John Kaiser's Tips for Escaping the Resource Sector Swamp Alive

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COMPANIES MENTIONED

- Avrupa Minerals Ltd.
- Cayden Resources Inc.
- **Clifton Star Resources Inc.**
- EMC Metals Corp.
- **Exeter Resource Corp.**
- InZinc Mining Ltd.
- Midas Gold Corp.
- **Namibia Rare Earths Inc.**
- Nevada Exploration Inc.
- Northcliff Resources Ltd.
- **Probe Mines Limited**
- **Soltoro Ltd.**
- Tsodilo Resources Ltd.

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THE ENERGY REPORT
THE GOLD REPORT
THE LIFE SCIENCES REPORT
THE MINING REPORT

What if the goldbugs are wrong and fiat currency isn't going to throw the world into hyperinflation? What if instead, a steadily growing economy and a new awareness of the importance of having security of supply for critical metals along with a big exciting discovery that heats up the resource sector are what pull sinking gold and silver prices and their related mining companies out of the muck? If so, John Kaiser tells *The Mining Report* that he has set his sights on the dozen companies that would star in this horror turned romantic epic adventure.

Source: JT Long of *The Mining Report*

The Mining Report: At the Cambridge House Canadian Investment Conference in Toronto, you talked about escaping the resource sector swamp. Why do you call the current market a swamp?

John Kaiser: There are four key narratives that dominate the resource sector, in particular the junior resource sector. One is the supercycle narrative where a growing global economy catches the mining industry off guard with the result that higher-than-expected demand results in higher real metal prices. That then unleashes a scramble to find deposits that work at these higher, new prices and put them into production. The juniors played an extraordinary role during that cycle in the last decade; however, global economic growth has slowed. Therefore, we are looking at a period of sideways, possibly weaker, metal prices for a number of years, which puts the supercycle narrative on hold. That is one factor keeping the sector in a swamp.

> *"**Clifton Star Resources Inc.** would definitely benefit from gold jumping back through $1,500/oz."*

Another important narrative is the goldbug narrative, where a soaring gold price is going to make deposits much more valuable. We did see that play out. Gold reached $1,950/ounce ($1,950/oz) briefly, but has since retreated 40%. Even though that's still 400% off the low from just over a decade ago, it has turned out to be a wash in real prices. Now, growth projections in the U.S. are having negative implications for the prevailing apocalyptic goldbug narrative. That does not bode well for an escape from the quagmire.

A third key narrative is security of supply, which we saw manifested in the rare earth (RE) boom in the past five years. However, the RE prices have come back to earth as substitution and thrifting has kicked in. The anxiety that China is going to eclipse the U.S. anytime soon has diminished, and the concern that there will be supply squeezes around the world has diminished.

The fourth narrative, which has dominated the junior sector for two of the past three decades, is that of discovery exploration. Unfortunately, there have not been many very good discoveries in the past decade that have inspired confidence in the retail

sector. Add to that the structural changes in the financial services sector that make it increasingly difficult for junior public companies to source retail investor capital.

These are the forces that are keeping gold—and junior mining equity—prices bogged down.

TMR: Let's look at each of those narratives a little bit closer to determine what they mean for junior mining companies. If China's growth is slowing and the U.S. recovery remains hesitant, what does that mean for base metals—copper, nickel, iron and zinc?

JK: In the last decade, juniors have made a career of picking up deposits found in past exploration cycles and discarded as marginal because the grade wasn't high enough. The juniors did a tremendous job of reevaluating their potential based on new prices and technology. That led to $140 billion ($140B) worth of takeover bids, compared to the $5B per decade in the 1980s and 1990s. These deposits now sit as inventory in the big mining companies.

*"**Exeter Resource Corp.'s** gold-copper Caspiche deposit has been modeled for multiple mining scenarios."*

That means when we get another price boom, the big mining companies will develop these projects to supply the demand surge, not acquire juniors that claw a new batch of discarded deposits out of the closet. Investors interested in juniors with advanced deposits will have to focus their attention on an existing pool of juniors that will shrink as they disappear through buyouts or mergers with very modest premiums off cyclical market lows.

TMR: Would you apply that scenario to all of the base metals?

JK: Copper and iron are the ones that are faced with oversupply in the next couple of years. Nickel is a special situation because it was being oversupplied until Indonesia imposed an export ban on raw laterite ore. The Philippines is contemplating doing something similar. Should this come to pass, then we will have temporary shortages of nickel, and we could see nickel prices going higher. But if Chinese capital builds the capacity to smelt the nickel laterite ore in Indonesia and the Philippines, then we will see weak nickel prices.

*"**Namibia Rare Earths Inc.'s** PEA reported an after-tax IRR of 43%."*

The one metal I think will realize higher prices in the next few years is zinc. That is because major mines have started to shut down, and what is coming onstream is considerably less capacity than what is shutting down. Normally, that doesn't really matter because China has been the elephant in the room, the largest zinc producer. China has nearly doubled its production in the past decade. The prevailing view is that if we get a higher zinc price, China will move quickly to put more mines into production. However, I believe, due to a new environmental focus, the country could actually shut down some of its capacity, worsening the supply situation.

Because most large zinc deposits are in remote locations, they will take 7 to 10 years to develop. So I am focusing on smaller-scale zinc deposits, such as the West Desert deposit of InZinc Mining Ltd. (IZN:TSX.V) in Utah, which could jump onstream faster than some of the big, remote projects. InZinc's updated preliminary economic assessment (PEA) showed it could turn the magnetite skarn zinc into a salable byproduct rather than a costly waste material.

This project appears to work at $0.90 a pound ($0.90/lb), and if we do get zinc at $1.20/lb., it should work extremely well. The company has been able to raise money and has more than $1 million ($1M) in the treasury so that it can ride out any interim weakness in the market. Its next step is to do a $4M exploration program designed to find the limits of the deposit, so that when it embarks into prefeasibility study mode, it will know the perfect project scale.

TMR: When could the prefeasibility study come out and doesn't it still need permitting?

JK: Utah is a very friendly state for permitting mines and even more so with regard to approving exploration programs. Permitting InZinc's delineation drilling program is not the holdup; raising the capital at non-punitive prices is. I hope the company can raise the money it needs to spend in 2015, setting the stage for a prefeasibility study in 2016. Simultaneous environmental studies would put the company in a position to go for a feasibility study in 2017.

We are still talking about 2020 as the earliest it could be in production, but that is much shorter than the decade needed to bring giant remote zinc deposits such as Howard's Pass onstream. The uncertainty about the longer-term outlook for zinc creates a window of opportunity to develop smaller zinc deposits such as West Desert.

*"Even though we are in a very dismal financing market, **Probe Mines Limited** was able to raise $26M of flow-through money."*

TMR: Let's go back to your themes. The second one was the goldbug theme. The Federal Reserve is betting that the U.S. economy is good enough to handle rising interest rates as part of a push to jumpstart the global economy. What could this mean for the supercycle we talked about and the apocalyptic goldbug narrative and the companies in the metals space?

JK: If the Fed successfully finesses the transition from quantitative easing and low interest rates to an economy based on positive real short-term interest rates, then we will see the consumer start to feel more comfortable with the future and spend money. Businesses would then start spending the trillions of dollars they are now hoarding or spending on share buybacks to prop up stock prices.

If they shift to building stuff again for the long run, which employs people with quality jobs and signals optimism about America's economic future, then the banks become happy and will start lending money to consumers. It creates a virtuous circle where the economy grows organically rather than artificially. This is also good for the rest of the global economy because it will enable emerging markets to hitch their wagon back to the U.S. as a primary export destination and, ultimately, as a flow of capital back to their own economies to fund self-sustaining economic growth.

A smooth transition to real growth is bad news for the goldbug narrative because if we have higher interest rates and, thus, better yields, that makes gold—which yields nothing—not very competitive. A strong dollar also clashes with the idea that everything is falling apart and, therefore, gold is going to go up due to resulting hyperinflation and fiat currency debasement. But if the Fed is wrong and it merely succeeds in popping a stock bubble and the Dow Jones drops more than the 10–15% that would qualify as a healthy correction, unleashing another asset deflation spiral similar to 2008, then we end up in a very negative scenario for the global supercycle narrative and for the goldbug narrative because gold goes down in a

liquidity crunch. Either outcome creates an argument for gold dropping through that $1,180/oz resistance level and touching $1,000/oz on the downside.

TMR: Are you predicting $1,000/oz gold?

JK: I see $1,000/oz as a temporary aberration except in the worst case scenario of a global depression. Today 1980's $400/oz gold adjusted for inflation is $1,120/oz, so $1,200/oz is just a 9% real gain. That is sobering when you consider the mining industry extracted 2.3 billion ounces over the last 30 years on the back of gold's big move during the 1970s. As this low hanging fruit got harvested, mining costs rose, even more so than general inflation during the past five years.

> *"**Soltoro Ltd.** has both an existing resource demonstrating feasibility at the prevailing metal prices and exploration potential for the future."*

All-in cost estimates average $1,350/oz for new gold, partly due to higher mining costs, but also due to lower grades, more difficult metallurgy and social license costs. A gold price in the $1,000–1,200/oz range implies that the world going forward will be content with the existing 5.4 billion ounce aboveground gold stock plus the billion extra ounces existing mines will produce as they deplete over the next decade.

As an optimist about global economic growth, I find that hard to believe. If the end of quantitative easing and the arrival of higher real interest rates gives the American economy organic growth legs, rather than sending it into a tailspin that requires the Fed to put it back on life support, it will pull the global economy back into an uptrend with resource-hungry emerging economies with large population bases as the long-term growth engines.

While your typical North American goldbug owns gold to hedge against catastrophe and a possible capital gain trade, new wealth in emerging nations seeks gold ownership as a form of saving and wealth insurance. This gold is not generally for sale. In my view, global economic growth is a plausible driver for higher real gold prices. The question is how long can gold hang around at price levels where it does not make economic sense to mobilize new gold mine supply?

What would jumpstart an uptrend in gold is China announcing its actual reserve holdings, which were last reported in 2009 as 1,054 tonnes. Since then China has produced about 2,000 tonnes and because the central bank is the official buyer of domestic gold production, China's official gold holdings are likely over 3,000 tonnes, just behind Germany at 3,384 tonnes. China has also been a heavy importer of gold since its breakdown in 2013, possibly over 1,000 tonnes. That would put China in second place, halfway to America's official holdings of 8,134 tonnes. China sees as the long game the eventual end of the U.S. dollar as the world's single reserve currency.

For now China is more than happy to see weak gold prices and is unlikely to harm its gold accumulation agenda by updating its official reserve holdings. But if it did, that would make investors think twice about selling the gold they already own and increase demand for more, which would lead to a higher gold price. A shortage could push gold to $1,500/oz without excessive inflation or fiat currency debasement. It would also underpin a new bull market in the juniors, especially if the American economy is back on track and the dominant gold narrative is no longer one that just promises higher gold prices without enhanced mining profitably.

TMR: It sounds like you can envision a world where what is good for Main Street and Wall Street is also good for the gold miners. Are there some gold miners that

maybe are more leveraged to that $1,500/oz gold price and could really benefit?

JK: Big companies like Barrick Gold Corp. (ABX:TSX; ABX:NYSE) that have shut down large capital expenditure (capex) projects and unprofitable mines would benefit immediately. Juniors that have done advanced economic study work and are continuing to do feasibility study work would also be able to take advantage of the upside. The share prices have been punished and these companies can now be bought as options on a higher gold price. The risks, of course, are that the company is unable to maintain ownership of the project because of spending requirements or that they are swallowed up by bigger companies during the mayhem that would accompany gold dropping below $1,100/oz.

One to consider is Midas Gold Corp. (MAX:TSX), which is completing a prefeasibility study on its Golden Meadows project in Idaho. That project was, according to the PEA, viable at $1,300/oz gold, probably not so at $1,000/oz gold. It has the funds in place to complete the prefeasibility study, hopefully by the end of the year. The next step is environmental permitting, which will be the primary obstacle in a state like Idaho.

Another company that has interesting optionality is Exeter Resource Corp. (XRA:NYSE.MKT; XRC:TSX; EXB:FSE), whose gold-copper Caspiche deposit in Chile has been modeled for multiple mining scenarios. The limiting factor is water access. The company is sufficiently funded with the $12M it needs to complete its studies and get its environmental permits for the smaller-scale scenarios. It has $40M in the treasury, which puts it in excellent shape to continue to advance the understanding of the deposit, search for water and be ready to move at different scales of production when gold starts to move on the upside.

The most extreme scenario is Clifton Star Resources Inc. (CFO:TSX.V; C3T:FSE) whose project is marginal at $1,300/oz gold. It is facing a balloon payment and an extremely low valuation right now so it would definitely benefit from gold jumping back through $1,500/oz.

Probe Mines Limited (PRB:TSX.V) is working on a PEA for Borden to give us a sense of the economics, something I will be watching closely. Arguably, the best gold discovery in Canada during the past decade was the Éléonore deposit made by Virginia Mines Inc. (VGQ:TSX) that Goldcorp Inc. (G:TSX; GG:NYSE) bought for $750M. In a feasibility study published earlier this year, Goldcorp revealed that this project at $1,300/oz gold will have an after-tax internal rate of return (IRR) of only 3% and a marginal net present value (NPV) even though it's producing 400,000 oz per year. At that price, it would take 8 years out of a 10-year mine life to achieve payback of a capital cost of nearly $2B. So there is a lot of concern about the viability of new gold mines. One difference is that Éléonore is in central Quebec and has infrastructure challenges, whereas Probe's Borden deposit is in Ontario next to a highway where infrastructure is already available.

Probe has shown 1.6 million ounces (1.6 Moz) of high grade and 2.3 Moz of open-pittable low grade with more exploration potential. Probe needs to acquire some key surrounding ground. The market has been waiting for this deal to get done so that it has 100% ownership of the existing deposit and can start chasing the deposit down plunge. In light of weak gold prices, the PEA will focus on a 3,000 tonne per day (3,000 tpd) underground mining scenario that targets the higher-grade gold. Investors get exposure to potential cash flow from gold that can be mined profitability at prevailing weak prices and an option on the impact of a higher real gold price moving the open-pittable resource into the money.

TMR: Probe just did a $26M funding. How is it planning to use that money?

JK: A sign of the strength of this story is that even though we are in a very dismal financing market, Probe was able to raise $26M of flow-through money. By definition it has to be spent on exploration. But it still has about $20M of hard dollars left for land acquisition and the new money will be used to delineate the deposit and explore the East Limb project, which could open a whole new area.

TMR: Was there another one you wanted to mention?

JK: Soltoro Ltd. (SOL:TSX.V) is primarily a silver company in Mexico with some gold zones. The company reevaluated its resource estimate using a higher cutoff because at $20/oz or lower silver, the metallurgical challenges made the earlier resource estimate marginal. By identifying a smaller core that works at $15/oz silver, it made the project better. Soltoro has multiple projects, El Rayo, La Tortuga and several others, where partners have spent money to advance the deposit. This gives it both an existing resource demonstrating feasibility at the prevailing metal prices and exploration potential for the future.

TMR: The property is right next to the recently acquired Cayden Resources Inc. (CYD:TSX.V; CDKNF:OTCQX) property. What does that recent deal mean for companies on the same mineralization belt?

JK: It is nice to see Agnico Eagle Mines Ltd. (AEM:TSX; AEM:NYSE) pay up to acquire strategic real estate. It tells us that there is an interest in consolidating these districts, including the Cayden property in Mexico. This is a good reason for Soltoro to step up its game and attract a bigger audience, get some capital going and make itself attractive as part of that consolidation process.

TMR: Let's return to the scarcity of supply theme and what that means for companies that mine RE elements and strategic elements.

JK: In the RE sector, we have seen efforts to mobilize light rare earth (LRE) supply through Lynas Corp. (LYC:ASX) and Molycorp Inc. (MCP:NYSE). Both companies are ailing right now. LRE prices are almost back to where they started in 2009, meaning that Western deposits are simply not viable. However, heavy rare earths (HREs) are different story. China is still the dominant supplier, but it might be running out. To conserve resources, China could start withholding supply to the rest of the world. Oddly, however, HRE prices have sunk dramatically during the past year and are only about double the levels that they started out at in 2009. As renewable energy becomes a necessity to combat climate change, prices will have to rise for the HREs to play their roles in the renewable energy sector.

One RE company that I continue to look at favorably is Namibia Rare Earths Inc. (NRE:TSX, NMREF:OTCQX). The company has just completed a PEA for its Lofdal project that envisions an open-pit 1,500 tpd mine that will produce a concentrate consisting mainly of heavy rare earths. The PEA reported an after-tax IRR of 43% and NPV of US$147M at 10%. The PEA does use FOB base case prices that are nearly double current levels, which would be a problem if 98% of the rare earths were not heavy rare earths representing over 99% of the recovered value.

A key aspect of the PEA is the plan to have separation done by parties with that capacity outside of China. One of these is Solvay SA (SOLB:NYSE; SOLB:BRU), whose subsidiary Rhodia has a facility in France with surplus separation capacity. The other would be Molycorp, which has potential to develop heavy rare earth separation capacity at its facility in Estonia. Namibia Rare Earth's goal is to find a partner to fund and develop the Lofdal mine, as well as separate the mixed oxides. Securing such a deal will be the next milestone because the junior would prefer to use its remaining $6M to explore for additional HREO enriched zones and other critical metal deposits within the Lofdal carbonatite complex in Namibia.

TMR: What other specialty metals do you think would do well under a scarcity of supply scenario? Would tungsten be one?

JK: The markets have their heads in the sand about tungsten. China is the dominant producer, but much of the resource comes from small mines targeted by regulators for environmental cleanup. Tungsten's use as a hardening metal alloy makes it a war metal, but it is also important for the oil drilling business, which has boomed with the development of tight oil and gas in shale deposits. If the Umbrella Revolution currently playing out in Hong Kong spins out of control, and China ends up withdrawing into itself the way Russia has started to do as a result of its Ukraine intervention, it is conceivable that exports of tungsten could drop precipitously, which would leave the Western world in a bind. This is an outlier but not an implausible scenario. More serious are the risks that China's production from small tungsten deposits may decline through depletion or shutdown for environmental reasons.

That is why I very much like the Northcliff Resources Ltd. (NCF:TSX) Sisson project in New Brunswick. It has a tungsten-molybdenum deposit that could provide nearly 10% of current global supply. If we see further concern emerge over China, the capital will arrive to enable Sisson to go into production.

TMR: Northcliff put out a feasibility study in 2013. What is the next catalyst?

JK: The main thing we're waiting for there is the environmental permit. A New Zealand partner could put up as much as $25M for a minority percentage. Once Northcliff has this permit, a funding arrangement may emerge to put this into production. It could also be bought by a major, something the management group Hunter Dickinson group has orchestrated before.

TMR: Do you put scandium in the strategic metals category as well?

JK: If there was one metal left to have a big manic boom that envelopes both explorers and developers, it is scandium. It's sometimes classified as an RE, but it's really in a separate class as a light transition metal. What it does well is marry with aluminum to create an aluminum-scandium alloy that has a higher melt point than aluminum, is corrosion resistant, is more conductive, is stronger, and allows a weld joint as strong as the material itself. These qualities make aluminum-scandium alloy an important metal of a future where energy costs are higher and the goal is to push materials to achieve much greater energy savings.

The problem with scandium is it does not concentrate well in Mother Nature. The highest-grade deposit has been in the Ukraine, which the Soviets mined in the Korean War to make fighter jets. For decades, there have been hundreds of patents for innovative uses for scandium, but because there is no meaningful supply, most sit on the shelf. Six years ago enriched laterite deposits with more than 300 parts per million (300 ppm) were discovered in Australia's New South Wales. At today's $2,000/kilogram scandium oxide price, 1,000 tonnes per year output would have a value greater than $1B compared to the $50M value of the 10–15 tonnes eked out as byproduct supply. Of course it might take 10–15 years to develop that level of supply capacity and offtake demand, but money can be made in the pioneers developing this space, which currently consist of several juniors.

That's similar to the niobium story today. Prior to the 1960s, niobium supply existed only as a byproduct from tin and tantalum alluvial mines in Nigeria and Congo. In the 1950s, it only existed as a low-grade byproduct of other deposits. Then the world-class Araxá deposit was discovered in Brazil and a predecessor to IAMGOLD

Corp. (IMG:TSX; IAG:NYSE) found Niobec in Quebec. These deposits had grades 10 times better than known bedrock resources and offered a scalability that the alluvial mines did not. Niobium's ability to harden steel and raise its melting point made it an important alloy in the Space Age race and is now a $2–3B/year market. Scandium can do the same for aluminum that niobium did for steel.

The leading scandium company is EMC Metals Corp. (EMC:TSX), which owns the Nyngan deposit in Australia. It should have a PEA out this year and a feasibility study and a mining permit in hand by the end of next year. It will initially be a small-scale project, 20–30 tonne scandium oxide likely, but that will be enough to demonstrate to the industry that scandium can be produced in a scalable primary mine. Once the industry sees that, there will be all sorts of offtake interests in scaling this up to 100, 200 tpa and beyond. The deposit is so large that such a scale up is conceivable. Similar deposits have been found in Australia by other juniors that are less advanced in sorting out the metallurgy of these near-surface laterite deposits.

TMR: EMC is also exploring in Norway. Is that a new frontier for scandium?

JK: The Tørdal pegmatite field is one of the known scandium-enriched places in the world. Mozambique also has similar pegmatite deposits with grades over 1,000 ppm. The problem with pegmatite deposits is that they tend to be irregular and small, so it's difficult to put together a large tonnage of a consistent grade. They also have complex mineralogy, though in the case of Tørdal recent work by EMC suggests that the scandium reports to a mineral that separates easily from the rest of the rock.

In the Australian laterite deposits, the scandium is embedded in the lattice of goethite, an iron-magnesium oxide that is dominant in bauxite (aluminum) and nickel laterites. Figuring out the right combination of acid and temperature to liberate the scandium takes a fair amount of test work, but it is doable and EMC has worked on it since 2010. Although Australia will become the dominant scandium producer, production from Norway and other parts of the world is important because the aluminum alloy industry is concerned about security of supply. If there are supply problems with the Australian deposits, end users, such as aircraft builders, want to know there are alternative supply sources long term. As awareness of scandium spreads, and the implications for the aluminum industry get understood, led by EMC's pioneering example, a Canadian exploration boom targeting intrusive complexes around the world will blossom.

TMR: That takes us to the project generators and their role in the discovery exploration theme. Could the project generators be the Cinderellas of the ball, delivering excitement in a flat commodity price environment?

JK: The prospect generators have adopted a strategy where they use their capital to generate prospects that attract other partners to spend the heavy lifting dollars of testing drill targets. In past decades, that has included other juniors with the promotional skills to move the story along. That worked quite well. A junior would have multiple projects going and when one results in a significant discovery, the prospect generator folds its minority interest into the other company for stock, so that the big mining company is buying a junior with 100% ownership of the deposit. Those junior farm-in partners are now few and far between because of the funding crisis in the sector. So the prospect generators have had to find majors as partners.

One company that has succeeded as such is Avrupa Minerals Ltd. (AVU:TSX.V), which has been a prospect generator in Europe, Portugal and Germany. In

Portugal, the Alvalade project attracted Antofagasta Plc (ANTO:LSE) with a new way of interpreting the geology that hosts high-grade volcanogenic massive sulphide (VMS) mineralization in the Iberian Pyrite Belt similar to the world-class Neves Corvo deposit now owned by Lundin Mining. The Alvalade property straddles a segment of the belt that is covered by barren younger rocks up to 100 meters thick that has stymied past exploration efforts. Earlier this year Avrupa intersected VMS mineralization in stratigraphy that, unlike Neves Corvo, is tilted on its side with local faulting. This achievement at Sesmarias was quite a coup, but finding the main zones will still require the deep pockets of Antofagasta.

Avrupa has drill programs going on in Kosovo, where a partner is drilling a target. The challenge with prospect generators is the pace of the exploration is controlled by the partner. The data flow is controlled by the partner. The partner does not usually have a need to raise additional capital on the what-appear-to-be good results, so advancing an exploration play generally lacks the urgency involved when a junior is in charge.

Another company that really isn't a prospect generator in the sense that it deliberately sets out to generate prospects and farm them out to others for drilling is a company in Botswana called Tsodilo Resources Ltd. (TSD:TSX.V). It was originally a diamond explorer whose pursuit of magnetic anomalies as kimberlite targets put it into a region where it didn't hit any kimberlite, but it started hitting very interesting, sulphate-bearing geology that subsequently was interpreted as being very similar to the geology of the Zambian Copperbelt. This has attracted the attention of First Quantum Minerals Ltd. (FM:TSX; FQM:LSE), the big copper producer, which has mounted an astonishingly aggressive grassroots program on this project. It optioned 70% in August last year and will have spent $14M by the end of 2014 to understand the basin geology and be in a position to spend another $6M in 2015 drilling priority targets.

In addition to a series of deep stratigraphic holes, First Quantum is drilling 220 holes on 2km centers through the Kalahari sand into about 6 meters of bedrock, collecting groundwater samples, conducting extensive geophysical surveys —magnetic, electromagnetic—and gravity surveys. As part of its groundwater testing, First Quantum will assay for certain copper isotopes, which groundwater dissolves when it oxidizes chalcopyrite, a key copper sulphide.

First Quantum has access to proprietary information about the relative rate that these isotopes stay in solution. By plotting the ratios between these isotopes, First Quantum hopes to establish the distance the copper it assays in the groundwater samples has traveled from the source. Spending $20M on such a sophisticated grassroots program is beyond the means of a typical junior, and pretty hard for the exploration departments of major mining companies to get approval for. First Quantum seems to be in a special class of such majors in targeting world-class deposits hidden under barren cover.

At Tsodilo's Xaudum project in Botswana it is looking for underground minable copper deposits grading more than 2% copper and containing 5–10 million tons with an in-situ value approaching $100B. A high-impact discovery like this would send a stock like Tsodilo into double digits and turn First Quantum into an icon for what needs to be done nowadays if flat metal prices do not allow wandering down the grade curve for new mine supply.

TMR: All of that because it failed when it was looking for diamonds.

JK: Yes, Tsodilo turned failure into a potentially much bigger success by thinking out of the box about the "disappointing" drill results.

TMR: How about a story a little closer to home?

JK: We are entering a period where getting the public excited about ounces in the ground is going to be a hard sell. It already is a hard sell. In this sort of environment, you need an innovative approach. You need a technology that gives you a shot at finding something that nobody else ever had a chance to find before. The groundwater technology I mentioned that First Quantum is using has been done since the 1950s, but what has changed is that the assay lab detection limits have gone up by several orders of magnitude. Our glasses are finally properly focused to see what has been there all along.

Nevada Exploration Inc. (NGE:TSX.V) has pioneered the use of groundwater surveys for gold down to the parts per trillion. Ten years ago assay lab detection limits for gold were much higher. But as this changed Nevada Exploration worked with a geochemist to develop gold measurement protocols for groundwater samples. It has since collected 5,000 samples from gravel covered basins in northern Nevada that have highlighted 20 interesting areas and it owns four important prospects with reasonably developed anomalies. However, it has run out of money. Until it delivers its own proof of concept, nobody wants to give it money.

Barrick Gold is now doing groundwater collection in its own plodding way as it attempts to find the 300–400 Moz that disappeared 15M years ago when extension created Nevada's basin and range topography. These ounces are hidden in the down-dropped bedrock under the gravel covered basins. One reason Barrick is keen to acquire Newmont Mining Corp. (NEM:NYSE) is to be in a position to consolidate the checkerboard land Newmont owns so that it will not matter that another Goldrush or Cortez Hills system it might find through groundwater sampling straddles Newmont claims. Of course, one has to wonder why Newmont does not embark on such a program given its land position.

TMR: Is this a race or a long-term story?

JK: It could turn hot overnight if a major groundwater generated discovery were made. Nevada Exploration needs a strong partner to buy a major equity stake and bring greater credibility to the process. This would enable it to finish the sampling program and acquire claims on the hotspots that it could either explore further on its own or farm out to other juniors. Nevada has the potential to become an extraordinary regional area play that brings the resource juniors back into the exploration game. And in doing so it would secure for America an in-the-ground gold legacy exceeding its current Fort Knox holdings, something that might be helpful down the road when China's central bank gold holdings pass those of the United States.

TMR: We've talked before about the fact that during this downturn, a lot of companies were going to either disappear or be reduced to walking dead on the Toronto Stock Exchange and the TSX Venture Exchange. Is one of the bright spots of the market today that it's easier to tell the good companies from the bad?

JK: Yes and no. Just under 600 companies out of 1,700 have more than $500,000 working capital and aren't in the big mining company league. Some 300 have between $0 and $500,000 working capital, and about 700 have negative working capital of about $2B. The negative working capital ones are pretty much dead in the water because no one wants to give them real money to replace money that's already been spent. You may find a few companies among them with interesting stories that are worth salvaging. But most of the indebted companies are going to wither away and disappear.

That leaves about 900 companies with potential to survive. Among those, I gravitate toward the ones that have real management teams—technical personnel who know something about exploration—and projects with a story indicating that the brains of management are actually at work and that they are not just going through the motions of pretending to explore. Some companies are sitting on piles of money where management is collecting big salaries but because they have large shareholders who are treating the company simply as a keg of dry power for extremely bad times, they do not have the go-ahead to do anything along the lines of serious exploration that would risk the capital but also put the company in a position to deliver a substantial reward. One also has to be careful about those companies because they represent opportunity cost.

But, in general, it is now easier to see companies that are doing something and distinguish those from the rest because the inability to finance and the poor financial condition of most of the resource juniors make it very clear that they have nothing and are doing nothing. There is no reason to invest even a penny in such zombie companies.

TMR: Thank you for your time.

John Kaiser, a mining analyst with 25-plus years of experience, produces Kaiser Research Online. After graduating from the University of British Columbia in 1982, he joined Continental Carlisle Douglas as a research assistant. Six years later, he moved to Pacific International Securities as research director, and also became a registered investment adviser. He moved to the U.S. with his family in 1994.

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