

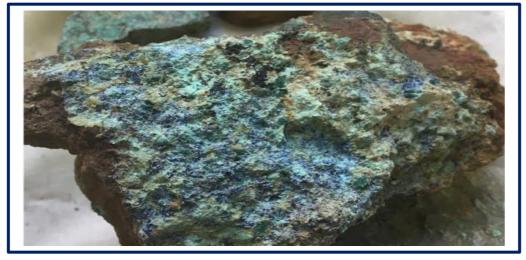
# Multiple Gold-Copper Drill Targets at Kiola NSW

# **Highlights**

- Minimum 2000m of diamond drilling to commence in April and test targets within the 15km<sup>2</sup> Kiola Geochemical Zone – an area of highly anomalous gold-copper and historic workings
- Kiola lies within the highly ranked Molong Belt which hosts the Alkane Resources Boda discovery and Newcrest's world class Cadia-Ridgeway deposit
- New cutting-edge techniques combined with traditional exploration has outlined several porphyry and related high level vein style gold-copper targets at relatively shallow depths
- No previous deep drilling despite positive signs of gold-copper mineralisation at the surface



Picture 1: Right Hand Creek Mine Shaft



Picture 2: Right Hand Creek Mine - High Grade Copper from Dump Samples



## **Emmerson Managing Director Mr Rob Bills commented:**

"Systematic exploration at Kiola has defined a number of very exciting drill targets that are based on both traditional exploration methods of geology, geophysics and geochemistry plus the application of new, cutting edge techniques developed by the University of Tasmania's ARC Linkage Project.

"Kiola was pegged by Emmerson in 2018 from the application of big data analytics – aimed at utilising multiple levels of independent data to pinpoint the next big discovery in the highly prospective Macquarie Arc of NSW.

Stage 1 drilling at Kiola is within the Kiola Geochemical Zone (KGZ) which consists of ~15km² of very elevated gold and copper geochemistry, old historic copper mines, skarns that contain gold, copper and zinc. The target area lacks deep drilling to test for the causative source of the gold and copper."

## Kiola Project (Figure 1)

In 2017 Emmerson and strategic alliance partner, Kenex Limited (now Duke Exploration Limited) deployed data analytics across the Macquarie Arc to improve the success rate of discovery. This approach aimed to better understand the critical controls to porphyry gold-copper formation in the Macquarie Arc and provide a ranked portfolio of potential opportunities. Since then Emmerson has undertaken systematic exploration across its NSW projects utilising traditional exploration methods and new research from the University of Tasmania Arc Linkage project.

Emmerson's Kiola project is one of the highest ranked, early stage gold-copper projects in the portfolio and is centred on the 15km<sup>2</sup> Kiola Geochemical Zone (KGZ). It encompasses favourable Ordovician age rocks that display anomalously high gold and copper geochemistry plus historic workings. Recent work has confirmed that the KGZ contains many of the attributes of world class porphyry gold-copper mineralisation and is divided into a northern area centred on the Nasdaq skarn, and a southern area around the South Pole, Kiola and Right Hand Creek mine (Figure 2).

Some 15-line km of Induced Polarisation (IP) geophysics collected in late 2019 has reinforced the depth potential of the target areas, particularly when combined with the geochemistry, age dates, intrusion fertility plots and geology – keeping in mind that there is limited exposure of the Ordovician stratigraphy due to soil cover.

## Nasdaq Skarn (Figure 2 – northern area)

Shallow historic drilling in this area has intersected copper, gold and base metals within calc-silicates (i.e. skarn mineralisation) (Figure 3). Some of the better results include:

- 8m at 2.52g/t gold and 0.19% copper including 3m at 6.43g/t gold from 32m (drill hole CWC002);
- 13m at 0.26g/t gold from 44m (CWC022);
- 17m at 0.19g/t gold and 0.17% copper from the surface (CWC016); and
- 13m at 0.17g/t gold from the surface (CWC017).



Emmerson's field program has included additional soil and rock chip geochemistry, with rock chip samples up to 19.6g/t gold and 2.16% copper. Recent age dating of a nearby monzonite intrusion places this project in the similar, fertile age bracket to other world class deposits in the belt including Newcrest's Cadia-Ridgeway deposit. Furthermore, the aeromagnetics (Figure 2- background image) suggests these late Ordovician monzonite intrusives occur not only at Nasdaq, but also Dollys North and South Pole.

Three drill holes to be completed on the IP line 6217785N (prop 1, 2 & 5) are designed to test different targets including mineralisation associated with skarn-pyrite alteration and interpreted underlying porphyry style gold-copper. Noting that skarns have been instrumental to the discovery of many porphyry deposits in the world including the Cadia-Ridgeway deposits.

## **South Pole, Kiola, Right Hand Creek** (Figure 2 – southern area)

This southern area features highly anomalous geochemistry (up to 19% copper and 4.5g/t gold in rock chips), several historic mines, extensive geophysical anomalies (both chargeable and resistive) across consecutive lines of IP geophysics, plus favourable geology and alteration.

Strong zones of shearing outside of the large magnetic anomaly at South Pole plus the associated calcsilicate skarn to the north (Figure 2), suggests some similarities to the Nasdaq area but also potential for structurally controlled, vein style copper-gold mineralisation peripheral to a porphyry system.

A single drill hole (prop 4) will test a zone of highly elevated copper and gold geochemistry, nearby historic copper workings at the Right Hand Creek Mine (photo), plus a target at 400m derived from the application of chlorite or green rock proximity indicators. This technique utilises the trace element signature from the alteration minerals to determine a likely radius or vector to the heat source. Thus, this drill hole tests for shear or vein style mineralisation peripheral to an interpreted Ordovician intrusive complex (Figure 4).

A further hole (prop 3, Figure 5) will test a highly chargeable IP geophysical anomaly, interpreted to be coincident with sulphides that are present across all three IP lines and are close to an interpreted Ordovician intrusive complex (Figure 2).

Depending on the visual results from stage 1 drilling, these *planned* drill holes may be extended to provide additional information at depth. Our next exploration campaign in NSW is already in the advanced planning stage and will include additional drilling at Kadungle and geophysics at Wellington.

#### For and on behalf of the Board of Emmerson Resources Limited

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## About Emmerson Resources, Tennant Creek and New South Wales

Emmerson is fast tracking exploration across five exciting early-stage gold-copper projects in NSW, identified (with our strategic alliance partner Kenex/Duke Exploration) from the application of 2D and 3D predictive targeting models – aimed at increasing the probability of discovery. (Duke can earn up to 10% (to pre BFS) of any project generated providing certain success milestones are met).

The highly prospective Macquarie Arc in NSW hosts >80Mozs gold and >13Mt copper with these resources heavily weighted to areas of outcrop or limited cover. Emmerson's five exploration projects contain many attributes of the known deposits within the Macquarie Arc but remain underexplored due to historical impediments, including overlying cover (farmlands and younger rocks) and a lack of exploration. Kadungle is a JV with Aurelia Metals covering 43km² adjacent to Emmerson's Fifield project.

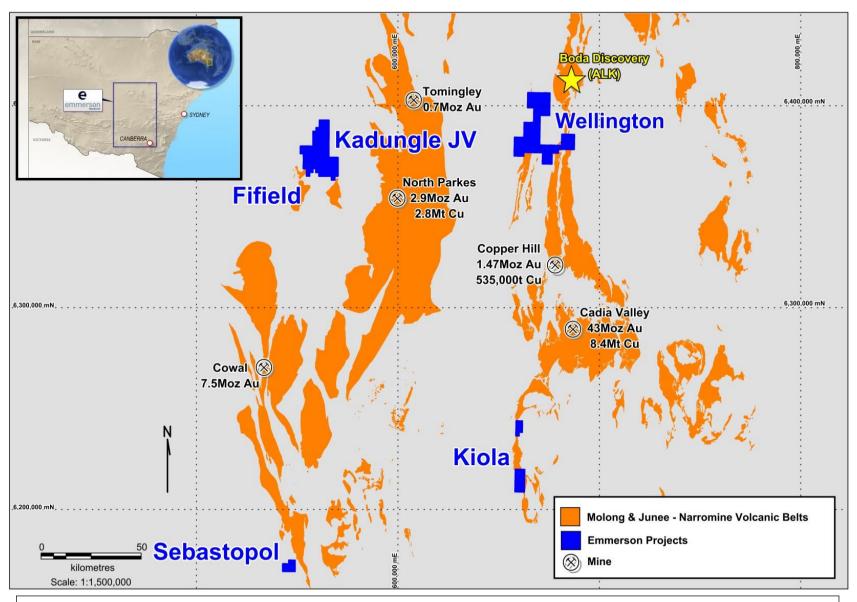
In addition, Emmerson has a commanding land holding position and is exploring the Tennant Creek Mineral Field (TCMF), one of Australia's highest-grade gold and copper fields producing over 5.5 Mozs of gold and 470,000 tonnes of copper from deposits including Warrego, White Devil, Orlando, Gecko, Chariot, and Golden Forty. These high-grade deposits are highly valuable exploration targets, and to date, discoveries include high-grade gold at Edna Beryl and Mauretania, plus copper-gold at Goanna and Monitor. These are the first discoveries in the TCMF for over two decades.

Emmerson announced the formation of a strategic alliance with Territory Resources in 2018 in which Territory Resources will build a central mill in Tennant Creek to support the processing from Emmerson's small gold mines and other third-party feed. This alliance also extends to a \$5m earn-in by Territory Resources over Emmerson's southern tenements (where ERM is the Operator and Manager) plus a Mining Joint Venture over a portfolio of Emmerson's small mines that is on a 75/25 profit share basis, except for the Edna Beryl and Chariot mines which have a 12% and 6% gold production royalty respectively.

#### **Competency Statement**

The information in this report which relates to NSW Projects Exploration Results is based on information compiled by Dr Ana Liza Cuison, MAIG, MSEG. Dr Cuison is a Member of the Australian Institute of Geoscientists and has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration and to the activity which she is undertaking to qualify as a Competent Person as defined in the 2004 edition and the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Cuison is a full-time employee of the Company and consents to the inclusion in this report of the matters based on her information in the form and context in which it appears.





**Figure 1**. Location of Emmerson's NSW Projects (Lachlan Resources). The background is the regional magnetic image, with orange indicating the various segments of the Macquarie Arc.

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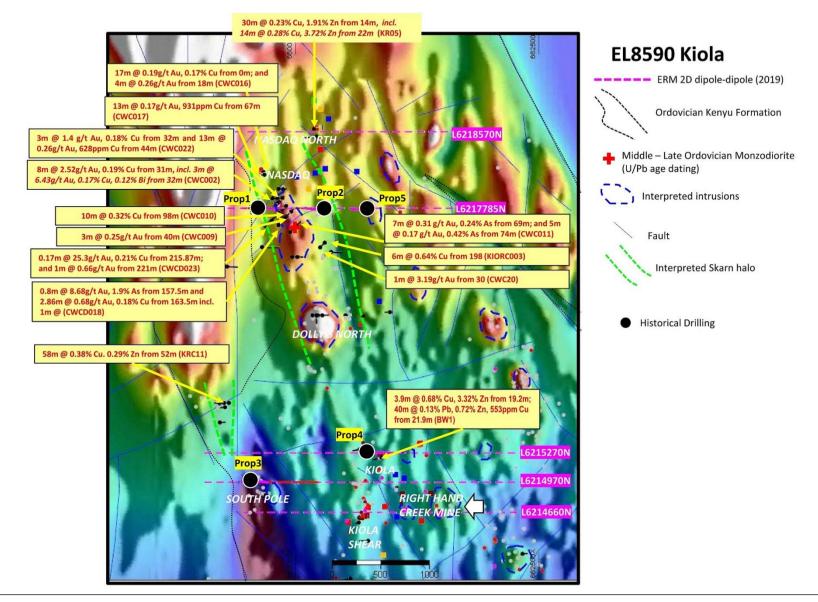


Figure 2: Plan view of the Kiola Geochemical Zone (KGZ) showing historic drill results at the Nasdaq skarn, and the southern South Pole, Kiola, Right Hand Creek Mine.

Note the background image is the Reduced to Pole Magnetics, with red-white colour outlining interpreted Ordovician age intrusives

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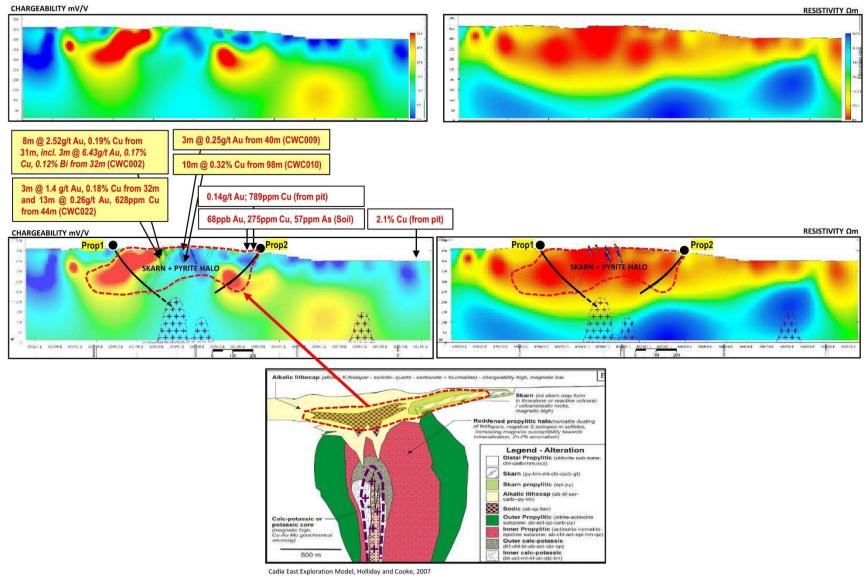
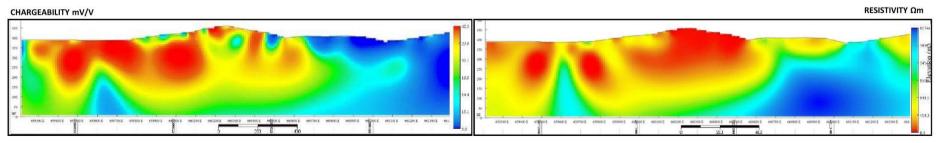


Figure 3: Cross sections of the IP geophysics (chargeable and resistive anomalies), with the outline of the Nasdaq skarn and historic shallow drill results (call out boxes). Note the link to the schematic Exploration Model based on Newcrest's Cadia East deposit. Prop 1 & 2 are the planned ERM drill holes.

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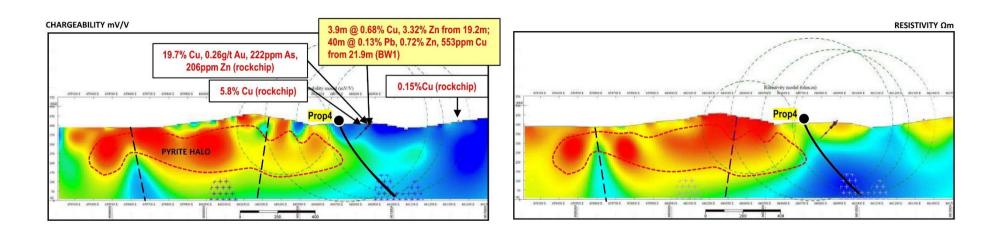


Figure 4: Cross sections of the IP geophysics (chargeable and resistive anomalies), with the outline of high chargeability that may correspond to the pyrite halo immediately adjacent to the porphyry gold-copper mineralisation. Planned drill hole Prop 4 tests a combination of highly anomalous copper geochemistry within a shear zone plus an interpreted heat source from the chlorite proximity indicators (green circles).



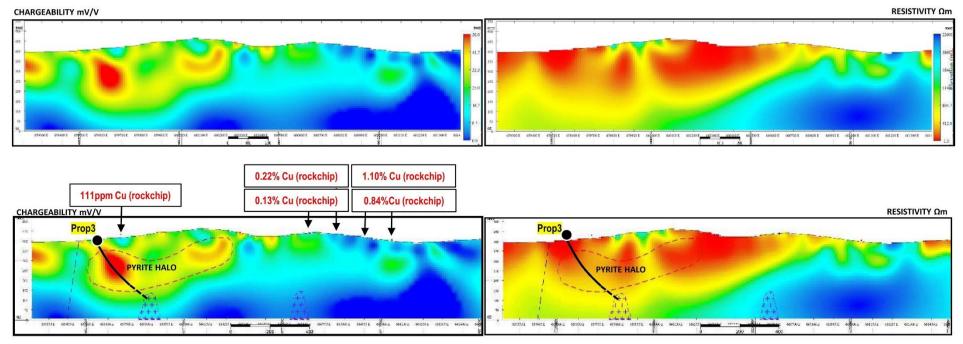


Figure 5: Cross sections of the IP geophysics (chargeable and resistive anomalies), with the outline of high chargeability that may correspond to the pyrite halo immediately adjacent to the porphyry gold-copper mineralisation. Planned drill hole Prop 3 tests a combination of highly anomalous gold & copper geochemistry plus an interpreted Ordovician intrusive at depth.



Table 1. Table of recent Emmerson's rock chips sample inside EL8590

SampleID	Sample Type	MGA94_z55 Easting	MGA94_z55 Northing	Au_ ppm	As_ ppm	Bi_ ppm	Cu_ ppm	Cu_ pct	Fe_ pct	Mn_ ppm	Pb_ ppm	Sr_ ppm	Zn_ ppm	LITH_Description
KLA001	Dump	661122.5	6214687.4	0.010	5	21	8250	0.83	3.7	664	10	340	60	Microdiorite, epidote altered, cut by qtz veins with malachite blebs; shaft?
KLA002	Dump	661122.0	6214687.0	0.005	8	3	5340	0.53	8.6	1685	116	576	403	malachite along fracture files, in greyish silicified wallrock (shaft?)
KLA003	Outcrop	661295.1	6214570.8	0.005	53	4	1430	0.14	6.2	613	10	534	40	3.5 cm thick qtz-chl-epi-sulfides-hem vein cutting a greenish-grey silicified volc
KLA004	Outcrop	660918.0	6214719.7	0.050	15	25	2720	0.27	12.9	2670	16	615	98	Andesite, chl-epi altered, sheared, gtz-malachite along shear/vein
KLA005	Dump	660732.4	6214625.7	0.010	3	23	10450	1.05	35.2	804	9	25	364	Reddish-orange, gossanous, shallow pit
KLA006	Dump	660702.2	6214623.3	0.070	17	107	39700	3.97	23.5	202	33	18	84	Brownish; with malachite along fractures, shallow pit
KLA007	Dump	660677.6	6214607.6	0.160	48	222	37600	3.76	26.2	431	14	17	447	Brownish; with malachite along fractures, shallow pit
KLA008	Float	660540.0	6214561.2	0.090	7	79	2140	0.21	8.3	1505	724	47	2010	Old workings, covered with floats of qtz-hem
KLA009	Outcrop	660871.0	6215261.7	0.360	222	34	196500	19.65	14.9	706	15	224	206	Siltstone, sheared, with malachite along fractures
KLA010	Float	661283.0	6215367.7	0.010	10	12	7860	0.79	7.0	205	18	20	45	Qtz-ser-chl bxa, floats in old workings
KLA011	Float	661283.0	6215367.0	0.010	15	9	3540	0.35	7.1	134	4	8	27	Reddish ferruginous qtz-hem bxa
KLA012	Outcrop	661273.8	6215359.0	0.005	28	21	1050	0.11	19.9	82	10	50	39	Qtz-hem bxa, reddish brown
KLA013	Outcrop	659831.6	6217839.7	0.005	75	1	2160	0.22	46.8	7950	11	69	6170	Ferruginous qtz-hem bxa
KLA020	Outcrop	660746.2	6215308.3	0.005	3	1	3490	0.35	13.7	2340	5	640	56	Volcaniclastic, chl-epi altn, mag stringers
KLA021	Outcrop	660253.8	6218390.1	0.008	19	4	1890	0.19	3.3	587	9	12	230	Siltstone, sheared, oxidized along fractures, limonite
KLA023	Outcrop	660239.9	6218166.6	0.003	37	1	733	0.07	5.5	1425	8	31	532	Creamy, bleached, highly sheared, oxidized along fractures
KLA029	Float	660272.7	6217740.9	0.143	178	11	789	0.08	12.2	110	7	7	66	White qtz floats with oxid hem, qtz0bxa with limonite, shallow pit
KLA033	Dump	660252.0	6218617.0	0.003	2	32	4470	0.45	6.2	7160	11	147	10125	Sheared, siltstone, with malachite along fractures
KLA034	Outcrop	660210.1	6218607.3	0.012	325	122	3510	0.35	25.5	525	30	23	1660	Silicified rock, vuggy locally, cut by qtz vein
KLA040	Outcrop	660189.5	6218891.0	0.003	21	1	547	0.05	6.5	1505	4	117	164	Feldspar-phyric, sheared, chl-epi altered
KLA044	Dump	660742.9	6214708.0	0.003	8	4	2690	0.27	8.6	2130	2	70	196	Shallow pit, sheared, few malachite in siltstone
KLA052	Outcrop	661097.2	6214846.6	0.006	2	3	11800	1.18	6.4	826	8	69	228	Shallow pit, andesite, silicified, with malachite stains
KLA054	Outcrop	661389.1	6214854.0	0.033	10	12	15800	1.58	16.6	752	5	24	36	Shallow pit, siltstone and sandstone, malachite along fractures
KLA055	Outcrop	661485.7	6214663.8	0.013	10	1	10500	1.05	8.4	2360	4	80	144	Felspar-phyric, possibly Feldspar porphyry, greenish, chl altered
KLA056	Outcrop	661494.3	6214645.2	0.113	18	18	82500	8.25	18.6	6980	14	14	195	Sheared, siltstone, with malachite along fractures
KLA057	Outcrop	661491.3	6214646.0	0.003	1	1	5160	0.52	8.4	3500	2	71	30	Shallow pit, wallrock sample, chl-altered volcanic rock



Table 2. Table of historical rock chips sample inside EL8590

	Sample	MGA94_z55	MGA94_z55	Au_	As_	Bi_	Cu_	Cu_	Fe_	Mn_	Pb_	Zn_	Dunamant	6	EL	Carras / Dansant
SampleID	Туре	Easting	Northing	ppm	ppm	ppm	ppm	pct	pct	ppm	ppm	ppm	Prospect	Company/Operator	Number	Source/Report
		660639	6214761											Noranda Australia		
A1010	Outcrop	000070	C04.4CE0	0.16	5		70	0.01			8		Kiola Grid	Ltd	EL2113	GS1986_128.R00008780
A1011	Dump	660676	6214659	5.04	20		27000	2.70			16		Kiola Grid	Noranda Australia Ltd	EL2113	GS1986_128.R00008780
	24p	660724	6214700	0.0.									111010 0110	Noranda Australia		001000_12011100000100
A1012	Outcrop			0.04	25		1250	0.13			4		Kiola Grid	Ltd	EL2113	GS1986_128.R00008780
A1013	Outcrop	660713	6214778	0.27	10		6400	0.64			4		Kiola Grid	Noranda Australia Ltd	EL2113	GS1986 128.R00008780
AIUIU	Outcrop	660697	6214805	0.21	10		0400	0.04			7		Riola Oliu	Noranda Australia	LLZTIJ	031300_120.100000700
A1014	Outcrop			0.02	15		2400	0.24			4		Kiola Grid	Ltd	EL2113	GS1986_128.R00008780
A 4045	0.1	660712	6214679	0.00	45		0000	0.00			40		Kinta Odd	Noranda Australia	EL 0440	004000 400 000000700
A1015	Outcrop	660718	6214986	0.02	15		6800	0.68			12		Kiola Grid	Ltd Noranda Australia	EL2113	GS1986_128.R00008780
A1251	Outcrop	000710	0214300	0.01	20		2200	0.22			40		Kiola Grid	Ltd	EL2113	GS1986_128.R00008780
	_	660888	6215015											Noranda Australia		
A1252	Outcrop	661087	6214756	0.01	20		8400	0.84			40		Kiola Grid	Ltd Noranda Australia	EL2113	GS1986_128.R00008780
A1253	Dump	001007	0214730	0.02	15		17500	1.75			35		Kiola Grid	Ltd	EL2113	GS1986 128.R00008780
71.200	24p	661040	6214915	0.02									1.10.0 0.10	Noranda Australia		001000_12011100000100
A1255	Dump			0.01	5		10100	1.01			30		Kiola Grid	Ltd	EL2113	GS1986_128.R00008780
A1257	Outcrop	661205	6215545	0.01	5		1000	0.10			30		Kiola Grid	Noranda Australia Ltd	EL2113	GS1986 128.R00008780
NSW29341	Outcrop	658830	6213230	0.06		269	78100	7.81	6.1	269	1880	267	Breakfast Creek	North Mining Ltd	EL5240	GS1998 161.R00020193
NSW29342	Outcrop	660550	6214450	0.08		62	45300	4.53	23.1	530	62	473	Breakfast Creek	North Mining Ltd	EL5240	GS1998 161.R00020193
NSW92905	Dump	662100	6215840	-0.01	-5		1430	0.14	20.1	000	-5	19	Horse	North Mining Ltd	EL5240	GS1998_161.R00020193
NSW92906	Dump	662100	6215840	-0.01	48		18200	1.82			-5	18	Horse	North Mining Ltd	EL5240	GS1998 161.R00020193
NSW92916	Dump	660940	6214740	-0.01	14		38700	3.87			-5	36	Horse	North Mining Ltd	EL5240	GS1998_161.R00020193
9KOR001	Dump	660714	6214765	0.02	1200	61	5770	0.58			22	71	Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_264.R00042460
9KOR001 9KOR002		660714	6214765	0.02	4110	120	10500	1.05			64	63	Kiola Grid	Gateway Mining Ltd	EL5514 EL5514	
		660694	6215375		23	18		0.36			9	57		Gateway Mining Ltd		GS2000_264.R00042460
9KOR004		660694	6215375	0.01			3600						Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_264.R00042460
9KOR005		661344	6215245	0.01	66	2.5	20100	2.01			14	120	Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_264.R00042460
9KOR006		660864	6215215	0.01	44	7	1460	0.15			2.5	8	Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_264.R00042460
9KOR007		660864	6215215	0.01	23	5	58000	5.80			2.5	35	Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_264.R00042460
9KOR008				0.01	25	2.5	9230	0.92			8	165	Kiola Grid	, ,	EL5514	GS2000_264.R00042460
9SHR004		658884	6213615	0.04	47	184	6230	0.62			37	274	Sheridan	Gateway Mining Ltd	EL5514	GS2000_264.R00042460
9SHR005		658894	6213525	0.01	12	63	12600	1.26			1130	695	Sheridan	Gateway Mining Ltd	EL5514	GS2000_264.R00042460
9SHR006		658894	6213525	0.01	12	126	12100	1.21			1950	263	Sheridan	Gateway Mining Ltd	EL5514	GS2000_264.R00042460
9SHR007		658894	6213415	0.01	2	41	6560	0.66			79	83	Sheridan	Gateway Mining Ltd	EL5514	GS2000_264.R00042460
9SHR013		659044	6212055	0.20	159	1830	17000	1.70			261	935	Sheridan	Gateway Mining Ltd	EL5514	GS2000_264.R00042460
9KOR009		660619	6214918	0.01	13	Х	1330	0.13			2.5	362	Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_264.R00042460



SampleID	Sample Type	MGA94_z55 Easting	MGA94_z55 Northing	Au_ ppm	As_ ppm	Bi_ ppm	Cu_ ppm	Cu_ pct	Fe_ pct	Mn_ ppm	Pb_ ppm	Zn_ ppm	Prospect	Company/Operator	EL Number	Source/Report
9KOR013		660752	6215325	0.01	17	17	3350	0.34			14	57	Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_264.R00042460
9KOR017		660729	6214617	0.01	20	43	2360	0.24			8	198	Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_264.R00042460
9KOR018		660740	6214737	0.01	18	2.5	2220	0.22			2.5	454	Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_264.R00042460
9KOR020		660856	6215102	0.01	59	2.5	1200	0.12			2.5	35	Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_264.R00042460
9KOR026		660524	6214574	0.11	111	87	6350	0.64			1090	3920	Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_264.R00042460
9KOR027		660414	6213987	0.01	1220	23	17800	1.78			23	46	Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_264.R00042460
9KOR028		660493	6213903	0.05	1270	28	3610	0.36			65	192	Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_264.R00042460
9KOR031		660226	6218613	0.01	149	51	5280	0.53			35	20007	Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_264.R00042460
00KOR2	Outcrop	659645	6218187	0.08	378	64	1990	0.20	38.7	217	227		Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_551.R00019435
00KOR4	Dump	661075	6217744	0.09	9	18	21600	2.16	9.2	714	10		Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_551.R00019435
00KOR5	Dump	661075	6217744	-0.01	8	10	1960	0.20	8.3	696	10		Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_551.R00019435
00KOR6	Dump	661039	6217605	-0.01	13	22	7490	0.75	18.2	453	7		Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_551.R00019435
00KOR7	Float	660663	6216587	0.04	921	38	2130	0.21	49.2	337	83		Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_551.R00019435
00KOR11	Outcrop	659645	6218187	0.38	813	200	2030	0.20	43.5	1090	732		Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_551.R00019435
00KOR14	Dump	662047	6216118	-0.01	12	-5	955	0.10	4.4	338	15		Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_551.R00019435
00KOR19	Dump	660323	6215934	0.02	2	-5	1370	0.14	4.4	792	6		Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_551.R00019435
00KOR26	Dump	661334	6214875	-0.01	33	9	28600	2.86	11.1	970	-5		Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_551.R00019435
00KOR27	Dump	661334	6214875	-0.01	15	9	7500	0.75	11.8	669	-5		Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_551.R00019435
00KOR32	Dump	660686	6214625	-0.01	36	6	4730	0.47	11.0	1810	-5		Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_551.R00019435
00KOR66	Outcrop	662354	6216035	0.11	199	8	1050	0.11	9.5	70	5		Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_551.R00019435
00KOR72	Outcrop	659204	6215735	0.10	341	57	448	0.04	20.5	78	129		Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_551.R00019435
00KOR89	Outcrop	659634	6218155	0.80	782	35	1690	0.17	54.6	86	884		Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_551.R00019435
00KOR95	Mullock	658924	6213405	0.03	30	66	1160	0.12	7.9	225	437		Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_551.R00019435
00KOR97	Mullock	658944	6213535	0.02	46	40	4180	0.42	8.6	863	53		Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_551.R00019435
00KOR98	Mullock	659154	6212055	0.03	7	106	7380	0.74	5.0	378	37		Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_551.R00019435
00KOR99	Mullock	659134	6211905	0.03	5	16	3180	0.32	4.3	387	21		Kiola Grid	Gateway Mining Ltd	EL5514	GS2000_551.R00019435
03KOR2	Outcrop	659500	6218985	0.00	255	8	977	0.10	2.4	55210	23	894	North_Nasdaq	Gateway Mining Ltd	EL5514	GS2003_479.R00029264
03KOR16	Float	660234	6216661	0.04	27	288	2510	0.25	43.2	233	12	131	Dollys	Gateway Mining Ltd	EL5514	GS2003_479.R00029264
03KORF21	Float	660564	6216548	0.03	937	14	2340	0.23	47.8	168	96	229	Dollys	Gateway Mining Ltd	EL5514	GS2003_479.R00029264
03KORF22	Float	660551	6216647	3.66	73	890	773	0.08	42.7	444	-5	52	Dollys	Gateway Mining Ltd	EL5514	GS2003_479.R00029264
03KORF28	Float	660222	6216924	0.38	456	80	442	0.04	2.9	104	-5	29	Dollys	Gateway Mining Ltd	EL5514	GS2003_479.R00029264
03KORF30	Float	660213	6216963	0.15	1130	35	541	0.05	13.2	268	9	47	Dollys	Gateway Mining Ltd	EL5514	GS2003_479.R00029264
03KORF31	Float	660190	6217024	0.22	238	59	107	0.01	4.0	163	15	14	Dollys	Gateway Mining Ltd	EL5514	GS2003_479.R00029264
03KORF33	Float	660122	6217021	0.88	152	241	159	0.02	2.2	127	103	24	Dollys	Gateway Mining Ltd	EL5514	GS2003_479.R00029264
03KORF50	Float	662052	6214356	0.05	90	203	1340	0.13	19.2	143	61	1670	Fox Tank_South	Gateway Mining Ltd	EL5514	GS2003_479.R00029264



SampleID	Sample Type	MGA94_z55 Easting	MGA94_z55	Au_ ppm	As_ ppm	Bi_ ppm	Cu_ ppm	Cu_ pct	Fe_ pct	Mn_ ppm	Pb_ ppm	Zn_ ppm	Prospect	Company/Operator	EL Number	Source/Report
03KORF52	Float	662057	6214370	0.04	44	21	2640	0.26	7.5	146	76	61	Fox Tank South	Gateway Mining Ltd	EL5514	GS2003 479.R00029264
03KORF53	Float	662048	6214385	0.04	174	10	2930	0.29	13.3	598	-5	5960	Fox Tank South	Gateway Mining Ltd	EL5514	GS2003_479.R00029264
03KOR54	Outcrop	661942	6214296	0.00	13	-5	1710	0.17	2.7	284	-5	25	Fox Tank South	Gateway Mining Ltd	EL5514	GS2003 479.R00029264
03KORF55	Float	662044	6214108	0.33	1240	93	8540	0.85	35.9	255	28	59	Fox Tank_South	Gateway Mining Ltd	EL5514	GS2003_479.R00029264
03KORF61	Float	662300	6214072	0.07	363	49	3590	0.36	19.8	199	25	72	Fox Tank_South	Gateway Mining Ltd	EL5514	GS2003_479.R00029264
03KOR63	Outcrop	662538	6214059	0.00	121	780	3110	0.31	14.1	56	102	12	Fox Tank_South	Gateway Mining Ltd	EL5514	GS2003_479.R00029264
03KORF111	Float	662226	6216078	0.00	57	9	1920	0.19	43.6	1150	-5	31	Fox Tank_North3	Gateway Mining Ltd	EL5514	GS2003_479.R00029264
03KOR125	Outcrop	662053	6216133	0.01	81	16	1950	0.20	33.7	187	-5	22	Fox Tank North3	Gateway Mining Ltd	EL5514	GS2003_479.R00029264
03KOR126	Outcrop	662053	6216133	0.01	3	-5	5850	0.59	4.1	262	-5	17	Fox Tank North3	Gateway Mining Ltd	EL5514	GS2003 479.R00029264
	,	662423	6216324		-								Fox	Gateway Mining Ltd		_
03KORF130	Float	662089	6216642	0.01	16	-5	1190	0.12	10.3	204	-5	834	Tank_North3 Fox	Gateway Mining Ltd	EL5514	GS2003_479.R00029264
03KORF137	Float	002009	0210042	0.04	126	6	1010	0.10	14.3	221	-5	13	Tank_North4	Gateway Willing Ltd	EL5514	GS2003_479.R00029264
03KORF140	Float	662011	6216648	1.69	467	12	110	0.01	13.3	116	37	21	Fox Tank_North4	Gateway Mining Ltd	EL5514	GS2003_479.R00029264
03KORF141	Float	661971	6216631	0.00	15	-5	1120	0.11	4.1	197	-5	21	Fox Tank North4	Gateway Mining Ltd	EL5514	GS2003 479.R00029264
03KOR143	Outcrop	661349	6217996	19.60	-2	6	27	0.00	2.5	127	27	6	Granite Workings	Gateway Mining Ltd	EL5514	GS2003 479.R00029264
03KOR144	Outcrop	661340	6218014	7.95	6	144	37	0.00	4.2	115	1020	6	Granite Workings	Gateway Mining Ltd	EL5514	GS2003 479.R00029264
03KOR145	Outcrop	661324	6218090	5.70	-2	6	32	0.00	3.9	144	27	10	Granite Workings	Gateway Mining Ltd	EL5514	GS2003 479.R00029264
03KOR146	Outcrop	660614	6218713	0.13	-2	-5	183	0.02	4.6	821	-5	175	Nasdag	Gateway Mining Ltd	EL5514	GS2003_479.R00029264
03KOR147	Outcrop	660287	6217296	0.08	633	125	1670	0.17	10.4	133	38	173	Nasdag	Gateway Mining Ltd	EL5514	GS2003_479.R00029264

Table 3. Table of historical drilling inside EL8590

HoleID	Hole Type	MGA94_z55 Easting	MGA94_z55 Northing	RL	Dip	Az_ Mag	Total Depth	Prospect	Company/Operator	EL number	Source/ Report
BW1	DDH	660882	6215225	417	-50	259	131.7	Boorowa District	Mines Exploration	EL0039	GS1970_100.R00018124
BW2	DDH	660990	6215246	421	-60	259	247.5	Boorowa District	Mines Exploration	EL0039	GS1970_100.R00018124
BW3	DDH	660648	6214556	470	-50	259	61.9	Boorowa District	Mines Exploration	EL0039	GS1970_100.R00018124
BW4	DDH	660215	6218523	426	-50	248	202.4	Boorowa District	Mines Exploration	EL0039	GS1970_100.R00018124
CWC001	RC	659827	6217848	453	-60	31	93	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_391.R00019896
CWC002	RC	659792	6217814	453	-60	31	87	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_391.R00019896
CWC003	RC	659861	6217887	448	-60	31	60	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_391.R00019896
CWC004	RC	659900	6217806	459	-60	31	48	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_391.R00019896
CWC005	RC	659862	6217770	464	-60	31	33	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_391.R00019896
CWC006	RC	659826	6217733	465	-60	31	53	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_391.R00019896
CWC007	RC	659785	6217805	452	-90	31	120	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_391.R00019896
CWC008	RC	659955	6217751	467	-60	31	108	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_391.R00019896
CWC009	RC	659903	6217699	478	-60	31	90	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_391.R00019896
CWC010	RC	659893	6217687	478	-90	31	111	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_391.R00019896
CWC011	RC	660012	6217607	494	-60	31	120	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_391.R00019896
CWC012	RC	659677	6218127	449	-60	256	66	Gossan	Gateway Mining Ltd	EL5514	GS2002_391.R00019896
CWC013	RC	659669	6218157	445	-60	256	117	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_688.R00032974
CWC014	RC	659872	6217980	434	-60	76	75	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_688.R00032974
CWC015	RC	659824	6217984	430	-60		105	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_688.R00032974
CWC016	RC	659813	6217885	447	-60	77	105	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_688.R00032974
CWC017	RC	659762	6217885	441	-60	75	103	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_688.R00032974
CWCD18	RC/DD	659823	6217611	466	-60	29	177.5	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_688.R00032974
CWC019	RC	659944	6217539	484	-60	31	150	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_688.R00032974
CWC020	RC	660252	6217382	463	-60	33	140	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_688.R00032974
CWC021	RC	659755	6217657	451	-60	31	132	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_688.R00032974
CWC022	RC	659816	6217838	453	-60	211	70	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_688.R00032974
CWCD23	RC/DD	659688	6217603	456	-60	31	248.8	Nasdaq	Gateway Mining Ltd	EL5514	GS2002_688.R00032974
CWC024	RC	659604	6217584	460	-60	76	60	Nasdaq	Straits Resources	EL5514	GS2005_081.R00043345
KRC01	RC	660513	6216684	480	-60	62	94	Dolly's East	Straits Resources	EL5514	GS2005_081.R00043345
KRC02	RC	660018	6217284	480	-60	66	120	Nasdaq South	Straits Resources	EL5514	GS2005_081.R00043345
KRC03	RC	659963	6217284	478	-60	62	120	Nasdaq South	Straits Resources	EL5514	GS2005_081.R00043345
KRC04	RC	659621	6219184	442	-60	62	137	Nasdaq North	Straits Resources	EL5514	GS2005_081.R00043345
KRC05	RC	660188	6218599	430	-60	46	150	Nasdaq North	Straits Resources	EL5514	GS2005_081.R00043345
KRC06	RC	660228	6216684	469	-60	62	140	Dolly's North	Straits Resources	EL5514	GS2005_081.R00043345
KRC07	RC	660273	6216684	470	-60	62	144	Dolly's North	Straits Resources	EL5514	GS2005_081.R00043345
KRC08	RC	660970	6216717	441	-60	242	114	Dolly's Far East	Straits Resources	EL5514	GS2005_081.R00043345
KRC09	RC	659220	6215584	403	-60	62	120	Little Point	Straits Resources	EL5514	GS2005_081.R00043345
KRC10	RC	659213	6215784	420	-60	242	100	Little Point	Straits Resources	EL5514	GS2005_081.R00043345
KRC11	RC	659263	6215784	418	-60	242	120	Little Point	Straits Resources	EL5514	GS2005_081.R00043345
KRC12	RC	659273	6215739	420	-60	242	120	Little Point	Straits Resources	EL5514	GS2005_081.R00043345
KRC13	RC	659693	6214839	445	-60	42	120	South Pole	Straits Resources	EL5514	GS2005_081.R00043345
KRC14	RC	660488	6213884	490	-60	62	108	Yards	Straits Resources	EL5514	GS2005_081.R00043345
KRC15	RC	660653	6214604	462	-60	32	118	Kiola Shear	Straits Resources	EL5514	GS2005_081.R00043345
KRC16	RC	660863	6213384	487	-60	12	160	Yards	Straits Resources	EL5514	GS2005_081.R00043345

HoleID	Hole Type	MGA94_z55 Easting	MGA94_z55 Northing	RL	Dip	Az_ Mag	Total Depth	Prospect	Company/ Operator	EL number	Source/ Report
KRC17	RC	660953	6213194	505	-60	62	120	Yards	Straits Resources	EL5514	GS2005_081.R00043345
KRC18	RC	663013	6213784	515	-60	62	120	Fox Tank South	Straits Resources	EL5514	GS2005_081.R00043345
KRC19	RC	662333	6214234	485	-60	62	113	Fox Tank South	Straits Resources	EL5514	GS2005_081.R00043345
KRC20	RC	659313	6215784	416	-60	242	162	Little Point	Straits Resources	EL5514	GS2005_081.R00043345
KRC21	RC	660173	6216684	468	-60	62	204	Dolly's North	Straits Resources	EL5514	GS2005_081.R00043345
KRC22	RC	660657	6215306	405	-60	234	150	Kiola Shear	Straits Resources	EL5514	GS2005_081.R00043345
KRC023	RC	660213	6216684	ND	-60	166	191	Dolly's	Goldminco	EL5514	GS2006_490.R00054633
KRC024	RC	660988	6219859	379	-60	76	84	Dolly's	Goldminco	EL5514	GS2006_490.R00054633
KRC025	RC	660963	6213584	349	-60	76	84	Dolly's	Goldminco	EL5514	GS2006_490.R00054633
KIORC001	RC/DD	659180	6217000	ND	-70	76	239.5	Kiola	Minotaur Exploration Ltd	EL5514	GS2009_0314.R00034254
KIORC002	RC/DD	659540	6217200	ND	-60	76	337.4	Kiola	Minotaur Exploration Ltd	EL5514	GS2009_0314.R00034254
KIORC003	RC/DD	660185	6217425	ND	-90	346	252	Kiola	Minotaur Exploration Ltd	EL5514	GS2009_0314.R00034254
KIORC004	RC	660250	6217150	ND	-60	76	200	C140	Minotaur Exploration Ltd	EL5514	GS2009_0314.R00034254
KIORC005	RC	660581	6216493	ND	-80	231	102	C143	Minotaur Exploration Ltd	EL5514	GS2009_0314.R00034254
09COWRC146	RC/DD	659650	6213950	ND	-60	226	276.2	C146	Minotaur Exploration Ltd	EL5514	GS2009_0314.R00034254
09COWRC147	RC/DD	660745	6214368	ND	-60	246	197.2	C147	Minotaur Exploration Ltd	EL5514	GS2009_0314.R00034254
09COWRC148	RC	660564	6213980	ND	-60	226	200	C148	Minotaur Exploration Ltd	EL5514	GS2009_0314.R00034254

Appendix 1 - Section 1 Sampling Techniques and Data – Kiola Geochemical Zone – Rockchip samples

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole 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 (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Rock chip samples were collected during field inspection on the Kiola Geochemical Zone.</li> <li>Rock chip samples were collected from surface outcrops and floats.</li> <li>Outcrop samples represent the resistant and exposed portions of the local geology. The float samples are inferred to have originated from the local area where they were found, with no evidence of substantial transport.</li> <li>Submitted samples weigh from 0.2 kg to 2 kg.</li> <li>Samples were crushed, dried and pulverised (Lab) to produce a 50g sub sample for analysis by four acid digest with an ICP-AES finish &amp; Fire Assay (Au) finish.</li> </ul>
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).	Not applicable – surface rock chip samples.
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/gain of fine/coarse material.</li> </ul>	Not applicable – surface rock chip samples.
Logging	<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> </ul>	<ul> <li>A short geological description of each sample was taken at the time of collection.</li> <li>The description is qualitative: lithology, alteration, mineralisation</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <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>The sample preparation of rock chip samples followed industry best practice in sample preparation involving oven drying, coarse crushing of the rocks followed by pulverisation of the entire sample (total prep) using grinding.</li> <li>Where possible, samples were selected to represent different parts of the mineral system as a whole. No field duplicate samples were collected.</li> <li>Sample sizes were sufficiently large to sample a good representation of the local geology</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 geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model,</li> </ul>	<ul> <li>Samples were delivered to ALS Chemex, in Orange NSW.</li> <li>Average sample weight was ~0.5 kg.</li> <li>Standard assay procedures performed by a reputable assay lab, (ALS Group), were undertaken. Gold assays are initially by 50g fire assay with AAS finish (method Au-AA26 and AA-Au24). For samples with a gold value greater than 0.5ppm the entire</li> </ul>

Criteria	JORC Code explanation	Commentary
	reading times, calibrations factors applied and their derivation, etc.  Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	remaining sample is screen fire assayed using wet screening to 75 microns. Ag, As, Cu, Fe, Pb, S, Zn are digested in aqua regia then analysed by ICP-AES (method ME-ICP61). Comparison with 4 acid digestion indicate that the technique is considered total for Ag, As, Cu, Pb, S, Zn. Fe may not be totally digested by aqua regia but near total digestion occurs. A final 50 gram split was then fire assayed with an AAS finish.  Internal ALS QC results are reported along with sample values in the final analytical report.  QAQC protocols are documented and involve the use of certified reference material (CRM's) as assay standard.
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>	<ul> <li>Original sample data sheets and files have been retained and were used to validate the contents of the company's database against the original assay</li> <li>The raw assay data were reviewed and verified by company's Exploration Manager.</li> </ul>
Location of data points	Accuracy and quality of surveys used to locate drillholes (collar and downhole 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> <li>A handheld GPS was used to locate each sample. GPS accuracy is +/- 5m for easting and northing coordinates.</li> <li>Coordinate system GDA_94, Zone 55.</li> <li>Topographic control is maintained by use of widely available government datasets</li> </ul>
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>	Only reconnaissance sampling completed — spacing is variable and based on outcrop location and degree of exposure     Samples were taken at non-regular intervals according to observations at the time in the field.
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>	Samples were taken according to geological observations at the time in the field.
Sample security	The measures taken to ensure sample security.	<ul> <li>Samples were placed in tied calico bags with unique sample numbers. Once delivered from the field the samples were housed in secure premises prior to laboratory submission by Emmerson's contractor. Samples were placed in sealed polyweave bags for transport to the assay laboratory.</li> <li>Digital data is emailed to the Exploration Manager informing that the samples have been dispatched to the lab.</li> <li>The assay laboratory confirms that all samples have been received and that no damage has occurred during transport.</li> <li>Sample receipt is logged into NSW Emmerson sample ledger.</li> <li>Results data was emailed to the Exploration Manager - NSW.</li> <li>While samples are being prepared in the laboratory they are considered to be secure.</li> <li>Tracking is available through the internet and designed by the laboratory to track the progress of batches of samples.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No formal audit has been completed on the samples being reported.

Section 2 Sampling Techniques and Data – Kiola Geochemical Zone – Rockchip samples

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>Kiola Geochemical Zone is within EL8590.</li> <li>EL8590 is located between the townships of Cowra and Boorowa, in central NSW.</li> <li>EL8590 is situated on Boorowa 1:100 000 Geology Geological Series Sheet 8629</li> <li>EL8590 has good access from the Lachlan Valley Way and sealed and unsealed roads and tracks. Land use is mixed grazing and cropping on variably undulating terrain.</li> <li>EL8590 is 100% held by Lachlan Resources (Emmerson Resources).</li> <li>EL8590 is in good standing and no known impediments exist.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	From 1966 – 1986, Mines Exploration, Jododex, Teck and Noranda investigated various parts of EL8590 for base metal, skarn and vein hosted mineralisation. Various geological mapping, stream sediment sampling, soil sampling, geophysical surveys and drilling programs were completed. In total 14 drill holes were drilled at discrete targets. Mines Exploration drilled one hole targeting a gossanous horizon and associated IP anomaly which returned 3.9m @ 0.68% Cu, 3.31% Zn and 0.45 oz/t Ag (from 19.2m, BW-1). Subsequent drilling failed to return further anomalous results. Multiple magnetic, electromagnetic and IP anomalies were defined by several explorers; however systematic ground truthing of these anomalies found the majority were cultural, and those that were drilled were identified as pyritic black shales (Teck 1982 & 1983).
		• In the mid-1990's North Mining (EL4730) targeted large tonnage, intrusive related, Ordovician Cu-Au Mineralisation (Carey et al 1997). Various rock chip and stream sediment sampling, mapping and geophysical survey programs were completed. Outcrop rock chip sampling returned encouraging results including 5.57% Cu and 0.152 g/t Au in one sample, and 109ppm Mo in another. Upon relinquishment, North recommended further geological mapping and reconnaissance AC drilling of anomalous areas, as a number of prospects were still considered prospective (Mari & Burrell 1998).
		• Gateway Mining (EL5514) carried out a comprehensive exploration program from 1998-2012 (Gordon 2014), targeting Ordovician porphyry and skarn style mineralisation. During the tenure period joint ventures were formed with Straits (2003), Goldminco (2003-2006) and Minotaur (2006-2011). Various mapping, sampling and geophysical surveys assisted to delineate drill targets. A total of 62 RC holes and 11 diamond tails were drilled. Some encouraging intercepts were returned including 26m @ 0.21% Cu and 2.27% Zn (from 10m, KRC05); 8m @ 0.32% Zn (from 52m,KIORC003); and 6m @ 0.64% Cu (from 198m, KIORC003: including 1m @ 1.24% Cu from 202m). Gateway satisfactorily tested all delineated targets and concluded that the lack of Ordovician aged intrusions downgraded the prospectivity for Ordovician porphyries. Gateway highlighted the likelihood that a larger mineralised system may be present at depth around the Nasdaq prospect area; however it would be sub economic.
		<ul> <li>Clancy Exploration Ltd (EL8151) acquired the tenement from 2013-2015, work completed included probabilistic targeting, open file assessment of previous explorations and SWIR analysis of historical drillholes. Clancy sought a Joint venture partner for the project, but nothing eventuated, and relinquished the ground.</li> </ul>
Geology	Deposit type, geological setting and style of	Location of EL8590 is within the southern Molong Volcanic Belt.     EL8590 is located immediately underneath the Benambran

Criteria	JORC Code explanation	Commentary
Drillhole information	mineralisation.  A summary of all information material to the	unconformity and within 5km-10km of the Lyndhurst-Neville Fault (locally termed the Frogmore Fault zone) that juxtaposes the Bega terrane with the Macquarie Arc.  • The dominant host rocks belong to the Ordovician Kenyu Formation and comprise mafic volcaniclastic sandstone and siltstone, basaltic to andesitic massive polymictic conglomerate and recrystallized limestone/marble. The Kenyu Fm is commonly sulphidic (Po>Py>Cpy) with sulphides present as disseminations and thin veins. The Kenyu Fm is bounded to the west by the Silurian Hawkins Volcanics (rhyolite, rhyodacite and ignimbrites with volcaniclastic sediments and minor limestone) and is bounded to the east by granites of the Silurian Hovells Suite (Wyangala and Licking Gully Granites), which in turn are intruded by the Devonian Boggy Plains (Wyoming) Granite and Cainozoic basalt.  • The "Kiola Geochemical Zone" covers an area of 8km x 5km and includes a plethora of old workings as well as 11 mineral occurrences. Existing drilling (Historical) has been concentrated at the Nasdaq Prospect and southwards along a NS fault corridor to the Kiola Prospect  • The Kenyu Fm in EL8590 hosts many historical workings although all have been small, generally confined to small pits or shafts exploiting narrow quartz-malachite shear veins.  • The "Kiola Geochemical Zone" Van der Stelt (2010) covers an elliptical area of 8km x 5m hosting the largest number of workings and has seen the most drilling, although the deepest hole (KIORC002, EOH 337.4m) only tests to 292m below ground level and the vast majority of holes only test to half this vertical depth.  • Historical targets within this zone from North to South include Stewart and Party workings, Stewart, Harcombe and Party Workings, Nasdaq, Adams Shaft, Dolly's, Little Point, Fox Tank (aka Fox, Tank or Kiola), Sapling Gully Workings, Bellview Mine, Yard (aka Ingleside or Kiola 2), Sheridan Grid and the Yundoo Lode. Taylor (2003) notes that quartz veins at the Right Hand Creek yielded up to 29.8g/t Au (epithermal?) but does
Data aggregation methods	understanding of the exploration results including a tabulation of the following information for all Material drillholes:  easting and northing of the drillhole collar elevation or RL of the drillhole collar dip and azimuth of the hole downhole length and interception depth hole length.  In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.  Where aggregate intercepts incorporate short	<ul> <li>Not length-weighting or cut-off grades have been applied.</li> <li>No metal equivalent values reported.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <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> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.</li> <li>If it is not known and only the downhole lengths are</li> </ul>	Not applicable. Only rockchips (point data) is presented.

Criteria	JORC Code explanation	Commentary
Diagrams	<ul> <li>effect (eg 'downhole length, true width not known').</li> <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 drillhole collar locations and appropriate sectional views.</li> </ul>	Refer to Figures in body of text.
Balanced reporting	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> <li>Details of Emmerson's rock chip samples returning &gt;500ppm Cu or &gt;0.1 g/t Au results are included in Table 1.</li> <li>For historical rock chip details and results &gt;1000ppm Cu or &gt;0.1 g/t Au are presented in Table 2.</li> </ul>
Other substantive exploration data	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.	All meaningful and material information is reported.
Further work	<ul> <li>The nature and scale of planned further work (eg 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>	Further work on the reported exploration targets will involve:     Drilling to test the depth extension of mineralization as shown from recent and historical rockchip sampling results and highlighted from the recently completed 2D Dipole Dipole IP.  - Depending on the drilling result, additional 2D IP Survey will
	illiorniauon is not commercially sensitive.	be panned in the future Petrography and mineragraphy study