

# QUARTERLY ACTIVITY REPORT

31 March 2021

### PROJECTS

#### **South West Terrane Initiative**

Enegex has a large tenement package covering approximately 3,780km2 in the South West Terrane (SW Terrane), Western Australia, spread across five separate project areas, all within 200km of the Julimar Ni-Cu-PGE discovery (Figure 1). Following grants during the quarter, Enegex's SW Terrane Exploration tenement package is comprised of 18 granted exploration licenses and 2 in application.



Figure 1 Enegex SW Terrane Project Areas

Located proximal to Perth, the SW Terrane is an emerging mineral province of importance following the recent discovery of palladium and nickel mineralisation by Chalice Gold Mines Limited at its Julimar Project and Caravel Minerals' Caravel copper deposit.

Based on regional geophysical and geological data (refer Figure 2 and 3), Enegex's exploration licence applications are interpreted to contain mafic and ultramafic igneous intrusions considered to be similar to the Julimar intrusion hosting the high-grade Ni-Cu-PGE mineralization discovered by Chalice to the south.



Figure 2 Enegex SW Terrane Project Area (shown in yellow) with neighbouring tenement holders

In general, the Archaean bedrock geology of the SW Terrane is not well known as it is blanketed by laterite soil profiles and transported sands. The geology is a complex mix of Archean high-grade metamorphic gneisses and highly radioactive granites, with widespread enclaves of greenstone and dismembered layered mafic and ultramafic intrusions. Proterozoic tectonic events, mainly evident from mafic dyke swarms, have also impacted the terrane.

The Julimar and Caravel deposit discoveries, together with an improved geological and geophysical understanding of the SW Terrane, are changing perceptions regarding the prospectivity of the region:

- The Julimar Ni-PGE-Cu deposit discovery, made by Challis Gold Mines, is associated with magnetic layered gabbroic complex. Similar gabbroic bodies with similar magnetic features in the terrane, such as Yarawindah Brook and Coates Siding, are also attracting increased exploration attention, as are various ultramafic bodies in the terrane.
- The discovery by Caravel Minerals of the Caravel Cu deposits (366 million tonnes at 0.35% Cu<sup>1</sup>), hosted by granite, has attracted increased exploration attention for ancient porphyry Cu-Au deposits in the terrane.
- The giant Boddington gold deposit, generally considered to be a porphyry Au-(Cu-Mo-Bi-W) deposit, is associated with late-stage diorite intrusion.
- The Greenbushes lithium mine, hosted by granitic pegmatite, has been a long-lived mining operation for lithium, tantalum and tin and is recognized as the world's largest commercial lithium resource.
- The SW Terrane has long been recognized as one of the world's premier bauxite mining provinces.

Enegex believes that the combination of the presence of wide-spread highly radioactive granitoids and a deeply weathered laterite profile covering large areas of the SW Terrane is also an attractive environment for the discovery of ion adsorption REE deposits.

In summary, the SW Terrane contains large mines and mineral resources in a favourable geographical location with excellent infrastructure, proximal to Perth (including a proposed REE processing plant). However, it remains little explored, especially for magmatic Ni-Cu-PGE, porphyry Cu-Au-Mo and Au deposits.

Enegex's project areas contain interpreted Archaean gneisses and granites and numerous pronounced and subtle magnetic anomalies interpreted to be a combination of greenstone enclaves and mafic and ultramafic intrusions.

The Miamoon project area is dominated by a regolith of transported sand and residual laterite overlying a number of unexplained magnetic anomalies which attract comparisons to the Julimar magnetic anomaly. The Walebing and Miling project areas, while dominated by a regolith of transported sand and residual laterite, contain outcropping ultramafic and mafic rocks.

 <sup>&</sup>lt;sup>1</sup> Combined Indicated and Inferred Mineral Resources, Source: Caravel Minerals announcement 3 February
2019 <u>https://caravelminerals.com.au/wp-content/uploads/2019/02/2019-02-13-Major-Increase-in-Caravel-Copper-Resource.pdf</u>

Historically, the Greenhills project area has received very little exploration for any mineral commodity. Previous exploration has been focussed on bauxite and kaolin and, to a lesser extent, copper and gold. Previous geological mapping identified the presence of small ultramafic intrusions and mafic rocks (amphibolite, mafic gneiss, mafic granulite, hornblendite) of uncertain geological affinities. Regional laterite sampling programmes by the Geological Survey of Western Australia and the Australian Minerals Industries Research Association (Amira) during the 1990s revealed the presence of anomalous Ni, Cu, Cr, Zn and Au, which identifies the project area as being of exploration interest. It is, for example, the closest regional laterite Au-Cu anomaly to the Boddington laterite Au-Cu anomaly.



Figure 3 Enegex project areas over regional airborne magnetics data

During the quarter, Enegex continued a desktop study of its SW Terrane project areas to assist in designing a work program to generate targets for exploration testing. Work completed during the quarter included reprocessing of open-file geophysical data (magnetics, radiometrics and gravity) and the compilation of historical exploration reports covering the project areas.

Following completion of the desktop study, Enegex intends to:

- identify and rank priority target areas.
- carry out field reconnaissance
- acquire land holder information data and begin the process of negotiating land access agreements.
- Carry out infill geophysical surveys over high priority target areas, as required.

#### **Kimberley Basin Exploration Licences**

Enegex has two exploration tenements in the eastern margin of the Kimberley Basin of Western Australia, one of which was granted during the quarter (Figure 4).



Figure 4 Enegex Kimberley tenements shown on regional geology

The geology of the tenements has been mapped as "Hart Dolerite", a regionally extensive Proterozoic sill complex which has historically not been considered prospective. The tenement areas have been the subject of only limited prior exploration.

Enegex has identified recent advances in geological understanding that alter the prospectivity of the Hart Dolerite:

- Mapping and exploration of the Speewah Dome, immediately to the north of the Enegex tenement areas, has identified that the Hart Dolerite comprises a layered intrusive suite of rocks (Intrusive Suite), and that the prospective part of the Intrusive Suite is the Disseminated Magnetite Gabbro which hosts the Speewah Dome Vanadium deposit (adjacent to the north of Enegex' project area). Disseminated gold and copper, also identified in the sulphides of the Intrusive Suite, indicate potential for reef-type PGE mineralization in the upper, differentiated, magnetite-rich parts of the layered intrusion.
- Regolith sampling by Geological Survey WA (GSWA) has identified high cobalt and coincident high nickel anomalies in Hart Dolerite, indicating prospective fertile host rocks for these minerals within the Suite.
- A later epithermal event has been identified in the Hart Dolerite in the Speewah area with carbonate and epithermal fluorite overprinting the dolerite. Fluoride is currently being investigated as a potential replacement for lithium in batteries.

The limited historical exploration in the Enegex tenement area has not determined which units of the Intrusive Suite are exposed. Enegex intends to conduct exploration activities to determine the presence or otherwise of prospective units within the tenement area.

# CORPORATE

During the quarter Enegex sought listing on the ASX for 12,645,525 \$0.03 (3 cent) options expiring 31 August 2022, with the options becoming listed on 11 March 2021. Enegex decided to apply for listing of the options in order to reduce administrative costs and provide option holders with greater flexibility.

A total of 2,397,167 of these options were exercised during the quarter, raising a further \$71,915.

#### By Order of the Board

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**R J Wright** Company Secretary Melbourne, Australia 28 April 2021

#### Additional Information Required by Listing Rules 5.3.3 and 5.4.3

Tenement	Enegex interest	Km2	Tenement status
Western Australia (Kimberley Region)			
E 80/5354	100%	373.79	Granted
E 80/5355	100%	350.22	Application
Western Australia (South-West Terrane)			
E 70/5439	100%	203.55	Granted
E 70/5440	100%	206.21	Granted
E 70/5441	100%	85.43	Granted
E 70/5442	100%	82.40	Granted
E 70/5446	100%	207.76	Granted
E 70/5459	100%	207.64	Granted
E 70/5457	100%	207.55	Granted
E 70/5458	100%	208.00	Application
E 70/5460	100%	207.71	Granted
E 70/5463	100%	207.97	Granted
E 70/5444	100%*	204.00	Granted
E 70/5445	100%*	203.93	Granted
E 70/5566	100%	203.78	Granted
E 70/5567	100%	204.06	Granted
E 70/5568	100%	203.47	Granted
E 70/5569	100%	203.83	Granted
E 70/5570	100%	203.45	Granted
E 70/5571	100%	203.72	Granted
E 70/5580	100%	214.18	Granted
E 70/5631	100%	115.06	Application

Mining Tenements held/applied for at the end of the quarter and their location

\* via First Right of Refusal

# Tenements acquired during the quarter and their location Nil

#### **Tenements disposed of during the quarter and their location** Nil

Beneficial percentage interests held in farm-in or farm-out agreements at the end of the Quarter: Nil

# Additional Information Required by Listing Rule 5.3.5

# Payments to related parties during the quarter included in Appendix 5B – Quarterly Cash Flow Report

Payments were made to directors and their associates during the quarter totalling approximately \$25,000. Payments were for contracted services including consulting fees, office costs and administrative support.