

VENTUREX RESOURCES LIMITED

Sulphur Springs just got bigger

Venturex Resources Limited (VXR) has recently released a DFS for Sulphur Springs and in doing so, has increased the reserve to 8.5Mt @ 1.4% Cu, 3.1% Zn & 14g/t Ag, which represents a 42% increase in contained copper. The larger reserve feeds into an expanded mine inventory of 12.6Mt and as previously flagged, the plant throughput will be 1.25Mtpa (previously 1Mtpa in the 2017 Value Engineering Study (VES)). The project aims to produce ~15ktpa of payable copper and ~35ktpa of payable zinc over a 10.3-year period following a 15-month construction phase.

Costs as expected

Capital costs are largely in line with our initiation note from earlier this month. VXR expects LOM capital to amount to A\$280M; comprising A\$170M of preproduction capital and A\$97M of sustaining. The Company had flagged lower pre-production capital compared to the VES and has delivered on a like-for-like basis but has added A\$23M of pre-strip costs to deliver more or less the same pre-production capital requirement as seen in the VES.

Mining costs have increased but processing, transport and TCRC's are lower than the VES, decreasing overall opex to a LOM average of A\$111/t ore. We had previously modelled A\$125/t and have lowered this to A\$115/t.

High free cash generation potential

VXR estimates FCF to average A\$80Mpa assuming a copper price of US\$2.86/lb, zinc price of US\$1.20/lb and AUD:USD of 0.72. We model FCF to average A\$62Mpa at US\$3.04/lb Cu, US\$1.07/lb Zn but FX of 0.77, which converts to lower commodity prices in AUD terms, hence the lower FCF.

A quality base metals project but not without its risks

The first year of production at Sulphur Springs will see supergene ore mined and processed. VXR has undertaken sufficient test work showing this ore is predominately chalcocite and thus can be processed through conventional floatation. However, historically we have seen other operations face challenges in processing transitional ores. VXR's test work completed to date suggests processing will be straightforward and without issue, which we assume in our model. Stress testing recoveries in Year 1 of our model; the valuation is still robust.

The underground mining method at Sulphur Springs will be modified sub-level caving (SLC) with long hole open stoping being undertaken in some areas. Risks are associate with SLC whereby water can ingress via a break-through into the pit, and will need to be adequately managed. VXR management has sufficient experience in this area, however, the risk still prevails.

The mine inventory comprises 32% inferred resources, which will require adequate grade control drill out prior to mining.

Funding is the next requirement; Speculative Buy

We like the direction that VXR is taking Sulphur Springs and await developments in terms of funding the A\$169M pre-production capital. We expect at least 50% to be funded through debt, after which, the balance will be raised on the equity markets. We have updated our model as per the DFS with a NAV of 51cps (up from 48cps), 12-month price target of 45cps (up from 42cps) and a spot-NAV of 55cps.

Share Price	\$0.190
Valuation	\$0.51
Price Target (12 month)	\$0.45

Brief Business Description:
Base metals explorer & developer

Hartleys Brief Investment Conclusion
VXR is focused on the Sulphur Springs Cu-Zn Project in the Pilbara, which has the hallmarks of a quality mine.

Chairman & MD
Tony Kiernan (Non-Exec Chairman)
AJ Saverimutto (Managing Director)

Top Shareholders	
Northern Star Resources Limited	19.0%
Regent Pacific Group Ltd	16.3%

Company Address
Level 2, 91 Havelock Street
West Perth, WA 6005

Issued Capital	239.9m
- fully diluted	246.8m

Market Cap	A\$46m
- fully diluted	A\$47m

Cash (30 June 2018a)	A\$2.6m
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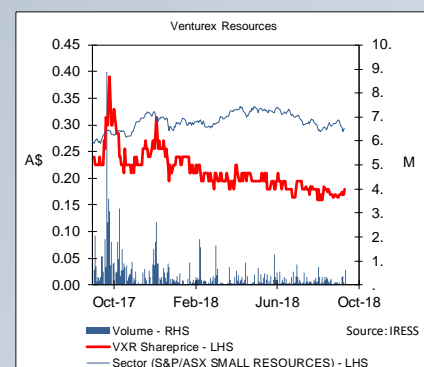
Debt (30 June 2018a)	A\$0.0m
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EV -current	A\$43.0m
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EV - fully diluted	A\$44.3m
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Prelim. (A\$m)	FY18a	FY19e	FY20e
Prod (Kt CuEq)	-	-	4
Op Cash Flw	1.2	-3.0	10.7
Norm NPAT	0.6	-3.2	4.6
CF/Share (cps)	0.3	-1.1	1.1
EPS (cps)	0.3	-1.1	1.1
P/E	56.3	-17.6	17.4

	Mt	Cu %	Zn %
Resources	25.9	1.3	3.5
Reserves	8.5	1.4	3.1



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SUMMARY MODEL

Venturex Resources								Share Price		17 October 2018									
VXR								\$0.190		Speculative Buy									
Key Market Information										Company Information									
Share Price								\$0.190		Level 2, 91 Havelock Street									
Market Capitalisation - ordinary								A\$46m		West Perth, WA 6005									
Net Cash (Debt)								\$3m		+61 8 6389 7400									
Market Capitalisation - fully diluted								A\$47m		www.venturexresources.com									
EV								A\$44.3m											
Issued Capital								239.9m											
Options								6.9											
Issued Capital (fully diluted inc. all options)								246.8m											
Issued Capital (fully diluted inc. all options and new capital)								604.5m											
Valuation								\$0.51											
12month price target								\$0.45											
P&L										Reserves & Resources									
Net Revenue										Reserves									
Total Costs										Sulphur Springs									
EBITDA										Kangaroo Caves									
- margin										Measured									
Depreciation/Amort										Indicated									
EBIT										Inferred									
Net Interest										Total									
Norm. Pre-Tax Profit										Sulphur Springs Mining inventory									
Reported Tax Expense										at spot prices & 100% recovery/payability									
effective rate										Production Summary									
Normalised NPAT										Mill Throughput									
Abnormal Items										Mined grade									
Reported Profit										Combined Recovery & Payability									
Minority										Copper									
Profit Attrib										Zinc									
										Silver									
										Copper Eq									
										Copper Eq									
										Modelled mine life									
										Modelled mining inventory									
Balance Sheet										Costs									
Cash										Cost per milled tonne									
Other Current Assets										EBITDA / tonne milled ore									
Total Current Assets										Total cash costs									
Property, Plant & Equip.										- ex royalties									
Exploration										C1: Operating Cash Cost = (a)									
Investments/other										C1 (Net of Credits)									
Tot Non-Curr. Assets										(a) + Royalty = (b)									
Total Assets										C2: (a) + depreciation & amort. = (c)									
										(a) + actual cash for dev. = (d)									
										C3: (c) + Royalty									
										(d) + Royalty									
										Total cash costs per P&L									
										All in sustaining cash cost (AISC)									
										Price Assumptions									
										AUDUSD									
										Copper									
										Zinc									
										Silver									
Cashflow										Hedging									
EBITDA										Hedges maturing?									
Working Capital										Sensitivity Analysis									
Operating Cashflow										Base Case									
Income Tax Paid										Valuation									
Interest & Other										0.508									
Operating Activities										FY20 NPAT									
										6.5									
										Spot Prices									
										0.55 (7.9%)									
										5.4 (-17.2%)									
										Spot USD/AUD 0.71, Zinc \$1.20/lb, Copper \$2.81/lb, Silver \$14.61/oz.									
										AUDUSD +/-10%									
										0.40 / 0.62 (-21.9% / 22.0%)									
										2.8 / 11.6 (-56.4% / 77.3%)									
										Copper +/-10%									
										0.57 / 0.44 (12.1% / -13.5%)									
										10.1 / 3.1 (54.2% / -52.0%)									
										Zinc +/-10%									
										0.55 / 0.46 (8.0% / -8.6%)									
										7.4 / 5.7 (13.5% / -12.5%)									
										Production +/-10%									
										0.61 / 0.38 (19.9% / -24.7%)									
										11.1 / 2.6 (69.5% / -60.7%)									
										Operating Costs +/-10%									
										0.44 / 0.57 (-12.7% / 11.4%)									
										4.4 / 8.8 (-32.6% / 34.7%)									
Net Cashflow										Unpaid Capital									
1.0										Year Expires									
162.2										No. (m)									
-116.1										\$m									
-3.6										Avg price									
46.1										% ord									
43.6										30-Jun-18									
										0.0									
										30-Jun-19									
										0.0									
										30-Jun-20									
										0.0									
										30-Jun-21									
										0.0									
										30-Jun-22									
										0.0									
										30-Jun-23									
										0.0									
										TOTAL									
										0.0									
										0.0									
										0.0									
										0.0									
Shares										Share Price Valuation (NAV)									
Ordinary Shares - End										100% Sulphur Springs (pre-tax NAV at disc. rate of 12%)									
Ordinary Shares - Weighted										Other Exploration									
Diluted Shares - Weighted										Hedging									
										Corporate Overheads									
										Net Cash (Debt)									
										Tax (NPV future liability)									
										Expected future franking credits									
										Options & Other Equity									
										Total									
										307.2									
										0.51									
Analyst: Paul Howard										Last Updated: 17/10/2018									
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tbc capital could be equity or debt. Our valuation is risk-adjusted for how this may be obtained.																			
Sources: IRESS, Company Information, Hartleys Research																			

ASSUMPTIONS

Fig. 1: VXR Studies compared with Hartleys' estimates

Assumptions	Units	VXR VES February 2017	VXR DFS	Hartleys Estimates	% Difference vs VES	Hartleys Estimates at Spot Prices	Estimates at VXR Forecast Commodity
Assumed mine inventory	kt	11,700	12,554	12,554	0%	12,554	12,554
Sulphur Springs o/p	kt	5,000	5,126	5,126	0%	5,126	5,126
Sulphur Springs u/g	kt	4,900	5,593	5,593	0%	5,593	5,593
Kangaroo Caves u/g	kt	1,800	1,835	1,835	0%	1,835	1,835
Avg LOM Copper grade	%	1.4%	1.4%	1.4%	0%	1.4%	1.4%
Avg LOM Zinc grade	%	3.6%	3.6%	3.6%	0%	3.6%	3.6%
Avg LOM Silver grade	g/t	15	16	16	0%	16	16
Mine Life (production)	yrs	12.0	10.3	10.25	0%	10.3	10.3
Average annual ore processed	Mtpa	1	1.25	1.22	-2%	1	1
Average LOM Recoveries							
Copper	%	90%	87%	85%	-1.7%	85%	85%
Zinc	%	93%	94%	91%	-2.5%	91%	91%
Silver	%	Not given	46%	46%	0.0%	46%	46%
LOM Recoverable metals to Concentrate							
Copper	kt	147.9	152.6	150.9	-1.1%	150.9	150.9
Zinc	kt	392.9	423.9	421.3	-0.6%	421.3	421.3
Silver	Moz	Not given	2.9	2.9	-0.6%	2.9	2.9
Average Recoverable metals to concentrate per annum							
Copper	kt	12.3	14.8	14.7	-0.6%	14.7	14.7
Zinc	kt	32.7	41.2	41.1	-0.1%	41.1	41.1
Silver	Moz	Not given	0.28	0.28	-0.2%	0.3	0.3
Payabilities							
Copper	%	96.5%	96%	95%	-1.0%	95%	95%
Zinc	%	85.0%	84%	84%	0.0%	84%	84%
Silver	%	Not given	90%	50%	-44.4%	50%	50%
LOM Payable metals to Concentrate							
Copper	kt	142.7	146.5	143.3	-2.2%	143.3	143.3
Zinc	kt	334.0	356.1	353.8	-0.6%	353.8	353.8
Silver	Moz	Not given	2.6	1.5	-44.8%	1.5	1.5
Average Payable metals to Concentrate per annum							
Copper	kt	11.9	14.2	14.0	-1.7%	14.0	14.0
Zinc	kt	27.8	34.6	34.5	-0.2%	34.5	34.5
Silver	Moz	Not given	0.26	0.14	-44.5%	0.1	0.1
Average LOM commodity price & FX							
Copper	A\$/t	8,499	8,750	8,675	-0.9%	8,690	8,750
Zinc	A\$/t	3,336	3,681	3,046	-17.3%	3,697	3,681
Silver	A\$/oz	Not given	26	23	-11.3%	20	20
AUD:USD	US\$	0.76	0.72	0.77	6.8%	0.71	0.72
Total Revenue	A\$M	2,327.0	2,625.0	2,347.0	-10.6%	2,582.8	2,585.5
Copper	A\$M	1,212.8	1,281.5	1,246.2	-2.8%	1,245.0	1,253.7
Zinc	A\$M	1,114.1	1,310.6	1,066.7	-18.6%	1,308.0	1,302.3
Silver	A\$M	Not given	69.7	34.1	-51.1%	29.8	29.6
Total Operating Costs (LOM)	A\$M	1,510.5	1,532.70	1,425.4	-7.0%	1,425.40	1,425.40
Mining - o/p ore	A\$/t	34.46	36.92	38.00	2.9%	38.00	38.00
Mining - Sulphur Springs u/g	A\$/t	37.19	38.04	40.00	5.2%	40.00	40.00
Mining - Kangaroo Caves u/g	A\$/t	58.85	61.77	62.00	0.4%	62.00	62.00
Processing & road maint.	A\$/t	35.58	34.50	36.00	4.3%	36.00	36.00
Transport, treatment & refining	A\$/t	49.97	30.05	32.00	6.5%	32.00	32.00
G&A	A\$/t	4.17	3.79	5.00	31.9%	5.00	5.00
Total Operating Costs	A\$/t	129.13	110.74	114.80	3.7%	114.80	114.80
Royalties	A\$M	Included above	134.8	116.5	-13.6%	128.39	128.53
Total Project capital	A\$M	288.1	280.3	294.0	5%	294.0	294.0
Pre-production capital	A\$M	166.0	170.7	190.0	11%	190.0	190.0
Sustaining, development etc.	A\$M	103.6	96.9	104.0	7%	104.0	104.0
Rehabilitation & residual	A\$M	18.5	12.7	0.0		0.0	0.0
Exploration	A\$M	Not given		6.0		6.0	6.0

Source: Hartleys' Estimates, Venturex Resources Limited

Fig. 2: Commodity and FX assumptions

	VXR VES February 2017		VXR DFS To be released		Hartleys Estimates		Spot prices	
	A\$	US\$	A\$	US\$	A\$	US\$	A\$	US\$
Average LOM commodity price								
Copper \$/t	8,499	6,460	8,750	6,300	8,698	6,696	8,692	6,202
Copper S/lb	3.86	2.93	3.97	2.86	3.95	3.04	3.94	2.81
Zinc \$/t	3,336	2,535	3,681	2,650	3,060	2,356	3,698	2,639
Zinc S/lb	1.51	1.15	1.67	1.20	1.39	1.07	1.68	1.20
Silver A\$/oz	-	-	26.39	19.00	23.41	18.02	20.48	14.61
FX -AUD:USD		0.76		0.72		0.77		0.71

Source: Hartleys' Estimates, Venturex Resources Limited

VALUATION

Our sum of parts valuation for VXR is based on discounted cashflows and assumes a 10.25 year mine at Sulphur Springs with production from early FY21 after a ~15-month development build time. Our modelling of Sulphur Springs assumes total pre-production capital requirement of A\$200M (including A\$10M working capital) and total sustaining/mine development & infrastructure capital of and additional \$104M for the LOM. We model cashflows for the project with discount rates appropriate for the stage of development.

We model the Sulphur Springs operations in line with the Company's DFS. We assume a nominal \$A100m value for exploration upside potential and include a value for Whim Creek.

Hartleys sum of parts valuation for VXR is 51 cents per share

Fig. 3: Hartleys' Sum of Parts Valuation for VXR

Share Price Valuation (NAV)	Risked Est. A\$m	Est. A\$/share
100% Sulphur Springs (pre-tax NAV at disc. rate of 12%)	272.0	0.450
Other Exploration	100.0	0.165
Hedging	0.0	0.000
Corporate Overheads	-16.7	-0.028
Net Cash (Debt)	2.6	0.004
Tax (NPV future liability)	-52.2	-0.086
Expected future franking credits	0.0	0.000
Options & Other Equity	0.0	0.000
Total	305.7	0.51

Source: Hartleys' Estimates

PRICE TARGET

Our price target for VXR has increased to 45cps from 42cps and is derived from on our NPV₁₂ base case for Sulphur Springs at spot and consensus prices. We also include a net cash backing scenario and a scenario where exploration can add additional mine life.

Hartleys 12-month price target is 45 cents per share

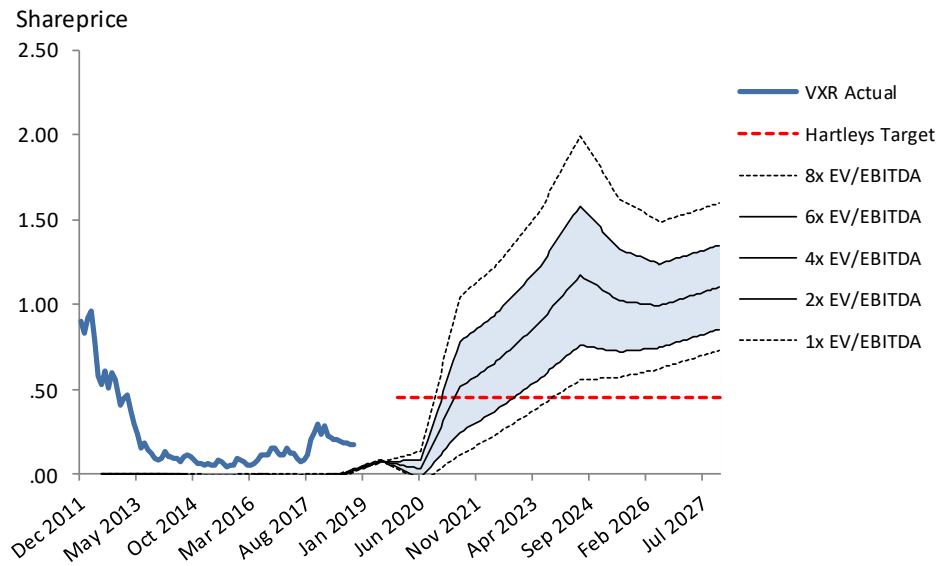
Fig. 4: VXR Price Target Methodology

Price Target Methodology	Weighting	Spot	12 mth out
NPV12 base case	55%	\$0.505	\$0.522
NPV12 base case at spot commodity and fx prices	10%	\$0.548	\$0.573
Acquired by a major	25%	\$0.380	\$0.393
Lower recoveries in Year 1	1%	\$0.430	\$0.449
Net cash backing	9%	\$0.011	\$0.011
Risk weighted composite		\$0.433	
12 Months Price Target		\$0.448	
Shareprice - Last		\$0.190	
12 mth total return (% to 12mth target + dividend)		136%	

Source: Hartleys' Estimates

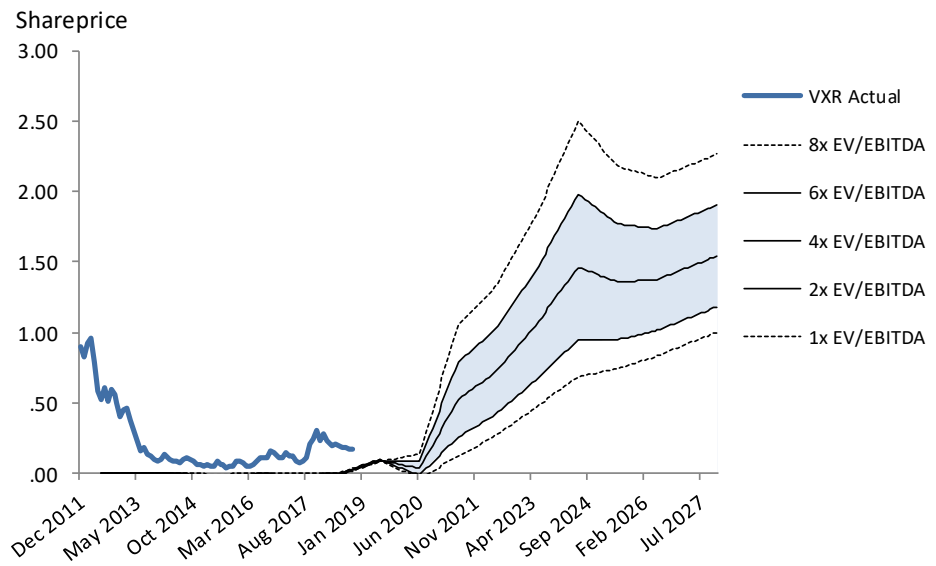
EV/EBITDA BANDS

Fig. 5: Using Hartleys' base case commodity forecasts



Source: Hartleys' Estimates, IRESS

Fig. 6: Using spot commodity prices



Source: Hartleys' Estimates, IRESS

RISKS

Fig. 7: Key assumptions and risks for valuation

Assumption	Risk of not realising assumption	Risk to valuation if assumption is incorrect	Comment
10.25-year mine life at Sulphur Springs (1.25Mtpa)	Low-Moderate	Meaningful	We model a 10.25-year mine life, which we generate from the DFS mine inventory and applied to a 1.25Mtpa plant.
Model parameters	Moderate	Meaningful	We have made a number of large assumptions in our valuation of VXR, changes in these assumptions can change our valuation to both the upside and downside.
Recoveries and payabilities for supergene ore	Moderate	Meaningful	Flotation of the supergene ore is unconventional and attracts risk.
Mining method	Moderate	Meaningful	Modified sub-level caving presents risk with potential water ingress through the pit floor.
Exploration upside potential	Moderate	Meaningful	We assume exploration upside at Sulphur Springs and further afield along the Panorama Trend. Some downside risk to our valuation exists if VXR has no exploration success.
Funding	Moderate	High	We model conventional debt & equity funding (50:50), but believe that some form of prepayment could occur and NST may further assist with funding.
Orebody Risk	Low to Medium	Meaningful	As with all orebodies there is risk around geology, geotech and metallurgy.
Commodity prices	Moderate	High	VXR is reliant on commodity prices maintaining consensus performance and is very much economic at current spot prices.
<i>Conclusion</i>	<i>We have made significant assumptions but believe these are achievable. Funding, metallurgy in the early years and commodity prices present the biggest risk in our view.</i>		

Source: Hartleys' Research

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Hartleys Recommendation Categories

Buy	Share price appreciation anticipated.
Accumulate	Share price appreciation anticipated but the risk/reward is not as attractive as a "Buy". Alternatively, for the share price to rise it may be contingent on the outcome of an uncertain or distant event. Analyst will often indicate a price level at which it may become a "Buy".
Neutral	Take no action. Upside & downside risk/reward is evenly balanced.
Reduce / Take profits	It is anticipated to be unlikely that there will be gains over the investment time horizon but there is a possibility of some price weakness over that period.
Sell	Significant price depreciation anticipated.
No Rating	No recommendation.
Speculative	Share price could be volatile. While it is anticipated that, on a risk/reward basis, an investment is attractive, there is at least one identifiable risk that has a meaningful possibility of occurring, which, if it did occur, could lead to significant share price reduction. Consequently, the investment is considered high risk.
Buy	

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