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GUIDANCE: PERMITTING OF ACTIVE MINE DEWATERING WELLS AT PERMITTED COAL MINING OPERATIONS

This document provides guidance in properly permitting active mine dewatering wells (including pit sumps) with the Wyoming State Engineer's Office (SEO) – Ground Water Division, in compliance with the State Engineer's Office Regulations and Instructions, Part II, and W.S. 41-3-901 et seq.

This guidance is applicable only to permitted coal mining operations.

Definitions

Active Mine Dewatering Well: One method of mine dewatering is to “actively” remove water from the subsurface by pumping water from the overburden or mineral body to the surface. This is usually accomplished via a minimum 4-inch diameter well completed with a pump. These wells require a permit from the Ground Water Division because water is removed from the well and put to beneficial use (removal of water from the coal so it can be mined is, by itself, a beneficial use). One permit can be submitted for up to 30 active mine dewatering wells – if the wells are constructed similarly, to consistent depth, and within the same quarter-quarter location.

The simple draining of water from adjacent formations into a mine pit is considered a pit sump. Pit sumps are active mine dewatering wells and require a permit from the Ground Water Division because water is removed from the pit and put to beneficial use (e.g., dust abatement, road application, reservoir supply, etc.). One permit is required for each pit sump that is constructed.

Passive Mine Dewatering Well: Another method of mine dewatering involves a smaller diameter well (usually 2-inch diameter) that allows water from the overburden to drain into an underlying horizon that is then removed as part of the mining operation. In this method, there is no active removal of water from the well and no beneficial use of the water. This well is considered a passive mine dewatering well and does not require a permit from the Ground Water Division.

Background

As of January 1, 2005, the State Engineer's Office considers all wells for the purpose of active mine dewatering to be a *miscellaneous use* appropriation of ground water. This miscellaneous use is similar to Coal Bed Methane (CBM) wells in that production of water from the well is not

the primary objective, but the removal of water is an integral part of the mineral production process.

The intentional production, or appropriation, of ground water for the purpose of accessing minerals has led to the designation of active mine dewatering, in and of itself, as a *beneficial use* of water and subsequently, to a requirement for a permit to appropriate the ground water.

Wyoming water law requires that water rights be administered on the basis of *prior appropriation*, giving rise to the necessity of permitting all beneficial uses from the water source in question.

Permit Required

The SEO requires an *Application for Permit to Appropriate Ground Water* (Form U.W. 5) to be submitted and approved to permit status before drilling an active mine dewatering well in Wyoming (W.S. 41-3-904). In the case of active mine dewatering wells (with the exception of pit sumps), one permit will suffice for up to 30 wells, so long as all of those wells are constructed similarly, to consistent depth, and within the same quarter-quarter location. One permit is required for each pit sump that is constructed.

Specific authority requiring permits for the beneficial use of ground water is covered under Wyoming Statute §41-3-930:

Application... (a) Any person who intends to acquire the right to beneficial use of any underground water in the state of Wyoming, shall, before commencing construction of any well or other means of obtaining underground water or performing any work in connection with construction or proposed appropriation of underground water or any manner utilizing the water for beneficial purposes, file with the state engineer an application for a permit to make the appropriation and shall not proceed with any construction or work until a permit is granted by the state engineer,... The application shall contain the name and post-office address of applicant or applicants, a detailed description of the proposed use, the location by legal subdivision of the proposed well or other means of obtaining underground water, the estimated depth of the proposed well, the quantity of water proposed to be withdrawn and beneficially utilized in gallons per minute and acre-feet per calendar year, the location by legal subdivision of the area or point of use shall be provided, and such other information as the state engineer may require."

The state engineer utilizes the information provided by the applicant when considering whether to approve the U.W. 5 Form, and if approved, to determine what conditions and limitations may be attached to the use of water. Providing incomplete or insufficient information at the time of the filing of the U.W. 5 Form can result in significant delays in permit approval or ultimately rejection of the filing by the state engineer.

Permitting Process

When permitting active mine dewatering wells, including pit sumps, Items 7(a) & 7(b) on the U.W. 5 form must be completed. Item 7(a) is the Maximum instantaneous flow of water to be developed and beneficially used and Item 7(b) is the Maximum volumetric quantity of water to

be developed and beneficially used per calendar year. Maximums can be indicated for either one representative well or for all of the wells under the permit. However, the application must indicate whether the amount is for a representative well or for a total from all of the wells. The amount of wells that will be drilled under the permit must be indicated.

These numbers reflect the amount of water that is being pumped out of the ground or out of the pit sump.

Beneficial Use of Water

The following scenarios apply when mine dewatering water is to be used as a direct source for another beneficial use (i.e., water that is discharged to the surface or discharged to a new or existing reservoir may have additional permitting requirements through the SEO - Surface Water Division). Examples of how to fill out Items #4 (*use to which the water will be applied*) and #8, “*Tabulation Box*”, on the U.W. 5 Form are attached.

- 1) Ground water production for Mine Dewatering use only: No additional permitting is required if there is no additional beneficial use other than Mine Dewatering. In this situation Miscellaneous use is indicated in Item #4 on the form and Mine Dewatering should be indicated in the Remarks section on the back of the U.W. 5 form, in Item #8 on the form, the location of the Mine Dewatering well should be indicated.
- 2) If water will be used for Mine Dewatering and for other mining activities within the mine: Miscellaneous use is indicated in Item #4 on the form, Mine Dewatering should be indicated in the Remarks section on the back of the U.W. 5 form. In the Remarks section all of the other activities within the mine that the water will be used for must be listed (i.e. dust abatement). In Item #8, on the form, the location of the Mine Dewatering well should be indicated Also, in Item #8, “Other mine activities within the mine boundaries of mine permit (insert mine permit number).” should be written, no other description of the area of use will be necessary in the tabulation box. This will allow the water from the well(s) to be used anywhere within the mine boundaries, so long as it is used for the purposes that were specified in the Remarks section.
- 3) If water will be used for Mine Dewatering and Stock watering: Miscellaneous and Stock use is indicated on the U.W. 5 Form. Mine Dewatering should be indicated in the Remarks section on the back of the U.W. 5 Form. The tabulation in Item #8 should indicate the location of the well and the stock point(s) of use to the nearest quarter-quarter section. Stock use is defined as four (4) or less stock tanks, all located within one (1) mile of the well location.
- 4) If water will be used for Mine Dewatering and Stock watering at more than four (4) locations or at a distance greater than one (1) mile from the well: Miscellaneous use is indicated on the U.W. 5 Form. Mine Dewatering and Stock Water Pipeline is indicated in the Remarks section on the back of the U.W. 5 Form. All points of use should be indicated in the Tabulation in Item #8, including the well itself. A Microsoft word template for a tabulation attachment is available on request.

- 5) If water will be used for Mine Dewatering and then will discharge directly to a reservoir: Miscellaneous use is indicated on the U.W. 5 Form. In this case the use will be described as Mine Dewatering and Reservoir Supply. The well location and each reservoir location and name must be marked in the tabulation in Item #8. If the water discharges to a drainage or stream and not directly to the reservoir, do not specify Reservoir Supply use. RESERVOIR SUPPLY use should only be specified if the water is intended for, and will be put to use, under the permitted reservoir in question. A Microsoft word template for a tabulation attachment is available on request.
- 6) If water will be used for an industrial process, such as oil field secondary recovery (water flood) operations, where there is a consumptive use of the water: Miscellaneous and Industrial use is indicated on the U.W. 5 Form. If Industrial use is indicated, a description of the use and a tabulation of the area of use must accompany the U.W. 5 Form. The well location should also be indicated in the tabulation in Item #8 and Mine Dewatering should be indicated in the remarks.
- 7) If water is to be used for irrigation: Miscellaneous and Irrigation use is indicated on the U.W. 5 Form. A tabulation of the areas of use for the irrigation must be specified. The tabulation in Item #8 must include the total number of acres in each quarter-quarter of each section that receives water. The well location should also be indicated in the tabulation in Item #8 and Mine Dewatering should be indicated in the Remarks section.

In all of the scenarios presented above, the underlying theme is properly permitting all of the uses of the water, giving clear descriptions of the uses, and providing proper tabulation of areas and/or points where this use occurs.

Following the guidelines provided herein and providing timely submission of additional requested information will insure that consideration of U.W. 5 Form(s) occur(s) in a timely manner.

If the necessary information is not submitted with the U.W. 5 Form, or submitted upon request of the Ground Water Division, the U.W. 5 Form will not be considered for approval. The U.W. 5 Form(s) will be held unapproved, pending receipt of requested information and may ultimately be rejected.

Statutory Authority – Permits and Penalties

Before you construct a well or put any water from the well to beneficial use, you must have an approved permit from the Ground Water Division.

(Note: italics depict historic interpretation of the statute as implemented by the SEO)

“W.S. §41-3-905. Application... No well shall be constructed after the effective date of this act unless a permit has been obtained from the state engineer..” *The driller or person/entity engaged in construction of a water well shall have, at the well site, a copy of the approved permit or the permit number.*

Noncompliance with W.S. §41-3-905 will result in a penalty:

W.S. §41-3-919: Prohibited Acts; penalty for violation. Any person who withdraws underground water or who fails to stop or reduce the flow of underground water in violation of any order of the state engineer made pursuant to this act, or any person who does not have a permit, certificate or vested right to appropriate underground water who shall withdraw underground water from any well other than a well for stock or domestic purposes as defined in W.S. §41-3-907, is guilty of a misdemeanor and upon conviction shall be punished under W.S. §41-3-614. [‘...is guilty of a misdemeanor and shall be fined not exceeding five hundred dollars (\$500.00). The possession or use of water lawfully denied by the water commissioner or other competent authority is prima facie evidence of guilt.’]” (*this includes violation of the SEO’s Water Well Minimum Construction Standards or special conditions and limitations attached to ground water permits*).

“W.S. §41-3-938. Penalty. Any person who drills, digs, or constructs any works for the securing of underground water without having obtained a permit is guilty of a misdemeanor and upon conviction shall be punished under W.S. §41-3-614 [‘...is guilty of a misdemeanor and shall be fined not exceeding five hundred dollars (\$500.00). The possession or use of water lawfully denied by the water commissioner or other competent authority is prima facie evidence of guilt.’]”

Specific questions on surface water permitting should be directed to the State Engineer’s Office – Surface Water Division at (307) 777-6475.

If by-product water is discharged to the surface, the applicant should contact the Wyoming Department of Environmental Quality to determine if a discharge permit is required.

If you have any questions or need additional information, please call the State Engineer’s Office - Ground Water Division at 307-777-6163.

U.W. 5 Examples:

If only Mine Dewatering use is indicated, provide the well location in the tabulation box.

TABULATION BOX

TWP	RNG	SEC	NE ¹ / ₄				NW ¹ / ₄				SW ¹ / ₄				SE ¹ / ₄				TOTAL
			NE ¹ / ₄	NW ¹ / ₄	SW ¹ / ₄	SE ¹ / ₄	NE ¹ / ₄	NW ¹ / ₄	SW ¹ / ₄	SE ¹ / ₄	NE ¹ / ₄	NW ¹ / ₄	SW ¹ / ₄	SE ¹ / ₄	NE ¹ / ₄	NW ¹ / ₄	SW ¹ / ₄	SE ¹ / ₄	
49N	78W	10	X	Mine	Dewatering	Well													

If Mine Dewatering and other mine activities are indicated, provide the well location in the tabulation box as well as the boundaries of the mine in which the water will be used.

TABULATION BOX

TWP	RNG	SEC	NE ¹ / ₄				NW ¹ / ₄				SW ¹ / ₄				SE ¹ / ₄				TOTAL
			NE ¹ / ₄	NW ¹ / ₄	SW ¹ / ₄	SE ¹ / ₄	NE ¹ / ₄	NW ¹ / ₄	SW ¹ / ₄	SE ¹ / ₄	NE ¹ / ₄	NW ¹ / ₄	SW ¹ / ₄	SE ¹ / ₄	NE ¹ / ₄	NW ¹ / ₄	SW ¹ / ₄	SE ¹ / ₄	
49N	78W	10	X	Mine	Dewatering	Well													
				Other mine activities within the mine boundaries of mine permit															

The number of stock tanks and their locations must be shown when designating stock use on Item # 4 (up to four stock tanks within 1 mile of the well).

TABULATION BOX

TWP	RNG	SEC	NE ¹ / ₄				NW ¹ / ₄				SW ¹ / ₄				SE ¹ / ₄				TOTAL
			NE ¹ / ₄	NW ¹ / ₄	SW ¹ / ₄	SE ¹ / ₄	NE ¹ / ₄	NW ¹ / ₄	SW ¹ / ₄	SE ¹ / ₄	NE ¹ / ₄	NW ¹ / ₄	SW ¹ / ₄	SE ¹ / ₄	NE ¹ / ₄	NW ¹ / ₄	SW ¹ / ₄	SE ¹ / ₄	
49N	78W	10	X	Mine	Dewatering	Well													
49N	78W	10					X	Stock	Tank										

Miscellaneous Use (stock watering pipeline) must be indicated when more than 4 stock tanks are to be served, or if any one stock tank is more than 1 mile from the well.

TABULATION BOX

TWP	RNG	SEC	NE ¹ / ₄				NW ¹ / ₄				SW ¹ / ₄				SE ¹ / ₄				TOTAL
			NE ¹ / ₄	NW ¹ / ₄	SW ¹ / ₄	SE ¹ / ₄	NE ¹ / ₄	NW ¹ / ₄	SW ¹ / ₄	SE ¹ / ₄	NE ¹ / ₄	NW ¹ / ₄	SW ¹ / ₄	SE ¹ / ₄	NE ¹ / ₄	NW ¹ / ₄	SW ¹ / ₄	SE ¹ / ₄	
49N	78W	10	X	Mine	Dewatering	Well													
48N	78W	34			X	Hydrant (Portable Tank)							X	2-	Stock	Tanks		3	
48N	78W	33			X	Stock	Tank					X	Stock	Tank				2	

If water is hard-piped directly to a reservoir, indicate Miscellaneous Use (Reservoir Supply) under Item #4. If the water is not directly piped and is discharged into a tributary (i.e. draw/creek/etc.) up-stream of the reservoir, it is not considered a Reservoir Supply.

TABULATION BOX

TWP	RNG	SEC	NE ¹ / ₄				NW ¹ / ₄				SW ¹ / ₄				SE ¹ / ₄				TOTAL
			NE ¹ / ₄	NW ¹ / ₄	SW ¹ / ₄	SE ¹ / ₄	NE ¹ / ₄	NW ¹ / ₄	SW ¹ / ₄	SE ¹ / ₄	NE ¹ / ₄	NW ¹ / ₄	SW ¹ / ₄	SE ¹ / ₄	NE ¹ / ₄	NW ¹ / ₄	SW ¹ / ₄	SE ¹ / ₄	
49N	78W	10	X	Mine Dewatering Well															
48N	78W	34					X	Reservoir name, Permit No. 12345 Res.											

If water is to be used for any other use not indicated above and you would like assistance, please contact the State Engineer's Office - Ground Water Division at (307) 777-6163.