



COGEMA
Mining, Inc.

~~SECRET~~

NOV 01 1999

October 21, 1999

U.S. Nuclear Regulatory Commission
ATTN: Director
Division of Nuclear Material Safety, Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, Texas 76011

LICENSE SUA-1341
DOCKET NO. 40-8502

RE: Revised Pages to Irigaray/Christensen Ranch Annual Report for 1998-1999

Dear Sir:

Enclosed please find two sets of revised pages to the referenced annual report which is included with the semi-annual monitoring report submitted on August 18, 1999. The revisions are limited to Appendix 5, the decommissioning and reclamation cost estimate. The changes reflect the inclusion of the plugging and abandonment of an additional deep disposal well and twelve additional wells that exist in the general area of Christensen Mine Unit 8. These modifications were discussed with Mr. Glenn Mooney, DEQ/LQD, during his site inspection on October 19, 1999. Please call me if you have any questions.

Sincerely,

T. W. Hardgrove
Manager, Environmental and Regulatory Services

Enclosure

cc: USNRC/Headquarters (2 copies)
WDEQ - District III, Sheridan (cover letter only)
COGEMA-D. L. Wichers, C. W. Toal, J. M. Vaselein

DO NOT WRITE

COGEMA Mining, Inc.
1999 - 2000
Decommissioning and Reclamation Cost Estimate
Irigaray and Christensen Ranch Projects

A. Cost Estimate Assumptions

The 1999-2000 decommissioning and reclamation cost estimate is based on the estimate provided in the last annual surety update submitted August 18, 1998, with changes made to reflect as-built conditions and next year's planned operations. The assumptions which have been used to prepare this year's update are as follows:

1. Irigaray Project

- No changes to the Irigaray estimate have been made.
- Plans for the 1999-2000 year are to continue with the groundwater restoration efforts in Production Units 6 through 9, and to receive approval from the WDEQ and NRC for the completion of restoration in Units 1 through 5.

2. Christensen Ranch Project

- Production operations will continue in Mine Units 5 and 6 until operations enter full restoration in latter 2000. No further development of Mine Unit 7 is currently planned. With no mining of Mine Unit 7 anticipated, the bond estimate has been revised to limit reclamation in Mine Unit 7 to well plugging and abandonment, and surface reclamation. The number of wells in all well fields subject to abandonment has been revised to reflect the actual number of wells present since no additional wells are anticipated.
- No development of Mine Unit 8 is planned. Drill holes already have been plugged in Mine Unit 8, and surface reclamation with the interim seed mix has been completed. The bond estimate reflects the plugging and abandonment of a limited number of existing older wells in the area and the accomplishment of final seeding in Mine Unit 8.
- With the planned re-completion of the 18-3 deep disposal well in the Lance formation and the startup of the use of the 18-3 well (in addition to the existing DW-1), the plugging and abandonment of two deep disposal wells is included.

B. Updated Cost Estimate

The decommissioning and reclamation cost estimate is comprised of eight worksheets and a summary table. The worksheets underwent significant revisions as discussed in Appendix E of the 1997-1998 Annual Report. Those revisions have been maintained in the current estimate (recognizing, however, the changes in status for Christensen Ranch Mine Units 7 and 8).

Table 1 - Summary Reclamation/Restoration Bond Estimate

1. Worksheet costs have been incorporated into the summary.
2. Contingencies: A contingency of 20% is utilized as discussed in the 1997-1998 Annual Report.
3. An 11.5% inflation factor has been added to update the estimate for inflation from August, 1994 through June, 1999 (1999\$). This is based on the Consumer Price Index (CPI - all urban consumers, all items) of 149.0 in August, 1994 and the CPI index of 166.2 in June, 1999.
4. With all adjustments the 1999-2000 restoration/reclamation surety estimate is now \$14,101,166, as compared with the present in-place surety of \$16,868,937. This represents a \$2,767,771 (16.4%) decrease.

COGEMA Mining, Inc.
 SUMMARY OF RECLAMATION/RESTORATION BOND ESTIMATE
 WDEQ PERMIT NO. 478/USNRC LICENSE SUA-1341
 TABLE 1

| | | | |
|-----------|---|------------|---------------------|
| I | GROUNDWATER RESTORATION - Worksheet 1: | | \$5,385,661 |
| II | DECOMMISSIONING AND SURFACE RECLAMATION: | | |
| | A. Process Plant(s) Equipment Removal and Disposal Worksheet 2 | | \$262,060 |
| | B. Plant Building(s) Demolition and Disposal Worksheet 3 | | \$524,967 |
| | C. Process Pond Sludge and Liner Handling Worksheet 4 | | \$2,069,181 |
| | D. Well Abandonment Worksheet 5 | | \$680,098 |
| | E. Wellfield Equipment Removal and Disposal Worksheet 6 | | \$923,817 |
| | F. Topsoil Replacement and Revegetation Worksheet 7 | | \$568,868 |
| | G. Miscellaneous Reclamation Activities Worksheet 8 | | \$124,336 |
| | Sub Total - Decommissioning and Surface Reclamation | | \$5,153,327 |
| | SUBTOTAL RESTORATION AND RECLAMATION | | \$10,538,988 |
| | Contingency | | |
| | Project Design | 2% | |
| | Contractor Profit & Mobilization | 8% | |
| | Project Management | 3% | |
| | Site Security & Liability Assurance | 1% | |
| | Longterm Administration | 1% | |
| | Unknowns | 5% | |
| | TOTAL CONTINGENCY | 20% | \$2,107,798 |
| | SUBTOTAL | | \$12,646,786 |
| | 11.5% Inflation Factor from August, 1994 through June, 1999 | | \$1,454,380 |
| | TOTAL RESTORATION AND RECLAMATION | | \$14,101,166 |

GROUNDWATER RESTORATION

| V LABOR (Irigaray and Christensen Combined) | | | |
|---|-----------|------------|--------------------|
| Cost Assumptions | Cost/Hour | Hours/Year | Cost |
| Crew: | | | |
| 1 Supervisor | \$20.00 | 2080 | \$41,600 |
| 4 Operators | \$15.00 | 2080 | \$124,800 |
| 2 Maintenance | \$15.00 | 2080 | \$62,400 |
| 2 Vehicles | \$10.00 | 2080 | \$41,600 |
| Cost per Year | | | \$270,400 |
| Time Required - Years (See Figure 1) | | 6.7 | |
| TOTAL RESTORATION LABOR COST | | | \$1,811,680 |

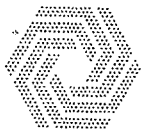
| Irigaray | Christensen | Total |
|--------------|-------------|-------------|
| Mine Unit(s) | Mine Unit | Christensen |
| #1 Thru #9 | #2 Thru #4 | & Irigaray |
| | | |

| VI RESTORATION CAPITAL REQUIREMENTS | | | |
|-------------------------------------|--|------------|------------------|
| I Deep Disposal Well(s) | | \$0 | \$0 |
| II Plug and Abandon 2 DDW's | | \$200,000 | \$200,000 |
| III 500 GPM Reverse Osmosis Unit | | \$0 | \$0 |
| Total | | \$0 | \$200,000 |

| SUMMARY: | Irigaray | Irigaray | Christensen | Christensen | Christensen | Christensen | Christensen | Christensen | Christensen | TOTAL |
|---|--------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------|
| | Mine Unit(s) | Mine Unit(s) | Mine Unit | Mine Unit | Mine Unit | Mine Unit | Mine Unit | Mine Unit | Mine Unit | |
| | #1 Thru #5 | #6 Thru #9 | #2 | #3 | #4 | #5 | #6 | #7 | #8 | |
| I GROUNDWATER SWEEP | \$110,132 | \$46,674 | \$31,173 | \$27,006 | \$22,269 | \$55,864 | \$143,232 | \$0 | | |
| II REVERSE OSMOSIS | \$121,553 | \$350,232 | \$219,868 | \$187,144 | \$157,035 | \$393,542 | \$1,009,137 | \$0 | | |
| III WASTE DISPOSAL WELL | \$0 | \$0 | \$29,377 | \$23,981 | \$20,967 | \$52,517 | \$134,679 | \$0 | | |
| IV STABILIZATION | \$10,800 | \$37,800 | \$37,800 | \$37,800 | \$37,800 | \$37,800 | \$37,800 | \$0 | | |
| SUB TOTAL | \$242,485 | \$434,706 | \$318,218 | \$275,931 | \$238,070 | \$539,724 | \$1,324,848 | \$0 | | \$3,373,981 |
| V LABOR | | | | | | | | | | \$1,811,680 |
| VI CAPITAL | | | | | | | | | | \$200,000 |
| TOTAL GROUNDWATER RESTORATION COST | | | | | | | | | | \$5,385,661 |

COGEMA Mining, Inc.
 Restoration and Reclamation Costs
 Wyoming Operations
 WORKSHEET 5

| | Irigaray | | | | Christensen | | | |
|--|--------------------------|------------------------|-------------------|------------------|--------------------------|-------------------|-------------------|------------------|
| | Mine Units #1 Thru #9 | 517 USMT Test Sites | Monitor/ Trend | Sub Total | Mine Units #2 Thru #8 | Monitor/ Trend | Misc. Regional | Sub Total |
| Number of Wells | 1064 | 24 | 315 | 1403 | 2094 | 327 | 137 | 2558 |
| Average Depth | 250 | 250 | 250 | | 410 | 410 | 410 | |
| Average Diameter | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | |
| Materials | | | | | | | | |
| Bentonite Chips Required (Ft ³ /Well) | 11.6 | 11.6 | 11.6 | | 11.6 | 11.6 | 11.6 | |
| Bags of Chips Required/Well | 15.0 | 15.0 | 15.0 | | 15.0 | 15.0 | 15.0 | |
| Cost Per Bag (\$) | \$4.00 | \$4.00 | \$4.00 | | \$4.00 | \$4.00 | \$4.00 | |
| Cost/Well Bentonite Chips (\$) | \$60.00 | \$60.00 | \$60.00 | | \$60.00 | \$60.00 | \$60.00 | |
| Gravel Fill Required (Ft ³ /Well) | 15.7 | 15.7 | 15.7 | | 33.6 | 33.6 | 33.6 | |
| Gravel Fill Required (Yd ³ /Well) | 0.6 | 0.6 | 0.6 | | 1.2 | 1.2 | 1.2 | |
| Cost of Gravel/Yd ³ (\$) | \$17.53 | \$17.53 | \$17.53 | | \$17.53 | \$17.53 | \$17.53 | |
| Cost/Well Gravel Fill (\$) | \$10.19 | \$10.19 | \$10.19 | | \$21.82 | \$21.82 | \$21.82 | |
| Cement Cone/Markers Req'd/Well | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | |
| Cost of Cement Cones/Markers (\$) | \$4.00 | \$4.00 | \$4.00 | | \$4.00 | \$4.00 | \$4.00 | |
| Total Materials Cost per Well | \$74.19 | \$74.19 | \$74.19 | | \$85.82 | \$85.82 | \$85.82 | |
| Labor | | | | | | | | |
| Hours Required per Well | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | |
| Labor Cost per Hour | \$60.00 | \$60.00 | \$60.00 | | \$60.00 | \$60.00 | \$60.00 | |
| Total Labor Cost per Well (\$) | \$60.00 | \$60.00 | \$60.00 | | \$60.00 | \$60.00 | \$60.00 | |
| Equipment Rental | | | | | | | | |
| Hours Required per Well | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | |
| Backhoe w/Operator Cost/Hr (\$) | \$30.00 | \$30.00 | \$30.00 | | \$30.00 | \$30.00 | \$30.00 | |
| Total Equipment Cost per Well (\$) | \$30.00 | \$30.00 | \$30.00 | | \$30.00 | \$30.00 | \$30.00 | |
| Total Cost per Well (\$) | \$164.19 | \$164.19 | \$164.19 | | \$175.82 | \$175.82 | \$175.82 | |
| TOTAL WELL ABANDONMENT COST (\$) | \$174,702 | \$3,941 | \$51,721 | \$230,363 | \$368,157 | \$57,492 | \$24,087 | \$449,735 |
| GRAND TOTAL IRIGARAY AND CHRISTENSEN | | | | | | | | \$680,098 |



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| Cost per Year | | | \$270,400 |
| Time Required - Years (See Figure 1) | | 6.7 | |
| TOTAL RESTORATION LABOR COST | | | \$1,811,680 |

| Irigaray Mine Unit(s) #1 Thru #9 | Christensen Mine Unit #2 Thru #4 | Total Christensen & Irigaray |
|----------------------------------|----------------------------------|------------------------------|
| | | |

| VI RESTORATION CAPITAL REQUIREMENTS | | | |
|-------------------------------------|------------|------------------|------------------|
| I Deep Disposal Well(s) | | \$0 | \$0 |
| II Plug and Abandon 2 DDW's | | \$200,000 | \$200,000 |
| III 500 GPM Reverse Osmosis Unit | | \$0 | \$0 |
| Total | \$0 | \$200,000 | \$200,000 |

| | Irigaray Mine Unit(s) #1 Thru #5 | Irigaray Mine Unit(s) #6 Thru #9 | Christensen Mine Unit #2 | Christensen Mine Unit #3 | Christensen Mine Unit #4 | Christensen Mine Unit #5 | Christensen Mine Unit #6 | Christensen Mine Unit #7 | Christensen Mine Unit #8 | TOTAL |
|---|----------------------------------|----------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------|
| SUMMARY: | | | | | | | | | | |
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| SUB TOTAL | \$242,485 | \$434,706 | \$318,218 | \$275,931 | \$238,070 | \$539,724 | \$1,324,848 | \$0 | | |
| V LABOR | | | | | | | | | | \$3,373,981 |
| VI CAPITAL | | | | | | | | | | \$1,811,680 |
| TOTAL GROUNDWATER RESTORATION COST | | | | | | | | | | \$5,385,661 |

COGEMA Mining, Inc.
 Restoration and Reclamation Costs
 Wyoming Operations
 WORKSHEET 5

| | Irigaray | | | | Christensen | | | |
|--|--------------------------|------------------------|-------------------|------------------|--------------------------|-------------------|-------------------|------------------|
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| Average Diameter | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | |
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| Bags of Chips Required/Well | 15.0 | 15.0 | 15.0 | | 15.0 | 15.0 | 15.0 | |
| Cost Per Bag (\$) | \$4.00 | \$4.00 | \$4.00 | | \$4.00 | \$4.00 | \$4.00 | |
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| Gravel Fill Required (Yd ³ /Well) | 0.6 | 0.6 | 0.6 | | 1.2 | 1.2 | 1.2 | |
| Cost of Gravel/Yd ³ (\$) | \$17.53 | \$17.53 | \$17.53 | | \$17.53 | \$17.53 | \$17.53 | |
| Cost/Well Gravel Fill (\$) | \$10.19 | \$10.19 | \$10.19 | | \$21.82 | \$21.82 | \$21.82 | |
| Cement Cone/Markers Req'd/Well | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | |
| Cost of Cement Cones/Markers (\$) | \$4.00 | \$4.00 | \$4.00 | | \$4.00 | \$4.00 | \$4.00 | |
| Total Materials Cost per Well | \$74.19 | \$74.19 | \$74.19 | | \$85.82 | \$85.82 | \$85.82 | |
| Labor | | | | | | | | |
| Hours Required per Well | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | |
| Labor Cost per Hour | \$60.00 | \$60.00 | \$60.00 | | \$60.00 | \$60.00 | \$60.00 | |
| Total Labor Cost per Well (\$) | \$60.00 | \$60.00 | \$60.00 | | \$60.00 | \$60.00 | \$60.00 | |
| Equipment Rental | | | | | | | | |
| Hours Required per Well | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | |
| Backhoe w/Operator Cost/Hr (\$) | \$30.00 | \$30.00 | \$30.00 | | \$30.00 | \$30.00 | \$30.00 | |
| Total Equipment Cost per Well (\$) | \$30.00 | \$30.00 | \$30.00 | | \$30.00 | \$30.00 | \$30.00 | |
| Total Cost per Well (\$) | \$164.19 | \$164.19 | \$164.19 | | \$175.82 | \$175.82 | \$175.82 | |
| TOTAL WELL ABANDONMENT COST (\$) | \$174,702 | \$3,941 | \$51,721 | \$230,363 | \$368,157 | \$57,492 | \$24,087 | \$449,735 |

GRAND TOTAL IRIGARAY AND CHRISTENSEN

\$680,098