



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

Department of Natural Resources

DIVISION OF OIL & GAS
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November 6, 2018

CERTIFIED MAIL

Katrina Garner
Fieldwide Manager
BP Exploration (Alaska) Inc.
PO Box 196612
Anchorage, AK 99519-6612

Re: 2019 Plan of Development for the Prudhoe Bay Unit Western Satellite PAs

Dear Ms. Garner:

BP Exploration (Alaska) Inc. (BP) submitted a proposed 2019 Plan of Development (POD) for the Prudhoe Bay Unit (PBU) Western Satellites Participating Areas (PAs) to the Department of Natural Resources, Division of Oil and Gas (Division) on September 24, 2018. BP's proposed POD provides information about development and operational activities. BP provided a technical presentation prior to submitting the POD, on September 19, 2017. This decision approves the 2019 POD.

The Western Satellites consist of five PAs: Aurora, Borealis, Midnight Sun, Orion, and Polaris. The Aurora, Borealis, and Midnight Sun PAs produce primarily from the Kuparuk River Formation, while the Orion and Polaris PAs produce oil with higher viscosity from the Schrader Bluff Formation. Production from the Western Satellites PAs during the latest report period, July 2017 to June 2018, was approximately 21,773 BOPD.

Orion PA

For the 2018 POD period, BP planned to continue its wellwork program, including waterflood regulating valve changeouts, gas lift optimizations, and injection logs, continued evaluation and studies, work on dynamic models, and conduct engineering work to address sand handling capabilities. Plans for sidetrack drilling operations continued with plans to drill in late 2017.

Actual operations consisted of 75 wellwork jobs on producers and injectors, 11 rate-adding. BP also sidetracked L-205 well and drilled the L-205A in late 2017 with production beginning in the second quarter of 2018.

Production for the period July 1, 2017 through June 30, 2018 was 3,916 BOPD, up from 3,474 BOPD during the same period the prior year.

For the 2019 POD period, BP plans to continue its wellwork program, including waterflood regulating valve changeouts, gas lift optimizations, and injection logs. BP indicates that the working interest owners are also considering sidetrack options for existing shut-in wells. As a

general matter, if an operator determines that it will conduct additional work not included as a work commitment in its POD, it should submit a POD amendment for the Division's review.

BP will also continue work to optimize the separation system efficiency at its GC-2 facility and continue subsurface work program to evaluate field managements, well design, and future developments. Sand control technology will continue to be studied for future deployment.

Polaris PA

For the 2018 POD period, BP planned to continue its wellwork program, including waterflood regulating valve changeouts, gas lift optimizations, and injection logs, continued evaluation and studies, work on dynamic models, and conduct engineering work to address sand handling capabilities.

A section of MI flowline inside the W pad road crossing was replaced in the fourth quarter of 2017 and placed back into service in early 2018. MI was injected into five Polaris wells. BP also performed waterflood-regulating valve changeouts on six injection wells. BP completed 27 wellwork jobs on producers and injectors, 12 of which were rate-adding. Work continued to evaluate technologies for sand control in the GC-2.

Production for the period July 1, 2017 through June 30, 2018 was 4167 BOPD, up from 3891 BOPD during the same period the prior year.

For the 2019 POD period, BP plans to continue its wellwork program, including waterflood regulating valve changeouts, gas lift optimizations, and injection logs. As discussed above in relation to the Orion PA, BP will continue work to optimize the separation system efficiency at its GC-2 facility. BP will also continue subsurface work to evaluate field managements, well design, and future developments. Sand control technology will continue to be studied for future deployment.

Midnight Sun PA

For the 2018 POD period, BP planned to continue production and reservoir surveillance.

Production for the period July 1, 2017 through June 30, 2018 was 1,160 BOPD, up from 983 BOPD during the same period the prior year.

For the 2019 POD period, BP plans to continue production and reservoir surveillance. The E-100 injector is planned be converted to an Ivishak producer.

Borealis PA

For the 2018 POD period, BP planned to continue a wellwork program.

BP reported that it completed 37 wellwork jobs, 9 of which were rate-adding. These include tree change out, gas lift optimization, hot oil treatments, surface and subsurface safety valve work, and VSM repairs.

Additional activities not included in the 2018 Plan included, well V-137 was spudded in Q4 with drilling operations subsequently being suspended due to structure coming in deep, and lateral L-118L1 was drilled. As stated previously, if an operator determines that it will conduct additional work not included as a work commitment in its POD, it should submit a POD amendment for the Division's review.

Production for the period July 1, 2017 through June 30, 2018 was 7920 BOPD, up from 6040 BOPD during the same period the prior year.

For the 2018 POD period, BP plans to continue its wellwork program and utilize the dynamic model for the filed to evaluate potential drilling targets.

Aurora PA

For the 2018 POD period, BP planned to continue a wellwork program.

Additional activities not included in the 2018 Plan included a sidetrack of S200A in the third quarter of 2017 and two hydraulic fracture treatments in May and June of 2018. As planned BP completed 55 wellwork jobs, 14 of which were rate-adding. These included tree change out, gas lift optimization, hot oil treatments, surface and subsurface safety valve work, and VSM repairs.

Production for the period July 1, 2017 through June 30, 2018 was 4609 BOPD, down from 4696 BOPD during the same period the prior year.

For the 2018 POD period, BP plans to continue its wellwork program. Potential infill drilling targets are under evaluation.

Consideration of the 2018 PODs

When reviewing a POD, the Division considers 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 of the 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 prior PODs for the PBU Western Satellite PAs, the Division considered 11 AAC 83.303 and found the POD(s) promoted conservation of natural resources, promoted prevention of waste, and protected the parties' interests. The Division incorporates by reference those findings.

Overall, production in the Western Satellite PA's shows an increase of 14% between July 1, 2017 through June 30, 2018, compared to the same time frame last year. BP has not proposed any drilling for the 2019 POD period. BP has, however, proposed continued wellwork to maximize production from existing wells. And, of course, BP is continuing to produce from each of these PAs. For purposes of considering a POD, continued production from the Western Satellites protects the State's interests in developing its oil and gas resources.

Having considered the 11 AAC 83.303 (a) and (b) criteria, the Division finds that the 2019 POD complies with the provisions of 11 AAC 83.303. Accordingly, the 2019 POD is approved for the period January 1, 2019 through December 31, 2019.

This approval is only for a general plan of development. Specific field operations will require an approved Plan of Operations. Under 11 AAC 83.343, the 2020 POD is due on October 2, 2019, ninety (90) days before the 2019 POD expires.

Additional work not described in this plan will require separate approval by the Division.

A 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 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, contact Kevin Pike with the Division at 907-269-8451 or via email at Kevin.Pike@Alaska.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Chantal Walsh".

Chantal Walsh
Director