Rio Algom Mining LLC

June 14, 2016

Mr. Matthew Meyers
Chief, Materials Decommissioning Branch (Acting)
NMSS/DUWP/NDP
U.S. Nuclear Regulatory Commission
Two White Flint North, Mailstop T-8F05,
1545 Rockville Pike,
Rockville, MD 20852

Subject:

Rio Algom Mining LLC – Ambrosia Lake Facility License No. SUA-1473, Docket No. 40-8905 2016 Surety Update – License Condition #22

Dear Mr. Meyers,

Rio Algom Mining LLC (RAML) is pleased to submit the 2016 annual surety update for the above referenced source material license. The surety calculations are consistent with 10CFR40, Appendix A, Criteria 9 and 10.

The work over the last fiscal year consisted of final grading, revegetation of disturbed soils, and the closure of Impoundment 2. The work completed within the last year resulted in a decrease in the anticipated completion costs of the direct activity costs to \$2,143,502 compared against the 2012 surety calculated amount of \$9,952,003.

The indirect costs in this submittal were revised following the previously received NRC guidance. The 2016 estimate of indirect plus total contingency is \$1,523,905.

The total estimated cost to complete the work by a third-party is approximately \$4,217,519. The enclosed tables summarize the revised 2016 surety calculations. RAML currently retains a financial surety instrument in the amount of \$16,000,000. RAML requests approval to retain the current financial surety instrument in place. However, RAML expects to initiate discussions with the NRC regarding reduction of the surety amount within the next twelve months.

The attached tables provide supporting information to justify cost estimates (10CFR Part 40, Appendix A, Criterion 9 and Appendix C, NUREG-1620). A summary table is included as well as calculations for the Groundwater, Lined Pond Closure, Monitor Well Closure and Radiological Surveying and Monitoring. The Tailings Reclamation and Mill Decommissioning are complete.

The work represented in the tables is merely a repackaging of a portion of the remaining construction activities required to fully close the site. The document "Design for Construction Mill Site Reclamation, Amendment 1" did not include any new engineering designs or any new reclamation plans. All items included in the current amendment, and pending future amendments, have been previously reviewed by the NRC and incorporated in the site's Radioactive Material License and there are no changes to the established closure plan.

If you have any questions on this matter or require additional information, please contact me at (209)736-4803 or by email at Theresa.Ballaine@bhpbilliton.com.

Respectfully submitted,

Rio Algom Mining LLC.

Theresa Ballaine Site Manager

cc: NRC Document Control

Attachments

RIO ALGOM MINING LLC - AMBROSIA LAKE OPERATION FINANCIAL ASSURANCE COST ALLOCATION SUMMARY

May 26, 2016

,	Real Dollars as of
Activity_	May 1, 2016
Tailings Reclamation	0
Groundwater -	840,741
Mill Decommissioning	0
Lined Pond Closure	868,753
Radiological Survey and Monitoring	434,008
Activity Total	2,143,502

Indirects	
Site Management (3.9% - RSMeans)	83,597
Overhead at 25%	556,775
Long Term Surveillance and Monitoring Fee (\$250K in 1978 \$ adjusted)	
Using the April 2016 CPI-U Average - (((239.261-67.7)/67.7)+1) X \$250,000	883,534
Total Estimated Indirect Costs	1,523,905

Total (Activity + Indirect) 3,667,408

Contingency (15% of Total) 550,111

Estimated Grand Total Financial Assurance 2016 4,217,519

RIO ALGOM MINING LLC - AMBROSIA ŁAKE OPERATION FINANCIAL ASSURANCE COST ALLOCATION

Tailings Reclamation

May 26, 2016

Activity	Unit/Quantity	Unit Rate	Task Estimate	Source	Date of Estimate	Real Dollars as of April 1, 2015
Cleanup Hot Spots	<u>CY</u>	<u>\$/CY</u>	<u>\$</u>			
Continaminated Soil Removal	0	3.99	0	Complete - June 2013		
Clean Soil Backfill	0	4.09	0	Complete - June 2013		
<u>Site Wide Revegetation</u>	<u>Acres</u>	\$/Acre	<u>\$</u>			
Seeding and Mulch	0	1,004.32	\$ 0	Complete - April 2016		
100 Year Channel	<u>CY</u>	<u>\$/CY</u>	<u>\$</u>			
Channel Excavation	<u>CY</u> 0	9.80	<u>\$</u> 0	Complete - June 2013		
Backfill and Embankment	0	3.60	0	Complete - June 2013		
1" Rock Placement	0	4.41	0	Complete - June 2014		
7.8" Rock Placement	О	11.59	0	Complete - June 2014	due has	
Borrow Site Reclamation	<u>CY</u>	<u>\$/CY</u>	<u>\$</u>			
Overburden Excavation and Fill	О	0.85	0	Complete - June 2014		
Pond 7 & 8 Erosion and Diversion	<u>CY</u>	<u>\$/CY</u>	<u>\$</u>			
Backfill	0	4.56	0	Complete - June 2014		
Channel Excavation	0	13.44	0	Complete - June 2014		
Channel Fill	0	3.32	0	Complete - June 2014		
1" Rock Placement	0	5.28	0	Complete - June 2014		
9.2" Rock Placement	0	10.27	0	Complete - June 2014		
			·			

Total <u>0.00</u> <u>0.00</u>

RIO ALGOM MINING LLC - AMBROSIA LAKE OPERATION FINANCIAL ASSURANCE COST ALLOCATION Groundwater

May 26, 2016

Activity	,		Date of Estimate	Estimate Date CPI	April 30, 2016 CPI	Inflation	Real Dollars as of May 1, 2016
Monitor Well Replacement	0	Complete - January 2013					
Monitor Well Closure (see Monitor Well Closure tab)	134,301	Consultant Estimate	10/12/2012	231.32	239.26	1.03	138,914
Stability Monitoring Reporting Program	300,000	Consultant Estimate	6/24/2015	238.64	239.26	1.00	300,783
Groundwater Monitoring within LTSM	400,000	Consultant Estimate	6/24/2015	238.64	239.26	1.00	401,044

Total 834,301.43 840,741.13

Notes

CPI - Consumer Price Index

RIO ALGOM MINING LLC - AMBROSIA LAKE OPERATION FINANCIAL ASSURANCE COST ALLOCATION Mill Decommissioning

May 26, 2016

Activity	Unit/Quantity Unit Rate		Task Estimate	Source	Date of Estimate	Real Dollars as of April 1, 2015
Mill Yard Soils Clean-Up & Pond Closure	CY	\$/CY	<u>\$</u>			_
Contaminated Soil Consolidation	0	4.27	0	Complete - May 2013		
Contaminated Soil Removal	0	5.52	0	Complete - May 2013		
Clean Backfill and Regrading	0	5.11	0	Complete - May 2015		
Radon Barrier Placement	0	16.14	0	Complete - June 2014		
1" Rock Placement	0	5.41	0	Complete - June 2014		
7.8" Rock Placement	0	7.67	0	Complete - June 2014		
Building Demolition			<u>\$</u>			
Asbestos Disposal	Lump Su	m	0	Complete - March 2015		
Haz Waste Disposal	Lump Su	m	0	Complete - March 2015		
Building Demolition	Lump Su	m	0	Complete - March 2015		
Substation Fencing (powerline relocation)	Lump Su	m	0	Complete - June 2015		

Total <u>0</u> <u>0</u>

RIO ALGOM MINING LLC - AMBROSIA LAKE OPERATION FINANCIAL ASSURANCE COST ALLOCATION Lined Pond Closure

May 26, 2016

Activity	Unit/Quantity	Unit Rate	Task Estimate	Source	Date of Estimate	Estimate Date CPI	April 30, 2016 CPI	Inflation	Real Dollars as of May 1, 2016
Pond 2 Cover Rock Purchase	<u>CY</u>	<u>\$/CY</u>	<u>\$</u>						
Pond 2 - Cover Rock Purchase - 1"	0	19.92	0	Complete - April 2016	6/8/2015				- 1
Pond 2 - Cover Rock Purchase - 3.2"	0	20.42	0	Complete - April 2016	6/8/2015				-
Pond 2 - Cover Rock Purchase - 7.8"	0	22.38	0	Complete - April 2016	6/8/2015				- 1
Pond 2 - Cover Rock Purchase - 9.2"	0	22.38	0	Complete - April 2016	6/8/2015				-
Pond 2 Cover Placement	CY	\$/CY	<u>\$</u>						
Pond 2 - Cover Clay Placement	0	5.00	0	Complete - Dec 2015	2/26/2013				
Pond 2 - Regrade	0	2.76	0	Complete - May 2015	-				
Pond 2 - Cover Rock Placement - 1" (Includes Apron)	0	4.07	0	Complete - April 2016	2/26/2013				
Pond 2 - Cover RockPlacement - 3.2"	0	12.31	0	Complete - April 2016	2/26/2013				
Pond 2 - Apron/Channel Rock Placement - 7.8"	0	11.56	0	Complete - April 2016	2/26/2013				
Pond 2 - Apron/Channel Rock Placement - 9.2"	0	11.02	0	Complete - April 2016	2/26/2013				
Section 4 Hot Spot Removal	<u>CY</u>	<u>\$/CY</u>	<u>\$</u>						
Remaining Contaminated Soil	0	17.60	0	Complete - October 2014					-
Scanning and Survey (from Rad Survey & Monitor sheet)	Lump Su	m	366,078	Consultant Estimate	2/3/2010	216.74	239.26	1.10	404,115
Dose Assessment (from Rad Survey & Monitor sheet)	Lump Su	m I	67,930	Consultant Estimate	2/3/2010	216.74	239.26	1.10	74,988
Section 4 Final Contour	<u>Acres</u>	\$/Acre	<u>\$</u>				İ		
Regrade	300	256.00	76,800	Contractor Estimate .	2/26/2013	232.17	239.26	1.03	79,147
Reseed	300	1,004.32	301,296	Contractor Estimate	2/26/2013	232.17	239.26	1.03	310,504
Borrow Site Reclamation	<u>CY</u>	\$/CY	<u>\$</u>						
Overburden Excavation and Fill	0	0.85	0	Complete - April 2016	2/26/2013		ı		
Highway Overcrossing Removal	CY	<u>\$/CY</u>	<u>\$</u>						
Bridge Removal and Demolition	Lump Su		0	Complete- January 2015					_

Total <u>812,104.00</u> <u>868,753.28</u>

Notes

CPI - Consumer Price Index

RIO ALGOM MINING LLC - AMBROSIA LAKE OPERATION FINANCIAL ASSURANCE COST ALLOCATION Monitor Well Closure

May 26, 2016

Well ID	Total Depth (ft)			Date of	Estimate	April 30, 2016		Real Dollars as of
Well ID		Cost Breakdown - Based on 2013 proj	ect for NMED	Estimate	Date CPI	CPI	Inflation	May 1, 2016
Alluvial Wells:		Linear Feet Abandoned in 2013	1,534.39		-	- 1		
5-03 R	56.25	Total Plug and Abandon Cost	55,659.00					
5-04	64.05	Cost per foot	\$36.27					
5-08 R	76.52	Future Linear Feet to Abandon	3,702.38					
5-73 R	35.69							
31-61	29.32	Estimated Cost	\$134,301.43	10/12/2012	231.32	239.26	1.03	<u>138,913.67</u>
31-65	41.47		, ,					
32-59	28.26	Nominal 6" wells						
TRB Wells:		Plugged and abandoned in accorance	with			į (
19-77 TRB	288.22	New Mexico Environment Department	Ground Water Quality					
31-02 TRB R	128.33	Bureau, Monitoring Well Construction	and Abandonment					
31-67 TRB	97.52	Guidelines, 2011.						
36-01 TRB	58.41							
36-02 TRB	57.51	Work estimated based on:						
TRA Wells:		The reaming of the wells						
30-01 TRA	207.35	Grout backfill						
31-01 TRA R	213.58	Surface reclamation						
33-01 TRA	181.31	Reseeding						
Dakota Wells:						1		
5-02 KD	190.54							
17-01 KD	807.90							
30-02 KD	313.38							
30-48 KD R	358.59							
32-45 KD R	269.91							
36-06 KD	198.27							
Total Linear Feet	3,702.38							
Data from 1st Half 2013	3 semi-annual NRC report							

Notes

CPI - Consumer Price Index

*Estimate included in Line 8 of "Groundwater" Table

RIO ALGOM MINING LLC - AMBROSIA LAKE OPERATION FINANCIAL ASSURANCE COST ALLOCATION Radiological Survey and Monitoring

May 26, 2016

Gamma Scanning and Survey	Date of Estimate	Estimate Date CPI	April 30, 2016 CPI	Inflation	Real Dollars as of May 1, 2016	
Gamma Survey of Windblown Area	\$52,361		-			\$52,361
Gamma Survey of ARC Areas	\$23,398					\$23,398
Gamma Survey of Unaffected and Mine Affected Areas	\$12,329					\$12,329
Resurvey of Windblown Area	\$3,892				•	\$3,892
Total Gamma Scanning and Survey	3/1/2016	239.26	239.26	1	\$91,980	
		1 5	1			
		Date of				Real Dollars as of May
Soil Sampling		Estimate				1, 2016
Soil Sampling of Windblown Area	\$163,810					\$163,810
Soil Sampling of ARC Areas	\$97,620					\$97,620
Capture Pipeline Remediation FSS data	\$12,668					\$12,668
Total Soil Sampling	\$274,098	3/1/2016	239.26	239.26	1.00	\$274,098
Total Scanning and Survey \$366,078						\$366,078

		Date of				Real Dollars as of May
QA/QC and Reporting		Estimate				1, 2016
Prepare Quality Assurance Project Plan (QAPP)	\$7,530					\$7,530
Produce Final Status Survey Report	\$48,400					\$48,400
Respond to NRC RAIs	\$12,000					\$12,000
Total QA/QC & Reporting	\$67,930	3/1/2016	239.26	239.26	1.00	\$67,930

Total \$434,008 \$434,008

Notes

CPI - Consumer Price Index

^{*} Estimates from - Proposal to Implement Final Status Survey Plan at the Bio Algom Mining, LLC -- ERG®

Consumer Price Index - All Urban Consumers **Original Data Value**

Source: http://data.bls.gov/cgi-bin/surveymost

http://data.bls.gov/pdq/querytool.jsp?survey=cu

Series Id:

CUUR0000SA0

Not Seasonally Adjusted

Area:

Years:

U.S. city average

Item:

All items

Base Period:

1982-84=100

2005 to 2016

Ye	ear	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	HALF1	HALF2
2005	<u>-</u>	190.7	191.8	193.3	194.6	194.4	194.5	195.4	196.4	198.8	199.2	197.6	196.8	193.2	197.4
2006		198.3	198.7	199.8	201.5	202.5	202.9	203.5	203.9	202.9	201.8	201.5	201.8	200.6	202.6
2007	2	202.416	203.499	205.352	206.686	207.949	208.352	208.299	207.917	208.490	208.936	210.177	210.036	205.709	208.976
2008	2	211.080	211.693	213.528	214.823	216.632	218.815	219.964	219.086	218.783	216.573	212.425	210.228	214.429	216.177
2009	2	211.143	212.193	212.709	213.240	213.856	215.693	215.351	215.834	215.969	216.177	216.330	215.949	213.139	215.935
2010	2	216.687	216.741	217.631	218.009	218.178	217.965	218.011	218.312	218.439	218.711	218.803	219.179	217.535	218.576
2011	2	220.223	221.309	223.467	224.906	225.964	225.722	225.922	226.545	226.889	226.421	226.230	225.672	223.598	226.280
2012	2	226.665	227.663	229.392	230.085	229.815	229.478	229.104	230.379	231.407	231.317	230.221	229.601	228.850	230.338
2013	2	230.280	232.166	232.773	232.531	232.945	233.504	233.596	233.877	234.149	233.546	233.069	233.049	232.366	233.548
2014	2	233.916	234.781	236.293	237.072	237.900	238.343	238.250	237.852	238.031	237.433	236.151	234.812	236.384	237.088
2015	2	233.707	234.722	236.119	236.599	237.805	238.638	238.654	238.316	237.945	237.838	237.336	236.525	236.265	237.769
2016	2:	36.916	237.111	238.132	239.261										