Mound Basin Annual Report
Water Years 2020 and 2021

MoundBasin

GROUNDWATER SUSTAINABILITY AGENCY

April 2022

Mound Basin Annual Report Water Years 2020 and 2021

Prepared for

Mound Basin Groundwater Sustainability Agency

Prepared by

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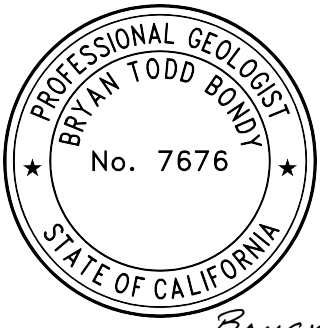

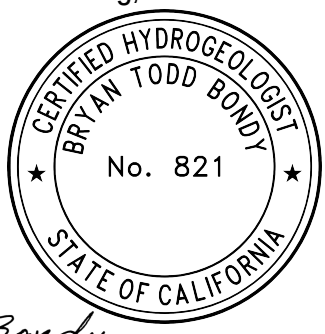

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Executive Summary

§356.2 Annual Reports. *Each Agency shall submit an annual report to the Department by April 1 of each year following the adoption of the Plan. The annual report shall include the following components for the preceding water year:*

(a) General information, including an executive summary and a location map depicting the basin covered by the report.

The Mound Basin Groundwater Sustainability Agency (MBGSA) adopted its Groundwater Sustainability Plan (GSP) on November 18, 2021, and this is the first Annual Report in compliance with the California Code of Regulations §356.2. The GSP reported data through water year 2019; therefore, this document reports data collected during water years 2020 and 2021.

Water year types for 2020 and 2021 were determined to be normal and dry, respectively, based on precipitation data. Basin-wide groundwater levels generally increased in 2020 and remained relatively stable in 2021. Groundwater level trends for individual wells in 2020 and 2021 remained stable or were trending upward, except for a few monitoring wells which showed declines in groundwater levels during the exceptionally dry water year of 2021. The groundwater quality also remained stable for the water years 2020 and 2021.

Groundwater is extracted from two principal aquifers (Mugu and Hueneme) in the Mound Basin for agricultural uses. Extraction rates for 2020 and 2021 were generally lower than reported in the GSP and remained stable throughout 2020 and 2021. The change in storage for each principal aquifer was estimated for water years 2020 and 2021. The Mugu and Hueneme storage for water year 2020 increased by 24 acre feet (AF) and 926 AF, respectively. The Mugu and Hueneme storage for water year 2021 increased by 2 AF and 275 AF, respectively. The change in storage for the entire Basin was estimated to increase by 3,509 AF and 755 AF for water years 2020 and 2021.

Total water use within the Basin meets agricultural, municipal, and industrial demands and is sourced from groundwater extractions, imported surface water, and imported groundwater. Imported water volumes increased in 2021 due to an increase in municipal and industrial water use. An important factor in the sustainable management of the Mound Basin is that most of the water demands are met using water imported from adjacent basins. Volumes for total water use for water years 2020 and 2021 were 13,634 AF per year (AF/yr) and 14,568 AF/yr, respectively. The GSP implementation is evaluated through comparing monitoring data to the Sustainable Management Criteria (SMC) for each applicable sustainability indicator: chronic lowering of groundwater levels, reduction of groundwater storage, seawater intrusion, degraded water quality, and land subsidence. The groundwater levels measured in water years 2020 and 2021 were compared to the SMC established for the chronic lowering of groundwater levels sustainability indicator, and only one measurement exceeded the minimum threshold in water year 2020. For water year 2021, none of the groundwater level measurements exceeded the minimum thresholds for any of the monitoring wells. In addition, more than half of the groundwater levels (61%) are meeting their respective measurable objectives. All analyzed water quality data are meeting the measurable objectives for the degraded water quality sustainability indicator in water years 2020 and 2021. Chloride isocontours were evaluated for the seawater intrusion sustainability indicator and the measurable objective was met for water years 2020 and 2021. The land subsidence sustainability indicator is also meeting the measurable objective for the Eastern Half of the

Basin. For the Western Half of the Basin, the status of the SMC are identical to the chronic lowering of groundwater levels, which is described above.

Progress was made towards the Seawater Intrusion Monitoring Wells Project and consisted of obtaining permits and access agreement to construct a monitoring well cluster planned for the spring of 2022. For the Interim Shallow Groundwater Data Collection and Analysis Project, MBGSA confirmed the availability and accessibility of the shallow groundwater monitoring wells with the City of Ventura, began planning for collaborative monitoring with the City of Ventura, and requested an access agreement from the City for the monitoring activities. No work was performed on other management actions during the reporting period.

Table of Contents

List of Figures

List of Tables

List of Appendices

Acronyms and Abbreviations

AF	acre-foot/acre-feet
AF/yr	acre-feet per year
Alta MWC	Alta Mutual Water Company
Basin	Mound Basin
bgs	below ground surface
DDW	Department of Drinking Water, State of California
DMS	Data Management System
DWR	Department of Water Resources, State of California
FICO	Farmers Irrigation Company
ft	foot/feet
ft/yr	feet per year
GIS	geographic information system
GPS	Ground Positioning System
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
InSAR	interferometric synthetic aperture radar
LAS	Lower Aquifer System
M&I	Municipal and Industrial
MBAWG	Mound Basin Agricultural Water Group
MBGSA	Mound Basin Groundwater Sustainability Agency
MCL	maximum contaminant level
MCLR	maximum contaminant level range
mg/L	milligrams per liter
msl	above mean sea level
MWD	Municipal Water District
RWQCB	Regional Water Quality Control Board
RWQCB-LA	Regional Water Quality Control Board, Los Angeles region
SGMA	Sustainable Groundwater Management Act
SMC	Sustainable Management Criteria
SWRCB	State Water Resources Control Board
TDS	total dissolved solids
UAS	Upper Aquifer System
United	United Water Conservation District
Ventura Water	The City of Ventura's water and wastewater department
WQO	Water Quality Objective

1.0 Introduction [§356.2(a)]

§356.2 Annual Reports. *Each Agency shall submit an annual report to the Department by April 1 of each year following the adoption of the Plan. The annual report shall include the following components for the preceding water year:*

(a) General information, including an executive summary and a location map depicting the basin covered by the report.

This document is the first Annual Report for the Mound Basin (Department of Water Resources Basin No. 4-004.03, the Basin), fulfilling the requirements by the Sustainable Groundwater Management Act (SGMA) Groundwater Sustainability Plan (GSP) Regulation Code §356.2. The Mound Basin GSP was adopted on November 18, 2021, by the Mound Basin Groundwater Sustainability Agency (MBGSA) and was uploaded to the Department of Water Resources GSP online portal on December 31, 2021. The GSP reports data through water year 2019 (ending September 30, 2019). This Annual Report presents data and information for water years 2020 and 2021. To track the progress of the GSP implementation, the data updates are compared against the Sustainable Management Criteria (SMC) established in the adopted GSP (MBGSA, 2021). This report also provides updates to the status of projects and management actions described in the adopted GSP.

1.1 Background

The Mound Basin is a medium-priority groundwater subbasin in western Ventura County along the Pacific coastline, including the City of Ventura (officially San Buenaventura). The Basin is within the Santa Clara River Valley watershed and includes the Santa Clara River estuary and floodplain at the southwestern corner of the Basin boundary, where the river discharges into the Pacific Ocean. MBGSA is the exclusive Groundwater Sustainability Agency (GSA) for Mound Basin, located in western Ventura County (Figure 1.1). Adjacent basins are Oxnard Subbasin (No. 4-004.02) to the south, Santa Paula Subbasin (No. 4-004.04) to the east, and Lower Ventura River Subbasin (4-003.02) to the west.

Groundwater supplies municipal, industrial, and agricultural uses within the Mound Basin, and is sourced from imports from adjacent basins (Oxnard and Santa Paula Basins) and local extractions from within the Basin. Surface water and groundwater is imported from the Ventura River Watershed to the north, which supplements the water supply for the Basin. There are no active domestic well users within the Basin; drinking water is exclusively provided by the City of Ventura (i.e., Ventura Water). There are approximately 25 active extraction wells within the Basin and most of the extracted water is for agricultural beneficial uses.

Four water-bearing Hydrostratigraphic Units (HSUs) have been identified within the Mound Basin (United, 2018), and two of them are identified as principal aquifers: the Mugu Aquifer and the Hueneme Aquifer. The other HSUs (Shallow Alluvial Deposits and Fox Canyon Aquifer) are not considered principal aquifers and are therefore not managed because the Shallow Alluvial Deposits aquifer does not meet the SGMA definition of a principal aquifer to “store, transmit, and yield significant or economic quantities of groundwater…”, and the Fox Canyon Aquifer does not have material groundwater extractions. Extraction wells within the basin extract water from the principal Mugu and Hueneme Aquifers and a very minor amount from the Fox Canyon Aquifer. The Shallow Alluvial Deposits are hydraulically disconnected from the principal aquifers and have no groundwater extraction. Owing to

the lack of material hydraulic connection between principal aquifers and the Shallow Alluvial Deposits and surface water, the GSP deemed the depletions of interconnected surface water sustainability indicator inapplicable to the Basin. The GSP concluded that the five other sustainability indicators are applicable to the Basin.

2.0 Groundwater Conditions [§356.2(b)]

United Water Conservation District (UWCD, or United) and other local agencies have been collecting groundwater elevation and groundwater quality data from wells in Mound Basin and adjacent basins since the 1920s. United maintains a comprehensive, up-to-date database of groundwater elevations in Mound Basin, incorporating data collected by others, including the Ventura County Watershed Protection District (VCWPD) and the City of Ventura that supplement the data collected by United. All the above-described data have been incorporated into the MBGSA Data Management System (DMS), which is described in the GSP (MBGSA, 2021). A copy of the monitoring data is included in Appendix A.

This section describes data updates to precipitation and water year types for the Basin, groundwater elevations, groundwater quality, groundwater extraction, surface water supplies, total water use, and the change in storage for the principal aquifers in the Basin and the Basin as a whole.

2.1 Precipitation and Water Year Types

Precipitation data were provided by the Ventura County Public Works Agency from gages 066E (Downtown Ventura), 167 (Hall Canyon), and 222A (County Government Center), and were updated for water years 2020 and 2021 (Figure 2.1 and Figure 2.2). Total precipitation for water years 2020 and 2021 was 11.95 and 3.4 inches, respectively, compared to the average of 15.46 inches at gage 222A for 1986-2021 (MBGSA, 2021). Most infiltration of precipitation recharges the Shallow Alluvial Deposits, although some infiltration of precipitation occurs at the outcrops of the Hueneme and Fox Canyon aquifers in the foothills in the northern part of Mound Basin. Precipitation on the valley floor contributes to recharge to the Shallow Alluvial Deposits, or runoff, and does not add volume to the principal aquifers.

The water year types for 2020 and 2021 were near-average and dry, respectively (Figure 2.2), and were determined using the alternative water year type classification system developed by MBGSA, as described in the GSP (MBGSA, 2021).

2.2 Groundwater Elevations [§356.2(b)(1)(A),(B)]

§356.2 Annual Reports. *Each Agency shall submit an annual report to the Department by April 1 of each year following the adoption of the Plan. The annual report shall include the following components for the preceding water year:*

(b) *A detailed description and graphical representation of the following conditions of the basin managed in the Plan:*

(1) Groundwater elevation data from monitoring wells identified in the monitoring network shall be analyzed and displayed as follows:

(A) Groundwater elevation contour maps for each principal aquifer in the basin illustrating, at a minimum, the seasonal high and seasonal low groundwater conditions.

(B) Hydrographs of groundwater elevations and water year type using historical data to the greatest extent available, including from January 1, 2015, to current reporting year.

Groundwater elevations were updated through water year 2021 for the wells in the monitoring network for each principal aquifer (Mugu and Hueneme), which are provided by Ventura County and United (Figures 2.3 and 2.4). One Mugu aquifer well (02N22W08P01S) was reported to be destroyed in 2020 and has been removed from the monitoring network. This well is in very close proximity to another well in the monitoring network (02N22W08G01S; within the Ventura County Government Center lot), so removing it from the monitoring network does not create a data gap.

2.2.1 Groundwater Elevation Contours [§356.2(b)(1)(A)]

Groundwater elevation contours were delineated for seasonal lows and highs for water years 2020 and 2021 in each of the principal aquifers of the Mound Basin. The United numerical groundwater model output (United, 2021) and supplemental monitoring well data outside of the Basin were used to assist the interpretation of the gradient and flow directions within and around the edges of the Basin.

As discussed in the GSP (MBGSA, 2021), Mound Basin is structurally complex. The regional groundwater flow pattern is from east-northeast to the southwest, generally towards the Pacific Ocean; however, localized flow patterns exist in the vicinity of extraction wells depending on their activity and flow directions are observed toward the south and east in some cases during the reporting period. Available information indicates that Mound Basin receives groundwater underflow from both the Santa Paula Basin to the east and the Oxnard Forebay/Oxnard Plain to the south (United, 2018). This Annual Report shows areas of flows out of Mound Basin to the Oxnard Forebay/Oxnard Plain during the reporting period, which is based on observed groundwater levels outside of the Basin area.

Mugu Aquifer

Groundwater levels measured for the water year 2020 fall-low season (October of 2019) were used as the basis for interpolating the contours shown on Figure 2.5 and indicate flow directions generally formed a radial pattern toward well 02N22W19M04S. The interpolated contours based on groundwater level measurements for the 2020 spring-high season (April of 2020) are generally consistent with the 2020 fall-low contours, and flow directions remained toward well 02N22W19M04S (Figure 2.6).

Groundwater levels measured for the water year 2021 fall-low season (October of 2020) slightly increased compared the 2020 fall-low measurements and the interpolated contours indicated flow directions were consistently toward well 02N22W19M04S (Figure 2.7). The interpolated contours for the

2021 spring-high season are generally consistent with the 2020 spring-high contours and flow directions remained toward well 02N22W19M04S (Figure 2.8).

Hueneme Aquifer

Groundwater levels measured for the water year 2020 fall-low season (October of 2019) were used as the basis for interpolating the contours shown on Figure 2.9 and indicated flow directions were generally toward well 02N22W17Q05S; however, there were also localized radial flow patterns toward groundwater depressions at wells 02N22W13K04S and 02N22W10N03S – these wells are both active irrigation wells. The steep gradient indicated by the closely spaced contours near well 02N22W10N03S are inferred based on model results. There are also anomalous data points for some wells (02N22W09L03S/L04S, 02N22W20E01S and 02N22W17M02S) which are not contoured, and their discrepancies are likely due to changes in pumping status and/or screen depth. Groundwater levels measured for the 2020 spring-high season increased compared to the 2019 spring-high measurements. Flow directions were generally toward the southwest; however, there are also localized radial flow patterns toward groundwater depressions at wells 02N22W20E01S and 02N22W10N03S – these wells are both active irrigation wells (Figure 2.10). Anomalous data are noted at wells 02N22W09L03S/L04S and 02N22W17M02S.

Groundwater levels measured for the water year 2021 fall-low season (October of 2020) increased by an average of approximately 10 ft at 4 wells located in the central part of the Basin (02N22W24G01S, 02N22W13K04S, 02N22W07M01S and 02N22W17M02S). Flow directions were primarily toward the south, toward wells 02N22W17Q05S and 02N22W20E01S (Figure 2.11). Anomalous data are noted at wells 02N22W09L03S/L04S and 02N22W17M02S. Groundwater levels and contours for the 2021 spring-high season were generally consistent with the 2020 spring-high map (Figure 2.12), with anomalous data noted at wells 02N22W09L03S/L04S and 02N22W17M02S.

2.2.2 Groundwater Elevation Hydrographs [§356.2(b)(1)(B)]

Groundwater elevation hydrographs for the monitoring network for each principal aquifer (Mugu and Hueneme) along with the water year types are shown on Figures 2.13 and 2.14. The temporal trend for all monitoring wells is generally upward since 2019; however, the dry water year 2021 show decreases in groundwater levels for some wells (e.g., 02N22W07P01S and 02N22W19M04S for the Mugu Aquifer and 02N22W17Q05S and 02N22W20E01S for the Hueneme Aquifer).

2.3 Groundwater Quality

Figures 2.15 and 2.16 show the locations for the monitoring network for groundwater quality data for the Mugu and Hueneme aquifers, respectively. Maps of maximum concentrations of the key indicator constituents for 2020-2021 in the Mugu and Hueneme aquifers are shown on Figures 2.17 through 2.24 and discussed in further detail below.

Mugu Aquifer

Total dissolved solids (TDS), sulfate, chloride, nitrate, and boron were analyzed for water years 2020 and 2021 in the 3 monitoring wells screened in the Mugu Aquifer (including well 02N22W08G01S with a screen interval extending below the Mugu Aquifer). These 3 wells are located along the west-southwest to east-northeast axis of the Basin (Figures 2.17 through 2.20).

The average TDS analyzed in 2020-2021 in wells screened in the Mugu Aquifer in Mound Basin ranged from 893 to 2,025 milligrams per liter (mg/L) (Figure 2.17). The highest TDS concentration was in well 02N22W08G01S and is not considered representative of Mugu Aquifer groundwater quality. The range of maximum TDS concentrations measured in the remaining two wells is 910 to 970 mg/L (Figure 2.17).

The average sulfate analyzed in 2020-2021 in wells screened in the Mugu Aquifer in Mound Basin ranged from 316 to 1,002 mg/L (Figure 2.18). Similar to TDS, the highest sulfate concentration was in well 02N22W08G01S and is not considered representative of Mugu Aquifer groundwater quality. The range of maximum sulfate concentrations in the remaining two wells is 323 to 385 mg/L (Figure 2.18).

The average chloride analyzed in 2020-2021 in wells screened in the Mugu Aquifer in Mound Basin ranged from 46 to 98 mg/L (Figure 2.19). Similar to TDS and sulfate, the highest chloride concentration was in well 02N22W08G01S and is not considered representative of Mugu Aquifer groundwater quality. The range of maximum chloride concentrations in the remaining two wells is 47 to 54 mg/L (Figure 2.19).

The average nitrate analyzed in 2020-2021 in wells screened in the Mugu Aquifer in Mound Basin ranged from below the detection limit (0.4 mg/L) to 6.8 mg/L (Figure 2.20). Similar to TDS, sulfate, and chloride, the highest nitrate concentration was in well 02N22W08G01S and is not considered representative of Mugu Aquifer groundwater quality. Nitrate is below the detection limit (0.4 mg/L) for the remaining wells (Figure 2.20).

The average boron analyzed in 2020-2021 in wells screened in the Mugu Aquifer in Mound Basin ranged from 0.4 to 0.6 mg/L.

Hueneme Aquifer

TDS, sulfate, chloride, nitrate, and boron were analyzed in 2020-2021 at seven wells screened in the Hueneme Aquifer (including well 02N23W13F02S with a screen interval extending above the Hueneme Aquifer). Five of these wells are located along the west-southwest to east-northeast axis of the Basin, and the remaining two (the 02N22W09L03/04 cluster) are located in the southeast quadrant of the Basin (Figures 2.21 through 2.24). It is noted that wells 02N23W13K03S, 02N22W08F01S, and 02N22W09L04S exhibit anomalously high concentrations of TDS, sulfate, chloride, and nitrate, suggesting influence of shallow groundwater, possibly through a compromised well seal or well casing. Thus, the elevated concentrations of TDS, sulfate, and chloride reported for these wells should not be considered representative of Hueneme Aquifer groundwater quality.

The average TDS analyzed in 2020-2021 in wells screened in the Hueneme Aquifer in Mound Basin ranged from 1,067 to 6,570 mg/L (Figure 2.21). The highest TDS concentration was in well 02N22W09L04S and is not considered representative of Hueneme Aquifer groundwater quality. TDS concentrations have recently been observed to be elevated in wells 02N23W13K03S and 02N22W08F01S; however, concentrations are much lower in 2020 and 2021. Excluding the wells known with anomalously high concentrations, the range of average TDS is 1,080 to 1,350 mg/L (Figure 2.21).

The average sulfate analyzed in 2020-2021 in wells screened in the Hueneme Aquifer in Mound Basin ranged from 394 to 3,593 mg/L (Figure 2.22). The highest sulfate concentration was in well 02N22W09L04S and is not considered representative of Hueneme Aquifer groundwater quality. Sulfate concentrations have recently been observed to be elevated at wells 02N23W13K03S and

02N22W08F01S; however, concentrations are much lower in 2020 and 2021. Excluding the wells known with anomalously high concentrations, the range of average sulfate is 394 to 533 mg/L (Figure 2.22).

The average chloride analyzed in 2020-2021 in wells screened in the Hueneme Aquifer in Mound Basin ranged from 67 to 104 mg/L (Figure 2.23). The highest chloride concentration was in well 02N22W09L04S and is not considered representative of Hueneme Aquifer groundwater quality. Chloride concentrations have recently been observed to be elevated at well 02N23W13K03S; however, concentrations are much lower in 2020 and 2021. Excluding the wells known with anomalously high concentrations, the range of average chloride is 67 to 87 mg/L (Figure 2.23).

The average nitrate analyzed in 2020-2021 in wells screened in the Hueneme Aquifer in Mound Basin ranged from less than the laboratory detection limit (0.4 mg/L) to 104 mg/L (Figure 2.24). The highest nitrate concentration was in well 02N22W09L04S and is not considered representative of Hueneme Aquifer groundwater quality. Excluding the wells known with anomalously high concentrations, the average nitrate does not exceed 0.4 mg/L (Figure 2.24). Nitrate concentrations were below the detection limit at four out of seven wells in the Hueneme Aquifer in Mound Basin.

The average boron concentrations in 2020-2021 in wells screened in the Hueneme Aquifer in Mound Basin ranged from less than the laboratory detection limit (0.1 mg/L) to 0.7 mg/L.

2.4 Groundwater Extraction [§356.2(b)(2)]

§356.2 Annual Reports. *Each Agency shall submit an annual report to the Department by April 1 of each year following the adoption of the Plan. The annual report shall include the following components for the preceding water year:*

(b) *A detailed description and graphical representation of the following conditions of the basin managed in the Plan:*

(2) Groundwater extraction for the preceding water year. Data shall be collected using the best available measurement methods and shall be presented in a table that summarizes groundwater extractions by water use sector, and identifies the method of measurement (direct or estimate) and accuracy of measurements, and a map that illustrates the general location and volume of groundwater extractions.

Groundwater extraction data was provided by United, which requires reporting of groundwater extraction volumes on a semi-annual basis pursuant to its Water Code powers. The City of Ventura reports its monthly groundwater extractions for its wells in Mound Basin (currently 02N22W08G01S/Mound#1 and 02N22W08F01S/Victoria#2) to MBGSA.

The semi-annual groundwater extraction volumes are reported to UWCD for the periods January-June and July-December. MBGSA used the semi-annual reporting to estimate extractions for water years for 2020 and 2021 according to the following methodology. First, the semi-annual volumes were converted to monthly volumes using methods derived from the United numerical groundwater model input process, which uses precipitation data to determine the monthly pumping for each extraction well (United, 2018; 2021). The available semi-annual data ends in June 2021, so data for July, August, and September 2021 (to complete the 2021 water year) were estimated based on prior trends for the summer season, which have very similar precipitation amounts (≤0.04 inches per month). The estimated data for the missing months will be updated for prior water years in the subsequent Annual Report, and any major discrepancies between estimated and actual extractions will be noted. The estimated

groundwater extraction from the United data was supplemented with the extraction data provided by the City of Ventura to calculate the total extraction for water years 2020 and 2021. Groundwater extraction due to native vegetation was estimated for water years 2020 and 2021 based on the numerical model (MBGSA, 2021; United, 2018; 2021) evapotranspiration results for the baseline historical and current periods (1986-2019) for similar water years; for water year 2020, the average ET for a near-average water year type was used (1,200 AF), and for water year 2021, the average ET for a dry water year type was used (1,193 AF).

The extraction volumes for water years 2020 and 2021 are summarized by water use sector in Table 2.1. Extraction volumes due to pumping for 2020 decreased by ~25% compared to 2019, and volumes for 2021 are consistent with 2020. Agricultural groundwater use accounts for 49% and 55% of total extraction due to pumping for water years 2020 and 2021, respectively, compared to 45% for 2019. The volumes extracted from each well in the principal aquifers for water years 2020 and 2021 are shown on Figures 2.25 and 2.26, respectively.

2.5 Surface Water Supply [§356.2(b)(3)]

§356.2 Annual Reports. *Each Agency shall submit an annual report to the Department by April 1 of each year following the adoption of the Plan. The annual report shall include the following components for the preceding water year:*

***(b)** A detailed description and graphical representation of the following conditions of the basin managed in the Plan:*

(3) Surface water supply used or available for use, for groundwater recharge or in-lieu use shall be reported based on quantitative data that describes the annual volume and sources for the preceding water year.

The City of Ventura (Ventura Water) purchases surface water from the Casitas Municipal Water District (CMWD). Surface water is imported to Mound Basin via pipeline from CMWD and volumes are metered monthly. Total volumes for imported surface water for water years 2020 and 2021 are 2,362 AF/yr and 3,447 AF/yr, respectively. The estimated surface water use within the Mound Basin portion of the overall Ventura Water service area was estimated as described in Section 2.6, and is shown on Table 2.2 and Figure 2.27.

2.6 Total Water Use [§356.2(b)(4)]

§356.2 Annual Reports. *Each Agency shall submit an annual report to the Department by April 1 of each year following the adoption of the Plan. The annual report shall include the following components for the preceding water year:*

***(b)** A detailed description and graphical representation of the following conditions of the basin managed in the Plan:*

(4) Total water use shall be collected using the best available measurement methods and shall be reported in a table that summarizes total water use by water use sector, water source type, and identifies the method of measurement (direct or estimate) and accuracy of measurements. Existing water use data from the most recent Urban Water Management Plans or Agricultural Water Management Plans within the basin may be used, as long as the data are reported by water year.

Total water use to meet agricultural, municipal and industrial demand within Mound Basin is sourced from groundwater extractions, imported surface water, and imported groundwater. Ventura Water (City of Ventura) purchases surface water from Casitas Municipal Water District (Lake Casitas) and imports groundwater from the Santa Paula, Oxnard, and Upper Ventura River Basins, and this water is used for municipal and industrial purposes. Alta Mutual Water Company (Alta) imports groundwater from the Santa Paula and Oxnard Basins, and Farmers Irrigation Company (FICO) imports groundwater from the Santa Paula Basin, both using water for agricultural purposes. Groundwater extracted from the Mound Basin is used for agricultural, municipal, and industrial purposes.

Estimation of the total water use within the Mound Basin is complicated by the fact that the Mound Basin is only a portion of the Alta, FICO, and Ventura Water service areas. This annual report uses the simplifying assumptions described in GSP Section 3.1.1.3 for Alta and FICO. Estimation of water use within the Mound Basin portion of the overall Ventura Water service area and the breakdown of the associated Ventura Water supply sources that met the demands required additional analysis beyond that presented in the GSP. The estimation approach is as follows:

1. Calculate the total water supplies from all Ventura Water sources for entire Ventura Water service area.

2. Multiply the total Ventura Water supplies by the fraction of Ventura Water service area located within in the Mound Basin (64%) (See Figure 1.1).

3. Satisfy the demand calculated in step no. 2 by allocating Ventura Water supplies in the following priority order:

    a. Mound Basin groundwater extracted by Ventura Water.

    b. Oxnard Basin groundwater extracted by Ventura Water (after accounting for estimated Ventura Water deliveries within the Oxnard Basin portion of the overall Ventura Water service area using an approach similar to steps nos. 1 and 2).

    c. Satisfy remaining demand using equal parts Casitas MWD surface water deliveries and Upper Ventura River Valley Basin groundwater extracted by Ventura Water. If either source did not produce enough to satisfy the remaining demand it is then satisfied with the other source.

    d. Any remaining demand is satisfied using Santa Paula Basin groundwater extracted by Ventura Water.

The total estimated water use within Mound Basin for water years 2020 and 2021 were 13,634 AF/yr and 14,568 AF/yr, respectively (see Table 2.2 and Figure 2.27). The estimated volumes supplied by the various water sources to meet these demands are broken out in Table 2.2 and Figure 2.27. The increase in water uses for water year 2021 was likely due to the drier than normal conditions and demands increased the most in the municipal and industrial sector.

2.7 Change in Storage [§356.2(b)(5)(A),(B)]

§356.2 Annual Reports. *Each Agency shall submit an annual report to the Department by April 1 of each year following the adoption of the Plan. The annual report shall include the following components for the preceding water year:*

(b) *A detailed description and graphical representation of the following conditions of the basin managed in the Plan:*

(5) Change in groundwater in storage shall include the following:

(A) Change in groundwater in storage maps for each principal aquifer in the basin.

(B) A graph depicting water year type, groundwater use, the annual change in groundwater in storage, and the cumulative change in groundwater in storage for the basin based on historical data to the greatest extent available, including from January 1, 2015, to the current reporting year.

Groundwater levels were used to estimate the change in storage for the Mugu and Hueneme Aquifers (principal aquifers) for water years 2020 and 2021. The difference in groundwater levels between spring high measurements (for 2019-2020 and 2020-2021) were interpolated to produce a raster grid for each aquifer and water year, which was then multiplied by grids of the storativity and aquifer areas derived from the United numerical groundwater model (United, 2021). The interpolation was fixed at zero at the northern edge of the Basin, and the coastline was assumed a constant value equal to the head difference at the coast well 02N23W15J01S/J02S. Groundwater level differences from outside the basin were also used to guide the interpolation near the eastern and southern Basin boundaries. A portion of the Hueneme Aquifer to the north is unconfined, so the specific yield value was used to calculate the change in storage in that area.

The change in storage maps for both aquifers for water years 2020 and 2021 are shown on Figures 2.28 through 2.31. The Mugu and Hueneme storage for 2020 increased by 24 AF and 926 AF, respectively. The Mugu and Hueneme storage for 2021 increased by 2 AF and 275 AF, respectively. These change in storage values are reasonable compared to the modeled values reported in the GSP (MBGSA, 2021).

Figure 2.32 shows the water year type, groundwater use, the annual change in groundwater in storage for the entire Basin, and the cumulative change in groundwater in storage for the entire Basin, starting in 1986. The change in storage between spring high water years for the Basin was calculated using the numerical model for years 1986 to 2019 (MBGSA, 2021). Values for 2020 and 2021 were estimated using the storage curve approach (see Appendix K in the GSP; MBGSA, 2021) and were 3,509 AF and 755 AF, respectively. Based on the historical model results, the change in storage for the Mugu and Hueneme Aquifers ranged 2% to 45% of the total, averaging ~24% for the dry water years. For 2020 and 2021, the estimated change in storage for the Mugu and Hueneme aquifers were 25% and 37% of the basin total, respectively, which is within the expected range.

3.0 Plan Implementation [§356.2(c)]

§356.2 Annual Reports. *Each Agency shall submit an annual report to the Department by April 1 of each year following the adoption of the Plan. The annual report shall include the following components for the preceding water year:*

(c) A description of progress towards implementing the Plan, including achieving interim milestones, and implementation of projects or management actions since the previous annual report.

The plan implementation for the MBGSA GSP was initiated with the submittal of the GSP to DWR in December of 2021. The progress towards implementing the Mound Basin GSP is evaluated through comparing monitoring data to the SMC for each applicable sustainability indicator for the past two water years (2020 and 2021). The monitoring data consists of groundwater levels, groundwater quality, and subsidence measurements. The monitoring networks are still being developed for part the Basin, regardless, all currently available data are evaluated for this Annual Report.

3.1 Chronic Lowering of Groundwater Levels

The SMC for the chronic lowering of groundwater levels sustainability indicator are evaluated using groundwater level measurements. Groundwater levels were measured in five wells in the Mugu Aquifer and 13 wells in the Hueneme Aquifer. The historical and current groundwater levels were plotted against the minimum thresholds, measurable objectives, and interim measures along with water year types for each monitoring well (Figures 2.13 and 2.14).

The water level data is summarized in Table 3.1 and based on these results, the implementation of the plan for the chronic lowering of groundwater levels is in very good status. For the Mugu Aquifer monitoring wells, the minimum threshold was only exceeded for one measurement (in well 02N22W07M02S) in late 2019, but since then, the groundwater levels have recovered. Otherwise, all minimum groundwater levels are currently above their respective minimum thresholds and have generally increased from water years 2020 to 2021. Currently, two monitoring wells have groundwater levels meeting their 5-year interim measures, two are between the minimum threshold and 5-year interim milestone, and one is meeting its measurable objective.

For the Hueneme Aquifer monitoring wells, most (77%) of the minimum groundwater levels are currently meeting their respective measurable objective (Table 3.1). Overall, current groundwater levels are relatively low due to the unusually dry 2021 water year but may recover over the winter season.

3.2 Reduction of Groundwater Storage

Groundwater extractions are directly measured and recorded to determine their relation to the measurable objective and minimum threshold for the reduction of groundwater storage sustainability indicator. The minimum threshold for the reduction of groundwater storage sustainability indicator is the estimated sustainable yield of 8,200 AF/yr of the Basin. The minimum threshold applies over an averaging period, so groundwater extractions exceeding the minimum threshold in any given year do not automatically indicate undesirable results are occurring in the Basin. The measurable objective is 90% of the sustainable yield (i.e., 7,400 AF/yr). For water years 2020 and 2021, the total groundwater extraction was 5,167 AF/yr and 5,091 AF/yr, respectively, which meet the measurable objective (Table 3.2).

3.3 Seawater Intrusion

Seawater intrusion is monitored using the chloride concentrations from the water quality data. The chloride data is contoured and compared to the minimum threshold isocontour, which was established for the GSP (MBGSA, 2021). Figures 3.1 and 3.2 show the chloride isocontours for the Mugu and Hueneme Aquifers, respectively. The isocontours indicate the measurable objective is reached for both the Mugu and Hueneme Aquifers.

3.4 Degraded Water Quality

Groundwater quality is monitored for water years 2020 and 2021 in three monitoring wells for the Mugu Aquifer and seven monitoring wells for the Hueneme Aquifer. TDS, sulfate, chloride, nitrate, and boron are analyzed and compared against the SMC for the degraded water quality sustainability indicator. The water quality data is described in Section 2.3 above, and Tables 3.3 and 3.4 show the average concentrations for the water years 2020-2021 period in the Mugu and Hueneme Aquifers, against the minimum thresholds and measurable objectives for the degraded water quality sustainability indicator. The measurable objective was met for each analyte (Table 3.3) and monitoring well (Table 3.4) during water years 2020 and 2021, with no concentrations exceeding their respective minimum thresholds.

3.5 Land Subsidence

Land subsidence is only monitored for the Eastern Half of Mound Basin because the data coverage for the Western Half was determined to be unreliable (MBGSA, 2021). Groundwater levels are used as a proxy for the minimum thresholds in the Western Half of the Basin and have the same minimum threshold values as the chronic lowering of groundwater levels sustainability indicator (i.e., historical lows). For the Eastern Half of the Basin, if measured subsidence exceeds the minimum threshold (0.1 ft/yr), to determine whether InSAR-indicated land surface elevation changes were caused by groundwater conditions, InSAR data will only be considered when groundwater levels are below historical low levels.

Table 3.1 depicts the current results for groundwater levels and subsidence rates with respect to their minimum thresholds for the land subsidence sustainability indicator, and none have been exceeded for the Eastern Half of the Basin. For the Western Half monitoring wells, the minimum threshold was only exceeded for one measurement (in well 02N22W07M02S) in late 2019, but since then, the groundwater levels have recovered. Otherwise, identical to the chronic lowering of groundwater levels, all minimum groundwater levels for the land subsidence are currently above their respective minimum thresholds and have generally increased from water years 2020 to 2021. Currently, three monitoring wells have groundwater levels meeting their 5-year interim measures, and one is meeting its measurable objective. The subsidence datasets for 2020 and 2021 provided by DWR were downloaded, mapped, and reviewed (as presented in Figures 3.3 and 3.4). The DWR data includes land subsidence estimates for Mound Basin based on interferometric synthetic aperture radar (InSAR) measurements. The total estimated error is 0.1 ft (MBGSA, 2021), and the measured subsidence rate did not exceed 0.1 ft/yr in the Eastern Half of Mound Basin for water years 2020 and 2021.

3.6 Projects and Management Actions

3.6.1 Seawater Intrusion Monitoring Wells

During the reporting period, MBGSA applied for and was approved for DWR Technical Support Services to construct a clustered monitoring well in the Coast Area of the Basin to monitor for seawater intrusion (i.e., “Site A” depicted on Figures 3.1 and 3.2). MBGSA obtained an access agreement, completed CEQA, and obtained permits for the well in 2021. Construction is tentatively scheduled for Spring 2022.

3.6.2 Seawater Intrusion Contingency Plan

There was no activity on this task during the reporting period as the reporting period was prior to GSP adoption.

3.6.3 Land Subsidence Contingency Plan

There was no activity on this task during the reporting period as the reporting period was prior to GSP adoption.

3.6.4 Groundwater Quality Protection Measures

There was no activity on this task during the reporting period as the reporting period was prior to GSP adoption.

3.6.5 Interim Shallow Groundwater Data Collection and Analysis

During the reporting period, MBGSA confirmed the availability and accessibility of the shallow groundwater monitoring wells with the City of Ventura. MBGSA also began planning for collaborative monitoring with the City of Ventura and requested an access agreement from the City for the monitoring activities.

4.0 References

Mound Basin Groundwater Sustainability Agency (MBGSA). Groundwater Sustainability Plan. December, 2021.

United Water Conservation District (United). 2018. Ventura Regional Groundwater Flow Model and Updated Hydrogeologic Conceptual Model: Oxnard Plain, Oxnard Forebay, Pleasant Valley, West Las Posas, and Mound Basins, United Water Conservation District Open-File Report 2018-02, July.

_____. 2021. Ventura Regional Groundwater Flow Model Expansion and Updated Hydrogeologic Conceptual Model: Santa Paula, Fillmore, and Piru Groundwater Basins, United Water Conservation District Open-File Report 2021-01.

Figures

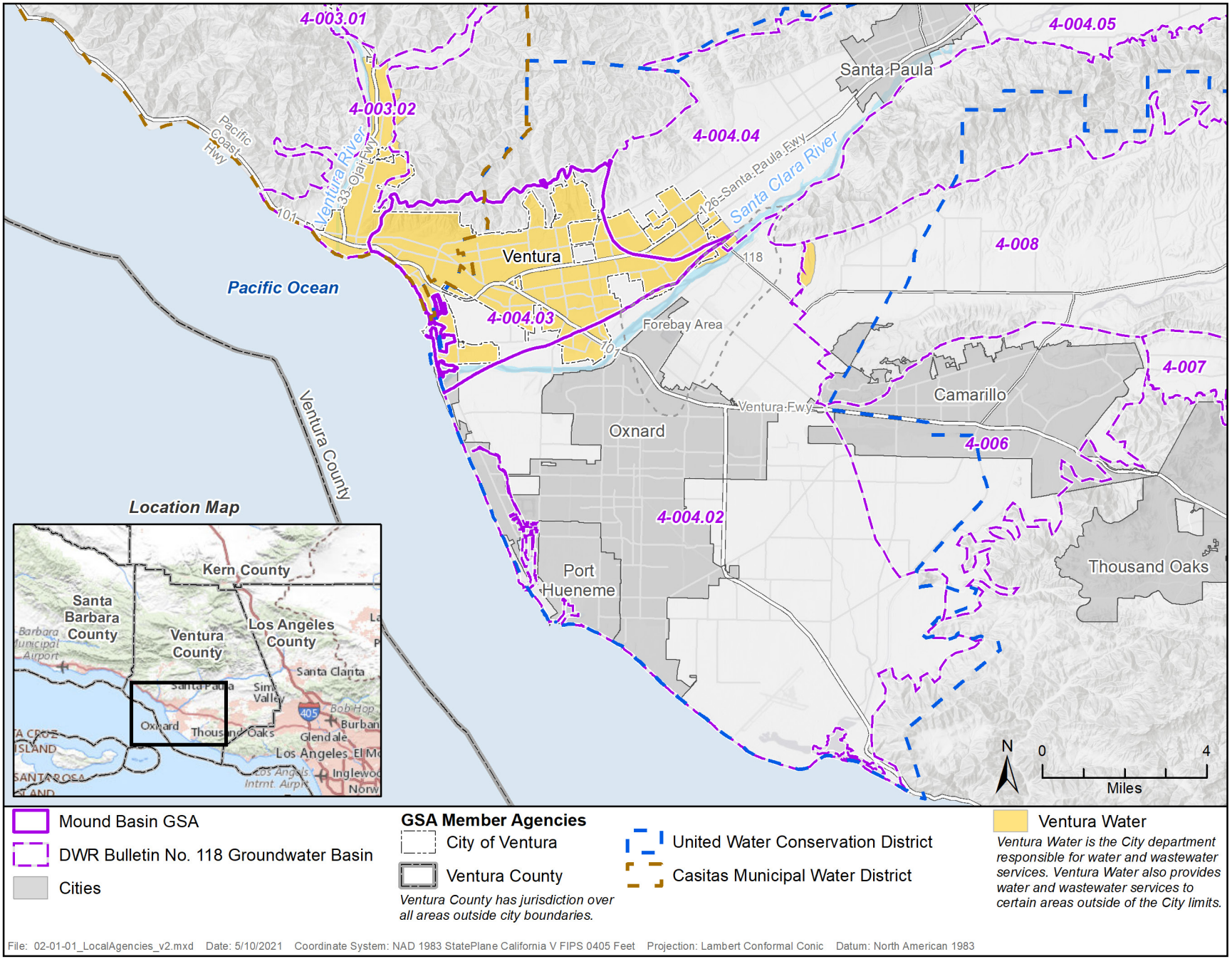

Figure 1.1 Mound Basin Groundwater Sustainability Agency Boundary Map.

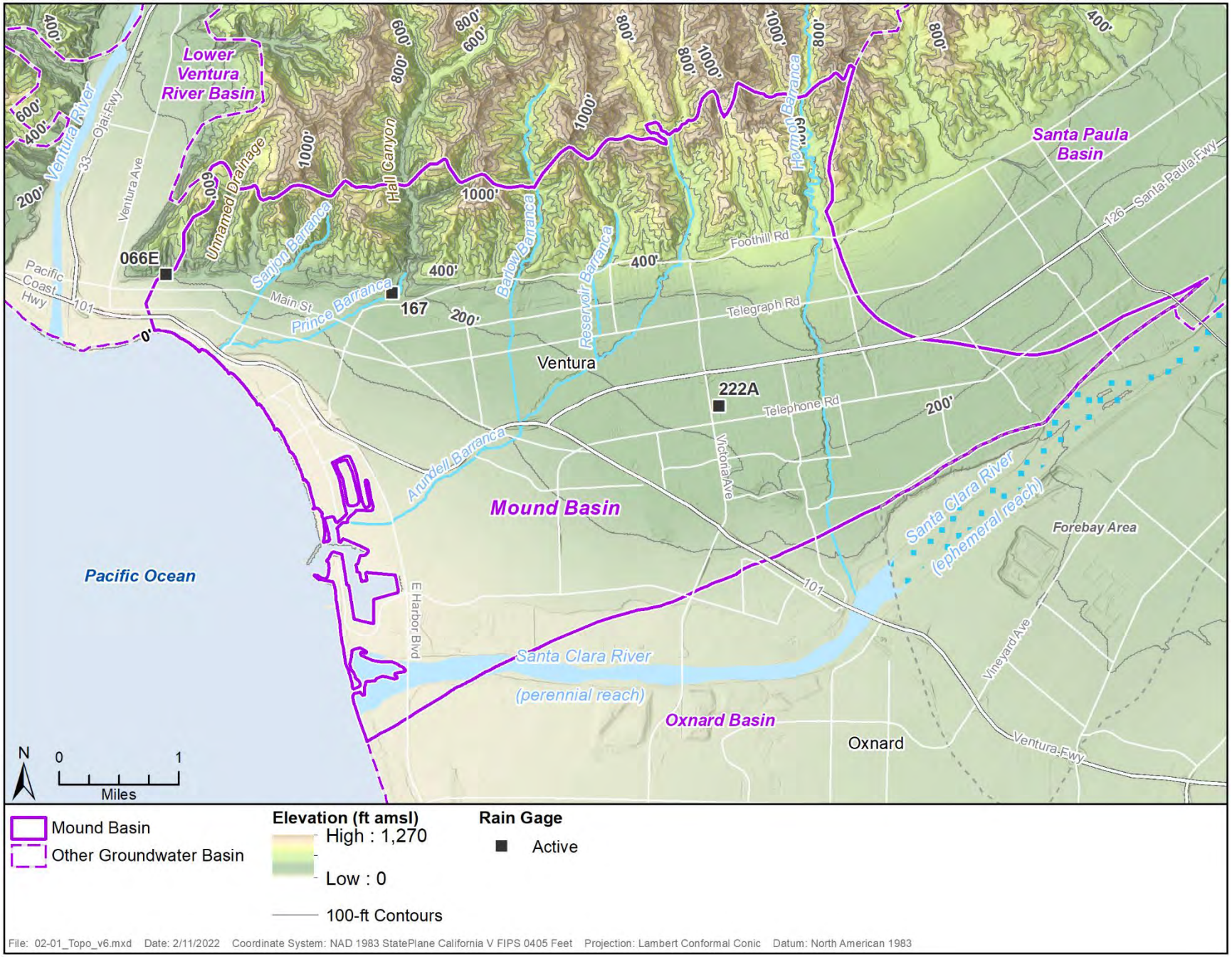

Figure 2.1 Topographic Map with Precipitation Gage Stations in Mound Basin.

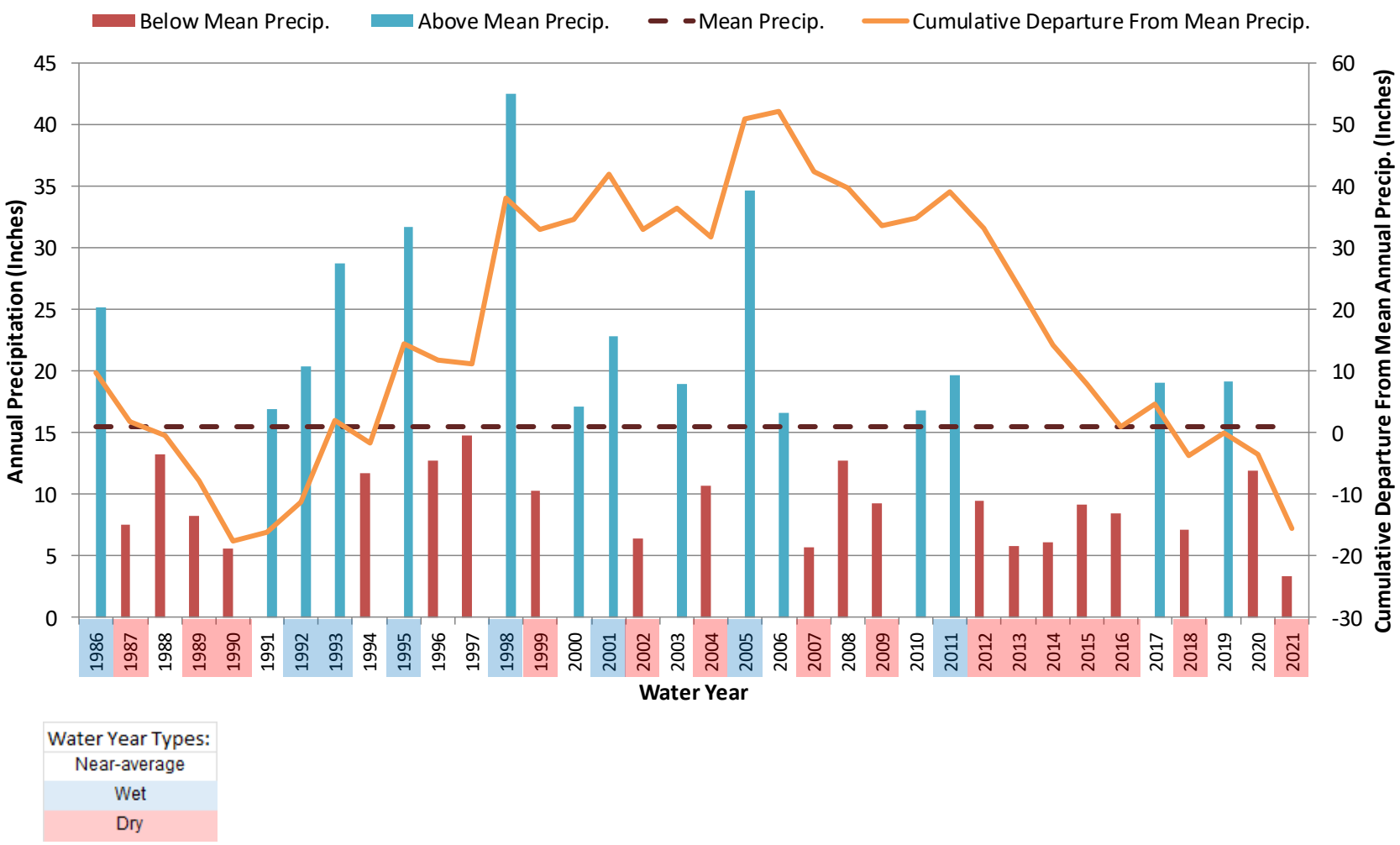

Figure 2.2 Annual Precipitation and Cumulative Departure from the Mean, with Water Year Types.

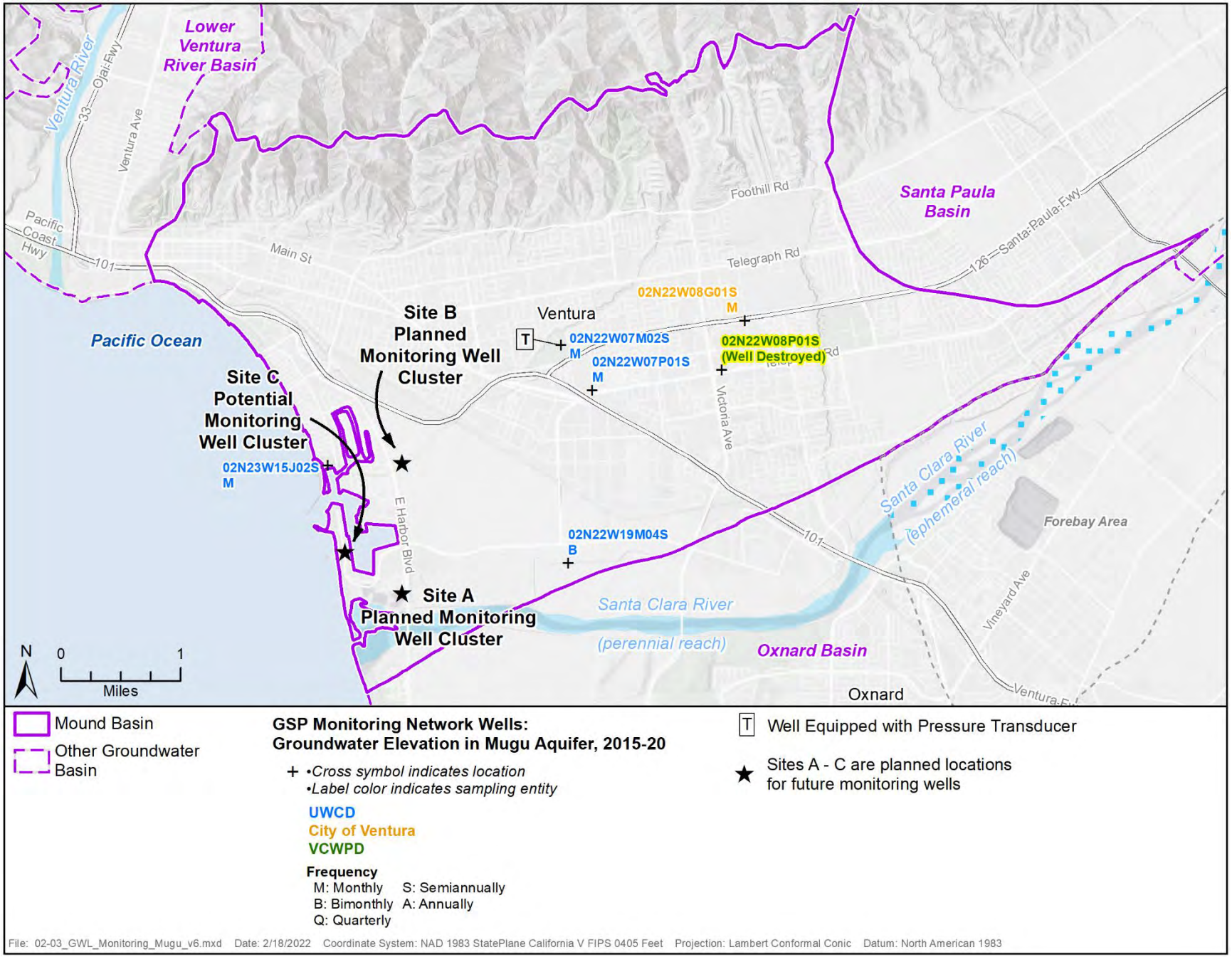

Figure 2.3 Map Showing the Groundwater Elevation Monitoring Network in the Mugu Aquifer of Mound Basin.

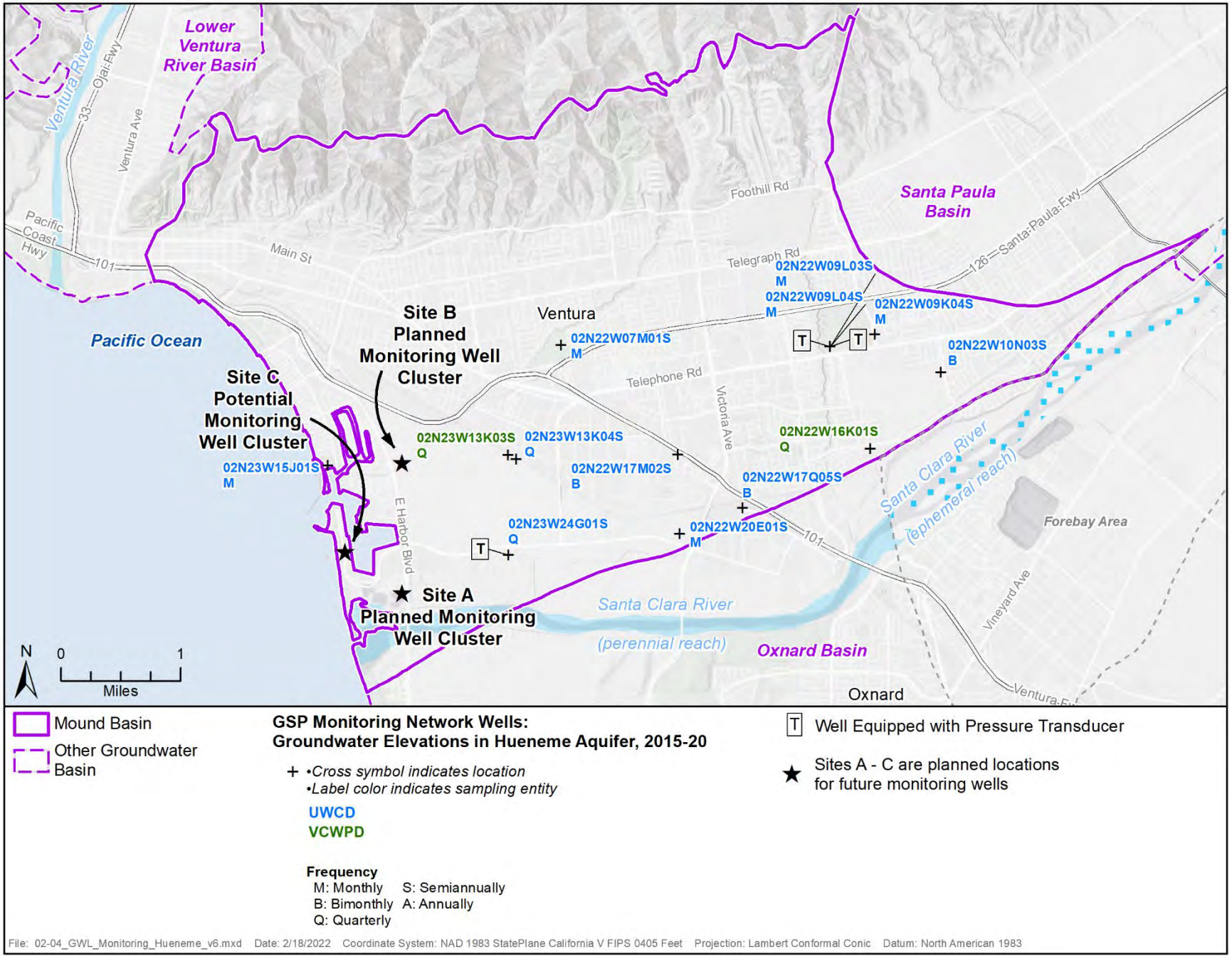

Figure 2.4 Map Showing the Groundwater Elevation Monitoring Network in the Hueneme Aquifer of Mound Basin.

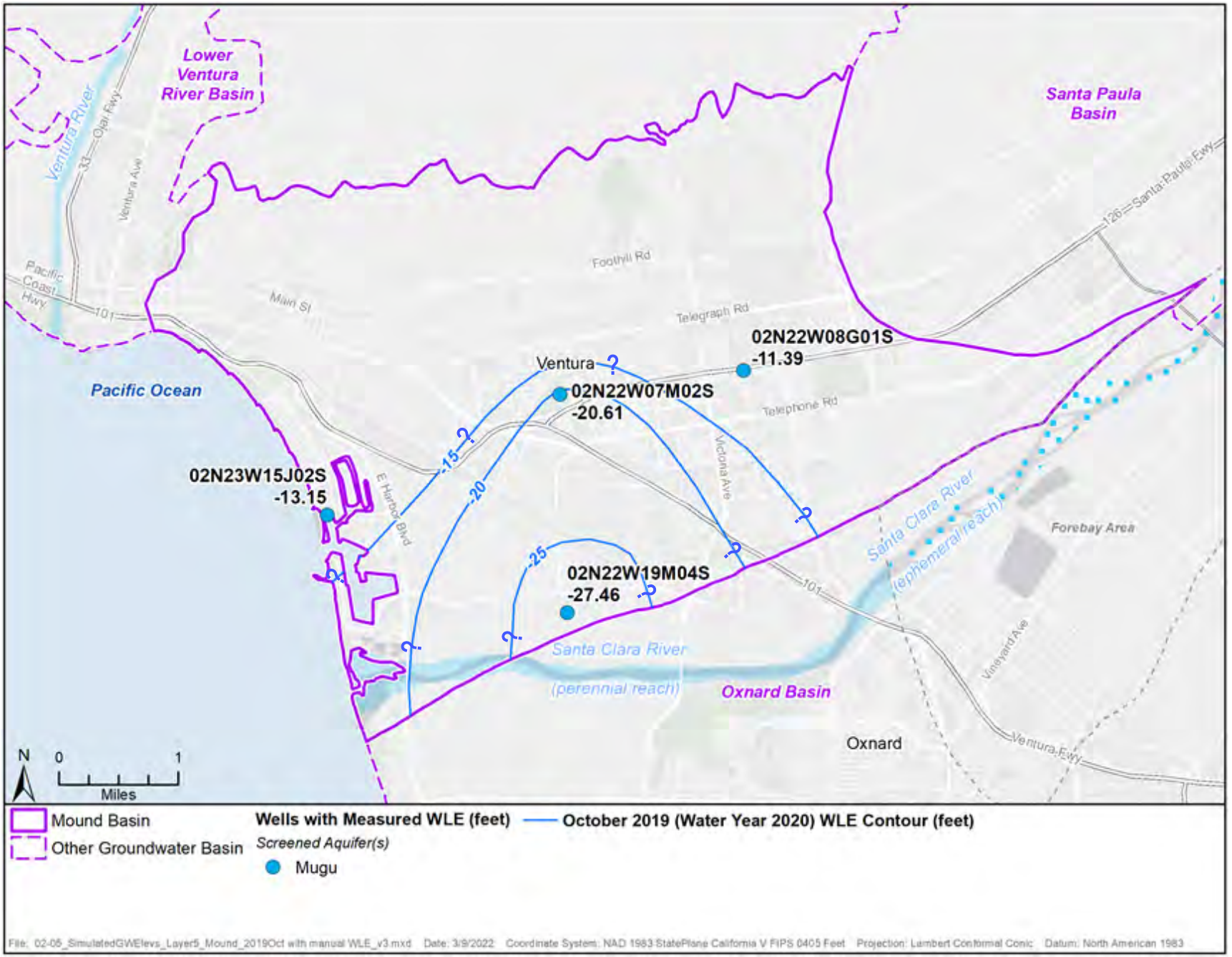

Figure 2.5 Water Level Elevation in Mugu Aquifer, October 2019 **(Fall-Low Water Year 2020)**.

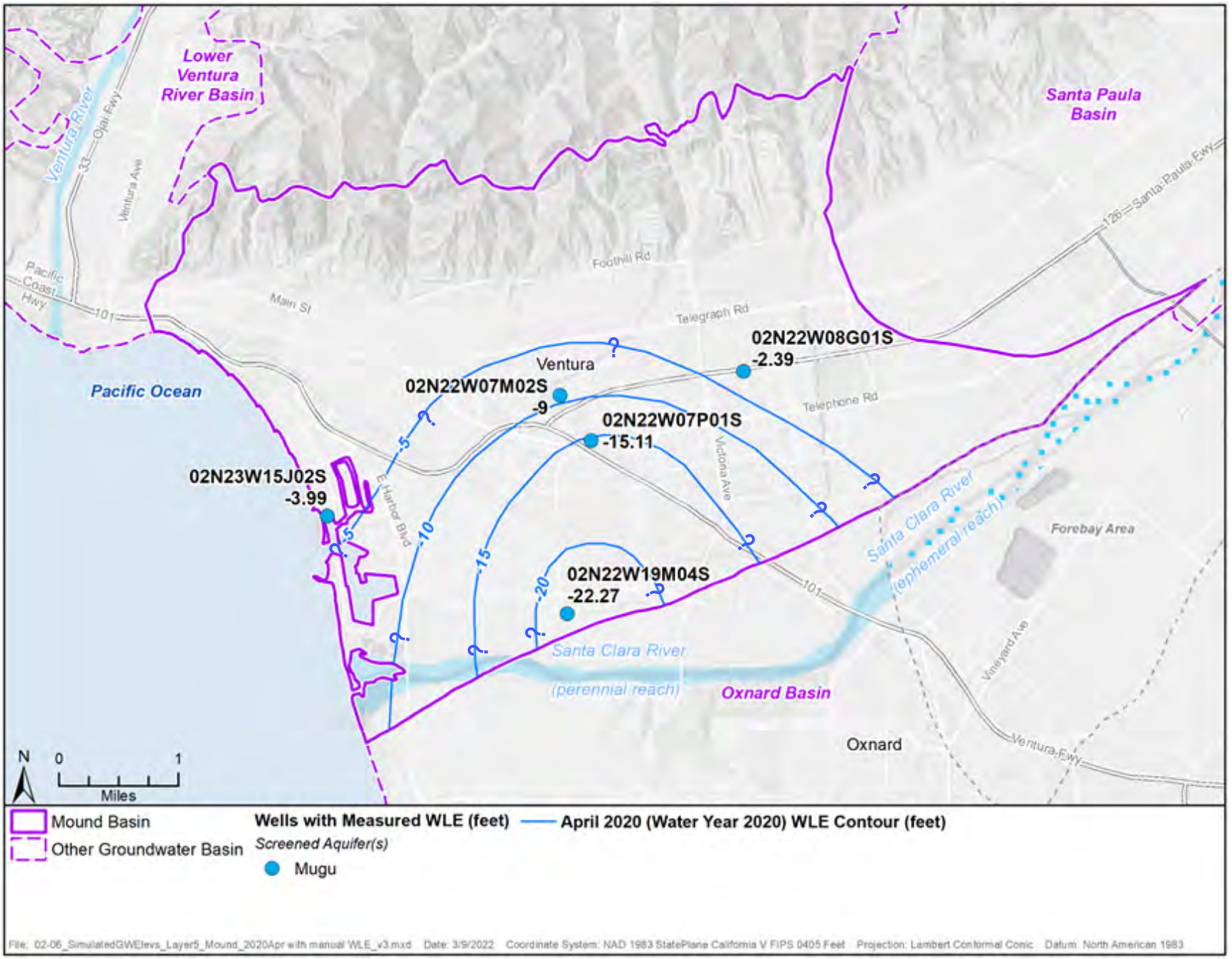

Figure 2.6 Water Level Elevation in Mugu Aquifer, April 2020 (Spring-High Water Year 2020).

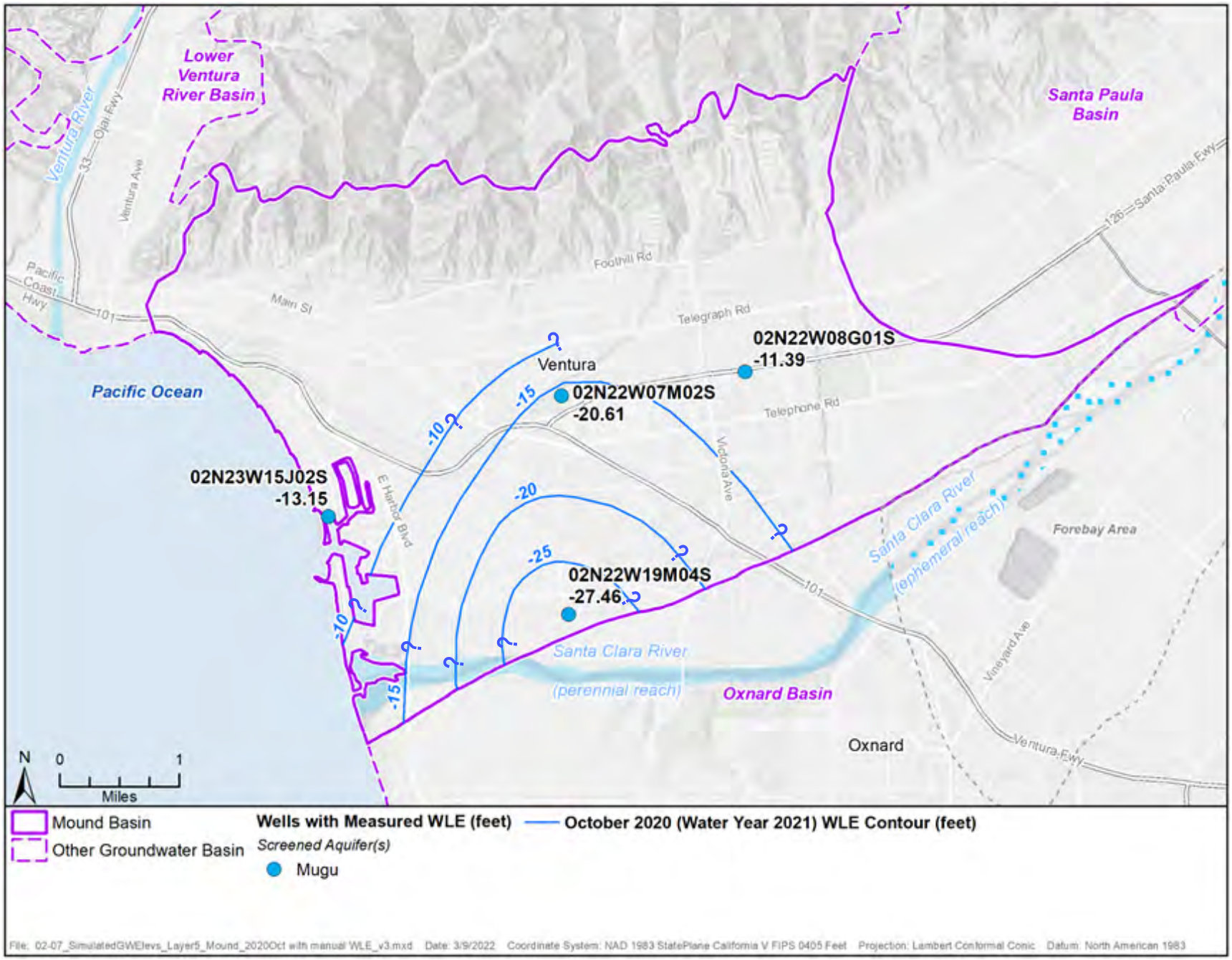

Figure 2.7 Water Level Elevation in Mugu Aquifer, October 2020 (Fall-Low Water Year 2021).

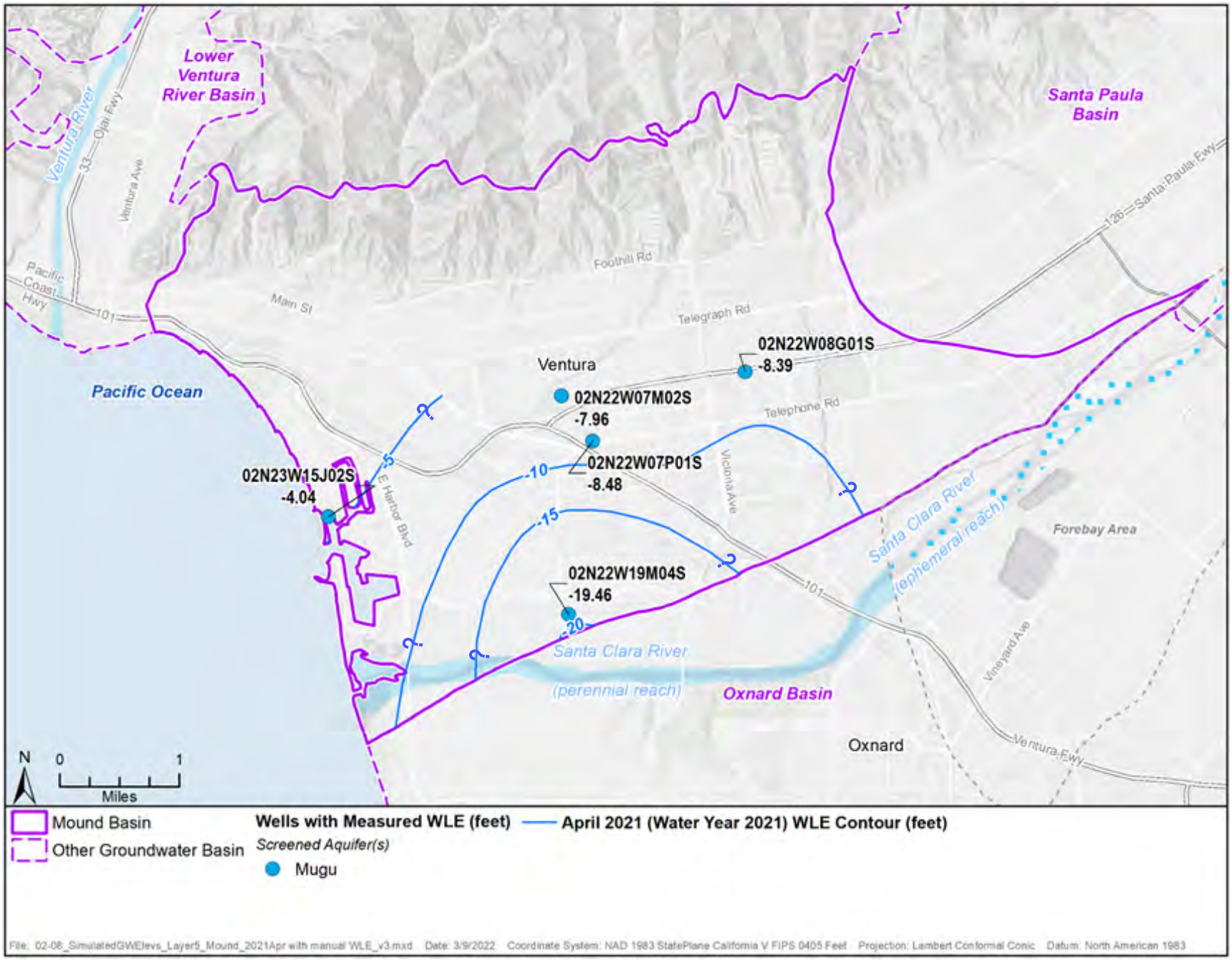

Figure 2.8 Water Level Elevation in Mugu Aquifer, April 2021 (Spring-High Water Year 2021).

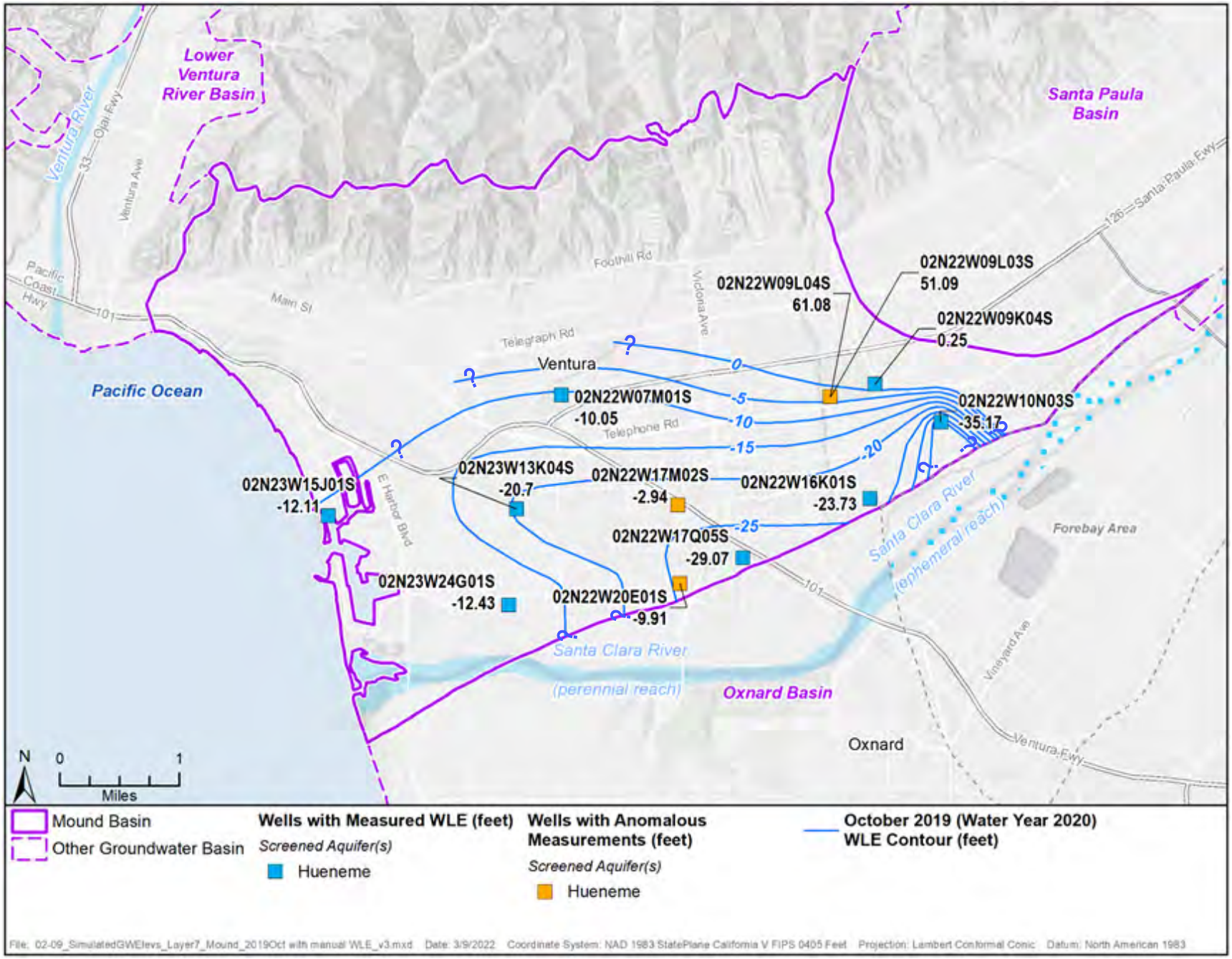

Figure 2.9 Water Level Elevation in Hueneme Aquifer, October 2019 (Fall-Low Water Year 2020).

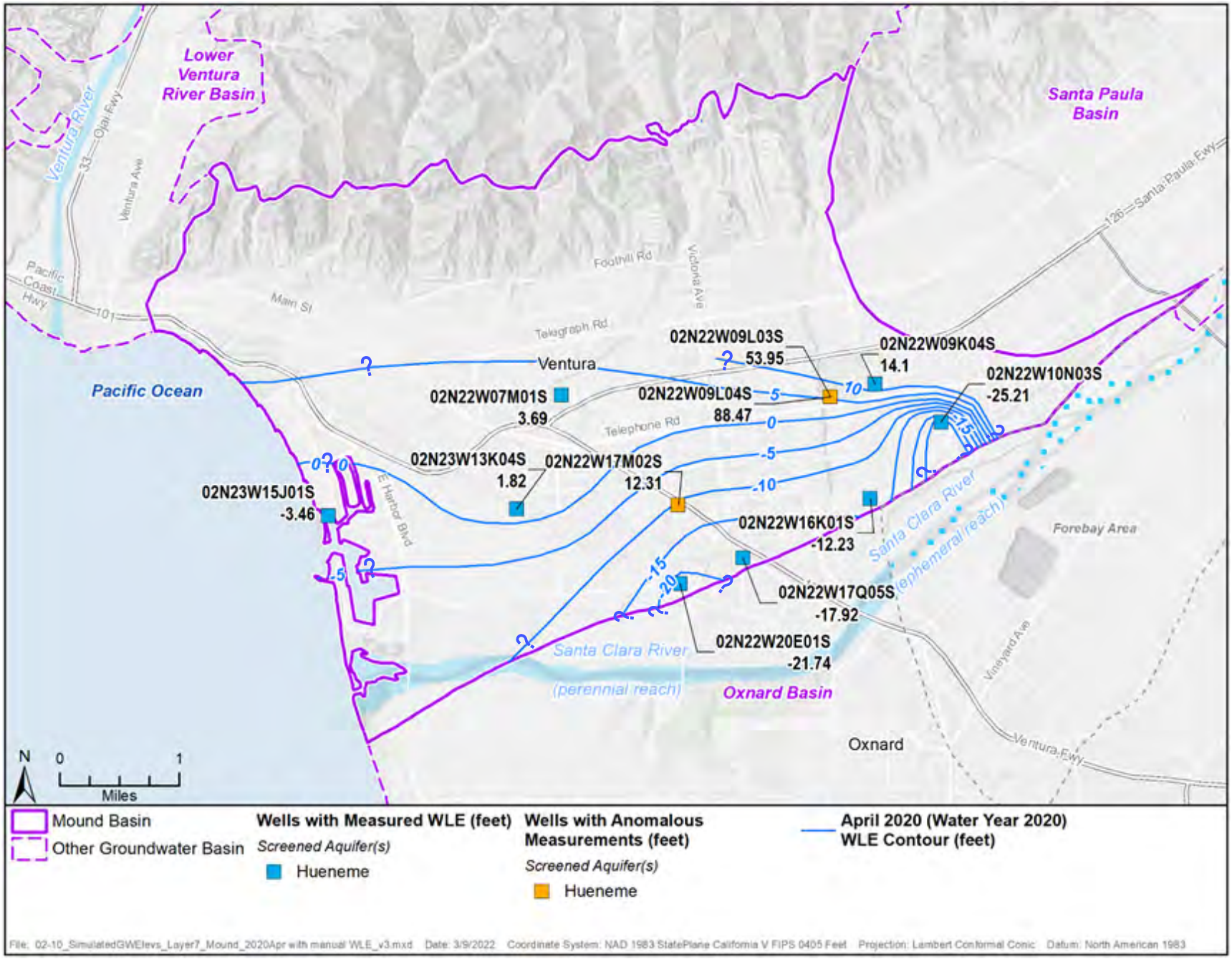

Figure 2.10 Water Level Elevation in Hueneme Aquifer, April 2020 **(Spring-High Water Year 2020)**.

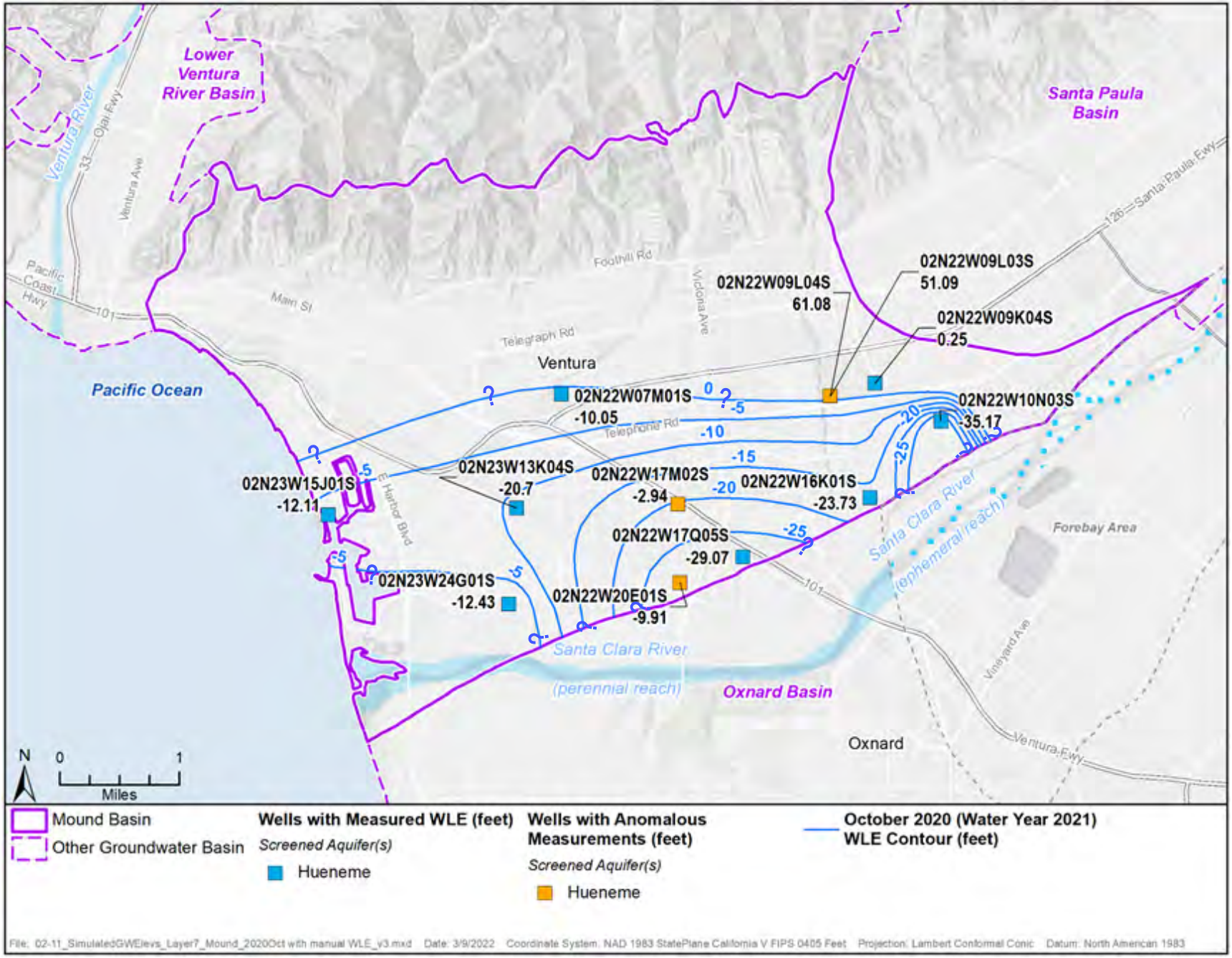

Figure 2.11 Water Level Elevation in Hueneme Aquifer, October 2020 **(Fall-Low Water Year 2021)**.

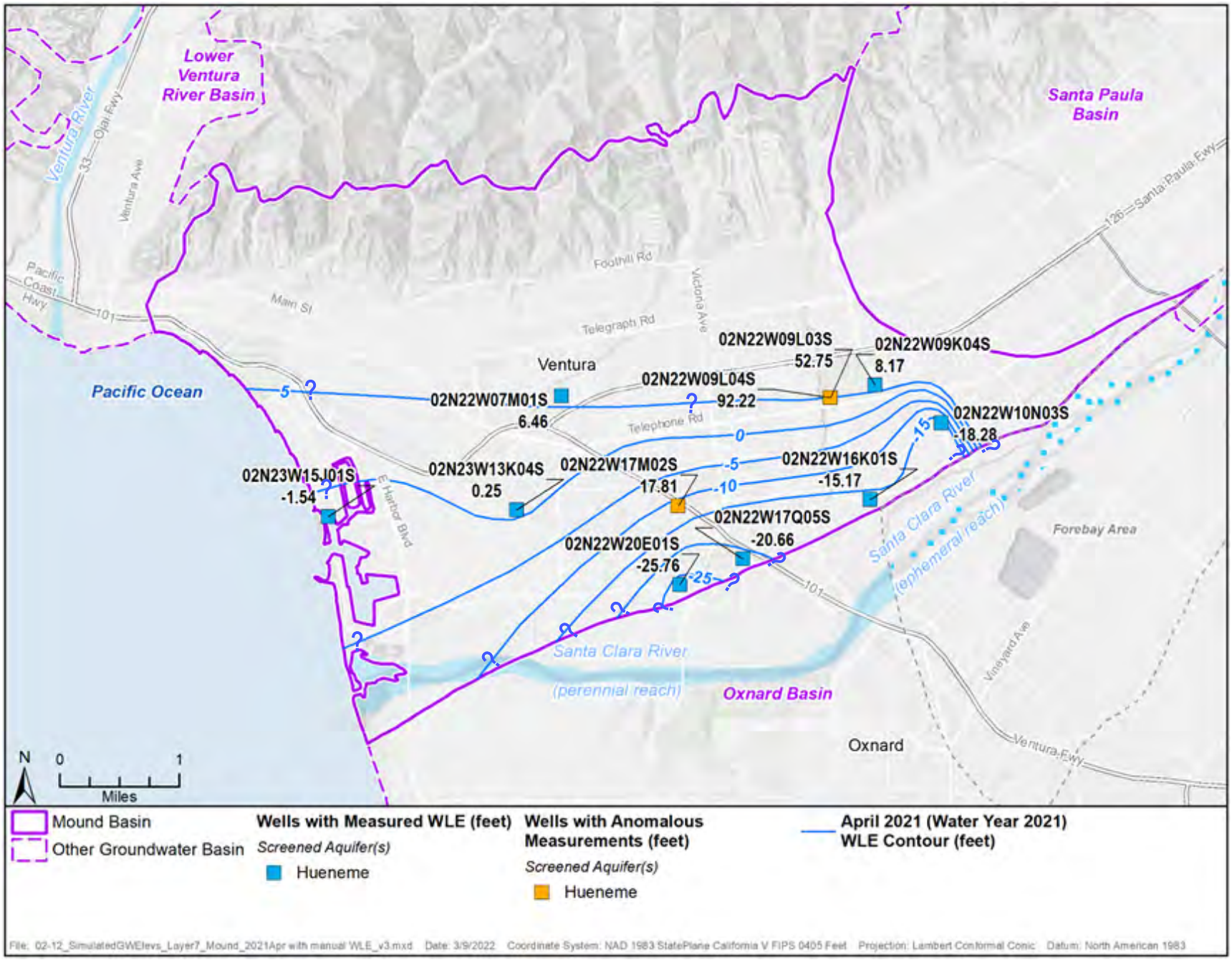

Figure 2.12 Water Level Elevation in Hueneme Aquifer, April 2021 (Spring-High Water Year 2021).

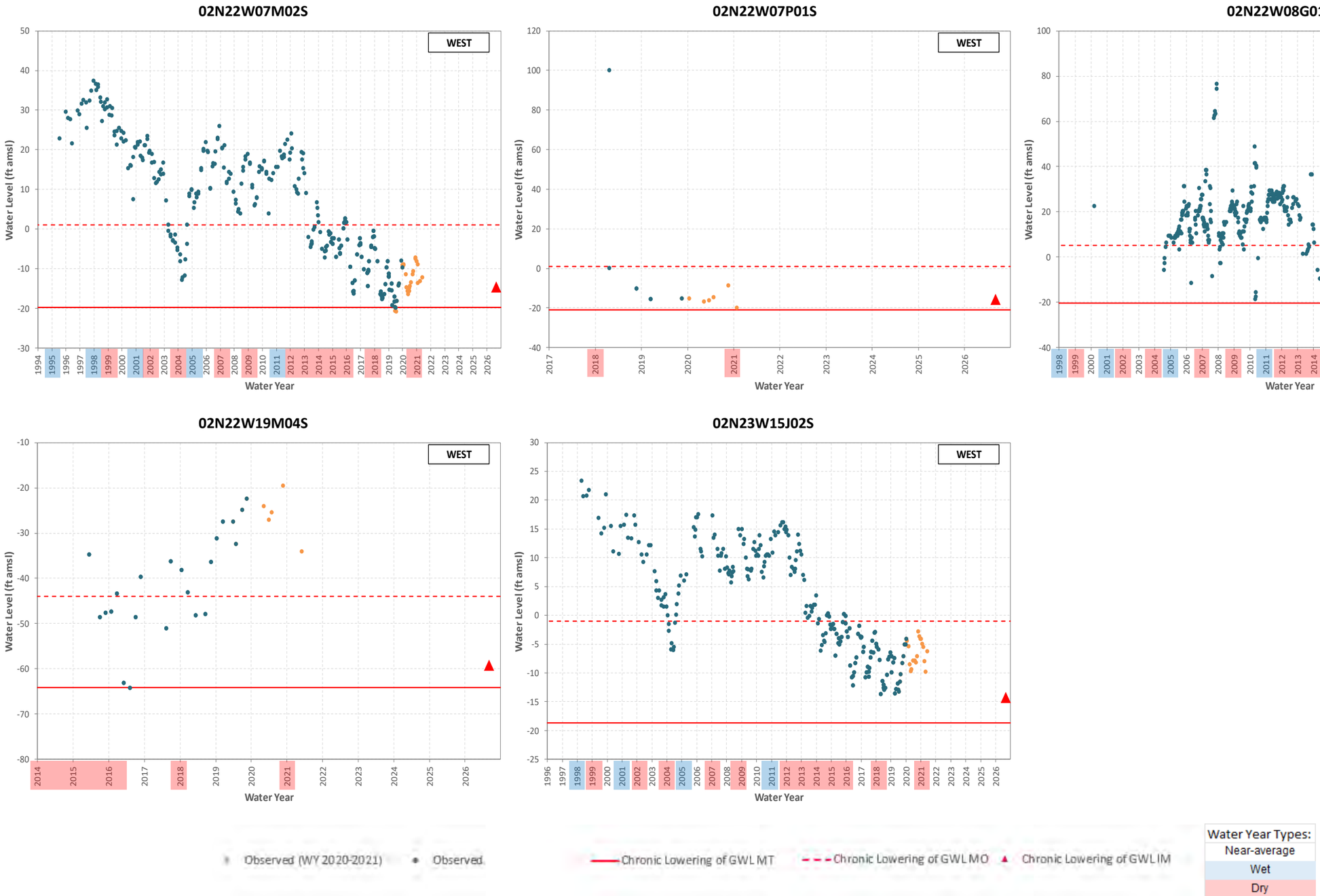

Figure 2.13 Hydrographs for the Monitoring Network in the Mugu Aquifer of Mound Basin.

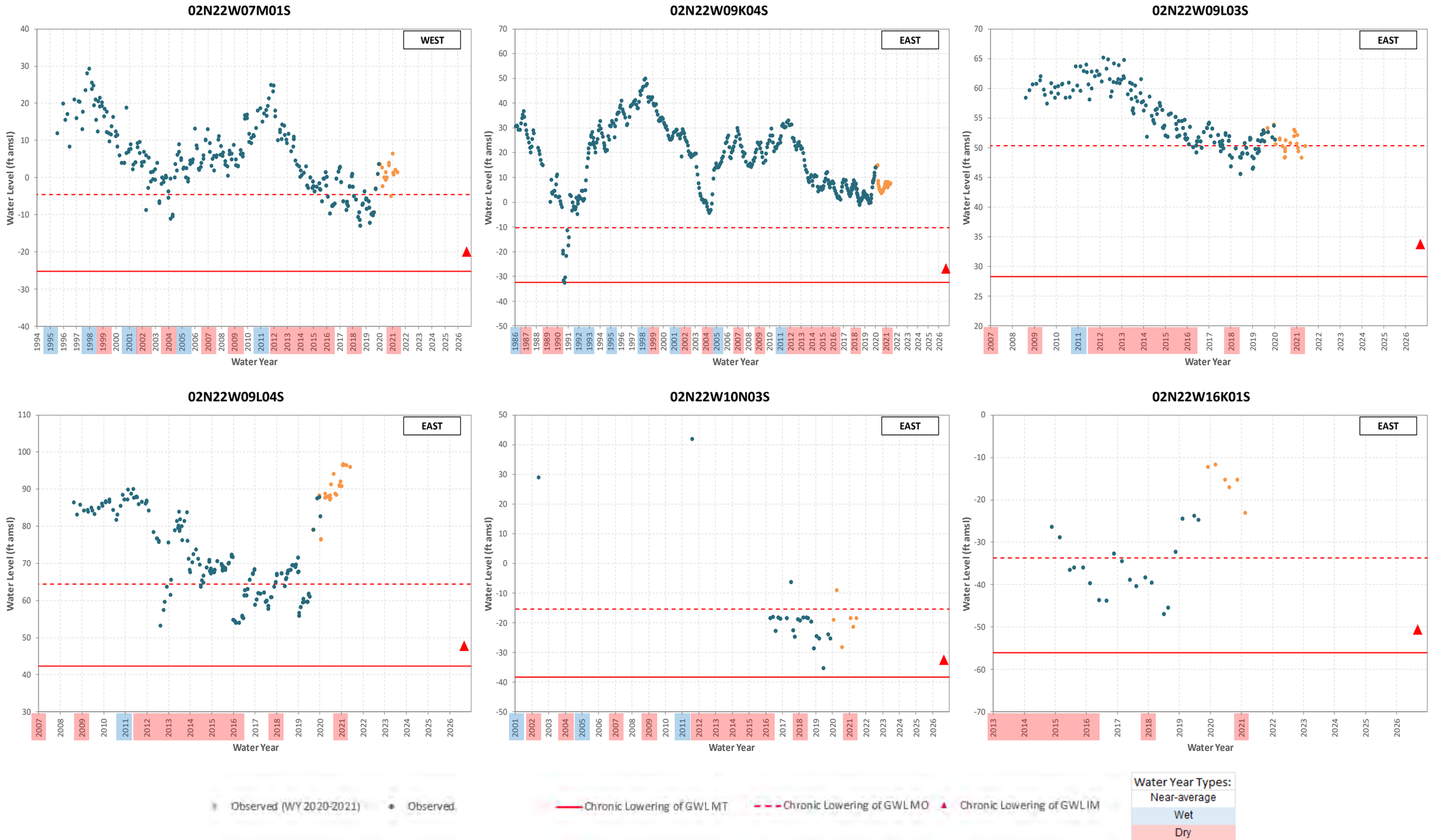

Figure 2.14 Hydrographs for the Monitoring Network in the Hueneme Aquifer of Mound Basin.

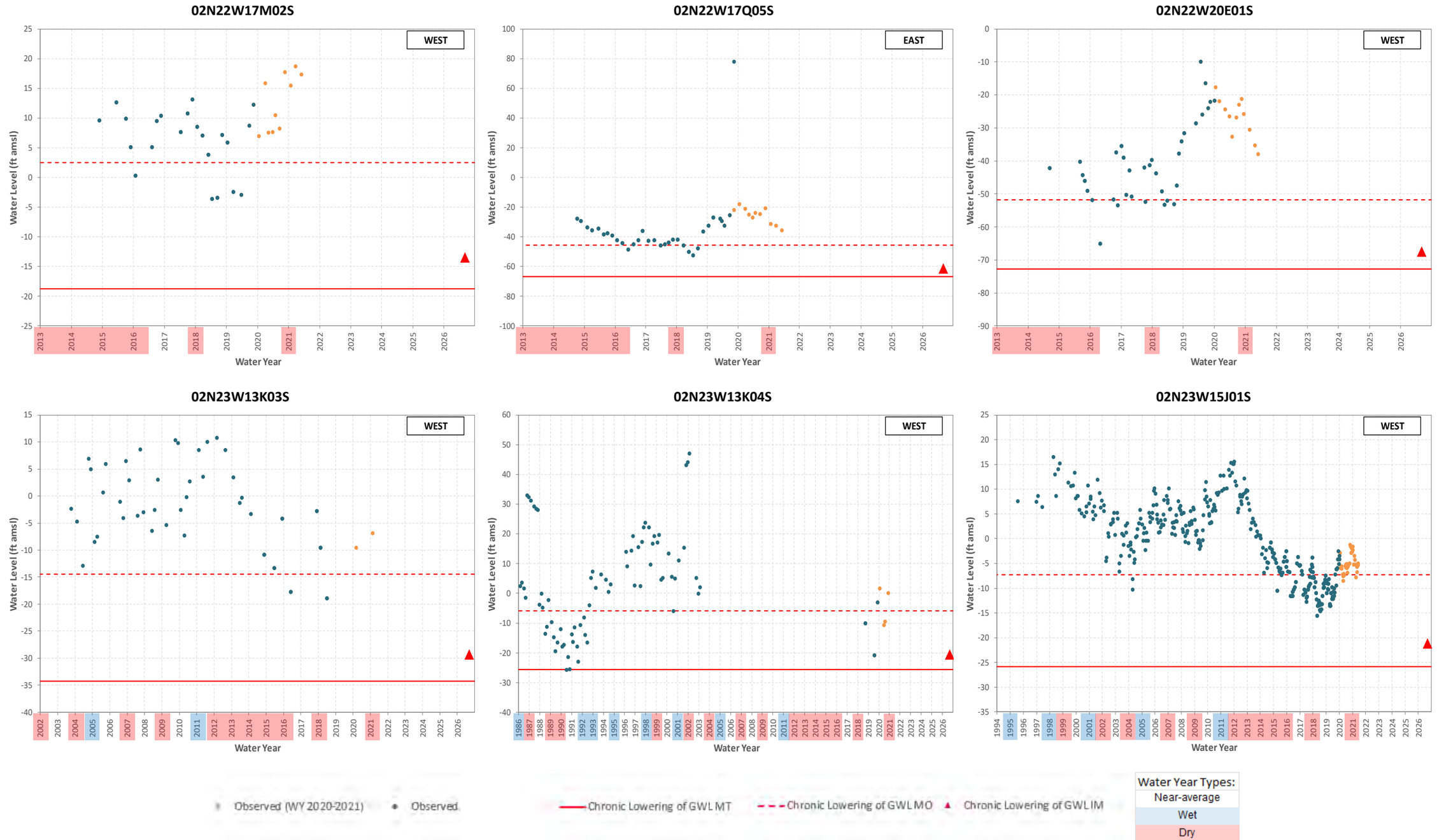

Figure 2.14 Hydrographs for the Monitoring Network in the Hueneme Aquifer of Mound Basin.

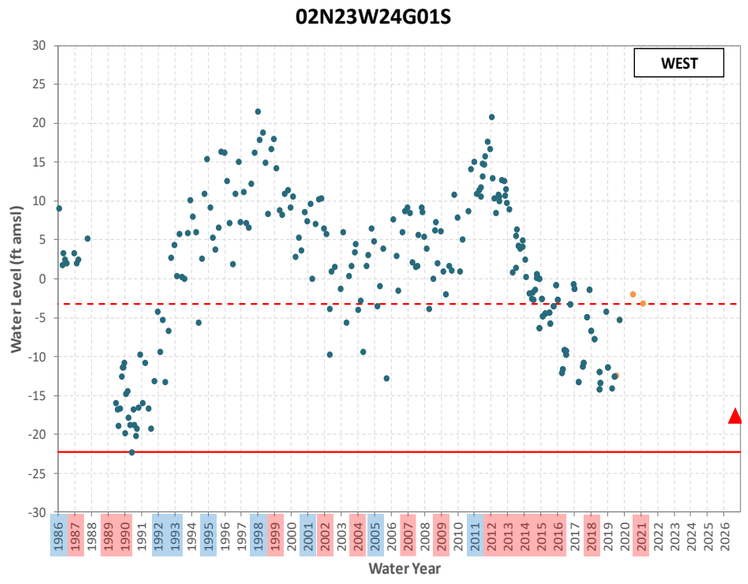

Figure 2.14 Hydrographs for the Monitoring Network in the Hueneme Aquifer of Mound Basin.

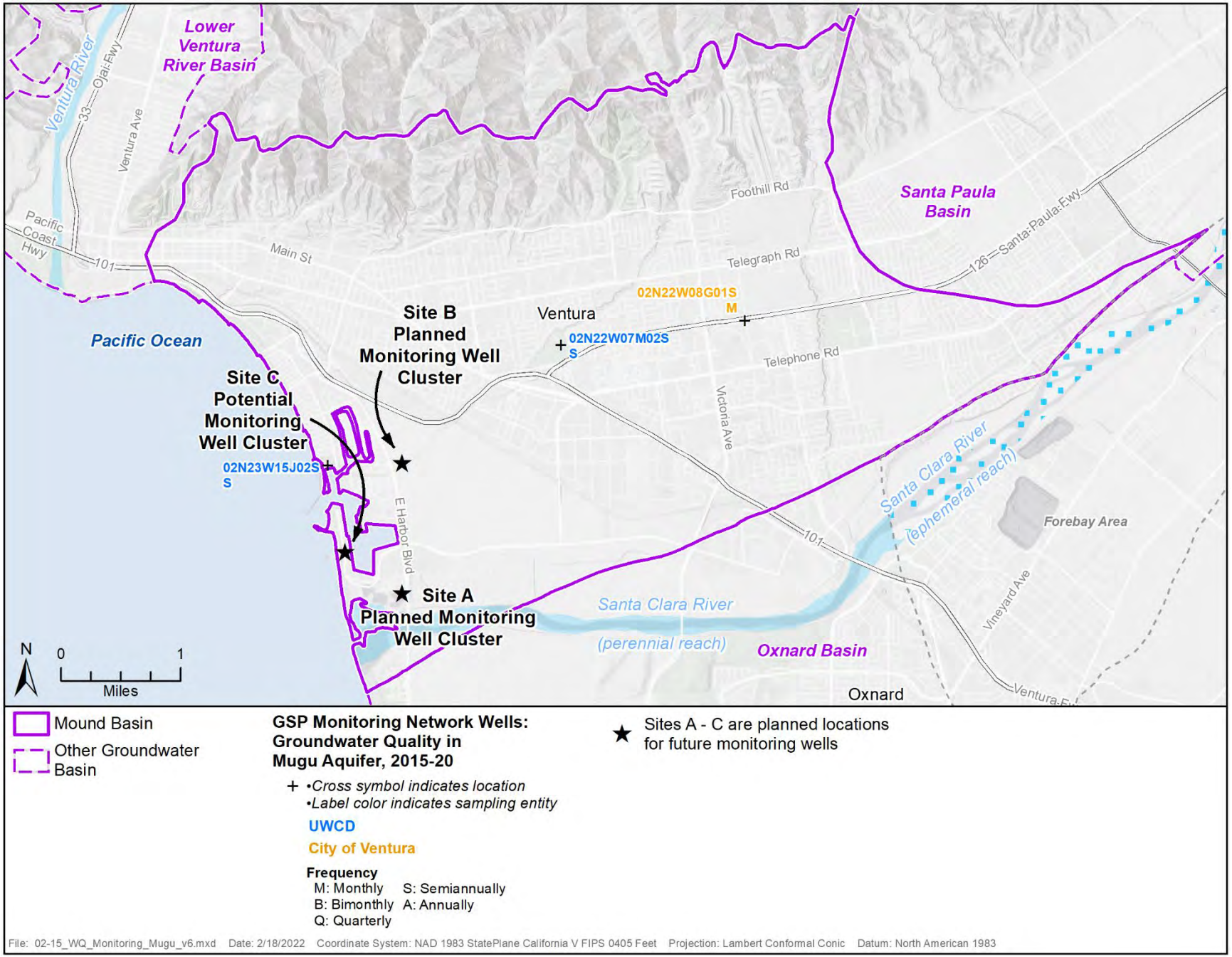

Figure 2.15 Map Showing the Groundwater Quality and Seawater Intrusion Monitoring Networks in the Mugu Aquifer of Mound Basin.

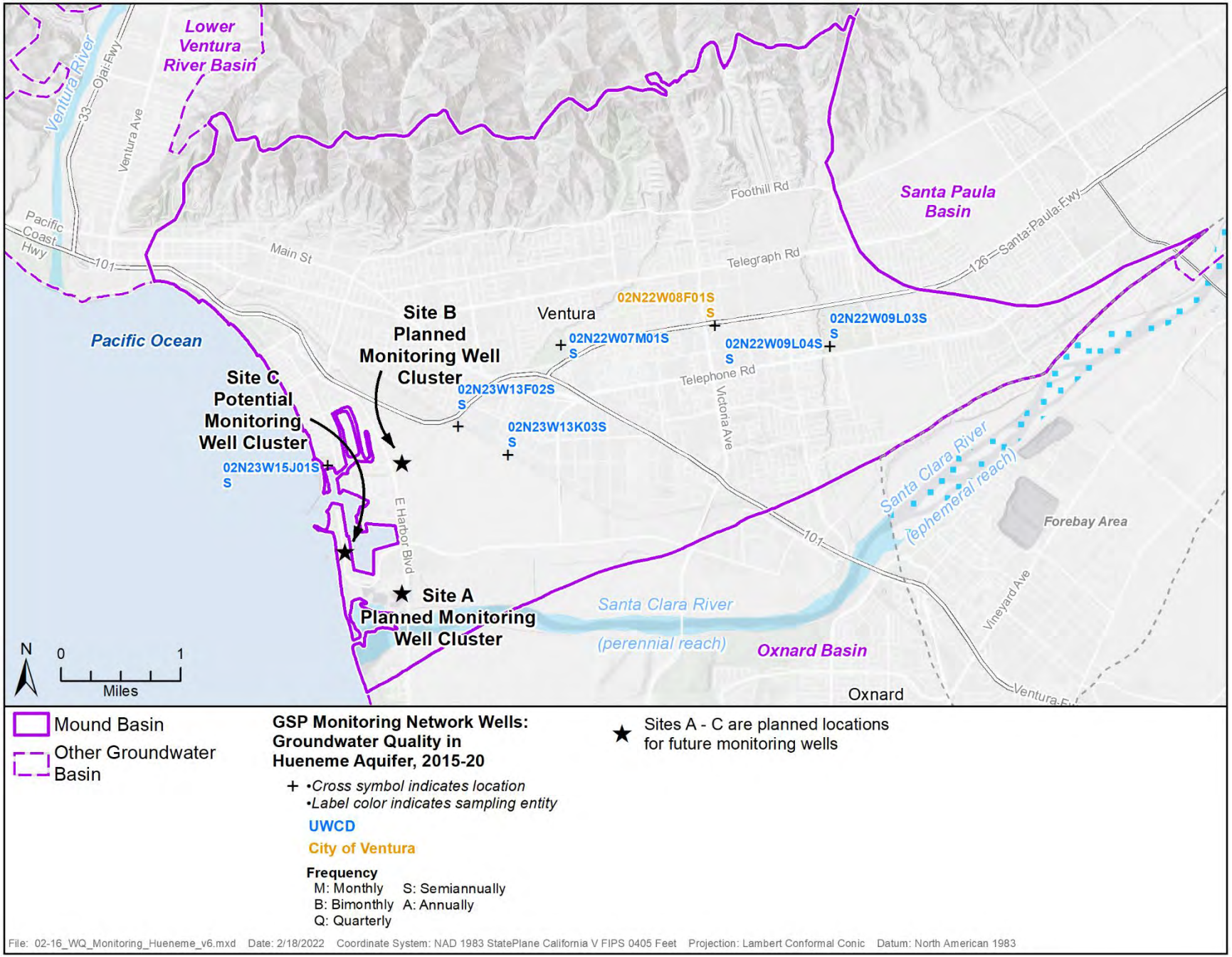

Figure 2.16 Map Showing the Groundwater Quality and Seawater Intrusion Monitoring Networks in the Hueneme Aquifer of Mound Basin.

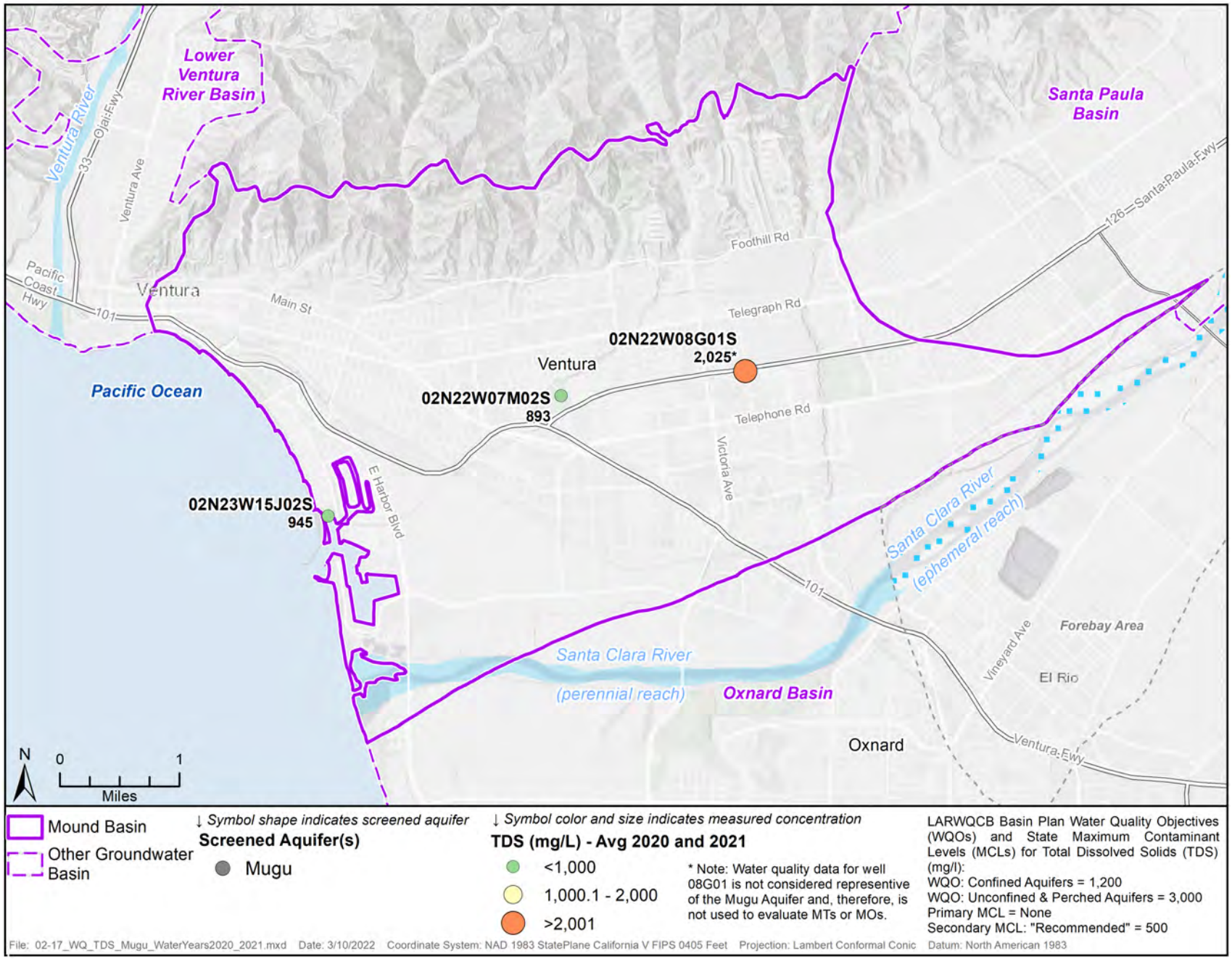

Figure 2.17 **Average** TDS Concentrations Detected in Mugu Aquifer During Water Years 2020 and 2021.

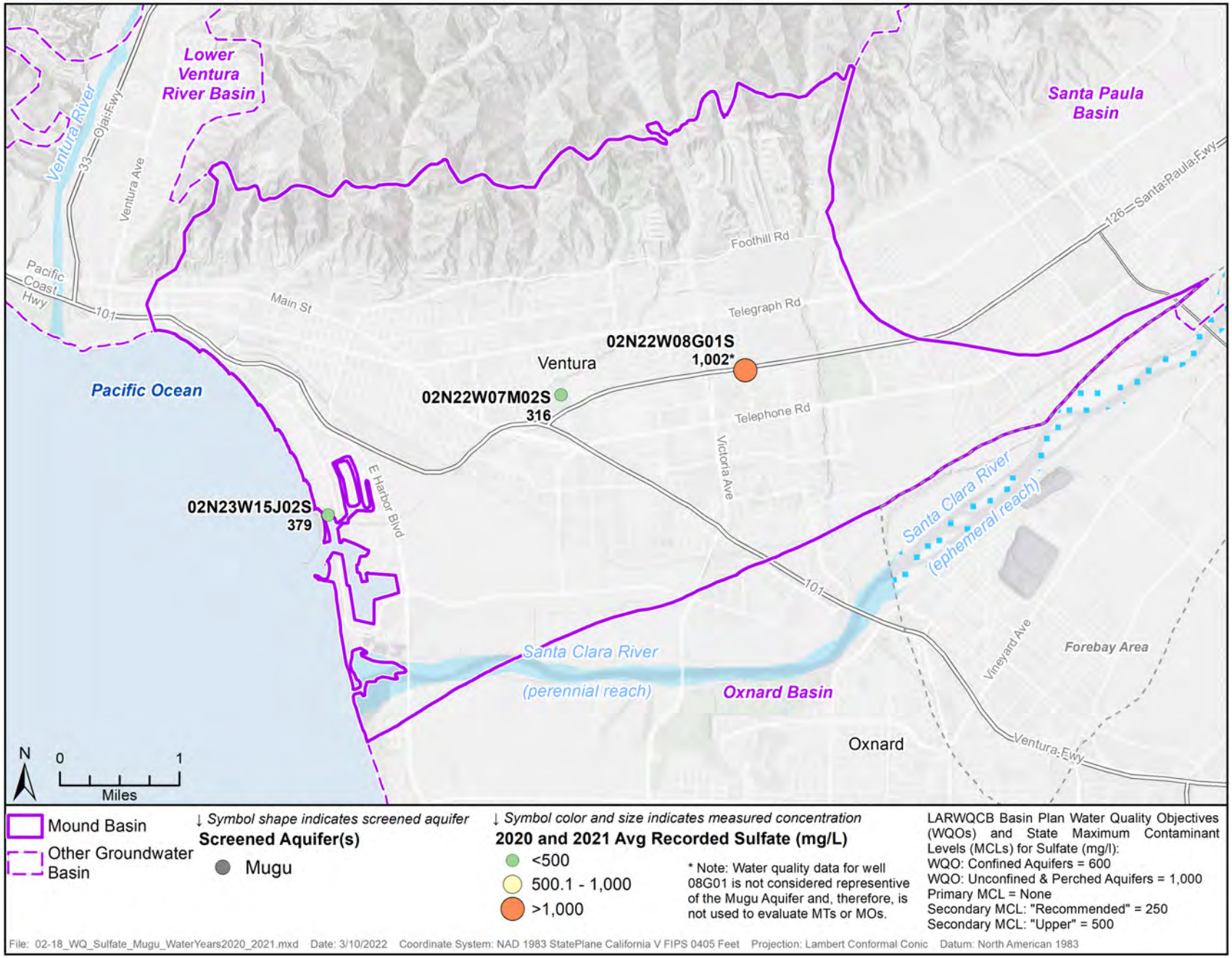

Figure 2.18 **Average** Sulfate Concentrations Detected in Mugu Aquifer During Water Years 2020 and 2021.

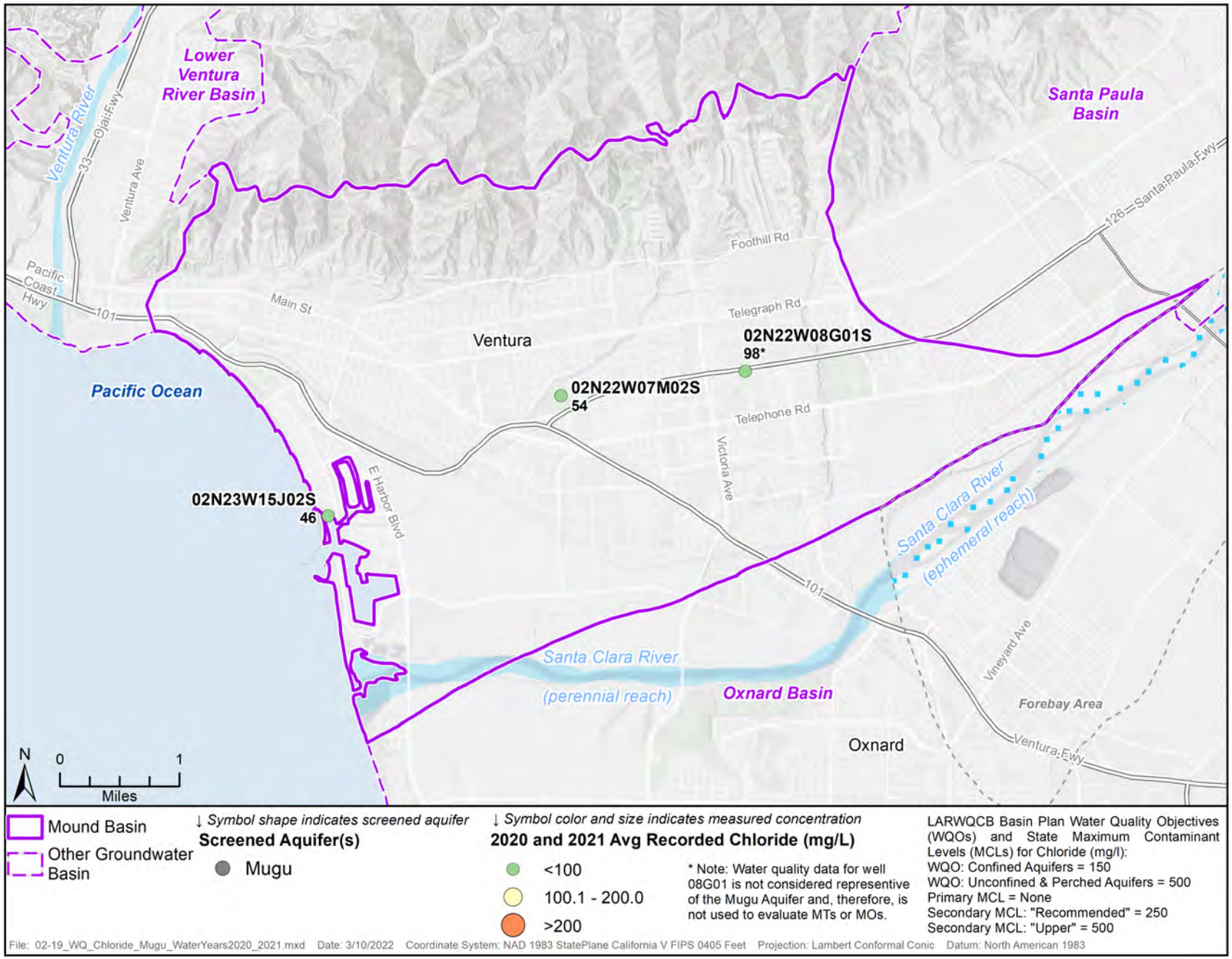

Figure 2.19 **Average** Chloride Concentrations Detected in Mugu Aquifer During Water Years 2020 and 2021.

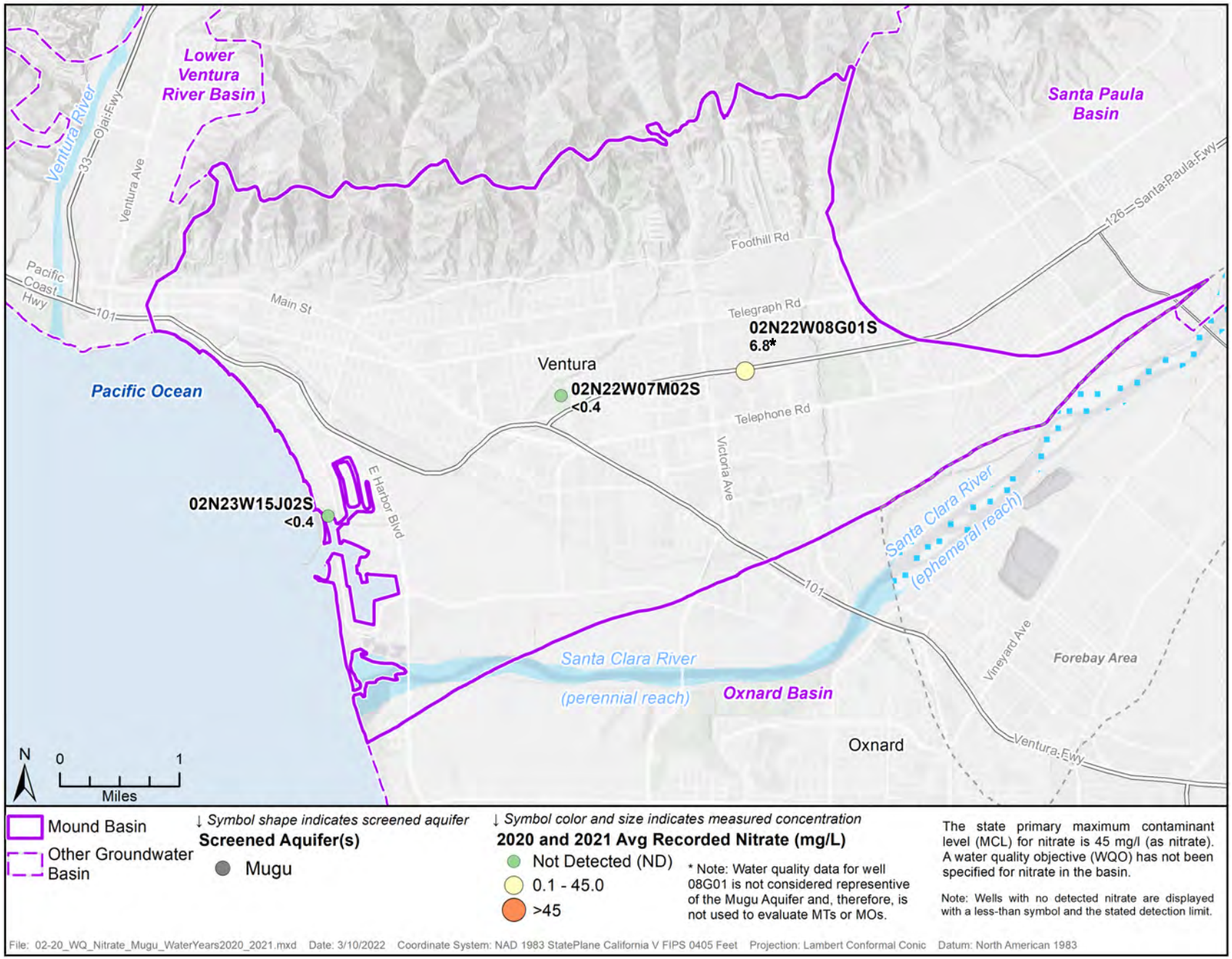

Figure 2.20 **Average** Nitrate Concentrations Detected in Mugu Aquifer During Water Years 2020 and 2021.

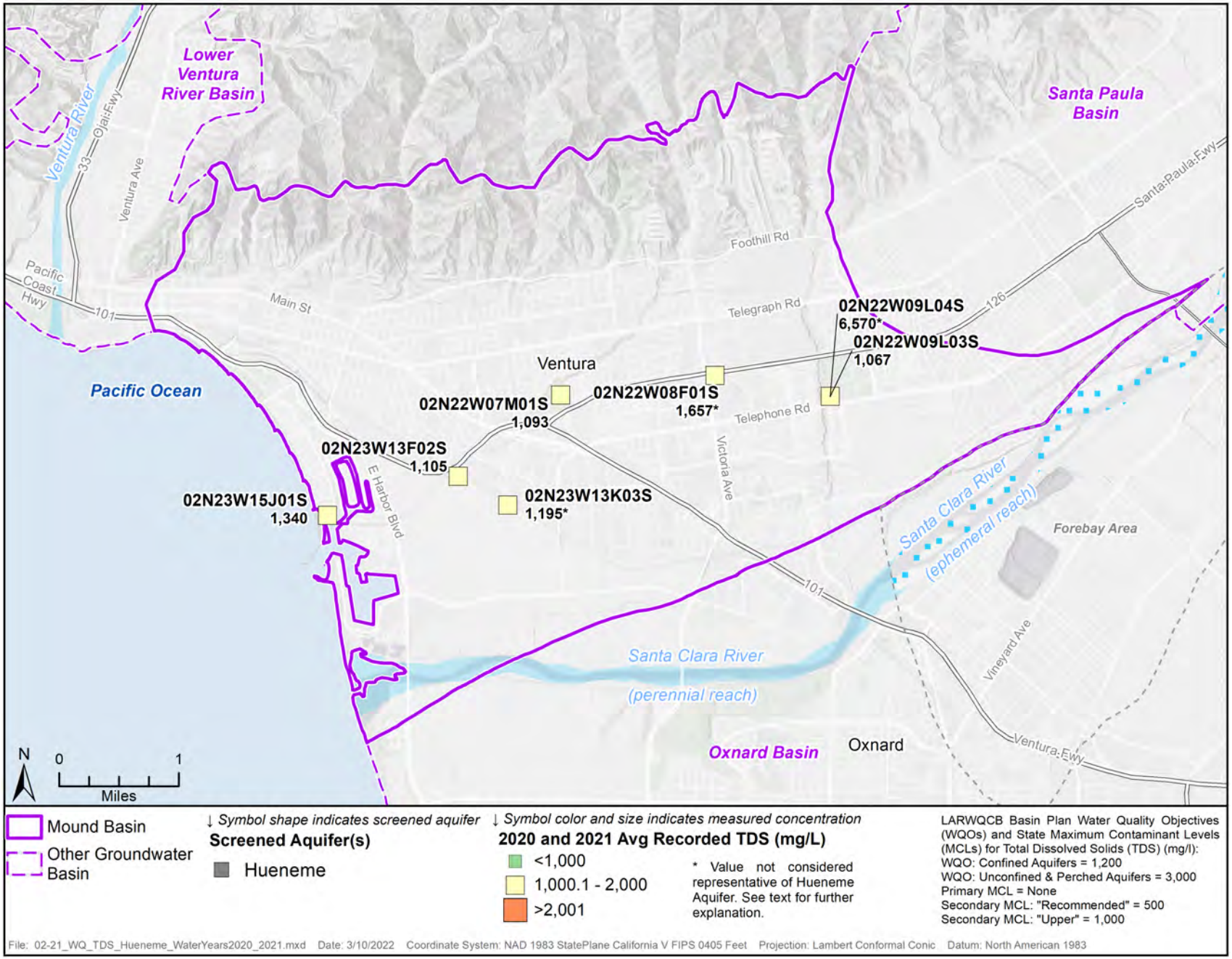

Figure 2.21 **Average** TDS Concentrations Detected in Hueneme Aquifer **During Water Years** 2020 and 2021.

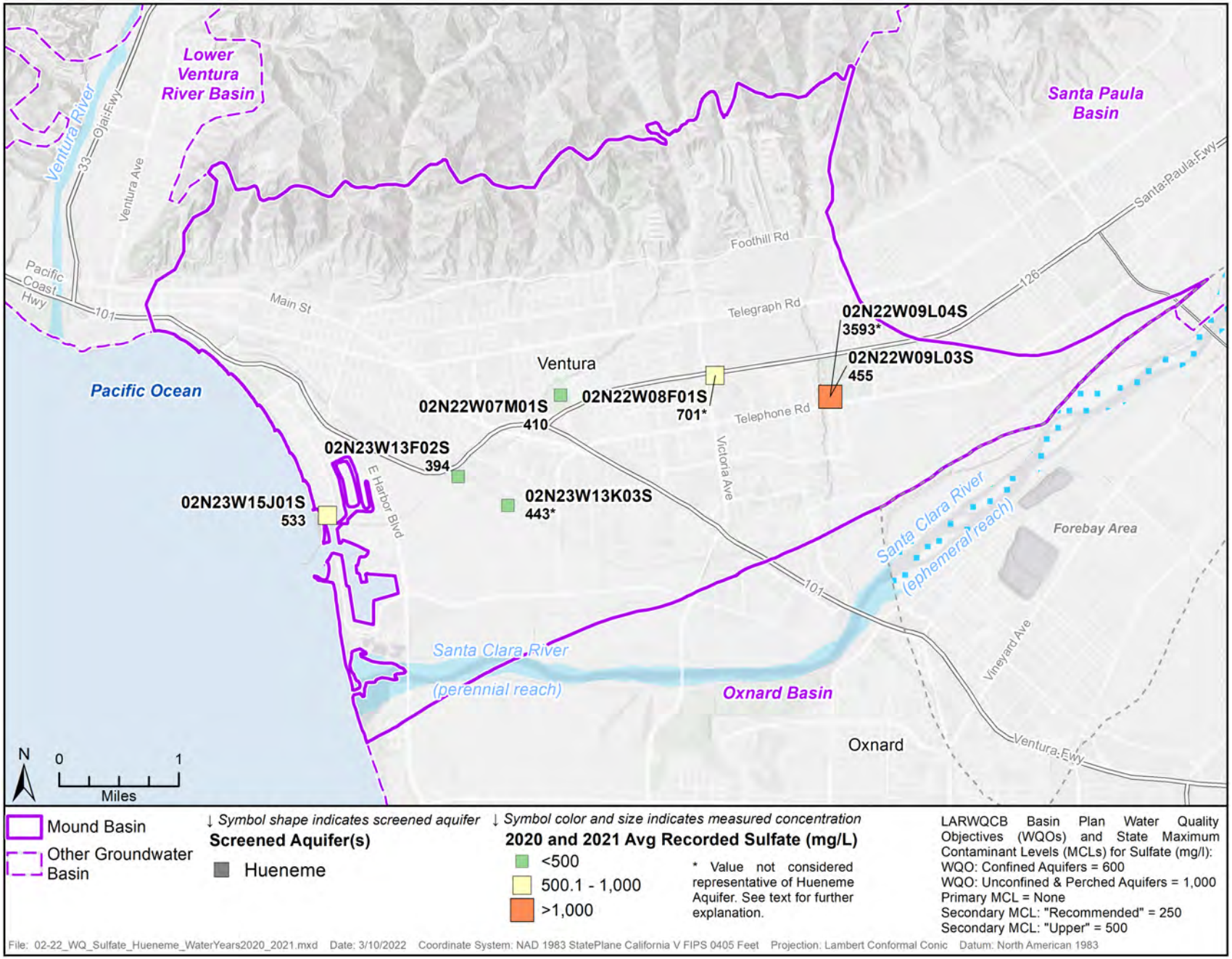

Figure 2.22 **Average** Sulfate Concentrations Detected in Hueneme Aquifer **During Water Years** 2020 and 2021.

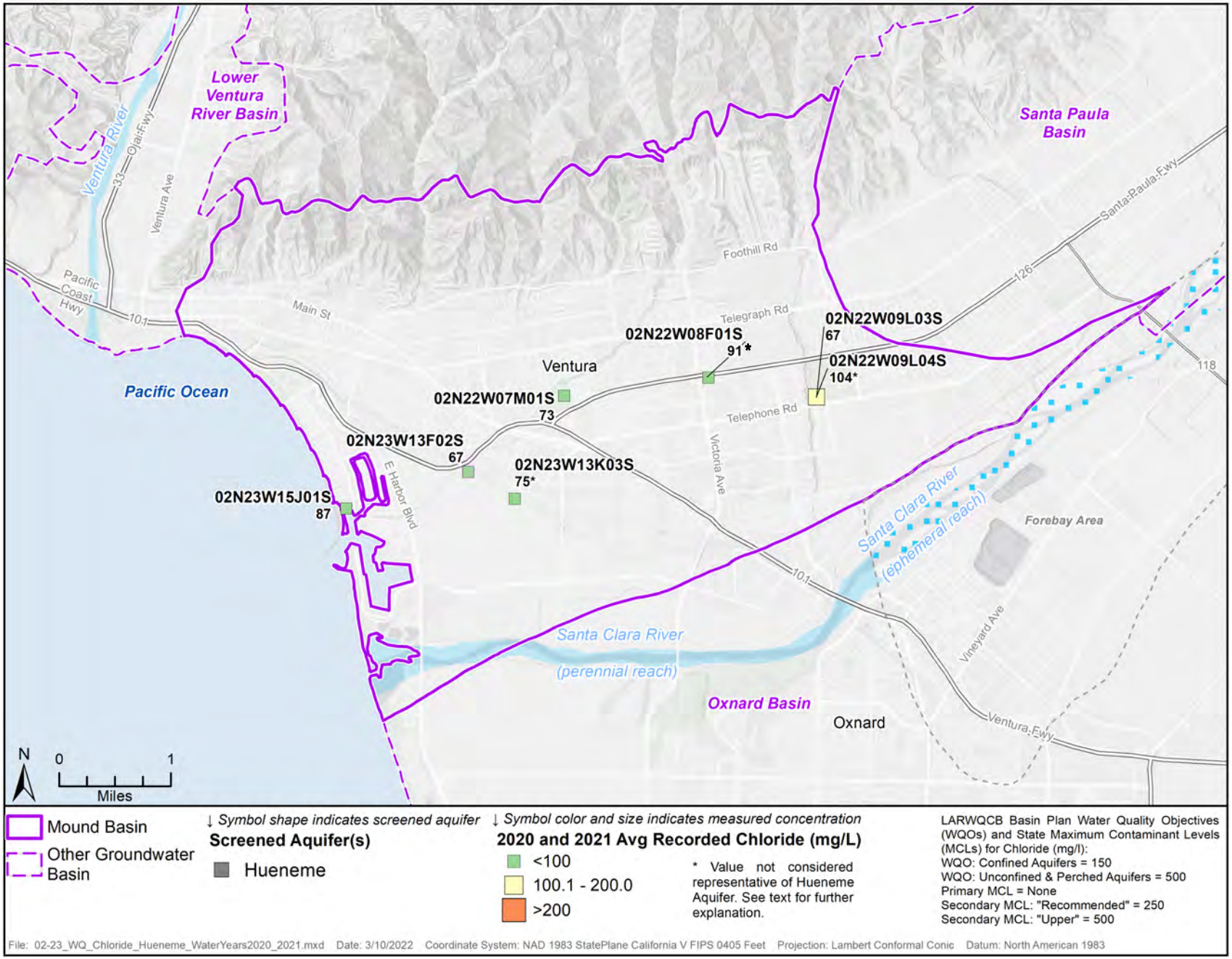

Figure 2.23 **Average** Chloride Concentrations Detected in Hueneme Aquifer **During Water Years** 2020 and 2021.

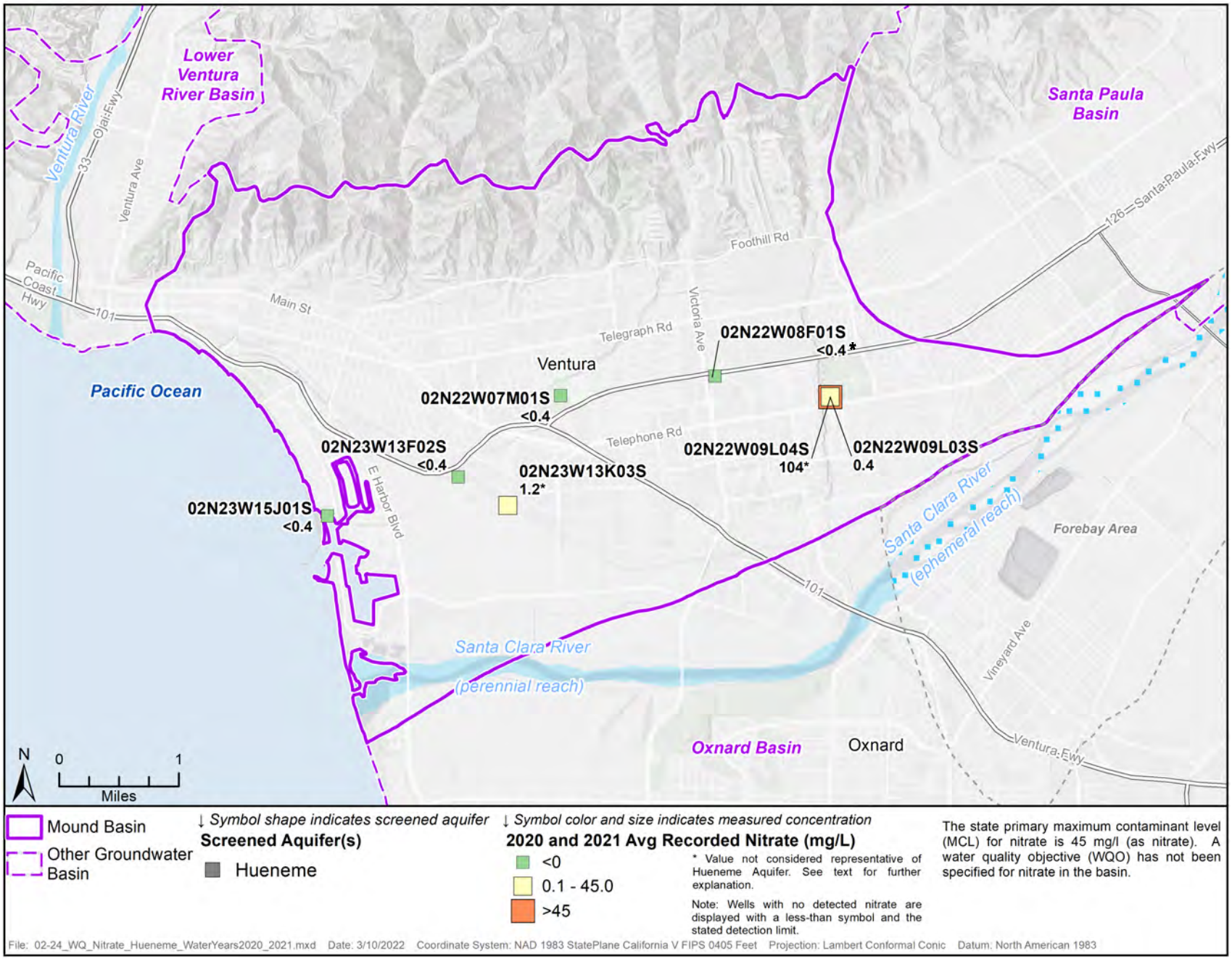

Figure 2.24 **Average** Nitrate Concentrations Detected in Hueneme Aquifer **During Water Years** 2020 and 2021.

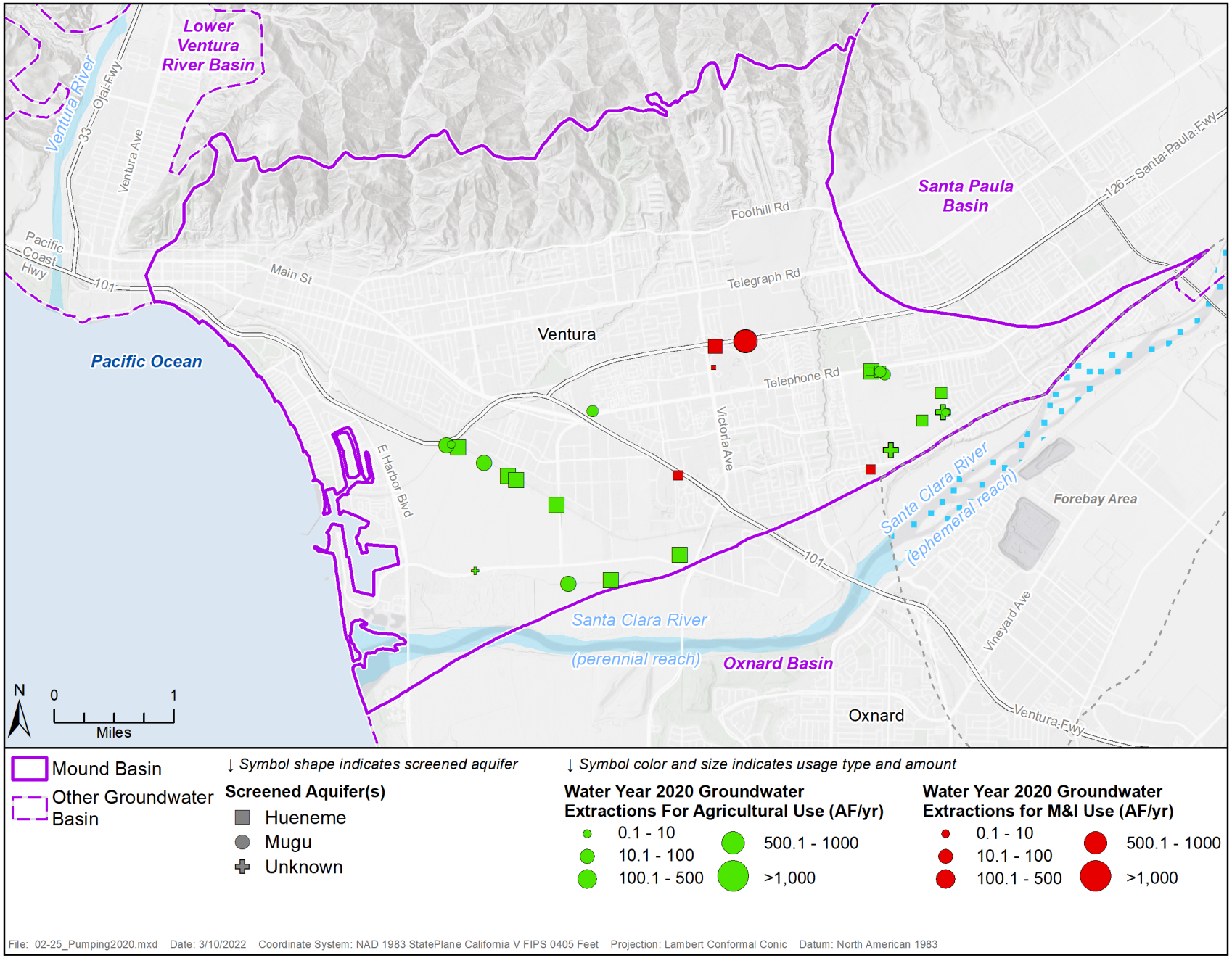

Figure 2.25 Groundwater Extraction from Mound Basin, Water Year 2020.

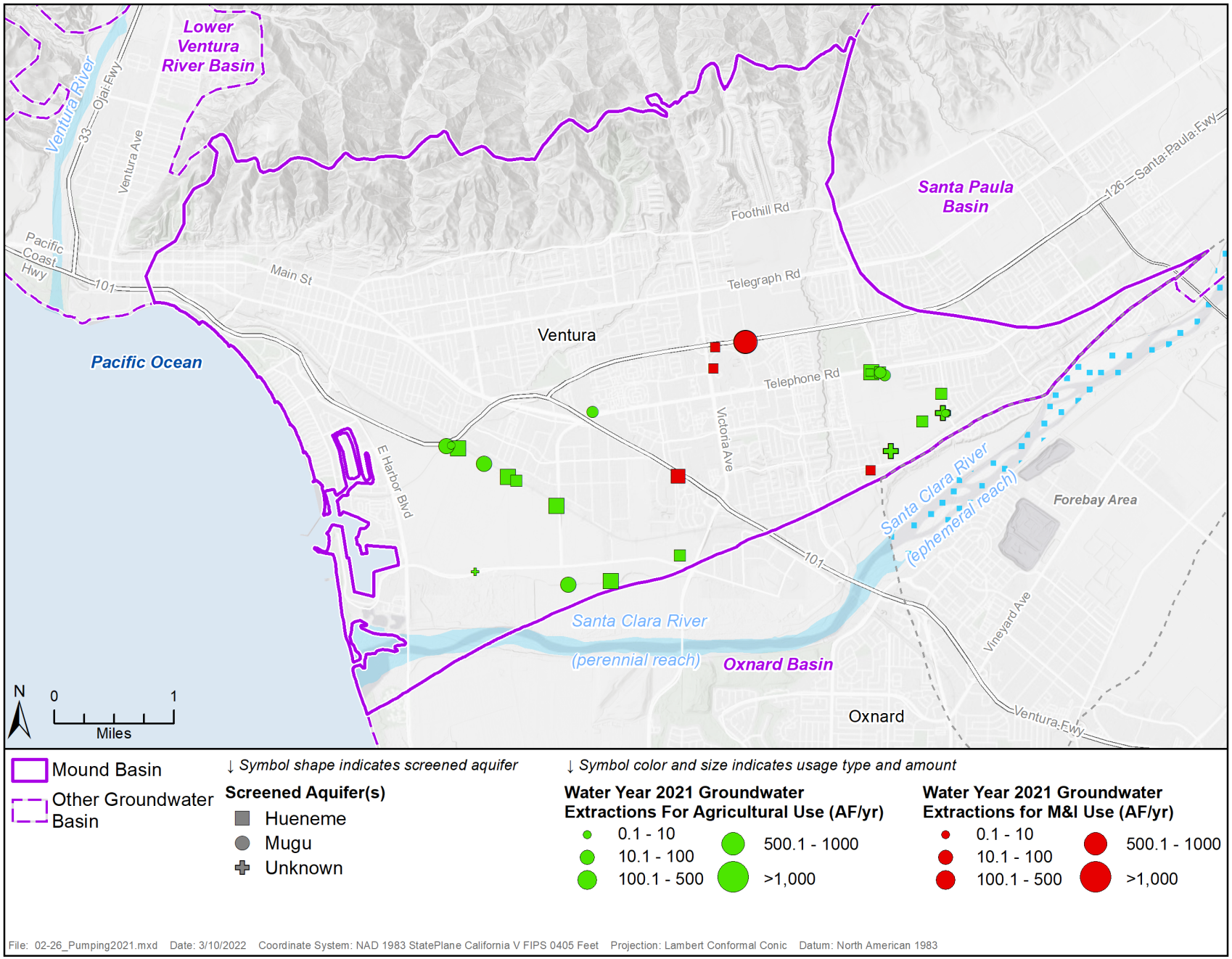

Figure 2.26 Groundwater Extraction from Mound Basin, Water Year 2021.

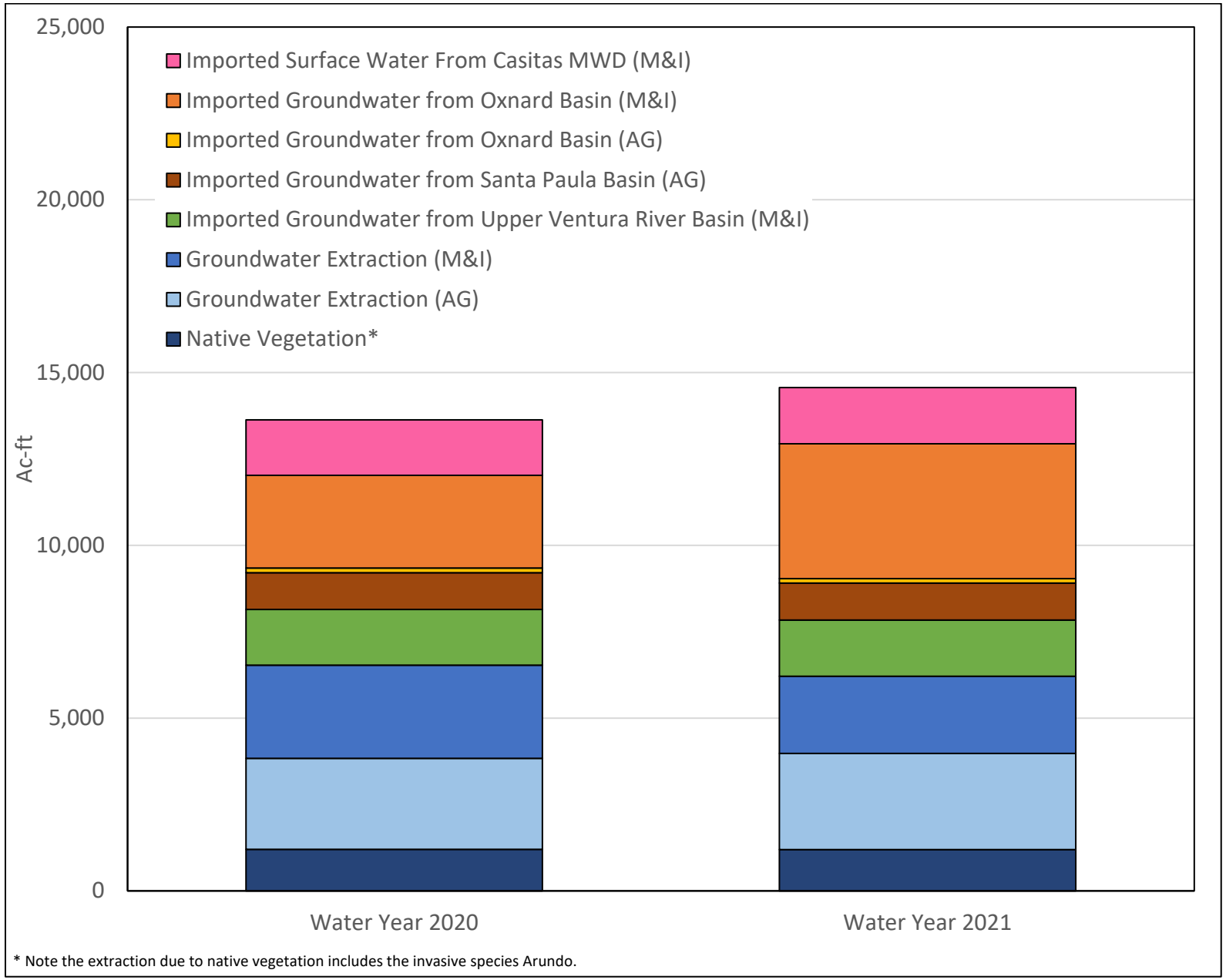

Figure 2.27 Total Water Use for Water Years 2020 and 2021.

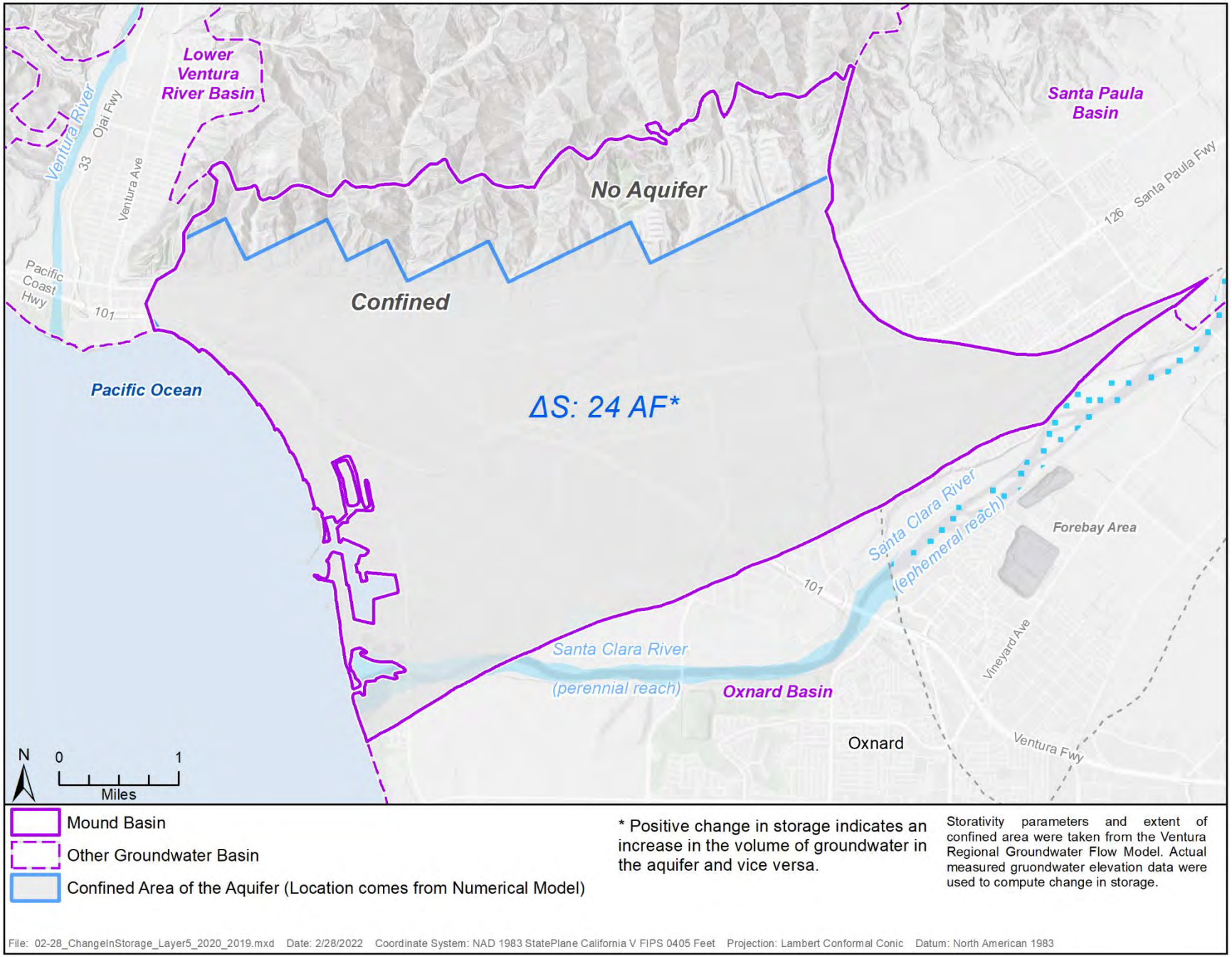

Figure 2.28 Change in Groundwater in Storage for Mugu Aquifer, Water Years 2019 to 2020.

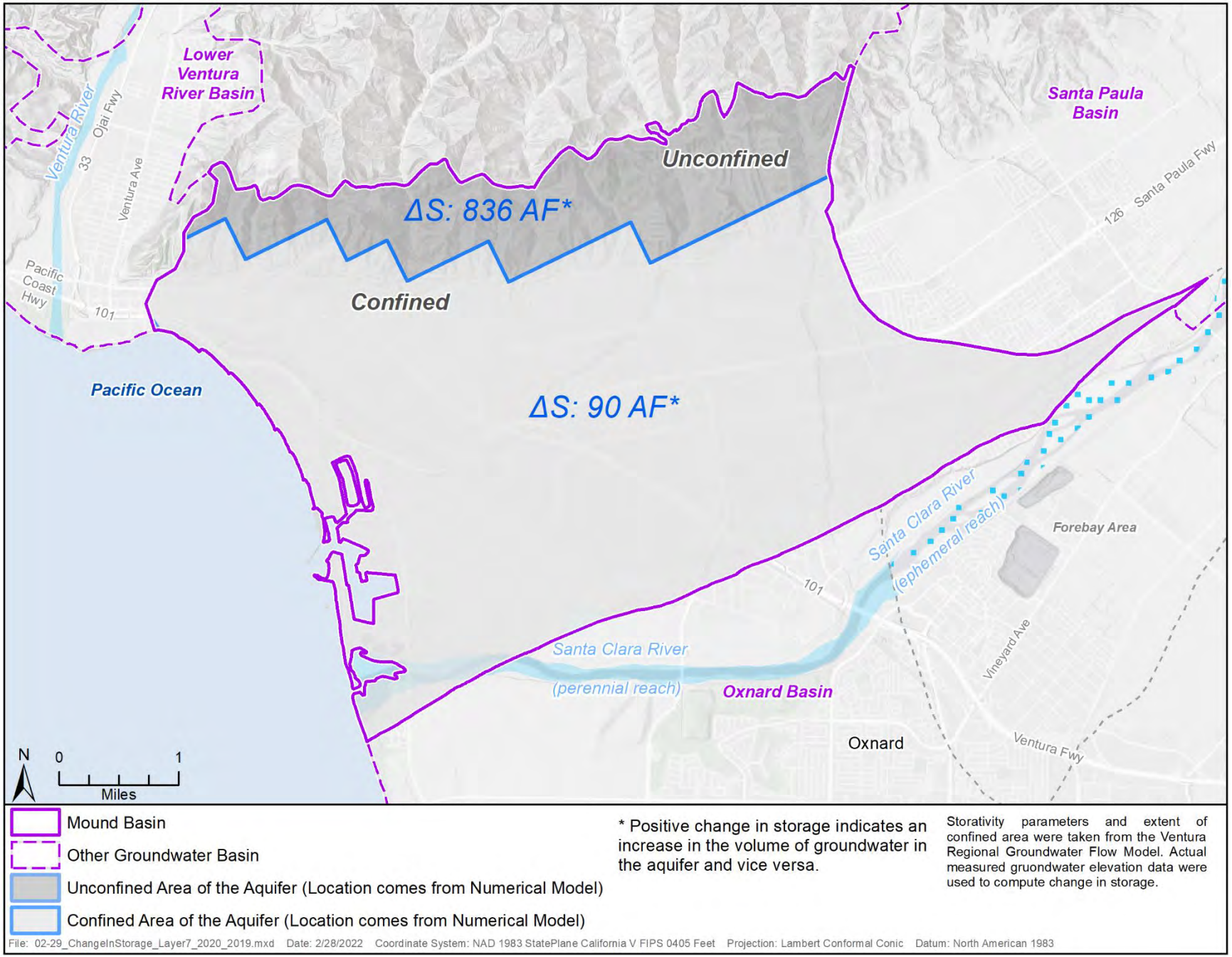

Figure 2.29 Change in Groundwater in Storage for Hueneme Aquifer, Water Years 2019 to 2020.

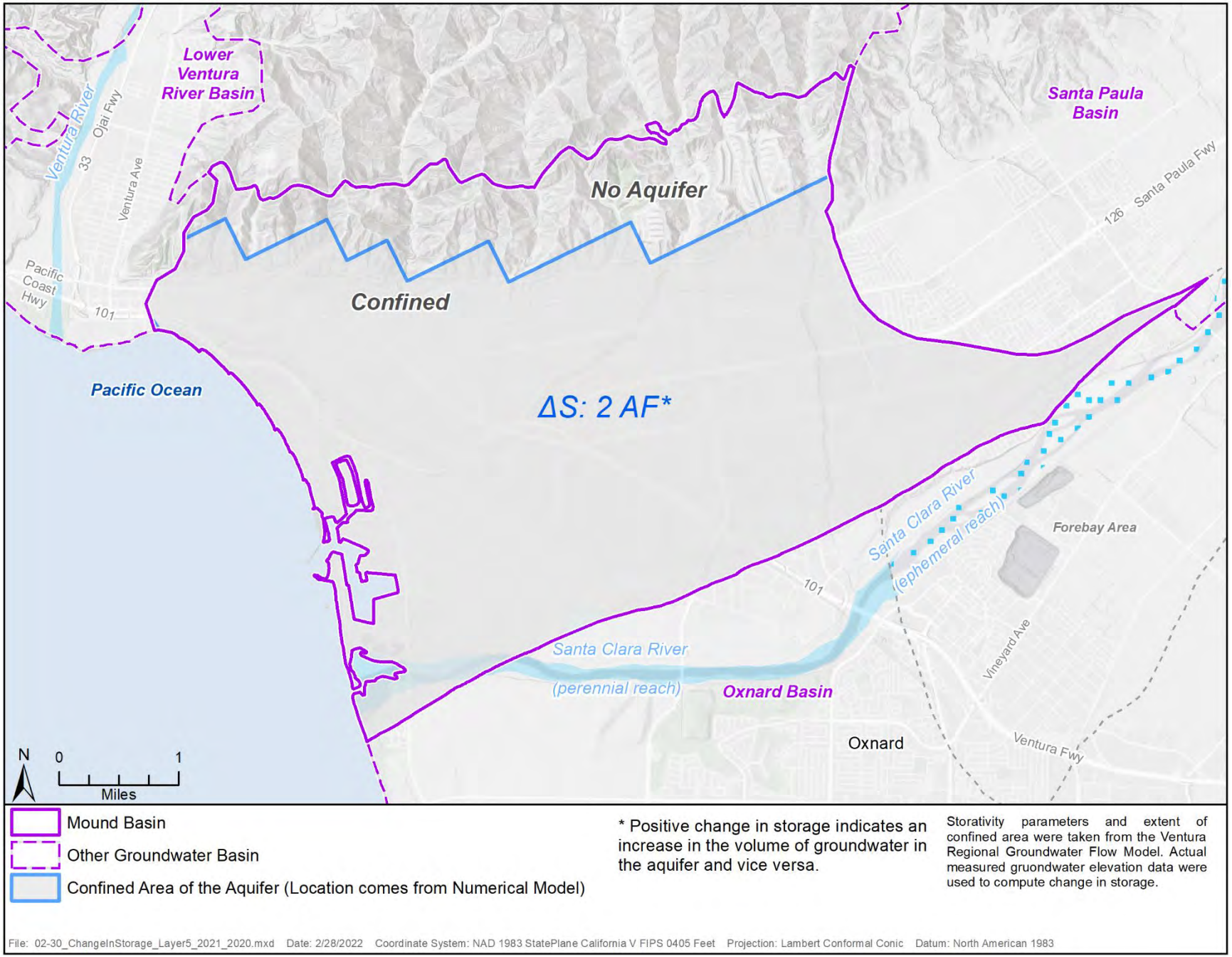

Figure 2.30 Change in Groundwater in Storage for Mugu Aquifer, Water Years 2020 to 2021.

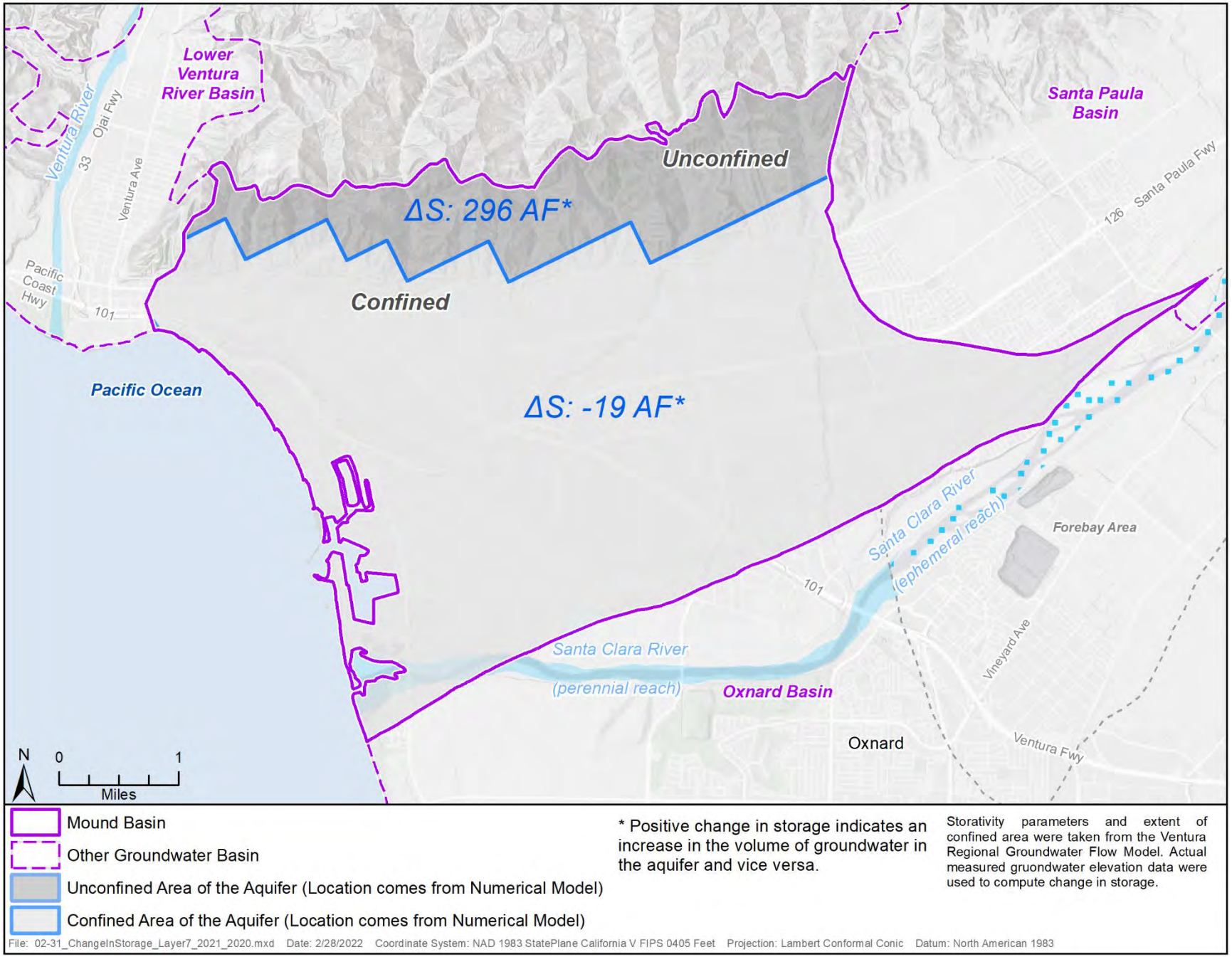

Figure 2.31 Change in Groundwater in Storage for Hueneme Aquife, Water Years 2020 to 2021.

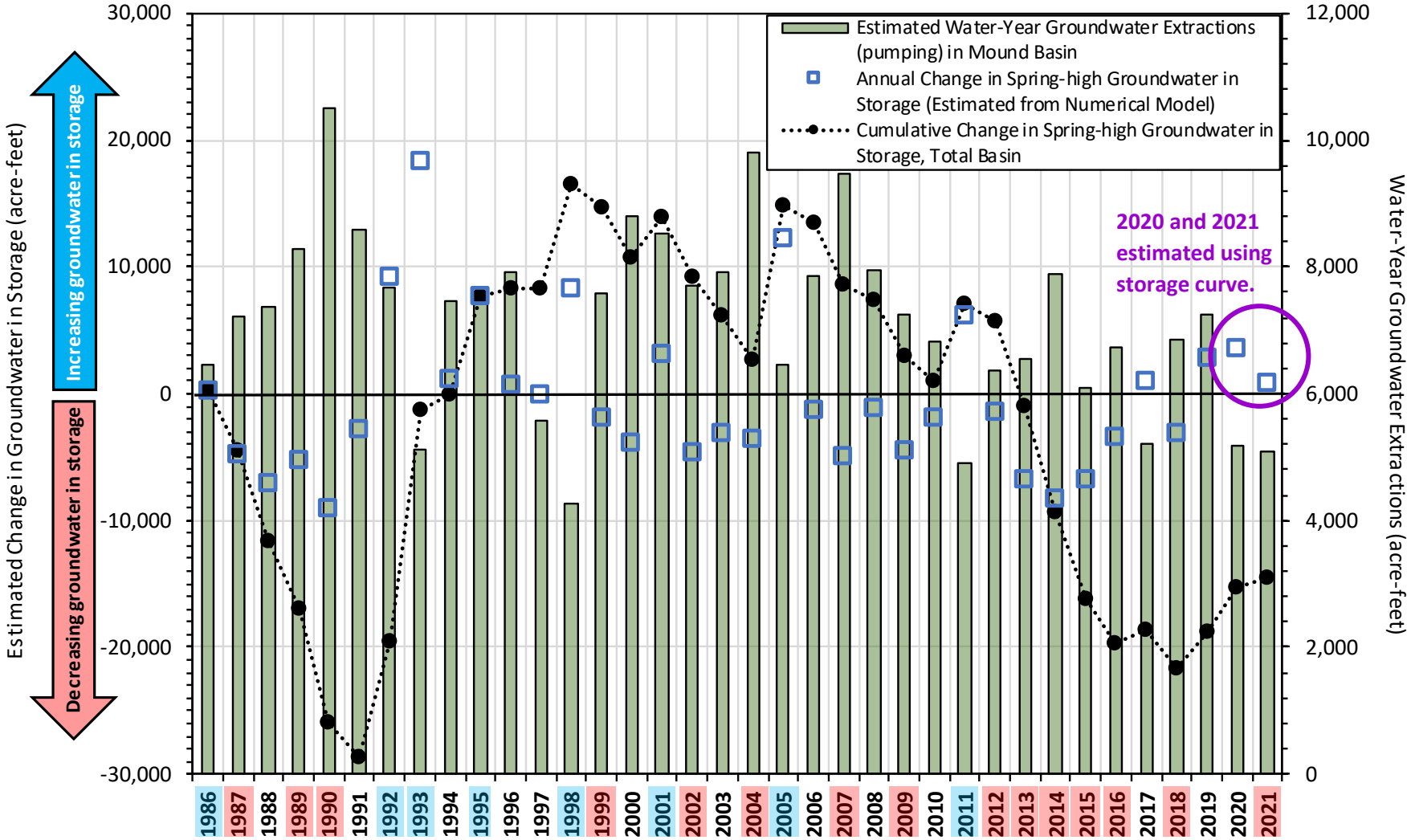

Figure 2.32 Change in Storage for Mound Basin.

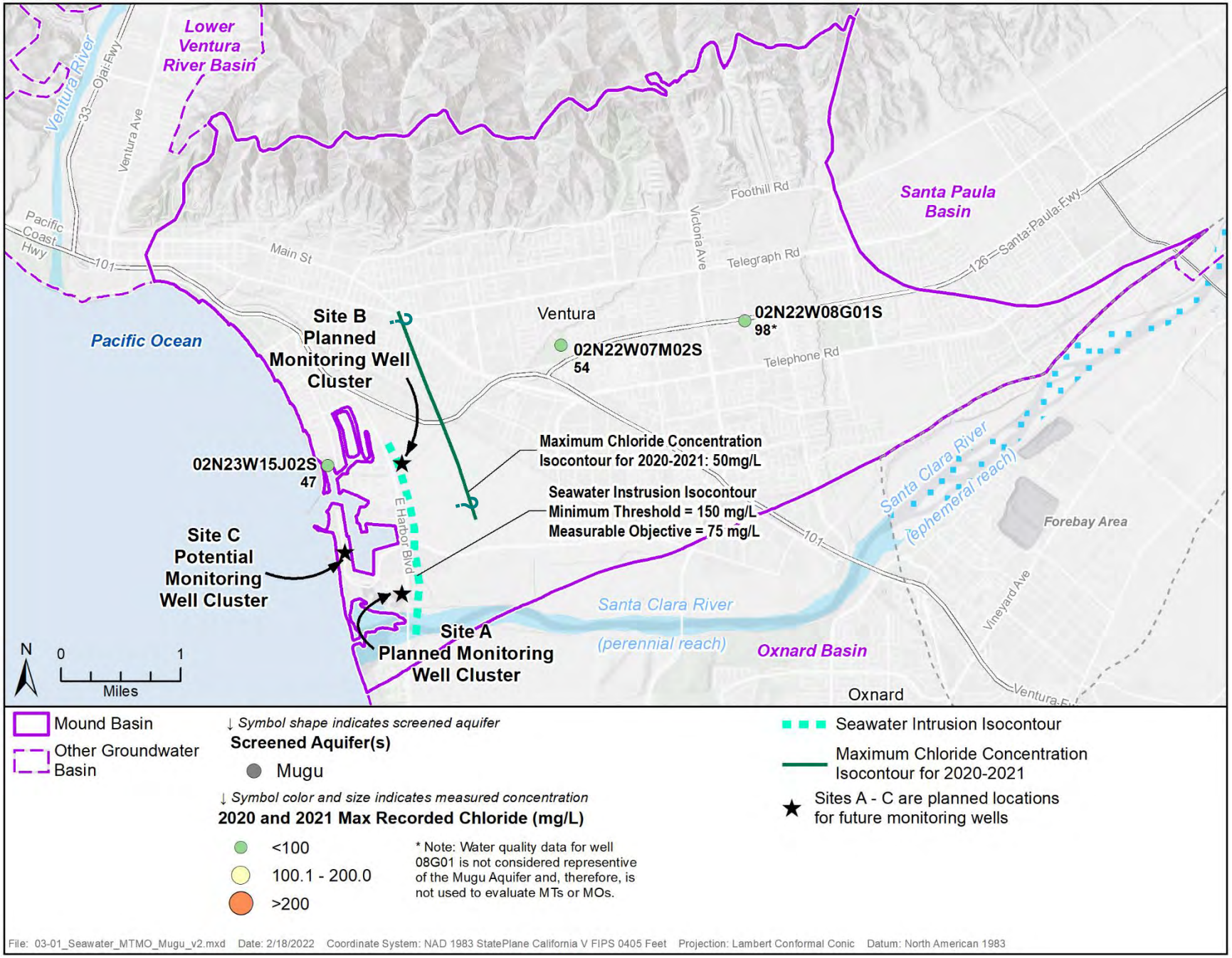

Figure 3.1 Map Showing Seawater Intrusion Minimum Threshold and Measurable Objective, Mugu Aquifer.

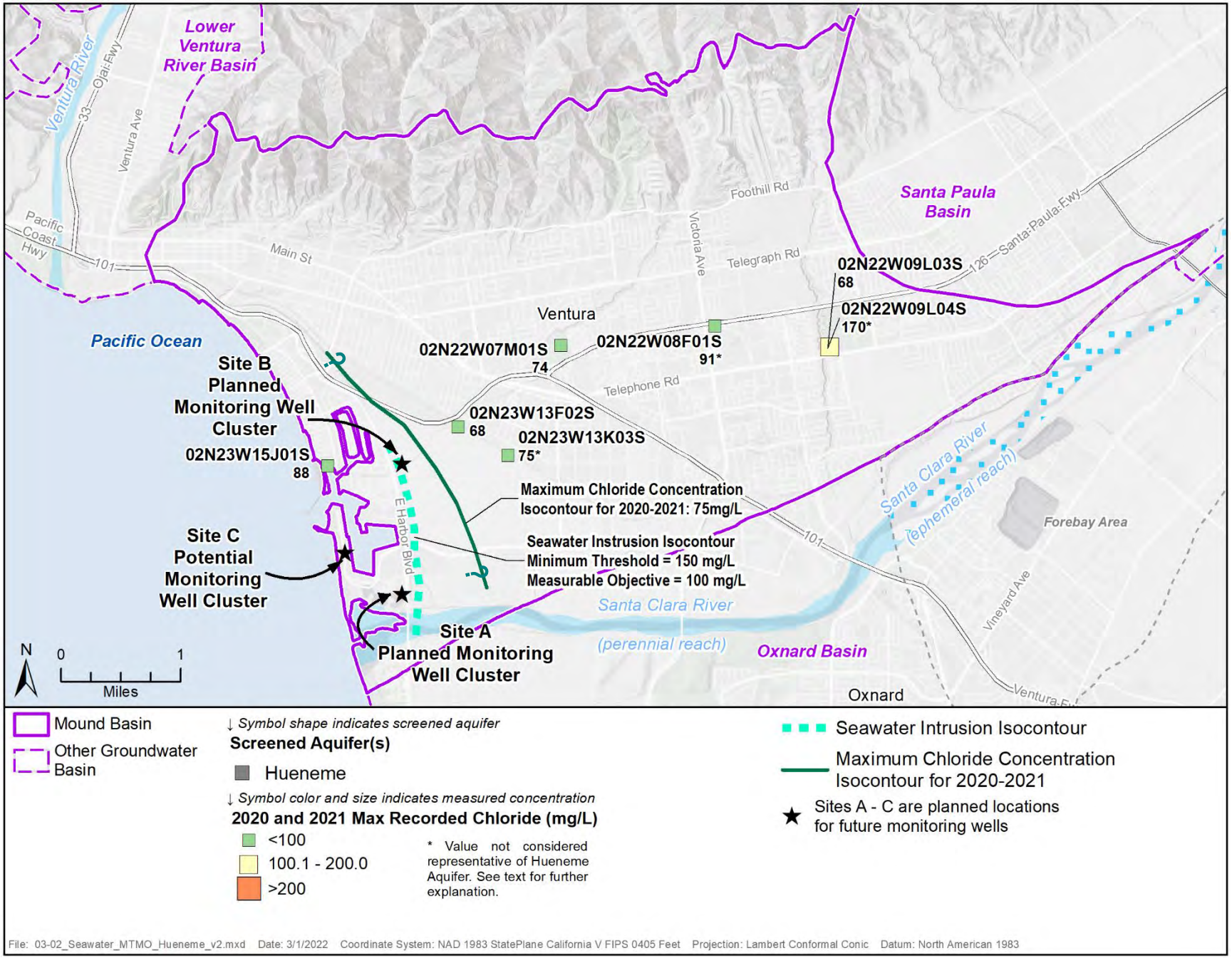

Figure 3.2 Map Showing Seawater Intrusion Minimum Threshold and Measurable Objective, Hueneme Aquifer.

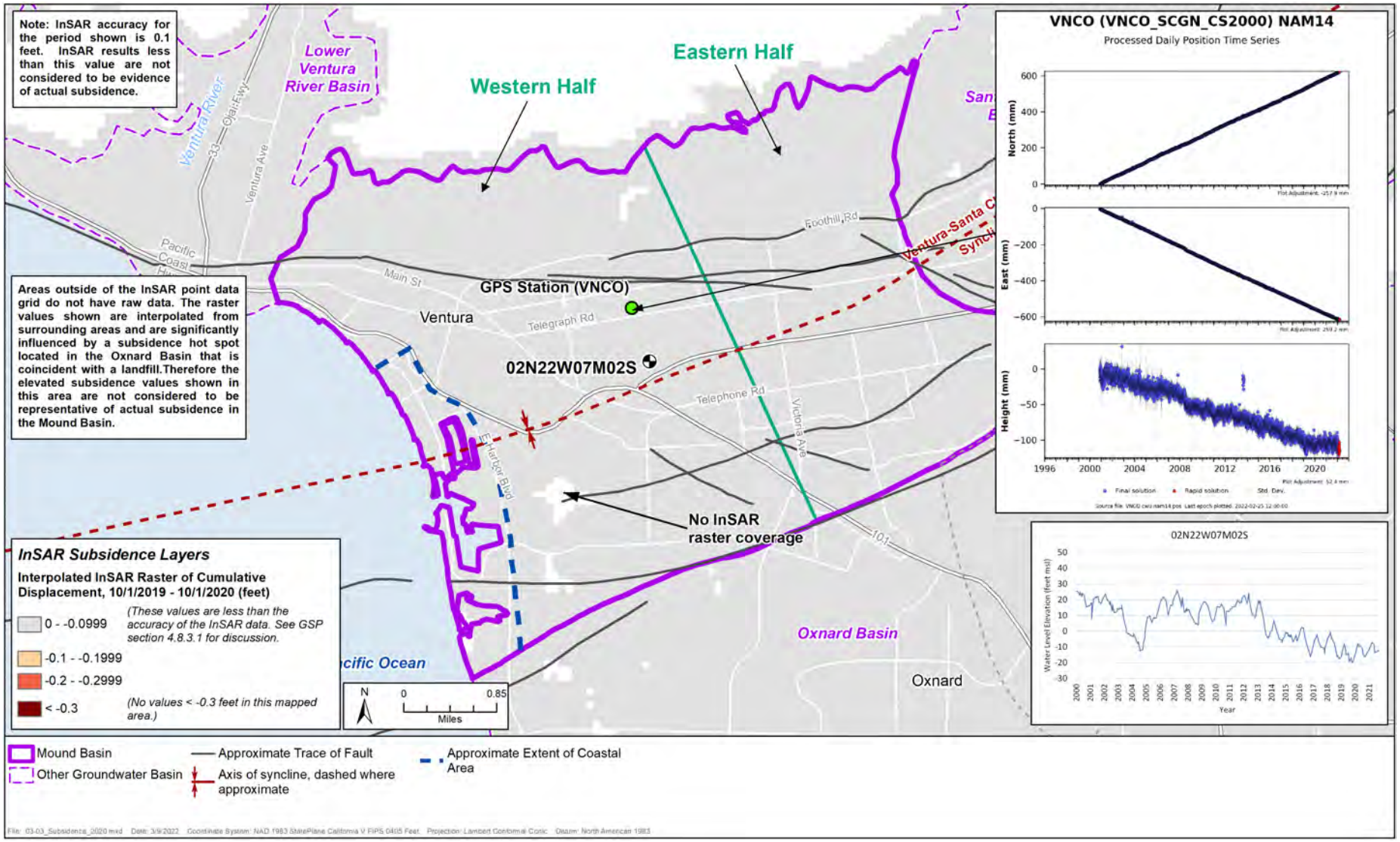

Figure 3.3 Subsidence for Mound Basin Between Water Years 2019 and 2020.

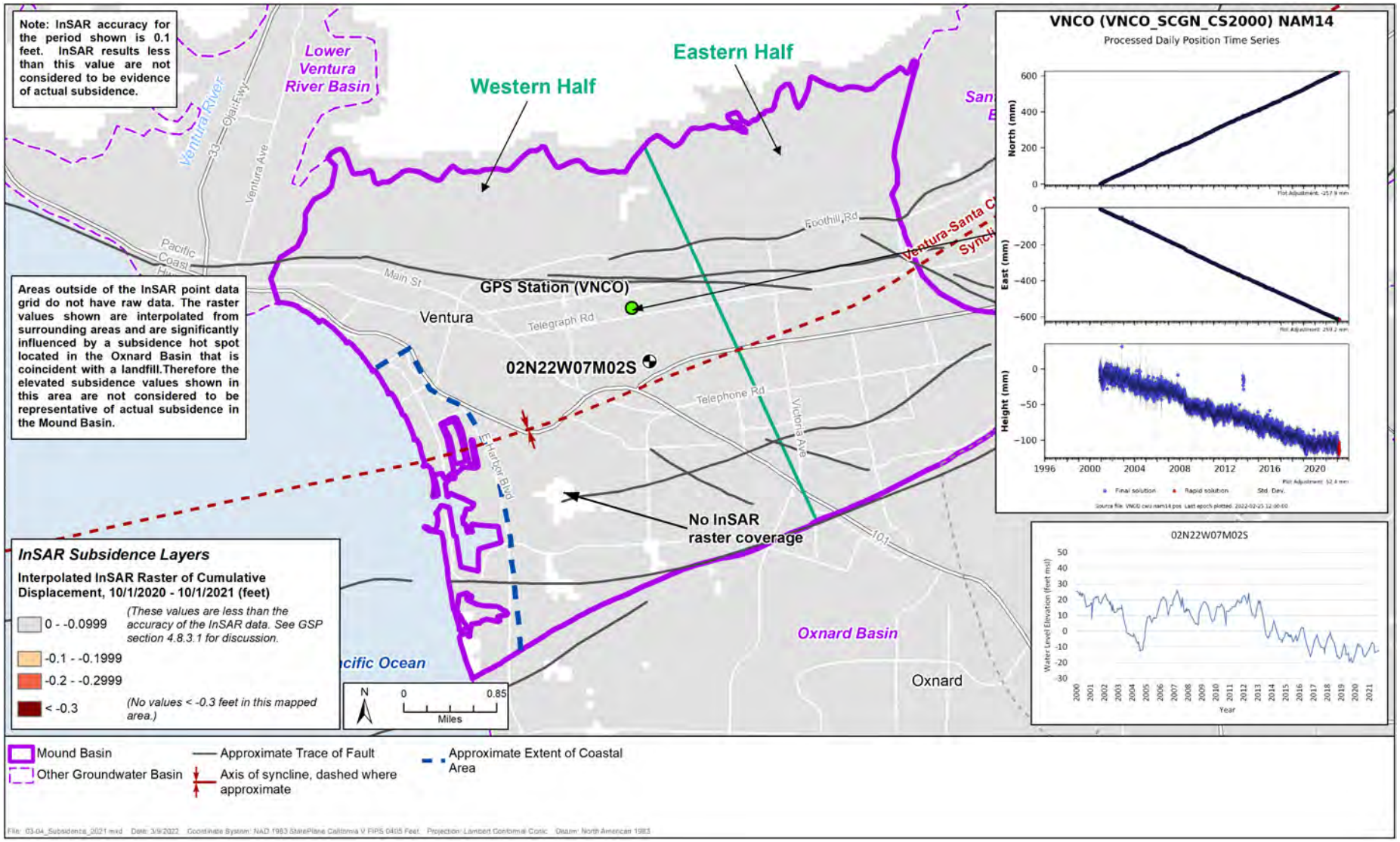

Figure 3.4 Subsidence for Mound Basin Between Water Years 2020 and 2021.

Tables

Table 2.1 Groundwater Extraction by Water Use Sector for Water Years 2020 and 2021.

Water Use Sector	Water Year 2020	Water Year 2021	Method of Measurement	Accuracy of Measurement
	AF/yr	AF/yr		
Agricultural	2,639	2,783	Direct and Estimated[a]	Medium
Municpal and Industrial	2,697	2,239	Direct and Estimated[b]	High
Native Vegetation[c]	1,200	1,193	Estimated[d]	Medium
TOTAL	**6,536**	**6,215**		

Notes:

- Totals may not match sum of values due to rounding

a Water year volumes estimated based on precipitation, see text Section 2.4
b Water year volumes for 2 non-city wells estimated based on precipitation, see text Section 2.4
c Note the extraction due to native vegetation includes the invasive species Arundo.
d Based on numerical model results for the baseline simulation, see text Section 2.4 and GSP (MGBSA, 2021)

Table 2.2 Total Water Use.

Water Year 2020								
Water Use Sector	Water Source Type					Total	Method of Measurement	Accuracy of Measurement
	Groundwater Extraction	Imported Groundwater from Upper Ventura River Basin[a]	Imported Groundwater from Oxnard Basin[b]	Imported Groundwater from Santa Paula Basin[b]	Imported Surface Water (Casitas MWD)[a]			
Agricultural	2,639	0	133[c]	1,067[c]	0	3,839	Direct and estimated[d]	Medium
Municipal and Industrial	2,697	1,606	2,686	0	1,606	8,595	Direct and estimated[d,e]	High
Native Vegetation[f]	1,200	0	0	0	0	1,200	Estimated[g]	Medium
TOTALS	6,536	1,606	2,819	1,067	1,606	**13,634**		

Water Year 2021								
Water Use Sector	Water Source Type					Total	Method of Measurement	Accuracy of Measurement
	Groundwater Extraction	Imported Groundwater from Upper Ventura River Basin[a]	Imported Groundwater from Oxnard Basin[b]	Imported Groundwater from Santa Paula Basin[b]	Imported Surface Water (Casitas MWD)[a]			
Agricultural	2,783	0	133[c]	1,067[c]	0	3,983	Direct and estimated[d]	Medium
Municipal and Industrial	2,239	1,624	3,904	0	1,624	9,392	Direct and estimated[d,e]	High
Native Vegetation[f]	1,193	0	0	0	0	1,193	Estimated[g]	Medium
TOTALS	6,215	1,624	4,037	1,067	1,624	**14,568**		

Notes:

- Totals may not match sum of values due to rounding

a M&I supplies from Upper Ventura River Basin and Casitas MWD are assumed to be split 50%-50% for use within Mound Basin (see text Section 2.6).
b See text Section 2.6 for estimation method.
c Groundwater imported by FICO and Alta MWC, see Section 3.1.1.3 in GSP.
d Water year volumes for extraction wells estimated based on precipitation, see text Section 2.4.
e Imported M&I volumes are metered and total use is based on the fraction of Mound Basin within Ventura Water service area (see text Section 2.6)
f Note the extraction due to native vegetation includes the invasive species Arundo.
g Based on numerical model results for the baseline simulation, see text Section 2.4 and GSP (MGBSA, 2021)

Table 3.1 Sustainable Management Criteria for the Chronic Lowering of Groundwater Levels and Land Subsidence Sustainability Indicators.

												Annual Report Update			
State Well Identification Number	Aquifers Monitored	Frequency of Groundwater Elevation Measurement 2015-2020	Basin Half	Land Subsidence MT (ft amsl)	Land Subsidence MO (ft amsl)	Chronic Lowering of GW Levels MT (ft amsl)	Chronic Lowering of GW Levels MO (ft amsl)	IM 5-year (ft amsl)	IM 10-year (ft amsl)	IM 15-year (ft amsl)	IM 20-year (ft amsl)	Water Year 2020 WL Minimum (ft amsl)	Water Year 2021 WL Minimum (ft amsl)	Subsidence Sustainability Indicator- Water Year 2020 (ft amsl)	Subsidence Sustainability Indicator- Water Year 2021 (ft amsl)
02N22W08G01S	Mugu	Monthly	Eastern	≥ 0.1 ft/yr*	≥ 0.1 ft/yr*	-20.39	5.21	-13.99	-7.59	-1.19	5.21	-20.39	-12.39	< 0.1 ft/yr*	< 0.1 ft/yr*
02N22W08P01S	Mugu	Quarterly	Eastern	≥ 0.1 ft/yr*	≥ 0.1 ft/yr*	-16.11	7.93	-10.1	-4.09	1.92	7.93	Well destroyed	Well destroyed	Well destroyed	Well destroyed
02N22W07M02S	Mugu	Monthly	Western	-19.77	1	-19.77	1	-14.58	-9.38	-4.19	1	-20.67	-15.52	-20.67	-15.52
02N22W07P01S	Mugu	Monthly	Western	-21	0.88	-21	0.88	-15.53	-10.06	-4.59	0.88	-16.71	-19.72	-16.71	-19.72
02N22W19M04S	Mugu	Bimonthly	Western	-64.19	-43.98	-64.19	-43.98	-59.14	-54.08	-49.03	-43.98	-32.38	-33.98	-32.38	-33.98
02N23W15J02S	Mugu	Monthly	Western	-18.64	-0.96	-18.64	-0.96	-14.22	-9.8	-5.38	-0.96	-13.15	-9.72	-13.15	-9.72
02N22W09K04S	Hueneme	Monthly	Eastern	≥ 0.1 ft/yr*	≥ 0.1 ft/yr*	-32.41	-10.31	-26.88	-21.36	-15.83	-10.31	-0.02	3.80	< 0.1 ft/yr*	< 0.1 ft/yr*
02N22W09L03S	Hueneme	Monthly	Eastern	≥ 0.1 ft/yr*	≥ 0.1 ft/yr*	28.27	50.37	33.8	39.32	44.85	50.37	50.37	48.37	< 0.1 ft/yr*	< 0.1 ft/yr*
02N22W09L04S	Hueneme	Monthly	Eastern	≥ 0.1 ft/yr*	≥ 0.1 ft/yr*	42.28	64.39	47.81	53.34	58.86	64.39	61.08	87.34	< 0.1 ft/yr*	< 0.1 ft/yr*
02N22W10N03S	Hueneme	Bimonthly	Eastern	≥ 0.1 ft/yr*	≥ 0.1 ft/yr*	-38.2	-15.4	-32.5	-26.8	-21.1	-15.4	-35.17	-28.06	< 0.1 ft/yr*	< 0.1 ft/yr*
02N22W16K01S	Hueneme	Quarterly	Eastern	≥ 0.1 ft/yr*	≥ 0.1 ft/yr*	-56.09	-33.73	-50.5	-44.91	-39.32	-33.73	-24.63	-23.03	< 0.1 ft/yr*	< 0.1 ft/yr*
02N22W17Q05S	Hueneme	Bimonthly	Eastern	≥ 0.1 ft/yr*	≥ 0.1 ft/yr*	-66.73	-45.48	-61.42	-56.11	-50.79	-45.48	-32.32	-35.47	< 0.1 ft/yr*	< 0.1 ft/yr*
02N22W07M01S	Hueneme	Monthly	Western	-25.21	-4.59	-25.21	-4.59	-20.06	-14.9	-9.75	-4.59	-10.05	-4.87	-10.05	-4.87
02N22W17M02S	Hueneme	Bimonthly	Western	-18.76	2.51	-18.76	2.51	-13.44	-8.12	-2.81	2.51	-2.94	7.72	-2.94	7.72
02N22W20E01S	Hueneme	Monthly	Western	-72.79	-51.82	-72.79	-51.82	-67.55	-62.31	-57.07	-51.82	-25.82	-37.93	-25.82	-37.93
02N23W13K03S	Hueneme	Quarterly	Western	-34.23	-14.44	-34.23	-14.44	-29.28	-24.33	-19.39	-14.44	-9.49	-6.79	-9.49	-6.79
02N23W13K04S	Hueneme	Quarterly	Western	-25.6	-5.81	-25.6	-5.81	-20.65	-15.71	-10.76	-5.81	-20.70	-10.61	-20.70	-10.61
02N23W15J01S	Hueneme	Monthly	Western	-25.86	-7.3	-25.86	-7.3	-21.22	-16.58	-11.94	-7.3	-12.11	-7.75	-12.11	-7.75
02N23W24G01S	Hueneme	Quarterly	Western	-22.3	-3.21	-22.3	-3.21	-17.53	-12.75	-7.98	-3.21	-12.43	-3.10	-12.43	-3.10

Notes:
* MT/MO based on land subsidence measurements in the Eastern Half of the Basin.

Color Key:

MO met

5-yr IM met

Between MT and IM

MT exceeded

Table 3.2 Sustainable Management Criteria for the Reduction of Groundwater Storage Sustainability Indicator.

Water Year	Groundwater Extractions	Minimum Threshold	Measureable Objective
	AF/yr	AF/yr	AF/yr
2020	5,167	8,200	7,400
2021	5,091	8,200	7,400

Color Key:

MO met

MT exceeded

Table 3.3 Water Quality Minimum Thresholds and Measurable Objectives.

Constituent	MCL (mg/L)	Sec. MCL (R/U/ST)[1] (mg/L)	RWQCB WQO (mg/L)	MT[2] (mg/L)	MO[3] (mg/L)	Water Years 2020-2021 Maximum Average Concentration[4] (mg/L)
Mugu Aquifer						
Nitrate	45	N/A	45	45	5	<0.4
TDS	N/A	500/1,000/1,500	1,200	1,200	1,000	944
Sulfate	N/A	250/500/600	600	600	500	379
Chloride	N/A	250/500/600	150	150	75	54
Boron	N/A	N/A	1	1	0.75	0.6
Hueneme Aquifer						
Nitrate	45	N/A	45	45	5	0.4
TDS	N/A	500/1,000/1,500	1,200	1,400	1,400	1,340
Sulfate	N/A	250/500/600	600	600	600	533
Chloride	N/A	250/500/600	150	150	100	87
Boron	N/A	N/A	1	1	0.75	0.7

Notes:

1 Consumer Acceptance Levels, where R = Recommended, U = Upper, and ST = Short Term
2 Undesirable results are considered to occur when all representative monitoring wells in a principal aquifer exceed the minimum threshold concentration for a constituent for two consecutive years.
3 Sustainability Goal for degraded water quality for a given constituent is considered to be met when the two-year running average concentration for at least one representative monitoring well is below the measurable objective.
4 Each well is averaged for the 2-year period and the maximum value across wells for each principal aquifer is displayed.
MCL = Maximum Concentration Limit.
mg/L = milligrams per liter.
MO = Measurable Objective.
MT = Minimum Threshold.

Color Key:

MO met
MT exceeded

Table 3.4 Water Quality Minimum Thresholds and Measurable Objectives, Per Monitoring Well.

State Well Identification Number	Local Well Identifier	Aquifers Monitored	Frequency of Groundwater Quality Sampling 2015-2020	Measurement or Sampling Entity	Degraded WQ Nitrate MT (mg/L)	Degraded WQ Nitrate MO (mg/L)	Degraded WQ TDS MT (mg/L)	Degraded WQ TDS MO (mg/L)	Degraded WQ Sulfate MT (mg/L)	Degraded WQ Sulfate MO (mg/L)	Degraded WQ Chloride MT (mg/L)	Degraded WQ Chloride MO (mg/L)	Degraded WQ Boron MT (mg/L)	Degraded WQ Boron MO (mg/L)
02N22W08G01S	Mound #1	Mugu	Monthly	City of Ventura	Not used - water quality is anomalous									
02N22W07M02S	CP-780	Mugu	Semiannually	United	45	5	1200	1000	600	500	150	75	1	0.75
Average observed concentration for Water Years 2020-2021					<0.4		893		316		54		0.6	
02N23W15J02S	MP-660	Mugu	Semiannually	United	45	5	1200	1000	600	500	150	75	1	0.75
Average observed concentration for Water Years 2020-2021					<0.4		944		379		46		0.4	
02N22W08F01S	Victoria #2	Hueneme	Monthly	City of Ventura	Not used - water quality is anomalous									
02N22W09L03S	CWP-950	Hueneme	Semiannually	United	45	5	1400	1200	600	500	150	100	1	0.75
Average observed concentration for Water Years 2020-2021					0.4		1067		455		67		0.5	
02N22W09L04S	CWP-510	Hueneme	Semiannually	United	Not used - water quality is anomalous									
02N23W13F02S	---	Hueneme	Annually	United	45	5	1400	1200	600	500	150	100	1	0.75
Average observed concentration for Water Years 2020-2021					<0.4		1105		394		67		0.6	
02N22W07M01S	CP-1280	Hueneme	Semiannually	United	45	5	1400	1200	600	500	150	100	1	0.75
Average observed concentration for Water Years 2020-2021					<0.4		1093		410		73		0.7	
02N23W13K03S	---	Hueneme	Annually	VCWPD	Not used - water quality is anomalous									
02N23W15J01S	MP-1070	Hueneme	Semiannually	United	45	5	1400	1200	600	500	150	100	1	0.75
Average observed concentration for Water Years 2020-2021					<0.4		1340		533		87		0.7	

Notes:
MO = Measurable Objective.
MT = Minimum Threshold.
SMC = sustainable management criteria.
WQ = water quality.

Color Key:

MO met

MT exceeded

Appendix A

Copy of Monitoring Data for Water Years 2020 and 2021

State Well Number	Measurement Date (mm/dd/yyyy)	Measurement Time (PST 24-Hour)	No Measurement Code	Questionable Measurement Code	Depth to Water (feet)	Groundwater Elevation (feet)	Reference Point Elevation (feet)	Ground Surface Elevation (feet)	Water Level Measurement Comments
02N22W07M01S	10/15/2019	12:00:00 PM			173.54	-9.48	164.06	164.56	
02N22W07M01S	10/30/2019	12:00:00 PM			174.11	-10.05	164.06	164.56	
02N22W07M01S	11/26/2019	12:00:00 PM			173.31	-9.25	164.06	164.56	
02N22W07M01S	1/9/2020	12:00:00 PM			167.06	-3.00	164.06	164.56	
02N22W07M01S	1/21/2020	12:00:00 PM			166.88	-2.82	164.06	164.56	
02N22W07M01S	3/12/2020	12:00:00 PM			162.96	1.10	164.06	164.56	
02N22W07M01S	4/16/2020	12:00:00 PM			160.37	3.69	164.06	164.56	
02N22W07M01S	5/12/2020	12:00:00 PM			160.39	3.67	164.06	164.56	
02N22W07M01S	7/13/2020	12:00:00 PM			161.26	2.80	164.06	164.56	
02N22W07M01S	7/23/2020	12:00:00 PM			166.26	-2.20	164.06	164.56	
02N22W07M01S	9/3/2020	12:00:00 PM			163.93	0.13	164.06	164.56	
02N22W07M01S	10/14/2020	12:00:00 PM			164.49	-0.43	164.06	164.56	
02N22W07M01S	10/16/2020	12:00:00 PM			164.60	-0.54	164.06	164.56	
02N22W07M01S	10/22/2020	12:00:00 PM			162.59	1.47	164.06	164.56	
02N22W07M01S	11/20/2020	12:00:00 PM			163.91	0.15	164.06	164.56	
02N22W07M01S	1/13/2021	12:00:00 PM			160.70	3.36	164.06	164.56	
02N22W07M01S	1/21/2021	12:00:00 PM			160.10	3.96	164.06	164.56	
02N22W07M01S	3/17/2021	12:00:00 PM			168.93	-4.87	164.06	164.56	orig entered DTW 68.93, GWEL 95.13; field sheet had 168.93
02N22W07M01S	4/27/2021	12:00:00 PM			157.60	6.46	164.06	164.56	
02N22W07M01S	5/21/2021	12:00:00 PM			162.67	1.39	164.06	164.56	
02N22W07M01S	5/26/2021	12:00:00 PM			163.18	0.88	164.06	164.56	
02N22W07M01S	7/20/2021	12:00:00 PM			161.90	2.16	164.06	164.56	
02N22W07M01S	9/16/2021	12:00:00 PM			162.54	1.52	164.06	164.56	
02N22W07M02S	10/15/2019	12:00:00 PM			183.60	-19.54	164.06	164.56	
02N22W07M02S	10/30/2019	12:00:00 PM			183.87	-19.81	164.06	164.56	
02N22W07M02S	11/26/2019	12:00:00 PM			182.14	-18.08	164.06	164.56	
02N22W07M02S	1/9/2020	12:00:00 PM			178.22	-14.16	164.06	164.56	RT=57.09 @09:15
02N22W07M02S	1/21/2020	12:00:00 PM			177.69	-13.63	164.06	164.56	
02N22W07M02S	3/12/2020	12:00:00 PM			171.91	-7.85	164.06	164.56	
02N22W07M02S	4/16/2020	12:00:00 PM			173.64	-9.58	164.06	164.56	
02N22W07M02S	5/11/2020	12:00:00 PM			172.82	-8.76	164.06	164.56	Annual high, WLE= -8.76
02N22W07M02S	5/12/2020	12:00:00 PM			172.97	-8.91	164.06	164.56	
02N22W07M02S	7/13/2020	12:00:00 PM			175.32	-11.26	164.06	164.56	RT=59.88 @10:30
02N22W07M02S	7/23/2020	12:00:00 PM			178.59	-14.53	164.06	164.56	
02N22W07M02S	9/3/2020	12:00:00 PM			179.64	-15.58	164.06	164.56	
02N22W07M02S	9/6/2020	12:00:00 PM			180.42	-16.36	164.06	164.56	Fall low, WLE= -16.36
02N22W07M02S	10/14/2020	12:00:00 PM			179.58	-15.52	164.06	164.56	
02N22W07M02S	10/16/2020	12:00:00 PM			178.78	-14.72	164.06	164.56	
02N22W07M02S	10/22/2020	12:00:00 PM			178.37	-14.31	164.06	164.56	RT=56.78 @08:35
02N22W07M02S	11/20/2020	12:00:00 PM			177.40	-13.34	164.06	164.56	
02N22W07M02S	1/13/2021	12:00:00 PM			175.34	-11.28	164.06	164.56	
02N22W07M02S	1/21/2021	12:00:00 PM			174.58	-10.52	164.06	164.56	RT=60.69 @08:45
02N22W07M02S	3/17/2021	12:00:00 PM			171.52	-7.46	164.06	164.56	
02N22W07M02S	3/22/2021	12:00:00 PM			171.19	-7.13	164.06	164.56	Spring high, WLE= -7.13
02N22W07M02S	4/27/2021	12:00:00 PM			172.02	-7.96	164.06	164.56	
02N22W07M02S	5/21/2021	12:00:00 PM			172.85	-8.79	164.06	164.56	
02N22W07M02S	5/26/2021	12:00:00 PM			177.63	-13.57	164.06	164.56	RT=57.60 @09:09
02N22W07M02S	7/20/2021	12:00:00 PM			177.07	-13.01	164.06	164.56	
02N22W07M02S	9/16/2021	12:00:00 PM			176.18	-12.12	164.06	164.56	RT=58.94 @09:24
02N22W07M03S	10/15/2019	12:00:00 PM			21.06	143.00	164.06	164.56	
02N22W07M03S	10/30/2019	12:00:00 PM			21.08	142.98	164.06	164.56	
02N22W07M03S	11/26/2019	12:00:00 PM			21.51	142.55	164.06	164.56	
02N22W07M03S	1/9/2020	12:00:00 PM			21.11	142.95	164.06	164.56	
02N22W07M03S	1/21/2020	12:00:00 PM			21.14	142.92	164.06	164.56	
02N22W07M03S	3/12/2020	12:00:00 PM			20.99	143.07	164.06	164.56	
02N22W07M03S	4/16/2020	12:00:00 PM			20.86	143.20	164.06	164.56	
02N22W07M03S	5/12/2020	12:00:00 PM			21.39	142.67	164.06	164.56	
02N22W07M03S	7/13/2020	12:00:00 PM			21.09	142.97	164.06	164.56	
02N22W07M03S	7/23/2020	12:00:00 PM			20.11	143.95	164.06	164.56	
02N22W07M03S	9/3/2020	12:00:00 PM			21.19	142.87	164.06	164.56	
02N22W07M03S	10/14/2020	12:00:00 PM			21.26	142.80	164.06	164.56	
02N22W07M03S	10/16/2020	12:00:00 PM			21.81	142.25	164.06	164.56	
02N22W07M03S	10/22/2020	12:00:00 PM			21.74	142.32	164.06	164.56	
02N22W07M03S	11/20/2020	12:00:00 PM			21.71	142.35	164.06	164.56	
02N22W07M03S	1/13/2021	12:00:00 PM			21.66	142.40	164.06	164.56	
02N22W07M03S	1/21/2021	12:00:00 PM			21.63	142.43	164.06	164.56	
02N22W07M03S	3/17/2021	12:00:00 PM			21.71	142.35	164.06	164.56	
02N22W07M03S	4/27/2021	12:00:00 PM			21.69	142.37	164.06	164.56	
02N22W07M03S	5/21/2021	12:00:00 PM			22.23	141.83	164.06	164.56	
02N22W07M03S	5/26/2021	12:00:00 PM			22.20	141.86	164.06	164.56	
02N22W07M03S	7/20/2021	12:00:00 PM			22.04	142.02	164.06	164.56	
02N22W07M03S	9/16/2021	12:00:00 PM			22.13	141.93	164.06	164.56	
02N22W07P01S	3/12/2020	12:00:00 PM			165.32	-15.11	150.21	150.00	
02N22W07P01S	5/11/2020	12:00:00 PM		4	165.31	-15.10	150.21	150.00	
02N22W07P01S	7/22/2020	12:00:00 PM	1				150.21	150.00	
02N22W07P01S	9/3/2020	12:00:00 PM			166.92	-16.71	150.21	150.00	

State Well Number	Measurement Date (mm/dd/yyyy)	Measurement Time (PST 24-Hour)	No Measurement Code	Questionable Measurement Code	Depth to Water (feet)	Groundwater Elevation (feet)	Reference Point Elevation (feet)	Ground Surface Elevation (feet)	Water Level Measurement Comments
02N22W07P01S	10/15/2020	12:00:00 PM			166.21	-16.00	150.21	150.00	
02N22W07P01S	11/19/2020	12:00:00 PM			164.60	-14.39	150.21	150.00	
02N22W07P01S	1/13/2021	12:00:00 PM	1				150.21	150.00	
02N22W07P01S	3/16/2021	12:00:00 PM			158.69	-8.48	150.21	150.00	
02N22W07P01S	5/21/2021	12:00:00 PM			169.93	-19.72	150.21	150.00	
02N22W07P01S	7/20/2021	12:00:00 PM	1				150.21	150.00	
02N22W07P01S	9/27/2021	12:00:00 PM	1				150.21	150.00	
02N22W08F01S	9/17/2021	12:00:00 PM			224.00	21.82	245.82	245.00	VIC 2; Out of Service, sand
02N22W08G01S	10/18/2019	12:00:00 PM			273.00	-11.39	261.61	260.00	MND 1, pumping DTW 381.5, 1600 gpm
02N22W08G01S	11/29/2019	12:00:00 PM			282.00	-20.39	261.61	260.00	MND 1, pumping DTW 390, 1600 gpm
02N22W08G01S	12/13/2019	12:00:00 PM			278.00	-16.39	261.61	260.00	MND 1, pumping DTW 387.7, 1600 gpm
02N22W08G01S	12/20/2019	12:00:00 PM			278.20	-16.59	261.61	260.00	MND 1, pumping DTW 388, 1600 gpm
02N22W08G01S	1/16/2020	12:00:00 PM			279.00	-17.39	261.61	260.00	MND 1, pumping DTW 391, 1600 gpm
02N22W08G01S	5/1/2020	12:00:00 PM			264.00	-2.39	261.61	260.00	MND 1, pumping DTW 352, 1000 gpm
02N22W08G01S	5/15/2020	12:00:00 PM			271.00	-9.39	261.61	260.00	MND 1, pumping DTW 397.7, 1600 gpm
02N22W08G01S	5/29/2020	12:00:00 PM			272.00	-10.39	261.61	260.00	MND 1, pumping DTW 399.9, 1600 gpm
02N22W08G01S	6/12/2020	12:00:00 PM			273.00	-11.39	261.61	260.00	MND 1, pumping DTW 401.5, 1600 gpm
02N22W08G01S	7/2/2020	12:00:00 PM			269.00	-7.39	261.61	260.00	MND 1, pumping DTW 405.7, 1600 gpm
02N22W08G01S	7/10/2020	12:00:00 PM			270.00	-8.39	261.61	260.00	MND 1, pumping DTW 406.4, 1600 gpm
02N22W08G01S	7/17/2020	12:00:00 PM			270.90	-9.29	261.61	260.00	MND 1, pumping DTW 408.8, 1600 gpm
02N22W08G01S	8/7/2020	12:00:00 PM			271.00	-9.39	261.61	260.00	MND 1, pumping DTW 409.7, 1600 gpm
02N22W08G01S	8/21/2020	12:00:00 PM			276.00	-14.39	261.61	260.00	MND 1, pumping DTW 415.4, 1600 gpm
02N22W08G01S	9/18/2020	12:00:00 PM			273.00	-11.39	261.61	260.00	MND 1, pumping DTW 418, 1600 gpm
02N22W08G01S	10/16/2020	12:00:00 PM			274.00	-12.39	261.61	260.00	MND 1, pumping DTW 409, 1500 gpm
02N22W08G01S	10/30/2020	12:00:00 PM			272.00	-10.39	261.61	260.00	MND 1, pumping DTW 410.5, 1500 gpm
02N22W08G01S	11/13/2020	12:00:00 PM			273.00	-11.39	261.61	260.00	MND 1, pumping DTW 410.1, 1500 gpm
02N22W08G01S	11/25/2020	12:00:00 PM			270.00	-8.39	261.61	260.00	MND 1, pumping DTW 411.2, 1500 gpm
02N22W08G01S	12/11/2020	12:00:00 PM			272.00	-10.39	261.61	260.00	Mound #1; pumping DTW=412'; 1500 GPM
02N22W08G01S	12/24/2020	12:00:00 PM	1				261.61	260.00	Mound #1; pumping DTW=414'; 1500 GPM
02N22W08G01S	12/31/2020	12:00:00 PM			273.90	-12.29	261.61	260.00	Mound #1; pumping DTW=413'; 1500 GPM
02N22W08G01S	1/29/2021	12:00:00 PM			269.00	-7.39	261.61	260.00	Mound #1; pumping DTW=415.6'; 1500 GPM
02N22W08G01S	3/12/2021	12:00:00 PM			270.00	-8.39	261.61	260.00	Mound #1; pumping DTW=419'; 1500 GPM
02N22W08G01S	4/2/2021	12:00:00 PM			270.00	-8.39	261.61	260.00	Mound #1; pumping DTW=421.7'; 1500 GPM
02N22W08G01S	5/7/2021	12:00:00 PM			268.00	-6.39	261.61	260.00	Mound #1; pumping DTW=422'; 1500 GPM
02N22W08G01S	5/28/2021	12:00:00 PM			267.00	-5.39	261.61	260.00	Mound #1; pumping DTW=429'; 1500 GPM
02N22W08G01S	6/11/2021	12:00:00 PM			274.00	-12.39	261.61	260.00	Mound #1; pumping DTW=429.4'; 1500 GPM
02N22W08G01S	7/8/2021	12:00:00 PM			253.00	8.61	261.61	260.00	Mound #1; pumping DTW=419'; 1400 GPM
02N22W08G01S	7/23/2021	12:00:00 PM			255.00	6.61	261.61	260.00	Mound #1; pumping DTW=440'; 1300 GPM
02N22W08G01S	8/20/2021	12:00:00 PM	1				261.61	260.00	Mound #1; pumping DTW=430'; 1300 GPM
02N22W08P01S	5/6/2020	12:00:00 PM	6				213.79	215.29	Well destroyed
02N22W08P01S	6/23/2020	12:00:00 PM	6				213.79	215.29	Well destroyed
02N22W09K04S	10/17/2019	12:00:00 PM			243.37	1.12	244.49	244.89	
02N22W09K04S	10/28/2019	12:00:00 PM			244.24	0.25	244.49	244.89	
02N22W09K04S	11/18/2019	12:00:00 PM			244.51	-0.02	244.49	244.89	
02N22W09K04S	12/2/2019	12:00:00 PM			242.92	1.57	244.49	244.89	
02N22W09K04S	12/9/2019	12:00:00 PM			241.43	3.06	244.49	244.89	
02N22W09K04S	12/30/2019	12:00:00 PM			238.49	6.00	244.49	244.89	
02N22W09K04S	1/21/2020	12:00:00 PM			236.61	7.88	244.49	244.89	
02N22W09K04S	1/30/2020	12:00:00 PM			235.78	8.71	244.49	244.89	
02N22W09K04S	2/11/2020	12:00:00 PM			235.84	8.65	244.49	244.89	
02N22W09K04S	2/27/2020	12:00:00 PM			234.97	9.52	244.49	244.89	
02N22W09K04S	3/11/2020	12:00:00 PM			233.58	10.91	244.49	244.89	
02N22W09K04S	3/26/2020	12:00:00 PM			232.47	12.02	244.49	244.89	
02N22W09K04S	4/28/2020	12:00:00 PM			230.50	13.99	244.49	244.89	
02N22W09K04S	4/30/2020	12:00:00 PM			230.39	14.10	244.49	244.89	
02N22W09K04S	5/11/2020	12:00:00 PM			230.21	14.28	244.49	244.89	
02N22W09K04S	5/28/2020	12:00:00 PM			229.82	14.67	244.49	244.89	
02N22W09K04S	6/23/2020	12:00:00 PM			229.60	14.89	244.49	244.89	
02N22W09K04S	6/29/2020	12:00:00 PM			229.54	14.95	244.49	244.89	
02N22W09K04S	7/22/2020	12:00:00 PM			235.68	8.81	244.49	244.89	
02N22W09K04S	7/30/2020	12:00:00 PM			237.06	7.43	244.49	244.89	
02N22W09K04S	8/12/2020	12:00:00 PM			237.85	6.64	244.49	244.89	
02N22W09K04S	8/27/2020	12:00:00 PM			239.12	5.37	244.49	244.89	
02N22W09K04S	9/2/2020	12:00:00 PM			238.95	5.54	244.49	244.89	
02N22W09K04S	10/1/2020	12:00:00 PM			239.74	4.75	244.49	244.89	
02N22W09K04S	10/14/2020	12:00:00 PM			239.95	4.54	244.49	244.89	
02N22W09K04S	11/2/2020	12:00:00 PM			240.00	4.49	244.49	244.89	
02N22W09K04S	11/18/2020	12:00:00 PM			240.69	3.80	244.49	244.89	
02N22W09K04S	11/30/2020	12:00:00 PM			240.08	4.41	244.49	244.89	
02N22W09K04S	12/14/2020	12:00:00 PM			240.07	4.42	244.49	244.89	

State Well Number	Measurement Date (mm/dd/yyyy)	Measurement Time (PST 24-Hour)	No Measurement Code	Questionable Measurement Code	Depth to Water (feet)	Groundwater Elevation (feet)	Reference Point Elevation (feet)	Ground Surface Elevation (feet)	Water Level Measurement Comments
02N22W09K04S	12/30/2020	12:00:00 PM			239.96	4.53	244.49	244.89	
02N22W09K04S	1/12/2021	12:00:00 PM			239.37	5.12	244.49	244.89	
02N22W09K04S	1/26/2021	12:00:00 PM			239.19	5.30	244.49	244.89	
02N22W09K04S	2/9/2021	12:00:00 PM			238.86	5.63	244.49	244.89	
02N22W09K04S	2/25/2021	12:00:00 PM			238.13	6.36	244.49	244.89	
02N22W09K04S	3/16/2021	12:00:00 PM			237.06	7.43	244.49	244.89	
02N22W09K04S	4/1/2021	12:00:00 PM			236.39	8.10	244.49	244.89	
02N22W09K04S	4/7/2021	12:00:00 PM			236.32	8.17	244.49	244.89	
02N22W09K04S	4/29/2021	12:00:00 PM			237.58	6.91	244.49	244.89	
02N22W09K04S	5/21/2021	12:00:00 PM			236.59	7.90	244.49	244.89	
02N22W09K04S	5/27/2021	12:00:00 PM			236.32	8.17	244.49	244.89	
02N22W09K04S	6/16/2021	12:00:00 PM			238.32	6.17	244.49	244.89	
02N22W09K04S	6/30/2021	12:00:00 PM			236.34	8.15	244.49	244.89	
02N22W09K04S	7/19/2021	12:00:00 PM			236.41	8.08	244.49	244.89	
02N22W09K04S	7/28/2021	12:00:00 PM			236.57	7.92	244.49	244.89	
02N22W09K04S	8/17/2021	12:00:00 PM			237.25	7.24	244.49	244.89	
02N22W09K04S	8/30/2021	12:00:00 PM			237.17	7.32	244.49	244.89	
02N22W09K04S	9/27/2021	12:00:00 PM			236.82	7.67	244.49	244.89	
02N22W09K04S	9/29/2021	12:00:00 PM			236.84	7.65	244.49	244.89	
02N22W09K05S	10/14/2019	12:00:00 PM			178.76	66.63	245.39	244.89	
02N22W09K05S	11/18/2019	12:00:00 PM			183.28	62.11	245.39	244.89	
02N22W09K05S	1/15/2020	12:00:00 PM		2	191.66	53.73	245.39	244.89	
02N22W09K05S	5/11/2020	12:00:00 PM			176.51	68.88	245.39	244.89	
02N22W09K05S	7/22/2020	12:00:00 PM			189.76	55.63	245.39	244.89	
02N22W09K05S	9/3/2020	12:00:00 PM		2	178.93	66.46	245.39	244.89	
02N22W09K05S	10/14/2020	12:00:00 PM		2	182.00	63.39	245.39	244.89	
02N22W09K05S	11/19/2020	12:00:00 PM			180.52	64.87	245.39	244.89	
02N22W09K05S	1/12/2021	12:00:00 PM			165.61	79.78	245.39	244.89	
02N22W09K05S	3/16/2021	12:00:00 PM			162.56	82.83	245.39	244.89	
02N22W09K05S	5/21/2021	12:00:00 PM			179.92	65.47	245.39	244.89	
02N22W09K05S	7/19/2021	12:00:00 PM		2	190.76	54.63	245.39	244.89	
02N22W09K05S	9/28/2021	12:00:00 PM		2	183.62	61.77	245.39	244.89	
02N22W09L03S	10/15/2019	12:00:00 PM			198.72	52.53	251.25	253.25	
02N22W09L03S	10/21/2019	12:00:00 PM			198.30	52.95	251.25	253.25	
02N22W09L03S	10/31/2019	12:00:00 PM			200.16	51.09	251.25	253.25	
02N22W09L03S	11/4/2019	12:00:00 PM			198.71	52.54	251.25	253.25	
02N22W09L03S	1/9/2020	12:00:00 PM			198.54	52.71	251.25	253.25	No RT
02N22W09L03S	3/12/2020	12:00:00 PM			199.46	51.79	251.25	253.25	
02N22W09L03S	4/15/2020	12:00:00 PM			197.48	53.77	251.25	253.25	
02N22W09L03S	4/29/2020	12:00:00 PM			199.83	51.42	251.25	253.25	No RT
02N22W09L03S	5/12/2020	12:00:00 PM			200.66	50.59	251.25	253.25	
02N22W09L03S	6/22/2020	12:00:00 PM	9				251.25	253.25	gate locked
02N22W09L03S	7/20/2020	12:00:00 PM			199.83	51.42	251.25	253.25	
02N22W09L03S	7/23/2020	12:00:00 PM			199.65	51.60	251.25	253.25	
02N22W09L03S	9/3/2020	12:00:00 PM			200.88	50.37	251.25	253.25	
02N22W09L03S	10/10/2020	12:00:00 PM			202.84	48.41	251.25	253.25	
02N22W09L03S	10/12/2020	12:00:00 PM	9				251.25	253.25	gate locked
02N22W09L03S	10/14/2020	12:00:00 PM			202.82	48.43	251.25	253.25	
02N22W09L03S	10/17/2020	12:00:00 PM			201.84	49.41	251.25	253.25	Fall low, WLE= 49.41
02N22W09L03S	10/19/2020	12:00:00 PM			201.28	49.97	251.25	253.25	
02N22W09L03S	10/26/2020	12:00:00 PM			199.98	51.27	251.25	253.25	
02N22W09L03S	11/23/2020	12:00:00 PM	9				251.25	253.25	key to well housing has been misplaced
02N22W09L03S	12/1/2020	12:00:00 PM	9				251.25	253.25	gate locked
02N22W09L03S	1/12/2021	12:00:00 PM			200.44	50.81	251.25	253.25	
02N22W09L03S	1/25/2021	12:00:00 PM	7				251.25	253.25	Measurement not recorded
02N22W09L03S	3/16/2021	12:00:00 PM			198.22	53.03	251.25	253.25	
02N22W09L03S	3/18/2021	12:00:00 PM			199.25	52.00	251.25	253.25	
02N22W09L03S	4/3/2021	12:00:00 PM			198.50	52.75	251.25	253.25	Spring high, WLE= 52.75
02N22W09L03S	4/28/2021	12:00:00 PM			200.50	50.75	251.25	253.25	
02N22W09L03S	5/11/2021	12:00:00 PM			199.07	52.18	251.25	253.25	
02N22W09L03S	5/21/2021	12:00:00 PM			201.21	50.04	251.25	253.25	
02N22W09L03S	5/26/2021	12:00:00 PM			201.78	49.47	251.25	253.25	
02N22W09L03S	6/14/2021	12:00:00 PM	9				251.25	253.25	No site access
02N22W09L03S	7/19/2021	12:00:00 PM			202.88	48.37	251.25	253.25	
02N22W09L03S	9/16/2021	12:00:00 PM			200.96	50.29	251.25	253.25	
02N22W09L04S	10/15/2019	12:00:00 PM			189.40	61.85	251.25	253.25	
02N22W09L04S	10/21/2019	12:00:00 PM			189.70	61.55	251.25	253.25	
02N22W09L04S	10/31/2019	12:00:00 PM			190.17	61.08	251.25	253.25	
02N22W09L04S	1/9/2020	12:00:00 PM			172.08	79.17	251.25	253.25	
02N22W09L04S	3/12/2020	12:00:00 PM			163.70	87.55	251.25	253.25	
02N22W09L04S	4/15/2020	12:00:00 PM			163.36	87.89	251.25	253.25	
02N22W09L04S	4/29/2020	12:00:00 PM			168.44	82.81	251.25	253.25	RT=167.34 @09:30
02N22W09L04S	5/8/2020	12:00:00 PM			174.72	76.53	251.25	253.25	Annual low, WLE= 76.53
02N22W09L04S	5/12/2020	12:00:00 PM			174.66	76.59	251.25	253.25	
02N22W09L04S	6/22/2020	12:00:00 PM	9				251.25	253.25	gate locked
02N22W09L04S	7/20/2020	12:00:00 PM			162.42	88.83	251.25	253.25	RT=172.16 @07:41

State Well Number	Measurement Date (mm/dd/yyyy)	Measurement Time (PST 24-Hour)	No Measurement Code	Questionable Measurement Code	Depth to Water (feet)	Groundwater Elevation (feet)	Reference Point Elevation (feet)	Ground Surface Elevation (feet)	Water Level Measurement Comments
02N22W09L04S	7/23/2020	12:00:00 PM			163.48	87.77	251.25	253.25	
02N22W09L04S	9/3/2020	12:00:00 PM			163.20	88.05	251.25	253.25	
02N22W09L04S	10/10/2020	12:00:00 PM			163.91	87.34	251.25	253.25	Fall low by date, WLE= 87.34
02N22W09L04S	10/12/2020	12:00:00 PM	9				251.25	253.25	gate locked
02N22W09L04S	10/14/2020	12:00:00 PM			162.79	88.46	251.25	253.25	
02N22W09L04S	10/19/2020	12:00:00 PM			163.56	87.69	251.25	253.25	
02N22W09L04S	10/26/2020	12:00:00 PM			159.92	91.33	251.25	253.25	RT=175.91 @15:38
02N22W09L04S	11/23/2020	12:00:00 PM	9				251.25	253.25	key to well housing has been misplaced
02N22W09L04S	12/1/2020	12:00:00 PM	9				251.25	253.25	gate locked
02N22W09L04S	12/13/2020	12:00:00 PM			157.13	94.12	251.25	253.25	Annual high, WLE= 94.12
02N22W09L04S	1/12/2021	12:00:00 PM			162.37	88.88	251.25	253.25	
02N22W09L04S	1/25/2021	12:00:00 PM			162.75	88.50	251.25	253.25	RT=172.85 @08:55
02N22W09L04S	3/16/2021	12:00:00 PM			160.38	90.87	251.25	253.25	
02N22W09L04S	3/18/2021	12:00:00 PM			160.10	91.15	251.25	253.25	
02N22W09L04S	4/8/2021	12:00:00 PM			159.03	92.22	251.25	253.25	Spring high, WLE= 92.22
02N22W09L04S	4/28/2021	12:00:00 PM			160.38	90.87	251.25	253.25	
02N22W09L04S	5/11/2021	12:00:00 PM			154.73	96.52	251.25	253.25	
02N22W09L04S	5/21/2021	12:00:00 PM			154.67	96.58	251.25	253.25	
02N22W09L04S	5/26/2021	12:00:00 PM			154.32	96.93	251.25	253.25	
02N22W09L04S	6/14/2021	12:00:00 PM	9				251.25	253.25	No site access
02N22W09L04S	7/19/2021	12:00:00 PM			154.67	96.58	251.25	253.25	
02N22W09L04S	9/16/2021	12:00:00 PM			155.17	96.08	251.25	253.25	
02N22W10N03S	10/7/2019	12:00:00 PM		4	222.24	-35.17	187.07	185.00	
02N22W10N03S	1/15/2020	12:00:00 PM			210.90	-23.83	187.07	185.00	
02N22W10N03S	3/11/2020	12:00:00 PM			212.28	-25.21	187.07	185.00	
02N22W10N03S	5/11/2020	12:00:00 PM			206.04	-18.97	187.07	185.00	
02N22W10N03S	7/22/2020	12:00:00 PM			195.98	-8.91	187.07	185.00	
02N22W10N03S	9/3/2020	12:00:00 PM	9				187.07	185.00	
02N22W10N03S	10/14/2020	12:00:00 PM	9				187.07	185.00	
02N22W10N03S	10/22/2020	12:00:00 PM	9				187.07	185.00	
02N22W10N03S	10/23/2020	12:00:00 PM	1				187.07	185.00	
02N22W10N03S	11/19/2020	12:00:00 PM			215.13	-28.06	187.07	185.00	
02N22W10N03S	1/13/2021	12:00:00 PM	9				187.07	185.00	
02N22W10N03S	3/16/2021	12:00:00 PM	9				187.07	185.00	gate locked
02N22W10N03S	3/23/2021	12:00:00 PM	9				187.07	185.00	gate locked
02N22W10N03S	5/24/2021	12:00:00 PM			205.35	-18.28	187.07	185.00	
02N22W10N03S	7/19/2021	12:00:00 PM			208.23	-21.16	187.07	185.00	
02N22W10N03S	9/27/2021	12:00:00 PM			205.47	-18.40	187.07	185.00	
02N22W11G01S	10/22/2019	12:00:00 PM			82.70	35.41	118.11	118.11	TD=84.6
02N22W11G01S	1/7/2020	12:00:00 PM			82.58	35.53	118.11	118.11	TD=85
02N22W11G01S	1/24/2020	12:00:00 PM			83.95	34.16	118.11	118.11	New trans installed, S/N:2055025, TD=84.9
02N22W11G01S	4/14/2020	12:00:00 PM			66.85	51.26	118.11	118.11	TD=84.95
02N22W11J01S	10/15/2019	12:00:00 PM			94.78	23.33	118.11	118.11	
02N22W11J01S	10/22/2019	12:00:00 PM			96.10	22.01	118.11	118.11	
02N22W11J01S	11/18/2019	12:00:00 PM			100.32	17.79	118.11	118.11	RT=22.62 @11:33
02N22W11J01S	1/7/2020	12:00:00 PM			100.67	17.44	118.11	118.11	TD=140.20
02N22W11J01S	1/15/2020	12:00:00 PM			100.64	17.47	118.11	118.11	
02N22W11J01S	2/5/2020	12:00:00 PM			99.91	18.20	118.11	118.11	RT=23.41 @12:45
02N22W11J01S	3/18/2020	12:00:00 PM			101.64	16.47	118.11	118.11	
02N22W11J01S	4/2/2020	12:00:00 PM			93.39	24.72	118.11	118.11	
02N22W11J02S	10/22/2019	12:00:00 PM			86.23	25.32	111.55	111.55	TD=98.5
02N22W11J02S	11/18/2019	12:00:00 PM			89.94	21.61	111.55	111.55	RT=35.26 @13:48
02N22W11J02S	1/6/2020	12:00:00 PM			88.26	23.29	111.55	111.55	TD=99.54
02N22W11J02S	2/4/2020	12:00:00 PM			88.92	22.63	111.55	111.55	RT=36.32 @11:04, TD=98.6
02N22W11J02S	4/13/2020	12:00:00 PM			60.37	51.18	111.55	111.55	TD=98.57
02N22W11MW1	10/24/2019	12:00:00 PM			86.64	36.36	123.00	123.00	Saticoy MW #1
02N22W11MW2	10/24/2019	12:00:00 PM			88.80	38.20	127.00	127.00	Saticoy MW #2
02N22W11MW3	10/24/2019	12:00:00 PM			89.04	35.96	125.00	125.00	Saticoy MW #3
02N22W11Q01S	10/15/2019	12:00:00 PM			95.11	16.44	111.55	111.55	
02N22W11Q01S	10/24/2019	12:00:00 PM			96.42	15.13	111.55	111.55	
02N22W11Q01S	11/18/2019	12:00:00 PM			99.25	12.30	111.55	111.55	RT=45.12 @11:44
02N22W11Q01S	1/7/2020	12:00:00 PM			96.18	15.37	111.55	111.55	TD=135.40
02N22W11Q01S	1/15/2020	12:00:00 PM			97.80	13.75	111.55	111.55	
02N22W11Q01S	2/5/2020	12:00:00 PM			99.05	12.50	111.55	111.55	RT=46.14 @13:02
02N22W11Q01S	3/17/2020	12:00:00 PM			96.52	15.03	111.55	111.55	
02N22W11Q01S	4/2/2020	12:00:00 PM			72.90	38.65	111.55	111.55	
02N22W14A09S	10/15/2019	12:00:00 PM			109.01	9.10	118.11	118.11	
02N22W14A09S	10/24/2019	12:00:00 PM			109.21	8.90	118.11	118.11	
02N22W14A09S	11/19/2019	12:00:00 PM			115.23	2.88	118.11	118.11	
02N22W14A09S	1/9/2020	12:00:00 PM			115.57	2.54	118.11	118.11	
02N22W14A09S	1/21/2020	12:00:00 PM			113.86	4.25	118.11	118.11	
02N22W14A09S	2/5/2020	12:00:00 PM			111.56	6.55	118.11	118.11	
02N22W14A09S	3/17/2020	12:00:00 PM			111.73	6.38	118.11	118.11	
02N22W14A09S	4/14/2020	12:00:00 PM			100.50	17.61	118.11	118.11	TD=133.35
02N22W14B01S	10/15/2019	12:00:00 PM			109.59	4.41	114.00	114.00	
02N22W14B01S	11/19/2019	12:00:00 PM			120.58	-6.58	114.00	114.00	

State Well Number	Measurement Date (mm/dd/yyyy)	Measurement Time (PST 24-Hour)	No Measurement Code	Questionable Measurement Code	Depth to Water (feet)	Groundwater Elevation (feet)	Reference Point Elevation (feet)	Ground Surface Elevation (feet)	Water Level Measurement Comments
02N22W14B01S	12/9/2019	12:00:00 PM			120.25	-6.25	114.00	114.00	
02N22W14B01S	1/21/2020	12:00:00 PM			112.48	1.52	114.00	114.00	
02N22W14B01S	2/12/2020	12:00:00 PM			111.88	2.12	114.00	114.00	
02N22W14B01S	3/18/2020	12:00:00 PM			110.20	3.80	114.00	114.00	
02N22W14B01S	4/28/2020	12:00:00 PM			109.65	4.35	114.00	114.00	
02N22W14D01S	4/13/2020	12:00:00 PM			99.92	1.79	101.71	101.71	TD=102.63
02N22W14F03S	10/15/2019	12:00:00 PM			108.30	-6.59	101.71	101.71	
02N22W14F03S	10/24/2019	12:00:00 PM			109.75	-8.04	101.71	101.71	
02N22W14F03S	11/18/2019	12:00:00 PM			113.45	-11.74	101.71	101.71	
02N22W14F03S	1/7/2020	12:00:00 PM			113.77	-12.06	101.71	101.71	TD=138.41
02N22W14F03S	1/17/2020	12:00:00 PM			111.03	-9.32	101.71	101.71	
02N22W14F03S	2/5/2020	12:00:00 PM			106.80	-5.09	101.71	101.71	
02N22W14F03S	3/17/2020	12:00:00 PM			104.29	-2.58	101.71	101.71	
02N22W14F03S	4/2/2020	12:00:00 PM			102.14	-0.43	101.71	101.71	
02N22W14G04S	10/15/2019	12:00:00 PM			116.88	-5.33	111.55	111.55	
02N22W14G04S	10/23/2019	12:00:00 PM			118.01	-6.46	111.55	111.55	
02N22W14G04S	11/19/2019	12:00:00 PM			121.99	-10.44	111.55	111.55	
02N22W14G04S	12/9/2019	12:00:00 PM			122.09	-10.54	111.55	111.55	
02N22W14G04S	1/13/2020	12:00:00 PM			118.27	-6.72	111.55	111.55	
02N22W14G04S	2/6/2020	12:00:00 PM			114.93	-3.38	111.55	111.55	
02N22W14G04S	2/12/2020	12:00:00 PM			115.07	-3.52	111.55	111.55	
02N22W14G04S	3/18/2020	12:00:00 PM			112.64	-1.09	111.55	111.55	
02N22W14G04S	4/13/2020	12:00:00 PM			104.47	7.08	111.55	111.55	
02N22W14G04S	4/28/2020	12:00:00 PM			99.21	12.34	111.55	111.55	
02N22W14G05S	10/15/2019	12:00:00 PM			118.61	-7.06	111.55	111.55	
02N22W14G05S	10/23/2019	12:00:00 PM			119.80	-8.25	111.55	111.55	
02N22W14G05S	11/19/2019	12:00:00 PM			123.15	-11.60	111.55	111.55	
02N22W14G05S	12/9/2019	12:00:00 PM			123.77	-12.22	111.55	111.55	
02N22W14G05S	1/13/2020	12:00:00 PM			116.95	-5.40	111.55	111.55	
02N22W14G05S	2/6/2020	12:00:00 PM			113.52	-1.97	111.55	111.55	
02N22W14G05S	2/12/2020	12:00:00 PM			113.74	-2.19	111.55	111.55	
02N22W14G05S	3/18/2020	12:00:00 PM			111.32	0.23	111.55	111.55	
02N22W14G05S	4/13/2020	12:00:00 PM			106.41	5.14	111.55	111.55	
02N22W14G05S	4/28/2020	12:00:00 PM			102.55	9.00	111.55	111.55	
02N22W14G06S	10/15/2019	12:00:00 PM			112.87	-1.32	111.55	111.55	
02N22W14G06S	10/23/2019	12:00:00 PM			114.31	-2.76	111.55	111.55	
02N22W14G06S	11/19/2019	12:00:00 PM			118.23	-6.68	111.55	111.55	RT=51.98 @12:02
02N22W14G06S	12/9/2019	12:00:00 PM			119.71	-8.16	111.55	111.55	
02N22W14G06S	1/13/2020	12:00:00 PM			113.69	-2.14	111.55	111.55	
02N22W14G06S	2/6/2020	12:00:00 PM			108.91	2.64	111.55	111.55	RT=61.64 @14:36
02N22W14G06S	2/12/2020	12:00:00 PM			109.53	2.02	111.55	111.55	
02N22W14G06S	3/18/2020	12:00:00 PM			108.12	3.43	111.55	111.55	
02N22W14G06S	4/13/2020	12:00:00 PM			104.49	7.06	111.55	111.55	
02N22W14G06S	4/28/2020	12:00:00 PM			99.39	12.16	111.55	111.55	
02N22W14G07S	10/15/2019	12:00:00 PM			112.87	-1.32	111.55	111.55	
02N22W14G07S	10/23/2019	12:00:00 PM			114.29	-2.74	111.55	111.55	
02N22W14G07S	11/19/2019	12:00:00 PM			118.23	-6.68	111.55	111.55	
02N22W14G07S	12/9/2019	12:00:00 PM			119.71	-8.16	111.55	111.55	
02N22W14G07S	1/13/2020	12:00:00 PM			113.70	-2.15	111.55	111.55	
02N22W14G07S	2/6/2020	12:00:00 PM			108.91	2.64	111.55	111.55	
02N22W14G07S	2/12/2020	12:00:00 PM			109.53	2.02	111.55	111.55	
02N22W14G07S	3/18/2020	12:00:00 PM			108.14	3.41	111.55	111.55	
02N22W14G07S	4/13/2020	12:00:00 PM			104.50	7.05	111.55	111.55	
02N22W14G07S	4/28/2020	12:00:00 PM			99.39	12.16	111.55	111.55	
02N22W14G08S	2/6/2020	12:00:00 PM			108.93	2.62	111.55	111.55	TD=115.95
02N22W14G08S	2/12/2020	12:00:00 PM			109.54	2.01	111.55	111.55	TD=116.00
02N22W14G08S	3/18/2020	12:00:00 PM			108.17	3.38	111.55	111.55	
02N22W14G08S	4/13/2020	12:00:00 PM			104.62	6.93	111.55	111.55	TD=116.00
02N22W14G08S	4/28/2020	12:00:00 PM			99.53	12.02	111.55	111.55	
02N22W14P03S	11/19/2019	12:00:00 PM			126.49	-24.49	102.00	101.00	
02N22W14P03S	1/17/2020	12:00:00 PM			109.63	-7.63	102.00	101.00	
02N22W14P03S	3/17/2020	12:00:00 PM			107.02	-5.02	102.00	101.00	
02N22W15L01S	10/23/2019	12:00:00 PM			99.77	-14.47	85.30	85.30	TD=105
02N22W15L01S	11/19/2019	12:00:00 PM			100.50	-15.20	85.30	85.30	RT=37.60 @11:23
02N22W15L01S	1/7/2020	12:00:00 PM			100.46	-15.16	85.30	85.30	TD=105
02N22W15L01S	2/4/2020	12:00:00 PM			98.08	-12.78	85.30	85.30	RT=40.38 @13:49
02N22W15L01S	4/14/2020	12:00:00 PM			92.25	-6.95	85.30	85.30	TD=105.00
02N22W15P01S	10/22/2019	12:00:00 PM			99.33	-17.31	82.02	82.02	TD=102.9
02N22W15P01S	11/18/2019	12:00:00 PM			100.22	-18.20	82.02	82.02	RT=36.58 @13:21
02N22W15P01S	1/6/2020	12:00:00 PM			99.46	-17.44	82.02	82.02	
02N22W15P01S	2/4/2020	12:00:00 PM			95.32	-13.30	82.02	82.02	RT=41.86 @10:26
02N22W15P01S	4/13/2020	12:00:00 PM			89.98	-7.96	82.02	82.02	TD=150.84
02N22W15R02S	10/24/2019	12:00:00 PM			111.32	-16.18	95.14	95.14	
02N22W15R02S	11/19/2019	12:00:00 PM			113.71	-18.57	95.14	95.14	RT=37.51 @12:02
02N22W15R02S	1/3/2020	12:00:00 PM			112.21	-17.07	95.14	95.14	TD=145.25
02N22W15R02S	2/4/2020	12:00:00 PM			103.40	-8.26	95.14	95.14	RT=48.27 @14:16
02N22W15R02S	4/7/2020	12:00:00 PM			101.06	-5.92	95.14	95.14	TD=145.20

State Well Number	Measurement Date (mm/dd/yyyy)	Measurement Time (PST 24-Hour)	No Measurement Code	Questionable Measurement Code	Depth to Water (feet)	Groundwater Elevation (feet)	Reference Point Elevation (feet)	Ground Surface Elevation (feet)	Water Level Measurement Comments
02N22W16H01S	1/15/2020	12:00:00 PM		8	202.79	-44.32	158.47	155.00	
02N22W16H01S	3/11/2020	12:00:00 PM		8	203.19	-44.72	158.47	155.00	
02N22W16H01S	5/11/2020	12:00:00 PM	1				158.47	155.00	
02N22W16H01S	7/22/2020	12:00:00 PM		8	171.06	-12.59	158.47	155.00	
02N22W16H01S	9/3/2020	12:00:00 PM	1				158.47	155.00	
02N22W16H01S	10/14/2020	12:00:00 PM	1				158.47	155.00	
02N22W16H01S	10/22/2020	12:00:00 PM	1				158.47	155.00	
02N22W16H01S	10/23/2020	12:00:00 PM	1				158.47	155.00	
02N22W16H01S	11/19/2020	12:00:00 PM		8	175.02	-16.55	158.47	155.00	
02N22W16H01S	1/12/2021	12:00:00 PM	1				158.47	155.00	
02N22W16H01S	3/16/2021	12:00:00 PM		8	175.29	-16.82	158.47	155.00	
02N22W16H01S	5/21/2021	12:00:00 PM	1				158.47	155.00	
02N22W16H01S	7/19/2021	12:00:00 PM		8	184.43	-25.96	158.47	155.00	
02N22W16H01S	9/27/2021	12:00:00 PM		8	194.33	-35.86	158.47	155.00	
02N22W16K01S	10/21/2019	12:00:00 PM			173.10	-23.73	149.37	150.74	
02N22W16K01S	12/5/2019	12:00:00 PM			174.00	-24.63	149.37	150.74	
02N22W16K01S	6/22/2020	12:00:00 PM		9	161.02	-11.65	149.37	150.74	
02N22W16K01S	10/12/2020	12:00:00 PM		9	164.60	-15.23	149.37	150.74	
02N22W16K01S	12/1/2020	12:00:00 PM		9	166.31	-16.94	149.37	150.74	
02N22W16K01S	3/10/2021	12:00:00 PM		9	164.54	-15.17	149.37	150.74	
02N22W16K01S	6/8/2021	12:00:00 PM		9	172.40	-23.03	149.37	150.74	
02N22W16R02S	10/23/2019	12:00:00 PM			93.55	-18.09	75.46	75.46	TD=109
02N22W16R02S	11/19/2019	12:00:00 PM			94.04	-18.58	75.46	75.46	RT=51.30 @11:04
02N22W16R02S	1/7/2020	12:00:00 PM			92.44	-16.98	75.46	75.46	
02N22W16R02S	2/4/2020	12:00:00 PM			89.44	-13.98	75.46	75.46	RT=56.35 @13:38
02N22W16R02S	4/14/2020	12:00:00 PM			83.78	-8.32	75.46	75.46	TD=109
02N22W17M02S	10/21/2019	12:00:00 PM		4,8	147.98	-2.94	145.04	143.44	
02N22W17M02S	1/21/2020	12:00:00 PM		8	136.29	8.75	145.04	143.44	
02N22W17M02S	3/12/2020	12:00:00 PM		8	132.73	12.31	145.04	143.44	
02N22W17M02S	5/12/2020	12:00:00 PM		8	138.04	7.00	145.04	143.44	
02N22W17M02S	7/23/2020	12:00:00 PM		4,8	129.09	15.95	145.04	143.44	
02N22W17M02S	9/3/2020	12:00:00 PM		8	137.41	7.63	145.04	143.44	
02N22W17M02S	10/14/2020	12:00:00 PM	1				145.04	143.44	
02N22W17M02S	10/22/2020	12:00:00 PM		8	137.32	7.72	145.04	143.44	
02N22W17M02S	11/20/2020	12:00:00 PM		8	134.52	10.52	145.04	143.44	
02N22W17M02S	1/13/2021	12:00:00 PM		8	136.80	8.24	145.04	143.44	
02N22W17M02S	3/17/2021	12:00:00 PM		8	127.23	17.81	145.04	143.44	
02N22W17M02S	5/21/2021	12:00:00 PM		8	129.48	15.56	145.04	143.44	
02N22W17M02S	7/20/2021	12:00:00 PM		8	126.30	18.74	145.04	143.44	
02N22W17M02S	9/27/2021	12:00:00 PM			127.67	17.37	145.04	143.44	
02N22W17Q05S	10/14/2019	12:00:00 PM		8	118.67	-29.07	89.60	88.60	
02N22W17Q05S	11/18/2019	12:00:00 PM		8	121.92	-32.32	89.60	88.60	
02N22W17Q05S	1/21/2020	12:00:00 PM		8	114.81	-25.21	89.60	88.60	
02N22W17Q05S	3/11/2020	12:00:00 PM		8	11.38	78.22	89.60	88.60	
02N22W17Q05S	5/11/2020	12:00:00 PM		8	107.52	-17.92	89.60	88.60	
02N22W17Q05S	7/22/2020	12:00:00 PM		8	110.66	-21.06	89.60	88.60	
02N22W17Q05S	9/3/2020	12:00:00 PM		8	114.38	-24.78	89.60	88.60	
02N22W17Q05S	10/14/2020	12:00:00 PM		8	116.28	-26.68	89.60	88.60	
02N22W17Q05S	11/19/2020	12:00:00 PM		8	113.12	-23.52	89.60	88.60	
02N22W17Q05S	1/13/2021	12:00:00 PM		8	114.28	-24.68	89.60	88.60	
02N22W17Q05S	3/16/2021	12:00:00 PM		8	110.26	-20.66	89.60	88.60	
02N22W17Q05S	5/21/2021	12:00:00 PM		8	120.85	-31.25	89.60	88.60	
02N22W17Q05S	7/20/2021	12:00:00 PM		8	122.04	-32.44	89.60	88.60	
02N22W17Q05S	9/27/2021	12:00:00 PM		8	125.07	-35.47	89.60	88.60	
02N22W19M04S	10/21/2019	12:00:00 PM		4,8	77.14	-27.46	49.68	48.18	
02N22W19M04S	11/18/2019	12:00:00 PM		8	82.06	-32.38	49.68	48.18	
02N22W19M04S	1/21/2020	12:00:00 PM		8	74.43	-24.75	49.68	48.18	
02N22W19M04S	3/12/2020	12:00:00 PM		8	71.95	-22.27	49.68	48.18	
02N22W19M04S	5/11/2020	12:00:00 PM	1				49.68	48.18	
02N22W19M04S	7/22/2020	12:00:00 PM	1				49.68	48.18	
02N22W19M04S	9/3/2020	12:00:00 PM		8	73.63	-23.95	49.68	48.18	
02N22W19M04S	10/14/2020	12:00:00 PM	1				49.68	48.18	
02N22W19M04S	10/22/2020	12:00:00 PM	1				49.68	48.18	
02N22W19M04S	10/23/2020	12:00:00 PM		8	76.67	-26.99	49.68	48.18	
02N22W19M04S	11/19/2020	12:00:00 PM		8	75.07	-25.39	49.68	48.18	
02N22W19M04S	1/13/2021	12:00:00 PM	1				49.68	48.18	
02N22W19M04S	3/16/2021	12:00:00 PM		8	69.14	-19.46	49.68	48.18	
02N22W19M04S	5/21/2021	12:00:00 PM	1				49.68	48.18	
02N22W19M04S	7/20/2021	12:00:00 PM	1				49.68	48.18	
02N22W19M04S	9/27/2021	12:00:00 PM		8	83.66	-33.98	49.68	48.18	
02N22W19P01S	1/9/2020	12:00:00 PM			51.36	-19.36	32.00	30.00	
02N22W19P01S	4/29/2020	12:00:00 PM			45.56	-13.56	32.00	30.00	RT=54.02 @11:29
02N22W20E01S	12/9/2019	12:00:00 PM			97.97	-25.82	72.15	74.15	
02N22W20E01S	1/15/2020	12:00:00 PM			88.57	-16.42	72.15	74.15	
02N22W20E01S	2/12/2020	12:00:00 PM			96.17	-24.02	72.15	74.15	
02N22W20E01S	3/11/2020	12:00:00 PM			94.22	-22.07	72.15	74.15	
02N22W20E01S	4/28/2020	12:00:00 PM			93.89	-21.74	72.15	74.15	

State Well Number	Measurement Date (mm/dd/yyyy)	Measurement Time (PST 24-Hour)	No Measurement Code	Questionable Measurement Code	Depth to Water (feet)	Groundwater Elevation (feet)	Reference Point Elevation (feet)	Ground Surface Elevation (feet)	Water Level Measurement Comments
02N22W20E01S	5/11/2020	12:00:00 PM			89.75	-17.60	72.15	74.15	
02N22W20E01S	6/23/2020	12:00:00 PM			94.05	-21.90	72.15	74.15	
02N22W20E01S	7/22/2020	12:00:00 PM	1				72.15	74.15	
02N22W20E01S	8/12/2020	12:00:00 PM	1				72.15	74.15	
02N22W20E01S	9/3/2020	12:00:00 PM			96.49	-24.34	72.15	74.15	
02N22W20E01S	10/14/2020	12:00:00 PM	1				72.15	74.15	
02N22W20E01S	10/22/2020	12:00:00 PM	1				72.15	74.15	
02N22W20E01S	10/23/2020	12:00:00 PM			98.49	-26.34	72.15	74.15	
02N22W20E01S	11/19/2020	12:00:00 PM			104.79	-32.64	72.15	74.15	
02N22W20E01S	12/14/2020	12:00:00 PM	1				72.15	74.15	
02N22W20E01S	1/13/2021	12:00:00 PM			98.96	-26.81	72.15	74.15	
02N22W20E01S	2/9/2021	12:00:00 PM			95.10	-22.95	72.15	74.15	
02N22W20E01S	3/16/2021	12:00:00 PM			93.21	-21.06	72.15	74.15	
02N22W20E01S	4/7/2021	12:00:00 PM			97.91	-25.76	72.15	74.15	
02N22W20E01S	5/21/2021	12:00:00 PM	1				72.15	74.15	
02N22W20E01S	6/17/2021	12:00:00 PM			102.66	-30.51	72.15	74.15	
02N22W20E01S	7/20/2021	12:00:00 PM	1				72.15	74.15	
02N22W20E01S	8/17/2021	12:00:00 PM			107.31	-35.16	72.15	74.15	
02N22W20E01S	9/27/2021	12:00:00 PM		4	110.08	-37.93	72.15	74.15	
02N22W20K01S	10/18/2019	12:00:00 PM			83.07	-27.07	56.00	55.00	GC 6, OFF
02N22W20K01S	11/29/2019	12:00:00 PM			86.47	-30.47	56.00	55.00	GC 6
02N22W20K01S	12/13/2019	12:00:00 PM			83.17	-27.17	56.00	55.00	GC 6, OFF
02N22W20K01S	12/20/2019	12:00:00 PM			84.07	-28.07	56.00	55.00	GC 6, OFF
02N22W20K01S	1/16/2020	12:00:00 PM			80.37	-24.37	56.00	55.00	GC 6, pumping DTW 97, 975 gpm
02N23W13K03S	6/23/2020	12:00:00 PM		9	78.20	-9.49	68.71	68.71	
02N23W13K03S	10/12/2020	12:00:00 PM	1				68.71	68.71	
02N23W13K03S	12/1/2020	12:00:00 PM	1				68.71	68.71	
02N23W13K03S	3/18/2021	12:00:00 PM	9				68.71	68.71	
02N23W13K03S	6/8/2021	12:00:00 PM		9	75.50	-6.79	68.71	68.71	
02N23W13K04S	11/18/2019	12:00:00 PM		8	91.36	-20.70	70.66	70.00	
02N23W13K04S	3/12/2020	12:00:00 PM		8	73.68	-3.02	70.66	70.00	
02N23W13K04S	5/12/2020	12:00:00 PM		8	68.84	1.82	70.66	70.00	
02N23W13K04S	7/22/2020	12:00:00 PM	1				70.66	70.00	
02N23W13K04S	9/3/2020	12:00:00 PM	1				70.66	70.00	
02N23W13K04S	10/14/2020	12:00:00 PM		8	81.27	-10.61	70.66	70.00	
02N23W13K04S	11/19/2020	12:00:00 PM		8	80.03	-9.37	70.66	70.00	
02N23W13K04S	1/14/2021	12:00:00 PM	1				70.66	70.00	
02N23W13K04S	3/16/2021	12:00:00 PM		8	70.41	0.25	70.66	70.00	
02N23W13K04S	5/21/2021	12:00:00 PM	1				70.66	70.00	
02N23W13K04S	7/20/2021	12:00:00 PM	1				70.66	70.00	
02N23W13K04S	9/27/2021	12:00:00 PM	1				70.66	70.00	
02N23W15J01S	10/15/2019	12:00:00 PM			19.82	-11.59	8.23	8.73	
02N23W15J01S	10/28/2019	12:00:00 PM			18.97	-10.74	8.23	8.73	
02N23W15J01S	10/31/2019	12:00:00 PM			20.34	-12.11	8.23	8.73	
02N23W15J01S	11/27/2019	12:00:00 PM			19.73	-11.50	8.23	8.73	
02N23W15J01S	12/2/2019	12:00:00 PM			18.23	-10.00	8.23	8.73	
02N23W15J01S	12/9/2019	12:00:00 PM			19.11	-10.88	8.23	8.73	
02N23W15J01S	12/30/2019	12:00:00 PM			15.43	-7.20	8.23	8.73	
02N23W15J01S	1/21/2020	12:00:00 PM			17.70	-9.47	8.23	8.73	
02N23W15J01S	1/30/2020	12:00:00 PM			14.35	-6.12	8.23	8.73	
02N23W15J01S	2/12/2020	12:00:00 PM			14.36	-6.13	8.23	8.73	
02N23W15J01S	2/27/2020	12:00:00 PM			14.07	-5.84	8.23	8.73	
02N23W15J01S	3/12/2020	12:00:00 PM			12.38	-4.15	8.23	8.73	
02N23W15J01S	3/26/2020	12:00:00 PM			10.72	-2.49	8.23	8.73	
02N23W15J01S	4/16/2020	12:00:00 PM			13.27	-5.04	8.23	8.73	
02N23W15J01S	4/28/2020	12:00:00 PM			12.37	-4.14	8.23	8.73	
02N23W15J01S	4/30/2020	12:00:00 PM			11.69	-3.46	8.23	8.73	
02N23W15J01S	5/12/2020	12:00:00 PM			11.12	-2.89	8.23	8.73	
02N23W15J01S	5/28/2020	12:00:00 PM			14.07	-5.84	8.23	8.73	
02N23W15J01S	6/23/2020	12:00:00 PM			14.26	-6.03	8.23	8.73	
02N23W15J01S	6/29/2020	12:00:00 PM			13.82	-5.59	8.23	8.73	
02N23W15J01S	7/23/2020	12:00:00 PM			15.44	-7.21	8.23	8.73	
02N23W15J01S	7/30/2020	12:00:00 PM			16.69	-8.46	8.23	8.73	
02N23W15J01S	8/12/2020	12:00:00 PM			15.74	-7.51	8.23	8.73	
02N23W15J01S	8/27/2020	12:00:00 PM			15.34	-7.11	8.23	8.73	
02N23W15J01S	9/3/2020	12:00:00 PM			15.52	-7.29	8.23	8.73	
02N23W15J01S	10/1/2020	12:00:00 PM			13.63	-5.40	8.23	8.73	
02N23W15J01S	10/14/2020	12:00:00 PM			13.96	-5.73	8.23	8.73	
02N23W15J01S	11/2/2020	12:00:00 PM			13.24	-5.01	8.23	8.73	
02N23W15J01S	11/20/2020	12:00:00 PM			14.15	-5.92	8.23	8.73	
02N23W15J01S	11/30/2020	12:00:00 PM			15.08	-6.85	8.23	8.73	
02N23W15J01S	12/14/2020	12:00:00 PM			13.72	-5.49	8.23	8.73	
02N23W15J01S	12/30/2020	12:00:00 PM			13.31	-5.08	8.23	8.73	
02N23W15J01S	1/13/2021	12:00:00 PM			13.29	-5.06	8.23	8.73	
02N23W15J01S	1/26/2021	12:00:00 PM			13.19	-4.96	8.23	8.73	
02N23W15J01S	2/9/2021	12:00:00 PM			9.41	-1.18	8.23	8.73	
02N23W15J01S	2/25/2021	12:00:00 PM			9.79	-1.56	8.23	8.73	

State Well Number	Measurement Date (mm/dd/yyyy)	Measurement Time (PST 24-Hour)	No Measurement Code	Questionable Measurement Code	Depth to Water (feet)	Groundwater Elevation (feet)	Reference Point Elevation (feet)	Ground Surface Elevation (feet)	Water Level Measurement Comments
02N23W15J01S	3/17/2021	12:00:00 PM			11.06	-2.83	8.23	8.73	
02N23W15J01S	4/1/2021	12:00:00 PM			10.11	-1.88	8.23	8.73	
02N23W15J01S	4/7/2021	12:00:00 PM			10.78	-2.55	8.23	8.73	
02N23W15J01S	4/28/2021	12:00:00 PM			10.51	-2.28	8.23	8.73	
02N23W15J01S	4/29/2021	12:00:00 PM			9.77	-1.54	8.23	8.73	
02N23W15J01S	5/21/2021	12:00:00 PM			13.40	-5.17	8.23	8.73	
02N23W15J01S	5/27/2021	12:00:00 PM			13.44	-5.21	8.23	8.73	
02N23W15J01S	6/17/2021	12:00:00 PM			11.67	-3.44	8.23	8.73	
02N23W15J01S	6/30/2021	12:00:00 PM			12.53	-4.30	8.23	8.73	
02N23W15J01S	7/20/2021	12:00:00 PM			13.37	-5.14	8.23	8.73	
02N23W15J01S	7/28/2021	12:00:00 PM			15.98	-7.75	8.23	8.73	
02N23W15J01S	8/18/2021	12:00:00 PM			14.93	-6.70	8.23	8.73	
02N23W15J01S	8/30/2021	12:00:00 PM			13.89	-5.66	8.23	8.73	
02N23W15J01S	9/27/2021	12:00:00 PM			13.21	-4.98	8.23	8.73	
02N23W15J01S	9/29/2021	12:00:00 PM			13.50	-5.27	8.23	8.73	
02N23W15J02S	10/15/2019	12:00:00 PM			21.12	-12.89	8.23	8.73	
02N23W15J02S	10/31/2019	12:00:00 PM			21.38	-13.15	8.23	8.73	
02N23W15J02S	11/27/2019	12:00:00 PM			19.69	-11.46	8.23	8.73	
02N23W15J02S	12/9/2019	12:00:00 PM			18.34	-10.11	8.23	8.73	
02N23W15J02S	1/21/2020	12:00:00 PM			16.41	-8.18	8.23	8.73	
02N23W15J02S	2/12/2020	12:00:00 PM			15.24	-7.01	8.23	8.73	
02N23W15J02S	3/12/2020	12:00:00 PM			13.22	-4.99	8.23	8.73	
02N23W15J02S	4/16/2020	12:00:00 PM			13.21	-4.98	8.23	8.73	
02N23W15J02S	4/28/2020	12:00:00 PM			12.22	-3.99	8.23	8.73	
02N23W15J02S	5/12/2020	12:00:00 PM			12.60	-4.37	8.23	8.73	
02N23W15J02S	6/23/2020	12:00:00 PM			13.54	-5.31	8.23	8.73	
02N23W15J02S	7/23/2020	12:00:00 PM			16.71	-8.48	8.23	8.73	
02N23W15J02S	8/12/2020	12:00:00 PM			17.85	-9.62	8.23	8.73	
02N23W15J02S	9/3/2020	12:00:00 PM			17.57	-9.34	8.23	8.73	
02N23W15J02S	10/14/2020	12:00:00 PM			15.98	-7.75	8.23	8.73	
02N23W15J02S	11/20/2020	12:00:00 PM			15.98	-7.75	8.23	8.73	
02N23W15J02S	12/14/2020	12:00:00 PM			16.32	-8.09	8.23	8.73	
02N23W15J02S	1/13/2021	12:00:00 PM			15.24	-7.01	8.23	8.73	
02N23W15J02S	2/9/2021	12:00:00 PM			10.99	-2.76	8.23	8.73	
02N23W15J02S	3/17/2021	12:00:00 PM			11.81	-3.58	8.23	8.73	
02N23W15J02S	4/7/2021	12:00:00 PM			12.27	-4.04	8.23	8.73	
02N23W15J02S	4/28/2021	12:00:00 PM			12.28	-4.05	8.23	8.73	
02N23W15J02S	5/21/2021	12:00:00 PM			13.12	-4.89	8.23	8.73	
02N23W15J02S	6/17/2021	12:00:00 PM			13.68	-5.45	8.23	8.73	
02N23W15J02S	7/20/2021	12:00:00 PM			16.11	-7.88	8.23	8.73	
02N23W15J02S	8/18/2021	12:00:00 PM			17.95	-9.72	8.23	8.73	
02N23W15J02S	9/27/2021	12:00:00 PM			14.42	-6.19	8.23	8.73	
02N23W24G01S	1/10/2020	12:00:00 PM			31.51	-5.21	26.30	25.00	
02N23W24G01S	10/21/2020	12:00:00 PM			28.29	-1.99	26.30	25.00	
02N23W24G01S	1/21/2021	12:00:00 PM	3				26.30	25.00	Trans removed
02N23W24G01S	5/26/2021	12:00:00 PM		7	29.40	-3.10	26.30	25.00	Multiple cuts, obst., questionable measurement