THE ART OF REDUCTION

Analysing comparable transactions applicable to early stage exploration properties.

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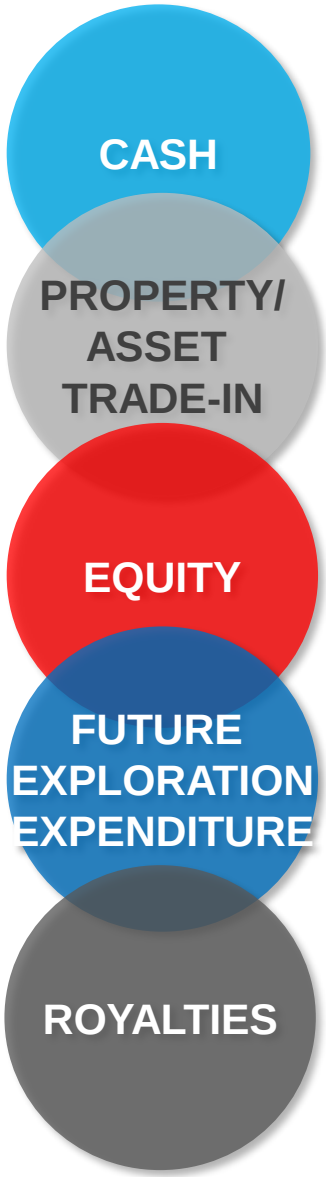
INTRODUCTION

COMPARABLE TRANSACTIONS

ANALYSIS OF TRANSACTIONS

TYPICAL ELEMENTS OF THE DEAL



ALL ELEMENTS TO BE REDUCED
TO A CASH EQUIVALENT AMOUNT

VALUE OPINION
expressed in pure cash terms

Appleyard, 1994; Butler, 2002; Lawrence, 2001,2002; Sorentino, 2002

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CASH

- Converted to the currency base of the Valuation Report
- Public resources: tables of historical currency exchange rates (e.g. Oanda)
- Currency conversion factor(s) prevailing on date of transaction
- Adjust for monetary inflation to Valuation Date

CASH

PROPERTY/ ASSET TRADE-IN

EQUITY

FUTURE EXPLORATION EXPENDITURE

ROYALTIES

PROPERTY/ASSET TRADE-IN

- Asset traded on payment side of a transaction

CASH EQUIVALENT → SEPARATE VALUATION OF ASSET

- According to applicable valuation code requirements
- Time & cost implications “valuation within a valuation”
- Adjust for monetary inflation to Valuation Date

CASH

PROPERTY/ ASSET TRADE-IN

EQUITY

FUTURE EXPLORATION EXPENDITURE

ROYALTIES

EQUITY

INITIAL PAYMENT

Share price immediately prior to announcement of transaction

Public knowledge of deal likely to influence share price

Reflect share price as considered by Buyer & Seller at time of deal

FUTURE PLEDGE AT PREDETERMINED PRICE

Future value discounted = discounted cash flow model

Discount rate to reflect monetary jurisdiction

FUTURE PLEDGE NOT AT PREDETERMINED PRICE

Competent Valuator to take view

Value at time of transaction and discount from future to time of transaction

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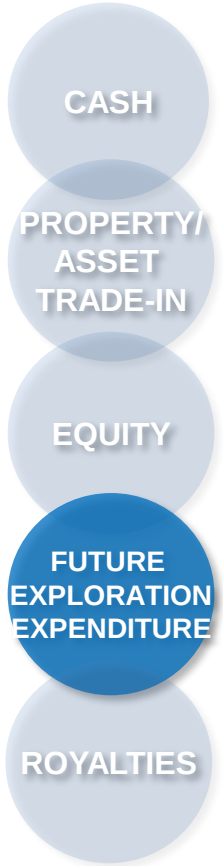
FUTURE EXPENDITURE

COMMON JV DEAL ON EXPLORATION STAGE PROJECTS TO INCLUDE FARM-IN ARRANGEMENTS



Non-cash terms (e.g. completion of Feasibility Study) → Cash value assigned by Competent Valuator or Technical Expert

Committed future expenditure → Discounted to present-day value

Elective future expenditure → Higher and lower probabilities of expenditure actually being completed

Discount to present-day value

Probabilities are multiplicative!

FUTURE EXPENDITURE

CASH

PROPERTY/ ASSET TRADE-IN

EQUITY

FUTURE EXPLORATION EXPENDITURE

ROYALTIES

- Picture this: Deal is struck 2013, with elective expenditure components for 1st three years
- In 2016 we know whether some (all) of elective expenditure was actually spent
- Do we assign probabilities to elective expenditure based on what we know today, or do we still assign probabilities as if we are present only on the day that the deal was announced?

graphic from backtothefuture.com

ROYALTIES

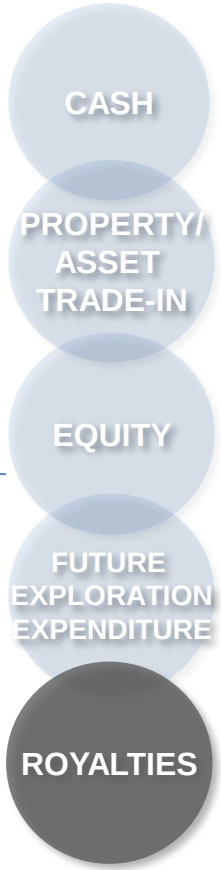
Future royalty payable: translated into cash value

- Consider potential value of royalty
- Discount from future
- Probability of royalty eventually being payable

Buy-back clauses typically value royalties between US$500 000 and US$2 million per %

Alternatively, assess scale of potential future production

- Calculate reasonable future royalties based on estimated future production
- Adjust for monetary inflation



TIME-RELATED ASPECTS OF VALUE

- Stated value of entity only valid at given point
- Adjustment required to represent cash value on Valuation Date
- Value of mineral asset varies over time: market-related and non-market related influences
- Value cannot be adjusted for time elapsed simply on the basis of monetary inflation and currency exchange rates

Useful metrics as guide (can use only one, but combination preferred)

COMMODITY PRICE

- Weighted towards technical market considerations

PERFORMANCE ON STOCK EXCHANGE

- Influenced by prevailing sentiment

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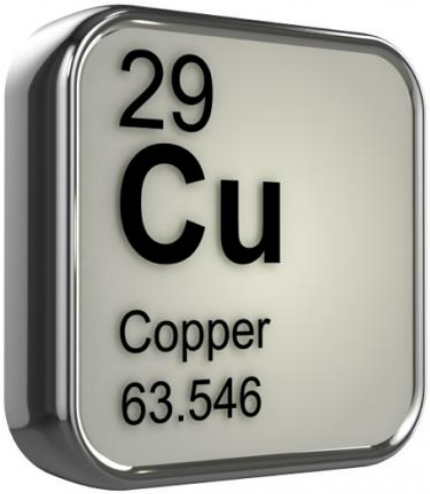
WORKED EXAMPLE



Copper project in North America on 1 April 2012

JV agreement – Buyer to contribute according to the following schedule to earn a 75% interest:

- Initial payments:
  - cash payment of US$1.5 million
  - issuance of 750 000 Buyer shares to the Seller
- 1st Stage (3-year duration): spend US$750 000 on advanced exploration
- 2nd Stage (2-year duration): complete Feasibility Study
- Seller keeps a 2% Net Smelter Royalty (NSR) of which 1% can be bought back by Buyer for US$500 000

WORKED EXAMPLE

- Cash: no conversion or discounting required
- Equity: shares traded at $0.57 prior to announcement of deal. Use this number to assign value to equity portion of transaction. No discounting required.
- Elective Expenditure Stage 1 (exploration):
  - Spread the $750,000 exploration spend equally over 3 year period
- Elective Expenditure Stage 2 (feasibility):
  - Estimate feasibility to cost $2.5 million
- Royalty
  - 1% NSR can be purchased back any time for $500,000, hence assign value of $1 million to full 2% NSR
  - Consider that at least 7 years will elapsed before any royalties may be payable

WORKED EXAMPLE

Probabilities of elective expenditure eventuating

- Elective Expenditure Stage 1 (exploration):
  - based on technical merits of the project
  - lower probability 0.5
  - higher probability 1
- Elective Expenditure Stage 2: (feasibility):
  - based on technical merits of the project
  - lower probability 0.25 (multiply with probability of preceding stage: 0.125)
  - higher probability 0.5 (multiply with probability of preceding stage: 0.5)
- Royalty
  - estimate lower probability 0.05 of the project paying royalties in future
  - higher probability 0.15

WORKED EXAMPLE

Summary of Transaction terms

Analysis of US Copper Transaction	year 1	year 2	year 3	year 4	year 5	year 6	year 7	
Component	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**TOTAL**
Cash	$ 1,500,000							$ 1,500,000
Equity (750,000 shares at $0.57 each)	$ 427,500							$ 427,500
Exploration Expenditure	$ 250,000	$ 250,000	$ 250,000					$ 750,000
lower probability (0.5)	*$ 125,000*	*$ 125,000*	*$ 125,000*					*$ 375,000*
discounted (8%)	*$ 115,000*	*$ 105,800*	*$ 97,336*					*$ 318,136*
higher probability (1.0)	*$ 250,000*	*$ 250,000*	*$ 250,000*					*$ 750,000*
discounted (8%)	*$ 230,000*	*$ 211,600*	*$ 194,672*					*$ 636,272*
Feasibility Expenditure				$ 1,250,000	$ 1,250,000			$ 2,500,000
lower probability (0.125)				*$ 156,250*	*$ 156,250*			*$ 312,500*
discounted (8%)				*$ 114,848*	*$ 106,341*			*$ 221,190*
higher probability (0.5)				*$ 625,000*	*$ 625,000*			*$ 1,250,000*
discounted (8%)				*$ 459,394*	*$ 425,364*			*$ 884,758*
Royalty (2% NSR)							$ 1,000,000	$ 1,000,000
lower probability (0.05)							$ 50,000	*$ 50,000*
discounted (8%)							*$ 29,175*	*$ 29,175*
higher probability (0.15)							$ 150,000	*$ 150,000*
discounted							*$ 87,524*	*$ 87,524*

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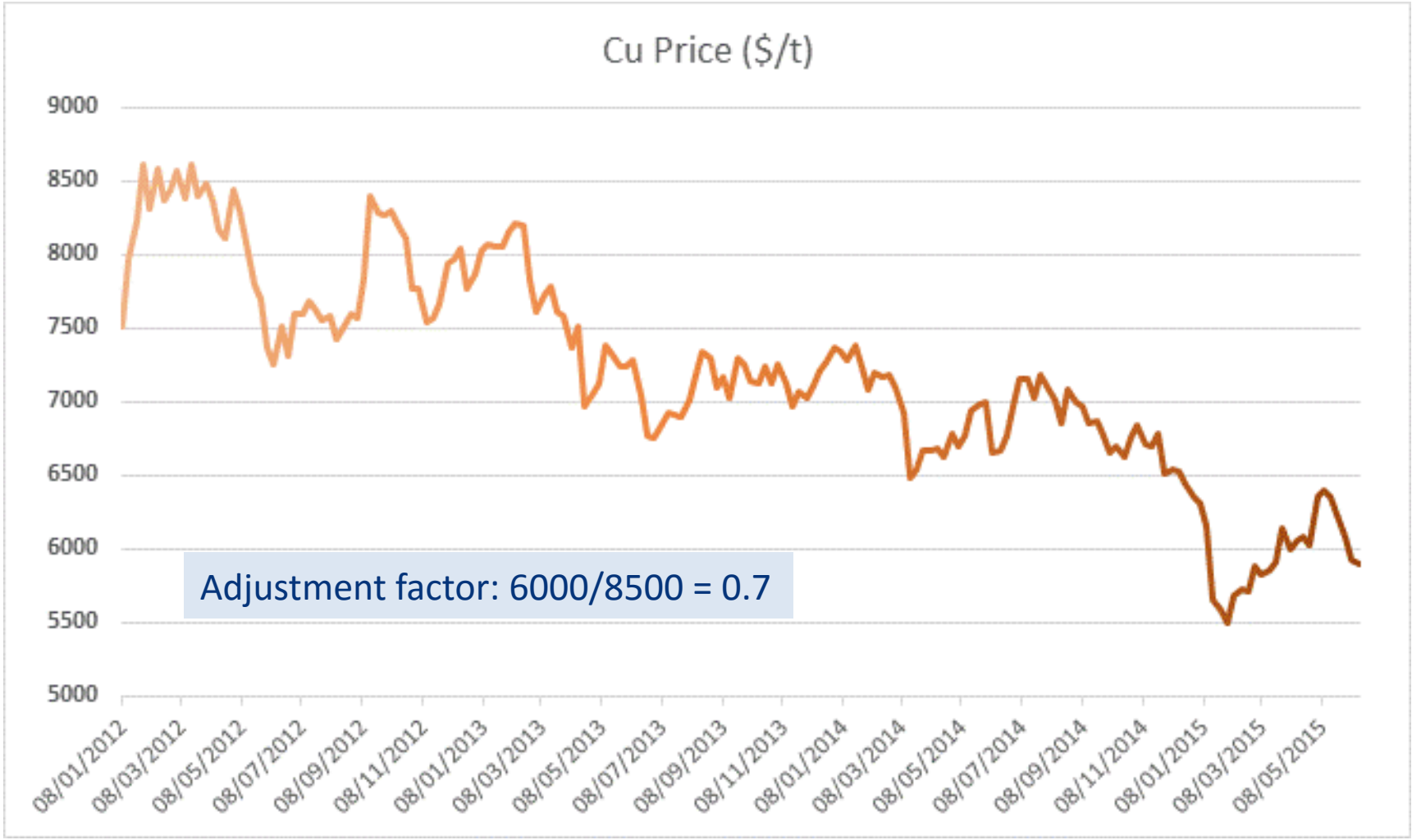
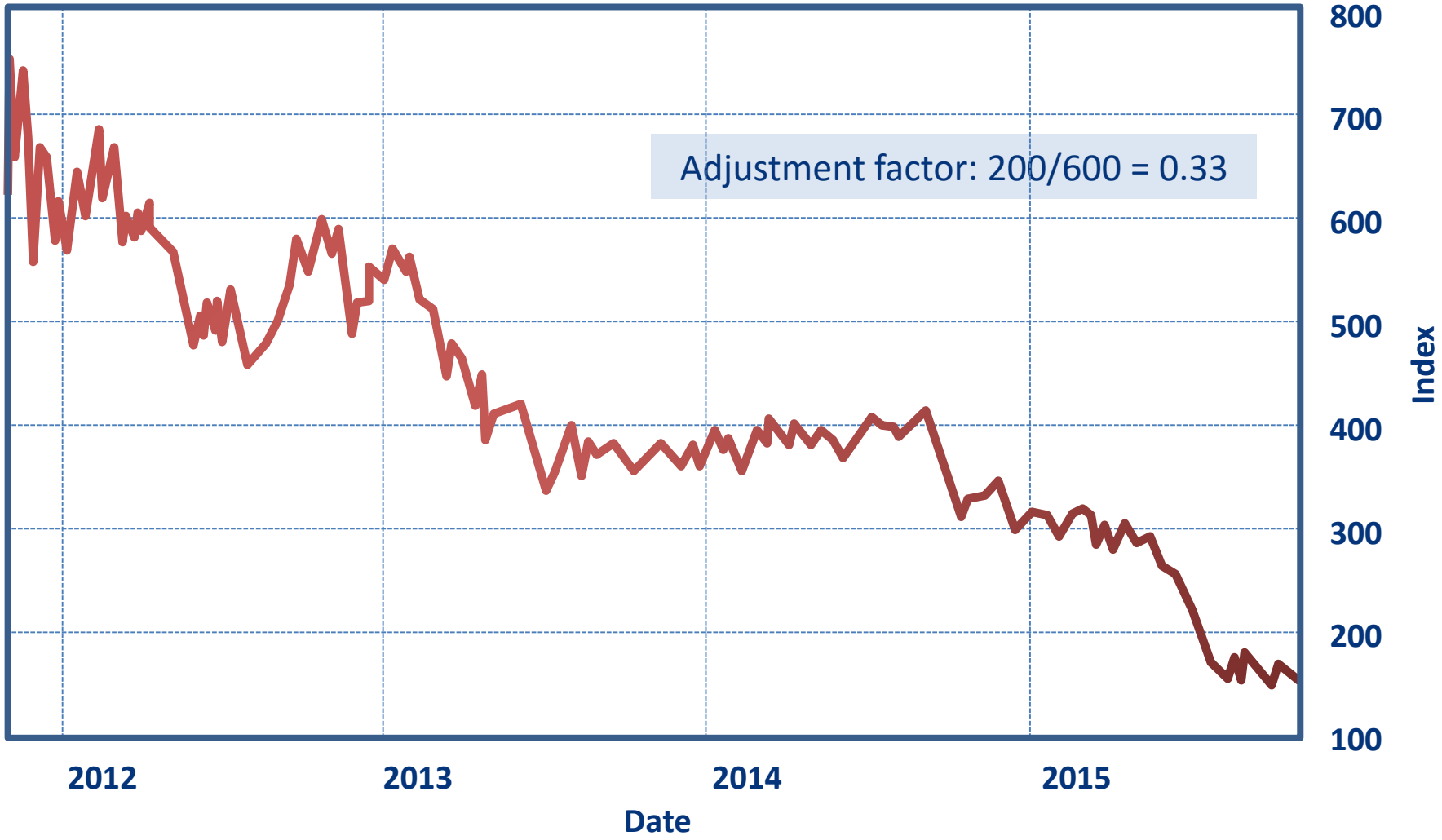
HISTORICAL COPPER PRICES



Data from Quandl, 2015a

HISTORICAL NASFDAQ SMALL CAP MINING INDEX



Data from Quandl, 2015b

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WORKED EXAMPLE

Bringing it all together and adjustment for effect of inflation and markets from April 2012 to January 2016:

In April 2012 money (75% interest)

lower value	**$**	**2,496,000**
higher value	**$**	**3,536,054**

Adjustment factors:

Copper price index:	0.7
Small Cap Mining Index:	0.33
Selected adjustment factor:	**0.5**

In January 2016 money	**75% Interest**	**100% Interest**
lower value	**$ 1,248,000**	**$ 1,664,000**
higher value	**$ 1,768,027**	**$ 2,357,369**

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QUESTIONS

graphic from cebglobal.com

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