VANCOUVER, BC--(Marketwired - Apr 14, 2016) - Pure Energy Minerals Ltd. (TSX VENTURE: PE) (FRANKFURT: A111EG) (OTCQB: HMGLF) (the "Company" or "Pure Energy") announces that a core drill is once again turning at its Clayton Valley South ("CVS") Lithium Brine Project, located near Silver Peak, Nevada (the "Project"). Based on their successful track record during the phase 2 drill program at CVS, Harris Exploration Drilling and Associates Inc. remains the primary drill contractor on the Project. The drillers collared the new well (CV-3) approximately 200 metres (660 ft) southeast of CV-1. Drilled in the first phase of Pure Energy drilling at Clayton Valley, CV-1 was completed to only 275 metres (900 ft). The Company expects to drill CV-3 to a depth of up to 500 metres (1,640 ft) before completing its construction with appropriate gravel pack, bentonite, and screening.

This will be the first core drilling conducted in the northern resource area; and CV-3 will serve dual purpose as a monitoring well for upcoming pump tests and as a deeper exploration well. In addition, the recovered drill core will provide geological and porosity information on the northern resource area. Once the new well is developed and drilling muds dispersed, geophysical logs will help characterize the aquifers for sampling. Field crews will generate analytical results using proprietary aquifer-specific sampling methods developed during two previous phases of drilling. The chemical data from the new well along with its hydrogeology will contribute to the upcoming resource updates and PEA planned for summer 2016.

Brine Chemistry for Mini-Pilot Plant
In preparation for the forthcoming Mini-Pilot Plant test work, the Company applied its new sampling techniques to previously drilled wells on the CVS Project. The success of the recent sampling program has resulted in higher sample density in the northern resource area. The technical team selected brine from two different aquifers in CV-1 as the initial brine chemistry for the process trials with Tenova Bateman Technologies ("Tenova") in Katzrin, Israel. The Tenova team has begun ordering consumables and other supplies to support the work and expect to begin the test work on or about May 1st.

The brine from the upper two aquifers in CV-1 averaged 209 mg/L lithium, the sixteen individual samples ranging between 120 and 230 mg/L lithium. The magnesium content in the northern resource area is also proving to be quite low. Low magnesium content is beneficial when processing brines for lithium recovery. The average magnesium to lithium ratio for these aquifers is 1.96 to 1, having a range between 1.85 and 2.05. The lithium grades encountered in recent sampling are consistent with sampling from the northern resource area cited in the CVS mineral resource estimate from July 2015. Furthermore, the magnesium to lithium ratio is among the lowest of any lithium brine deposit in the world.

Patrick Highsmith, Pure Energy Minerals CEO, commented "*We are excited to be back in the field drilling and simultaneously ramping up the process engineering and test work. We have expanded the technical team to include chemical engineers and new hydrogeologists. The progress we are making now is a direct tribute to the persistence and creativity of the field crews and the engineers behind the scenes. We are focused on growing and improving our brine resource, while at the same time demonstrating the value of its favorable chemistry with the upcoming Mini-Pilot Plant work.*"

The recent sampling work consisted of 16 separate brine samples recovered from a range of target depths in CV-1, plus quality control samples including: duplicates, blanks and spiked samples. The well was constructed to facilitate fluid flow from and sampling of an upper thinner aquifer and a deeper thicker fluid bearing sequence. The sampling crews collected 3 brine samples at depths between 168 and 178 metres below surface (550 to 585 ft) in an upper aquifer, interpreted to be the Main Ash Aquifer (MAA). The Company also collected 13 samples from a lower aquifer sequence between 189 and 244 metres below surface (620 to 800 ft). This lower unit is interpreted to be the Lower Aquifer System (LAS).

The brine chemistry is relatively consistent between the upper and lower aquifer systems. The upper aquifer appears to exhibit some mixing with brackish water but averages 163 mg/L lithium and has an average magnesium to lithium ratio of 2.0 to 1. The lower aquifer system is very consistent, averaging 219 mg/L lithium and a magnesium to lithium ratio of 1.95 to 1. Since future pumping is likely to produce a blended brine from both of these units, the average bulk chemistry has been transmitted to the Tenova facility in Israel. The engineers and technicians at Tenova will prepare a synthetic brine to match the Clayton Valley chemistry for the Mini-Pilot Plant test work.

The proposed lithium recovery process that will be tested in the Mini-Pilot Plant consists of three distinct phases:

LiP™ - Physical removal of alkaline earth elements using membranes;

LiSX™ - Recovery of lithium into concentrated high-purity lithium sulfate solution utilizing proven solvent extraction process; and,

LiEL™ - conversion of the lithium sulfate solution into a concentrated high-purity lithium hydroxide solution, using electrolysis, and subsequent crystallization into high-purity battery grade lithium hydroxide.

Quality Assurance and Quality Control
All analytical data reported in this news release was generated by Western Environmental Testing Laboratory ("WETLAB") of Sparks, Nevada. WETLAB is accredited by the Nevada State Division of Environmental Protection for determination of lithium, magnesium, and other elements in non-potable water by method EPA 200.7. The lab employs its own quality assurance program

to ensure accuracy and precision of its data. Consistent with industry best practice, Pure Energy inserts additional blind quality control samples with every batch of samples. The data described herein have satisfied the Company's quality criteria for release.

Patrick Highsmith, Certified Professional Geologist (AIPG CPG # 11702), is a qualified person as defined by NI 43-101, and has supervised the preparation of the scientific and technical information that forms the basis for this news release. Mr. Highsmith is not independent of the Company as he is an officer and director.

About Pure Energy Minerals Ltd.
Pure Energy is a lithium-brine resource developer that is driven to become the lowest-cost lithium supplier for the burgeoning North American lithium battery industry. Pure Energy is currently focused on the development of our prospective CVS Lithium Brine Project, which has the following key attributes:

- A large land position with excellent existing infrastructure in a first-class mining jurisdiction: Approximately 9,324 acres in three main claim groups in the southern half of Clayton Valley, Esmeralda County, Nevada.
- Adjacent to the only producing lithium operation in the United States (Albemarle's Silver Peak lithium brine mine).
- An inferred mineral resource of 816,000 metric tonnes of Lithium Carbonate Equivalent (LCE), reported in accordance with NI 43-101.
- Metallurgical and process studies underway to better understand the feasibility and economics of using modern environmentally-responsible processing technology to convert the CVS brines into high purity lithium products for new energy storage uses.

On behalf of the Board of Directors,

"Patrick Highsmith"
Chief Executive Officer

Neither TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.

Contact

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