John Tumazos Advisory and Compensated Research, LLC 12/21/2020
11 Yellow Brook Road, Holmdel, NJ 07733 732 444 1083
johntumazos@comcast.net www.advisoryandcompensatedresearch.com

<u>Past conflict of interest</u>: In 2019 we invested US $325,000 and in 2020 US $105,000 into AKO. Further, we assembled a group of nine investors who invested in total US $2.9 mm or about one-third of AKO's equity capital. Further, we were paid ½ in cash and ½ in stock a total of US $105,461 for capital introductions. Finally, AKO, renamed from Indian Pacific Resources, spoke at our 2019 and 2020 investor conferences.

We own approximately 3.79 mm shares or warrants of Akora Resources Limited equivalent to about 6% of the 59.6 mm primary or 5% of the 70 mm diluted shares. This is not a "paid" research report, but rather we disclose that it is not "very independent research." We publish this research report under "John Tumazos Advisory and Compensated Research, LLC" investment advisory registration because we have been an investor and capital intorducing advisor to AKO.

AKORA RESOURCES LIMITED BEGINS TO EVALUATE THE BEKISOPA IRON ORE PROJECT IN MADAGASCAR

AKO on ASX A$0.375, without a price target or financial models

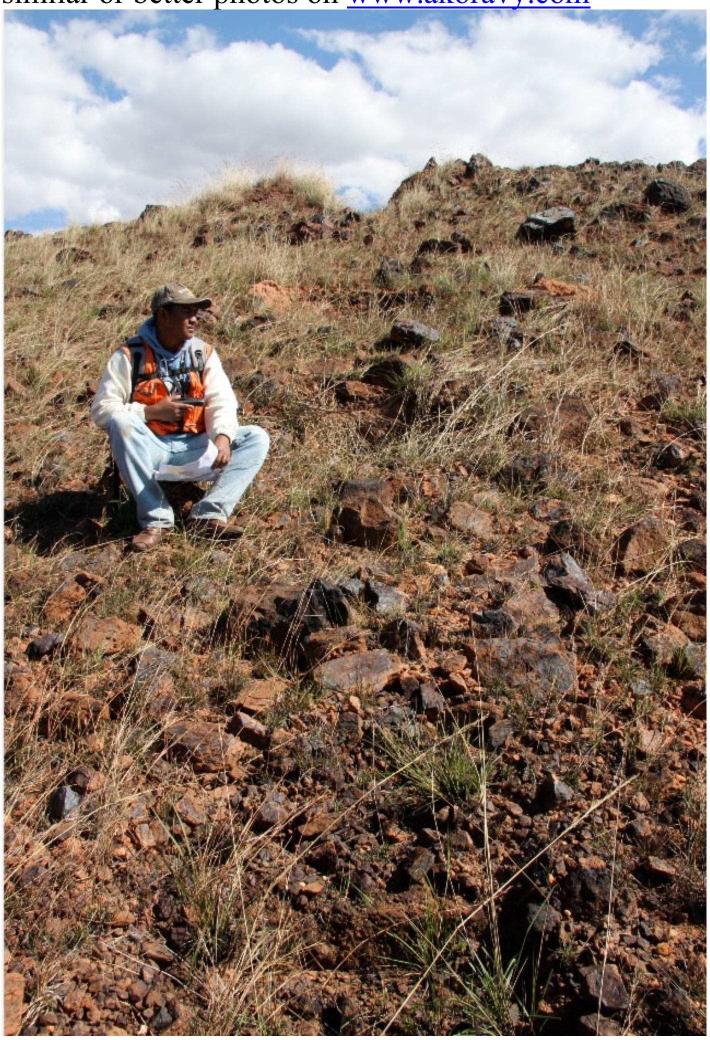
<u>Highlights:</u>

- Akora Resources Ltd (AKO) completed 12 diamond drill holes for 1.1 km over a 5 km long strike on Bekisopa in October and November, where four month monsoons now delay site work. It expects assays from these 12 holes in March 2021 after which it may make a larger drilling program. It targets a "maiden resource" in the 2021 second-half and perhaps a 2022 estimate of engineering costs for a road and/or rail transport corridor cap ex as an input to a prefeasibility study.
- In 2019 photos of Bekisopa caught our notice. A high value deposit target may exist due to 5 coincident favorable anomalies for (1) magnetic survey, (2) specific gravity or density survey, (3) a favorable vegetation anomaly with no trees as though iron grades are too high to permit tree roots, (4) a favorable reddish brown color anomaly like iron ore and (5) past historic geochemical work such as trenches by the French agency BRGM and United Nations, drilling up to 19 m and a 1 x 1 km rock chip survey of 118 samples averaging 66.8% FE by the current team.
- Further, we are optimistic about iron ore markets because Vale and RIO each have great difficulty delivering 1 mmt per day. The 3 Australian majors recently invested $7 billion to replace one mine each to total 150 mmt, where depletion of their 1.2 billion tonne output of the 4 majors including Vale creates challenges.
- On Tuesday December 15th AKO began trading on the ASX, traded 21.3 mm shares it its first 4 sessions and on December 17th issued a first press release with early interpretations of its first 12 drill holes three months in advance of assay results.
- We interpret that AKO possesses essentially 4 different iron ore projects on 3 properties in Madagascar that make up AKO and a potential spinoff. These include Bekisopa potential surface lump direct shipping ores, Bekisopa subsurface magnetite that require crush, light grind and magnetic separation to up to 67% FE fines, the Tratramarina magnetite on the eastern coast 16 km from salt water near the Mangoro River and the Ambodilafa magnetite also on the eastern coast about 30

to 40 km from salt water. AKO may evaluate the several styles of Bekisopa iron mineralization first, and then address the two east coast projects in a spinco.

- We deeply caution that we have made investments and interpretations intuitively prior to Canadian NI 43-101 independent third party technical reports, Australian JORC resource estimates, diamond drill assay results, any maiden resource calculation or engineering of capital costs, operating costs or economics.
- Current management are conscious that predecessors after the 2009 founding held out for high terms, and did not conclude a deal a decade ago. There are risks they do not hold out for top dollar or sell out too easily.

Figure 1: Bekisopa Resembles a Meadow of Brown Iron Sinter; We were encouraged by the treeless, rust-colored reddish brown appearance of an iron sinter. Perhaps it was a boiling magma at its origin, where Mother Nature drove off other impurities almost as though it boiled with a dolomitic slag. The "lump ore" is prominent. There are many similar or better photos on www.akoravy.com



TRADEOFFS IN TRANSPORATION CAP EX

The Bekisopa project in the central highlands of Madagascar involves large transportation infrastructure cap ex and initial truck transportation costs, while the Tratramarina or Ambolidafa magnetite projects in the eastern coastal plain are very close to salt water requiring short roads for about 1/10th of the distances.

Bekisopa may require both an asphalt paved road for delivery of trucks, shovels, other equipment and camp construction. It is possible that up to 100 trucks with payloads of up to 80 tonnes will operate round trips per day for an up to 5 mmt or 15,000 mptd lump direct shipping ore mine. These lump ores we term the "icing on the cake" atop bulk magnetite below. About ½ of such an asphalt paved road exists, and about ½ must be improved, upgraded or built. The cap ex may be $150 mm or 2/3 of a $225-$250 mm project.

The later phase bulk magnetite- perhaps of 0.5 to 1.0 billion tonnes, if verified, may support a 10 to 20 mmt annual mine or 30,000-60,000 mptd of beneficiated 67% FE magnetite concentrates, which would be transported by rail. Such a parallel 210 km railroad may cost perhaps $1,000 mm to build, or more or less

We model the Bekisopa project as though both an asphalt paved road and a railroad ultimately will be needed for construction and delivery of the two possible product streams. Once a railroad has been built, the delivery variable costs for the lump direct shipping ores may fall 50% to 75% as one train per day will replace perhaps 100 trucks per day.

TRADEOFFS IN ECONOMIES OF SIZE, PROCESSING, CAP EX AND OPERATING COSTS AT BEKISOPA IN CENTRAL HIGHLANDS

The direct shipping lump ores will have the lowest processing costs due to their high grade, little need for crushing beyond a "sizing" to about 1 ½ inch and shallow nature on surface. However, they will have the longest and highest delivery cost by truck.

The magnetite beneath the believed lump direct shipping ores will have the highest capital cost of any of the potential projects, because it will require a railroad and processing. It also will require a crush, grind and magnetic separation to liberate coarse grains of magnetite more coarse than a grain of sand. It does not require the degree of crushing or grinding of a copper or gold ore in a ball mill for froth floatation, however.

The magnetite of the Tratramarina and Ambodilafa projects on the eastern coastal plain will require minimum cap ex and operating costs for a very short trucking distance to port. They will require similar cap ex for crushing, grinding and magnetic separation as Bekisopa magnetite below the lump ores or in soils. A very small magnetite operation, perhaps even 3 to 5 mmt annually, could be viable at these eastern coastal sites with lower cap ex burdens, no railroad and a short trucking distance. At least their tonnages do not need to cover a vast fixed overhead such as the Fortescue Iron Bridge project at $2.6 billion up front cap ex..

There is not sufficient information to compare the size or grade of magnetite at Bekisopa, Tratramarina and Ambodilafa. We would not rule out either the Tratramarina or

Ambodilafa magnetite having a higher rate of return than Bekisopa magnetite due to the very short transportation distance and likely very small transportation cap ex from the eastern coastal plain to port.

PROBABLY TOO SMALL FOR VALE, BHP, RIO OR FORTESCUE

Probably AKO's projects are too small to attract the interest of largest iron ore miners like Vale, BHP, RIO or Fortescue Metals. AKO's output may only be 5% to 10% of the output of those companies if Bekisopa is successful. Further, those large companies may not want to establish SG&A costs of a new operating hub in a new nation.

We emphasize 5 limitations already identified on the Bekisopa deposit in preliminary reconnaissance or first phase drilling just concluded. First, the hole #12 to the south did not encounter iron minerals as the strike length concludes after 5 km. Second, the eleven successful holes enjoyed "bands" of iron ores typically 50 m out of a 100 m depth. The minerals are not "continuous," and operators will need to do some mechanics to separate the high grade lump ores from the intermittent material among the bands. Third, a combination of both a 210 km road for initial construction or lower volume "lump" exports combined both with a railroad for additional magnetite volumes involves more capital. The expenses of BOTH road and rail for a moderate-sized say 19 mmt company are not as efficient as the big 4 with 200-400 mmt prospective volumes over their railroads. Fourth, some "grade snobbery" exists concerning magnetite say 25% to 35% pure, even though it very easily upgrades to 67% premium pure "Green" iron ore where only Fortescue builds the first magnetite among the big 4 majors Fifth, Madagascar is "outside of the main drag" of large mining companies doorstep in a new place less familiar to their managers.

TARGETS IRON ORE MINES PERHAPS ¼ OR MORE OF THE SIZE OF X, CLF, MT CANADA, MT IN WEST AFRICA OR CSN IN MINAS GERAIS

We interpret that the Bekisopa lump direct shipping ore project may be 3 to 5 mmt per year and the Bekisopa magnetite fines to depth or within soils may be 10 to 20 mmt per year. Management targets 50 to 100 mmt resources of the surface lump direct shipping ores. Geological papers postulate that the larger bulk deposit beneath the surface "icing on the cake" may be 0.5 to 1.0 billion tonnes of magnetite. So we hypothesize a 19 mmt output from two Bekisopa ore type and product types in the "ballpark" of the size of notable captive iron ore mines of prominent integrated steelmakers.

Such tonnages are comparable to the Minnesota iron ore mines of U.S. Steel, CLF, MT's Quebec Cartier Mines in eastern Canada, MT's West African iron ore mines or about ½ of the 33-36 mmt current size of the Minas Gerais iron ore mines of CSN in Brazil.

The Bekisopa two styles of potential iron ore mineralization appear much higher purity and more valuable products mined at a lower cost compared to CLF ores typically near 25% FE or X iron ores whose grades are not disclosed that we estimate are < 25%. We interpret that the Bekisopa mineralization may be very attractive as a captive supplier to a Mideast, Indian, Chinese or Southeast Asian 10 to 20 mmt integrated steelmaker.

The "bad news" is that AKO's targets are not big enough to appeal to Fortescue Minerals with a $52.8 billion market value today nor the even bigger BHP, RIO or Vale. AKO may not meet the $500 mm EBITDA diversification threshold of Fortescue Metals, whose Chairman targets or inspires 235 giga-watts of Green Hydrogen for diversification.

The "good news" is that the size of its Bekisopa targets appear to be a convenient fit to a raw materials blend that a 10 to 20 mmt integrated steelmaker in the Mideast or Asia may require. High grades or purities suggest "Green Iron Ores" that require lower energy reductants, whether carbon or hydrogren in the future, or less pollution. We consider the iron ore mines of X, CLF, MT or CSN to be admirable comparables. We disdain comparables of diverse early stage exploration or project companies, which may not have the same quality or conservatism of technical data or engineering studies.

ECONOMIC SIMULATON OF DIRECT SHIPPING ORES VERSUS MAGNETITE

This analysis both discounts current $155/t spot 62% benchmark prices to an $80/t estimated long-term normal price and ignores the two east coast lowlands bulk magnetite projects, Tratramarina and Ambodilafa. We stress that ceteris paribus the cap ex and tonnage breakeven points for Tratramarina or Ambodilafa commerciality may be < ½ as much as bulk magnetite at Bekisopa because they likely will have very short roads without any railroad as they are so close to salt water and Tratramarina is near the Mangaro River only 16 km from salt water.

Of course, our numbers in Table 1 below are "conjectural guesses" prior to diamond drill assays. Magnetic surveys are encouraging, but provide no data about capital costs, operating costs or engineering. As little as 20% FE in magnetite may drive a favorable magnetic survey.

Table 1: Two Bekisopa Projects at $80 62% Benchmark not $155/t Current Price

#1 Surface Lump direct shipping ores (exact grades to be determined by drill assays)
(($80 + $15 + $15 - $40/t) x 4 mmt) / $250 mm cap ex = $280 mm gross margin / $250 mm

#2 Deeper magnetite in bedrock or soils needing more crush, grind, magnetic separation
(($80 + $20 - $50/t) x 15 mmt)/ $1,750 mm cap ex = $750 mm gross margin / $1,750 mm

Total of twin projects for 19 mmt = $1,030 mm gross margin / $2,000 mm total cap ex
Source: John Tumazos Very Independent Research, LLC estimates

We use the Fortescue Metals $2.6 billion "Iron Bridge" 22 mmt magnetite iron ore mine in the Pilbara as a capital cost model in guessing $1.75 billion for a Bekisopa 15 mmt magnetite mine if a bulk deposit is verified beneath the outcropping lump potential Bekisopa direct shipping ores. It is possible that Fortescue installed power or pipeline infrastructure for a larger project with a future expansion. Iron Bridge employs a slurry pipeline to deliver the magnetite fines,and enjoys the pre-existing 5 berths at Port Hedland for shipping. Iron Bridge enjoys favorable ore grades.

OUR CONFIDENCE IN MAGNETIC OR SPECIFIC GRAVITY SURVEYS

We feel far more confident in iron ore exploration than gold, silver, PGMs, cobalt or other "trace elements" for many reasons.

First, magnetic surveys confirm the presence of iron, but not ore grades. They identify magnetite. They do not identify every iron mineral, however, including the most valuable hematite. So the magnetic survey identifies some but not all potential iron ore. It gives no information about ore grades.

Second, the specific gravity or density surveys are a reasonable "check" test. That is, a density of 50% or 70% iron-bearing rocks will be off the charts compared to an every day topsoil, sediments or a corn field.

Third, iron ore properties ranging from 20% to 70% FE have a statistically significant mineralization. If the measurement is off by 1%, it does not ruin commercial opportunities. Geostatistics should be reliable, as there will not be 1,000 g/t or multi-kg assays such as in a gold deposit with free gold or visible gold up to 50 to 200 times the average 10 to 30 g/t ore grades. We have less confidence in precious metals geology, where measurement of 1 g/t to 5 g/t gold deposits is very challenging or not as reliable as iron ore estimation.

KEY PEOPLE

The company has four fine directors. John Madden originally bought the projects and organized the concessions each near 100 sq km. Paul Bibby is CEO. John and Paul have 52 years of combined experience at Rio Tinto in the iron ore business. John Madden also had worked at FCX, Glencore and Glencore's affiliate Indophil Resources. Steve Fabian, who works at Baker Steele in London, has a Brazilian spouse and has been active in the sector in the past, including the organization of Ferrous Resources sold to Vale in 2018 for $550 mm. Mike Stirzaker recently joined the board as Chairman, who is a director of several firms and has travelled to Madagascar both for the Base Resources TiO_2 project as well as for Akora Resources Ltd.

Its local people in Madagascar often are ex-employees of the Ambatovy large nickel project, where Sumitomo and Sheritt Int'l trained excellent staff.

BUSINESS RISKS

We consider AKO's most important risks to be political, permitting or "community and social relations." Madagascar became independent of France in 1960, and its resources industries are in their infancy. Sumitomo's laterite nickel mine, Ambatovy, was built by it and Sherritt Int'l for almost $6 billion but has not earned profits or paid much in taxes. The government may skew its revenues to revenue royalties in addition to income taxes to "hedge its bets" since the large nickel project did not pay anticipated revenues to the government.

In our opinion, the long transportation corridor for the Bekisopa project is a bigger risk in the years after construction as operations develop. Frequent animal migration or human crossing overpasses may be an important precaution. We fear animals, children or adults may cross either an asphalt road or rail corridor. We observed two pedestrian fatalities in one week in November on the commuter rail in our township here, the North Jersey Coast Line.

Iron ore prices or diesel fuel prices represent commodity price risks, but an iron ore project may be robust at normal prices. However, at the $38/t December 2015 low point in the 62% benchmark iron ore price no new iron ore mine construction can be viable. Extreme price volatility will be a risk. Any collapse or large decline in Chinese steel output will force seaborne iron ore markets into a large surplus and price decline.

Exploration and ore grade measurements are large risks. It is possible that the surface lump direct shipping ores turn out to have 55% rather than 62% to 67% iron ore grades. Magnetite may range from 20% to 60%.

Detailed engineering of cap ex and costs, especially for the longer Bekisopa road and rail transportation corridors, are huge unknowns. Madagascar experiences up to 4 month long monsoons with high volumes of rainfall. Road, bridge and rail construction standards may be more expensive than expected owing to concrete foundations to prevent 'wash outs."

DISCLOSURES

John Tumazos Advisory and Compensated Research, LLC (JTACR) is a separate investment advisor registered with the State of New Jersey Bureau of Securities on June 27, 2011 as CRD # 157,606. **Under no circumstances** will JTACR be commissioned by a mining or other publicly traded company simply to write a "paid" research report. Its purpose is to remedy a "blackout" within John Tumazos Very Independent Research, LLC to include research reports after separate compensation has been received for an advisory service such as a fairness opinion, mergers & acquisitions advice, introductions of investors in a capital raising or other advisory services. Regulators presume that any "compensation" or potential compensation biases research reports, however small, and outside counsel advises us that we should not write about a company as "John Tumazos Very Independent Research, LLC" if compensated or seeking compensation

We have created a separate web site, www.advisoryandcompensatedresearch.com to support JTACR. It is separate from our normal research investment advisor site, www.veryindependentresearch.com.

We are strict in disclosing our past advisory to Galway Resources in 2008 to 2011, as securities laws require disclosures of relationships back only three years. We sold our Galway Resources shares in its December 2012 takeover, but retain our spinoff Galway Metals and Galway Gold shares and have bought much more of each.

McEwen Mining, Paramount Gold and Silver, Galway Resources and Texas Rare Earth Resources and their spinoff companies Paramount Gold Nevada, Galway Gold and Galway Metals have published favorable results from mineral properties, and their shares appreciated significantly after we received compensation. The purpose of JTACR is to remedy a "regulatory blackout," where we cannot publish research as "independent" under JTVIR after accepting compensation. The creation of JTACR remedies such a "regulatory gag," while openly communicating that we were compensated. It is possible that some institutional investors may consider it to be a "feather in the cap" of a small company that it engaged us to advise them in a transaction owing to our experience.

After receiving compensation from Paramount Gold and Silver in June 2010 for a fairness opinion in its acquisition of X-Cal Resources or Galway Resources, Tara Gold Resources, Appia Energy, Focus Gold, Texas Rare Earth Resources in 2010 or potentially other companies in the future, John Tumazos Very Independent Research, LLC (JTVIR) refrains from publishing research reports on such companies.

We define "compensation" as any consideration that creates direct pretax income for any of our businesses, research or advisory or any of our employees personally. However, we do permit companies to defray expenses, and large companies' policies vary. Rio Tinto or Teck have invoiced us for charter aircraft. In contrast, we have accepted free air travel to mine sites from Vale within Brazil, Canada or Mozambique, from Agnico-Eagle to Finland, Chihuahua or Nunavut, Stonegate Agricom to Idaho, Fortescue Metals to its mines, HudBay Mineral to Manitoba, Peru or Michigan, Goldcorp, Brigus and VG Gold each to Timmons, Augen Gold to Swayze, Paramount Gold and Silver to Chihuahua, Goldcorp to Zacatecas, and many others. We do not define as "compensation" if Barrick Gold, Duluth Metals, Wits Gold or some other company picks up a group client lunch tab or buys us lunch alone. We do not define as "compensation" if a company charters an airplane to facilitate a research visit to a mine location without convenient commercial air service. We routinely invoice companies participating in our investor conferences $1,000 to $2,000 each to cover their pro rata expenses of the conference on a "Dutch Treat" basis, where we send each company a full expense accounting of our conferences as well.

The nature of the advisory services we have provided for compensation include (1) fairness opinions to the boards of directors of Paramount Gold and Silver, Tara Gold Resources, Tara Minerals Corp., and Augen Gold, (2) introductions to capital raising for Texas Rare Earth Resources and Appia Energy and (3) advisory on joint venture, strategy or capital raising for Galway Resources Victorio tungsten-molybdenum property. We also represented private landowners who sold mineralized claims to FCX or MUX. We have also delivered written critiques of NI 43-101 technical studies for McEwen Mining and for Sprott Resource Holdings.

We will distribute JTACR reports to JTVIR paid subscribers free, the particular mining companies may distribute JTACR reports from time-to-time and eventually we may sell JTACR to its own subscribers for $5,000 annually after building up a coverage list.

We will monitor the financial returns of JTACR investment recommendations over time, and compare them to JTVIR returns. We expect that JTACR recommendations will provide much more volatile returns than the larger, more established companies JTVIR covers as large as BHP Billiton, Vale or Rio Tinto. Under previous employment at Donaldson, Lufkin & Jenrette, John Tumazos participated in the sole managed IPOs of Huntco in 1993 and Reliance Steel & Aluminum in September 1994 at $3.225. Huntco subsequently went bankrupt after speculating on inventory and operating at low utilization rates. Reliance Steel & Aluminum, however, appreciated 16-fold to $51.32 as of May 20, 2011. It is inevitable that some companies will make better decisions than others.

CERTIFICATION OF OUR RESEARCH OPINIONS

I, John Tumazos, certify that the opinions written in all research reports are my own. I believe what we write, and from time to time I may buy or sell the shares we recommend after a 48 hour delay after publishing our reports following the advice we give. Further, I personally proofread and "click the pdf button" on virtually every report we publish except sometimes when I am abroad.

Our team or employees is encouraged to disagree with me at any time. We have active and vigorous internal debates concerning appropriate discount rates or long-term terminal growth rates to use in net present value valuations or other analytical issues. My team realizes that customers want to pay for my 30+ years of experience, but I encourage them to disagree, correct or provoke debate to improve our work.

DEFINITION OF A RESEARCH OPINION

We have target prices, investment ratings, earnings estimates and financial models for 47 companies upon which we maintain regular research coverage.

The legal or regulatory definition of research, however, is more broad. Regulators consider any written or editorial commentary about a stock or publicly traded company to be "research." However, a "recommendation" or "opinion" is not rendered unless there is a price target and specific buy or sell recommendation.

From time-to-time we visit very large, important global companies outside our research coverage. Our objective may be to be well informed about industry events, predict future mine output or "supply" in a particular market or to begin to learn about a complex company to begin future full research. We may need to learn and become familiar to provide inputs to our financial models. In May 2008 we published a partial report on Xstrata after visiting two of its mines in South America. In November 2008 we published a partial report summarizing our visits to the London headquarters of Xstrata and Anglo-American outside our coverage as well as Rio Tinto and Antofagasta PLC within our full coverage. In August 2009 we published two research reports on Severstal after visiting its Columbus, MS newest steel plant a second time. These "partial" reports contained no price target, investment rating, earnings estimates or financial models.

Instead, they provided detailed descriptions of the important locations we visited or meetings in headquarters.

We provide research about commodities markets in general, "seminar highlights" on up to another 75 or more companies we host annually at our conferences outside our regular full research coverage and "partial reports." We have no price target, written investment opinion, earnings estimates or financial models (production, incomes statement, cash flow or balance sheet simulations) of such companies outside our coverage that speak at our March or November conferences. Any viewpoint we have without complete financial models or careful financial analysis is "winging it."

Our intent is in writing Seminar Highlights is to provide a one page written summary of each seminar participant company's presentation. We provide live open, public, unrestricted webcasts of each such corporate presentation at our conferences as a courtesy to each participating company, and archive each webcast under the "conferences" tab of www.veryindependentresearch.com.

Our clients should not automatically consider our invitation of a company to speak at our future conferences as a "Buy Recommendation" or complete endorsement. We may not have visited the mines or assets of some of these companies. Occasionally we invite a company to speak to learn more about them as a stage in our learning process.

ORGANIZATION OF JTVIR

John Tumazos Very Independent Research, LLC (JTVIR) is organized as an investment advisor in the State of New Jersey and regulated by the NJ Bureau of Securities. We publish about 20 research reports each month covering about 40 to 50 stocks in the metals commodities markets, forest products, aluminum, steel, gold, copper and other mining sectors. We travel abroad or domestically typically each month visiting companies. We host Conferences each year in which companies make presentations, which are archived for roughly one year at www.veryindependentresearch.com under the "conferences" tab.

Currently we have over 30 paid clients in the U.S., Canada, Switzerland and U.K. Three of our clients have engaged us to write "custom studies" on pre-production mining stocks without any U.S. or global research coverage, including Skye Resources (an 11 bil lb nickel resource in Guatemala), Mercator Minerals (a copper-moly restart in Arizona) and JSW Steel's 70%-owned Minera Santa Fe (48 sq km undrilled magnetic anomaly and associated iron ore properties in 3rd Region of Chile).

JTVIR DISCLOSLURES

"John Tumazos Very Independent Research, LLC" (JTVIR) is a Delaware Corporation formed July 6, 2007 with registration effective on August 27, 2007 as an investment advisor in the state of New Jersey owing to our place of business in New Jersey.

JTVIR is not a broker-dealer, and conducts no trades. Its primary business is to provide "unbundled" metals, paper and fertilizer industry securities and market research to institutions or corporations in a zero commission, electronic execution, electronic dissemination, unbundled format for a specified annual fee structure.

Our investment rating system for securities recommendations is Overweight, Neutral Weight or Underweight. Overweight or Underweight recommendations are estimated to vary from the relative performance of the S&P 500 by more than 10% annually, and the intended time horizon is up to 24 months. Our securities research is intended for institutional investors that might buy up to 10% of a given company, and as such focuses more towards longer-term dynamics impacting the net present value of future cash flows rather than "day trading" sorts of near-term issues.

Except for WestRock, International Paper, Graphic Packaging, Domtar, South32, Alcoa, Teck, Glencore, First Quantum, Grupo Mexico, Southern Copper, Worthington Industries, Pan American Silver, Centerra Gold, Paramount Gold Nevada, Fortescue Metals, Akora Resources Ltd, Allegheny Technologies, Pan American Silver Escobal mine contingent value right, Osisko Gold Royalties, Premier Gold, Kirkland Lake Gold, Appia Energy, Texas Minerals Resources Corp., Galway Gold, or Galway Metals neither JTVIR, its members or is employees own or have a financial interest in any securities discussed in this report or any reports we have published recently. Our policy is full disclosure.

As of mid-2018, my son Charles Tumazos took full control of accounts in his name after age 30. He elected to become a paid subscriber to my research, where he controls his accounts and makes his own decisions. Going forward, we will disclose John Tumazos' personal holdings and exclude "family accounts." Our positions will be a little smaller.

Our policy permits personal trading in the metals or paper industries. Our policy is that any personal trading must be consistent with our recommendation, made two business days or more AFTER a recommendation or change in recommendation and held for a minimum of 30 days or one month. We believe it is virtuous for a securities analyst to "put his or her money where his mouth is" to invest consistent with the recommendation to clients after such recommendation has been made, and we disagree with some restrictions made upon broker-dealer employees after 2000 era scandals.

However, our policy permits up to one directorships and up to five consulting projects, advisory assignments or financial advice to corporations. Our policy is full disclosure of any advisory relationship or conflict going back three years.

Numerous prior investment banking relationships existed prior to three years history to the pre-1997 time frame under the employment of Donaldson, Lufkin and Jenrette or Oppenheimer & Co., Inc. Some of these we can recollect included 14 different gold mine valuations or sales for Barrick Gold, LAC Minerals (later acquired by Barrick), Addington Resources (gold assets in Montana acquired by Canyon Resources), Westworld Industries (Bolivian assets acquired by Battle Mountain Gold later acquired by Newmont Mining), Coeur d'Alene Mines, Crown Resources (acquired by Kinross Gold), Freeport-McMoRan Gold (acquired by Minorco later AngloGold later Queenstake Resources), FMC Gold (later renamed Meridian Gold) and others. Sole managed initial public offerings included Reliance Steel & Aluminum and Huntco. Lead-managed initial public offerings included American Steel & Wire (later acquired by Birmingham Steel) and lead-managed underwritings included Quanex. Co-managed underwritings included the IPO of Century Aluminum and Grupo Imsa and offerings for AK Steel, Kaiser Aluminum, Agnico-Eagle Mines, Cameco and others. Asset sales or purchase advisories, fairness opinion or trusteeships were done for Thypin Steel (sold to Ryerson Tull), Cyclops Corp. (sold to Armco later sold to AK Steel), Allegheny Corp., Bethlehem Steel, the U.S. Dept. of Justice pursuant to the June 1984 merger of LTV and Republic Steel to sell the Gadsden, AL integrated flat-rolled mill, Cobre Copper, and others. Some examples we can recall of incomplete transactions for which a prospectus was either drafted or partly drafted indicating much work included stock underwritings not completed for Wheeling-Pittsburgh Steel, Steel Dynamics, Atlas Corp., Webco, Sharon Steel, IPSCO, Co-Steel Inc., and others.

ANALYST UNIVERSE COVERAGE:

John C. Tumazos, CFA as of June 2007: Rio Tinto, Louisiana-Pacific, Nucor Corp., Newmont Mining, U.S. Steel, International Paper, BHP Billiton, MeadWestvaco Corp., Antofagasta PLC, Allegheny Technologies, Alcoa Inc., Inco Limited, Bowater, Temple-Inland, Barrick Gold, Abitibi-Consolidated, Weyerhaeuser Co., Alcan Inc., Smurfit-Stone Container, Plum Creek Timber, Worthington Industries, Goldcorp Inc., AngloGold Ashanti, Freeport-McMoRan Copper & Gold, and FNX Mining. Dynatec, Alcan and Bowater are companies not continued in the research coverage of JTVIR, LLC that was previously included in the prior June 6, 2007 Prudential Equities Group universe owing to takeovers. Smurfit-Stone Container and AbitibiBowater were dropped from JTVIR research coverage after they entered bankruptcy. Skye Resources, FNX Mining, QuadraFNX Mining, Duluth Metals, Xstrata, MeadWestvaco, Smurfit-Stone Container (new) were dropped after full coverage initiation due to takeover.

Subsequently, since September 2007 JTVIR, LLC has initiated regular coverage of new companies not previously covered in the former universe at the former Prudential Equities Group. These new companies include CF Industries, Mosaic, Franco-Nevada, Silver Wheaton, Royal Gold, Osisko Gold Royalties, Sandstorm Gold, South32, Teck, Agnico-Eagle Mines, Mercator Minerals, Skye Resources, General Moly, Inc., Thompson Creek Metals, Duluth Metals, Polymet Mining, Greystar Resources, Vale, GlencoreXstrata, Glencore, Xstraa, Anglo American, Packaging Corp. of America, Norbord, Rock Tenn, HudBay Minerals, Alumina Ltd., Fortescue Metals, and Century Aluminum.

In accordance with applicable rules and regulations, we note above parenthetically that our stock ratings of "Overweight," "Neutral Weight," and "Underweight" most closely correspond with the more traditional ratings of "Buy," "Hold," and "Sell," respectively; however, please note that their meanings are not the same. (See the definitions above.) We believe that an investor's decision to buy or sell a security should always take into account, among other things, that the investor's particular investment objectives and experience, risk tolerance, and financial circumstances. Rather than being based on an expected deviation from a given benchmark (as buy, hold and sell recommendations often are), our stock ratings are determined on a relative basis (see the foregoing definitions).

There is no intention to "balance" the number of Overweight or Underweight ratings, as instances of broad over- or under-performance among basic industrials may occur. JTVIR makes each investment judgment in a "bottoms up" manner based on the assets of each individual company.

Price Target – Methods/Risks

The methods used to determine the price target generally are based on future earning estimates, product performance expectations, cash flow methodology, historical and/or relative valuation multiples. The risks associated with achieving the price target generally include customer spending, industry competition and overall market conditions.

Additional risk factors as they pertain to the analyst's specific investment thesis can be found within the report.

Information contained herein is based on data obtained from recognized statistical services, issuer reports or communications, or other sources, believed to be reliable. Any statements nonfactual in nature constitute only current opinions, which are subject to change.

There are risks inherent in international investments, which may make such investments unsuitable for certain clients. These include, for example, economic, political, currency exchange rate fluctuations, and limited availability of information on international securities. John Tumazos Very Independent Research, LLC, and its affiliates, make no representation that the companies which issue securities that are the subject of their research reports are in compliance with certain informational reporting requirements imposed by the Securities Exchange Act of 1934.

If you did not receive this research report directly from John Tumazos Very Independent Research, LLC ("JTVIR"), you may be in violation of an existing subscription or copyright. Your access to, and receipt of, this report does not by itself operate to establish a relationship between you and JTVIR, as the case may be. Please note that JTVIR bears no responsibility for any recommendation(s) or advice that such firm or its representatives may provide to you, regardless of whether any such recommendation or advice is based in whole or in part on this report.

Additional information on the securities discussed herein is available upon request. The applicable disclosures can be obtained by writing to: John Tumazos Very Independent Research, LLC, 11 Yellow Brook Road, Holmdel, NJ 07733 Attn: John C. Tumazos.

BOARD OF TRER AUGUST 6, 2012 TO MAY 27, 2013

On August 6, 2012 we joined the board of Texas Rare Earth Resources, and were elected Non-Executive Chairman. We made an early stage investment in the company after it obtained its core property in the fourth-quarter of 2010, and we and other activist shareholders believed there was room for improvement in its business plan and performance in 2012. We did not expect our participation in TRER to be indefinite, and believed that it will seek a larger mining company to help it complete its projects.

On May 27, 2013 we resigned from the Board of Texas Rare Earth Resources. We were pleased that metallurgical research into sulphuric acid heap leach processes made advances, which determined an alternative process requiring 10% to 20% of the cap ex proposed in the prior June 15, 2012 NI 43-101 study. The 2010 identification and possession of the property and the 2013 metallurgical advances added value, and we thought a larger organization would better develop the production plant.

We declined all other invitation to join Boards of Directors. We do not want distractions or other activities to weaken JTVIR, LLC. Further, we have a "team psychology" and a large commitment to one another within JTVIR, LLC.

JTVIO

John Tumazos Very Independent Opinions, LLC (JTVIO) is a separate company providing various services "other than" investment research sold to institutions in JTVIR. Counsel advised any other activities be organized separately. Such other activities have involved < 5% of our time. Since 2008 we have done such advisories for 18 companies, or 1 or 2 assignments per year typically.

In general, we may provide investment banking or advisory services mostly to sub-$100 mm mining companies that have defined a "deposit," but need more capital after a discovery for infill drilling, bulk metallurgical testing, definitive feasibility study or the capital outlays to build a mine. JTVIO envisions merger advisory, "second opinion" critiques of investment banking advice, strategic consulting, valuation opinions, fairness opinions, mine technical services such as "Third Party Reviews" of technical studies or other corporate services. The "research coverage" of JTVIR largely involves very large companies with completed steel, aluminum, forest products or mine plants with market capitalizations usually between $1 and $250 billion. Historic companies often over one century old, such as Alcoa or U.S. Steel or BHP Billiton, will use top ten commercial or investment banks for advisory services and we make no attempt to be engaged by them owing to their long historic relationships.

We prefer to advise companies without revenues, which large investment banks like Goldman Sachs, JP Morgan, Morgan Stanley or BMO often avoid. Such mining companies without revenues are not as competitively over-banked, and many of the geologists are quite gifted and have extremely promising projects.

We undertook some platinum market studies for Platinum Group Metals in the past year.

We have accepted compensation from Texas Rare Earth Resources and Appia Energy, a private concern, related to introducing investors to them.

In August 2011 we advised the Board of Directors of Augen Gold that a hostile tender offer from Trelawney Mining. On October 9, 2010 we were engaged by Tara Gold Resources to evaluate the fairness of their September 13, 2010 proposed merger to amalgamate with Tara Minerals, which it terminated on March 7, 2011. We delivered a "structure opinion" to Tara Gold Resources and Tara Minerals on May 20, 2011 that the cancellation of the announced September 13, 2011 merger was "fair." On June 24, 2010 we delivered a Fairness Opinion to the board of directors of Paramount Gold and Silver for compensation in their acquisition of X-Cal Resources, Ltd concerning the Sleeper gold mine near Winnemucca, NV formerly operated in 1986-1996 by Amax Gold and having past output of 1.66 mm oz gold and 2.3 mm oz silver plus 26,000 oz of placer gold almost one century ago.

On October 6, 2010 we were engaged by Dorado Ocean Resources Limited, a privately held company. That assignment has concluded without success or compensation.

On June 3, 2008 Galway Resources engaged JTVIO to commercialize its Victorio, New Mexico molybdenum-tungsten deposit containing over 200 mm pounds of each mineral in situ, which is JTVIO's first activity (see www.galwayresources.com June 3, 2008 press release). We have received compensation from Galway Resources.

These past engagements pose no "conflict of interest" with JTVIR research coverage as long as JTVIR does not cover or write on Paramount Gold and Silver, Galway Resources, or other sub-$250 mm market cap emerging companies. However, subsequently Galway Resources has documented gold occurrences on Galway grounds and begun drilling. After our November 6-12, 2009 trip to the California gold district of Colombia, we published research reports on Greystar Resources and NOT Galway Resources to avoid conflicted research. We omitted Galway Resources from our "Conference Highlights" report even though it spoke at our November 19, 2009 conference in a similar vein to avoid conflicted research.

JTACR

John Tumazos Advisory and Compensated Research, LLC (JTACR) is a separate investment advisor registered with the State of New Jersey Bureau of Securities on June 27, 2011 as CRD # 157,606. **Under no circumstances will JTACR be commissioned by a mining or other publicly traded company simply to write a "paid" research report.** Its purpose is to include research reports after separate compensation has been received for an advisory service such as a fairness opinion, mergers & acquisitions advice, introductions of investors in a capital raising or other advisory services. Regulators presume that any "compensation" or potential compensation biases research reports, however small, and outside counsel advises us that we should not write about a company as "John Tumazos Very Independent Research, LLC" if compensated or seeking compensation.

We have created a separate web site, www.advisoryandcompensatedresearch.com to support JTACR. It is separate from our normal research investment advisor site, www.veryindependentresearch.com. Since the second half of 2011 JTACR has published research reports on Texas Rare Earth Resources, Paramount Gold and Silver, Galway Resources, Galway Gold, Galway Metals and Platinum Group Metals. These represent < 10% of our company research and < 5% of our written research report output.

POTENTIAL MONEY MANAGEMENT ACTIVITIES

We manage my own money and one client account. Our trades conform to our published research and follow publication by a minimum of two business days. Client recommendations have first priority.

In November 2011 we accepted our first customer money management account, and we are beginning to set up an account and legal agreement to manage money for him. We are in the process of completing such paperwork.

Money Management for clients could be another line of business. "Mine Development Fund" is a "current" project to establish a small fund to invest in post-discovery, large resource companies (over $2 billion in situ mineral value already defined) requiring financing to "build the mine" and grow. The target market cap of the companies in which it would invest would be $0.1 to $10 billion. Our detailed studies of emerging mines may prove synergistic across several applications. We have also considered creating sector ETFs, but determined there is more value-added in fund management.

Our published over 2,500 research reports to Since July 7, 2007 has concentrated on the metals commodities themselves, steel, aluminum, forest products and larger capitalization mines like Rio Tinto, BHP, Freeport-McMoRan Copper, Barrick Gold, etc. Only 7%-10% of our written research involves the "sub-$2 billion mine" size range that would be the focus of either JTVIO or Mine Development Fund. Thus, compliance issues or conflicts of interest would occur in a smaller subset of JTVIR coverage as JTVIR coverage involves larger caps, "established processing companies" or commodities. JTVIO or the buy-side investing may focus on much smaller companies

POTENTIAL MINE SERVICES ACTIVITIES

We delivered a written critique for two NI 43-101 compliant studies of copper deposits in Argentina and Chile for publicly traded companies based in Toronto. One was a second preliminary economic assessment for a deposit with approximately 30 billion pounds of copper and 5 mm oz of gold. The other was a definitive feasibility study to expand a small copper mine with an established production history.

As a substantial user of mine feasibility study reports or other technical reports prepared at early stages after first discovery, sometimes we are very dissatisfied. We may from time-to-time provide "Third Party Review," critique such mine scoping study or prefeasibility study reports. We do not seek to "second guess" scientific issues of mine engineering or metallurgy. However, we may differ with the mathematics of reserve determination, capital cost estimates, "simultaneity" of price and cost assumptions, various business planning issues, the opportunity to "phase" or subcontract to reduce initial capital costs or other financial issues. The "custom studies" we have provided to several buy-side JTVIR customers may resemble "Mine Services" future products presented as "Third Party Review" of mine technical studies.