

**STATE OF ALASKA**  
**ALASKA OIL AND GAS CONSERVATION COMMISSION**  
**333 West 7<sup>th</sup> Avenue, Suite 100**  
**Anchorage Alaska 99501**

Re: THE APPLICATION OF BPXA ) Docket Number: AIO-09-17  
EXPLORATION (ALASKA) INC. ) Area Injection Order No. 26B  
for an order expanding the area in )  
which injection is authorized in the ) Prudhoe Bay Field  
Orion Oil Pool, Prudhoe Bay Field, ) Schrader Bluff Oil Pool  
North Slope, Alaska ) May 4, 2010  
)

**IT APPEARING THAT:**

1. On June 30, 2009, BP Exploration (Alaska), Inc. (BPXA) requested the Alaska Oil and Gas Conservation (Commission) grant a expansion of the area in which injection is authorized in the Orion Oil Pool (OOP).
2. Pursuant to 20 AAC 25.540, on October 22, 2009 the Commission published in the Anchorage Daily News notice of the opportunity for a public hearing on December 1, 2009.
3. No protest to the application or request for hearing was received.
4. Because BPXA provided sufficient information upon which to make an informed decision, the request can be resolved without a hearing.
5. The hearing was vacated on November 18, 2009.

**FINDINGS:**

1. AIO 26, effective January 5, 2004 approved water injection for enhanced recovery purposes within the OOP and set forth rules for conducting injection operations.
2. AIO 26A superseded AIO 26 effective May 1, 2006 and approved injection of enriched hydrocarbon gas for enhanced recovery purposes.
3. This amendment action should appropriately apply to AIO 26A.
4. Coincident with entry of this action, the Commission has issued CO 505B, expanding the OOP which finds that subsurface wireline log data, pressure measurements, and newly reprocessed seismic data indicate that the OOP extends beyond the area specified in CO 505A and expands the area subject to pool rules governing the development and operation of the OOP.
5. BPXA proposes to expand water and enriched hydrocarbon gas injection operations to include the additional area defined by CO 505B.
6. The previously issued rules governing injection within the OOP continue to be

appropriate for that pool.

**CONCLUSION:**

1. The area within which injection into the OOP is authorized should be expanded to conform to the pool rules area defined by CO 505B.

**NOW, THEREFORE, IT IS ORDERED:**

Underground injection of fluids as described in BPXA's applications for AIO 26 and AIO 26A is permitted subject to the conditions, limitations, and requirements established in the rules set out below, in Conservation Order 505B and statewide requirements contained in 20 AAC 25. The affected area of this order is:

**Umiat Meridian**

<u>Township</u> <u>Range, UM</u>	<u>Lease</u>	<u>Sections</u>
T12N-R10E	ADL 025637	13 and 24 N/2
T12N-R11E	ADL390067	14: S/2 S/2, 23: ALL, 24: SW/4, SW/4, NW/4 (area added this action AIO 26B)
	ADL 047446	17, 18, 19, and 20
	ADL 047447	16 S/2 and NW/4 and S/2 NE/4, 21, and 22
	ADL 028238	25 SW/4, 26, 35, and 36
	ADL 028239	27, 28, 33 E/2 and N/2 NW/4, and 34
	ADL 047449	29 N/2 and SE/4, and 30 N/2 NE/4
T11N-R11E	ADL 028240	1, 2, 11 E/2 and E/2 NW/4, and 12
	ADL 028241	3 N/2 and N/2 S/2, and 4 NE/4 N/2 SE/4
	ADL 028245	13 N/2 and SE/4, 14 E/2 NE/4, and 24 E/2 NE/4
T11N-R12E	ADL 047450	7, and 8 S/2 and NW/4

**Rule 1. Authorized Injection Strata for Enhanced Recovery (Source AIO 26)**

Fluids appropriate for enhanced oil recovery may be injected for purposes of pressure maintenance and enhanced recovery within the Orion Development Area into strata that are common to, and correlate with, the interval between measured depths of 4,549 feet and 5,106 feet in the PBU V-201 well and between the measured depths of 4,174 feet and 4,800 feet in Milne Point Unit well A-1.

**Rule 2 Fluid Injection Wells (Source AIO 26)**

The underground injection of fluids must be through a well that has been permitted for drilling as a service well for injection in conformance with 20 AAC 25.005, or through a well approved for conversion to a service well for injection in conformance with 20 AAC 25.280 and 20 AAC 25.412 (e).

**Rule 3: Authorized Fluids for Enhanced Recovery (Source as indicated)**

Fluids authorized for injection include:

- a. enriched gas from the Prudhoe Bay Unit processing facilities (AIO 26A);
- b. produced water from Prudhoe Bay Unit production facilities for the purposes of pressure maintenance and enhanced recovery (AIO 26);
- c. tracer survey fluid to monitor reservoir performance (AIO 26);
- d. source water from a sea water treatment plant (AIO 26);
- e. source water from the Prince Creek (Ugnu) formation (AIO 26);
- f. non-hazardous filtered water collected from Schrader Bluff Oil Pool well house cellars and well pads in the Orion Development Area (AIO 26); and
- g. non-hazardous filtered lake water employed for hydrotesting pipeline segments (AIO 26A.001).

**Rule 4. Monitoring the Tubing-Casing Annulus Pressure Variations  
(Source AIO 26A)**

The tubing and casing annuli pressures of each injection well must be monitored at least daily, except if prevented by extreme weather condition, emergency situations, or similar unavoidable circumstances. Monitoring results shall be documented and made available for Commission inspection.

**Rule 5. Demonstration of Tubing-Casing Annulus Mechanical Integrity**  
**(Source AIO 26A)**

The mechanical integrity of an injection well must be demonstrated before injection begins, and before returning a well to service following a workover affecting mechanical integrity. A Commission-witnessed mechanical integrity test must be performed after injection is commenced for the first time in a well, to be scheduled when injection conditions (temperature, pressure, rate, etc.) have stabilized. Subsequent tests must be performed at least once every four years thereafter. The Commission must be notified at least 24 hours in advance to enable a representative to witness mechanical integrity tests. Unless an alternate means is approved by the Commission, mechanical integrity must be demonstrated by a tubing/casing annulus pressure test using a surface pressure of 1,500 psi or 0.25 psi/ft multiplied by the vertical depth of the packer, whichever is greater, that shows stabilizing pressure and does not change more than 10 percent during a 30 minute period. Results of mechanical integrity tests must be readily available for Commission inspection.

**Rule 6: Multiple Completion of Injection Wells (Source AIO 26A.002)**

- a. Injectors may be completed to allow for injection in multiple pools within the same wellbore so long as mechanical isolation between pools is demonstrated and approved by the Commission.
- b. Prior to initiation of commingled injection, the Commission must approve methods for allocation of injection to the separate pools.
- c. Results of logs or surveys used for determining the allocation of water injection between pools, if applicable, must be supplied in the annual reservoir surveillance report.
- d. An approved injection order is required prior to commencement of injection in each pool.

**Rule 7: Well Integrity Failure and Confinement (Source AIO26A)**

Whenever any pressure communication, leakage or lack of injection zone isolation is indicated by injection rate, operating pressure observation, test, survey, log, or other evidence, the operator shall notify the Commission by the next business day and submit a plan of corrective action on a Form 10-403 for Commission approval. The operator shall immediately shut in the well if continued operation would be unsafe or would threaten contamination of freshwater, or if so directed by the Commission. A monthly report of daily tubing and casing annuli pressures and injection rates must be provided to the Commission for all injection wells indicating well integrity failure or lack of injection zone isolation.

**Rule 8: Notification of Improper Class II Injection (AIO 26)**

Injection of fluids other than those listed in Rule 3 without prior authorization is considered improper Class II injection. Upon discovery of such an event, the operator must immediately notify the Commission, provide details of the operation, and propose actions to prevent recurrence. Additionally, notification requirements of any other State or Federal agency remain the operator's responsibility.

**Rule 9: Plugging and Abandonment of Fluid Injection Wells (AIO 26)**

An injection well located within the affected area must not be plugged or abandoned unless approved by the Commission in accordance with 20 AAC 25.

**Rule 10: Other conditions (AIO 26)**

It is a condition of this authorization that the operator complies with all applicable Commission regulations.

The Commission may suspend, revoke, or modify this authorization if injected fluids fail to be confined within the designated injection strata.

**Rule 11: Administrative Actions (AIO 26)**

Unless notice and public hearing is otherwise required, the Commission may administratively waive the requirements of any rule stated above or administratively amend any rule as long as the change does not promote waste or jeopardize correlative rights, is based on sound engineering and geoscience principles, and will not result in an increased risk of fluid movement into freshwater.

**DONE at Anchorage, Alaska and dated May 4, 2010.**



A handwritten signature in blue ink, appearing to read "D. Seamount, Jr.", written over a horizontal line.

Daniel T. Seamount, Jr. Commissioner, Chair  
Alaska Oil and Gas Conservation Commission

A handwritten signature in blue ink, appearing to read "John K. Norman", written over a horizontal line.

John K. Norman, Commissioner  
Alaska Oil and Gas Conservation Commission

A handwritten signature in blue ink, appearing to read "Cathy P. Foerster", written over a horizontal line.

Cathy P. Foerster, Commissioner  
Alaska Oil and Gas Conservation Commission

**RECONSIDERATION AND APPEAL NOTICE**

As provided in AS 31.05.080(a), within 20 days after written notice of the entry of this order or decision, or such further time as the Commission grants for good cause shown, a person affected by it may file with the Commission an application for reconsideration of the matter determined by it. If the notice was mailed, then the period of time shall be 23 days. An application for reconsideration must set out the respect in which the order or decision is believed to be erroneous.

The Commission shall grant or refuse the application for reconsideration in whole or in part within 10 days after it is filed. Failure to act on it within 10-days is a denial of reconsideration. If the Commission denies reconsideration, upon denial, this order or decision and the denial of reconsideration are FINAL and may be appealed to superior court. The appeal MUST be filed within 33 days after the date on which the Commission mails, OR 30 days if the Commission otherwise distributes, the order or decision denying reconsideration, UNLESS the denial is by inaction, in which case the appeal MUST be filed within 40 days after the date on which the application for reconsideration was filed.

If the Commission grants an application for reconsideration, this order or decision does not become final. Rather, the order or decision on reconsideration will be the FINAL order or decision of the Commission, and it may be appealed to superior court. That appeal MUST be filed within 33 days after the date on which the Commission mails, OR 30 days if the Commission otherwise distributes, the order or decision on reconsideration. As provided in AS 31.05.080(b), "[t]he questions reviewed on appeal are limited to the questions presented to the Commission by the application for reconsideration."

In computing a period of time above, the date of the event or default after which the designated period begins to run is not included in the period; the last day of the period is included, unless it falls on a weekend or state holiday, in which event the period runs until 5:00 p.m. on the next day that does not fall on a weekend or state holiday.