April 20, 2026

Submitted via DWR SGMA Portal

Paul Gosselin
Deputy Director of Sustainable Groundwater Management
California Department of Water Resources
715 P Street
Sacramento, CA 95814

Subject: Kern County Subbasin Amended GSP Comments – Eastside Water Management Area

Dear Mr. Gosselin,

The Kern-Tulare Water District Groundwater Sustainability Agency (KTWD GSA) appreciates the opportunity to provide comments on the 2025 Amended Kern Subbasin GSP (GSP). The Kern Subbasin GSAs worked collectively to prepare the GSP, a coordinated document that addresses the deficiencies identified in DWR's Inadequate Determination and the additional recommendations provided by the State Water Resources Control Board. KTWD GSA supports and has adopted the GSP and believes that DWR should and can issue an Adequate determination following its review, and we recommend that it also includes specific corrective requirements for Eastside Water Management Area (EWMA). KTWD GSA's goal in submitting these comments is to ensure the long-term success of the subbasin plan and continued effective implementation under DWR jurisdiction.

KTWD GSA strongly recommends DWR note the lack of progress made by EWMA—a groundwater-dependent, whiteland area covering 39,420 acres on the east side of the Kern Subbasin—and its insufficient projects and management actions. KTWD GSA has significant concerns regarding EWMA's management area and its ability and willingness to sustainably manage groundwater. KTWD GSA is geographically located immediately to the west of EWMA, and KTWD GSA's sustainability is contingent on this management area becoming sustainable. It is therefore critical that EWMA is not permitted to continue to extract groundwater in an unsustainable manner. The success of the subbasin will rely heavily upon whitelands being properly managed through demand reduction actions. To date, EWMA has not adopted management actions that will bring it into sustainability and EWMA has not made meaningful progress towards arresting overdraft in its area.

Background

EWMA is "a non-profit corporation governed by a seven-member Board of Directors that is working to become a public agency and serve as the GSA for land within its boundaries. Until EWMA can serve as its own GSA, it is treated as a separate management area within the Kern Non-Districted Lands Authority (KNDLA)." –*GSP Section 10. Management Areas*

"The EWMA was formed on May 7, 2018 and implements groundwater management through a Provision of Jurisdiction Agreements with the KNDLA GSA. Additional details are provided in the Kern Non-District Lands Authority Joint Powers Agreement governance document in Appendix C-2 [of the GSP], which formally defines EWMA's roles and responsibilities as a partner to the other Kern Subbasin GSAs." *–GSP Section 3.4 Legal Authority of the GSAs*

A description of EWMA can be found in *Kern GSP Section 5. Plan Area (p. 5-8, 5-9):*

- "Encompasses 39,420 acres primarily in the East Margin HCM Area with a few non-districted parcels on the eastern edge of the North Basin HCM Area."
- "Most lands are adjacent to Kern-Tulare Water District GSA, Cawelo Water District GSA and the Southern San Joaquin Municipal Utility District GSA."
- "Land uses include oil/industrial (81 percent), trees (16 percent), urban and roads (7 percent) and idle land (2 percent)."
- Within KNDLA "Non-districted lands and EWMA are treated as separate management areas with regard to water budgets and Projects and Management Action (P/MAs)."

Figure 1 and **Figure 2**, extracted from the GSP, show all GSAs in the Kern Subbasin, with EWMA highlighted, as well as all land use within KNDLA, including EWMA.

I. GROUNDWATER EXTRACTIONS WITHIN EWMA IMPACT KTWD GSA

A. Thousands of groundwater-dependent acres were recently developed on KTWD GSA's eastern border

Since 2014, 3,460 acres (2,564 acres in the Kern County Subbasin and 896 acres in the Tule Subbasin) of non-districted land has been developed into permanent plantings east of KTWD GSA. These grounds are solely reliant on groundwater, and extractions are from the Santa Margarita Formation and deeper confined aquifers. **Table 1** and **Figure 3** show the development of this acreage over three time periods: prior to 2014, between January 2014 to December 2019 and from January 2020 to present.

Table 1. Development of Non-Districted Lands to the East of KTWD GSA

Year Developed	Kern (acres)	Tule (acres)	Total (acres)
Pre-2014	2,110	4,641	6,752
Jan 2014 – Dec 2019	2,255	399	2,645
Jan 2020 – Present	309	497	806
Total	**4,674**	**5,537**	**10,203**

EWMA covers approximately 4,000 acres of the 4,674 acres east of KTWD GSA.

B. Lands in EWMA are overdrafting a confined aquifer shared with KTWD

EWMA and KTWD GSA are located within the East Margin HCM Area, where older, locally significant geologic units including the Santa Margarita Formation and Olcese Sands, are present. The Santa Margarita Formation is a primary aquifer for both KTWD GSA and EWMA. The Olcese Sands are accessed by wells on the eastern edge of KTWD GSA and within EWMA.

The Santa Margarita Formation is confined above and below by impervious silt and shale layers. As stated in the GSP, the Santa Margarita Formation is a highly permeable confined aquifer that acts as a source of freshwater in the northeast portion of the subbasin. The formation is recharged from rainfall and stream seepage where the formation outcrops from the Sierra east of KTWD GSA and EWMA.

The confined aquifers of the Santa Margarita Formation and the Olcese Sands are shallow to the east and deepen to the west as shown in cross-sections A and B of the GSP. **Figure 4** displays an additional east-west cross-section long County Line Road of KTWD GSA and EWMA, and includes both the Santa Margarita Formation and the Olcese Sands aquifers, as well as the static water level of each aquifer, the extent of freshwater, and any active wells (with total depth or perforated interval information for each). As shown in **Figure 4**, most of the wells within KTWD GSA and EWMA penetrate to the Santa Margarita Formation; wells near the eastern border of KTWD GSA and within EWMA extend to the Olcese Sands.

Figure 5 is a map of all active agricultural wells within KTWD GSA. The map references the deepest aquifer penetrated by each well, as determined by the cross-sections. The map also depicts developed land with agricultural wells within EWMA that rely on the Santa Margarita Formation and the Olcese Sands aquifers. The location and the deepest aquifer penetrated by wells within EWMA was gathered from a 2021 draft report entitled "Determination of Supply Well Production from Various Formations in the EWMA" written by Schmidt and Associates on behalf of EWMA. Although the figure displays the deepest aquifer penetrated, most wells pump from multiple aquifers. The pumping percentage of individual wells varies and ranges from 30% to 81% from the Santa Margarita and 15% to 72% from the Olcese Sands based on the findings of the draft report.

With 4,000 acres of EWMA planted into permanent crops east of KTWD GSA and solely reliant on groundwater, EWMA is heavily overdrafting the Santa Margarita Formation and the Olcese Sands aquifers and directly negatively impacting KTWD GSA's groundwater supplies.

C. Impacts to the Santa Margarita Formation

Groundwater elevations in the Santa Margarita Formation have been monitored since the 1960's and KTWD has been reporting water levels via CASGEM since 2012. **Figure 6** is a hydrograph of groundwater levels for the six wells with long standing periods of record that penetrate to the Santa Margarita Formation within KTWD GSA. As discussed in the GSP and shown in **Figure 6**, groundwater levels were falling prior to the formation of the Kern-Tulare Water District (District) and recovered for a period of time once the District began importing surface water.

The groundwater aquifers shared by KTWD GSA and EWMA are now however under significant stress, with the Santa Margarita Aquifer showing clear signs of overdraft. A key piece of evidence for this is the aquifer's inability to recover its water levels; even when KTWD GSA cut its own pumping by as much as 67% between 2014 and 2020, and despite back-to-back wet years in 2023-2024, groundwater elevations

failed to rebound meaningfully. The primary driver of this decline is increased agricultural plantings and pumping within EWMA during this time period. The recent drop in KTWD's groundwater levels directly correlates with a period of increased irrigated farming and a subsequent rise in groundwater pumping within EWMA.

This impact occurs because both KTWD GSA and landowners within EWMA draw water from the same, interconnected source. Because EWMA sits "upstream" of KTWD GSA relative to the natural groundwater flow, its pumping intercepts water that would otherwise replenish the aquifer beneath KTWD GSA. The scale of this pumping is substantial; EWMA, which relies entirely on groundwater, extracts more than **double** the amount of water as KTWD GSA during droughts and **over four times** as much during years when KTWD has access to more surface water. This continuous, high-volume pumping in the EWMA—which unlike KTWD GSA, has no surface water supplies—prevents the shared aquifer from recovering and is dewatering the formation.

II. THE GSP CONTAINS NO MANAGEMENT ACTIONS OR PROJECTS TO ACHIEVE SUSTAINABILITY IN EWMA

KTWD GSA and its landowners have made significant progress towards sustainability, and the SWRCB has separately determined that KTWD GSA qualifies for an exemption from fees and reporting within the Tule Subbasin because it adequately manages groundwater. Since 2015 KTWD GSA has increased surface water deliveries through $3M distribution system improvement projects, a comprehensive well registration and groundwater metering program, and implementation of an up to $175 per acre-foot groundwater extraction charge. These actions have significantly reduced groundwater pumping and increased surface water deliveries by 25% within KTWD GSA. Conversely, EWMA has implemented no projects or management actions to reduce overdraft within its area east of KTWD GSA.

A. EWMA has no meaningful projects or management actions

Within the *GSP Section 14. Projects and Management Actions Table 14-7. Eastside Water Management Area P/MA*, EWMA lists nine projects and management actions (P/MAs), not including the Kern Subbasin-wide P/MAs. Excerpted information from *GSP Table 14-7* is shown here as **Table 2**. Two of the projects focus on water supply augmentation including a Produced Water Supply Project and a Surface Runoff Capture Project with an expected completion date of 2035. The remaining seven P/MAs are mainly focused on studies, monitoring, and developing programs to trade water credits and do not have any expected benefits from a water supply augmentation standpoint. EWMA has not established any meaningful projects or implemented any management actions to reduce groundwater pumping**.** Groundwater conditions thus continue to decline and EWMA is not on a path to achieve sustainability.

Table 2. EWMA P/MAs excerpted information from GSP Table 14-7

P/MA Number	P/MA Name	Summary Description	Status	Timetable for Completion	Water Supply Augmentation (AFY)	Demand Reduction (AFY)
EWMA-1	Produced Water Supply Project	Development of oilfield produced water supplies to potentially reduce groundwater demand	Initiating Development	2035	900	0
EWMA-2	Surface Runoff Capture Project	Surface runoff capture and enhanced infiltration in impoundments	Planning	2035	3220	0
EWMA-3	Groundwater Quality Investigation	Investigation of groundwater quality by collection and analysis of water quality data supplemented by borehold geophysical data where available	Implemented	2025	0	0
EWMA-4	Local Native Yield Estimation Study	Improved estimation of local (EWMA) native yield by use of additional field-collected data and analysis	On-going	2025	0	0
EWMA-5	Aquifer-Specific Monitoring Wells Installation	Construction of aquifer-specific monitoring wells in locations with data gaps, to better understand hydraulic heads and gradients, particularly in confined bedrock units	Planning	2025	0	0
EWMA-6	Pressure Transducers Installation	Installation of pressure transducers in selected wells of the monitoring network, to collect high-resolution cost-effective data	Planning	2025	0	0
EWMA-7	Agricultural Demand Reduction	Maintain and improve 2024 Subbasin well inventory in the DMS platform with added data from field surveys, current beneficial use determinations, and coordination with Kern County EH and DWR to track new wells, etc.	Ongoing	2024-	0	0
EWMA-8	Groundwater Usage Fee Assessment	Maintain and improve existing Subbasin consumptive-use study (ITRC Metric/LandIQ) for accurate estimates of water use by parcel within GSAs.	Ongoing	2020-	0	0
EWMA-9	Transferrable Water Credit Program	Establish a system of transferrable water credits; including legal and administrative review: effects of CEQA and water law on join management of native yield	Initiating Development	2030	0	0

B. EWMA is Unreasonably Delaying Demand Reduction Actions

EWMA continues to delay demand reduction actions by citing the need for a basin-wide study that is already complete. EWMA's delay is plainly stated in the 2025 Kern County Subbasin Annual Report:

> **"Reduction in Agricultural Water Use:** Reduction of irrigated acreage, or modification irrigation techniques of crop types to reduce water usage is *still being planned*. Prior to implementing demand reduction, the sustainable yield needs to be established which is expected to be completed by the end 2025 following the completion of the basin hydrologic study. One important data gap missing in the Kern C2VSim model are the deeper aquifers that many EWMA members rely on for their water supply. These aquifers include the locally productive Santa Margarita, Olcese, and Vedder/Pyramid Hills units. Staff has communicated this model deficiency with Todd Groundwater and were informed that the model would be updated during the basin hydrologic study expected to be completed in 2026." [Emphasis added.]
>
> **"Groundwater Fees:** *No progress was made* on a determination to assess fees for groundwater use to encourage reduced pumping or curtailment until the sustainable yield is established following the completion of the basin-wide hydrologic study." [Emphasis added.]
>
> **"Water Transfer Credit System:** Efforts continue to establish a system of transferrable water credits in the EWMA. The EWMA previously developed an internal sustainable yield policy and, during WY 2023, started formalizing a system via draft Rules and Regulations. The EWMA expects time implement a water transfer credit system at the conclusion of the basin hydrogeologic study in 2026."
>
> **"Summary of Other GSP-related Special Studies or Activities:** The EWMA Board and members directed staff to initiate formation of a water district for SGMA purposes, and in WY 2023 a surveyor was hired to prepare the mapping and legal descriptions required for the notice of petition. District formation efforts are ongoing and expected to conclude in 2026. Additionally, EWMA is actively participating in the Subbasin-wide activities in Section 9, Progress on Subbasin-wide coordination on GSP implementation."

While EWMA continues to delay demand management implementation pending unknown further study, damage to the Subbasin and KTWD GSA continues by their overdraft.

III. EWMA'S PROPOSED DISTRICT FORMATION WITHOUT BINDING DEMAND REDUCTION REQUIREMENTS POSES A THREAT TO THE SUBBASIN

EWMA has stated it will seek to form a water district. Formation of the proposed district, and the creation of its own GSA without strict groundwater pumping restrictions, would only put the Kern Subbasin and KTWD GSA at further risk. The formation of the proposed district could result in increased growth in developed land use and groundwater pumping in the proposed service area as they would not be subject to any management actions.

KTWD GSA recommends that DWR consider specific corrective actions for EWMA including:

1. A requirement to implement an immediate moratorium on the drilling of new agricultural wells.
2. A requirement that EWMA implement a mandatory well registration and automated groundwater metering program (telemetry) for all active agricultural wells within 12 months, ensuring extraction data is accurate and transparent.
3. A requirement that EWMA establish and implement a groundwater extraction fee structure within 12 months to disincentivize over-pumping and fund mitigation efforts.
4. A requirement to establish a formal mitigation program to address and compensate for the continued dewatering of the Santa Margarita and Olcese confined aquifers.
5. A requirement that EWMA submit quarterly progress reports directly to DWR detailing its progress on implementing demand reduction actions, removing its ability to hide behind delayed basin-wide studies.
6. A requirement that management actions be adopted within 6 months that reduce groundwater extractions to native yield on a straight-line path by 2040.
7. A requirement that a subsidence management plan be adopted that includes cease pumping orders when quantitative thresholds are triggered.

KTWD GSA supports the GSP and believes that an Adequate determination from DWR is appropriate and including the above corrective requirements will help ensure the long-term success of the subbasin plan. We appreciate the effort of DWR to review the GSP and are thankful for the opportunity to provide comments regarding this specific management area within the subbasin. If you have any questions or require additional information, please contact me at vanessa@kern-tulare.com or 661-327-3132.

Sincerely,

Vanessa Yap Escobedo
District Engineer, Kern-Tulare Water District
Point of Contact, Kern-Tulare Water District GSA

cc: Jenny Holtermann, KNDLA
Taylor Blakslee, EWMA
Blair Knox, Kern County LAFCo

FIGURES

Figure 1. GSA Coverage of the Kern Subbasin displaying EWMA *(from GSP Figure 5-3)*

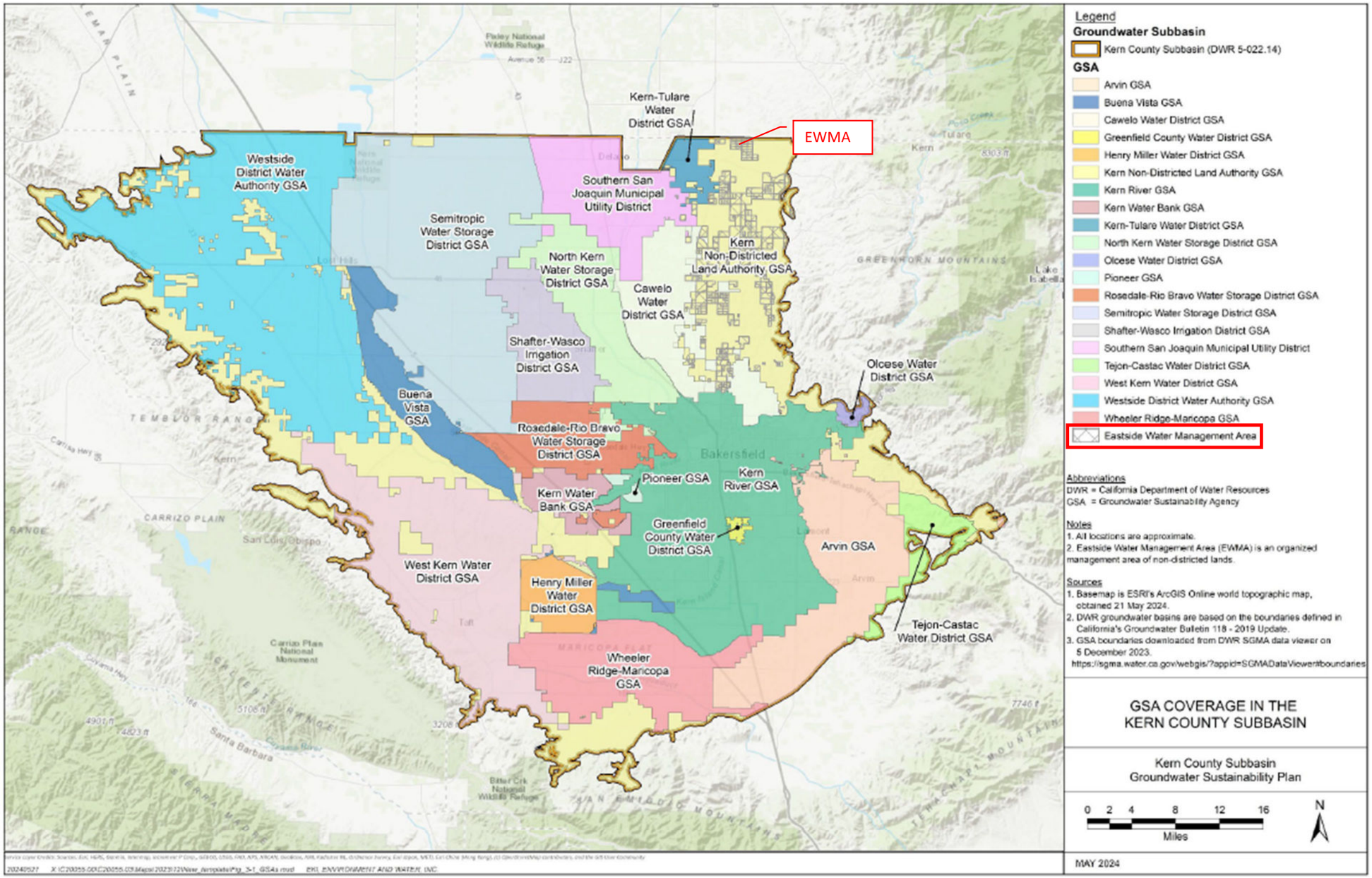

Figure 5-3. GSA Coverage of the Kern Subbasin

Figure 2. Land Use in Kern Non-Districted Land Authority *(from GSP Figure 5-5)*

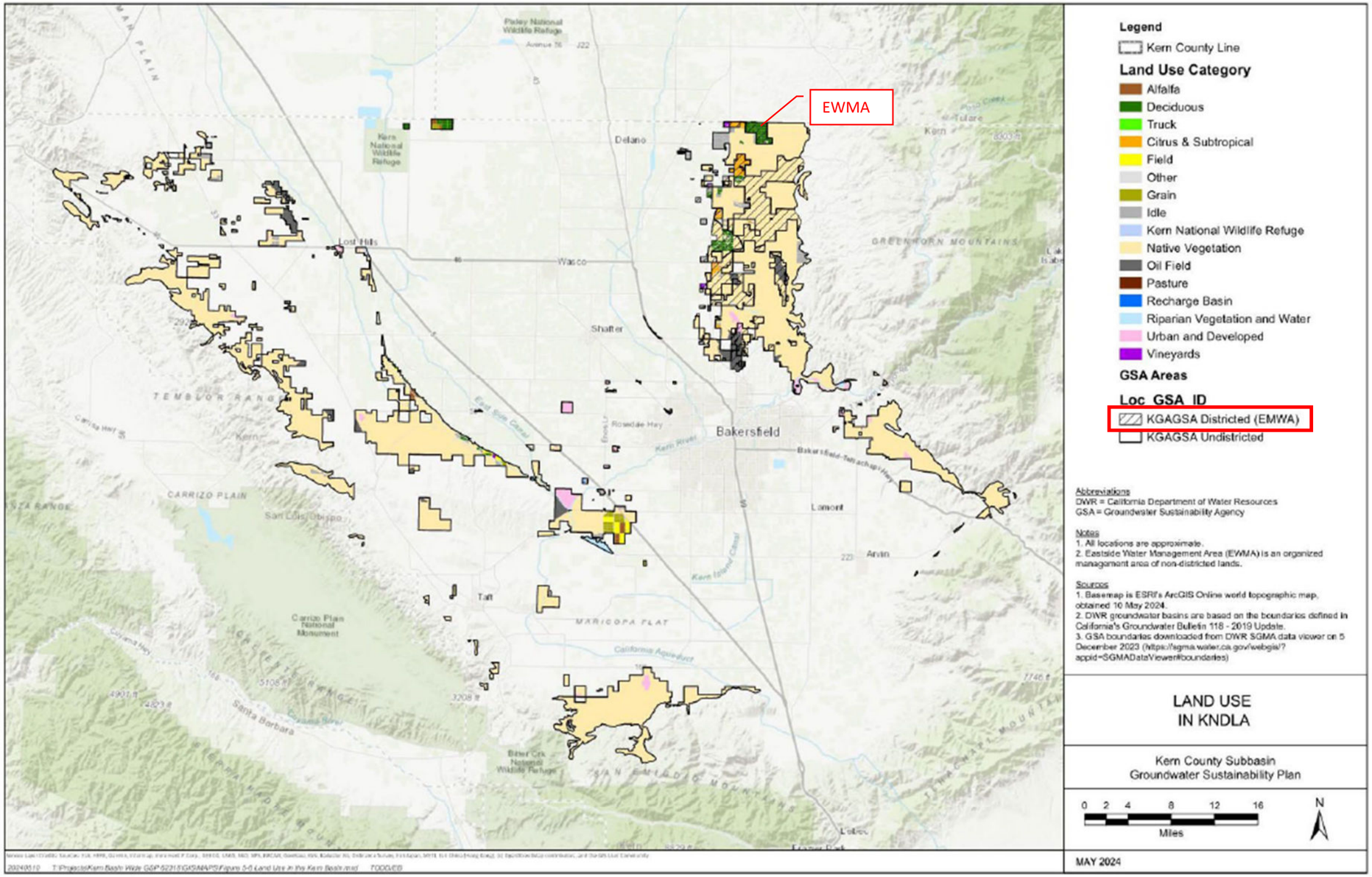

Figure 5-5. Land Use in Kern Non-Districted Land Authority

Figure 3. Whitelands East of KTWD GSA

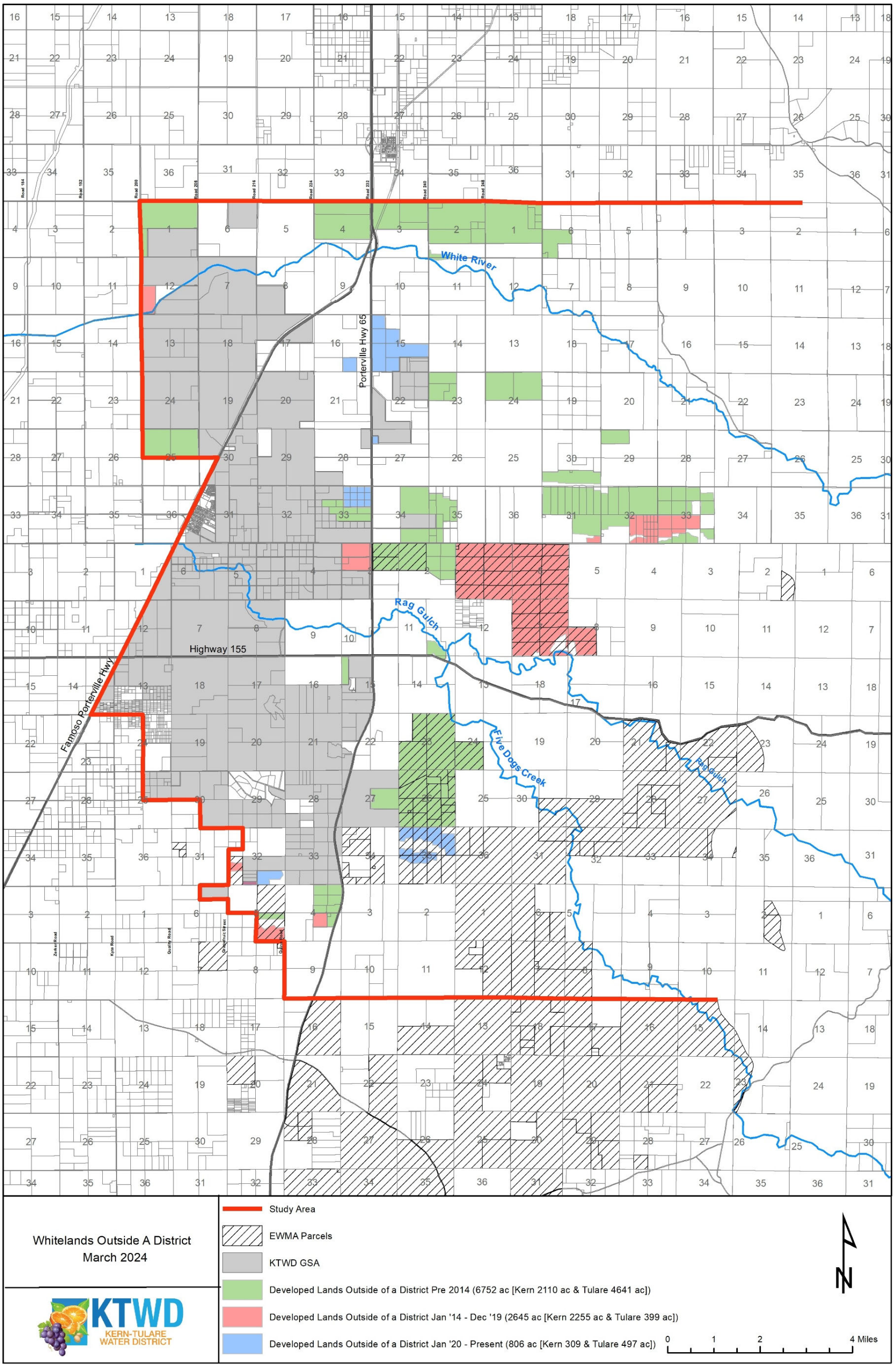

Figure 4. Cross Section along County Line Road

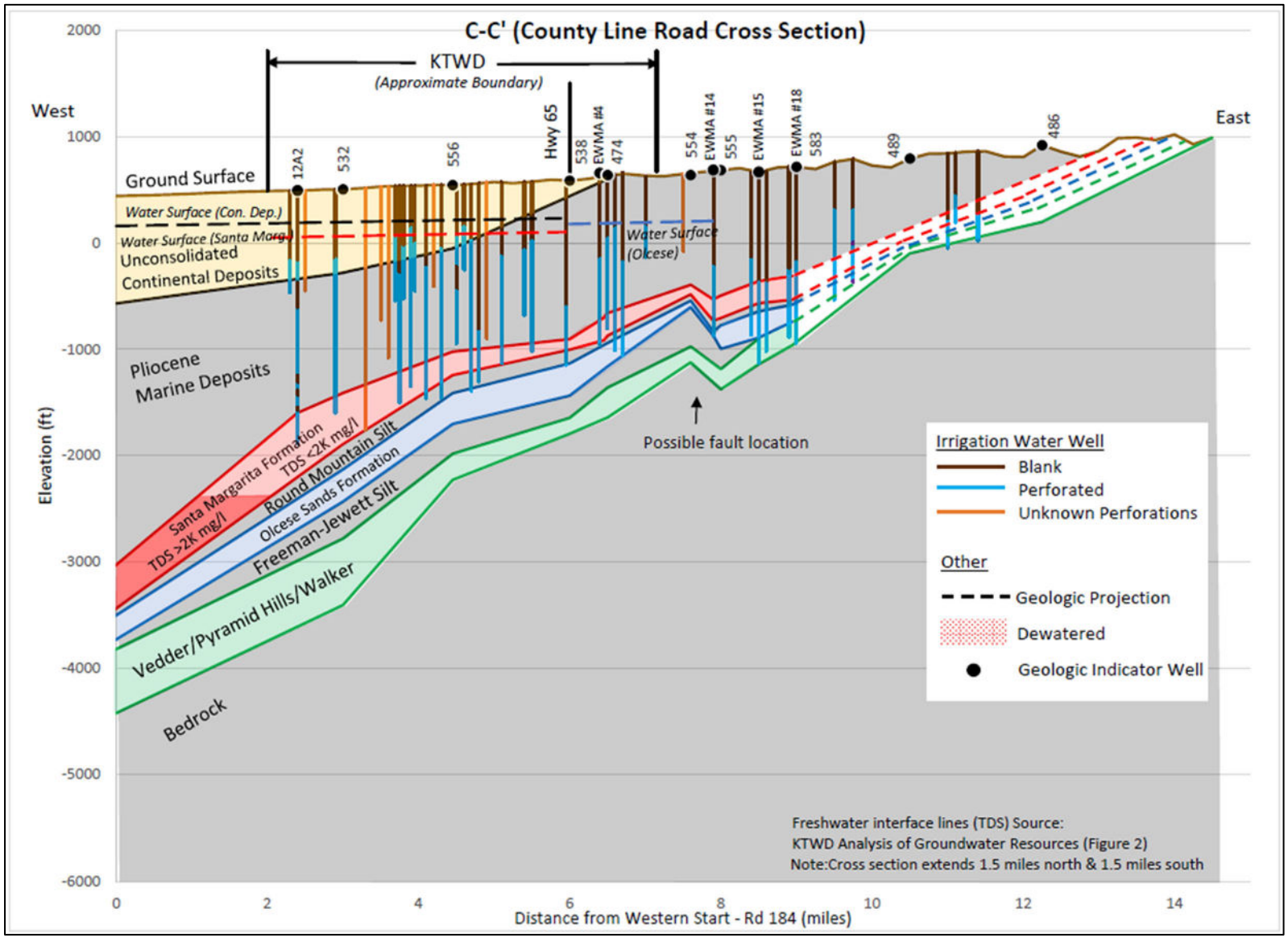

Figure 5. Deepest Aquifer Penetrated by Active Wells

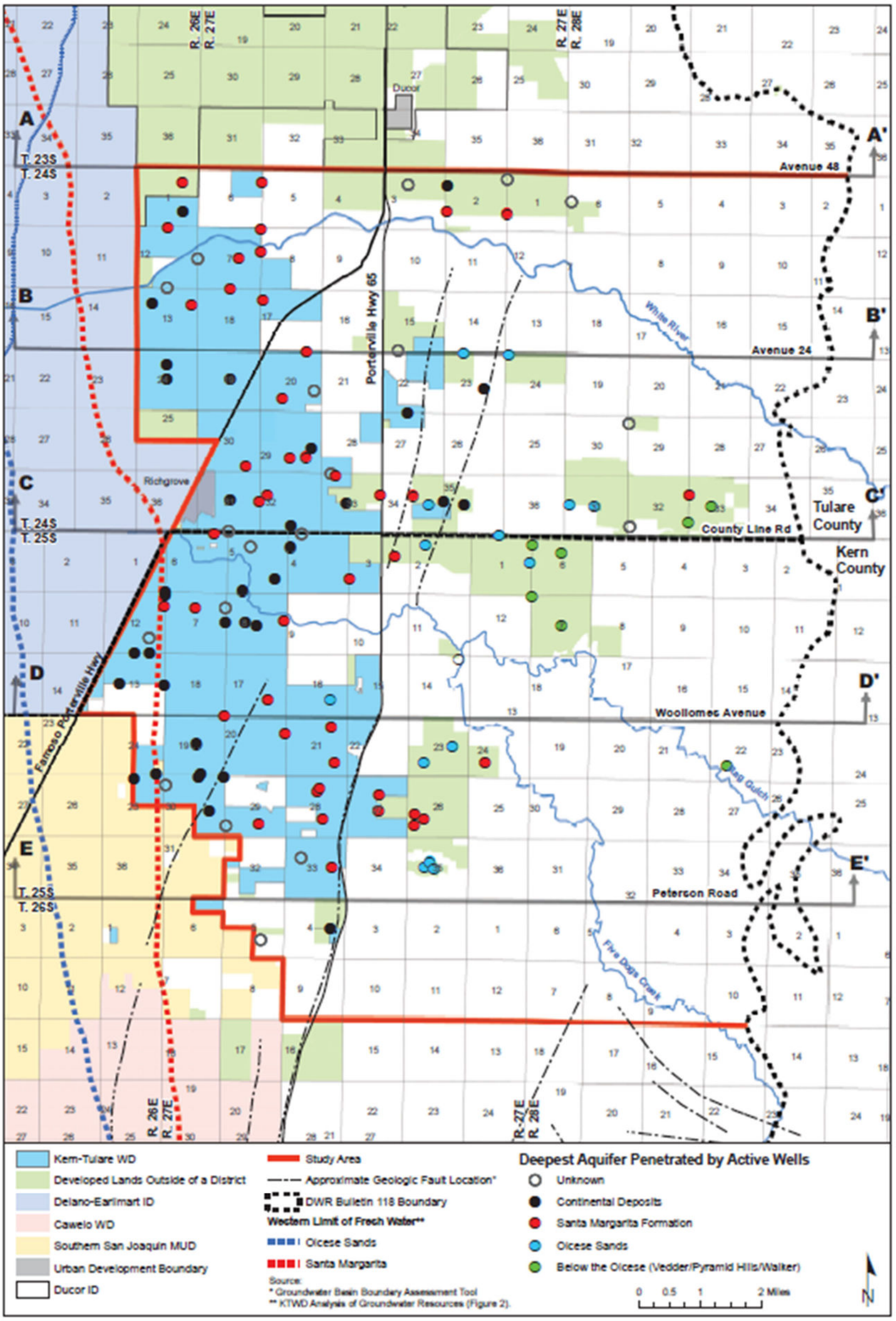

Figure 6. Historical District Groundwater Levels in the Santa Margarita Formation