



Oregon

Tina Kotek, Governor

Water Resources Department

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MEMORANDUM

PREPARED FOR: The City of Hermiston and ASR LL #030 application file

PREPARED BY: Andrew Wentworth, Hydrogeologist (WRD)

SUBJECT: Application Completeness Review for ASR LL #030

DATE: 11/22/2024

Background

The City of Hermiston submitted an application for ASR LL #030 on July 17, 2024. The proposed project includes ASR testing at an existing well, UMAT 5450 (Well #6, ASR-1), and two proposed wells (ASR-2 and ASR-3) to be constructed in the future. The project's source water would consist of surface water from the Columbia River, authorized under Certificates 96357, 96358, 96359, and 96360. The ASR well accesses basalt of the Columbia River Basalt Group in the Stage Gulch Critical Groundwater Area, Subarea A. The proposed observation well network for monitoring the effects of ASR activities on the aquifer consists of 5 wells, including one multi-completion monitoring well with 4 open intervals.

OWRD completeness comments: Andrew Wentworth
(andrew.m.wentworth@water.oregon.gov)

Items requiring additional information to reach application completeness:

1. Is the applicant seeking authorization of recovery wells (ASR-1R, ASR-2R, and ASR-3R)? If so, they should be listed in Appendix A Table 1. Additionally, they should be included in the application maps and their planned construction described in the application.
2. The proposed observation well network does not meet the requirement to measure the effects of ASR testing on the aquifer. Specific issues identified with the proposed wells are noted below. Please revise the monitoring plan to include observation wells approved by the Department. A meeting to discuss options with OWRD hydrogeologists is recommended. While the Department may provide contact information for well owners in some cases, the applicant is responsible for obtaining access to collect water level measurements.
 - a. UMAT 54913 is more than 9 miles away from the ASR well and the previous water level measurement indicates that the static water level is >300 feet higher in elevation than UMAT 5450 (ASR1). Also, domestic wells are not ideal for inclusion in observation well networks because they tend to be pumped on a more frequent basis and water level measurements may not be representative of conditions in the aquifer.

- b. UMAT 54154 has not been able to be measured reliably since 2016.
 - c. UMAT 50189 is hooked up to the City of Stanfield's SCADA system, but has not been verified by manual measurement since 1996.
 - d. UMAT 2077/5736 (Old Well #2) is located very near to its replacement UMAT 5735 (New Well #2), which is also open to both the shallow (Umatilla and Priest Rapids) and deep basalts (Frenchman Springs and Sentinel Bluffs). Has the City or GSI observed whether one or more of the monitoring well completions respond to pumping at UMAT 5735 (New Well #2)? If so, it may obscure the effects of ASR activities on the aquifer.
 - e. UMAT 2061 has been inaccessible for e-tape water level measurements since 2013. It is WRD's understanding that the City has a transducer installed, but the readings cannot be manually verified.
- 3. A description of the estimated flow direction within the target aquifer is needed for the application to be considered complete.
 - 4. A description of the wells within the area affected by ASR wells is needed for the application to be considered complete. Including nearby well locations and well log IDs on a map would satisfy this requirement.

DEQ Completeness Comments/Requests for Information: Phil Richerson
(phil.richerson@deq.oregon.gov)

DEQ's comments on the City of Hermiston's ASR Limited License Application are as follows:

- 1) A discussion of the reported negative ORP value for source water is warranted. The source water sample showed 8.17 mg/L DO and -24.8 mV ORP. Treated drinking water typically has much higher ORP values.
- 2) As explained below, a discussion of the City's PFAS results in the application is warranted. In addition, DEQ requires that the six PFAS with federal MCLs be included in the sampling program from the onset of the project in order to determine if PFAS concentrations pose a significant hurdle for the project.

Tables 11 and 12 detail proposed sample frequency and parameter groups to be sampled during the project. Table 13 details the specific analytes in each parameter group. Two groups of analytes are included in Table 13 but not in Table 11, Table 12, or referenced in the application text: Disinfectants (including chloramines, chlorine, and chlorine dioxide) and Per- and Polyfluoroalkyl Substances (including PFOA, PFOS, PFHxS, PFNA, and HFPO-DA but not PFBS). On April 10, 2024, EPA announced Maximum Contaminant Levels (MCLs) for five individual Per- and Polyfluoroalkyl Substances (PFAS) (i.e., PFOA, PFOS, PFHxS, PFNA, and HFPO-DA) and for a mixture of four specific PFAS (i.e., PFHxS, PFNA, HFPO-DA, and PFBS). DEQ is aware that the City has been conducting some PFAS monitoring and PFAS has been detected in some of their wells. Given the known detections of PFAS in the area, including a discussion of the City's PFAS results to date and proposing PFAS sampling in the application is warranted.

OHA Completeness Comments/Requests for Information: Tom Pattee
(tom.pattee@oha.oregon.gov)

Regarding the City of Hermiston water system:

The City of Hermiston was most recently surveyed by OHA Drinking Water Services in August 2022. A Water System Survey is an on-site review of a water system's sources, treatment, storage facilities, distribution system, operation and maintenance procedures, monitoring, and management, and is conducted for the purposes of providing safe water to the public. Survey results and a review of current water system monitoring data indicated the following:

- 1) No outstanding/unaddressed violations from the last 5 years (there were 5 late reporting violations related to required sampling that have since been returned to compliance).
- 2) Water quality results for proposed source water (treated Columbia River water) and receiving water (Well #6, SRC-DA) show no detections of SOCs or VOCs.
- 3) No unaddressed significant deficiencies that would pertain to an Aquifer Storage and Recovery project.
- 4) Current operation of the Regional Water Treatment Plant includes the plant being offline for multiple days at a time and that it currently operates at 15 to 17 gpm.
- 5) It was noted in the Survey that Well #6 (SRC-DA) had gaps between the pump and the concrete pad that the pump rests on. It was recommended that these gaps be sealed to prevent dust and insects from entering.
- 6) It was noted in the Survey that excessive water was leaking from Well #6 (SRC-DA), allowing water to pool in the building. It was recommended that this be remedied to ensure the well is working properly.

Comments regarding the ASR Limited License Application:

The monitoring schedules for SOCs identified in Table 12 on page 23 will need modification as the OHA requirement for water systems that serve more than 3,300 is "2 consecutive quarters every 3 years".

The monitoring schedule for source water VOCs identified in Table 12 on page 23 will need modification as the OHA requirement pertaining to surface water sources is for VOC sampling to occur annually, not every 3rd year.

While the Application appears to meet most requirements for describing water quality of the source water and receiving/native groundwater, there does not appear to be a description of source water treatment processes in place during the time of year proposed for injection or (given that it is proposed to inject water intermittently during the summer months) if there are seasonal variations in how the treatment is applied and if so, an evaluation of whether or not those adjustments would impact the ASR water quality monitoring plan. Given the current operation of the water treatment plant (intermittent, low volume), it appears that adding the ASR project will also significantly impact water treatment plant operations. If so, will those impacts result in any anticipated adjustments in the source water treatment process and what might those anticipated adjustments be?

The Application does not mention recent sampling results for unregulated contaminants in both the source water and the receiving water. Given emerging concerns regarding PFOA/PFOS

contaminants in drinking water, their future regulation, and detection in other City of Hermiston water sources... including a short discussion in the application would seem appropriate.

The Application indicates that the City of Hermiston has access to 1,527 gpm of treated water from the RWTP. However, the application is requesting a maximum recharge rate of roughly 3,000 gpm, almost twice the available treated water from the RWTP. Is there an explanation for the difference between the two numbers?

OHA Suggestions/Recommendations:

Source Water Assessment data indicates that the identified Drinking Water Source Area for Well #6 (SRC-DA) includes a warehouse/fleet terminal for Walmart that that is also identified as a Hazardous Waste Generator. Therefore, OHA-DWS recommends working with this facility to reduce the risk of contamination through voluntary drinking water source protection efforts such as secondary containment for chemicals stored on site, implementation of spill response plans, and/or implementation of parking lot stormwater best management practices. Additional information regarding drinking water source protection can be found on the DEQ and OHA websites.

Cc: Phil Richerson, DEQ
Tom Pattee, OHA
Matt Kohlbecker, GSI Water Solutions, Inc.
Greg Silbernagel, OWRD