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## ASX RELEASE

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### **Erdenet to Ovoot Feasibility Study Confirms Attractive Economics on Conservative Freight Volumes**

- Since receiving the Draft Feasibility Study Northern Railways LLC (NR) and China Gezhouba International Ltd (CGGC) have been jointly discussing various aspects and assumptions used in the Study. While not complete, NR can provide the following update.
- The total construction cost excluding contingencies remains at US\$1.25 bn consistent with the 2017 Primary Feasibility Study. An 11% reduction in the total construction cost in RmB is offset by a lower USD: RmB exchange rate.
- The contingency for the construction costs remains at 10%. The Rail Feasibility Study will be expanded to take account of the Definitive Environmental Impact Assessment and Management Plan to be completed once additional funding is available to NR.
- Rail tariff of US\$3.4c/t\km assumed achieves:
  - Project after tax IRR of 8% and equity return after tax of 13.6%
  - Equity NPV after Tax @ 8% of US\$276m
  - Net cash generated to equity after tax over 30 year period is: US\$2.75 Bn
  - Cost to use rail from Erdenet to Ovoot is US\$18.60/t and is consistent with previous estimates and provides for a competitive delivered cost for Ovoot Coking Coal.
- Volume estimates do not include transit freight volumes. No assumptions are made at this point for transit volume, agricultural exports and passenger services.
- Time to construct is modelled out to 60 months. However, NR peer review indicates that 48 months is possible depending on timing of mobilisation.

Mongolian metallurgical coal explorer and infrastructure company, Aspire Mining Limited (ASX: AKM, the Company or Aspire), is pleased to announce that its rail subsidiary, Northern Railways LLC ("NR"), has completed its review of the Erdenet to Ovoot Rail Feasibility Study. While there is continued engagement with CGGC and its engineering group, the Company is now in the position to provide this updated information.



Figure 1: Erdenet to Ovoot Railway and Northern Rail Corridor

### Construction Cost

The Rail Feasibility Study returns a total construction cost excluding contingencies of 8.0bn RmB. The principal categories include:

Category	RMB (millions)	%
Land formations	2,801	35.1%
Bridges and Culverts	1,367	17.1%
Tunnels	450	5.6%
Rail, sleepers and Connectors	1,272	15.9%
Communications + Power	607	7.5%
Buildings and Equipment	636	7.8%
Miscellaneous	879	11.0%
<b>Total</b>	<b>8,012</b>	<b>100%</b>
Contingency	801	10.0%
<b>Total Incl Contingency</b>	<b>8,813</b>	

The total construction cost before contingencies is 11% less than the Primary Feasibility Study completed in January 2017 in Rmb terms. However, the US: RmB exchange rate movements from 1: 6.95 to 1: 6.37 over this time show that the total cost remains at US\$1.25bn.

The Rail Feasibility Study continues to have a 10% contingency allowance given that the impacts of a Definitive Environmental Impact Assessment and the confirmation of geotechnical and hydrological studies remain to be completed. These studies are awaiting further funding into NR which remains contingent on improved certainty regarding the expansion of the central Rail Line (the Trans Mongolian Railway).

The Rail Feasibility Study should be considered provisional as NR, CGGC and its engineers continue to address a number of matters and opportunities. The Rail Feasibility Study will now be provided to the Mongolian Ministry of Roads and Transportation for its review and approval.

The Erdenet to Ovoot Railway now has a confirmed length defined at 547.7 kms and includes:

- 36 kms of culverts
- 9.8 km of tunnels
- 30.2 kms in bridges
- 11 by-pass loops.

The Rail Feasibility Study has a design capacity to meet forecast freight demand of up to 16 mtpa. Additional capacity can be added with additional by pass loops to provide a maximum capacity of 30 Mtpa

### **Rail Freight Demand Forecast**

Modelled rail freight demand commences at 5 mtpa from a combination of coal from the Mogin Gol mine and the Company's Ovoot Coking Coal Project and the Nuurstei Coking Coal Project, growing to 16 mtpa 12 years after commissioning.

Coal from the Ovoot Project and Nuurstei Project make up over 10 mtpa of this projected demand.

There is significant additional transport potential for agricultural exports from the region which has not been modelled at this time.

Adding transit freight with a rail connection from Ovoot through to the Tuvan Republic capital of Kyzyl will open up further significant transit rail demand (refer announcement 21 May 2018).

### **Financial Model**

The scope of the Rail Feasibility Study is to consider the Erdenet to Ovoot Rail Concession items only. These include rail construction and maintenance. The cost of excluded traction services and rolling stock is intended to be financed separately through a rail rolling stock operations company. This operating cost is estimated to be in the order of US\$0.6c/tkm.

The rail usage tariff to be set will need to provide a minimum Rail Project rate of return and an attractive geared rate of return to equity holders.

The Rail Feasibility Study sets a minimum 8% after tax rate Rail Project rate of return with a minimum 12% equity after tax rate of return. Applying a below rail or sometimes described as a capacity tariff, of USD3.4c/t\km to use the railway, provides the following financial outcomes:

	Pre-Tax	Post-Tax
Project IRR	9.65%	8.0%
Equity IRR	14.9%	13.6%
Equity NPV @ 8%	US\$435m	US\$276m
Net Cashflow Life of Concession	US\$3.60 Bn	US\$2.75 Bn

(Note: US\$1: 6.4 Rmb Exchange Rate assumed)

This tariff both meets the minimum financial return hurdles and provides for a competitive transport cost for Ovoot Project and Nuurstei Project coking coal into end markets.

**Key Assumptions:**

- Construction timetable of 48 months.
- 30 Year Concession period before return to the Government of Mongolia for its continuing operation.
- Tariff applied of US3.4 c/t\km being the minimum tariff that secures an 8% Project after tax return (For Ovoot Project coking coal this reflects a rail usage cost of US\$18.60/t to transport coal from the Project to the existing rail head at Erdenet).
- Mongolian Corporate tax rate of 25%.
- Accelerated depreciation for tax purposes of 10% per annum for construction capital spent.
- Full 10% capital contingency utilised.
- 70% debt:30% equity.
- Debt term to 15 years (including 4 year construction period) with interest rate of 3.2% and a Sino Insurance Premium of 7% of loan funds.
- Remaining debt to be re-financed at the end of year 15 (11 years post commissioning).
- Rail operating costs include management, a workforce of 750 and rail maintenance costs set at a fixed US\$24.6 million per year post commissioning.

While the modelled tariff is attractive for freight users, the addition of transit freight from the Northern Rail Corridor through the Erdenet to Ovoot Railway will provide scope for lower tariffs to enhance returns.

**Impact on Mongolian Economy**

The Erdenet to Ovoot Railway will be a transformational project for Mongolia and the Khuvsgul and Bulgan airmags with a US\$1.25bn direct investment. Apart from the positive impacts on the local businesses that can benefit from access to a fast, low cost freight service, there is a basis for a long term sustainable new transport service business. A condition of the Erdenet to Ovoot Rail Concession Agreement is that at least 30% of all works must be sub-contracted to Mongolian businesses.

Excluding locomotive and rolling stock maintenance, operations and other maintenance activities for the Erdenet to Ovoot Railway will employ up to 150 people in management and administration and a further 600 people in operations and maintenance, making the railway the largest single private employer in the Khuvsgul and Bulgan Provinces.

## **Construction Time Frame**

A construction time frame of 60 months has been set in the Study. This is the maximum time allowable under the Erdenet to Ovoot Rail Concession. NR views this as conservative as an independent peer review suggests that some parallel works could see construction time frames reduced by as much as 20%. For the purposes of calculating the rail tariff and the rates of return, a 4 year construction period has been assumed.

## **Development Schedule**

The Erdenet to Ovoot Feasibility Study will now be delivered to the Ministry of Roads and Transport to ensure that it meets Mongolian Rail Design Standards.

NR needs to complete the conditions precedent in the Erdenet to Ovoot Rail Concession Agreement before construction can commence. These conditions precedent include:

- Approval of the Feasibility Study by the Ministry of Roads and Transport.
- Execution of EPC Contracts.
- Completion of the Definitive Environmental Impact Assessment.
- Execution of land access agreements.
- Value Engineering Review.
- Debt and Equity funding facilities available for drawdown.

Additional funding of up to US\$5 million to complete these conditions precedent is available from CGGC conditional on the owner of the Central Mongolian Line, UBTZ Railways JSC, providing a guarantee that the Central Mongolian Line will be upgraded so as to have sufficient additional capacity to carry freight delivered by the Erdenet to Ovoot Railway once commissioned.

Should this funding be made available now to complete the conditions precedent, it would be achievable to commence construction of the Erdenet to Ovoot Railway in the spring of 2019 conditional on securing construction funding of US\$1.25 bn.

*Aspire's Executive Chairman, Mr David Paull, noted that "The delivery of this Feasibility Study is an important step in the development of the Erdenet to Ovoot Railway Project. The anticipated access tariff will allow for a competitive cost of transport for delivery of Aspire's washed coking coal products into export markets.*

*The Company continues to work with UBTZ Railways JSC to coordinate expansion and construction plans as the central line upgrade and the Erdenet to Ovoot Railway are linked projects.*

*It is also clear that the Mongolian airmags of Khuvsgul and Bulgan will be substantial beneficiaries of this rail project generating a significant amount of new sustainable jobs for this region."*

**END**

## **About Aspire Mining Limited**

Aspire Mining Limited is listed on the ASX (ASX: AKM) and is the largest coal tenement holder in Mongolia's Northern provinces and is focused on identifying, exploring and developing quality coking coal assets.

Aspire is the 100% owner of the world class Ovoot Coking Coal Project (Ovoot Project) which is the second largest coking coal project by reserves in Mongolia. The Ovoot Project development is dependent on the construction of the Erdenet to Ovoot Railway being progressed by Aspire's subsidiary, Northern Railways LLC (Northern Railways). Production from the Ovoot Project can coincide with the commissioning of the Erdenet to Ovoot Railway.

Aspire has a 90% interest in Nuurstei Coking Coal Project (Nuurstei Project) located in northern Mongolia.

The proximity of the Nuurstei Project to existing infrastructure (town, road, rail and services) provides an excellent opportunity to assess the economics of a road-based operation prior to the construction of the Erdenet to Ovoot Railway.

Depending on the further analysis of the results of an intended 2018 drilling program, future positive economic studies, funding and the grant of necessary approvals and licenses, the Nuurstei Project could commence a road-based production operation and then later have access to the new Erdenet to Ovoot Railway two years from commencement of the rail construction.

## **About Northern Railways LLC**

Northern Railways LLC (Northern Railways) is a Mongolian registered rail infrastructure Company, and mandated to pursue the development of the Erdenet to Ovoot Railway, is supported by a consortium consisting of Aspire Mining, and subsidiaries of Fortune 500 listed China Railway Construction Corporation Limited – China Railway 20 Bureau Group Corporation and China Railway First Survey & Design Institute Group Co Ltd.

The Erdenet to Ovoot Railway extends 547km between the town of Erdenet to Aspire's Ovoot Project, which connects northern Mongolia to China and international markets. In accordance with Mongolian National Rail Policy, the Erdenet to Ovoot Railway is a multi-user rail line and will be available for the transport of bulk materials, agricultural and general freight from the region to export markets including China, Russia and seaborne markets.

The Erdenet to Ovoot Railway will play an important part in the establishment of the Northern Rail Corridor through Mongolia, the subject of a trilateral program agreed by the Presidents of China, Russia and Mongolia. The Northern Rail Corridor through Mongolia is primarily aimed at improving trade by reducing regulation, improving capacity at borders and improving road and rail infrastructure to meet this increased demand for transport services. The Northern Rail Corridor through Mongolia links closely with Chinese policies to establish a New Silk Road to improve Euro-Asian trade, and Russia's policy of establishing a Euro-Asian economic zone.

In August 2015, Northern Railways was granted an exclusive 30 years concession by the Mongolian Government to build and operate the Erdenet to Ovoot Railway. Northern Railways is now progressing funding negotiations for the completion of the concession conditions precedent, other studies to support applications for licenses, permits and approvals, the EPC contract and railway construction.

### **For more information contact:**

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