

PERMITTING REQUIREMENTS ASSOCIATED WITH OFF-CHANNEL CONTAINMENT PITS

October 12, 2002

Background

This document was developed as an interagency cooperative effort to provide guidance to the CBM industry on the permitting requirements associated with the development and construction of off-channel reservoirs, ponds or pits. This guidance is applicable to any man-made reservoirs, ponds or pits created to contain CBM discharge water that are located in upland areas outside of natural waterways. This guidance is not applicable to reservoirs and ponds constructed within the channels of natural waterways. This document is also intended to implement a companion document titled Off-Channel, Unlined CBM Produced Water Pit Siting Guidelines for the Powder River Basin, attached hereto. Representatives of the Wyoming Department of Environmental Quality (DEQ), the Wyoming Oil and Gas Conservation Commission (WOGCC), the Bureau of Land Management (BLM) and the Office of the State Engineer (SEO) jointly developed these recommendations. These guidelines were heard and approved by the DEQ Water and Waste Advisory Board on October 1, 2002.

Purpose

This document will briefly describe the permitting requirements of four separate regulatory entities that have some level of jurisdiction over the discharge to and the construction of off-channel containment pits. These structures, referred to as "pits" in this document may also be called ponds, containment units, or reservoirs by the SEO and DEQ.

Wyoming DEQ Permitting Requirements

1. If there are designated uses of the water discharge to or contained in the off-channel containment pit, an NPDES discharge permit must be obtained before discharge begins. This permit authorizes the discharge and ensures the quality of the discharge will protect the designated uses and other waters of the state. Designated uses may include livestock watering, wildlife use, irrigation, etc. The NPDES permit is not for the construction of the off-channel containment pit, although the permit limits rely on the discharge water being fully contained in the containment pit and not entering other surface waters of the state. The discharge can be authorized through a general permit created specifically for this unique type of discharge or through an individual permit which is site-specific. Authorization under the general permit should take less than 45 days for approval, while an individual permit may take 60 to 90 days for approval. These ponds must be designed and constructed so that there is no direct subsurface hydrologic connection to other surface waters of the state.

2. If there is a threat that the containment pit may degrade higher quality groundwater aquifers, DEQ may require a Chapter 3 construction permit. Generally, however, DEQ will rely on the WOGCC and BLM siting and permitting requirements to ensure that groundwater resources are adequately protected. See the later discussions under WOGCC and BLM and the attached Off-channel, Unlined CBM Produced Water Pit Siting Guideline for the Powder River Basin document.

Wyoming SEO Permitting Requirements

1. If there are beneficial uses of the water contained in the off-channel containment pit, a reservoir permit is required from the State Engineer's Office before construction of the off-channel containment pit begins. Beneficial uses can include inactive uses such as stock, wildlife, and/or wetlands and/or active uses such as land application, leach fields, irrigation, and/or dust abatement.
2. If the reservoir/pit is constructed with an embankment which is 20 feet or higher or more than 50 acre-feet will be stored against a man-made embankment, then safety-of-dams requirements may apply.

Wyoming Oil and Gas Commission Permitting Requirements

1. Form 14A must be submitted and approved prior to construction of off-channel produced water pits built on fee or state leases. The Supervisor may request information in addition to what is required on Form 14A. Pits proposed to be constructed in the Powder River Basin for percolation of water produced in association with recovery of coalbed methane gas into shallow sands or aquifers may be considered if the applicant can demonstrate their operation will comply with water quality standards of the DEQ. A siting guideline for off-channel, unlined CBM produced water pits has been drafted to assist operators. Approval for pit construction is handled administratively and Commission staff routinely pre-sites pit locations prior to taking action on applications.
2. The Commission may require a bond from the owner/operator of a pit conditioned for the workmanlike operation of the pit and that its closure be done in accordance with the agency's rules. Separate bonding amounts for the pits are set by the Supervisor following evaluation of site-specific conditions and circumstances. The owner/operator should provide a written cost estimate prepared by a Wyoming registered professional engineer with expertise in surface pit remediation for closure of the pit and reclamation of the surface and access areas closely adjacent to the pit. The surface landowner must receive a copy of the cost estimate from the owner/operator.

Because the produced water retention pits used by the methane industry in the Powder River Basin may be of use to the landowner, the Supervisor may waive bonding and allow such pits

to remain open after the cessation of production. In this instance, a notarized statement of acceptance signed by the landowner must accompany the Form 14A when it is submitted to the agency. Specifics of that letter of acceptance are included in Chapter 3, Section 4.

Bureau of Land Management Approval Requirements

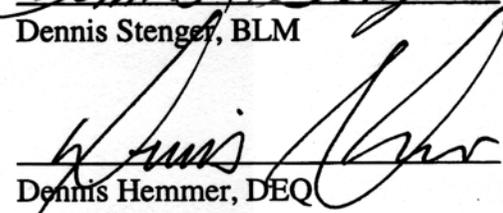
1. The Bureau of Land Management (BLM) Buffalo Field Office will approve, bond, inspect, and enforce compliance on all off-channel pits resulting from a federal action for the discharge of produced water from a CBM well into these containment structures. The off-channel pits must meet the attached siting criteria and BLM's guidance as referenced in BLM's updated Coal Bed Methane Well APD and POD Preparation Guide Book.
2. Information required in the application for an off-channel pit approval, includes but is not limited to, a representative onsite standard water analysis (DEQ'S NPDES analytical suite) for CBM produced water, size of containment pit, freeboard capacity, method of disposal of produced fluids (i.e., land application, etc.), maximum fluid level above cut (native soil) on downgradient side, % compaction, slope of inside and outside face of berm/dam, distance to nearest drainage, soil characteristics, and depth to shallow groundwater (with collection of shallow groundwater sample during subsurface investigation). The subsurface investigation will provide adequate information to insure that the shallow aquifer will not be degraded below its existing class of use and that infiltration will be primarily downward and not migrate laterally entering "surface waters of the state". Off-channel pits are designed to be full containment with water loss only to infiltration and evaporation, which precludes the use of a drop-pipe or spillway.

Recommended Permitting Process

The following figure is a decision tree to help the reader understand which permits must be obtained based upon site-specific conditions. It is recommended that the operator first obtain the authorization for construction of the off-channel pit before obtaining the NPDES permit, so that when the operator seeks the DEQ discharge permit, he can be confident that the siting of the off-channel pit is acceptable.


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Date: 10/15/02


Dennis Hemmer, DEQ

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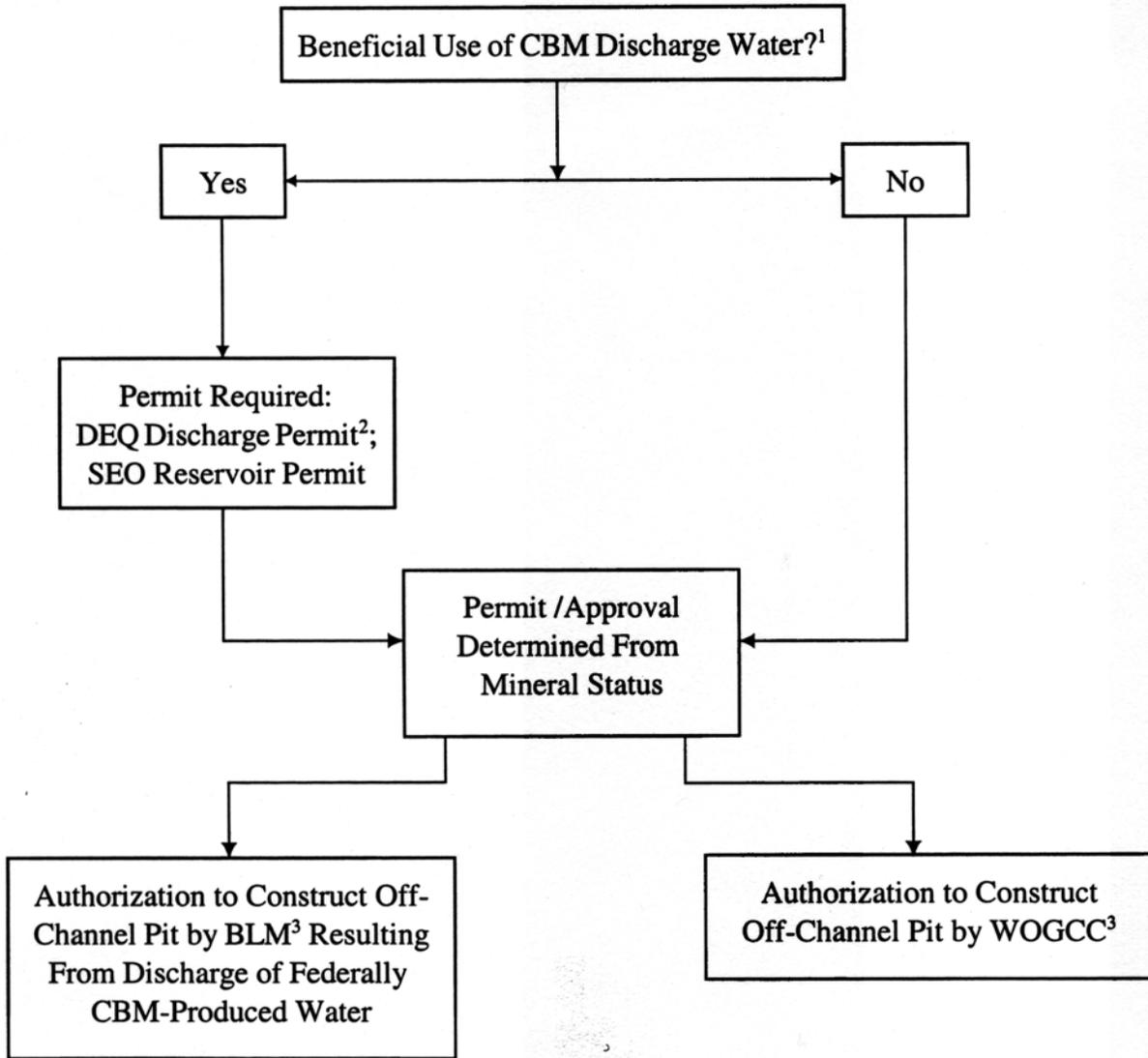
Pat Tyrrell
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Date: 10-17-02

Attachment, Off-channel, Unlined Produced Water CBM Pit Siting Guideline for the Powder River Basin, August 16, 2002.

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Figure 1
CBM OFF-CHANNEL CONTAINMENT / INFILTRATION PITS
PERMITTING DECISION TREE



- 1 Will CBM water in the containment pit be used for livestock watering, wildlife, irrigation or other beneficial uses?
- 2 May be authorized through General Permit for discharges to off-channel containment pits.
- 3 May request DEQ to review proposed location if there are questions concerning potential for adverse impacts to the groundwater.