Salinas Valley Groundwater Basin
Forebay Aquifer Subbasin
Water Year 2022 Annual Report
Submitted in Support of Groundwater Sustainability Plan Implementation

Salinas Valley Basin
Groundwater Sustainability Agency

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ABBREVIATIONS AND ACRONYMS

AF .....acre-feet
AF/yr. .....acre-feet per year
ASCMA .....Arroyo Seco Cone Management Area
ASGSA .....Arroyo Seco Groundwater Sustainability Agency
ASWPP .....Arroyo Seco River Watershed Protection Policy
CCRWQCB.....Central Coast Regional Water Quality Control Board
CCWC.....Clark Colony Water Company
COC .....Constituent(s) of concern
DDW .....Division of Drinking Water
D-TAC .....Drought Operations Technical Advisory Committee
DWR .....California Department of Water Resources
DWSN.....Dry Winter Scenario Narrative
eWRIMS .....Electronic Water Rights Information Management System
GEMS .....Groundwater Extraction Management System
GSA.....Groundwater Sustainability Agency
GSP or Plan.....Groundwater Sustainability Plan
InSAR .....Interferometric Synthetic-Aperture Radar
ILRP.....Irrigated Lands Regulatory Program
ISW .....interconnected surface water
MCL.....Maximum Contaminant Level
MCWRA.....Monterey County Water Resources Agency
mg/L.....milligrams per liter
MOU .....Memorandum of Understanding
RMS .....representative monitoring site
SGMA.....Sustainable Groundwater Management Act
SMC .....Sustainable Management Criteria/Criterion
SMCL.....Secondary Maximum Contaminant Level
Subbasin.....Salinas Valley Forebay Aquifer Subbasin
SVBGSA.....Salinas Valley Basin Groundwater Sustainability Agency
SWIG .....Seawater Intrusion Working Group
SWRCB.....State Water Resources Control Board
ug/L.....micrograms per liter
UMHOS/CM.....micromhos per centimeter
WY .....Water Year

EXECUTIVE SUMMARY

The Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA), working together with the Arroyo Seco Groundwater Sustainability Agency (ASGSA), is required to submit an annual report for the Salinas Valley Forebay Aquifer Subbasin (Subbasin) to the California Department of Water Resources (DWR) by April 1 of each year following the SVBGSA's 2022 adoption and submittal of its Groundwater Sustainability Plan (GSP or Plan). This Annual Report summarizes data collected in Water Year (WY) 2022 from October 1, 2021, to September 30, 2022.

As described in the GSP, DWR lists the Subbasin as a medium priority subbasin. The goal of the Forebay Subbasin GSP is to balance the needs of all water users in the Subbasin while complying with SGMA.

In WY 2022, groundwater conditions remained similar to conditions in recent years, with slight changes related to specific sustainability indicators. WY 2022 is classified as a dry-normal year.

The groundwater data for WY 2022 are summarized below:

- Groundwater extractions for reporting year 2022 (November 1, 2021, through October 31, 2022) were approximately 144,200 acre-feet (AF).
- Groundwater elevations decreased during this dry-normal water year, decreasing on average about 6 feet and ranging from 0.2 to 17 feet. Two Representative Monitoring Site (RMS) wells had groundwater elevations above their measurable objectives, 34 had elevations between their measurable objectives and minimum thresholds, and 2 dropped below their minimum thresholds.
- Groundwater storage decreased in WY 2022 and was above the minimum threshold and about 105,000 AF below the measurable objective.
- There were 7 groundwater quality constituents of concern (COCs) that exceeded their minimum thresholds in WY 2022, none of them due to GSA groundwater management actions. One new constituent—selenium—was added to the list of COCs for the Subbasin because it had an exceedance of the regulatory drinking water standard in WY 2022.
- No subsidence was detected in the Subbasin.
- All shallow wells used to monitor interconnected surface water (ISW) show groundwater elevations between the minimum threshold and the measurable objective.

As a result, the Forebay Subbasin had no undesirable results in WY 2022.

The SVBGSA and ASGSA have taken numerous actions to implement the GSP. These include:

- **Forebay Subbasin Planning and Implementation:** SVBGSA worked with the Forebay Aquifer Subbasin Planning Committee and ASGSA to finish the Forebay Subbasin GSP, submitted to DWR in January 2022. SVBGSA and ASGSA met regularly through the Coordination Committee, and in April 2021 the agencies finalized and approved the Forebay Subbasin GSP Implementation Agreement between the agencies. As the responsibilities of the subbasin planning committees finished with GSP submittal, SVBGSA set up subbasin implementation committees to lead subbasin-specific GSP implementation activities.
- **GSA policies, operations, and engagement:** SVBGSA continued to regularly engage interested parties through its Board of Directors and committees. It developed a 2-year and 5-year work plan and associated budget and continued to strengthen its relationship with partner agencies. SVBGSA conducted outreach to Underrepresented Communities. Finally, SVBGSA and ASGSA developed well permit application review processes to comply with Executive Order N-7-22.
- **Data and monitoring** – SVBGSA undertook several efforts to further increase data collection and monitoring, including identifying existing wells that could potentially fill monitoring network data gaps, engaging in discussions to expand the groundwater extraction monitoring program, continuing support of USGS development of a groundwater-surface water model, and contracting and then receiving the results of the preliminary investigation of the Deep Aquifers Study.
- **Project implementation activities** – SVBGSA and ASGSA developed a sustainability strategy for the Forebay Subbasin that outlines the GSP workstreams underway or planned to maintain sustainability, including the Watershed Protection Policy for the Arroyo Seco River, Forebay Sustainable Management Criteria (SMC) Technical Advisory Committee, Multi-benefit Stream Channel Improvements, and Deep Aquifers Management. Management actions and projects are not needed at this time; however, SVBGSA, ASGSA, and Monterey County Water Resources Agency (MCWRA) moved forward with actions that will positively impact groundwater conditions and help maintain sustainability, including:
    - Continuing to convene MCWRA's Drought Operations Technical Advisory Committee (D-TAC).
    - Developing ASGSA's Watershed Protection Policy for the Arroyo Seco River.
    - Beginning the Deep Aquifer Study and receiving recommendations from the preliminary investigation.

1 INTRODUCTION

1.1 Purpose

The 2014 California Sustainable Groundwater Management Act (SGMA) requires that, following adoption of a Groundwater Sustainability Plan (GSP), Groundwater Sustainability Agencies (GSAs) annually report on the condition of the basin and show that the GSP is being implemented in a manner that will likely achieve the sustainability goal for the basin. This report fulfills that requirement for the Salinas Valley – Forebay Aquifer Subbasin (Forebay Subbasin or Subbasin) for Water Year (WY) 2022.

The sustainability goal of the Forebay Subbasin is to manage groundwater resources for long-term community, financial, and environmental benefits to the Subbasin's residents and businesses. The goal of this GSP is to ensure long-term viable water supplies while maintaining the unique cultural, community, and business aspects of the Subbasin. It is the express goal of this GSP to balance the needs of all water users in the Subbasin.

This is the second Annual Report for the Subbasin and includes monitoring data for WY 2022, which is from October 1, 2021, to September 30, 2022. This Annual Report includes a description of basin conditions through text, hydrographs, groundwater elevation contour maps, calculated estimates of change in groundwater in storage, and maps of the distribution of groundwater extraction across the Subbasin. It compares WY 2022 data to Sustainability Management Criteria (SMC) as a measure of the Subbasin's groundwater conditions with respect to the sustainability goal that must be reached by the end of 2042.

1.2 Forebay Aquifer Subbasin Groundwater Sustainability Plan

The Forebay Subbasin falls partially within the jurisdiction of the Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) and partially within the jurisdiction of the Arroyo Seco Groundwater Sustainability Agency (ASGSA). In accordance with the Forebay Implementation Agreement (2021), ASGSA manages the Arroyo Seco Cone Management Area (ASCMA) and SVBGSA manages the remaining area of the Subbasin as shown on Figure 1. Both implementation areas will be managed according to the single GSP for the entire Forebay Subbasin.

In 2017, local GSA-eligible entities formed the SVBGSA to develop and implement the GSPs for the Salinas Valley. The SVBGSA is a Joint Powers Authority with membership comprising the County of Monterey, Monterey County Water Resources Agency (MCWRA), City of Salinas, City of Soledad, City of Gonzales, City of King, Castroville Community Services District, and Monterey One Water.

The ASGSA was formed through agreement between the City of Greenfield and nearby landowners, consisting of the Clark Colony Water Company (CCWC) and contiguous surrounding lands.

The SVBGSA, in collaboration with ASGSA, developed the GSP for the Forebay Subbasin, identified as California Department of Water Resources (DWR) subbasin 3-004.04. DWR has designated the Forebay Subbasin as a medium priority basin.

The SVBGSA developed the GSP for the Forebay Subbasin in concert with the 5 other Salinas Valley Subbasin GSPs that fall partially or entirely under its jurisdiction: the 180/400-Foot Aquifer Subbasin (DWR subbasin 3-004.01), the Eastside Aquifer Subbasin (DWR subbasin 3-004.02), the Upper Valley Aquifer Subbasin (DWR subbasin 3-004.05), the Langley Area Subbasin (DWR subbasin 3-004.09), and the Monterey Subbasin (DWR subbasin 3-004.10). This Annual Report covers all the 94,000 acres of the Forebay Subbasin, as shown on Figure 1.

1.3 Annual Report Organization

This Annual Report corresponds to the requirements of GSP Regulations §356.2. It first outlines the subbasin conditions, including several components of the Regulations: groundwater elevations, groundwater extractions, surface water use, total water use, and change in groundwater storage. The Annual Report then addresses GSP implementation by reporting on actions taken to implement the Plan and progress toward interim milestones.

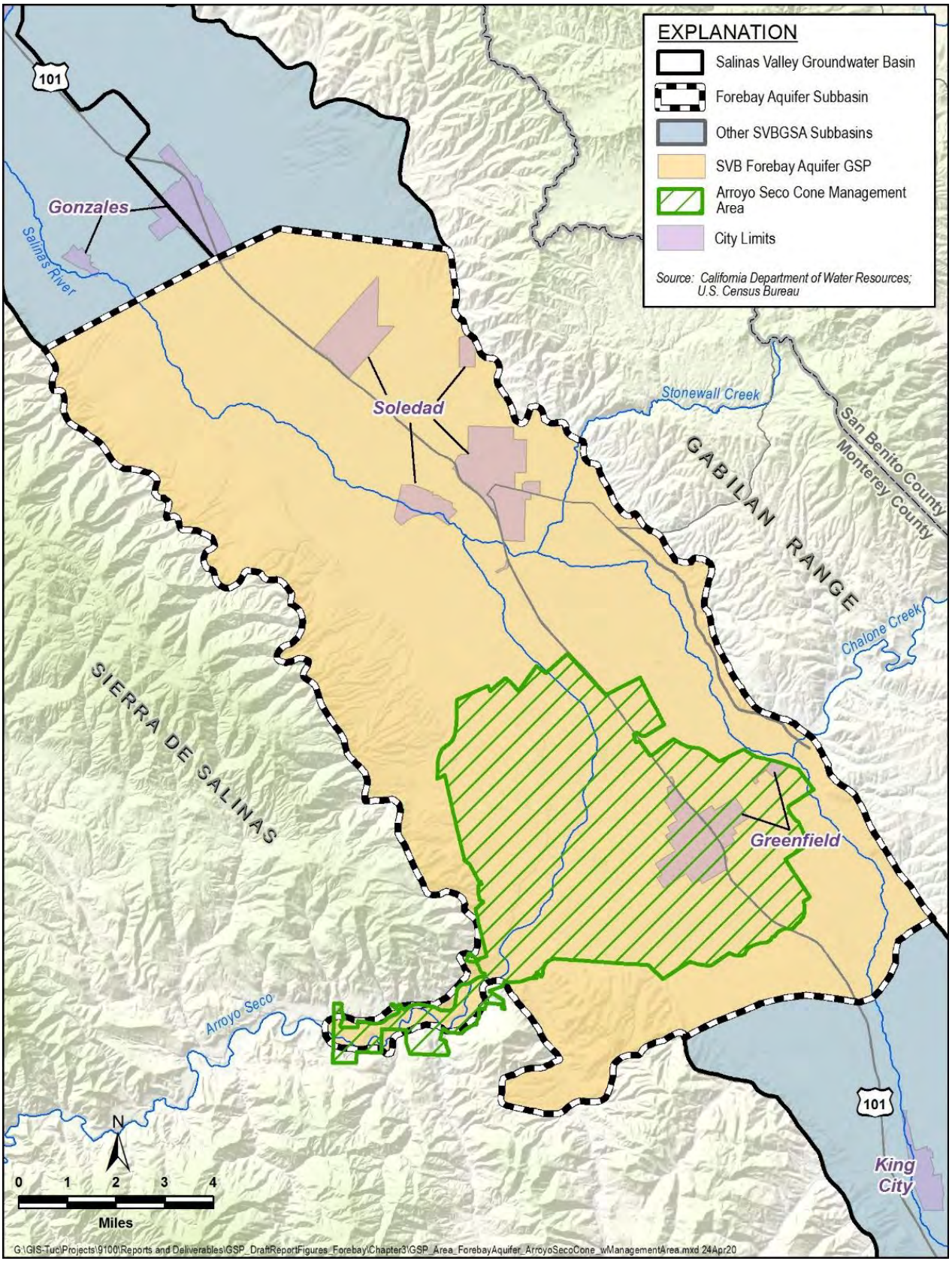

Figure 1. Forebay Aquifer Subbasin

2 SUBBASIN SETTING

The Forebay Subbasin is located in the middle of Monterey County. The Salinas River runs through the Forebay Subbasin and its main tributary, the Arroyo Seco, joins it in the middle of the Subbasin. Historical flows in the Arroyo Seco formed a significant alluvial fan in the Subbasin, known as the Arroyo Seco Cone. The Subbasin contains portions of the municipalities of Greenfield and Soledad. The geology of the Forebay Subbasin is characterized by the intersection of the fluvial and marine dominated deposits of the main Salinas Valley and the Arroyo Seco alluvial fan originating in the Sierra de Salinas on the west side of the Subbasin. The western boundary of the Forebay Subbasin is the contact with the metamorphic and sedimentary rocks of the Sierra de Salinas. The eastern boundary of the Subbasin is the contact between the unconsolidated alluvial fan deposits and the mostly granitic rocks of the Gabilan Range. Most groundwater recharge in the Forebay Subbasin occurs from the Arroyo Seco and Salinas River. The northwestern boundary with the adjacent 180/400-Foot and Eastside Aquifer Subbasins generally coincides with the southeastern limit of confining conditions. The Salinas Valley Aquitard is not found in the Forebay Subbasin, but many of the sediments that define the 180/400-Foot Aquifers can be found there. There is no reported hydraulic barrier between the Forebay and the 180/400-Foot or Eastside Aquifer Subbasins. The southeastern boundary with the adjacent Upper Valley Aquifer Subbasin is located south of Greenfield and coincides with the narrowing of the Valley floor and shallowing of the base of the groundwater basin (DWR, 2004).

2.1 Principal Aquifers and Aquitards

The Basin Fill Aquifer is the Forebay Subbasin's sole principal aquifer, increasing in thickness from the east to west, from Greenfield northward. Its sandy water-bearing layers roughly correlate and are hydraulically connected to the 180-Foot, 400-Foot, and Deep Aquifers in the neighboring 180/400-Foot Aquifer Subbasin (Kennedy/Jenks, 2004), and the shallow and deep aquifer zones in the neighboring Eastside Aquifer Subbasin. The Basin Fill Aquifer also includes the Arroyo Seco Cone sediments that cross almost the entire width of the Salinas Valley in the Forebay Subbasin and are interfingered with the greater Basin sediments. The primary water-bearing sediments of the Arroyo Seco Cone consist of relatively uniform and highly permeable coarse alluvial fill that are generally more coarse-grained than those found in the main valley's fluvial and marine deposits.

2.2 Natural Groundwater Recharge and Discharge

Groundwater can discharge from aquifers where surface water and groundwater are interconnected and gaining streamflow conditions occur. There are potential locations of interconnected surface water (ISW) mainly along the Salinas River and partially along the

Arroyo Seco. In these areas groundwater dependent ecosystems may depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface and may discharge groundwater through evapotranspiration. Natural groundwater recharge occurs through deep percolation of surface water, excess applied irrigation water, and precipitation.

2.3 Precipitation and Water Year Type

Precipitation that falls within the Subbasin contributes to runoff and percolation components of the water budget. The precipitation gage at the Salinas Airport (National Oceanographic and Atmospheric Administration Station USW00023233) recorded 7.38 inches of rainfall in WY 2022. For comparison, the average rainfall from WY 1980 to WY 2022 at this gage is 11.87 inches of precipitation.

SVBGSA adopts the methodology used by MCWRA for determining the Subbasin's water year type. MCWRA assigns a water year type of either dry, dry-normal, normal, wet-normal, or wet based on an indexing of annual mean flows at the USGS stream gage on the Arroyo Seco near Soledad (USGS Gage 11152000) (MCWRA, 2005). Using the MCWRA method, WY 2022 was a dry-normal year.

3 2022 DATA AND SUBBASIN CONDITIONS

This section details the Subbasin conditions and WY 2022 data. Where WY 2022 data are not available, it includes the most recent data available. SVBGSA stores monitoring data in a data management system. Monitoring data are included in this Annual Report and are submitted to DWR.

The Forebay Subbasin includes the ASCMA that is managed by ASGSA. As in the chapter on Groundwater Conditions in the GSP (Chapter 5), groundwater conditions here do not separate ASCMA from the greater Forebay Subbasin. Instead, groundwater conditions are discussed for the entire Subbasin to reflect the single sustainability goal for the Subbasin.

3.1 Water Supply and Use

Within the Subbasin, most of the water is used for agriculture, then for urban and industrial use. Only a relatively small amount of the water is used by wetlands and native vegetation.

The water supply in the Forebay Subbasin is a combination of groundwater and surface water. Groundwater is the main water source in the Subbasin. Some growers also report surface water use to the State Water Resources Control Board (SWRCB). Surface water is also diverted from the Arroyo Seco for CCWC. No recycled water is used in the Subbasin.

3.1.1 Groundwater Extraction

Urban and agricultural groundwater extractions are compiled using MCWRA's Groundwater Extraction Management System (GEMS), which collects data from groundwater wells with an internal discharge pipe diameter greater than 3 inches within Zones 2, 2A, and 2B.

Table 1 presents groundwater extractions by water use sector, including the method of measurement and accuracy of measurement in the Forebay Subbasin. Urban use data from MCWRA aggregates municipal wells, small public water systems, and industrial wells. Agricultural use accounted for 95% of groundwater extraction in 2022; urban and industrial use accounted for 5%. It is important to note that the reporting year varies according to user: agricultural pumping is reported to MCWRA for the period November 1 through October 31, whereas urban pumping is reported to MCWRA on a calendar year basis. No groundwater was extracted for managed wetlands or managed recharge. Groundwater use by natural vegetation is assumed to be small and was not estimated for this report. The total reported groundwater extraction in reporting year 2022 was 144,200 acre-feet per year (AF/yr.) in the Subbasin. This total is for the Forebay Subbasin, not the MCWRA Forebay Subarea; therefore, the pumping total is not identical to what MCWRA publishes in their annual Groundwater Extraction Summary Reports. Figure 2 illustrates the general location and volume of groundwater extractions in the Subbasin.

Table 1. 2022 Groundwater Extraction by Water Use Sector (in AF/yr.)

Water Use Sector	Groundwater Extraction	Method of Measurement	Accuracy of Measurement
Urban (including industrial)	7,500	MCWRA's Groundwater Reporting Program allows 3 different reporting methods: water flowmeter, electrical meter, or hour meter. For 2022, 84% of extractions were calculated using a flowmeter, 16% electrical meter and <1%-hour meter.	MCWRA ordinances 3717 and 3718 require annual flowmeter calibration, and that flowmeters be accurate to within +/- 5%. The same ordinance requires annual pump efficiency tests. SVBGSA assumes an electrical meter accuracy of +/- 5%.
Agricultural	136,700		
Managed Wetlands	0	N/A	N/A
Managed Recharge	0	N/A	N/A
Natural Vegetation	0	*De minimis* and not estimated.	Unknown
Total	**144,200**		

Note: Agricultural pumping is reported on a MCWRA reporting year basis whereas urban is reported in calendar-year basis. To avoid double counting with groundwater pumping reported to MCWRA, Statement of Diversion and Use surface water diversions reported in Section 3.1.2 are subtracted from the total water use. N/A = Not Applicable.

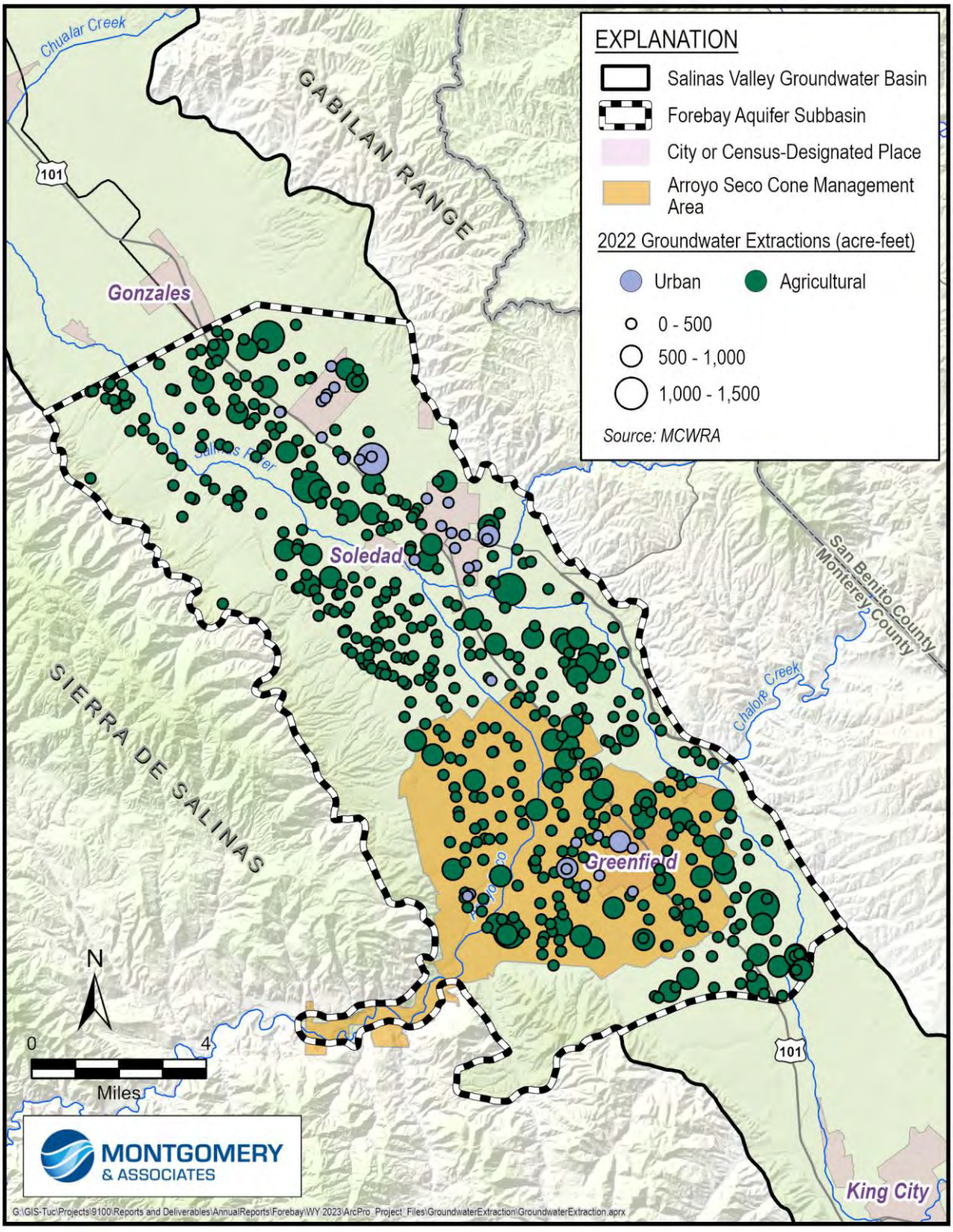

Figure 2. General Location and Volume of Groundwater Extractions

3.1.2 Surface Water Supply

Salinas River Watershed diversion data are obtained from the SWRCB Electronic Water Rights Information Management System (eWRIMS) website. These data are reported annually and include diversions from the Salinas River and the Arroyo Seco. Surface water diversions reported in eWRIMS were approximately 14,500 AF/yr in WY 2022. Of these diversions, CCWC diverted approximately 2,600 AF/yr. All diverted surface water is used for irrigation and is reported as a Statement of Diversion and Use.

3.1.3 Total Water Use

Total water use is the sum of groundwater extractions and surface water use and is summarized in Table 2.

Many growers and residents have noted that some irrigation is reported both to SWRCB as surface water diversions and to MCWRA as groundwater pumping. To avoid double counting, all surface water diversions reported as a Statement of Diversion and Use—except CCWC's—is excluded from the total water use count for the Subbasin. Therefore, total surface water use for the Subbasin is adjusted from the 14,500 AF/yr reported in eWRIMS to 2,600 AF/yr. It is possible that not all of the 11,900 AF/yr surface water diversions excluded are being reported to both SWRCB and MCWRA, in which case total water use may be up to that amount greater than calculated here. This accounting is done to calculate the total water use and is not meant to imply that SVBGSA classifies any or all the reported diversions as groundwater. SVBGSA will continue to work with stakeholders to refine the methodology used to resolve double counting.

Total water use was approximately 146,800 AF/yr in WY 2022, as shown on Table 2.

Table 2. Total Water Use by Water Use Sector in WY 2022 (in AF/yr.)

Water Use Sector	Groundwater Extraction	Surface Water Use	Recycled Water	Method of Measurement	Accuracy of Measurement
Urban	7,500	0	0	Direct	Estimated to be +/- 5%.
Agricultural	136,700	2,600	0	Direct	Estimated to be +/- 5%.
Managed Wetlands	0	0	0	N/A	N/A
Managed Recharge	0	0	0	N/A	N/A
Natural Vegetation	Unknown	Unknown	Unknown	N/A	N/A
SUBTOTALS	144,200	2,600	0	-	-
TOTAL	**146,800**				

Note: Agricultural pumping is reported on the MCWRA reporting year basis whereas urban is reported in calendar-year basis. To avoid double counting with groundwater pumping reported to MCWRA, Statement of Diversion and Use surface water diversions reported in Section 3.1.2 are subtracted from the total water use. N/A = Not Applicable.

3.2 Groundwater Elevations

The groundwater elevation monitoring network in the Forebay Subbasin GSP consists of 39 Representative Monitoring Sites (RMSs) monitored by MCWRA. Since last year's annual report, 2 wells (17S/05E-12E01 and 18S/07E-28K01) in the RMS network have been removed from MCWRA's water level monitoring programs. Only well 18S/07E-28K01 was replaced, however, the representative monitoring network still offers sufficient coverage without 17S/05E-12E01 being replaced. The Subbasin's updated RMS network now consists of 38 wells shown on Figure 3. The replacement well (18S/07E-28N01) is highlighted with a pink star and the old RMSs are marked with a red X on Figure 3.

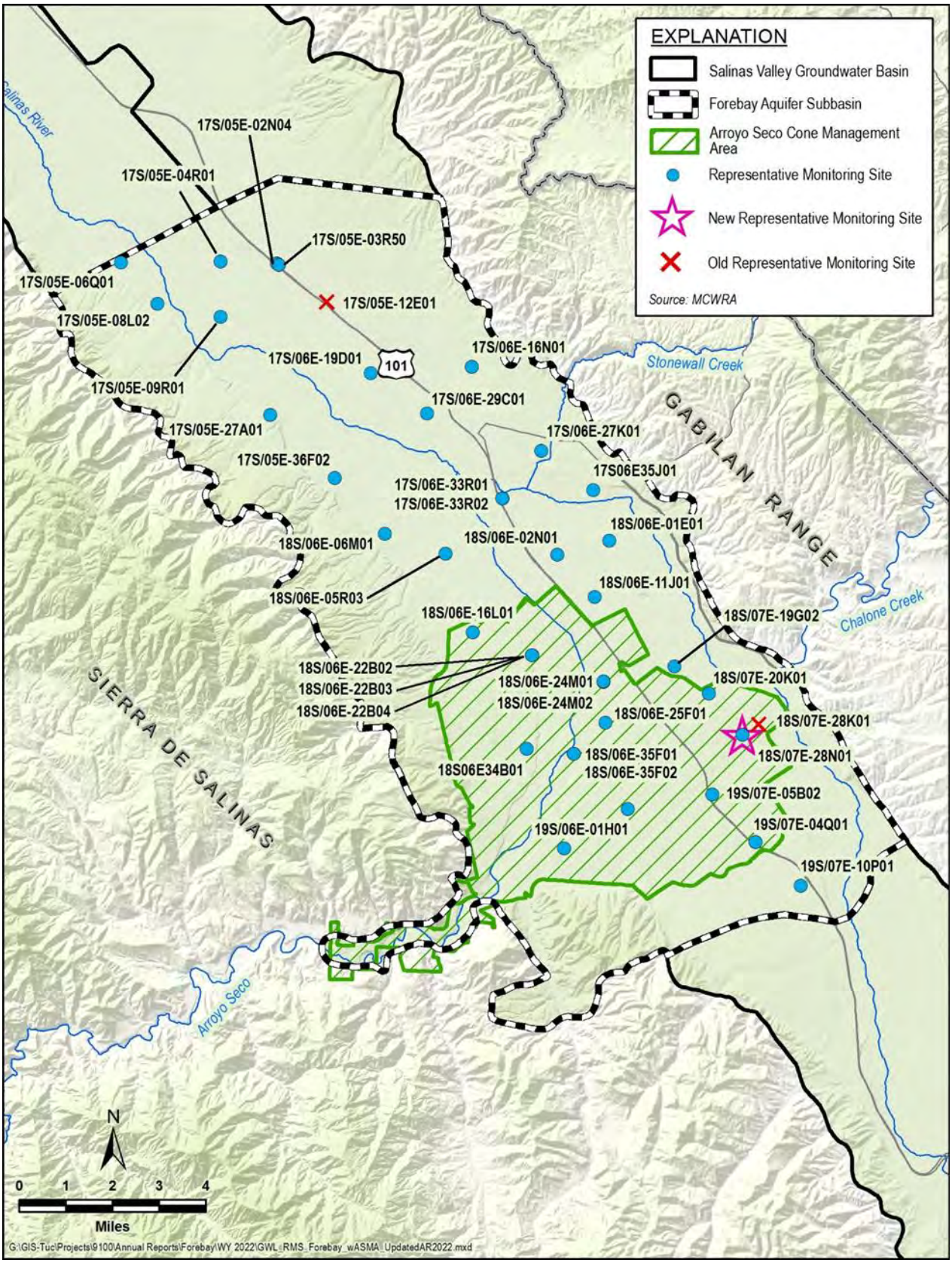

Figure 3. Locations of Representative Groundwater Elevation Monitoring Sites

Fall 2022 groundwater elevation data are presented in Table 3. In accordance with the GSP, this report uses groundwater elevations measured in the fall which are neutral groundwater conditions that are generally not heavily influenced by either summer irrigation pumping or winter rainfall recharge. These groundwater elevations are also used to compare to SMC, as described in Section 4.2.1. Fall groundwater elevation measurements are made from November to December, and they are used to produce groundwater elevation contours. These fall contours are further discussed in Section 3.2.1. Figure 4 shows the approximate annual change in groundwater levels for the RMS wells. During GSP implementation, SVBGSA is working to fill one data gap with an additional well to include in the monitoring network.

Table 3. Groundwater Elevation Data (in feet)

Monitoring Site	WY 2022 Groundwater Elevation
17S/05E-02N04	101.0
17S/05E-03R50	102.1
17S/05E-04R01	93.8
17S/05E-06Q01	83.1
17S/05E-08L02	90.2
17S/05E-09R01	100.5
17S/05E-27A01	124.8
17S/05E-36F02	132.8
17S/06E-16N01	99.4
17S/06E-19D01	129.7
17S/06E-27K01	150.8
17S/06E-29C01	139.0
17S/06E-33R01	153.0
17S/06E-33R02	151.3
17S/06E-35J01	157.8
18S/06E-01E01	161.7
18S/06E-02N01	159.8
18S/06E-05R03	150.4
18S/06E-06M01	145.4
18S/06E-11J01	162.9
18S/07E-19G02	178.7
19S/07E-10P01	217.4
Arroyo Seco Cone Management Area	
18S/06E-16L01	**159.1**
18S/06E-22B02	161.5
18S/06E-22B03	164.0
18S/06E-22B04	166.1
18S/06E-24M01	175.9
18S/06E-24M02	175.9

Monitoring Site	WY 2022 Groundwater Elevation
18S/06E-25F01	178.4
18S/06E-34B01	173.0
18S/06E-35F01	175.8
18S/06E-35F02	179.7
18S/07E-20K01	187.1
18S/07E-28N01	194.8
19S/06E-01H01	190.0
19S/06E-11C01	184.5
19S/07E-04Q01	205.5
19S/07E-05B02	199.0

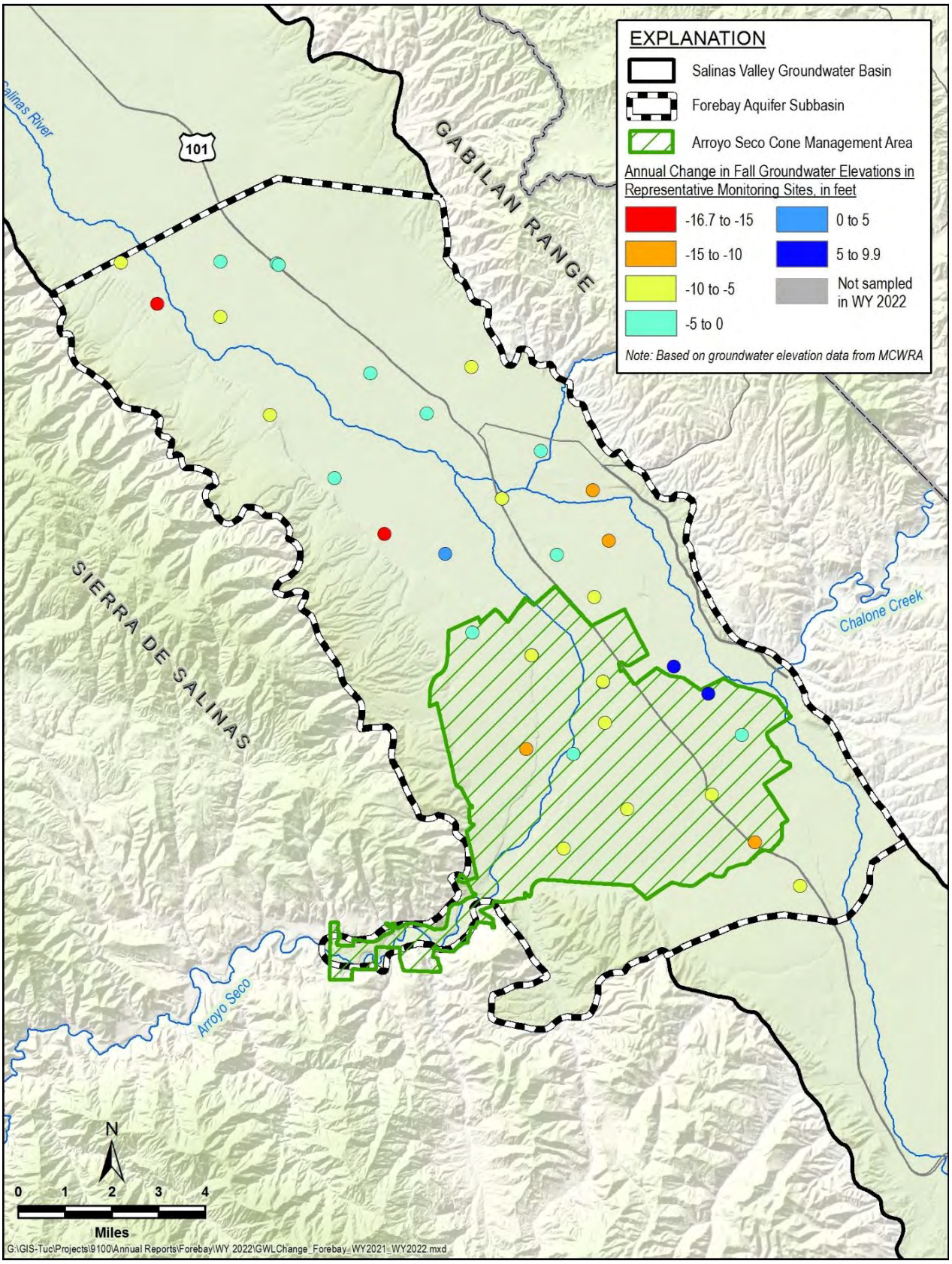

Figure 4. Annual Change in Fall Groundwater Elevations in Representative Monitoring Sites

3.2.1 Groundwater Elevation Contours

SVBGSA received fall 2022 groundwater elevation contour maps for the Forebay Subbasin from MCWRA. SVBGSA developed new contour maps for August 2022. The August contours represent seasonal low conditions, and the fall contours represent seasonal high conditions, even though they are neutral. The true seasonal high usually occurs between January and March (MCWRA, 2015); however, the GSP adopts fall groundwater elevations as the seasonal high because GSP monitoring is based on MCWRA's existing monitoring networks that annually monitors groundwater elevations in the fall. Groundwater elevation contours for seasonal high and low groundwater conditions in the Forebay Subbasin are shown on Figure 5 and Figure 6, respectively. The contours indicate that groundwater flow directions are similar in the Forebay Subbasin during both seasonal low and seasonal high conditions, with groundwater elevations declining from the southeast to the northwest.

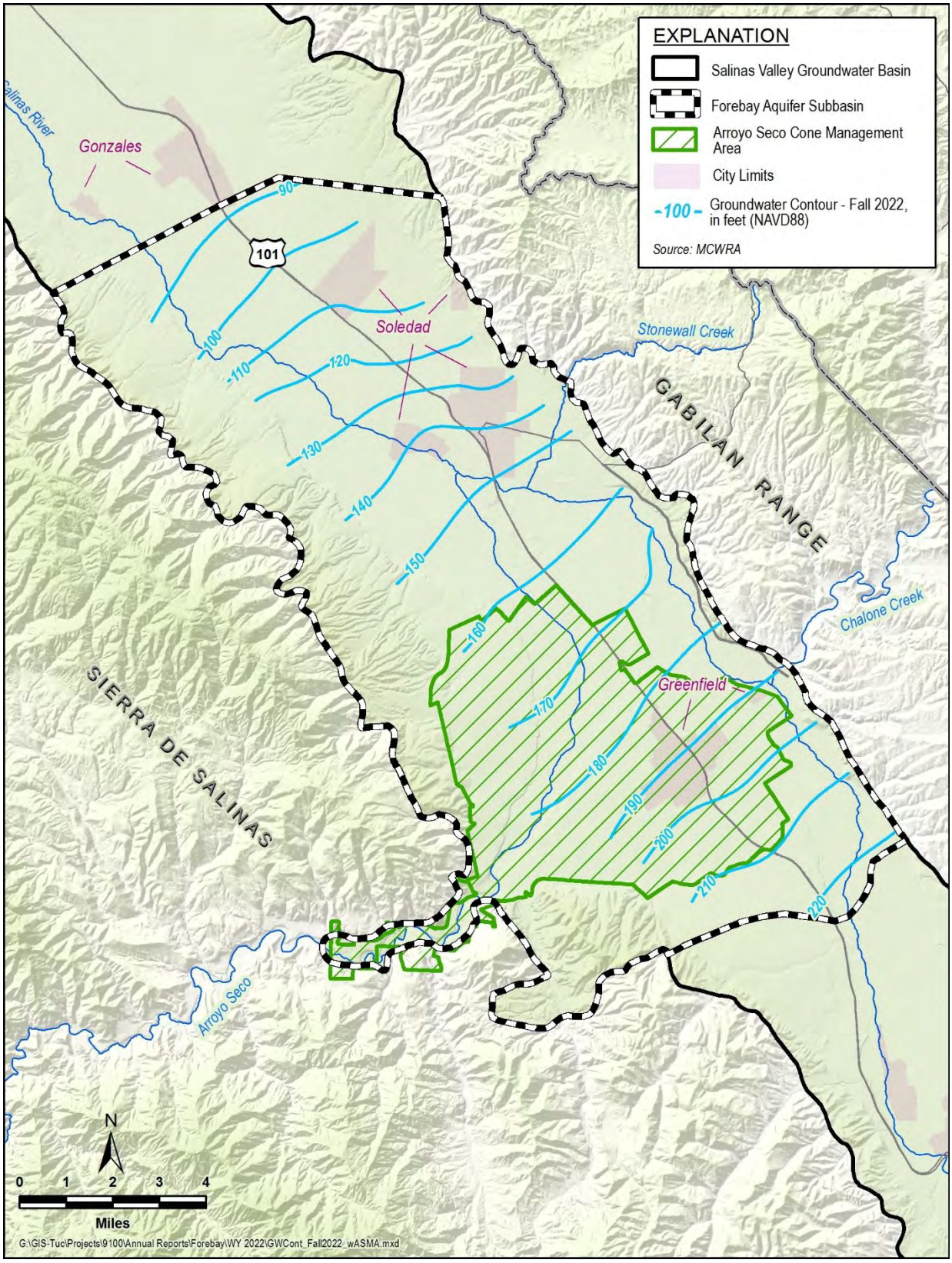

Figure 5. Seasonal High Groundwater Elevation Contour Map for the Forebay Subbasin

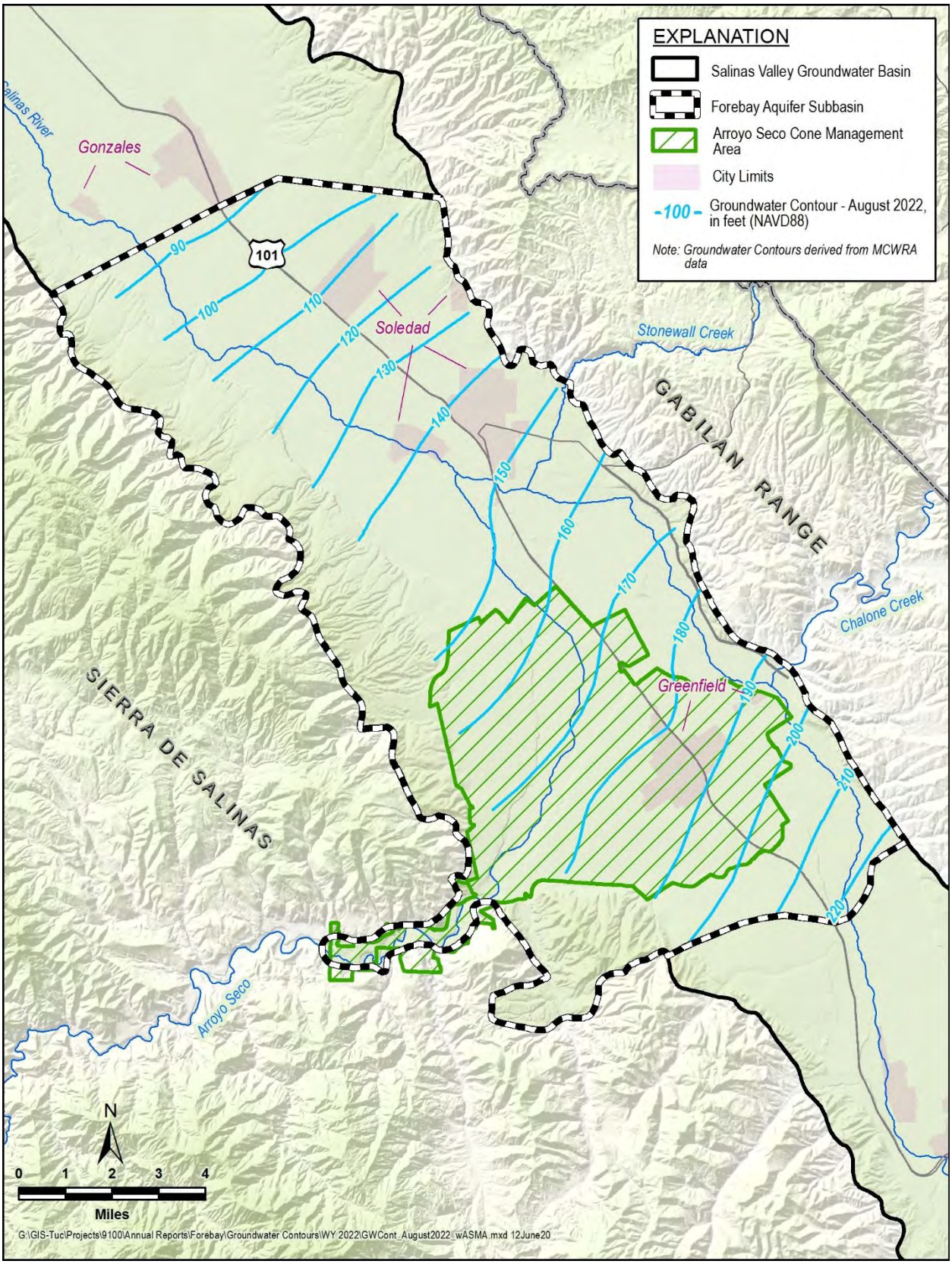

Figure 6. Seasonal Low Groundwater Elevation Contour Map for the Forebay Subbasin

3.2.2 Groundwater Elevation Hydrographs

Temporal trends in groundwater elevations can be assessed with hydrographs that plot changes in groundwater elevations over time. Hydrographs for selected monitoring wells within the Basin Fill Aquifer of the Forebay Subbasin are shown on Figure 7. These hydrographs were selected to show characteristic trends in groundwater elevation in the aquifer. The hydrographs indicate that groundwater elevations in the Basin Fill Aquifer have generally remained stable throughout the Subbasin, dropping during periods of drought but later rebounding again. Since WY 2021, groundwater elevations have declined in most wells, decreasing at an average of about 6 feet and range from 0.2 to 17 feet. Hydrographs for all representative monitoring sites are included in Appendix A.

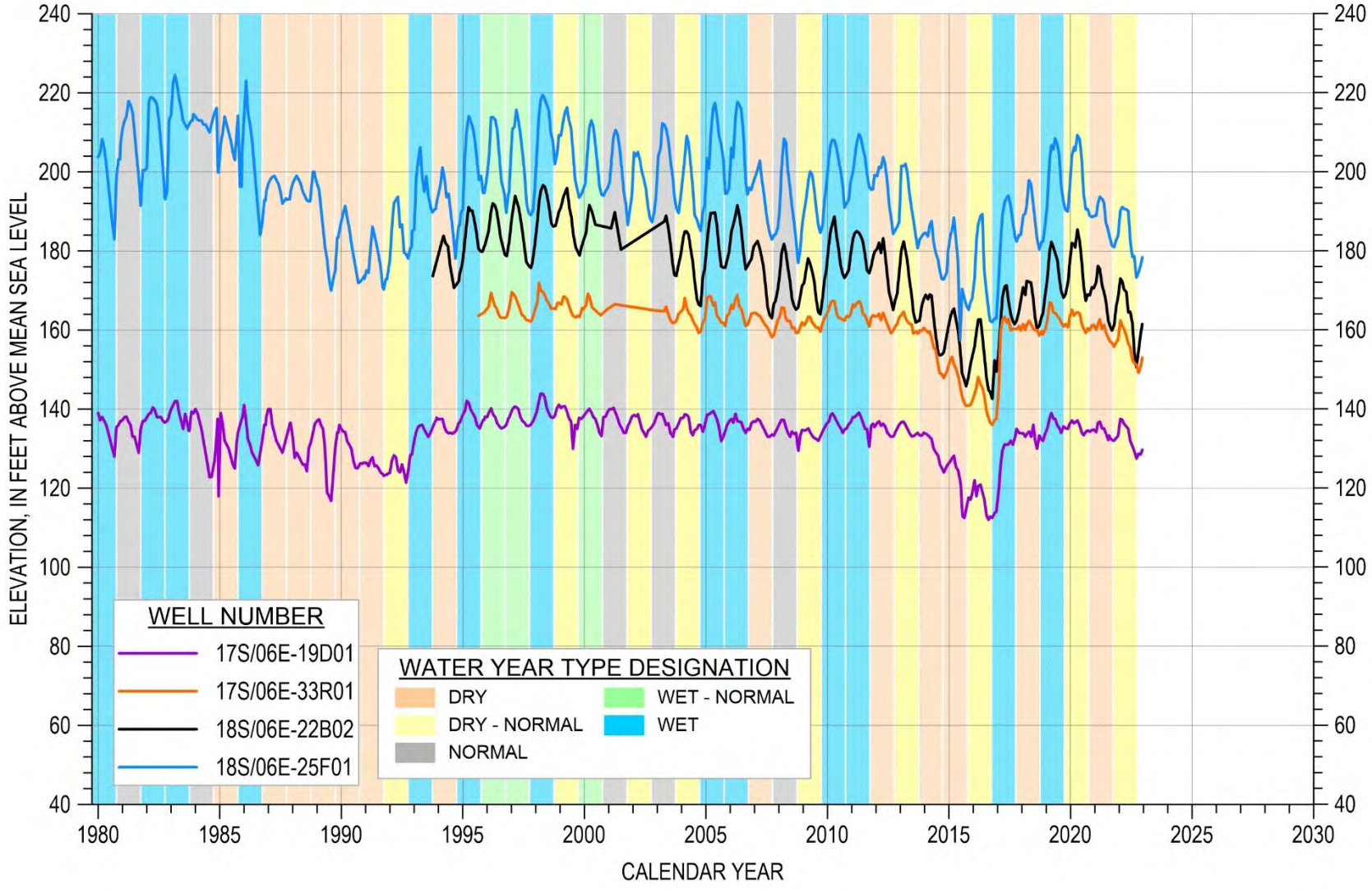

Figure 7. Groundwater Elevation Hydrographs for Selected Monitoring Wells

3.3 Change in Groundwater Storage

The Forebay Subbasin GSP adopted the concept of change in usable groundwater storage, defined as the annual average increase or decrease in volume of groundwater that can be safely used for municipal, industrial, or agricultural purposes.

The annual change in storage calculation is based on groundwater elevation contours produced by MCWRA for fall 2021 and fall 2022. MCWRA uses groundwater elevations from November to December to produce these contours. Fall measurements occur at the end of the irrigation season and before groundwater levels increase due to seasonal recharge by winter rains. These measurements record annual changes in storage reflective of groundwater recharge and withdrawals in the Subbasin.

In the GSP and WY 2021 Annual Report, the annual change in storage was calculated for only the contoured portion of the Subbasin. However, the Reduction in Groundwater Storage SMC were calculated based on the entire area of the Subbasin. For consistency with the SMC, the entire Subbasin area will be used for the annual change in storage calculation. In order to do this, groundwater elevations were extrapolated to Subbasin boundaries based on MCWRA contours. This will be done in subsequent annual reports to better assess change in groundwater storage.

Average annual change in groundwater elevations in the Forebay Subbasin from WY 2021 to WY 2022 was estimated by subtracting the fall 2021 groundwater elevations shown on Figure 8 from the fall 2022 groundwater elevations (Figure 5). This change was then multiplied by the storage coefficient for the Forebay Aquifer. Monterey County's *State of the Basin Report* approximates the storage coefficient to 0.12 for the Forebay Subarea (Brown and Caldwell, 2015). Figure 9 shows in acre-feet (AF) per acre the estimated change in storage due to groundwater elevation changes in the Forebay Subbasin.

A summary of components used for estimating change in groundwater storage due to groundwater elevation changes is shown in Table 4. Annual groundwater storage change due to changes in groundwater elevations from fall 2021 to fall 2022 decreased by approximately 69,400 AF/yr. in the Forebay Subbasin. The negative signs in Table 4 indicate decline in groundwater levels or loss in storage.

Table 4. Parameters Used for Estimating Annual Change in Groundwater Storage

Component	Values
Subbasin Area (acres)	94,000
Storage coefficient	0.12
Average change in groundwater elevations (feet)	-6.15
Total annual change in groundwater storage (AF/yr.)	**-69,400**

Note: Negative values indicate loss, positive values indicate gain.

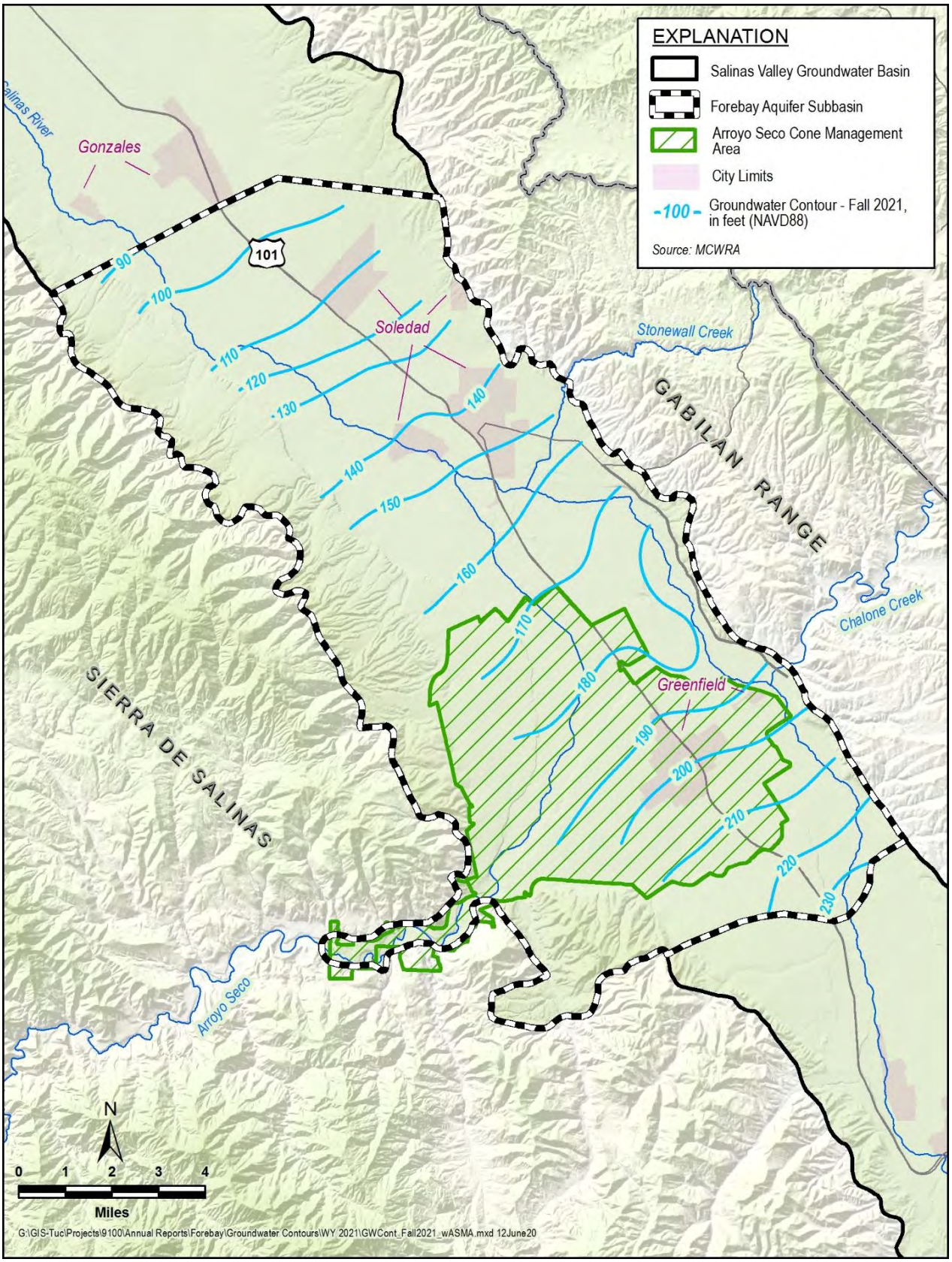

Figure 8. Fall 2021 Groundwater Elevation Contour Map

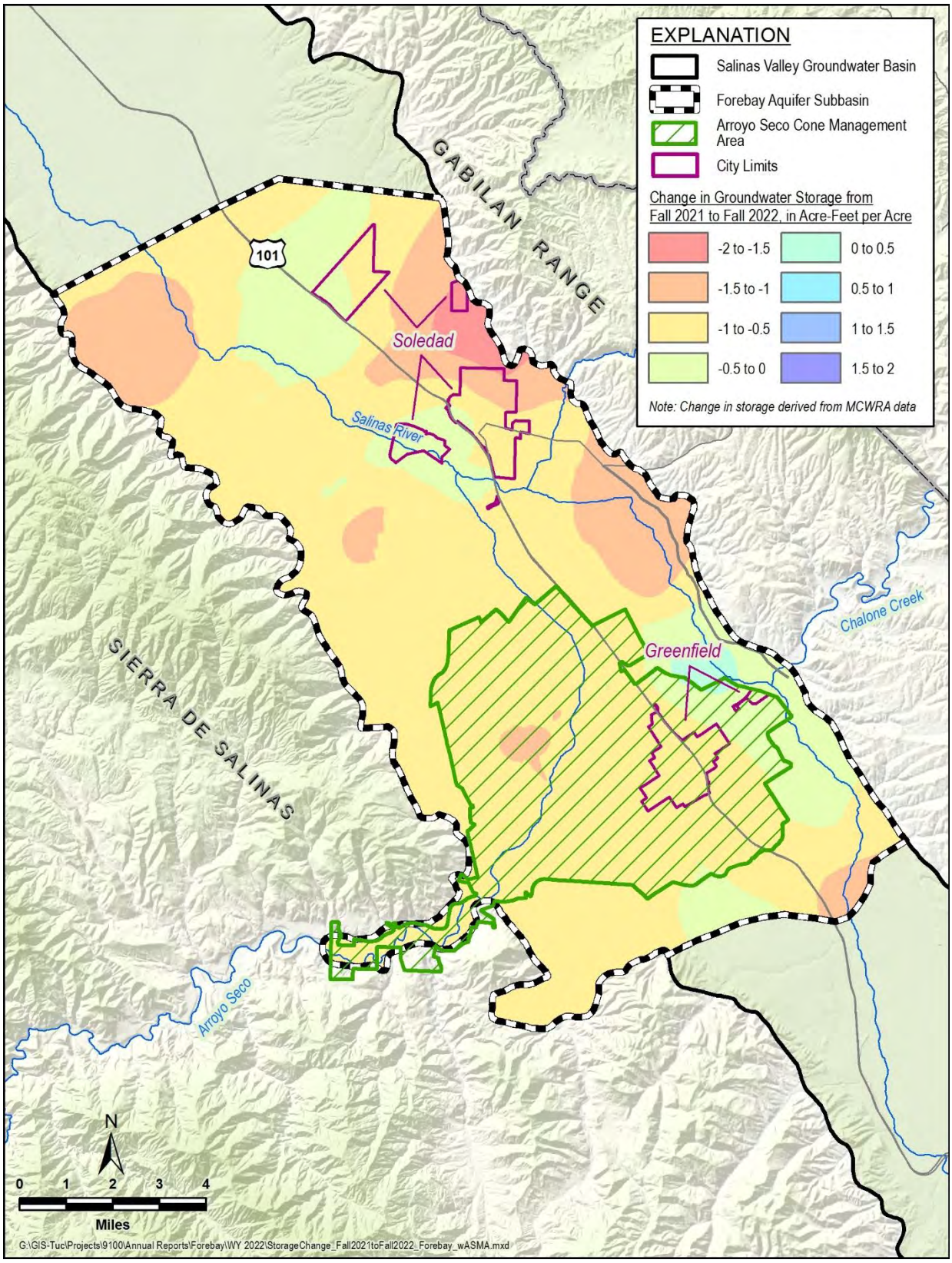

Figure 9. Estimated Annual Change in Groundwater Storage from WY 2021 to WY 2022

GSP Regulations also require that annual and cumulative changes in groundwater storage and groundwater use along with water year type data are plotted together, as shown on Figure 10. The annual and cumulative groundwater storage changes included on Figure 10 are based on Subbasin-wide average groundwater elevation changes. This figure includes groundwater extraction from 1995 to 2022, 1995 to 2016 average historical extraction, and the 2070 projected extraction from Chapter 6 of the GSP. As the last year in a 3-year drought, 2022 pumping decreased slightly since the previous reporting year, and is lower than the historical average and projected pumping. The orange line represents cumulative storage change since 1944 (e.g., zero represents groundwater conditions in 1944, and each year the annual change in storage is added to produce the cumulative change in storage). The green line represents the annual change in storage from the previous year, such that the 1995 annual change in storage value is based on change in storage from 1994. In WY 2022, groundwater storage decreased as shown by the orange and green lines.

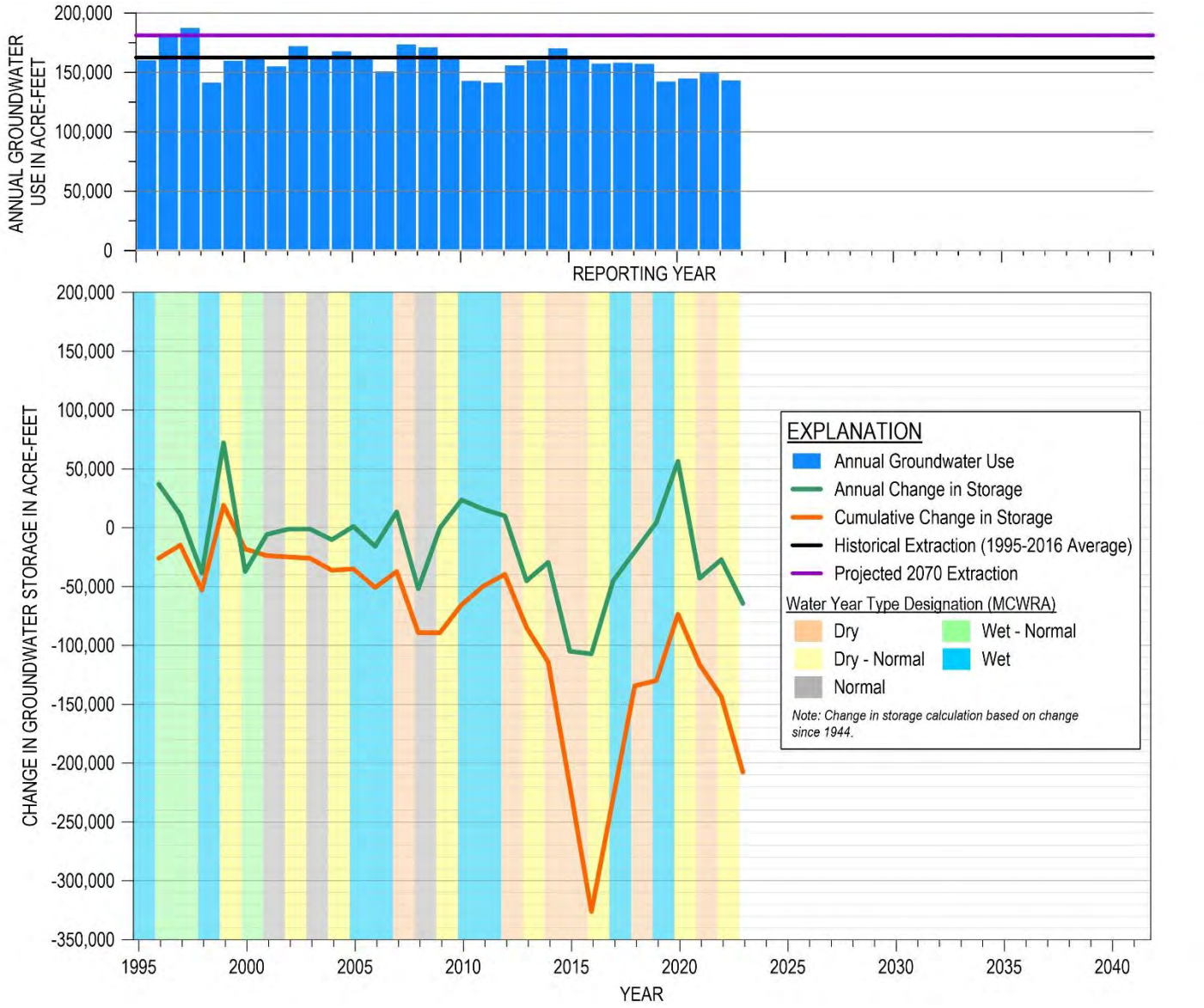

Figure 10. Groundwater Use and Annual and Cumulative Change in Groundwater Storage

3.4 Groundwater Quality

Degradation of groundwater quality is measured in 3 sets of wells: public water system supply wells, on-farm domestic wells, and irrigation wells. Data collected by SWRCB Division of Drinking Water (DDW) is used to evaluate groundwater quality in public water system supply wells. Under the Irrigated Lands Regulatory Program (ILRP), water quality degradation is monitored in on-farm domestic wells and irrigation wells. Water quality data for both programs can be found on SWRCB's GAMA groundwater information system. The constituents of concern (COCs) for public water system supply wells and domestic wells have a Maximum Contaminant Level (MCL) or Secondary Maximum Contaminant Level (SMCL) established by the State's Title 22 Regulations. The COCs for irrigation wells include those that may lead to reduced crop production and are outlined in the Central Coast Regional Water Quality Control Board's (CCRWQCB) Basin Plan (2019). As discussed in the GSP, each set of wells has its own COCs. 5 and Figure 11 shows the number of wells that were sampled in WY 2022 and that have concentrations above the regulatory standard for the COCs listed in the Forebay Subbasin GSP. The COCs that had wells with concentrations above the regulatory standard include 1,2,3-trichloropropane, manganese, nitrate, selenium, specific conductance, total dissolved solids, and nitrate+nitrite. Selenium is a new constituent that was not included in the GSP because no wells had selenium concentrations above the regulatory standard at the time; however, in WY 2022 one well's selenium concentration was higher than the regulatory standard in WY 2022.

Table 5. Groundwater Quality Data

Constituents of Concern (COC)	Regulatory Exceedance Standard	Standard Units	Number of Wells Sampled for COC in WY 2022	Number of Wells Sampled in WY 2022 with COC Concentrations Above the Regulatory Standard
DDW Wells				
1,2,3-Trichloropropane	0.005	ug/L	16	1
1,2-Dibromo-3-chloropropane	0.2	ug/L	0	0
Beryllium	4	ug/L	4	0
Chloride	500	mg/L	4	0
Di(2-ethylhexyl) phthalate	4	ug/L	4	0
Dinoseb	7	ug/L	6	0
Iron	300	ug/L	4	0
Lindane	0.2	ug/L	0	0
Manganese	50	ug/L	5	1
Nitrate (as nitrogen)	10	mg/L	26	7
Polychlorinated Biphenyls	0.5	mg/L	0	0
Selenium	20	ug/L	4	1
Specific Conductance	1600	umhos/cm	7	2
Sulfate	500	mg/L	4	0
Thallium	2	ug/L	4	0
Total Dissolved Solids	1000	mg/L	6	1
Vinyl Chloride	0.5	ug/L	6	0
ILRP On-Farm Domestic Wells				
Iron	300	ug/L	0	0
Manganese	50	ug/L	0	0
Nitrate (as nitrogen)	10	mg/L	0	0
Nitrate + Nitrite (sum as nitrogen)	10	mg/L	2	1
Specific Conductance	1600	umhos/cm	1	0
Sulfate	500	mg/L	1	0
Total Dissolved Solids	500	mg/L	1	0
ILRP Irrigation Wells				
Iron	5	mg/L	0	0
Manganese	0.2	mg/L	0	0

mg/L - milligram per liter
ug/L - micrograms per liter
umhos/cm - micromhos per centimeter

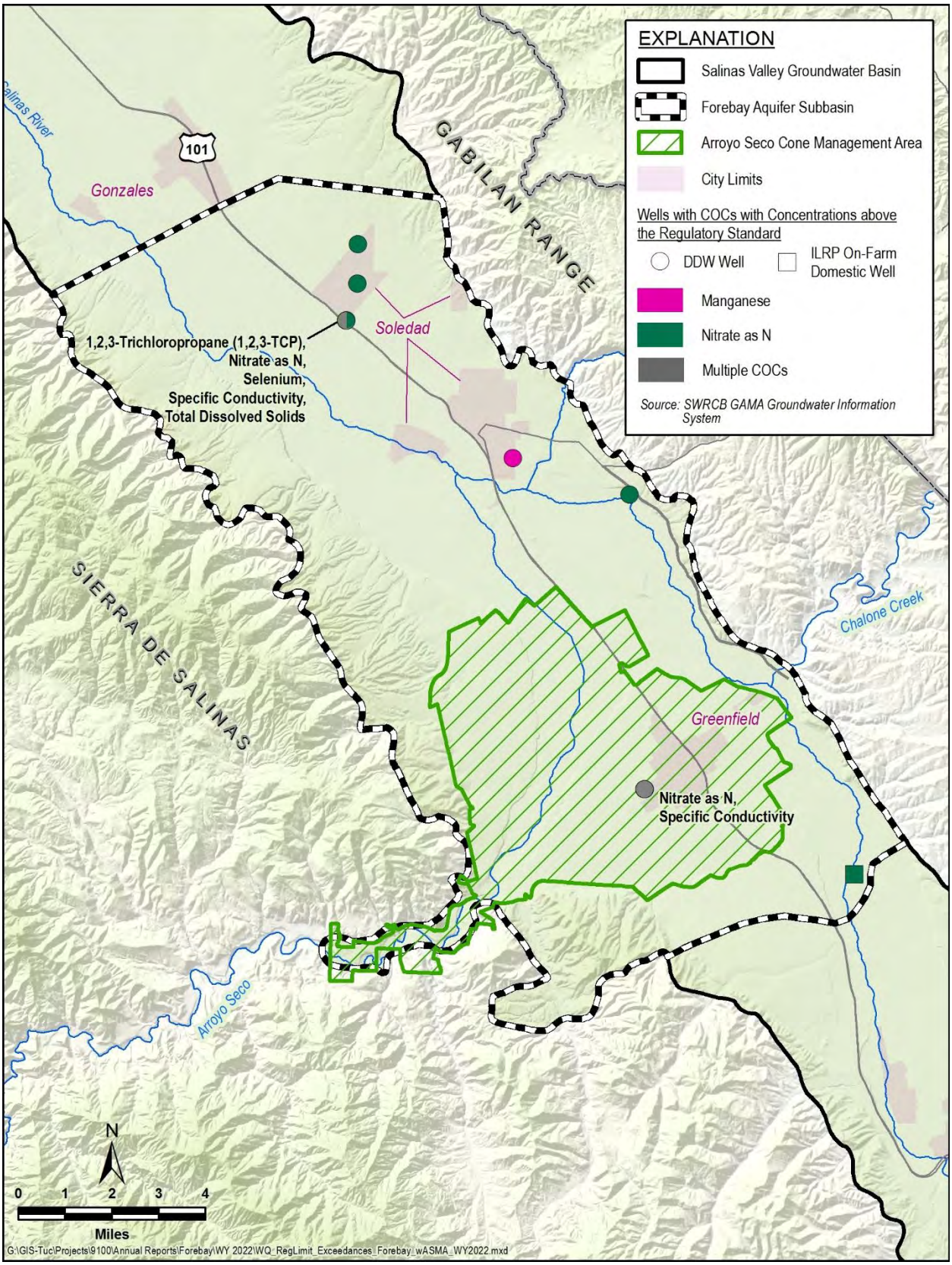

Figure 11. Wells with an Exceedance of the Regulatory Standard Sampled in WY 2022

3.5 Subsidence

Subsidence is measured using Interferometric Synthetic-Aperture Radar (InSAR) data. These data are provided by DWR on the SGMA data viewer portal (DWR, 2022). Figure 12 shows the annual subsidence for the Forebay Subbasin from October 2021 to October 2022. Data continue to show negligible subsidence. All land movement was within the estimated error of measurement of +/- 0.1 foot.

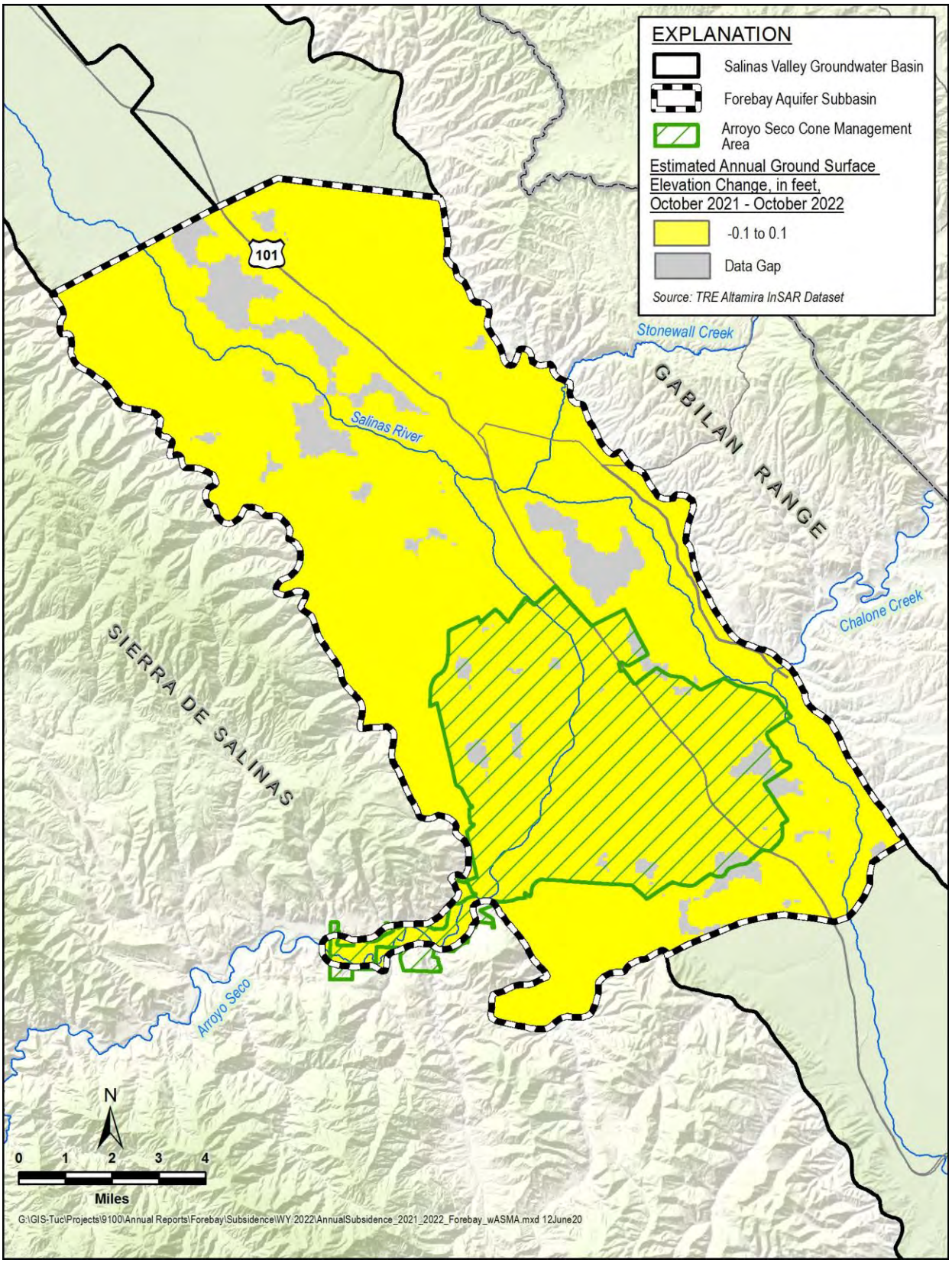

Figure 12. Annual Subsidence

3.6 Depletion of Interconnected Surface Water

As described in Section 4.4.5.1 of the GSP, the locations of ISW in the Forebay Subbasin are mostly along the Salinas River and the Arroyo Seco. ISW is monitored using shallow groundwater elevations near locations of ISW as a proxy for depletion of ISW. Seepage from a stream to the underlying aquifer is proportional to the difference between water elevation in the stream and groundwater elevations at locations away from the stream. Assuming the elevation in the stream is relatively stable, changes in interconnectivity between the stream and the underlying aquifer are determined by changes in groundwater levels in the aquifer. The proxy relationship is established in Section 8.10.2.1.1 of the GSP.

The ISW monitoring network consists of 3 shallow wells, all of which are RMS wells. These wells will be supplemented with a new shallow well that will be installed along the Arroyo Seco. Table 6 lists the 2021 and 2022 shallow groundwater elevations and the annual change in shallow groundwater elevations for the ISW monitoring wells in the Subbasin. Shallow groundwater elevations decreased in all 3 monitoring wells, indicating further depletion of ISW during WY 2022 at locations of ISW described in the GSP. Figure 13 shows the locations of the ISW RMS wells.

Table 6. Shallow Groundwater Elevation Data (in feet)

Monitoring Well	WY 2021 Groundwater Elevation	WY 2022 Groundwater Elevation	Annual Change
17S/06E-33R02	157.9	151.3	-6.6
18S/06E-03P01	175.4	155.5	-19.9
18S/07E-32G02	203.0	193.3	-9.7

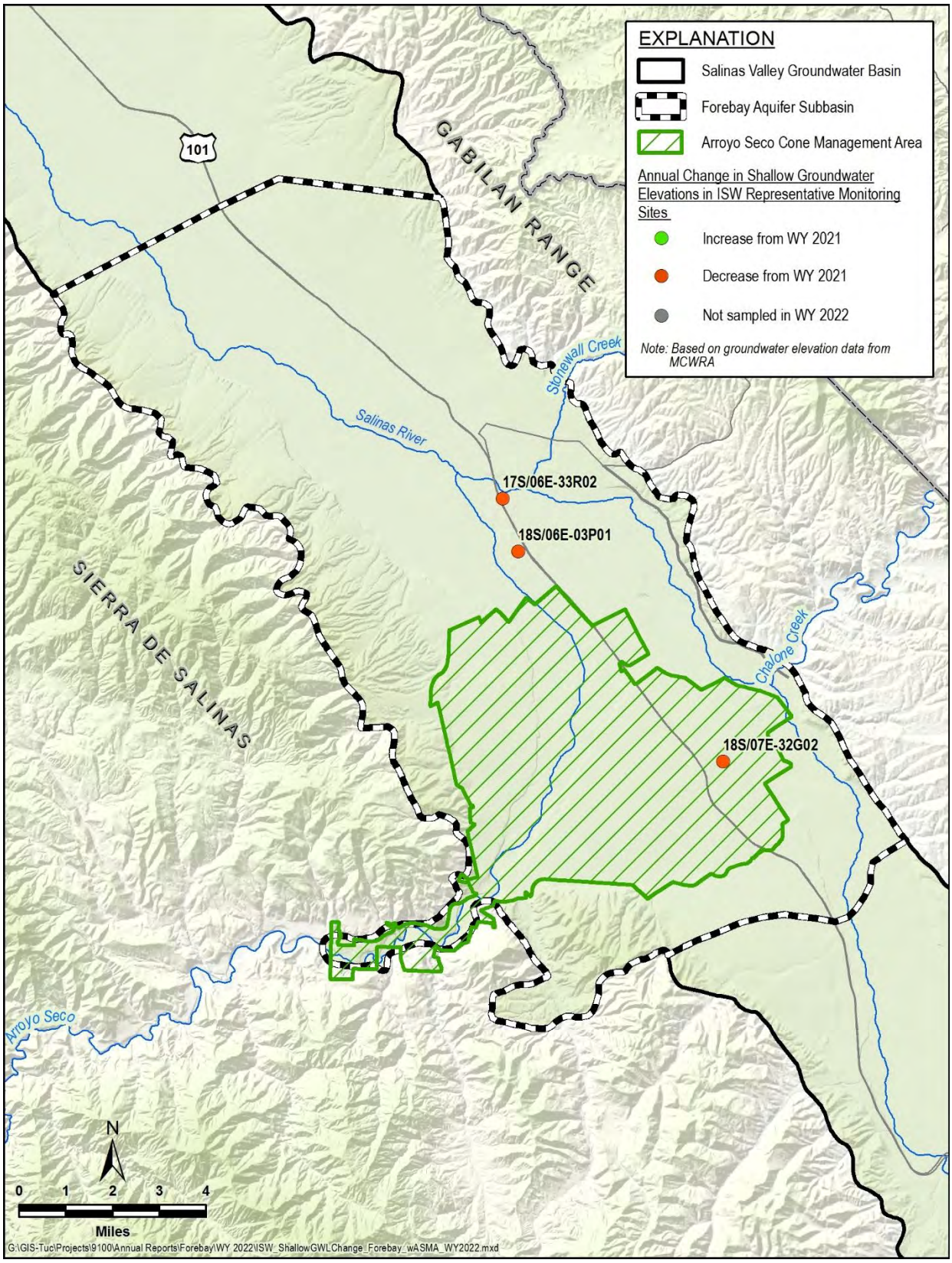

Figure 13. Change in Shallow Groundwater Elevations in ISW Representative Monitoring Sites

4 ANNUAL PROGRESS TOWARD IMPLEMENTATION OF THE GSP

4.1 WY 2022 Groundwater Management Activities

This section details groundwater management activities that have occurred in WY 2022. These include activities of SVBGSA, ASGSA, and MCWRA that promote groundwater sustainability and are important for maintaining the GSP sustainability goals. This section begins with an overview of SVBGSA and ASGSA's sustainability strategy for the Forebay Subbasin, which builds on and further details the Road Map included in the GSP.

In WY 2022, SVBGSA, ASGSA, and MCWRA undertook 4 main categories of activities to begin GSP implementation and further groundwater sustainability goals: GSA policies, operations, and engagement; data and monitoring; planning; and sustainability strategy and activities.

4.1.1 GSA Policies, Operations, and Engagement

SVBGSA focused much of its effort during WY 2022 on developing GSA policies, standardizing GSA operations, and strengthening engagement to provide a strong base for GSP implementation.

Subbasin-level: SVBGSA continued robust stakeholder engagement and strengthened collaboration with key agencies and partners. SVBGSA worked throughout the year with the Forebay Subbasin Planning Committee and the ASGSA to develop the Forebay Subbasin GSP and submit it to DWR in January 2022. SVBGSA and ASGSA met regularly through the Coordination Committee that consists of 2 Board members from each agency. SVBGSA held 2 meetings of the Forebay Subbasin Planning Committee during WY 2022 prior to submitting the GSP. As the responsibilities of the subbasin planning committees finished with GSP submittal, SVBGSA set up subbasin implementation committees to lead subbasin-specific GSP implementation activities. The Forebay Subbasin Implementation Committee was formed with 11 subbasin committee members. SVBGSA held 2 meetings of the Forebay Subbasin Implementation Committee during WY 2022 to begin implementation of the GSP.

SVBGSA Agency-level: During WY 2022, SVBGSA streamlined its committee structure. The SVBGSA Board of Directors transitioned the responsibilities of the Seawater Intrusion Working Group (SWIG) and Integrated Implementation Committee to the existing Advisory Committee, and the responsibilities of the SWIG Technical Advisory Committee to a new, broader Groundwater Technical Advisory Committee. SVBGSA continued its engagement across all Salinas Valley subbasins through its Board of Directors and Advisory Committee, holding 12 Board meetings and 9 Advisory Committee meetings over the course of WY 2022.

SVBGSA Work Plan, Budget, and Operating Fee: SVBGSA developed a 2-year and 5-year work plan and associated budget, which set the basis for the annual operating fee. The Board of Directors passed a portion of the fee increase. During the budget discussions, the Board directed staff to determine whether the regulatory fee needed to be applied for some projects and management actions at the specific subbasin level. As a result of the partial funding, some workstreams moved forward while others remained unfunded, slowing implementation of certain activities.

Well Permitting: Governor Gavin Newsom released Executive Order N-7-22 on March 28, 2022. The Executive Order creates a role for GSAs in the groundwater well permitting process during droughts. Specifically, a well permitting agency shall not "approve a permit for a new groundwater well or for alteration of an existing well in a basin subject to the Sustainable Groundwater Management Act and classified as medium- or high-priority without first obtaining written verification from a Groundwater Sustainability Agency managing the basin or area of the basin where the well in proposed to be located that groundwater extraction by the proposed well would not be inconsistent with any sustainable groundwater management program established in any applicable Groundwater Sustainability Plan adopted by the Groundwater Sustainability Agency and would not decrease the likelihood of achieving a sustainability goal for the basin covered by such a plan." In addition, a proposed well cannot cause subsidence that would adversely impact or damage nearby infrastructure. SVBGSA and ASGSA worked with County agencies involved in well permitting, interested parties, and its Board of Directors to develop processes to comply with the Executive Order.

Coordination with Partner Agencies: SVBGSA and MCWRA increased coordination and collaboration through weekly meetings between agency leads and consultants. This resulted in increased awareness of each other's activities, objectives, and challenges. MCWRA and SVBGSA finalized the Memorandum of Understanding (MOU) that outlines the roles of the 2 agencies and how they will coordinate through the implementation of the GSPs.

SVBGSA conducted meetings throughout the year to reach out to additional agencies and stakeholders to coordinate. These included meetings with:

- Monterey County Health Department on data and the existing well permitting and water quality monitoring programs
- CCRWQCB to discuss the Water Quality Coordination Group
- Integrated Regional Water Management Plan, including coordinating with the Central Coast Wetlands Group on the watershed coordinator grant

Outreach: Underrepresented Communities are an important stakeholder for the SVBGSA to develop meaningful and long-term relationships with regard to groundwater sustainability. Outreach to Underrepresented Communities includes 2 different methods of communication for

making workshop materials more accessible. For the first in-person workshop since GSP implementation, SVBGSA offered Spanish interpretation services for attendees both in person and online. In addition, SVBGSA informational workshops are archived on a YouTube channel which is easily accessible to interested parties. A workshop on demand management was also translated and presented in Spanish with the video archived for accessible viewing.

SVBGSA worked very closely with the Watershed Coordinator for the Lower Salinas/Gabilan watershed. SVBGSA intends to learn from and apply lessons learned and outreach tools from the Lower Salinas/Gabilan watershed to the rest of the Salinas Basin. The Watershed Coordinator is collaborating with the League of United Latin American Citizens and developing materials to reach residents to increase their general understanding of water resources. A "Water 101" will help residents build a foundation for better voicing their needs regarding particular projects and management actions. In addition, the Watershed Coordinator is working with the North Monterey County School District in hopes of scheduling future groundwater related educational programs, co-funded by the SVBGSA.

4.1.2 Data and Monitoring

SVBGSA also undertook several efforts to further increase data collection and monitoring. During WY 2022:

- SVBGSA reviewed MCWRA and DWR databases to identify any potential existing wells that could fill data gaps, and reviewed the data gaps with interested parties.
- SVBGSA and MCWRA began discussions on expanding and enhancing the GEMS program. This effort will primarily take place in 2022 and 2023. These early discussions focused on understanding the challenges to changing the program and steps involved.
- SVBGSA continued to partner with the USGS through the Cooperative Agreement for the development of the Salinas Valley Integrated Hydrologic Model.
- SVBGSA received bids for the Deep Aquifers Study and selected Montgomery & Associates. During WY 2022, M&A conducted the preliminary investigation, through which it reviewed existing data and found that the Deep Aquifers extends into the Forebay Subbasin. The boundary of the Deep Aquifers will be refined with additional data during the remainder of the Study.

4.1.3 Planning

SVBGSA and ASGSA began WY 2022 by finalizing the Forebay Subbasin GSP, working together with the 10 members of the Forebay Planning Committee. Final stages included responding to and addressing comments on the draft GSP, reviewing changes with the Forebay Planning Committee, and presenting to the SVBGSA and ASGSA Boards of Directors for final approval. SVBGSA submitted the GSP in January 2022.

After submittal of the 2022 GSPs, SVBGSA developed an Integrated Implementation Plan to tie the SVBGSA GSPs together. It described how the Salinas Valley's groundwater system functions holistically, outlined a Valley-wide water budget, and provided an integrated understanding of current groundwater conditions and SGMA sustainability goals.

4.1.4 Sustainability Strategy and Activities

The Forebay GSP included a high-level Road Map for Refining and Implementing Management Actions and Projects. The Road Map organizes management actions and projects identified in Chapter 9 of the GSP into a general priority order for implementation. These include implementation actions that contribute to groundwater management and GSP implementation but do not directly help the Subbasin maintain sustainability, such as enhancing groundwater extraction monitoring. Activities in the implementation strategy build on GSA policies, operations, and engagement; data and monitoring; and planning activities.

The management actions and projects identified in the GSP are sufficient for maintaining sustainability in the Forebay Subbasin over the 50-year planning horizon. They will be integrated with projects for the other Salinas Valley subbasins as appropriate during GSP implementation. The management actions and projects described in this GSP have been identified as beneficial for the Forebay Subbasin. The impacts of management actions and projects on other subbasins will be analyzed and taken into consideration as part of the project selection process. Prior to implementation, they will be evaluated in the context of this Subbasin and the entire Valley.

Management actions and projects are not needed to maintain sustainability at this time; however, SVBGSA, ASGSA, and MCWRA are moving forward with some actions that will positively impact groundwater conditions. In particular, MCWRA continues to convene the Drought Technical Advisory Committee when triggered, and ASGSA began drafting a Watershed Protection Policy for the Arroyo Seco, and SVBGSA held Agency-wide discussions on agricultural BMPs and initiated the Deep Aquifers Study.

Figure 14 builds on the general Road Map in the GSP to show SVBGSA and ASGSA's sustainability strategy for the Forebay Subbasin. SVBGSA plans to support the Resource Conservation District's efforts, in partnership with the RMU association, on the Multi-benefit Stream Channel Improvements Project, which has broad support and potential groundwater benefit. In WY 2023, SVBGSA also plans to move forward with implementation actions and establish the SMC TAC. Since the Forebay Subbasin is currently not experiencing undesirable results, SVBGSA will establish the SMC TAC to review conditions annually and recommend to the Forebay Subbasin Implementation Committee whether additional management actions and projects are needed to maintain sustainability.

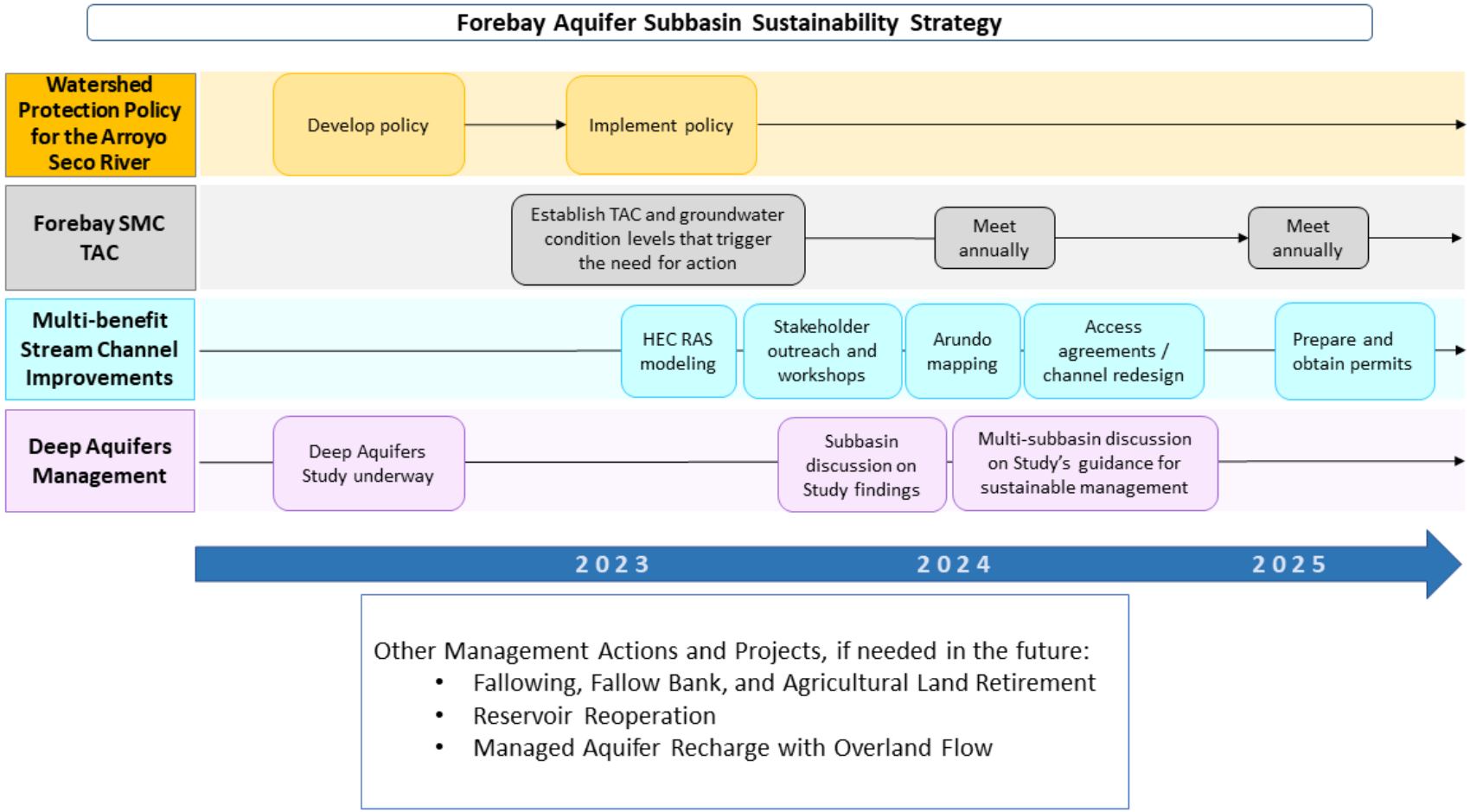

Figure 14. Forebay Sustainability Strategy

More specifically, actions undertaken in WY 2022 that contributed to groundwater sustainability include:

Drought Technical Advisory Committee: MCWRA formed a Drought Operations Technical Advisory Committee (D-TAC) to provide technical input and advice regarding the operations of Nacimiento and San Antonio Reservoirs when drought triggers occur. During WY 2022, MCWRA convened the D-TAC to develop a proposed reservoir release schedule for the April to December period. The D-TAC also worked on formulating a Dry Winter Scenario Narrative (DWSN) for the January – March period following the release schedule period with the purpose of recommending release actions in the event of continuation of dry conditions in the following winter. The DWSN was finalized in April 2022. The D-TAC will be activated in future years when 2 reservoir storage depletion triggers are met and winter inflow fails to replenish reservoir storage above either of those triggers.

Watershed Protection Policy for the Arroyo Seco River: During 2022 the ASGSA developed the Arroyo Seco River Watershed Protection Policy (ASWPP) as a Management Action consistent with the Forebay Subbasin GSP and intended to protect the Arroyo Seco River's unique steelhead habitat and its unregulated native flows into the Forebay Subbasin. The Arroyo Seco's unregulated natural flow provides approximately 33% of the total flow in the Salinas River at their confluence and is the key hydrologic element generating recharge into the ASCMA in the Forebay Subbasin. The ASWPP purpose is to safeguard the river's unregulated flow into the Forebay Subbasin and hence protect the river's natural riparian and steelhead habitats. Relying on the GSP authorities of the ASGSA and the SVBGSA, the ASWPP commits the ASGSA and SVBGSA to protecting the river's current unregulated nature. The ASGSA Board of Directors conditionally approved the ASWPP in 2022 and is working with the SVBGSA to move the ASWPP to Board approval in 2023.

Deep Aquifers Study: SVBGSA and cooperative funding partners contracted Montgomery & Associates to undertake a scientific study to better understand the extent, groundwater conditions, and water budget of the Deep Aquifers of the Salinas Valley. The Deep Aquifers Study includes a preliminary investigation that assessed existing data, additional data collection, and development of a final report. In August 2022, SVBGSA received the preliminary investigation results, which included recommended interim monitoring and management actions.

4.2 Sustainable Management Criteria

The Forebay Subbasin GSP includes descriptions of significant and unreasonable conditions, minimum thresholds, interim milestones, measurable objectives, and undesirable results for each of DWR's 5 sustainability indicators relevant to this Subbasin. The SVBGSA and ASGSA determined locally defined significant and unreasonable conditions based on public meetings and staff discussions. Although the ASCMA and the greater Forebay Subbasin are managed by different GSAs, both areas will be managed cooperatively to meet the sustainability goal of the entire Subbasin. The undesirable results for all sustainability indicators are defined consistently throughout the Subbasin. The SMC are individual criterion that will each be met simultaneously, rather than in an integrated manner. A brief comparison of the data presented in Section 3 and the SMC criteria are included for each sustainability indicator in the following sections.

Significant and unreasonable conditions occur due to inadequate groundwater management and qualitatively describe groundwater conditions deemed insufficient by subbasin planning committees. Minimum thresholds are quantitative indicators of the Subbasin's locally defined significant and unreasonable conditions. An undesirable result is a combination of minimum threshold exceedances that shows a significant and unreasonable condition across the Subbasin as a whole. Measurable objectives are the goals that reflect the Subbasin's desired groundwater conditions for each sustainability indicator and provide operational flexibility above the minimum thresholds. The GSP and Annual Reports must demonstrate that groundwater management will not only avoid undesirable results, but can reach measurable objectives by 2042. DWR uses interim milestones every 5 years to review progress from current conditions to measurable objectives.

Since the GSP addresses long-term groundwater sustainability, some of the metrics for the sustainability indicators may not be applicable in each individual future year. The GSP is developed to avoid undesirable results – under average hydrogeologic conditions – with long-term, deliberate groundwater management. Average hydrogeologic conditions are the anticipated future groundwater conditions in the Subbasin, averaged over the planning horizon and accounting for anticipated climate change. Pursuant to SGMA Regulations (California Water Code § 10721(w)(1)), "Overdraft during a period of drought is not sufficient to establish a chronic lowering of groundwater levels if extractions and groundwater recharge are managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods." Therefore, groundwater levels may temporarily exceed minimum thresholds during prolonged droughts, which could be more extreme than those that have been anticipated based on historical data and anticipated climate change conditions. Such temporary exceedances do not constitute an undesirable result. Future groundwater conditions are based on historical precipitation, evapotranspiration, and streamflow, as well as reasonably anticipated climate change and sea

level rise according to DWR's recommended climate change scenario (DWR, 2018). The average hydrogeologic conditions include reasonably anticipated wet and dry periods.

The 2 solid green lines on Figure 15 show the modeled anticipated average precipitation for 2030 and 2070, accounting for reasonable future climatic change (DWR, 2018), as described in the GSP. Measured annual precipitation from WY 2020 through 2022 are shown as blue dots, and the dashed blue line shows the average measured precipitation since GSP implementation. This figure shows that precipitation in WY 2022 was slightly below the average hydrologic conditions for the Subbasin represented by the average precipitation after GSP implementation. Furthermore, average precipitation since GSP implementation has not risen to the anticipated future average conditions. As a result, it is not anticipated that all measurable objectives have been achieved this year because these measurable objectives were based on managing to average future climatic conditions. This does not mean that minimum thresholds should be exceeded. However, WY 2022 was classified as dry-normal, and therefore it is more likely that groundwater levels were low. Areas with current minimum threshold exceedances should be monitored and should demonstrate progress toward interim milestones and measurable objectives as conditions approach expected average conditions.

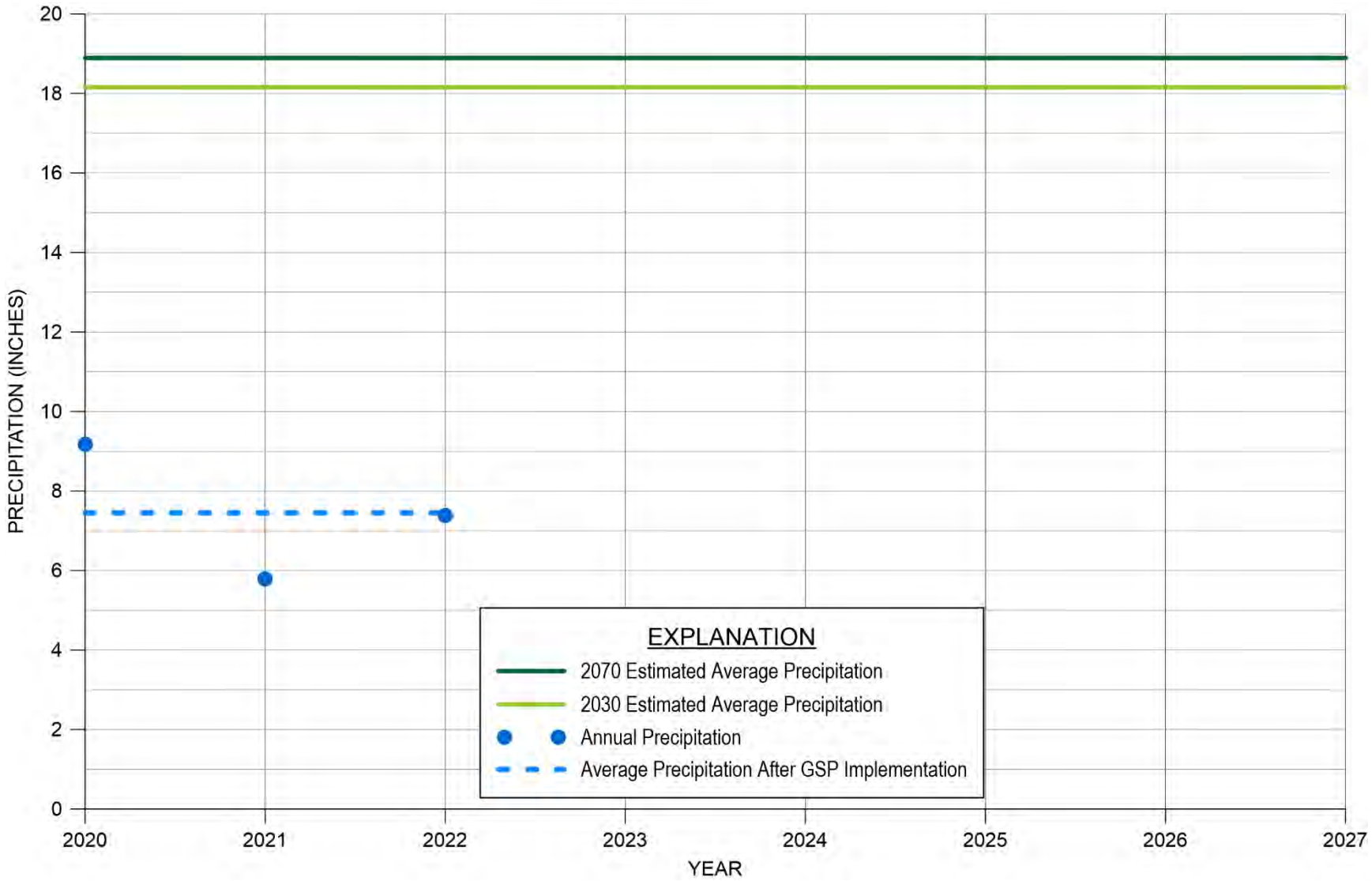

Figure 15. Comparison of Average Precipitation Since GSP Data and Estimated Future Average Precipitation

4.2.1 Chronic Lowering of Groundwater Levels SMC

4.2.1.1 Minimum Thresholds

Section 8.6.2.1 of the Forebay Subbasin GSP describes the information and methodology used to establish minimum thresholds for chronic lowering of groundwater levels. In the Forebay Subbasin, the minimum thresholds were set to December 2015 groundwater elevations. The minimum threshold values for each well within the groundwater elevation monitoring network are provided in Table 7. December 2022 groundwater elevation data are color-coded on this table: red cells mean the groundwater elevation is below the minimum threshold, yellow cells mean the groundwater elevation is above the minimum threshold but below the measurable objective, and green cells mean the groundwater elevation is above the measurable objective. Groundwater elevations are also compared against the groundwater level SMC on Figure 16. The red cells below show that 2 wells in the Subbasin exceeded their minimum threshold in WY 2022.

Table 7.Groundwater Elevation Data, Minimum Thresholds, and Measurable Objectives (in feet)

Below Minimum Threshold		Above Minimum Threshold	Above Measurable Objective	
Monitoring Site	**Minimum Threshold**	**WY 2022 Groundwater Elevations**	**Interim Milestone at Year 2027**	**Measurable Objective (goal to reach at 2042)**
17S/05E-02N04	89.7	101.0	106.8	108.5
17S/05E-03R50	89.7	102.1	108.4	111.5
17S/05E-04R01	82.7	93.8	101.9	101.8
17S/05E-06Q01	92.5	83.1	98.0	97.9
17S/05E-08L02	93.1	90.2	111.8	109.4
17S/05E-09R01	95.9*	100.5	112.6	112.8
17S/05E-27A01	116.9	124.8	135.1	134.6
17S/05E-36F02	120.9	132.8	137.6	136.6
17S/06E-16N01	75.3*	99.4	99.9	109.4
17S/06E-19D01	118.6	129.7	136.1	135.5
17S/06E-27K01	137.9	150.8	158.3	156.2
17S/06E-29C01	129.9	139.0	147.0	144.8
17S/06E-33R01	141.9	153.0	162.6	160.7
17S/06E-33R02	142.0	151.3	162.4	159.7
17S/06E-35J01	151.5	157.8	173.5	171.2
18S/06E-01E01	149.3	161.7	173.0	174.1
18S/06E-02N01	142.2	159.8	166.5	164.0
18S/06E-05R03	136.1	150.4	156.0	154.0

Monitoring Site	Minimum Threshold	WY 2022 Groundwater Elevations	Interim Milestone at Year 2027	Measurable Objective (goal to reach at 2042)
18S/06E-06M01	144.8	145.4	163.3	162.6
18S/06E-11J01	154.4	162.9	181.1	177.1
18S/07E-19G02	151.2	178.7	175.3	175.7
19S/07E-10P01	204.5	217.4	228.8	227.8
Arroyo Seco Cone Management Area				
18S/06E-16L01	140.4	159.1	167.9	168.4
18S/06E-22B02	153.2	161.5	177.9	180.8
18S/06E-22B03	157.2	164.0	186.4	183.8
18S/06E-22B04	156.2	166.1	183.2	182.4
18S/06E-24M01	161.9	175.9	191.8	187.4
18S/06E-24M02	162.0	175.9	192.0	187.4
18S/06E-25F01	167.9	178.4	196.6	199.0
18S/06E-34B01	167.2	173.0	194.2	199.5
18S/06E-35F01	165.9	175.8	191.6	198.9
18S/06E-35F02	166.5	179.7	203.3	203.6
18S/07E-20K01	160.6	187.1	186.2	183.7
18S/07E-28N01	180.8	194.8	202.5	203.6
19S/06E-01H01	181.3	190.0	204.3	207.0
19S/06E-11C01	175.6	184.5	204.6	206.3
19S/07E-04Q01	207.1	205.5	224.4	223.9
19S/07E-05B02	189.2	199.0	210.1	210.0

*Groundwater elevation was estimated.

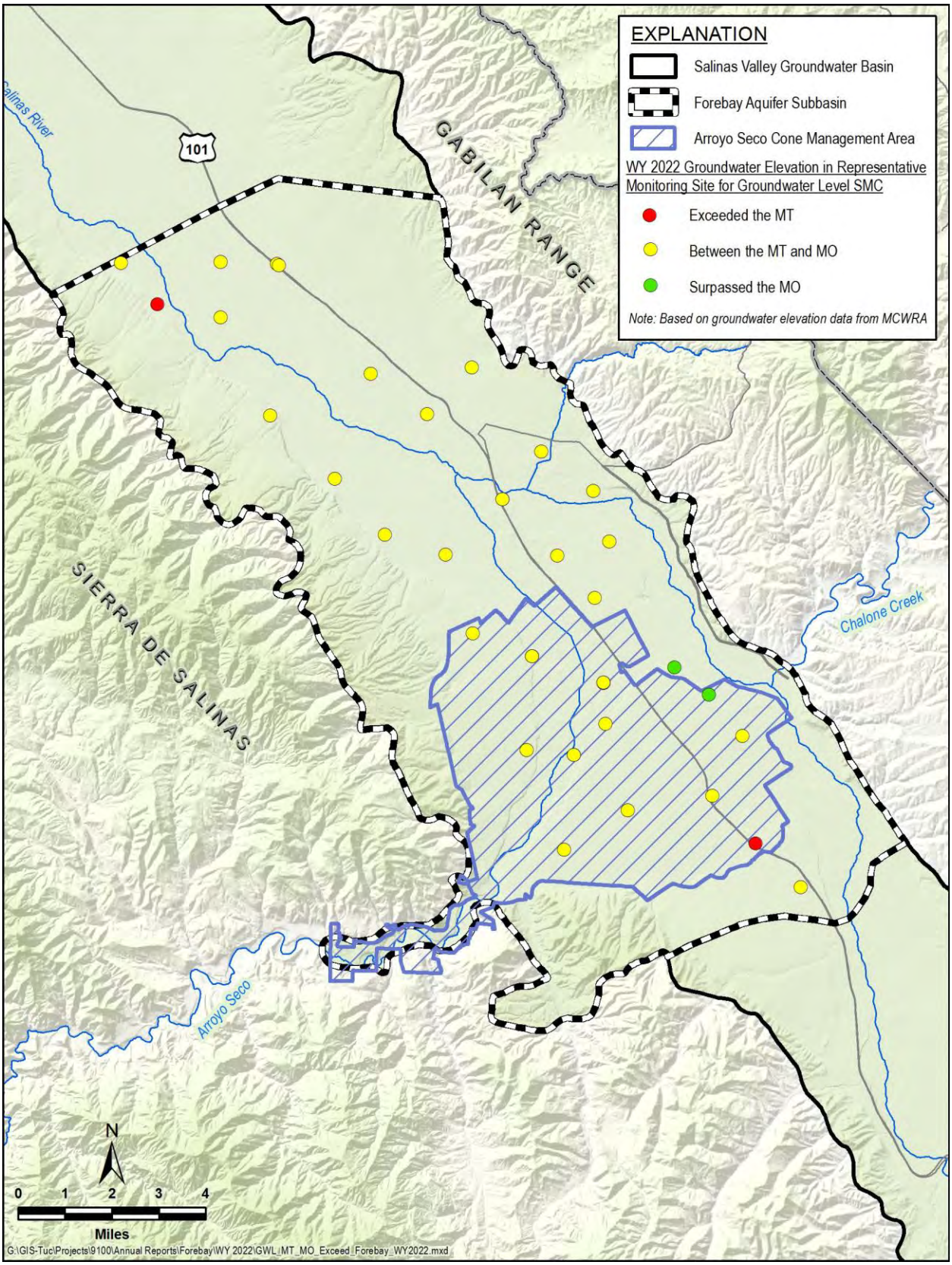

Figure 16. Groundwater Elevations Compared to the Minimum Thresholds and Measurable Objectives

4.2.1.2 Measurable Objectives and Interim Milestones

The measurable objectives for chronic lowering of groundwater levels represent target groundwater elevations that are higher than the minimum thresholds. These measurable objectives provide operational flexibility to ensure that the Subbasin can be managed sustainably over a reasonable range of hydrologic variability. Measurable objectives for the chronic lowering of groundwater levels are summarized in Table 7. Two wells had groundwater elevations higher than their measurable objective in WY 2022 and are represented by the green cells in Table 7.

To show progress toward measurable objectives, DWR assesses interim milestones at 5-year intervals. The 2027 interim milestones for groundwater elevations are also shown in Table 7. The WY 2022 groundwater elevations in 2 wells are already higher than the 2027 interim milestones.

4.2.1.3 Undesirable Result

The chronic lowering of groundwater levels undesirable result is a quantitative combination of groundwater elevation minimum threshold exceedances. For the Subbasin, the groundwater elevation undesirable result is:

More than 15% of the groundwater elevation minimum thresholds are exceeded.

Table 7 shows that 5% of the RMSs exceed their minimum threshold but these exceedances do not lead to an undesirable result. Groundwater elevation minimum threshold exceedances, compared with the undesirable result, are shown on Figure 17. If a value is in the shaded red area, it would constitute an undesirable result. This graph will be updated annually with new data to demonstrate the sustainability indicator's direction toward sustainability.

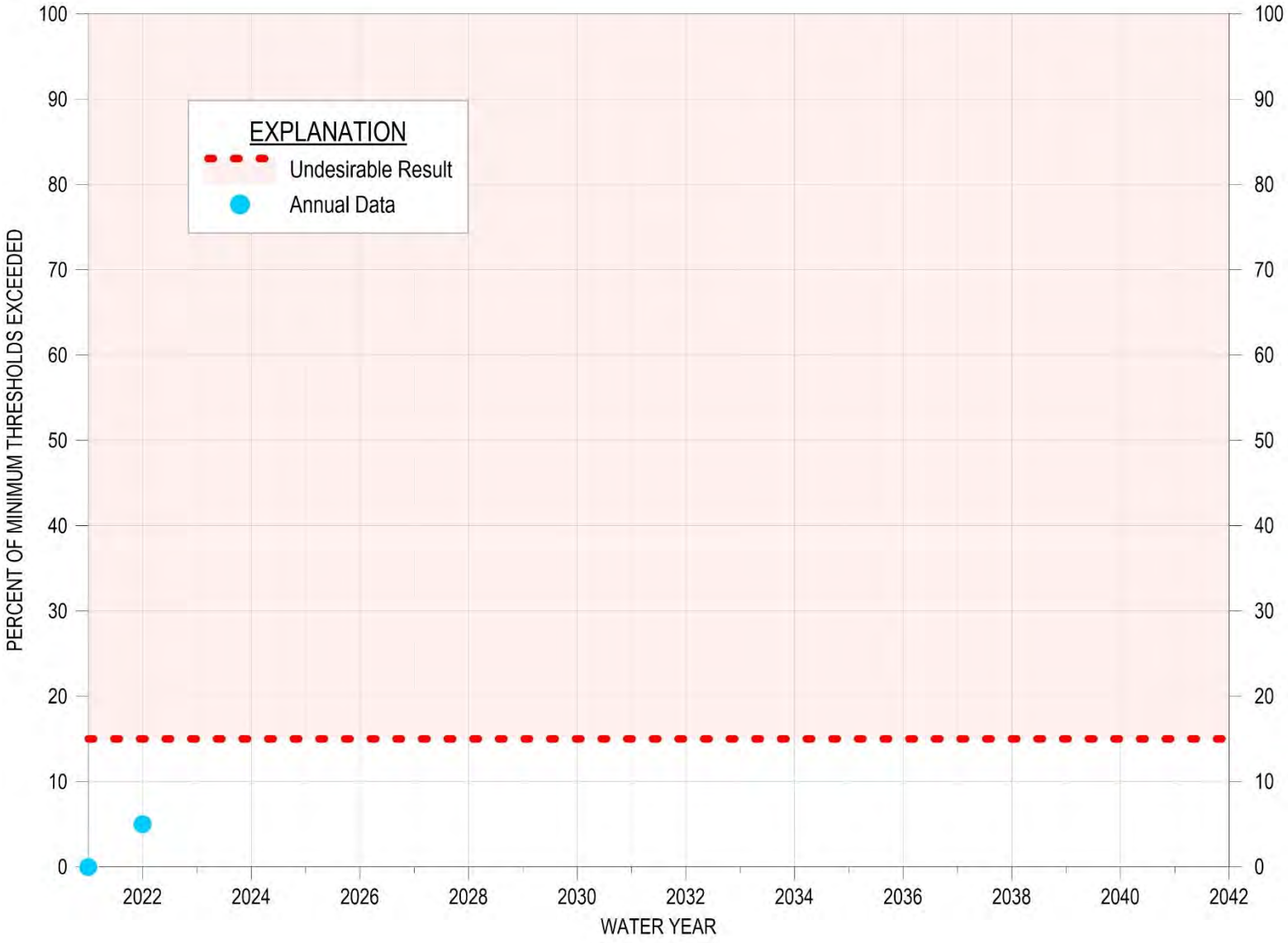

Figure 17. Groundwater Elevation Exceedances Compared to the Undesirable Result

4.2.2 Reduction in Groundwater Storage SMC

4.2.2.1 Minimum Threshold

The minimum threshold for reduction in groundwater storage is set to the amount of groundwater that is in storage when groundwater elevations are at their minimum thresholds. The minimum threshold for reduction in storage is 267,000 AF below the measurable objective. Section 8.7.2.1 of the Forebay Subbasin GSP describes the information and methodology used to establish the minimum threshold for reduction of groundwater storage. The amount of groundwater in storage was approximately 162,000 AF above the minimum threshold in WY 2022. Although pumping is not the metric for establishing change in groundwater storage, the GSAs are committed to pumping at or less than the Subbasin's long-term sustainable yield.

4.2.2.2 Measurable Objective and Interim Milestones

The measurable objective for reduction in groundwater storage is 0 when groundwater elevations are at their measurable objectives. Section 8.7.3.1 of the Forebay Subbasin GSP describes the information and methodology used to establish the measurable objective for reduction of groundwater storage. In WY 2022, the amount of groundwater in storage was 105,000 AF below the measurable objective. Since WY 2021, the amount of groundwater in storage decreased by approximately 69,000 AF.

4.2.2.3 Undesirable Result

The reduction of storage undesirable result is:

> *There is an exceedance of the minimum threshold.*

In WY 2022, the groundwater in storage was above the minimum threshold; therefore, an undesirable result does not exist. Figure 18 shows the volume of groundwater needed to reach the measurable objective compared to the change in storage undesirable result. Values in the shaded red area are above the undesirable result. This graph will be updated annually with new data to demonstrate the current status of the sustainability indicator.

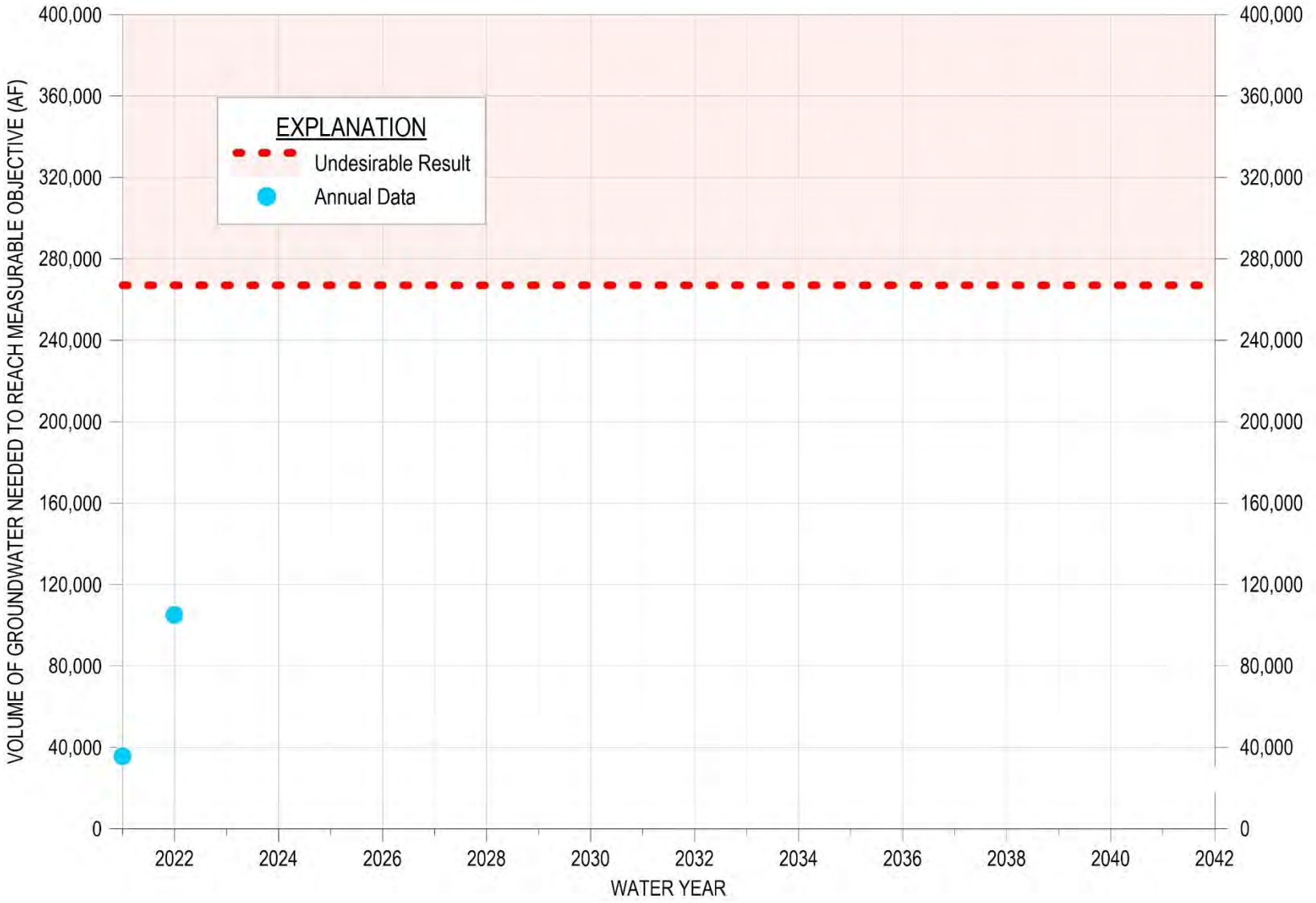

Figure 18. Groundwater in Storage Compared to the Undesirable Result

4.2.3 Degraded Groundwater Quality SMC

4.2.3.1 Minimum Thresholds

The degraded groundwater quality minimum thresholds were established for each COC based on the number of supply wells that had higher concentrations than the regulatory standards for drinking water and irrigation water during the last sampling event. Section 8.8.2.1 of the Forebay Subbasin GSP describes the information and methodology used to establish minimum thresholds for degraded groundwater quality. The minimum threshold values for each COC for the wells within the groundwater quality monitoring network are provided in Table 8. Table 8 also shows the wells with concentrations higher than the regulatory standard in WY 2022 discussed in Section 3.4 and the running total of wells with concentrations higher than the regulatory standard, which are used to assess the SMC. Only the latest sample for each COC at each well is used for the running total. The minimum thresholds are set to no additional wells with concentrations higher than the regulatory standard for each constituent, as compared to the 2019 baseline. The SMC are based on the total number of wells in order to assess subbasin-wide conditions; so if a single well rises above a COC's regulatory standard and another falls below, there is no change in the number of wells with concentrations above the regulatory standard. These conditions were determined to be significant and unreasonable because COC concentrations above the regulatory standard may cause a financial burden on groundwater users. Public water systems with COC concentrations above the MCL or SMCL are required to add treatment to the drinking water supplies or drill new wells. Agricultural wells with COCs that significantly reduce crop production may reduce grower's yields and profits.

As the GSP established a minimum threshold for each COC, there is an exceedance of the minimum threshold if there are more wells with concentrations above the regulatory standard than there were in 2019. In WY 2022, there were 7 exceedances of the groundwater quality minimum thresholds. The last column in Table 8 includes the number of wells above the 2019 baseline that had higher concentrations than the regulatory standard. If a COC has more wells with concentrations above the regulatory standard than the minimum threshold, it is highlighted in orange to indicate an exceedance. The negative numbers in the last column indicate a drop in the total number of wells with concentrations above the regulatory limit, as compared to 2019 when the minimum threshold was established.

Table 8. Minimum Thresholds and Measurable Objectives for Degradation of Groundwater Quality

Constituent of Concern (COC)	Minimum Threshold/ Measurable Objective (existing exceedances of Regulatory Standard in 2019)	Number of Wells Sampled in WY 2022 with COC Concentrations Above the Regulatory Standard	Total Number of Wells with COC Concentrations Above the Regulatory Standard in Most Recent Sample	Number of Wells with COC Concentrations above Minimum Threshold (negative if fewer than MT)
DDW Wells				
1,2,3-Trichloropropane	2	1	3	1
1,2-Dibromo-3-chloropropane	3	0	3	0
Beryllium	1	0	1	0
Chloride	1	0	0	-1
Di(2-ethylhexyl) phthalate	1	0	1	0
Dinoseb	3	0	3	0
Iron	6	0	6	0
Lindane	1	0	1	0
Manganese	4	1	5	1
Nitrate (as nitrogen)	5	7	12	7
Polychlorinated Biphenyls	1	0	1	0
Selenium	0	1	1	1
Specific Conductance	1	2	2	1
Sulfate	1	0	1	0
Thallium	1	0	1	0
Total Dissolved Solids	4	1	5	1
Vinyl Chloride	4	0	4	0
ILRP On-Farm Domestic Wells				
Iron	8	0	8	0
Manganese	2	0	2	0
Nitrate (as nitrogen)	162	0	165	3
Nitrate + Nitrite (sum as nitrogen)	62	1	57	-5
Nitrite	1	0	1	0
Specific Conductance	71	0	68	-3
Sulfate	34	0	34	0
Total Dissolved Solids	90	0	90	0
ILRP Irrigation Wells				
Iron	1	0	1	0
Manganese	2	0	1	-1

4.2.3.2 Measurable Objectives and Interim Milestones

The measurable objectives for degradation of groundwater quality represent a target number of groundwater quality exceedances in the Subbasin. SGMA does not require the improvement of groundwater quality; therefore, the Forebay GSP includes measurable objectives identical to the minimum thresholds as defined in Table 8. Interim milestones are also set at the minimum threshold levels. Although there were 7 groundwater quality minimum threshold exceedances in WY 2022, the groundwater quality data already meet the 2027 interim milestones because these exceedances are not a result of GSA groundwater management actions.

4.2.3.3 Undesirable Result

The degradation of groundwater quality undesirable result is a quantitative combination of groundwater quality minimum threshold exceedances. Any groundwater quality degradation as a direct result of GSP implementation is unacceptable. Some groundwater quality changes are expected to occur independent of SGMA activities; because these changes are not related to SGMA activities they do not constitute an undesirable result. The degradation of groundwater quality undesirable result is:

> *Future or new minimum thresholds exceedances are caused by a direct result of GSA groundwater management action(s), including projects or management actions and regulation of groundwater extraction.*

Table 8. shows 7 constituents exceeded their minimum thresholds in WY 2022. Since SVBGSA and ASGSA have yet to implement any projects or management actions in the Subbasin, these exceedances are not due to GSA actions. Therefore, the groundwater quality exceedances would not cause an undesirable result. The groundwater quality minimum threshold exceedances, compared with the undesirable result, are shown on Figure 19. If a value is in the shaded red area due to GSA actions, it would constitute an undesirable result. This graph is updated annually with new data to demonstrate the sustainability indicator's direction toward sustainability.

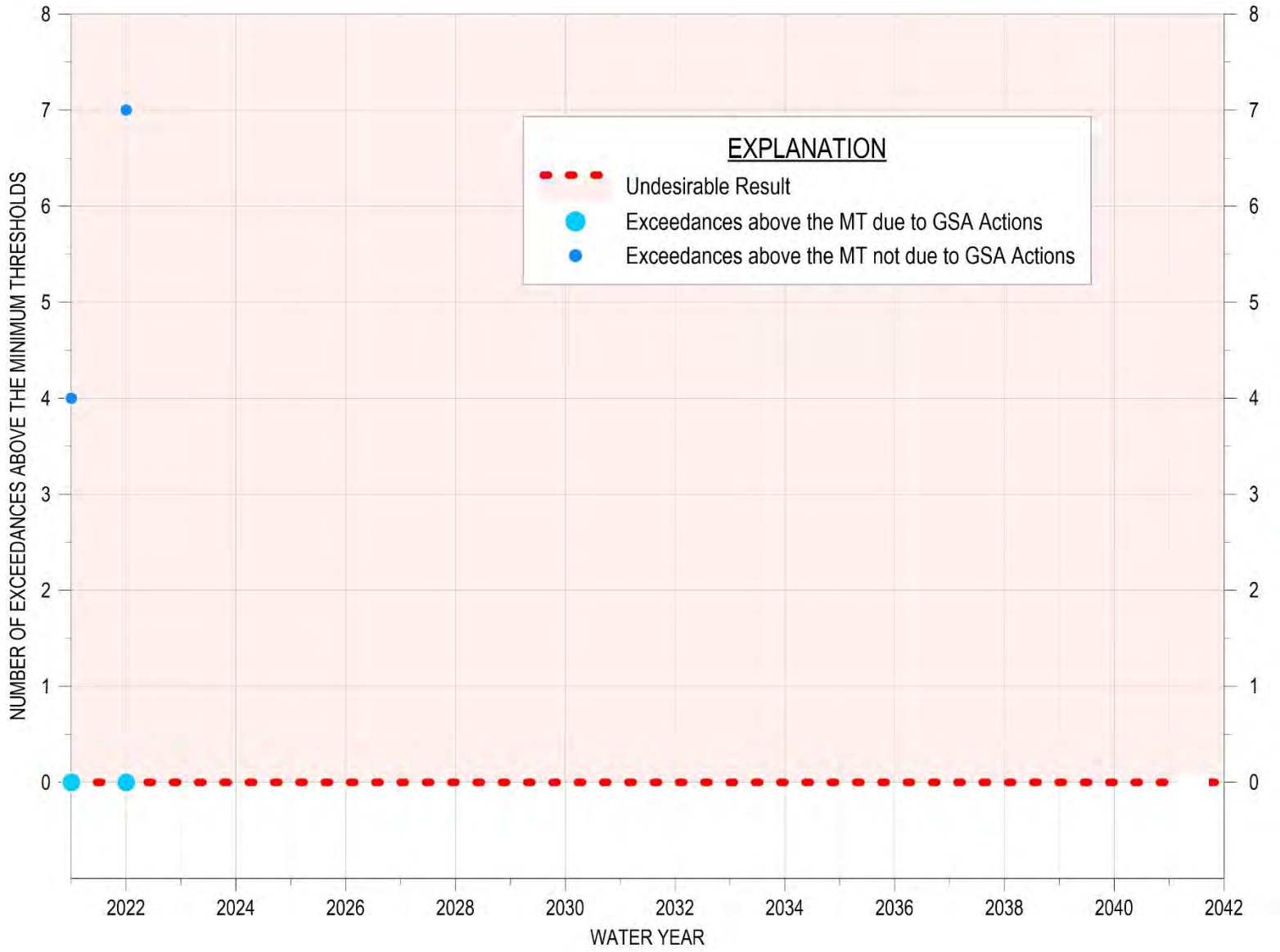

Figure 19. Groundwater Quality Minimum Threshold Exceedances Compared to the Undesirable Result

4.2.4 Land Subsidence SMC

4.2.4.1 Minimum Thresholds

Accounting for measurement errors in the InSAR data, the minimum threshold for land subsidence in the GSP is zero net long-term subsidence, with no more than 0.1 foot per year of estimated land movement to account for InSAR errors. Section 8.9.2.1 of the Forebay Subbasin GSP describes the information and methodology used to establish minimum thresholds for subsidence. A single minimum threshold is set for the entire Subbasin. Annual subsidence data from October 2021 to October 2022 demonstrated to be less than the minimum threshold of 0.1 foot per year, as shown on Figure 15.

4.2.4.2 Measurable Objectives and Interim Milestones

The measurable objectives for land subsidence represent target subsidence rates in the Subbasin. Because the minimum thresholds of zero net long-term subsidence are the best achievable outcome, the measurable objectives are identical to the minimum thresholds: zero net long-term subsidence, with no more than 0.1 foot per year of estimated land movement to account for InSAR errors. Figure 15 demonstrates that data from October 2021 to October 2022 showed less than the measurable objective of no more than 0.1 foot per year of measured subsidence is being met. The interim milestones are identical to minimum threshold of 0.1 foot per year. The latest subsidence data shows that the 2027 subsidence interim milestone is already being met.

4.2.4.3 Undesirable Result

The land subsidence undesirable result is a quantitative combination of subsidence minimum threshold exceedances. For the Forebay Subbasin, no long-term subsidence is acceptable. Therefore, the land subsidence undesirable result is:

> *There is an exceedance of the minimum threshold for land subsidence due to lowered groundwater elevations.*

Data from October 2021 to October 2022 showed subsidence was below the minimum threshold of 0.1 foot per year. The latest land subsidence data, therefore, does not lead to an undesirable result. Maximum annual measured subsidence in the Subbasin, compared with the subsidence undesirable result is shown on Figure 20. If a value is in the shaded red area, it would constitute an undesirable result.

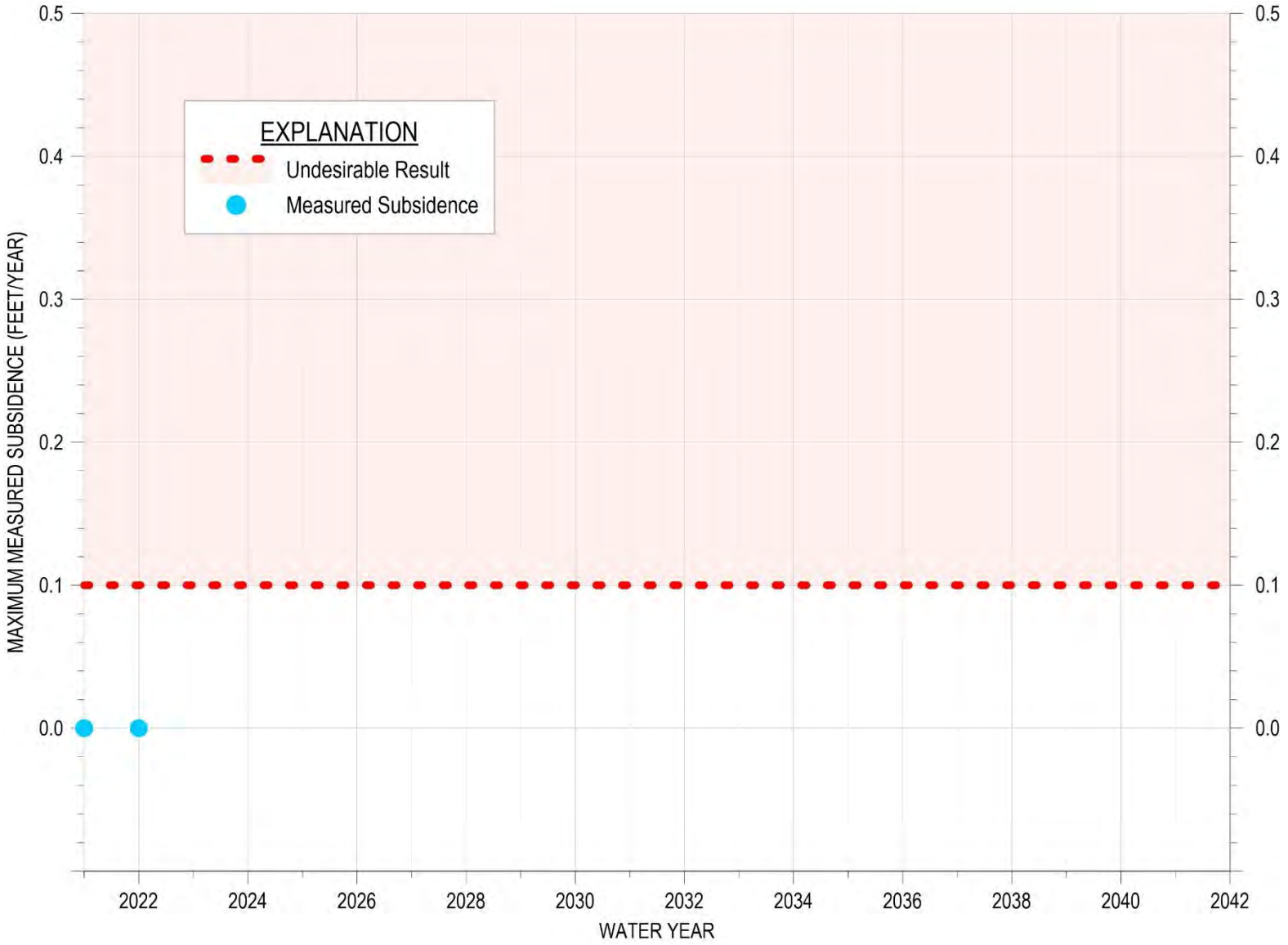

Figure 20. Maximum Measured Subsidence Compared to the Undesirable Result

4.2.5 Depletion of Interconnected Surface Water SMC

4.2.5.1 Minimum Thresholds

As described in Section 8.10.2.1 of the GSP, the minimum thresholds for depletion of ISW are established by proxy using shallow groundwater elevations and are established to maintain consistency with chronic lowering of groundwater elevation minimum thresholds. ISW minimum thresholds were set to December 2015 shallow groundwater elevations and are included in Table 9. Shallow groundwater elevation data are color-coded on this table: red cells mean the groundwater elevation is below the minimum threshold, yellow cells mean the groundwater elevation is above the minimum threshold but below the measurable objective, and green cells mean the groundwater elevation is above the measurable objective. In WY 2022, none of the existing monitoring wells exceeded their minimum threshold. When the new monitoring well is drilled, SMC will be determined using interpolated values from the groundwater elevation contour maps.

Minimum thresholds are not established for times when flow in a river is due to conservation releases from a reservoir. Conservation releases are meant to recharge the Salinas Valley groundwater basin; therefore, depletion of conservation releases is a desired outcome, and the minimum thresholds and measurable objectives do not apply to these flows.

Table 9. Shallow Groundwater Elevation Data, ISW Minimum Thresholds, and ISW Measurable Objectives (in feet)

Below minimum threshold		Above minimum threshold		Above measurable objective
Monitoring Site	**Minimum Threshold**	**WY 2022 Groundwater Elevations**	**Interim Milestone at Year 2027**	**Measurable Objective (goal to reach at 2042)**
17S/06E-33R02**	142.0	151.3	160.8	159.7
18S/06E-03P01	147.0	155.5	168.1	170.3
18S/07E-32G02	186.6	193.3	209.4	214.1*

*Groundwater elevation estimated.

**Monitoring well is also an RMS for chronic lowering of groundwater elevations, and SMC for groundwater level and ISW are identical.

4.2.5.2 Measurable Objectives and Interim Milestones

The measurable objectives for depletion of ISW target groundwater elevations are higher than the minimum thresholds. The measurable objectives are established to maintain consistency with the chronic lowering of groundwater elevation minimum thresholds, which are also established based on groundwater elevations. The measurable objectives for existing monitoring wells are listed in Table 9 and are set to 2015 shallow groundwater elevations plus 75% of the distance between 2015 and 1998 groundwater elevations. None of the wells surpassed their measurable objective in WY 2022.

To show progress toward measurable objectives, DWR assesses interim milestones at 5-year intervals. Table 9 also lists the 2027 interim milestones, which are set at 5-year intervals to help reach measurable objectives. In WY 2022, none of the RMSs had groundwater elevations higher than the 2027 interim milestones.

4.2.5.3 Undesirable Result

The depletion of ISW undesirable result is a quantitative combination of minimum threshold exceedances. The undesirable result for depletion of ISW is:

> *There is an exceedance of the minimum threshold in a shallow groundwater monitoring well used to monitor interconnected surface water.*

Streamflow depletion in the Subbasin is complicated by many factors, such as reservoir releases, recharge of the aquifer from streamflow, losses to vegetation, and ET. The ISW SMC applies to depletion of ISW from groundwater use. For SGMA compliance purposes, the default assumption is that any depletions of surface water beyond the level of depletion that occurred prior to 2016, as evidenced by reduction in groundwater levels, represent depletions that are significant and unreasonable. Any additional depletions of surface water flows caused by groundwater conditions in excess of conditions as they were in 2016 would likely be an undesirable result that must be addressed under SGMA. There is currently no biological opinion or habitat conservation plan that indicates additional protection is needed for species protected under the Endangered Species Act; however, if it is determined that additional protection is needed and streamflow loss is due not to surface water flows but to groundwater extraction, SVBGSA will adapt as necessary to adhere to environmental laws.

Table 9 shows that there are no exceedances of the ISW minimum thresholds; therefore, the WY 2022 shallow groundwater elevations do not cause an undesirable result. The ISW minimum threshold exceedances, compared with the undesirable result is shown on Figure 21. If a value is in the shaded red area, it would constitute an undesirable result. This graph is updated annually with new data to demonstrate the sustainability indicator's direction toward sustainability.

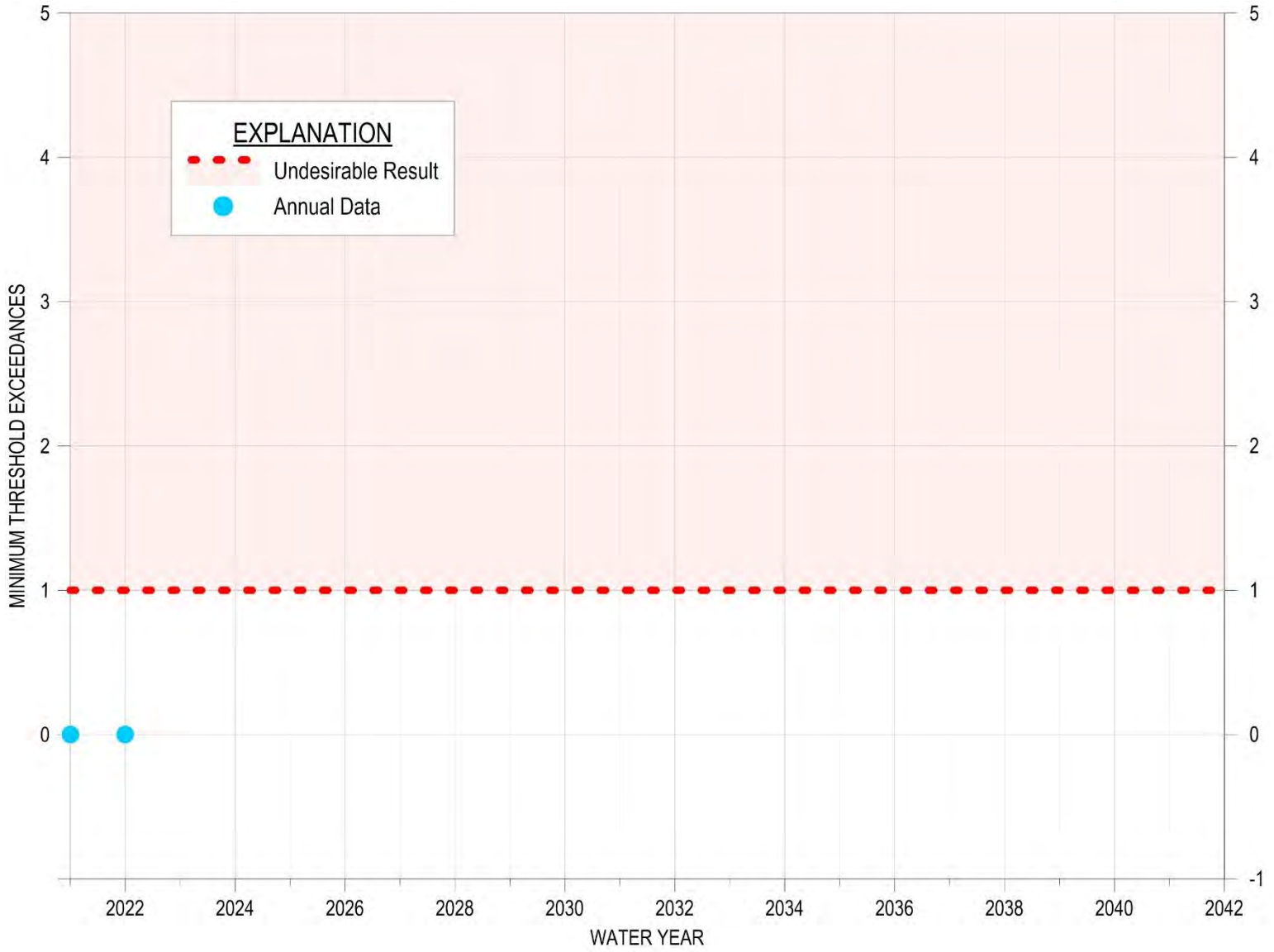

Figure 21. Shallow Groundwater Elevation Exceedances Compared to the Undesirable Result

5 CONCLUSION

This 2022 Annual Report updates data and information for the Forebay Subbasin GSP from WY 2021 to WY 2022 with the best available data. It covers GSP implementation activities up to September 30, 2022. All GSP implementation and annual reporting meets the regulations set forth in the SGMA GSP Regulations.

Results show slight change in groundwater sustainability indicators when compared to the current conditions described in the GSP. WY 2022 was classified as dry-normal. Groundwater elevations decreased in WY 2022, with most wells showing elevations above their minimum thresholds but still below their measurable objectives. Change in groundwater storage, as measured by groundwater elevation changes, decreased from WY 2021 and WY 2022 but was greater than the minimum threshold. Groundwater quality data showed 7 exceedances of minimum thresholds, none of them due to GSA groundwater management actions. Negligible subsidence was observed in WY 2022. Finally, the existing shallow wells used to monitor depletion of ISW were all above their minimum thresholds.

Since GSP submittal, the SVBGSA has continued to actively engage stakeholders and has started activities to implement the GSP. The SVBGSA continues to convene its subbasin committees, Advisory Committee, and Board of Directors. It has also begun to fill data gaps and start implementing management actions in the Forebay Subbasin GSP.

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APPENDIX A. HYDROGRAPHS OF REPRESENTATIVE MONITORING SITE WELLS

Hydr_17S_05E-02N04 3
Hydr_17S_05E-03R50 4
Hydr_17S_05E-04R01 5
Hydr_17S_05E-06Q01 6
Hydr_17S_05E-08L02 7
Hydr_17S_05E-09R01 8
Hydr_17S_05E-27A01 9
Hydr_17S_05E-36F02 10
Hydr_17S_06E-16N01 11
Hydr_17S_06E-19D01 12
Hydr_17S_06E-27K01 13
Hydr_17S_06E-29C01 14
Hydr_17S_06E-33R01 15
Hydr_17S_06E-33R02 16
Hydr_17S_06E-35J01 17
Hydr_18S_06E-01E01 18
Hydr_18S_06E-02N01 19
Hydr_18S_06E-05R03 20
Hydr_18S_06E-06M01 21
Hydr_18S_06E-11J01 22
Hydr_18S_06E-16L01 23
Hydr_18S_06E-22B02 24
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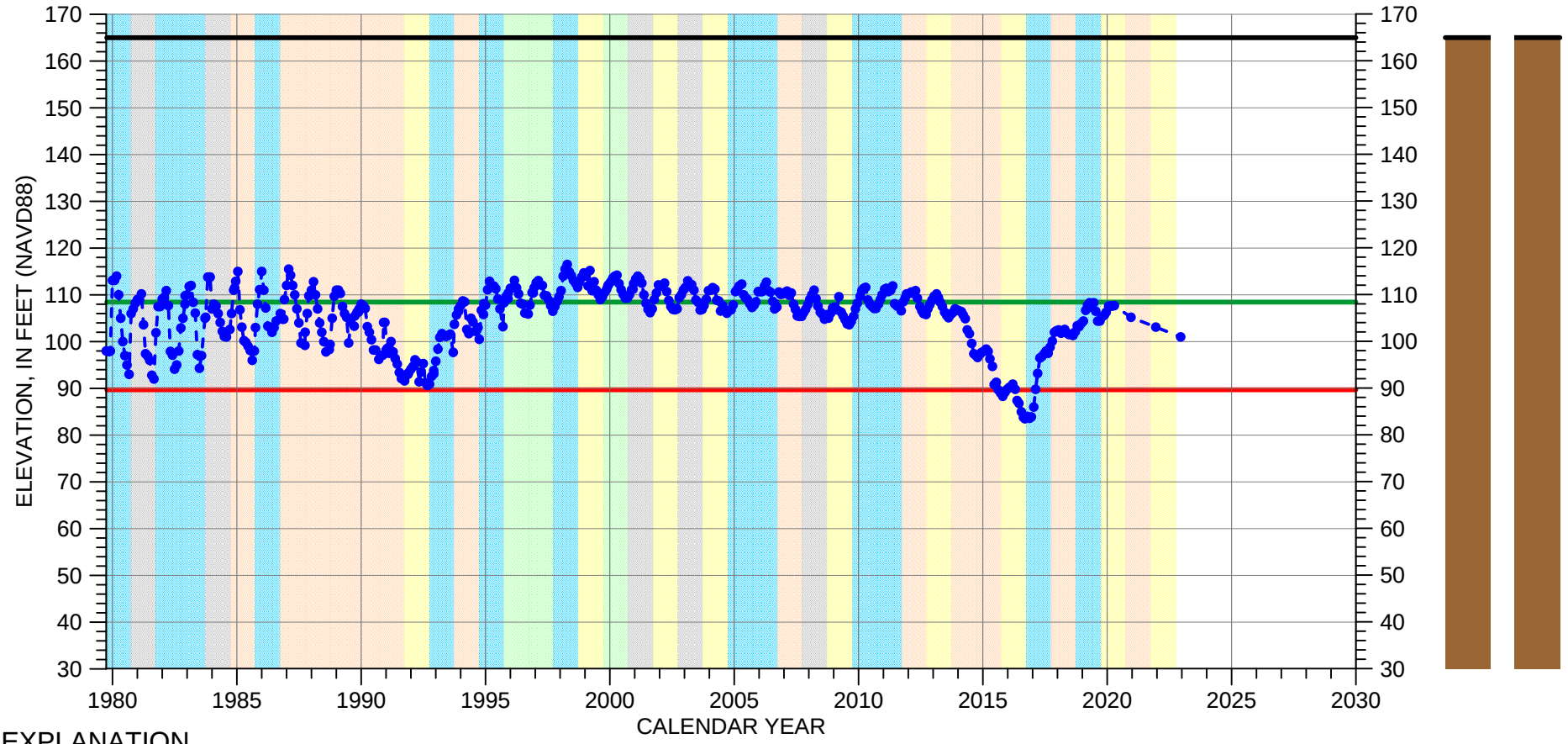
Hydr_18S_06E-24M01 27
Hydr_18S_06E-24M02 28
Hydr_18S_06E-25F01 29
Hydr_18S_06E-34B01 30
Hydr_18S_06E-35F01 31
Hydr_18S_06E-35F02 32

Hydr_18S_07E-19G02 33
Hydr_18S_07E-20K01 34
Hydr_18S_07E-28N01 35
Hydr_19S_06E-01H01 36
Hydr_19S_06E-11C01 37
Hydr_19S_07E-04Q01 38
Hydr_19S_07E-05B02 39
Hydr_19S_07E-10P01 40

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 17S/05E-02N04

Forebay Aquifer Subbasin

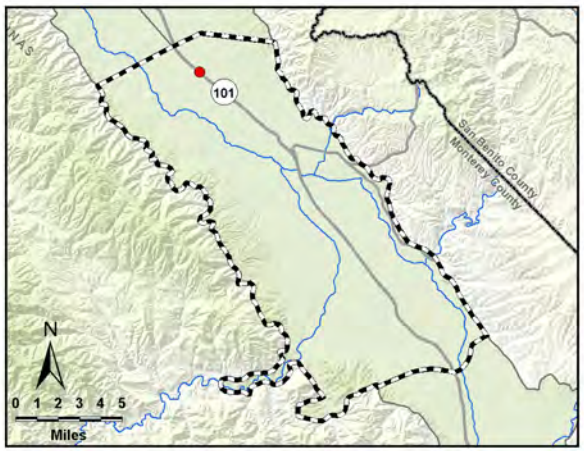


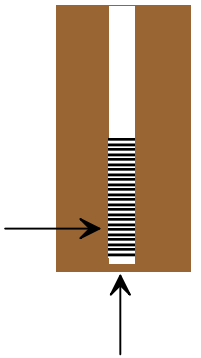
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET





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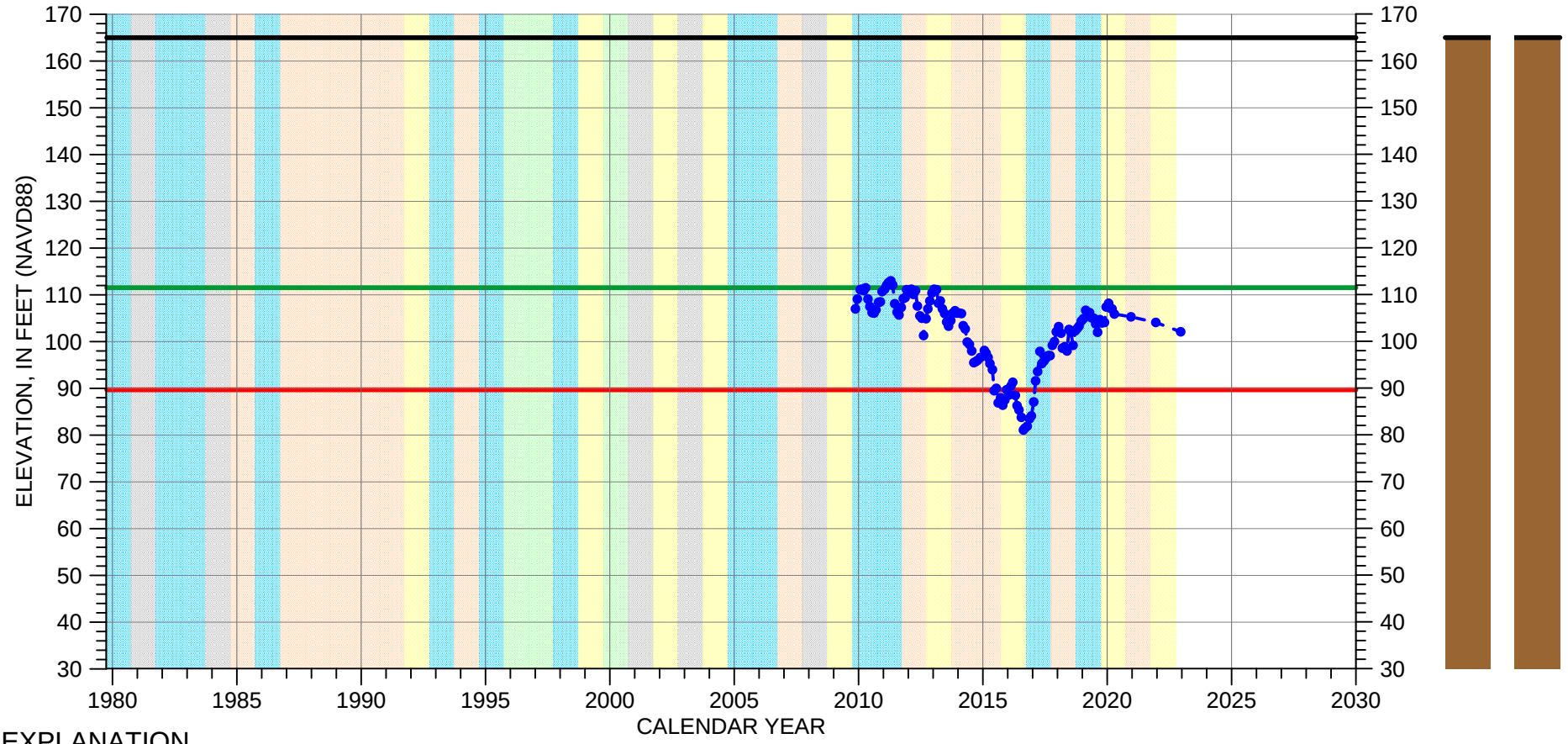
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 17S/05E-03R50

Forebay Aquifer Subbasin

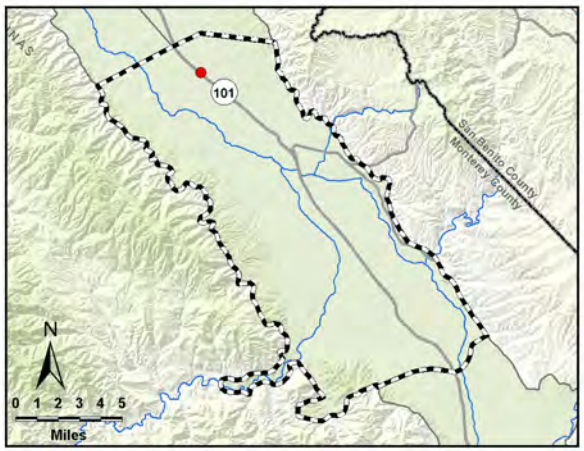


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



Perforated interval unknown

Well bottom -645 feet msl

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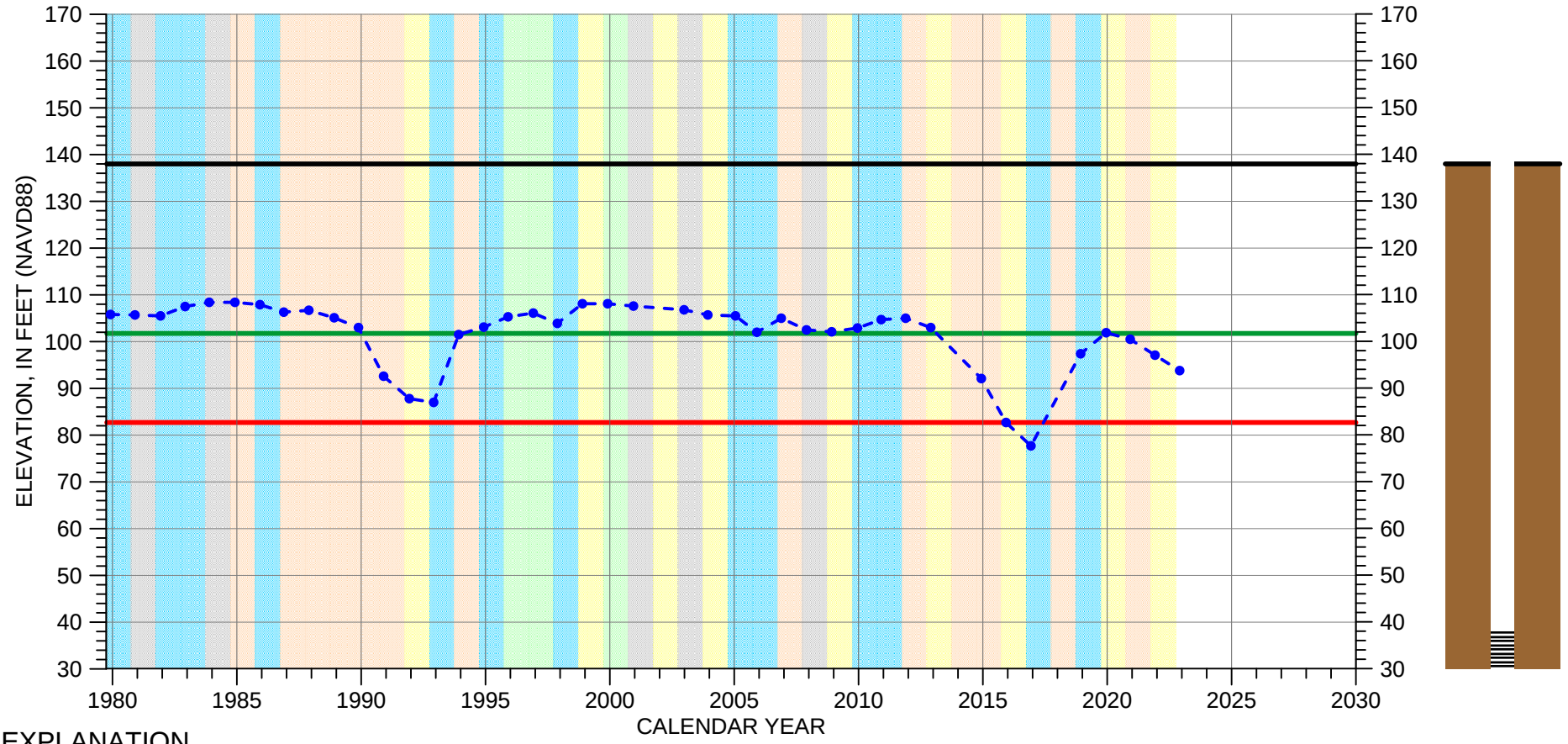
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 17S/05E-04R01

Forebay Aquifer Subbasin

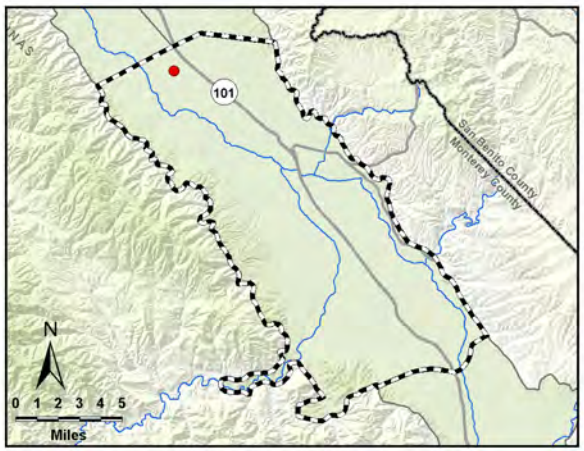


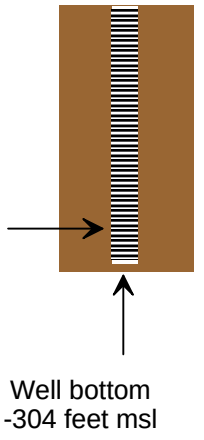
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET

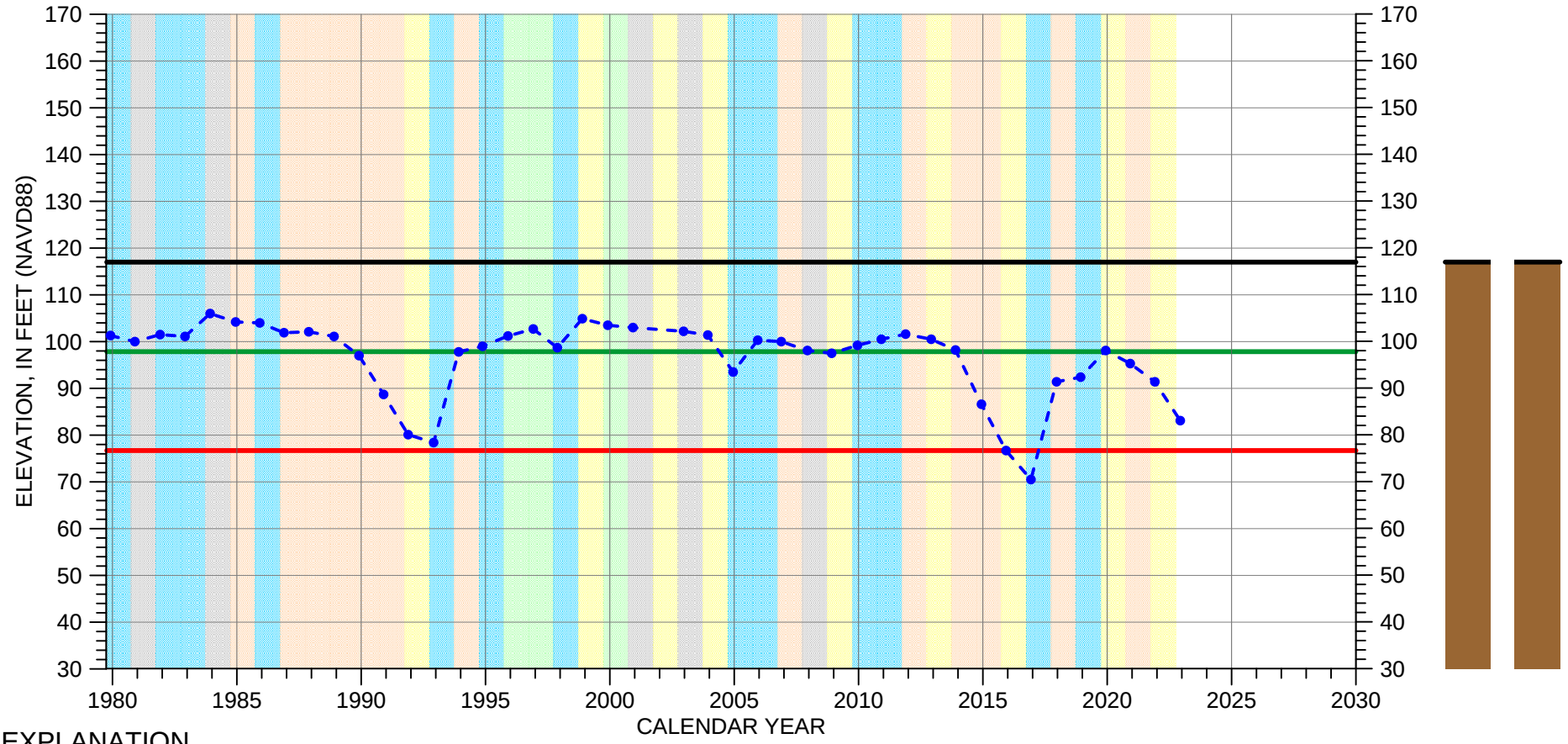




C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\17S_05E-04R01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 17S/05E-06Q01

Forebay Aquifer Subbasin

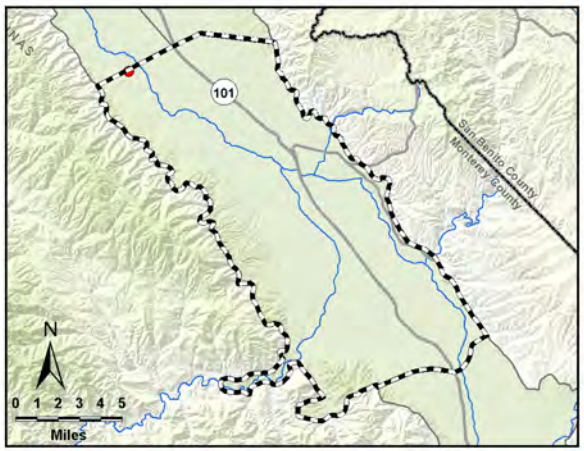


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

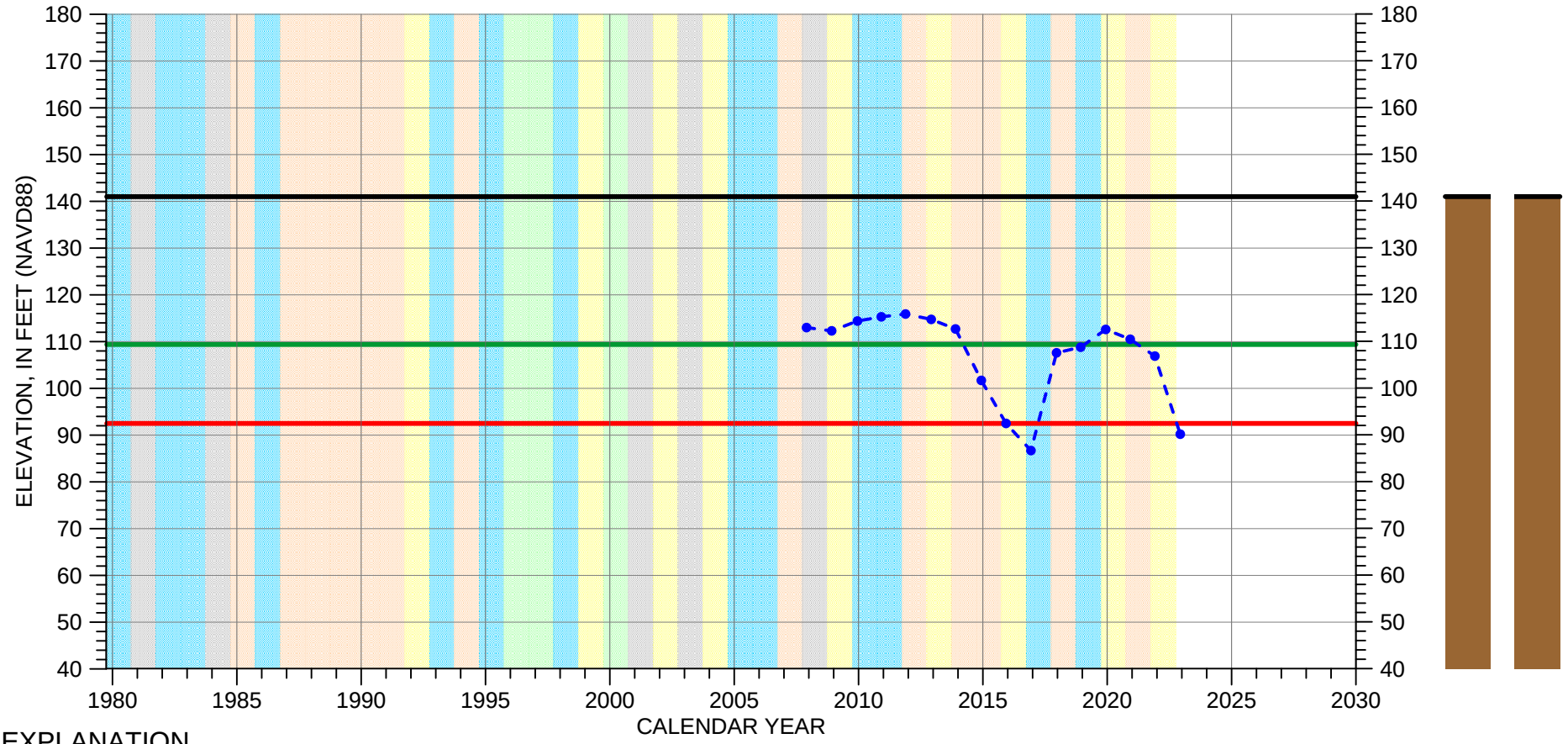
- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\17S_05E-06Q01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 17S/05E-08L02

Forebay Aquifer Subbasin

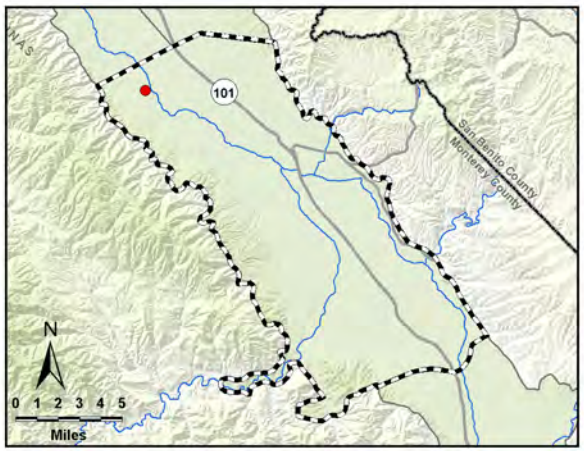


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

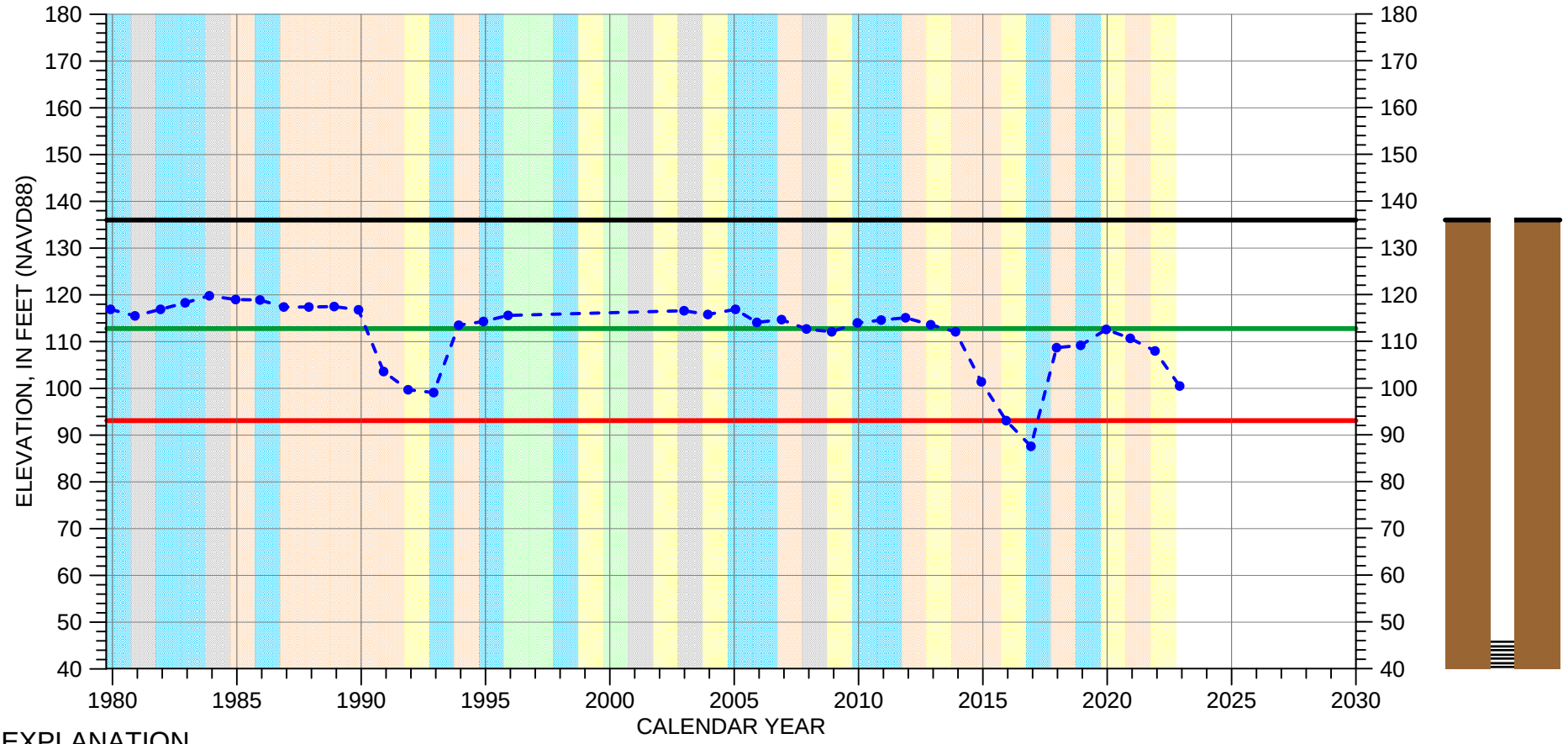
- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\17S_05E-08L02.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 17S/05E-09R01

Forebay Aquifer Subbasin

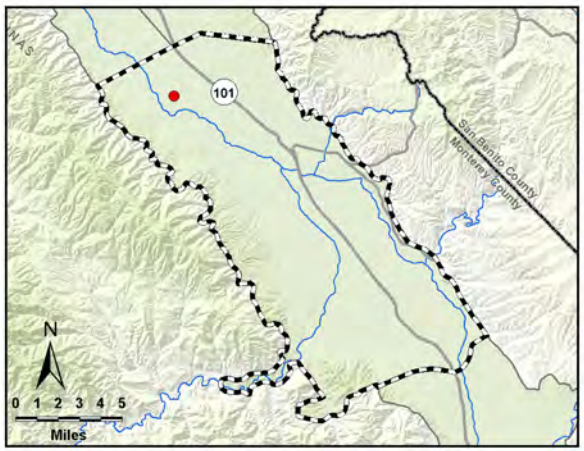


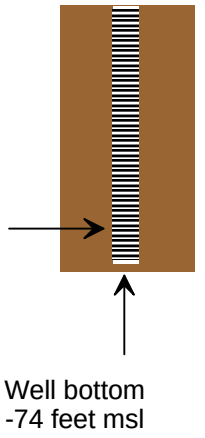
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET

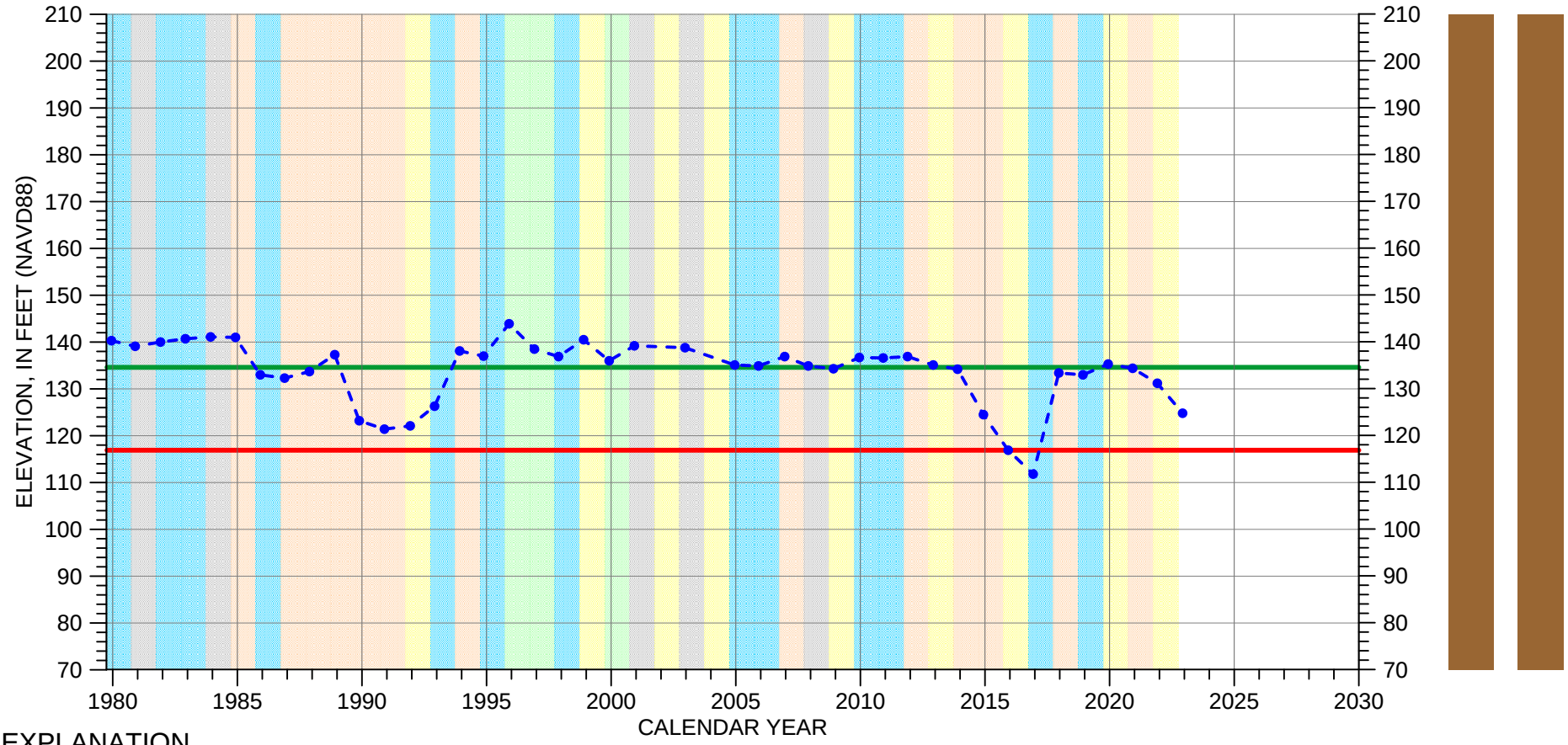




C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\17S_05E-09R01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 17S/05E-27A01

Forebay Aquifer Subbasin

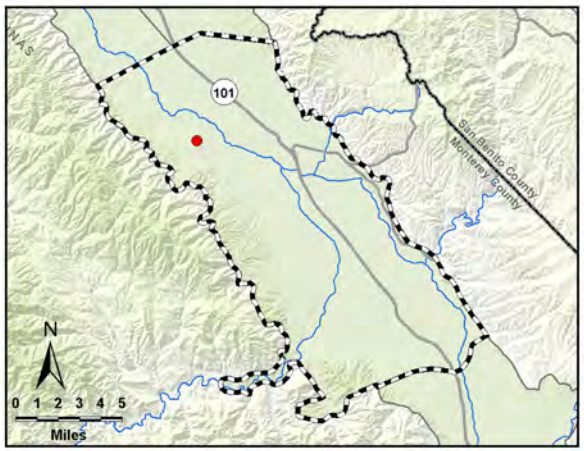


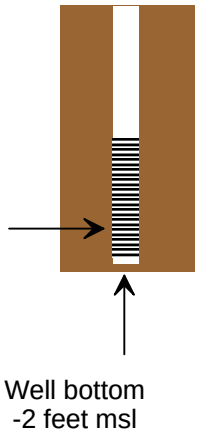
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (263 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET

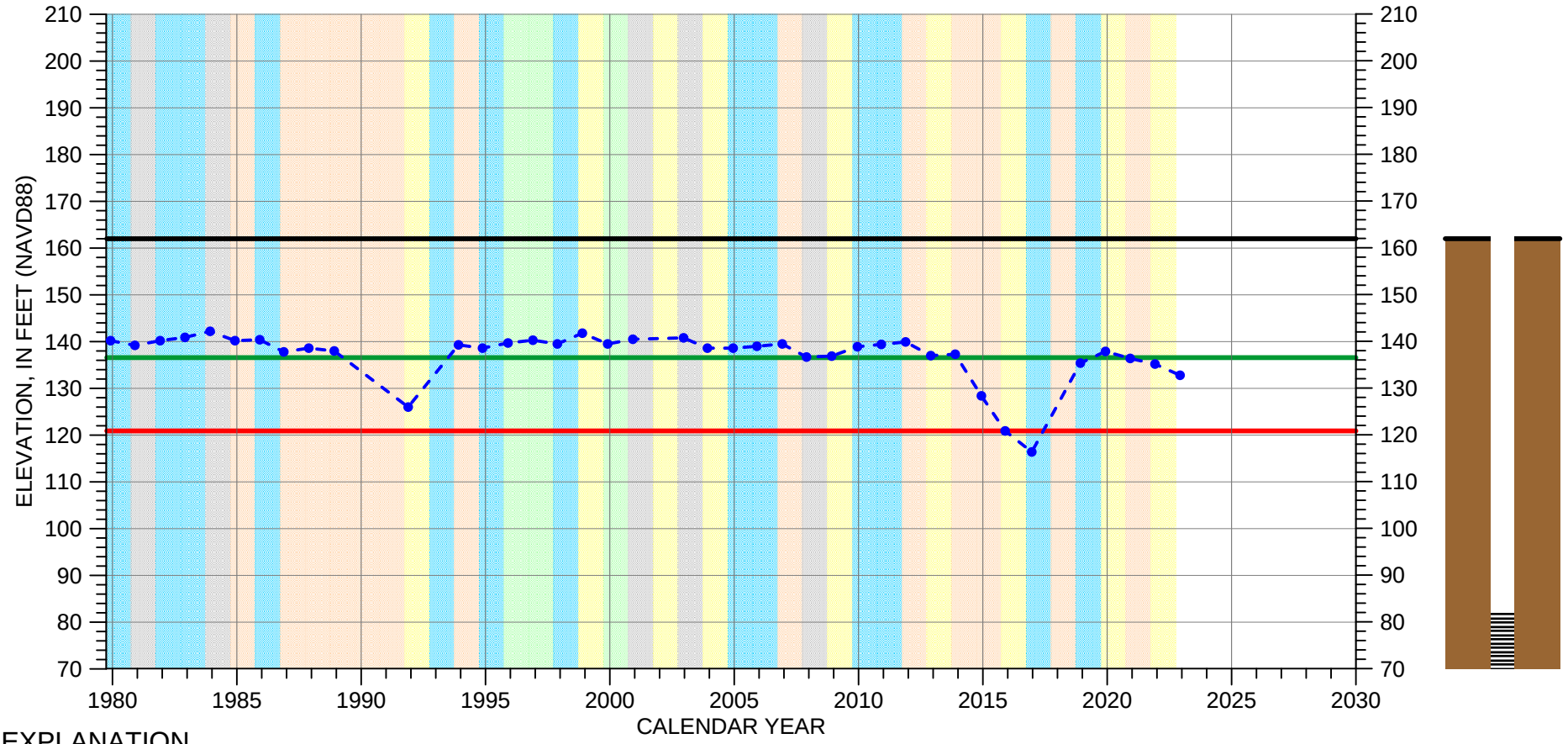




C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\17S_05E-27A01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 17S/05E-36F02

Forebay Aquifer Subbasin

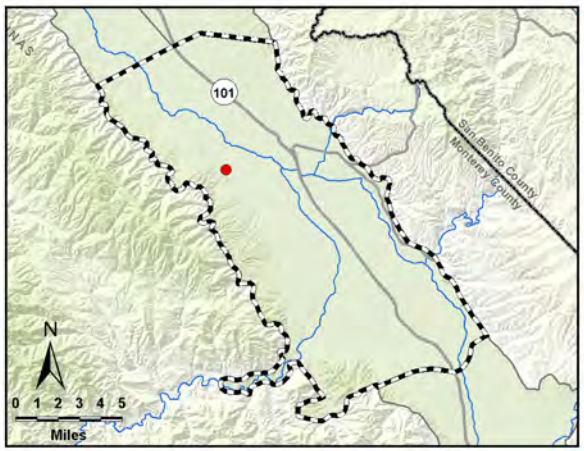


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

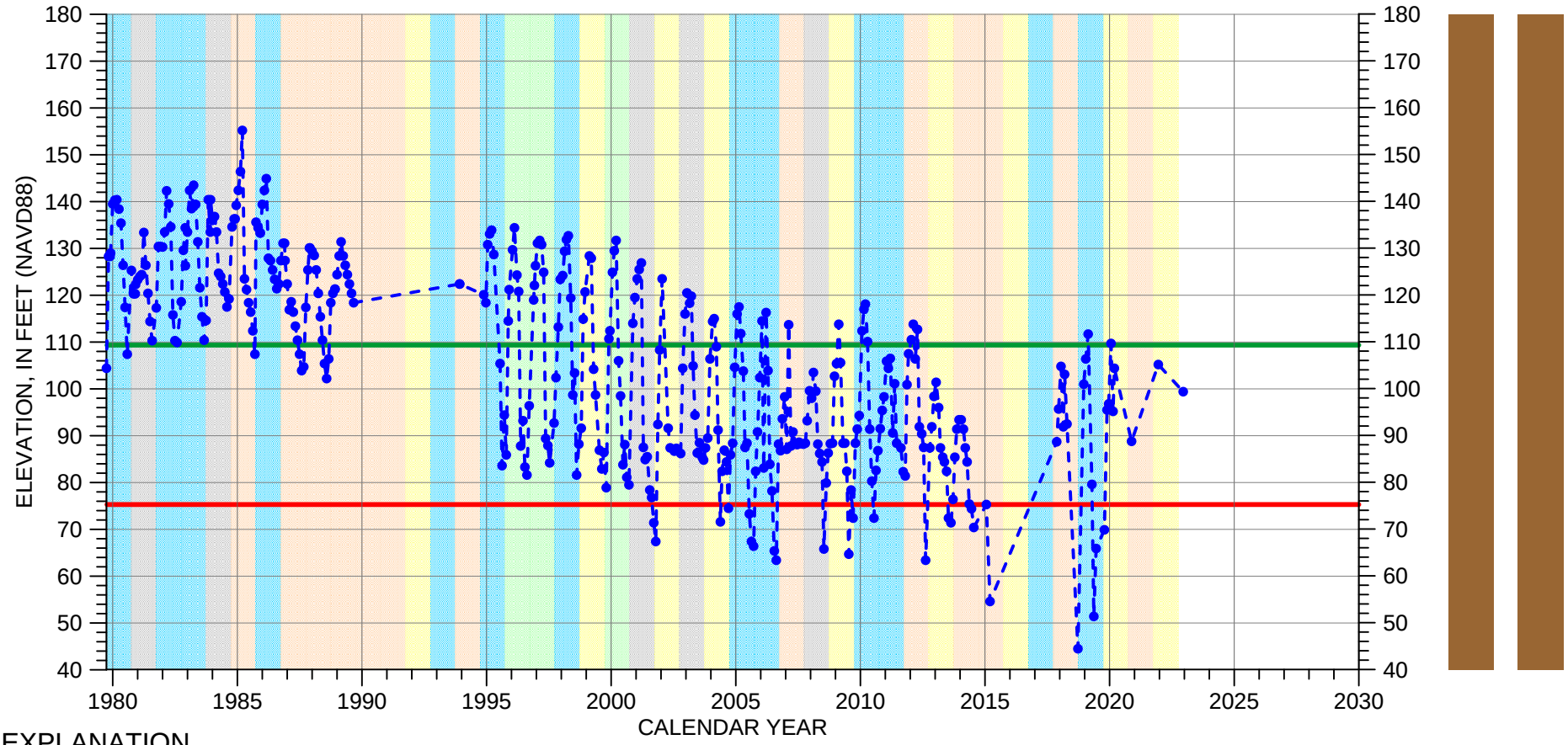
- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\17S_05E-36F02.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 17S/06E-16N01

Forebay Aquifer Subbasin

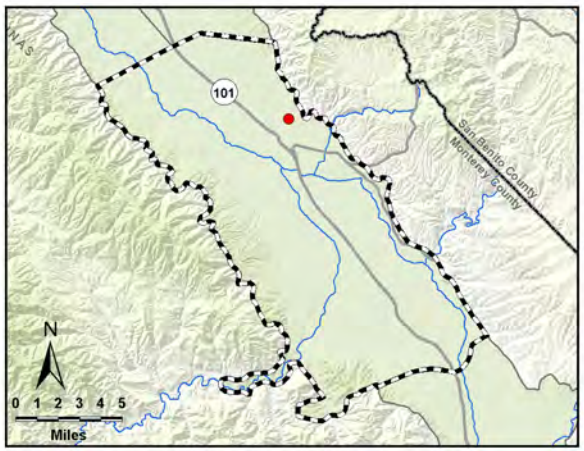


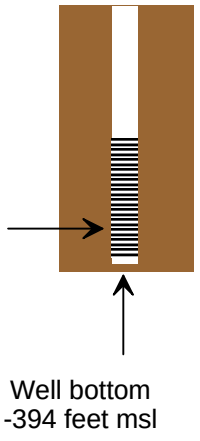
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (232 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET

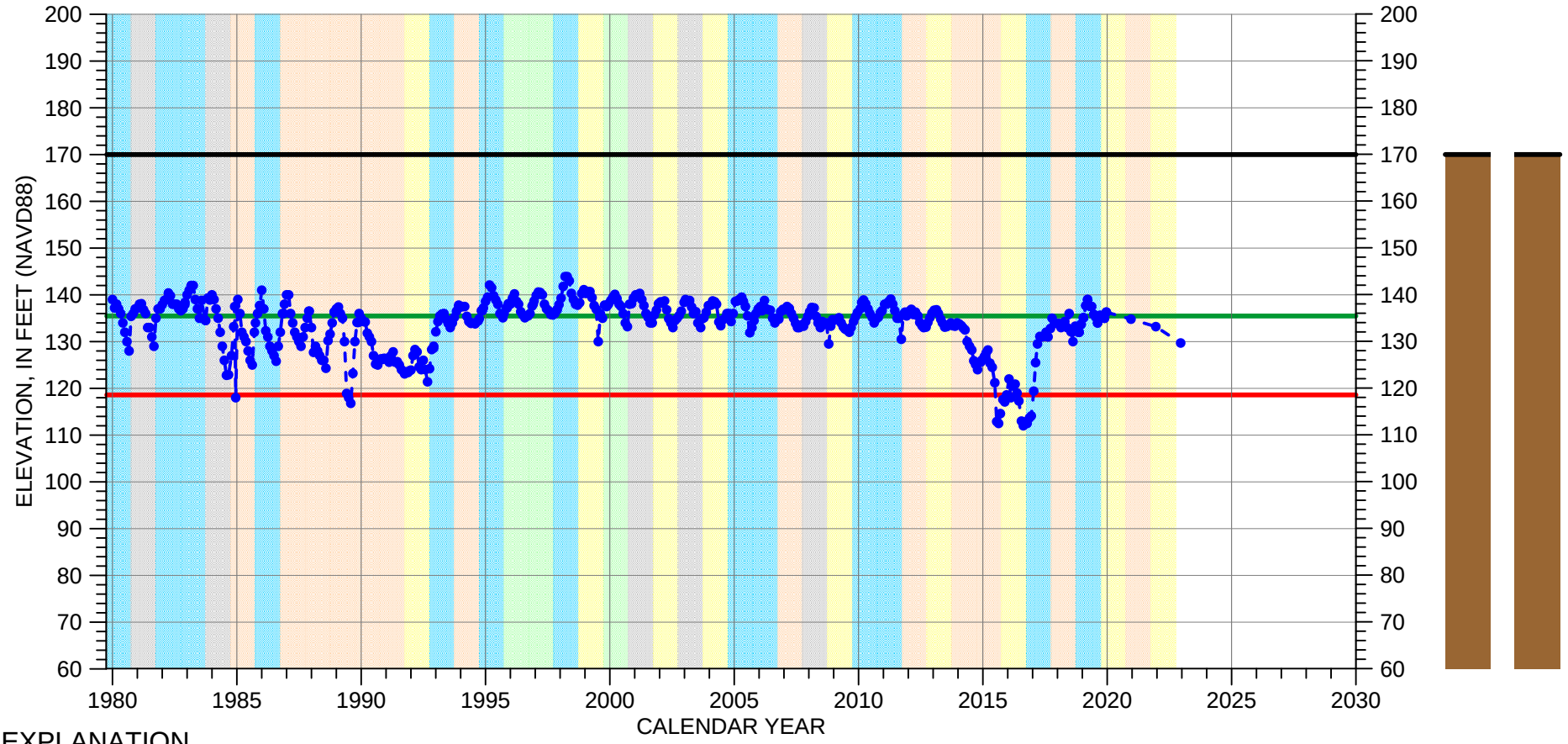




C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\17S_06E-16N01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 17S/06E-19D01

Forebay Aquifer Subbasin

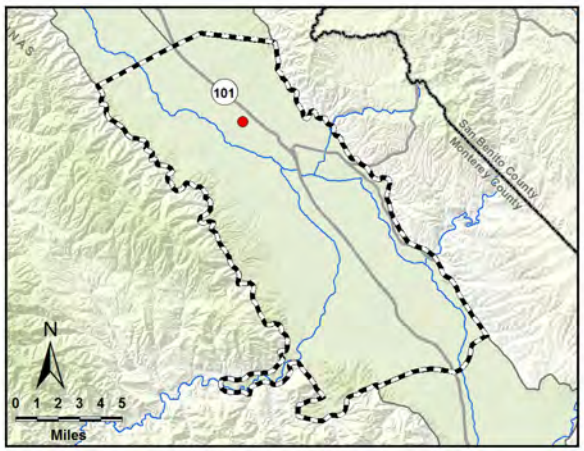


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



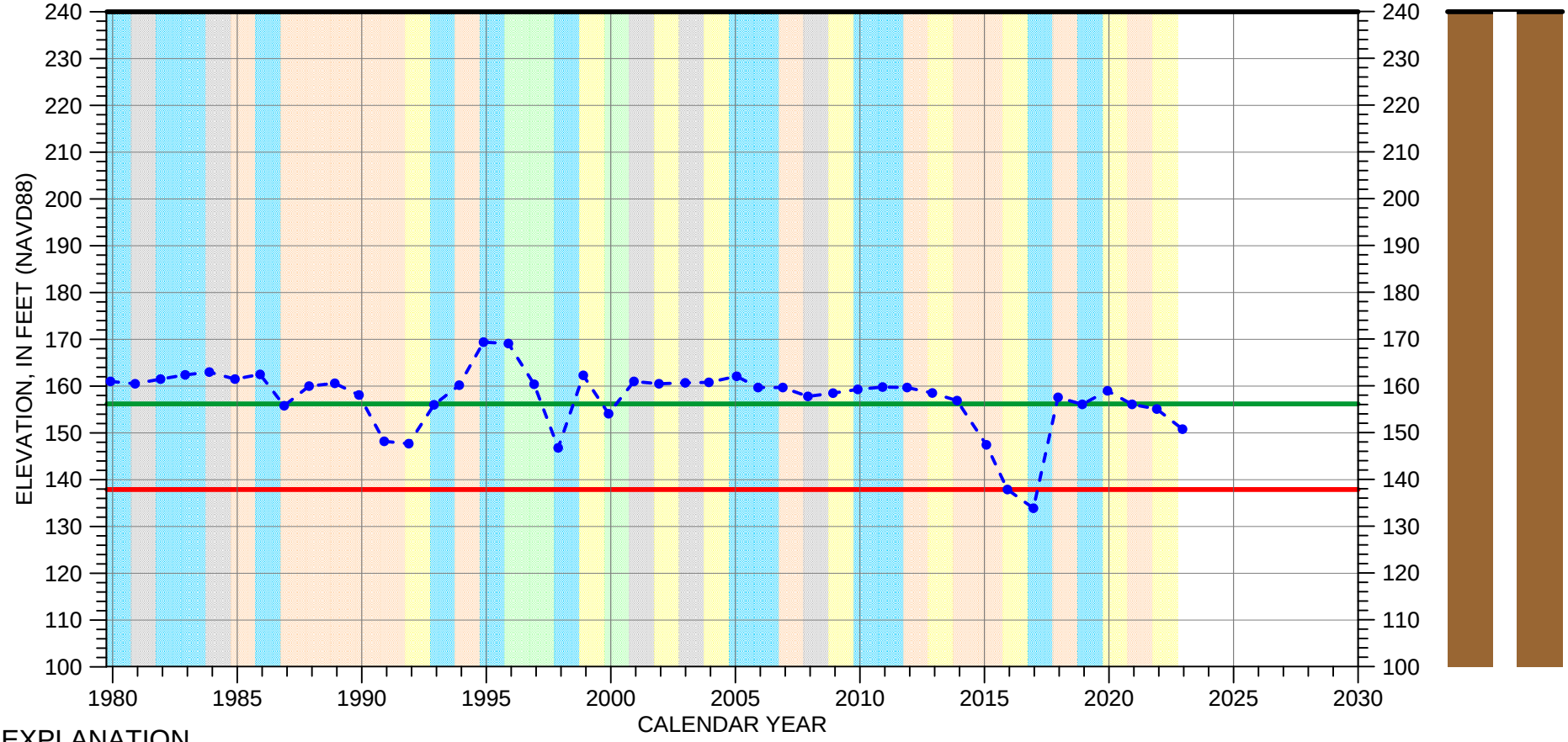
Perforated interval unknown

Well bottom -82 feet msl

C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\17S_06E-19D01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 17S/06E-27K01

Forebay Aquifer Subbasin



EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET

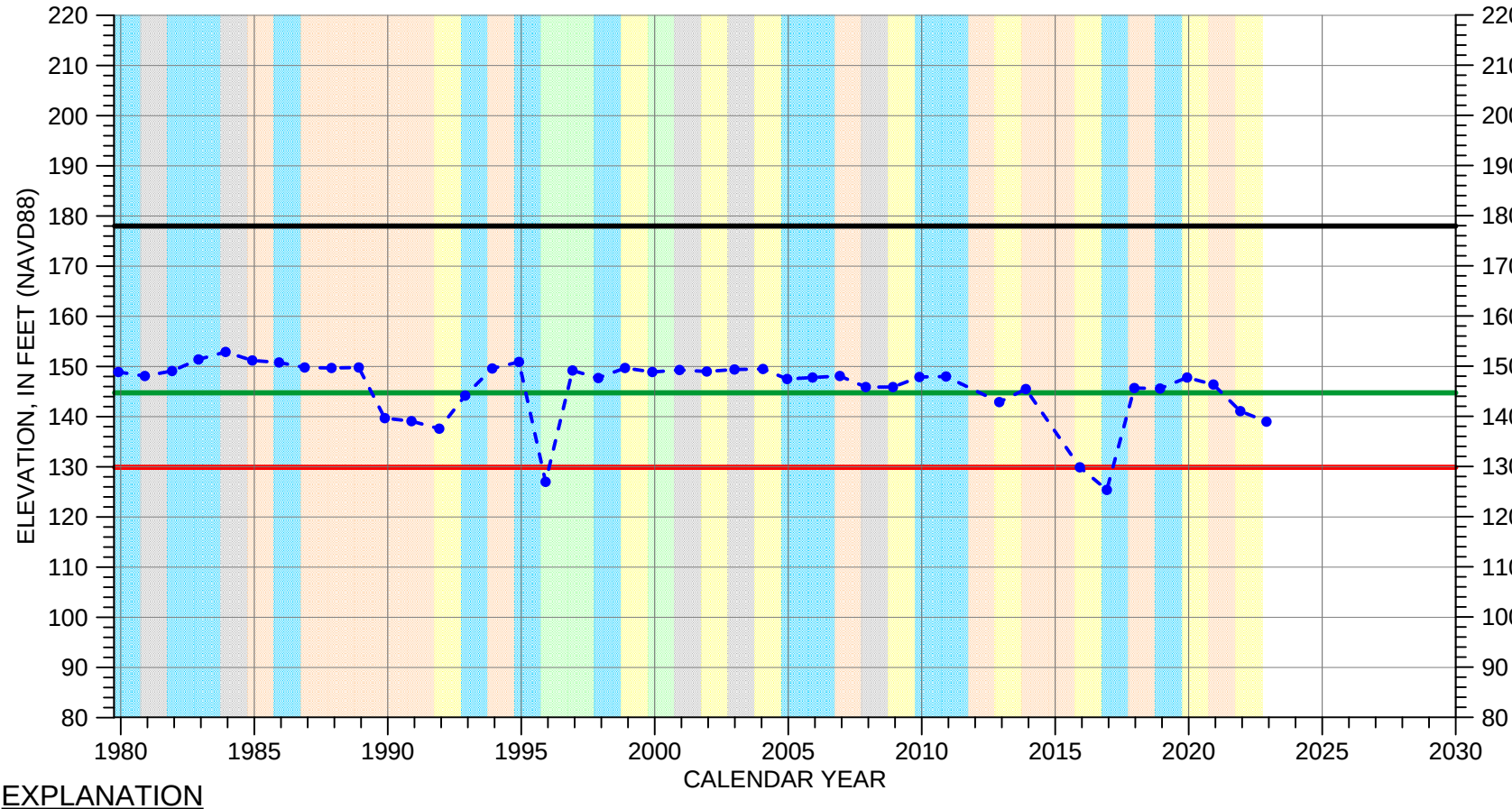
Perforated interval unknown

Well bottom -10 feet msl

C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\17S_06E-27K01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 17S/06E-29C01

Forebay Aquifer Subbasin

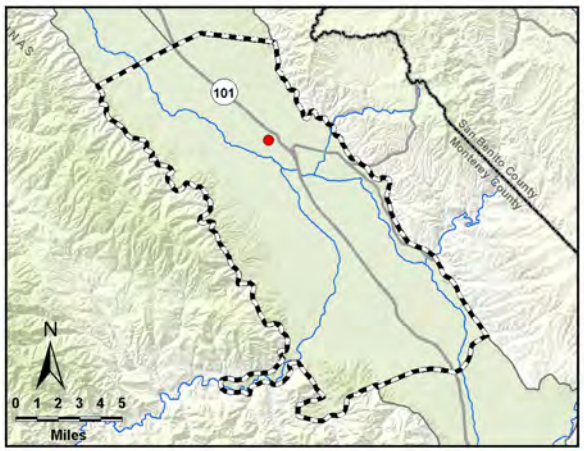


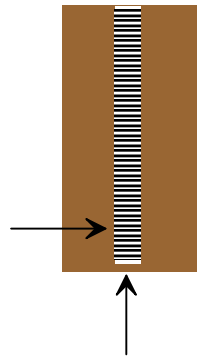
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET

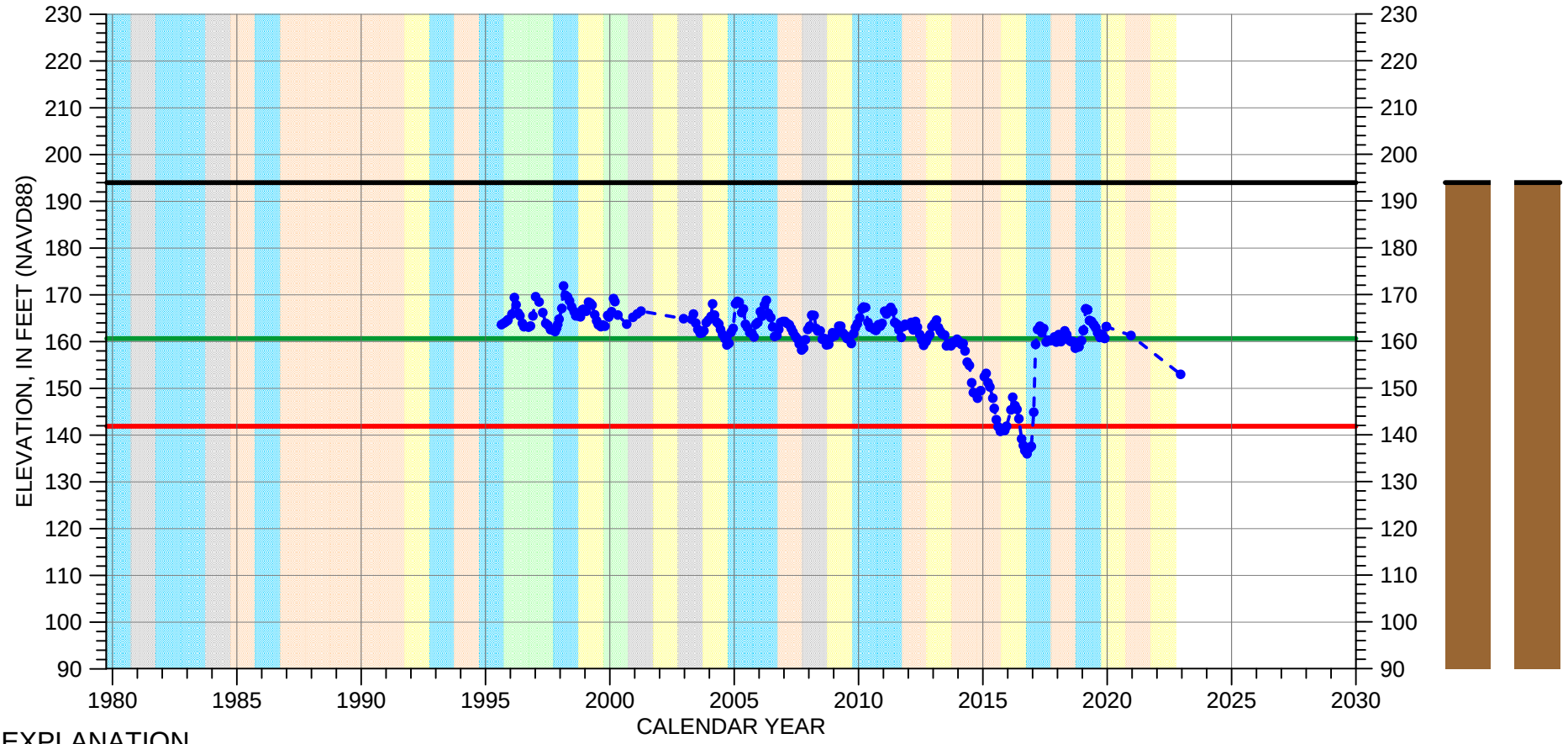




C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\17S_06E-29C01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 17S/06E-33R01

Forebay Aquifer Subbasin

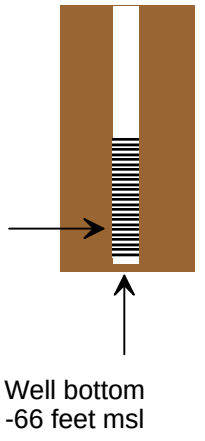


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

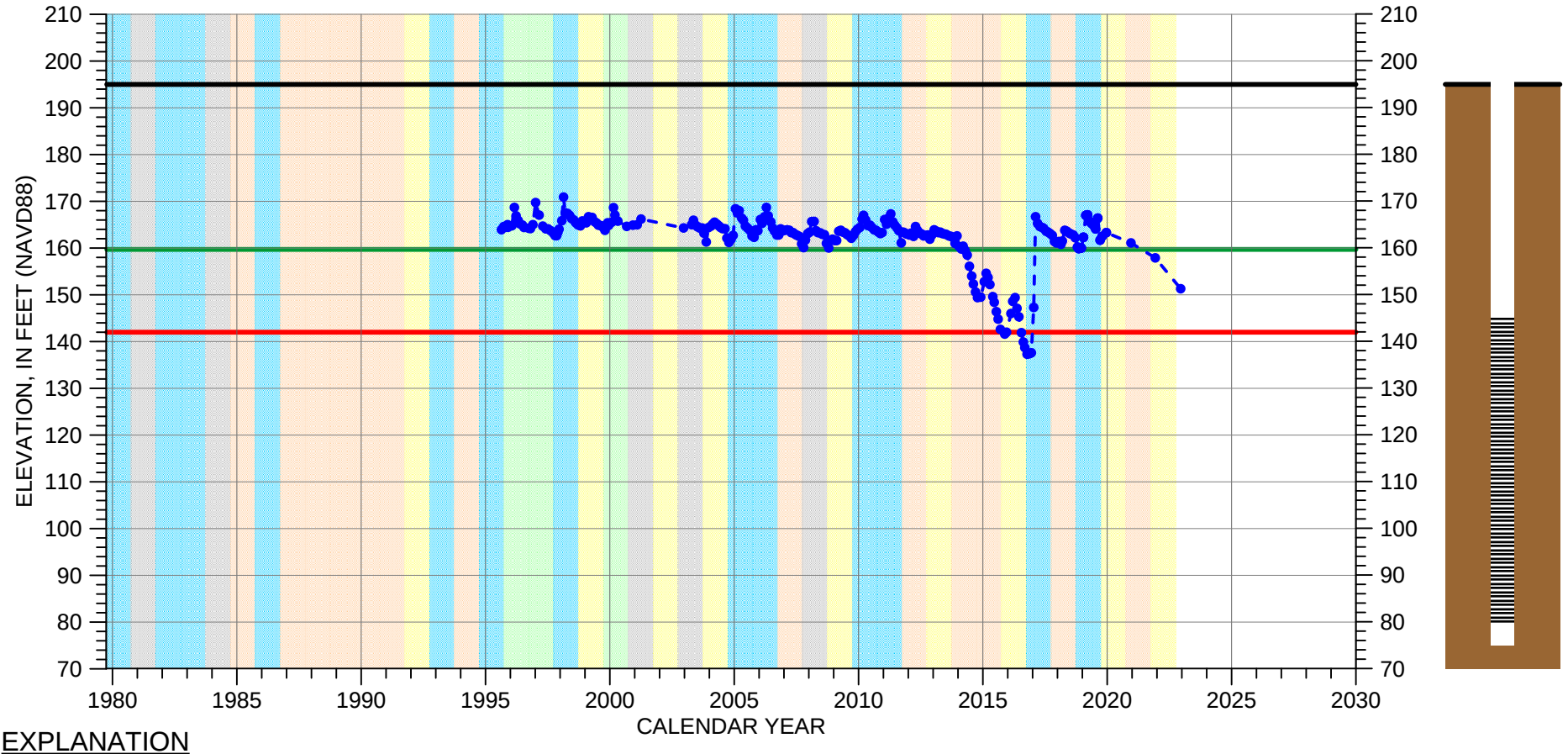
- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\17S_06E-33R01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 17S/06E-33R02

Forebay Aquifer Subbasin



EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

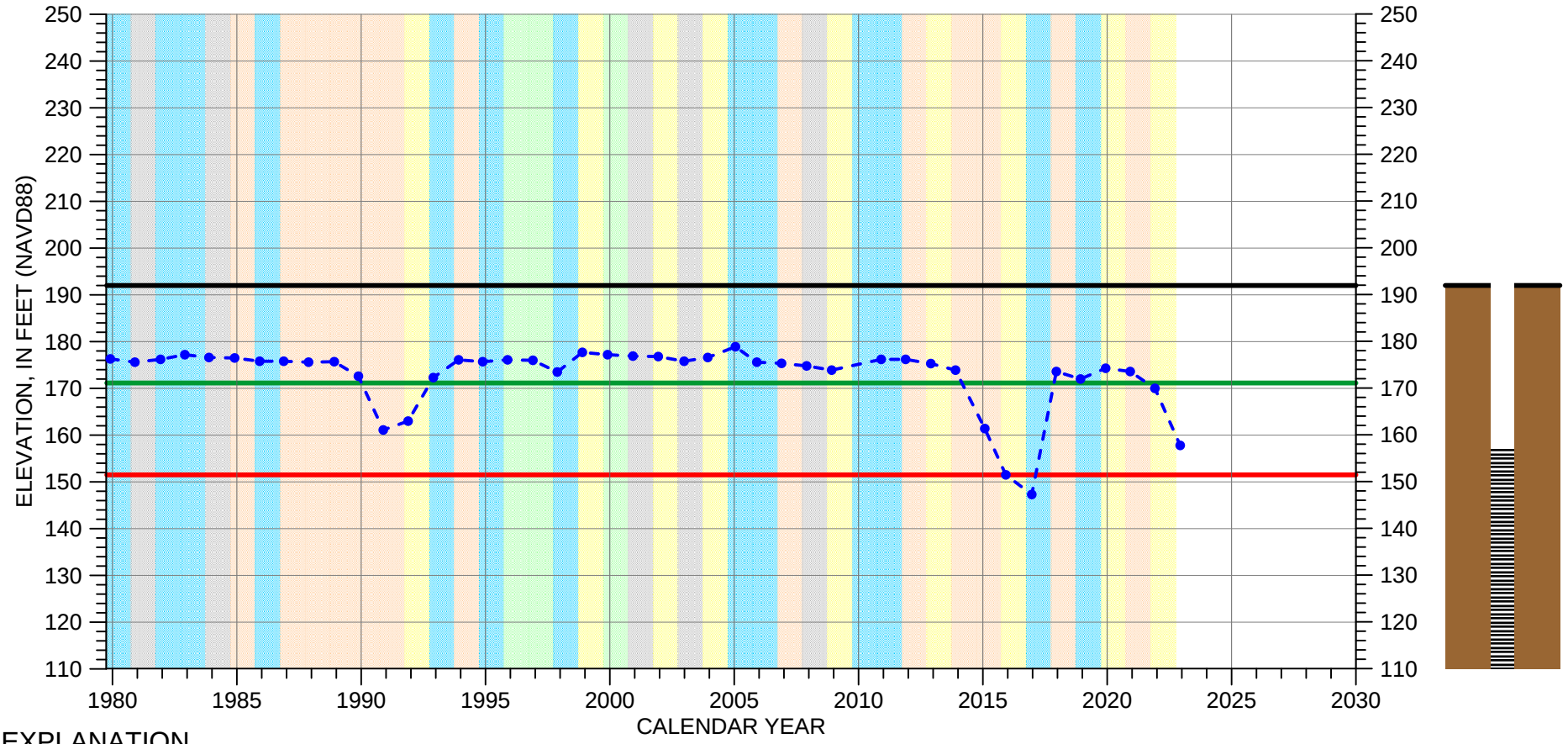
WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET

C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\17S_06E-33R02.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 17S/06E-35J01

Forebay Aquifer Subbasin

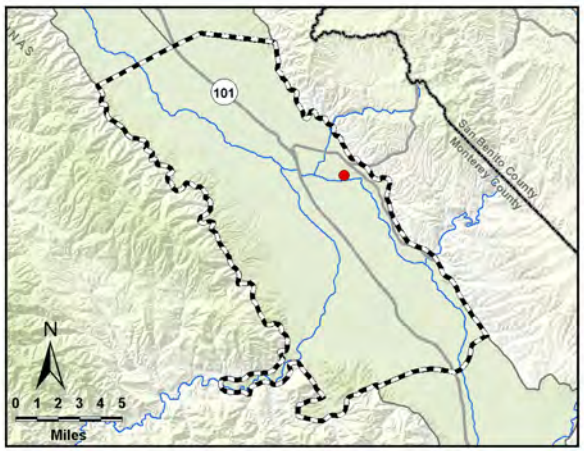


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

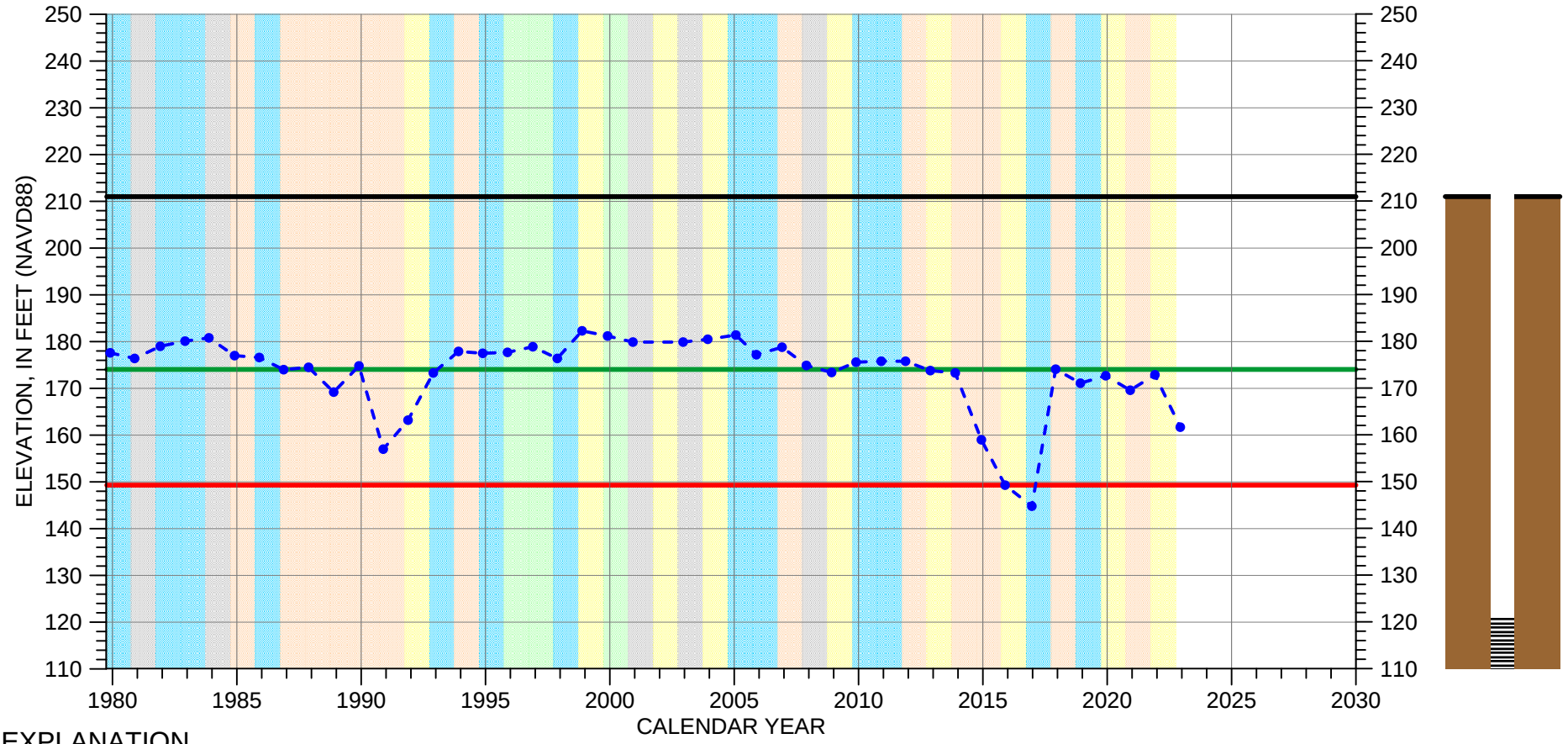
- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\17S_06E-35J01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 18S/06E-01E01

Forebay Aquifer Subbasin

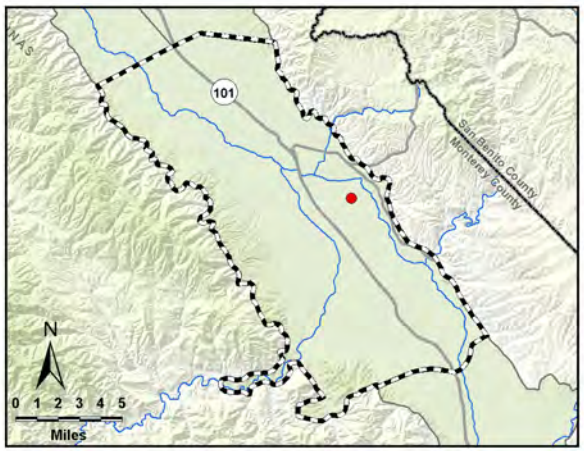


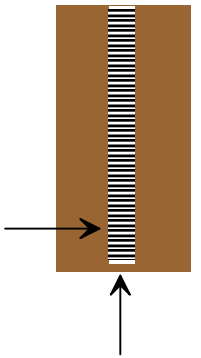
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET





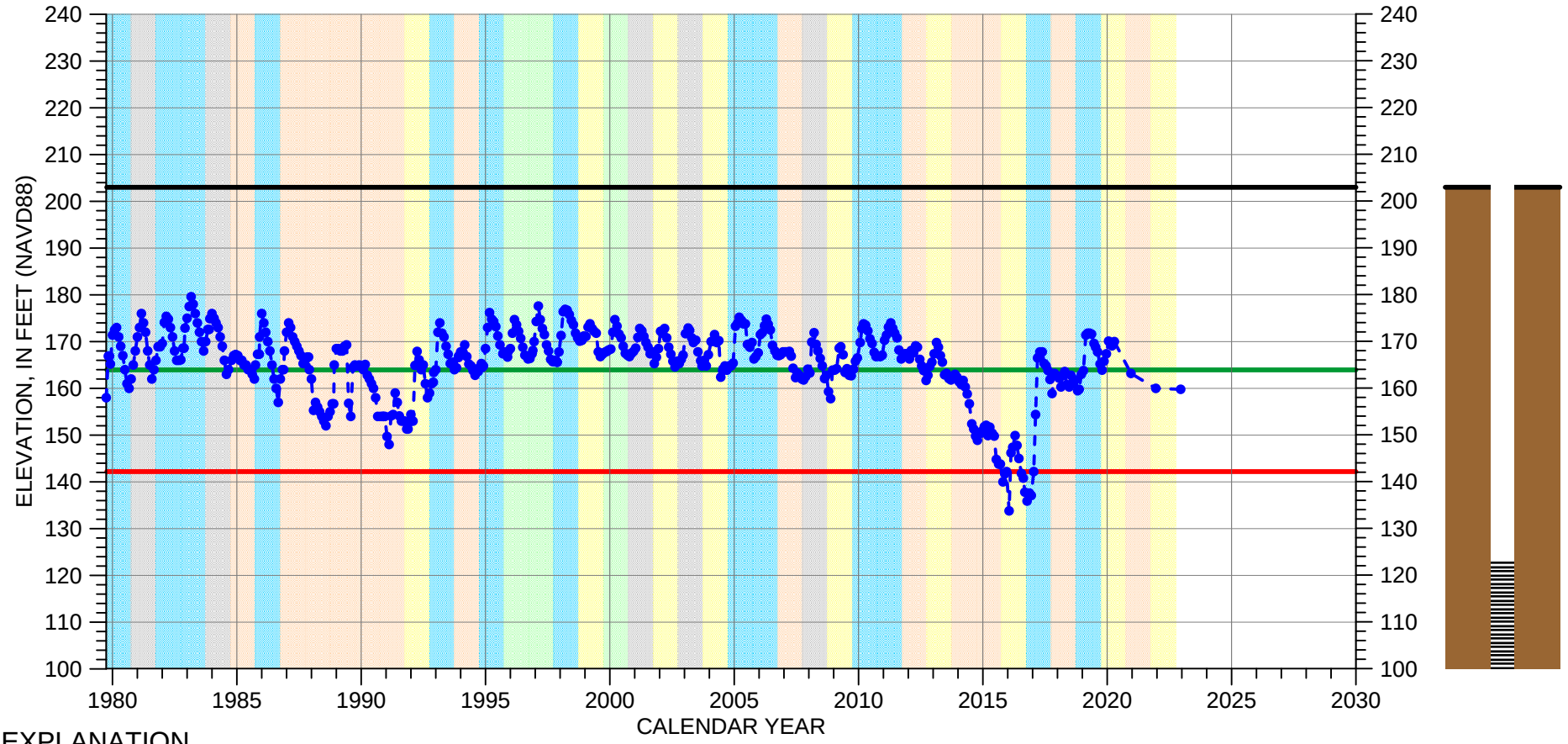
Multiple perforated intervals from 121 to 0 feet msl

Well bottom -7 feet msl

C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\18S_06E-01E01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 18S/06E-02N01

Forebay Aquifer Subbasin

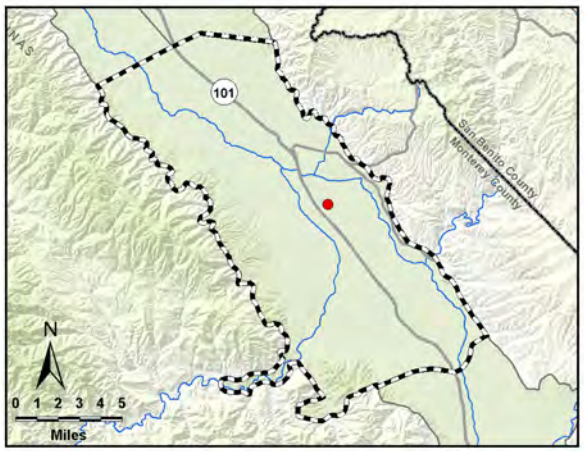


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

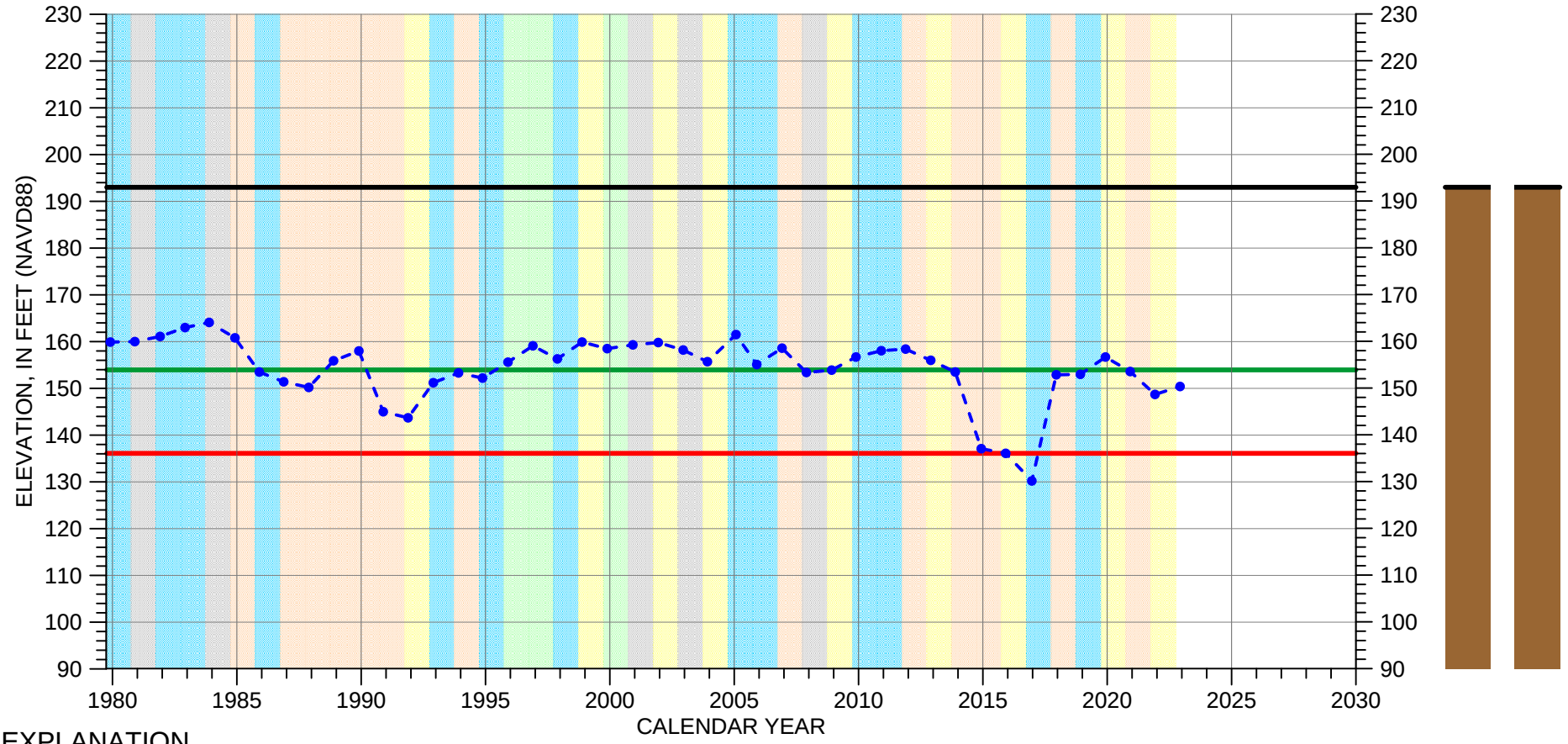
- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\18S_06E-02N01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 18S/06E-05R03

Forebay Aquifer Subbasin

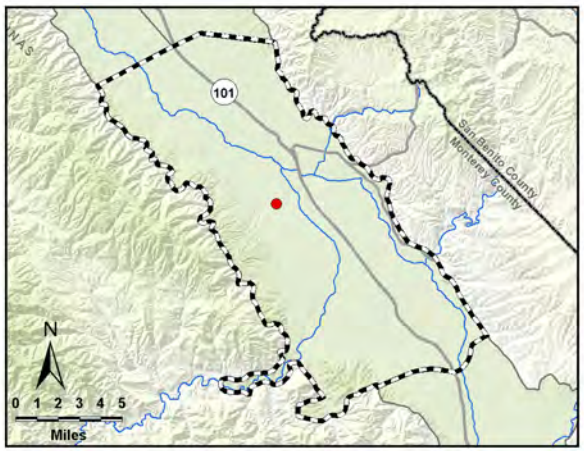


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

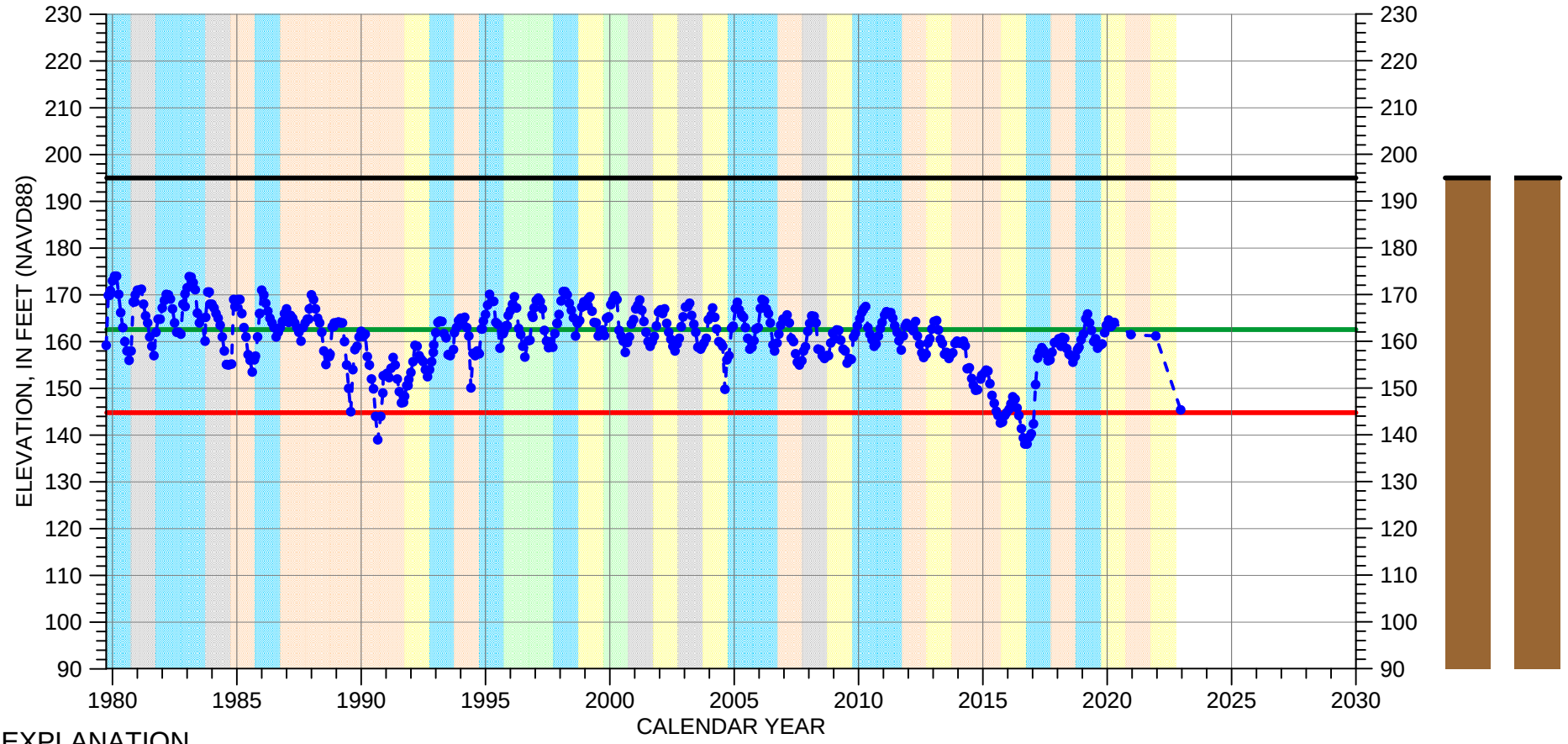
- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\18S_06E-05R03.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 18S/06E-06M01

Forebay Aquifer Subbasin

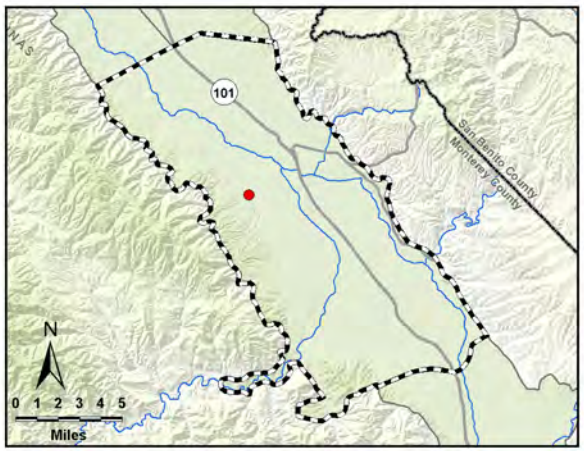


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



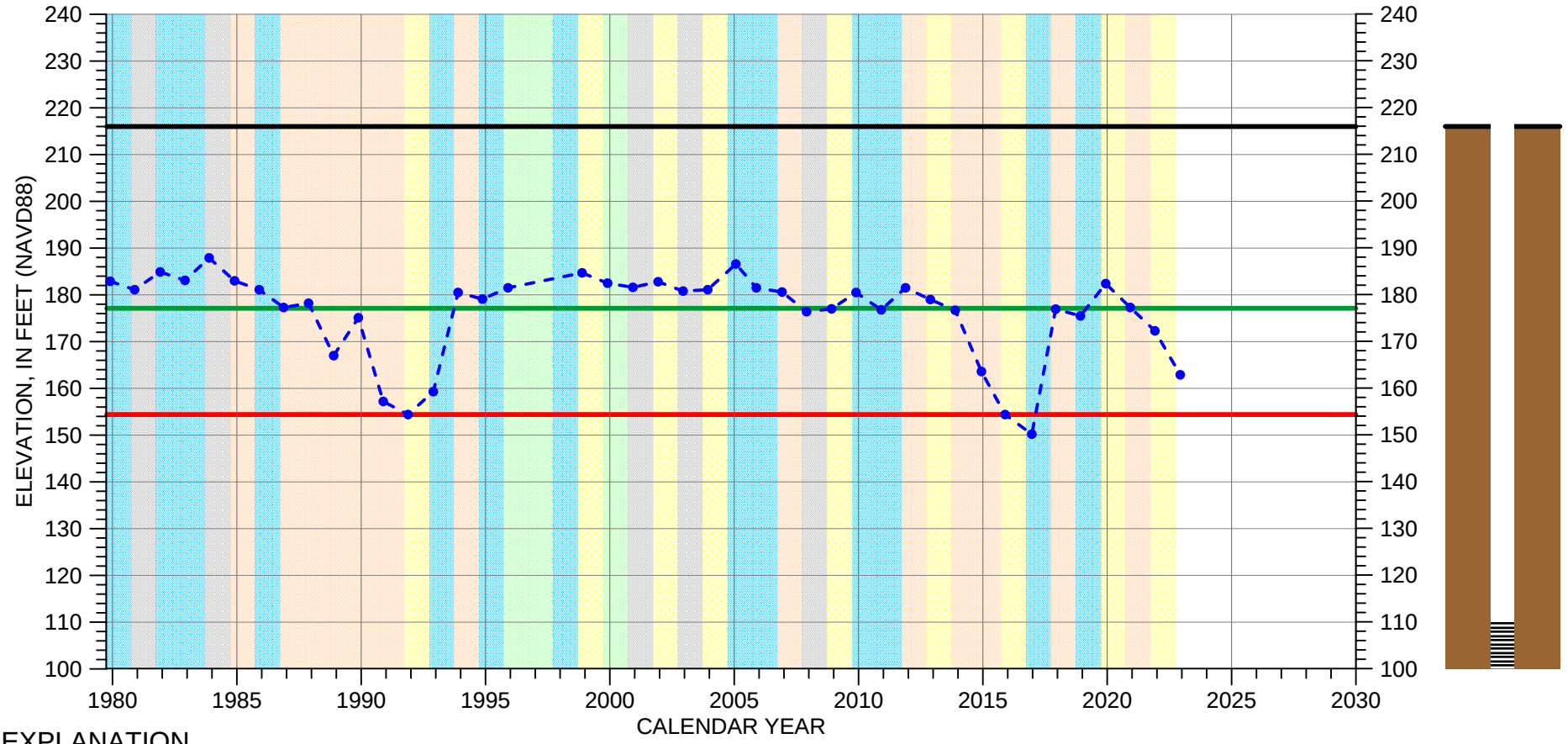
Perforated interval unknown

Well bottom -155 feet msl

C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\18S_06E-06M01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 18S/06E-11J01

Forebay Aquifer Subbasin

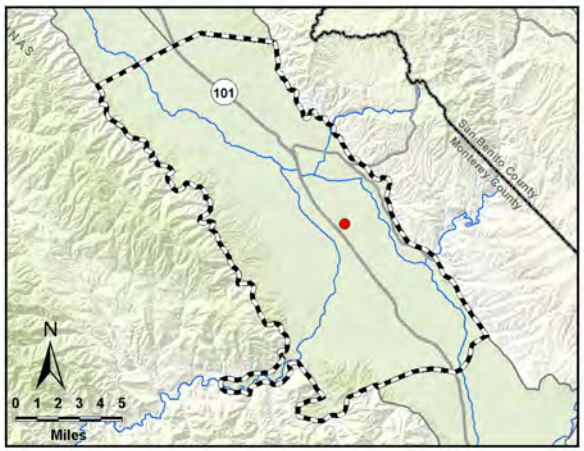


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

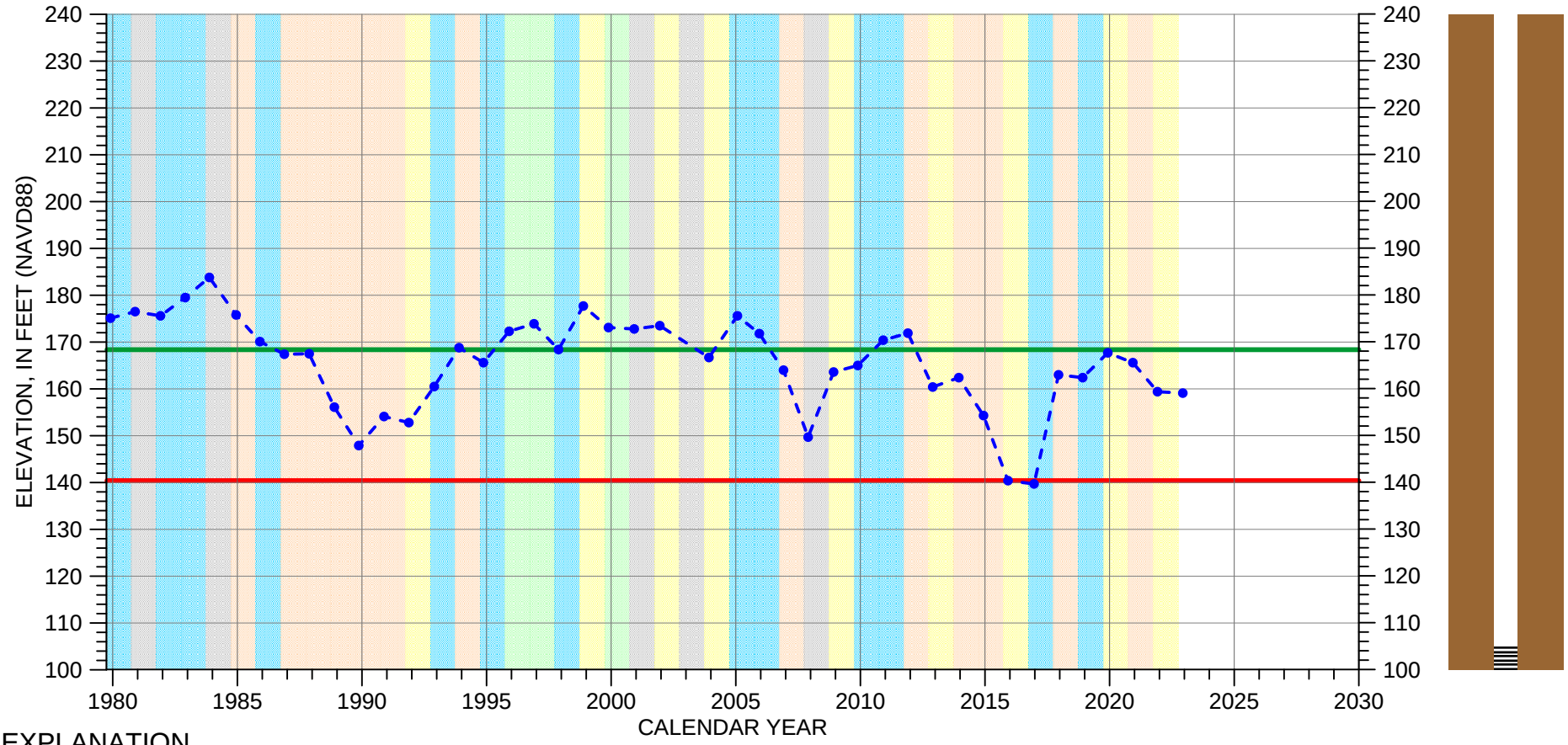
- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\18S_06E-11J01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 18S/06E-16L01

Forebay Aquifer Subbasin

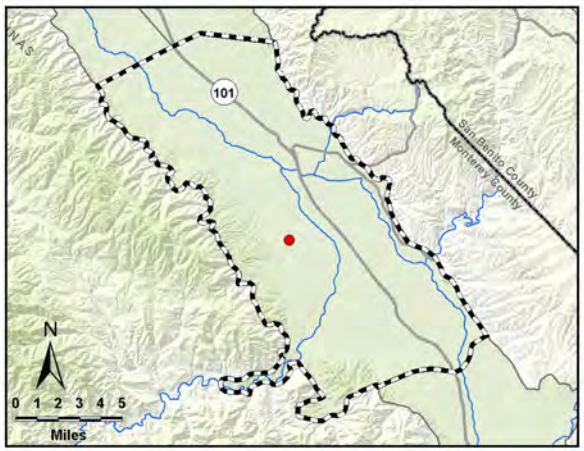


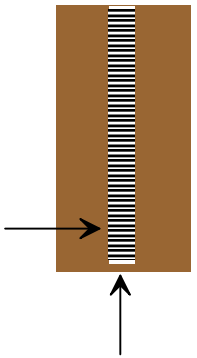
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (304 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET

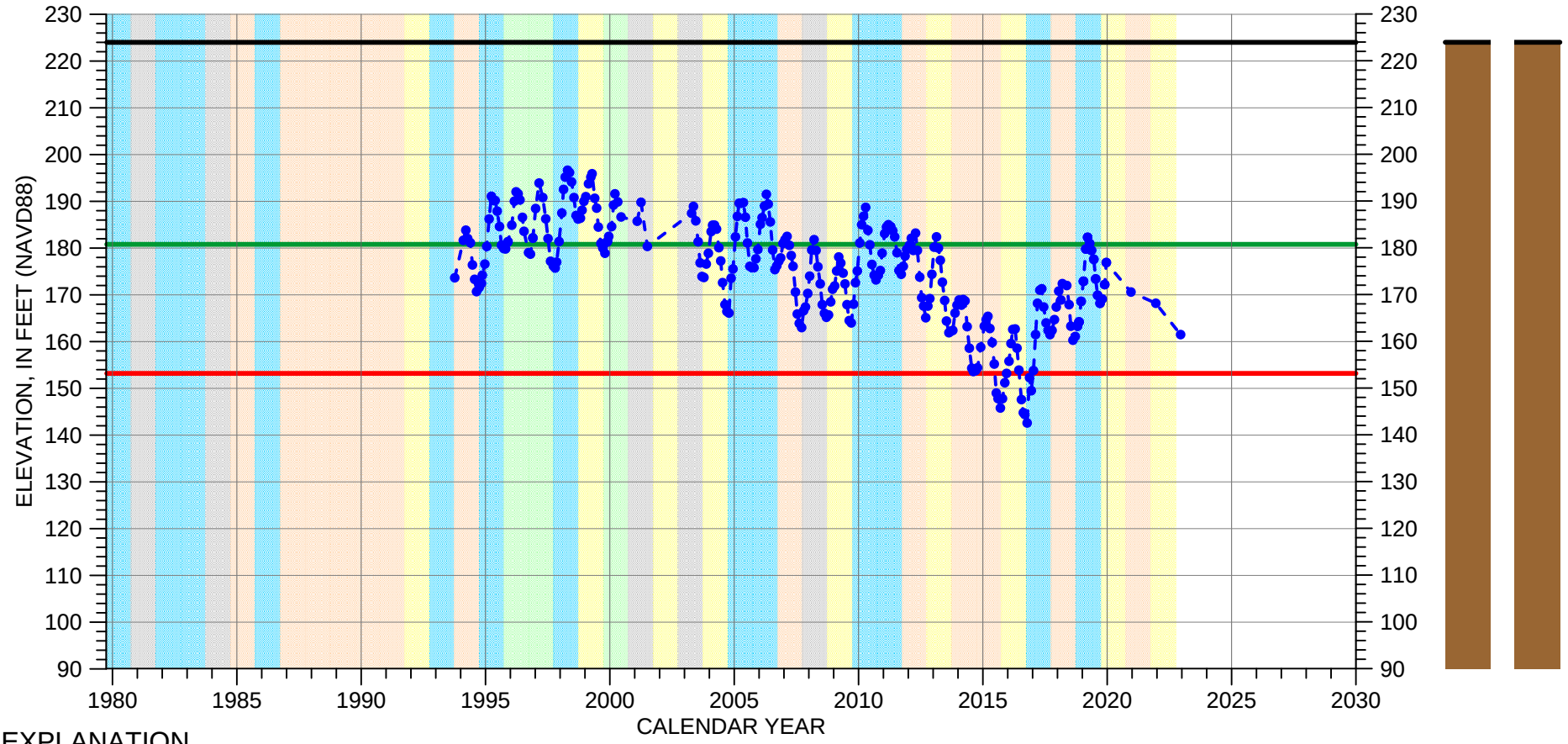




C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\18S_06E-16L01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 18S/06E-22B02

Forebay Aquifer Subbasin

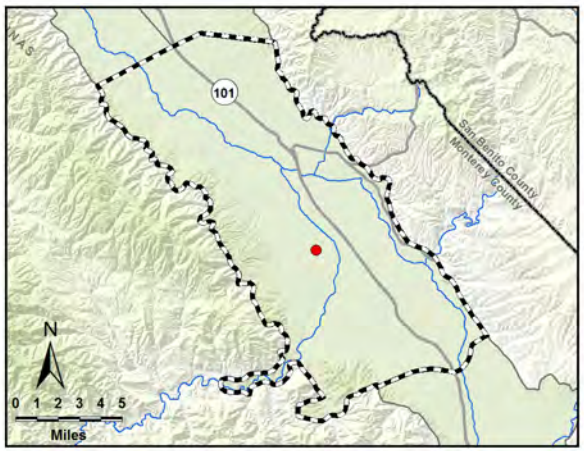


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

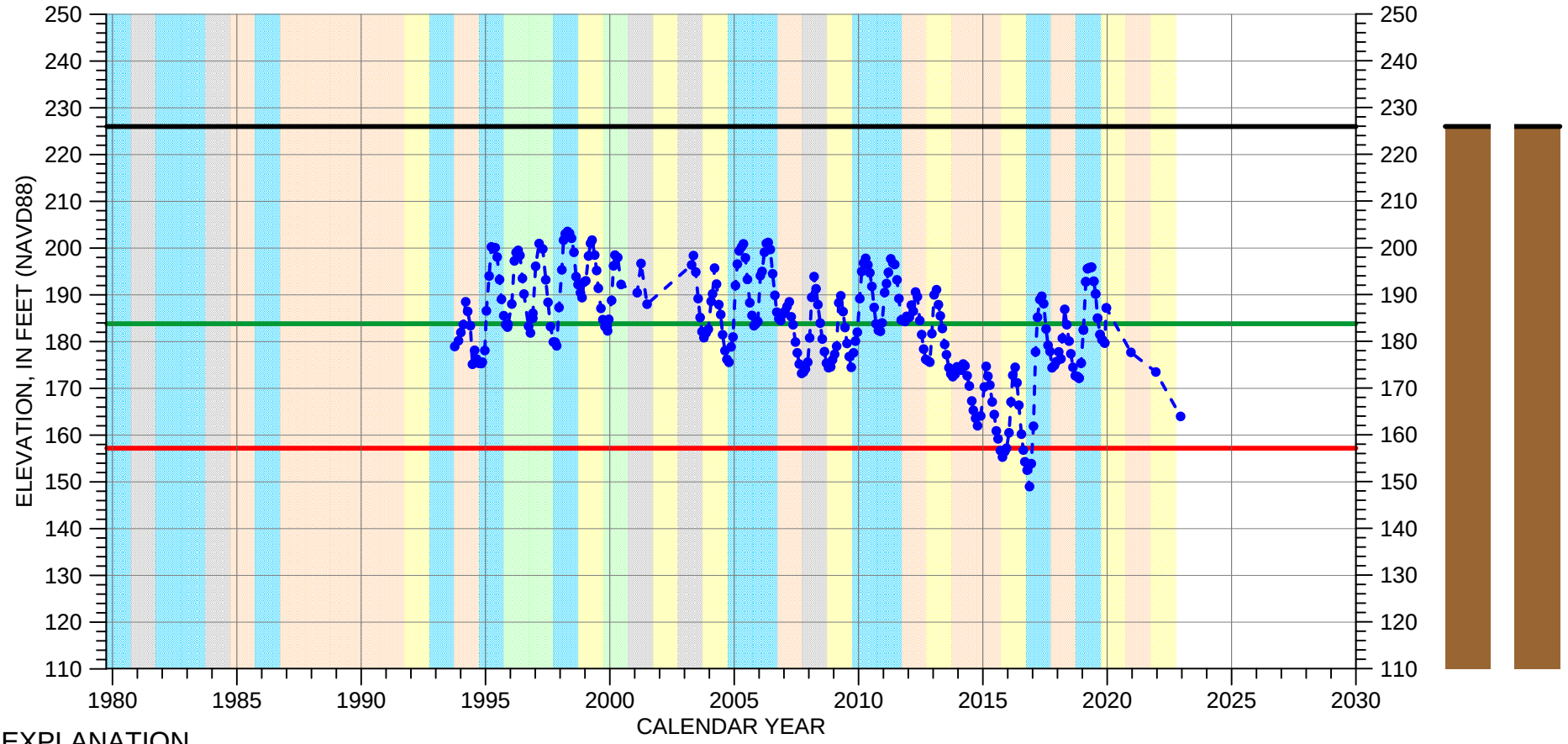
- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\18S_06E-22B02.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 18S/06E-22B03

Forebay Aquifer Subbasin

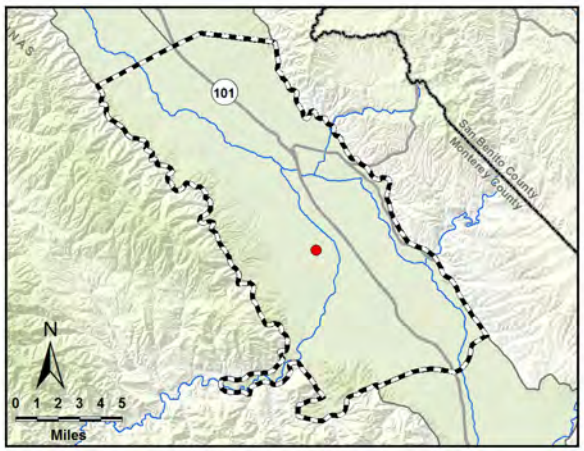


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

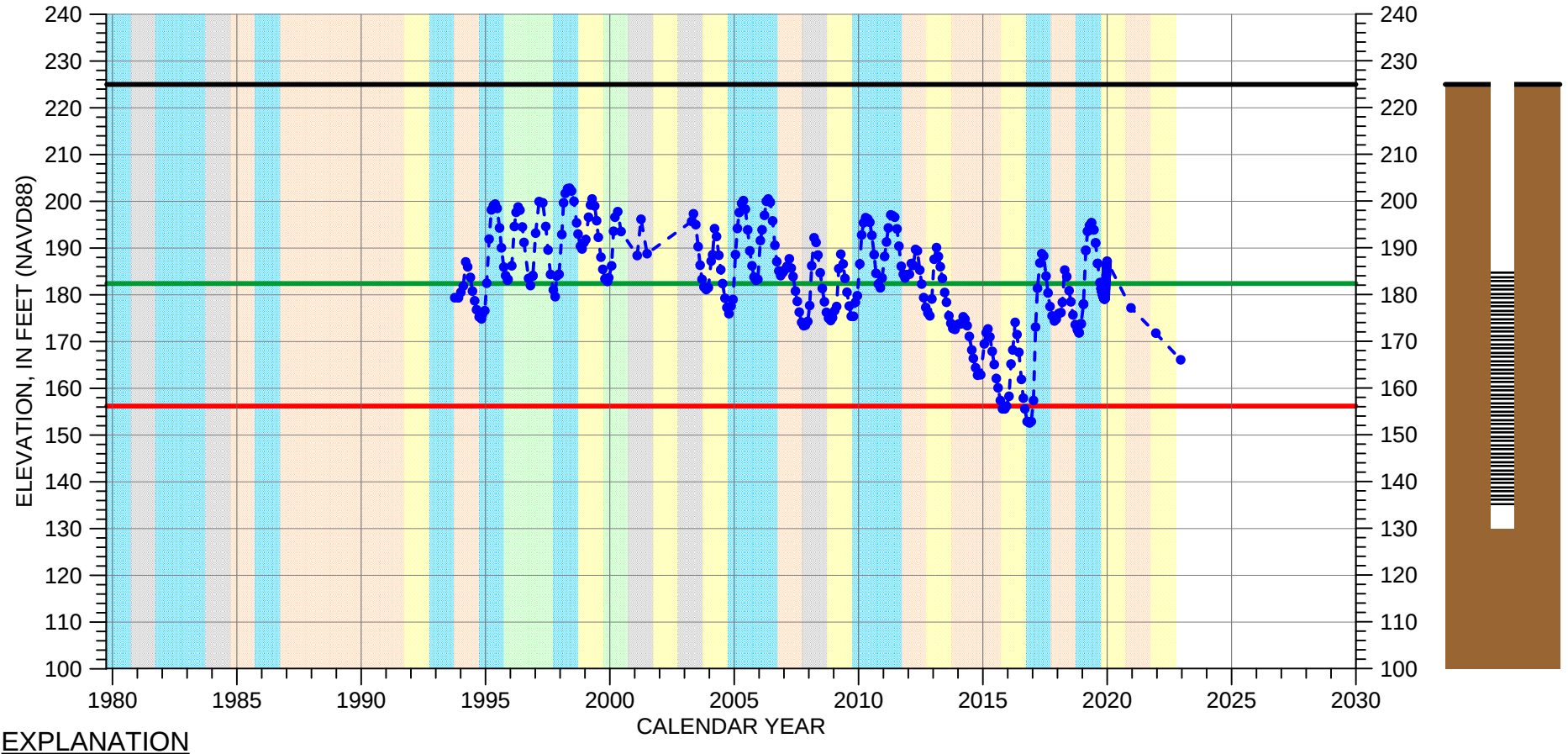
- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\18S_06E-22B03.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 18S/06E-22B04

Forebay Aquifer Subbasin

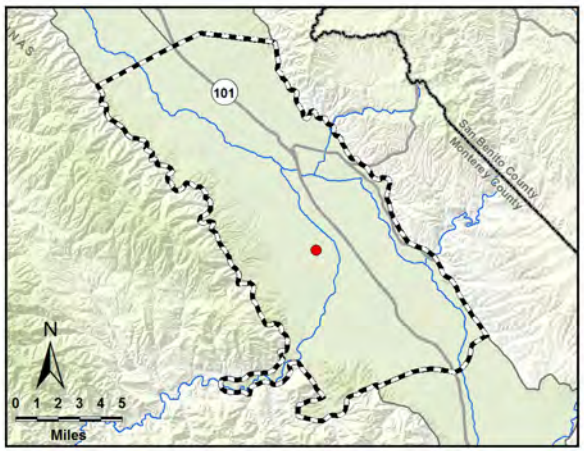


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

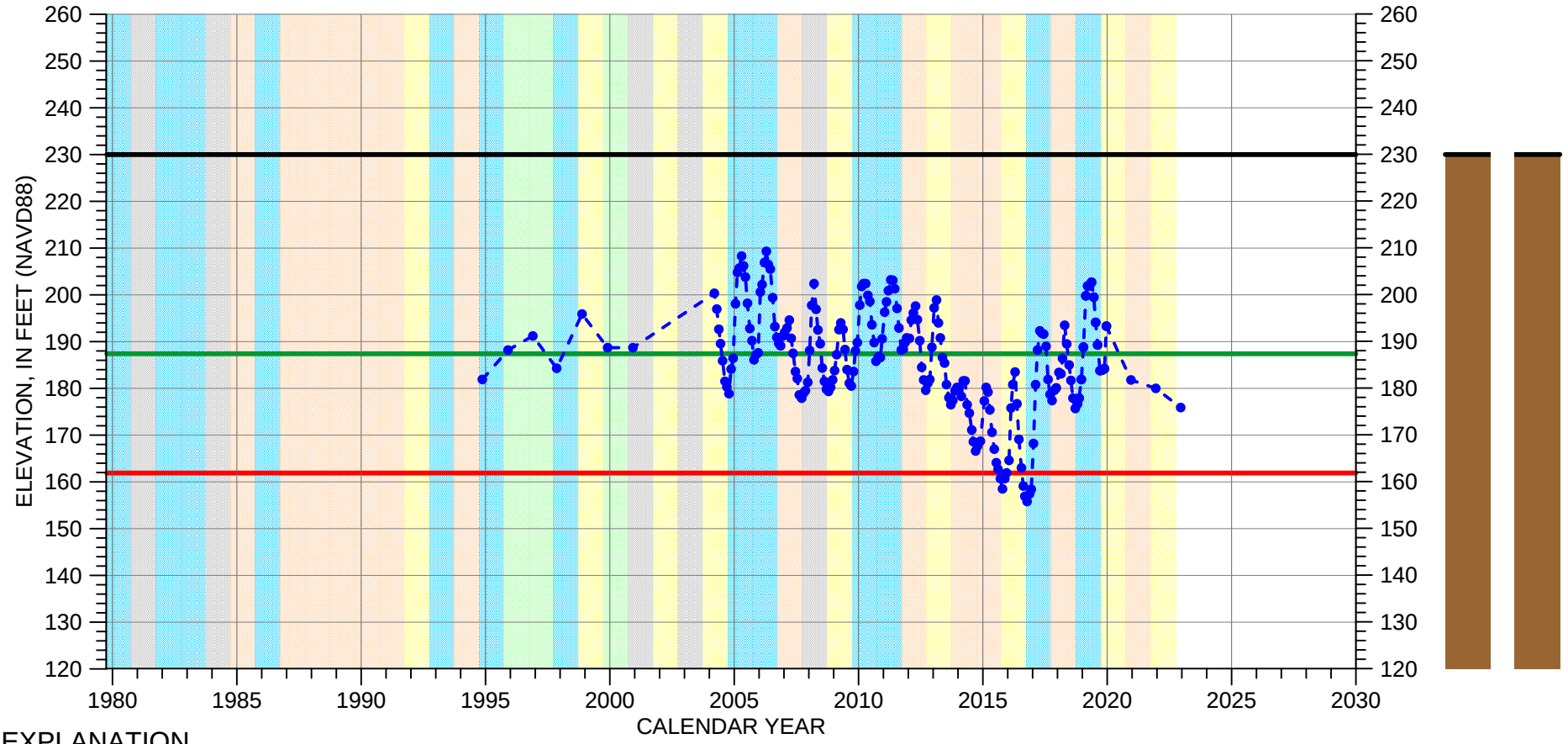
- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\18S_06E-22B04.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 18S/06E-24M01

Forebay Aquifer Subbasin

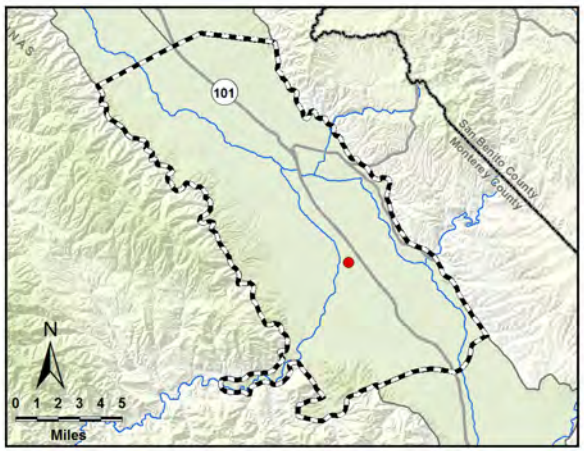


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

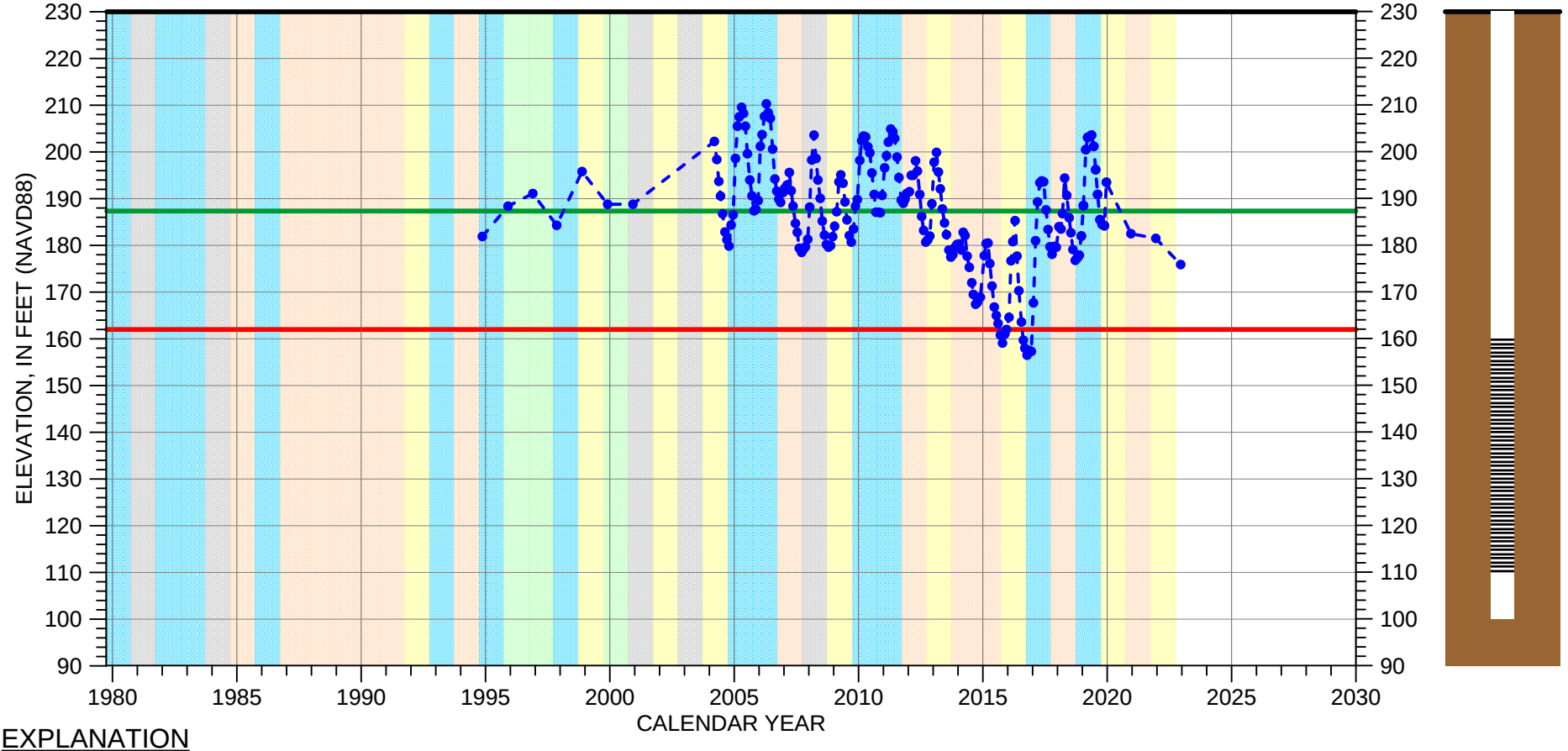
- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\18S_06E-24M01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 18S/06E-24M02

Forebay Aquifer Subbasin

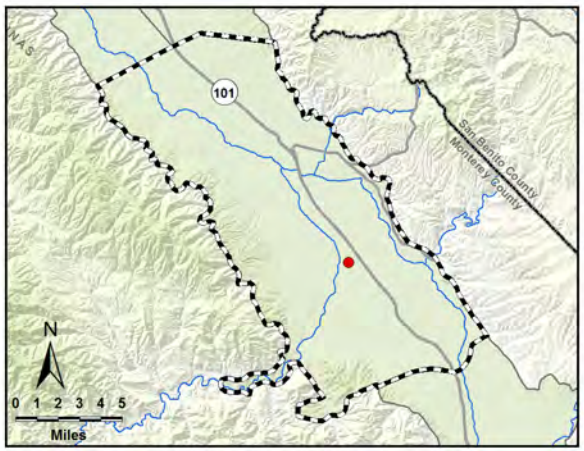


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

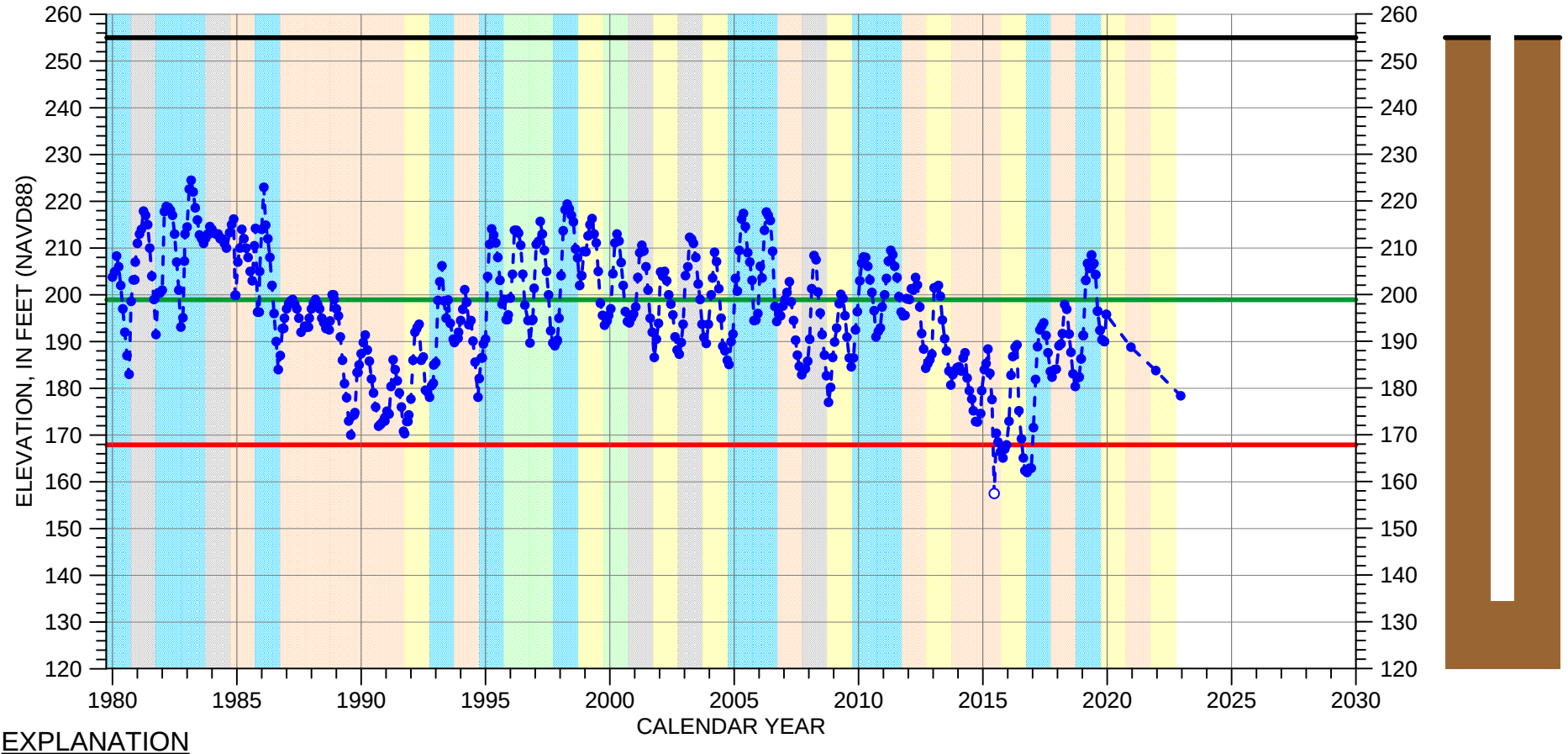
- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\18S_06E-24M02.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 18S/06E-25F01

Forebay Aquifer Subbasin

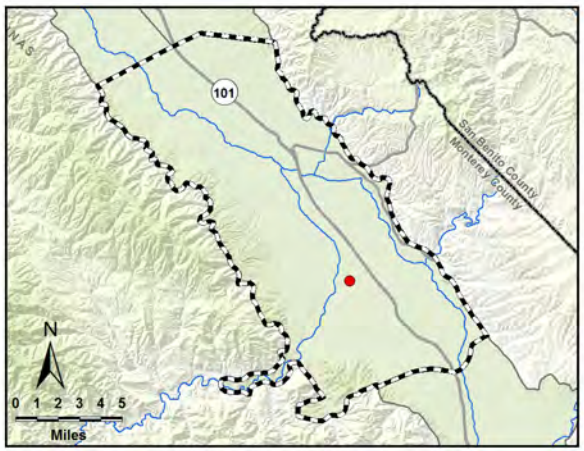


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET

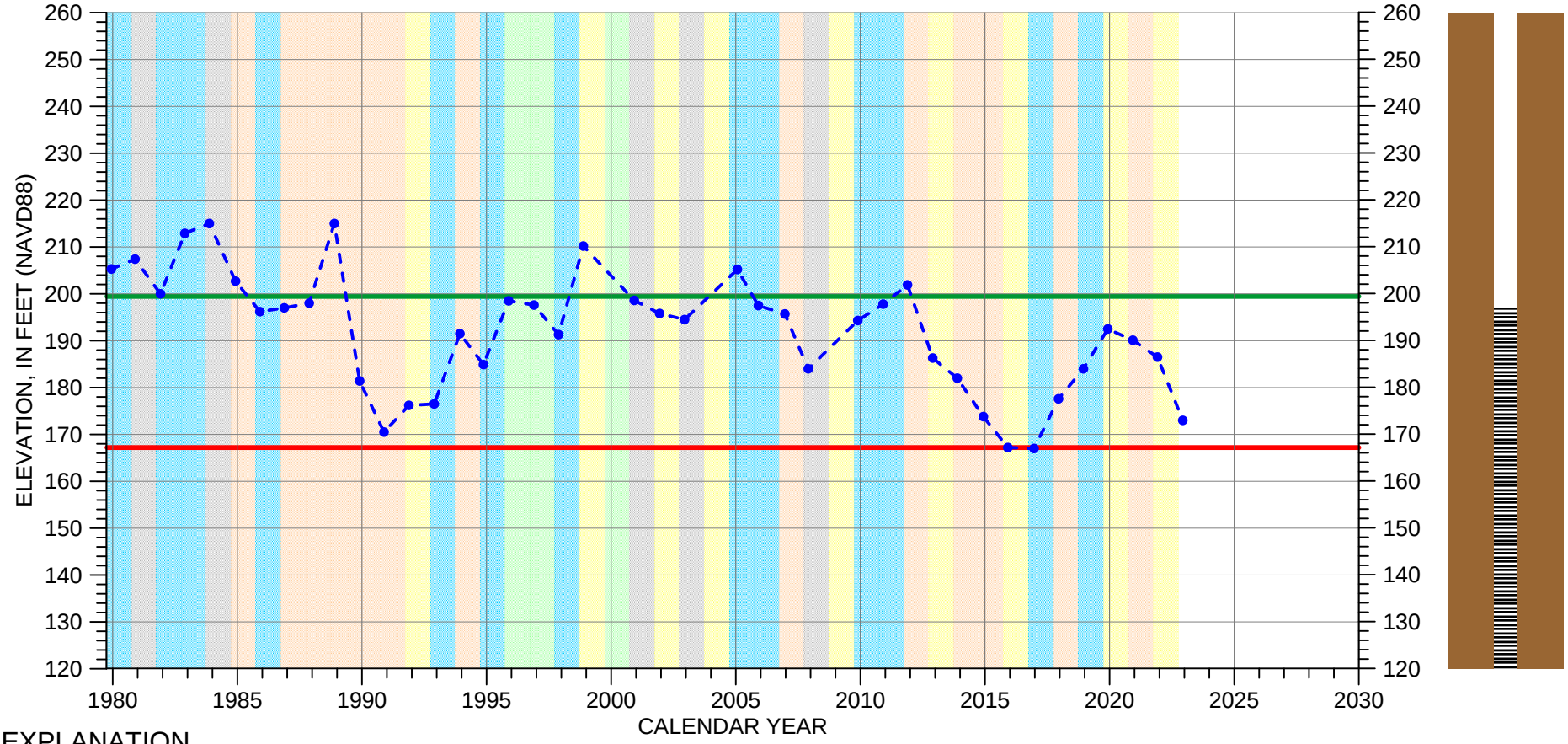


Perforated interval unknown

C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\18S_06E-25F01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 18S/06E-34B01

Forebay Aquifer Subbasin

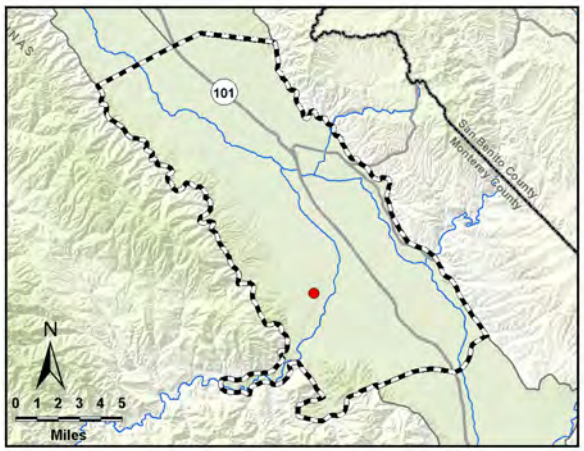


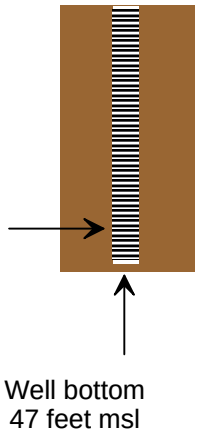
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (347 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET





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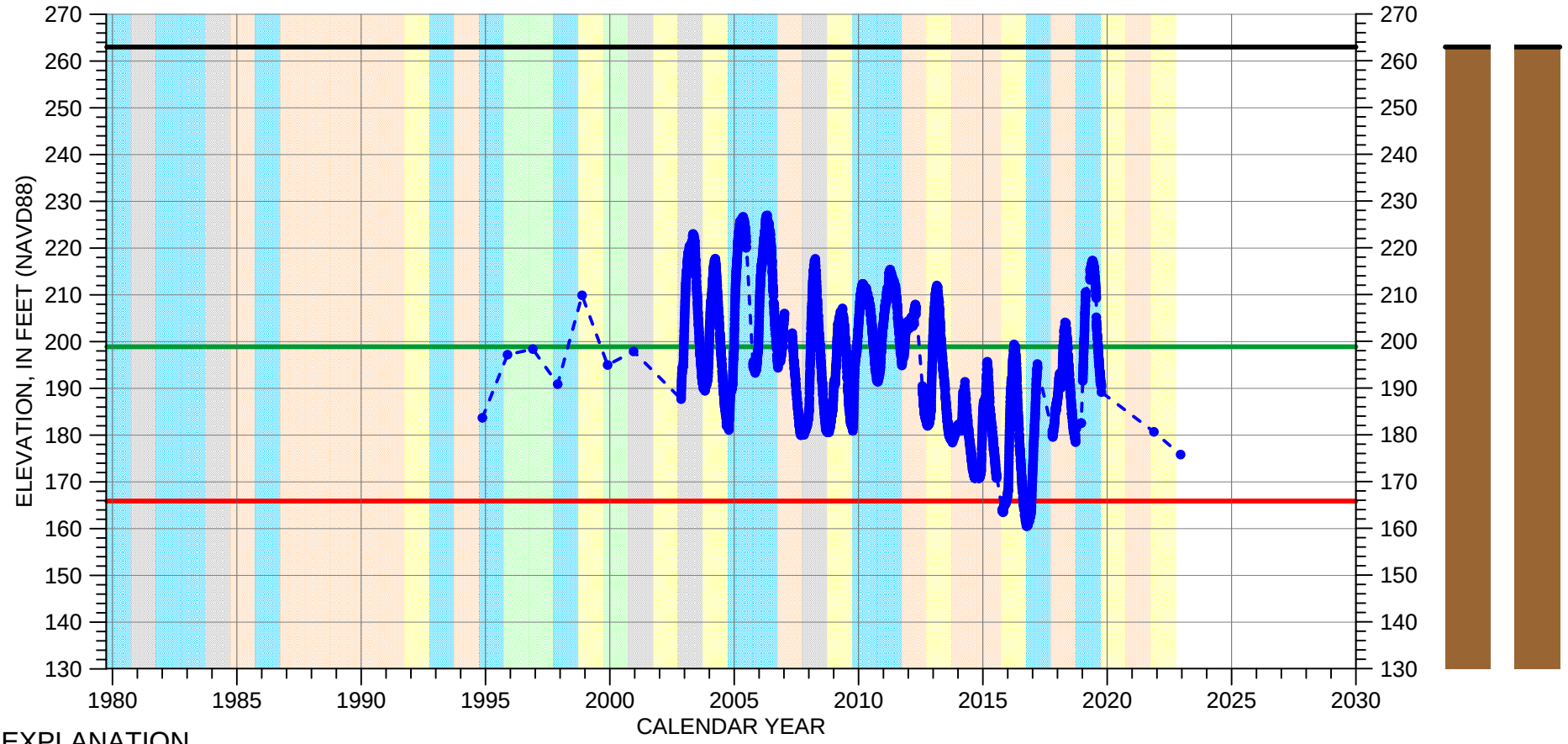
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 18S/06E-35F01

Forebay Aquifer Subbasin

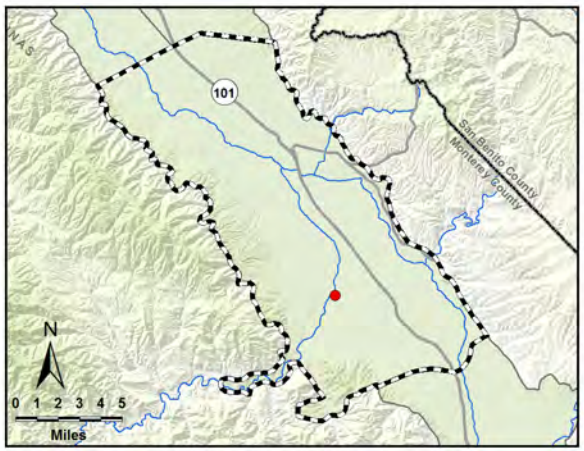


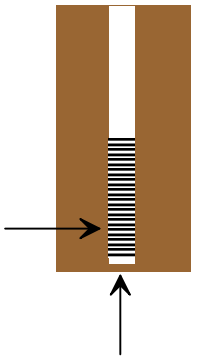
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET





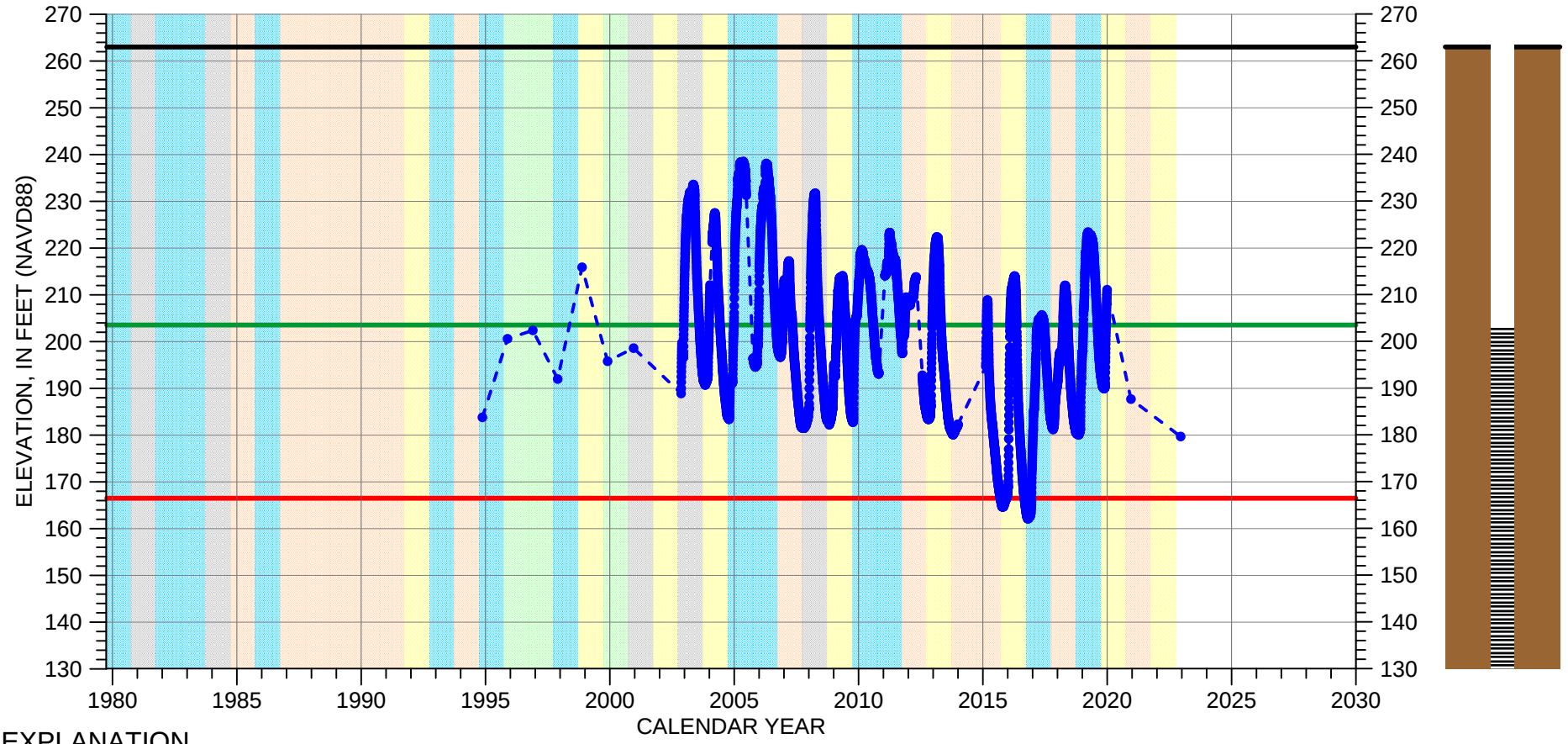
Perforated from
65 to 15 feet msl

Well bottom
5 feet msl

C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\18S_06E-35F01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 18S/06E-35F02

Forebay Aquifer Subbasin

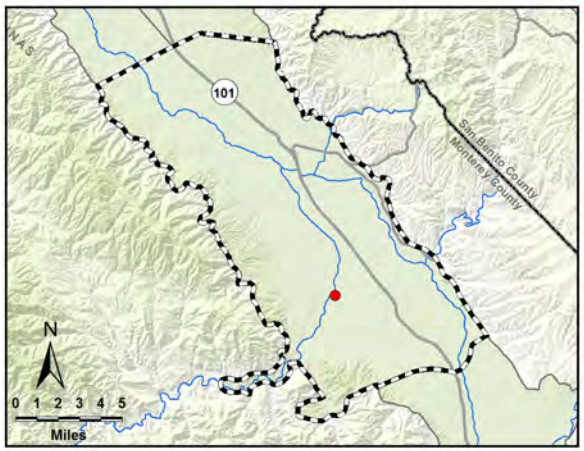


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

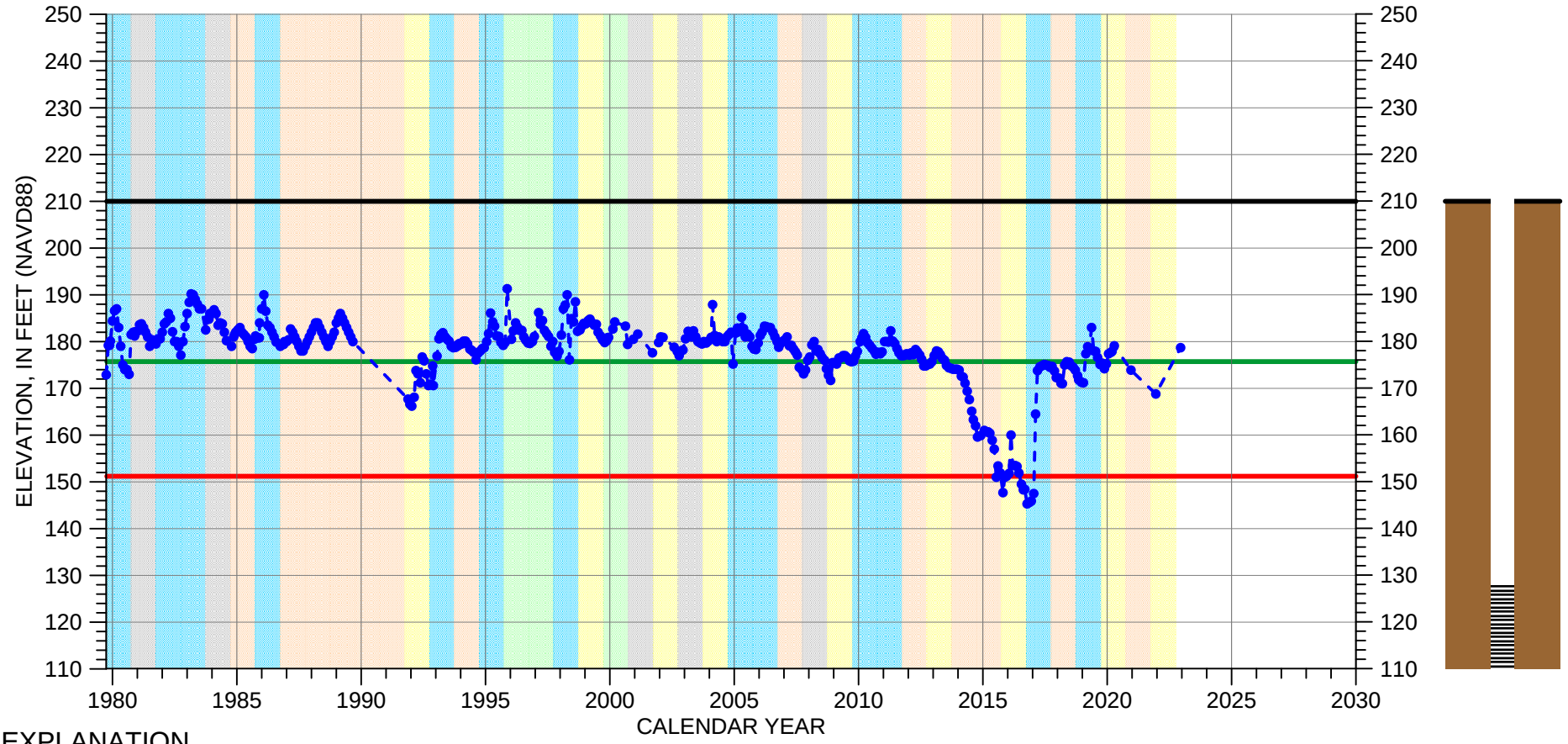
- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\18S_06E-35F02.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 18S/07E-19G02

Forebay Aquifer Subbasin

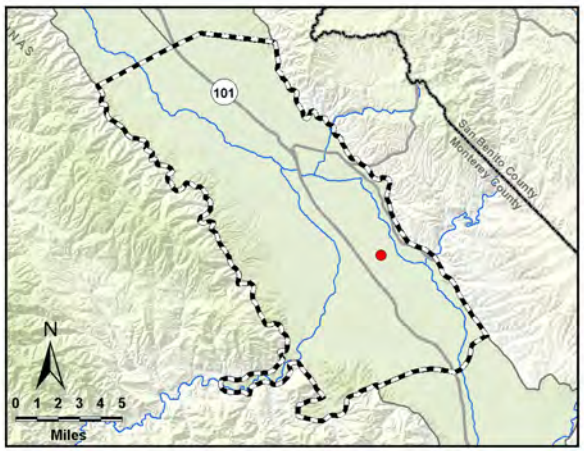


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

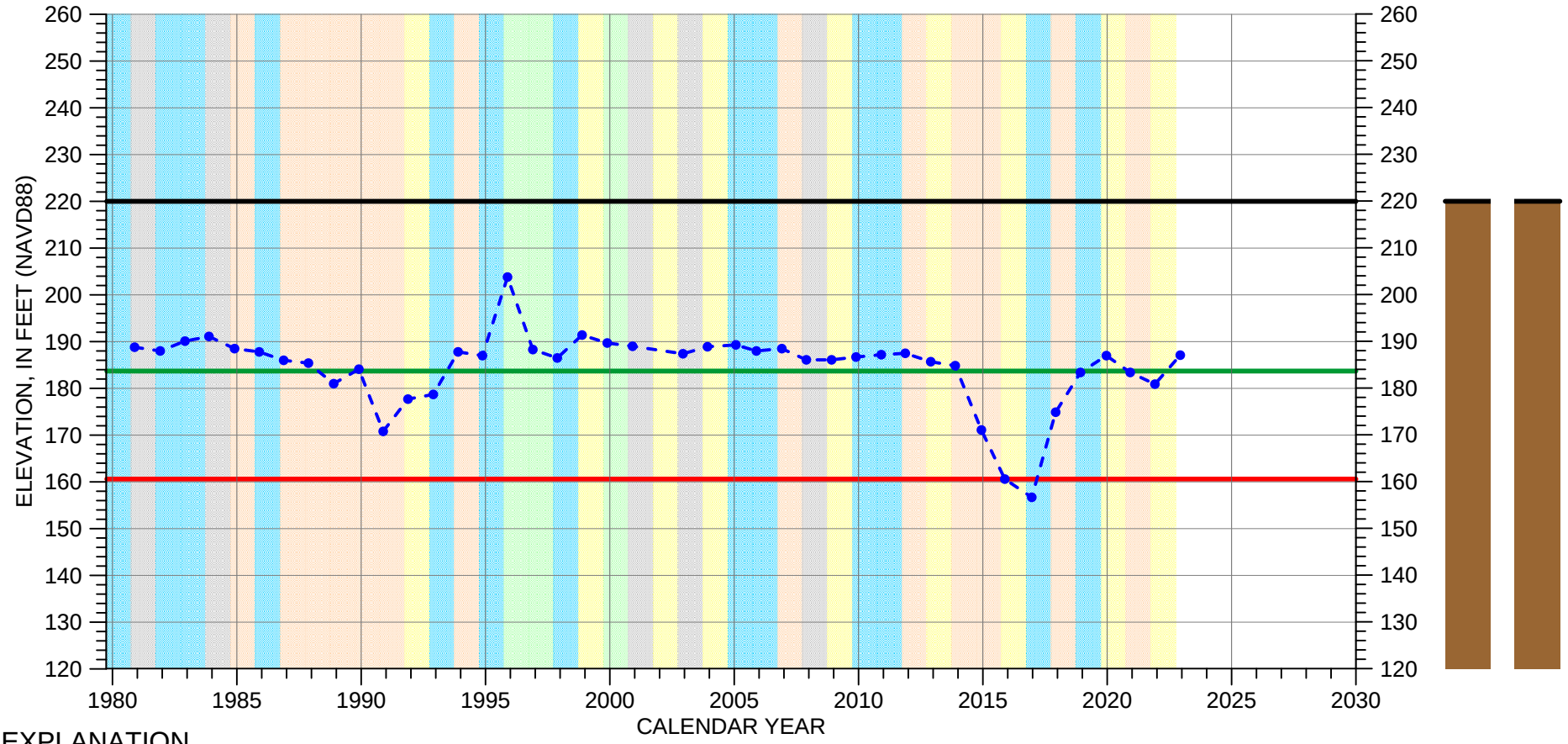
- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\18S_07E-19G02.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 18S/07E-20K01

Forebay Aquifer Subbasin

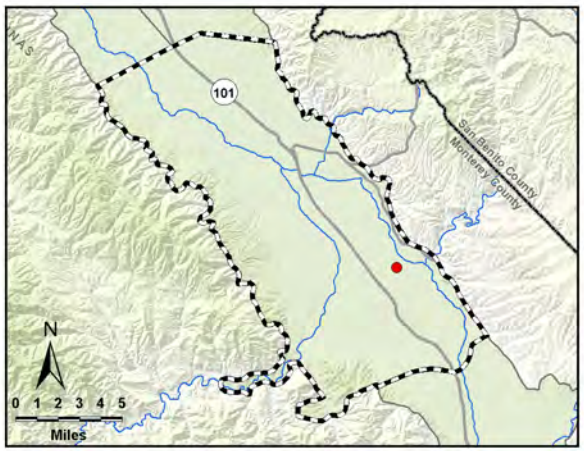


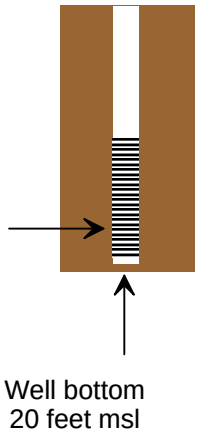
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET

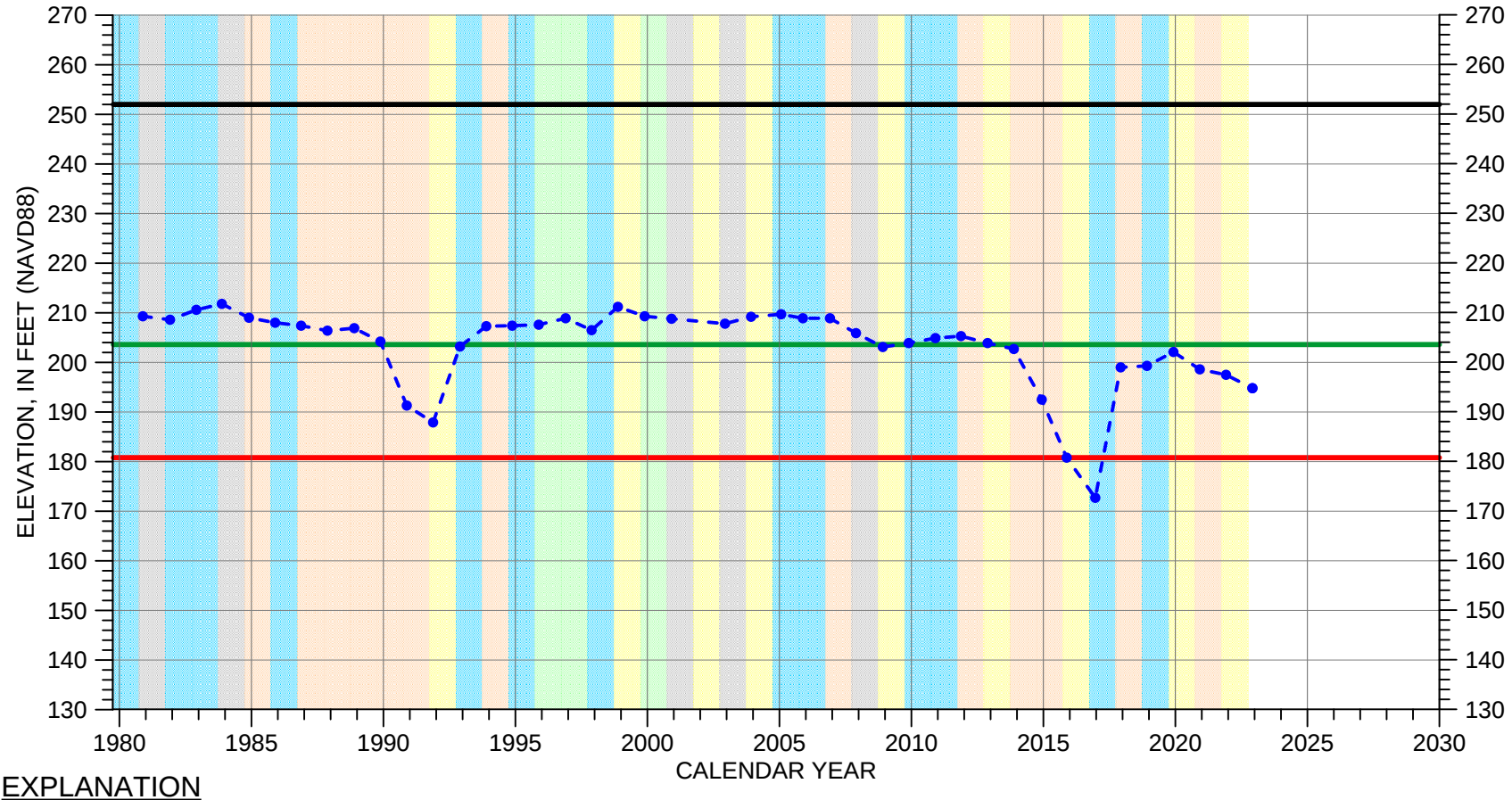




C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\18S_07E-20K01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 18S/07E-28N01

Forebay Aquifer Subbasin

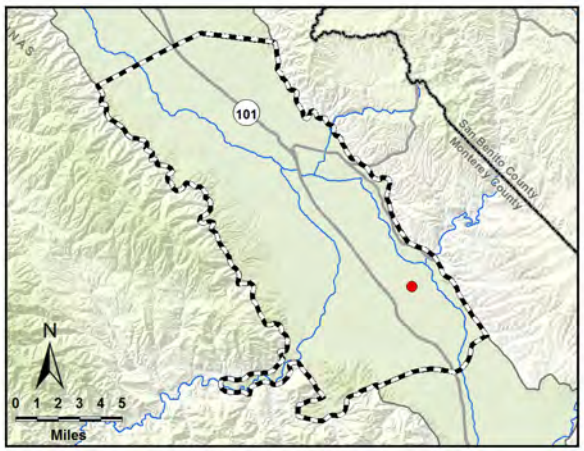


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



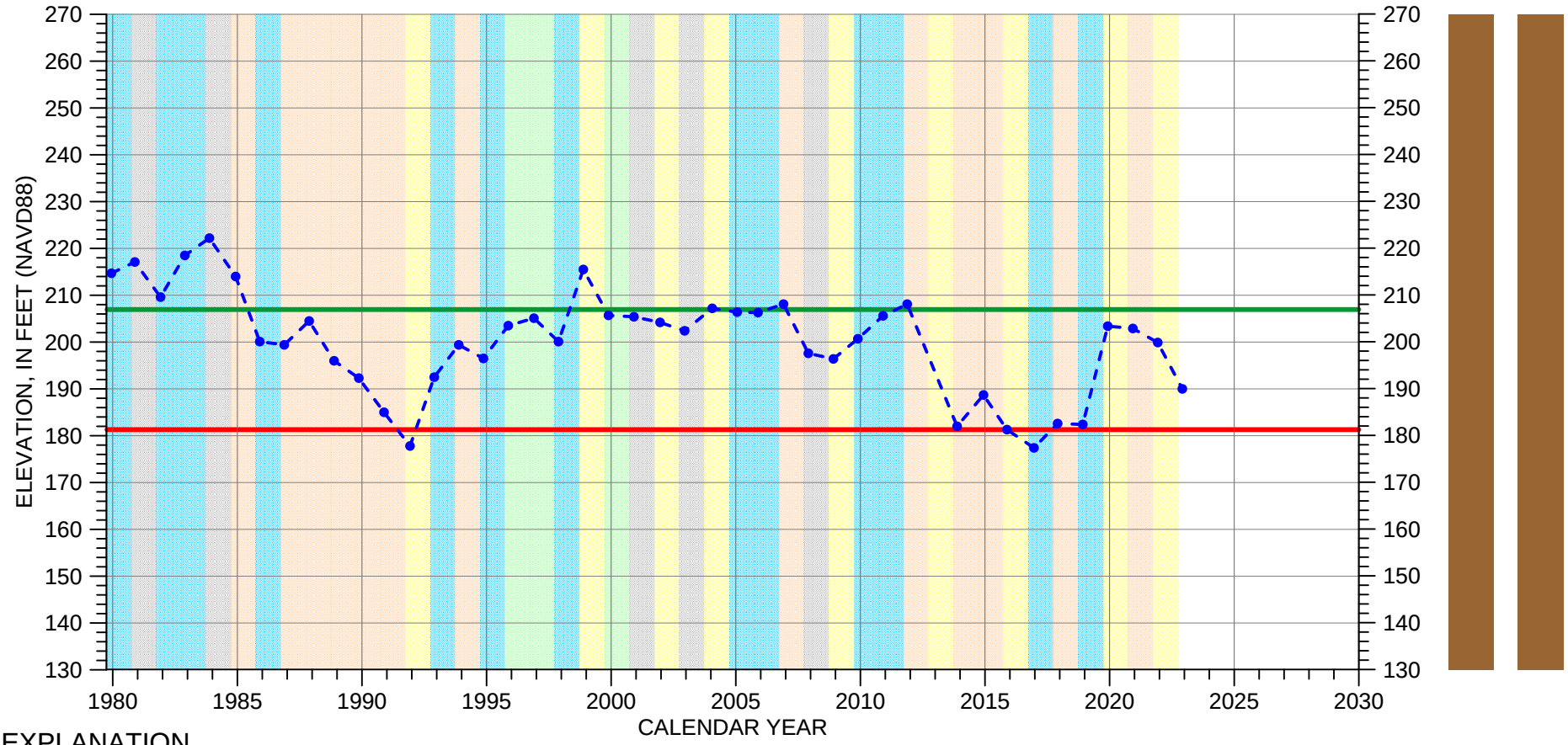
Perforated interval unknown

Well bottom elevation unknown

C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\18S_07E-28N01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 19S/06E-01H01

Forebay Aquifer Subbasin

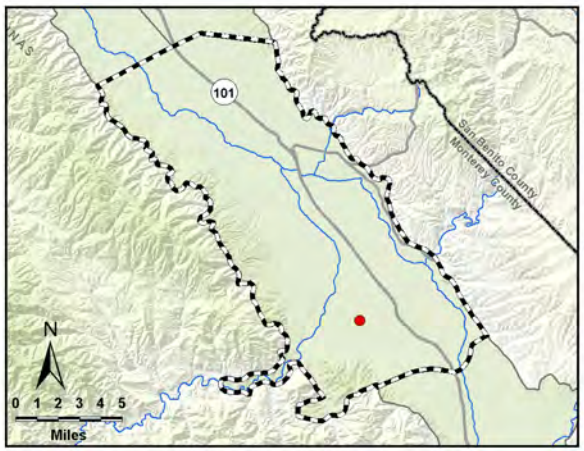


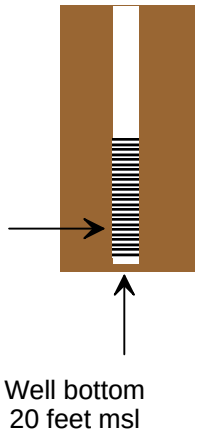
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (320 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET

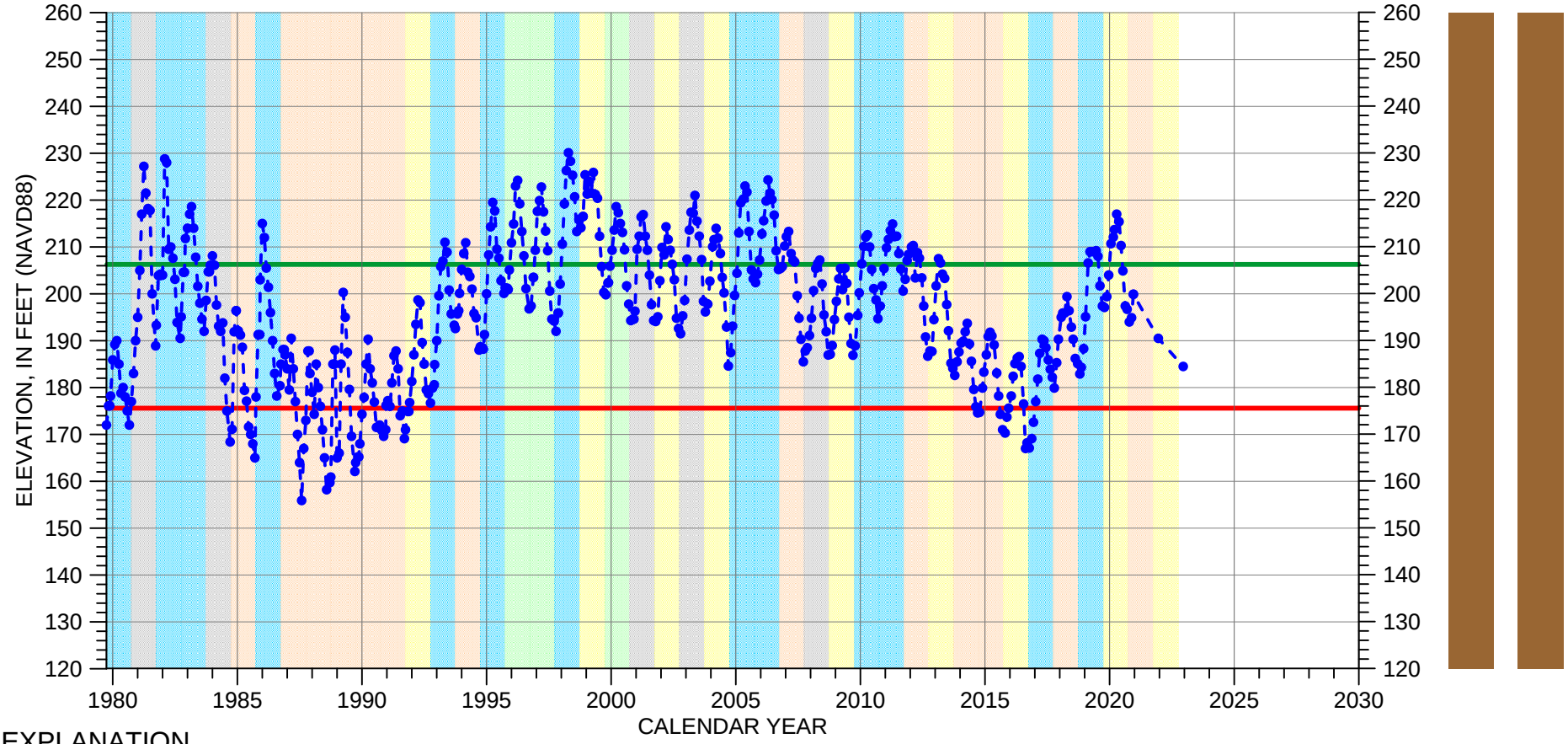




C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\19S_06E-01H01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 19S/06E-11C01

Forebay Aquifer Subbasin

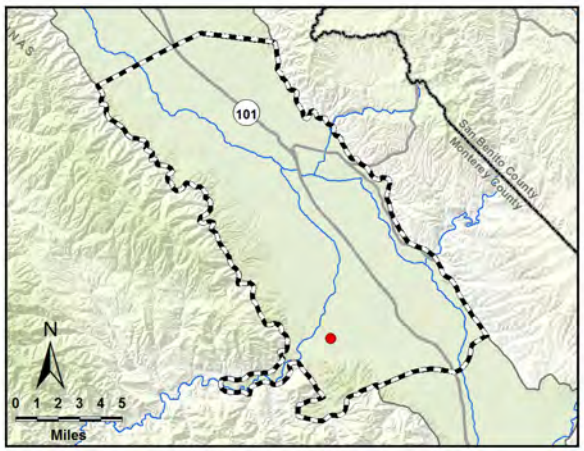


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (375 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



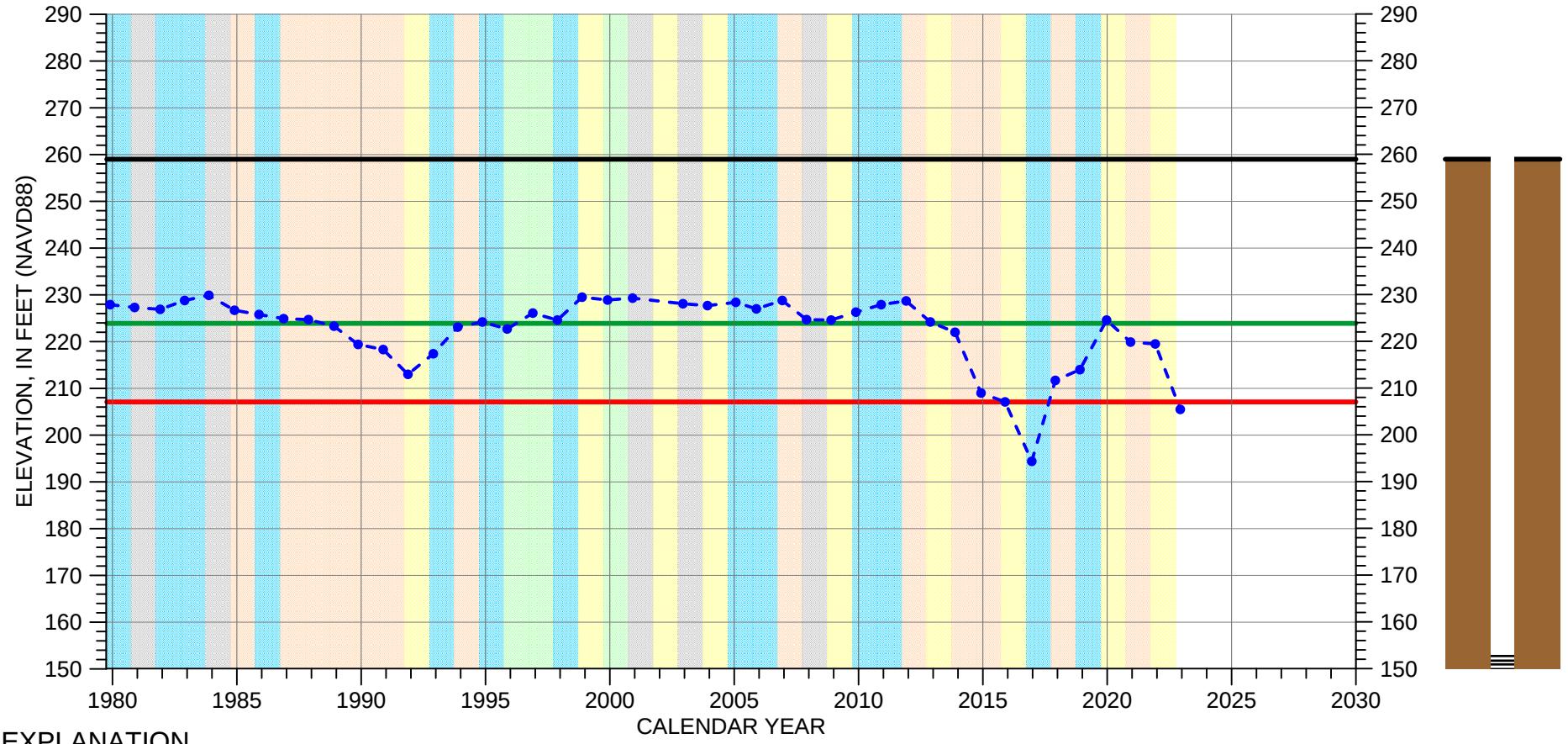
Perforated interval unknown

Well bottom 55 feet msl

C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\19S_06E-11C01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 19S/07E-04Q01

Forebay Aquifer Subbasin

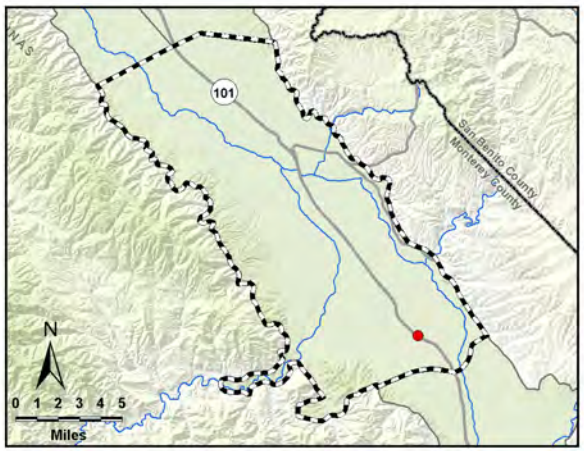


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

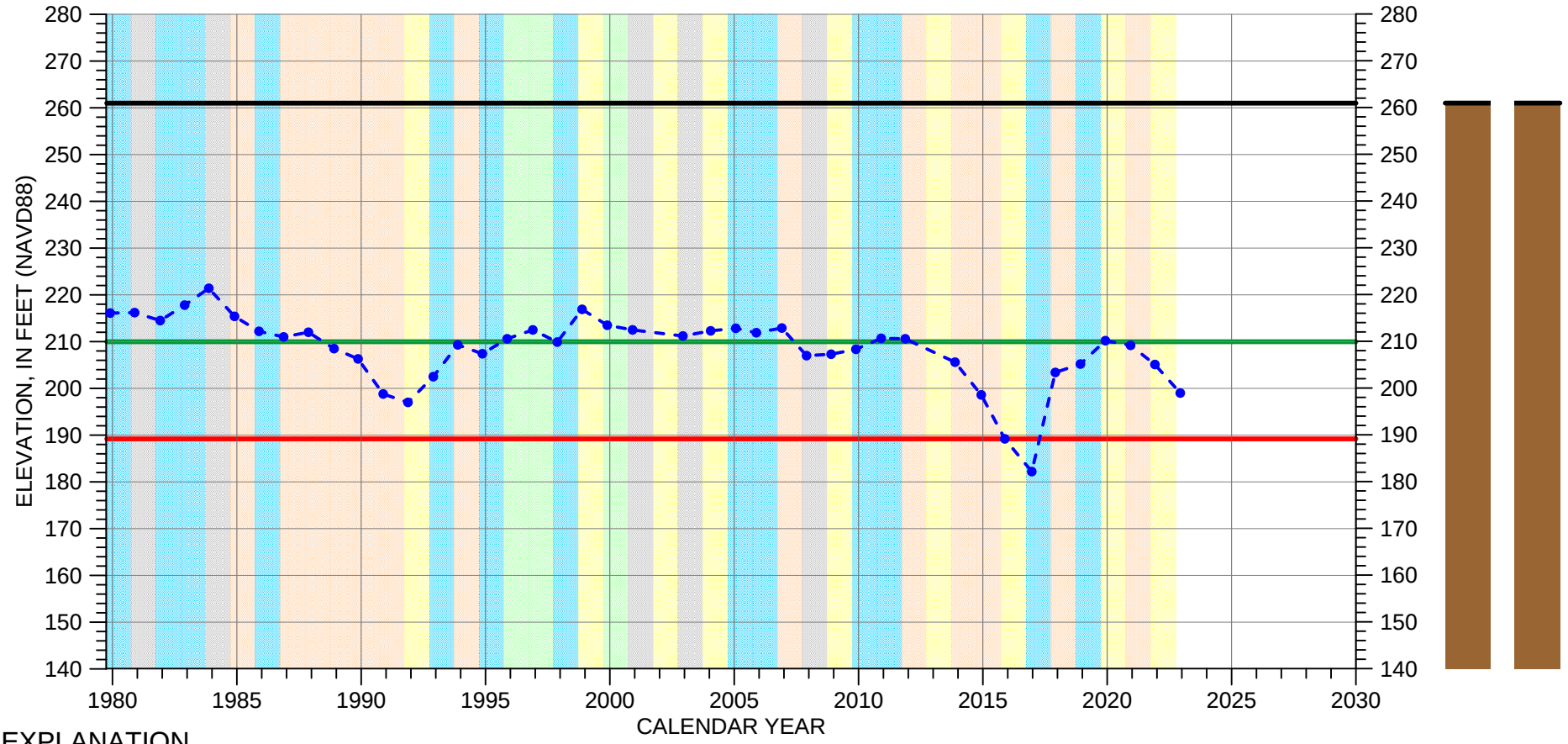
- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\19S_07E-04Q01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 19S/07E-05B02

Forebay Aquifer Subbasin

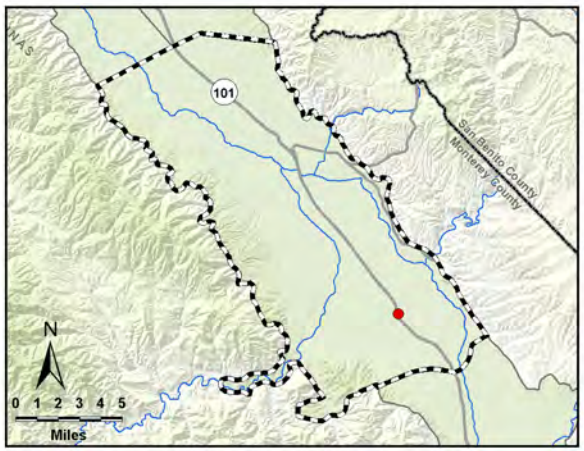


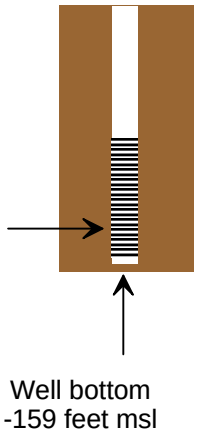
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET

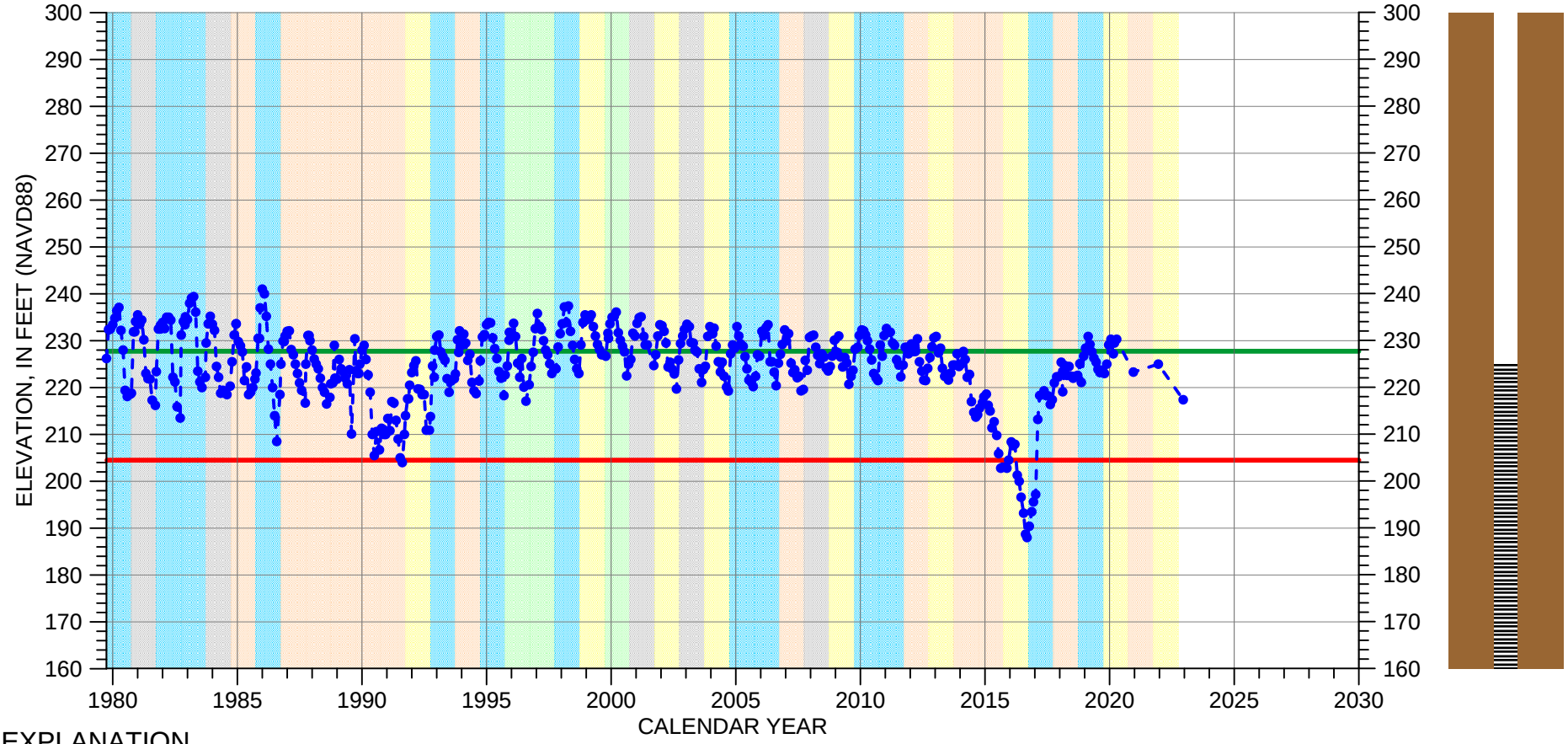




C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\19S_07E-05B02.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 19S/07E-10P01

Forebay Aquifer Subbasin

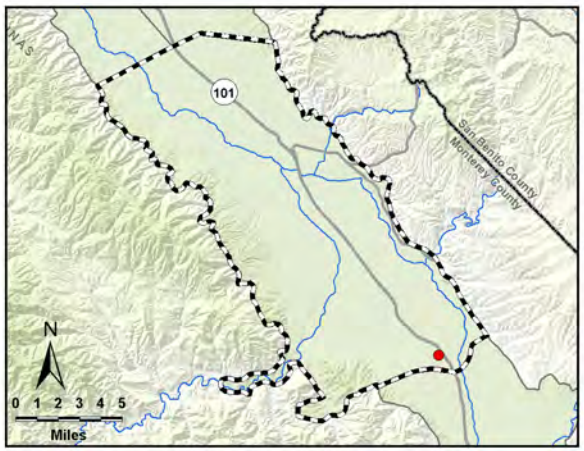


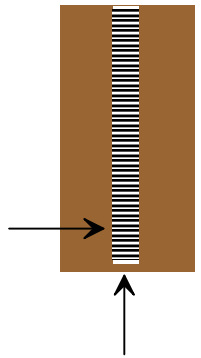
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (315 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET





Perforated from
225 to 77 feet msl

Well bottom
70 feet msl

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