Hudbay Minerals

Contents

Introduction

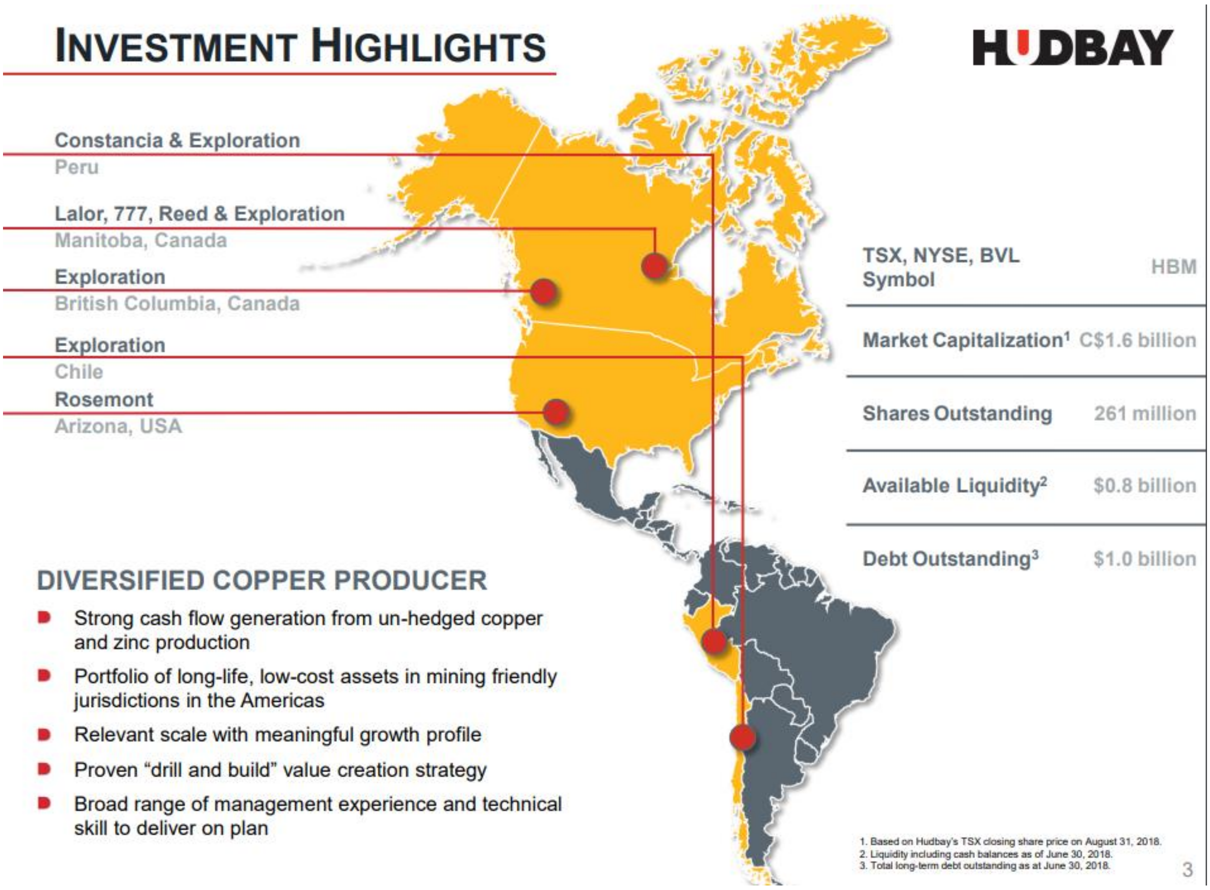
I had analysed Hudbay at the beginning of 2017 so it is always nice to come back to something you already did as you can than see how things have evolved.

The stock has been very volatile, like any other miner always is.

However, the fundamentals are always there and the copper doesn't run deeper into the ground. Let's see what would the intrinsic value be from a sum of parts value estimation with a conservative copper price, a fundamental analysis and outlook as of October 2018.

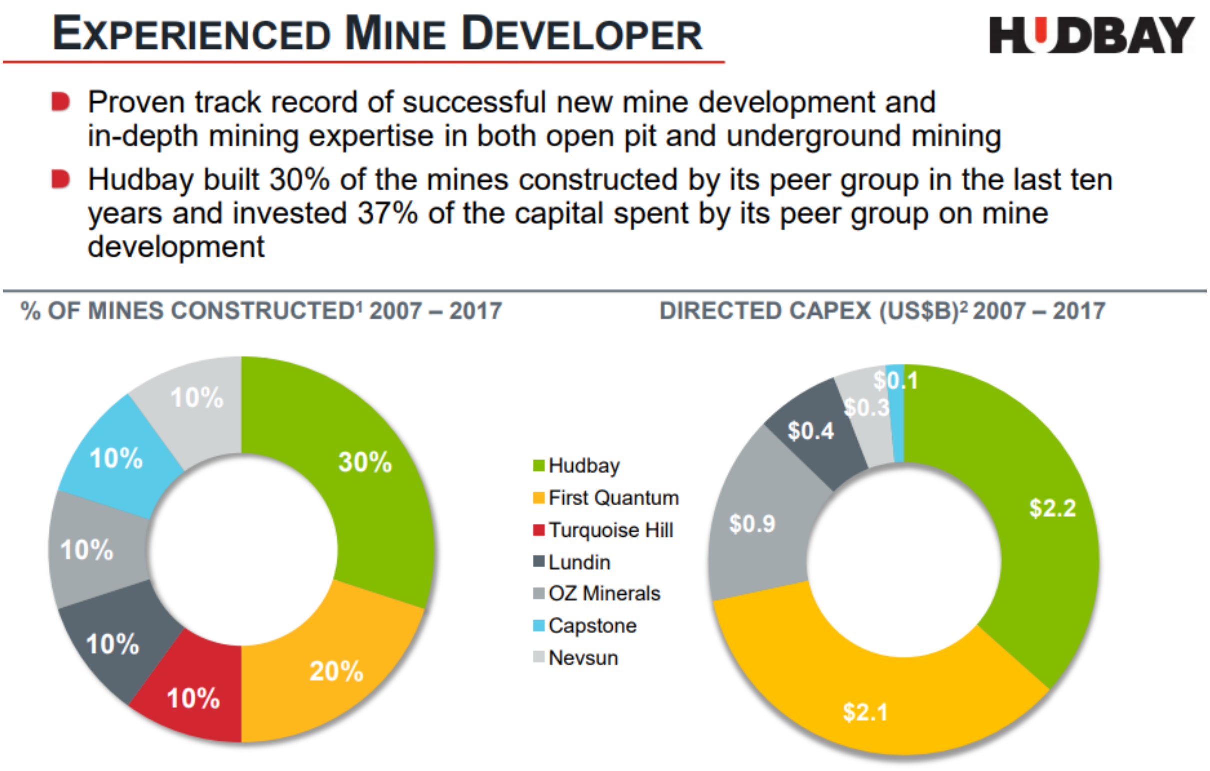
Hudbay Minerals overview – commentary on company presentation

HBM is a Canadian based miner with operations in Canada, Arizona, Peru and exploration activity in Chile.



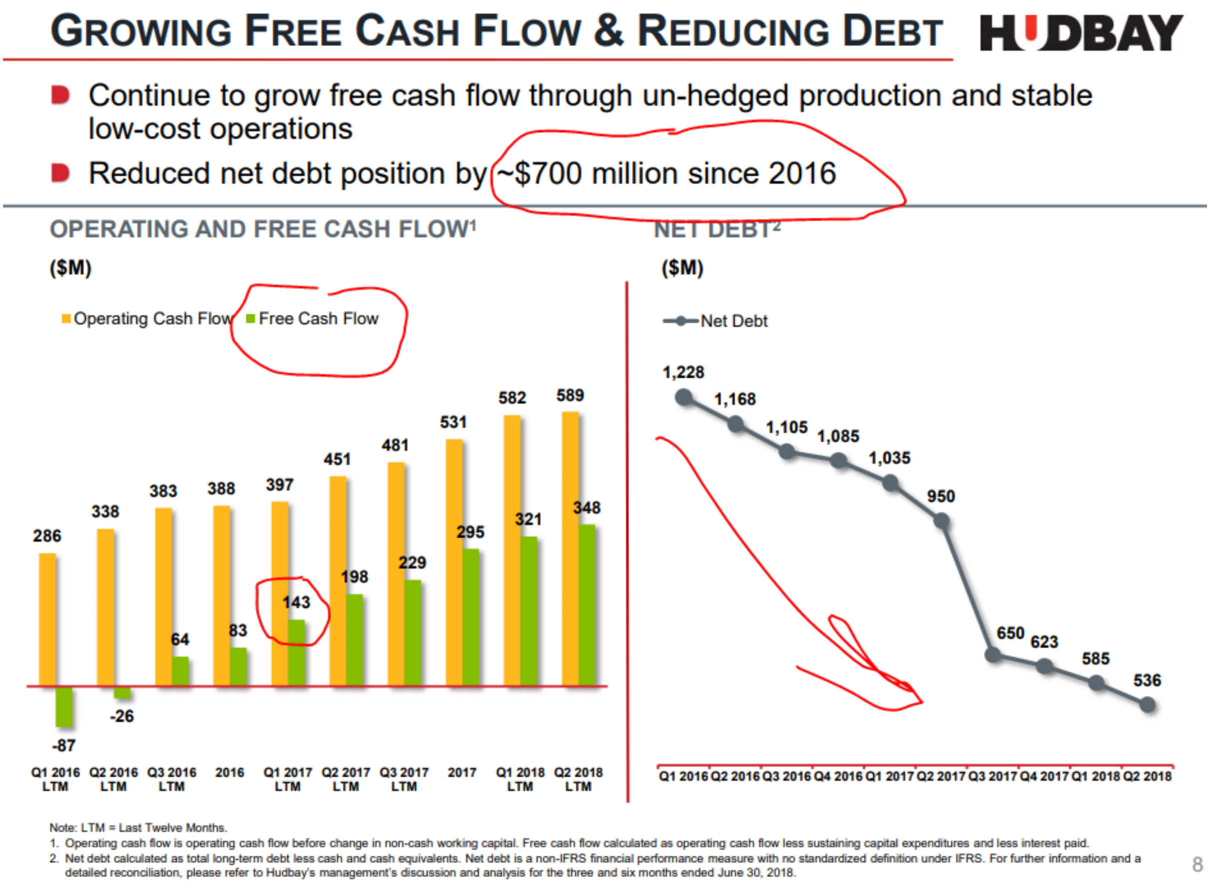
Source: Corporate presentation October 2018

Hudbay is a mine builder, a risky thing as which all developments.



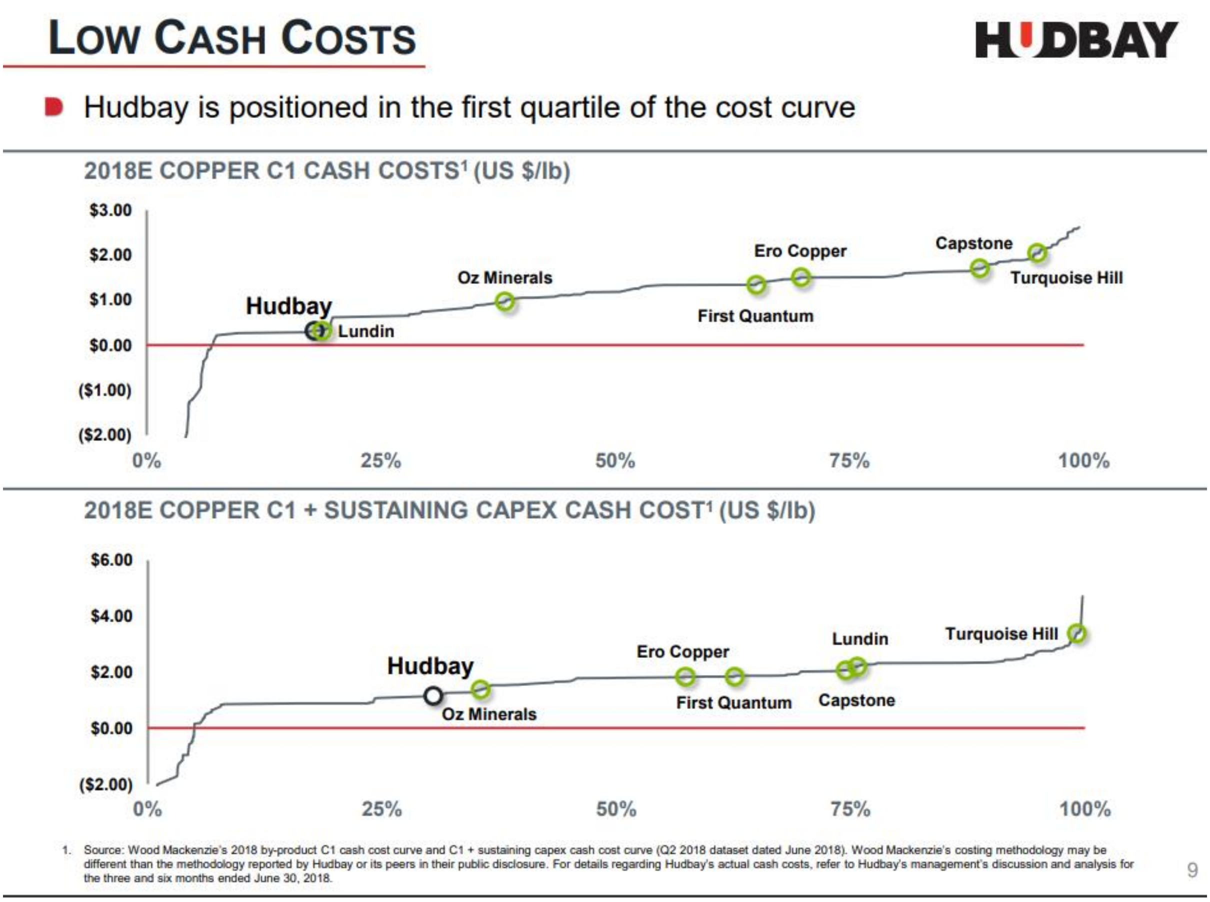
Source: Corporate presentation October 2018

In May 2017, when I first looked at Hudbay the debt position was an issue. However, since then they improved a lot but the stock didn't go anywhere, actually it is lower.



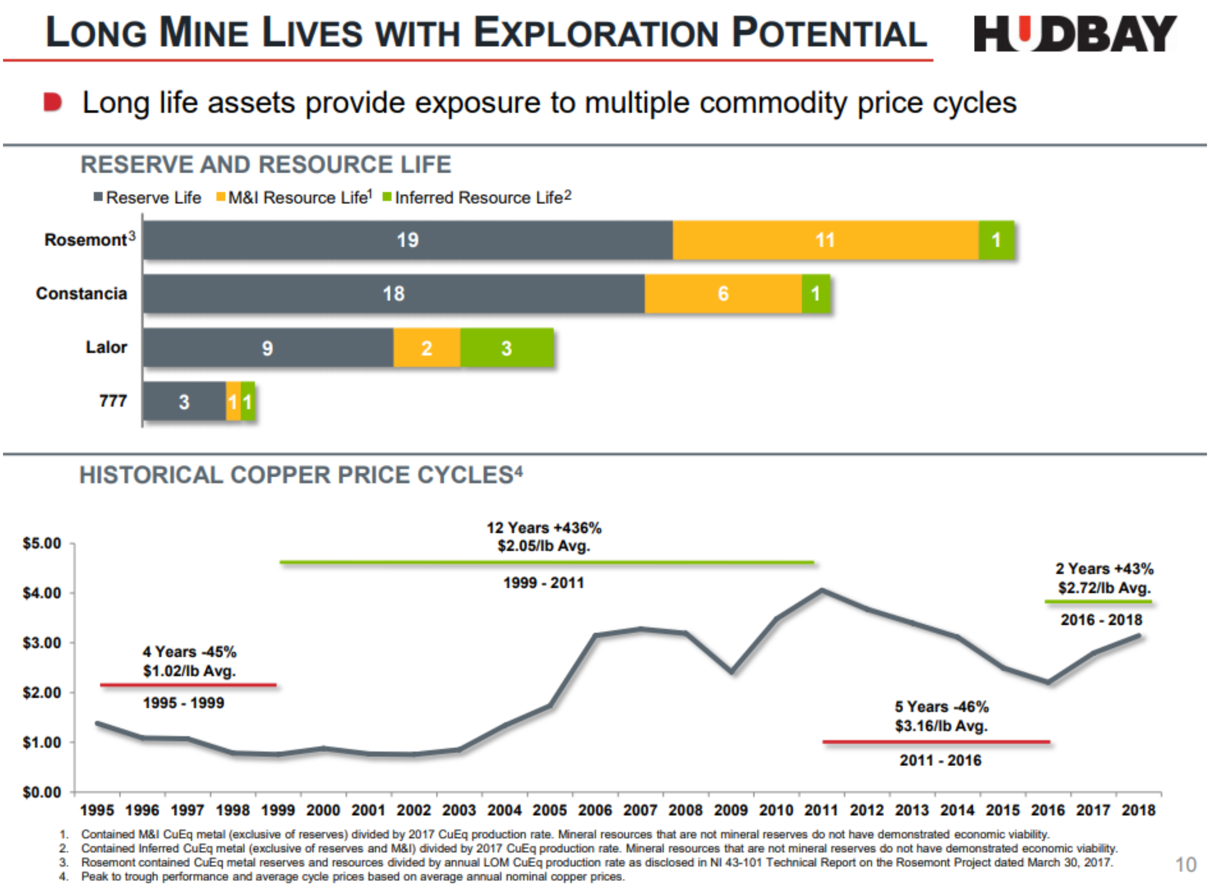
Source: Corporate presentation October 2018

Low cash costs lead to high cash flows.



Source: Corporate presentation October 2018

Hudbay has 3 operating mines, Constancia, Lalor, 777, and a project, Rosemont.



Source: Corporate presentation October 2018

Their plan is to develop the Rosemont project that should lead to long term growth but there are still some permits hanging in the air there. Another development is the brownfield Pampacancha, more about both later.

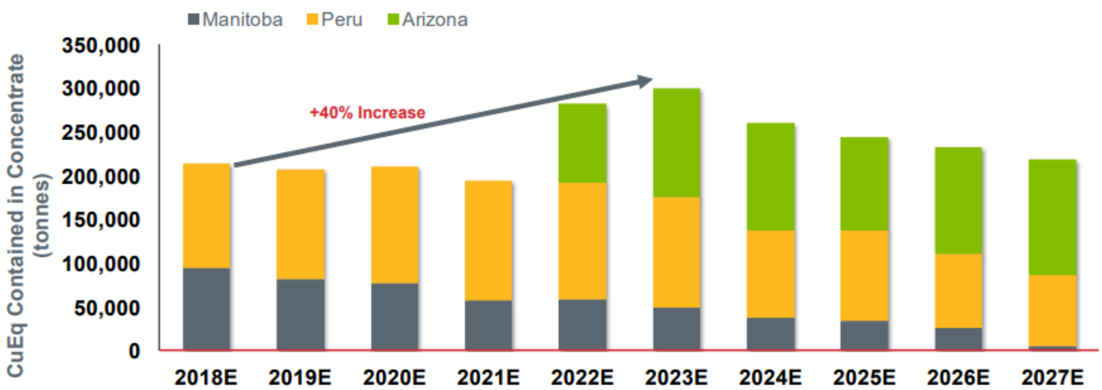
Consolidated Production Profile

HUDBAY

GROWING COPPER EQUIVALENT PRODUCTION

- Production profile is based on a hypothetical scenario assuming first year of Rosemont construction occurs in 2019; Rosemont project development is conditional upon receipt of final permits and Board approval

HUDBAY CONSOLIDATED ANNUAL CuEq PRODUCTION [1,2]



1. Source: Copper equivalent contained in concentrate production sourced from mid-point of 2018 annual guidance, and filed technical reports for 2019 onwards. NI 43-101 Technical Report on the Constancia Mine dated March 29, 2018; NI 43-101 Technical Report on the Lalor Mine dated March 30, 2017; NI 43-101 Technical Report on the 777 Mine dated October 15, 2012; NI 43-101 Technical Report on the Rosemont Project dated March 30, 2017. The following metals price assumptions were applied to reserves for purposes of calculating copper equivalent: $3.00/lb Cu, $1.00/lb Zn, $1,260/oz Au and $18.00/oz Ag.
2. The information shown here assumes a hypothetical scenario where the first year of construction for Rosemont occurs in 2019 (ie. "year -3" in the Rosemont technical report). Production numbers are shown on an attributable basis (ie. 80% of Rosemont copper production). Development of Rosemont is conditional upon receipt of final permits and the approval of Hudbay's Board of Directors.

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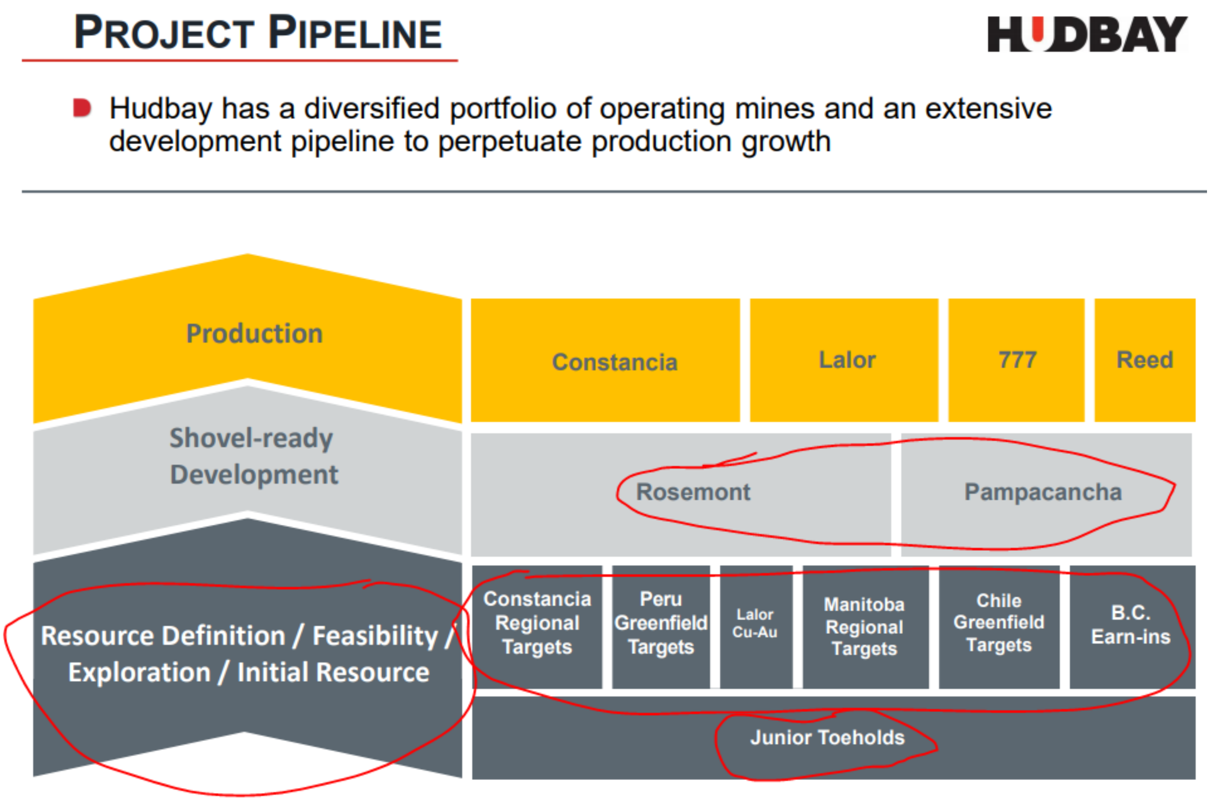
Source: Corporate presentation October 2018

There is also more exploration and junior bonuses which work well if copper price spike but cost money if those don't.



Source: Corporate [presentation] October 2018

However, I would like to call such exploration potential as a call option on copper.

EXPLORATION FOCUS

HUDBAY

- Hudbay more than tripled its owned or optioned mineral properties in the last two years

CANADA		
PROPERTY	OWNERSHIP	LAND SURFACE (HA)
BRITISH COLUMBIA		
Ike	Optioned	46,203
Pine	Optioned	32,865
Joy	Optioned	7,346
Hat	Optioned	5,212
MANITOBA / SASKATCHEWAN		
Goose Lake	100% Owned	397,505
Harmin-Fenton	100% Owned	7,368
Reed Lake	70% Owned	4,269
Chisel Basin	100% Owned	4,193
Elbow	100% Owned	3,328
Watts River	100% Owned	1,282
Other Manitoba	-	95,880
Other Saskatchewan	-	109,993
TOTAL		715,444

PERU		
PROPERTY	OWNERSHIP	LAND SURFACE (HA)
Pinco Pinco	100% Owned	10,600
Maria Reyna	Optioned	5,850
Kusiorcco	100% Owned	3,962
Kaval	100% Owned	800
Tingo	100% Owned	800
Lucmo	100% Owned	400
Caballito	Optioned	120
Other	-	142,694
TOTAL		165,226

CHILE		
PROPERTY	OWNERSHIP	LAND SURFACE (HA)
Undercaliche	MOU for Option	234,921
Trilco	100% Owned	24,713
Paleoceno	MOU for Option	8,300
San Antonio	100% Owned	1,531
Llahuin	Optioned	1,361
TOTAL		270,826

OVER 1.1 MILLION HECTARES OF OWNED OR OPTIONED MINERAL PROPERTIES

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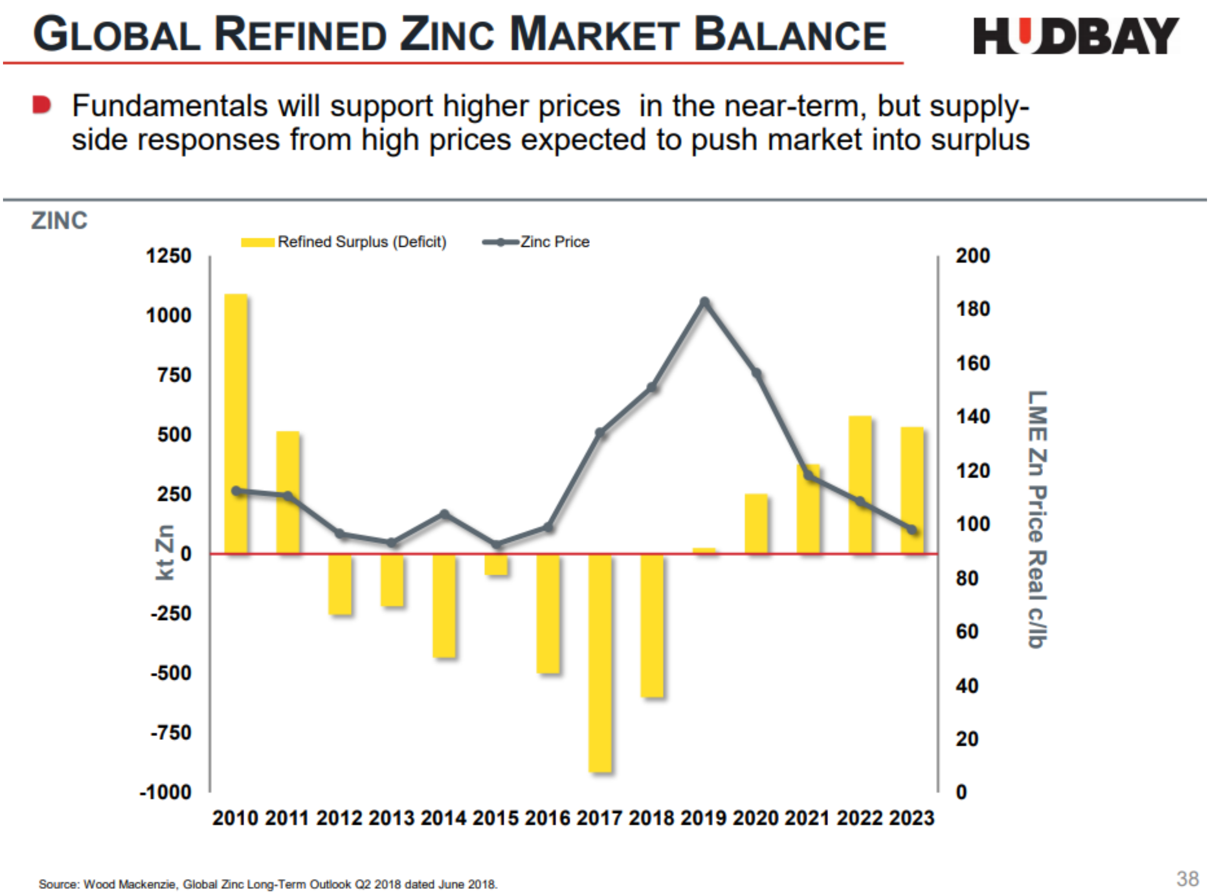
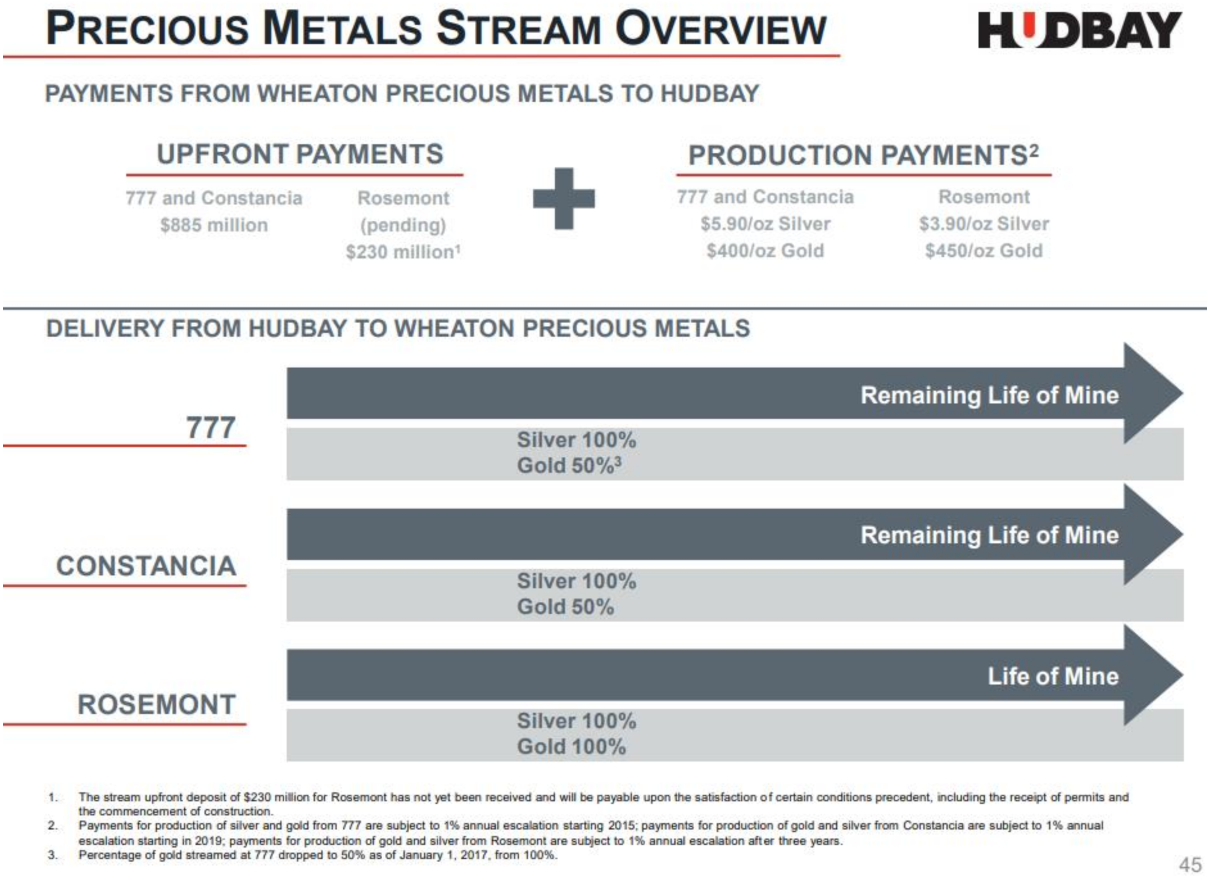
Source: Corporate presentation October 2018

I like that the management is fair on the zinc outlook where prices are expected to fall significantly as new supply ramps up.



Source: Corporate presentation October 2018

Another thing to keep in mind is that Hudbay sells its gold to gold royalty companies to finance the ramp up and building of the mines.



Source: Corporate presentation October 2018

This lowers Hudbay’s risk but also lowers its future revenues.

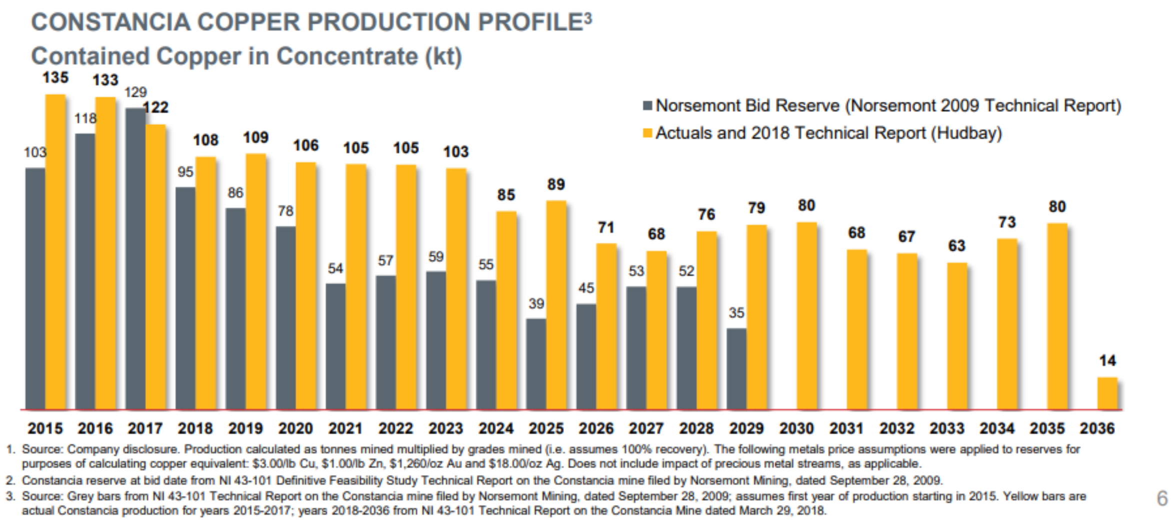
Sum of parts value

Let’s check the value mine by mine and the fundamentals into which I’ll weave in my notes from the last conference calls and recent developments.

Consolidated mining costs were $0.96 for cash costs with AISC of $1.48 for Q2 2018.

Constantia mine

It’s flagship asset is the Constancia mine in Southern Peru that was commissioned in May 2015. The mine has still 17 years of life. However, there have been some recovery issues where it fell from 80% to 70% which are often a big warning for companies as it can be very costly to improve recoveries.



The Pampacancha brownfield is close to the mine and the company is negotiating with the local authorities to purchase the land.

The long term mining costs are expected to be at $1.72. as there is always something going on there, let’s put them at $2.

Putting it all into a very conservative model with high costs and low copper prices I get to $700 million in pretax present value at 15%. After the 30% Peruvian tax, we are at $509 million.

HUDBAY

Constancia Mine

A summary of the updated mine plan is shown below.

	Units	2019E	2020E	2021E	2022E	2023E	5 Year Average	LOM Average[1]
Mine Plan Summary								
Ore mined	million tonnes	37.7	34.0	27.6	28.6	33.6	32.3	30.8
Waste mined	million tonnes	32.5	32.0	38.1	39.5	35.4	35.5	33.7
Strip ratio	waste:ore	0.9	0.9	1.4	1.4	1.1	1.1	1.1
Ore milled	million tonnes	31.3	31.2	31.1	31.1	31.2	31.2	31.0
Copper grade milled	% Cu	0.41%	0.39%	0.39%	0.39%	0.39%	0.40%	0.32%
Copper recovery	% Cu	84.6%	85.9%	86.0%	86.1%	85.7%	85.7%	86.0%
Copper concentrate produced	thousand dry metric tonnes	433	408	390	393	401	405	338
Molybdenum concentrate produced	thousand dry metric tonnes	1.4	4.5	5.3	2.8	3.3	3.5	2.2
Copper production[2]	thousand tonnes	109	106	105	105	103	105	84
Molybdenum production[2]	thousand tonnes	0.7	2.2	2.7	1.4	1.6	1.7	1.1
Gold production[2]	thousand oz	39	78	84	91	57	70	34
Silver production[2]	thousand oz	2,492	2,074	2,483	2,500	2,663	2,442	2,102
Total on-site costs (excluding impact of capitalized stripping)[3]	$/t milled	$8.67	$8.82	$8.78	$8.68	$8.70	$8.73	$8.48
Total on-site costs (including impact of capitalized stripping)[3]	$/t milled	$8.41	$8.34	$8.11	$8.34	$7.98	$8.24	$7.96
Cash Cost[4]								
Cash cost	$/lb Cu	$1.29	$1.05	$0.94	$1.06	$1.12	$1.09	$1.44
Sustaining cash cost	$/lb Cu	$1.66	$1.44	$1.11	$1.22	$1.45	$1.38	$1.75
Capital Expenditures								
Sustaining capital	$ million	$80	$75	$15	$25	$52	$49	$41
Capitalized stripping	$ million	$8	$15	$21	$10	$22	$15	$16
Total sustaining capital (including capitalized stripping)	$ million	$88	$90	$36	$35	$74	$65	$57
Pampacancha capital	$ million	$42	$1	$1	$0	$0	$9	-

Totals may not add up correctly due to rounding.
[1] Life-of-mine average calculated from 2018-2036.
[2] Production refers to contained metal in concentrate.
[3] On-site costs include mining, milling and G&A costs.
[4] Cash cost and sustaining cash cost are reported net of by-product credits, are calculated at reserve prices ($3.00 per pound copper, $11.00 per pound molybdenum, $18.00 per ounce silver, $1,260 per ounce gold) and include the impact of the precious metals stream and capitalized stripping. Cash cost includes on-site and off-site costs, and sustaining cash cost includes the addition of royalties and sustaining capital, but excludes Pampacancha project capital.

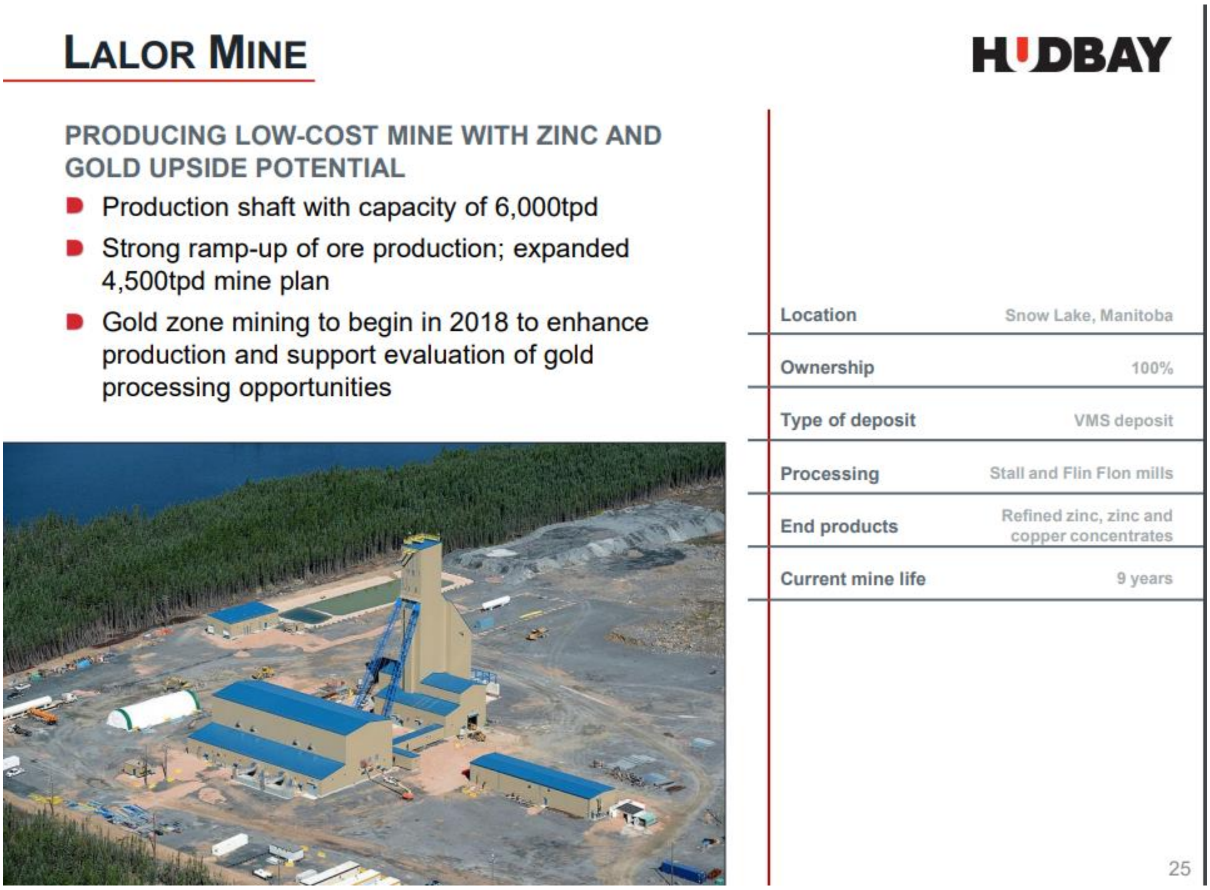
Source: Press release March 2018

A more realistic estimation with costs at $1.5 up to 2023 and later only $2, gives a PV of $900 million after tax. This is actually what the management expects.

An exuberant expectation with copper at $3 from 2023 and at $3.5 from 2029 would lead to $1.1 billion in PV.

Lalor & 777

There has been a failure of an exhaust fan at Lalor and the mines are working at 3.000 tonnes par day and not 4,500. Expect higher costs in Q3 2018. However, such things are normal when you just start a mine. The expected mine life in 9 years.

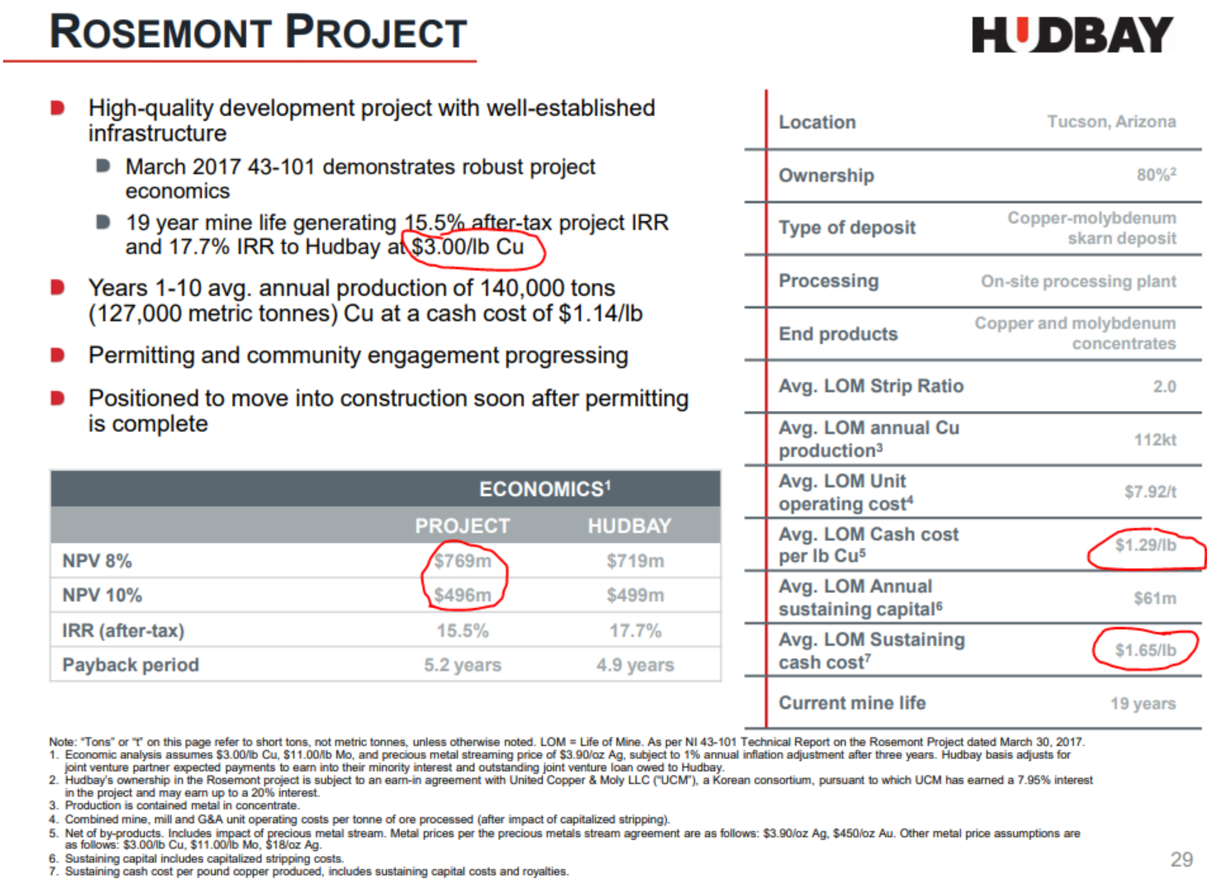


I use the estimations from the technical report for my calculations.

After tax present value is $400 million at zinc $1 and $267 million if zinc falls to $0.7 from 2021 onwards.

The 777 mine has just 3 years left but it is producing cash so I am going to assume it will be enough to cover some unexpected costs. About $70 million in cash still to come.

Rosemont



ROSEMONT PROJECT

HUDBAY

- High-quality development project with well-established infrastructure
  - March 2017 43-101 demonstrates robust project economics
  - 19 year mine life generating 15.5% after-tax project IRR and 17.7% IRR to Hudbay at $3.00/lb Cu
- Years 1-10 avg. annual production of 140,000 tons (127,000 metric tonnes) Cu at a cash cost of $1.14/lb
- Permitting and community engagement progressing
- Positioned to move into construction soon after permitting is complete

ECONOMICS[1]		
	PROJECT	HUDBAY
NPV 8%	$769m	$719m
NPV 10%	$496m	$499m
IRR (after-tax)	15.5%	17.7%
Payback period	5.2 years	4.9 years

Location	Tucson, Arizona
Ownership	80%[2]
Type of deposit	Copper-molybdenum skarn deposit
Processing	On-site processing plant
End products	Copper and molybdenum concentrates
Avg. LOM Strip Ratio	2.0
Avg. LOM annual Cu production[3]	112kt
Avg. LOM Unit operating cost[4]	$7.92/t
Avg. LOM Cash cost per lb Cu[5]	$1.29/lb
Avg. LOM Annual sustaining capital[6]	$61m
Avg. LOM Sustaining cash cost[7]	$1.65/lb
Current mine life	19 years

Note: "Tons" or "t" on this page refer to short tons, not metric tonnes, unless otherwise noted. LOM = Life of Mine. As per NI 43-101 Technical Report on the Rosemont Project dated March 30, 2017.
1. Economic analysis assumes $3.00/lb Cu, $11.00/lb Mo, and precious metal streaming price of $3.90/oz Ag, subject to 1% annual inflation adjustment after three years. Hudbay basis adjusts for joint venture partner expected payments to earn into their minority interest and outstanding joint venture loan owed to Hudbay.
2. Hudbay's ownership in the Rosemont project is subject to an earn-in agreement with United Copper & Moly LLC ("UCM"), a Korean consortium, pursuant to which UCM has earned a 7.95% interest in the project and may earn up to a 20% interest.
3. Production is contained metal in concentrate.
4. Combined mine, mill and G&A unit operating costs per tonne of ore processed (after impact of capitalized stripping).
5. Net of by-products. Includes impact of precious metal stream. Metal prices per the precious metals stream agreement are as follows: $3.90/oz Ag, $450/oz Au. Other metal price assumptions are as follows: $3.00/lb Cu, $11.00/lb Mo, $18/oz Ag.
6. Sustaining capital includes capitalized stripping costs.
7. Sustaining cash cost per pound copper produced, includes sustaining capital costs and royalties.

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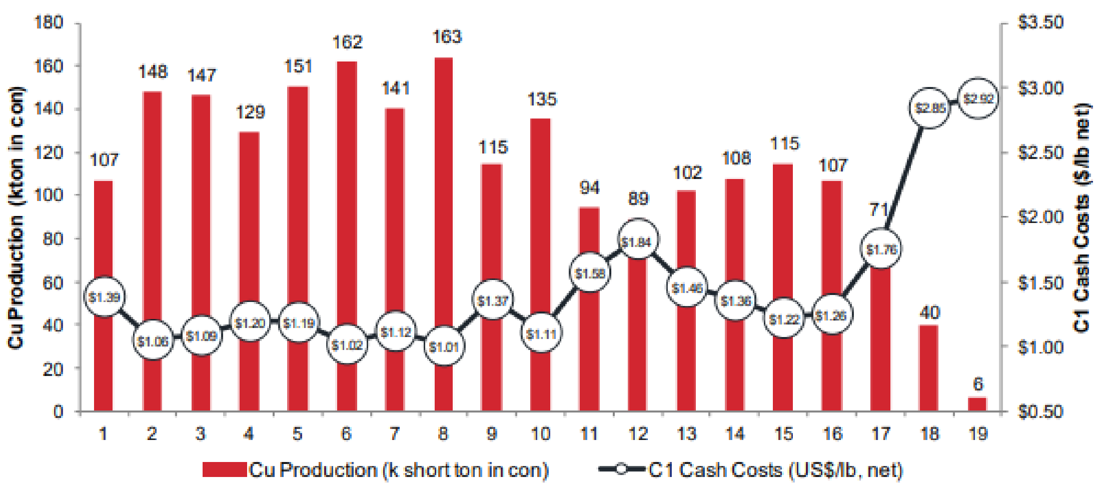
It is actually a pretty expensive mine with sustaining, just cash costs of $1.65 which means all in sustaining costs should be higher.

FIGURE 22-1: ROSEMONT ANNUAL COPPER PRODUCTION AND C1 CASH COSTS



However, the production is weighted to the initial 10 years with lower costs.

If we take a look at sensitivity, Rosemont is not a go at copper at $2.75 because you are not going to spend $1.8 billion in developing something to get a NPV of $412 million at an IRR of 12.5%. Usually, miners need an internal rate of return of at least 20%, thus for Rosemont long term copper prices should be $3.5 which is a bit stretched.

Table 22-7 below reports the after-tax NPV8%, NPV10%, IRR and payback of the Project (on a 100% basis) at various flat copper prices assuming all other inputs remain constant.

TABLE 22-7: AFTER-TAX NPV8%, NPV10% AND IRR SENSITIVITY AT VARIOUS FLAT COPPER PRICES (100% BASIS)

	Flat Copper Price ($/lb)				
	$2.50	$2.75	**$3.00**	$3.25	$3.50
After-Tax NPV8% ($M)	$45	$412	**$769**	$1,115	$1,448
After-Tax NPV10% ($M)	($122)	$192	**$496**	$792	$1,076
After-Tax IRR (%)	8.5%	12.2%	**15.5%**	18.5%	21.2%
After-Tax Payback (years)	6.9	5.9	**5.2**	4.4	4.3

Think of it this way, to build a mine like this you need $1.8 billion which leads to $144 million in interest payments per year at an 8% interest rate usual for miners. Subtract the interest costs and you are quickly in negative territory.

The Rosemont project is still in permitting phase with a NPV at 8% at $719 for Hudbay that already sold some royalties. Recently Zijin mining acquired Nevsun for $1.2 billion excluding Eritrea and the cash on the balance sheet where only the Timok upper zone had a NPV of $1.8 billion. Not even discussing the potential Tier 1 lower zone and other exploration. Plus, construction there is already in progress. So, at a 50% discount to the NPV at this stage, the value should be around $360 million. That is at copper at $3.

Exploration

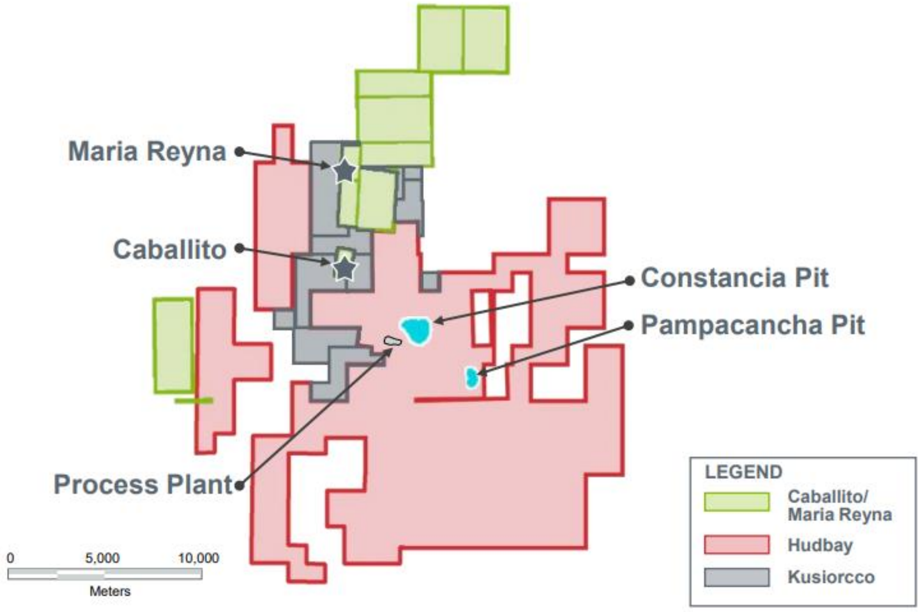
In the Q2 2018 conference call, the CEO said how they are going to use the extra cash flows for debt repayment and exploration. So, that is what the market doesn’t like because uncertain and it is usually not priced in as value, on the contrary.

What is nice is that they are exploring close to the operating mines which is a good thing if you find something as you don’t need to build infrastructure.

Mining Properties Near Constancia

MINERAL PROPERTIES WITHIN TRUCKING DISTANCE OF CONSTANCIA PROCESSING FACILITY

- Exploration work to be conducted on newly acquired properties near Constancia with potential to provide higher-grade feed to the Constancia mill post-Pampacancha



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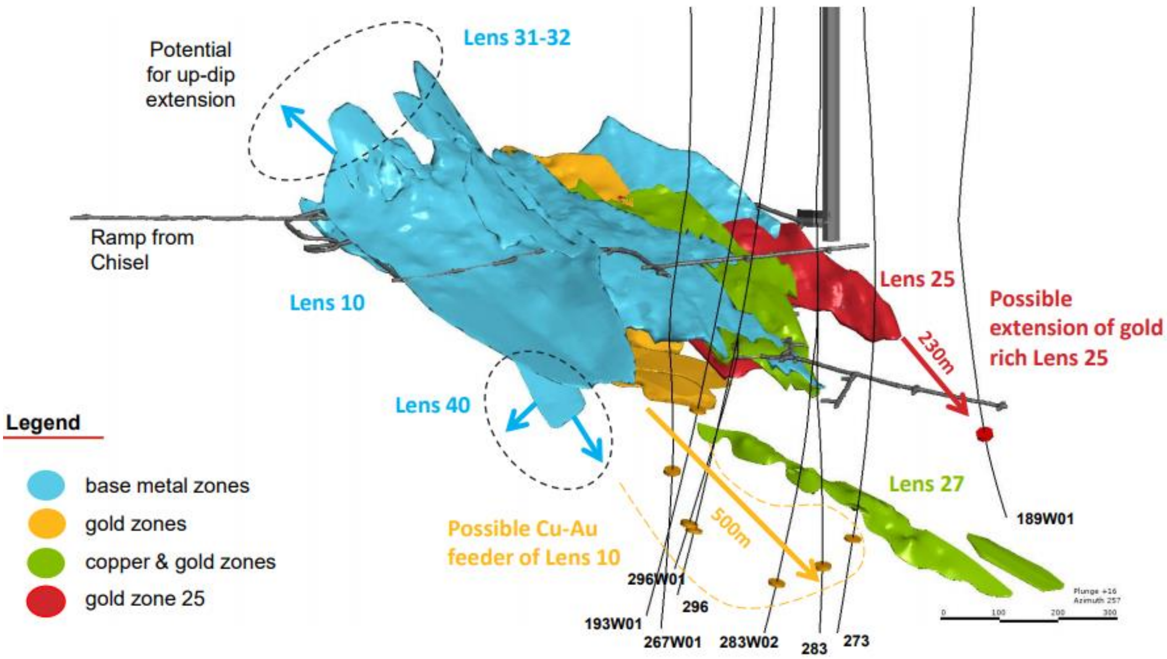
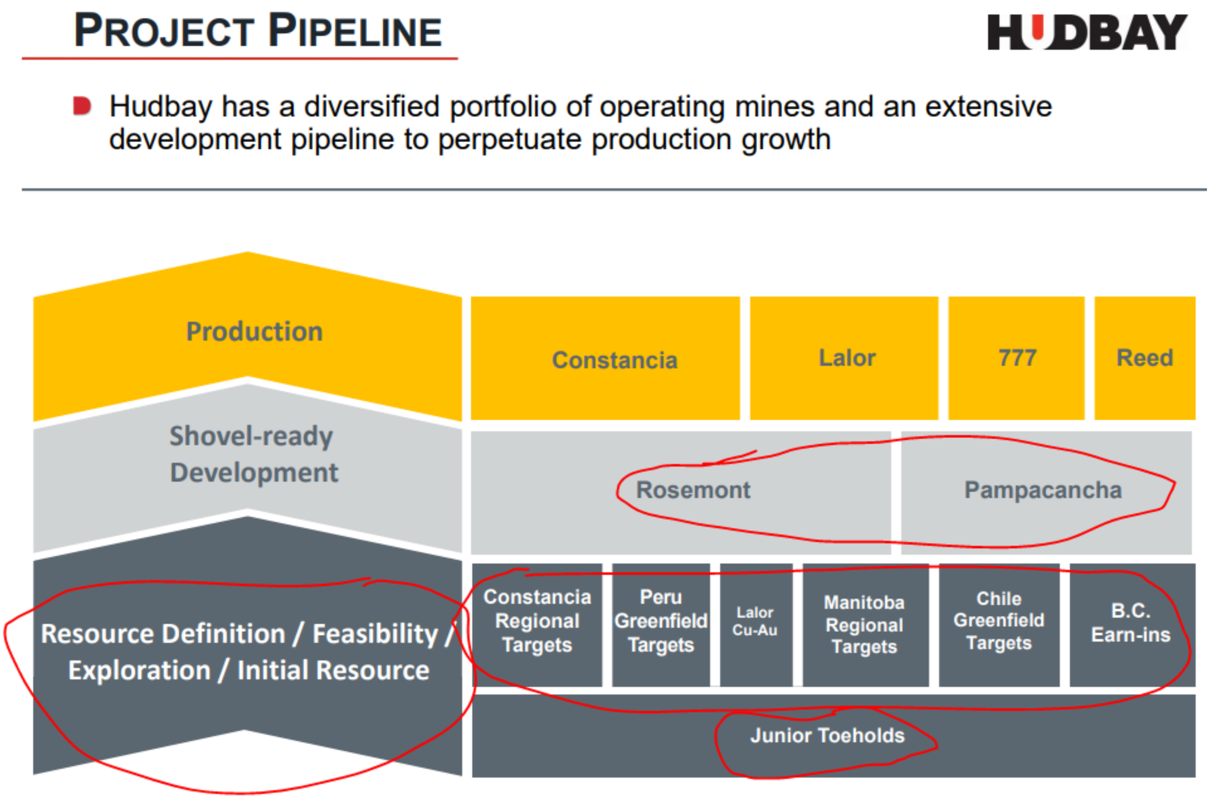
Lalor Exploration

LALOR CROSS-SECTION, LOOKING SOUTHWEST



There is more greenfield but you never know what will come out of that so I'll keep it as a free option.



Fundamentals and value

HUDBAY MINERALS INC.

Condensed Consolidated Interim Balance Sheets
(Unaudited and in thousands of US dollars)

	Note	Jun. 30, 2018	Dec. 31, 2017 Restated (note 4)	Jan. 1, 2017 Restated (note 4)
Assets				
Current assets				
Cash and cash equivalents		$ **439,576**	$ 356,499	$ 146,864
Trade and other receivables	6	**137,385**	155,522	152,567
Inventories	7	**157,332**	141,682	112,464
Prepaid expenses and other current assets		**9,095**	8,995	3,992
Other financial assets	8	**6,550**	2,841	3,397
Taxes receivable		**3**	3	17,319
		749,941	665,542	436,603
Receivables	6	**34,655**	32,459	32,648
Inventories	7	**5,592**	5,809	4,537
Other financial assets	8	**19,111**	22,461	30,848
Intangible assets - computer software		**5,002**	5,575	6,614
Property, plant and equipment	9	**3,863,963**	3,964,233	3,953,752
Deferred tax assets	16b	**13,498**	31,937	40,162
		$ **4,691,762**	$ 4,728,016	$ 4,505,164
Liabilities				
Current liabilities				
Trade and other payables		$ **178,675**	$ 199,117	$ 169,662
Taxes payable		**10,234**	10,794	4,419
Other liabilities	10	**34,054**	51,962	42,207
Other financial liabilities	11	**7,736**	26,760	13,495
Finance lease obligations	12	**19,753**	18,327	3,172
Long term debt	13	**-**	-	16,490
Deferred revenue	14	**98,563**	107,194	87,411
		349,015	414,154	336,856
Other financial liabilities	11	**23,823**	20,801	28,343
Finance lease obligations	12	**61,472**	66,246	9,760
Long term debt	13	**975,816**	979,575	1,215,674
Deferred revenue	14	**487,410**	494,736	528,835
Provisions	15	**196,665**	200,138	179,702
Pension obligations		**11,174**	22,221	28,379
Other employee benefits		**104,246**	108,397	89,273
Deferred tax liabilities	16b	**313,957**	309,403	328,263
		2,523,578	2,615,671	2,745,085
Equity				
Share capital	17b	**1,777,339**	1,777,409	1,588,319
Reserves		**(34,646)**	(26,463)	(53,633)
Retained earnings		**425,491**	361,399	225,393
		2,168,184	2,112,345	1,760,079
		$ **4,691,762**	$ 4,728,016	$ 4,505,164

There is $749 million of current assets in relation to $349 million of current liabilities. That is $400 million. Counter that to $975 million of long term debt, $196 of provisions, $104 of employee benefits and $313 of deferred tax liabilities. Net value from their balance sheet without the operations is -$1.188 billion.

Compare that to the value of the assets:

Constantia - $516 million

Lalor - $267

Rosemont - $200 or less at current copper prices

I get to a value for Hudbay of -$197 million.

Compare that to the current market cap of: $1.1 billion and you get the picture.

What could justify Hudbay's market cap?

If I push Constantia to $3 copper for the long term I get to $1 billion and if I lower my discount rate, that I just use because that is my required return and helps with comparative analysis, and I lower it to 10% I get to $1.38 billion for Constantia. Also, Rosemont increases to $1.1 billion or even $1.5 billion later at copper $3.5 so we are at above $2 billion for Hudbay but that is still just 50% upside and we know Nevsun went for much lower in a bidding war for a high grade asset with amazing shorter term prospects.

My conclusion!

Not interested as there are better copper miners out there, both on the current value and on the potential. I am looking for less downside risk and higher upside potential.

My fair value for Hudbay, as a bet for higher copper prices, would be around $2, tending more to $1. However, at a 10% discount rate and $3 copper I get $1.38 billion for Constantia, $600 million for a discounted Rosemont and I'll keep the $267 million for Lalor. Total sum is then $2.2 billion, minus $1.1 billion and I get exactly $1.1 billion which is Hudbay's market cap. So, to each his own discount rates and required returns. In the mining environment, I think 15% is fair enough. BTW. We used 8% for Rosemont, I wouldn't dare to use 15% there.

No margin of safety with Hudbay☹