



Rio Algom

William Paul Goranson, P.E.
Manager, Radiation Safety
Regulatory Compliance and Licensing

Quivira Mining Company
6305 Waterford Boulevard
Suite 325, Oklahoma City
Oklahoma 73118
405.858.4807 tel
405.810.2860 fax

June 28, 2001

Certified Mail 7000 1670 0013 4034 8479
Return Receipt Requested

Melvyn Leach, Chief
Fuel Cycle Licensing Branch, NMSS
Mail Stop T-8A33
U.S. Nuclear Regulatory Commission
Washington, DC 2055

Subject: Ambrosia Lake Facility
License SUA-1473, Docket No. 40-8905
License Condition #22, Annual Surety Update

Dear Mr. Leach:

Quivira Mining Company submits the following 2001 annual surety update to the source material license referenced above. Quivira calculates a new reclamation surety requirement of \$11.736 million and proposes to adjust the reclamation surety to that amount. The new surety uses the 2000 NRC surety as the cost basis and updates the surety for completed work items and account for inflation through April 2001.

Contained in Appendix A, pursuant to requirements in license condition #22 is a copy of the proposed Irrevocable Letter of Credit No. SBT717231 to reflect the new proposed reclamation surety amount. Should you have any questions regarding this submittal, please contact me at (405) 858-4807.

Sincerely,

William Paul Goranson, P.E.
Manager, Radiation Safety, Regulatory
Compliance and Licensing

Enclosures

CC: M. Freeman w/attachments (OKC)
T. Fletcher w/attachments (Ambrosia Lake)
P. Luthiger w/attachments (Ambrosia Lake)
D. Kavanagh w/attachments (Toronto)
Division of Radiation Safety (NRC/Arlington, TX)
file

NMSS01 Public

PART I
QUIVIRA MINING COMPANY
2001 NRC APPROVED RECLAMATION SURETY
AMBROSIA LAKE FACILITY - NEW MEXICO - NRC LICENSE SUA-1473

Shown below is the 2001 proposed surety for the Ambrosia Lake facility. The 2000 surety is adjusted for the completion of distinct reclamation work units that has occurred since the last bond approval. In 2000-2001, the installation of the rock cover for Pond #1 was completed, and in order to reflect that completion, the section titled "Rock Cover" has been modified to detail the work areas where rock cover activity will or has occurred. In this section, \$1.053 million of the total \$1.482 million allocated to rock cover was apportioned to Pond #1. With the completion of the Pond #1 rock cover, the remaining rock cover cost is set at \$0.429 million to complete Pond #2 and Pond #3. Included with the adjustment for completed work on Pond #1, appropriate adjustments were made to salary, contingency, overhead, and New Mexico Gross Receipts Tax.

Where applicable, the proposed surety utilizes the CPI-U inflation index to adjust cost estimates to current dollars. The revised, calculated reclamation surety is \$11.736 million.

**NRC RECLAMATION SURETY
AMBROSIA LAKE, NEW MEXICO**

WORK UNIT	NRC 1999-2000 BOND AMOUNT (\$000)
Cover for Mill Tailings (1988\$)	
Pond 1 Interim Cover	Complete
Pond 2 Interim Cover	Complete
Pond 1 Low Perm Layer	Complete
Pond 1 Radon Barrier Foot 1	Complete
Pond 1 Radon Barrier Foot 2	Complete
Pond 1 Radon Barrier Foot 3	Deleted by Amendment #31
Pond 2 Low Perm Layer	Complete
Pond 2 Radon Barrier Foot 1	Complete
Pond 2 Radon Barrier Foot 2	Complete
Pond 2 Radon Barrier Foot 3	Deleted by Amendment #31
Pond 1 Erosion Cover	Deleted by Amendment #29
Pond 2 Erosion Cover	Deleted by Amendment #29
Pond 3 Cover	Deleted by Amendment #31
SUB-TOTAL	0
Pond 2 Sand Contour	Complete
Pond 2 Fill to Grade South of "R" Line	Complete
SUB-TOTAL	0
Rock Protection	
Pond #1	complete
Pond #2 South-half (closed)	156
Pond #2 North-half (byproduct disposal area)	156
Pond #3	117
SUB-TOTAL	429
Contour and/or Cover:	
Pond 2	Complete
Pond 4	16
Pond 5	6
Pond 7	73
Pond 9	34
Pond 10	4
Interceptor Trench	20
SUB-TOTAL	153

WORK UNIT	NRC 1999-2000 BOND AMOUNT (\$000)
Lined Ponds 11-21	
Remove Contaminated Material (16-21)	299
Remove Berm (11-15)	430
Cover With Six-Inch Material	97
Erosion Protection-West Side	81
SUB-TOTAL	907
Clean Up Windblown Material	
Section 30 Area	Complete
Section 5 Area	Complete
Sec. 32 & Area N. of Pond 9	Complete
Area N. of Pond 1	52
SUB-TOTAL	52
Reclaim IX-Mill Pond Area	126
Reclaim Borrow Area	118
Reclaim Quarry	Deleted by Amendment #29
SUB-TOTAL	244
SUB-TOTAL OF ALL ABOVE	1,785
Salary - 45% Labor as Above	140 ⁽¹⁾
Overhead and Profit at 10%	179
Mill Decommissioning	1,208
SUB-TOTAL OF ALL ABOVE	3,312
Revegetation	
Pond 1 & 2 Areas	Not Applicable
Pond 4 & 5 Areas	34
Pond 6 & 8 Areas	Complete
Pond 7	29
Windblown Cleanup Areas	98
Borrow Areas	138
Pond 9 & 10 & Mill Areas	42
Ponds 11-21	306
SUB-TOTAL	647

WORK UNIT	NRC 1999-2000 BOND AMOUNT (\$000)
Radiation Monitoring	50 ⁽²⁾
Soil Testing	101 ⁽³⁾
SUB-TOTAL OF ALL ABOVE	4,110
Contingency @ 15%	617
N.M. Gross Receipt Tax @ 5.75%	236
SUB-TOTAL OF ALL ABOVE	4,963
Inflation 1988 - 2000 (6462) (.499) ⁽⁶⁾	2,477
Groundwater Cleanup (1999\$=\$3,195,000) ⁽¹⁰⁾ (1.050) ⁽¹¹⁾	3,354
NRC Long-Term Fee (1997=\$590,842) ⁽⁵⁾ (1.105) ⁽⁹⁾	653
SUB-TOTAL OF ALL ABOVE	11,447
Old Stope Leaching (1996\$)	
Shaft Reclamation	6
Ventilation Holes	8
Injection Holes	6
Site Reclamation	2
Re-vegetation	4
SUB-TOTAL	26
Solid Byproduct Disposal Area (1996\$)	
Disposal Area	26
Soil Testing	2
SUB-TOTAL	28
Old Stope Leach & Byproduct Disposal	
Overhead and Profit at 10%	5
Contingency @ 15%	8
N.M. Gross Receipt Tax @ 5.75%	3
Inflation 1996 - 2000 (70) (.136) ⁽⁸⁾	10
SUB-TOTAL	26

WORK UNIT	NRC 1999-2000 BOND AMOUNT (\$000)
De-Minimis 11(e)2 Disposal (1997\$)	
Disposal Area Radon Barrier	54
Disposal Area Rock Cover	69
Salary/Management	10
Soil Testing	3
Radiation/Health Safety	9
Overhead and Profit at 10%	14
Contingency @ 15%	22
New Mexico Gross Receipts @ 5.75%	8
Inflation 1997 - 2000 (189) (.105) ⁽⁹⁾	20
SUB-TOTAL	209
TOTAL	11,736

⁽¹⁾ Adjusted for work completed $(\$1785K / \$8459K) * \$665K$

⁽²⁾ Adjusted for Work Completed From Salary Detail - $(0.3357 * \$150K)$

⁽³⁾ Adjusted for Work Completed From Salary Detail - $(0.3357 * \$300K)$

⁽⁴⁾ From NRC's Revised Cost Estimate dated 10/4/90 and updated to 3/98 \$ $(\$1,103K * 1.249 = \$1,378K)$.

⁽⁵⁾ NRC's calculation in 1997 dollars

⁽⁶⁾ 1988 - 2001 Inflation (CPI-U) = $176.9 \div 118.0 = 1.499$ or 49.9%

⁽⁷⁾ 1990 - 2001 Inflation (CPI-U) = $176.9 \div 129.9 = 1.362$ or 36.2%

⁽⁸⁾ 1996 - 2001 Inflation (CPI-U) = $176.9 \div 155.7 = 1.136$ or 13.6%

⁽⁹⁾ 1997 - 2001 Inflation (CPI-U) = $176.9 \div 160.0 = 1.105$ or 10.5%

⁽¹⁰⁾ Estimated Groundwater Costs for 15 years forward from Attachment A to the 2000 Annual Surety Update

⁽¹⁰⁾ 1999 - 2001 Inflation (CPI-U) = $176.9 \div 168.4 = 1.05$ or 5.0%

Groundwater Program Cost Justification

In a letter dated September 10, 1998 from Joe Holonich, NRC to William Goranson, QMC, a request was made for the breakdown of the costs associated with the Groundwater Corrective Action Plan. Listed below are the actual costs associated with the program and a projected cost in the future. The Bedrock Units (Tres Hermanos A and B, and the Dakota Sandstone) and the alluvium program have been projected out 15 years as per the plan.

Cost Breakdown:

Groundwater Program for the Bedrock Units (Tres Hermanos A and B, and the Dakota Sandstones)		
Pumping of Section 30 and Section 30 West Mines		
Item	Cost	Description
1	\$25,200	Power - Section 30 (37,500kwh/mo. * \$0.056/kwh * 12 mo.)
2	\$47,040	Power - Section 30 West (70,000kwh/mo. * \$0.056/kwh * 12 mo.)
3	\$20,000	Maintenance/Repair of pumps (2 pumps-motors/year * 10,000/pump-motor)
4	\$2,600	Labor for pump-motor replacement
5	\$2,880	Labor for operations (\$20/hr * 6 hr/mo. * 2 mines * 12 mo.)
Subtotal	\$97,720	Annual Cost
Sampling and Analysis		
<u>TRES HERMANOS B</u>		
Item	Cost	Description
1	\$300	Labor - sampling/shipping. (\$20/hr * 1.5 hr/well * 5 wells * 2 times/yr)
2	\$4,200	Laboratory analysis (5 wells * \$420/well * 2 times/year)
3	\$900	Miscellaneous work tasks (20% of items 1 and 2)
Subtotal	\$5,400	Annual Cost
<u>TRES HERMANOS A</u>		
Item	Cost	Description
1	\$120	Labor - sampling/shipping. (\$20/hr * 1.5 hr/well * 2 wells * 2 times/yr)
2	\$1,680	Laboratory analysis (2 wells * \$420/well * 2 times/year)
3	\$360	Miscellaneous work tasks (20% of items 1 and 2)
Subtotal	\$2,160	Annual Cost
<u>DAKOTA</u>		
Item	Cost	Description
1	\$400	Labor - sampling/shipping. (\$20/hr * 2 hr/well * 5 wells * 2 times/yr)
2	\$4,800	Laboratory analysis (5 wells * \$480/well * 2 times/year)
3	\$1,040	Miscellaneous work tasks (20% of items 1 and 2)
Subtotal	\$6,240	Annual Cost
	\$111,520	Annual total for Bedrock units
	\$1,672,800	Using a 15 year basis for continuing cleanup

Groundwater Program for the Alluvium

Pumping of Interceptor Trench

Item	Cost	Description
1	\$7,392	Power (11,000kwh/mo. * \$0.056/kwh * 12 mo.)
2	\$500	Maintenance/Repair of pumps
3	\$720	Labor for operations (\$20/hr * 3 hr/mo. * 12 mo.)
Subtotal	\$8,612	

Pumping of Evaporation pond 9 to Section 4

Item	Cost	Description
1	\$12,096	Power (18,000kwh/mo. * \$0.056/kwh * 12 mo.)
2	\$500	Maintenance/Repair of pumps
3	\$1,200	Labor for operations (\$20/hr * 5 hr/mo. * 12 mo.)
4	<u>\$5,000</u>	Pond maintenance and repair
Subtotal	\$18,796	Annual Cost

Treatment of Mine Water used for Groundwater Sweep

1	<u>\$54,780</u>	IX Treatment and Radium Removal Circuit operating costs
Subtotal	\$54,780	Annual Costs

Sampling and Analysis

ALLUVIUM

Item	Cost	Description
1	\$240	Labor - sampling/shipping. (\$20/hr * 1.5 hr/well * 4 wells * 2 times/yr)
2	\$3,120	Laboratory analysis (4 wells * \$390/well * 2 times/year)
3	<u>\$672</u>	Miscellaneous work tasks (20% of items 1 and 2)
Subtotal	\$4,032	Annual Cost

1	\$14,400	Data Processing/Analysis (\$1200/mo)
---	----------	--------------------------------------

Total	\$100,620	Annual total for Alluvium units
	\$1,509,300	Using a 15 year basis for continuing cleanup

Costs Associated with Both Programs

Well Plugging and Abandonment

Item	Cost	Description
1	\$2,000	Alluvial well closure (4 wells * \$500/well)
2	\$1,000	Tres Hermanos A well closure (2 wells * \$500/well)
3	\$2,500	Tres Hermanos B well closure (5 wells * \$500/well)
4	\$3,750	Dakota well closure (5 wells * \$500/well)
5	<u>\$3,200</u>	Site clean-up and revegetation (16 wells * \$200/well)

Subtotal	\$12,450	
-----------------	-----------------	--

	\$3,194,550	Total Cost for groundwater program (1999 Dollars)
--	--------------------	--

APPENDIX A
SURETY DOCUMENTS

#SBGT717231

DRAFT

ISSUE DATE: April 1, 2001

AMOUNT: \$11,736,000.00

EXPIRY DATE: April 1, 2002

Beneficiary:

United States Nuclear Regulatory
Commission, Fuel Cycle Licensing Branch
11545 Rockville Pike
Mail stop T-718
Rockville, MD 80852
U.S.A.

Applicant:

Quivira Mining Company
6305 Waterford Blvd. Suite 325
Oklahoma City, OK 73118
U.S.A.

Re: NEC License No. SUA-1473
NRC Docket No. 40-8905

We, Canadian Imperial Bank of Commerce, New York Agency, 425 Lexington Avenue, New York, New York 10017 ("CIBC"), hereby establish our Irrevocable Letter of Credit No.SBGT717231 in your favour, on behalf of Quivira Mining Company, for the above-mentioned amount.

This letter of credit is available for payment up to the aggregate amount of USD11,736,000.00 (eleven million seven hundred thirty six thousand United States Dollars) upon presentation to CIBC at its above noted address or Two Paces West, 2727 Paces Ferry Road, Suite 1200, Atlanta, Georgia 30339 of the following documents:

1. Your draft drawn at sight on CIBC, purportedly signed by you and bearing the clause: "Drawn under Canadian Imperial Bank of Commerce Irrevocable Letter of Credit Nono:SBGT717231"; and
2. A dated statement, purportedly signed by you and stating: ""We, the undersigned United States Nuclear Regulatory Commission, hereby advise you that a sight draft in the amount of \$..... (..... United States Dollars) drawn under Canadian Imperial Bank of Commerce Irrevocable Letter of Credit No:SBGT717231 is accompanying this statement and certify that the amount of the draft is payable pursuant to regulations issued under authority of the Uranium Mill Tailings Radiation Control Act of 1978".

Partial drawings are permitted hereunder.

This letter of credit shall be reduced automatically, by the amount of each drawing paid hereunder and/or by amendment, by the amount of reduction that may be authorized by you from time to time by a written request, purportedly signed by you, given to CIBC.

CIBC understands that a letter of credit is required to be issued in accordance with regulations issued under authority of the United States Nuclear Regulatory Commission ("NRC"), an agency of the United States Government, pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, and the Uranium Mill Tailings Radiation Control Act of 1978. CIBC also understands that NRC has promulgated regulations in Title 10, Chapter I of the Code of Federal Regulations, Part 40, Appendix A, Criteria 9 and 10 and that

DRAFT

these regulations require that licensee of a uranium recovery facility shall provide assurance that funds will be available when needed in accordance with the approved Reclamation and Decommissioning Plan and also for any long-term surveillance and control of the uranium recovery facility.

This letter of credit is effective as of April 1, 2001 and shall expire on April 1, 2002..... (the "expiration date"), but such expiration date shall be automatically extended without amendment for one year from the present or any future expiration date hereof, unless at least ninety (90) days prior to the present or any automatically extended expiration date, CIBC notifies you and Quivira Mining Company, in writing by courier or by certified mail return receipt requested, that CIBC elects not to consider this letter of credit renewed for such further period (the "notice of cancellation"). If Quivira Mining Company is unable to secure an alternative financial assurance to replace this letter of credit within 30 days of the said notice of cancellation, you may draw upon the full amount available under this letter of credit prior to cancellation.

Notwithstanding the current or any automatically extended expiration date, this letter of credit shall be cancelled effective the date of receipt by CIBC of the original letter of credit instrument and a dated letter addressed to CIBC, purportedly signed by you, referencing this letter of credit number and requesting the cancellation of same.

CIBC shall give immediate notice to you and the licensee, Quivira Mining Company, of any notice received or action filed alleging the (a) insolvency or bankruptcy of the bank; or (b) any violations of regulatory requirements that could result in suspension or revocation of the bank's charter or license to do business. CIBC shall also give immediate notice if it, for any reason, becomes unable to fulfill its obligation under the letter of credit.

CIBC hereby agrees to honour any drawing presented to it at its above noted address, in compliance with the terms of this letter of credit, within 30 days and to pay the proceeds of the drawing to Standby Trust Fund of Quivira Mining Company in accordance with your complete payment instructions that will be provided by you each time a drawing is presented hereunder.

This letter of credit is subject to the "Uniform Customs and Practice for Documentary Credits (1993 Revision) International Chamber of Commerce, Publication No. 500"