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May 15, 2025

Mr. David McNair
Scotts Valley Water District
2 Civic Center Drive
Scotts Valley, CA 95066

SUBJECT: REVIEW OF APRIL 2025 GROUNDWATER CONDITIONS IN THE SCOTTS VALLEY WATER DISTRICT AREA

Dear Mr. McNair:

Montgomery & Associates (M&A) prepared this letter report for Scotts Valley Water District (District) to review end of wet season groundwater conditions and dry season groundwater supply shortages. The report summarizes precipitation, District groundwater extraction, and groundwater level data for the wet season of Water Year (WY) 2025 from October 1, 2024, to April 30, 2025. The information reviewed was used to prepare an Annual Water Supply and Demand Assessment—as outlined in Section 13.2 of the 2020 Urban Water Management Plan (UWMP) —to determine if implementation of the Water Shortage Contingency Plan (WSCP) is necessary. The data are also compared to sustainability metrics in the Santa Margarita Basin Groundwater Sustainability Plan (GSP) to evaluate progress toward implementing that plan. Despite a dry winter and spring, groundwater levels are stable to increasing because of the District's commitment to water conservation and decreasing groundwater extraction. The District should continue to have adequate supply to operate extraction wells consistent with prior years and does not need to implement contingency plans at this time.

PRECIPITATION SUMMARY

The water year is on track to be a relatively dry year in the Scotts Valley area. Total WY2025 precipitation measured at the El Pueblo Yard Weather Station through May 1 is 24.6 inches (Figure 1), which is 60% of the long-term average annual precipitation of 41.1 inches. Like most years, much of the wet season precipitation occurred from the end of November to the end of March, with the majority falling in a few atmospheric river events (Figure 2).

Each water year is classified as wet, normal, dry, or critically dry, as shown in the background on Figure 1, using the county-wide classification system based on cumulative discharge of the San Lorenzo River downstream of the confluence with Zayante Creek. WY2025 is on track to be drier than about 85% of years since 1947 and will likely be a dry water year. The dry year in

WY2025 continues a long-term drying trend over the last decade, as indicated by the cumulative departure line graph overlaying the annual precipitation bars on Figure 1. Typically, May rainfall probability is used to project the likely total rainfall for the remainder of the wet season. However, given the limited rainfall so far, it is highly unlikely May will have enough rainfall to exceed 26 inches.

Since rainfall in prior years can influence current groundwater conditions in the region, the 2-year and 3-year averages are a useful metric for evaluating water supply and recharge. The 3-year period included 2 drier than average years in WY2024 and WY2025 and 1 wet year in WY2023. The 2-year and 3-year average precipitation are specific triggers in the 2020 UWMP Water Supply and Demand Assessment. The 2-year average precipitation from WY2024 through April 30, 2025, is 28.7 inches, which is 70% of average; the 3-year average precipitation from WY2023 through April 30, 2025, is 37.1 inches, which is 91% of average.

The regional climate indicator from the National Integrated Drought Information System (NIDIS)[1] provides real-time climate and drought stage updates. NIDIS classified Scotts Valley as being in severe to extreme drought from April 2021 to January 2023, before the wet end of the water year in 2023. With the relatively dry year in WY2025, NIDIS now classifies Scotts Valley as abnormally dry (D0) for the first time since January 2023 (Figure 3). Abnormally dry is the first drought stage on the scale, and is used as an early warning for a region entering a drought.

[1] https://www.drought.gov/location/scotts%20valley%2C%20ca

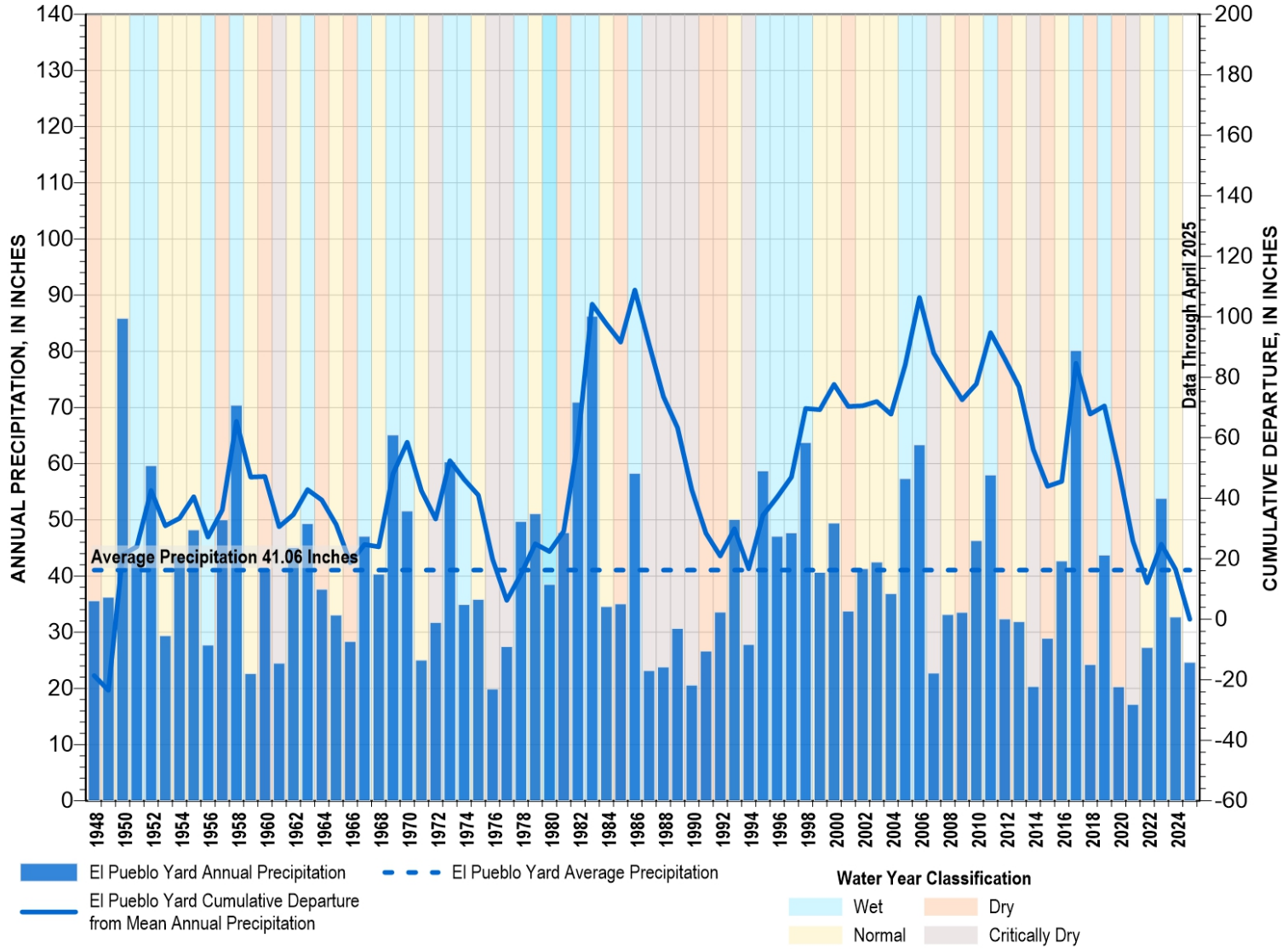


Figure 1. Annual Rainfall at El Pueblo Yard

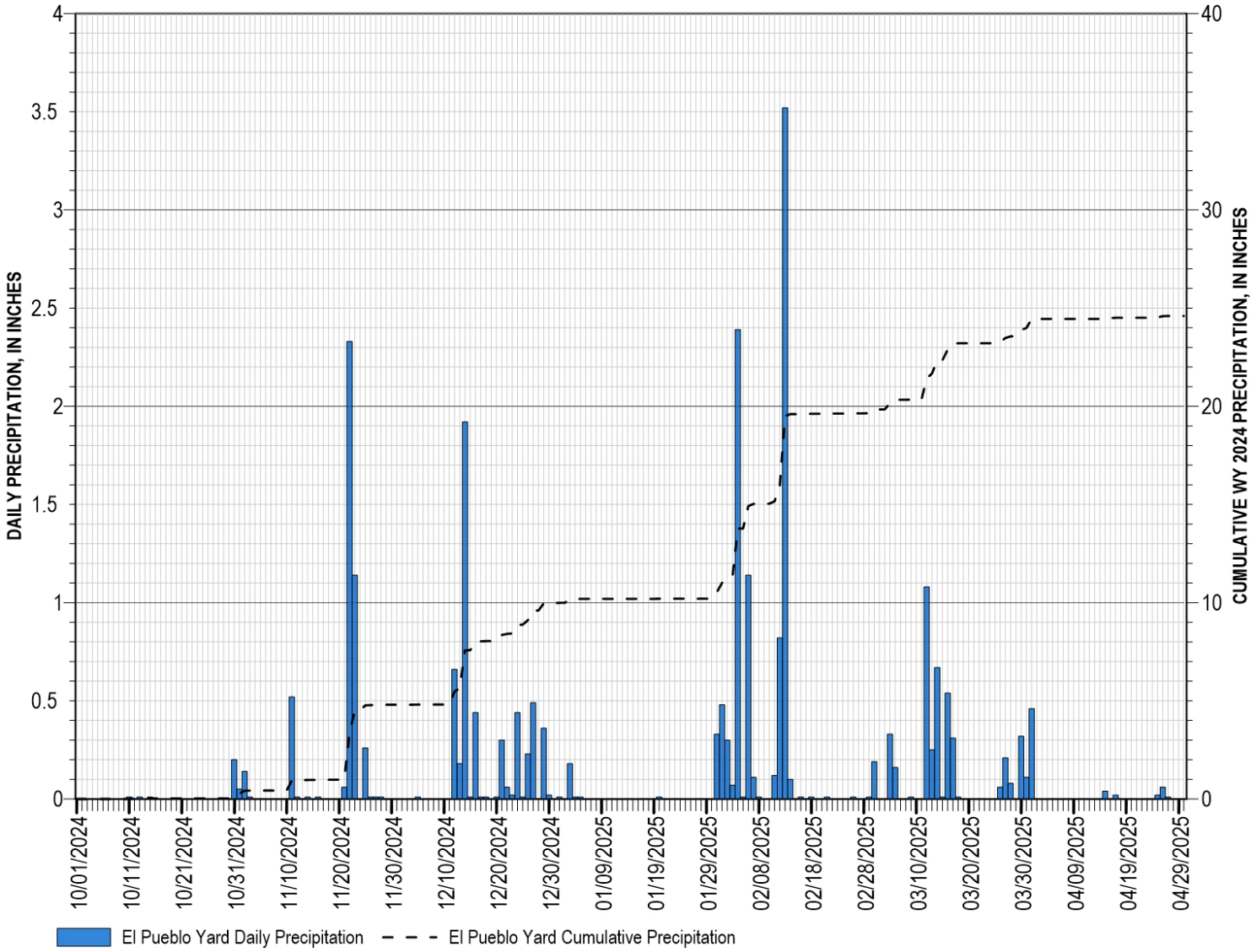


Figure 2. WY2025 Daily Rainfall at El Pueblo Yard

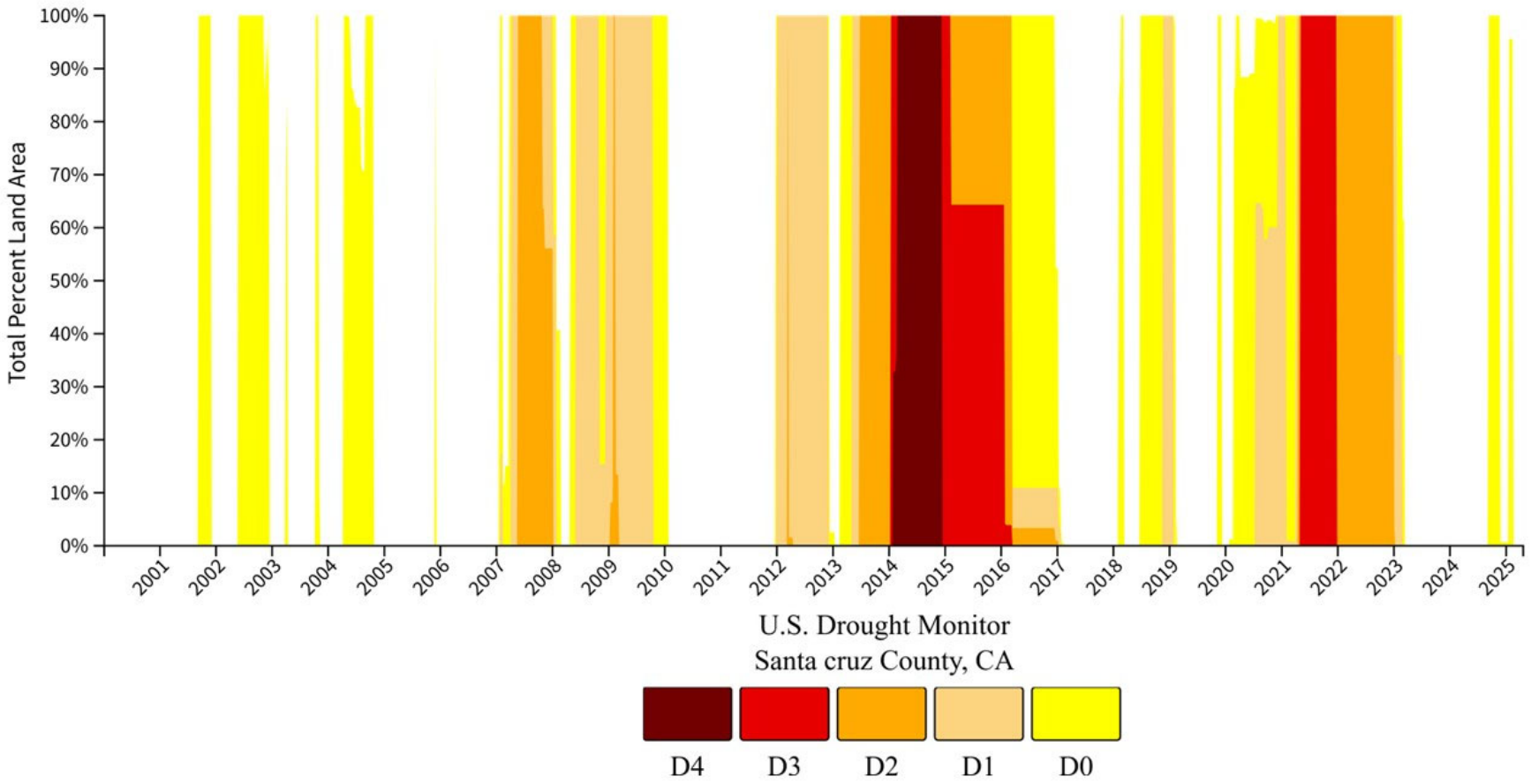


Figure 3. Drought Stage for Santa Cruz County, https://www.drought.gov/location/scotts%20valley%2C%20ca

GROUNDWATER EXTRACTION SUMMARY

The District currently uses about 1,200 acre-feet (AF) per year of water, with about 1,000 AF of potable supply from groundwater and 200 AF of non-potable supply from recycled water. The District's active groundwater extraction wells are screened in the Lompico and deeper Butano aquifers in the District's service area. Older wells #10A, #11A, and #11B are only screened in the Lompico aquifer, while the newer Orchard, Sucinto, and Grace Way wells are screened in both the Lompico and Butano aquifers. The Sucinto and Grace Way wells were installed in the past year and have yet to be equipped and integrated into the water supply system. Supply well locations are shown on Figure 4.

The District extracted slightly more groundwater in the first half of WY2025 compared to the 2 prior years; however, total groundwater extracted is similar to the drier period between WY2020 and WY2022. District groundwater extraction from October 1, 2024, to March 31, 2025, is 516.6 AF (Table 1). WY2025 extraction to date is about 3.5 AF higher than the average historical extraction volume during the wet season in the past 5 years. About 48% of extraction was from Lompico aquifer Wells #10A and #11B and 52% of extraction was from Lompico/Butano aquifer Orchard Well. Well #11A was pumped minimally, producing 0.2 AF between November 2024 and February 2025.

Table 1. Summary of Wet Season Extraction

Water Year	Water Year Classification	Lompico Extraction Wells #10A, #11A and #11B (AF)	Lompico/Butano Extraction Orchard Well (AF)*	Total (AF)
WY2020 Oct 2019 - Mar 2020	Dry	250.8	301.2	552.0
WY2021 Oct 2020 - Mar 2021	Critically Dry	468.4	127.5	595.9
WY2022 Oct 2021 - Mar 2022	Normal	193.8	311.4	505.2
WY2023 Oct 2022 - Mar 2023	Wet	248.2	218.6	466.8
WY2024 Oct 2023 - Mar 2024	Normal	222.8	224.9	447.7
WY2025 Oct 2024 - Mar 2025	Dry**	247.3	269.3	516.6

*The relative contribution of the Lompico and Butano aquifers to extraction wells screened across the units is estimated to be 40% from the Lompico aquifer and 60% from the Butano aquifer in the Santa Margarita Basin GSP. This estimate is required by the GSP but is not supported by extraction data analysis. The estimated extraction volumes are not distributed by aquifer in this report due to the uncertainty in the estimates.

**Current water year classification is estimated based on prior years and is not yet a final classification.

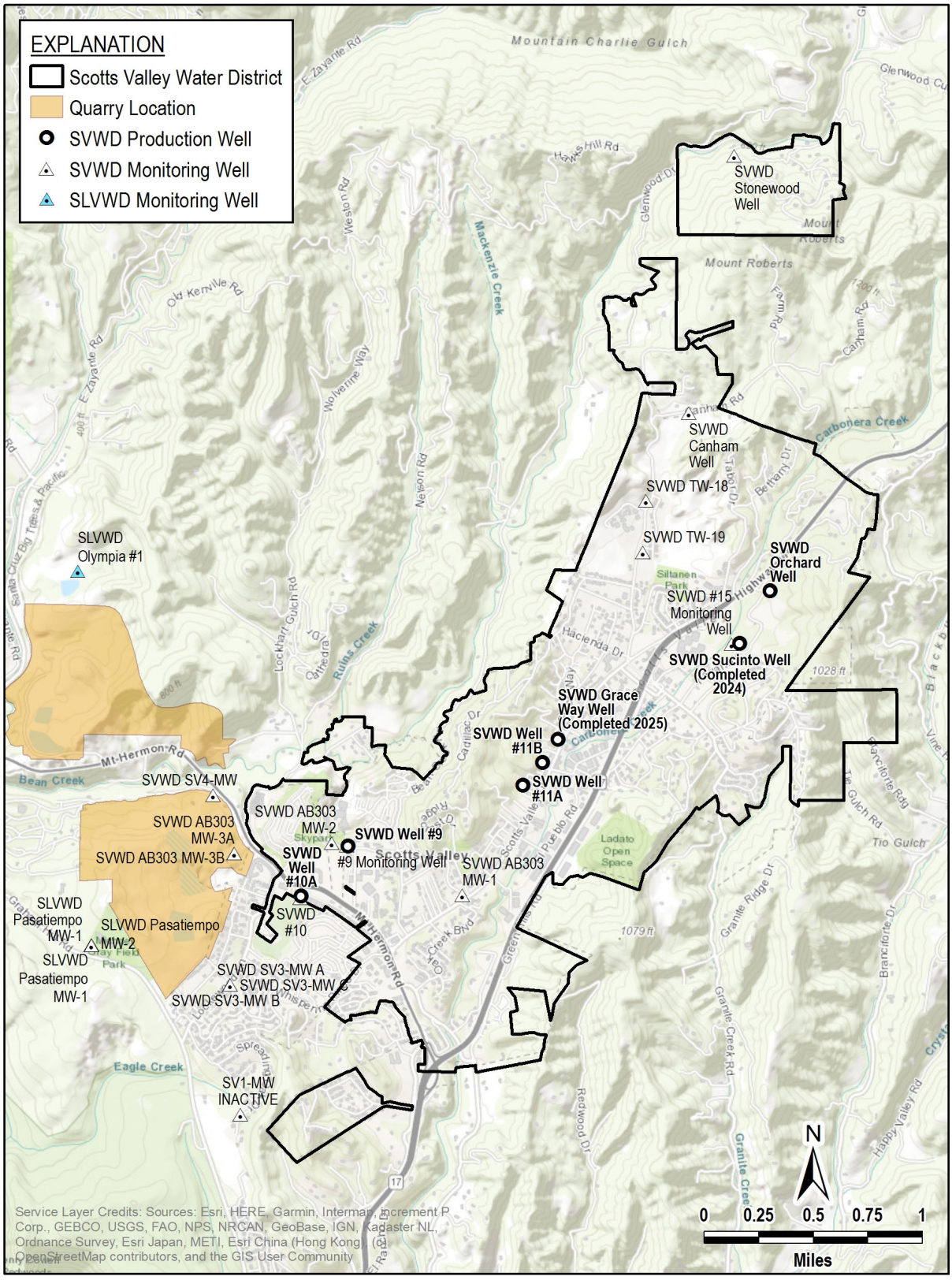


Figure 4. Extraction and Monitoring Well Locations

Groundwater extraction totals from the first half of WY2025 and prior water years are summarized on Figure 5. In WY2024, the District pumped 1,043 AF, which is the lowest annual volume on record since WY1986. Assuming extraction trends in WY2025 continue to be similar to prior dry years like WY2020 and WY2021, extraction in WY2025 will likely total approximately 1,100 to 1,200 AF, which is about the annual average since 2014.

The shallower Santa Margarita aquifer and Monterey Formation are not actively used for water supply by the District, although inactive Well #9 is installed in the Monterey Formation. The Santa Margarita aquifer is an important regional aquifer for groundwater recharge, surface water baseflow particularly to Bean Creek north of the District's service area, and domestic supply. The Monterey Formation is a regional aquitard separating the Santa Margarita aquifer and the Lompico aquifer, except where absent under parts of Scotts Valley, and is also used in some areas for domestic supply. The District last extracted groundwater from the Santa Margarita aquifer in the 1980s. Monterey Formation groundwater extraction has not occurred in Well #9 since 2020 and prior to that it only produced less than 100 AF per year since 2008.

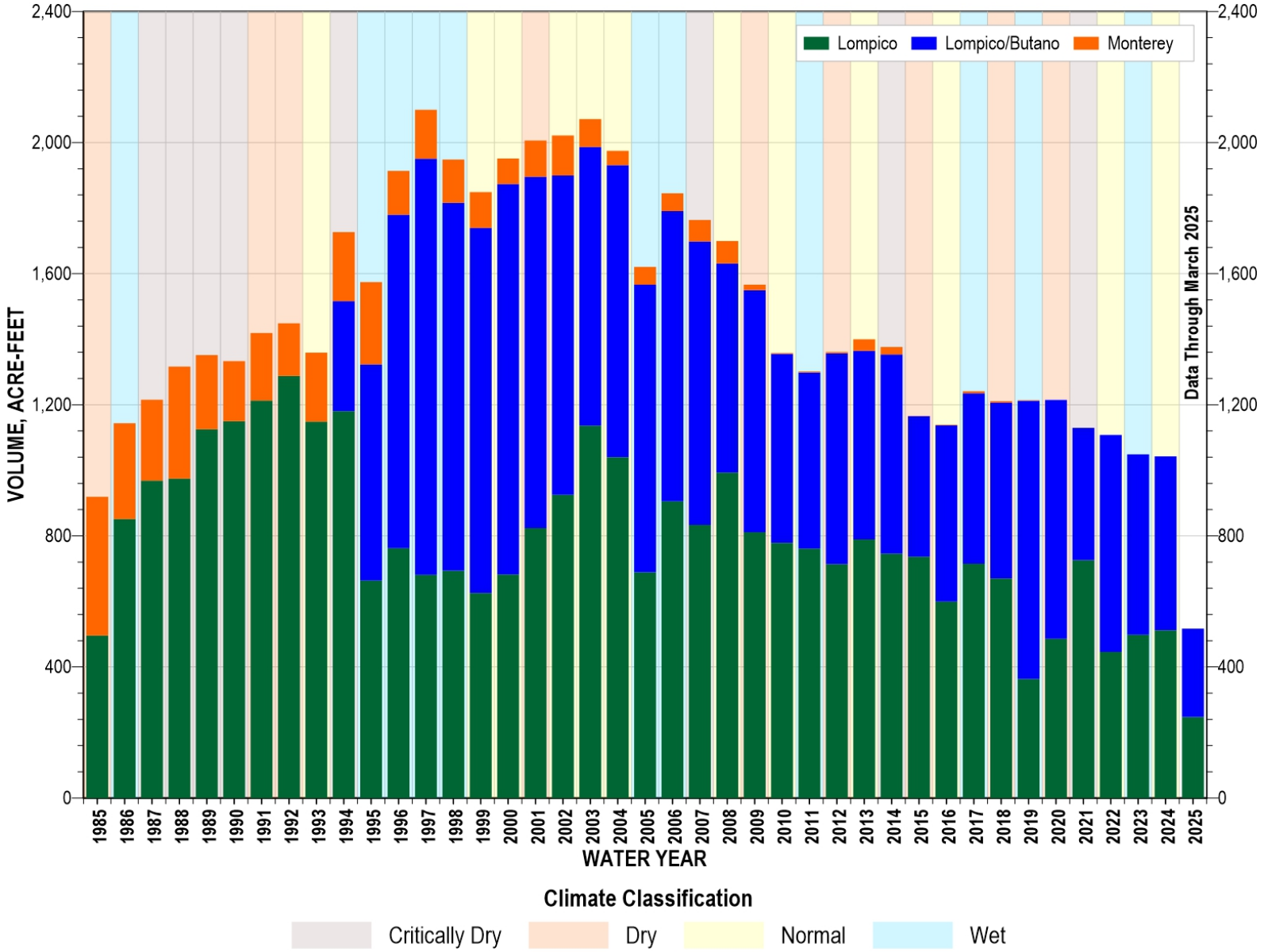


Figure 5. Groundwater Extraction by Water Year and Aquifer (WY2025 data through March 2025)

GROUNDWATER LEVELS SUMMARY

Groundwater levels are measured in both monitoring and inactive extraction wells screened in the Santa Margarita, Lompico, and Butano aquifers and the Monterey Formation. Each aquifer in the District's service area has unique responses to precipitation and pumping conditions, based on well depth, overlying geology, and proximity to extraction wells.

Groundwater levels are manually measured in District wells at least quarterly unless a well is actively being used for extraction. Most monitoring wells have transducers that record daily groundwater levels. Groundwater elevations are calculated by subtracting groundwater level measurements from the measurement reference point elevation. Groundwater levels measured in active extraction wells are not indicative of regional aquifer conditions so are omitted from this analysis. Table 2 summarizes groundwater levels in April 2025 relative to October 2024, which preceded a normal year, and October 2017, which preceded the 2012 to 2016 drought. Hydrographs showing groundwater elevations over time at selected wells are referenced in Table 2 and well locations are shown on Figure 4.

Groundwater level data collected in Scotts Valley are used to evaluate progress toward implementing the Santa Margarita Basin GSP. Groundwater elevations for representative monitoring points (RMPs) in the District's service area are evaluated relative to the GSP's sustainable management criteria (SMC). SMC include minimum thresholds (MT), measurable objectives (MO), and interim milestones. MTs are groundwater elevations at which undesirable results may start to occur. MOs are the aspirational groundwater elevations that allow for operational flexibility and ensure that future droughts and unforeseen changes to water supplies do not cause unsustainable conditions. Interim milestones are 5-year goals to help meet MOs by 2042. For GSP implementation, the minimum groundwater elevation at RMPs are compared to the SMC annually to evaluate progress toward sustainability. For this spring conditions evaluation, higher spring elevations are compared to SMC to show how current wet season conditions compare to target groundwater levels. Groundwater elevation comparisons to MTs are also part of the Water Supply and Demand Assessment section of this letter report.

Groundwater levels are on track for achieving groundwater level SMC for the District RMPs. In general, groundwater levels in District monitoring wells have been stable to increasing since 2017. Spring 2025 groundwater elevations in 7 out of 9 RMP wells are above the MO with no groundwater levels close to MTs.

Santa Margarita Aquifer Groundwater Levels

Groundwater levels in the Santa Margarita aquifer are generally stable in the District because the aquifer is no longer used for water supply by the District or nearby quarries. However, San Lorenzo Valley Water District still extracts from the Santa Margarita aquifer south of Scotts

Valley in their Pasatiempo wellfield and north of Bean Creek in their Olympia and Quail Hollow well fields. The Santa Margarita aquifer is also important for baseflow to streams and domestic supply for homes not connected to one of the water districts. Some Santa Margarita aquifer monitoring wells in the District respond rapidly to rainfall and stream interaction with groundwater levels rising in wet years and declining in dry years, while other Santa Margarita monitoring wells in the northern portion of the District are less responsive. Generally, seasonal groundwater level fluctuations are more pronounced farther to the south where the Santa Margarita aquifer provides baseflow to Bean Creek. The aquifer in the northern portion of the District has less connection to streams and is not used as much for water supply. Historic overpumping of the Santa Margarita and Lompico aquifers has caused the Santa Margarita aquifer to be dewatered below Scotts Valley where the Monterey Formation is absent.

Groundwater levels in the Santa Margarita aquifer in April 2025 are close to October 2024 and 2017 levels (Table 2), as summarized below:

- Monitoring well AB303 MW-1 typically demonstrates a few feet of seasonal groundwater level fluctuation with little to no net annual change (Figure 6). Groundwater levels in April 2025 are 1.9 feet higher than October 2024 and 4.4 feet higher than October 2017 (Table 2). AB303 MW-1 is not an RMP so does not have an MO or MT.

- Monitoring well AB303 MW-3B groundwater levels are relatively stable most years with rising and falling levels occurring only in the wettest years (Figure 7). In dry periods such as from 2020 to 2022 and 2012 to 2016, groundwater levels are about 10 to 20 feet lower than peaks in spring 2017 and 2023. Groundwater levels in April 2025 are 2.9 feet less than October 2024 and 0.3 foot higher than October 2017 (Table 2). Because AB303 MW-3B is not an RMP, it does not have an MO or MT.

- Monitoring well SV4-MW groundwater level trends are similar to AB303 MW-3B, described above (Figure 8). Groundwater levels in April 2025 are 4.6 feet less than October 2024 and 3.6 feet less than October 2017. SV4-MW is the only RMP for the Santa Margarita aquifer in the southern part of the District and is used to evaluate depletion of interconnected surface water from Bean Creek. The groundwater elevation in SV4-MW is 28 feet above the MT and 22 feet above the MO (Table 3).

- Santa Margarita well TW-18 in the northern portion of the District fluctuates very little, with all groundwater level measurements within a range of a few feet (Figure 9). The April 2025 groundwater elevation is within a foot of the MO and is about 9 feet higher than the MT (Table 3).

Monterey Formation Groundwater Levels

The Monterey Formation groundwater levels have a long-term increasing trend in Well #9, the only District well screened in this formation. The Monterey Formation is no longer used for water supply by the District. Groundwater levels in Well #9 continue to steadily increase since the well has barely been used as a water source since 2008 (Figure 10). The groundwater level in April 2025 is 6.2 feet higher than October 2024 and 28.2 feet higher than fall October 2017 (Table 2). The April 2025 groundwater elevation is 8.8 feet above the MO for the well (Table 3).

Lompico Aquifer Groundwater Levels

Groundwater level fluctuation in the deeper Lompico aquifer is influenced more by pumping than precipitation. As depicted on the hydrograph for Well #10 on Figure 11, groundwater levels in the Lompico aquifer in south Scotts Valley declined substantially through the early 2000s when District and other regional pumping volumes were greater. Reduced extraction since 2010 has allowed groundwater levels to stabilize and begin to increase since 2016.

Groundwater levels in Lompico aquifer Well #10 (Figure 11), Well #11A (Figure 12), TW-19 (Figure 13), and AB303-MW2 (Figure 14) have increased to varying degrees in recent years (Table 2). Groundwater level increases may be in part due to recovery in wet years like WY2017 and WY2023, but since increases continued in recent dry years, they appear to be more related to reduced Lompico aquifer extraction.

Groundwater levels in Well #10, which is close to the District's southernmost extraction at Well #10A and relatively close to the SLVWD's Pasatiempo wells, have shown sustained increases in both seasonal high and seasonal low groundwater levels since 2016 (Figure 11). Well #10's April 2025 groundwater level is 10.8 feet higher than October 2024 and 17 feet higher than October 2017. Groundwater levels in Well #10 fluctuate by about 30 to 40 feet during annual cycles due to pumping at nearby Well #10A. Well #10's April 2025 groundwater elevation is 21 feet above the MO (Table 3).

Well #11A and #11B have been used to pump less in recent years than Well #10A, therefore groundwater levels have less seasonal fluctuation than observed at Well #10. Groundwater levels have steadily increased in Well #11A since 2017 (Figure 12). Well #11A's April 2025 groundwater level is 7 feet higher than the groundwater level in October 2024 and 41.1 feet higher than October 2017 (Table 2). The April 2025 groundwater elevation is 16.7 feet above the MO (Table 3).

Other Lompico monitoring wells, TW-19 and AB303 MW-2, also have increasing groundwater level trends similar to Well #10 and #11A but without seasonal fluctuation due to nearby pumping (Figure 13 and Figure 14, respectively). Differing increases in groundwater levels in

different parts of Scotts Valley reaffirms our understanding that groundwater levels in the Lompico aquifer are recovering because of decreased pumping.

TW-19 is in north Scotts Valley and not close to an active extraction well (Figure 4). Regional groundwater levels at TW-19 demonstrate a steady increasing trend since 2017. The April 2025 groundwater elevation is 16.2 feet higher than October 2024 and 51.8 feet higher than October 2017 (Table 2). The groundwater elevation at TW-19 is 18.4 feet above the MO (Table 3).

AB303 MW-2's groundwater level increase is less pronounced than TW-19 as it is closer to active extraction Well #10A (Figure 4). The April 2025 groundwater level in AB303 MW-2 is 8.1 feet higher than October 2024 and 18.7 feet higher than October 2017 (Table 2). AB303 MW-2 is not an RMP so does not have an MO or MT.

Lompico/Butano Aquifer Groundwater Levels

Monitoring Well #15 is the only District monitoring well screened near the Lompico and Butano aquifers northern extraction wells, Orchard and Sucinto. Well #15 is within 50 feet of the Sucinto Well and about 2,500 feet from the Orchard Well. Pumping at recently abandoned Well #3B highly influenced groundwater levels in the monitoring well. In recent years when only the Orchard Well was active, the influence of pumping at this more distant extraction well is still observed. The groundwater elevation in Well #15 has historically fluctuated up to 100 feet over short periods of time reflecting active pumping influence on groundwater levels. However, despite short-term variability, the long-term groundwater level trend since 2000 has been stable.

The groundwater level in April 2025 at Well #15 is 1.8 feet higher than October 2024 and 24.1 feet lower than October 2017 (Table 2). The April 2025 groundwater elevation is about 14 feet below the MO and 18 feet above the MT (Table 3). The groundwater elevation has been above the MO at times during the past few years (Figure 15). Since the groundwater elevation is very sensitive to active and inactive pumping cycles, and the MO was recently achieved, this goal is still achievable in the near term.

Butano Aquifer Groundwater Levels

Butano aquifer dedicated monitoring wells, Canham and Stonewood, are former exploratory wells that did not produce economically viable quantities of water. The hydrogeologic influence of the District's Lompico and Butano aquifer extraction wells on these monitoring wells is uncertain, especially because 1) the distance between the monitoring and extraction wells is relatively far (the shortest distance is 0.8 miles between Canham and Orchard); 2) the wells were not monitored until nearly a decade after Lompico/Butano extraction began; and 3) groundwater levels in monitoring wells were stable when the extraction wells were resting during Orchard treatment system upgrades in 2021 (Figure 16 and Figure 17).

Stonewood monitoring well groundwater levels have a slight increasing trend over time. The groundwater level in April 2025 is 0.6 feet higher than October 2024 and 4.4 feet higher than October 2017 (Table 2). The April 2025 groundwater elevation in Stonewood is 4 feet above the MO.

The Canham monitoring well has a long term stable trend with very little fluctuation, other than a minor increase coinciding with well vault flooding during the December 2022 atmospheric river event. The April 2025 groundwater level is 0.9 feet lower than October 2024 and 1.5 feet lower than Fall 2017. The Canham well groundwater level is 25 feet below the MO and 15 feet above the MT (Table 3). The MO is based on hypothetical groundwater model simulations for an expanded conjunctive use concept in the Basin and may not have the simulated affect in this area. The MO is higher than any groundwater elevation measured in the well since monitoring began in 2011.

A dedicated monitoring well in the Butano aquifer closer to the District's Lompico/Butano aquifer pumping wells is planned for GSP implementation if funding can be secured. This well would provide an additional groundwater level data point closer to where Butano pumping is occurring to help the District monitor and manage Butano aquifer extraction.

Table 2. Groundwater Level Summary

Well	Groundwater Level April 2025 (feet below ground surface)	Change in Groundwater Level Since Oct 2024 (feet)	Change in Groundwater Level Since Oct 2017 (feet)	Hydrograph Figure Number
Santa Margarita Aquifer				
AB303 MW-1	73.9	1.9	4.4	Figure 6
AB303 MW-3B	114.5	-2.9	0.3	Figure 7
SV4–MW	46.2	-4.6	-3.6	Figure 8
TW-18	243.3	1.6	1.9	Figure 9
Monterey Formation				
Well #9	161.3	6.2	28.2	Figure 10
Lompico Aquifer				
Well #10	167.9	10.8	17.0	Figure 11
Well #11A	269.0	7.0	41.1	Figure 12
TW-19	265.2	16.2	51.8	Figure 13
AB303 MW-2	115.8	8.1	18.7	Figure 14
Lompico/Butano Aquifer				
Well #15	351.0	1.8	-24.1	Figure 15
Lompico/Butano Aquifer				
Stonewood	50.2	0.6	4.4	Figure 16
Canham	340.5	-0.9	-1.5	Figure 17

Table 3. Groundwater Level Sustainable Management Criteria Evaluation

Aquifer	Well Name	Minimum Threshold	Interim Milestone #1 (2027)	Measurable Objective	Groundwater Elevation (feet above mean sea level)				
					WY 2021 Critically Dry	WY 2022 Normal	WY 2023 Wet	WY 2024 Normal	April WY 2025 Dry*
Santa Margarita	TW-18	462	471	471	471.8	470.9	470.4	470.1	471.7
	SV4-MW**	381	387	387	404.1	405.7	408.7	411.7	409.1
Monterey	Well #9	301	340	358	351.0	354.0	356.0	360.6	366.8
Lompico	Well #10	286	302	322	330.3	338.1	350.1	332.2	343.0
	Well #11A	288	299	317	308.0	312.6	320.2	324.7	333.7
	TW-19	314	357	376	370.4	370.0	378.4	378.2	394.4
Lompico/Butano	Well #15	291	310	333	307.1	307.9	306.5	307.2	309.0
Butano	Stonewood	836	844	844	845.0	845.8	847.6	847.7	848.3
	Canham	427	447	467	441.7	441.2	441.2	441.5	442.3

* Current water year is likely dry based on comparison to previous classifications

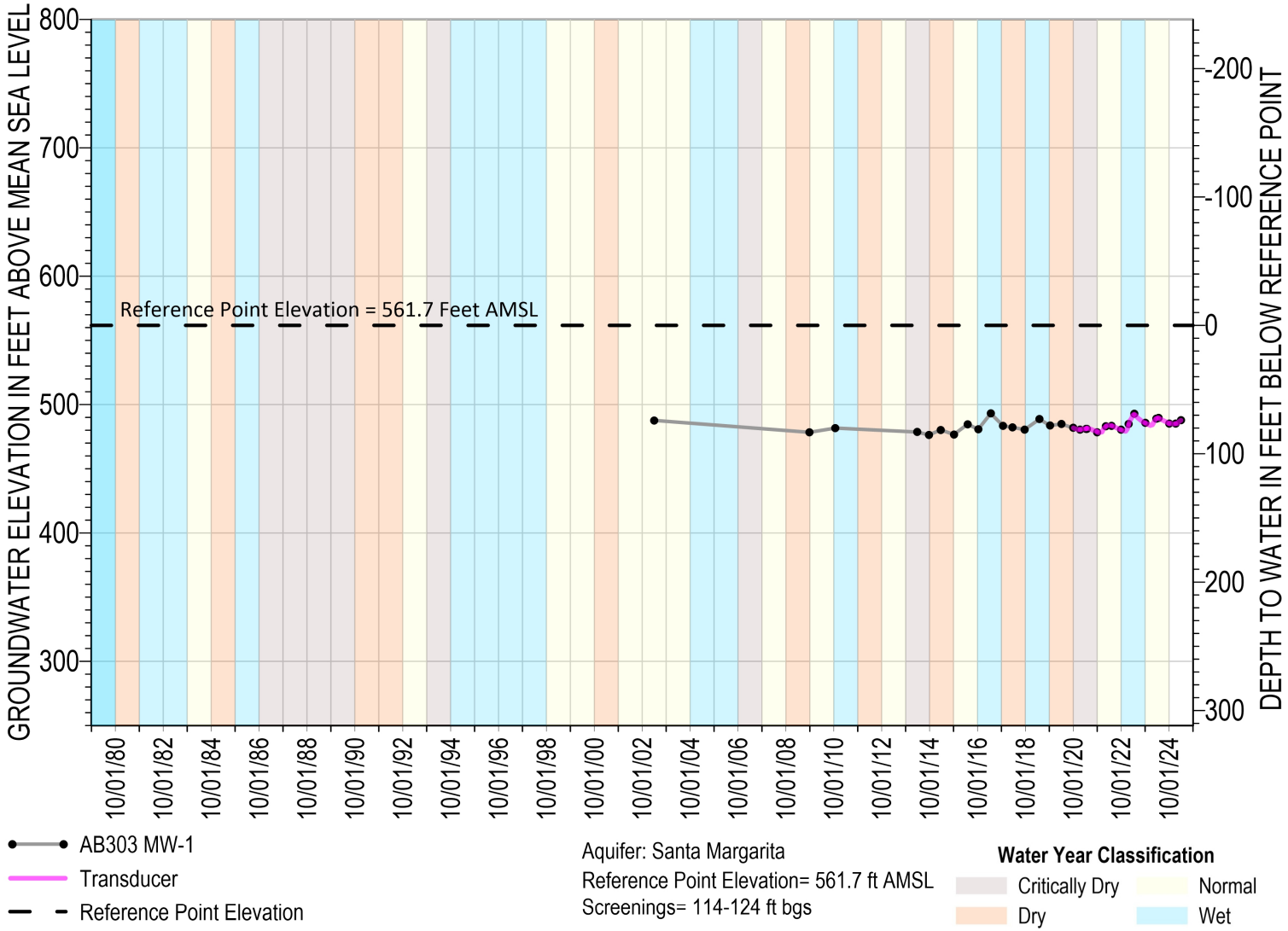
**SV4-MW is an RMP for the interconnected surface water sustainability indicator

Minimum threshold not met

Minimum threshold met but 2027 interim milestone and measurable objective not met

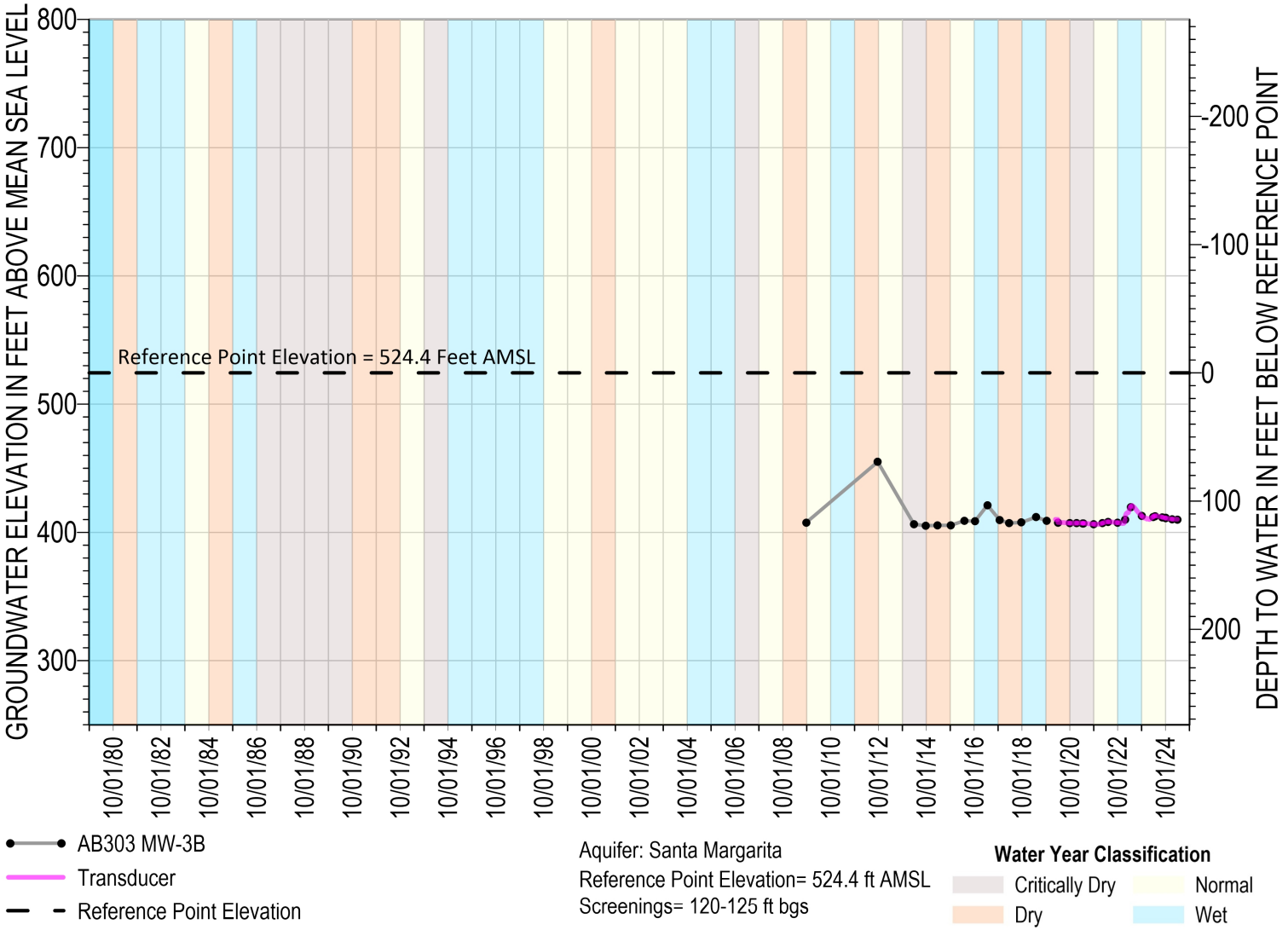
Minimum threshold and 2027 interim milestone met, but measurable objective not met

Measurable objective met



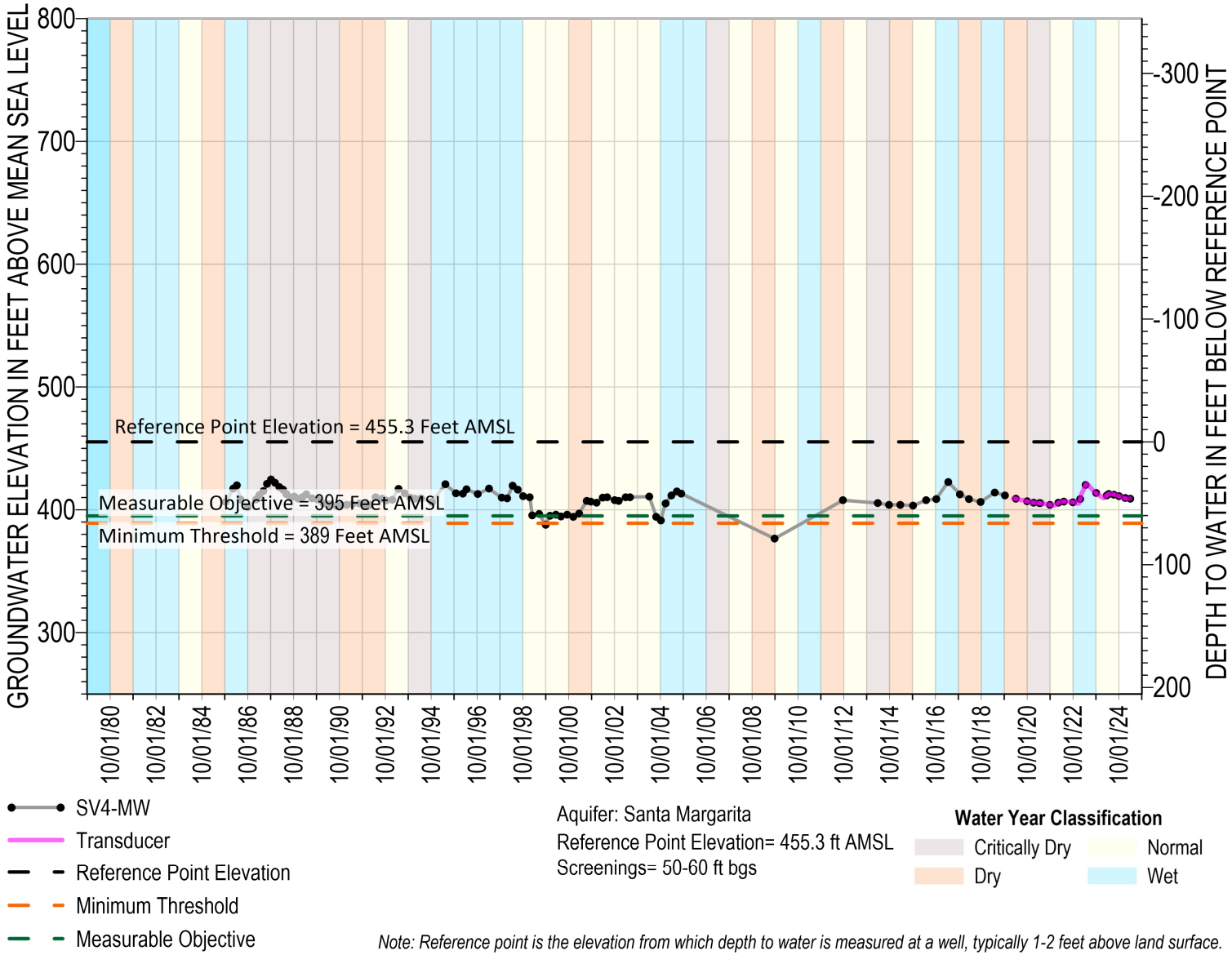
Note: Reference point is the elevation from which depth to water is measured at a well, typically 1-2 feet above land surface. Pumping measurements are removed from hand soundings but not from transducer data.

Figure 6. AB303 MW-1 Hydrograph (Santa Margarita Aquifer)



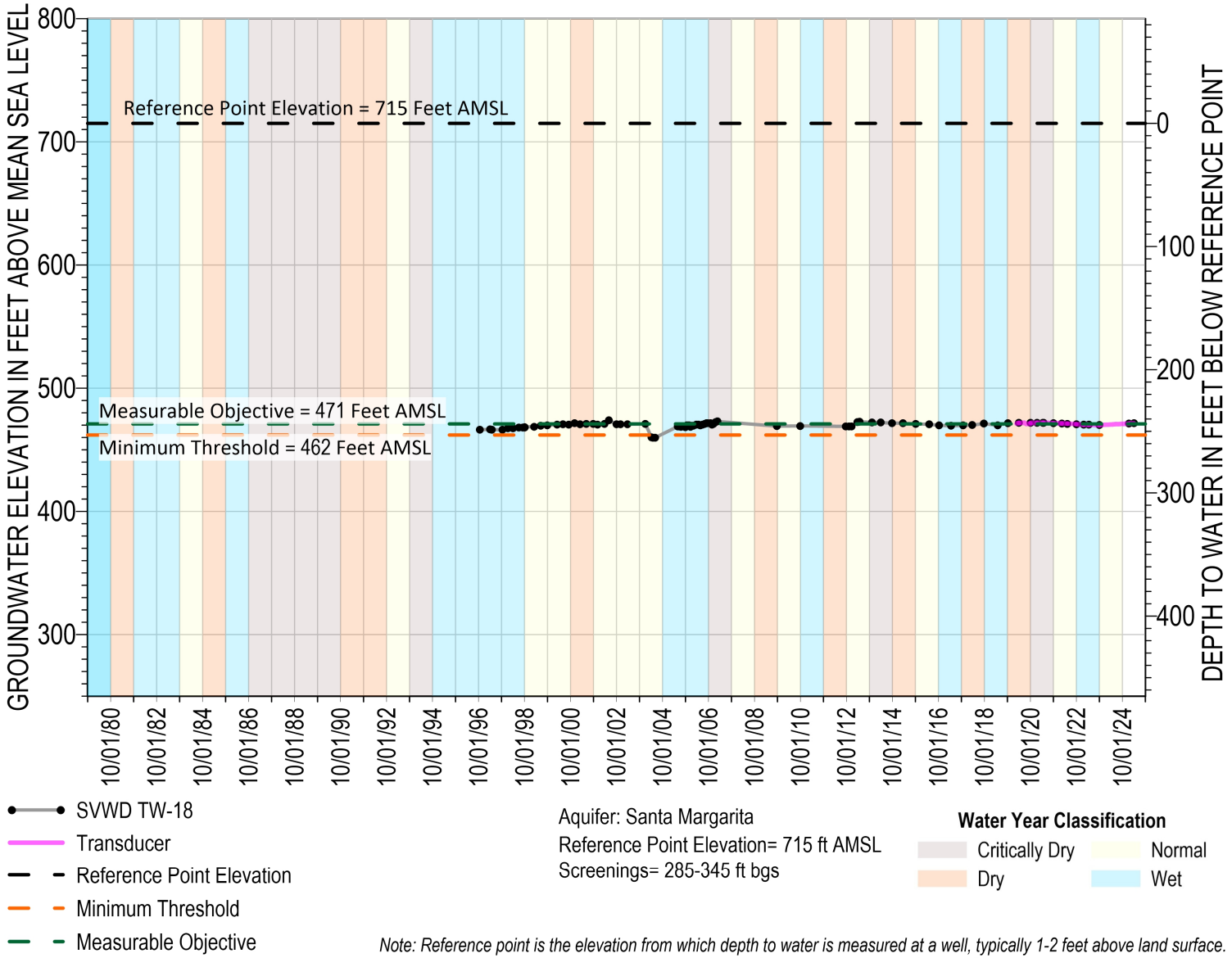
Note: Reference point is the elevation from which depth to water is measured at a well, typically 1-2 feet above land surface. Pumping measurements are removed from hand soundings but not from transducer data.

Figure 7. AB303 MW-3B Hydrograph (Santa Margarita Aquifer)



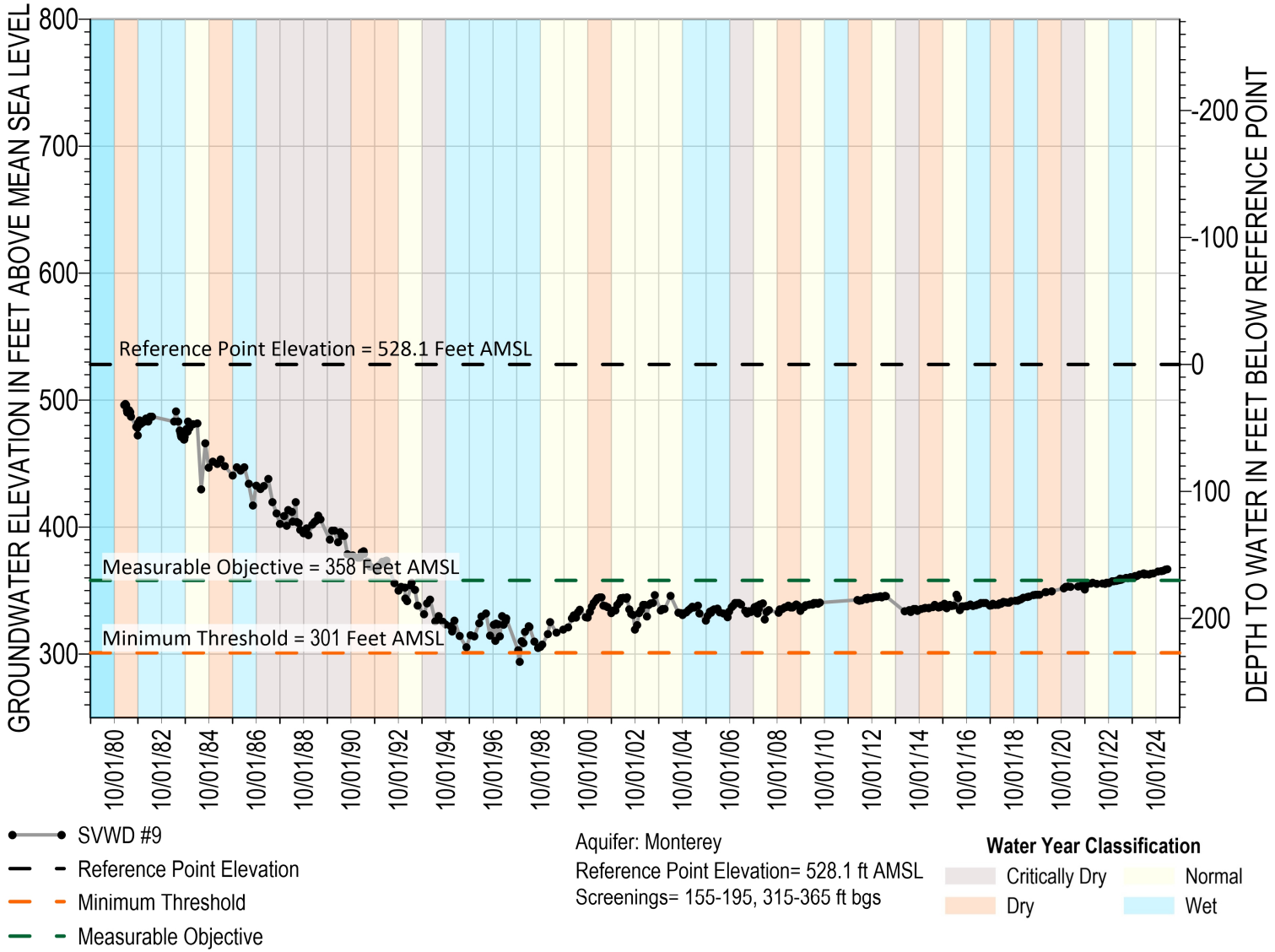
Note: Reference point is the elevation from which depth to water is measured at a well, typically 1-2 feet above land surface. Pumping measurements are removed from hand soundings but not from transducer data.

Figure 8. SV4-MW Hydrograph (Santa Margarita Aquifer)



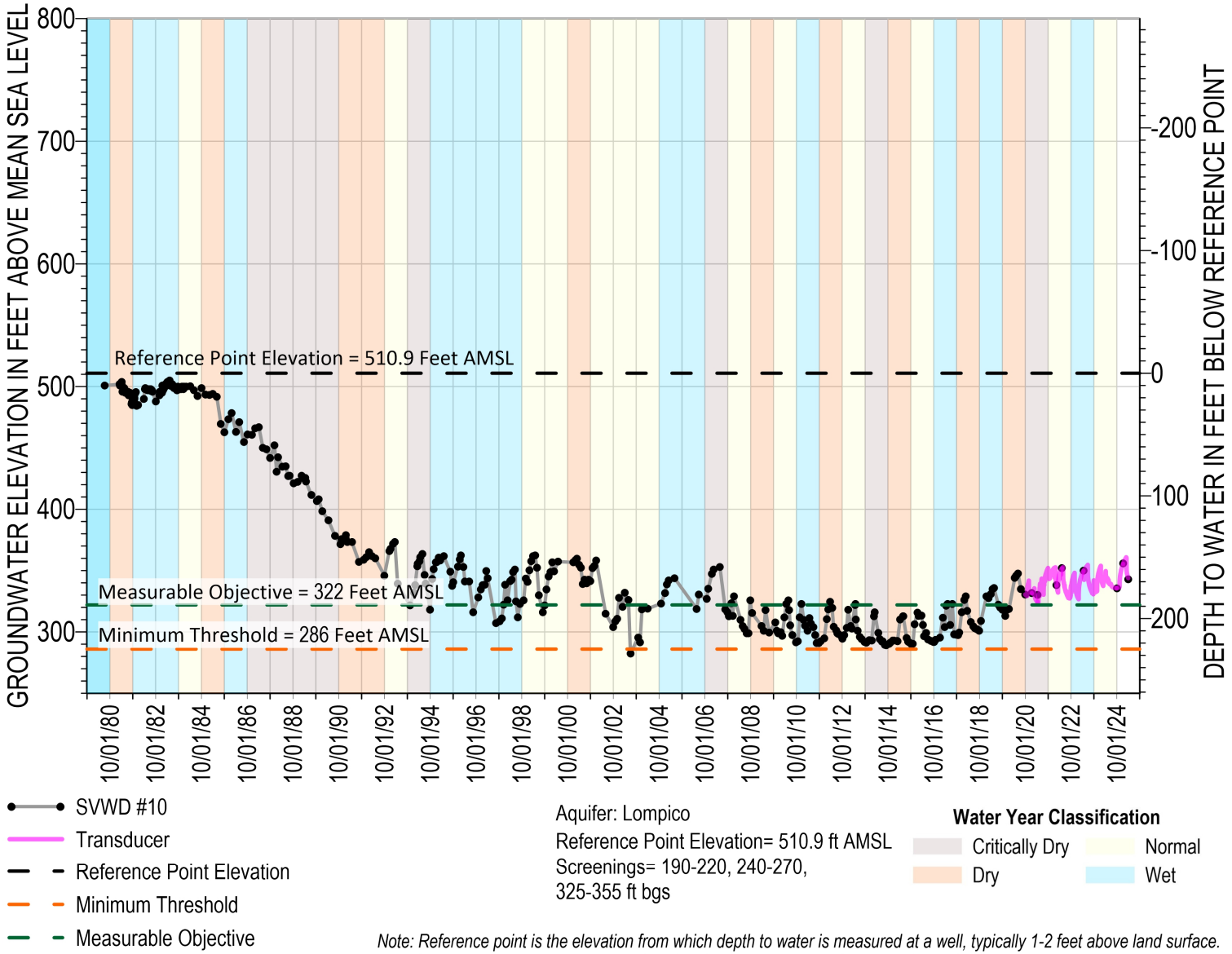
Note: Reference point is the elevation from which depth to water is measured at a well, typically 1-2 feet above land surface. Pumping measurements are removed from hand soundings but not from transducer data.

Figure 9. TW-18 Hydrograph (Santa Margarita Aquifer)



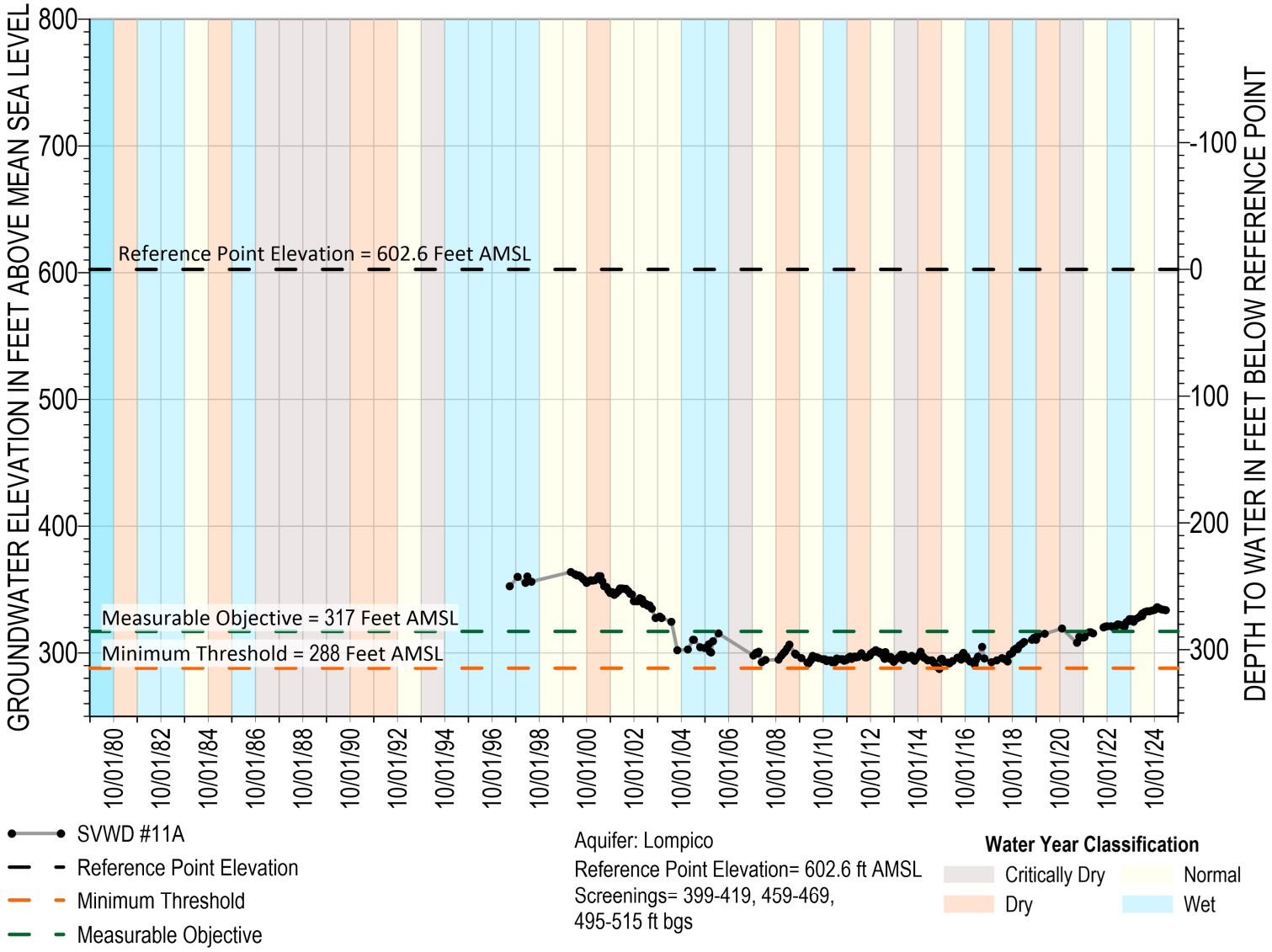
Note: Reference point is the elevation from which depth to water is measured at a well, typically 1-2 feet above land surface. Pumping measurements are removed from hand soundings but not from transducer data.

Figure 10. Well #9 Hydrograph (Monterey Formation)



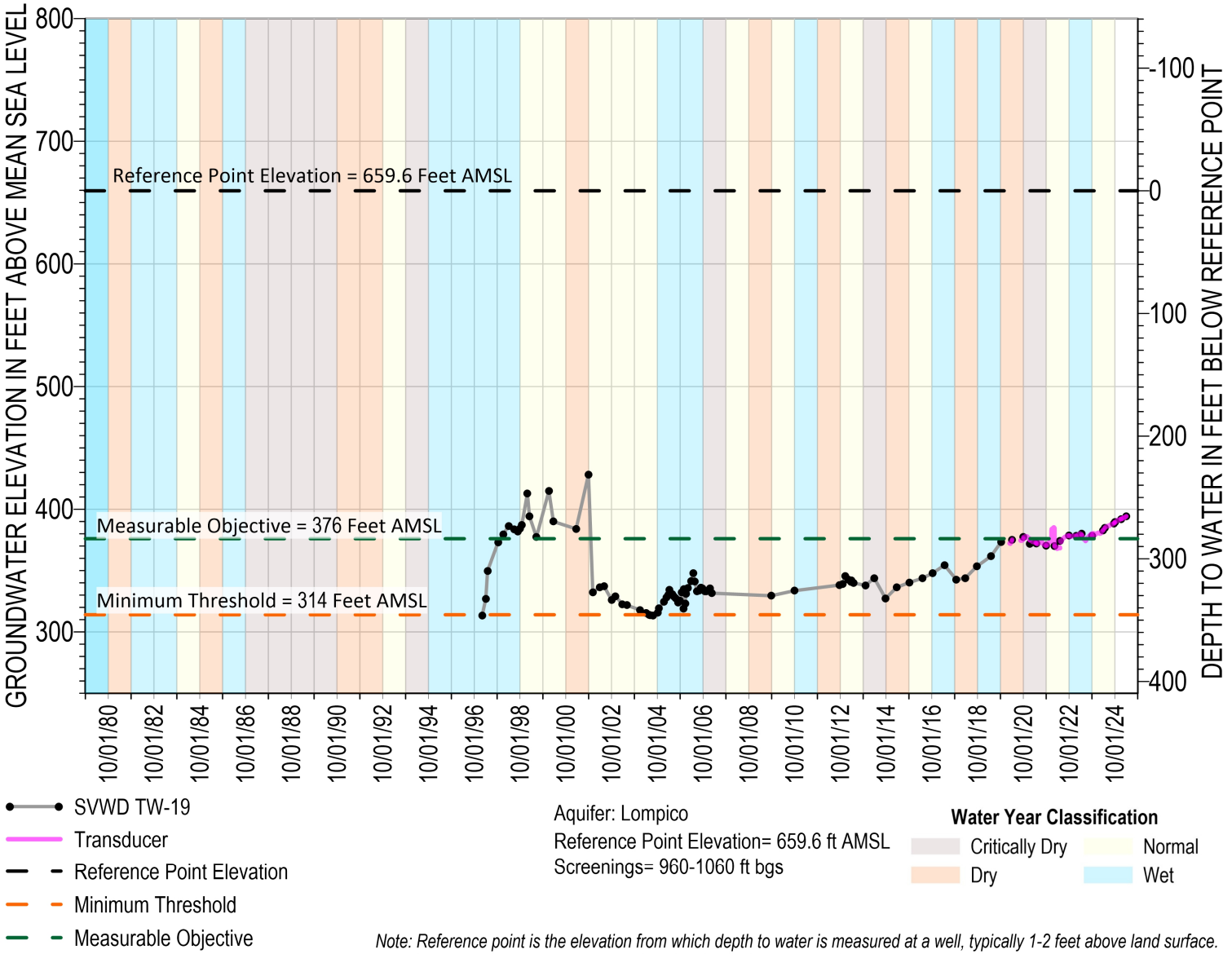
Note: Reference point is the elevation from which depth to water is measured at a well, typically 1-2 feet above land surface. Pumping measurements are removed from hand soundings but not from transducer data.

Figure 11. Well #10 Hydrograph (Lompico Aquifer)



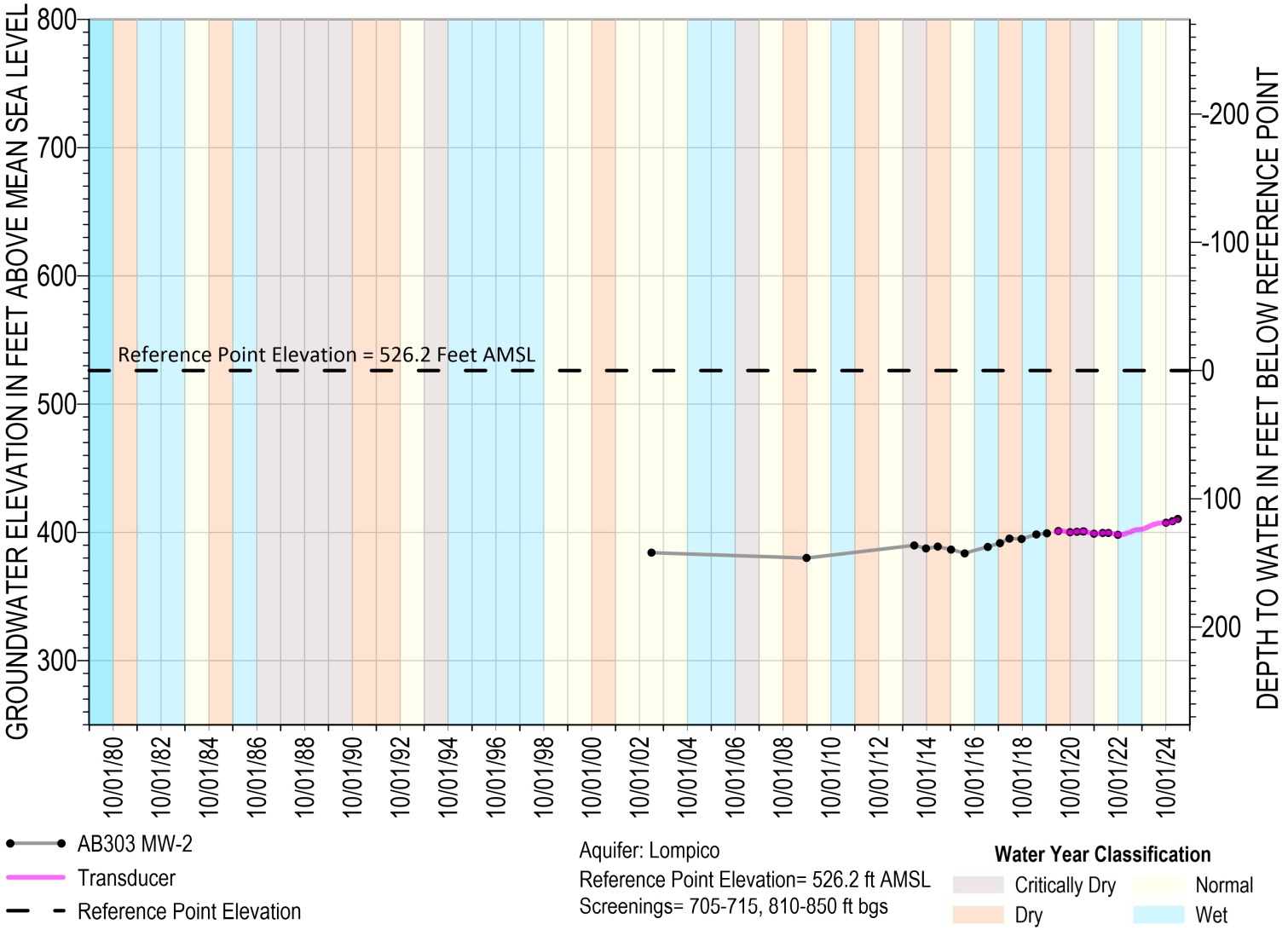
Note: Reference point is the elevation from which depth to water is measured at a well, typically 1-2 feet above land surface. Pumping measurements are removed from hand soundings but not from transducer data.

Figure 12. Well #11A Hydrograph (Lompico Aquifer)



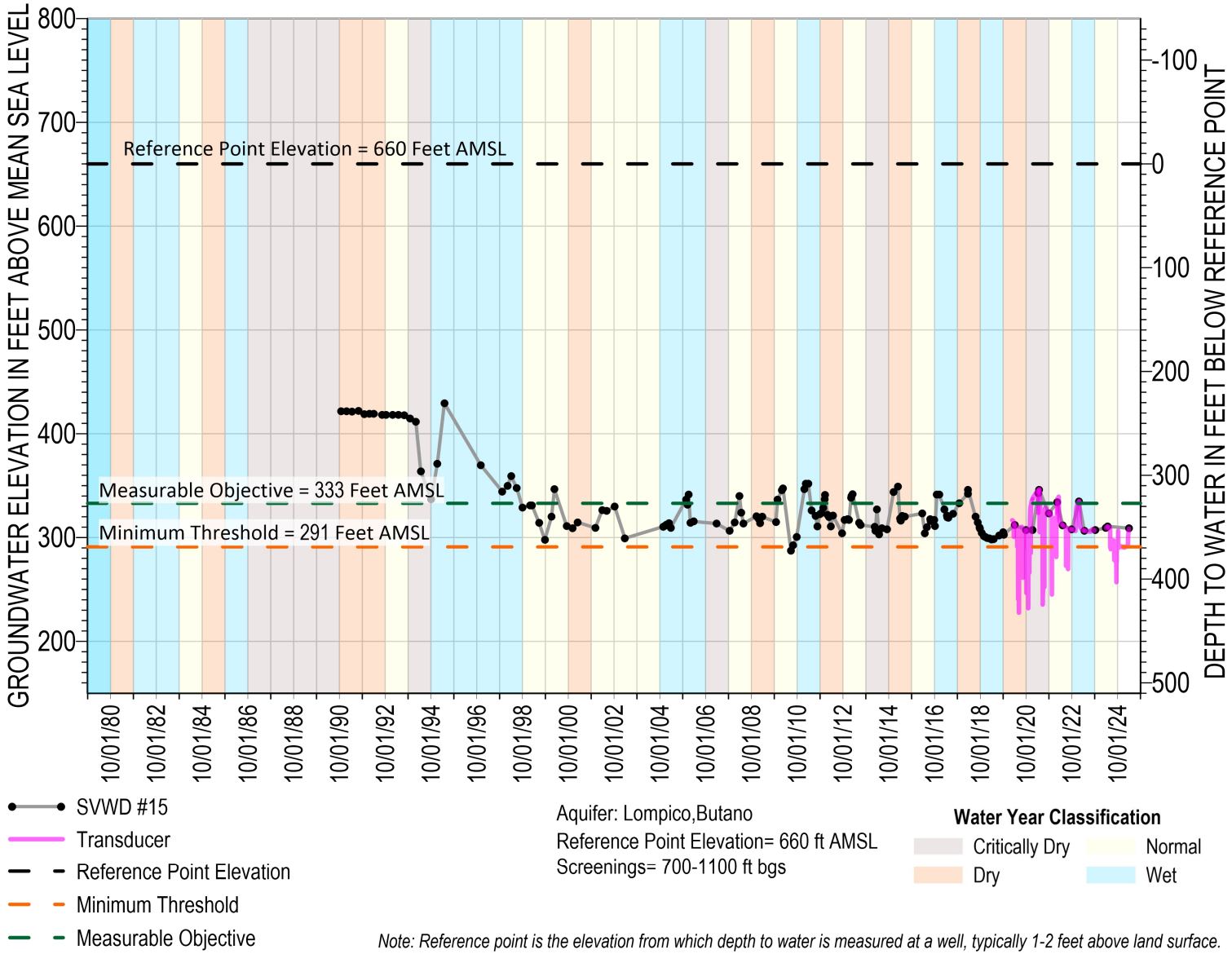
Note: Reference point is the elevation from which depth to water is measured at a well, typically 1-2 feet above land surface. Pumping measurements are removed from hand soundings but not from transducer data.

Figure 13. TW-19 Hydrograph (Lompico Aquifer)



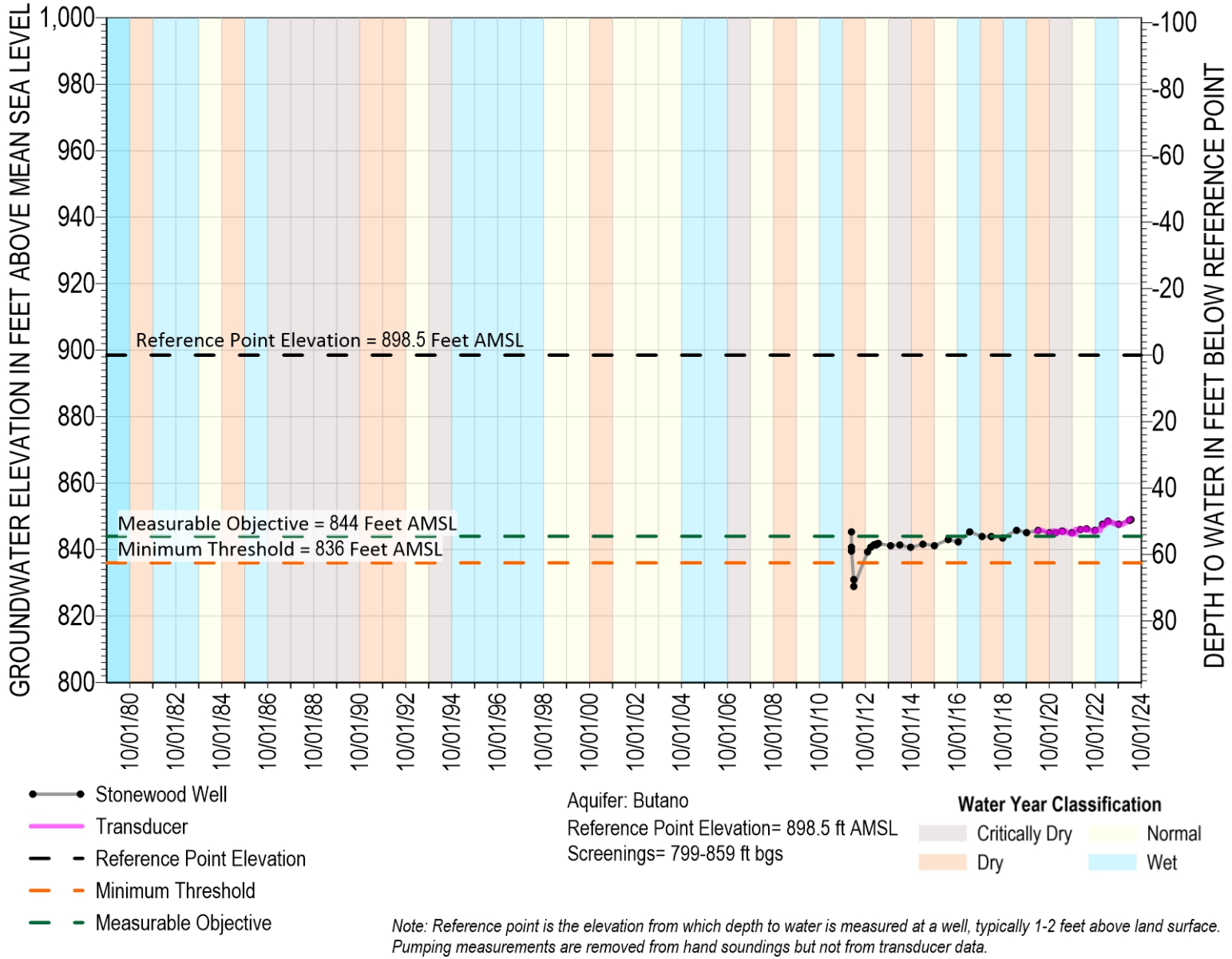
Note: Reference point is the elevation from which depth to water is measured at a well, typically 1-2 feet above land surface. Pumping measurements are removed from hand soundings but not from transducer data.

Figure 14. AB303-MW2 Hydrograph (Lompico Aquifer)



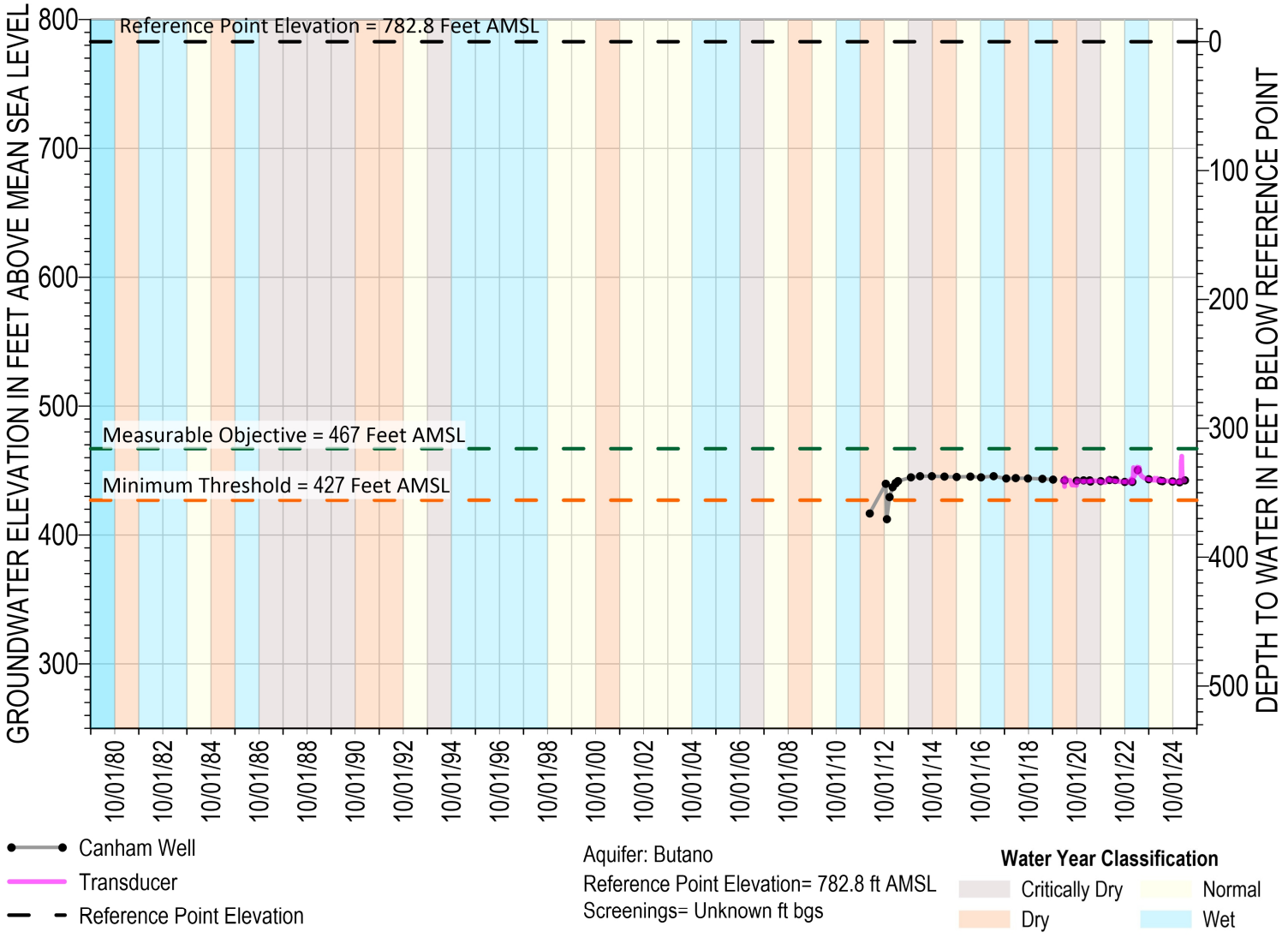
Note: Reference point is the elevation from which depth to water is measured at a well, typically 1-2 feet above land surface. Pumping measurements are removed from hand soundings but not from transducer data.

Figure 15. Well #15 Hydrograph (Lompico/Butano Aquifers)



Note: Reference point is the elevation from which depth to water is measured at a well, typically 1-2 feet above land surface. Pumping measurements are removed from hand soundings but not from transducer data.

Figure 16. Stonewood Hydrograph (Butano)



Note: Reference point is the elevation from which depth to water is measured at a well, typically 1-2 feet above land surface. Pumping measurements are removed from hand soundings but not from transducer data.

Figure 17. Canham Hydrograph (Butano)

WATER SUPPLY CONDITIONS SUMMARY

Long-term decreasing groundwater extractions are benefiting regional groundwater levels in all aquifers in the District area, despite a decade of precipitation extremes. Dry conditions from WY2012-2016, WY2020-2022, and this year WY2025, are interspersed with above-average rainfall in WY2017, WY2019, and WY2023. The wet years recharge the shallow Santa Margarita aquifer, offsetting impacts of droughts. The Lompico and Butano aquifers, which are used for District water supply are deeper and mostly confined beneath the Monterey Formation, so these aquifers generally do not respond quickly to rainfall. Reduced extraction from the Lompico aquifer and Monterey Formation has reversed long-term declining groundwater level trends since 1998 and 2016, respectively. The Butano aquifer groundwater levels are stable where monitored, though the hydrogeologic connection of the limited monitoring network with the extraction wells partially screened in the aquifer is uncertain.

WATER SUPPLY AND DEMAND ASSESSMENT

Ensuring that adequate water supplies are available to meet existing and future water demands is essential for the District to operate sustainably. The WSCP in the 2020 UWMP establishes trigger levels for water resource management actions during periods of drought or increased extractions. Management actions, if implemented, could result in water supply shortages relative to demand. There are specific triggers related to precipitation, groundwater level, and groundwater extraction data, and if triggers are exceeded the District may need to implement operational changes. Groundwater condition triggers from the 2020 UWMP are summarized on Figure 18. At this time, the Stage 1 rainfall trigger in the WSCP applies due to dry conditions the past 2 years, which prompts a Stage 1 Groundwater Conditions Trigger. Since the Basin is entering a dry period with no other groundwater condition triggers, no management actions should be needed to manage water supply for the remainder of the water year.

A summary of precipitation and groundwater conditions relative to triggers is as follows:

- Dry conditions in WY2025 exceed the Stage 1 rainfall trigger levels in Table 13-2 of the UWMP (Figure 18). Annual precipitation in WY2025 is 60% of average, 2-year precipitation is 70% of average, and 3-year precipitation is 91% of average. The 1 and 2-year precipitation totals are below the Stage 1 criteria of <80% of average precipitation in a single year and <75% over 2 years, and meet the Stage 2 criteria of <60% of average precipitation in a single year and <70% over 2 years. The notes for Table 13-2 of the UWMP give the District's Board the authority to adjust stages up or down based on annual review and other WSCP shortage stage evaluation criteria. Any precipitation trigger is a Stage 1 groundwater conditions trigger.

- The District's baseline annual extraction referenced in the 2020 UWMP is 950 AF from the Lompico aquifer and 350 AF from the Butano aquifer. These baseline values are consistent with the groundwater in storage SMC in the GSP. Using the GSP assumption that 40% of extraction from the Lompico/Butano aquifer extraction wells is sourced from the Lompico aquifer, WY2024 extractions totaled 724 AF from the Lompico aquifer and 319 AF from the Butano aquifer. WY2024 extraction volumes are 76% of baseline extraction for the Lompico aquifer and 91% of baseline extraction for the Butano aquifer and do not exceed thresholds on Figure 18 that start at 120% of baseline. Because groundwater extractions for WY2025 to date have been consistent with prior dry years that did not have extraction above the baseline, the District appears to be on track to maintain extraction volumes below the trigger volumes for the duration of WY2025.
- As shown in Table 3, WY2024 groundwater levels are 10 feet or more above the MTs for the District's Monterey Formation, Lompico, and Butano aquifer wells, so do not exceed supply shortage thresholds on Figure 18. As discussed in this report, April 2025 groundwater levels are stable or increasing in all Monterey Formation, Lompico, and Butano aquifer monitoring wells, so should remain above trigger levels for the duration of WY2025.

STAGE	RAINFALL TRIGGER[1]
1	Cumulative rainfall over 2 years < 80% of average and/or Single year rainfall < 75% of average
2	Cumulative rainfall over 2 years < 70% of average and/or Single year rainfall < 60% of average
3	Cumulative rainfall over 3 years < 50% of average and/or Single year rainfall < 50% of average
4	Same or worse than Stage 3
5	Same or worse than Stage 3

The Districts' Boards may adjust stages up or down based on annual review and other WSCP shortage stage evaluation criteria.

[1] Single year rainfall < 50% of average is representative of water shortage of 50%.

STAGE	SLVWD TRIGGER	SVWD TRIGGER
1	• Only rainfall trigger applies	• Only rainfall trigger applies
2	• Groundwater level RMP Minimum Threshold levels are within: • 5 feet of Minimum Threshold for Santa Margarita Aquifer RMPs, or • 10 feet of Minimum Threshold for Monterey Formation or Lompico Aquifer RMPs • Last 5-year SLVWD extraction average exceeds SLVWD projected long-term average baseline pumping by 20% for Santa Margarita Aquifer or 20% for Lompico Aquifer	• Groundwater level RMP Minimum Threshold levels are within 10 feet of Minimum Threshold for Monterey Formation, Lompico or Butano Aquifer RMPs • Last 5-year SVWD extraction average exceeds SVWD projected long-term average baseline pumping by 20% for Lompico Aquifer or 20% for Butano Aquifer
3	• One RMP in any of the Santa Margarita Aquifer, Monterey Formation, and Lompico Aquifer has a Minimum Threshold exceedance • Overall groundwater level trend over 5 years is declining in 25% of RMPs • Last 5-year SLVWD extraction average exceeds SLVWD projected long-term average baseline pumping by 20% for Santa Margarita Aquifer or 20% for Lompico Aquifer	• One RMP in any of the Monterey Formation, Lompico Aquifer or Butano Aquifer has a Minimum Threshold exceedance • Overall groundwater level trend over 5 years is declining in 25% of RMPs • Last 5-year SVWD extraction average exceeds SVWD projected long-term average baseline pumping by 20% for Lompico Aquifer or 20% for Butano Aquifer
4	• Three RMP in any of the Santa Margarita Aquifer, Monterey Formation, and Lompico Aquifer have Minimum Threshold exceedances • Overall groundwater level trend over 5 years is declining in 50% of RMPs • Last 5-year SLVWD extraction average exceeds SLVWD projected long-term average baseline pumping by 30% for Santa Margarita Aquifer or 30% for Lompico Aquifer	• Three RMP in any of the Lompico, Monterey & Butano aquifers have Minimum Threshold exceedances • Overall groundwater level trend over 5 years is declining in 50% of RMPs • Last 5-year SVWD extraction average exceeds SVWD projected long-term average baseline pumping by 30% for Lompico Aquifer or 30% for Butano Aquifer
5	• Five RMP in any of the Santa Margarita Aquifer, Monterey Formation, and Lompico Aquifer have a Minimum Threshold exceedance • Overall groundwater level trend over 5 years is declining in 75% of RMPs • Last 5-year SLVWD extraction average exceeds SLVWD projected long-term average baseline pumping by 40% for Santa Margarita Aquifer or 40% for Lompico Aquifer	• Lompico, Monterey & Butano aquifers have up to 5 RMP exceedances • Santa Margarita aquifer has up to 5 RMP Minimum Threshold exceedances • Overall groundwater level trend over 5 years is declining in 75% of RMPs • Last 5-year SVWD extraction average exceeds SVWD projected long-term average baseline pumping by 40% for Lompico Aquifer or 40% for Butano Aquifer

The Districts' Boards may adjust stages up or down based on annual review and other WSCP shortage stage evaluation criteria.

Figure 18. Groundwater Conditions Trigger Levels - 2020 UWMP

CONCLUSIONS

Despite a drier than average wet season in WY2025, the combination of recent wet years and decreasing groundwater extraction is benefitting all aquifers in the District. Groundwater recharge from precipitation and decreased extraction have led to stable to increasing groundwater levels. District groundwater extraction has been decreasing or stable since 2017. Prior reviews of groundwater conditions concluded that "based on groundwater level trends and pumping volumes in the Lompico aquifer through the 2012 to 2016 drought and after, keeping total District annual pumping below 1,250 AF per year should not stress the aquifers being pumped even in below average rainfall years over the short-term." The District has been able to maintain extraction volumes below 1,250 AF per year in recent years. As such, no actions are recommended at this time to ensure adequate water supply in the dry season of WY2025 or after. With planned future urban growth and climate uncertainty, declines in groundwater levels in all aquifers still may occur, so the District should remain vigilant and continue to closely monitor and evaluate groundwater levels and extraction volumes.

Sincerely,
MONTGOMERY & ASSOCIATES

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