



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

Department of Natural Resources

Division of Oil & Gas
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November 6, 2017

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Nathan C. Lowe
Land Manager
Armstrong Energy, LLC
1421 Blake Street
Denver, CO 80202

Re: Pikka Unit – 2017-2018 Plan of Exploration

Dear Mr. Lowe,

On September 29, 2017, the State of Alaska, Department of Natural Resources, Division of Oil and Gas (Division) received the proposed Pikka Unit 2017-2018 Plan of Exploration (2018 POE) submitted by unit operator Armstrong Energy, LLC (Armstrong). The Division found the 2017 POE complete as described in 11 AAC 83.341(b) on October 10, 2017.

As required by the Pikka Unit Agreement Article 8.1.1 and 11 AAC 83.341, an updated POE must be submitted to the Division and Arctic Slope Regional Corporation (ASRC) at least sixty days before the expiration date of the previous plan. All exploration operations must be conducted under an approved POE.

The 2017 POE proposed further seismic interpretation, incorporation of the data into a reservoir model, and conducting further rock physics studies. These activities were completed. Additionally, a second phase of special core analysis of recovered cores from wells drilled in 2015 was performed and integrated into the static and dynamic reservoir models. In addition to the exploration activities approved in the 2017 POE, Armstrong completed detailed Pre-FEED engineering studies examining development options for the Pikka Unit.

The 2018 POE proposes drilling the Pikka 2 well and Pikka 2A sidetrack in the southernmost portion of the unit. Plans for these wells include conventional cores so that routine and special core analysis may be conducted. Data from the wells will be integrated into the existing reservoir models and interpretations.

When considering a POE, the Division must consider whether the POE is necessary or advisable to protect the public interest. 11 AAC 83.303(a). The Division will approve a POE upon a finding that it will (1) promote conservation of all natural resources, including all or part of an oil or gas pool, field, or like area; (2) promote the prevention of economic and physical waste; and (3) provide for the protection of all parties of interest including the state. *Id.* In evaluating conservation, prevention of waste, and the parties' interest, the Division will consider (1) the environmental costs and benefits of unitized exploration or development; (2) the geological and engineering characteristics of the potential hydrocarbon accumulation or reservoir proposed for unitization; (3) prior exploration activities in the proposed unit area; (4) the applicant's plans for exploration or development of the unit area; (5) the economic costs and benefits to the state; and (6) any other relevant factors, including measures to mitigate impacts identified above, the commissioner determines necessary or advisable to protect the public interest. 11 AAC 83.303(b).

In approving the prior Pikka POE, the Division considered 11 AAC 83.303 and found that the POE promoted conservation of natural resources, promoted prevention of waste, and protected the parties' interests. The Division incorporates by reference those findings.

Armstrong proposes to drill new wells and perform further data processing and interpretation during the 2017-2018 POE period. The Division has considered the 11 AAC 83.303(b) factors and (a) criteria, and the degree to which the additional activity impacts its previous analysis and POE approval. The additional wells and new data, combined with existing well data and seismic interpretation, will aid in locating future development wells. In turn, this work may lead to more jobs and state revenue upon development of the resources. Finally, the ability to locate optimal well locations protects the natural resources by minimizing the number of wells drilled and preserves the integrity of the reservoir(s).

Based on the Division's prior POE approval and analysis of the 11 AAC 83.303(b) factors and (a) criteria for the additional exploration work proposed here, the Division finds that the 2017-2018 POE protects the public interest, promotes conservation, prevents waste, and protects the parties' interests. The Division expects that the operator will provide the Division copies of rock physics studies and special core analysis reports described in the plan. The 2017-2018 POE is approved for the period December 1, 2017 through November 30, 2018. This approval is only for a general plan of exploration. Specific field operations require separate approval under 11 AAC 83.346, Unit Plan of Operations. Pursuant to 11 AAC 83.343 – 11 AAC 83.346, a Pikka Unit 2018-2019 update to the Plan of Exploration will be due in these offices at least sixty days prior to the expiration of the 2017-2018 POE, on or before October 1, 2018.

An eligible person affected by this decision may appeal it, in accordance with 11 AAC 02. Any appeal must be received within 20 calendar days after the date of "issuance" of this decision, as defined in 11 AAC 02.040(c) and (d), and may be mailed or delivered to Andrew T. Mack, Commissioner, Department of Natural Resources, 550 W. 7th Avenue, Suite 1400, Anchorage, Alaska 99501; faxed to 1-907-269-8918; or sent by electronic mail to dnr.appeals@alaska.gov. This decision takes effect immediately. An eligible person must first appeal this decision in accordance with 11 AAC 02 before appealing this decision to Superior Court. A copy of 11 AAC 02 may be obtained from any regional information office of the Department of Natural Resources.

If you have questions regarding this decision, please contact Kevin Pike with the Division at (907) 269-8451 or via email at Kevin.Pike@alaska.gov.

Sincerely,



Chantal Walsh
Director

Division of Oil and Gas

cc: Teresa Imm, Arctic Slope Regional Corporation