Aquifer Exemption Evaluation

Regulatory Agency: Colorado Oil and Gas Conservation Commission (COGCC) 1425 Program

Date of Aquifer Exemption Request:

Substantial or Non-Substantial Program Revision:

Basis for Substantial or Non-Substantial Determination:

Operator:

Well Class/Type: Class II SWD Well

Well/Project Name:

Well/Project Permit Number:

Well API number:

Field:

Tribal Reservation:

Well/Project Location: Qtr: Section: Township: Range:

Footage Call: feet from (NS) line   feet from (EW) line

County: **State**:

Latitude: **Longitude:**

DESCRIPTION OF PROPOSED AQUIFER EXEMPTION (depths are approximate values at the well bore)

Aquifer to be Exempted: **Top:** feet   **Bottom:** feet

Lithology:

Water Quality – TDS (mg/L):   **Source of WQ Data**:

Areal Extent and Description of Exempted Aquifer (i.e. radial distance, encompassed TSR)

   Total Area of Aquifer to be Exempted: ___ Acres

   Description: ____ of Section , T___, R___W

Confining Zone(s):

Upper:	**Lithology:**	**Top:** feet	**Bottom:** feet
Lower:	**Lithology:**	**Top:** feet	**Bottom:** feet

BACKGROUND

USDW(s):

Injectate Characteristics:

BASIS FOR DECISION

Regulatory Criteria under which the exemption is requested
An aquifer or a portion thereof which meets the criteria for an underground source of drinking water may be determined to be an exempted aquifer if it meets the criteria is 146.4(a) AND 146.4(b) or (c). The purpose of the bullets beneath each criteria is to ensure that appropriate and adequate information is collected to facilitate review of AE requests, and documentation of AE decisions. Some information described here may not apply to all AE requests.

146.4: ☐ **(a)** Not currently used as a drinking water source and**:**

- How far from the AE boundary to review drinking water wells and how was this determined?
- Identify drinking water wells in area of review, their depths, and provide source of information.
- Identify any source water assessment and/or protection areas and designated sole source aquifers
- Identify nearest public water supply (PWS).
- What is the distance of the nearest drinking water well utilizing the aquifer proposed for exemption. Is it in close enough proximity to require a capture zone analysis?
- Provide map of AE boundary and location of drinking water wells.

☐ **(b)(1)** It is mineral, hydrocarbon, or geothermal energy producing, or can be demonstrated by a permit applicant as part of a permit application for a Class II or Class II operation to contain minerals or hydrocarbons that considering their quantity and location are expected to be commercially producible; or

- Projections on future use of the proposed aquifer.

Hydrocarbon Production Data:
- Demonstrate historical production having occurred in the project area or field.
- Demonstrate existence hydrocarbon (logs, core data, etc) and estimation of the quantity of the hydrocarbon potential.

Mineral Resources Available:
- A summary of logging which indicates that commercially producible quantities of minerals are present, a description of the mining method to be used, general information on the mineralogy and geochemistry of the mining zone, and a development timetable.

☐ **(b)(2)** It is situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical; or

- Projections on future use of the proposed aquifer.
- Current sources of water supply in the area of the proposed exempted aquifer.
- Availability, quantity and quality of alternative water supply source(s) to meet present and future needs.
- Population trends in the area and analysis of future water supply needs within the general area.
- Well construction and water transportation and/or treatment costs to develop aquifer proposed for exemption compared to costs to develop alternative resource(s).

☐ **(b)(3)** It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption; or

- Projections on future use of the proposed aquifer.
- Concentrations, types, and source of contaminants in the aquifer.
- If contamination is a result of a release, extent of contaminated area and whether contamination source has been abated.
- Ability of treatment to remove contaminants from ground water.
- Current sources of water supply in the area of the proposed exempted aquifer.
- Availability, quantity and quality of alternative water supply source(s) to meet present and future needs.
- Population trends in the area and analysis of future water supply needs within the general area.
- Well construction and water transportation and/or treatment costs to develop aquifer proposed for exemption compared to costs to develop alternative resource(s).

☐ **(c)** TDS is more than 3,000 and less than 10,000 mg/l and it is not reasonably expected to supply a public water system.

- Projections on future use of the proposed aquifer.
- Include information about the quality and availability of water from the aquifer proposed for exemption.
- Analysis of the potential for public water supply use of the aquifer. This may include: a description of current sources of public water supply in the area, a discussion of the adequacy of current water supply sources to supply future needs, population projections, economy, future technology, and a discussion of other available water supply sources within the area.

Describe what assurance exist to confine fluids within the AE boundary:

- Discuss injection rate or volume limitation
- Discuss existence and quality of confining zone(s). (Is the confining zone continuous, are there known fractures?)

Public Comment

Public Comment Conducted? ☐ Yes ☐ No
Results of Public Comment Process:

Questions for Consideration

☐ **Are there deeper aquifers with poorer quality water that can be used for injection (disposal wells)?**
☐ **Proximity to other jurisdictional boundaries?**
☐ **Is seismicity a concern in the area?**
☐ **Will injection of fluids cause any original formation fluid or injectate to migrate to any known USDW?**
☐ **Are all wells within the AE boundary and AOR properly cemented to prevent preferential flow paths?**

Provide other considerations to support aquifer exemption approval: