VANCOUVER, BC--(Marketwired - May 10, 2016) - Pure Energy Minerals Ltd. (TSX VENTURE: PE) (FRANKFURT: A111EG) (OTCQB: HMGLF) (the "Company" or "Pure Energy") announces the results of well sampling from the phase 2 drill program at its Clayton Valley South ("CVS") Lithium Brine Project, located near Silver Peak, Nevada (the "Project"). The phase 2 drill program consisted of three wells: CV-4, CV-5, and CV-6, which were major step outs to the south, extending up to 6 kilometres (3.7 miles) beyond the previous limit of drilling. The technical team designed these wells to target lower grade brines of the southern resource area from approximately 150 to 500 metres (500 to 1600 feet) below surface. The results from wells CV-4, 5, and 6 included no significant lithium values, but the data indicate the presence of an active geothermal system that may have a significant impact on fluid compositions in portions of the southern resource area.

Phase 3 drilling continues, as Harris Exploration Drilling has advanced CV-3 to approximately 427 metres (1,400 feet) below surface. The new well was collared approximately 200 metres (660 feet) east-southeast of CV-1; it will serve the dual purpose of a deep exploration well and a monitoring well for future pumping tests. The drillers are using rotary coring techniques to take CV-3 towards a target depth of 490 metres (1,600 feet) below surface, and there are sufficient supplies on site to advance the well deeper if conditions permit. Core recovery has been excellent (> 95%) so far, recovering multiple representative sections of core from various aquifers for testing of physical and hydrogeological properties at accredited laboratories.

Patrick Highsmith, Pure Energy Minerals CEO commented, "*We now have a better understanding of the basin geology, and the geothermal system we encountered with this drilling in the southern resource area is a complexity. Drilling continues in the northern resource area and the results so far are encouraging. Subject to the completion of our ongoing drill program and updated mineral resource, we anticipate the southern resource area to contract, but due to the low-grade assumptions in that area, it should have a positive impact on the average grade of the estimated inferred resource. If that is the case, we believe higher average grades will bode well for the potential processing economics in the future.*"

Mr. Highsmith continued with regards to the recent favorable sampling results from the northern resource area and the encouraging geology from CV-3, "*We remain actively focused on definition and potential extension of the northern resource area, particularly to deeper levels, as it has markedly higher lithium grades than the south. The robust grade and saturated thickness of the brines in CV-1 combined with the progress so far in CV-3 are encouraging developments. We look forward to reporting news from the upcoming deeper holes. We are also proceeding with the mini-pilot plant and pumping tests, which are expected to commence shortly.*"

DISCUSSION OF RESULTS FROM PHASE 2 SAMPLING

As previously reported (See Company news release dated April 14, 2016), the Pure Energy technical team developed a new sampling methodology for application in the complex geology of Clayton Valley. The phase 2 sampling data supported the viability of these techniques, as field duplicates performed very well and better geological interpretations are possible from the new data. The re-sampling results from CV-1 (northern resource area) and CV-2 (southern resource area) were consistent with previous sampling (within the normal variation of field sampling and analytical methodologies), but the thickness of the aquifers and consistency of the brine is now much better understood. In both cases, the data are consistent with the inferred resource reported in the NI 43-101 report entitled "Inferred Resource Estimate for Lithium, Clayton Valley South Project" dated July 17, 2015 (the "Inferred Resource Report") and filed on the Company's SEDAR profile.

Wells CV-4, CV-5 and CV-6 were drilled and sampled in order to test the possible extent of lower grade brines inferred to be present at shallower levels further south in the basin. The technical team developed this interpretation based on data collected by previous drilling, surface geology, and seismic reflection surveys. The stratigraphic interpretation from the seismic data of relatively flat lying fluvial to lacustrine sediments, punctuated by volcanic ash layers, has been confirmed with this drilling. However, the downhole temperature, conductivity, and chemical data from the phase 2 program reveal some complexities that affect the interpretation of the southern resource area.

The temperature data reveal a significant reservoir of warm groundwater in CV-4, 5, and 6, reaching maximum temperatures of approximately 35 degrees Celsius. In places, there are abrupt changes in temperature that correlate with changes in conductivity (salinity). Such data may indicate intercalated aquifers of differing solid and brine composition. CV-5 includes an upper zone of cooler fluid that contains anomalous (but not significant) lithium content, while the deeper, warmer fluids are nearly barren of lithium. The interpretation of these data is an ongoing process that will guide follow-up drilling in the southern resource area.

Pure Energy geologists conducted limited carbon dioxide ("CO_2") sampling of the well bores at Clayton Valley, and the preliminary results indicate that a geothermal system may be active in or near some of the southern wells.

Drill cuttings and core returns from CV-4, CV-5 and CV-6 yielded geological materials that are consistent with brine-bearing aquifers elsewhere beneath Pure Energy's CVS Project. These formations include intervals of volcanic ash, tuff, and laminated reduced silts and clays. It is therefore likely that the southern resource area has a similar depositional history to lithium-rich areas farther north. However, the fluid data strongly suggest that, at shallower levels, this section of the property is being heavily influenced by a source of hotter, lower density water with low lithium contents and a different geochemical signature. The source of this warmer, less-mineralized water is not well understood at present, as the seismic data did not highlight any significant intra-basin faulting or obvious pathway for migration.

The seismic and gravity data at CVS indicate that the basin extends to depths of 1,500 metres (4,900 feet) or more in the

southern portion of the property. Nothing in the data from CV-4, CV-5, or CV-6 eliminates the prospectivity of the southern basin at depth. In fact, saline brines are higher density than fresh or brackish water and therefore tend to sink. Since the Company believes that the source of the lithium in the Clayton Valley brines is a large scale geological feature, Pure Energy will likely return to test the deep potential in the southern resource area after better defining the higher-grade northern resource area with the phase 3 drilling now underway.

DISCUSSION OF GEOLOGY AND PRELIMINARY INDICATIONS FROM PHASE 3 DRILLING
By contrast to the southern area, CV-3 has yielded some positive preliminary indications in the northern resource area. The core drilling has penetrated several saturated ash and tuff layers deeper in the basin than previously observed. These alternating sequences of volcanic ash/tuff with sandy and silty units are typical of the aquifers reported to host productive brine zones at the nearby Silver Peak lithium brine mine.

Figure 1 shows some of the ash layers (paler white and buff zones), lacustrine silts (green/grey sections) and steep fractured zones that have been drilled in CV-3 on the Clayton Valley South lithium brine project.

Following the completion of CV-3, the Company is planning two additional wells in the northern resource areas as part of the phase 3 drill program. Drillers will most likely employ mud rotary techniques in these wells targeting depths in excess of 500 metres. The Company will incorporate completed results from the phase 2 and phase 3 drill programs in an updated mineral resource for the Project during summer.

TELECONFERENCE WITH COMPANY MANAGEMENT
Pure Energy Minerals will host a conference call on Wednesday, May 11, 2016, at 3:00pm Eastern Daylight Time to discuss these results and upcoming activities.

The conference call is open to any investor or stakeholder, including shareholders, broker-dealers and other securities professionals. Management will accept questions by e-mail; to submit one or more questions, please email your question to: CEO@pureenergyminerals.com with the words "Investor Question for Conference Call" in the subject line before 9:00 AM Eastern Daylight Time, Wednesday May 11, 2016. Pure Energy management will endeavour to address as many questions as possible in the thirty-minute time period allocated to the call. A recording of the call will be available for review at the Company's website shortly after the call.

To participate in the call, please use the following login Web link or telephone number:
Join the call via the Web at: http://pureenergyminerals.enterthemeeting.com/m/ZCGTC4BQ

Dial-In Number: (949) 229-4400; Participant Code: 3682314#
Participants are requested to call in at least 10-minutes before the call to ensure timely participation.

Quality Assurance and Quality Control

Analytical data reported in this news release were 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.

ALS Minerals in Vancouver, British Columbia provided systematic blind and independent check analyses on the lithium and other analytes in the phase 2 sampling program at Clayton Valley South. ALS Minerals Vancouver operates an industry leading quality management system and is accredited under ISO 17025 for provision of mineral analysis.

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

Forward Looking Statements: The information in this news release contains forward looking statements that are subject to a number of known and unknown risks, uncertainties and other factors that may cause actual results to differ materially from those estimated or anticipated future results, achievements or position expressed or implied by those forward-looking statements. Such forward looking statements are based upon the Company's reasonable expectations and business plan at the date hereof, which are subject to change depending on economic, political and competitive circumstances and contingencies. Factors that could cause such differences include: changes in world commodity markets and the demand for and price of commodities, particularly lithium, unanticipated expenses in exploration programs, technical difficulties in connection with exploration and development activities, technological challenges with the extraction and processing of lithium brines, the speculative nature of mineral exploration, volatile microcap equity markets, costs and supply of materials relevant to the mining industry, change in government and changes to regulations affecting the mining industry, including environmental requirements. Forward-looking statements in this release include statements regarding future exploration programs, operation plans, geological interpretations, mineral tenure issues and mineral recovery processes. Although we believe the expectations reflected in our forward looking statements are reasonable, results may vary, and we cannot guarantee future results, levels of activity, performance or achievements.

Image Available: http://www2.marketwire.com/mw/frame_mw?attachid=3005444

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