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Company: Metalline Mining Company  
Industry: Mining, Diversified Metals  
Rating: Speculative Buy  
Analyst: Andrew H. Scott

March 8, 2002

### Investment Strategy

Metalline Mining represents a speculative buying opportunity for investors seeking to diversify their portfolios to include exposure to mining stocks. The Company's main property, Sierra Mojada, is located in Mexico. According to tests by strategic partners, Sierra Mojada appears to possess rich polymetallic silver and zinc resources. Metalline's concessions total 7060 hectares, or 17,466 acres, which it owns 100% of as recorded in the Mexican Mining Registry (MMG). The property infrastructure already maintains electric power, a railroad, and paved roads. To properly extract the minerals and commence production, Metalline has entered into a strategic alliance with Penoles. Industrias Penoles S.A. de C.V. is the second largest mining company in Mexico. Penoles earns the rights to 60% of the project by providing all funds necessary to complete a feasibility study, which would be acceptable to financial institutions for access to capital to develop the mines. While we believe Metalline is favorably positioned to exploit its mining opportunity in Mexico with Penoles, commencement of extraction activities could take several years. Further, we believe it is still fairly early to properly assess the potential value of the Company and its mineral rights. We believe an investment in Metalline appears suitable only for aggressive, risk-oriented investors with long-term horizons.

### Securities, Data, & Valuation

Current Price:	\$ 1.60- \$ 1.80
52-Week Range:	\$ 2.75- \$ 0.80
Market Capitalization:	\$ 15.9 M
Shares Outstanding:	9,912,262
Insider Ownership:	21.8%
Book Value:	\$ 0.50

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The information contained herein has been prepared from sources that are believed to be reliable. However, the interpretation, correctness, and accuracy of our estimates and projections, cannot be assured. Nor should this report be considered the sole source of information. M.H.Meyerson & Company, Inc. is a market maker and Investment Banker for the Company and owns 300,000 options at \$2.12. At the date of this report, M.H. Meyerson & Co., Inc. maintained a flat trading position.

## Summary

Metalline Mining Company is primarily focused on extracting its mineral rights from its core property, Sierra Mojada. Metalline conducts its operations in Mexico through its wholly owned subsidiary corporation, Minera Metalin S.A. de C.V. The Mexican government owns the mineral rights. However, an exclusive license is granted to explore and exploit the mineral rights during the issuance of a concession to the Company. The Sierra Mojada property is comprised of eight concessions totaling 7,060 hectares, or 17,466 acres. The Company controls 100% of the concessions and has made all payments necessary to acquire title to all eight concessions.

The Sierra Mojada district is located on the southern margin of the Sabinas Basin, a large rift basin in northeastern Mexico. Sierra Mojada has two mineral systems separated by the east-west trending Sierra Mojada Fault. The Sierra Mojada fault is a reverse fault, which faults on an older sulfide system in the Menchaca formation opposite the younger oxide zinc mantos in the Aurora and La Pena formations. North of the fault, the mineralization is chemical sedimentary disseminated to massive silver, copper, zinc and lead sulfide deposited in the Menchaca Formation. South of the fault the mineralization is deposited in the La Pena and Aurora Formations and consists of oxide zinc and lead mantos and solution cavern filling, karst and interformational breccia. The mantos are separate layers. The lead manto is above the red zinc manto and the white zinc is below the red zinc manto.

The Company has been exploring the Sierra Mojada District since 1997. To date, the Company has generated over 8,000 samples based upon 52-drill holes and channel samples. According to the Company, the results have stated that zinc grades at Sierra Mojada are high and could be almost twice what is required for an economic mine.

## Sierra Mojada Project

Sierra Mojada is potentially one of the largest zinc mines in the world. The possibility also exists that the mine could become the world's lowest cost producer benefiting from the cost advantages of the Solvent Extraction Electro-Winning (SXEW) method for producing refined zinc metal.

To date, 35 reverse circulation holes have been drilled from the surface in the red and white zinc mantos. 63 percussion holes have been drilled from the underground workings, and in excess of 5,000 channel samples have been taken from underground workings. Two oxide zinc mineral systems exist. The red zinc system appears to possess a volume of 76.4 million metric tons<sup>1</sup>, with an average grade of all samples in the volume (4,696) of 8.22%. The white zinc system appears to maintain a volume of 7.3 million metric tons and an average grade of all samples in the volume of (667) of 20.52% and the polymetallic (silver, copper, zinc, lead) volume of four (4) million metric tons with grades of 311 grams (10 ounces) silver per metric ton, 0.6% copper, 5.5% zinc and 2.2% lead.

Since January 2002, Penoles has been the project operator and is continuing to evaluate the oxide zinc deposits to develop a threshold reserve of 2 million metric tons of contained zinc metal with a grade in excess of 10% zinc. The reserve and grade considered necessary to justify the development capital for a mine and extraction plant. This would be achieved by 20 million metric tons averaging 10% zinc or other combinations of tonnage and grade.

The completion of a feasibility study and the construction and development of a mine and solvent extraction plant is estimated to take three to five years at a capital expenditure of roughly \$250 million. The plant would be capable of processing oxide and sulfide ore. Two million metric tons of proven reserves of zinc metal at a price of \$0.64 per pound (the average zinc price over the last 37 years, according to the International Zinc Association) has a gross metal value of approximately \$2.8 billion and a

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<sup>1</sup> 1 (metric) tonne = 2,204.6 pounds

production rate of 5,000 tonnes per day, a mine life of 11 years. Solvent Extraction Electrowinning technology could reduce refined zinc metal at an estimated \$0.20 - 0.25 per pound.

## **Oxide Zinc**

The oxide zinc resource is known to occur in multiple horizons or layers of mineralization known as mantos. There are two distinct types of mineralization in the oxide zinc resource. First, the red zinc manto is present in the San Salvador, Encantada and Fronteriza mines and named because of its distinctive red color from an oxidized iron component. The second type of zinc designation is the white zinc manto. To date, white zinc is known only in the San Salvador mine, which is vertically below the red zinc manto. The white zinc is an exciting discovery because it is a higher grade than red zinc. Currently, additional drilling is being done to determine and define the potential status of the white zinc resource.

While most zinc comes from ores containing zinc-sulphide minerals there are a lesser number of deposits characterized by minerals known as oxide zinc deposits. Until recently, the technological capabilities never existed to economically process oxide zinc mineral deposits. However, technological advances have changed the face of extraction of oxide zinc deposits. Interest in oxide zinc projects has intensified with the success of the Skorpion Project in Namibia. In the only other comparable project we have found to date, Anglo American PLC completed a successful \$90 million takeover bid of the majority owner (Reunion Mining PLC) of the Skorpion Project in Namibia. Reunion completed a feasibility study demonstrating successful extraction of the zinc oxide core. The Skorpion deposits' reserve is 21.4 million metric tons of ore at a zinc grade of 10.6%.

While most zinc comes from ores containing the zinc sulphide mineral, sphalerite, there are a lesser number of deposits characterized by oxide zinc minerals. Oxide zinc minerals are taken into solution by leaching the ore with sulfuric acid which takes the zinc into solution together with other metals contained in the ore. The zinc is extracted from the leach solution by an organic extraction reagent that is specific for zinc. The organic extraction solution is then reduced to SHG (special high grade) zinc.

SXEW has lower operating costs than conventional sulphide smelting. Also, the process does not rely on remote smelters and can reduce the transport costs without giving up additional profits. These operations create the lowest zinc production costs in the world. However, the necessity of building a mine and refinery at the site leads to a higher capital cost than a conventional sulphide operation. For this reason, the minimum sized deposit for a direct leach operation would be larger than a conventional sulphide mine.

## **Minas Penoles, S.A. de C.V. – Strategic Alliance**

On November 15, 2001, Metalline's wholly owned subsidiary, Minera Metalin, S.A. de C.V. signed an agreement with Penoles. The agreement allows Penoles to earn a 60% interest in the Sierra Mojada project by exploring and completing a feasibility study over and "Earn in Period" of not more than five years. The study is to be of sufficient detail and quality to be used to secure debt financing for the development and operation of the project. Penoles is committed to complete a first year's work commitment of \$1 million of qualified expenditures on Sierra Mojada. Additionally, Penoles made a small equity investment into Metalline.

In August 1999, Metalline signed a joint venture with a subsidiary of North Limited regarding the Sierra Mojada property. However, in August 2000, Rio Tinto acquired North Limited and terminated the agreement with Metalline.

## **Valuation-Competitive Analysis**

Sierra Mojada could emerge as one of the largest producers of zinc and possibly the world's lowest cost producer. There are enormous competitive advantages of oxide zinc SXEW. Skorpion's infrastructure development suffered from enormously high infrastructure costs. Skorpion needed electrical generation

capacity, power lines, roads, port development, and a sulfur acid plant. Penoles should have lower labor costs, has electrolytic zinc reduction expertise and has just added 90,000 tonnes of electrolytic zinc capacity to MetMex for a total of approximately 220,000 metric tons per year. Penoles produces the required 180,000 mt/y of acid at MetMex, which will be available for use at Sierra Mojada and could be transported 150 miles to Sierra Mojada on the Couhaila Durango Railroad. The railroad is jointly owned and operated by Penoles. To date, Sierra Mojada is the only known oxide zinc prospect that is large enough with sufficient grade to make the threshold 2 million metric tons of contained zinc metal. There is the strong possibility the revolutionary plant and process could double that amount. We believe the Company possesses value not recognized when comparing its efforts to other large projects.

## **Industry Overview**

While Zinc has been in demand, prices have dramatically suffered. While we are not sure if this trend could continue, we see certain benefits existing in relation to the Company's technology. According to the International Zinc Association, the average price for zinc over the past 37 years is \$0.64 per pound and the historic highs are in the \$0.80's. At the lowest prices for zinc, Sierra Mojada could be profitable because of the average price and higher profit margins. To develop the zinc, the Company incurs a \$0.25 per pound cost, which makes the Company and the process substantially profitable. The current price of zinc is approximately \$0.40 per pound. According to the International Zinc Association, in regards to production and consumption capacity, production is approximately seven (7) million metric tons per year and consumption is estimated to be eight (8) million metric tons per year. Over the past five (5) years, production deficits have had annual ranges of 5% to 13% and since 1994 one million metric tons of zinc inventory has been removed from London Metal Exchange inventory. The largest fundamental driver variable on the demand side for zinc is corrosion protection in the automobile industry and commercial and residential construction.

Zinc still remains the most fragmented metal. This condition has resulted in the lowest returns of all metals during the past couple of decades. We would anticipate consolidation in the industry since there are few zinc producers that remain profitable at present prices.

The primary use of zinc is as an application to steel via a process of galvanizing to protect against corrosion. Electrochemically bonded to the steel, zinc does not wear off and can't be scratched off. This makes steel a viable choice for auto and construction uses. Galvanization accounts for about 50% of total zinc consumed worldwide and varies directly with overall steel consumption.

## **Management**

Merlin Bingham, President and Chairman, has been engaged in this capacity since October 1996. Prior to joining the Company, Mr. Bingham has been working for numerous mining and oil exploration companies in the western United States and Alaska, Zambia, the United Arab Emirates, Ecuador, and Mexico. Most recently, Mr. Bingham has been a consulting geologist. Mr. Bingham graduated from the University of Utah with a B.S. degree in Mineralogy.

Daniel Gorski, Vice President of Operations and Director, has served in this capacity since June 1996. Prior to joining the Company, Mr. Gorski has been a consulting geologist and mine manager since 1974. From January 1992 to June 1996, Mr. Gorski was employed by USMX, Inc. as a contract geologist. Mr. Gorski received a B.S. degree in Geology from Ross State College and a M.A. degree in geology from the University of Texas.

## **Investment Risks**

1. The Company has limited operating capital. While the Company is dependent upon Penoles for financing, Metalline also no longer has to commit capital to its project. We believe the Company would be better situated with additional capital since it is an exploration company.
2. The Company is dependent upon third parties. Penoles will need to pursue the project for the Company to benefit. To date, Penoles has not committed to the project beyond the first year.
3. Metalline stock is very illiquid and trades on the OTC Bulletin Board. It could be extremely difficult for an investor to buy and sell Metalline stock.

**Metalline Mining Company**  
**Consolidated Balance Sheet\***  
**October 31, 2001**

*Current Assets*

<i>Cash</i>	\$	<i>31,032</i>
<i>Investments</i>		<i>484,447</i>
<i>Foreign tax refund rec.</i>		<i>59,288</i>
<i>Prepaid expenses</i>		<i>3,849</i>
<i>Employee advances</i>		<u><i>11,146</i></u>

*Total current assets*            *589,762*

<i>Mineral properties</i>		<u><i>4,334,767</i></u>
<i>Other assets</i>		<u><i>57,474</i></u>

*Total assets*                        \$    *4,982,003*

*Liabilities & Shareholders' Equity*

<i>Accounts payable</i>	\$	<i>5,275</i>
<i>Accrued liabilities</i>		<u><i>14,098</i></u>

*Total liabilities*                    *19,373*

*Stockholders' Equity*

<i>Common stock</i>		<i>100,677</i>
<i>Additional paid in capital</i>		<i>9,849,466</i>
<i>Stock options/warrants</i>		<i>1,422,327</i>
<i>Accumulated Deficit during Exploration phase</i>		<u><i>(6,409,840)</i></u>

*Total Stockholders' Equity*            \$    *4,962,630*

*Total Liabilities & Stockholders' Equity*    \$    *4,982,003*

\* To be read in conjunction with the Company's 10/31/01 10-K