

# **Echo Resources Limited**

ACN 108 513 113

29 July 2016 ASX Code: EAR

# **Quarterly Activities Report**

For the quarter to 30 June 2016

# **Highlights**

#### Julius Gold Project

- Completion of Scoping Study¹ showing strong economics for a near-surface, high grade mining operation targeting the upper portion of the total gold resource.
  - Low capital cost of ~\$2.9 million
  - Mining of 875,600t @ 2.6 g/t Au for production of 68,740 ounces of gold
  - Open-pit mining operation
  - Estimated operating cost of \$921/ounce (AISC)
  - o EBITDA of \$47million @ \$A1600/oz, (\$54million @ \$1700/oz)
- Bankable Feasibility Study (BFS) has now commenced to further de-risk and clarify the Project's economics
- Completion of Maiden Mineral Resource estimate yielding 2.95 million tonnes @ 2.1g/t Au for 197,600 ounces of gold<sup>2</sup>
- Encouraging results from further exploration work including discovery of a high grade zone of gold over approximately 100 meters of strike in the northern sector of the open pit and concentrated between 30-50 metres vertical including;
  - o 24 metres @ 3.46 g/t Au from 32 metres (JAC057)
  - 12 metres @ 8.27 g/t Au from 34 metres (JAC061)
  - 19 metres @ 3.81 g/t Au from 32 metres (JAC062)
  - 9 metres @ 16.95 g/t Au from 30 metres (JAC064).

The Julius gold deposit is open at depth and along strike with a number of deep intersections between 150-250 metres vertical depth, including 4m @ 59.70 g/t and 3m @ 35.02 g/t suggesting significant potential to expand and define the resource with further drilling.

## Corporate

- New Board and Management appointments to bolster financial and technical capability:
  - Barry Bolitho Appointed Chairman
  - Simon Coxhell Appointed Chief Executive Officer

<sup>&</sup>lt;sup>1</sup> Refer to ASX Announcement Echo Delivers Compelling Scoping Study for Julius dated 21 June 2016

<sup>&</sup>lt;sup>2</sup> Refer to ASX Announcement Julius Gold Project Initial Resource Estimate dated 8 April 2016



- Successfully completed an oversubscribed placement raising \$3.2 million, providing sufficient financial capacity to conduct significant exploration activities and greatly advance the BFS over the Julius Gold Project
- Closing cash balance of \$3.4 million, as of 30<sup>th</sup> June 2016.

# **Operational Activities**

The focus of Echo's activities during the quarter was on advancing the 100% owned Julius Gold Project, located approximately 450 kilometres north of Kalgoorlie and 70 kilometres east of Wiluna. Substantial exploration works have been completed, culminating in the delivery of a Scoping Study which demonstrated Julius' potential to become a profitable, low-capex gold operation.

### Julius Gold Project - Initial Mineral Resource Estimate

Early in the quarter, the Company released an initial maiden Mineral Resource estimate for Julius<sup>3</sup> based on drilling comprising 225 reverse circulation holes for 27,203 metres, 32 aircore holes for 1,529 metres and 6 diamond holes for 1,260 metres.

The Mineral Resource estimate is summarised below at a 1.0 g/t Au cut-off.

JORC Category <sup>1</sup>	Cut-off Grade (g/t Au)	Tonnes	<b>Grade</b> (g/t Au)	Ounces Au
Indicated Resource	1.0	1.65Mt	2.31	125,513
Inferred Resource	1.0	1.30Mt	1.78	72,108
Total Mineral Resource	1.0	2.95Mt	2.10	197,621

Table 1: Julius Resource Estimate, 1.0g/t Au Cut-off

There are a large number of significant gold intersections open at depth and along strike demonstrating the excellent potential to grow the Julius resource with further drilling.

### Julius Gold Project – Further High Grade Exploration Results

Subsequent to completion of the initial Mineral Resource estimate, further exploration was conducted at the Julius gold deposit<sup>4</sup>. The program totalled 74 holes for 3,397 metres of vertical aircore drilling and was completed in the near surface zone of known gold mineralisation at Julius. As expected, based on previous wider spaced drilling in the area, the near surface laterite gold mineralisation diminishes to the north and is replaced by high grade mineralisation at depth within the weathered oxide zone.

Aircore drilling was completed over approximately 600 metres of strike with hole depths ranging from 16 to 78 metres, with an average depth of 50 metres. Drilling was on nominal 20-25 metre sections with holes spaced at 15-30 metre intervals across each section and aimed at quantifying tonnes and grade of mineralisation lying within a proposed Stage One open pit, specifically focused on the near surface laterite and supergene mineralisation within the oxide zone of the deposit.

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<sup>&</sup>lt;sup>3</sup> Refer to ASX Announcement Julius Gold Project Initial Resource Estimate dated 8 April 2016

<sup>&</sup>lt;sup>4</sup> Refer to ASX Announcement Further High Grade Results at Julius dated 27 May 2016 for full results

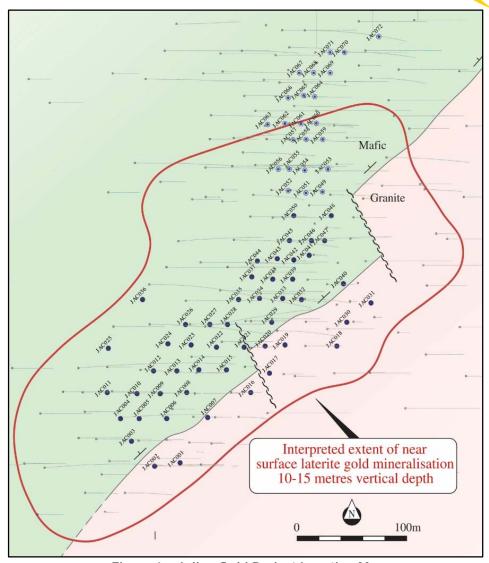


Figure 1 – Julius Gold Project Location Map

Significantly, the results highlighted a high grade zone of gold located over approximately 100 metres of strike and concentrated between 30-50 metres vertical. Significant intercepts returned included<sup>5</sup>:

_	6 metres	@ 5.49 g/t Au from 9 metres (JAC007)
_	10 metres	@ 3.15 g/t Au from 40 metres (JAC007)
_	6 metres	@ 3.04 g/t Au from 9 metes (JAC015)
_	5 metres	@ 4.16 g/t Au from 8 metres (JAC016)
_	7 metres	@ 5.73 g/t Au from 8 metres (JAC017)
_	6 metres	@ 2.39 g/t Au from 8 metres (JAC019)
_	6 metres	@ 4.23 g/t Au from 8 metres (JAC020)
_	11 metres	@ 2.77 g/t Au from 36 metres (JAC023)
_	5 metres	@ 3.22 g/t Au from 8 metres (JAC029)
_	8 metres	@ 3.31 g/t Au from 28 metres (JAC052)
_	6 metres	@ 8.81 g/t Au from 40 metres (JAC054)
_	24 metres	@ 3.46 g/t Au from 32 metres (JAC057)
_	12 metres	@ 8.27 g/t Au from 34 metres (JAC061)
_	19 metres	@ 3.81 g/t Au from 32 metres (JAC062)
_	9 metres	@ 16.95 g/t Au from 30 metres (JAC064)
_	18 metres	@ 1.25 g/t Au from 33 metres (JAC068)
_	6 metres	@ 5.01 g/t Au from 32 metres (JAC069)

<sup>&</sup>lt;sup>5</sup> Refer to ASX Announcement Further High Grade Results at Julius dated 27 May 2016 for full results

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Additionally, the northernmost hole drilled in the program (JAC074, located 150 metres north of the high grade zone) returned 8 metres @ 3.32 g/t Au from 48 metres confirming the gold mineralised zone at Julius remains open to the north and down dip to the west-north west.

Previous deep drilling by Echo has returned a number of significant intersections well outside of the current Stage 1 open pit. The significance of these intersections clearly demonstrate that the high grades to be targeted in the initial open pit continue at depth and further drilling is likely to define additional mineralisation.

Hole	From	То	Intersection
ERC0186	235	238	3m @ 35.0 g/t Au
ERC0222	276	280	4m @ 59.7 g/t Au
ERC0238	294	301	7m @ 2.4 g/t Au

### Julius Gold Project – Scoping Study

In late June 2016, Echo reported positive results from the Scoping Study on the Julius Gold Project, which demonstrate the Project has attractive economic outcomes with strong upside potential through optimised mining and additional resource drilling.

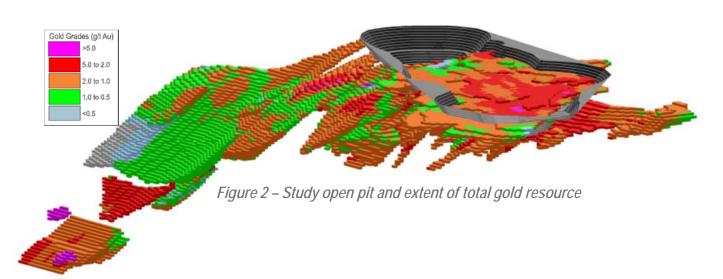
The Scoping Study was designed to test the economics of an operation focused on mining near surface, high grade open pit resources which would be trucked to nearby toll treatment facilities for processing. The Company believes this approach will enable the delivery of near-term cash flows with reduced up front capital costs.

The key outcome from the Study suggests the mining of a total of 875,600t @ 2.6 g/t Au via open pit for the production of 68,740 ounces of gold at an estimated operating cost of \$921 (ASIC) /ounce. Significant gold resources lie outside this pit design and considerable potential exists to mine additional gold resources at Julius.

Capital cost for this approach have been estimated at \$2.9 million with EBITDA of \$47 million at A\$1600/oz...

A gold price of \$1,600/ounce was used as the base case with work completed including:

- Pit optimisation studies and pit design work based on the optimal shells completed using typical North-Eastern Goldfields mining costs;
- Review of the positive metallurgical work completed at Julius and utilising a gold recovery of 93%;
- Preliminary scheduling considerations with an initial focus on the shallow laterite gold mineralisation followed by development of the pit targeting the high grade supergene gold mineralisation;
- Evaluation of toll milling and transport opportunities in the district; and
- Review of environmental and Native Title considerations at Julius.





In order to progress the project further, a BFS has now commenced which will include infill drilling to convert Indicated Mineral Resources to Measured, deeper drilling to follow up on previous high grade intersections and finalisation of the Mining Proposal and Native Title negotiations leading to the grant of the Mining Lease. Additional metallurgical testwork to confirm and further define the expected recoveries is in progress and toll milling options are being investigated.

### Key outcomes of the Julius Scoping Study

A table of key Study outcomes is provided below including sensitivity to gold price.

	Low Case	Base Case	High Case
Gold Price (A\$1:US\$0.75)	\$1,500/oz (US\$1,125/oz)	\$1,600/oz (US\$1,200/oz)	\$1,700/oz (US\$1,275/oz)
Resources Mined <sup>1</sup>	•	875,600t @ 2.6g/t	◀
Life of Mine (LOM) <sup>2</sup>	•	<2 years	◀
LOM Strip Ratio	<b>&gt;</b>	4.6:1	◀
LOM Gold Production <sup>1</sup>	<b>&gt;</b>	68,740oz	◀
Capital Cost (pre-cash flow) <sup>3</sup>	<b>&gt;</b>	\$2.9 million	◀
LOM Revenue	\$103 million	\$110 million	\$117 million
All-in Sustaining Costs (AISC) <sup>3</sup>	<b>&gt;</b>	A\$921/oz	◀
LOM EBITDA	\$40 million	\$47 million	\$54 million

Table 2: Key Project Economics

Notes 1: The Mineral Resources underpinning the above production target have been prepared by a Competent Person or Persons in accordance with the requirements of the JORC (2012) Code. Refer to ASX Announcement dated 8 April 2016. Recoveries through the toll treatment mill are assumed to be 93%

- 2: Assumes reasonable available capacity at the toll treatment facility yet to be finalised
- 3: Refer to tables 3 and 4 below for details.

More than 95% of the material to be processed is classified as a JORC (2012) Indicated Resource. Production rate assumptions are yet to be finalised and will be based on available plant capacity at the relevant toll treatment facility.

Full details of the Scoping Study can be found in Appendix 1.

### Regional Exploration - Zaphod

The Zaphod gold prospect is located approximately 80 kilometres due south of Echo's Julius Gold Project and 10 kilometres south of the Bronzewing Gold Plant in the Yandal Gold Belt of WA.

Previous rock chip sampling at the prospect returned a number of high grade gold results from surface rock chips, including 118 g/t Au and 285 g/t Au. The mineralised quartz veins at Zaphod occur within a package of sheared and carbonated mafic rocks which outcrop through a window of the surrounding ferruginous laterite. Up to three individual quartz veins of 0.25-1.0 metre of thickness have been observed generally striking in a north-west trend and dipping to the east-north-east. Both milky quartz veins and iron rich quartz veins are present.

Assays from the first pass drilling included a number of significant high grade results which included (refer to ASX Announcement on 22 April 2016 for full details of results):



Hole ID	From	То	Width	Gold (g/t Au)	Azimuth	Dip	Total Depth
ZAC001	42	43	1	2.61	230	-55	63
ZAC001	57	59	2	1.05	230	-55	63
ZAC002				NSR	230	-55	56
ZAC003	23	27	4	2.42	230	-55	56
ZAC004	10	11	1	2.47	230	-60	62
ZAC004	29	30	1	0.64	230	-60	62
ZAC004	36	37	1	1.30	230	-60	62
ZAC005	25	26	1	0.58	230	-60	56
ZAC005	40	44	4	0.74	230	-60	56
ZAC006	14	15	1	11.86	230	-60	56
ZAC006	22	23	1	1.02	230	-60	56
ZAC007				NSR	230	-60	39
ZAC008	5	6	1	3.20	230	-60	53
ZAC008	9	10	1	4.01	230	-60	53
ZAC008	13	14	1	0.57	230	-60	53
ZAC009				NSR	230	-60	51
ZAC010	16	17	1	1.59	230	-60	47
ZAC010	24	25	1	1.14	230	-60	47
ZAC011	29	30	1	1.54	230	-60	45
ZAC012				NSR	230	-60	41
ZAC013	49	51	2	13.92	230	-60	69

Table 3: Significant Intersections: Zaphod and Drill Hole Details

The results are considered encouraging confirming the previous high grade rock chips results. The mineralisation occurs within a sub vertical large quartz dominant system hosted at the contact between interpreted volcanics and basaltic rocks. Additional cross faulting is interpreted from the regional magnetics and the intersection of the gold bearing quartz shear zone and the cross faults provides a compelling target for further drilling.

# **Corporate Activities**

At 30 June 2016 Echo held \$3.4 million in cash.

The Company successfully completed a \$3.2 million capital raising in May to institutional and sophisticated investors. The raising was oversubscribed and provides Echo with sufficient cash to complete significant exploration activities and greatly advance Julius Gold Project ("Julius") Feasibility Studies.

During the June quarter the Company also strengthened its Board team with the appointment of Mr Barry Bolitho as Chairman of Echo on 30<sup>th</sup> May, 2016. Mr Bolitho has over 40 years' experience as a mining professional and provides Echo with a skillset to enhance the Company's evolution from explorer to developer. He has been responsible for the commissioning and management of a number of gold mining operations, both in Western Australia and internationally. Mr Bolitho is a qualified metallurgist with a Bachelor of Applied Science and Diploma of Applied Chemistry and has gained extensive experience in the executive management of resource based companies with particular emphasis in exploration, operations, project management, administration and corporate development. He has been an executive and non-executive director of a number of ASX and TSX listed resource companies over a long period and has worked closely with financiers, brokers and analysts.

The Board also formally appointed existing director Mr Simon Coxhell as Chief Executive Officer. Mr Coxhell was appointed as a director by shareholders in February 2016 and has worked diligently to understand and document the value of Julius and the other assets of the Company, culminating in the release of a maiden Mineral Resource estimate and Scoping Study for Julius. Mr Coxhell's blend of past experience ranging from exploration



through to production, predominantly in the gold sector, coupled with his previous Executive Director roles will provide Echo with an ideal skillset to lead the Company through this exciting phase of growth.

For further information please contact

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CEO

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#### APPENDIX 1 – JULIUS SCOPING STUDY DETAILS

#### Julius Scoping Study Resources

Resources are assumed to be mined at the Julius gold deposit in a two stage single open cut pit. The Study assumed industry standard drill, blast, load and haul mining methodologies and costs which are widely used and undertaken by mining contractors.

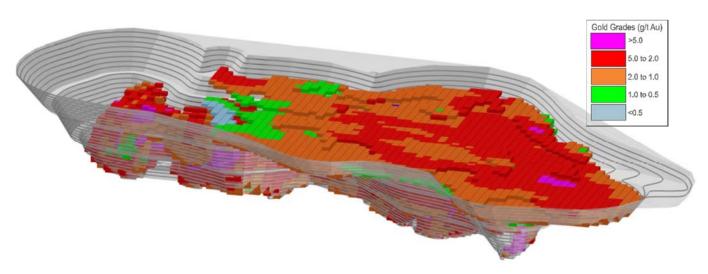
Pit optimisation assumed a two stage pit sequence which initially targets higher grade laterite gold mineralisation before a cutback to include the remaining laterite and high grade supergene gold mineralisation, both laterally and at depth. The optimisation utilised the April 2016 JORC Resource with excess of 95% of the in pit resource categorised as an Indicated Resource. An A\$1,600/ounce gold price (US\$1,200/oz at US\$0.75:AU\$1.00) was used as the base case.

Resource Classification	Mined Tonnes (Mt)	Grade (g/t Au)	Contained Gold (koz Au)
Indicated Resource	802,000	2.6	67,040
Inferred Resource <sup>3</sup> (% of total)	73,600 (8.4%)	2.9	6,860 <i>(9.3%)</i>
Total	875,600	2.6	73,914

Table 4: Scoping Study Resources

- Note 1: Mineral Resource conforms with JORC Code (2012) definitions
  - 2: Mineral Resource estimated using a 0.5g/t cut-off constrained within a A\$1,600 optimised pit shell
  - 3: Sequencing of Inferred Minerals Resources is not provided as they constitute less than 10% of total tonnes mined
  - 4: All figures are rounded to reflect appropriate levels of confidence.

An initial ("Stage 1") shallow open pit specifically targeting the near surface high grade laterite resource is planned and incorporates the mining of approximately 400,000 bcm of waste material and approximately 200,000t of high grade pisolitic laterite located between eight and twelve metres vertical depth with a very attractive strip ratio of 2:1. A free-dig environment is predominately envisaged for this first stage of operations. This will be followed by the development of the main ("Stage 2") pit incorporating the remainder of the laterite resource and supergene resources.



Figures 3&4 – Orthogonal Views of Julius Pit Block Model (looking East & South)



#### Julius Scoping Study Infrastructure

Julius is located on the Yandal Gold Belt, a prominent gold province 450 kilometres north of Kalgoorlie. In line with the area's significant discoveries, several mines and processing facilities are in operation presenting opportunities for toll treatment arrangements, substantially reducing the capital requirements for start-up operations.

An eight kilometre haul road is required to be upgraded to enable transport from the Project to the Barwidgee Road and onwards for processing.



Figure 5 – Location of ML and Misc. Haul Road Licence Applications

#### Julius Scoping Study Haulage & Processing

Haulage from the Project includes eight kilometres on the site access road to the Barwidgee Road then haulage will proceed either north or south to one of a number of existing processing plants currently being considered for toll treatment. The Study assumes a 15c per tonne per kilometre haulage cost over 80 kilometres.

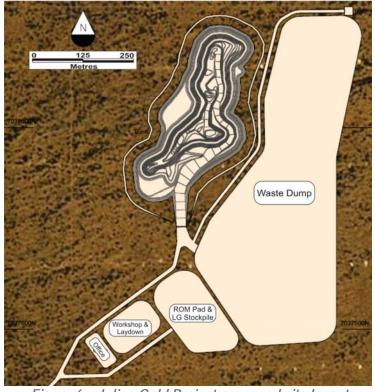


Figure 6 – Julius Gold Project proposed site layout



At this stage there has been no toll treatment arrangement formalised in relation to Julius. Favourable metallurgical testwork to date suggests that resources from Julius will be amenable to processing at most processing sites in the Project's vicinity with an anticipated recovery (based on previous test work) of 93%.

#### Julius Scoping Study Cost Estimates & Financial Evaluation

The capital cost estimate of \$2.9 million includes Project development costs until first cash flow is received from gold production. A cut-back is envisaged to occur following the completion of mining of Stage 1 and will be funded out of available cash flow.

Capital costs were developed using inputs from a number of Western Australian mining contractors who also provided mining, toll treatment processing and other operating cost estimates for this Study based on recent quotes for similar operations in the region.

Capital Cost Item	Capital Cost (A\$M)
Earthmoving Mobilisation	\$0.3
Pre-Strip (Stage 1)	\$0.4
Haul Road Construction	\$1.0
Site Infrastructure	\$0.3
Working Capital	\$0.5
15% Contingency	\$0.4
Total	\$2.9

Table 5: Capital Cost Estimate

Information Sheet 214 Funding Discussion: Despite the Company's current cash balance being greater than that required per Table 3 above, based on anticipated expenditures before first production, additional funding will be required to bring the Julius Gold Project into production. The Company's current market capitalisation of approximately \$30 million is significantly greater than the total capital required. As a result, the entity believes there are reasonable grounds for concluding that funding will become available to the entity as and when it is required by the Project's development or production schedules.

Total AISC<sup>2</sup> is estimated to be \$921 per ounce. These costs include all Project royalties and capital costs for the Stage 2 development which will be funded from cash flow.

Operating Cost Item	Base Case
Mining Costs per oz Au <sup>1</sup> (per bcm <sup>1</sup> )	<b>\$266</b> (\$8.2)
Haulage Cost per oz Au <sup>3</sup>	\$159
Other Costs per oz Au (toll treatment, admin, royalties, rehab)	\$485
Total C3 Cash Cost per oz Au	\$910
Sustaining Capital <sup>4</sup>	\$11
Total AISC per oz Au <sup>2</sup>	\$921

Table 6: Life of Mine Operating Costs

Note 1: Includes all pre-strip and waste

- 2: Total All-In Sustaining Cost per ounce of gold
- 3: Assumes total haulage distance of 80km at ~15c per t km
- 4: Includes allowances for haul road and site maintenance and Stage 2 cut-back



### Julius Project Upside

With the completion of this Study, the Company has commenced a Feasibility Study which will include follow up work to further de-risk and improve the Project's economics, including:

- Infill drilling;
- RC drilling to test for deeper mineralisation located between 50-100m vertical depth whereas the currently proposed pit has a maximum depth of 60m;
- Exploration in the vicinity of Julius on the margins of the granite which appears to control a large proportion of the existing gold mineralisation;
- Optimising mining and production schedules; and
- Optimising capital and operating costs.



#### **Forward Looking Statements**

This announcement may contain certain "forward-looking statements" which may not have been based solely on historical facts, but rather may be based on the Company's current expectations about future events and results. Where the Company expresses or implies an expectation of belief as to future events or results, such expectation or belief is expressed in good faith and believed to have a reasonable basis. However, forward looking statements are subject to risks, uncertainties, assumptions and other factors, which could cause actual results to differ materially from future results expressed, projected or implied by such forward-looking statements. Such risks include, but are not limited to Resource risk, metals price volatility, currency fluctuations, increased production costs and variances in ore grade or recovery rates from those assumed in mining plans, as well as political and operational risks in the Countries and States in which we operate or sell product to, and governmental regulation and judicial outcomes. For a more detailed discussion of such risks and other factors, see the Company's Annual Reports, as well as the Company's other filings. Readers should not place undue reliance on forward looking information. The Company does not undertake any obligation to release publically any revisions to any "forward looking statement" to reflect events or circumstances after the date of this announcement, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws.

#### **Cautionary Statement**

The Scoping Study referred to in this announcement is based on lower-level technical and economic assessments and is insufficient to support estimation of Ore Reserves, or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realised. Further, the Company cautions that there is no certainty that the forecast financial information derived from production targets will be realised. All material assumptions underpinning the production targets and forecast financial information derived from the production targets are set out in this announcement. The estimated mineral resources underpinning the Scoping Study production targets have been prepared by competent persons in accordance with the current JORC Code 2012 Edition and the current ASX Listing Rules.

Echo has concluded it has a reasonable basis for providing the forward looking statement included in this announcement.

The entity confirms in this report that all the material assumptions underpinning the production target, or the forecast financial information derived from a production target, in the initial public report referred to in this ASX Announcement continue to apply and have not materially changed.

#### **Competent Persons Statement**

The information in this report relating to Resource Estimation is based on information compiled by Mr Steve Hyland, a consultant of Echo Resources Limited, who is a member of the Australasian Institute of Mining and Metallurgy. The information in this announcement that relates to Exploration Results and metallurgical considerations is based on information compiled by Simon Coxhell, a Director of Echo Resources and a member of the Australasian Institute of Mining and Metallurgy. Both have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that they are undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Hyland and Mr Coxhell consent to the inclusion in the report of the matters based on the information in the form and context in which it appears.

#### No New Information or Data

This announcement contains references to Mineral Resource estimates, all of which have been cross referenced to previous market announcements made by the Company. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements and, in the case of estimates of Mineral Resources that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.