

# **ASX ANNOUNCEMENT**

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7 February 2019

ASX CODE

#### **KEY ASSETS**

• Julius • Orelia • Bronzewing Hub

## DIRECTORS

Victor Rajasooriar CEO & Managing Director

Barry Bolitho Non-Executive Chairman

Robin Dean Non-Executive Director

Mark Hanlon Non-Executive Director

Anthony McIntosh Non-Executive Director

Alan Thom Non-Executive Director

Kate Stoney Company Secretary

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## MT JOEL HIGHLIGHTS SIGNIFICANT MINERAL INVENTORY UPSIDE

- 165 reverse circulation (RC) drill-holes for 11,008m completed at Mt Joel
- Recent results show significant and consistent gold mineralisation at shallow levels
- Expected to result in the addition of quality, open-pittable oxide ounces
- Significant results returned from the RC drilling include:
  - 16m @ 24.10 g/t Au from 26m (MJRC119)
  - 27m @ 11.43 g/t Au from 45m (MJRC048)
  - 4m @ 11.10 g/t Au from 12m (MJRC038)
  - 11m @ 5.92 g/t Au from 29m (MJRC125)
  - 15m @ 4.12 g/t Au from 80m (MJRC018)
  - 9m @ 3.72 g/t Au from 10m, (MJRC002)
  - 8m @ 3.46 g/t Au from 27m (MJRC122)
  - 4m @ 5.67 g/t Au from 85m AND 5m @ 6.89 g/t Au from 93m (MJRC024)
- New Resource Estimate for Mt Joel expected in March Qtr 2019
- Revised Bankable Feasibility Study (BFS) for the Yandal Gold Project expected to be finalised in March Qtr 2019

Echo Resources Limited (ASX: EAR) ('Echo' or 'the Company') is pleased to announce the latest results from reverse circulation (RC) drilling at the Mt Joel (70% Echo) gold district within the Yandal Gold Project.

Drilling at Mt Joel is part of Echo's strategy to add incremental, near surface ounces to further enhance a planned restart of the Bronzewing processing facility in 2019.



## Mt Joel Drilling Program

Echo has completed an aggressive drilling program in the Mt Joel district targeted at delineation of quality, near surface, oxide ounces. The RC program was designed to further define and increase confidence in the mineralization defined from the air core (AC) drilling that was reported on 30 November and 21 December 2018. The RC and AC drill holes have confirmed, extended and increased the confidence in the mineralisation observed in the historical drill-hole data. Completing a new JORC-2012 compliant resource for Mt Joel is now a priority, with a significant portion of that resource estimate expected to be classified as 'Indicated'.

The results from drilling have provided confidence that there exists potential to define significant, open-pittable resources over several satellite pits in the Mt Joel district. Concurrently. hydrogeological studies and geotechnical drilling are being undertaken to provide the option for Mt Joel to be brought into the life-of-mine plan as soon as possible.



Figure 1: Location Map

Echo Managing Director and CEO, Victor Rajasooriar, commented: "The Mt Joel gold district continues to deliver consistent, excellent results and provides Echo with the opportunity to add quality, incremental oxide ounces to our resource base. The large amount of work that has been completed recently at Mt Joel highlights how serious we are in continuing to strengthen and enhance the already robust initial four-year mine plan for the Yandal Gold Project, as we push towards targeted production in 2019.

"Now that we have completed the current drill phase for Mt Joel, we are preparing an updated JORC-2012 Resource estimate for this area. Additionally, we are gathering a huge amount of geological data which assist us to explore this extensively mineralised system at depth. The Yandal Gold Belt is a world class mining and exploration jurisdiction and the historical work at Mt Joel has only been conducted in the top 100m. With an exploration budget planned to be funded by production, we are excited about the deeper resource potential of the Mt Joel area."



### Mt Joel Geology and Mineralisation

Mt Joel is located approximately 12 kilometres northeast of the Bronzewing Processing Hub (Fig 1) with discontinuous gold mineralisation extending over 8 kilometres. A significant amount of drilling has been completed over Mt Joel with near surface mineralisation spread over numerous prospects (Fig.2). Gold occurs in guartz veins and vein selvedges associated with pyrite +/- chalcopyrite. Mineralisation occurs predominantly in the oxide-transition zone extending from the base of transported material to the base of weathering, a zone more than 100m deep in places.

Mt Joel has long been recognised as an area that has the potential for additional oxide resources to further enhance and strengthen the Yandal Project mine plan.

Following on from this phase of drilling, five areas have been delineated where near surface mineralisation exists, and which have the potential to add openpittable (within 50m of surface) ounces to the resource inventory (Figure. 2).



Figure 2: Mt Joel Prospect Map (Bouguer Gravity Image)

The RC results have further enhanced the understanding of the Mt Joel mineralised system and provide Echo with confidence that significant additional oxide material from Mt Joel is likely to be incorporated into the Yandal Gold Project mine plan. Consistent, high-grade results such as 16m @ 24.10 g/t Au from 26m (MJRC119), 27m @ 11.43 g/t Au from 45m (MJRC048) and 11m @ 5.92 g/t Au from 29m highlight the high quality, near surface nature of the mineralisation.

Following on from the success of the AC and RC drilling campaigns, work has commenced on an updated JORC 2012-compliant resource estimate for Mt Joel. It is expected that the majority of this estimate will be classified in the 'Indicated' category. Completion of the updated resource estimate for Mt Joel is expected in the March quarter 2019.





Figure 3: Tiger Long-Section. Centered on 6,982,800mN



Figure 4: Adder Long-Section



## ABOUT ECHO

#### The Yandal Strategy

Echo controls the central Yandal greenstone belt through 100% ownership of over 1,600km<sup>2</sup> of highly prospective tenement holdings, as well as the 2 Mtpa Bronzewing processing facility. The Company has embarked on exploration in two distinct districts – the Bronzewing district in the south and Empire district in the north – both of which are within trucking distance of the processing facility.

The Bronzewing district encompasses the southern part of Echo tenure and includes the Bronzewing, Orelia and Lotus open pits, the Mt Joel District and numerous highly prospective targets. Outside of the major deposits, drilling within the Bronzewing district is largely limited to within the top 100m from surface. The occurrence of these large mineralised systems in the Bronzewing district also highlights that the region has the fundamental architecture to host world class ore bodies at depth. Recently completed target generation work has highlighted the structural complexity of these systems and Echo is confident that there is considerable exploration potential at depth in these areas.

Recent work has delivered positive results from 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, which points to the opportunity for a larger pit. The nearby Lotus deposit extends to a depth of 500 vertical metres, where 387koz at 5.5 g/t Au was historically produced. Lotus represents an opportunity to delineate further potential high-grade, underground resources on the back of detailed geological interpretation and deep drilling.

The Empire district contains the Julius Gold Deposit which supports an open pit development with low stripping ratios. The district also contains the Hadrian trend, which is a lightly explored, 20 km long interpreted gold corridor which links Julius with Northern Star Resources' Ramone gold discovery, situated approximately 5 km north of Echo's tenement boundary.

Echo's short-term vision is to build a mineral inventory that supports a robust and highly economic transition into production via the Bronzewing processing facility in 2019. The company is currently completing a revised BFS relating to the refurbishment of the Bronzewing mill and the treatment of ore from the Julius and Orelia gold deposits.

In conjunction with its development activities, Echo continues to apply cutting-edge geophysical and geochemical datasets to identify and test genuine greenfields targets – with a view to uncovering significant new gold discoveries and expanding existing high-grade resources. With a future exploration budget planned to be funded by production, Echo expects to be in an excellent position to also reinvigorate deep exploration in the search for the next plus-million ounce, underground ore body.

For further information: Victor Rajasooriar Managing Director & CEO Echo Resources Ltd

Media inquiries Michael Vaughan 0422 602 720



	Drill hole ID	From	То	Width	Grade	Easting	Northing	RL	Total Depth	Dip	Azimuth
	MJRC001		N	SR	-	306135	6982702	494	20	-70	250
	MJRC002	0	1	1	1.69	306048	6982836	499	60	-70	250
)	MJRC002	10	19	9	3.72						
	inc	15	17	2	13.12						
	MJRC003	13	14	1	2.38	306034	6982854	500	50	-80	250
	MJRC003	38	39	1	1.99						
	MJRC004		Ν	SR		306022	6982878	501	46	-70	250
	MJRC005	11	13	2	1.44	306123	6982729	494	44	-70	250
	MJRC006	45	46	1	2.29	306108	6982748	495	53	-70	250
	MJRC007		Ν	SR		307590	6982651	483	70	-90	0
	MJRC008	53	56	3	5.06	307612	6982657	483	70	-90	0
	inc	53	54	1	11.39						
	MJRC009		Ν	SR		307635	6982665	483	70	-90	0
	MJRC010		Ν	SR		307649	6982673	483	70	-90	0
	MJRC011	64	64	1	2.15	307567	6982681	483	92	-90	0
	MJRC011	81	82	1	1.61						
	MJRC012		N	SR		307587	6982687	483	95	-90	0
	MJRC013		N	SR		307603	6982692	483	95	-90	0
	MJRC014	84	86	2	2.48	307620	6982700	483	104	-90	0
	MJRC014	91	92	1	2.57						
	MJRC015	86	87	1	11.10	307642	6982708	483	110	-90	0
	MJRC015	92	94	2	2.25						
	MJRC016		N	SR		307538	6982715	484	70	-90	0
	MJRC017	37	38	1	2.63	307557	6982720	484	85	-90	0
	MJRC018	60	61	1	1.09	307575	6982727	484	95	-90	0
	MJRC018	67	68	1	4.17						
	MJRC018	80	95	15	4.12						
	inc	86	87	1	26.50						
	MJRC019		N	SR		307594	6982734	483	95	-90	0
	MJRC020	45	46	1	3.72	307613	6982739	483	110	-90	0
	MJRC020	104	105	1	1.54						
	MJRC020	107	108	1	1.30						
	MJRC021	40	44	4	2.07	307631	6982747	482	110	-90	0
	MJRC021	101	110	9	1.74						
	MJRC022	34	35	1	1.27	307532	6982755	484	80	-90	0
	MJRC022	41	42	1	1.36						
	MJRC023		N	SR		307551	6982761	484	95	-90	0
	MJRC024	78	79	1	1.03	307570	6982768	483	120	-90	0
	MJRC024	85	89	4	5.67						
	inc	85	86	1	11.60						
	MJRC024	93	98	5	6.89						
	inc	94	95	1	19.60						



Drill hole ID	From	То	Width	Grade	Easting	Northing	RL	Total Depth	Dip	Azimuth
MJRC025		N	SR	-	307626	6982790	482	101	-90	0
MJRC026	44	45	1	1.90	307670	6982804	482	80	-90	0
MJRC027	57	58	1	1.27	307690	6982809	482	90	-90	0
MJRC028		N	SR		307710	6982815	482	70	-90	0
MJRC029		N	SR	-	307727	6982821	482	85	-90	0
MJRC030	12	13	1	1.67	307521	6982792	484	72	-90	0
MJRC030	57	58	1	2.21						
MJRC030	62	63	1	5.06						
MJRC030	67	68	1	2.75						
MJRC031		N	SR		307543	6982800	483	84	-90	0
MJRC032	74	77	3	2.76	307562	6982806	483	102	-90	0
MJRC033	71	90	19	2.20	307579	6982812	482	114	-90	0
inc	81	87	6	4.27						
MJRC033	108	109	1	8.86						
MJRC033	113	114	1	3.64						
MJRC034	32	33	1	7.39	307599	6982819	482	102	-90	0
MJRC034	38	39	1	2.25						
MJRC034	87	88	1	14.30						
MJRC035	48	50	2	1.60	307688	6982844	482	60	-90	0
MJRC036	46	51	5	1.20	307702	6982855	482	60	-90	0
MJRC037		N	SR		307492	6982826	483	54	-90	0
MJRC038	12	16	4	11.10	307511	6982832	483	72	-90	0
MJRC038	36	40	4	3.06						
MJRC038	48	49	1	1.04						
MJRC039		N	SR	1	307528	6982838	483	90	-90	0
MJRC040	57	58	1	1.52	307547	6982845	482	114	-90	0
MJRC040	68	69	1	1.32						
MJRC040	104	106	2	4.82						
MJRC041	38	39	1	1.06	307566	6982852	482	96	-90	0
MJRC041	83	84	1	1.24						
MJRC041	86	87	1	3.74						
MJRC042	38	39	1	1.20	307683	6982768	482	72	-90	0
MJRC042	60	61	1	1.03						
MJRC043	37	38	1	8.62	307698	6982774	482	90	-90	0
MJRC043	49	50	1	3.13						
MJRC044	40	42	2	4.54	307711	6982778	482	72	-90	0
MJRC045	35	37	2	2.86	307725	6982783	482	72	-90	0
MJRC046	32	33	1	8.98	307739	6982789	482	90	-90	0
MJRC046	76	77	2	1.36						
MJRC047	32	34	2	3.39	307753	6982794	482	54	-90	0
MJRC048	11	12	1	1.37	306853	6984436	482	72	-90	0
MJRC048	45	72	27	11.43						
inc	52	53	1	32.61						
inc	53	54	1	11.42						



	Drill hole ID	From	То	Width	Grade	Easting	Northing	RL	Total Depth	Dip	Azimuth
	inc	54	55	1	30.01						
	inc	55	56	1	22.85						
	inc	56	57	1	17.68						
/	inc	62	63	1	88.78						
7	inc	64	65	1	13.65						
	inc	65	66	1	19.78						
	inc	71	72	1	13.92						
	MJRC049	4	5	1	1.54	306858	6984447	482	66	-90	0
	MJRC050	4	5	1	13.96	306871	6984418	482	88	-90	0
	MJRC050	8	9	1	1.36						
	MJRC050	52	53	1	7.62						
	MJRC050	76	77	1	1.10						
	MJRC050	81	82	1	1.02						
	MJRC050	86	87	1	1.70						
	MJRC051	12	13	1	1.00	306859	6984430	482	80	-90	0
	MJRC051	35	46	11	2.57						
	MJRC051	56	57	1	1.77						
	MJRC052	24	25	1	1.16	306878	6984450	482	86	-90	0
	MJRC052	57	60	3	5.72						
	inc	58	59	1	14.59						
	MJRC053	14	15	1	1.22	306870	6984438	482	90	-90	0
	MJRC053	22	23	1	21.70						
	MJRC053	31	32	1	1.85						
	MJRC054		N	SR		306861	6984411	482	90	-90	0
	MJRC055		Ν	SR		306855	6984399	482	90	-90	0
	MJRC056		Ν	SR		306921	6984407	482	70	-90	0
	MJRC057	18	19	1	7.42	306913	6984395	482	90	-90	0
	MJRC057	30	31	1	1.43						
	MJRC057	34	36	2	3.11						
	MJRC057	72	73	1	10.40						
	MJRC058	53	54	1	1.15	306896	6984432	482	80	-90	0
	MJRC058	74	75	1	1.96						
	MJRC059	27	28	1	2.22	306892	6984423	482	80	-90	0
	MJRC059	57	58	1	2.23						
	MJRC060	17	18	1	5.87	306882	6984410	482	90	-90	0
	MJRC060	22	23	1	1.67						
	MJRC060	36	37	1	1.31						
	MJRC061		Ν	SR	I	306871	6984398	482	90	-90	0
	MJRC062	31	34	3	3.98	306909	6984383	482	89	-90	0
	MJRC062	70	71	1	1.33						
	MJRC062	87	88	1	1.84						
	MJRC063	41	42	1	1.29	306929	6984374	482	60	-90	0
	MJRC063	44	46	2	1.08						
	MJRC063	58	60	2	5.70						



	Drill hole ID	From	То	Width	Grade	Easting	Northing	RL	Total Depth	Dip	Azimuth
	MJRC063	59	60	1	10.10						
	MJRC064	9	10	1	1.36	306957	6984372	482	40	-90	0
	MJRC065		N	SR		306945	6984360	482	40	-90	0
/	MJRC066	29	30	1	1.51	306832	6984467	482	55	-90	0
7	MJRC067	38	39	1	3.40	306824	6984451	482	55	-90	0
	MJRC067	42	43	1	1.28						
	MJRC067	50	54	4	1.34						
	MJRC068		N	SR		306812	6984439	482	50	-90	0
	MJRC069	38	39	1	1.40	306800	6984426	482	40	-90	0
	MJRC070	3	4	1	1.31	306820	6984481	482	50	-90	0
	MJRC070	40	41	1	1.26						
	MJRC071		Ν	SR		306808	6984461	482	50	-90	0
	MJRC072	4	5	1	1.05	306807	6984487	482	60	-90	0
	MJRC072	24	25	1	1.32						
	MJRC073		Ν	SR		306804	6984494	482	40	-90	0
	MJRC074	4	6	2	4.03	306795	6984485	482	40	-90	0
	MJRC075	15	16	1	1.43	306784	6984472	482	30	-90	0
	MJRC076	5	9	4	1.86	306811	6984525	482	20	-90	0
	MJRC077	13	14	1	1.41	306802	6984515	482	40	-90	0
	MJRC078		Ν	SR		306789	6984506	482	20	-90	0
	MJRC079		Ν	SR		307542	6983009	482	40	-90	0
	MJRC080	50	58	8	2.98	307560	6983016	482	60	-90	0
	MJRC080	52	53	1	12.90						
	MJRC081		N	SR		307578	6983023	482	54	-90	0
	MJRC082		N	SR		307598	6983030	482	54	-90	0
	MJRC083		N	SR		307616	6983037	482	54	-90	0
	MJRC084	13	14	1	1.10	305487	6986046	492	60	-90	0
	MJRC084	18	23	5	1.66						
	MJRC084	27	28	1	6.03						
	MJRC084	54	55	1	1.22						
	MJRC085	43	44	1	1.78	305508	6986049	491	80	-90	0
	MJRC086	24	25	1	2.31	305518	6985972	491	67	-60	270
	MJRC086	56	57	1	1.34						
	MJRC086	61	62	1	1.58						
	MJRC086	64	67	3	1.18						
	MJRC087	22	31	9	1.93	305520	6985975	491	80	-80	270
	MJRC088		N	SR		306002	6982889	501	60	-80	225
	MJRC089	23	24	1	1.16	305532	6985927	491	90	-60	265
	MJRC089	25	26	1	1.32						
	MJRC089	43	47	4	2.21	305532	6985927	491	90	-60	265
	MJRC089	50	52	2	3.63						
	MJRC089	69	70	1	1.73						
	MJRC090	10	11	1	1.69	305490	6985862	491	60	-90	0
	MJRC090	16	17	1	3.37						



	Drill hole ID	From	То	Width	Grade	Easting	Northing	RL	Total Depth	Dip	Azimuth
	MJRC090	45	46	1	5.52						
	MJRC090	56	57	1	1.25						
	MJRC091	15	16	1	1.26	305513	6985863	490	80	-90	0
/	MJRC091	39	40	1	1.15						
7	MJRC091	52	54	2	1.45						
	MJRC092	30	31	1	2.43	305494	6985802	490	58	-90	0
	MJRC093	9	16	7	1.01	305516	6985809	490	80	-90	0
	MJRC093	30	31	1	3.05						
	MJRC093	74	75	1	1.10						
	MJRC094	6	7	1	1.07	305519	6985728	490	80	-90	0
	MJRC094	17	19	2	1.45						
	MJRC094	24	25	1	2.12						
	MJRC094	32	36	4	1.57						
	MJRC094	54	55	1	4.64						
	MJRC094	59	62	3	1.07						
	MJRC095	32	33	1	1.45	307991	6979488	484	60	-90	0
	MJRC096	30	33	3	3.41	308005	6979494	484	50	-90	0
	MJRC097		N	SR		308023	6979497	483	60	-90	0
	MJRC098	34	35	1	1.16	307989	6979512	484	60	-90	0
	MJRC099	43	44	1	1.04	308002	6979518	484	60	-90	0
	MJRC099	50	53	3	2.65						
	MJRC100	29	30	1	1.18	308018	6979524	483	60	-90	0
	MJRC100	48	50	2	3.12						
	MJRC101		N	SR		307984	6979527	484	70	-90	0
	MJRC102	28	29	1	3.66	308001	6979535	484	60	-90	0
	MJRC103	25	26	1	4.27	308017	6979541	484	54	-90	0
	MJRC103	48	49	1	1.27						
	MJRC104		N	SR		307979	6979559	484	60	-90	0
	MJRC105	35	35	1	2.43	307995	6979562	484	54	-90	0
	MJRC105	40	42	2	1.80						
	MJRC105	45	47	2	7.72						
	inc	46	47	1	13.90						
	MJRC105	50	52	2	6.47						
	inc	50	51	1	11.70						
	MJRC106	26	33	7	1.20	308009	6979568	484	54	-90	0
	MJRC106	48	49	1	7.46						
	MJRC107	45	46	1	1.57	307980	6979573	484	60	-90	0
	MJRC108	22	27	5	2.34	307994	6979583	484	54	-90	0
	MJRC108	39	40	1	1.32						
	MJRC108	43	45	2	2.84						
	MJRC109		N	SR		308040	6979593	484	60	-90	0
	MJRC110	46	47	1	1.38	307975	6979597	484	60	-90	0
	MJRC111	27	34	7	2.29	307987	6979602	484	60	-90	0
	MJRC111	59	60	1	1.00						



Dri	ill hole ID	From	То	Width	Grade	Easting	Northing	RL	Total Depth	Dip	Azimuth
MJ	JRC112	27	28	1	1.04	308001	6979604	484	60	-90	0
MJ	JRC112	33	35	2	1.23						
MJ	JRC113		N	SR		307959	6979607	484	70	-90	0
MJ	JRC114	42	43	1	1.04	307976	6979613	484	70	-90	0
л Wl	JRC114	48	50	2	1.47						
MJ	JRC115	28	38	10	2.89	307986	6979615	484	70	-90	0
	inc	33	34	1	15.40						
MJ	JRC116		N	SR		308001	6979620	484	70	-90	0
MJ	JRC117		N	SR		307954	6979628	484	67	-90	0
MJ	JRC118	50	51	1	1.45	307965	6979634	484	70	-90	0
MJ	JRC119	26	42	16	24.10	307980	6979641	484	70	-90	0
	inc	32	33	1	350.00						
MJ	JRC120	29	30	1	1.12	307999	6979643	484	70	-90	0
MJ	JRC120	33	39	6	1.87						
MJ	JRC121		N	SR		307965	6979649	484	90	-90	0
MJ	JRC122	27	35	8	3.46	307975	6979651	484	70	-90	0
MJ	JRC123	40	41	1	1.35	307991	6979657	484	70	-90	0
MJ	JRC123	67	68	1	1.10						
MJ	JRC124	58	71	13	2.24	307963	6979674	484	102	-90	0
MJ	JRC124	70	71	1	10.10						
MJ	JRC124	91	92	1	1.00						
MJ	JRC125	29	40	11	5.92	307975	6979683	484	70	-90	0
	inc	31	32	1	34.40						
	inc	32	33	1	18.40						
MJ	JRC126	32	33	1	1.15	307990	6979684	484	70	-90	0
MJ	JRC127	34	35	1	1.61	307958	6979688	484	90	-90	0
MJ	JRC127	55	75	20	1.99						
MJ	JRC127	79	80	1	2.27						
MJ	JRC128	32	44	12	1.60	307981	6979688	484	73	-90	0
MJ	JRC129		N	SR		307985	6979700	484	60	-90	0
MJ	JRC130		N	SR		307999	6979707	484	60	-90	0
MJ	JRC131		N	SR		307952	6979716	484	72	-90	0
MJ	JRC132	26	30	4	1.52	307964	6979709	484	60	-90	0
MJ	JRC132	37	39	2	3.23						
MJ	JRC132	45	46	1	1.12						
MJ	JRC132	50	51	1	2.05						
MJ	JRC132	57	58	1	1.62						
MJ	JRC133	32	35	3	1.37	307979	6979723	484	60	-90	0
MJ	JRC133	42	43	1	1.12						
MJ	JRC134		N	SR		307996	6979718	484	60	-90	0
MJ	JRC135		N	SR		307937	6979732	484	60	-90	0
MJ	JRC136	51	52	1	1.57	307951	6979733	484	72	-90	0
MJ	JRC136	57	60	3	1.30						
MJ	JRC136	64	65	1	2.55						



	Drill hole ID	From	То	Width	Grade	Easting	Northing	RL	Total Depth	Dip	Azimuth
	MJRC137	35	36	1	7.24	307954	6979749	484	60	-90	0
	MJRC137	44	47	3	1.15						
	MJRC137	51	52	1	1.36						
	MJRC138		N	SR		308040	6979760	483	60	-90	0
2	MJRC139		N	SR		307936	6979749	484	60	-90	0
1	MJRC140	51	54	3	1.58	307951	6979757	484	60	-90	0
_	MJRC141	36	37	1	1.93	307962	6979762	484	60	-90	0
	MJRC141	48	50	2	1.59						
)	MJRC142	31	32	1	2.18	307977	6979773	484	60	-90	0
/	MJRC142	43	44	1	1.13						
	MJRC143		Ν	SR		307935	6979762	484	60	-90	0
)	MJRC144	15	17	2	2.14	307944	6979775	484	60	-90	0
	MJRC145	52	53	1	3.87	307956	6979776	484	60	-90	0
)	MJRC146	16	18	2	1.63	307970	6979786	484	56	-90	0
	MJRC147	15	17	2	1.11	307929	6979796	484	55	-90	0
)	MJRC148	49	50	1	3.61	307942	6979797	484	56	-90	0
·	MJRC148	53	54	1	2.14						
1	MJRC149	18	19	1	1.33	307956	6979797	484	56	-90	0
1	MJRC149	40	41	1	1.36						
)	MJRC149	49	50	1	1.10						
]	MJRC150	16	20	4	1.67	307918	6979813	484	35	-90	0
-	MJRC151	16	18	2	1.38	307971	6979804	484	56	-90	0
	MJRC152	16	20	4	3.18	307934	6979816	484	35	-90	0
)	MJRC153	17	20	3	3.29	307949	6979822	484	35	-90	0
	MJRC154	17	20	3	1.51	307961	6979822	484	35	-90	0
)	MJRC155	18	21	3	1.66	307932	6979842	484	35	-90	0
	MJRC156	18	20	2	2.85	307946	6979846	484	35	-90	0
	MJRC156	30	35	5	1.16						
)	MJRC157	18	20	2	1.38	307956	6979847	484	35	-90	0
,	MJRC158	18	22	4	1.45	307924	6979852	484	35	-90	0
)	MJRC159	19	22	3	1.56	307936	6979856	484	35	-90	0
	MJRC159	26	29	3	1.19						
	MJRC160	19	22	3	1.54	307952	6979861	484	35	-90	0
	MJRC161	19	20	1	1.27	307915	6979882	484	35	-90	0
)	MJRC162	19	21	2	1.79	307932	6979886	484	35	-90	0
	MJRC163		N	SR		306645	6985518	482	84	-90	0
	MJRC164	41	43	2	1.98	306071	6982786	497	60	-70	225
	MJRC165	10	11	1	1.30	306008	6982890	501	70	-80	225
	MJRC165	27	28	1	2.75						



#### **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 announcement that relates to Exploration Results is based on information compiled by Mr Travis Craig. He has 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 Craig is a member if the Australian Institute of Geologists (AIG) and he consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.



## 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> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<ul> <li>Recent exploration at Mt Joel has comprised reverse circulation drilling of 165 holes for 11,008 metres.</li> <li>One metre samples were collected within mineralised zones as determined by rig-based geologists. For the 1m samples approximately 2kg of material collected from each metre by riffle splitting of the sample interval collected via the rig cyclone.</li> <li>4 metre composite samples were collected from sample intervals outside of the interpreted mineralised areas.</li> <li>4 metre composite samples consist of ~2 kilogram samples, collected via spear from the drill spoils.</li> <li>Follow-up 1m samples are collected if 4m composites return anomalous values greater than 0.2 ppm Au and sent to the laboratory for analysis.</li> <li>Drill hole collar locations were recorded by handheld GPS survey with accuracy +/-2 metres.</li> <li>Analysis was conducted by submitting the 2kg composite sample whole for preparation by crushing, drying and pulverising at Intertek/Genalysis Laboratories for gold analysis via aqua regia/ICP-MS</li> </ul>				
Drilling techniques	<ul> <li>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.).</li> </ul>	<ul> <li>Reverse Circulation drilling was completed with a modern face sampling bit.</li> </ul>				
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/aain of fine/coarse material.</li> </ul>	<ul> <li>Drill sample returns as recorded were considered excellent.</li> <li>There is insufficient data available at the present stage to evaluate potential sampling bias.</li> </ul>				
Logging Sub-sampling techniques and sample preparation	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>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.</li> <li>Rock chip boxes of all sample intervals were collected. All samples were logged.</li> <li>All reverse circulation drill samples were riffle split from the one meter samples collected from the rig cyclone.</li> <li>Sample preparation for all samples follows industry best practice and was undertaken by Genalysis/Intertek Laboratories in Perth and SGS Laboratory in Kalgoorlie where they were crushed, dried and pulverised to produce a sub-sample for analysis.</li> <li>Sample preparation to 85% passing 75 microns.</li> <li>QC for sub sampling follows Intertek procedures.</li> <li>Field duplicates were taken at a rate of 1:30.</li> <li>Standards were inserted at a rate of 1:30.</li> </ul>				



	Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For aeophysical tools, spectrometers, handheld XRF instruments</li> </ul>	•	The methods are considered appropriate to the style of mineralisation. Extractions are considered near total. No geophysical tools were used to determine any
$\sim$	$\mathcal{D}_{1}$	<ul> <li>etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>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.</li> </ul>	•	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> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	•	The Company's geologists have visually reviewed the samples collected. No twin holes drilled Data and related information is stored in a validated Access or Micromine database. Data has been visually checked for import errors. No adjustments to assay data have been made.
5	Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	•	All drillholes have been located by handheld GPS with precision of sample locations considered +/- 2m. Location grid of plans and cross sections and coordinates in this release use MGA94, Z51 datum. Topographic data was assigned based on a DTM of the Yandal district.
	Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	•	The holes have been variably spaced. A nominal hole spacing between 10 metres (E-W spacing) and a line spacing of 20-40 metres between each section line have been used. Sample compositing has occurred on a portion samples in this release (4 metre composite samples).
	Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	•	The orientation of sampling is considered adequate and there is not enough data to determine bias if any. Interpreted lithologies generally strike north- west. Drilling was approximately orthogonal to this apparent strike and comprised vertical drill holes as mineralisation is relatively flat lying.
2	Sample security	The measures taken to ensure sample security.	•	Chain of custody is managed by the Company and samples are transported to the laboratory via Company staff with samples safely consigned to the laboratory for preparation and analysis. Whilst in storage, they are kept in a locked yard. Tracking sheets are used to track the progress of batches of samples.
5	Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	•	No review or audit of sampling techniques or data compilation has been undertaken at this stage.

## Section 2 Reporting of Exploration Results

<sup>•</sup> Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>The Mt Joel gold prospect is located within the central Yandal Greenstone Belt. Mt Joel sits within mining licenses M 53/294, M 53/295, M 53/295, M 53/297 and M 53/939. The Mt Joel mining leases are 70% owned by Echo. A third-party net smelter royalty of 1.5% applies in respect of all minerals produced from the tenement.</li> <li>The tenements are in good standing</li> <li>No impediments to operating on the permit are known to exist.</li> </ul>
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Exploration in the Yandal district has been completed by Great Central Mines, Normandy, Newmont and others. Anomalous RAB, aircore and BC drilling in the area by previous operators have</li> </ul>



Gillena		Commentary				
		been returned.				
Geology	• Deposit type, geological setting and style of mineralisation.	<ul> <li>Highly oxidized/weathered greenstones, sediments and intrusive felsic rocks, with quartz veining with minor sulphides.</li> </ul>				
Drill hole Information	<ul> <li>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> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>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.</li> </ul>	<ul> <li>A total of 165 reverse circulation drill-holes for 11,008 metres were drilled at Mt Joel which focused primarily on the oxide zone.</li> <li>Full drill-hole details for the significant results from the 165 reverse circulation holes are provided in this announcement.</li> <li>Appropriate maps and plans also accompany this announcement.</li> </ul>				
Data aggregation methods	<ul> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>No top cuts have been applied to exploration results.</li> <li>No metal equivalent values are used in this report.</li> <li>The reporting of aggregated results are as follows. The listed results in Appendix 1 are results that are equal or greater than 1m @ 1 g/t Au. For reported intervals (aggregates) an allowance of two continuous meters of less than 1 g/t Au present as internal waste is allowed. All assay results greater than 10 g/t Au where reported in an interval have also been reported as the single individual onemeter assay result.</li> </ul>				
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	<ul> <li>The orientation or geometry of the mineralised zones; strikes NW, NE and WNW. Dips vary but are predominantly 50-60 degrees E</li> <li>True width is variable and further work to clarify is required.</li> </ul>				
Diagrams	<ul> <li>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.</li> </ul>	<ul> <li>Appropriate maps are included in main body of report with gold results and full details are in the tables reported.</li> </ul>				
Balanced reporting	<ul> <li>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.</li> </ul>	<ul> <li>All results for the target economic mineral being gold have been reported.</li> </ul>				
Other substantive exploration data	<ul> <li>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.</li> </ul>	<ul> <li>Previous work in the district by others has estimated total gold resources within the Mt Joel District to total ~200,00 ounces.</li> </ul>				
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>No further drilling is planned until a JORC-2012 mineral resource is completed.</li> <li>Refer to maps in main body of report for potential target areas.</li> </ul>				