13 March 2024

Alpha Torbanite Project – Development Update

GREENVALE TO ADOPT STAGED APPROACH AND TARGETS 100,000tpa BITUMEN PRODUCTION PLANT IN STAGE 1 AS PFS MOVES INTO FINAL STAGES

Early results from Test Program 4 support a long-life project capable of meeting accelerating domestic demand for bitumen from growing infrastructure needs.

Key Points:

- **Liquefaction Test Program 4 continues to make strong progress.**
- **Greenvale to adopt a staged development approach to bitumen production, with initial results supporting a conceptual design basis for an initial 100,000tpa bitumen processing plant at Alpha, increasing later to 200,000tpa.**
- **This would position Alpha to meet a portion of rapidly growing demand for bitumen and blended products to meet local supplier and infrastructure needs.**
- **Extended Liquefaction Test Program 4 expected to deliver robust oil yields.**
- **Pre-Feasibility Study (PFS) expected to be finalised in Q2 2024.**

Greenvale Energy Limited (ASX: GRV, "Greenvale" or "the Company") is pleased to provide an update on progress with the current Liquefaction Test Program ('Test Program 4') and delivery of the maiden Preliminary Feasibility Study (PFS) for its flagship 100%-owned Alpha Torbanite Project in Central Queensland.

The Alpha deposit is currently being analysed on a number of fronts in preparation for the delivery of the PFS. The key areas of mine planning, processing and product marketing are all taking shape, with considerable advancements also being made on the initial process plant design.

GRV is taking a staged approach to the project based on the development of two trains, with the design of Train 1 underpinned by the results from the completed Liquefaction Test Programs to date (Programs 1, 2 & 3) and preliminary indications from Test Program 4.

This information has informed the conceptual design basis of the plant, initially aimed at producing 100,000 tonnes of bitumen and blended products annually from 500,000 tonnes of mined resource.

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Train 2 would commence on completion of Train 1 construction and would increase annual production to 200,000 tonnes of bitumen by expanding the process plant and increasing mining by a further 500,000 tonnes, resulting an estimated mine life of 20 years.

The projected mine life of 20 years is based on preliminary assessments only and this could be further extended or expansion via an additional Train 3 could be contemplated if further exploration of the known 10km strike length and further metallurgical test work justifies it. It is important to note that this estimate, while useful for initial planning, does not fully reflect the mine's operational potential and resource base.

A more rigorous, data-supported evaluation of the Alpha Project's lifespan will be provided as part of the PFS.

Drawing on the preliminary insights from Test Program 4, together with the conclusive results received from the initial three Liquefaction Test Programs, the Train 1 process plant will be designed to produce 100,000 tonnes of bitumen and blended products annually, underpinned by a robust and data-driven foundation.

This is further substantiated by several key operational efficiencies and technological innovations identified through these test programs and the broader development of the project's PFS.

Firstly, the mining operation benefits from the straightforward extraction of ore from two distinct and relatively shallow seams, ensuring a reliable and consistent ore feed. The feasibility of blending different ore layers at the mine face guarantees a steady supply to the plant, supported by the ease of crushing and the consistently low moisture content of the deposit, which eliminates the need for additional drying processes.

The strategic choice of an oil-based carrier, together with the plant's ability to adjust product yield with minor adjustments in temperature and residence time, exemplifies the flexibility and responsiveness of the design to operational needs.

The cost-effectiveness and availability of the catalyst, combined with the simplicity and affordability of construction techniques for solids preparation and processing equipment, adds to the plant's operational viability. The design incorporates environmentally sustainable practices, such as early separation of asphaltenes, energy recovery from by-products and the recycling of oils, contributing to the plant's operational efficiency and environmental performance.

Additionally, specific treatment processes are employed to ensure that solids returned to the mine are devoid of volatile hydrocarbons, further demonstrating the project's commitment to minimizing its environmental impact. These operational insights, together with the commitment to tailoring products to meet local bitumen manufacturing demands, not only affirm the projected annual production volume but also enhance the plant's potential economic and environmental sustainability.

The final preliminary process plant design is reliant on proving up the deposit and process yields, work that Greenvale is currently completing.

As previously reported, the Company's current liquefaction testing regime has focused on the outcropping materials initially sampled when the program commenced some two years ago. The results to date have been extremely encouraging with the outcropping material achieving extremely high yields at temperatures of approximately 400°C.

The latest test program, Test Program 4, has seen the conditions under previous programs interrogated and then re-performed utilising core samples taken from a representative model across the maiden (2022) Mineral Resource Estimate (MRE) area.

On 13th November 2023, the Company announced a 51% increase in the size of the Alpha deposit (ASX Announcement: Substantial Increase to Alpha Resource). The updated Mineral Resource Estimate (MRE) saw a 9.4Mt increase in the total dry tonnes of the deposit, up from 18.6Mt in the maiden 2022 Resource, to 28Mt of combined cannelite and torbanite.

This significant increase in the size of the Alpha deposit has meant that, in order for the additional 9.4Mt of cannelite and torbanite to be included in final modelling for the PFS, a supplementary sampling and liquefaction testing campaign on samples selected from of the 20 additional HQ core holes completed in early October 2023 (see ASX announcement, 2 October 2023) will be undertaken in later stages.

The Company previously envisaged that Liquefaction Test Program 4 would be sufficient to extrapolate the yield calculations across the additional 9.4Mt of Resource.

However, after consulting with the Company's technical advisors, the Greenvale management team believes it is prudent to extend Test Program 4 to include samples from the core holes acquired in October 2023 which embrace both seams.

Given that Test Program 4 is nearing completion and that the testing apparatus, technical teams and third-party partners are all up to speed, it is not anticipated that the additional testing will result in a significant delay to the delivery of the PFS.

Assuming a smooth completion of this additional testwork, the Company expects to finalise and deliver the PFS in Q2 2024. This in turn will pave the way for off-take and strategic investment discussions that are likely to commence immediately after delivery.

Management Comment

Commenting on the latest progress, Greenvale CEO Mark Turner said: *"We are now well and truly at the pointy end of bringing everything together for the Alpha Project PFS. Liquefaction Test Program 4 is progressing well and delivering very promising results which support the design premise for a facility initially capable of producing 100ktpa of bitumen and blended products over a 20-year plant life with significant expansion potential beyond that to 200ktpa.*

"While the additional time required to extend Liquefaction Test Program 4 to include the additional Resource defined late last year is frustrating, we do not want to compromise the very high standard of work that has been put into this Project from the outset.

"All of the work completed to date points towards a very robust, long-life project with the potential to become a significant producer of bitumen and blended products into the domestic market in Australia. Given the forecast increase in demand for bitumen over the next decade, particularly from major infrastructure-driven projects such as those associated with the Brisbane Olympics in 2032, this is a very opportune time to be commercialising a project such as Alpha.

"While I appreciate the frustrations that our shareholders have experienced with the delays with the various test programs over the past year, I do feel that we are now closing-in on the delivery of what will be a pivotal document for the future of this Company.

"I would like to thank shareholders and investors for their patience and ask them to bear with us as we complete the final stages of the work programs required to deliver the PFS and get ready for what should be a very important 2-3 months ahead for Greenvale."

Technical Discussion

Studies undertaken so far have included:

- Variability in the Outcrop ply – Torbanite and the Cannelite yield.
- Impact of temperature on the extent of conversion on Outcrop and Core on an as received and dry ash free bases.
- Impact of the use of a standard liquefaction catalyst versus no added catalyst.
- Impact of water versus oil as the carrier fluid to support the liquefaction studies
- Impact of time on the extent of conversion.
- Comparison of yields versus Modified Fisher Assay conversions.

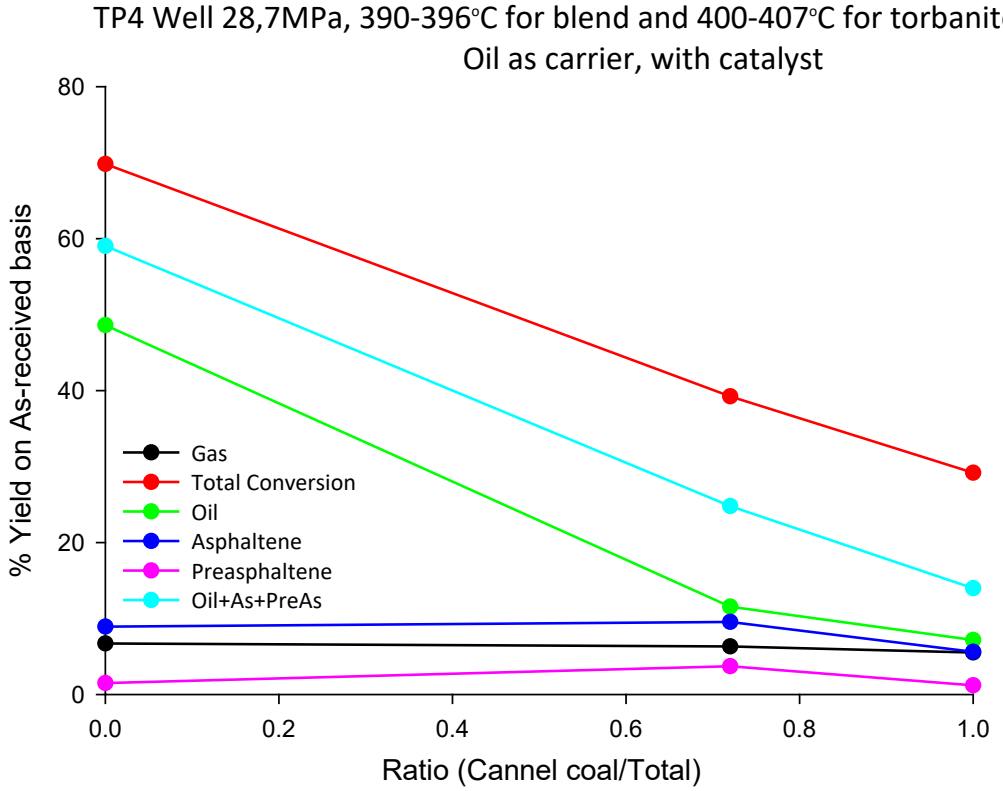
The products have been analysed from a number of perspectives:

Variable	Result	Compared with MFA
Gas yield	Yield is reasonably constant at about 8 wt% average	Gas yield is about 8 wt%
Oil Yield Cannelite	Oil yield increases with temperature, finding the best conditions is on going	Similar oil yields can be achieved
Oil yield on torbanite	Better than for Coaly Shale as anticipated and follows the MFA results	Oil yield equal to and better than have been achieved
Blends	Results are quite predictable by the ratio of the masses and the respective liquefaction yields of the different ply from the deposit	Similar outcomes as anticipated for blends of ply when undertaking MFA, as results are proportional to the amount of respective ply represented
Using toluene as carrier of solids for a batch test	A product which has properties of the top hardness bitumen used in Australia were produced.	While not representative of the process on the proposed plant it is a clear demonstration of the type of products which are possible. The bulk samples were prepared at low temperatures of about 360C, increasing this to 400C increases yields and lightens the products. These tests are on going
Using water as a carrier in liquefaction trials	Good asphalt and relative low oil yields were achieved. Optimal processing conditions are relatively difficult to achieve in a batch reactor so the oil carrier had been favoured	
Using a base lube oil as carrier	This shows promise with good yields above the proposed minimum are achievable. Yields better than MFA have been achieved, as is expected if the process has merit.	Ongoing work is nearing completion and the laboratory results will be added in to the development of the yield structure for the PFS.

Product is produced to achieve a high yield of the most productive blends:

- A range of samples have been produced for testing for use as and incorporating into bitumen.
- The campaigns are ongoing.
- The product quality will be targeting local bitumen main products which are based on viscosity.
- We have made very high viscosity over 880 Pa.sec close to the top hardness for locally used bitumen, this was derived from low temperatures (370 – 380C) and long residence times (over 60 minutes).
- Increasing the temperature of the reaction at lower residence times can reduce viscosity of the oil closer to the 160 Pa.s for the prime bitumen products.
- Australia imports about 1 million tonnes of bitumen annually. The supply of 100,000 tonnes would not greatly affect a market if the supply is regular and of uniform specification, which is the benefit of this process over the production of bitumen from potentially variable refinery heavy bottoms.

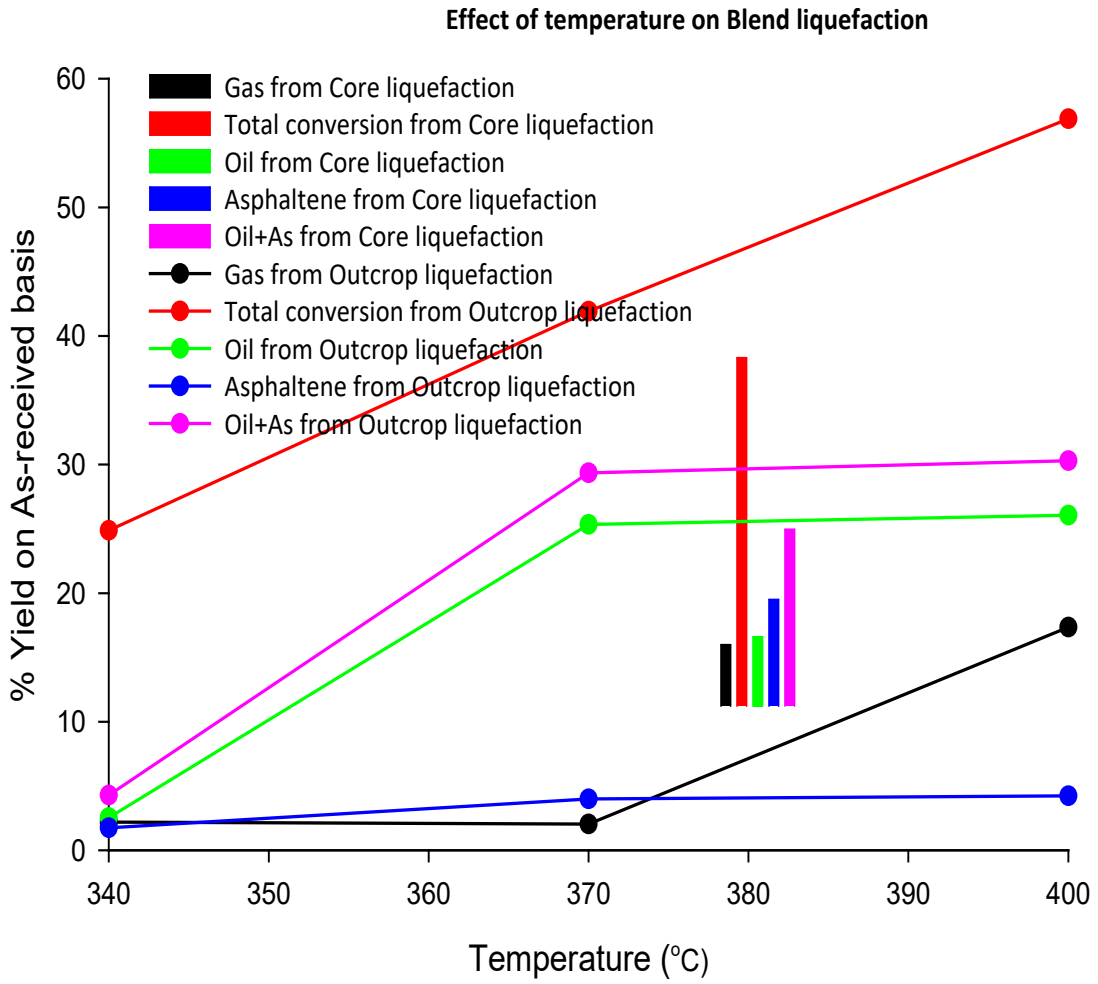
Figure 1.



The graph shows that processing of the cannelite and torbanite are not necessarily impacted by variations in their ratios, hence the blends of feed shale is a weighted average of their relative performance in isolation. This provides confidence that the processing yields for different blend ratios can be anticipated with confidence.

Figure 2

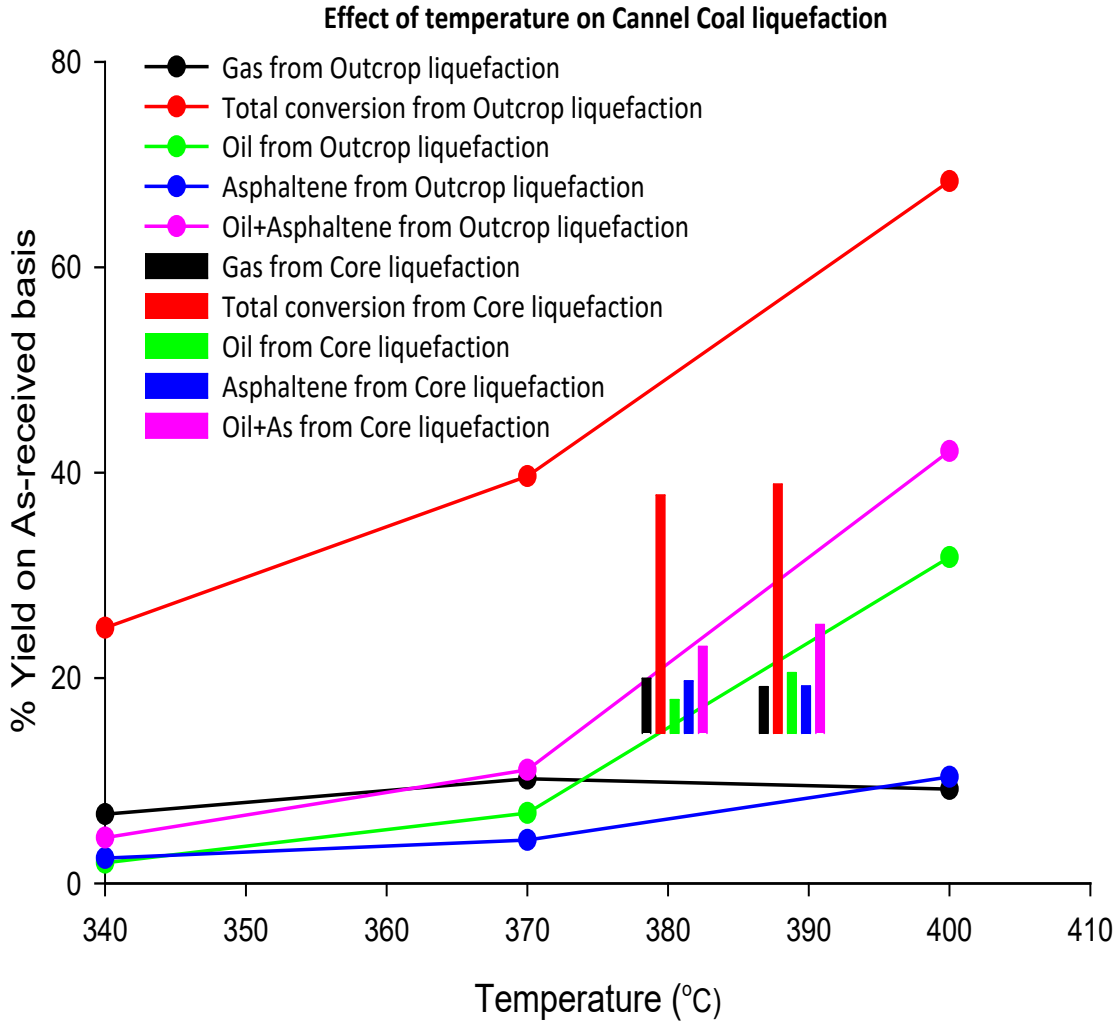
Comparison of yields for Outcrop materials (lines) versus Yields for Core samples for Cannelite



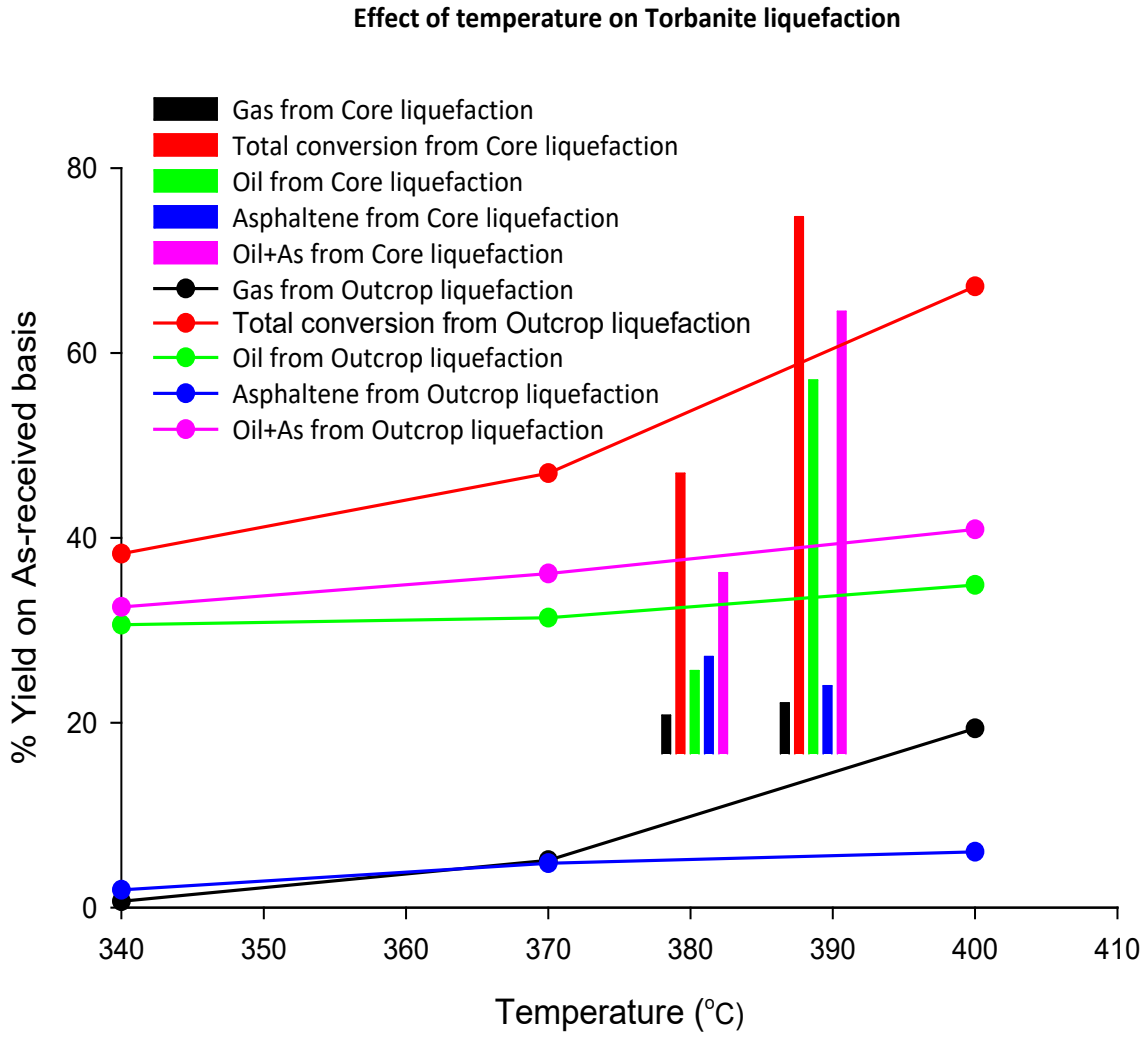
The results show similar yields for both Outcrop material (taken from the weathered zone) compared to Core taken from wells below the weathering zone. Outcrop material processes well compared with the Core material and should represent upside to the operation. Core material generally requires higher temperatures to achieve equivalent yields or a longer processing time.

In Figure 3 below, the yields from the cannelite require longer processing times. Results show that the desired conversion of 30 % is achievable and is largely unaffected by temperature for the Core, but the Outcrop materials were positively influenced by the increase in temperature towards 400C at longer residence times.

The process will be designed to achieve about 420C as a maximum to ensure the best results are achieved dependent on the feed material to the plant.



In the following graph, the impact of processing conditions on torbanite is shown for Outcrop and Core samples.

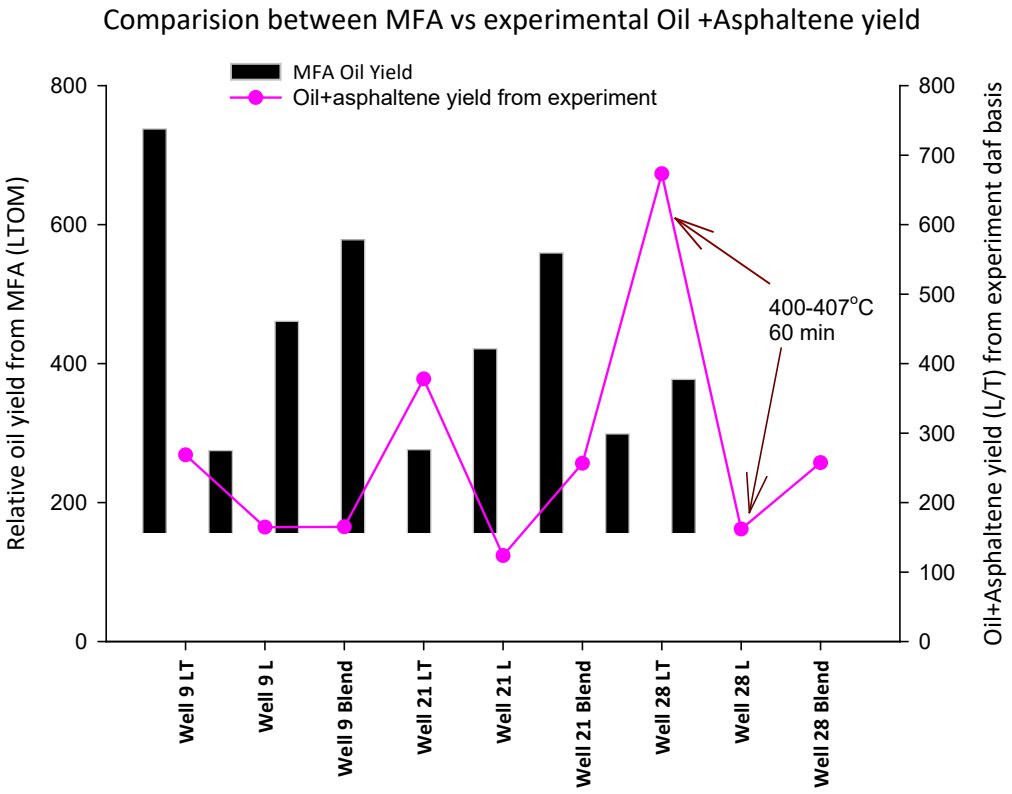


Only Three points were studies for Outcrop processing and so the lines are only an estimate of how yields vary with temperature. However the Core samples show the positive impact of only 10 degrees with overall conversion increasing from about 38 % to over 65% at 400C. Under these conditions the Torbanite Core has performed better than the outcrop material.

A further comparison of yields is being undertaken to compare liquefaction yields with standard MFA yields for a number of Wells.

Product yields can be as high as MFA or higher. Results show that Liquefaction does have advantages with the correct processing conditions as can be seen from the following graphs which is plotting MFA in Litres per dry tonne and the liquefaction yield also quoted in these terms using a Specific Gravity of 0.95.

Well 9 and Well 14 tests are being repeated by Monash to see if improved yields can be achieved in line with the later results for Well 28 under modified temperature and residence times.



Comparison between MFA and experimental oil + Asphaltene yield from Well 9, 21 and 28 torbanite and cannelite are shown.

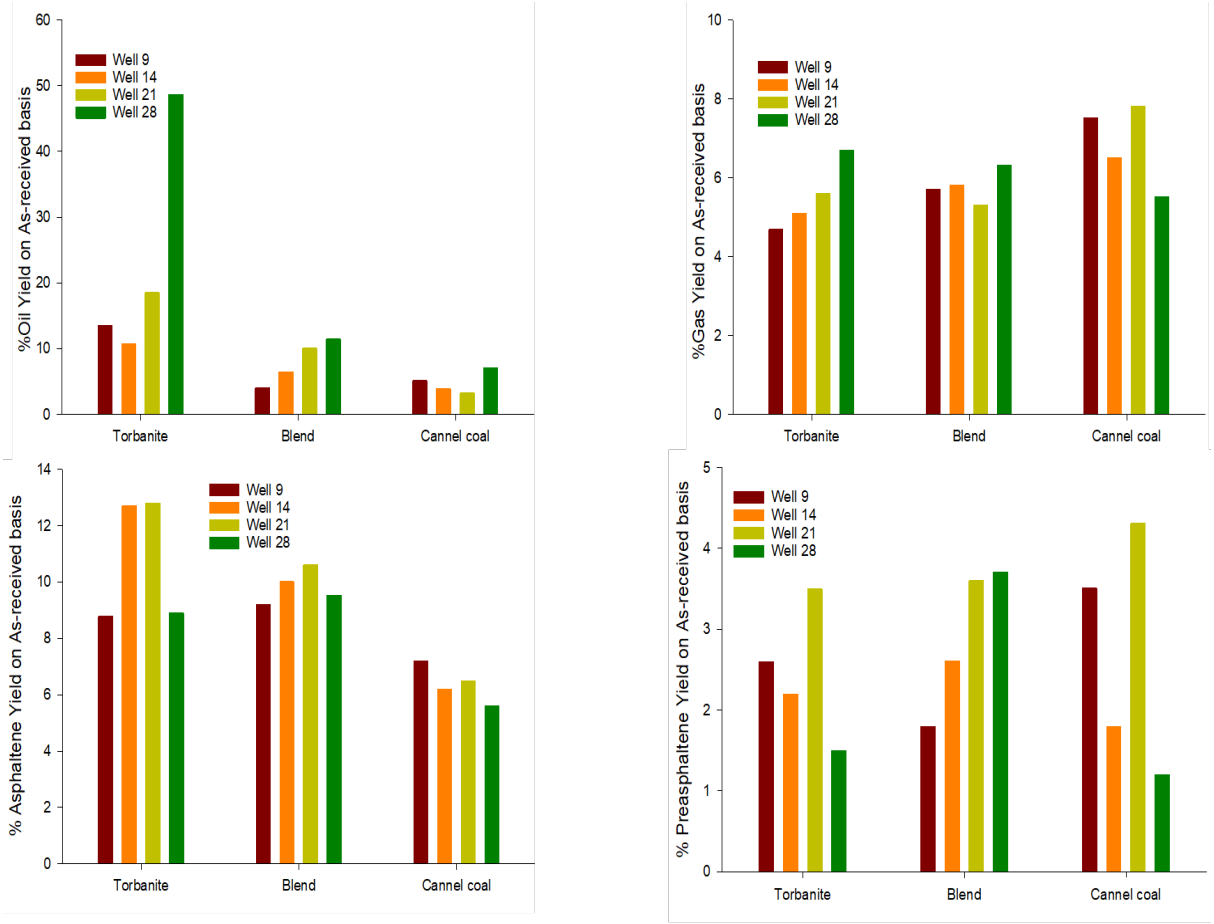
Note tests were conducted at 390 – 395 C for Wells 9 and 21 and higher for the torbanite and cannelite in Well 28 with conversion equal to or better than MFA for Well 28.

The tests on Well 9 were the first tests undertaken and the temperatures were lower at about 390C. Increasing the temperature and time for Well 28 show marked increase in conversion of torbanite to above the MFA yields.

Supporting tests to evaluate yields against an additional number of wells which contain Upper Seam material are being conducted to confirm the higher yields than MFA are achievable in preparation for the PFS.

Analytical results are still coming into provide more detail on the oil fractions produced and will be reported in due course.

The work to date is focused on an average yield of about 30 wt% of the mined material being processed into bitumen products on an average blend of torbanite with the cannelite. Where the torbanite concentrations are higher than there is potential for higher conversions than the target 30% average yield.



Comparison of product yields obtained from liquefaction of shale from different wells under TP4

Note high yield of oil from Torbanite on Well 28 is achieved at slightly higher temperatures (390 to 405 C) shows marked increase in conversion with negligible change in gas production and similar asphaltene contents. Confirmatory tests are being undertaken to demonstrate the higher yield can be achieved across other Wells.

The overall programs which are almost finished and together with the final laboratory analyses will provide added detail to the plant design and confidence in the yield values and the product structure of the yields.

Comparing different bore holes across the deposit under similar conditions provides a basis that the different ply will process comfortably to an average yield represented by the average mass portions of the yields of the separate ply. The test results also show that yield structure can be changed by relatively small variations in temperature and residence time to change products so as to make desirable products for the market.

Discussions are ongoing on the product and their quality to allow statements to be made in relation to the likely value of the products.

AUTHORISED FOR RELEASE:

The Board of Greenvale has approved this announcement for release.

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Competent Person's Statement:

The information in this report that relates to Exploration Results (Liquefaction Testwork 4 and yield data) is based on information reviewed 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 information in this report that relates to Exploration Results (Resource Estimation) 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.

FUTURE STATEMENTS

Statements contained in this release are or may be forward looking statements. Such statements relate to future events and expectations and as such involve known and unknown risks and significant uncertainties, many of which are outside the control of Greenvale. Actual results, performance, actions and developments of Greenvale Energy may differ materially from those expressed or implied by the forward-looking statements in this release. Such forward looking statements speak only as of the date of this release. There can be no assurance that actual outcomes will not differ materially from these statements. A number of important factors could cause actual results or performance to differ materially from the forward-looking statements. Investors should consider the forward-looking statements contained in this release in light of those disclosures. To the maximum extent permitted by law (including the ASX Listing Rules), Greenvale and any of its affiliates and their directors, officers, employees, agents, associates and advisers disclaim any obligations or undertaking to release any updates or revisions to the information in this release to reflect any change in expectations or assumptions; do not make any representation or warranty, express or implied, as to the accuracy, reliability or completeness of the information in this document, or likelihood of fulfilment of any forward-looking statement or any event or results expressed or implied in any forward-looking statement; and disclaim all responsibility and liability for these forward-looking statements (including, without limitation, liability for negligence). Nothing in this document will under any circumstances create an implication that there has been no change in the affairs of Greenvale since the date of this release.

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done; this would be relatively simple (e.g., 'reverse circulation drilling was used to obtain 1 m sample from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g., submarine nodules) may warrant disclosure of detailed information.	The samples refer to in this announcement were taken from the 2021 partly cored (4C – 100mm diameter) hole drilling program on a nominal 250 x 250m grid for the purpose of obtaining torbanite and cannel coal quality samples from the Upper and Lower seams. Refer to ASX Announcement date – 9 March 2022.
Drilling techniques	Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit, or other type, whether core is oriented and if so, by what method, etc.).	Not applicable to this announcement

Criteria	JORC Code explanation	Commentary
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	Not applicable to this announcement
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. The total length and percentage of the relevant intersections logged.	Not applicable to this announcement

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled.	8 Core samples from different holes in total have been prepared and held as sub 200 micron by ply Subsamples have been cut from the separate sub 200 micron samples of each ply which have been held in refrigeration for test program 4 including samples to Monash University and Licella.
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	Test Program 4 involved repeating the tests conducted on Outcrop material but now utilising core from 8 wells across the resource. A detailed range of tests have been performed to understand the core material and liquefaction tests using oil and water-based carriers have been conducted on the subsamples using standardised test procedures. Refer to ASX Announcement date – 27 December 2023.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data.	Torbanite and cannel coal quality results were verified by experienced SRK personnel before inclusion in the geological model and resource estimate and representative samples provided. Core samples from 8 wells has now been used from Greenvale storage sites and split by Greenvale contractors, prepared as sub 200 micron for each ply and held in closed labelled plastic bags and stored in a freezer.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	The wells chosen are 9, 14, 21, 28 for the initial work and further supplemented by wells 19, 128, 137, 138.

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td>Specification of the grid system used.
Quality and adequacy of topographic control.</td><td>
<table>
<tr><th>Well</th><th>Easting</th><th>Northing</th></tr>
<tr><td>9</td><td>482757</td><td>7333602</td></tr>
<tr><td>14</td><td>482872</td><td>7333231</td></tr>
<tr><td>21</td><td>483334</td><td>7332843</td></tr>
<tr><td>28</td><td>483813</td><td>7332150</td></tr>
<tr><td>19</td><td>482251</td><td>7332674</td></tr>
<tr><td>128</td><td>484816</td><td>7331276</td></tr>
<tr><td>137</td><td>480843</td><td>7332637</td></tr>
<tr><td>138</td><td>481532</td><td>7333468</td></tr>
</table>
There is high confidence in the location of data points associated with this announcement.
Refer to ASX Announcement date – 27 December 2023.</td></tr>
<tr><td>Data spacing and distribution</td><td>Data spacing for reporting of Exploration Results.
Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.
Whether sample compositing has been applied.</td><td>The wells were chosen to span the resource and intersect both seams and all 4 ply.</td></tr>
<tr><td>Orientation of data in relation to geological structure</td><td>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.
If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</td><td>All drill holes were drilled at 90° to the surface and are assumed to be vertical. Downhole verticality survey is available for all drill holes.</td></tr>
<tr><td>Sample security</td><td>The measures taken to ensure sample security.</td><td>Samples have been stored in dedicated freezers from the time the sample was acquired.</td></tr>
</table>

Criteria	JORC Code explanation	Commentary
		Sample transfer documents have been provided by the core holding laboratories and have been prepared to sub 200 microns and stored separately in labelled plastic bags in a Freezer.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits have been undertaken.

Section 2 Reporting of Exploration Results

(Criteria listed in section 1 also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	MDL 330 is held by Alpha Resources Pty Ltd, a subsidiary of Greenvale Energy Limited. MDL 330 was first granted on 1 February 2002. An application for a renewal for an additional 5-year term was submitted in July 2021 and approved in July 2022. The current 5-year term expires on 31 January 2027. MDL 330 covers an area of 1,904.5 ha.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Refer to ASX Announcement – 9 March 2022 and 13 November 2023.
Geology	Deposit type, geological setting and style of mineralisation.	The Alpha deposit lies within the axis of the Glen Avon Syncline, a southwest plunging fold structure that occurs on the eastern flank of the Galilee Basin. The deposit is part of the Permian Colinlea Sandstone, which contains 150 m of cross-bedded sandstones with minor conglomerates, siltstones and mudstones. The geology of the deposit consists of an Upper and Lower seam of cannel coal with a torbanite lens present in the lower seam. The Colinlea Sandstone is thought to be a lower delta plain deposit with the coal deposited in swamps and shallow lakes in this near shore environment. The torbanite is thought to have been deposited from algae in a lacustrine environment when water entering the system held little sediment or organic material.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole	Not applicable to this announcement

Criteria	JORC Code explanation	Commentary
	downhole length and interception depth hole length. If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values should be clearly stated.	Liquefaction tests are being conducted using samples from each seam, and blend samples representing the seams within a given borehole. The blend samples are prepared in portions relative to the thickness of each seam within a specific borehole.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the downhole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	Not applicable to the announcement
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Not applicable to the announcement
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high	Not applicable to the announcement

Criteria	JORC Code explanation	Commentary
	grades and/or widths should be practiced avoiding misleading reporting of Exploration Results.	

Criteria	JORC Code explanation	Commentary
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	

Wells	Ply	Carrier	Catalyst	Status	
				Completed	Pending
9	L	Oil	No	✓	
	LT	Oil	No	✓	
	Blend	Oil	No	✓	
9	L	Water	No	✓	
	LT	Water	No	✓	
	Blend	Water	No	✓	
TBD	TBD	Water	TBD		✓
14	Blend	Water	No	✓	
	Blend	Oil	Yes	✓	
	L	Oil	Yes	✓	
	LT	Oil	Yes	✓	
21	L	Oil	Yes	✓	
	LT	Oil	Yes	✓	
	Blend	Oil	Yes	✓	
28	L	Oil	Yes	✓	
	LT	Oil	Yes	✓	
	Blend	Oil	Yes	✓	
21	Blend	Oil	Yes		✓
28	Blend	Oil	Yes		✓

Tests have been undertaken at 390 – 405C and 4 – 6 MPa hydrogen overpressure. Sample sizes are approximately 10 grams and 2 wt % catalyst also added, in 30 grams of carrier oil with residence time of 30 minutes generally, two tests have been undertaken at 60 minutes at maximum temperature.
Also Refer to ASX Announcement – 17 May 2023

Criteria	JORC Code explanation	Commentary
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Test program 4 includes replicates of samples of wells 9 and 14 at higher temperatures and residence time of 60 minutes to compare best conditions noted for Well 28. Bulk samples of a blend from Well 19 are being prepared as this well has the largest sample size and will be compared with the laboratory test results. Further testing will be undertaken on bulk samples to determine product properties and use in producing bitumen.