

**QUARTERLY PROGRESS REPORT NO. 9 (CY 2019)**  
**NBU ASR Demonstration Project**

To:  
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ARCADIS U.S., Inc.  
TX Engineering License # F-533

From:  
Fred M. Blumberg

Date:  
April 2, 2019

ARCADIS Project No.:  
40256004.0000

Subject:  
Quarterly Progress Report for the NBU ASR Demonstration Project (**Contract No. 1600011957**) for **January 1, 2019 through March 31, 2019**.

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**Introduction:**

The New Braunfels Utilities (NBU) Aquifer Storage and Recovery (ASR) Demonstration Project is being partially funded by the Texas Water Development Board (TWDB) under Rider 25 to HB 1 (General Appropriations Act) of the 84<sup>th</sup> Legislature. The “Project” generally consists of: coordination with TCEQ; design for wireline coring in the brackish Edwards Aquifer; wireline coring; design of a monitor well in the brackish Edwards Aquifer; construction of the monitor well and collection of data; preparation of draft and final reports; and presentations on the Project.

The Project Contractor is the Edwards Aquifer Authority (EAA) and the primary Project Participant is NBU. The Project consulting and engineering team consists of Arcadis U.S., Inc.; ASR Systems, LLC; and INTERA, Inc. (the “Arcadis Team”).

The purposes of this Quarterly Progress Report are to explain what work has been accomplished during the reporting period, and to describe any potential or anticipated challenges.

**Work Completed:**

Task 1: Project Management. During this reporting period project management activities included communication with EAA and NBU, and among the Arcadis team. NBU and the Arcadis Team meet monthly to review progress on the project, and the Arcadis Team has internal conference calls at least once each month.

On March 6, 2019 NBU, EAA and the Arcadis Team held a Work Group meeting, as required under the EAA-NBU Interlocal Contract.

Task 2: Coordination with TCEQ. A coordination meeting with TCEQ was held at the TCEQ offices on September 18, 2018. Arcadis submitted an ASR experimental well application to TCEQ on behalf of

NBU on January 16, 2019; additional information was submitted on February 20, 2019. On March 1, 2019 NBU received from TCEQ Authorization No. 5X2500130 for a Class V Injection Well.

Task 3: Coring Design. Completed.

Task 4: Wireline Coring. Completed.

Task 5: Monitor Well Design. Completed.

Task 6: Monitor Well Construction and Data Collection. Completed.

Task 7: Draft and Final Reports. Arcadis delivered the draft report to the TWDB on December 18, 2018. Formal comments from the TWDB were provided in a letter dated February 7, 2019. Arcadis addressed all of Board's comments and delivered the final report to the TWDB on March 29, 2019.

Task 8: Presentations. Fred Blumberg made an ASR presentation to the Capital Area Chapter of the TAWWA on February 28, 2019.

### **Challenges Identified:**

No challenges were identified during this reporting period.