

QUARTERLY PROGRESS REPORT NO. 4
Victoria ASR Demonstration Project

To:
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From:
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Date:
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ARCADIS Project No.:
25963002.0000

Subject:
Quarterly Progress Report for the Victoria ASR Demonstration Project (**Contract No. 1600011958**) for **July 1, 2017 through September 30, 2017**.

Introduction:

The Victoria 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 84th Legislature. The “Project” generally consists of: permitting, designing, and constructing an ASR retrofit to an existing City of Victoria groundwater production well (Well No. 19); constructing a potable water pipeline for recharge and recovery purposes; conducting training and preparing an operation and maintenance (O&M) manual; cycle testing and assessment of the operational ASR well; and making presentations summarizing results. The Project Contractor is the Victoria County Groundwater Conservation District (the “Victoria County GCD”) and the primary Project Participant is the City of Victoria, Texas (the “City”). 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.



Figure 1: Existing Well 19 Pumphouse and Piping

Work Completed:

Task 1: Project Management. During this reporting period the Arcadis Team continued with project management activities. Arcadis began work on the next quarterly invoice and progress report which will be reviewed and commented upon by the City of Victoria and the Victoria County GCD.

Since the kickoff meeting, the Arcadis Team has held conference calls every two weeks to review progress on the various tasks. In July the Arcadis Team decided that the scheduled internal calls could be held monthly, with special calls as needed to address specific topics. The Project participants also continued to hold monthly progress conference calls. The latest group call was held on September 21, 2017.

Task 2: Permitting. On April 28, 2017, the City received its authorization for a Class V Injection Well (Authorization No. 5X2500127). On July 17, 2017 the Arcadis Team received the letter of conditional approval for construction of the facilities from the TCEQ Plan Review Team.

Task 3: ASR Facilities Design. After discussions with the City, the Arcadis Team made minor modifications to the chemical feed design by incorporating day tanks for the ammonium sulfate and sodium hypochlorite.

Task 4: Retrofit of Well No. 19. On June 6, 2017 the City Council awarded the construction contracts to Weisinger, Inc. (for the Part A, Well Rehabilitation) and Mercer Construction Company (for the Part B, ASR Surface Facilities). In late July the City received all the required bonds and insurance information, and signed contracts with the two construction companies. A pre-construction meeting was held in Victoria on August 10, 2017, and Notice to Proceed was issued the same day. Work on Part A (Weisinger) began on August 21, 2017. On August 23, 2017 the Weisinger crew completed removal of the existing motor, column piping and pump. On September 14, 2017 Weisinger conducted the video logging of Well 19. The video is being reviewed by Weisinger, the City and the Arcadis Team to determine the best approach for rehabilitating the well prior to installing the new pump. See the photographs below, at the end of this progress report.

Task 5: Potable Water Line Construction. The City completed construction of the 12-inch potable water pipeline and the 2-inch trickle feed pipeline.

Task 6: Training and Preparation of O&M Manual. The Arcadis Team began working on the training program and operations and maintenance (O&M) Manual for the Project.

Task 7: Cycle Testing and Assessment. The Arcadis Team began work in preparation of the cycle testing.

Task 8: Draft and Final Reports. No work has been completed on this task in this reporting period.

Task 9: Presentations. On August 17, 2017 Fred Blumberg made a presentation on "ASR in Texas" that included information on the TWDB funding, scope of work and status of the Victoria ASR project. The information was presented to the North Central Texas chapter of the American Water Works Association in Euless, Texas. In September 2017 Fred Blumberg submitted an abstract for a presentation on the ASR demonstration projects to *Texas Water 2018*.

Challenges Identified:

All previously-discussed challenges have been resolved. No new challenges were identified during this reporting period. However, the ongoing review of the video log of Well 19 may identify issues with the condition of the well that will need to be resolved during the rehabilitation process.

Photographs:



Figure 2: Weisinger Inc. Rig Pulling Well 19 Pump Column



Figure 3: One of Three Holes In Pump Column Piping



Figure 4: Weisinger Inc. Pulling Original Pump from Well 19



Figure 5: Video Logging of Well 19



Figure 6: Video Logging of Well 19