

SIRIUS RESOURCES NL

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Capital structure
Ordinary shares: 224,160,167
Performance shares: 2,200,000
Unlisted options: 47,714,419

Projects

Polar Bear: gold ,nickel

Fraser Range: gold, base metals

Youanmi: base metals, gold

Collurabbie: nickel, copper, PGM's


HIGHLIGHTS

- **Maiden Nova Mineral Resource Estimate completed**
- **Bollinger deposit discovered five days after Nova drillout completed**
- **Key project team management personnel appointed**
- **New Chairman appointed**
- **Well-funded with cash of \$53 million**
- **Regional exploration recommenced with drilling at the Earlobe gold prospect (Polar Bear) and the Inky nickel-copper prospect (Youanmi)**

Key events of the March 2013 quarter included the announcement of the maiden Mineral Resource Estimate for the Nova deposit, the discovery of the Bollinger deposit, the appointment of key project team management personnel and the appointment of Jeff Dowling as non-executive chairman of the Company.

The maiden Mineral Resource Estimate for the Nova nickel-copper-cobalt deposit was announced in late March following the completion of the resource drillout in February. This exceeded expectation, with a contained 242,000 tonnes of nickel, 100,000 tonnes of copper and 7,700 tonnes of cobalt (see ASX announcement of 20th March 2013 for details). The Bollinger nickel-copper-cobalt deposit was discovered within five days of the completion of the Nova drillout (see ASX announcement of 28th February 2013) and resource definition drilling of this deposit is currently underway.

Key project team management personnel – including Chief Operating Officer, Construction and Infrastructure Manager and Offtake Marketing Advisor – were also appointed during the quarter and commenced subsequent to the quarter's end. Jeff Dowling was appointed as non-executive Chairman, replacing Steven Lowe, who stepped aside to a non-executive director role. These appointments greatly strengthen the Company's capacity to meet the challenges of transitioning from an explorer to an explorer-developer.

Regional exploration has also recommenced, with drilling at the Earlobe gold prospect (Polar Bear) and the Inky nickel-copper prospect (Youanmi) completed during the quarter and stage 2 reconnaissance drilling of new gold targets at Polar Bear commencing subsequent to the quarter's end.

The remainder of calendar 2013 is set to be a pivotal year for Sirius, with the commencement of the Nova scoping study, ongoing intensive exploration at

the Fraser Range and recommencement of regional gold and base metal exploration elsewhere.

CORPORATE

Cash at the start of the March quarter was \$63 million. During the quarter, approximately \$11 million was spent on exploration and related administrative and corporate costs. As a result of option exercises in the quarter, approximately \$0.6 million was received net of costs. At the end of the quarter cash at bank totalled approximately \$53 million.

As of the end of the quarter, outstanding unlisted options totalled 47.71 million, comprising 3.50 million 20 cent options, 33.36 million 60 cent options, 0.40 million \$2.80 options, 8.75 million \$3.17 options and 1.7 million \$3.50 options. Finally, the number of unlisted performance shares remained static, at 2.2 million.

FRASER RANGE JOINT VENTURE (70%)

Sirius has a 70% interest in the Fraser Range Joint Venture, with Mark Creasy retaining a 30% free carried interest to the completion of a bankable feasibility study. The project covers over 100 kilometres strike length of the Albany-Fraser Belt – which contains the nickel prospective Fraser Complex and also the Tropicana trend. The package is considered highly prospective for Tropicana-style gold mineralisation as well as for the now demonstrated Nova-style magmatic nickel-copper-cobalt deposit style.

Nova

The maiden Mineral Resource estimate for the Nova nickel-copper-cobalt deposit exceeded expectations, with a contained 242,000 tonnes of nickel, 100,000 tonnes of copper and 7,700 tonnes of cobalt (at a 0.6% nickel equivalent* lower cutoff). This resource comprises 10.2 million tonnes at 2.4% nickel, 1.0% copper and 0.08% cobalt (see ASX announcement of 20th March 2013 for details).

The Mineral Resource estimate was completed in accordance with the guidelines of the JORC Code (2012 edition). 90% of the Nova resource is in the Indicated Mineral Resource category – the category sufficient to use as a basis for estimating a Probable Ore Reserve and undertaking a feasibility study. This resource estimate does not include the recently discovered Bollinger deposit, which is currently being drilled.

Sirius' geological model was audited by specialist consultants Optiro, who also estimated the resource.

A range of lower cutoffs was used to report grades and tonnages and the robustness of the mineralisation is clearly demonstrated by the fact that elevated cutoff grades have minimal effect on the contained metal – ie, even using a 1.0% nickel equivalent lower cutoff, the resource still contains 222,000 tonnes of nickel, 88,000 tonnes of copper and 7,000 tonnes of cobalt.

Bollinger

The Bollinger deposit was discovered on 28th February 2013, just five days after resuming exploration drilling following completion of the Nova drillout (see ASX announcement of 28th February 2013). The Bollinger deposit is located immediately to the east of Nova and is connected to it by a feeder zone (a relatively narrow conduit through which magma once flowed).

The discovery hole, hole SFRD0167 intersected;

- **102.82m @ 1% nickel, 0.43% copper and 0.04% cobalt** from 361m, including **62.82m @ 1.41% nickel, 0.57% copper and 0.06% cobalt** from 401m, including **4.78m @ 4.6% nickel, 1.29% copper and 0.19% cobalt** from 433.92m

and the follow up hole, hole SFRD0258 intersected;

- **55.1m @ 3.09% nickel, 1.02% copper and 0.12% cobalt** from 423.1m, including **17.51m @ 4.77% nickel, 1.3% copper and 0.18% cobalt** from 437.91m and **6.01m @ 5.18% nickel, 1.74% copper and 0.20% cobalt** from 471.4m

Since then, a number of holes have defined a core zone of massive sulphides within a broader envelope of disseminated sulphides over a sizeable area.

These holes were drilled to test a large gravity anomaly defined in a gravity survey, and the remainder of this is as yet largely untested.

Exploration

Broad spaced exploration holes are being drilled at the Eye for down hole electromagnetic (DHEM) surveying with the aim of identifying additional massive sulphide lenses.

The large EM target at Yardilla is on track for drilling late in the June quarter once heritage clearances and statutory drilling approvals have been completed.

Metallurgical testwork

The second stage of metallurgical testwork is nearing completion and results for this are expected in early May.

FRASER RANGE (100%)

Sirius has a 100% interest in several granted and pending tenements in the Fraser Range region. These are in addition to those which constitute the Fraser Range Joint Venture (see above). These tenements include the Buningonia intrusion, situated some 40 kilometres along strike from Sirius' Nova nickel-copper discovery. The ground is considered highly prospective for mafic-ultramafic intrusion hosted magmatic nickel-copper-platinum group metal (PGM) and chromite deposits.

In addition to the ground held as the Fraser Range Joint Venture, Sirius has seven tenements in its own right. Six of these are currently awaiting grant and one tenement recently granted contains a chromite and platinum prospect.

This tenement is situated in a proposed nature reserve and as such a comprehensive environmental management plan is being prepared to enable access.

POLAR BEAR (100%)

Sirius owns 100% of the Polar Bear project. The project is located between the world class gold producing centres of St Ives and Norseman – both ~10 million ounce camps – and southeast of the 2 million ounce Higginsville gold operations of Alacer Gold Corp. It also covers the southern continuation of the ultramafic stratigraphy which hosts the Kambalda and Widgiemooltha nickel deposits. It is largely concealed beneath the salt lake sediments and sand dunes of Lake Cowan.

Earlobe

Several diamond holes were drilled at the Earlobe prospect during the quarter and these extended the known gold mineralisation. Intersections from these holes are as follows:

- **4.35m @ 1.31 g/t Au** from 109.65m including **3m @ 1.66 g/t Au** from 111m in hole SPBD0042

- **4.45m @ 1.23 g/t Au** from 117.5m including **2m @ 2.25 g/t Au** from 118m and **2.37m @ 3.37 g/t Au** from 145.63m including **1.13m @ 5.97 g/t Au** from 145.63m in hole SPBD0044

These intercepts together with those listed in Annexure 1 and shown in figures 1 and 2 confirm that the upper and lower gold lodes at Earlobe strike in a NW direction and dip gently to the NE, with individual quartz veins being up to 4 metres thick.

Both lodes at the Earlobe prospect remain open along strike and down dip. Further drilling will be required in order to assess the full lateral and vertical extent of the mineralisation and to define any grade and thickness trends.

Lake gold targets

An initial phase of reconnaissance aircore drilling of some of the recently defined gold targets was completed in late February (ASX announcement of 22nd February 2013). This drilling identified a broad zone of supergene gold anomalism over 500 metres wide. Individual 4 metre samples grade up to 1.4g/t gold within this blanket (*figure 3*), including the following:

- **12m @ 0.69 g/t Au** from 16m including **4m @ 1.25 g/t Au** from 20m in hole SPBA0226
- **8m @ 0.86 g/t Au** from 40m including **4m @ 1.4 g/t Au** from 44m in hole SPBA0231
- **4m @ 0.73 g/t** from from 40m in hole SPBA0233

This is the first of several stages of drilling planned to test each target, starting with very broad spaced drilling to define anomalous zones (greater than 0.1g/t gold) and culminating in deeper drilling of specific mineralised zones.

It is very encouraging to identify such strong concentrations of gold at this first stage in such widely spaced holes.

Subsequent to the quarter's end, the second phase of reconnaissance aircore drilling has commenced to extend the coverage over these targets. Drilling is ongoing.

YOUANMI (70%)

Sirius has a 70% interest in the Youanmi Joint Venture, with Mark Creasy retaining a 30% free carried interest to the completion of a bankable feasibility study and retaining titanium-vanadium-iron rights. The project covers the Youanmi intrusive complex and the surrounding felsic stratigraphy. The intrusive complex is prospective for mafic-ultramafic intrusion hosted nickel-copper-PGM mineralisation and the surrounding stratigraphy is prospective for volcanogenic massive sulphide (VMS) copper-zinc deposits.

Three diamond holes drilled at the Inky nickel-copper prospect extended the zone of mineralization, as described in the ASX announcement of 2nd April 2013. Intersections are as follows (*figure 4*):

- **3.56 metres @ 0.87% nickel, 0.87% copper and 3.0 g/t silver** from 254.58 metres in hole SYMD0026.
- **3.00 metres @ 0.65% nickel, 0.35% copper and 1.10 g/t silver** from 244 metres in hole SYMD0025.
- **2.58 metres @ 0.62% nickel, 0.60% copper and 3.32 g/t silver** from 149.42 metres in hole SYMD0024.

Additional exploration at Inky and other prospects at Youanmi is being planned.

As per the new 2012 JORC reporting guidelines, a summary of the information used in these exploration results is as follows:

Earlobe is situated within the Archaean Norseman-Wiluna Belt which locally includes basalts, komatiites, metasediments, and felsic volcanoclastics. The gold mineralisation is related to hydrothermal activity during multiple deformation events. Mineralisation at Earlobe is analogous to the 'Norseman Style' of Archaean lode gold mineralisation.

Earlobe is located wholly within Exploration Licence E63/1142. The tenement is held by Polar Metals Pty Ltd, a wholly owned subsidiary of Sirius Resources NL.

Drilling of the Earlobe prospect is by aircore drill holes (63 holes to a maximum depth of 120 m), reverse circulation drill holes (29 holes to a maximum depth of 138 m), and diamond drill holes of NQ2 and HQ diameter core (3 holes to a maximum depth of 220 m). The nominal drillhole spacing is 50 m (northing) by 40 m (easting). Diamond core recoveries are >95% overall. Drillhole collar locations were surveyed using GPS, and all holes were downhole surveyed using a multishot system.

Sampling of diamond core was based on geological intervals (length 0.2 m to 1.3 m). The core was cut into half (NQ2) or quarter (HQ) to give sample weights around 3 kg. Field quality control procedures involved assay standards, along with blanks and duplicates. These QC samples were inserted at an average rate of 1:15, with an increased rate in mineralised zones.

The sample preparation of diamond core involved oven drying, coarse crushing of the half core sample down to ~10 mm followed by pulverisation of the entire sample in a single stage mixer mill to a grind size of 85% passing 75 micron. The sample preparation for RC samples was identical, without the coarse crush stage. A pulp sub-sample was collected for analysis by 50 g fire assay with an AAS finish.

All reported assays have been length weighted. No top-cuts have been applied. A nominal 0.5 ppm lower cutoff is applied. High grade gold intervals internal to broader zones of gold mineralisation are reported as included intervals.

The mineralisation is moderately dipping, striking local grid north and is drilled to local grid west with drill holes inclined between -60 and -90 degrees. The intersection angles for the drilling are ~ 45 degrees to the mineralised zones. Therefore reported downhole intersections approximate to half true width.

Geotechnical logging was carried out on all diamond drillholes for recovery, RQD and number of defects (per interval). Information on structure type, dip, dip direction, alpha angle, beta angle, texture, shape, roughness and fill material is stored in the structure table of the database.

The Earlobe prospect remains open up - plunge, down - plunge and down dip. Further drilling will be required in order to assess the full lateral and vertical extent of the mineralisation.

A handwritten signature in black ink that reads "Mark Bennett".

Mark Bennett, Managing Director and CEO

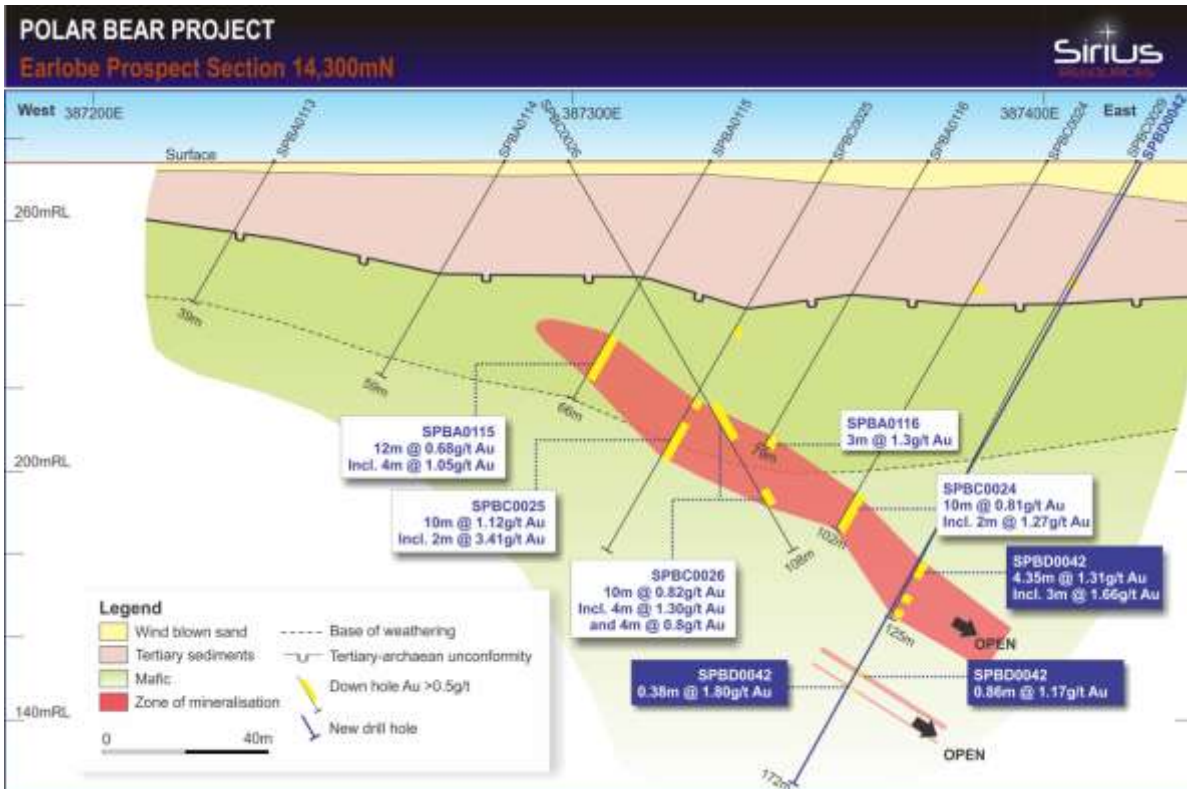


Figure 1: Polar Bear Earlobe prospect (section 14,300mN)

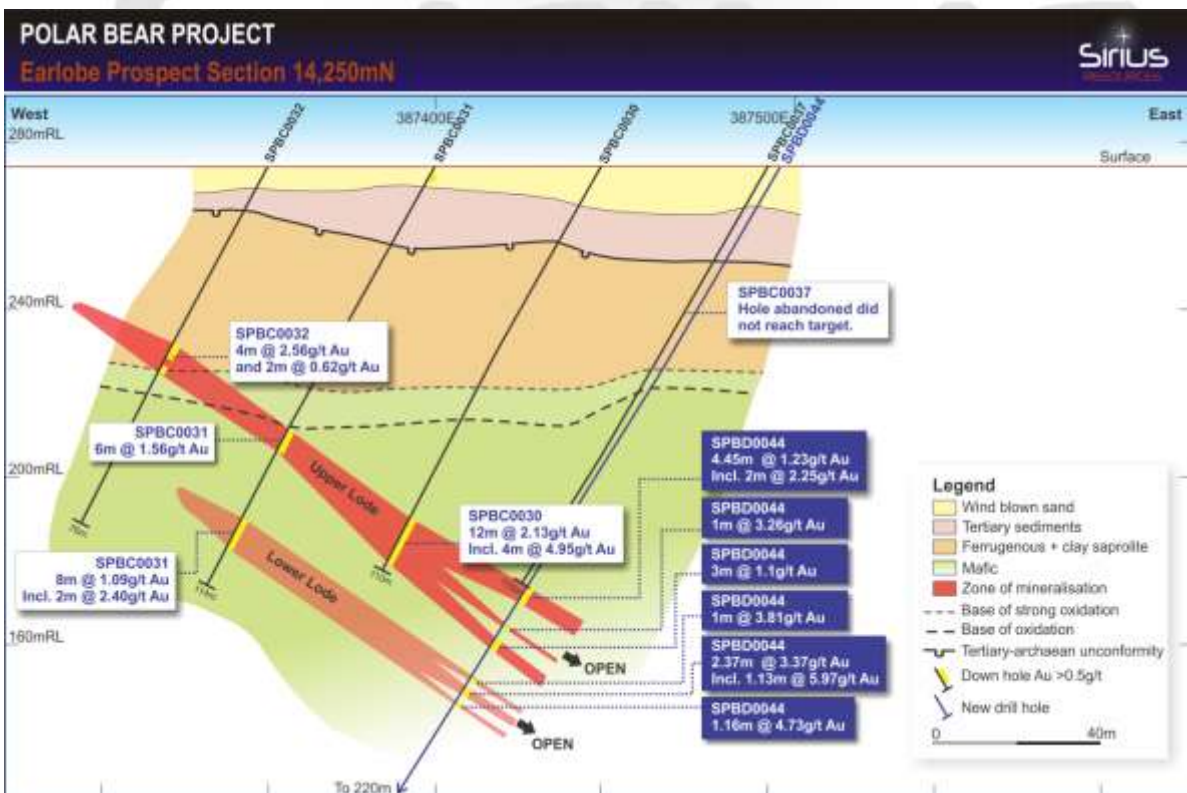


Figure 2: Polar Bear Earlobe prospect (section 14,250mN)



Figure 3: Lake Cowan aircore drilling program, Au distribution line 6,469,100mN.

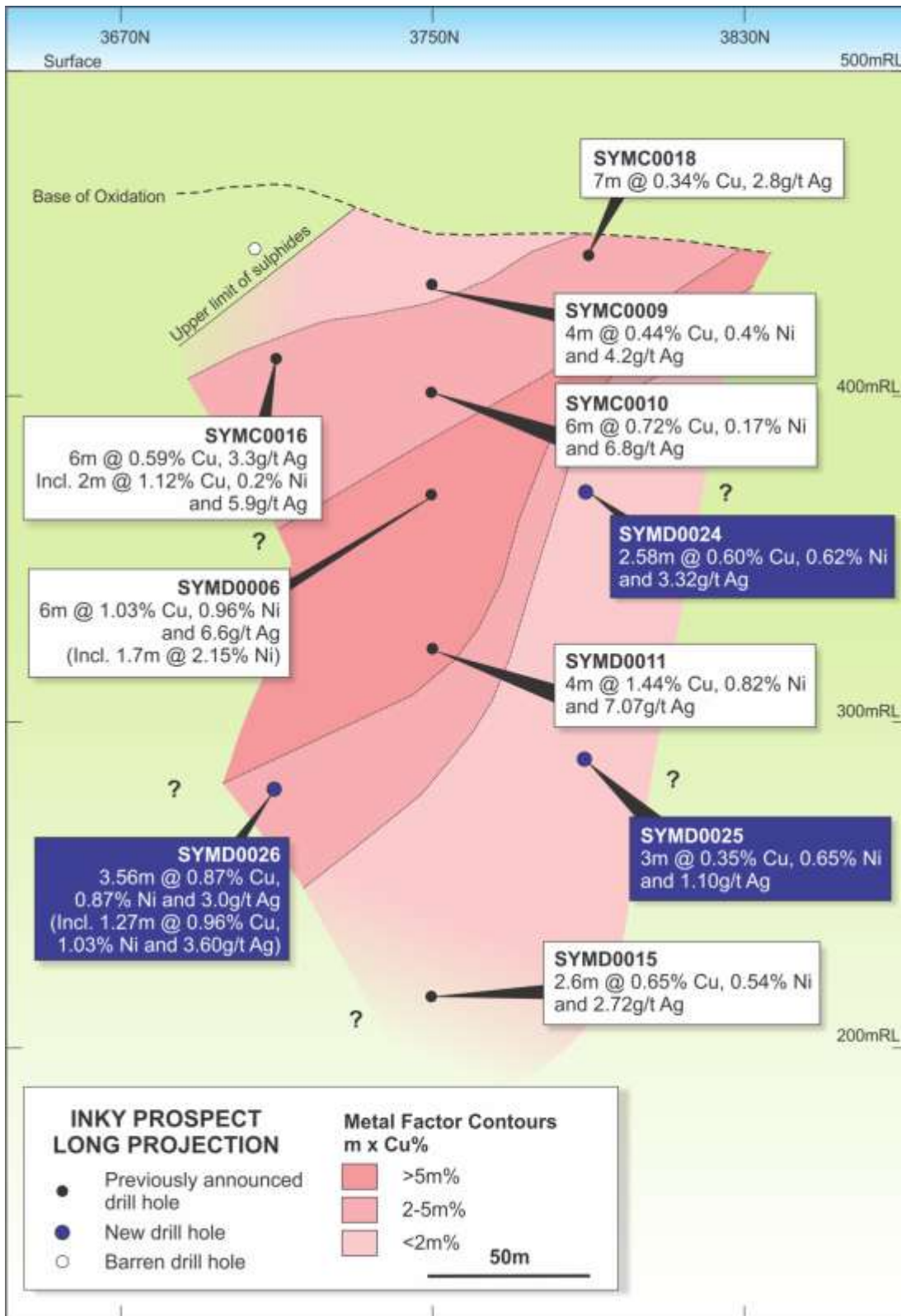


Figure 4: Cross section through the Inky prospect showing results from recent drilling program.

ANNEXURE 1:

Hole No.	Zone	Total Depth	NORTH	EAST	RL	Dip	Azim	From, m	To, m	Width, m	Au, ppm
SPBC0013	EARLOBE STH	100	6470810	387848	274	-60	240	62	64	2	3.8
AND								78	80	2	0.9
SPBC0014	EARLOBE STH	102	6470757	387758	274	-60	60	NSA	NSA	NSA	NSA
SPBC0015	EARLOBE STH	100	6470777	387783	274	-60	60	NSA	NSA	NSA	NSA
SPBC0016	EARLOBE STH	100	6470846	387684	274	-60	60	NSA	NSA	NSA	NSA
SPBC0017	EARLOBE STH	102	6470815	387634	274	-60	60	NSA	NSA	NSA	NSA
SPBC0018	EARLOBE NTH	102	6471469	387369	274	-60	60	48	50	2	0.71
AND								60	64	4	0.8
AND								74	76	2	0.9
AND								80	84	4	1.04
SPBC0019	EARLOBE NTH	102	6471515	387444	274	-60	240	36	44	8	7.61
INCLUDING								36	38	2	26.6
AND								86	92	6	0.82
INCLUDING								86	88	2	1.28
SPBC0020	EARLOBE NTH	100	6471483	387403	274	-60	240	52	58	6	1.54
SPBC0021	EARLOBE NTH	96	6471437	387318	274	-60	60	30	32	2	1.36
SPBC0022	EARLOBE NTH	100	6471491	387400	274	-60	60	52	54	2	1.89
AND								90	92	2	3.43
SPBC0023	EARLOBE NTH	102	6471513	387441	274	-90	N/A	50	54	4	6.09
INCLUDING								50	52	2	8.74
AND								82	84	2	1.4
SPBC0024	EARLOBE NTH	102	6471602	387398	274	-60	240	34	36	2	1.59
AND								92	102	10	0.81
INCLUDING								92	94	2	1.27
SPBC0025	EARLOBE NTH	108	6471576	387353	274	-60	240	46	48	2	0.63
								66	68	2	0.8
								72	82	10	1.12
INCLUDING								80	82	2	3.41
SPBC0026	EARLOBE NTH	108	6471543	387299	274	-60	60	68	78	10	0.82
INCLUDING								72	76	2	1.3
AND								92	96	4	0.8
SPBC0027	EARLOBE NTH	110	6471538	387484	274	-60	240	68	70	2	0.5
AND								76	78	2	0.59
AND								98	102	4	0.86
SPBC0028	EARLOBE NTH	110	6471554	387510	274	-60	240	86	90	4	3.17

INCLUDING								88	90	2	5.73
SPBC0029	EARLOBE NTH	125	6471614	387416	274	-60	240	32	34	2	0.87
AND								100	102	2	0.51
AND								106	110	4	0.65
AND								118	120	2	0.57
AND								122	124	2	0.88
SPBC0030	EARLOBE NTH	110	6471581	387459	274	-60	240	96	108	12	2.13
INCLUDING								98	102	4	4.95
SPBC0031	EARLOBE NTH	114	6471561	387424	274	-60	240	2	4	2	0.7
AND								72	78	6	1.56
AND								96	104	8	1.09
INCLUDING								96	98	2	2.4
SPBC0032	EARLOBE NTH	96	6471540	387390	274	-60	240	48	52	4	2.56
AND								54	56	2	0.62
SPBC0033	EARLOBE NTH	114	6471495	387510	274	-60	240	82	84	2	0.6
AND								102	106	4	0.74
SPBC0034	EARLOBE NTH	126	6471475	387475	274	-60	240	12	14	2	0.61
AND								50	52	2	0.53
AND								56	64	8	5.56
INCLUDING								60	62	2	17.29
AND								100	102	2	0.54
SPBC0035	EARLOBE NTH	138	6471667	387408	274	-60	240	46	48	2	0.7
AND								120	122	2	1.74
AND								128	132	4	0.51
SPBC0036	EARLOBE NTH	40	6471647	387373	274	-60	240	NSA	NSA	NSA	NSA
SPBC0037	EARLOBE NTH	116	6471602	387493	274	-60	240	NSA	NSA	NSA	NSA
SPBC0038	EARLOBE NTH	85	6471516	387544	274	-60	240	NSA	NSA	NSA	NSA
SPBC0039	EARLOBE NTH	109	6471536	387579	274	-60	240	NSA	NSA	NSA	NSA
SPBC0040	EARLOBE NTH	85	6471606	387305	274	-60	240	38	40	2	0.72
AND								44	46	2	0.95
AND								52	54	2	0.84
AND								74	76	2	0.98
SPBC0041	EARLOBE NTH	108	6471626	387339	274	-60	240	70	72	2	3
AND								78	82	4	1.05
SPBD0042	EARLOBE NTH	171.7	6471613	387418	274	60	240	109.65	114	4.35	1.31
INCLUDING								111	114	3	1.66
AND								140	140.86	0.86	1.17
AND								144.62	145	0.38	1.8
SPBD0043	EARLOBE	129.7	6471645	387377	274	60	230	99.1	101	1.9	0.95

	NTH										
AND								105.95	107.16	1.21	0.85
SPBD0044	EARLOBE NTH	220	6471599	387498	274	60	240	117.5	121.95	4.45	1.23
INCLUDING								118	120	2	2.25
AND								128	129	1	3.26
AND								132	135	3	1.1
AND								143	144	1	3.81
AND								145.63	148	2.37	3.37
INCLUDING								145.63	146.76	1.13	5.97
AND								149.84	151	1.16	4.73

Note: Drillholes in **bold** represent new results whereas the other drillholes have been announced previously.

Competent Persons statement

The information in this report that relates to Exploration Results is based on information compiled by Mark Bennett and Andy Thompson who are employees of the company and fairly represents this information. Dr Bennett is a member of the Australasian Institute of Mining and Metallurgy, a fellow of the Australian Institute of Geologists and a fellow of the Geological Society of London. Mr Thompson is a member of the Australasian Institute of Mining and Metallurgy. Dr Bennett and Mr Thompson have sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities undertaken, to qualify as Competent Persons as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Bennett and Mr Thompson consent to the inclusion in this report of the matters based on information in the form and context in which it appears.

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<i>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.</i>	The mineralisation is sampled by aircore (AC), reverse circulation (RC), and diamond drill holes (DD). A total of 63 AC holes, 29 RC holes, and 3 DD holes have been drilled to a maximum depth of 220m. Holes are generally angled towards the SW at varying angles to optimally intersect the mineralised zones.
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used</i>	The drill hole locations are picked up by GPS and downhole surveys using multishot readings during drilling (at 18m, then every 30 m). Diamond core was used to obtain high quality samples that were logged for lithological, structural, geotechnical and other attributes. Sampling was carried out under Sirius protocols and QAQC procedures as per industry best practice.
	<i>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</i>	Aircore samples are composited at 4 m. Samples were crushed, dried and pulverised (total prep) to produce a sub sample for analysis by 40 g fire assay with ICP-AES finish. RC samples are composited at 2 m. Samples were crushed, dried and pulverised (total prep) to produce a sub sample for analysis by 50 g fire assay with AAS finish. Diamond core is HQ and NQ2 size, sampled on geological intervals (0.2 m to 1.3 m), cut into half (NQ2) or quarter (HQ) core to give sample weights under 3 kg. Samples were crushed, dried and pulverised (total prep) to produce a sub sample for analysis by 50 g fire assay with AAS finish.

Criteria	JORC Code explanation	Commentary
Drilling techniques	<i>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).</i>	Diamond drilling accounts for 3 % of the current drilling at Earlobe and comprises NQ2 or HQ sized core. The core was oriented using a Acetool orientation tool. Previous drilling has been by aircore and RC drilling.
Drill sample recovery	<i>Method of recording and assessing core and chip sample recoveries and results assessed</i>	Aircore and RC recoveries are logged visually on a sliding scale from 1-5. Diamond core recoveries are logged and recorded in the database. Overall recoveries are >95% and there are no core loss issues or significant sample recovery problems.
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples</i>	Diamond core is reconstructed into continuous runs on an angle iron cradle for orientation marking. Depths are checked against the depth given on the core blocks and rod counts are routinely carried out by the drillers.
	<i>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.</i>	The mineralisation is defined by diamond core drilling, which has high recoveries. The mineralisation style and the consistency of the mineralised intervals are considered to preclude any issue of sample bias due to material loss or gain in diamond drilling. Reverse circulation and aircore drilling samples were frequently wet which may have resulted in sample bias due to preferential loss/gain of fine/coarse material. Further diamond drilling will need to be undertaken to evaluate these effects.
Logging	<i>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.</i>	Geotechnical logging was carried out on all diamond drillholes for recovery, RQD and number of defects (per interval). Information on structure type, dip, dip direction, alpha angle, beta angle, texture, shape, roughness and fill material is stored in the structure table of the database.
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i>	Logging of aircore and RC chips and diamond core samples records lithology, mineralogy, mineralisation, structural, weathering, colour and other features of the samples. Core was photographed in both dry and wet form.
	<i>The total length and percentage of the relevant intersections logged</i>	All drillholes were logged in full.
Sub-sampling techniques and sample preparation	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	Core is cut in half (NQ2) and quarter core (HQ) at Sirius' Nova facility using an automatic core saw. Samples are collected from the same side of the core.
	<i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i>	RC samples have been collected using a riffle splitter while aircore chips are sampled by spear. Samples were collected both wet and dry.
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	The sample preparation of aircore, RC, and diamond core follows industry best practice in sample preparation involving oven drying, coarse crushing of the half core sample down to ~10 mm followed by pulverisation of the entire sample (total prep) using Essa LM5 grinding mills to a grind size of 85% passing 75 micron.
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	Aircore and RC samples are collected at 1 m intervals and composited using a spear to sample individual metre samples. No certified reference material, blanks, duplicates have been used in aircore and RC sampling. Field QC procedures for diamond samples involve the use of certified reference material as assay standards, along with blanks, duplicates and barren washes. The insertion rate of these averaged 1:15, with an increased rate in mineralised zones.

Criteria	JORC Code explanation	Commentary
	<i>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.</i>	No field duplicates have been taken. Samples are selected to weigh less than 3kg to ensure total preparation at the pulverisation stage.
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	The sample sizes are considered to be appropriate to correctly represent the gold mineralisation at Earlobe based on: the style of mineralisation (lode gold), the thickness and consistency of the intersections, the sampling methodology and ppm value assay ranges for the primary elements.
Quality of assay data and laboratory tests	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	The analytical technique used a 40/50 gram FA/AAS or FA/ICP-AES for precious metals. The method is a total digestion technique and 40/50 g charge is used to lessen the nugget effect.
	<i>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.</i>	No geophysical tools were used to determine any element concentrations used in the grade determinations.
	<i>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.</i>	Sample preparation checks for fineness were carried out by the laboratory as part of their internal procedures to ensure the grind size of 85% passing 75 micron was being attained. Laboratory QAQC involves the use of internal lab standards using certified reference material, blanks, splits and replicates as part of the in house procedures. Certified reference materials, having a good range of values, were inserted blindly and randomly. Results highlight that sample assay values are accurate and that contamination has been contained.
Verification of sampling and assaying	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	The Technical Director of Sirius has visually verified significant intersections in diamond core from Earlobe.
	<i>The use of twinned holes.</i>	No twin holes have been drilled at Earlobe to date
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	Primary data was collected using a set of standard Excel templates on toughbook laptop computers using lookup codes. The information was sent to Mr W. Blacklock for validation and compilation into an onsite SQL Dashed database.
	<i>Discuss any adjustment to assay data.</i>	No adjustments or calibrations were made to any assay data used in this estimate.
Location of data points	<i>Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i>	Hole collars were located by GPS. Elevation values were in AHD. Expected accuracy is + or – 5 m for easting, northing and 15m for elevation coordinates. Downhole surveys were conducted using a multishot system (at 18m, then every 30 m).
	<i>Specification of the grid system used.</i>	The grid system is MGA GDA94, zone 51. Local easting and northing are in MGA.
	<i>Quality and adequacy of topographic control.</i>	GPS only +/- 15m.
Data spacing and distribution	<i>Data spacing for reporting of Exploration Results.</i>	The nominal drillhole spacing is 50 m (northing) by 40 m (easting).
	<i>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.</i>	The mineralised domains have not yet demonstrated sufficient continuity in both geological and grade continuity to support the definition of Mineral Resource and Reserves, and the classifications applied under the 2012 JORC Code.
	<i>Whether sample compositing has been applied.</i>	No compositing has been applied to the exploration results.

Criteria	JORC Code explanation	Commentary
Orientation of data in relation to geological structure	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	The holes are drilled to local grid west (magnetic 240 degrees), which is approximately perpendicular to the orientation of the mineralised trend. The intersection angles for the bulk of the drilling are typically ~ 45 degrees to the mineralised domains.
	<i>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.</i>	The intersection angles are typically 80-90 degrees thus sample intervals are considered true width.
Sample security	<i>The measures taken to ensure sample security.</i>	Chain of custody is managed by Sirius. Samples are stored on site and delivered to the assay laboratory in Perth by Sirius personnel. Whilst in storage, they are kept in a locked yard. Tracking sheets have been set up to track the progress of batches of samples.
Audits or reviews	<i>The results of any audits or reviews of sampling techniques and data.</i>	No audits or reviews have been conducted at this stage.

Section 2 REPORTING OF EXPLORATION RESULTS

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	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.	Earlobe is located wholly within Exploration Licence E63/1142. The tenement is held by Polar Metals Pty Ltd, a wholly owned subsidiary of Sirius Resources NL.
	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.	The tenement is in good standing and no known impediments exist.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Reconnaissance aircore drilling has been conducted by previous companies. This drilling produced anomalous results which were considered worthy of follow up drilling by Sirius.
Geology	Deposit type, geological setting and style of mineralisation.	Earlobe is situated within the Archaean Norseman-Wiluna Belt which locally includes basalts, komatiites, metasediments, and felsic volcanoclastics. The gold mineralisation is related to hydrothermal activity during multiple deformation events. Mineralisation at Earlobe is analogous to the 'Norseman Style' of Archaean lode gold mineralisation.
Drill hole information	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. 	Refer to Annexure 1 in body of text.
Data aggregation methods	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.	All reported assays have been length weighted. No top-cuts have been applied. A nominal 0.5 ppm lower cutoff is applied for Diamond and RC assays while a lower cutoff of 0.1 ppm is applied for aircore drilling.
	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.	High grade gold intervals internal to broader zones of gold mineralisation are reported as included intervals.

Criteria	JORC Code explanation	Commentary
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values are used for reporting exploration results.
Relationship between mineralisation widths and intercept lengths	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 (eg 'down hole length, true width not known').	The mineralisation is moderately dipping, striking local grid north and is drilled to local grid west with drill holes inclined between -60 and -90 degrees. The intersection angles for the drilling are ~ 45 degrees to the mineralised zones. Therefore reported downhole intersections approximate to half true width.
Diagrams	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.	Refer to Figures 1, 2 and 3 and Annexure 1 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.	All results are reported.
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.	The outlines of geological features are identified in Figs 1 – 3. Multi element assaying is conducted routinely on all samples. Geotechnical logging was carried out on all diamond drillholes for recovery, RQD and number of defects (per interval). Information on structure type, dip, dip direction, alpha angle, beta angle, texture, shape, roughness and fill material is stored in the structure table of the database.
Further work	The nature and scale of planned further work (eg 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	At this stage, mineralisation is open in all directions. A programme will be developed to target potential down dip, up plunge and down plunge extensions.

RESOURCES

Appendix 5B

Mining exploration entity quarterly report

Introduced 1/7/96. Origin: Appendix 8. Amended 1/7/97, 1/7/98, 30/9/2001, 01/06/10.

Name of entity

Sirius Resources NL

ABN

46 009 150 083

Quarter ended ("current quarter")

31 March 2013

Consolidated statement of cash flows

Cash flows related to operating activities	Current quarter \$A'000	Year to date (9 months) \$A'000
1.1 Receipts from product sales and related debtors	-	-
1.2 Payments for (a) exploration & evaluation	(10,886)	(21,235)
(b) development	-	-
(c) production	-	-
(d) administration	(479)	(1,389)
1.3 Dividends received	-	-
1.4 Interest and other items of a similar nature received	437	646
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Other	-	-
Net Operating Cash Flows	(10,928)	(21,978)
Cash flows related to investing activities		
1.8 Payment for purchases of: (a) prospects	-	-
(b) equity investments	-	-
(c) other fixed assets	(95)	(269)
1.9 Proceeds from sale of: (a) prospects	-	-
(b) equity investments	-	-
(c) other fixed assets	-	-
1.10 Loans to other entities	-	-
1.11 Loans repaid by other entities	-	-
1.12 Other	-	-
Net investing cash flows	(95)	(269)
1.13 Total operating and investing cash flows (carried forward)	(11,023)	(22,247)

+ See chapter 19 for defined terms.

Appendix 5B
Mining exploration entity quarterly report

1.13	Total operating and investing cash flows (brought forward)	(11,023)	(22,247)
	Cash flows related to financing activities		
1.14	Proceeds from issues of shares, options, etc.	691	76,411
1.15	Proceeds from sale of forfeited shares	-	-
1.16	Proceeds from borrowings	-	-
1.17	Repayment of borrowings	-	-
1.18	Dividends paid	-	-
1.19	Other - Capital raising costs	(80)	(2,740)
	Other - Payments for cash backed guarantees	(13)	(154)
	Net financing cash flows	598	73,517
	Net increase (decrease) in cash held	(10,425)	51,270
1.20	Cash at beginning of quarter/year to date	63,381	1,686
1.21	Exchange rate adjustments to item 1.20	-	-
1.22	Cash at end of quarter	52,956	52,956

Payments to directors of the entity and associates of the directors
Payments to related entities of the entity and associates of the related entities

		Current quarter \$A'000
1.23	Aggregate amount of payments to the parties included in item 1.2	304
1.24	Aggregate amount of loans to the parties included in item 1.10	-

1.25 Explanation necessary for an understanding of the transactions

Salaries and fees paid to directors and company secretary in the quarter including superannuation

Non-cash financing and investing activities

2.1 Details of financing and investing transactions which have had a material effect on consolidated assets and liabilities but did not involve cash flows

None noted

2.2 Details of outlays made by other entities to establish or increase their share in projects in which the reporting entity has an interest

+ See chapter 19 for defined terms.

Financing facilities available

Add notes as necessary for an understanding of the position.

	Amount available \$A'000	Amount used \$A'000
3.1 Loan facilities	-	-
3.2 Credit standby arrangements	-	-

Estimated cash outflows for next quarter

	\$A'000
4.1 Exploration and evaluation	12,455
4.2 Development	-
4.3 Production	-
4.4 Administration	344
Total	12,799

Reconciliation of cash

Reconciliation of cash at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts is as follows.	Current quarter \$A'000	Previous quarter \$A'000
5.1 Cash on hand and at bank	13,942	30,345
5.2 Deposits at call	39,014	33,034
5.3 Bank overdraft	-	-
5.4 Other (provide details)	-	-
Total: cash at end of quarter (item 1.22)	52,956	63,379

Changes in interests in mining tenements

	Tenement reference	Nature of interest (note (2))	Interest at beginning of quarter	Interest at end of quarter
6.1	Interests in mining tenements relinquished, reduced or lapsed			

+ See chapter 19 for defined terms.

Appendix 5B
Mining exploration entity quarterly report

6.2 Interests in mining tenements acquired or increased

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Issued and quoted securities at end of current quarter

Description includes rate of interest and any redemption or conversion rights together with prices and dates.

		Total number	Number quoted	Issue price per security (see note 3) (cents)	Amount paid up per security (see note 3) (cents)
7.1	Preference securities <i>(description)</i>	N/A	N/A	N/A	N/A
7.2	Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy-backs, redemptions				
7.3	*Ordinary securities	224,620,167	224,620,167	N/A	Fully Paid
7.4	Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy-backs	50,000 1,135,581	50,000 1,135,581	\$0.20 \$0.60	Fully Paid Fully Paid Fully Paid
7.5	*Convertible debt securities <i>(description)</i>	N/A	N/A	N/A	N/A
7.6	Changes during quarter (a) Increases through issues (b) Decreases through securities matured, converted	-	-		

+ See chapter 19 for defined terms.

Appendix 5B
Mining exploration entity quarterly report

7.7	Options <i>(description and conversion factor)</i>	30,000,000 200,000 1,214,419 200,000 1,650,000 100,000 3,400,000 100,000 400,000 1,700,000 8,750,000	- - - - - - - - - - -	<i>Exercise price</i> 60 cents 60 cents 60 cents 60 cents 60 cents 20 cents 20 cents \$2.80 \$3.50 \$3.17*	<i>Expiry date</i> 31/08/2014 28/09/2014 02/11/2014 1/11/2015 26/11/2015 21/2/2016 29/11/2016 14/5/2017 18/9/2017 19/11/2017* 22/11/2016
7.8	Issued during quarter	-	-	-	22/11/2017 22/11/2016
7.9	Exercised during quarter	50,000 1,135,581	50,000 1,135,581	\$0.20 \$0.60	Fully Paid Fully Paid
7.10	Expired (or lapsed) during quarter	-	-	-	-
7.11	Debentures <i>(totals only)</i>	-	-		
7.12	Unsecured notes <i>(totals only)</i>	-	-		
7.13	Employee Shares Performance Shares <i>(subject to performance conditions)</i>	44 Conversion price \$57.00 2,200,000			

*Amended as per the ASX Waiver announced on 26th March 2013

Compliance statement

- 1 This statement has been prepared under accounting policies which comply with accounting standards as defined in the Corporations Act or other standards acceptable to ASX (see note 4).
- 2 This statement does give a true and fair view of the matters disclosed.



Sign here:

Date: 24 April 2013

Director

Print name: Anna Neuling

+ See chapter 19 for defined terms.

Notes

- 1 The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity wanting to disclose additional information is encouraged to do so, in a note or notes attached to this report.
- 2 The "Nature of interest" (items 6.1 and 6.2) includes options in respect of interests in mining tenements acquired, exercised or lapsed during the reporting period. If the entity is involved in a joint venture agreement and there are conditions precedent which will change its percentage interest in a mining tenement, it should disclose the change of percentage interest and conditions precedent in the list required for items 6.1 and 6.2.
- 3 **Issued and quoted securities** The issue price and amount paid up is not required in items 7.1 and 7.3 for fully paid securities.
- 4 The definitions in, and provisions of, *AASB 1022: Accounting for Extractive Industries* and *AASB 1026: Statement of Cash Flows* apply to this report.
- 5 **Accounting Standards** ASX will accept, for example, the use of International Accounting Standards for foreign entities. If the standards used do not address a topic, the Australian standard on that topic (if any) must be complied with.