

QUARTERLY ACTIVITIES REPORT DECEMBER 2021**OUTSTANDING TORBANITE YIELDS CONFIRM STRONG
COMMERCIAL POTENTIAL AT ALPHA | EXTENSIVE IOCG-STYLE
ALTERATION INTERSECTED IN FIRST HOLES AT GEORGINA****Highlights****Alpha Torbanite Project, QLD:**

- Excellent results received from Modified Fischer Assay (MFA) performed by ALS, supporting Greenvale's commercialisation strategy.
- Results confirm the high-yielding nature of the lower seam at the Alpha Torbanite Deposit.
- Results exceed the previously reported oil yield of up to 650ltrs per tonne.
- MFA results rank Alpha amongst the highest-yielding deposits globally.
- Work in progress to calculate a maiden JORC Mineral Resource.

Georgina Basin IOCG Project, NT:

- 3,000m diamond drill program underway with two holes completed.
- Extensive IOCG-style alteration intersected in both holes.
- Fine native copper indicated at approximately 732.5m down-hole in KNRDD002.
- Laboratory samples submitted for both holes with results expected in the March 2022 Quarter due to the long delays being experienced industry-wide due to COVID-related issues and buoyant exploration activity.
- Exploration Licences containing the National Drilling Initiative (NDI) holes NDIBK05 and NDIBK10 awarded to Greenvale, extending the Company's strategic footprint in the East Tennant region.

Corporate:

- Accomplished energy industry executive and project manager Mark Turner joins the Greenvale Board as Executive Director and General Manager – Alpha Project.

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Overview

Greenvale Mining Limited (ASX: **GRV**) (**GRV** or **the Company**) made strong progress during the December Quarter with ongoing development and exploration activities at both its Alpha Torbanite Project in central Queensland and Georgina Basin IOCG Project in the East Tennant region of the Northern Territory.

At the Alpha Project in central Queensland, a range of development and evaluation activities continued during the Quarter with the highlight being the outstanding Modified Fischer Assay (MFA) results received in late December.

The results confirmed the high-yielding nature of the project, surpassing internal expectations. A selected sample of the Alpha Torbanite delivered a top yield of 698ltrs per tonne, well above the previously stated upper yield of 650ltrs per tonne. The MFA results rank Alpha among the highest-yielding oil shale deposits in the world and all but confirm the commercial exploitability of the project.

The Company also announced the appointment of well-respected and accomplished energy industry executive and project manager, Mr. Mark Turner, to the Board as an Executive Director. Mr. Turner will also take on the role of General Manager of the Alpha Project and will be responsible for overseeing the development of the project through feasibility and to potential construction and commissioning.

Mr. Turner has extensive experience in the delivery of large-scale energy and industrial projects and is perfectly suited to drive the commercialisation of the extremely unique Alpha Torbanite Project moving forward.

At the Georgina Project, the Company commenced a landmark 3,000m diamond drill program, becoming one of the first explorers in the district to secure access and commence drilling.

Greenvale's field team completed two out of a proposed four diamond core drill holes to depths of 796m and 900m respectively. The two holes intersected extensive IOCG-style alteration with trace native copper observed on a slickensided shear at approximately 732.5m down-hole in the first hole drilled. Preliminary logging and observations of the core by the Company's field team have been promising.

Samples have been submitted for assay with results due for both holes in the March 2022 Quarter due to the exceptionally long delays being experienced at assay laboratories nationally due to COVID-related issues and very high levels of exploration activity, which has created a significant backlog of results.

The Company also completed compilation and analysis of the geophysical data from the recently completed ground-based gravity program and aeromagnetic survey. The interpretation of the aeromagnetic and gravity data has added multiple new high-priority targets to the drill-testing pipeline within the exciting central tenement group – which hosts the Government drill-holes NDIBK05 and NDIBK10, both of which were drilled as part of the National Drilling Initiative.

During the Quarter Greenvale was also named as the successful applicant, in a competitive application process, for the highly sought-after Exploration Licences EL32280 and EL32281 (partially awarded), containing the National Drilling Initiative holes NDIBK05 and NDIBK10.

Projects

Alpha Project, Queensland

Background

The Alpha Torbanite Project is located approximately 50km south of the town of Alpha in Central Queensland. The Alpha torbanite deposit consists of two seams, an upper seam of mostly lower-grade mineralisation with an average thickness of 1.12m and a lower seam containing lenses of torbanite up to 1.9m thick.

The Project has been subject to extensive exploration and laboratory testing since its initial discovery in 1939.

During 2019, SRK Consulting Pty Ltd (“SRK”) was engaged to reassess the project’s commercialisation strategy. SRK’s report set out a potential new development strategy based on the production of a diversified suite of value-added products.

SRK noted that, in contrast with typical oil shale deposits, the Alpha torbanite deposit is exceptionally high-grade, containing up to 650 litres of hydrocarbons per tonne of torbanite, and can produce high-value bitumen, light crude oil and activated carbon.

The upper and lower bituminous shales also produce similar products, albeit at lower yields of 110-140 litres per tonne. Additionally, the torbanite and bituminous shales can deliver high-quality value-added products through appropriate investment in processing infrastructure.

SRK was engaged to undertake a staged work program to assist in evaluating the commercial viability of the project.

Activities during the December Quarter

The Company’s principal focus during the Quarter was on the delivery of a final geological model for the Alpha Deposit. In parallel with this geological modelling, the Quarter also saw the completion of the sighter test work and associated Modified Fischer Assay (MFA), the results of which confirmed the unique, high-yielding nature of the Alpha Torbanite Deposit.

The MFA results improved significantly on previously un-verified historical oil yield ranges published for the Alpha Torbanite deposit, increasing the Company’s confidence in the commercial exploitability of the project and demonstrating that the

Alpha Project ranks amongst the highest-yielding deposits in the world when compared with similar style deposits.

As outlined in the Company's ASX release dated 08 December 2021, the oil yield values for the 12 Alpha samples (Figure 1) were all extremely positive and were either in line with or above expectations. Of particular note, the Torbanite delivered a top yield of 698ltrs per tonne, well above the previously stated upper yield of 650ltrs per tonne (refer Table 3 & Table 4).

As demonstrated in Table 1 (below), all three plies delivered exceptional results and confirm the exciting commercial potential of the Alpha Project.

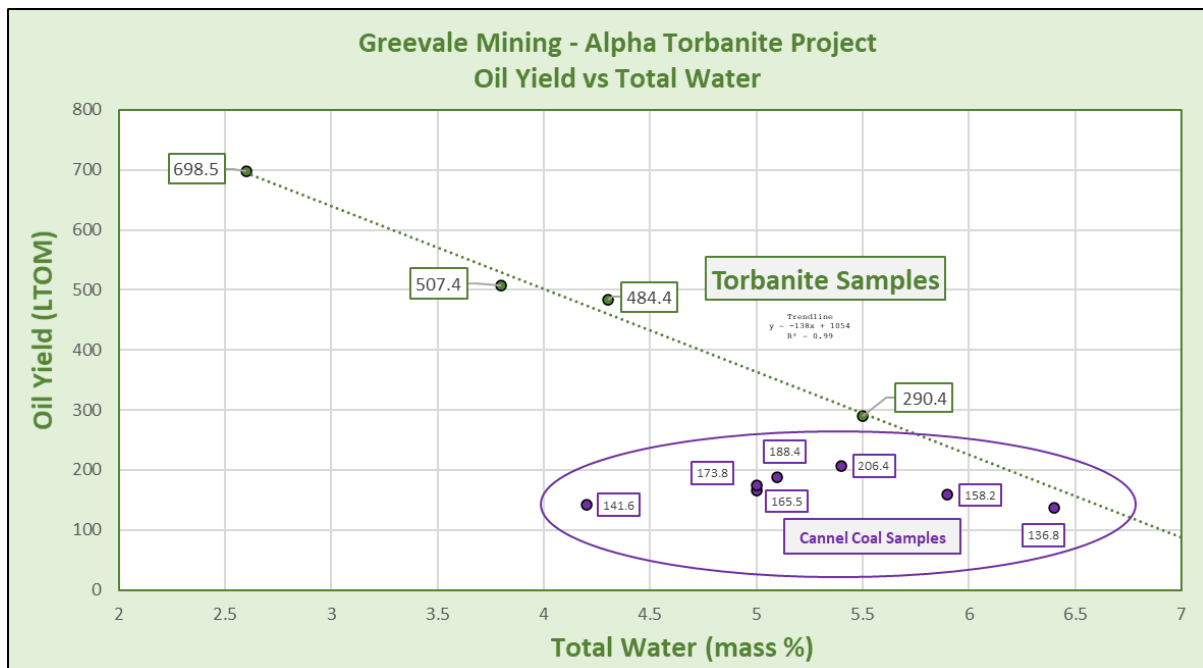


Figure 1: Comparison of MFA results between Torbanite and Cannel Coal samples

Table 1: Oil yield ranges for boreholes GM09CR, GM20C, GM21CR & GM28CR

Alpha Lower Seam	Oil Yield Range (LTOM)	Number of Samples
L1 – Upper Cannel Coal Ply	120 — > 160	4
LT – Torbanite Ply	290 — > 690	4
L2 – Lower Cannel Coal Ply	150 — > 200	4

The particularly high oil yield from the Torbanite reflects the accumulation of algae in a lacustrine (lake) environment.

Torbanite is an olive-black to black rock containing >5 percentage by volume (vol%) liptinite, of which Alginite (derived from algae related to Botryococcus) is most

abundant. Cannel coal is derived from the accumulation of plant remains and the source of the oil is preserved spores, plant resin and cuticles.

Cannel coal deposits have a long history of commercial exploitation, particularly in North America, and the MFA results from the cannel coal plies found at Alpha exceeded the Company's expectations.

When compared to its peers, the high-yielding nature of the Alpha Torbanite Project is more evident (see Table 2). The oil yield results for the 2021 Alpha Torbanite samples are comparable to the lamosite samples from the Mahogany Zone in the Green River Formation, Piceance Basin, Colorado, which is among the highest yielding oil shales in the world.

Even the average yields from the cannel coal plies at Alpha measure favourably when ranked among similar coal and oil shale deposits globally.

Table 2: Comparative data of various oil shales

Deposit	Torbanite/Coal/ Oil shale	Oil Yield (LTOM)	
		Range	Average
Alpha, Qld	Torbanite	50 - 620	420
	Cannel coal	50 - 150	120
Green River (USA)	Oil shale	45 - 460	135
Rundle, Qld	Oil shale	50 - 200	105
Stuart, Qld	Oil shale	50 - 220	94
Duaringa, Qld	Oil shale	50 - 130	82
Condor, Qld	Oil shale	50 - 120	65
Julia Creek, Qld	Oil shale	50 - 100	60

Source: Crisp, P.T., Ellis, J., Hutton, A.C., Korth, J, Martin F.A., and Saxby, J.D., 1987, Australian Oils Shales – A compendium of geological and chemical data: North Ryde, NSW, Australia, CSIRO Inst. Energy and Earth Sciences, Division of Fossil Fuels, 109pp.

Activities planned for the March 2022 Quarter

The Company is advancing towards the delivery of a maiden JORC Mineral Resource for the Alpha Torbanite Project, with the final Resource model due to be released to the market by mid-February. Unfortunately, COVID-related staffing delays impacted the delivery of laboratory results which ultimately resulted in the delivery of the final Resource model being delayed into the March 2022 Quarter.

In parallel with the final resource modelling, the Company will commence on-site environmental analysis, including vegetation studies, as well as voluntary heritage surveying of the proposed mining area.

A systematic review of Alpha's commercialisation strategy is underway, led by the Company's newly-appointed Executive Director and General Manager of the Alpha Project, Mr Mark Turner. It is expected that Mr. Turner's findings will be released to the market in due course.

Table 3: Core holes sampled for MFA work

Borehole	Number	Ply	Roof	Floor	Thickness
GM09CR	MFA01	L1	8.64	9.48	0.84
GM09CR	MFA02	LT	9.48	10.26	0.78
GM09CR	MFA03	L2	10.26	10.70	0.44
GM20C	MFA04	L1	21.08	22.22	1.12
GM20C	MFA05	LT	22.20	23.58	1.38
GM20C	MFA06	L2	23.58	23.68	0.10
GM21CR	MFA07	L1	22.37	23.40	1.03
GM21CR	MFA08	LT	23.40	24.49	1.09
GM21CR	MFA09	L2	24.49	24.73	0.24
GM28C	MFA10	L1	29.73	31.10	1.37
GM28C	MFA11	LT	31.10	31.73	0.63
GM28C	MFA12	L2	31.73	32.00	0.27

Table 4: Sampled borehole locations within MDL 330

Borehole	Easting	Northing	Collar Height	Total Depth
GM09CR	482756.75	7333601.73	454.07	19
GM20C	482616.90	7332450.18	444.96	31
GM21CR	483333.93	7332843.14	459.82	33
GM28C	483812.65	7332150.29	459.21	40
Horizontal Datum		GDA94	MGA94, Zone 55	
Vertical Datum		AHD		

Georgina Basin IOCG Project, Northern Territory

Background

The Georgina Basin Project, held by Greenvale's wholly-owned subsidiary Knox Resources Pty Ltd, has provided a low-cost entry into one of Australia's most significant emerging greenfield exploration regions.

Following the establishment of government funding programs aimed at boosting mineral exploration in northern Australia, significant work was undertaken by the Northern Territory Geological Survey and Geoscience Australia to progress initiatives aimed at unlocking the resource potential of the Barkly and Gulf regions (which includes the Georgina Basin) by upgrading geophysical coverage and data accessibility to assist in understanding the potential for large-scale IOCG mineral systems within the Georgina Basin.

IOCG deposits are an important and highly valuable global source of copper, gold and uranium as well as having the potential to host other minerals including silver, bismuth, molybdenum, cobalt and rare earth elements.

Knox was the successful applicant under an open tender for nine Exploration Licences over four distinct locations, covering a total area of 4,475km² situated between the historical IOCG provinces of Tennant Creek and Mount Isa.

On 23 September 2020, Knox was granted Exploration Licences over seven of the areas, with the remaining two being subject to negotiation with the indigenous freehold landowners.

Activities during the December Quarter

The Company made a strong start to exploration at its 100%-owned Georgina Basin IOCG Project during the Quarter, with the successful commencement of its maiden diamond drilling program – a significant milestone for the Company and the region.

Two holes, KNRDD002 & KNRDD004 (see Figure 3), were completed during the Quarter as part of an initial 3,000m four-hole diamond drill campaign designed to test the exciting "Twin Peaks" coincident magnetic and gravitational anomalies, located in the Company's north-western tenement grouping.

As outlined in the Company's ASX release dated 30 November 2021, drill-hole KNRDD002 intersected a sequence of metasedimentary rocks and breccias through the target area, with hematite(-talc), hematite-quartz-chlorite and sericite alteration observed, in line with expectations.

The rock types observed are consistent with the regionally important Warramunga Formation, and the alteration observed is similar to the oxidised end-member Tennant Creek-style IOCG deposits.

Oxidised end-member Tennant Creek deposits, such as Nobles Nob and Eldorado, tend to be sulphur-poor and hematite-rich, with oxidation of magnetite to hematite.

Consistent with the Tennant Creek deposit model, drill-hole KNRDD002 showed strong hematitic alteration, chlorite alteration and minimal magnetite, with no significant sulphide minerals observed.

In addition, trace native copper was observed (Figure 2) on a slickensided shear (a slickenside is caused by frictional movement between rocks along the sides of a fault), at approximately 732.5m down-hole, which may indicate the presence of metals within fluids responsible for the observed alteration. As a result of observed veining and alteration intersected in drill core from 720m, the hole was extended by approximately 80m beyond its designed depth to further evaluate this exciting opportunity.



Figure 2: Slickensided parting KNRDD002 with fine native copper indicated at approximately 732.5m down-hole.

As outlined in the Company's ASX release dated 08 December 2021, the second hole completed, KNRDD004, was drilled to a total depth of 900.9m, intersecting basement rocks at 680.46m down-hole (approximately 600m vertically below surface) comprising hematite and chlorite-altered metasedimentary rocks and breccias.

The intersection of strongly altered rocks, with brecciation and widespread hematite mineralisation, indicates that both Twin Peaks east and west are the result of iron-oxide bearing hydrothermal systems.

The presence of iron oxide minerals at Twin Peaks is significant because, in Tennant Creek-style IOCG deposits, iron oxide minerals are formed first and then late gold-bearing fluids pass through the ironstone, depositing gold in the iron oxide minerals.

KNRDD004 was extended significantly beyond its design depth of 750m, due to the prospective nature of the strongly hematite-altered rocks intersected.

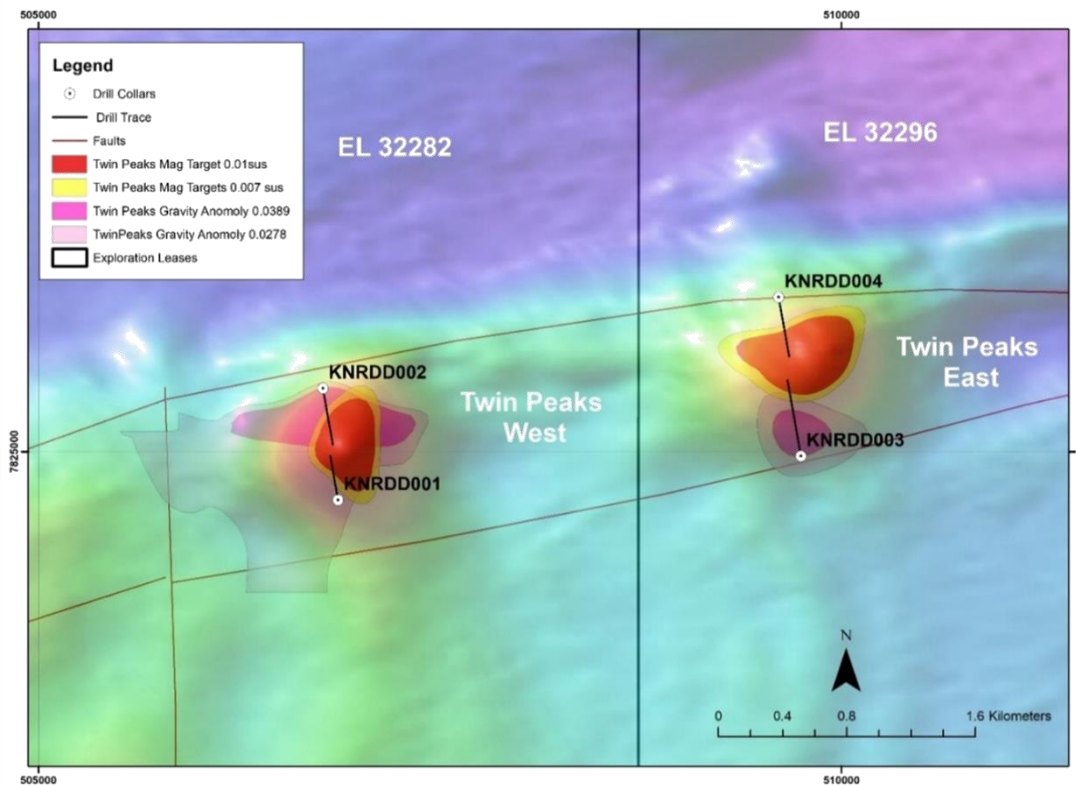


Figure 3: Overlay of Interpreted Gravity on "Twin Peaks" Magnetic Anomalies

Table 5: Drill Collar & Setup Details

Hole ID	East (MGA53)	North (MGA53)	RL (AHD)	Azi (MGA)	Dip	Depth
KNRDD002	506771	7825392	250	170°	-61.5°	796.6m
KNRDD004	509608	7825960	251	160°	-61.5°	900.9m

While the drilling program has been progressing, the Company has been conducting desktop reviews of the recently completed gravity and aeromagnetic surveys over the Company's central tenement group (EL32295, EL32283 and EL32284).

These desktop reviews have yielded several new and exciting prospects in the Company's central tenement package, specifically within EL32295.

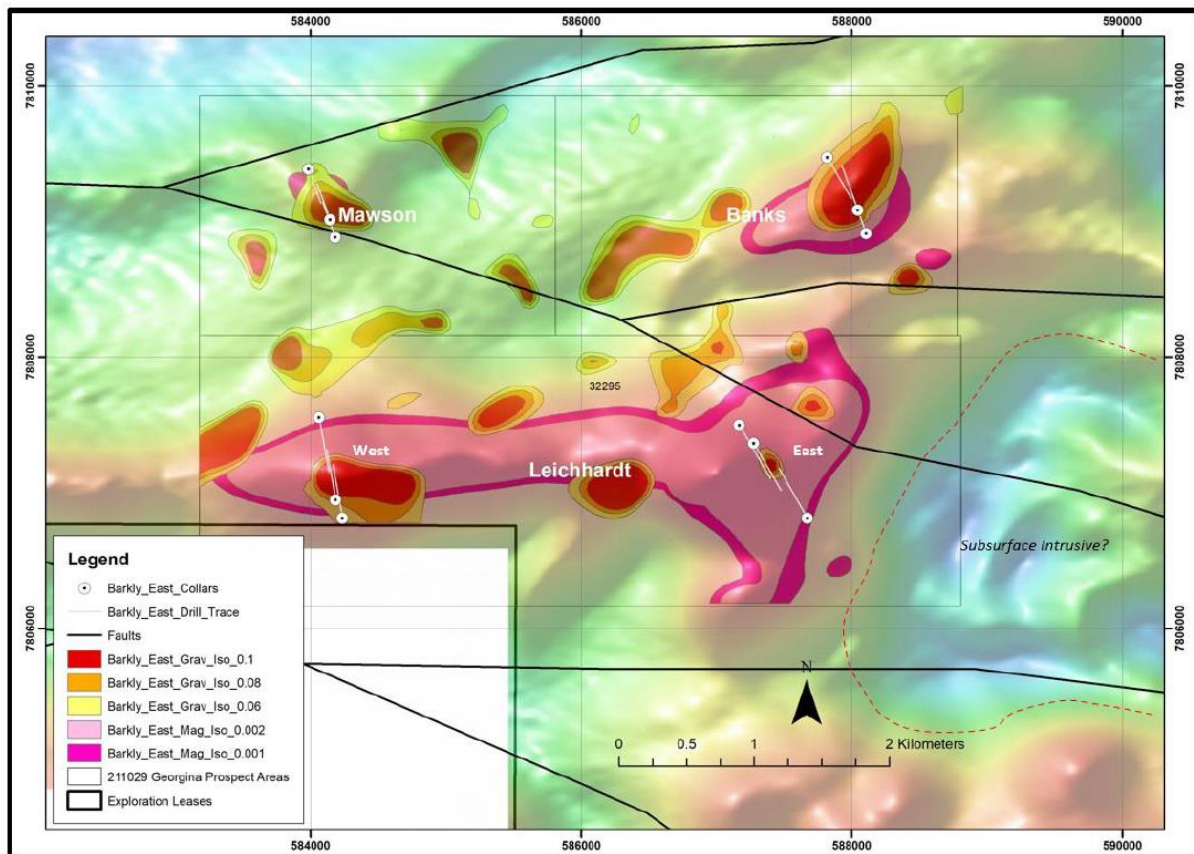


Figure 4: Overlay of Interpreted Gravity on Mawson, Banks & Leichhardt Magnetic Anomalies.

Greenvale has designed an initial 9-hole drill program for 5,860m (Figure 4) to assess three of the promising targets identified within EL32295 – Mawson, Banks, and Leichhardt. A further three contingent holes have been designed for 2,825m.

The three prioritised targets comprise coincident magnetic and gravity anomalies similar to those seen at the Company's "Twin Peaks" prospects and consistent with IOCG deposit models.

During the Quarter, Greenvale was also named as the successful applicant, in a competitive application process, for the highly sought-after Exploration Licences EL32280 and EL32281 (partially awarded), containing the National Drilling Initiative holes NDIBK05 and NDIBK10.

The two EL's under application will now progress through the technical assessment component and towards grant.

The two NDI drill-holes are located immediately adjacent to Greenvale's granted tenement EL32295, which was secured as part of the original application submitted by its 100%-owned subsidiary Knox Resources in 2019.

Along with EL32820 and EL32821, GRV has also been approved as the successful applicant to EL32964 and EL32965 by the Department and will now proceed through to assessment and grant, provided all conditions are met.

EL32820, EL32821, EL32964 and EL32965 are of strategic importance to the Company as it looks to advance its works program across its central tenement grouping and secures the newly identified targets of Mawson, Banks, and Leichhardt within the very promising EL32295.

Activities proposed for the March 2022 Quarter

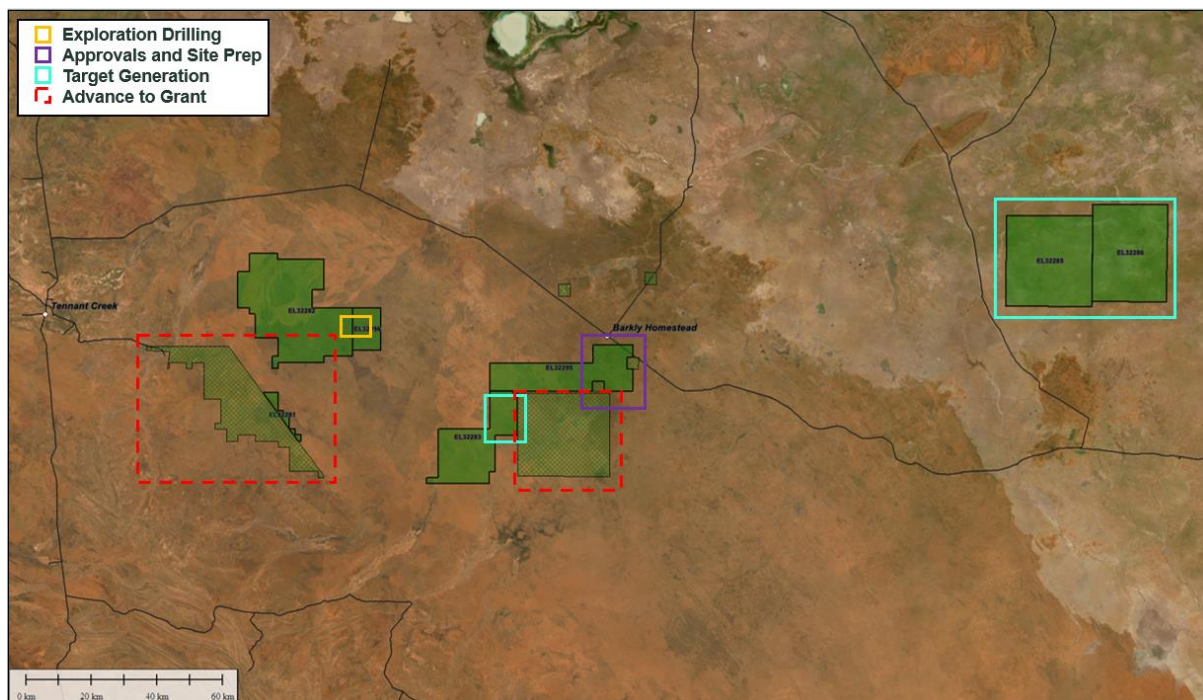


Figure 5: Greenvale's next steps for each tenement grouping at the Georgina Basin IOCG Project.

In the coming Quarter, the Company is due to receive assay results for its trial spinifex and superfine soil sampling within EL32282 and 32296 and release assays and interpretation of diamond drill-holes KNRDD002 and KNRDD004.

The Company intends to maintain significant exploration momentum moving into the March 2022 Quarter, with down-hole geophysical surveying scheduled to commence at Twin Peaks in conjunction with further drilling, site preparation, cultural heritage surveys and government approvals expected to advance rapidly to allow drilling to commence within tenement EL32295 (see Figure 5 above).

Mineral Exploration Spending During the September Quarter

During the Quarter the Company expended some \$916,000 on exploration and evaluation activities.

No expenditure was incurred during the Quarter on mining production and development activities.

Corporate Activities

Personnel

On 14 December 2021, the Company announced the appointment of Mr. Mark Turner as Executive Director and General Manager of the Alpha Torbanite Project in Queensland.

Mr. Turner is an engineer with over 20 years of energy experience and a proven track record of major project delivery in the oil & gas, water, power, renewables and nuclear industries, Mr. Turner is a project management specialist who is ideally qualified to lead the technical development of the Alpha Project.

His expertise encompasses all project phases (from concept and feasibility study to completion) and includes approvals, safety, engineering, procurement, contracts, scope, scheduling, cost, quality, risk, reporting, construction and commissioning. Across his career, Mr. Turner has held senior management and executive positions with Jemena Ltd, Wood Group and WorleyParsons.

Mr. Turner commenced with the Company on 10 January 2022.

Annual General Meeting

The Company's Annual General Meeting was held on 7 December 2021, with all resolutions passed by a majority of shareholders.

For more information on the results of the Company's Annual General Meeting, please refer to the Company's ASX release dated 07 December 2021.

All Tenement Details

Alpha Project, Queensland

Tenement	%age Ownership	Owned by	Status
MDL 330	99.99%	Alpha Resources Pty Ltd	Current to 31 January 2022
EPM 27718	99.99%	Alpha Resources Pty Ltd	Current to 14 February 2026

Georgina Basin Project, Northern Territory

Tenement	%age Ownership	Owned by	Status
EL 32281	100%	Knox Resources Pty Ltd	Current to 22 September 2026
EL 32282	100%	Knox Resources Pty Ltd	Current to 22 September 2026
EL 32283	100%	Knox Resources Pty Ltd	Current to 22 September 2026
EL 32285	100%	Knox Resources Pty Ltd	Current to 22 September 2026
EL 32286	100%	Knox Resources Pty Ltd	Current to 22 September 2026
EL 32296	100%	Knox Resources Pty Ltd	Current to 22 September 2026

Georgina Basin, Northern Territory

Tenement	%age Ownership Of Applicant	Applicant	Status
EL 32280	100%	Knox Resources Pty Ltd	Under Application
EL 32284	100%	Knox Resources Pty Ltd	Under Application
EL 32820	100%	Knox Resources Pty Ltd	Under Application
EL 32821	100%	Knox Resources Pty Ltd	Under Application
EL 32964	100%	Knox Resources Pty Ltd	Under Application
EL 32965	100%	Knox Resources Pty Ltd	Under Application

Related Party Payments

As per Section 6 of the Appendix 5B lodged with the ASX today, payments to related parties and associates totaled \$148,074. This included \$146,644 in respect of directors' fees, salaries and benefits as well as \$1,430 to Bardoc Gold Limited for office and support facilities. Bardoc Gold Limited is a related party as it shares some common directors with the Company.

Authorised for Release

This announcement and the accompanying Appendix 5B have been approved by the Board for release.

Alan Boys
Company Secretary
Contact

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Competent Person's Statement:

Alpha Torbanite Project, QLD:

The information in this report that relates to Exploration Results is based on information compiled by Mr Carl D'Silva, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy (Member number 333432). Mr D'Silva is a full-time employee of SRK Consulting (Australasia) Pty Ltd, a group engaged by the Company in a consulting capacity.

Mr D'Silva has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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 D'Silva consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Georgina Basin IOCG Project, NT:

The information in this report that relates to Exploration Results is based on information compiled by Mr. Matthew Healy, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy (AusIMM Member number 303597).

Mr Healy is a full-time employee of the company and is eligible to participate in a performance rights incentive plan of the Company.

Mr. Healy has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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. Healy consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.