

Monitoring 2020 Quarter 1

Water Level Monitoring Data

The attached table summarizes the results of the Q1 2020 San Antonio Basin Water Level Monitoring for the wells in the monitoring network, and includes the status of current access agreements, and depth to water measurements for all wells that were able to be accessed during the sampling event. Green highlighting indicates that the San Antonio GSA currently has an access agreement for the given well, or that there are no special access requirements. Yellow highlighting indicates that the well is privately owned and the GSA does not currently have an access agreement. These wells were not monitored during this event. Red highlighting indicates that the well owner declined to sign an access agreement and so the well was not monitored. The following list summarizes some of the noteworthy events or observations that took place during this sampling event:

- A water level sounder became stuck at a depth of approximately 80 feet in the 4 Deer - Highway Well. The Ranch Manager - Nick Kaylor was on site and is aware of the situation. A water level sounder became stuck at a depth of approximately 124 feet in well 2R1 owned by Premiere Coastal. Kevin Merrill at Mesa Vineyards is aware of the situation.
- Similar to last quarter, several wells near the Barka Slough (see table) were unable to be accessed due to the presence of poison oak and overgrown brush.
- The lock on 14L1 was changed and GSI was able to access the well this quarter to measure a water level.
- Water level data loggers and transducers were installed in 7 of 10 wells. SALA still had a USGS transducer installed and will need to be removed before the Q2 monitoring event. Access still needs to be arranged for 16C2 and 16C4.

Streamflow Data

Annual graphs of available streamflow data are provided at the links below:

- https://nwis.waterdata.usgs.gov/nwis/uv?cb_00060=on&cb_00065=on&format=gif_default&site_no=11135800&period=&begin_date=2019-01-01&end_date=2020-03-10 – USGS 11135800 San Antonio C A Los Alamos CA
- https://nwis.waterdata.usgs.gov/nwis/uv?cb_00060=on&cb_00065=on&format=gif_stats&site_no=11136100&period=&begin_date=2019-01-01&end_date=2020-03-09 – USGS 11136100 San Antonio C NR Casmalia CA

Additional Comments

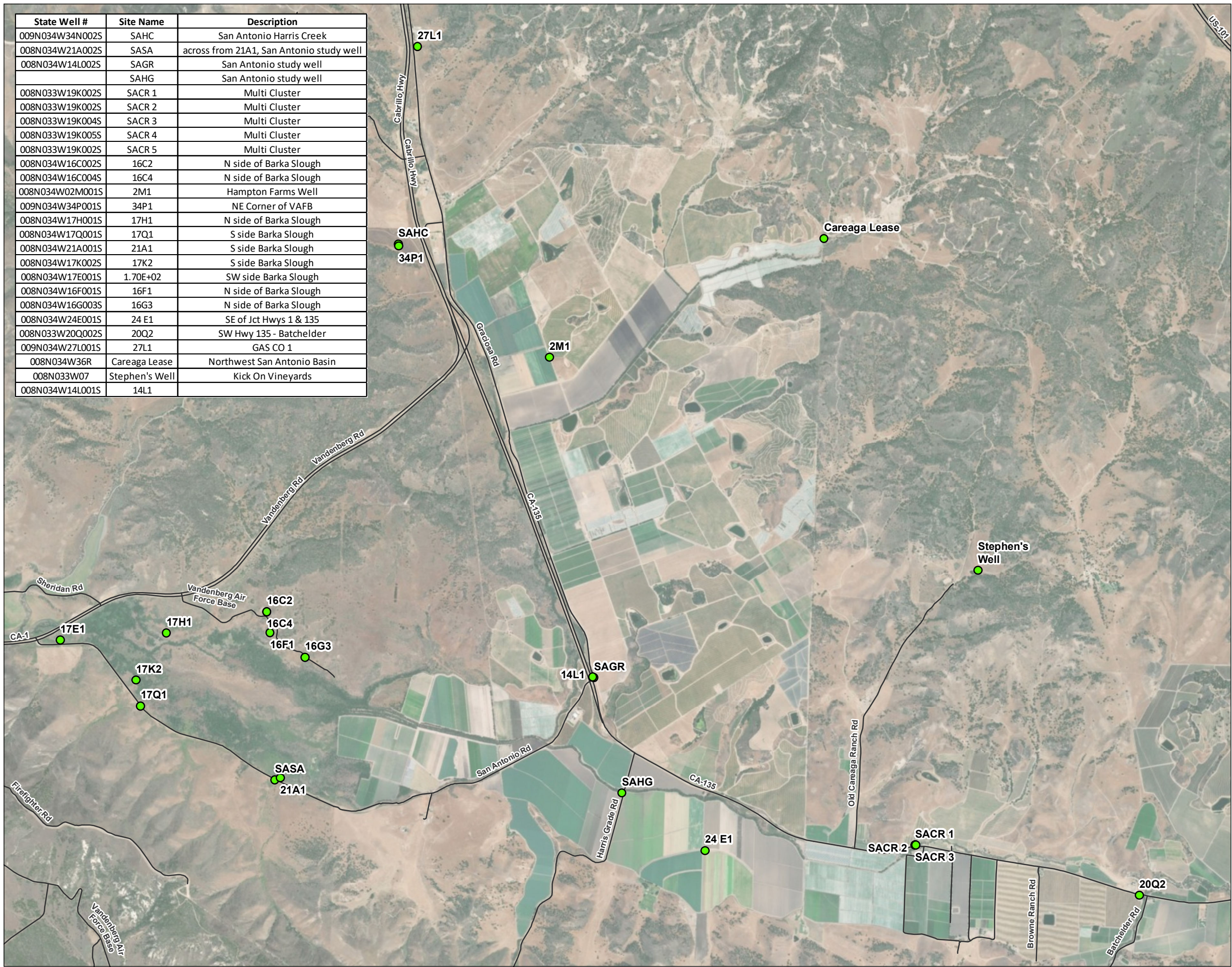
- Plots of groundwater levels and streamflow data versus time (including historical data) will be prepared and made available in the Annual Monitoring Report.
- A quote from Fisher Pump (attached) was solicited to remove the sounders from 4-Deer Highway, and 2R1. In addition to removing the sounders GSI recommends that a PVC sounding tube be installed in 4-Deer Highway, and 2R1 to prevent this from occurring in the future. GSI also reviewed other wells in the active monitoring network that have submersible pumps and identified 4-Deer Field as a candidate for a PVC sounding tube. Of the wells that the GSA does not currently have an access agreement with, there are three wells with submersible pumps that would benefit from a PVC sounding tube. The attached cost estimate is for the removal of sounders in two wells and the installation of PVC sounding tubes in three wells. GSI has reviewed the quote and it is competitive compared to previous work performed by A&A. Fisher

Pump was asked to provide the route because they have worked on 4-Deer Highway and 2R1 in the past.

- We request that the GSA hire Fisher Pump to do this work.
- We will continue to work with the GSA to resolve well access issues.

TYPE	SITE_NUMBE	STATE_WELL	SITE_NAME	DESCRIPTIO	WELL_TYPE	WATER_LEVE	Area	TD	DTW on 11/5/2019	Sampling Notes 11/5/2019	DTW on 2/25/2020	Sampling Notes 2/25/2020
Single	344836120270001	009N034W34N002S	SAHC	San Antonio Harris Creek	Study	Continuous	West San Antonio Basin	90	73.20		73.14	
Single	344548120274201	008N034W21A002S	SASA	across from 21A1, San Antonio study well	Study	Continuous	West San Antonio Basin	65	43.28		42.96	
Single	344622120254301	008N034W14L002S	SAGR	San Antonio study well	Study	Continuous	West San Antonio Basin	90	62.53		61.12	
Single	344546120253101	008N034W23H001S	SAHG	San Antonio study well	Study	Continuous	West San Antonio Basin	75	40.74		42.46	
Single	344524120202001	008N033W22G001S	SALS	San Antonio Laguna Seca	Study	Continuous	Central San Antonio Basin	70	35.36		36.28	
Single	344436120161701	008N032W29L004S	SALA	next to Los Alamos streamgage	Study	Quarterly Discrete	Central San Antonio Basin	90	44.10		45.35	
Cluster	344532120233901	008N033W19K002S	SACR 1	Multi Cluster	Study	Continuous	West San Antonio Basin	690	46.30		42.04	
Cluster	344532120233902	008N033W19K002S	SACR 2	Multi Cluster	Study	Continuous	West San Antonio Basin	540	73.10		73.39	
Cluster	344532120233903	008N033W19K004S	SACR 3	Multi Cluster	Study	Continuous	West San Antonio Basin	350	109.07		107.16	
Cluster	344532120233904	008N033W19K005S	SACR 4	Multi Cluster	Study	Continuous	West San Antonio Basin	220	94.43		93.06	
Cluster	344532120233905	008N033W19K002S	SACR 5	Multi Cluster	Study	Continuous	West San Antonio Basin	110	98.36		97.59	
Cluster	344520120174001	008N032W19M001S	SACC 1	Multi Cluster	Study	Continuous	Central San Antonio Basin	980	216.13		214.46	
Cluster	344520120174002	008N032W19M002S	SACC 2	Multi Cluster	Study	Continuous	Central San Antonio Basin	720	206.68		205.32	
Cluster	344520120174003	008N032W19M003S	SACC 3	Multi Cluster	Study	Continuous	Central San Antonio Basin	530	212.75		204.18	
Cluster	344520120174004	008N032W19M004S	SACC 4	Multi Cluster	Study	Continuous	Central San Antonio Basin	325	164.12		161.92	
Cluster	344520120174005	008N032W19M001S	SACC 5	Multi Cluster	Study	Continuous	Central San Antonio Basin	120	107.23		107.22	
Single	344802120255901	008N034W02M001S	2M1	Hampton Farms Well	Private	Quarterly Discrete	West San Antonio Basin		152.20	Well 9 (north) was pumping		did not have suitable sounder
Single	344836120265401	009N034W34P001S	34P1	NE Corner of VAFB	Private	Quarterly Discrete	West San Antonio Basin		-	need smaller sounder		need smaller sounder
Single	344611120283001	008N034W17Q001S	17Q1	S side Barka Slough	Private	Quarterly Discrete	West San Antonio Basin		-	too much brush		too much brush
Single	344550120273901	008N034W21A001S	21A1	S side Barka Slough	Private	Quarterly Discrete	West San Antonio Basin		-	too much brush		too much brush
Single	344618120283201	008N034W17K002S	17K2	S side Barka Slough	Private	Quarterly Discrete	West San Antonio Basin		-	too much brush		too much brush
Single	344630120290101	008N034W17E001S	17E1	SW side Barka Slough	Private	Quarterly Discrete	West San Antonio Basin		-	too much brush		too much brush
Single			White Hawk 1	White Hawk Vineyard	Private	Quarterly Discrete	Central San Antonio Basin		92.70		93.20	Need to confirm well ID - abandoned well in middle of field
Single	344559120163801	008N32W17N001S	White Hawk 4	White Hawk Vineyard	Private	Quarterly Discrete	Central San Antonio Basin		118.50			did not have suitable sounder
Single			Mesa Vineyard	Premiere Coastal	Private	Quarterly Discrete	Central San Antonio Basin		215.21		257.70	sounder not functioning property. Measurement accuracy to nearest 10'
Single	344700120190001	008N033W02N001S	2N1	Premiere Coastal	Private	Quarterly Discrete	Central San Antonio Basin		240	data from 10/31/19 pump test (no access)		sampling port sealed shut
Single	344742120185401	008N033W02R001S	2R1	Premiere Coastal	Private	Quarterly Discrete	Central San Antonio Basin		116.62			sounder stuck at 124'
Single	344659120231801	008N033W07	Stephen's Well	Kick On Vineyards	Private	Quarterly Discrete	West San Antonio Basin		-	sounder stuck in well	356.00	well was pumping. DTW is estimated pumping WL based on airline
Single	344725120203501	008N033W10	4-Deer Field	4-Deer Ranch	Private	Quarterly Discrete	Central San Antonio Basin		24.45		24.44	
Single	344755120202501	008N033W03L001S	4-Deer Highway	4-Deer Ranch	Private	Quarterly Discrete	Central San Antonio Basin		92.33		93.47	sounder stuck in well at 80'
Single	344632120210301		Schaff Well	Rancho de las Flores	Private	Quarterly Discrete	Central San Antonio Basin		213.32		213.62	
Single	344624120253901	008N034W14L001S	14L1		Private	Quarterly Discrete	West San Antonio Basin		-	no access (need to contact county)	63.68	
Single	344609120180701	008N033W13Q001S	13Q1	Berringer S of office	Private	Quarterly Discrete	Central San Antonio Basin					
Single	344645120182401	008N033W13C001S	13C1	Berringer N of office	Private	Quarterly Discrete	Central San Antonio Basin					
Single	344457120174001	008N032W30D001S	30D1	Field W of Los Alamos	Private	Quarterly Discrete	Central San Antonio Basin					
Single	344457120122101	008N032W25D001S	25D1	Alisos Cyn Rd NE of 101	Private	Quarterly Discrete	East San Antonio Basin					
Single	344521120200801	008N033W22K003S	22K3	Mid San Antonio Basin	Private	Quarterly Discrete	Central San Antonio Basin					
Single	344522120071901	008N031W22J001S	22J1	Zaca Mesa Vineyard	Private	Quarterly Discrete	East San Antonio Basin					
Single	344513120082201	008N031W22N001S	22N1	DEMETRIA 1	Private	Quarterly Discrete	East San Antonio Basin					
Single	344522120081501	008N031W22M001S	22M1	OAK SAVANAH	Private	Quarterly Discrete	East San Antonio Basin					
Single	344530120245201	008N034W24E001S	24 E1	SE of Jct Hwys 1 & 135	Private	Quarterly Discrete	West San Antonio Basin					
Single	344518120221002	008N033W20Q002S	20Q2	SW Hwy 135 - Batchelder	Private	Quarterly Discrete	West San Antonio Basin					
Single	344938120265501	009N034W27L001S	27L1	GAS CO 1	Private	Quarterly Discrete	West San Antonio Basin					
Single	344611120160401		VERNAS 1	VERNAS 1	WO Permission	Quarterly Discrete	Central San Antonio Basin					
Single	344601120160401		VERNAS 2	VERNAS 2	WO Permission	Quarterly Discrete	Central San Antonio Basin					
Single	344234120104501		HWY 101 CATTLE	HWY 101 CATTLE	WO Permission	Quarterly Discrete	East San Antonio Basin					
Single	344412120140901	008N032W27P003S	GUZMAN 2	GUZMAN 2	WO Permission	Quarterly Discrete	East San Antonio Basin					
Single	344407120140801	008N032W34C001S	GUZMAN 3	GUZMAN 3	WO Permission	Quarterly Discrete	East San Antonio Basin					
Single	344640120274402	008N034W16C002S	16C2	N side of Barka Slough	Private	Continuous	West San Antonio Basin	169				
Single	344640120274404	008N034W16C004S	16C4	N side of Barka Slough	Private	Continuous	West San Antonio Basin	560				
Single	344633120281901	008N034W17H001S	17H1	N side of Barka Slough	Private	Quarterly Discrete	West San Antonio Basin					
Single	344636120274201	008N034W16F001S	16F1	N side of Barka Slough	Private	Quarterly Discrete	West San Antonio Basin					
Single	344626120272901	008N034W16G003S	16G3	N side of Barka Slough	Private	Quarterly Discrete	West San Antonio Basin					
Single	344441120172801	008N032W30E005S	30E5	Carrari .3 W of Los Alamos	Private	Quarterly Discrete	Central San Antonio Basin					
Single	344454120181401	008N033W25B005S	25B5	Field W of 30D1	Private	Quarterly Discrete	Central San Antonio Basin					
Single	344416120151301	008N032W28P004S	28P4	100' NW of 28P1	Private	Quarterly Discrete	East San Antonio Basin					
Single	344841120242001	008N034W36R	Careaga Lease	Northwest San Antonio Basin	Private	Quarterly Discrete	West San Antonio Basin					

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	1.70E+02	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	

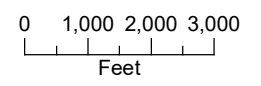
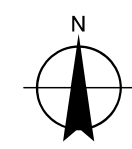


DRAFT FIGURE 1
Wells in Western Portion
of San Antonio Basin
San Antonio Basin Water
Level Monitoring

LEGEND

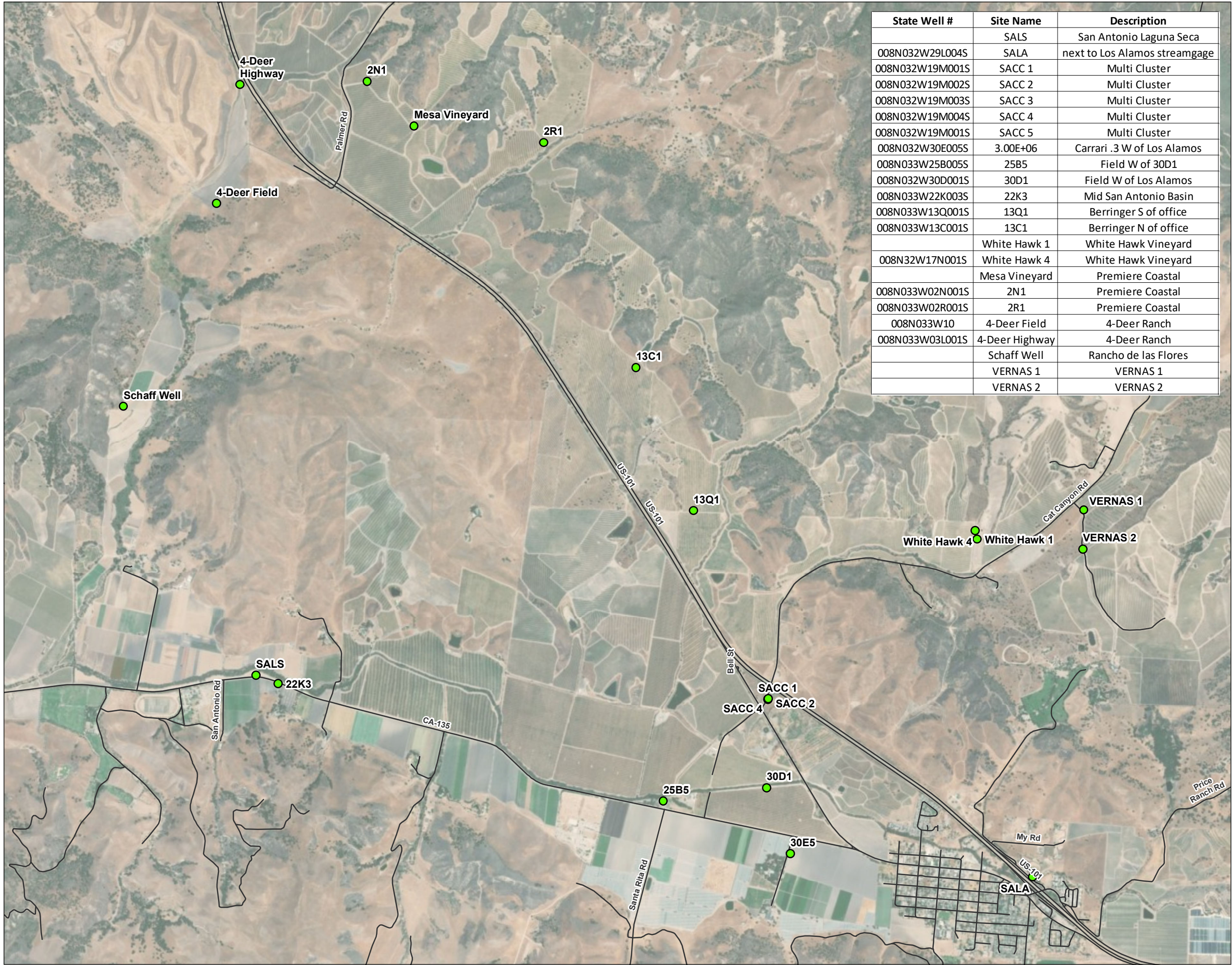
- Monitoring Well
- Major Road

NOTES:



Date: July 17, 2019
 Data Sources:





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

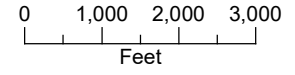
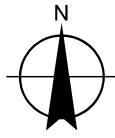
DRAFT FIGURE 2

Wells in Central Portion of San Antonio Basin
San Antonio Basin Water Level Monitoring

LEGEND

- Monitoring Well
- Major Road

NOTES:

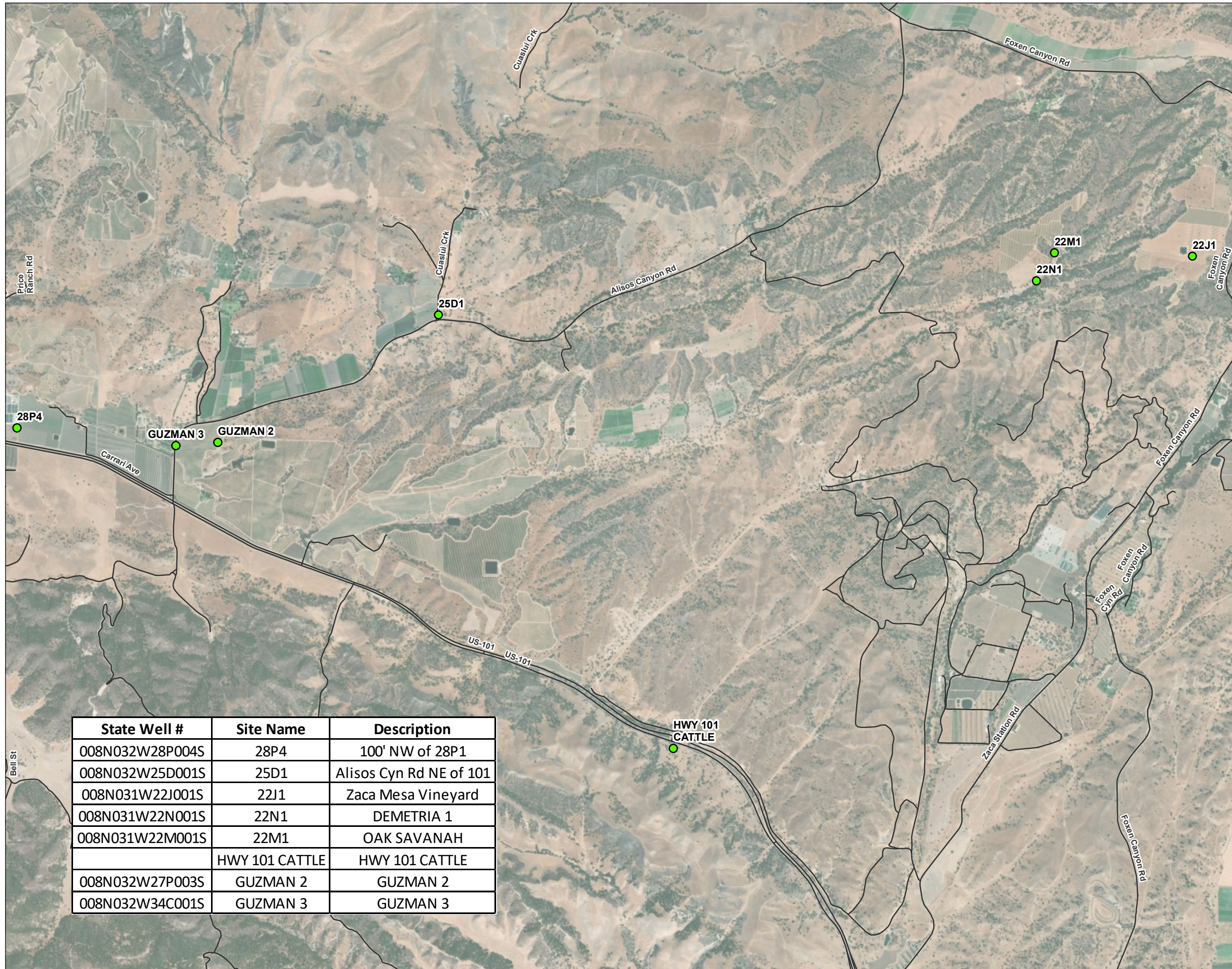


Date: July 17, 2019
Data Sources:



DRAFT FIGURE 3

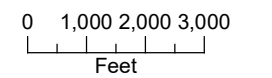
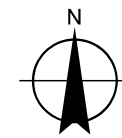
**Wells in Eastern Portion
of San Antonio Basin**
San Antonio Basin Water
Level Monitoring



LEGEND

- Monitoring Well
- Major Road

NOTES:



Date: July 17, 2019
Data Sources:



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