ASX ANNOUNCEMENT

28 July 2023

QUARTERLY ACTIVITIES REPORT 30 JUNE 2023

STRONG PROGRESS ON ALPHA TORBANITE DEVELOPMENT WITH OUTSTANDING RESULTS FROM TEST PROGRAM THREE AND RESOURCE UPGRADE DRILLING UNDERWAY

Highlights

Alpha Torbanite Project, QLD (100%-owned):

- **Test Program Three completed with the following outstanding results:**
  - **Maximum conversion of 67.30wt% achieved for the Cannel Coal portion of the Alpha Resource, 65.87wt% conversion achieved for the Torbanite portion and 66.32wt% conversion obtained for a blended sample.**
  - **72% improvement achieved in the maximum conversions for Cannel Coal from Test Program Two to Test Program Three.**
  - **The majority of the samples tested in Program 3 had asphaltene/pre-asphaltene contents exceeding 10wt%.**
- **Test Program Four in progress, designed to improve on the conversions demonstrated in Program Three, emphasising heavy oil and asphaltenes yield enhancement.**
- **Resource upgrade drilling commenced at the Alpha Project aimed at:**
  - **Increasing the amount of geological, structural and technical data to improve confidence levels in the current Inferred Resource and calculate an Indicated Resource to support feasibility work;**
  - **Targeting potential extensions of the deposit to the south and west that have clear potential to grow the overall scale of the Resource; and**
  - **Providing important geotechnical data to facilitate mine design.**

Geothermal Project – 100%-owned

- **Greenvale partners with CeraPhi Energy to deliver an initial feasibility study on the potential for geothermal power generation at Longreach in Queensland.**
- **CeraPhi Energy has already commenced work on the feasibility study, which is scheduled to be completed in approximately 12 weeks.**
- **Greenvale secures an option to utilise CeraPhi's proprietary down-hole patents for its ground-breaking closed-loop geothermal technology.**

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- **The technology offers significant environmental benefits – no fracking & no water use involved.**
- **Connection inquiry submitted to Ergon Energy for potential geothermal power plant at Longreach.**

Georgina Basin IOCG Project, NT (20%-owned):

- **Mapping of sediment-hosted mineral systems by Geoscience Australia sediment-hosted has highlighted the Ranken Project area as highly prospective for clastic-dominated zinc-silver-lead deposits**
- **Geophysical Gravity and HVSR Passive Seismic surveying commenced and completed at Ranken Project, paving the way for initial Ranken drill design.**
- **Gravity and Passive Seismic surveys designed to identify zones of density variation within prospective host rocks and establish depth of cover, to identify drill targets.**
- **Additional gravity data acquired to complement Co-Funded Ambient Noise Tomography scheduled for Q3 2023**
- **The Joint Venture Company was awarded two co-funding grants in the Round of 16 of the NTGS (Northern Territory Geological Survey) Geophysics and Drilling Collaborations program, for a combined grant value of $261,106**

Corporate:

- **Greenvale maintains a substantial shareholding in Astute Metals NL.**

Overview

During the 30 June 2023 Quarter, Greenvale Energy Limited (ASX: GRV) continued to make strong progress with development studies for its 100%-owned Alpha Torbanite Project in Queensland, substantially progressing the pivotal liquefaction test work phase and successfully completing Liquefaction Test Program Three with highly encouraging results.

The Company remains on track to complete the final key inputs to the Alpha Pre-Feasibility Study (**PFS**).

The results from Test Program Three confirmed that a maximum conversion of 67.30wt% was achieved for the Cannel Coal portion of the Alpha Resource, 65.87wt% conversion was achieved for the Torbanite portion of the Resource and 66.32wt% conversion was achieved for a blended sample. These results, when compared to the maximum conversion rates achieved in Test Programs One and Two, are outstanding and have significantly enhanced the economic potential of the Alpha Project.

The Company also continued to advance its geothermal project, entering into a binding Heads of Agreement (**HOA**) with internationally renowned geothermal consultancy and engineering firm, CeraPhi Energy, to complete a feasibility study on the development of a geothermal power plant at its Longreach Geothermal Project in North Queensland.

In addition, Greenvale has a non-exclusive option to utilise CeraPhi's CeraPhiWell™ proprietary patents for its ground-breaking closed-loop geothermal technology. This initiative is considered to be a major step toward unlocking the value that sits within Greenvale's geothermal project.

Greenvale owns a 20% interest plus a 2% royalty over the iron oxide copper gold **(IOCG**) Georgina Basin Project in the Northern Territory with Astute Metals NL (ASX: ASE) (**Astute**). During the quarter, considerable geophysics work was undertaken at the project to further advance what is believed to be highly prospective discovery opportunity. Greenvale is also the largest shareholder in Astute.

Astute undertook a capital raising at the beginning of the quarter to progress its growth strategy, including a major ongoing lithium-in-clay exploration program in Nevada, progressing its WA mineral sands asset and undertaking epxloration at the Georgina IOCG Project.

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 June Quarter

Laboratory liquefaction testing

During the quarter, the Company progressed critical liquefaction test work on bulk samples from the Alpha Project. Outstanding results were received from Test Program Three which again exceeded the Company's expectations and further enhanced the potential of the Alpha deposit to produce bitumen for the domestic market in Australia, helping to meet surging demand from the infrastructure sector.

The completion of Test Program Three paves the way for the immediate commencement of Test Program Four, which will in turn underpin the completion of the Alpha Project Pre-Feasibility Study (PFS).

During Test Program Three, a maximum conversion of 67.30wt% was achieved for the Cannel Coal portion of the Alpha Resource, 65.87wt% conversion was achieved for the Torbanite portion of the Resource and 66.32wt% conversion was achieved for a blended sample. These results, when compared to the maximum conversion rates achieved in Test Programs One and Two, are outstanding and have significantly enhanced the economic potential of the Alpha Project.

For the purposes of comparison, during Test Program Two a maximum conversion of 39.03wt% was achieved from a Cannel Coal sample, and a maximum conversion of 38.29wt% from a Torbanite sample was achieved as part of Test Program One. This represents a **72% overall improvement in the maximum conversions for Cannel Coal from Test Program Two to Test Program Three**.

Additionally, the majority of the samples tested in Program 3 had asphaltene/pre-asphaltene contents exceeding 10wt%, regardless of the specific experimental conditions. Interestingly, the Cannel Coal samples performed similarly to the Torbanite samples, particularly when the experimental conditions were more severe.

Bituminous products typically contain 5-25% asphaltenes, with the asphaltenes blended with heavy oil fractions in varying ratios to produce a wide variety of products. Theoretically, the greater the amount of preserved asphaltenes, the greater the potential output of bituminous products.

Greenvale's technical consultants, PROCOM, have been integral in delivering these outstanding results, having designed the laboratory program, conducted the data interpretation and drafted the technical report. The lab work, under instruction from PROCOM, was completed by the University of Jordan.

During Test Program Three, a total of 12 tests were conducted under differing experimental conditions to determine the optimum process to improve the conversion of the Torbanite and Cannel Coal, focusing on maximising the heavy fractions necessary for the production of bituminous products.

The study evaluated the performance of four samples each of Cannel Coal, Torbanite, and a 1:2 blend of the two in line with the ratio across the deposit. Outcrop samples continued to be used in this program to build from the knowledge base. The reaction tests were conducted at higher temperature conditions (370^{o}C – 400^{o}C) compared to Test Programs 1 and 2.

The results demonstrate excellent progress in converting the samples into liquids at the optimal temperature of 400^{o}C.

Table 1: Test Program 3 oil shale liquefaction results of conversion and yield products of oil shale samples

Oil Shale Seams	Sample ID	Conversion (wt%)	O + G (wt%)	A+ PA (wt%)	Residue (wt%)	Experiment Conditions
Cannel Coal	3B1	51.95	38.71	13.24	48.05	Oil base, 0%catalyst, **400C**
Torbanite	3F1	62.99	51.39	11.60	37.01	Oil base, 0%catalyst, **400C**
Blend	3Blend1	66.32	53.94	12.39	33.68	Oil base, 0%catalyst, **400C**
Cannel Coal	3B2	31.71	22.07	9.64	68.29	Water base, 0%catalyst, 400C
Torbanite	3F2	41.73	32.18	9.55	58.27	Water base, 0%catalyst, 400C
Blend	3Blend2	40.65	37.01	3.64	59.35	Water base, 0%catalyst, 400C
Cannel Coal	3B3	67.03	50.77	16.26	32.97	Oil base**, 2%**catalyst, 400C
Torbanite	3F3	65.87	52.85	13.02	34.13	Oil base, **2%**catalyst, 400C
Blend	3Blend3	55.75	41.99	13.75	44.25	Oil base, **2%**catalyst, 400C
Cannel Coal	3B4	38.87	28.92	9.95	61.13	Oil base, 2%catalyst, **370C**
Torbanite	3F4	46.66	35.26	11.40	53.34	Oil base, 2%catalyst, **370C**
Blend	3Blend4	41.09	30.64	10.45	58.91	Oil base, 2%catalyst, **370C**

The following summarises the key outcomes of the three test programs:

Test Program 1:

- Torbanite 1F2 sample achieved a conversion of 38.3wt% at 345ºC, starting hydrogen pressure of 3500 kPa[1] and 2wt% catalyst. This conversion was almost twice as high as the 20wt% conversion of the Torbanite 1F1 sample at 290ºC, 1,750kPa starting hydrogen pressure and 1.5wt% catalyst.
- Cannel Coal 1B1 sample achieved 24.9wt% conversion at 340ºC, 3,500 kPa initial pressure and 1.5wt% catalyst.
- Blend samples achieved conversions of 15.9wt% – 19.7wt%, with temperatures of 350ºC and 340ºC, respectively, and an initial pressure of 3,500 kPa.

Test Program 2:

- Cannel Coal 2B1 sample achieved 32.7wt% conversion at 365ºC, 3,500kPa and 3.4wt% catalyst.
- Cannel Coal 2B2 sample achieved 33.1wt% conversion at 365ºC, 3,500 kPa and 2.5wt% of catalyst.
- Cannel Coal 2B3 sample achieved 39.0wt% conversion at 365ºC, 3,500 kPa and 6.1wt% of catalyst.

Test Program 3:

- Cannel Coal 3B1 sample of 52wt% conversion, Torbanite 3F1 sample of 63wt% conversion and Blend 3Blend1 sample of 66.3wt% conversion at 400°C, in a carrier oil and without catalyst.
- Cannel Coal 3B2 sample of 31.7wt% conversion, Torbanite 3F2 sample of 41.73wt% conversion and Blend 3Blend2 sample 40.7wt% conversion at 400°C, without catalyst and water carrier.
- Cannel Coal 3B3 sample of 67wt% conversion, Torbanite 3F3 sample of 65.9wt% conversion and Blend 3Blend3 sample 55.8wt% conversion at 400°C, 2wt% catalyst and oil as the carrier.
- Cannel Coal 3B4 sample of 38.87% conversion, Torbanite 3F4 sample of 46.66% conversion and Blend 3Blend4 sample 41.1wt% conversion at 370°C, 2wt% catalyst and oil as the carrier.

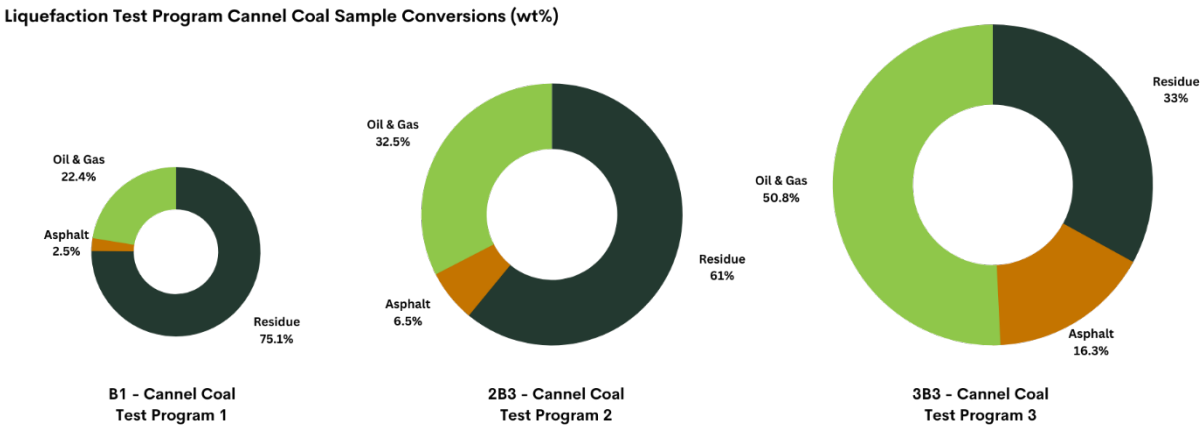

***Figure 1**: A comparison of the maximum conversions achieved for cannel coal samples across the three liquefaction test programs*

Test Procedures

In the previous Test Programs One and Two, reactions were conducted in a 7-litre Parr Reactor with a carrier oil volume ranging from 2 to 4 litres and shale weighing between 300 and 700 grams.

In the current Test Program 3, the liquefaction reactions were carried out in a 0.1-litre stirred autoclave reactor. In a typical experiment, designated powdered shale ore samples, with or without the iron-based catalyst, were mixed with the carrier, oil or water, and then charged into the reactor. After loading, the reactor was first purged to replace air using, initially, nitrogen followed by hydrogen, then pressurised with hydrogen to the required pressure at room temperature.

The charged autoclave reactor was heated to the desired temperature. Pressure in the reactor rose with temperature. Once the target temperature was reached, the temperature was held for 30 minutes before cooling commenced. At the end of each run, the reactor rig was cooled to room temperature, and the samples were collected for subsequent laboratory tests.

No gas samples were taken under this testing program. A negligible amount of gas evolution was detected from Test Programs 1 and 2, and the gas analyses did not vary substantially.

Results from this program also indicated little gas made and overall mass balance closure better than +/- 2%. Further testing of the off-gas will be conducted in the yield tests conducted on the core samples (Test Program Four).

For each experiment, the potential gas yield is estimated by the weight loss of the reactor and contents before and after the reactions at room temperature and pressure.

Table 2: Summary of the experiment tests and conditions

Samples	Solid	Catalyst/Shale	Carrier	Temperature	Pressure		
ID	(g)	wt%	Type	oC	Initial (MPa)	Max (MPa)	After (MPa)
Cannel Coal (3B1)	10	0	Oil Base (30g)	400	7.74	16.9	6.71
Torbanite (3F1)	10	0	Oil Base (30g)	400	8.1	16.35	6.50
Blend (3Blend1)	10	0	Oil Base (30g)	400	7.11	16.97	6.00
Cannel Coal (3B2)	10	0	Water Base (30g)	400	0.50	24.00	0.48
Torbanite (3F2)	10	0	Water Base (30g)	400	1.01	25.90	0.99
Blend (3Blend2)	10	0	Water Base (30g)	400	0.97	25.41	0.95
Cannel Coal (3B3)	10	2	Oil Base (30g)	400	8.66	17.75	5.7
Torbanite (3F3)	10	2	Oil Base (30g)	400	8.91	18.07	8.46
Blend (3Blend3)	10	2	Oil Base (30g)	400	8.97	17.96	7.97
Cannel Coal (3B4)	10	2	Oil Base (30g)	370	10.29	18.66	9.28
Torbanite (3F4)	10	2	Oil Base (30g)	370	9.35	16.57	8.16
Blend (3Blend4)	10	2	Oil Base (30g)	370	9.4	17.84	8.37

Next Steps

Overall, the liquefaction program has been extremely encouraging. The dataset from Test Programs One, Two and Three will prove invaluable in evaluating the Alpha Resource for the Pre-Feasibility Study. With the initial success of Programs One and Two, and encouraging improvements from Test Program Three, attention now shifts to Test Program Four.

As part of the upcoming testing program, the reported conversion under Test Program Three will be experimentally improved, with the liquefaction tests conducted using Alpha core samples. The reaction tests of the core samples will be systematically investigated under various pressure, temperature, reaction time and catalyst concentration, in line with the findings from Test Program Three. The liquefied products will be interpreted and reported to the market in due course.

Test Program Four will be designed to improve on the conversions demonstrated in Program Three, emphasising heavy oil and asphaltenes yield enhancement. Greenvale's technical team is confident that there is still scope for improvement. PROCOM has designed the Scope of Work (SOP) that describes the experimental program and instructions for the upcoming Test Program Four. In addition, the Core samples have also been prepared by the PROCOM team and are readily available to initiate the liquefaction experiments.

Once Test Program Four has commenced, Greenvale expects to be in a better position to determine the final delivery date of the Pre-Feasibility Study.

The significant improvements in conversions throughout the liquefaction program have impacted multiple aspects of the PFS delivery. The continuous improvements and changes to conversion conditions have resulted in significant changes to everything from mine planning to process and plant design.

Drilling

During the quarter, the Company commenced the second phase of drilling at its 100%-owned Alpha Torbanite Project (commencement date 28 June 2023). This phase of drilling will comprise 25 HQ core holes and 15 open holes. The core holes are designed to increase the size and confidence levels in the Alpha Mineral Resource (18.6Mt JORC Mineral Resource – refer ASX announcement, 10 March 2022), including reported tonnages for the cannel coal in both the Upper Seam and the Lower Seam.

The drilling program will also facilitate updated structural and geological modelling and provide key geotechnical data for mine planning purposes, as well as for definitive process design work. The open holes are designed to test the continuity of the Upper and Lower seams to the south and to the west of the deposit within EPM 27718, potentially laying the foundations for an increase in the overall size of the Resource.

The Program

Prior to the commencement of the drilling, the Greenvale field team prepared the site to complete drill pad and access track preparation. BG Drilling has been engaged to complete the 2,000m drill programme, which is expected to take approximately 55 days to complete.

This program will include down-hole geophysical surveying to map the continuity of the lenses of torbanite and Upper and Lower cannel coal seams. The open hole drill logs and down-hole data will be utilised to complete an updated structural and geological model.

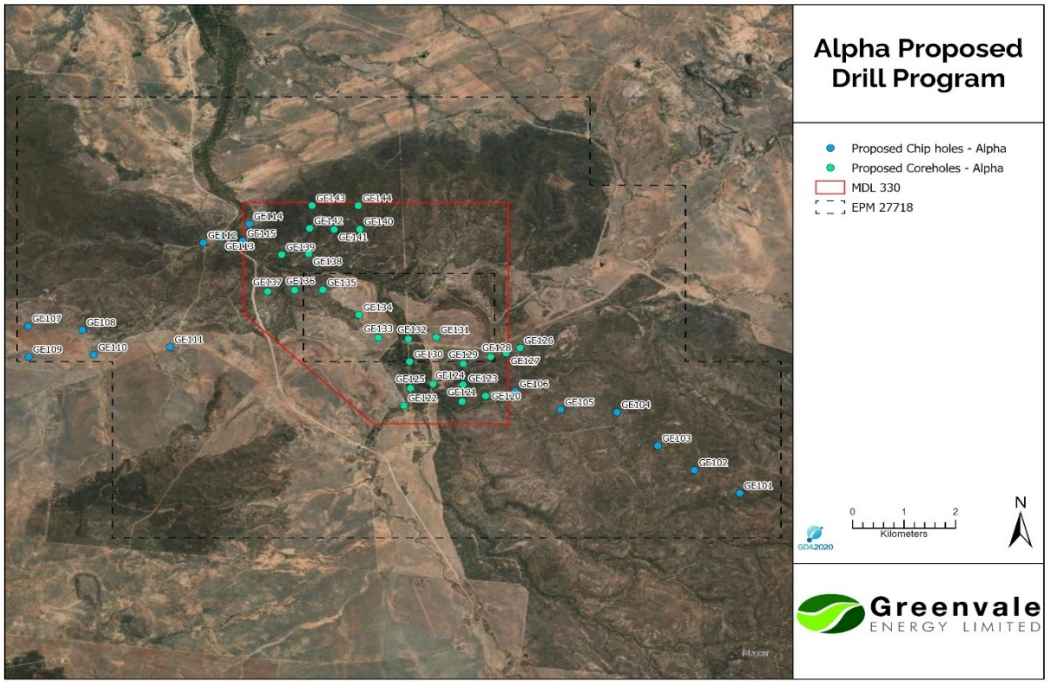

Figure 2: Alpha drill-hole locations

The core drilling undertaken in 2021 targeted areas where the torbanite lens was present in the Lower Seam. This subsequent phase of drilling will target all areas where the Upper and Lower seams are present, including areas that have not previously been cored.

After the drilling has been completed a laboratory analysis will be undertaken with the following objectives:

- Obtain additional coal quality samples from the Upper Seam as well as the Lower Seam where the torbanite lenses are not present to increase confidence in coal quality in these areas.
- Determine coal quality parameters for the cannel coal.
- Collect samples for mine design planning purposes.
- Obtain samples for future coal quality testing.
- Allow an updated Inferred Resource estimate to be completed.
- Establish an Indicated Resource estimate.

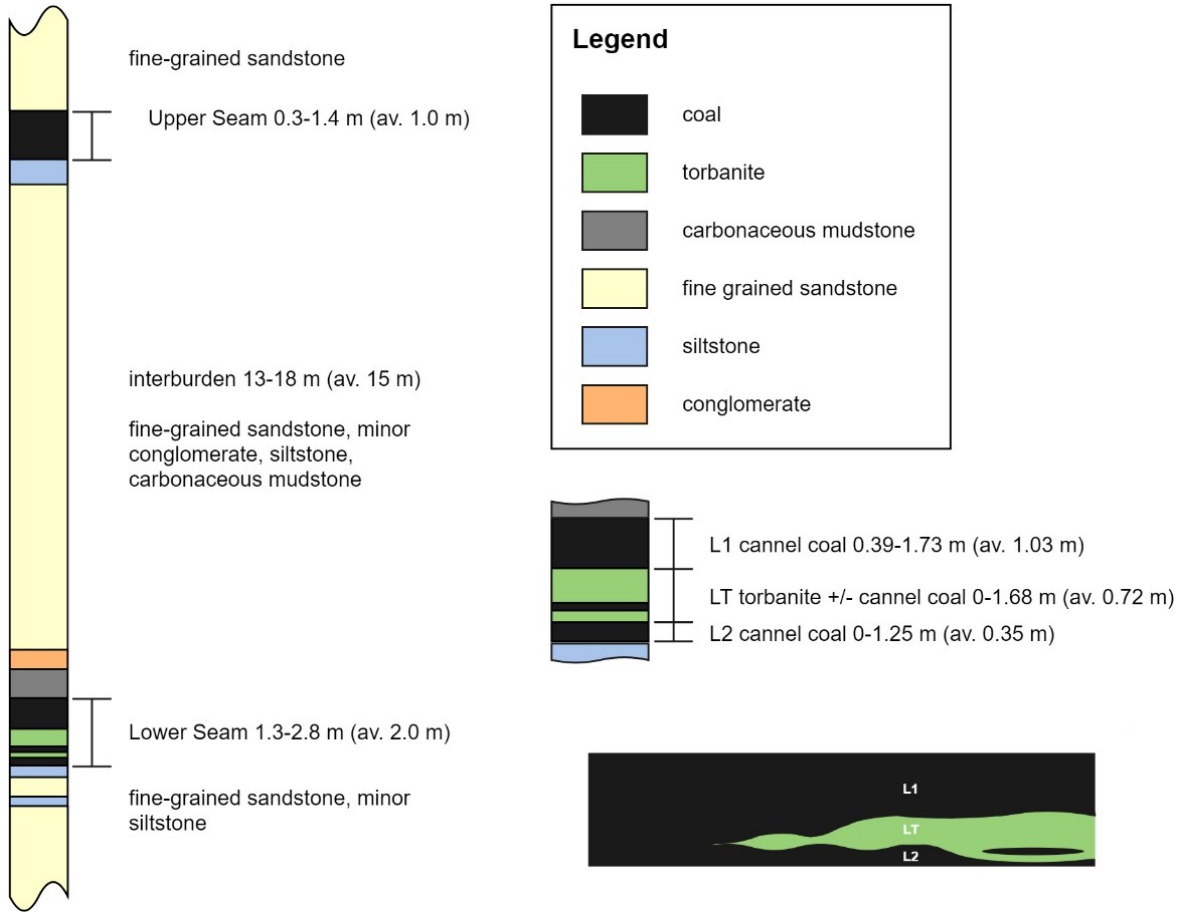

Figure 3: Summary of local seam geology in MDL 330

Geothermal Project, Queensland

Background

Greenvale and its wholly-owned subsidiary, Alpha Resources is the 100% owner of a number of exploration licences in north Queensland of Geothermal energy projects. Geothermal energy is the heat produced deep in the earth's core. Geothermal energy is regarded a clean, renewable resource that can be harnessed for use as heat and electricity.

Activities during the June Quarter

During the quarter, the Company executed a binding HOA with internationally renowned geothermal consultancy and engineering firm, CeraPhi Energy, to complete a feasibility study on the development of a geothermal power plant at its Longreach Geothermal Project in North Queensland.

In addition to outlining the key terms of the feasibility study engagement, the HOA between the two companies gives Greenvale a non-exclusive option to utilise CeraPhi's CeraPhiWell™ proprietary patents for its ground-breaking closed-loop geothermal technology.

Greenvale's technical team sees the CeraPhiWell™ proprietary patents as integral to unlocking the immense geothermal potential of its geothermal exploration permit application areas, specifically those in Longreach and the exciting Millungera Basin region.

CeraPhiWell™'s proprietary patents pertain to the unique design and installation of a down-hole heat exchanger system that innovatively employs existing technologies. This system offers remarkable versatility, enabling the recovery of commercially viable heat energy from the sub-surface in a wide range of locations. Furthermore, the CeraPhiWell™ serves as a dependable contingency for wells that do not meet production expectations.

In line with this commitment, Greenvale has chosen Longreach as the pilot area for its geothermal energy strategy and will partner with CeraPhi Energy to assess the effectiveness of its proprietary patents for the CeraPhiWell™ down-hole heat exchanger system.

Greenvale is continuing to make significant inroads with its renewable energy strategy, with EPG 2029 close to being awarded and plans to build Australia's first geothermal power station in Longreach using CeraPhi Energy's closed-loop technology. This technology will enable Greenvale to produce 24/7 baseload renewable energy with no groundwater usage, making it an environmentally friendly and sustainable option.

Moreover, the Queensland State Government's recent takeover of the CopperString Project is a positive development for Greenvale. The Project runs through Greenvale's EPG applications in the Millungera Basin, putting the Company in a favourable position to pursue geothermal opportunities in the area. The successful implementation of the Longreach Project is expected to pave the way for a larger-scale geothermal energy plant in the Millungera Basin, in line with the advancement of the CopperString Transmission Project.

Greenvale's innovative approach and the adoption of new technologies position it as a significant challenger in the sustainable energy industry, with the potential to drive real change.

Full details of CeraPhi Energy can be found in ASX release dated 11 May 2023.

About CeraPhiWell™

The CeraPhiWell™ technology represents a breakthrough in closed-loop geothermal well systems, utilising a specially selected fluid circulated down a closed-loop well via proprietary systems that act as a down-hole heat exchanger.

Using proven oil and gas techniques and equipment to drill wells up to 5 kilometres deep, higher temperatures can be accessed and brought to the surface. The required heat output and the ground temperature gradient at the site determine the depth of the well.

Once installed and operational, the CeraPhiWell™ system requires minimal maintenance and no further interventions. Notably, the system is fully sealed, with no interaction with below-ground aquifers or permeable formations – and poses no potential hazard for unwanted pollution. Unlike conventional geothermal projects, there is no need for fracking techniques, which significantly reduces the risk of seismic events.

These features of the CeraPhiWell™ technology greatly reduce the risk profile for geothermal projects and increase confidence in their successful development and operation.

Geothermal Closed Loop Technology

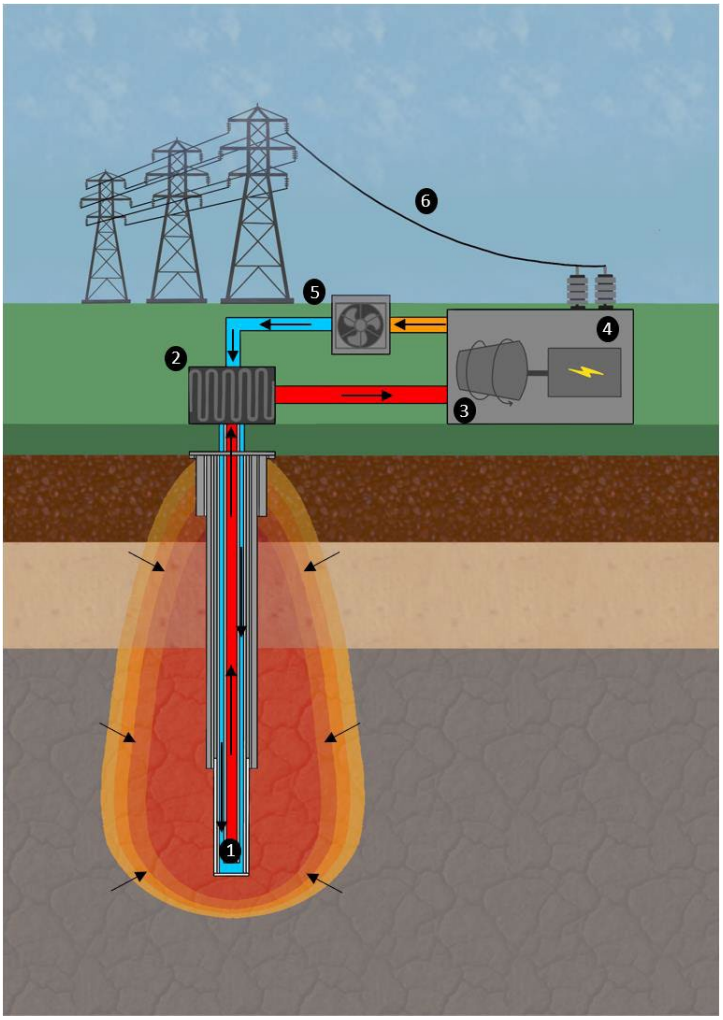

Figure 42: *CeraPhi Well co-axial down-hole heat exchanger system*

Fluid is circulated through the system (blue) down to the heat exchanger (1) where temperatures at the bottom of the well results in the conduction of thermal energy (red), which is returned to the surface heat exchanger (2).

The thermal energy, in a controlled combination of pressure and temperature, is then routed through the surface heat exchanger to another medium within the Organic Rankine Cycle (ORC) plant. This energy expands into the ORC turbine (3), internally turning the generator to produce electricity (4).

The hot fluid is then directed to the coolers (5), condensing into a cooler state and returning to the surface heat exchanger (2), where the well circulation reheats it. Power is sent to the substation (6) for transmission to the end user.

The advantage of the Geothermal Closed-Loop Technology can also be found in the ASX release dated 11 May 2023.

Ergon Connection Enquiry

In parallel with the engagement of CeraPhi Energy, Greenvale has also lodged a formal connection enquiry with Ergon Energy regarding the potential for a geothermal energy plant at Longreach.

Understanding the grid connection costs will allow Greenvale to assess the potential commercial pathways available better if the Longreach permit proceeds to development.

The Greenvale team has also started investigating the possibility of private off-take partners for any power generated at Longreach.

Relinquishment of Permits

Greenvale has decided to forego the extraction of sub-surface brines and associated elements, including lithium, to focus exclusively on sustainable energy production as part of its geothermal strategy. As a result, the Company has decided not to proceed with the associated EPM applications and has relinquished the two permits that had been granted.

Additionally, after an internal review identified their limited geothermal potential, Greenvale has withdrawn its EPG 2021 and EPG 2022 applications.

Moving forward, the Company will direct its resources towards two key projects: a small-scale power generation initiative in Longreach and a potentially large-scale project in the Millungera Basin. By focusing on sustainable energy production and utilising the latest technologies, Greenvale is positioning itself as a leader in the drive towards a more sustainable and eco-friendly energy future.

Georgina Basin IOCG Project, Northern Territory

Activities during the June Quarter

Background

The Georgina Basin Project, owned by Knox Resources Pty Ltd (**Knox**), a company which is 20% owned by Greenvale. As part of its ownership of Knox, the Company is required to contribute to the funding of its share of Knox's future costs. Greenvale is entitled to a 2% net smelter royalty (**Royalty**) for all Iron Oxide Copper Gold (**IOCG)** product exploited in the future from the existing tenements owned by Knox.

Project Overview

Following is a brief overview of the Georgina Basin Project:

- located in the highly prospective East Tennant province in the Northern Territory, the Georgina Project comprises seven granted Exploration Licences and three under application, for a combined total of approximately 4,500km^2;

- the East Tennant province has been the subject of intense geoscientific investigation by both Geoscience Australia and the Northern Territory Geological Survey for over five years. Pre-competitive work undertaken as part of the Federal Government's $225 million Exploring for the Future program **(EFTF**) included solid geology interpretation, alteration proxy mapping and mineral prospectivity mapping for IOCG deposits; and

- the collaborative MinEx CRC National Drilling Initiative, conducted in late 2020, confirmed the highly prospective nature of the region by intersecting prospective host rocks, IOCG-style alteration and sulphide mineralisation as part of a 10-hole program at East Tennant.

IOCG deposits are typically large, economically attractive copper-gold deposits with some smaller high-grade variants – most notably those at Tennant Creek. This style of deposit contains elevated levels (10-60wt %) of the iron oxide minerals magnetite and hematite, which gives rise to their (typically) elevated magnetic and gravity (density) properties.

Australian IOCG's include the South Australian Olympic Dam, Prominent Hill, and Carrapateena deposits, Ernest Henry in north-west Queensland, and the high-grade Northern Territory Warrego and Juno deposits, located west of the Georgina Project at Tennant Creek.

Work During the Quarter

The following highlights occurred during the quarter:

During the quarter the Knox, commenced a gravity surveying across its highly prospective Central Georgina Project tenement EL33375. The prospect-scale gravity survey is designed to enhance gravity data resolution between recent drilling and previous National Drilling Initiative drill-holes, as well as to align with coverage of the forthcoming Ambient Noise Tomography (**ANT**) survey, which is one of two recently awarded Exploration Grants as part of the NT Government's Resourcing the Territory Geophysics and Drilling Collaborations Program.

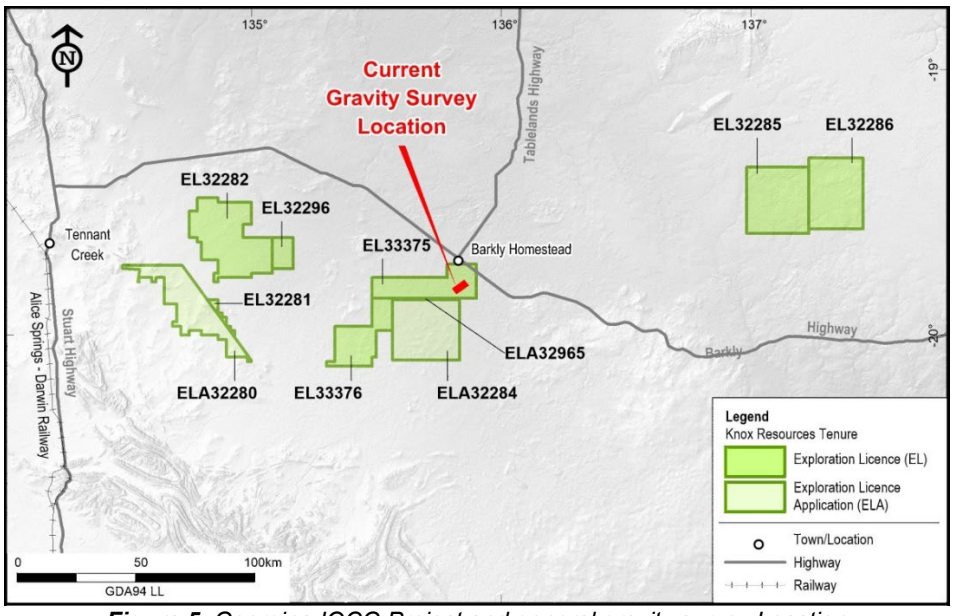

Figure 5. *Georgina IOCG Project and general gravity survey Location*

Previous prospect-scale gravity surveying in this area, conducted by Greenvale (the previous owner) resulted in the generation of three distinct IOCG targets, namely Banks, Leichhardt West and Leichhardt East, all of which were drill tested in mid-late 2022. The drill-holes intersected variably altered metasedimentary rocks, with assay results revealing significant anomalism in copper, as well as uranium, silver and bismuth, which are known to be associated with IOCG deposits.

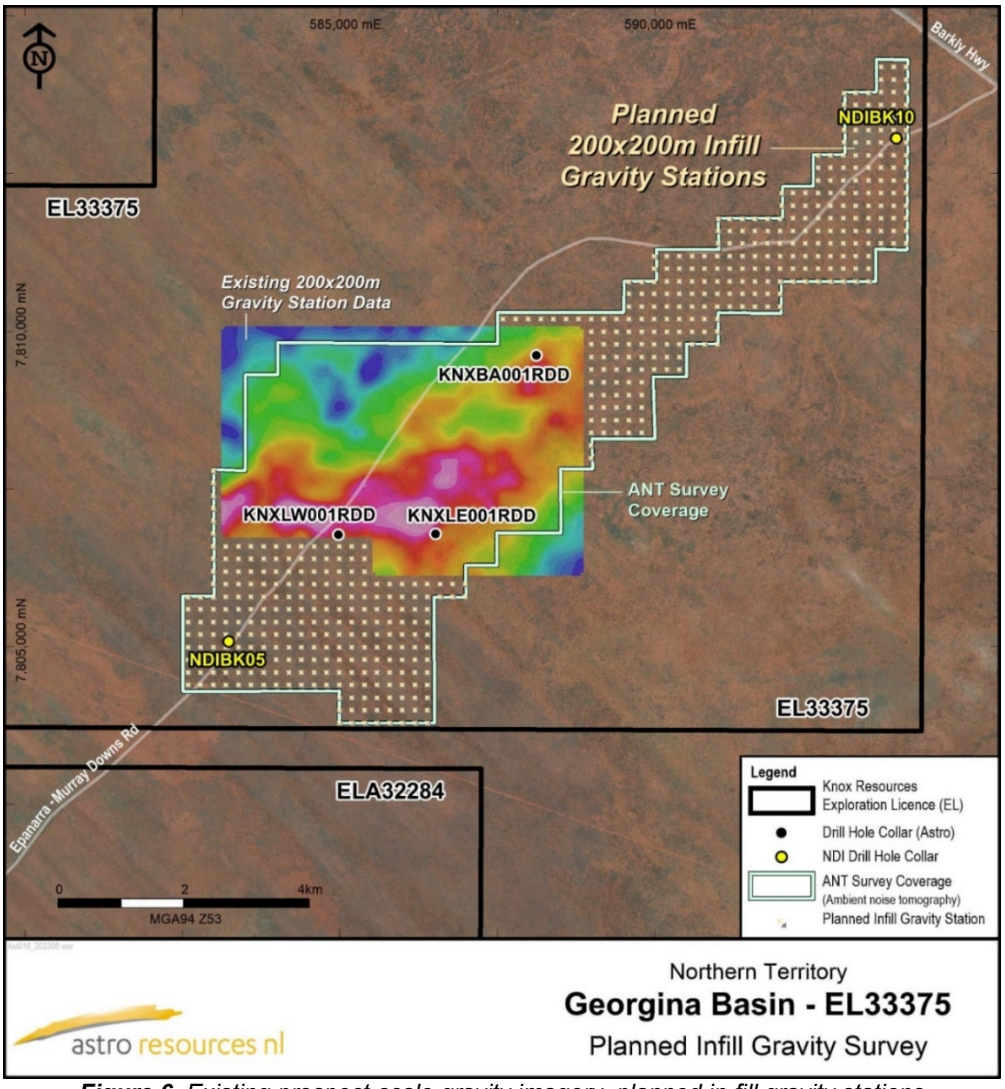

Figure 6. *Existing prospect-scale gravity imagery, planned in-fill gravity stations and Ambient Noise Tomography (ANT) survey outline.*

The gravity stations are strategically located to improve the resolution of gravity data between the existing datapoints, extended both to the north and south to incorporate drill-holes NDIBK05 and NDIBK10 which were drilled by Minex CRC as part of the inaugural National Drilling Initiative (NDI) drill program in 2020.

This drill program was the culmination of many years of investment and work by Geoscience Australia and the NT Geological Survey, and resulted in confirmation that the East Tennant region is highly prospective for IOCG deposits. By extending coverage to the NDI holes, this will allow the Company to incorporate drilling data from those locations into the broader interpretation for the region, leveraging the additional information into future interpretations.

The results of the survey and the ANT survey will be fundamental to guiding future work and are expected to result in the identification of further drill targets in this highly prospective region. The 548-station survey is due to be completed within a week.

Ranken Geophysical Surveying

Knox commenced and completed a geophysical surveying at its Ranken Project area, in the eastern part of its Georgina IOCG Project in the Northern Territory. The commencement of the survey followed the recent release of Geoscience Australia's *National mineral potential for sediment hosted zinc-lead mineral systems in Australia* mapping and extended abstract, which highlights the Ranken Project area as being highly prospective for sediment-hosted base metal mineralisation[1].

The geophysical surveying, which was co-funded by the NT Government Resourcing the Territory initiative, was designed to identify gravity (density) anomalies and establish depth to prospective basement rocks.

The Ranken Project area is located to the east of the main part of the Georgina Project, close to the NT-Queensland border. Possessing different interpreted basement geology, the Ranken area is interpreted to cover host-rocks prospective for sediment-hosted base metal deposits such as the world-class Century and Mount Isa deposits[2].

The completion of geophysical surveying at Astro's Ranken Project area, in the eastern part of its Georgina IOCG Project in the Northern Territory. Data from the two-part survey, which comprised both gravity and HVSR Passive Seismic surveying, is being processed to allow for interpretation over the coming months.

This interpretation will be used to guide the final design and collar location for the Knox's first drill-hole at the Ranken Project, which was also the subject of a recently awarded Exploration Grant as part of Round 16 of the NT Government's Resourcing the Territory Geophysics and Drilling Collaborations Program[3].

In Mid-March 2023, there was a release of new nationwide mineral potential maps from Geoscience Australia, which assesses for the prospectivity of four types of sediment-hosted base metal mineral systems across Australia. Astute previously highlighted the prospectivity of the Ranken Project area (EL32285 and EL32286 in Figure 10) for Century-style and Mount Isa-style sediment hosted deposits[2], and confirmation of this assessment by Geoscience Australia further strengthens the rationale underpinning the geophysical gravity and HVSR passive seismic surveys. The mapping, shown in Figure 10, predicts mineral potential via a 'heat map' style whereby the hotter the colour the more prospective the area.

The study assessed for potential for clastic-dominated siliciclastic carbonate, clastic-dominated siliciclastic mafic, Mississippi Valley-type and Irish type sediment hosted deposits, using a Mineral Systems approach which considers the source of metals and fluids, energy sources and fluid flow drivers, fluid flow pathways and depositional mechanisms[1]. The Ranken area is most prospective for the clastic-dominated sub-type of deposits, with major deposits including Hilton-George Fisher (24.2Mt contained Zn and 12.4Mt contained Pb), Century (13.7Mt contained Zn and 2.0Mt contained Pb) and Mount Isa Zn-Pb (10.5Mt contained Zn and 9.0Mt contained Pb)[1]. Each of these deposits also contain significant silver.

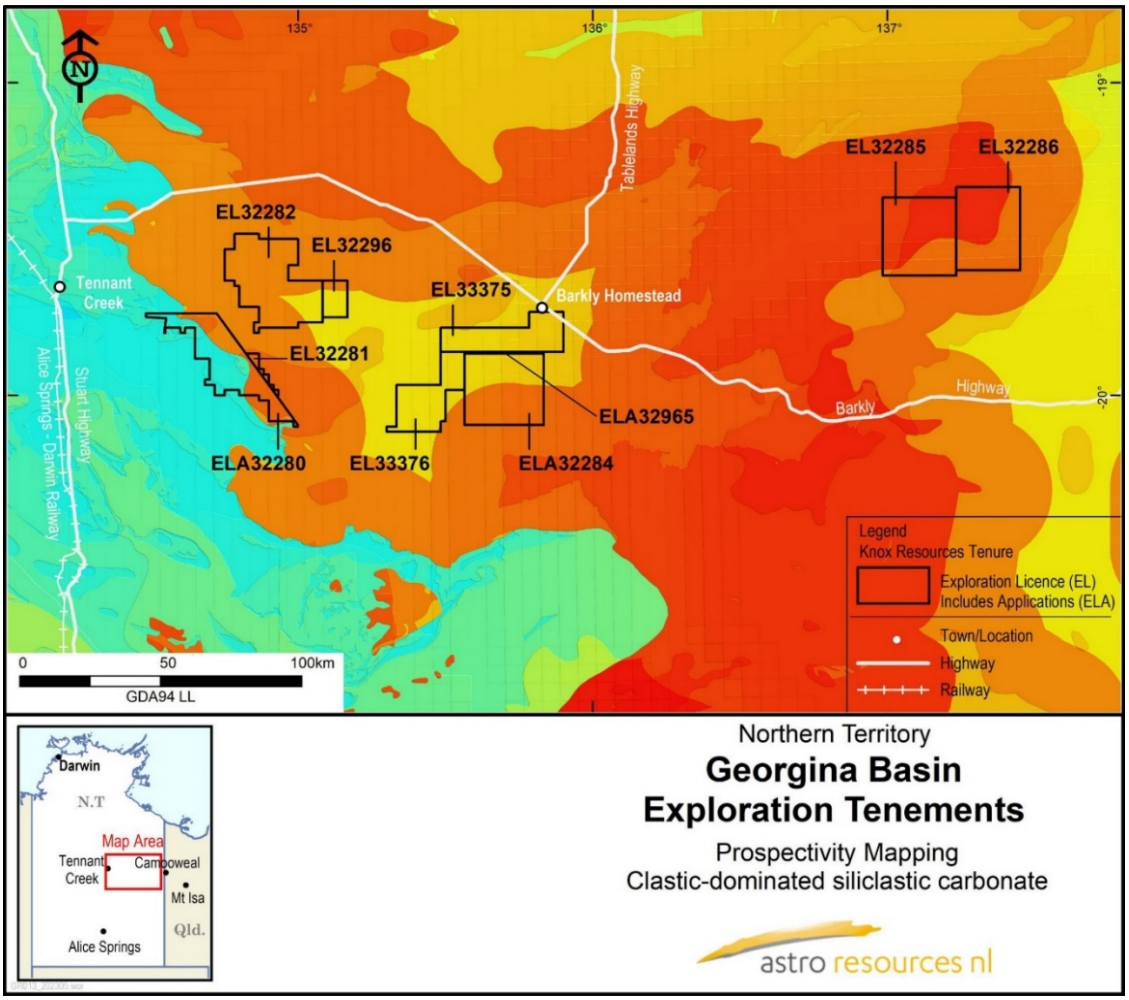

Figure 7. *Georgina IOCG Project tenements and Geoscience Australia mineral potential 'heat map', with hotter colours more prospective - noting Ranken Project tenements EL32285 and EL32286 to the far east of the project.*

Government grant

Knox was successfully awarded two co-funding grants through the Geophysics and Drilling Collaborations (**GDC**) program, which is administered by the Northern Territory Geological Survey (**NTGS**). The Company took part in the Round 16 Geophysics and Drilling Collaborations program, with the following successful applications having been made:

- Grant 1 is for $100,000 toward an Ambient Noise Tomography (ANT) survey on the Central tenement area EL33375, where recent drilling intersected copper and uranium mineralisation; and

- Grant 2 is for $161,106 (representing 50% of eligible drilling costs) towards a 700m deep drill hole at the Company's Ranken area

Corporate Activities

During the Quarter, there were no significant corporate activities which took place. However, the following is provided by way of information:

Investment in Astute

The Company continues to be the largest investor in Astute (ASX: ASE) and owns approximately 13% of Astute. Astute has undertaken a number of initiatives to progress its stated strategic objectives, principally around delivering lithium in the clay projects in Nevada, USA.

ASX Additional Information

The Company provides the following information pursuant to ASX Listing Rule requirements:

1. **ASX Listing Rule 5.3.1:**
   Exploration and Evaluation Expenditure spend during the quarter was $723,800. Full details of exploration activity during the June 2023 quarter are set out in this report.

   Below is the breakdown of the expenditure incurred:

   Table 5 *Analysis of exploration expenditure*

Property	Nature of expenses	Amount ($)
Alpha Project		
	Alpha Testwork	153,515
	Compensation	3,719
	Drilling costs	196,812
	Geology and geophysics	29,241
	Mining administration and environmental compliance cost	176,212
	Subtotal – Alpha Project	**559,499**
Geothermal Project		
	Mining administration and environmental compliance cost	49,662
	Feasibility study costs - Ceraphi Energy Ltd	114,639
	Subtotal – Geothermal Project	**164,301**
Total Exploration costs		**723,800**

2. **ASX Listing Rule 5.3.2:**
   The Company confirms that there was no mine production and development activities for the quarter.

3. **ASX Listing Rule 5.3.5**: Payment to related parties of the Company and their associates during the quarter was $159,012 in cash.

   The Company advises that this relates to remuneration of Directors only. Please see the Remuneration Report in the Company's Prospectus for further details on Directors' Remuneration. Set out below is the following additional information in relation to the cash flow statement:

Table 6: *Director's remuneration*

Name of Director	Nature of Payment	Amount ($)
Neil Biddle	Ongoing Director fees	33,150
Elias (Leo) Khouri	Ongoing Director fees	37,500
Mark Turner	Ongoing executive director renumeration	88,362
	Total Director Remuneration	**159,012**

Tenements

In accordance with Listing Rule 5.3.3, Astro provides the following Information concerning its exploration licences:

Tenement Details

Alpha Project, Queensland

Tenement	%age Ownership	Owned by	Status
MDL 330	100%	Alpha Resources Pty Ltd	Current to 31 January 2027
EPM 27718	100%	Alpha Resources Pty Ltd	Current to 14 February 2026

Geothermal Project, Queensland

Tenement	%age Ownership Of Applicant	Applicant	Status
EPM 28265	100%	Alpha Resources Pty Ltd	Under Application
EPM 28266	100%	Alpha Resources Pty Ltd	Under Application
EPM 28487	100%	Greenvale Energy Ltd	Current to 29 August 2027
EPM 28488	100%	Greenvale Energy Ltd	Current to 29 August 2027
EPM 28489	100%	Greenvale Energy Ltd	Under Application
EPG 2019	100%	Alpha Resources Pty Ltd	Under Application
EPG 2020	100%	Alpha Resources Pty Ltd	Under Application
EPG 2021	100%	Alpha Resources Pty Ltd	Withdrawn
EPG 2022	100%	Alpha Resources Pty Ltd	Withdrawn
EPG 2023	100%	Greenvale Energy Ltd	Under Application
EPG 2024	100%	Greenvale Energy Ltd	Under Application
EPG 2025	100%	Greenvale Energy Ltd	Under Application

Authorised for Release

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

Contact

For further details, contact:
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Media Inquiries:
Nicholas Read – Read Corporate
Nicholas@readcorporate.com.au
Mobile: 0419 929 046

COMPETENT PERSON'S STATEMENT – ALPHA TORBANITE PROJECT:

The information in this report that relates to Exploration Results is based on information compiled by David Cavanagh, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy AusIMM Member number 112318. David Cavanagh is a full-time employee of Core Resources.

David Cavanagh 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'.

David Cavanagh consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the Mineral Resource Estimate dated 9 March 2022 as announced to the ASX on that date and which is available at www.greenvaleenergy.com.au . The Company confirms that in relation to the Alpha Torbanite Project Mineral Resource Estimate, all material assumptions and technical parameters underpinning the estimate continue to apply and have not materially changed when referring to its resource announcement made on 9 March 2022.

COMPETENT PERSON'S STATEMENT – GREORGINA BASIN IOCG PROJECT:

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 Astute Metals NL (formerly Astro Resources NL).

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.

Appendix 5B

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity	
Greenvale Energy Ltd	
ABN	**Quarter ended ("current quarter")**
54 000 743 555	30 June 2023

Consolidated statement of cash flows		**Current quarter $A'000**	**Year to date (12 months) $A'000**
1.	**Cash flows from operating activities**		
1.1	Receipts from customers		
1.2	Payments for		
	(a) exploration & evaluation		
	(b) development		
	(c) production		
	(d) staff costs	-	(80)
	(e) administration and corporate costs	(172)	(1,070)
1.3	Dividends received (see note 3)		
1.4	Interest received	1	25
1.5	Interest and other costs of finance paid		
1.6	Income taxes paid		
1.7	Government grants and tax incentives		
1.8	Other (provide details if material)	-	20
1.9	**Net cash from / (used in) operating activities**	**(171)**	**(1,105)**

2.	**Cash flows from investing activities**		
2.1	Payments to acquire or for:		
	(a) entities		
	(b) tenements		
	(c) property, plant and equipment	-	(22)
	(d) exploration & evaluation	(723)	(3,424)
	(e) investments		
	(f) other non-current assets	(34)	(61)

Consolidated statement of cash flows		Current quarter $A'000	Year to date (12 months) $A'000
2.2	Proceeds from the disposal of:		
	(a) entities		
	(b) tenements		
	(c) property, plant and equipment		
	(d) investments		
	(e) other non-current assets	-	7
2.3	Cash flows from loans to other entities		
2.4	Dividends received (see note 3)		
2.5	Other (provide details if material)		
2.6	**Net cash from / (used in) investing activities**	**(757)**	**(3,500)**

3.	**Cash flows from financing activities**		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)		1,466
3.2	Proceeds from issue of convertible debt securities		
3.3	Proceeds from exercise of options		
3.4	Transaction costs related to issues of equity securities or convertible debt securities		(40)
3.5	Proceeds from borrowings		4,000
3.6	Repayment of borrowings		
3.7	Transaction costs related to loans and borrowings		
3.8	Dividends paid		
3.9	Other (provide details if material)		
3.10	**Net cash from / (used in) financing activities**	**-**	**5,426**

4.	**Net increase / (decrease) in cash and cash equivalents for the period**		
4.1	Cash and cash equivalents at beginning of period	6,096	4,347
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(171)	(1,105)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(757)	(3,500)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	5,426

Consolidated statement of cash flows		Current quarter $A'000	Year to date (12 months) $A'000
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	**Cash and cash equivalents at end of period**	**5,168**	**5,168**

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter $A'000	Previous quarter $A'000
5.1	Bank balances	2,450	4,378
5.2	Call deposits	2,718	1,718
5.3	Bank overdrafts		
5.4	Other (provide details)		
5.5	**Cash and cash equivalents at end of quarter (should equal item 4.6 above)**	**5,168**	**6,096**

6.	Payments to related parties of the entity and their associates	Current quarter $A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	(68)
6.2	Aggregate amount of payments to related parties and their associates included in item 2	(91)

Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.

More information concerning the breakdown of the above payments to directors and their related parties can be found within the accompanying Quarterly Activities Report.

7.	**Financing facilities** *Note: the term "facility' includes all forms of financing arrangements available to the entity.* *Add notes as necessary for an understanding of the sources of finance available to the entity.*	**Total facility amount at quarter end $A'000**	**Amount drawn at quarter end $A'000**
7.1	Loan facilities	3,000	-
7.2	Credit standby arrangements	-	-
7.3	Other (please specify)	-	-
7.4	**Total financing facilities**	3,000	-

7.5	**Unused financing facilities available at quarter end**	3,000

7.6 Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.

(a) Loan facilities – directors

The Company announced on 20 October 2022 that it had received a letter of support from its directors for $3.00 million. The letter of support is to provide an unsecured loan to the Company, with the following terms:

- interest at 12.00% per annum; and
- to be repaid at the earlier of the next capital raising (including an offer entitlement) or 18 months from when the final drawdown has been made by the Company.

(b) Facility – Pioneer Resources LLC

The Company has a facility with an institutional investor, Pioneer Resources LLC for $4.320 million (inclusive of a premium paid). This facility was fully drawn at 31 March 2023.

The facility is repayable by way of issue of ordinary shares in the Company, unless Greenvale otherwise elects to repay the facility in cash. For the purposes of Greenvale's Appendix 5B, the proceeds from this facility have been reflected as debt and not equity, as it represents the form of the proceeds received. However, given that the substance of the of the facility is/will be in the form equity, it has not been shown as part of the financing facilities under Response 7 above.

8.	**Estimated cash available for future operating activities**	**$A'000**
8.1	Net cash from / (used in) operating activities (item 1.9)	(171)
8.2	(Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	(723)
8.3	Total relevant outgoings (item 8.1 + item 8.2)	(894)
8.4	Cash and cash equivalents at quarter end (item 4.6)	5,168
8.5	Unused finance facilities available at quarter end (item 7.5)	3,000
8.6	Total available funding (item 8.4 + item 8.5)	8,168
8.7	**Estimated quarters of funding available (item 8.6 divided by item 8.3)**	9.13

Note: if the entity has reported positive relevant outgoings (ie a net cash inflow) in item 8.3, answer item 8.7 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.7.

8.8 If item 8.7 is less than 2 quarters, please provide answers to the following questions:

8.8.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?

Answer:
Not applicable, as Item 8.7 is greater than 2 quarter.

8.8.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?

Answer:
Not applicable, as Item 8.7 is greater than 2 quarter.

8.8.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer:
Not applicable, as Item 8.7 is greater than 2 quarter.

Note: where item 8.7 is less than 2 quarters, all of questions 8.8.1, 8.8.2 and 8.8.3 above must be answered.

Compliance statement

1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.

2 This statement gives a true and fair view of the matters disclosed.

Date: 28 July 2023

Authorised by: The Board of Directors of Greenvale Energy Ltd
(Name of body or officer authorising release – see note 4)

Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.

2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.

3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.

4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [*name of board committee – eg Audit and Risk Committee*]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".

5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial

records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.