

# **2017 International Metal Writers Conference**

**Could an “untrusted” Crowd outperform “trusted” Experts?**

## **Visualizing Outcomes**

**Presented by John Kaiser**

**May 29, 2017**

**Vancouver, Canada**

# 2,000 Canadian & Australian Resource Juniors

## 90 Juniors Exhibiting at IMWC

### 40 “trusted expert” Speakers

- **Brokers - 5** – corporate finance oriented, constrained by “suitability” handcuffs
- **Fund Managers - 1** – macro wisdom, talking their book, constrained by market cap restrictions
- **Corporate - 9** – promoting their own companies
- **Metal Writers (Sponsored) - 4** – free expert wisdom paid for by the company
- **Metal Writers (Independent) - 21** – subscriber fee based, various types: ideologues, generalists, commodity focused, chartists, company-project focused, media



The Problem: how does a junior get anybody’s attention, how do “trusted experts” focus their attention efficiently, how can investors avoid being stuck trusting the wisdom of the handful of experts they can afford?



**Is this a buy, hold, sell or even a short?**

**What enabled me to issue an SVH Buy at \$0.61 on May 19, 2017?**

**Where could the stock go from here and why?**

**The most important question an investor can ask a company is, what are you trying to accomplish, what would it be worth if you succeed, and what is a fair price to pay today for that expected outcome?**

**Unfortunately security laws forbid a company from sharing anything with you beyond a pile of unconnected dots until it publishes a 43-101 report**

**Almost none of the “trusted experts” will visualize the potential outcome of an exploration project and tell you what its current fair price should be because:**

- The high uncertainty of discovery exploration guarantees they will be wrong**
- It involves hard work to visualize an outcome with conventional tools**
- They may not know how to do it in general or specifically**

## Economic Geology as done by a resource junior

- 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 our exploration strategy different from what others have already attempted?
- Are we applying a new exploration method or model for whose hallmarks past exploration has never filtered?
- What is the potential size of the prize we are seeking?
- Do we know what failure of our exploration story would look like?
- How much money and time will we need to make or break our story?
- How should our story be priced today based on our visualized outcome?

**Cannot  
be  
shared  
with the  
public!**

**Economic Geology: the process by which a geologist assesses the mineralization potential of a project, what it would cost to mine the potential deposit, and what it would be worth if exploration delivered such an orebody.**

## Valuation: Discounted Cash Flow Model (DCF)

$$\sum_{n=1}^m \frac{\text{Annual Cash Flow}}{(1 + \text{Discount Rate})^n}$$

Minus Capital Cost  


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 = Net Present Value

n = year of cash  
 m = mine life (years)

	<b>Annual Revenue</b>
less	Operating Costs
	<hr/>
=	Pre-Tax Cash Flow
less	Taxes
	<hr/>
=	After Tax Cash Flow

Note: if n=0 then the capital cost can be included as an initial negative value in the cash flow series because anything to the power of 0 =1. VBA functions start with n=1.

# NI 43-101 Visualized Outcome for Stibnite Project

	Y202	Y201	Y200	Y202	Y203	Y204	Y205	Y206	Y207	Y208	Y209	Y210	Y211	Y212		
<b>Operating Indicators</b>																
<b>Units Produced</b>																
Platinum (oz) - 2000	628	4,333	332	487	378	274	229	287	230	225	226	229	278	278		
Platinum (oz) - 2000	628	1,088	88	79	83	83	86	88	88	84	88	100	212	188		
<b>Additional Concentrate Equivalents</b>																
Additional Concentrate	60	848	123	174	87	118	84	61	83	82	73	84	88	84		
Platinum (oz) - Concentrate	628	33	622	639	823	528	378	878	822	847	828	825	828	825		
Copper (oz) - Concentrate	628	362	343	463	817	602	483	712	712	712	712	712	712	712		
Platinum (oz) - Concentrate	628	87,988	10,348	8,348	4,898	14,944	4,821	6,811	4,738	14,811	5,007	117				
<b>Revenues</b>																
<b>Thousands of US Dollars (\$000)</b>																
<b>Unit Prices</b>																
Gold	Year	\$1,200.00	\$1,200.00	\$1,200.00	\$1,200.00	\$1,200.00	\$1,200.00	\$1,200.00	\$1,200.00	\$1,200.00	\$1,200.00	\$1,200.00	\$1,200.00	\$1,200.00		
Silver	Year	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00		
Platinum	Year	\$800.00	\$800.00	\$800.00	\$800.00	\$800.00	\$800.00	\$800.00	\$800.00	\$800.00	\$800.00	\$800.00	\$800.00	\$800.00		
<b>Costs</b>																
Cost	Year	\$4,302,881	\$400,275	\$421,084	\$448,482	\$448,358	\$448,358	\$448,358	\$448,358	\$448,358	\$448,358	\$448,358	\$448,358	\$448,358		
Material	Year	\$23,887	\$1,738	\$1,996	\$1,586	\$1,586	\$1,586	\$1,586	\$1,586	\$1,586	\$1,586	\$1,586	\$1,586	\$1,586		
Planting/Transportation	Year	\$8,800	\$716	\$871	\$885	\$884	\$788	\$778	\$795	\$887	\$887	\$887	\$887	\$887		
Other	Year	\$1,797	\$1,647	\$1,611	\$877	\$1,957	\$718	\$718	\$655	\$655	\$655	\$655	\$655	\$655		
<b>Additional Concentrate</b>																
Cost	Year	\$1,182	\$812	\$886	\$925	\$896	\$896	\$896	\$896	\$896	\$896	\$896	\$896	\$896		
Other	Year	\$7,845	\$1,885	\$888	\$1,870	\$1,350	\$888	\$888	\$888	\$888	\$888	\$888	\$888	\$888		
Material	Year	\$271,888	\$40,790	\$48,942	\$18,388	\$47,388	\$47,388	\$47,388	\$47,388	\$47,388	\$47,388	\$47,388	\$47,388	\$47,388		
Transportation	Year	\$13,881	\$2,084	\$1,888	\$838	\$2,888	\$838	\$838	\$838	\$838	\$838	\$838	\$838	\$838		
Total Revenue	Year	\$2,082,388	\$175,178	\$188,878	\$188,878	\$188,878	\$188,878	\$188,878	\$188,878	\$188,878	\$188,878	\$188,878	\$188,878	\$188,878		
<b>Operating Costs</b>																
<b>Thousands of US Dollar (\$000)</b>																
Operating Cost	Total	Year-3	Year-2	Year-1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12
Mining	\$889,999	\$1,999	\$23,105	\$62,065	\$87,256	\$92,092	\$95,799	\$88,174	\$82,887	\$69,083	\$68,578	\$70,381	\$65,794	\$47,885	\$30,803	
Process Plant	\$1,416,809			\$107,738	\$125,488	\$122,912	\$124,017	\$117,470	\$117,015	\$120,502	\$116,896	\$115,219	\$115,447	\$118,681	\$116,426	
G&A	\$306,936			\$25,578	\$25,578	\$25,578	\$25,578	\$25,578	\$25,578	\$25,578	\$25,578	\$25,578	\$25,578	\$25,578	\$25,578	
<b>Total Operating Cost</b>	<b>\$2,613,745</b>	<b>\$1,999</b>	<b>\$23,105</b>	<b>\$195,380</b>	<b>\$237,322</b>	<b>\$240,581</b>	<b>\$249,394</b>	<b>\$231,222</b>	<b>\$226,580</b>	<b>\$215,162</b>	<b>\$211,052</b>	<b>\$211,178</b>	<b>\$206,618</b>	<b>\$192,148</b>	<b>\$172,806</b>	
Royalty	\$81,567			\$6,806	\$9,209	\$7,836	\$7,628	\$7,110	\$7,355	\$7,532	\$6,525	\$5,371	\$5,070	\$5,662	\$5,561	
Property Taxes	\$3,665			\$315	\$427	\$389	\$380	\$317	\$366	\$346	\$389	\$137	\$204	\$167	\$230	
Salvage Value	-\$26,524															
Redemption/Closure																
Production Cost	\$2,672,454	\$1,999	\$23,105	\$202,502	\$246,957	\$248,807	\$257,402	\$238,650	\$233,301	\$223,040	\$217,965	\$216,686	\$212,092	\$197,973	\$178,897	
Net Operating Income	\$2,410,909	-\$1,999	-\$23,105	\$238,727	\$332,216	\$220,069	\$248,804	\$197,971	\$219,015	\$237,455	\$224,154	\$104,532	\$90,149	\$139,000	\$157,398	
Depreciation																
Initial Capital	\$970,254			\$171	\$139,264	\$237,132	\$189,967	\$121,993	\$87,663	\$85,587	\$85,683	\$42,793				
Sustaining Capital	\$154,385			\$299	\$680	\$2,314	\$3,693	\$4,434	\$10,434	\$14,129	\$12,310	\$11,494	\$9,664	\$8,123	\$7,642	
Total Depreciation	\$1,124,639			\$171	\$139,563	\$237,812	\$172,281	\$125,686	\$92,098	\$96,021	\$99,812	\$55,103	\$11,494	\$9,664	\$8,123	
Net Income after Depreciation	\$1,286,271	-\$1,999	-\$23,276	\$99,164	\$93,642	\$47,788	\$123,118	\$105,873	\$122,995	\$137,643	\$169,051	\$93,037	\$80,485	\$130,877	\$149,756	
Ideho Mine License Tax	\$7,259			\$471	\$462	\$236	\$616	\$529	\$615	\$688	\$981	\$485	\$402	\$802	\$952	
Ideho Corporate Income Tax	\$44,232						\$3,717	\$3,917	\$4,551	\$5,093	\$7,258	\$3,442	\$2,978	\$5,934	\$7,342	
Federal Income Tax	\$193,725						\$16,281	\$17,157	\$19,831	\$22,305	\$21,788	\$15,077	\$13,043	\$25,989	\$21,154	
Net Income after Taxes	\$1,041,055	-\$1,999	-\$23,276	\$98,694	\$93,642	\$47,552	\$102,603	\$84,270	\$95,898	\$109,857	\$129,024	\$74,053	\$64,062	\$98,152	\$109,288	
Cash Flow																
Net Operating Income	\$2,410,909	-\$1,999	-\$23,105	\$238,727	\$332,216	\$220,069	\$248,804	\$197,971	\$219,015	\$237,455	\$224,154	\$104,532	\$90,149	\$139,000	\$157,398	
Working Capital																
Account Receivables																
Accounts Payable																
Inventory (Parts)																
<b>Total Working Capital</b>	<b>\$0</b>			-\$7,500	-\$7,500											
Capital Expenditures																
Initial Capital	\$970,254	\$137,371	\$341,335	\$491,548												
Sustaining Capital	\$154,385				\$2,094	\$1,169	\$11,627	\$2,658	\$9,016	\$40,566	\$5,589	\$7,944	\$9,039	\$699	\$1,797	
<b>Total Capital Expenditures</b>	<b>\$1,124,639</b>	<b>\$137,371</b>	<b>\$341,335</b>	<b>\$491,548</b>	<b>\$2,094</b>	<b>\$1,169</b>	<b>\$11,627</b>	<b>\$2,658</b>	<b>\$9,916</b>	<b>\$40,566</b>	<b>\$5,589</b>	<b>\$7,944</b>	<b>\$9,039</b>	<b>\$699</b>	<b>\$1,797</b>	
Cash Flow before Taxes	\$1,286,271	-\$137,371	-\$343,334	-\$822,153	\$219,030	\$327,102	\$213,117	\$244,966	\$190,168	\$177,572	\$231,101	\$216,797	\$100,467	\$90,051	\$135,172	
Cumulative Cash Flow before Taxes		-\$137,371	-\$480,705	-\$1,002,858	-\$783,829	-\$456,727	-\$243,609	\$1,356	\$191,524	\$369,096	\$600,197	\$816,994	\$917,461	\$1,007,512	\$1,142,684	
Taxes	\$245,216															
Cash Flow after Taxes	\$1,041,055	-\$137,371	-\$343,334	-\$822,153	\$218,559	\$326,640	\$212,881	\$224,351	\$188,564	\$152,475	\$203,015	\$176,770	\$81,483	\$73,628	\$102,447	
Cumulative Cash Flow after Taxes		-\$137,371	-\$480,705	-\$1,002,858	-\$784,299	-\$457,659	-\$244,778	-\$20,426	\$148,138	\$300,613	\$503,628	\$680,398	\$761,881	\$835,509	\$937,956	

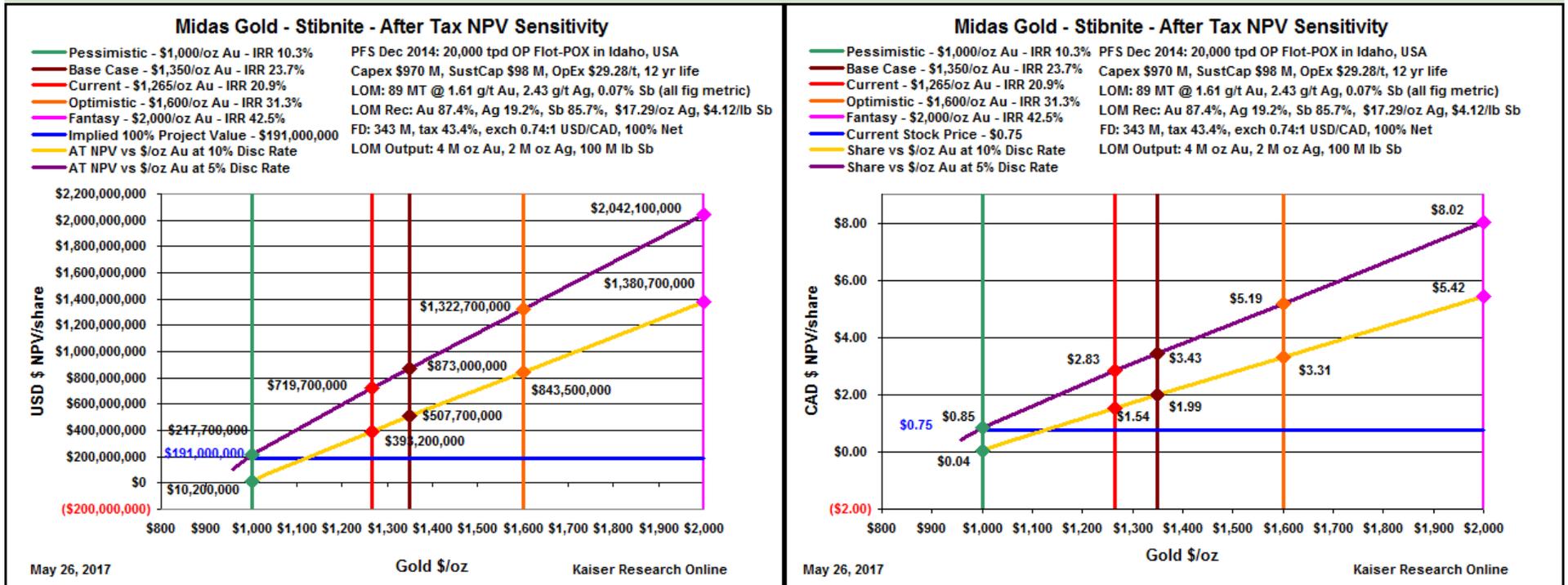
Taken from page 640 of the 650 page technical report supporting the 2014 PFS by Midas Gold Corp – over \$100 million spent on feasibility demonstration

Economic Indicators before Taxes		
NPV @ 0%		\$1,286,271
NPV @ 5%	5.0%	\$662,398
NPV @ 7%	7.0%	\$488,090
NPV @ 10%	10.0%	\$281,855
IRR		16.2%
Payback	Years	4.0

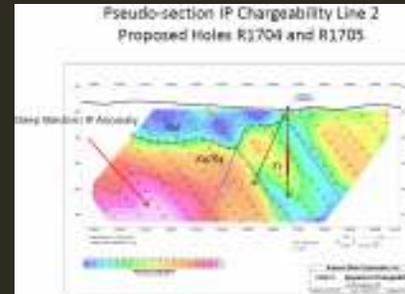
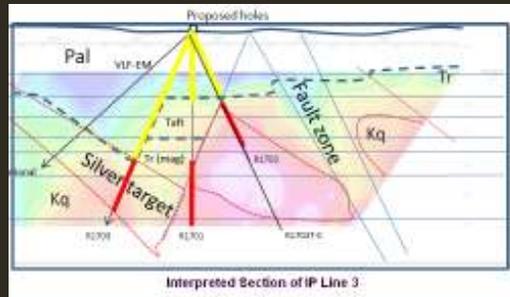
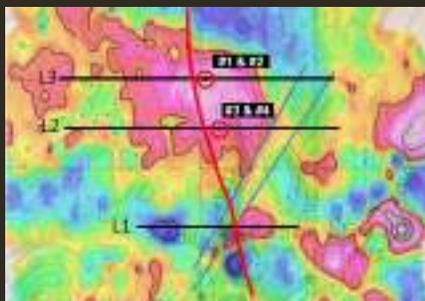
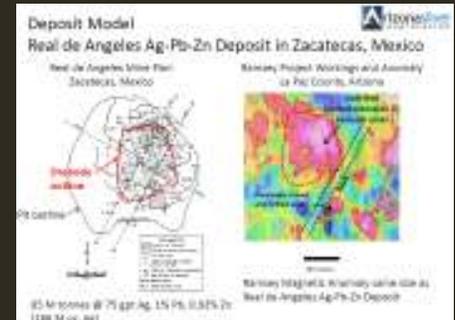
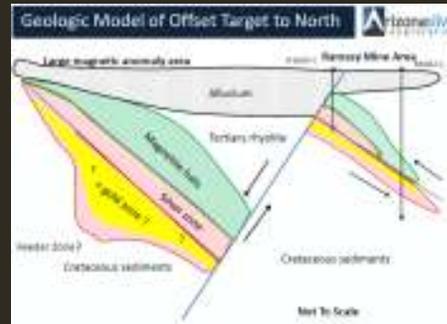
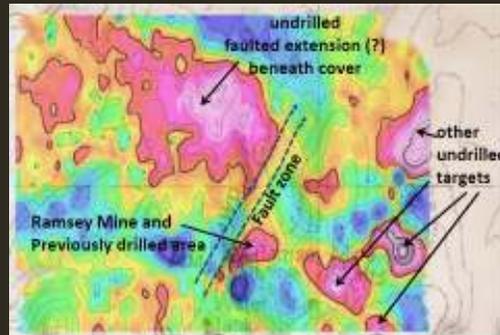
Economic Indicators after Taxes		
NPV @ 0%		\$1,041,055
NPV @ 5%	5.0%	\$512,978
NPV @ 10%	10.0%	\$187,239
IRR		14.4%
Payback	Years	4.1

Doesn't it make you want to buy a gold ETF instead? Or stick with momentum trades?

With a spreadsheet one can model the NPV and IRR outcome at different metal prices using the company's 43-101 visualized outcome.



But DCF spreadsheet models take a lot of work to construct and populate with data.



**Ramsey  
Target Drilling  
– how do you  
price it?**

## Visualizing a Potential Outcome: the Revenue part of the DCF Model

Deposit Scenario							
	Metal 1		Metal 2		Metal 3		Metal 4
	Silver Ag						
Grade:	125.0 g/t	VU					
Recovery:	90.0%	VU					
Payable:	95.0%	SU					
Concentrate Grade:	0.0%	VS					
Price:	\$17.29 /oz	VS					
Price Type:	Spot						
Annual Payable:	12,541,904 oz						
LOM Payable:	206,168,288 oz						
Mining Scenario							
Tonnage:	60,000,000	VU	Strip Rate:	5.0	VU		
Operating Rate (tpd):	10,000	SU	Mining Type:	Open Pit	VS		
Mine Life (years):	16.4		Startup:	2022	VU		
Tax Treatment:	SLM Straight Line Depreciation	VU	Tax Rate:	38.0%	SU		
<b>Tonnage Note:</b> Based on tonnage footprint of 500 m by 500 m by 100 thick with 2.5 specific gravity.							

## Visualizing a Potential Outcome: the Cost part of the DCF Model

Cost Scenario					
			Currency	USD Cost	Exchange Rate
CapEx:	\$150,000,000	VU	USD	\$150,000,000	1.000
Sustaining Capital:	\$90,000,000	VU	USD	\$90,000,000	1.000
Mining Cost (\$/t rock):	\$1.50	SU	USD	\$1.50	1.000
Mining Cost (\$/t ore):	\$9.00		USD	\$9.00	1.000
Processing Cost (\$/t):	\$15.00	VU	USD	\$15.00	1.000
Other Cost (\$/t):	\$2.00	VU	USD	\$2.00	1.000
Total OpEx (\$/t):	<b>\$26.00</b>		USD	\$26.00	1.000

## Visualizing a Potential Outcome: the Risk part of the DCF Model

Risk Factors - Risk-Adjusted Discount Rate: 8.5%

	Risk Level	Risk Weight	Confidence
<b>Environmental Permitting:</b>	Low	1.0	SS
<b>Social License:</b>	Low	1.0	SU
<b>Title:</b>	Low	1.0	SU
<b>Tax:</b>	Very Low	0.5	SS
<b>GeoPolitical:</b>	Very Low	1.0	VS
<b>Infrastructure:</b>	Very Low	0.5	VS
<b>Technical:</b>	Low	2.5	VU
<b>Management:</b>	Very Low	0.5	VS
<b>Financing:</b>	Very Low	0.5	SS

We use the discount rate to adjust for company-project specific risk. Note: the algorithm is very simple - it adds the risk weight factors assigned to the risk type based on the user choice.

Risk Factor Weight Table

	Very Low	Low	High	Very High
<b>Environmental Permitting:</b>	0.5	1.0	1.5	2.0
<b>Social License:</b>	0.5	1.0	1.5	2.0
<b>Title:</b>	0.5	1.0	1.5	2.0
<b>Tax:</b>	0.5	1.0	1.5	2.0
<b>GeoPolitical:</b>	0.5	1.0	1.5	2.0
<b>Infrastructure:</b>	0.5	1.5	2.5	4.0
<b>Technical:</b>	1.0	2.5	4.0	5.5
<b>Management:</b>	0.5	1.5	3.0	4.0
<b>Financing:</b>	0.5	1.0	1.5	2.0

The risk adjusted discount rate is the sum of the weight of the risk level assigned to each risk factor.

**Economic Outcome (USD): Revenue Model at OV designated Metal Prices**

	<b>Annual Average</b>	<b>Life of Mine (LOM)</b>	<b>LOM Stats</b>
<b>Recoverable Revenue:</b>	\$228,262,656	\$3,752,262,833	\$63/t ore Recoverable Value:
<b>Smelter/Transport Costs:</b>	(\$11,413,133)	(\$187,613,142)	5.0% of Recoverable Revenue
<b>Gross Payable Revenue:</b>	\$216,849,523	\$3,564,649,691	95.0% of Recoverable Revenue
<b>Royalties:</b>	\$0	\$0	0.0% of Gross Payable Revenue
<b>Net Payable Revenue:</b>	\$216,849,523	\$3,564,649,691	95.0% of Recoverable Revenue
<b>Mining Cost:</b>	(\$32,850,000)	(\$540,000,000)	33% of OpEx - \$9.00/t ore
<b>Processing Cost:</b>	(\$54,750,000)	(\$900,000,000)	55% of OpEx - \$15.00/t ore
<b>Other Cost:</b>	(\$7,300,000)	(\$120,000,000)	7% of OpEx - \$2.00/t ore
<b>Sustaining Cost:</b>	(\$5,294,118)	(\$90,000,000)	5% of OpEx - \$1.50/t ore
<b>Total Operating Cost:</b>	(\$100,194,118)	(\$1,650,000,000)	46% of Net Payable Revenue - OpEx - \$27.50/t ore
<b>Pre-Tax Cash Flow:</b>	\$116,655,405	\$1,914,649,691	54% of Net Payable Revenue - \$31.91/t ore
<b>Taxes:</b>	(\$40,861,554)	(\$670,566,883)	35% of Pre-Tax Cash Flow - \$11.18/t ore
<b>After-Tax Cash Flow:</b>	\$75,793,851	\$1,244,082,808	35% of Net Payable Revenue - \$20.73/t ore

## \$19 target if Visualized Outcome became reality \*

### Economic Outcomes with Alternative Metal Price Scenarios

	CAD AT NPV	CAD Target Price	USD AT NPV	USD AT IRR	Silver
<b>Spot:</b>	\$629,763,613	\$19.13	\$468,016,954	50.5%	\$17.29 /oz
<b>OV Assigned:</b>	\$629,763,613	\$19.13	\$468,016,954	50.5%	\$17.29 /oz
<b>Pessimistic:</b>	\$186,706,291	\$5.67	\$138,753,189	22.2%	\$12.00 /oz
<b>Optimistic:</b>	\$1,275,505,004	\$38.75	\$947,907,999	90.5%	\$25.00 /oz
<b>Fantasy:</b>	\$3,369,348,683	\$102.36	\$2,503,974,943	220.1%	\$50.00 /oz

\* Assuming no further equity dilution from 33 million fully diluted

But how does that \$19 target based on a visualized outcome help us price the stock today when all we have is a box of core confirming the geological model but no assays establishing grade?



## Rational Speculation Model – Uncertainty Ladder for Metal Projects

Exploration Cycle Stages		Success Probability		Outcome Target Fair Value Channels (\$ Millions)		
		Certainty	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 & Metallurgy	5-10%	10-20	\$5-10	\$25-50	\$100-200
5	PEA	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

## Stage Risk Adjustment: Intrinsic Value vs Speculative Value

**Intrinsic Value = Discounted Cash Flow Model (DCF) applied to a mine**

**Fair Value of a Bet = probability times value of an expected outcome**

**Speculative Value = probability of a potential mine times such a mine's DCF value**

### The 6 Numbers you need to Gamble on Discovery Exploration

- After Tax Net Present Value (NPV)
- After Tax Internal Rate of Return (IRR)
- Discount Rate
- Project Net Interest
- Fully Diluted Shares
- Stock Price

**Future Stock Target:  $NPV \times Net\ Interest / Fully\ Diluted$**

**Implied Market Value:  $Fully\ Diluted \times Stock\ price / Net\ Interest$**

**Fair Speculative Stock Price:  $Stage\ Certainty \times NPV \times Net\ Interest / Fully\ Diluted$**

**Fair Speculative Value Stock Price Range: CAD \$0.19 - \$0.48**

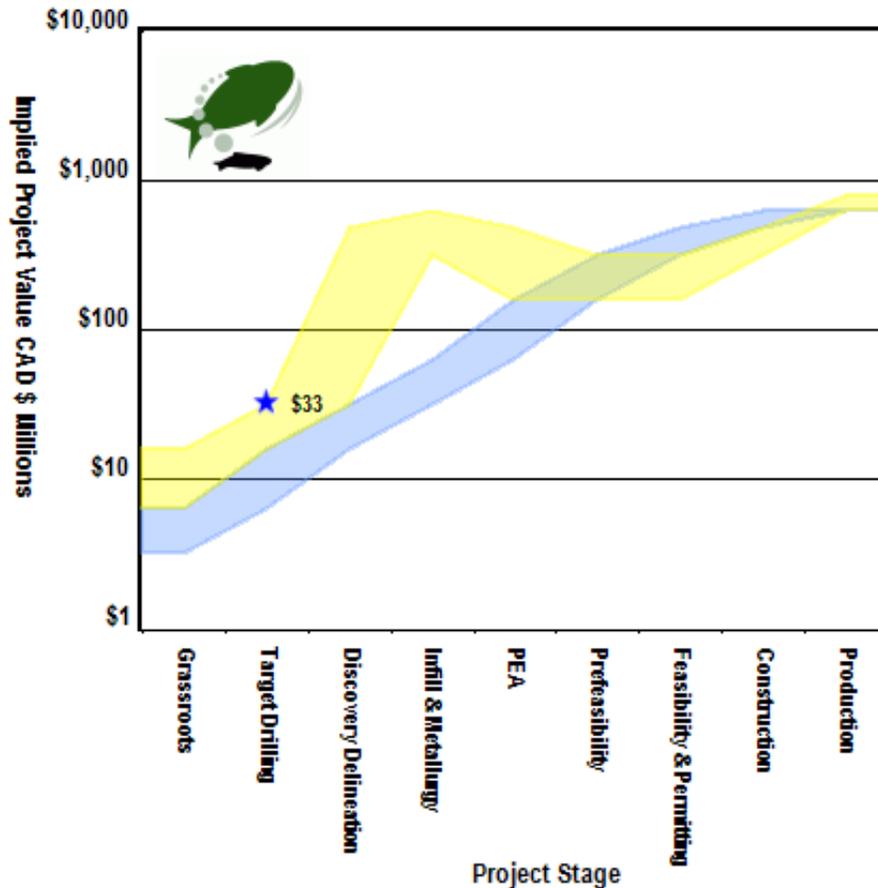
**MSV (Market Cycle S Curve):** Market Speculative Value represents the typical market pricing pattern of a new discovery as it moves through its exploration-development cycle. The *irrational* pricing behavior of the yellow channel contrasts with the *fair speculative value* of the blue channel as defined by the *rational speculation model* because during the pre-economic study stages there is great uncertainty about how *big* the discovery will turn out.

**Fair Speculative Value Ladder**

USD OV NPV	CAD OV NPV	Exch Rate	Diluted	Net Interest
<b>\$468,016,954</b>	<b>\$629,763,613</b>	<b>1.3456</b>	<b>32,918,126</b>	<b>100.00%</b>
Project Stage	Uncertainty Range	CAD FSV Range	CAD FSV per Share Range	
Grassroots	0.5% - 1.0%	\$3,148,818 - \$6,297,636	\$0.10 - \$0.19	
Target Drilling	1.0% - 2.5%	\$6,297,636 - \$15,744,090	\$0.19 - \$0.48	
Discovery Delineation	2.5% - 5.0%	\$15,744,090 - \$31,488,181	\$0.48 - \$0.96	
Infill & Metallurgy	5% - 10%	\$31,488,181 - \$62,976,361	\$0.96 - \$1.91	
PEA	10% - 25%	\$62,976,361 - \$157,440,903	\$1.91 - \$4.78	
Prefeasibility	25% - 50%	\$157,440,903 - \$314,881,807	\$4.78 - \$9.57	
Permitting & Feasibility	50% - 75%	\$314,881,807 - \$472,322,710	\$9.57 - \$14.35	
Construction	75% - 100%	\$472,322,710 - \$629,763,613	\$14.35 - \$19.13	
Production	100%	\$629,763,613	\$19.13	

# Arizona Silver - Ramsey Outcome Visualization

Friday, May 26, 2017



**AT NPV OV**

- FSV CAD: \$629.8 M (\$19.13)
- MSV (Market Cycle S Curve)
- IRR: 50.5%
- Discount Rate: 8.5%

JK: May 18, 2017

★ Arizona Silver - Ramsey

Resource: 60,000,000 t @ 125.00 g/t Ag  
LOM: 206.0 million oz Ag

OP: 10,000 tpd 16.4 yrs  
CapEx: USD \$150,000,000  
SusEx: USD \$90,000,000  
OpEx: USD \$26.00 /t

Silver: \$17.29/oz

FD: 33 M Net: 100% WI  
OVP ID: 1000017 AZS: \$1.00

Copyright 2017 Kaiser Research

**Fair Speculative Value Stock Price Range: CAD \$0.19 - \$0.48**

**MSV (Market Cycle S Curve):** Market Speculative Value represents the typical market pricing pattern of a new discovery as it moves through its exploration-development cycle. The *irrational* pricing behavior of the yellow channel contrasts with the *fair speculative value* of the blue channel as defined by the *rational speculation model* because during the pre-economic study stages there is great uncertainty about how *big* the discovery will turn out.

**Fair Speculative Value Ladder**

USD OV NPV	CAD OV NPV	Exch Rate	Diluted	Net Interest
\$468,016,954	\$629,763,613	1.3456	32,918,126	100.00%
Project Stage	Uncertainty Range	CAD FSV Range	CAD FSV per Share Range	CAD MSV per Share Range
Grassroots	0.5% - 1.0%	\$3,148,818 - \$6,297,636	\$0.10 - \$0.19	\$0.19 - \$0.48
Target Drilling	1.0% - 2.5%	\$6,297,636 - \$15,744,090	\$0.19 - \$0.48	\$0.48 - \$0.96
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PEA	10% - 25%	\$62,976,361 - \$157,440,903	\$1.91 - \$4.78	\$4.78 - \$14.35
Prefeasibility	25% - 50%	\$157,440,903 - \$314,881,807	\$4.78 - \$9.57	\$4.78 - \$9.57
Permitting & Feasibility	50% - 75%	\$314,881,807 - \$472,322,710	\$9.57 - \$14.35	\$4.78 - \$9.57
Construction	75% - 100%	\$472,322,710 - \$629,763,613	\$14.35 - \$19.13	\$9.57 - \$14.35
Production	100%	\$629,763,613	\$19.13	\$19.13 - \$23.91

## S-Curve Behavior escalates in a context of rising metal prices

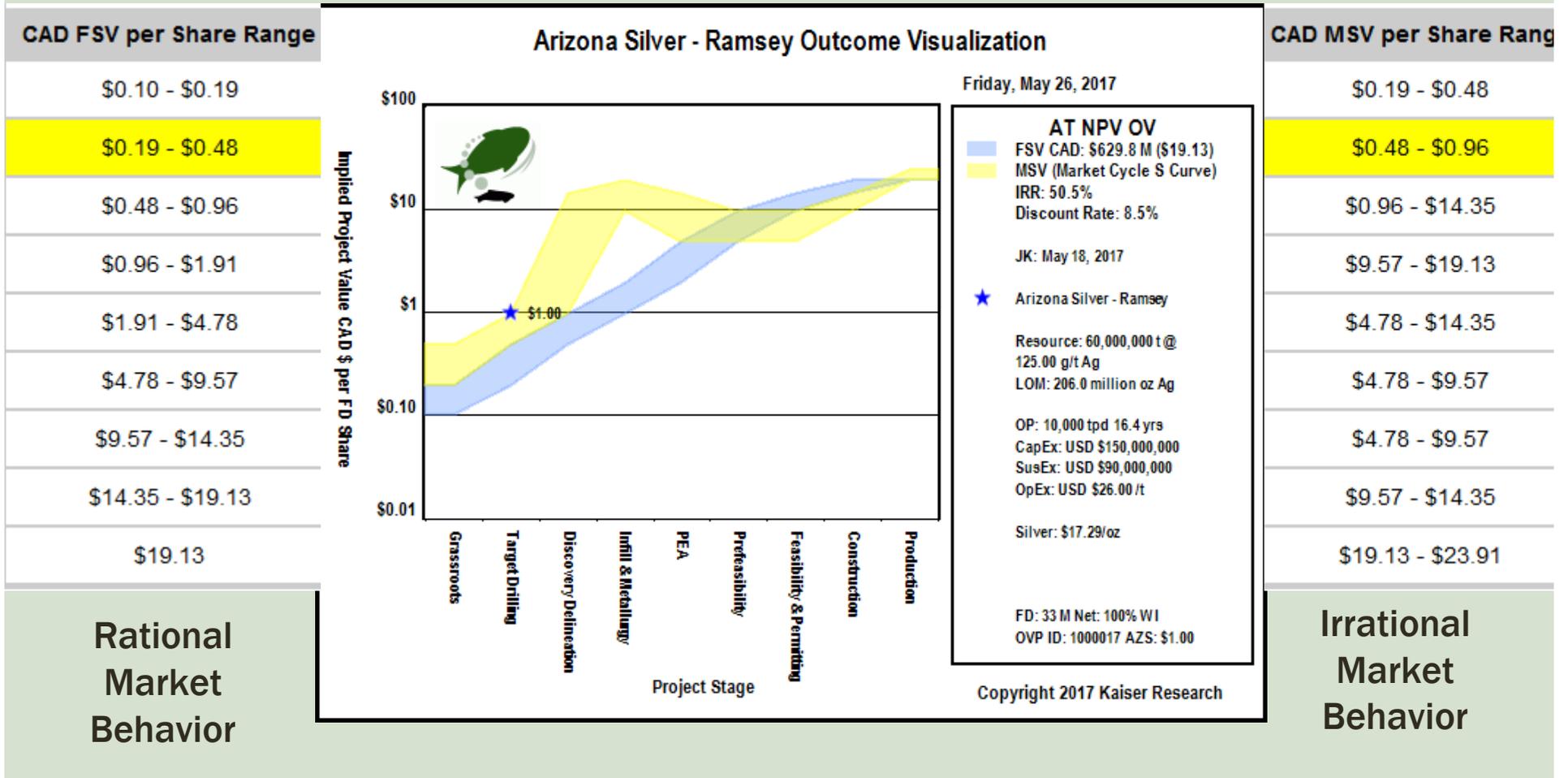
### Economic Outcomes with Alternative Metal Price Scenarios

	CAD AT NPV	CAD Target Price	USD AT NPV	USD AT IRR	Silver
<b>Spot:</b>	\$629,763,613	\$19.13	\$468,016,954	50.5%	\$17.29 /oz
<b>OV Assigned:</b>	\$629,763,613	\$19.13	\$468,016,954	50.5%	\$17.29 /oz
<b>Pessimistic:</b>	\$186,706,291	\$5.67	\$138,753,189	22.2%	\$12.00 /oz
<b>Optimistic:</b>	\$1,275,505,004	\$38.75	\$947,907,999	90.5%	\$25.00 /oz
<b>Fantasy:</b>	\$3,369,348,683	\$102.36	\$2,503,974,943	220.1%	\$50.00 /oz

\* Per share target price assumes no further equity dilution from current 33 million fully diluted

Currently we are in flat metal price markets with no special reasons to expect substantially higher real prices, so the market will use the spot in its valuation activities. But if we were to get a rising silver price market, investors will apply a much more optimistic range of “future” prices for their DCF model.

## Early stages vulnerable to positive S-Curve, advanced stages negative S-Curve



## **Some obvious issues with visualized outcomes**

- **Who cares what one individual thinks the outcome might be?**
- **What if he is very confused about the geology? Who will correct him?**
- **How do we know if some cost assumptions make no real world sense?**
- **What if the writer is on a site visit when important results come out?**
- **The letter writer's subscription is expensive, the Canadian brokerage report can't be disseminated in the United States, the fund manager won't share insights until position bought or sold, and if the company whispers its internal visualized outcome, why should we trust the numbers when there is plausible deniability?**
- **The trusted experts cover only a fraction of the 2,000 resource juniors**

# THE SHARE COLLECTIVE

PROJECTS:  
Recent projects ▾



JohnKaiser

Hotspots

My Portfolios

My Outcome  
Visualisations

Company /  
Project Lookup

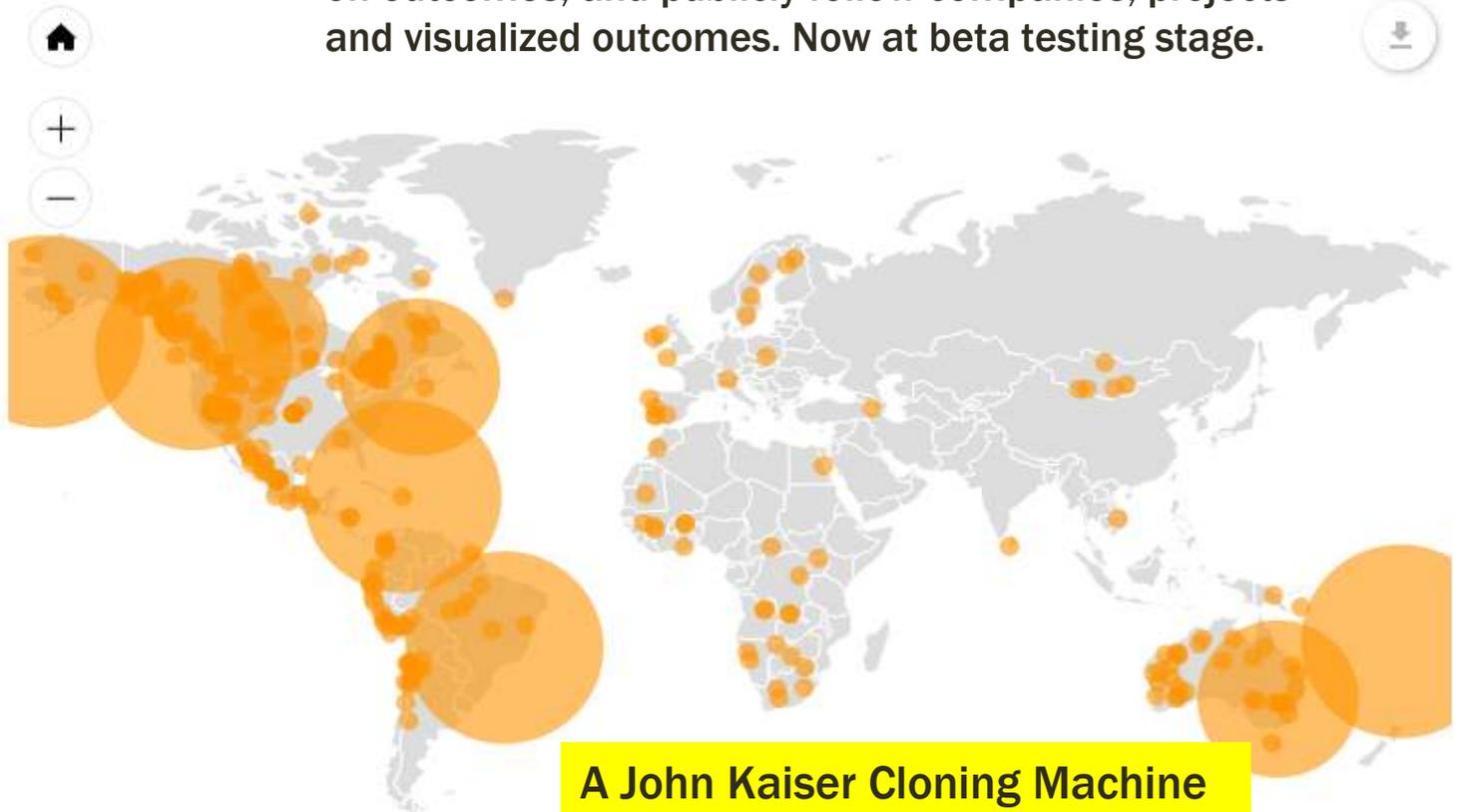
My Profile

User Lookup

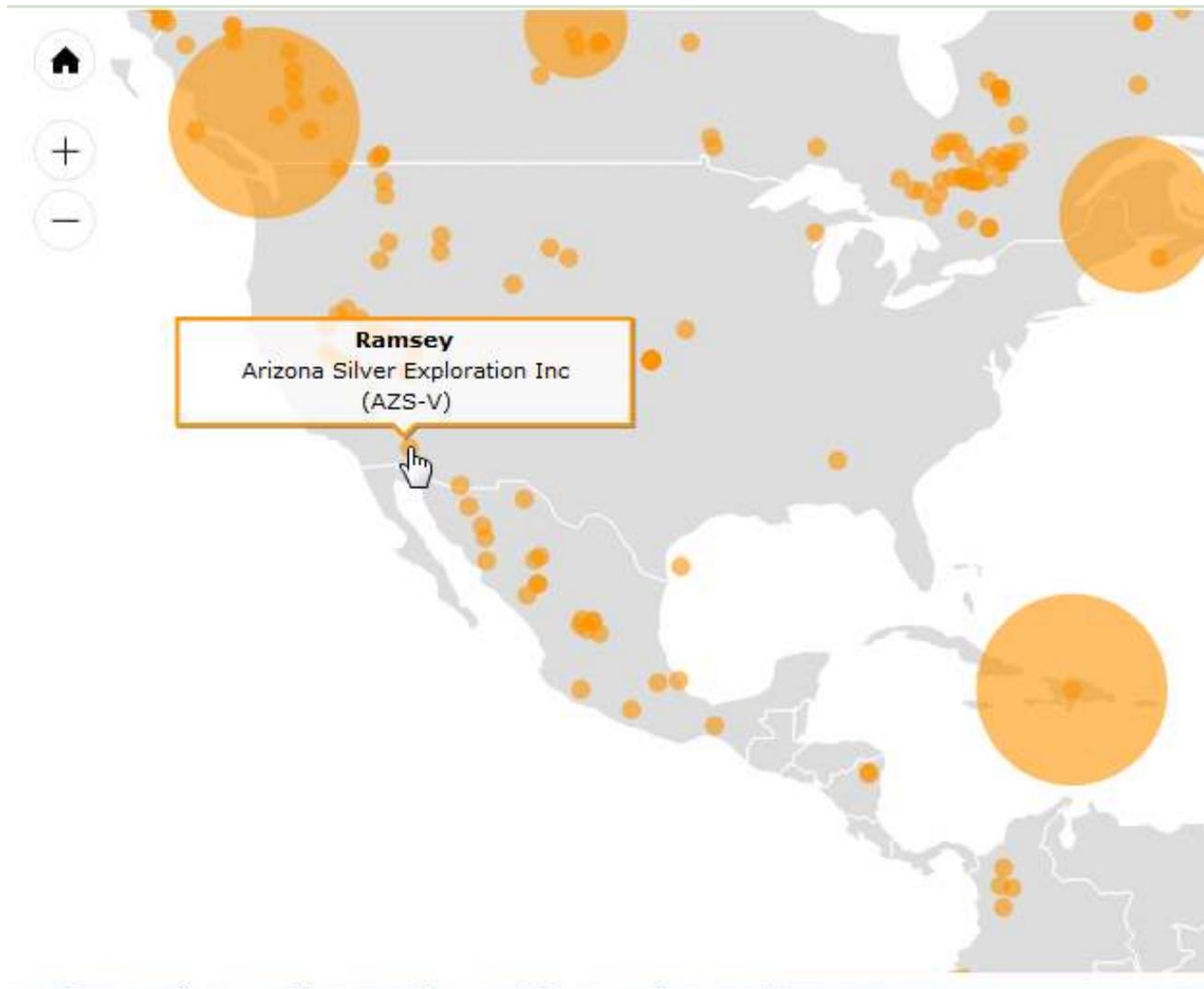
Help

Hotspots

A subscription based portal which enables members to visualize outcomes, share them for all to see, comment on outcomes, and publicly follow companies, projects and visualized outcomes. Now at beta testing stage.



A John Kaiser Cloning Machine



Each project is a node that can attract its own community of followers and outcome visualizers.

TSC will have over 1,500 Canadian and Australian listed juniors with 3,000+ projects.

# Find projects through the search engine

Q Company / Project Lookup

FLAGSHIP PORTFOLIO  
\$0.00

MY REPUTATION  
39



Please select a project

Q  Show 10 entries

Company Name ▲	Project Name ◇	Project Metals ◇	Trading Currency ◇	Exploration Stage ◇	Company Link ◇	Diluted Stock ◇	People ◇	Country
Arizona Sil		Any	Any	Any		Min Max		Any
<a href="#">Arizona Silver Exploration Inc (AZS-V)</a>	<a href="#">Ramsey</a>	Silver, Lead	CAD	Target Drilling	<a href="http://arizonasilverexploration.com">arizonasilverexploration.com</a>	32,918,126	Gregory A. Hahn (CEO), Mike Stark (Chair), Richard Barnett (CFO)	United Sta

Showing 1 to 1 of 1 entries (filtered from 368 total entries)

Previous 1 Next

Company: **Arizona Silver Exploration Inc (AZS-V)**

Stock Price

**1 CAD**

0.743 USD

(1.35 CAD = 1 USD)

Issued Stock

**28,657,470**

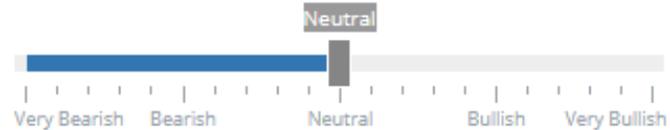
Diluted Stock

**32,918,126**

Projects

**Ramsey**

Share your position on this company?



**\$ Buy Stock**

**+ Follow**

**Go to the Company Page & Follow it and share your sentiment, or Buy it for one of your “portfolios”**

**Stock Performance**

**Company Details**

**Judgements**

Stock Price

**1 CAD**

0.743 USD

(1.35 CAD = 1 USD)

Stock Issued

**28,657,470**

Diluted Stock

**32,918,126**

Last Updated

**26/05/2017**

Project: **Ramsey**

Company: **Arizona Silver Exploration Inc (AZS-V)**

Net Interest: **100% WI**

Symbol: **AZS-V**

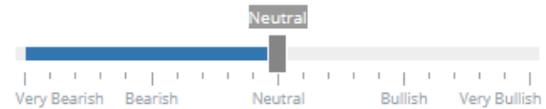
Corporate Web Site:

**arizonasilverexploration.com**

Exploration Stage: **Target Drilling**

Royalties: **.00%**

Share your position on this project?



[\\$ Create a New Outcome Visualisation \(OV\)](#)

[+ Follow](#)

**Go to the Company-Project Page, follow the project, share your sentiment on it, check out existing visualized outcomes or even create your own OV**

[\\$ Create a New Outcome Visualisation \(OV\)](#)

Select an Outcome Visualisation for more Information

OV Name	Date	Generated By	Reputation	NPV	IRR	Stock Performance
Ramsey Open Pit Silver Scenario	17/05/2017	JohnKaiser	2	\$443,723,295	41.15%	▲ 2,034.53%

Showing 1 to 1 of 1 entries

Previous **1** Next

**Arizona Silver Exploration Inc  
(AZS-V) : Ramsey**

**Stage : Target Drilling**

**Author : JohnKaiser**



## Step 1 - Potential Mining Scenario

Plan Name \* ⓘ

Ramsey Open Pit Silver Scenario

Plan Notes ⓘ

The Ramsey Mine was a a northwest striking easterly dipping high grade silver vein deposit of which a 2 metre width grading 30-40 opt silver was historically mined, though lower grade silver extends 30-40 m into the wallrocks of the mined vein. The mining levels stopped at the edge of basin gravels where the vein was cut off by a fault. AZS initially took on the project with the goal of deepening and extending southeastwards the vein system. But a VLF-Mag survey that included the gravel covered extension of the vein system led to the conclusion that the vein system had been faulted both downwards and northeastward and the hypothesis that the magnetic anomaly under the gravel cover was a continuation of the system.

**Visualizer can provide an explanation of the reasoning behind the visualized outcomes**

## Mine Information

**Initial 43-101 resource estimate decides who was closest**

Deposit Size \* ⓘ

60,000,000

Tonnes

Mine Type \* ⓘ

Open Cut/ Open Pit

Strip Ratio \* ⓘ

10

waste : ore

Mine Info Comments ⓘ

Mining Rate \* ⓘ

10,000

t/d

Mine Life \* ⓘ

16.44

yrs

Estimated Startup Year \* ⓘ

2022

## Mineral Information

Mineral 1\*

Q Silver

Primary Constituent ⓘ

Grade ⓘ \*

125 g/t

Grade Confidence (very low) ⓘ \*

Payable ⓘ \*

98 %

Payable Confidence (high) ⓘ \*

Recovery ⓘ \*

90 %

Recovery Confidence (very low) ⓘ \*

Concentrate Grade ⓘ \*

100 %

**Reveal your confidence about an assumption**

Antimony	Lithium	REO - Samarium
Bauxite	Magnesium	REO - Terbium
Beryllium	Manganese	REO - Thulium
Bismuth	Molybdenum	REO - Ytterbium
Cesium	Nickel	REO - Yttrium
Chromium	Niobium	Rhenium
Coal - Metallurgical	Palladium	Rhodium
Coal - Thermal Black	Phosphate	Scandium
Coal - Thermal Brown	Platinum	Selenium
Cobalt	Potash	Silicon
Copper	Rare-Earth-Metals	Silver
Diamond	REO - Cerium	Tantalum
Gallium	REO - Dysprosium	Tellurium
Gemstone	REO - Erbium	Tin
Germanium	REO - Europium	Titanium
Gold	REO - Gadolinium	Tungsten
Graphite	REO - Holmium	Uranium
Indium	REO - Lanthanum	Vanadium
Iron	REO - Lutetium	Zinc
Lead	REO - Neodymium	Zirconium

**Define deposit tonnage & grades and the mining rate and type**

**Large range of metal choices**

**You can even enter a rare earth deposit with all 15 oxides, along with recoveries and payables for each one!**



Potential Mining Scenario



Commodity Prices



Mining Cost Assumptions



Risk Profile

## Step 2 - Commodity Prices

### Mineral Price Details

#### Silver

Price Position

Spot

Mineral Price ⓘ \*

17.29 \$/oz

Mineral Price Notes ⓘ



You can use spot or enter a custom price – good for seeing what happens if silver is \$50 per oz! Also allows custom prices for obscure markets like scandium & complex ones like diamonds.

1

Potential Mining Scenario

2

Commodity Prices

3

Mining Cost Assumptions

4

Risk Profile

### Step 3 - Mining Cost Assumptions

**Here is where you can argue with other members about the costs by including explanatory notes.**

#### Costs

Capital Cost ⓘ \*

\$ 150,000,000

Sustaining Capital Cost ⓘ \*

\$ 85,000,000

Mining Cost ⓘ \*

\$ 1.5 / tonne ore

Processing Cost ⓘ \*

\$ 15 / tonne ore

Other Cost ⓘ \*

\$ 2 / tonne ore

Capital Cost Confidence (very low) ⓘ \*

Progress bar

Sustaining Capital Cost Confidence (very low) ⓘ \*

Progress bar

Mining Cost Confidence (very low) ⓘ \*

Progress bar

Processing Cost Confidence (very low) ⓘ \*

Progress bar

Other Cost Confidence (very low) ⓘ \*

Progress bar

Capital Cost Notes ⓘ

Text area

Sustaining Capital Cost Notes ⓘ

Text area

Mining Cost Notes ⓘ

Text area

Processing Cost Notes ⓘ

Text area

Other Cost Notes ⓘ

Text area

#### Tax and Royalties

Tax Rate ⓘ \*

38 %

Royalties ⓘ

.00 %

Tax Treatment ⓘ \*

SLM Straight Line Dep

**Company cannot talk about costs until 43-101 PEA is published.**

1

Potential Mining Scenario

2

Commodity Prices

3

Mining Cost Assumptions

4

Risk Profile

### Step 4 - Risk Profile

Here is where you figure out the best discount rate by thinking independently about each risk factor.

#### Environmental Permits

Environmental Risk (low) ⓘ \*



Environmental Risk Confidence (high) ⓘ \*



Environmental Risk Notes ⓘ

Each risk factor note can become a node for sophisticated conversations

The confidence slider allows you to signal where you are very sure or very unsure. Honesty builds reputation and encourages constructive collaboration

#### Social Risk

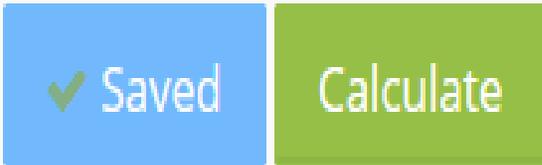
Social Risk (low) ⓘ \*



Social Risk Confidence (low) ⓘ \*

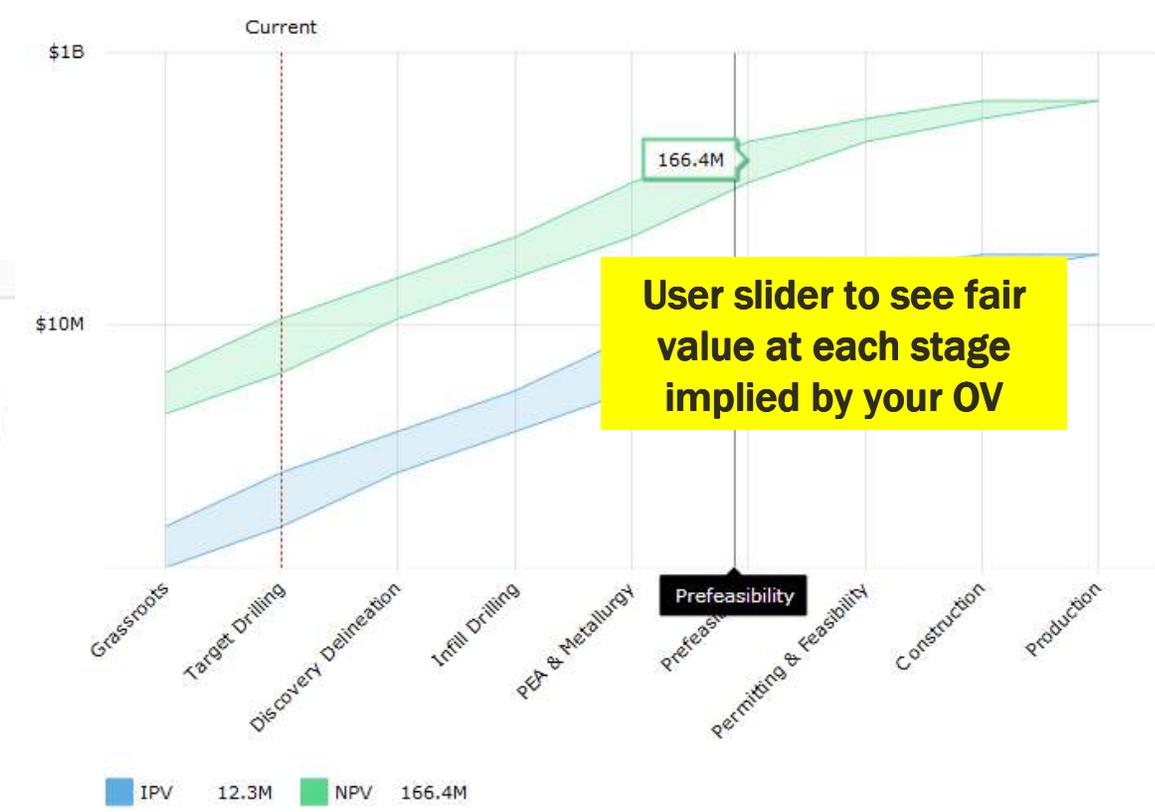


Social Risk Notes ⓘ



**Tinker with your own OV as long as it is private**

Current Stock Price	Net Interest	Calculated Stock Price	Difference	Profit
\$1.0 CAD	100%	\$18.14 CAD	\$17.14 CAD	▲ 2,034.53%



NPV	IRR	Discount Rate
\$443,723,295 USD	41.15%	7.0%

OV Arena | Top OVs Comparison | All Shared OVs | My OVs

Judgements

Create a New Outcome Visualization (OV)

**Share your OV and make a private copy to tweak when new results show up.**



	Annual Average	Life of Mine (LOM)
Discount Rate	11.0%	
NPV	\$123,673,962 USD	
IRR	31.08%	
Stock Price Prediction Value	\$5.06	
Stock Price Prediction Profit	405.5%	
Capital Expenditure		\$150,000,000
Sustaining Cost Life of Mine		\$85,000,000
Mine Life		8.22
<b>Mineral Revenue</b>		
	Mining Rate tpd = 10,000 Strip Ratio = 10	
Mined Ore (tonnes)	3,650,000	30,000,000
Silver	Grade = 115 g/t Recovery = 90% Payable = 98% Market Price = 17.29 \$/oz	
	Recoverable Metal = 12,145,844 oz	99,828,855 oz

Plan Notes ⓘ

Modifying the DV built by John Kaiser for a lower tonnage and slightly lower grade scenario to see what the impact is. CAPEX, Sustaining CAPEX and all other mining costs to remain the same. potentially higher discount rate too, based on my own view of juniors punching through to production.

IRR is still >30% with half the resource and a slightly lower grade, so the upside on this opportunity is strong.

Mine Information

Deposit Size \* ⓘ

30,000,000 Tonnes

Mine Type \* ⓘ

Open Cut/ Open Pit

Strip Ratio \* ⓘ

10 waste : ore

Mine Info Comments ⓘ

Mining Rate \* ⓘ

10,000 t/d

Mine Life \* ⓘ

8.22 yrs

Estimated Startup Year \* ⓘ

2022

**SuperMiningDude has shared an alternative scenario of half the tonnage and slightly lower grade with higher risk settings that yield 11% discount rate and a visualized outcome of USD \$124 million that equals CAD \$5.06**

## Outcome Visualisation:

Ramsey Open Pit Silver Scenario

Company: **Arizona Silver Exploration Inc (AZS-V)**

Project: **Ramsey**

Net Interest: **100% WI**

Corporate Web Site:

[arizonasilverexploration.com](http://arizonasilverexploration.com)

Builder:  **JohnKaiser**

[View the OV](#)

[Create a new OV based on this](#)

[+ Follow](#)

[+ Make This the Baseline OV](#)

[Compare OV](#)

What's on your mind?

Post Title

Post Content

[Post](#)

**Members can judge the plausibility of an OV and/or post comments**

**Outcome Visualisation**

Judgements

Full Calculation

Current Stock Price	Net Interest	Calculated Stock Price	Difference	Profit
\$1.0 CAD	100%	\$18.14 CAD	\$17.14 CAD	+ 2,034.53%



Recent Posts

4 days ago  **Plausible**

6 days ago  **Plausible**

numbers look good, on the low end I can't see anything lower than 121 g/t grade based on past drilling. However, it would be interesting to see what the IRR and...

**An Arena of Reputation based "untrusted" Experts**

## **The Share Collective's Disclaimer**

**Every member who shares anything is assumed to have a conflict of interest and the goal of influencing the market and the behavior of the crowd.**

### **TSC Condition**

**All members are anonymous and operate with a pseudonym**

**But if everybody is anonymous and assumed to be untrustworthy, will not the project BoomTowns be flooded with garbage outcomes by pumpers and bashers?**

- **All members start with zero reputation because of the anonymity**
- **Each new member is assumed to be an untrustworthy predator**
- **TSC is omniscient – its tools allow members to recover all sharing history and profile other members**
- **Reputation evolves through sharing activity and the reaction of fellow members**
- **It is understood that nobody will share anything without having positioned themselves to benefit from the crowd's possible reaction**
- **Because each member can follow only one visualized outcome shared to a company – project, the crowd will determine the most favored outcome**
- **Pessimistic or optimistic outliers can damage or build reputation by the actual outcomes**
- **Reputation grows by behaving well and smartly, not badly or stupidly**

## **TSC is not a traditional stock forum**

**Unlike traditional stock forums such as Stockhouse in North America and HotCopper in Australia, the Share Collective facilitates a highly contextualized dialogue that maps to stock price based outcomes which members use as reference points for their market bets.**

**By illuminating a project's fundamental potential in monetary terms in a dynamic, interactive crowd-based eco-system TSC revolutionizes how a very large audience interacts with resource juniors, especially ones with exploration stage.**

## Implications of The Share Collective

**CRM Problem:** brokers can use the TSC project BoomTown as a discussion reference in advising clients on the suitability of a bet they want to place on a junior

**Finite Analysis Coverage:** retail investors no longer need to rely on the limited universe of stocks covered by brokerage firms and newsletter writers

**Newsletter Research Limitations:** Newsletter writers can use TSC to filter for emerging stories, easily create private visualized outcomes for their own decision making, and even make analysis of BoomTown activity part of the content they provide to their subscribers.

**Company Marketing Activities:** Companies can monitor BoomTown activity as a way to see how effectively they are presenting “fundamental dots” that the crowd is “connecting”, and can attract audiences passively rather than seeking them out actively.

**Regulators:** IIROC can refer to BoomTown activity and expectations to determine if market volatility is due to leaked inside information or just a function of shifting expectations. NI 43-101 becomes the basis for determining how close TSC members got to the actual outcome.

**Lost Generation:** the gaming aspect TSC and its educational nature will attract younger audiences back into the junior resource sector both for short term trading and longer term fundamental outcome based bets.

## What Next?

A commercial release is planned for H2 of 2017. Active beta testers will be granted membership privileges in the commercial platform. Anybody interested in becoming a beta tester should contact me at [jkaiser@KaiserResearch.com](mailto:jkaiser@KaiserResearch.com)

- Geologists
- Engineers
- IR Representatives
- Students
- Fund Managers
- Retail Investors
- Family Offices
- Brokers
- Company Executives
- Journalists
- Financial Professionals
- Regulators
- Traders
- Gamers
- Teachers
- Academics
- Government
- Lawyers
- Anybody who gets how cool this will be

[www.ShareCollective.co](http://www.ShareCollective.co)

## Kaiser Research Online

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

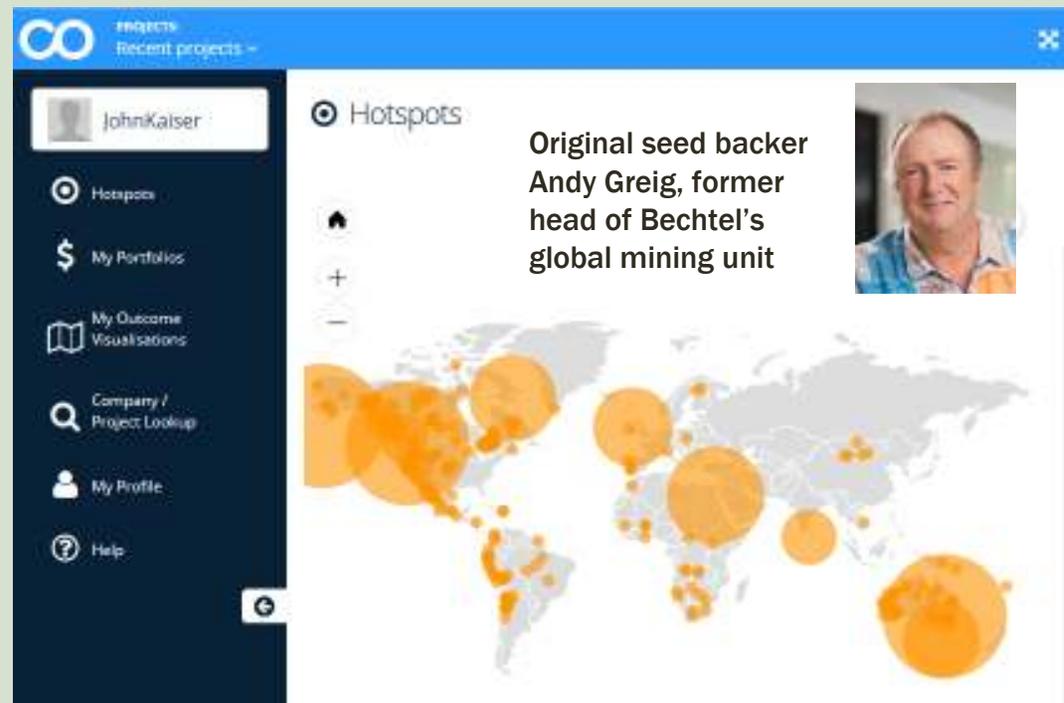
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Twitter: @KaiserResearch

Skype: KaiserResearch

Tel: (925) 631-9748



***When members of a crowd with a conflict of interest and the goal of influencing the market and each other connect the dots and share the result in an untrusted, competitive environment, what is the collective result?***