
Greenvale Announces Preliminary Sampling and Analysis Strategy for Alpha Oil Shale Deposit, Queensland

Initial 2020 exploration work plan developed as part of new project development strategy

ASX Release

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Highlights

- Initial 2020 exploration work plan is to sample torbanite and cannel coal from one location as part of strategy to evaluate production of value-added products.
- Planned work program will include:
 - Identification of most suitable location to collect the preliminary bulk sample;
 - Site survey and advance planning tasks;
 - Sample acquisition, preparation and storage;
 - Retorting of the sample to separate the gas and liquid hydrocarbons;
 - Assay and analysis of the raw coal and retorted products; and
 - Preliminary characterisation of the potential retorted and or refined products.
- A range of laboratories will be engaged to support the process, including:
 - Coal and petroleum laboratories for raw coal and product characterisation;
 - Bitumen laboratories for evaluating the raw asphaltenes produced and to evaluate blending options; and
 - SIMTARS (The Safety in Mines Testing and Research Station, Queensland) to evaluate retorted gases.
- The Queensland DNMRE have confirmed that the bulk sampling program proposed by SRK is acceptable to them and the Company's MDL has been confirmed to be in good order.
- Sourcing of vendors to support the program currently underway as the Company progresses its funding strategy.

Further to its announcement of 7 May 2020, **Greenvale Energy Limited (ASX: GRV or the Company)** is pleased to announce details of its initial 2020 exploration work plan for its Alpha Oil Shale Deposit, located 500km west of Rockhampton in Central Queensland.

The proposed preliminary sampling and analysis strategy has been developed by independent consultants, SRK Consulting (Australasia) Pty Ltd (**SRK**) as part of the new project development strategy outlined last month which is based on the production of a diversified suite of value-added products from the Alpha tenement (MDL 330).

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Background

SRK has recommended a revised exploration work program for the Alpha Project supplementing conventional core drilling with bulk samples from trenches or costeans, with the raw materials to be refined to provide product samples for detailed analysis and study (see ASX announcement, 7 May 2020).

This advice was based on the fact that the Alpha deposit, in contrast with typical oil shale deposits, can produce high-value bitumen and active carbon with the potential to deliver high-quality, value-added products through appropriate investment in processing infrastructure.

Preliminary investigation indicated that there will be high demand for all three products that the Alpha Project would produce (refined liquid petroleum products, high-quality bitumen products and active carbon products).

In line with this recommendation, Greenvale has requested that SRK develop an exploration work program plan where preliminary bulk samples are to be collected and analysed in 2020.

The work program is planned to be managed and largely undertaken in Queensland as this is likely to minimise issues associated with COVID-19 and travel restrictions.

The work program will initially focus on the extraction and analysis of torbanite and cannel coal bulk samples from one location with a view to producing value-added active carbon products.

Update and Overview of the Exploration Work Program

Why does Greenvale plan to use multiple vendors to support the exploration work program?

- The Alpha deposit does not align to conventional shale oil or coal deposits and a range of sampling and assaying techniques from both industries is required to characterise the raw coal and retorted and refined products.
- In order to fully characterise the deposit, it is anticipated that retort testing will need to be undertaken across a range of conditions which include:
 - Variation of sample size – noting that smaller particles are likely to yield hydrocarbons more quickly, but the spent shale may be of lower value;
 - Variation of retort temperature to confirm how different hydrocarbons are released at different temperatures;
 - Variation of retort time or retort cycling if a range of temperatures are optimal;
 - Cannel coal and torbanite to be assayed and evaluated separately; and
 - Spent shale, asphaltenes and hydrocarbons (liquid and gas) will also be assayed and analysed separately.

- The planned apparatus for retorting the coal will be a modified pottery kiln (electronic control) with steel retort cannisters, as this represents a cost effective option that enables a range of retort tests to be undertaken at low cost.
- A review of the service providers within Australia confirms that there is no individual group who can provide the full suite of assay services, and it is planned to use separate coal, petroleum, bitumen, and gas laboratories to complete the program.

What is the 2020 exploration work program budget?

The estimated preliminary bulk sampling program will cost up to \$300,000. This work is to include site survey, sample acquisition and laboratory costs. The estimate has been provided by Mr Ashley Ginn (SRK Principal Mining Consultant).

Summary of current status of the work program

Below is a summary of the current status of the work program:

- SRK and Greenvale have sourced a range of vendors who can support the planned 2020 exploration work program (collect and analyse a bulk sample of cannel coal and torbanite from one location);
- The retorting does not require high-temperature or high-pressure vessel and it is planned to fabricate a basic retort apparatus as alternatives using coal laboratories (coke ovens or furnaces) will be more difficult to implement and assaying (or testing) will be at a significantly higher cost;
- A significant quantity of bulk sample will be collected which will enable the coal and retorted products to be assayed across a range of locations at Brisbane, Gladstone and offshore (if required); and
- The initial assaying program will enable the basic retorted products to be characterised and it will be possible to extend the assaying program if more advanced testing is required as the unused sample will be stored for up to 12 months to enable further testing as required.

Licence Status and Update

The Queensland Department of Natural Resources Mines and Energy (**DNMRE**) have confirmed that the proposed bulk sampling program can proceed subject to authority conditions associated with environmental management, native title, land-holder and reporting aspects being managed appropriately.



The Company's tenement manager has confirmed that its MDL 330 Licence is in good standing.

Funding

The Company is currently working on funding plans and will advise shortly of its proposed direction.

Board approval

This announcement has been approved by the Board of Greenvale Energy Limited.

Contact details

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