



TECHNICAL MEMORANDUM

San Antonio Creek Valley Groundwater Basin Quarterly Groundwater Level Monitoring – Fourth Quarter 2023

To: Ms. Stephanie Bertoux, Executive Director, San Antonio Basin Groundwater Sustainability Agency

From: Michael McAlpin, GSI Water Solutions, Inc.
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Attachments: Tables:
Table 1. Fourth Quarter 2023 Groundwater Level Measurements – Depth to Water
Table 2. Fourth Quarter 2023 Groundwater Level Measurements – Groundwater Elevation

Figure:
Figure 1. Wells Included in the San Antonio Creek Valley Groundwater Basin Groundwater Monitoring Network

Date: December 19, 2023

Introduction

On behalf of the San Antonio Basin Groundwater Sustainability Agency (SABGSA), GSI Water Solutions, Inc. (GSI) completed the fourth quarter 2023 (4Q2023) San Antonio Creek Valley Groundwater Basin (Basin) groundwater level monitoring event (monitoring event) on December 12th and 13th, 2023. Prior to each quarterly monitoring event, GSI contacts well owners/property managers to coordinate access to the wells and request that wells be shut off for at least 8 hours before the monitoring event so that a static measurement can be obtained. Well owners/property managers were notified on November 28, 2023.

GSI was able to successfully measure depth to water in all but one well with secured access agreements during the December 12th and 13th, 2023 monitoring event. The attached tables provide the status of current well access agreements, and the attached figure shows the well locations. The following paragraphs and attached tables summarize the results of the 4Q2023 monitoring event.

4Q2023 Water Level Monitoring Event Summary

The attached tables summarize the results of the Basin 4Q2023 monitoring event for the wells in the Basin Groundwater Level Monitoring Network (Monitoring Network). The tables include the status of current well access agreements, depth to water measurements, and calculated groundwater elevations for all wells that were able to be accessed during the monitoring event. Wells identified as Representative Monitoring Sites (RMS) in the Basin's Groundwater Sustainability Plan (GSP) are identified in Table 2 and denoted with the respective RMS's sustainable management criteria (i.e., minimum threshold and measurable objective). The following is a summary of observations from the 4Q2023 monitoring event:

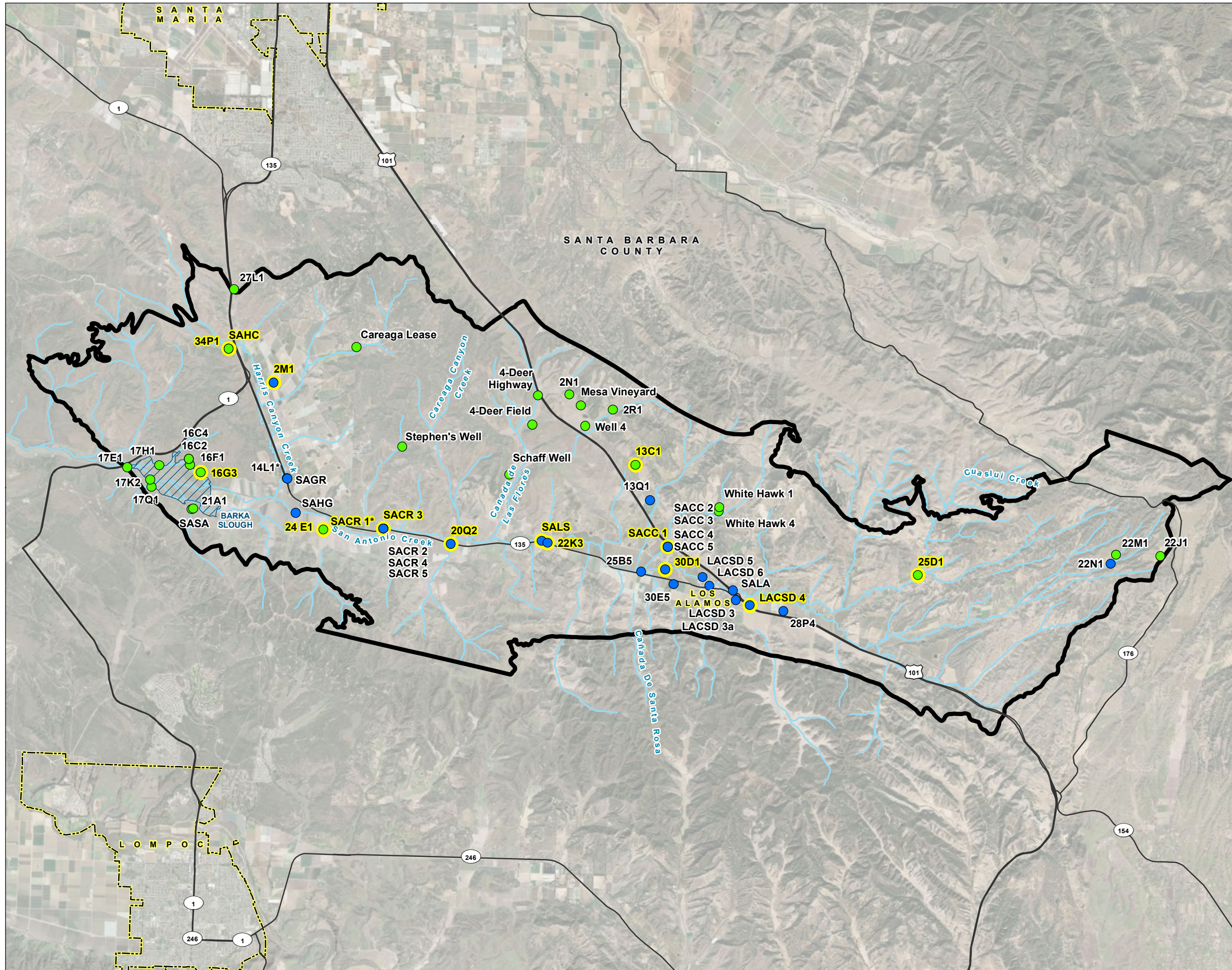
- The only wells with an active well access agreement that did not have a groundwater level measurement collected during the 4Q2023 monitoring event were 2M1 and White Hawk 4.
 - No water level measurement was collected from well 2M1 due to the risk of the sounder becoming stuck in the well. Groundwater level monitoring at well 2M1 is planned to resume pending the installation of a sounding tube.
 - The SABGSA received a Well Verification Request for a proposed replacement water well in July 2023. The SABGSA verified the proposed well was consistent with the SABGSA's Well Verification Policy. The well to be replaced was determined to be White Hawk 4. During the 4Q2023 monitoring event, White Hawk 4 was observed being destroyed as required by the Well Verification Policy, and therefore no water level measurement was able to be collected.
- The continuous data recording pressure transducer (transducer) that is located in well 16C4 did not have data downloaded during the 4Q2023 monitoring event due to a malfunctioning cable. 16C4 water level data collected by the transducer since the 3Q2023 event will be downloaded during the 1Q2024 event.
- The water level reading device could not be retrieved from well 2R1 after the recording of a water level measurement. The device became caught during retrieval. The well owner/property manager has been notified and a coordinated effort to retrieve the device has been scheduled .
- The 13C1 wellhead had been removed prior to the 3Q and 4Q2023 monitoring events. Consequently, depth to water was measured from a different reference point elevation (RPE; 777.45 feet NAVD88) than previously reported.
- Well 4 is a new irrigation well that was added to the SABGSA monitoring network in 4Q2023. The well is located north of U.S. Highway 101 in the central uplands of the Basin. Well 4 was proposed as a replacement well for Mesa Vineyard in the Basin Monitoring Network. Mesa Vineyard is not equipped with a sounding tube, increasing the likelihood of a water level reading device becoming caught in the well. Mesa Vineyard and Well 4 are completed to similar depths and are constructed with multiple screened intervals. Water levels from the two wells will continue to be evaluated to determine if water levels in Well 4 are representative of water levels in Mesa Vineyard. Mesa Vineyard has a period of record of reported water levels from November 2019 to present.
- The air pressure measured at Stephen's Well during the 3Q and 4Q2023 events has been below historical levels. The 3Q and 4Q2023 calculated water levels are suspected to be pumping water levels. No receipt confirmation was received from the well owner/property manager in response to the 3Q and 4Q2023 monitoring event notifications.

Recommendations

- Consider the installation of a sounding tube in well 2M1.
- Perform well maintenance on wells 2N1 and Mesa Vineyard to clear rusty material. Well 2N1 and Mesa Vineyard have historically contained rusty material. Consequently, the sounder becomes coated when lowered into the well, occasionally blocking the sensor and preventing an accurate water level measurement.
- Continue public outreach to Basin stakeholders to discuss participation in the Basin's Monitoring Network.
- Consider the purchase and installation of additional transducers.
- Perform an RPE Survey for the wells included in the Basin Monitoring Network in accordance with the Sustainable Groundwater Management Act (SGMA) well elevation accuracy requirements.
- Perform well video surveys of wells included in the Basin Monitoring Network with outstanding well construction information (total depth and screened intervals).

- Purchase and replace transducer cable in well 16C4. This work and associated cost is included in the approved 2024 Quarterly Monitoring and Reporting scope of work and budget.
- Secure access agreement to the White Hawk 4 replacement well.
- Communicate with Stephen's Well owner/property manager and confirm contact information for monitoring even notification emails.

FIGURE 1
Wells Included in the
San Antonio Creek Valley
Groundwater Basin
Groundwater Monitoring Network
 San Antonio Creek Valley
 Groundwater Basin Quarterly
 Groundwater Level Monitoring
 Fourth Quarter 2023



LEGEND

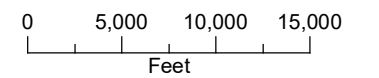
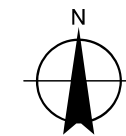
- Representative Well
- Wells (by screened aquifer)**
- Paso Robles Formation
- Careaga Sand
- All Other Features**
- ~ San Antonio Creek or Tributary
- Major Road
- San Antonio Creek Valley Groundwater Basin
- Barka Slough
- City Boundary



NOTES

*SACR 1 and 14L1 are screened in the Careaga Sand.

San Antonio Creek Valley Groundwater Basin Boundary as defined in the California Department of Water Resources Bulletin 118.



Date: December 18, 2023
 Data Sources: USGS (2020a), ESRI, DWR (2018), Maxar imagery (2020)