

Quarterly Progress Report - Quarter 10

Contract Number: 4600008203
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Date: May 7, 2012

AB 303 – Northern Solano County Groundwater Monitoring Program

Work Performed Tasks 1.2, 1.3, 2.1, 2.2 and 2.3: January 1 – March 31, 2012.

Component 1-Hydrogeologic Interpretation of Deep Aquifer System in Northern Solano County

All the Task 1 subtasks were completed as of October 2010.

Component 2-Regional Groundwater Level Monitoring and Reporting

Task 2.1-Design and Install Monitoring Equipment

This task involves the selection and installation of pressure transducers. Luhdorff & Scalmanini, Consulting Engineers (LSCE) met with SCWA staff in April 2010 to discuss considerations necessary to make any new equipment compatible with existing equipment. LSCE is providing design assistance for the pressure transducers, and SCWA will be purchasing the equipment directly. A total of 12 transducers are being purchased for the new SCWA Groundwater Monitoring Facilities (GMF) multiple-completion monitoring well sites so that transducers (i.e., one transducer for each new monitoring well). Five additional transducers will be installed in existing monitoring wells in the Vacaville area (this includes four transducers as initially planned at the time of the AB 303 Grant Application and also one additional transducer as recommended and agreed upon by the City of Vacaville). Additionally, LSCE and SCWA are exploring the installation of transducers in three deep groundwater monitoring wells owned by Rural North Vacaville Water District.

Once the transducer design is confirmed, activities will proceed to program, install, and calibrate the pressure transducers. As part of this task, LSCE will train SCWA staff to download the pressure transducer data. LSCE coordinated with SCWA in the last quarter of 2010 to finalize the plans for installation of the permanent transducers. SCWA is selecting a transducer type that

is compatible with its existing telemetry system. The transducer type selected for use in the GMF facilities is the Druck (model PTX-5032-TB-A3-CA-HO-PW). There are five City of Vacaville sites that will be equipped with the Schlumberger Mini-Diver transducers (no telemetry at these locations).

Status: Installation of transducers at the fourth and final SCWA Dixon monitoring location is being coordinated with the subsidence station being installed at this location. LSCE is communicating with the Plate Boundary Observatory (PBO) about construction of the subsidence station installations. As necessary, the permanent transducers will be installed at the SCWA Dixon monitoring location in advance of the subsidence station installations. This task is approximately 98 percent complete.

Task 2.2-Groundwater Level Monitoring

Permanent transducers have been installed at the SCWA's Maine Prairie, Lewis and Allendale monitoring locations. The installations were conducted in conjunction with assistance from SCWA staff, and the new transducers were checked and calibrated at the time of installation. As indicated above, the SCWA Dixon site remains to be completed once the subsidence station is installed.

Task Status: This task is about 98 percent complete. The task will be completed following installation of the dedicated transducers at the SCWA Dixon site (Task 2.1 above).

Task 2.3-Data Management and Reporting

This task has involved development of a database for water level data management and reporting and includes all water level data collected under Component 2.

Task Status: This task is complete.

Task 2.4-Technical Memorandum

This task involves preparation of a Technical Memorandum (TM) that includes procedures for retrieving data and performing manual measurements, QA/QC of data, reporting, and data transfer. The draft Technical Memorandum was provided to SCWA, DWR and SCWA member agencies for review and comment.

Task Status: This task is complete. LSCE has finalized the TM.

Component 3-Test Conjunctive Use Production Well

Task 3.1 – Test Production Well – Construct and Equip Test Production Well

Observed and documented well pumping equipment, discharge piping and flow meter after installation. Completed and issued draft well construction report, including sections on the well pumping equipment and flow meter.

Task 3.1 has been completed.

Task 3.2 - Perform Short-term Aquifer Testing.

The short-term aquifer tests were conducted in May 2010. A nine hour step test was conducted on May 11, 2010 at pumping rates 1,500, 2,000, and 2,500 gpm for three hours each. A 12 hour constant rate pumping test was performed at 2,000 gpm on May 12, 2010. The results of the step test and the constant rate test were used to size the permanent pump for the conjunctive use test-production well.

Task 3.2 has been completed.

Task 3.3 - Perform Extended Aquifer Testing

Completed monitoring recovery of groundwater levels after the end of irrigation season pumping in the conjunctive use test-production well. Extended aquifer testing was completed during this reporting period.

Task 3.3 has been completed.

Task 3.4 - Perform Groundwater Level and Quality Monitoring

Groundwater level measurements in the RD 2068 triple completion monitoring well were recorded and evaluated during the reporting period. Incurred costs for September 2011 groundwater sampling event. Tracked, reviewed and tabulated groundwater quality data.

Task 3.4 has been completed.

Task 3.5 - Prepare Conjunctive Use Test-Production Report

The final draft of the Conjunctive Use Production Report has been completed and is undergoing review.