

EPA Seeks Comments on Injection Well Permit

Applicant: **Montalban Oil & Gas Operations, Inc** **Fact Sheet**
Site Location: **Pondera County, Montana**

Permit Number(s):
MT52439-12514

How to Comment:

The public notice is posted at EPA Region 8 UIC program's website: <https://www.epa.gov/uic/underground-injection-control-epa-region-8-co-mt-nd-sd-ut-and-wy#public-notice>. The public will have 30 days from the start of the public notice to provide comments on the proposed permit action.

Submit your comments in writing or by phone to the EPA contact listed below during the comment period. Please reference the applicant's name and permit number(s). You may also comment during a public hearing if one is held.

EPA Contact:

Fraser Evans
Email: Evans.Fraser@epa.gov
Phone: 303-312-6299 or (800) 227-6455, extension 312-6299

Public Hearing

No public hearing is planned at this time. During the comment period, you may ask EPA, using the methods described in the "How to Comment" section of this fact sheet, to hold a formal public hearing. Your request must identify issues to be raised. When there is significant public interest, EPA will hold a hearing to receive public comments and will publish a notice at least 30 days prior.

Additional Information

For additional information, please consult the EPA contact listed above. To learn more about EPA's Underground Injection Control program, visit <https://www.epa.gov/uic/underground-injection-control-epa-region-8-co-mt-nd-sd-ut-and-wy>.

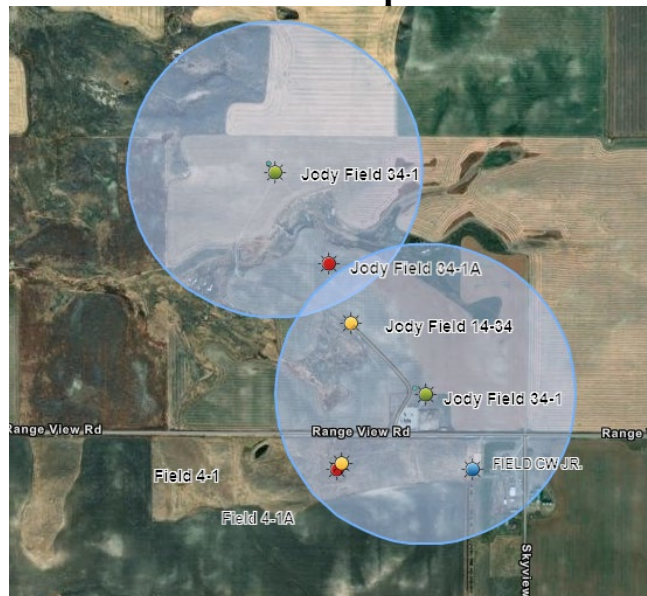
Summary

EPA proposes to approve Montalban Oil & Gas Operations, Inc's (MOGO's) request to operate a Class V well under an individual permit. MOGO currently operates Jody Field 34-2, a Class II well regulated by the Montana Board of Oil and Gas Conservation Commission. In addition to continued oil and gas injection, MOGO proposes to inject wastewater generated from renewable feedstocks, which may include, but are not limited to, vegetable oils (such as soybean oil and canola oil), animal fats (such as beef tallow, choice white grease, and poultry fat) distiller's corn oil, and used cooking oil. Due to the addition of these fluids, the well would be permitted as a Class V well because of the injectate type and because it is constructed above the Devonian Duperow Aquifer, which is considered an underground source of drinking water (USDW) in some areas of the Basin. To prevent endangerment to USDWs, and consistent with EPA policy, the Agency is requiring the well meet the standards of Class I wells. Injection will occur into the Mississippian Madison Aquifer formation at depths between 3,418 feet and 3,499 feet below the ground surface. An aquifer exemption is also proposed in connection to this injection well to expand a previously approved aquifer exemption for the Madison formation to approximately 3,700 feet below ground surface, to include the entire formation.

Basis for Draft Permit Conditions (Summary)

The proposed permit conditions are based on the applicable regulatory provisions of 40 CFR parts 2, 124, 144, 146 and 147, which are designed to protect public health and drinking water from unsafe underground injection practices. Well specific restrictions are derived, in accordance with these provisions, from an evaluation of data gathered from pertinent sources. This information is outlined in the administrative record, which includes data that the applicant was required to submit as part of the permit application process. EPA considered the adequacy of the minimum or standard monitoring and testing requirements for a Class I well in the draft permit as noted above. These requirements are important for detecting potential endangerment given the well construction, local geology, identification of available USDWs water quality data, characterizations of the injected fluid, and operator compliance history.

Site Map



Final Decision and Right to Appeal

EPA will consider all comments received during the comment period and any hearing held, and then issue a final decision. You have the right to appeal the decision if you make an official comment during the comment period or participate in a public hearing. If you have this right to appeal, the first appeal must be made to the Environmental Appeals Board within 30 days after the final permit decision has been issued. The final decision can be appealed in federal court only after all agency review procedures have been exhausted. Please refer to 40 CFR §124.19, which outlines the appeal process.

Aquifer Exemptions

The Jody Field 34-2 well was initially authorized to inject into the Sawtooth and Madison Formations by the MBOGC. On March 15, 2010, 20 feet of the Sawtooth Formation and 13 feet of the Madison Formation were exempted a 0.25-mile radius from the wellbore in accordance with 40 CFR §§144.7 and 146.4 of the Safe Drinking Water Act. EPA determined that the 20 feet of presumed Sawtooth Formation is actually a dense calcareous transitional deposit that is part of the Upper Madison Formation and not a separate USDW, as detailed in the technical analysis included in the administrative record.

A workover to acidize and deepen the well was approved by the Montana Board of Oil and Gas Conservation in August 2022 and the workover was conducted in September 2022. Jody Field 34-2 was deepened by 68 feet for a total open hole height of 81 feet across the Madison. No injection has occurred since the well was deepened, except for the injection of clean water used to conduct a step rate test. The well workover revealed that there was not a confining zone of less permeable layers in the lower Madison Formation directly beneath the bottom of the original well depth, as previously assumed in the first aquifer exemption. Since the Madison formation is most likely hydraulically connected and there is not sufficient evidence of less permeable layers within the lower Madison Formation, an aquifer exemption to expand the injection zone to the entire Madison Aquifer to an approximate depth of 3,700 feet is proposed for continued injection.

To ensure fluids remain within the 0.25-mile radius from the wellbore, the permit establishes a Class V maximum cumulative injection volume limitation of 7,156,173 bbls, which accounts for the previously injected volume of 205,090 bbls into Jody Field 34-2. The volume calculation assumes a porosity of 9.7% for the injection zone, which was derived from a porosity log from the nearby well Field 1-34, located approximately 0.13 miles southeast of Jody Field 34-2. The estimated porosity falls within the range found in the literature and also consistent with the porosity log from Jody Field 34-1, which is 0.5 miles away. Additional details on the volume calculation and the porosity evaluation are included in the technical analysis as part of the administrative record.

The Madison aquifer is considered a USDW because its quantity can serve a public water system and the TDS is less than 10,000 mg/L. EPA proposes to exempt the Madison formation from protection of the Safe Drinking Water Act for the purposes of this permitted activity in accordance with §§144.7 and 146.4. The applicant has provided information to demonstrate the Madison formation does not currently serve as a source of drinking water and cannot and will not serve as a source of drinking water. The draft aquifer exemption Record of Decision for Jody Field 34-2 is being public noticed for comment concurrently with this Fact Sheet and the Jody Field 34-2 draft permit.

Principal Facts Considered

Area of Review (AOR) Analysis: The fixed AOR radius about the injection well is 0.25 miles. According to 40 C.F.R. § 147.1355¹, the federal regulatory UIC program in Montana requires that the AOR for all UIC wells be a fixed radius. Consistent with 40 C.F.R. § 146.6(b), EPA considered the injection volume, chemistry of injected and formation fluids, hydrogeology, population and groundwater use and dependence, and historical practices in the area. Following this review, EPA determined that 0.25 miles is an appropriate AOR for the following reasons: the fixed-radius approach reflects existing State practices and is consistent with the existing approved aquifer exemption radius. Within the AOR, there is one plugged and abandoned well that penetrates the injection zone. The well is cemented from the well bottom to above the Sawtooth Formation and thus isolates the injection zone. Based on EPA's technical analysis, which is documented in the administrative record, EPA concluded that there are no AOR wells in need of corrective action.

Site Geology: The injection zone is within the Mississippian Madison Aquifer, which is between the depths of 3,418 and 3,700 feet below ground surface (ft. bgs). The confining zone immediately above the injection zone consists of the Swift, Rierdon, and Sawtooth formations from a depth of 3,203 ft. bgs to 3,418 ft. bgs, and is free of known transmissive faults or fractures within the AOR. Immediately below the injection zone, are the Mission Canyon, Lodgepole, Three Forks and Potlach formations (~3,700 to 4,900 ft. bgs), providing confinement for the Duperow (lowermost USDW with an

¹ § 147.1355 Requirements for all wells. (a) Area of review. Notwithstanding the alternatives presented in §146.6 of this chapter, the area of review shall be a fixed radius as described in §146.06(b) of this chapter.

approximate top at 4,900 ft. bgs). EPA considered the geologic characteristics of and relationships between the injection zone, confining zone, and lowermost USDW within the AOR and has determined that the geologic setting for injection, long term containment, and isolation of injected fluids is protective of USDWs, as detailed in the technical analysis included in the administrative record.

Injection Pressure: The injection pressure is limited to a maximum of 688 psi to prevent injection pressures from initiating new or propagating existing fractures in the injection zone, and from causing movement of injection or formation fluids into USDWs. EPA calculated a protective limit using the formula included in the permit along with site-specific values of 3,418 feet depth to the top of the open hole, wastewater injectate calculated specific gravity of 1.004, and injection zone fracture gradient of 0.634 psi/ft. The fracture gradient was calculated using step-rate test data from the well. The calculated specific gravity value used is an estimate. The injection pressure limit value will be updated and may change after the specific gravity of the injectate is obtained, which is a permit condition prior to authorizing injection. Additional details on the step rate test analysis and the injection pressure limit calculation are included in the technical analysis as part of the administrative record.

Injection Well Construction: The well was designed and is constructed so that injection occurs through tubing set within the innermost casing in a manner that is protective of USDWs. The well is designed to be mechanically sound, to provide adequate zonal isolation, and to be monitored for mechanical integrity during operations. Well components include layers consisting of tubing, casing, and cement where tubing size, tubing type, cement quality, cement placement, and cement quantity were also considered. The well will be monitored to ensure that there are no leaks and to confirm that injected fluids are reaching the intended injection zone. EPA considered the suitability of construction materials and well design for the injection activity, including the prevention of corrosion from injected fluids, and has concluded that well construction requirements in the permit are protective of USDWs. The well is drilled to a depth of 3,499 feet.

Plugging and Abandonment: When the well is no longer needed, it will be permanently plugged and abandoned. The applicant has utilized a Letter of Credit to demonstrate their ability to cover plugging costs. EPA considered the well construction and site geology in determining the sufficiency of the plugging and abandonment plan and concluded that it will protect USDWs. EPA also concluded that the surety of resources is adequate to plug the well in a manner that is protective of USDWs.

Seismic Activity (Earthquakes): The proposed UIC area is located several miles east of mapped faults in an area with low earthquake risk. No mapped or known faults lie within the AOR. EPA considered the potential for hazards regarding seismic activity within the vicinity of the site and found no concerns related to the ability of the geologic setting to safely withstand injection if such potential exists, as documented in the administrative record.

Environmental Justice: EPA considered its obligations under Executive Order 12898 and concluded that there may be potential EJ communities proximate to the Authorized Permit Area. The primary potential human health or environmental effects to these communities associated with injection well operations would be to local aquifers that are currently being used or may be used in the future as USDWs. EPA's UIC program authority under the Safe Drinking Water Act is designed to protect USDWs through the regulation of underground injection wells. Based on EPA's analysis which is documented in the administrative record, EPA has concluded that the specific conditions of UIC Permit MT52439-12514 will prevent contamination to USDWs, including USDWs which either are or will be used in the future by communities of EJ concern.

Historical Property: EPA reviewed the National Park Service National Register of Historic Places database for historic properties located in Pondera County. No properties were found in the vicinity of the well and therefore EPA proposes to find that there will be no potential to affect such properties consistent with its obligations under the National Historic Preservation Act

Endangered Species: EPA considered its obligations under Endangered Species Act and found no impacts related to endangered species or their habitat. Based on EPA's analysis which is documented in the administrative record, the footprint of the surface activities will not change and no additional surface impacts beyond the existing well pad are planned.

Tribes: EPA considered its obligations under the 1984 EPA Policy for the Administration of Environmental Programs on Indian Reservations. While the location of the proposed Class V injection well is outside of Indian country, EPA will notify the tribal government of the Blackfeet Indian Tribe of EPA's proposed permit due to its relative proximity to Tribe's Reservation.