

SIRIUS RESOURCES NL

ASX: SIR

ABN: 46 009 150 083

Unit 5, 5 Mumford Place,
Balcatta 6021,
Western Australia

PO Box 1011
Balcatta 6914,
Western Australia

Telephone +61 8 9240 8914
Facsimile +61 8 9240 8915

admin@siriusresources.com.au

www.siriusresources.com.au

Contact

Mark Bennett, Managing Director
+61(0)407 470 648

Fraser Range:

Gold, base metals

Polar Bear:

Nickel, gold

Youanmi:

Zinc, copper, nickel, PGM's

Lawlers:

Nickel

Collurabbbie:

Nickel, copper, PGM's



EXPLORATION UPDATE

- **Drilling on multiple fronts**
- **1m splits improve nickel results at Polar Bear**
- **New nickel anomaly at Fraser Range**

Sirius Resources (ASX:SIR) advises that drilling is now underway or imminent on three of its exploration projects in Western Australia.

Additionally, 1 metre re-splits of previously reported nickel intersections at the Polar Bear project have confirmed and improved the original intersections, with values of up to **2.15% nickel, 1.24% copper, 1.18g/t palladium, 0.44g/t platinum and 9.4g/t silver.**

Meanwhile, soil sampling at the Fraser Range project has identified a large nickel-copper-cobalt anomaly associated with a 4km-long magnetic feature thought to be a previously unknown layered intrusion.

Drilling

Drilling underway at Lawlers

Diamond drilling is underway at the Lawlers project, where several holes have been planned to test electromagnetic (EM) conductors. Each of these represents a potential massive nickel sulphide target. This program will continue throughout April.

Site preparation underway for start of drilling at Youanmi

Drill site preparation is underway at the Youanmi project, where diamond drilling is scheduled to commence in two weeks. A number of holes have been planned to test copper-zinc volcanogenic massive sulphide (VMS) targets.

Each of these targets comprises an EM conductor with coincident copper-zinc-lead anomalies in soil sampling and elevated copper and zinc in previous shallow RAB drilling (see ASX announcement of 20th October 2010). This program will continue until early May.

Follow up drilling to commence in three weeks at Fraser Range

At the Fraser Range project, a second phase of reconnaissance RAB/aircore drilling will commence in early April to follow up anomalous gold intersections of up to **7m @ 0.31g/t Au** identified in broad spaced reconnaissance drilling at the Brookman gold anomaly (see ASX

announcement of 7th March 2011).

This program will also include first pass reconnaissance drilling of additional gold anomalies along strike from the Brookman anomaly.

Polar Bear

1m resplits improve nickel intersections at Polar Bear

Assay results have been received for 1m samples taken from key nickel intersections previously reported from 4m composite samples in the Company's ASX announcements of 27th January and 9th February 2011.

The new assays confirm and improve on the original results and define several discrete intersections of disseminated nickel sulphides with associated platinum group metal (PGM) values that definitively confirm the presence of a mineralised sulphide system (*see Table 1*). This is particularly encouraging given that these results were from shallow aircore holes as part of Sirius' first ever reconnaissance drilling program on the project. Key intersections include:

- **9m @ 1.02% Ni**, 0.22% Cu, 0.11g/t Pd and 0.07g/t Pt from 2m to the end of hole, **including 3m @ 1.69% Ni**, 0.15% Cu, 0.09g/t Pd and 0.02g/t Pt from 6m in drill hole PBAC0005.
- **12m @ 0.71% Ni, 0.38% Cu, 0.43g/t Pd, 0.15g/t Pt and 2.4g/t Ag** from 16m to the end of hole, including **1m @ 2.15% Ni, 1.24% Cu, 1.18g/t Pd, 0.44g/t Pt and 9.4g/t Ag** from 24m in drill hole PBAC0024.
- **20m @ 0.56% Ni**, 0.07% Cu, 0.05g/t Pd and 0.02g/t Pt from 1m, including **6m @ 1.01% Ni**, 0.21% Cu, 0.11g/t Pd and 0.03g/t Pt from 1m, including **2m @ 1.77% Ni** from 5m in drill hole PBAC0045.

Fraser Range

Soil sampling and magnetics define new base metals target at Fraser Range

Infill soil sampling of a geochemical anomaly originally identified in regional laterite sampling by the Geological Survey of Western Australia (GSWA) in 2000, has defined a large coincident nickel-copper-cobalt anomaly. The new **soil anomaly is 2 kilometres long and contains up to 568ppm nickel and 303ppm copper**. It is situated in the centre of a 4 kilometre long concentrically zoned "eye" shaped magnetic feature (*see Figure 1*) which may represent a dome or plug of nickel-bearing ultramafic rocks, or it may be a previously unknown layered intrusion. Both situations are prospective for nickel, copper, platinum group metals (PGM's), chromite or vanadium. This feature has not been previously recognised or explored, despite being located only 30 kilometres north of the Eyre Highway.

Outlook

Drilling of gold, nickel and copper-zinc targets will continue on the Fraser Range, Lawlers and Youanmi projects throughout the next two months, with results expected from late April to June.

Diamond and/or aircore drilling will recommence at Polar Bear as soon as a lake rig becomes available in order to follow up the nickel sulphide intersections and also test the top priority EM conductors.

Meanwhile, soil geochemical surveys and other reconnaissance activities, such as the planned follow up of the base metals target at Fraser Range, are continuing to augment the Company’s pipeline of exploration opportunities. Sirius is looking forward to a consistent flow of news during the next three months.

Mark Bennett, Managing Director and CEO

For further information:

Mark Bennett, Sirius Resources	Tel	+61 (0)8 9240 8914	Mob	+61 (0)407 470 648
Nicholas Read, Read Corporate	Tel	+61 (0)8 9388 1474	Mob	+61 (0)419 929 046

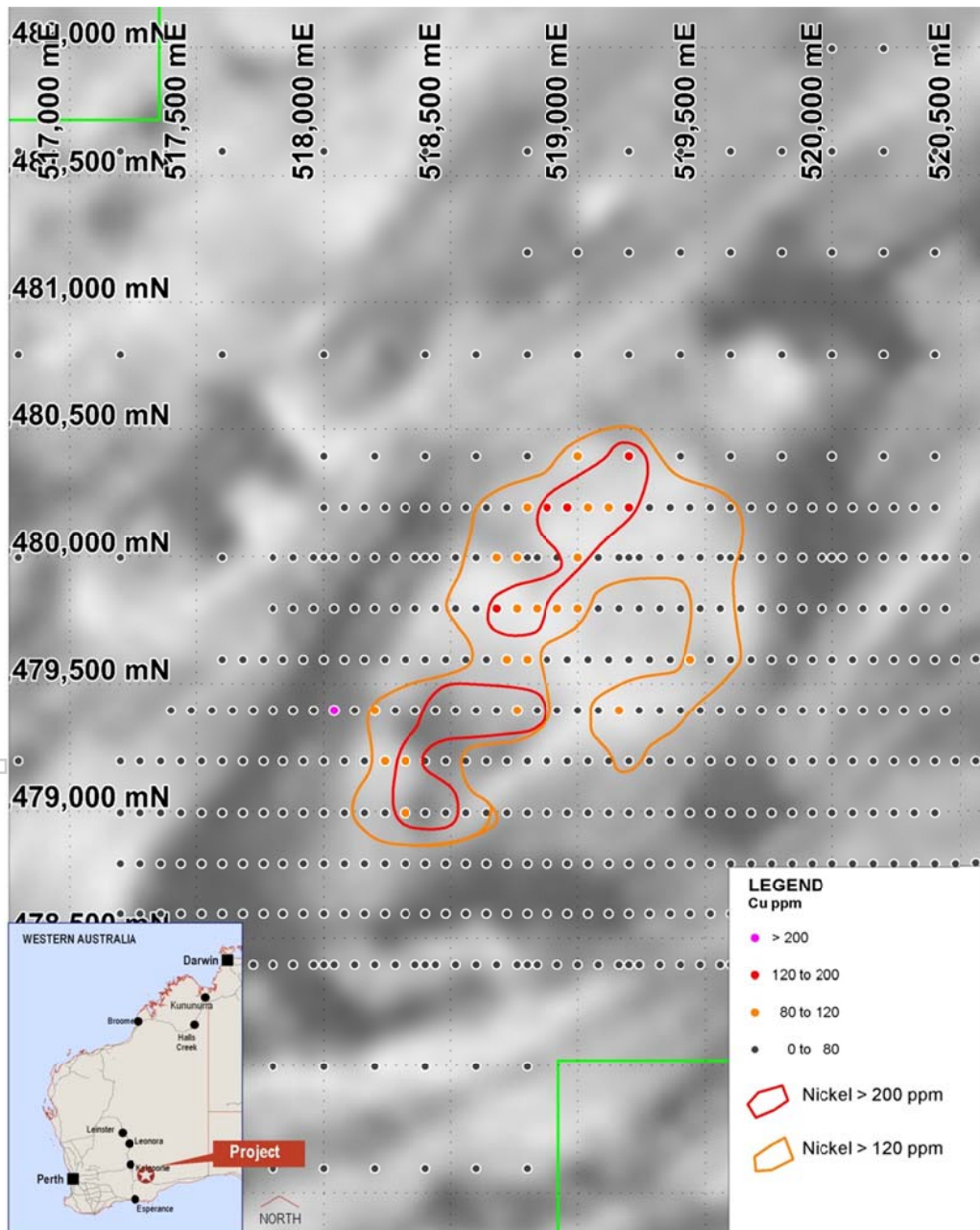


Figure 1. Coincident nickel and copper in soil sampling over “eye” shaped magnetic feature at Fraser Range.

Drillhole	Northing	Easting	Dip	Azim	From, m	To, m	Width m	Ni, %	Cu, %	Pd, g/t	Pt, g/t	Ag, g/t	Comments
SPBA0005	6468280	391101	-60	035°	2	11	9	1.02	0.22	0.11	0.07	NSA	Disseminated sulphide to EOH
including					6	9	3	1.69	0.15	0.09	0.02	NSA	
SPBA0024	6468364	391022	-60	240°	16	28	12	0.71	0.38	0.43	0.15	2.4	Disseminated sulphide to EOH
including					24	25	1	2.15	1.24	1.18	0.44	9.4	Ditto, to EOH
SPBA0036	6468498	390897	-60	240	4	38	34	0.34	0.03	0.01	NSA	NSA	Trace sulphide
SPBA0039	6468515	390770	-60	240°	3	6	3	0.55	0.07	0.08	0.03	NSA	Gossanous ultramafic to EOH
including					5	6	1	0.91	1.00	0.69	0.46	NSA	Gossan at EOH
SPBA0040	6468526	390788	-60	240	6	10	6	0.31	0.02	0.03	0.01	NSA	Trace sulphide
SPBA0042	6468536	390805	-60	240	6	7	1	0.32	0.02	0.03	0.02	NSA	Trace sulphide
SPBA0045	6468513	390767	-60	060	1	21	20	0.56	0.07	NSA	NSA	NSA	Disseminated Sulphide
including					1	7	6	1.01	0.15	0.11	0.03	NSA	Disseminated sulphide
including					5	7	2	1.77	0.21	0.11	0.03	NSA	Disseminated Sulphide
and					20	21	1	1.36	0.18	0.04	0.01	NSA	Disseminated Sulphide

Table 1. Nickel intersections calculated from 1m split samples taken from previous 4m composites. Co-ordinates are using MGA datum. EOH means end of hole. NSA means no significant assay.

Competent Persons statement

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Dr Mark Bennett, who is an employee of the company. Dr Bennett is a Member of the Australasian Institute of Mining and Metallurgy and has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2004 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Bennett consents to the inclusion in this report of the matters based on information in the form and context in which it appears.

Exploration results are based on standard industry practices, including sampling, assay methods, and appropriate quality assurance quality control (QAQC) measures. Reverse circulation (RC), aircore (AC) and rotary air blast (RAB) drilling samples are collected as composite samples of 4 or 2 metres and as 1 metre splits (stated in results). Mineralised intersections derived from composite samples are subsequently re-split to 1 metre samples to better define grade distribution. Core samples are taken as half NQ core or quarter HQ core and sampled to geological boundaries where appropriate. For soil samples, PGM and gold assays are based on an aqua regia digest with Inductively Coupled Plasma (ICP) finish and base metal assays may be based on aqua regia or four acid digest with inductively coupled plasma optical emission spectrometry (ICPOES) or atomic absorption spectrometry (AAS) finish. In the case of reconnaissance RAB, AC, RC or rockchip samples, PGM and gold assays are based on lead or nickel sulphide collection fire assay digests with an ICP finish, base metal assays are based on a four acid digest and inductively coupled plasma optical emission spectrometry (ICPOES) and atomic absorption spectrometry (AAS) finish, and where appropriate, oxide metal elements such as Fe, Ti and Cr are based on a lithium borate fusion digest and X-ray fluorescence (XRF) finish. Sample preparation and analysis is undertaken at Genalysis Intertek and Ultratrace laboratories in Perth, Western Australia. The quality of RC drilling samples is optimised by the use of riffle and/or cone splitters, dust collectors, logging of various criteria designed to record sample size, recovery and contamination, and use of field duplicates to measure sample representivity. The quality of analytical results is monitored by the use of internal laboratory procedures together with certified standards, duplicates and blanks and statistical analysis where appropriate to ensure that results are representative and within acceptable ranges of accuracy and precision. Exploration results obtained by other companies and quoted by Sirius have not necessarily been obtained using the same methods or subjected to the same QAQC protocols. These results may not have been independently verified because original samples and/or data may no longer be available. Where quoted, nickel-copper intersections are based on a minimum threshold grade of 0.3% Ni and gold intersections are based on a minimum gold threshold grade of 0.1g/t Au unless otherwise stated. All sample and drillhole co-ordinates are based on the GDA/MGA grid and datum unless otherwise stated.

Mineral Resources, if stated, have been estimated using standard accepted industry practices, as described in each instance. Top cuts have been applied to the composites based on statistical analysis and consideration of the nature and style of mineralization in all cases. Where quoted, Mineral Resource tonnes and grade, and contained metal, are rounded to appropriate levels of precision, which may cause minor apparent computational errors. Mineral Resources are classified on the basis of drillhole spacing, geological continuity and predictability, geostatistical analysis of grade variability, sampling analytical spatial and density QAQC criteria, demonstrated amenability of mineralization style to proposed processing methods, and assessment of economic criteria.