STATEMENT OF QUALIFICATIONS

Raven Ridge Resources, Incorporated (RRR) is an independent energy consulting and exploration firm founded in 1988. The firm provides a range of technical and project management services to the oil, gas, and public sector entities worldwide. RRR specializes in assessment and development of conventional and non-conventional energy resources, particularly coalbed and coal mine methane. The firm is experienced in carrying out detailed geologic, economic, and technological assessments needed to develop this natural gas resource in an efficient and environmentally sensitive and sustainable manner. RRR's work on coalbed methane (CBM) began in 1988 by evaluating resource potential of coalbed methane occurrences in the western USA. RRR's first coal mine methane projects began in 1990 with a mission to Poland funded by the United States Environmental Protection Agency (U.S. EPA) to assess the potential for economic development and utilization of coal mine methane. The company has demonstrated ability and qualifications in the development of other non-conventional energy resources, including tight gas sands, shale gas and underground gasification of coal.

Coalbed Methane Experience and Qualifications

RRR began working in the coalbed methane industry in the mid-1980s. RRR has provided wellsite services, performed analytical services, resource evaluations, mapping, operations management, and/or conducted investigations on hundreds of properties throughout the U.S. and abroad. Through our work on a wide variety of coalbed methane and conventional oil & gas projects we have earned a reputation as a leading consulting firm in the energy industry. RRR is experienced in all phases of geological and geophysical data evaluation. The company performs economic analyses including reserve estimates, reserve valuation, and market considerations. RRR has provided a wide variety of coalbed and coal mine methane consulting services for projects in the following U.S. basins and regions:

San Juan	Raton	Gulf Coast (TX)
Black Warrior	Illinois	Hanna
Piceance	Appalachian	Western Washington
Uinta	Cook Inlet	Red Desert
Powder River	Sand Wash	Green River
Arkoma	Maverick Basin (TX)	

Countries in which RRR has provided coalbed and coal mine methane consulting services and experience include:

Poland	India	Russia	Zimbabwe
Ukraine	Czech Republic	Japan	Australia
China	Mexico	Bulgaria	Thailand
Romania	Canada	Belgium	Kazakhstan
France	Germany	Spain	Venezuela
Mongolia	Philippines	England	Turkey
Viet Nam	Indonesia	Colombia	Republic of South Africa

Select Relevant Coalbed Methane and Unconventional Gas Project Experience

- In 2015 and 2016, in conjunction with U.S. Trade and Development Agency (U.S. TDA), and on behalf of Colombian client, RRR completed a technical and economic assessment of the feasibility of developing CBM and natural gas in Córdoba, Colombia. RRR has completed the bankable feasibility report which is the culmination of a project which began with drilling a 550 meter borehole to gather information and data which was used to evaluate the potential of commercial development of coalbed and conventional natural gas resources.

- In 2014 RRR with SGS Horizon were requested by a major international oil and gas company to review and provide an independent analysis of the results to date of its non-operated, multi-year, CBM exploration and development program. The results of the independent review were used to guide the oil and gas company in its decisions regarding continued participation in the development of the field. Data reviewed included exploration sampling, testing, and logging, seismic data, reservoir simulation studies, and multi-well production testing results.

- On behalf of the U.S. TDA, RRR organized and led a Reverse Trade Mission (RTM) from Indonesia with a focus on Unconventional Gas and Coalbed Methane. The goal of the mission was to introduce the Delegation of high level government officials and industry leaders to U.S. technology and services, and existing federal and state policies that promote the development and exploitation of the resource. The RTM meet with industry and government representatives at three separate locations within the United States; Washington, D.C., Houston, Texas, and Pittsburgh, Pennsylvania. Field visits were also organized to two sites, Cheniere's LNG export facility in Sabine Pass, Louisiana, and Range Resources field operations in the Marcellus Shale in Southwestern, Pennsylvania.

- RRR conducted detailed technical assessments at three large surface mines in East and South Kalimantan (Indonesia) for Enel Trade SpA, investigating the feasibility of draining methane from targeted seams in advance of mining. At one of the mines, RRR carried out a training program for the mine staff in coal desorption testing and analysis, with RRR supplying all of the necessary equipment and software. In addition, RRR contributed to the Environmental Impact Assessment that was prepared at one mine, describing the environmental impacts and potential mitigants of incorporating a coal mine methane recovery and use project at the mine site. RRR also supervised the assessments at two other surface mines on Kalimantan, investigating the potential for development of the coal mine methane resource.

- RRR conducted a feasibility study for a project located in eastern Bulgaria. The feasibility study, partially funded by the U.S. Trade and Development Agency (TDA), investigated the technical, market, and economic potential of coalbed methane occurring within a license block (439 square km) located in the Dobroudja Coal Basin. In addition to the study, RRR provided the expertise used in drilling the first CBM exploration borehole in Bulgaria.

- Beginning in January 1997 through mid-1999, RRR undertook a major coalbed methane resource assessment in Turkey for DanOil, LLC and its joint venture partner Data Su. We were asked to evaluate the commercial coalbed methane potential for a 6,100 square mile lease area. This effort culminated in the preparation of a detailed resource estimate and recommended drilling targets.

The project required total of four trips to Turkey, which involved training Turkish staff in the fundamentals of coalbed methane, logging and sampling of two coal exploration coreholes, gathering data, and evaluation of an adjacent lease area. Following these missions, RRR compiled and interpreted the data collected, and prepared an assessment of the potential for development of coalbed methane in the area of interest. Due to the geologic complexity of these methane resource areas, the resource estimate was prepared by dividing these areas into individual blocks based on geologic structure and coal seam depths for calculation of the in-place resource. Using this approach, we were able to prepare a detailed resource estimate and recommend drilling targets. RRR then presented the findings of this project to numerous major and large independent oil and gas companies on behalf of Dan Oil and partners.

RRR assessed coalbed methane exploration work performed to date in the Shangani River valley in northern Zimbabwe. The project, performed for Union Carbide Management Services, included evaluating previous coal and coalbed methane resource estimates for the region. RR modified these estimates based on adsorption testing performed RRR's laboratory, and on desorption data that was reprocessed using RRR's statistical methods.

Prior to this assessment, James Marshall of RRR visited the Wankie coal mine in Hwange, Zimbabwe, as a side trip during a six-week cultural and business exchange in Zaire sponsored by Rotary International. This time spent in Zimbabwe and Zaire helped familiarize RRR with geological and general conditions in sub-Saharan Africa.

RRR and its partner Calvin Resources, Inc. negotiated an exploration area agreement with Union Pacific Resources Corporation that covered over 3,500 square miles and built a database that incorporated geologic, geophysical, land and engineering data on several thousand wells. The database was used to develop multiple computerized maps and cross-sections that led to the drilling of a successful coalbed methane test well in late 2000. RRR oversaw the design, drilling and testing of the test well. The successor to Union Pacific Resources Corporation, Anadarko Petroleum Corp., re-purchased the rights to the property before the testing was completed.

Coal Mine Methane Experience and Qualifications

RRR has conducted numerous evaluations concerning the potential for recovery of methane from coal mine properties. These analyses range from preliminary evaluations using publicly available data to in-depth evaluations incorporating extensive resource and economic data supplied by the mine. We have performed these studies for private-sector mining company clients as well as government entities. We have also examined in detail the recovery of methane from abandoned coal mines in the U.S. and internationally, and have developed a methodology for estimating emissions of methane from abandoned mines. In addition, we have helped firms verify, report, and market carbon credits, an increasingly important service as companies move forward with greenhouse gas emissions trading initiatives.

Mining, energy and other companies to which RRR has provided a variety of CMM services:

RAG America Inc.	Arch Minerals	Peabody Energy
BHP Billiton	Oxbow Minerals	Bowie Resources
Andalex Resources	AES	Mitsui & Co. Ltd

Cline Mining	Anglo American	Sumitomo Corp.
Mongolyn Alt Corporation (MAK)	Infinis Energy Mgmt.	Earthjustice

Select Relevant CMM Project Experience

- Prior to purchase by Infinis, a diversified power producer based out of the UK, RRR performed due diligence on 17 abandoned UK coal mines to determine longevity of abandoned mine methane production and the magnitude of the remaining gas reserves.

- Under contract to Alkane Energy PLC (formerly Coalgas UK, PLC), RRR determined methane reserves contained in abandoned underground coal mines within the Alkane license areas in the U.K. Alkane was seeking to establish numerous sites above abandoned coal mine workings that would draw medium heating value gas from the mine void space for use as fuel for local industry, or for generating power through the use of internal combustion engines for distribution through the electric grid. We performed simulation modeling of methane emissions from these mines using computational fluid dynamics software. RRR also prepared production rate schedules and determined cash flow projections that Alkane used in business planning and capital solicitation.

- RRR was contracted by Earthjustice to perform an independent evaluation of publicly available methane emissions data for the West Elk Coal Mine, in Somerset, Colorado. Historic liberated methane volumes and concentrations were used to generate forecasts of methane emissions that were then used to develop a conceptual design to abate future emissions. A detailed economic model was constructed based on the conceptual project design, and economic performance of the project was gauged by standard financial industry metrics such as, net present value, internal rate of return, return on investment and time to achieve investment pay back.

- RRR performed reservoir characterization and modeling study in the Raton Basin for New Elk Coal Company, a coal mine operator, to analyze CBM production from wells drilled through the mine's coal resources. Study forecasted the productive life and value of the wells penetrating minable coal seams and determined the safety issues that might arise from each well penetrating the coal with the mine's extraction plan.

- RRR coordinated and analyzed the flow testing of a well drilled by Peabody Natural Gas into an abandoned Peabody coalmine in Franklin County, Illinois. This information was used along with a detailed geologic mine model to calibrate the simulated prediction of gas production through time. The flow test combined with the simulation was the key to determining the volume of the mined area being drained by the well. RRR then conducted similar analysis for another abandoned mine property in Illinois controlled by Peabody.

- RRR completed the study "Pre-feasibility Study for Coal Mine Methane Recovery and Utilization at Mopanshan Mine, Guizhou Province, China", which investigates the technical and economic potential for employing a pilot project comprising a series of surface drilled boreholes to drain gas from gassy coal seams in advance of mining, as well as surface drilled gob vent boreholes post mining. The study was published in December 2014.

- Raven Ridge contracted with the Mongolia Nature and Environment Consortium, a Global Methane Initiative grant recipient, to conduct research related to the occurrence and magnitude of CMM/CBM in Mongolia. To insure successful completion of the project, Raven Ridge introduced proprietary technology to measure the amount and composition of gas contained in coal samples, and trained Mongolian scientists and engineers in use of equipment and methodology needed to conduct resource assessments and methane emission forecasts. The project culminated in the publication of

"Coal Mine Methane (CMM) Resource Assessment and Emissions Inventory Development in Mongolia" (https://www.globalmethane.org/Data/MNEC-CMM-Grant-Final-Report_FINAL.pdf). This document, released in May 2014, is the seminal publication on the CMM/CBM resource potential of Mongolia.

- RRR completed the study "Pre-feasibility Study for Coal Mine Methane Recovery and Utilization at Naryn Sukhait Mine", at the open cast coal mine in the South Gobi coal basin of Mongolia. The study examined the potential for employing vertically drilled wells to capture methane gas prior to mining for use as fuel to generate power at the mine. The study was published in March 2013.

- In 2012 RRR conducted a study of an underground coal mining complex in Viet Nam. The purpose of the study was to determine the technical and economic feasibility of employing state-of-the art gas turbines fueled by low concentration CMM and VAM to supplement power required for the mining and coal processing operations. The study comprised detailed analysis of the underground coal mining complex's future plans for two active mines and two mines under construction. Historical coal production and correlated methane emissions data were used to forecast the increase in the complex's VAM emissions, expected as coal production is increased over the next decade. Reservoir simulation software was used to forecast CMM that will be produced using the technological approach employed by the mining company to drain gas from gassy coal seams.

- RRR completed a study, "Feasibility Study of CMM Utilization for Guizhou Nengfa Power Fuel Development Co., Ltd. Linhua Mine Located in Guizhou Province, People's Republic of China". This study investigates the technical and economic potential for employing directionally drilled surface to in-seam boreholes to drain gas from extremely gassy and outburst prone seams. Data available from the existing gas drainage system was used to forecast future production using proposed technology and future coal extraction rates. The study was published in 2010 and is available on the U.S. EPA website at (https://www.epa.gov/sites/production/files/2016-03/documents/nengfa_feasibilitystudy.pdf).

- RRR conducted a pilot drilling program in the Philippines in advance of mining at an open pit coal mine in 2010. The project was conducted in preparation for mounting a drilling campaign aimed at producing gas and earning CERs under the newly revised CDM protocol ACM0008. RRR drafted the revision to the protocol that now allows for claiming carbon credits derived from gas drainage projects conducted at open pit mines.

- RRR performed a technical and economic study to determine the feasibility of draining gas in advance of mining at a room and pillar coal mine located in Oklahoma. Subsequently, RRR designed and conducted a pilot directional drilling program on behalf of a carbon emissions trading company.

- RRR completed the study "Feasibility of CMM Utilization for Songzao Coal and Electricity Company Coal Mines," working with Chongqing Energy Investment Group (CQEIG) as their coal mine partner. The feasibility study showed that installation of a LNG plant utilizing 100 million cubic meters of gas that is presently being emitted to the atmosphere is feasible and economically attractive. This study is available to the public at https://www.epa.gov/sites/production/files/2016-03/documents/feasibility_study.pdf.

- In addition, RRR helped Peabody in valuing an existing coal mine methane production project for purchase, which included 42,000 acres and 8 mine properties with existing production, and an additional 49,000 acres and 16 mine properties not currently under production.

- RRR, as an equity partner in CBM Energy Limited, developed a CBM prospect in Ukraine, comprising almost 640,000 acres. RRR calculated coal reserves and recoverable methane reserves within the area of interest, prepared a financial analysis, and designed a pilot exploration and development

program. RRR was also involved in the negotiations with the regional pipeline company and potential end-users, which resulted in letters of intent from the organizations. Unfortunately, due to political instability, the project was ultimately abandoned.

RRR has provided geologic and engineering experience and expertise to many U.S. underground gassy coal mines, from the Cumberland Mine in southwestern Pennsylvania, to the West Elk, Sanborn Creek, and Bowie mines in Colorado, the Willow Creek Mine in Utah, and the San Juan Mine in New Mexico. These services range from desorption testing, to coal mine methane production forecasting (gob wells and pre-mine drainage wells), CMM reserves estimations, and the modeling of methane liberation associated with coal mining.