

Quarterly Report

14 April 2022



Great Western
EXPLORATION

Quarterly Activities Report for the Quarter ended 31 March 2022

Summary

- Yandal West Project: Geophysical interpretation and modelling of an EM survey has identified six high priority, discrete, conspicuous, shallow drill-ready interpreted VMS or sulphide associated lode gold targets. Preparations for drilling this Quarter are now underway
- Golden Corridor: Assay results from the initial field work programme of Ultrafine+ soil sampling has defined a number of gold in soil anomalies across the GC1 – GC4 structural targets and elsewhere across the Golden Corridor Project
- Fairbairn Base Metal Project: A review of historical work has discovered shallow anomalous nickel values in drilling, along with a number of unmapped mafic/ultramafic lithologies. This has highlighted significant nickel potential at the Fairbairn Base Metal Project. Great Western is now preparing its initial work programme that will include an airborne EM survey and high-resolution airborne magnetics survey, followed by stereoscopic geological mapping over the Fairbairn Base Metal Project
- Firebird Gold Project: Great Western is preparing its initial work programme that will include infill and extensional soil sampling, mapping and follow up drilling targeting both the geochemical anomalies and the highly prospective structural targets
- Yerrida South Project: A broad spaced regional reconnaissance Ultrafine+ soil sampling programme has now been completed with infill results expected in the June 2022 Quarter
- Thunder Copper-Gold Target: Assay results were received from the maiden RC drill programme at the Thunder Copper-Gold Target, located 45km west northwest of Wiluna, WA. The drilling did not intersect ore grade material, with minor anomalous copper and silver at shallow depths (<50m) associated with a sequence of partially oxidised and altered black shales and siltstones
- Geological review, planning and field work activity continues in respect of a number of Great Western's other projects

Great Western Exploration Limited (ASX: GTE) ("the Company", "Great Western") is pleased to provide its Quarterly Activities Report for the Quarter ended 31 March 2022 (March 2022 Quarter).



GREAT WESTERN EXPLORATION LIMITED (ASX:GTE)

Level 2, 160 St Georges Terrace, Perth WA

P + 61 8 6311 2852 F +61 8 6313 3997 [W greatwestern.net.au](http://www.greatwestern.net.au) **ABN** 53 123 631 470

Yandal West Project

(GTE 100% (E53/1369) and GTE 80% (E53/1612 & E53/1816))

The Yandal West Project is located within the world class Yandal greenstone belt, approximately 55km north of the historical Bronzewing gold mine and 60km south of Jundee gold mine.

A thorough desktop study and third-party geochemistry review has been completed across the Project. In addition, a number of field reconnaissance surveys have been undertaken and in consultation with Great Western's geophysical consultants at Newexco, an airborne geophysical programme was completed with an airborne EM (Xcite™) survey flown across the Project during the September 2021 Quarter¹.

During the December Quarter 2021, six high priority EM anomalies (See **Figure 1**) have been defined following processing and interpretation of the survey (refer Great Western announcement dated 25 October 2021²).

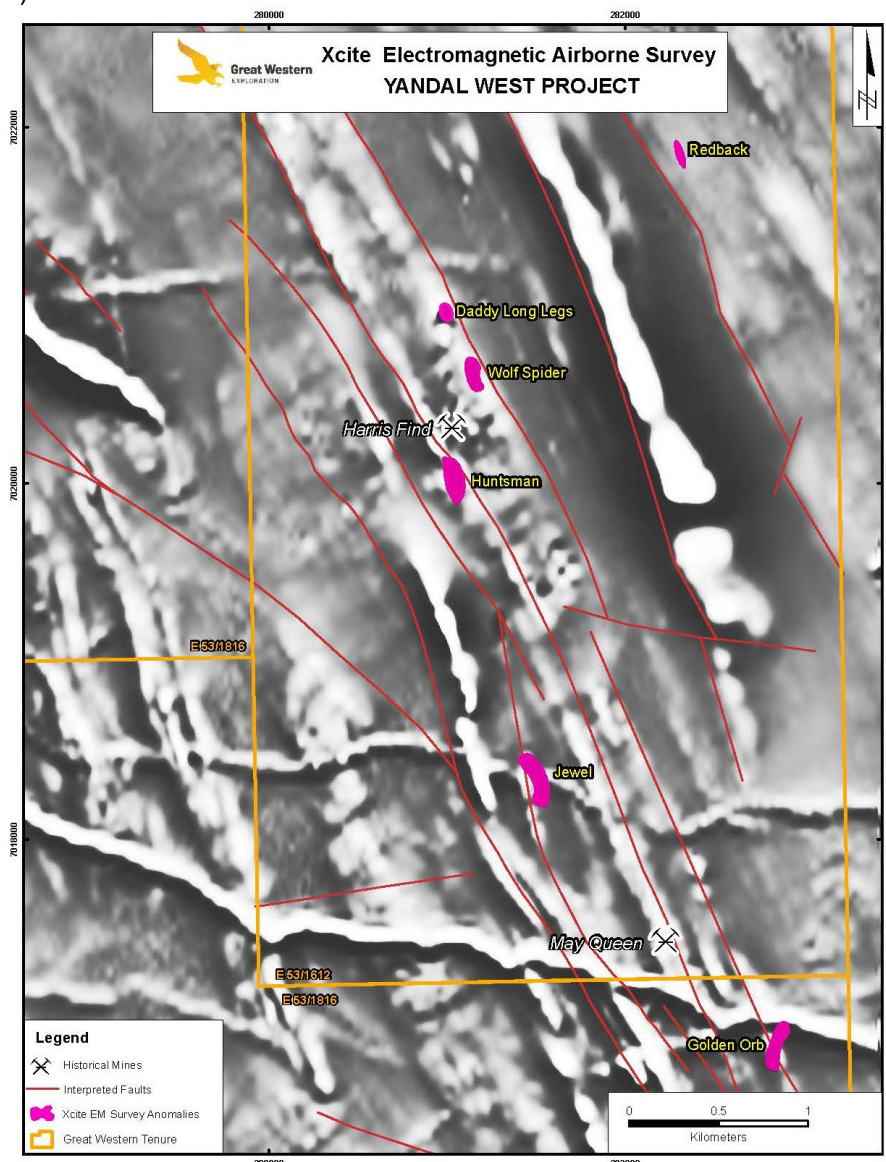


Figure 1. Location of Six High Priority EM anomalies and Historic Gold Mines over TMI 1st VD at the Yandal West Project

The high priority EM anomalies have a geophysical signature that is consistent with an accumulation of sulphides. The anomalies sit within a regional volcanic succession that includes basalts, high mg

basalts, ultramafics, felsic volcanics and cherts, proximal to HFSE granites, are shallow (<55m below surface), and are both conspicuous and discrete.

The six high priority EM anomalies are interpreted to be very exciting potential VMS or sulphide associated lode gold targets and are drill ready.

Drill planning for an RC programme at the Yandal West Project to test all six priority one targets is now well progressed, with drilling planned for the June 2022 Quarter.

The Golden Corridor Project (100% Great Western)

Great Western Exploration (ASX: GTE) ("the Company", "Great Western") holds 1,100 km² of terrane immediately north of the 11Moz Wiluna gold deposit, all within the "Golden Corridor", which extends from Kambalda in the south to Plutonic in the north and is host to many of the largest gold deposits in Australia (see **Figure 2**).

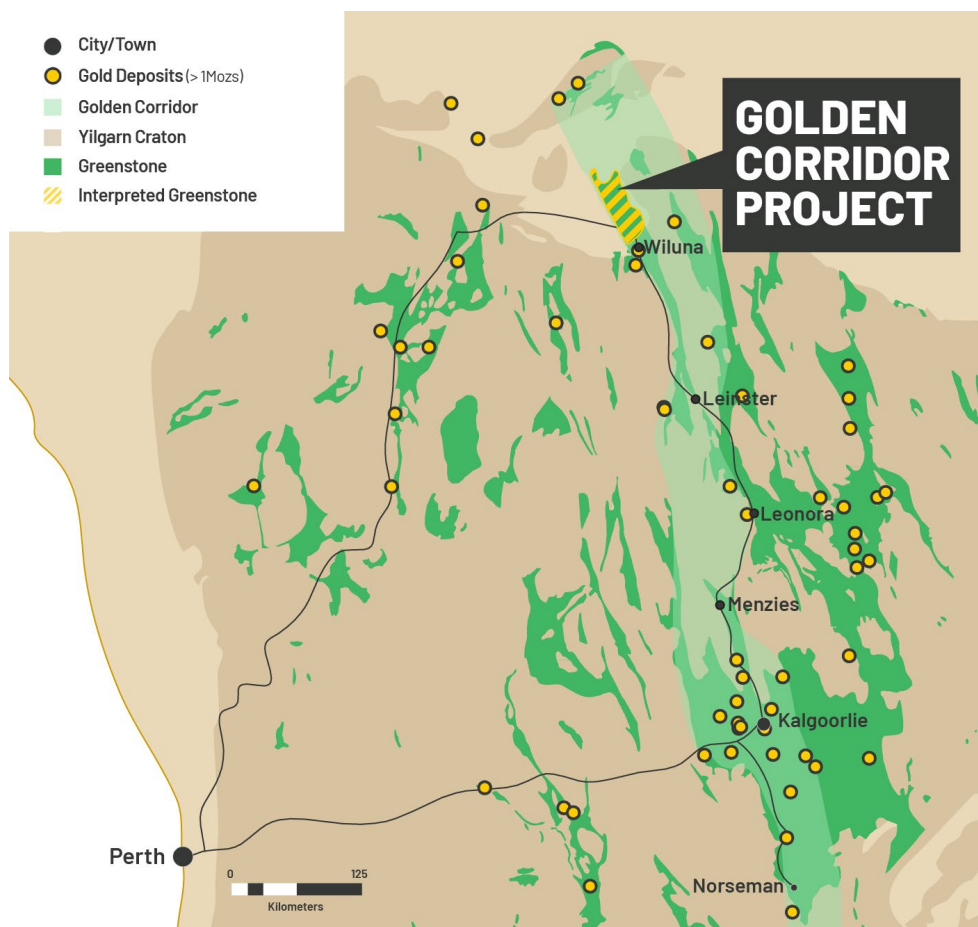


Figure 2 The Golden Corridor is Australia's most important gold terrane and host to many of Australia's largest gold deposits.

Great Western has now completed a broad spaced Ultrafine+ soil sampling programme that covered the previously identified structural targets GC1 to GC4 and the broader Golden Corridor Project area, consisting of 1,257 (plus duplicates) samples. The programme was completed at a nominal 1,200m x 400m spacing. Ultrafine+ is a recently developed geochemical soil sampling method developed by CSIRO and carried out by Labwest.

During the March Quarter 2022, a number of gold in-soil anomalies have been defined coincident with the GC1 to GC4 structural targets³. The coincident gold anomalism (max **8.7 ppb Au**) defined across

all four large structurally complex bedrock targets (see **Figure 3**) has provided Great Western with results that have exceeded all expectations.

The gold anomalism correlates strongly with structural breaks within the Golden Corridor trend that runs NNW from Wiluna, and areas of shallower interpreted Proterozoic cover. The gold anomalism highlighted within the soils is significant given the interpreted cover over the Archaean bedrock targets, and that this cover may subdue any geochemical signature of the underlying Archaean bedrock targets.

The identification of an unexplored greenstone sequence with large regional scale faults, under relatively shallow cover that coincides with anomalous gold in Ultrafine+ soils is a strong indication that the sequence is highly prospective for significant gold mineralisation.

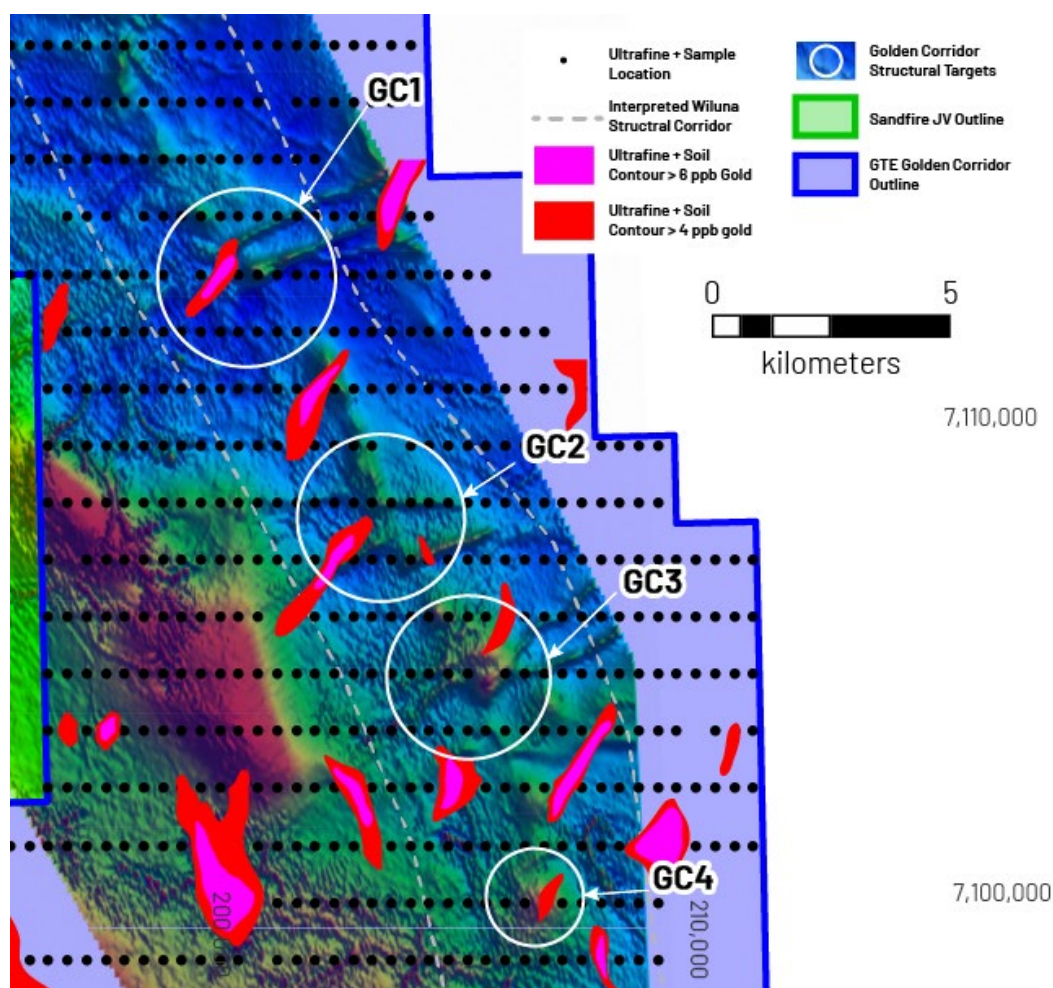


Figure 3. The upgraded GC1 to GC4 aeromagnetic structural targets in relation to the anomalous gold contours. These coincident areas will be the initial focus of follow-up work.

In addition to the outstanding results at GC1, GC2, GC3 & GC4 the Ultrafine+ soil sampling programme tested areas of the Golden Corridor that sit outside of the previously defined structural targets. The results have highlighted a number of gold in-soil anomalies (max **12.7ppb Au**) within the Wiluna structural corridor that appear coincident with more subtle aeromagnetic features, along with a large number of gold-in-soil anomalies defined outside of the high-resolution aeromagnetic data.

Further field work by Great Western will initially focus on the upgraded GC1 to GC4 target areas, where the company has already acquired detailed aeromagnetic data and preliminary passive seismic HVSR surveys have been completed. Infill Ultrafine+ soil sampling and additional passive seismic HVSR surveys are planned to commence in April 2022, followed by a maiden drill programme.

Fairbairn Base Metal Project (100% Great Western)

Great Western has a very large 960km² strategic land position in the rapidly evolving Earraheedy Basin, the 100% owned “Fairbairn Base Metal Project”. Great Western has long held the view that the Fairbairn Project on the margin of the Yilgarn Craton is highly prospective for base metals and established its initial land position in the region prior to the discovery at Julimar by Chalice Mining Ltd (ASX.CHN).

The Fairbairn Base Metal Project is situated near the northern boundary of the Yilgarn Craton approximately 900km north-east of Perth (see **Figure 4**).

Following the globally significant discoveries of magmatic nickel deposits such as Nova discovered by Sirius Resources NL and Julimar discovered by Chalice Mining Ltd (ASX.CHN), the boundary of the Yilgarn craton is now being aggressively explored for nickel, copper and PGE's. Magmatic nickel deposits are some of the highest value deposits in the world and are a major global source of nickel and PGE's. It has long been interpreted that these base metal and PGE deposits occur in mafic intrusions emplaced near to the margins of Archean cratons such as Thompson, Raglan and Voisey Bay in Canada and Julimar, Nova and Nebo-Babel in Australia.

In Geoscience Australia's 2016 report on the 'Potential for intrusion-hosted Ni-Cu-PGE sulfide deposits'⁴, they highlighted the potential for magmatic Ni-Cu-PGE sulfide deposits extending into greenstone belts in the far east of the Yilgarn Craton and under cover along the northern margin, which is where the Fairbairn Base Metal Project is located.

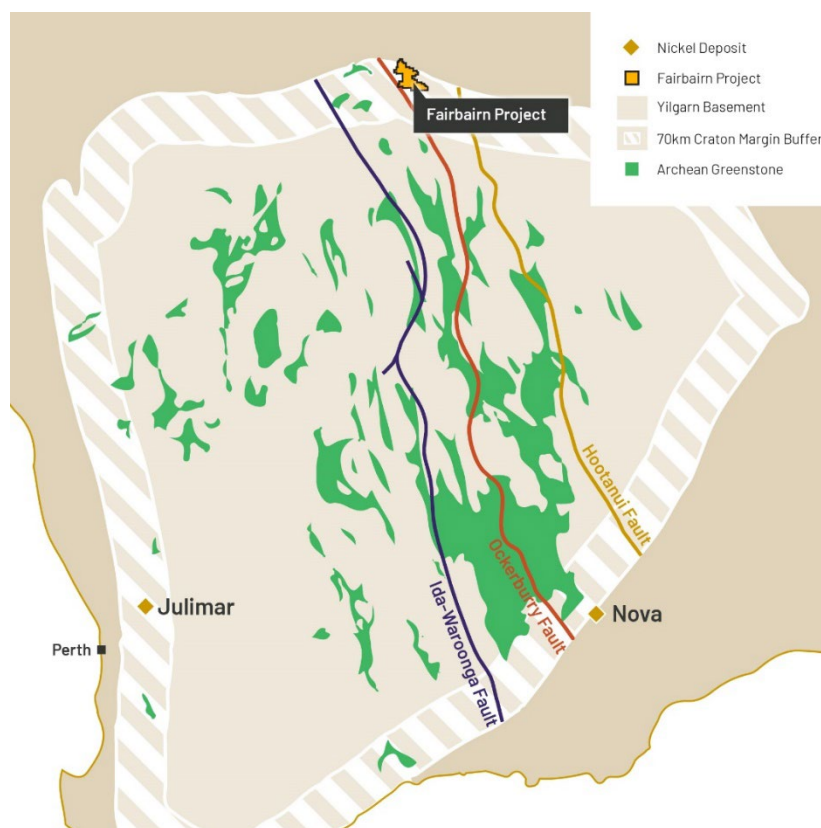


Figure 4. Fairbairn Project location is shown near to the interpreted margin of the Yilgarn Craton similar to Julimar in the west and Nova in the south east

During the March Quarter 2022, an initial review of historical work was completed at Fairbairn. The majority of the historical work at GTE's Fairbairn Project was completed from the late 1980s to the mid-1990s by Stockdale and Great Central Mines, where the area was explored predominantly for

diamonds. The historical exploration work included magnetic surveys, surface sampling, RC drilling, diamond drilling and petrology.

There are 36 drill holes that were historically drilled for diamonds within the main project area with only 18 of these appearing to have been assayed for nickel. Anomalous nickel assays have been reported within sheared, altered and weathered ultramafic rock in two of these historical shallow Aircore holes (see **Figure 5**); M018 reported a maximum nickel assay of 2,130 ppm, within an interval of **12m @ 1,835ppm Ni** from 22m and M017 located 3 km south reported a maximum nickel assay of 1,340 ppm within an interval of **20m @ 1,214ppm Ni** from 28m and a shallower anomalous intercept of **10m @ 1,190ppm Ni** from 10m (both holes were sampled using 2m composites)⁵.

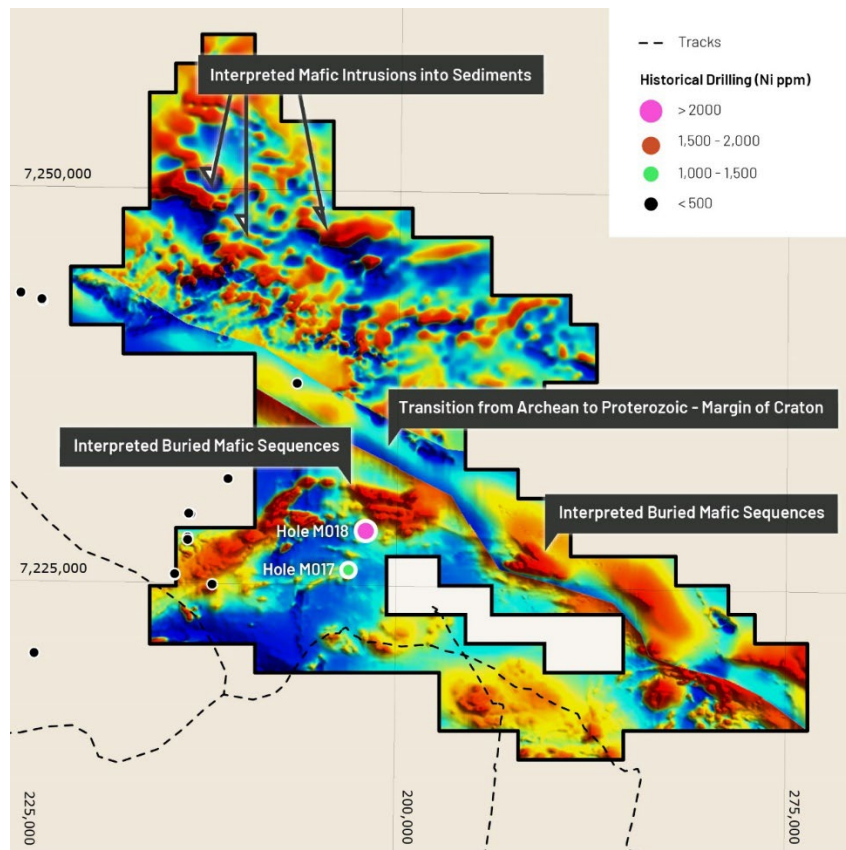


Figure 5. Historical drill holes assayed for nickel overlaid on 40m State aeromagnetic data subdivided into terrains to enhance features; southern zone (predominantly Archaean showing buried mafic sequences and possible porphyry intrusions), central zone the transition from Archaean to Proterozoic (craton margin), northern zone predominantly Proterozoic sediments with possible mafic intrusions

Great Western is now preparing its initial work programme that will include an airborne EM survey and high-resolution airborne magnetics survey which will be followed by stereoscopic geological mapping over the Fairbairn Base Metal Project.

Thunder (100% Great Western)

During the December Quarter 2021 Great Western Exploration Limited (ASX: GTE, "Great Western") completed an RC drilling campaign at the 100% owned Thunder Copper-Gold Target 40kms west of Wiluna and 112kms from Sandfire's (ASX: SFR) DeGrussa copper-gold operation.

Great Western completed 11 RC holes for 1,452 metres drilled to an average depth of 132 metres to test the EM anomaly at Thunder and the Ultra Fine + soil anomalies.

The drilling did not intersect ore grade material, only minor anomalous copper and silver at shallow depths (<50m) associated with a sequence of partially oxidised and altered black shales and siltstones. The minor anomalous silver (Ag) and copper (Cu) includes 1m @ 2.4g/t Ag from 23m and 1m @ 0.19% Cu from 40m in GTHR001, 2m @ 5.15g/t Ag from 10m in GTHR0006 and 1m @ 2.6g/t Ag from 13m in GTHR010⁶.

Yerrida North JV (Sandfire Resources earning 70%)

During the March Quarter 2022, Sandfire Resources Limited (ASX: SFR) ("Sandfire") completed a re-interpretation of the data from the LAG sampling, with regolith levelled by UMAP dimension reduction to show a regolith controlled geochemical variation(see **Figure 6**).

These samples form part of a 1,000m x 1,000m grid pattern aimed at providing a wide-scale, first-pass overview of regolith geochemistry overlying the historically underexplored Killara Volcanics of the Yerrida Basin.

The results from the lag sampling programme have highlighted a number of areas for further work. Follow up work such as field mapping, rock chip sampling and infill conventional soil sampling is expected to be completed in the June Quarter 2022.

As previously advised, Sandfire reached its minimum expenditure commitment in late 2019, by spending \$1.7 million over three years. Great Western looks forward to the continued exploration being undertaken by Sandfire under the JV, where field works continue prior to potential drill testing.

Under the terms of the joint venture, Sandfire can earn a 70% interest by sole funding exploration to define a mineral resource of at least 50,000 tonnes of contained copper or copper equivalent under the JORC 2012 code. Great Western is free carried until that time. Sandfire can then choose to earn a further 10% by sole funding the completion of a Feasibility Study (as that term is defined in the JORC Code 2012 Edition) sufficient to justify a decision to mine.

Pursuant to the joint venture agreement, Sandfire's earn-in is subject to it maintaining the joint venture tenements in good standing and meeting all statutory expenditure conditions relating to the joint venture tenements. During the September Quarter 2021, Sandfire advised the Company that eight of the joint venture tenements (see Appendix 1: Tenement Schedule at 31 March 2022) are the subject of a plaint application by a third party in the Warden's Court. The outcome of this plaint application is unknown at the date of this report. The Company, with the support of Sandfire, intends to seek orders in the Warden's court for the dismissal of the plaint applications.

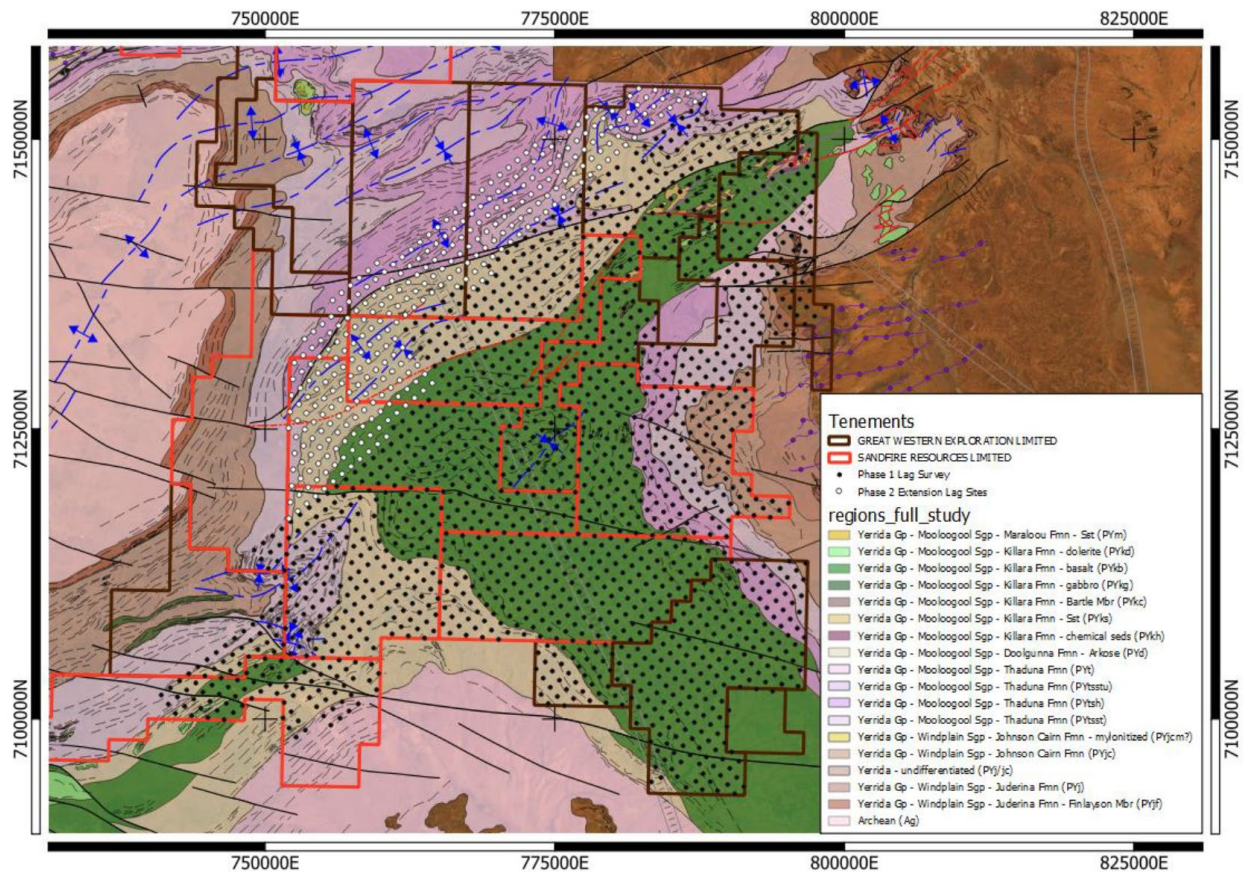


Figure 6. Gavin Daneels regional Geology map overlain with Phase 1, 1km x 1km spaced lag program (complete September Quarter 2021), extension program (white dots – Completed December Quarter 2021) and tenure coloured by company.

Fieldwork Summary

Great Western is currently progressing a number of field work programmes across areas of the Company's substantial tenure, that the Company expects will result in some prospects evolving into drill ready targets. This work includes:

- Soil and lag sampling at a number of areas considered prospective for copper, nickel and/or gold;
- Geophysical surveys;
- Preparations for drilling across a number of target areas including at Yandal West (6 priority VMS or sulphide associated lode gold targets, refer ASX announcements 6/10/2021 and 25/10/2021); and
- A geophysical review of existing data and a targeting report, currently underway by Great Western's consultants Newexco across a number of the Company's Project areas.

Great Western looks forward to updating shareholders, in what will be a very busy CY2022.

Corporate

During the March Quarter 2022 Great Western announced the appointment of experienced geologist, Mr Shane Pike as Managing Director.

Mr Pike is a geologist with well over 20 years' of successful technical and management experience and proven track record in gold and base metals exploration, discovery, project development and in both open pit and underground mining. Mr Pike holds a Bachelor of Applied Science (Double Major Geology).

Mr Pike was Exploration Manager (East Coast) for Evolution Mining Limited (ASX:EVN) (7 years), and Senior Exploration Geologist for Newcrest Mining Limited (ASX:NCM) (3 years) and Equigold NL (9 years). Mr Pike also served as Chief Executive Officer of Santana Minerals.

Mr Pike will commence his role as Managing Director of Great Western on 19 April 2022.

During the March Quarter 2022 Great Western also announced that Mr Tom Ridges had resigned as Managing Director of the Company due to personal and family reasons, after serving in the role since October 2020. Mr Ridges will continue in his role until Mr Pike commencement date. In addition, Mr Ridges has agreed to be available to the Company to ensure an appropriate transition.

ASX Additional Information

- ASX Listing Rule 5.3.1: Exploration & Evaluation Expenditure during the March 2022 Quarter was \$813,000. Full details of exploration activity during the March 2022 Quarter are in this report.
- ASX Listing Rule 5.3.2: There were no substantive mining production and development activities during the March 2022 Quarter.
- ASX Listing Rule 5.3.5: Payments to related parties of the Company and their associates during the March 2022 Quarter: \$69,000 in aggregate is for the Managing Director's salary as per the remuneration package disclosed when the Managing Director was appointed in 2020.

Authorised for release by the board of directors of Great Western Exploration Limited.

Tony Walsh
Company Secretary
Great Western Exploration Limited
Tel: 08 6311 2852
Email: enquiries@greatwestex.com.au

References

- 1 EM Survey Defines Discrete, Conspicuous and Shallow VMS Targets at Yandal West – ASX Announcement – GTE.ASX – 6/10/2021
- 2 Two Additional Priority One VMS Targets, Daddy Long Legs and Redback, Defined at Yandal West – ASX Announcement – GTE.ASX – 25/10/21
- 3 Gold in Soil Anomalies Defined at Golden Corridor – 3/03/2022
- 4 Dulfer, H., Skirrow, R.G., Champion, D.C., Highet, L.M., Czarnota, K., Coghlan, R. & Milligan, P.R. 2016. Potential for intrusion-hosted Ni-Cu-PGE sulfide deposits in Australia: A continental-scale analysis of mineral system prospectivity. Record 2016/01. Geoscience Australia, Canberra. <http://dx.doi.org/10.11636/Record.2016.001>
- 5 Nickel Exploration Programme at Fairbairn – 21/03/2022
- 6 Thunder Assay Results Received – 21/02/2022

Competent Person Statement

The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr. Thomas Ridges who is a member of the Australian Institute of Mining and Metallurgy. Mr. Thomas Ridges is an employee of Great Western Exploration Limited and has sufficient experience which 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'. Mr. Ridges consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Appendix 1: Tenement Schedule at 31 March 2022

Project	Tenement	Status	Holder	Ownership	Comments
Atley	E 57/1130	Live	Great Western Exploration Limited	100%	
Atley	E 57/1131	Live	Great Western Exploration Limited	100%	
Atley	E 57/1160	Live	Great Western Exploration Limited	100%	
Atley	E 57/1161	Live	Great Western Exploration Limited	100%	
Atley	E 57/1162	Live	Great Western Exploration Limited	100%	
Atley	E 57/1164	Live	Great Western Exploration Limited	100%	
Atley	E 57/1165	Live	Great Western Exploration Limited	100%	
Atley	E 57/1166	Live	Great Western Exploration Limited	100%	
Atley	E 57/1204	Pending	Great Western Exploration Limited	100%	
Fairbairn	E 69/3443	Live	Vanguard Exploration Ltd	100%	100% Owned Subsidiary, Extension of Term Pending
Fairbairn	E 69/3810	Pending	Great Western Exploration Limited	100%	
Fairbairn	E 69/3899	Live	Great Western Exploration Limited	100%	
Fairbairn	E 69/3903	Pending	Great Western Exploration Limited	100%	
Fairbairn	E 69/3906	Live	Great Western Exploration Limited	100%	
Forrestania South	E 74/603	Live	Western Areas Ltd	10%	Free Carried To PFS
Firebird	E 53/2129	Live	Jindalee Resources Limited	0%	JV with Jindalee Resource Ltd, GTE Earning 80%
Golden Corridor	E 51/1855	Live	Great Western Exploration Limited	100%	
Golden Corridor	E 51/2046	Live	Great Western Exploration Limited	100%	
Golden Corridor	E51/2010	Live	Great Western Exploration Limited	90%	Westex Resources Free Carried to BFS
Golden Corridor	E 53/1983	Live	Great Western Exploration Limited	100%	
Golden Corridor	E 53/2124	Live	Great Western Exploration Limited	100%	
Golden Corridor	E 53/2138	Live	Great Western Exploration Limited	100%	
Golden Corridor	E 53/2139	Live	Great Western Exploration Limited	100%	
Golden Corridor	E 53/2141	Live	Great Western Exploration Limited	100%	
Golden Corridor	E 53/2142	Live	Great Western Exploration Limited	100%	
Lake Way Potash	E 53/1949	Live	Great Western Exploration Limited	100%	
Lake Way Potash	E 53/2017	Live	Great Western Exploration Limited	100%	
Lake Way Potash	E 53/2026	Live	Great Western Exploration Limited	100%	
Lake Way Potash	E 53/2146	Live	Great Western Exploration Limited	100%	
Yandal West	E 53/1369	Live	Vanguard Exploration Ltd	100%	100% Owned Subsidiary
Yandal West	E 53/1612	Live	Diversified Asset Holdings Pty Ltd	80%	Diversified Free Carried To BFS,

Project	Tenement	Status	Holder	Ownership	Comments
Yandal West	E 53/1816	Live	Diversified Asset Holdings Pty Ltd	80%	Diversified Free Carried To BFS
Yandal West	E 53/2206	Pending	Great Western Exploration Limited	100%	Competing Application
Copper Ridge	E 51/1727	Live	Great Western Exploration Limited	100%	
Copper Ridge	E 51/1734	Live	Great Western Exploration Limited	100%	
Copper Ridge	E 51/1856	Live	Great Western Exploration Limited	100%	
Copper Ridge	E 53/1894	Live	Great Western Exploration Limited	100%	
Copper Ridge	E53/2156	Pending	Great Western Exploration Limited	100%	
Yerrida South	E 51/1732	Live	Great Western Exploration Limited	100%	
Yerrida South	E 51/1733	Live	Great Western Exploration Limited	100%	
Yerrida South	E 51/1993	Live	Great Western Exploration Limited	100	
Yerrida South	E51/2062	Pending	Great Western Exploration Limited	100%	
Yerrida South	E51/2063	Pending	Great Western Exploration Limited	100%	
Yerrida South	E 53/2027	Live	Great Western Exploration Limited	100%	
Yerrida South	E 53/2077	Live	Great Western Exploration Limited	100%	
Yerrida South	E 53/2196	Pending	Great Western Exploration Limited	100%	
Yerrida South	E 51/2078	Pending	Great Western Exploration Limited	100%	
Calyerup	E 70/6032	Pending	Great Western Exploration Limited	100%	
Weld Spring	E 69/4021	Pending	Great Western Exploration Limited	100%	
Weld Spring	E 69/4022	Pending	Great Western Exploration Limited	100%	
Weld Spring	E 69/4023	Pending	Great Western Exploration Limited	100%	
Weld Spring	E 69/4024	Pending	Great Western Exploration Limited	100%	
Weld Spring	E 69/4025	Pending	Great Western Exploration Limited	100%	
Weld Spring	E 69/4026	Pending	Great Western Exploration Limited	100%	
Weld Spring	E 69/4027	Pending	Great Western Exploration Limited	100%	
Joint Venture with Sandfire Resources Limited (1)					
Yerrida North JV	E 51/1324	Live	Great Western Exploration Limited	100%	Sandfire Earning 70%
Yerrida North JV	E 51/1330	Live (2)	Great Western Exploration Limited	100%	Sandfire Earning 70%
Yerrida North JV	E 51/1560	Live (2)	Great Western Exploration Limited	100%	Sandfire Earning 70%
Yerrida North JV	E 51/1712	Live (2)	Great Western Exploration Limited	100%	Sandfire Earning 70%
Yerrida North JV	E 51/1723	Live (2)	Great Western Exploration Limited	100%	Sandfire Earning 70%
Yerrida North JV	E 51/1724	Live (2)	Great Western Exploration Limited	100%	Sandfire Earning 70%
Yerrida North JV	E 51/1728	Live (2)	Great Western Exploration Limited	100%	Sandfire Earning 70%
Yerrida North JV	E 51/1746	Live (2)	Great Western Exploration Limited	100%	Sandfire Earning 70%

Project	Tenement	Status	Holder	Ownership	Comments
Yerrida North JV	E 51/1747	Live (2)	Great Western Exploration Limited	100%	Sandfire Earning 70%
Yerrida North JV	E 51/1819	Live	Great Western Exploration Limited	100%	Sandfire Earning 70%
Yerrida North JV	E 51/1827	Live	Great Western Exploration Limited	100%	Sandfire Earning 70%
Yerrida North JV	E 51/2033	Live	Great Western Exploration Limited	100%	Sandfire Earning 70%
Yerrida North JV	E 51/2068	Pending	Great Western Exploration Limited	100%	Sandfire Earning 70%

Notes

- (1) Pursuant to clause 3 (e) of the Farm-in Letter Agreement between Sandfire and the Company dated 10 April 2017, Sandfire's earn-in is subject to it maintaining the joint venture tenements in good standing and it meeting all statutory expenditure conditions relating to the joint venture tenements.
- (2) These eight tenements are the subject of a plaint application by a third party in the Warden's Court. The outcome of this plaint application is unknown at the date of this report. The Company, with the support of Sandfire, intends to seek orders in the Warden's court for the dismissal of the plaint applications.