

STATE OF ALASKA

ALASKA OIL AND GAS CONSERVATION COMMISSION

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ADMINISTRATIVE APPROVAL NO. AIO 3.028
ADMINISTRATIVE APPROVAL NO. AIO 4E.034

Mr. Chuck Wheat
GPB Environmental Team Leader
BP Exploration (Alaska), Inc.
P.O. Box 196612
Anchorage, AK 99519-6612

Re: **The application from BP Exploration (Alaska), Inc.** to authorize mixtures of glycol and water for enhanced oil recovery injection into the Prudhoe Bay Oil Pool, Prudhoe Bay Unit, North Slope, Alaska.

Dear Mr. Wheat:

BP Exploration (Alaska), Inc. (BPXA) requested by electronic mail dated July 15, 2009 approval to inject mixtures of glycol and water as an enhanced oil recovery (EOR) fluid. Rule 1 in Area Injection Order (AIO) 3 and AIO 4E addresses the injection of fluids for the purpose of EOR into the Prudhoe Bay Unit (PBU), Prudhoe Bay Field Western Operating Area and Eastern Operating Area, respectively. BPXA's request to inject mixtures of glycol and water for EOR purposes is approved.

Non-hazardous fluids are authorized for injection into the PBU for purposes of EOR and reservoir pressure maintenance. AIO 3 and AIO 4E provide for the approval of other fluids by administrative action. BPXA notes in its application that during major facility maintenance activities (referred to as a facility turn-around) used glycol from both natural gas dehydration systems and from building heating systems may be replaced with new glycol. During past facility turnarounds, mixtures of the glycol with water have been beneficially reused for EOR or the fluids have been gathered and transported to Pad 3 Oily Waste Disposal Facility for injection into Class I wells. While believed consistent with the fluids authorized for EOR injection by AIO 3 and AIO 4E, BPXA requested Commission confirmation prior to initiating injection as part of the PBU facility turnarounds in 2009.

BPXA confirmed that the glycol/water mixture is non-hazardous by testing. BPXA also has demonstrated the glycol/water mixture is compatible with the existing EOR injection fluids, with the well systems and with the injection zone. The last major reuse of glycol/water mixture as an EOR fluid occurred June 2007 during work on the Seawater Treatment Plant. Injection

performance for nine wells completed within the Prudhoe gas cap injection project and within the Niakuk field was provided with BPXA's application. Comparing injection performance five months before and 3 months after injecting the glycol/water mixture indicates no obvious reduction of the wells' injection capacity.

The Commission agrees with BPXA's assessment that there is no reason to believe injecting the used glycol mixed with flush water will have a detrimental impact to enhanced oil recovery from the Prudhoe Bay Oil Pool. The Commission further finds that injecting the subject fluids is consistent with guidance from EPA that encourages the beneficial reuse of fluids as a sensible waste management practice. In this case, injecting the glycol/water mixture will provide additional fluids for reservoir pressure maintenance rather than serve as a disposal waste stream that requires surface transport and additional handling. The injection of used glycol mixed with water for EOR purposes will not promote waste or jeopardize correlative rights, and will not contribute to the potential for fluid movement outside of the authorized injection zone.

DONE at Anchorage, Alaska and dated July 29, 2009.



Daniel T. Seamont, Jr.
Chair



Cathy P. Foerster
Commissioner



John K. Norman
Commissioner



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.