



# MINING EDUCATION AND RARE – EARTH MINERAL RESOURCES IN KENYA

December 16, 2016



# Sustainable investment in the mining sector???

December 16, 2016

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A circular bronze relief sculpture of a bearded man in a hooded tunic, holding a hammer and a pickaxe, set within a metal frame. The man is depicted in a dynamic, slightly twisted pose, facing left. He has a full beard and is wearing a hooded tunic with a sash. In his right hand, he holds a hammer, and in his left, he holds a pickaxe. The sculpture is mounted on a dark metal frame with a diamond-shaped pattern. The background is a light, neutral color.

Kutna Hora

they are losing money

what is the value of a mine?

government, society and mining

conventional financing

unconventional financing: project financing

unconventional financing: off-take agreements

unconventional financing: standby equity distribution agreement

unconventional financing: streaming

new financial instrument: exchange traded funds





they are losing money

# Dismal 2015 for the mining industry

**\$32 billion of losses were reported by the world's five largest mines: Glencore, BHP Billiton Ltd., Rio Tinto PLC, Vale SIA and Anglo American PLC.**

Glencore CEO Ivan  
Glaserberg does not  
look happy



# Rio Tinto 2014 - 2015

## Year to 31 December

	2015	2014	Change
Underlying earnings <sup>1</sup> (US\$ millions)	4,540	9,305	-51%
Net (loss) / earnings <sup>1</sup> (US\$ millions)	(866)	6,527	n/a
Net cash generated from operating activities (US\$ millions)	9,383	14,286	-34%
Capital expenditure <sup>2</sup> (US\$ millions)	4,685	8,162	-43%
Underlying earnings per share (US cents)	248.8	503.4	-51%
Basic (loss) / earnings per share (US cents)	(47.5)	353.1	n/a
Ordinary dividends per share (US cents)	215.0	215.0	-

## At 31 December

	2015	2014	Change
Net debt <sup>3</sup> (US\$ millions)	13,783	12,495	+10%
Gearing ratio <sup>4</sup>	24%	19%	+5%

**50 % less income**

**from 6.5 billion plus to 866 million minus**

**40 % less investments**

**10 % more debt**

# Anglo American lost 75 % of its value in 2015



9000 jobs in coal mining in South Africa will be lost

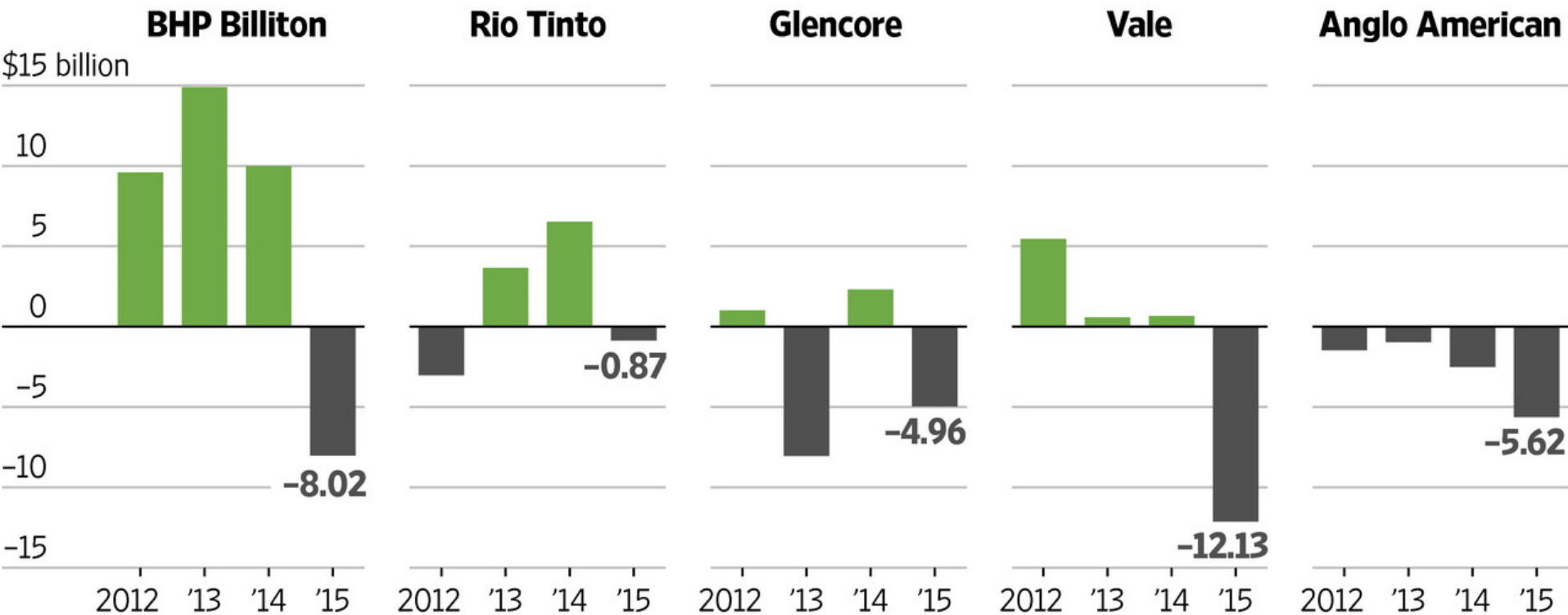


# Top 5 profits & loss in 2012 - 2015

## Piling Up

Profits are a thing of the past at the world's biggest miners during a prolonged price downturn.

### Top five miners by net profit/loss

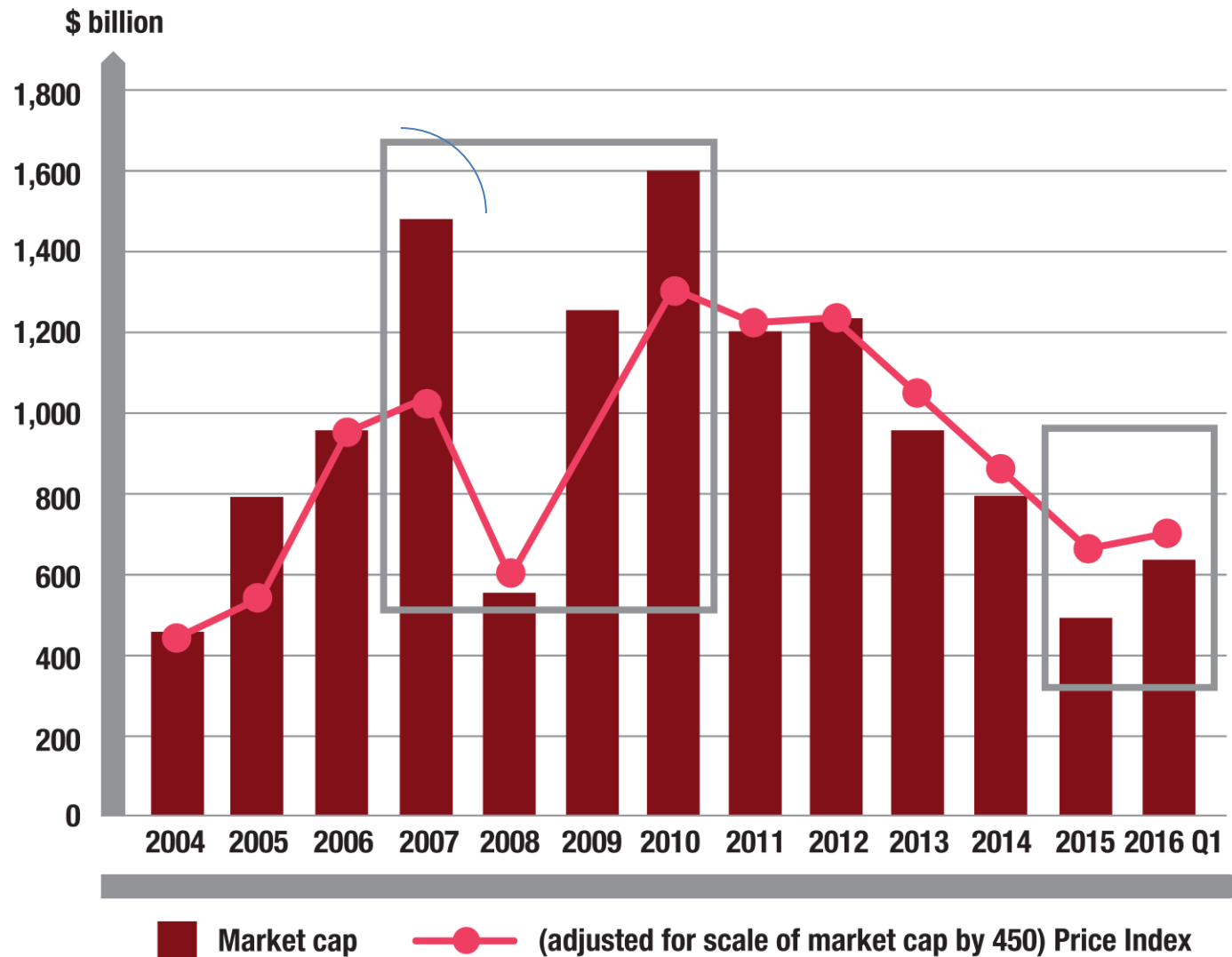


Source: the companies

THE WALL STREET JOURNAL.

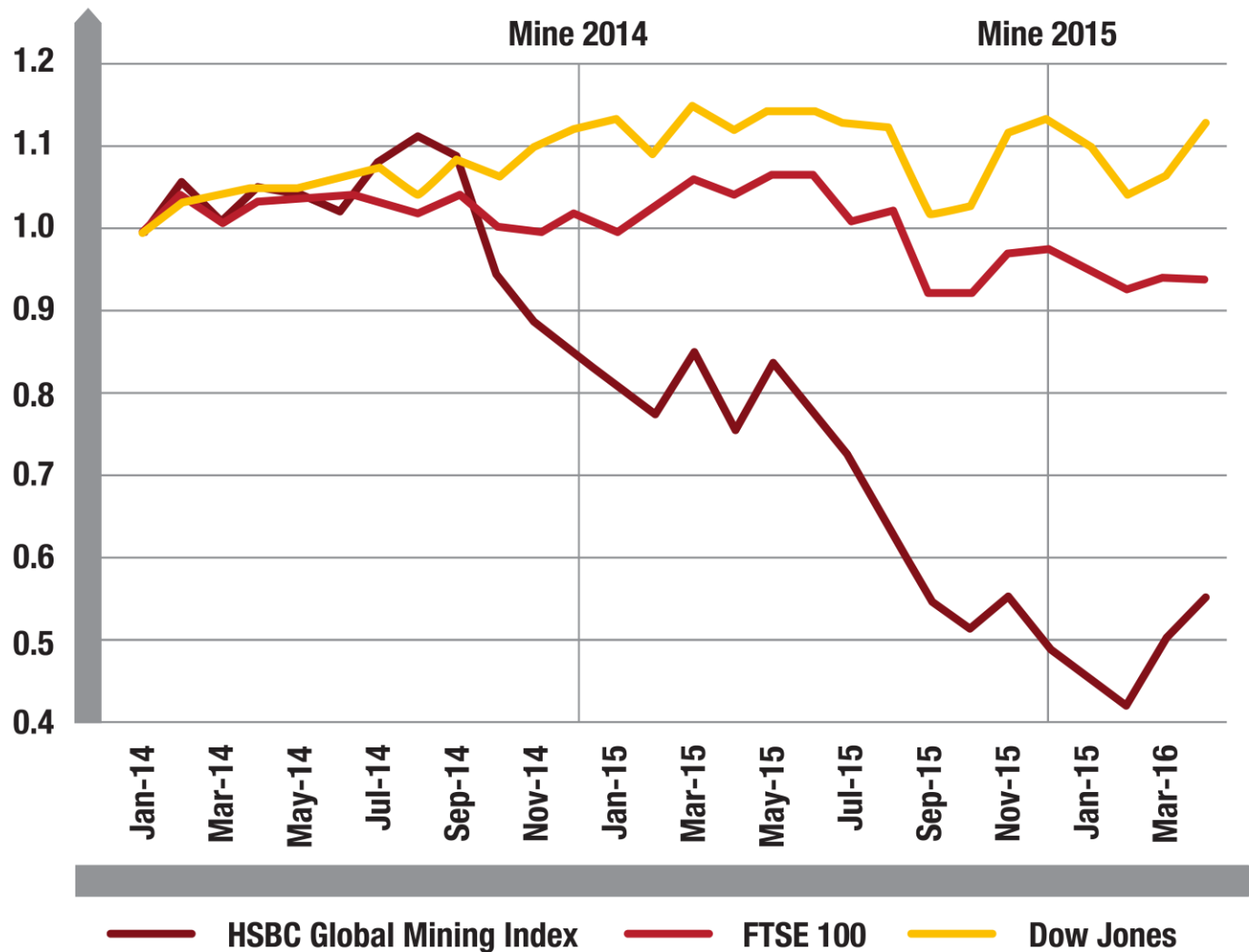
# Mining companies also lose value

Market cap of Top 40 vs Adjusted Price Index



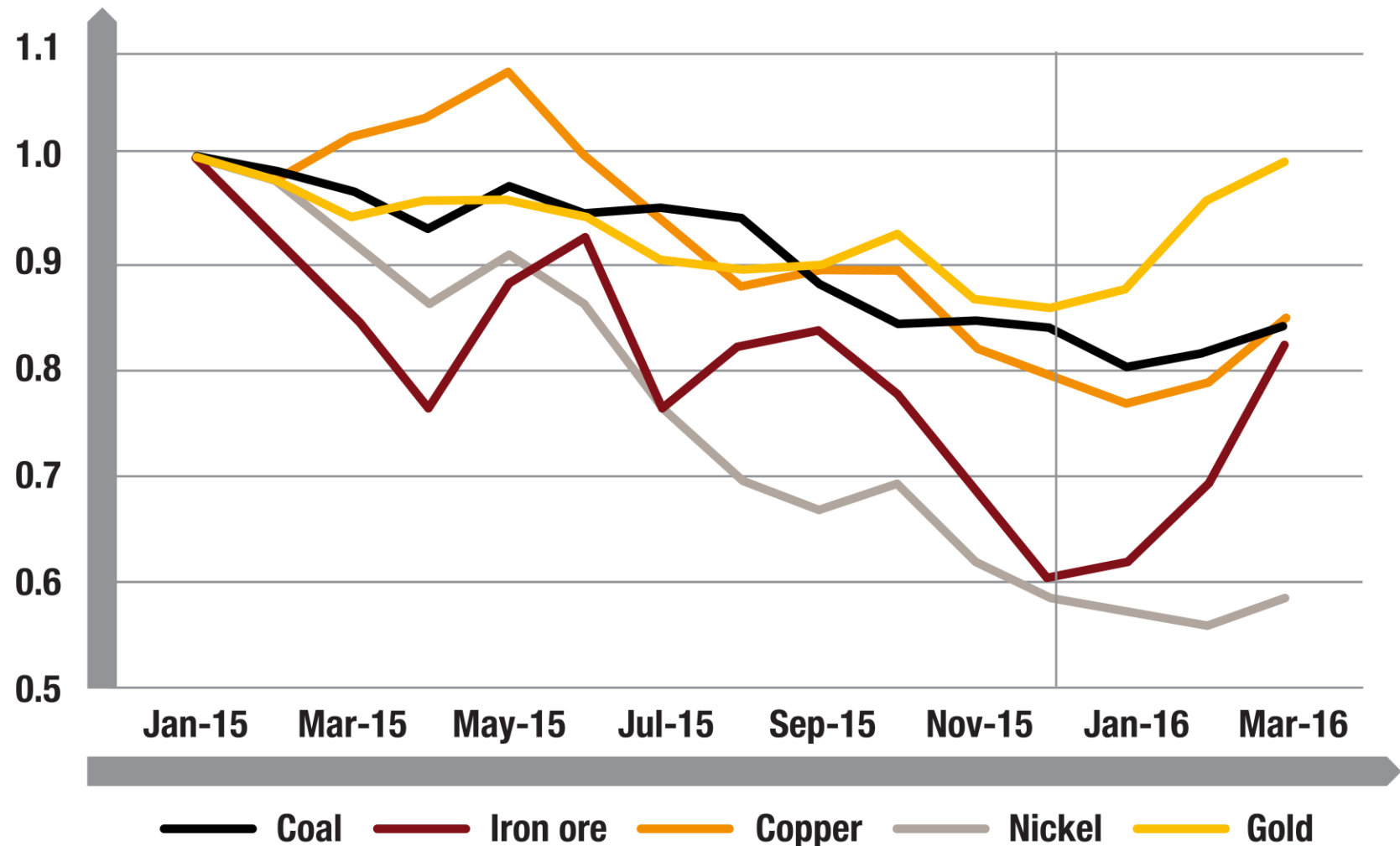
# The trend for mining is downwards

Global mining indices (2014=1)



# Prices of coal and minerals

Price indices, selected commodities (January 2015 = 1)



Source: The World Bank

# Share price down and down and down

## A Long Trip Down for Freeport



share price in white down, debt in blue up

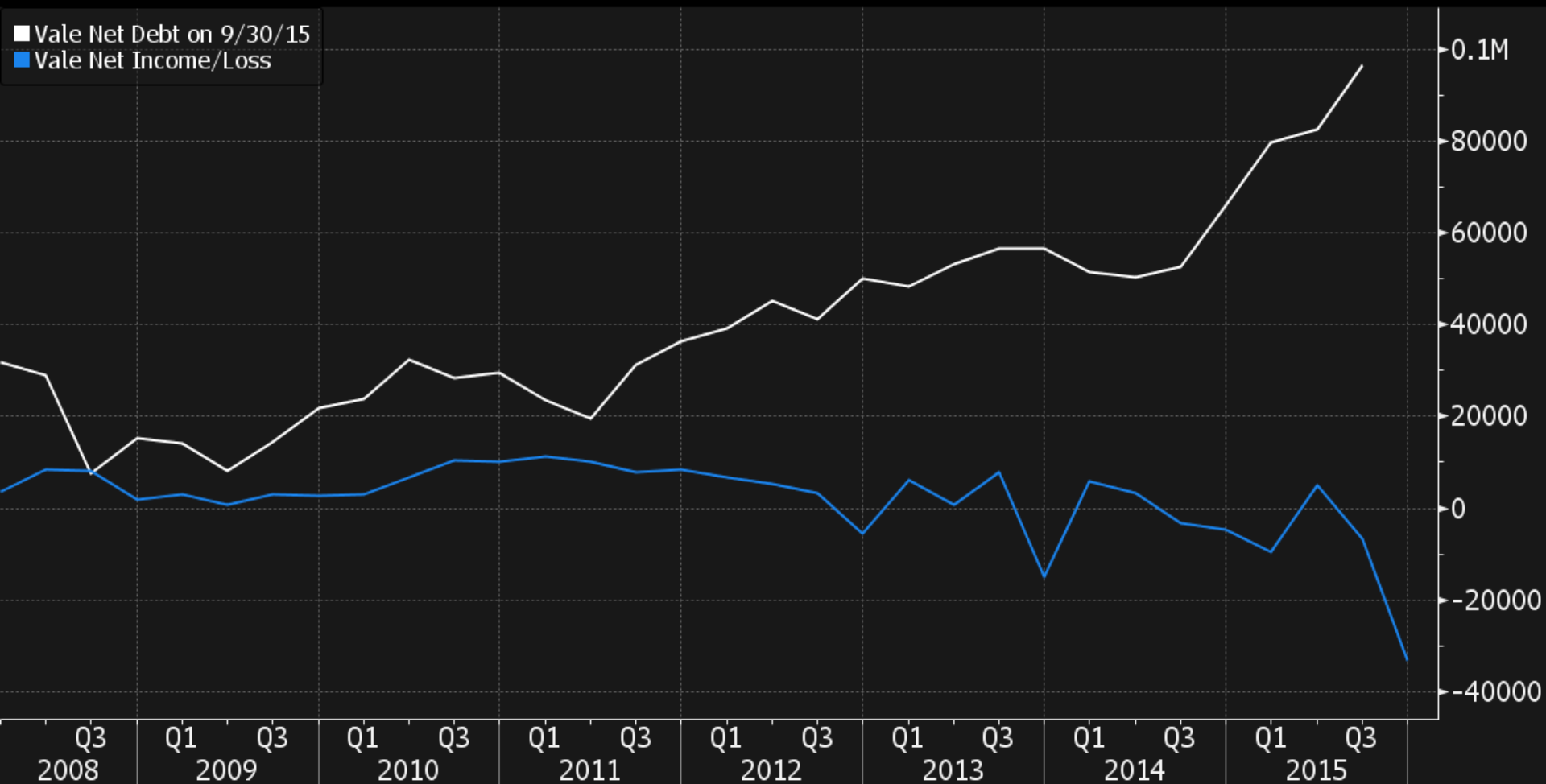
## Freeport Debt Overhang

Shares slump, debt rises since 2011



net income in blue down and debt in white up

## Vale Debt Jumps as Earnings Sink



# Do not lend them your money

## Rio Bond Risk



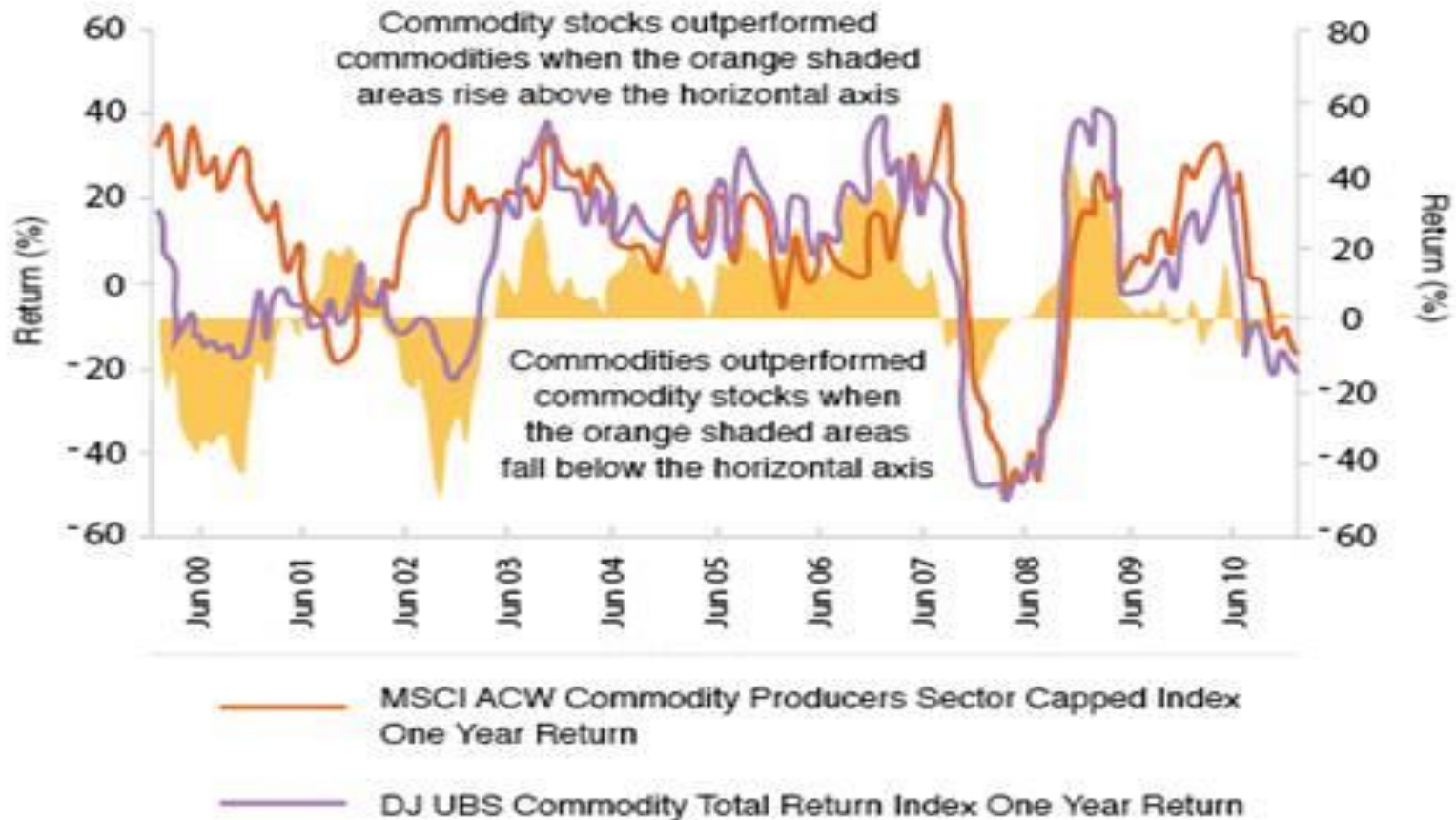
Source: CMA

Bloomberg



# buy shares in a gold mine or buy gold?

**Rolling One Year Excess Performance** (left vertical axis)  
**One Year Absolute Performance** (right vertical axis)



# Future CEMEREM Building at TTU

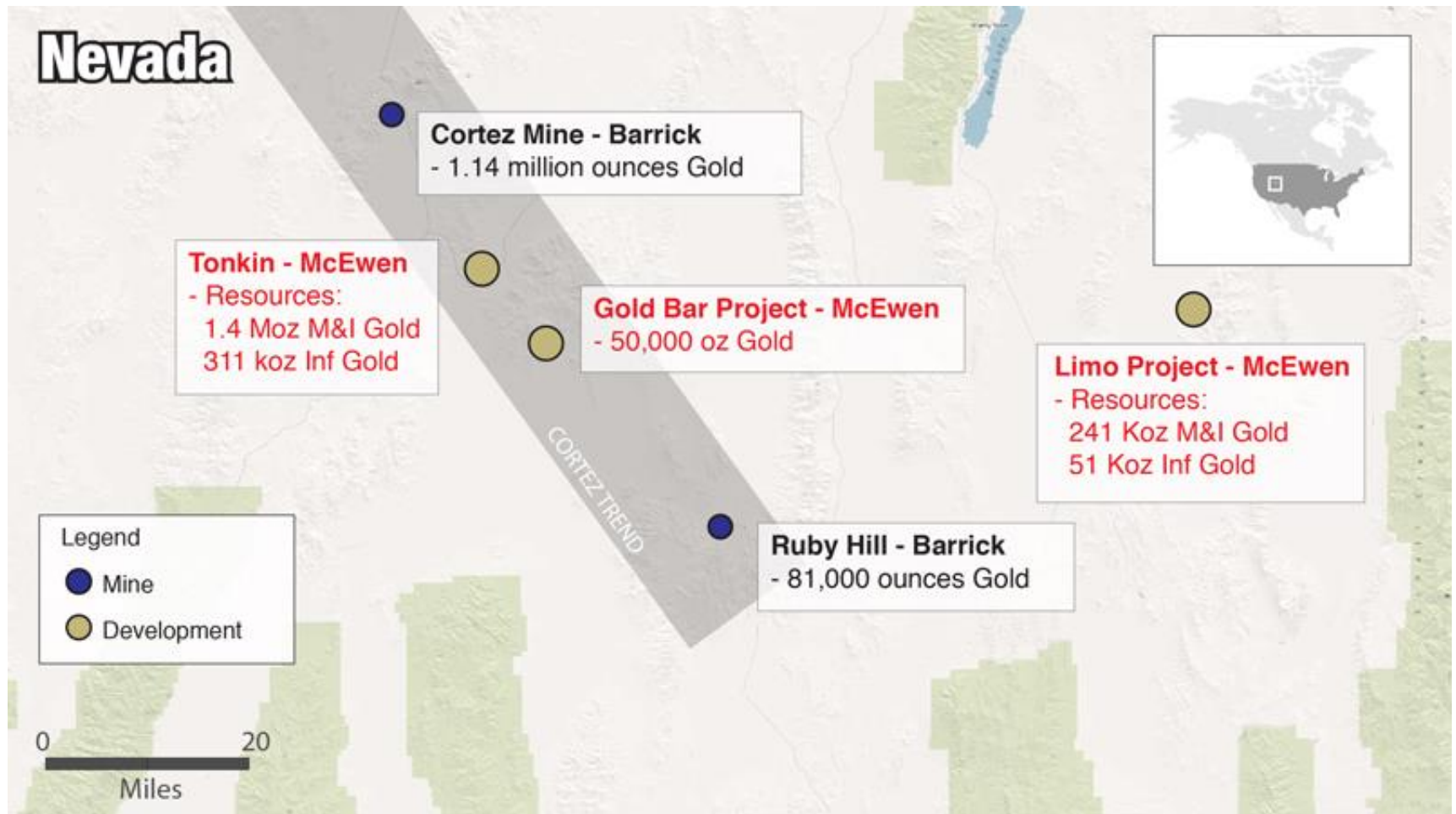




What is the value of a mine?

# NPV of a mining project

## Gold Bar Project



# NPV of a mining project

## Gold Bar Project



## Highlights of the Pre-feasibility Study

Average annual production of approximately 50,000 ounces of gold over an 8-year mine life (total 397,000 ounces), at a cash cost of US \$ 700 per ounce (oz)

Open-pit mine with conventional oxide heap leach processing. Projected gold recovery of 82 % after primary crushing to 5 cm (2 inches) and a 90-day leach cycle

# NPV of a mining project

## Gold Bar Project -- amounts in US \$

	Cost per ore tonne processed	Cost per payable oz produced
Mining	11.20	425.95
Processing	6.22	236.60
G & A	0.96	18.38
Total operating cost	18.38	699.03

# NPV of a mining project



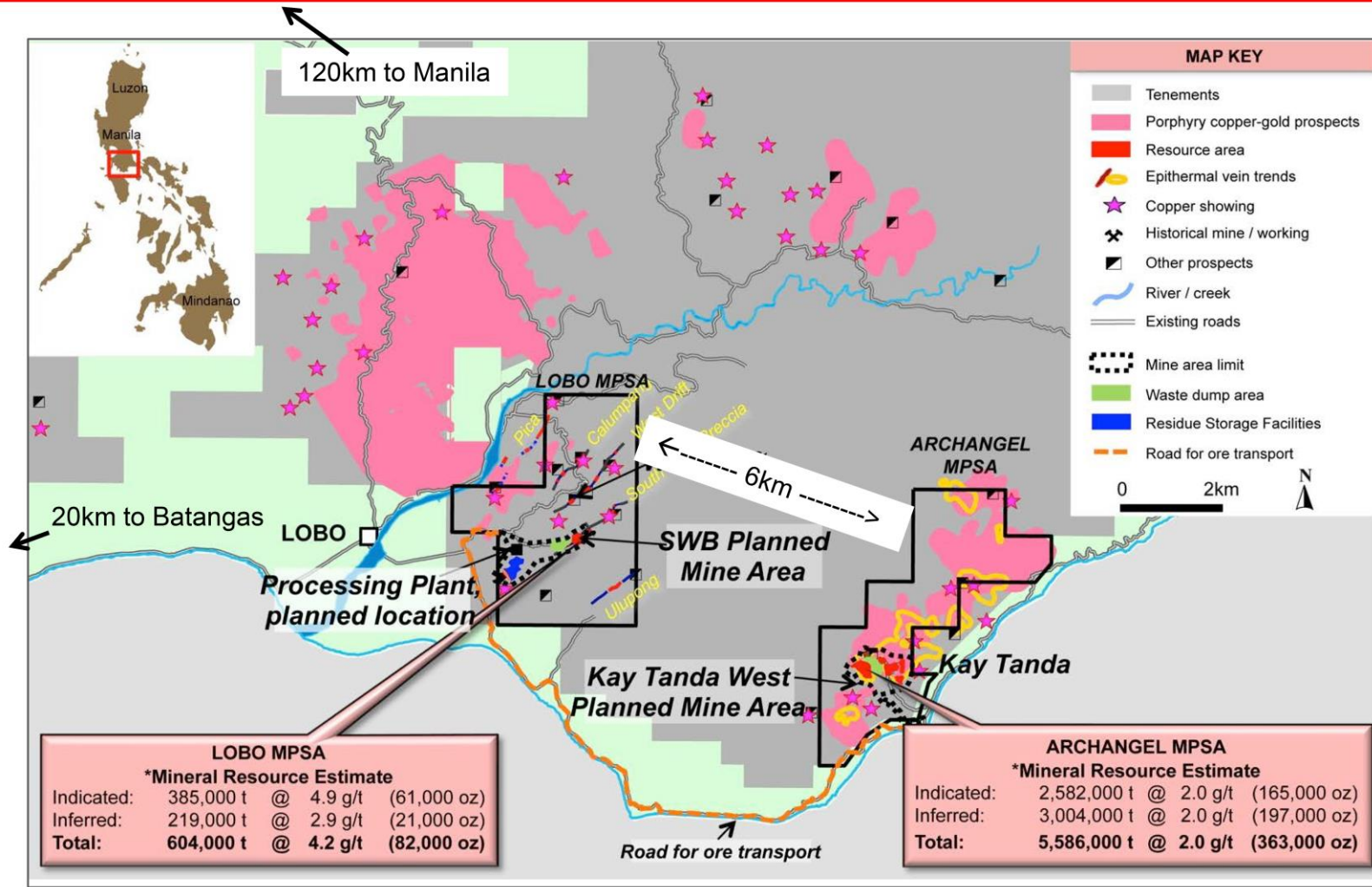
After income tax (state = 5 %, federal = 35 %)	Base case (Avg LoM – US \$ 1 300 per oz)	Spot case (US \$ 1 700 per oz)
IRR	34 %	53.3 %
<b>NPV – 0 %</b>	<b>93.2 US \$ millions</b>	<b>189.5 US \$ millions</b>
<b>NPV – 8 %</b>	<b>45.1 US \$ millions</b>	<b>89.3 US \$ millions</b>
Average cash-flow per year	19.4 US \$ millions	31.2 US \$ millions
Average operating margin per oz	568 US \$	941 US \$
Payback period	2.1 years	1.7 years



What is the value of a mine?



# BATANGAS GOLD PROJECT: MINERAL RESOURCES AND PLANNED PROJECT INFRASTRUCTURE



\*JORC 2012 Indicated and Inferred resource 6.19 mt at 2.2 g/t Au, 444,000oz Au released on ASX 30 June 2014

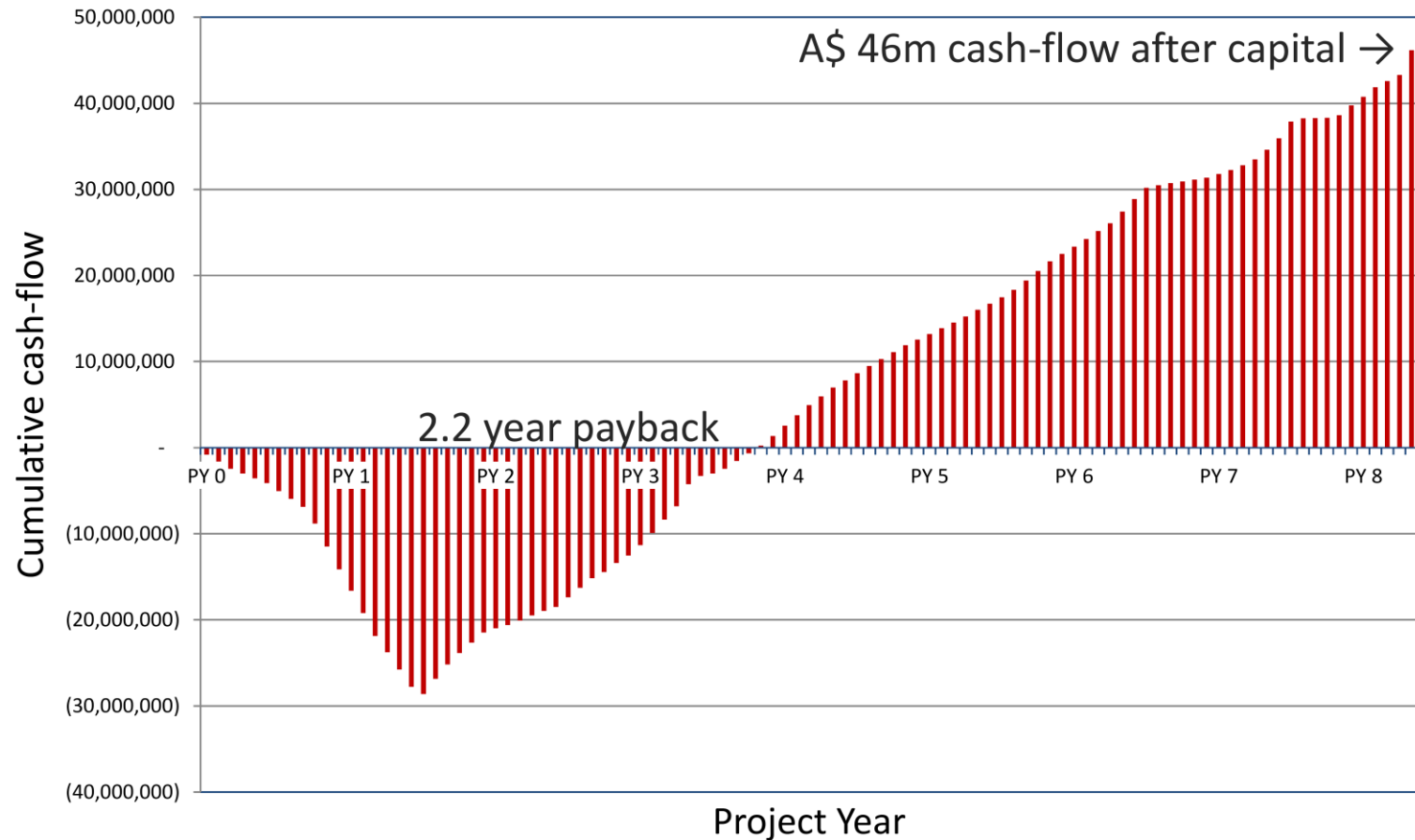
# Redmountain mining: (un)believable optimists

	Cashflow at Varied Gold Price		
<b>Gold Price AUD (AUD/USD: 0.81)</b>	<b>\$1,440</b>	<b>\$1,600</b>	<b>\$1,760</b>
Gold Price USD	\$1,160	\$1,290	\$1,420
<b>Gold Production Recovered Oz Equ.</b>	<b>100,000</b>	<b>100,000</b>	<b>100,000</b>
Net Revenue AUD (x M)	148	165	182
Operating Costs Inc. taxes, royalties AUD (x M)	90	98	90
<b>Operating Cash flow AUD x M</b>	<b>51</b>	<b>67</b>	<b>84</b>
Pre production Capital inc. 10% cont. AUD (x M)	18.4	18.4	18.4
Sustaining Capital AUD x M	4.3	4.3	4.3
<b>Total Cash Flow exc. financing AUD x M (C3)</b>	<b>28</b>	<b>45</b>	<b>61</b>
IRR (inc. financing)	44%	65%	83%
<b>NPV (8%) (inc. financing) AUD (x M)</b>	<b>16.5</b>	<b>28.5</b>	<b>40.4</b>

# Redmountain mining

## BATANGAS GOLD PROJECT:

<sup>1</sup>PFS RESULTS 15 JUNE 2016, LOW COST, HIGH-CASHFLOW, STRONG RETURNS



<sup>1</sup>Based on PFS financial model released to ASX 15 June 2016





government, society and mining

Contracts between governments and mining companies

Regulations for mining

Mining laws

Mining licenses or concessions

Joint ventures

Production sharing agreements

Owner operated mining

Service agreements

Regulations on foreign direct investment

Taxation and royalties

Rules on profit repatriation

State participation

Use tax exemptions

Freedom of asset ownership and management

Right to have bank accounts nationally & internationally

Production service agreement

Rights to employ expatriates

Community  
development

Hiring local  
employees

Use of local goods and  
services

Health care & safety  
at work

Grievances

Rules on information  
of local government

Training & education

Relationships with  
communities

Freedom of hire & fire

Training of staff

dialogue platform





conventional financing

# Find shareholders or / and go to banks

*Alain Lambert, CEO of Cyprium Mining (end of 2015)*

“My background is in finance. To me, mining is a business like any other business. It has to make money.”

<http://business.financialpost.com/news/mining/ceo-interviews/cyprium-mining-first-in-mexico>

*Victoria Gold CEO John McConnell (June 2016)*

Raising 400 million dollars in a tough market does not seem to worry him ...: “We will re-engage with the banks for a 250 million dollar debt package, and look to raise the balance of the 150 million in equity.”

<http://business.financialpost.com/news/mining/small-cap-news/victoria-gold-cash-and-gold-in-the-yukon>

# Find shareholders

## The Red Mountain Rights Issue



1. Rights Issue to raise up to circa \$900,000 on a 1 New Share for every 4 shares held at the record date (13 January 2015)
2. New Shares to be issued at an issue price of \$0.004 (0.4c) each
3. Attached will be 1 free \$0.006 (0.6c Option) for every 2 New Shares subscribed for, (to be listed, subject to meeting ASX requirements) exercisable by 30 June 2016 and 1 free \$0.012 (1.2c, RMXOA listed Option) for every 2 New Shares subscribed for, exercisable by 31 March 2016.
4. The updated timetable for the closing and completion of the Rights Issue is:

New Date	Event/s
3 February 2015	Rights Issue Closes
4 February 2015	Trading on deferred settlement basis
6 February 2015	Notify ASX of under subscriptions
10 February 2015	Issue date
11 February 2015	Normal trading resumes and despatch date

# Find shareholders

## The Value Proposition

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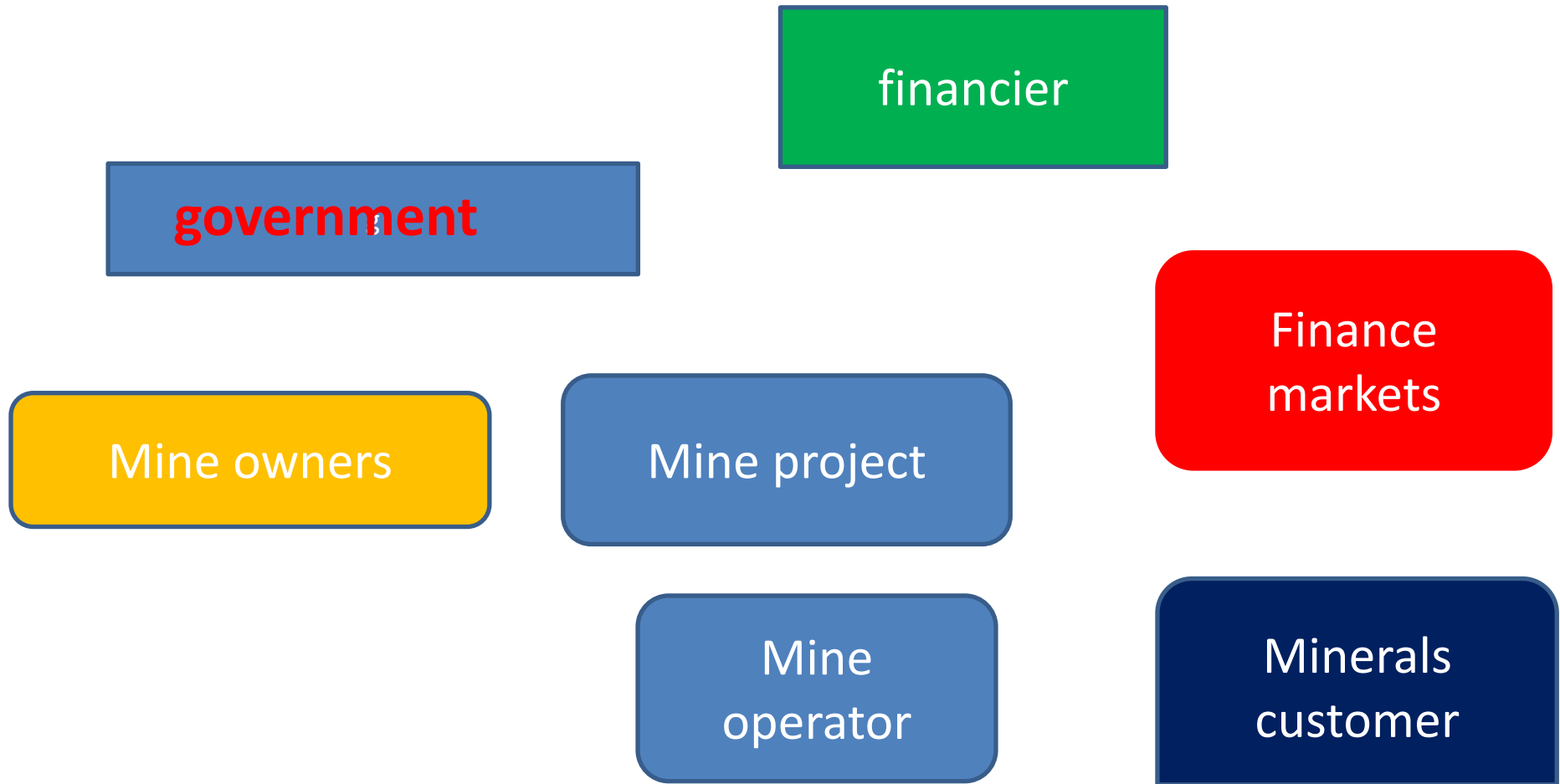
1. The Rights Issue offer (including trading value of free options) represents an effective discount of 20% to 40% to RMX closing price (0.45cps, 23 January 2015):
  - 0.4 cps issue price;
  - 1 for 2, 0.6c Options (expected to be listed, assume 0.1c to 0.2c trading price); and
  - 1 for 2, 1.2c RMXOA Options (trading at 0.1c)
2. Bluebird Agreement values the Batangas Gold Project at >triple RMX's market cap of ~\$4m,
3. Interim DFS NPV (see ASX release 23 January 2015) is A\$28.5m, valuing RMX 50% share under Bluebird Agreement at over \$14 million, or triple the value based on RMX's current share price,
4. The initial mine plan (NPV \$28.5m) initially produces only 100,000 ounces so there is no value attributed to the majority of the 440,000oz gold resource,
5. There is no value attributed to the outstanding exploration upside.





unconventional financing:  
project financing

# Project financing



# Project finance

- Project finance is finance for a particular project: a mine, a railway, a pipeline, a power station, a ship, a hospital, a refinery etc.
- The loan is repaid by the cash-flow of the project
- Project financing can be the preferred alternative to conventional financing
- Project finance is different from conventional finance
  - ➔ the financier principally looks to the assets and revenue of the project for the pay-back of the loan
  - ➔ The financier usually has no recourse to non-project assets of the project developer
  - ➔ The specific risks of the project are taken into account





Image courtesy of Baja Mining

# Project finance

## No recourse

- ➔ the loan can only be repaid when the project is operational
- ➔ if the project fails, the financier loses money
- ➔ assets of the project are often highly specialized and in remote locations
- ➔ assets have little value outside the project
- ➔ project financing costs are higher

*Corporate Finance-Project Finance Continuum*

# Project finance

<b>Dimension</b>	<b>Corporate finance</b>	<b>Project finance</b>
<b>Financing vehicle</b>	Multi-purpose organization	Single-purpose entity
<b>Type of capital</b>	Permanent - an indefinite time horizon for equity	Finite - time horizon matches life of project
<b>Dividend policy and reinvestment decisions</b>	Corporate management makes decisions autonomous from investors and creditors	Fixed dividend policy - immediate payout; no reinvestment allowed
<b>Capital investment decisions</b>	Opaque to creditors	Highly transparent to creditors
<b>Financial structures</b>	Easily duplicated; common forms	Highly-tailored structures which cannot generally be re-used
<b>Transaction costs for financing</b>	Low costs due to competition from providers, routinized mechanisms and short turnaround time	Relatively higher costs due to documentation and longer gestation period
<b>Size of financings</b>	Flexible	Might require critical mass to cover high transaction costs
<b>Basis for credit evaluation</b>	Overall financial health of corporate entity; focus on balance sheet and cashflow	Technical and economic feasibility; focus on project's assets, cash flow and contractual arrangements
<b>Cost of capital</b>	Relatively lower	Relatively higher
<b>Investor/lender base</b>	Typically broader participation; deep secondary markets	Typically smaller group; limited secondary markets

# Project finance

**Risks – events** with a negative impact on the financial performance of the mining project

(1) delays

(2) exceeding the budget

(3) operating below planned capacity

(4) insufficient revenues to cover the loan

(5) project abandonment (premature closure)


# Project finance

## Risk minimisation

- (i) identification and analysis of all project risks: feasibility study, proper assessment of costs and cash-flows, financial modelling of risks, sensitivity analysis, scenario development
- (ii) allocation of risks among the parties: negotiations about risk allocation in contracts
- (iii) management of risks: obligatory reporting by project operator, monitoring by the financier, controlling of the accounts

If risks cannot be managed → calculated into the project finance costs



A large industrial warehouse filled with numerous large coils of copper wire. The coils are arranged in rows, and a person is standing in the background, looking at a clipboard. The scene is brightly lit, and the copper wire has a distinct reddish-orange hue.

unconventional financing:  
off-take agreements

# Off-take agreements

## A contract

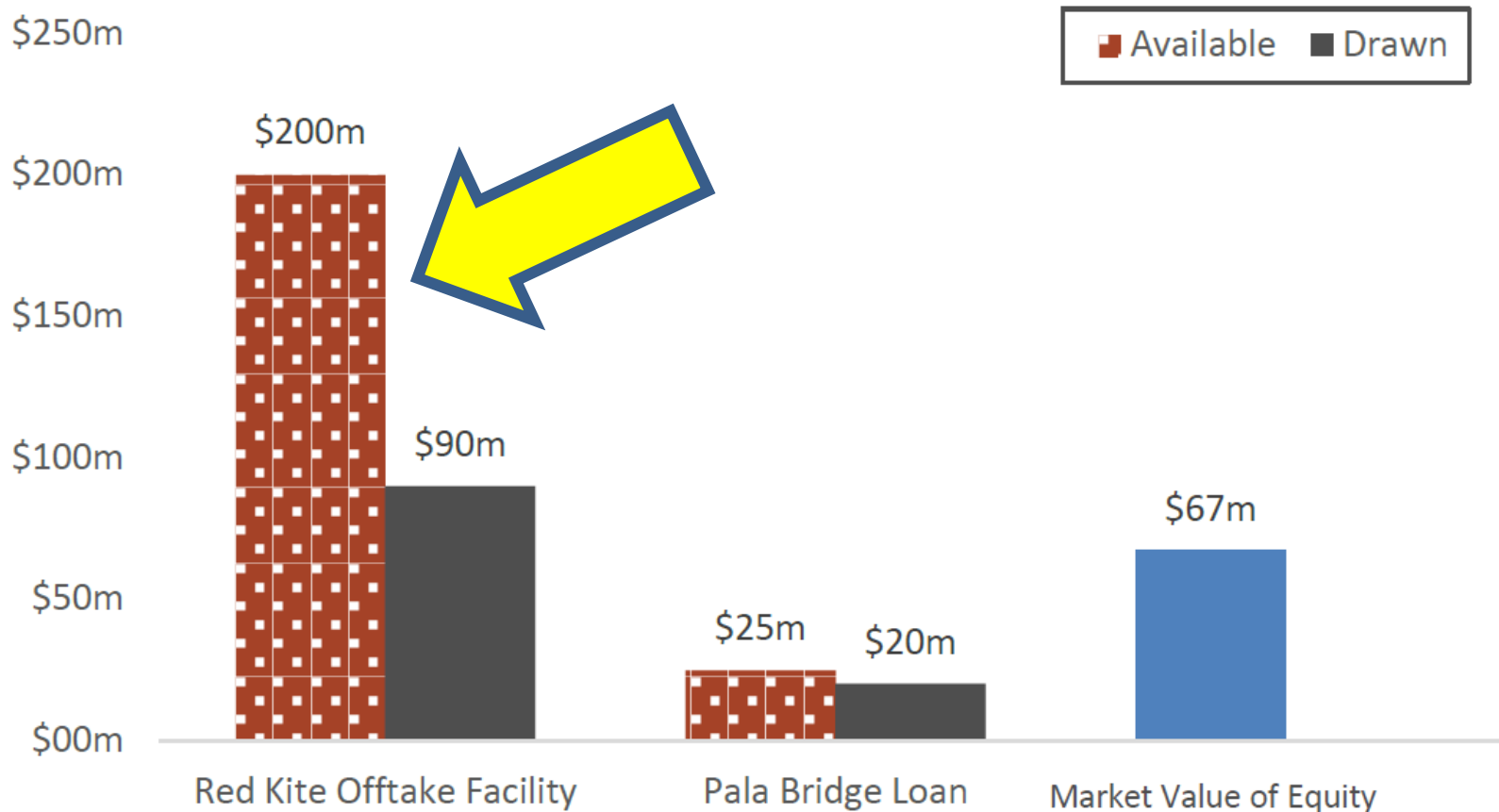
- The financier grants a (repayable) loan to the mining company
- The duration of the loan and of the payment time period is fixed in the contract
- Payment amounts and payment dates are fixed in the contract
- In case of favourable cash-flows, extra payments may become obligatory
- Earlier payments by the mining company are accepted without penalties
- The financier agrees to purchase a given amount (tonnages or shares) of the future production of the mining company at a negotiated price
- The loan is secured



# Off-take agreements

- Nevada Copper (TSE:NCU) closed a US\$ 200 million senior secured loan facility and copper concentrate off-take agreement with RK Mine Finance (Red Kite), a company that specializes in providing mining companies with project financing and metal off-take agreements.
- proceeds will be used for construction of an underground mining operation at its Pumpkin Hollow copper project located near Yerington, Nevada.

# Nevada Copper Capitalization (US\$)<sup>1</sup>



## Nevada Copper Financing (US\$)<sup>1</sup>

Available

Currently Drawn

Total Debt Financing

\$225m

\$110m

- The Loan Facility has a six year term maturing on January 3, 2019, with interest payable at an annual rate of LIBOR plus 6%.
- The loan and interest are repayable in equal quarterly installments commencing April 2015, and mandatory prepayments equal to 20% of excess cash, as defined in the Loan Facility are required. The Company has the ability in certain circumstances to repay the loan in full without penalty prior to maturity.
- The loan is secured against all current and future assets of the Company and its subsidiaries. As part of the loan agreement, the Company has paid an origination fee of 3% of the principal amount of the loan;
- ... ..



Nevada Copper Pumpkin Hollow Project





unconventional financing:  
standby equity distribution  
agreement

# Standby Equity Distribution Agreement (SEDA)

is a **CONTRACT** with key characteristics

- A Financier agrees to buy new shares issued by a “quoted” Mining Company
- The Financier may buy given quantities (tranches or lots) over a specific time period
- The price for the Financier is lower (5 %) than the market price of the share
- The Financier has a maximum limit price
- The Mining Company has no obligation to sell
- The Mining Company can have a minimum limit price

# SEDA

- A SEDA contract is not a loan because the financier buys shares
- With a SEDA contract, the number of shares increases
- With a SEDA contract, the influence of the “old” shareholders decreases



# Standby equity distribution agreements

Provider	Company	Value	Type
Dutchess	Baobab Resources	£17m	Equity line facility
	Sunkar Resources	£10m	Equity line facility
YA Global	Red Rock Resources		Financing package
	ECR Minerals		Financing package
	Kibo Mining	£3m	Stock purchase agreement
	Conroy Gold	£2.75m	SEDA
	Strategic Minerals	£3m + \$1.5m	SEDA + loan
	Shanta Gold	\$5m	SEDA-backed loan
Darwin	Horizonte Minerals	£8m	Equity finance facility
	Altona Energy	£2m	Equity finance facility
	Noventa	£5m	Equity finance facility
	Orogen Gold	£5m	Equity finance facility
	Sunrise Resources	£3m	Equity finance facility
	DiamondCorp	£10m	Equity finance facility
	Ortac Resources	£20m	Equity finance facility

# SEDA

## **£5 MILLION STANDBY EQUITY DISTRIBUTION AGREEMENT for the Red Rabbit Project in Turkey**

21 January 2011

- Ariana Resources plc ("Ariana") is a gold exploration and development company focused on Turkey
- Yorkville Advisors ("Yorkville") is an operator of funds for flexible, innovative debt and equity investments and financing in publicly listed companies in energy, mining, technology media & telecommunication (TMT), healthcare and shipping
- Global Master SPV Ltd = a "Fund" managed by Yorkville

# Standby equity deals

## **£5 MILLION STANDBY EQUITY DISTRIBUTION AGREEMENT**

- Ariana can “take out money” from the Fund at its discretion
- Ariana issues New Ordinary Shares
- Total time period = 3 years
- The share price = 5 % < market price during the 10 day pricing period before a draw-down
- Ariana may set a minimum price for each draw-down

# Standby equity deals

## £5 MILLION STANDBY EQUITY DISTRIBUTION AGREEMENT

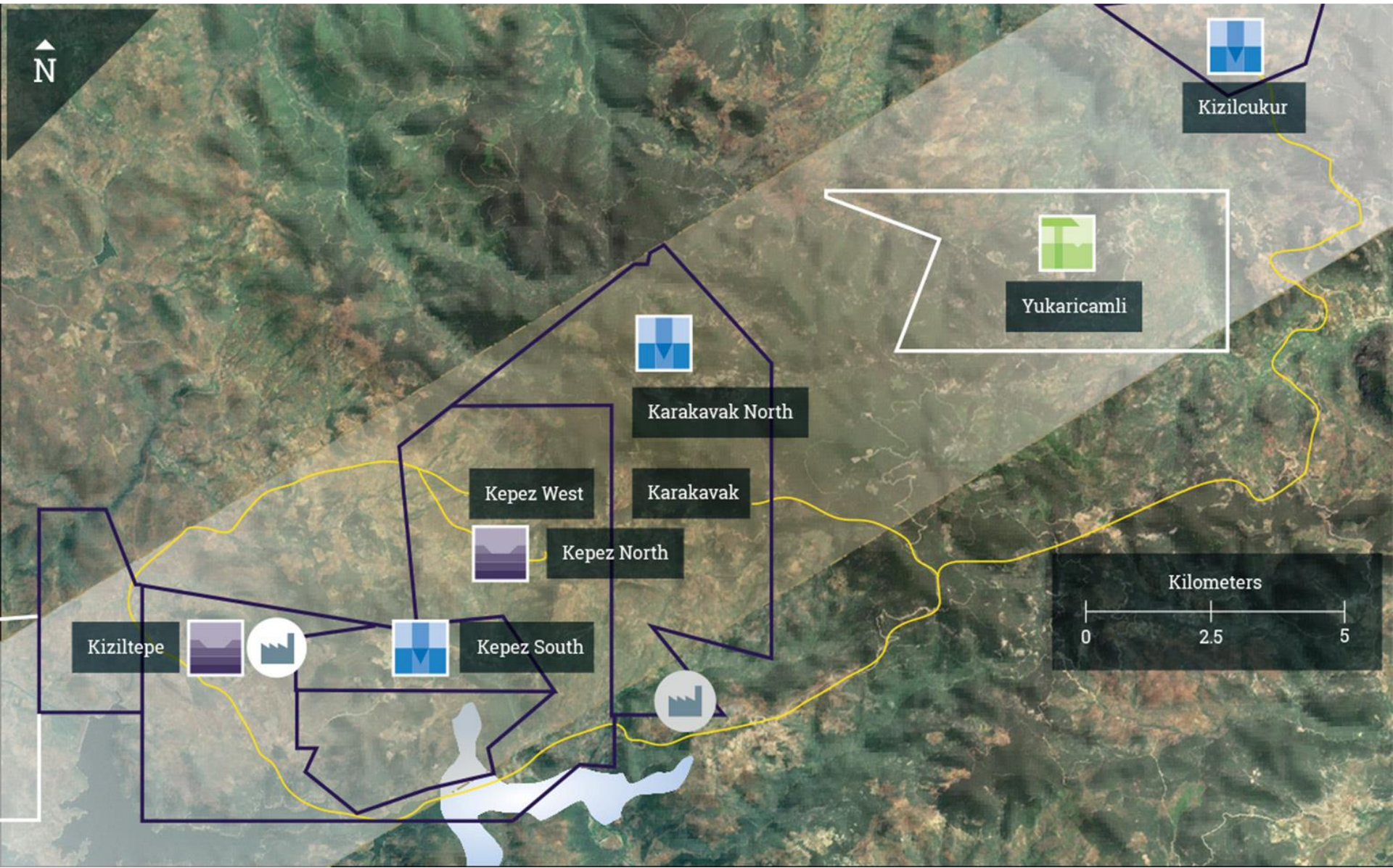
- Max tranche =  $200\% * [ADTV] * [VWAP]$
- One Tranche maximally every 10 days
- For the first Tranche, a fee of £150,000 is to be paid
  
- ADTV = average daily trading volume of Ordinary Shares
- VWAP = volume weighted average price
- VWAP is calculated for each of the 10 trading days before the draw-down request.

# Standby equity deals

## **Red Rabbit Gold Project –**

- The Red Rabbit Gold Project, located in western Turkey, is Ariana's most advanced project. It started in 2009 as a joint venture with Turkish construction firm Proccea Construction Co.
- The JV requires Proccea to contribute US \$ 8 m during three phases of development until the permits for a gold mine at Kiziltepe are in place. Proccea will receive a 50% equity stake in the project
- Proccea is self-financed and has extensive experience in the construction and optimization of precious metal processing plants both nationally and internationally

# Red rabbit project











unconventional financing :  
streaming

# Streaming

## Key characteristics of streaming

A long-term commodity purchase contract

- at pre-agreed prices with
- delivery obligations contingent on future production
- over a specified period or for the life of mine

# Streaming

## Key characteristics of streaming

- Streaming Company makes an upfront Capital Payment (a “deposit”) to a Mining Company
- Streaming Company receives the right to purchase a percentage of the Mining Company’s production (a metal or metals) for a specified time period at a discounted fixed price

**UPFRONT PAYMENT**  
(CASH AND/OR WARRANTS/SHARES)



**PARTNER  
MINING  
COMPANY**



**WHAT IS  
STREAMING?**

**STREAMING  
COMPANY**



**DELIVERY PAYMENT**  
( $\$$  PER LB. OR OZ.)



# Streaming

## Key characteristics of streaming

- no restrictions on the use of the Capital Payment for the mining company
- Part of Capital Payment which was not fully used for metal purchases must be paid back at the end of the term ...
- Part of Capital Payment must also be paid back if production is delayed or less than planned → not enough metal can be purchased to pay back ...

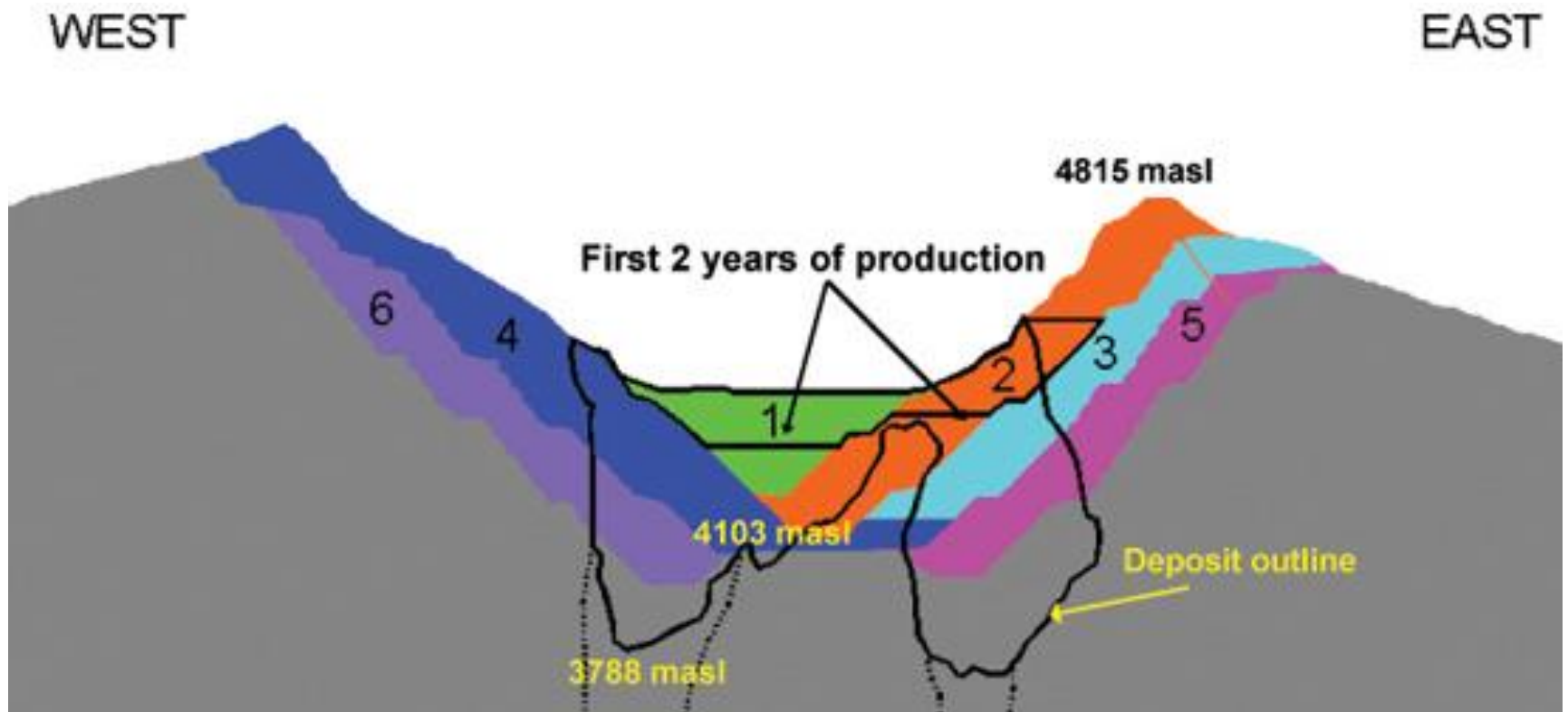
# Streaming

## Key characteristics of streaming

- If the Capital Payment is fully paid back before the end of the time period → the Streaming Company keeps the right to buy at the fixed discounted price
- The discounted fixed price is much lower than the market price – Example: Sandstorm Gold: Gold: 400 US\$ per oz, Platinum: 200 US\$ per oz, Silver: 6 US\$ per oz
- If the (future) market price is less than the discounted fixed price → the Streaming Company has the right to buy at the (lower) market price ...

# Streaming

Case study on Glencore's share in the Antamina Mine in appendix



# Antamina









new financial instruments:  
exchange traded funds

# DEFINITION of 'Exchange-Traded Fund (ETF)'

An ETF, or exchange traded fund, is a marketable security which tracks

- an index
- a commodity
- a basket of assets, e.g. an index fund

an ETF trades like a common stock on a stock exchange

➔ buying and selling

➔ price change

➔ a higher liquidity and lower fees than mutual fund shares

# Exchange-Traded Fund (ETF)

- a fund which owns defined underlying assets
  - stocks
  - bonds
  - commodity futures
  - gold
  - ... ..
- assets are divided into shares
- investment vehicle depends on country, legislation ...
- ETF shareholders do not (directly) own the underlying assets



# Exchange-Traded Fund (ETF)

ETF shareholders are entitled to

- a proportion of the profits
- earned interest
- dividends paid
- residual value after liquidation of the ETF

ETF shares are traded on public stock exchanges

[Exchange-Traded Fund \(ETF\) Definition | Investopedia http://www.investopedia.com/terms/e/etf.asp#ixzz4A1TufKBV](http://www.investopedia.com/terms/e/etf.asp#ixzz4A1TufKBV)

# Commodity ETFs

Investment in physical commodities:

- agricultural goods
- natural resources
- (precious) metals
  
- focus on a single commodity and hold it in physical storage
- invest in futures contracts
- track the performance of a commodity index (e.g. many individual commodities → combination of physical storage and derivatives positions)

# Commodity ETFs and leverage

commodity ETFs use leverage buying derivative contracts

- objective is to keep a constant leverage ratio over time: 2:1 or 3:1
- outcome is not an increase of return per year compared to the index
- outcome is a change of day-to-day return

example of a 2:1 ratio

- for each \$ of investor capital another 1 \$ is invested
- if the underlying index returns 1% → the fund will theoretically return 2%
- if the underlying index returns – 1% → the fund will theoretically return – 2 %

*more risk than investment in non-leveraged ETFs*



▲ RSI(14) 73.75



# Leverage: example

1. invest \$1,000 in 10 shares of Microsoft stock
  2. increase leverage and invest \$1,000 in five options contracts
  3. → control 500 shares instead of 10 shares
  4. → invest in more business opportunities with the same equity
- 
5. increase through borrowing
  6. borrow \$ 4000
  7. invest \$ 1000 in 10 shares of Microsoft stock
  8. increase leverage and invest \$ 4000 in twenty options contracts
  9. → control 10 plus 2000 shares
  10. → invest in more business opportunities with the same equity

[Leveraged ETF Definition | Investopedia](http://www.investopedia.com/terms/l/leveraged-etf.asp#ixzz4A1m0l8Np)

<http://www.investopedia.com/terms/l/leveraged-etf.asp#ixzz4A1m0l8Np>

# Commodity ETFs and leverage

- the objective is to have a return of 3:1 or 2:1 (compared to the index) on a day-to-day basis
- the objective is not to improve the long-term performance accuracy

## example

- index: - 2 % on day zero
  - index: + 1 % on day one
  - index gain in 2 days: - 1.02 %
  - gain of leveraged ETF: - 2.04 %
  - including compounding
- ➔ to recover from a decrease of the index of (-) 2 %, the ETF increase must be (+) 2.04 %

[Leveraged ETFs: Are They Right For You? | Investopedia](http://www.investopedia.com/articles/mutualfund/07/leveraged_etfs.asp#ixzz4A1K59IW)

[http://www.investopedia.com/articles/mutualfund/07/leveraged\\_etfs.asp#ixzz4A1K59IW](http://www.investopedia.com/articles/mutualfund/07/leveraged_etfs.asp#ixzz4A1K59IW)

# **ALPS Sprott Junior Gold Miners ETF (SGDJ)**

## **ETF Objective**

The Fund seeks investment results that correspond generally to the performance of its underlying index, the Sprott Zacks Junior Gold Miners Index. The Underlying Index aims to track the performance of junior gold and junior silver mining companies whose stocks are traded on major U.S. or Canadian exchanges.

# performance

Prev Close	33,47
Day Low / High	31,83 / 33,15
52 Wk Low / High	17,23 / 39,08
Avg Volume	33.30K
MTD Return	-16.82%
QTD Return	+22.05%
YTD Return	+64.34%
1 Yr Return	+20.49%
3 Yr Return	n/a
5 Yr Return	n/a

# ALPS Sprott Junior Gold Miners ETF (SGDJ)

Basic Materials 95.83%

Non Classified  
Equity 4.00%

## Geographic Exposure

Canada 65.02%

United States 13.71%

South Africa 12.90%

Australia 5.78%

Peru 2.44%

Unidentified 2.14%

# ALPS Sprott Junior Gold Miners ETF (SGDJ)

## Top 10 Holdings

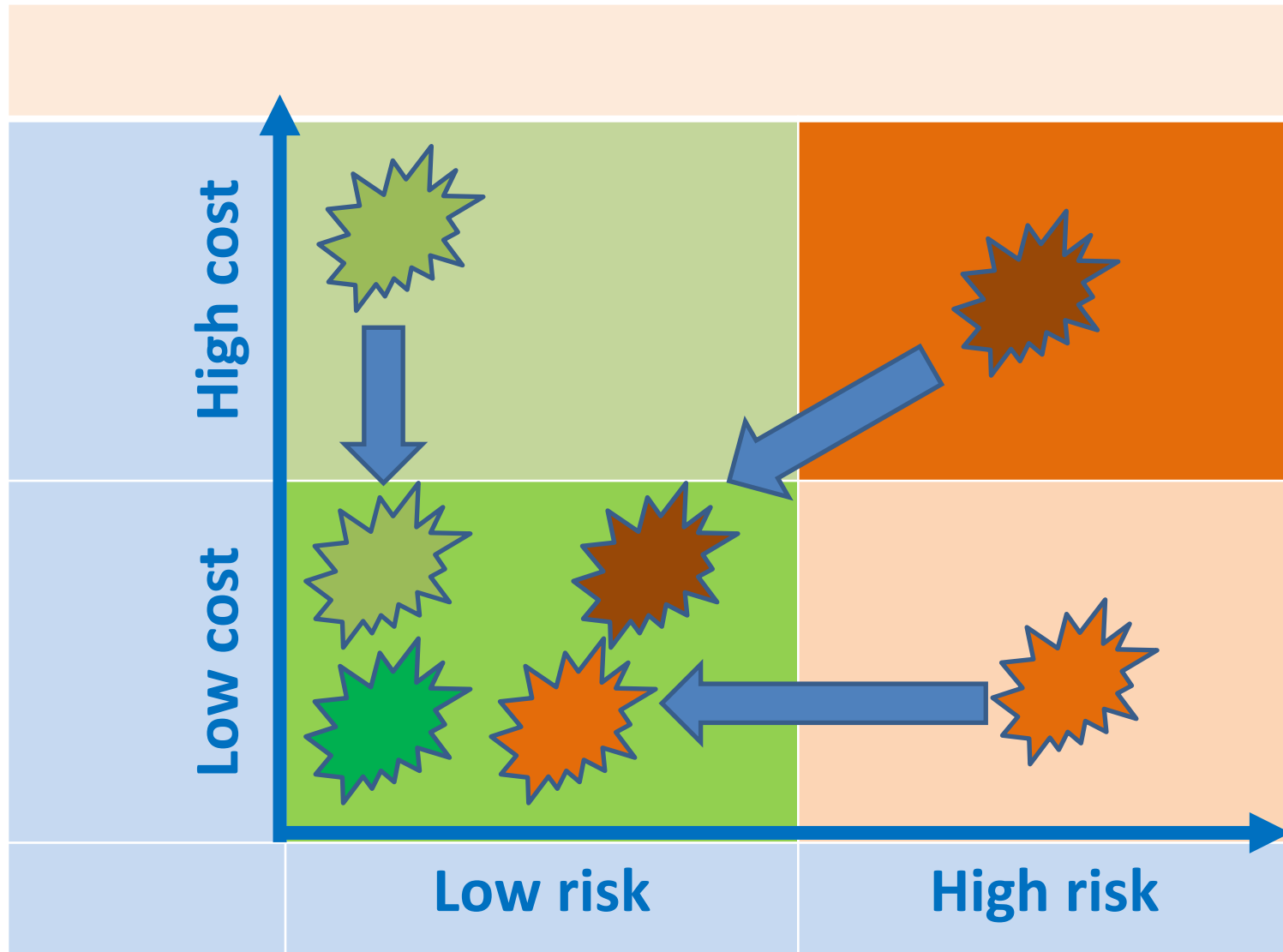
Symbol	Company Name	% Of Assets
SBGL	Sibanye Gold Ltd DR	9.62%
DGC	Detour Gold Corp ORD	9.31%
THO	Tahoe Resources Inc ORD	8.47%
YRI	Yamana Gold Inc ORD	8.34%
OGC	OceanaGold Corp ORD	5.78%
BTO	B2Gold Corp ORD	4.67%
NGD	New Gold Inc ORD	4.30%
PAA	Pan American Silver Corp ORD	4.25%
CG	Centerra Gold Inc ORD	3.57%
AGI	Alamos Gold Inc ORD	3.43%
Total % Of Top Holdings		61.74%

# ALPS Sprott Junior Gold Miners ETF (SGDJ)

Market Capitalization	2.54 B
Total Net Assets	42.10
Management Fee	0.57%
Administration Fee	0.00%
Asset Class	Equity
Sub Asset Class	Precious Metals Equity Funds
Number Of Holdings	36
Expense Ratio	0.57
Dividend	n/a
Dividend Frequency	Annually



# Ranking financial instruments



# Comparison of financial instruments from the viewpoint of a mining company

	cost of finance	risk	economic	society	$\Sigma$
shares	+	+	+++	++	+(+)
bank loans	++	++	+++	++	+
project financing	+++	+	++	+++	++(+)
off-take agreements	+	++	++	+	+(+)
standby equity ...	+	+	+++	+	+(+)
streaming	+	++	+++	+	++(+)

**+ = low cost, risk, potential**

**++ = medium cost, risk, potential**

**+++ = high cost, risk, potential**



ELEVATION B



ELEVATION C



ELEVATION D

Thank you for the attention



- Appendix I
- STREAMING CASE Antamina



new financial instruments:  
exchange traded funds

# DEFINITION of 'Exchange-Traded Fund (ETF)'

An ETF, or exchange traded fund, is a marketable security which tracks

- an index
- a commodity
- a basket of assets, e.g. an index fund

an ETF trades like a common stock on a stock exchange

➔ buying and selling

➔ price change

➔ a higher liquidity and lower fees than mutual fund shares





# Exchange-Traded Fund (ETF)

ETF shareholders are entitled to

- a proportion of the profits
- earned interest
- dividends paid
- residual value after liquidation of the ETF

ETF shareholders do not (directly) own the underlying assets

[Exchange-Traded Fund \(ETF\) Definition | Investopedia](http://www.investopedia.com/terms/e/etf.asp#ixzz4A1Tuf) <http://www.investopedia.com/terms/e/etf.asp#ixzz4A1Tuf>

ETF shares are traded on public stock exchanges

[Exchange-Traded Fund \(ETF\) Definition | Investopedia](http://www.investopedia.com/terms/e/etf.asp#ixzz4A1TufKBV) <http://www.investopedia.com/terms/e/etf.asp#ixzz4A1TufKBV>

# Commodity ETFs

Investment in physical commodities:

- agricultural goods
- natural resources
- (precious) metals
  
- focus on a single commodity and hold it in physical storage
- invest in futures contracts
- track the performance of a commodity index (e.g. many individual commodities → combination of physical storage and derivatives positions)

▲ RSI(14) 73.75



# **ALPS Sprott Junior Gold Miners ETF (SGDJ)**

## **ETF Objective**

The Fund seeks investment results that correspond generally to the performance of its underlying index, the Sprott Zacks Junior Gold Miners Index. The Underlying Index aims to track the performance of junior gold and junior silver mining companies whose stocks are traded on major U.S. or Canadian exchanges.

# performance

Prev Close	33,47
Day Low / High	31,83 / 33,15
52 Wk Low / High	17,23 / 39,08
Avg Volume	33.30K
MTD Return	-16.82%
QTD Return	+22.05%
YTD Return	+64.34%
1 Yr Return	+20.49%
3 Yr Return	n/a
5 Yr Return	n/a

# ALPS Sprott Junior Gold Miners ETF (SGDJ)

Basic Materials 95.83%

Non Classified  
Equity 4.00%

## Geographic Exposure

Canada 65.02%

United States 13.71%

South Africa 12.90%

Australia 5.78%

Peru 2.44%

Unidentified 2.14%

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Dividend Frequency	Annually





ELEVATION B



ELEVATION C



ELEVATION D

# Appendix 1

## Case study on streaming

# Streaming

- SWC will receive from Glencore an amount equal to 33.75% of the Antamina silver production until the delivery of 140 million ounces of silver and 22.5% of silver production thereafter for life of mine at a fixed 100% payable rate.
- Antamina is one of the lowest cost copper mines globally and is the eighth largest copper mine in the world. The low-costs are facilitated by the high grade reserves and resources as well as the wholly owned mining infrastructure.
- With the addition of Antamina, approximately 84% of Silver Wheaton's 2019 production is forecast to come from mines operating in the first quartile of their respective cost curve.
- Subsequent to the closing of this acquisition, Silver Wheaton's estimated Proven and Probable silver reserves increase by 75 million ounces, Measured and Indicated silver resources increase by 56 million ounces, and Inferred silver resources increase by 126 million ounces.

# Streaming

## **Immediate production and cash flow**

- This acquisition immediately increases Silver Wheaton's production and cash flow profile by adding expected average silver production of 5.1 million ounces per year in 2016 and 2017, and 4.7 million ounces per year over the first 20 years.
- Production expected in the fourth quarter: forecast to be around 1.0 to 1.5 million ounces of silver.
- Sales expected in the fourth quarter: any silver in respect of which a delivery is made to an offtaker after September 30, 2015, is subject to the stream.

# Streaming



- **TRANSACTION TERMS**

- SWC has agreed to acquire from Glencore an amount of silver equivalent to 33.75% of silver production from the Antamina mine until the delivery of 140 million ounces of silver.
- Once SWC has received 140 million ounces of silver, SWC will receive an amount of silver equivalent to 22.50% of the Antamina mine's silver production (two-thirds of Glencore's 33.75% stake).

## **TRANSACTION TERMS**

- SWC will pay Glencore cash consideration of US\$900 million for the silver stream as an advance payment against the purchase price for the sale of silver to SWC.
- The stream will be based on a fixed silver payable rate of 100% of Glencore's share of production.
- The effective date of the transaction is September 30, 2015. Any silver in respect of which a delivery is made to an offtaker after September 30, 2015, is subject to the stream.

# Streaming

## TRANSACTION TERMS

- SWC will make ongoing payments of 20% of spot price to Glencore, per silver ounce delivered.
- Silver deliveries will be the obligation of Anani, but will be guaranteed by Glencore and a debt free entity holding Glencore's interest in Antamina ("Holdco"). Holdco is limited in its ability to grant security interests over its assets or incur debt. Subject to certain exceptions, Holdco is restricted on making any distributions or other payments to affiliates if there is an event of default under the streaming agreement.
- Closing of the transaction is expected to occur prior to the end of November 2015 and is subject to the completion of certain corporate matters and customary conditions.

# Streaming

## FINANCING THE TRANSACTION

- The initial upfront cash payment of US\$900 million will be paid by using cash on hand together with amounts drawn from the Company's \$2 billion revolving credit facility.
- At September 30, 2015, the Company had approximately \$81 million of cash on hand and \$647 million outstanding under the revolving credit facility.
- Post this transaction, Silver Wheaton will have no further capital commitments required to reach its 2019 production guidance of 55 million silver equivalent ounces.



# Streaming



## FINANCING THE TRANSACTION

- With trailing four-quarter operating cash flow of just under \$400 million<sup>6</sup>, additional cash flow associated with the Antamina transaction, forecast production growth of over 25% from 2015 to 2019, and no capital commitments, the Company believes it has ample capacity to service the additional debt resulting with this transaction, especially given the low interest rate and flexible nature of the covenants under the revolving credit facility (minimum net debt to total net worth and minimum interest coverage tests).

# Streaming



## ABOUT THE ANTAMINA MINE

- The Antamina mine is a large copper and zinc mine that began producing in 2001.
- It is located in the Andes mountain range, 270 kilometres north of Lima, Peru, and the deposit is located at an average elevation of 4,200 metres.
- The mine is operated by Compania Miñera Antamina S.A. ("CMA"), a company jointly owned by subsidiaries of Glencore (33.75%), BHP Billiton Plc (33.75%), Teck Resources Limited (22.5%), and Mitsubishi Corporation (10%).  
<http://www.silverwheaton.com/news1/press-releases/press-release-details/2015/Silver-Wheaton-acquires-silver-stream-from-Glencore-Antamina-mine/default.aspx>

## **ABOUT THE ANTAMINA MINE**

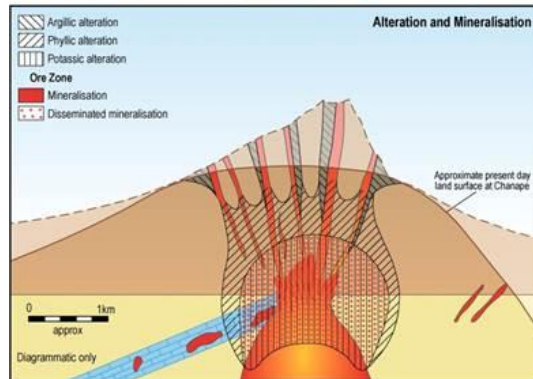
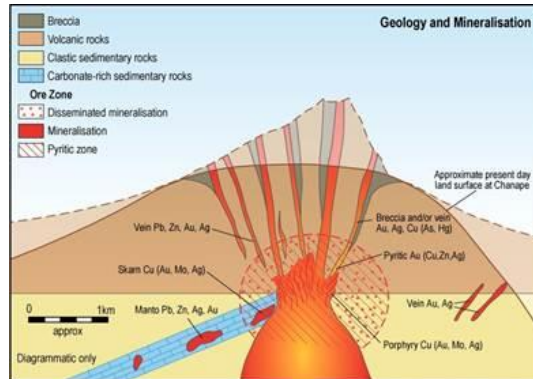
- Antamina is one of the lowest cost copper mines in the world. It produces separate copper, zinc, molybdenum and lead/bismuth concentrates, with silver predominantly contained within the copper concentrates, and additional silver contained with the lead-bismuth concentrate.
- The mine is an open pit, truck/shovel operation. The ore is crushed in pit and conveyed through a 2.7 kilometre tunnel to the coarse ore stockpiles at the mill.

# Streaming

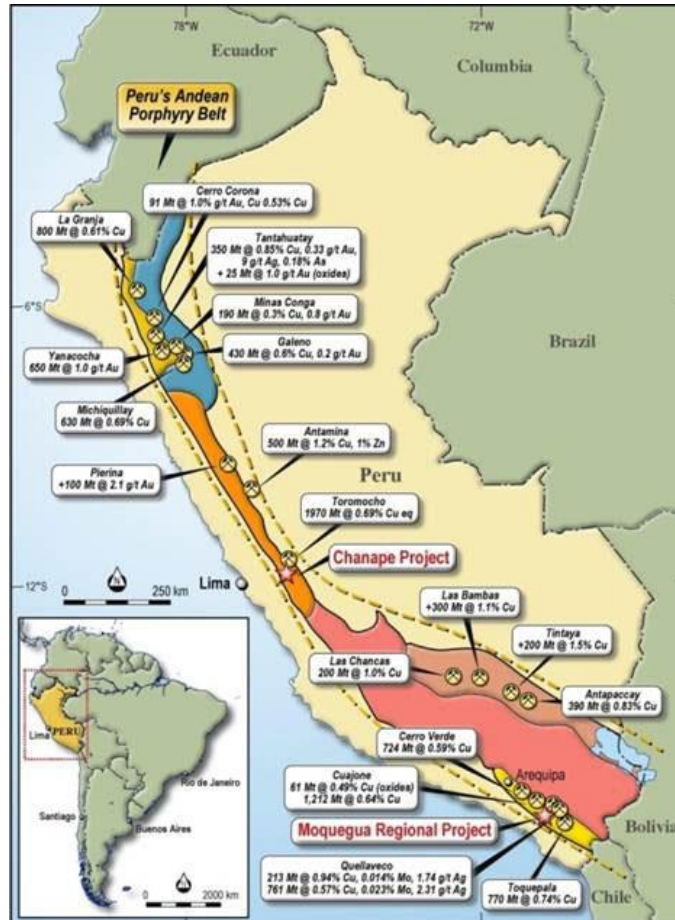
## **ABOUT THE ANTAMINA MINE**

- It is then processed utilizing semi-autogenous grinding mills, followed by ball mill grinding and flotation.
- Concentrates are pumped via a 302 km pipeline to the Huarmey Port on the Pacific Coastline (300 km north of Lima) for shipping through port facilities which are wholly owned and operated by CMA.
- In 2014, Antamina produced approximately 345,000 tonnes of copper, 211,000 tonnes of zinc, 3.1 million pounds of molybdenum, and 12.0 million ounces of silver (with associated bismuth and lead).

# Antamina



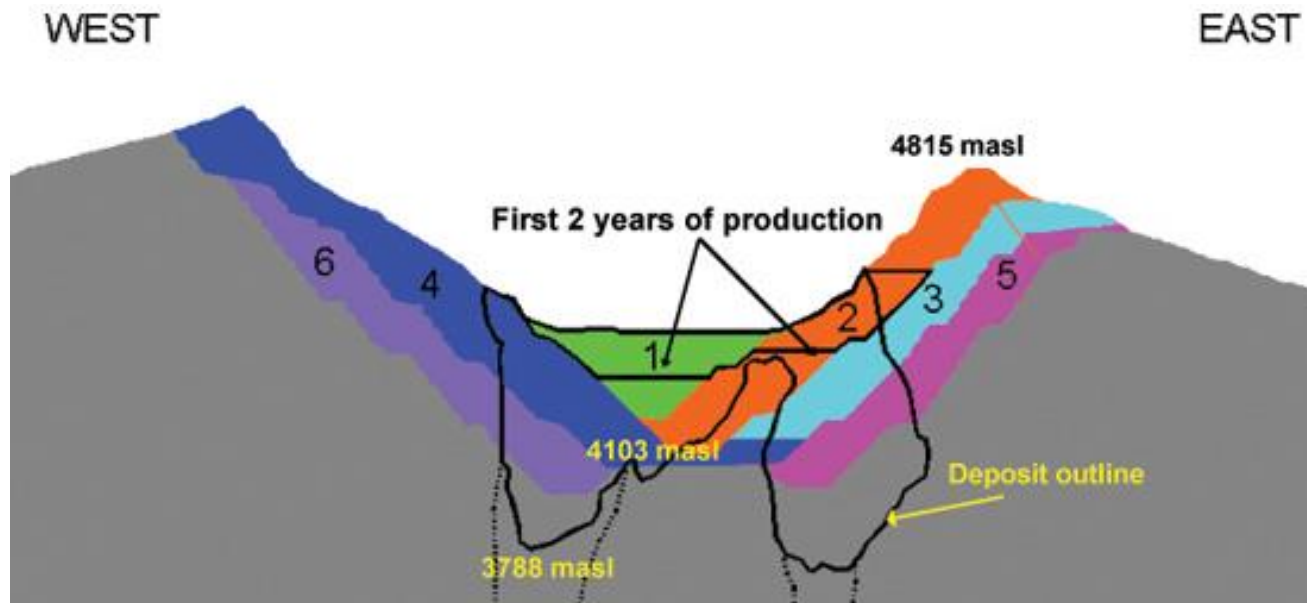
# Antamina



# Antamina



# Antamina





# Antamina



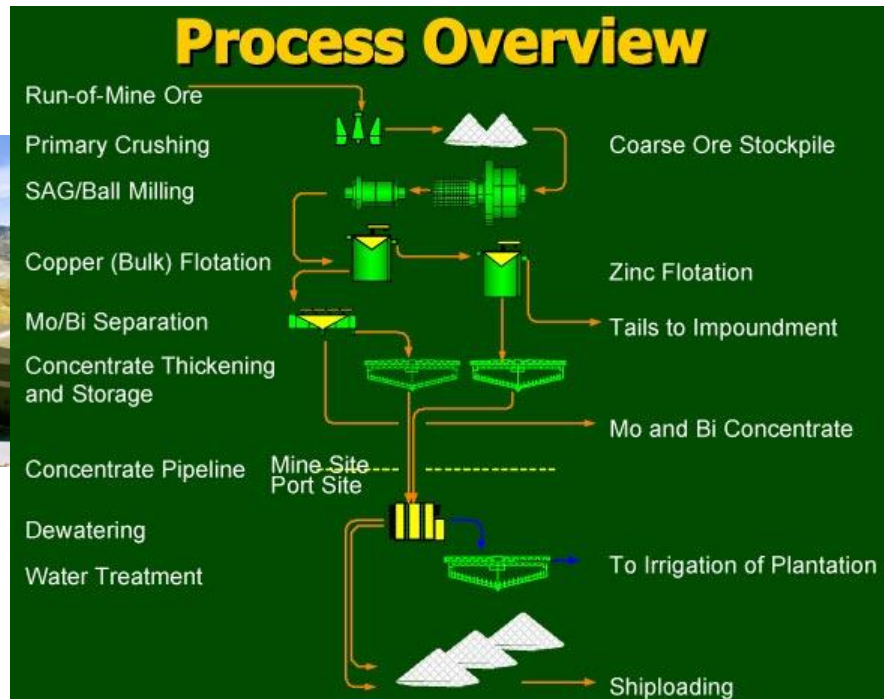
# Antamina



# Antamina



# Antamina



# Antamina



# Streaming

SILVER  
WHEATON

Ore Type	Category	Mt	Grades			Contained Metal		
			Cu%	Zn%	Ag g/t	Cu mlbs	Zn mlbs	Ag mozs
Copper	Proven	144.5	1.00		8.6	3,186		40.0
Copper	Proven	64.9	1.07	2.24	17.1	1,531	3,205	35.7
Zinc		230.9	0.97		8.0	4,938		59.4
Copper	Probable	206.3	0.83	2.06	13.1	3,775	9,369	86.9
Zinc		646.6	0.94	0.88	10.7	13,429	12,574	221.9
Combined	P&P							
Copper	Measured	43.7	0.48		5.4	462		7.6
Copper	Measured	20.9	0.57	1.10	12.5	263	507	8.4
Zinc		283.3	0.83		8.5	5,184		77.4
Copper	Indicated	141.5	0.94	1.70	16.1	2,932	5,303	73.2
Zinc		489.4	0.82	0.54	10.6	8,841	5,810	166.7
Combined	M&I							
Copper	Inferred	767.7	0.84		8.6	14,132		212.3
Copper	Inferred	514.6	0.92	1.50	15.0	10,493	17,017	248.2
Zinc		1282.3	0.87	0.60	11.2	24,625	17,017	460.4
Combined	Inferred							

http://www.silverwheaton.com/2015/01/silver-wheaton-acquires-silver-stream-from-glencores-antamina-  
 details/2015/01/silver-wheaton-acquires-silver-stream-from-glencores-antamina-  
 mine/default.aspx

# Streaming

**SILVER  
WHEATON**

Silver Wheaton's Estimated Attributable Reserves and Resources are as follows:

Proven & Probable Reserves Attributable to Silver Wheaton <sup>(1,2,3,8,18)</sup>										
As of December 31, 2014 unless otherwise noted <sup>(6)</sup>	Proven			Probable			Proven & Probable			Process Recovery <sup>(7)</sup>
	Tonnage	Grade	Contained	Tonnage	Grade	Contained	Tonnage	Grade	Contained	
	Mt	g/t	Moz	Mt	g/t	Moz	Mt	g/t	Moz	
<b>SILVER</b>										
Peñasquito (25%) <sup>(14)</sup>										
Mill	84.1	33.3	90.0	52.7	25.0	42.4	136.7	30.1	132.4	53-65%
Heap Leach	10.9	31.7	11.1	11.5	25.0	9.2	22.4	28.3	20.4	22-28%
San Dimas <sup>(10, 14)</sup>	1.2	411.7	16.3	3.2	329.6	34.2	4.5	352.3	50.5	94%
Pascua-Lama (25%) <sup>(14)</sup>	8.0	69.8	17.9	73.2	64.1	150.8	81.2	64.7	168.7	82%
Lagunas Norte <sup>(11)</sup>	12.4	4.5	1.8	52.9	4.5	7.7	65.3	4.5	9.5	19%
Veladero <sup>(11)</sup>	5.5	14.8	2.6	90.5	14.8	43.2	96.0	14.8	45.8	6%
Antamina <sup>(11,21,22)</sup>	70.7	11.2	25.5	147.6	10.4	49.4	218.2	10.7	74.9	71%
Yauliyacu <sup>(11, 12)</sup>	0.8	123.5	3.1	3.4	109.8	11.9	4.1	112.4	15.0	85%
777 <sup>(13)</sup>	3.7	27.4	3.3	3.9	24.1	3.1	7.7	25.7	6.3	64%
Neves-Corvo										
Copper	4.9	38.8	6.1	20.5	36.1	23.8	25.4	36.6	29.9	35%
Zinc	10.4	73.1	24.4	10.2	66.9	22.0	20.6	70.0	46.4	20%
Rosemont <sup>(15)</sup>	279.5	4.1	37.0	325.8	4.1	43.1	605.3	4.1	80.1	76%
Constancia	506.0	3.1	50.3	114.0	2.9	10.8	620.0	3.1	61.1	71%
Zinkgruvan										
Zinc	7.4	87.0	20.6	4.2	51.0	6.9	11.6	73.9	27.5	87%
Copper	3.3	35.0	3.7	0.1	35.0	0.1	3.4	35.0	3.8	78%
Stratoni	0.5	174.0	2.9	0.3	182.0	1.5	0.8	176.7	4.5	84%
Minto	2.9	6.4	0.6	4.8	5.8	0.9	7.7	6.0	1.5	78%
Cozamin <sup>(11)</sup>										
Copper	-	-	-	2.8	41.9	3.8	2.8	41.9	3.8	72%
Los Filos	48.8	5.7	8.9	198.4	5.0	32.2	247.2	5.2	41.1	5%
Metates Royalty <sup>(20)</sup>	4.1	18.0	2.3	13.2	13.1	5.5	17.2	14.2	7.9	76%
<b>TOTAL SILVER</b>			<b>328.6</b>			<b>502.4</b>			<b>831.0</b>	
<b>GOLD</b>										
Salobo (50%) <sup>(16)</sup>	331.7	0.39	4.13	257.9	0.31	2.57	589.6	0.35	6.70	66%
Sudbury (70%) <sup>(11)</sup>	-	-	-	54.3	0.39	0.68	54.3	0.39	0.68	81%
777 <sup>(13)</sup>	2.6	1.78	0.15	2.8	1.78	0.16	5.4	1.78	0.31	73%
Constancia (50%)	253.0	0.05	0.42	57.0	0.07	0.14	310.0	0.06	0.56	61%
Minto	2.9	0.93	0.09	4.8	0.63	0.10	7.7	0.74	0.18	74%
Toroparu (10%) <sup>(17)</sup>	3.0	1.10	0.10	9.7	0.98	0.31	12.7	1.01	0.41	89%
Metates Royalty <sup>(20)</sup>	4.1	0.68	0.09	13.2	0.44	0.19	17.2	0.50	0.28	89%
<b>TOTAL GOLD</b>			<b>4.98</b>			<b>4.14</b>			<b>9.11</b>	

# Streaming

Measured & Indicated Resources Attributable to Silver Wheaton <sup>(1,2,3,4,5,18)</sup>

As of December 31, 2014  
unless otherwise noted <sup>(6)</sup>

	Measured			Indicated			Measured & Indicated		
	Tonnage	Grade	Contained	Tonnage	Grade	Contained	Tonnage	Grade	Contained
	Mt	g/t	Moz	Mt	g/t	Moz	Mt	g/t	Moz
<b>SILVER</b>									
Peñasquito (25%) <sup>(14)</sup>									
Mill	34.4	26.1	28.9	91.7	21.5	63.5	126.2	22.8	92.4
Heap Leach	5.1	19.3	3.1	24.1	16.7	13.0	29.2	17.2	16.1
San Dimas <sup>(10, 14)</sup>	0.3	154.3	1.5	0.9	161.1	4.9	1.2	159.5	6.4
Pascua-Lama (25%) <sup>(14)</sup>	3.7	26.4	3.1	35.7	22.3	25.5	39.4	22.7	28.7
Antamina <sup>(11,21,22)</sup>	21.8	7.7	5.4	143.4	11.0	50.8	165.2	10.6	56.2
Yauliyacu <sup>(11, 12)</sup>	1.0	127.3	4.0	6.0	216.6	41.5	6.9	204.2	45.5
777 <sup>(13)</sup>	-	-	-	0.7	26.1	0.6	0.7	26.1	0.6
Neves-Corvo									
Copper	5.8	48.5	9.0	25.7	50.8	42.0	31.5	50.3	51.0
Zinc	14.1	59.6	27.0	60.2	55.7	107.8	74.3	56.4	134.8
Rosemont <sup>(15)</sup>	38.5	3.0	3.7	197.7	2.7	17.1	236.2	2.7	20.8
Constancia	73.0	2.4	5.6	299.0	2.0	19.4	372.0	2.1	25.0
Zinkgruvan									
Zinc	2.2	66.8	4.6	4.7	107.1	16.3	6.9	94.5	20.9
Copper	1.6	20.0	1.0	0.4	39.1	0.5	2.0	23.9	1.5
Aljustrel <sup>(19)</sup>									
Zinc	1.3	65.6	2.7	20.5	60.3	39.7	21.8	60.7	42.4
Stratoni	0.2	200.4	1.5	0.2	213.3	1.4	0.4	206.4	2.9
Minto	8.0	3.3	0.8	32.3	3.4	3.5	40.3	3.4	4.4
Keno Hill (25%)									
Underground	-	-	-	0.8	467.2	11.5	0.8	467.2	11.5
Elsa Tailings	-	-	-	0.6	119.0	2.4	0.6	119.0	2.4
Los Filos	11.4	11.0	4.0	112.3	7.4	26.9	123.7	7.8	30.9
Loma de La Plata (12.5%)	-	-	-	3.6	169.0	19.8	3.6	169.0	19.8
Toroparu (50%) <sup>(17)</sup>	22.2	1.2	0.8	97.9	0.7	2.3	120.1	0.8	3.1
<b>TOTAL SILVER</b>			<b>106.9</b>			<b>510.3</b>			<b>617.2</b>
<b>GOLD</b>									
Salobo (50%) <sup>(16)</sup>	24.6	0.47	0.37	97.7	0.37	1.16	122.2	0.39	1.53
Sudbury (70%) <sup>(11)</sup>	-	-	-	28.9	0.34	0.32	28.9	0.34	0.32
777 <sup>(13)</sup>	-	-	-	0.4	1.81	0.02	0.4	1.81	0.02
Constancia (50%)	36.5	0.05	0.06	149.5	0.04	0.18	186.0	0.04	0.23
Minto	8.0	0.39	0.10	32.3	0.32	0.34	40.3	0.34	0.44
Toroparu (10%) <sup>(17)</sup>	0.9	0.87	0.03	7.9	0.83	0.21	8.8	0.84	0.24
<b>TOTAL GOLD</b>			<b>0.56</b>			<b>2.23</b>			<b>2.78</b>

**SILVER**  
**WHEATON**





ELEVATION B



ELEVATION C



ELEVATION D

## Appendix 2

### Natural resources and energy ETFs



new financial instruments:  
exchange traded funds - with  
preliminary remark on liquidity of a  
marketable asset

# LIQUIDITY

Degree to which an asset can be quickly bought or sold in the market without affecting the asset's price

Market liquidity:

- Degree to which extent a market allows assets to be bought and sold at stable prices

[Liquidity Definition | Investopedia http://www.investopedia.com/terms/l/liquidity.asp#ixzz4A1V35tTK](http://www.investopedia.com/terms/l/liquidity.asp#ixzz4A1V35tTK)

# LIQUIDITY: BID – ASK SPREAD

difference in price between the highest price that a buyer is willing to pay for an asset and the lowest price for which a seller is willing to sell it

→ bid price = 20 & ask price = 22

→ bid-ask spread = 2

size of the spread may be an indicator of market liquidity

# LIQUIDITY: unrealized gain / loss

unrealized gain:

- a profit from an investment “on paper”
- position is open

unrealized loss:

- a loss from an investment “on paper”
- position is open

“paper” profits and losses

# Commodity ETFs and leverage

commodity ETFs use leverage buying derivative contracts

- objective is to keep a constant leverage ratio over time: 2:1 or 3:1
- outcome is not an increase of return per year compared to the index
- outcome is a change of day-to-day return

example of a 2:1 ratio

- for each \$ of investor capital another 1 \$ is invested
- if the underlying index returns 1% → the fund will theoretically return 2%
- if the underlying index returns – 1% → the fund will theoretically return – 2 %

*more risk than investment in non-leveraged ETFs*

# Leverage: example

1. invest \$1,000 in 10 shares of Microsoft stock
  2. increase leverage and invest \$1,000 in five options contracts
  3. → control 500 shares instead of 10 shares
  4. → invest in more business opportunities with the same equity
- 
5. increase through borrowing
  6. borrow \$ 4000
  7. invest \$ 1000 in 10 shares of Microsoft stock
  8. increase leverage and invest \$ 4000 in twenty options contracts
  9. → control 10 plus 2000 shares
  10. → invest in more business opportunities with the same equity

[Leveraged ETF Definition | Investopedia](http://www.investopedia.com/terms/l/leveraged-etf.asp#ixzz4A1m0l8Np)

<http://www.investopedia.com/terms/l/leveraged-etf.asp#ixzz4A1m0l8Np>



# Commodity ETFs and leverage

- the objective is to have a return of 3:1 or 2:1 (compared to the index) on a day-to-day basis
- the objective is not to improve the long-term performance accuracy

## example

- index: - 2 % on day zero
  - index: + 1 % on day one
  - index gain in 2 days: - 1.02 %
  - gain of leveraged ETF: - 2.04 %
  - including compounding
- ➔ to recover from a decrease of the index of (-) 2 %, the ETF increase must be (+) 2.04 %

[Leveraged ETFs: Are They Right For You? | Investopedia](http://www.investopedia.com/articles/mutualfund/07/leveraged_etfs.asp#ixzz4A1K59IW)

[http://www.investopedia.com/articles/mutualfund/07/leveraged\\_etfs.asp#ixzz4A1K59IW](http://www.investopedia.com/articles/mutualfund/07/leveraged_etfs.asp#ixzz4A1K59IW)

# ProShares UltraShort Bloomberg Crude Oil (SCO)

## ETF Objective

The Fund seeks daily investment results that correspond to twice (200%) the inverse (opposite) of the daily performance, whether positive or negative, of its corresponding benchmark.

Prev Close	80,65
Day Low / High	79,35 / 82,56
52 Wk Low / High	52,58 / 243,67
Avg Volume	776.80K

# ProShares UltraShort Bloomberg Crude Oil (SCO)

May 27, 2016 3:59 PM EDT

## Performance

MTD Return	- 12.23%
QTD Return	- 52.17%
YTD Return	- 39.49%
1 Yr Return	+ 31.27%
3 Yr Return	+ 28.00%
5 Yr Return	+ 12.74%

# ProShares UltraShort Bloomberg Crude Oil (SCO)

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## Sector Breakdown

No information

## Geographic Exposure

Unidentified 85.60%

United States 16.11%

No Top 10 Holdings Information

# ProShares UltraShort Bloomberg Crude Oil (SCO)

May 27, 2016 3:59 PM EDT

## ETF Characteristics

Market Capitalization	n/a
Total Net Assets	226.80
Management Fee	0.95%
Administration Fee	0.00%
Asset Class	Equity
Sub Asset Class	Commodities Specialty Funds
Number Of Holdings	n/a
Expense Ratio	1.07
Dividend	n/a
Dividend Frequency	Annually

# **Global X Silver Miners ETF (SIL)**

May 27, 2016 3:59 PM EDT

The investment seeks to provide investment results that correspond generally to the price and yield performance, before fees and expenses, of the Solactive Global Silver Miners Total Return Index. The fund invests at least 80% of its total assets in the silver mining industry

# Global X Silver Miners ETF (SIL)

May 27, 2016 3:59 PM EDT

Prev Close	33,86
Day Low / High	32,48 / 33,57
52 Wk Low / High	14,94 / 37,99
Avg Volume	165.10K
Exchange	AMEX
Shares Outstanding	8.20M
Market Cap	277.55M
Div & Yield	0,07 (0,20%)

# BetaShares S&P/ASX 200 Resources Sector ETF (QRE)

## **Objective**

Aims to track the price and income performance of the S&P/ASX 200 Resources Index, before fees and expenses



# BetaShares S&P/ASX 200 Resources Sector ETF (QRE)

## Advantages

- **Access:** exposure to performance of whole sector in a single trade
- **Simple:** buy and sell just like shares
- **Low cost:** ETFs track the performance of an index (no 'active manager' fees)
- **Liquid:** trade on ASX throughout the day
- **Robust Structure:** Investment portfolio made up of shares which are part of the resources sector
- **Flexible:** can be used to implement a range of investment strategies

# BetaShares S&P/ASX 200 Resources Sector ETF (QRE)

## Fund Returns After Fees (%)

	1 month	3 month	6 month	1 year	
Fund	15.39 %	31.44 %	2.70 %	-16.89 %	
Index	15.41 %	31.70 %	3.08 %	-16.72 %	-

- As at 30 April 2016
- Inception date = 10 December 2010

# BetaShares S&P/ASX 200 Resources Sector ETF (QRE)

## Fund Returns After Fees (%)

	3 year p.a	5 year p.a	Since Inception (p.a.)
Fund	-6.27 %	-10.89 %	-9.96 %
Index	-6.07 %	-10.71 %	-9.76 %

- As at 30 April 2016
- Inception date = 10 December 2010