

# **ASX ANNOUNCEMENT**

**17 OCTOBER 2012** 

# SIRIUS RESOURCES NL

ASX: SIR

ABN: 46 009 150 083

#### Street address:

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

#### **Postal address:**

PO Box 1011, Balcatta 6914, Western Australia

**Tel:** +61 8 9240 8914

**Fax:** +61 8 9240 8915

#### Email:

admin@siriusresources.com.au

#### Web:

www.siriusresources.com.au

#### **Projects:**

Fraser Range nickel-copper, gold

Polar Bear gold, nickel

**Canyon Creek** molybdenum, copper, gold

Youanmi nickel, copper, PGM's

Collurabbie nickel, copper, PGM's



# DRILLING CONTINUES TO EXPAND NOVA

Sirius Resources NL (ASX:SIR) ("Sirius" or the "Company") advises that it has received further assays and that drilling continues to expand its Nova nickel-copper deposit, as follows:

#### 650N line

Hole SFRD0086, drilled on the down dip fringe of the mineralised zone, intersected 17.1 metres of disseminated sulphides and 2.3 metres of massive sulphides approximately 70 metres down dip from (east of) the previous hole, SFRD0077 (see Figures 1 and 2). This extends the mineralised zone significantly further to the east, with mineralisation now defined over a distance of 320 metres on this section.

## 700N line

Hole SFRD0079, drilled on the down dip fringe of the mineralised zone, intersected 10 metres of disseminated sulphides approximately 80 metres down dip from (east of) the previous hole, SFRD0076 (see Figures 1 and 3).

Hole SFRD0058, drilled approximately 50 metres up dip from (west of) hole SFRD0042 on the up dip fringe of the mineralised zone, has also intersected a 46.8 metre thick zone including 33.4 metres of matrix and net textured sulphides and 2.4 metres of massive sulphide.

These two holes extend the mineralised zone significantly further to the east and west on this section, with mineralisation now defined over a distance of 400 metres.

Assays received for hole SFRD0046W1, previously drilled in a "pinched down" (ie, thin) part of the deposit comprising mainly disseminated sulphides with a thin band of massive sulphide, are as follows:

- An upper zone comprising 20.25 metres @ 1.94% nickel and 0.53% copper from 363.75 metres, including;
- 2.61 metres @ 7.45% nickel, 0.98% copper and 0.25% cobalt from 364.82 metres, and;
- A lower zone comprising 2.27 metres @ 5.18% nickel, 1.63% copper and 0.16% cobalt from 402.75 metres.



#### 800N line

Hole SFRD0087, the uppermost (westernmost) hole drilled to date on the 800N line, intersected 16.9 metres of disseminated sulphides and 2.5 metres of massive sulphides approximately 40 metres up dip from the previous hole, SFRD0078 (see Figures 1 and 4). This extends the mineralised zone further to the west, with mineralisation now defined over a distance of 200 metres on this section.

#### 900N line

Drilling has commenced on the 900N line, with hole SFRD0092 currently at a depth of 200 metres, some 200 metres above the target depth of 400 metres.

#### General

Results for the downhole electromagnetic (DHEM) survey at conductor 4 and the induced polarisation (IP) survey across the Eye are expected in the next few days.

Mark Bennett, Managing Director and CEO

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## **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 a Fellow of the Australian Institute of Geoscientists 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 rock chip 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. For strongly mineralised RC or core samples, base metal assays are based on a high precision four acid digest and AAS finish, sulphur is analysed on a special purpose carbon sulphur analyser and precious metals are based on a fire assay digest and an ICPOES 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 0.5% Ni and/or Cu, gold intersections are based on a minimum gold threshold grade of 0.1g/t Au unless otherwise stated. Sulphide intersections are length and density weighted as per standard industry practice. Sample and drill hole co-ordinates are based on the GDA/MGA grid and datum unless otherwise stated.



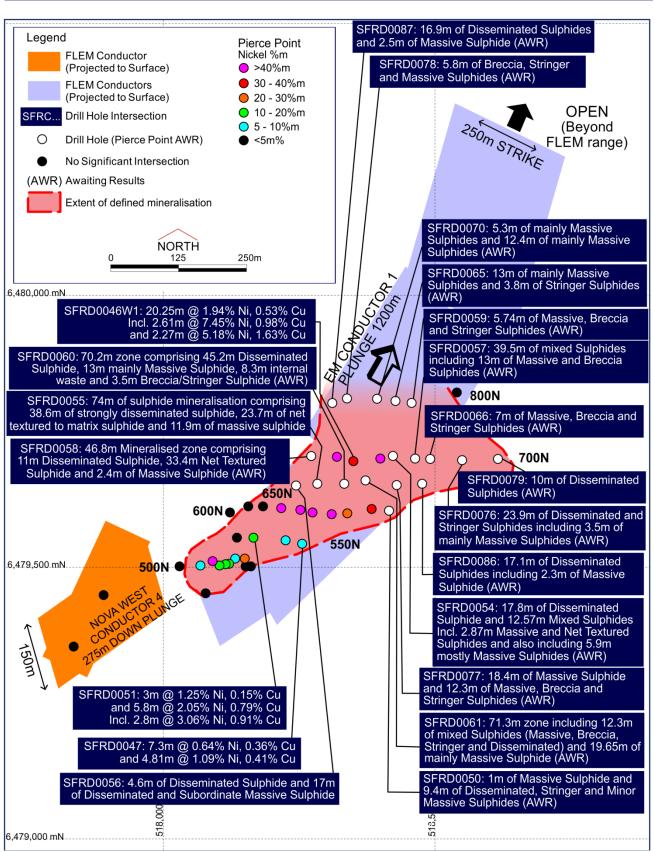
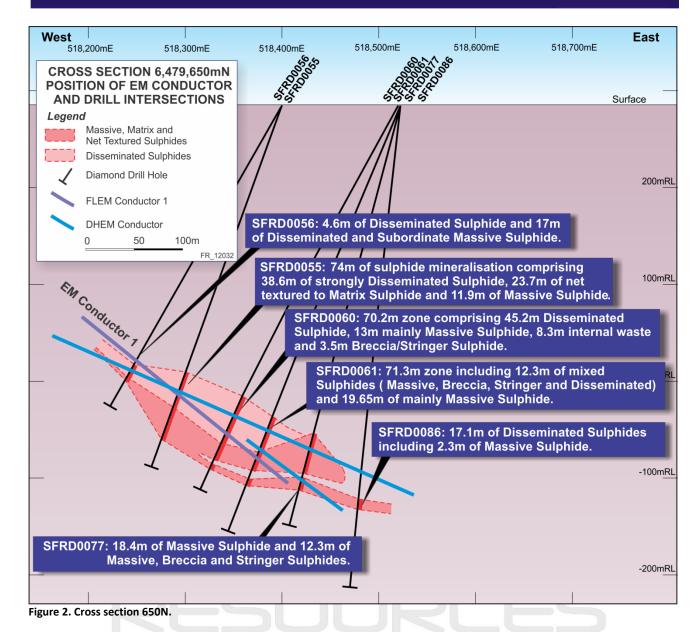


Figure 1. Plan projection of Nova showing location of EM conductors and drilling to date. Assayed intercepts are shown as metal factor (ie, estimated true width x grade, commonly referred to as %metre, %m or metal factor). Visual intercepts (awaiting assays) are shown as descriptive labels. Refer to Table 1 and previous announcements for specific details of assayed intersections.





# About the Nova nickel discovery

- The Nova deposit is a blind (ie concealed by transported sediments) virgin discovery which vindicates Sirius' exploration methodologies and corporate strategy of identifying high leverage greenfields opportunities in stable jurisdictions.
- It was discovered by Sirius' target identification expertise and systematic use of geological, geophysical and geochemical exploration techniques.
- Drilling to date on the southernmost 500 metre portion of a large (1,200 x 300 metre) EM conductor has delineated a large nickel-copper sulphide deposit closely associated with the conductor. If the close association seen to date holds true for the remainder of the EM conductor, the Nova deposit could become a very large massive nickel-copper sulphide deposit.



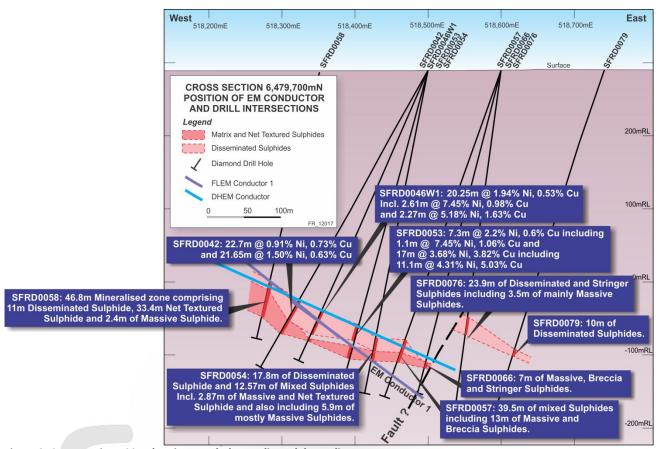


Figure 3. Cross section 700N showing new holes up dip and down dip.

- The EM conductor that represents the Nova deposit is the first of four EM targets at the Eye
  nickel-copper prospect to be tested. The others have not yet been drilled but modelling by
  Newexco Geophysical Consultants indicates that these also possess response characteristics
  indicative of massive sulphides.
- The mineralisation comprises pyrrhotite, pentlandite and chalcopyrite within very strongly
  metamorphosed rocks termed granulites. The sulphide minerals are coarse grained and high
  tenor and will likely produce a clean high value concentrate and the accompanying silicate
  minerals are likely to be highly amenable to conventional separation techniques.
- The sulphides occur in a variety of styles typical of magmatic sulphide deposits. These include massive, matrix, net textured, breccia, blebby and disseminated sulphides.
- The host rock is an hypersthene-augite-garnet-hornblende-labradorite-quartz gneiss interpreted to represent a strongly metamorphosed mafic-ultramafic precursor of predominantly gabbroic composition.
- The deposit is only 40km north of the Eyre Highway and closer, via sealed road, to the port of Esperance than any operating nickel sulphide mine/concentrator in Western Australia.



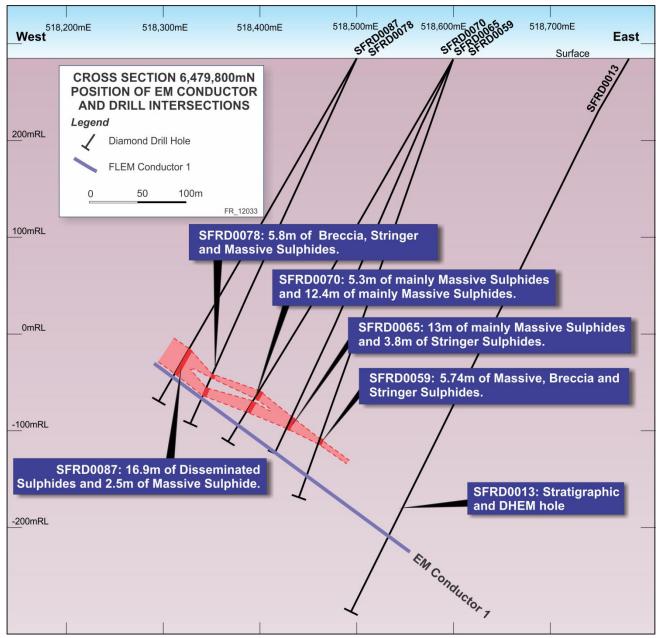


Figure 4. Cross section 800N.

• Planned metallurgical testwork will better quantify the mineralisation in terms of its crushing, grinding and flotation characteristics, the deportment of nickel and copper within the sulphides and the level (if any) of any deleterious or penalty elements in such a concentrate.

# **About the Fraser Range Joint Venture**

The Fraser Range Joint Venture is a joint venture between Sirius Resources (70%) and companies of the Creasy Group (30%), owned by Mark Creasy who is also Sirius' major shareholder through his investment company, Yandal Holdings Pty Ltd.

The joint venture ground covers over 100 strike kilometres of the prospective belt and Sirius, together with various private companies owned by Mark Creasy, control the majority of this new nickel province. Sirius



acknowledges the assistance provided by the WA Government co-funded drilling program, which sponsored a previous reconnaissance drill hole on the project area (see previous ASX announcements).

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Hole No.	North	East	Dip	Azim	m	To, m	m	Grade, % Ni, Cu, Co & g/t Ag, Au, Pt, Pd
SFRC0024	6479500	518210	60	270	174	175	1	0.76% Ni, 1.36% Cu, 0.03% Co, 4.0g/t Ag
		And			178 191	181 195	3	0.31% Ni, 0.68% Cu, 0.01% Co, 1.4g/t Ag
CED 0000E	And						4	4.02% Ni, 1.41% Cu, 0.12% Co, 2.2g/t Ag
SFRC0025	6479500	518080	60	270	-	-	-	Missed target
SFRC0026	6479500	518140	60	270	123	136	13	4.30% Ni, 1.83% Cu, 0.12% Co, 3.1g/t Ag, 0.09g/t Pd, 0.08g/t Pt
	Inc	luding			128	136	8	5.81% Ni, 2.26% Cu, 0.16% Co, 3.7g/t Ag, 0.12g/t Pd, 0.12g/t Pt
SFRC0027	SFRC0027 6479500 518250 60 270						9	1.48% Ni, 0.86% Cu, 0.05% Co, 2.5g/t Ag, 0.15g/t Au
	Inc	luding			229	232	3	1.45% Cu, 0.4% Ni, 4.9g/t Ag, 0.34g/t Au
	,	And			232	238	6	1.84% Ni, 0.57% Cu
	Inc	luding			236	237	1	4.70% Ni, 0.40% Cu, 0.12% Co
SFRC0028	6479450	518140	60	270	116	120	4	0.48% Ni, 0.38% Cu, 0.02% Co, 0.09g/t Ag
	ı	And			156	164	8	0.25% Ni, 0.22% Cu, 1.5g/t Ag
SFRC0029	6479600	518300	60	270	234	236	2	0.96% Ni, 0.46% Cu, 1.3g/t Ag
SFRC0030	6479600	518250	60	270	188	196	8	0.41% Ni, 0.40% Cu, 0.02% Co, 1.78g/t Ag
SFRC0031	6479600	518200	60	270	-	-	-	Missed target
SFRC0032	6479500	518085	75	270	60	64	4	1.47% Ni, 0.17% Cu, 0.05% Co, 0.25g/t Ag
CED 00000		and		270	80	82	2	2.11% Ni, 1.12% Cu, 0.07% Co, 4.25g/t Ag
SFRC0033	6479500	518155	75	270	165	171	6	3.16% Ni, 0.49% Cu, 0.10% Co, 1.12g/t Ag
SFRC0034	6479500	518230	60	270	200	204	4	0.22% Ni, 1.07% Cu, 0.01% Co, 2.8g/t Ag
		And			212	219	7	1.27% Ni, 0.35% Cu, 0.04% Co, 0.84g/t Ag
		luding		_	216 220	219 224	4	2.63% Ni, 0.45% Cu, 0.08% Co, 1.13g/t Ag 0.18% Ni, 0.47% Cu, 1.1g/t Ag
CEBDOOSE	6479500	And 518155	70	270	146.70	152.90	6.20	
SFRD0035		luding	70	270	149.20	152.90	2.90	1.68% Ni, 0.36% Cu, 0.05% Co, 0.3g/t Ag 2.52% Ni, 0.44% Cu, 0.08% Co, 0.5g/t Ag
SFRC0036	6479800	518500	90	n/a	n/a	n/a	n/a	Abandoned
SFRD0037	6479600	518300	60	270	263.90	268.40	4.50	0.23% Ni, 1.16% Cu, 0.01% Co, 3.9g/t Ag, 0.1g/t Pt
311100037		and	00	270	268.40	281.70	13.30	3.9% Ni, 2.0% Cu, 0.12% Co, 3.7g/t Ag
		luding			271.85	279.00	7.15	5.1% Ni, 2.36% Cu, 0.15% Co, 4.0g/t Ag
SFRD0037	6479600	518300	60	270	263.90	268.40	4.50	0.23% Ni, 1.16% Cu, 0.01% Co, 3.9g/t Ag
SFRD0038	6479500	518300	70	270	285.4	286.1	0.7	2.85% Ni, 0.33% Cu, 0.08% Co
SFRD0039	6479600	518350	69	270	270.0	271.0	1.0	1.71% Ni, 0.51% Cu, 0.06% Co, 0.8g/t Ag
		And			272.97	273.24	0.27	6.58% NI, 0.98% Cu, 0.21% Co, 1.6g/t Ag
	,	And			298.1	313.52	15.42	2.74% Ni, 1.09% Cu, 0.09% Co, 2.54g/t Ag
	Inc	luding			298.1	301.7	3.6	4.83% Ni, 1.73% Cu, 0.15% Co, 3.98g/t Ag
	,	And			311.3	313.5	2.22	5.92% Ni, 0.82% Cu, 0.19% Co, 1.85g/t Ag
SFRD0041	6479600	518350	76	270	293.4	329.0	35.6	3.47% NI, 1.44% Cu, 0.10% Co, 3.19g/t Ag
	Inc	luding			293.4	308.9	15.5	4.72% Ni, 1.98% Cu, 0.15% Co, 4.7g/t Ag
	Inc	luding			302.17	308.9	6.73	6.11% Ni, 2.14% Cu, 0.19% Co, 4.95g/t Ag
	,	And			321.66	326.68	5.02	6.11% Ni, 2.57% Cu, 0.19% Co, 5.64g/t Ag
	, ,	Also			341.0	344.0	3.0	1.86% Ni, 1.26% Cu, 0.05% Co, 4.61g/t Ag
		And			349.6	350.5	0.9	6.15% Ni, 1.25% Cu, 0.19% Co, 2.5g/t Ag
SFRD0042	6479700	518400	60	270	361.3	384.0	22.7	0.91% Ni, 0.73% Cu, 0.02% Co, 6.55g/t Ag, 0.1g/t Au
		and		ı	392.72	413.65	20.93	1.56% Ni, 0.65% Cu, 0.05% Co, 1.85g/t Ag
SFRD0043	6479600	518400	74	270	314.4	319.8	5.4	4.72% Ni, 2.01% Cu, 0.14% Co, 3.98g/t Ag
		and			330.74	344.57	13.83	3.11% Ni, 0.97% Cu, 0.10% Co, 2.6g/t Ag, 0.12g/t Pt
		luding		ı	338.73	344.57	5.84	5.11% Ni, 1.4% Cu, 0.16% Co, 3.46g/t Ag, 0.26g/t Pt
SFRD0044	6479600	518400	80	270	327.8	332.38	4.58	2.33% Ni, 0.67% Cu, 0.07% Co, 1.3g/t Ag
		and			348.05	349.91	1.86	1.17% Ni, 0.99% Cu, 0.04% Co
65000045		and		270	356.0	363.21	7.21	2.2% Ni, 1.27% Cu, 0.07% Co, 3.8g/t Ag, 0.1g/t Au
SFRD0045	6479550	518350	60	270	248.95	250.75	1.80	1.21% Ni, 0.49% Cu, 0.04% Co, 0.45g/t Ag
5500016	1	and		1	255.11	257.19	2.08	1.93% Ni, 0.35% Cu, 0.07% Co, 0.28g/t Ag
SFRD0046 W1	6479600	518500	67	270	363.75	384.0	20.25	1.94% Ni, 0.53% Cu, 0.06% Co, 1.67g/t Ag
		luding			364.82 402.75	367.43 405.02	2.61	7.45% Ni, 0.98% Cu, 0.25% Co, 1.94g/t Ag, 0.1g/t Pd
	and						2.27	5.18% Ni, 1.63% Cu, 0.16% Co, 3.81g/t Ag
SFRD0047	6479550	518350	70	270	265.37	272.67	7.3	0.64% Ni, 0.36% Cu, 0.02% Co
	;	and			296.1	300.91	4.81	1.09% Ni, 0.41% Cu, 0.03% Co



SFRD0049	6479600			270	405.74	426.0	20.26	1.57% Ni, 0.51% Cu, 0.05% Co, 1.66g/t Ag
SFRD0051	6479550	518200	82	270	206.0	209.0	3.0	1.25% Ni, 0.15% Cu, 0.03% Co
			218.0	223.8	5.8	2.05% Ni, 0.79% Cu, 0.06% Co		
			221.0	223.8	2.8	3.06% Ni, 0.91% Cu, 0.09% Co		
SFRD0052	6479550			270	159.0	164.0	5.0	0.57% Ni, 2.36% Cu, 0.03% Co, 10.01g/t Ag, 0.15g/t Au
			159.0	161.0	2.0	0.43% Ni, 4.68% Cu, 0.03% Co, 19.21g/t Ag, 0.21g/t Au		
SFRD0053	6479700			270	376.0	383.3	7.3	2.2% Ni, 0.6% Cu, 0.07% Co
			393.0	410.0	17.0	3.68% Ni, 3.82% Cu, 0.12% Co		
	•	•	398.9	410.0	11.1	4.31% Ni, 5.03% Cu, 0.14% Co		

Table 1. Drill results from the Nova deposit. Visual estimates are not included here until assays are received.

