RNS Number : 9005K
CleanTech Lithium PLC
05 November 2024

**5th November 2024**

**CleanTech Lithium PLC ("CleanTech Lithium" or the "Company")**
**Laguna Verde Operational Update**

CleanTech Lithium PLC (AIM: CTL, Frankfurt:T2N, OTCQX:CTLHF), an exploration and development companyadvancing sustainable lithium projects in Chile, provides an operational update on progress with the Laguna Verde pre-feasibility study ("PFS"), the 2024 exploration programme and Direct Lithium Extraction ("DLE") pilot plant process work to produce battery-grade lithium carbonate.

**Highlights:**

**Laguna Verde PFS Update**

- Location of preferred sites for carbonation plant in Copiapó and port facilities for export of final lithium carbonate product have been selected
- Power supply study completed evaluating options for onsite renewables which provides a competitive alternative to the base case of a transmission line and grid connection
- Option to utilise electric truck transport identified, lowers emissions and noise pollution, and by hauling from high to low altitude regenerative charging reduces power consumption
- Decision to configure project based on locating DLE plant at Laguna Verde and carbonation plant in Copiapó has numerous advantages contributing to a more robust PFS
- Engineering for this configuration has extended the expected PFS delivery to Q1 2025

**Exploration Programme and Pilot Plant Updates**

- Results from two completed wells and pump tests for the 2024 field programme have been received increasing knowledge of the resource and providing additional information for the hydrogeological model
- Downstream processing work from our pilot plant is progressing well with lithium carbonate production expected in November

**Investor webinar**

- CTL to host investor webinar on Tuesday 5th November at 17:00 GMT. Register here: https://www.investormeetcompany.com/cleantech-lithium-plc/register

**Steve Kesler, Executive Chairman and Interim Chief Executive Officer, CleanTech Lithium PLC, said:**

*"With the recent announcement by the Chilean Government to prioritise six salt flats, including Laguna Verde, to start the process of awarding Special Operating Lithium Contracts (CEOLs), we are focused on the key aspects to advance the project, being permitting, completion of the PFS and production of battery grade lithium carbonate from our pilot plant.*

*Progress has continued on central elements of the PFS with evaluation of plant location, power supply and transport options. As a leader in developing DLE based projects in Chile, we aim to enter production in 2027 when the lithium market is expected to rebalance, providing a strong long term growth outlook."*

**Further Information**

**Sites Selected for Carbonation Plant and Port for Export of Final Product**

As part of the ongoing PFS for the Laguna Verde project, a trade-off analysis was completed which determined the DLE plant and eluate concentration stages should be located at the Laguna Verde site, and the carbonation plant at the nearby mining centre of Copiapó. This was reported to the market on July 2, 2024. The re-configuration required a change in pre-engineering design provided by Lanshen Technology, the Company selected to provide the lithium processing plant design and equipment. This has extended the expected PFS completion, which was originally targeted for Q4 2024, into Q1 2025.

The Company has since undertaken studies to determine the ideal location of the carbonation plant in Copiapó and selected a site. After evaluating several options, a site in an industrial zone which by-passes to the south-east of Copiapó was chosen, as shown in Figure 1. This location has existing power and water supply options and provides a direct route to port.

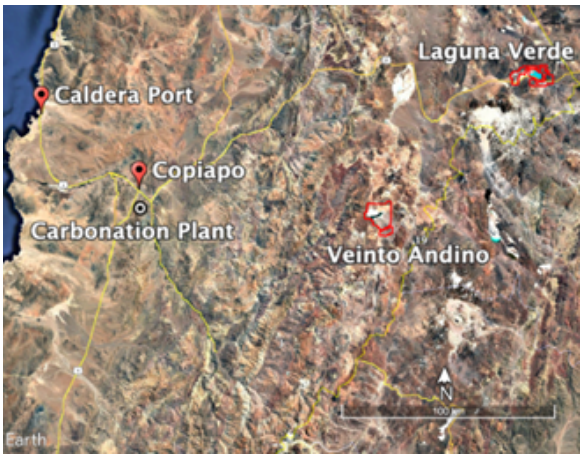


Figure 1: Carbonation Plant Location Map

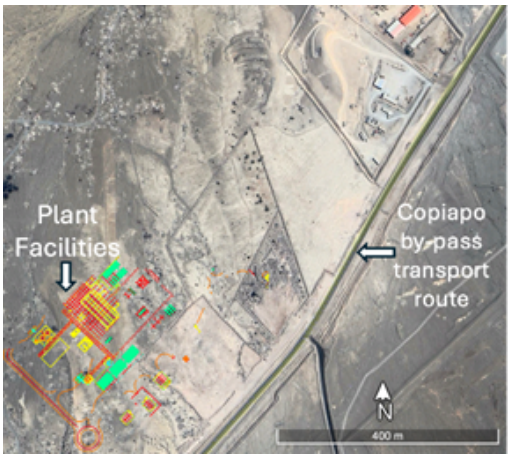


Figure 2: Carbonation Plant Design Layout

A trade-off analysis was undertaken to evaluate transport corridors and port facilities providing four different options for export of final lithium product. The study indicated that the nearby Caldera Port provides the most suitable option either utilising existing infrastructure which is currently utilised for seasonal shipment of agricultural products, shown in Figure 3. Other port options are also available and may come into consideration however Caldera Port is the current preference.


Figure 3: Caldera Port Existing Facilities

**Power Supply Alternative of Onsite Renewable Generation**

The Company engaged Chilean consultant Clean Power Hunters to undertake a power supply study to evaluate the option of using renewable power generated at the project site as an alternative to the base case of a transmission line and grid connection. Laguna Verde is located in the region with the highest solar irradiance in

the world, as shown in Figure 4. Analysis of estimated Capex and Opex was provided based on different configurations of onsite renewables, either solar plus a battery energy storage system (BESS) or solar plus wind plus BESS. Figure 5 shows the lowest Capex corresponds to combining solar with three wind turbines plus BESS.

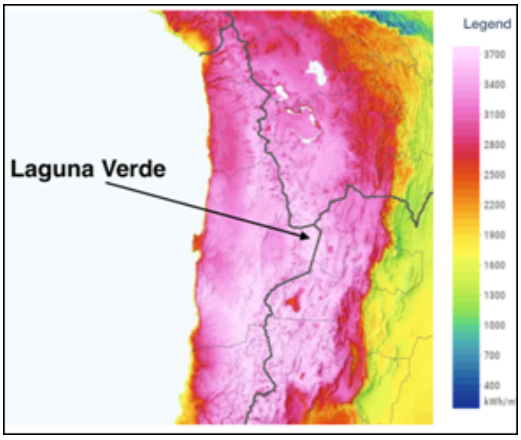



Figure 4: Solar Irradiance Map

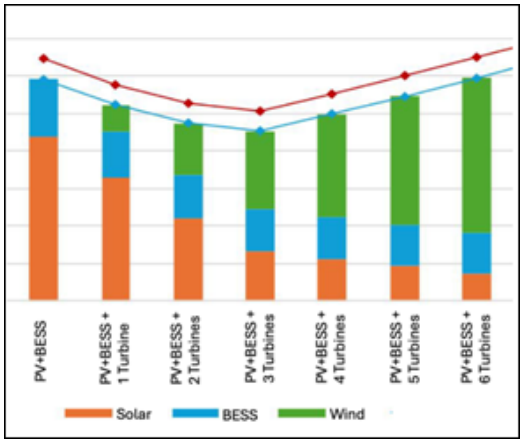



Figure. 5: Solar + Wind + BESS Scenarios Capex Split

The Company has received proposals including from major global solar plus BESS suppliers, consistent with the costs estimated in the study and competitive with the grid connection option. The financing model for both the grid connection model or the alternative of onsite renewables is expected to be based on a power purchase agreement and a build own operate basis by established suppliers. These proposals will be built into the PFS and the commercial analysis of the project.

**Truck Transport Study**

Based on the outcome of the plant location study the Company will transport 6% Li in solution post the DLE and concentration stages at Laguna Verde to the carbonation plant. Use of standard and electric trucks is being compared with the latter providing several potential benefits in addition to cutting $CO_2$ emissions. Electric trucks are well suited to hauling loads from high to low altitudes by taking advantage of regenerative charging to reduce power consumption and required battery capacity. Minimal noise and elimination of tailpipe emissions is particularly attractive considering the transport route traverses an indigenous community settlement approximately 100km from the project site, a community the company has been working with closely.

The Company has gathered insight from several potential suppliers. Chinese company XCMG is a leader in electric trucks and is actively expanding its offering in Chile, with its E7-49T model which has a haulage load of 49 tonnes potentially providing a suitable option. The technology is evolving rapidly and is expected to provide a strongly cost competitive option in line with the project development timeline.




Figure. 6: XCMG´s range of electric transport trucks



Figure. 7: Paved Highway to Laguna Verde

**2024 Exploration Programme Update**

CleanTech Lithium´s 2024 drilling programme anticipated to drill five new resource wells, as shown in Figure 8, with the aim of upgrading the existing Measured and Indicated resource into maiden Reserves for the Laguna Verde project. The existing JORC compliant resource estimate of 1.8 million tonnes of lithium carbonate equivalent (LCE) is based on six wells completed in 2022 and 2023. The Company engaged Montgomery & Associates Consultores Limitada ("Montgomery" or "M&A"), a leading hydrogeological consultant, for the programme. During 1H 2024, two of the five resource wells were completed being LV07 and LV11, along with three observation wells drilled to support observations during pumping tests, before winter conditions curtailed the programme in June 2024. The full 2024 programme is paused until further funding is available following the Company´s planned ASX fund raising and as a result Montgomery has produced an interim report on work completed.

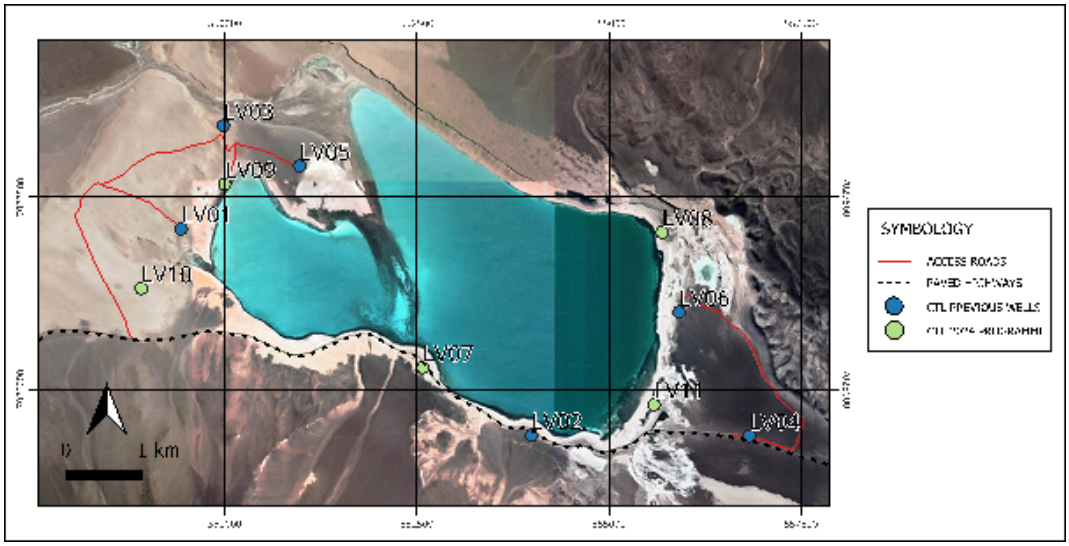



Figure 8: Laguna Verde Drilling Wells Map - Show original figure

Drilling activities for exploration borehole LV07 reached a final depth of 650m below land surface. This well was drilled with PQ3 diameter from land surface to 300m, and with HQ3 diameter from 300m to 650m. Packer samples were obtained during drilling for 2-meter packer intervals and the volume of the well was purged at least one time before obtaining the sample. Assuming a lithium cut-off grade of 100 mg/L, the average lithium grade of the packer samples corresponds to 139 mg/L with the well encountering lower density water in the upper 150m.

In contrast to LV07, drilling at LV11 did not reach the anticipated depth due to the presence of hydrothermal waters (under pressure) which were encountered during drilling, with a final depth of 412.8m below land surface. Assuming a lithium cut-off grade of 100 mg/L, the average lithium grade of the packer results would correspond to 131 mg/L. In general, it is believed that lithium grades decrease below 220m at LV11 due to the presence of dilute hydrothermal waters which were encountered during drilling. The presence of hydrothermal waters in the eastern portion of the Project are more dilute than the average lithium grade measured in other exploration wells.



Figure 9: Drilling at LV07 in 1H 2024

**Lithology and Drainable Porosity**

Based on core retrieved from drilling, the most predominant lithology encountered corresponds to a volcanic tuff with variable levels of consolidation and welding based on the depth and location. As determined by relative brine release testing at Geosystems Analysis (GSA) laboratory in Tuscon, USA, drainable porosity values of collected core samples from LV07 and LV11 range from 0.3% to 9.2%, with an arithmetic average of approximately 4%; this is considered by Montgomery to be reasonable for the encountered lithologic units based on visual inspection of the core.

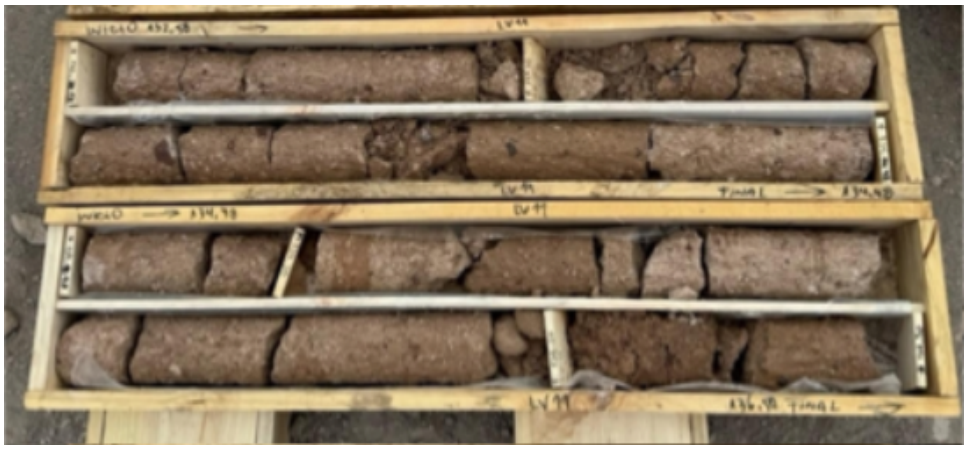


Figure 10: Example of Drill Core from Exploration Borehole LV11 (132 to 136m)

**Hydrogeological Evaluation**

In addition to resource drilling, the 2024 campaign aimed to complete pump tests to evaluate the feasibility of lithium brine extraction for the Project and to also estimate aquifer parameters. Prior to the winter break, three observation wells were completed and initial variable rate step tests and a constant rate flow test undertaken. The intended long duration pump tests at well LV05 was not able to be completed, however a 7-day pumping test was successfully completed at LV06. With data obtained to date, Montgomery is able to continue refining the hydrogeological modelling that will feed into the design of the extraction and reinjection well fields for the PFS. A key aspect is to ensure no impact on surface water bodies.

## Recommendations and Next Steps

Based on the obtained results from the 2024 exploration programme, recommended priorities for continued exploration include additional drilling and testing in the western portion of the Project concessions. A long-term pump test at LV05 (as part of the planned reinjection test) will

also aid in demonstrating feasible extraction and reinjection to the west of the basin. A long-term test at LV05 will also allow for a better understanding of the hydraulic connection between the deep and shallow aquifers in that area.

On the completion of the 5 well programme as originally planned for 2024, the existing JORC compliant resource estimate of 1.8 million tonnes will be updated and a Reserve estimate will be calculated for the project. The Reserve calculation is the economically mineable part of the Measured and/or Indicated resource and this will be defined by the PFS data demonstrating that extraction could reasonably be justified. Progress continues on the PFS and the remaining planned wells will be completed as funds are available following completion of the planned ASX capital raising.

**Pilot Plant Update**

Downstream conversion of concentrated eluate from the Company´s pilot plant into battery grade lithium commenced last week at the facilities of Conductive Energy in Chicago, USA. The initial volume of 88m$^3$ of concentrated eluate from Laguna Verde, equal to approximately one tonne of lithium carbonate equivalent ("LCE"), will be processed in four batches with the first batch expected to produce a volume of battery-grade sample product in November. With this product, the Company plans to engage with strategic partners for product qualification.


**For further information contact:**

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| James Asensio | |


**Competent Persons**

The following professionals act as Competent Persons (CPs), as defined in the AIM Note for Mining, Oil and Gas Companies (June 2009) and JORC Code (2012):

Mike Rosko and Brandon Schneider of M&A are Registered Members of the Society of Mining, Metallurgy, and Exploration and have functioned as CPs for lithium brine projects under Canadian, Australian, and United States technical reporting standards. Their relevant experience includes:

- Mike Rosko has been estimated lithium brine resources since 2010, and has functioned as a CP for Lithium One's Sal de Vida project, Millennial Lithium's Pastos Grandes project, Lithium Chile's Salar de Arizaro project, NOA Lithium's Rio Grande project, Lithium America's Cauchari project, Wealth Minerals' Salar de Ollague project, Gangfeng's Mariana project, Eramine's Centenario/Ratones project, Posco Lithium's Sal de Oro project, Pepennini's Salar de Pular project, and others, and has prepared numerous third party due diligence and independent geologist reports in Argentina, Chile, and the United States.
- Brandon Schneider specializes in lithium brine reserve estimates, variable density flow modeling, and optimization of brine pumping in salt flats of Argentina and Chile. He has functioned as a CP for the Sal de Vida Project of Arcadium Lithium and Salar de Arizaro Project of Lithium Chile and was responsible for the reserve estimate and projected wellfield design. He also collaborates on the lithium brine exploration phases, resource estimation, and due diligence reviews for lithium brine projects.

*Beaumont Cornish Limited ("Beaumont Cornish") is the Company's Nominated Adviser and is authorised and regulated by the FCA. Beaumont Cornish's responsibilities as the Company's Nominated Adviser, including a responsibility to advise and guide the Company on its responsibilities under the AIM Rules for Companies and AIM Rules for Nominated Advisers, are owed solely to the London Stock Exchange. Beaumont Cornish is not acting for and will not be responsible to any other persons for providing protections afforded to customers of Beaumont Cornish nor for advising them in relation to the proposed arrangements described in this announcement or any matter referred to in it.*

**Notes**

CleanTech Lithium (AIM:CTL, Frankfurt:T2N, OTCQX:CTLHF) is an exploration and development company advancing lithium projects in Chile for the clean energy transition. Committed to net-zero, CleanTech Lithium's mission is to become a new supplier of battery grade lithium using Direct Lithium Extraction technology powered by renewable energy.

CleanTech Lithium has two key lithium projects in Chile, Laguna Verde and Viento Andino, and exploration stage projects in Llamara and Arenas Blancas (Salar de Atacama), located in the lithium triangle, a leading centre for battery grade lithium production. The two most advanced projects: Laguna Verde and Viento Andino are situated within basins controlled by the Company, which affords significant potential development and operational advantages. All four projects have good access to existing infrastructure.

CleanTech Lithium is committed to utilising Direct Lithium Extraction with reinjection of spent brine resulting in no aquifer depletion. Direct Lithium Extraction is a transformative technology which removes lithium from brine with higher recoveries, short development lead times and no extensive evaporation pond construction. www.ctlithium.com

****ENDS****

# APPENDIX

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 (eg cut channels, random chips, or specific specialised industry standard measurement tools* | · Sub-surface brine samples were obtained using six different methods: Packer sampling, PVC airlift sampling, disposable bailer sampling, |

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| | *appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.*<br>· *Include reference to measures taken to ensure sample representativity and the appropriate calibration of any measurement tools or systems used.*<br>· *Aspects of the determination of mineralisation that are Material to the Public Report.*<br>· *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples 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 (eg* | electric valve bailer sampling, HydraSleeve sampling, and composite brine sampling during pumping tests.<br>· Brine water samples were taken from the surface of the lagoon, in an 800 m sampling grid, including eight sampling duplicates at random locations. The samples were taken from a 0.5 m depth, and for positions with a depth above 5 m, a bottom sample was also obtained.<br>· In the field, electrical conductivity and temperature were measured for every sample with a Hanna Multiparameter device. All materials and sampling bottles were first flushed with brine water before being filled.<br>· For every sample, 2 liters of brine were obtained with a 1-liter double valve bailer, using a new bailer for each sampling position. All materials and sampling bottles were first flushed with 100 cc of brine water before receiving the final sample. Electrical conductivity was measured for every sample with a Hanna Multiparameter model HI98192. The last two samples that had similar stabilized electrical conductivity values were identified as the primary and duplicate samples.<br>· For the packer sampling, a packer bit tool provided by the drilling company (Big Bear) was used. Once the sampling support was sealed, a |
| | *submarine nodules) may warrant disclosure of detailed information.* | purging operation took place until no drilling mud was detected. After the purging operation, a half an hour waiting period took place to let brine enter to the packer tool before sampling with a double valve bailer.<br>· Successive 1-liter samples were taken every 30 minutes with a double valve bailer.<br>· Packer samples were obtained approximately every 18 m.<br>· PVC casing suction brine samples were extracted after well development. Once the well was clean and enough water was purged (at least three times the well volume), the PVC casing suction samples were taken from bottom to top while the 2-inch PVC was extracted from the well. A 20-liter bucket was filled with brine and samples were obtained from the bucket once the remaining fine sediments were decanted.<br>· Brine airlift samples were taken every 6 m.<br>· Disposable bailer samples were obtained by JCP Ltda. specialists in water sampling. Samples were taken from the interest depths with a double valve disposable bailer. The bailer was lowered |

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| | | and raised with an electric cable winch to maintain a constant velocity and avoid bailer valves opening after taking the sample. A new bailer was used for each well.<br><br>· Disposable bailer samples were obtained every 6 m.<br><br>· In the first quarter of 2023, electric bailer samples were taken from wells LV05, LV06, and LV02 after their proper development. Depth-specific samples were obtained with a 1- liter electric bailer. This sampling process was undertaken by Geodatos specialists.<br><br>· On all sampling procedures the materials and |
| | | sampling bottles were first flushed with 100 cc of brine water before receiving the final sample.<br><br>· Packer samples were taken in wells LV01, LV02, LV03, LV07, and LV11. Airlift samples were obtained from wells LV01, LV04, LV05, and LV06. Disposable bailer samples were taken in wells LV01 and LV02. Electronic bailer samples were obtained from wells LV02, LV05, and LV06. HydraSleeve samples were taken from LV04 and LV11. Composite brine samples from pumping tests were taken at wells LV05 and LV06. |
| *Drilling techniques* | · *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).* | · Diamond drilling with a PQ3 diameter was used to drill wells LV01 and LV03 to a depth of 320 m. Below that depth, the drilling diameter was reduced to HQ3.<br><br>· At wells LV02 and LV04, diamond drilling with a PQ3 diameter was used to their final depth.<br><br>· For both diameters, a triple tube core barrel was used for the core recovery.<br><br>· Except for drillhole LV04, custom-made packer bits provided by Big Bear were used to obtain brine samples.<br><br>· Drillholes LV01, LV02 and LV04 were cased with 3" PVC and silica gravel. LV03 was not cased due to well collapse and tool entrapment.<br><br>· Wells LV05 and LV06 were drilled using the flooded reverse drilling method with a 14 ¾ inch diameter to their final depths. Both wells were cased with 8-inch PVC and gravel pack.<br><br>· Diamond drillholes LVM05a and LVM06c were drilled with a HQ3 diameter from surface to the final depth. LVM05b was drilled with Tricone 3 7/8" diameter from land surface to 41.5 m. |

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| | | · Diamond drillhole LV07 was drilled with PQ3 diameter from land surface to 300 m, and with HQ3 diameter from 300 to 650 m.<br><br>· Diamond drillhole LV11 was drilled with PQ3 diameter from land surface to 254 m with no recovery in the first 50 meters, and it was drilled with HQ3 diameter from 254 to 412.85 m.<br><br><u>*Development operations*</u><br><br>· After PVC casing and silica gravel installation took place at the exploration wells, a development process was undertaken to ensure clean aquifer water was available during sampling. The well development included injection of a hypochlorite solution to break the drilling additives, and purging via airlifting of a minimum three well volumes was undertaken to clean the cased well from drilling mud.<br><br>· The developing process was made using a small rig, a high-pressure compressor and 2-inch threaded PVC that can be coupled to reach any depth. The purging/cleaning operation was made from top to bottom, injecting air with a hose inside the 2-inch PVC and "suctioning" the water to emulate a reverse circulation (airlift) system. |
| *Drill sample recovery* | · *Method of recording and assessing core and chip sample recoveries and results assessed.*<br>· *Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br>· *Whether a relationship exists between sample recovery and grade and whether sample bias may have* | · Diamond core recovery was ensured by direct supervision and continuous geological logging in the field.<br><br>· For wells drilled using the flooded reverse drilling method, drill cuttings were collected in 10 kg sample bags for geological logging and tests purposes. Direct supervision and continuous geological logging were applied to ensure reliable recovery and descriptions. |
| | *occurred due to preferential loss/gain of fine/coarse material.* | |
| *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.*<br>· *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*<br>· *The total length and percentage of the relevant* | · Geological logging took place continuously during drilling in the field. Descriptions were done by CleanTech and M&A.<br><br>· Logging forms were prepared prior to field work and were used to ensure the same information and style was used regardless of the field geologist. |

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| | *intersections logged.* | |
| *Sub-sampling techniquesand sample preparation* | · *If core, whether cut or sawn and whether quarter, half or all core taken.*<br>· *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*<br>· *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*<br>· *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*<br>· *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.*<br>· *Whether sample sizes are* | · During the brine batch preparation process, the samples were transferred to new sampling bottles. Quality control samples, including standards (internal standards composed of a known stable brine), duplicates, and blank samples (distilled water) were randomly included in the batch. After quality control sample insertion, all samples were re-numbered before submitting to laboratory. Before transferring each sample, the materials used for the transfer were flushed with distilled water and were then shaken to remove water excess, avoiding contamination. |
| | *appropriate to the grain size of the material being sampled.* | |
| *Quality of assay data andlaboratory tests* | · *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*<br>· *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.*<br>· *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.* | · Brine samples were assayed by ALS Life Science Chile laboratory (ALS), for Li, K, B, Mg, Ca, Cu, and Na using the ICP-OES method described on QWI-IO-ICP-OES- 01 Edition A, Modification 0 EPA 3005A; EPA 200.2.<br>· For density measurements, the method described by Thompson and Troeh Y "Los suelos y su fertilidad." 2002. Editorial Reverté S.A. Cuarta Edición. Págs.75-85, was used.<br>· Chlorine determination was done based on Standard Methods for the Examination of Water and Wastewater, 23rd Edition 2017.Método 4500-Cl-B QWI-IO-Cl-01 Emisión B, mod. 1. SM 4500-Cl- B, 22nd Edition 2012.<br>· Total Dissolved Solid (TDS) determination was done using the method described on INN/SMA SM 2540 C Ed 22, 2012.<br>· Sulfate was analyzed according to the method described in INN/SMA SM 4500 SO4-D Ed 22, 2012.<br>· Duplicates were obtained randomly during brine sampling. Also, blanks (distilled water) and standards were randomly inserted during the laboratory batch preparation. |

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| | | · The 2022 standards were prepared by the Universidad Católica del Norte, Chile using a known stable brine. Standard nominal grade was calculated in a round-robin process that included four laboratories. The ALS laboratory was validated during the round-robin process.<br><br>· Check samples composed by standards, duplicates, and blanks were inserted at a rate of one for each 20 original samples during the year 2022. |
| | | · After the year 2023, quality control samples were inserted at a rate of one every 10 original samples. For the 2023 QA/QC process, a new set of standards was internally prepared using 200 liters of brine obtained from well LV02 during the development process. Standard nominal lithium grade was calculated in a round-robin process that included four laboratories.<br><br>· For the 2024 sampling campaign, duplicates, standards, and blanks were utilized during brine sampling and were submitted for analysis. Standards for the 2024 campaign were prepared in the University of Antofagasta. Quality control samples were inserted at a rate of approximately one every 10 original samples.<br><br>*Geophysics:*<br><br>· To determine the lake bathymetry, a Garmin Echomap CV44 and Eco Probe CV20-TM Garmin were used. The equipment has a resolution of 0.3 ft and maximum depth measurement of 2,900 ft. The bathymetry data was calibrated using a density of 1.14 g/cm$^3$.<br><br>· For the TEM geophysical survey, a Zonge multipurpose digital receiver model GDP-32 and TEM transmitter model ZT-30 were used.<br><br>· For the first survey campaign in May 2021, a coincident transmission/reception loop was utilized with 11 lines and a 400 m separation. 167 stations where designated with a 100x100 m$^2$ loop and four stations with a 200x200 m$^2$ loop; a survey depth of 300 m and 400 m was reached, respectively.<br><br>· For the second TEM geophysical survey in March 2022, 32 TEM stations were surveyed which utilized six lines and a 400 m separation. A coincident loop Tx=Rx of 200 x 200 m$^2$ |
| | | allowed for the investigation to a depth of 400 m. |

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| | | · For the third TEM geophysical survey in January 2023, 14 TEM stations were surveyed with two lines and a 400 m separation. A coincident loop Tx=Rx of 200x200 $m^2$ allowed for investigation to a depth of 400 m.<br><br>· The equipment used for the gravity survey was a Scintrex portable digital model CG-5 Autograv, "microgravity meter", with a 0.001 mGal resolution as well as a tidal, temperature, pressure, and automatic leveling correction system.<br><br>· The topographic data measured during the gravity survey was acquired with a double frequency differential positioning equipment, brand CHC NAV, model I-80 GNSS, that consists of two synchronized instruments, the first of which was fixed at a known topographic station, and the other that is mobile through the surveyed gravimetric stations.<br><br>· In January 2023, a gravity survey was made consisting of 111 stations, with a separation of 200 m to 300 m, and arrangement through four lines around the lagoon area. |
| *Verificationof sampling and assaying* | · *The verification of significant intersections by either independent or alternative company personnel.*<br>· *The use of twinned holes.*<br>· *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*<br>· *Discuss any adjustment to assay data.* | · The assay data was verified by M&A and C. Fedderson based on the assay certificates.<br><br>· Data from bathymetry and geophysics was used as delivered by Servicios Geológicos Geodatos SAIC.<br><br>· Geological logs were managed by the geology contractor GEOMIN and were checked by the Competent Persons.<br><br>· Brine samples batches were prepared personally by the competent person, JCP Ltda., Geomin SpA or according to Competent Person's instructions. All data was stored in Excel files. |
| *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.*<br>· *Specification of the grid system used.*<br>· *Quality and adequacy of topographic control.* | · Sample coordinates were obtained with a non-differential hand-held GPS unit.<br><br>· The bathymetry coordinates in Laguna Verde were obtained by a Thales Navigation differential GPS system, which consists of two GPS ProMark3 devices designed to work in geodesic, cinematic, and static modes of high precision, where one of the instruments was installed as a base station and the other on board of the craft.<br><br>· The TEM geophysical survey coordinates were obtained with a non-differential hand-held GPS unit.<br><br>· Drillhole collars were obtained with a non-differential hand-held GPS unit. Positions were verified by the mining concession field markings. |

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| | | · Gravity stations were located with double frequency differential positioning equipment, brand CHC NAV, model I-80 GNSS, that consists of two synchronized pieces of equipment, one fixed at a known topographic station, and the other mobile at the surveyed gravity stations.<br><br>· The coordinate system is UTM, Datum WGS84 Zone 19S.<br><br>· Topographic control is not considered critical as the lagoon and its surroundings are generally flat lying and the samples were definitively obtained from the lagoon.<br><br>· Location points were not surveyed at the Llamara and Atacama concessions. |
| *Dataspacing and distribution* | · *Data spacing for reporting of Exploration Results.*<br>· *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.*<br>· *Whether sample compositing has been applied.* | · The geochemical lagoon sample spacing was approximately 800 m, covering the entire lagoon area.<br><br>· Packer brine samples were taken vertically every 18 m.<br><br>· PVC bailer samples (disposable and electric) were taken vertically every 6 m.<br><br>· For bathymetry, two grids were used, one of 400 m and the other of 200 m in areas where the perimeter has more curves.<br><br>· For TEM geophysical surveys, the distance between stations was 400 m.<br><br>· For the gravimetric survey, the distance between stations was 200 - 300 m.<br><br>· The author believes that the data spacing and distribution are sufficient to establish the degree of geological and grade continuity appropriate for the Resource Estimate. |
| *Orientationof data inrelation togeological structure* | · *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*<br>· *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias,* | · The lagoon in Laguna Verde is a free water body and no mineralized structures are expected in the sub-surface deposits. |

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| | *this should be assessed and reported if material.* | |
| *Sample security* | · *The measures taken to ensure sample security.* | · All brine samples were marked and kept on site before transporting them to the Copiapó city warehouse where the laboratory sample batch was prepared and stored in sealed plastic boxes. Subsequently, the Laguna Verde samples were sent via courier to the ALS laboratory in Antofagasta. The transport of samples was directly supervised by the Competent Person.<br><br>· ALS laboratory personnel reported that the samples were received without any problem or disturbance. |
| *Audits orreviews* | · *The results of any audits or reviews of sampling techniques and data.* | · The assay data was verified by M&A and C. Fedderson against the assay certificates.<br><br>· The July 2021 JORC technical report was reviewed by Montgomery & Associates Vice President and CP Michael Rosko, MS PG, SME Registered Member #4064687. In the report, he concludes that "The bulk of the information for the Laguna Verde exploration work and resulting initial lithium resource estimate was summarized Feddersen (2021). Overall, the CP agrees that industry-standard methods were used, and that the initial lithium resource estimate is reasonable based on the information available".<br><br>· The September 2022 JORC Report Laguna Verde Updated Resource Estimation Report, and data acquisition and QA/QC protocols were audited on October, 2022 by Don Hains, P. Geo. from Hains Engineering Company Limited (D. Hains October 2022 QA/QC Procedures, Review, Site Visit Report).<br><br>· Hains concluded that "The overall QA/QC procedures employed by CleanTech are well documented and the exploration data collected and analysed in a comprehensive manner. There are no significant short comings in the overall programme."<br><br>· With respect to the exploration program, Hains |
| | | stated that "the overall exploration program has been well designed and well executed. Field work appears to have been well managed, with excellent data collection. The drill pads have been restored to a very high standard. The TEM geophysical work has been useful in defining the extensional limits of the salar at Laguna Verde".<br><br>· With respect to specific yield, Hains stated that "RBRC test work at Danial B. Stevens Associates has been well done. It is recommended obtaining specific yield data using a second method such as centrifuge, nitrogen permeation or NMR. The |

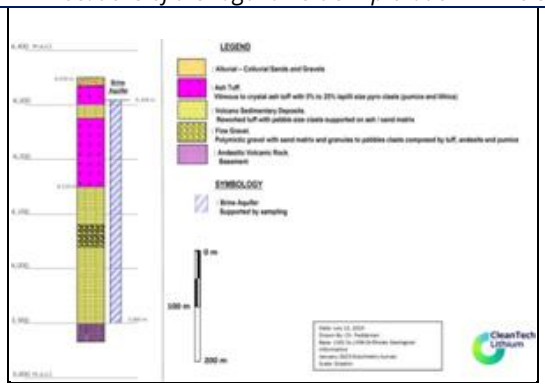
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| | | available RBRC data indicates an average Sy value of 5.6%. This is a significant decrease from the previously estimated value of approximately 11%. The implications of the lower RBRC value in terms of the overall resource estimate should be carefully evaluated".<br><br>· Several recommendations were made by Mr. Hains in his report to improve the QA/QC protocols, data acquisition, assays, presentation, and storage. His recommendations have been considered and included in the exploration work schedule since October 2022. |

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

| **Criteria** | **JORC Codeexplanation** | **Commentary** |
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| *Mineral tenementand 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.*<br>· *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.* | · In Laguna Verde, CleanTech, through Atacama Salt Lakes SpA, has 66 *pedimentos constituidos* which cover an area of 17,200 hectares, 7 *solicitudes de mensura* which cover an area of 682 hectares, and 35 *pertenencias* which cover an area of 3,860 hectares. Lithium exploration can occur on each with the exception of the *pedimentos constituidos* where another mining company has preference.<br><br>· All concession acquisition costs and taxes have been reportedly fully paid by CleanTech, and there are no claims or liens against them.<br><br>· In Laguna Verde, CleanTech is also in the application process for a *Contrato Especial de Operation de Litio* (CEOL) from the Chilean Government, which would grant them the sole right to explore and exploit lithium in the basin. |
| *Explorationdone by other parties* | · *Acknowledgment and appraisal of exploration by other parties.* | · In Laguna Verde, exploration work has also been done by Pan American Lithium and Wealth Minerals Ltda. |
| *Geology* | · *Deposit type, geological setting and style of mineralization.* | · Laguna Verde is a hypersaline lagoon that is classified as an immature clastic salar. The deposit is composed of a surface brine resource, including the brine water volume of the surface lagoon. The sub-surface resource formed by brine water hosted in volcano-clastic sediments that lie beneath the lagoon. |
| *Drill holeInformation* | · *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:* | · The following drillhole are in the WGS84 zone 19 S coordinate system:<br><br>· LV01 E549,432 N7,027,088<br>ELEV 4,429 m a.s.l.<br>Azimuth 0°, dip -90°, Length 474 m |

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| | *o easting and northing of the drill hole collar*<br>*o elevation or RL (Reduced Level - elevation above sea level in metres) of the drill hole collar*<br>*o dip and azimuth of the hole*<br>*o down hole length and interception depth*<br>*o hole length.*<br>· *If the exclusion of this information is justified on the basis that the information is not Material* | · LV02 E 553,992 N 7,024,396<br>ELEV 4,354 m a.s.l.<br>Azimuth 0°, dip -90°, Length 339.4 m<br><br>· LV03 E 549,980 N 7,028,434<br>ELEV 4,402 m a.s.l.<br>Azimuth 120°, dip -60°, Length 547.5 m<br><br>· LV04 E 556,826 N 7,024,390<br>ELEV 4,350 m a.s.l.<br>Azimuth 0°, dip -90°, Length 311 m<br><br>· LV05 E 550,972 N 7,027,908<br>ELEV 4,355 m a.s.l. |
| | *and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.* | Azimuth 0°, dip -90°, Length 434.6 m<br><br>· LV06 E 555,912 N 7,026,004<br>ELEV 4,335 m a.s.l.<br>Azimuth 0°, dip -90°, Length 405 m<br><br>· LVM05a E 550,921 N 7,027,908 ELEV 4,355 m a.s.l.<br>Azimuth 0°, dip -90°, Length 221.5 m<br><br>· LVM05b E 550,946 N 7,027,951 ELEV 4,355 m a.s.l.<br>Azimuth 0°, dip -90°, Length 41.5 m<br><br>· LVM06c E 555,959 N 7,026,032 ELEV 4,335 m a.s.l.<br>Azimuth 0°, dip -90°, Length 40 m<br><br>· LV07 E 552,561 N 7,025,296<br>ELEV 4,345 m a.s.l.<br>Azimuth 0°, dip -90°, Length 650 m<br><br>· LV11 E 555,582 N 7,024,793<br>ELEV 4,345 m a.s.l.<br>Azimuth 0°, dip -90°, Length 412.8 m |
| *Dataaggregation methods* | · *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.*<br>· *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should* | · For the surface brine results, no low-grade truncation or high-grade capping has been implemented due to the consistent nature of the brine assay data.<br><br>· For the sub-surface results, no low-grade truncation or high-grade capping has been implemented in the presented exploration data, however an average lithium grade of the packer brine samples is also provided with an assumed cut-off grade of 100 mg/L due to potential processing requirements and cost considerations. |
| | *be stated and some typical examples of such* | |

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| | *aggregations should be shown in detail.*<br>· *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | |
| *Relationship between mineralization widthsandintercept lengths* | · *These relationships are particularly important in the reporting of Exploration Results.*<br>· *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*<br>· *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').* | · In Laguna Verde, the relationship between aquifer widths and intercept lengths are direct with vertical wells, however LV03 was inclined with a dip of -60°. |
| *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.* | <br>· *Locations of the Laguna Verde Exploration Drillholes* |
| | | <br>· *Generalized Stratigraphic Column for Laguna Verde Area (based on wells LV01 to LV06)* |
| *Balanced reporting* | · *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid* | · Reported exploration results have not been filtered based on the exclusion of low or high grades. However, based on potential processing requirements and cost considerations, an average lithium grade for the packer brine samples is also presented with an assumed cut-off grade of 100 mg/L. |

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| | *misleading reporting of Exploration Results.* | |
| *Other substantive explorationdata* | · *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.* | · Pumping tests were conducted at wells LV05 and LV06.<br><br>· A 50 hp submergible electric pump, and piping with flowmeters were used for the pump tests. The tests consisted of a variable rate pumping to verify the aquifer and pump capacity, as well as subsequently constant rate (48-hour to 7-day) pumping tests to obtain aquifer parameters and monitor observed water levels and the extracted brine chemistry.<br><br>· In LV05, the pump was installed at 156 m and in LV06, at 150 m. |
| *Furtherwork* | · *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*<br>· *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | · Exploration drilling and testing will continue in 2025. Areas of additional exploration will include the western and northern/northeastern portion of the current property concessions. A future long-term pumping and reinjection test is also planned in 2025. |

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