

# Nickel sulphides intersected at Tarmoola Project in WA

## Plus, drilling planned to test fresh EM targets at the Winchester copper-nickel project and EM survey to start at Mt Carlon nickel project

Great Boulder Resources Limited [ASX: GBR] is pleased to announce that aircore drilling at its Tarmoola Project has intersected nickel sulphides.

The Company completed a program of 76 aircore holes at the Tarmoola Project for a total of 2,539m of drilling, including 32 holes at the Sturt Meadows prospect (Figure 2). The program was designed to test EM anomalies in the area, as well as providing information on the geochemistry and lithologies of the prospect.

Hole 19TMAC011 intersected sulphide minerals at a depth of 114m within a deep palaeochannel running through the prospect area (Figure 3). Polished section petrography subsequently identified the sulphide species as Vaesite (NiS<sub>2</sub>), a nickel mineral which may also contain cobalt<sup>1</sup>.

The vaesite fragments are alluvial in nature and therefore not necessarily representative of an in-situ nickel sulphide body.

The presence of vaesite in the sample may represent supergene remobilization of nickel into the weathered profile. However, the fragments highlight the potential for a nickel sulphide source nearby. In light of this, further drilling is planned at this prospect in the current quarter.

This next round of drilling will test the full depth of the palaeochannel and recover additional material for assaying as part of Great Boulder's strategy to identify the origin of the nickel.

### Mt Carlon EM Survey

Results from an airborne electromagnetic (AEM) survey over the Mt Carlon project east of Laverton are expected to be available in August. The survey will be interpreted in parallel with gravity and magnetic images to plan an initial drilling program for later this year.

There are two conceptual targets within Mt Carlon that require testing. The first is an area of strong geophysical magnetic and gravity response on the eastern side of the greenstone belt which may represent a large mafic intrusion. The second is an ultramafic unit mapped over 7km of strike in which historic drilling has identified elevated nickel and copper values. The EM survey is the first field work to be completed on the project since Great Boulder acquired it in 2018.

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<sup>1</sup> [www.handbookofmineralogy.org/pdfs/vaesite.pdf](http://www.handbookofmineralogy.org/pdfs/vaesite.pdf)

## Winchester

Following the success of the recent aircore drilling program at Winchester, which defined strong nickel-copper platinum anomalism over a 2.5km corridor<sup>2</sup>, the Company intends to continue testing coincident magnetic and EM anomalies at the original Winchester Prospect. Further aircore drilling is also planned on the new tenement E38/3340 to test the southern extent of the anomaly, which remains open along strike.

## New projects growth strategy

Great Boulder Managing Director Andrew Paterson, who was appointed in June, said that in conjunction with the Company's ongoing exploration programs, Great Boulder is also reviewing a number of potential opportunities with a view to finding synergistic early-stage gold projects.

"We have an extremely active work schedule for the second half of 2019," Mr Paterson said.

"The nickel we drilled at Tarmoola shows the area has immense potential and now we are setting out to find the origin of that sulphide mineralisation.

"We're also looking to home in on the high-tenor nickel sulphides at Winchester and start our first programs at Mt Carlon.

"In addition, we are pursuing the acquisition of early-stage gold projects to capitalise on the experience of the technical team and the resources we have in-house."

For further information contact:

**Andrew Paterson**

*Managing Director*

Great Boulder Resources Limited

admin@greatboulder.com.au

## Media

For further information, please contact:

**Paul Armstrong**

**Read Corporate +61 8 9388 1474**

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<sup>2</sup> ASX Announcement 21 May 2019: "More strong nickel-copper-PGE anomalism highlights growing potential of Winchester Project".

## About Great Boulder Resources

Great Boulder is a mineral exploration company with projects in the Eastern Goldfields region of Western Australia. With a focus on base metals and gold, the Company's main focus is exploration for copper-nickel-cobalt sulphide mineralisation. With advanced projects including Mt Venn and Winchester in the Yamarna Belt and the backing of a strong technical team, the Company is well positioned for future success.



FIGURE 1: GREAT BOULDER PROJECTS

## Competent Person's Statement

Exploration information in this Announcement is based upon work undertaken by Mr Daniel Doran who is a Member of the Australasian Institute of Geoscientists (AIG). Mr Doran has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a 'Competent Person' as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code). Mr Doran is an employee of Great Boulder Resources and consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

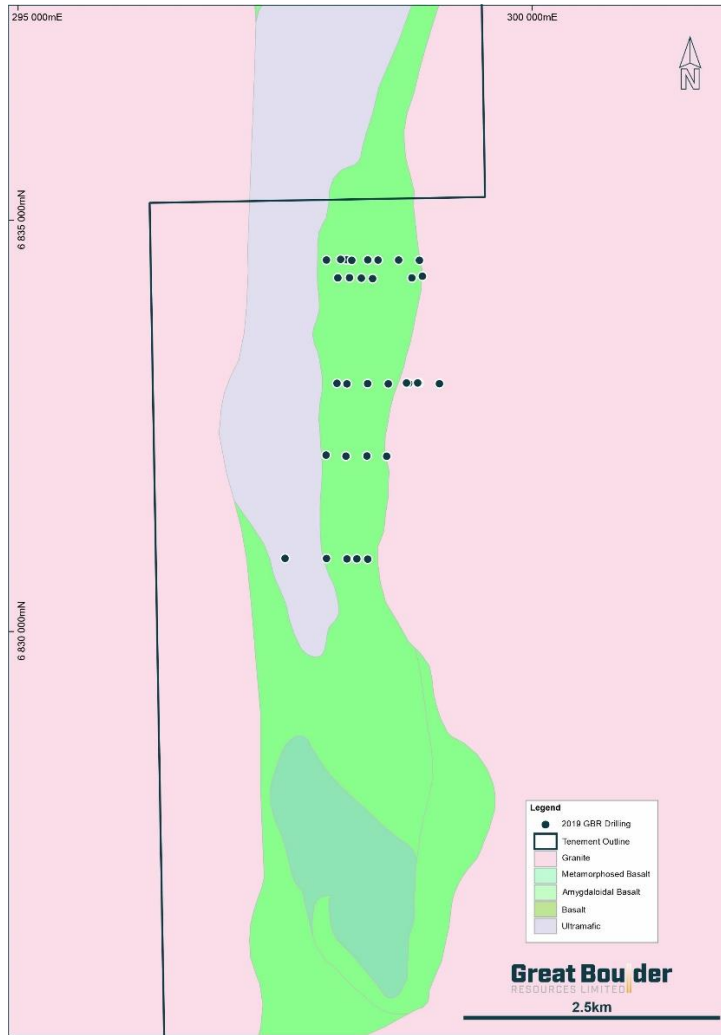


FIGURE 2: STURT MEADOWS COLLARS (GDA94 ZONE 51)

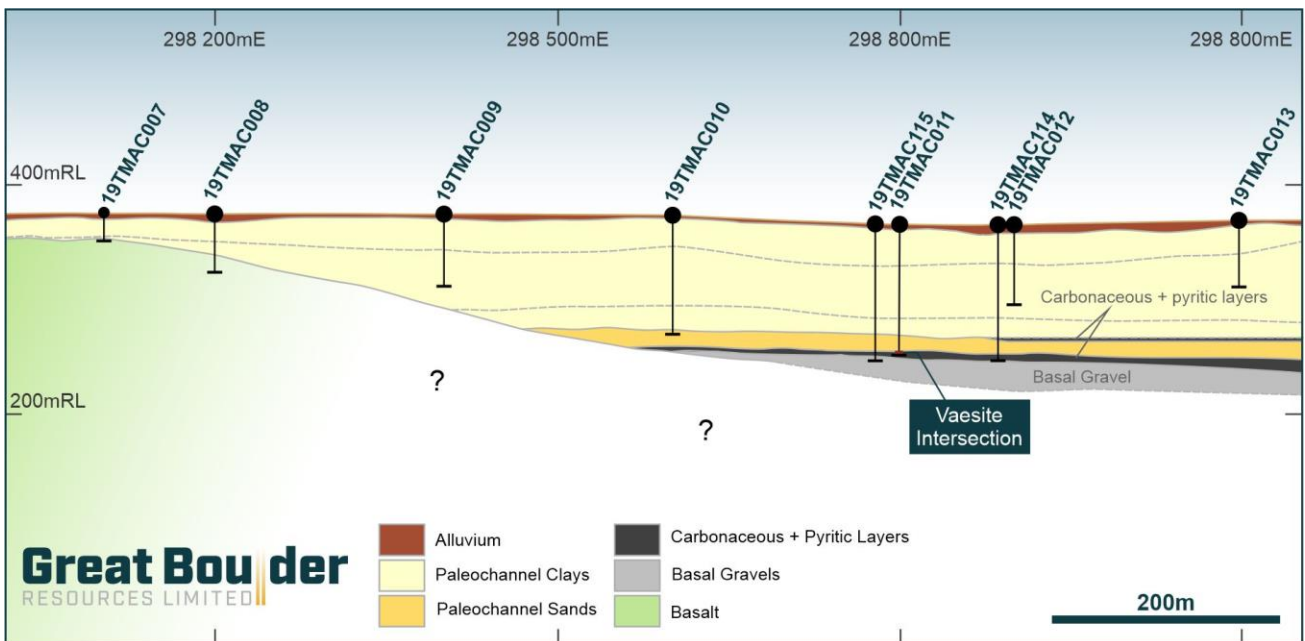


FIGURE 3: STURT MEADOWS CROSS-SECTION 6832800N SHOWING THE SULPHIDE INTERSECTION RELATIVE TO THE PALAEOCHANNEL.

Hole ID	Easting	Northing	Depth
19TMAC001	298002	6834001	7
19TMAC002	298199	6834004	3
19TMAC003	298402	6834002	5
19TMAC004	298503	6834000	21
19TMAC005	298703	6834001	20
19TMAC006	298905	6833998	46
19TMAC007	298104	6832803	24
19TMAC008	298200	6832797	40
19TMAC009	298401	6832799	66
19TMAC010	298602	6832797	104
19TMAC011	298801	6832802	114
19TMAC012	298902	6832806	71
19TMAC013	299099	6832799	60
19TMAC014	297998	6832104	29
19TMAC015	298191	6832094	21
19TMAC016	298394	6832096	31
19TMAC017	298587	6832093	39
19TMAC022	297599	6831101	45
19TMAC024	298002	6831100	45
19TMAC025	298201	6831096	42
19TMAC026	298297	6831096	45
19TMAC027	298402	6831093	42
19TMAC065	301210	6842951	39
19TMAC066	301372	6842825	45
19TMAC067	301508	6842673	58
19TMAC068	301629	6842517	21
19TMAC069	301718	6842397	5
19TMAC070	301854	6842251	12
19TMAC071	301998	6842113	13
19TMAC072	301327	6843765	16
19TMAC073	301479	6843607	31
19TMAC074	301607	6843453	15
19TMAC075	301767	6843362	13
19TMAC076	301900	6843219	27
19TMAC077	302057	6843027	57
19TMAC078	302203	6842861	42
19TMAC080	305896	6847298	37
19TMAC081	305895	6847096	25
19TMAC082	305898	6846893	28

Hole ID	Easting	Northing	Depth
19TMAC083	305902	6846700	40
19TMAC084	305898	6846495	13
19TMAC085	305904	6846300	22
19TMAC086	305895	6846094	16
19TMAC089	306304	6847273	24
19TMAC090	306300	6847102	39
19TMAC091	306300	6846901	44
19TMAC092	306296	6846700	10
19TMAC093	306304	6846502	46
19TMAC094	306301	6846297	10
19TMAC095	306306	6846097	29
19TMAC098	307248	6847300	6
19TMAC099	307254	6847132	26
19TMAC100	307249	6846906	14
19TMAC101	307251	6846699	15
19TMAC102	307246	6846500	19
19TMAC103	307249	6846304	7
19TMAC104	307248	6846101	18
19TMAC105	307254	6845907	25
19TMAC106	305881	6847219	52
19TMAC107	305900	6847369	33
19TMAC108	305904	6847421	15
19TMAC109	305914	6847004	22
19TMAC110	306302	6847016	40
19TMAC111	306303	6847207	37
19TMAC112	307235	6847028	43
19TMAC113	307246	6847227	5
19TMAC114	298888	6832806	120
19TMAC115	298779	6832806	120
19TMAC116	298934	6833843	74
19TMAC117	298832	6833827	86
19TMAC118	298450	6833820	32
19TMAC119	298340	6833825	14
19TMAC120	298225	6833829	9
19TMAC121	298112	6833827	6
19TMAC122	298247	6833998	2
19TMAC123	298139	6834007	2

TABLE 1: 2019 TARMOOLA AIRCORE DRILLING. ALL HOLES ARE VERTICAL. COORDINATES ARE IN GDA 94 PROJECTION, ZONE 51.

## Appendix 2 - JORC Code, 2012 Edition Table 1

The following table relates to activities undertaken at Great Boulder's Tarmoola project.

## Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	Commentary
<b>Sampling techniques</b>	<p>Air core (AC) was used to produce a 1m bulk sample that was placed in sample rows on the ground at the drill site. 76 holes were completed for a total of 2,539m.</p> <p>Geological logging was completed downhole on every metre. 4m (or shorter if required) composite scoop samples were taken downhole from surface to EOH, except when significant transported cover was encountered in which case no samples were taken. An EOH sample was taken from the bottom 1m sample (or multiple metres based on available sample size) to be sent for separate multi-element geochemical analysis.</p> <p>The sampling techniques used are deemed appropriate for the style of exploration.</p>
<b>Drilling techniques</b>	<p>Aircore (AC) drilling using a face sampling blade, or where AC hammer method used, a face sampling bit. Samples are returned to surface on the inside of the drill rod to avoid contamination. Maximum hole depth for the AC drilling was 120m.</p>
<b>Drill sample recovery</b>	<p>Logging of all samples followed established company procedures which included recording of qualitative fields to allow discernment of sample reliability. This included (but was not limited to) recording sample condition, sample recovery and sample method. While no issues relating to sample recovery have been note, final recovery assessment has not been completed.</p> <p>No quantitative analysis of samples weights, sample condition or recovery has been undertaken.</p> <p>No quantitative twinned drilling analysis has been undertaken.</p>
<b>Logging</b>	<p>Geological logging of every metre of drilling followed established company and industry common procedures. Qualitative logging of samples included (but was not limited to) lithology, mineralogy, alteration and weathering. Logging was supported by the use of a handheld XRF.</p>
<b>Sub-sampling techniques and sample preparation</b>	<p>Aircore (AC) drill chips were collected as 4m composite samples from bulk piles laid out next to the drillhole collar using a handheld scoop. Certified Reference Material and blank were inserted approximately 1 in 40 samples. Entire samples were pulverised. No field duplicates were taken.</p> <p>All samples were submitted to ALS Minerals for analysis. The sample preparation included:</p> <ul style="list-style-type: none"> <li>– Samples were weighed, crushed (such that a minimum of 70% pass 2mm) and pulverised (such that a minimum of 85% pass 75um) as per ALS standards.</li> <li>– Both downhole and BOH samples were analysed for Au using ALS method Au-AA26.</li> <li>– A 4 acid digest (HNO<sub>3</sub>-HBr-HF-HCl) and ICP-AES (ALS method; MS-ICP61g) was used for multi-element analysis. This also included Co, Cu, Ni, Zn. Note: ME-MS61g uses HBr in lieu of HClO<sub>3</sub> (used in ME-MS61 4 acid digest). This change relates to improving resolution of sulphur values.</li> <li>– For elements that reported over range, ALS used ore grade 4 acid digest and ICP-AES methods; (nickel) Ni-OG62, (copper) Cu-OG62.</li> </ul>

- Sulphur over range used ALS method S-IR08 (Leco Sulphur analyzer).
- Iron over range used ALS method Fe-ICP81 (Sodium Peroxide Fusion).
- BOH samples underwent the sample preparation as above but were analysed using ALS method ME-MES61 which produces results for 48 elements including Ni, Cu and Co.

Sample collection, size and analytical methods are deemed appropriate for the style of exploration.

***Quality of assay data and laboratory tests***

All samples were assayed by industry standard methods through commercial laboratories in Australia.

Typical analysis methods are detailed in the previous section and are consider 'near total' values.

Routine 'standard' (mineralised pulp) Certified Reference Material (CRM) was inserted by Great Boulder at a nominal rate of 1 in 40 samples.

Routine 'blank' material (un-mineralised sand) was inserted at a nominal rate of 1 in 40 samples. No significant issues were noted.

No field duplicates were taken during drilling.

No umpire checks were undertaken.

The analytical laboratories provided their own routine quality controls within their own practices. No significant issues were noted.

***Verification of sampling and assaying***

No verification of sampling and assaying has been undertaken in this exploration program. No twinned drilling has been undertaken.

Great Boulder has strict procedures for data capture, flow and data storage, and validation.

Limited adjustments were made to returned assay data; values returned lower than detection level were set to the methodology's detection level, and this was flagged by code in the database.

***Location of data points***

Drill collars were set out using a hand-held GPS with final collar locations being recorded using the same GPS.

The MGA94 UTM zone 51 coordinate system was used for all undertakings.

***Data spacing and distribution***

The spacing and location of the majority of the drilling in the projects is, by the nature of early exploration, variable.

The spacing and location of data is currently only being considered for exploration purposes.

***Orientation of data in relation to geological structure***

Drilling was nominally perpendicular to regional geological trends where interpreted and practical. True width and orientation of intersected mineralisation is currently unknown.

All drillholes were drilled vertically.

No significant mineralised intervals were intersected during this drilling

The spacing and location of the data is currently only being considered for exploration purposes.

<b>Sample security</b>	<p>Great Boulder has strict chain of custody procedures that are adhered to for drill samples.</p> <p>Sample bags are placed in a polyweave bags (up to 5 samples) and closed with a zip tie such that no sample material can spill out and no one can tamper with the sample once it leaves the company's custody.</p> <p>Sample consignments are actively tracked using courier company's online tracking system.</p>
<b>Audits or reviews</b>	None completed.

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	Commentary
<b>Mineral tenement and land tenure status</b>	<p>The Tarmoola Project is located approximately 40 kilometres north-west of Leonora, just west of the King of the Hills Gold Mine (formerly known as Tarmoola) operated by Red 5 Limited and the Sons of Gwalia Gold Mine operated by St Barbara Limited.</p> <p>Under the Tarmoola Joint Venture Agreement, the Company has the right to earn a 75% interest in the Tarmoola Project by funding exploration expenditure of \$1,400,000 over a 5 year period.</p>
<b>Exploration done by other parties</b>	<p>Historically overlooked, the land was pegged by EGMC as a conceptual large-scale gold project highlighted by a large regional geochemical pathfinder anomaly which also incorporates the King of the Hills and Sons of Gwalia gold deposits. The Tarmoola Project lies in the same geological setting as these deposits, being a northern extension to a regional granite-greenstone terrane contact.</p> <p>The project contains a significant strike-length of ultramafic stratigraphy that has been the focus for previous nickel explorers including Jubilee Mines, Xstrata Nickel and Talisman Mining Limited.</p>
<b>Geology</b>	<p>The Tarmoola NW project is located within the Sons of Gwalia domain of the Leonora greenstone belt and composed of tholeiitic and high- magnesium basaltic rocks, ultramafic rocks (komatiite and peridotite) and subordinate interbedded siliciclastic rocks. Gabbroic sills locally intrude the greenstone sequence and several batholithic granitoids of various ages and compositions define the western and southern domain boundaries. The Sons of Gwalia domain is in structural contact along the Mount George shear zone to the east with the Davis Domain. A regionally significant siliciclastic sedimentary sequence is exposed at surface within the Davis Domain. The Tarmoola NW project tenements are dominated by high-magnesium basalt, with lesser komatiite, peridotite and interflow sedimentary units. To the western edge, the Sturt Meadows - Antioch Ultramafic lies beneath a thick sequence of transported colluvium and alluvial material. It consists of both ultramafic and mafic unit with a sedimentary sequence present. A kilometre-scale internal biotite-hornblende granitoid (Robbie's Well Pluton) intrudes the central portion of the project area. Several historical gold deposits are located in the thermal aureole of this pluton (e.g. Diorite King, Victory and Mount Stirling). The Robbie's Well Pluton is a late-tectonic intrusion of trondhjemitic to granodioritic composition.</p> <p>Surficial regolith deposits vary significantly across the Tarmoola NW project area. In the northern Exploration License, near Randle's Find, basalt and dolerite/gabbro outcrop, flanked by a locally-derived colluvial soil. Transported surficial deposits become increasingly prevalent towards the south-west with evaporitic dune and kopai deposits dominating in the southwest of the project associated with the kilometre- scale Schmidt Pool channel that drains southwards into Lake Raeside. An unusual hill comprised of magnesium basalt and komatiite is located near Hill Bore in the centre of the drainage channel and near the southwestern corner of the project area. To the north and east of the lake-edge sequences, alluvial sheetwash deposits dominate that grade into reworked colluvial deposits east and north of the Agnew Road dominating the bulk of the southern exploration license. The colluvial deposits locally contain proximal bedrock lag deposits indicating that the colluvial cover</p>

is quite thin. Bedrock exposures dominate towards the eastern edge of the Tarmoola NW project area with a line of low basaltic hills stretching N-S from Mt Ross to Mt Clifford. Regional soil sampling by the Geological Survey of Western Australia has defined a kilometre-scale arsenic corridor which transects the northeast half of the GBR tenement package north of the area dominated by transported cover.

Gold deposits located east of the GBR leases show a close spatial association with dioritic-trondhjemitic intrusive bodies. These intrusions contain sufficient potassium-bearing minerals to support a potassium radiometric anomaly where residual soil material is preserved at the surface as found at Tarmoola (King of the Hills), Victory, Diorite King and Mt Stirling. Several similar potassium radiometric anomalies have been identified in the east of the Tarmoola NW project that remain largely untested.

Nearby Nickel deposits include the Sinclair and Waterloo deposits along with the Horn and Marriotts Prospects. These deposits are interpreted to be 'Kambalda Style' occurrences in which massive sulfides are deposits in thermally eroded embayments at the base of komatiite flows.

<b>Drill hole Information</b>	A list of the drillhole coordinates, orientations and metrics are provided as an appended table.
<b>Data aggregation methods</b>	<p>No grade truncations were applied to these exploration results.</p> <p>No weighted average techniques are applied to reported intervals</p> <p>No metal equivalents are used.</p>
<b>Relationship between mineralisation widths and intercept lengths</b>	<p>The orientation of structures and mineralisation is not known with certainty but drilling was conducted using appropriate orientations for interpreted mineralisation.</p> <p>True width and orientation of intersected mineralisation is currently unknown.</p> <p>A list of the drillholes and orientations is provided as an appended table.</p>
<b>Diagrams</b>	Refer to figures in announcement.
<b>Balanced reporting</b>	<p>It is not practical to report all exploration results. Low or non-material grades have not been reported.</p> <p>All drill hole locations are reported.</p>
<b>Other substantive exploration data</b>	Xstrata Nickel Pty Limited completed several loops of Fixed-Loop and Moving Loop Electromagnetic (FLEM and MLEM) surveys at the Sturt Meadows prospects targeting the Antioch Ultramafic unit. These surveys produced several EM anomalies, with 3 subsequently targeted with diamond drillholes. Only minor sulphide stringer mineralisation was intersected however the ultramafic-mafic contact was not specifically targeted.
<b>Further work</b>	Further work is discussed in the document in relation to the exploration results.