CleanTech to Acquire Campbell Crotser Fluorspar Project in Kentucky's Prolific Fluorspar District

02.07.2025 | Newsfile

Vancouver, July 2, 2025 - CleanTech Vanadium Mining Corp. (TSXV: CTV) (OTCQB: CTVFF) ("CleanTech" or the "Company") is pleased to announce that, through its 100%-owned subsidiary US Fluorspar LLC ("USF"), it has entered into a binding option to purchase agreement ("OTP") with an arms-length private party ("Vendor") to acquire the mineral rights to the Campbell, Crotser, and Swinford parcels totaling approximately 250 acres in Livingston County, Kentucky, USA (the "Campbell Crotser Fluorspar Project", or the "Project").

Campbell Crotser Fluorspar Project Summary

The Campbell Crotser Fluorspar Project covers approximately 250 acres in Livingston County, Kentucky, within the heart of the historic Illinois-Kentucky Fluorspar District, a region long recognized as North America's most prolific fluorspar producing belt. This mineral belt spans approximately 540 square miles across western Kentucky and southern Illinois[1]. Commercial mining began in the 1870s, and the region went on to produce approximately 3.5 million tons of fluorspar, along with byproducts zinc, lead, and barite[2]. Fluorspar-rich veins in the region are hosted in Mississippian-aged limestones, controlled by steep normal faults, and are often accompanied by sphalerite, galena, and calcite.

The mineralization style is consistent with a Magneto-Hydrothermal Mississippi Valley-Type system, exhibiting clear structural and stratigraphic control[3]. Vein-type and replacement-style mineralization along fault breccias and bedding planes. Fluorite occurs as coarse-grained vein infill, with calcite, barite, sphalerite, and galena as common gangue and accessory minerals.

A historic mineral resource estimate performed by Boyce Moodie III in 1974 for Cerro Spar Corporation on the Campbell Crotser Fluorspar Project following its drill program, reported 805,841 tons grading 37.10% CaF_2, 3.23% Zn, and 0.99% Pb[4]. The key assumptions, parameters, and methods used to prepare this historical resource estimate are not available. The Company has not reviewed or validated the historic data, and caution should be taken as a qualified person has not done sufficient work to classify these historical resource estimates as a current mineral resource and the Company is not treating them as a current mineral resource.

"The Campbell Crotser Fluorspar Project is a significant Fluorspar project with over 60 historic drill holes in the heart of America's historic fluorspar belt in Kentucky. The district has good infrastructure and stand-by processing capacities to expedite project development. We are a mega firm believer in Fluorspar prospects: this key critical mineral is vital in the production of nuclear power, lithium batteries, semiconductors, high-voltage electrical switches, refrigerant for air conditioning, steel and aluminum. We are witnessing a highly-competitive global land-grab of Fluorspar resources. Through this acquisition, Cleantech is leading the US Fluorspar foray in the junior mining space," stated Ron Espell, President of the Company.

Fluorspar is Cleantech's major vertical which compliments the Company's Gibellini vanadium project ("Gibellini"). Gibellini is a strategic vanadium project which received the Record of Decision from the Bureau Land and Management approving the Gibellini in 2023. The Gibellini vanadium project covers over 21 kilometers along the strike of the mineralized Woodruff Formation in Eureka and Nye counties in Nevada with its own water supply.

Proposed Transaction Summary

Under the OTP, the Vendor agrees to sell to Cleantech, and CleanTech agrees to purchase from the

Vendor, the Campbell Crotser Fluorspar Project for a total purchase price of US $2,000,000 (the "Purchase Price"), consisting of:

- US $75,000 upon OTP signing (paid);
- US $75,000 payable on or before the first anniversary of signing of the OTP, if Cleantech elects to extend the OTP for an additional 12 months; and
- US $1,850,000 due at closing, at which time the title of the Project will be transferred to the Company.

The Company may elect to exercise the option at any time by paying the Vendor the Purchase Price less any amount paid under the OTP as of the exercise date.

Further Details of Campbell Crotser Fluorspar Project and Kentucky Fluorspar Belt

The Campbell Crotser Fluorspar Project lies along the Big Creek Fault system, part of the Cave Creek Graben, a prominent geological structure known for its strong mineralizing controls. The project hosts a high-grade fluorspar-zinc-lead resource.

The Campbell Crotser Fluorspar Project is situated within the southern segment of the historically productive Illinois-Kentucky Fluorspar District, one of North America's most prolific fluorspar-producing regions. The Project's geological setting is highly favorable, comprising structurally prepared Mississippian carbonate rocks intruded regionally by alkaline and ultramafic igneous bodies. These factors together provided the structural and geochemical framework for significant hydrothermal mineralization.

The primary host rocks are dense, fossiliferous Meramecian and Chesterian limestones (Mississippian age), commonly interbedded with shales and fine-grained sandstones. These carbonate units are structurally deformed along high-angle normal faults, notably the Big Creek Fault system, which provided permeability for fluid migration. Regionally, these units are cross-cut and influenced by igneous activity, particularly related to the Hicks Dome Complex, a regional structural and magmatic uplift associated with deep-seated mantle-derived intrusions (e.g., lamproites, lamprophyres, peridotites)[5].

The mineralization at Campbell Crotser Fluorspar Project is fault-controlled and carbonate-hosted, exhibiting clear zonation: fluorspar dominates the upper sections, while zinc content increases with depth. The formation is interpreted to have originated from fluorine-rich magmatic fluids migrating along regional fault systems. As these fluids encountered carbonate rocks, they dissolved portions of the host limestone, leading to the precipitation of fluorspar along faults and bedding planes. This mechanism is characteristic of the broader district and reflects a classic Mississippi Valley-Type environment with hydrothermal and magmatic influences.

In addition, the project benefits from proximity to rail infrastructure[6] and nearby zinc processing facilities[7], with both water and electricity readily accessible - offering significant logistical and development advantages.

According to the United States Geological Survey (the 'USGS"), the district is geologically unique due to its combination of structural complexity and igneous activity. More than 45 alkaline and ultramafic intrusions, including dikes, diatremes, and sills, are present across the region. These likely contributed to the heat and fluid flow that drove mineralization. A particularly significant feature is nearby Hicks Dome, located in Hardin County, Illinois, roughly 25 miles northeast of the Campbell Crotser Fluorspar Project. Hicks Dome is a 2-mile-wide structural uplift with deep-rooted igneous breccias and rare-earth element ("REE") potential[8]. It is considered the hydrothermal engine behind much of the regional fluorite mineralization. Its association with REEs, carbonatites, and mantle-derived magmas has attracted renewed exploration attention under the USGS Earth MRI initiative.

The district is also home to several other past-producing or active projects, including the Lasher Project (near Hampton, KY), Hutson Mine, May Zinc Mine, and Cave-In-Rock operations in Illinois. These sites all form part of the same mineralizing system linked to fault corridors like the Tabb, Commodore, and Moore Hill faults[9].

In total, this region combines a century-long mining legacy with modern infrastructure, favorable jurisdiction, and geological upside, positioning the Campbell Crotser Fluorspar Project for near-term advancement and long-term value.

Fluorspar Market Overview

According to www.statista.com, China produced over 60% of the world's fluorspar in 2023. China produced 5.7 million tonnes in 2023, followed by Mexico (1 million tonnes) and Mongolia (0.93 million tonnes). The remaining countries combined to produce approximately 1 million tonnes.

China has shifted from being a net exporter to a significant importer of fluorspar since 2023, due to rising demand from the booming energy storage system including batteries. China imported a total of 1,023,578 tonnes of metspar in January-October in 2024, up by 33.9% from 763,652 tonnes in the same period of 2023, according to www.fastmarkets.com[10].

US Fluorspar price has risen from approximately $300 per tonne in 2020 to over $450 per tonne in early 2025[11].

Global Fluorspar Demand and Strategic Importance

More than half of the world's fluorspar is consumed in the production of hydrofluoric acid (HF) - the chemical precursor to nearly all industrial fluorine compounds. The global demand breakdown for fluorspar is approximately as follows[12]:

- Hydrofluoric acid production (fluorine chemicals): 50-60%
- Metallurgical flux (steel/aluminum): 20-25%
- Ceramics, glass, and enamel: ~10%
- Cement production and other uses: ~5-10%

Hydrofluoric Acid Production (Fluorine Chemicals):

Derived from fluorspar, hydrofluoric acid is one of the most critical and versatile industrial chemicals, known for its unique ability to etch glass, metals, and silicon compounds. It underpins a wide range of high-value industrial processes, including[13]:

- Nuclear energy: Approximately 50 - 60% of fluorine (HF) demand supports nuclear fuel production[14]. Fluorine is used to produce uranium hexafluoride (UF₆), a gaseous compound that enables enrichment of U-235 from 0.7% source to 3.5% to 5%.

Generally, the uranium arrives at the conversion plant in the form of U_3O_8. In order for isotope separation to be effected, uranium is required in the form of a gaseous compound. This compound is UF6. U_3O_8 is converted to UF6 in a three-step process, each requiring its own plant. The oxide is first converted to UO2 in a hydrogen atmosphere, according to the reaction.

U3O8 (s) + 2H2(g) -> 3UO2 (s) + 2H2O(g)

Subsequent to this, the uranium dioxide is converted into uranium tetrafluoride in the substitution reaction:

UO2(s) + 4HF(g) -> UF4 (s) + 2H2O (g)

Finally, the uranium tetrafluoride is fluorinated to the hexafluoride, using elemental fluorine gas:

UF4(s)+F2(g)->UF6(g)

Enrichment now takes place, with fissionable U^{235} separated from U^{238}. This is normally done by diffusion, centrifuge technology. The enriched uranium is used as solid uranium dioxide. There is more than one way of carrying out the reduction. Solid uranium dioxide powder is pressed into pellets which are housed in Zircalloy tubes. These are bundled into fuel elements (in the case of pressurized-water reactors) ready for use.

For comprehensive information about the nuclear fuel cycle, the reader is referred to Barre and Bauquis (2007), Kok (2009), Konings (2012), Tsoulfanidis (1996), Wilson (1996), and Yemelyanov (2011)[15].

- Lithium-ion batteries: Fluorinated compounds stabilize electrolytes and cathode materials, extending battery life and enabling safe, high-voltage operation in Electric Vehicles and energy storage. Fluorspar is the key ingredient of lithium hexafluorophosphate (LiPF6), which is the most widely used electrolyte for lithium batteries.
- High-voltage insulation: Sulfur hexafluoride (SF₆), a fluorine-based inert gas, is the global standard for insulating high-voltage electrical equipment due to its unmatched stability and dielectric properties.
- Semiconductor and Lithography: Fluorine and fluoride gases play a crucial role in the complex world of semiconductor manufacturing, making them essential for creating the advanced microchips that power our modern technology. These highly reactive gases are indispensable in various stages of the fabrication process, from etching intricate patterns to cleaning deposition chambers.

Etching: Fluorine (F2) and Fluorine mixtures (F2/N2), Phosphorus trifluoride (PF3), Iodine pentafluoride (IF5), and Selenium tetrafluoride (SeF4) are used in plasma etching processes to selectively remove material and create precise patterns on semiconductor wafers. These gases enable the creation of very fine features required for advanced chip designs.

Doping (Ion Implantation): Dopants such as Germanium tetrafluoride (GeF4) and Antimony pentafluoride (SbF5) are introduced to modify electrical properties.

Deposition: Tungsten hexafluoride (WF6), Germanium tetrafluoride (GeF4), Molybdenum hexafluoride (MoF6), Niobium pentafluoride (NbF5), and Selenium tetrafluoride (SeF4) are used in chemical vapor deposition processes to deposit thin films of materials like silicon dioxide.

Chamber cleaning: Gases like Chlorine Trifluoride (ClF3), Fluorine (F2) and Fluorine mixtures (F2/N2), Phosphorus trifluoride (PF3), Anhydrous hydrogen fluoride (AHF), and Iodine pentafluoride (IF5) are used to clean chemical vapor deposition (CVD) chambers between wafer processing steps. This removes residual deposits and helps maintain consistent process conditions.

Fluorine is a key component in the lasers used in lithography. For example, KrF (Krypton Fluoride) lasers produce light at 248 nm, and ArF (Argon Fluoride) lasers produce light at 193 nm. These wavelengths enable the creation of smaller and more intricate chip features.

- Mineral processing: It improves metal recovery and purification by dissolving silicate minerals, particularly in aluminum extraction.
- Glass manufacturing and etching: HF enables decorative and precision treatments of glass for both industrial and architectural applications.
- Fluorocarbon production: HF is used to create refrigerants such as HFC (Hydrofluorocarbon) which has low melting temperature of -26.3C (HFC-134), is inert, and stable under pressure. Teflon is a brand name for polytetrafluoroethylene (PTFE), a synthetic fluoropolymer known for its non-stick, heat-resistant, and chemical-resistant properties. It's widely used in various applications, most famously as a coating for non-stick cookware.

Metallurgical Flux (Steel/Aluminum):

In steel: fluorine in the form of calcium fluoride (CaF_2), is a common additive in mold fluxes used during continuous casting of steel. These fluxes create a molten layer on the surface of the molten steel, preventing oxidation and facilitating heat transfer[16].

Fluorine improves the fluidity of the flux, enhances its ability to remove impurities, and can affect the surface tension of the molten slag, aiding in inclusion removal.

In aluminum, fluorine, primarily in the form of cryolite (Na_3AlF_6), is a crucial component of the electrolyte used in the Hall-Heroult process for aluminum smelting. Cryolite lowers the melting point of alumina (Al_2O_3) and increases the electrolyte's conductivity, enabling the electrolytic reduction of alumina to aluminum at a lower temperature. Fluorine can also be used as a fluxing agent to remove impurities and improve the fluidity of molten aluminum.

Aluminum fluoride (AlF_3) is another fluorine compound used in aluminum production, also lowering the melting point of alumina[17].

Qualified Person

The technical contents of this news release have been prepared under the supervision of Carlos Zamora, is a member of the American Institute of Professional Geologists (AIPG) and a Certified Professional Geologist (CPG) since 2024. Mr. Zamora is an independent qualified person as defined by National Instrument 43-101.

About CleanTech Vanadium Mining Corp.

CleanTech is an exploration-stage mining company focused on critical mineral resources in the USA. The Company owns a 100% interest in the Gibellini Vanadium Mine Project in Nevada and an option to acquire a 100% interest in the Campbell Crotser Fluorspar Project in Kentucky.

Further information on CleanTech can be found at www.cleantechvanadium.com.

ON BEHALF OF THE BOARD

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FORWARD-LOOKING INFORMATION

This news release contains "forward-looking information" and "forward-looking statements" (collectively, "forward-looking information") within the meaning of applicable securities laws. Forward-looking information is generally identifiable by use of the words "believes," "may," "plans," "will," "anticipates," "intends," "could", "estimates", "expects", "forecasts", "projects" and similar expressions, and the negative of such expressions. Such forward-looking information, which reflects management's expectations regarding CleanTech's future growth, results of operations, performance, business prospects and opportunities, is based on certain factors and assumptions and involves known and unknown risks and uncertainties which may cause the actual results, performance, or achievements to be materially different from future results, performance, or achievements expressed or implied by such forward-looking information. Forward-looking information in this news releases includes: the acquisition of ownership in the Campbell Crotser Project, the presence of a land grab for fluorspar projects and Fluorspar as CleanTech's major vertical, logistical advantages at the Campbell Crotser Project, the ability to advance the Project in both the near and long term, the availability of infrastructure that would assist in the advancement of the Project, . Forward-looking statements are based on the opinions and estimates of management of CleanTech at the date the statements are made and are based on a number of assumptions and subject to a variety of risks and uncertainties and other factors that could cause actual events or results to differ materially from those projected in the forward-looking statements. Many of these assumptions are based on factors and events that are not within the control of CleanTech, there is no assurance they will prove to be correct and are not guarantees of future performance and actual results may differ materially from those in the forward-looking statements.

Forward-looking information involves significant risks and uncertainties, should not be read as a guarantee of future performance, events or results, and may not be indicative of whether such events or results will actually be achieved. A number of risks and other factors could cause actual results to differ materially from expected results discussed in the forward-looking information, including but not limited to: changes in operating plans; ability to secure sufficient financing to advance the Company's project; conditions impacting the Company's ability to mine at the project, such as unfavorable weather conditions, development of a mine plan, maintaining existing permits and receiving any new permits required for the project, and other conditions impacting mining generally; maintaining cordial business relations with strategic partners and contractual counter-parties; meeting regulatory requirements and changes thereto; risks inherent to mineral resource estimation, including uncertainty as to whether mineral resources will be further developed into mineral reserves; political risk in the jurisdictions where the Company's projects are located; commodity price variation; and general market, industry and economic conditions. Additional risk factors are set out in the Company's latest annual and interim management's discussion and analysis and annual information form (AIF), available on SEDAR+ at www.sedarplus.ca.

Forward-looking information is based on reasonable assumptions by management as of the date of this news release, and there can be no assurance that actual results will be consistent with any forward-looking information included herein. Readers are cautioned that all forward- looking statements in this news release are made as of the date of this news release. The Company undertakes no obligation to update or revise any forward-looking information in this news release to reflect circumstances or events that occur after the date of this news release, except as required by applicable securities laws.

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[2] Denny et al., Mines in the Illinois Portion of the Illinois-Kentucky Fluorspar District, ISGS Circular 604 (2020) - Production History section citing Anderson & Sparks 2012 (3.5 Mt Kentucky output).

[3] Pinckney 1976 (USGS P.P. 970) - sections on structural/stratigraphic ore control and mineral assemblage; plus Rosiclare Quadrangle report for vein vs. replacement classifications.

[4] "Final Geologic Report and Ore Estimate Campbell / Crotser", Livingston County, Kentucky, dated November 12, 1974, issued by Boyce Moodie III.

[5] Anderson, W.H. (2019) Mineralogy & Chemistry of Rare-Earth Elements in Alkaline Ultramafic Rocks and Fluorite in the Western Kentucky Fluorspar District, Kentucky Geological Survey RI 08. Abstract & Fig. 1 discuss Hicks Dome, lamprophyres, peridotites, and their role in mineralization.

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