

DRX : Cyclone DFS soon

Tick Hill : 22koz gold in Resources

Recommendation

BUY, High Risk

Price

1.1c

Valuation

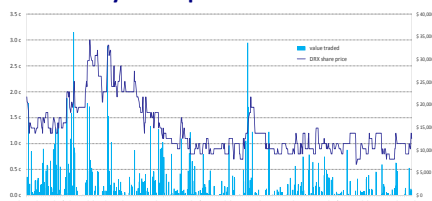
7.2c

- In December, DRX announced an increase in its Reserves for Resources for its Cyclone mineral sands project, to 140Mt of ore, containing 1.0Mt of zircon.
- DRX has announced Indicated Resources at its Tick Hill JV, of 21,800oz, as the project is progressed with the prospect of near term cashflow.
- DRX has stated it expects its final appro by March, and the DFS should follow soon after.
- Beer & Co has revised our valuation, with lower commodity prices, operating and capital costs.

Snapshot

Market Cap	\$8.4m
Cash on hand (Sept. 2015)	\$0.42m
Includes \$1.5m drawn on Convertible Note	
Shares on Issue	809.75m
52 Week High	1.3c
52 Week Low	0.6c
1 month / 6 month VWAP	1.00 c / 0.94c

DRX : daily share price v. value traded



In March 2012, DRX announced the results of its Pre-Feasibility Study on the Cyclone mineral sands deposit, with a pay-back period of 2.1 years.

DRX had announced, in August 2010, an MOU with the largest end user of zircon in China. Four key assurances are required; 3 have now been delivered, with the final, environmental clearance for an access road, expected in February 2016.

A formal commitment to project construction can be expected in mid-2016, with first product in early 2018.

DRX also has an application over Cape Bedford which has high grade silica sands and Heavy Mineral Sands, as well as 50% of the Tick Hill Golf project.

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Tick Hill : 21,800oz in Indicated Resources

DRX has announced an Indicated Resource of 21,800oz for the tailings dams at Tick Hill. Preliminary met testwork has given recoveries of over 95%.

Cyclone Reserves increased

In April 2015, DRX announced an increase in Resources at Cyclone, to 211Mt, of which 155Mt was Measured.

In December, DRX announced that Reserves at Cyclone had been increased, to 140Mt, from 97Mt previously, increasing the mine life from 10 to 14 years.

Cyclone Definitive Feasibility Study

DRX announced that final regulatory approvals are expected by March. DRX is completing its DFS, which will lead to serious negotiations with end users to finance development of Cyclone.

Revised DFS

Compared with the PFS, Beer & Co expects that all inputs will be lower :

- Beer & Co has revised our model for lower commodity prices and we now project gross annual revenue of US\$ 128m, compared with US\$ 168m previously in the early years;
- Oil prices are now much lower than the \$95/bbl averaged for 2014, and Beer & Co now projects average annual Australian based operating costs of \$A 69m, compared with \$A 76m in October 2014;
- Our capital costs estimate is also lower, from \$A 146m to \$A 127m.

Beer & Co risked valuation now 7.2c/share

Beer & Co assume that DRX sells a stake in the Cyclone to assist in the financing of its development. This value will depend on commodity prices assumed in that assessment.

Beer & Co conclusions

Beer & Co expects the major driver of the DRX share price will be the conclusion of an investment agreement. However, there is a very high risk around our valuation. We affirm our BUY, High Risk recommendation.

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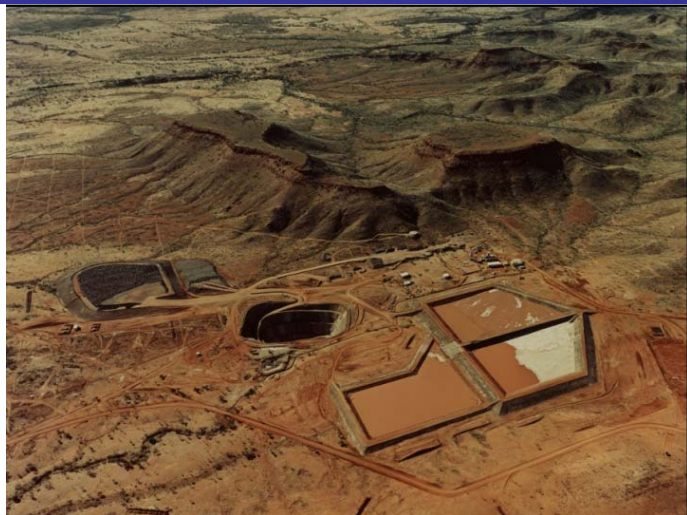
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Tick Hill : Indicated Resource

Tick Hill : Tailings Resources

Figure 1 shows the open cut mine of the previously mined Tick Hill operations, and the tailings dams, while Figure 2 shows the location of the drilling on which the Resources estimate shown in Figure 3 was based.

Figure 1 : Tick Hill gold mine



Source : DRX ASX announcement, 7 November 2014

Figure 2 : drill hole location



Source : DRX ASX announcement, 19 January 2016

DRX has a 50% interest in 22koz of JORC Resources at Tick Hill

Figure 3 : Resource estimate, Tick Hill god

West Paddock	Indicated	345 kt	0.80g/t	8,875oz
East Paddock	Indicated	285 kt	1.42g/t	13,000oz
TOTAL	Indicated	630 kt	1.08g/t	21,875oz

Source : DRX ASX announcement, 19 January 2016, Beer & Co

DRX has undertaken metallurgical testwork that has shown recoveries of 95% to 98% of the contained gold using fine grind

Tick Hill Gold recovery

On 22 October, 2015, DRX announced the results of preliminary metallurgical testwork :

- Using Ultra-Fine Grinding, which was not available when the Tick Hill mine was in operation, to under 15 microns, recovery of 98% of the gold in the West Paddock (ie. the lower grade dam) was achieved within 24 hours, of which 94% was recovered within 4 hours;
- For the East paddock, which is the higher grade, gold recovery of 95% was achieved within 24 hours, with 89% recovery within 4 hours.

DRX is undertaking further testwork to optimise the grind size.

Beer & Co estimate a value of about \$5m for DRX's share of the Tick Hill project

Valuation

Total resources are 630kt of free digging material

Development will depend upon the location of a suitable, probably mobile, milling circuit.

Beer & Co estimates costs of \$A 1000/oz for a margin of \$A 500 - \$A 600/oz for DRX's share of 10,900oz, or about \$A 5m. .

Cyclone : last approval : February

Required Milestones to be completed by March 2016

DRX had a series of 4 milestones that it needed to satisfy to move to conclusion of a joint venture

On 10 August 2010, DRX announced that it had signed an MOU with BaoTi, China's largest zircon and titanium fabrication company, to develop Cyclone through a joint venture.

On 26 May 2011, DRX announced that the MOU was being progressed to a Heads of Agreement, following successful site visit and testing of a 20kg bulk sample.

Also, as part of the President Xi's anti-corruption drive, BaoTi was caught up in a major review. DRX advises that the project champion within BaoTi remains in his position.

DRX satisfied the water supply condition late in 2013

However, to successfully conclude a HoA, a number of milestones needed to be met by DRX, including :

- Assurance of water supply
 - Production of the heavy mineral concentrate is by a wet (gravity) separation process, requiring significant, secure, volumes of water;
 - DRX announced on 11 November 2013 that it had intersected a significant aquifer, exceeding 200m, from 530m depth, with sufficient flow
- Mining Licence granted, for which the major issue was an agreement with the Traditional Owners
 - Agreement was announced on 15 November 2014 and the ML was granted on 18 November 2014
- All required permits in place
 - The major issue outstanding is environmental clearance of the haul road, which goes through the Great Victoria Desert nature Reserve, to a rail siding at Forrest
 - The data was submitted to the WA Government in November 2014
 - The Public Environmental Review period was from June to August 2015
 - DRX submitted the final document, taking into account all the comments, in October
 - In their 14 December 2015 announcement of a new Reserve estimate, DRX stated that the final approvals are expected by February 2016

DRX concluded an agreement with the Traditional Owners late in 2014

DRX was granted its Mining Licence soon after

DRX expects to receive its final permit, enabling it to construct a road to service the project, in either February or March 2016, having satisfied all pre-conditions.

DRX expects to complete its Definitive Feasibility Study soon after all approvals have been granted.

This will enable DRX to progress discussions on a joint venture.

Cyclone Definitive Feasibility Study

DRX updated its Resource estimate in April 2015

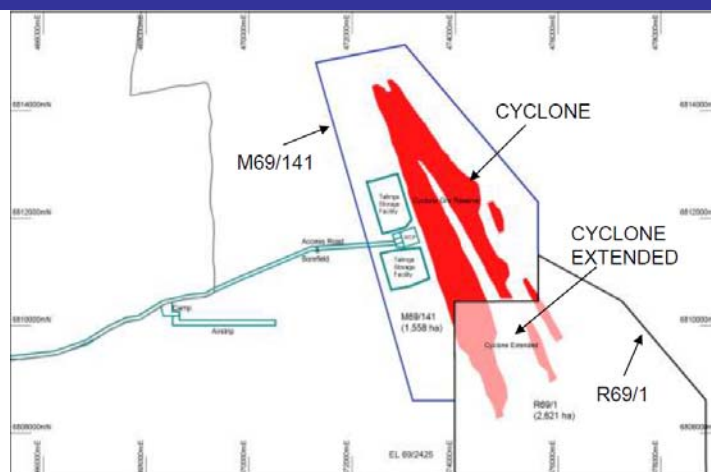
DRX announced the results of its PFS in March 2012. The DFS will update costs and development plan.

Reserves Updated

DRX updated the Resource estimate for Cyclone in April 2015, from 136Mt in January 2012 to 211Mt, by the inclusion of Cyclone Extended. Figure 4 shows the areas of both Cyclone and Cyclone Extended.

DRX revised its Ore Reserves Estimate in December 2015

Figure 4 : Cyclone and Cyclone Extended



Source : DRX Presentation, March 2015

Figure 5a shows the revised Reserve estimate for Cyclone plus Cyclone Extended, while Figure 5b shows the original reserve estimate for Cyclone and Figure 5c shows the increment resulting from the addition of Cyclone Extended.

Figure 5a : Revised Reserve Estimate, Cyclone project

	Reserves	HM	Slimes	over-size	Zircon	Rutile	Leucoxene	HiTi	Alt. Ilm	Si-TiOx	Zircon	Rutile	HiTi + Ilm.
Probable	140 Mt	2.5 %	4.5 %	5.1 %	0.71 %	0.07 %	0.17 %	0.58 %	0.32 %	0.56 %	994 kt	98 kt	1,498 kt

Source : DRX ASX announcement, 14 December 2015

Figure 5b : Reserve estimate, Cyclone deposit

	Reserves	HM	Slimes	over-size	Zircon	Rutile	Leucoxene	HiTi	Alt. Ilm	Si-TiOx	Zircon	Rutile	HiTi + Ilm.
Probable	97 Mt	2.5 %	4.0 %	5.1 %	0.79 %	0.08 %	0.17 %	0.52 %	0.26 %	0.56 %	770 kt	78 kt	922 kt

Source : DRX ASX announcement, 23 January 2012

Figure 5c : Increment to Cyclone project from Cyclone Extended

	Reserves	HM	Slimes	over-size	Zircon	Rutile	Leucoxene	HiTi	Alt. Ilm	Si-TiOx	Zircon	Rutile	HiTi + Ilm.
Probable	43 Mt	2.5 %	5.6 %	5.1 %	0.52 %	0.05 %	0.17 %	0.72 %	0.46 %	0.56 %	224 kt	20 kt	577 kt

Source : Beer & Co calculation

Comparing Figure 5a with Figure 5b shows that the Cyclone Extended deposit has lower grades of the more valuable mineral sands, zircon and rutile.

Figure 6 shows the current reserve estimate in detail closer to the expected mining plan.

Figure 6 : Cyclone project, revised Reserves estimate, in more detail

	Reserves	Overburden waste : Ore	HM	Slimes	over-size	Zircon	Rutile	Leucoxene	HiTi	Alt. Ilm	Si-TiOx	Zircon	Rutile	HiTi + Ilm.	
West Strand	90.7 Mt	46.7m BCM	0.9 : 1	2.4 %	4.7 %	6.0 %	0.72 %	0.08 %	0.18 %	0.47 %	0.30 %	0.54 %	653 kt	73 kt	862 kt
East Strand	37.7 Mt	25.9m BCM	1.2 : 1	2.8 %	4.0 %	3.7 %	0.80 %	0.07 %	0.17 %	0.71 %	0.29 %	0.68 %	302 kt	26 kt	441 kt
South-east Strand	11.5 Mt	11.7m BCM	1.6 : 1	2.5 %	4.1 %	1.9 %	0.41 %	0.03 %	0.05 %	1.03 %	0.54 %	0.38 %	47 kt	3 kt	186 kt
TOTAL	139.9 Mt	84.3m BCM	1.0 : 1	2.5 %	4.5 %	5.0 %	0.72 %	0.07 %	0.17 %	0.58 %	0.32 %	0.56 %	1,002 kt	102 kt	1,489 kt

Source : DRX ASX announcement, 14 December 2015

Revisions from PFS

DRX is poised to publish its Definitive Feasibility Study after the final permits have been granted

Beer & Co expects the mining process and production of Heavy Mineral Concentrate (HMC), through concentration of the ore using spirals, will be tweaked in a relatively minor sense.

However, Beer & Co expects nearly all other parameters will be changed significantly.

Operating Plan

DRX will need to negotiate with prospective partners on the MSP, or dry plant, whether to use an existing plant to toll treat a Heavy Mineral Concentrate or for it to be part of the joint venture partners contribution

The plan in the PFS was to build a dry plant, which separates the valuable minerals in the HMC into the valuable products using magnetic and then electro-static forces. However, such a plan is energy intensive and technically advanced.

Further, there is significant spare / idle dry plant capacity in China.

DRX will need to work through the options of a joint venture with an existing dry plant in China compared with acquiring a plant as part of the formation of a joint venture.

Commodity prices

Figure 7 shows historical commodity prices (in black) and the projections used by Beer & Co in our previous valuation of DRX, [DiatremeResources_2015June22.pdf](#).

Figure 7 : Commodity price projections, June 2015

USD/t	Average price, 12 months to :					Beer & Co projections				
	Dec. 2010	Dec. 2011	Dec. 2012	Dec. 2013	Dec. 2014	Dec. 2015	Dec. 2016	Dec. 2017	Dec. 2018	Dec. 2019
Zircon	880	1,886	2,080	1,150	1,033	1,138	1,288	1,438	1,500	1,500
Rutile	550	1,174	2,464	1,069	777	963	1,075	1,175	1,200	1,200
AUD-USD	0.920	1.032	1.036	0.968	0.903	0.771	0.750	0.750	0.750	0.750
Oil (US\$/bbl)	80	95	94	98	95	90	90	90	90	90

Source : IRESS, Beer & Co

Figure 7 shows that Beer & Co, along with nearly all other analysts at that time, expected a recovery in commodity prices that has not been realised, especially due to the fall in construction activity in China.

Figure 8 shows that Beer & Co has revised down all commodity prices.

Figure 8 : Revised commodity price projections, January 2016

USD/t	Average price, 12 months to :						Beer & Co projections				
	Dec. 2010	Dec. 2011	Dec. 2012	Dec. 2013	Dec. 2014	Dec. 2015	Dec. 2016	Dec. 2017	Dec. 2018	Dec. 2019	Dec. 2020
Zircon	880	1,886	2,080	1,150	1,033	991	1,075	1,187	1,225	1,225	1,225
Rutile	550	1,174	2,464	1,069	777	733	771	821	871	921	1,000
AUD-USD	0.920	1.032	1.036	0.968	0.903	0.753	0.700	0.700	0.700	0.700	0.700
Oil (US\$/bbl)	80	95	94	98	95	55	36	50	50	50	50

Source : IRESS, Beer & Co

Capital Costs

The original capital cost in the PFS was \$233m.

By re-conceiving the project as using third party dry plant and selling a HMC rather than end products, the capital cost was revised to \$127m according to a presentation by DRX in October 2014.

Beer & Co expects that both capital and operating cost will be revised lower than the PFS costs

In our analysis, Beer & Co used a capital cost estimate of \$146m, or \$19m higher by adding in costs to complete the DFS, EPCM and contingency costs.

Since that time, contractor prices have weakened further, and DRX has virtually completed its DFS.

Beer & Co now use an estimated capital cost of \$127m, which is a saving of about 10% (after taking out the DFS costs).

Beer & Co also expects lower commodity prices than at the time of the PFS

Operating Costs

In their October 2014 presentation, DRX advised annual operating costs of \$A 76m.

Beer & Co understand that this cost includes all costs other than royalties and the fee to be paid to the dry plant, or Mineral Separation Plant.

Beer & Co has revised this cost to \$A 69m due to lower labour and contracting costs and lower oil prices which impact on operating costs and transport costs.

Valuation of Cyclone project

Cyclone operations

Figure 9 shows Beer & Co's projected operational outcomes for the Cyclone project, which is now, following the revision to reserves announced on 14 December, 2015, is now a 14 year project, with first product in early 2018.

Figure 9 : Beer & Co's projected operational outcomes, Cyclone project

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Overburden	6,188 kt	9,000 kt	9,000 kt	9,000 kt	9,000 kt	9,000 kt	9,000 kt	9,000 kt	9,000 kt	11,250 kt	12,000 kt	12,000 kt	12,000 kt	16,000 kt	4,840 kt
Ore Mined	6,875 kt	10,000 kt	10,000 kt	10,000 kt	10,000 kt	10,000 kt	10,000 kt	10,000 kt	10,000 kt	10,000 kt	10,000 kt	10,000 kt	10,000 kt	10,000 kt	3,025 kt
Zircon															
grade	0.72 %	0.72 %	0.72 %	0.72 %	0.72 %	0.72 %	0.72 %	0.72 %	0.72 %	0.77 %	0.80 %	0.80 %	0.80 %	0.47 %	0.41 %
WCP Recovery	91 %	95 %	95 %	95 %	95 %	95 %	95 %	95 %	95 %	95 %	95 %	95 %	95 %	95 %	95 %
zircon in HMC	45 kt	69 kt	69 kt	69 kt	69 kt	69 kt	69 kt	69 kt	69 kt	73 kt	76 kt	76 kt	76 kt	45 kt	12 kt
MSP Recovery	89 %	89 %	89 %	89 %	89 %	89 %	89 %	89 %	89 %	89 %	89 %	89 %	89 %	89 %	89 %
final product	40 kt	61 kt	61 kt	61 kt	61 kt	61 kt	61 kt	61 kt	61 kt	65 kt	68 kt	68 kt	68 kt	40 kt	11 kt
HITI 87															
grade	0.26 %	0.26 %	0.26 %	0.26 %	0.26 %	0.26 %	0.26 %	0.26 %	0.26 %	0.25 %	0.24 %	0.24 %	0.24 %	0.10 %	0.08 %
WCP Recovery	72 %	84 %	85 %	85 %	85 %	85 %	85 %	85 %	85 %	85 %	85 %	85 %	85 %	85 %	85 %
HITI 87 in HMC	13 kt	22 kt	22 kt	22 kt	22 kt	22 kt	22 kt	22 kt	22 kt	21 kt	20 kt	20 kt	20 kt	9 kt	2 kt
MSP Recovery	45 %	45 %	45 %	45 %	45 %	45 %	45 %	45 %	45 %	45 %	45 %	45 %	45 %	45 %	45 %
final product	6 kt	10 kt	10 kt	10 kt	10 kt	10 kt	10 kt	10 kt	10 kt	9 kt	9 kt	9 kt	9 kt	4 kt	1 kt
HITI 67															
grade	0.77 %	0.77 %	0.77 %	0.77 %	0.77 %	0.77 %	0.77 %	0.77 %	0.77 %	0.91 %	1.00 %	1.00 %	1.00 %	1.48 %	1.57 %
WCP Recovery	72 %	84 %	85 %	85 %	85 %	85 %	85 %	85 %	85 %	85 %	85 %	85 %	85 %	85 %	85 %
HITI 67 in HMC	38 kt	65 kt	65 kt	65 kt	65 kt	65 kt	65 kt	65 kt	65 kt	78 kt	85 kt	85 kt	85 kt	126 kt	40 kt
MSP Recovery	70 %	70 %	70 %	70 %	70 %	70 %	70 %	70 %	70 %	70 %	70 %	70 %	70 %	70 %	70 %
final product	27 kt	45 kt	46 kt	46 kt	46 kt	46 kt	46 kt	46 kt	46 kt	54 kt	60 kt	60 kt	60 kt	88 kt	28 kt
HMC Sold	100 kt	160 kt	162 kt	162 kt	162 kt	162 kt	162 kt	162 kt	162 kt	178 kt	188 kt	188 kt	188 kt	186 kt	56 kt

Source : Beer & Co estimates

Cyclone project – Revenue

Figure 8 shows Beer & Co commodity price projections and Figure 9 shows Beer & Co's estimated production. Figure 10 brings these together to show the detail of our revenue estimates.

Figure 10 : Detail of Beer & Co's estimated revenue for Cyclone project

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
AUD/USD	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700
Zircon USD /t	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
HiTi 87 USD/t	717	759	824	824	824	824	824	824	824	824	824	824	824	824	824
HiTi 67 USD/t	307	325	353	353	353	353	353	353	353	353	353	353	353	353	353
Final Product Volume															
Zircon	40 kt	61 kt	61 kt	61 kt	61 kt	61 kt	61 kt	61 kt	61 kt	65 kt	68 kt	68 kt	68 kt	40 kt	11 kt
HiTi 87	6 kt	10 kt	10 kt	10 kt	10 kt	10 kt	10 kt	10 kt	10 kt	9 kt	9 kt	9 kt	9 kt	4 kt	1 kt
HiTi 67	27 kt	45 kt	46 kt	46 kt	46 kt	46 kt	46 kt	46 kt	46 kt	54 kt	60 kt	60 kt	60 kt	88 kt	28 kt
Revenue, AUD m	107	171	177	177	177	177	177	177	177	190	198	198	198	151	43

Source : Beer & Co estimates

There is further uncertainty as to the relationship between Rutile prices and the prices for HiTi 87 and HiTi 67

Beer & Co cautions that there is a higher than normal degree of uncertainty of process for HiTi87 and HiTi67, with the former assumed to be 90% of the value of the TiO₂ units in rutile, while the latter is assumed to be 50% of that value.

For comparison, chloride route ilmenite, which is around 58% TiO₂, compared with rutile which is 95% TiO₂, trades at about 30% of the TiO₂ adjusted value.

Cyclone project - Value

Figure 11 shows the detail of Beer & Co's estimated cash costs on an annual basis; while the annual average is \$A 69m, it is below this in the early years when the lower strip ratio reserves are exploited.

Figure 11 : Detail of Beer & Co's estimate of EBITDA for Cyclone project

AUD m	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Revenue	107	171	177	177	177	177	177	177	177	190	198	198	198	151	43
Overburden	8	13	13	13	13	13	13	13	13	16	17	17	17	22	7
Ore Mining	8	11	11	11	11	11	11	11	11	11	11	11	11	11	3
Mine Planning	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1
Wet Concentrator	8	12	12	12	12	12	12	12	12	12	12	12	12	12	3
Site Admin & Sales	4	5	5	5	5	5	5	5	5	5	5	5	5	5	2
Transport of HMC	14	22	22	22	22	22	22	22	22	24	26	26	26	25	8
Sub-Total, Operator	44	65	65	65	65	65	65	65	65	70	72	72	72	77	24
MSP Fee	29	47	49	49	49	50	50	50	50	53	55	55	55	48	14
Royalties	5	7	8	8	8	8	8	8	8	8	9	9	9	6	2
Total Cash Costs	78	119	122	122	122	122	122	122	122	131	136	136	136	131	40
E B I T D A	29	52	55	55	55	55	55	54	54	59	62	62	62	19	3

Source : Beer & Co estimates

Figure 12 shows the net cashflows resulting from Beer & Co's analysis.

Figure 12 : Beer & Co's projected net cashflows for Cyclone project

AUD m	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
E B I T D A		0	29	52	55	55	55	55	55	54	54	59	62	62	62	19
Dep'n & Amort'sn		0	(8)	(12)	(12)	(12)	(12)	(12)	(12)	(12)	(12)	(12)	(12)	(12)	(12)	(12)
Interest Expense		(2)	(6)	(5)	(4)	(3)	(1)	(0)	0	0	0	0	0	0	0	0
Tax Expense		1	(5)	(11)	(12)	(12)	(12)	(13)	(13)	(13)	(13)	(14)	(15)	(15)	(15)	(2)
N P A T		(2)	11	25	27	28	29	30	30	30	30	33	35	35	35	5
Project Cap. Ex	(32)	(99)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sus. Cap. Ex	0	0	(1)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	0
Net Cashflow to Equ	(19)	(35)	15	23	24	24	23	28	39	39	39	42	44	44	44	17

Source : Beer & Co estimates

Beer & Co values 100% of the Cyclone project, on an un-g geared basis, after tax, at \$A 129m, using a 10% discount rate

Figure 15 shows the financial returns generated by the Cyclone project, based on the cashflows shown in Figure 12.

It covers both an un-g geared project and a project using 50% project debt.

Figure 15 : Cyclone project returns

	NPV at 10%	IRR
Project cashflows	\$A 129m	27%
Cashflows to equity	\$A 146m	42%

Source : Beer & Co estimates

Revised DRX valuation

Financing Development of Cyclone

While \$127m is a relatively modest amount for a mining project, it is a very large multiple of DRX’s market capitalisation.

Figure 16 shows a financing concept.

- Beer & Co has assumed 50% of the capital cost is debt funded.
- Following the discussion earlier about a joint venture partner, Beer & Co assumes that DRX joint venture the project, with the entrant buying a 40% share of the project, leaving DRX with 54%, and pays 85% of the NPV to buy this stake.

Figure 16 then shows that by selling a 40% stake in the Cyclone project at 85% of its NPV (see Figure 15), with 50% debt funding, DRX does NOT need to raise further equity to develop Cyclone.

Beer & Co expects DRX to finance the development of Cyclone by

- Debt funding, to 50% of the project cost; and
- A potential joint venture partner

Beer & Co’s valuation of DRX depends critically on the value received from the joint venture partner buying into the project

Figure 16 : Financing development of Cyclone

Project Value	Dec. 15	\$ 115m
Project Share sold	40 %	\$ 46m
Value Received	85 %	\$ 39m
Project Capital		\$ 127m
Debt Finance	50 %	<u>(\$63m)</u>
Project Equity Required		\$ 63m
DRX share	54%	\$ 34m
value received		<u>(\$39m)</u>
further DRX equity required		(\$5m)
DRX Working Capital, Conv. Notes		<u>\$ 5m</u>
DRX Equity to raise		<u>\$ 0m</u>

Source : Beer & Co estimates

Beer & Co expects that the value a joint venture partner will be prepared to pay is the greatest risk to our project development scenario.

DRX is drawing down on a \$3.0m Convertible Note, half of which will be converted into equity at 2.0c/share in 2019, when the balance will be re-paid as debt

Valuation of DRX

Figure 17 shows Beer & Co’s asset based valuation of DRX, based on the cashflows and the discussion above.

While DRX does not need to raise further equity, it has issued \$3.0m in Convertible Notes (see DRX’s ASX announcement of 19 May 2015) of which half are to be converted into equity, which is the raising shown in Figure 17.

Also, the net cash level shows that drawings on that note are presently at \$1.5m.

Figure 17 shows that Beer & Co’s valuation heavily risks the Cyclone project. This risking will be reduced when the results of the DFS are announced.

It will be further reduced when DRX has successfully concluded a joint venture agreement to development the Cyclone project.

Figure 17 : Financing development of Cyclone

	discount rate = 12.0 %	31-Dec-15		31-Jan-16	
		risk :	100%	Product	per share
Cyclone	65 %	\$ 66m	\$ 43m	4.8 c	5.0 c
franking credits	40 %	\$ 17m	\$ 7m	0.8 c	0.8 c
Cape Bedford	nom	\$ 2m	\$ 2m	0.2 c	0.2 c
Tick Hill	nom	\$ 4m	\$ 4m	0.5 c	0.5 c
Corporate	100 %	(\$24m)	(\$24m)	(2.7c)	(2.7c)
Exploration	80 %	\$ 0m	\$ 0m	0.0 c	0.0 c
Asset Sales	90 %	\$ 35m	\$ 31m	3.5 c	3.2 c
Cash to be raised	90 %	\$ 1m	\$ 1m	0.1 c	0.1 c
Cash	100 %	(\$1m)	(\$1m)	(0.1c)	0.1 c
TOTAL		\$ 101m	\$ 64m	7.2 c	7.2 c
Shares on issue		809.7m	FPO shares	56.6m	options
		75m	Issued later	0.0m	ex'd

Source : Beer & Co estimates

Beer & Co's risked, base case valuation of DRX is 7c/share

Beer & Co has made estimates of capital and operating costs that will need to be changed when the DFS results are published in the near future

Beer & Co's value is sensitive to commodity prices

...especially as it impacts on the value paid by the potential JV partner

Risks

1. DFS

Beer & Co's previous analysis was based on the PFS. Many costs have moved since then and Beer & Co has attempted to reflect this change, though our estimates could be wrong and this will be shown up soon.

2. Commodity prices

Commodity prices are always a valuation risk. However, in this case, where the key to the valuation is the value received by DRX for the sale of a stake, the impact of near term commodity prices is much greater.

Figure 18 shows that Beer & Co's valuation of DRX is very sensitive to the commodity prices chosen.

Even if our long run projections are used there is a significant risk to the value of stake sold to a joint venture partner and DRX's capacity to finance development.

Figure 18 : Sensitivity

Rutile	Zircon	
	\$ 1,200/t	\$ 1,000/t
\$ 750/t	4.8 c	(0.4c)
\$ 1,000/t	7.2 c	2.1 c

Source : Beer & Co estimates

Conclusions

DRX is more than just the Cyclone project

Beer & Co retains a

BUY, High Risk, recommendation on DRX

Beer & Co's valuation of DRX is sensitive to the commodity prices assumed in the project valuation for the purposes of the sale of a stake in the project.

Beer & Co is strongly of the view that

- The Cyclone project will proceed, due to its connections with consumers of the product; and
- DRX is more than just Cyclone.

Beer & Co retains a BUY, High Risk, recommendation.

Beer & Co Research

Diatreme Minerals (DRX.ASX)

January 2016

Year ended December	2014	2015	2016	2017	2018	2019	2020
Section 1 - P&L							
Sales revenue	\$A m	0	0	0	0	42	67
Interest revenue	\$A m	0	0	1	0	0	0
Other revenue	\$A m	0	0	0	0	0	0
Total Revenue	\$A m	0	0	1	0	42	67
Cost of Goods Sold	\$A m	0	0	0	0	(24)	(35)
Royalties	\$A m	0	0	0	0	(3)	(4)
Exploration Expense	\$A m	(6)	0	0	0	0	0
Corporate Costs	\$A m	(2)	(1)	(1)	(2)	(4)	(4)
Total Operating Expenses	\$A m	(8)	(1)	(1)	(2)	(31)	(43)
EBITDA	\$A m	(7)	(1)	(1)	(2)	12	24
Dep'n & Amort'sn	\$A m	(0)	0	0	0	(4)	(6)
EBIT	\$A m	(7)	(1)	(1)	(2)	7	18
Interest Expense	\$A m	(0)	0	0	(1)	(3)	(2)
Other	\$A m						
Pre-Tax Profit	\$A m	(7)	(1)	(1)	(3)	4	15
Tax Expense	\$A m	1	0	0	1	(1)	(5)
NPAT	\$A m	(7)	(1)	(1)	(2)	3	11

Section 2 - Key Data

Ordinary shares - year end	m	726	810	810	810	885	885
Fully diluted shares on issue	m	726	810	810	810	885	885
Weighted # shares	m	620	799	810	810	847	885
Earnings per Share	(1.2c)	(0.1c)	(0.1c)	(0.3c)	(0.3c)	1.2 c	1.4 c
Dividends Per Share	0.0 c	0.0 c	0.0 c	0.0 c	0.0 c	0.0 c	0.0 c

Section 3 - Balance Sheet

Cash	\$A m	0	1	23	3	8	16
Receivables	\$A m	0	0	0	0	9	10
Other	\$A m	0	0	0	0	0	0
CURRENT ASSETS	\$A m	0	1	23	3	17	26
Receivables	\$A m	0	0	0	0	0	0
P, P & E	\$A m	0	0	17	71	68	63
Mining Properties / Exploration	\$A m	14	7	7	7	6	5
Other	\$A m	0	0	0	0	0	0
NON-CURRENT ASSETS	\$A m	15	8	25	78	74	69
TOTAL ASSETS	\$A m	15	8	48	81	92	94
Payables	\$A m	0	0	0	0	3	3
Debt	\$A m	0	0	0	2	7	8
Other	\$A m	0	0	0	0	0	0
CURRENT LIABILITIES	\$A m	0	0	0	2	7	8
Long Term Debt	\$A m	0	0	0	33	26	19
Deferred Tax Liability	\$A m	0	0	0	0	0	0
Other	\$A m	0	0	0	0	0	0
Provisions	\$A m	0	0	0	0	0	0
NON-CURRENT LIABILITIES	\$A m	0	0	0	33	26	19
TOTAL LIABILITIES	\$A m	0	0	0	35	33	26
NET ASSETS	\$A m	15	8	48	46	59	69
Accumulated Profit (Loss)	\$A m	(33)	(33)	(34)	(36)	(33)	(22)
Reserves	\$A m	0	(7)	34	34	39	38
Contributed Equity	\$A m	47	48	48	48	50	50
Total Equity	\$A m	15	8	48	46	56	65

Section 4 - Cashflow

Net Cashflow from operations	\$A m	(2)	(1)	(1)	(2)	12	24
Net Interest Paid	\$A m	0	0	0	(1)	(3)	(2)
Taxes Paid	\$A m	0	0	0	0	0	0
Change in Working Capital	\$A m	(1)	(0)	0	0	(6)	(1)
OPERATING CASHFLOW	\$A m	(3)	(1)	(1)	(3)	3	20
Exploration Expenditures	\$A m	0	(1)	0	0	0	0
Maintenance Capex	\$A m	0	0	0	0	(1)	(1)
Expansion Capex	\$A m	0	0	(17)	(54)	0	0
PPE Acquisitions (Total Capex)	\$A m	0	(1)	(17)	(54)	(1)	(1)
PPE Divestments	\$A m	0	0	39	0	0	0
INVESTING CASHFLOW	\$A m	0	(1)	22	(54)	(1)	(1)
Change in Equity	\$A m	1	1	0	0	1	0
Dividends Paid	\$A m	0	0	0	0	0	0
Change in Debt	\$A m	0	0	0	35	(2)	(7)
FINANCING CASHFLOW	\$A m	1	1	0	35	(1)	(7)
Free Cashflow	\$A m	(3)	(2)	21	(57)	2	19
Net Cashflow	\$A m	(1)	(1)	21	(22)	1	12

Major Shareholders

Andrew Tsang	111.5m	Non-Executive Director	13.8 %
Zhenbin Jiang	82.0m		10.1 %
Yufeng Zhang	59.6m	Non-Executive Director	7.4 %
Chenxia Zhou	50.0m		6.2 %
Chenfai Zhuang	39.1m		4.8 %

Year ended December	2016	2017	2018	2019	2020	2021
Commodity price assumptions						
AUD/USD	0.700	0.700	0.700	0.700	0.700	0.700
Zircon USD /t	1,075	1,181	1,200	1,200	1,200	1,200
Rutile USD /t	771	821	871	921	1,000	1,000
HITI 87 USD/t	635	676	717	759	824	824
HITI 67 USD/t	272	289	307	325	353	353

Mine Production, 100% basis

Mine production '000t	0	0	6,875	10,000	10,000	10,000
Zircon in HMC, '000t	0	0	45	69	69	69
HITI 87 in HMC, '000t	0	0	0	13	22	22
HITI 67 in HMC, '000t	0	0	0	38	65	65
TOTAL HMC '000t	0	0	0	100	160	162

Attributable production (DRX share)

Heavy Mineral Conc. '000t	0	0	0	54	87	87
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Resources

Cyclone	1.0% cut-off	H M	Zircon	70%- 95%	<70%	SITIOx
Measured	156 Mt	2.4 %	0.69 %	0.77 %	0.32 %	0.53 %
Indicated	55 Mt	1.8 %	0.36 %	0.61 %	0.37 %	0.31 %
TOTAL	211 Mt	2.2 %	0.60 %	0.73 %	0.33 %	0.47 %

Cyclone	1.5% cut-off	H M	Zircon	70%- 95%	<70%	SITIOx
Measured	102 Mt	3.1 %	0.87 %	0.96 %	0.40 %	0.67 %
Indicated	24 Mt	2.5 %	0.50 %	0.82 %	0.55 %	0.45 %
TOTAL	127 Mt	3.0 %	0.80 %	0.93 %	0.43 %	0.63 %

Assumed mining inventory

West Strand	91 Mt	2.4 %	0.72 %	0.73 %	0.30 %
East Strand	38 Mt	2.8 %	0.80 %	0.95 %	0.29 %
South-east Strand	12 Mt	2.5 %	0.41 %	1.11 %	0.54 %
TOTAL	140 Mt	2.5 %	0.72 %	0.82 %	0.32 %

Asset based Valuation

discount rate = 12.0 %	risking	31-Dec-15			31-Jan-16	
		100%	Product	per share		
Cyclone	65 %	\$ 66m	\$ 43m	4.8 c	5.0 c	
franking credits	40 %	\$ 17m	\$ 7m	0.8 c	0.8 c	
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TOTAL		\$ 101m	\$ 64m	7.2 c	7.1 c	
Shares on issue		809.7m	FPO shares	56.6m	options	
		75.0m	Issued later	0.0m	ex'd	

per US \$ /t of HMC

	LoM	2018	2019	2020	2021	2022
Estimated Revenue	734	754	747	765	765	765
Estimated Cash Costs						
Overburden	61	59	55	55	55	55
Ore Mining	45	54	48	47	47	47
Mine Planning	10	16	10	10	10	10
Wet Concentrator	50	59	53	53	53	53
Site Admin & Sales	19	29	20	20	20	20
Transport of HMC	96	96	96	96	96	96
MSP Fee	207	205	205	214	214	214
Royalties	32	33	33	33	33	33
TOTAL	519	550	519	527	528	528

Financial Ratios

Year ended December	2015	2016	2017	2018	2019	2020
Revenue	\$A m	0	1	0	42	67
EBITDA	\$A m	(1)	(1)	(2)	12	24
EBIT	\$A m	(1)	(1)	(2)	7	18
Adjusted EPS (cps)	(0.1c)	(0.1c)	(0.3c)	0.3 c	1.2 c	1.4 c
EPS Growth (%)	94 %	7 %	(271%)	229 %	273 %	14 %
DPS (c)	0.0 c	0.0 c	0.0 c	0.0 c	0.0 c	0.0 c
Dividend Yield (%)	0 %	0 %	0 %	0 %	0 %	0 %
PE adj. (x)	x	(14)	(15)	(4)	3	1
EV / EBITDA (x)	x	(8)	(9)	9	3	1
EV / EBIT (x)	x	(8)	(9)	9	5	2
Gearing (%)	0 %	0 %	43 %	36 %	27 %	19 %
Return on Assets	(10%)	(2%)	(2%)	8 %	19 %	20 %
Return on Equity	(7%)	(1%)	(4%)	5 %	16 %	16 %
EBITDA Margin (%)	n/a	n/a	n/a	28 %	37 %	38 %
Interest Cover (x)	x	n/a	n/a	(1.5)	2.3	6.7

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Analyst Certification

The analyst responsible for this research report certifies that all of the views expressed reflect his personal views about the securities and the issuer.

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