CSAB REVIEW DRAFT
Section 3 – Basin Setting
3.2 Groundwater Conditions

Corning Subbasin
Groundwater Sustainability Plan

December 2020

Contents

Figures

Figures - continued

Tables

Appendices

ACRONYMS & ABBREVIATIONS

AMSL .....Above Mean Sea Level
BGS.....Below Ground Surface
CV-SALTS .....Central Valley Salinity Alternatives for Long-term Sustainability
DDW .....State Water Resources Control Board's Division of Drinking Water
DTSC .....California State Department of Toxic Substances Control
DWR .....California Department of Water Resources
GAR .....Groundwater Quality Assessment Report
GSA.....Groundwater Sustainability Agency
GSP .....Groundwater Sustainability Plan
InSAR .....Interferometric Synthetic-Aperture Radar
LUST.....leaking underground storage tank
MCL.....Maximum Contaminant Limit
Regional Board ....Central Valley Regional Water Quality Control Board
SMCL.....Secondary Maximum Contaminant Limit
TCFCWCD .....Tehama County Flood Control and Water Conservation District
TDS .....Total Dissolved Solids
USEPA.....U.S. Environmental Protection Agency
WY .....Water Year

3 BASIN SETTING

3.1 Hydrogeologic Conceptual Model

3.2 Historical and Current Groundwater Conditions

3.2.1 Overview

The following sections summarize historical and current groundwater conditions in the Corning Subbasin. As defined by SGMA Regulations [§354.16] current conditions are those existing after January 1, 2015; therefore, historical conditions include all those existing prior to January 1, 2015. Organization of this section aligns with the six SGMA sustainability indicators listed below:

- Chronic lowering of groundwater levels (Section 3.2.2)
- Changes in groundwater storage (Section 3.2.3)
- Seawater intrusion (Section 3.2.4)
- Land Subsidence (Section 3.2.5)
- Groundwater quality (Section 3.2.6)
- Depletion of interconnected surface waters (Section 3.2.7)

As described in Section 3.1.8, the Corning Subbasin comprises a hydrogeologically interconnected aquifer system where impacts to one aquifer unit have the potential to impact the larger aquifer network. A single principal aquifer was identified in the HCM, and therefore, this section applies to groundwater conditions for the entire aquifer within the Subbasin. These sections discuss groundwater conditions in relation to spatial and temporal variables.

3.2.2 Groundwater Elevations

Groundwater elevations represent the height of the water table relative to mean sea level. Groundwater elevations change based on the amount of water that is recharged to the aquifer and the amount of water that is removed from the aquifer. For example, declines in groundwater elevation may result from reduced groundwater recharge or over-extraction of groundwater resources. Groundwater elevations can be measured at monitoring or pumping wells to assess the change in levels seasonally or over longer periods of time. While groundwater elevations in most wells fluctuate seasonally, long-term declines may result in a variety of impacts to beneficial users including but not limited to wells going dry, reduced available groundwater storage, and declines in interconnected surface water.

The following subsections describe current and historical groundwater elevations in the Corning Subbasin. Groundwater elevations can be described in terms of spatial variability of the Subbasin at a snapshot in time (elevation contours in Sections 3.2.1 and 3.2.2), and in terms of temporal variability with measurements taken at discrete wells over time.

The following data and general references were reviewed for this Section:

- DWR SGMA Data Viewer – contour maps
- CASGEM wells water levels
- Groundwater Management Plans for Glenn and Tehama Counties
- Agricultural Water Management Plans for Districts within Corning Subbasin

3.2.2.1 Current Groundwater Elevation Contours and Flow Direction

Groundwater elevation contours during the fall and spring of 2018, derived from water levels measured at wells in the CASGEM monitoring program in the Corning Subbasin and surrounding areas, are displayed on Figure 3.2-1 and Figure 3.2-2, respectively. In general, groundwater elevations in spring reflect recharge received during the rainy season, while groundwater elevations in fall reflect the antecedent dry season and the tail end of the growing season for many crops in the Subbasin. The 2018 water year (WY) was classified as a below normal water year according to DWR's Sacramento Valley Water Year Index.

During both spring and fall, groundwater elevations are higher in the north and west of the Subbasin, reflecting regional gradients that drive groundwater towards the center of the valley. Here, groundwater elevations reach as high as 250 feet amsl in the spring, and 240 feet AMSL in the fall. In the southeastern Subbasin, where groundwater elevations are typically at their lowest, elevations range as low as 120 feet AMSL in the spring and 110 feet AMSL in the fall. Across much of the Subbasin, elevations display a roughly 10- to 20-foot difference in groundwater elevation between these two seasons. Near Stony Creek contours display up to a 40-foot difference in elevation, potentially due to differences in streambed recharge between the spring and fall. Flows in Stony Creek are known to be a significant source of aquifer recharge (DWR, 2006); spring groundwater elevations shown on Figure 3.2-2 bend downstream, displaying apparent groundwater recharge along the length of the creek. Flood and furrow surface water applications for crop irrigation in this area also likely provide groundwater recharge (Davids Engineering and West Yost Associates, 2018).

Groundwater elevation contours in the far western portion of the Subbasin are not available, due to the lack of wells that are monitored in this area. This is a data gap that will be identified in the data gap action plan in Section 8 – Plan Implementation.

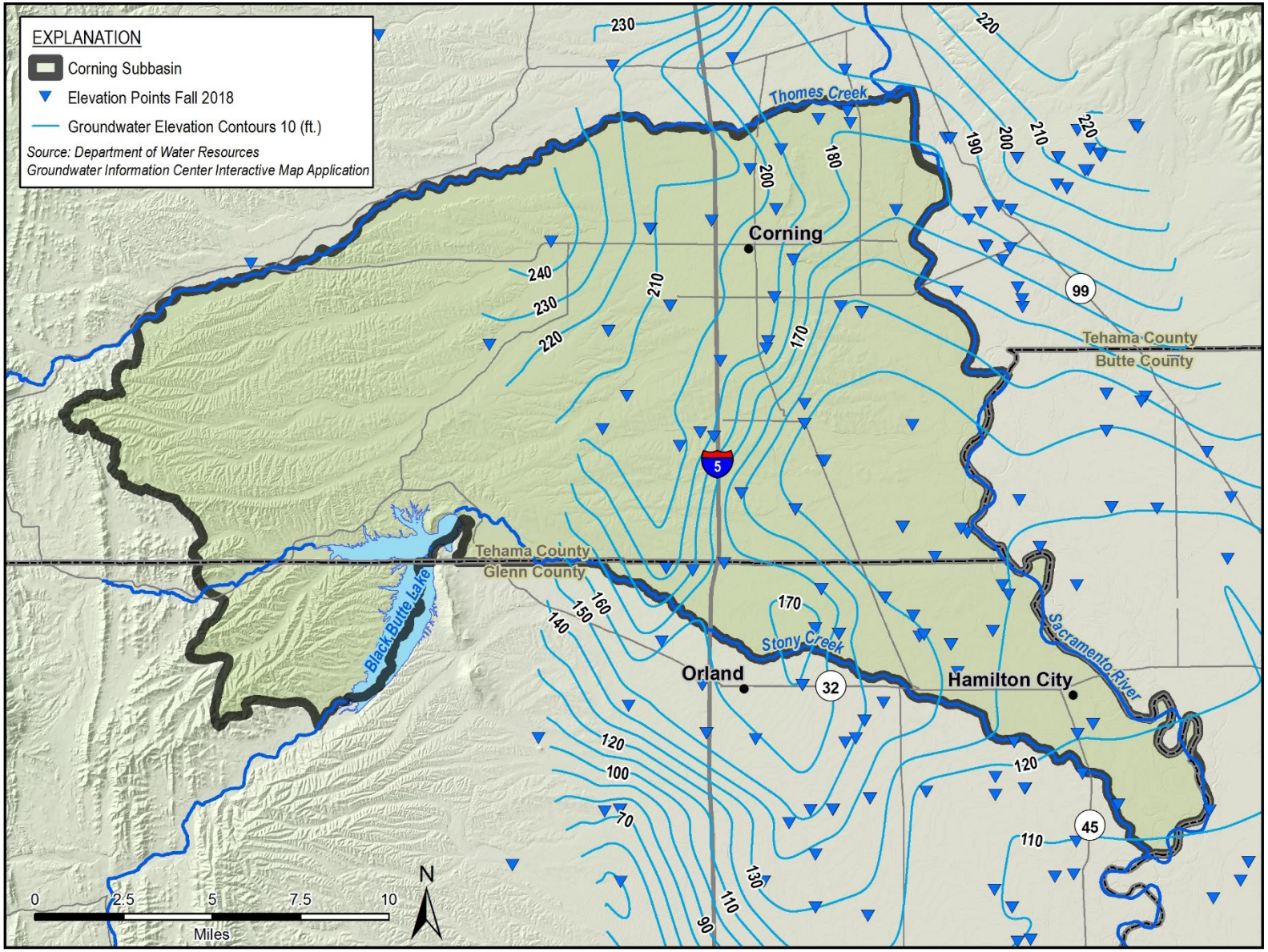


Figure 3.2-1. Fall 2018 Groundwater Contours

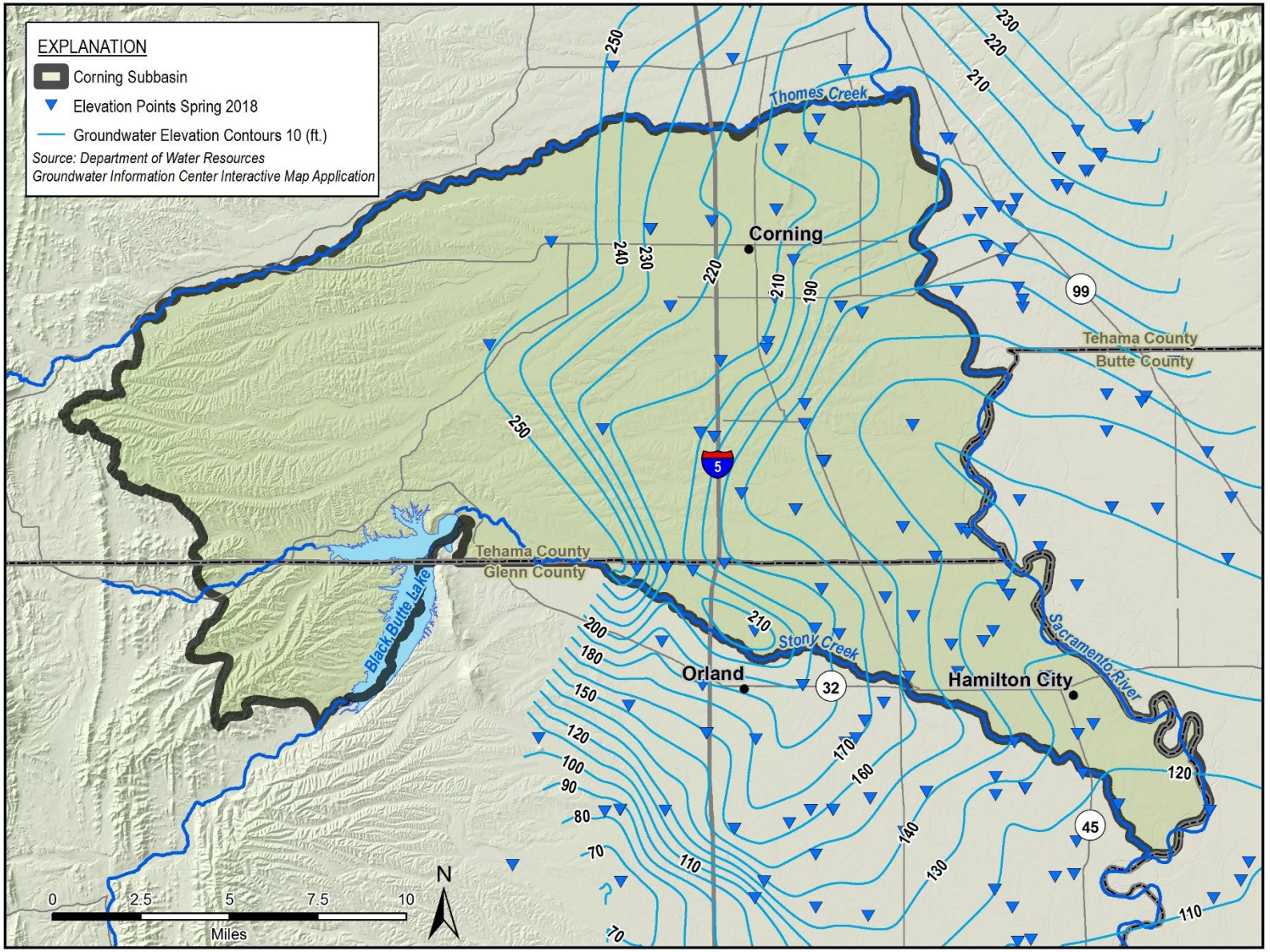


Figure 3.2-2. Spring 2018 Groundwater Contours

3.2.2.2 Subbasin-Wide Historical Groundwater Elevations

Historical groundwater elevation information as compared to more recent conditions, can be assessed from maps of elevation contour changes between two distinct periods in time.

Figure 3.2-3, Figure 3.2-4, and Figure 3.2-5 display changes in groundwater elevation as points and contours between 2004-2014, 2010-2015, and 2015-2018, respectively. These three periods compare the Subbasin's historical and current conditions with respect to portions of the recent historical record. Changes between the fall seasons of each year are presented to reflect when groundwater elevations are at their lowest. For discussion purposes, "average" conditions include "above normal" and "below normal" water years, as there is no "normal" water year on the index. "Wet", "dry", and "critically dry" water years are representative of the extremes. Overall, the following trends can be observed from this data:

- **From 2004-2014:** This 10-year period reflects several generally average WYs, followed by several dry years in the beginning of the 2012-2017 drought. During this period, groundwater elevations experienced declines across the majority of the Subbasin (Figure 3.2-3). Elevations declined up to 30 feet near the City of Corning, in the western Subbasin, and in the southern Subbasin near Stony Creek. Elsewhere in the Subbasin, elevations declined roughly 5 to 10 feet. All measured wells in the Subbasin experienced a decline in groundwater elevation during this period of at least 5 feet. In addition to reduced infiltration of rainfall, these declines were likely influenced by increased reliance on groundwater extraction due to reduced flow in the Sacramento River, Stony Creek, Thomes Creek, and other seasonal streams. Reduced streamflow may have further affected groundwater elevations by reducing groundwater recharge from streambeds.
- **From 2010-2015:** This 5-year period reflects the last two years of wetter conditions, and 3 years of drought. During this period, changes in groundwater elevation reflect the influence of multiple drought years; elevations decreased by up to 30 feet in the western Subbasin, and up to 20 feet in the south (Figure 3.2-4). Overlap between this period and the 2004-2014 period (Figure 3.2-3) helps illustrate the significant influence of the recent drought on groundwater elevations. Beginning in 2012 and ending around 2017, the drought brought about reduced recharge and increased groundwater reliance, culminating in extensive groundwater level declines.
- **From 2015-2018:** water years alternated between wet and below normal and groundwater elevations began to show recovery in some areas from the recent drought, with elevation increases in the northern and southern Subbasin of up to approximately 10 to 11 feet. Despite recovery in many areas, elevations at some wells in the central Subbasin remained in decline during this period, with declines in groundwater elevation of between 3 and 10 feet. Continued monitoring will help further understanding of the Subbasin's recovery after drought conditions.

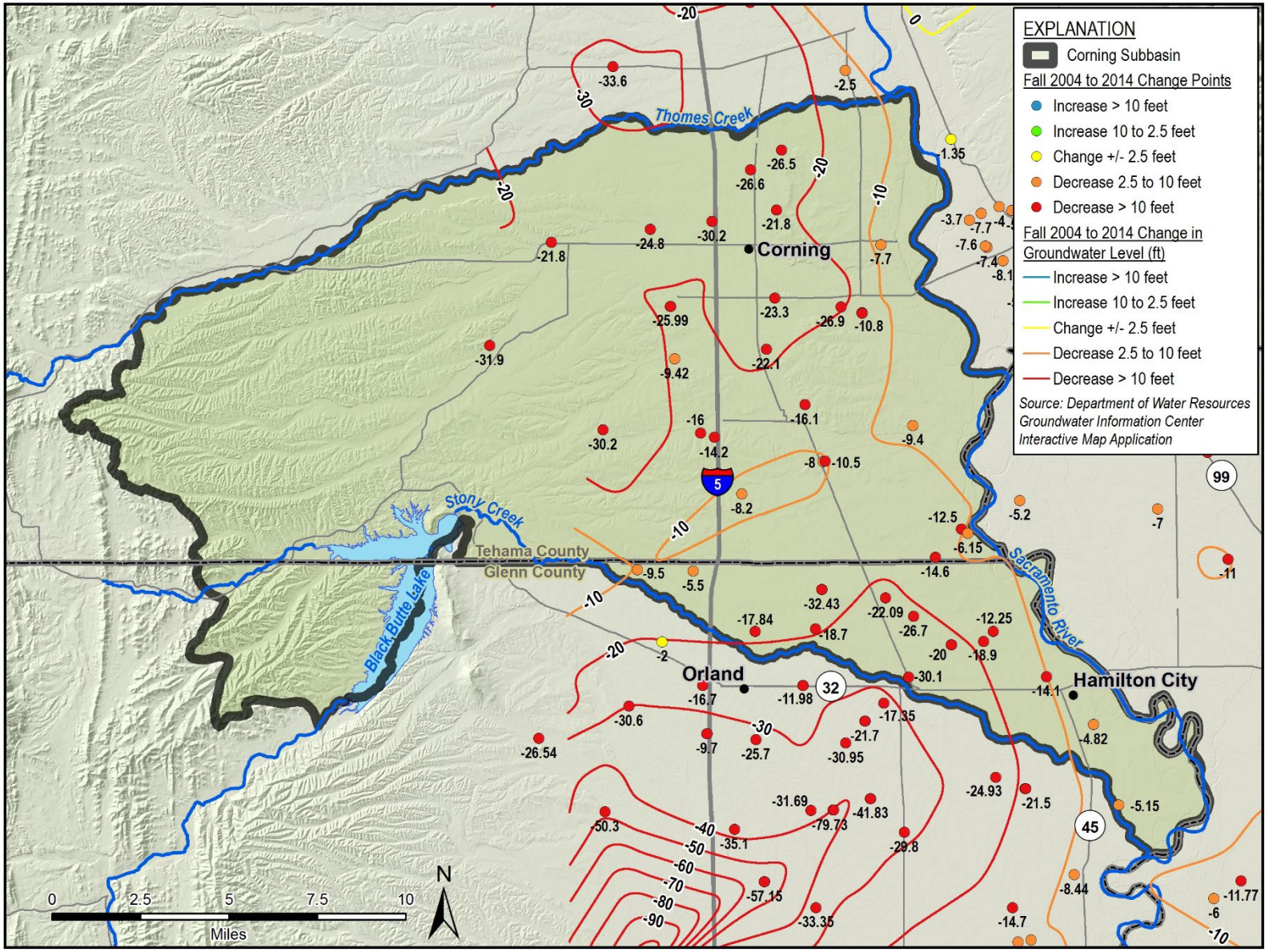


Figure 3.2-3. Change in Groundwater Elevations: Fall 2004 - Fall 2014

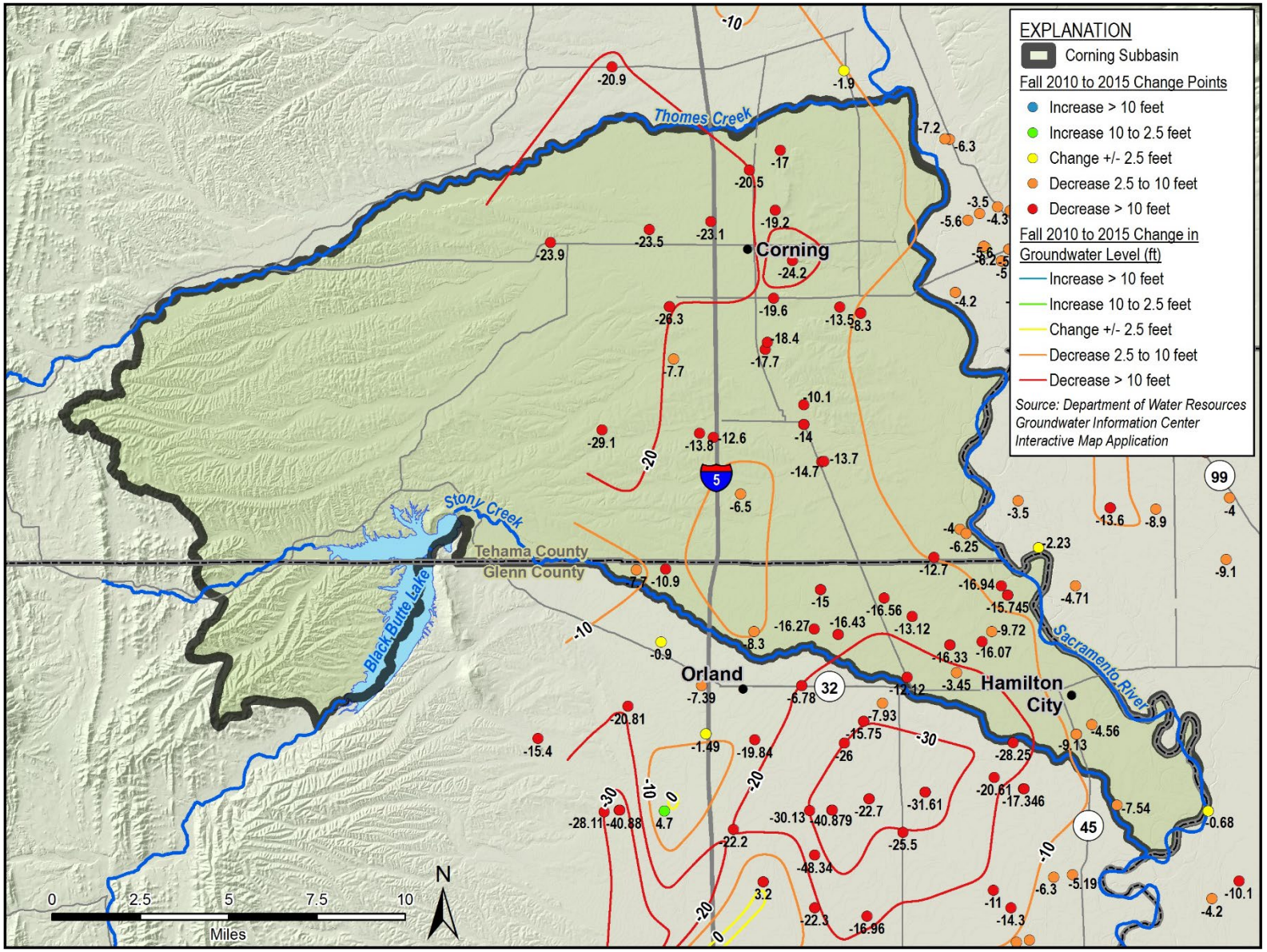


Figure 3.2-4. Change in Groundwater Elevations: Fall 2010 - Fall 2015

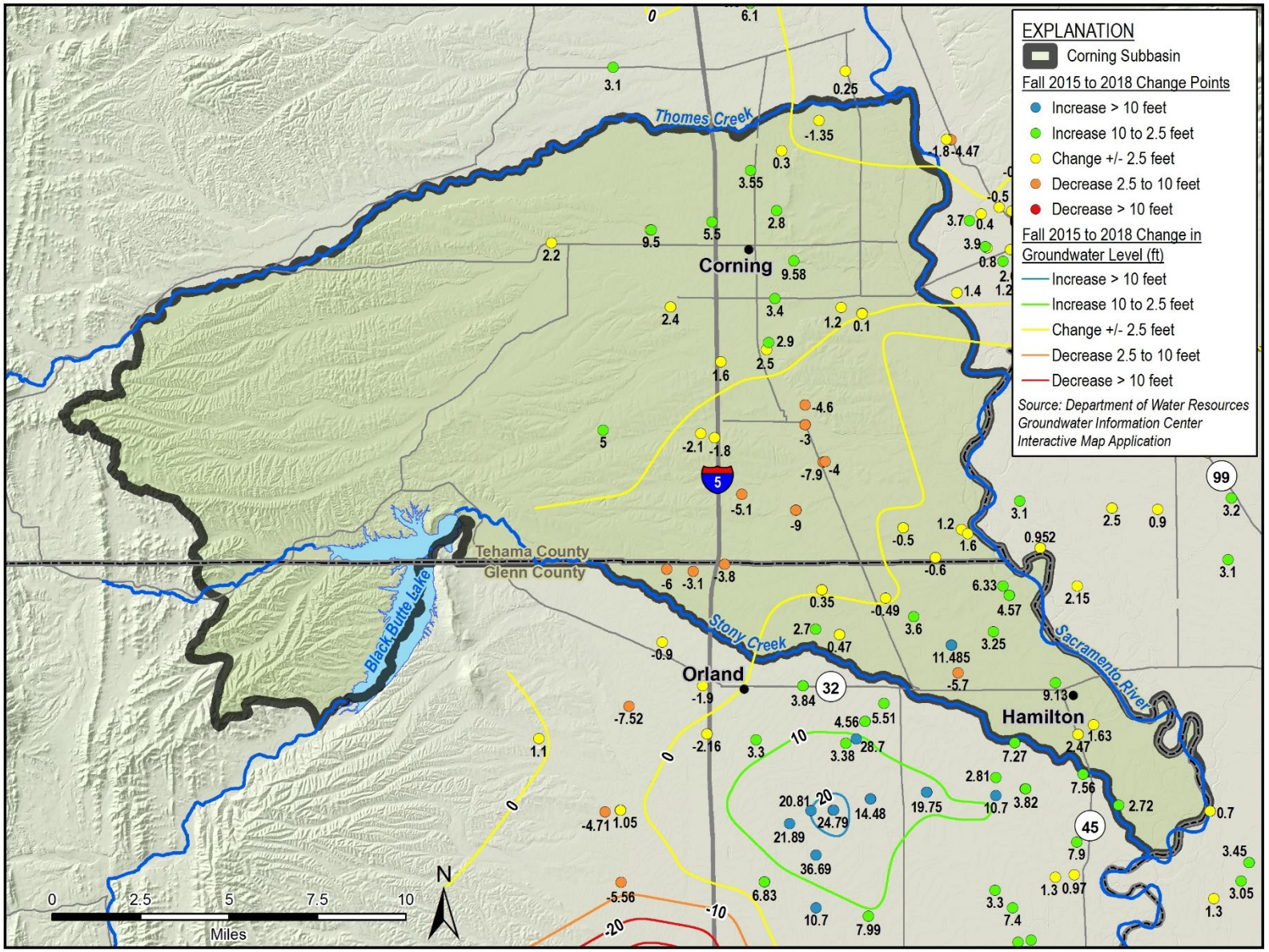


Figure 3.2-5. Change in Groundwater Elevations: Fall 2015 - Fall 2018

3.2.2.3 Hydrographs: Historical Groundwater Elevation Trends

There are a number of wells monitored regularly in the Subbasin that include groundwater elevation data since the 1970s. Appendix 3C provides a compilation of groundwater elevation hydrographs for wells within the Subbasin.

To facilitate the review of groundwater elevations, the Subbasin was divided into east, west and south areas based on differences in land use, water supply sources, and geology, as discussed further in the sections below:

1. The east area - represented by the area of the Subbasin to the east of I-5 within Tehama County. The east area is predominantly agricultural. Growers in the east area rely mainly on groundwater to meet agricultural water demands, except for riparian surface water rights holders on the Sacramento River near Thomes Creek.

2. The west area – represented by the area of the Subbasin to the west of I-5 within Tehama and Glenn Counties. The northeast portion of this area, within the TCWD and CWD jurisdiction to the west of the City of Corning, is used extensively for fruit, nut, and olive orchards. This portion has some access to surface water supplies from the Corning Canal. Collectively, the Corning Water District growers use about half surface water and half groundwater to irrigate crops. The rest of the growers in this area mainly use groundwater for irrigation. The southeast portion of this area has few irrigated crops and surface water is generally unavailable. An approximately 9,000-acre eucalyptus grove was established in 1993 and irrigated with groundwater until 2002 (CDM, 2003). The western portion within Tehama and Glenn Counties has more topographic relief, the aquifer is deeper, and the groundwater has higher salinity than in the rest of the Subbasin. Consequently, the land is typically used for livestock grazing. The western portion relies mostly upon groundwater as a water source, except for a few parcels along creeks with riparian surface water rights. The small portion to the west of Black Butte Lake within Glenn County is sparsely irrigated.

3. The south area – represented by the area of the Subbasin to the southeast within Glenn County. This area of the Subbasin is used mostly for deciduous fruit and nut crops to the east and pasture to the west. Surface water is available to growers within the OUWUA, while groundwater is mainly used in the rest of this area (Davids Engineering, 2018).

Characteristic wells were selected for historical groundwater trend analysis based on well location, well screen interval, length of historical water level record, and data quality. Figure 3.2-6 displays the location of the wells used. Plots of groundwater elevation data over time (hydrographs) are provided in Figure 3.2-7 through Figure 3.2-12 and discussed in the following sections. The well construction information associated with each hydrograph is shown in Table 3.2-1 through Table 3.2-6, which are presented following the corresponding figure. DWR Sacramento Valley

Water Year designations are shown on the background of all hydrographs to help illustrate the relationships between groundwater elevations and climate and hydrology.

Baseline differences in groundwater elevations between wells are the product of regional horizontal groundwater flow and gradients, as displayed on Figure 3.2-1 and Figure 3.2-2; groundwater elevations are generally higher in the northern part of the Subbasin and decrease to the south. Hydrographs display prominent seasonality, with groundwater elevations rising and falling by 10 to 30 feet annually. Variations in seasonal response between these wells may reflect spatial differences in groundwater recharge and use across the Subbasin.

Water levels in these hydrographs clearly follow climatic cycles with rising and falling water levels affected by droughts and wet cycles. Water level declined in the 1975-1977, 1986-1992, and 2012-2015 droughts. Generally, water levels recovered during subsequent wet years, with some exceptions, as noted for individual hydrographs below.

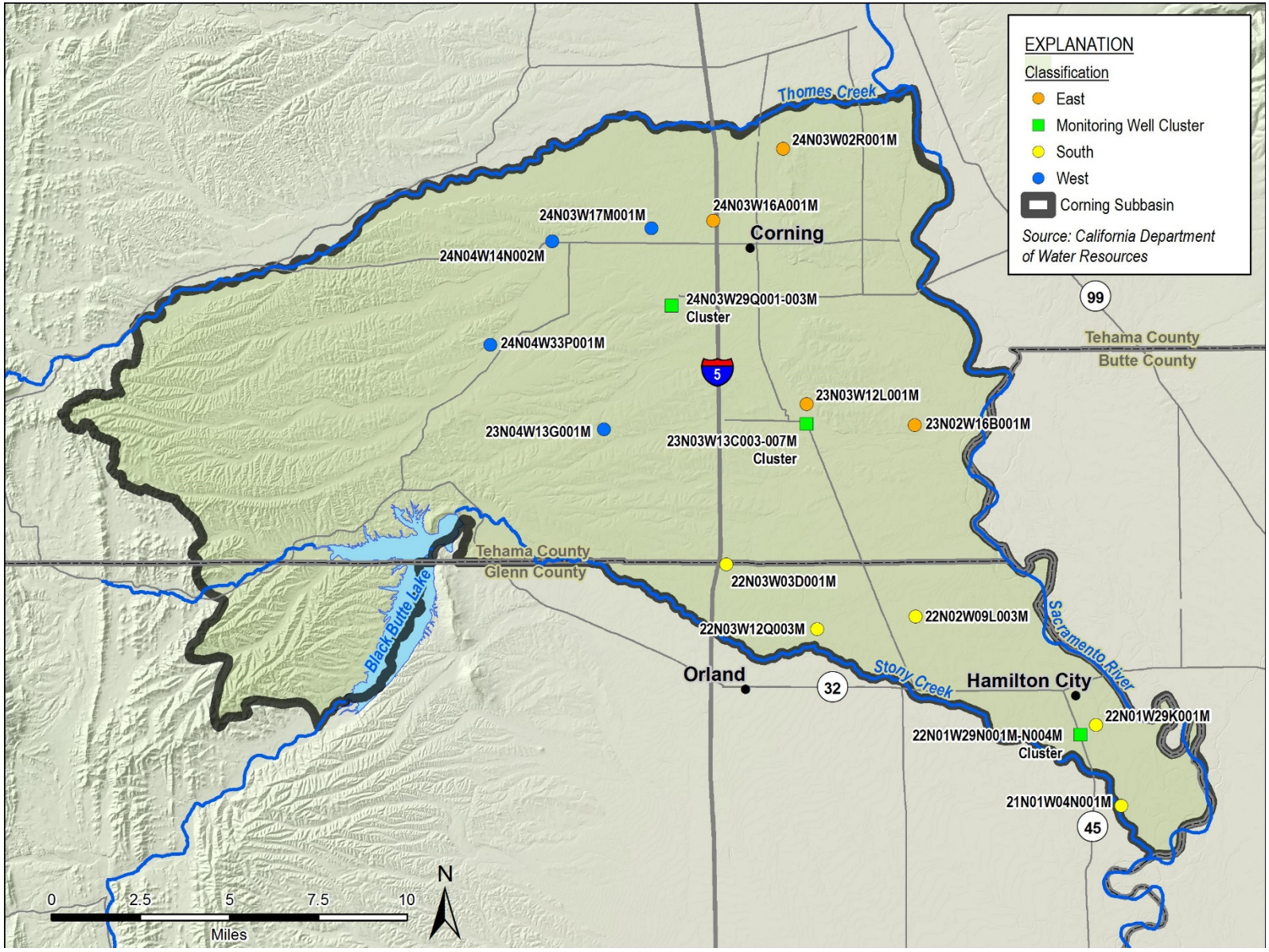


Figure 3.2-6. Characteristic Wells Used for Groundwater Elevation Assesments

3.2.2.4 East Area Groundwater Elevations

As displayed on Figure 3.2-3 through Figure 3.2-5, wells in the eastern area have generally experienced water level decline over the past two decades in the areas further from the Sacramento River, while water levels in wells near the Sacramento River have remained relatively stable. Wells located closer to the Sacramento River may benefit from a greater degree of applied surface water, direct recharge from the river, and direction of groundwater flow from east to west towards the Sacramento river.

Hydrographs on Figure 3.2-7 show groundwater elevation trends in four characteristic wells with historical water level measurements reflective of regional trends. Well construction information for each well is summarized in Table 3.2-1. The well screen intervals of the characteristic wells range from 120 to 295 feet bgs.

Historical groundwater elevation trends from roughly 1970-1995 show the effects of two climactic cycles (the 1976-77 drought and the 1987-1992 drought); groundwater elevation decreases of up to 20 feet are noted during dry periods, but the water levels recovered to pre-drought conditions in wells during wet periods. From 2005 through 2019, a net decrease in groundwater elevation of approximately 30 feet was noted in the wells further from the Sacramento River, partly in response to the recent 2012-2015 drought. Groundwater elevations recovered after the drought in the well closest to the river (23N02W16B001M in green below) but have not recovered entirely in wells further to the west or in the deeper wells.

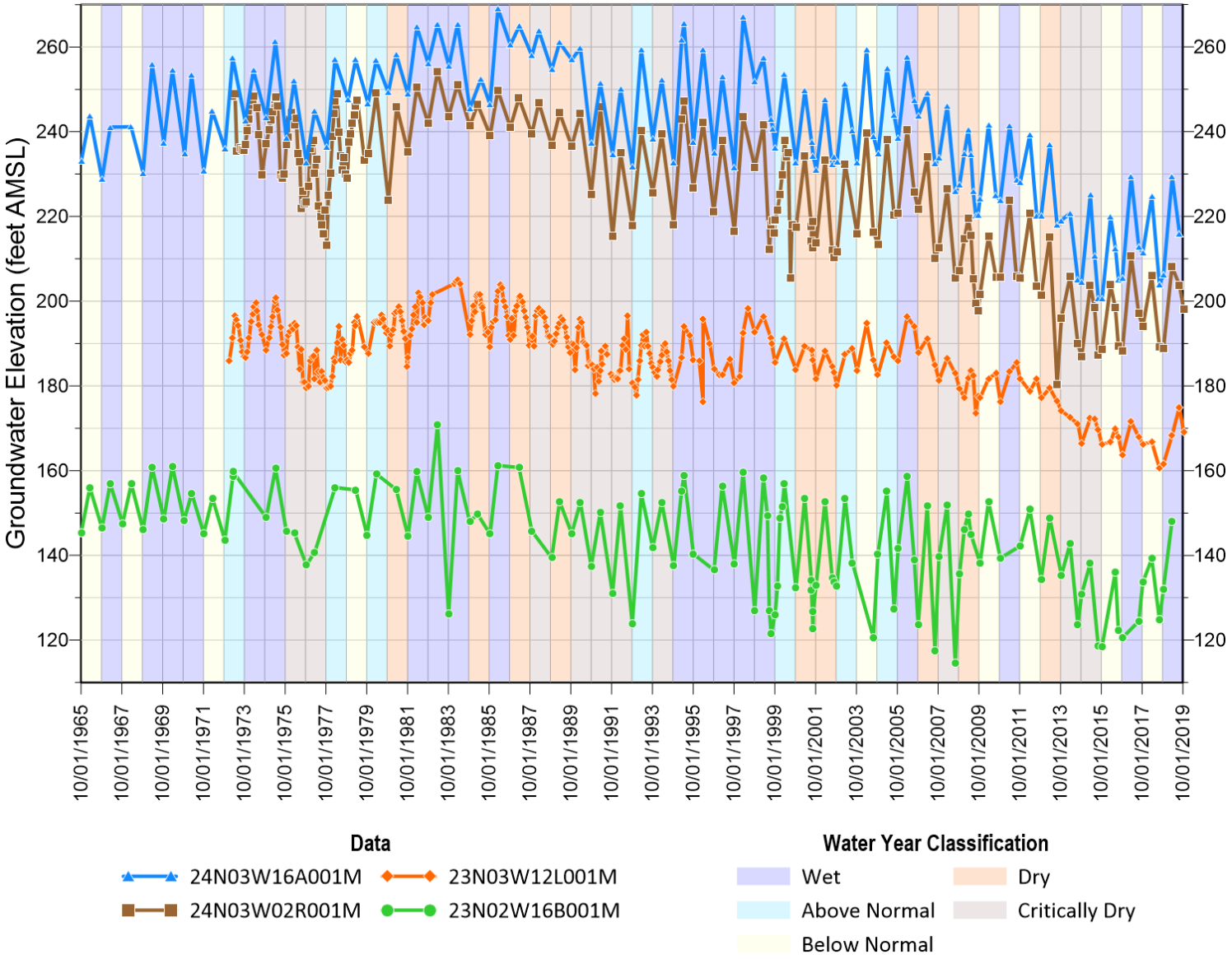


Figure 3.2-7. East Area Characteristic Hydrographs

Table 3.2-1. Screened Intervals and Total Depths of East Area Characteristic Hydrograph Wells

Well Name	Well Type	Screened Interval(s) (ft bgs)	Total Depth (ft bgs)
24N03W16A001M	Irrigation	Unknown	295
24N03W02R001M	Domestic	Unknown	270
23N03W12L001M	Irrigation	45-95, 132-148	150
23N02W16B001M	Irrigation	100-120	120

3.2.2.5 West Area Groundwater Elevations

Much of the agriculture in the west area relies entirely on groundwater supply for irrigation, with most production wells typically screened in the Tehama Formation. As seen in Figure 3.2-3 through Figure 3.2-5, wells in the western region have experienced historical declines in groundwater elevation since 2004, partially in response to groundwater pumping. Figure 3.2-8 displays hydrographs of four characteristic wells; Table 3.2-2 lists the well screen intervals and total depths. Well depths for the characteristic wells range from 108 to 780 feet bgs, representing an array of screened intervals.

As was the case in the east area, hydrographs for the characteristic wells demonstrate a strong response to extended dry and wet periods. However, the degree of groundwater elevation change is greater in the west area than in the other areas, with up to 40 feet of decline seasonally. The historical groundwater elevation record in west area wells demonstrates the effect of two climactic cycles. From roughly 1970 to 2006, annual water level declines during dry periods were followed by recovery during wet periods. Groundwater elevations in the western Subbasin have experienced continuous declines from 2006 until present. Deeper wells in this area tend to have a wider range of annual fluctuation, but the annual trends are relatively similar between wells installed at varying depths.

One hydrograph in the west region has a distinctly different trend from 1992 to 2002 than the other wells. 23N04W13G001M (in purple below) is located on the previously mentioned 9,000-acre eucalyptus farm that used groundwater supply from 1993 to at least 2002 (CDM, 2003). Groundwater pumping during the initial growth period is strongly reflected in the hydrograph for this well; groundwater elevations declined by 40 to 60 feet from 1993 to 2000, followed by partial recovery from 2000 to 2007. This decline occurred during a wet period and is not reflected in other hydrographs from the rest of the region, suggesting the influence of more intensive pumping in this portion of the western area. Since 2007, the water level trends in this well have tracked closely with other wells in the western area, following the recovery from the extensive pumping to support the eucalyptus grove (Figure 3.2-8).

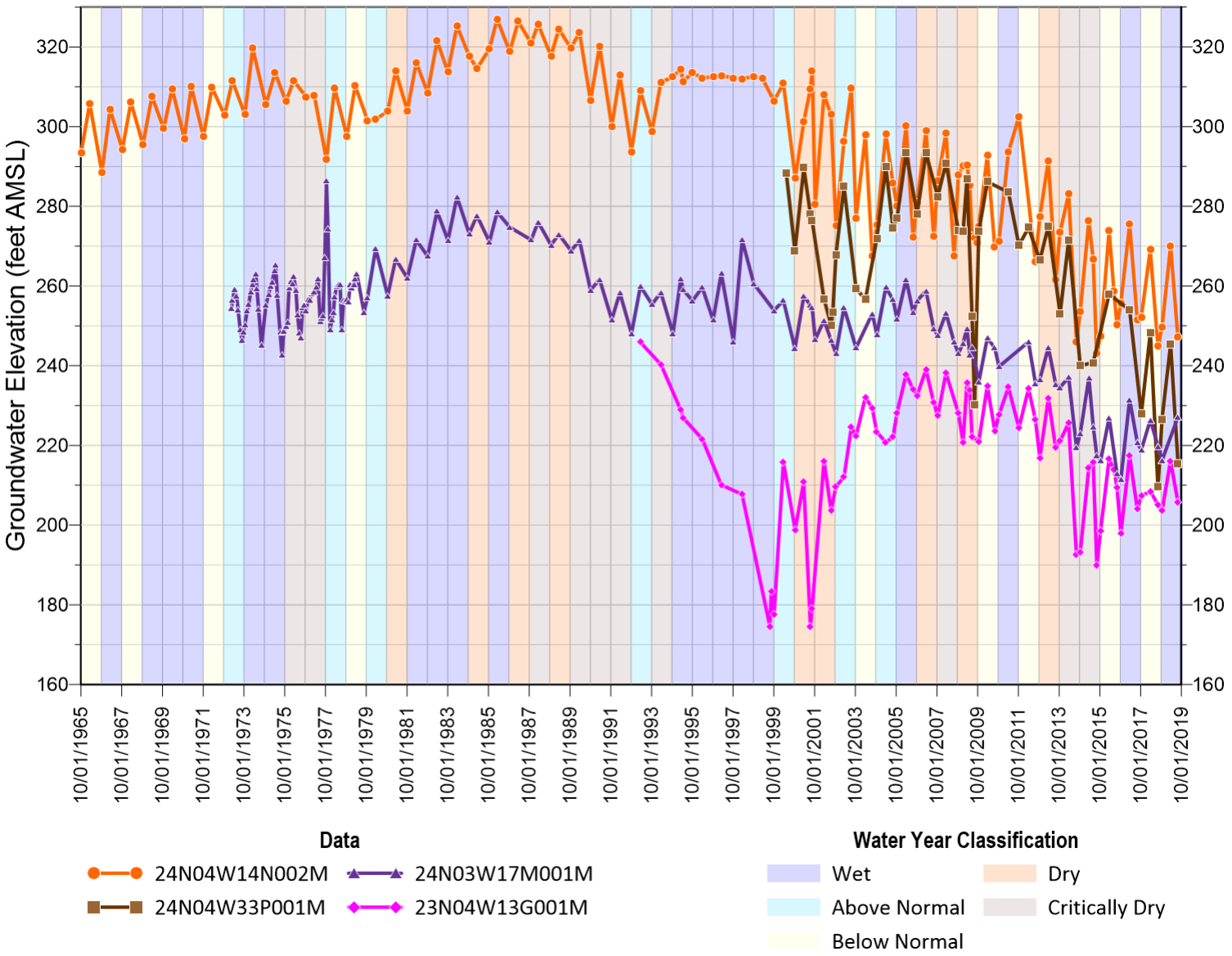


Figure 3.2-8. West Area Characteristic Hydrographs

Table 3.2-2. Screened Intervals and Total Depths for Western Subbasin Characteristic Hydrograph Wells

Well Name	Well Type	Screened Interval(s) (ft bgs)	Total Depth (ft bgs)
24N04W14N002M	Domestic	Unknown	180
24N04W33P001M	Irrigation	250-280, 300-350, 360-390, 420-440, 490-570, 650-690, 730-750, 760-780	780
24N03W17M001M	Domestic	100-108	108
23N04W13G001M	Irrigation	Unknown	560

3.2.2.6 South Area Groundwater Elevations

Figure 3.2-9 displays hydrographs for five characteristic wells in the south area of the Subbasin Table 3.2-3 summarizes the well construction information. In general, wells in the south area show similar trends to the east and west with historical fluctuations in groundwater elevation related to wet and dry climatic cycles. However, in contrast to the east and west areas, a declining water level trend has not been as pronounced during the past two decades (Figure 3.2-3 through Figure 3.2-5). This may be reflective of more surface water use for irrigation in this area, coupled with groundwater recharge from the Sacramento River and Stony Creek. Well screen interval does not appear to influence annual groundwater elevation changes in these wells, though the amplitude of change in deeper well (22N02W09L003M in green below) was greater compared to the other shallower wells shown on Figure 3.2-9. While groundwater elevation changes are seen in all wells from regional groundwater pumping during dry conditions, groundwater elevations in wells closer to Stony Creek and the Sacramento River (22N01W29K001M and 21N01W04N001M in blue and brown, below) exhibit more stable groundwater elevations with limited changes due to climate.

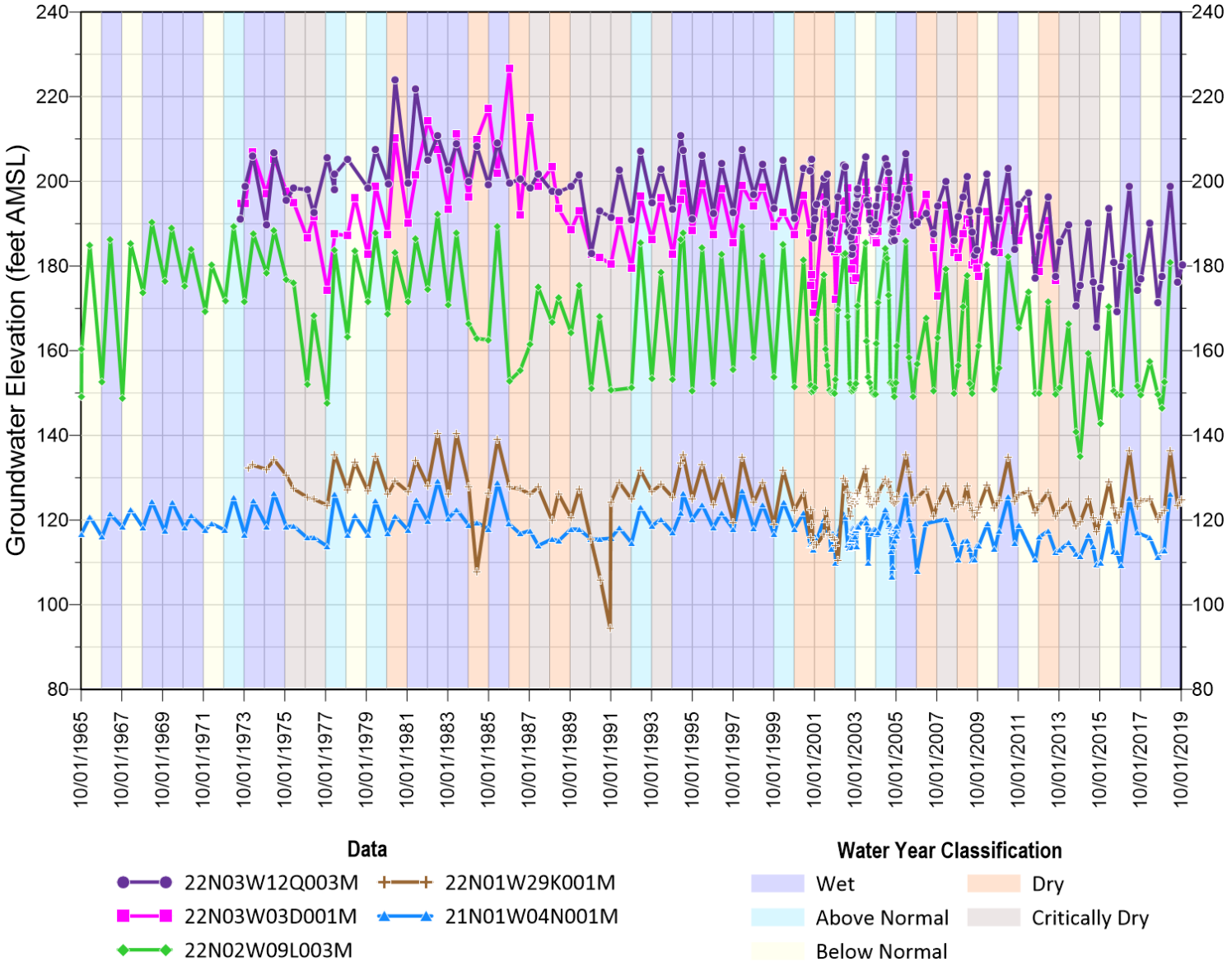


Figure 3.2-9. South Area Characteristic Hydrographs

Table 3.2-3. Screened Intervals and Total Depths for Southern Subbasin Characteristic Hydrograph Wells

Well Name	Well Type	Screened Interval(s) (ft bgs)	Total Depth (ft bgs)
22N03W12Q003M	Domestic	112-123	124
22N03W03D001M	Domestic	90-102	104
22N02W09L003M	Irrigation	40-53, 148-153, 180-219, 290-313, 358-366, 527-536	550
22N01W29K001M	Irrigation	Unknown	150
21N01W04N001M	Domestic	unknown	100

3.2.2.7 Vertical Groundwater Gradients

Clustered monitoring wells are two or more wells installed near to each other but with screens at different depths. Clustered wells can be used to identify differences in groundwater elevation by depth (or vertical zone), illustrating potential vertical groundwater gradient direction and magnitude. Figure 3.2-10, Figure 3.2-11, and Figure 3.2-12 display hydrographs for three well clusters in the east, west, and south areas of the Subbasin, respectively, in the locations shown on Figure 3.2-6. Table 3.2-4 through Table 3.2-6 list the well screen intervals and total depths for wells presented in these figures.

Vertical groundwater gradients occur due to pumping patterns at different depths in the aquifer. Groundwater always flows from high elevation to low elevation (similar to flow in a horizontal plane). When groundwater elevation in shallow wells is lower than groundwater elevation in deeper wells, groundwater flows upward through the aquifer, resulting in an upward vertical gradient. The opposite can also occur.

There are vertical hydraulic gradients associated with vertical groundwater flow in the Subbasin. Downward vertical gradients are prevalent in the east and south area well clusters. In contrast, upward vertical gradients were common in the west area well cluster from the first measurement in 2004 through 2014 but have fluctuated in direction over seasonal timeframes since.

The hydrographs from the well cluster in the east area (Figure 3.2-10) typically indicate that groundwater elevations decrease with increasing screen depth from 2006 to 2019. There are three distinct trends for the shallow well with a screen from 25 to 35 feet bgs, the intermediate wells with screens from 95 to 355 feet bgs and the deeper wells with screens from 815 to 970 feet bgs. The shallow well demonstrated a long-term stable water level, suggesting that it is not hydraulically connected with deeper wells that all had a long-term decreasing water level trend. Decreasing groundwater elevations at depth caused downward vertical gradients to increase in relation to the shallow well over time.

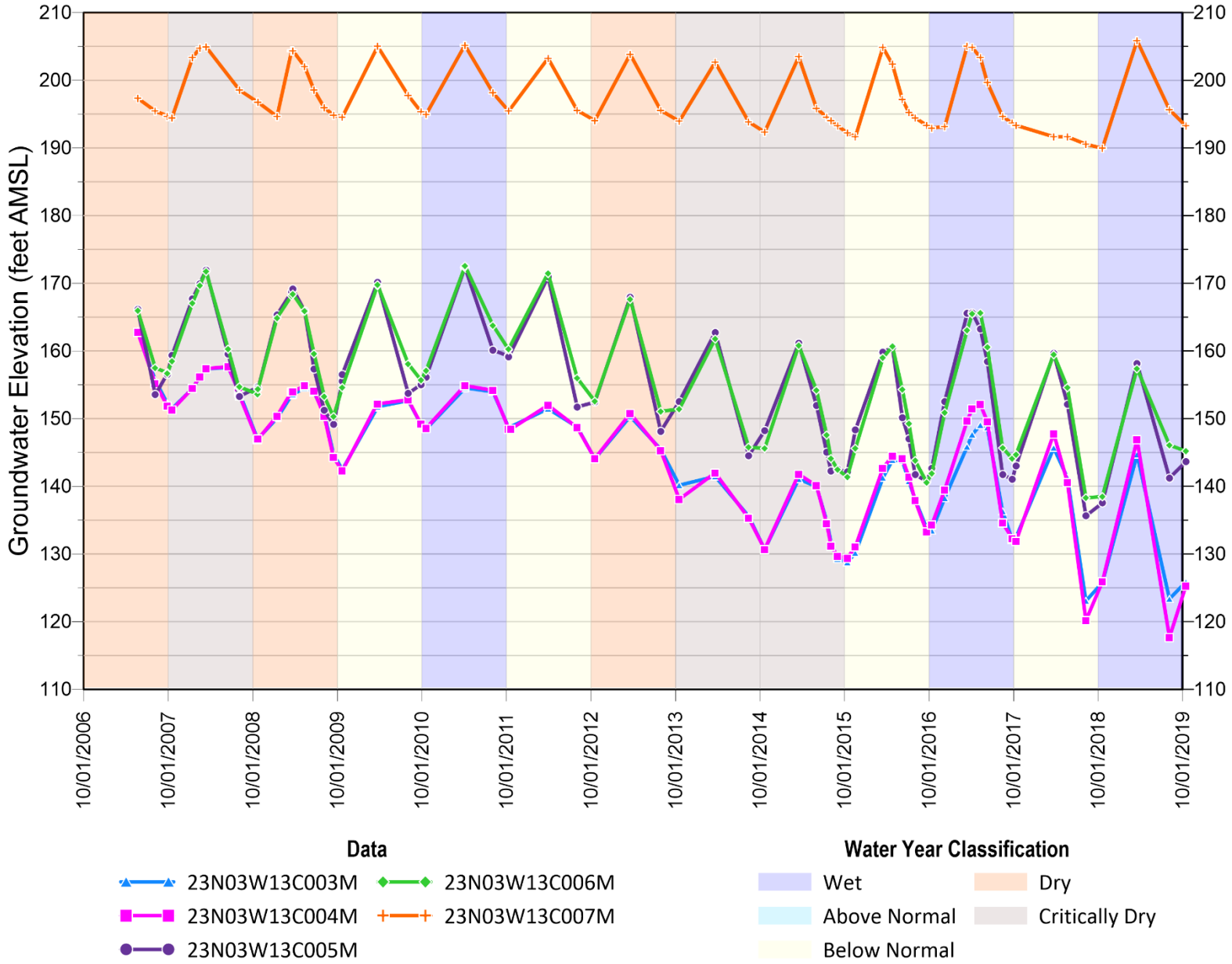


Figure 3.2-10. Groundwater Elevations in Clustered Wells 23N03W13C003M-C007M

Table 3.2-4. Screened Intervals for Clustered Wells 23N03W13C003M-C007M

Well Name	Well Type	Location	Screened Interval(s) (ft bgs)	Total Depth (ft bgs)
23N03W13C003M	Monitoring	East Area	900-910, 960-970	980
23N03W13C004M	Monitoring	East Area	815-825	835
23N03W13C005M	Monitoring	East Area	345-355	381
23N03W13C006M	Monitoring	East Area	95-105, 125-135	182
23N03W13C007M	Monitoring	East Area	25-35	71

In the well cluster in the west area the vertical gradient trends from 2004 to 2019 had notably different conditions before and after the 2013 to 2015 critically dry years (Figure 3.2-11). Prior to 2014, vertical gradients were consistently upward from deeper to shallower wells, while vertical gradients after 2014 generally fluctuated between upward in the fall and downward in the spring.

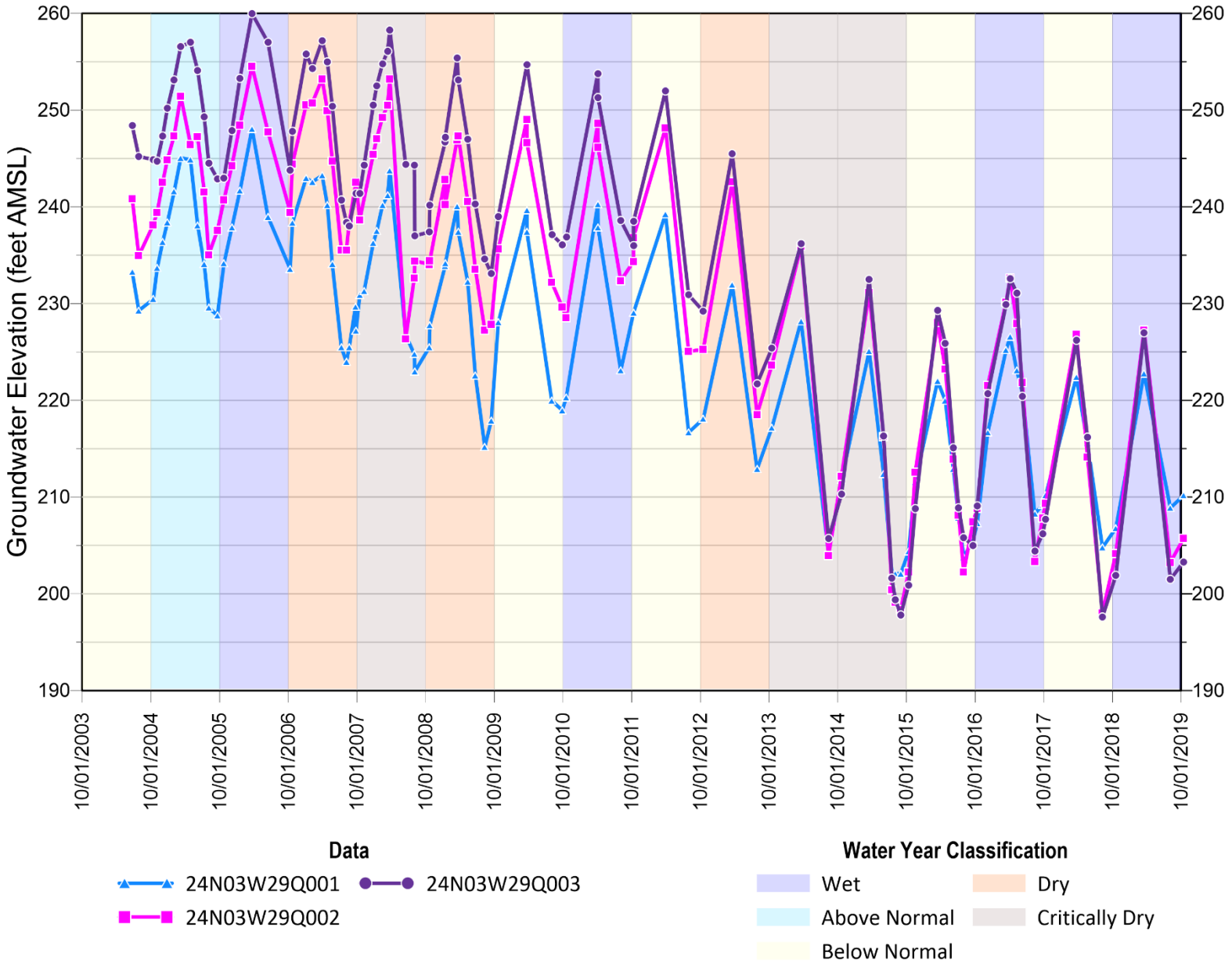


Figure 3.2-11.Groundwater Elevations in Clustered Wells 24N03W29Q001-Q003

Table 3.2-5. Screened Intervals for Clustered Wells 24N03W29Q001-Q003

Well Name	Well Type	Location	Screened Intervals (ft bgs)	Total Depth (ft bgs)
24N03W29Q001	Monitoring	West Area	130-140, 190-200, 230-40, 280-290, 350-360	372
24N03W29Q002	Monitoring	West Area	490-500, 540-550	575
24N03W29Q003	Monitoring	West Area	650-670, 700-710	844

The hydrographs from the well cluster in the south area near Hamilton City fluctuate over annual and long-term cycles from 2009 to 2019, but are predominantly downward with occasional observations with no gradient or an upward gradient (Figure 3.2-12). Vertical gradients are generally more negative (or downward) during the fall measurements than in the spring, likely as a result of greater groundwater pumping at depth during the growing season. During the spring, vertical gradients generally remained downward, but were smaller in magnitude than observations in the fall.

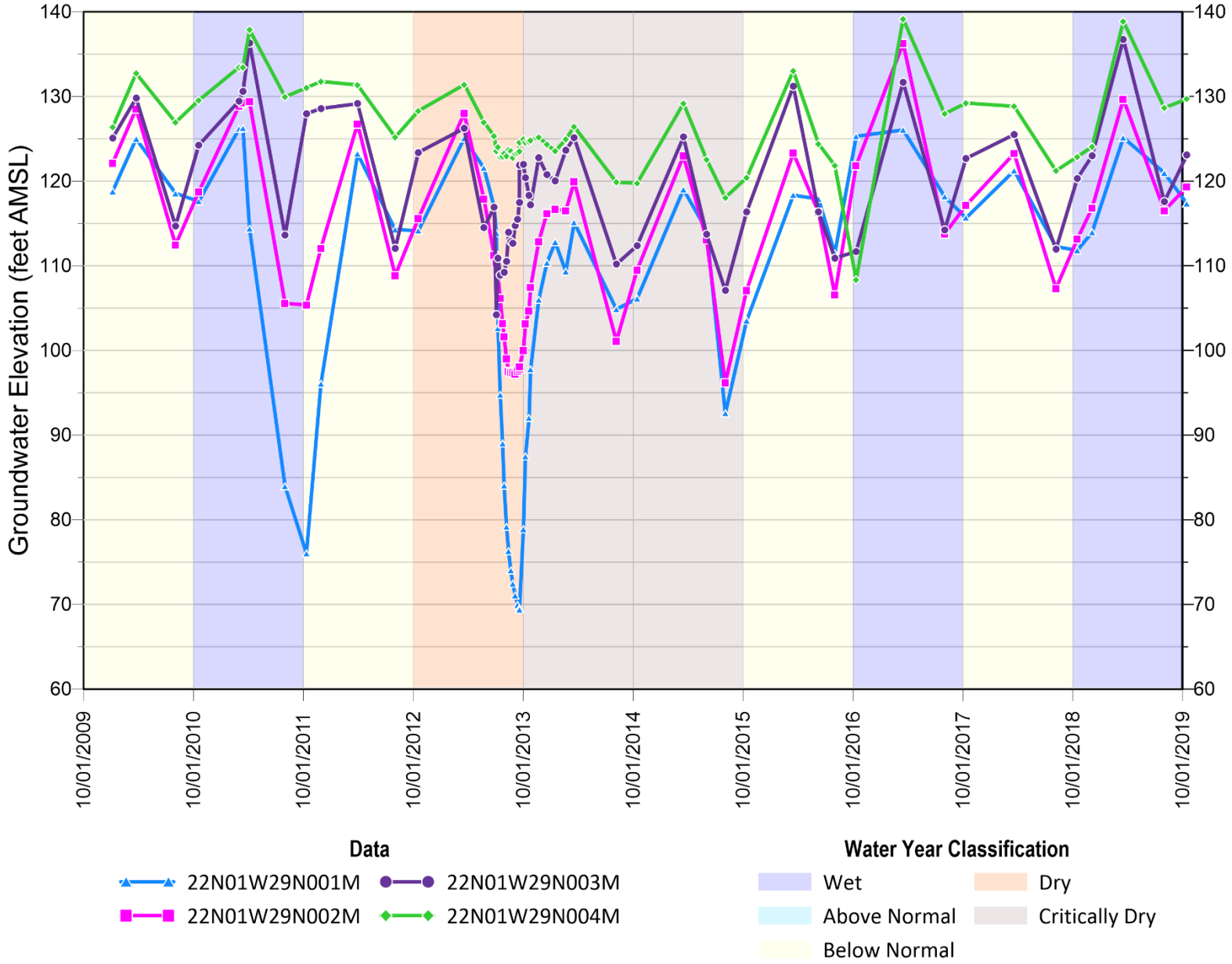


Figure 3.2-12. Groundwater Elevations in Clustered Wells 22N01W29N001M-N004M

Table 3.2-6. Screened Intervals and Total Depths of Clustered Wells 22N01W29N001M-N004M

Well Name	Well Type	Location	Screened Interval(s) (ft bgs)	Total Depth (ft bgs)
22N01W29N001M	Monitoring	South Area	859-879, 990-1010, 1116-1135	1204
22N01W29N002M	Monitoring	South Area	549-559, 595-605, 631-641	670
22N01W29N003M	Monitoring	South Area	189-199, 255-265, 320-330, 370-380	400
22N01W29N004M	Monitoring	South Area	89-99	120

3.2.3 Change in Groundwater Storage

[Placeholder – updated information on change in groundwater storage to be extracted from numerical model – C2VSim]

Change in groundwater storage refers to the difference between the total amount of groundwater recharge and the total amount of groundwater withdrawals within the aquifer. Change in storage can be assessed on an annual basis to identify changes in the aquifer due to climate and water management in particular, or changes can be tracked over time, which leads to a cumulative change in storage. The cumulative change in storage provides longer-term overview and potential resiliency of the aquifer to changes over time.

As described in CDM, 2003:

> *Change in groundwater in storage is dependent on many factors, including climatic conditions, the annual rate of groundwater extraction, and the annual rate of groundwater recharge. Groundwater storage commonly fluctuates within a given year and from year to year. Groundwater in storage will typically decline during periods of drought and rebound during periods of above-normal precipitation. Within the same year, groundwater in storage will decline through the summer months as it is extracted for municipal and agricultural uses, then recover as extraction slows and seasonal precipitation increases recharge. In basins where the amount of annual groundwater extraction is at or below the amount of normal-year recharge, the long-term change in groundwater in storage will remain the same. In basins where the annual amount of groundwater extraction exceeds the amount of normal-year recharge, the long-term change in groundwater in storage will decline. Depletion of groundwater in storage is typically exhibited by a decline in groundwater levels during periods of normal precipitation.*

The C2VSim model is used to develop the complete water budget for the Corning Subbasin, as described in Section 4 – Water Budgets. Historical annual and cumulative change in groundwater storage over the historical period 1973-2015 is shown for the entire subbasin on Figure 3.2-13. The annual change in storage fluctuates with dry and wet climatic conditions. The average annual change in storage is 9,700acre-ft over the simulation period (water year 1974 to 2015), meaning that the aquifer is gaining groundwater in the subbasin. The cumulative change in storage provides an overview of the total change in groundwater storage between two different points in time. It is obtained by adding the annual change in storage over the entire model simulation period to assess the long-term trend in groundwater storage change. The cumulative change in groundwater storage roughly corresponds to the average groundwater level change in the Subbasin over time. As shown on Figure 3.2-13, cumulative change in storage has generally increased between 1974 and 2005, with a period of decrease in the 1986-1992 drought. Since 2006, cumulative change in storage is declining, meaning more water is pumped out the aquifer than recharged, as evidenced in the hydrographs presented on Figure 3.2-7 and Figure 3.2-8. The cumulative change in storage between simulated year 2000 and 2015 is a net loss of 102,500 acre-ft.

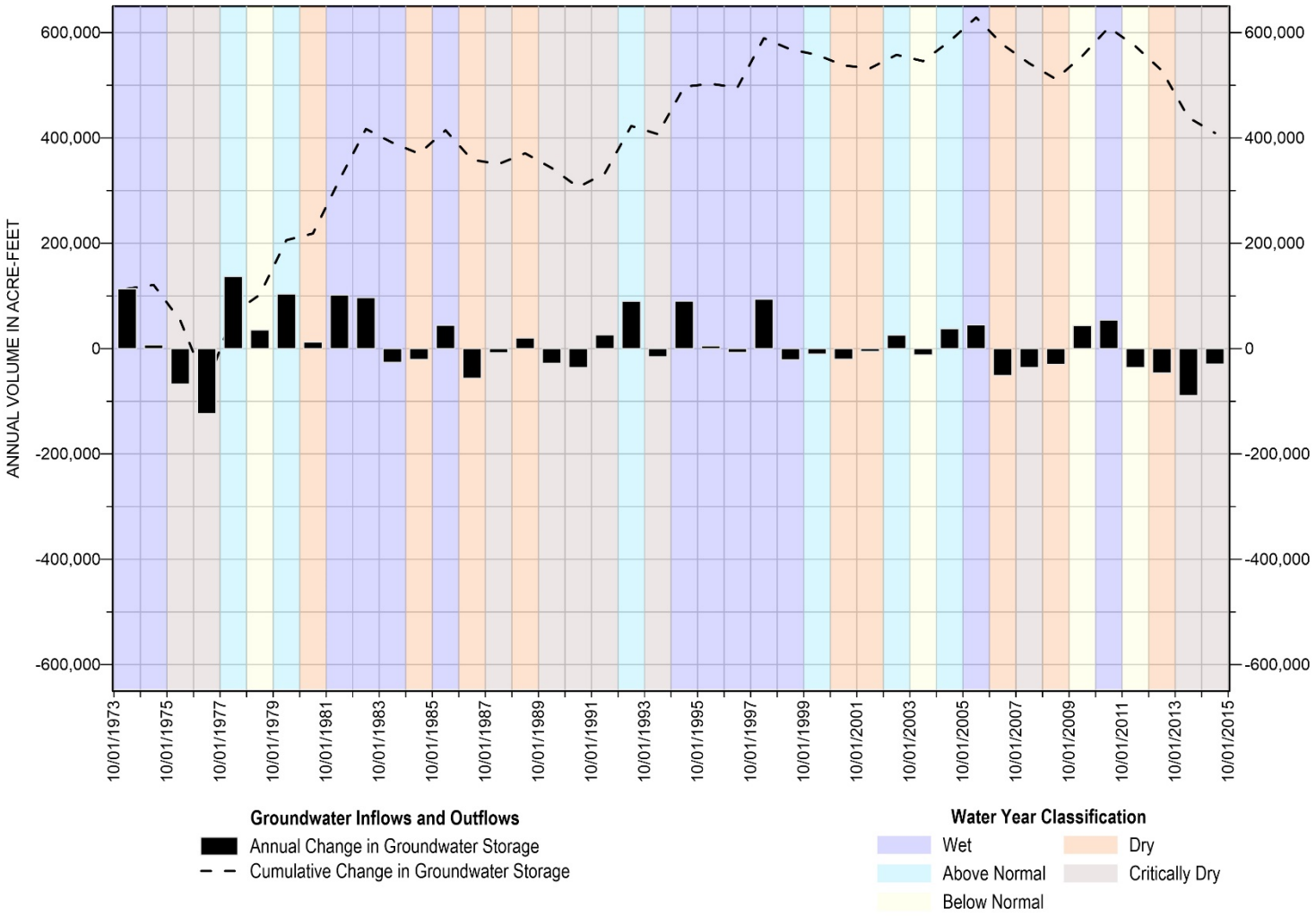


Figure 3.2-13. Historical Change in Groundwater Storage [*Placeholder - Update with revised model*]

3.2.4 Seawater Intrusion

Seawater intrusion is not an applicable sustainability indicator for the Corning Subbasin GSP, due to its distance from the Pacific Ocean, bays, deltas, or inlets. Therefore, seawater intrusion is not likely to occur in the Corning Subbasin.

The Corning Subbasin does not border any oceanic or deltaic environments and therefore seawater intrusion is not an applicable sustainability indicator in the Subbasin and is not further discussed in this GSP.

3.2.5 Land Subsidence

Land subsidence refers to the gradual lowering or sudden sinking of the land surface. There are many factors which can contribute to land subsidence, including groundwater pumping, drainage and decomposition of peatlands, underground mining, oil and gas extraction, hydrocompaction, natural compaction, sinkholes, and/or thawing permafrost. Amongst these causes of land subsidence, only aquifer-system compaction due to groundwater pumping is relevant to SGMA and is applicable to geology, water management, and land use in the Subbasin.

Aquifer-system compaction can occur in certain sedimentary basins where more groundwater is withdrawn than is being replenished, causing dewatering of sediments. Dewatering depressurizes the aquifer skeleton and compacts clay layering, leading to decline in groundwater elevation at the ground surface. Aquifer-system compaction may be seasonal or otherwise non-permanent (elastic subsidence), or permanent (inelastic subsidence). Elastic subsidence is generally reversible while inelastic subsidence is generally irreversible and can lead to permanent land surface changes. Figure 3.2-14 illustrates the relationship between lowering groundwater elevation and land subsidence. Land subsidence occurs when groundwater elevations in an aquifer that contains clay layers fall below the previous lowest water levels, causing depressurization and compaction of clay layers.

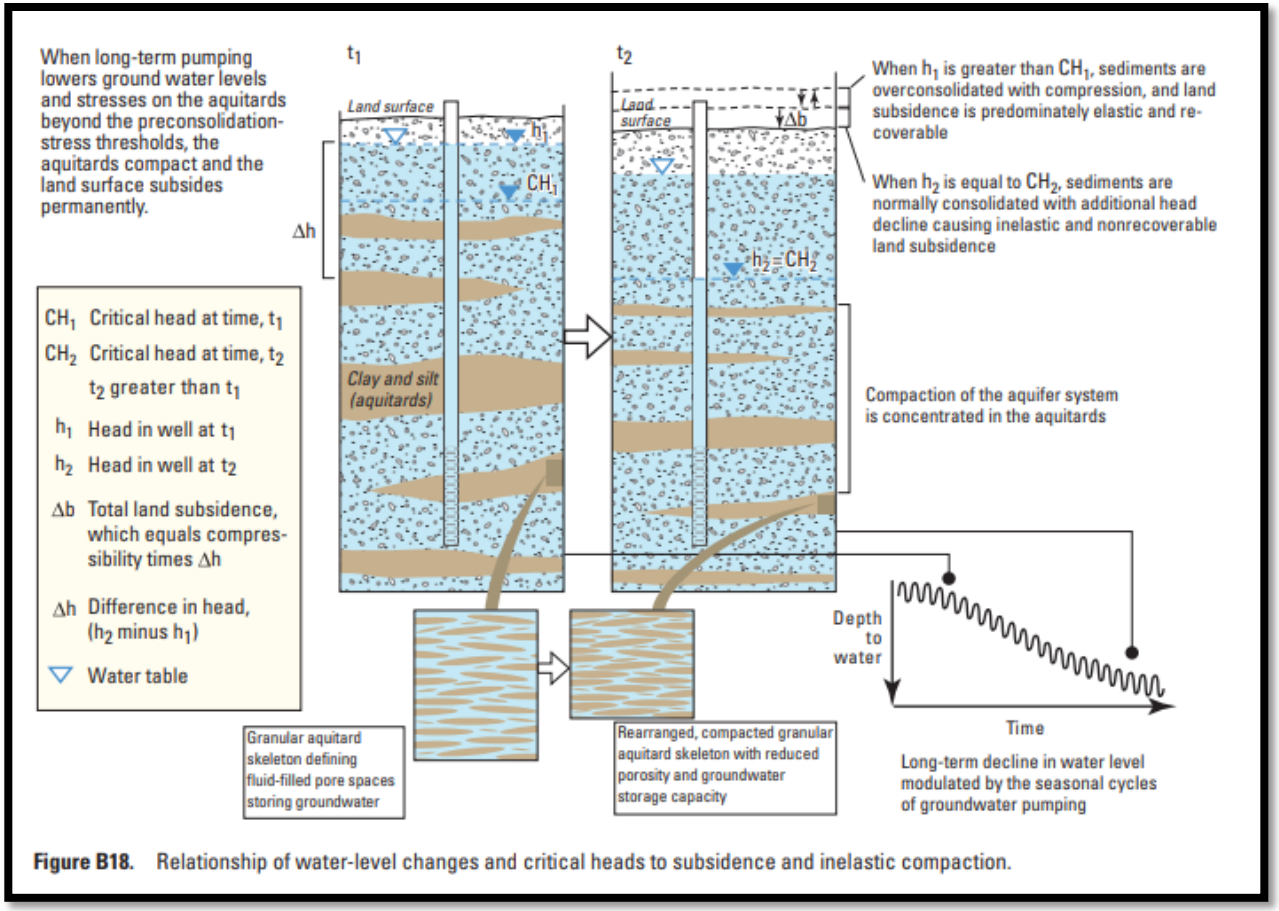


Figure 3.2-14. Illustration Showing Inelastic Subsidence (USGS, 2009)

Inelastic land subsidence can increase the risk of flooding, cause damage to overlying infrastructure, and reduce aquifer storage potential. Existing data presented in the following subsections suggest there is limited land subsidence in one area of the Corning Subbasin.

3.2.5.1 Sacramento Valley Subsidence Surveys

DWR and USBR jointly manage the Sacramento Valley Height-Modernization Project, which aims to characterize land subsidence due to groundwater withdrawal within the Sacramento Valley via survey benchmarks (DWR, 2008; DWR, 2018). DWR performed extensive land surface elevation surveys in 2008 and 2017 over a network of survey monuments throughout the Sacramento Valley (DWR, 2018) to identify any significant land subsidence between these two measurement timeframes. The network in the Subbasin includes eighteen survey monuments spread across the portions of the Subbasin utilized for groundwater production (Figure 3.2-15).

Results displayed on Figure 3.2-15 indicate that only one monument (2966, four miles northwest of Orland) shows any statistically significant subsidence. From 2008 to 2017, the land surface elevation at this location decreased by approximately 0.3 foot. The stated uncertainty of these GPS measurements was 0.17 foot, meaning minor land surface elevation changes at other monuments in the Subbasin was essentially zero, or within the uncertainty bounds of the measurement device.

Additional limited measurements were collected at several of the Glenn County locations in 2004 and in 2015 (DWR, 2004a; DWR, 2015). The 2004 report included surveys of three of the eighteen total monuments in the Subbasin (N852, HAMI, ORLA); between 2004 and 2008 the land surface elevation increased by 0.2 feet at N852 and HAMI and the land surface elevation decreased at ORLA by 0.1 feet. These measurements were essentially within the range of uncertainty. In 2015, two of the eighteen monuments were surveyed (ORLA and WILD). The measurement at ORLA was about equal to the measurement in 2008. The measurement at WILD was 1.32 feet less than in 2008. However, the reported elevation decrease at the WILD monument between the 2008 and 2017 valley-wide surveys was 0.117 feet (within the GPS measurement uncertainty), indicating no subsidence in this area. The result from WILD in 2015 appears to be an anomaly, particularly because this location is near the Sacramento River in an area with little groundwater use, stable groundwater levels and no known historical land subsidence.

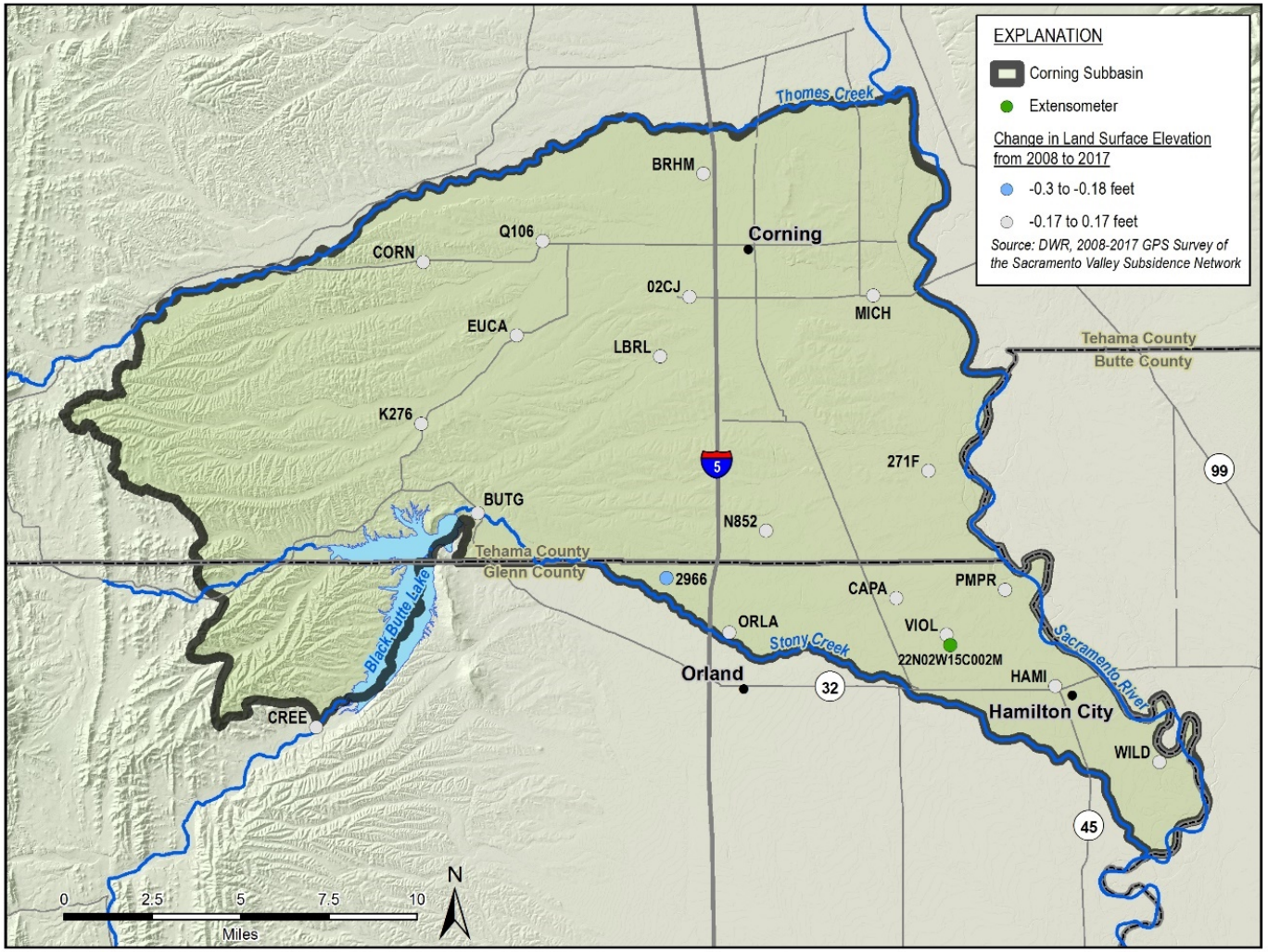


Figure 3.2-15. Subsidence Measurements Between 2008 and 2017 (DWR, 2018)

3.2.5.2 DWR INSAR Subsidence Mapping

Interferometric Synthetic-Aperture Radar (InSAR) is a remote sensing technology that measures ground elevation using microwave satellite imagery data. DWR provides monthly InSAR data mapped over the entire state from June 2015 to June 2019 (DWR, 2020[1]). The data were mapped for the Subbasin to compare the difference in land surface elevation between 2019 and 2015 (Figure 3.2-16). Over this period, land subsidence measured in the Subbasin was less than 0.1 foot. There are several small gaps in measurements adjacent to the Sacramento River, especially in the area near Hamilton City. Since groundwater levels fluctuate less near the Sacramento River than in other parts of the Subbasin, subsidence due to groundwater pumping in these areas are not as likely as in other areas of the Subbasin (Figure 3.2-3 through Figure 3.2-5).

As with any measurements, the InSAR data provided by DWR are subject to error. DWR has stated that, on a statewide level, the total vertical displacement measurements are subject to two error sources (Brezing, personal communication, June 2019 and Towill, Inc., 2020):

1. The error between InSAR data and continuous GPS data is 16 mm (0.052 foot) with a 95% confidence level.

2. The measurement accuracy when converting from the raw InSAR data to the maps provided by DWR is 0.048 foot with 95% confidence level.

Simply adding the errors 1 and 2 results in a combined potential error of 0.1 foot (or 1.2 inches). While this is not a robust statistical analysis, it does provide an estimate of the potential error in the InSAR maps provided by DWR. A land surface change of less than 0.1 foot in the Subbasin between June 2015 and 2019is within the noise of the data and is not considered statistically significant.

Figure 3.2-17. shows monthly subsidence measurements from this dataset at one location near the Sacramento Valley Subsidence Survey monitoring location 2966. Monitoring location 2966 was the only location in the Subbasin with reported subsidence of 0.29 feet between 2008 and 2017 land elevation surveys (Figure 3.2-15; DWR, 2018). The InSAR subsidence data from this location between June 2015 and June 2019 showed that approximately 0.1 foot of subsidence occurred during the timeframe. Some elastic subsidence is apparent from the displacement showing rebounding elevations in late 2016 and late 2017. But overall, the trend is downward, and this location will need to be monitored for future subsidence.

[1] https://data.cnra.ca.gov/dataset/tre-altamira-insar-subsidence/resource/2535a9b9-ed25-4b19-9734-4b1409e3fdce

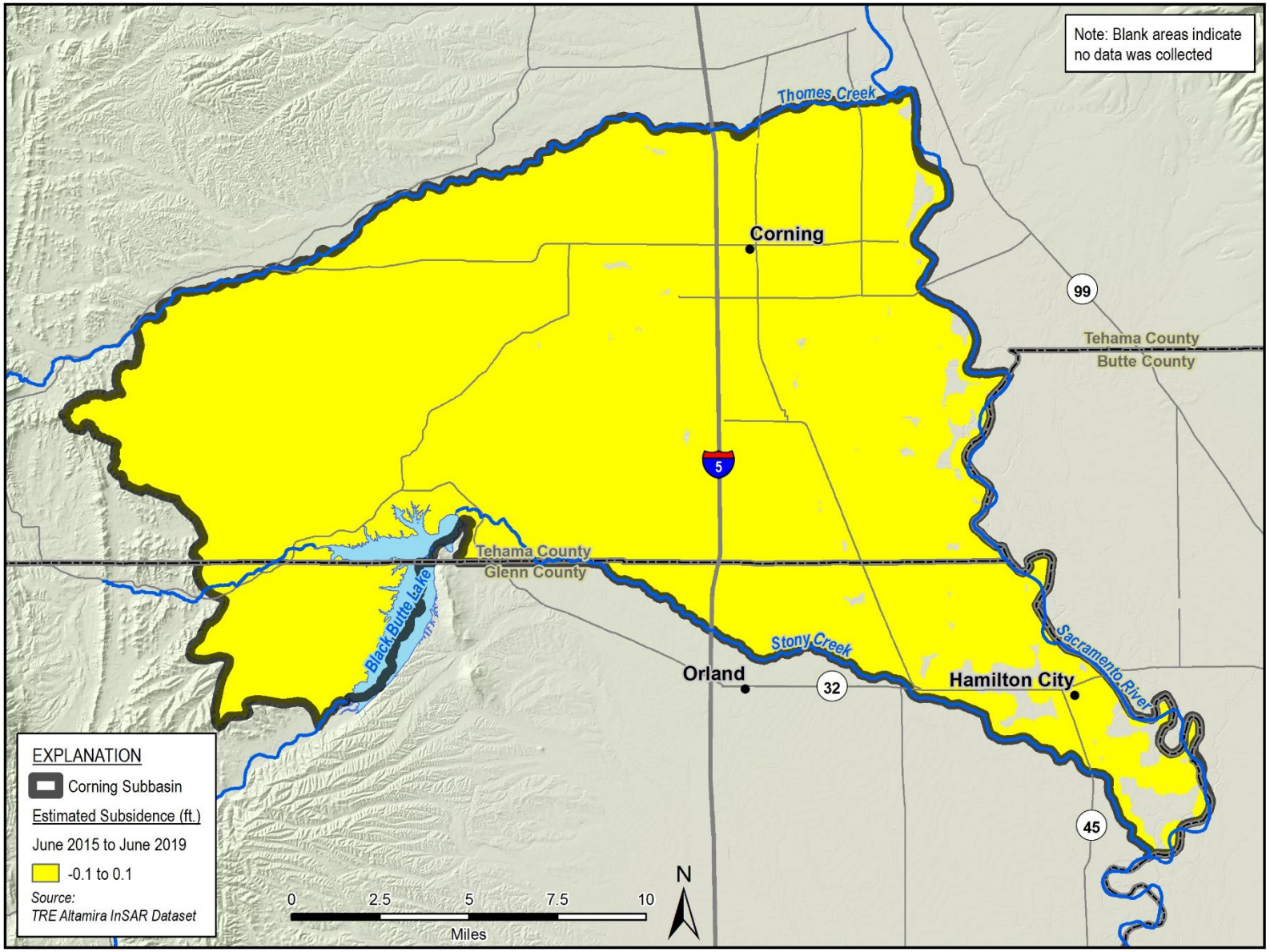


Figure 3.2-16. DWR InSAR Subsidence in Corning Subbasin, June 2015- June 2019

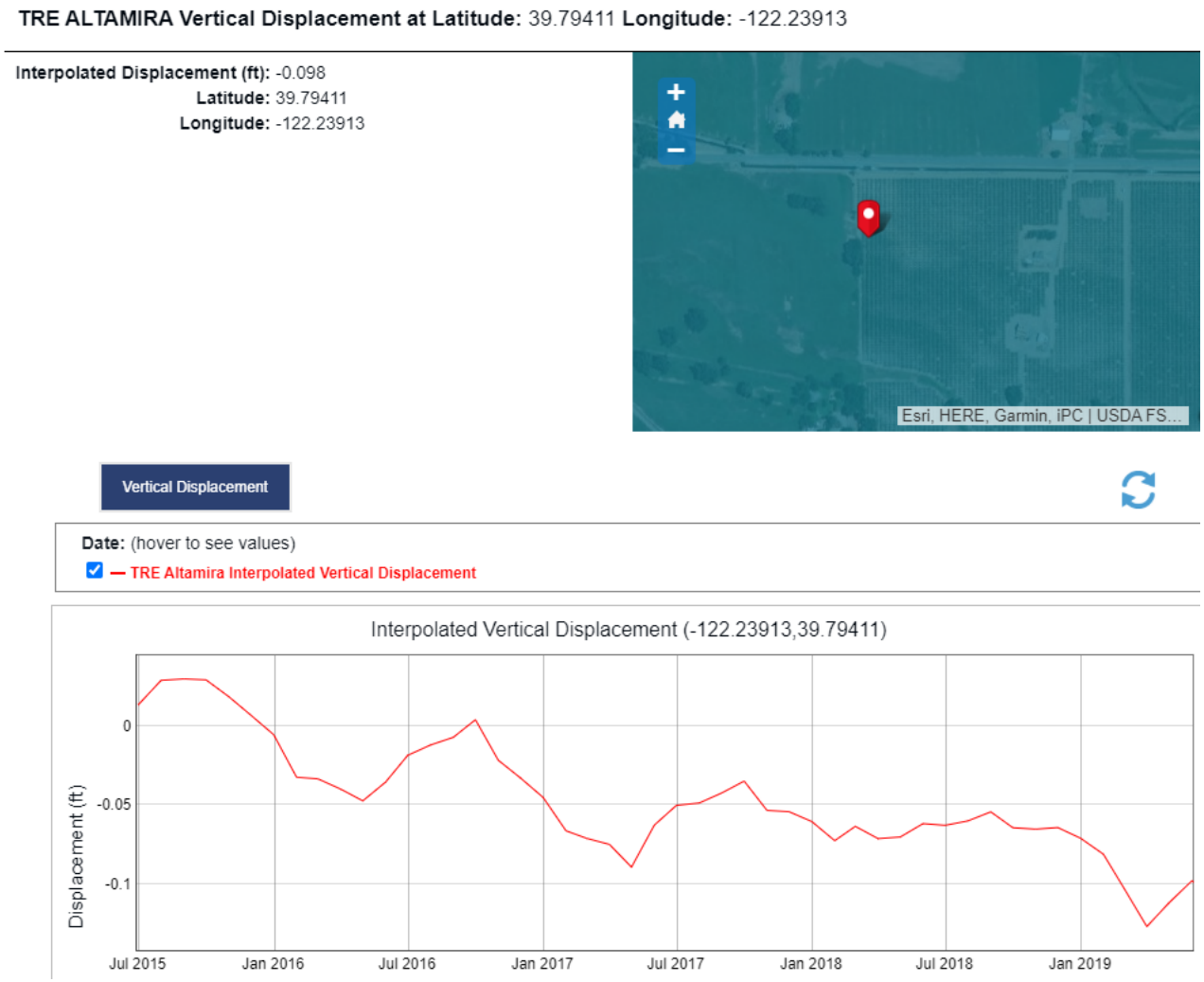


Figure 3.2-17. DWR InSAR Subsidence from June 2015 to June 2019 near Sacramento Valley Subsidence Survey location 2966.[2]

[2] https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#gwlevels

3.2.5.3 DWR Extensometer Measurements

An extensometer is an instrument consisting of a pipe or cable anchored at the bottom of a well casing and a recorder that measures the relative distance between the bottom of the bore hole and the ground surface. Extensometers are used by DWR to measure aquifer-system expansion or compaction of the geologic material, measured as displacement at ground surface at 11 locations in the Northern Sacramento Valley.[3] Figure 3.2-17 shows the only extensometer location that the DWR has monitored in the Subbasin for this purpose. This well (22N02W15C002M) was installed with a screen from 759 to 780 bgs; therefore, the extensometer measures expansion and compression of the Quaternary alluvium and Tehama/Tuscan Formation aquifer systems at this location (Davids Engineering, 2018).

Land displacement and groundwater elevation data from the well and extensometer from 2004 to 2019 shown in Figure 3.2-17 suggest that the aquifer-system in this location is elastic. This means that the aquifer compacts slightly during the dry season when water levels are lower, but a relatively equal amount of expansion occurs in the following wet season when the water level is higher. The result of elastic expansion and compaction is that minimal net subsidence occurs over an annual cycle. Over the 14-year record, monthly ground surface elevation at the well fluctuated 0.12 feet from +0.08 and -0.04 feet. Between 2004 and 2019, the ground surface at the well rose about 0.05 feet in this location while the water table dropped by more than 10 feet. There are several small data gaps in the record, the longest of which spans six months from October 2012 to April 2013. Overall, the data display no inelastic subsidence in response to declines in groundwater elevation.

[3] https://data.cnra.ca.gov/dataset/wdl-ground-surface-displacement

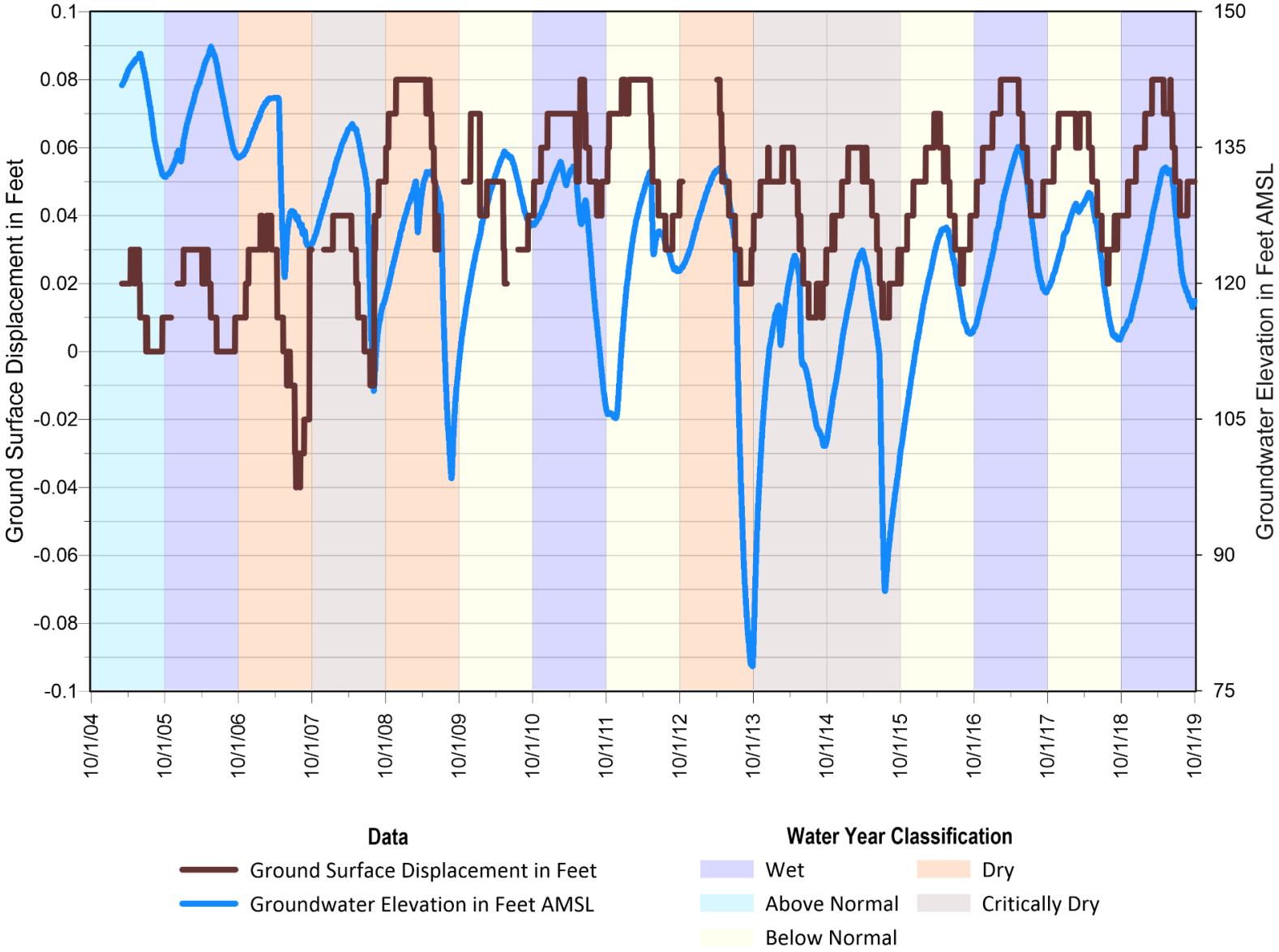


Figure 3.2-18. DWR Extensometer Measurements, 2004-2019

3.2.6 Groundwater Quality

Evaluation of groundwater quality conditions involves the observation and analysis of chemical concentrations in groundwater. Chemical concentrations are typically evaluated in regard to primary and secondary drinking water standards established by the U.S. Environmental Protection Agency (USEPA) and the California State Water Resources Control Board's Division of Drinking Water (DDW). These are also referred to as Maximum Contaminant Limits (MCL) and secondary maximum contaminant limits (SMCL). MCL are concentrations above which adverse effects on human health can occur. SMCL are concentrations above which aesthetic concerns for groundwater use can occur but are not health threatening. Aesthetic effects may include poor taste, odor, damage to pipes and pumps, and reduced effectiveness when treating for other constituents.

The following sections describe point source pollutants and non-point source groundwater constituents in the Corning Subbasin, focusing on constituents which have been detected above or near MCL or SMCL. Point source pollutants are those which have one isolated, typically well-defined anthropogenic, source. Non-point source groundwater constituents occur over a wider potentially diffuse area and may be anthropogenic or naturally occurring. Anthropogenic pollutants are a result of human activities such as industry, agriculture, or home use while naturally occurring groundwater constituents are a result of natural geochemical conditions within the aquifer.

3.2.6.1 Point Sources of Groundwater Pollutants

Cleanup and monitoring of point source pollution may be overseen by either the Central Valley Regional Water Quality Control Board (Regional Board) or the California State Department of Toxic Substances Control (DTSC). These agencies make all related materials available to the public through two public portals: GeoTracker (https://geotracker.waterboards.ca.gov/) managed by the Regional Board and Envirostor (https://www.envirostor.dtsc.ca.gov/public/) managed by DTSC.

Figure 3.2-19 displays all historical cleanup sites in the Corning Subbasin, utilizing information from the GeoTracker database. These sites include leaking underground storage tank (LUST) sites, land disposal sites, dry cleaners, and agricultural facilities. Cleanup sites are generally clustered around the City of Corning and Hamilton City. Figure 3.2-20 shows cleanup sites within adjacent subbasins, close to the Corning Subbasin. Of a total of 51 sites in the Corning Subbasin, seven sites remain open as of April 8, 2020. These sites are displayed on Figure 3.2-21 and summarized in Table 3.2-7. Open-case site designation indicates that some sort of contamination has occurred on site, and that remediation is ongoing. Six of the sites are in the northeastern potion of the Subbasin, while the seventh is located just east of Hamilton City.

Figure 3.2-22 shows the only open cleanup cases adjacent to and near the Corning Subbasin are located in the Colusa Subbasin around the City of Orland.

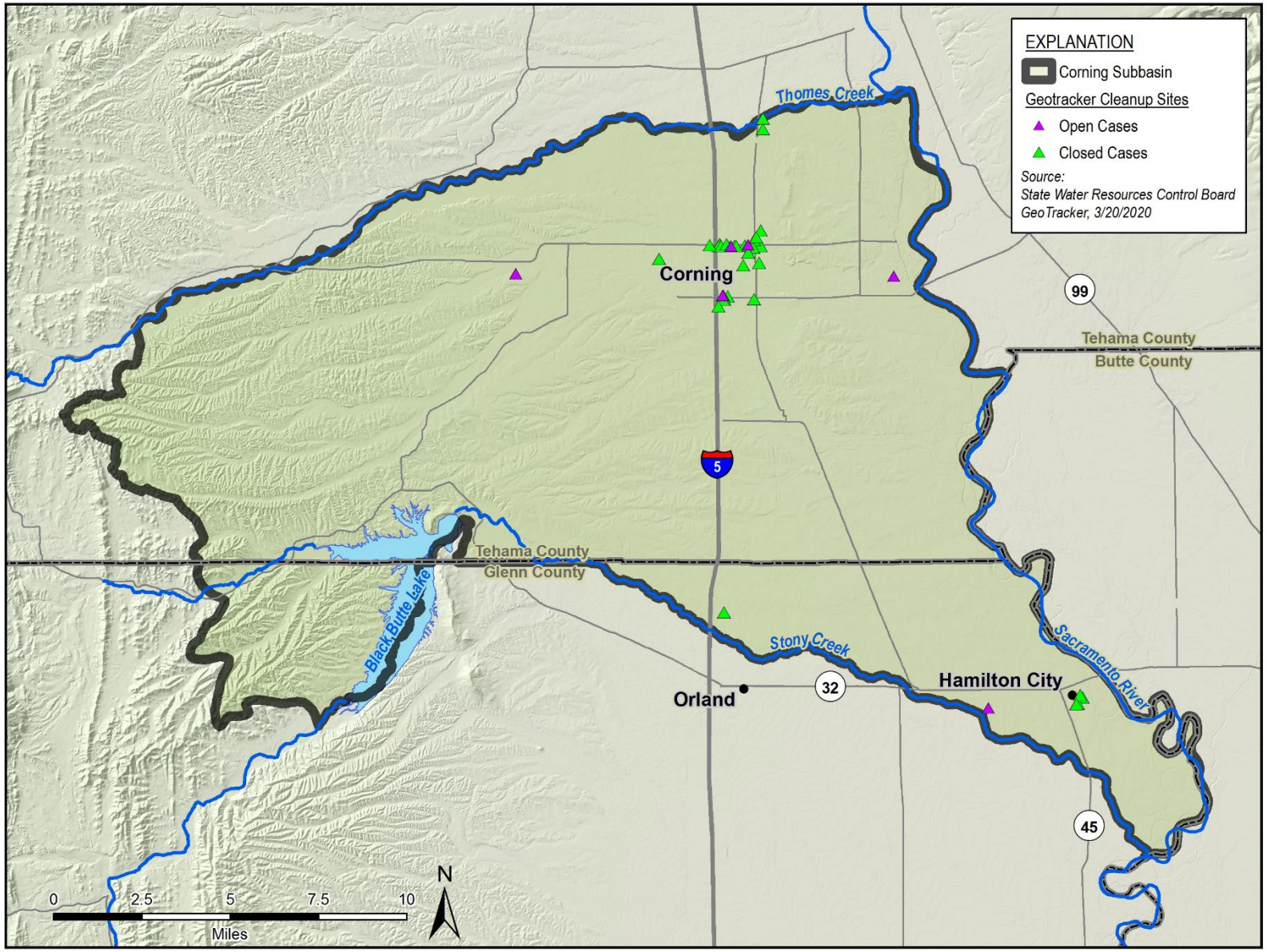


Figure 3.2-19. All Historic and Current Cleanup Sites within the Corning Subbasin

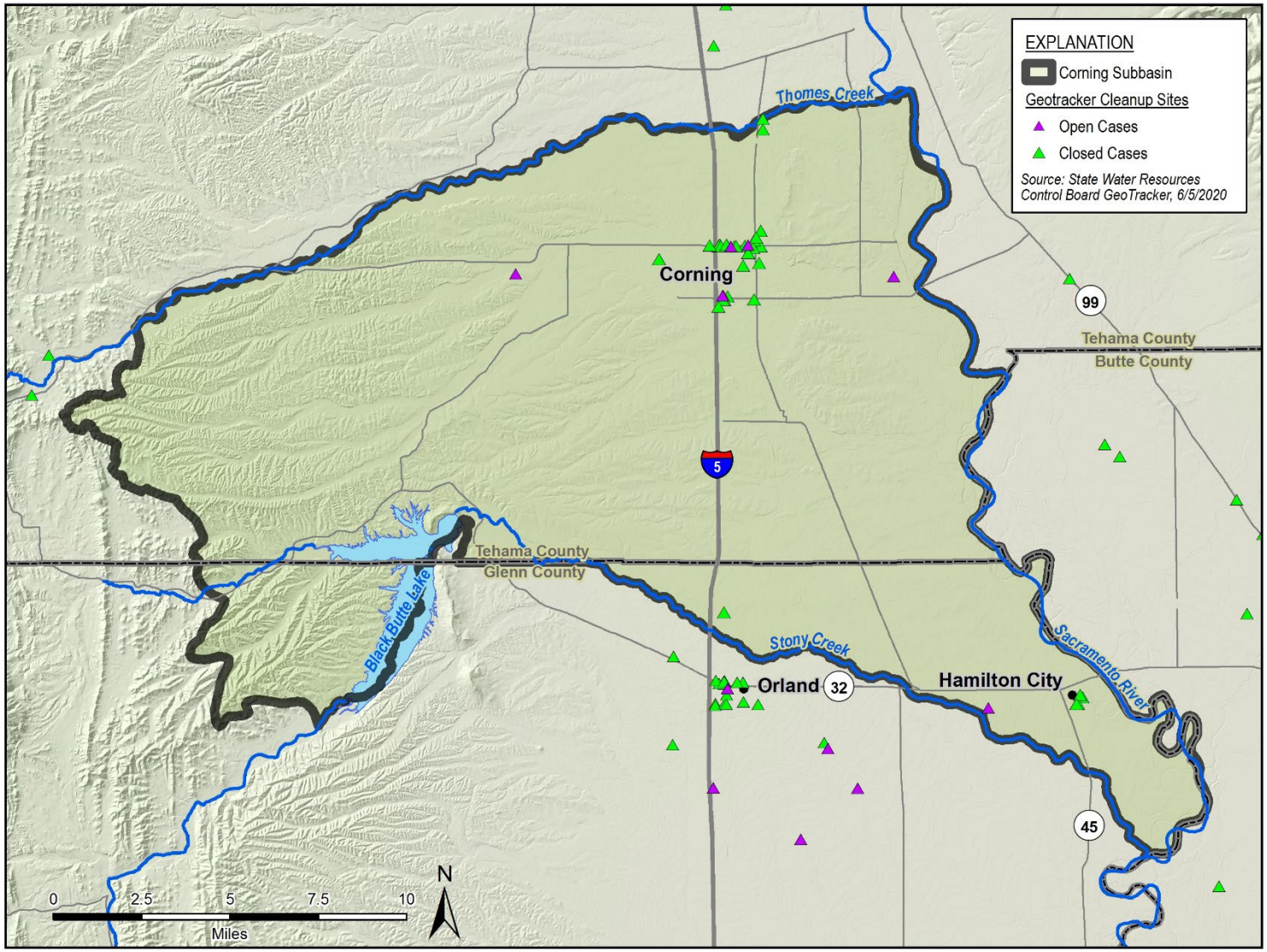


Figure 3.2-20: All Historic and Current Cleanup Sites within Adjacent Subbasins Close to the Corning Subbasin

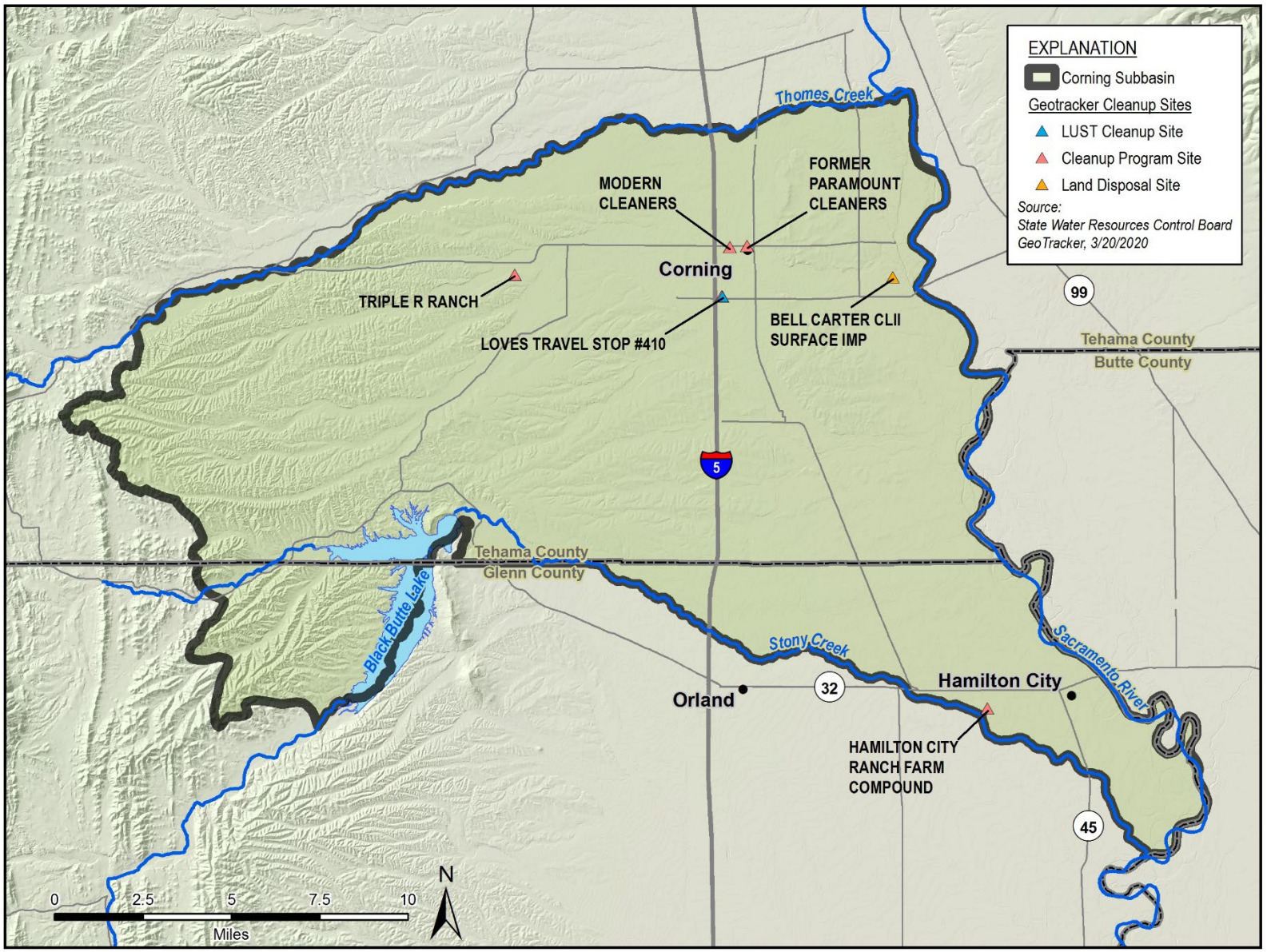


Figure 3.2-21. Open-Case Cleanup Sites Within the Corning Subbasin

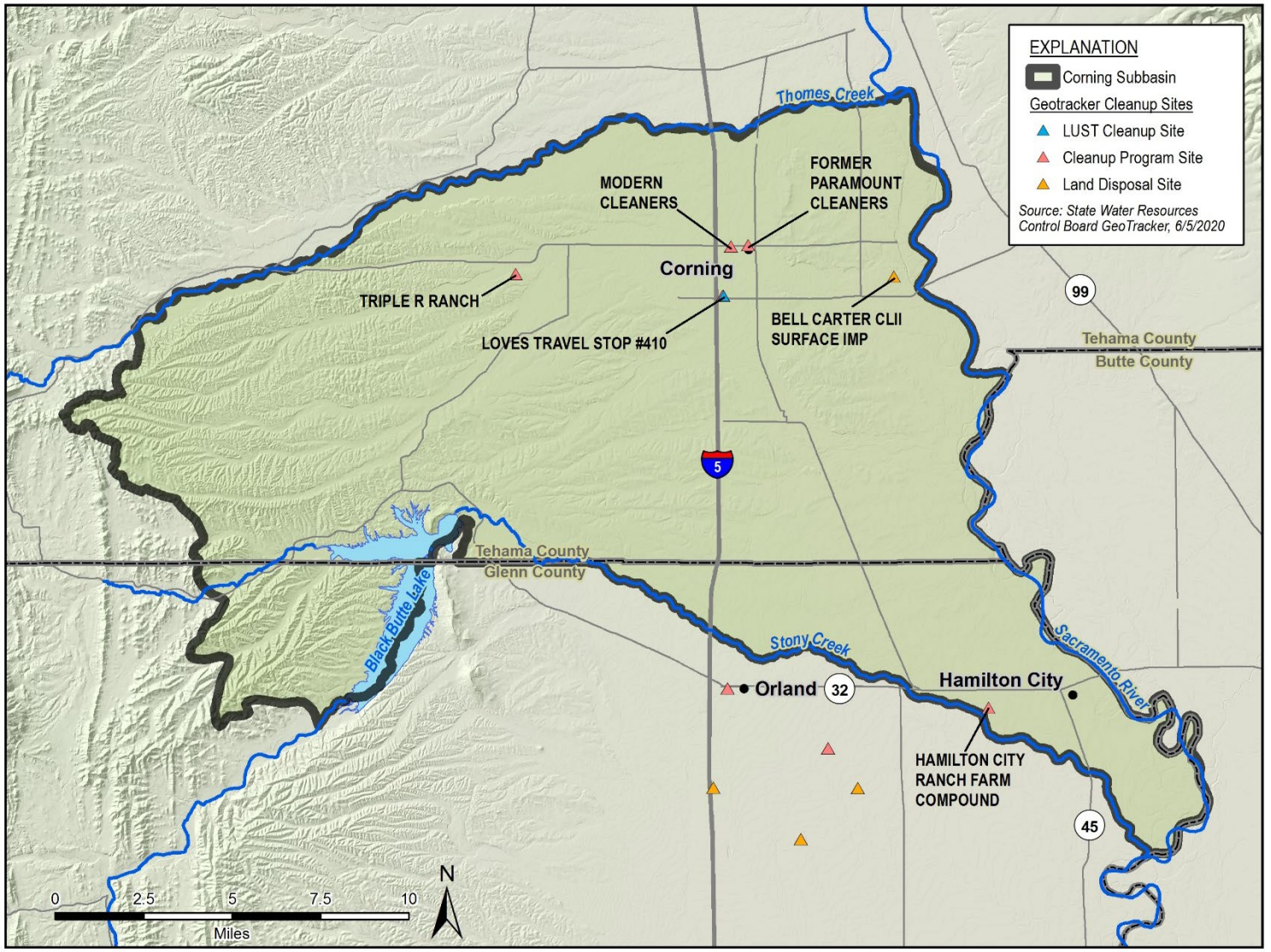


Figure 3.2-22: Open Case Cleanup Sites within Adjacent Subbasins Close to the Corning Subbasin

Table 3.2-7. Open-Case Cleanup Sites within the Corning Subbasin

Site	Site Type	Cleanup Status	Potential Constituents of Concern
Bell - Carter Olive Company, Inc.	Land Disposal Site	Operating	None Specified
Former Paramount Cleaners	Cleanup Program Site	Site Assessment	Tetrachloroethylene (PCE)
Hamilton City Ranch Farm Compound	Cleanup Program Site	Site Assessment	Diesel
Love's Travel Stop #410, Former Dudley and Petty	Cleanup Program Site	Site Assessment	Chlorinated Solvents - PCE, Chlorinated Solvents - TCE, Petroleum - Automotive gasolines, Petroleum - Diesel fuels
Love's Travel Stop #410, Former Dudley and Petty	LUST Cleanup Site	Verification Monitoring	Diesel, Gasoline, Tetrachloroethylene (PCE), Solvents, Trichloroethylene (TCE)
Modern Cleaners	Cleanup Program Site	Site Assessment	Tetrachloroethylene (PCE)
Triple R Ranch, Formerly Christian Boys Ranch	Cleanup Program Site	Inactive (Site Assessment complete, now inactive since 2016)	None Specified

Five open cleanup sites are located just south of the Corning Subbasin in the vicinity of Orland, as shown in Table 3.2-8 below. Because of their vicinity to the Corning Subbasin, pumping within the Corning Subbasin might affect the movement of these contaminants into the Subbasin.

Table 3.2-8. Open Cleanup sites within City of Orland Vicinity

Site	Site Type	Cleanup Status	Potential Constituents of Concern
Compost Solutions Inc. Composting Facility	Land Disposal Site	Open - Operating	None Specified
Glenn County Airport - Orland	Cleanup Program Site	Open - Site Assessment	Other Insecticides / Pesticide / Fumigants / Herbicides, Toxaphene
K&S Spreading and Hauling, Inc.	Land Disposal Site	Open - Operating	None Specified
Orland Dry Cleaners	Cleanup Program Site	Open - Verification Monitoring	Tetrachloroethylene (PCE)
Sulara Enterprises Drilling Mud Disposal Facility	Land Disposal Site	Open - Closed/With Monitoring	None Specified

3.2.6.2 Distribution and Concentrations of Non-Point Source Groundwater Constituents

In addition to the point sources described above, the Regional Board monitors and regulates activities and discharges that can contribute to non-point source pollutants, which are constituents that are released to groundwater over large areas, such as from agricultural fields. In the early 2000's, the State Water Resources Control Board partnered with the USGS to monitor groundwater quality in the State, as part of the Groundwater Ambient Monitoring and Assessment (GAMA) Program's Priority Basin Project. The Corning Subbasin was monitored in 2006, along with other subbasins (Colusa, Vina, East and West Butte, Sutter, North and South Yuba – from the Bulletin 118 basin determinations at the time the report was written) within the Middle Sacramento Valley Study Unit. This study allowed for a regional overview of groundwater quality and identity potential constituents of concern for drinking water and agricultural use.

Groundwater samples collected from 108 wells in this study were analyzed for up to 280 constituents, and 195 of those constituents were not detected in any of the samples (USGS, 2008).

The main conclusions of this comprehensive study are as follows (USGS, 2008):

> *Groundwater samples were analyzed for volatile organic compounds (VOCs), pesticides and pesticide degradates, constituents of special interest, pharmaceutical compounds, nutrients, major and minor ions, trace elements, radioactivity, and microbial indicators.*
>
> *Regulatory thresholds apply to treated water that is served to the consumer, not to raw ground water. However, to provide some context for the results, concentrations of constituents measured in the raw ground water were compared with health-based thresholds established by the U.S. Environmental Protection Agency (USEPA) and the California Department of Public Health (CDPH). All detections of VOCs, pesticides, and pesticide degradates were below health-based thresholds, and most were less than one-hundredth of the threshold values. All detections of perchlorate, and radioactive constituents were below established thresholds.* ***Arsenic, nitrate, and boron were the only constituents detected at concentrations above health-based thresholds****.* ***Total dissolved solids, specific conductance, pH, iron, chloride, sulfate, and manganese were detected at concentrations above the SMCL-CA, a non-enforceable threshold set for aesthetic concerns****.*

Arsenic and boron are generally considered to be naturally occurring within the aquifer sediments and might leach into groundwater under certain geochemical conditions, then pumped out via wells. Arsenic can be a health hazard in high concentrations. Boron is mostly of concern for irrigating crops, as many crops have a low tolerance to boron, at levels below human health

hazard. In the Corning Subbasin, boron was detected at low levels (USGS, 2011), and therefore does not constitute a human health concern in the Subbasin.

Nitrate can be naturally occurring, but when encountered at higher than typical natural background concentrations (generally above 3 mg/L) human activity is often the source of the constituent in groundwater. Nitrate is considered a human health hazard, particularly for pregnant women and infants.

The primary non-point source constituents of concern in the Central Valley, due to the intense agricultural practices, are salinity or total dissolved solids (TDS) and nitrate. These constituents have been studied in the Central Valley as part of the Central Valley Salinity Alternatives for Long-term Sustainability (CV-SALTS) and summarized in a series of technical reports.

Salinity in the eastern portion of the Subbasin is generally low and meets the relevant drinking water standards for TDS, however sufficient data are not available at this time to adequately delineate salinity in the western Subbasin. In general, TDS concentrations in the western Sacramento Valley are highest at the margin of the Coast Ranges and can naturally be above secondary drinking water standards due to local hydrogeologic factors and the presence of marine sediments (NCWA, 2016a).

With respect to nitrate, the CV-SALTS technical analysis classifies the Corning Subbasin as a low priority Initial Analysis Zone[4] due to its overall low nitrate concentration in groundwater. The main source of nitrate in the Sacramento Valley is nitrogen fertilizers, however, septic systems near the City of Corning and dairy farms in northern Glenn County are also thought to contribute (NCWA, 2016b).

Beneficial uses that could be affected by non-point source groundwater pollution include municipal and domestic drinking water, agricultural irrigation, and industrial manufacturing and services. Environmental effects are probably minimal, since nitrate does not affect plants and groundwater quality is generally very good.

3.2.6.3 Summary of the Major Groundwater Quality Concerns in the Subbasin

Major groundwater quality concerns are constituents with elevated or increasing concentrations, defined relative to the respective MCL and SMCL. Constituents identified as groundwater quality concerns within the Subbasin are identified in the bullets below and summarized in the following subsections.

- Salinity (EC and TDS)
- Nitrate
- Arsenic

[4] https://www.cvsalinity.org/nitrate-control-program.html

Salinity (EC and TDS)

Elevated salinity in groundwater may occur from natural hydrogeologic factors or as a result of anthropogenic groundwater contamination. Salinity in groundwater is often measured using TDS, which is the measure of all dissolved substances in groundwater. TDS consist of inorganic salts and small amounts of organic matter, and are strongly correlated with electrical conductivity (EC, also referred to as specific conductance). TDS and EC are both used as indicators of salinity levels in groundwater. The recommended SMCL for TDS is 500 mg/L, and the upper limit SMCL is 1,000 mg/L. Beyond 1,000 mg/L, water is non-potable and requires significant desalinization treatment. *[Note: EC data may be added during next iteration]*

TDS data analyzed in this section come from two reports published by NCWA and from municipal well data submitted to the Department of Drinking Water (DDW).

Analysis of TDS data reviewed for the Groundwater Quality Assessment Report (NCWA, 2016a) found that wells located near the City of Corning and in the eastern Subbasin on the Tehama/Glenn county line had concentrations of TDS above the 500 mg/L recommended SMCL. There were no wells where TDS exceeded the upper limit SMCL (1,000 mg/L).

Figure 3.2-24 and Figure 3.2-25 display the TDS concentration in the Subbasin's upper and lower groundwater zones showing some of the most recent available data in the Sacramento Valley based on CV-SALTS data analysis (LSCE, 2019). These TDS maps were developed from average measured TDS data at wells located primarily within the eastern portion of the Subbasin and modeled ambient TDS concentrations throughout the entire Subbasin. The upper zone includes the production zones of most domestic wells, while the lower zone includes the production zones of most municipal and other production wells. While these upper and lower zones vary spatially, analysis of domestic well screens suggest the lower zone is generally no deeper than 250-300 feet below ground surface (bgs) within the Subbasin.

Data collected in the eastern portion of the Subbasin had TDS concentrations generally less than the SMCL of 500 mg/L with slightly greater concentrations in the upper zone than in the lower zone. TDS concentrations were estimated up to 750 mg/L in the upper and lower zones of the western Subbasin, through model interpretation based on TDS data from outside the Subbasin boundaries.

Historical data from municipal wells submitted to DDW correlate well with the information discussed above. Over the last 20 years, TDS concentrations in City of Corning and Hamilton City municipal wells have been generally stable around 200 mg/L and 300 mg/L, respectively. TDS values at Black Butte Lake Recreation Area headquarters and campground are also in the same range. Data from the Flournoy School in the far western area of the Subbasin exhibit stable detections of TDS around 500 mg/L (
Figure 3.2-23).

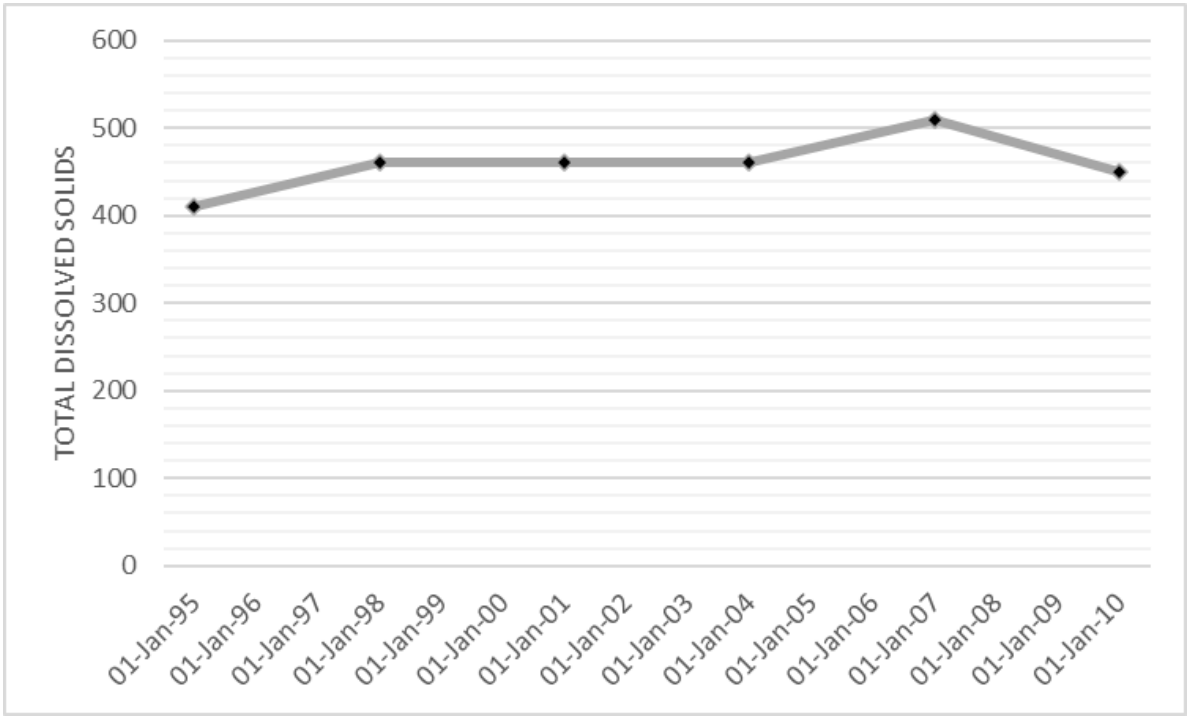


Figure 3.2-23. Flournoy Public School Well TDS Concentrations

In general, wells in the western area of the Subbasin are screened to shallow depths reflecting limited vertical extent of the Tehama Formation. Well depth decreases to the west, reflecting a thinning or 'pinching out' of the Tehama formation, consistent with the Subbasin HCM (see cross section A-A'). Beneath the Tehama lies the saline Great Valley Sequence of marine turbidities. Screening in this sequence would yield saline water. If groundwater levels decline, or freshwater recharge is limited, pumping may result in upwelling of this saline water. Therefore, the following conclusions can be derived from available data:

- Salinity in the western area of the subbasin is naturally occurring, associated with saline formations underlying the Tehama Formation, particularly the Great Valley Sequence.
- Available salinity data does not display a significant increasing trend.
- Wells in the western area of the subbasin are generally shallow, presumably to avoid being screened in the saline Great Valley Sequence, or the low-yielding and saline Sierran Basement.
- Based on hydrogeological understanding of the area, decreases in freshwater recharge or overpumping could result in upwelling of high salinity from the Great Valley Sequence into the Tehama Formation. This would further increase salinity in the area.

Overall, TDS in the Subbasin is generally below the SMCL. However, the western area of the Subbasin may contain elevated TDS resulting from natural geologic sources, and shallow groundwater wells near the City of Corning likely contain elevated TDS from an anthropogenic source. The overall TDS trend in the Subbasin is upward in recent history, which is potentially a result of changes in land use and increased irrigation with groundwater (NCWA, 2016a).

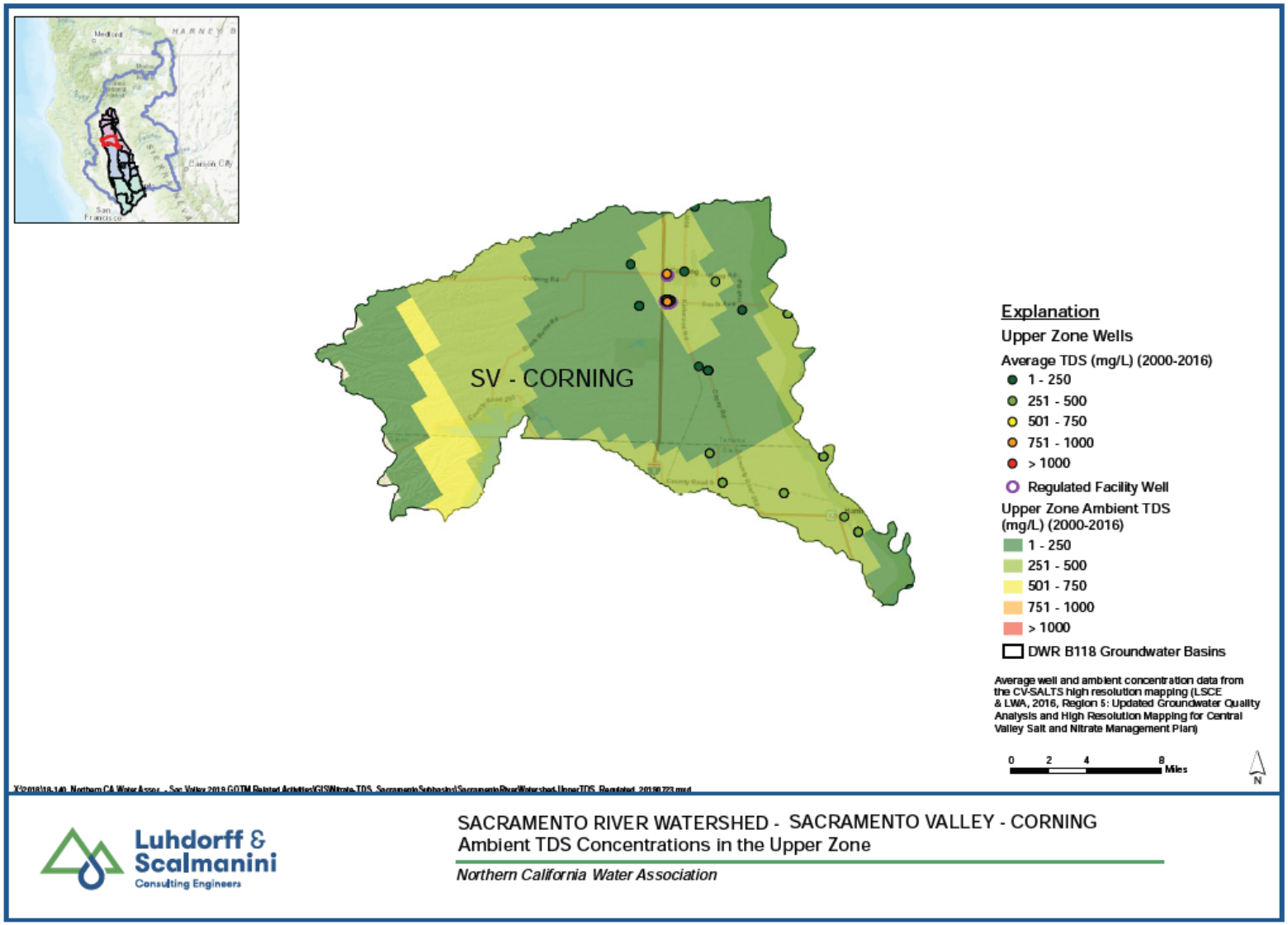


Figure 3.2-24. Upper Zone TDS Concentration in Corning Subbasin, 2000-2016

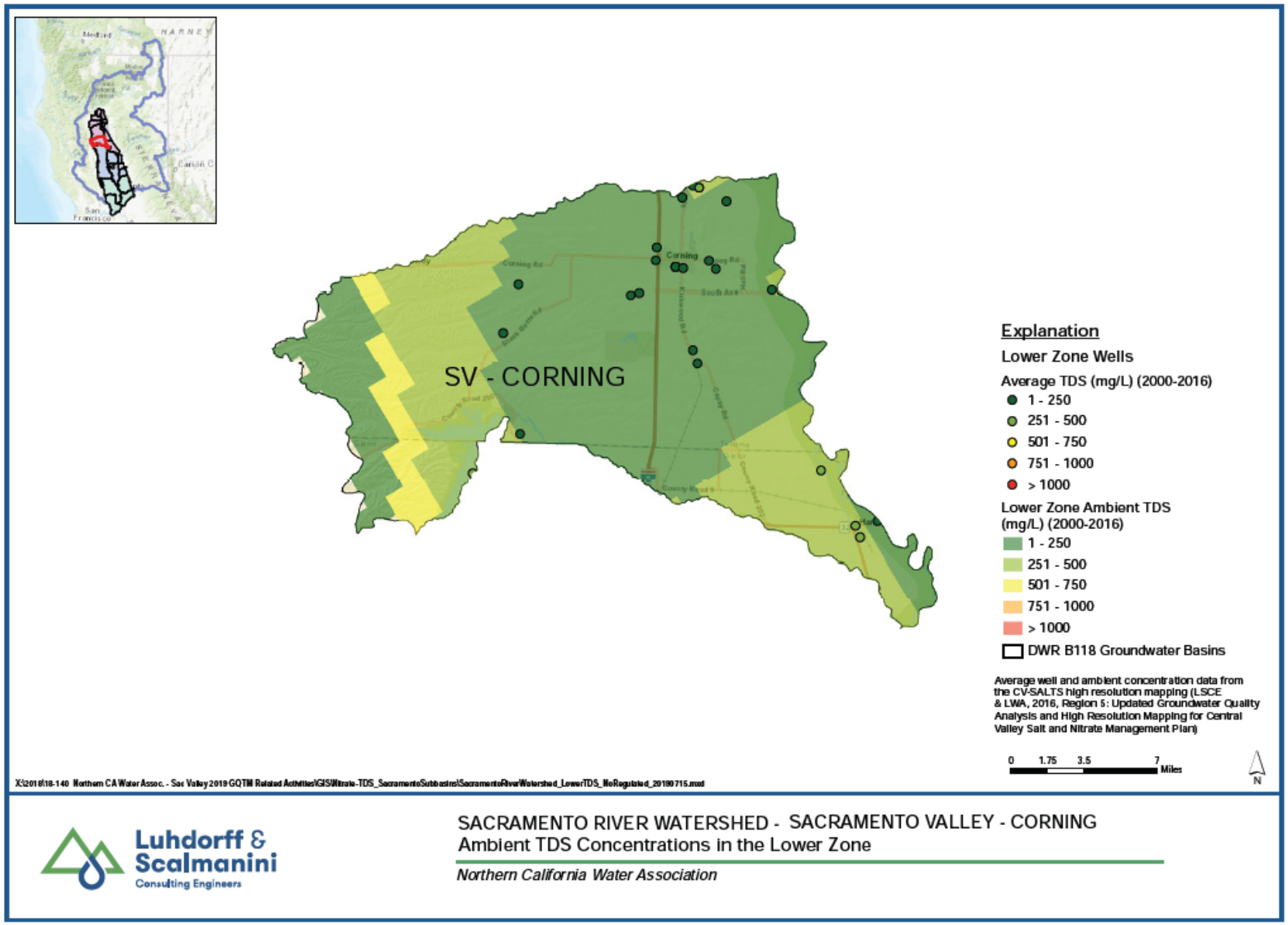


Figure 3.2-25. Lower Zone TDS Concentration in Corning Subbasin, 2000-2016

Nitrate

Nitrate in groundwater is typically anthropogenic and can originate from nitrogen fertilizers, dairy farms, and septic systems. As with TDS, analysis of nitrate concentrations within this section utilizes two NCWA reports and DDW data. The Groundwater Quality Assessment Report (NCWA, 2016a) summarizes nitrogen concentrations as NO3 (Nitrate-NO3) for which the MCL is 45 mg/L, while the *Groundwater Quality Conditions and High Resolution Nitrate and TDS Mapping* reports nitrogen concentrations as N (Nitrate-N) for which the MCL is 10 mg/L (NCWA, 2016; LSCE, 2019). DDW data likewise present Nitrate-N.

Figure 3.2-26 and Figure 3.2-27 display CV-SALTS modeled ambient nitrate concentrations in the Subbasin's upper and lower groundwater zones respectively (LSCE, 2019). Multiple wells in both the GAR and CV-SALTS analysis exceed the MCL for nitrate within the Subbasin. These are screened in the upper zone near the City of Corning and in the upper and lower zones in northeastern Glenn County. Across the Subbasin, nitrate concentrations are generally higher in the upper zone. Upper and lower zone nitrate concentrations share a similar distribution, suggesting a common source.

Historical nitrate concentrations analyzed for the Groundwater Quality Assessment Report indicate universally increasing nitrate concentrations within the Subbasin (NCWA, 2016a). The maximum concentration of N reported in the Subbasin was 31.7 mg/L Nitrate-N (LSCE, 2019). Figure 3.2-28 (dashed line shows 10 mg/L MCL) Figure 3.2-29 show nitrate concentrations over time in the City of Corning and Hamilton City wells. Reported maximum concentrations by DDW in the City of Corning were below half the nitrate MCL of 10 mg/L and in Hamilton City wells were close to 7 mg/L between 2006 and 2013 but dropped below 5 mg/L in recent years.

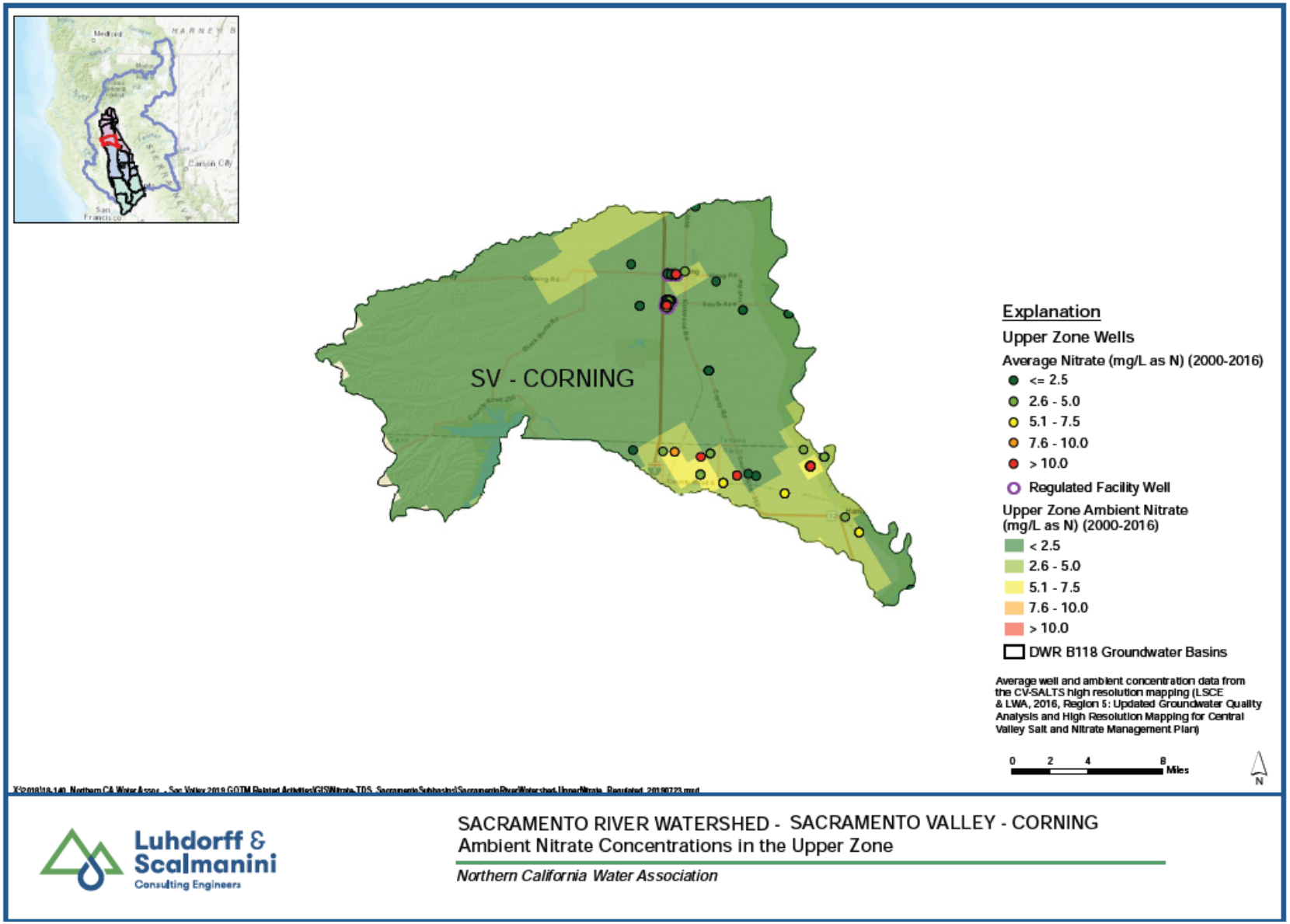


Figure 3.2-26. Upper Zone Nitrate Concentration in Corning Subbasin, 2000-2016

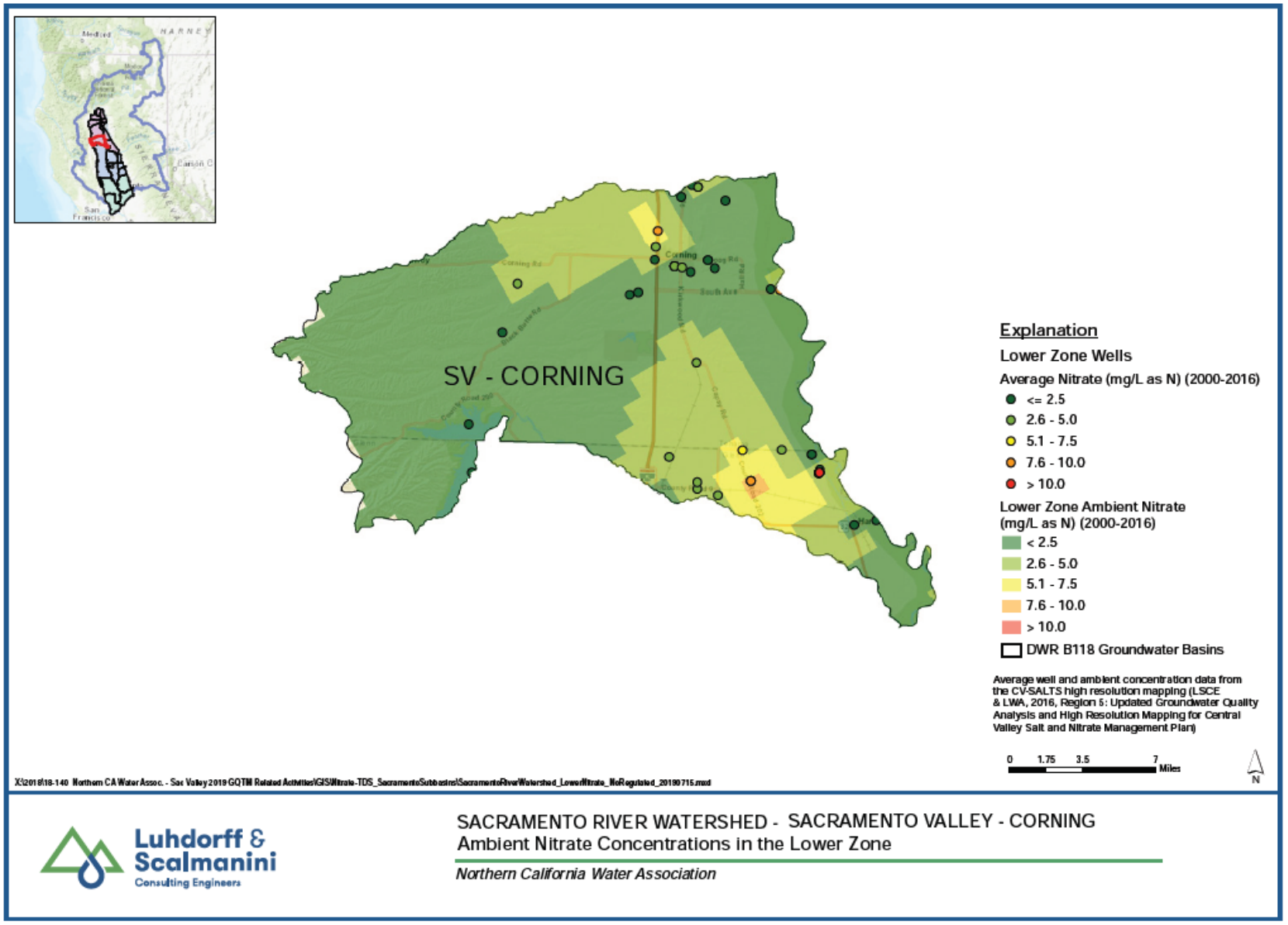


Figure 3.2-27. Lower Zone Nitrate Concentration in Corning Subbasin, 2000-2016

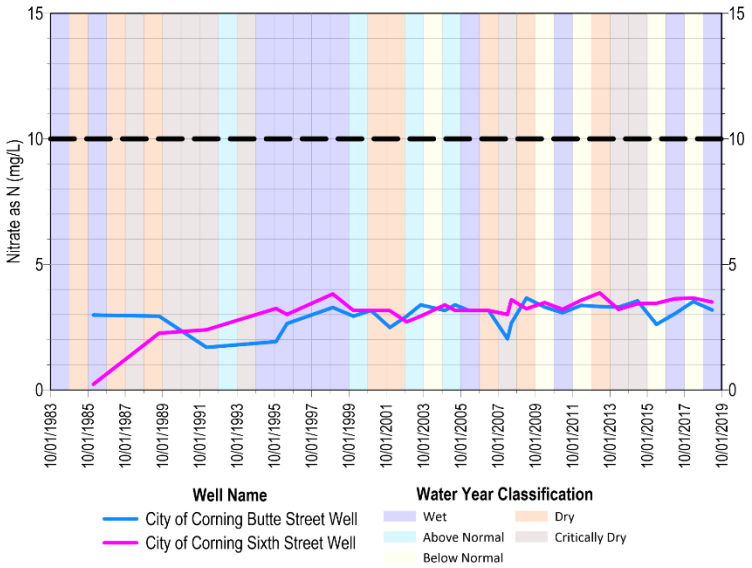


Figure 3.2-28. Historical Nitrate Concentrations in Municpial Wells in the City of Corning (dashed line shows 10 mg/L MCL)

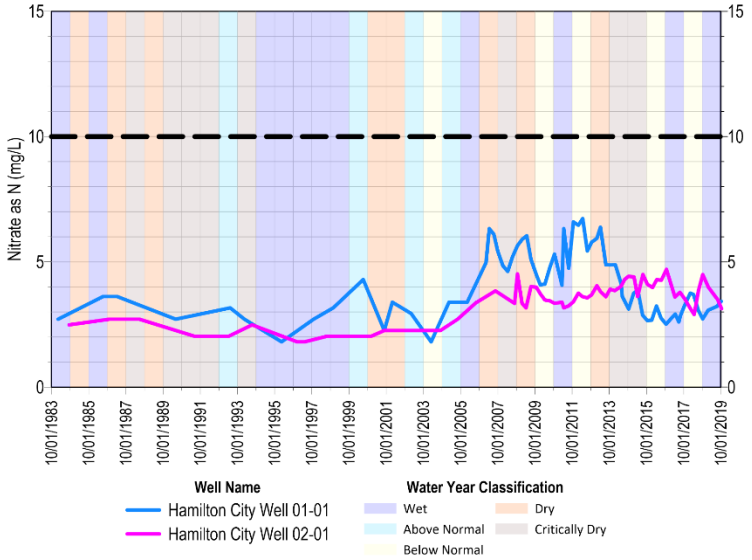


Figure 3.2-29. Historical Nitrate Concentations in Two Municipal Wells in Hamilton City (dashed line shows 10 mg/L MCL)

Arsenic

Arsenic is a trace element often naturally present in groundwater that can negatively impact human health when consumed. Many drinking water sources in California contain arsenic at or above the MCL of 0.01 mg/L. Arsenic is commonly associated with deeper portions of sedimentary fill-basins throughout the western United States (Anning et al, 2012). Arsenic is a commonly detected constituent in groundwater in Tehama County. It is a natural occurring element in groundwater from the Tuscan formation that originates from the pyroclastic rocks deposited by volcanic mudflows (Tehama County, 2012).

Arsenic has been detected historically in the eastern area, including occasional concentrations at or above MCL (USGS, 2011). Reported maximum arsenic concentrations by DDW at City of Corning and Hamilton City wells were 0.006 and 0.01 mg/L, respectively.

3.2.7 Interconnected Surface Water

Surface water that is connected to the groundwater flow system is referred to as interconnected surface water. If the groundwater elevation is higher than the water level in the stream, the stream is said to be a gaining stream because it gains water from the surrounding underlying groundwater. If the groundwater elevation is lower than the water level in the stream, it is termed a losing stream because it loses water to the surrounding groundwater flow system. If the groundwater elevation is below the streambed elevation, the stream and groundwater are considered to be disconnected. SGMA does not require that disconnected stream reaches be analyzed or managed. These concepts are illustrated on Figure 3.2-30.

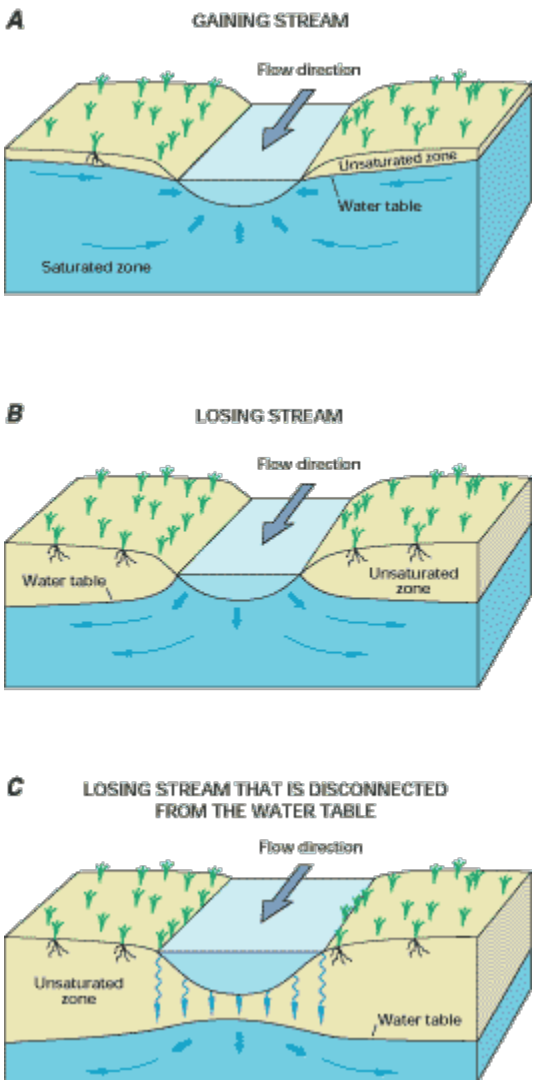


Figure 3.2-30: Conceptual Representation of Interconnected Surface Water (Source: USGS, 1999)

3.2.7.1 Analysis of Surface Water and Groundwater Interconnection

The Subbasin's surface water bodies are generally connected to groundwater intermittently throughout the year, as Subbasin geology does not support significant barriers between streams and surficial formations. Of all formations and deposits present at surface in the Subbasin, only the Red Bluff Formation is a potential barrier to connection between streams and groundwater. It is a thin layer of partially cemented sand and gravel, the cemented areas of which restrict vertical flow. However, streambed recharge is unaffected by the Red Bluff formation as streams have eroded through the cement into more permeable sediments below (TCFCWCD, 2012).

In absence of geologic barriers, surface water-groundwater connection is largely dependent on local groundwater elevations. If groundwater elevations are not sufficiently high the water table may become disconnected from streams, removing direct surface water-groundwater connection.

The magnitude and direction of flow between surface water and groundwater may therefore be dependent on seasonal or climactic variations in groundwater elevations and surface water discharge. Except for concrete-lined canals and temporary ponds trapped atop the Red Bluff Formation, it is reasonable to assume that every surface water feature in the Corning Subbasin is at least partially connected to groundwater.

A review of surface water-groundwater connection in specific surface water bodies is presented in the bullets below.

Sacramento River:

- The Sacramento River is generally connected to shallow groundwater across the Northern Sacramento Valley Region. While the direction and magnitude of this flow may vary, the Sacramento River is typically gaining, with groundwater flowing into the River, within the Corning Subbasin.

Thomes Creek:

- Thomes Creek is generally connected to groundwater and is considered a groundwater recharge area (TCFCWCD, 2012). The gaining or losing state of Thomes Creek varies across the length of the stream; west of Henleyville it is typically losing, while east of Henleyville it is often gaining or runs dry if groundwater elevations are low.

Stony Creek:

- The fan alluvium surrounding Stony Creek is very transmissive, and Stony Creek is known as a significant source of direct groundwater recharge, particularly in areas of heavy groundwater use (DWR, 2004b; DWR, 2006). In general, Stony Creek potentially provides year-round direct recharge in the area from the Tehama Colusa Canal to the Sacramento River where groundwater is used extensively for irrigation. Upstream of the Tehama Colusa Canal, where surface water is used for irrigation, the roles are reversed, and Stony Creek receives significant baseflow from groundwater.

[Note: A map will be developed from the final model to illustrate this.]

Figure 3.2-31. Areas of Surface Water and Groundwater Interconnection

3.2.7.2 Identification of Groundwater-Dependent Ecosystems

Groundwater dependent ecosystems (GDEs) within Corning Subbasin are identified in accordance with §354.16(g) of the Groundwater Sustainability Plan regulations. The procedure for identifying GDEs follows guidance developed by The Nature Conservancy (TNC) and detailed in the *Groundwater Dependent Ecosystems under the Sustainable Groundwater Management Act: Guidance for Preparing Groundwater Sustainability Plans* report (Rohde et

al., 2018). This process differentiates between indicators of Groundwater Dependent Ecosystems (iGDEs), potential Groundwater Dependent Ecosystems, and true Groundwater Dependent Ecosystems.

- iGDEs were developed by TNC in partnership with the California Department of Fish and Wildlife (DFW) and DWR using the best available statewide data. The iGDEs are identified using locations of springs and seeps, wetlands, and vegetation known to rely on groundwater. The Nature Conservancy also uses the term "Natural Communities Commonly Associated with Groundwater" to refer to these iGDEs. iGDEs in Corning Subbasin are presented on Figure 3.2-32.
- Potential GDE are iGDEs that, through mapping analyses, grow in areas that may be connected to shallow groundwater and therefore be relying on shallow groundwater for consumptive use. As such, potential GDEs are considered beneficial users of groundwater.
- True GDEs are potential GDEs that have been field-verified to establish that they are supported by groundwater. The methodology described herein does not identify true GDEs.

This section identifies potential GDEs using the following three criteria:

1. iGDEs exist as defined by The Nature Conservancy and DWR.
2. The area is near a riverine environment and existing data demonstrate surface water and groundwater are interconnected.
3. Water levels in this area are consistently less than 30 feet below ground surface.

If applicable, the area must submit to all three criteria to be considered a potential GDE.

Figure 3.2-32 displays indicators of groundwater dependent ecosystems in the Subbasin. Along the boundaries of the Subbasin, Thomes Creek, Stony Creek, and the Sacramento River are identifiable as having potential GDEs by the presence of high density of groundwater dependent vegetation and shallow water levels. In the central and eastern part of the basin, Burch Creek and Hall Creek also have characteristic vegetation associated with potential GDEs. Groundwater dependent wetlands are mostly limited to the widest streams, those being the Sacramento River and where Stony Creek flows out from Black Butte Lake.

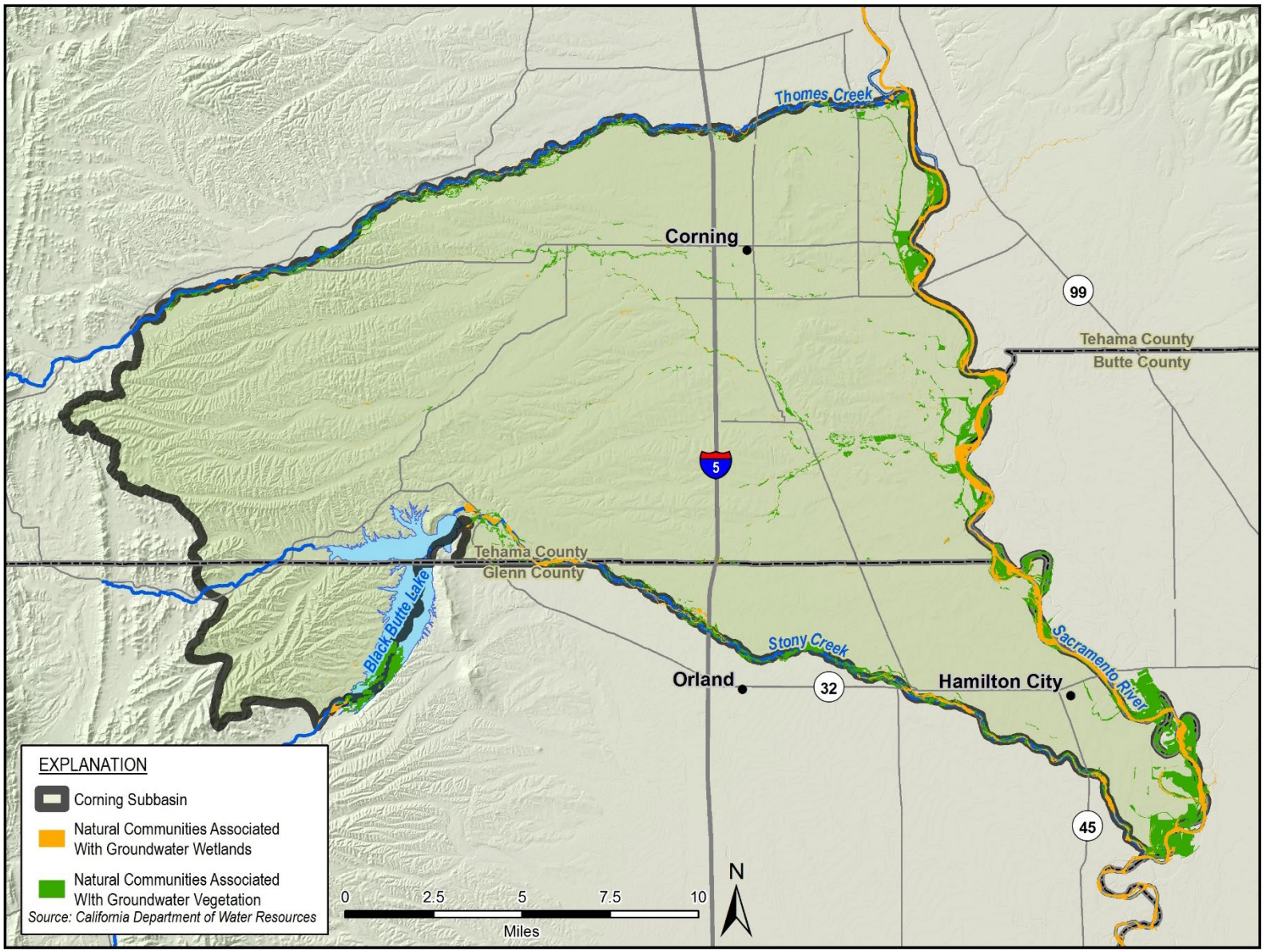


Figure 3.2-32. Indicators of Groundwater Dependent Ecosystems in Corning Subbasin

The maximum rooting depth for GDE plants identified by TNC that live in the Sacramento Valley (such as valley oaks) is 30 feet bgs.[5] This depth was selected as a conservative screening level for potential GDE locations, as only a few of the mature plants in GDE communities could feasibly extend roots to this or greater depth. Areas where the potential GDEs are mapped, but the depth to groundwater is greater than 30-feet are likely not dependent on groundwater but have other sources of water such as perched water from surface water sources or irrigation canals.

Groundwater level data for Spring 2018 for CASGEM wells in the Subbasin with depths less than 150 feet bgs were reviewed and mapped with the iGDE areas. Almost all of these wells were installed with screened intervals between 50 and 150 feet bgs, though well screen and annular seal information was not available for all wells. One well was included that had a depth greater than 150 feet bgs. This well, located along Thomes Creek in the northwestern portion of the Subbasin, was a domestic well installed to 190 feet bgs, but typically has a shallow groundwater level that his less than 30 feet bgs.

Regionally, depth to groundwater less than 30 feet bgs was found in wells along the Sacramento River and in the southeast portion of the Subbasin near Hamilton City (Figure 3.2-33).

[5] https://groundwaterresourcehub.org/sgma-tools/gde-rooting-depths-database-for-gdes/

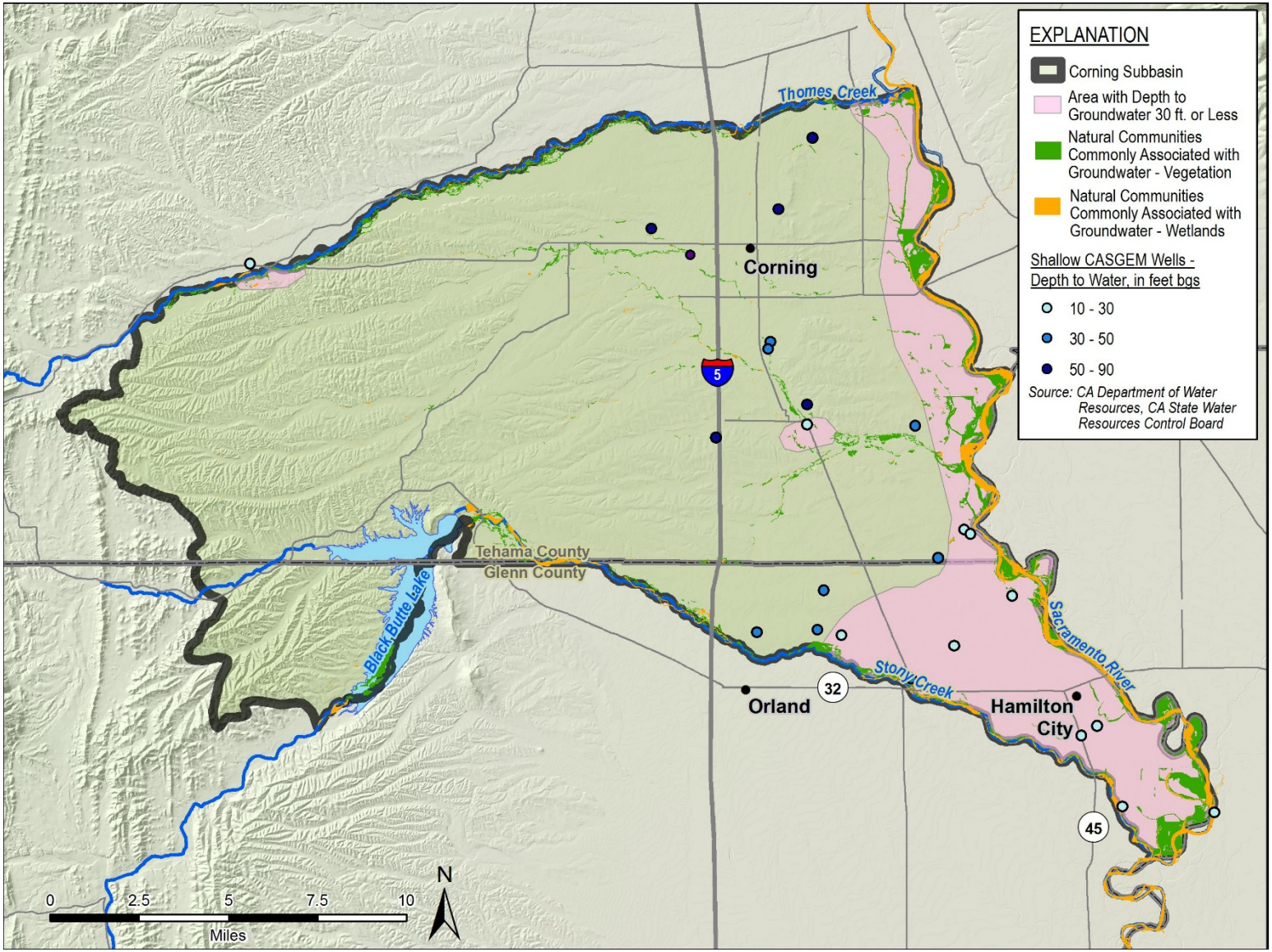


Figure 3.2-33: iGDEs and Depth to Groundwater [DRAFT MAP – to be refined]

In summary, plant communities indicative of potential GDEs are present in the Corning Subbasin. These are likely supported by groundwater found at depths less than 30 feet bgs in close proximity to the Sacramento River on the eastern Subbasin boundary and in the southeastern portion of the Subbasin near Hamilton City. Shallow groundwater is found in some portions of the Subbasin where Burch Creek and Hall Creek, which are ephemeral, merge before flowing into the Sacramento River; this could be due to perched groundwater fed by surface water runoff in this area.

[Note that additional refinement of this analysis will be conducted with modeling and review of SW/GW interaction results – more details will also be included in the SMC Section for depleted surface water]

3.2.8 Groundwater Conditions Data Gaps and Uncertainty

Data gaps related to groundwater conditions are primarily related to lack of detailed information on groundwater elevations and groundwater quality in the west area of the Subbasin.

Groundwater Elevations in the Western Area of Subbasin:

Analysis of groundwater elevations in the western Subbasin is limited by the low number of wells screened and monitored in that area. The absence of this data is very apparent on the groundwater contours presented on Figure 3.2-1. and Figure 3.2-2. Additional wells installed and/or monitored in this area could help resolve this data gap.

Groundwater Quality in the Western Area of Subbasin:

Groundwater quality is not measured in many wells in the western area as most of the wells are private domestic wells and are not part of groundwater quality monitoring programs.

Stream Gage Data:

A number of stream gages are no longer active in the Subbasin and are also considered a data gap in measuring stream flows on the lower portions of Thomes Creek and Stony Creek. This data gap is further discussed in the Monitoring Network Section.

3.3 REFERENCES

California Department of Water Resources (DWR). 2004a. Glenn County GPS Subsidence Project - 2004. Project Report.

_____ 2004b. Stony Creek Groundwater Recharge Investigation, 2003, Glenn County, California. Prepared by the Department of Water Resources Northern District Groundwater Section in cooperation with the Glenn County Department of Agriculture.

_____ 2006. Stony Creek Groundwater Recharge Investigation, 2005 Glenn County, California. Prepared by the Department of Water Resources Northern District on of behalf of the Glenn County Department of Agriculture.

_____ 2008. Project Report: 2008 California Department of Water Resources and U.S. Bureau of Reclamation, Sacramento Valley GPS Subsidence Project.

_____ 2015. Letter Correspondence to the Glenn County Board of Supervisors and Glenn County Water Advisory Committee: Review and comparison of two GPS survey datasets (2004 and 2008) within Glenn County.

_____ 2018. 2017 GPS Survey of the Sacramento Valley Subsidence Network

_____ 2020. Groundwater Levels Available at: https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#gwlevels

Davids Engineering and West Yost Associates Consulting Engineers (Davids Engineering and West Yost). 2018. Hydrogeologic Conceptual Model Report: Prepared for County of Glenn and County of Colusa, May.

DWR and United States Bureau of Reclamation (USBR), 2008. Sacramento Valley Subsidence Project Report

Luhdorff & Scalmanini Consulting Engineers (LSCE). 2019. Sacramento River Watershed: Groundwater Quality Conditions and High Resolution Nitrate and TDS Mapping.

Northern California Water Association (NCWA). 2016a. Sacramento Valley Water Quality Coalition Groundwater Quality Assessment Report. June. Available at: https://norcalwater.org/res/docs/NCWA_GWQ_Assessment_7-18-2014_FinalDRAFT.pdf

_____ 2016b. Sacramento Valley Comprehensive Groundwater Quality Management Plan.

Tehama County Flood Control and Water Conservation District (TCFCWCD). 2012. Coordinated AB 3030 Groundwater Management Plan. Prepared for Tehama County Flood Control & Water Conservation District Board of Directors.

Towill, Inc. 2020. InSAR Data Accuracy for California Groundwater Basins CGPS Data Comparative Analysis January 2015 to September 2019, March.

United States Geological Survey (USGS). 2008. Ground-Water Quality Data in the Middle Sacramento Valley Study Unit, 2006 – Results from the California GAMA Program. Data Series 385. U.S. Department of the Interior. Available at: https://pubs.usgs.gov/ds/385/pdf/DS385.pdf

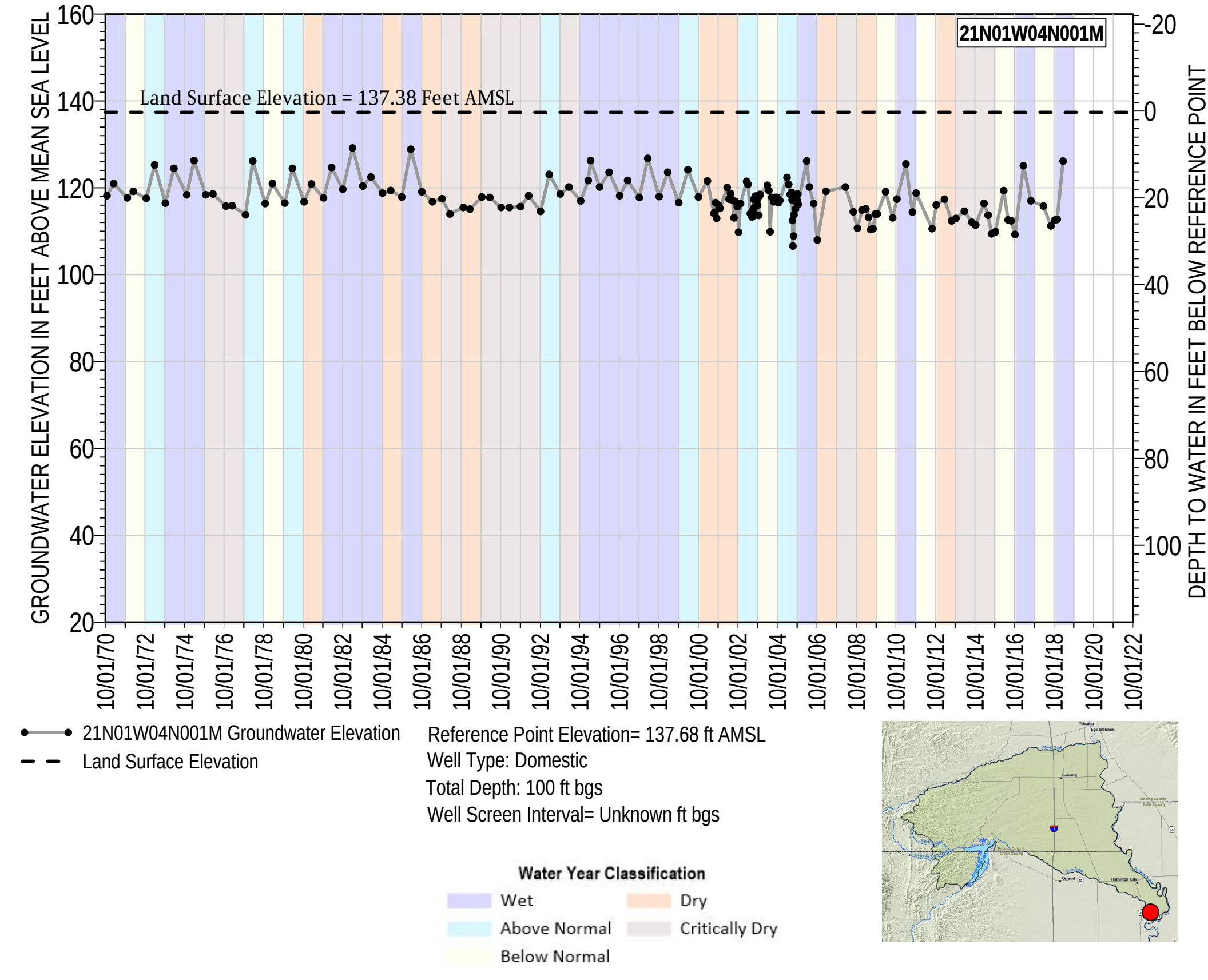
_____ 2009. Groundwater Availability of Central Valley Aquifer, California. Professional Paper 1766. U.S. Department of the Interior. Available at: https://pubs.usgs.gov/pp/1766/PP_1766.pdf

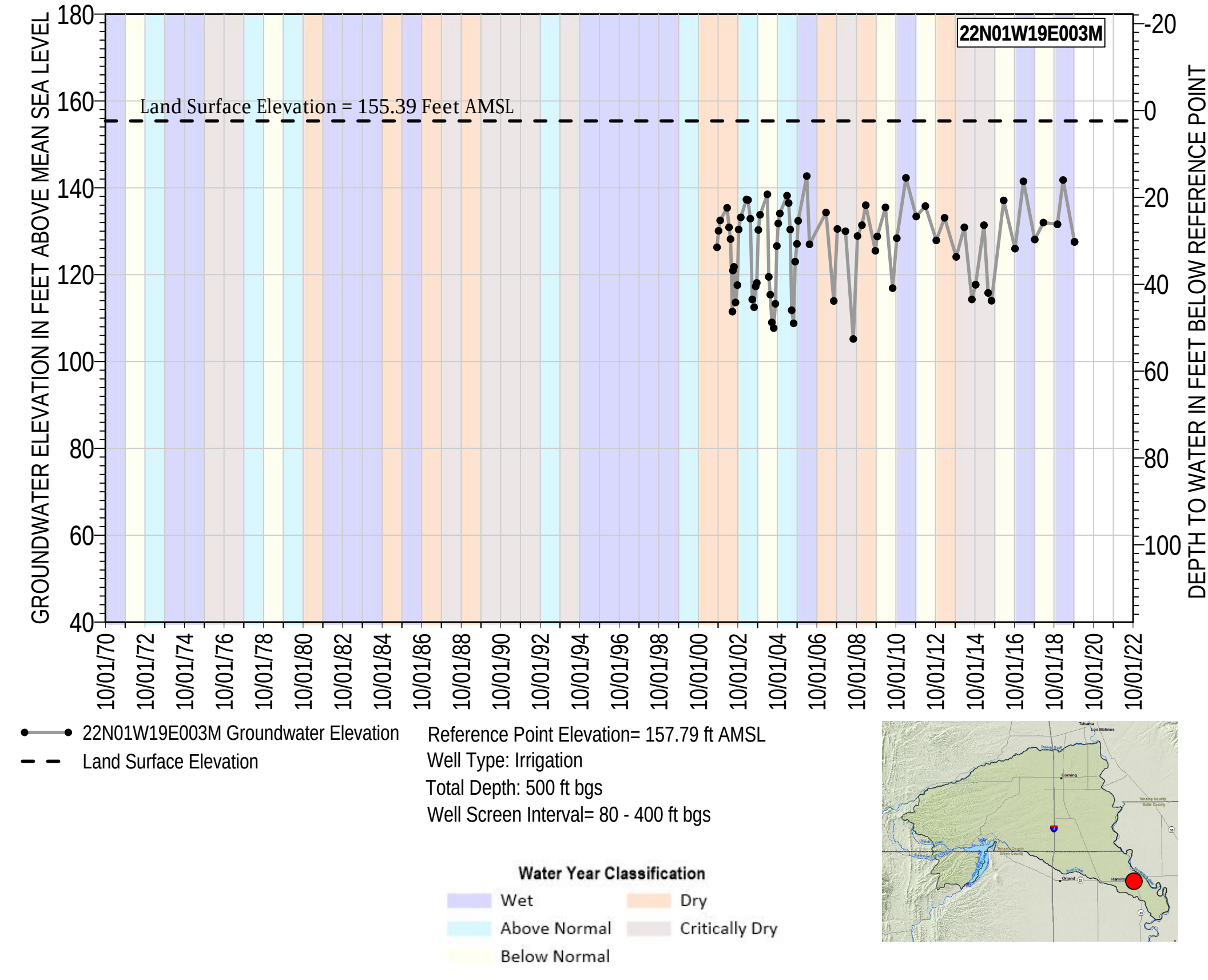
_____ 2011. Status of Groundwater Quality in the Southern, Middle, and Northern Sacramento Valley Study Units, 2005-08: California GAMA Priority Basin Project.

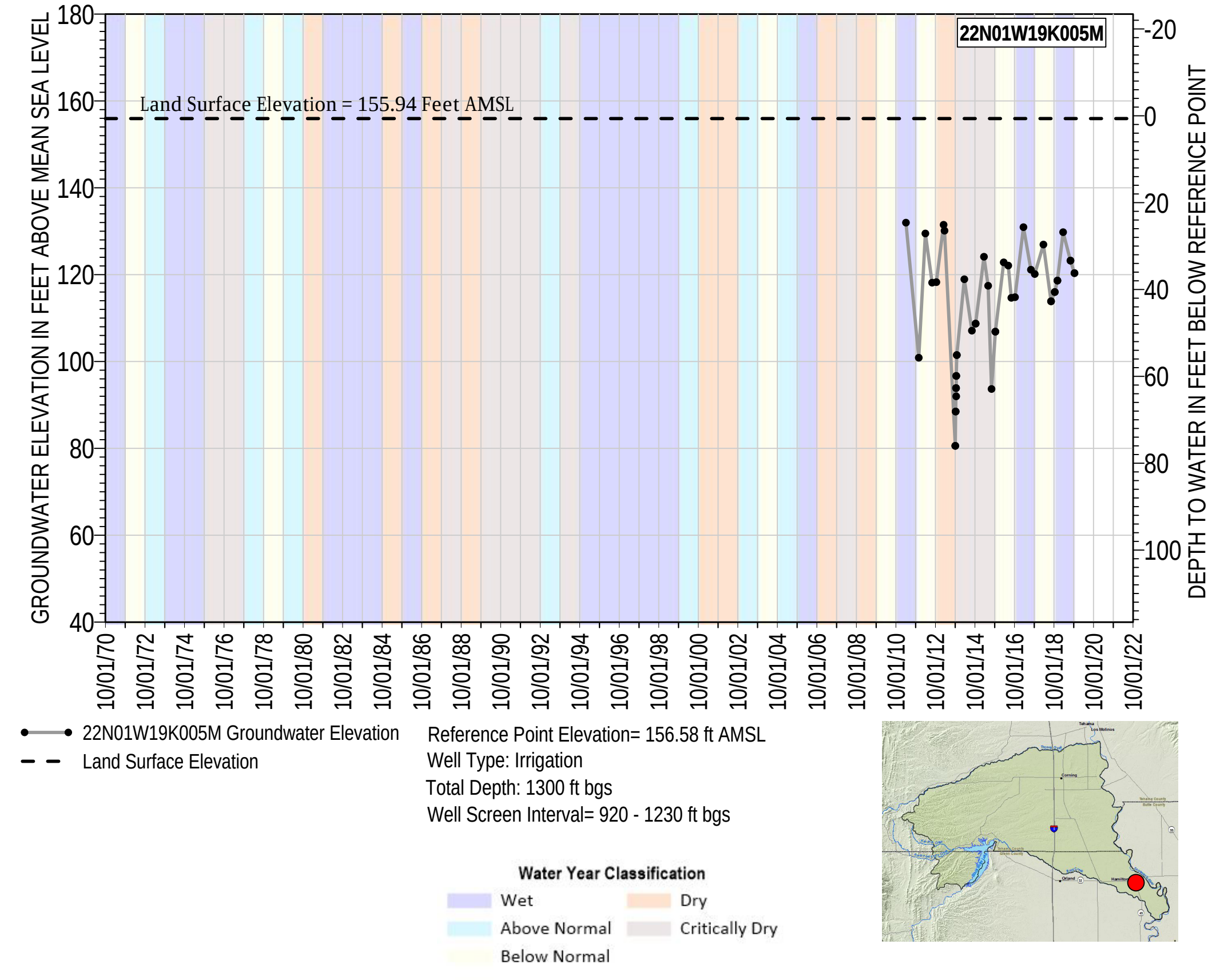
_____ 2012. Predicted nitrate and arsenic concentrations in basin-fill aquifers of the southwestern United States. US Department of the Interior.

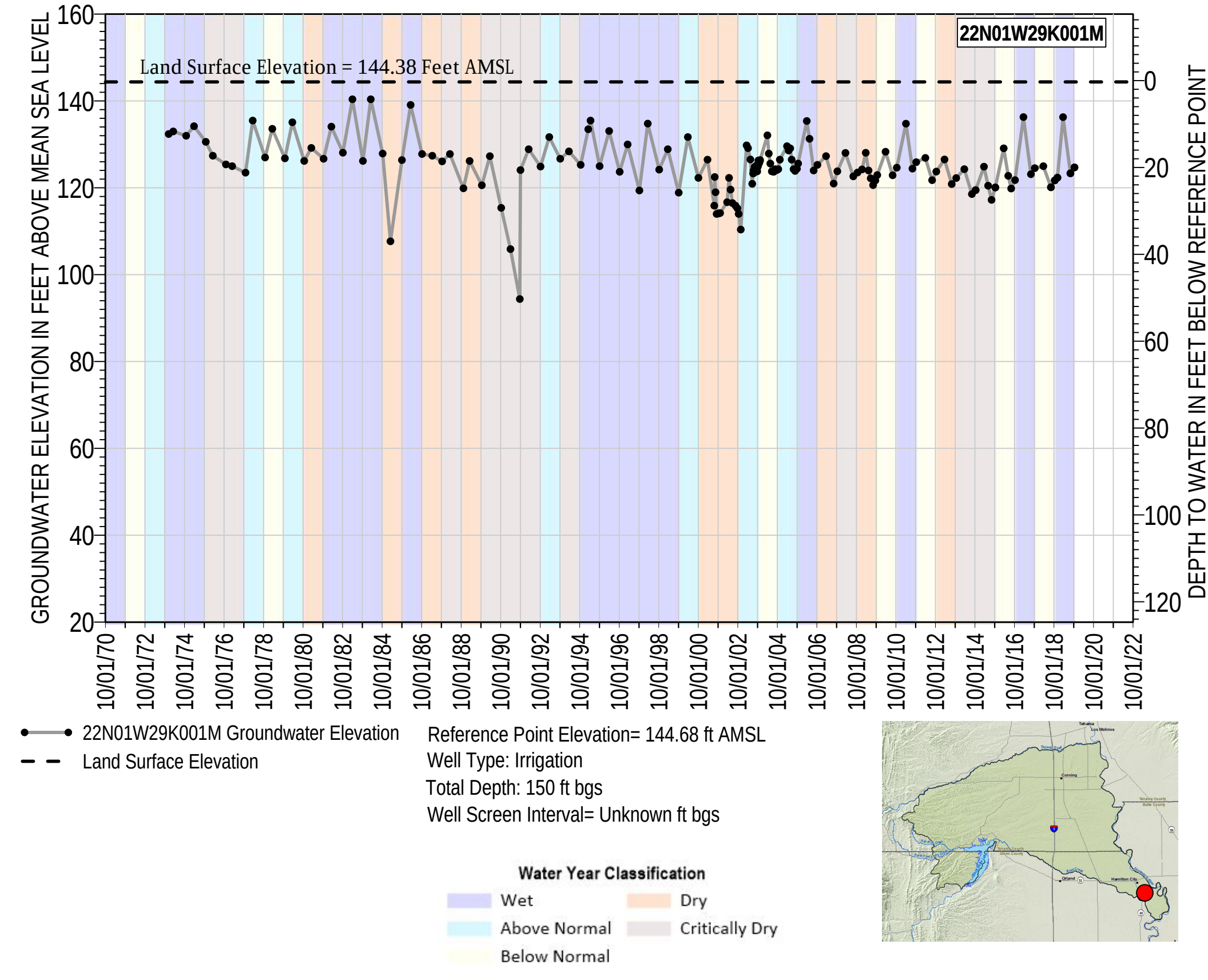
Winter, T.C., Harvey, J.W., Franke, O.L., and Alley, W.M. 1999. Ground water and surface water- A Single Resource. U.S. Geological Survey Circular 1139. 88 p.

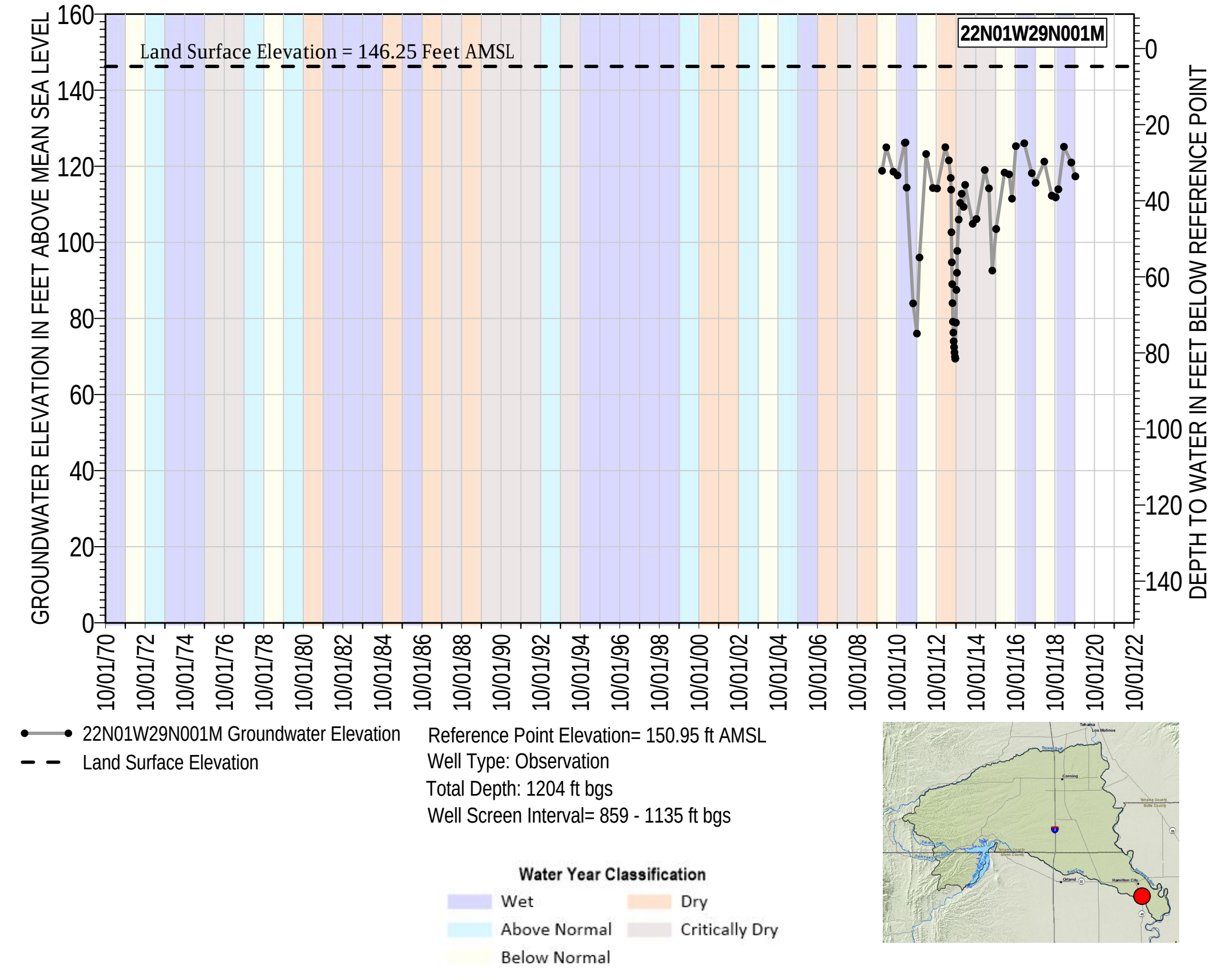
Appendix 3-C. Groundwater Level Hydrographs

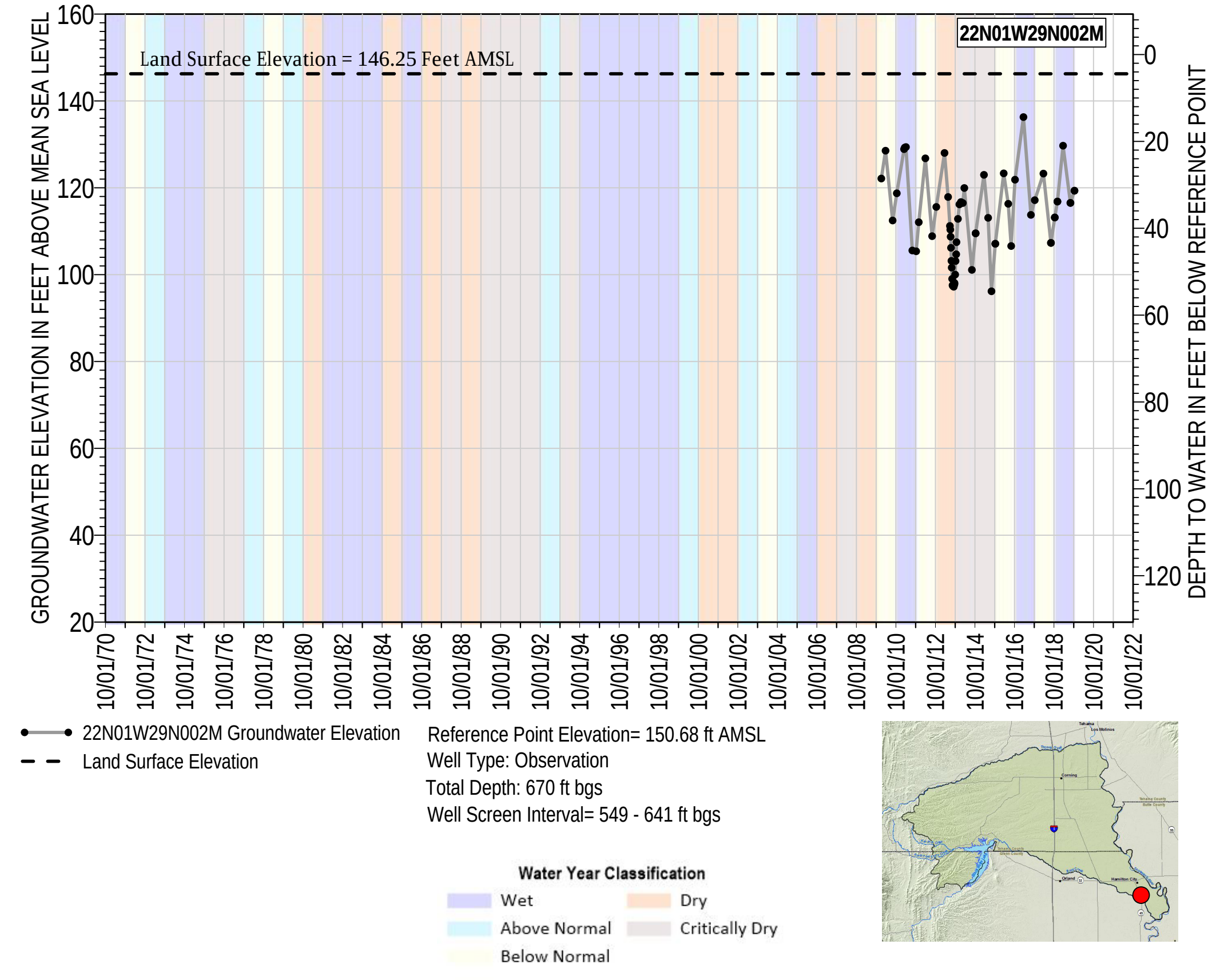

21N01W04N001M
Land Surface Elevation = 137.38 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
160
140
120
100
80
60
40
20
-20
0
20
40
60
80
100
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
21N01W04N001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 137.68 ft AMSL
Well Type: Domestic
Total Depth: 100 ft bgs
Well Screen Interval= Unknown ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

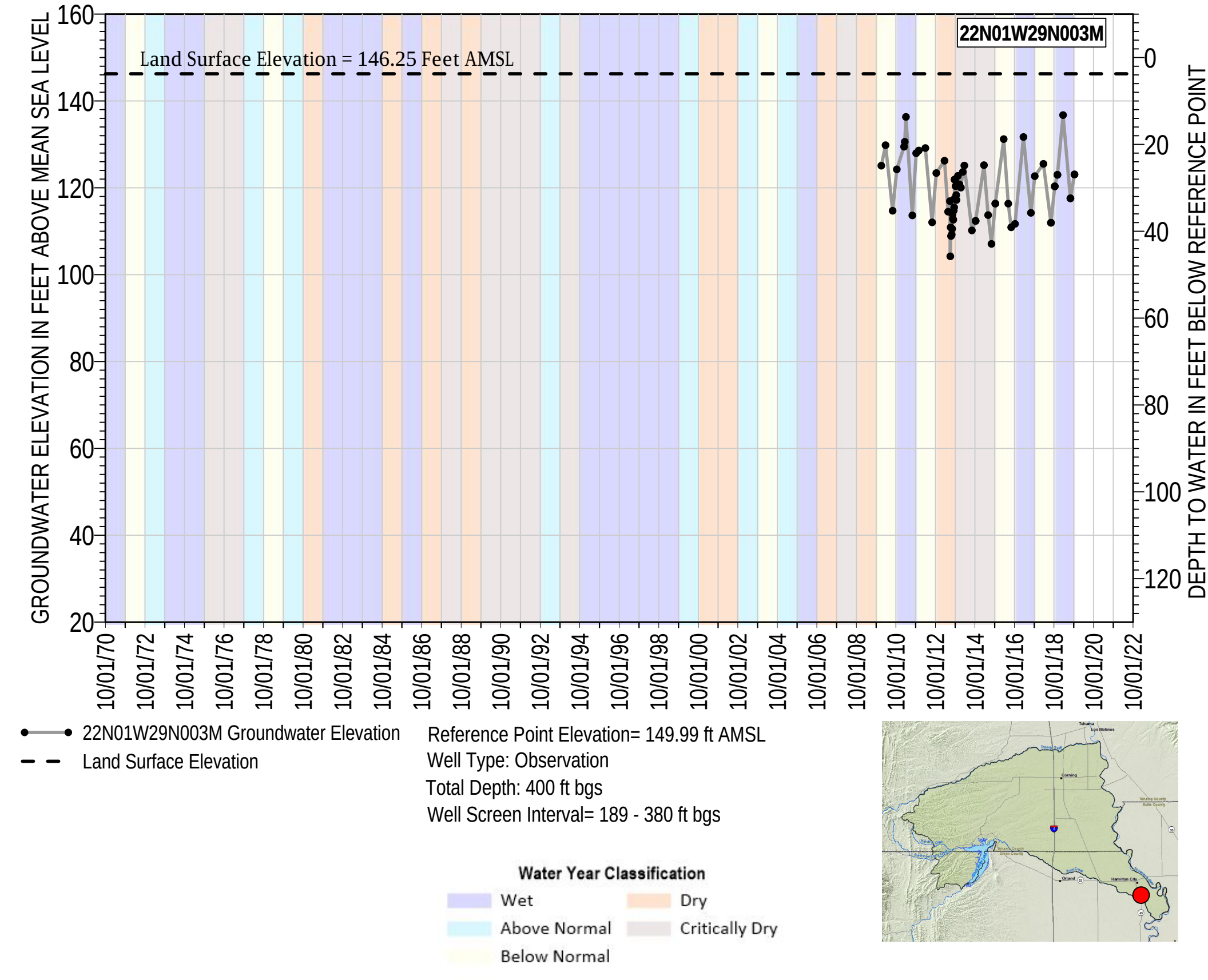

22N01W19E003M
Land Surface Elevation = 155.39 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
180
160
140
120
100
80
60
40
-20
0
20
40
60
80
100
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N01W19E003M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 157.79 ft AMSL
Well Type: Irrigation
Total Depth: 500 ft bgs
Well Screen Interval= 80 - 400 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton

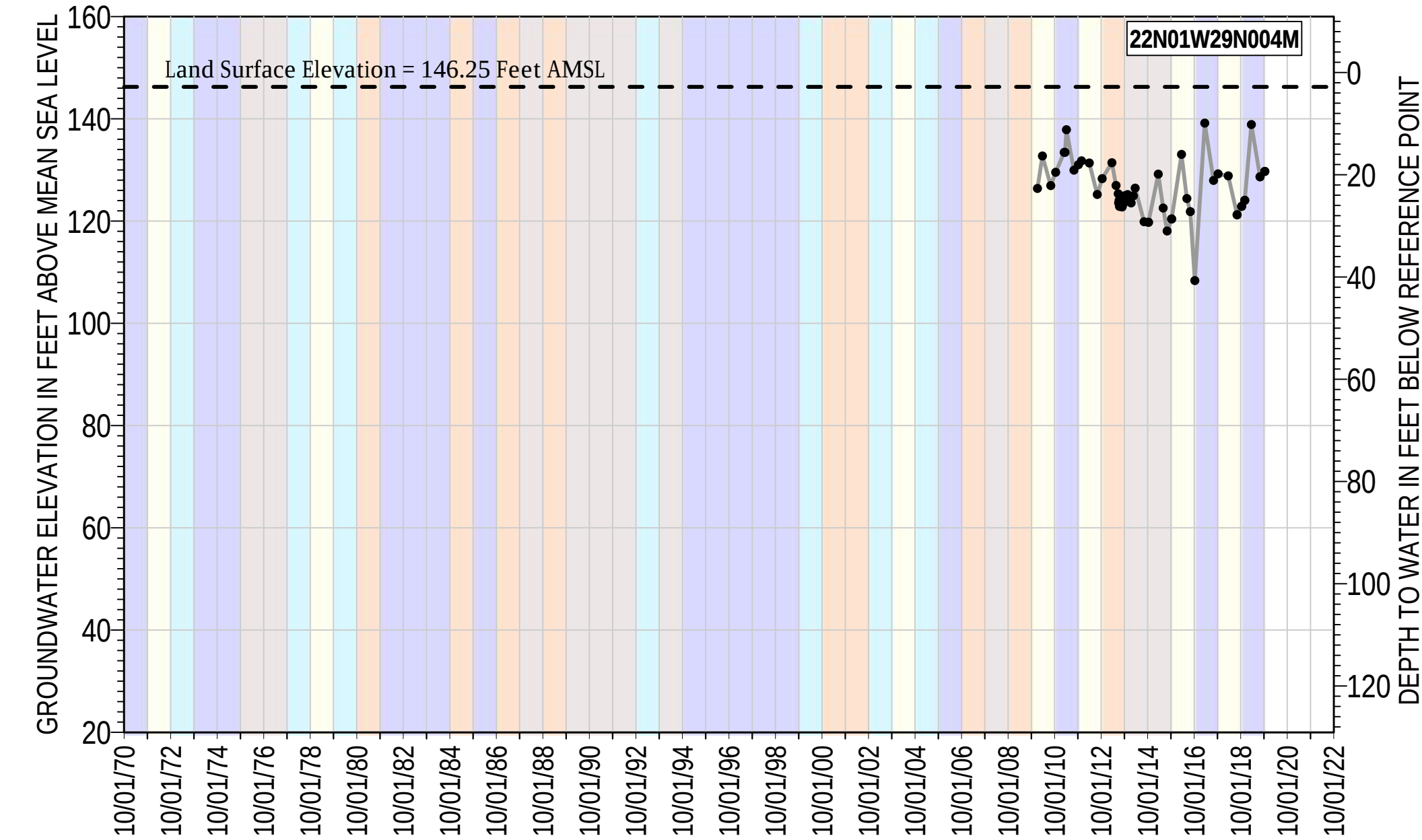

22N01W19K005M
Land Surface Elevation = 155.94 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
180
160
140
120
100
80
60
40
-20
0
20
40
60
80
100
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N01W19K005M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 156.58 ft AMSL
Well Type: Irrigation
Total Depth: 1300 ft bgs
Well Screen Interval= 920 - 1230 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry


22N01W29K001M
Land Surface Elevation = 144.38 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
160
140
120
100
80
60
40
20
0
20
40
60
80
100
120
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N01W29K001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 144.68 ft AMSL
Well Type: Irrigation
Total Depth: 150 ft bgs
Well Screen Interval= Unknown ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City


22N01W29N001M
Land Surface Elevation = 146.25 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
160
140
120
100
80
60
40
20
0
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N01W29N001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 150.95 ft AMSL
Well Type: Observation
Total Depth: 1204 ft bgs
Well Screen Interval= 859 - 1135 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City


22N01W29N002M
Land Surface Elevation = 146.25 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
160
140
120
100
80
60
40
20
0
20
40
60
80
100
120
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N01W29N002M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 150.68 ft AMSL
Well Type: Observation
Total Depth: 670 ft bgs
Well Screen Interval= 549 - 641 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City


22N01W29N003M
Land Surface Elevation = 146.25 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
160
140
120
100
80
60
40
20
0
20
40
60
80
100
120
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N01W29N003M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 149.99 ft AMSL
Well Type: Observation
Total Depth: 400 ft bgs
Well Screen Interval= 189 - 380 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City



22N01W29N004M Groundwater Elevation

Land Surface Elevation

Reference Point Elevation= 149.06 ft AMSL

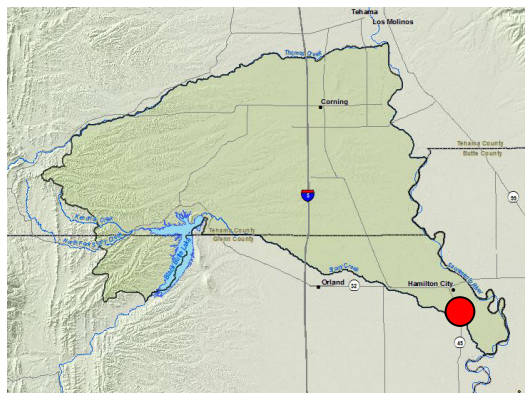
Well Type: Observation

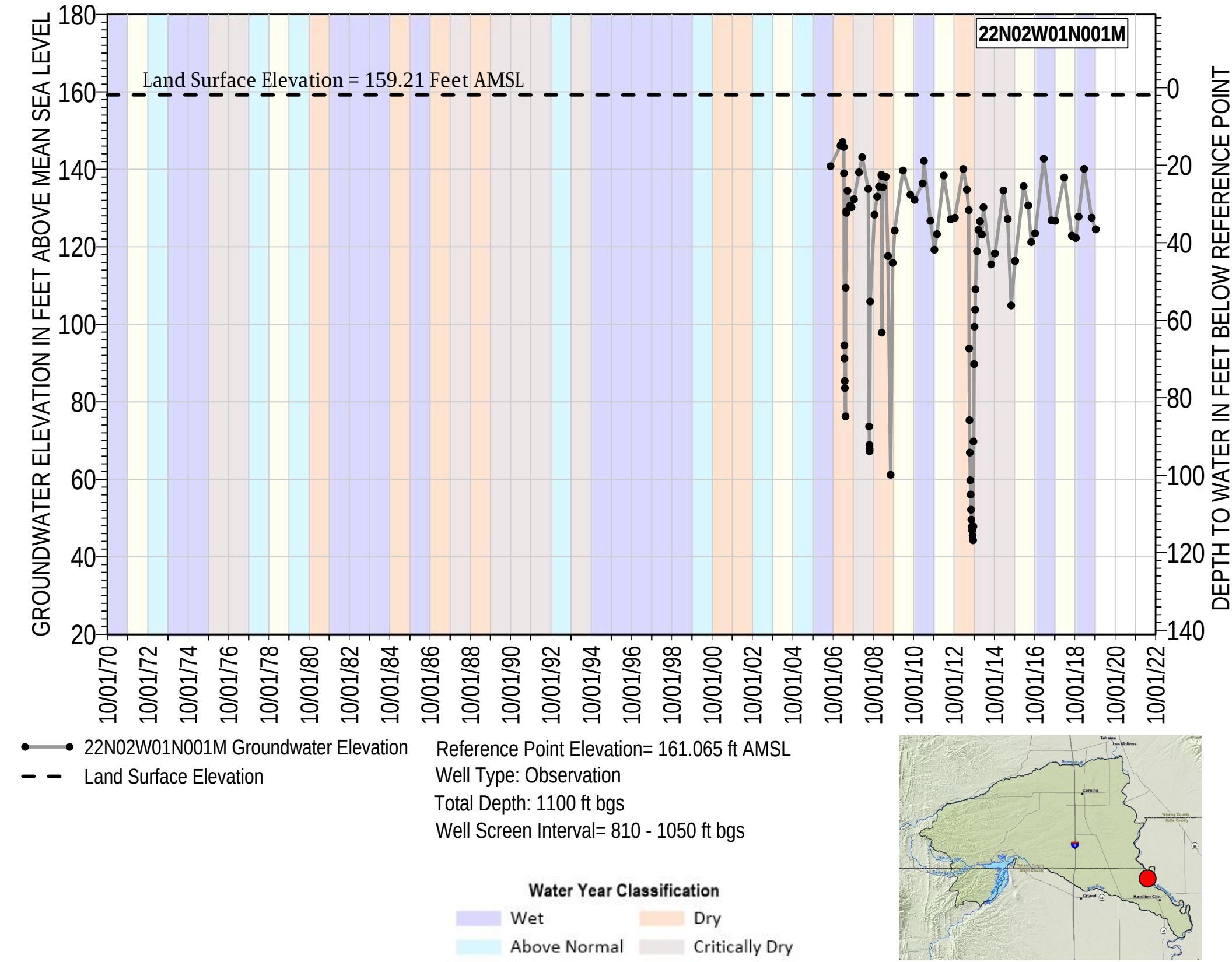
Total Depth: 120 ft bgs

Well Screen Interval= 89 - 99 ft bgs

Water Year Classification

Wet	Dry
Above Normal	Critically Dry
Below Normal	





22N02W01N001M Groundwater Elevation

Land Surface Elevation

Reference Point Elevation= 161.065 ft AMSL

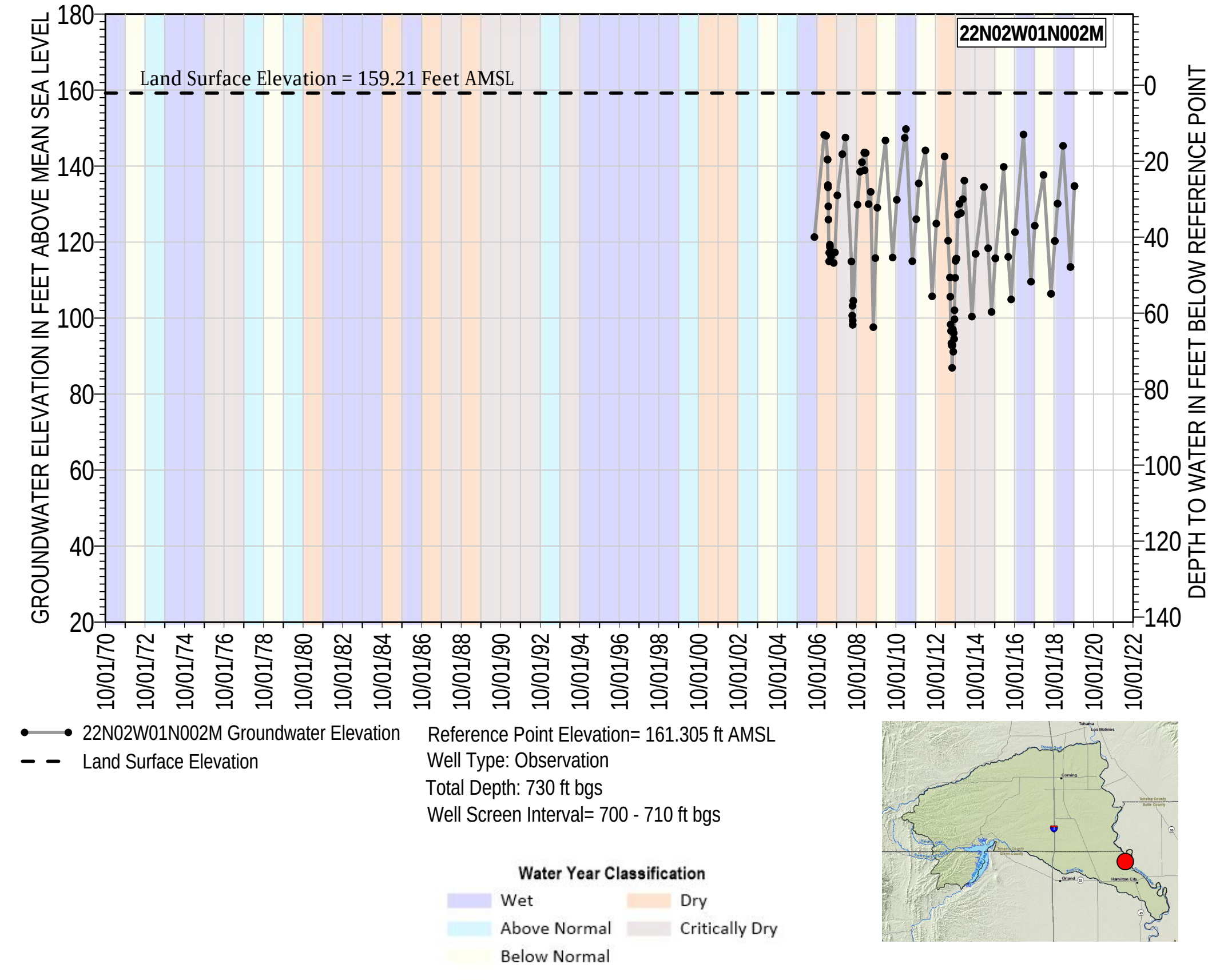
Well Type: Observation

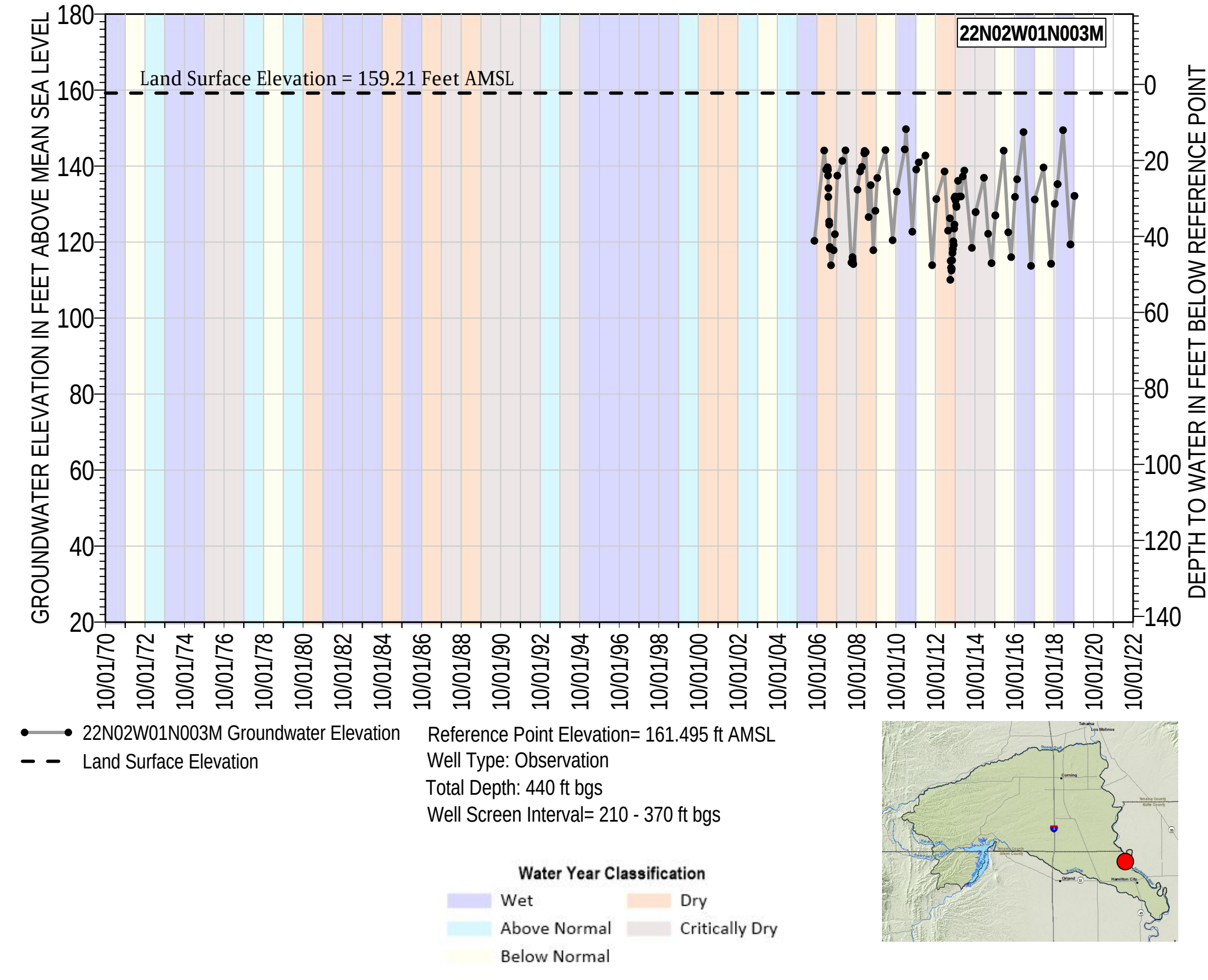
Total Depth: 1100 ft bgs

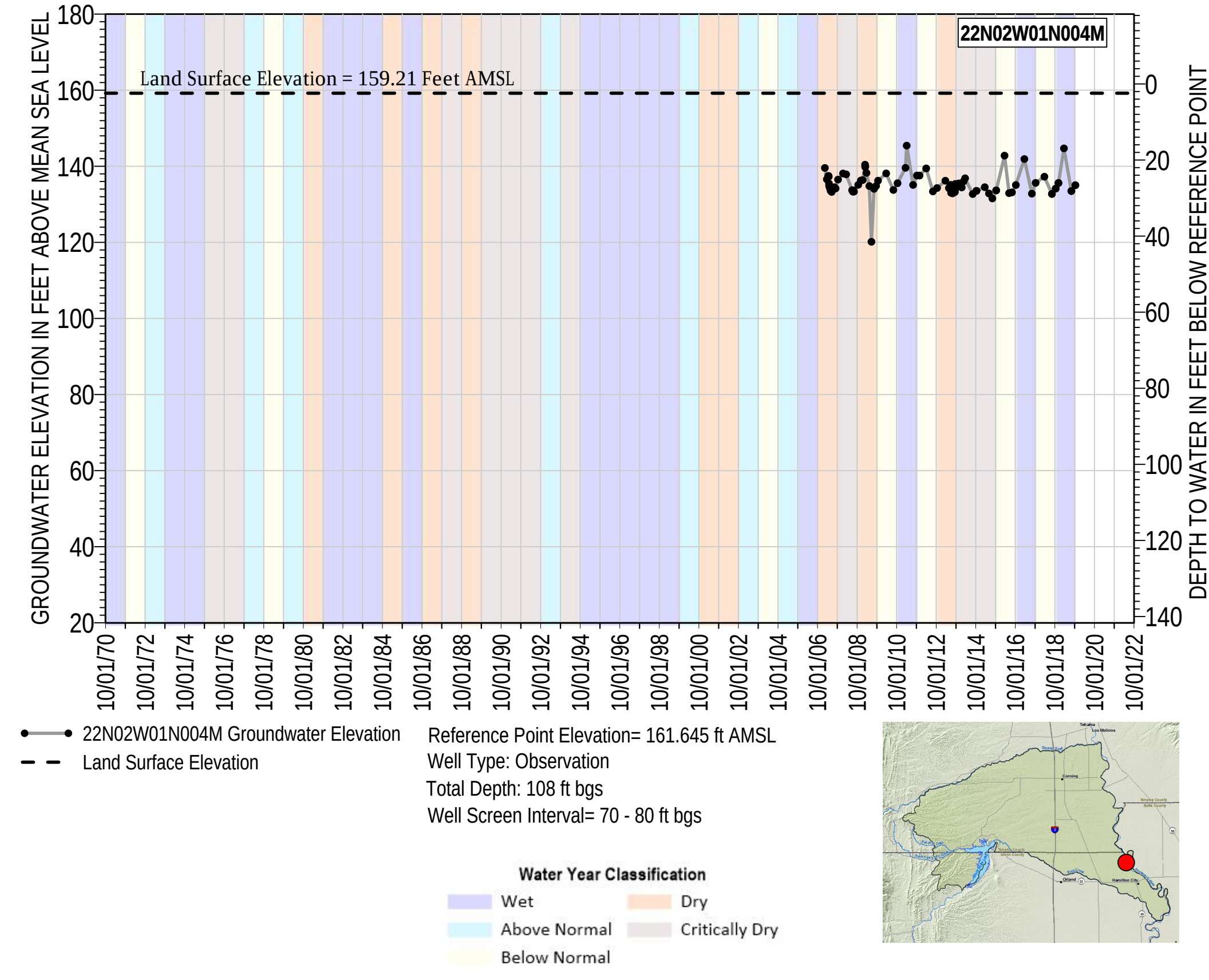
Well Screen Interval= 810 - 1050 ft bgs

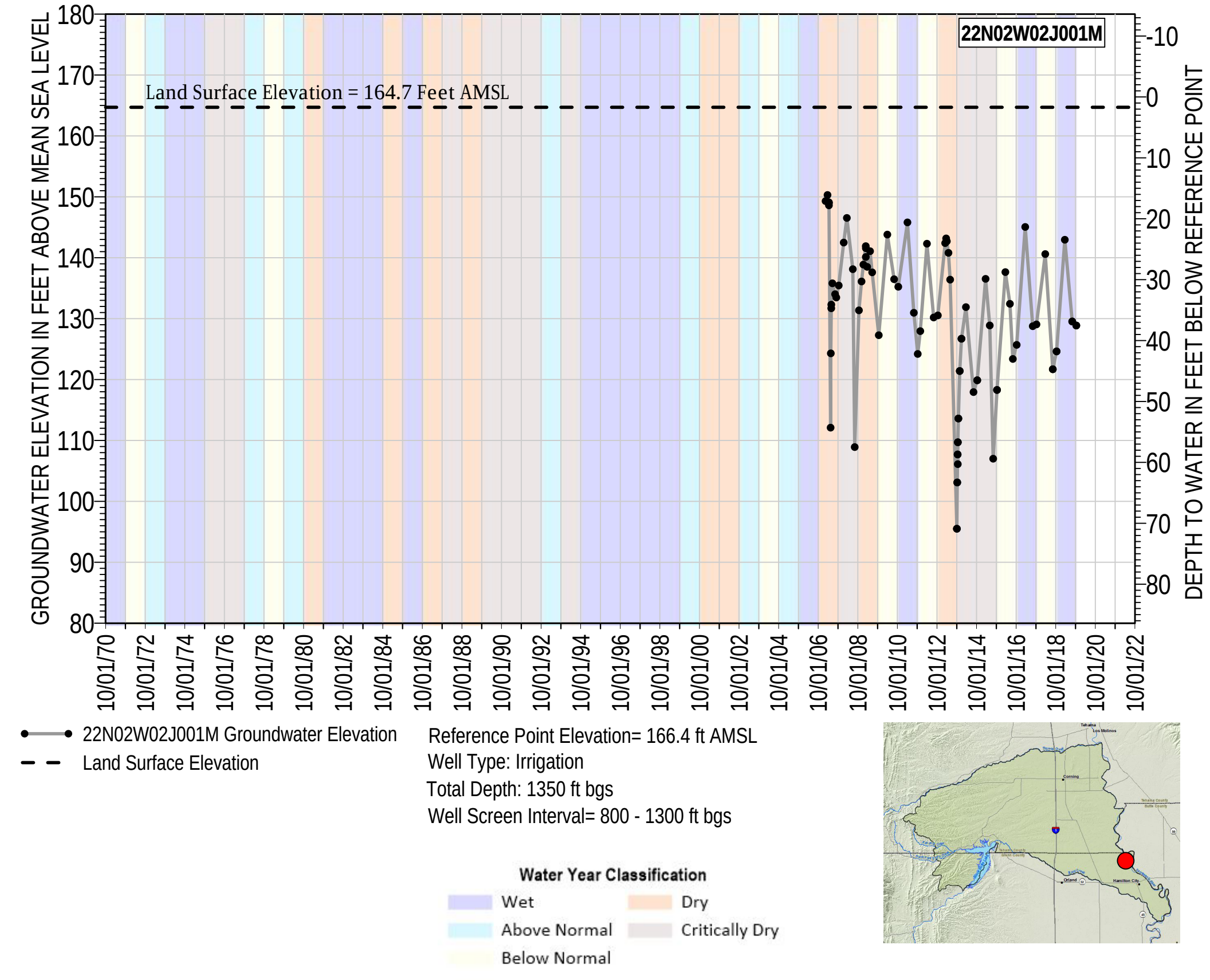
Water Year Classification

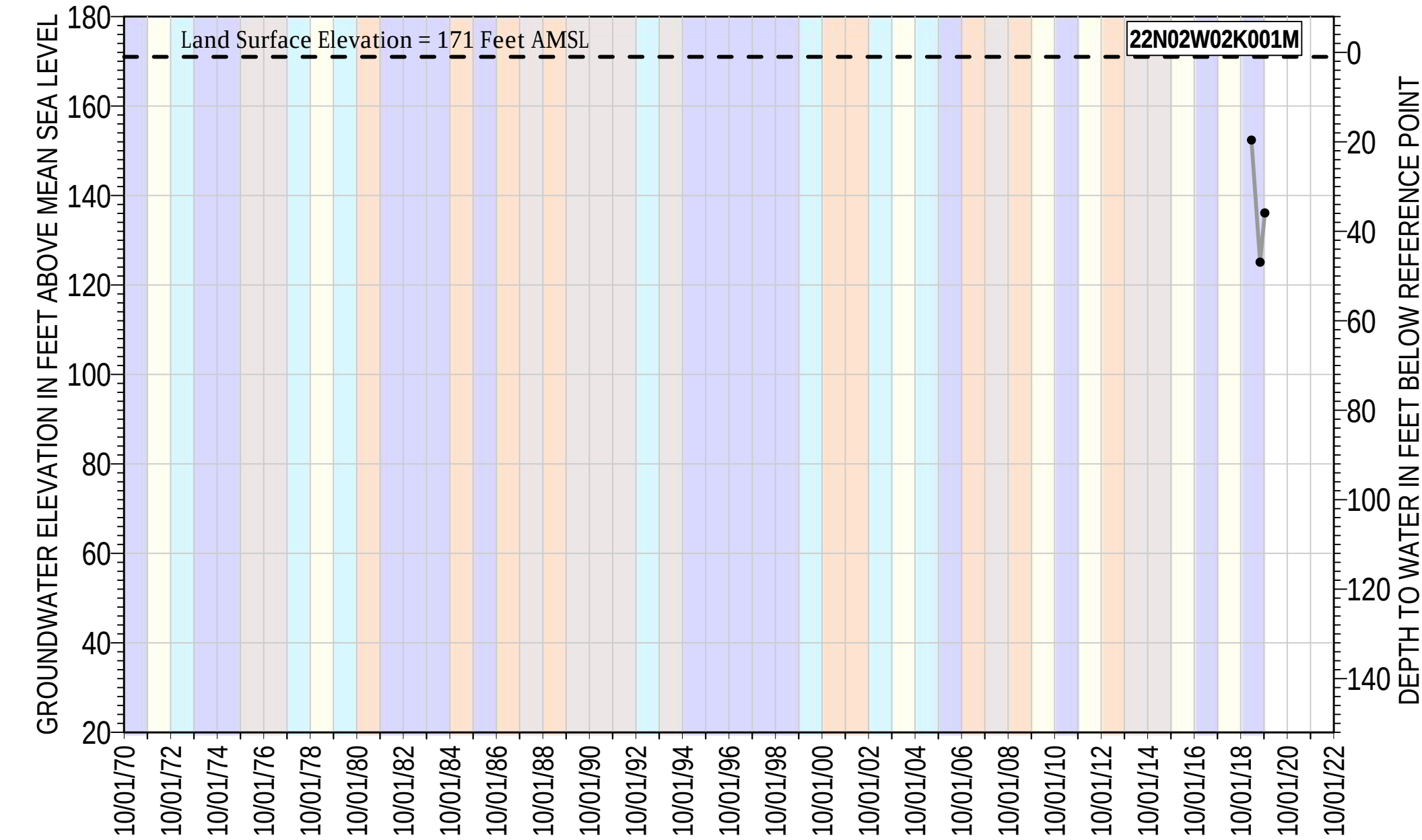
Wet	Dry
Above Normal	Critically Dry
Below Normal	


22N02W01N002M
Land Surface Elevation = 159.21 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
180
160
140
120
100
80
60
40
20
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N02W01N002M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 161.305 ft AMSL
Well Type: Observation
Total Depth: 730 ft bgs
Well Screen Interval= 700 - 710 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City


22N02W01N003M
Land Surface Elevation = 159.21 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
180
160
140
120
100
80
60
40
20
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N02W01N003M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 161.495 ft AMSL
Well Type: Observation
Total Depth: 440 ft bgs
Well Screen Interval= 210 - 370 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry


22N02W01N004M
Land Surface Elevation = 159.21 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
180
160
140
120
100
80
60
40
20
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N02W01N004M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 161.645 ft AMSL
Well Type: Observation
Total Depth: 108 ft bgs
Well Screen Interval= 70 - 80 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City


22N02W02J001M
Land Surface Elevation = 164.7 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
180
170
160
150
140
130
120
110
100
90
80
-10
0
10
20
30
40
50
60
70
80
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N02W02J001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 166.4 ft AMSL
Well Type: Irrigation
Total Depth: 1350 ft bgs
Well Screen Interval= 800 - 1300 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City



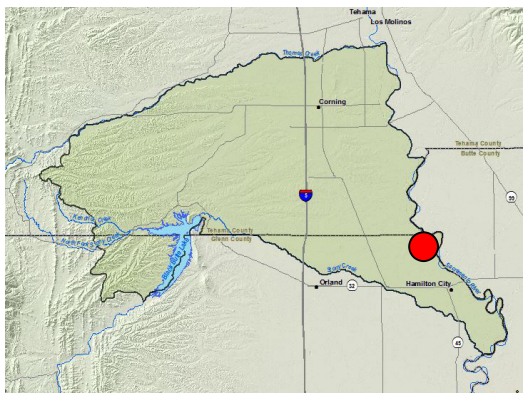
22N02W02K001M Groundwater Elevation

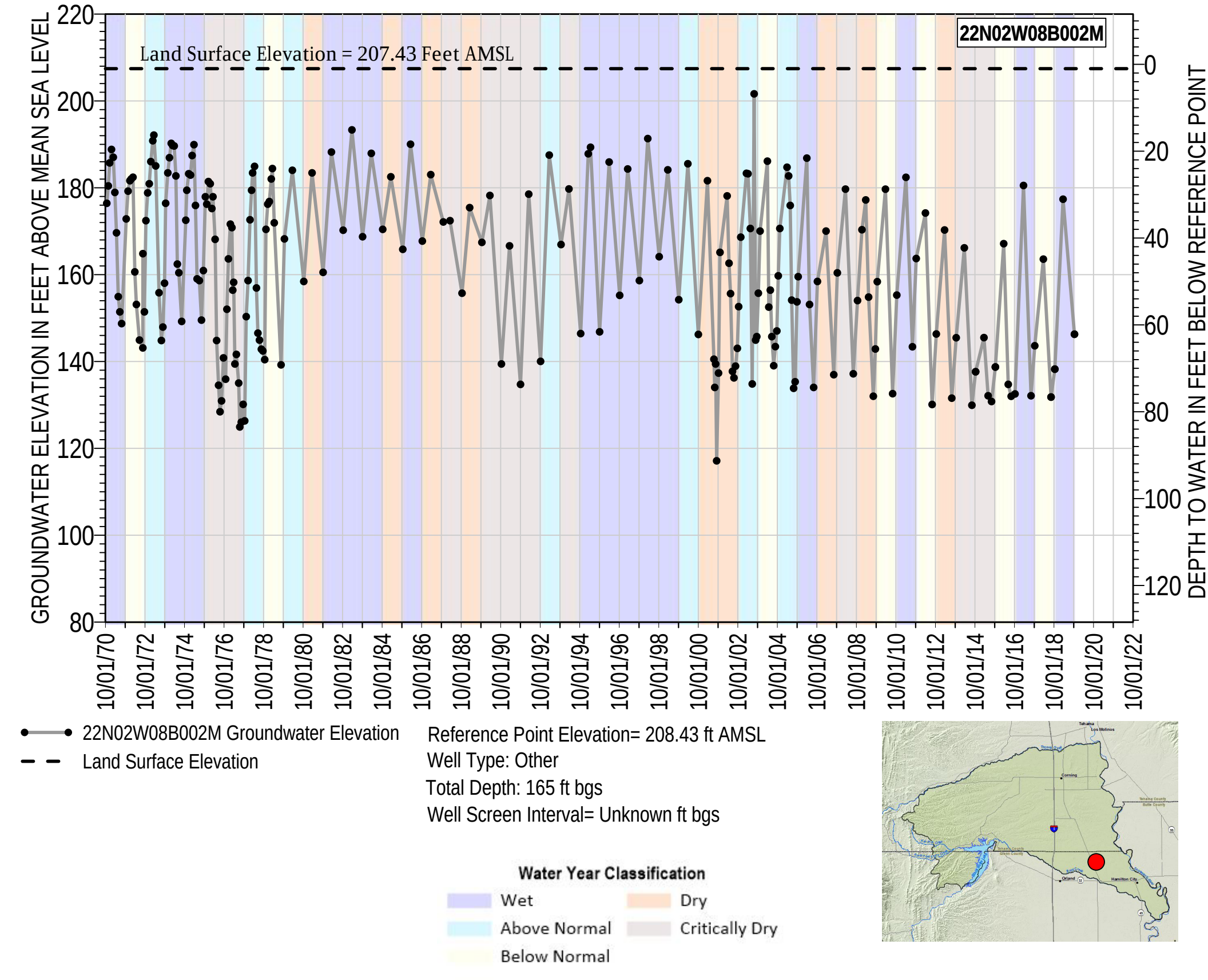
Land Surface Elevation

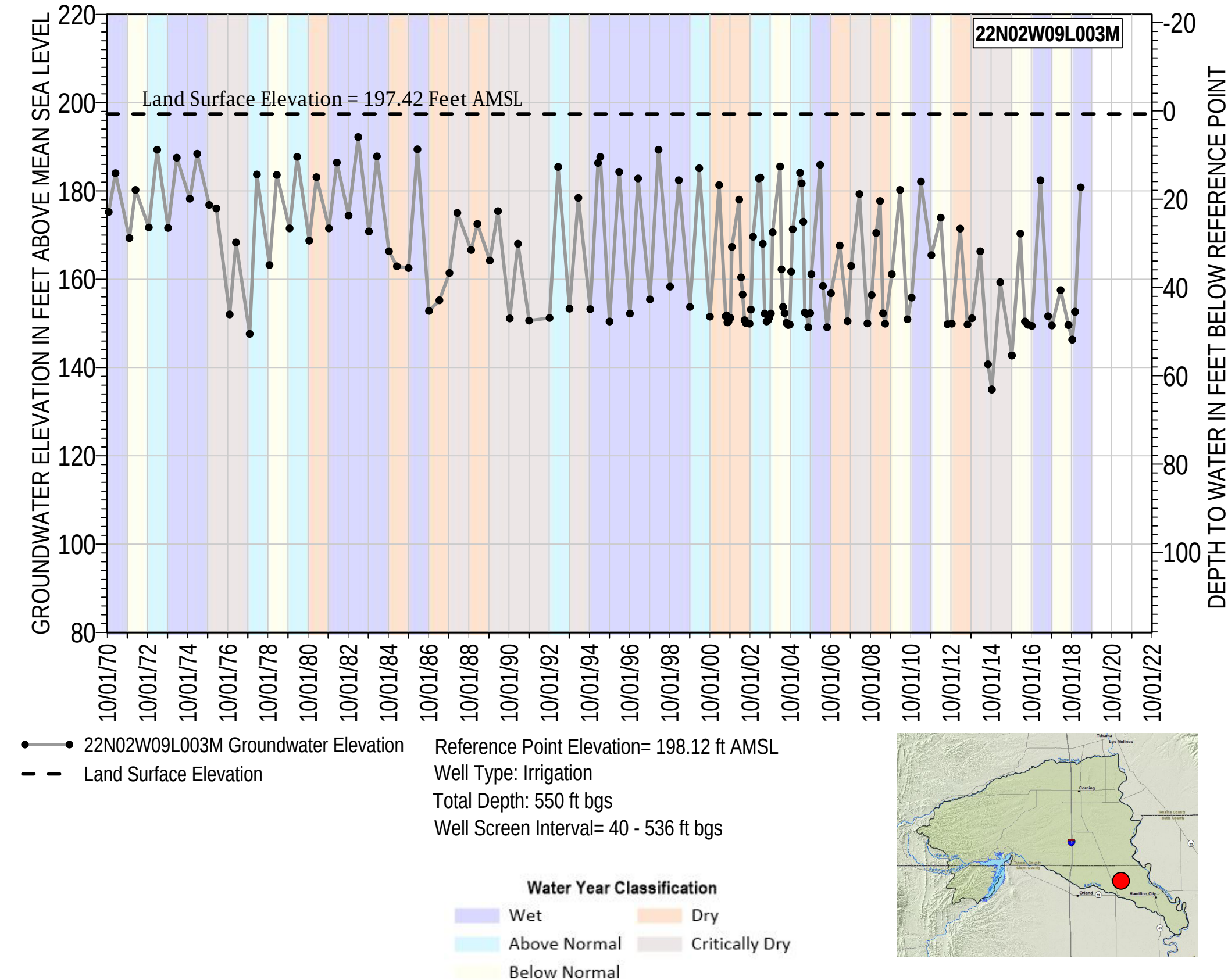
Reference Point Elevation= 172 ft AMSL
Well Type: Irrigation
Total Depth: 250 ft bgs
Well Screen Interval= 80 - 250 ft bgs

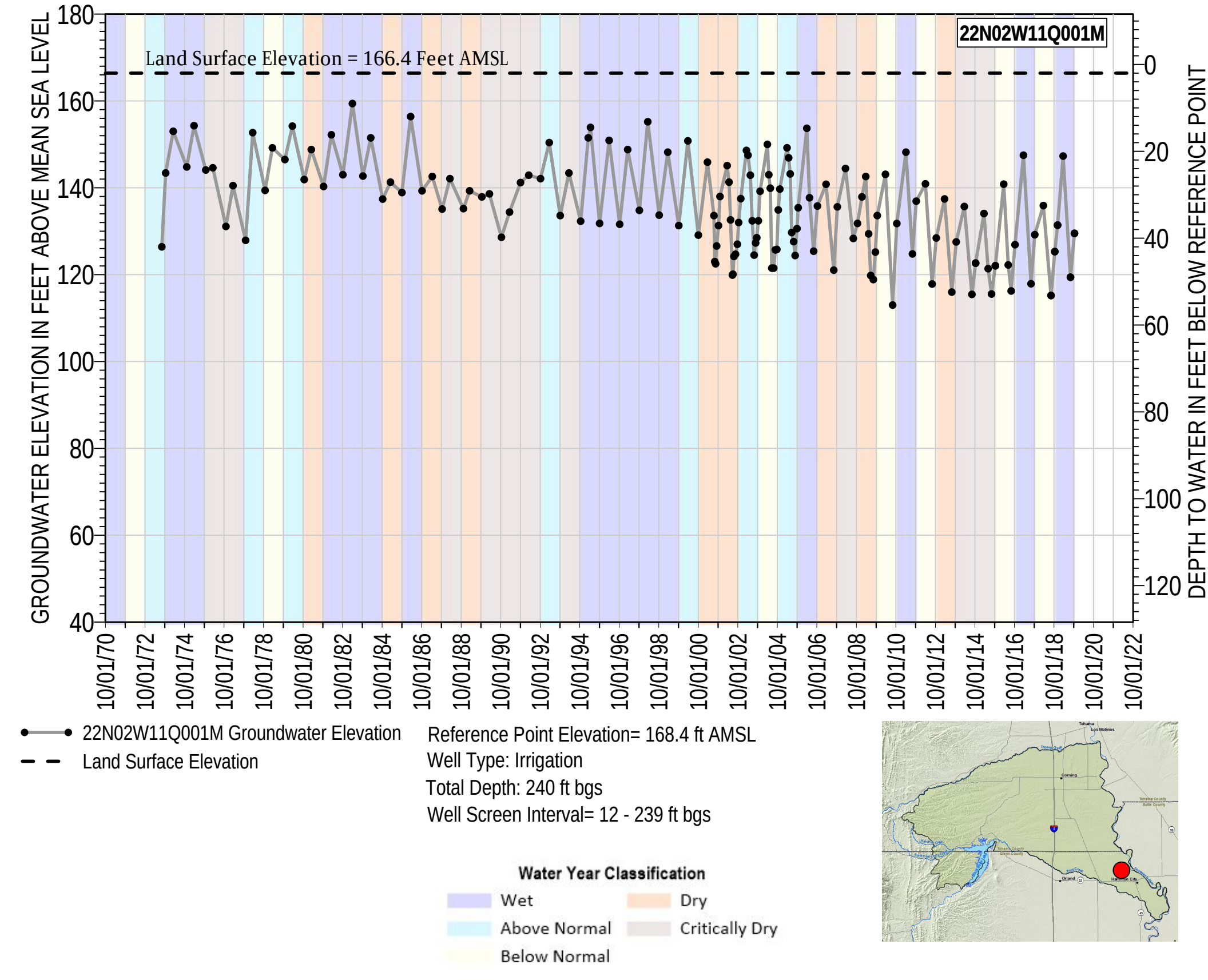
Water Year Classification

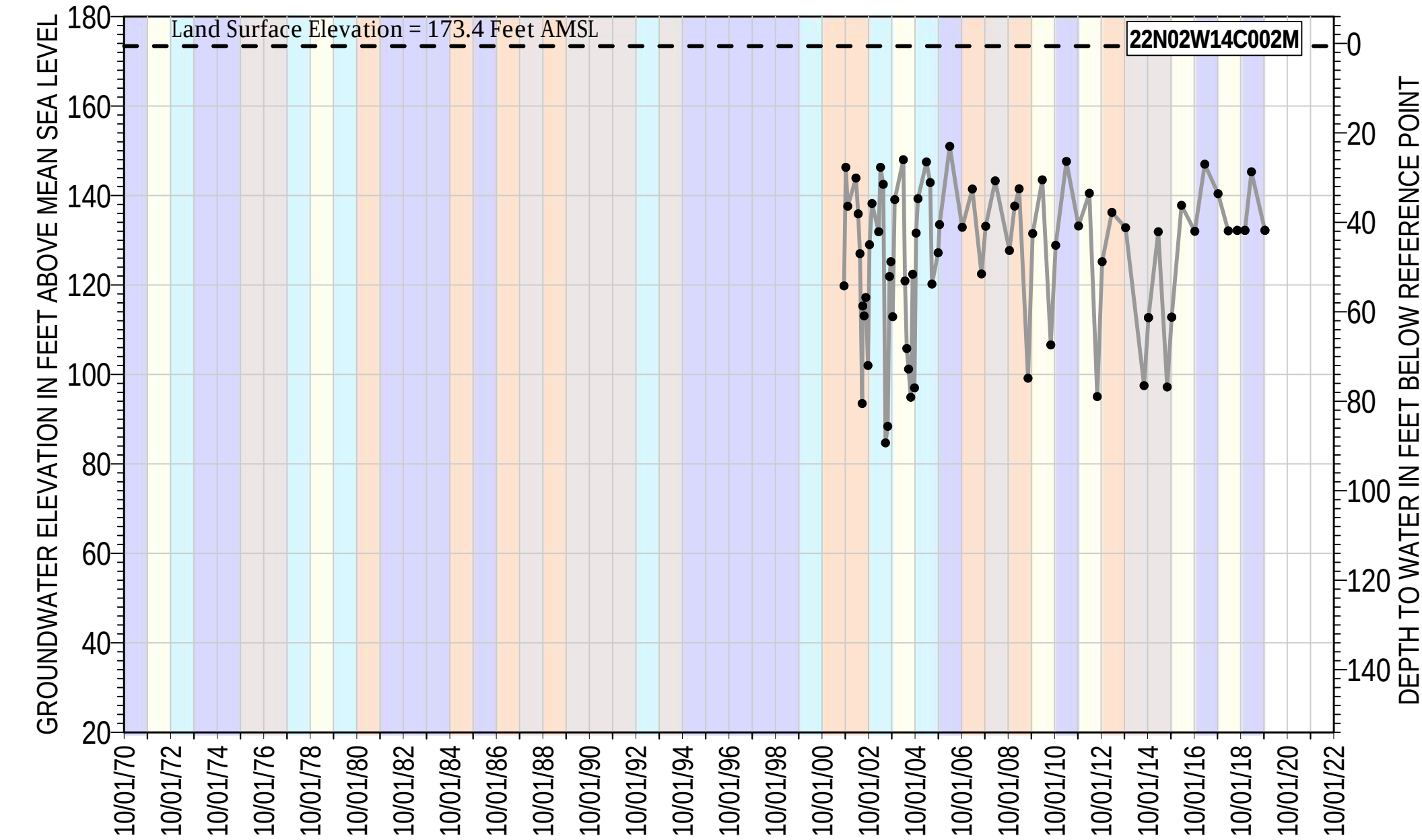
Wet	Dry
Above Normal	Critically Dry
Below Normal	




22N02W08B002M
Land Surface Elevation = 207.43 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
220
200
180
160
140
120
100
80
0
20
40
60
80
100
120
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N02W08B002M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 208.43 ft AMSL
Well Type: Other
Total Depth: 165 ft bgs
Well Screen Interval= Unknown ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City


22N02W09L003M
Land Surface Elevation = 197.42 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
220
200
180
160
140
120
100
80
-20
0
20
40
60
80
100
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N02W09L003M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 198.12 ft AMSL
Well Type: Irrigation
Total Depth: 550 ft bgs
Well Screen Interval= 40 - 536 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City


22N02W11Q001M
Land Surface Elevation = 166.4 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
180
160
140
120
100
80
60
40
0
20
40
60
80
100
120
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N02W11Q001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 168.4 ft AMSL
Well Type: Irrigation
Total Depth: 240 ft bgs
Well Screen Interval= 12 - 239 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry



22N02W14C002M Groundwater Elevation

Land Surface Elevation

Reference Point Elevation= 174 ft AMSL

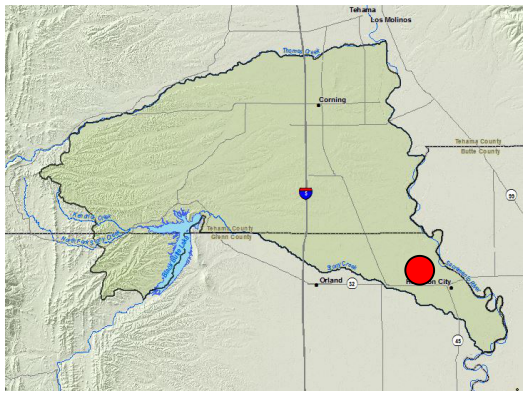
Well Type: Irrigation

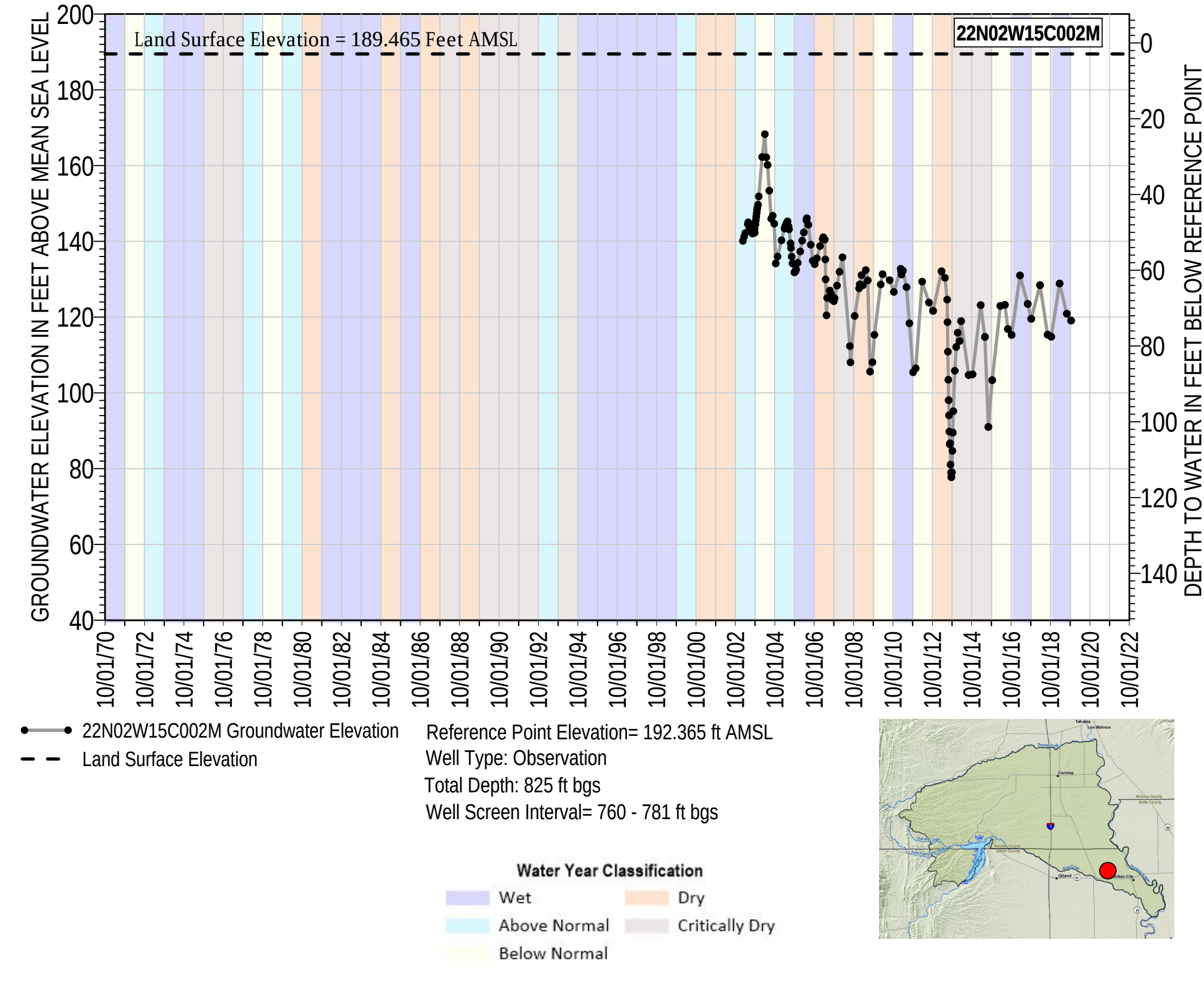
Total Depth: 540 ft bgs

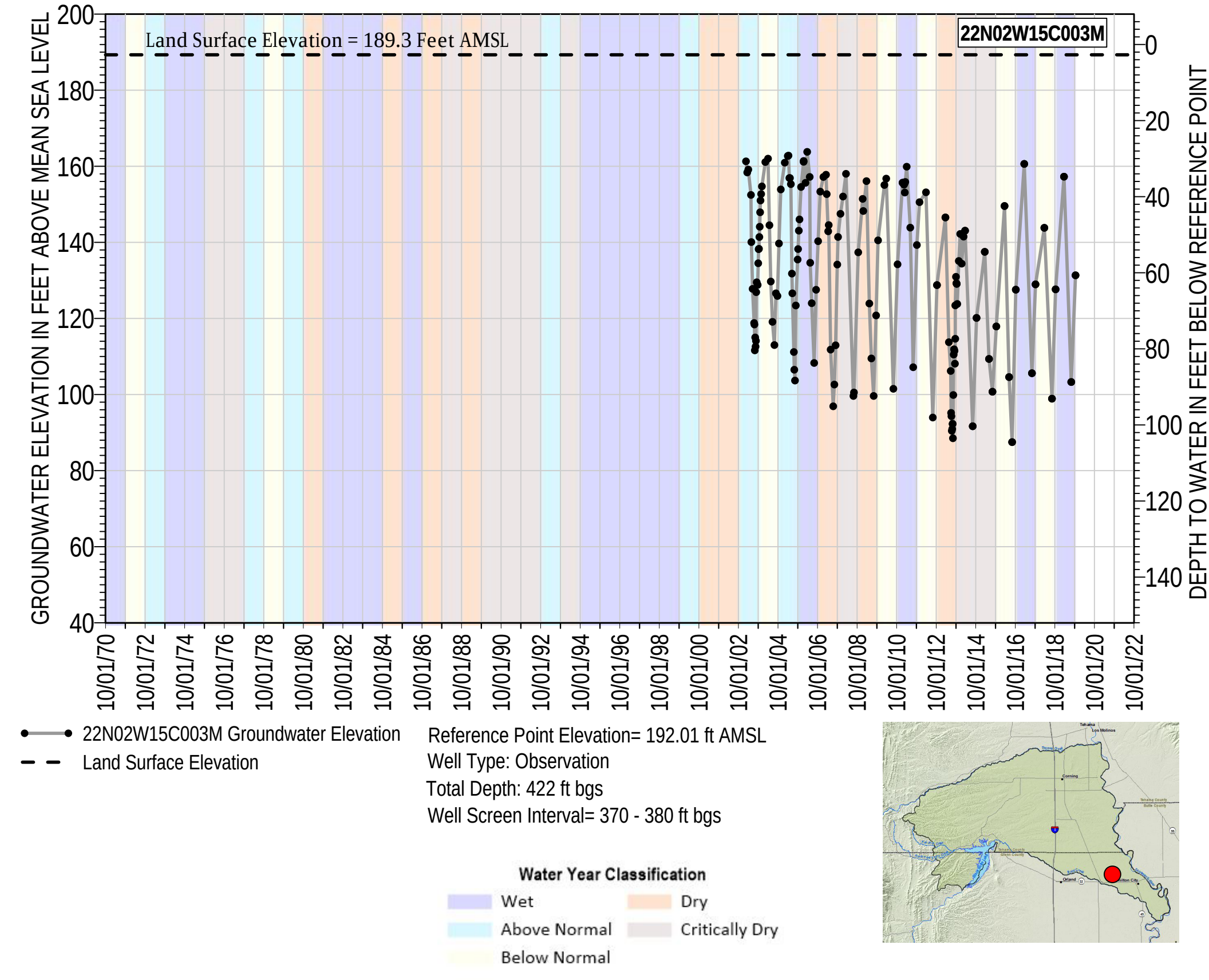
Well Screen Interval= 180 - 540 ft bgs

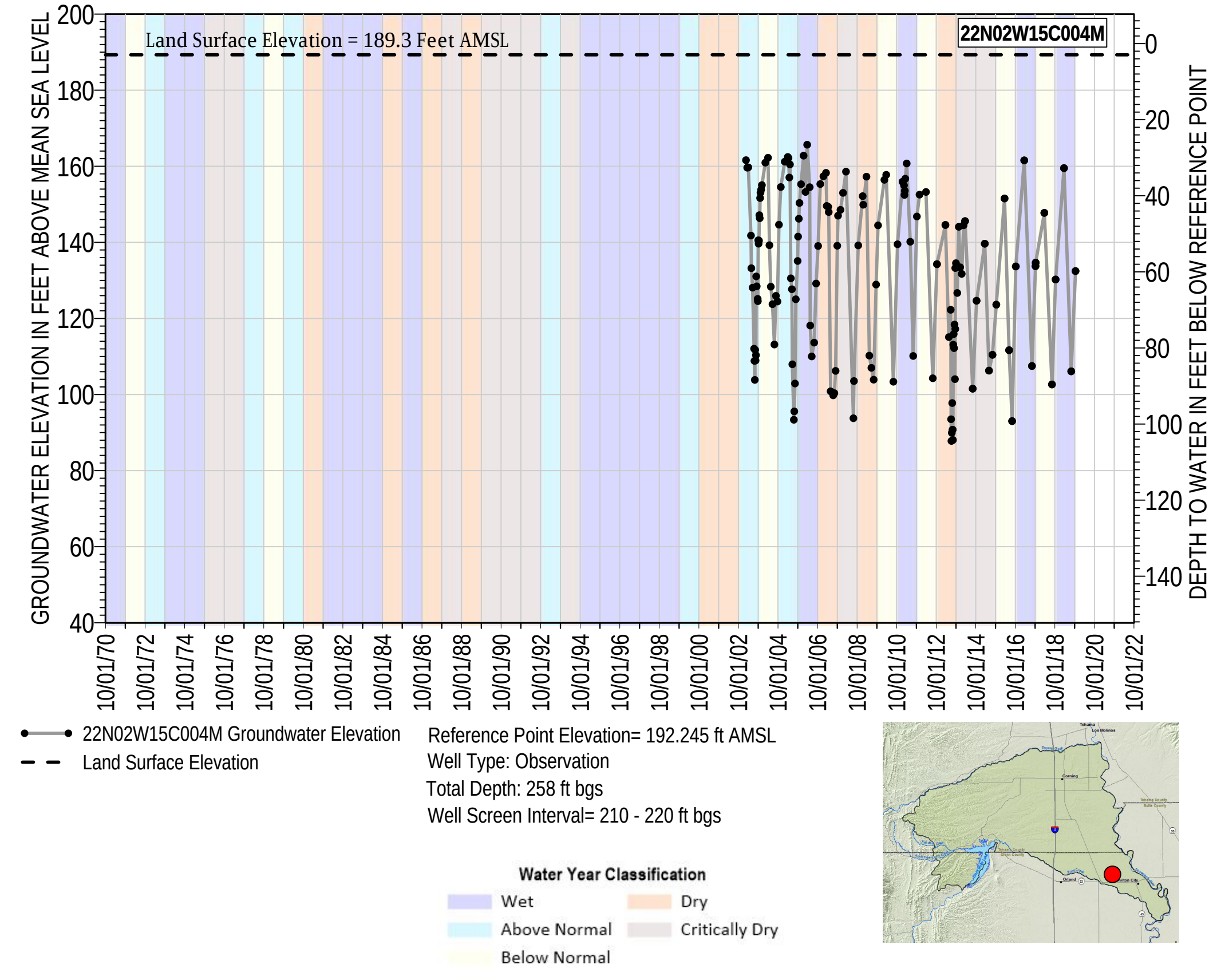
Water Year Classification

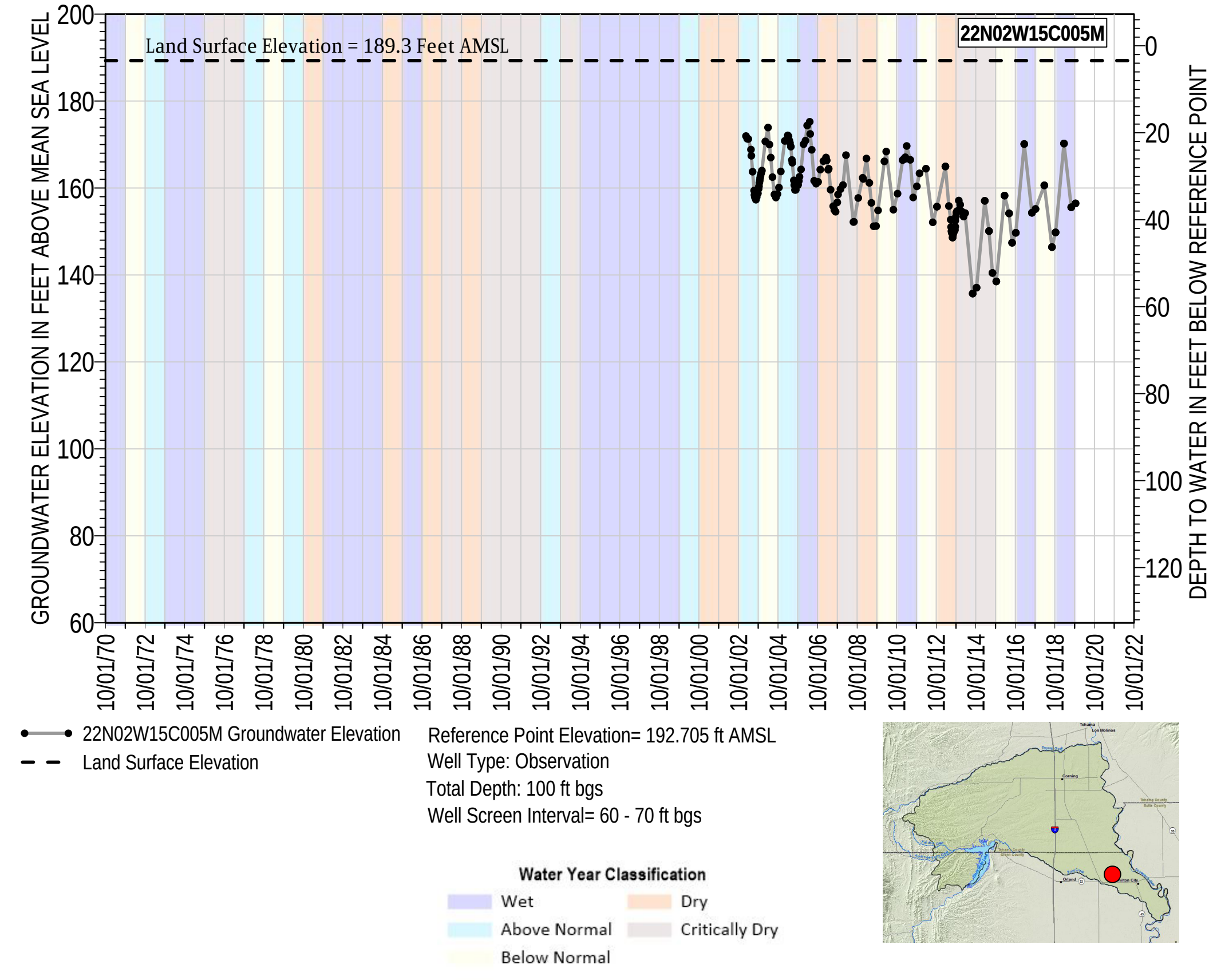
Wet	Dry
Above Normal	Critically Dry
Below Normal	

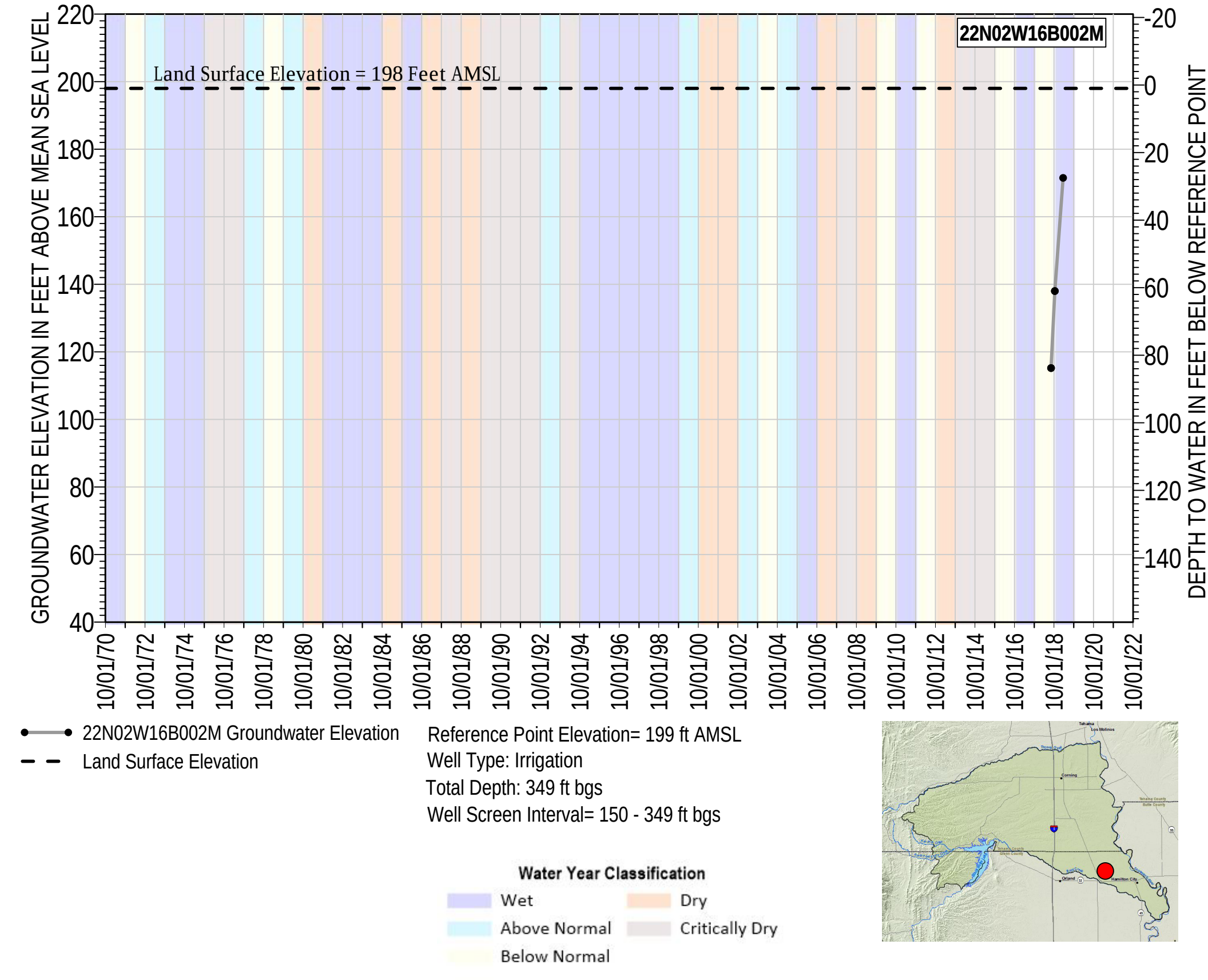


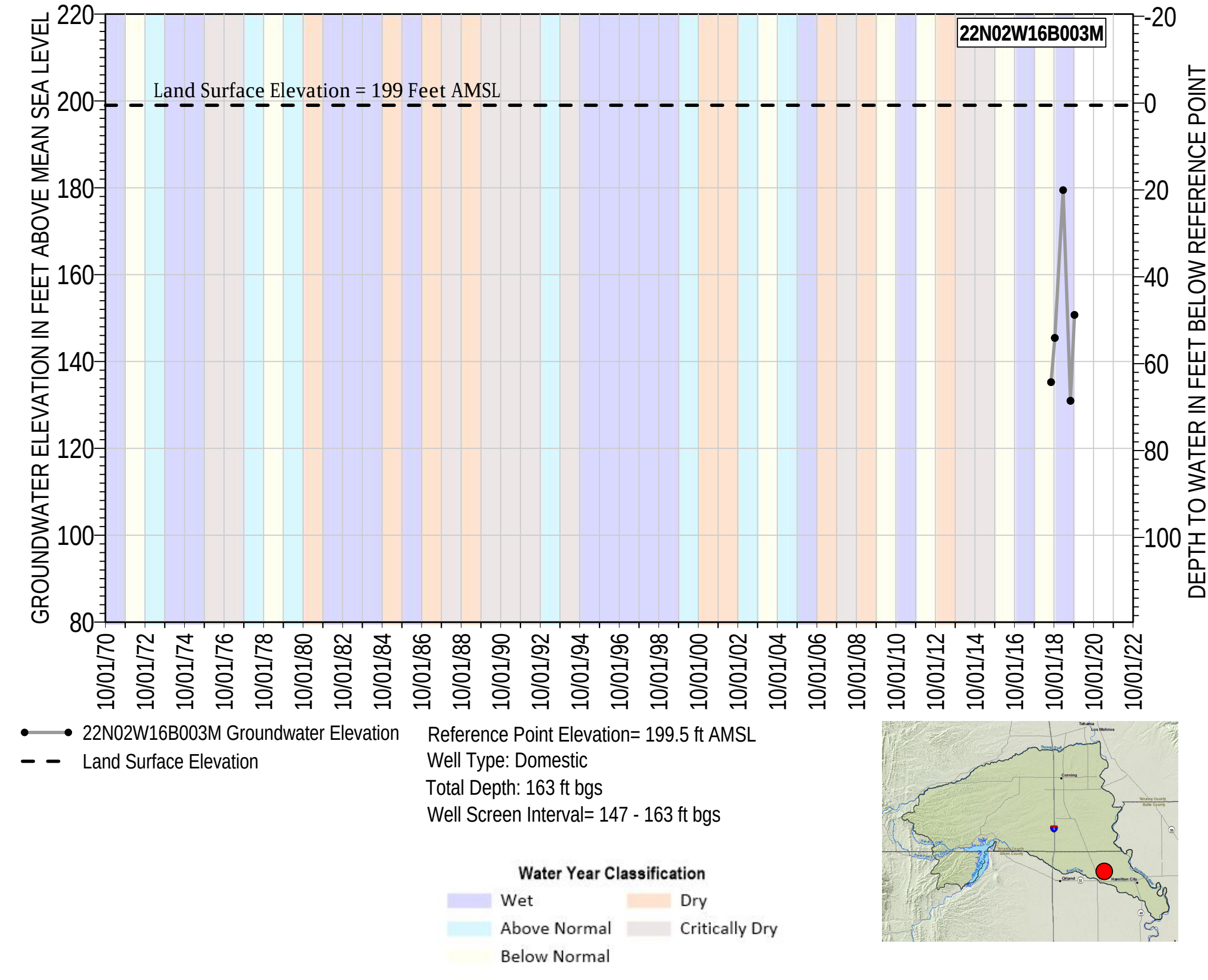

22N02W15C002M
Land Surface Elevation = 189.465 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
200
180
160
140
120
100
80
60
40
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N02W15C002M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 192.365 ft AMSL
Well Type: Observation
Total Depth: 825 ft bgs
Well Screen Interval= 760 - 781 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry

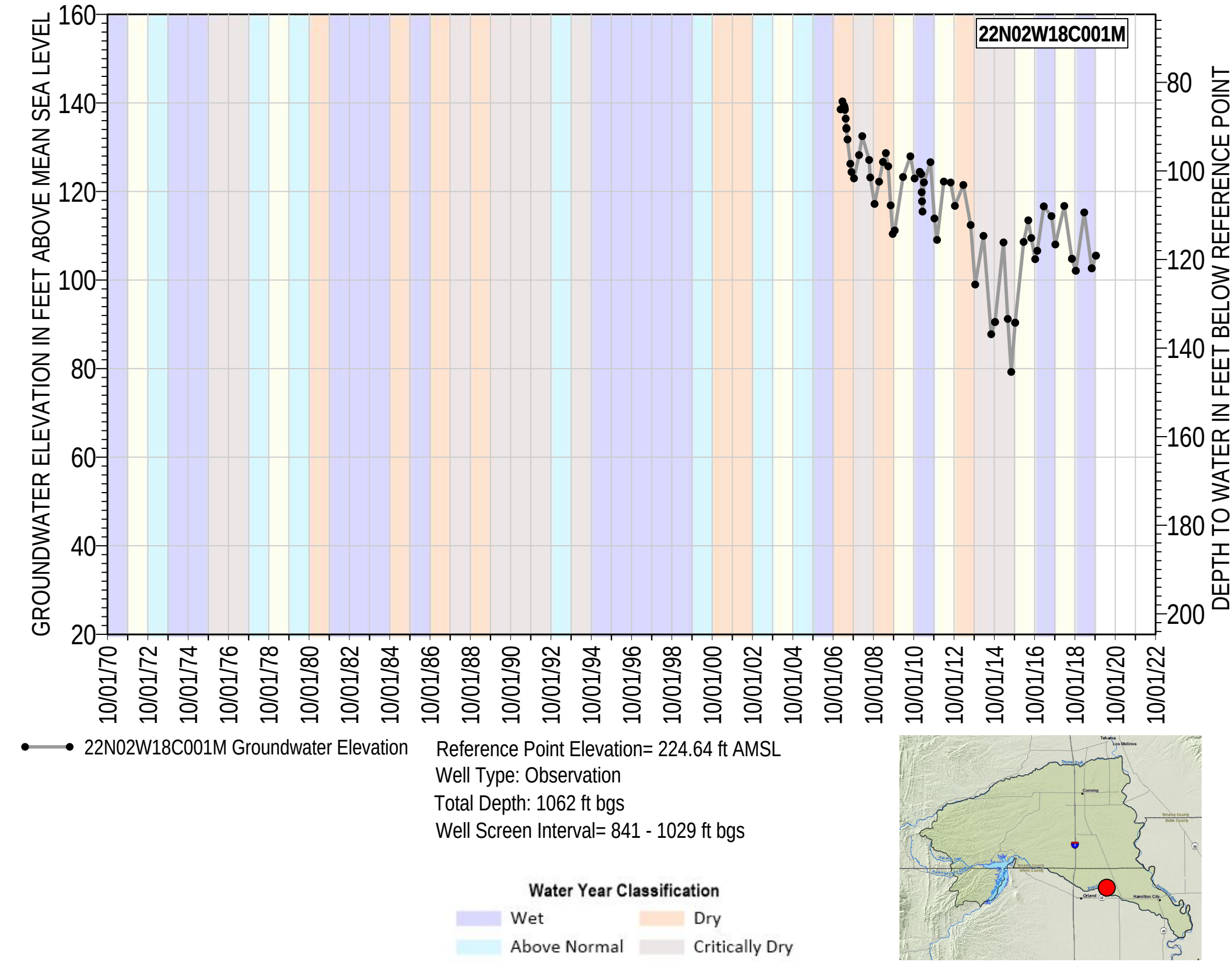

Land Surface Elevation = 189.3 Feet AMSL
22N02W15C003M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
200
180
160
140
120
100
80
60
40
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N02W15C003M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 192.01 ft AMSL
Well Type: Observation
Total Depth: 422 ft bgs
Well Screen Interval= 370 - 380 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry


Land Surface Elevation = 189.3 Feet AMSL
22N02W15C004M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
200
180
160
140
120
100
80
60
40
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N02W15C004M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 192.245 ft AMSL
Well Type: Observation
Total Depth: 258 ft bgs
Well Screen Interval= 210 - 220 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry


22N02W15C005M
Land Surface Elevation = 189.3 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
200
180
160
140
120
100
80
60
0
20
40
60
80
100
120
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N02W15C005M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 192.705 ft AMSL
Well Type: Observation
Total Depth: 100 ft bgs
Well Screen Interval= 60 - 70 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry


22N02W16B002M
Land Surface Elevation = 198 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
220
200
180
160
140
120
100
80
60
40
-20
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N02W16B002M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 199 ft AMSL
Well Type: Irrigation
Total Depth: 349 ft bgs
Well Screen Interval= 150 - 349 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry

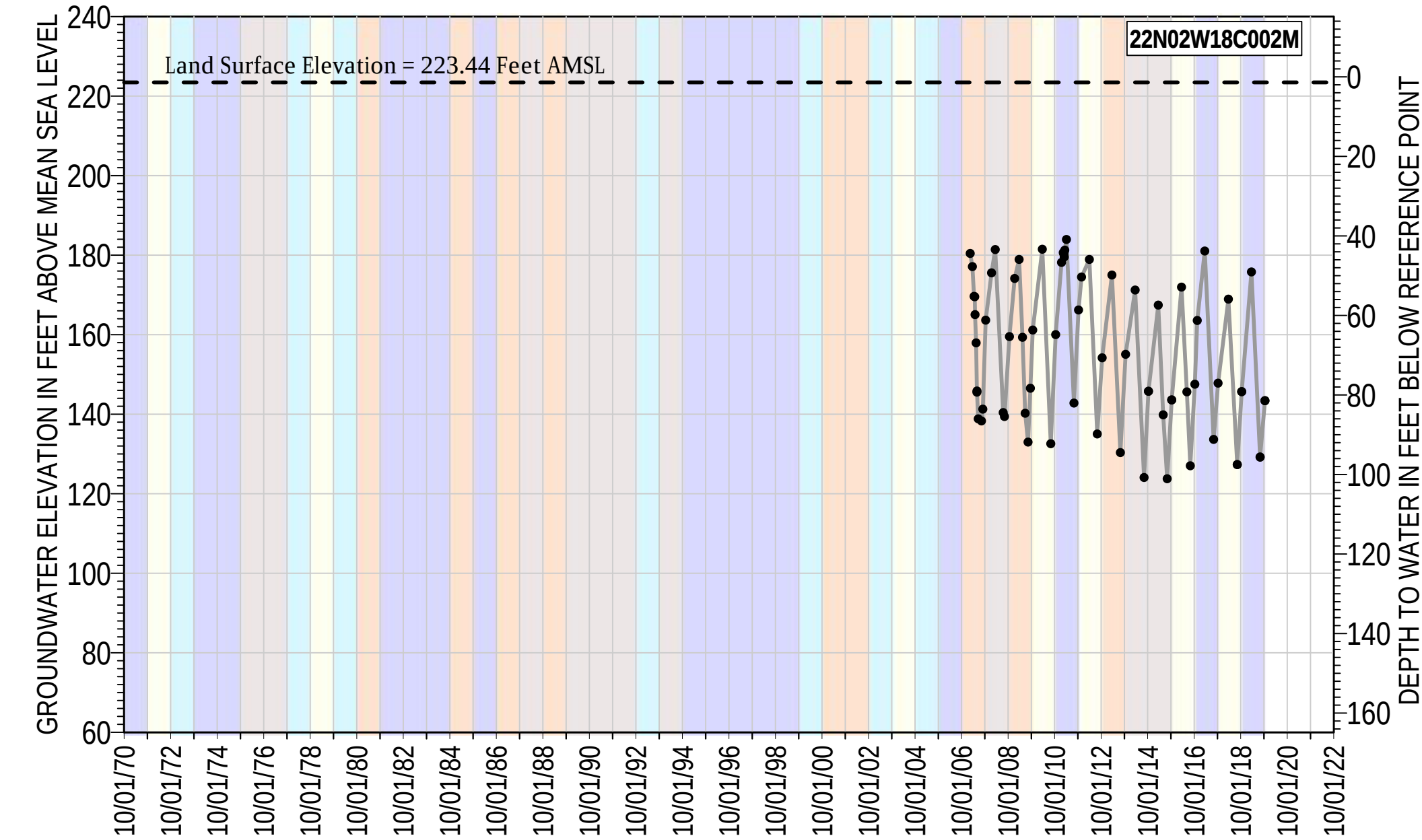

22N02W16B003M
Land Surface Elevation = 199 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
220
200
180
160
140
120
100
80
-20
0
20
40
60
80
100
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N02W16B003M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 199.5 ft AMSL
Well Type: Domestic
Total Depth: 163 ft bgs
Well Screen Interval= 147 - 163 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City



Reference Point Elevation= 224.64 ft AMSL
Well Type: Observation
Total Depth: 1062 ft bgs
Well Screen Interval= 841 - 1029 ft bgs

Water Year Classification

Wet	Dry
Above Normal	Critically Dry
Below Normal	



22N02W18C002M Groundwater Elevation

Land Surface Elevation

Reference Point Elevation= 224.84 ft AMSL

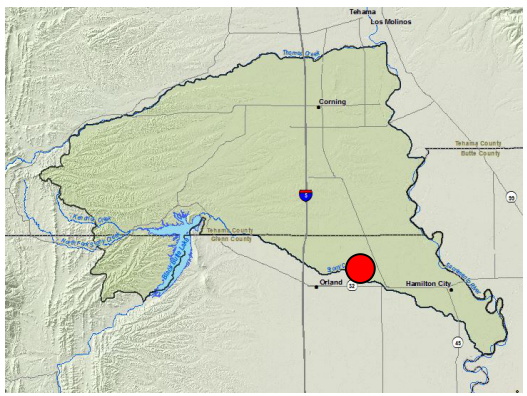
Well Type: Observation

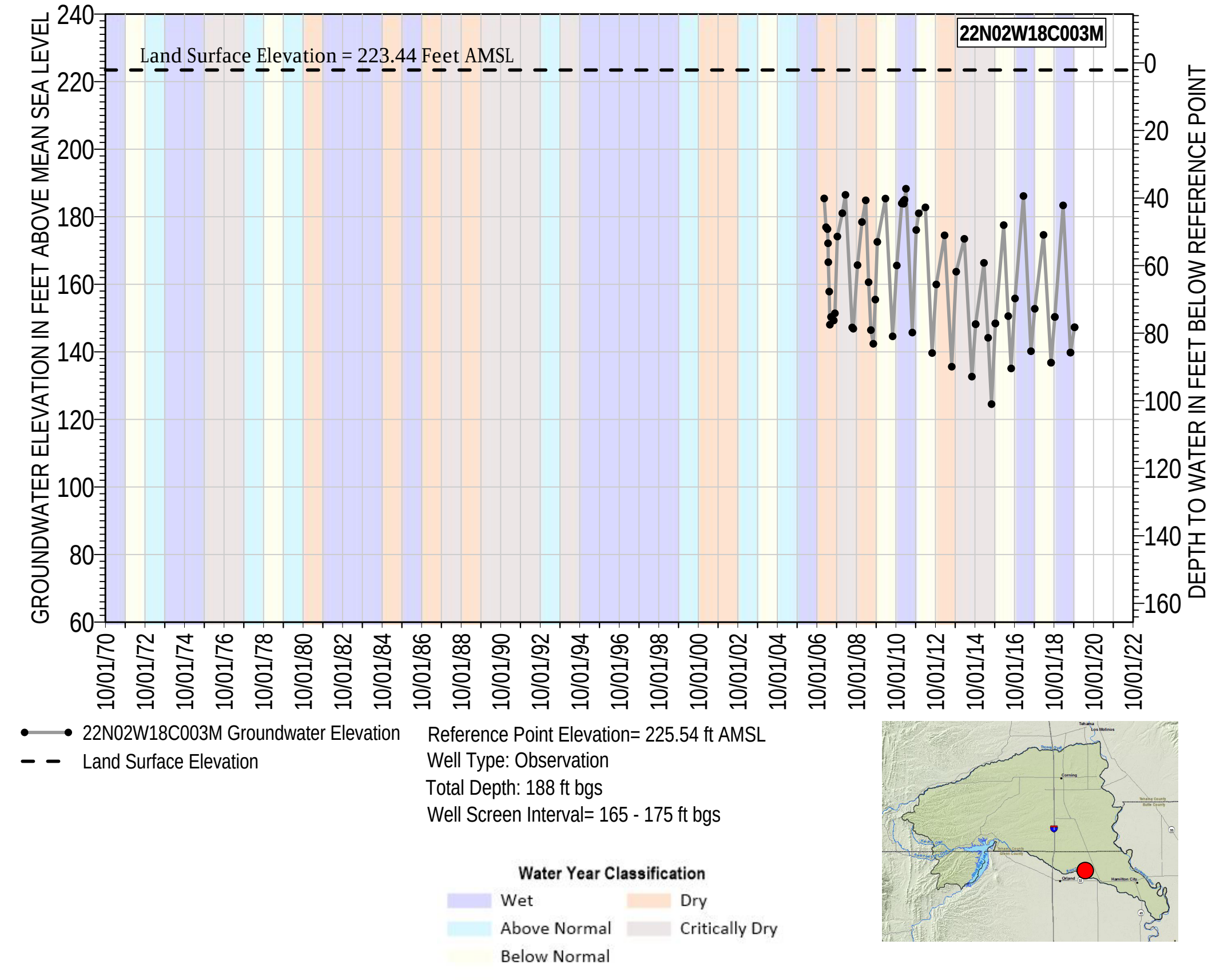
Total Depth: 482 ft bgs

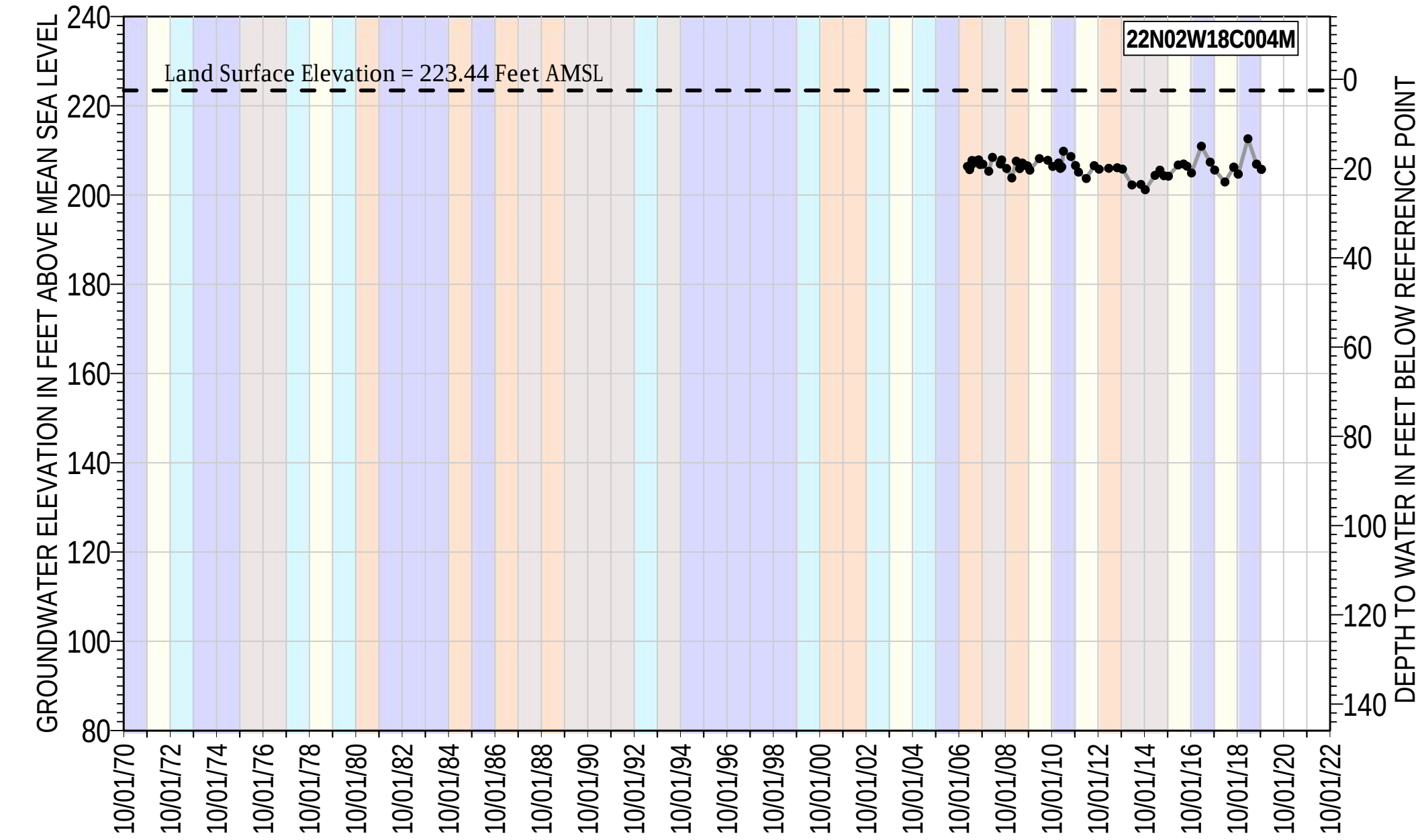
Well Screen Interval= 414 - 434 ft bgs

Water Year Classification

Wet	Dry
Above Normal	Critically Dry
Below Normal	




22N02W18C003M
Land Surface Elevation = 223.44 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
240
220
200
180
160
140
120
100
80
60
0
20
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N02W18C003M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 225.54 ft AMSL
Well Type: Observation
Total Depth: 188 ft bgs
Well Screen Interval= 165 - 175 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City



22N02W18C004M Groundwater Elevation

Land Surface Elevation

Reference Point Elevation= 225.94 ft AMSL

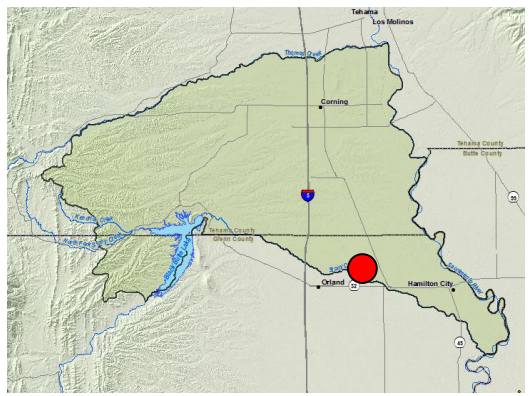
Well Type: Observation

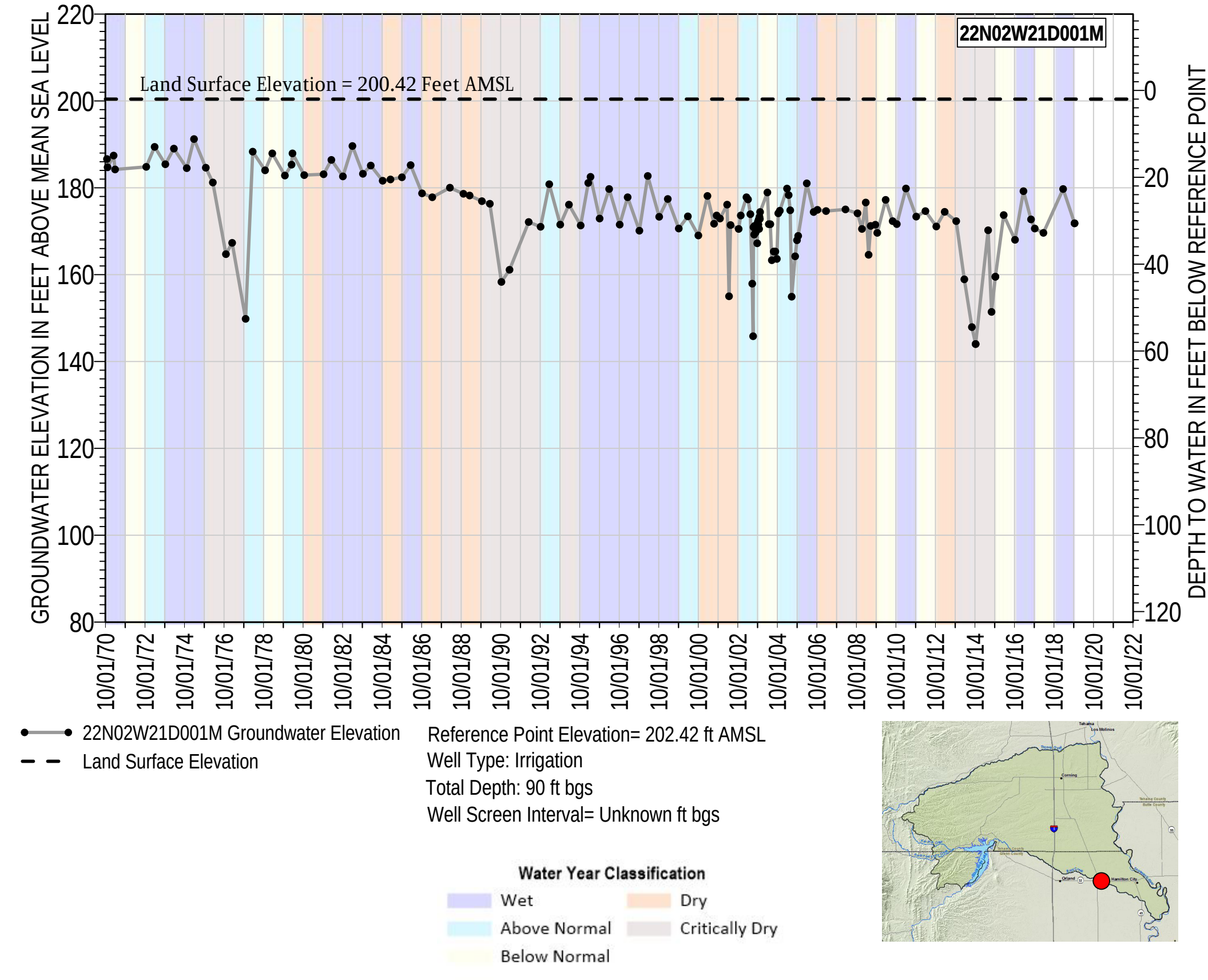
Total Depth: 90 ft bgs

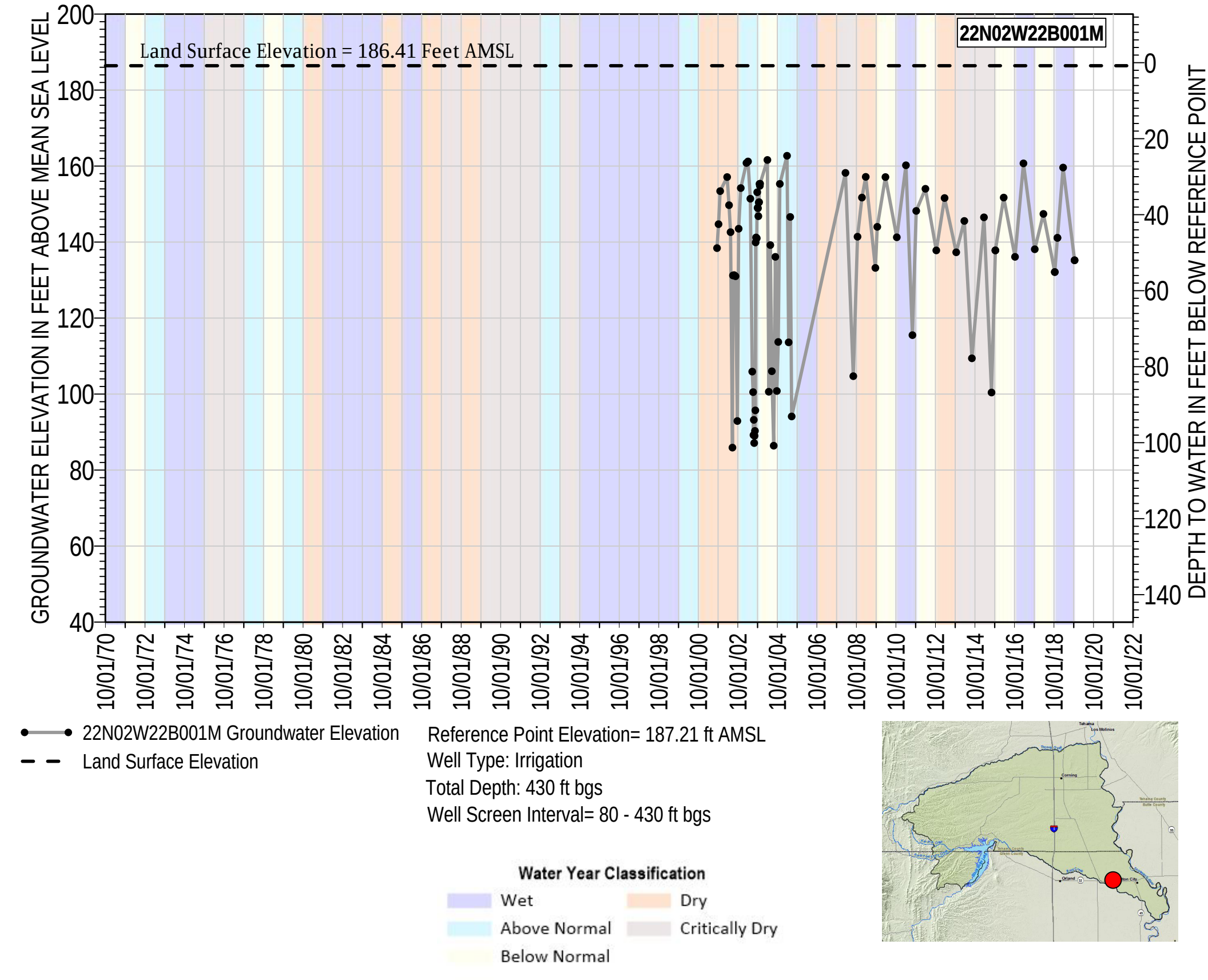
Well Screen Interval= 55 - 65 ft bgs

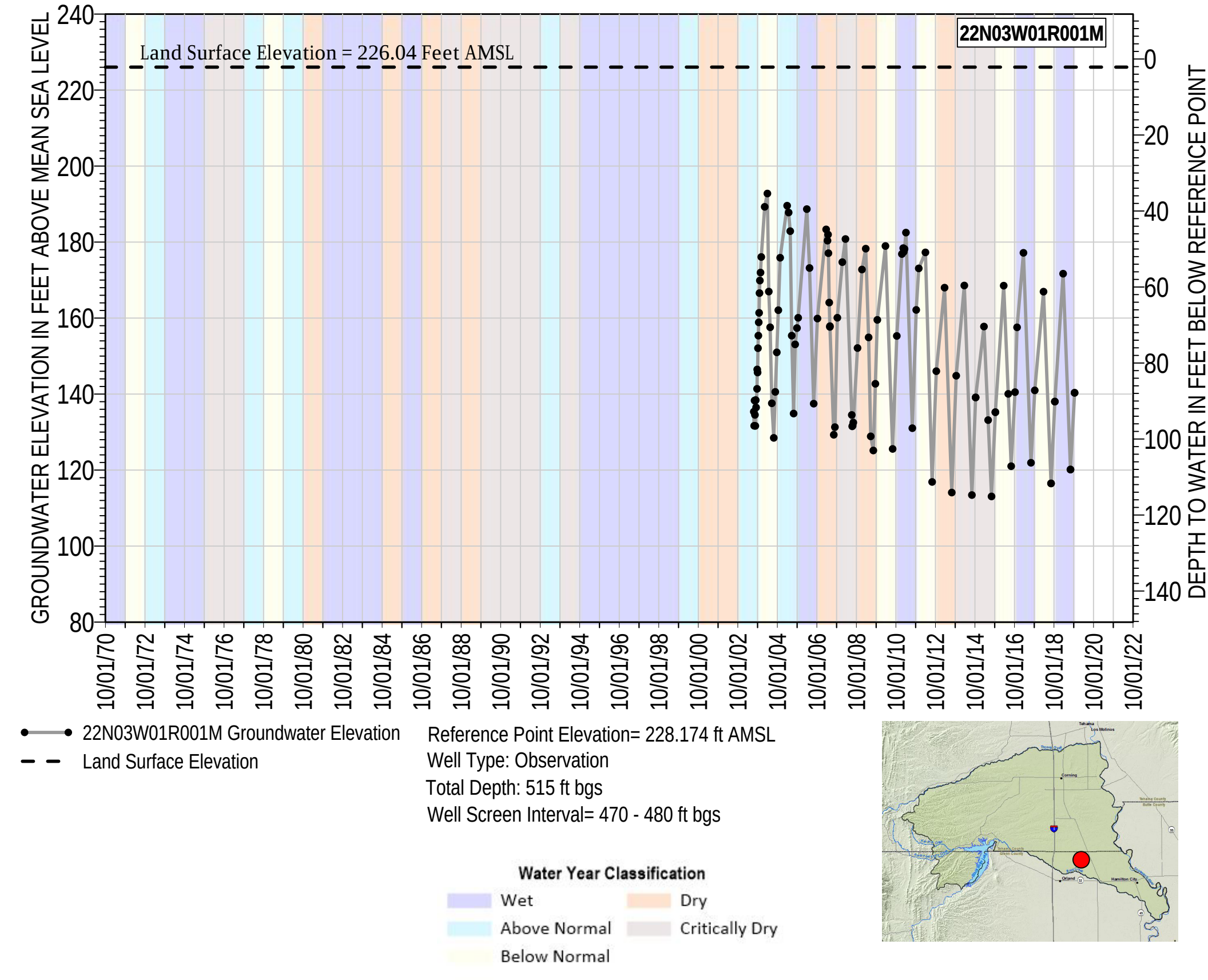
Water Year Classification

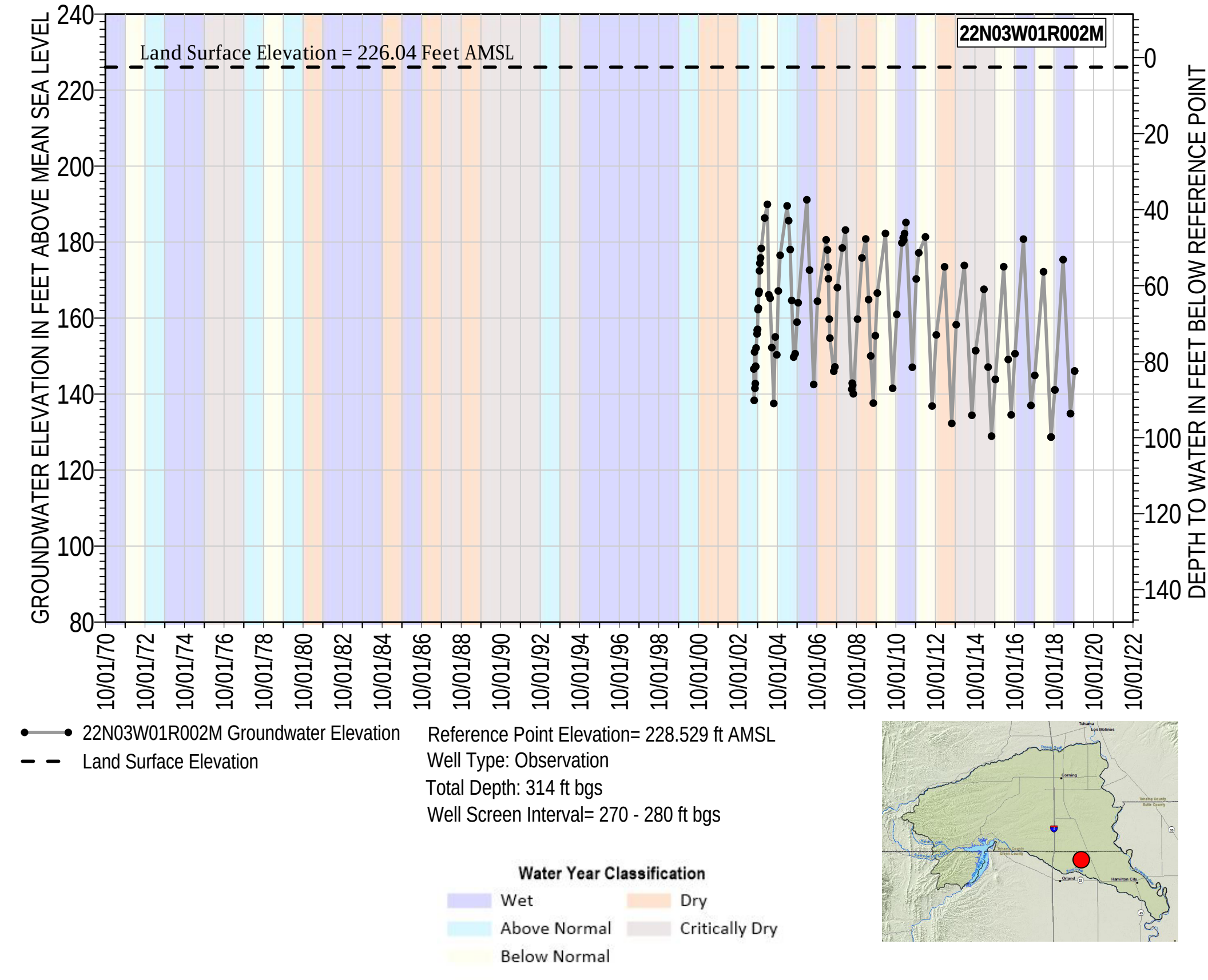
Wet	Dry
Above Normal	Critically Dry
Below Normal	

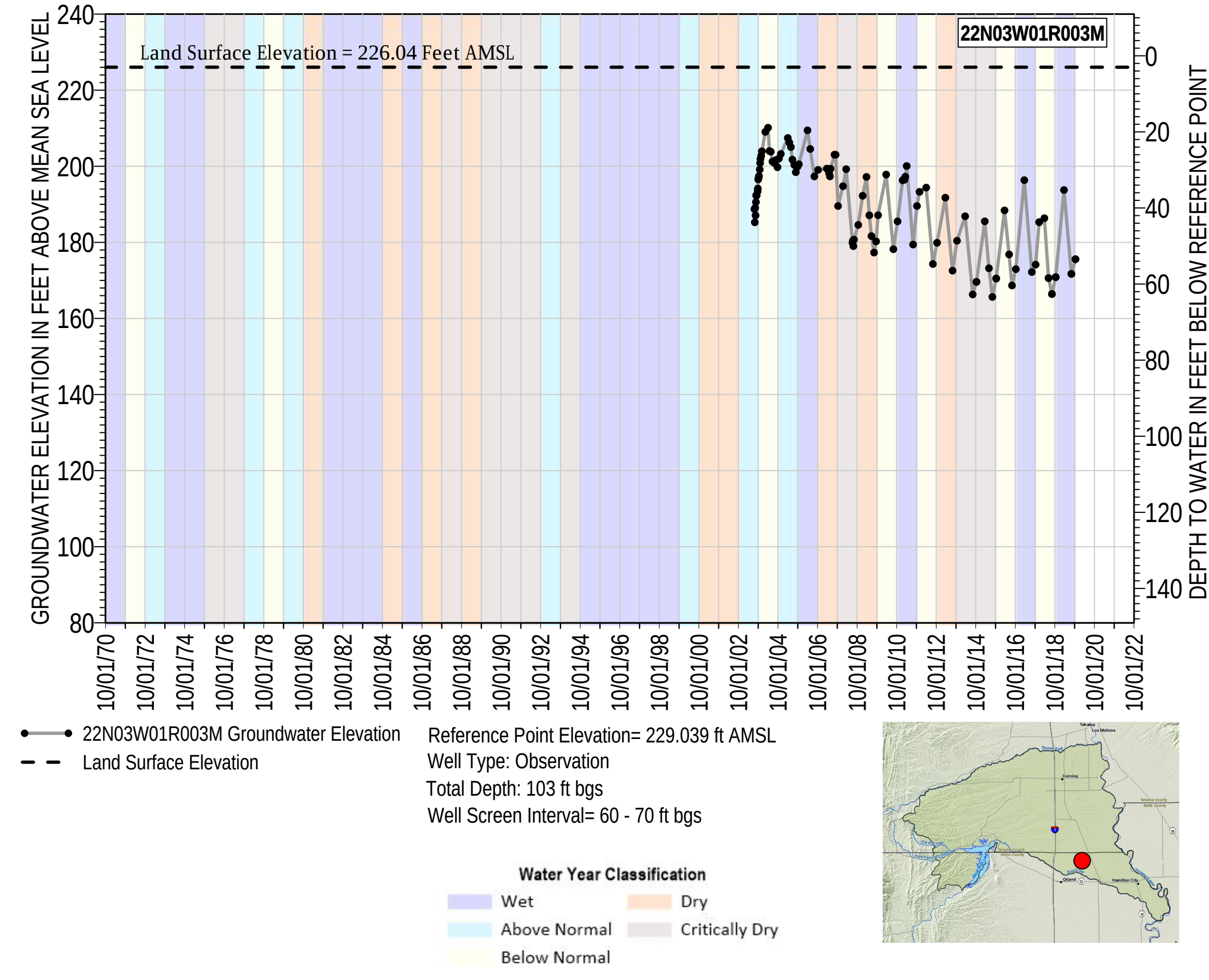


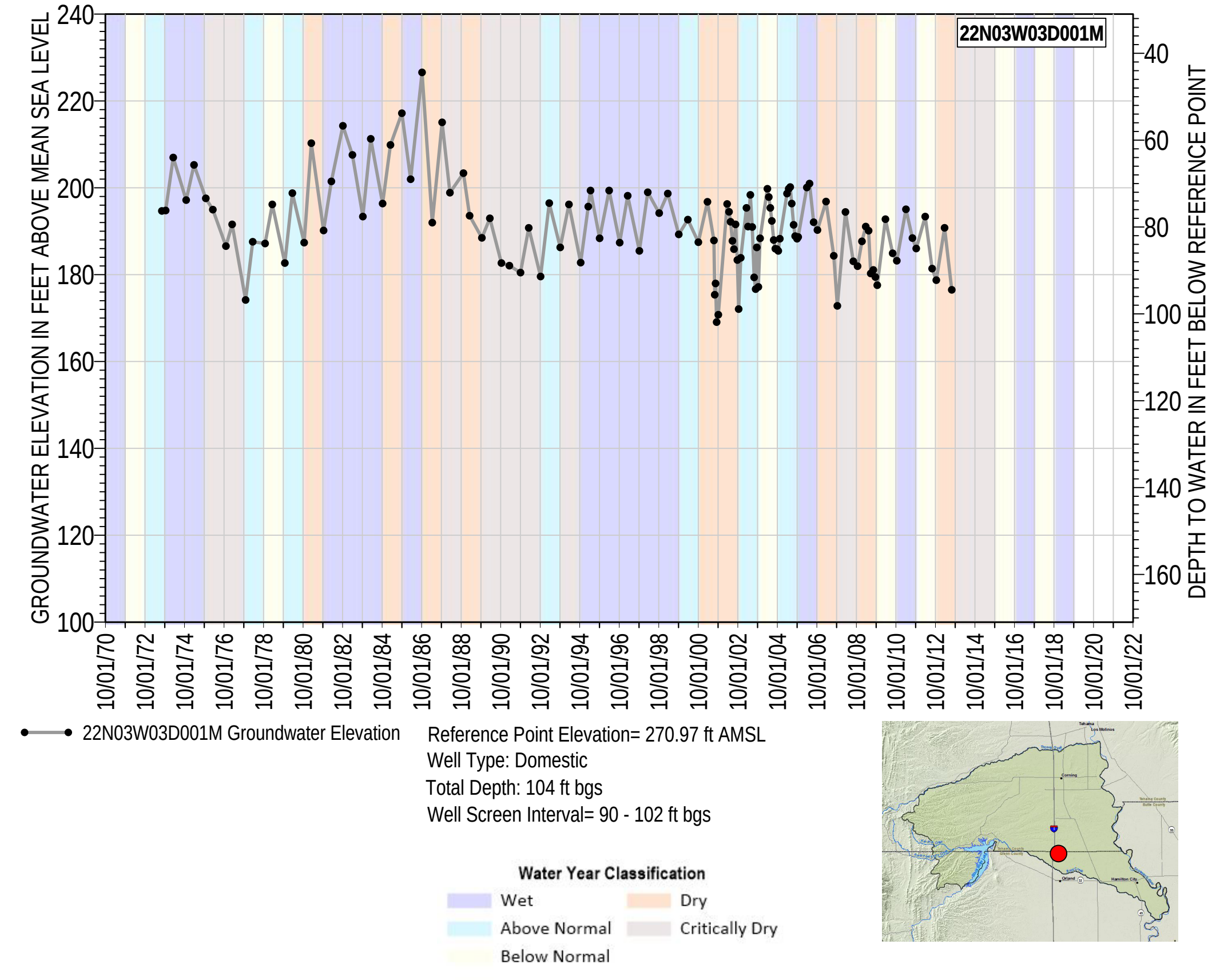

22N02W21D001M
Land Surface Elevation = 200.42 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
220
200
180
160
140
120
100
80
0
20
40
60
80
100
120
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N02W21D001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 202.42 ft AMSL
Well Type: Irrigation
Total Depth: 90 ft bgs
Well Screen Interval= Unknown ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

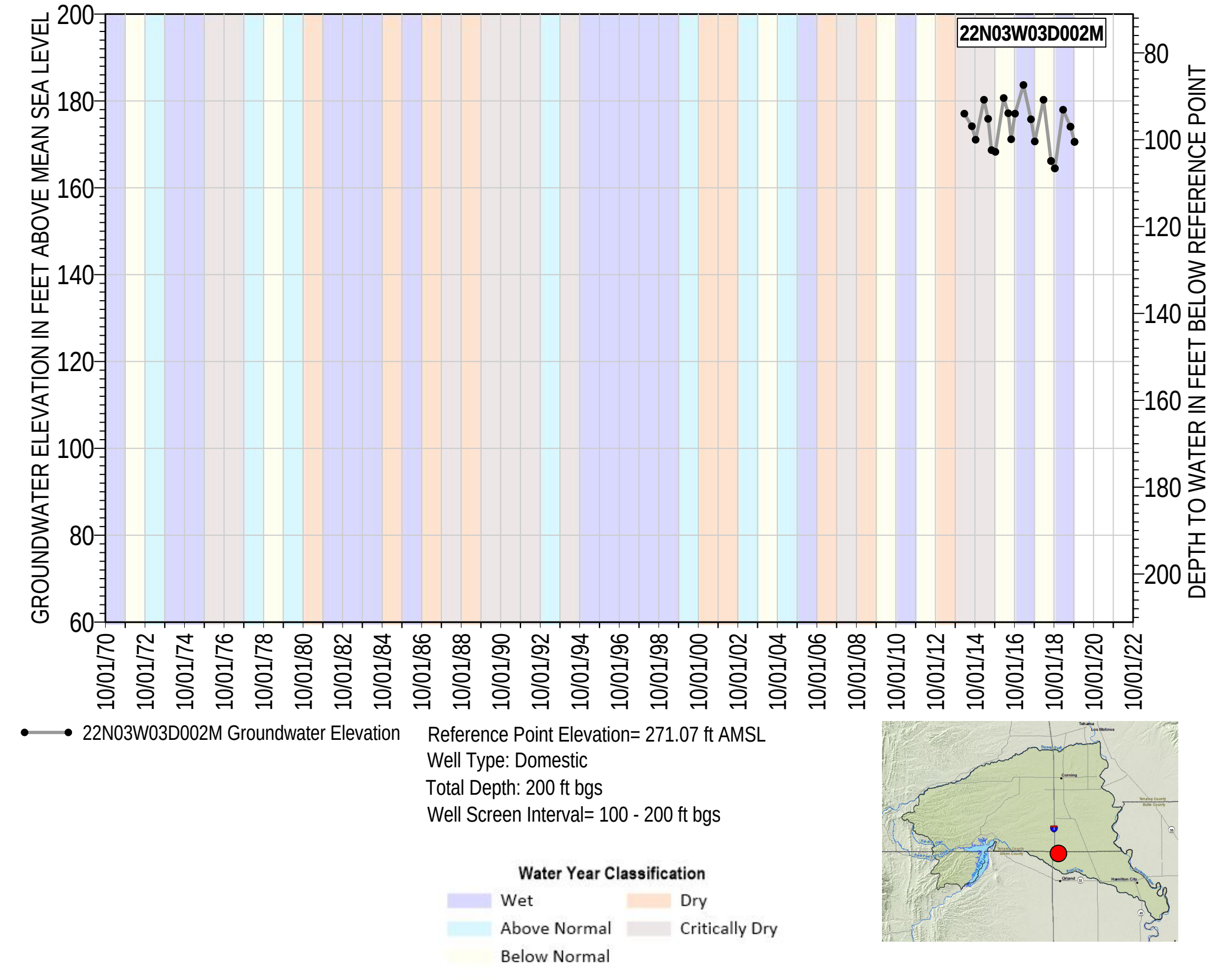

22N02W22B001M
Land Surface Elevation = 186.41 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
200
180
160
140
120
100
80
60
40
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N02W22B001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 187.21 ft AMSL
Well Type: Irrigation
Total Depth: 430 ft bgs
Well Screen Interval= 80 - 430 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry

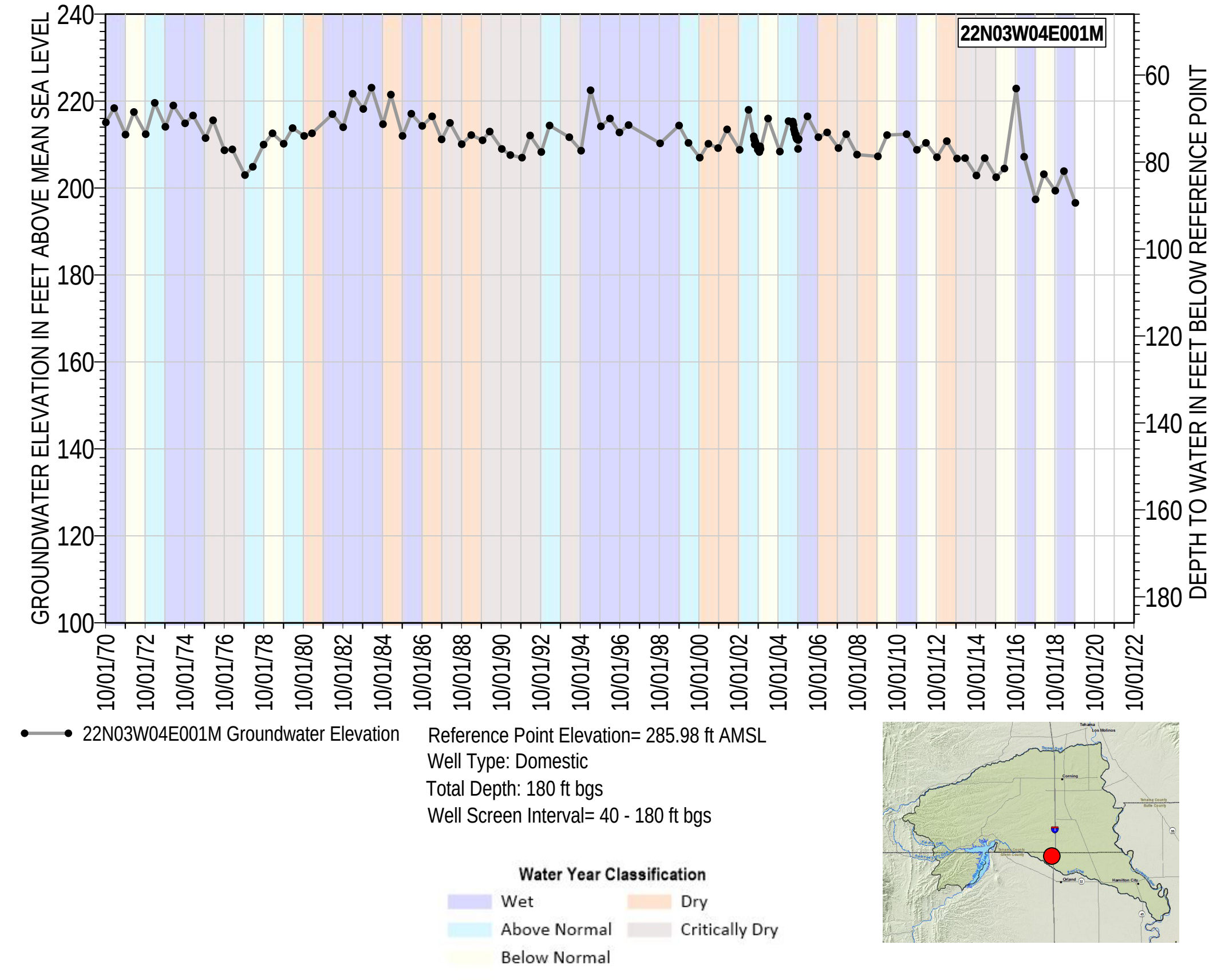

22N03W01R001M
Land Surface Elevation = 226.04 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
240
220
200
180
160
140
120
100
80
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N03W01R001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 228.174 ft AMSL
Well Type: Observation
Total Depth: 515 ft bgs
Well Screen Interval= 470 - 480 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City


22N03W01R002M
Land Surface Elevation = 226.04 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
240
220
200
180
160
140
120
100
80
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N03W01R002M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 228.529 ft AMSL
Well Type: Observation
Total Depth: 314 ft bgs
Well Screen Interval= 270 - 280 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City


22N03W01R003M
Land Surface Elevation = 226.04 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
240
220
200
180
160
140
120
100
80
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N03W01R003M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 229.039 ft AMSL
Well Type: Observation
Total Depth: 103 ft bgs
Well Screen Interval= 60 - 70 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City


22N03W03D001M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
240
220
200
180
160
140
120
100
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N03W03D001M Groundwater Elevation
Reference Point Elevation= 270.97 ft AMSL
Well Type: Domestic
Total Depth: 104 ft bgs
Well Screen Interval= 90 - 102 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

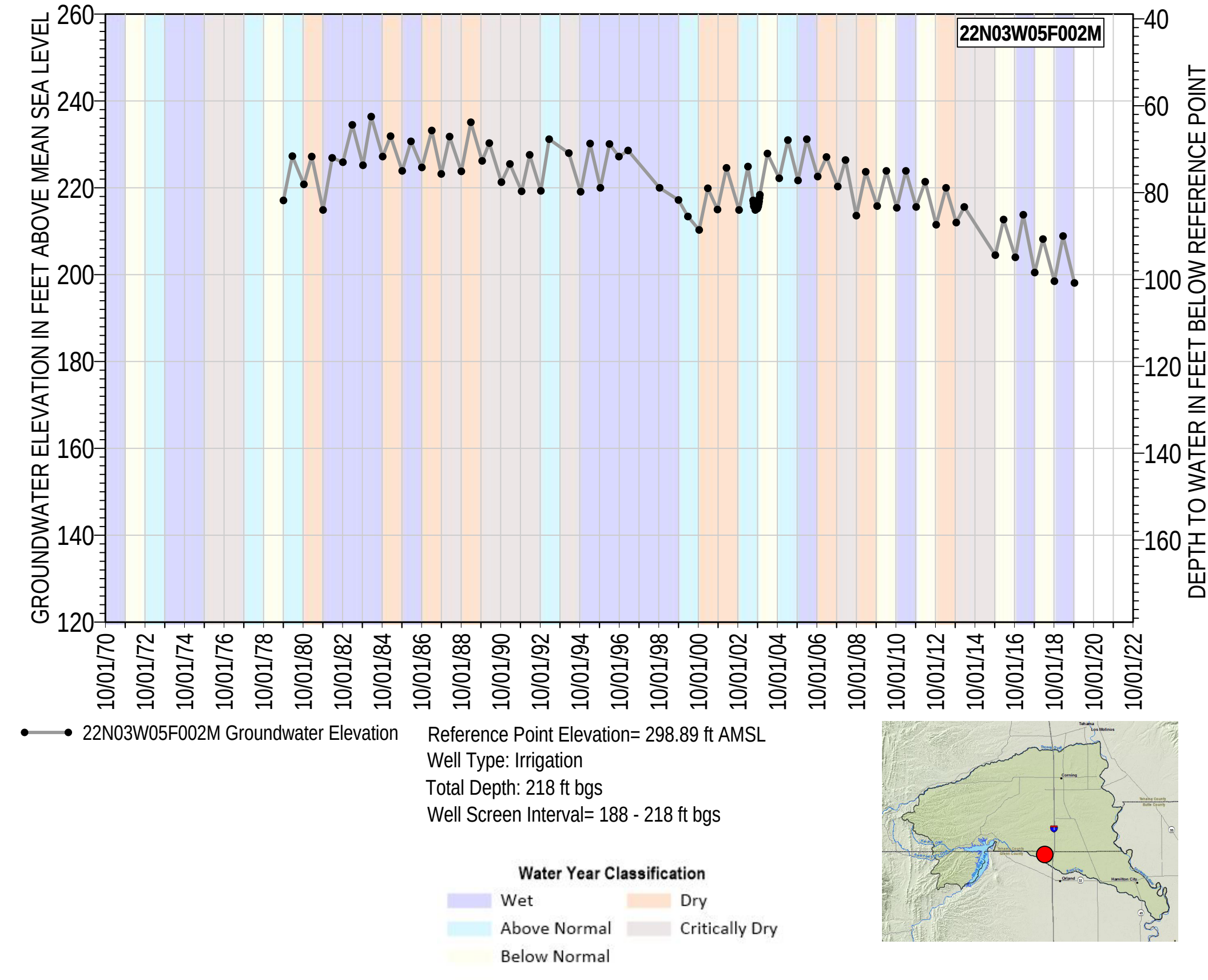

22N03W03D002M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
200
180
160
140
120
100
80
60
80
100
120
140
160
180
200
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N03W03D002M Groundwater Elevation
Reference Point Elevation= 271.07 ft AMSL
Well Type: Domestic
Total Depth: 200 ft bgs
Well Screen Interval= 100 - 200 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

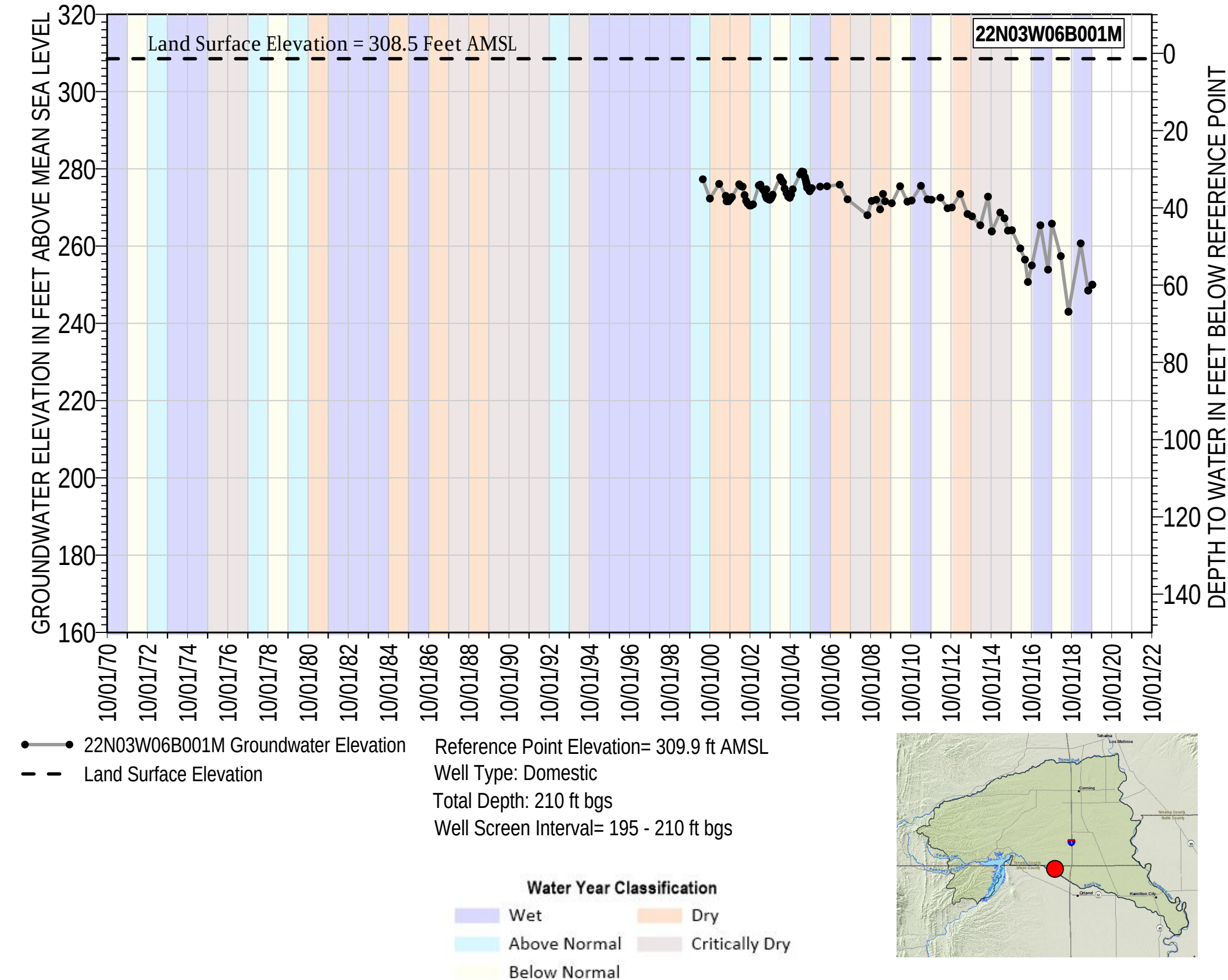


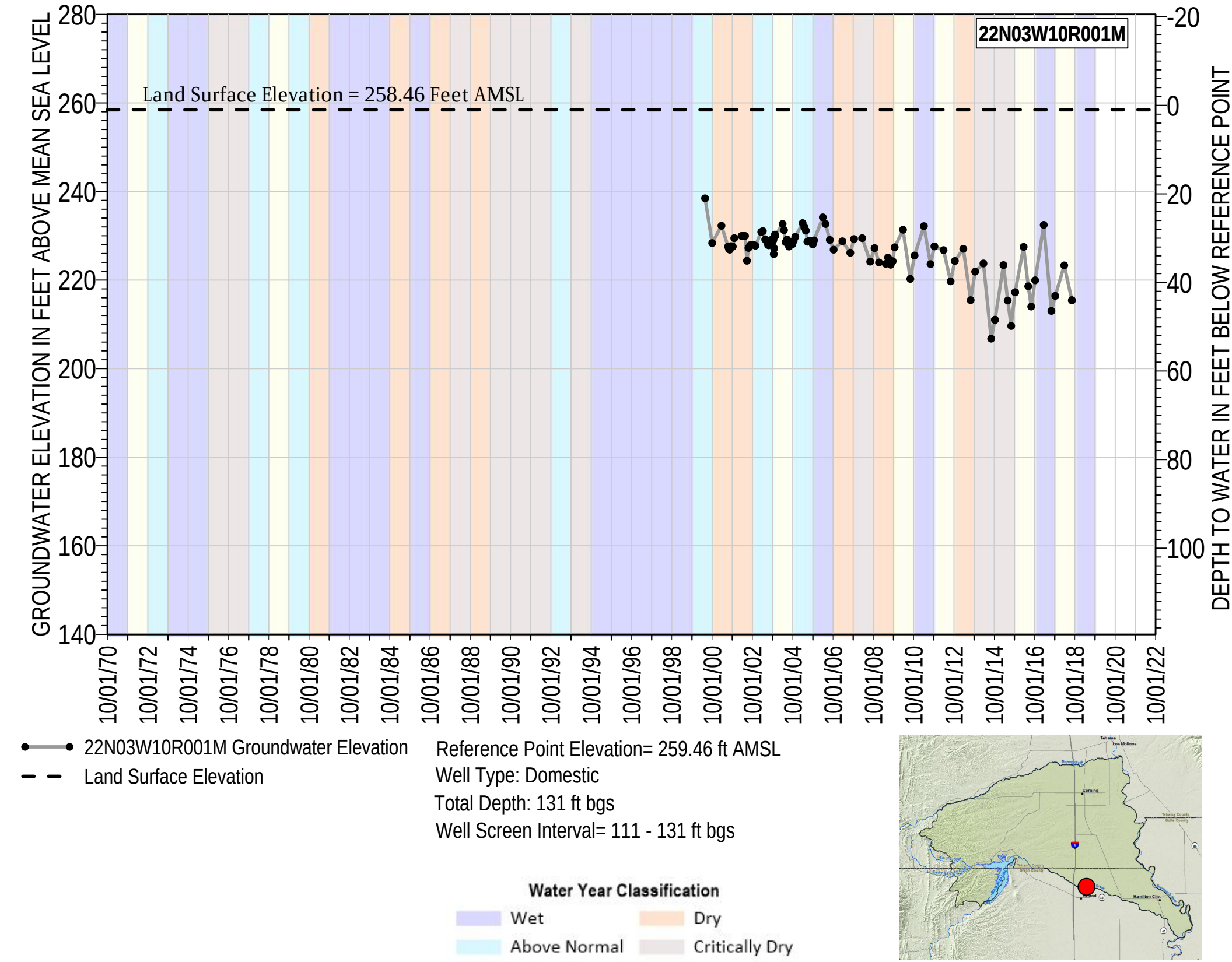
Reference Point Elevation= 285.98 ft AMSL
Well Type: Domestic
Total Depth: 180 ft bgs
Well Screen Interval= 40 - 180 ft bgs

Water Year Classification

Wet	Dry
Above Normal	Critically Dry
Below Normal	


22N03W05F002M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
260
240
220
200
180
160
140
120
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N03W05F002M Groundwater Elevation
Reference Point Elevation= 298.89 ft AMSL
Well Type: Irrigation
Total Depth: 218 ft bgs
Well Screen Interval= 188 - 218 ft bgs
Water Year Classification
Wet
Dry
Above Normal
Critically Dry
Below Normal


22N03W06B001M
Land Surface Elevation = 308.5 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
320
300
280
260
240
220
200
180
160
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N03W06B001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 309.9 ft AMSL
Well Type: Domestic
Total Depth: 210 ft bgs
Well Screen Interval= 195 - 210 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City



22N03W10R001M Groundwater Elevation

Land Surface Elevation

Reference Point Elevation= 259.46 ft AMSL

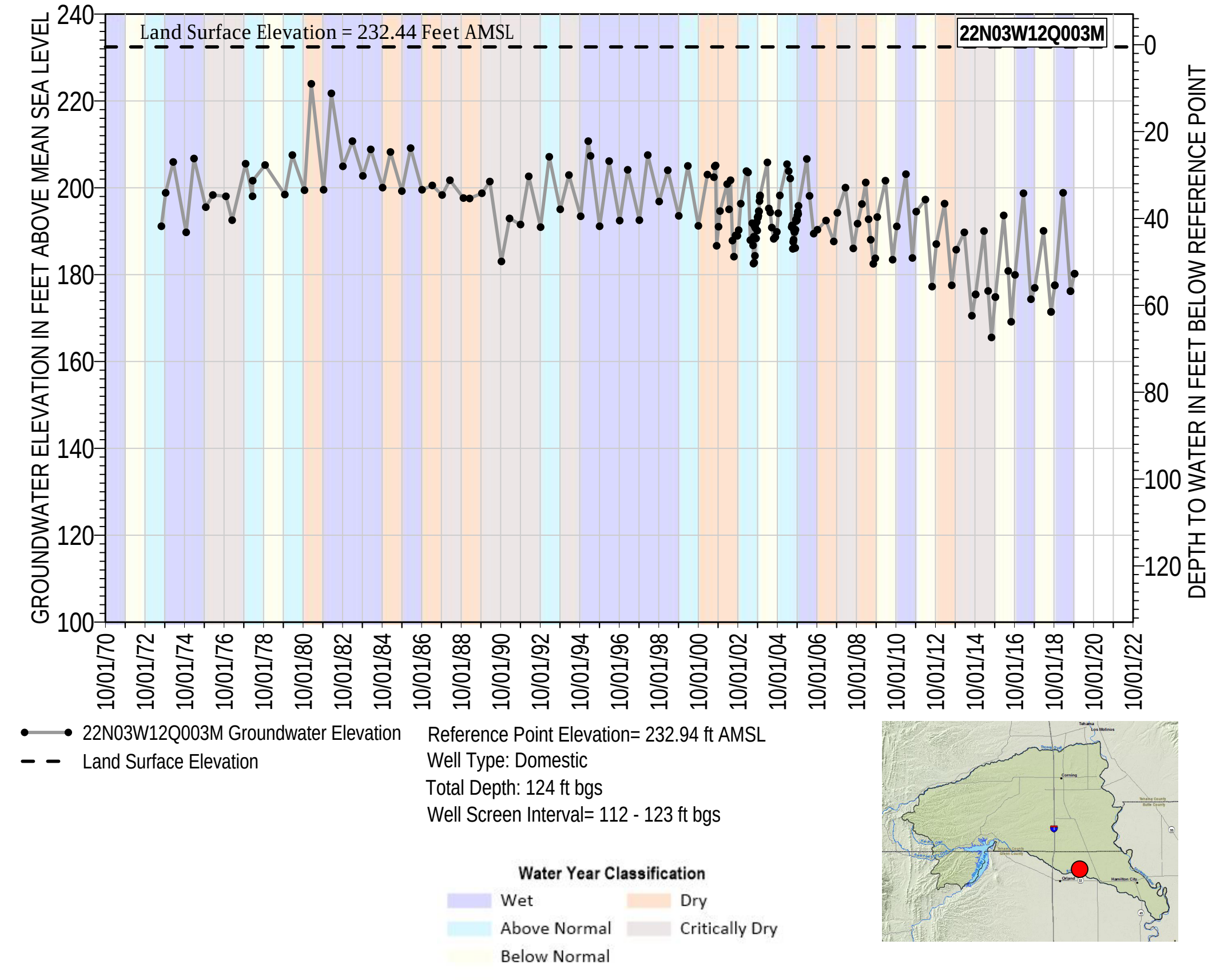
Well Type: Domestic

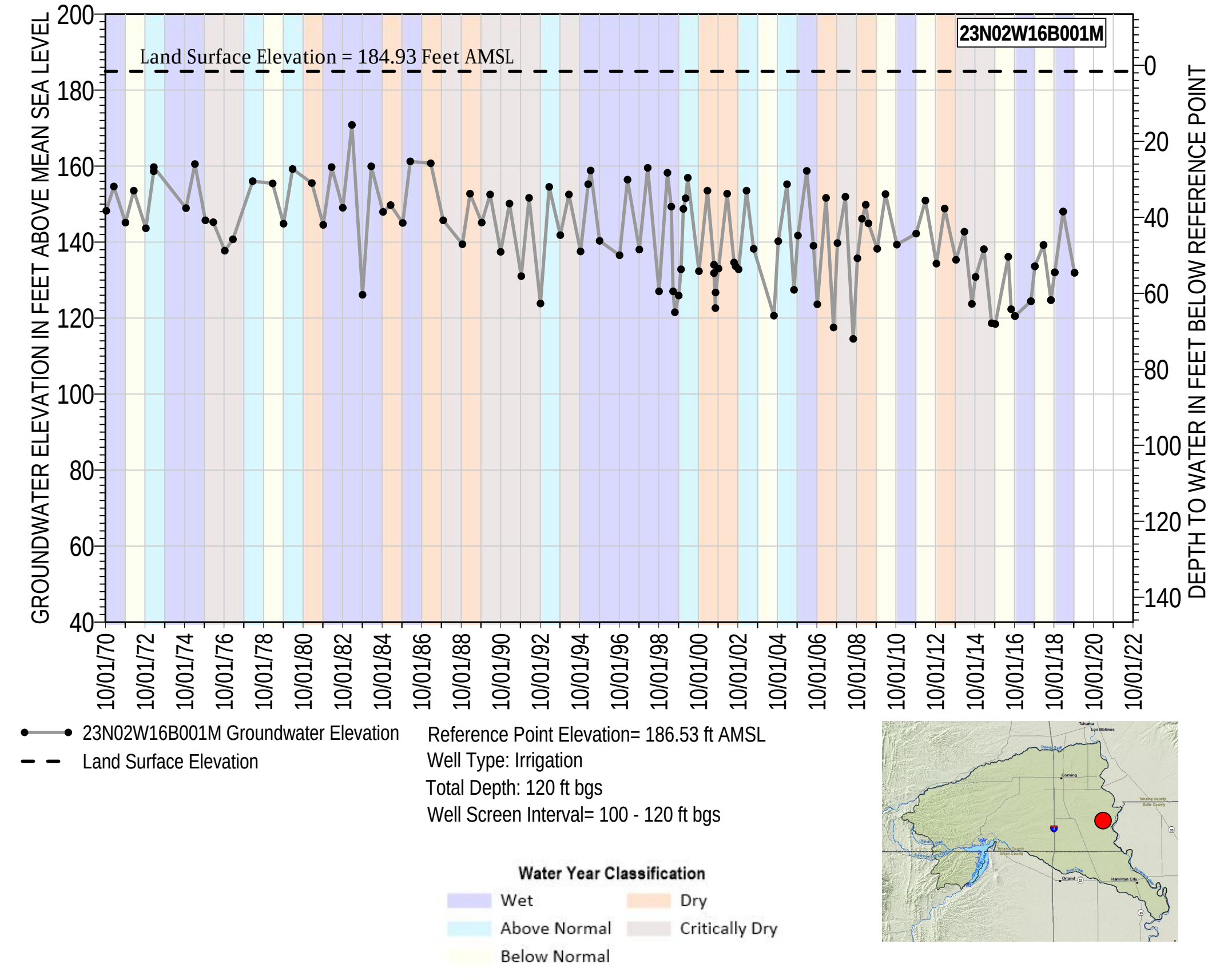
Total Depth: 131 ft bgs

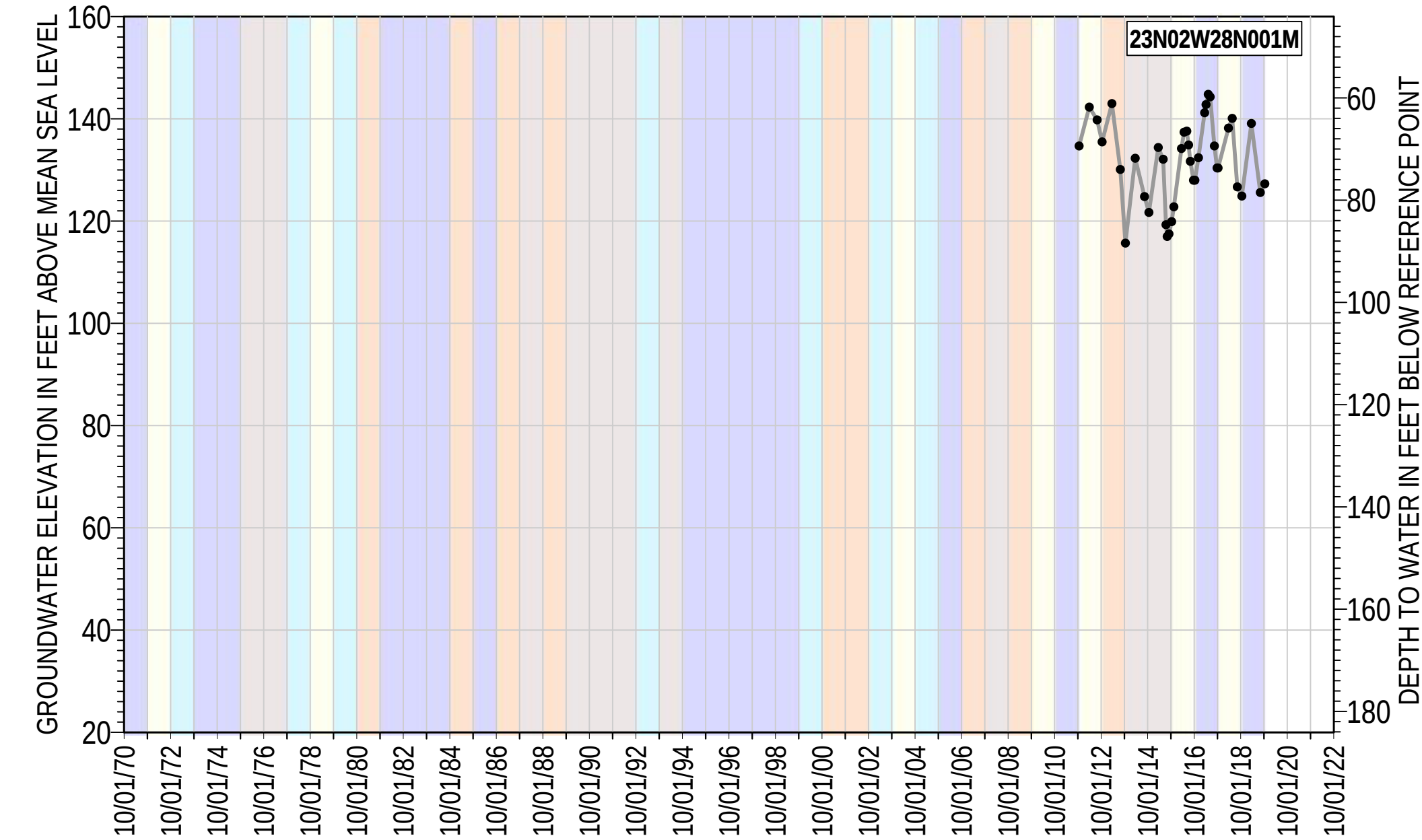
Well Screen Interval= 111 - 131 ft bgs

Water Year Classification

Wet	Dry
Above Normal	Critically Dry
Below Normal	


Land Surface Elevation = 232.44 Feet AMSL
22N03W12Q003M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
240
220
200
180
160
140
120
100
0
20
40
60
80
100
120
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
22N03W12Q003M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 232.94 ft AMSL
Well Type: Domestic
Total Depth: 124 ft bgs
Well Screen Interval= 112 - 123 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

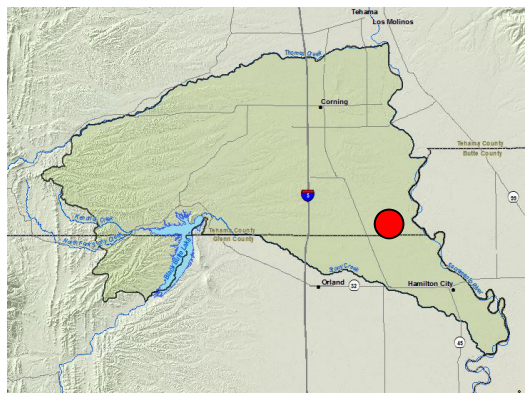

23N02W16B001M
Land Surface Elevation = 184.93 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
200
180
160
140
120
100
80
60
40
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N02W16B001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 186.53 ft AMSL
Well Type: Irrigation
Total Depth: 120 ft bgs
Well Screen Interval= 100 - 120 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

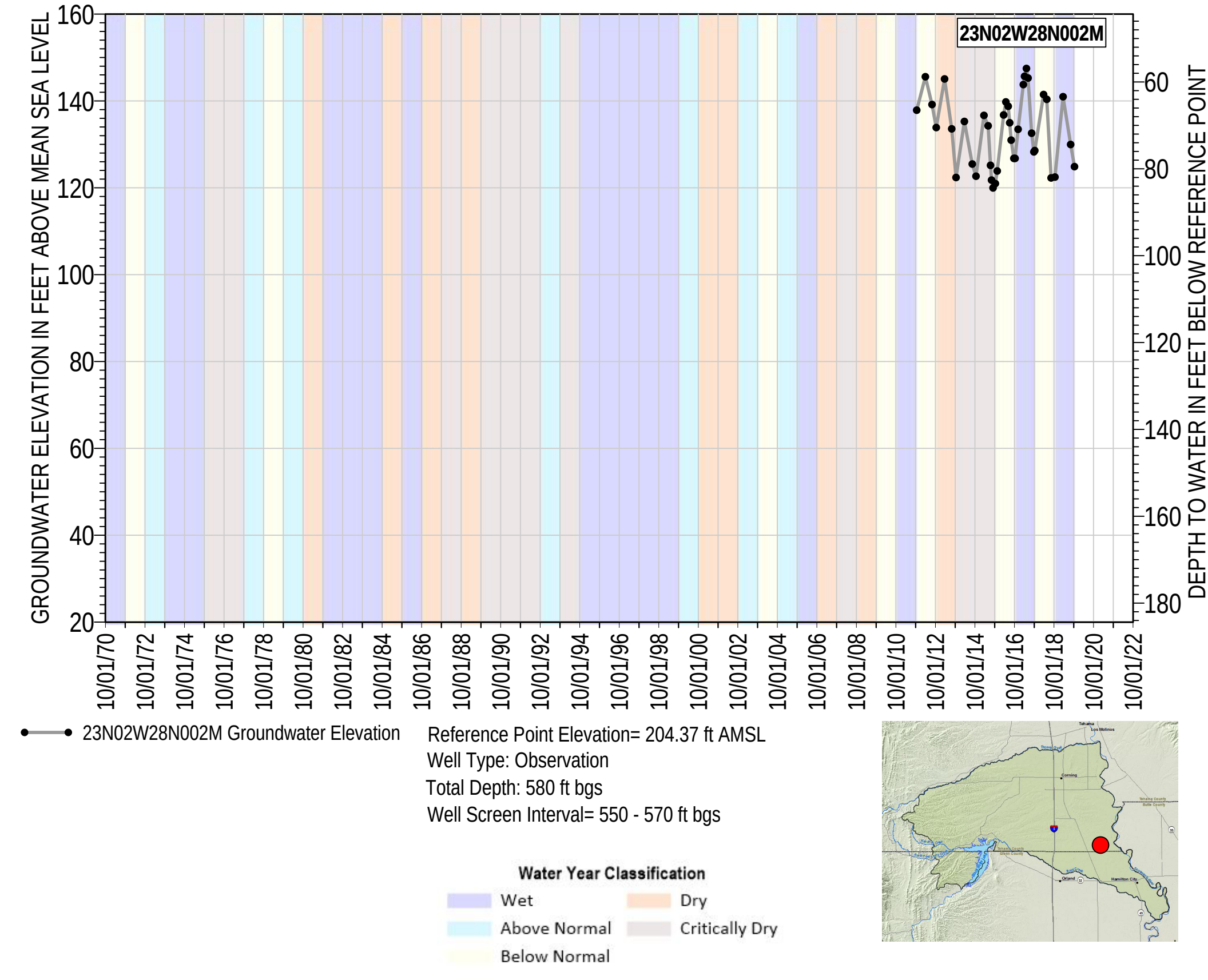


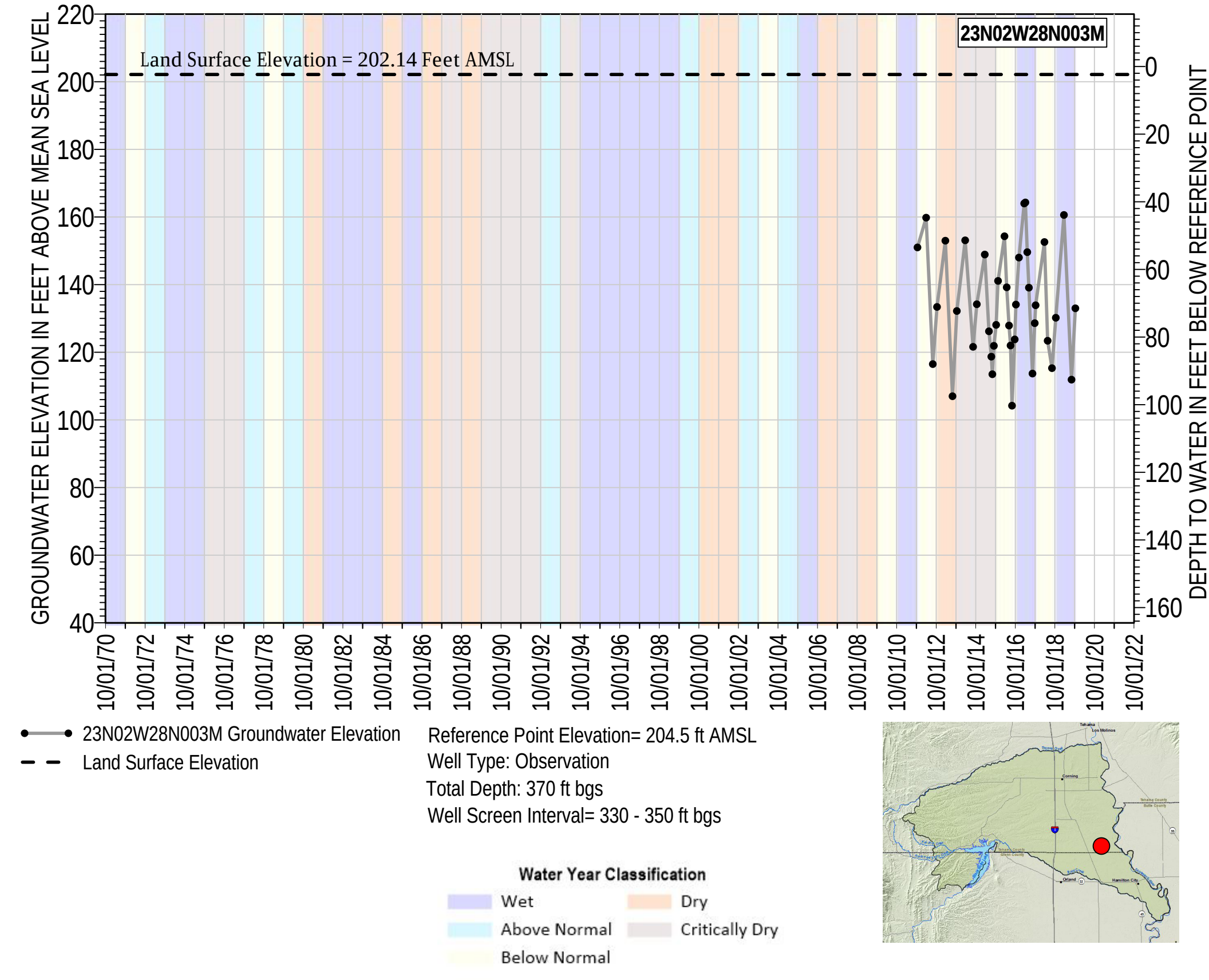
Reference Point Elevation= 204.09 ft AMSL
Well Type: Observation
Total Depth: 970 ft bgs
Well Screen Interval= 910 - 950 ft bgs

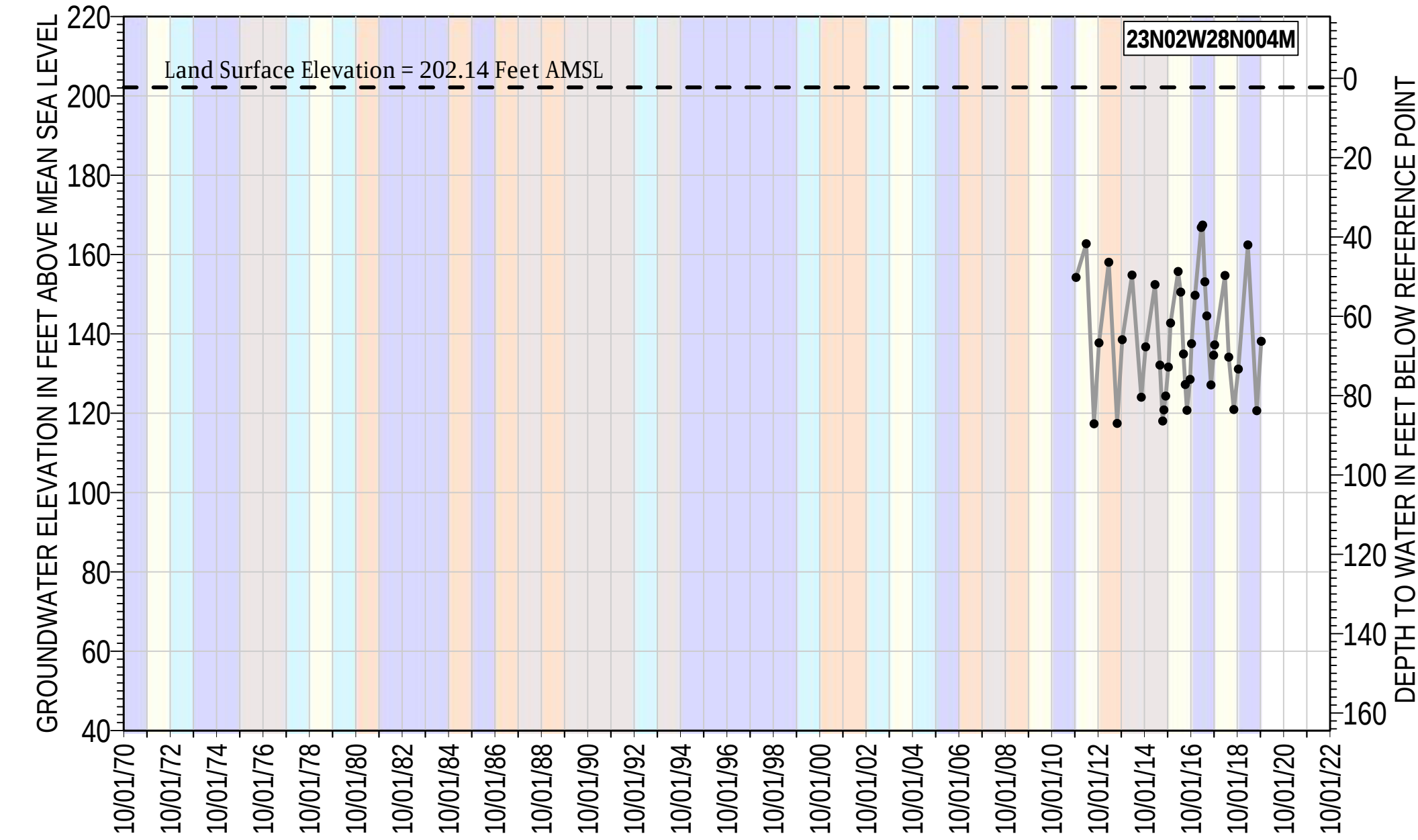
Water Year Classification

Wet	Dry
Above Normal	Critically Dry
Below Normal	




23N02W28N002M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
160
140
120
100
80
60
40
20
60
80
100
120
140
160
180
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N02W28N002M Groundwater Elevation
Reference Point Elevation= 204.37 ft AMSL
Well Type: Observation
Total Depth: 580 ft bgs
Well Screen Interval= 550 - 570 ft bgs
Water Year Classification
Wet
Dry
Above Normal
Critically Dry
Below Normal
Tehama
Los Molinos
Corning
Orland
Hamilton City


23N02W28N003M
Land Surface Elevation = 202.14 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
220
200
180
160
140
120
100
80
60
40
0
20
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N02W28N003M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 204.5 ft AMSL
Well Type: Observation
Total Depth: 370 ft bgs
Well Screen Interval= 330 - 350 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry



23N02W28N004M Groundwater Elevation

Land Surface Elevation

Reference Point Elevation= 204.43 ft AMSL

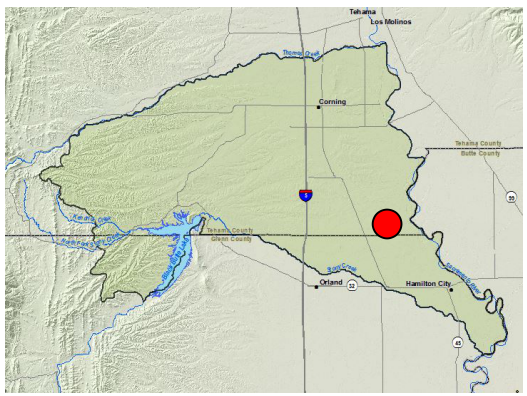
Well Type: Observation

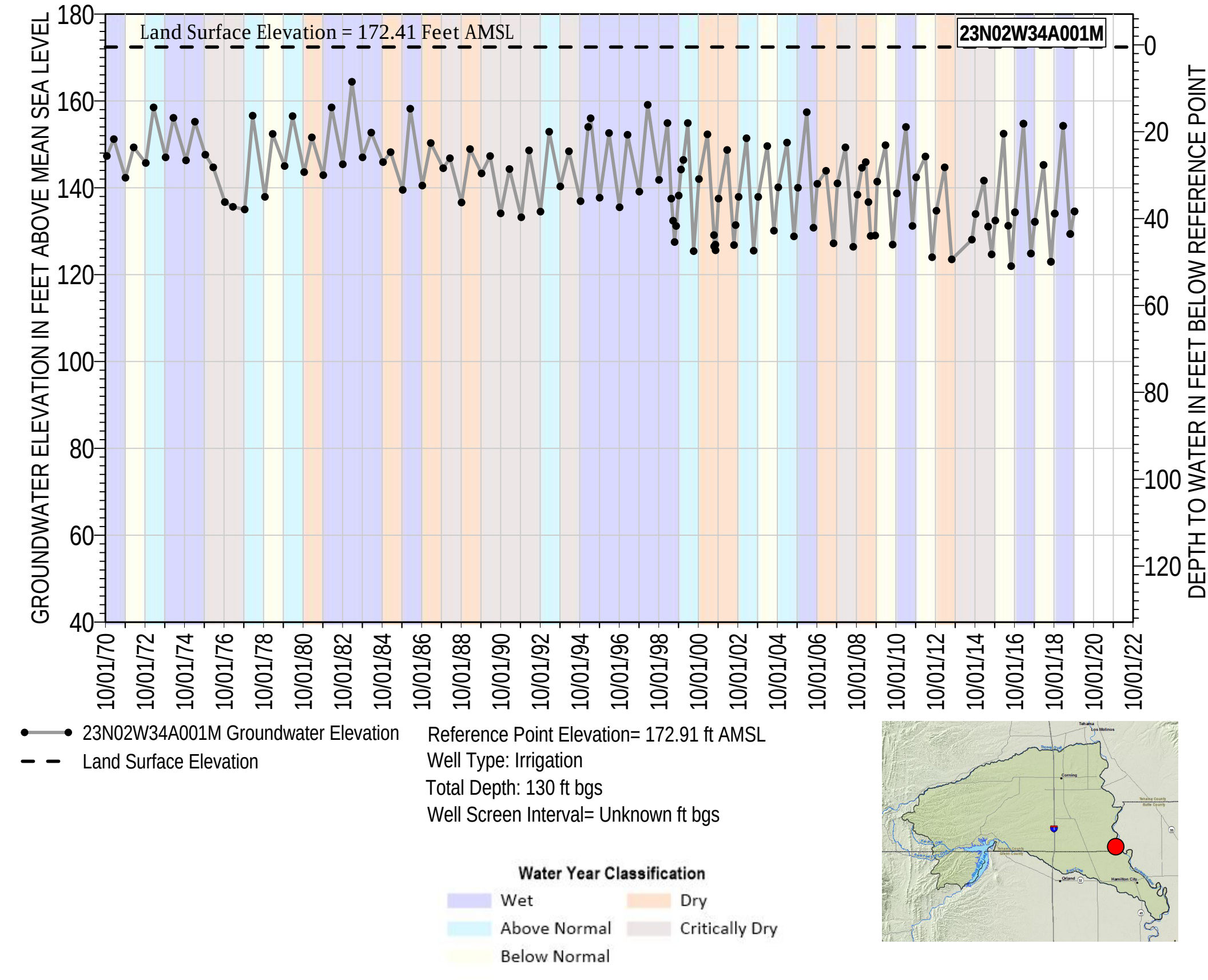
Total Depth: 205 ft bgs

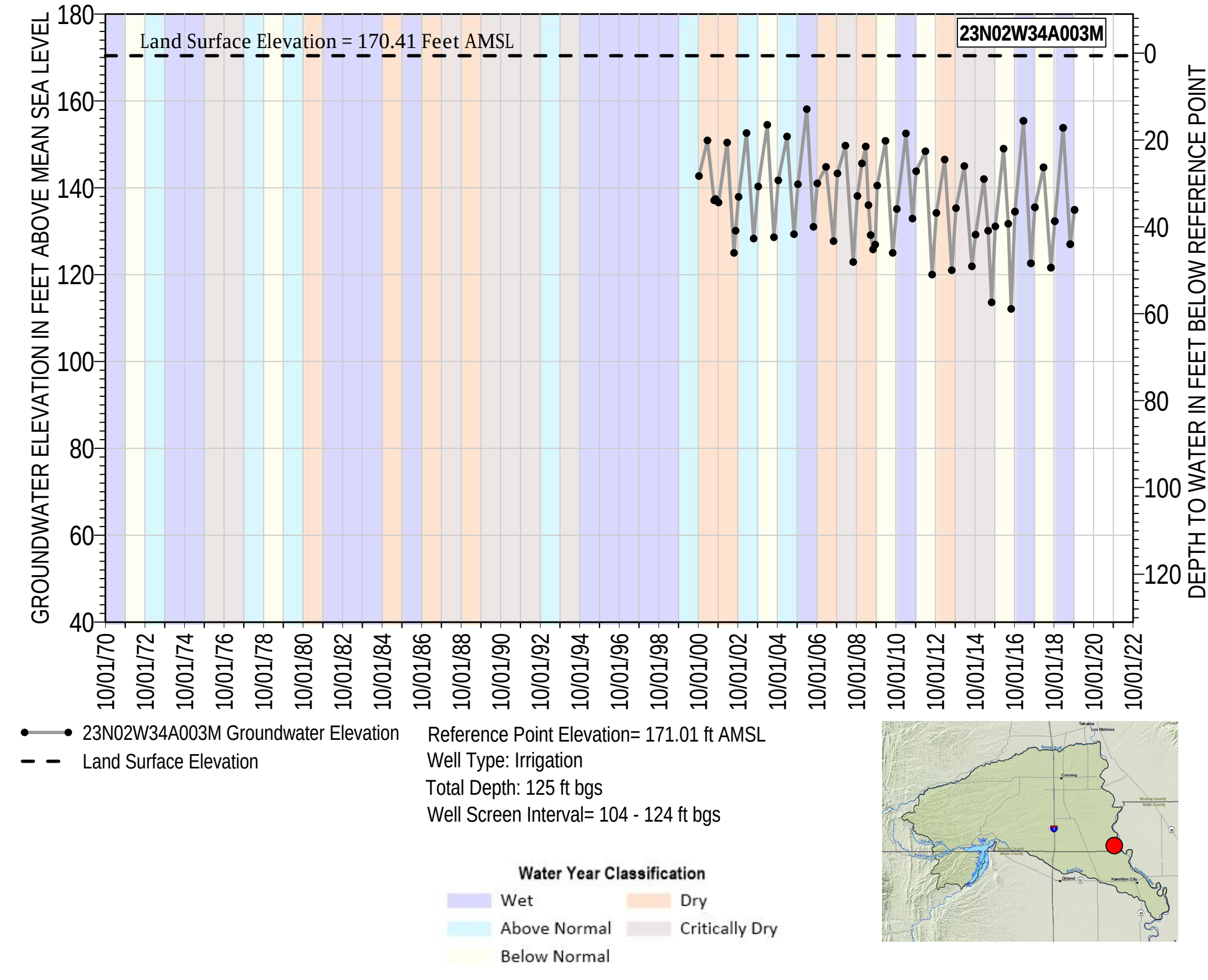
Well Screen Interval= 100 - 170 ft bgs

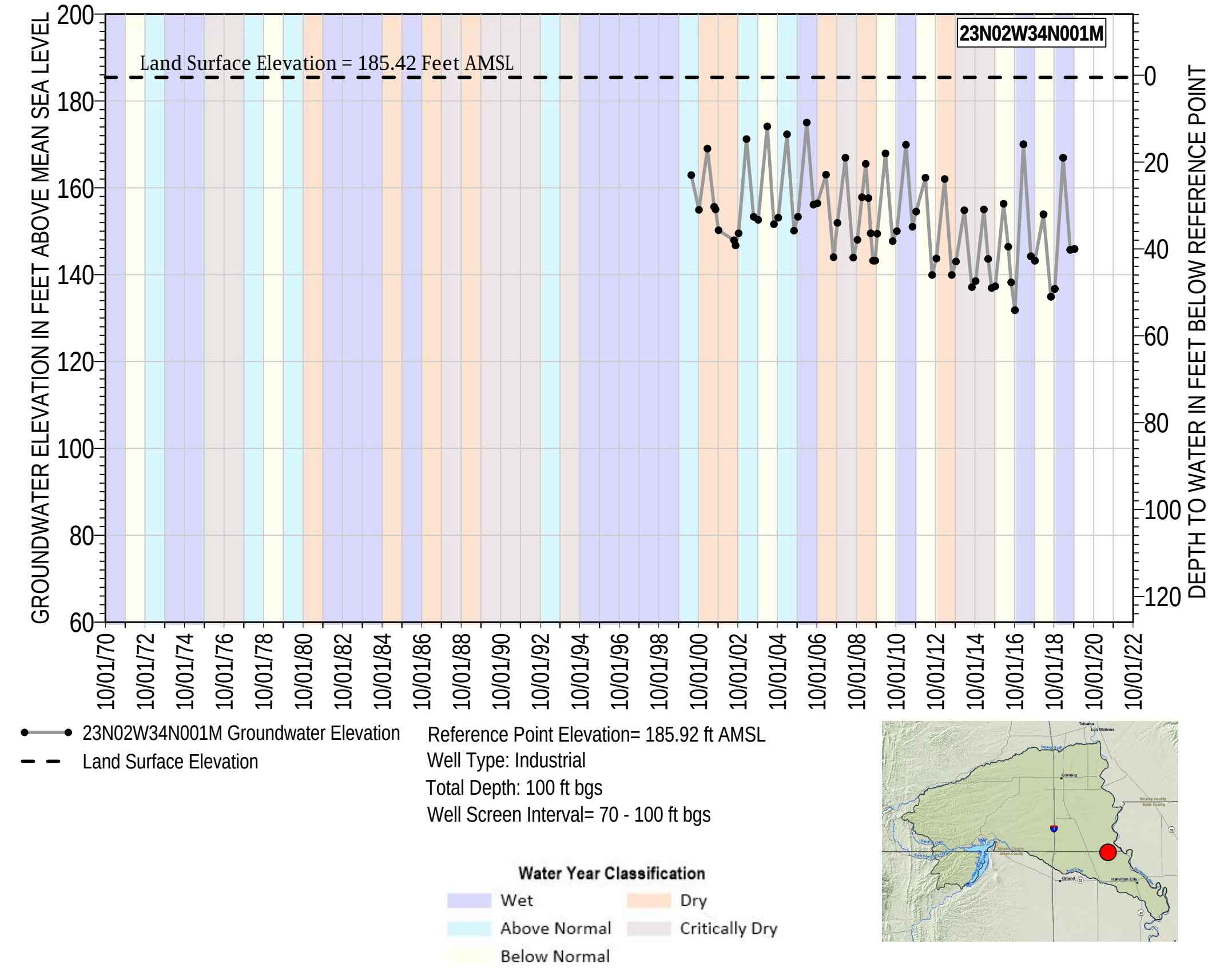
Water Year Classification

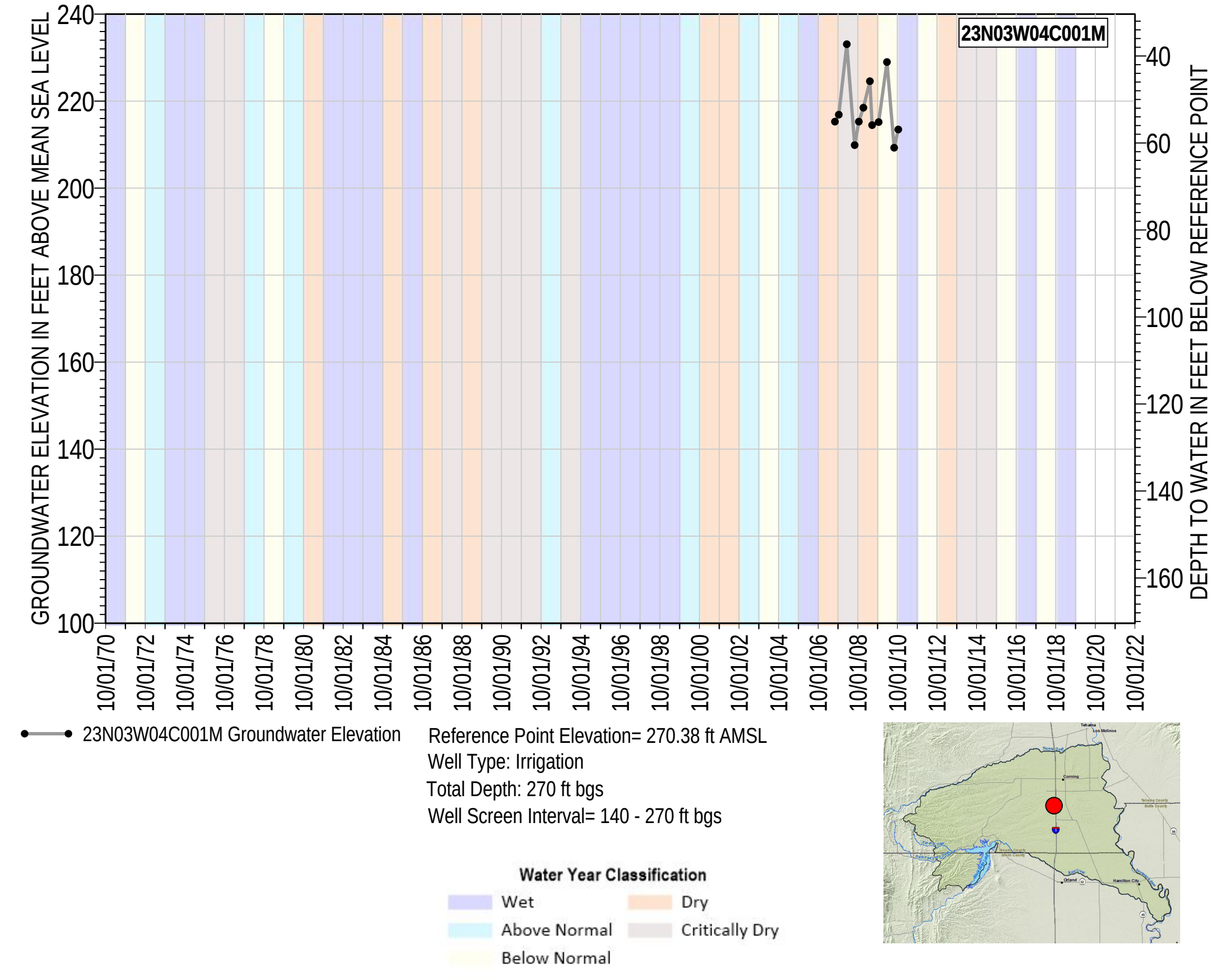
Wet	Dry
Above Normal	Critically Dry
Below Normal	

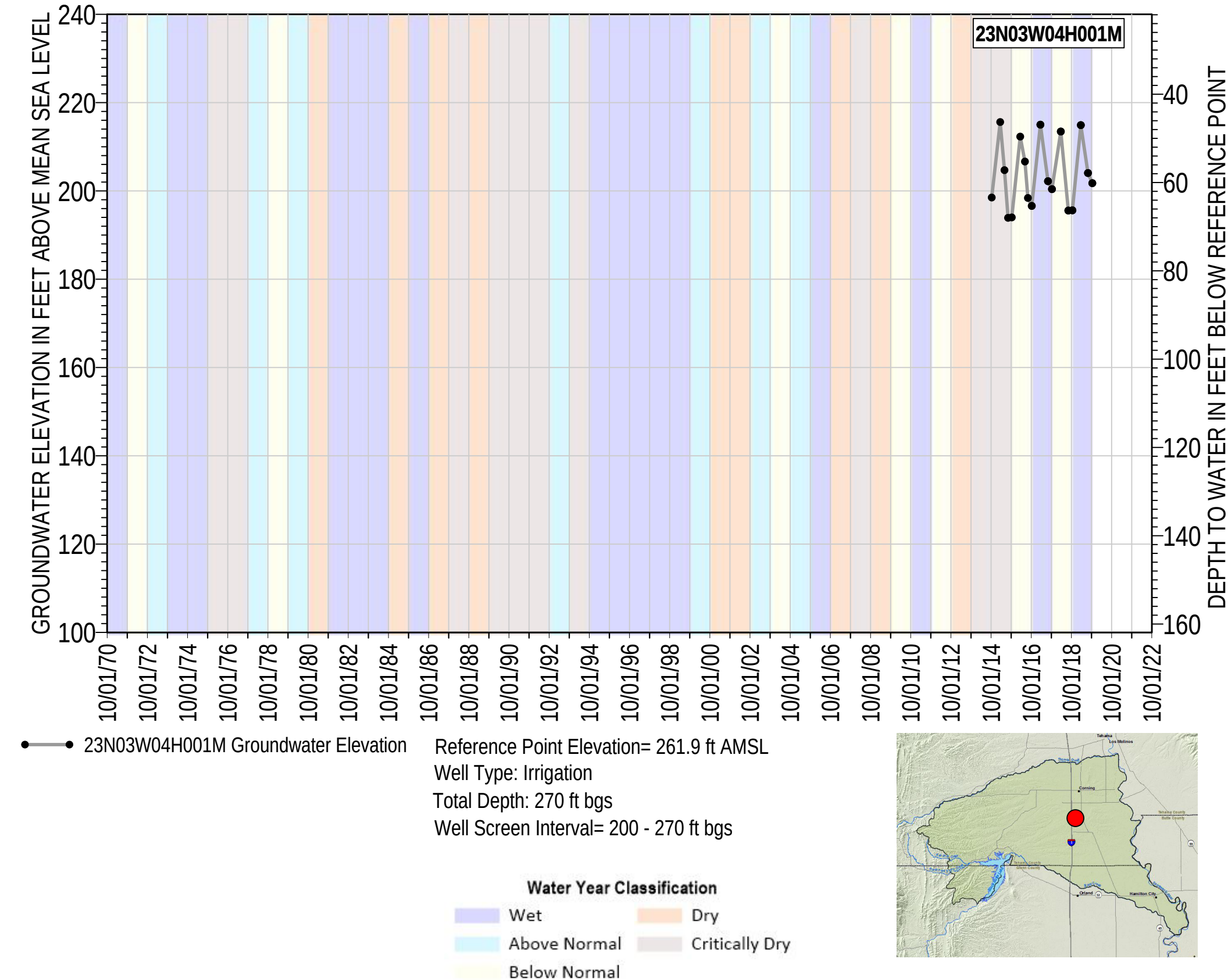


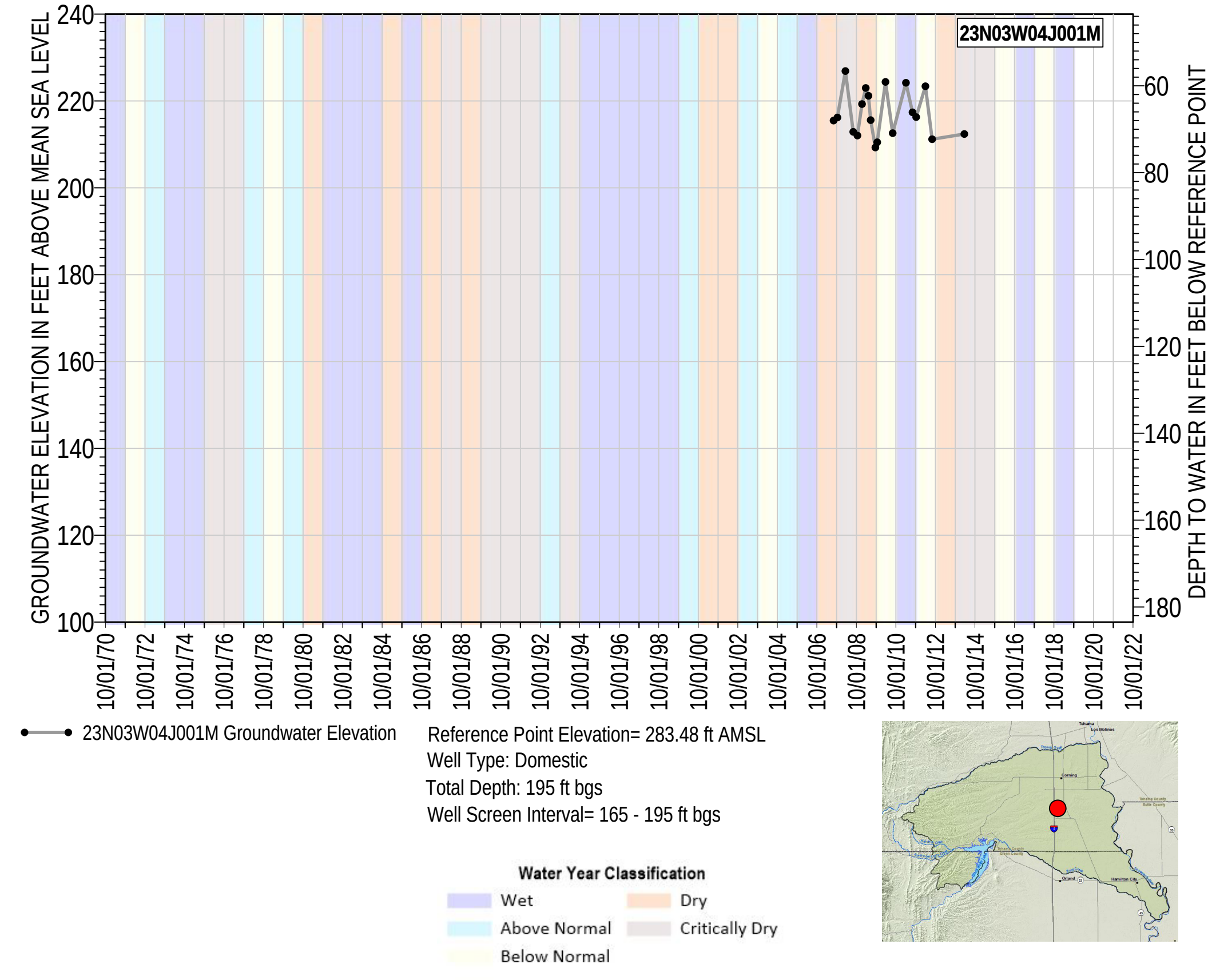

Land Surface Elevation = 172.41 Feet AMSL
23N02W34A001M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
180
160
140
120
100
80
60
40
0
20
40
60
80
100
120
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N02W34A001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 172.91 ft AMSL
Well Type: Irrigation
Total Depth: 130 ft bgs
Well Screen Interval= Unknown ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Corning
Orland
Hamilton City

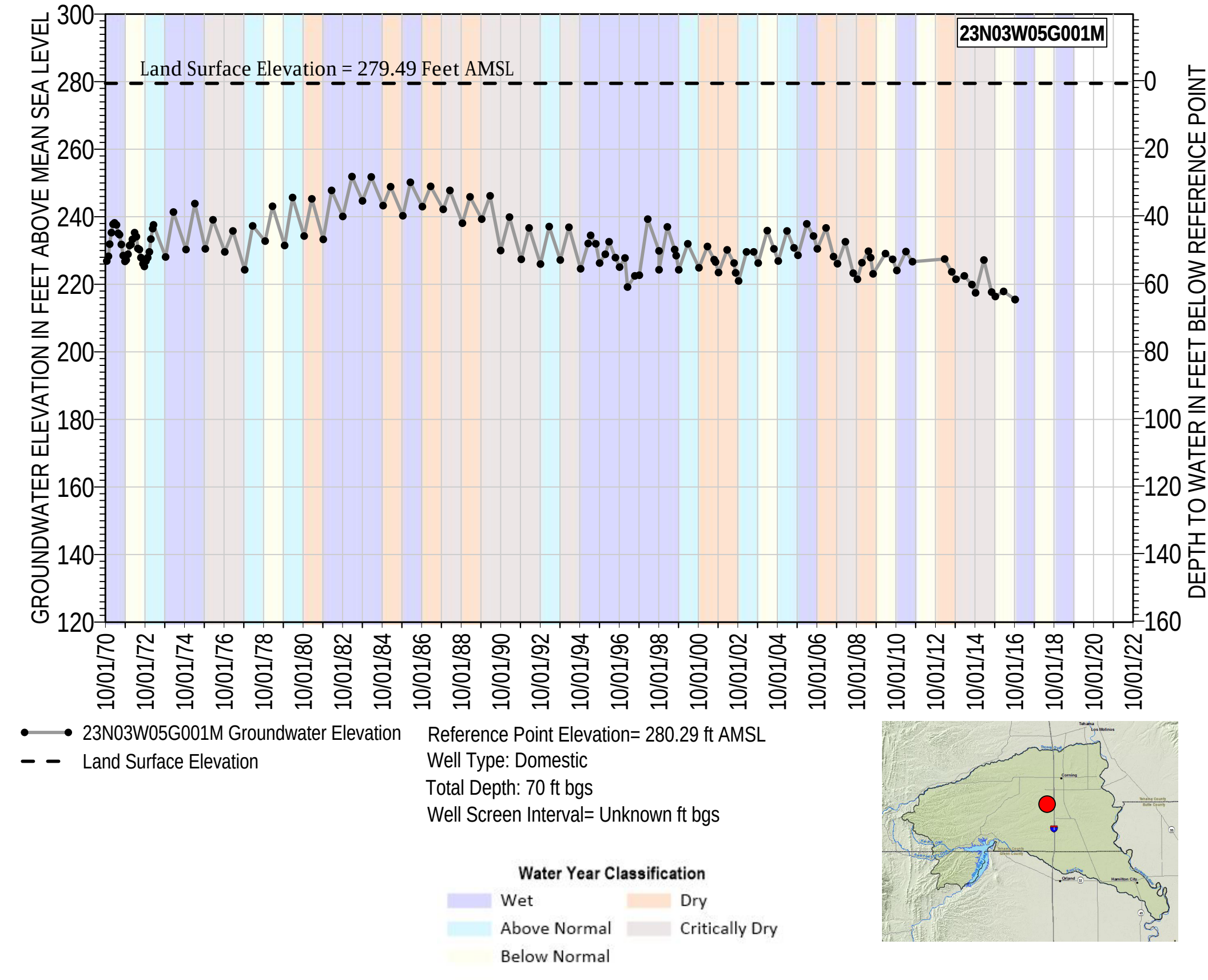

23N02W34A003M
Land Surface Elevation = 170.41 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
180
160
140
120
100
80
60
40
0
20
40
60
80
100
120
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N02W34A003M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 171.01 ft AMSL
Well Type: Irrigation
Total Depth: 125 ft bgs
Well Screen Interval= 104 - 124 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

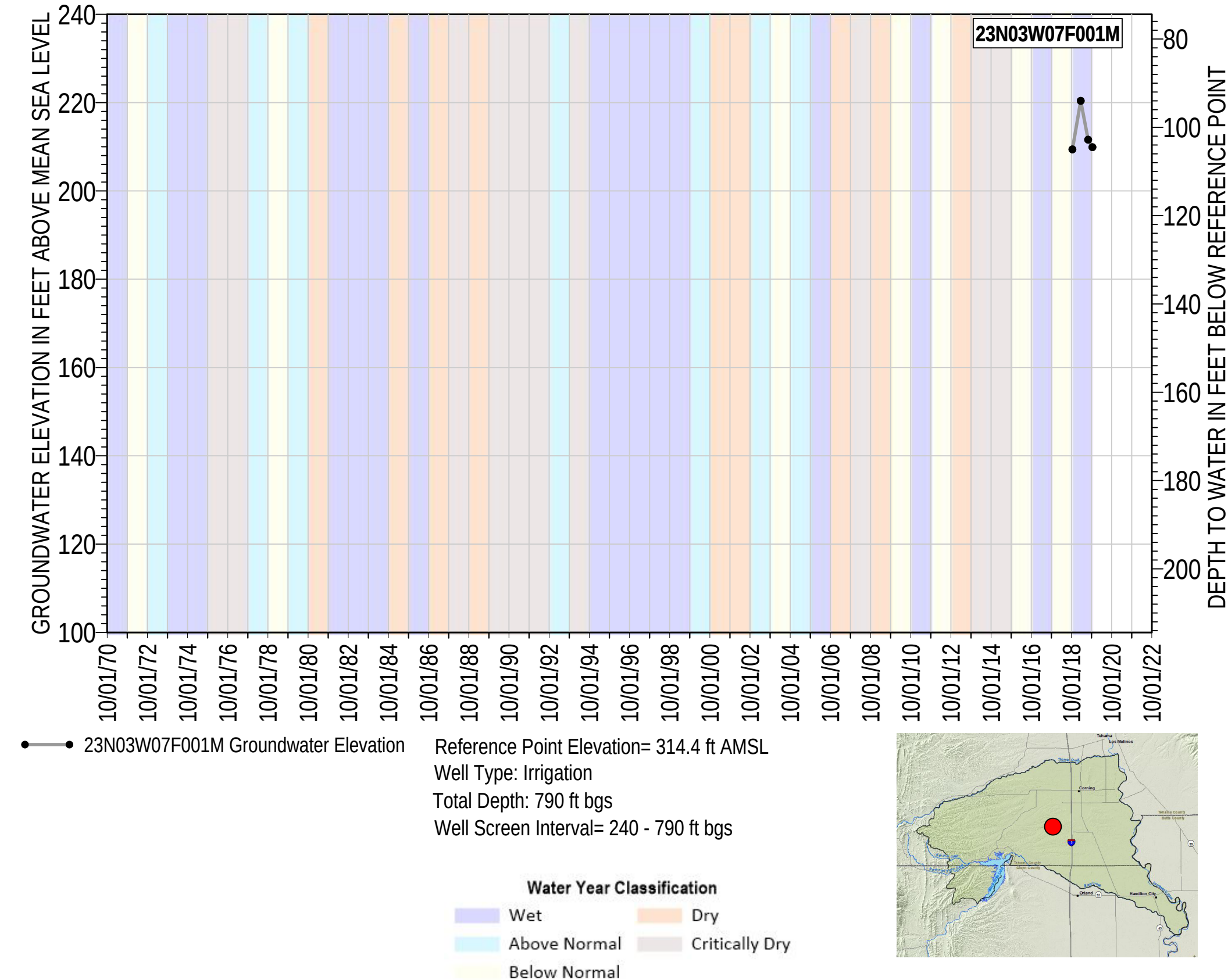

23N02W34N001M
Land Surface Elevation = 185.42 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
200
180
160
140
120
100
80
60
0
20
40
60
80
100
120
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N02W34N001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 185.92 ft AMSL
Well Type: Industrial
Total Depth: 100 ft bgs
Well Screen Interval= 70 - 100 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City


23N03W04C001M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
240
220
200
180
160
140
120
100
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N03W04C001M Groundwater Elevation
Reference Point Elevation= 270.38 ft AMSL
Well Type: Irrigation
Total Depth: 270 ft bgs
Well Screen Interval= 140 - 270 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry


23N03W04H001M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
240
220
200
180
160
140
120
100
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N03W04H001M Groundwater Elevation
Reference Point Elevation= 261.9 ft AMSL
Well Type: Irrigation
Total Depth: 270 ft bgs
Well Screen Interval= 200 - 270 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry


23N03W04J001M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
240
220
200
180
160
140
120
100
60
80
100
120
140
160
180
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N03W04J001M Groundwater Elevation
Reference Point Elevation= 283.48 ft AMSL
Well Type: Domestic
Total Depth: 195 ft bgs
Well Screen Interval= 165 - 195 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

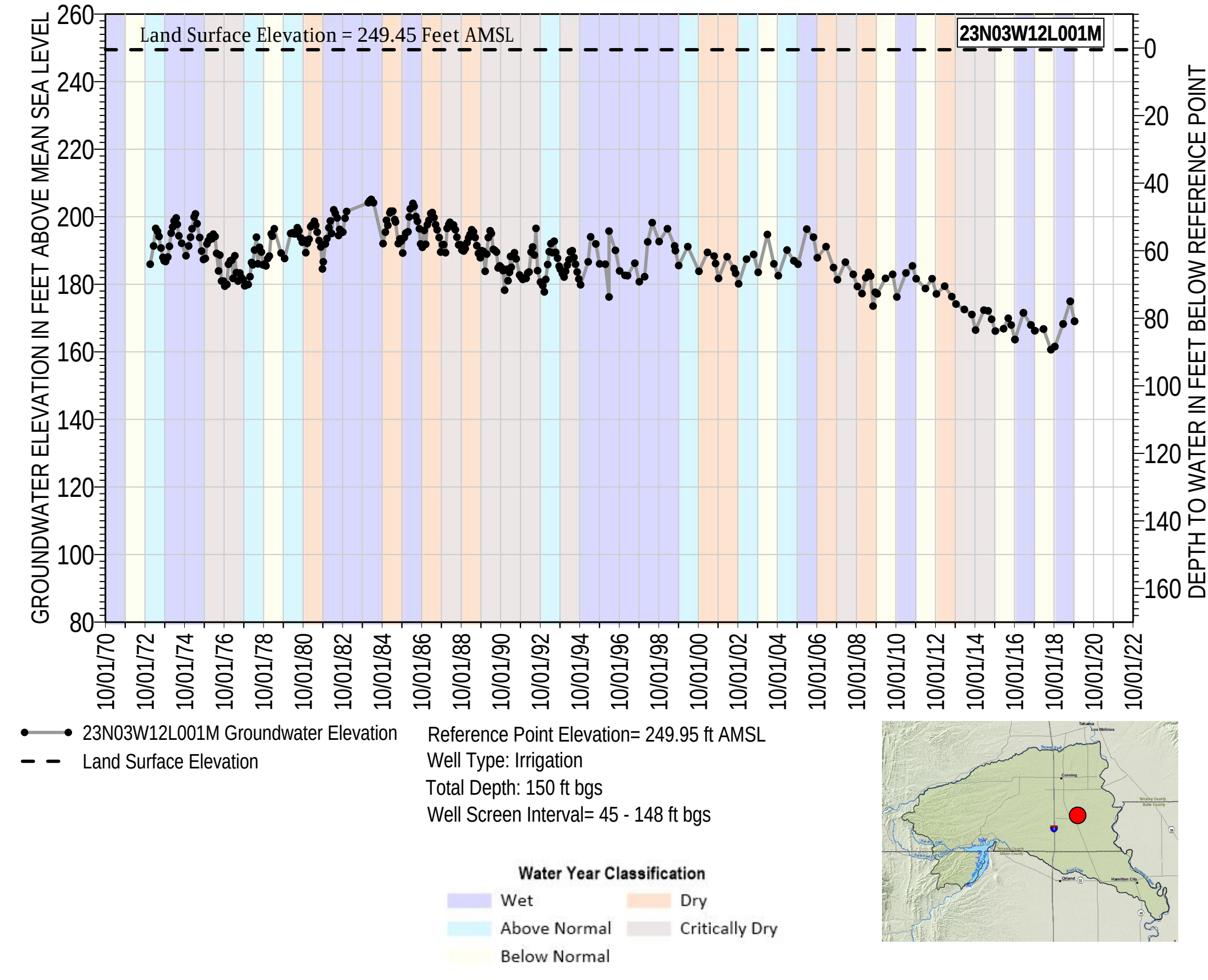

23N03W05G001M
Land Surface Elevation = 279.49 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
300
280
260
240
220
200
180
160
140
120
0
20
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N03W05G001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 280.29 ft AMSL
Well Type: Domestic
Total Depth: 70 ft bgs
Well Screen Interval= Unknown ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

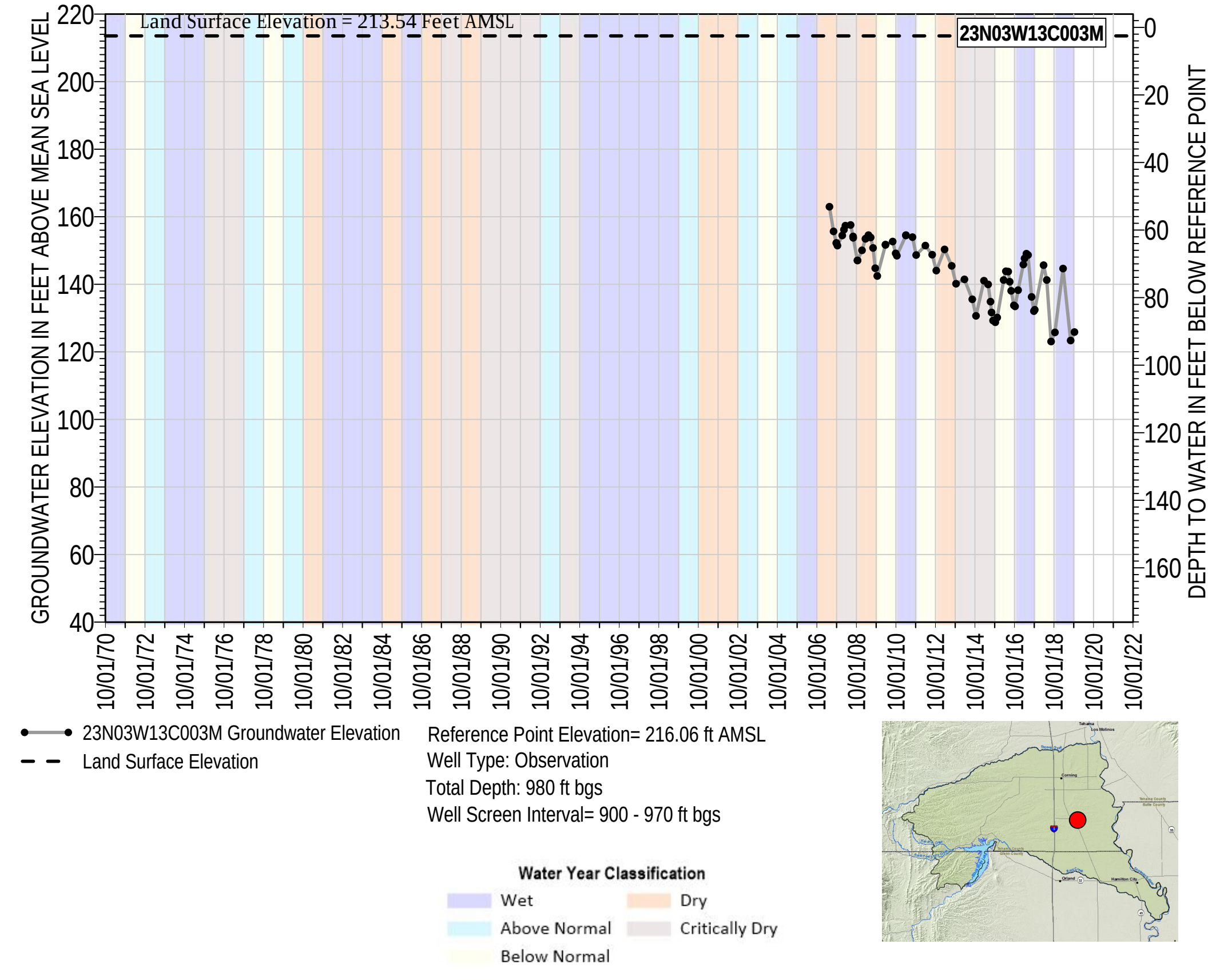


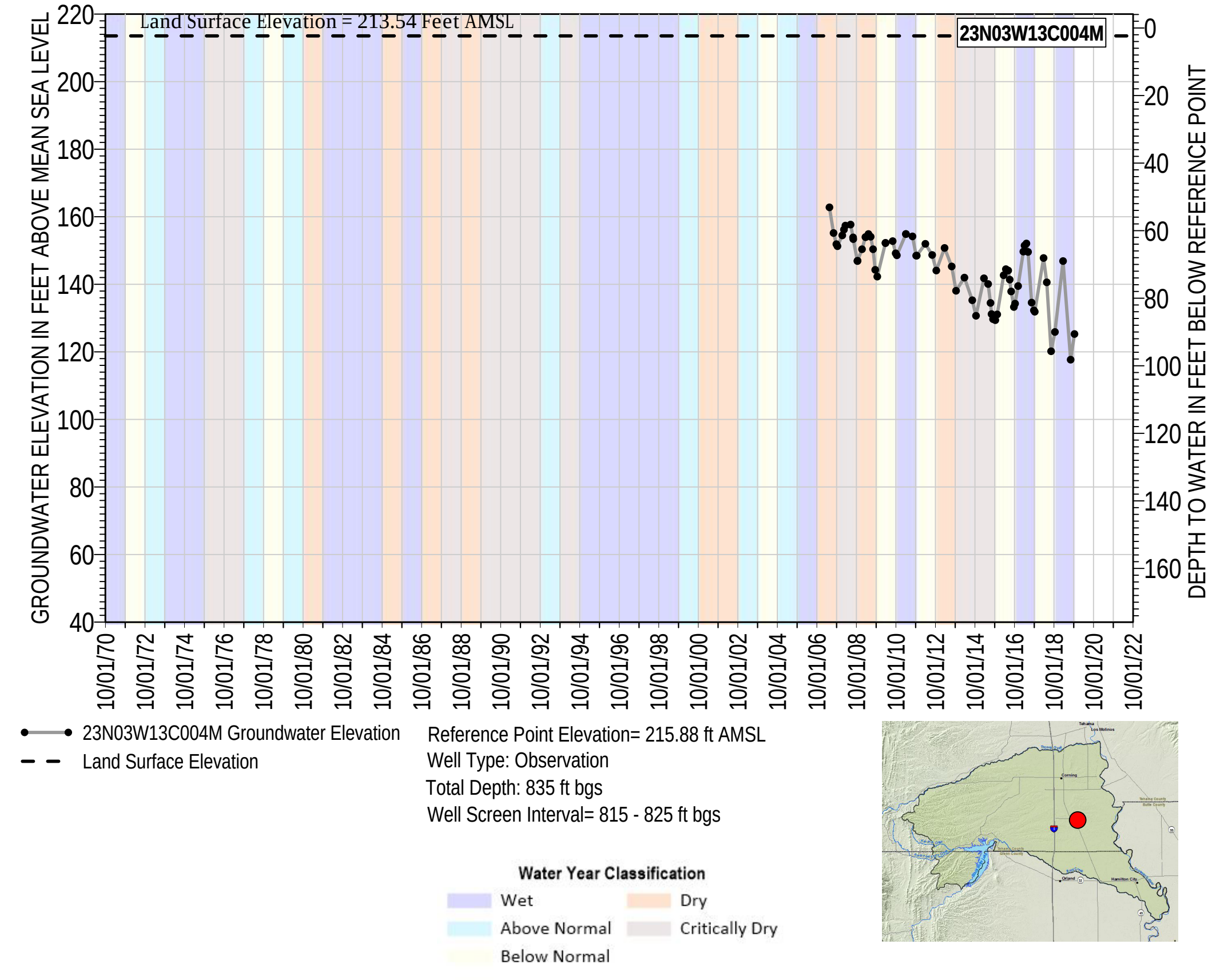
Reference Point Elevation= 314.4 ft AMSL
Well Type: Irrigation
Total Depth: 790 ft bgs
Well Screen Interval= 240 - 790 ft bgs

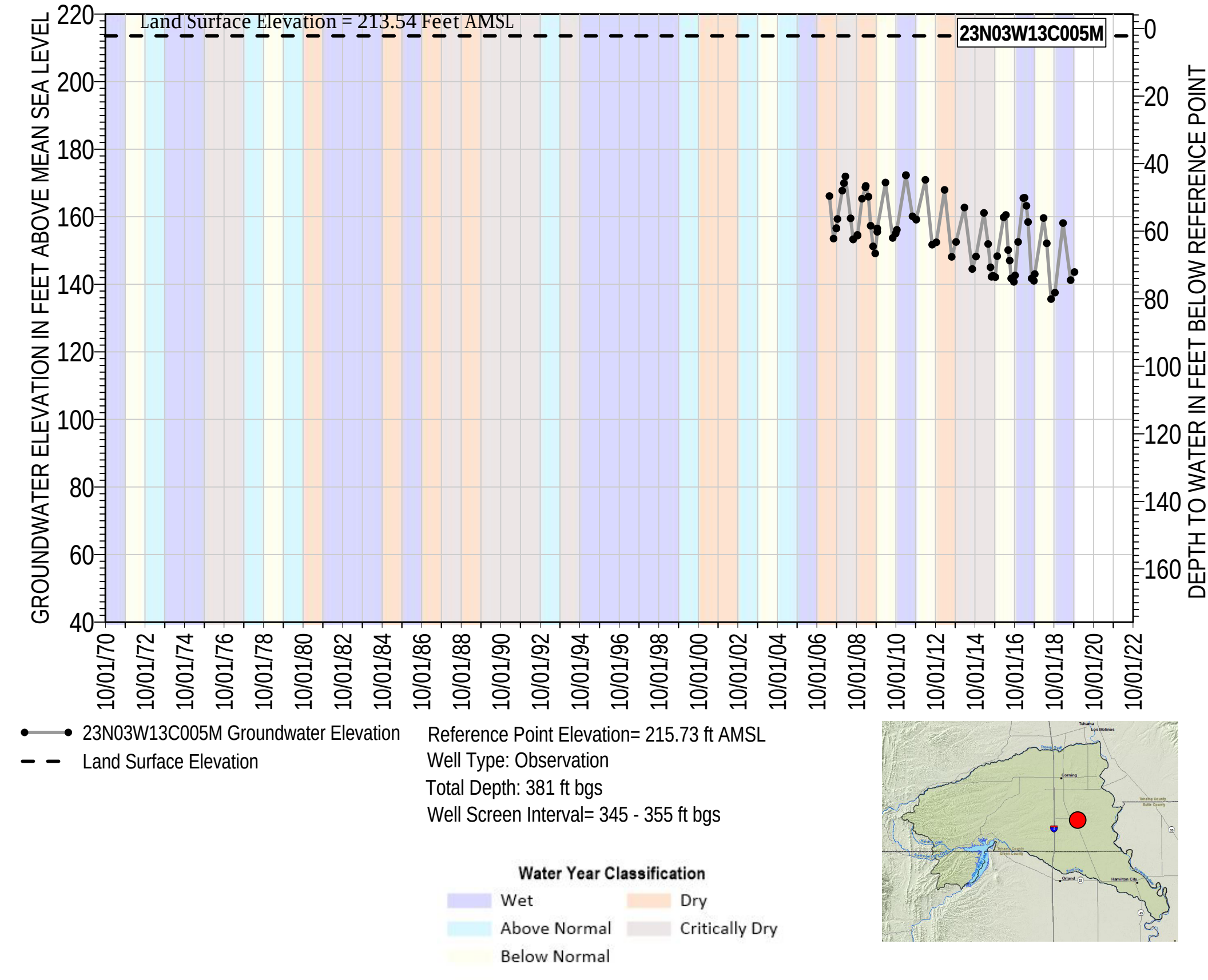
Water Year Classification

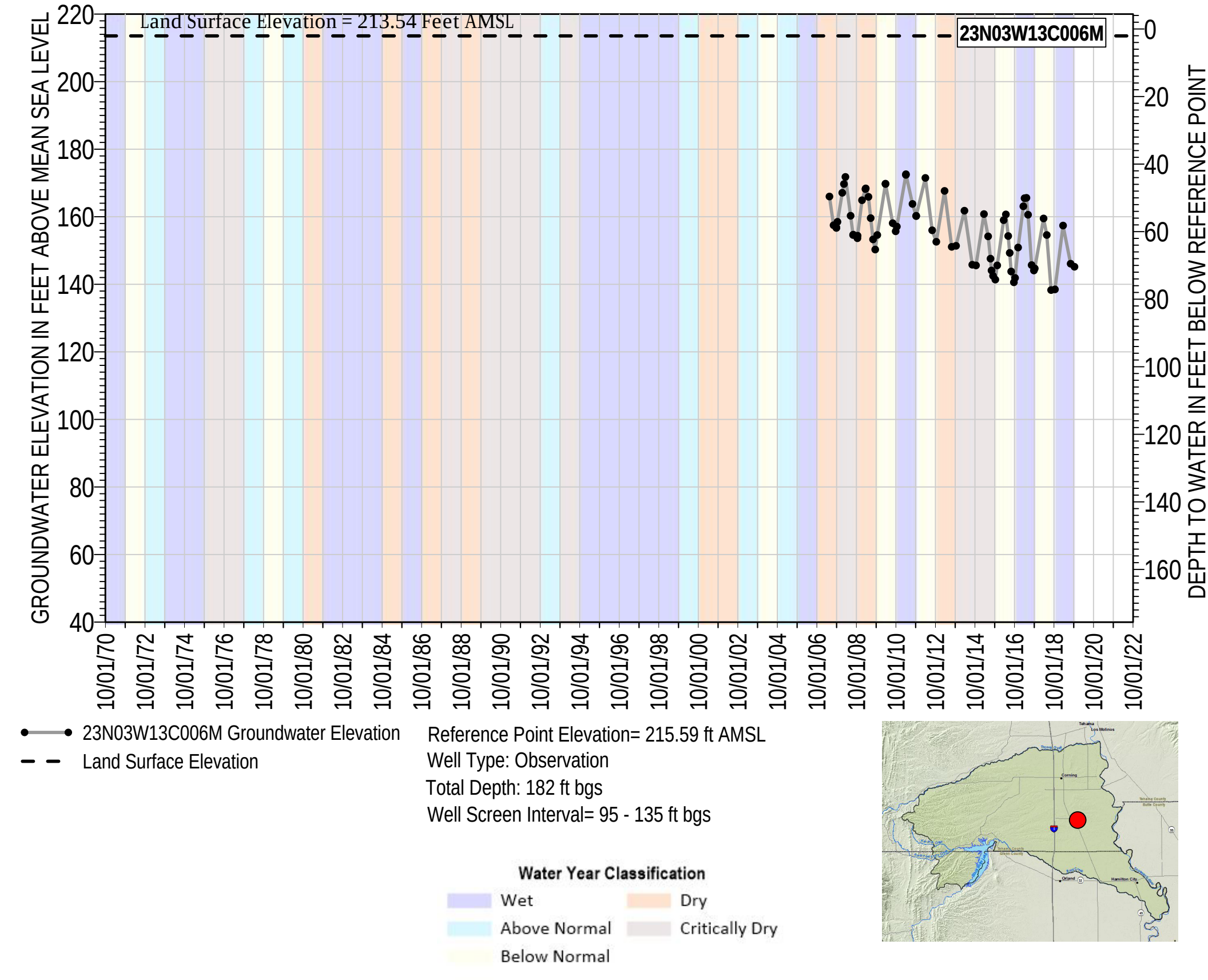
Wet	Dry
Above Normal	Critically Dry
Below Normal	

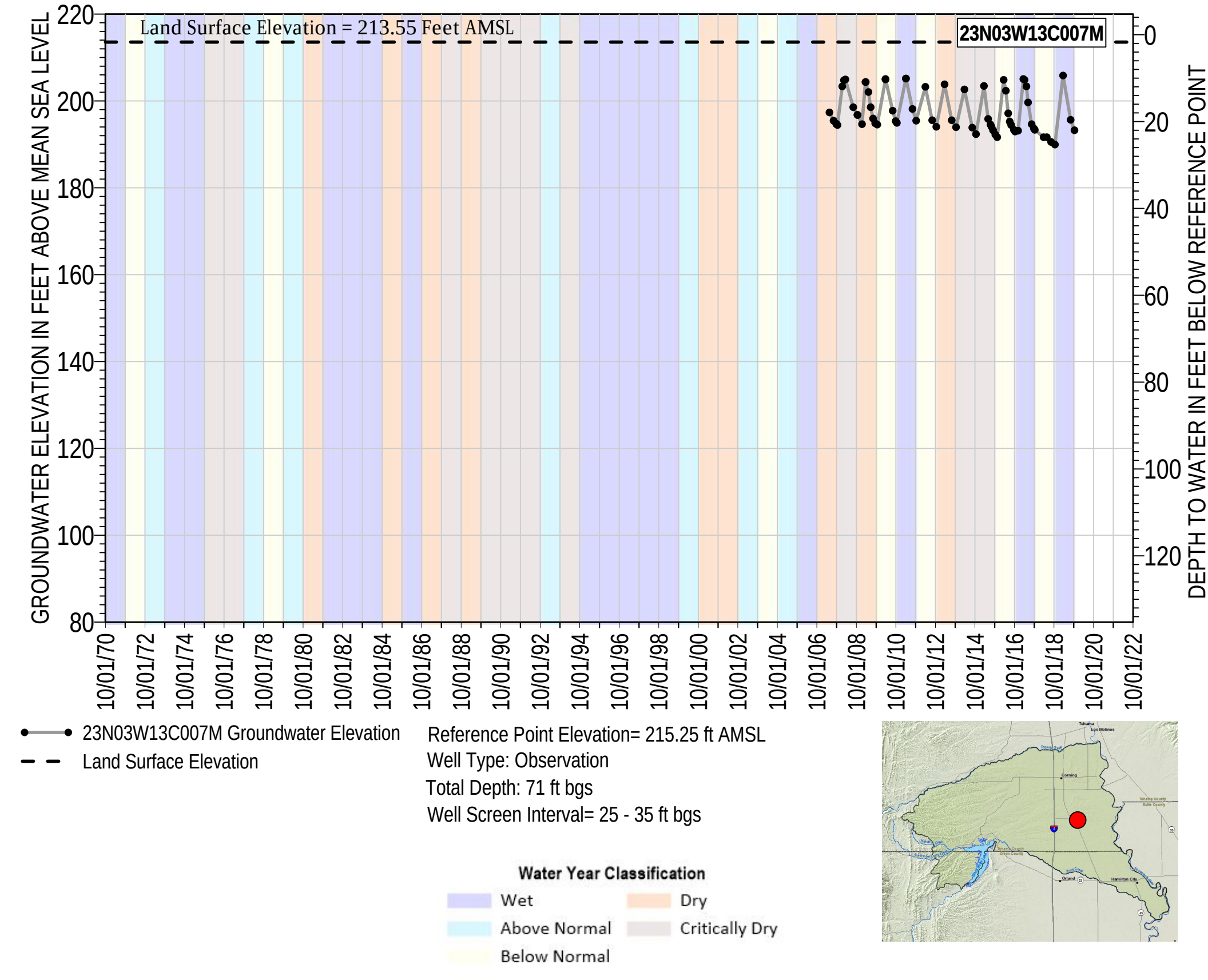

Land Surface Elevation = 249.45 Feet AMSL
23N03W12L001M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
260
240
220
200
180
160
140
120
100
80
0
20
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N03W12L001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 249.95 ft AMSL
Well Type: Irrigation
Total Depth: 150 ft bgs
Well Screen Interval= 45 - 148 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry

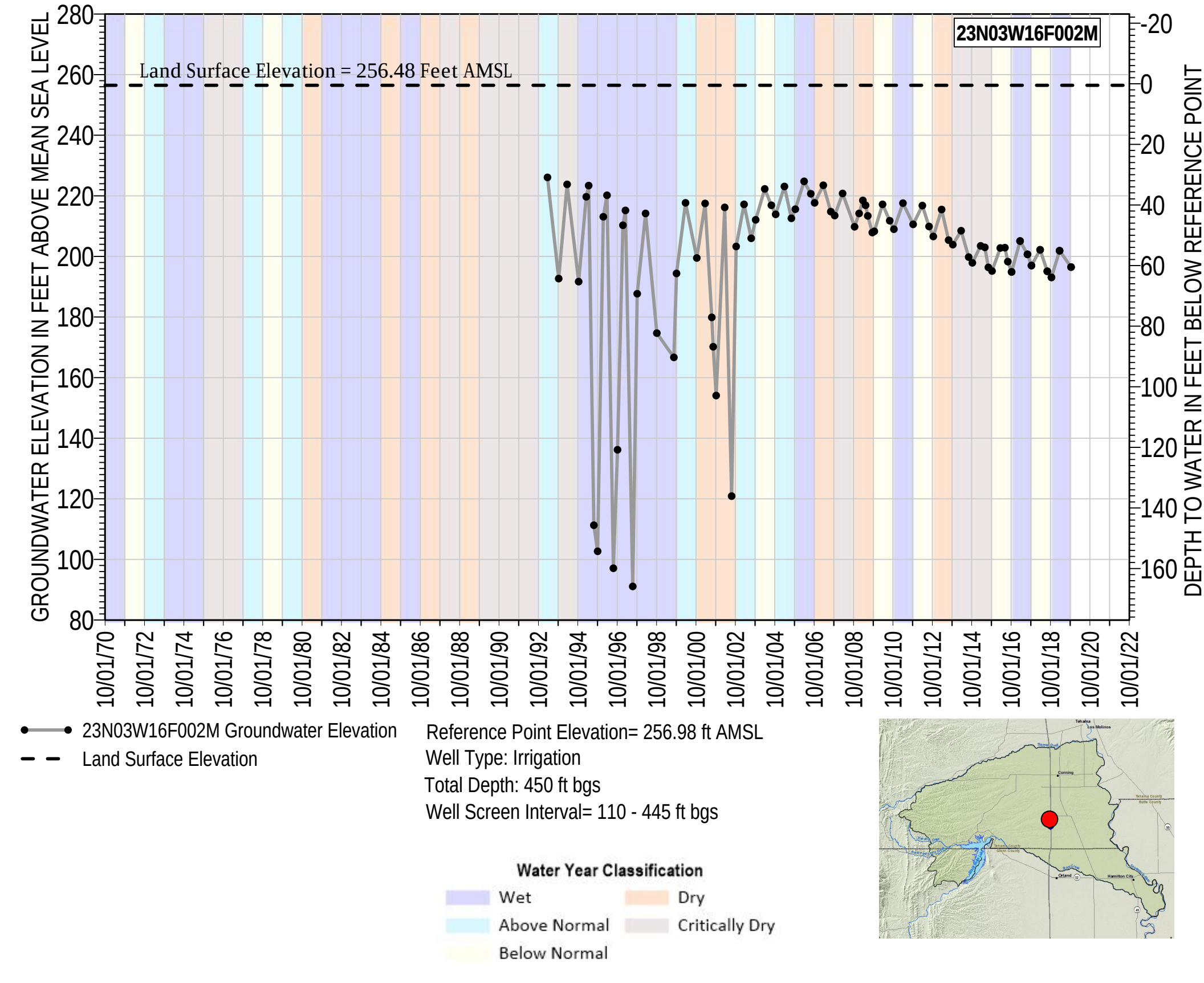

Land Surface Elevation = 213.54 Feet AMSL
23N03W13C003M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
220
200
180
160
140
120
100
80
60
40
0
20
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N03W13C003M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 216.06 ft AMSL
Well Type: Observation
Total Depth: 980 ft bgs
Well Screen Interval= 900 - 970 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

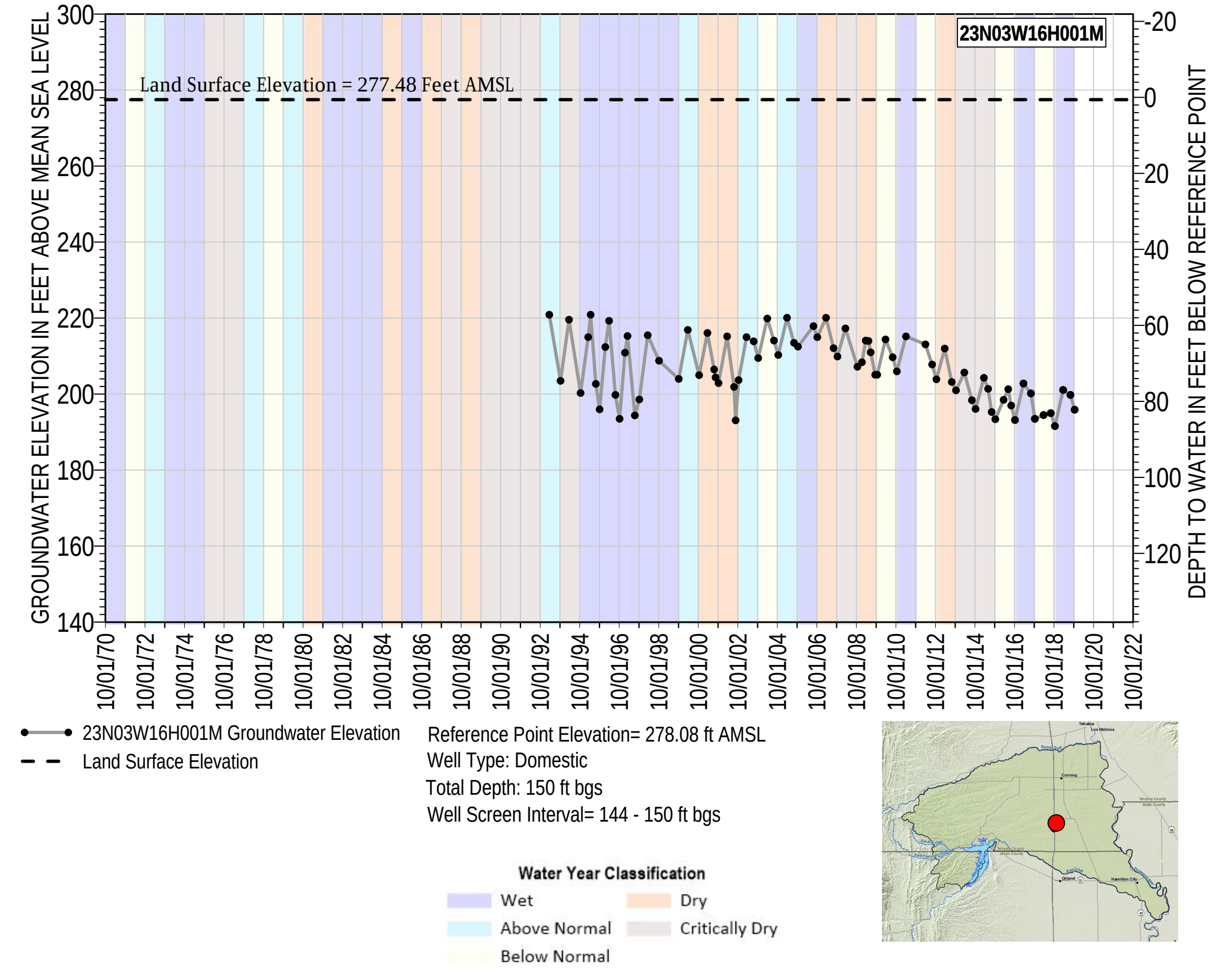

Land Surface Elevation = 213.54 Feet AMSL
23N03W13C004M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
220
200
180
160
140
120
100
80
60
40
0
20
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N03W13C004M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 215.88 ft AMSL
Well Type: Observation
Total Depth: 835 ft bgs
Well Screen Interval= 815 - 825 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

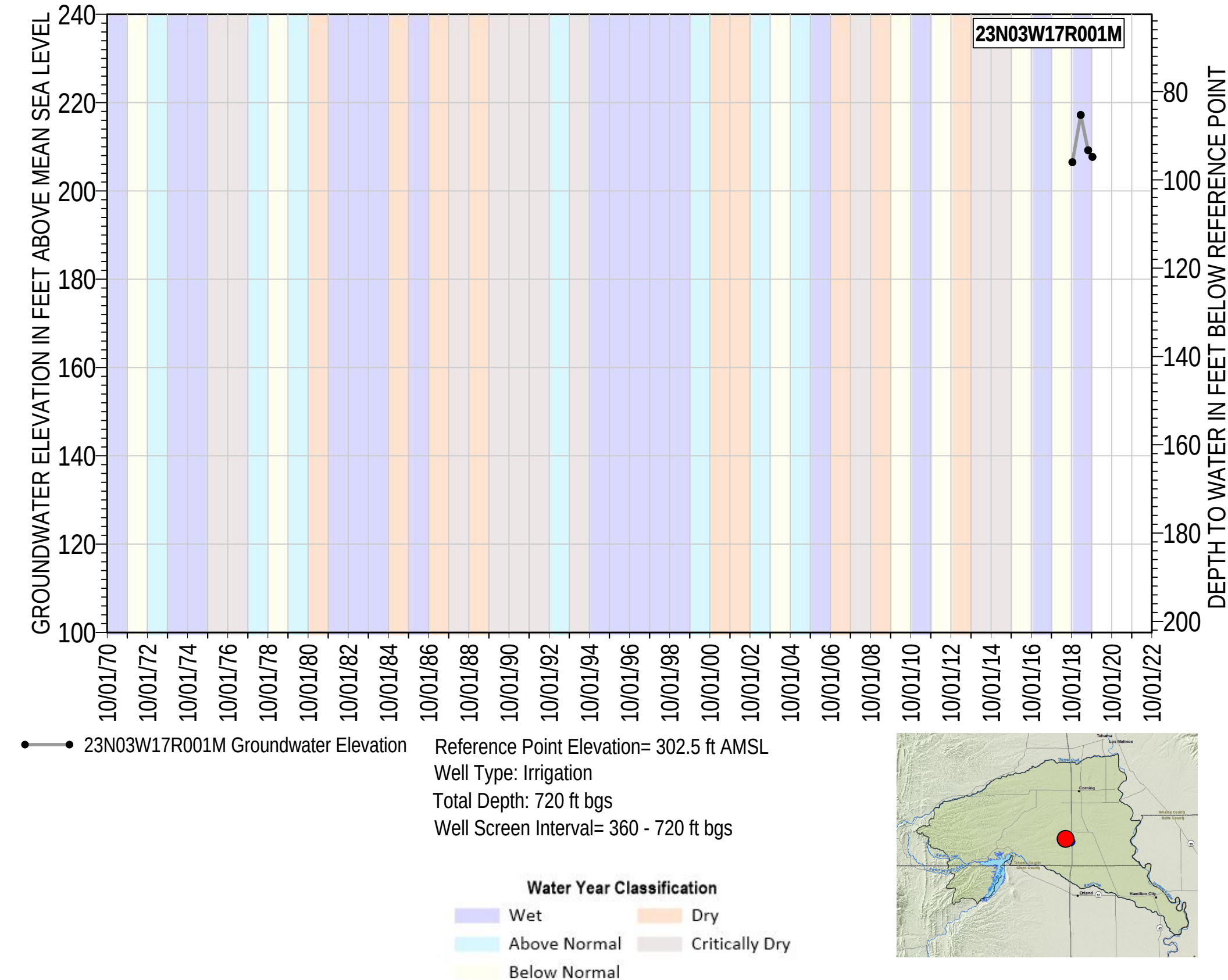

Land Surface Elevation = 213.54 Feet AMSL
23N03W13C005M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
220
200
180
160
140
120
100
80
60
40
0
20
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N03W13C005M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 215.73 ft AMSL
Well Type: Observation
Total Depth: 381 ft bgs
Well Screen Interval= 345 - 355 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

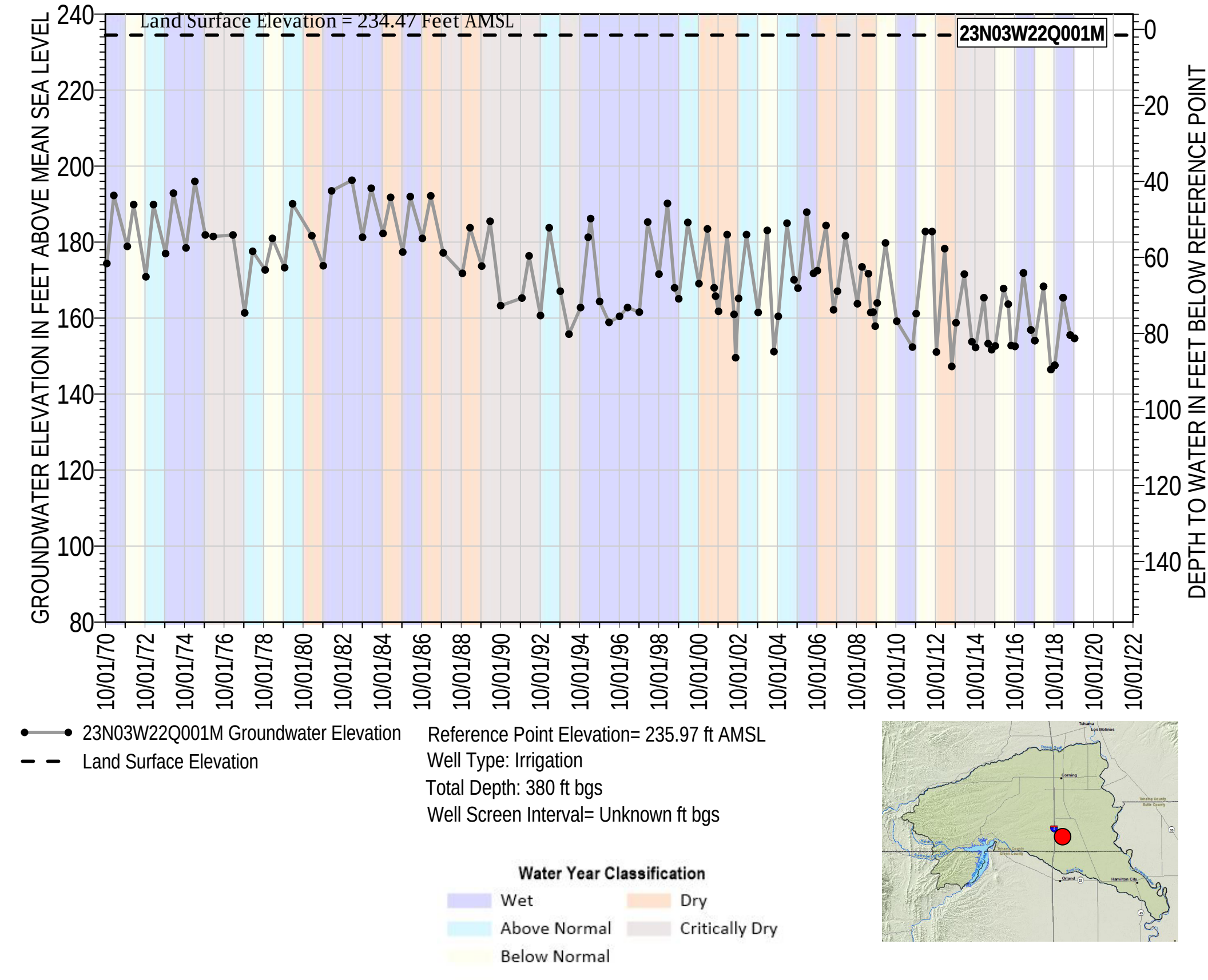

Land Surface Elevation = 213.54 Feet AMSL
23N03W13C006M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
220
200
180
160
140
120
100
80
60
40
0
20
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N03W13C006M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 215.59 ft AMSL
Well Type: Observation
Total Depth: 182 ft bgs
Well Screen Interval= 95 - 135 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

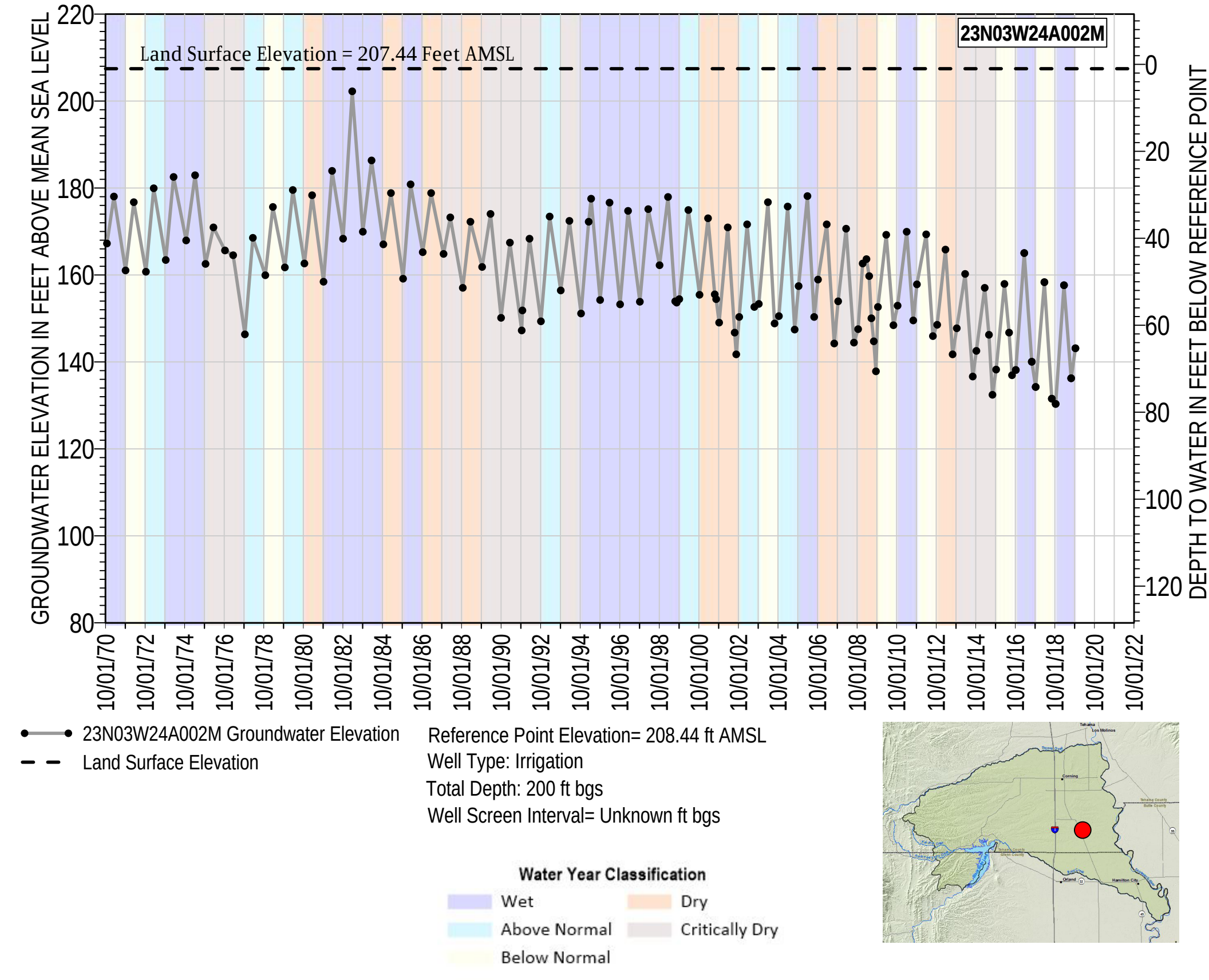

Land Surface Elevation = 213.55 Feet AMSL
23N03W13C007M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
220
200
180
160
140
120
100
80
0
20
40
60
80
100
120
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N03W13C007M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 215.25 ft AMSL
Well Type: Observation
Total Depth: 71 ft bgs
Well Screen Interval= 25 - 35 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

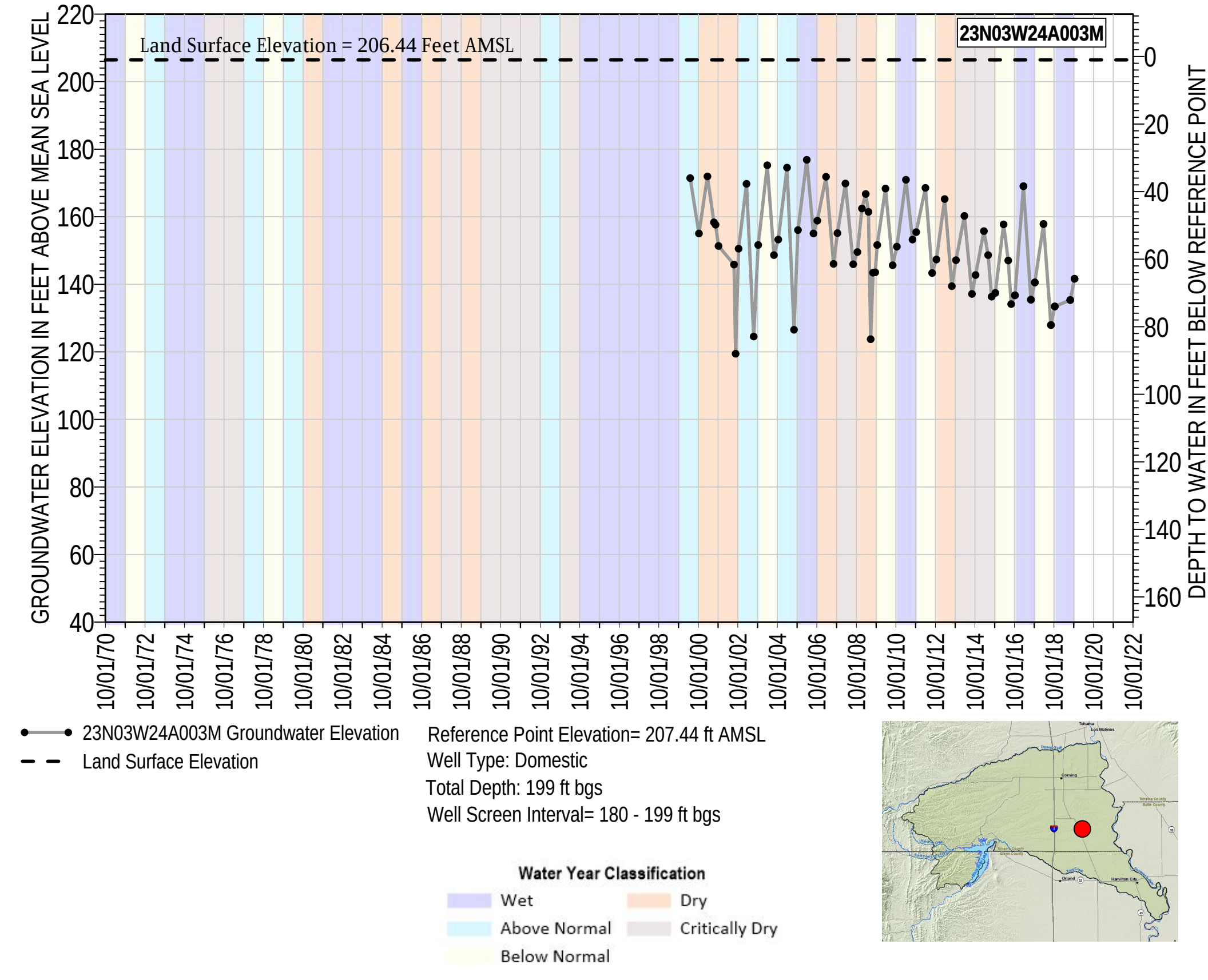

23N03W16F002M
Land Surface Elevation = 256.48 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
280
260
240
220
200
180
160
140
120
100
80
-20
0
20
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N03W16F002M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 256.98 ft AMSL
Well Type: Irrigation
Total Depth: 450 ft bgs
Well Screen Interval= 110 - 445 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

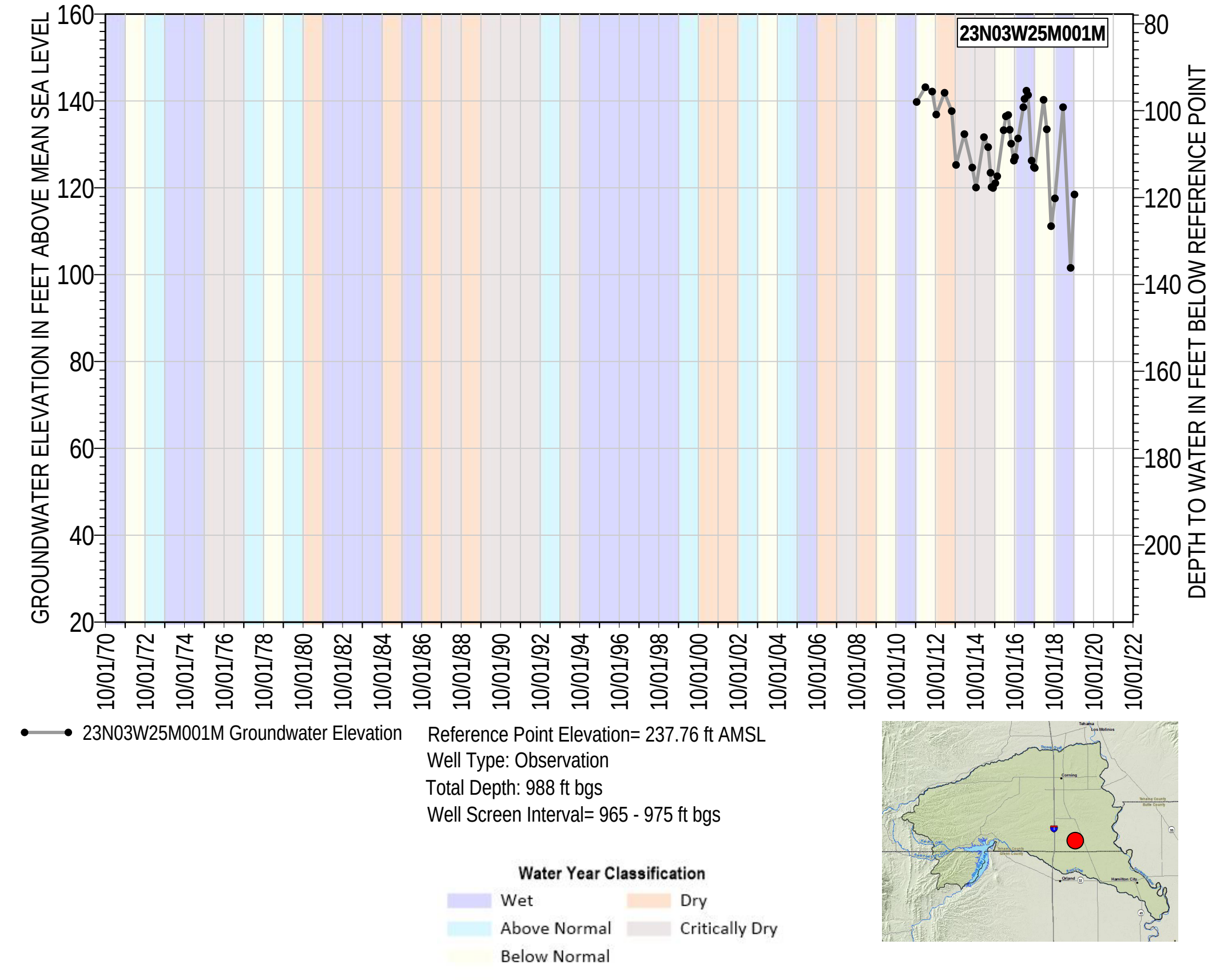

23N03W16H001M
Land Surface Elevation = 277.48 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
300
280
260
240
220
200
180
160
140
-20
0
20
40
60
80
100
120
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N03W16H001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 278.08 ft AMSL
Well Type: Domestic
Total Depth: 150 ft bgs
Well Screen Interval= 144 - 150 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

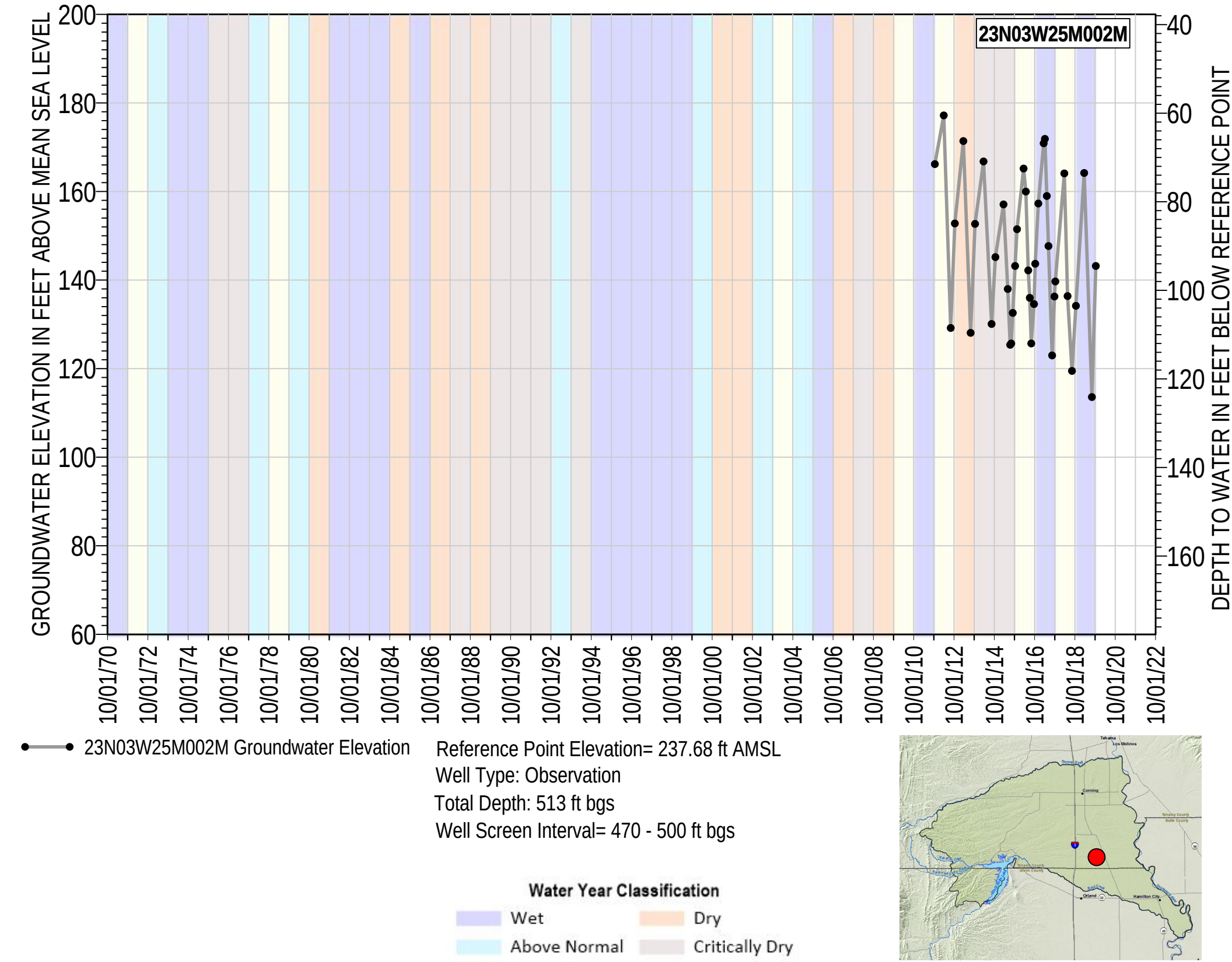

23N03W17R001M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
240
220
200
180
160
140
120
100
80
100
120
140
160
180
200
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N03W17R001M Groundwater Elevation
Reference Point Elevation= 302.5 ft AMSL
Well Type: Irrigation
Total Depth: 720 ft bgs
Well Screen Interval= 360 - 720 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry


Land Surface Elevation = 234.47 Feet AMSL
23N03W22Q001M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
240
220
200
180
160
140
120
100
80
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N03W22Q001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 235.97 ft AMSL
Well Type: Irrigation
Total Depth: 380 ft bgs
Well Screen Interval= Unknown ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City


23N03W24A002M
Land Surface Elevation = 207.44 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
220
200
180
160
140
120
100
80
0
20
40
60
80
100
120
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N03W24A002M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 208.44 ft AMSL
Well Type: Irrigation
Total Depth: 200 ft bgs
Well Screen Interval= Unknown ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City


23N03W24A003M
Land Surface Elevation = 206.44 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
220
200
180
160
140
120
100
80
60
40
0
20
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N03W24A003M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 207.44 ft AMSL
Well Type: Domestic
Total Depth: 199 ft bgs
Well Screen Interval= 180 - 199 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

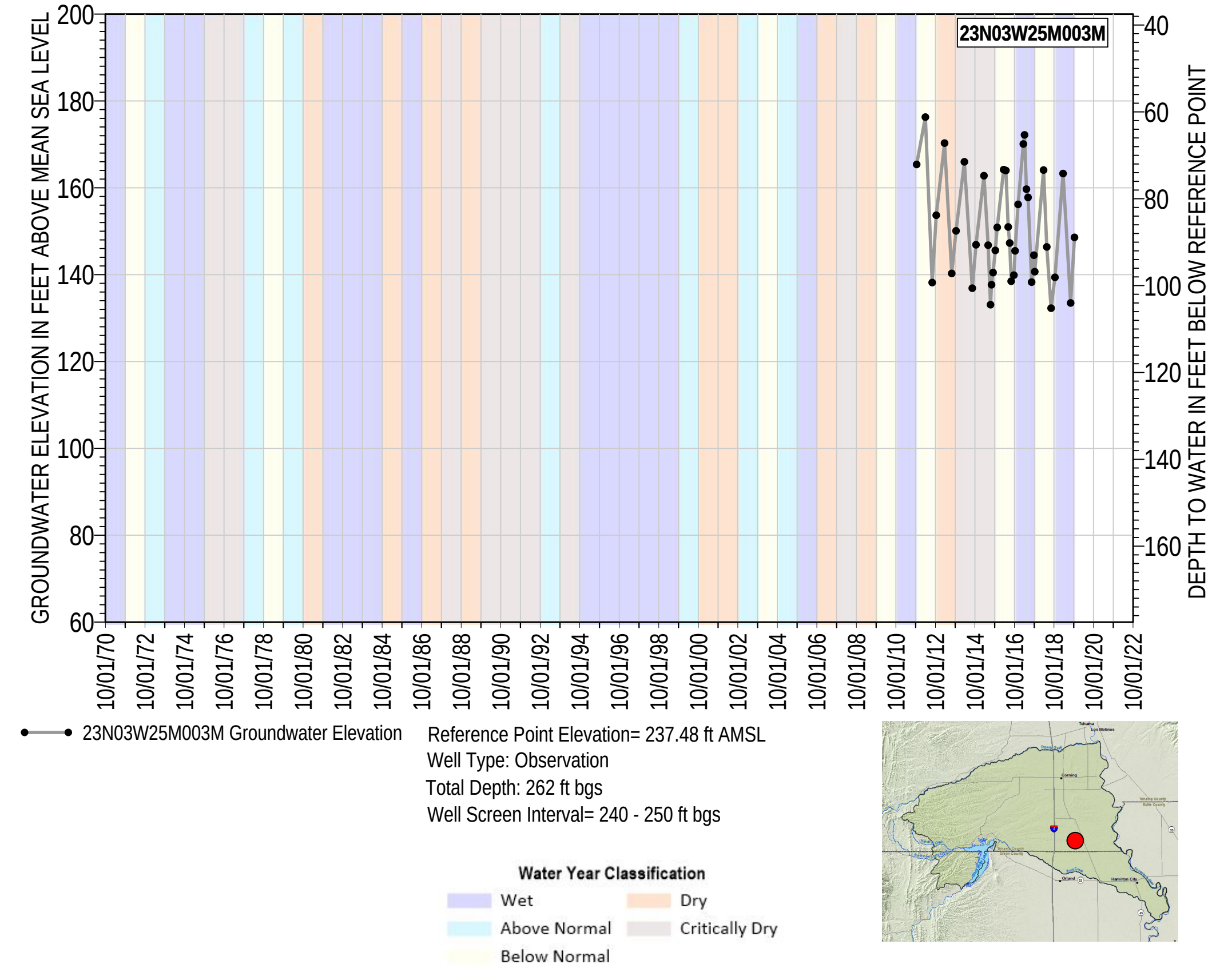

23N03W25M001M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
160
140
120
100
80
60
40
20
80
100
120
140
160
180
200
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N03W25M001M Groundwater Elevation
Reference Point Elevation= 237.76 ft AMSL
Well Type: Observation
Total Depth: 988 ft bgs
Well Screen Interval= 965 - 975 ft bgs
Water Year Classification
Wet
Dry
Above Normal
Critically Dry
Below Normal

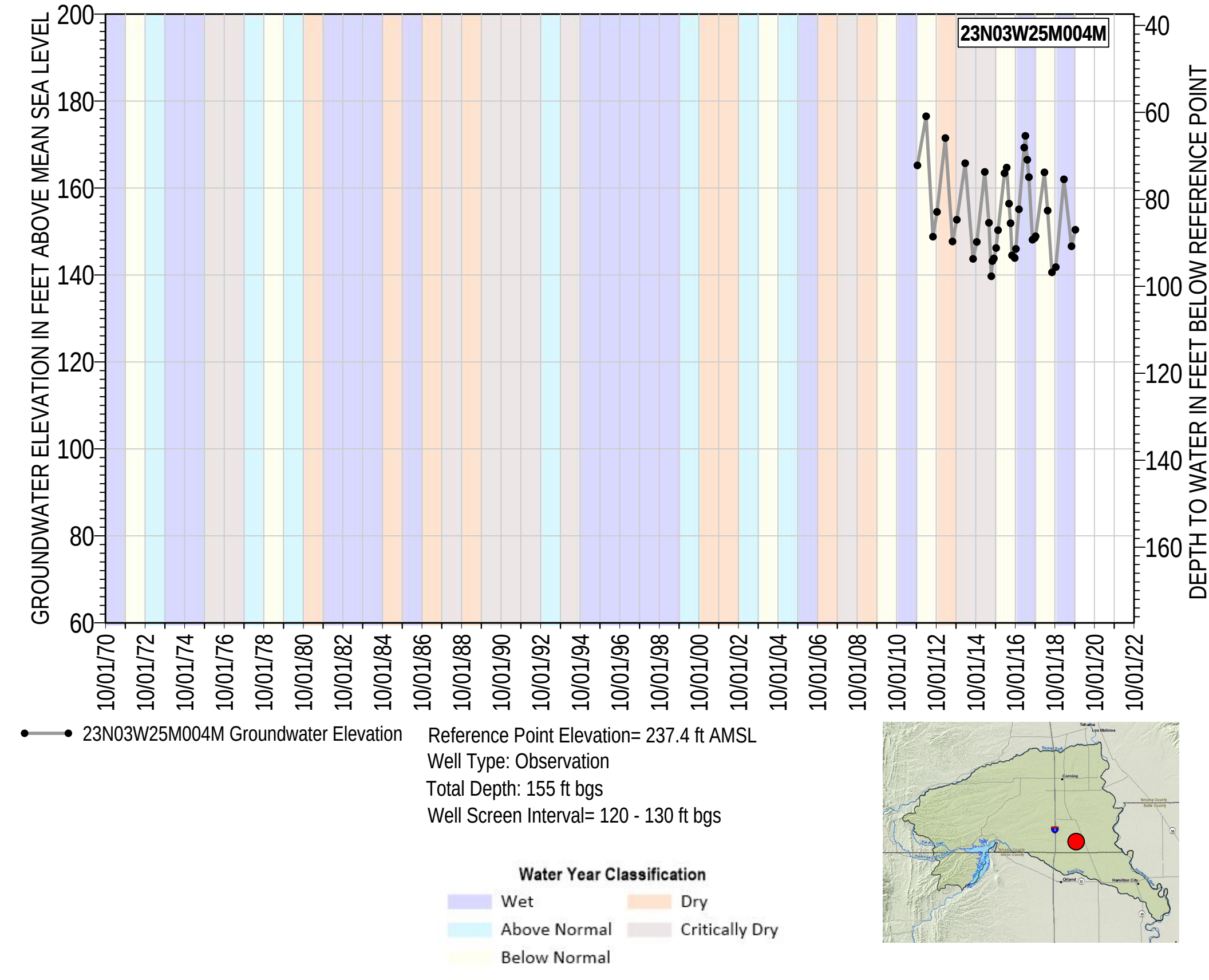


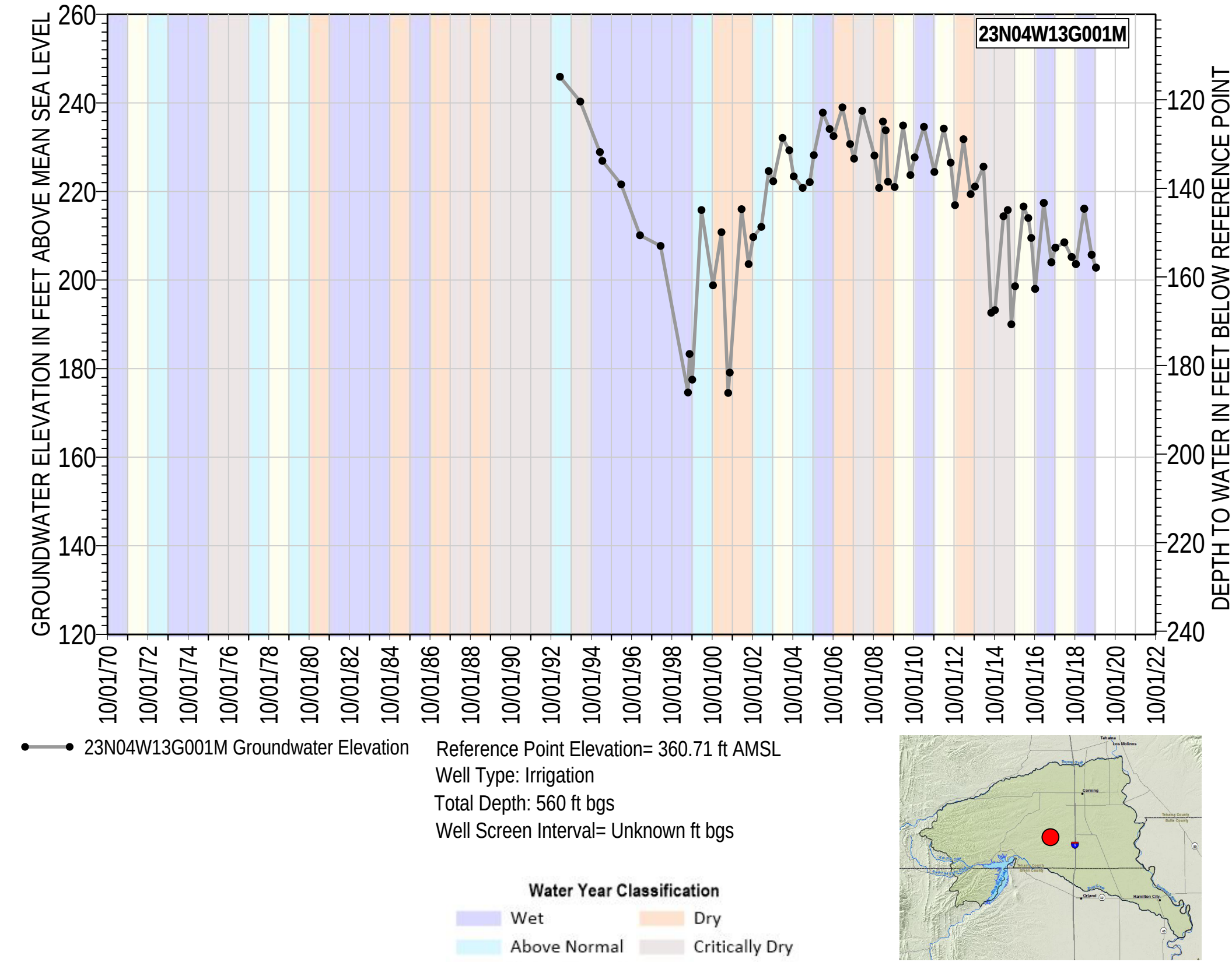
Reference Point Elevation= 237.68 ft AMSL
Well Type: Observation
Total Depth: 513 ft bgs
Well Screen Interval= 470 - 500 ft bgs

Water Year Classification

Wet	Dry
Above Normal	Critically Dry
Below Normal	


23N03W25M003M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
200
180
160
140
120
100
80
60
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N03W25M003M Groundwater Elevation
Reference Point Elevation= 237.48 ft AMSL
Well Type: Observation
Total Depth: 262 ft bgs
Well Screen Interval= 240 - 250 ft bgs
Water Year Classification
Wet
Dry
Above Normal
Critically Dry
Below Normal

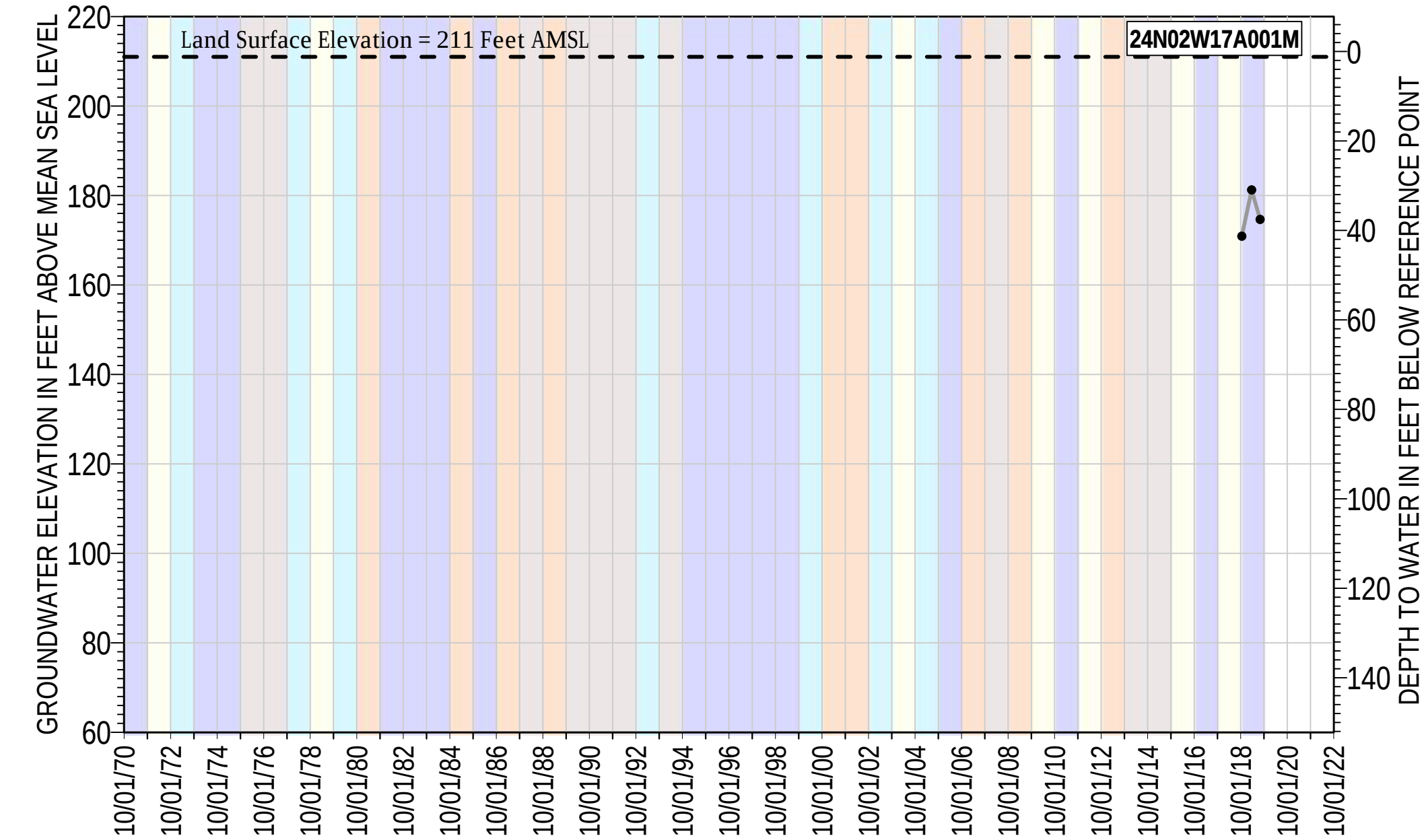

23N03W25M004M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
200
180
160
140
120
100
80
60
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
23N03W25M004M Groundwater Elevation
Reference Point Elevation= 237.4 ft AMSL
Well Type: Observation
Total Depth: 155 ft bgs
Well Screen Interval= 120 - 130 ft bgs
Water Year Classification
Wet
Dry
Above Normal
Critically Dry
Below Normal



Reference Point Elevation= 360.71 ft AMSL
Well Type: Irrigation
Total Depth: 560 ft bgs
Well Screen Interval= Unknown ft bgs

Water Year Classification

Wet	Dry
Above Normal	Critically Dry
Below Normal	



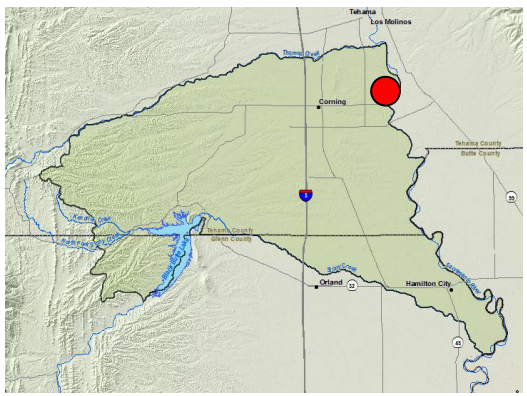
24N02W17A001M Groundwater Elevation

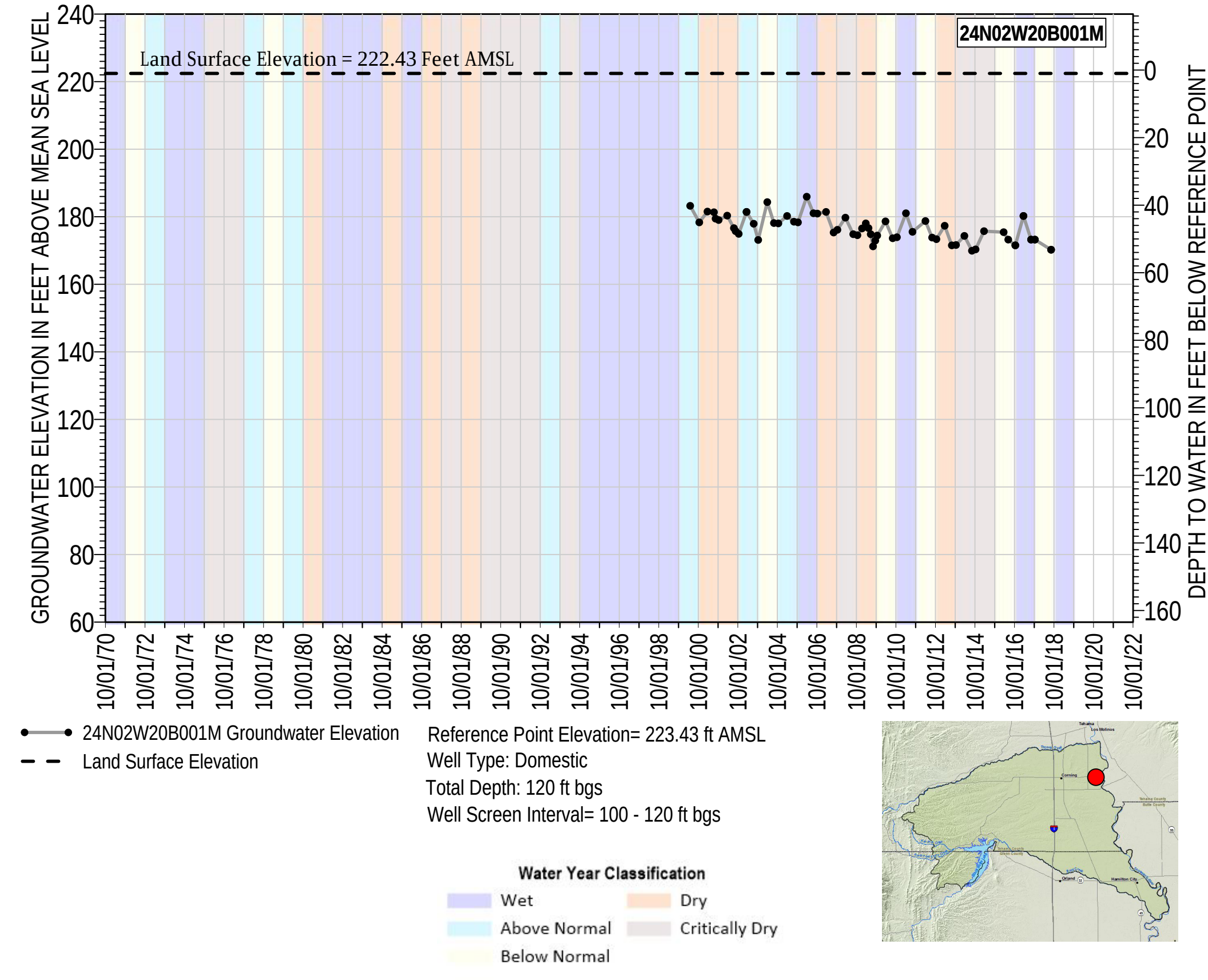
Land Surface Elevation

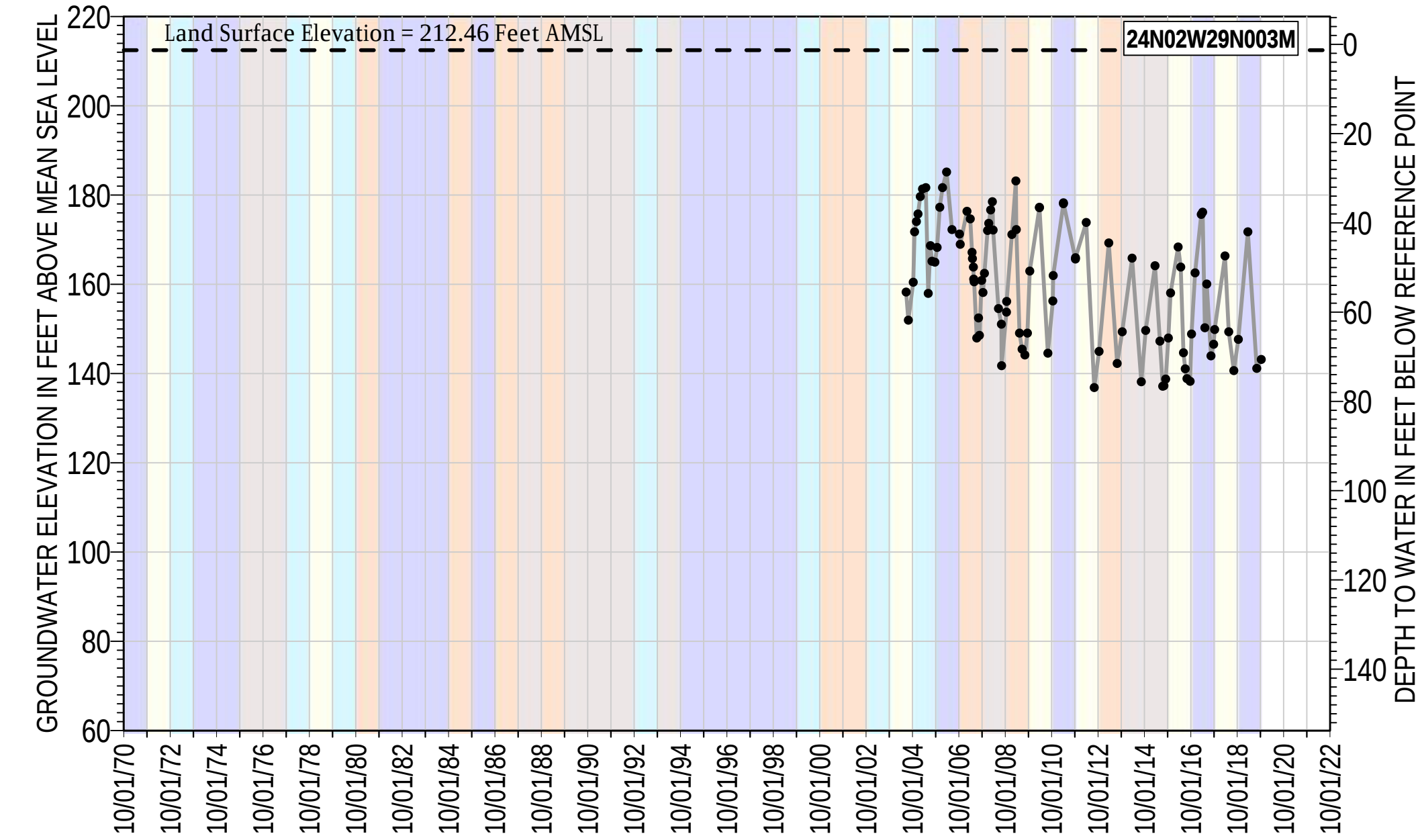
Reference Point Elevation= 212.2 ft AMSL
Well Type: Domestic
Total Depth: 140 ft bgs
Well Screen Interval= 120 - 140 ft bgs

Water Year Classification

Wet	Dry
Above Normal	Critically Dry
Below Normal	




24N02W20B001M
Land Surface Elevation = 222.43 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
240
220
200
180
160
140
120
100
80
60
0
20
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N02W20B001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 223.43 ft AMSL
Well Type: Domestic
Total Depth: 120 ft bgs
Well Screen Interval= 100 - 120 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City



24N02W29N003M Groundwater Elevation

Land Surface Elevation

Reference Point Elevation= 213.76 ft AMSL

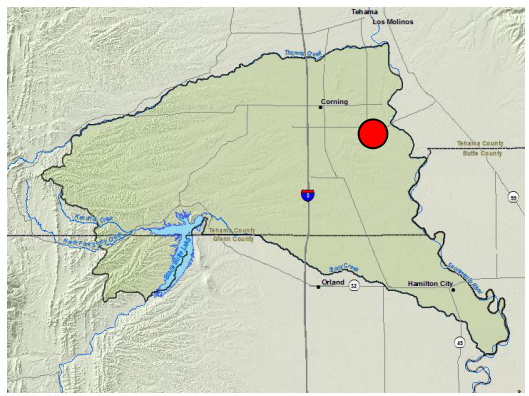
Well Type: Observation

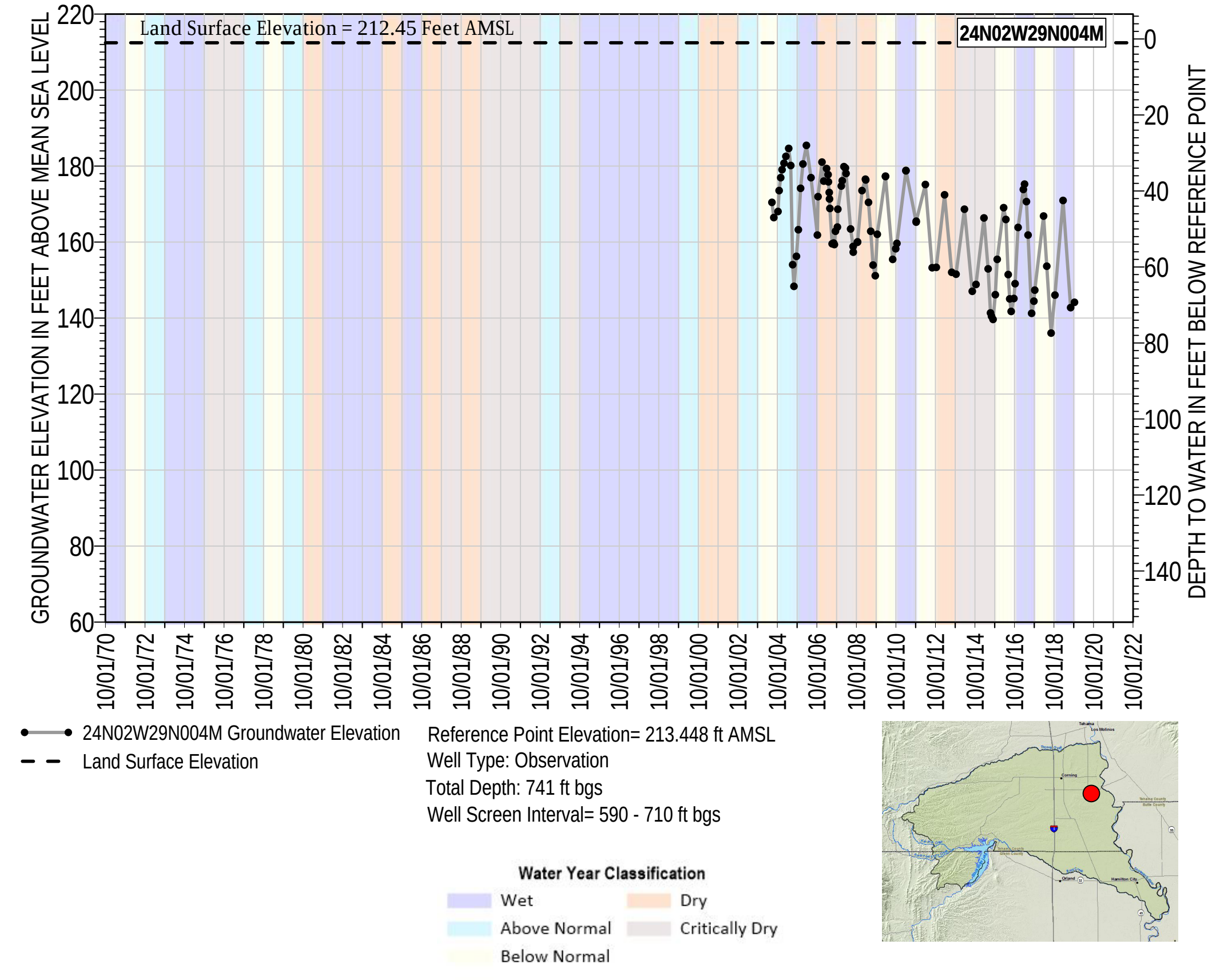
Total Depth: 388 ft bgs

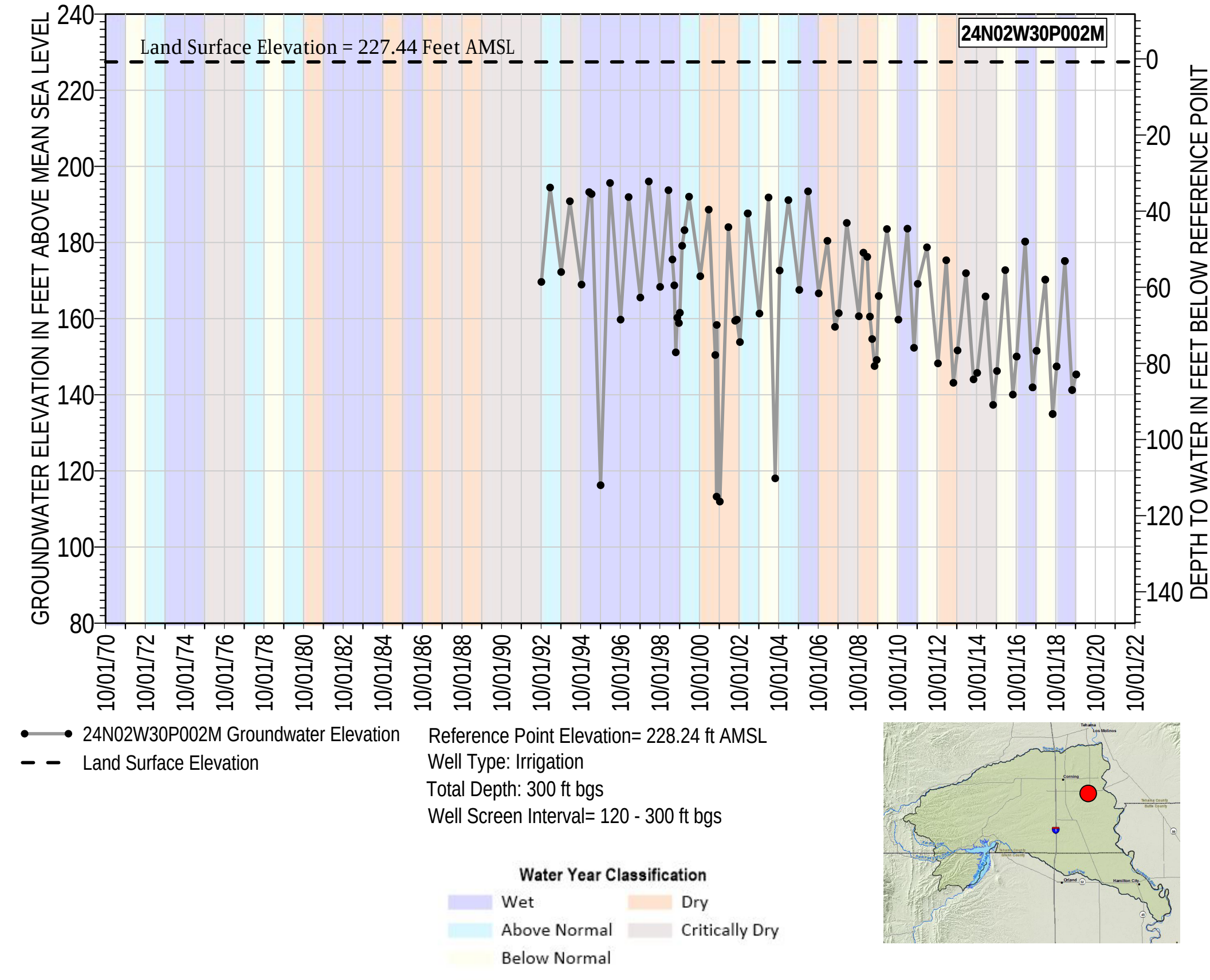
Well Screen Interval= 200 - 290 ft bgs

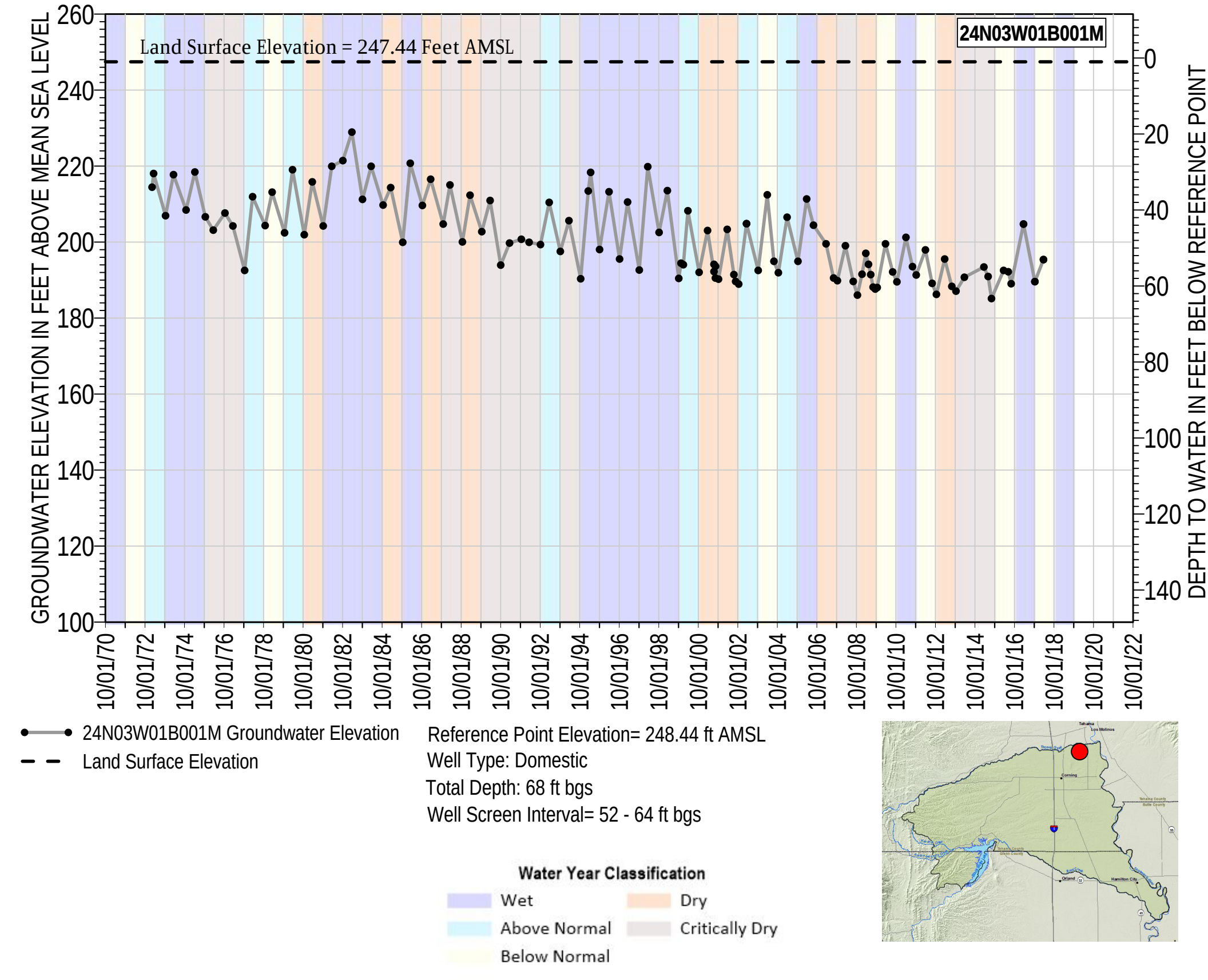
Water Year Classification

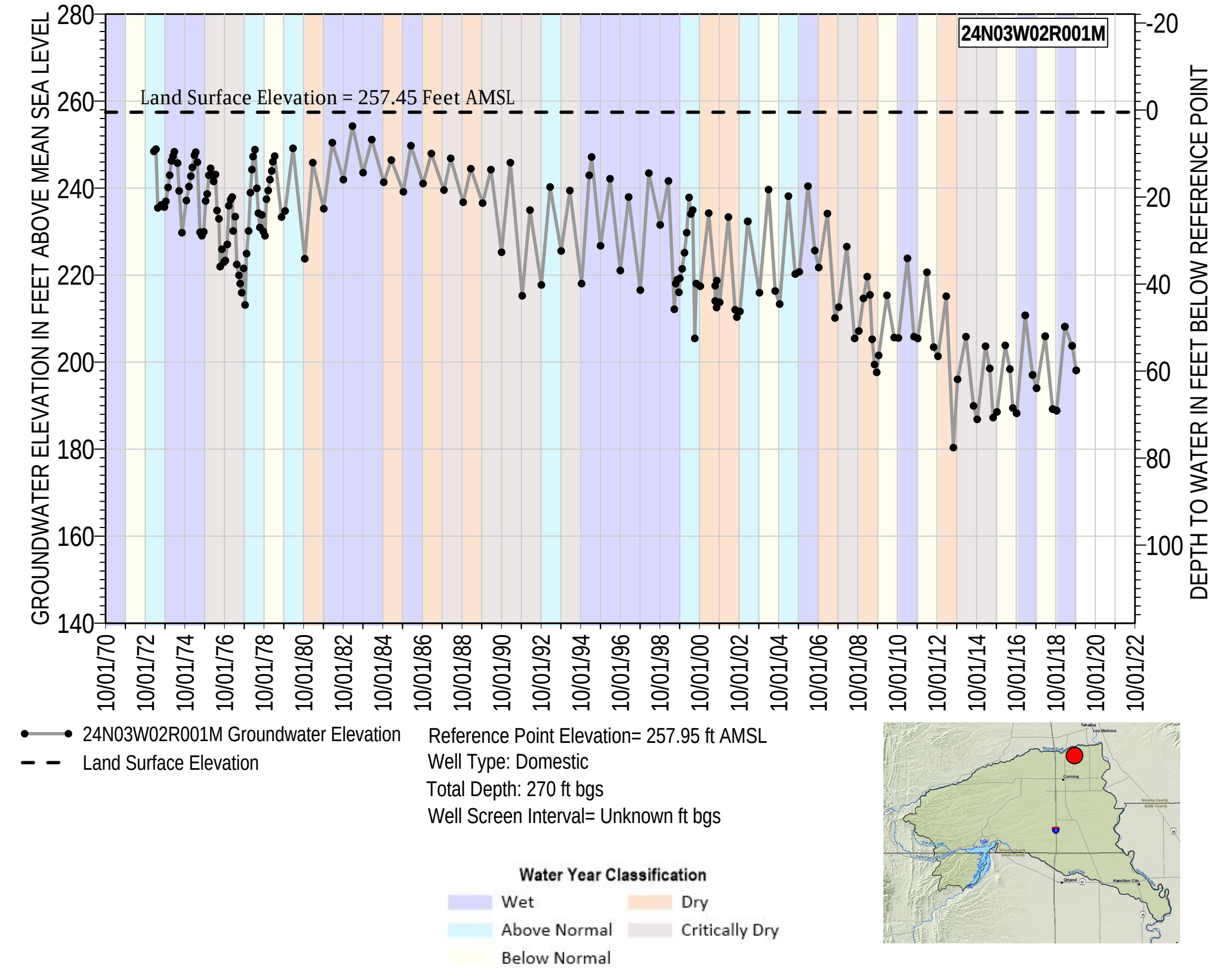
Wet	Dry
Above Normal	Critically Dry
Below Normal	

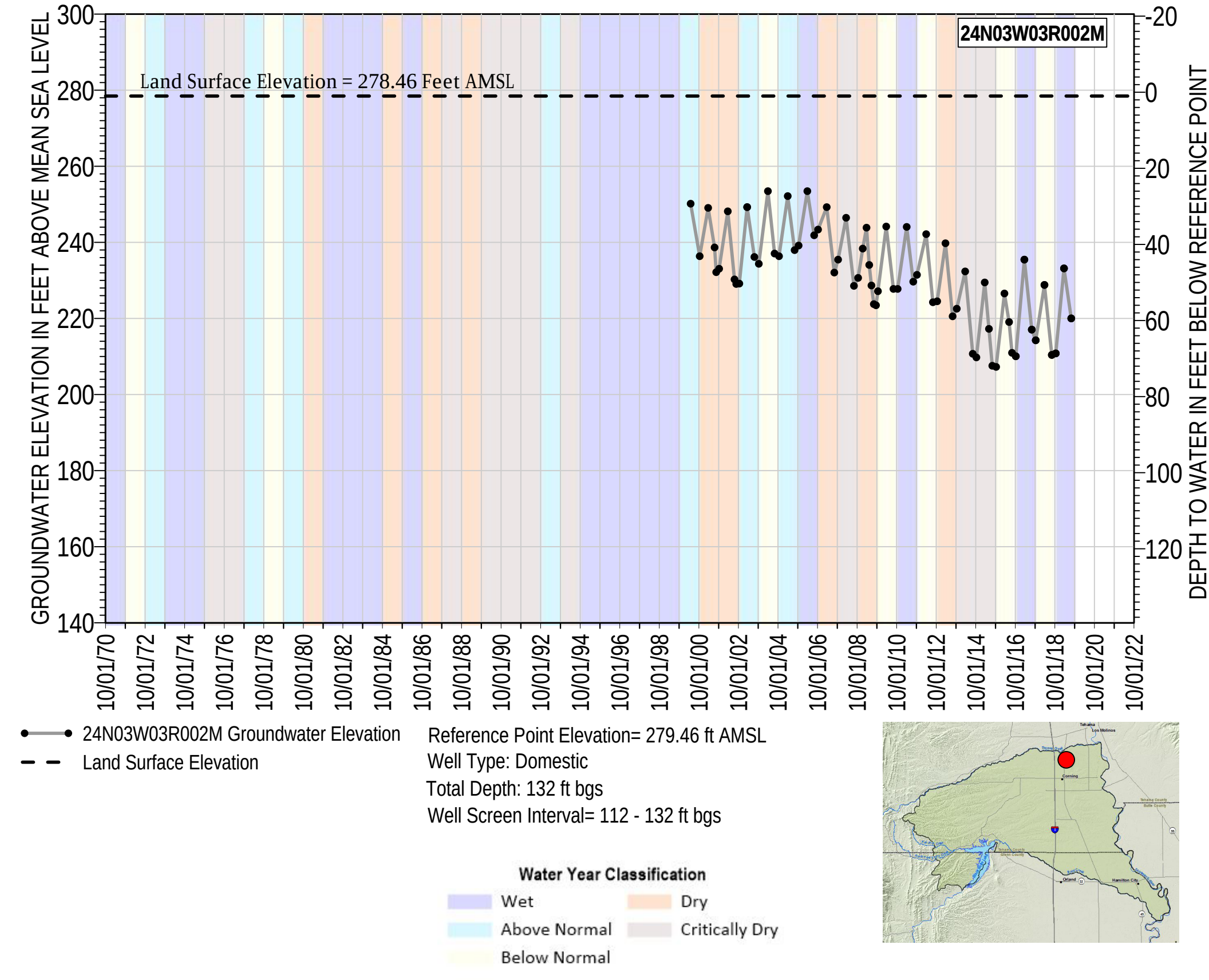


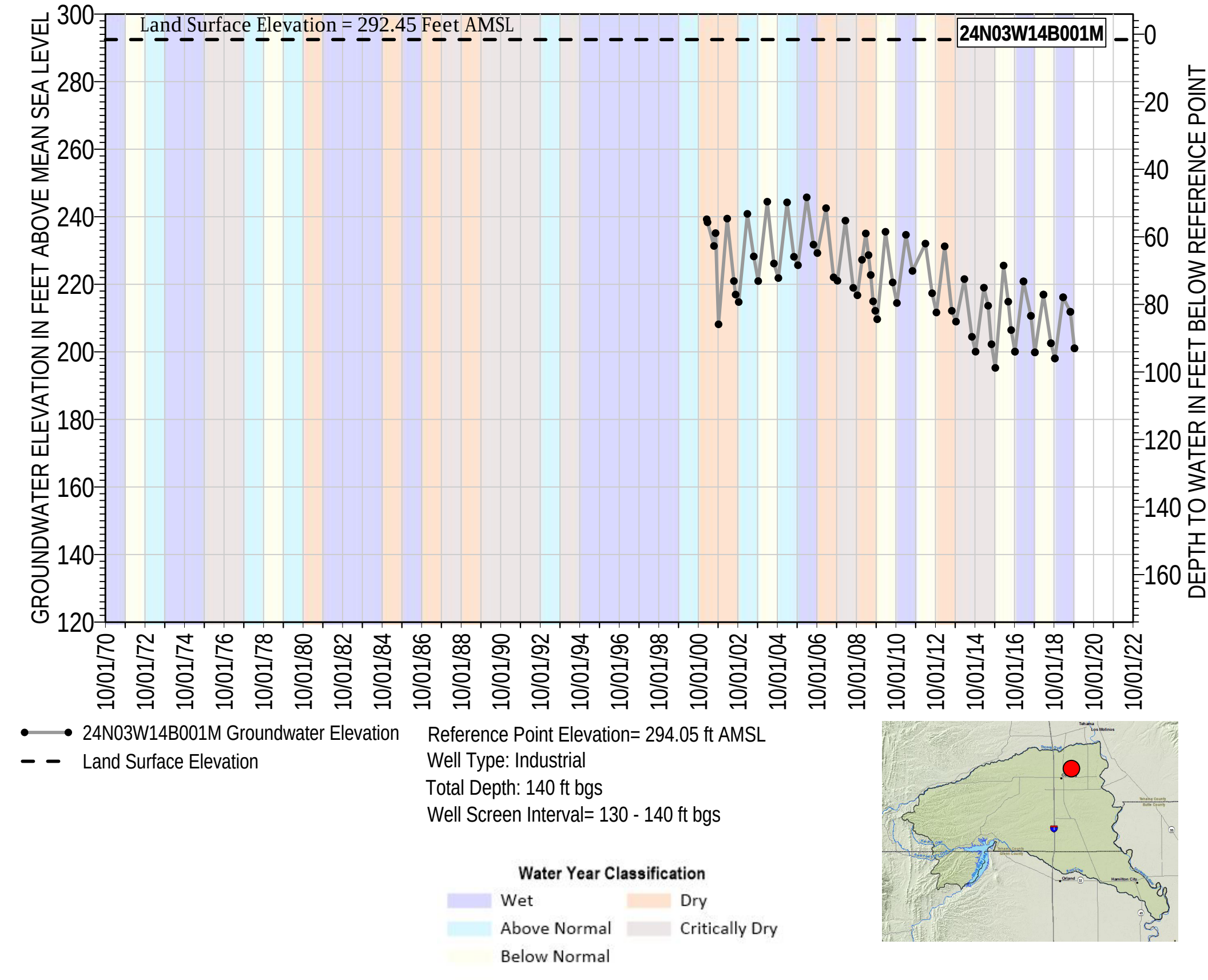

Land Surface Elevation = 212.45 Feet AMSL
24N02W29N004M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
220
200
180
160
140
120
100
80
60
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N02W29N004M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 213.448 ft AMSL
Well Type: Observation
Total Depth: 741 ft bgs
Well Screen Interval= 590 - 710 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

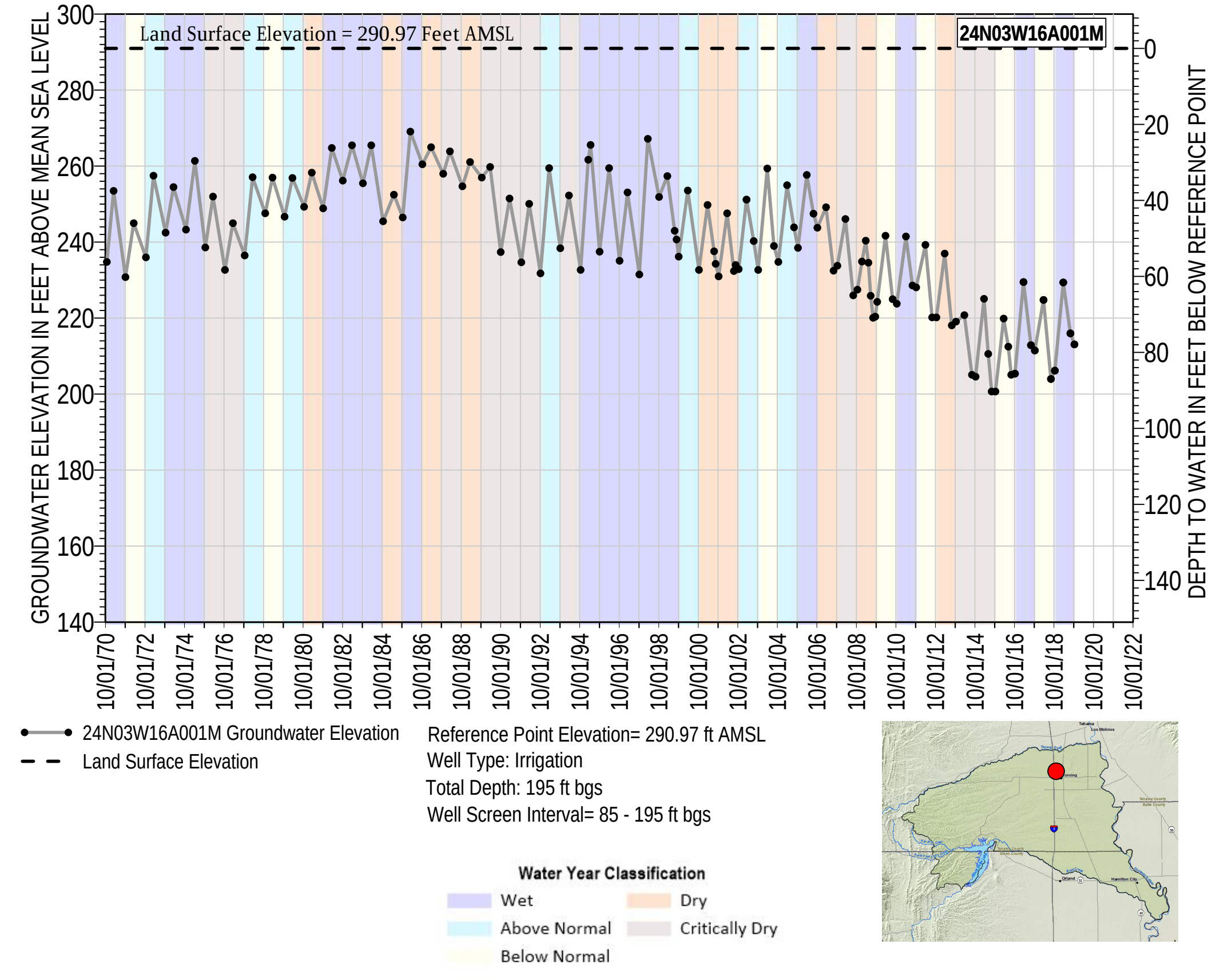

24N02W30P002M
Land Surface Elevation = 227.44 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
240
220
200
180
160
140
120
100
80
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N02W30P002M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 228.24 ft AMSL
Well Type: Irrigation
Total Depth: 300 ft bgs
Well Screen Interval= 120 - 300 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

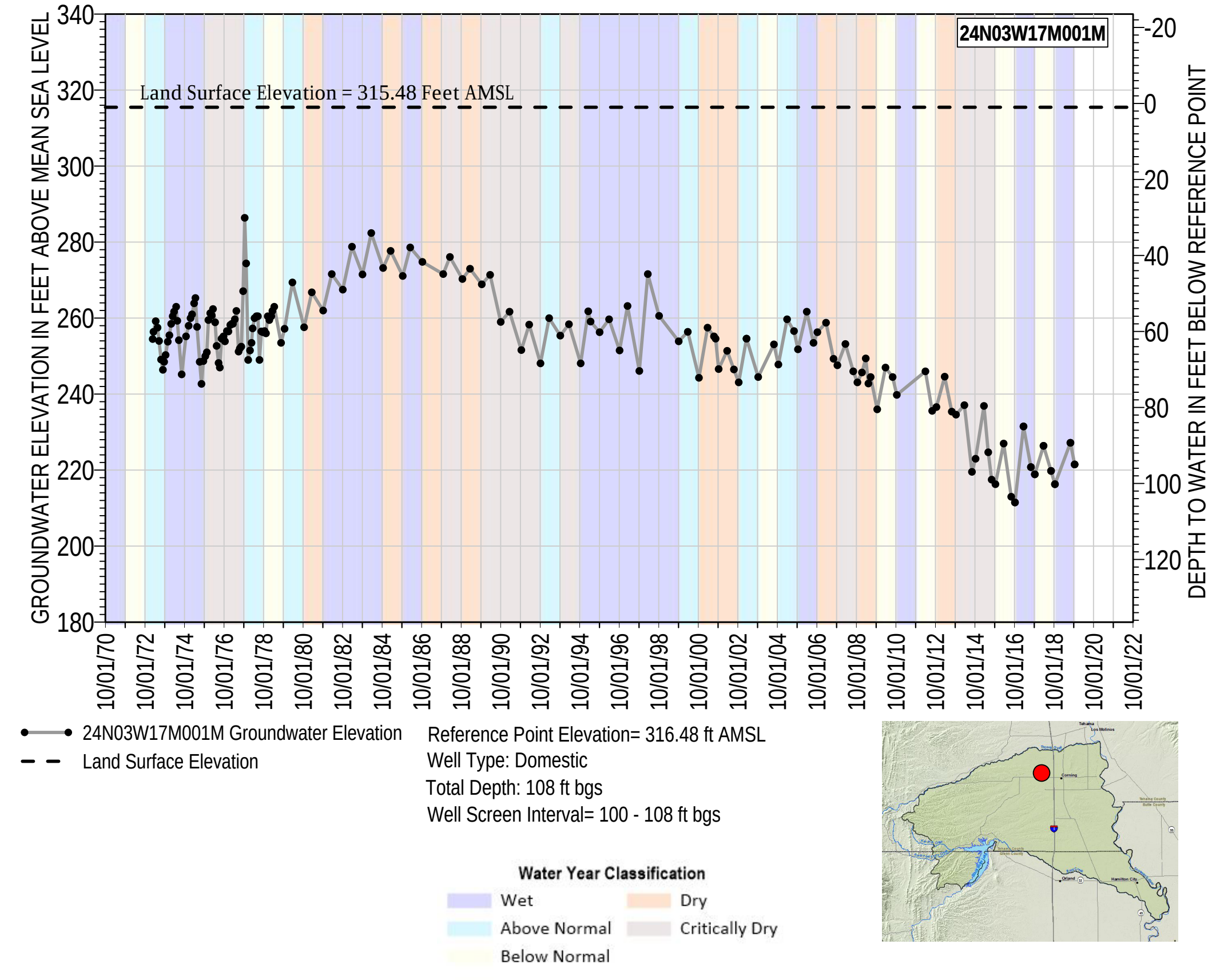

24N03W01B001M
Land Surface Elevation = 247.44 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
260
240
220
200
180
160
140
120
100
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N03W01B001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 248.44 ft AMSL
Well Type: Domestic
Total Depth: 68 ft bgs
Well Screen Interval= 52 - 64 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

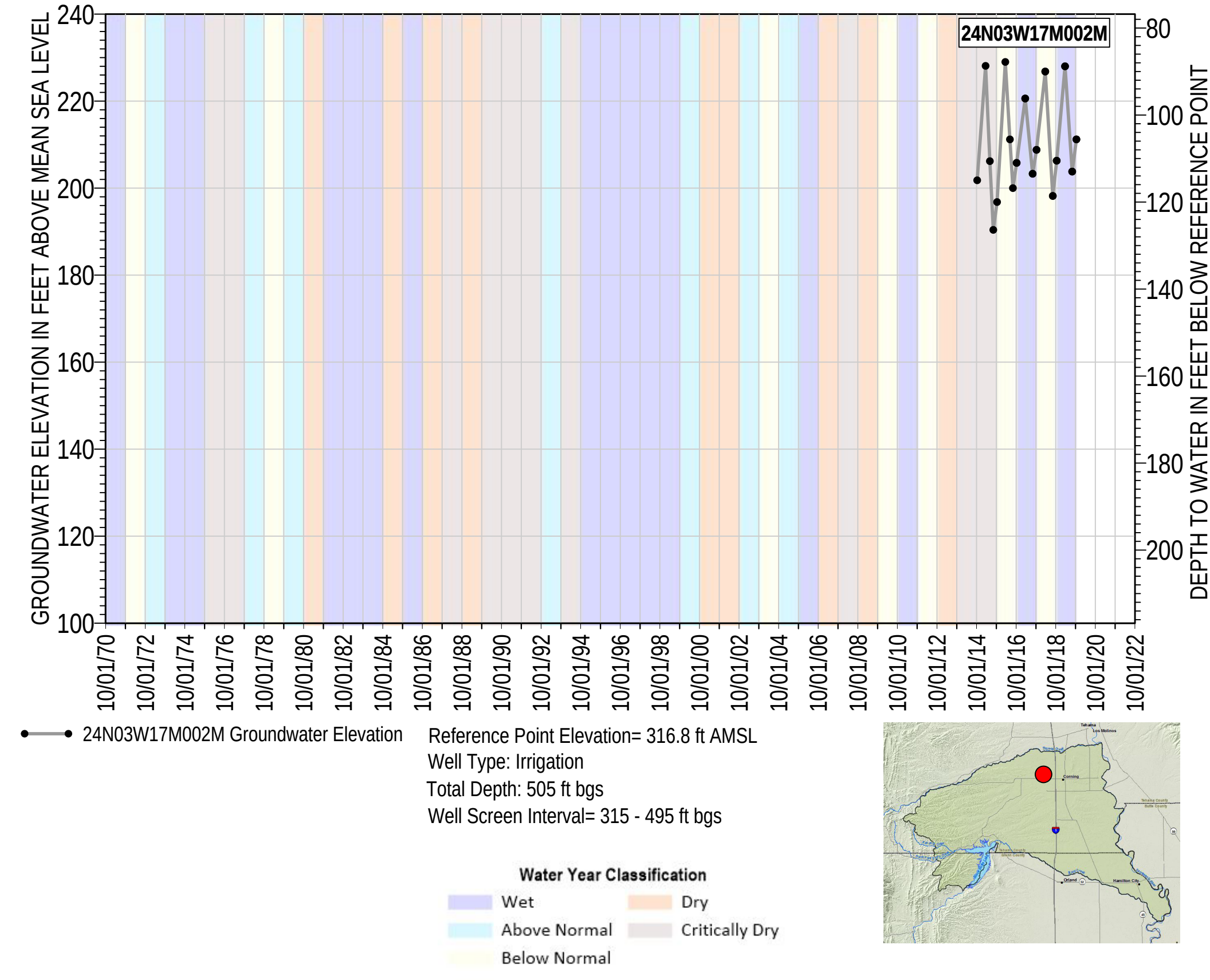

24N03W02R001M
Land Surface Elevation = 257.45 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
280
260
240
220
200
180
160
140
-20
0
20
40
60
80
100
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N03W02R001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 257.95 ft AMSL
Well Type: Domestic
Total Depth: 270 ft bgs
Well Screen Interval= Unknown ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

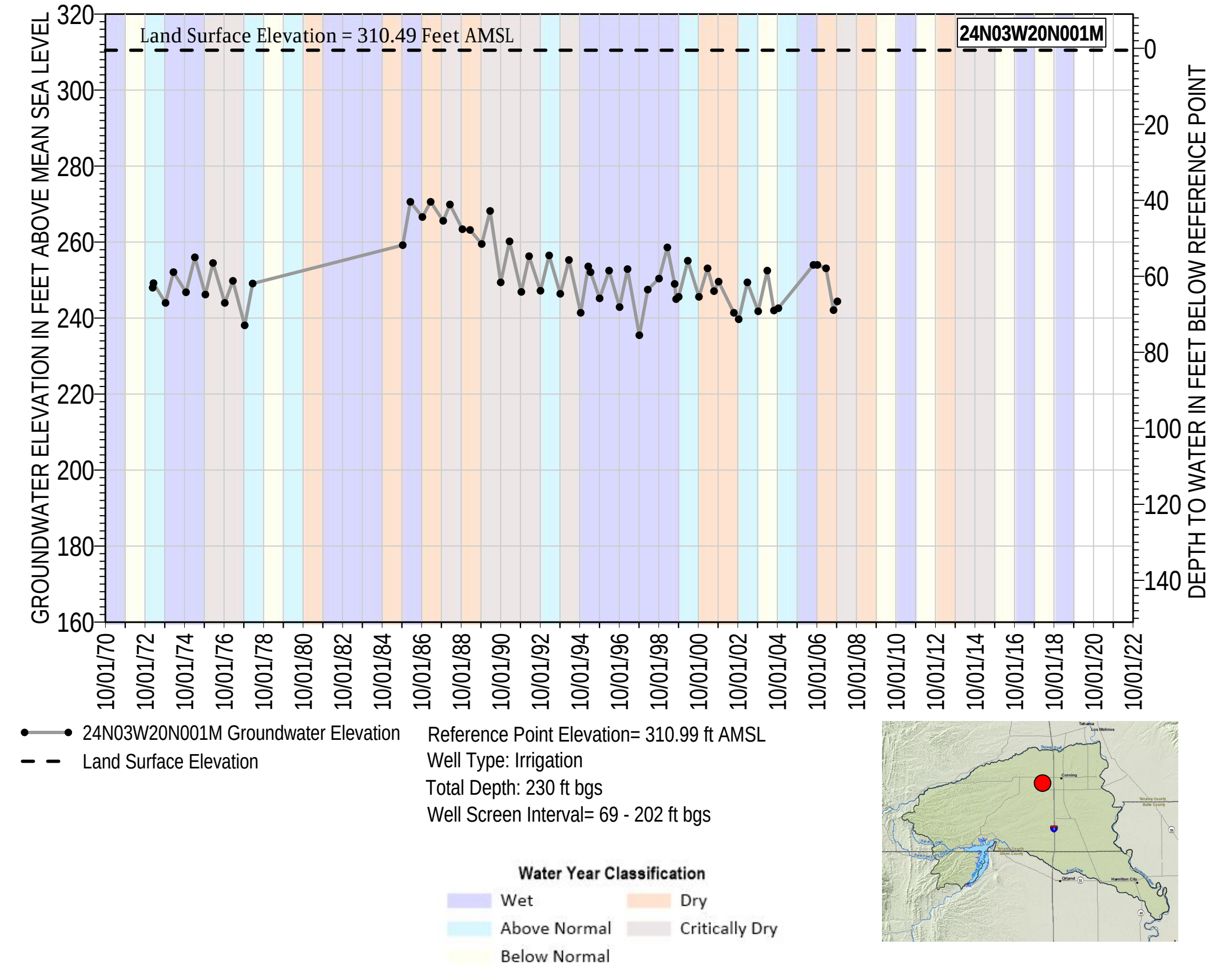

24N03W03R002M
Land Surface Elevation = 278.46 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
300
280
260
240
220
200
180
160
140
-20
0
20
40
60
80
100
120
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N03W03R002M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 279.46 ft AMSL
Well Type: Domestic
Total Depth: 132 ft bgs
Well Screen Interval= 112 - 132 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

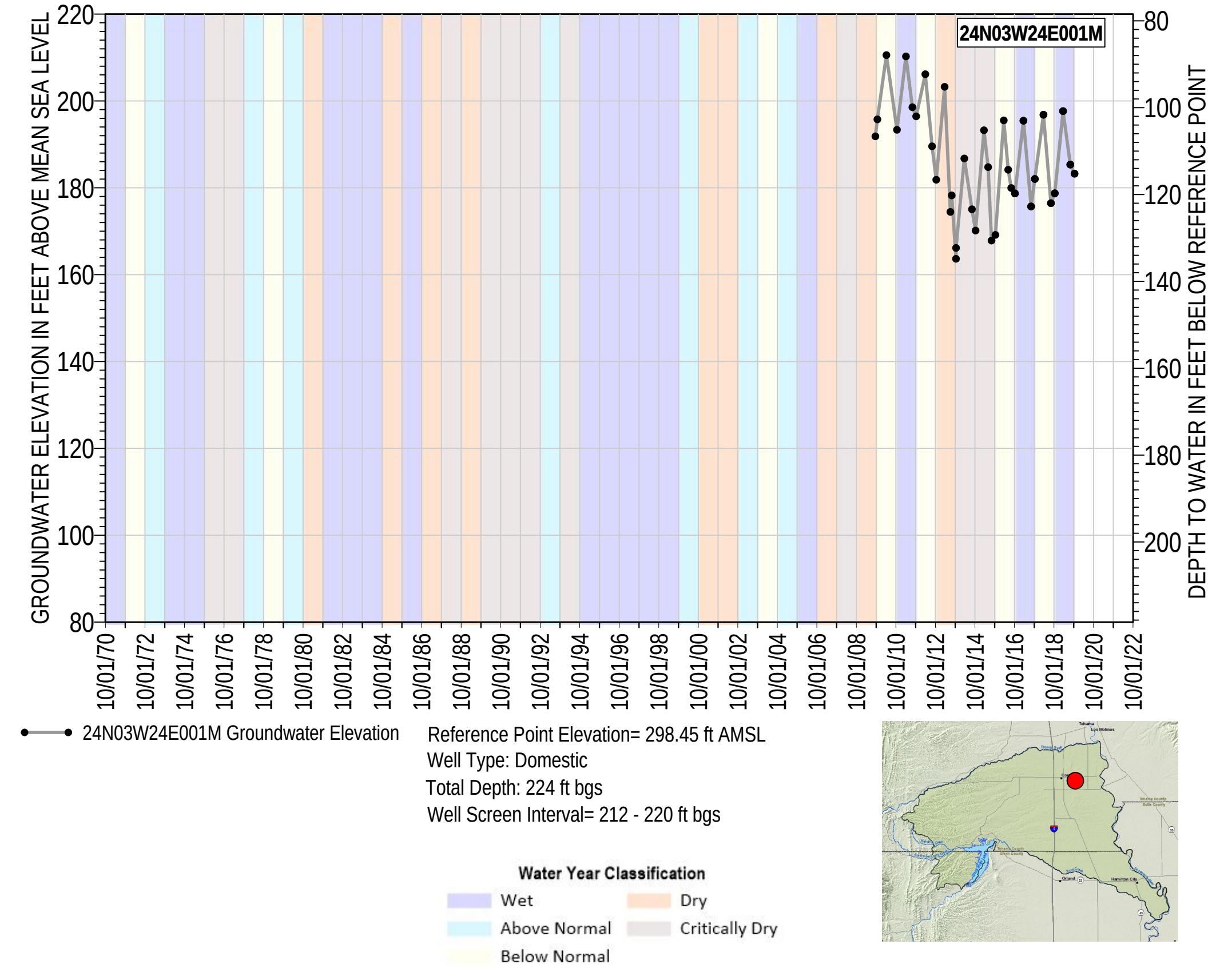

Land Surface Elevation = 292.45 Feet AMSL
24N03W14B001M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
300
280
260
240
220
200
180
160
140
120
0
20
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N03W14B001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 294.05 ft AMSL
Well Type: Industrial
Total Depth: 140 ft bgs
Well Screen Interval= 130 - 140 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry

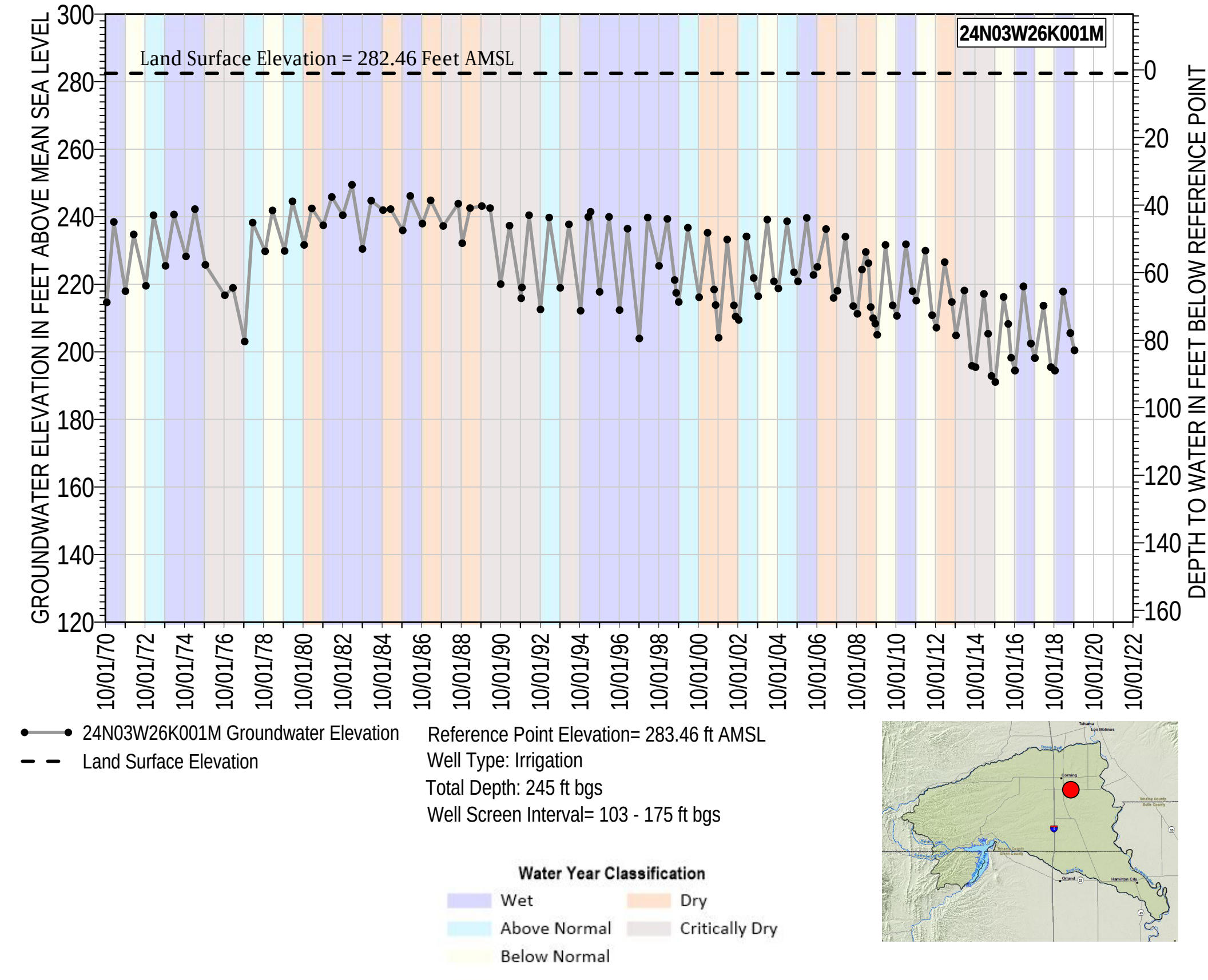

Land Surface Elevation = 290.97 Feet AMSL
24N03W16A001M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
300
280
260
240
220
200
180
160
140
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N03W16A001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 290.97 ft AMSL
Well Type: Irrigation
Total Depth: 195 ft bgs
Well Screen Interval= 85 - 195 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry

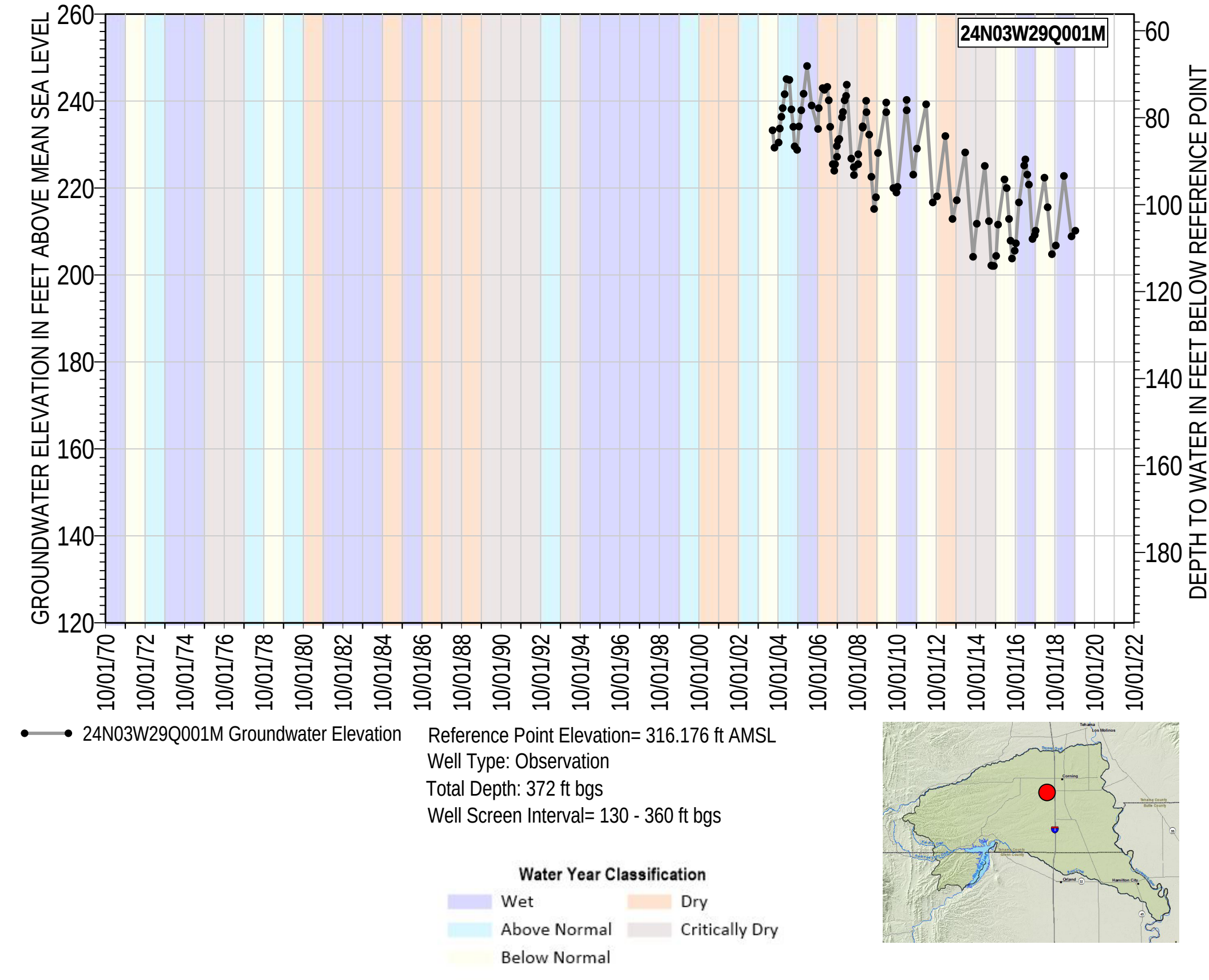

24N03W17M001M
Land Surface Elevation = 315.48 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
340
320
300
280
260
240
220
200
180
-20
0
20
40
60
80
100
120
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N03W17M001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 316.48 ft AMSL
Well Type: Domestic
Total Depth: 108 ft bgs
Well Screen Interval= 100 - 108 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

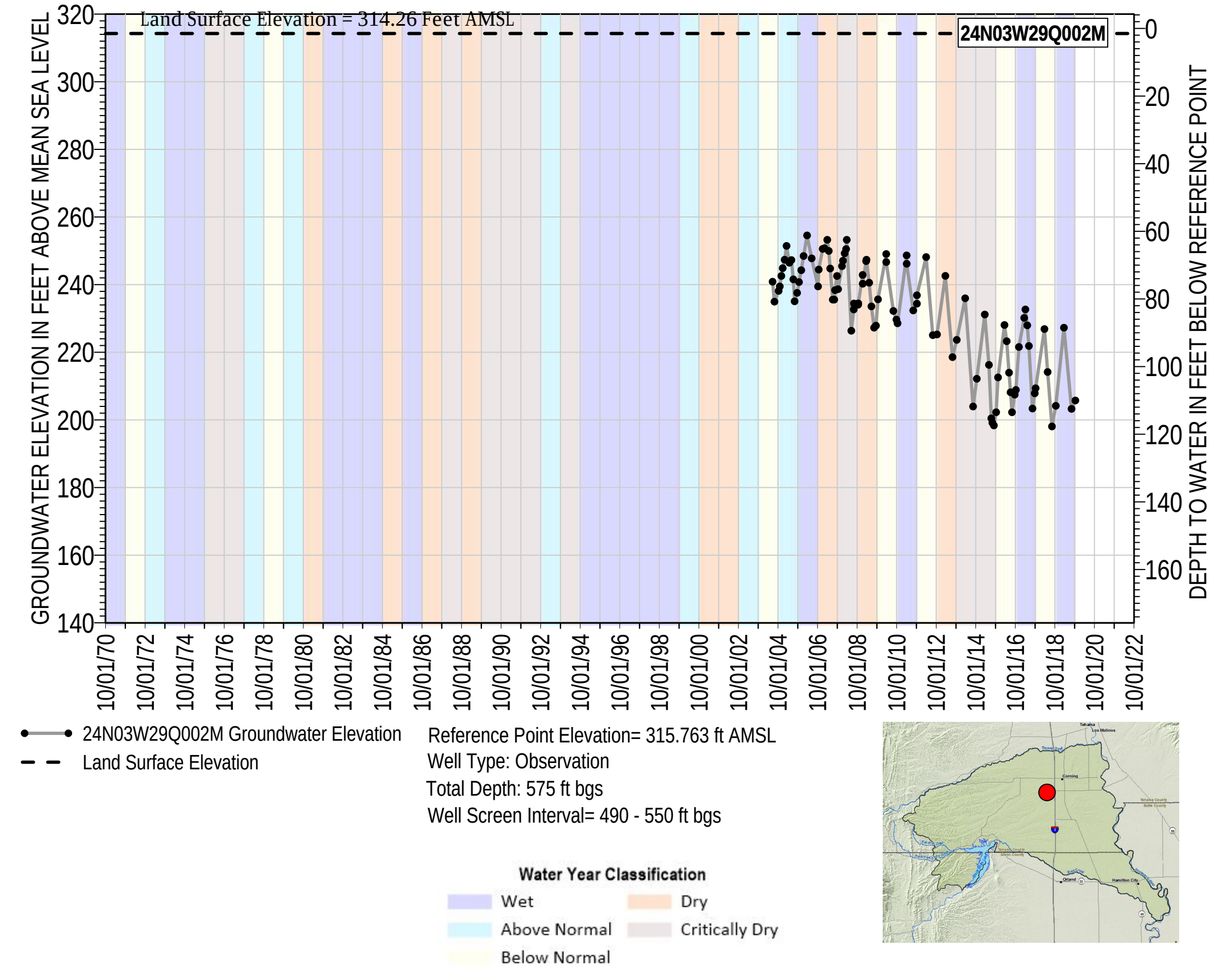

24N03W17M002M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
240
220
200
180
160
140
120
100
80
100
120
140
160
180
200
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N03W17M002M Groundwater Elevation
Reference Point Elevation= 316.8 ft AMSL
Well Type: Irrigation
Total Depth: 505 ft bgs
Well Screen Interval= 315 - 495 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Corning
Orland
Hamilton City

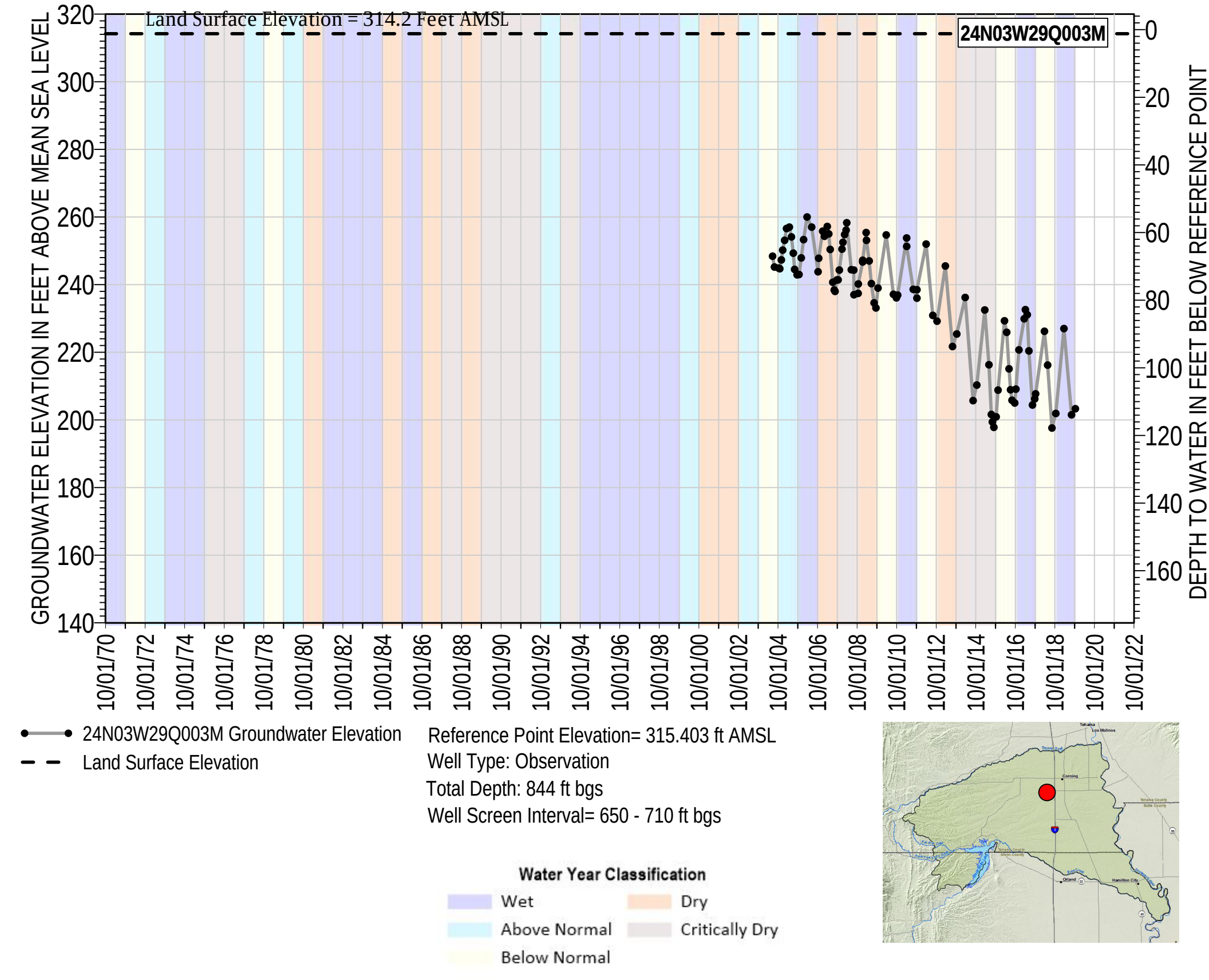

Land Surface Elevation = 310.49 Feet AMSL
24N03W20N001M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
320
300
280
260
240
220
200
180
160
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N03W20N001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 310.99 ft AMSL
Well Type: Irrigation
Total Depth: 230 ft bgs
Well Screen Interval= 69 - 202 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Corning
Orland
Hamilton City

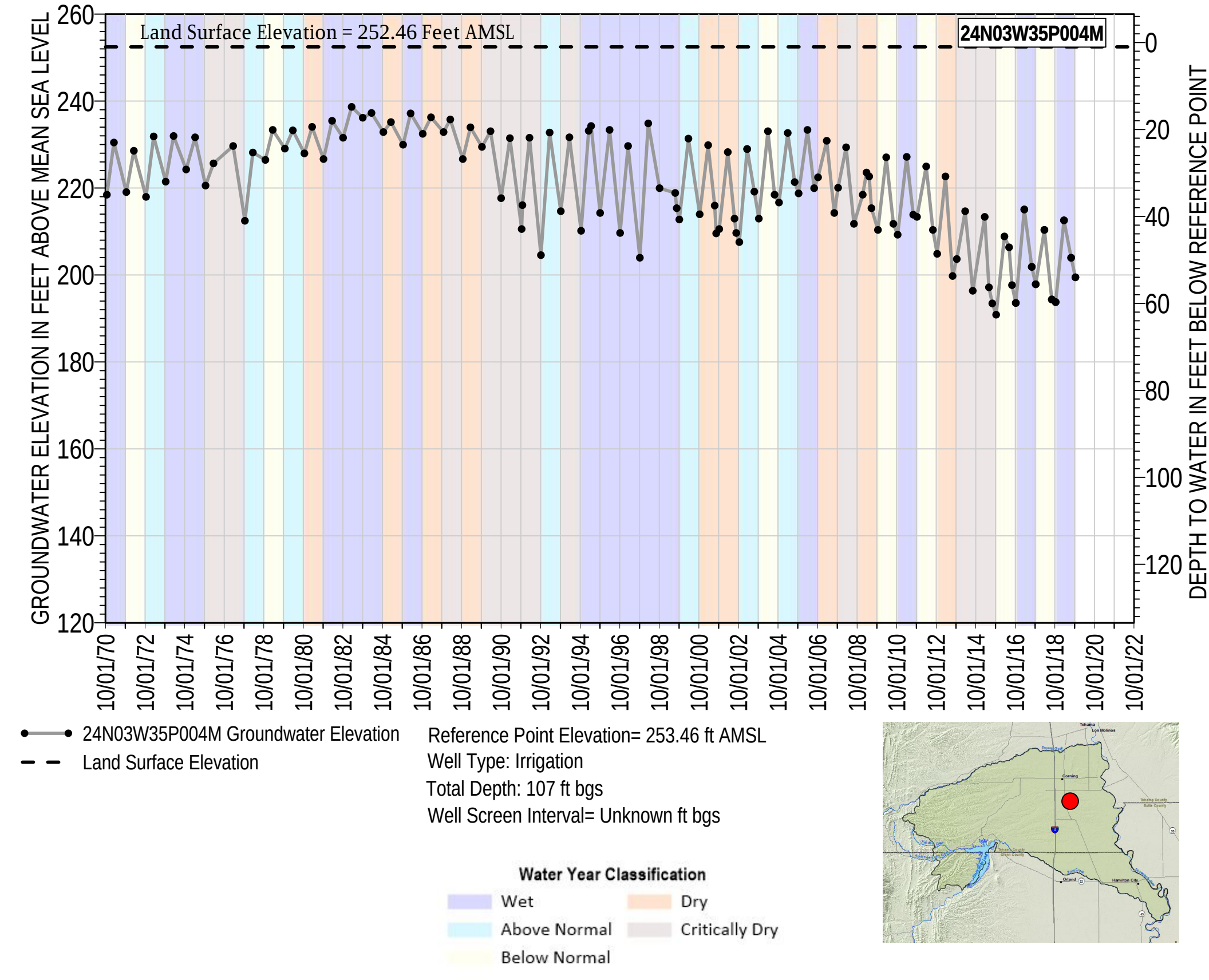

24N03W24E001M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
220
200
180
160
140
120
100
80
80
100
120
140
160
180
200
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N03W24E001M Groundwater Elevation
Reference Point Elevation= 298.45 ft AMSL
Well Type: Domestic
Total Depth: 224 ft bgs
Well Screen Interval= 212 - 220 ft bgs
Water Year Classification
Wet
Dry
Above Normal
Critically Dry
Below Normal

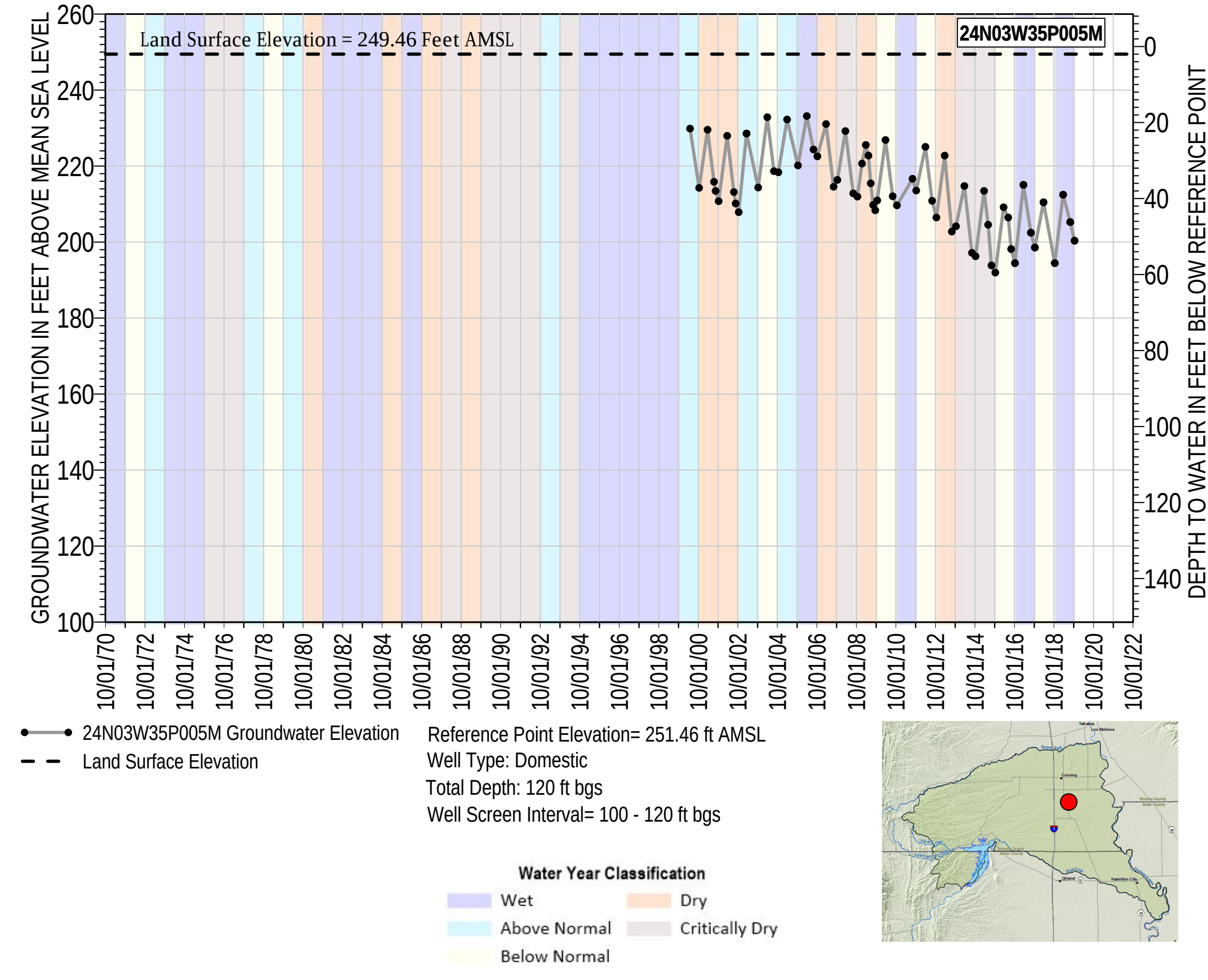

24N03W26K001M
Land Surface Elevation = 282.46 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
300
280
260
240
220
200
180
160
140
120
0
20
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N03W26K001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 283.46 ft AMSL
Well Type: Irrigation
Total Depth: 245 ft bgs
Well Screen Interval= 103 - 175 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

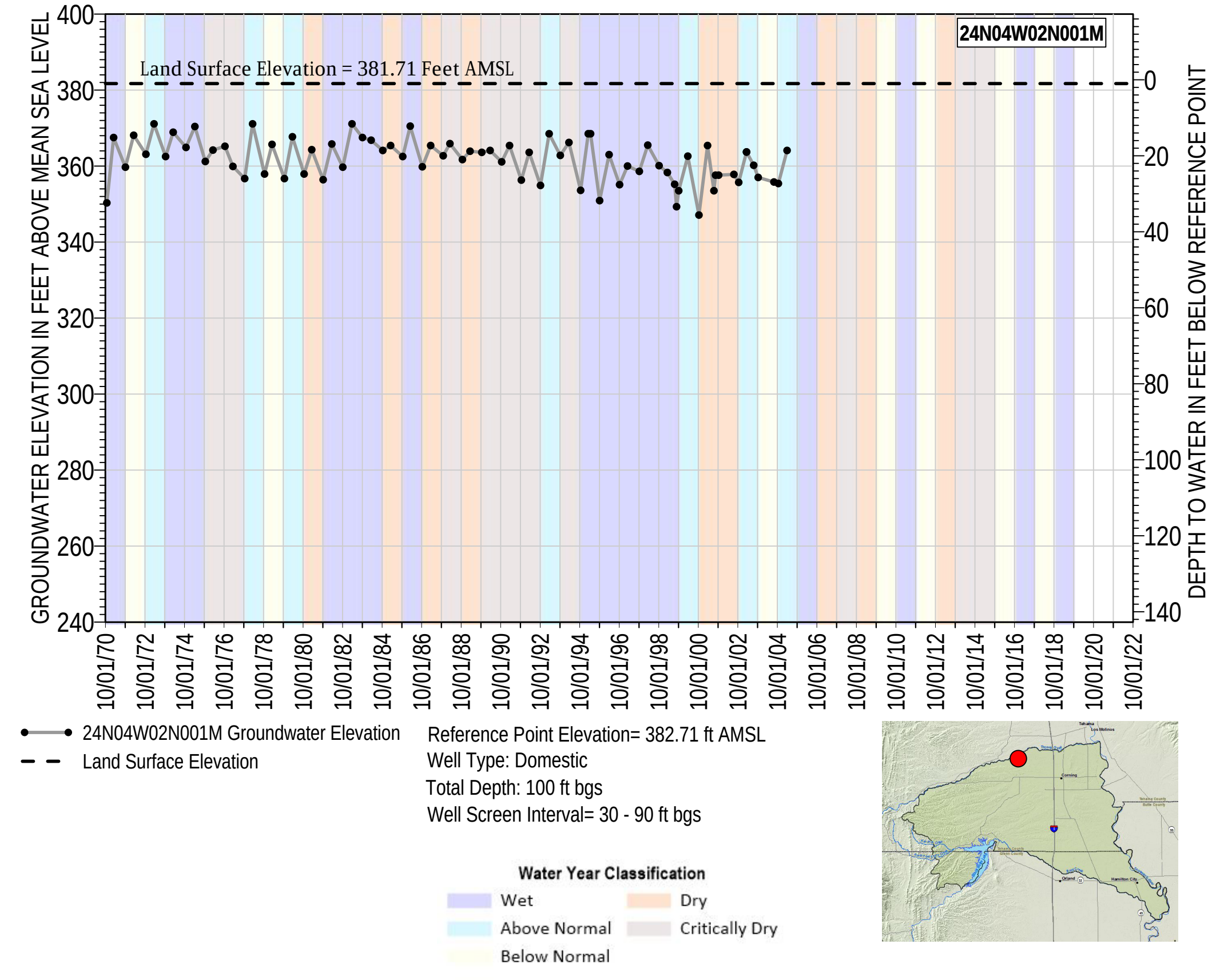

24N03W29Q001M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
260
240
220
200
180
160
140
120
60
80
100
120
140
160
180
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N03W29Q001M Groundwater Elevation
Reference Point Elevation= 316.176 ft AMSL
Well Type: Observation
Total Depth: 372 ft bgs
Well Screen Interval= 130 - 360 ft bgs
Water Year Classification
Wet
Dry
Above Normal
Critically Dry
Below Normal
Tehama
Los Molinos
Corning
Orland
Hamilton City

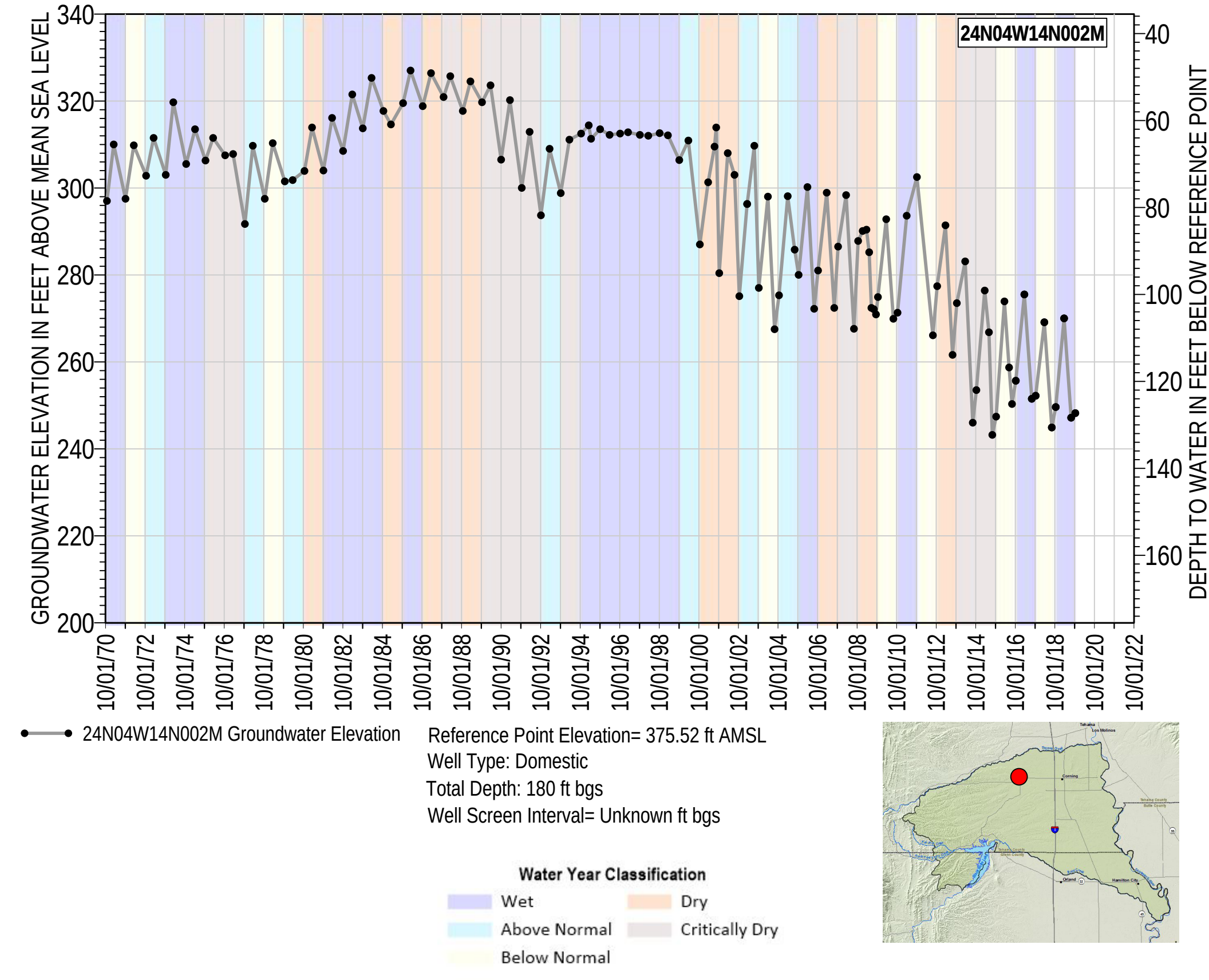

Land Surface Elevation = 314.26 Feet AMSL
24N03W29Q002M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
320
300
280
260
240
220
200
180
160
140
0
20
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N03W29Q002M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 315.763 ft AMSL
Well Type: Observation
Total Depth: 575 ft bgs
Well Screen Interval= 490 - 550 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

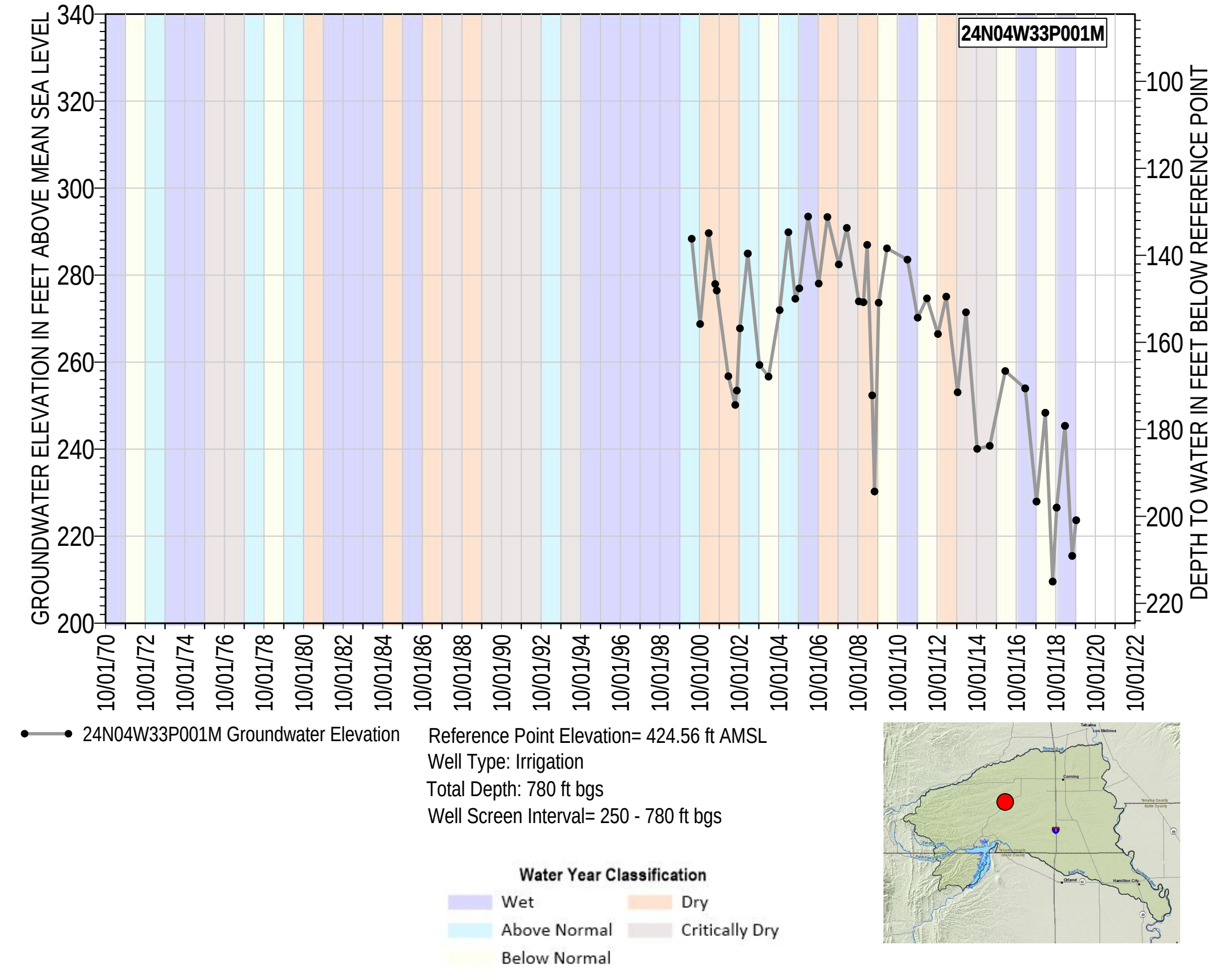

Land Surface Elevation = 314.2 Feet AMSL
24N03W29Q003M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
320
300
280
260
240
220
200
180
160
140
0
20
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N03W29Q003M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 315.403 ft AMSL
Well Type: Observation
Total Depth: 844 ft bgs
Well Screen Interval= 650 - 710 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

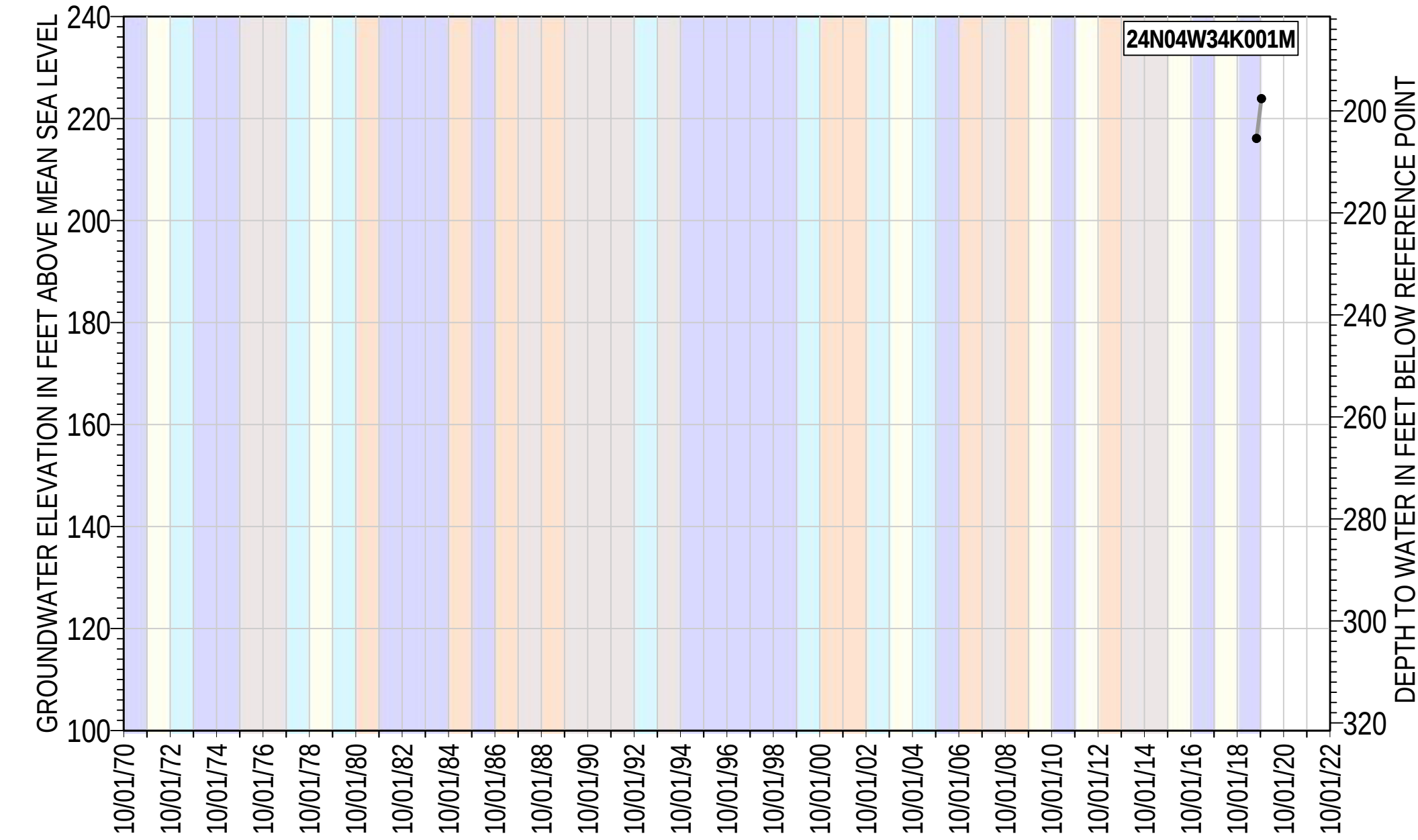

Land Surface Elevation = 252.46 Feet AMSL
24N03W35P004M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
260
240
220
200
180
160
140
120
0
20
40
60
80
100
120
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N03W35P004M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 253.46 ft AMSL
Well Type: Irrigation
Total Depth: 107 ft bgs
Well Screen Interval= Unknown ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City


Land Surface Elevation = 249.46 Feet AMSL
24N03W35P005M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
260
240
220
200
180
160
140
120
100
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N03W35P005M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 251.46 ft AMSL
Well Type: Domestic
Total Depth: 120 ft bgs
Well Screen Interval= 100 - 120 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City


24N04W02N001M
Land Surface Elevation = 381.71 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
400
380
360
340
320
300
280
260
240
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N04W02N001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 382.71 ft AMSL
Well Type: Domestic
Total Depth: 100 ft bgs
Well Screen Interval= 30 - 90 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City


24N04W14N002M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
340
320
300
280
260
240
220
200
40
60
80
100
120
140
160
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N04W14N002M Groundwater Elevation
Reference Point Elevation= 375.52 ft AMSL
Well Type: Domestic
Total Depth: 180 ft bgs
Well Screen Interval= Unknown ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

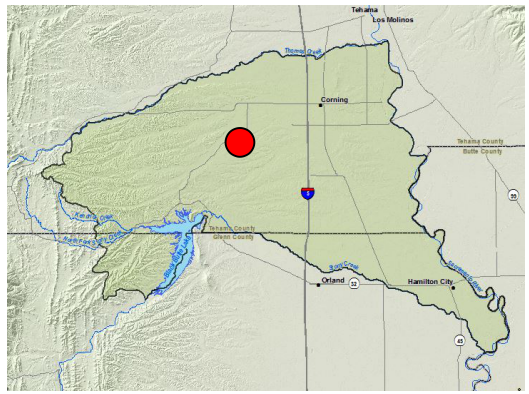

24N04W33P001M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
340
320
300
280
260
240
220
200
100
120
140
160
180
200
220
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N04W33P001M Groundwater Elevation
Reference Point Elevation= 424.56 ft AMSL
Well Type: Irrigation
Total Depth: 780 ft bgs
Well Screen Interval= 250 - 780 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

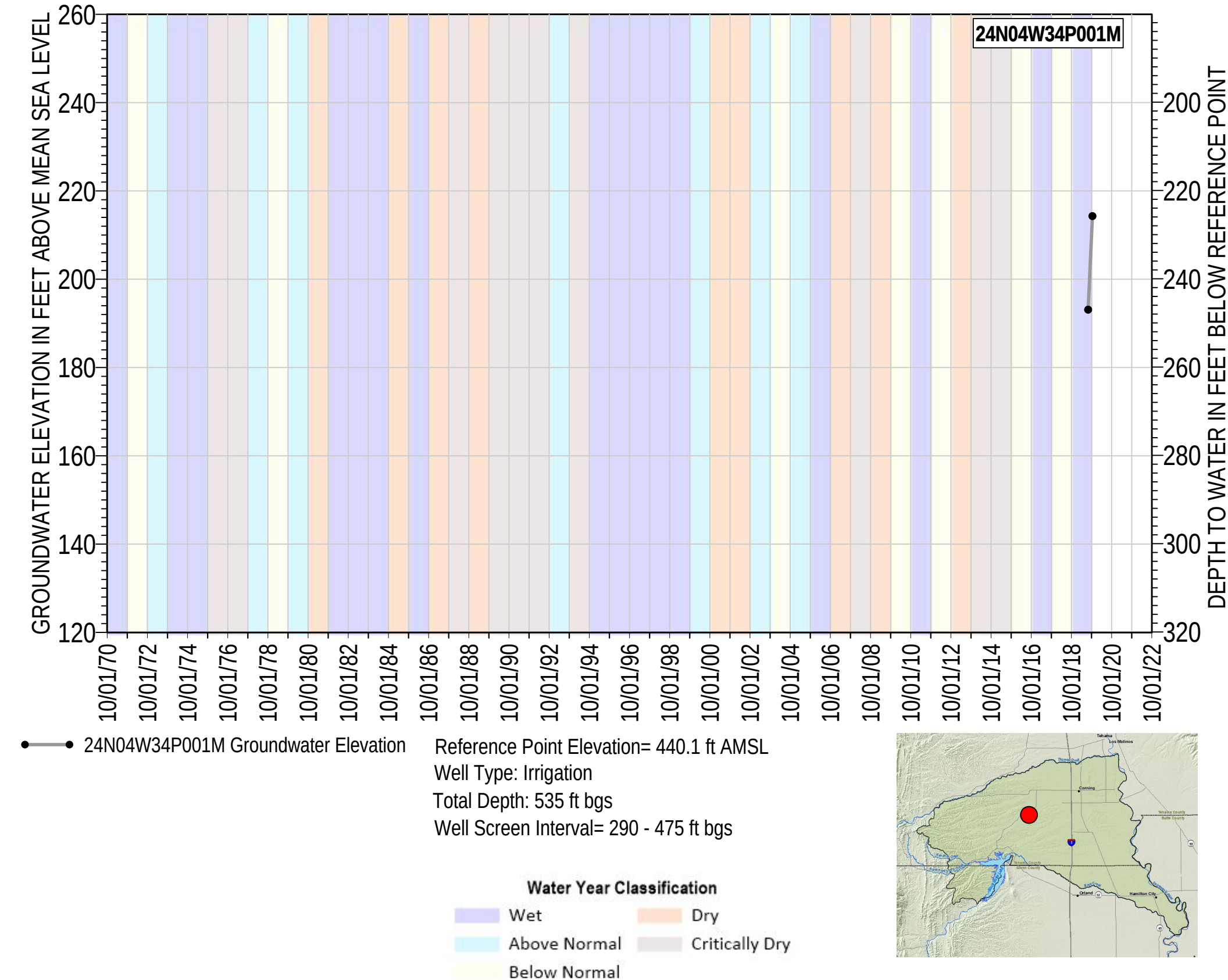


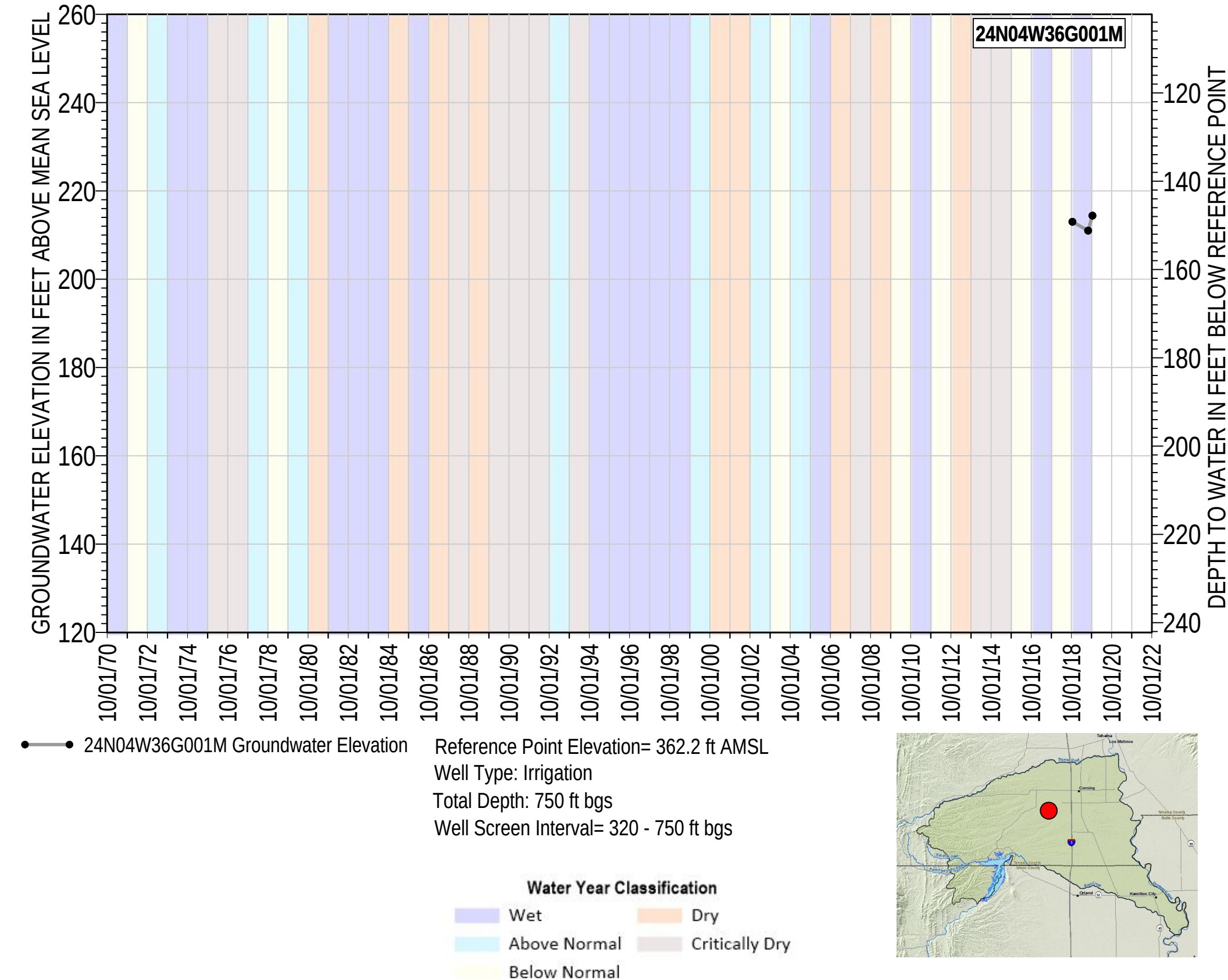
Reference Point Elevation= 421.5 ft AMSL
Well Type: Irrigation
Total Depth: 750 ft bgs
Well Screen Interval= 310 - 750 ft bgs

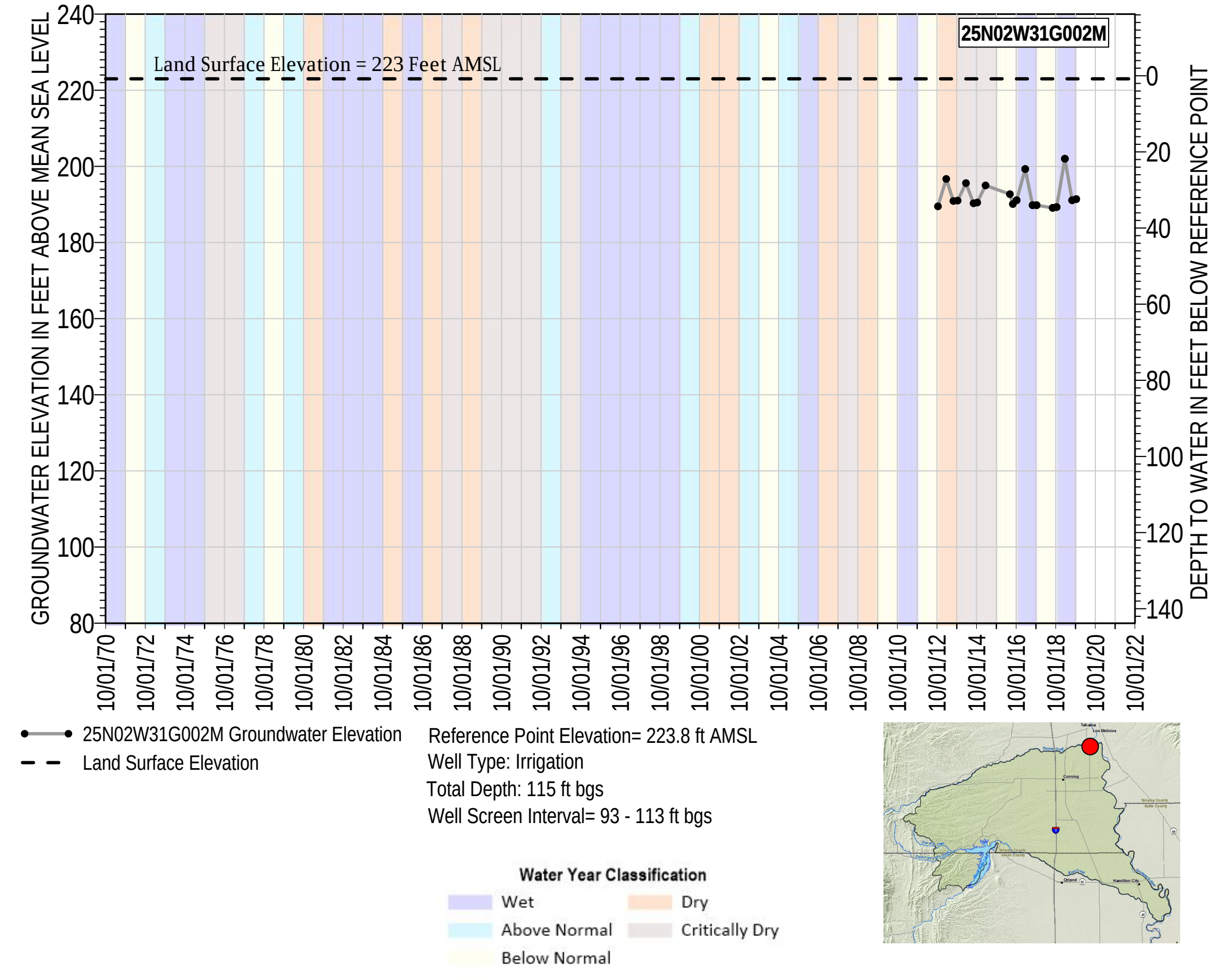
Water Year Classification

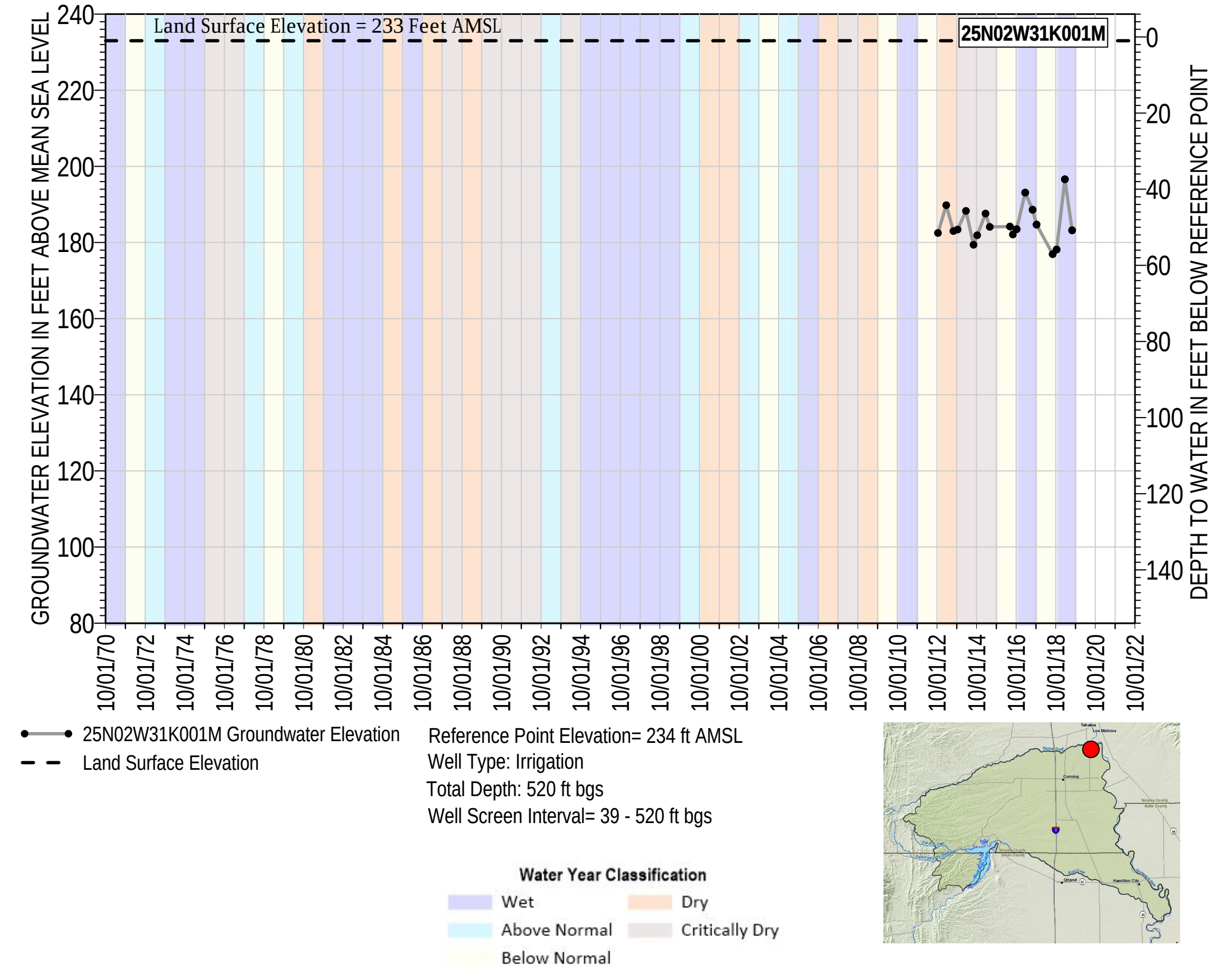
Wet	Dry
Above Normal	Critically Dry
Below Normal	




24N04W34P001M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
260
240
220
200
180
160
140
120
200
220
240
260
280
300
320
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N04W34P001M Groundwater Elevation
Reference Point Elevation= 440.1 ft AMSL
Well Type: Irrigation
Total Depth: 535 ft bgs
Well Screen Interval= 290 - 475 ft bgs
Water Year Classification
Wet
Dry
Above Normal
Critically Dry
Below Normal


24N04W36G001M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
260
240
220
200
180
160
140
120
120
140
160
180
200
220
240
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
24N04W36G001M Groundwater Elevation
Reference Point Elevation= 362.2 ft AMSL
Well Type: Irrigation
Total Depth: 750 ft bgs
Well Screen Interval= 320 - 750 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry


25N02W31G002M
Land Surface Elevation = 223 Feet AMSL
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
240
220
200
180
160
140
120
100
80
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
25N02W31G002M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 223.8 ft AMSL
Well Type: Irrigation
Total Depth: 115 ft bgs
Well Screen Interval= 93 - 113 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City


Land Surface Elevation = 233 Feet AMSL
25N02W31K001M
GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
DEPTH TO WATER IN FEET BELOW REFERENCE POINT
240
220
200
180
160
140
120
100
80
0
20
40
60
80
100
120
140
10/01/70
10/01/72
10/01/74
10/01/76
10/01/78
10/01/80
10/01/82
10/01/84
10/01/86
10/01/88
10/01/90
10/01/92
10/01/94
10/01/96
10/01/98
10/01/00
10/01/02
10/01/04
10/01/06
10/01/08
10/01/10
10/01/12
10/01/14
10/01/16
10/01/18
10/01/20
10/01/22
25N02W31K001M Groundwater Elevation
Land Surface Elevation
Reference Point Elevation= 234 ft AMSL
Well Type: Irrigation
Total Depth: 520 ft bgs
Well Screen Interval= 39 - 520 ft bgs
Water Year Classification
Wet
Above Normal
Below Normal
Dry
Critically Dry
Tehama
Los Molinos
Corning
Orland
Hamilton City

25N03W36H001M

Land Surface Elevation = 240 Feet AMSL

GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL

DEPTH TO WATER IN FEET BELOW REFERENCE POINT

260 240 220 200 180 160 140 120 100 80

0 20 40 60 80 100 120 140 160

10/01/70 10/01/72 10/01/74 10/01/76 10/01/78 10/01/80 10/01/82 10/01/84 10/01/86 10/01/88 10/01/90 10/01/92 10/01/94 10/01/96 10/01/98 10/01/00 10/01/02 10/01/04 10/01/06 10/01/08 10/01/10 10/01/12 10/01/14 10/01/16 10/01/18 10/01/20 10/01/22

25N03W36H001M Groundwater Elevation

Land Surface Elevation

Reference Point Elevation= 241 ft AMSL

Well Type: Irrigation

Total Depth: 524 ft bgs

Well Screen Interval= Unknown ft bgs

Water Year Classification

Wet	Dry
Above Normal	Critically Dry
Below Normal