TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 18, 2020

Mr. Steve Selger, President
Ruby Ranch Water Supply Corporation
P.O. Box 1585
Buda, Texas 78610

RE: Authorization of a Class V Aquifer Storage and Recovery Injection Well
TCEQ Authorization No. 5R2100053
CN603033564/RN102681285
Ruby Ranch Water Supply Corporation
Plant No. 2
2053 Ruby Ranch Road
Buda, Texas 78610

Dear Mr. Selger:

The Texas Commission on Environmental Quality (TCEQ) Underground Injection Control (UIC) Permits Section staff has completed review of the authorization application dated November 13, 2019, prepared by David Jeffery and Donald Rauschuber for the above referenced Class V Aquifer Storage and Recovery (ASR) authorization.

Approval is hereby given for the operation of existing Water Well No. 5 for the injection of untreated groundwater from the Edwards Aquifer from Water Well No 4 into the Cow Creek Formation. The ASR operator may recover up to 82% of the total volume of water injected into the Cow Creek Formation during the six-month injection cycle. If the total volume of injected water recovered exceeds this quantity, the requirements of Texas Water Code (TWC) Chapter 36, Subchapter N will be applicable. The approved authorization is limited to the plans and specifications for this site as described by the Class V ASR authorization application dated November 13, 2019, as revised on November 22, 2019, December 23, 2019, January 7, 2020, and as revised in response to the February 11, 2020 clarification letter from Donald G. Rauschuber to TCEQ (Provision 6 of this authorization).

In order to maintain authorization by rule, injection operations must meet all requirements of 30 Texas Administrative Code (30 TAC) Chapter 331 (Underground Injection Control) as well as all applicable requirements of TWC, Chapter 27 and 30 TAC Chapters 290, 295, and 297. The express incorporation of the above rules as terms and conditions of this authorization does not relieve the authorization holder of an obligation to comply with all other laws or regulations that are applicable to the activities approved by this authorization. Requirements for the authorization include:

1. All injection wells are to be constructed to meet the standards provided in 30 TAC §331.132 or as approved otherwise. Mechanical integrity of the well(s) shall be maintained.

2. Ruby Ranch Water Supply Corporation (RRWSC) is authorized to inject up to 15 million gallons of groundwater from the Edwards Aquifer into the Cow Creek Formation and recover up to 12,3000,000 gallons of the injected over a one-year period. Any volume of water recovered in excess of 12,300,000 gallons is subject to the requirements of TWC Chapter 36, Subchapter N.

3. Each calendar month, the executive director shall be provided either a written or electronic report containing the following information for the previous month:

   - the volume of water injected for storage;
   - the volume of water recovered for beneficial use; and
   - monthly average injection pressures.

   One original and one copy of the report shall be submitted to the UIC Permits Section, Radioactive Materials Division, at mail code MC233.

4. Annual water quality testing shall be performed on water that is to be injected into the ASR system and on water that is recovered from the ASR system. The executive director shall be provided with either a written or electronic report of the results of the testing which shall include all parameters identified in the application. One original and one copy of the report shall be submitted to the UIC Permits Section, Radioactive Materials Division, at mail code MC233.

5. To meet the requirements for groundwater monitoring in 30 TAC §331.19(c)(5)(A)(ii), Ruby Ranch WSC shall coordinate with the Barton Springs Edwards Aquifer Conservation District (BSEACD) to obtain BSEACD's groundwater monitoring data for BSEACD's monitor well number 58-57-513. The groundwater monitoring protocols are detailed in the February 5, 2020 letter from BSEACD to TCEQ (attached). All results from the monitoring of this well shall be reported to the UIC Permits Section, Radioactive Materials Division, at mail code MC233.

6. Water quality testing for arsenic shall be performed on water that is to be injected into the ASR system and on water that is recovered from the ASR system as follows:

   Water Supply Well No. 4
   At the conclusion of each three-month injection cycle or at the conclusion of any injection cycle that is less than three months in duration, RRWSC shall collect one (1) water sample at the wellhead. This sample shall be tested for arsenic.

   ASR Well No. 5
   At the conclusion of each three-month recovery cycle or at the conclusion of any recovery cycle that is less than three months in duration, RRWSC shall collect one (1) water sample at the wellhead. This sample shall be tested for arsenic.

   The executive director shall be provided with either a written or electronic report of the results of the testing for arsenic within 30 days of sample collection. The report shall be submitted to the UIC Permits Section, Radioactive Materials Division, at mail code MC233.

7. Changes to the authorization, including but not limited to the addition of wells, replacement of wells, different injectate, operational and status changes, require an amendment to the authorization. One original and one copy of an amendment request shall be submitted to the UIC Permits Section, Radioactive Materials Division, at mail code MC233 for approval prior to implementation of the changes.

8. Plugging of injection wells shall comply with standards provided in 30 TAC §331.133, Closure Standards for Injection Wells. One original and one copy of plugging reports shall be submitted to the UIC Permits Section, Radioactive Materials Division, at mail code MC233 upon completion of plugging of the wells or may be submitted with the subsequent status report.

9. When authorized injection activities have ceased, the injection well is either plugged or converted to a water supply well or a monitoring well, and no further injection activities will be conducted at the site, the Class V authorization should be terminated. One original and one copy of a request for termination shall be submitted to the UIC Permits Section, Radioactive Materials Division, at mail code MC233. If plugging reports for the injection well have not been previously submitted to the UIC Permits Section, the termination request must include the plugging information.

10. This Class V ASR authorization does not convey any property rights of any sort, nor any exclusive privilege, and does not become a vested right in the permittee.

11. The issuance of this Class V ASR authorization does not authorize any injury to persons or property or any invasion of other property rights, or any infringement of state or local laws or regulations.

If you have any questions or comments regarding this matter please contact me at david.murry@tceq.texas.gov] or (512) 239-6080. If you will be responding by letter, please include mail code MC233 in the mailing address.

Sincerely,

David H. Murry, P.G., Project Manager
Underground Injection Control Permits Section
Radioactive Materials Division
Texas Commission on Environmental Quality

DHM/krh-d

Attachment

cc: David Jeffery
Donald Rauschuber
Joel Klumpp, TCEQ Water Supply Division

Ruby Ranch Water Supply Corporation
Class V Authorization No. 5R2100053
Attachment 1

RECEIVED
FEB 6 2020
RADIOACTIVE MATERIALS
DIVISION

Barton Springs Edwards Aquifer
CONSERVATION DISTRICT

February 5, 2020

Ms. Lorrie Council
TCEQ
Mail Code 233
PO Box 13087
Austin, Texas 78711-3087

Dear Ms. Council,

The District considers the Ruby Ranch multiport monitor well to be a monitor well for the purposes of monitoring aquifer conditions in the vicinity of the Ruby Ranch ASR system. The District installed this well in 2008 and it consists of 14 zones from which we can measure distinct water levels, water quality, and hydraulic conductivity in each zone (Wong et al., 2014).

Two of those zones are completed in the Cow Creek limestone, which is the injection zone for the Ruby Ranch ASR system. The multiport monitor well (state well number 58-57-513) is about 0.9 miles northwest of the Ruby Ranch ASR well. During testing of the Ruby Ranch Trinity Aquifer well (state well number 58-57-515) in February 2010, the District monitored water levels in the Cow Creek zone of the multiport well. Decreases in water levels of about 3 ft due to pumping of the Ruby Ranch ASR well were recorded at that time, establishing a clear hydrologic connection between the two wells.

Currently, the District monitors water levels in the Cow Creek zone on a continuous basis with a pressure transducer and the data are collected from all zones quarterly from the well. Water-quality samples are collected periodically from the well (see link below). For purposes of monitoring aquifer conditions related to operation of the Ruby Ranch ASR system, the District will continue to collect water-level data and once a year will collect a sample from one of the zones in the Cow Creek limestone which will be analyzed for conductivity and total dissolved solids (TDS). At the time of final permitting of the Ruby Ranch ASR system, a sample will be analyzed for a traditional suite of anions and cations. This analysis will be repeated every five years. Results of the monitoring will be shared with the operators of the Ruby Ranch ASR system annually.

Chemistry data are available at:
https://www3.twdb.texas.gov/apps/waterdatainteractive//GetReports.aspx?Num=5857513&Type=GWDB
Wong et al., 2014:
https://www.researchgate.net/publication/256608062_Investigating_Groundwater_Flow_Between_Edwards_and_Trinity_Aquifers_in_Central_Texas

Sincerely,

Brian A. Smith, Ph.D., P.G.

1124 Regal Row · Austin, Texas 78748 · (512) 282-8441 · Fax: (512) 282-7016 · www.bseacd.org · e-mail: bseacd@bseacd.org