

## Byro : Iron Ore and Nickel

DSO (59%) haematite to go plus highly prospective nickel and coarse grained, magmatic magnetite.

### Recommendation

**BUY,  
High Risk**

Price **3.2c**

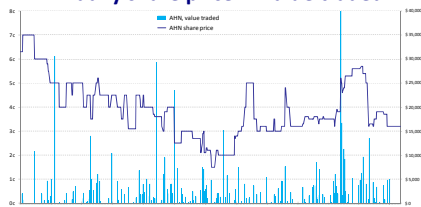
Valuation **13c**

- We estimate AHN has 13Mt of DSO iron ore as a target. We estimate it will take 2 years and \$4m - \$5m to complete a feasibility study which we estimate will have a capital cost of \$17m for an NPV of \$44m.
- AHN has an intrusion, on the northern crustal margin of the Yilgarn Craton, 6km in length, which has yielded rock chips of 2.5% Ni and 0.9% Cu plus up to 13.7m at 1.2% Ni and 18.3m at 1.14% Cu from shallow drilling
- AHN has extensive further haematite and magnetite mineralisation. Our analysis of a potential magnetite project gives an NPV of \$170m, after cap.ex of \$166m, from 2½ Mt/yr of 68% Fe conc, at an adjusted cash cost of USD 67/t.

### Snapshot

Last Price	3.2c
Market Cap	\$3.9m
Cash on hand (30 March 2014)	\$0.1m
Shares on Issue	123.0m
52 Week High	5.0c
52 Week Low	1.5c
1 month / 6 month VWAP	3.2c / 4.4c

### AHN : daily share price v. value traded



AHN has over 2,500km<sup>2</sup> at Byro, in the Murchison share of WA, with a north-south dimension of just over 100km. The southern boundary is about 320km by road north-east of Geraldton.

The area contains many occurrences of outcropping magnetite and haematite.

Milly Milly is a 6km long intrusion on the northern crustal margin of the Yilgarn Craton. It has reported high nickel values from surface sampling and shallow drilling.

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### AHN has DSO haematite to go

- AHN has significant outcropping haematite mineralisation in the north of its tenements; sampling suggests an in-situ grade of about 56% Fe.
- The deposits are near the Mullewa-Carnarvon Road and up to 2½ Mt/yr can be trucked for export through Geraldton, where there is spare capacity.
- Beer & Co expect that an in-pit crush can upgrade the ore to about 59% Fe.
- Beer & Co estimates Life of Mine costs will be US\$ 73/t, adjusted for grade.
- Our estimated NPV for this project is \$44m.

### AHN has an exciting Ni-Cu-PGE prospect

- Milly Milly is a 6km long intrusion on the northern crustal margin of the Yilgarn Craton.
- Soil and rock chip sampling has yielded up to 2.5% Ni from rock / laterite and up to 9.0% Cu from gossans. Shallow drilling has yielded best results of 13.7m at 1.2% Ni and 67m at 0.7% Cu, including 18.3m at 1.14% Cu.
- AHN has drilled one deep hole which provided encouraging results. AHN will undertake further geo-physical surveys to design the next deep hole.

### AHN has an Exploration Target of over 400Mt of coarse magnetite

- AHN reported, in October 2011, that a plant to produce 2½ Mt/yr of 68% Fe concentrate had a capital cost of \$A 136m and operating costs of \$42.3m/yr.
- Beer & Co estimate an NPV of \$170m for this project, with AISC costs, adjusted for grade, of USD 63/t.
- There is significant upside to our valuation from a more effective transport solution, such as rail, as AHN appears to have sufficient mineralisation to make this feasible.

### Beer & Co Conclusions

Our risked, base case valuation is 13c. There is significant upside to this.

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## Athena Resources

### Introduction

Athena Resources is focussed on its Byro project, which covers an area of about 2,500km<sup>2</sup> in the Murchison region of WA, as shown in Figure 1. By road, it is 320km from Geraldton, or 215km from Mullewa, which is the rail head used by Mt Gibson (MGX), to the southern boundary of AHN's tenements.

AHN is focussed on the Murchison region of WA.

AHN has a number of contiguous tenements totalling over 2,500km<sup>2</sup> in area.

Figure 1 : AHN's Byro project, Murchison region



Source : Athena Resources presentation, April 2014

Within its tenement area, AHN has

- A DSO haematite project;
- An exciting Ni-Cu-PGE exploration prospect;
- Magnetite potential; and
- Further haematite

Within this area, AHN has 4 potential projects :

- (i) An Exploration Target of 12.5Mt of 56% Fe haematite, which can be upgraded to about 59% Fe as a DSO product,
- (ii) A very interesting exploration prospect for Ni-Cu-PGEs on the north west crustal margin of the Yilgarn Craton;
- (iii) An Exploration Target of 407Mt of magnetite, grading 35% - 38% Fe which, due to its coarse grain structure, can be upgraded to a 68% concentrate
- (iv) An Exploration Target of up to 642Mt of lower grade haematite.

### Conclusions

In our view, AHN's current market cap could be justified by its Ni prospects alone.

With a market cap of about \$4m, Beer & Co's view is that AHN's current market capitalisation is justified by the Ni-Cu-PGE prospect alone, given the potential shown in the Fraser Range, which is the south-east crustal margin of the Yilgarn Craton.

Beer & Co's risked, base case valuation, is 13c/share.

Our valuation is based on

- AHN's DSO haematite; and
- Highly risked magnetite potential.

There is significant upside to our valuation from :

- Exploration success on the Ni-Cu-PGE prospect;
- Successful delivery of the DSO haematite project;
- Successful delivery of the magnetite potential;
- Delineating further DSO grade haematite;
- Increasing iron ore resource to allow more efficient transport solutions.

Our base case assumption for benchmark Fe price is US\$ 90/t.

Beer & Co's risked, base case valuation of AHN is 13c/share, is based on

- (i) Mining 12.5Mt of 56% Fe DSO, which is upgraded to 59% Fe product by a simple crush and screen, for 10Mt of product, at a maximum rate of 2½ Mt/yr;
  - The Life of Mine average cost, including sustaining capital and royalties, adjusted for quality differences, of USD 78/t
    - the high operating cost is in part a result of the low capital costs, of \$A 18m, to develop the project
  - We expect the project could begin development in about 2 years
- (ii) A long run benchmark price of USD 90/t, and AUD-USD rate of 0.850;
- (iii) Exploitation of 135Mt of 38% Fe magnetite, which is upgradable to 68% Fe concentrate, after the DSO has been exploited
  - The plant is expected to cost \$A 136m and the total project capital is expected to be \$A 166m,
  - Annual plant operating costs, to process 5.0Mt/yr to produce 2.5Mt/yr of concentrate, are expected to be \$A 42.3m;
  - The Life of Mine average cost, including sustaining capital and royalties, adjusted for quality differences, of USD 67/t

There is significant upside potential to our valuation from :

- Success in the Ni-Cu-PGE exploration programme;
- Increased volume, especially as AHN has up to 1,000Mt in mineralisation, so can justify the volume and longevity for a rail or other transport solution.

## Commodity prices

In this analysis, we have assumed that the long run benchmark iron ore price (62% Fe, landed in Tianjin or Qingdao in northern China) is USD 90/t, and the AUD : USD rate is 0.850, for an effective iron ore price of \$A 106/t.

We further assume that, in addition to the standard Fe adjustment, that higher grade product attracts an extra premium, while lower grade product attracts an extra discount, as shown in Figure 2.

This is due to the significant expansion of production of low grade material, especially from FMG.

Figure 2 : Premium structure

Product Fe grade	Premium / discount	US\$ 90/t	
		parity	now
70%	4.0 %	US\$ 102/t	US\$ 106/t
68%	3.0 %	US\$ 99/t	US\$ 102/t
66%	2.0 %	US\$ 96/t	US\$ 98/t
64%	1.0 %	US\$ 93/t	US\$ 94/t
62%	0.0 %	US\$ 90/t	US\$ 90/t
60%	(2.0%)	US\$ 87/t	US\$ 85/t
59%	(4.0%)	US\$ 86/t	US\$ 82/t
58%	(6.0%)	US\$ 84/t	US\$ 79/t
57%	(8.0%)	US\$ 83/t	US\$ 76/t

Source : Beer & Co estimates

Beer & Co estimates a mining inventory of 12.5Mt of DSO haematite, grading 56% Fe.

## DSO Haematite prospect

AHN has identified a number of areas of outcropping DSO haematite mineralisation. Figure 3 shows that Beer & Co has calculated an exploration target of 12.5Mt, assuming a Specific Gravity of 3.5.

Figure 3 also shows the distance from these areas to the southern boundary of AHN's tenements, which determines part of the total transport distance.

**Figure 3 : Areas of Haematite mineralisation, Byro north**

<u>deposit</u>	<u>strike</u>	<u>width</u>	<u>depth</u>	<u>Target</u>	<u>Av. Fe grade</u>	<u>High Fe grade</u>	<u>distance</u>
Think Big North	500m	40m	30m	2.1 Mt	56.5 %	58.6 %	115 km
Tabaroa South	1,000m	30m	60m	6.3 Mt	56.1 %	58.6 %	120 km
Happenstall	650m	25m	50m	2.8 Mt	55.6 %	60.5 %	110 km
Milly Milly North	300m	20m	30m	0.6 Mt	58.1 %	68.3 %	135 km
Olivdado	300m	20m	30m	0.6 Mt	54.5 %	56.3 %	112 km
				12.5 Mt	56.1 %	59.4 %	

Source : AHN presentation, July 2014; Beer & Co site visit

Beer & Co assumes AHN needs to invest about \$5m over the next 2 years to complete feasibility and permitting.

Beer & Co estimates it will then cost about \$17m to bring it into production.

Beer & Co estimate a value for the DSO project of \$44m, today, after allowing for feasibility and permitting costs and time.

Beer & Co estimate that AHN needs to invest about \$5m, including corporate costs, to produce a DFS. We expect that to get into production it will need a further \$17m.

Beer & Co assumes in-pit crushing upgrades the ore by about 5%, from 56% to 59% Fe, with 85% recovery of the Fe units.

The effective maximum capacity for a trucking operation is about 2½ Mt/yr.

The total transport cost, from mine gate to Tianjin port, is calculated by Beer & Co to be \$A 70/t.

Figure 4 shows Beer & Co's estimated base case value for the AHN's DSO project is \$A 44m, and it also shows that the project is fairly robust with good potential upside.

**Figure 4 : Value of Byro DSO project**

	<u>US\$ 85/t</u>	<u>US\$ 90/t</u>	<u>US\$ 95/t</u>	<u>US\$ 100/t</u>
58 % Fe	\$ 12m	\$ 31m	\$ 51m	\$ 70m
59 % Fe	\$ 24m	<b>\$ 44m</b>	\$ 64m	\$ 84m
60 % Fe	\$ 36m	\$ 56m	\$ 77m	\$ 97m

Source : Beer & Co estimates

Our calculated NPV is at today, and includes the cost of feasibility studies, but not corporate overheads.

The NPV is calculated on the after tax cashflows to equity, assuming modest gearing, and a discount rate of 10%. The NPV is particularly attractive given the modest capital invested.

Figure 4 shows that the project is fairly robust, but more sensitive to the grade of the product than it is to changes in the commodity price.

### Nickel Prospects

As shown in Figure 5, AHN's Byro tenements are defined by deep crustal sutures on the edge of the Yilgarn Craton.

Gravity survey highlights a very strong anomaly at Milly Milly.

Milly Milly is an intrusion, interpreted as being on the crustal margin of the Yilgarn Craton, as is Mt Keith and Nova-Bollinger.

Figure 5 clearly shows that the Mt Narryer project and the Byro Iron Ore projects are associated with significant gravity highs.

Milly Milly, in the north-east corner, is shown as a highly localised but very intense gravity high.

It is a 6.5km long intrusion. This is comparable in size to Raglan, Jinchuan and Voisey's Bay. These major Ni-Cu-PGM ore-bodies are also intrusives on the edge of a significant craton.

Figure 6 shows that Mt Keith and Nova-Bollinger are interpreted as being located on the crustal margin of the Yilgarn Craton.

### Sampling Results

AHN has found high grade Ni from rock chips and shallow drilling.

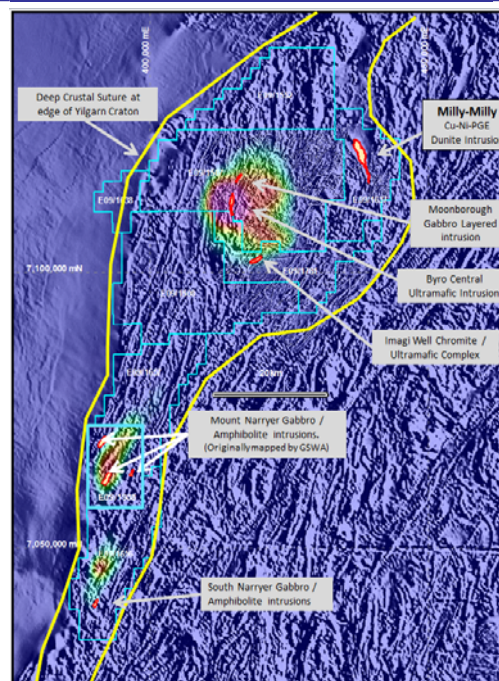
Soil and rock chip sampling have yielded best results at Milly Milly of

- 2.5% Ni from rock / laterite samples; and
- up to 9.0% Cu from samples from gossans.

Best results from shallow drilling of the saprolite include

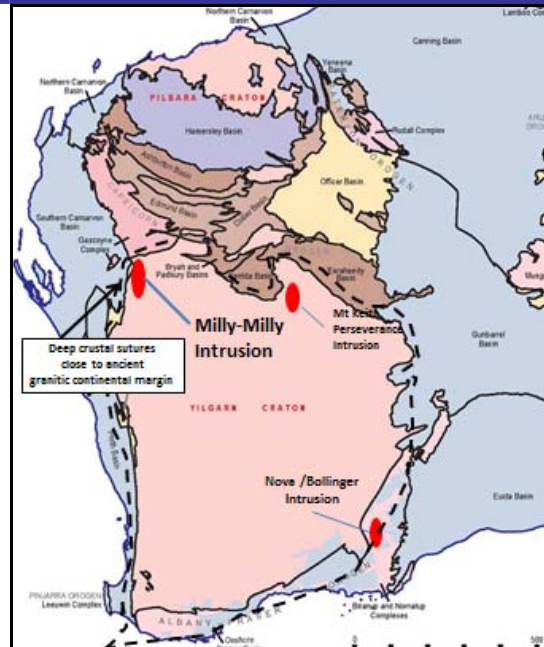
- 13.7m at 1.2% Ni; and
- 67m at 0.7% Cu, including 18.3m at 1.14% Cu.

Figure 5 : Byro gravity anomalies



Source : AHN Presentation, July 2014

Figure 6 : Milly Milly Ni-Cu-PGMs



Source : GSWA, AHN Presentation, July 2014



AHN has put a single deep hole and got sniffs, but not the prize.

AHN intends to undertake more geophysical analysis, starting with a detailed gravity survey, to aid in the design of the next deep drill campaign.

It remains a highly prospective target.

## Other Potential

**AHN has significantly more outcropping haematite.**

AHN has identified areas of outcropping haematite totalling 926,000m<sup>2</sup>. Assuming these have 150m in depth and a specific gravity of 3.0, then this gives an exploration target of 417Mt.

**It has good potential to find more DSO material.**

In addition, AHN has identified a further 15.2m m<sup>2</sup> of pisolite outcrop. Assuming an average depth of 5m, and specific gravity of 3.5, then this increases the total exploration target to 645Mt.

The haematite sampling has been largely at surface and this has shown some areas with DSO potential. There is significant potential to find more.

## Magnetite

**AHN has carried out some metallurgical testwork on its magnetite, with the results announced in October 2011.**

Beer & Co has estimated an exploration target of 135Mt at Mt Narryer, in the south of AHN's tenements, based on 5.4km of strike, as per AHN's announcement of 10 September 2013, by an assumed depth of 150m and our observation on site visit of the width of outcrop of 50m by a specific gravity of 3.3. Mt Narryer is 240km from the Mullewa rail head.

**A coarse crush, to 250µ, yielded a 68% Fe concentrate.**

AHN announced on 12 October 2011, that a plant costing \$136m would have an annual cost of \$42.3m to process 5Mt of feed to produce 2.5Mt/yr of concentrate grading over 67.5% Fe.

Beer & Co estimate total cash costs of \$A 91/t, including royalties and sustaining capital, as shown in Figure 7. Adjusting for quality differences, so that it can be directly compared with benchmark prices, this is USD 67/t.

**Figure 7 : Beer & Co's estimated cash costs Mt Narryer**

		2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Waste removal	\$ 3.7/t	1.8	2.1	2.6	3.1	3.6	4.0	4.5	5.0	5.5
Ore Mining	\$ 3.8/t	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Ore Processing	\$ 17/t	19	17	17	17	17	17	17	17	17
Site Admin	\$ 0.2/t	0.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Haul to Mullewa	\$ 22/t	22	22	22	22	22	22	22	22	22
Road Maintenance	\$ 5/t	5	5	5	5	5	5	5	5	5
Rail : Mullewa to Geraldton	\$ 6/t	6	6	6	6	6	6	6	6	6
Port Charges	\$ 10/t	10	10	10	10	10	10	10	10	10
Sea Freight	\$ 18/t	18	18	18	18	18	18	18	18	18
Sustaining Capital	\$ 0.9/t	1	1	1	1	1	1	1	1	1
Quality Differential	(\$13/t)	(13)	(13)	(13)	(13)	(13)	(13)	(13)	(13)	(13)
Royalties	\$ 6.0/t	6	6	6	6	6	6	6	6	6
<b>TOTAL, AUD/t</b>	<b>\$ 78/t</b>	<b>\$ 79/t</b>	<b>\$ 76/t</b>	<b>\$ 77/t</b>	<b>\$ 77/t</b>	<b>\$ 78/t</b>	<b>\$ 79/t</b>	<b>\$ 79/t</b>	<b>\$ 80/t</b>	<b>\$ 80/t</b>

Source : Beer & Co estimates

In our analysis, we assume that the magnetite project is developed after the DSO haematite, so the NPV in our valuation is diminished as production only starts in 2022.

Beer & Co estimate all in sustaining costs for AHN's magnetite mineralisation, of USD 67/t, including royalties and allowing for the expected price premium.

If this was AHN focus project, then Beer & Co estimate that it would take about 2½ years and \$15m to complete feasibility studies.

Figure 8 shows today's value, in NPV terms, using a 10% discount rate on the after tax cashflows, that would result if this was AHN's focus project.

**Figure 8 : NPV, Magnetite project**

US\$ 85/t	US\$ 90/t	US\$ 95/t	US\$ 100/t
\$A 102m	<b>\$A 170m</b>	\$A 238m	\$A 306m

Source : Beer & Co estimates

Our base case shows very attractive project returns. It is not the focus project due to the capital and time required to complete feasibility work.

Beer & Co analysis generates a valuation of \$170m today, if this was AHN's focus project, allowing for expected \$15m in feasibility and permitting costs and 30 months, as well as \$166m in project cap.ex.

Also, while AHN would have significant cash, even after funding the feasibility study, it will still be difficult to finance this project, although a good track record, following the haematite project, will make it easier.

In this analysis, we assume that AHN sells a 30% stake in the project after the DFS is completed, which raises the equity required to get into development.

### Rail potential

Figure 7 shows the cash costs for trucking 2½ Mt/yr of product. The projected volume of mineralisation appears sufficient to warrant a railway. The land is relatively flat, but there are creeks to be crossed and also the Murchison River.

Higher volumes can lead to more efficient transport solutions, saving possibly over \$A 20/t.

Figure 9 shows significant savings at higher volumes. The rail distance is from the north of the tenements to Mullewa, and the model includes the standard rail cost from Mullewa to Geraldton.

These savings assume that the railway system is owned and operated by a third party so the savings are after allowing as an operating cost for the recovery of the capital invested.

**Figure 9 : Cost saving potential from higher volumes**

Rail Cost	New rail	50kt train set	2.5 Mt/yr	4.3 Mt/yr	8.5 Mt/yr	12.8 Mt/yr	17.0 Mt/yr
\$ 2.5m /km	325 km	US\$ 14.0m	\$A 42.1/t	\$A 37.1/t	\$A 24.4/t	\$A 20.1/t	\$A 18.0/t
			9.7 c/t-km	8.6 c/t-km	5.6 c/t-km	4.7 c/t-km	4.2 c/t-km

Source : Beer & Co estimates

### AHN – Project Financial Outcomes

Figure 10 shows our projected financial outcomes. It shows that we have assumed that AHN needs to raise equity to complete feasibility studies.

It also shows the impact of selling a 30% stake in the magnetite project, as sales peak with DSO, which AHN is assumed to own 100%, raising equity to bring this into development.

**Figure 10 : Beer & Co projected outcome for AHN**

AUD m	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
AUD-USD	0.910	0.890	0.855	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850
Iron Ore benchmark	US\$ 106/t	US\$ 95/t	US\$ 90/t	US\$ 90/t	US\$ 90/t	US\$ 90/t	US\$ 90/t	US\$ 90/t	US\$ 90/t	US\$ 90/t	US\$ 90/t	US\$ 90/t
Iron Ore product	0 kt	0 kt	130 kt	1,167 kt	2,204 kt	2,593 kt	2,593 kt	1,912 kt	1,779 kt	1,779 kt	1,779 kt	1,779 kt
Net Revenue	0	0	13	121	226	266	248	194	212	212	212	212
Total Cash Costs	0	0	(10)	(90)	(170)	(202)	(200)	(151)	(148)	(149)	(150)	(151)
Royalties	0	0	(1)	(9)	(17)	(20)	(19)	(13)	(11)	(11)	(11)	(11)
Dep'n & Amort'sn	0	0	(0)	(3)	(6)	(8)	(9)	(12)	(5)	(5)	(5)	(5)
E B I T	0	0	2	19	33	36	20	18	49	48	47	46
Interest Expense	0	0	0	(1)	(1)	(0)	0	(4)	(6)	(5)	(4)	(2)
Tax Expense	0	0	(1)	(5)	(10)	(11)	(6)	(4)	(13)	(13)	(13)	(13)
N P A T	0	0	1	13	23	25	14	10	30	30	31	31
e p s	(0.2c)	(0.1c)	0.2 c	2.6 c	4.6 c	5.1 c	3.1 c	2.4 c	7.0 c	6.9 c	6.8 c	6.6 c
d. p. s.	0.0 c	0.0 c	0.0 c	1.0 c	2.0 c	1.0 c	0.0 c	0.0 c	2.0 c	2.0 c	2.0 c	2.0 c
Wtd Shares on Issue	229m	317m	467m	467m	467m	467m	467m	467m	467m	467m	467m	467m
Total Shares on Issue	267m	467m	467m	467m	467m	467m	467m	467m	467m	467m	467m	467m
New shares	144m	200m	0m	0m	0m	0m	0m	0m	0m	0m	0m	0m
Net Cash / Dbet	3	12	(5)	7	18	29	21	(19)	0	16	34	43

Source : Beer & Co estimates

## AHN - Valuation

**Figure 11 : Beer & Co's valuation of AHN is 13c/share**

Beer & Co's risked, base case, valuation for AHN is 13c/share.

	discount rate = 12.0 %	30 June 2013		17-Jul-14	
		risk :	100%	Product	per share
Byro DSO	45 %	\$A 26m	\$A 12m	2.5 c	3.0 c
Franking credits	27 %	\$A 13m	\$A 3m	0.7 c	0.8 c
Magnetite	35 %	\$A 59m	\$A 21m	4.4 c	4.9 c
Franking credits	21 %	\$A 40m	\$A 8m	1.8 c	2.0 c
Beneficial Haematite	25 %	\$A 0m	\$A 0m	0.0 c	0.0 c
Nickel	50 %	\$A 0m	\$A 0m	0.0 c	0.0 c
Corporate	100 %	(\$A 15m)	(\$A 15m)	(3.2c)	(3.4c)
Asset Sales	65 %	\$A 23m	\$A 15m	3.3 c	3.7 c
Exploration	100 %	\$A 0m	\$A 0m	0.0 c	0.0 c
Cash / debt	100 %	\$A 0m	\$A 0m	0.0 c	0.1 c
Cash to be raised	100 %	\$A 14m	\$A 14m	2.9 c	2.1 c
<b>TOTAL</b>		<b>\$A 160m</b>	<b>\$A 58m</b>	<b>12.4 c</b>	<b>13.2 c</b>
Shares on issue		123.0m	FPO shares	4.0m	options
		144.4m	Issued 2014	0.0m	op. ex'd
		200.0m	Issued 2015		

Source : Beer & Co estimates

## Analysis

Figure 11 shows that Beer & Co's risk adjusted valuation of AHN is 13c/share.

It also shows that we have allowed for significant risk.

AHN also has significant optionality that can add significant value, though we have not included any of this value in our base case.



Beer & Co's analysis shows that our valuation of AHN could be many times larger if AHN is able to achieve greater volume, and hence more efficient transport.

AHN has further upside potential from :

- Exploration success on the Ni-Cu-PGE prospect;
- Successful delivery of the DSO haematite project;
- Successful delivery of the magnetite potential; and
- Delineating further DSO grade haematite.

Beer & Co initiates research with a BUY, High Risk recommendation.

There is significant upside potential.

However, AHN needs to be deliver on its potential.

In our view, the reward outweighs the risks.

These options include :

- Exploration success in nickel
  - the discovery of Nova Bollinger by SIR caused its market capitalisation to explode from \$8.6m in July 2012 to \$956m currently (through 112m shares have been issued from 66m newly issued shares for \$135m and 42m options exercised, raising \$24m)
- Larger Resources, enabling higher volumes justifying the construction of a rail-line, as shown in Figure 12
- The other haematite offers further exploration potential, and also the potential to produce a beneficiated product if the price is right
  - having a rail line enhances the potential and the optionality of the outcropping mineralisation.

Figure 12 shows significant value potential from increased volume, while Figure 13 shows the potential value generated by successful project delivery.

The potential is huge

**Figure 12 : Sensitivity of base case valuation**

	US\$ 80/t	US\$ 85/t	US\$ 90/t	US\$ 95/t	US\$ 100/t
2.5 Mt/yr	1.3 c	7.3 c	<b>13.2 c</b>	19 c	25 c
4.3 Mt/yr	2.5 c	11.1 c	20 c	28 c	37 c
8.5 Mt/yr	1.5 c	15 c	28 c	41 c	55 c
12.8 Mt/yr	3.3 c	19 c	35 c	50 c	66 c

Source : Beer & Co estimates

**Figure 13 : Sensitivity of valuation, de-risked**

	US\$ 80/t	US\$ 85/t	US\$ 90/t	US\$ 95/t	US\$ 100/t
2.5 Mt/yr	6.4 c	22 c	38 c	54 c	69 c
4.3 Mt/yr	11.1 c	34 c	56 c	79 c	101 c
8.5 Mt/yr	11.1 c	47 c	82 c	117 c	152 c
12.8 Mt/yr	16 c	58 c	99 c	140 c	182 c

Source : Beer & Co estimates

## Conclusions

Beer & Co initiates research on Athena Resources with a BUY, High Risk recommendation.

There is significant upside to our base case valuation of 13c/share from :

- Exploration success in nickel; and
- Higher iron ore volumes, with the conversion of targets into resources to give assurances on product volumes and hence facilitate more efficient transport options.

The major risks are

- Delivery of the feasibility studies; and
- Development and extension of the management capability and depth.

In our view, the potential reward outweighs the risks.

**Beer & Co Research**  
Athena Resources (AHLASX) Jul 2014

Year ended June	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
<b>Section 1 - P&amp;L</b>							
Sales revenue	\$A m	0	0	0	13	121	226
Interest revenue	\$A m	0	0	0	0	0	0
Other revenue	\$A m	0	0	0	0	0	0
<b>Total Revenue</b>	<b>\$A m</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>121</b>	<b>226</b>
Cost of Goods Sold	\$A m	(0)	0	0	(10)	(90)	(170)
Corporate Costs	\$A m	(0)	(1)	(1)	(1)	(2)	(3)
Royalties	\$A m	0	0	0	(1)	(9)	(17)
Exploration Expense	\$A m	(0)	(1)	0	0	0	0
<b>Total Operating Expenses</b>	<b>\$A m</b>	<b>(1)</b>	<b>(1)</b>	<b>(1)</b>	<b>(12)</b>	<b>(101)</b>	<b>(225)</b>
<b>EBITDA</b>	<b>\$A m</b>	<b>(1)</b>	<b>(1)</b>	<b>(1)</b>	<b>2</b>	<b>20</b>	<b>37</b>
Dep'n & Amort'n	\$A m	(0)	0	0	(0)	(3)	(6)
<b>EBIT</b>	<b>\$A m</b>	<b>(1)</b>	<b>(1)</b>	<b>(1)</b>	<b>1</b>	<b>17</b>	<b>31</b>
Interest Expense	\$A m	0	0	0	0	0	0
Other	\$A m						
<b>Pre-Tax Profit</b>	<b>\$A m</b>	<b>(1)</b>	<b>(1)</b>	<b>(1)</b>	<b>1</b>	<b>17</b>	<b>31</b>
Tax Expense	\$A m	1	0	0	(0)	(5)	(10)
<b>NPAT</b>	<b>\$A m</b>	<b>0</b>	<b>(0)</b>	<b>(0)</b>	<b>1</b>	<b>12</b>	<b>24</b>

<b>Section 2 - Key Data</b>							
Ordinary shares - year end	m	123.0	267.5	467.5	467.5	467.5	467.5
Fully diluted shares on issue	m	123.0	267.5	467.5	467.5	467.5	467.5
Weighted # shares	m	123.0	228.6	317.5	467.5	467.5	467.5
Earnings per Share	0.0 c	(0.2c)	(0.1c)	0.2 c	2.6 c	4.7 c	5.1 c
Dividends Per Share	0.0 c	0.0 c	0.0 c	0.0 c	1.0 c	2.0 c	1.0 c

<b>Section 3 - Balance Sheet</b>							
Cash	\$A m	0	3	12	3	14	23
Receivables	\$A m	0	0	0	3	18	32
Other	\$A m	0	0	0	0	0	0
<b>CURRENT ASSETS</b>	<b>\$A m</b>	<b>0</b>	<b>3</b>	<b>12</b>	<b>6</b>	<b>32</b>	<b>55</b>
Receivables	\$A m	0	0	0	0	0	0
P, P & E	\$A m	0	0	0	17	15	14
Mining Properties / Exploration	\$A m	6	7	9	8	9	14
Other	\$A m	0	0	0	0	0	0
<b>NON-CURRENT ASSETS</b>	<b>\$A m</b>	<b>6</b>	<b>7</b>	<b>9</b>	<b>25</b>	<b>24</b>	<b>30</b>
<b>TOTAL ASSETS</b>	<b>\$A m</b>	<b>6</b>	<b>10</b>	<b>21</b>	<b>32</b>	<b>57</b>	<b>85</b>
Payables	\$A m	0	0	0	2	9	16
Debt	\$A m	0	0	0	1	2	2
Other	\$A m	0	0	0	0	0	0
<b>CURRENT LIABILITIES</b>	<b>\$A m</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>11</b>	<b>18</b>
Long Term Debt	\$A m	0	0	0	6	4	2
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
<b>NON-CURRENT LIABILITIES</b>	<b>\$A m</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>4</b>	<b>2</b>
<b>TOTAL LIABILITIES</b>	<b>\$A m</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>15</b>	<b>20</b>
<b>NET ASSETS</b>	<b>\$A m</b>	<b>6</b>	<b>10</b>	<b>21</b>	<b>23</b>	<b>41</b>	<b>63</b>

Accumulated Profit (Loss)	\$A m	(5)	(6)	(6)	(5)	7	29
Reserves	\$A m	0	(0)	(0)	1	7	(4)
Contributed Equity	\$A m	11	16	27	27	27	27
<b>Total Equity</b>	<b>\$A m</b>	<b>6</b>	<b>10</b>	<b>21</b>	<b>23</b>	<b>41</b>	<b>63</b>

<b>Section 4 - Cashflow</b>							
Net Cashflow from operations	\$A m	(1)	(2)	(2)	1	18	34
Interest Paid	\$A m	(0)	(0)	(0)	(0)	0	(1)
Taxes Paid	\$A m	0	0	0	0	(6)	(10)
Change in Working Capital	\$A m	0	(0)	0	5	23	20
<b>OPERATING CASHFLOW</b>	<b>\$A m</b>	<b>(1)</b>	<b>(2)</b>	<b>(2)</b>	<b>5</b>	<b>41</b>	<b>28</b>
Exploration Expenditures	\$A m	(1)	(1)	(1)	0	(1)	(6)
Maintenance Capex	\$A m	0	0	0	0	(3)	(2)
Expansion Capex	\$A m	0	0	0	(17)	0	0
<b>PPE Acquisitions (Total Capex)</b>	<b>\$A m</b>	<b>(1)</b>	<b>(1)</b>	<b>(1)</b>	<b>(17)</b>	<b>(1)</b>	<b>(8)</b>
PPE Divestments	\$A m	0	0	0	0	0	0
<b>INVESTING CASHFLOW</b>	<b>\$A m</b>	<b>(1)</b>	<b>(1)</b>	<b>(1)</b>	<b>(17)</b>	<b>(1)</b>	<b>(8)</b>
Change in Equity	\$A m	0	5	11	0	0	0
Dividends Paid	\$A m	0	0	0	0	0	0
Change in Debt	\$A m	0	0	0	7	(1)	(2)
<b>FINANCING CASHFLOW</b>	<b>\$A m</b>	<b>0</b>	<b>5</b>	<b>11</b>	<b>7</b>	<b>(1)</b>	<b>(2)</b>
<b>Free Cashflow</b>	<b>\$A m</b>	<b>(2)</b>	<b>(3)</b>	<b>(3)</b>	<b>(11)</b>	<b>39</b>	<b>40</b>
<b>Net Cashflow</b>	<b>\$A m</b>	<b>(2)</b>	<b>2</b>	<b>8</b>	<b>(5)</b>	<b>39</b>	<b>18</b>

<b>Major Shareholders</b>			
Ed Edwards (MD)	16.9m	13.7%	
Ishine International Resources	8.3m	6.7%	
Denis Hugh Kelly	7.6m	6.2%	
David Webster	2.9m	2.4%	

<b>Commodity price assumptions</b>							
Year ended June	2014 - 15	2015-16	2016-17	2017-18	2018-19	2019-20	
AUD-USD	0.910	0.890	0.855	0.850	0.850	0.850	
Iron Ore, 62% Fe,	USD/t	106	95	90	90	90	
Nickel	USD/t						

<b>Mine Production</b>						
DSO Haematite,	'000t	0	0	160	1,440	3,200
Fe grade		59%	59%	59%	59%	59%
Magnetite	'000t	0	0	0	0	0
Fe grade		38%	38%	38%	38%	38%

<b>Attributable production</b>						
DSO Haematite,	'000t	0	0	130	1,167	2,593
Magnetite	'000t	0	0	0	0	0

<b>Inferred Resources</b>						
Fe 1		Fe	SiO2	Al2O3	P	S
Fresh	22.7 Mt	25.7%	49.2%	5.3%	0.050%	0.072%

<b>Exploration Targets</b>							
<b>Haematite, DSO</b>							
		Think Big	Nor Tabaroa	Southern	Happenstall	Milly Milly N	TOTAL
		2.1 Mt	6.3 Mt	2.8 Mt	0.63	11.5 Mt	
<b>Fe grade</b>		<b>56.54%</b>	<b>56.1%</b>	<b>55.6%</b>	<b>58.1%</b>	<b>56.1%</b>	

<b>Haematite, Beneficiable</b>							
		Think Big	Tabaroa Sth	Tabaroa Nth	Happy Union	Bonecrushe	TOTAL
Lower	148.5 Mt	36.0 Mt	48.6 Mt	12.6 Mt	45.5 Mt	291 Mt	
Higher	194.4 Mt	63.0 Mt	64.8 Mt	18.9 Mt	73.1 Mt	414 Mt	
<b>Fe grade</b>	<b>43%</b>	<b>45%</b>	<b>not sampled</b>	<b>55%</b>	<b>43%</b>	<b>0%</b>	
<b>Magnetite</b>							
		Mt Narver	Byro	Fe 1	Byro North	Milly Milly	TOTAL
		135 Mt	125 Mt	22 Mt	75 Mt	50 Mt	407 Mt
<b>Fe grade</b>		<b>38%</b>	<b>35%</b>	<b>35%</b>	<b>35%</b>	<b>35%</b>	<b>36%</b>

<b>Asset based Valuation</b>						
discount rate = 12.0%						
	risking	100%	Product	per share		17-Jul-14
Byro DSO	45%	\$27m	\$A 12m	2.6 c		3.0 c
Franking credits	27%	\$13m	\$A 3m	0.7 c		0.8 c
Magnetite	35%	\$59m	\$A 21m	4.4 c		4.9 c
Franking credits	21%	\$40m	\$A 8m	1.8 c		2.0 c
Beneficiable Haematite	25%	\$0m	\$A 0m	0.0 c		0.0 c
Nickel	50%	\$0m	\$A 0m	0.0 c		0.0 c
Corporate	100%	(\$15m)	(\$15m)	(3.2c)		(3.4c)
Asset Sales	65%	\$23m	\$A 15m	3.3 c		3.7 c
Exploration	100%	\$0m	\$A 0m	0.0 c		0.0 c
Cash / debt	100%	\$0m	\$A 0m	0.0 c		0.1 c
<b>Cash to be raised</b>	<b>100%</b>	<b>\$14m</b>	<b>\$A 14m</b>	<b>2.9 c</b>		<b>2.1 c</b>
<b>TOTAL</b>		<b>\$ 160m</b>	<b>\$ 58m</b>	<b>12.5 c</b>		<b>13.3 c</b>
Shares on issue		123.0m	FPO shares	4.0m	options	
		144.4m	Issued 2014	0.0m	exercised	
		200.0m	Issued 2015			

<b>Assumed Cash Costs (DSO), USD/t</b>								
	LoM	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	
Waste removal	1.5	1.1	1.1	1.4	2.3	1.4	1.1	
Ore Mining	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Ore Processing	3.1	3.1	3.1	3.1	3.1	3.1	3.1	
Haul to Mullewa	30	30	30	30	30	30	30	
Road Maintenance	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Rail : Mullewa to Geraldton	5.9	5.9	5.9	5.9	5.9	5.9	5.9	
Port Charges	10	10	10	10	10	10	10	
Sea Freight	18	18	18	18	18	18	18	
Sustaining capital	1.6	0.4	0.4	1.5	1.3	1.4	3.8	
Quality difference	6.0	2.0	2.6	3.2	3.4	10.4	10.3	
Royalties	7.5	7.7	7.7	7.7	7.7	7.2	7.2	
<b>TOTAL, USD/t</b>	<b>\$ 92/t</b>	<b>\$ 86/t</b>	<b>\$ 87/t</b>	<b>\$ 89/t</b>	<b>\$ 90/t</b>	<b>\$ 96/t</b>	<b>\$ 98/t</b>	

<b>Financial Ratios</b>							
Year ended June	2014 - 15	2015-16	2016-17	2017-18	2018-19	2019-20	
Revenue	\$A m	0	0	14	121	226	
EBITDA	\$A m	(1)	(1)	2	20	37	
EBIT	\$A m	(1)	(1)	1	17	31	
NPAT (reported)	\$A m	(0)	(0)	1	12	22	
Adjusted EPS (cps)		(0.2c)	(0.1c)	0.2 c	2.6 c	4.7 c	
EPS Growth (%)			41%	259%	1,108%	82%	
DPS (c)		0.0 c	0.0 c	0.0 c	1.0 c	2.0 c	
Dividend Yield (%)		0%	0%	0%	0%	0%	
PE adj. (x)		(14)	(24)	15	1	0.7	
EV / EBITDA (x)		(7)	(4)	12	0	(0)	
EV / EBIT (x)		(7)	(4)	15	0	(0)	
Gearing (%)		0%	0%	21%	11%	5%	
Return on Assets		(7%)	(4%)	4%	30%	38%	
Return on Equity		(5%)	(2%)	4%	29%	35%	
EBITDA Margin (%)		n/a	n/a	12%	17%	16%	
Interest Cover (x)		x	n/a	n/a	n/a	n/a	

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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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