COGEMA

August 17, 2004

License SUA-1341
Docket No. 40-8502

Mr. Gary Janosko, Chief
Fuel Cycle Facilities Branch
U.S. Nuclear Regulatory Commission
Mail Stop T-8A33
Two White Flint North
11545 Rockville Pike
Rockville, MD 20852-2738

RE: Submittal of 2004 Surety Review
COGEMA Mining, Inc. Irigaray and Christensen ISL Projects

Dear Mr. Janosko:

Pursuant to Condition No. 9.5 of SUA-1341, please find enclosed COGEMA Mining, Inc.'s updated surety bond calculation for the 2004-2005 annual period.

Please note that a Wyoming Department of Environmental Quality (WDEQ) estimate and an NRC estimate are provided. The new 2004 estimate for the NRC is $11,141,468, as shown on the attached Table 1 of the bond worksheets. This is a $978,652 reduction from the previously approved surety amount. The new 2004 estimate for the WDEQ is $10,021,382, or a difference of $1,120,086. The difference is the result of NRC's refusal to recognize credit for groundwater restoration work completed, which the State of Wyoming recognizes.

The primary changes to the bond estimate this year are the reflection of work completed in the Irigaray evaporation pond decommissioning (Worksheet 4) and a reduction in one year work completed in the overall time schedule (Worksheet 1). Color, aerial photographs are included in this estimate to prove to the NRC that the stated work completed in the evaporation pond area at Irigaray has indeed been accomplished. Also, as costs have not significantly changed from the last, detailed estimate provided in August and October 2003 and January 2004, we have simply added an inflation factor to last year's estimate.

Your review and approval of the new NRC bond estimate is requested.

Sincerely,

Donna L. Wichers
General Manager

cc: NRC – Elaine Brummett, Project Manager
NRC – Region IV

NMSS01

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Reclamation Bond Assumptions
Irigaray and Christensen Ranch ISL Projects
Permit to Mine No. 478
2004 Annual Report, August 2004

This year's Bond estimate is based upon last year's 2003 bond estimate where very detailed explanations were provided for the updated costs. For the most part, differences in last year's costs (August 2003) and this year's costs are not significant. Therefore for 2004, the 2003 cost estimate will be used with an inflation factor added to the Summary Table 1. This inflation rate equates to the difference between the current Consumer Price Index (all urban consumers) for July 2004 of 189.4 and the September 2003 value of 185.2 (September is used as the starting point as all 2003 cost estimates were based on August 2003 dollars). This equates to an inflation increase of 2.27%.

Costs in the bond estimate are thoroughly detailed and were developed by using either 1) COGEMA's actual costs, 2) a published reference source, or 3) quotes from local third-party contractors. The method by which unit rates and costs were derived is provided in the explanation for each worksheet, below.

Table 1 – Summary of Reclamation/Restoration Bond Estimate

Table 1 is a summary of costs from individual bond worksheets. Added to the grand total of estimated spending are "miscellaneous" costs associated with the hiring of a third part contractor to actually perform the work. The specific miscellaneous costs are a requirement of the Wyoming Department of Environmental Quality (WDEQ), as outlined in the WDEQ Land Quality Division's Guideline No. 12, "Standardized Reclamation Performance Bond Format and Cost Calculation Methods", page 11. The U.S. Nuclear Regulatory Commission (NRC) also mandates that a standard contingency, in this case 15%, be added to the overall estimate for contingency for unknowns. An explanation of the various miscellaneous costs and contingency for Table 1 are as follows.

Project Design

This is the cost for an independent firm to design the final reclamation project. This includes all design and engineering work through production of construction documents. Some surveying and redesign of the operator's reclamation plan to fit the current situation may be required. WDEQ reference sources place this category at 2 to 6.5% of the total bond cost. WDEQ typically uses 3%. COGEMA has been approved to use 2% for this category based on the details of our reclamation plan.

Contractor Profit & Mobilization

This percentage covers contractor costs typically not found in the basic unit rates. This percentage specifically covers contractor profit, overhead costs, mobilization costs to the site and demobilization costs after job completion. According to WDEQ, assorted references place this cost from 8% to 15% of the total bond cost. WDEQ typically uses 10%. COGEMA has been approved by the WDEQ to use 8% for this category.

Pre-construction Investigation

This item addresses all fieldwork necessary to document and mitigate dangerous and/or quickly deteriorating conditions. Any assessment under this item will be based on the WDEQ's knowledge of specific site conditions and length of time between bond forfeiture (reason for a third party contractor) and initiation of the final reclamation project. WDEQ

uses 1%, and has reference sources placing this cost between 1% and 2%. COGEMA has been asked by WDEQ to incorporate the 1% into our bond estimate.

Project Management

This category includes the costs for an independent firm to manage the final reclamation project. It includes complete oversight of all demolition, construction and reclamation activities. Examples would include supervision of groundwater restoration, wellfield piping and structures removal, plant buildings and equipment demolition, soil sampling, byproduct waste shipments, etc. References place this cost at 3% to 4%. WDEQ typically uses 3%. However, WDEQ has required a 4% project management cost for COGEMA due to the more technical aspects of groundwater restoration. Furthermore, at the suggestion of NRC, COGEMA has included a Radiation Safety Officer as part of the project management team, bringing the percentage for this estimate up to 5%.

On-site Monitoring

This category covers the costs for any miscellaneous monitoring felt necessary by the WDEQ after the final reclamation is completed. Costs of this item typically vary, depending upon the volume of monitoring already included in the bond or the type of reclamation activity required. The WDEQ typically uses 0.5%, and this is what COGEMA is bonded for.

Site Security & Liability Assurance

This category covers the cost for the WDEQ, or third party contractor, to provide any necessary site security measures during the reclamation program, and to purchase liability insurance to cover the timeframe of the reclamation program and full bonding period. WDEQ references place this cost at about 1% of the total bond amount. The WDEQ typically uses 1%, and this is what COGEMA is bonded for.

Longterm Administration

This category applies to the period between completion of the reclamation project and final bond release which is a minimum 5 year period for uranium mines. During this time the WDEQ will incur administrative costs prior to the final bond release. WDEQ typically uses 1% to 2% for this category depending upon the scale or complexity of the reclamation and post-reclamation monitoring. WDEQ has required COGEMA to use 2%.

Contingency

Contingency is included in the bond estimate to cover unknown conditions that could occur during the reclamation project. The WDEQ references place this cost at 2% to 5% of the total bond cost. Under normal circumstances WDEQ uses 4%. NRC requires a contingency of 15% regardless of the detail of the bond estimate, so COGEMA has incorporated the 15%.

WDEQ Reference Sources: The reference sources used by WDEQ to establish the ranges of percentages used in the miscellaneous items are:

- Means Heavy Construction Cost Data (current edition), R.S. Means Company, Inc., Kingston MA
- Means Site Work Cost Data (current edition), R.S. Means Company, Inc.
- Building Construction Cost Data (current edition), R.S. Means Company, Inc.
- Handbook for Calculation of Reclamation Bond Costs, 1987, Department of Interior, Office of Surface Mining Reclamation and Enforcement, Washington, D.C.
- Wyoming DEQ Abandoned Mine Land Program contracting and reclamation practices and cumulative experience.

Worksheet 1 – Groundwater Restoration

Worksheet 1 provides the cost estimate to complete the groundwater restoration work at both the Irigaray and Christensen sites. Most of the input data and calculations are self-explanatory. Explanations for the various unit rates or factors used in the calculations are described below:

Technical Assumptions:

All of the input data provided in the technical assumptions are actual site specific information. These data are used throughout the bond estimate as needed. No changes have been made for 2004

Restoration Operating Assumptions:

Flowrates, pore volumes required, RO efficiencies and disposal well information are taken from the restoration plan. The remainder of the operating assumptions are calculated using the conversion factors listed and the technical assumptions. A new line has been added this year to account for the number of baseline wells in each mine unit. No changes have been made for 2004.

Restoration Cost Assumptions:

(Note: no changes in the 2003 bond assumptions for costs or technical plans have been made to the restoration cost section of the 2004 bond estimate).

Power costs are based on actual (average) installed horsepower and actual costs for electricity at each of the sites. A factor of 1.0 has been requested by WDEQ for use as the Kwh/Hp ratio to account for motor efficiencies. This factor is used for the Irigaray operations, because we do not have current data on pumping costs. COGEMA's actual ratio of Kwh/Hp is 0.83 Kwh/Hp for Christensen Ranch, where restoration operations continue. This includes all operating submersible pumps, reverse osmosis feed pumps, the plant injection pumps, the two disposal well pumps, and miscellaneous electricity used in the restoration plant (lights, etc.). The factor of 0.83 Kwh/Hp is based on actual data from Christensen operations during years 2002 and 2003 (see Attachment 1), and has been incorporated into the bond estimate. Using this number, a unit rate for power ($/Kgal) is calculated.

Chemical costs are based on year 2003 spending as is included in the last bond submittal at the Christensen site. These costs have been applied to Irigaray, where appropriate. Repair and maintenance is also a unit rate based on actual spending for this category. These costs are outlined below:

<u>Groundwater Sweep and Reverse Osmosis Phases – Other Operating Assumptions:</u>

- BaCl (barium chloride) – would not be used in the future; instead would use radium resin currently on site.

- Anti-scalent (is used at Christensen only for surface discharge during GWS):
  Purchase of 250 gallon tote = $2,958
  = $11.832/gallon
  Addition target rate of 8 ppm
  $\frac{8 \text{ gallons}}{1{,}000 \text{ Kgal H20}} \times \frac{\$11.832}{\text{gallon}} = \$0.0947/\text{Kgal}$

- Elution cost is based on actual spending of $2,850 per average elution (includes labor and chemicals). $2,850 divided by 28,800 Kgal/elution = $0.099/Kgal. Labor costs are the same in 2004 as 2003, and chemical costs have not changed.

- Sulfuric Acid, Hydrochloric acid and sodium sulfide are no longer used in the restoration process. Updated membranes for the RO units no longer need low pH feedwater, thus eliminating the need for acid addition prior to reverse osmosis. Hydrogen sulfide gas is now used instead of sodium sulfide.

- A unit rate of $0.863/Kgal is used for hydrogen sulfide gas. This is based on actual spending at Christensen Mine Units 2 and 4 from October 2002 through July 2003. The cost includes purchase of the chemical ($0.41/lb), an addition rate of 100 ppm, a flow rate of 100 gpm, one pore volume of use, plus a $75/day trailer rental fee. This cost has been added as a separate line item below the Reverse Osmosis wellfield section, as only 1 PV of hydrogen sulfide per mine unit is assumed.

- The unit rate of $0.0181/Kgal for caustic soda (reverse osmosis phase) is based on actual spending from August 2002 through July 2003.

- Restoration Plant repair and maintenance (GWS and RO) is based on actual spending from August 2002 through July 2003. These costs include purchase of piping, fittings, pump maintenance, filters and miscellaneous supplies.

  Supplies = $0.0358 per Kgal
  Outside Services = $0.0021 per Kgal
  = $0.0379 per Kgal

- Restoration wellfield repair and maintenance (GWS and RO) is based on actual spending from August 2002 through July 2003. Costs include purchase of submersible pumps, piping, fittings, filters and miscellaneous supplies.

  Supplies = $0.1185 per Kgal
  Outside Services = $0.1709 per Kgal
  = $0.2894 per Kgal

- Sampling and Analysis for Groundwater Sweep is based on taking a round of samples from each baseline well after the final GWS pore volume and analyzing the samples for a full suite Guideline 8 (26 parameters). This amount is then converted to a cost per Kgal for the pore volume:

  Irigaray Units 6-9: $\frac{(27 \text{ baselines} \times \$150^* = \$4,050)}{1 \text{ PV GWS} = 39,525 \text{ Kgal}} = \$0.1025/\text{Kgal}$

  Christensen Unit 2: $\frac{(24 \text{ baselines} \times \$150^* = \$3,600)}{1 \text{ PV GWS} = 27,414 \text{ Kgal}} = \$0.131/\text{Kgal}$

  *$150/Guideline 8 analysis is actual 2004 cost from Intermountain Laboratories, Sheridan, Wyoming.

- Sampling and Analysis for the Reverse Osmosis phase is based on one round of Guideline 8 analyses for each baseline well at the end of RO; plus a recovery composite analyzed for Guideline 8 in each mine unit (or area for Irigaray) for each PV; and miscellaneous samples during the process. For Christensen miscellaneous, assume 10 wells in each wellfield module of each mine unit are analyzed for 4 parameters, each PV. The cost of analysis is $10 each parameter, or $40. Christensen Unit 2 has 4 modules, Unit 3: 5 modules, Unit 4: 3 modules, Unit 5: 5 modules; and Unit 6: 6 modules. For Irigaray, assume 15 wells per Units 1-5, and 15

wells for Units 6-9, each PV, for the 4 parameters. These costs are divided by the total Kgals in 5 PV of RO treatment:

Irigaray Units 6-9: 27 baselines X $150 = $4,050
Rec. Comp.: 5 PV X 1 wellfield area (Units 6-9) X $150 = $750
Misc.: 5 PV X 15 wells X (4 analytes, $10 each) = $3,000
Total = $7,800/(197,624 Kgal/5 PV) = $0.0395/Kgal

Christensen Unit 2: 24 baselines X $150 = $3,600
Rec. Comp.: 5 PV X 1 mine unit X $150 = $750
Misc.: 5 PV X (10 wells/module*4 modules)*(4 analytes*$10 each) = $8,000
Total = $12,350/(137,085 Kgal/5 PV) = $0.091/Kgal

- Utility costs listed are for electricity, heating and telephone for the offices during the restoration operations. The cost per month has been revised since last year. It was previously assumed that the main offices would continue operating if the work were contracted. In reality, to save costs during contracting, one of the on-site trailers would be used to office project management personnel during this time period. Powder River Energy Corp. (July 2003) has provided an average cost of $65/month for a typical full electric house trailer (heating and lights), thus eliminating the need for propane. As power costs have not changed in 2004, this cost is still used in the bond. Current telephone costs at Irigaray and Christensen combined are approximately $500/month (average 2003 actual spending to-date). Thus the new monthly unit rate of $565 is more appropriate than the $1000/month estimate in the previous bond estimate.

Waste Disposal Well Cost Assumptions:

No changes from the 2003 bond assumptions for unit costs or technical plans have been made to the waste water management section of the 2004 bond estimate.

Operating assumptions for the waste disposal well are based on the restoration plan and historical experience (such as the brine concentration factor). Cost assumptions follow the same rationale as for restoration costs (unit rates are based on actual average 2002-2003 site spending for the power, chemicals, repair and maintenance).

- Electrical power costs are based on the average Kwh/Hp factor of 0.83, which is the actual ratio for Christensen (includes all site pumps).
- RO Antiscalent cost (RO processed feed water for disposal well):
  Purchase of 250 gallon tote (delivered) = $4,758
  (Chemico Int'l RO 9) = $19.032/gallon
  Addition target rate of 10 ppm
  $\frac{\text{10 gallons}}{\text{1,000 Kgal H20}} \times \frac{\$19.032}{\text{gallon}} = \$0.1903/\text{Kgal}$
- Disposal Well Antiscalent cost:
  440 gallons delivered = $5,220.60
  (Champion Tech Gyptron t-67) = $11.865/gallon
  Addition target rate of 20 ppm
  $\frac{\text{20 gallons}}{\text{1,000 Kgal H20}} \times \frac{\$11.865}{\text{gallon}} = \$0.2373/\text{Kgal}$
- Sulfuric Acid (used prior to RO to avoid precipitation). Actual spending in 2003 was $22,243, divided by 41,662 Kgal = $0.5339/Kgal.
- Corrosion inhibitor: no longer required.
- Algaecide: 2003 purchases = $4,634; 2003 Kgal = 41,662; = $0.111/Kgal

- Repair and maintenance is based on actual spending from August 2002 through July 2003 for bag filters, pump parts, oil and lube, fittings. The unit rate for this is equal to $0.0116/Kgal as RO feed. Converted to Kgal of disposal well injection is:

  $\frac{\$0.0116}{\text{Kgal RO feed}} \times \frac{1000 \text{ Kgal RO feed}}{150 \text{ Kgal disposal well feed}} = \$0.0773/\text{Kgal}$

Stabilization Monitoring:

Three sample sets will be taken during the 9-month stabilization-monitoring period. The first set is taken three months after the beginning of stabilization monitoring. The next set is taken after six months and the last after 9 months. The sampling cost per set is based on rental of a 30 Kw, 480 volt, 3-phase portable generator for a one week period at a rate of $280/week (Industrial Engine Service, Casper WY, quote of August 2003). As each well is pumped for an hour period, and the generator can service 4 wells at a time, then it is possible to sample a maximum of 32 wells per day during 8 hours (assuming a 10-hour workday). A one-week rental is more than sufficient to sample all baseline wells in a mine unit, so this number is very conservative. The analytical cost is a calculation based on sampling all baseline wells in each wellfield with an analysis cost of $150/well for a DEQ Guideline 8 analysis for uranium mines (August 19, 2003 quote from Intermountain Laboratories). For this calculation, a new line has been added to the technical assumptions to show the number of baseline wells per area. Labor is included at the end of Worksheet 1. Utilities (electricity, telephone) are included for maintaining the office open during stabilization monitoring. These costs were previously described under the groundwater sweep explanations, above.

Labor:

Labor costs for 1.6 years of restoration operations are included. In the 2003 bond estimate, 2.6 years of labor were included. The reduction in labor by one year is based on the schedule of restoration which shows that active groundwater restoration has been finished at all Irigaray wellfields, and all Christensen wellfields except Mine Unit 6 which will be completed by the end of 2004. Labor rates are based on typical 2003 Manpower, Inc. costs for skilled labor. The operations crew consists of 1 supervisor, 4 operators, and 2 maintenance personnel. Operating costs for 2 vehicles are also included in this category. Unit rates for each worker category are shown in the table. A higher labor rate is used for groundwater restoration than is used in the remainder of the surface reclamation portion of the bond. This is because more skilled labor is required for operating the restoration equipment. Management labor is included in the Miscellaneous category under Project Management in Table 1.

Restoration Capital Requirements:

The only capital requirement listed is the plugging and abandonment of the two wastewater disposal wells. An actual cost estimate for the plugging and abandonment of the two Class I disposal wells at Christensen was obtained in December 2003 from Petrotek Engineers. The estimate was prepared using December 2003 quotes from Wyoming vendors. The new estimate for plugging and abandonment of Christensen DW No. 1 and Christensen 18-3 is $73,950 and $66,250 respectively. This is a total of $140,200 and has been incorporated into Worksheet 1. A copy of Petrotek's bid is attached.

Credit for Work Completed:

At the end of Worksheet 1 where items are totaled, lines have been inserted to show which groundwater restoration items have been completed and for which credit is requested. To date, the WDEQ has already approved the credit for groundwater sweep in all wellfields. With this 2004 submittal, we are asking the WDEQ to additionally

approve credit for reverse osmosis and stabilization monitoring for the Irigaray wellfields. The final Irigaray restoration report was submitted to the WDEQ at the end of July and credit for the completion of this work is requested.

Due to NRC's unwillingness to recognize the WDEQ's approval of the groundwater sweep credit, or to approve any restoration work completed until the final project report is approved, we are showing an NRC line which includes all costs for the groundwater restoration with no credit provided.

Worksheet 2 – Plant Equipment Removal and Disposal

This worksheet calculates the costs to decontaminate, dismantle and remove, transport and dispose of plant process equipment. Explanations for the various unit rates or factors used in the 2003 bond calculations are described below. No changes have been made for this 2004 bond submittal with the exception of transportation costs, detailed below.

Decontamination Cost

The decontamination unit rate used in 2002 was $550/load. However, checking local rental rates for equipment, the 2003 price for labor and hydrochloric acid, the decontamination unit rate has been revised downwards to $435/load.

Assumptions:

- 1 cubic foot = 6 square feet (surface)
- 2 laborers can powerwash or sandblast 10 square feet per minute, or 1.7 cubic feet per minute = 102 cubic feet/hour
- 1 load = 540 cubic feet

Labor:

- 2 laborers @ $15/hour = $30/hour
- 540 cubic feet/load divided by 102 cubic feet/hour = 5.29 hours/load
- 5.29 hours/load x $30/hour = $158.7, say $160

Equipment Rental:

- 2 3500 psi pressure washers @ $6/hour x 2 = $12/hour* ($60/day, 10 hr/day)
- 1 185 cfm air compressor with sandblast pot, hood, wand, hose @ $12.5/hour* ($125/day, 10 hr/day)

= $24.5/hour

*rates based on 08-15-03 quote from Contractor's Equipment, Casper, WY

- 5.29 hours x $24.5/hour = $129.61, say $130

Materials:

- Sand: 75 cubic feet @ $1/foot** = $75
- 10% HCl, 440 gallons @ $0.155/gal*** = $68

$143, say $145

TOTAL = $160 + $130 + $145 = $435/load

**$1/foot from 08-15-03 quote of $19/ton for fine sand (100 lbs/ft3) from JTL, Casper
*** 10% HCl = 506 lbs/yd3, 202 gallons/yd3, $124/ton = $0.155/gal (Brenntag West, Inc. average 2003 prices)

Dismantling and Loading Cost

Using 2003 quotes, the unit rate for dismantling and loading is estimated at $650/load:

Labor Crew: 1 foreman @ $20/hour

4 laborers @ $15/hour = $60/hour
1 truck @ $10/hour
1 welder @ $35/hour
$125/hour

Estimate: 4 hours @ $125/hour = $500
Equipment Rental: 1 front-end loader with operator @ $75/hour (CAT 988C, June 2003 quote from Rapid Construction)
Productivity: 1 load = 20 yd3, 10 yd3/hr
Estimate: 2 hours @ $75/hour = $150
TOTAL = $650/load

Oversize Charges

The cost of $326/per truckload for oversize charges was provided to COGEMA by our former trucking firm, Key Trucking (Kaycee, Wyoming). This was their estimate of what they would be paying for permits for any loads that were larger than 15' wide, 15' high and 75' long. No other details are available. Standard charges from the Wyoming Department of Transportation, Port of Entry, are $15 plus $0.03/foot/mile for the oversized item. We believe that the $326/load is very conservative based on the standard charges quoted.

Transportation & Disposal

- In January 2004, COGEMA hired McIntosh Contractors to transport byproduct material (pond sludge) from the Irigaray site to the Shirley Basin tailings impoundment for final disposal. The trucking firm charges $65/hour and each round trip takes 10 hours. The round trip includes the time to drive from Casper to Irigaray, load and transport the material to Shirley Basin, unload, and return to Casper. This equates to $650/load and is incorporated into this bond estimate.
- COGEMA also is using Brubaker Backhoe Services (BBS) to haul non-contaminated trash and debris to the Edgerton, Wyoming landfill. The 2004 charge for each load is $160. This cost has also been incorporated into this 2004 bond estimate.
- Landfill costs of $12.00/cubic yard are the actual rates charged by the Edgerton, Wyoming industrial landfill (July 2003 rate sheet).
- COGEMA Mining has a byproduct material disposal agreement with Pathfinder Mines Corporation's Shirley Basin tailings facility (expires December 31,2006). The disposal fee per cubic foot for piping, process equipment, demolition waste is $11/cubic foot.

Worksheet 3 – Plant Building(s) Demolition and Disposal

This spreadsheet provides the costs for demolition and disposal of all buildings at Irigaray and Christensen, including concrete decontamination, demolition and disposal. Also included in the spreadsheet are costs for the removal and disposal of contaminated soils under the process buildings, and at the NPDES surface discharge points (one each site). **Transportation charges for byproduct ($650/load) and non-contaminated trash ($160/load) have been incorporated for the 2004 estimate (see Worksheet 2).**

Structural Character

- Western Water Consultants, Sheridan, Wyoming, provided factors for gutting, and estimated material weights for the Irigaray process buildings volumes. Volumes, etc., for the Christensen buildings were estimated by COGEMA's in-house staff, using the Western Water Consultants work at Irigaray.

- The building demolition cost of $0.165/cubic foot is taken directly from Appendix K of LQD's Guideline No. 12.
- The building demolition disposal cost of $300/truckload (25 CY trailer) is from the July, 2003 rate sheet from the Edgerton, Wyoming industrial landfill.

Concrete Decontamination, Demolition & Disposal

- The decontamination costs of $0.134/square foot is based on the decontamination estimate of $435/load discussed above for Worksheet 2. One load = 540 cubic feet; assuming 1 cubic foot = 6 square feet (surface), then $435/load divided by 3240 square feet per load = $0.134 per square foot.
- The concrete demolition rate of $3.05/square foot is taken directly from Appendix K of LQD's Guideline No. 12.
- The on-site disposal cost has been calculated as $0.23/ft3, or $6.25/yd3. This is based on the following:

  1 988C loader with operator @ $75/hour (Rapid Construction quote, 2003)
  1 dump truck with operator @ $50/hour (Rapid, 2003)
  $125/hour

  Productivity: 2 loads/hr (10 yd3 load) = 20 yd3, or 540 ft3
  TOTAL = $125/540 = $0.23/ft3
- The disposal fee of $3.70/cubic foot is based on the byproduct waste disposal agreement with Pathfinder Mines Corporation's Shirley Basin site. This rate is based on the agreement fee of $100/cubic yard for soils and concrete rubble. ($100/27 cubic feet per cubic yard = $3.70 per cubic foot).

Soil Removal & Disposal

The estimate of contaminated soils is simply a contingency for unknowns. All unit rates associated with this contingency have previously been justified, except that the unit rate for a front end loader (with operator) has been increased from $50/hr to $75/hr (Rapid Construction quote for a 988C loader, 2003).

Radiation Survey

The cost for radiation surveys is detailed below:

Soil sampling and analysis cost:

- $82.50/soil sample for digestion, U and Ra-226 analysis (Energy Lab, Casper 09-25-03 quote)
- $3.75/soil sample for labor ($15/hr for one laborer, 4 samples collected per hour)
- Total = $86.25/sample, and an average of 4 samples per acre = $345/acre

Gamma characterization and verification survey

- $175/acre (July 2003 quote from ERG, New Mexico) includes GPS survey, grid establishment, verification survey after excavation.

Grand Total = $520/acre

Worksheet 4 – Pond Reclamation Costs

Worksheet 4 provides all costs for the decommissioning of evaporation ponds located at the Irigaray and Christensen site. For the 2004 bond estimate, Worksheet 4 has been revised to reflect the work completed in decommissioning of the evaporation ponds at Irigaray. Specifically, Ponds A, C, E and RA have had all sludge removed, transported to Shirley Basin

and disposed, the liner removed, transported to Shirley Basin and disposed, and all leak detection systems removed. The costs for these items in Worksheet 4 have been deleted. Two color photographs of the Irigaray evaporation ponds are attached to verify the pond decommissioning status. The only remaining items to complete the decommissioning for these ponds are the final radiation survey and backfilling. Also, the 517 pond backfill and final reclamation has been completed. Dollars remaining for the backfill have now been removed.

Unit rates used for this work that have not been identified in detail for other worksheets are provided following:

Pond Sludge

Last year's sludge handling costs per load were $238/load. Using 2003 rates, the sludge handling costs per load are given as $240/load.:

- Front-end loader with operator @ $75/hr (10 c.y./hr) for 2 hrs. = $150 (Rapid, 2003)
- Labor crew (1 hour) = 1 foreman @ $20/hr
  4 laborers @ $15/hr
  1 truck @ $10/hr
  = $90/hr = $90

TOTAL = $240/load

Pond Liner

- Labor crew costs per hour for handling the pond liner are taken from the above estimate of $90/hour.
- The $11/ft3 for disposal is the current contract price for this type of material at Pathfinder's Shirley Basin tailings impoundment (agreement good through 2006)

Pond Backfill

- The unit rate for backfilling of $1.00 per cubic yard is conservative. A third party contractor at Pathfinder's Shirley Basin facility is currently charging $0.70 per cubic yard for backfilling/excavation work and $0.54 per cubic yard for regrading (Rapid Construction, 2003).

Radiation Survey – See Worksheet 3

Leak Detection System Removal

- This section assumes that contamination is found in the leak detection system wherever a leak has been detected in a pond during its operating life. This is why volumes are included for only Ponds C and D at Irigaray. The amounts from Pond 1 at the 517 site have been removed as this area has already been decontaminated and is ready for clean backfill. Handling costs for removal of these systems are included as $240/load, or the same as the pond liner handling costs.

Transportation Costs – See Worksheet 2

Worksheet 5 – Well Abandonment

No changes in the 2003 bond assumptions for costs or technical plans have been made to the well abandonment cost section of this 2004 bond estimate.

The method used for well abandonment in this bond calculation involves the placement of bentonite chips in the bottom 75 feet and upper 30 feet of each well, with the intermediate

volume filled with gravel. A cement cone is placed two feet below the surface, then the surface casing is removed and the hole is backfilled with soil using a backhoe. The abandonment unit rate for 2003 has increased very slightly over last year's rate due to price changes, described as follows:

- Cost of bentonite chips - $4.50/bag is a quote from Casper Well Products, Casper, Wyoming (August 2003).
- Cost of gravel/cubic yard – two quotes were obtained in August 2003 for sand & gravel to fill the wells for final abandonment. The first was from JTL Group (Casper, WY) for screened, washed pea gravel. The quote was $16.00/ton, with a 1.5 tons/yard conversion, or $24.00 per yard. The second quote was from '71 Construction (Casper, WY) for a sand-pea gravel mix, suitable for well abandonment. This cost came in at $16 per ton with a 1.25 tons/yard conversion, or $20 per yard. This cost has been used to replace last year's cost of $17.53 per cubic yard.
- Cost of cement cones/markers - $4.00 each from Casper Well Products, Wyoming (2003).
- An example of a typical well abandonment calculation for Irigaray is as follows:
  Assume: well volume = 27.6 ft3; well depth = 250 ft; casing diameter = 4.5 inches
  Materials per well:
  Bentonite chips from 250' to 175' (Christensen = 410' to 335')
  Sand/gravel from 175' to 30' (Christensen = 335' to 30')
  Bentonite chips from 30' to 2'
  Cement cone and backfill from 2' to surface
  Materials/well: 15 bags bentonite chips @ $4.50/bag = $67.50
  (65 lbs/ft3, 11.4 ft3/well, 50 lb. bags)
  0.58 c.y. gravel @ $20/c.y. = $11.60
  [Well T.D. – (105'-2') x 0.11$\left(\frac{\pi r^2}{144\ in^2/ft^2}\right)$/27]
  Cement cone and marker @ $4.00 each = $ 4.00

  Labor: 1 hr./well
  1 – Foreman @ $20.00/hour
  2 – Laborers @ $15.00/hour
  1 – Vehicle @ $10.00/hour
  $60.00/hour
  $60.00/hour x 1 hour/well = $60.00

  Equipment Rental: 1 backhoe @ $38.50/hour x 1 hour/well = $38.50
  (Operator included – actual 2003 rental rate, Brubaker Backhoe Service)
  TOTAL cost per well = $181.60

Worksheet 6 – Wellfield Equipment Removal & Disposal

This spreadsheet covers the removal & disposal of all wellfield piping, submersible pumps and tubing, trunklines running from the wellfields to the plant, and manholes along the trunklines. Unit rates not addressed previously are detailed below. No changes in the 2003 bond assumptions for costs or technical plans have been made to the wellfield equipment removal and disposal cost section of this 2004 bond estimate, with the exception of transportation. The description of these changes was provided the description of Worksheet 2.

Wellfield Piping Removal

The 2002 unit rate for wellfield piping removal was $0.193/ft. This year costs have been updated, such as an increase in the backhoe and chainsaw rental charges, providing a new 2003 unit rate of $0.202/ft of removal. An example of the calculation is provided as follows:

Open Trenches:

- 300'/well, 446 wells = 133,800 linear feet of pipe
- trenches: 300'/well x 2' deep x 2' wide = 1,200 ft^3 = 44 c.y./well
- 44 c.y./well x 446 wells (Christensen Unit 6) = 19,624 c.y.
- 19,624 c.y. @ 50 c.y/hour = 392 hours
- Equipment rental: 2 backhoes @ $38.5/hour x 196 hours each = $15,092
  (operators included – Brubaker Backhoe) ($0.113/ft)

Remove Pipe, Chip and Load: (assume approximately 20,000 feet /day chipped)

- Labor: 1 – Foreman @ $20.00/hr.
  4 – Laborers @ $15.00/hr.
  1 – Vehicle @ $10.00/hr.
  $90.00/hr. x 6 days = $ 4,320
- Equipment Rental: 2 chainsaws @ $5.00/hr x 3 days = $ 30
  (chainsaw rental = $50/day, assume 10 hr day) = ($0.0325/ft)
  (08-15-03 Contractor Equipment rental quote)

Backfill Trenches:

- 19,624 c.y. @100 c.y./hr. = 196 hrs.
- Equipment rental: 2 backhoes @ $38.50/hr. x 98 hrs each = $ 7,546
  (operators included – Brubaker Backhoe) ($0.056/ft)
  TOTAL= $0.202/linear foot

Non-contaminated landfill charges of $12/yd3 throughout Worksheet 6 is from the July 2003 rate sheet from the Edgerton landfill (quote for demolition trash).

Pump Removal

Submersible pumps are set in each production well for mining and restoration. Last year's pump removal cost was $21.44. This year, the pulling unit cost has been increased to a unit rate of $40/hr based on an August 2003 quote from Alger Construction, thus increasing the unit rate per pump/well to $22.50. Using Christensen Mine Unit 6 as an example, the details are as follows:

Pull pumps and tubing – 4 wells/hour, 202 production wells

- Labor: 1 – Foreman @ $20.00/hour
  2 – Laborers @ $15.00/hour
  $50.00/hour x 50.5 hours = $ 2,525
- Equipment Rental: 1 pulling unit @ $40.00/hr. x 50.5 hours = $ 2,020
  $ 4,545

TOTAL = $4,545 / 202 wells = $22.50/ pump or well

Survey & Decontamination – see Worksheet 2

Tubing Volume Reduction and Loading

Using Christensen Mine Unit 6 as an example, the details of this cost are as follows:

Tubing: 300'/well average x 202 wells = 60,600 linear feet

- Chip and load: average O.D. (inches) = 3; chipped volume reduction (ft^3/ft) = 0.016; chipped volume = 970 ft^3; assume approximately 20,000 feet per day chipped.

- Labor: 1 – Foreman @ $20.00/hour
  2 Laborers @ $15.00/hour
  $50.00/hour x 3 days (30 hours) = $1,500
- Equipment: two shredders are owned by COGEMA

TOTAL = $1,500 / 60,600 linear feet = $0.025/linear foot

Surface Piping Removal

Surface piping exists at the Irigaray site. The cost for removing the Irigaray pipe is the same as the wellfield piping removal cost of $0.202 above, but $0.056/ft must be removed for the cost of backfilling. The $0.113/ft. cost for opening trenches was kept, because portions of the surface lines are partially covered with soil, and buried in some locations. So, the removal, chipping and loading costs for surface lines (only located at Irigaray) is $0.146/ft.

Buried Trunkline Removal

Last year's unit rate for buried trunkline removal was $2.80/ft. Using the buried 12" lines at Irigaray for an example, the updated unit cost for removal of buried trunklines is now estimated as $3.12/ft. Increases in cost for backhoe rental and 10 hour days are incorporated. Year 2003 Equipment rates were provided by Rapid Construction, and actual rental rates from Brubaker Backhoe Service, and Contractor's Equipment.

Open Trenches:

- 7,300 linear feet of pipeline
- 2' deep x 4' wide = 29.6 c.y. soil per 100 feet of trench
- 29.6 c.y. x 7,300' / 100 = 2,163 c.y. soil to be removed
- Equipment Rental: 1 Trackhoe @ $110.00/hour x 14.4 hours = $ 1,586
  (operator included, 150 c.y./hr rate) ($0.22/ft)

Remove Pipe, Chip and Load: Assume 500' per day

- Labor: 1 – Foreman @ $20.00/hr
  4 – Laborers @ $15.00/hr
  1 – Vehicle @ $10.00/hr
  $90.00/hr x 14.6 days (146 hrs) = $13,140
  ($1.80/ft)
- Equipment Rental: 1 Chainsaw @ $5.00/hr
  1 Backhoe @ $38.50/hr
  $43.50/hr x 14.6 days = $ 6,351
  ($0.87/ft)

Backfill Trenches:

- Assume 50 c.y./hr x 2,163 hours = 43.3 hours
- Equipment rental: 1 backhoe @ $38.50/hr x 43.3 hours = $ 1,667
  ($0.23/ft)

TOTAL = $22,744 / 7,300 linear feet = $3.12/linear foot

Manhole Removal

Manholes are present along each of the buried trunklines to permit access to valves. Removal is essentially the crushing of the 12' by 8' culvert in place and backfilling. Removal cost of $110 per manhole is based on the following:

- Labor: 1 – Foreman @ $20.00/hr
  2 – Laborers @ $15.00/hr
  1 – Vehicle @ $10.00/hr
  $60.00/hr x 1.3 hour/manhole = $ 78.00
- Equipment Rental: 1 Backhoe @ $38.50/hr x 1 hour/manhole = $ 38.50

$116.50
say = $117.00

In the previous bond estimate, it is assumed that the manhole culverts are contaminated. In reality, these culverts are not contaminated and will be demolished as stated, in place, or sold. Radiological surveys conducted in September 2003 confirmed that the culverts meet site release standards.

Transportation Costs – See Worksheet 2

Worksheet 7

Worksheet 7 provides to costs to replace topsoil in areas where topsoil was stripped and stockpiled, to conduct radiation surveys & soil analysis prior to topsoil placement, then the revegetation of the topsoil or ground surface without topsoil. Unit rates used in the calculations that have not been previously detailed are described below. No changes in the 2003 bond assumptions for costs or technical plans have been made to the topsoil and vegetation cost section of this 2004 bond estimate, with the exception of transportation (spill cleanup) as noted for Worksheet 2.

Unit Cost – Grading

- A cost of $1/yd3 is used to haul and place topsoil. This is conservative considering that Rapid Construction is hauling and placing topsoil at Pathfinder's Shirley Basin mine in July 2003 for a unit rate of $0.80/yd3.
- $38.45/acre – WDEQ Guideline 12 places the cost for final grading using a Caterpillar 16H Motor Grader at $38.45 per acre ($102.28/hr, 2.66 acres/hr).

Wellfield - Spills

- Wellfield spill areal estimates are based on documentation of on-site spills. The handling cost of $240/load is taken from Worksheet 4 for handling of pond sludge.

Transportation of Byproduct Material – See Worksheet 2.

Revegetation

- $491.71/acre – This cost has been used in past bond estimates and was taken from previous issues of the WDEQ Guideline 12. In the most recent edition of Guideline 12, operators are allowed to calculate their own revegetation costs, because the $491.71/acre is very high. The last revegetation done at Christensen in year 2000 cost $195/acre (seed plus drill costs). Mulching and crimping were not necessary, and will only be necessary on steep slopes. We have continued to use the $491.71/acre as it is considered conservative.

Remedial Action

- An assumption is made that 50% of all surface areas that have been revegetated will require remedial action. The costs assume that these areas will be revegetated again at the same cost of $491.71/acre.

Worksheet 8

Worksheet 8 provides all the remaining miscellaneous items that could be involved in the final reclamation. Unit rates are described below. No changes in the 2003 bond assumptions for costs or technical plans have been made to the miscellaneous cost section of this 2004 bond estimate.

Fence Removal & Disposal

The unit rate of $0.68/ft is taken from Appendix H, WDEQ – LQD Guideline 12.

Powerline Removal & Disposal, Powerpole Removal & Disposal

Distribution lines and power poles are owned by Powder River Energy Corp. (PREC) and will be removed upon request at no charge. Transmission lines and power poles which go from the main metering points to various electrical substations will also be removed by PREC at no cost for their salvage value.

Transformer Removal & Disposal

The costs for removal and disposal of transformers are based on a 1994 issue of WDEQ-LQD's Guideline No. 12, inflated by 23.8% to 2003 costs. The following unit rates are used:

- Large transformers: $2,525
- Small transformers: $619
- Booster pump assemblies: $248
- Guardrail removal: $6.44/ft

Booster Pump Assembly Removal & Disposal

Removal of the booster pump assemblies along the trunklines at Christensen is based on labor, and the assemblies will be non-contaminated. An internal estimate of $200/assembly was used in 1994, and has been inflated by 23.8% to 2003 costs. The 2003 unit cost is $248 per assembly.

Culvert Removal & Disposal

The cost of $3.48/foot of culvert is taken from the 2001 edition of WDEQ-LQD Guideline 12, Appendix J.

Guardrail Removal

The costs for guardrail removal of $6.44/ft is based on a 1994 issue of WDEQ-LQD's Guideline No. 12, inflated by 23.8% to 2003 costs.

Low Water Stream Crossing

In 1994, this cost was estimated as the same as the construction cost ($7,000). A 2003 cost has been estimated as $4,500 per crossing. The cost is based on 3 days of rental of a trackhoe and operator at $100/hr (10 hour days), plus 3 days of rental of a haul/dump truck and operator at $50/hr. The trackhoe will simply dig up the sand, rocks and Tri-lock block and the haul/dump truck will take the materials to the on-site landfill (pond excavations at Irigaray) for disposal. The hourly rates are a September 25, 2003 quote obtained from Alger Construction (Kaycee, WY) for the trackhoe with operator rental and actual rates paid to L&L Oilfield Services (Linch, WY) in August 2003 for the rental of a haul/dump truck with operator.

Utilities Cost

This cost has been revised to show the cost of utilities for use of one of the on-site office trailers instead of operating the power system for the offices. An average cost of

$65/month for a full electric house trailer was obtained from Powder River Energy Corp. (July 2003) and is used for this estimate.

2004 SURETY ESTIMATE WORKSHEETS

AUGUST 17, 2004

COGEMA Mining, Inc.
SUMMARY OF RECLAMATION/RESTORATION BOND ESTIMATE, 2004 - 2005
WDEQ PERMIT NO. 478/USNRC LICENSE SUA-1341
TABLE 1

		WDEQ Estimate	NRC Estimate
I	GROUNDWATER RESTORATION - Worksheet 1:	$3,124,253	$3,938,547
II	DECOMMISSIONING AND SURFACE RECLAMATION:		
A.	Process Plant(s) Equipment Removal and Disposal Worksheet 2	$212,081	$212,081
B.	Plant Building(s) Demolition and Disposal Worksheet 3	$734,007	$734,007
C.	Process Pond Sludge and Liner Handling Worksheet 4	$749,999	$749,999
D.	Well Abandonment Worksheet 5	$744,573	$744,573
E.	Wellfield Equipment Removal and Disposal Worksheet 6	$866,581	$866,581
F.	Topsoil Replacement and Revegation Worksheet 7	$732,131	$732,131
G.	Miscellaneous Reclamation Activities Worksheet 8	$121,836	$121,836
Sub Total - Decommissioning and Surface Reclamation		$4,161,208	$4,161,208
TOTAL RESTORATION AND RECLAMATION		$7,285,462	$8,099,755
Add 2.27% for inflation (CPI September 2003 of 185.2 through July 2004 CPI of 189.4)		$165,380	$183,864
	SUBTOTAL	$7,450,842	$8,283,620
Miscellaneous Costs Associated with Third Party Contractors			
Project Design	2%		
Contractor Profit & Mobilization	8%		
Pre-construction Investigation	1%		
Project Management	5%		
On-site monitoring	0.5%		
Site Security & Liability Assurance	1%		
Longterm Administration	2%		
Contingency	15%		
TOTAL CONTINGENCY	34.5%	$2,570,540	$2,857,849
GRAND TOTAL RESTORATION AND RECLAMATION		$10,021,382	$11,141,468

COGEMA Mining, Inc.
2004 Restoration and Reclamation Costs
Wyoming Operations
WORKSHEET 2

PLANT EQUIPMENT REMOVAL AND DISPOSAL	Irigaray							Christensen				
	Maint Area & Laboratory	Main Process Building	Expansion Building	Resin +Sand Filter Media	Dry Pack Area	Restoration Building	Sub Total	Satellite Plant	Resin + Sand Filter Media	Restoration Extension	Wellfield Modules	Sub Total
Volume (Yds^3)	40	200	180	110	40	40		91	197	42	55	
Quantity Per Truck Load (Yds^3)	20	20	20	20	20	20		20	20	20	20	
Number of Truck Loads	2.0	10.0	9.0	5.5	2.0	2.0		4.55	9.9	2.1	2.8	
I Decontamination Cost												
Decontamination Cost ($/Load)	$435	$435	$435	$435	$435	$435		$435	$435	$435	$435	
Percent Requiring Decontamination	20.0%	100.0%	100.0%	0.0%	100.0%	100.0%		100.0%	0.0%	100.0%	100.0%	
Total Cost	$174	$4,350	$3,915	$0	$870	$870	$10,179	$1,979	$0	$914	$1,196	$4,089
II Dismantle and Loading Cost												
Cost Per Truck Load ($)	$650	$650	$650	$650	$650	$650		$650	$650	$650	$650	
Total Cost	$1,300	$6,500	$5,850	$3,575	$1,300	$1,300	$19,825	$2,958	$6,403	$1,365	$1,788	$12,513
III Oversize Charges												
Percent Requiring Permits	40.0%	40.0%	40.0%	0.0%	60.0%	40.0%		40.0%	0.0%	40.0%	0.0%	
Cost Per Truck Load ($)	$326	$326	$326	$326	$326	$326		$326	$326	$326	$326	
Total Cost	$261	$1,304	$1,174	$0	$391	$261	$3,390	$593	$0	$274	$0	$867
IV Transportation & Disposal												
A. Landfill												
Percent To Be Shipped	80.0%	80.0%	80.0%	0.0%	50.0%	80.0%		80.0%	0.0%	80.0%	80.0%	
Transportation Cost Per Truck Load	$160	$160	$160	$160	$160	$160		$160	$160	$160	$160	
Transportation Cost	$256	$1,280	$1,152	$0	$160	$256		$582	$0	$269	$352	
Disposal Fee Per Cubic Yard	$12.00	$12.00	$12.00	$12.00	$12.00	$12.00		$12.00	$12.00	$12.00	$12.00	
Disposal Cost ($)	$384	$1,920	$1,728	$0	$240	$384		$874	$0	$403	$528	
Total Cost	$640	$3,200	$2,880	$0	$400	$640		$1,456	$0	$672	$880	
B. Licensed Site												
Percent To Be Shipped	20.0%	20.0%	20.0%	100.0%	50.0%	20.0%		20.0%	100.0%	20.0%	20.0%	
Transportation Cost Per Truck Load	$650	$650	$650	$650	$650	$650		$650	$650	$650	$650	
Transportation Cost	$260	$1,300	$1,170	$3,575	$650	$260		$592	$6,403	$273	$358	
Disposal Cost Per Cubic Foot ($)	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00		$11.00	$11.00	$11.00	$11.00	
Quantity Per Truck Load (Yds^3)	20.0	20.0	20.0	20.0	20.0	20.0		20.0	20.0	20.0	20.0	
Quantity Per Truck Load (Ft^3)	540	540	540	540	540	540		540	540	540	540	
Disposal Cost	$2,376	$11,880	$10,692	$32,670	$5,940	$2,376		$5,405	$58,509	$2,495	$3,267	
Total Cost Licensed Site	$2,636	$13,180	$11,862	$36,245	$6,590	$2,636		$5,997	$64,912	$2,768	$3,625	
Total Cost Transportation & Disposal	$3,276	$16,380	$14,742	$36,245	$6,990	$3,276	$80,909	$7,453	$64,912	$3,440	$4,505	$80,309
TOTAL COST	$5,011	$28,534	$25,681	$39,820	$9,551	$5,707	$114,303	$12,983	$71,314	$5,992	$7,488	$97,777
TOTAL COST - IRIGARAY AND CHRISTENSEN												$212,081

COGEMA Mining, Inc.
2004 Restoration and Reclamation Costs
Wyoming Operations
WORKSHEET 3

	Irigaray							Christensen						
	Maint Area & Laboratory	Warehouse & Offices	Main Process Building	Expansion Building	Dry Pack Area	Restoration Building	Sub Total	Satellite Plant	Wellfield Modules	Booster Pump Bldgs.	Restoration Extension	Office Building	Warehouse	Sub Total
BUILDING DEMOLITION AND DISPOSAL														
Structural Character	1 Story Steel Frame	1 Story Steel Frame	1 Story Steel Frame	1 Story Steel Frame	3 Story Steel/Masonry	1 Story Steel Frame		2 Story Steel Frame	1 Story Pre Fab (22)	1 Story Pre Fab (4)	2 Story Steel Frame	1 Story Pre-Fab	1 Story Steel Frame	
Demolition Volume (Ft^3)	179400	108720	430400	386400	126000	69640		192000	95040	46720	72000	64800	11000	
Cost of Demolition Per Ft^3	$0.1650	$0.1650	$0.1650	$0.1650	$0.1650	$0.1650		$0.1650	$0.1650	$0.1650	$0.1650	$0.1650	$0.1650	
Demolition Cost ($)	$29,601	$17,939	$71,016	$63,756	$20,790	$11,491	$214,592	$31,680	$15,682	$7,709	$11,880	$10,692	$1,815	$79,457
Factor For Gutting	15.0%	10.0%	30.0%	10.0%	20.0%	10.0%		20.0%	0.0%	0.0%	20.0%	10.0%	10.0%	
Cost For Gutting ($)	$4,440	$1,794	$21,305	$6,376	$4,158	$1,149	$39,221	$6,336	$0	$0	$2,376	$1,069	$182	$9,963
Weight (pounds)	158761	96212	380885	341947	111504	61628		169912	66660	28032	63717	38802	9735	
Weight per Truckload	40000	40000	40000	40000	40000	40000		40000	40000	40000	40000	40000	40000	
Number of Truckloads	4.0	2.4	9.5	8.5	2.8	1.5		4.2	1.7	0.7	1.6	1.0	0.2	
Transportation Cost per Truckload	$160	$160	$160	$160	$160	$160		$160	$160	$160	$160	$2.58	$2.58	
Transportation Cost ($)	$635	$385	$1,524	$1,368	$446	$247	$4,604	$680	$267	$112	$255	$3	$1	$1,316
Disposal Cost per Truckload (25 CY)	$300.00	$300.00	$300.00	$300.00	$300.00	$300.00		$300.00	$300.00	$300.00	$300.00	$300.00	$300.00	
Disposal Cost ($)	$1,191	$722	$2,857	$2,565	$836	$462	$8,632	$1,274	$500	$210	$478	$291	$73	$2,826
TOTAL COST	$35,867	$20,839	$96,701	$74,064	$26,230	$13,348	$267,050	$39,970	$16,448	$8,031	$14,989	$12,055	$2,070	$93,563
TOTAL COST IRIGARAY AND CHRISTENSEN														$360,613
CONCRETE DECONTAMINATION, DEMOLITION & DISPOSAL														
Area (Ft^2)	8020	7100	17600	18400	5600	3600		9600	0	1440	3600	0	1000	
Average Thickness (Ft)	0.5	0.5	0.5	0.5	1	0.5		0.5	0.0	0.5	0.5	0.0	0.5	
Volume (Ft^3)	4010	3550	8800	9200	5600	1800		4800	0	720	1800	0	500	
Percent Requiring Decontamination	0.0%	0.0%	100.0%	100.0%	100.0%	100.0%		100.0%	0.0%	100.0%	100.0%	0.0%	0.0%	
Percent Decontaminated	0.0%	0.0%	75.0%	75.0%	40.0%	75.0%		75.0%	0.0%	100.0%	100.0%	0.0%	0.0%	
Decontamination ($/Ft^2$)	$0.134	$0.134	$0.134	$0.134	$0.134	$0.134		$0.134	$0.134	$0.134	$0.134	$0.134	$0.134	
Decontamination Cost	$0	$0	$1,769	$1,849	$300	$362	$4,280	$965	$0	$193	$482	$0	$0	$1,640
Demolition ($/$Ft^2$)	$3.05	$3.05	$3.05	$3.05	$3.05	$3.05		$3.05	$3.05	$3.05	$3.05	$3.05	$3.05	
Demolition Cost	$24,461	$21,655	$53,680	$56,120	$17,080	$10,980	$183,976	$29,280	$0	$4,392	$10,980	$0	$3,050	$47,702
Transportation & Disposal														
A. Onsite Disposal														
Percent to be Disposed Onsite	100%	100%	90%	90%	40%	90%		90%	0%	100%	100%	0%	100%	
Transportation Cost	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0	$0	
Disposal Cost per Cubic Foot	$0.230	$0.230	$0.230	$0.230	$0.230	$0.230		$0.230	$0.230	$0.230	$0.230	$0.230	$0.230	
Disposal Cost ($)	$922	$817	$1,822	$1,904	$515	$373	$6,353	$994	$0	$166	$414	$0	$115	$1,688
B. Licensed Site														
Percent to be Shipped	0%	0%	10%	10%	60%	10%		10%	100%	0%	0%	100%	0%	
Transportation Cost per Truckload	$650	$650	$650	$650	$650	$650		$650	$650	$650	$650	$650	$650	
Transportation Cost ($)	$0	$0	$1,059	$1,107	$4,044	$217	$6,428	$578	$0	$0	$0	$0	$0	$578
Disposal Cost per Cubic Foot	$3.70	$3.70	$3.70	$3.70	$3.70	$3.70		$3.70	$3.70	$3.70	$3.70	$3.70	$3.70	
Quantity Per Truck Load (Yds^3)	20	20	20	20	20	20		20	20	20	20	20	20	
Quantity Per Truck Load (Ft^3)	540	540	540	540	540	540		540	540	540	540	540	540	
Disposal Cost ($)	$0	$0	$3,256	$3,404	$12,432	$666	$19,758	$1,776	$0	$0	$0	$0	$0	$1,776
TOTAL COST	$25,383	$22,472	$61,586	$64,385	$34,372	$12,597	$220,794	$33,592	$0	$4,751	$11,876	$0	$3,165	$53,384
TOTAL COST IRIGARAY AND CHRISTENSEN														$274,178

COGEMA Mining, Inc.
2004 Restoration and Reclamation Costs
Wyoming Operations
WORKSHEET 3

	Irigaray							Christensen						
	Maint Area & Laboratory	Warehouse & Offices	Main Process Building	Expansion Building	Dry Pack Area	Restoration Building	Sub Total	Satellite Plant	Wellfield Modules	Booster Pump Bldgs.	Restoration Extension	Office Building	Warehouse	Sub Total
SOIL REMOVAL & DISPOSAL														
Assume removal of 3" of Contaminated Soil under Primary Areas, Disposal at a Licensed facility.														
Removal with Loader ($75/hr) $75	$0	$0	$1,222	$1,278	$389	$250	$3,139	$667	$0	$0	$0	$0	$0	$667
Quantity to be Shipped (Ft³)	0	0	4400	4600	1400	900		2400	0	0	0	0	0	
Transportation Cost per Truckload	$650	$650	$650	$650	$650	$650		$650	$650	$650	$650	$650	$650	
Transportation Cost ($)	$0	$0	$5,298	$5,537	$1,685	$1,083	$13,602	$2,889	$0	$0	$0	$0	$0	$2,889
Disposal fee Per Cubic Foot($)	$3.70	$3.70	$3.70	$3.70	$3.70	$3.70		$3.70	$3.70	$3.70	$3.70	$3.70	$3.70	
Quantity per Truckload (Ft³)	540	540	540	540	540	540		540	540	540	540	540	540	
Disposal Cost ($)	$0	$0	$16,280	$17,020	$5,180	$3,330	$41,810	$8,880	$0	$0	$0	$0	$0	$8,880
Removal, NPDES Pts.														
Quantity to be Shipped (Ft³)			559					5,030						
Transportation Cost per Truckload	$650	$650	$650	$650	$650	$650		$650	$650	$650	$650	$650	$650	
Transportation Cost ($)	$0	$0	$673	$0	$0	$0	$673	$6,055	$0	$0	$0	$0	$0	$6,055
Disposal fee Per Cubic Foot($)	$3.70	$3.70	$3.70	$3.70	$3.70	$3.70		$3.70	$3.70	$3.70	$3.70	$3.70	$3.70	
Quantity per Truckload (Ft³)	540	540	540	540	540	540		540	540	540	540	540	540	
Disposal Cost ($)	$0	$0	$2,068	$0	$0	$0	$2,068	$18,611	$0	$0	$0	$0	$0	$18,611
Total Cost	$0	$0	$25,539	$23,835	$7,254	$4,663	$61,291	$37,102	$0	$0	$0	$0	$0	$37,102
TOTAL COST	$0	$0	$25,539	$23,835	$7,254	$4,663	$61,291	$37,102	$0	$0	$0	$0	$0	$37,102
TOTAL COST IRIGARAY AND CHRISTENSEN														$98,393
RADIATION SURVEY														
Area required (acres)	0.18	0.16	0.40	0.42	0.13	0.08		0.22	0.00	0.03	0.08	0.00	0.02	
Survey Cost ($/acre)	$520.00	$520.00	$520.00	$520.00	$520.00	$520.00		$520.00	$520.00	$520.00	$520.00	$520.00	$520.00	
TOTAL SURVEY COST ($)	$96		$210	$220	$67	$43	$636	$115	$0	$17	$43	$0	$12	$187
TOTAL COST	$61,348	$43,311	$184,036	$162,504	$67,923	$30,652	$549,771	$110,779	$16,448	$12,799	$26,908	$12,055	$5,247	$184,236
TOTAL COST IRIGARAY AND CHRISTENSEN														$734,007

COGEMA Mining, Inc.
2004 Restoration and Reclamation Costs
Wyoming Operations
WORKSHEET 4

POND RECLAMATION COST	Irigaray							5I7				Brine	Brine	Brine	Brine	Permeate	
	Pond A	Pond B	Pond C	Pond D	Pond E	Pond RA	Pond RB	Pond 1	Pond 2A	Pond 2B	Pond 3	Pond 1	Pond 2	Pond 3	Pond 4	Pond	
POND SLUDGE:																	
Average Sludge Depth (Ft)		0.156		0.135			0.156					0.166	0.222	0.143	0.068	0.000	
Average Area of Sludge (Ft^2)		50,604		62,291			50,604					20,909	20,909	20,909	20,909	-	
Volume of Sludge (Ft^3)		7,907		8,435			7,907					3,468	4,651	2,983	1,414	-	
Volume of Sludge (Yds^3)	0	293	0	312	0	0	293	0	0	0	0	128	172	110	52	0	
Volume of Sludge Per Truck Load (Yds^3)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	
# of Truck Loads of Sludge	0.0	14.7	0.0	15.6	0.0	0.0	14.7	0.0	0.0	0.0	0.0	6.4	8.6	5.5	2.6	0.0	
Sludge Handling Cost Per Load ($)	$240.00	$240.00	$240.00	$240.00	$240.00	$240.00	$240.00	$240.00	$240.00	$240.00	$240.00	$240.00	$240.00	$240.00	$240.00	$240.00	
Total Sludge Handling Cost ($)	$0	$3,528	$0	$3,744	$0	$0	$3,528	$0	$0	$0	$0	$1,536	$2,064	$1,320	$624	$0	
Transportation & Disposal																	
Percent To Be Shipped to Licensed Site	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Transportation Cost per Truckload	$650	$650	$650	$650	$650	$650	$650	$650	$650	$650	$650	$650	$650	$650	$650	$650	
Transportation Cost ($)	$0	$9,555	$0	$10,140	$0	$0	$9,555	$0	$0	$0	$0	$4,160	$5,590	$3,575	$1,690	$0	
Disposal Cost Per Cubic Foot ($)	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	
Quantity Per Truck Load (Yds^3)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	
Quantity Per Truck Load (Ft^3)	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	
Disposal Cost ($)	$0	$87,318	$0	$92,664	$0	$0	$87,318	$0	$0	$0	$0	$38,016	$51,084	$32,670	$15,444	$0	
Total Transportation & Disposal ($)	$0	$96,873	$0	$102,804	$0	$0	$96,873	$0	$0	$0	$0	$42,176	$56,674	$36,245	$17,134	$0	
TOTAL SLUDGE COST ($)	$0	$100,401	$0	$106,548	$0	$0	$100,401	$0	$0	$0	$0	$43,712	$58,738	$37,565	$17,758	$0	$465,123
POND LINER:																	
Total Pond Area (Acres)		1.72		1.72			2.17					1.10	1.10	1.10	1.10	0.00	
Total Pond Area (Ft^2)	0	74923.2	0	74923.2	0	0	94525.2	0	0	0	0	47916	47916	47916	47916	0	
Factor For Sloping Sides	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	0.0%	
Total Liner Area (Ft^2)	0	89908	0	89908	0	0	113430	0	0	0	0	57499	57499	57499	57499	0	
Liner Thickness (Millimeters)	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	0	
Liner Thickness (Inches)	0.1181	0.1181	0.1181	0.1181	0.1181	0.1181	0.1181	0.1181	0.1181	0.1181	0.1181	0.1181	0.1181	0.1181	0.1181	0	
Liner Thickness (Ft)	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0	
"Swell" Factor	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	0.0%	
Liner Volume (Ft^3)	0	1101	0	1101	0	0	1390	0	0	0	0	704	704	704	704	0	
Truck Loads of Liner	0.0	2.0	0.0	2.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	0.0	
Liner Handling Cost ($)																	
Labor Crew Cost per Hour ($)	$90	$90	$90	$90	$90	$90	$90	$90	$90	$90	$90	$90	$90	$90	$90	$0	
Hours per Load	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	
Liner Handling Cost Per Load ($)	$180.00	$180.00	$180.00	$180.00	$180.00	$180.00	$180.00	$180.00	$180.00	$180.00	$180.00	$180.00	$180.00	$180.00	$180.00	$0.00	
Total Liner Handling Cost ($)	$0	$360	$0	$360	$0	$0	$468	$0	$0	$0	$0	$234	$234	$234	$234	$0	
Transportation & Disposal																	
Percent To Be Shipped to Licensed Site	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Transportation Cost per Truckload	$650	$650	$650	$650	$650	$650	$650	$650	$650	$650	$650	$650	$650	$650	$650	$650	
Transportation Cost ($)	$0	$1,300	$0	$1,300	$0	$0	$1,690	$0	$0	$0	$0	$845	$845	$845	$845	$0	
Disposal Cost Per Cubic Foot ($)	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	$11.00	
Quantity Per Truck Load (Ft^3)	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	
Disposal Cost ($)	$0	$11,880	$0	$11,880	$0	$0	$15,444	$0	$0	$0	$0	$7,722	$7,722	$7,722	$7,722	$0	
Total Transportation & Disposal ($)	$0	$13,180	$0	$13,180	$0	$0	$17,134	$0	$0	$0	$0	$8,567	$8,567	$8,567	$8,567	$0	
TOTAL LINER COST ($)	$0	$13,540	$0	$13,540	$0	$0	$17,602	$0	$0	$0	$0	$8,801	$8,801	$8,801	$8,801	$0	$79,886
POND BACKFILL:																	
Backfill required (Yds^3)	8740	8580	8740	8580	2517	14617	16319					9048	9048	9048	9048	18070	
Backfill Cost ($/Yd^3$)	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	
TOTAL BACKFILL COST ($)	$8,740	$8,580	$8,740	$8,580	$2,517	$14,617	$16,319	$0	$0	$0	$0	$9,048	$9,048	$9,048	$9,048	$18,070	$122,355

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POND RECLAMATION COST	Irigaray							517				Brine	Brine	Brine	Brine	Permeate	
	Pond A	Pond B	Pond C	Pond D	Pond E	Pond RA	Pond RB	Pond 1	Pond 2A	Pond 2B	Pond 3	Pond 1	Pond 2	Pond 3	Pond 4	Pond	
RADIATION SURVEY																	
Areal required (acres)	1.75	1.72	1.75	1.72	0.78	2.17	2.17	0.00	0.00	0.00	0.00	1.10	1.10	1.10	1.10	0	
Survey Cost ($/acre)	$520.00	$520.00	$520.00	$520.00	$520.00	$520.00	$520.00	$520.00	$520.00	$520.00	$520.00	$520.00	$520.00	$520.00	$520.00	$520.00	
TOTAL SURVEY COST ($)	$910	$894	$910	$894	$406	$1,128	$1,128	$0	$0	$0	$0	$572	$572	$572	$572	$0	$8,558
LEAK DETECTION SYSTEM REMOVAL																	
Volume of Gravel and Piping (Ft³) (Assume 3")				13851													
Quantity per Truckload (Ft³)			540	540													
Quantity to be Shipped to Licensed Site (Loads)			0.0	25.7													
Transportation Cost per Truckload			$650	$650													
Transportation Cost ($)			$0	$16,673													
Handling Cost per load			$0	$8,156													
Disposal Fee per Cubic Foot ($)			$3.70	$3.70													
Disposal Cost ($)			$0	$51,249													
TOTAL LEAK DETECTION SYSTEM REMOVAL	$0	$0	$0	$74,077	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$74,077
TOTAL POND RECLAMATION COST	$9,650	$123,415	$9,650	$203,639	$2,923	$15,745	$135,450	$0	$0	$0	$0	$62,133	$77,159	$55,986	$36,179	$18,070	$749,999

SUMMARY - IRIGARAY:

TOTAL SLUDGE COST ($)	$307,350
TOTAL LINER COST ($)	$44,682
TOTAL BACKFILL COST ($)	$68,093
TOTAL RADIATION SURVEY COST ($)	$6,270
LEAK DETECTION SYSTEM REMOVAL	$74,077
TOTAL POND RECLAMATION COST	$500,472

SUMMARY - CHRISTENSEN:

TOTAL SLUDGE COST ($)	$157,773
TOTAL LINER COST ($)	$35,204
TOTAL BACKFILL COST ($)	$54,262
TOTAL RADIATION SURVEY COST ($)	$2,288
LEAK DETECTION SYSTEM REMOVAL	$0
TOTAL POND RECLAMATION COST	$249,527

TOTAL PROJECT COST - CR and IR ($)	$749,999

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WORKSHEET 5

WELL PLUGGING AND ABANDONMENT	Irigaray				Christensen			
	Mine Units #1 Thru #9	517 USMT Test Sites	Monitor/ Trend	Sub Total	Mine Units #2 Thru #7	Monitor/ Trend	Misc. Regional	Sub Total
Number of Wells	1064	11	314	1389	2062	327	137	2526
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)	11.4	11.4	11.4		11.4	11.4	11.4	
Bags of Chips Required/Well	15.0	15.0	15.0		15.0	15.0	15.0	
Cost Per Bag ($)	$4.50	$4.50	$4.50		$4.50	$4.50	$4.50	
Cost/Well Bentonite Chips ($)	$67.50	$67.50	$67.50		$67.50	$67.50	$67.50	
Gravel Fill Required (Ft^3/Well)	15.7	15.7	15.7		33.6	33.6	33.6	
Gravel Fill Required (Yd^3/Well)	0.58	0.58	0.58		1.24	1.24	1.24	
Cost of Gravel/Yd^3 ($)	$20.00	$20.00	$20.00		$20.00	$20.00	$20.00	
Cost/Well Gravel Fill ($)	$11.63	$11.63	$11.63		$24.89	$24.89	$24.89	
Cement Cone/Markers Req'd/Well	1.0	1.0	1.0		1.0	1.0	1.0	
Cost of Cement Cones/Markers ($)	$4.00	$4.00	$4.00		$4.00	$4.00	$4.00	
Total Materials Cost per Well	$83.13	$83.13	$83.13		$96.39	$96.39	$96.39	
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	$60.00	
Equipment Rental								
Hours Required per Well	1.0	1.0	1.0		1.0	1.0	1.0	
Backhoe w/Operator Cost/Hr ($)	$38.50	$38.50	$38.50		$38.50	$38.50	$38.50	
Total Equipment Cost per Well ($)	$38.50	$38.50	$38.50		$38.50	$38.50	$38.50	
Total Cost per Well ($)	$181.63	$181.63	$181.63		$194.89	$194.89	$194.89	
TOTAL WELL ABANDONMENT COST ($)	$193,254	$1,998	$57,032	$252,284	$401,861	$63,729	$26,700	$492,289
GRAND TOTAL IRIGARAY AND CHRISTENSEN								$744,573

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WORKSHEET 6

WELLFIELD EQUIPMENT REMOVAL & DISPOSAL	Irigaray Mine Unit(s) #1 Thru #9	Christensen Mine Units #2 Thru #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8	Total Christensen & Irigaray
I Wellfield Piping							
A. Removal							
Length/Well (Ft)	100	300	300	300			
Total Number of Wells	1064	1021	494	446			
Total Quantity (Ft)	106400	306300	148200	133800			
Cost of Removal ($/Ft)	$0.202	$0.202	$0.202	$0.202			
Cost of Removal ($)	$21,493	$61,873	$29,936	$27,028			$140,329
Average OD (Inches)	3.0	3.0	3.0	3.0			
Chipped Volume Reduction (Ft^3/Ft)	0.016	0.016	0.016	0.016			
Chipped Volume (Ft^3)	1,702	4,901	2,371	2,141			
Quantity Per Truck Load (Ft^3)	540	540	540	540			
Total Number of Truck Loads	3.2	9.1	4.4	4.0			
B. Survey & Decontamination							
Percent Requiring Decontamination	0%	0%	0%	0%			
Loads for Decontamination	0.0	0.0	0.0	0.0			
Cost for Decontamination ($/Load)	$435.00	$435.00	$435.00	$435.00			
Cost for Decontamination ($)	$0	$0	$0	$0			$0
C. Transport & Disposal							
1.) Landfill							
a. Transportation							
Percent To Be Shipped	0.0%	0.0%	0.0%	0.0%			
Loads To Be Shipped	0.0	0.0	0.0	0.0			
Transportation Cost per Load	$160	$160	$160	$160			
Transportation Cost ($)	$0	$0	$0	$0			$0
b. Disposal							
Disposal Fee Per Yd^3	$12.00	$12.00	$12.00	$12.00			
Yds^3 Per Load	20	20	20	20			
Disposal Cost ($)	$0	$0	$0	$0			
Total Cost - Landfill	$0	$0	$0	$0			$0
2.) Licensed Site							
a. Transportation							
Percent To Be Shipped	100.0%	100.0%	100.0%	100.0%			
Loads To Be Shipped	3.2	9.1	4.4	4.0			
Transportation Cost per Load	$650	$650	$650	$650			
Transportation Cost ($)	$2,080	$5,915	$2,860	$2,600			$13,455
b. Disposal							
Disposal Cost Per Ft^3	$11.00	$11.00	$11.00	$11.00			
Disposal Fee Per Yd^3	$297.00	$297.00	$297.00	$297.00			
Quantity Per Truck Load (Yds^3)	20	20	20	20			
Disposal Cost ($)	$19,008	$54,054	$26,136	$23,760			$122,958
Total Cost - Licensed Site	$21,088	$59,969	$28,996	$26,360			$136,413
Total Cost - Transport & Disposal	$21,088	$59,969	$28,996	$26,360			$136,413
Total Cost - WF Piping Removal & Disposal	$42,581	$121,842	$58,932	$53,388	$0	$0	$276,742

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WORKSHEET 6

WELLFIELD EQUIPMENT REMOVAL & DISPOSAL	Irigaray Mine Unit(s) #1 Thru #9	Christensen Mine Units #2 Thru #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8	Total Christensen & Irigaray
II Production Well Pumps							
A. Pump and Tubing Removal							
Number of Production Wells	424	443	217	202			
Cost of Removal ($/well)	$22.50	$22.50	$22.50	$22.50			
Cost of Removal ($)	$9,540	$9,968	$4,883	$4,545			$28,935
Number of Pumps Per Truck Load	180	180	180	180			
Number of Truck Loads (Pumps)	2.4	2.5	1.2	1.1			
B. Survey & Decontamination (Pumps)							
Percent Requiring Decontamination	50.0%	50.0%	50.0%	50.0%			
Loads for Decontamination	1.2	1.3	0.6	0.6			
Cost for Decontamination ($/Load)	$435.00	$435.00	$435.00	$435.00			
Cost for Decontamination ($)	$522	$566	$261	$261			$1,610
C. Tubing Volume Reduction & Loading							
Length per Well (Ft)	100	300	300	450			
Total Quantity (Ft)	42,400	132,900	65,100	90,900			
Cost of Removal ($/Ft)	$0.025	$0.025	$0.025	$0.025			
Cost of Removal ($)	$1,060	$3,323	$1,628	$2,273			$8,283
Average OD (Inches)	3.0	3.0	3.0	3.0			
Chipped Volume Reduction (Ft^3/Ft)	0.016	0.016	0.016	0.016			
Chipped Volume (Ft^3)	678	2,126	1,042	1,454			
Quantity per Truckload (Ft^3)	540	540	540	540			
Number of Truck Loads	1.3	3.9	1.9	2.7			
D. Transport & Disposal							
1.) Landfill							
a. Transportation							
Percent To Be Shipped (Pumps)	50.0%	50.0%	50.0%	50.0%			
Loads To Be Shipped	1.2	1.3	0.6	0.6			
Transportation Cost per Load	$160	$160	$160	$160			
Transportation Cost ($)	$192	$208	$96	$96			$592
b. Disposal							
Disposal Fee Per Yd^3	$12.00	$12.00	$12.00	$12.00			
Yds^3 Per Load	20	20	20	20			
Disposal Cost ($)	$288	$312	$144	$144			$888
Total Cost - Landfill	$480	$520	$240	$240			$1,480
2.) Licensed Site							
a. Transportation							
Percent To Be Shipped (Pumps)	50.0%	50.0%	50.0%	50.0%			
Percent To Be Shipped (Tubing)	100.0%	100.0%	100.0%	100.0%			
Loads To Be Shipped	2.5	5.2	2.5	3.2			
Transportation Cost per Load	$650	$650	$650	$650			
Transportation Cost ($)	$1,597	$3,372	$1,644	$2,108			$8,721
b. Disposal							
Disposal Cost Per Ft^3	$11.00	$11.00	$11.00	$11.00			
Disposal Fee Per Yd^3	$297.00	$297.00	$297.00	$297.00			
Quantity Per Truck Load (Yds^3)	20	20	20	20			
Disposal Cost ($)	$14,590	$30,815	$15,022	$19,265			$79,693
Total Cost - Licensed Site	$16,187	$34,187	$16,665	$21,374			$88,413
Total Cost - Transport & Disposal	$16,667	$34,707	$16,905	$21,614			$89,893
Total Cost - Pump Removal & Disposal	$27,789	$48,563	$23,676	$28,692	$0	$0	$128,720

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WELLFIELD EQUIPMENT REMOVAL & DISPOSAL	Irigaray Mine Unit(s) #1 Thru #9	Christensen Mine Units #2 Thru #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8	Total Christensen & Irigaray
III Surface Trunkline Piping							
A. Removal							
Total Quantity (Ft)	44700	0	0	0	0	0	
Cost of Removal ($/Ft)	$0.146	$0.146	$0.146	$0.146	$0.146	$0.146	
Cost of Removal ($)	$6,526	$0	$0	$0	$0	$0	$6,526
Average OD (Inches)	8.750	8.750	0.000	0.000	0.000	0.000	
Chipped Volume Reduction (Ft^3/Ft)	0.088	0.088	0.088	0.088	0.088	0.088	
Chipped Volume (Ft^3)	3934	0	0	0	0	0	
Quantity Per Truck Load (Ft^3)	540	540	540	540	0	0	
Total Number of Truck Loads	7.3	0.0	0.0	0.0	0.0	0.0	
B. Survey & Decontamination							
Percent Requiring Decontamination	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Loads for Decontamination	0.0	0.0	0.0	0.0	0.0	0.0	
Cost for Decontamination ($/Load)	$435.00	$435.00	$435.00	$435.00	$0.00	$0.00	
Cost for Decontamination ($)	$0	$0	$0	$0	$0	$0	$0
C. Transport & Disposal							
1.) Landfill							
a. Transportation							
Percent To Be Shipped	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Loads To Be Shipped	0.0	0.0	0.0	0.0	0.0	0.0	
Transportation Cost per Load	$160	$160	$160	$160	$0	$0	
Transportation Cost ($)	$0	$0	$0	$0	$0	$0	$0
b. Disposal							
Disposal Fee Per Yd^3	$12.00	$12.00	$12.00	$12.00	$0.00	$0.00	
Yds^3 Per Load	20	20	20	20	0	0	
Disposal Cost ($)	$0	$0	$0	$0	$0	$0	$0
Total Cost - Landfill	$0	$0	$0	$0	$0	$0	$0
2.) Licensed Site							
a. Transportation							
Percent To Be Shipped	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Loads To Be Shipped	7.3	0.0	0.0	0.0	0.0	0.0	
Transportation Cost per Load	$650	$650	$650	$650	$0	$0	
Transportation Cost ($)	$4,735	$0	$0	$0	$0	$0	$4,735
b. Disposal							
Disposal Cost Per Ft^3	$11.00	$11.00	$11.00	$11.00	$0.00	$0.00	
Disposal Fee Per Yd^3	$297.00	$297.00	$297.00	$297.00	$0.00	$0.00	
Quantity Per Truck Load (Yds^3)	20	20	20	20	0	0	
Disposal Cost ($)	$43,270	$0	$0	$0	$0	$0	$43,270
Total Cost - Licensed Site	$48,004	$0	$0	$0	$0	$0	$48,004
Total Cost - Transport & Disposal	$48,004	$0	$0	$0	$0	$0	$48,004
Total Cost - Surface Trunkline Removal & Disposal	$54,531	$0	$0	$0	$0	$0	$54,531

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WELLFIELD EQUIPMENT REMOVAL & DISPOSAL	Irigaray Mine Unit(s) #1 Thru #9	Christensen Mine Units #2 Thru #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8	Total Christensen & Irigaray
IV Buried Trunkline							
A. Removal							
Total Quantity (Ft)	7300	11565	24500	47000	0	0	
Cost of Removal ($/Ft)	$3.12	$3.12	$3.12	$3.12	$3.12	$3.12	
Cost of Removal ($)	$22,776	$36,083	$76,440	$146,640	$0	$0	$281,939
Average OD (Inches)	8.750	8.750	8.750	12.000	12.000	12.000	
Chipped Volume Reduction (Ft^3/Ft)	0.088	0.088	0.088	0.130	0.130	0.130	
Chipped Volume (Ft^3)	642	1018	2156	6110	0	0	
Quantity Per Truck Load (Ft^3)	540	540	540	540	0	0	
Number of Truck Loads	1.2	1.9	4.0	11.3	0.0	0.0	
B. Survey & Decontamination							
Percent Requiring Decontamination	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Loads for Decontamination	0.0	0.0	0.0	0.0	0.0	0.0	
Cost for Decontamination, ($/Load)	$435.00	$435.00	$435.00	$435.00	$0.00	$0.00	
Cost for Decontamination, ($)	$0	$0	$0	$0	$0	$0	$0
C. Transport & Disposal							
1.) Landfill							
a. Transportation							
Percent To Be Shipped	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Loads To Be Shipped	0.0	0.0	0.0	0.0	0.0	0.0	
Transportation Cost per Load	$160	$160	$160	$160	$0	$0	
Transportation Cost ($)	$0	$0	$0	$0	$0	$0	$0
b. Disposal							
Disposal Fee Per Yd^3	$12.00	$12.00	$12.00	$12.00	$0.00	$0.00	
Yds^3 Per Load	20	20	20	20	0	0	
Disposal Cost ($)	$0	$0	$0	$0	$0	$0	$0
Total Cost - Landfill	$0	$0	$0	$0	$0	$0	$0
2.) Licensed Site							
a. Transportation							
Percent To Be Shipped	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Loads To Be Shipped	1.2	1.9	4.0	11.3	0.0	0.0	
Transportation Cost per Load	$650	$650	$650	$650	$0	$0	
Transportation Cost ($)	$780	$1,235	$2,600	$7,345	$0	$0	$11,960
b. Disposal							
Disposal Cost Per Ft^3	$11.00	$11.00	$11.00	$11.00	$0.00	$0.00	
Disposal Fee Per Yd^3	$297.00	$297.00	$297.00	$297.00	$0.00	$0.00	
Quantity Per Truck Load (Yds^3)	20	20	20	20	0	0	
Disposal Cost ($)	$7,128	$11,286	$23,760	$67,122	$0	$0	$109,296
Total Cost - Licensed Site	$7,908	$12,521	$26,360	$74,467	$0	$0	$121,256
Total Cost - Transport & Disposal	$7,908	$12,521	$26,360	$74,467	$0	$0	$121,256
Total Cost - Buried Trunkline Removal & Disposal	$30,684	$48,604	$102,800	$221,107	$0	$0	$403,195

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WELLFIELD EQUIPMENT REMOVAL & DISPOSAL	Irigaray Mine Unit(s) #1 Thru #9	Christensen Mine Units #2 Thru #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8	Total Christensen & Irigaray
V Manholes							
A. Removal							
Total Quantity	5	8	5	11	0	0	
Cost of Removal ($ Each)	$117.00	$117.00	$117.00	$117.00	$117.00	$117.00	
Cost of Removal ($)	$585	$936	$585	$1,287	$0	$0	$3,393
Quantity Per Truck Load	10	10	10	10	10	10	
Number of Truck Loads	0.5	0.8	0.5	1.1	0.0	0.0	
B. Survey & Decontamination							
Percent Requiring Decontamination	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Loads for Decontamination	0.0	0.0	0.0	0.0	0.0	0.0	
Cost for Decontamination ($/Load)	$435.00	$435.00	$435.00	$435.00	$0.00	$0.00	
Cost for Decontamination ($)	$0	$0	$0	$0	$0	$0	$0
C. Transport & Disposal							
1.) Landfill							
a. Transportation							
Percent To Be Shipped	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Loads To Be Shipped	0.0	0.0	0.0	0.0	0.0	0.0	
Transportation Cost per Load	$160	$160	$160	$160	$0	$0	
Transportation Cost ($)	$0	$0	$0	$0	$0	$0	$0
b. Disposal							
Disposal Fee Per Yd^3 ($)	$12.00	$12.00	$12.00	$12.00	$0.00	$0.00	
Yds^3 Per Load	20	20	20	20	0	0	
Disposal Cost ($)	$0	$0	$0	$0	$0	$0	$0
Total Cost - Landfill	$0	$0	$0	$0	$0	$0	$0
2.) Licensed Site							
a. Transportation							
Percent To Be Shipped	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Loads To Be Shipped	0.0	0.0	0.0	0.0	0.0	0.0	
Transportation Cost per Load	$650	$650	$650	$650	$0	$0	
Transportation Cost ($)	$0	$0	$0	$0	$0	$0	$0
b. Disposal							
Disposal Cost Per Ft^3	$11.00	$11.00	$11.00	$11.00	$0.00	$0.00	
Disposal Fee Per Yd^3	$297.00	$297.00	$297.00	$297.00	$0.00	$0.00	
Quantity Per Truck Load (Yds^3)	20	20	20	20	0	0	
Disposal Cost ($)	$0	$0	$0	$0	$0	$0	$0
Total Cost - Licensed Site	$0	$0	$0	$0	$0	$0	$0
Total Cost - Transport & Disposal	$0	$0	$0	$0	$0	$0	$0
Total Cost Manhole Removal & Disposal	$585	$936	$585	$1,287	$0	$0	$3,393
TOTAL COST - WELLFIELD EQUIP REMOVAL & DISP	$158,169	$219,944	$185,994	$304,474	$0	$0	$868,581

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TOPSOIL REPLACEMENT & REVEGETATION	Irigaray Mine Unit(s) #1 Thru #9	Christensen Mine Units #2 Thru #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8	Total Christensen & Irigaray
I Process Plant and Office Building							
A. Topsoil Handling & Grading							
Affected Area (Acres)	5.0	2.5	0.0	0.0	0.0	0.0	
Average Affected Thickness (Ins)	12.0	12.0	0.0	0.0	0.0	0.0	
Topsoil Volume (Yds^3)	8067	4033	0	0	0	0	
Unit Cost - Haul/Place ($/$Yd^3$)	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	
Topsoil Handling Cost ($)	$8,067	$4,033	$0	$0	$0	$0	
Unit Cost - Grading ($/Ac)	$38.45	$38.45	$38.45	$38.45	$38.45	$38.45	
Grading Cost ($)	$192	$96	$0	$0	$0	$0	
Sub Total - Topsoil	$8,259	$4,129	$0	$0	$0	$0	$12,388
B. Radiation Survey & Soil Analysis							
Unit Cost ($/Ac)	$520.00	$520.00	$520.00	$520.00	$520.00	$520.00	
Sub Total - Survey & Analysis	$2,600	$1,300	$0	$0	$0	$0	$3,900
C. Revegetation							
Fertilizer ($/Ac)	$46.49	$46.49	$46.49	$46.49	$46.49	$46.49	
Seeding Prep & Seeding ($/Ac)	$168.68	$168.68	$168.68	$168.68	$168.68	$168.68	
Mulching & Crimping ($/Ac)	$276.54	$276.54	$276.54	$276.54	$276.54	$276.54	
Sub Total Cost/Acre	$491.71	$491.71	$491.71	$491.71	$491.71	$491.71	
Sub Total - Revegation	$2,459	$1,229	$0	$0	$0	$0	$3,688
Sub Total - Process Plant and Office Bldg.	$13,317	$6,659	$0	$0	$0	$0	$19,976
II Ponds							
A. Topsoil Handling & Grading							
Affected Area (Acres)	20.0	12.0	0.0	0.0	0.0	0.0	
Average Affected Thickness (Ins)	12	12	0	0	0	0	
Topsoil Volume (Yds^3)	32267	19360	0	0	0	0	
Unit Cost - Haul/Place ($/$Yd^3$)	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	
Topsoil Handling Cost ($)	$32,267	$19,360	$0	$0	$0	$0	
Unit Cost - Grading ($/Ac)	$38.45	$38.45	$38.45	$38.45	$38.45	$38.45	
Grading Cost ($)	$769	$461	$0	$0	$0	$0	
Sub Total - Topsoil	$33,036	$19,821	$0	$0	$0	$0	$52,857
B. Radiation Survey & Soil Analysis							
Unit Cost ($/Ac)	$520.00	$520.00	$520.00	$520.00	$520.00	$520.00	
Sub Total - Survey & Analysis	$10,400	$6,240	$0	$0	$0	$0	$16,640
C. Revegation							
Fertilizer ($/Ac)	$46.49	$46.49	$46.49	$46.49	$46.49	$46.49	
Seeding Prep & Seeding ($/Ac)	$168.68	$168.68	$168.68	$168.68	$168.68	$168.68	
Mulching & Crimping ($/Ac)	$276.54	$276.54	$276.54	$276.54	$276.54	$276.54	
Sub Total Cost/Acre	$491.71	$491.71	$491.71	$491.71	$491.71	$491.71	
Sub Total - Revegation	$9,834	$5,901	$0	$0	$0	$0	$15,735
Sub Total - Ponds	$53,270	$31,962	$0	$0	$0	$0	$85,232

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TOPSOIL REPLACEMENT & REVEGETATION	Irigaray Mine Unit(s) #1 Thru #9	Christensen Mine Units #2 Thru #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8	Total Christensen & Irigaray
III Wellfields							
A. Topsoil Handling & Grading							
Affected Area (Acres)	40.0	55.0	30.0	50.0	35.0	40.0	
Average Affected Thickness (Ins)	3.5	0.0	0.0	0.0	0.0	0.0	
Topsoil Volume (Yds^3)	18822	0	0	0	0	0	
Unit Cost - Haul/Place ($/$Yd^3$)	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	
Topsoil Handling Cost ($)	$18,822	$0	$0	$0	$0	$0	
Unit Cost - Grading ($/Ac)	$38.45	$38.45	$38.45	$38.45	$38.45	$0.00	
Grading Cost ($)	$1,538	$2,115	$1,154	$1,923	$1,348	$0	
Sub Total - Topsoil	$20,360	$2,115	$1,154	$1,923	$1,348	$0	$26,897
B. Radiation Survey & Soil Analysis							
Unit Cost ($/Ac)	$520.00	$520.00	$520.00	$520.00	$0.00	$0.00	
Sub Total - Survey & Analysis	$20,800	$28,600	$15,600	$26,000	$0	$0	$91,000
C: Spill Cleanup							
Affected Area (Acres)	0.054	0.036	0	0	0	0	
Affected Area (ft^2)	2,352	1,568	0	0	0	0	
Average Affected Thickness (ft)	0.25	0.25	0	0	0	0	
Affected Volume (ft^3)	588	392	0	0	0	0	
Quantity per Truckload (ft^3)	540	540	540	540	540	540	
Quantity to be Shipped (Loads)	1.1	0.7	0.0	0.0	0.0	0.0	
Transportation Cost per Load	$650	$650	$650	$650	$650	$650	
Transportation Cost ($)	$708	$472	$0	$0	$0	$0	
Handling Cost ($240/load)	$261	$174	$0	$0	$0	$0	
Disposal Fee per Cubic Foot ($)	$3.70	$3.70	$3.70	$3.70	$3.70	$3.70	
Disposal Cost ($)	$2,176	$1,450	$0	$0	$0	$0	
Sub Total - Spill Cleanup	$3,145	$2,096	$0	$0	$0	$0	$5,241
D. Revegation							
Fertilizer ($/Ac)	$46.49	$46.49	$46.49	$46.49	$46.49	$46.49	
Seeding Prep & Seeding ($/Ac)	$168.68	$168.68	$168.68	$168.68	$168.68	$168.68	
Mulching & Crimping ($/Ac)	$276.54	$276.54	$276.54	$276.54	$276.54	$276.54	
Sub Total Cost/Acre	$491.71	$491.71	$491.71	$491.71	$491.71	$491.71	
Sub Total - Revegation	$19,668	$27,044	$14,751	$24,586	$17,210	$19,668	$122,928
Sub Total - Wellfields ($)	$63,973	$59,855	$31,505	$52,508	$18,556	$19,668	$246,065
IV Roads							
A. Topsoil Handling & Grading							
Affected Area (Acres)	25.0	20.0	15.0	21.0	0.0	0.0	
Average Affected Thickness (Ins)	12	12	12	12	12	12	
Topsoil Volume (Yds^3)	40333	32267	24200	33880	0	0	
Unit Cost - Haul/Place ($/$Yd^3$)	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	
Topsoil Handling Cost ($)	$40,333	$32,267	$24,200	$33,880	$0	$0	
Unit Cost - Grading ($/Ac)	$38.45	$38.45	$38.45	$38.45	$38.45	$38.45	
Grading Cost ($)	$961	$769	$577	$807	$0	$0	
Sub Total - Topsoil	$41,295	$33,036	$24,777	$34,687	$0	$0	$133,794
B. Radiation Survey & Soil Analysis							
Unit Cost ($/Ac)	$520.00	$520.00	$520.00	$520.00	$0.00	$0.00	
Sub Total - Survey & Analysis	$13,000	$10,400	$7,800	$10,920	$0	$0	$42,120
C. Revegation							
Fertilizer ($/Ac)	$46.49	$46.49	$46.49	$46.49			
Seeding Prep & Seeding ($/Ac)	$168.68	$168.68	$168.68	$168.68			
Mulching & Crimping ($/Ac)	$276.54	$276.54	$276.54	$276.54			
Sub Total Cost/Acre	$491.71	$491.71	$491.71	$491.71			
Sub Total - Revegation	$12,293	$9,834	$7,376	$10,326	$0	$0	$39,829
Sub Total - Roads ($)	$66,587	$53,270	$39,952	$55,933	$0	$0	$215,743

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TOPSOIL REPLACEMENT & REVEGETATION	Irigaray Mine Unit(s) #1 Thru #9	Christensen Mine Units #2 Thru #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8	Total Christensen & Irigaray
V Other							
A. Topsoil Handling & Grading							
Affected Area (Acres)	41.0	19.0	5.0	5.0	0.0	0.0	
Average Affected Thickness (Ins)	0.0	0.0	0	0	0	0	
Topsoil Volume (Yds³)	0	0	0	0	0	0	
Unit Cost - Haul/Place ($/Yd³)	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	
Topsoil Handling Cost ($)	$0	$0	$0	$0	$0	$0	
Unit Cost - Grading ($/Ac)	$38.45	$38.45	$38.45	$38.45	$38.45	$0.00	
Grading Cost ($)	$1,576	$731	$192	$192	$0	$0	
Sub Total - Topsoil	$1,576	$731	$192	$192	$0	$0	$2,692
B. Radiation Survey & Soil Analysis							
Unit Cost ($/Ac)	$520.00	$520.00	$520.00	$520.00	$0.00	$0.00	
Sub Total - Survey & Analysis	$21,320	$9,880	$2,600	$2,600	$0	$0	$36,400
C. Revegation							
Fertilizer ($/Ac)	$46.49	$46.49	$46.49	$46.49	$0.00	$0.00	
Seeding Prep & Seeding ($/Ac)	$168.68	$168.68	$168.68	$168.68	$0.00	$0.00	
Mulching & Crimping ($/Ac)	$276.54	$276.54	$276.54	$276.54	$0.00	$0.00	
Sub Total Cost/Acre	$491.71	$491.71	$491.71	$491.71	$0.00	$0.00	
Sub Total - Revegation	$20,160	$9,342	$2,459	$2,459	$0	$0	$34,420
Sub Total - Other	$43,057	$19,953	$5,251	$5,251	$0	$0	$73,511
VI Remedial Action							
A. Topsoil Handling & Grading							
Affected Area (Acres)	65.5	54.3	25.0	38.0	17.5	20.0	
Average Affected Thickness (Ins)	0.0	0.0	0.0	0.0	0.0	0.0	
Topsoil Volume (Yds³)	0	0	0	0	0	0	
Unit Cost - Haul/Place ($/Yd³)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
Topsoil Handling Cost ($)	$0	$0	$0	$0	$0	$0	
Unit Cost - Grading ($/Ac)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
Grading Cost ($)	$0	$0	$0	$0	$0	$0	
Sub Total - Topsoil	$0	$0	$0	$0	$0	$0	$0
B. Radiation Survey & Soil Analysis							
Unit Cost ($/Ac)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
Sub Total - Survey & Analysis	$0	$0	$0	$0	$0	$0	$0
C. Revegation							
Fertilizer ($/Ac)	$46.49	$46.49	$46.49	$46.49	$46.49	$46.49	
Seeding Prep & Seeding ($/Ac)	$168.68	$168.68	$168.68	$168.68	$0.00	$0.00	
Mulching & Crimping ($/Ac)	$276.54	$276.54	$276.54	$276.54	$0.00	$0.00	
Sub Total Cost/Acre	$491.71	$491.71	$491.71	$491.71	$46.49	$46.49	
Sub Total - Revegation	$32,207	$26,675	$12,293	$18,685	$814	$930	$91,603
Sub Total - Remedial Action	$32,207	$26,675	$12,293	$18,685	$814	$930	$91,603
TOTAL COST - TOPSOIL & REVEGETATION	$272,412	$198,374	$89,001	$132,377	$19,369	$20,598	$732,131

COGEMA Mining, Inc.
2004 Restoration and Reclamation Costs
Wyoming Operations
WORKSHEET 8

	MISCELLANEOUS RECLAMATION	Irigaray Mine Unit(s) #1 Thru #9	Christensen Mine Units #2 Thru #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8	Total Christensen & Irigaray
I	Fence Removal & Disposal							
	Quantity (Feet)	15240	35260	20000	9000	0	0	
	Cost of Removal/Disposal ($/Ft)	$0.68	$0.68	$0.68	$0.68	$0.68	$0.68	
	Cost of Removal/Disposal ($)	$10,363	$23,977	$13,600	$6,120	$0	$0	$54,060
II	Powerline Removal & Disposal							
	Quantity (Feet)	9450	10565	18000	18000	0	0	
	Cost of Removal/Disposal ($/Ft)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
	Cost of Removal/Disposal ($)	$0	$0	$0	$0	$0	$0	$0
III	Powerpole Removal & Disposal							
	Quantity	25	30	60	60	0	0	
	Cost of Removal/Disposal ($/Each)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
	Cost of Removal/Disposal ($)	$0	$0	$0	$0	$0	$0	$0
IV	Transformer Removal & Disposal							
	Quantity	3	1	0	18	0	0	
	Cost of Removal/Disposal ($/Each)	$2,525	$2,525	$2,525	$619	$619	$619	
	Cost of Removal/Disposal ($)	$7,575	$2,525	$0	$11,142	$0	$0	$21,242
V	Booster Pump Assembly Removal & Disposal							
	Quantity	0	6	5	5	0	0	
	Cost of Removal/Disposal ($/Each)	$248	$248	$248	$248	$248	$248	
	Cost of Removal/Disposal ($)	$0	$1,488	$1,240	$1,240	$0	$0	$3,968
VI	Culvert Removal & Disposal							
	Quantity (Feet)	150	1200	1000	1000	0	0	
	Cost of Removal/Disposal ($/Ft)	$3.48	$3.48	$3.48	$3.48	$3.48	$3.48	
	Cost of Removal/Disposal ($)	$522	$4,176	$3,480	$3,480	$0	$0	$11,658
VII	Guardrail Removal							
	Quantity (Feet)	200	3000	0	0	0	0	
	Cost of Removal/Disposal ($/Ft)	$6.44	$6.44	$6.44	$6.44	$6.44	$6.44	
	Cost of Removal/Disposal ($)	$1,288	$19,320	$0	$0	$0	$0	$20,608
VIII	Low Water Stream Crossing							
	Quantity	0	1	1	0	0	0	
	Cost of Removal/Disposal ($/Each)	$4,500	$4,500	$4,500	$4,500	$4,500	$4,500	
	Cost of Removal/Disposal ($)	$0	$4,500	$4,500	$0	$0	$0	$9,000
IX	Utilities Cost							
	Quantity (Mos)	4	8	4	4	0	0	
	Cost Per Month ($/Month)	$65	$65	$65	$65	$65	$65	
	Total Cost ($)	$260	$520	$260	$260	$0	$0	$1,300
	TOTAL MISCELLANEOUS COST	$20,008	$58,506	$23,080	$22,242	$0	$0	$121,836

2004 SURETY ESTIMATE
SUPPORTING ATTACHMENTS

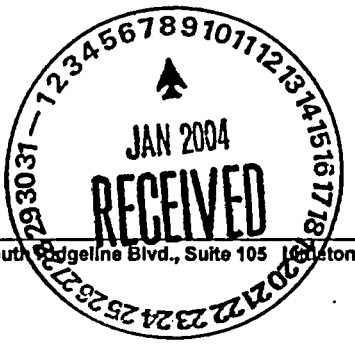
AUGUST 17, 2004

ATTACHMENT 1
POWER BILL HISTORY
Christensen Ranch Mine

Month	Billed Days	Billed Hours	Billed KWH	Active HP	KWH/HP*	$/KWH
Jan-02	30	720	820,800	1,225	0.93	0.0380
Feb-02	33	792	974,400	1,346	0.91	0.0358
Mar-02	29	696	868,800	1,347	0.93	0.0374
Apr-02	27	648	793,200	1,385	0.88	0.0391
May-02	30	720	798,000	1,387	0.80	0.0381
Jun-02	29	696	760,800	1,377	0.79	0.0371
Jul-02	33	792	838,800	1,375	0.77	0.0350
Aug-02	30	720	746,400	1,340	0.77	0.0363
Sep-02	32	768	724,800	1,345	0.70	0.0365
Oct-02	35	840	840,000	1,345	0.74	0.0341
Nov-02	25	600	740,400	1,345	0.92	0.0374
Dec-02	38	912	900,000	1,345	0.73	0.0355
Jan-03	31	744	950,400	1,353	0.94	0.0343
Feb-03	28	672	792,000	1,353	0.87	0.0369
Mar-03	27	648	775,200	1,353	0.88	0.0377
Apr-03	29	696	708,000	1,288	0.79	0.0388
May-03	28	672	760,800	1,288	0.88	0.0366
Jun-03	29	696	723,600	1,299	0.80	0.0375
Jul-03	35	840	937,200	1,299	0.86	0.0329
Aug-03	33	792	805,200	1,301	0.78	0.0344
TOTAL	611	14664	16,258,800	1,317	0.842	0.0364

* Note: KWH/HP = Billed KWH / Billed Hours / Active HP

cc: TGN
WWH
BB



Petrotek Engineering Corporation 9088 South Ridgeline Blvd., Suite 105 Littleton, Colorado 80129 USA (303) 290-9414 FAX (303) 290-9580

December 30, 2003

COGEMA Mining, Inc.
935 Pendell Boulevard
Mills, WY 82644

Attention: Donna Wichers

Subject: **Class I Disposal Well Plugging and Abandonment Cost Estimate**
Christensen Ranch ISL Mine; Johnson County, Wyoming

Dear Donna:

Per your request, Petrotek Engineering Corporation (Petrotek) has prepared plugging and abandonment procedures and cost estimates for COGEMA's Class I wells located at Christensen Ranch (DW No. 1 and Christensen 18-3).

The procedures included herein are based on the Wyoming Department of Environmental Quality (WDEQ) UIC Permit 00-340 which applies to both wells, and WDEQ regulations and guidance.

Time and materials cost estimates for the wells are presented in Tables 1 and 2. The costs are based on information provided by COGEMA, WDEQ requirements, our field experience, and recent quotes from applicable vendors.

The costs are based on the following assumptions:

- A falloff test and Radioactive Tracer log (RAT) may be required. Based on discussions with Mr. Bob Lucht of WDEQ, (1) a falloff test would be required if more than six months has elapsed since the last falloff test, and (2) a Part II mechanical integrity test (e.g., a RAT log) would be required if more than 2 years had elapsed since the last RAT log.
- Materials disposal (e.g., tubing, packer, wellhead and other debris) will be the responsibility of COGEMA;
- Subcontractor costs are billed directly to COGEMA (no markup by Petrotek).
- Cementing costs were based on verbal quotes from Rocky Mountain Cementers in Casper, Wyoming.

General plugging procedures are summarized below.

DW No. 1 (6733' RKB)

Move in rig & rig up. Pull packer and lay down 4 ½" tubing. Rig up stripping head. Pick up 2 7/8" workstring. Run in hole to 6700'.

Mix & pump 480 sacks 50/50 Poz cement + 2% bentonite (14.15#/gal). Displace with 20 bbl water. POOH to 3000', reverse clean, squeeze 100 sx cement into formation and WOC. Est. TOC 3400'.

RIH with tubing and tag cement. Mix & pump 580 sx 50/50 Poz cement + 2% bentonite in two or three stages till cement stands to surface. WOC.

Cut off casing and top of cement. Weld on cap and place marker. Rig down rig.

Christensen 18-3 (6577' RKB)

Move in rig. Rig up. Pull packer and lay down same. Rig up stripping head. Pick up 3,000 feet of 2 7/8" workstring. Run in hole to 6520'.

Mix & pump 280 sacks 50/50 Poz cement + 2% bentonite (14.15#/gal). Displace with 21 bbl water. POOH to 3200', reverse clean, squeeze 100 sx cement into formation and WOC. Est. TOC 3600'.

RIH with tubing and tag cement. Mix & pump 410 sx 50/50 Poz cement + 2% bentonite in two or three stages till cement stands to surface. WOC.

Cut off casing and top of cement. Weld on cap and place marker. Rig down rig.

Please contact the undersigned or Ken Cooper if you have any questions or comments regarding the plugging procedures, cost estimates, or other matters.

Sincerely,

Petrotek Engineering Corporation
Hal Demuth

Table 1
Plugging and Abandonment Cost Estimate: DW No. 1
COGEMA Mining Christensen Ranch

Well Depth = 6733' RKB **FIELD OPERATIONS**	Unit Cost	Units Req'd.	Total Cost
Subcontractors - Direct bill to COGEMA			
Mob/demob & Location Preparation	$3,600	1	$3,600
Workover Rig and Associated Equipment (days)	$3,300	4	$13,200
Rental Tools (days)	$1,200	4	$4,800
Rental Tubing Inspection	$4,000	1	$4,000
Falloff Test	$5,500	1	$5,500
RAT Log	$2,800	1	$2,800
Trucking	$3,000	1	$3,000
Contract Labor	$500	2	$1,000
Cement (1100 sx), pumping & equipment	$22,000	1	$22,000
Contingency	$4,000	1	$4,000
Total Estimated Subcontractor Gharges			$63,900
Test Design and Project Management (hours)	$80	24	$1,920
Supervision (days)	$700	5	$3,500
Travel (hours)	$80	8	$640
Field Truck and Fuel (days)	$95	6	$570
Per Diem (days)	$100	6	$600
Data Analysis (lump sum)	$900	1	$900
Report Preparation (hours)	$80	24	$1,920
Total Estimated Petrotek Charges			$10,050
TOTAL ESTIMATED COST			**$73,950**

Assumptions:

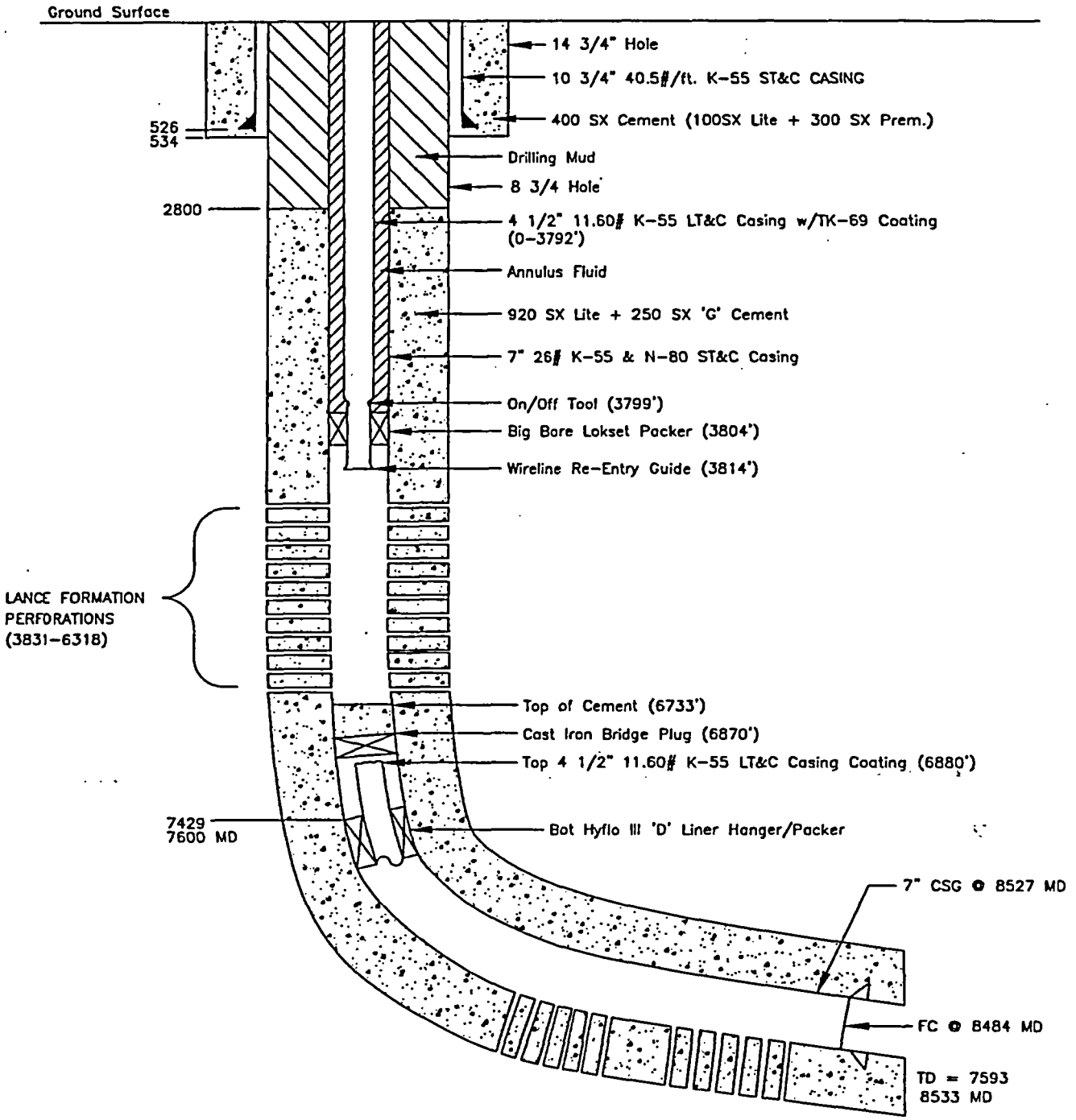
Subcontractors will bill COGEMA directly - otherwise a 10% markup will apply.
Field activities can be completed in 5 days; otherwise T&M rates will apply.
Falloff test is required if > 6 months since last test; RAT log required if > 2 years since last log.
Two cement plugs are set; one to plug injection interval; the second (3 stages) to fill the casing
COGEMA will be responsible for disposal of all well equipment.

Table 2
Plugging and Abandonment Cost Estimate: Christensen 18-3
COGEMA Mining Christensen Ranch

Well Depth = 6577' RKB **FIELD OPERATIONS**	Unit Cost	Units Req'd.	Total Cost
Subcontractors - Direct bill to COGEMA			
Mob/demob & Location Preparation	$3,600	1	$3,600
Workover Rig and Associated Equipment (days)	$3,300	4	$13,200
Rental Tools (days)	$900	4	$3,600
Rental Tubing Inspection	$3,000	1	$3,000
Falloff Test	$5,500	1	$5,500
RAT Log	$2,800	1	$2,800
Trucking	$3,000	1	$3,000
Contract Labor	$500	2	$1,000
Cement (700 sx), pumping & equipment	$17,500	1	$17,500
Contingency	$3,000	1	$3,000
Total Estimated Subcontractor Charges			$56,200
Test Design and Project Management (hours)	$80	24	$1,920
Supervision (days)	$700	5	$3,500
Travel (hours)	$80	8	$640
Field Truck and Fuel (days)	$95	6	$570
Per Diem (days)	$100	6	$600
Data Analysis (lump sum)	$900	1	$900
Report Preparation (hours)	$80	24	$1,920
Total Estimated Petrotek Charges			$10,050
TOTAL ESTIMATED COST			**$66,250**

Assumptions:

Subcontractors will bill COGEMA directly - otherwise a 10% markup will apply.
Field activities can be completed in 5 days; otherwise T&M rates will apply.
Falloff test is required if > 6 months since last test; RAT log required if > 2 years since last log.
Two cement plugs are set; one to plug injection interval; the second (3 stages) to fill the casing
COGEMA will be responsible for disposal of all well equipment.



NOTE:

ALL DEPTHS LISTED ARE TOTAL VERTICAL DEPTHS BELOW RKB (10') UNLESS OTHERWISE NOTED.

NOT TO SCALE

COGEMA Mining Inc.
CHRISTENSEN RANCH PROJECT

FIGURE 2
COMPLETION SCHEMATIC
COGEMA DW. NO. 1

PROJECT: 0169-004	DATE: DECEMBER, 1998	
DWG: Figure2 1298.dwg	BY: HPD	CHECKED: KRS

Petrotek

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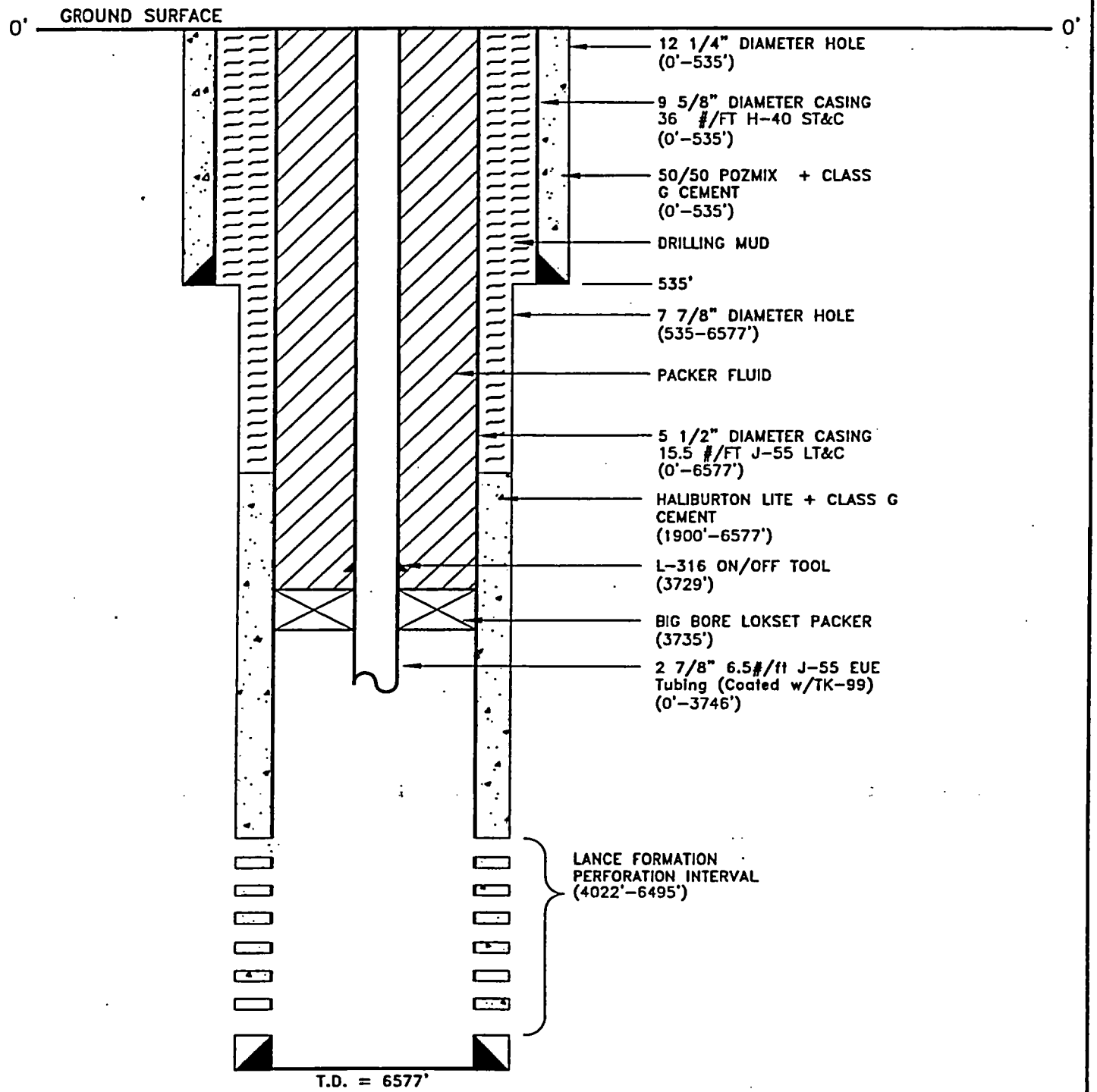

NOTE:
ALL DEPTHS IN FEET BELOW
RIG KELLY BUSHING (11' A.G.S.)

NOT TO SCALE

COGEMA Mining Inc.

FIGURE 2
COMPLETION SCHEMATIC
CHRISTENSEN 18–3

PROJECT: 0169–010	DATE: DECEMBER, 1999	
DWG: Fig–2 18–3.dwg	BY: HPD	CHECKED: KRS

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