



Echo Resources Limited

ACN 108 513 113

7 September 2017
ASX Announcement
ASX Code: EAR

ORELIA GOLD RESOURCE SOARS TO 1.1 MILLION OUNCES

HIGHLIGHTS

- Orelia Mineral Resource estimate increased to 15.9Mt at 2.1g/t for 1.1 Million ounces of gold
- High quality estimate with 90% in the Indicated category
- Deposit remains open at depth and along strike with further drilling currently underway
- Echo Global Resource base increases to 1.7 Million ounces of gold.

Echo Resources Limited (ASX: EAR) ('Echo' or the 'Company') is pleased to announce it has almost doubled its gold Resource base in the Yandal greenstone belt following a Mineral Resource upgrade for the Orelia gold deposit ('Orelia').

Total gold Mineral Resources at Orelia, located just 10 kilometres south-west of Echo's Bronzewing Processing Hub in the North Eastern Goldfields of Western Australia, have increased to 15.9Mt at 2.1 g/t Au for 1.1 Million ounces, (from 5.6Mt at 1.9 g/t for 0.35 Million ounces).

JORC Category	Cut-off (g/t Au)	Tonnes	Grade (g/t Au)	Ounces (Moz Au)
Indicated	1.0	14.1Mt	2.2	980,000
Inferred	1.0	1.8Mt	1.7	100,000
Total Mineral Resource	1.0	15.9Mt	2.1	1,080,000

Table 1: Orelia Gold Project Mineral Resource Estimate

Echo's Chief Executive Officer, Simon Coxhell, said *"This Resource upgrade is an outstanding result for the Company and demonstrates the potential of the region to deliver quality new ounces in the Company's 1,600km² of prime exploration acreage. The Resource upgrade follows comprehensive drill programs that have validated and enhanced our understanding of the Orelia mineralised system.*

"This Resource estimate has resulted in over 1 million ounces of gold but, more importantly, highlights the predictable geometry of the high grade mineralised zones. We continue to expect that the Orelia system has the ability to substantially grow to depths beyond those mined at the nearby Lotus gold deposit, and drilling is currently underway to further test the extent of the mineralisation.

"This result at Orelia continues to demonstrate the exceptional ability for Echo to cost effectively add high quality ounces to the Company's Resource base."

For further information please contact:

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Orelia Mineral Resource Estimate – Additional Information

Mineral Resource Estimation Parameters

A summary of the material information used to estimate the Mineral Resource is presented below and disclosed in accordance with the JORC Code 2012 and ASX Listing Rules.

Orelia Overview

The Orelia gold deposit is located 10 kilometres south west of the Bronzewing processing plant and approximately 450 kilometres north of Kalgoorlie. The Project is accessed via Leinster, located 45 kilometres to the west. Orelia is located on granted mining licence M36/146 and is 100% owned by Echo.

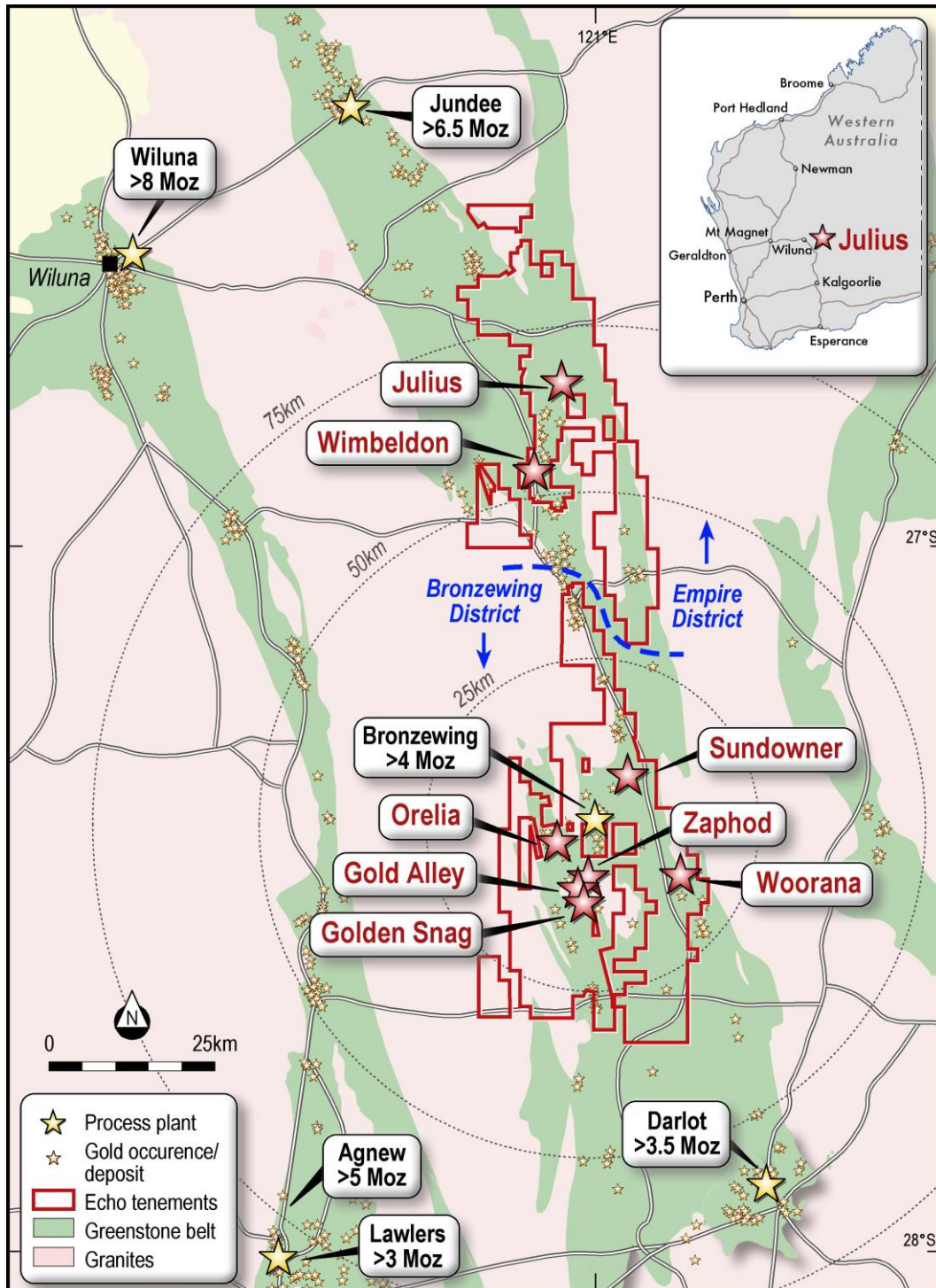


Figure 1: Echo Tenement Plan and Key Projects



The deposit (the Orelia, Calista, Cumberland shear zones) has been previously mined during a number of campaigns since 1988. Approximately 400,000 ounces¹ has been produced from the existing open pit to a vertical depth of approximately 100 metres below natural surface. It was last mined in April 2013 and treated through the Bronzewing processing plant which is now 100% owned by Echo.



Figure 2: Orelia Open Pit (looking south)

As demonstrated in the figure below, the Lotus-Orelia–Calista mineralisation extends over 2km of strike and to at least 500 metres vertical depth. Lotus produced 387,000 ounces from 2.2Mt at 5.5 g/t Au¹ and demonstrates the excellent exploration potential for both open cut and underground gold mineralisation at Orelia.

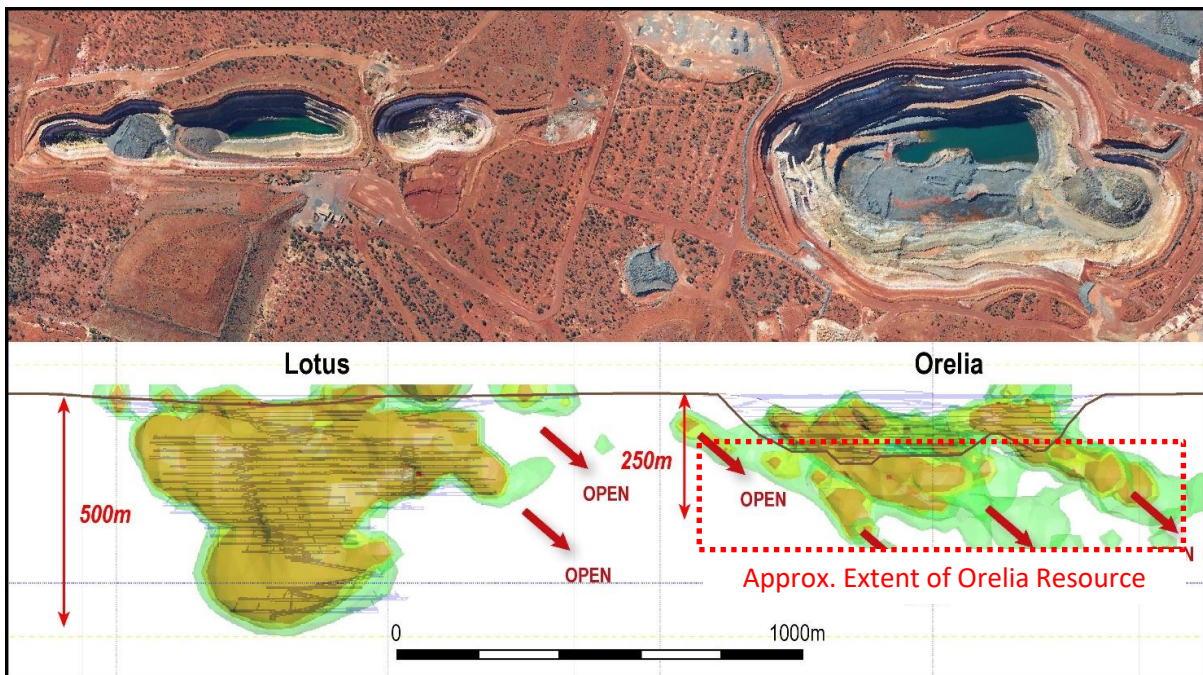


Figure 3: Lotus-Orelia Long-section with Historical Workings & Geological Modelling

¹ As announced to ASX by MKO on 1 September 2016



Geology and Geological Interpretation

The main host rocks of mineralisation at Orelia are deformed and altered tholeiitic basalts, concordant dolerite units and felsic to intermediate sedimentary rocks. Cross-cutting felsic to intermediate porphyry dykes intrude the stratigraphy along pre-existing structures. Gold mineralisation typically occurs as southerly plunging ore-shoots at the intersection between steeply-dipping transgressive faults and favourable lithological units, along fold hinges and on lithological contacts.

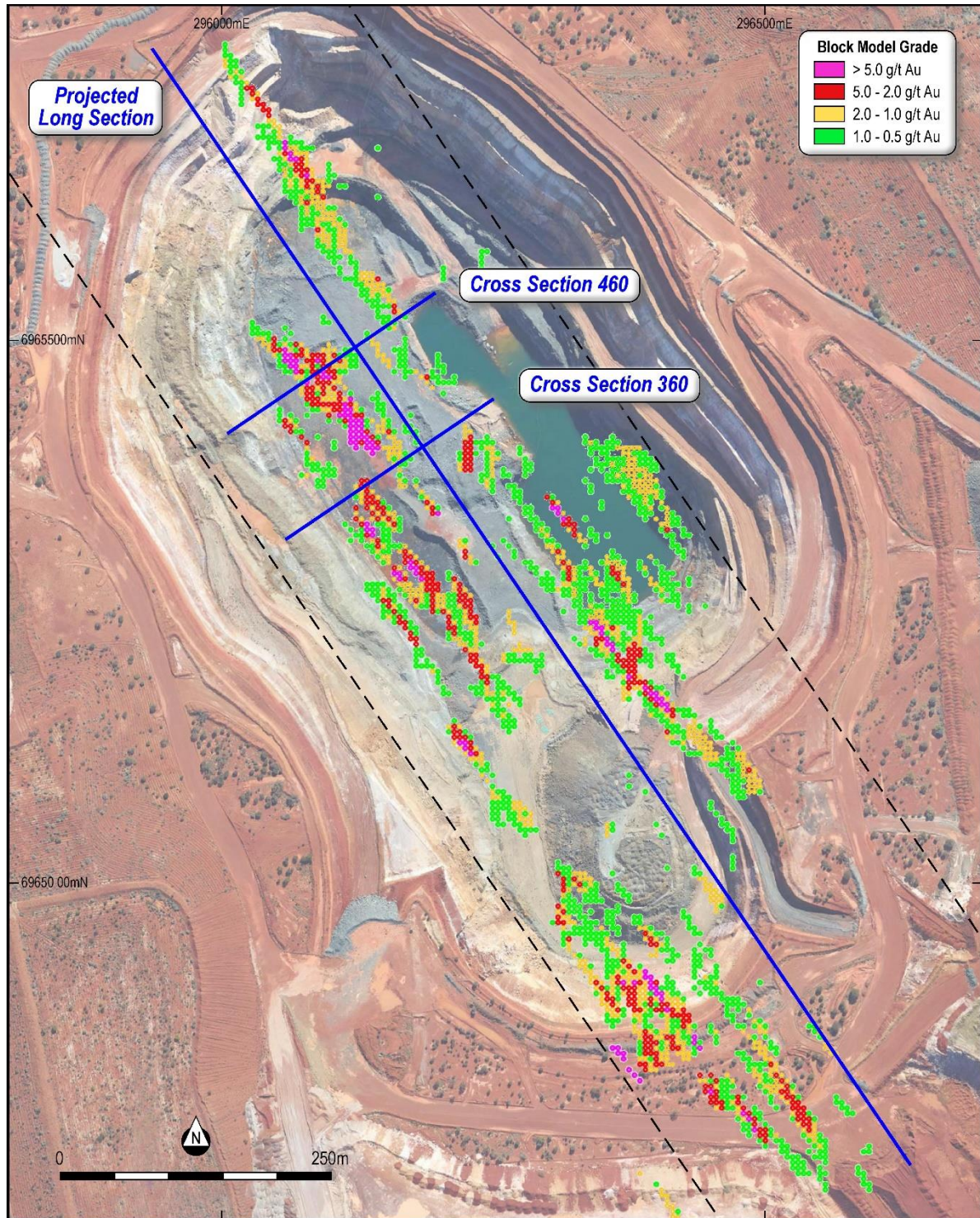


Figure 4: Orelia Plan View with Mineral Resource Estimate Block Model

At Orelia gold values are not necessarily associated with total sulphide content. In sedimentary lithologies much of the sulphide is considered primary and is unrelated to the gold. The gold is associated with the hydrothermal



phase of sulphide formation that consists of pyrite-pyrrhotite±chalcopyrite. Gold related alteration consists of biotite-sericite-carbonate altered deformation zones.

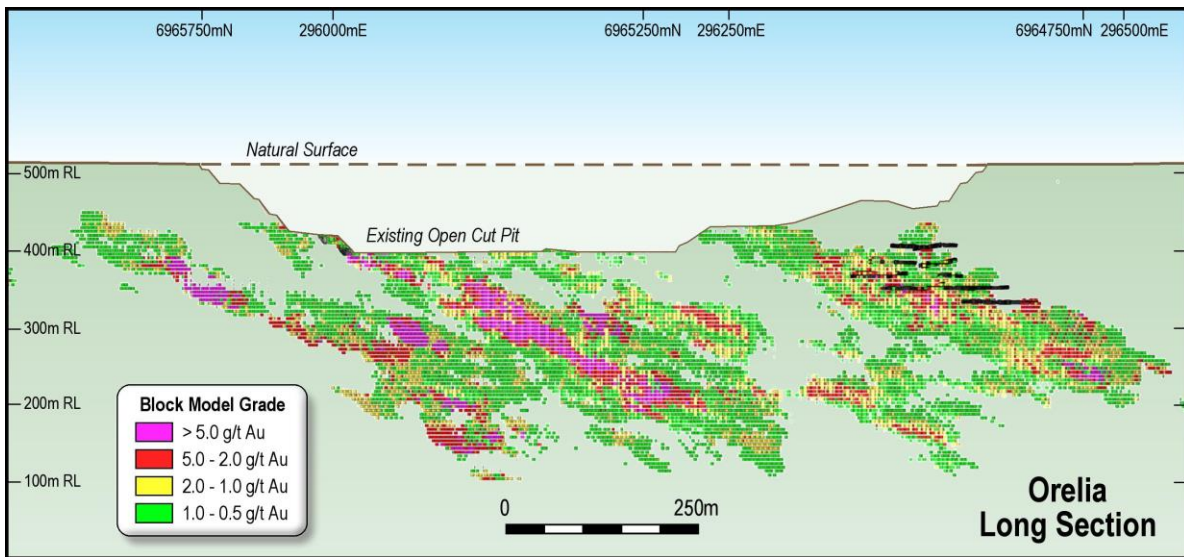


Figure 5: Orelia (Cumberland and Calista) Projected Long-Section with Mineral Resource Estimate Block Model

A number of shallow trending high grade gold shoots with dimensions of approximately 50 metres in vertical extent and 25 metres in width and extending over 500 metres down plunge. Confidence in the geological interpretation is very good with the latest infill drilling allowing a detailed interpretation of the lithostructural controls on mineralisation. Geological logging and interpretation allows extrapolation of drill intersections between adjacent sections and boundaries are determined by the spatial locations of the various mineralised structures.

Mineralisation is confined to individual wireframes with oxide, transition and fresh material individually assessed with oxidation profiles established and assigned into the block model.

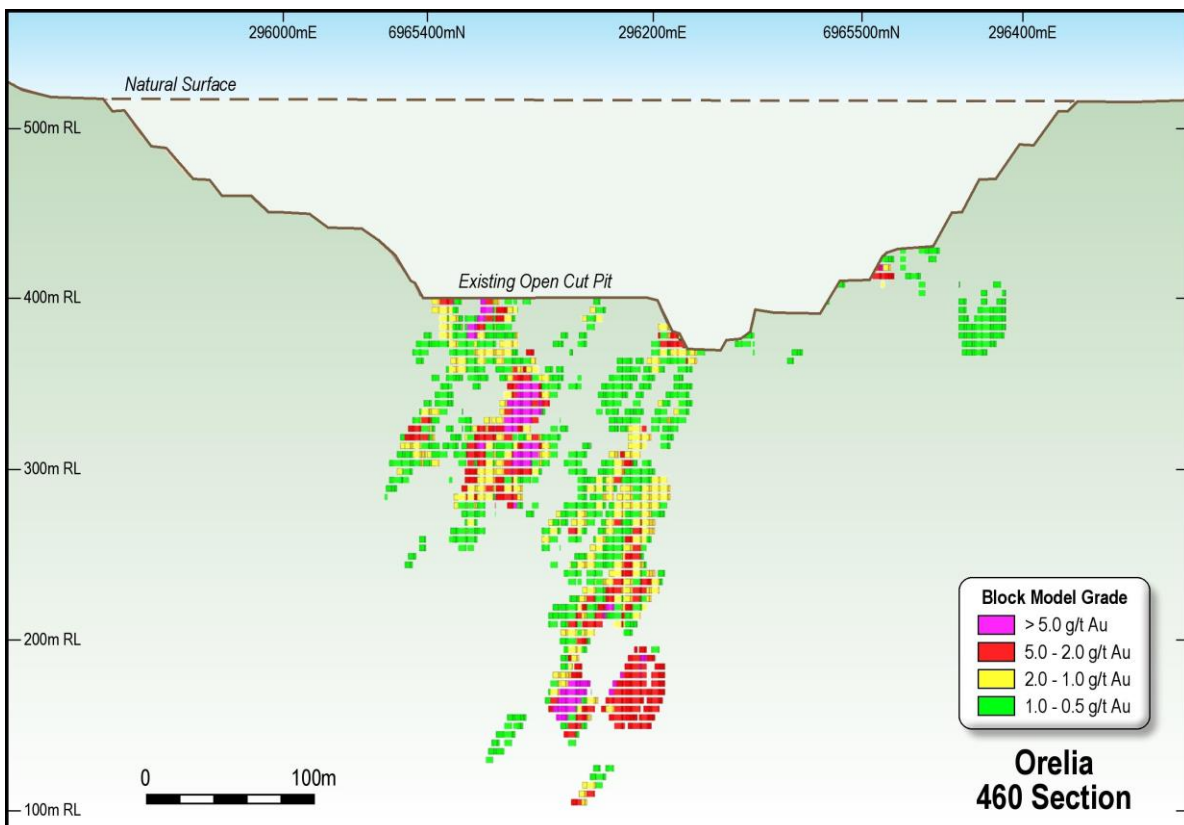


Figure 6: Orelia Cross-Section with Mineral Resource Estimate Block Model (6965460N)

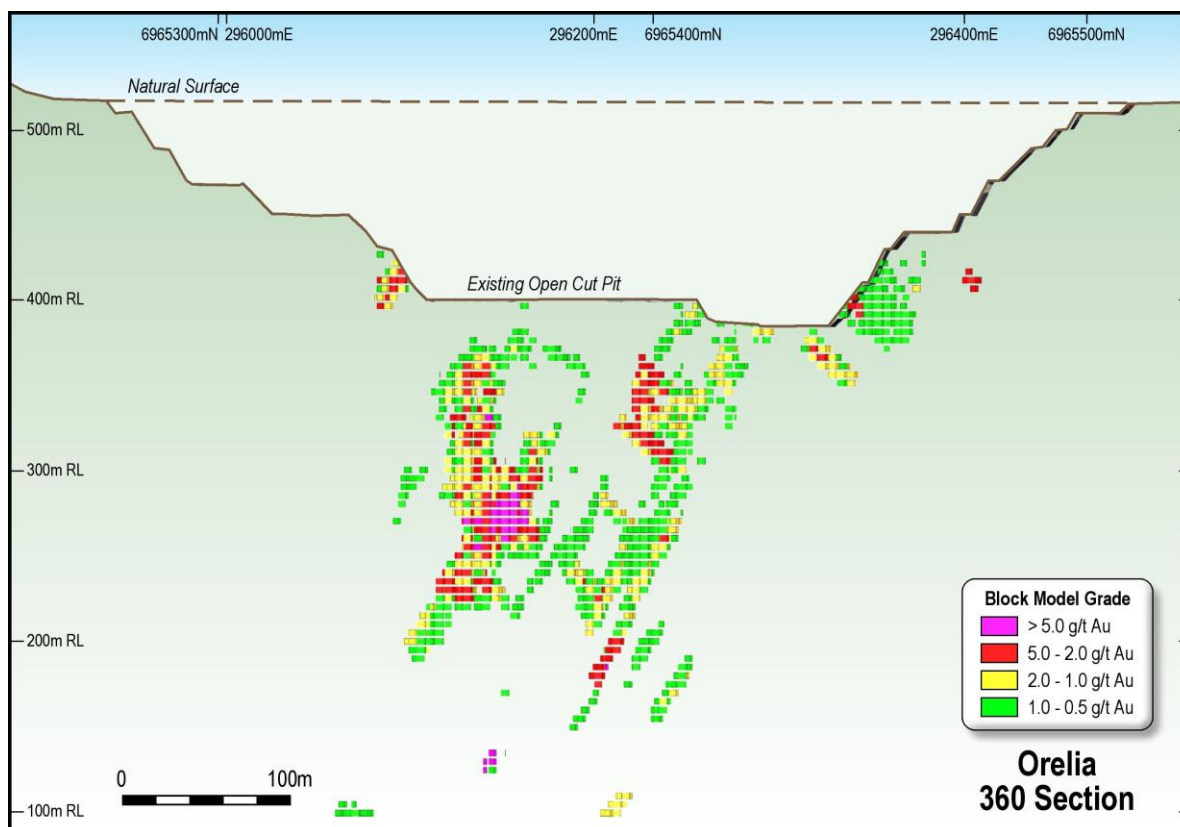


Figure 7: Orelia Cross-Section with Mineral Resource Estimate Block Model (6965360N)

Sampling and Sub-sampling

The deposit has been extensively drilled by previous owners including Arimco, Great Central Mining, Normandy, Newmont and View Resources between 1992-2004 with a total of 1,458 drillholes for a total of 233,091 metres. Of this drilling, 426 diamond holes for 120,926 metres have been drilled in the deposit on a nominal 20x20m grid pattern resulting in a large percentage of the Mineral Resource being classified as Indicated.

Recent drilling completed by Echo has comprised a total of 26 RC holes for 2,597 metres and six diamond holes for 1,209 metres. During the recent RC drilling (ORC001→026) approximately 20 kilograms of sample was collected from each metre with approximately 2kg samples collected via the onboard cone splitter, sampled for analysis. Recent NQ diamond drilling samples consisted of halved NQ diamond core with approximately 0.5-2 kilograms of sample collected. Sampling was conducted to geology to ensure samples did not overlap important geological breaks. Sampling was conducted with a minimum sample length of 0.3 metres and a maximum sample length of 1.2 metres.

All drill hole collar locations were recorded by RTK GPS with an accuracy of +/- 0.25 metres

Drilling Techniques

In the Resource area diamond drilling ranging from HQ and NQ core size has been conducted with RC drilling with a 5 ¼ inch face sampling hammer completed. Historical diamond drilling included a variety of different diamond core sizes (NQ, HQ, PQ) with predominantly NQ being used. Various past authors as well as Echo staff and consultants have summarised the techniques and sampling used and it is considered the historical drilling and sampling methods are consistent with industry standard practices of the time.

The vast majority of the data used for the latest Resource estimate has incorporated all of the diamond drilling within the Resource area, supplemented by Echo's recent detailed RC and diamond drilling conducted from the floor of the open pit which returned a large number of significant intersections validating and confirming the interpretation and grades from the historical drilling.



Hole	From	To	Width	Grade (g/t Au)	Easting	Northing	Total Depth	Dip	Azimuth
ODH001	36.00	78.90	42.90	1.71	296128	696344	207.61	-75	60
ODH001	116.24	139.33	23.09	7.59	296128	696344	207.61	-75	60
ODH002	102.00	117.97	15.97	19.52	296113	6965374	159.52	-75	60
ODH003	44.00	66.00	22.00	1.58	296090	6965415	150.52	-75	70
ODH003	119.83	126.10	6.27	21.95	296090	6965415	150.52	-75	70
ODH004	49.50	70.00	20.50	8.32	296157	6965297	228.25	-80	60
ODH004	81.01	131.66	50.65	1.49	296157	6965297	228.25	-80	60
ODH004	164.19	201.47	37.28	1.48	296157	6965297	228.25	-80	60
ODH005	49.00	70.00	21.00	2.56	296098	6965455	240.61	-75	70
ODH005	197.66	202.30	4.64	17.14	296098	6965455	240.61	-75	70
ODH006	187.11	204.48	17.37	7.28	296194	6965260	222.10	-85	60
ORC006	69	79	10	22.86	296084	6965439	100	-70	70
ORC006*	92	100	8	12.13	296084	6965439	100	-70	70
ORC007	0	23	23	3.06	296094	6965442	120	-70	70
ORC007	49	80	31	13.26	296094	6965442	120	-70	70
ORC008	70	97	24	6.03	296104	6965404	118	-70	70
ORC010*	86	120	34	10.21	296095	6965400	120	-70	70
ORC011*	99	118	19	6.04	296117	6965363	118	-70	70
ORC021	49	97	48	2.46	296064	6965474	107	-70	70
ORC022	55	93	38	2.43	296055	6965470	113	-70	70
ORC023	0	6	6	14.19	296093	6965484	84	-70	70
ORC025	30	36	6	14.28	296081	6965549	73	-60	250
ORC025	30	45	15	6.04	296081	6965549	73	-60	250
ORC026	44	66	22	3.03	296071	6965545	66	-60	250

Table 2: Significant Echo RC and DD Drilling Results (2017)

Estimation Methodology

The Mineral Estimate was completed by Lynn Widenbar & Associates. Mr Widenbar is recognised nationally and internationally for his high quality work. Grade estimation using an Ordinary Kriging methodology has been applied to all Resources. In summary, an Indicator Model at 0.1 gm/t Au cut-off was used to define a broad mineralisation envelope. An Indicator Model using a 0.8 g/t Au cut-off was used to define a high-grade mineralisation envelope to constrain the extrapolation of high grade zones. Variography was carried out to define the variogram models for Ordinary Kriging interpolation.

All estimation was carried out in Micromine 2016 (64-bit SP3) software. Due to the close-spaced drilling, the block models were constructed using a 5m (E) by 5m (N) by 5m (Z) block size, constrained by a series of individual wireframes, with sub-cells to 1m x 1m x 0.5m to accurately represent wireframe shapes. Block size is generally half the sample spacing or greater in areas of infill drilling and typically one quarter in wider spaced drilling areas. No deleterious elements have been identified.



Search ellipsoids use multiple passes to ensure blocks are filled in areas with sparser drilling. The first pass used an ellipse of 15x50x25m with the long axis oriented down-plunge. A second pass used a search of 25x65x35m. High grade domains and low-grade envelopes were separately modelled. Sample data was composited to 1m down-hole composites, while honouring breaks in mineralised zone interpretation. The geological interpretation which was used to guide search ellipse orientations and indicator models was based on knowledge gained from historical open cut mining coupled to detailed interpretation of all drilling data.

Top cut analysis was carried out using a combination of inflection points on log probability plots, outliers on log histograms and the effect of top cuts on cut mean and coefficient of variation. A top cut of 40 g/t Au has been applied.

Validation of the final block model was carried out in a number of ways, including visual inspection section, plan and 3D, swathe plot validation, model vs composite statistics and ID2 vs OK model checks.

The final pit survey from April 2013 was used to generate a digital terrain model and assigned into the model to ensure no blocks lying outside of the previously mined pit was present. In addition, solids were generated from previous small scale underground mining of the Calista gold shoot to ensure previous mining voids were incorporated in the final block model.

Bulk density/specific gravity have been assigned based on testwork (Archimedes Method) of material of various geological and mineralisation types. The following densities are applied to the Resource model.

Material	Density
In-pit Fill	2.00
Oxide	1.80
Transitional	2.20
Fresh Waste	2.60
Fresh Mineralised	2.70

Table 3: Bulk Density & Specific Gravity

Systematic insitu bulk density determinations (“ISBD”) have been completed in the past at Orelia via the Archimedes method (108 determinations) based on a range of ore types and rock types. ISBDs of ore have ranged 2.64 to 3.51 with a mean of 2.86 t/bcm. More recent work by Echo utilising the recent diamond core has involved ISBD determinations on two diamond holes totalling 13 sample intervals of both ore and waste. Results ranged from 2.76-3.46 with a mean of 2.9t/BCM returned. It is believed the average ISBD (2.70) used for the Orelia ore may be slightly conservative.

Resource Classification

The Mineral Resources have been classified as Indicated and Inferred based on drill spacing and geological continuity. The Resource model uses a classification scheme based upon drill hole spacing plus block estimation parameters including kriging variance, number of composites in search ellipsoid informing the block cell and average distance of data to block centroid. The results of the Mineral Resource Estimation reflect the views of the Competent Person.

Cut-off Grade

Nominal downhole cut-off of 0.1 g/t Au has been used to define a broad mineralised envelope, while a cut-off of 0.8 g/t Au is used to define high grade domains. The Resource is reported at a range of cut-offs from 0.5 g/t Au to 1 gm/t Au. Final cut-offs will be determined following pit optimisation and economic studies.



JORC (2012) Category	Cut-off (g/t Au)	Tonnes	Cut		Uncut	
			Grade (g/t Au)	Ounces (Moz Au)	Grade (g/t Au)	Ounces (Moz Au)
Indicated	1.0	14.1Mt	2.2	980,000	2.4	1,077,000
Inferred	1.0	1.8Mt	1.7	100,000	2.0	117,000
Total Mineral Resource	1.0	15.9Mt	2.1	1,080,000	2.3	1,194,000

Table 4: Orelia Gold Project Mineral Resource Estimate 1g/t Au Cut-off

JORC (2012) Category	Cut-off (g/t Au)	Tonnes	Cut		Uncut	
			Grade (g/t Au)	Ounces (Moz Au)	Grade (g/t Au)	Ounces (Moz Au)
Indicated	0.8	18.5Mt	1.9	1,107,000	2.0	1,205,000
Inferred	0.8	2.7Mt	1.5	125,000	1.7	141,000
Total Mineral Resource	0.8	21.1Mt	1.8	1,232,000	2.0	1,346,000

Table 5: Orelia Gold Project Mineral Resource Estimate 0.8g/t Au Cut-off

JORC (2012) Category	Cut-off (g/t Au)	Tonnes	Cut		Uncut	
			Grade (g/t Au)	Ounces (Moz Au)	Grade (g/t Au)	Ounces (Moz Au)
Indicated	0.5	30.8Mt	1.4	1,357,000	1.5	1,455,000
Inferred	0.5	5.0Mt	1.1	173,000	1.2	190,000
Total Mineral Resource	0.5	35.9Mt	1.3	1,530,000	1.4	1,645,000

Table 6: Orelia Gold Project Mineral Resource Estimate 0.5g/t Au Cut-off

Mining and Metallurgical Methods and Parameters and other modifying factors considered to date

A significant proportion of the Resources defined to date are likely to be amenable to simple open pit mining. The continued development of a large open pit gold mine is the likely scenario for the initial development of the Orelia deposit with treatment through the 100% owned 2 Mtpa Bronzewing processing plant located 10 kilometres to the north east. The Mineral Resource utilise standardised operating parameters and assumes open cut mining practices with a moderate level of mining selectivity achieved during mining. It is also assumed that quality grade control will be applied to ore/waste delineation processes. Ultimately there is excellent opportunity to explore for and develop a potential underground mining operation via a decline from the bottom of a final large open pit.

Previous processing campaigns through the Bronzewing Processing plant coupled to metallurgical testwork has confirmed excellent gold recoveries via conventional CIP/CIL gold treatment with test work to date showing that the gold mineralisation is amenable to conventional recoveries via gravity and leaching with approximately 30% of the total gold content recovered via gravity separation. More recent independent testwork completed by Echo on a large 100-kilogram composite sample has returned total gold recovery of 91->94%, which is consistent with previous recoveries from the Orelia deposit through the Bronzewing mill during previous treatment regimes. The gold extraction was good with +92% of the gold recovered by gravity separation followed by 24 hours of cyanide leaching.

Future Work

The updated Resource model will now be passed to an independent mining engineer for pit optimisation and pit design incorporating the consideration of a staged development approach. A number of earthmoving companies have been approached to seek quotes for a number of large open pit mining operations incorporating Orelia, Julius, Corboys and a number of other potentially economic simple large open pit mining operations. These new quotes and other pit optimisation parameters will be incorporated in the next phase of analysing the economic potential of the deposits.



ABOUT ECHO

The Yandal Strategy

Echo's vision is to build a sufficient Resource and reserve base to support a transition into production via the Bronzewing Processing Hub whilst also using cutting edge geophysical and geochemical datasets to identify and test genuine greenfields targets searching for the next undiscovered gold deposit.

Echo controls the central Yandal greenstone belt through 100% ownership of 1,600km² of highly prospective tenement holdings as well as the 2 Mtpa Bronzewing Processing Hub.

Echo has embarked on exploration in two distinct districts, both within trucking distance of Bronzewing. The Company has adopted a three-pronged approach by expanding existing high-grade Resources, following up recent and historical success and using modern tools and smart geology to uncover new significant gold discoveries. Echo is in an enviable position whereby it has a strong project pipeline ranging from prospective greenfields projects, numerous untested geochemical gold targets plus advanced Resources such as Orelia and Julius which are currently being converted to quality reserves.

The Bronzewing District

The Bronzewing district is an area within a 40km radius of Bronzewing and contains the Orelia gold deposit as well as a number of other highly prospective targets. Recent work has delivered positive results from depth extension work beneath the existing Orelia open pit as well as the potential that Orelia and the nearby Calista and Cumberland gold zones are developing into a large mineralised gold system. A development option incorporating a "Superpit" concept followed by the possible establishment of a higher grade underground mining opportunity is envisaged. The latest Orelia Resource estimate of 15.9Mt at 2.1g/t Au for 1.1 Million ounces supports this concept and operating scenario.

The Orelia system has the potential to extend to great depths in the same way the nearby Lotus gold deposit was historically mined to a depth of 500 vertical metres and produced 387,000 ounces from 2.2Mt at 5.5g/t Au².

Recent auger geochemical sampling at key areas in the Bronzewing district have also revealed a number of strong gold-in-soil anomalies that require follow-up testing.

The Empire District

The Empire District covers an area 40-80km north of the Bronzewing Processing Hub and contains the Julius gold deposit, which will provide a key plank in any production re-start following a positive Bankable Feasibility Study result in January 2017. Results from recent aircore drilling at Julius have delivered highly encouraging results located to the north that may enable an expansion of the Julius open pit which currently hosts a Resource of 335,000 ounces (5.2Mt @2.0g/t Au)³.

In addition, results from work at the nearby Wimbledon and Shady Well Prospects have highlighted the potential for new open pit operations. At the Tipperary gold prospect, located between Wimbledon and Julius, drilling has highlighted a large low-grade gold system and coupled to historical drilling have outlined gold mineralisation over 300 metres of strike length.

The 2H-2017 exploration drilling program has commenced with aircore, RC and diamond drilling underway to explore for new gold deposits and evaluate known gold systems with the aim of adding to the current gold Resources and ultimately economic reserves.

² Refer to MKO Announcement dated 1 September 2016

³ Refer to Appendix 1



Forward Looking Statements

This announcement includes certain 'forward looking statements'. All statements, other than statements of historical fact, are forward looking statements that involve various risks and uncertainties. There can be no assurances that such statements will prove accurate, and actual results and future events could differ materially from those anticipated in such statements. Such information contained herein represents management's best judgement as of the date hereof based on information currently available. The Company does not assume any obligation to update any forward-looking statement.

Competent Persons' Declarations

The information in this report relating to Resource Estimation is based on information compiled by Mr Lynn Widenbar, 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 Widenbar and Mr Coxhell consents to the inclusion in the report of the matters based on the information in the form and context in which it appears

Echo Diamond Drilling Results

(Refer to ASX Announcement dated 7 August 2017 for full details)

Hole	From	To	Width	Grade (g/t Au)	Easting	Northing	Total Depth	Dip	Azimuth
ODH001	36.00	78.90	42.90	1.71	296128	696344	207.61	-75	60
ODH001	116.24	139.33	23.09	7.59	296128	696344	207.61	-75	60
Including	133.82	134.50	0.68	99.27	296128	696344	207.61	-75	60
ODH002	33.00	41.00	8.00	2.88	296113	6965374	159.52	-75	60
ODH002	62.00	69.00	7.00	2.90	296113	6965374	159.52	-75	60
ODH002	102.00	117.97	15.97	19.52	296113	6965374	159.52	-75	60
Including	105.00	105.66	0.66	169.62	296113	6965374	159.52	-75	60
Including	116.00	117.00	1.00	105.50	296113	6965374	159.52	-75	60
ODH003	44.00	66.00	22.00	1.58	296090	6965415	150.52	-75	70
ODH003	119.83	126.10	6.27	21.95	296090	6965415	150.52	-75	70
Including	120.26	121.00	0.74	152.86	296090	6965415	150.52	-75	70
ODH004	49.50	70.00	20.50	8.32	296157	6965297	228.25	-80	60
Including	63.76	65.00	1.24	74.50	296157	6965297	228.25	-80	60
ODH004	81.01	131.66	50.65	1.49	296157	6965297	228.25	-80	60
ODH004	164.19	201.47	37.28	1.48	296157	6965297	228.25	-80	60
ODH005	49.00	70.00	21.00	2.56	296098	6965455	240.61	-75	70
ODH005	130.50	136.00	5.50	4.32	296098	6965455	240.61	-75	70
ODH005	197.66	202.30	4.64	17.14	296098	6965455	240.61	-75	70
Including	198.20	198.54	0.34	172.43	296098	6965455	240.61	-75	70
ODH006	68.50	90.00	21.50	2.56	296194	6965260	222.10	-85	60
ODH006	154.00	175.00	21.00	0.99	296194	6965260	222.10	-85	60
ODH006	187.11	204.48	17.37	7.28	296194	6965260	222.10	-85	60
Including	188.00	188.86	0.86	73.87	296194	6965260	222.10	-85	60



Echo RC Drilling Results

(Refer to ASX Announcement dated 17 July 2017 for full details)

Hole	From	To	Width	Grade (g/t Au)	Easting	Northing	Total Depth	Dip	Azimuth
ORC001	99	110	12	1.53	296064	6965474	113	-90	70
ORC002	0	14	14	0.72	296074	6965477	100	-70	70
ORC002	36	55	19	1.27	296074	6965477	100	-70	70
ORC002	81	91	10	2.00	296074	6965477	100	-70	70
ORC003	13	40	27	1.38	296075	6965436	78	-70	70
ORC004	0	21	21	2.17	296071	6965434	132	-70	70
ORC004	34	40	6	0.54	296071	6965434	132	-70	70
ORC005	2	6	4	0.54	296084	6965439	12	-70	70
ORC006	69	79	10	22.86	296084	6965439	100	-70	70
ORC006*	92	100	8	12.13	296084	6965439	100	-70	70
ORC007	0	23	23	3.06	296094	6965442	120	-70	70
ORC007	49	80	31	13.26	296094	6965442	120	-70	70
ORC007	92	103	11	1.28	296094	6965442	120	-70	70
ORC008	21	26	5	0.91	296104	6965404	118	-70	70
ORC008	52	66	14	1.84	296104	6965404	118	-70	70
ORC008	70	97	24	6.03	296104	6965404	118	-70	70
ORC009	9	21	12	1.70	296114	6965408	48	-70	70
ORC010	32	52	20	2.15	296095	6965400	120	-70	70
ORC010	56	64	8	4.64	296095	6965400	120	-70	70
ORC010*	86	120	34	10.21	296095	6965400	120	-70	70
ORC011	53	61	8	6.52	296117	6965363	118	-70	70
ORC011*	99	118	19	6.04	296117	6965363	118	-70	70
ORC012	91	116	25	1.65	296124	6965364	120	-70	70
ORC013	93	106	13	0.49	296134	6965367	118	-70	70
ORC014*	97	100	3	6.74	296146	6965330	100	-70	70
ORC015	39	75	36	1.07	296136	6965329	123	-70	70
ORC016	53	63	10	2.20	296134	6965329	66	-90	70
ORC017	8	17	9	2.20	296103	6965445	114	-70	70
ORC017	54	65	11	1.94	296103	6965445	114	-70	70
ORC018	44	52	7	0.80	296113	6965448	88	-70	70
ORC019	72	78	6	1.64	296115	6965409	120	-70	70
ORC020	0	8	8	1.20	296124	6965412	102	-70	70
ORC020	74	82	8	2.74	296124	6965412	102	-70	70
ORC021	49	97	48	2.46	296064	6965474	107	-70	70
including	76	81	5	10.78	296064	6965474	107	-70	70
ORC022	0	8	8	2.37	296055	6965470	113	-70	70
ORC022	55	93	38	2.43	296055	6965470	113	-70	70
ORC023	0	6	6	14.19	296093	6965484	84	-70	70
ORC023	31	47	16	0.91	296093	6965484	84	-70	70
ORC024	45	54	9	2.97	296154	6965339	144	-70	70
ORC025	30	36	6	14.28	296081	6965549	73	-60	250
ORC025	30	45	15	6.04	296081	6965549	73	-60	250
ORC026	44	66	22	3.03	296071	6965545	66	-60	250

*Denotes Intersection ends at End of Hole



Appendix 1: Mineral Resource & Ore Reserve Estimates

Echo Mineral Resource Estimates

Echo Mineral Resources ⁷ (Ownership, Cut-off)	Measured			Indicated			Inferred			Total		
	Tonnes (Mt)	Grade (g/t Au)	Ounces (Au)	Tonnes (Mt)	Grade (g/t Au)	Ounces (Au)	Tonnes (Mt)	Grade (g/t Au)	Ounces (Au)	Tonnes (Mt)	Grade (g/t Au)	Ounces (Au)
Julius ⁴ (100%, 0.8)	1.8	2.1	124,227	1.6	1.3	67,789	1.8	2.5	142,991	5.2	2.0	335,007
Regional ⁵ (100%, 0.5)							2.8	1.5	134,925	2.8	1.5	134,925
Corboys ³ (100%, 1.0)				1.7	1.8	96,992	0.5	1.8	28,739	2.2	1.8	125,731
Orelia ⁴ (100%, 1.0)				14.1	2.2	980,000	1.8	1.7	100,000	15.9	2.1	1,080,000
Woorana North ² (100%, 0.5)				0.3	1.4	13,811				0.3	1.4	13,811
Woorana South ² (100%, 0.5)				0.1	1.0	3,129				0.1	1.0	3,129
Fat Lady ^{1,2} (100%, 0.5)				0.7	0.9	19,669				0.7	0.9	19,669
Mt Joel 4800N ^{1,2} (100%, 0.5)				0.2	1.7	10,643				0.2	1.7	10,643
Total Mineral Resources	1.8	2.1	124,227	18.7	2.0	1,192,033	6.9	1.8	406,655	27.4	2.0	1,722,915

Echo Ore Reserve Estimates

Echo Ore Reserves	Proved			Probable			Total		
	Tonnes (Mt)	Grade (g/t Au)	Ounces (Au)	Tonnes (Mt)	Grade (g/t Au)	Ounces (Au)	Tonnes (Mt)	Grade (g/t Au)	Ounces (Au)
Julius ⁶ (100%, 0.8)	0.78	2.5	62,500	0.08	2.0	5,600	0.87	2.4	68,100
Total Ore Reserves	0.78	2.5	62,500	0.08	2.0	5,600	0.87	2.4	68,100

Notes:

- Resources are adjusted for Echo's 70% ownership interest
- Resources estimated by Coxrocks (refer to Competent Persons Statements) in accordance with JORC Code 2012. For full Mineral Resource estimate details refer to the Metaliko Resources Limited announcement to ASX on 1 September 2016. Echo is not aware of any new information or data that materially affects the information included the previous announcement, and all material assumptions and technical parameters underpinning mineral resource estimates in the previous announcement continue to apply and have not materially changed.
- Resources estimated by HGS (refer to Competent Persons Statements) in accordance with JORC Code 2012, for full details of the Mineral Resource estimate refer to the Metaliko Resources Limited announcement to ASX on 23 August 2016. Echo is not aware of any new information or data that materially affects the information included the previous announcement, and all material assumptions and technical parameters underpinning mineral resource estimates in the previous announcement continue to apply and have not materially changed.
- Resources estimated by Mr Lynn Widenbar (refer to Competent Persons Statements) in accordance with JORC Code 2012, for full details of the Mineral Resource estimate refer to the Echo Resources Limited announcement to ASX on 23 November 2016 & 7 September 2017. Echo Resources Limited is not aware of any new information or data that materially affects the information included the previous announcement, and all material assumptions and technical parameters underpinning mineral resource estimates in the previous announcement continue to apply and have not materially changed.
- Resource estimates include Bills Find, Shady Well, Orpheus, Empire & Tipperary Well and were estimated by Golders (refer to Competent Persons Statements) in accordance with JORC Code 2004, for full details of the Mineral Resource estimates refer to the Echo Resources Limited prospectus released to ASX on 10 April 2006.
- Reserve estimated by Mr Gary McRae (refer to Competent Persons Statements) in accordance with JORC Code 2012, for full details of the Ore Reserve estimate refer to the Echo Resources Limited announcement to ASX on 18 January 2017. Echo Resources Limited is not aware of any new information or data that materially affects the information included the previous announcement, and all material assumptions and technical parameters underpinning Ore Reserve estimate in the previous announcement continue to apply and have not materially changed.
- Mineral Resources are inclusive of Ore Reserves.



JORC Code, 2012 Edition

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information. 	<ul style="list-style-type: none"> 2016- Drilling at Orelia has comprised a total of 26 RC holes for 2597 metres, and 6 diamond holes for 1209 metres. Historical drilling at Orelia completed principally between 1988-2004 and targeted in the current Resource area (and further to the north at Lotus) comprised a total of 426 diamond holes for 120,926 metres For the recent RC drilling (ORC001→RC026) Approximately 20kg of sample was collected from each metre, with approximately 2kg samples, collected via the onboard cone splitter, sampled for analysis. For the recent NQ diamond drilling samples consisted of halved NQ diamond core with approximately 0.5-2kg of sample collected. Sampling was conducted to geology to ensure samples did not overlap important geological breaks. Sampling was conducted with a minimum sample length of 0.3m and a maximum sample length of 1.2m. All Drill hole collar locations were recorded by RTK GPS with an accuracy of +/- 0.25 metres Analysis was conducted by submitting the 0.5-2kg sample whole for preparation by crushing, drying and pulverising at Intertek-Genalysis Laboratories. A 50g pulp was analysed at Intertek-Genalysis laboratories, Kalgoorlie, for gold analysis via Fire Assay/ICP-OES. Multi element geochemistry was also conducted. For the historical diamond drilling a variety of different diamond core sizes (NQ, HQ, PQ) have been used. Various past authors have summarised the techniques and sampling used and it is considered the drilling and sampling methods are consistent with industry standard practices of the time, with the recent drilling by Echo validating and confirming a significant portion of the previous work conducted.
Drilling techniques	<ul style="list-style-type: none"> Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.). 	<ul style="list-style-type: none"> RC drilling (5 ¼ inch face sampling hammer) from pit surface NQ Triple Tube from pit surface (78 mm) For the historical drilling, NQ, HQ and PQ, both from various levels of the open pit and from outside the open pit at natural surface.
Drill sample recovery	<ul style="list-style-type: none"> Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. 	<ul style="list-style-type: none"> Drill sample returns as recorded were considered excellent. There is insufficient data available at the present stage to evaluate potential sampling bias.
Logging	<ul style="list-style-type: none"> Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. The total length and percentage of the relevant intersections logged. 	<ul style="list-style-type: none"> Drill chip logging is a qualitative activity with pertinent relevant features recorded: lithology, mineralogy, mineralisation, structural, weathering, alteration, colour and other features of the samples. Rock chip boxes of all sample intervals were collected. All samples were logged. Diamond ore was logged in detail, photographed wet and dry, RQDs, structural measurements on all completed. Core was orientated where possible. All drilling was logged.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second- 	<ul style="list-style-type: none"> NQ diamond core was sawn in half along orientation lines or cut lines marked by the geologist in the field. Sample preparation for all recent samples follows industry best practice and was undertaken by Intertek in Perth where they were crushed, dried and pulverised to produce a sub sample for analysis. Sample preparation involving oven drying, fine crushing to 95% passing 4mm, followed by rotary splitting and pulverisation to 85% passing 75 microns. QC for sub sampling follows Echo's and Intertek procedures. Field duplicates were taken at a rate of 1:40.



	<ul style="list-style-type: none"> half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled. 	<ul style="list-style-type: none"> Blanks were inserted at a rate of 1:40 Standards were inserted at a rate of 1:40. Sample sizes are considered appropriate to the grain size of the material being sampled.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established. 	<ul style="list-style-type: none"> The methods are considered appropriate to the style of mineralisation. Extractions are considered near total. No geophysical tools were used to determine any element concentrations at this stage. Laboratory QA/QC involves the use of internal lab standards using certified reference material, blanks, splits and duplicates as part of the in house procedures. Repeat and duplicate analysis for samples shows that the precision of analytical methods is within acceptable limits.
Verification of sampling and assaying	<ul style="list-style-type: none"> The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data. 	<ul style="list-style-type: none"> The Company's Geologist has visually reviewed the samples collected. The historical data had been established and verified by Maxwells Geoservices in 2005, and regenerated by CSA Global as part of their QA/QC work on behalf of Echo's established management systems. Data and related information is stored in a validated Access, Mapinfo or Micromine database. Data has been visually checked for import errors. No adjustments to assay data have been made.
Location of data points	<ul style="list-style-type: none"> Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control. 	<ul style="list-style-type: none"> All drillholes have been located by DGPS with precision of sample locations considered +/-0.25m. Location grid of plans and cross sections and coordinates in this release 2016 samples use MGA94, Z51 datum. Topographic data was assigned based on a DTM of the Orelia opening surface, dated April 2013.
Data spacing and distribution	<ul style="list-style-type: none"> Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied. 	<ul style="list-style-type: none"> The holes are nominally spaced on a 10-20 metre (E-W spacing) with hole spacing along each section ranging from 10-20 metres spacing along each section line. Data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for Mineral Resource estimation procedures. Sample compositing has occurred on a small number of samples (4 metre composite samples) outside of the interpreted main mineralized zone.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material. 	<ul style="list-style-type: none"> The orientation of sampling is considered adequate and there is not enough data to determine bias if any. Mineralised outcrop strikes north west and dips steeply to moderately to the west, south west. High grade shoots with a dominant 30 degree plunge to the south west have been identified. Drilling was orthogonal to this apparent strike and comprised principally angled drill holes.
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<ul style="list-style-type: none"> Chain of custody is managed by the Company and samples are transported to the laboratory via Company staff with samples safely consigned to Intertek for preparation and analysis. Whilst in storage, they are kept in a locked yard. Tracking sheets are used track the progress of batches of samples.
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> Numerous reviews and audits of the historical sampling techniques and data validation has been undertaken by many groups over the years, including Snowdens, RSG, Coffeys and Widenbar and Associates, with no major concerns identified.

Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area. 	<ul style="list-style-type: none"> The Orelia gold deposit is situated within M36/146 and is 100% owned by MKO Mines Pty Ltd, a subsidiary of Echo Resources Ltd. The tenement is in good standing No impediments to operating on the permit are known to exist.



Criteria	JORC Code explanation	Commentary
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> Gold production began at Orelia-Cockburn in 1991 by Arimco Mining Pty Ltd, who had previously operated under the name of Australian Resources Limited, who were subsequently purchased by Great Central Mines. Normandy Mining acquired Great Central Mines in 1998 who acquired the Orelia-Cockburn mine at the same time, although it had closed only a short time previously. The Orelia-Cockburn operations were continued under the ownership of Normandy Mining until 2002 when Newmont Mining acquired the whole package. View Resources acquired the operation in 2004 and began developing an open pit and underground mine that took in a number of ore bodies including Orelia-Cockburn, but the low price of gold and the shortage of capital forced the closure of the project in early 2008. Navigator (Bronzewing) Pty Ltd, completed the purchase from the administrators in September 2009 and they re-commissioned the processing plant in April 2010, with production continuing until 2013.
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> The main host rocks of mineralisation at Orelia-Cockburn are deformed and altered tholeiitic basalts, and intermediate to felsic volcanoclastic rocks. Gold mineralisation typically occurs as; <ul style="list-style-type: none"> 1) southerly plunging ore-shoots, either at the intersection between steeply-dipping transgressive faults and favourable lithological units, 2) along fold hinges, and 3) on lithological contacts. At Orelia-Cockburn, gold values are not necessarily associated with total sulphide content. In sedimentary lithologies, much of the sulphide is considered primary and is unrelated to the gold. The gold is associated with the hydrothermal phase of sulphide formation, that consists of pyrite-pyrrhotite±chalcopyrite. Gold related alteration consists of biotite-sericite-carbonate altered deformation zones.
Drill hole Information	<ul style="list-style-type: none"> A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length. If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case. 	<ul style="list-style-type: none"> 2016- Drilling at Orelia has comprised a total of 26 RC holes for 2597 metres, and 6 diamond holes for 1209 metres. Historical drilling at Orelia completed principally between 1992-2002 and targeted in the current resource area (and further to the north at Lotus) comprised a total of 426 diamond holes for 120,926 metres For the recent RC drilling (ORC001→)RC026) Approximately 20kg of sample was collected from each metre, with approximately 2kg samples, collected via the onboard cone splitter, sampled for analysis. For the recent NQ diamond drilling samples consisted of halved NQ diamond core with approximately 0.5-2kg of sample collected. Sampling was conducted to geology to ensure samples did not overlap important geological breaks. Sampling was conducted with a minimum sample length of 0.3m and a maximum sample length of 1.2m. All Drill hole collar locations were recorded by RTK GPS with an accuracy of +/- 0.25 metres A complete copy of all drillhole collars in not required, as the level of detail is provided in the plans and sections provided.
Data aggregation methods	<ul style="list-style-type: none"> In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values should be clearly stated. 	<ul style="list-style-type: none"> No averaging or aggregation techniques have been applied. No top cuts have been applied to exploration results. No metal equivalent values are used in this report. During the modelling, various statistical methods have been used to investigate top cuts for the interpolation process. A top cut of 40 g/t Au has been adopted for the resource model. The difference between the cut and uncut grades is approximately 10%.



Criteria	JORC Code explanation	Commentary
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known'). 	<ul style="list-style-type: none"> The orientation or geometry of the mineralised zones strikes in a north westerly direction and dips moderately to steeply to the west-southwest with a strong 30° plunge to the south.
<i>Diagrams</i>	<ul style="list-style-type: none"> Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views. 	<ul style="list-style-type: none"> Appropriate maps are included in main body of report with Echo's gold results and full details are in the tables reported.
<i>Balanced reporting</i>	<ul style="list-style-type: none"> Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results. 	<ul style="list-style-type: none"> All results for the target economic mineral being gold have been reported.
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances. 	<ul style="list-style-type: none"> Previous work by many others has included RC and diamond drilling, mining, mapping, and Resource estimation. In 2006 a Resource of 11.7 MT @ 1.8 g/t was estimated by RSG. Mining via open pit methods by various operators has typically returned grades of between 1.3→5.1 g/t over a intermittent 8 years of mining at Orelia and Lotus.
<i>Further work</i>	<ul style="list-style-type: none"> The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. 	<ul style="list-style-type: none"> Future RC and diamond and aircore drilling is being considered to further evaluate the Orelia Gold Deposit. The potential to define an underground mining operation and a large open pit is considered high. Refer to maps in main body of report for potential target areas.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
<i>Database integrity</i>	<ul style="list-style-type: none"> Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. Data validation procedures used. 	<ul style="list-style-type: none"> Data was provided as a validated Micromine Database and was digitally imported into Micromine software. Validation routines were run to confirm validity of all data. Analytical results have all been electronically merged to avoid any transcription errors.
<i>Site visits</i>	<ul style="list-style-type: none"> Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case. 	<ul style="list-style-type: none"> No site visit has been undertaken by the Competent Person, as little relevant information is available on site and the Competent Person is familiar with the type of gold deposit under consideration and has previously estimated Resources at the deposit in 2009.
<i>Geological interpretation</i>	<ul style="list-style-type: none"> Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation. The factors affecting continuity both of grade and geology. 	<ul style="list-style-type: none"> The confidence in the geological interpretation is very good, with the latest infill drilling allowing a detailed interpretation. Geological logging and interpretation allows extrapolation of drill intersections between adjacent sections. Alternative interpretations would result in similar tonnage and grade estimation techniques. Geological boundaries are determined by the spatial locations of the various mineralised structures. Mineralisation confined to individual wireframes, supergene and fresh material individually assessed. Oxidation profiles established and assigned into the model.
<i>Dimensions</i>	<ul style="list-style-type: none"> The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource. 	<ul style="list-style-type: none"> The extent and orientation of the Resources at Orelia are illustrated in the diagrams in the body of this release. The mineralisation plunges at approximately 20° towards 150°. The Resource extends over a strike length of approximately 1,500m, has a lateral extent of 400m and extends to a vertical depth of 400 metres. .



Criteria	JORC Code explanation	Commentary
Estimation and modelling techniques	<ul style="list-style-type: none"> The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. The assumptions made regarding recovery of by-products. Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation). In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. Any assumptions behind modelling of selective mining units. Any assumptions about correlation between variables. Description of how the geological interpretation was used to control the resource estimates. Discussion of basis for using or not using grade cutting or capping. The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available. 	<ul style="list-style-type: none"> Grade estimation using an Ordinary Kriging methodology has been applied to all Resources. An Indicator Model at 0.1 gm/t Au cutoff was used to define a broad mineralisation envelope. An Indicator Model using a 0.8 gm/t Au cutoff was used to define a high grade mineralisation envelope to constrain the extrapolation of high grade zones. Variography was carried out to define the variogram models for Ordinary Kriging interpolation. All estimation was carried out in Micromine 2016 (64-bit SP3) software. Due to the close-spaced drilling, the block models were constructed using a 5m (E) by 5m (N) by 5m (Z) block size, constrained by a series of individual wireframes, with sub-cells to 1m x 1m x 0.5m to accurately represent wireframe shapes. Block size is generally half the sample spacing or greater in areas of infill drilling, and typically one quarter in wider spaced drilling areas. No deleterious elements have been identified No assumptions regarding recovery of byproducts have been made Search ellipsoids use multiple passes to ensure blocks are filled in areas with sparser drilling. The first pass used an ellipse of 15m x 50 x 25m, with the long axis oriented down-plunge. A second pass used a search of 25m x 65m x 35m. High grade domains and low grade envelope were separately modeled. Sample data was composited to 1m down-hole composites, while honouring breaks in mineralised zone interpretation. The geological interpretation which was used to guide search ellipse orientations and indicator models was based on knowledge gained from historical open cut and underground mining. Top cut analysis was carried out, using a combination of inflection points on log probability plots, outliers on log histograms and the effect of top cuts on cut mean and coefficient of variation. A top cut of 40 gm/t Au has been applied. Validation was carried out in a number of ways, including <ul style="list-style-type: none"> Visual inspection section, plan and 3D Swathe plot validation Model vs composite statistics ID2 vs OK model checks
Moisture	<ul style="list-style-type: none"> Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content. 	<ul style="list-style-type: none"> Tonnages are estimated on a dry basis.
Cut-off parameters	<ul style="list-style-type: none"> The basis of the adopted cut-off grade(s) or quality parameters applied. 	<ul style="list-style-type: none"> Nominal downhole cut-off of 0.1 g/t Au has been used to define the a broad mineralised envelope, while a cutoff of 0.8 gm/t Au is used to define high grade domains. The Resource is reported at arrange of cutoffs from 0.5 gm/t Au to 1 gm/t Au. Final cutoffs will be determined following pit optimisation and economic studies.
Mining factors or assumptions	<ul style="list-style-type: none"> Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made. 	<ul style="list-style-type: none"> The Resources defined to date would potentially be amenable to simple open pit mining.
Metallurgical factors or assumptions	<ul style="list-style-type: none"> The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters 	<ul style="list-style-type: none"> Metallurgical testwork has suggested excellent gold recoveries, via conventional CIP/CIL gold treatment. Test work to date has shown that the gold mineralisation is amenable to conventional recoveries via gravity and leaching with approximately 30% of the total gold content recovered via gravity separation and mercury amalgamation.



Criteria	JORC Code explanation	Commentary																																
	<p><i>made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</i></p>	<ul style="list-style-type: none"> A total gold recovery of 91->94% was achieved, which is consistent with previous recoveries from the Orelia deposit through the Bronzewing mill, during previous treatment regimes. The gold extraction was good with +92% of the gold recovered by gravity separation followed by 18-24 hours of cyanide leaching. 																																
Environmental factors or assumptions	<ul style="list-style-type: none"> Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made. 	<ul style="list-style-type: none"> The Orelia open pit was last mined in April 2013. All relevant permits have been complied with and an updated Mining Proposal will be lodged following final pit design and scheduling. The open pit is on a granted mining lease last operated 3.5 years ago. No impediment to mining and ore processing is envisaged and an updated design is due in the coming months. 																																
Bulk density	<ul style="list-style-type: none"> Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. Discuss assumptions for bulk density estimates used in the evaluation process of the different materials. 	<ul style="list-style-type: none"> Bulk density/specific gravity have been assigned based on testwork (Archimedes Method) of material of various geological and mineralisation types. The following densities are applied to the Resource model. <table border="1" data-bbox="890 833 1152 1003"> <thead> <tr> <th>Material</th> <th>Density</th> </tr> </thead> <tbody> <tr> <td>In-pit Fill</td> <td>2.00</td> </tr> <tr> <td>Oxide</td> <td>1.80</td> </tr> <tr> <td>Transitional</td> <td>2.20</td> </tr> <tr> <td>Fresh Waste</td> <td>2.60</td> </tr> <tr> <td>Fresh Mineralised</td> <td>2.70</td> </tr> </tbody> </table> Systematic ISBD have been completed in the past at Orelia via the Archimedes method (108 determinations) based on a range of ore types and rock types. ISBDs of ore have ranged 2.64 to 3.51 with a mean of 2.86 t/bcm. It is believed the average ISBD (2.70) used for the Orelia ore may be slightly conservative. Base of oxidation and top of fresh digital terrain models were constructed and assigned into the block model. 	Material	Density	In-pit Fill	2.00	Oxide	1.80	Transitional	2.20	Fresh Waste	2.60	Fresh Mineralised	2.70																				
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Classification	<ul style="list-style-type: none"> The basis for the classification of the Mineral Resources into varying confidence categories. Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data). Whether the result appropriately reflects the Competent Person's view of the deposit. 	<ul style="list-style-type: none"> The Mineral Resources have been classified as Indicated and Inferred based on drill spacing and geological continuity. The Resource model uses a classification scheme based upon drill hole spacing plus block estimation parameters, including kriging variance, number of composites in search ellipsoid informing the block cell and average distance of data to block centroid. The results of the Mineral Resource Estimation reflect the views of the Competent Person. 																																
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of Mineral Resource estimates. 	<ul style="list-style-type: none"> Echo Resources personnel have reviewed the block model relative to the drilling data and considers the estimate to be an accurate reflection of the gold mineralisation at Orelia. 																																
Discussion of relative accuracy/confidence	<ul style="list-style-type: none"> Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available. 	<ul style="list-style-type: none"> The relative accuracy of the Mineral Resource is reflected in the reporting of the Mineral Resource as being in line with the guidelines of the 2012 JORC. The statement relates to global estimates of tonnes and grade, with reference made to Resources above a certain cut-off that are intended to assist mining studies. A block model was produced of the previously mined mineralisation and reconciled well with previous production data from the total Orelia open pit, the results from this are presented below. <table border="1" data-bbox="890 1783 1382 2002"> <thead> <tr> <th colspan="4">ORELIA MINED RESOURCE with ORE LOSS and DILUTION</th> </tr> <tr> <th>CUTOFF</th> <th>TONNES</th> <th>AuCut</th> <th>Aucut Oz</th> </tr> </thead> <tbody> <tr> <td>1.00</td> <td>7,521,047</td> <td>1.76</td> <td>424,981</td> </tr> <tr> <td>0.90</td> <td>8,521,059</td> <td>1.64</td> <td>449,364</td> </tr> <tr> <td>0.80</td> <td>9,652,078</td> <td>1.53</td> <td>474,062</td> </tr> <tr> <td>0.70</td> <td>11,028,066</td> <td>1.41</td> <td>500,537</td> </tr> <tr> <td>0.60</td> <td>12,771,253</td> <td>1.29</td> <td>529,618</td> </tr> <tr> <td>0.50</td> <td>14,871,966</td> <td>1.17</td> <td>559,211</td> </tr> </tbody> </table> 	ORELIA MINED RESOURCE with ORE LOSS and DILUTION				CUTOFF	TONNES	AuCut	Aucut Oz	1.00	7,521,047	1.76	424,981	0.90	8,521,059	1.64	449,364	0.80	9,652,078	1.53	474,062	0.70	11,028,066	1.41	500,537	0.60	12,771,253	1.29	529,618	0.50	14,871,966	1.17	559,211
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