

## **51-102F3 MATERIAL CHANGE REPORT**

### **Item 1 Name and Address of Company**

QUATERRA RESOURCES INC. (the “Company”)  
1100 – 1199 West Hastings Street  
Vancouver, BC V6E 3T5

### **Item 2 Date of Material Change**

September 19, 2012

### **Item 3 News Release**

A news release was issued in Vancouver, British Columbia on September 19, 2012 and distributed through Marketwire.

### **Item 4 Summary of Material Change**

#### **QUATERRA RELEASES FAVOURABLE PRELIMINARY ECONOMIC ASSESSMENT ON NIEVES SILVER PROJECT SHOWING POTENTIAL FOR OPEN PIT SILVER MINE PRODUCING MORE THAN FIVE MILLION OUNCES A YEAR**

Quaterra Resources Inc. and its 50% joint-venture partner Blackberry Ventures I, LLC, today announced that an independent preliminary economic assessment has concluded that their Nieves silver property in Zacatecas State, Mexico, has the potential to be developed as an open pit mine that would average more than five million ounces of silver production per year over a projected ten-year mine life.

### **Item 5 Full Description of Material Change**

See attached News Release dated September 19, 2012.

### **Item 6 Reliance on subsection 7.1(2) of National Instrument 51-102**

This report is not being filed on a confidential basis in reliance on subsection 7.1(2) of National Instrument 51-102.

### **Item 7 Omitted Information**

No information has been omitted on the basis that it is confidential information.

### **Item 8 Executive Officer**

The following officer of the Company is knowledgeable about the material change disclosed in this report: Dr. Thomas Patton, President. Tel: (604) 681-9805.

### **Item 9 Date of Report**

September 20, 2012



September 19, 2012

**QMM: NYSE AMEX  
QMM: NYSE MKT  
QTA: TSX VENTURE  
NR-10-21**

**QUATERRA RELEASES FAVOURABLE PRELIMINARY ECONOMIC  
ASSESSMENT ON NIEVES SILVER PROJECT SHOWING POTENTIAL FOR  
OPEN PIT SILVER MINE PRODUCING MORE THAN FIVE MILLION  
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**10,000 tonne-per-day project would produce 55.5 million ounces of silver over 10-year mine life**

VANCOUVER, B.C. — Quaterra Resources Inc. and its 50% joint-venture partner Blackberry Ventures I, LLC, today announced that an independent preliminary economic assessment has concluded that their Nieves silver property in Zacatecas State, Mexico, has the potential to be developed as an open pit mine that would average more than five million ounces of silver production per year over a projected ten-year mine life.

The preliminary economic assessment (PEA), undertaken by M3 Engineering & Technology Corp. (M3) of Tucson, Arizona, sets out the following key project parameters:

- An open pit centered on the Concordia vein that contains a total of 35.4 million tonnes. The pit is based on an indicated resource of 33.0 million tonnes at 50.1g/t silver and an inferred resource of 39.3 million tonnes at 32.0 g/t silver, using a cutoff of 15 grams.
- Recovery of 55.5 million ounces of silver and 41,000 ounces of gold over the 10-year mine life at an average mining rate of 3.5 million tonnes per year. Silver recoveries of 86% were based on testwork completed to date.
- Initial capital expenditure of US\$231.6 million (U.S. dollars are used in this press release unless otherwise stated).
- Average life-of-mine operating costs of \$14.98 per ounce of payable silver.
- An after tax net present value (NPV) of \$77.1 million at an 8% discount rate and a base case silver price of \$27 per ounce. The before tax NPV is \$142.32 million. At a silver price of \$32.40 the after tax NPV is \$204 million. The project breaks even at a silver price of about \$21.37 per ounce (about \$15.25 after payback).
- An after tax internal rate of return (IRR) of 15.7% with a 4.4-year pay back. The before tax IRR is 21.9% with a 3.4-year pay back.

“The PEA confirms our expectation that Nieves is an attractive open pit silver project based on a conservative silver price,” says Quaterra President and CEO Thomas Patton. “And it is highly leveraged to any upward movement in the silver price, with an after tax increase in net present value of about \$23 million for every one dollar increase in silver above the base case. Also, exploration and drilling provide good potential not only to expand the current pit but also to upgrade the San Gregorio inferred resource which was not included in this study.”

The San Gregorio inferred resource includes 16.3 million ounces of silver and 48,300 ounces of gold using a cutoff of 15 grams. In addition, one drill rig is currently on site testing gold-silver anomalies on the West Santa Rita vein and several other high-priority geophysical anomalies.

The Nieves project is located within the Mexican silver belt in Zacatecas State, Mexico, in a mining-friendly area of flat vacant land with excellent infrastructure including power and water. In June this year, Quaterra released a NI43-101-compliant resource estimate for mineralization associated with the Concordia and San Gregorio vein systems. (Please see news release of June 27, 2012).

### Updated Mineral Resource

The PEA is based on an indicated resource of 33.0 million tonnes at 50.1 g/t silver and an inferred resource of 39.3 million tonnes at 32.0 g/t silver, using a cutoff of 15 grams. The NI43-101-compliant resource was completed by Caracle Creek International Consulting Inc. of Toronto, Canada, in June 2012.

**TABLE 1**  
**NIEVES SILVER PROJECT - CONCORDIA AND SAN GREGORIO VEIN SYSTEMS**  
**ESTIMATED MINERAL RESOURCES, JUNE 2012<sup>1</sup>**

<b>Vein</b>	<b>Zone</b>	<b>Classification</b>	<b>Tonnes (t)<sup>2</sup></b>	<b>Ag (g/t)</b>	<b>Au (g/t)</b>	<b>Ag (oz)<sup>3</sup></b>	<b>Au (oz)<sup>3</sup></b>
Concordia	La Quinta	Indicated	33,038,000	50.1	0.04	<b>53,216,700</b>	<b>42,500</b>
Concordia	La Quinta	Inferred	39,258,000	32.0	0.02	<b>40,390,300</b>	<b>25,200</b>
San Gregorio	North	Inferred	18,769,000	27.0	0.08	<b>16,292,800</b>	<b>48,300</b>

1) Prepared by Jason Baker, P.Geo., Geological Engineer, Caracle Creek International Consulting Inc., an independent Qualified Person within the meaning of NI43-101, using a reporting cut-off grade of 15 g/t Ag. Au is reported to 2 decimal places and Ag to 1 decimal place.

2) Tonnes rounded to the nearest 1,000.

3) 1 troy ounce = 31.103 grams.

### Mine Plan

The Nieves open pit straddles the Concordia vein and includes three pit phases. A 35.4-million tonne mineralized zone would be mined at a rate of 10,000 tonnes per day resulting in a ten year mine life and at a 5.4:1 (waste to ore) strip ratio. The pit includes 28.3 million tonnes of higher grade material averaging 65 g/t silver and 0.045 g/t gold (at a cutoff of 30.5 g/t silver); and 7.1 million tonnes of lower grade material averaging 24

g/t silver (at a cutoff of 21.3 g/t silver). The San Gregorio zone was not included in the mine plan but may become viable with additional drilling.

The pit will be mined primarily using two 16.5-cubic meter hydraulic shovels loading 90-tonne haul trucks. A 12-cubic meter front end loader will be used as backup to the shovels and two diesel powered rotary drills will be used for production. The major support equipment will include three dozers, a grader, a pre-shear drill and a water truck.

## Capital Costs

Initial capital costs and sustaining capital costs are shown in the table below. Capital costs are considered accurate to +/- 35%.

<b>TABLE 2</b>		
<b>NIEVES SILVER PROJECT- ZACATECAS, MEXICO</b>		
<b>INITIAL AND SUSTAINING CAPITAL</b>		
Sep-12		
	INITIAL CAPITAL	SUSTAINING CAPITAL
Mine/equipment	44,407,000	31,085,000
Process Plant <sup>1</sup>	169,920,000	33,000,000
Owners Cost <sup>2</sup>	17,325,000	
<b>TOTAL</b>	<b>231,652,000</b>	<b>64,085,000</b>

1. Includes infrastructure costs. 2. Includes management, overhead and G&A.

## Operating costs

Ore will be processed using primary crushing followed by grinding in a SAG/ball mill circuit. Ore will then be treated using conventional rougher/cleaner flotation. Following flotation, concentrate will be filtered and bagged for shipment and smelting within Mexico. A conventional tailing facility is planned at a location downgradient of the mineral processing site. Project infrastructure includes maintenance, warehousing, shop facilities, access roads, grid power and water wells.

<b>TABLE 3</b>		
<b>NIEVES SILVER PROJECT- ZACATECAS, MEXICO</b>		
<b>OPERATING COSTS</b>		
Sep-12		
	COST/OZ PAYABLE AG	COST/TONNE ORE
Mine	4.56	\$6.75
Concentrator	6.37	\$9.43
G & A	0.95	\$1.41
TC/RC <sup>1</sup>	3.1	\$4.59
<b>TOTAL</b>	<b>14.98</b>	<b>\$22.18</b>

1. Treatment and refining charges.

## Financial Analysis

The financial analysis is based on a silver price of \$27 per ounce and a gold price of \$1,300 per ounce, rounded numbers which are both less than the SEC-recommended three-year historical price through the end of August. The analysis includes deductions for all royalty payments and a contingency of 20%. No credits are assumed for lead or zinc.

The after and before tax NPV, internal rate of return and payback period for the base case is summarized below:

<b>TABLE 4</b>		
<b>NIEVES SILVER PROJECT- ZACATECAS, MEXICO</b>		
<b>ECONOMIC INDICATORS</b>		
Sep-12		
	BEFORE TAX	AFTER TAX
NPV @ 8%, \$	142,319,000	77,116,000
IRR, %	21.9	15.7
Pay Back, years	3.4	4.4

Sensitivities were run for the price of silver, operating cost and initial capital cost. Table 5 below summarizes the NPV, IRR and pay-back with variances of +/- 20%.

<b>TABLE 5</b>				
<b>NIEVES SILVER PROJECT- ZACATECAS, MEXICO</b>				
<b>SENSITIVITY TABLE</b>				
Sep-12				
<b>Silver Price</b>	<b>\$/oz Ag</b>	<b>After Tax NPV @ 8%</b>	<b>IRR (%)</b>	<b>Payback (yrs)</b>
Base	27.00	77,116,000	15.7	4.4
plus 20%	32.40	204,393,000	26.6	3.1
minus 20%	21.60	-59,076,000	1.1	9.9
<b>Operating Cost</b>	<b>\$/oz payable Ag</b>	<b>After Tax NPV @ 8%</b>	<b>IRR (%)</b>	<b>Payback (yrs)</b>
Base	14.98	77,116,000	15.7	4.4
plus 20%	17.91	1,017,000	8.1	5.7
minus 20%	12.04	148,637,000	22	3.6
<b>Initial Capital</b>	<b>(\$)</b>	<b>After Tax NPV @ 8%</b>	<b>IRR (%)</b>	<b>Payback (yrs)</b>
Base	231,652,000	77,116,000	15.7	4.4
plus 20%	277,982,000	40,973,000	11.6	5.2
minus 20%	185,322,000	112,612,000	21.3	3.6

A PEA should not be considered to be a pre-feasibility or feasibility study, as the economics and technical viability of the project have not been demonstrated at this time.

It is preliminary in nature and includes inferred mineral resources that are considered too geologically speculative at this time to have economic considerations applied to them to be categorized as mineral reserves. Thus, there is no certainty that the production profile concluded in the PEA will be realized. Actual results may vary, perhaps materially.

Thomas Patton is the Qualified Person with Quaterra responsible for this news release. The Qualified Person for the updated Nieves project resource estimate in this release is Jason Baker, P. Geo, of Caracle Creek International Consulting Inc. of Toronto, Canada. The Qualified Person for the preliminary economic assessment portion of this release is Joshua Snider P.E. with M3 Engineering & Technology Corp., Tucson, Arizona. The Qualified Person for the mining portion of this release is Jeffery Choquette P.E. of Butte, Montana, and for metallurgy Thomas L. Drielick P.E. M3 Engineering & Technology Corp., Tucson, Arizona.

The NI43-101-compliant Technical Report for the Nieves PEA, including a description of the project resources, mine plan, metallurgy, capital costs, operating costs and financial analysis, will be filed within 45 days of the date of this release. This report will be available at [www.sedar.com](http://www.sedar.com).

Quaterra Resources Inc. (NYSE Amex: QMM; TSX-V: QTA) is a junior exploration company focused on making significant mineral discoveries in North America. The Company uses in-house expertise and its network of consultants, prospectors and industry contacts to identify, acquire and evaluate prospects in mining-friendly jurisdictions with the potential to host large and/or high-grade base and precious metal deposits.

On behalf of the Board of Directors,  
"Thomas Patton"

Dr. Thomas Patton, President and CEO, Quaterra Resources Inc.

For more information please contact:

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*Should you wish to receive news releases by fax please provide your contact details to Quaterra at 604-681-9059 (direct), 1-855-681-9059 (toll free) or email [info@quaterra.com](mailto:info@quaterra.com).*

***Disclosure note***

*The results of the Nieves resource estimate have been reviewed by Quaterra technical staff. The Company believes that the Nieves resource estimate was conducted in a professional and competent manner. Inferred resources are resources that have not been defined in sufficient detail to be characterized as Measured or Indicated resources.*

*Mineral resources have not had economic considerations applied to them and are therefore not characterized as Reserves.*

*The mining terms “indicated resource” and “inferred resource” are used in this news release in accordance with Canadian regulations but are not recognized by the United States Securities and Exchange Commission. For clarification, the Company has no properties that contain “reserves” as defined by the SEC and is providing the forgoing, in part, in order to meet its requirements under National Instrument 43-101 adopted by the BC Securities Commission and the Canadian Securities Administrators.*

*A PEA should not be considered to be a pre-feasibility or feasibility study, as the economics and technical viability of the Project has not been demonstrated at this time. A PEA is preliminary in nature and includes Inferred mineral resources that are considered too geologically speculative at this time to have the economic considerations applied to them to be categorized as mineral reserves. Thus, there is no certainty that the production profile concluded in the PEA will be realized. Actual results may vary, perhaps materially.*

*Some statements contained in this news release are forward-looking statements within the safe harbor of the Private Securities Litigation Reform Act of 1995. These statements generally are identified by words such as the Company “believes”, “expects”, and similar language, or convey estimates and statements that describe the Company’s future plans, objectives or goals. Since forward-looking statements are based on assumptions and address future events and conditions, by their very nature they involve inherent risks and uncertainties. Further information regarding risks and uncertainties which may cause results to differ materially from those projected in forward-looking statements, are included in filings by the Company with securities regulatory authorities. Readers are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date thereof. The Company does not undertake to update any forward-looking statement that may be made from time to time except in accordance with applicable securities laws. References may be made in this press release to historic mineral resource estimates. None of these are NI 43-101 compliant and a qualified person has not done sufficient work to classify these historic estimates as a current mineral resource. They should not be relied upon and Quaterra does not treat them as current mineral resources.*

*Expanded information on the Company’s projects is described on our website at [www.quaterra.com](http://www.quaterra.com) or contact Lauren Stope at 604-641-2746 or email: [info@quaterra.com](mailto:info@quaterra.com)*

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*The TSX Venture Exchange and the American Stock Exchange have not reviewed and do not accept responsibility for the adequacy or accuracy of the contents of this news release, which has been prepared by management.*