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Projects:

Polar Bear gold and nickel

Fraser Range gold and nickel

Youanmi base metals, gold and PGM's

Collurabbie base metals and PGM's

TWO NEW GOLD ZONES AT POLAR BEAR

Multiple hits in shallow drilling plus new gold targets identified

Sirius Resources (**ASX:SIR**) advises that reconnaissance drilling has defined two new gold mineralised zones at the Earlobe prospect within its 100 per cent owned Polar Bear project in Western Australia.

A 67 hole aircore drilling program was designed to identify near surface zones of gold enrichment greater than 0.1g/t as the first step in zeroing in on higher grade bedrock mineralisation. 28 of these holes intersected greater than 0.1g/t gold and 11 of these ended in mineralisation ranging from 0.2 to 1.58g/t gold.

The drilling on a 100 x 50 metre grid has defined two discrete zones of supergene mineralisation (*see Figure 1 and Table 1*) concealed by more recent rocks and dune sands as follows:

Earlobe North zone

The Earlobe North zone is approximately 300m long, 130m wide, strikes NNE and is open to the NNE. Better intersections include:

- **19m @ 0.84g/t Au** from 28 metres to the end of hole, including **3m @ 1.58g/t Au** from 44 metres to the end of hole in drill hole SPBA0105.
- **22m @ 0.52g/t Au** from 44 metres to the end of hole, including **4m @ 1.05g/t Au** from 48 metres in drill hole SPBA0115.
- **7m @ 0.73g/t Au** from 72 metres to the end of hole, including **3m @ 1.30g/t Au** from 76 metres to the end of hole in drill hole SPBA0116.

The gold occurs as a broad sub-horizontal blanket which may reflect mineralisation at depth and the presence of greater than 1g/t gold at the end of several holes is considered highly encouraging (*see Figure 2*).

Earlobe South zone

The Earlobe South zone is 400m long, 120m wide, strikes NW and is open to the NW. Better intersections include:

- **32m @ 0.37g/t Au** from 40 metres to the end of hole, including **4m @ 1.87g/t Au** from 44 metres in drill hole SPBA0138.

- **9m @ 0.35g/t Au** from 64 metres to the end of hole in drill hole SPBA0141.

At the Earlobe South zone the gold occurs as a broad sub-horizontal blanket that appears to be more strongly developed at the western end of the drilling traverses, which may reflect a bedrock source to the west of the recent drilling (*see Figure 3*).

Discussion

Follow up drilling of these zones will be a priority for Sirius. The Earlobe prospect is situated approximately 5km southeast of Alacer's (formerly known as Avoca) Nawoc gold prospect where previous drill intercepts have included 5m @ 11.4g/t Au from 30m in LCA0182 and 4m @ 33.0g/t Au from 103m in LCC006.

In addition, recent geological work has confirmed that the Polar Bear project straddles the south-eastern continuation of the package of rocks that hosts Alacer's 2 million ounce Trident gold mine at Higginsville. The gold mineralisation at Higginsville is controlled by a NNE trending shear zone (known as the "line of lode") and is localised where this shear zone intersects favourable host rocks.

Importantly, two more of these NNE trending structures have been identified within Sirius' tenements (*see Figure 4*). Both are concealed by transported salt lake sediments and relatively unexplored.

One of these Trident analogue structures is located in an area that has not been open to exploration for 14 years due to competing tenement applications. Sirius has resolved this and is now the sole applicant over this area, which covers approximately 22 square kilometres of ground adjacent to Alacer's tenements' (*see Figure 4*).

Testing of these Trident analogue structures will also be a priority for Sirius in 2012.

About the Polar Bear project

The Polar Bear project covers an area of 160 square kilometres and contains the strike extensions of the ultramafic rocks which host numerous nickel sulphide deposits at Kambalda and also the strike extensions of the stratigrapny and repetitions of the structures which host Alacer's (Avoca's) Trident gold mine at Higginsville. The area is largely covered by the salt lake sediments of Lake Cowan and its fringing dunes and is relatively unexplored.

The project is prospective for lode gold style mineralisation of the kind found at St.Ives, Higginsville and Noreseman and also komatiite associated nickel sulphide mineralisation of the kind found at Kambalda and Widgiemooltha. It contains known occurrences of massive nickel sulphide gossans and disseminated nickel sulphides, and supergene and bedrock gold mineralisation. Sirius owns 100 per cent of the project.

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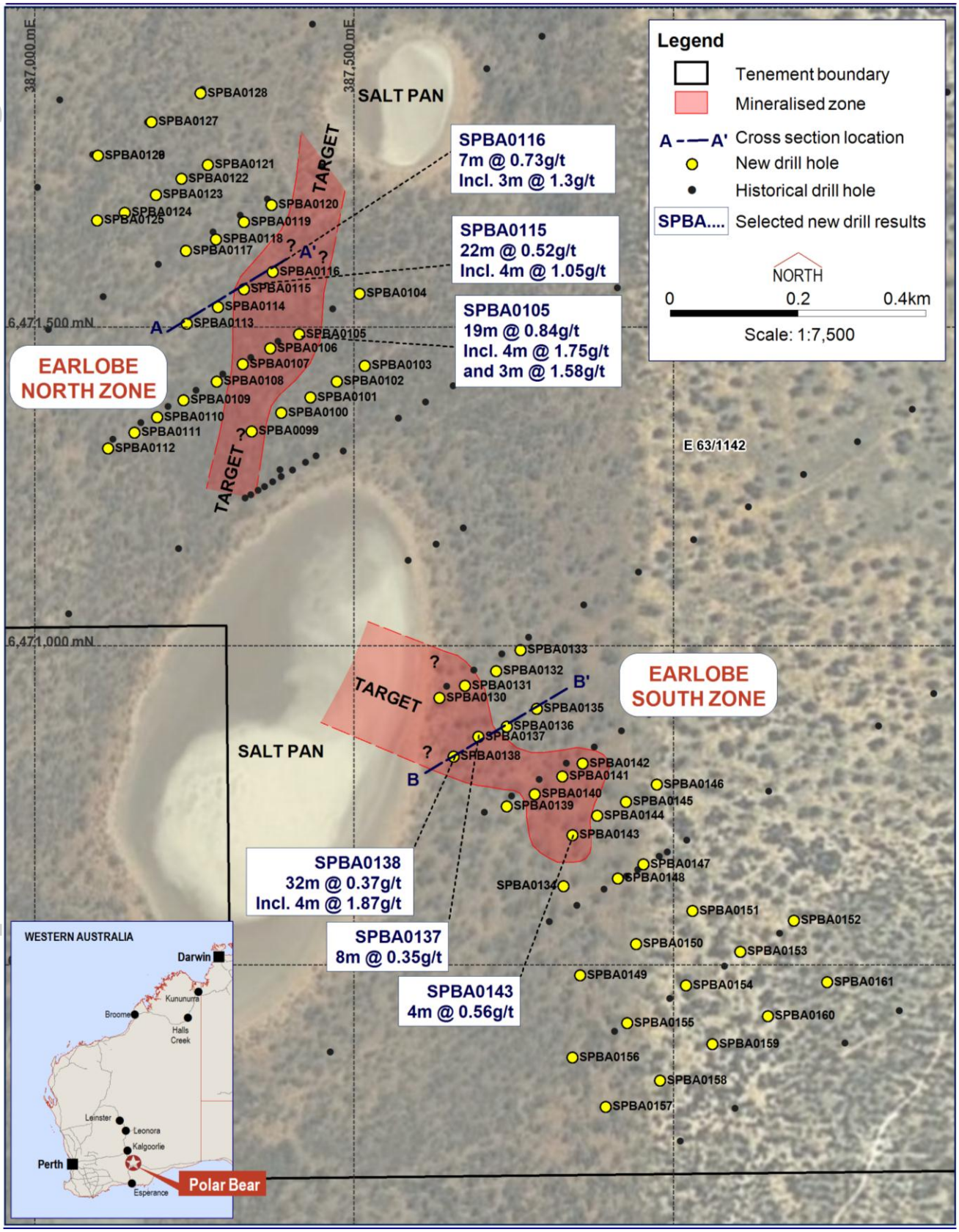

Figure 1. Earlobe prospect, showing Earlobe North and South zones defined in recent reconnaissance aircore drilling.

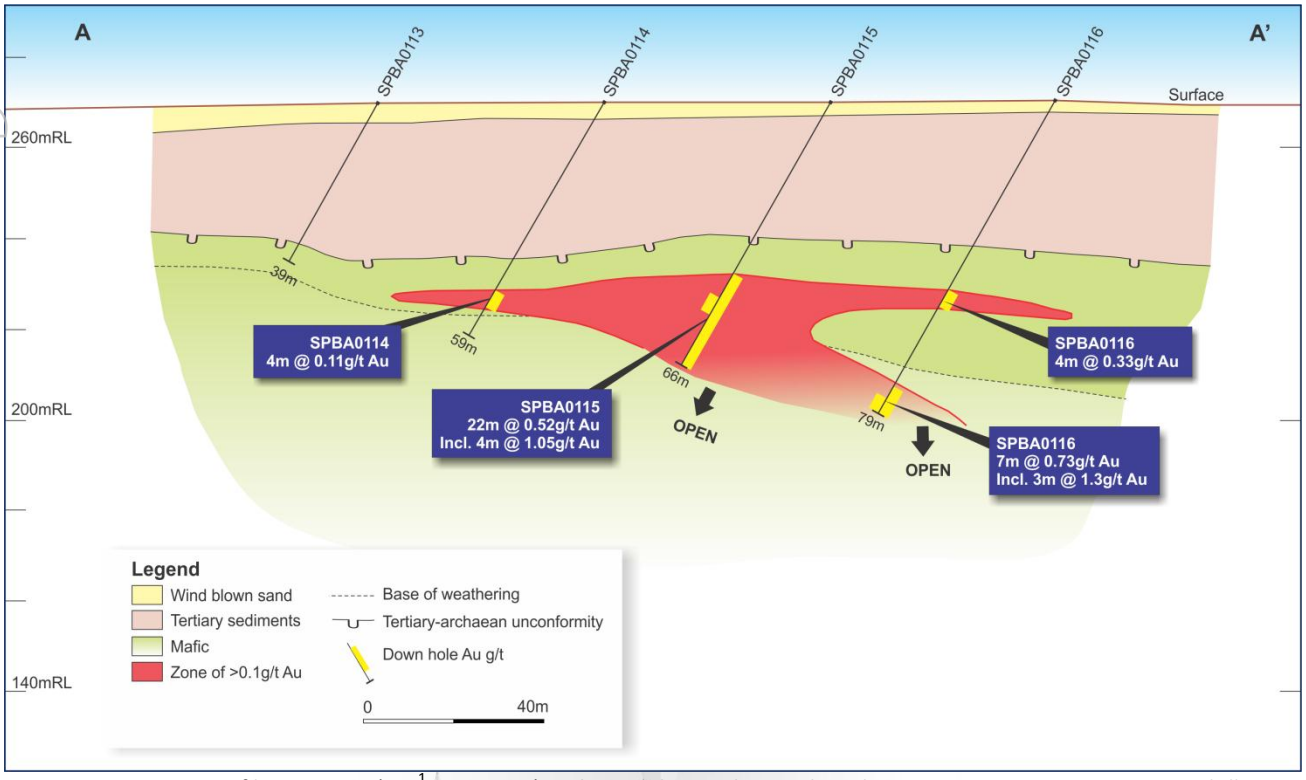

Figure 2. Cross section of line 14300N (A-A[1] in Figure 1) at the Earlobe North zone, based on recent reconnaissance aircore drilling.

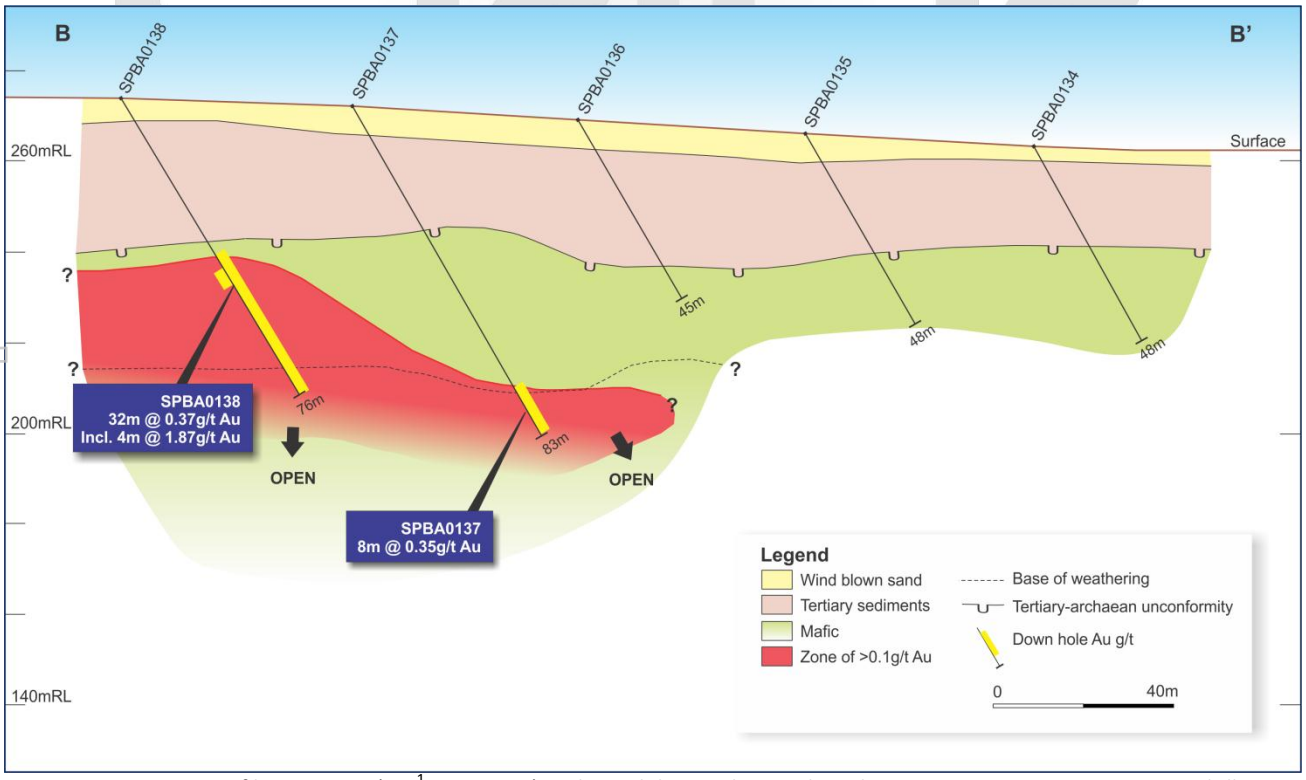

Figure 3. Cross section of line 13500N (B-B[1] in Figure 1) at the Earlobe South zone, based on recent reconnaissance aircore drilling.

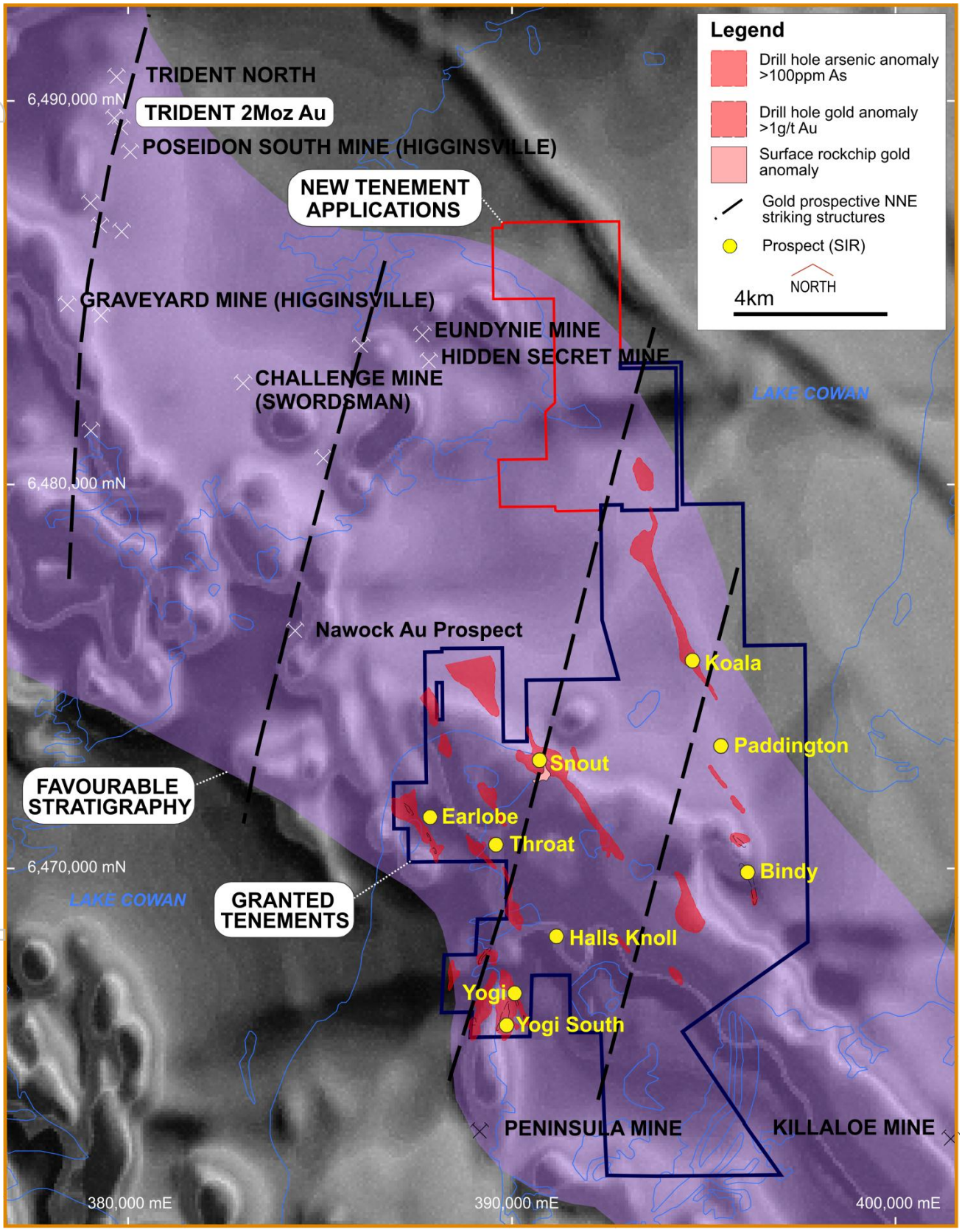

Figure 4. Gold prospectivity map showing the extension of the Higginsville stratigraphy and repetition of Trident analogue structures at Polar Bear, together with gold and arsenic anomalous trends and Sirius' tenement applications over an area not open to exploration for the past 14 years due to competing tenement applications (now resolved in Sirius' favour).

Hole number	North	East	Azim	Dip	From (m)	To (m)	Width (m)	Grade, g/t Au	Comments
SPBA0099	14100	8400	270	-60	28	31	**3**	**0.47**	**To end of hole**
SPBA0100	14100	8450	270	-60					NSI
SPBA0101	14100	8500	270	-60	24	28	4	0.20	
SPBA0102	14100	8550	270	-60					NSI
SPBA0103	14100	8600	270	-60					NSI
SPBA0104	14200	8650	090	-60					NSI
SPBA0105	14200	8525	090	-60	28	47	**19**	**0.84**	**To end of hole**
Including					*32*	*36*	***4***	***1.73***	
And					*44*	*47*	***3***	***1.58***	***To end of hole***
SPBA0106	14200	8475	090	-60	8	12	4	0.25	
And					24	28	4	0.14	
And					44	51	7	0.13	To end of hole
SPBA0107	14200	8425	090	-60	32	44	12	0.26	
SPBA0108	14200	8375	090	-60					NSI
SPBA0109	14200	8325	090	-60					NSI
SPBA0110	14200	8275	090	-60	32	36	4	0.16	
SPBA0111	14200	8225	090	-60	36	44	**8**	**0.51**	
SPBA0112	14200	8175	090	-60					NSI
SPBA0113	14300	8400	270	-60					NSI
SPBA0114	14300	8450	270	-60	48	52	4	0.14	
SPBA0115	14300	8500	270	-60	44	66	**22**	**0.52**	**To end of hole**
Including					*48*	*52*	***4***	***1.05***	
SPBA0116	14300	8550	270	-60	48	52	4	0.33	
And					72	79	**7**	**0.73**	**To end of hole**
Including					*76*	*79*	***3***	***1.30***	***To end of hole***
SPBA0117	14400	8450	270	-60					NSI
SPBA0118	14400	8500	270	-60					NSI
SPBA0119	14400	8550	270	-60					NSI
SPBA0120	14400	8600	270	-60					NSI
SPBA0121	14500	8550	090	-60					NSI
SPBA0122	14500	8500	090	-60					NSI
SPBA0123	14500	8450	090	-60					NSI
SPBA0124	14500	8400	090	-60					NSI
SPBA0125	14500	8350	090	-60					NSI
SPBA0126	14600	8400	270	-60					NSI
SPBA0127	14600	8500	270	-60					NSI
SPBA0128	14600	8600	270	-60					NSI
SPBA0129	14600	8400	090	-60					NSI
SPBA0130	13600	8425	090	-60	24	36	12	0.15	
SPBA0131	13600	8475	090	-60	48	56	8	0.27	
SPBA0132	13600	8525	090	-60					NSI
SPBA0133	13600	8575	090	-60					NSI
SPBA0134	13500	8400	090	-60					NSI
SPBA0135	13500	8450	090	-60					NSI
SPBA0136	13500	8500	090	-60					NSI
SPBA0137	13500	8550	090	-60	72	80	8	0.35	
SPBA0138	13500	8600	090	-60	40	72	**32**	**0.37**	**To end of hole**
Including					*44*	*48*	***4***	***1.87***	
SPBA0139	13400	8480	270	-60	56	60	4	0.10	
And					84	85	1	0.13	To end of hole
SPBA0140	13400	8520	270	-60	48	52	4	0.14	
And					64	68	4	0.55	
SPBA0141	13400	8580	270	-60	64	73	**9**	**0.35**	**To end of hole**
SPBA0142	13400	8620	270	-60	80	84	4	0.37	
SPBA0143	13300	8500	270	-60	60	64	4	0.56	
SPBA0144	13300	8550	270	-60					NSI

SPBA0145	13300	8600	270	-60					NSI
SPBA0146	13300	8650	270	-60					NSI
SPBA0147	13200	8580	090	-60					NSI
SPBA0148	13200	8520	090	-60	40	41	1	0.22	To end of hole
SPBA0149	13100	8400	270	-60	52	56	4	0.25	
SPBA0150	13100	8500	270	-60					NSI
SPBA0151	13100	8600	270	-60	88	94	6	0.15	To end of hole
SPBA0152	13000	8720	090	-60					NSI
SPBA0153	13000	8620	090	-60					NSI
SPBA0154	13000	8520	090	-60					NSI
SPBA0155	13000	8420	090	-60	36	42	16	0.20	
SPBA0156	13000	8320	090	-60	52	60	8	0.21	
And					88	99	11	0.21	To end of hole
SPBA0157	12900	8320	270	-60	76	81	**5**	**0.43**	**To end of hole**
SPBA0158	12900	8420	270	-60	64	72	8	0.18	
SPBA0159	12900	8520	270	-60					NSI
SPBA0160	12900	8620	270	-60					NSI
SPBA0161	12900	8720	270	-60	52	56	4	0.16	

Table 1. Aircore drill intersections from Earlobe, Polar Bear. Co-ordinates are local grid and azimuths are with respect to local grid. Widths quoted are downhole widths. Intersections are based on a lower cutoff of 0.1g/t Au. NSI means no significant intersection (ie, less than 0.1g/t Au).

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. 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 drill hole 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 drill hole 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.