



January 10, 2012

Dear Friend,

Piper Jaffrey, a leading investment bank, predicts the market for energy storage will be worth \$225 billion by 2020. Largely driving that growth will be the “Holy Grail” of renewable energy: grid scale energy storage in a “dispatchable power” format. Dispatchable power enables utilities to deliver specific amounts of electricity at specific times, making renewables such as wind and solar grid-friendly. Dispatchable grid scale energy storage appears to finally be within reach; scientists at the U.S. Department of Energy have acknowledged the potential of vanadium flow batteries (VFBs) to “potentially increase the use of wind, renewable energy, and other renewable power sources across the grid.” In the electric vehicle (EV) industry, Lithium Vanadium Phosphate batteries have the highest energy density, and represent the only battery chemistry that has taken a car 600 kilometers (~370 miles) on a single charge. Evidently, if you are going to compete with the internal combustion engine, vanadium is key.

Meet American Vanadium Corp., www.americanvanadium.com, (TSV.V: AVC), a company developing the *only* dedicated vanadium mine in the U.S. The company's Gibellini Project – a world-class vanadium resource in Nevada – is targeted to begin production as soon as possible after permitting is complete. Leveraging the development of America's only domestic vanadium mine, the company's mission is to become a strategic supplier of vanadium for products such as grid scale batteries for the energy sector and Lithium Vanadium Phosphate batteries for EVs.

“Vanadium flow batteries are seen as key to bringing renewable energy into the mainstream,” says Bill Radvak, President, CEO of American Vanadium Corp. “The vanadium flow battery shows enormous potential as an energy storage solution. In fact, it is the only battery technology today capable of powering everything from a residence, to the storage demands of a power grid. They can store electricity from alternative energy sources including wind and solar, and can modulate the intermittent production of electricity from these sources to produce dispatchable power to the grid. By leveraging our unique supply of vanadium electrolyte, American Vanadium aims to lead in the production of vanadium for the flow batteries in U.S.”

While the vanadium batteries represent emerging market applications, approximately 90% of vanadium produced today is used as a steel additive. “Vanadium forms stable nitrides and carbides,” says Radvak, “resulting in a significant increase in the strength of steel. High strength, low alloy steels containing vanadium is used for the construction of buildings, bridges, pipelines, cranes, ships, rail cars, truck bodies, and auto and truck parts.” There are currently no primary producing vanadium mines in either the U.S. or Canada. Though vanadium is critical for the steel industry and emerging, strategic renewable energy and EV markets, the material is almost entirely imported from overseas, predominately from South Africa, Venezuela, China and Russia. The need for domestic vanadium production was inadvertently underscored when President Obama stated, “It's no good replacing foreign owned oil with foreign owned batteries.” Vanadium prices, meanwhile, are forecast to climb dramatically over the next 5-to-10 years due to heated international competition and China's increasing vanadium consumption forecasts.

“We in North America are 95% percent reliant on this critical metal,” said Mr. Chris Berry, Founder of House Mountain Partners, LLC, house-mountain.com; publisher of *Morning Notes* and www.discoveryinvesting.com; and researcher of junior mining and resource stocks, the commodity and energy space, and the geopolitical relationship between emerging and developed economies. “Vanadium is critical to infrastructure, and critical to the quality of life that we have become accustomed to in North America. Mr. Berry added, “You don’t want to be 95% percent reliant on something from China, or anybody for that matter.”

Enclosed in your press kit, please find:

1. FAQ on vanadium marketplace and American Vanadium with CEO Bill Radvak
2. Backgrounder on American Vanadium’s Gibellini Vanadium Project
3. Key management bios
4. *Northern Miner* article on American Vanadium

I look forward to speaking with you to arrange a briefing with Bill Radvak, Michael Doyle, Executive Vice President of Operations, or Ron MacDonald, Vice Chairman and Director, Senior Council Global Markets. Thank you for your time and consideration in reviewing these materials.

Regards,



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About the Gibellini Project, Eureka County, Nevada



Core Drilling at American Vanadium Corp.'s Gibellini Vanadium Property in Nevada

American Vanadium's 100% controlled, open pit Gibellini Project represents one of the low cost and most simple vanadium operations to be developed in the world. The Company is working to bring the vanadium heap-leach operation online, which would make it America's only primary producing vanadium mine. Heap leaching is an industrial mining process to extract precious metals, copper, uranium, and other compounds, including vanadium, from ore.

American Vanadium's Gibellini property is comprised of 377 unpatented claims totaling over 7,000 acres in Eureka County, in the U.S. state of Nevada which is ranked among the world's top 10 mining jurisdictions. The property is located 25 miles south of the town of Eureka on the east flank of the Fish Creek Range in the Fish Creek Mining District. It is easily accessible from U.S. Highway 50 and has excellent access to water, power and other infrastructure.

In early September 2011, American Vanadium received its completed Feasibility Study of the Gibellini Project from AMEC E&C Services, Inc. of Sparks, Nevada. (AMEC), and is targeted to begin production as soon as possible after permitting is complete, which would make American Vanadium the only primary vanadium mine in the U.S. Based on AMEC's financial evaluation, the Gibellini Project generates positive financial results. The after tax Net Present Value (NPV) at a 7% discount rate is \$170.1 million and the Internal Rate of Return (IRR) is 43%. The IRR is derived from an average operating cost of US\$4.10 per pound of vanadium pentoxide (V₂O₅) with future averaged selling price at US\$10.95 (Roskill Consulting Group) per pound of V₂O₅.

In the Feasibility Study, the mine is designed to have an annual production during the seven-year mine life of 3.5 million tons of ore and waste per year. At a strip ratio of 0.22 waste to 1 ore, 79.5 million pounds of V₂O₅ will be produced from Gibellini leaching operations at an average recovery of 66%. This gives an average production is estimated at 11.4 million pounds of V₂O₅ annually.

The project's National Instrument 43-101 compliant resource at Gibellini Hill represents 131.369 million pounds of measured and indicated V₂O₅ grading at 0.285%, and an additional 48.96 million pounds of inferred V₂O₅ grading at 0.175%.

The project's National Instrument 43-101 compliant resource also represents estimates Louie Hill, approximately 500 meters south of Gibellini Hill, at 41.87 million pounds of inferred V₂O₅ grading at 0.27%. American Vanadium intends to conduct both in-fill drilling and further metallurgical testing on the Louie Hill deposit aiming to upgrade this resource.

Additionally, significant exploration potential remains in the area. On the Del Rio deposit, large surface vanadium anomalies were discovered in fall 2010 with values over 1% V₂O₅ that have not yet been closed off. The Hot Creek prospect further south of the Gibellini Project in Nye County, Nevada has shown values up to 0.5% V₂O₅ along a one kilometer long zone of favorable oxidized shale exposed along a ridge.

With the onsite production process designed to yield V₂O₅, the project will create opportunities for off-take agreements in the steel industry. Furthermore, since the process already yields vanadium in sulfuric acid in an intermediary step to producing V₂O₅, it is expected that this product can be pulled from the process and used directly as an electrolyte for grid scale energy storage.

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**FAQ with Bill Radvak – President & CEO
American Vanadium Corp.**



1. When and why was American Vanadium founded?

American Vanadium, www.americanvanadium.com, (TSX.V: AVC) was founded in 2006 to develop the Gibellini Project, a vanadium deposit located in Nevada. Vanadium is growing in importance as an alloying metal used to strengthen steel, as well as in emerging uses with mass storage cells for renewable energy and lithium vanadium batteries for electric vehicles. The company's Gibellini Vanadium Project is unique in its ability to be able to produce vanadium for the steel and alloying industries as well as vanadium electrolyte for use in vanadium flow batteries for grid scale energy storage. American Vanadium has recently completed a Feasibility Study on its Gibellini Project and is now engaged in the permitting process. Once in production, the Gibellini Project will be the *only* vanadium mine in the United States, producing approximately 25% of the U.S. needs and 4-5% of the world's current vanadium supply.

2. Why do you believe vanadium is a critical element?

The U.S. government has listed vanadium as an element to watch and recognizes that it needs to take a serious look at obtaining a secure supply of vanadium. The general “street” knowledge about vanadium has increased dramatically of late as the U.S. clearly understands the new critical uses that vanadium will play in our everyday life. The U.S. Department of Energy said that “the electric grid is the world’s largest supply chain without a warehouse.” There is a need to build these “warehouses”, and one of the most advanced mass storage batteries available today is the vanadium flow batteries, which is essentially a massive vat of vanadium in dilute sulphuric acid. Allowing the continuous storing and discharging of dispatchable energy; mass storage batteries enable utilities to deliver specific amounts of electricity at specific times, making renewables such as wind and solar grid-friendly.

3. What is vanadium and why is it important to the renewable energy sector?

Vanadium is the 23rd element on the periodic table, and is classified as a soft silver-grey ductile transition metal. Most vanadium - about 90% globally - is used as an additive to improve steel. Recently, however, it is vanadium's status as a strategic metal with "green energy" applications that has many powerful people excited, including President Obama.

Leading the way in new grid scale renewable energy storage solutions are vanadium flow batteries. These batteries allow inherently intermittent energy supplies to be regulated from moment to moment. The electricity industry refers to such energy as 'dispatchable energy' or 'dispatchable power', which enables the grid to balance the amount of energy being put into the wires with the demand arising from consumers. These mass energy storage solutions are designed to help America deliver on its objectives for clean energy, energy independence and self-sufficiency, as well as targets for the reduction of CO2 and greenhouse gases.

Vanadium flow batteries utilize vanadium's unique characteristics for rechargeable energy storage, which is critical to renewable and dispatchable power systems. Research facilities around the world are investing in vanadium flow battery research and development to meet the projected global demand. The vanadium flow battery has virtually unlimited storage capacity with the ability to scale the batteries. As a result, the vanadium flow battery's value to the emerging renewable energy technology sector is compelling for many utility companies and grid operators.

4. How is vanadium important to the electric vehicle market?

Lithium vanadium phosphate batteries add vanadium to the cathode of electric vehicle batteries. The result is a power source capable of producing more than six times the power of the typical lithium-ion batteries in such electric vehicles as the Chevrolet Volt or the Nissan LEAF (210 watts of power as opposed to 33 watts). According to the head of global research with Toronto-based Byron Capital Markets, Jon Hykawy, Ph.D., MBA, at six times the power rating of other electric vehicle (EV) batteries, lithium-vanadium batteries are relatively simple method of producing much greater power and range for the next generation of electric vehicle batteries designed to compete with 'internal combustion'.

Subaru chose a lithium-vanadium battery for its prototype G4e all-electric vehicle, significantly increasing the car's range while doubling that of their previous advanced EV. With a range of 120 miles, the G4e's range far surpasses that of the Chevy Volt's 35 miles (56 km) on electric power alone. In addition to increasing range, lithium-vanadium batteries can also be recharged faster: 10 hours for the Chevy Volt versus 8 hours for the G4e and only 15 minutes for an 80% quick charge.

5. How does China's demand on vanadium affect the market for vanadium and the geopolitical future for the U.S.?

China is the world's largest producer and consumer of vanadium. History has taught us that China will use its abundance of natural resources to develop industries as witnessed by the

export restrictions on rare earths and the consequent spike in their market prices. China is making vanadium a key part of its new Five-Year Plan. It is currently implementing a new regulation for their rebar grade that will result in an estimated additional 27,000 metric tons of vanadium to be consumed per year in China, which represents a 40% increase in global vanadium annual demand. If the U.S. and other countries around the world fail to become self-sufficient suppliers of elements such as vanadium, which is used in everything from cars, surgical instruments and tools, trucks, bridges and defense systems, we run the risk of not having significant access to this important mineral at competitive prices. And more importantly, if the U.S. expects to deliver on the promise of grid level storage of energy, it will have to secure a supply of vanadium.

6. What is the significance of President Obama talking about vanadium as “cool” at a forum on small business in Cleveland in 2011?

In 2011, President Obama gave a speech in Ohio underscoring the need for America to retool and reinvent in itself and its new industries. The U.S. government is supporting some of those new industries through investments in renewable energy. In total, \$185 million has been set aside to invest in deploying and demonstrating the effectiveness of utility-scale grid storage systems. Dwarfing that investment is the \$225 billion in spending on energy storage solutions that is expected to be invested by 2020 according to a report by Piper Jaffray, a leading investment bank.



“Vanadium Redox Fuel cell - that’s one of the coolest thing I’ve ever said out loud” – President Obama, Forum on small business: Closing session. Cleveland, OH, Feb 22, 2011

7. How do vanadium flow batteries work?

Vanadium flow batteries are distinguished from fuel cells by the fact that the chemical reaction involved is reversible – meaning that that they can be recharged without replacing the active

chemicals. Also, it is the only battery where the same metal is on both the positive side and the negative side – thereby requiring a significant amount of vanadium. An important factor in the vanadium flow battery is that, in contrast to rechargeable secondary batteries, the power and energy density are independent of each other, making them a more easily scalable technology. Nearly an unlimited capacity is attainable simply by using larger and larger storage tanks, which can be left completely charged or discharged for long periods of time with no negative effects, making it perfect for UPS backup and dispatchable power solutions for facilities.

8. What is the history of the vanadium flow battery?

Importantly, the vanadium flow battery is not a new technology; it is the product of over 25 years of research, development, testing and evaluation in Australia, Europe, North America, China and Japan.

The present form of the vanadium flow battery (with sulfuric acid electrolytes) was patented by the University of New South Wales in Australia in 1986. An earlier German patent on a titanium chloride flow battery was registered and granted in July 1954 to Dr. Walter Kango, but most of the development of flow batteries was carried out by NASA researchers in the 1970s. The first known successful demonstration and commercial development of the all-vanadium flow battery employing vanadium in a solution of sulfuric acid in each half of the battery was by Maria Skyllas-Kazacos and co-workers at the University of New South Wales in the 1980s.

9. Who is developing and commercializing vanadium batteries?

There are a number of very large corporations around the world whom have made, and that are seriously considering major investments into dispatchable power solutions including Sumitomo of Japan which has been working on vanadium flow batteries for over 20 years. In China there are a number of companies developing vanadium flow batteries and two are scaling up their production: Dalian Rongke Power Co., Ltd, and Prudent Energy (www.pdenergy.com). Additionally, there are currently a number of suppliers and developers of these battery systems including Ashlawn Energy (www.ashlawnenergy.com) in the United States, Ireland's Renewable Energy Dynamics (RED-T) (www.poweringnow.com), Cellstrom GmbH (www.cellstrom.com) in Austria, and Thailand's Cellennium (www.vanadiumbattery.com).

10. Why is it important for North America to have a vanadium-producing mine?

The U.S. government now recognizes that America has no domestic production of vanadium and 80% of the U.S. supply comes from countries with significant geopolitical risk (Venezuela, China, Russia and South Africa). 100% of the supply for the vanadium flow battery industry will come from these same countries along with virtually all of the vanadium required for titanium alloys, which are used in aircraft and defense industries. There are currently no primary producing vanadium mines in either the United States or Canada. This critical material for the steel industry, the electric automobile industry, and a growing renewable energy market, is largely imported, so any domestic vanadium mine should be deemed strategic.

Chris Berry puts it this way: “In North America, we are 95% reliant on this critical metal.” Mr. Berry is Founder of House Mountain Partners, LLC, house-mountain.com; publisher of *Morning*





Notes and www.discoveryinvesting.com; He continues by saying, “vanadium is critical to infrastructure and critical to the quality of life that we have become accustomed to in North America. Once Canada and the United States begin extracting vanadium, much of it will likely be exported because North America’s markets are growing slower than nations with emerging markets like China and India. Because there’s no domestic production of vanadium I could see certainly getting to a point whether either Canada or the United States or some sort of consortium creates a domestic stockpile of some of these critical elements. You don’t want to be 95% percent reliant on something from China, or anybody for that matter.”

11. Where is vanadium primarily mined?

Vanadium is mined mostly in South Africa, eastern Russia, and northwestern China. In 2010 more than 80% of the 56,000+ tons of vanadium produced was mined in these three countries. China led in global production with more than 23,000 tons, but it is also the largest consumer. “China produces 40% of global vanadium right now and they’re consuming about half of that,” according to Mr. Chris Berry, who adds, “To me, this says it’s a profoundly tight market out there.”

12. What are the primary uses of vanadium?

Approximately 90% of vanadium produced globally is used as a steel additive. Vanadium forms stable nitrides and carbides, resulting in a significant increase in the strength the steel. When steel has just a fraction of a percent of vanadium in it, the overall strength can be increased by up to 100%. High strength, low alloy steels containing vanadium are used for the construction of buildings, bridges, pipelines, cranes, ships, rail cars, truck bodies, and auto and truck parts.

Vanadium also plays a crucial role in many titanium applications where it is used at a much higher addition rate than in steel (4% compared to <1%). With its large aerospace industry, the U.S. share of vanadium consumption devoted to titanium alloys is more than double that in the rest of the world. Approximately 9% of annual vanadium use in the U.S. is used for titanium applications and these uses are growing at a faster rate than many other applications, particularly now with Boeing’s 787 Dreamliner being in full production. More importantly due to the critical nature of the applications, the vanadium used must be of high purity and traced back to the source making most source of vanadium unusable and creating an excellent market opportunity for the value, added high purity, product that will be produced by American Vanadium.

Uses of vanadium in various chemical processes, mostly as a catalyst then in small applications like the vitamin market round out the balance of global demand for vanadium. Uses in various chemical applications account for approximately 4% of global vanadium demand.

13. What milestones do you hope to reach in the coming months?

We have a number of important milestones we expect to deliver on in the coming months. Now that we have the completed Feasibility Study by AMEC E&C Services, Inc., and National Instrument 43-101 technical report we are set to undertake our detailed engineering study and development of the mine. Additionally, we have started work to test our vanadium electrolyte for the mass storage industry. We will leverage these milestones to pursue a number of key initiatives, including joint ventures and partnerships with international leaders in the vanadium flow battery sector and off-take agreements with steel producers for our early production. Since we are driving fast on our timetable to begin production as soon as possible after permitting is complete we are being taken seriously by U.S. government agencies as the key secure domestic source of vanadium for current and future needs. Importantly, this recognition gives us tremendous leverage in partnering with vanadium flow battery companies.

14. What is the global market for vanadium?

It is important to understand that current market forecasts do not build in any future demand due to the adoption of grid scale energy storage and the related use of vanadium in flow batteries for mass power storage, which could dwarf all other uses combined. In that market, China is leading the charge to adopt energy storage for renewable energy applications and is specifically investing in vanadium flow batteries. China has a target of 15% of their energy coming from renewable resources by 2020, a target they will likely surpass. In one project alone they will invest \$2 billion into 600 MW of renewable energy coupled with 110 MW of energy storage.

In the past 10 years, world consumption has grown at approximately 6.4% while in China alone the growth has been about per year 20.5%. With the BRIC countries widely expected to significantly increase their specific use of vanadium and even without building in demand from vanadium battery applications, global vanadium consumption is predicted to double by 2020. Vanadium consumption growth is fuelled by use of high strength low alloy steels, which are replacing low strength carbon manganese steels in many applications due to economic drivers (lower total cost, less energy consumption, less pollution, less capital employed). International competition for vanadium is climbing, the global demand for vanadium is approximately six times that of the U.S., and growing at a faster rate as emerging economies realize the value of using vanadium alloys and as they develop their own renewable energy economies. As recently as 2005, a simple change in building codes turned China from the world's largest vanadium exporter to a net importer, causing a 450% increase in vanadium prices in less than a year.

To date, China has regarded vanadium as a strategic national interest while being quite restrictive and protective in terms of vanadium exploration and mining. Currently, around 85% of vanadium consumption demand in China stems from the steelmaking process. A major pillar of China's 12th five-year economic plan, meanwhile, is the production of higher quality steel, which will further increase that nation's demand for vanadium. In the future new buildings designed in China will no longer be able to utilize Grade II rebar, which does not include vanadium in its composition. While China's current rebar products include Grade II, Grade III and Grade IV, the most widely used rebar in China remains Grade II, a trend that is behind that of other advanced economies such as the U.S., Japan, and the U.K., which use Grade III and





Grade IV rebar. By taking China's current production level of Grade II rebar, and then calculating the amount of vanadium required to replace that production with Grade III and Grade IV rebar, an additional 27,000 MT of vanadium demand will exist per year. Forecasted vanadium production won't be able to meet the forecasted consumption levels until 2017.

15. What are the price expectations for vanadium?

Vanadium prices are forecast to climb dramatically over the next 5 to 10 years due to heightened international competition and supply deficits.

In the *Roskill, Market study on the current and forecast vanadium market- June 2011*; Roskill Consulting Group Ltd. states "In 2012, the global vanadium market is estimated to have a surplus which will start to reduce in size over the next few years. Prices in 2014 are forecast to reach US\$10/lb for pentoxide, and US\$45/kg for ferrovandium, as the market prepares for a potential deficit in 2015. Although prices are forecast to increase rapidly, Roskill expects prices to remain below the record highs seen in 2005. In real US\$2010 terms, vanadium prices throughout the forecast period are expected to remain below the spikes seen in 2005 [*US\$18/lb for pentoxide*]. However, any issues which stop or delay vanadium reaching the market could see a deficit caused, causing prices to spike".

16. Tell me more about your flagship vanadium project in Nevada.

American Vanadium was built around the Gibellini Project, which was historically drilled up by Union Carbide, Noranda and Atlas. What has made this project economic to pursue is that we have recognized that the unique geology enables us to use a simple and cost-effective process to extract the vanadium: heap leach processing, an industrial mining process to extract precious metals, minerals and other compounds from ore. Being located in the middle of Nevada, the unique sedimentary-hosted deposit is essentially a ridge of exposed, heavily oxidized, crumbled rock with a strip ratio of a 0.22 to one which is very rare. We are in a friendly mining jurisdiction where we can control costs on an already inexpensive mining and processing operation. We also have expandable resource potential for this property and adjacent properties over 5 occurrences.

17. How is vanadium sold into the marketplace?

The vanadium market has been in a state of oversupply for the past decade and is now transitioning into an extended period of undersupply, which is coincidentally around the anticipated time we expect to reach production. This bodes well for the producers, as the price of vanadium is forecast to climb for the next 5 to 10 years, and this forecast doesn't even take into account the expected extra demand from vanadium flow batteries for grid energy storage and lithium-vanadium phosphate batteries demand for electric vehicles.

Our priority, while the markets for these batteries emerge, is to pursue U.S. consumers, beginning with the handful of steel companies that rely on foreign sources. We can offer a domestic supply to satisfy their surety of supply concerns. Additionally, we will be focusing on the titanium market where vanadium sells for a premium; while only 4% of vanadium is consumed in titanium alloys on a global scale, in the U.S., almost 10% of vanadium is utilized in titanium alloys due to the significant aircraft and defense industries, which currently rely on foreign sources of vanadium.

January 10, 2011



**Bill Radvak, President & CEO
American Vanadium Corp.**



As the President & CEO of American Vanadium, Bill Radvak oversees the development of the company's Nevada-based Gibellini Project and business development for all strategic vanadium market related opportunities. A highly experienced, strategic leader with a successful track record of delivering new projects to market, Mr. Radvak brings over 20 years of management experience in both mining and technology to his senior operating executive role.

Prior to joining American Vanadium as President and CEO in January 2010, Mr. Radvak was a Founder and CEO of Response Biomedical, a publicly-listed medical device company that commercializes rapid immunoassay diagnostic tests. Over a period of 16 years, Mr. Radvak led Response Biomedical from its evolution to a 90-employee company with marketing partnerships with 3M and Roche Diagnostics, and raised in excess of \$50 million in public offerings. Response Biomedical was ranked as #100 on the 2005 Deloitte Technology Fast 500, which is a ranking of the 500 fastest growing technology companies in North America.

Mr. Radvak received a Bachelor of Applied Science, Mining and Mineral Process Engineering Degree from the University of British Columbia in 1986. Mr. Radvak lives and works in Vancouver, British Columbia, Canada.



Michael Doyle, Executive Vice President, Operations, American Vanadium

As Executive Vice President, Operations for American Vanadium, Michael Doyle brings more than 30 years of domestic and international mining experience in surface and underground operations. Prior to joining American Vanadium, Mr. Doyle served as Executive Vice President of Allied Nevada Gold Corp. Mr. Doyle held positions of Senior Vice President of Operations for Kinross Gold Corporation, Vice President and General Manager of Round Mountain Gold Corp, (Kinross-Barrick joint venture) and General Manager of Gold Bar operations for Atlas Gold Corp. Mr. Doyle graduated in 1977 from the University of California at Santa Barbara with a degree in Geology and was the past Chairman of the Nevada Mining Association.

Ron MacDonald, Vice Chairman and Director – Senior Council Global Markets, American Vanadium

Prior to serving as Senior Council Global Markets for American Vanadium where he oversees the company's public affairs and lobbying activities, Ron MacDonald was President and CEO of Cansource International; a natural resource focused international marketing and strategic management consultancy. Mr. Mac Donald also serves as global market and strategic advisor for Commerce Resources and Western Potash.

From 2003 to 2006, Mr. MacDonald was Senior Advisor, International Market Development to the President and CEO of Canfor Ltd., Canada's largest lumber manufacturer. From 1997 to 2002, Mr. MacDonald was President and CEO of The Council of Forest Industries, the largest lumber manufacturing, grading and marketing group during which time he became one of the founding members and Director of 'Canada Wood,' which developed wood markets in China, Korea, India and Japan. He spent two years as Senior Assistant to the Canadian Minister of Foreign Affairs and Deputy Prime Minister and two years as Chief of Staff to the Leader of the Government in the Senate of Canada. From 1988 to 1997, Mr. MacDonald was elected as the Member of Parliament for Halifax, Nova Scotia, during which he was appointed by the Prime Minister of Canada as Parliamentary Secretary of International Trade.

Mr. MacDonald has been a contributing member of the OECD Committee developing international guidelines for tantalum end-users, as well as a member of the EICC committee developing guidelines for their global tantalum smelter verification program. Mr. MacDonald has also been a contributor to the EU Commission Framework 7 policy paper on 'Scarcity of Strategic Minerals' and a presenter at conferences in USA, Canada and Asia on critical, strategic and rare earth markets. Mr. Mac Donald is a graduate of Dalhousie University in Halifax, Nova Scotia, Canada.



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Outlook brightens for American Vanadium's Gibellini



PHOTO BY IAN BICKIS

Visitors at American Vanadium's Gibellini vanadium project in Nevada in January.

VANCOUVER — **American Vanadium** (AVC-V) has significantly improved the economics of its Gibellini vanadium project in Nevada, thanks in small part to an improved outlook for vanadium oxide prices.

A 2008 scoping study, based on US\$5.90 per lb. vanadium oxide, concluded that the Gibellini project had a 27% after-tax internal rate of return (IRR), a US\$55.6-million net present value (NPV) using a 7% discount rate and a US\$117-million after-tax cash flow.

The company's new feasibility study, based on US\$10.95 per lb. vanadium oxide, bumps those numbers to a 43% IRR, a US\$170.1-million NPV and a US\$275.7-million after-tax cash flow.

The improved financials cut the capital cost payback in half, while the estimated capital cost has gone up by US\$8 million to US\$95.5 million. Operating costs, however, have crept up from US\$3.06 per lb. to US\$4.10 per lb. of vanadium oxide.

American Vanadium has also boosted

the anticipated mining rate for the open-pit mine to 8,700 tonnes per day, compared with 5,000 tonnes per day for the previous study and corresponding to a jump from 8.4 million lbs. vanadium oxide produced per year for the older base-case model, to 11.4 million lbs. produced per year in the latest study.

The study was based on a seven-year mine life, but does not factor in the adjacent Louis Hill resource. The strip ratio is a healthy 0.22-to-1, and recovery for the heap-leach operation is at a 65.9% average, combining the oxide and transition layers.

Reserves stand at 18.1 million proven and probable tonnes grading 0.302% vanadium oxide over the oxide and transition zones for 120.5 million lbs. of vanadium oxide. There are 11 million lbs. of measured and indicated resources outside the reserves, plus 12.9 million inferred tonnes grading 0.172% vanadium oxide for 49 million contained lbs. that were excluded from the

study. The company continues to explore five other properties in the region to expand potential resources.

American Vanadium has not identified significant environmental issues on the site, which is located 400 km east of Reno near the town of Eureka in a remote part of Nevada. The company secured water rights earlier this year. The heap-leach operation should not use much water, but the company noted it was a critical step for the project in the arid climate.

The company recently closed a \$1-million offering, issuing 667,000 units at \$1.50 each. Units contained one share and one-quarter of a warrant, with full warrants exercisable at \$2 until February 2013.

American Vanadium's share price dropped 3¢ on the day to end at \$1.30 with 46,000 shares traded. The company has a 52-week share price range between 53¢ and \$1.95, and 27.3 million shares outstanding.