

# KACHAN

& Co.



**“American Manganese will likely have no difficulty finding a market for its production if its Artillery Peak mine in Arizona becomes active. But its cleaner and more efficient approach could potentially make it a lowest cost producer, a “win-win” situation for the firm.”**

-From the report

February, 2012

38 pages

30 footnotes

16 tables, charts & figures

## American Manganese's Clean Extraction Process

An assessment of the company and its hydrometallurgical process for producing electrolytic manganese

Beyond its use in strengthening steel, manganese is a critical component in electric vehicles and consumer technologies, where it can improve performance and extend the life and range of batteries.

As potentially the sole North American producer, American Manganese Inc. (TSX.V: AMY; Pink Sheets: AMYZF; Frankfurt: 2AM) should have

no difficulty finding a market for its electrolytic manganese if its mine in Arizona enters production in 2014 as scheduled.

The company has developed what it calls a cleaner and more efficient approach to producing the metal, aiming to be the lowest cost producer. Does the company's new process indeed offer substantial energy and water

efficiencies, and cleaner tailing and waste handling as claimed? How would these efficiencies affect the economics of the company's end-product? Could the firm set a new global standard in manganese production, and perhaps the extraction of other critical metals?

This report answers these questions and makes recommendations.

### REPORT INCLUDES

- Electrolytic manganese market sizing and trends
- Analysis of American Manganese's propositions and differentiation
- Apparent strengths and areas for concern
- Competition
- Recommendations for the company, competitors and others

### ALSO FEATURES

- Industry feedback on American Manganese and its new hydrometallurgical process
- Market feedback on compellingness of the company's propositions
- How process appears to perform vs. company claims

### ESSENTIAL FOR

- Companies across the manganese and steel industry value chains
- Mining firms seeking to develop clean or green processes
- Battery technology vendors of lithium ion or other advanced chemistries
- Governments
- And others

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**“...If AMY’s process works, cleantech firms could benefit from the purest electrolytic manganese, as well as some of the least expensive. In a sector where impurities in manganese can cause battery fires and explosions, this is a strong benefit.”**

- From the report

**ABOUT THE AUTHOR »**



Trevor has been an alternative investments analyst for over 10 years, with a focus on cleantech and renewable energy investment opportunities since 2007. Prior to this, he worked on strategic marketing and capital formation in alternative assets for Bank of America. He is a frequent contributor on cleantech for CNBC.com and other NBC Universal outlets. He has a journalism degree from the University of Kings College and an MBA from Saint Mary’s University.

**INTERVIEWS & SOURCES**

- 8 battery companies
- A top 5 global consulting firm, an industrial strategy consulting firm and 2 cleantech-specific consulting firms
- 6 investment bank/hedge fund mining analysts, 2 cleantech fund managers
- 10 mining firms or consultancies familiar with manganese, 2 mining companies in rare earths
- 2 universities, 2 mining info databases, 2 independent battery research labs
- International Manganese Institute, National Mining Association, Canadian Mining Association, World Steel Association
- Various gov’t agencies

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