Filtered Tailings: A Silver Bullet?

Tailings & Mine Waste 2017
Banff Canada

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Cautionary Statement Regarding Forward Looking Statements,

This presentation contains “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, which are intended to be covered by the safe harbor created by such sections and other applicable laws, including Canadian Securities laws. Such forward-looking statements may include, without limitation: (i) estimates of future production and sales, including as a result of the #4 Shaft Project; (ii) estimates of future costs and cash cost, after by-product credits per ounce of silver/gold, including the expected cost of the #4 Shaft project; (iii) guidance for 2015 for silver and gold production, silver equivalent production, cash cost, after by-product credits, capital expenditures and pre-development and exploration expenditures (which assumes metal prices of gold at $1,225/oz., silver at $17.25/oz., zinc at $0.90/lb. and lead at $0.95/lb. and US dollar/Canadian dollar at $0.91); (iv) expectations regarding the development, growth and exploration potential of the Company’s projects; (v) expectations of growth; (vi) expected level of hydroelectric usage at Greens Creek; (vii) the possibility of increasing production due to accessing higher grade material at Casa Berardi and possible strike extensions; (viii) possible strike extensions of veins at San Sebastian and estimates of mining, grade, recovery, free cash flow, mine life, IRR, ability to reactivate existing mill permits, production of silver, gold and silver equivalent ounces, ability to begin mining by year end; (ix) estimates or expectations of future events or results are based upon certain assumptions, which may prove to be incorrect; (x) the ability to Permit and bring Rock Creek into production in 10-15 years; and (xi) expectations of grade increases at depth at Lucky Friday and the ability to complete the #4 Shaft project by Q4 2016 within the $225 Million budget. Such assumptions, include, but are not limited to: (i) there being no significant change to current geotechnical, metallurgical, hydrological and other physical conditions; (ii) permitting, development, operations and expansion of the Company’s projects being consistent with current expectations and mine plans; (iii) political/regulatory developments in any jurisdiction in which the Company operates being consistent with its current expectations; (iv) the exchange rate for the Canadian dollar to the U.S. dollar, being approximately consistent with current levels; (v) certain price assumptions for gold, silver, lead and zinc; (vi) prices for key supplies being approximately consistent with current levels; (vii) the accuracy of our current mineral reserve and mineral resource estimates; and (viii) the Company’s plans for development and production will proceed as expected and will not require revision as a result of risks or uncertainties, whether known, unknown or unanticipated. Where the Company expresses or implies an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and believed to have a reasonable basis. However, such statements are subject to risks, uncertainties and other factors, which could cause actual results to differ materially from future results expressed, projected or implied by the “forward-looking statements.” Such risks include, but are not limited to gold, silver and other metals price volatility, operating risks, currency fluctuations, increased production costs and variances in ore grade or recovery rates from those assumed in mining plans, community relations, conflict resolution and outcome of projects or oppositions, litigation, political, regulatory, labor and environmental risks, and exploration risks and results, including that mineral resources are not mineral reserves, they do not have demonstrated economic viability and there is no certainty that they can be upgraded to mineral reserves through continued exploration. For a more detailed discussion of such risks and other factors, see the Company’s third quarter 2015 Form 10-Q and Form 10-K, filed on November 4, 2015 and February 18, 2015, respectively, with the Securities and Exchange Commission (SEC), as well as the Company’s other SEC filings. The Company does not undertake any obligation to release publicly revisions to any “forward-looking statement,” including, without limitation, outlook, to reflect events or circumstances after the date of this presentation, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws. Investors should not assume that any lack of update to the SEC will be a reaffirmation of that statement. Continued reliance on “forward-looking statements” is at investors’ own risk.

Cautionary Note Regarding Estimates of Measured, Indicated and Inferred Resources

The United States Securities and Exchange Commission (SEC) permits mining companies, in their filings with the SEC, to disclose only those mineral deposits that a company can economically and legally extract or produce. We use certain terms in this presentation, such as “resource,” “measured resources,” “indicated resources,” and “inferred resources” that are recognized by Canadian regulations, but that SEC guidelines generally prohibit U.S. registered companies from including in their filings with the SEC, except in certain circumstances. U.S. investors are urged to consider closely the disclosure in our most recent Form 10-K and Form 10-Q. You can review and obtain copies of these filings from the SEC’s website at www.sec.gov.

Qualified Person (QP) Pursuant to Canadian National Instrument 43-101

Dean McDonald, PhD, P.Geo, Senior Vice President - Exploration of Hecla Mining Company, who serves as a Qualified Person under National Instrument 43-101(“NI 43-101”), supervised the preparation of the scientific and technical information concerning Hecla’s mineral projects in this presentation. Information regarding data verification, surveys and investigations, quality assurance program and quality control measures and a summary of analytical or testing procedures for the Greens Creek Mine are contained in a technical report titled ‘Technical Report for the Greens Creek Mine’ effective date March 28, 2013, and for the Lucky Friday Mine are contained in a technical report titled ‘Technical Report for the Lucky Friday Mine Shoshone County, Idaho, USA’ effective date April 2, 2014, for Casa Berardi are contained in a technical report titled ‘Technical Report on the mineral resource and mineral reserve estimate for Casa Berardi Mine, Northwestern Quebec, Canada’ effective date March 31, 2014 (the “Casa Berardi Technical Report”), and for the San Sebastian Mine, Mexico, are contained in a technical report prepared for Hecla titled ‘Technical Report for the San Sebastian Ag-Au Property, Durango, Mexico’ effective date September 8-K 2015. Also included in these four technical reports is a description of the key assumptions, parameters and methods used to estimate mineral reserves and resources and a general discussion of the extent to which the estimates may be affected by any known environmental, permitting, legal, title, taxation, socio-political, marketing or other relevant factors. Copies of these technical reports are available under Hecla’s and Aurizon’s profiles on SEDAR at www.sedar.com. The Casa Berardi Technical Report was reviewed by Dr. McDonald on behalf of Hecla. To the best of Hecla’s knowledge, information and belief, there is no new material scientific or technical information that would make the disclosure of the mineral resources and mineral reserves for Casa Berardi in this document inaccurate or misleading.

Cautionary Note Regarding Non-GAAP measures

Cash cost per ounce of silver and gold, net of by-product credits represents non-U.S. Generally Accepted Accounting Principles (GAAP) measurement. A reconciliation of this non-GAAP measure to the most comparable GAAP measurement can be found in the Appendix.
Increasing Attention on Dewatered Tailings
Evolution and Challenges

Reference: Study of tailings Management Technologies (MEND Report 2.50.1)
Appropriate in dry climates
Retards, not eliminate geochemical oxidation
Likely increase water requiring treatment
Technological Impediments for wider-spread use ???

Greens Creek Example
- No surface impoundment
- Promote unsaturated conditions
- Dilatant conditions through compaction
Hecla Mining Company
Oldest US Mining Company

Headquartered in Coeur d’Alene, Idaho

Established in 1891, Hecla is 126 years old

Oldest mining company on NYSE

Oldest publicly traded company in Idaho
**Long Lived Mines in Good Jurisdictions**
*Allows Continual Learning and Innovation*

46 M silver equivalent ounces
2016

- Greens Creek 28+ years
- Lucky Friday, 75+ years
- Casa Berardi, 20+ years
- San Sebastian
  - Shorter life, great opportunities
Greens Creek Mine

Filtered Tailings in Rain Forest Environment?
Greens Creek Mine
Successful Operation in Sensitive Environmental Setting
Greens Creek Mine
Day in the Life Video
Earthquakes with $M > 3$ and within approximately 300 miles radius from site

<table>
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<th>Magnitude Range</th>
<th>Data Points</th>
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<tr>
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- 1927 M7.1
- 1899 M8
- 1958 M7.7

Greens Creek Site

CHATHAM STRAIGHT FAULT

LONGITUDE (deg)

LATITUDE (deg)
Tailings Disposal Facility
First Large Scale Filtered Tailings Operation
Tailings Facility
Several Expansions as Mine Production Grows
Poly Metallic Ore Body
ARD Offset by Neutralization Potential
Filtered Tailings Characteristics
Non Plastic Fines Filtered 11-14 % Moisture
Engineer of Record
Resolving Troubles
Evolution of Geologic Interpretation
Long Mine Life Continual Learning

- Addition of Bedrock Trough
- Stiffer Clay “Cap”

- Addition of Interbedded Sand and Silt
- Revised Bedrock Profile Near Toe

- Extended Interbedded Sand South (right)
- Revised Bedrock Profile At Toe (3D not shown)
Deformation Analysis
Could Deform But Not Release to Environment

- Deformation analysis was performed to accommodate stress/strain response in the clay under static and cyclic loading.

- 3D analysis was necessary to account for the geometry of the bedrock trough.
Tailings Liner & Drainage System
Sophistication Evolved

Sand service layer
Geocomposite drain
Sand interlayer (if required)
Geomembrane
Sand bedding layer
Prepared foundation
Island Location
Material Supply Challenges
Borrow Material

On Site Source Challenges and Increased Cost
Filtration System
50% Underground/ 50% To Tailings Facility
Off Highway Truck Tailings

7.5 Miles Increased Energy Use, Sediment Management
On Tailings Roads
Can Impact Tailings Placement
Wheel Wash
Minimize Tracking Required
Tailings Placement

Exacting Specifications Require Higher Management
Wet Weather Placement
Continuous Challenge
Tailings Consolidation Over Time

Over Consolidation and High Undrained Strengths
High Level of Water Management

Tailings Seepage, Runoff and other Site Contact Water Management
Dust Controls

Dryer Winter Condition Challenge
Dust Mitigation

Include Temporary Peat Cover, Misters
Closure
Cover System Planning Continues
Some Lessons Learned
Commitment and Adaptive Management

- **Filtered Tailings “Can” Work**
  - Higher Management Level
    - Highly Variable Material
    - Transport, Placement, Compaction
    - Water Management
  - Higher Production Rates – A Question?

- **Continual Learning**
  - Long Mine Life Has Allowed Continued Investigation and Adaptive Management
  - Geotechnical Considerations

- **Dust Management**

- **Closure**
Key Policy Take A-Ways
About Filtered Tailings

- **Are a Move Toward Reduced Water, Minimized Footprint**
  - Reduced consequences

- **Tailings Complex Systems**
  - Not one size fits all
  - One constant is change

- **Thickened, paste and filtered tailings should be considered**
  - Reduce risk
  - Increase public acceptance

- **Not the “Silver Bullet”**
Thank You