



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

Department of Natural Resources

Division of Oil & Gas
Anchorage Office

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November 22, 2016

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Lawrence J. Vendl
Vice President, Exploration
Brooks Range Petroleum Corporation
510 L Street, Suite 601
Anchorage, AK 99501

Re: Southern Miluveach 4th Plan of Development - Approval

Dear Mr. Vendl:

Brooks Range Petroleum (BRPC) submitted a proposed 4th Plan of Development (POD) for the Southern Miluveach Unit (SMU) to the Department of Natural Resources, Division of Oil and Gas (Division), dated September 30, 2016. The Division notified BRPC by email on October 5, 2016 that the Division had deemed the POD submittal complete. This decision approves the 4th POD.

The SMU, formed March 31, 2011, is located on the North Slope and has five leases totaling 8,960 acres. The SMU's initial POE required BRPC to drill, evaluate, and test three wells (North Tarn #1A, Mustang #1, and Mustang #2) in the Kuparuk formation by May 31, 2012. BRPC timely drilled two wells, North Tarn #1A and Mustang #1 (SMU M-01). At BRPC's request, on February 23, 2012, the Division extended the Mustang #2 (SMU M-02) well drilling requirement date to May 31, 2014. BRPC did not drill, evaluate, and test the SMU M-02 by the deadline. By letter dated November 18, 2014, the Commissioner issued a notice of default with an opportunity to cure by drilling, evaluating, and testing the SMU M-02 well by May 31, 2015. BRPC drilled the SMU M-02 as an injector and proposed operating it as an observation well in lieu of testing the well. The Commissioner accepted this alternative and deemed the default cured on April 3, 2015. BRPC then attempted to drill the Mustang #3 (SMU M-03) well and a horizontal lateral off the existing SMU M-01 wellbore. Both wells encountered drilling difficulties and had to be suspended above the reservoir interval.

The Division approved the 3rd POD through March 31, 2016, when the unit was set to expire. BRPC requested a discretionary unit extension under 11 AAC 83.336(a)(2). Then-Commissioner Rutherford granted the request, extending the unit until December 31, 2017. In her decision, the Commissioner also extended the 3rd POD through December 31, 2016.

A unit POD must contain sufficient information for the Commissioner to determine whether the plan is consistent with the provisions of 11 AAC 83.303. With its proposed 4th POD, BRPC submitted information about development and operational activities, as prescribed by 11 AAC 83.343. BRPC also provided a technical presentation on November 2, 2016.

For the 3rd POD period, BRPC had planned to use Managed Pressure Drilling to facilitate controlled drilling in over-pressured conditions. BRPC indicated that it might modify the Nabors Rig 16E or contract for another suitable rig and that its priority drilling activities were reentering, completing, and testing the SMU M-01A and SMU M-03. BRPC expected to complete engineering and fabrication of all remaining processing modules.

BRPC did not conduct all of the activities set forth in its 3rd POD. BRPC reported acquiring long-lead engineered equipment and fabricating modules, which at the time of its POD submittal were located in Canada awaiting shipment. But BRPC did not conduct any drilling activities, did not test any wells, and did not re-engage contractors or complete the remaining engineering scope of work for facilities.

In the 4th POD, BRPC described, in general terms, its long-term development plans, including pipeline connections to non-SMU pipelines, the gravel mine, roads, and pad that were constructed in 2013, a three-phase central processing facility, temporary and long-term camps, and communications infrastructure. BRPC did not provide specific long-term plans to further explore the unit, stating only that it will continue to review potential targets and explore as economic and financial conditions allow.

As to proposed operations for the 4th POD period, BRPC committed to:

- Contract, retrofit, and commission a drilling rig for start-up in Q4 2017.
- Re-engage engineering contractors to complete remaining engineering scope of work for facilities.
- Engage procurement contractors for remaining equipment and services.
- Solicit Requests for Proposals for fabrication work and North Slope installation work.
- Fabricate remaining modules December 2016 through July 2017.
- Install on-pad piles during Q1 2017.
- Complete the Alpine tie-in to a ConocoPhillips pipeline in Q1 or Q2 2017.
- Install cross-country pipelines in Q1 or Q2 2017.
- Install Alaska-fabricated modules on-pad from April to September 2017.
- Set and tie-in Canada-fabricated modules from August to October 2017.
- Produce first oil in December 2017.

When considering a POD, the Division must consider the criteria in 11 AAC 83.303(a) and (b). Accordingly, the Division considered the public interest, conservation of natural resources, prevention of economic and physical waste, protection of all interested parties including the state, environmental costs and benefits, geological and engineering characteristics or reservoirs or potential hydrocarbon accumulations, prior exploration activities, plans for exploration or development, economic costs and benefits to the state, and any other relevant factors, including mitigation measures. 11 AAC 83.303(a), (b).

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

The development activities BRPC set forth in its 4th POD include drilling, engineering, and infrastructure work to move SMU towards production. Production protects the State's economic interests in its oil and gas resources. Any development and production activities pose some environmental risk, but BRPC's proposed facilities minimize the impact to the land, particularly as compared to multiple facilities for individual leases. In Exhibit C to its proposed 4th POD, BRPC detailed technical difficulties it has encountered with reservoir pressure and subsurface uncertainty. Even considering these challenges, the known geological and engineering characteristics of the area continue to support unitized development. And unitized development promotes conservation of natural resources and prevention of economic and physical waste.

While BRPC has committed to development activities that could result in production, the Division remains concerned that BRPC will be successful in completing these activities during the 4th POD period. BRPC has set forth a schedule to achieve first oil by December 2017. Based on the materials BRPC provided, it appears possible for BRPC to meet this deadline. But the schedule is extremely tight and leaves little room for deviation.

During the technical presentation, BRPC identified two particularly critical milestones: completing the Alpine tie-in by end of the winter season and completing third party studies regarding Kuparuk C sands. In Exhibit C to its proposed POD, BRPC noted that without these studies it "will be reluctant to return to any drilling at SMU." At the technical presentation, however, BRPC indicated that it might drill the first three wells before these studies are complete. BRPC also described financial hurdles to going forward with the activities in its 4th POD.

The Division's concerns about BRPC's timeline are particularly acute because SMU will expire December 31, 2017. In order to keep the unit in force past this date, BRPC will need to drill and test a well that is capable of producing in paying quantities, apply for and receive certification of that well, and either produce from the unit or be working towards production by December 31, 2017. 11 AAC 83.336(a)(1). Alternatively, BRPC would need to conduct operations to further explore the unit under an approved Plan of Exploration — something it has not currently proposed — and seek an additional discretionary unit extension from the Commissioner. 11 AAC 83.336(a)(2). Without taking these actions, SMU will expire.

The Division would like to see BRPC succeed with SMU. But the tight schedule, impending unit expiration, and concerns BRPC has raised with technical issues and financing cause the Division to question the likelihood of success. That said, the proposed 4th POD does set forth a possible path toward production. Considering the 11 AAC 83.303 criteria, BRPC's planned development activities, and the materials BRPC submitted in support of its POD, the Division finds that the 4th POD complies with the provisions of 11 AAC 83.303, 11 AAC 83.343, and protects the public interest.

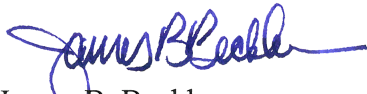
The 4th POD is approved for the period January 1, 2017 through December 31, 2017. If BRPC takes actions that will extend the term of the unit, BRPC must submit a 5th POD by October 2, 2017, 90 days before the 4th POD expires.

This approval is only for a general plan of development. Specific field operations will require an approved Plan of Operations.

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, Acting 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, contact Becky Kruse with the Division at 907-269-8799 or via email at Becky.Kruse@Alaska.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "James B. Beckham".

James B. Beckham
Acting Director