

Published by: David Morgan

The Morgan Report Excerpt - May 2018

Quote:

"Gold is the currency of kings, silver is the money of gentlemen, barter is the money of peasants, but debt is the money of slaves."

-- Norm Franz

- ✓ Opening Thoughts Page 1
- ✓ Prophecy Development's Black Shale Vanadium Project Page 2

Opening Thoughts

Long-term members are no doubt tired of the age-old adage "Sell the first of May and come back after Labor Day." This has applied to the general stock market but particularly the metals market because the usual seasonality has been for the precious metals and mining to move through the summer sideways or generally lower, commonly known as the summer doldrums. However, we had a very strong summer, especially for silver in 2016, so this generally-held belief is not accurate every summer.

We recently witnessed a strong move in silver with the gold-silver ratio moving from a high of 83 to briefly touching 78. This verifies what all of us already know—that once silver moves it can outpace gold and it can move quickly. However, after meeting the Morgan Rule of moving above the "level" needed to prove the market was making an up move and staying above that level (\$17 basis spot—this time!) for three days on a close-only basis, I was ready to enter the market with some of my trading funds.

Unfortunately, I did not obey my own rule and entered on the end of the third day, only to see day four with a substantial pullback, and I took the loss immediately. Had I waited until day four to enter, the market would have signaled a failure at holding or moving above the \$17 level. Simply stated, the three-day rule is a useful one and helps traders but it is not perfect and it must be obeyed.

Currently the markets seem to be going sideways and there could be an upside surprise especially in silver, but we would need to see silver move above \$17 again. Aggressive accounts pay attention as this is the most likely action at this point in time.

Again, it is also not as likely but possible that the summer is dull for the precious metals. Time will tell, of course.

This month we are taking a look at vanadium through Prophecy Development, a holding we have had for a very long time. My sanity has



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been questioned, especially by new members, as to why we would have a company listed even as a pure speculation, which is down 90% from the initial date.

The fact is, from the recommendation we that bought at that exact time we are probably even or perhaps slightly ahead because Prophecy spun off Wellgreen Platinum, which is now known as Nickel Creek Platinum, and that stock flew very high for a short time and we suggested a sale. Had that been accomplished then the money "made" on that trade and booked profit would allow the remaining shares to become a "free ride," which means the sale pays for the remaining shares and you have no risk of losing money on the stock.

So, now that you know the rest of the story, it is time in this month's issue to learn more about vanadium and why this is a metal that very few know about. We are well aware of the lithium story and it still remains the big buzz in the resource sector, but the truth is that there is actually a very significant supply available. Not many in our business will tell you that, though, because they are so busy selling newsletters with their superior ad copy touting the next big lithium deal, or whatever is most appealing to resource investors on any given day.

Prophecy Development's Black Shale Vanadium Project: First Mover in North America's Production Race?

Prophecy Development Corp. http://www.prophecydev.com/

TSE: PCY.TO; OTC: PRPCF SO: 7.47 m; FD: 10.9m

Cash: \$3m

Shareholders: John Lee 17%; 10 shareholders: c. 30%:

Public Float 53%

52 wk. H-L-Last: US \$4.00 - \$2.20 - \$2.75

A sea-change is taking place in the energy sector. Over the next 10–20 years, there will be a shift as profound as that from coal to oil. This shift is from oil to sun, wind, lithium, and vanadium. It is not of the "now you see it, now you don't" kind, but the pace is going to continually increase.

As one narrator has said, "The story of oil is the story of the modern world." It became the mainstay of the world's economies about a hundred years ago, but its preponderant use in transportation will be eclipsed by some combination of renewable energy and batteries. To say that "in 'x' years, oil will no longer be used" would require an oversimplification of a topic that has a number of moving parts (energy elements) that rise and fall in importance.

As an example, all the talk about the death of coal—be it thermal "steam" coal or "Met" coking coal (a critical component of steel production)—is premature. Today, the U.S. still receives around 35%–40% of its electricity from coal. South Africa relies on coal for over 90% of its electricity, while China and India stand at 80% and 70%, respectively. What's likely to change is the (irregular) speed at which these numbers decline.

The world is moving unstoppably toward battery power for cars and trucks and renewable energy for use in everyday life. For motorized conveyance, the keywords are lithium and cobalt. For renewable energy storage and generation (the focus of this report), the word today is . . . vanadium, a transition metal that can store and discharge electricity all by itself. (It is obtained from ore as vanadium pentoxide, the inorganic industrial compound, with the formula V2O5.) It is usually, but—as we will see—not always, found combined with other metals, in which case it is separated by smelting, roasting, or leaching.

The Morgan Report's Visit to the Gibellini Black Shale Vanadium Project

In March, this writer visited the Gibellini Vanadium Project in southeast Nevada, 25km (15.5 m) south of Eureka. It is owned by Prophecy Development Corp. A bit later, we'll look at the value proposition it offers to potential investors and discuss why (if the gods of corporate follow-through, market dynamics, and chance continue to favor it) Gibellini has a very real potential of moving from permitting to construction within 24 to 36 months and achieving its publicly-stated goal of becoming the first actively producing primary vanadium project in North America.

The Big Gap: Between Renewable Energy and Energy Storage

In the past decade, wind and solar energy generation grew by 800%. These two types of renewable energy are currently generating 800 gigawatts of power—the equivalent of 100 nuclear power plants. Yet available storage space only amounts to 3 gigawatts. Since there

is so little capacity to store energy for future use during non-peak hours, easily one half of the amount of energy generated goes to waste.

The global market for energy storage is expected to double six times by 2030, to around 300 gigawatt hours (Ghw = the equivalent of one billion watt hours, or one million kilowatt hours).

In the U.S., three states—California, Hawaii, and Massachusetts—have already stated goals of being 100% reliant on renewable power by 2040.

An elemental metal rarely found in nature, vanadium was named after Vanadis, the Scandinavian goddess of beauty, who in Norse legend ruled before the arrival of Odin. The naming is also due to the range and beauty of colors found in its compounds. It occurs naturally in dozens of minerals and fossil fuel deposits. It is often produced from steel smelter slag (China and Russia), from the flue dust of heavy oil, or as a byproduct of uranium mining.

A Long-Lasting Battery That Charges and Recharges Simultaneously

The vanadium redox flow battery offers a possible solution to the energy storage problem. Unlike lithiumion batteries, vanadium redox flow batteries are scalable. This makes it easy to ramp up their installation and use to tens of megawatts as demand increases at a particular grid energy storage site. (By comparison, a Tesla car battery can hold about 50 kilowatts of power—1/20 of 1 megawatt.) Vanadium batteries also hold on to their capacity, have the potential of 20 years of working life, and are not flammable.

Vanadium Uses: Steel Rebar, Aerospace, Utility Batteries

Adding just 0.5% of vanadium by composition to steel (at 2 lb/tonne) doubles its strength and reduces its weight by 30%. About 80% of the annual vanadium global production of 75,000–80,000 tonnes goes to steel rebar use. This and other applications help satisfy the market's demand for high-strength low-alloy steels.

By the year 2030 the world's urban population is expected to increase by 1 billion, to 5 billion. The increase is equivalent to adding 100 urban centers the size of New York. This means taller and more compact

high rises that require high-strength low-alloy steel to fend off earthquakes and floods.

Increasing amounts of vanadium- and niobiumenriched metal are ending up in automobiles. It is estimated that within another decade 85% of all car production will incorporate vanadium or niobium alloys in order to reduce weight and increase strength.

Vanadium is a key ingredient in aerospace engines and composite aircraft and satellite bodies. Vanadium steel alloys are used in gears, axles, and crankshafts. High-speed aircraft jet engines employ an alloy of titanium, aluminum, and vanadium. Both Airbus and Boeing expect high, single-digit annual growth over the next 20 years, with more air miles being traveled due to a growing middle class throughout the world.

Vanadium foil is used for cladding titanium to steel, and vanadium-gallium tape is used in the construction of superconducting magnets. Vanadium pentoxide is used in ceramics and in catalyzing (lookchem.com). It has the potential to be included in pollution-reduction catalysts and applied to automobile chassis.

In short, vanadium touches many facets of the modern world: energy storage, pollution reduction, aerospace, and agents that strengthen steel and save weight in cars and buildings.

Intermediate to Long-Term Vanadium Outlook: Low Inventory/High Demand

About 85% of vanadium production takes place in three countries: China, Russia, and South Africa. China, which produces over 50% of the annual total, is also consuming vanadium at the fastest-growing rate. Investingnews.com reports that China's demand last year grew by almost 220%.

Russia produces 11% of the world total. Most of their vanadium is either an extract from the slag of steel smelters or a byproduct of uranium mining. South Africa comes in last among the big three vanadium producers, accounting for about 10%. Brazil is number 4. "Other Countries" contribute a pittance.

Australia and the U.S. have significant reserves, but neither country currently weighs in on the production list.

What Makes the Gibellini Project So Special?

• Vanadium is usually found combined with other metals (e.g., magnetite iron ore, uranium, titanium) and thus mined as a byproduct. In such cases the separation is costly, involving a furnace or a roasting that leaves a high carbon footprint. The Gibellini Deposit is predominantly vanadium, with low amounts of deleterious elements (e.g., less than 1% iron; 1% titanium). This means while the deposit is not considered high grade (at roughly 0.3% or just over 6lb per tonne), Gibellini's processing costs will likely be much lower than for vanadium-bearing magnetite deposits where vanadium has to be separated from heavy (often 50% or more) iron and titanium content.



Hand-held XRF vanadium measuring tool.

 Because the property's former owners completed a feasibility study (2011) and made progress on an environmental impact statement (EIS), a case can be made that in inheriting the project from them, about two years have been shaved from what could have been a five-year startup for Prophecy. Thus, the company's goal of obtaining within 18 to 24

- months all permits necessary for commencing construction appears quite feasible.
- Based upon the feasibility study's assumptions, the metallurgy of Gibellini—and perhaps nearby Louie Hill—indicates that the best plan would be the following: Construct and operate a conventional open-pit mine at the ultra-low strip ratio of 0.2 to 1 using a truck and shovel fleet for mining and operation of oxide heap leach without an initial roasting step (to remove metal impurities). This would produce V2O5 as a bagged product with an average recovery of 66%. This would minimize capital expenditure costs and limit the operation's environmental footprint. In November 2017, Prophecy announced for the Gibellini Deposit an independent resource estimate (prepared by Amec Foster Wheeler E&C Services Inc.) of 49.62 million pounds of vanadium pentoxide in the measured category, 79.67 million pounds of vanadium pentoxide in the indicated category, and 37.27 million pounds in the inferred category (refer to the company's news release dated November 20, 2017). The study also identified 40.2 million pounds of inferred resource at Louie Hill. Altogether, at the current vanadium pentoxide price of \$15.6 a pound, that's a lot of value in the ground in a state that in 2016 the Fraser Institute called the best place in North America for mining investment.
- Gibellini demonstrates a very low level of "nasties"—less than 1% Fe, Ti, and MgO. This enables production of high-grade vanadium pentoxide (99%+), which could possibly be sold for substantially more (30%+) than benchmark (98% purity) pricing.
- For specifics on measured, indicated, and inferred resource categories, and to see how a redox battery works, readers are encouraged to visit Prophecy Development's site at:
 http://www.prophecydev.com. Under "Corporate Presentation" peruse the March 2018 iteration in pdf form.
- The Solar Energy Industry Association estimates that solar energy will account for more than 3% of all electricity generated in the U.S. by 2020 and 5% by 2022. That's going to call for a lot of energy storage. If Prophecy can fulfill its corporate goal of being North America's first mover in vanadium

production (for use in constructing vanadium redox flow battery grids), it could capitalize this rapid growth and potentially monopolize the North American vanadium market.

Elements Arguing for a Substantial Sustained Increase in Vanadium Demand

- China's scrap ban on the import of vanadium-containing slag, ore ash, and residue of late last year is projected to cut domestic V2O5 production by 5,000 tpy (3%).
- China's new rebar standards—eliminating one lowstrength grade and adding three high-strength grade standards—are set to double the amount of vanadium China consumes in its annual production of 200 million MT of rebar.
- Vanadium redox flow batteries tap a small portion of the vanadium supply pie—now—but hold considerable potential for substantially increasing pressure on available supplies in the future.
- Donald Trump ascended to the nation's top office with one of his election planks being an infrastructure build-out (not to mention an expansion of capital shipbuilding for the navy).
 Bottom line: more vanadium needed for rebar and structural steel usage.
- Vanadium redox flow batteries maintain 90% of their energy storage capacity for up to 20 years, demonstrating at present a superior storage method to that of less-efficient lithium-ion batteries.
- China is building the world's largest battery (800MW, 10 times the size of Elon Musk's largest lithium battery to date). It is a massive vanadium redox battery that will, by itself, require an additional 7,500 tonnes of vanadium.
- As this is being written, Saudi Arabia's Crown Prince Mohammed bin Salman has just announced plans to develop the world's largest solar power project. When built, the plant will be about 200 times the size of the biggest one operating today. It is supposed to produce up to 200 gigawatts (GW) of power by 2030. If the maximum is achieved, it would more than triple Saudi Arabia's capacity for producing electricity, from about 77 GW today. By

- comparison, there are in the United States roughly 70 gigawatts of solar capacity in operation, under construction, or in development.
- China's One Belt One Road Initiative is by far the largest construction project in history, with some estimates placing its cost at \$80 trillion. It involves building a series of rail, highway, high-speed rail, and communications connections between Asia and Europe. It is set to run for at least another decade and will consume enormous quantities of cement and steel . . . and vanadium.
- The vanadium market has been in supply deficit since 2011.
- A continuation and expansion of the current trade war between the U.S. on one side and China and Russia on the other (no. 1 and no. 2 vanadium producers, respectively) could have serious consequences for Western nations' ability to acquire their own supply of vanadium, should China or Russia decide to clamp down on exports. Russia is already considering titanium export restriction to Boeing—and vanadium could be next.
- There is no known stockpile of vanadium. As prices rise, a customer lacking a pre-existing relationship with a supplier would be forced to buy "at the market"—assuming a seller can be found.



Notice brown-black shale vanadium coloring just below surface

- The limited size of the vanadium market—@
 75,000-85,000 tonnes/yr—means that a small
 change in either supply or demand can have a large
 effect on prices.
- Vanadium markets are opaque. Producers and customers negotiate the price in private. This is part of what makes it difficult to determine a spot price and make reliable projections.
- Until recently, low prices (currently still only about 1/2 of the 2004 highs near \$30) have led to mine closures and inhibited new mine development. Indeed, price weakness (below \$4/pound as recently as 2014) is what led to Gibellini's former owner having to sell the project. At that time, vanadium prices were so low it could not have been put into production showing anything close to a profit.
- The Battle Mountain region of Nevada is ranked by the Fraser Institute for Mining as the fourth-most attractive area for mining investment globally and the most attractive in North America.

As an aside, there is evidence that health conditions such as diabetes, some types of cancer, and bone loss can be ameliorated by adding small quantities of vanadium to one's diet (by eating foods containing it: black pepper, dill seeds, whole grains, seafood, meats, seafood, and dairy products).

In the ancient Near East, Damascus steel became one of the most highly-regarded metal alloys ever to be used in sword- and knife-making. Damascus steel, a form of steel produced from vanadium-containing iron deposits in India, was said to yield a blade so sharp that it could split a human hair dropped on it, or easily cut through a knight's metal helmet of the day. And the blades were so flexible they could be bent at a sharp angle without breaking.

Leach vs. Blast Furnace: Processing Breakdown by Type

Eighty percent of vanadium is derived as a byproduct of titanium-iron ore processing via blast furnace; 10% comes from black-shale primary vanadium mines. The remaining 10% is acquired through recycling.

On September 22, 2017, the China National Development and Reform Commission released Document 1701. It calls for the launch of several pilot projects. One of them involves the deployment of a number of 100-megawatt-scale vanadium redox flow batteries by the end of 2020. The aim is to have a largescale deployment over the ensuing five years.

On December 20, 2017, President Trump signed an executive order "Recognizing Strategic Importance of Minerals Mining to Domestic Economy, National Security, Infrastructure." Among other things, the order called on U.S. government agencies to identify ways to (1) streamline the permitting processes (expedite exploration, production, processing, reprocessing, recycling, and domestic refining of critical minerals) and (2) ensure that miners and producers within U.S. territory have electronic access to the most advanced topographic, geologic, and geophysical data.

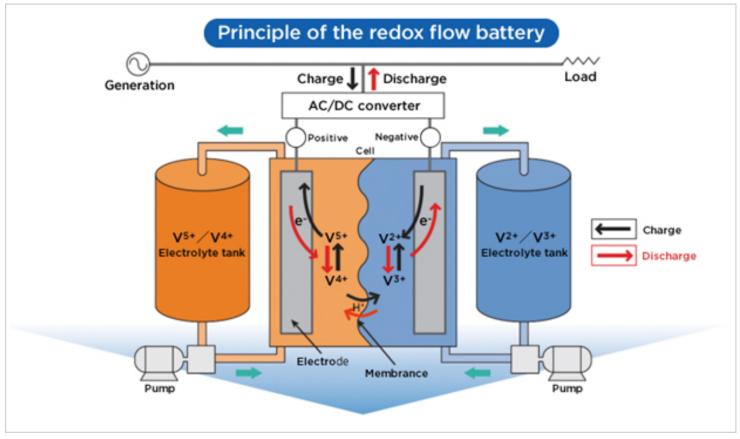
On the same day, the U.S. Geological Survey listed vanadium as one of 23 critical mineral United States resources. Yet there is not currently a primary vanadium mine in production in the country.

Does the Energy Storage Race Go to Vanadium—or Lithium?

In order to avoid reinventing the proverbial wheel, we can take advantage of a straightforward, clearly-stated explanation by Bill Watkins, CEO at Imergy Power Systems and former CEO of Seagate Technology. He posted it a few years ago to the Renewable Energy World website, in answer to a question:

Lithium batteries store their energy in cells. Some are flat. Some are cylindrical, but you're familiar with what they are: relatively small, self-contained devices that get hot. There are probably two in your phone and six in your notebook. But in a grid scale storage system, you need hundreds of thousands of them. It would be sort of like building an industrial-scale cold storage facility with a bunch of portable refrigerators. You can do it; it just won't work well.

Vanadium flow batteries store their energy in tanks. The electrolyte—the fluid that transfers charges inside a battery—flows from one tank through the system back to the same tank. The tanks can be fish tank size or bigger than an above ground pool. As a result—and you will see this over and over again—it's much easier to adapt flow batteries to industrial-scale applications without adding a lot of cost. You just make the tank bigger.



Hitting the Renewable Energy Storage Sweet Spot (courtesy ProphecyDev.com)

Unlike shorter-lived lithium-ion batteries, vanadium redox flow batteries can maintain 90% of their energy storage capacity after 20 years.

Pronouncements Supportive of "the Vanadium Perspective"

"We think there's a revolution coming in vanadium redox flow batteries. You'll have to get into the mining business and produce ultra-pure vanadium electrolyte for those batteries on a massive scale. We're deeply interested in how you store electrical energy in the grid."—Robert Friedland, 2017.

"Cost-effective, reliable, and longer-lived energy storage is necessary to truly modernize the grid."—Dr. Imre Gyuk, energy storage program manager for Department of Energy's Office of Electricity Delivery/Energy Reliability, December 2016.

"U.S. utilities have announced extremely low prices for solar, and the price of storage continues to come down rapidly. It is very clear that solar-plus-storage is now, or in the near future will be, less expensive to build than any traditional 'base load' coal, nuclear or gas facilities. And we are seeing solar with advanced inverters successfully perform most of the functions of traditional power plants."—Jon Wellinghoff, energy law attorney, former chairman of the Federal Energy Regulatory Commission.

"Flow batteries scale more easily because all that's needed to grow capacity is more liquid; the hardware remains the same. Li-ion batteries require an entirely separate unit to be daisy-chained in."—Dean Frankel, Lux Research.

Corporate/Project Management

John Lee, CFA, CEO, and Chairman: An entrepreneur with degrees in economics and engineering from Rice University, Mr. Lee joined Prophecy in October 2009, when it was trading at \$6 a share on the TSX Venture Exchange. By making timely project acquisitions, the company managed to trade at over \$100 a share in the first half of 2011 with a market capitalization close to \$150 million at its peak. In 2017, Prophecy returned to

its M&A roots by acquiring and developing vanadium mining projects in North America.

Chris Kravits: Based in Salina, Utah, Mr. Kravits is Prophecy's General Mining Manager and a core management team member. He has been with the company since 2009 and continues as an advisor on a part-time basis.

John Young, Environmental Permitting Consultant: Based in Reno, Nevada, Mr. Young is the principal of Great Basin Environmental Services. He is engaged by Prophecy on a non-exclusive basis to lead the Gibellini Project's environmental permitting efforts. He has over 40 years of experience in environmental compliance, mine permitting, and mine reclamation. Previous positions included Environmental Manager at Barrick, Kinross, and Newmont. Mr. Young has completed environmental impact statements for mines in the western U.S. and functioned in senior environmental coordination roles for project development on a global basis for copper, gold, and platinum mining.

Danniel Oosterman, Vice-President for Exploration: Mr. Oosterman has worked for 17 years in the mining and exploration business, specializing in exploration and the development of projects from grassroots and brownfield to the feasibility stage. His background includes both technical and executive roles. Mr. Oosterman is closely involved in development of the company's Gibellini Project and the exploration of its Bolivian silver project. He is a Qualified Person, as defined in NI 43–101.

Bekzod Kasimov, Vice-President for Business
Development: Based in Bolivia, Mr. Kasimov has been
with Prophecy since 2012. He was previously stationed
in Mongolia, where he managed the commissioning of
a Mongolian open-pit coal mine. With the appointment
of Mr. Drozd, Mr. Kasimov changes from Vice-President
for Operations to Vice-President for Business
Development. He continues to represent the company
with government officials in Mongolia and Bolivia. He is
fluent in English, Spanish, Russian, and Mongolian.

A Linchpin Operations Employee:

Michael Drozd, Vice-President of Operations for the Gibellini Project: Mr. Drozd was appointed to this position by Prophecy in late February 2018. His association with the project has been a lengthy one. The significance of his appointment becomes apparent and

is worth noting in detail. In its February 26 NR, Prophecy stated:

Prior to Barrick, Mr. Drozd spent seven years as Vice President of Metallurgy with Scotia International of Nevada, Inc. ("Scotia") where he led a multi-disciplinary team in managing the Gibellini Project's engineering, procurement, construction management contract and completed (i) process flow design, (ii) instrumentation design, (iii) general arrangement site layout design, (iv) civil and foundation design, (v) structural design, (vi) process piping designs, and (vii) coordinated with consultants, New Fields, on the heap leach pad design and overall project cost estimate.

Prior to Scotia, Mr. Drozd was the Principal Metallurgist at Amec Foster Wheeler ("AMEC"), where he was a coauthor of the feasibility report titled "Gibellini Vanadium Project Eureka County, Nevada, USA," published in 2011 by AMEC for the Gibellini Project's previous operator. Specifically, Mr. Drozd was responsible for the Metallurgical section (which included metallurgical testing and mineralogy examination, trench column test work, solvent extraction testing, final vanadium pentoxide production with recovery estimates) and the Recovery Method section (which included plant design, process flow sheet, equipment, labor, and electrical power). Prior to AMEC, Mr. Drozd was Barrick's Chief Metallurgist for five years.

Mr. Drozd is a Founding Registered Member of SME, member of the Society of Mining, Metallurgy and Exploration, and Qualified Person, as defined in National Instrument 43–101, Standards of Disclosure for Mineral Projects ("NI 43-101").

He has authored publications on gold flotation, gold processing, heap leach operations, cyanide detoxification, and carbon absorption technology. He also holds patents in molybdenum flotation, cyanide detoxification, and vanadium recovery.

The Gibellini Black Shale Value Proposition

Location: Battle Mountain region of Nevada (geographical location for 50% of current U.S. gold production), featured in the 2016 Fraser Institute survey of mining companies as the fourth-most attractive jurisdiction for mining investment globally.

Open-Pit and Oxide Heap Leach: Features oxide and transition layers, amenable to conventional heap leach recovery. It has low acid consumption and no roasting (i.e., minimal CapEx, OpEx, and carbon footprint).

Marketable Vanadium Pentoxide: Features low levels of deleterious items (less than 1% Fe, Ti, MgO); capable of producing on-site high-tech grade vanadium pentoxide that could potentially be sold at a premium price.

Advanced Permitting: Environmental baseline studies and a plan of operation have been prepared for American Vanadium Inc. ("AVC") and approved by Nevada Bureau of Land Management.

Feasibility Study: AMEC E&C Services, Inc. ("AMEC E&C") prepared a project feasibility study for AVC in August 2011. Prophecy intends to update the feasibility study and resume permitting in 2018.

The Amec Gibellini 2018 Economic Assessment Study demonstrated favorable economics at \$10.95/lb V2O5 (http://www.marketwired.com/press-release/american-vanadium-corp-announces-positive-feasibility-study-gibellini-vanadium-tsx-v-avc-1559533.htm). (These numbers are mentioned only for reference as historic statistics.) Prophecy is due to release an updated economic assessment in May 2018.

Project Status

Mine plan of operations (MPO) was submitted in November 2014 by the previous operator.

BLM reviewed and administratively accepted the MPO. Prophecy revised the MPO and resubmitted it, along with environmental baseline information, in April 2018. Over the next 12 months Prophecy and BLM will finalize the baseline and MPO and will make an additional disclosure on mine closure, which had not been adequately addressed by the previous operator (which had run out of funds), in preparation for the final steps in the environmental impact statement. This will take approximately 12 months.

April 18, 2018, Update: In a news release titled "Prophecy Gains Gibellini Vanadium Project Data Access, On Schedule to Submit Plan of Operations and Baseline Studies," the company stated that it has signed an agreement with Monitor Ventures, Inc., which has commissioned, compiled, and held information related

to the Gibellini Project, for the right to access and use this information. (For the complete NR see http://www.prophecydev.com/ under the "News" tab.)

Gibellini's Ore Acquisition and Production-Shipping Advantages

- A thick tabular deposit = a simple mining plan
- Ore at/near surface (0.22:1 strip ratio) = decreased mining cost
- Ore body is at mountain top = downgrade haul to operations
- Naturally fractured ore = minimal blasting, minimal crushing
- Leased private water source: 3,500g/min avail.; only 500 g/min processing needed
- Vanadium recovery: 70%; transition zone: 60%; oxide avg. 66%
- Back-of-the-envelope calculation based on mining and processing rate of 10,000 tonnes per day means Gibellini could be the only North American vanadium supplier by 2021. (The May economic assessment report could help clarify and verify these details.)



Well-defined (weathered) vanadium ore deposit - background

On the Ground at Gibellini—Production Highlights

- A full cycle (from startup to first yield) is 60 to 90 days.
- 80 mil plastic pad underlies/lines leaching areas.
- Relatively fine ore; little need to crush; only 1 small jaw crusher is necessary.
- 30t-50t capacity trucks haul vanadium ore downhill to leach pad/processing plant.
- Agglomerating fines coarsens it for the leach pad = more effective, faster leaching.
- 700C drying yields chemical industry black flake; <700C yields batteries red cake.
- 2-phase pad design, plus provisions for a future/reduced ore are in the plan.
- Ore placed in 15-foot lifts (45m max) via radial stackers; process flow: 1500gpm.
- 4-stage extraction circuit w/6:1 aqueous-organic ratio.
- Stripped organic washed w/sulfuric acid, removes iron; treated w/ammonium carbonate/filtered, removes uranium.* Treated organic; returned to extraction circuit.

*Under current mining disposal laws, selling byproduct uranium is less restrictive than storing on-site; therefore, (est.) 50,000 pounds of yellowcake paste/yr will be sold for about \$1,000,000 as a small but helpful operational profit center.

• Calcinated material (@750F/400C) fused into liquid; cooled/crushed/pkgd to ship.

Details/Implication of the Recently-Announced Partnership with China's Largest Vanadium Producer

In March 2018, Prophecy announced a technical partnership with Northwest Nonferrous Metals Mining Group Co., Ltd. ("NWME") for the purposes of advancing Gibellini. The scope of work for NWME includes technical design and the engineering of vanadium ore processing facilities that recover

vanadium pentoxide at Gibellini, with the goal of producing high-grade vanadium pentoxide commercial product on-site. NWME owns in China and is currently operating the world's largest black-shale vanadium mine. It has an environmentally-friendly hydrometallurgical leach processing technology that does not need a pre-roasting step.

NWME is an affiliated enterprise of Shaanxi Huayuan Mining Co., Ltd., one of the largest comprehensive geological and mineral resources research and development institutions in northwest China, with over 5,000 employees. NWME owns and operates over a dozen mines (lead-zinc, gold, vanadium) in China. The company employs several hundred geologists and metallurgists, giving it extensive experience in vanadium exploration, mining, processing, and recovery.

John Lee, Prophecy's executive chairman, states:

"I spent a full week, sometimes working through light snow cover, with the NWME technical team at the Gibellini site. We left no stone unturned in exploring the area's ore-bearing deposit, collecting 200kg of samples by small hammer—samples which will be used in metallurgical work, thus enhancing the heap leaching of the black-shale vanadium ore and the processing recoveries.

"NWME's patented leaching, processing and extraction technology are commercially proven to produce 99.9% pure vanadium pentoxide while carrying a low carbon footprint. The fact that NWME chooses to work with Prophecy and its Gibellini Project strongly suggests that they feel confident about the high quality and uniqueness of the deposit."

Pulacayo Paca-Prophecy's Silver Mine in Waiting

Prophecy also holds full ownership of the Bolivia silverzinc-lead mine, Pulacayo Paca. This writer visited the mine and posted a Flash Report for *The Morgan Report* (see Archives: Pulacayo Paca: "A Bolivian Silver Mine with Long-Term Upside Potential.")

The Bolivia Project's Status and Potential

Drilling/permits: Pulacayo 78,000m drilled; Paca 18,000m drilled; environmental license issued.

Infrastructure in place: Power/water onsite; 20km/12mile paved road to rail; rail connects with Chilean port; concentrates sold to Trafigura.

Local relationships: 200-yr mining tradition; generational miners; social license in hand; a town is 1km from the mine.

For the princely sum of \$3,000,000, Prophecy acquired the project from an exploration company. In an attempt to take the property to production that company had spent over \$25 million, but decided to give up when silver and zinc slumped in 2014. A possible startup of Pulacayo by Prophecy—which already has infrastructure and a work-force in place—awaits approval by Bolivian authorities, results of the 2019 election, and a sustainable rise in the price of silver and zinc.



A 1,000 g/t silver ore sample from Pulacayo (Author's photo)

Details from Pulacayo Indicated and Inferred Mineral Resource Statement by Mercator

Pulacayo Mineral Resource Statement – Effective October 20, 2017

As a result of acquiring the feasibility-stage project in Gibellini, Prophecy is in receipt of all technical work required for satisfying that level of study. This includes engineering-level design specifications for operating the mine from shovel to saleable product, and a robust geological database. This should help streamline the path to production at a reasonable cost.

See PCY.TO Weekly & OTC: PRPCF Daily Charts on next page.

Currently, most of the trading volume for Prophecy Development occurs on the TSE. However, as action of Thursday/Friday April 19/20 shows volume on the OTC rose substantially above normal with a weekly close on the high.

A key will be to see if the upswing can be sustained, optimally rising above the 200-day MA to the point that the 50-day MA rises above it. This would add credence to the technical belief that a new and hopefully sustainable up leg has begun. Looking at the Weekly TO chart, we can see that even though prices printed several months in intermediate low territory—well below the July 2017 lows—MACD did not confirm this by making a new low itself. In the fullness of time, we may/may not (?) be able to look back and see this non-confirmation as a "tell" about an inner strength of the share price that was not initially obvious, simply by looking at the chart.

Pulacayo Mineral Resource Statement – Effective October 20, 2017						
Ag Eq. Cut-Off (g/t)	Category	Tonnes*	Ag (g/t)	Pb (%)	Zn (%)	Ag Eq. (g/t)
400	Indicated	2,080,000	455	2.18	3.19	594
	Inferred	480,000	406	2.08	3.93	572





CONCLUSIONS

Excerpted from John Lee's 2017 Master Mind interview with David Morgan:

I've authored five articles on vanadium, starting from November 2016. I still believe that there's still a lot of upside... the only risk I see with this project is the price risk of vanadium. I don't think we'll have a permitting risk, I don't think we'll have a technology risk, I don't think we'll have a mining risk. Really, the only issue we had earlier was the price risk of vanadium. But now that has been completely removed.

From the risk-reward perspective, I believe that it's a better entry time to the vanadium space than it was three or four or seven, eight months ago, when I started writing about vanadium. The only other vanadiumworthy investment listed in the market today that I see, and I wrote an article about just a month ago, is Largo, and they're a producer in Brazil. They're a higher grade, but they're a low margin, high-cost producer, because they're saddled with this magnetite iron problem. But their stock had tripled...

Prophecy managed to raise \$6 million in October at \$3.5 a share, and therestricted shares recently become free trading exerting pressure on Prophecy stock, coupled with relentless uprise in Vanadium price, investors are given a great entry point.

This first look at Prophecy Development's vanadium project should give our readers a good idea of the lay of the land regarding the likelihood that the Gibellini Project will be profitable, should production come on stream during its projected timetable. Even if prices flatline at current levels, the stated metrics of the project look to be viable. Of course, time will tell, as will the level of continued demand for vanadium redox batteries and steel-strengthening by use of adding vanadium to the finished product.

As always, should you decide to take a position, it is important to consider doing so in at least two or three tranches, preferably into price weakness, and always adding (or offsetting) with a limit price. You should also consider beforehand, how long you would be willing to hold all or part of your position in an effort to achieve desired profit levels.

A Corporate Presentation dated April 18, 2018, can be found at prophecydev.com.

Disclaimer: This writer, David H. Smith, holds a position in Prophecy Development, purchased in the open market. Most of that position has been held for several years. Please remember always to do the research, do the math. The decision must be yours!

