

Irish Zinc Exploration Intensifies: Keel Deposit Update.

Since The CloudMiner (TCM) first reviewed the Keel Zinc-Lead-Silver-Barite Deposit earlier this year; the exploration activity has intensified not only at DAH but across the Irish focused juniors. Recent announcements from Group Eleven in particular showing just how strategic Ireland Zinc Deposits truly could be.



Contrary to the current price of zinc which sits just above a 12 month low as depicted in the price chart opposite, global zinc inventories stand at less than nine (9) days of global consumption – a multi-year low.

Irelands long established history as a major producer of Zinc, one of the largest in Europe, was established off the back of some of the worlds largest deposits which were discovered and exploited in Ireland over the last 70 years.

While most of the outcropping and near-surface deposits are thought to have been found, the "Big Think" initiative recently launched by Group Eleven shows theirs and indeed their investors belief that new major deposits could still be there to be discovered. A recent announcement from Group Eleven dated September 27th 2018 discusses how new discoveries could be made in the Ireland Zinc District based on a "comprehensive re-evaluation of the regions geology coupled with new exploration techniques such as airborne geophysical surveys, ground-based seismic surveys and ionic leach soil sampling". An announcement that saw the groups share price rise almost 80% to today's level.

Such techniques and work has already been applied at DAH's Keel Deposit with the most current drilling having helped delineate the open pit potential to which TCM were initial engaged to evaluate.

Fast forward four months and new targets have been further identified offering an exploration target of up to 38.3Mt as highlighted by CSA Global. A resource target which would come second only to Glencore's Pallas Green Deposit – 44.2Mt @ 8.5% Zn+Pb.

Meanwhile additional work defining the silver relationship with the zinc mineralisation helps further strengthen the conceptual open pit economics.



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Diversified Asset Holdings Pty Ltd (DAH) have wasted no time off the back of their maiden resource estimate at the Keel Zinc-Lead-Silver-Barite Project reported in March last year nor the more recent conceptual open pit study as of May 2018. Located in the world renowned Irish Zinc district, home to past and present producing mines such as Pallas Green, Tara, Lisheen, Galmoy and the Tynagh Open Pit, Keel strives to be the next in line to continue the grand tradition which has seen Ireland ranked as Europe's top zinc producing country.

During a brief joint venture period with ASX listed junior Longford Resources a maiden JORC resource estimate was released in early 2017 from credible consultants CSA Global. The resource as reported to an inferred level of confidence is 6.9Mt @ 6.4% Zn+Pb.

JORC Resource at the Keel Project, March 2017 @ 4% Zn Cut-off									
Prospect	Category	Mť s	Zn	Pb	Zn + Pb	Contained	Contained	Contained	
			(%)	(%)	(%)	Zn (t)	Pb (t)	Zn+Pb (t)	
Keel	Inferred	6.9	5.6	0.8	6.4	385,00	55,000	440,000	

In addition further work has been carried with a further 12 drill holes having been sunk to confirm silver grades while decreasing the borehole spacing as to improve both the resource tonnes and confidence level.



Recent intercepts include hole KD-2017-006 which reports:

5m @ 12.84% Zn + 0.91% Pb + 59g/t Ag from 191m; including 2m @ 25.17% Zn + 0.88% Pb + 122g/t Ag; including 0.5m @ 39.61% Zn + 0.5% Pb + 212 g/t Ag

As well as **7m @ 9.3% Zn + 0.05% Pb + 27.4 g/t Ag** in KD-2017-002 and **4m @ 7.9% Zn + 1.34% Pb + 14.4 g.t Ag** in KD-2017-011.

These intercepts are not included in the current reported resource estimate, which is currently being upgraded and renewed. The below sections however offer highly visual support to an increased resource estimate with recent drilling extending the mineralised zone both above and below the historical drill constrained mineralised wireframes.





Mineralisation at the Keel deposit is hosted in a sub-vertical shear zone which offers both near surface open pit and deeper more traditional underground potential as can be seen in the below peer analysis presented in the TCM May 2018 report.



Historically silver (Ag) was rarely assayed at the Keel Deposit but where it was tested over 456 samples are recorded and available for analysis. One of the core objectives of the recent work carried out by DAH was to validate the historical work and to offer new insights into the economic potential of the silver which has been deposited alongside the Zinc, Lead and Barite at the Keel Project. An additional 1,180 Ag assay samples were added to the database with the highest recorded Ag grade reaching 212 g/t taken in a 0.5m sample in drill hole KD-2017-006 as mentioned above.

When plotted against zinc the silver grade shows a strong correlation, where for every 1% increase in the reported Zinc grade silver is expected to increase at approximately 4.5 g/t. Therefore in the currently reported resource estimate of 6.9Mt @ 5.6% Zn silver would be estimated to grade 25.2 g/t for a total of 5.6Moz.

A welcome addition to the current valuation of the Keel Deposit both in terms of a yardstick value as well as for the open pit potential. Since we last reviewed DAH unfortunately commodity prices have come off both for zinc, lead and indeed silver however based on spot prices as of October 1st 2018 the



total in situ value of the current JORC 2012 inferred resource sits at US\$1,170M with the yardstick valuation applying a 98% discount is US\$23.4M. Slightly below the valuation in May which was US\$26.16M based on just Zinc and Lead but stronger commodity prices to today.



Category	Zinc(Zn) Zn+Pb					Lead (Pb)		Silver(Ag)						
Price: USD\$ 2,537.00 / t			Price: USD\$ 0.0 / t		Price: USD\$ 1,988.00 / t		Price: USD\$ 14.31 / oz							
	Multiplier (%)	Contained Metal (t)	In Situ Value (\$M)	In Situ Value (Discounted) (SM)	Contained Metal (t)	In Situ Value (\$M)	In Situ Value (Discounted) (\$M)	Contained Metal (t)	In Situ Value (\$M)	In Situ Value (Discounted) (\$M)	Contained Metal (oz)	In Situ Value (\$M)	In Situ Value (Discounted) (\$M)	Total In Situ Value (Discounted) (\$M)
Measured	3.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
Indicated	3.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
M+I	3.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
nferred	2.00	386,400.00	980.30	19.61	441,600.00	0.0	0.0	55,200.00	109.74	2.19	5,590,371.82	79.97	1.60	23.4
Fotal	2.00	386,400.00	980.30	<u>19.61</u>	441,600.00	0.0	<u>0.0</u>	55,200.00	109.74	2.19	5,590,371.82	79.97	<u>1.60</u>	23.4





Similarly the current pit design which contained 11.7Mt with a Zinc grade of 4% and a Lead grade of 0.5% at a 2% Zinc cut-off and formed the basis for the TCM analysis in the May 2018 concept study where TCM was engaged to better judge the potential viability of an open pit project when compared with similar projects globally. Two models were generated adopting slightly different methodologies namely; the NPV was generated using TCM's predictive analytics, which relies on TCM's extensive dataset of comparable technical information. This provided a very approximate gauge of the

project. Whereas, the second method was a more involved modelling exercise incorporating experience and bench-marking further complimented by some basic first principal estimations.

Using the Predictive approach; comparable data suggests that a medium scale production rate of 2.1Mtpa could be plausible, whereas TCM opted for a smaller operation in the economic modelling that ran at 1.25Mtpa for a period of 10 years. The two differing approaches directly impact the capital and operating costs associated with each method, yet both yielded a positive outcome. As part of this update TCM has included the



potential of silver as an economic mineral within the original pit design based on the ratio of 4.5 g/t Ag per every 1% of Zinc. The results are tabulated below, however it is strongly advised that the inclusion of silver is pending the release of the updated mineral resource estimate and corresponding pit design and as such should be treated as tentative.



Summary of Economic Results								
	NPV Predictor	NPV Predictor	TCM Economic	TCM Economic Model				
	excl. Ag	incl. Ag	Model excl. Ag	incl. Ag				
Reserve Size & Grade	11.7Mt @	11.7Mt @	11.7Mt @ 4% Zn &	11.7Mt @ 4% Zn, 0.5% Pb				
	4.5% ZnEq	5.45% ZnEq	0.5% Pb	& 18 g/t Ag				
Production Scale	2.1Mtpa	2.1Mtpa	1.25Mtpa	1.25Mtpa				
Recovery	ZnEq: 83%	ZnEq: 75%	Zn: 86%, Pb: 65%	Zn: 86%, Pb: 65%, Ag:				
				50%				
Operating Cost	\$50/t ore	\$50/t ore	\$65/t ore	\$65/t ore				
Capital Cost	\$121M	\$122M	\$85M	\$85M				
Pre-tax NPV ¹⁰	\$128M	\$257M	\$151M	\$184M				
Post-tax NPV ¹⁰			\$110M	\$136M				
Post-tax IRR			38.5%	44.7%				

While the ore body shows immediate potential in the open pit region, which in itself warrants further in depth feasibility studies, much like in the recent Group Eleven announcements DAH have been thinking much bigger and have already applied more current exploration techniques to test for further mineralisation both at depth and regionally. A resource update would help add additional tonnage based on new data accumulated during the last drilling campaign but more recent geochemical work which has been carried out including ionic leach soil sampling could propel the resource more nearer to the 38.3Mt target, a resource which would be the second largest in Ireland behind Glencore's Pallas Green Deposit.

The known Keel orebody of which shows a 50x elevation in Zinc-Cadmium (ZnCd) ratios against the background readings.

More interestingly though along the 2.5 – 3.4 km strike length readings show up to a 121x elevation in the ZnCd readings against the background with the peak average being 75x. This is immediately obvious down strike from the known resource and would offer an immediate drill ready step out from the current ore body. Drilling with the potential to add both tonnes and value in a very short time to the current resource.

The inclusion of the historical Garrycam Barite deposit which reports a historical resource of 1.35Mt at a



barite grade of 36.14%, 2.67% Zinc and 0.18% lead shows more distal potential from the current focus of the main Keel orebody.





In short DAH have since our last review added significant value through the rigorous testing of silver within the most recent round of drilling while also defining new targets for drilling along strike from the current orebody. Both of which have helped offset the currently lower commodity prices. However with zinc reserves running at a multi-year low just how long does one expect the commodity price to remain suppressed.

In our previous analysis TCM offered a range of valuations based both on a simple insitu yardstick valuation as we have done again above but also using the current EV/t based on both global and more local peers as shown below:

Market Valuation Based on Peers both locally and Globally, May 2018.									
Project	ZnEq Tonnes Yardstick G		Global Peers EV/t	Irish Peers EV/t					
Keel & Garrycam Projects	465,000	\$26M	\$9M	\$4M					

The current update which includes the potential silver mineralisation would see the ZnEq tonnes increase to 461,000 at Keel while Garrycam would offer a further 60,000 tonnes based on the historical resource estimate.



While from a wider market perspective the value accretion in taking a project exploration from through to development climbs significantly when revieiwing all global zinc companies with the average EV/t for an exploration company today being \$22.7, which climbs to \$34.9t and eventually to \$196t ZnEq as companies advance through feasibility and into production. Apart from production assets the overal value at the

exploration and study stages have both increased in the last 6 months up from \$15t and \$30t respectively.





While the global earlier staged peers trade at a mean EV/t ZnEq of US\$15.1t down from the US\$19.2t reported in May, explorers closer to home in Ireland are valued at a mean of US\$8.46t only slightly lower than the US\$8.75t ZnEq reported in May.



As previously discussed DAH have been able to maintain their current value even though commodity prices have fallen through recent additional work which has enabled silver to be tentatively added to the Keel Resource. The below table shows the current market appraisal based on a total of 520,000 ZnEq tonnes (silver inclusive) while DAH have also shown that the

resource may indeed be increased upon the next iteration with mineralisation being present outside of the mineralised wireframes used in the 2017 JORC Resource Estimate. Further potential to increase the resource is again available along strike which could quickly increase the contained tonnes as well as the value but requires additional drilling. Increased commodity prices and as such consumer confidence would again affect the current valuation using this method without DAH having to undertake additional work but would leave them exposed in the same way should prices decrease.

Market Valuation Based on Peers both locally and Globally, Oct 2018.									
Project	ZnEq Tonnes Yardstick		Global Peers EV/t	Irish Peers EV/t					
Keel & Garrycam Projects	520,000	\$23.4M	\$8M	\$4.5M					



As reported in May DAH have two very compelling strategies to drive the Keel Project forward and increase shareholder value. The first of which is to expand the resource through additional exploration. The recent ionic leach work has only strengthened this option as being a near term value add, while the market does still continue to reward companies that advance their projects into more robust feasibility studies. An initial scoping or preliminary economic assessment therefore could help elevate DAH above their Irish peers and into direct competition with their more affluent global peers. Either way one thing is for certain the Keel Zinc-Lead-Silver-Barite Deposit is continuing to advance with a strong exploration team at the helm.

For the full updated Technical Review that compliments this summary piece please visit the TCM website <u>www.thecloudminer.com</u> to download Andrew Dawes High Grade Strategic Metals report on the Keel Zinc-Lead-Silver-Barite Deposit.



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Daniel has over a decade of experience in the mineral and engineering geology industry with a further three years in the UK financial industry. Having worked with multiple commodities as an exploration and production geologist Daniel moved to Hong Kong where he was a consulting resource geologist both for due diligence and independent technical assessments for investment purposes. Daniel Co-Founded the

CloudMiner Limited in 2012 and has spent the last five years evaluating and researching a wide spectrum of minerals projects around the globe.



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Will is a qualified Mining Engineer with a diverse of experiences and specialties encompassing both underground and open cut mining across several commodities. This includes specific underground operational experience with the following methodologies; large sub-level caving operations (Cu & Au), board & pillar (coking coal), remnant mining (Au)

and cut & fill mining (Au). Technical experience also covers a number of other commodities including uranium, gold, iron ore and high-grade silica. Country specific mining experience includes Australia, Kazakhstan, Mongolia and the Philippines. Roles have varied from design work, modelling, mine planning and scheduling through to feasibility study management and operational management.