



Coastal
The Energy People

KEN PAYNE
VICE PRESIDENT &
GENERAL MANAGER
SOUTHERN UTAH FUEL COMPANY

Wayne, Please Review + discuss with me
041/002 #4 (1992 file)

RECEIVED

JUL 17 1992

**DIVISION OF
OIL GAS & MINING**

July 13, 1992

Mr. Darron Haddock
Permitting Supervisor
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Dear Mr. Haddock:

We appreciate the time that Lowell Braxton, Wayne Western and yourself were able to spend with SUFCO discussing the reclamation bond and other issues dealing with the permit renewal on July 8, 1992. The bond calculation has been revised in the following areas: all unit costs were escalated to 1992, cut and fill costs are based on a performance calculation, and the bond amount has been escalated to 1997 dollars using two percent per year as requested.

If the revised bond amount of \$1,690,000 is acceptable, please advise us and we will obtain and post the the necessary reclamation bond as expeditiously as possible.

Sincerely,
SOUTHERN UTAH FUEL COMPANY

Ken Payne,
Vice President and General Manager

KM/WKS:jad#318

xc: Kevin Yocum

Southern Utah Fuel Company

A SUBSIDIARY OF THE COASTAL CORPORATION
397 SOUTH 800 WEST • SALINA UT 84654 • 801/637-4880

SUFCO BOND ESTIMATE

THE UNIT PRICES DEVELOPED BELOW ARE USED IN THIS BOND ESTIMATE:

Concrete Demolition		\$8.50	cu yd	✓	
Concrete Disposal onsite		\$5.88	cu yd	✓	
Total Concrete Removal		\$14.38	cu yd	✓	
Steel building demolition		\$0.27	cu ft	✓	
Disposal off site 20% volume of building		\$9.15	cu yd	✓	
Masonry bldg demolition		\$0.21	cu ft	✓	
Disposal offsite nonmasonry 10% volume of bldg		\$9.15	cu yd	✓	
CMP pipe excavation and demolition		\$21.72	linear ft	✓	
Pre-split blasting of rock		\$44.95	cu yd	✓	
Cut/Fill and Grading assume using D9 size dozer & compactor place fill in 8" lifts with 3 passes see performance calcs.		\$2.09	cu yd	✓	
Backfill of portal entries and tunnel		\$7.89	cu yd	✓	
Conveyor structures are 9 ft x 4 ft @	\$0.27	cu ft	\$9.74	ft of structure	✓
Paving demolition		\$5.60	cu yd	✓	
Paving disposal onsite		\$5.65	cu yd	✓	
Total paving removal		\$11.25	cu yd	✓	
Machine laid riprap		\$27.05	cu yd	✓	
Filter fabric placement and bedding		\$2.00	sq yd	✓	
Binwall removal use a cat 245 class backhoe excavate dirt out on 1H:1V slope cut sheeting free dispose of sheeting off site 5 % of wall volume		\$4.94	cu yd for removal	✓	
		\$9.15	cu yd for disposal	✓	

SUFco BOND ESTIMATE

ACTIVITY	TOTALS
Close Portals	
Remove No.1 Belt structure to tipple	
200 ft @ \$9.74 ft of structure	\$1,948
Build three pumpable seals prior to backfilling portals	
3 @ \$3,000 each	\$9,000
Remove mine fans and associated fan houses	
2 @ \$7,000 each	\$14,000
Remove concrete collar at fan portal and backfill	
33 @ \$14.38 cu yd of concrete	\$474
150 @ \$7.89 cu yd of fill	\$1,184
Subtotal	\$26,606 <i>OK</i>

Notes:

concrete will be buried on site with at least 4 ft of cover
belt and intake portals will be backfilled as part of normal regrading

Remove Structural Steel Buildings & Connecting Conveyors

Loadout Bin			
38,850 cu ft @	\$0.27	cu ft of structure	\$10,509
18 cu yd @	\$14.38	cu yd of concrete	\$259
Tipple Building			
105,056 cu ft @	\$0.27	cu ft of structure	\$28,418
93 cu yd @	\$14.38	cu yd of concrete	\$1,335
Loadout Conveyor			
259 ft @	\$9.74	ft of structure	\$2,522
68 cu yd @	\$14.38	cu yd of concrete	\$978
Transfer Conveyor			
81 ft @	\$9.74	ft of structure	\$789
Stacker Conveyor			
173 ft @	\$9.74	ft of structure	\$1,685
8 cu yd @	\$14.38	cu yd of concrete	\$115
ROM Stacker Conveyor			
345 ft @	\$9.74	ft of structure	\$3,360
24 cu yd @	\$14.38	cu yd of concrete	\$345
ROM Reclaim Conveyor			
280 ft @	\$9.74	ft of structure	\$2,727
11 cu yd @	\$14.38	cu yd of concrete	\$153
Catenary 42' Reclaim Belt No.1			
1,650 cu ft @	\$0.27	cu ft of structure	\$446
38 cu yd @	\$14.38	cu yd of concrete	\$543
Catenary 42' Reclaim Belt No.2			
1,250 cu ft @	\$0.27	cu ft of structure	\$338
0 cu yd @	\$14.38	cu yd of concrete	\$0

SUFCO BOND ESTIMATE

Sampler Building			
15,625 cu ft @	\$0.27	cu ft of structure	\$4,227
4 cu yd @	\$14.38	cu yd of concrete	\$53
Stacker Tube			
2,462 cu ft @	\$0.27	cu ft of structure	\$666
30 cu yd @	\$14.38	cu yd of concrete	\$431
ROM Stacker Tube			
7,238 cu ft @	\$0.27	cu ft of structure	\$1,958
0 cu yd @	\$14.38	cu yd of concrete	\$0
Dispose of structure assume 20% volume			
1,579 cu yd @	\$9.15		\$14,443
		Subtotal	\$76,300 <i>OK</i>

Note: all concrete will be buried on site with minimum of 4 ft cover.

Remove metal buildings and foundations

Shop and Warehouse			
269,360 cu ft @	\$0.27	cu ft of structure	\$72,863
505 cu yd @	\$14.38	cu yd of concrete	\$7,258
Shed			
4,003 cu ft @	\$0.27	cu ft of structure	\$1,083
5 cu yd @	\$14.38	cu yd of concrete	\$67
Motor House			
3,072 cu ft @	\$0.27	cu ft of structure	\$831
9 cu yd @	\$14.38	cu yd of concrete	\$136
Snow Plow Garage			
10,260 cu ft @	\$0.27	cu ft of structure	\$2,775
Office Building			
217,927 cu ft @	\$0.27	cu ft of structure	\$58,950
240 cu yd @	\$14.38	cu yd of concrete	\$3,448
Tipple Scale Building and Scale			
90,200 cu ft @	\$0.27	cu ft of structure	\$24,399
52 cu yd @	\$14.38	cu yd of concrete	\$748
Truck Scale			
3,200 cu ft @	\$0.27	cu ft of structure	\$866
27 cu yd @	\$14.38	cu yd of concrete	\$394
Ambulance Garage			
4,608 cu ft @	\$0.27	cu ft of structure	\$1,246
11 cu yd @	\$14.38	cu yd of concrete	\$162
Contractors Office			
8,910 cu ft @	\$0.27	cu ft of structure	\$2,410
Dispose of structure assume 20% volume			
4,530 cu yd @	\$9.15		\$41,449
		Subtotal	\$219,086 <i>OK</i>

SUFCO BOND ESTIMATE

Note: all concrete will be buried on site with minimum of 4 ft cover.

Remove concrete block buildings

Covered Storage			
47,813 cu ft @	\$0.21	cu ft of structure	\$9,949
120 cu yd @	\$14.38	cu yd of concrete	\$1,725
Record Storage			
2,800 cu ft @	\$0.21	cu ft of structure	\$583
40 cu yd @	\$14.38	cu yd of concrete	\$575
Steam Cleaner Building			
18,720 cu ft @	\$0.21	cu ft of structure	\$3,835
96 cu yd @	\$14.38	cu yd of concrete	\$1,380
Shop Garage			
cu ft @	\$0.21	cu ft of structure	\$0
cu yd @	\$14.38	cu yd of concrete	\$0
Rock Dust Building and Tanks			
9,982 cu ft @	\$0.21	cu ft of structure	\$2,077
24 cu yd @	\$14.38	cu yd of concrete	\$339
ROM MCC Building			
1,870 cu ft @	\$0.21	cu ft of structure	\$389
22 cu yd @	\$14.38	cu yd of concrete	\$320
Electrical Building			
1,700 cu ft @	\$0.21	cu ft of structure	\$354
4 cu yd @	\$14.38	cu yd of concrete	\$57
Tipple Office Building			
7,900 cu ft @	\$0.21	cu ft of structure	\$1,644
36 cu yd @	\$14.38	cu yd of concrete	\$518
Dispose of structure assume 10% volume			
336 cu yd @	\$9.15		\$3,077
		Subtotal	\$26,880

Note: all concrete and concrete block will be buried on site with minimum of 4 ft cover.

Remove Concrete Bins

Sand and Salt Bin			
75 cu yd @	\$14.38	cu yd of concrete	\$1,078
Stoker Coal Storage			
329 cu yd @	\$14.38	cu yd of concrete	\$4,730
Lump Coal Storage			
35 cu yd @	\$14.38	cu yd of concrete	\$503
Sediment Trap			
76 cu yd @		cu yd of concrete	\$1,093
		Subtotal	\$7,405

Note: all concrete will be buried on site with minimum of 4 ft cover.

Remove Bin walls

SUFCO BOND ESTIMATE

ROM Stockpile Binwall

249 cu yd @ \$14.38 cu yd of concrete \$3,580

Note: concrete retaining wall along east of ROM will be buried in place as will reclaim tunnel.

sq ft binwall fac 6,854 14.12 ft deep = 3,584 cu yd
 volume of excavation = bin volume + 1H:1V slope behind
 slope vol height avg 20.83 length 240 1,928 cu yd
 total volume to excavate 5,513 cu yd @ \$4.94 \$27,233
 total volume to dispose of 179 cu yd @ \$9.15 \$1,640

Substation Pad Binwall

61 cu yd @ \$14.38 cu yd of concrete \$879
 sq ft lower face 3,108 14.3 ft deep = 1,646 cu yd
 sq ft lower S.F. 909 16.5 ft deep = 556 cu yd
 sq ft lower N.F. 808 16.5 ft deep = 494 cu yd
 sq ft upper face 2,155 14.3 ft deep = 1,141 cu yd
 sq ft upper S.F. 1,800 16.5 ft deep = 1,100 cu yd
 sq ft upper N.F. 1,720 16.5 ft deep = 1,051 cu yd
 volume of excavation = bin volume + 1H:1V slope behind
 slope vol upper hgt 25.33 length 234 2780 cu yd
 slope vol lower hgt 28 length 212 3078 cu yd
 total volume to excavate 11,846 cu yd @ \$4.94 \$58,520
 total volume to dispose of 299 cu yd @ \$9.15 \$2,739

Subtotal \$94,591

Plug and Remove CMP's and Tunnels

42' Mud Spring Canyon CMP removal
 180 lin ft @ \$21.72 per linear ft \$3,910
 72' East Spring Canyon CMP removal
 1,075 lin ft @ \$21.72 per linear ft \$23,349
 48' East Spring Canyon CMP removal
 505 lin ft @ \$21.72 per linear ft \$10,969
 24' CMP from sediment trap to sediment pond removal
 250 lin ft @ \$21.72 per linear ft \$5,430
 Backfill ROM 84' Escapeway CMP
 108 cu yd @ \$7.89 cu yd of fill \$854
 Backfill Concrete Reclaim Tunnel
 600 cu yd @ \$7.89 cu yd of fill \$4,737
 Subtotal \$49,249

Paving Removal

Demolish Loading Dock
 15 cu yd @ \$14.38 cu yd of concrete \$212
 Demolish paving in front of shop
 184 cu yd @ \$11.25 cu yd of asphalt \$2,070
 142 cu yd @ \$14.38 cu yd of concrete \$2,047

SUFCA BOND ESTIMATE

Demolish paving in front of office			
467 cu yd @	\$11.25	cu yd of asphalt	\$5,250
Demolish roadway paving			
608 cu yd @	\$11.25	cu yd of asphalt	\$6,842
Demolish Fuel Dock			
32 cu yd @	\$14.38	cu yd of concrete	\$466
		Subtotal	\$16,888

Note: All paving materials and concrete will be buried on site at least 4 ft deep.

Cut/Fill and Grading			
74,734 cu yd @	\$2.09	cu yd of cut/fill	\$156,194

Drainage Channel Construction

Note: Main channel is to be constructed in rock. Worst case is assumed with rock requiring pre-split blasting before loading onsite experience indicates only limited if any blasting required.

Main Channel

	Reach 1	face length	575			
		30.5 ft of riprap per foot of face of channel.	Riprap depth 5 ft			
riprap volume	3248	cu yd @	\$27.05		\$87,851	
filter fabric area	1949	sq yd @	\$2.00		\$3,897	
	Excavation of this reach is included in cut volume above					
		b	d	z	length	
area/perimeter/volume	Reach 2	17.50	6.00	1.00	95	
	141	34	496	cu yd @	\$44.95	\$22,300
	Excavation of this reach is included in cut volume above					
area/perimeter/volume	Reach 3	17.50	6.00	1.00	235	
	141	34	1227	cu yd @	\$44.95	\$55,164
	Excavation of this reach is included in cut volume above					
area/perimeter/volume	Reach 4	17.50	7.50	1.00	390	
	188	39	2708	cu yd @	\$44.95	\$121,740
	Excavation of this reach is included in cut volume above					
area/perimeter/volume	Reach 5	10.00	5.50	0.75	90	
	78	24	259	cu yd @	\$44.95	\$11,640
	Excavation of this reach is included in cut volume above					
area/perimeter/volume	Reach 6	10.00	5.50	0.75	150	
	78	24	432	cu yd @	\$44.95	\$19,400
	Excavation of this reach is included in cut volume above					
area/perimeter/volume	Reach 7	17.50	5.50	1.00	105	
	127	33	492	cu yd @	\$44.95	\$22,113
	Excavation of this reach is included in cut volume above					
area/perimeter/volume	Reach 8	17.50	5.50	1.00	175	
	127	33	820	cu yd @	\$44.95	\$36,855
	Excavation of this reach is included in cut volume above					

Upper intercept ditch

SUFCO BOND ESTIMATE

b,d,z,length		0	1	3	285		
area/perimeter/riprap vol	3	6	93	cu yd @	\$27.05	\$2,519	
filter fabric area			186	sq yd @	\$2.00	\$372	
Lower intercept ditch							
b,d,z,length		0	1	3	225		
area/perimeter/riprap vol	3	6	79	cu yd @	\$27.05	\$2,139	
filter fabric area			158	sq yd @	\$2.00	\$316	
East collector channel will be r riprased lined with a thicknes of 1.5 ft							
Reaches B-1, B-2, B-4, & B-5							
b,d,z,length		2	2	1	1800		
area/perimeter/riprap vol	8	8	766	cu yd @	\$27.05	\$20,712	
filter fabric area			1531	sq yd @	\$2.00	\$3,063	
Reach B-3							
b,d,z,length		3	3	1	80		
area/perimeter/riprap vol	18	11	51	cu yd @	\$27.05	\$1,381	
filter fabric area			102	sq yd @	\$2.00	\$204	
West collector channel to be excavated in rock will not require riprased							
Reaches A-1 & A-2							
b,d,z,length		2	2	1	510		
area/perimeter/volume	8	8	151	cu yd @	\$44.95	\$6,792	
Reaches A-3, A-4 & A-5							
b,d,z,length		2	3	1	810		
area/perimeter/volume	15	10	450	cu yd @	\$44.95	\$20,228	
						Subtotal	\$594,880
Ripping							
Bonded area includes 27.79 acres at minesite							
27.79 acres @						\$300 per acre	\$8,337
						Subtotal	\$8,337
Topsail Distribution							
Bonded area includes 27.79 acres at minesite							
27.79 acres @						\$1,800 per acre	\$50,022
<u>Revegetation</u>							
Fertilization							
27.79 acres @						\$400 per acre	\$11,116
Seeding							
27.79 acres @						\$1,600 per acre	\$44,464
Seedlings							
27.79 acres @						\$2,200 per acre	\$61,138
Mulch							
27.79 acres @						\$1,100 per acre	\$30,569
						Subtotal	\$147,287
<u>Monitoring and Maintenance</u>							
Hydrologic							
10 years @						\$4,200 per year	\$42,000

Coastal States Energy Company
Southern Utah Fuel Company

Mine and Reclamation Plan
June 24, 1992

SUFCO BOND ESTIMATE

Vegetation			
10 years @	\$1,000 per year		\$10,000
Erosion			
10 years @	\$3,300 per year		\$33,000
			\$85,000
		MINESITE TOTAL	\$1,352,508
		w/o contingency	
<u>Waste Rock Disposal Site</u>			
See Volume 3 Appendix 3 for details of calculation			
Estimated amount in 1988 dollars	\$35,731	escalate 2% per year to 1992	\$38,676
		TOTAL FOR SUFCO MINE	\$1,391,184
<u>Contingency</u>			
10 percent of total			\$139,118
		GRAND TOTAL FOR SUFCO 92 \$	\$1,530,302
<u>Bond Term Escalation</u>			
5 year term @ 2 % per year multiplier =	1.104081	BOND TOTAL	\$1,689,577
		ROUNDED BOND TOTAL	\$1,690,000

7/13/92

SUFCD Final RECLAMATION

CUT & FILL OPERATIONS:

PLATE 5-3 shows existing and post-reclamation surface configuration.

Substation tin walls will be removed with ~~245~~ class backhoe. Fill will be placed on south-east end of office pad.

D-9 class dozer will be used to push dirt out of canyon onto slopes (pads).

Compactor will be used to place material in 8"-12" lifts. Assume slot dozing.

Starting point top of fill slope center of canyon and work up & down.

<u>Location</u>	<u>Distance</u>	<u>change Elevation</u>	<u>Avg GRADE</u>
Center Top slope to office area	360 ft	25 ft	7%
South west slope to tipple area	400 ft	40 ft	10%
REACH 4 TO PAD EAST	300 ft	40 ft	13%
REACH 3 TO EAST PAD	300 ft	35 ft	12%
REACH 2 TO EAST PAD	280 ft	40 ft	14%



LOCATION	Distance	Change Elevation	Avg. Grade
Inlet to west slope	250 ft	40 ft	16%
Inlet to east slope	250 ft	40 ft	16%
Reach 7 to tipple pad area	450 ft	100 ft	22%
AVERAGE	370 ft		16%

USE 250 ft and 25% for yardage calcs.

Assume dozer is equipped with universal U-Blade

FROM CAT HANDBOOK LCY/hr for D9L-S = 450 uncorrected max

OPERATOR AVERAGE	0.75
MATERIAL Hard to drift	0.80
BLD DOZING	1.20
JOB EFF 50min/hr	0.83
GRADE + 16%	0.70
LOAD FACTOR	0.80

$$\text{Production} = (450)(0.75)(0.80)(1.20)(0.83)(0.70)(0.80)$$

$$\text{Production} = 150 \text{ LCY/hr}$$

Compactor 825B

$$\text{CCY/hr} = \frac{W \times S \times L \times 16.3}{P}$$

P = 3 passes
L = 8" lift
S = 6 mph

FROM TABLE 1095 yd³/hr

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS



Figure cost/ yd

74,734 cu yd of material to be moved.
ASSUME 50% rehandle

DOZER TIME = $15 \times 74,734 / 150 = \underline{74.7 \text{ hrs}}$

D9 DOZER COST = \$71.20/hr with operator
 \Rightarrow \$ 53,186

COMPACTOR TIME = $74,734 / 1095 = 68 \text{ hrs}$

ASSUME TWICE TIME BECAUSE OF LONGER
PUSHES AND TIGHT QUARTERS $\Rightarrow \underline{137 \text{ hrs}}$

B15B COMPACTOR COST = \$51.80/hr with operator

Will operator with dozer therefore assume 700 hrs
 \Rightarrow \$36,260

TOTAL = \$89,446

ASSUME OVERHEAD AND SUPPORT WILL BE 75%
of direct cost

$89,446 \times 1.75 = \$156,531$

COST/YD = $\$156,531 / 74,734 = \underline{\underline{\$2.09 \text{ CU YD}}}$

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS

