

# Aurizon Mines Ltd. Reports a 44% Increase in Mineral Reserves for the Casa Berardi Mine

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VANCOUVER, March 10 /CNW/ - [Aurizon Mines Ltd.](#) (TSX: ARZ; NYSE Amex: AZK) is pleased to report a 44% increase in mineral reserves and an updated mineral resource estimate for its Casa Berardi mine, located in north western Quebec, Canada.

## Highlights include the following:

- Mine life extended from six years to ten years.
- An increase of 44% in mineral reserves to 1,457,000 ounces of gold.
- A significant open pit mineral reserve of 370,000 ounces established in the area of the Principal zones, which are still open laterally.
- An increase of 10% in West Mine underground mineral reserves.
- An increase of 74% and an upgrade of the ounces contained in Zone 123 between the 800 metre and 1,000 metre levels. This zone remains open both up dip and down dip.
- An increase of 40% in the ounces contained in the Principal Zones, accessible from underground.

CASA BERARDI MINE  
MINERAL RESERVES AND RESOURCES SUMMARY(1)  
as at December 31, 2010 versus 2009

2010			
	Tonnes	Grade Grams/tonne	Gold Ounces
Mineral Reserves			
Proven and Probable			
Mineral Reserves			
Underground	4,057,000	7.7	1,005,000
Open pit	3,796,000	3.7	452,000
Total Mineral Reserves	7,854,000	5.8	1,457,000
Mineral Resources			
Measured Mineral Resources	1,155,000	5.7	211,900
Indicated Mineral Resources	3,327,000	5.7	612,400
Total Measured & Indicated Resources	4,481,000	5.7	824,000
Inferred Mineral Resources	3,981,000	5.8	748,000

2009				2010
	Tonnes	Grade Grams/tonne	Gold ounces	Gain (loss) ounces
Mineral Reserves				
Proven and Probable				
Mineral Reserves				
Underground	3,798,000	7.6	929,000	76,000
Open pit	635,000	4.0	81,000	370,000
Total Mineral Reserves	4,433,000	7.1	1,010,000	447,000
Mineral Resources				
Measured Mineral Resources	789,000	5.3	134,500	77,400
Indicated Mineral Resources	4,289,000	5.6	778,100	(165,700)
Total Measured & Indicated Resources	5,078,000	5.6	912,000	(88,000)
Inferred Mineral Resources	4,487,000	6.6	958,000	(210,000)

(1) See accompanying notes below detailed mineral reserve and mineral resource tables for definitions,

*parameters, and assumptions. Please note the mineral resources are exclusive of mineral reserves.*

'For the fourth consecutive year, Casa Berardi has renewed or increased mineral reserves.' stated David P. Hall, President and CEO, adding 'Our \$13.4 million exploration program this year will continue to extend and upgrade existing mineral resources. Casa Berardi continues to confirm our initial expectations that it can deliver sustainable, profitable production for many years to come.'

### **Casa Berardi Mine**

The Casa Berardi gold deposits are located along a five kilometre east-west mineralized corridor. They include the East and West mines, and the Principal Zones. The Casa Berardi gold deposits can be classified as an Archean sedimentary-hosted lode gold deposit. The gold mineralization is superimposed on a continuous graphitic mudrock unit corresponding to the Casa Berardi Fault plane. Gold occurs mainly south of the Casa Berardi Fault, and occasionally on both sides of the fault.

The mine has produced over 1.3 million recovered gold ounces since commencing production in 1986, including 636,400 recovered ounces since Aurizon recommenced production in November 2006.

BBA Inc. (BBA) was commissioned by Aurizon to undertake a prefeasibility study on the Principal Mine open pit. Roscoe Postle Associates Inc. ('RPA') was commissioned by Aurizon to prepare updated mineral reserve and mineral resource estimates on the rest of the property.

### **Proven and Probable Mineral Reserves have increased as a result of:**

- At the West Mine, the 2010 mine production in Zones 113, Lower Inter, North West and 115 have been more than replaced by gains in mineral reserves primarily from the Principal Zone open pit and Zone 123S. Additional reserve increases were provided from Zones 118 and 109.
- As a result of the addition of the lower grade ore from the Principal Zone open pit, tonnage has increased by 77%, grade has decreased by 19% and ounces of gold have been increased by 44% compared to 2009.
- Mineral reserves are estimated using an average long-term gold price of US\$950 per ounce and a US\$/C\$ exchange rate of 1:1, compared to US \$825 per ounce in 2009 and a US\$/C\$ exchange of 1:1.09. A minimum cut off grade of 4.1 grams of gold per tonne was used for the underground zones, based on long term operating costs and gold prices. A minimum cut off grade of 1.2 grams and 0.5 grams of gold per tonne was used respectively for the East Mine and Principal Zone open pits. In 2009, the minimum cut off grade was 3.9 grams of gold per tonne for the underground zones.
- As the mining industry is currently experiencing gold prices that are higher than US\$950 per ounce, the operations periodically mine ore that is not included in mineral reserves as the grades are lower than the long term minimum cut-off grades.

### **Principal Zone Open Pit**

BBA was mandated by Aurizon to undertake a prefeasibility study for the Casa Berardi Principal Zone, situated approximately 1.0 kilometre east of the West Mine production shaft. A pit optimization and design were carried out in order to determine the reserves for the Principal Zone Pit. An optimization algorithm was used in MineSight software in order to achieve the most economic pit shell. In accordance with the guidelines of the National Instruments NI 43-101 on Standards of Disclosure for Mineral Projects and the Canadian Institute of Mining, Metallurgy and Petroleum Definition Standards for Mineral Resources and Mineral Reserves adopted on August 20, 2000, only those ore blocks classified in the measured and indicated categories were used to drive the pit optimizer for a Pre-Feasibility Study. The inferred material is counted as waste.

The Principal Zone open pit will be mined using conventional open pit mining methods. The open-pit will be a smaller scale operation, and will run for slightly over 3 full years of production. The average amount of material being moved every six month period will approximate 500,000 to 550,000 tonnes of ore, with variable quantities of waste.

Highlights of the BBA prefeasibility study are summarized below:

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Assumptions		
Gold Price (US\$/oz)		\$950
Canadian \$ to US\$ rate		1.0:1.0
Fuel price (C\$/litre)		\$0.87
Mineral Reserves		
Mineral Reserves (ounces)		370,000
Mine Parameters		
Ore milled		
Tonnage (million tonnes)		3.2
Grade (grams/tonne)		3.65
Waste to ore ratio		14.6:1
Estimated gold recovery (%)		87.0%
Total gold recovered (ounces)		322,000
Pre-production period (years)		1.5
Pit Mine life (years)		3.0
Costs		
Pre-production capital (\$ millions)		\$84.3
Cost per tonne milled (\$/t)		\$48.46
Average total cash cost per ounce (US\$/oz)		US\$440
Financial Return		
Internal Rate of Return (before tax)		26.8%
Net present value, pre tax, 5% discount (\$ millions)		\$33.9
(All dollar figures expressed in Canadian dollars, except where indicated)		
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Using a gold price of US\$1,200 per ounce that is more reflective of current market prices, the financial analysis indicates a pre-tax NPV at a 5% discount rate of \$96 million, with an IRR of 54%.

Further studies that will be undertaken in 2011 include metallurgical test work to confirm the mill recoveries, and further hydrological studies with pumping tests to assess the ability to lower the groundwater table. In addition, surface drilling will be conducted during the winter to test the near surface extensions of the Principal zones which remain open in all directions.

In addition to the Principal Zone open pit reserves are Principal Zone measured and indicated resources that are beneath the pit shell totalling 1,410,000 tonnes at an average grade of 7.4 grams per tonne, for 334,000 ounces of gold, and inferred resources totalling 628,000 tonnes at an average grade of 6.6 grams per tonne, for 132,700 ounces of gold. The Company plans to drill these zones in 2011 from the 280 metre track drift to assess the potential of establishing a mineral reserve that can be mined from underground.

# Changes in Casa Berardi Mineral Reserves

The following table shows the main components of the change in mineral reserves during 2010:

	Tonnes	Gold ounces
Mineral Reserves - December 31, 2009	4,433,000	1,010,000
Resources conversion(1)	4,160,000	606,000
Mining depletion(2)	(695,000)	(153,000)
Mining Cost(3)	(45,000)	(6,000)
Mineral Reserves - December 31, 2010	7,854,000	1,457,000

- (1) Resource conversion resulted in the addition of 606,000 ounces to mineral reserves, representing a 60% increase.
- (2) Mining depletion represents mineral reserves mined and processed in 2010 before milling recoveries and exclude 4,000 ounces mined outside of the reserves established at the beginning of the year and, therefore, does not correspond to the actual 2010 gold production of 141,116 ounces.
- (3) Despite a higher three year moving average gold price, the cut off grade was increased primarily as a result of higher operating costs.

## Mine Plan for Mineral Reserves

- The mine plan for the current mineral reserves totals 7.9 million tonnes of ore, grading 5.8 grams of gold per tonne to be mined over 10 years (2011 to 2020). Underground production will come from Zones 113, Lower Inter, 118, 123S, six smaller West Mine zones and the East Mine at an average production rate of 165,000 ounces per year. Open pit production will originate from the Principal Zone and the East Mine in the latter years of the production cycle at an average production rate of 100,000 ounces per year.
- Development was compiled by zone, measured from mine plans, and scheduled monthly for 2011, and quarterly thereafter.
- Production was compiled by stope, and scheduled monthly for 2011 and yearly thereafter. The majority of the production tonnage will come from Zones 113, Lower Inter, 118, 123S and Principal.
- The mine plan will be continually modified as new mineral resources are discovered and upgraded to reserves.

## CASA BERARDI MINE MINERAL RESERVE ESTIMATE As at December 31,

	2010			2009		
	Tonnes	Grade Grams/ tonne	Gold Ounces	Tonnes	Grade Grams/ tonne	Gold Ounces
Lower Inter (LI)	910,000	8.0	233,200	965,000	8.6	266,100
North West (NW)	42,000	5.8	7,900	62,000	5.6	11,200
113	587,000	8.8	167,000	893,000	7.7	222,000
115	147,000	11.4	54,100	156,000	11.3	56,400
Principal -						

Open Pit	89,000	6.3	18,000	-	-	-
East mine -						
Open Pit	407,000	4.2	54,400	407,000	4.2	54,400
East mine -						
Underground	88,000	6.3	17,800	88,000	6.3	17,800
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Total Proven						
Reserves	2,271,000	7.6	552,400	2,571,000	7.6	627,800
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Lower Inter (LI)	30,000	8.2	7,900	32,000	10.2	10,500
South West (SW)	72,000	4.6	10,700	72,000	4.6	10,700
109	114,000	5.7	21,000	68,000	5.4	11,700
111	37,000	5.4	6,400	37,000	5.4	6,400
113	402,000	9.9	127,800	535,000	8.2	141,200
115	0	0.0	0	2,000	4.1	300
117S	19,000	7.0	4,300	19,000	7.0	4,300
118	1,021,000	6.4	208,600	767,000	6.0	148,400
123S	493,000	7.4	117,700	-	-	-
Principal -						
Open Pit	3,072,000	3.6	352,400	-	-	-
East Mine -						
Open Pit	228,000	3.7	26,800	228,000	3.7	26,800
East Mine -						
Underground	63,000	8.2	16,500	63,000	8.2	16,500
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Low-Grade						
Development	31,000	3.9	3,900	40,000	3.9	5,000
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Total Probable						
Reserves	5,583,000	5.0	904,100	1,862,000	6.4	382,000
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Total Proven and						
Probable						
Reserves	7,854,000	5.8	1,457,000	4,433,000	7.1	1,010,000
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#### Notes:

1. Open pit mineral reserves were estimated by BBA and underground mineral reserves were audited by RPA.
2. Mineral reserves and resources estimates have been completed in accordance with the Standards of Disclosure for Mineral Projects as defined by National Instrument 43-101. Mineral resources are exclusive of mineral reserves. Mining depletion for 2010 is included in 2010 Mineral reserves.
3. Mineral Reserves are estimated at a cut-off grade of 4.15 g/t Au for underground, and 1.2 g/t Au for East Mine open pit and 0.5g/t Au for Principal open pit.
4. Mineral Reserves are estimated using an average long-term gold price of US\$950 per ounce and a US\$/C\$ exchange rate of 1:1.
5. A minimum mining width of three metres was used.
6. Totals may not represent the sum of the parts due to rounding.
7. See Appendix A for additional technical parameters.

#### CASA BERARDI MINE MINERAL RESOURCE ESTIMATES As at December 31,

2010			2009		
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	Grade	Gold		Grade	Gold
Tonnes	Grams/ tonne	Ounces	Tonnes	Grams/ tonne	Ounces
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Measured Mineral Resources					

Lower Inter	122,000	5.1	19,800	98,000	5.1	16,200
113	290,000	6.6	61,300	155,000	8.1	40,100
113-5	10,000	5.7	1,900	-	-	-
115	9,000	4.9	1,500	-	-	-
115-2	34,000	12.2	13,200	-	-	-
North West	9,000	5.0	1,400	9,000	5.0	1,400
Principal -						
Underground	153,000	7.3	36,000	-	-	-
East Mine -						
Open Pit	311,000	3.1	31,300	311,000	3.1	31,300
East Mine						
Underground	216,000	6.5	45,500	216,000	6.5	45,500
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Total Measured						
Resources	1,155,000	5.7	211,900	789,000	5.3	134,500
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Indicated Mineral						
Resources						
Lower Inter	3,000	8.8	900	3,000	5.3	600
South West	300,000	4.7	45,000	300,000	4.7	45,000
Inter	124,000	4.4	17,700	124,000	4.4	17,700
109	21,000	4.3	2,900	-	-	-
111	52,000	5.2	8,800	52,000	5.2	8,800
113	46,000	5.1	7,600	60,000	4.9	9,500
113-5	2,000	6.0	400	-	-	-
113(S4)	245,000	5.5	43,000	245,000	5.5	43,000
115	-	-	-	-	-	-
115-2	4,000	10.3	1,300	-	-	-
118	518,000	5.2	86,900	265,000	6.0	51,80
123S	136,000	5.4	23,700	-	-	-
Principal -						
Open Pit	0	0.0	0	1,785,000	6.2	355,300
Principal						
Underground	1,257,000	7.4	298,500	837,000	6.4	171,700
East Mine -						
Open Pit	404,000	2.7	34,500	404,000	2.7	34,500
East Mine						
Underground	90,000	6.3	18,100	90,000	6.3	18,100
152	125,000	5.8	23,200	125,000	5.8	23,200
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Total Indicated						
Resources	3,327,000	5.7	612,400	4,289,000	5.6	778,100
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Total Measured &						
Indicated						
Resources	4,481,000	5.7	824,300	5,078,000	5.6	912,600
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CASA BERARDI MINE  
MINERAL RESOURCE ESTIMATES  
As at December 31,

	2010			2009		
		Grade	Gold		Grade	Gold
	Tonnes	Grams/ tonne	Ounces	Tonnes	Grams/ tonne	Ounces
Inferred Mineral Resources						
104	115,000	6.6	24,500	115,000	6.6	24,500
113(S4)	15,000	5.8	2,700	15,000	5.8	2,700
118	369,000	7.9	94,200	1,018,000	6.8	222,100
123S	909,000	8.0	234,100	714,000	9.4	216,300

Principal -						
Open Pit	655,000	2.5	53,200	841,000	6.0	161,500
Principal						
underground	628,000	6.6	132,700	836,000	6.0	160,500
East Mine -						
Open Pit	310,000	3.0	30,200	310,000	3.0	30,200
East Mine						
Underground	156,000	9.1	45,600	156,000	9.1	45,600
152	13,000	8.2	3,500	13,000	8.2	3,500
East Mine Cherty	225,000	6.8	49,300	225,000	6.8	49,300
160 In Pit						
Resources	131,000	1.7	7,100	-	-	-
160 Underground	455,000	4.8	70,800	243,000	5.4	42,200
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Total Inferred						
Resources	3,981,000	5.8	747,900	4,487,000	6.6	958,500
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#### Notes:

1. Open pit mineral resources were estimated by BBA and underground mineral resources were estimated by RPA.
2. CIM definitions were followed for Mineral Resources.
3. Mineral Resources are estimated at cut-off grades of:
  - 4 g/t Au for West Mine, Principal Mine and East Mine.
  - 3 g/t Au for South West, Inter and 104 zones in the West Mine. Those zones were estimated by Aurizon in 2000 using 2D polygons on longitudinal sections and reviewed by RPA in 2005.
  - 1.30 g/t Au for the East Mine - Open Pit
  - 0.5g/t Au for the Principal - Open Pit Mineral Resources are estimated using an average long-term gold price of US\$950 per ounce, and a US\$/C\$ exchange rate of 1:1.
4. Minimum mining widths of two to three metres were used.
5. Mineral Resources are exclusive of Mineral Reserves.
6. Totals may not represent the sum of the parts due to rounding.
7. Mineral resources which are not mineral reserves do not have demonstrated economic viability
8. See Appendix B for additional technical parameters.

#### Comparison with 2009 Mineral Resources

The main variance in the mineral resource estimates between 2010 and 2009 are as follows:

Aurizon intends to utilize its strong cash flow to upgrade mineral resources to mineral reserves in order to extend and optimize the current mine plan. This is achieved by the re-estimation of mineralized zones after drilling programs (Zone 109, 113, 115, Lower Inter and mainly 118, 123S, Principal open pit and underground).

In 2011, Aurizon also intends to update mineral resources at Casa Berardi following an aggressive diamond drilling program totalling 115,000 metres and to complete a scoping study to assess the relative risks and opportunities of mining Zone 160 by open pit and 160 (East Mine)).

- Conversion of inferred into indicated; or of indicated into measured. The recently extended 550 level exploration track drift will be utilized as a drilling platform to verify the continuity between the Principal Zone and Zones 118 and 123,000 oz) into mineral reserves (+606,000 oz).

Deepening of the West Mine production shaft from the 760 metre level down to the 1,080 metre level will eventually provide a new drilling platform at the 1,010 metre level to allow testing the depth extensions of Zones 113, 118 and 123S. Shaft deepening is expected to start in the second quarter of 2011 and be completed at the end of the third quarter of 2012.

- Mining depletion (Zones 113, North West, Lower Inter and 115).

#### Outlook

Quality control



Mineral resource estimates, implementation and the quality control program are supervised by Sylvain Picard P. Eng., Principal Mine Geologist for Casa Berardi, and a 'qualified person' as defined by the National Instrument 43-101.

Underground mineral reserve and resource estimates were prepared by RPA. The 'qualified persons' for RPA as defined by National Instrument 43-101 are Bernard Salmon, Eng., and Normand Lecuyer, P.Eng. Mineral reserve and resource estimates for the Principal Mine open pit were prepared by BBA. The 'qualified person' for BBA as defined by National Instrument 43-101 is Patrice Live, Eng.

Information of a technical and scientific nature in the press release has been prepared under the supervision of Christian Bourcier, P. Eng., Mine Manager for Casa Berardi, and a 'qualified person' as defined by the National Instrument 43-101.

#### Additional Information

One sketch is attached showing the updated mineral reserve and resource outlines at the Casa Berardi Gold Mine. Two appendices attached to this release detail the technical parameters used for the mineral reserve estimates (Appendix A) and the mineral resource estimates (Appendix B). All other information previously released on Casa Berardi is also available on the Aurizon website at [www.aurizon.com](http://www.aurizon.com).

The sketch can be viewed here: [http://files.newswire.ca/734/Sketch\\_NR031011.pdf](http://files.newswire.ca/734/Sketch_NR031011.pdf)

#### About Aurizon

Aurizon is a gold producer with a growth strategy focused on developing its existing projects in the Abitibi region of north-western Quebec, one of the world's most favourable mining jurisdictions and prolific gold and base metal regions, and by increasing its asset base through accretive transactions. Aurizon shares trade on the Toronto Stock Exchange under the symbol 'ARZ' and on the NYSE Amex under the symbol 'AZK'. Additional information on Aurizon and its properties is available on Aurizon's website at [www.aurizon.com](http://www.aurizon.com).

#### FORWARD-LOOKING STATEMENTS AND INFORMATION

This news release contains 'forward-looking statements' and 'forward-looking information' within the meaning of applicable securities regulations in Canada and the United States (collectively, 'forward-looking information'). The forward-looking information contained in this news release is made as of the date of this news release. Except as required under applicable securities legislation, the Company does not intend, and does not assume any obligation, to update this forward-looking information. Forward-looking information includes, but is not limited to, statements with respect to mineral reserve and mineral resource estimates, the 2011 Casa Berardi mine plan and estimates of gold production, grade and long-term average gold prices, anticipated effect of completed drill results on the Casa Berardi project, planned work programs, feasibility studies, strategic plans and expected outcomes. Often, but not always, forward-looking information can be identified by the use of words such as 'plans', 'expects', 'is expected', 'budget', 'scheduled', 'estimates', 'forecasts', 'intends', 'anticipates', or 'believes', or the negatives thereof or variations of such words and phrases or statements that certain actions, events or results 'may', 'could', 'would', 'might', or 'will' be taken,

occur or be achieved.

The forward-looking information contained in this news release is based on certain assumptions that the Company believes are reasonable, including, with respect to mineral reserve and resource estimates, the key assumptions and parameters on which such estimates are based, as set out in the technical report for the property, that the current price of and demand for gold will be sustained or will improve, the supply of gold will remain stable, that the general business and economic conditions will not change in a material adverse manner, that financing will be available if and when needed on reasonable terms and that the Company will not experience any material accident, labour dispute, or failure of plant or equipment.

However, forward-looking information involves known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by the forward-looking information. Such factors include, among others, conclusions of economic evaluations, the risk that actual results of exploration activities will be different than anticipated, that cost of labour, equipment or materials will increase more than expected, that the future price of gold will decline, that the Canadian dollar will strengthen against the U.S. dollar, that mineral resources and reserves are not as estimated, that actual costs or actual results of reclamation activities are greater than expected; that changes in project parameters as plans continue to be refined may result in increased costs, of unexpected variations in mineral resources and reserves, grade or recovery rates, of failure of plant, equipment or processes to operate as anticipated, of accidents, labour disputes and other risks generally associated with mining, unanticipated delays in obtaining governmental approvals or financing or in the completion of development or construction activities, as well as those factors and other risks more fully described in Aurizon's Annual Information Form filed with the securities commission of all of the provinces and territories of Canada and in Aurizon's Annual Report on Form 40-F filed with the United States Securities and Exchange Commission, which are available on Sedar at [www.sedar.com](http://www.sedar.com) and on Edgar at [www.sec.gov/](http://www.sec.gov/). Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking information, there may be other factors that cause actions, events or results to not be as anticipated, estimated or intended. There can be no assurance that forward-looking information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Readers are cautioned not to place undue reliance on forward-looking information due to the inherent uncertainty thereof.

#### CAUTIONARY NOTE TO US READERS

As a Canadian reporting issuer, the Company is subject to rules, policies and regulations issued by Canadian regulatory authorities and is required to provide detailed information regarding its properties including mineralization, drilling, sampling and analysis, security of samples and mineral resource and mineral reserve estimates. In addition, as a Canadian reporting issuer, the Company is required to describe mineral resources associated with its properties utilizing Canadian Institute of Mining, Metallurgy and Petroleum ('CIM') definitions of 'indicated' or 'inferred', which categories of resources are recognized by Canadian regulations but are not recognized by the United States Securities and Exchange Commission ('SEC').

The SEC allows mining companies, in their filings with the SEC to disclose only those mineral deposits they can economically and legally extract or produce. Accordingly, information contained in this News Release regarding our mineral deposits may not be comparable to similar information made public by U.S. companies subject to the reporting and disclosure requirements under the United States federal securities laws and the rules and regulations of the Commission thereunder.

In particular, this News Release uses the term 'indicated' resources. U.S. readers are cautioned that while that term is recognized and required by Canadian regulations, the SEC does not recognize it. U.S. investors are cautioned not to assume that any part or all of mineral deposits in this category will ever be converted into mineral reserves.

This News Release also uses the term 'inferred' resources. U.S. readers are cautioned that while this term is recognized and required by Canadian regulations, the SEC does not recognize it. 'Inferred resources' have a

great amount of uncertainty as to their existence, and great uncertainty as to their economic and legal feasibility. It cannot be assumed that all or any part of an Inferred Mineral Resource will ever be upgraded to a higher category. Under Canadian rules, estimates of Inferred Mineral Resources may not form the basis of feasibility or pre-feasibility studies, except in rare cases. U.S. investors are cautioned not to assume that part or all of an inferred resource exists, or is economically or legally mineable.

## APPENDIX A

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### Technical Parameters - Mineral Reserve Estimate

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The technical parameters for the mineral reserve estimate are as follows:

- Mineral reserve estimations were based on 3D block models for all zones except the South West Zone; the few remaining zones that were estimated using 2D polygonal methods are not included in mineral reserves.
- For the underground operation, the selected mining method is usually Sequential Transversal and Longitudinal Long Hole when the vein is larger than 10 metres and Longitudinal Long Hole Retreat when the vein is less than 10 metres. The stoping sequence includes cemented rockfill of the primary stoping sequence, cemented and unconsolidated rockfill for the longitudinal retreat and unconsolidated rockfill for secondary stoping sequence.
- Stope dilution has been calculated from numerical modeling on the basis of the stability of the stope openings, ore deposit geometry and mining method. The amount of dilution was reduced for stopes of smaller dimensions on the fringes of the zone, and increased for stopes with unfavourable geometry. In addition, each stope was assigned a backfill dilution percentage based on number of walls of fill and type of mucking floor. Dilution quantities were estimated for each stope, including hanging wall/footwall sloughage, and backfill dilution, where applicable. As a result, the dilution averages 21%.
- Extraction was estimated at 90% for primary stopes, and 95% for secondary stopes.
- A minimum cut off grade of 4.1 grams of gold per tonne was used based on long term operating costs and gold prices for most of the underground zones in the West Mine; except for zones 118 and 123S, where cut off grades of 4.8 and 5.4 grams of gold per tonne, respectively, were applied based on long term operating costs. For the East Mine crown pillar and for Principal open pit, a minimum cut off grade of 1.2 and 0.5 grams of gold per tonne was respectively used based on long term operating costs and gold prices.
- Bulk density is different for each zone and is based on density determinations. Bulk density varies from 2.70 tonnes per cubic metre (e.g. Zone 113) to 2.90 tonnes per cubic metre (e.g. Principal Zones). A bulk density of 2.77 tonnes per cubic metre was used for zones that have no density determinations (e.g. East Mine) and is based on historical data.
- Mineral reserves are estimated using an average long-term gold price of US\$950 per ounce and a US\$/C\$ exchange rate of 1:1.
- Minimum underground mining widths of three metres were used.
- West Mine mineral reserves are based on new information acquired from

the definition drilling completed in 2010. Information from the definition drilling is being used to outline the precise ore stope dimensions. Footwall drifts, which are set 20 metres apart vertically, are being used as the collar locations of the current drill program.

- East Mine open pit reserves are contained in the crown pillar left behind by previous mining. Open pit optimization and detailed design were updated in 2008. A dilution factor of 20% was applied to open pit mineralization within the pit design, and above the 1.2 grams of gold per tonne cut-off grade. It is anticipated that the East mine crown pillar open pit will have a depth of 80 metres. The zone is covered by 18 metres of silt and clay overburden. Stripping ratio is estimated at 17:1.
- The East Mine underground reserves are based on a plan to re-establish access to old workings, and mine pillars and levels left behind during previous operations. Stope sizes are not standardized. Mining methods include longhole stoping where access can be attained for both top and bottom cuts and cut and fill methods where only undercuts are accessible.
- Principal open pit reserves are contained in a 150 metre crown pillar. Open pit optimization and detailed design were generated in 2010. A dilution factor of 10% was applied to open pit mineralization within the pit design, and above the 0.5 gram of gold per tonne cut-off grade. The zone is covered by an average of 45 metres of silt and clay overburden. Stripping ratio is estimated at 14.6:1.

#### APPENDIX B

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#### Technical Parameters - Mineral Resource Estimate

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The technical parameters for the mineral resource estimate are as follows:

- Except for the Inter and South West zones, which are 2D polygonal estimates, and for the East Mine Crown Pillar, the resource estimates of the different mineralized zones at Casa Berardi since October 2005 have been calculated by the use of block modeling grade interpolation by RPA, assisted by mine staff.
- Mineral resources are estimated using an average long-term gold price of US\$950 per ounce, and a US\$/C\$ exchange of 1:1.
- Grade estimation was usually carried out from 3D block solids. Drill holes as well as development samples were used for grade interpolation. Smaller zones were estimated previously by Aurizon, using 2D polygonal on longitudinal sections and have been reviewed by RPA.
- Different minimum cut off grades were used as follows:
  - 4.0 grams of gold per tonne was used based on long term operating costs and gold prices for most of the underground zones in the West Mine, for the underground Principal Zone and the underground East Mine.
  - 4.3 grams of gold per tonne was historically used for the Cherty Zone.
  - 3.0 grams of gold per tonne was used for small zones previously estimated by 2D polygons on longitudinal sections.
  - 1.3 grams of gold per tonne was used based on long term operating costs and gold prices for most of the open pit crown pillar at the

East Mine.

- 0.5 grams of gold per tonne was used based on long term operating costs and gold prices for the crown pillar at the Principal Mine and at the 160 Zone for in-pit inferred mineral resources.
  - A total of 38 mineralized zones have been modeled at the Principal Zone. As the mineralized system extends close to surface bedrock and the mineralized zones are close enough to each other to envisage open pit mining, the zones were modeled by using 0.5 gram of gold per tonne threshold. The current block size is 1.25 metres north-south by 2.5 metres east-west by 5.0 metres vertical. The host rock is of volcanic and sedimentary origin.
  - Bulk density is different for each zone and is based on density determinations. Bulk density varies from 2.70 tonne per cubic metre (e.g. Zone 113) to 2.90 tonne per cubic metre (e.g. Principal Zones). A bulk density of 2.77 tonne per cubic metre was used for zones that have no density determinations (e.g. East Mine) and is based on historical data.
  - Minimum underground mining widths of two to three metres.
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## Contact

AURIZON MINES LTD.  
David Hall, President and C.E.O.  
Telephone: (604) 687-6600  
Toll Free: 1-888-411-GOLD  
Fax: (604) 687-3932;

Martin Bergeron, Vice President, Operations  
Telephone: (819) 874-4511  
Fax: (819) 874-3391  
Web Site: [www.aurizon.com](http://www.aurizon.com)  
Email: [info@aurizon.com](mailto:info@aurizon.com)

Or

Renmark Financial Communications Inc.  
1050 - 3400 De Maisonneuve Blvd.  
West Montreal, QC, H3Z 3B8  
Barry Mire: [bmire@renmarkfinancial.com](mailto:bmire@renmarkfinancial.com)  
Maurice Dagenais: [mdagenais@renmarkfinancial.com](mailto:mdagenais@renmarkfinancial.com)  
Media: Guy Hurd: [ghurd@renmarkfinancial.com](mailto:ghurd@renmarkfinancial.com)  
Tel: (514) 939-3989  
Fax: (514) 939-3717

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