



San Antonio Basin Groundwater Sustainability Agency

2021 Annual Groundwater Level Monitoring Report

January 28, 2022



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Introduction

GSI Water Solutions, Inc. (GSI) is pleased to present this annual groundwater and surface water monitoring report for the San Antonio Creek Valley Groundwater Basin (Basin) to the San Antonio Basin Groundwater Sustainability Agency (SABGSA). Groundwater monitoring in the Basin provides hydrologic information needed to understand groundwater conditions and to monitor effects of groundwater management programs. In previous years, the U.S. Geological Survey (USGS) collected groundwater level data in 40 wells as part of their ongoing *Geohydrology and Water Availability of the San Antonio Creek Valley* study. GSI assumed the contract to monitor the network (Figures 1 through 3) from the USGS in 2019; the USGS continues to monitor and maintain two stream gages on San Antonio Creek. The following sections summarize activities associated with groundwater and surface water monitoring in the San Antonio Creek Valley Groundwater Basin in 2021. The San Antonio Creek Groundwater Basin is a rural agricultural area that is reliant on local water supplies, predominantly groundwater. The Basin borders the Santa Ynez Groundwater Basin to the east in upland areas and extends to the west past Los Alamos to Barka Slough and the Vandenberg Space Force Base well field. Major activities in 2021 included monitoring groundwater levels and evaluating new locations for surface water monitoring. These activities are described in the following sections.

Groundwater Level Monitoring

Groundwater level monitoring has been conducted by GSI on a quarterly basis since the fourth quarter of 2019. As of December 9, 2021, GSI has performed nine quarterly groundwater level measurements in the Basin. Well owners were notified by email two weeks in advance of each monitoring event. The notification requested that well owners turn off well pumps 24 hours prior to the measurement of water levels to obtain static water level measurements. A complete list of wells monitored during each event is shown in Table 1. Locations of wells in the monitoring network are included in Figures 1 through 3. An overview of each quarterly monitoring event is provided below.

First Quarter (Q1) 2021

Monitoring conducted on February 25 and 26, 2021, included groundwater level measurements in 35 wells. The following noteworthy events occurred during this sampling event:

- Well 17K2 on the south side of Barka Slough remained inaccessible due to overgrown vegetation.
- A water level measurement was not obtained from 13C1 because the pump was on.
- The transducer communication cable for well 16C4 was not working properly - the cable was sent into the supplier for repair.
- The water level in the Stephens Well (Kick On Ranch) was not measured because access had not been re-negotiated.

Second Quarter (Q2) 2021

Monitoring conducted on June 22 and 23, 2020, included groundwater level measurements in 36 wells. The following noteworthy events occurred during this sampling event:

- Well 17K2 on the south side of Barka Slough remained inaccessible due to overgrown vegetation.
- The depth to water measurements for well 2R1 was flagged because it is believed to have been influenced by nearby pumping.
- The water level in the Stephens Well (Kick On Ranch) was not measured because access had not been re-negotiated.

Third Quarter (Q3) 2021

Monitoring conducted on September 14 and 15, 2020, included groundwater level measurements in 33 wells. The following noteworthy events occurred during this sampling event:

- Access to the Stephen's well was re-negotiated. Depth to water was measured using an airline and an air compressor.
- The transducer communication cable for well 16C2 was repaired by the vendor and re-installed on September 15th.
- Well 2N1 was not monitored because the access port could not be opened.
- The depth to water measurement for well 2R1 was flagged because it is believed to have been influenced by nearby pumping.
- A depth to water measurement was not collected from well 13C1, northeast of Los Alamos, because the well was undergoing repair.
- A depth to water measurement was not collected from well 17Q1, on the south side of Barka Slough, because of overgrown vegetation.
- A depth to water measurement was not collected from well 17K2, on the south side of Barka Slough, because of overgrown vegetation.

Fourth Quarter (Q4) 2021

Monitoring conducted on December 8 and 9, 2020, included groundwater level measurements in 38 wells. The following noteworthy events occurred during this sampling event:

- A depth to water measurement was collected from well 17K2, on the south side of Barka Slough, for the first time. The site was accessible for the first time due to dormant vegetation and new insights on well location.
- There is believed to be a significant amount of oil (pump lubrication) on top of the water in well 2M1 in Harris Canyon.

Groundwater Level Monitoring Results

Following each quarterly monitoring event, groundwater level data are provided to the SABGSA in an email monitoring report. Groundwater level measurements are housed within the SABGSA Data Management System and available upon request. Groundwater level trends observed since November 5, 2019, are consistent with historical trends; exhibiting a general decrease of groundwater elevations across the Basin. Water level measurements are presented in Table 1. Hydrographs from the wells in the monitoring network are included as Figures 6 through 43. The following noteworthy trends are observed in the hydrographs:

- Low groundwater elevations near the town of Los Alamos indicate a groundwater pumping depression in this area.
- Seasonal fluctuations are apparent in many wells with a general trend towards lower water level elevations in most, but not all wells.
- Wells with longer periods of record show downward water level trends particularly following periods of drought.
- Water levels in the Barka Slough area exhibit seasonal fluctuations and have declined steadily over time. From 2015 to 2020 groundwater levels in some wells stabilized or slightly increased. Since 2020, groundwater levels have decreased.
- Groundwater elevations in the SACC nested monitoring well north of Los Alamos continue to decline at a higher rate than the rate for most other wells in the monitoring network.
- Pumping activity in the Vandenberg well field during Q4 2020 and 2021 may have affected groundwater elevations in Wells 16C2 and 16C4, as shown in the continuous groundwater elevation data. The affect from pumping on groundwater levels was greater in 2021 than it was in 2020 (Figures 38 and 39).
- Cumulative annual surface water flows exiting the basin, measured at the Casmalia stream gage, remained similar to the previous three years. A more detailed review of data shown on the National Water Information System (NWIS) website indicates that there was a brief period in mid-October where surface water flows were as low as 0.05 cubic feet per second.

Surface Water Monitoring

Streamflow monitoring provides hydrologic information needed to better understand hydrologic conditions including surface water/groundwater interactions. The USGS currently manages two stream gages on San Antonio Creek. Stream gage 11135800 is located just east of Los Alamos, mounted on the Highway 101 bridge. Stream gage 11136100 is 2.5 miles downstream of Barka Slough (outside of the Basin boundary), mounted to a bridge on San Antonio Road. Hydrographs of annual discharge for both stream gages are presented in Figures 44 and 45.

Recognizing the need for additional streamflow data above and below Barka Slough, a joint field survey of potential new stream gage sites was conducted in June 2021 by GSI, USGS and the Santa Barbara County Water Agency (SBCWA). The goal of the survey was to select a location above and below Barka Slough for monitoring. The survey area included sites between the San Antonio Creek bridge on San Antonio Creek Road and Highway 1. Two locations were selected that were coincidentally previous stream gage sites:

- San Antonio Creek ([11136050 SAN ANTONIO C AB BARKA SLOUGH](#))
- Highway 1 ([344635120290300 SAN ANTONIO C A S20 OVERPASS CA](#))

Property owners at these two locations have expressed interest to allow access to install and monitor these gages. The SABGSA is planning to work with the SBCWA to install gages and monitor streamflow at these two locations. The details of this monitoring program will be finalized during 2022.

Recommendations for Future Monitoring Events

SABGSA currently has access to 38 of the 56 wells identified for water level monitoring. Table 1 depicts well access status. Green highlighted cells indicate that a well access agreement has been finalized. Yellow highlighted cells indicate that a well access agreement is pending. There are 14 wells with pending agreements. Red highlighted cells indicate that well access has been denied. GSI recommends that the SABGSA and GSI continue to collaborate on facilitating access to wells with pending access agreements. More coverage is needed in the upland areas in the eastern portions of the Basin, specifically Wells 25D1, 22N1, 22M1, and 22J1 (Figure 3). Access agreements are also needed for wells 20Q2, 24E1, 25D1, 30D1, and 22K3, which are important for the SABGSA's evaluation of the groundwater elevation sustainable management criteria.

Twenty-five wells in the monitoring network have ground surface elevations that do not meet accuracy standards based on DWR best management practices. Acquiring accurate ground surface elevations will benefit the Basin and stakeholders by providing more accurate groundwater elevation data which will result in more accurate groundwater elevation contours and change in storage calculations included in annual reports. It is recommended that the SABGSA hires a survey contractor to complete this work.

References

Grant Agreement Between the State of California (Department of Water Resources) and San Antonio Basin Groundwater Sustainability Agency Agreement Number 4600012675 Sustainable Groundwater Planning (SGWP) Grant Amendment #1, May 2020

United States Geological Survey. "Geohydrology and Water Availability of the San Antonio Creek Valley" 2020 <https://ca.water.usgs.gov/projects/san-antonio-creek/index.html>.

State Well #	Site Name	Description
009N034W34N002S	SAHC	San Antonio Harris Creek
008N034W21A002S	SASA	across from 21A1, San Antonio study well
008N034W14L002S	SAGR	San Antonio study well
	SAHG	San Antonio study well
008N033W19K002S	SACR 1	Multi Cluster
008N033W19K002S	SACR 2	Multi Cluster
008N033W19K004S	SACR 3	Multi Cluster
008N033W19K005S	SACR 4	Multi Cluster
008N033W19K002S	SACR 5	Multi Cluster
008N034W16C002S	16C2	N side of Barka Slough
008N034W16C004S	16C4	N side of Barka Slough
008N034W02M001S	2M1	Hampton Farms Well
009N034W34P001S	34P1	NE Corner of VAFB
008N034W17H001S	17H1	N side of Barka Slough
008N034W17Q001S	17Q1	S side Barka Slough
008N034W21A001S	21A1	S side Barka Slough
008N034W17K002S	17K2	S side Barka Slough
008N034W17E001S	17E1	SW side Barka Slough
008N034W16F001S	16F1	N side of Barka Slough
008N034W16G003S	16G3	N side of Barka Slough
008N034W24E001S	24 E1	SE of Jct Hwys 1 & 135
008N033W20Q002S	20Q2	SW Hwy 135 - Batchelder
009N034W27L001S	27L1	GAS CO 1
008N034W36R	Careaga Lease	Northwest San Antonio Basin
008N033W07	Stephen's Well	Kick On Vineyards
008N034W14L001S	14L1	

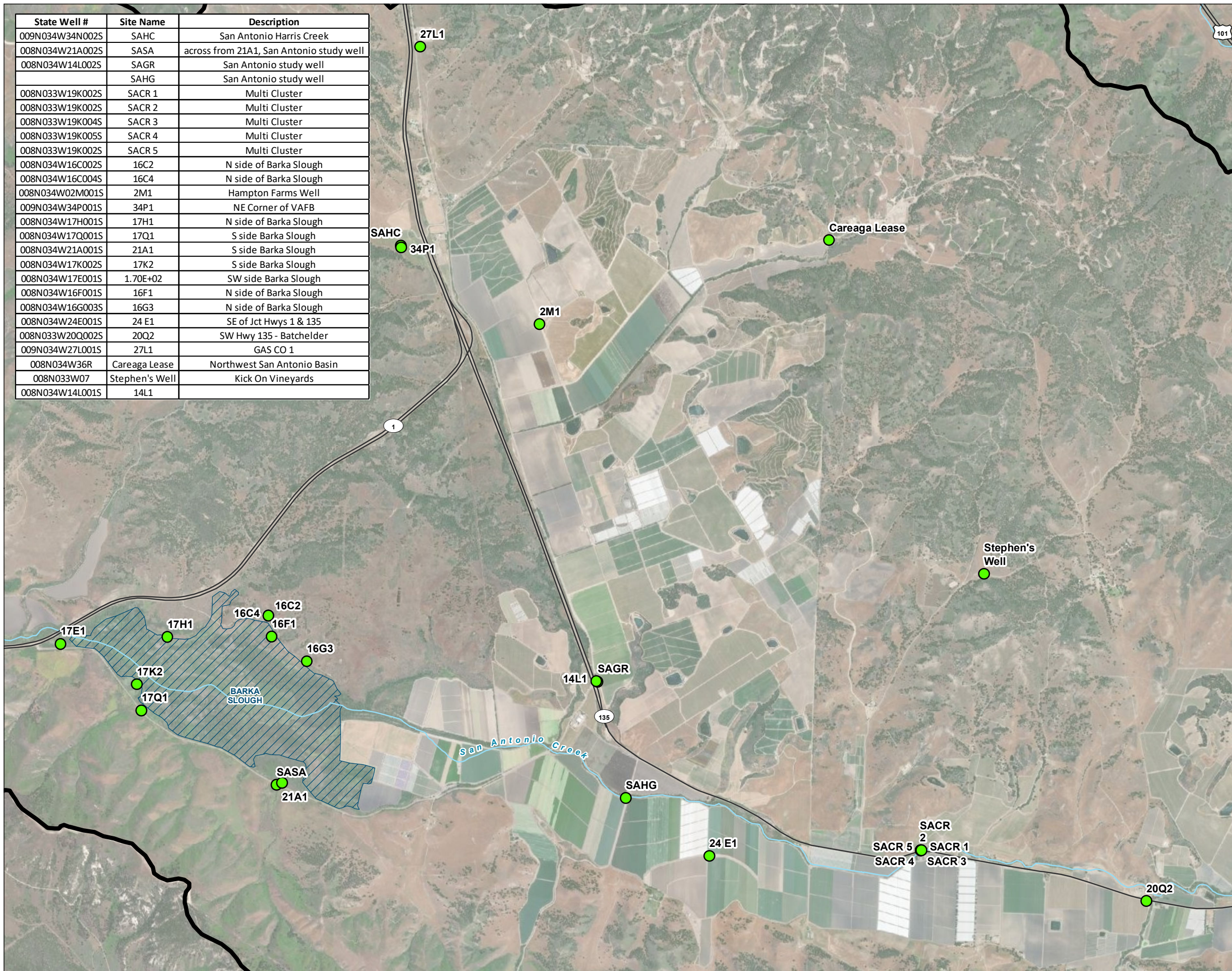
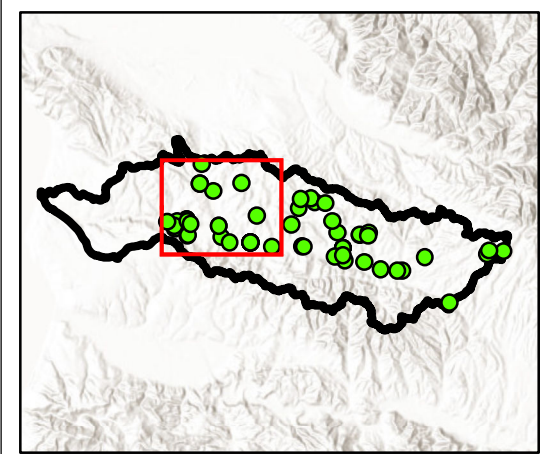


FIGURE 1
Wells in Western Portion
of San Antonio Basin
 San Antonio Creek Basin
 2021 Annual Groundwater
 Level Monitoring Report

LEGEND

- Monitoring Well
- Major Road
- Watercourse
- Barka Slough
- San Antonio Creek Watershed

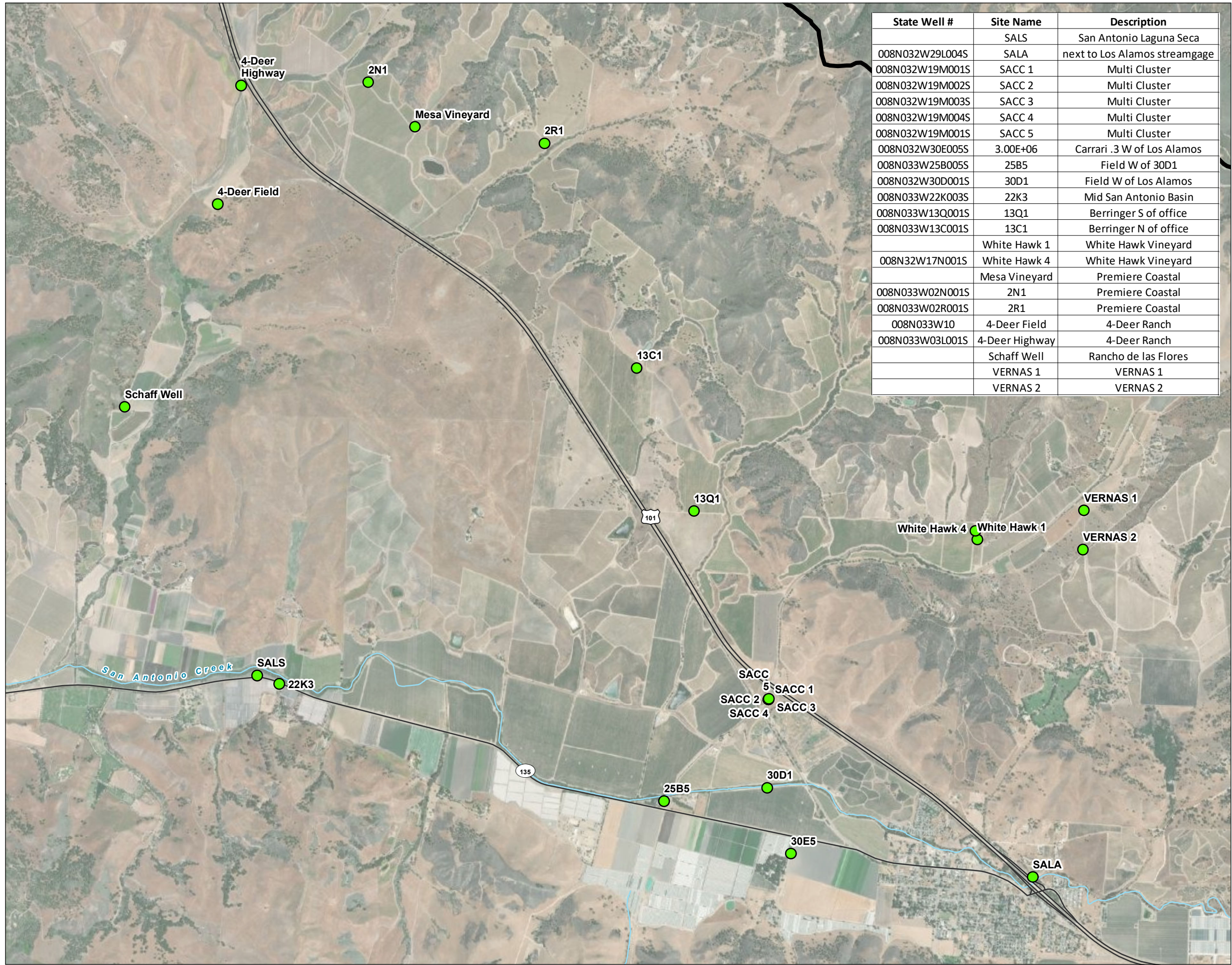


N

0 1,500 3,000 4,500
Feet



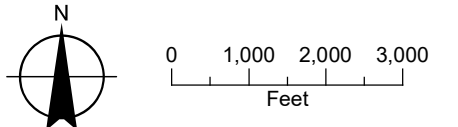
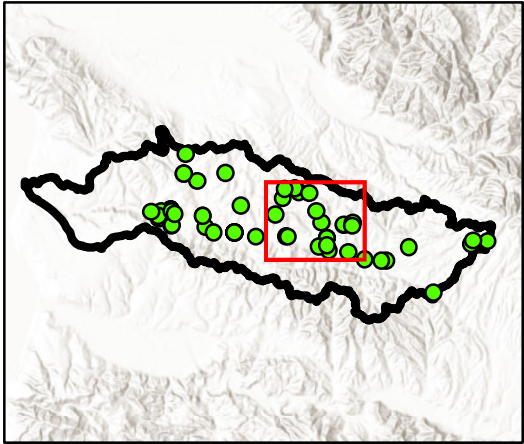
Date: December 23, 2021
 Data Sources: ESRI, USGS, Maxar Imagery (2021) Water Solutions, Inc.



State Well #	Site Name	Description
	SALS	San Antonio Laguna Seca
008N032W29L004S	SALA	next to Los Alamos streamgage
008N032W19M001S	SACC 1	Multi Cluster
008N032W19M002S	SACC 2	Multi Cluster
008N032W19M003S	SACC 3	Multi Cluster
008N032W19M004S	SACC 4	Multi Cluster
008N032W19M001S	SACC 5	Multi Cluster
008N032W30E005S	3.00E+06	Carrari .3 W of Los Alamos
008N033W25B005S	25B5	Field W of 30D1
008N032W30D001S	30D1	Field W of Los Alamos
008N033W22K003S	22K3	Mid San Antonio Basin
008N033W13Q001S	13Q1	Berringer S of office
008N033W13C001S	13C1	Berringer N of office
	White Hawk 1	White Hawk Vineyard
008N32W17N001S	White Hawk 4	White Hawk Vineyard
	Mesa Vineyard	Premiere Coastal
008N033W02N001S	2N1	Premiere Coastal
008N033W02R001S	2R1	Premiere Coastal
008N033W10	4-Deer Field	4-Deer Ranch
008N033W03L001S	4-Deer Highway	4-Deer Ranch
	Schaff Well	Rancho de las Flores
	VERNAS 1	VERNAS 1
	VERNAS 2	VERNAS 2

FIGURE 2
Wells in Central Portion
of San Antonio Basin
 San Antonio Creek Basin
 2021 Annual Groundwater
 Level Monitoring Report

- LEGEND**
- Monitoring Well
 - Major Road
 - Watercourse
 - San Antonio Creek Watershed

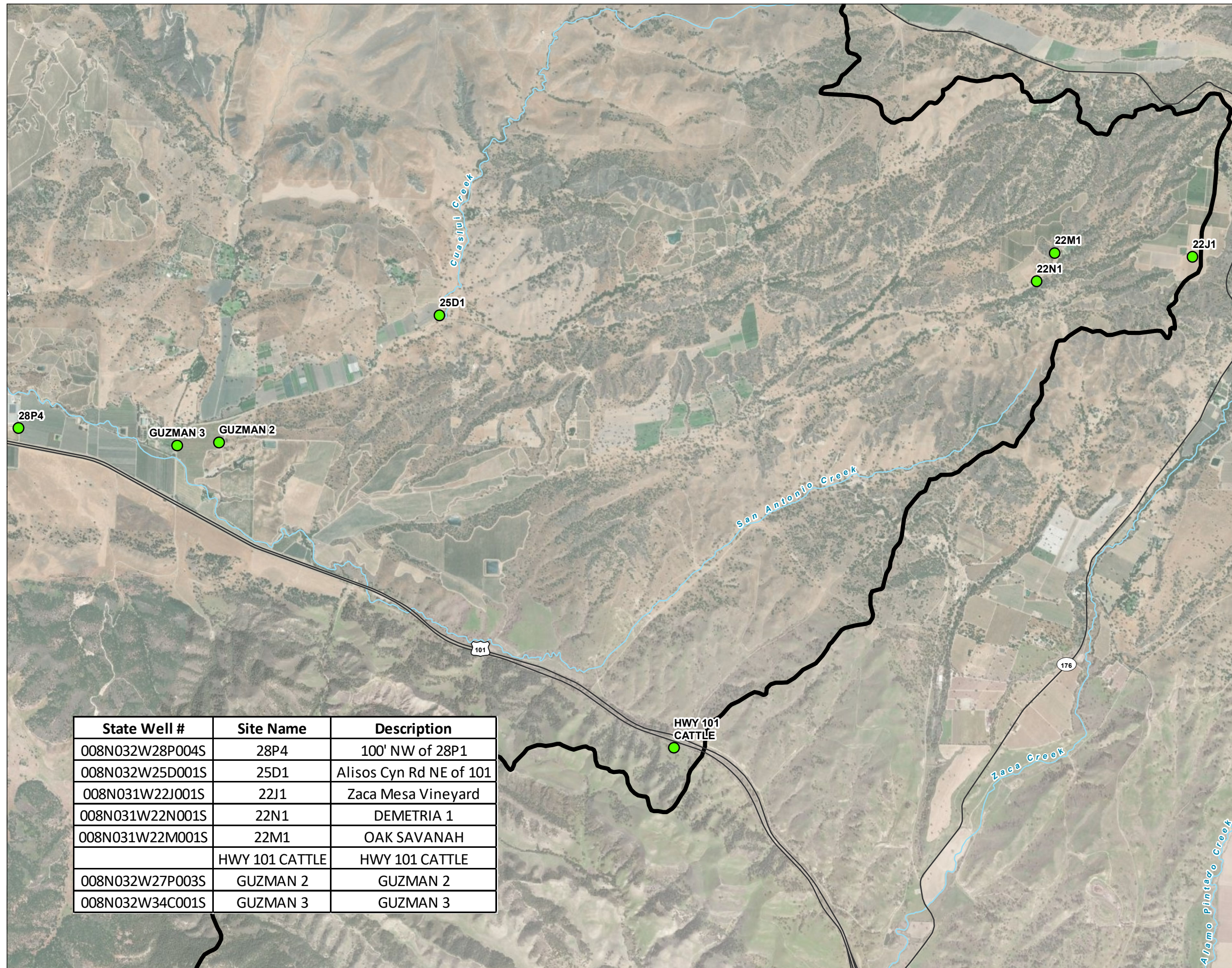


Date: December 23, 2021
 Data Sources: ESRI, USGS, Maxar Imagery (2021) Water Solutions, Inc.

FIGURE 3

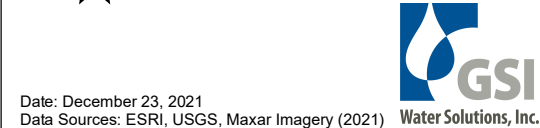
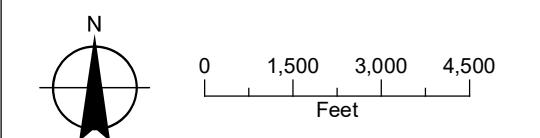
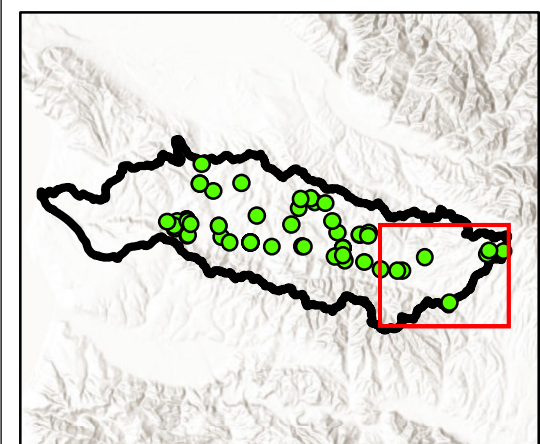
**Wells in Eastern Portion
of San Antonio Basin**

San Antonio Creek Basin
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LEGEND

- Monitoring Well
- Major Road
- Watercourse
- San Antonio Creek Watershed



Date: December 23, 2021
Data Sources: ESRI, USGS, Maxar Imagery (2021) Water Solutions, Inc.





State Well #	Site Name	Description
008N032W28P004S	28P4	100' NW of 28P1
008N032W25D001S	25D1	Alisos Cyn Rd NE of 101
008N031W22J001S	22J1	Zaca Mesa Vineyard
008N031W22N001S	22N1	DEMETRIA 1
008N031W22M001S	22M1	OAK SAVANAH
	HWY 101 CATTLE	HWY 101 CATTLE
008N032W27P003S	GUZMAN 2	GUZMAN 2
008N032W34C001S	GUZMAN 3	GUZMAN 3

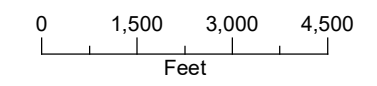
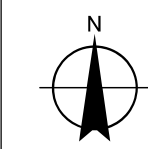
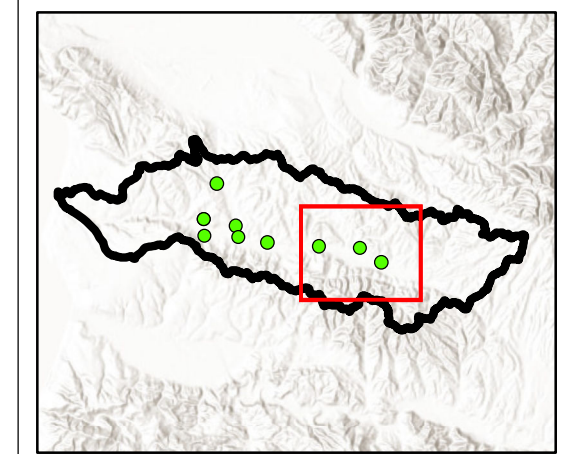
FIGURE 4

**Wells with Transducers in
Eastern Portion of
San Antonio Basin**

San Antonio Creek Basin
2021 Annual Groundwater
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LEGEND

-  Well with Transducer
-  Major Road
-  Watercourse
-  San Antonio Creek Watershed








Date: December 23, 2021
Data Sources: ESRI, USGS, Maxar Imagery (2021) Water Solutions, Inc.

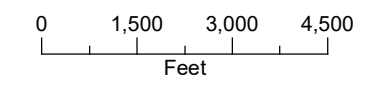
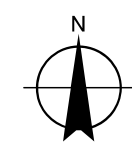
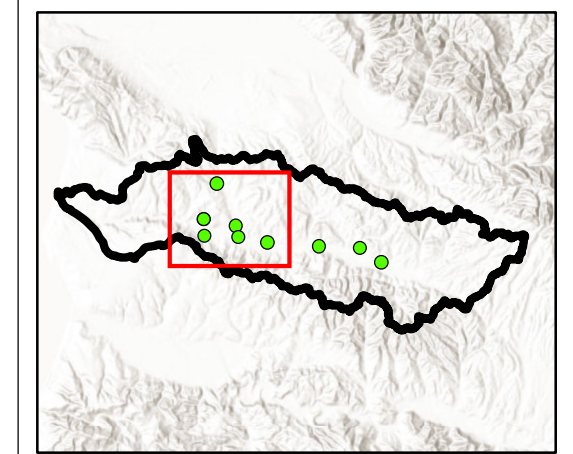
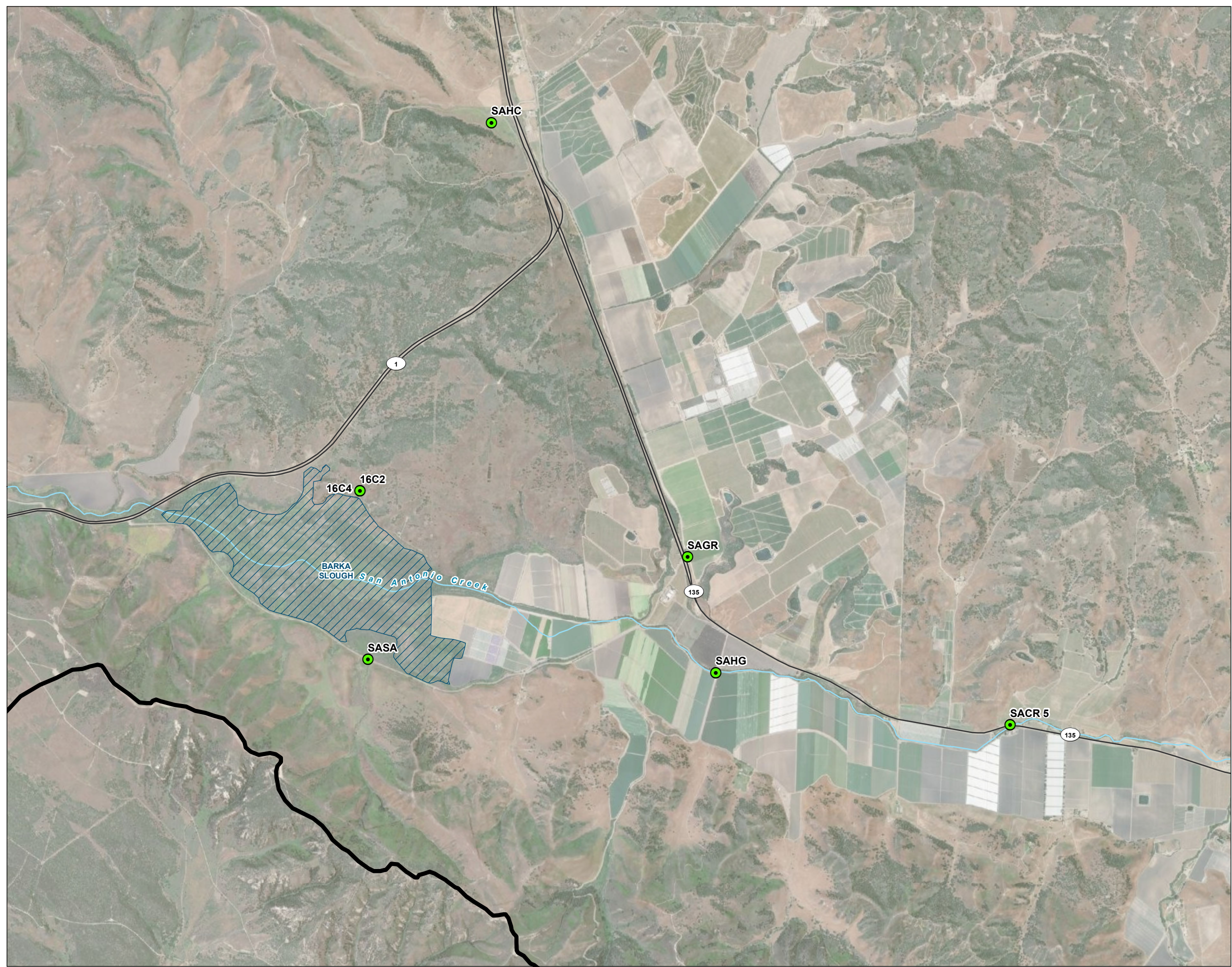
FIGURE 5

**Wells with Transducers in
Western Portion of
San Antonio Basin**

San Antonio Creek Basin
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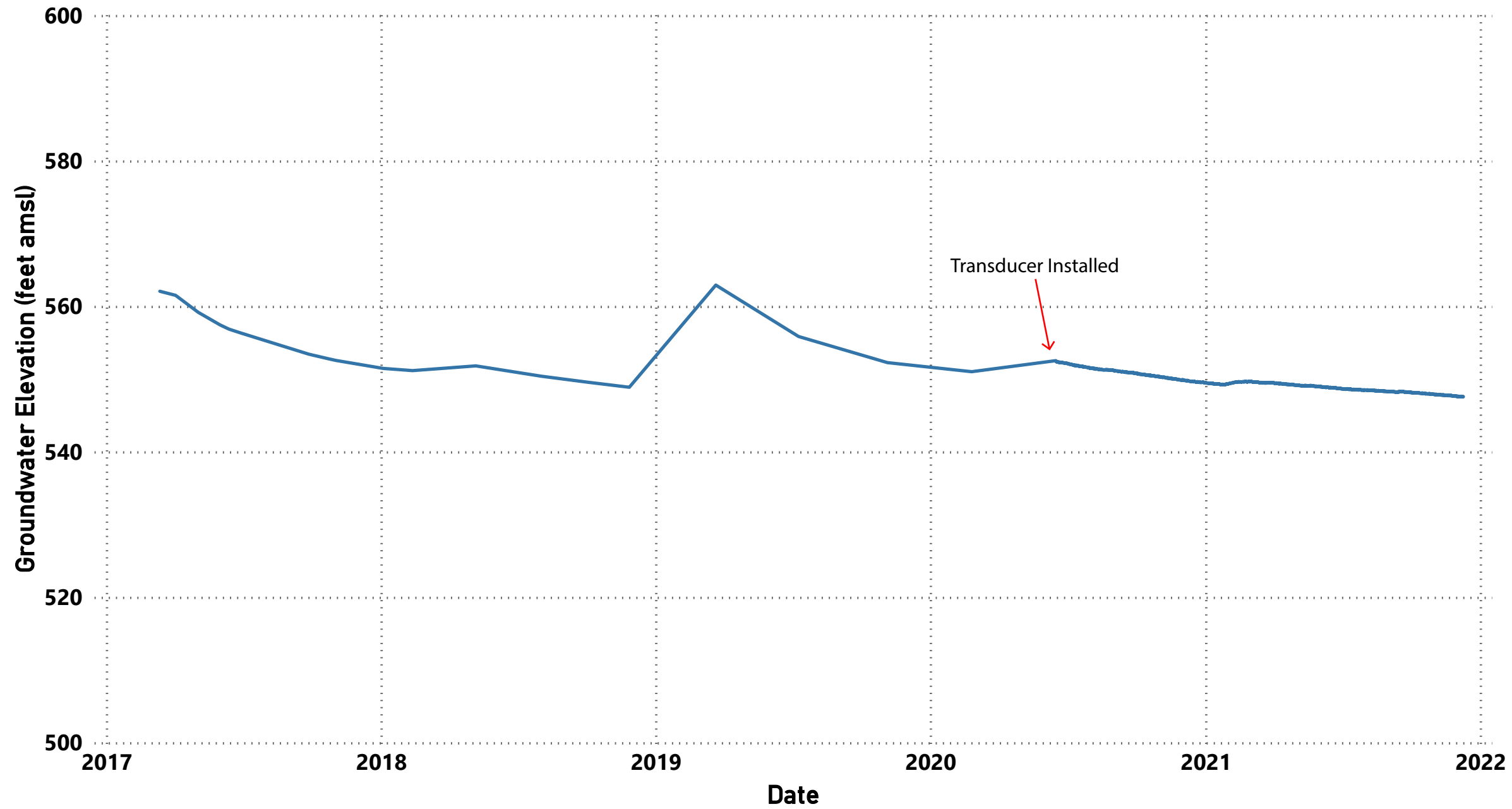
LEGEND

-  Well with Transducer
-  Major Road
-  Watercourse
-  Barka Slough
-  San Antonio Creek Watershed



Date: December 23, 2021
Data Sources: ESRI, USGS, Maxar Imagery (2021) Water Solutions, Inc.

FIGURE 6
Hydrograph for Well SALA
Paso Robles Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
Level Monitoring Report



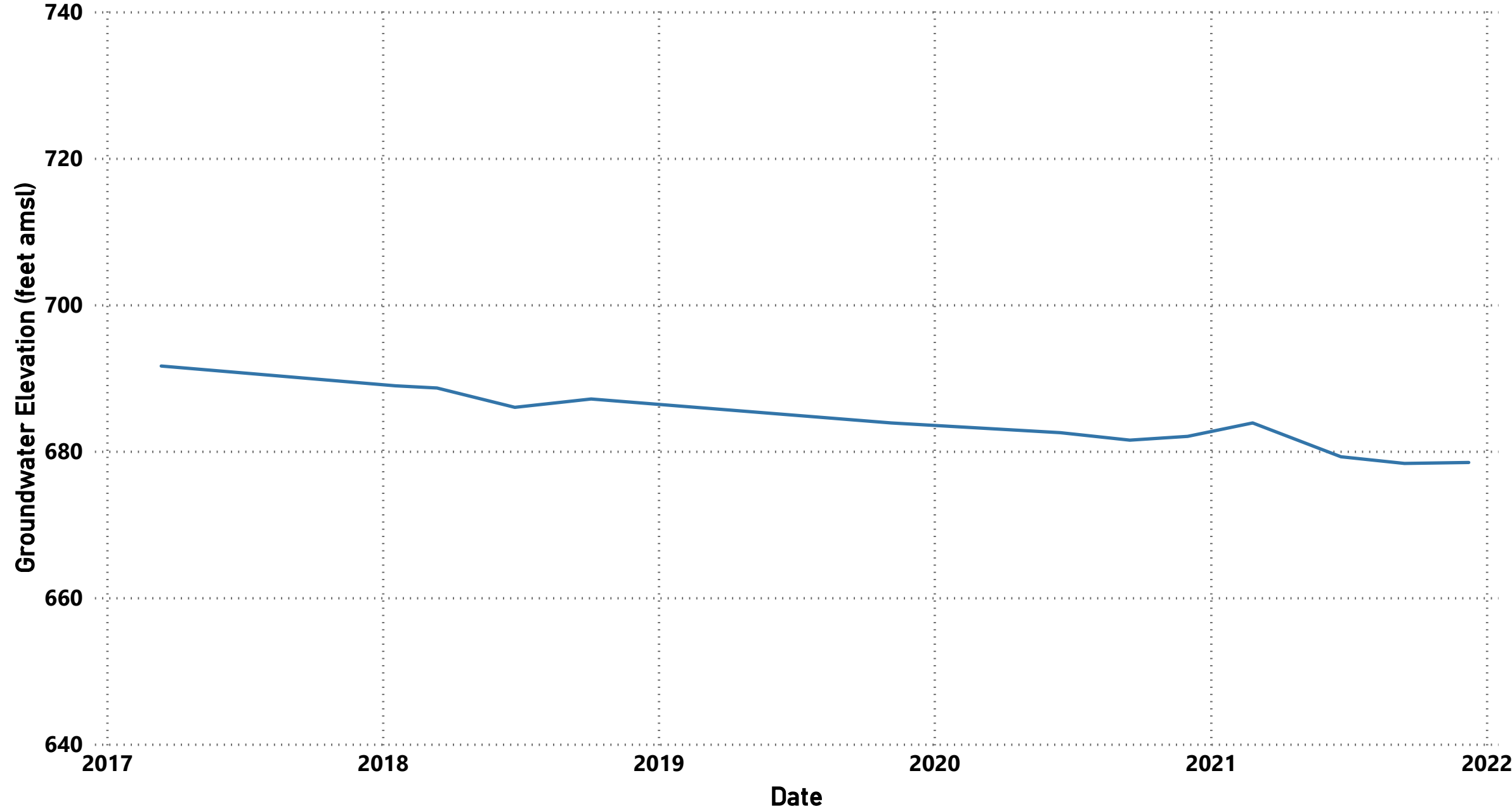
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 7
Hydrograph for White Hawk 1 Well
Careaga Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
Level Monitoring Report

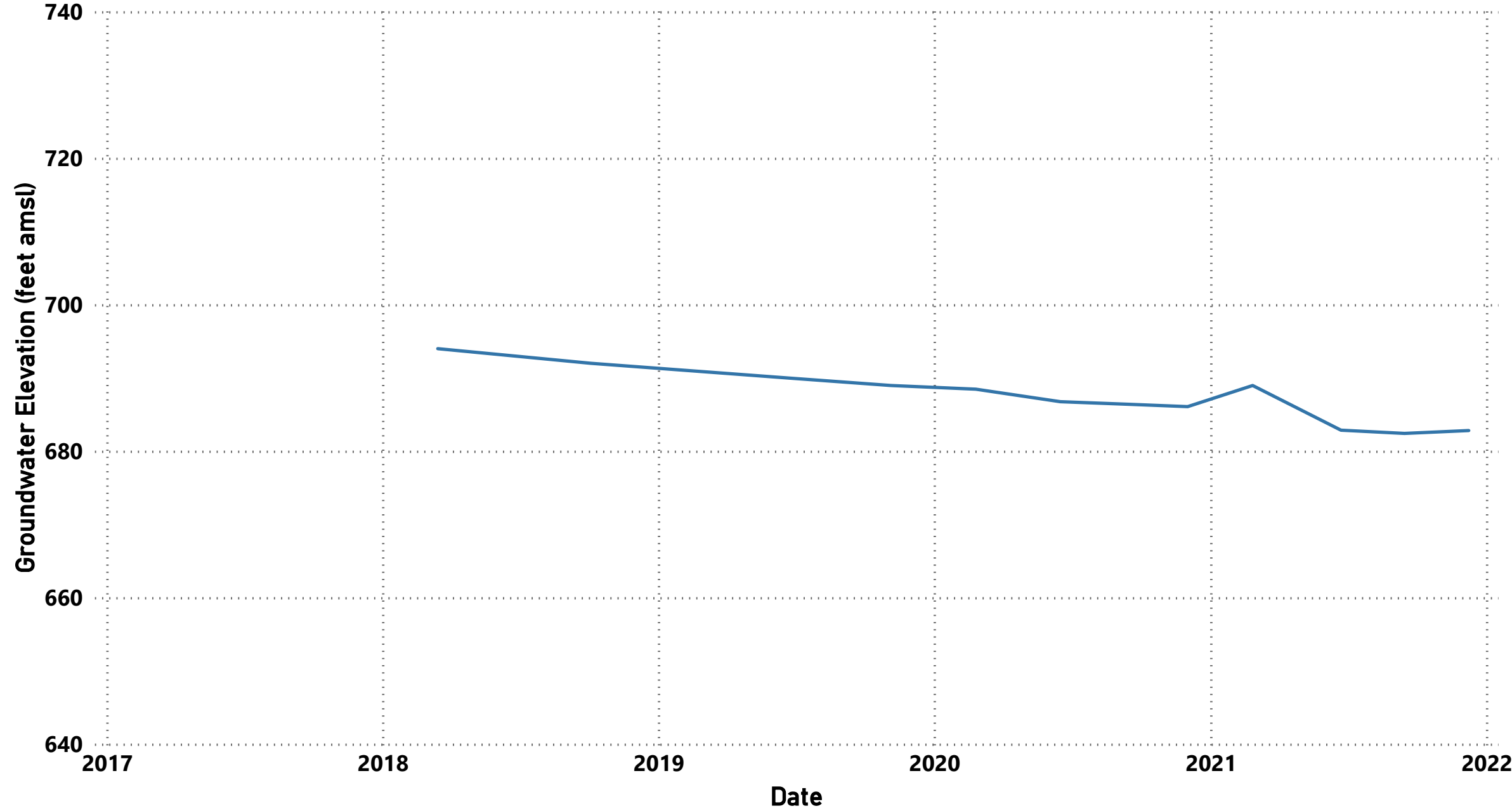


LEGEND
● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 8
Hydrograph for White Hawk 4 Well
Careaga Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
Level Monitoring Report

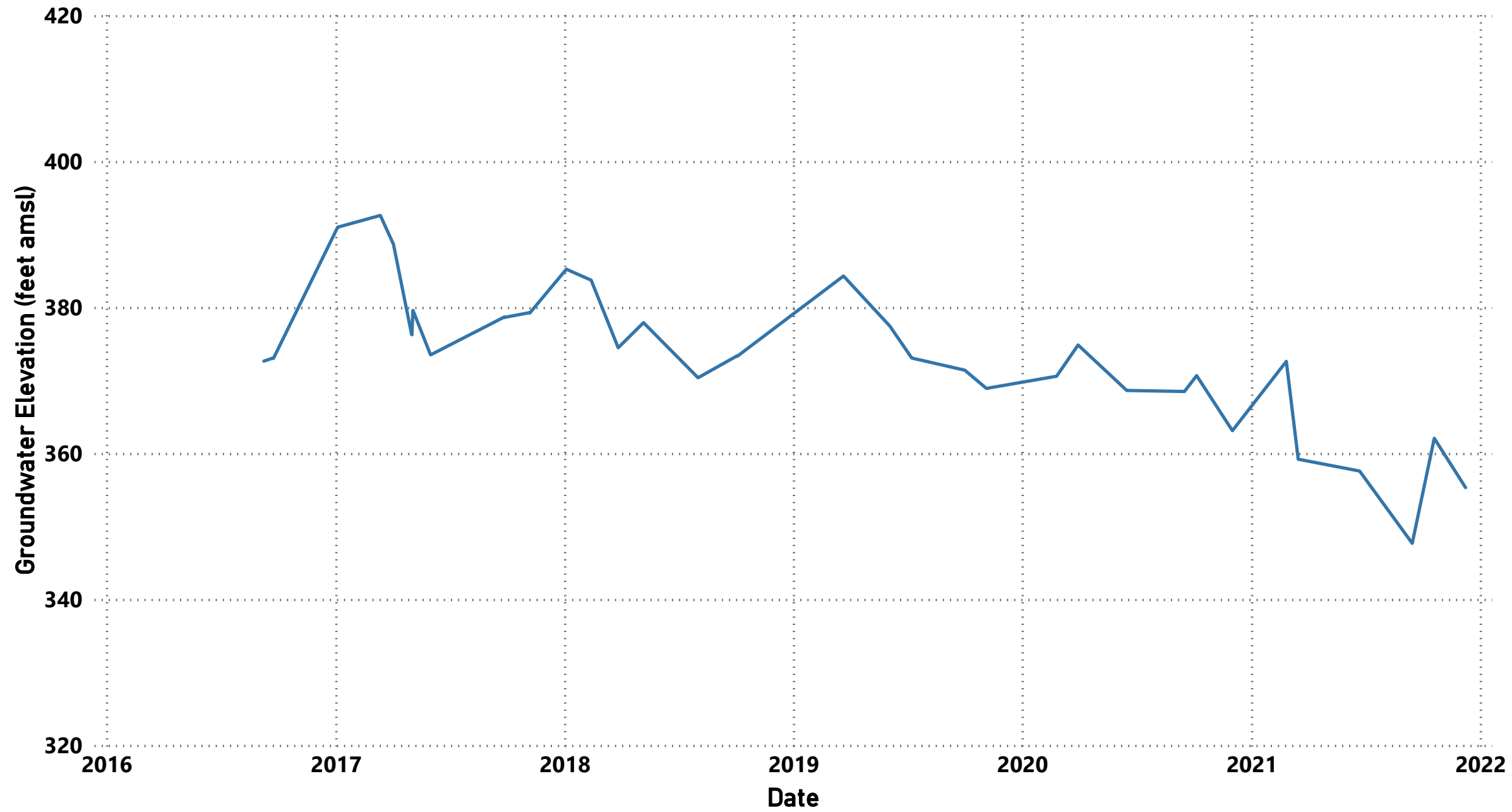


LEGEND
● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 9
Hydrograph for Well SACC1
Paso Robles Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
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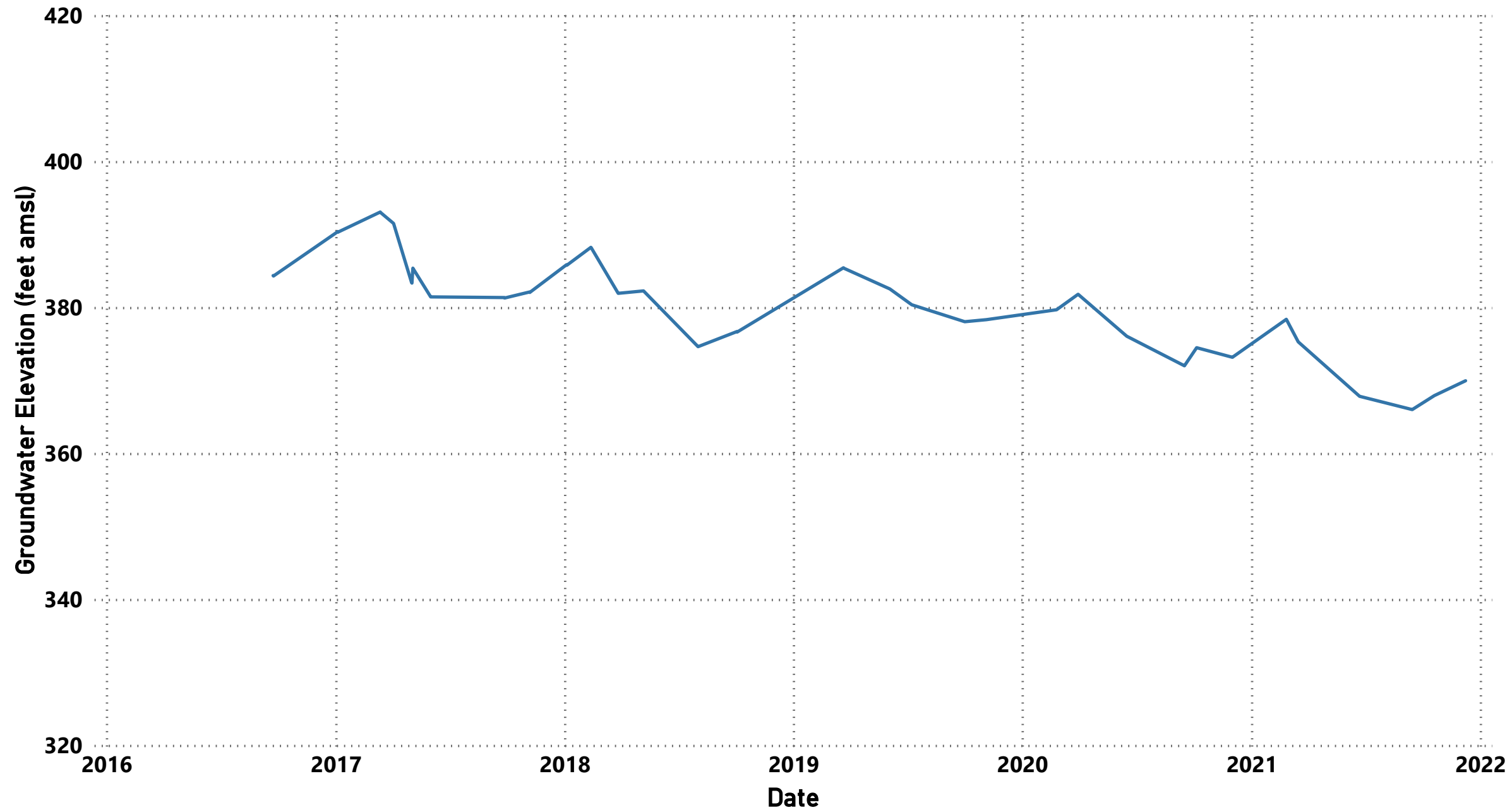
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 10
Hydrograph for Well SACC2
Paso Robles Formation Aquifer
 San Antonio Basin GSA
 2021 Annual Groundwater
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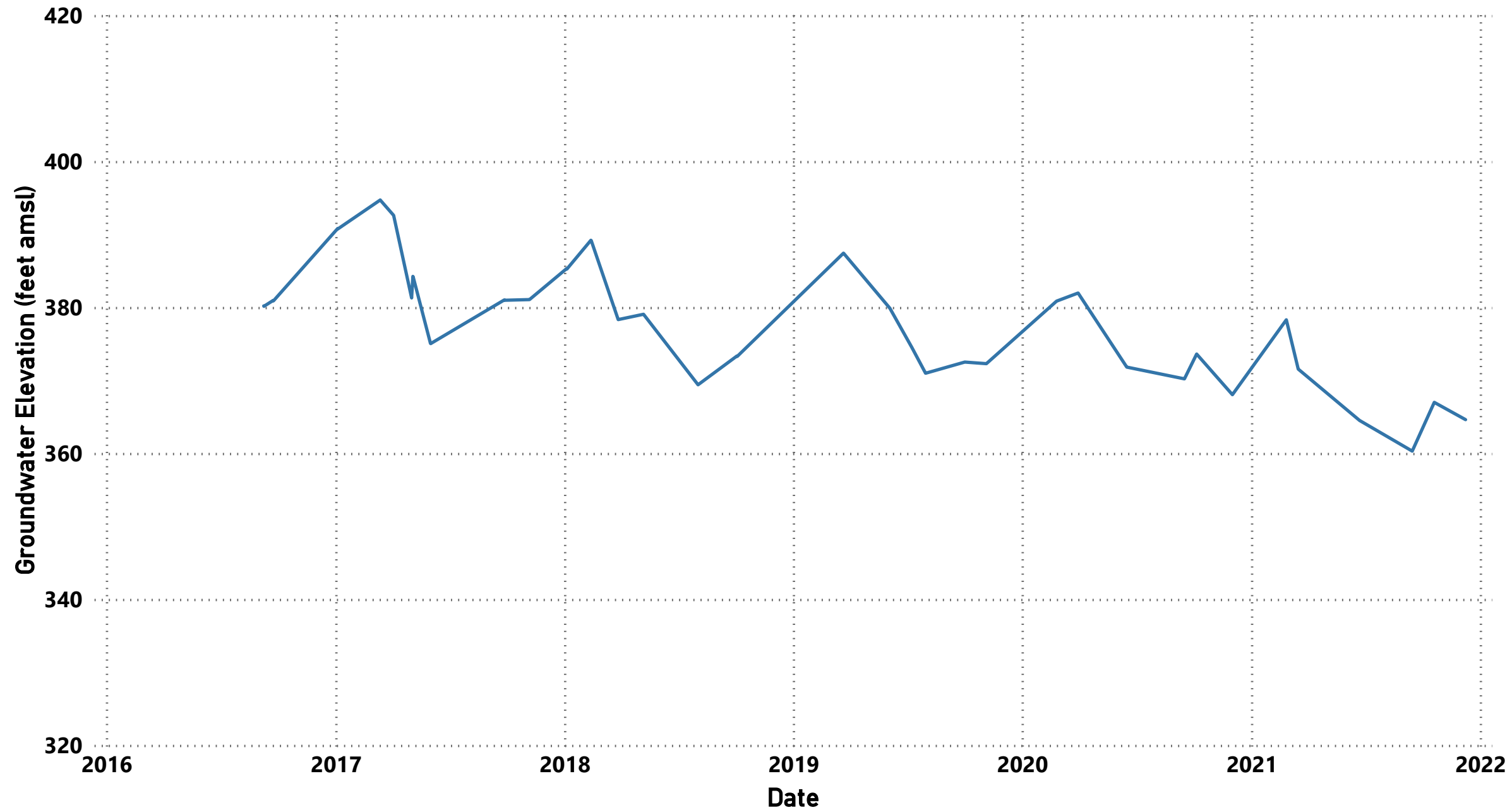
LEGEND

- Groundwater Elevation (feet amsl)

NOTE
 amsl: above mean sea level



FIGURE 11
Hydrograph for Well SACC3
Paso Robles Formation Aquifer
San Antonio Basin GSA
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Level Monitoring Report



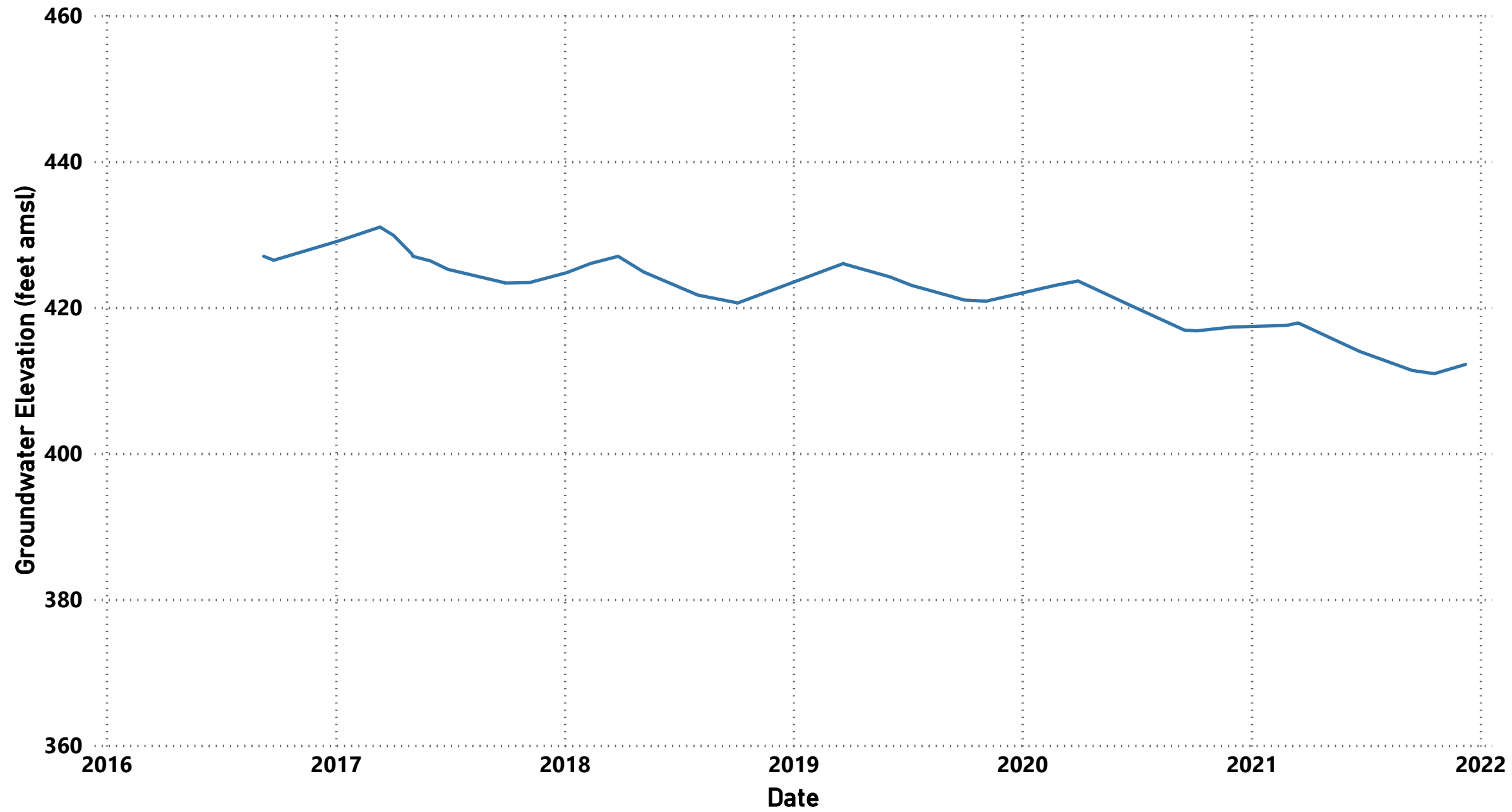
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 12
Hydrograph for Well SACC4
Paso Robles Formation Aquifer
San Antonio Basin GSA
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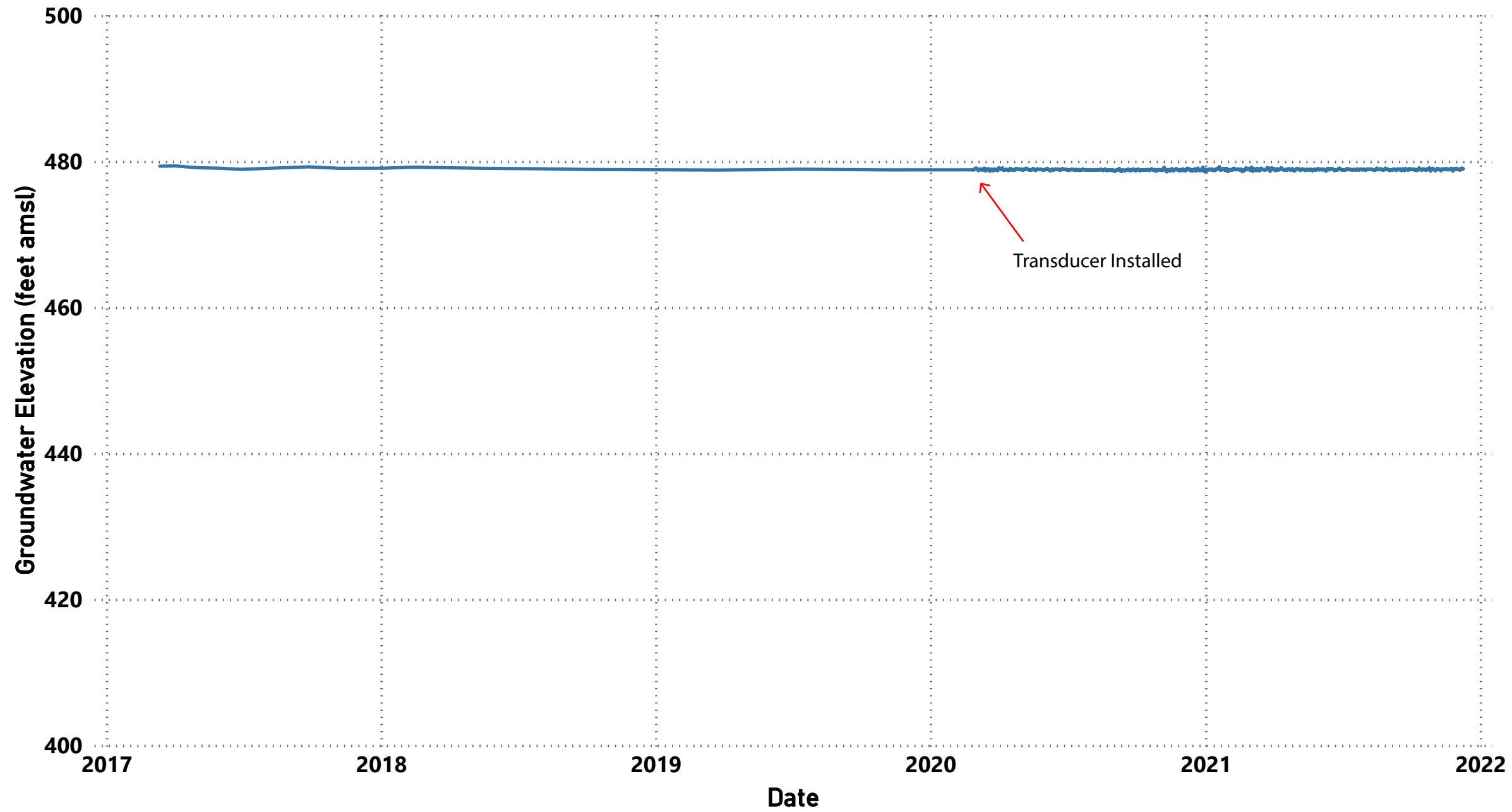
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 13
Hydrograph for Well SACC5
Paso Robles Formation Aquifer
San Antonio Basin GSA
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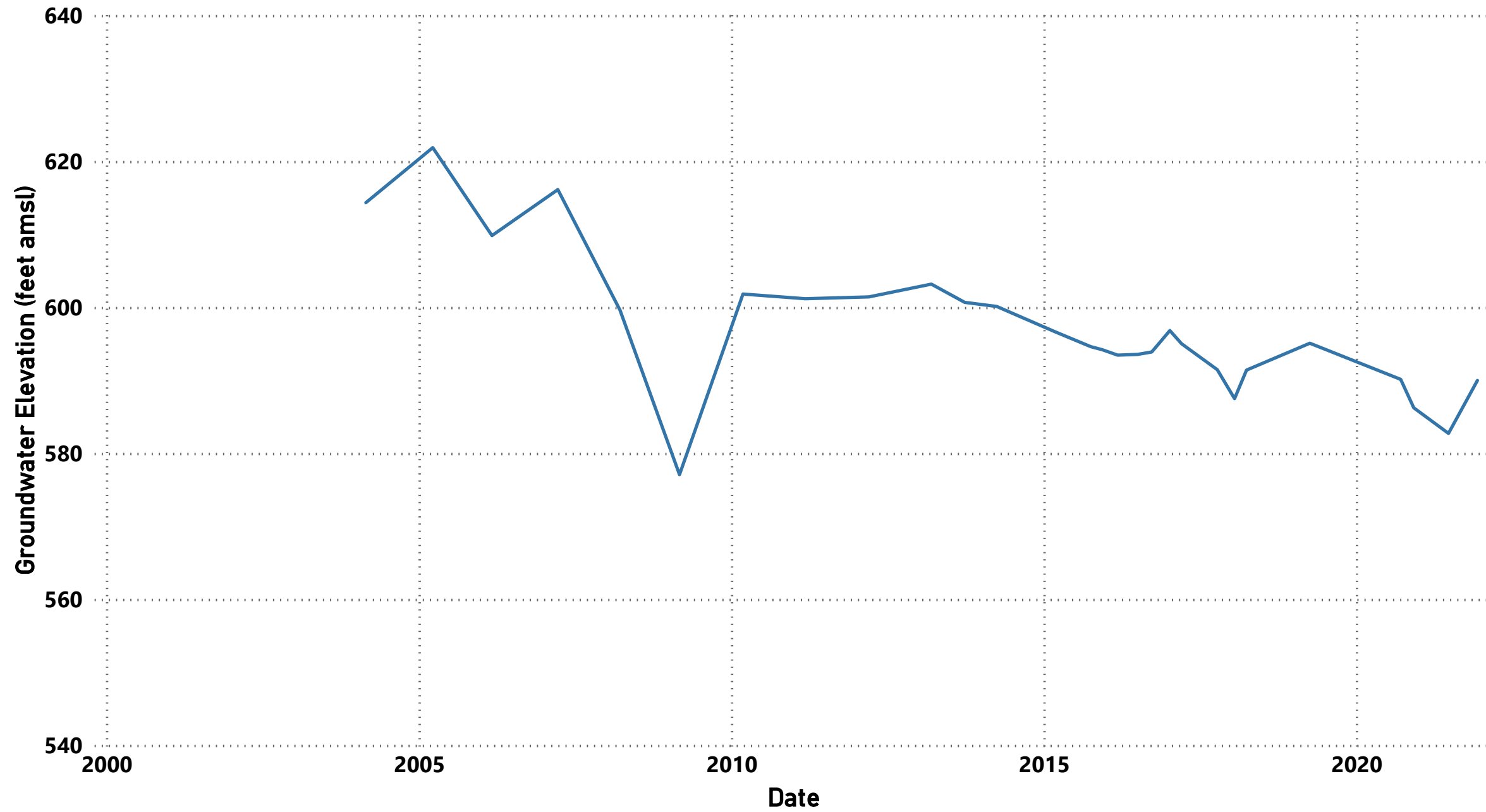
LEGEND

- Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 14
Hydrograph for Well 13C1
Careaga Formation Aquifer
San Antonio Basin GSA
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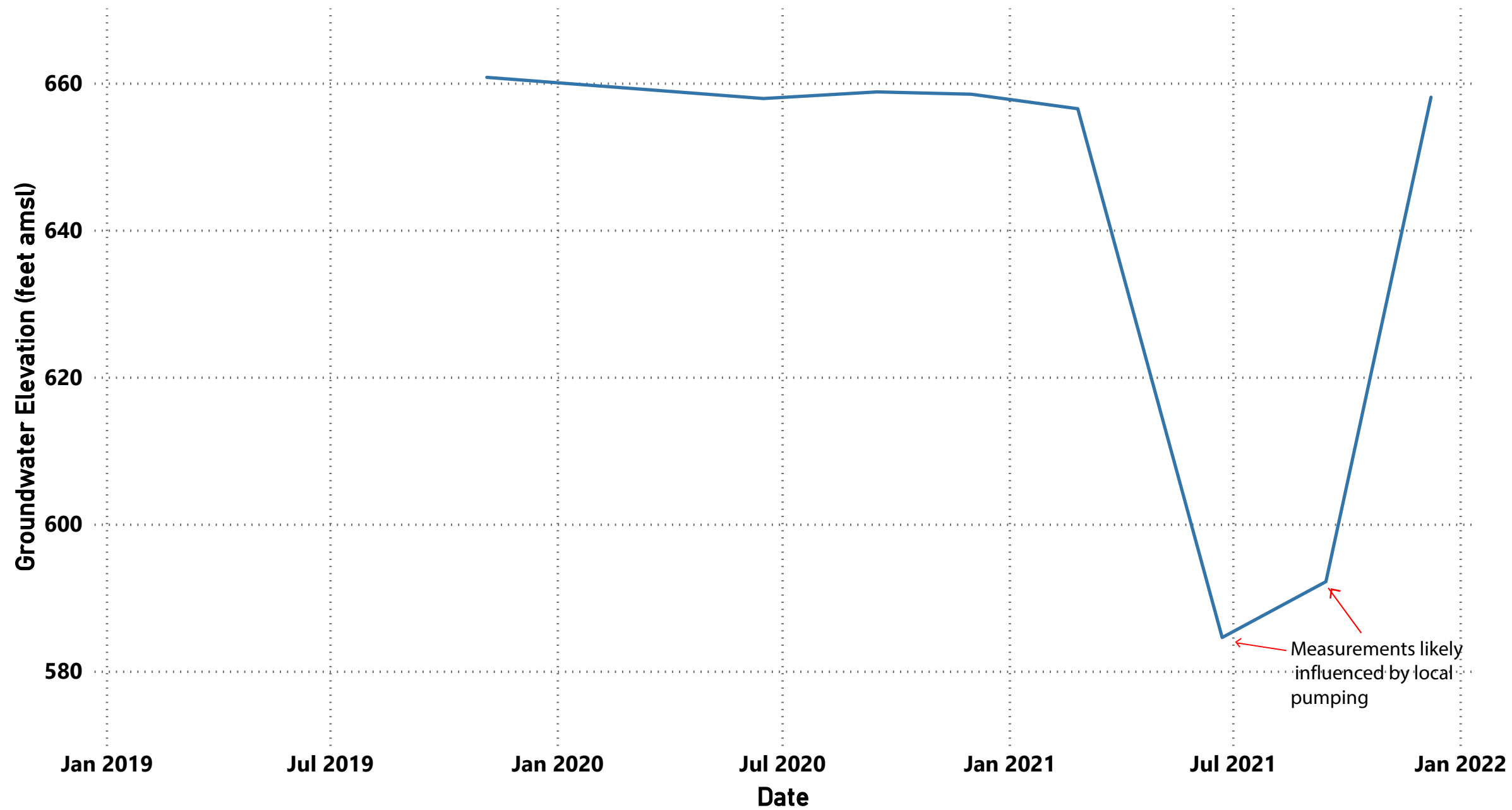
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 15
Hydrograph for Well 2R1
Careaga Formation Aquifer
San Antonio Basin GSA
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LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 16
Hydrograph for Mesa Vineyard Well
Careaga Formation Aquifer
San Antonio Basin GSA
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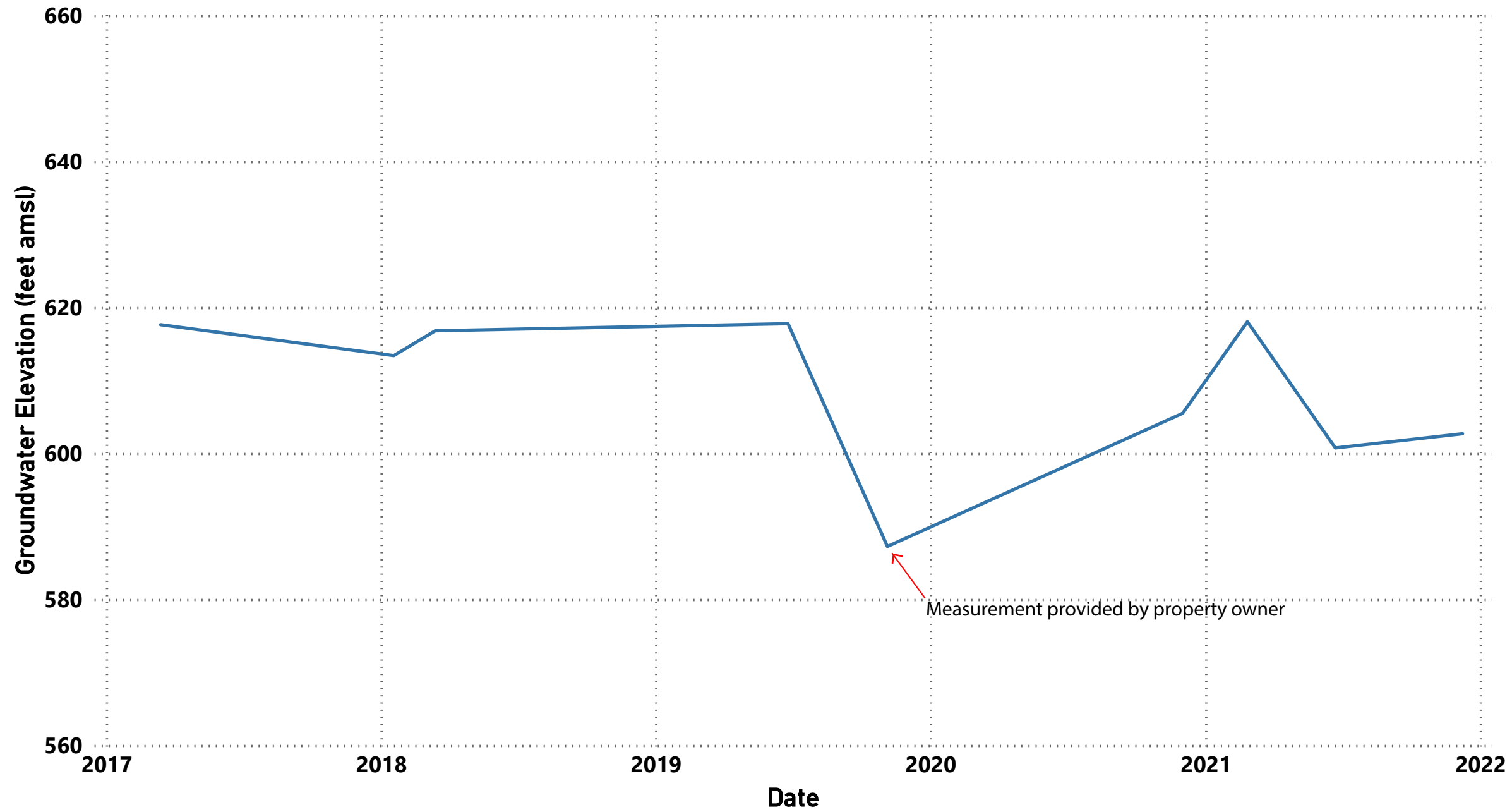
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 17
Hydrograph for Well 2N1
Careaga Formation Aquifer
San Antonio Basin GSA
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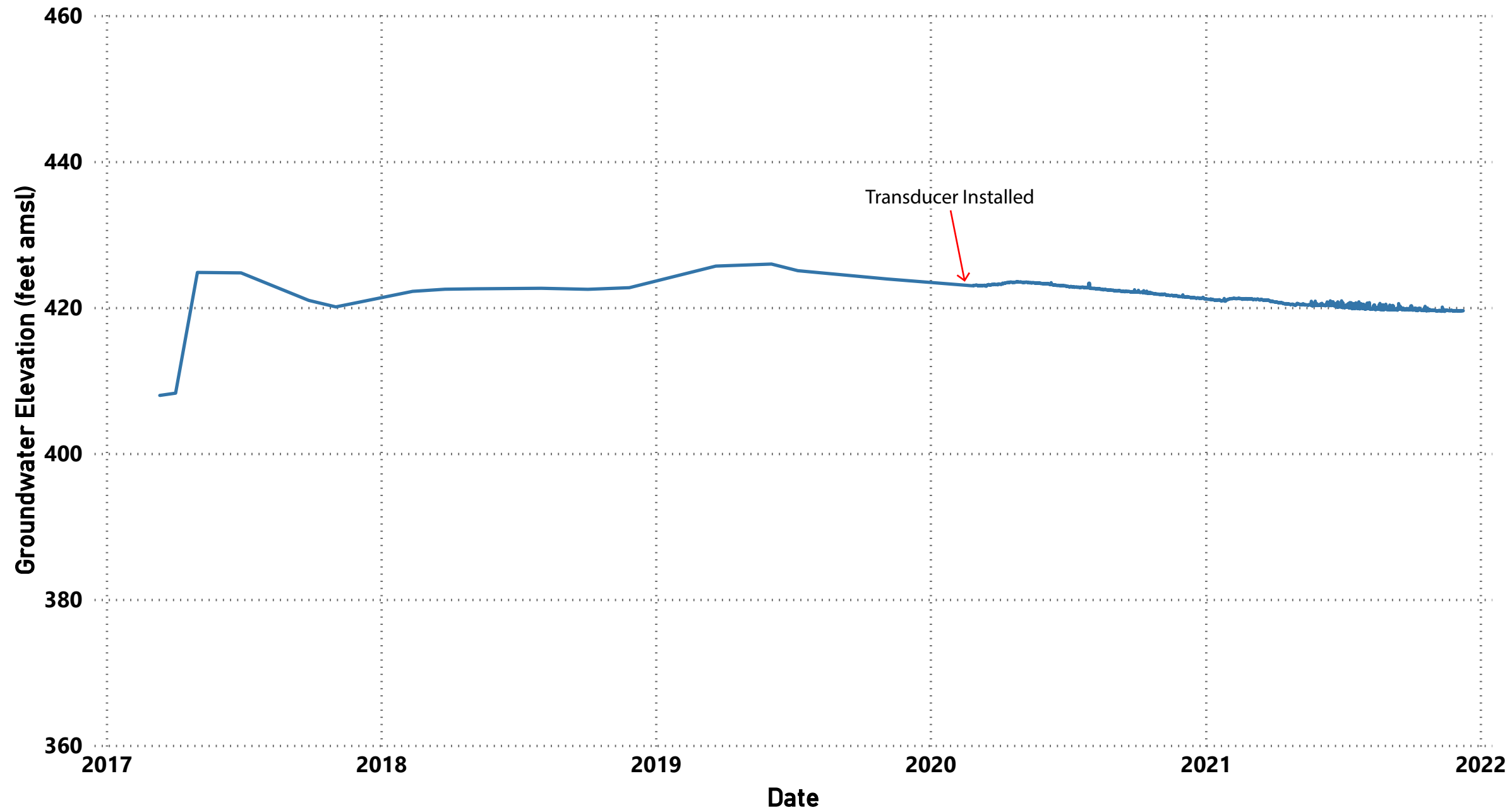
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 18
Hydrograph for Well SALS
Paso Robles Formation Aquifer
San Antonio Basin GSA
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LEGEND

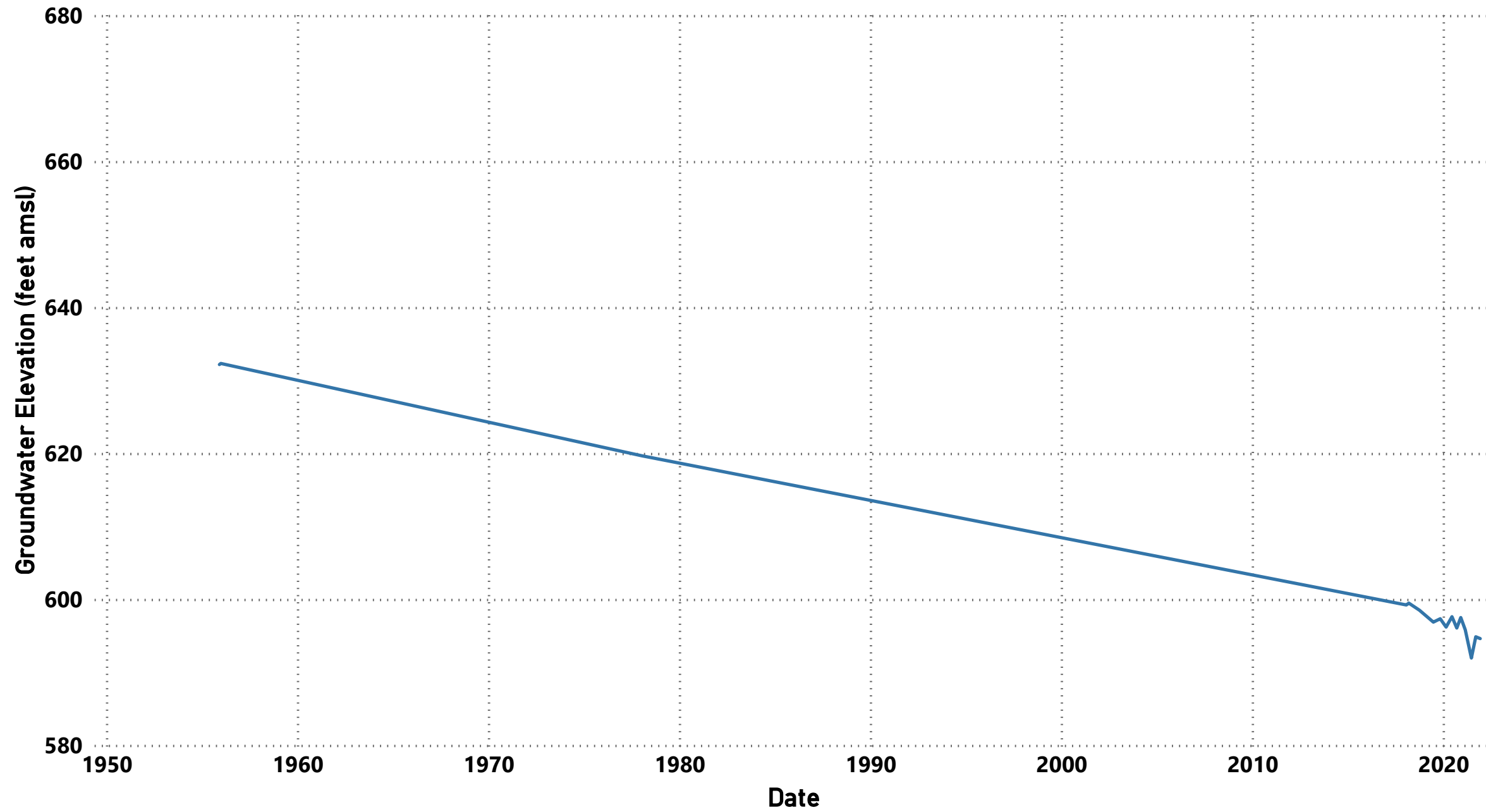
● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 19
Hydrograph for
4-Deer Highway Well
Careaga Formation Aquifer

San Antonio Basin GSA
2021 Annual Groundwater
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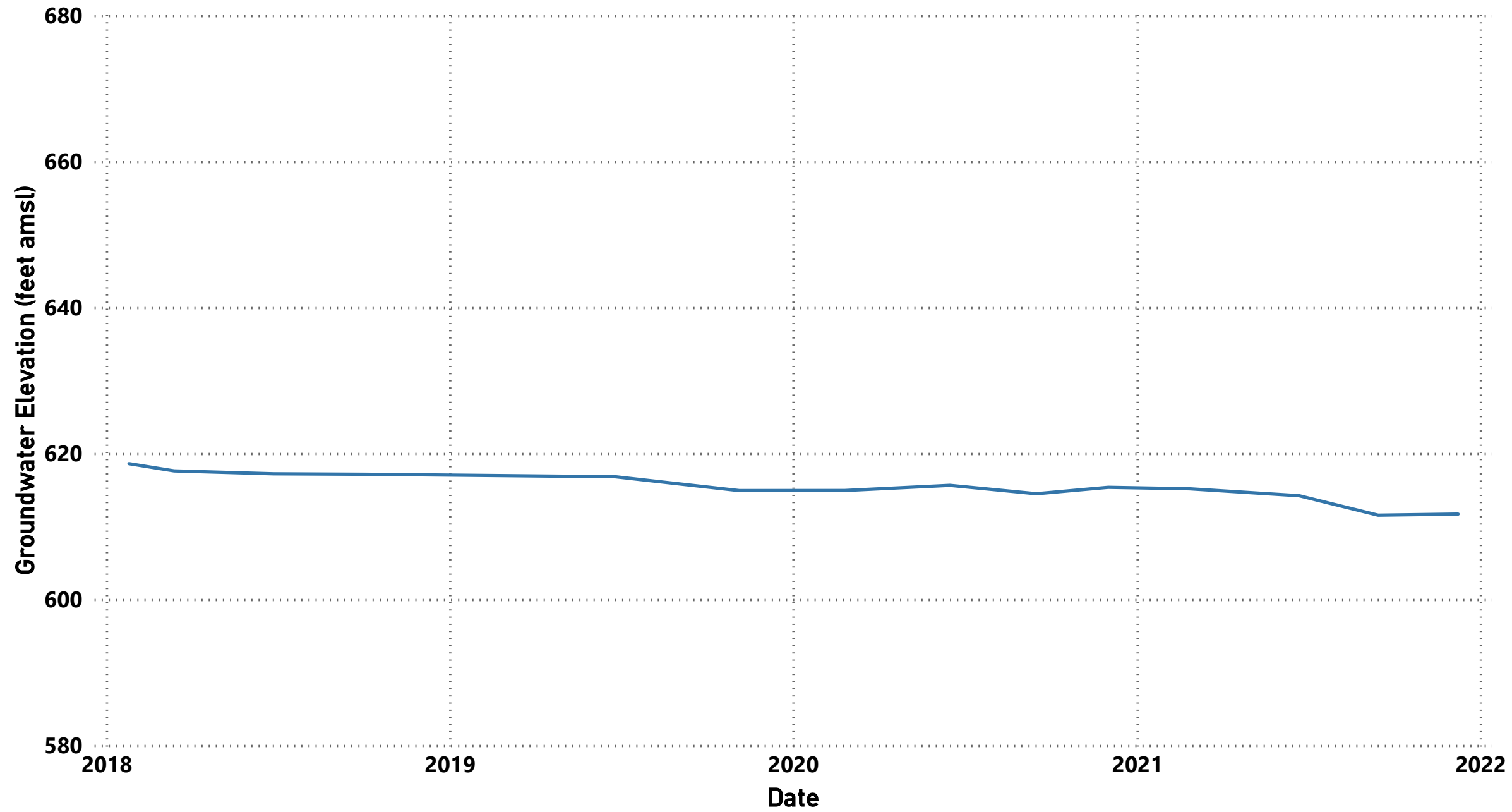
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 20
Hydrograph for 4-Deer Field Well
Careaga Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
Level Monitoring Report



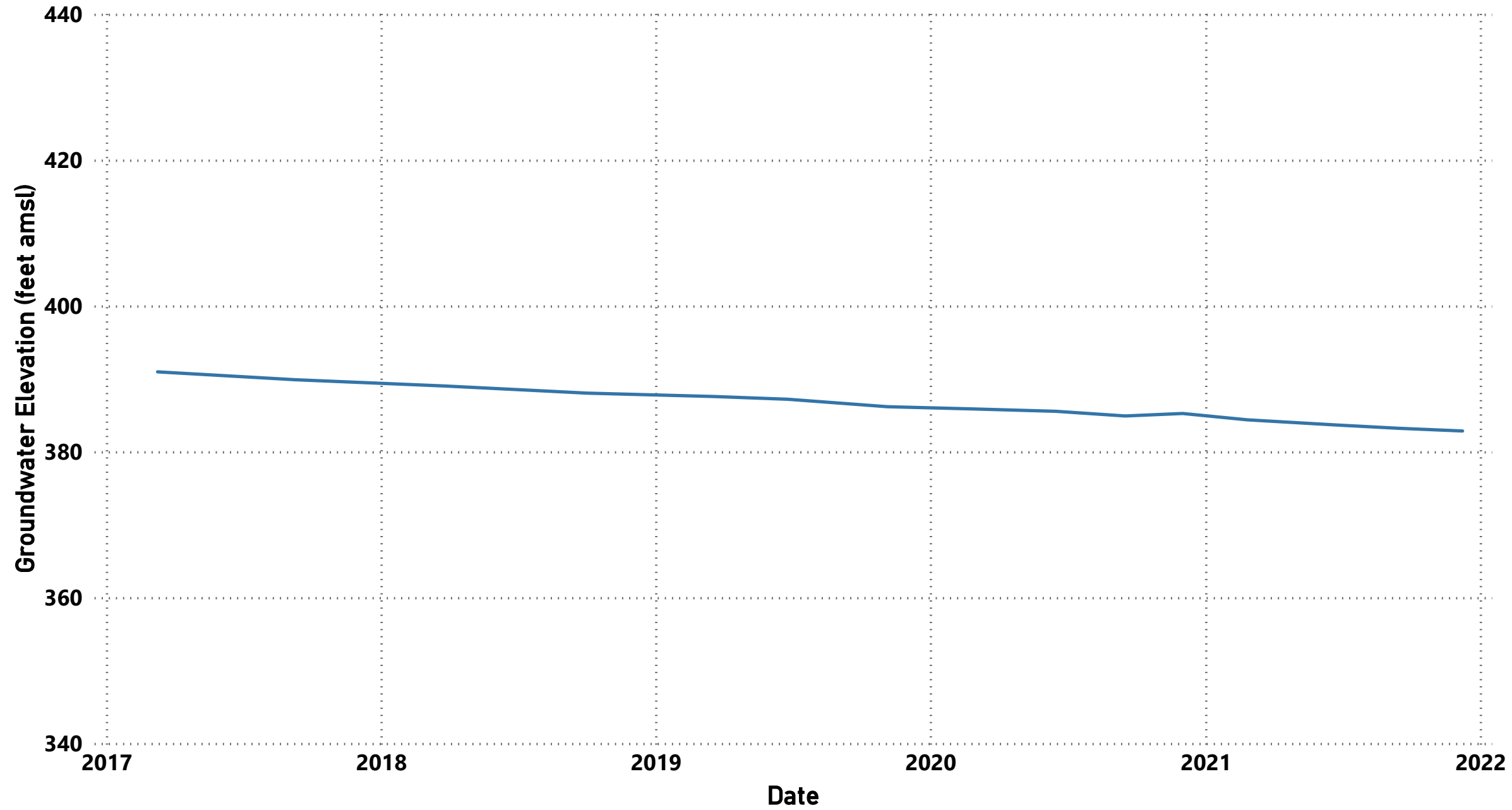
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 21
Hydrograph for Schaff Well
Careaga Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
Level Monitoring Report



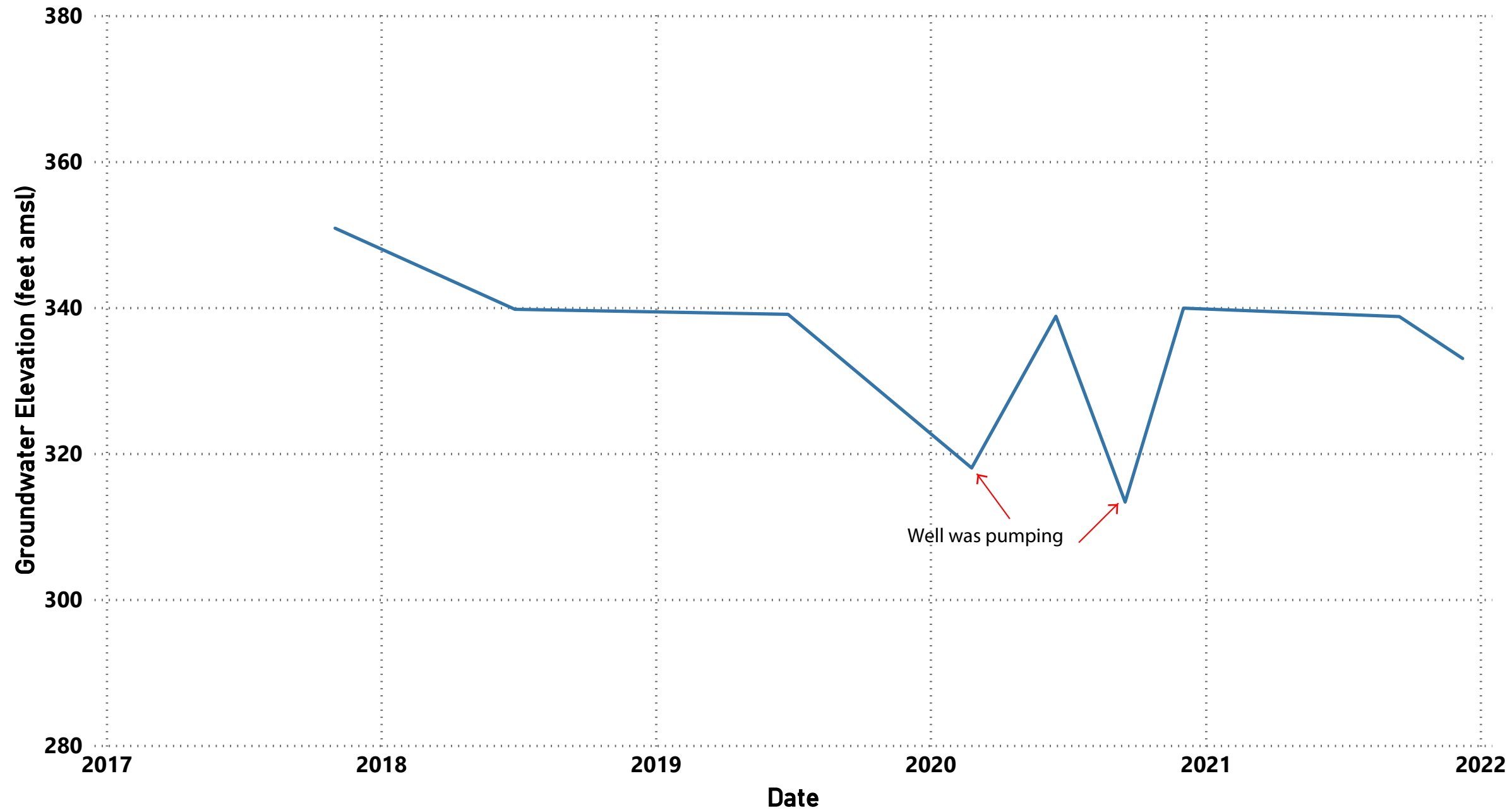
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 22
Hydrograph for Stephen's Well
Careaga Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
Level Monitoring Report



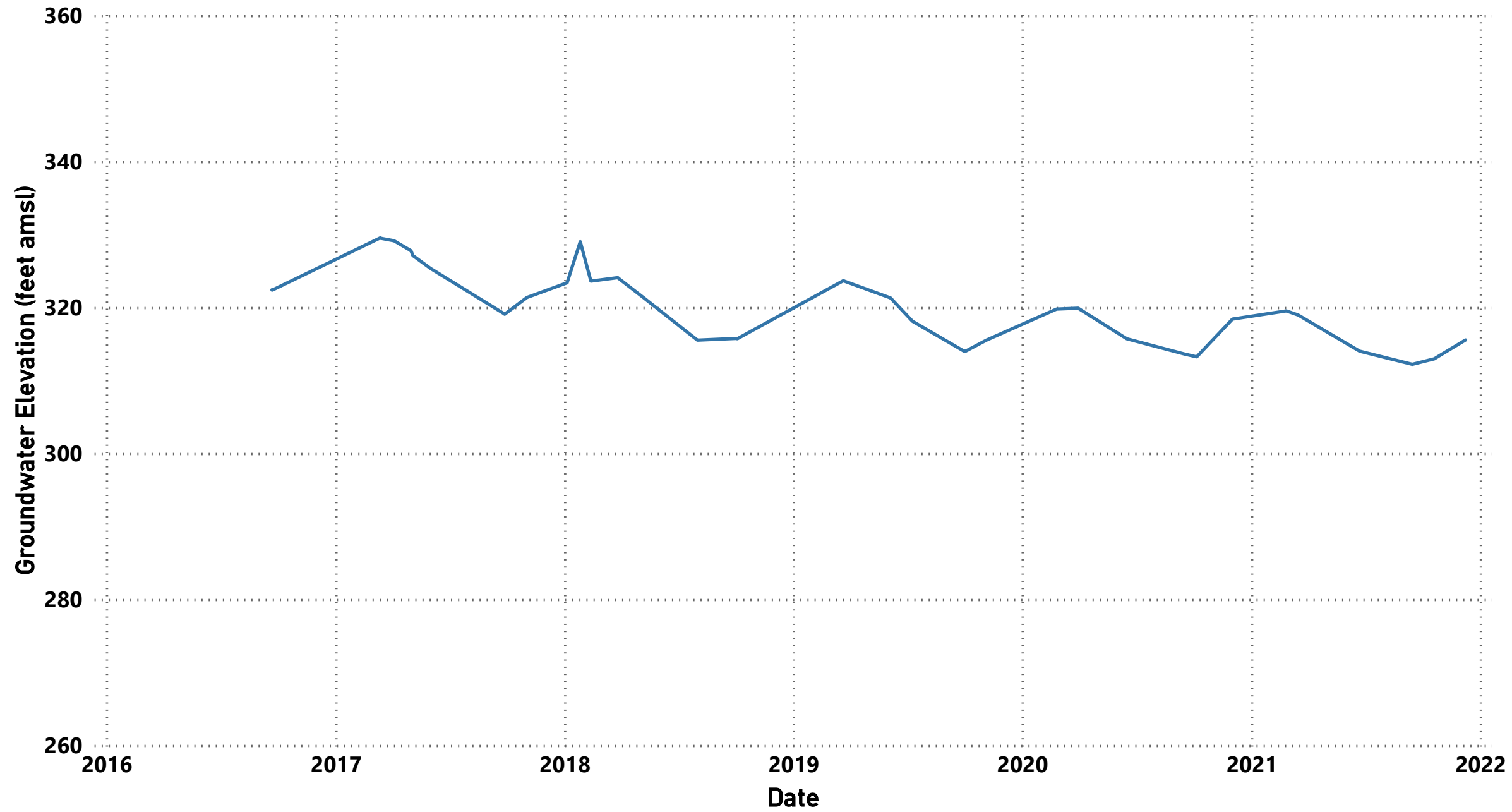
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 23
Hydrograph for Well SACR1
Careaga Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
Level Monitoring Report



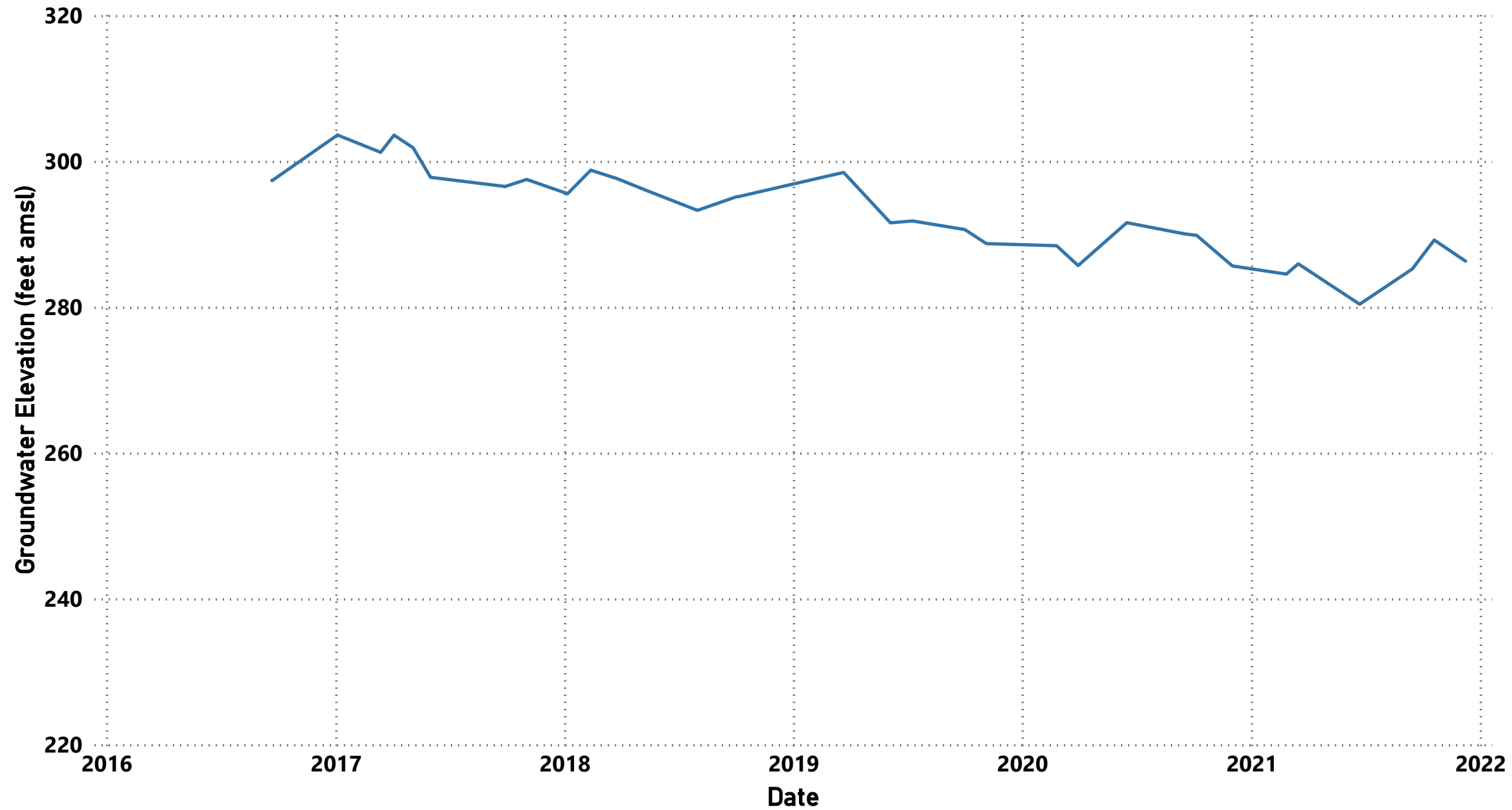
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 24
Hydrograph for Well SACR2
Paso Robles Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
Level Monitoring Report



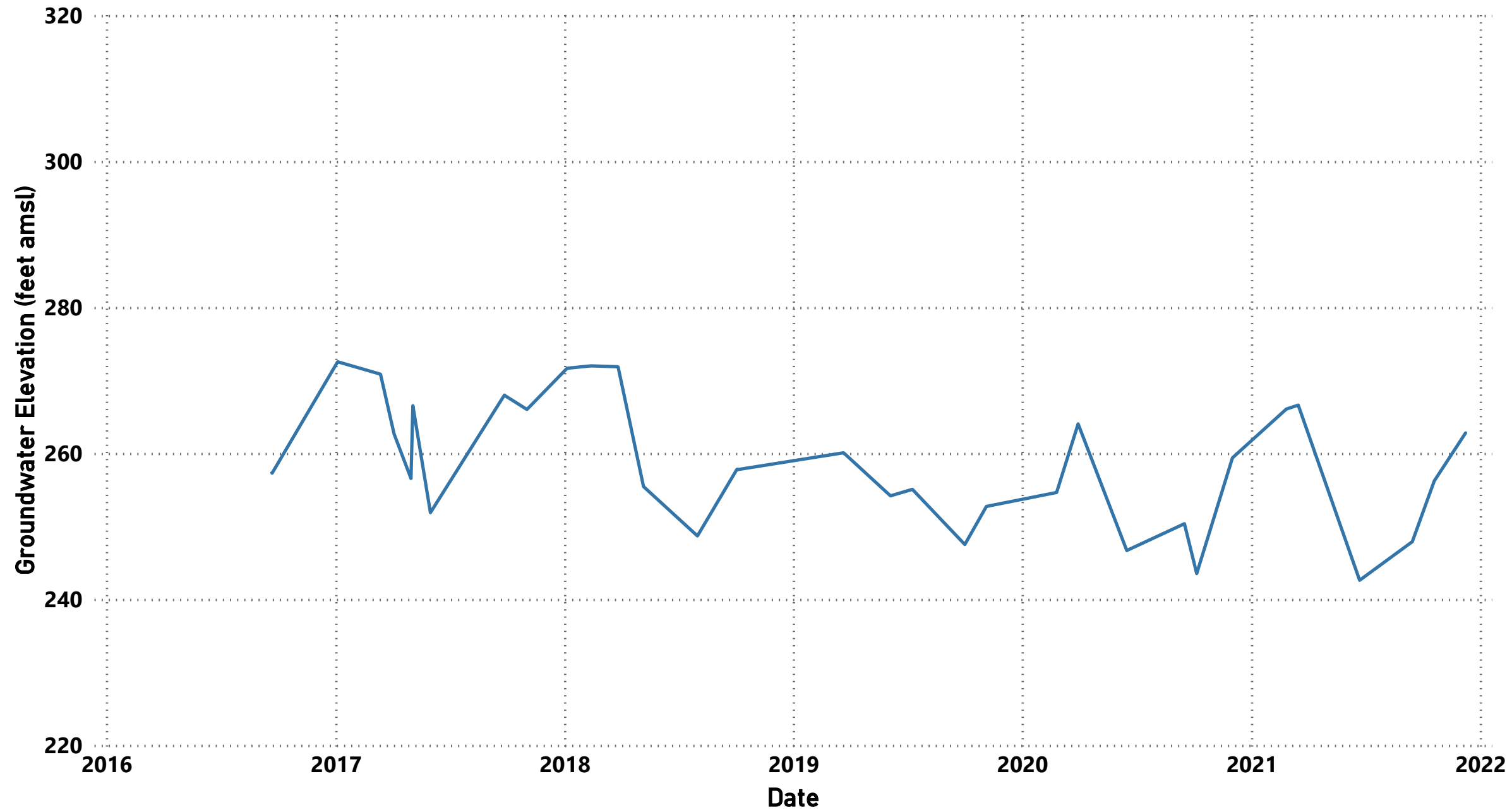
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 25
Hydrograph for Well SACR3
Paso Robles Formation Aquifer
 San Antonio Basin GSA
 2021 Annual Groundwater
 Level Monitoring Report



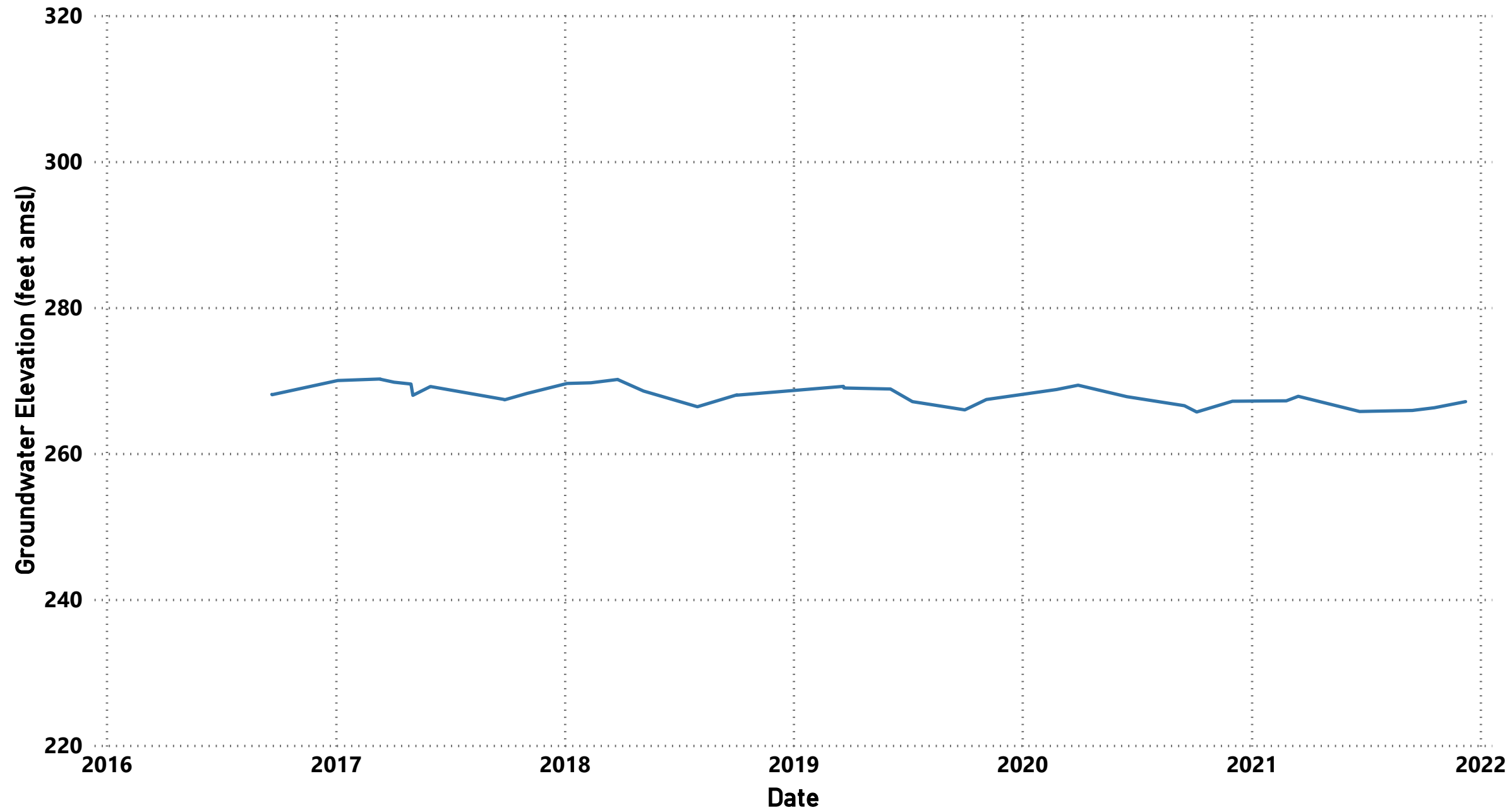
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
 amsl: above mean sea level



FIGURE 26
Hydrograph for Well SACR4
Paso Robles Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
Level Monitoring Report



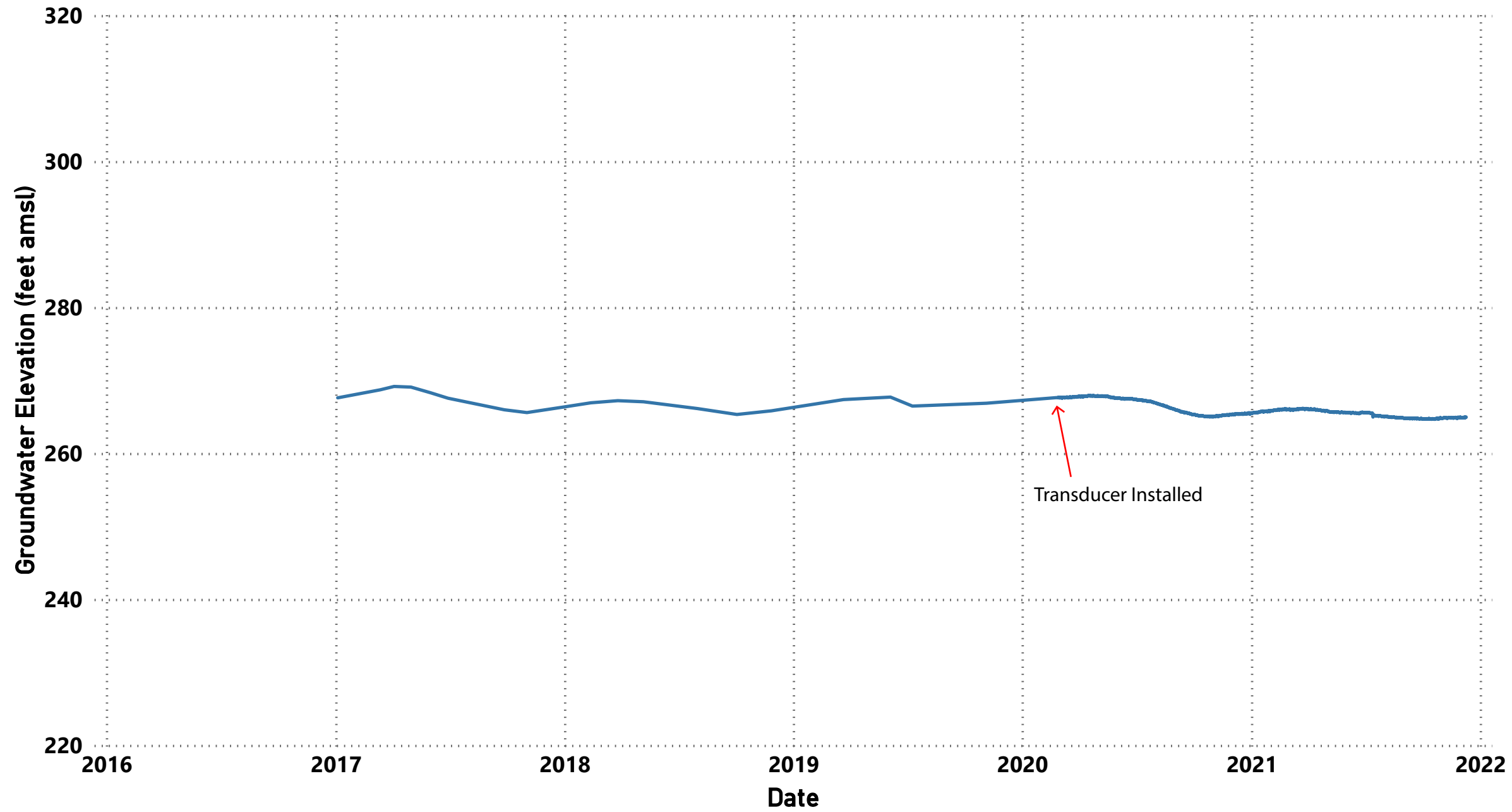
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 27
Hydrograph for Well SACR5
Paso Robles Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
Level Monitoring Report



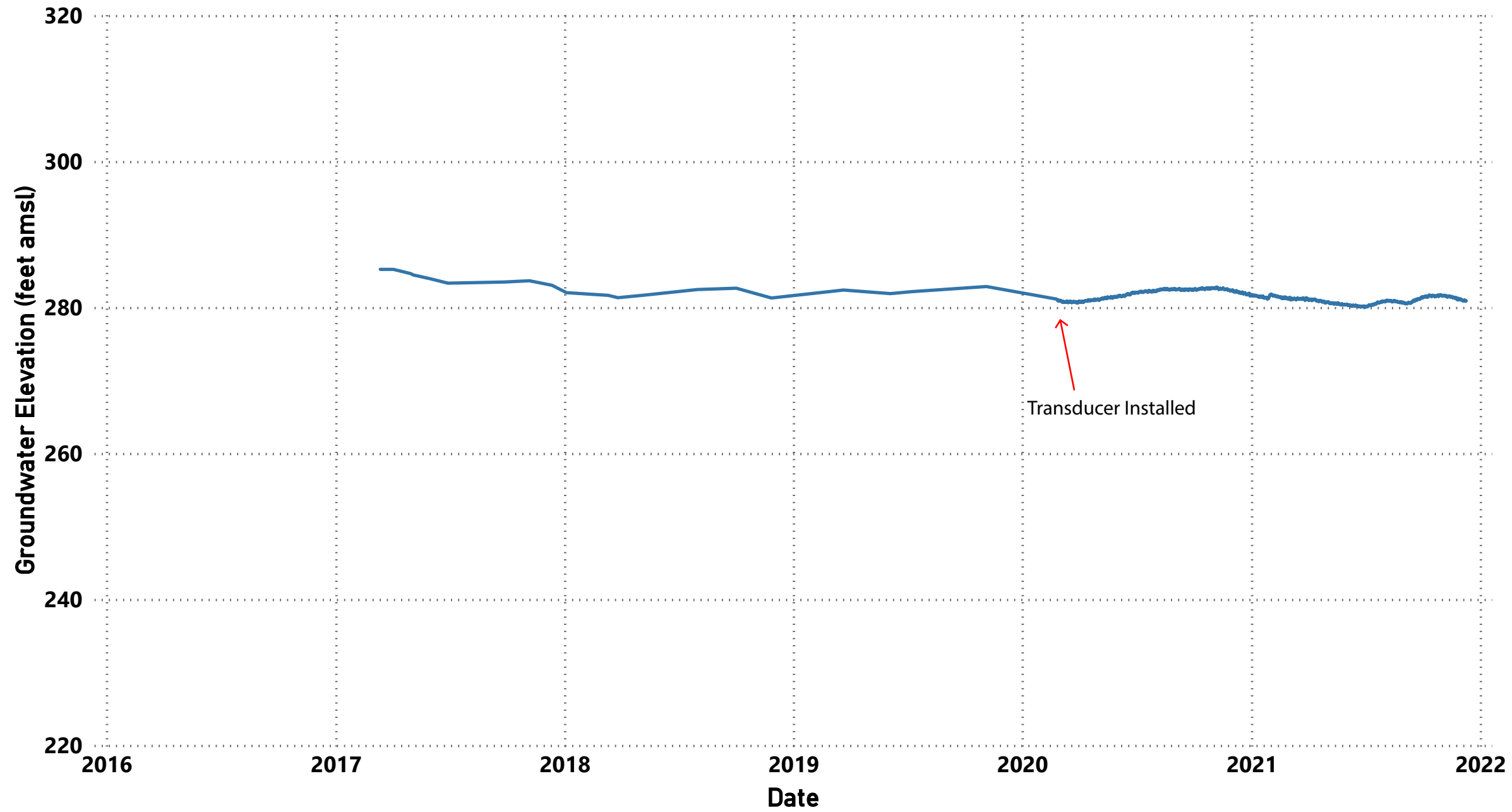
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 28
Hydrograph for Well SAHG
Paso Robles Formation Aquifer
 San Antonio Basin GSA
 2021 Annual Groundwater
 Level Monitoring Report



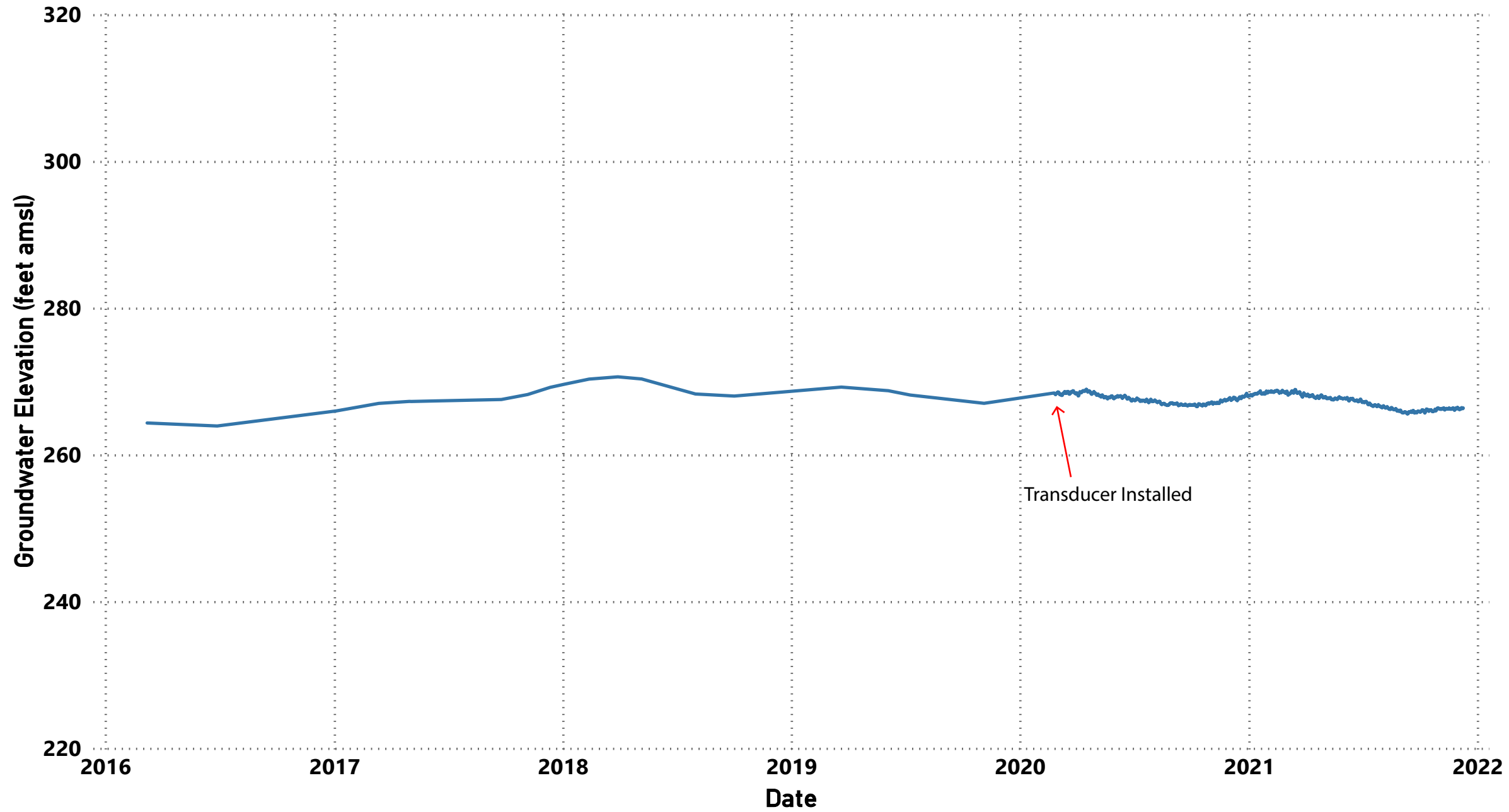
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
 amsl: above mean sea level



FIGURE 29
Hydrograph for Well SAGR
Paso Robles Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
Level Monitoring Report



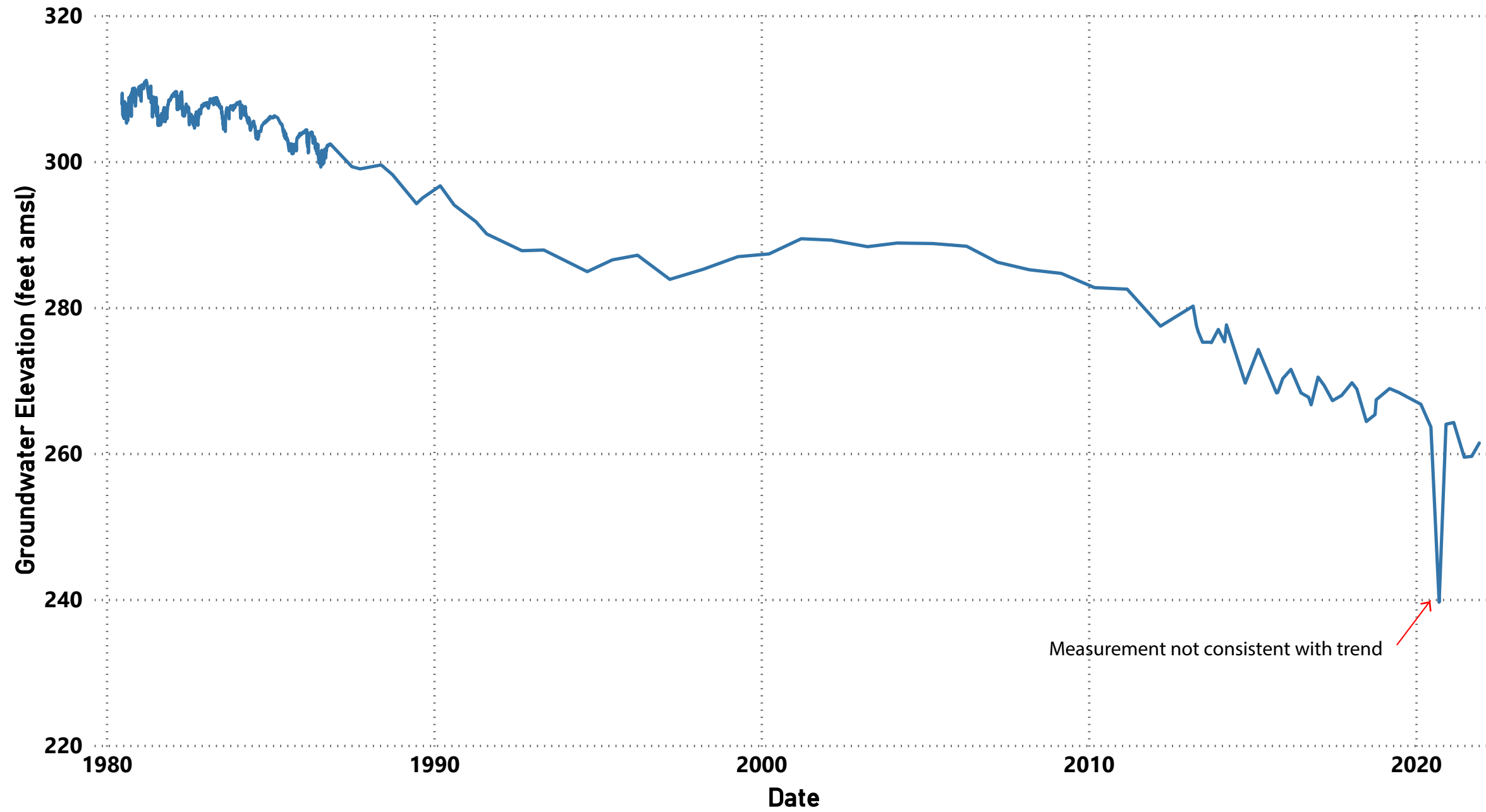
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 30
Hydrograph for Well 14L1
Careaga Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
Level Monitoring Report



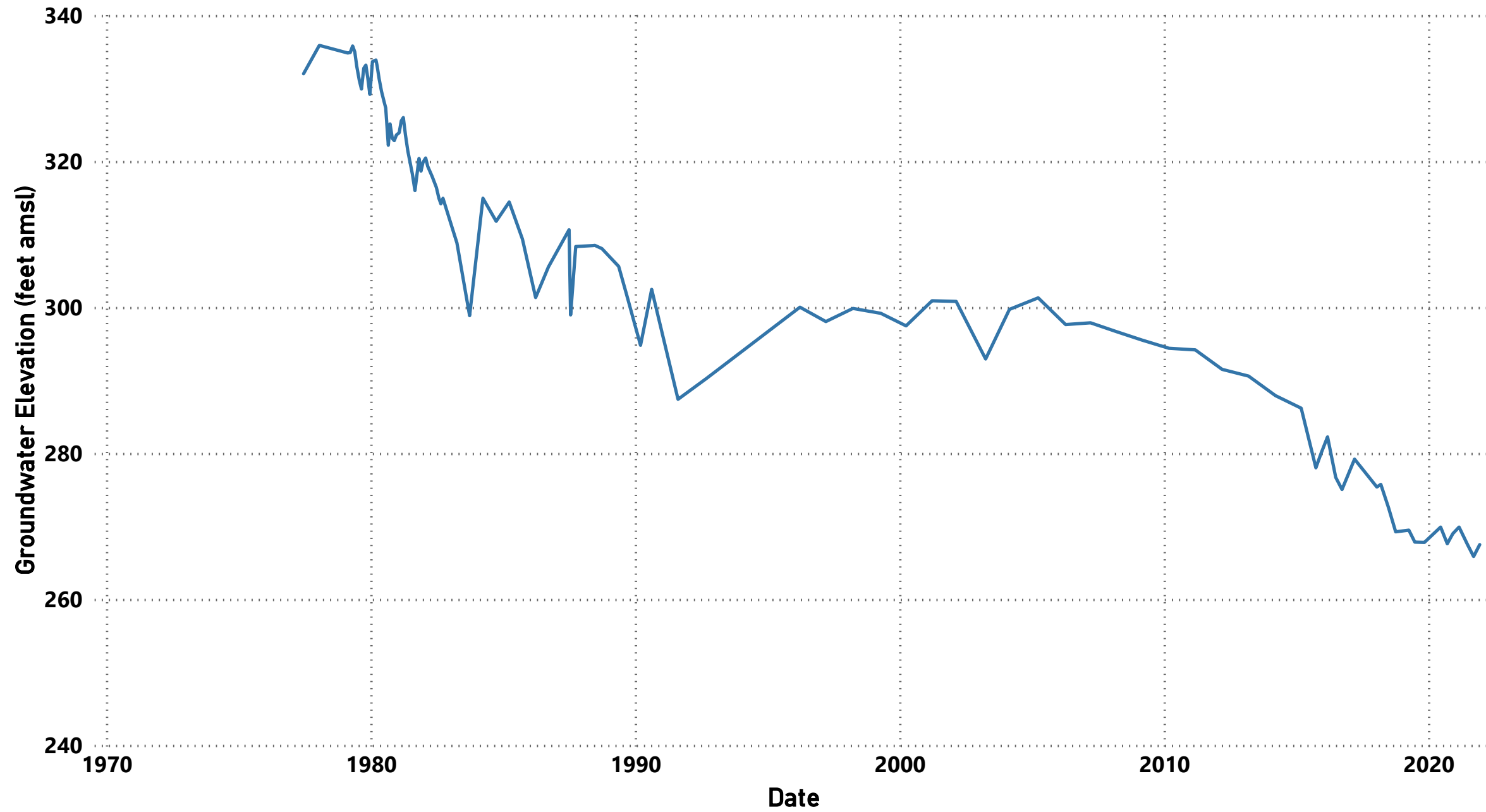
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 31
Hydrograph for Well 2M1
Paso Robles Formation Aquifer
 San Antonio Basin GSA
 2021 Annual Groundwater
 Level Monitoring Report



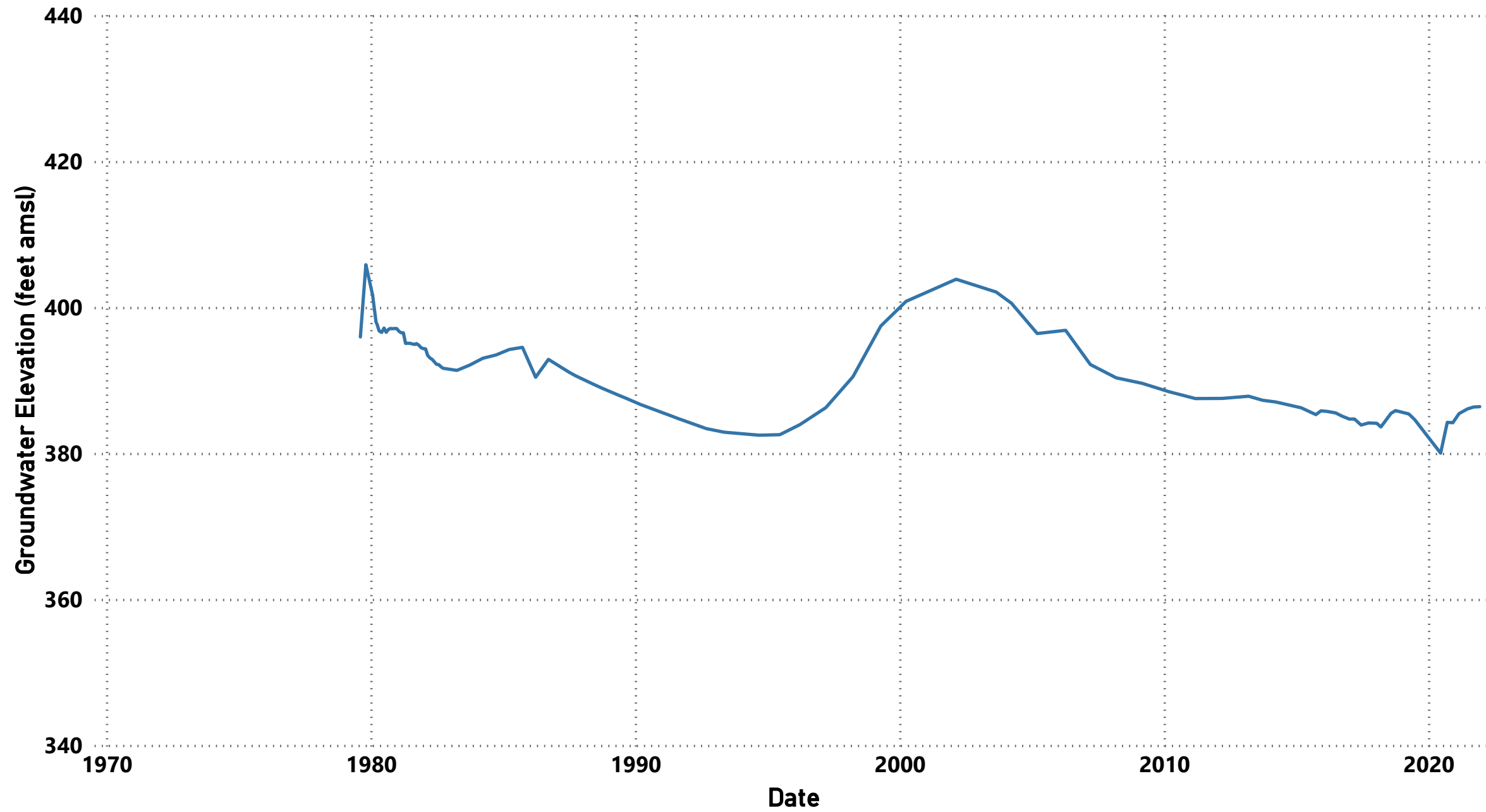
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
 amsl: above mean sea level



FIGURE 32
Hydrograph for Well 34P1
Careaga Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
Level Monitoring Report



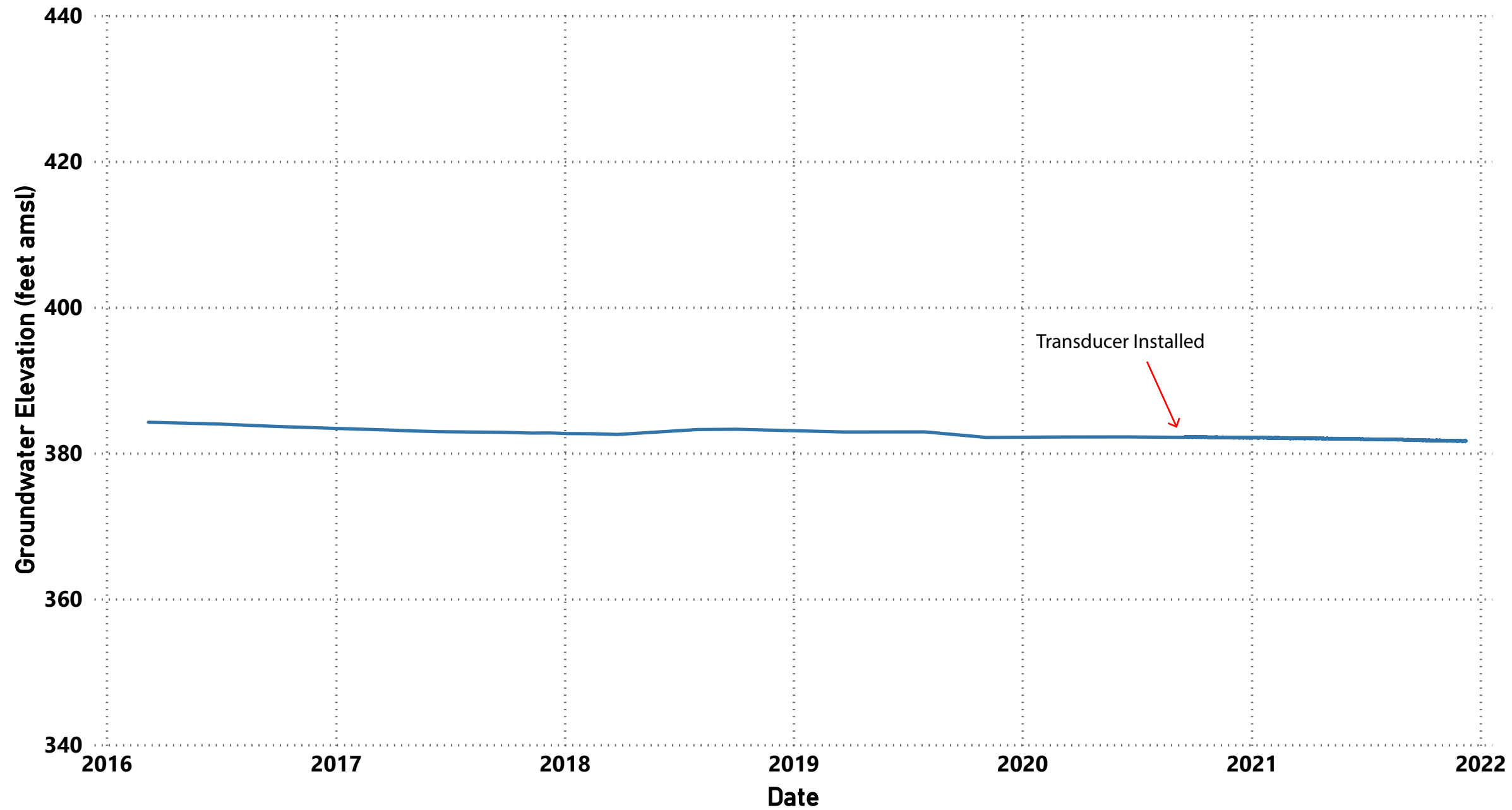
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 33
Hydrograph for Well SAHC
Careaga Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
Level Monitoring Report



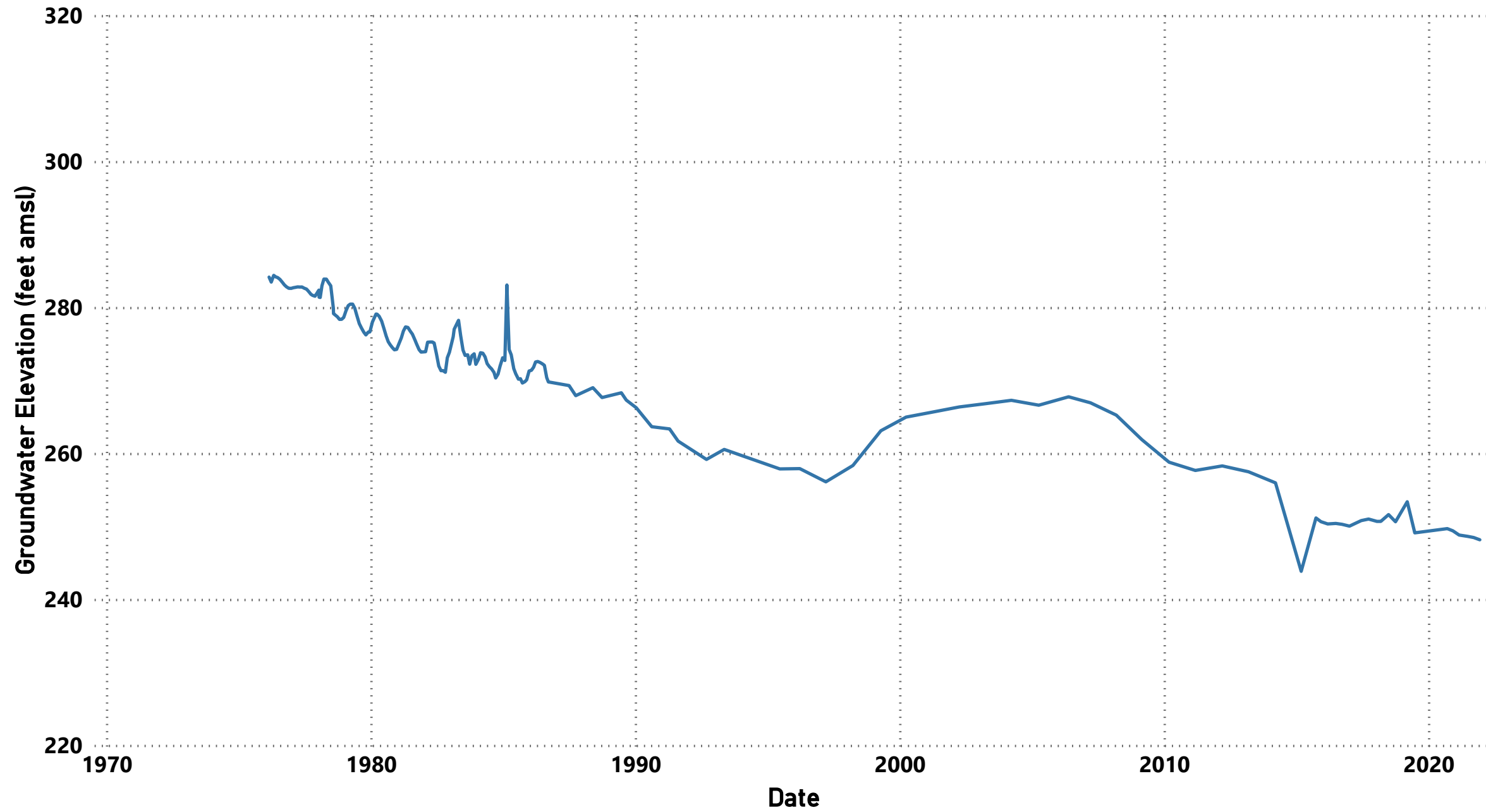
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 34
Hydrograph for Well 16G3
Careaga Formation Aquifer
 San Antonio Basin GSA
 2021 Annual Groundwater
 Level Monitoring Report



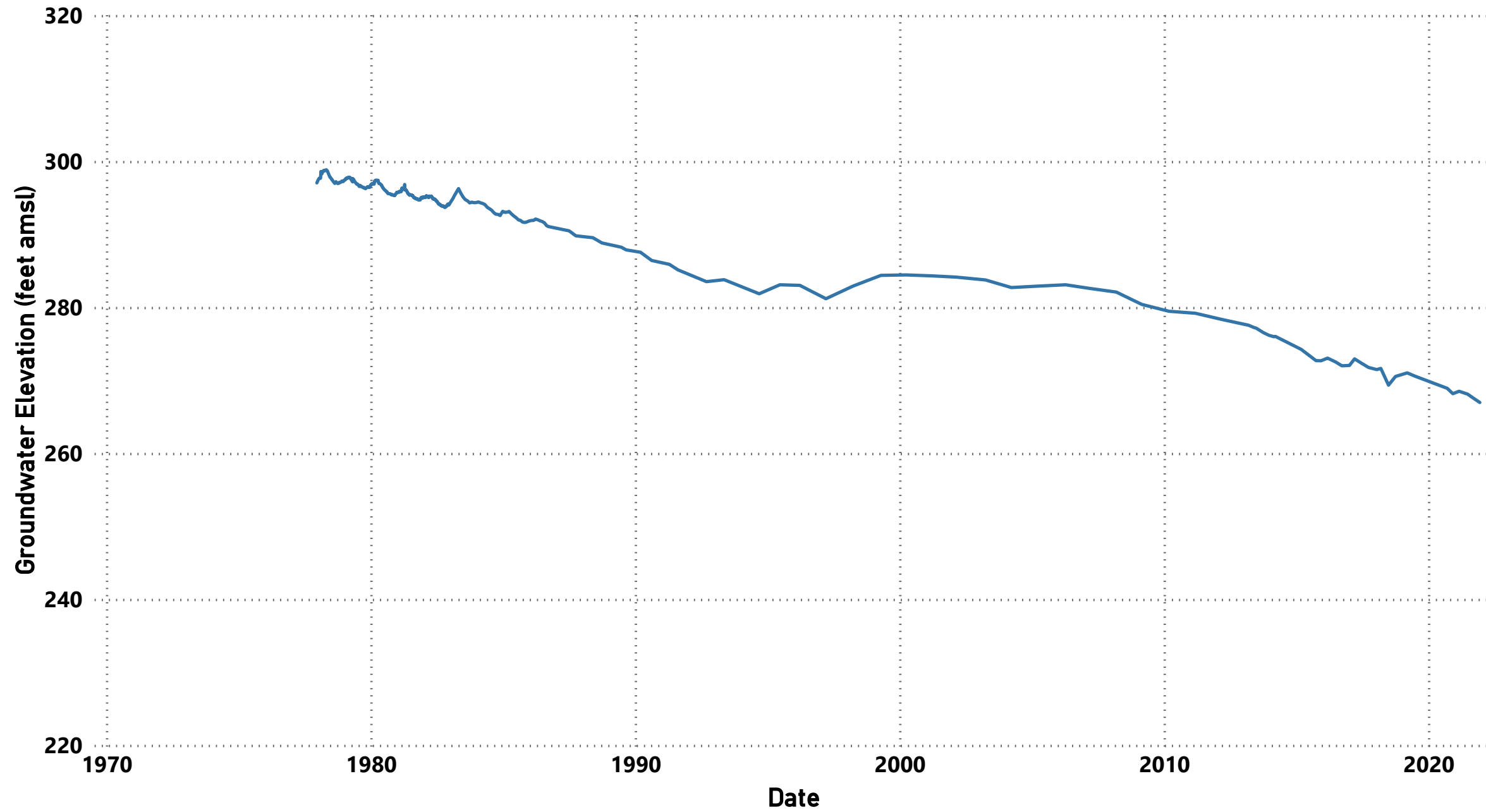
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
 amsl: above mean sea level



FIGURE 35
Hydrograph for Well 21A1
Careaga Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
Level Monitoring Report



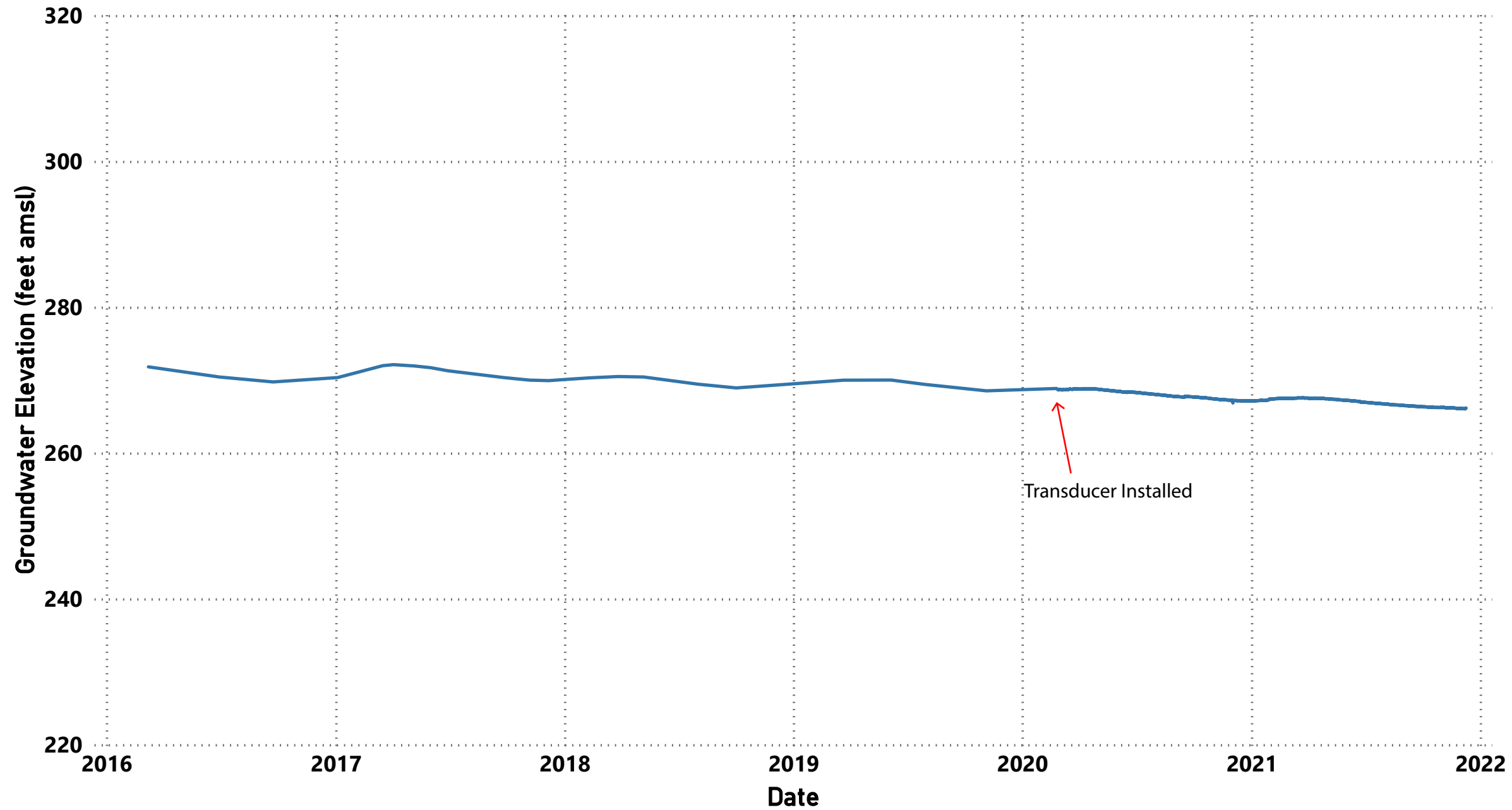
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 36
Hydrograph for Well SASA
Careaga Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
Level Monitoring Report



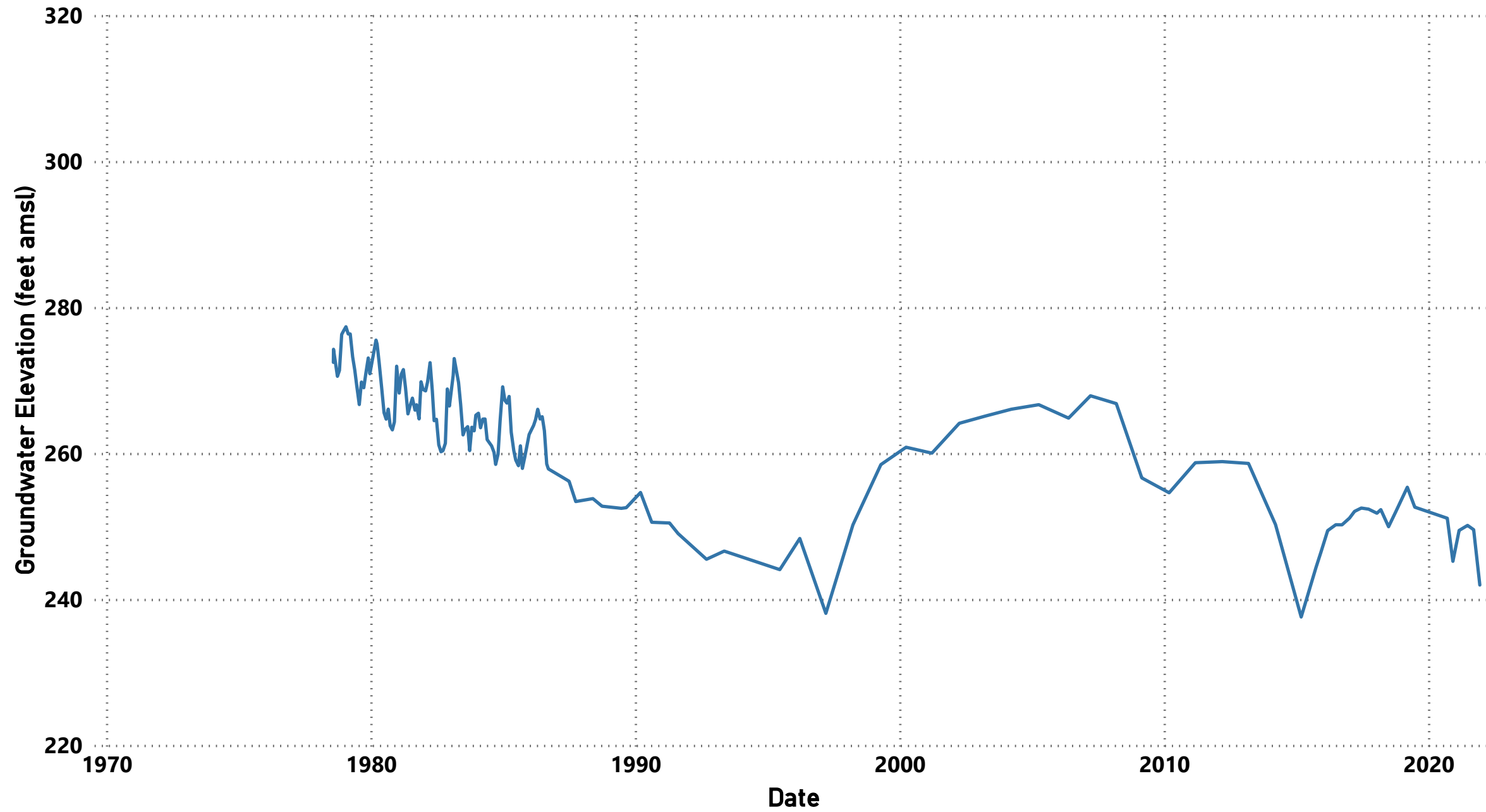
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 37
Hydrograph for Well 16F1
Careaga Formation Aquifer
 San Antonio Basin GSA
 2021 Annual Groundwater
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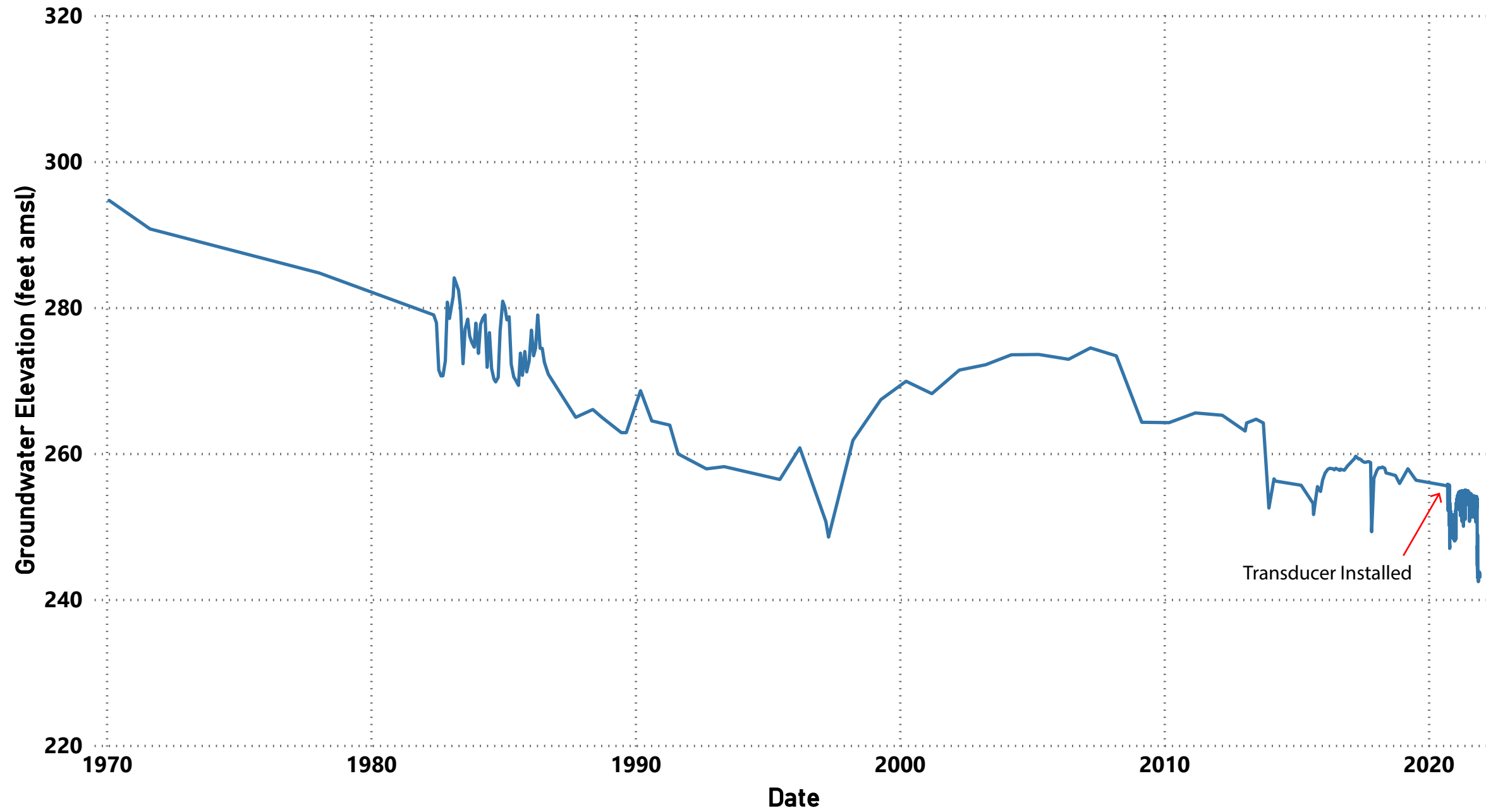
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
 amsl: above mean sea level



FIGURE 38
Hydrograph for Well 16C2
Careaga Formation Aquifer
 San Antonio Basin GSA
 2021 Annual Groundwater
 Level Monitoring Report



LEGEND

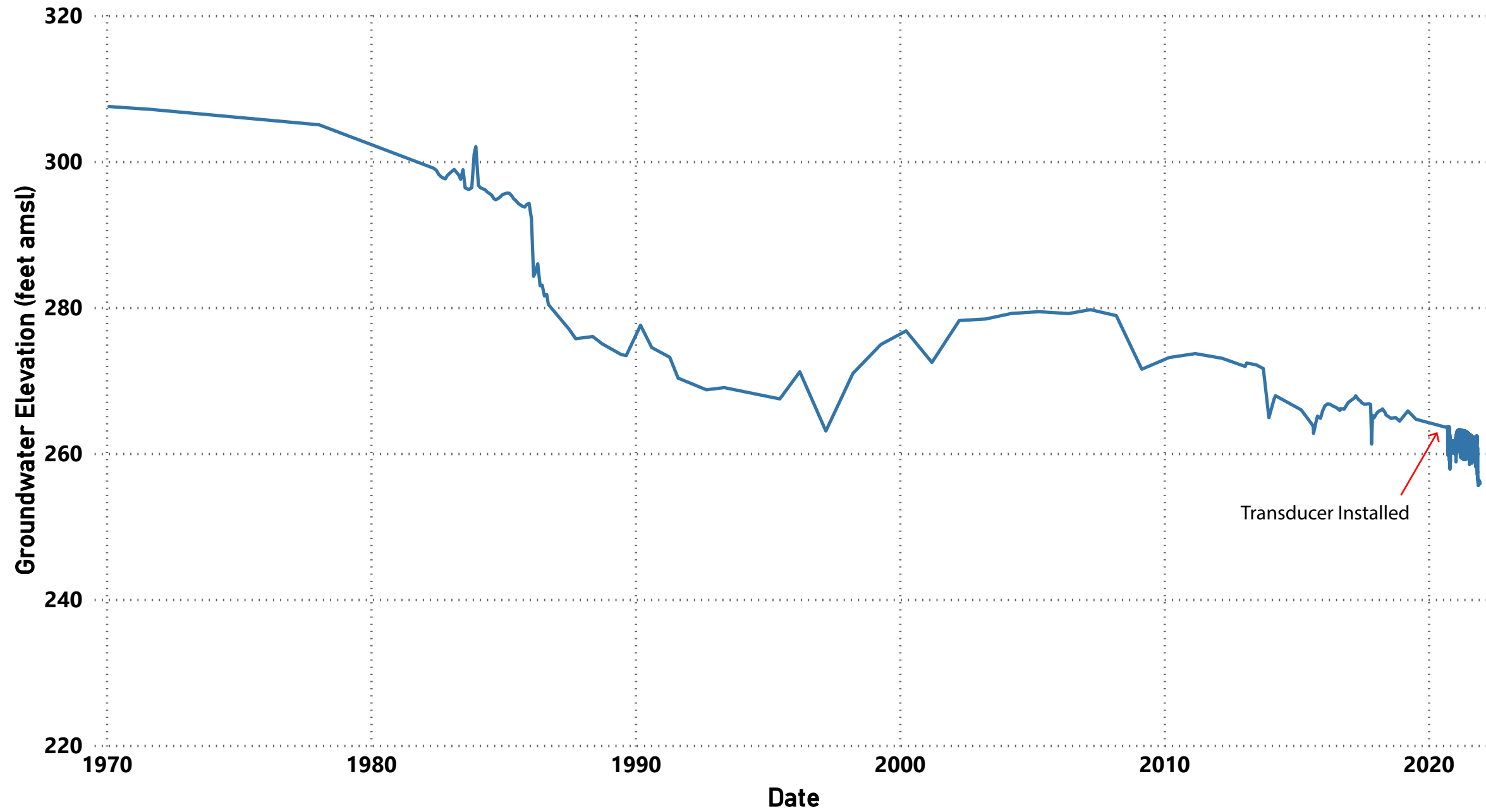
- Groundwater Elevation (feet amsl)

Transducer Installed

NOTE
 amsl: above mean sea level



FIGURE 39
Hydrograph for Well 16C4
Careaga Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
Level Monitoring Report



LEGEND

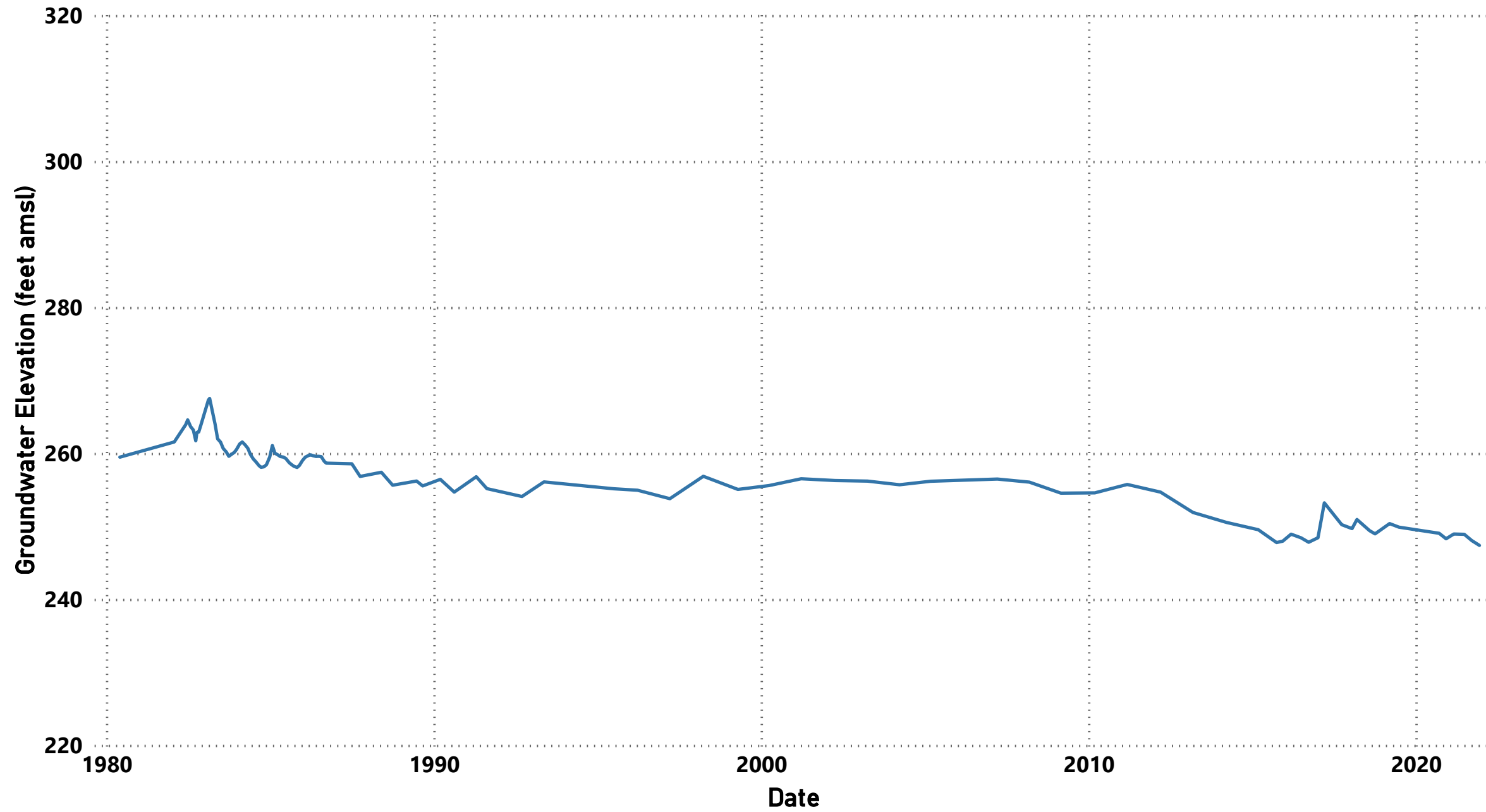
- Groundwater Elevation (feet amsl)

Transducer Installed

NOTE
amsl: above mean sea level



FIGURE 40
Hydrograph for Well 17H1
Careaga Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
Level Monitoring Report



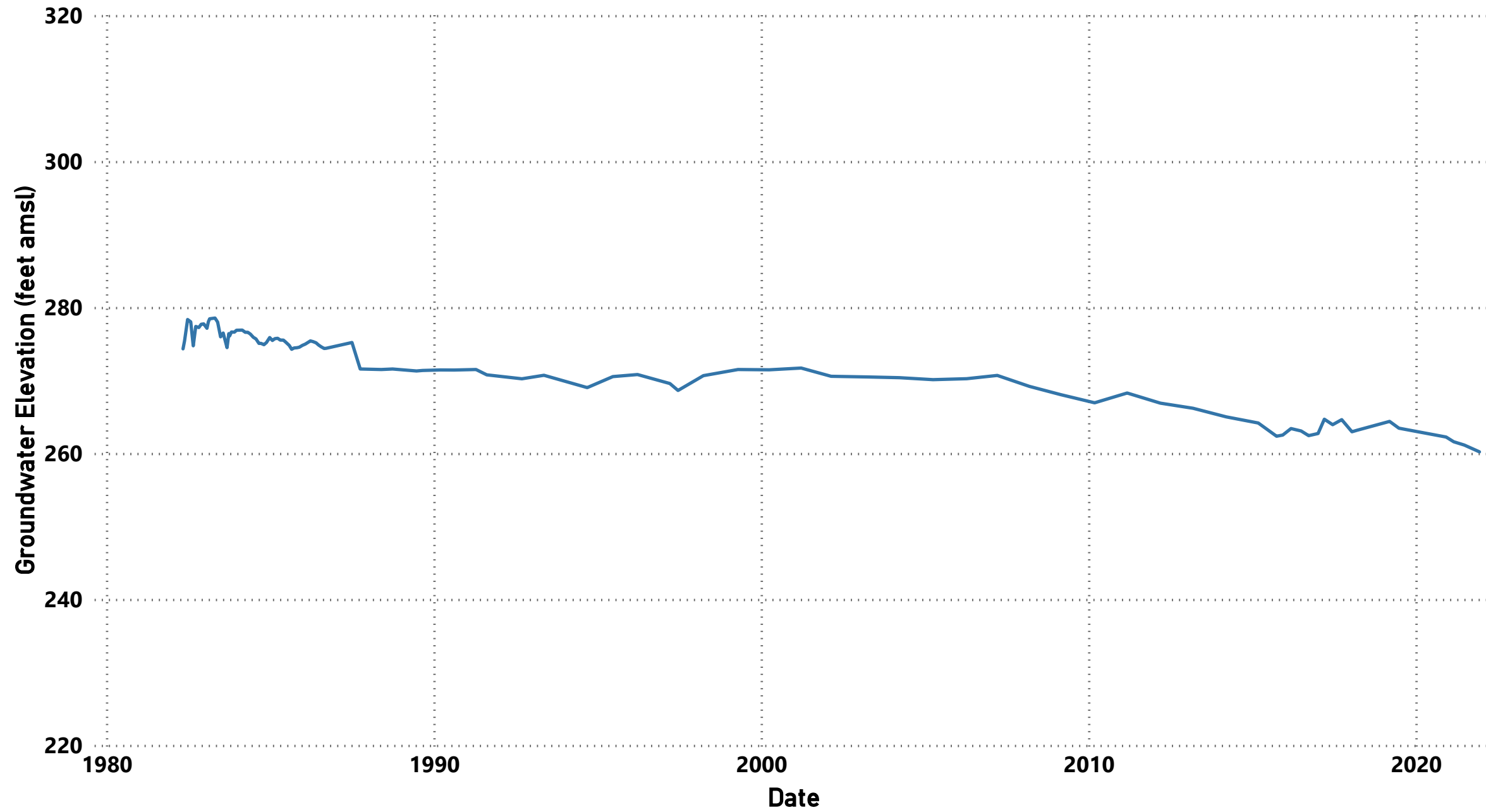
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 41
Hydrograph for Well 17Q1
Careaga Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
Level Monitoring Report



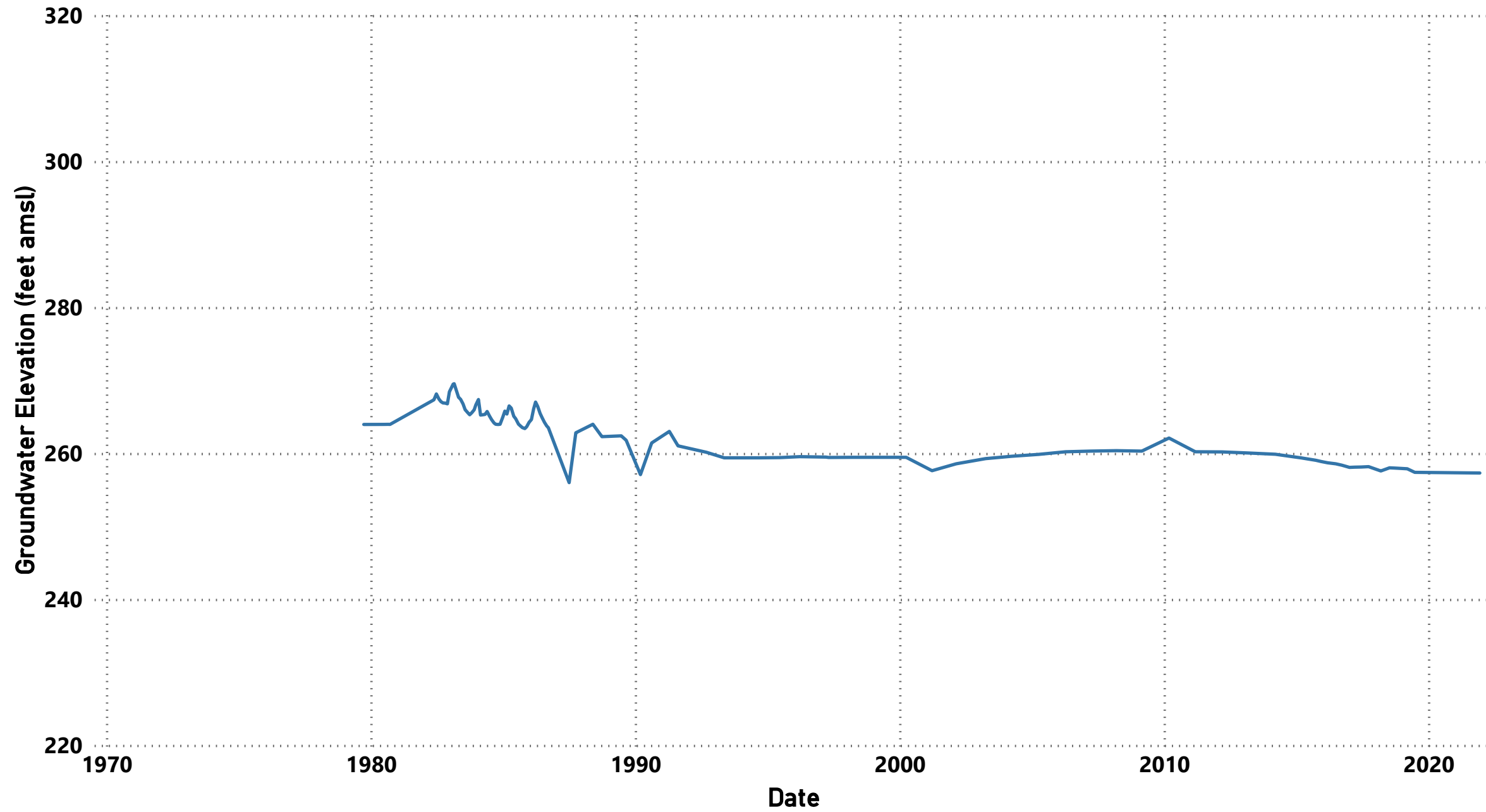
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 42
Hydrograph for Well 17K2
Careaga Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
Level Monitoring Report



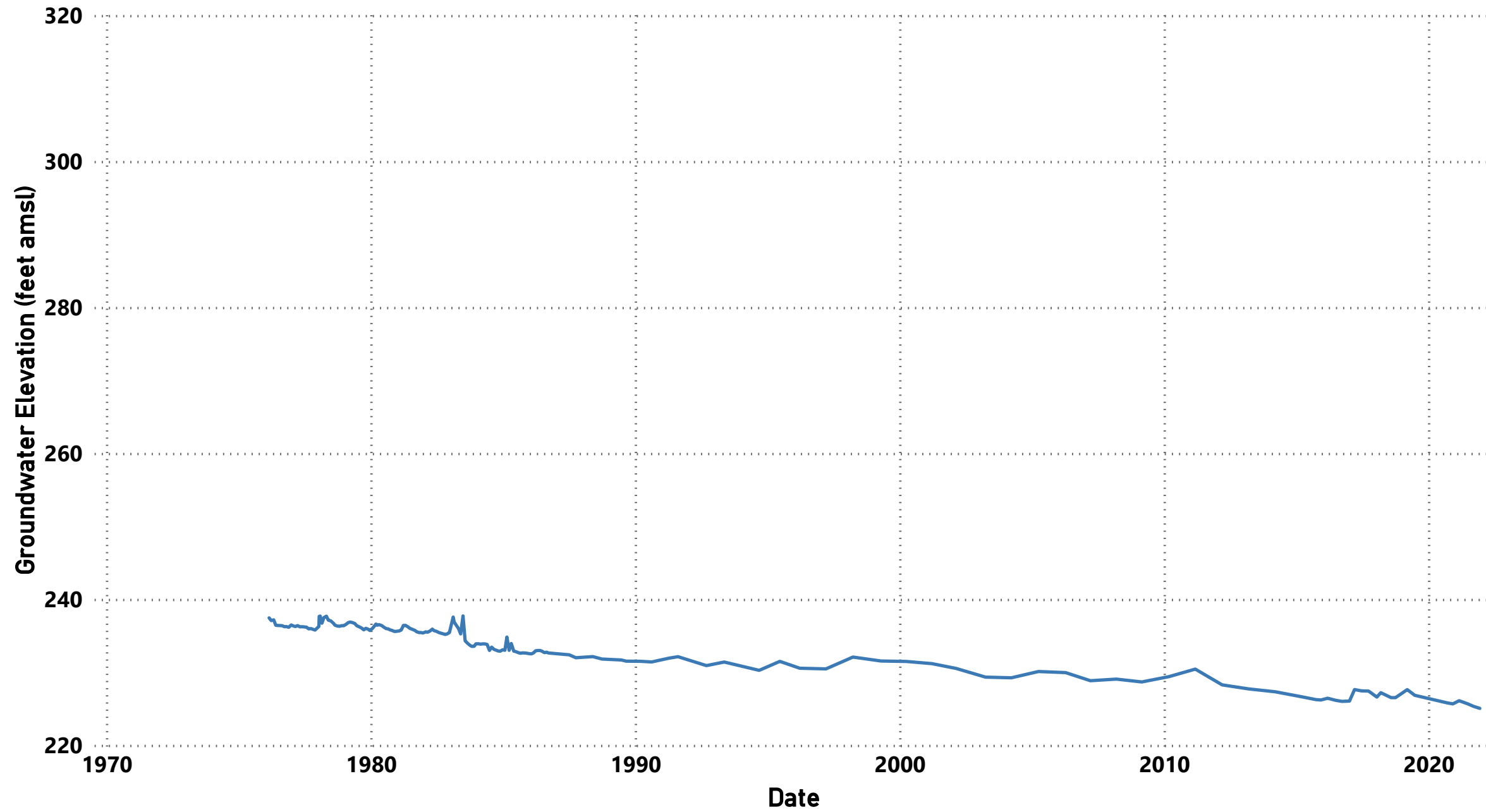
LEGEND

● Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 43
Hydrograph for Well 17E1
Careaga Formation Aquifer
San Antonio Basin GSA
2021 Annual Groundwater
Level Monitoring Report



LEGEND

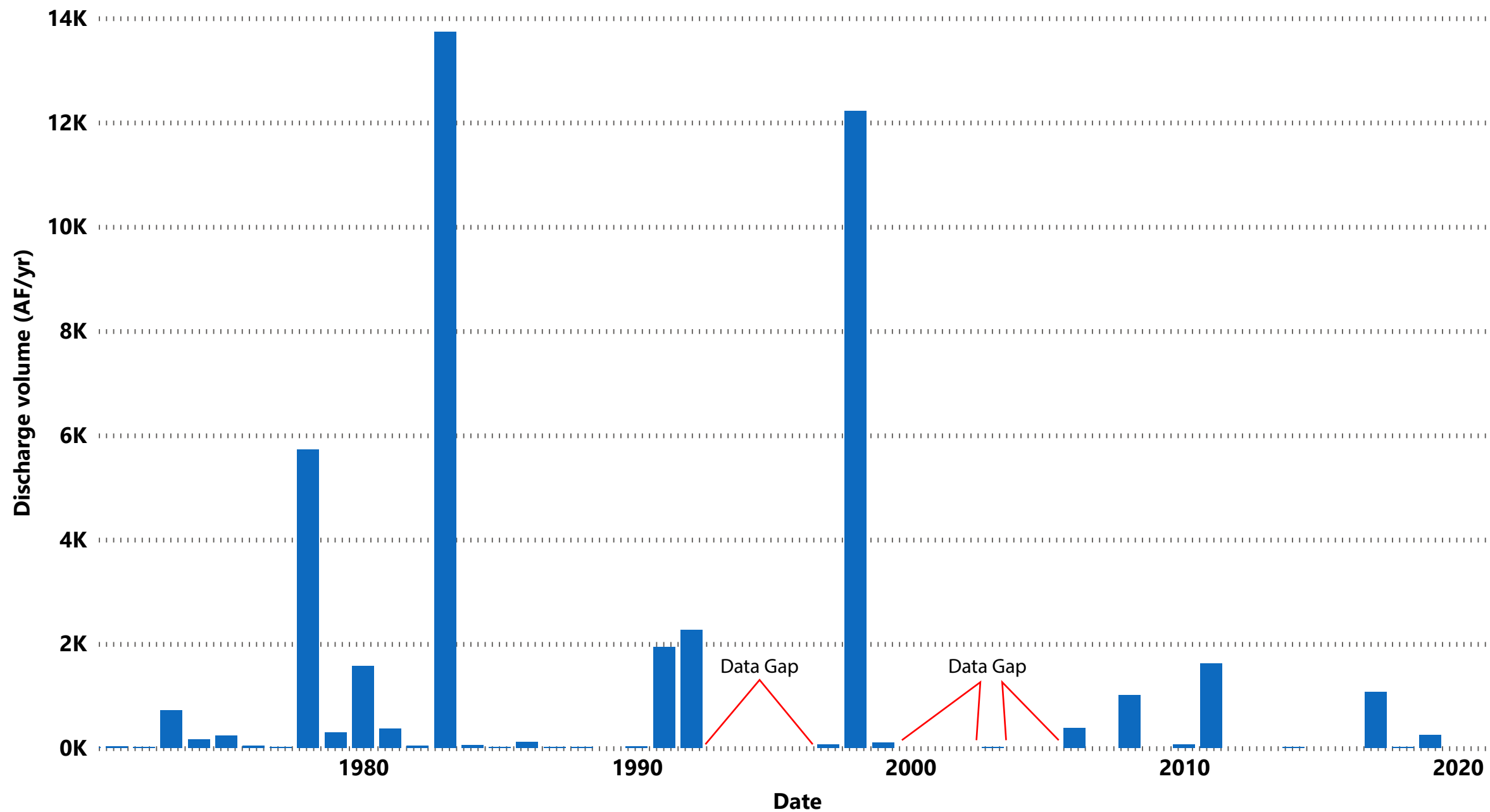
- Groundwater Elevation (feet amsl)

NOTE
amsl: above mean sea level



FIGURE 44

**Los Alamos Stream Gage
(11135800)**
San Antonio Basin GSA 2021
Annual Groundwater Level
Monitoring Report



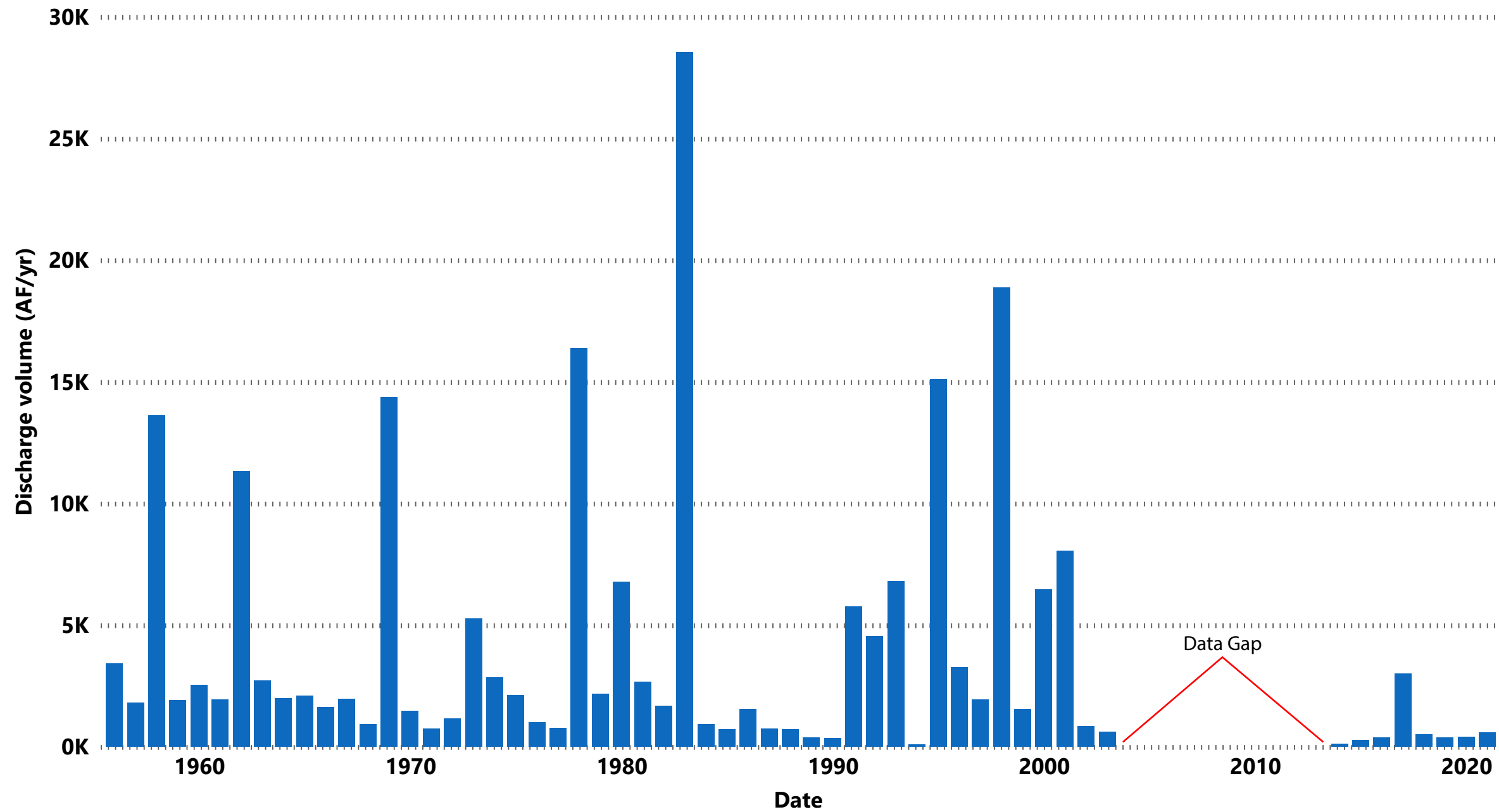
LEGEND

■ Los Alamos Stream Gage (AF/Yr)

NOTE
AF/yr: Acre Feet per year



FIGURE 45
Casamalia Stream Gage
(11136100)
 San Antonio Basin GSA
 2021 Annual Groundwater
 Level Monitoring Report



LEGEND

■ Casamalia Stream Gage (AF/Yr)

NOTE
 AF/yr: Acre Feet per year

