

# **Briefing: New exploration and discovery business models**

**Presented by John Kaiser**

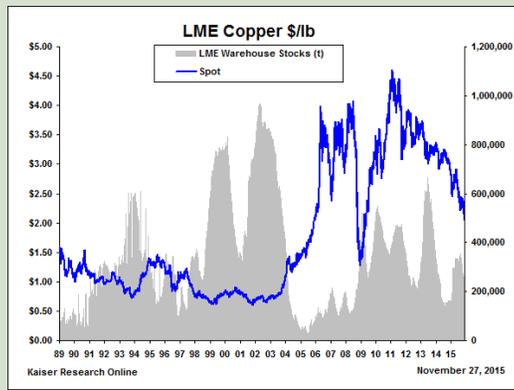
**Mines and Money London 2015**

**December 1, 2015**

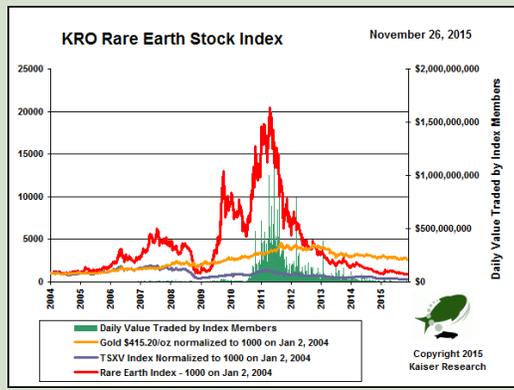
**London, UK**

# The 3 Core Narratives that depend on metal price uptrends are stalled

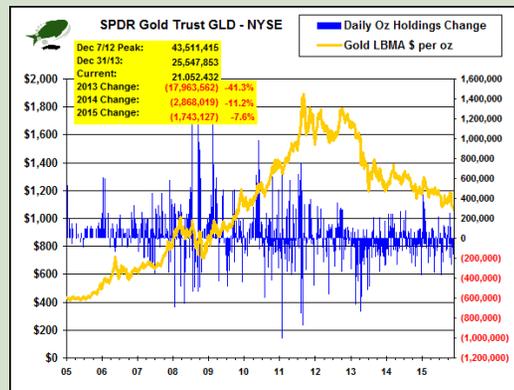
**Commodity Cycle**



**Security of Supply**



**Gold Bug**



**Discovery Exploration**

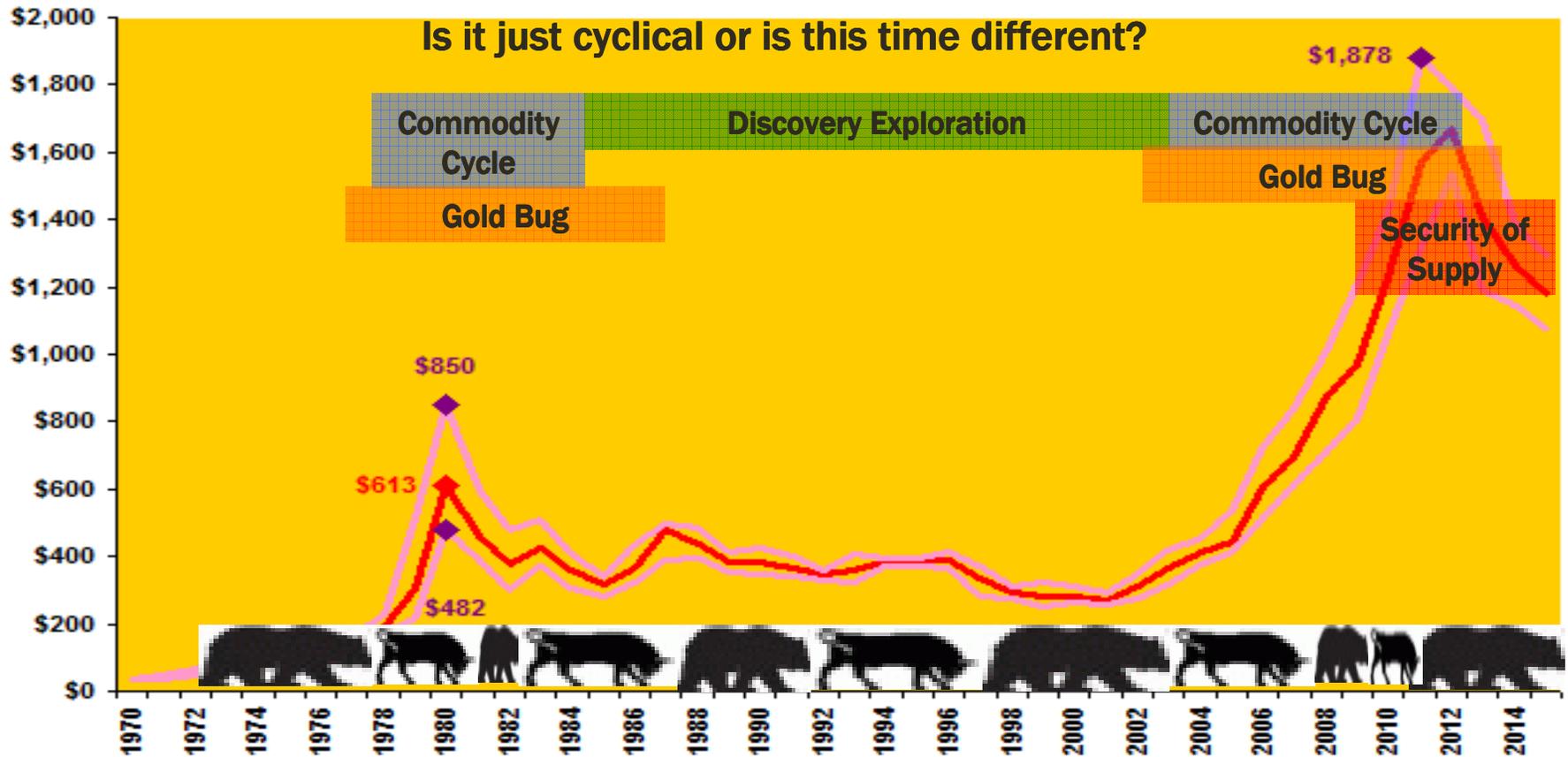


**Historically a major new discovery has hauled the juniors out of a bear market**

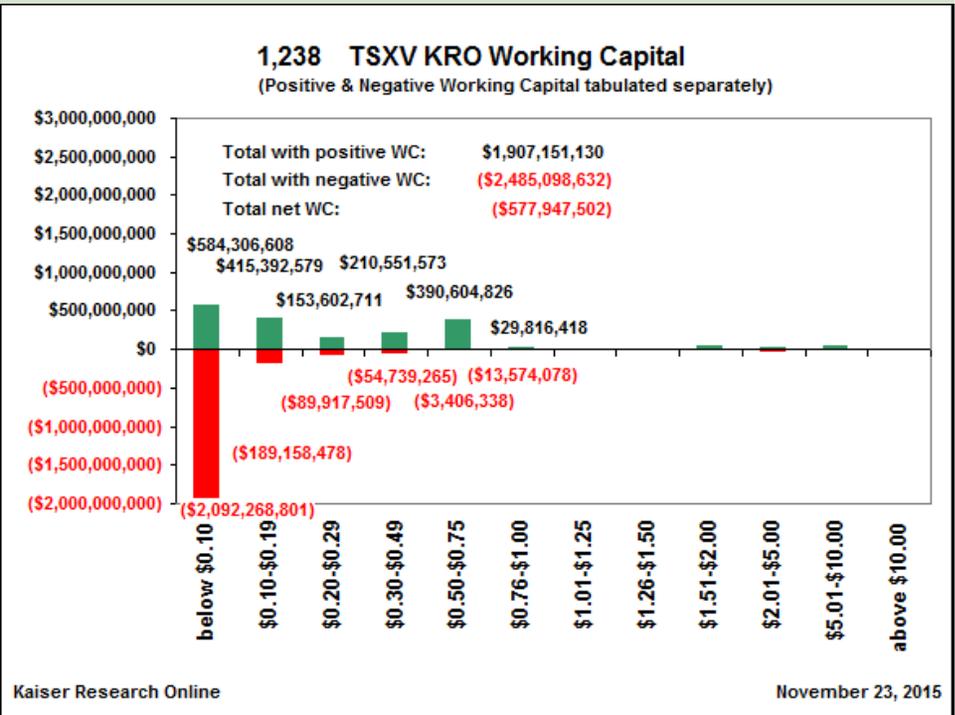
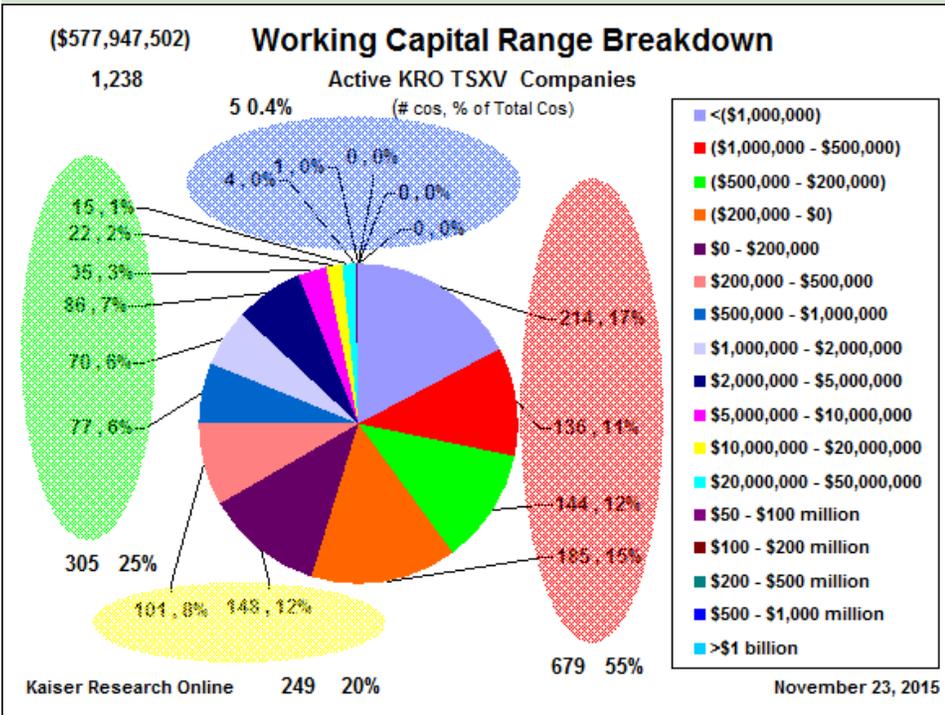
# Annual Average Gold Price with High-Low Range

— Average Gold Price

— Yearly Hi-Lo Range



**Less than half of TSXV resource juniors have positive working capital totaling \$1.9 billion while the rest owe \$2.5 billion that will never be paid back.**



**Where will the risk capital come from to deliver major new discoveries?**

## Key Narratives and the Capital Sources they Attract

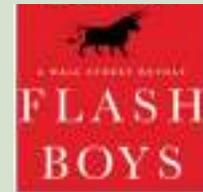
	Commodity Cycle	Gold Bug	Security of Supply	Discovery Exploration
<b>Producers (Farm-In/Buyout)</b>	Yes	Yes	Rarely	Rarely
<b>Other Juniors (Farm-In)</b>	No	Yes	No	Yes ?
<b>Private Equity</b>	Yes	Yes	Yes	No
<b>Institutions</b>	Yes	Yes	Yes	No
<b>Accredited Investors</b>	Yes	Yes	Yes	Yes
<b>Flow-Through</b>	Yes	Yes	No	Yes
<b>Retail</b>	No !	Yes	! Rarely !	Yes

# A Broken Capital Market for Canadian Juniors

- **Client Relationship Model** – Suitability and the death of full service advice – 100% personal responsibility accounts for high risk high reward investment
- **Market failing as a Price Discovery Mechanism** – order book fragmentation, short-selling on a down-tick, computerized day trading - create a fair speculative range for a project

**Disclosure Overload & War on Forward Looking Statements** - junior market no longer works as a casino – empower the crowd to visualize and quantify the value of the potential outcome

- **Choked Funding Gateways** – do away with accredited investor restriction, streamline funding mechanics, foster liquidity during the gap between 43-101 events



## Fix the Broken Capital Market by Restoring it as a Casino

## High Risk High Reward = Gambling

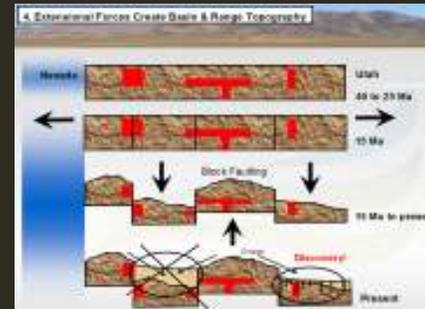
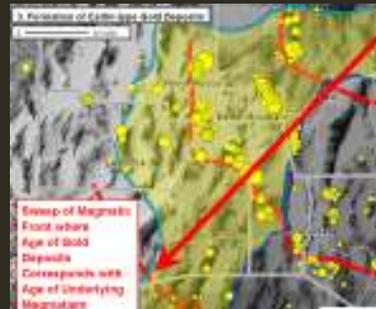
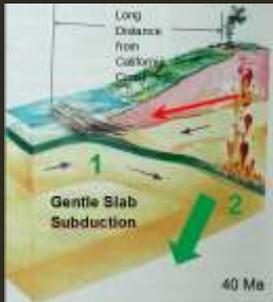
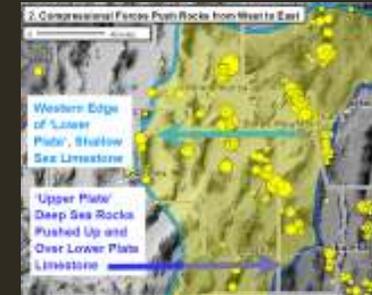
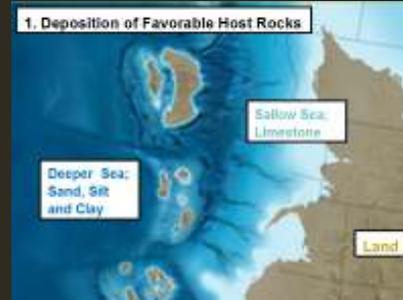
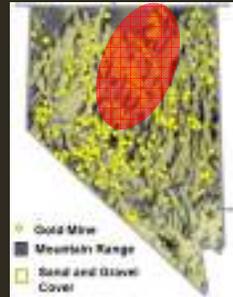
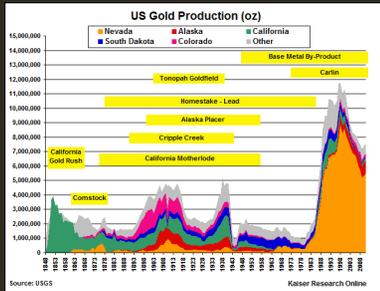
- Speculation in properly regulated high risk, high reward securities such as resource juniors is a legitimate part of the investment spectrum. It balances the low risk low reward offered by the banks.
- With the death of the rumour mill, network hubs & momentum trading by retail investors resource juniors no longer offer “**mystery**” as an attraction, nor can they compete with other more liquid and volatile venues. The Murray Pezim era ended in the late nineties.
- A new paradigm is needed where we treat resource juniors as a “**slow gamble**” on a fundamental outcome that takes time to determine, similar to seasonal league sports betting.
- Challenge is the information opacity of the resource sector despite the ubiquity of the Internet and 43-101 detail – valuing a resource play is a complex task made useless by the absence of a critical mass audience engaged in that very task.
- **Long periods between 43-101 “events” characterized by unconnected dots beg for interim “forward-looking statements” – a very bad idea when done by management - but what if done by a crowd of intensely competitive individuals with zero professional credentials, a declared conflict of interest, and a transparent track record?**
- Demographic Risk - no easy way for young people to learn how to forward look by connecting the dots so they can quantify the potential fundamental outcome – a lost generation? Or have we overlooked technology as the means to keep the exploration eco-system alive?

## Elements of a good exploration story in the new reality

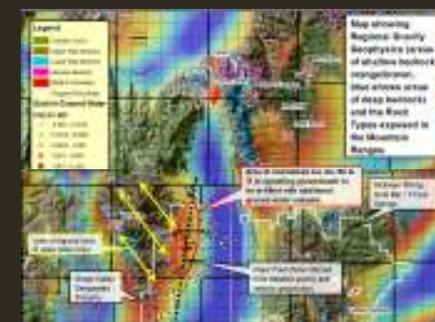
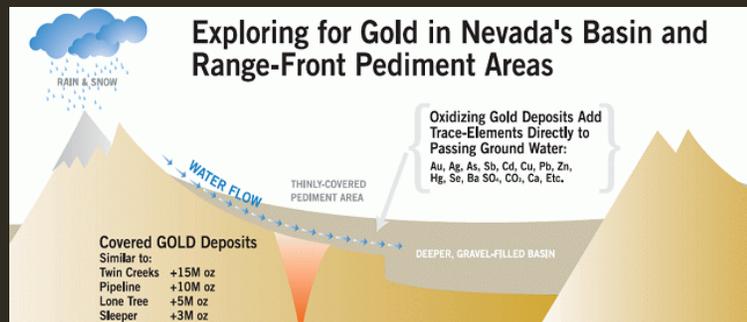
- Does the region have a substantial metal endowment?
- If not, what reason is there to believe in a hidden endowment?
- If so, is there a reason to believe it has not been largely found?
- How is your exploration strategy different from what others have already attempted?
- Are you applying a new exploration method or a model for whose hallmarks past exploration has not filtered?
- What is the potential size of the prize you are seeking?
- Do you know what failure of your exploration story would look like?
- How much money and time will you need to make or break your story?
- Would a discovery have replication implications?

**Resource juniors which hope to attract risk capital for discovery exploration will have to do a much better job explaining geology and articulating their target hypothesis.**

# Example of a big picture story line for an exploration junior



Exposed GOLD Deposits (before 1990):	
Gold Acres	<0.3Moz
Cortez Gold	2.0Moz
Horse Canyon	<0.2Moz
<b>Total Oz</b>	<b>2.5Moz</b>
Covered GOLD Deposits (since 1990):	
Pipeline	17.2Moz
Cortez Hills	15.0Moz
Goldrush	15.6Moz
<b>Total Oz</b>	<b>47.8Moz</b>





**What is missing is the ability of the market to monetarily quantify what success would be worth so that it can price the value of a bet on that outcome.**

## Deposit Valuation focuses on Future Cash Flow from a Depleting Asset: A Mine is an Annuity

$$\sum_{n=1}^m$$

Annual Cash Flow  
(1 + Discount Rate)<sup>n</sup>

Less Capital Cost

n = year of cash

m = mine life (years of mining)

Annual Gross Revenue

less      Operating Costs

=      Operating Profit

less      Taxes

=      After Tax Cash Flow

Very few retail investors understand the DCF valuation model with its NPV, IRR and discount rate concepts, and even fewer trouble to use it as a decision-making tool.

**Outcome Visualization for**

Company:	Nevada Exploration Inc (NGE-V)	Diluted:	45,049,910	Stock Price:	\$0.180
OV Name:		Visualizer:	JKaiser	Updated:	
Project:	Grass Valley	Location:	United States	Stage:	2-Target Drilling
Net Interest:	100% WI	Uncapped NSR:	0.0%	OV ID:	1000003
<b>Economic Outcome - Discount Rate: 9.5% - CAD AT NPV: \$1,998,850,069 - Good Speculative Value</b>					
Gross Rock Value (USD/t):	\$585	Recoverable Rock Value:	\$497	Payable Rock Value:	\$492
USD Pre-Tax NPV:	\$1,529,526,977	Pre-Tax IRR:	41.9%	Pre-Tax Payback:	3.0
USD After-Tax NPV:	\$1,522,005,687	After-Tax IRR:	41.8%	After-Tax Payback:	3.0
CAD Fair Spec Value Low:	\$19,988,501	CAD Fair Spec Value High:	\$49,971,252	CAD Implied Project Value:	\$8,108,984

**Example: Grass Valley outcome visualized as another Cortez Hills Breccia deposit as a 5+ million oz high grade UG mine. 30 variable choices generate a \$1.5 billion potential outcome. But what is that outcome worth before an economic study is published?**

Mining Scenario					
Tonnage:	10,000,000	VU	Strip Rate:	0.0	VS
Operating Rate (tpd):	1,700	SU	Mining Type:	Underground	VS
Mine Life (years):	16.1		Startup:	2021	SU
Tax Treatment:	SLM Straight Line Depreciation	VU	Tax Rate:	0.4%	SS
Deposit Scenario					
	Metal 1		Metal 2	Metal 3	Metal 4
	Gold				
	Au				
Grade:	16.0 g/t	SU			
Recovery:	85.0%	SS	100.0%	100.0%	100.0%
Payable:	99.0%	SS	0.0%	0.0%	0.0%
Concentrate Grade:	0.0%	VS	0.0%	VS	
Price:	\$1,137.10 /oz	VS			
Price Type:	Spot				
Annual Payable:	268,603 oz				
LOM Payable:	4,328,811 oz				

Cost Scenario						
			Currency	USD Cost	Exchange Rate	
CapEx:	\$300,000,000	VU	USD	\$300,000,000	1.000	
Sustaining Capital:	\$100,000,000	VU	USD	\$100,000,000	1.000	
Mining Cost (\$/t):	\$120.00	VU	USD	\$120.00	1.000	
Processing Cost (\$/t):	\$12.00	VU	USD	\$12.00	1.000	
Other Cost (\$/t):	\$4.00	SS	USD	\$4.00	1.000	
Risk Factors - Risk-Adjusted Discount Rate: 9.5%						
	Mandatory	Importance	Risk Level	Risk Weight	Confidence	Note
Environmental Permitting:	No	Unimportant	Low	1.0	SS	
Social License:	No	Unimportant	Very Low	0.5	VS	
Title:	No	Unimportant	Low	1.0	SS	
Tax:	No	Unimportant	Very Low	0.5	SS	
GeoPolitical:	No	Unimportant	Very Low	1.0	VS	
Infrastructure:	No	Unimportant	Very Low	1.0	SS	
Technical:	No	Unimportant	Very Low	1.5	SU	
Management:	No	Unimportant	Low	3.0	SS	

### Outcome Visualization Project created Oct 4, 2015: Nevada Expl - Grass Valley

Grass Valley hosts a substantial gold-in-groundwater anomaly supported by Carlin-type marker elements that suggests the presence of an oxidizing bedrock-hosted gold deposit beneath 100-300 m of gravel on the western side of Grass Valley, an otherwise bleak playa just south of Barrick's Cortez-Pipeline project where 48 million ounces have been found under cover since 1990. Within this system Barrick is underground mining at 1,700 tpd the high grade Cortez Hills Breccia deposit that contains 5-7 million ounces gold. The oxide ore is milled. The Grass Valley anomaly's proximity to Cortez Hills and similar geological setting allows for the possibility that a similar oxidized, underground mineable resource is present. This OV Project visualizes what a similar discovery at Grass Valley would end up being worth.

<b>Project:</b>	Grass Valley	<b>Location:</b>	United States	<b>Stage:</b>	2-Target Drilling
<b>Net Interest:</b>	100% WI	<b>Uncapped NSR:</b>	0.0%	<b>Current OV ID:</b>	1000003
<b>OV Project ID:</b>	1000002	<b>Visualizer:</b>	JK	<b>Updated:</b>	10/4/2015

#### Visualized Outcome: Grass Valley - Cortez Hills UG

**Deposit Scenario:** 10,000,000 t @ 20.0 g/t Gold

**Mining Scenario:** Underground 1,700 tpd 16.1 yrs, CapEx \$300.0 million, OpEx \$136.00/t

**LOM Payable:** 5.7 million oz gold

#### Economic Outcome - Discount Rate: 9.0% - CAD AT NPV: \$1.5 billion - Fair Speculative Value

<b>USD After-Tax NPV:</b>	\$1,112,409,008	<b>After-Tax IRR:</b>	33.5%	<b>After-Tax Payback:</b>	3.5 yrs
<b>CAD Fair Spec Value Low:</b>	\$14,609,268	<b>CAD Fair Spec Value High:</b>	\$36,523,169	<b>CAD Implied Project Value:</b>	\$17,418,031

**Fair Speculative Value Stock Price Range: \$0.31 - \$0.78**

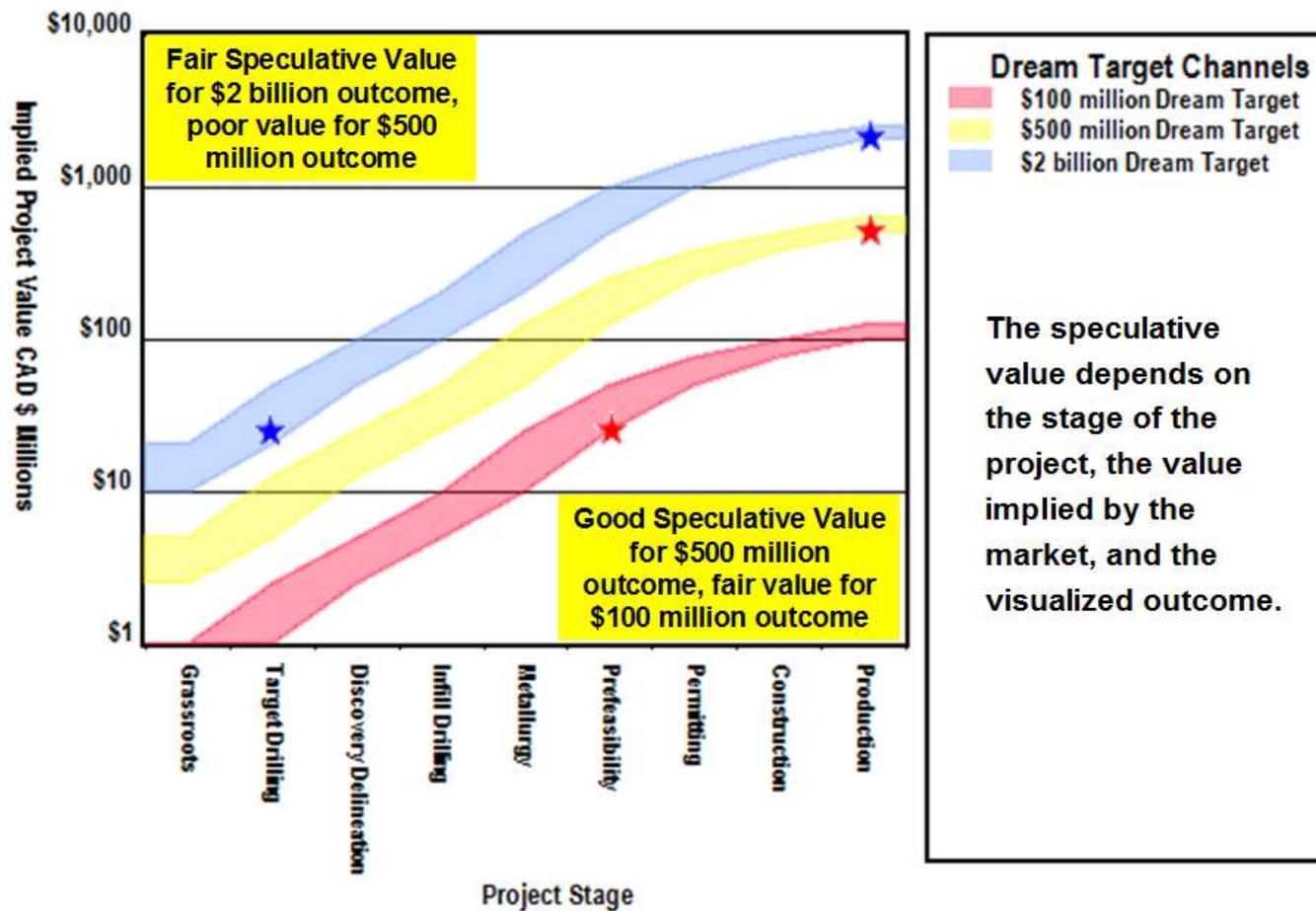
**Price Target if Visualized Outcome delivered by Expl-Dev Cycle without dilution: \$31.03**

## Rational Speculation Model – Uncertainty Ladder for Metal Projects

Exploration Cycle Stages		Success Probability		Outcome Target Fair Value Channels (\$ Millions)		
		Chance	Leverage	\$100	\$500	\$2,000
1	Grassroots	0.5-1%	100-200	<\$1	\$2.5-5	\$10-20
2	Target Drilling	1-2.5%	40-100	\$1-2.5	\$5-12.5	\$20-50
3	Discovery Delineation	2.5-5%	20-40	\$2.5-5	\$12.5-25	\$50-100
4	Infill Drilling	5-10%	10-20	\$5-10	\$25-50	\$100-200
5	PEA & Metallurgy	10-25%	4-10	\$10-25	\$50-125	\$200-500
6	Prefeasibility	25-50%	2-4	\$25-50	\$125-250	\$500-1,000
7	Permitting, Marketing & Feasibility	50-75%	1.3-2	\$50-75	\$250-375	\$1,000-1,500
8	Construction	75-100%	1	\$75-100	\$375-500	\$1,500-2,000
9	Production	100%		\$100	\$500	\$2,000

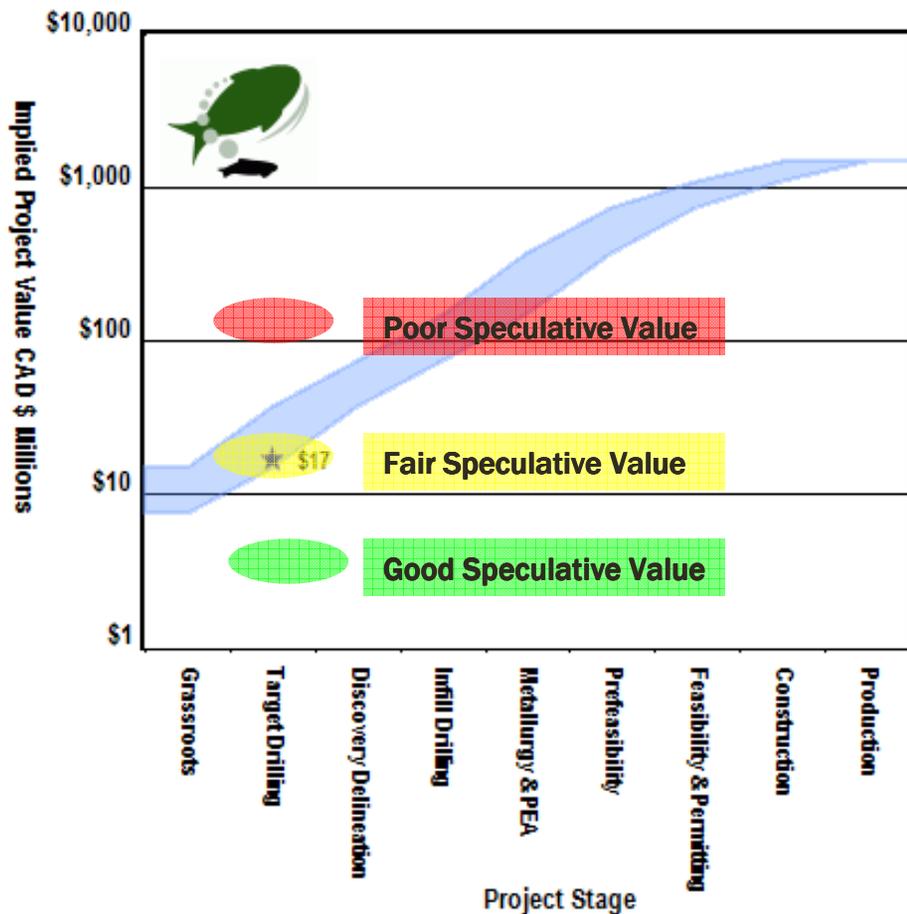
**Note:** the fair value range in each exploration stage row for each outcome target column is calculated by multiplying the target value by the success chance. ie stage 4 target \$500: 0.05 x \$500 = \$25, 0.1 x \$500 = \$50

## Mineral Exploration Cycle



## Nevada Expl - Grass Valley Outcome Visualization

Friday, November 27, 2015



### AT NPV OV

CAD: \$1,460.9 million  
 USD: \$1,112.4 million  
 IRR: 33.5%  
 Discount Rate: 9.0%

JK: Oct 4, 2015

★ Nevada Expl - Grass Valley

Resource: 10,000,000 t @  
 20.00 g/t Au  
 LOM: 5.7 million oz Au

UG: 1,700 tpd 16.1 yrs  
 CapEx: USD \$300,000,000  
 SusEx: USD \$100,000,000  
 OpEx: USD \$136.00/t

Gold: \$1,057/oz

OV ID: 1000003

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Unfortunately this potential discovery exploration outcome is just what one random person who already owns the stock thinks could happen. How does one judge the plausibility of the visualized outcome?

**What if an online system existed where “anonymous” visualizers shared their outcomes with the public, out of which a consensus is constructed on which the market prices the resource junior? What would prevent such a system from becoming cluttered with fantasy outcomes posted by shills for the company that ends up mis-leading the public and creating chaotic market activity?**

- Every visualizer who posts an outcome is assumed to have a conflict of interest, such as being long the stock if the outcome is favorable, or flat or short if unfavorable. They are predators in a competitive arena.
- Because visualizers lack professional credentials they are free to share what they wish.
- All visualizers start with zero reputation.
- OV postings and critiques are a permanent record linked to the visualizer that are the basis for reputation ranking generated “peer review” of OV assumptions and the degree visualized outcomes track actual project outcomes.
- A good reputation creates influence both within the OV system and the market and thus becomes valuable over time. **This predator system is self-regulating.**

- **What if the market was able to access an online system where “conflicted” individuals with no credentials other than their posting history manage and **share** their personal visions of a project’s potential outcome?**
- **Where others can critique any of the 30 variables the visualizer selected, and post their own “more plausible” vision of the outcome as an alternative?**
- **Where each visualizer evolves a reputation whose value as a market influence hinges on credibility growth, and becomes a carefully guarded asset, watched by the entire system for signs of a self-serving betrayal?**
- **Where a consensus outcome can be calculated and presented as a graphic that includes all the outcomes from most pessimistic to most optimistic, with each one a click away from full presentation of all its underlying variables and the “sticky notes” of others, and a few more clicks away from the visualizer’s entire history?**
- **What if a graphical interface allowed “gamblers” to “find” these outcomes for a project clustered together like some sort of boom town on an earth map which reveals both visualization activity and the market activity in the stock with a stake in the project, a boom town whose dynamic and history can be endlessly explored?**

What we would have is an organic, online multi-player game system that taps into the **Wisdom of Crowds** to generate an externalized outcome expectation independent of the market but closely linked to the 43-101 back-stopped information flow published by the resource juniors to which the “gamers” respond in real time, and to whose shared visions the market responds.

Such a system would create a public “object” that represents a fair value range for an exploration project’s potential outcome that attracts fundamental value hunters when a stock’s price pushes the valuation to the lower limit, and attracts selling when it surges above the upper limit. When new fundamental information enters the system, such as results, a 43-101 “event”, project viability changes, or new metal prices, the fair value range responds. Such an “object” would allow constrained volatility that in turn generates the liquidity needed to finance projects. Gamblers would have a way to rationally handicap resource juniors!

Mystery would be reborn in the form of speculation about changing perceptions about a project’s potential outcome, fueled by the viral networks of social media.

## **Implications of this new discovery exploration business model**

- **Juniors will need to publish far more information on their web sites to help the public understand their project goals**
- **Investors will know what good news is supposed look like, enabling the market to function as a price discovery mechanism**
- **Juniors will know better when to quit wasting money on a dead project**
- **The numerical basis of visualized outcomes facilitates interpretation of results**
- **Capital from long term gamblers will flow to projects with potential outcomes that make sense – life style juniors will be ignored**
- **Volatility within the fair speculative value range based on the consensus outcome will create liquidity courtesy of short term gamblers**
- **Down-trends created by down-tick, short-selling algos will be braked by fundamental value gamblers as well as algos which parse the consensus outcomes**
- **Project fundamentals, if presented properly, become self-marketing**
- **The effect of metal price changes are reflected in the value of potential outcomes**

## Kaiser Research Online

[www.KaiserResearch.com](http://www.KaiserResearch.com)

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**By allowing the resource junior stock exchange to operate as a fully regulated casino that generates real world results of practical value, the OV Online system will facilitate a legal alternative to fantasy sports betting that does not rely on the full service brokerage industry. We can save the juniors by building an interactive, graphical interface to the sector for the public.**

***When the market wind blows resource juniors should bend like reeds rather than break like trees.***