



Existing DWR Kern County Subbasin

<u>Abbreviations</u> DWR = California Department of Water Resources

<u>Notes</u>

1. All locations are approximate.

Sources

- 1. DWR groundwater basins are based on the boundaries defined in California's Groundwater, Bulletin 118 Update 2003, California DWR (2003).
- 2. Basemap is ESRI's ArcGIS Online world topographic map.

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Proposed White Wolf Subbasin Boundary





Abbreviations DWR = California Department of Water Resources GSA = Groundwater Sustainability Agency SGMA = Sustainable Groundwater Management Act W.D. = Water District W.S.D. = Water Storage District

Notes

- 1. Under the SGMA, in the event that areas within a basin are not within the management area of a GSA, the county will be presumed to be the GSA for those areas.
- 2. Tejon-Castac W.D. boundary includes Annexation Area No. 5, as provided by Tejon-Castac W.D.
- 3. All locations are approximate.

Sources

- 1. DWR groundwater basins are based on the boundaries defined in California's Groundwater, Bulletin 118 - Update
- 2. Water district boundaries obtained from U.S. Bureau of Reclamation MPGIS Service Center in coordination with the California Department of Water Resources.
- 3. Basemap is ESRI's ArcGIS Online world topographic map.

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Water District Boundaries





<u>Notes</u>

- Geologic units displayed in the legend are seleted units from Source 1. Full surficial geology maps, including legends for surficial geology features, are included in Appendix A.
- 2. All locations are approximate.

Sources

- Surficial geology from: California Division of Mines and Geology, Geologic Map of California, Olaf P. Jenkins Edition, Bakersfield Sheet (1964) and Los Angeles Sheet (1969)
- 2. White Wolf Fault trace from Wood, P.R. and R. H. Dale, Geology and Ground-Water Features of the Edison-Maricopa Area, Kern County, California, USGS Water Supply Paper 1656, 1964.

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Surficial Geology in and Surrounding the White Wolf Subbasin





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White Wolf Fault Traces by Various Investigators





<u>Abbreviations</u> DOGGR = Division of Oil, Gas and Geothermal Resources ft bgs = feet below ground surface TDS = Total Dissolved Solids mg/L = milligrams per liter

<u>Notes</u>

- 1. All locations are approximate.
- 2. Values depicted on the map are approximate depths to base of fresh water, as defined by DOGGR to be 3,000 mg/L TDS.

Sources

- 1. Oil field data from DOGGR, 1998, California Oil and Gas Fields, Volume I - Central California and DOGGR, 1989, The Effects of Oil Field Operations on Underground Sources of Drinking Water in Kern County.
- 2. Basemap is ESRI's ArcGIS Online world topographic map.

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Locations of Oil Fields and Depth to Base of Fresh Water







2. All locations are approximate.

Sources

- Oil field data from DOGGR, 1998, California Oil and Gas Fields, Volume I - Central California and DOGGR, 1989, The Effects of Oil Field Operations on Underground Sources of Drinking Water in Kern County.
- 2. Agricultural land use from Kern County Department of Agriculture and Measurement Standards.
- Agricultural land use classifications from Gilliom and Thelin, 1997, Classification and Mapping of Agricultural Land for National Water-Quality Assessment, U.S. Geological Survey Circular 1131.
- Developed land use from 2011 National Land Cover Database MRLC Consortium.
- 5. Basemap is ESRI's ArcGIS Online world topographic map.

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Land Use in and Surrounding the White Wolf Subbasin









DWR = California Department of Water Resources ft MSL = feet above mean sea level WRMWSD = Wheeler Ridge-Maricopa Water Storage District

Notes

- Cumulative departure of precipitation is calculated as the cumulative difference of annual precipitation values from mean precipitation over the period 1950-2015.
- The Northern Sierra 8-Station Index represents precipitation conditions in the Sacramento Basin. The Central Sierra 5-Station Index represents precipitation conditions in the San Joaquin Basin. The Southern Sierra 6-Station Index represents precipitation conditions in the Tulare Basin.

Sources

- 1. Groundwater elevations for 1954-2010 provided by WRMWSD on 10 December 2015.
- 2. Groundwater elevations for 2011-2015 from the DWR Water Data Library.
- Precipitation data from the DWR California Data Exchange Center: http://cdec.water.ca.gov/ snow_rain.html.

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White Wolf Subbasin Index Well Hydrograph

Tejon-Castac Water District Kern County, CA March 2016 EKI B50001.00

Figure 10





<u>Abbreviations</u> DWR = California Department of Water Resources

ft MSL = feet above mean sea level

Notes 1. All locations are approximate.

Sources

- 1. Groundwater elevation contours obtained from the DWR Groundwater Information Center.
- 2. Basemap is ESRI's ArcGIS Online world topographic map.

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Groundwater Elevation Contours Spring 2015





<u>Abbreviations</u> DWR = California Department of Water Resources ft MSL = feet above mean sea level

<u>Notes</u>

1. All locations are approximate.

Sources

- 1. Groundwater elevation contours obtained from the DWR Groundwater Information Center.
- 2. Basemap is ESRI's ArcGIS Online world topographic map.

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Groundwater Elevation Contours Spring 2011



AEWSD = Arvin-Edison Water Storage District DWR = California Department of Water Resources WRMWSD = Wheeler Ridge-Maricopa Water Storage District

<u>Notes</u>

Groundwater elevations are presented in feet above mean sea level.
All locations are approximate.

Sources

- 1. DWR groundwater elevation contours obtained from the DWR Groundwater Information Center.
- 2. WRMWSD groundwater elevation contours obtained from WRMWSD on 10 December 2015.
- 3. AEWSD groundwater elevation data obtained from AEWSD on 28 December 2015.
- White Wolf Fault from: Wood and Dale, 1964. Wood P.R. and R.H. Dale, Geology and Ground-Water Features of the Edison-Maricopa Area, Kern County, California, USGS Water Supply Paper 1656, 1964.
- 4. Basemap is ESRI's ArcGIS Online world topographic map.



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Groundwater Elevation Countours and Data Spring 2013 and Spring 2011





















<u>Abbreviations</u> DWR = California Department of Water Resources USGS = United States Geological Survey

<u>Notes</u>

- 1. The colored fault traces were deemed to be of potentially higher accuracy based on the scale and spatial resolution of the source and the confidence in georeferencing.
- 2. Full citations for sources used for all traces are provided in Section 8.
- 3. All locations are approximate.

Sources

1. Basemap is ESRI's ArcGIS Online world topographic map.

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Location of Pumping Test Well in Relation to White Wolf Fault





ft = feet gpm = gallons per minute min = minutes

<u>Notes</u>

- 1. Time values are rescaled to the start of the pumping rate step.
- 2. Drawdown values are corrected for the recovery trend occurring from pumping the day before the test.

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Hydrograph of Step 1 from February 2016 Step-Drawdown Pumping Test

> Tejon-Castac Water District Kern County, CA March 2016 EKI B50001.00

> > Figure 16b



ft = feet gpm = gallons per minute min = minutes

Notes

- 1. Time values are rescaled to the start of the pumping rate step.
- 2. Drawdown values are corrected for the recovery trend occurring from pumping the day before the test.

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Hydrograph of Step 2 from February 2016 Step-Drawdown Pumping Test

> Tejon-Castac Water District Kern County, CA March 2016 EKI B50001.00

> > Figure 16c



ft = feet gpm = gallons per minute min = minutes

<u>Notes</u>

- 1. Time values are rescaled to the start of the pumping rate step.
- 2. Drawdown values are corrected for the recovery trend occurring from pumping the day before the test.

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Hydrograph of Step 3 from February 2016 Step-Drawdown Pumping Test

> Tejon-Castac Water District Kern County, CA March 2016 EKI B50001.00

> > Figure 16d



