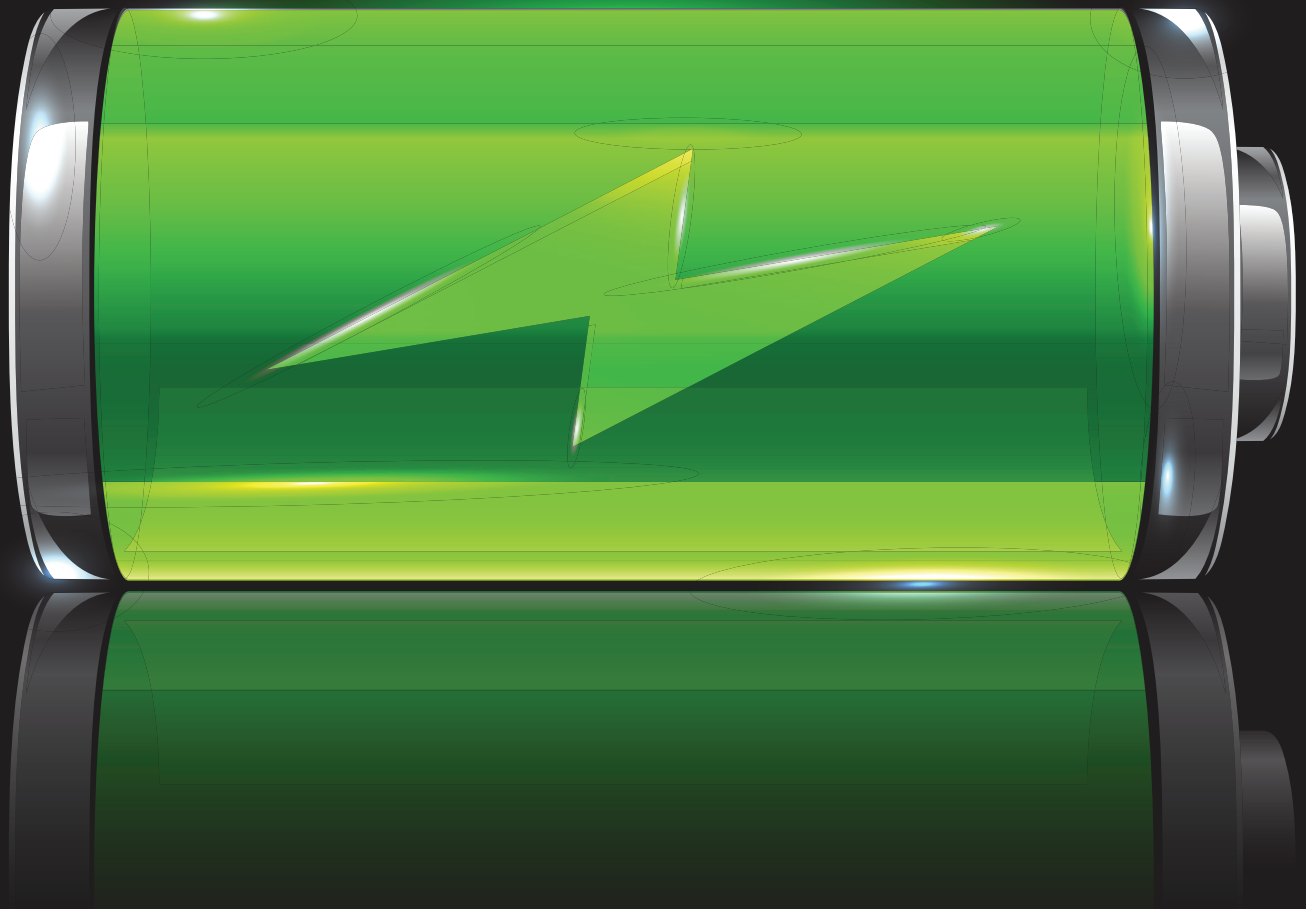


May/June 2016

# LITHIUM (LI) IN THE AMERICAS



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# LITHIUM (LI) IN THE AMERICAS

## DAJIN LEADS THE WAY

By David O'Brien

**G**lad I attended the two-day, FULL DAYS of the **Metals Investors Forum** this weekend... it's improved this article within which I had intended to focus on the Lithium Market in a macro sense, since it's been quite the topic around the mineral investment community recently. (It was to follow up on the graphite Investment Review of a few years ago, focusing on the battery market's 'ingredients', and, of course, my many copper articles over the years... cobalt's next...?)

Some long-term thoughts about the Supply and Demand issues beg the question of whether there's been a little short-term hyperbole creep into the conversation. There are a lot of new companies suddenly into 'the space', as they say. Just over the past week, one of the big, famous Nevada plays came up a little 'lighter' than expected, so its stock was negatively impacted.

Then, after hearing all five Newsletter Writers give their best picks, right up there for everyone to critique... they had a surprising divergence of opinion and yet almost equally surprisingly similar strategies, rationale for selection of favourite companies going forward, and significant variation of opinion for longer-term prognostications, which is logical. What's going to be the best mineral price gain in five years was one that ended up in a three-way split between uranium, gold and a few others. At this point, there were some in the audience 'yelling out' a few suggestions... one of which was Lithium... and it seemed to bemuse some... even up at the panel's diaz. Is it already into a bubble? Or perceived by some to be so...

Best thing to do then, is to make sure your rationale for picking a Lithium player is to go really hard through your/our Due Diligence checklist, of course. Don't we always?

OK, so let's investigate the first couple of criteria on a company that's been actively pursuing Lithium for six years, **Dajin Resources Corp. (DJI: TSX-V)** in more than one jurisdiction, both in the Americas, well ahead of the recent popular 'Tesla-driven' Demand-side Pull,

and, of course, a management team that has taken juniors to production, 'JV-ville' and/or acquisition; and the properties themselves start the list: both are Lithium brines opportunities, in Argentina and Nevada. Two jurisdictions that are now considered among the best, especially since they have an exploration agreement with Cooperativa De Trabajo Minero Produccion De Boratos Jujenos Ltda and the nearby community of Inti Killa Tres Morros for the 4,400 hectare San Jose and Navidad concessions.

Let's start with an overview of the properties: (from DJI's Corporate Presentation) "[Jujuy Province, Argentina](#)



Highway to our drill site in Jujuy Province

- Concessions: 93,000 hectares (230,000 acres) of claims 100% controlled by Dajin Resources Corp. (Argentina) in Salinas Grandes and Guayatoyoc salars.
- Surface sampling by Orocobre in Salinas Grandes has provided promising results.
- Two UGAMP meetings held with no major issues raised and all questions asked were responded to.
- Geothermal system to the south of the basin may contribute Lithium and enhance dissolution of Li in volcanic ash.
- Two operations, one of which is in production, are 84 km (47 miles) to the west.
- Good access and infrastructure."

Seems like the right way to commence operations, I'd give it a 'Check' even though 'early stage'.



Let's go north.

(from DJI's Corporate Presentation) "Dajin has two properties in Nevada:

Teels Marsh, Nevada - Surface: 4,574 acres (1,851 hectares)

- Claims: 265 placer claims 100% owned by Dajin Resources (US) Corp.
- Surface and shallow subsurface sampling have provided promising results with brine from shallow (9 foot) auger holes giving values of up to 70 ppm.
- Gravity survey indicates that the closed basin is very deep – therefore effectively trapping fluids... more than 6,500 feet (2,000 m) deep.
- Water Rights applied for and in final stages of granting...
  - Very large catchment basin (313 square miles) to hold and retain Lithium rich volcanic ash deposits (Bishop Tuff; an important aquifer in Clayton Valley).
  - Geothermal system in the west end of the basin may contribute Lithium and promote dissolution of Lithium in volcanic ash.
  - Permitting underway for additional surface sampling, a high resolution seismic survey to precede drilling.
  - 50 miles (80 km) northwest of Rockwood Lithium mine in Clayton Valley.
- Good access and infrastructure.

Alkali Lake, Nevada – Surface: 3,851 acres (1,558 hectares)

- Claims: 191 placer claims 100% owned by Dajin Resources (US) Corp.
- Surface sampling has provided promising results.
- Gravity survey indicates the basin is deep – possibly up to 4,000 feet (1,200 m).
- Significant volume of volcanic ash accumulation probable from Long Valley (Bishop Tuff) and Mt. Mazama.
- Geothermal system to the south of the basin may contribute Lithium and promote dissolution of Lithium in volcanic ash.
- Good access and infrastructure.
- 7 miles (12 km) northeast of Rockwood Lithium mine in Clayton Valley.
- Earn-in agreement with Nevada Energy Metals Inc."

The Executive really is stellar, bringing valuable expertise...

A good example of that is Ben Ainsworth, Director; so here's a little background on his accomplishments... while working with Placer Development Limited, he was responsible for inter-company relations, and later in his career, with Hathor Explorations and Alpha Minerals, was awarded the AME BC's Colin Spence Award for Excellence in Global Mineral Exploration.

Dr. Catherine Hickson, P. Geo, Director; A volcanologist, has global experience managing large scale, high \$ value projects in culturally and environmentally sensitive areas; managed subsidiary companies, countrywide exploration, and negotiated multimillion dollar JVs.

Appropriate, and *qualified*, obviously...

Brian Findlay, President & CEO; Brian has participated in the raising of over \$200 million in investment capital for a number of junior resource and technology companies. Brian is an expert at managing public companies with international interests.

Cosme Beccar Varela, President Dajin Resources (Argentina); Cosme, born in New York, is fluent in English. He practiced as a Foreign Associate in Winthrop, Stimson, Putnam & Roberts (New York (1990) and in Huygué de Mahenge, Bloxhamet Michaud, (Paris 1995). His legal practice also includes insurance, trading and industrial companies.

Dr. Mark Coolbaugh CPG, Director; Mark is a renowned metals and geothermal geologist with

30 years of project, research, and management experience in North and South America, Asia, and Europe. He played an instrumental role in a number of green-fields geothermal and precious metal discoveries including discovery of the blind geothermal systems in Teels, Rhodes, and Columbus Marshes in southwestern Nevada.

All in all, a strong team, ready to, and capable of, guiding the development of DJI's Lithium assets... and more importantly not a huge staff overhead... all the better for Shareholders and the *bottom line*. **Check**.

Some other property considerations are those of nearby infrastructure, and both the North American properties are in the famous **Nevada's Lithium Hub**, while the Argentinian property is basically in **South America's Lithium Triangle**. *Perfect*, right in the thick of things. **Check**.

When it comes to the grade of a mineral and the ease of processing out the final Lithium, these are all brines-based assets, which are much easier to get Lithium out of than from hard rock-based pegmatites. Easier... *means less cost*. **Check**.

Lithium itself only occurs in combination with other mineral deposits, and by virtue of the salars environment it occurs with other evaporitic deposits such as salt and borates. It is the lightest metal, has a very high-energy density and is very reactive, so it's already in use in batteries in hi-tech devices. What is setting it apart is summarized by the U.S. **Department of Energy** which considers it a key, '*Strategic Energy Metal*' with applications in electric vehicles, energy storage and electronics.

While we're on the subject of applications brought about by Lithium's properties, Alcoa has developed a Lithium-Aluminum alloy for airline fuselages that are lighter, saving fuel, and yet stiffer, too... culminating in a long-term \$1 Billion deal with Boeing.

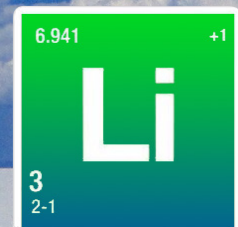
The same goes for Ford trucks, with the new Alcoa Micromill™ Lithium-Aluminum alloy in combination with lighter, high-strength steel is saving 700 pounds on the popular F150, making it faster to accelerate and to brake, let alone saving fuel.

You can bet on even more break-through applications to be developed because of *Lithium's unique properties*: **Check**.

A more in-depth look at the Nevada and Argentinian properties is 'required reading', here: <http://dajin.ca/alkali-lake/>, <http://dajin.ca/teels-marsh/> and <http://dajin.ca/salinas-grandes/>.

So, **DJI**: early stage, however, being vetted by an excellent, experienced team, and heading into a long-term bull market for Lithium, especially with easier-to-extract brines-based assets, and from two sound jurisdictions. Lots of Check marks for me... how did you do on your Due Dili?

*David O'Brien, is the owner of Int'l Mining Research Inc. which employs Media, Event and Online exposure, including MineSnooper.com. O'Brien also owns W.I.T. Marketing, an ad agency, InvestWeb.CLUB Webinars & Social Media, and has been contributing articles to TheProspectorNEWS.com, on demand for over a decade. He owns no shares in the above company. [dobrien@InternationalMiningResearch.com](mailto:dobrien@InternationalMiningResearch.com)*



# LITHIUM

## IN NEVADA

- Teels Marsh 265 placer claims are 100% owned
- Gravity survey indicates over 6,000 feet in depth
- Seismic program currently underway
- Drill program being organized
- Alkali Lake 191 placer claims in JV with Nevada Energy Metals (BFF-V)

## DAJIN RESOURCES CORP.

is a resource exploration company focused on the exploration and development of energy metal projects with strategically located brine based lithium targets in the salar basins of northwestern Argentina and Nevada, USA.

## IN ARGENTINA

- 100% interest in Salinas Grandes and Guayatoyoc concessions
- Covers 93,000 hectares (230,000 acres)
- Holds agreements with Cooperativa for San Jose Project as well as with local communities
- Excellent infrastructure: paved highway, electric power, gas pipeline

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# THE 45-YEAR RECORD OF GOLD-SILVER RATIOS

By Mickey Fulp

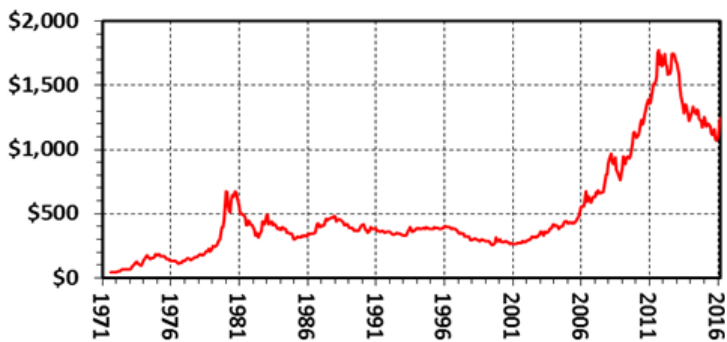
The gold to silver price ratio determines the relative value of the two precious metals and is a useful parameter in deciding which metal to buy at any given time.

In two previous musings, I first documented the history of gold, silver, and the US dollar from the establishment of a national monetary system in 1792 until abandonment of the gold standard in 1971; then price histories and gold-silver ratios from the United States' abandonment of the gold standard in 1971 to present.

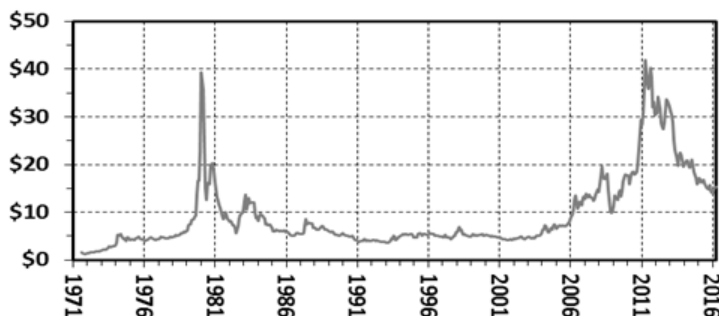
In the final installment of this trilogy, let's revisit the modern-day paradigm and focus on the distribution of gold-silver ratios over the past 45 years.

Here again are the monthly average price charts for each metal and gold-silver ratios since August 1971:

Gold

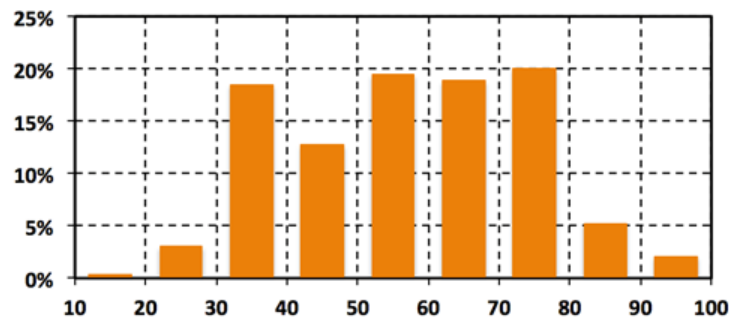


Silver



Our data set covers nearly 45 years (537 months). The distribution of ratios follows in both chart and tabular format:

Au : Ag Ratio Distribution



Distribution of Au:Ag

Ratio	% of Months
10-20	0.4%
20-30	3.0%
30-40	18.5%
40-50	12.7%
50-60	19.4%
60-70	18.8%
70-80	20.0%
80-90	5.2%
90-100	2.1%

I glean the following from the post-gold standard distribution of gold-silver ratios:

- A ratio of less than 20 is a rare outlier that occurred for only two months in 1980 when both gold and silver went exponential and

silver markets were being manipulated by the Hunt Brothers' speculative attempts to corner worldwide control of the metal.

- Ratios between 20 and 30 are quite unusual at 3.0% of the record. They occurred in the first two months after Nixon did his deed in 1971; for one month in 1974; for eight months in 1976 when gold corrected and silver was flat; and for five months in late 1979 and early 1980 when both metals were in exponential moves up then silver collapsed.
- Ratios from 30 to 40 (18.5%), 50 to 60 (19.4%), 60 to 70 (18.8%), and 70 to 80 (20.0%) are common and almost evenly distributed in the price records.
- Paradoxically, the middle increment from 40 to 50 comprises only 12.7% of the total months in our study.
- Ratios from 80 to 90 constitute 5.2% of the record. Almost all occurred during a three-year period from September 1990 to November 1993 when there was an oversupply of silver stocks, industrial demand was down, and prices languished from \$3.65 to \$5.00 an ounce.

**[...] the average abundance of gold in Earth's crust is about 4 ppb while silver is about 70 ppb, for a ratio of 1:17.5.**

Other than the three-year period mentioned above, there were only two months, in March 1995 and March 2016, when the monthly average ratio was above 80.

Ratios greater than 90 make up 2.1% of the record and also happened in that 1990-1993 interval. The ratio averaged over 97 in February 1991, a value that was exceeded only in 1939 at the end of the depression and beginning of World War II.

Our documentation of ratios since August 1971 debunks the propaganda that comes from hard-core silver bugs about the metal's relative value to gold.

From a compendium of sources, the average abundance of gold in Earth's crust is about 4 ppb while silver is about 70 ppb, for a ratio of 1:17.5. Based on these crustal abundances, silver perma-bulls promote a platform that gold-silver ratios should be less than 20.

Their argument is also based on historic gold-silver ratios from late 1792 to 1890 when there was bimetallic backing of the US dollar and/or attempts to control silver prices with coinage legislation, and a two-month period during the parabolic top of precious metals prices in early 1980.

Ergo say they, the price of silver is constantly manipulated, silver is woefully undervalued, and it is always on the verge of a major breakout.

However, silver aficionados ignore important facts regarding supplies, demand, and uses of the two radically different metals:

- Silver is mostly used as an industrial metal (54%); much of that yearly demand is consumed and a relatively minor amount is recycled.
- Gold is a precious metal; 90% is used in jewelry and investments and 10% in industrial applications.
- An estimated 98% of all the gold ever mined in the world remains available and held in jewelry, by central banks, in private hoards, and as fabricated products (source: USGS).
- Cumulative historic world production of silver and gold is estimated from various sources to be about 9.2:1 (1,690,000 tonnes versus 182,000 tonnes).
- For the past 11 years, the ratio of silver to gold mined is about the same at 9.0:1 (258,000 tonnes versus 28,600 tonnes from 2005-2015).





## Why SilverCrest Metals?

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- Good exploration potential in historic mining districts
- Significant database from previous due diligence work for potential acquisitions
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Las Chispas Area (aerial view of the project location)



Huasabas Project

TSX.V: SIL | [www.silvercrestmetals.com](http://www.silvercrestmetals.com)
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- ▶ About 70% of new silver is a by-product from base metal or gold mines; therefore, silver production is largely dependent on the prices of these primary metals.

I conclude that since August 1971 when gold was partially freed from the US dollar on world exchanges, Earth's crustal abundances, historic fixed-price relationships, and mine production have had no influence on the gold-silver ratio.

Instead, the relative prices of gold and silver are driven by:

- Industrial demand for silver and the vast amount of available above-ground stocks of silver held by hoarders and speculators.
- The health of the world economy and geopolitical events.
- Central bank transactions and safe haven hoarding of gold.
- Speculative traders moving in and out of physical and paper markets of both metals.

In my opinion, gold is the only real money, and it is my safe haven and insurance policy against financial calamity.

Although silver functions mainly as an industrial metal, it is strongly tied to the price of gold and is generally more volatile during upside and downside moves of the

yellow metal. In times of financial distress and economic calamity, silver tends to behave more like a precious metal with widespread hoarding of gold trickling down. For this reason, it is often called the "poor man's gold". The gold-silver ratio lends valuable guidance to ascertain whether one metal is over- or undervalued with respect to the other. The rarity of a daily gold-silver ratio above 80 is evidence that silver is severely undervalued and is a strong buy signal for the metal.

My fundamental idea is to buy silver during instances of very high ratios and then trade most of it for gold when the ratio corrects and reverses to the other side. I suggest that a range of 40 to 50 is apropos. Note however, that mark-ups to buy or sell silver are always substantially higher than for gold and the additional cost becomes a factor in the evaluation process.

I strive to have 10-20% of my net worth in physical bullion, mostly in gold but always a portion in platinum and silver.

As a hoarder, my basic strategy for accumulating gold is to buy during downticks in its price regardless of a bull or bear market cycle. In a previous musing, I showed that there is seasonality to the gold price and that the best time to buy is from mid-June to mid-August of any given year.

That folks, is the way I see it. And the way I do it.

**Acknowledgment:** Steve Sweeney is the research assistant for [MercenaryGeologist.com](http://MercenaryGeologist.com).

The Mercenary Geologist Michael S. "Mickey" Fulp is a Certified Professional Geologist with a B.Sc. Earth Sciences with honor from the University of Tulsa, and M.Sc. Geology from the University of New Mexico. Mickey has 35 years experience as an exploration geologist and analyst searching for economic deposits of base and precious metals, industrial minerals, uranium, coal, oil and gas, and water in North and South America, Europe, and Asia.

Mickey worked for junior explorers, major mining companies, private companies, and investors as a consulting economic geologist for over 20 years, specializing in geological mapping, property evaluation, and business development. In addition to Mickey's professional credentials and experience, he is high-altitude proficient, and is bilingual in English and Spanish. From 2003 to 2006, he made four outcrop ore discoveries in Peru, Nevada, Chile, and British Columbia.

Mickey is well-known and highly respected throughout the mining and exploration community due to his ongoing work as an analyst, writer, and speaker.

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# OUR DAY OF RECKONING

*As a general rule, the most successful man in life is the man who has the best information*

By *Richard (Rick) Mills*  
[aheadoftheherd.com](http://aheadoftheherd.com)

**T**he second half of the 20<sup>th</sup> century saw the biggest increase in the world's population in human history.

Our population surged because:

- Medical advances lessened the mortality rate in many countries
- Massive increases in agricultural productivity because of the "Green Revolution"

The global death rate has dropped almost continuously since the start of the industrial revolution - personal hygiene, improved methods of sanitation and the development of antibiotics have all played a major role.

The term Green Revolution refers to a series of research, development, and technology transfers that happened between the 1940s and the late 1970s.

The initiatives involved:

- Development of high yielding varieties of cereal grains
- Expansion of irrigation infrastructure
- Modernization of management techniques
- Mechanization
- Distribution of hybridized seeds, synthetic fertilizers, and pesticides to farmers

Tractors with gasoline powered internal combustion engines (versus steam) became the norm in the 1920s after Henry Ford developed his

Fordson in 1917 - the first mass produced tractor. This new technology was available only to relatively affluent farmers and it was not until the 1940s tractor use became widespread.

Electric motors and irrigation pumps made farming and ranching more efficient. Major innovations in animal husbandry - modern milking parlors, grain elevators, and confined animal feeding operations - were all made possible by electricity.

Advances in fertilizers, herbicides, insecticides, fungicides, antibiotics and growth hormones all led to better weed, insect and disease control.

There were major advances in plant and animal breeding - crop hybridization, artificial insemination of livestock, and genetically modified organisms (GMOs).

Further down the food chain came innovations in food processing and distribution.

All these new technologies increased global agriculture production with the full effects starting to be felt in the 1960s.

Cereal production more than doubled in developing nations - yields of rice, maize, and wheat increased steadily. Between 1950 and 1984 world grain production increased by over 250% - and the world added over two billion more people to the dinner table.

## THE GREEN REVOLUTION

The modernization and industrialization of our global agricultural industry led to the single greatest explosion in food production in history. The agricultural reforms and resulting production increases fostered by the Green Revolution are responsible for avoiding widespread famine in developing countries and for feeding billions more people since. The Green Revolution also helped kick start the greatest explosion in human population in our history - it took only 40 years (starting in 1950) for the population to double from 2.5 billion to five billion people.

Norman Borlaug, an American scientist, is often called the Father of the Green Revolution (GR). In 1943, he began conducting research in Mexico regarding developing new, disease resistant high yielding varieties of wheat. Mexico then combined Borlaug's wheat varieties with the agricultural technologies being developed at the time and was able to become a wheat exporter by the 1960s - prior to Mexico's Green Revolución the country was importing almost half of its wheat supply.

Improving seeds is what people have been doing since the beginning of agriculture - people selected the biggest seeds that were easiest to thresh and stored them for planting the next crop. But in Mexican test plots something special happened - improved varieties of short stemmed wheat dramatically increased yields.

"Borlaug's innovations would change wheat production worldwide forever. Borlaug began by tackling stem rust, a highly contagious mold-like fungus that breeds on a variety of grasses and transfers to wheat just as it comes to maturity. Stem rust could ruin entire fields of wheat at once. After extensive testing, MAP staff discovered



that while foreign varieties were more resistant to stem rust than native wheat varieties, foreign varieties tended to mature late in the season. Furthermore, higher-yielding wheat varieties were more rust-susceptible than lower-yielding ones.

The MAP wheat program made three key discoveries. First, enhancing soil, particularly through nitrogen supplementation, increased wheat yield even with ongoing stem rust problems. Second, to make new hybrid crosses, in 1945 Borlaug began "shuttle-breeding," or moving seed from Chapingo, with its early growing season, to Sonora, which had a later growing season. Shuttle breeding cut development time in half and fostered varieties that could thrive across a variety of conditions. Finally, Borlaug began working with "Norin" dwarf wheat imported from the U.S., a short straw variety that was both rust-resistant and higher yielding. When it was incorporated into the elaborate crosses already developed, wheat production rose dramatically. Mexico became self-sufficient in wheat production by 1956, and in MAP's first twenty years, Mexico tripled its wheat production." The Mexican Agriculture Program (MAP).

What makes these improved plants successful are:

- Plants with the largest seeds were selected for breeding to create the most production
- By maximizing the seed or food portion of the plant, the plant is able to use photosynthesis more efficiently because the energy produced during this process went directly to the food portion of the plant





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6. 'shell' available in AZ; US\$10mm in debt



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Secondly, a narrow focus on production ultimately defeats itself as it destroys the base on which agriculture depends – topsoil and water.

One of the most basic, fundamental problems we've created for ourselves is the impact of human activities on the land we need to cultivate for our very survival.

“The top 20cm of soil is all that stands between us and extinction.” Luc Gnacadja, executive secretary of the UNCCD

It takes 100 years to generate a single millimeter of topsoil - 24 billion tons of fertile soil disappear annually.

Over the past four decades, 15 percent of the Earth's land area - an area larger than the United States and Mexico combined - have been degraded through human activities. Desertification doesn't refer to the advance of deserts which can and do expand naturally. Desertification is a different process where land in arid or semi-dry areas becomes degraded - the soil loses its productivity and the cover vegetation

disappears or is degraded to the point where wind and water erosion can carry away the topsoil leaving behind a highly infertile mix of dust and sand.

Land degradation, and the eventual resulting desertification of dry land ecosystems is most often caused by human activities such as:

- Unsustainable farming - intensive farming depletes the nutrients in the soil
- Overgrazing - animals eat away grasses and erode topsoil with their hooves
- Deforestation or clear-cutting of land - the tree and plant cover that binds the soil is removed
- Misuse of water resources
- Industrial activities

**Climate change** can accelerate and intensify the degradation process.

And thirdly, to end hunger once and for all, we must make food production sustainable and develop secure distribution networks of needed foodstuffs.

Our agriculture system is concentrated on producing a very few staple crops - there is a very serious lack of crop diversity. Corn, wheat, rice and soy are the main staples and production is oftentimes half a world away from where the majority of the crop would be consumed. The world's extreme poor exist almost exclusively on what is a 'buy today, eat today' plant based diet - wheat, corn, soy or rice provide the bulk of their calories.

Taken together, this means if we get hit by a particularly bad harvest in one area, if a severe El Nino strikes, or more localized severe weather phenomena strikes, food supplies can get totally out of control in many countries.

Considering that the global food supply chain is weak (easily disrupted by lack of transportation, weather, insurgency, stealing) and non-existent in many areas then you have a recipe for potential

disaster in many regions of the world.

If a person was so inclined they could bury their head in the sand and write off all of the above as nothing more than something someone in the poorer, undeveloped parts of the world has to worry about. After all we here in the west have our grocery stores and unlimited food supplies, right?

That might not be prudent thinking.

- > ▪ By selectively breeding plants that were not sensitive to day length, researchers doubled a crop's production because the plants were not limited to certain areas of the globe based solely on the amount of light available to them.

These high yield plant varieties need:

- Fertilizers
- Irrigation
- Pesticides

The “revolution” in Green Revolution is well deserved. The new seeds along with chemical fertilizers, pesticides and more irrigation replaced traditional farming practices in many areas of the world.

The Green Revolution's use of hybrid seeds, irrigation, chemical fertilizers, pesticides, fossil fuels, farm machinery, and high-tech growing and processing systems combined to greatly increase agriculture yields. The Green Revolution is responsible for feeding billions - and likely enabling the birth of billions more people.

Unfortunately the high yield growth is tapering off and in some cases declining. This stagnation, and in some cases decline, in productivity is due to a depleting natural resources base such as a steep fall in ground water table levels because irrigation has depleted water aquifers and chemical fertilizers and pesticides have impaired water quality, while their overuse has contributed to a deficiency of micro-nutrients in the soil and overall deteriorating soil health.

Narrowly focusing on increasing production as the Green Revolution did cannot alleviate hunger because it failed to alter three simple facts;

An increase in food production does not necessarily result in less hunger - if the poor don't have the money to buy food increased production is not going to help them.

***Our agriculture system is concentrated on producing a very few staple crops - there is a very serious lack of crop diversity.***

The most severe consequences of non-existent or more expensive staple foods are first felt in developing countries whose citizens spend an exorbitant percentage of their incomes feeding themselves and their family compared to families in the western world. Almost half of the planet's population lives on less than \$2.50 a day - roughly 1.4 billion people live on less than \$1.25 per day. When food prices soar these people lack the money to feed themselves and their children - when your living on a couple of dollars a day, or less, and most of your income already goes to feed your family there's no money to cover a price spike in the cost of survival.

Western consumers are, for all intent and purposes, totally dependent on retail food stores for their subsistence. Yet these stores have only 2-3 days of inventory on hand at any one time. If any kind of a short term crisis hits, let alone a massive disruption in the food supply chain, stockpiling and hoarding will quickly empty store shelves.

For most of human history we've been consuming resources at a rate lower than what the planet was able to regenerate.

Unfortunately we have crossed a critical threshold. The demand we are now placing on our planets resources appears to have begun to outpace the rate at which nature can replenish them. The gap between human demand and supply is known as ecological overshoot. To better understand the concept think of your bank

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> account – in it you have \$5000.00 paying monthly interest. Month after month you take the interest plus \$100. That \$100 is your financial, or for our purposes, your ecological overshoot and its withdrawal is obviously unsustainable.

Today humanity uses the equivalent of 1.6 planets to provide the resources we use.

The United Nations (U.N.) says if current population and consumption trends continue, by the 2030s, we will need the equivalent of two Earths annual resource production to support us. That's a lot of overshoot and it is in no way shape or form sustainable.

## CONCLUSION

A day of reckoning is coming...



According to the U.N. the world's population reached 7.3 billion as of mid-2015 and is growing by 1.18 per cent or 83 million people annually.

Using the U.N.'s medium projection, not the highest nor the lowest, the medium projection is expected to reach 8.5 billion in 2030, and to increase to 9.7 billion in 2050 and 11.2 billion by 2100.

Population growth, climate change and our destructive attitude towards our home, the Earth, and our wasteful use of her resources, are humanity's main concerns going forward.

Here's a link to Norman Borlaug's Nobel Lecture, December 11<sup>th</sup>, 1970. It's a fascinating speech and one all of us need to read.

Borlaug is on record saying the Earth, if we did everything right and technological advances kept improving yields, could support 10 billion people. Unfortunately yields have not kept pace, further technological advances are slow in coming, population growth in undeveloped countries is out of control and something Borlaug never had a chance to fully consider - the effects of global climate change, has in your author's opinion, vastly lowered the 10 billion figure.

Our coming day of reckoning should be on all our radar screens. Is it on yours?

If not, maybe it should be.

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# TESLA, APPLE, ETC. HAVE LITHIUM MINERS TO THANK

*Cypress Development poised to supply key demand from Nevada*

*By Christian Vakenti*

Lithium mining is something of a departure from typical ore extraction operations. There are no trucks carrying ore to a crusher, no blasting, no spraying millions of liters of sulfuric acid like you do in copper mining. Instead, brine is pumped from underground and allowed to evaporate in large pans. Electrolysis is used to separate the lithium from the brine. Pretty tame stuff and comparatively as easy on the surrounding environment as mining gets.

The uses for lithium however, and the growing market for it, are as exciting as your imagination will allow. Arguably, without lithium there would be no Elon Musk. Companies such as Tesla and even Apple owe a large part of their continued success to the lithium miners who supply the raw materials which power their devices.

On the forefront of lithium exploration and extraction are companies such as Cypress Development Corp, whose Clayton Valley lithium project is located in the heart of the lithium brine exploration area of Esmeralda County, Nevada.

The company's 1,520-acre Clayton Valley project is ideally located within one-half mile of lithium brine wells belonging to the Albemarle Silver Peak mine and the property shares its western boundary with Pure Energy's Clayton Valley South project.

"We are pleased with the results of our initial surface work on our Clayton Valley project," Don Huston, president of Cypress told The Prospector.

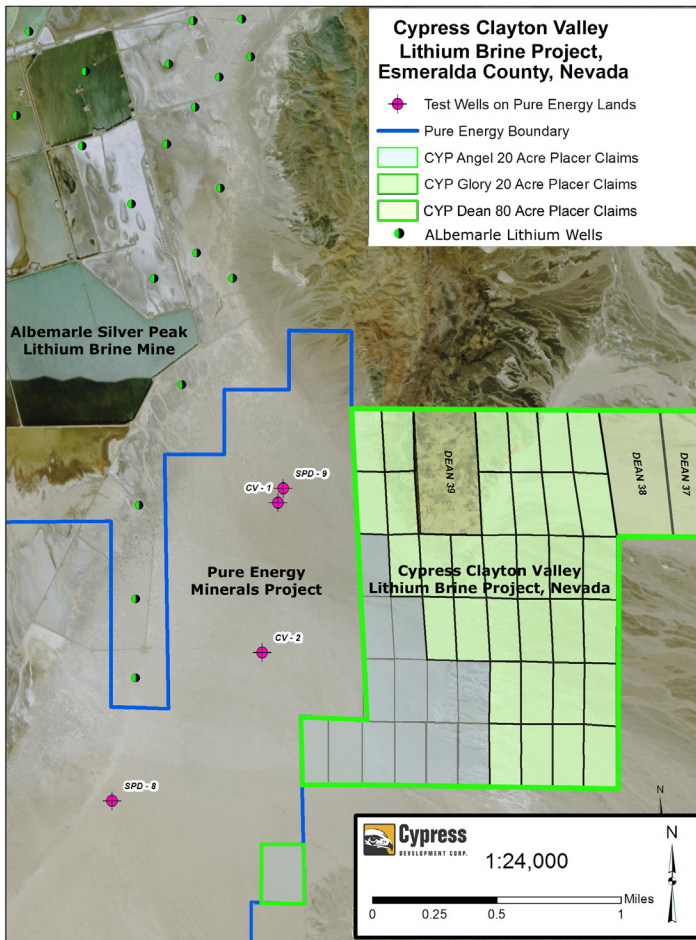
"We are at an early stage with this project and much work remains to be done to investigate the subsurface where we expect to find groundwater aquifers within deeper portions of the same mineralized claystone evaporate

sequence that is currently being explored at surface," continues Huston. "We are confident that the position of our property adjacent to production wells and defined resources combined with current surface assay results indicates that Cypress is well situated to create value for our shareholders as we advance the exploration of our claims."

The surface sampling and reconnaissance geologic results received by Cypress to date are viewed as being highly encouraging for the presence of lithium-rich brines within the subsurface aquifers below the mineralized claystone. In Cypress's experience, lithium-rich brines are likely to be found below the water table below the mineralized outcrops and may be especially well-developed along the arcuate fault zones where fracturing will have increased the permeability of the rock section.

Cypress's planned Clayton Valley subsurface exploration program is expected to be initiated in either late second quarter or early third quarter of 2016. Four proposed reverse circulation ("RC") drill holes are targeted at lithium brines within the main ash aquifer projected to underlie the west and west-central portion of Cypress's Clayton Valley project. The main ash aquifer is the primary target of all RC holes.

As we watch many resource sectors rebound in recent times, lithium continues to be something of a particular darling. The prospects for its growth are not only promising, but staggering. As evidence, we need look no further than one of Cypress's Nevada neighbours: the \$5 billion dollar Gigafactory. This Tesla-owned mega-factory produces the lithium ion batteries used in their cars – a demand which producers like Cypress Development is poised to supply.



**Cypress Development (TSX-V: CYP) is a publicly traded lithium and zinc-silver exploration company advancing projects in the State of Nevada, U.S.A.**

**Cypress Development's mission is to increase shareholder value by developing exploration projects near world-class deposits that have the potential of becoming new discoveries.**

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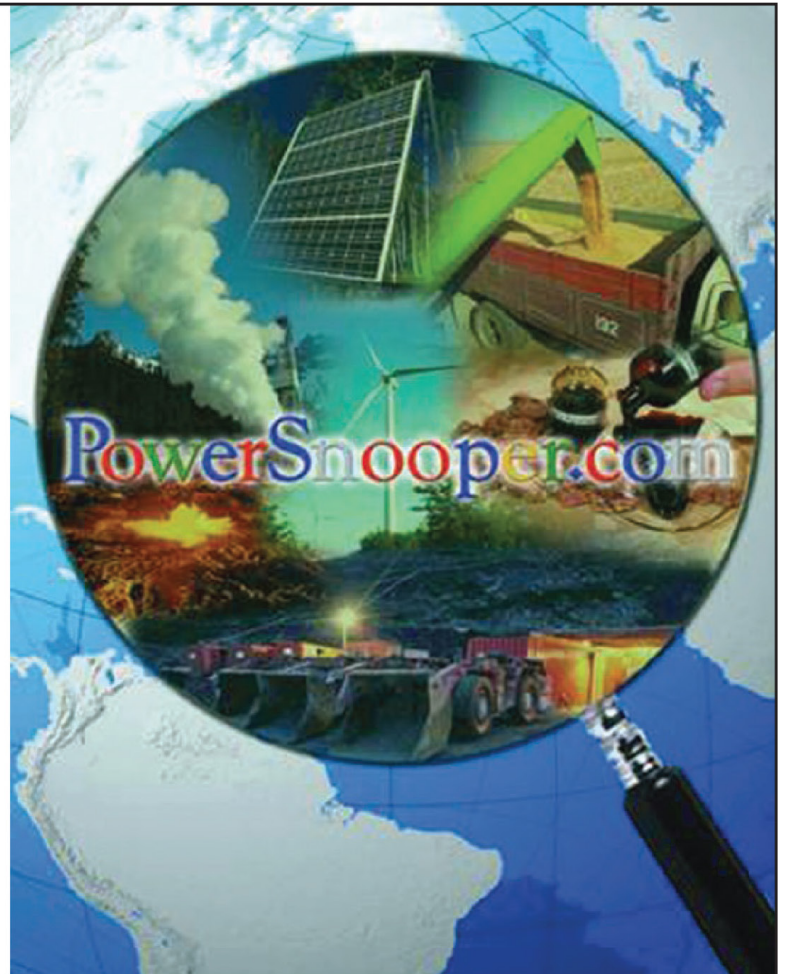
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