2.00	\$40
Disturbed twins @ Bermuda Tri	C-15	G. Iron Pipe	6	3.50%	20.0	\$2.00	\$40
Main Entrance Bridge	M-BR	BRIDGE	240x1200	-	20.0	Permanent	
Lower Entrance Culvert	M-CV	CMP	90	14.50%	40.0	Permanent	
Slurry Pipe		CMP	24		1,200.0	\$2.00	\$2,400

\$13,186

SUNNYSIDE COAL COMPANY  
SUNNYSIDE MINE  
RECLAMATION COST ESTIMATE -- REVISED 2/1/94

TABLE III-25  
RECLAMATION & REVEGETATION COST SUMMARY

AREA NUMBER	AREA DESCRIPTION	TOTAL ACRES	MINE SEALING	REGRAIDING DISTURBED AREAS	REGRAIDING HIGHWALL AREAS	PORTAL CLOSURE & FILL	SOIL TEST FERTILIZE & PREPARE	REVEGETATE	POND RECLAIM	SUB-TOTAL RECLAMATION COST
1	Main complex, including offices, shop, warehouse, parking lot, unit train, preparation plant, No. 3 Mine fan, industrial water tanks, mine portals, & substations.	52.9	\$11,484	\$15,813	\$120,921	\$256	\$11,977	\$21,802	\$7,686	\$189,938
2	Fan Cyn fan, substations, portals, & road.	3.3	\$0	\$1,409	\$746	\$0	\$747	\$1,360		\$4,262
3	Whitmore Ventilation shafts, road, & pond.	3.0	\$4,800	\$536	\$486	0	\$679	\$1,236	\$4,561	\$12,299
4	No. 2 Canyon Yard, Fan & Portal.	8.0	\$0	\$2,631	\$2,114	\$2,100	\$1,811	\$3,297	\$126	\$12,079
5	Water Canyon portals & road.	11.3	\$0	\$30,418	\$373	0	\$2,558	\$4,657		\$38,006
6	Manshaft Substation area, manshaft pond road, and Twinshafts mine water pond.	3.0	\$0	\$525	\$0	\$0	\$679	\$1,362		\$2,566
7	Sacco Flats, RR Loop, & Refuse Haul Road	13.9	\$0	\$7,142	\$0	\$6,300	\$3,147	\$7,101		\$23,690
8	Outcrop Fan Area, fan, substations, Outside Raise portals & roads.	8.8	\$7,863	\$2,757	\$0	\$2,100	\$1,992	\$5,305		\$20,017
9	Manshaft-Twinshafts Area, fan, shafts, hoisthouse, bathhouse, Pole Canyon shaft, and B Canyon portal.	11.2	\$5,000	\$2,221	\$20,396	\$0	\$2,536	\$8,990	\$3,708	\$42,850
<b>TOTAL</b>		<b>115.4</b>	<b>\$29,148</b>	<b>\$63,451</b>	<b>\$145,036</b>	<b>\$10,756</b>	<b>\$26,127</b>	<b>\$55,109</b>	<b>\$16,081</b>	<b>\$345,706</b>

Note: Soil Test, Fertilize, & Prepare cost based on acres x \$204.26/acre  
See backup cost calculation sheet (Table III-12).

SUNNYSIDE COAL COMPANY  
SUNNYSIDE MINE  
RECLAMATION COST ESTIMATE -- REVISED 2/1/94

TABLE III-29  
TOTAL PERFORMANCE BOND ESTIMATE

ITEM	TOTAL	Table
Mine Sealing	\$29,148	III-5&6
Regrading Disturbed Areas (1)	\$63,451	III-19
Regrading Cut Slope Areas (1)	\$156,234	III-20
Remove Contaminated Soil	\$80,870	III-42
Portal Closure & Fill	\$10,756	III-9
Soil Testing, Preparation & Fertilizing	\$26,127	III-25
Revegetation	\$55,109	III-11
Pond Reclamation	\$16,081	III-21
Dismantling & Removing Facilities	\$943,727	III-1
Culvert Removal	\$13,186	III-22
Plug Drill Holes	\$2,984	III-10
Monitoring During 10 Year Responsibility	\$146,620	III-30
Revegetation @ 40% Failure Rate (2)	\$32,494	
On-Site Manager - (8 mo. x \$5,000/mo.)	\$40,000	
	\$1,616,786	
	YEAR	ESCALATEE FACTOR
	1993	
	1994	1.84%
	1995	1.84%
		TOTAL BOND
		\$1,616,786
		\$1,646,535
		\$1,676,831
Cost to Collateralize Bond @ 6%		\$100,610
Contractor Mobilization & Demobilization		\$10,000
Contingency @ 10%		\$167,683
TOTAL PERFORMANCE BOND ESTIMATE		\$1,955,124

Notes:

- (1) Estimated dirt volumes based on 18 to 48 inches of soil material.
- (2) Calculations for Revegetation Failure Rate Cost:

Soil Testing, Prep., & Fertilizing	\$26,127
Revegetation	\$55,109
Total Revegetation & Soil Testing	\$81,235
Disturbed Acres	157
Cost/Disturbed Acre	\$517
Cost at 40% Failure Rate	\$32,494

SUNNYSIDE COAL COMPANY  
SUNNYSIDE MINE  
RECLAMATION COST ESTIMATE -- REVISED 2/1/94

TABLE III-30  
TEN YEAR RESPONSIBILITY PERIOD MONITORING

A. EROSIONAL

2 mandays/month at \$30.00/hr x 12 months x 10 years x 8 hrs./day = \$57,600

B. HYDROLOGIC

- 1) Sample each discharge pond on a 10 year - 24 hour storm frequency basis. Assume each pond will require sampling one time during the ten year responsibility period.

8 ponds x 2 hours each x \$30.00/hr = \$480

- 2) Sample 2 streams 4 times/year x 2 hrs/sample x 10 years x \$30/hr = \$4,800

- 3) Laboratory costs @ \$190/sample x 88 samples in 10 years = \$16,720

Total Hydrologic = \$22,000

C. VEGETATION

- 1) Biannual sampling of vegetation reference areas and revegetated areas during responsibility period. Assume 5 years of sampling 8 days/year.

40 days x 2 men x \$30/hr. x 8 hrs. = \$19,200

- 2) Final vegetation survey for reclamation bond release

16 days x 3 men x 8 hrs./day x \$30/hr. = \$11,520

- 3) Biannual Report assembling and writing

3 days x 2 men x 8 hrs./day x \$30/hr. x 5 reports = \$7,200

- 4) Final vegetation report assembling and writing

8 days x 2 men x 8 hrs/day x \$30/hr x 5 reports = \$19,200

Total Vegetation = \$57,120

D. SUBSIDENCE SURVEY

- 1) Subsidence survey annually for 3 years after closure.

3 days x 3 men x 8 hrs/day x \$25/hr x 3 yrs = \$5,400

- 2) Annual subsidence report

5 days x 1.5 men x 8 hrs/day x \$25/hr x 3 yrs = \$4,500

Total Subsidence Monitoring = \$9,900

TOTAL MONITORING COST = \$146,620

\* Lab sample costs are from 1993 lab costs.  
Labor costs are from recent contractor quotes.

Table III - 31

SUNNYSIDE COAL COMPANY  
 SUNNYSIDE MINE  
 RECLAMATION COST ESTIMATE  
 REVISED 2/1/94

## EQUIPMENT OPERATING COSTS

EQUIPMENT	MONTHLY RENTAL COST	COST WITH 1.05 REGIONAL CORRECTION FACTOR	HOURLY OPERATING COST	MONTHLY OPERATING COST	MONTHLY LABOR COST	MONTHLY TOTAL COST	HOURLY COST @
							119.2 HOURS /MONTH
Cat D8L	\$13,200	\$13,900	\$35.60	\$4,200	\$5,600	\$23,700	\$199.00
Cat D8L/Single Shank Ripper	\$15,950	\$16,700	\$39.30	\$4,700	\$5,600	\$27,000	\$227.00
Cat D8L/Triple Shank Ripper	\$15,030	\$15,800	\$38.90	\$4,600	\$5,600	\$26,000	\$218.00
Cat 225 Backhoe with 8' Stick	\$8,000	\$8,400	\$20.50	\$2,400	\$5,600	\$16,400	\$138.00
Cat 633D Self-Loading Scraper	\$20,500	\$21,500	\$63.00	\$7,500	\$5,600	\$34,600	\$290.00
Cat 988B Front End Loader	\$13,460	\$14,100	\$42.25	\$5,000	\$5,600	\$24,700	\$207.00
Cat 769C Haul Truck	\$9,500	\$10,000	\$28.50	\$3,400	\$5,600	\$19,000	\$159.00
20 CY Haul Truck	\$4,300	\$4,500	\$20.90	\$2,500	\$5,600	\$12,600	\$106.00
Equipment Operating Hrs./Day	(A)	6.50					
Labor Paid Hrs./Day	(B)	7.25					
Days/Month Operated	(C)	22					
Equipment Maint. Availability	(D)	83.33%					
Equipment Hrs./Month A*C*D		119.2					
Operator Hrs./Month B*C		159.5					
Hourly Labor Cost Incl. Fringes (UMWA)		\$35.00					

Monthly Equipment Rental and Hourly Operating Cost from "Rental Rate Blue Book for Construction Equipment"

Table III-32

SUNNYSIDE COAL COMPANY  
 SUNNYSIDE MINE  
 RECLAMATION COST ESTIMATE  
 REVISED 2/1/94

CAT 225 BACKHOE PRODUCTION WITH 8'-0" STICK

Use G.P. bucket with 48" width - Heaped = 1.37 CY

Material between rock - well blasted & bottom end of sand & gravel for fill factor --- use 85%

CYCLE TIME	TIME SECONDS
Average operator @ 120 deg. swing	8.0
Load Bucket	6.0
Dump Bucket	2.0
Swing Empty	6.0
	-----
TOTAL CYCLE TIME	22.0 Seconds
TOTAL CYCLE TIME	0.367 Minutes

Assume : 0% Swell on Reworked Material  
 2 minutes reset time every 20 swings.  
 50 minute hour

Adjusted cycle time = (min./cycle \* cycles before reset + reset time)/cycles before reset = 0.467 min./cycle

PRODUCTION  
 Bucket capacity \* fill factor \* 50 min. hr./minutes/cycle = 124.8 CY/50 min. hr.

OPERATING COST  
 \$138.00 /HR. \* 124.8 = \$1.106 /LCY

Equipment Hourly Costs From " Equipment Operating Costs" Table

Table III-33

SUNNYSIDE COAL COMPANY  
 SUNNYSIDE MINE  
 RECLAMATION COST ESTIMATE  
 REVISED 2/1/94

Cat 988B Loader Production

CYCLE TIME

Basic Cycle Time 0.57 min.  
 Material - Mixed 0.02 min.  
 Misc. - Assume: 0.00 min.  
 -----  
 0.59 min.

Use 7 CY heaped rock bucket with fill factor of 95%

7 CY \* 95% = 6.65 CY/Bucket      35 Ton/2600lb./ton = 26.92 CY/Truck  
 26.92 CY truck/6.65 CY/Bucket = 4.05 Buckets/Truck  
 Use 4 Buckets /Truck \* 6.65 CY/Bucket = 26.6 CY/Truck  
 4 Buckets \* 0.59 min./bucket = 2.36 min. Truck Load Time

20 CY truck/6.65 CY/Bucket = 3.01 Buckets/Truck  
 Use 3 Buckets/Truck \* 6.65 CY/Bucket = 19.95 CY/Truck  
 3 Buckets \* 0.59 min./bucket = 1.77 min. Truck Load Time

Truck Size	Load Time	Spot Time	Wait Time	Total Time	Loads /50 min hr	CY /hr.	Loading Cost @ \$207.00 /hr.
35 Ton	2.36	0.5	0.0	2.86	17.48	465.03	\$0.445
	2.36	0.5	0.5	3.36	14.88	395.83	\$0.523
	2.36	0.5	1.0	3.86	12.95	344.56	\$0.601
	2.36	0.5	2.0	4.86	10.29	273.66	\$0.756
	2.36	0.5	3.0	5.86	8.53	226.96	\$0.912
	2.36	0.5	4.0	6.86	7.29	193.88	\$1.068
	2.36	0.5	5.0	7.86	6.36	169.21	\$1.223
20 CY Truck Hourly Cost =							\$106.00 /hr.
20 CY	1.77	0.5	0.0	2.27	22.03	439.43	\$0.241
	1.77	0.5	0.5	2.77	18.05	360.11	\$0.294
	1.77	0.5	1.0	3.27	15.29	305.05	\$0.347
	1.77	0.5	2.0	4.27	11.71	233.61	\$0.454
	1.77	0.5	3.0	5.27	9.49	189.28	\$0.560
	1.77	0.5	4.0	6.27	7.97	159.09	\$0.666
	1.77	0.5	5.0	7.27	6.88	137.21	\$0.773

Equipment Hourly Costs From " Equipment Operating Costs" Table

Table III-34

SUNNYSIDE COAL COMPANY  
 SUNNYSIDE MINE  
 RECLAMATION COST ESTIMATE  
 REVISED 2/1/94

CAT 633D PRODUCTION & OPERATING COSTS

HAUL DISTANCE	LOADED HAUL TIME MIN.	EMPTY HAUL MIN.	SPREAD TIME MIN.	LOAD TIME MIN.	CYCLE TIME MIN.	LOADS /50 MIN. HOUR	C.Y./HR. @ 28.8 C.Y./LOAD	COST/C.Y. @ \$290 /HOUR
50	0.25	0.20	0.70	0.90	2.05	24.39	702	\$0.413
100	0.40	0.30	0.70	0.90	2.30	21.74	626	\$0.463
150	0.52	0.35	0.70	0.90	2.47	20.24	583	\$0.497
200	0.63	0.45	0.70	0.90	2.68	18.66	537	\$0.540
250	0.75	0.50	0.70	0.90	2.85	17.54	505	\$0.574
300	0.85	0.55	0.70	0.90	3.00	16.67	480	\$0.604
350	0.95	0.60	0.70	0.90	3.15	15.87	457	\$0.634
400	1.05	0.65	0.70	0.90	3.30	15.15	436	\$0.665
450	1.15	0.70	0.70	0.90	3.45	14.49	417	\$0.695
500	1.25	0.75	0.70	0.90	3.60	13.89	400	\$0.725
550	1.35	0.82	0.70	0.90	3.77	13.26	382	\$0.759
600	1.45	0.90	0.70	0.90	3.95	12.66	365	\$0.795
650	1.55	0.95	0.70	0.90	4.10	12.20	351	\$0.826
700	1.65	1.00	0.70	0.90	4.25	11.76	339	\$0.856
750	1.75	1.05	0.70	0.90	4.40	11.36	327	\$0.886
800	1.87	1.10	0.70	0.90	4.57	10.94	315	\$0.920
850	2.00	1.15	0.70	0.90	4.75	10.53	303	\$0.957
900	2.15	1.20	0.70	0.90	4.95	10.10	291	\$0.997

PAYLOAD = 75,000 LB./2,600 LB./C.Y. = 28.8 L.C.Y./LOAD  
 CYCLE TIMES FROM CAT HANDBOOK  
 EQUIPMENT HOURLY COSTS FROM "EQUIPMENT OPERATING COSTS" TABLE

Table III-35

SUNNYSIDE COAL COMPANY  
 SUNNYSIDE MINE  
 RECLAMATION COST ESTIMATE  
 REVISED 2/1/94

ESTIMATED DOZER PRODUCTION - D8L

PUSH DISTANCE	D8L UNCORRECTED DOZER PRODUCTION	JOB CORRECTED C.Y. @ 0% GRADE	COST/C.Y. @ \$199 / HOUR
50	1480	995	\$0.200
100	930	625	\$0.318
150	680	457	\$0.435
200	530	356	\$0.558
250	420	282	\$0.705
300	380	255	\$0.779
350	320	215	\$0.925
400	300	202	\$0.987

JOB CORRECTION FACTORS

A. Operator - Average	0.75
B. Material - Previously Excavated	0.90
C. Slot Dozing	1.20
D. Job Efficiency - 50 Min. Hr.	0.83
E. Wt. Correction 2600lb./yd / 2600 lb./yd.	1.00

Correction Factor - A \* B \* C \* D \* E = 0.67

- Assume average LCY weight of 2,600 lb/cy for 25% rock, 75% earth
- Production data from Caterpillar Production Handbook - Dozing
- Equipment Hourly Costs From " Equipment Operating Costs" Table

ESTIMATED RIPPER PRODUCTION D8L WITH SINGLE SHANK RIPPER

RIP DISTANCE	TIME ONE WAY MIN.	ADD TURN TIME .25 MIN	PASSES /50 MIN. HOUR	HOURLY PASSES @ 85% JOB *	** PRODUCTION BCY/HR.		COST/L.C.Y. @ \$227 /HR.	
					1' DEEP	2'DEEP	1' DEEP	2'DEEP
50	0.568	0.818	61.1	51.9	288.6	577.2	\$0.787	\$0.393
100	1.136	1.386	36.1	30.7	340.6	681.2	\$0.666	\$0.333
150	1.705	1.955	25.6	21.7	362.4	724.8	\$0.626	\$0.313
200	2.273	2.523	19.8	16.8	374.4	748.7	\$0.606	\$0.303
250	2.841	3.091	16.2	13.8	381.9	763.9	\$0.594	\$0.297
300	3.409	3.659	13.7	11.6	387.2	774.3	\$0.586	\$0.293
350	3.977	4.227	11.8	10.1	391.0	782.0	\$0.581	\$0.290
400	4.545	4.795	10.4	8.9	393.9	787.8	\$0.576	\$0.288

- \* Actual Production 10% to 20% lower than calculated method. See Caterpillar Performance Handbook - Calculating Ripper Production.
- \*\* Rip Distance \* 3' between passes \* Depth \* Hourly Passes/27 cu. ft.per C.Y.
- Equipment Hourly Costs From " Equipment Operating Costs" Table

ESTIMATED RIPPER PRODUCTION D8L WITH TRIPLE SHANK RIPPER

RIP DISTANCE	TIME ONE WAY MIN.	ADD TURN TIME .25 MIN	PASSES /50 MIN. HOUR	HOURLY PASSES @ 85% JOB *	** PRODUCTION BCY/HR.		COST/L.C.Y. @ \$218.00 /HR.	
					1' DEEP	2'DEEP	1' DEEP	2'DEEP
50	0.568	0.818	61.1	51.9	1089.9	2179.7	\$0.208	\$0.104
100	1.136	1.386	36.1	30.7	1286.4	2572.8	\$0.176	\$0.088
150	1.705	1.955	25.6	21.7	1368.7	2737.4	\$0.166	\$0.083
200	2.273	2.523	19.8	16.8	1413.9	2827.8	\$0.161	\$0.080
250	2.841	3.091	16.2	13.8	1442.5	2885.0	\$0.157	\$0.079
300	3.409	3.659	13.7	11.6	1462.2	2924.4	\$0.155	\$0.078
350	3.977	4.227	11.8	10.1	1476.6	2953.2	\$0.154	\$0.077
400	4.545	4.795	10.4	8.9	1487.6	2975.2	\$0.153	\$0.076

- \* Actual Production 10% to 20% lower than calculated method. See Caterpillar Performance Handbook - Calculating Ripper Production.
- \*\* Rip Distance \* 11.33' between passes \* Depth \* Hourly Passes/27 cu. ft.per C.Y.
- Equipment Hourly Costs From " Equipment Operating Costs" Table

July 9, 1992

#2 CANYON WASH RECLAMATION COST ESTIMATE

## Parameters:

1. Three Men (Including Crane Operator) at \$229.83 (7-1/4 Hr Shift)
2. Assume: Two Hours to Cut Each Arch Free and Pull Out By Crane
3. 24 Arches To Be Removed
4. 7.25 Hours/Manshift = .5 Lunch - .5 Mantrip = 6.25 Hours Actual Work Time
5. (24 Arches) (2 Hrs/Arch) = 48 Hours
6. 3 Men to Utilize = (3) (6.25) = 18.75 Hours

(Labor To Remove Arches)

7.  $\frac{48 \text{ Hours}}{18.75 \text{ Hrs/Manshift}} = 2.56 \text{ Manshifts} = 3 \text{ Shifts}$
8. (3 Shifts) (3 Men) (\$229.83/Manshift) = \$2,069

## Crane Costs:

1. Blue Book Rental for Grove RT58C (Page 13-13) at \$370/Day  
(3 Days) (\$370/Day) = \$1,110  
  
(Operating Cost)
2. Plus (3 Days) (7-1/4 Hrs/Day) (\$14.20/Hr) = \$309

TOTAL CRANE COST IS \$1,419

Labor to Remove All Pipe From #2 Wash At 2 Men/2 Days Is  
(4 Manshifts) (\$120) = \$480

TOTAL COST OF JOB = \$3,968

SUNNYSIDE COAL COMPANY  
 SUNNYSIDE MINE  
 RECLAMATION COST ESTIMATE -- REVISED 2/1/94

Table III-42  
 Contaminated Soil Removal Costs

Area	Length	Width	Area	Depth	Cu Yds
Shop Building	120	50	3000	3	330
Preparation Plant	50	50	2500	3	280
Backfill Plant	50	50	2500	3	280
Fueling Station	25	25	625	2	50
Coarse Refuse Bin	25	25	625	3	70
Stockpile Pad	75	50	3750	2	280
North End Loadout	25	25	625	3	70
#3 Hoisthouse	15	15	225	2	20
Rotary Dump	15	15	225	2	20
Sacco Flats	100	25	2500	2	190
#3 Emulsion House	15	15	225	2	20
Mnshft Emulsion Hs	15	15	225	2	20
Rotary Brkr Bldg	15	15	225	2	20
Totals			0.40 acre		1,650
Loading Cost :	988b @ \$0.912/cy				\$1,505
Haulage Cost :	20 CY Truck @ \$5.20/cy				\$8,580
Landfill Cost:	ECDC @ \$33/ton				\$70,785
Total Cost					\$80,870