Appendix A

Supplemental Hydrogeologic Information

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A.1 PURPOSE AND SCOPE

This appendix provides supplemental technical information that supports the hydrogeologic conceptual model (HCM) described in Section 2 and the model construction described in Section 3 of this report. The purpose of Appendix A is to:

1. Document the data, methods, and interpretations used to develop and update the hydrogeologic cross-sections that define the subsurface framework of the Chino Basin and surrounding basins (Section A.2).
2. Describe the development of the Evapotranspiration (ET) Package implemented in the MODFLOW model (ETS1 Package) (Section A.3).
3. Document the integrated water budgets for the component models of the 2025 Chino Valley Model (2025 CVM) and verify reasonableness and consistency between the model components of the 2025 CVM (Section A.4).

The following sections of this appendix are:

- **A.2 Hydrogeologic Cross-Sections.** Section A-2 presents the hydrogeologic cross-sections that illustrate the updated conceptualization of the vertical and lateral distribution of aquifer and aquitard materials, the extent of model layers, and the positions of key structural features such as faults and barriers to groundwater flow for the 2025 Chino Valley Model (CVM). Together, these cross-sections provide the geologic basis for defining the model layering and for assigning hydraulic properties across the model domain.
- **A.3 Data and Assumptions of the ETS1 Package for the 2025 CVM.** Section A.3 documents the data sources, assumptions, and procedures used to develop the MODFLOW ET Package that represents phreatophytic evapotranspiration in the Prado Basin and along the Santa Ana River.
- **A.4 Integrated Water Budgets for Component Models of the 2025 CVM.** Section A.4 summarizes the annual inflows and outflows for the component models of the 2025 CVM, which include the HSPF, R4, HYDRUS-2D, and MODFLOW models. Section A.4 was prepared pursuant to the scope of work to implement selected recommendations from the peer review of the 2025 SYR.

A.2 HYDROGEOLOGIC CROSS-SECTIONS

The hydrogeologic cross-sections were prepared to depict the basin stratigraphy and the hydrostratigraphic units that form the aquifer systems represented in the 2025 CVM. The cross-sections were developed from well lithologic logs, geophysical data, and structural interpretations compiled for the 2020 CVM and updated with new borehole information obtained since 2018. Figure 2-3 in the main report shows the locations of the cross-sections relative to the model domain. Figures A-1 through A-5 show the five cross-sections that were revised with new data for the 2025 CVM.

A.3 DATA AND ASSUMPTIONS OF THE ETS1 PACKAGE FOR THE 2025 CVM

The Evapotranspiration Segments Package (ETS1) package was used to simulate evapotranspiration from the riparian habitats along the Santa Ana River from Riverside Narrows to Prado Dam. This document describes the data sources, assumptions, and process that were used to construct the ETS1 package input file.

In the 2025 CVM, the riparian habitats in the Santa Ana River Valley are divided into nine zones as shown on Figure A-6. The spatial extents of these zones remain constant throughout the simulation period; however, both the vegetated area and vegetation density within each zone vary over time.

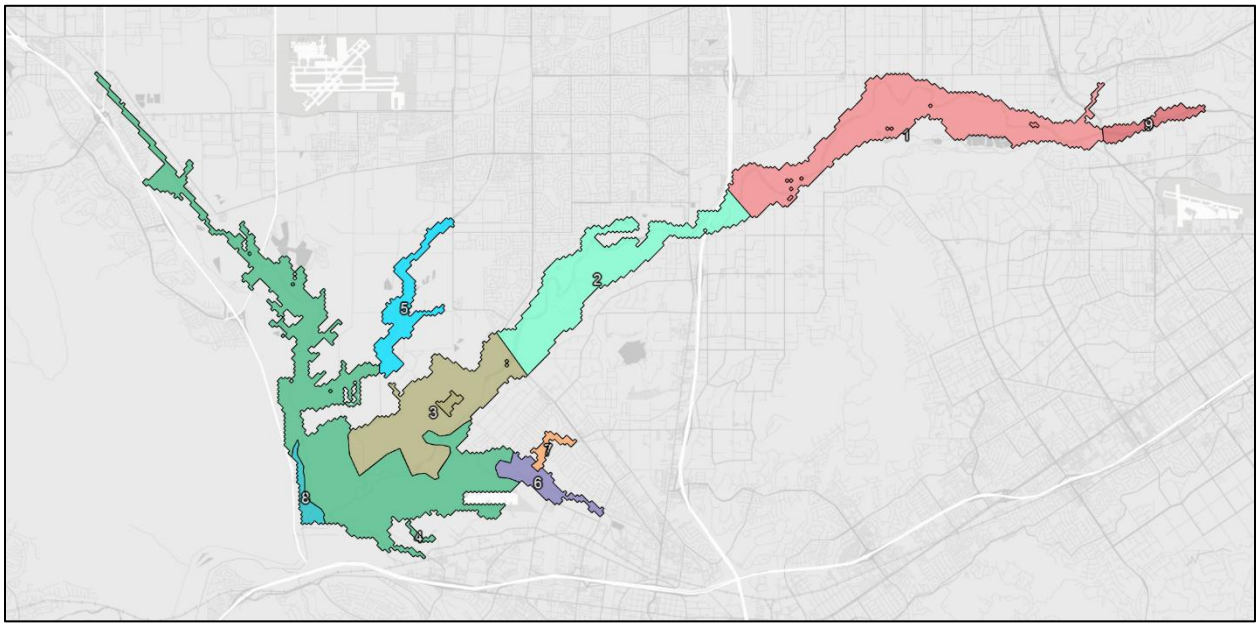

Figure A-6. Zones of Riparian Habitats

To prepare the ETS1 package input file, the maximum evapotranspiration flux (ETSR) for each zone must be estimated on a monthly basis for the simulation period spanning fiscal years 1992 to 2022. For a given zone and month, ETSR is calculated as:

$$ETSR = ET \times m \times d$$

where:

- **ET** is the actual evapotranspiration rate of riparian habitats (L/T),
- **m** is a vegetation density–dependent water consumption adjustment multiplier (unitless), and
- **d** is the fraction of vegetated area within the zone (unitless).

The estimated ET for vegetated areas is evenly distributed among all model cells within the zone where ET is simulated. The following sections describe the data sources and procedures used to determine ET, m, and d.

A.3.1 Actual ET Rate of Riparian Habitats in the Santa Ana River Area

Southern Cottonwood Willow Riparian Forest (Riparian Forest) is the dominant cover class within the Prado Basin. It is assumed that the Riparian Forest extends from Prado Basin along the Santa Ana River Valley to Riverside Narrows. Figure A-7 shows the actual ET rates (ft/day) for Riparian Forest estimated by Merkel (2007). Table A-1 shows the actual ET rates by month that were obtained by digitizing the chart shown on Figure A-7.

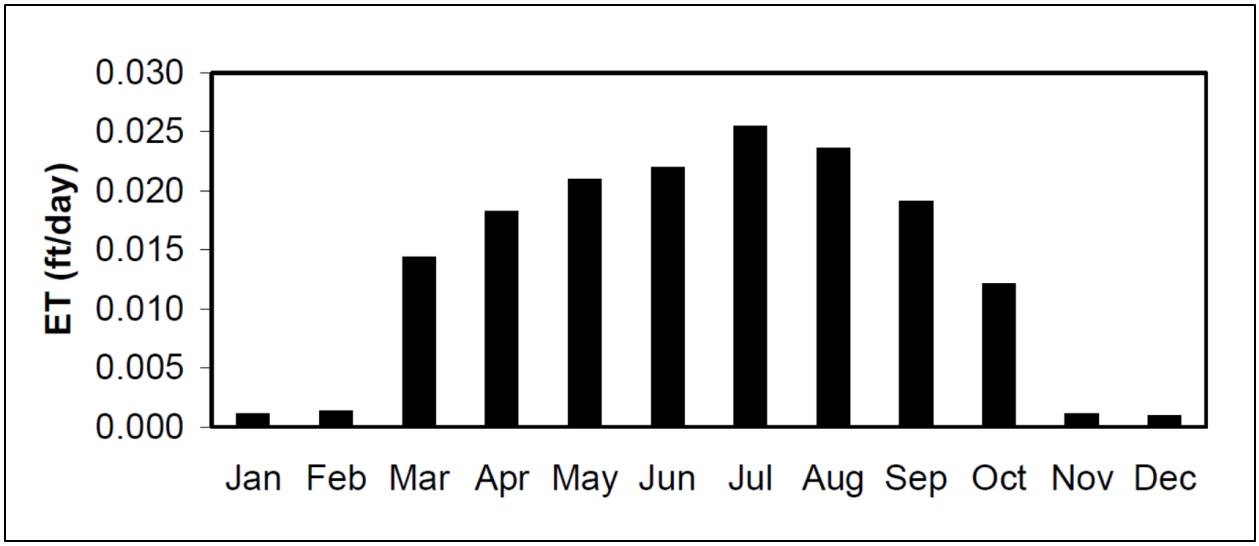

Figure A-7. Monthly evapotranspiration for Sothern Cottonwood Willow Riparian Woodland in Prado Basin. Merkel (2007)

Table A-1. Actual ET Rates in Prado Basin

Month	Actual Rate ET [ft/day]
January	0.0012
February	0.0014
March	0.0145
April	0.0183
May	0.021
June	0.022
July	0.0255
August	0.0237

Table A-1. Actual ET Rates in Prado Basin	
Month	Actual Rate ET [ft/day]
September	0.0192
October	0.0122
November	0.0012
December	0.0011

A.3.2 Vegetation Density of the Riparian Area within Each Zone

The vegetation density values of the riparian area were estimated for the defined riparian vegetation extent using air photos of several years between 1992 and 2022. The ranges of density values are given in Table A-2. These ranges correspond to the density categories used by Lines and Bilhorn (1996) to develop water consumption adjustment multipliers described in the next section below.

Table A-2. Vegetation Density (Categories) of Riparian Area within Each Zone, Percent

Fiscal Year	Zone1	Zone2	Zone3	Zone4	Zone5	Zone6	Zone7	Zone8	Zone9
1994	71-100	71-100	71-100	71-100	71-100	71-100	71-100	71-100	71-100
1999	71-100	71-100	71-100	71-100	71-100	71-100	71-100	40-70	71-100
2006	71-100	71-100	71-100	71-100	71-100	71-100	71-100	70-100	71-100
2019	11-40	71-100	71-100	71-100	71-100	11-40	71-100	0-10	71-100
2020	11-40	71-100	71-100	71-100	71-100	11-40	71-100	0-10	71-100
2021	11-40	71-100	71-100	71-100	71-100	11-40	71-100	0-10	71-100
2022	11-40	71-100	71-100	71-100	71-100	11-40	71-100	0-10	71-100

A.3.3 Water Consumption Adjustment Multiplier

Vegetative water use decreases with the vegetation density. Lines and Bilhorn (1996) developed water consumption adjustment multipliers for various vegetation density ranges shown in Table A-3. The product of a multiplier and an actual ET value given in Table A-1 is applied to an area with the respective vegetation density. For example, the ET value in June for an area with the vegetation density between 41 percent and 70 percent is calculated as 0.022 x 0.9, where the actual ET value in June of 0.022 and the adjustment multiplier of 0.9 are used.

Table A-3. Relation Between the Vegetation Density and Water Consumption Adjustment				
	Percentages			
Vegetation Density	71 to 100	41 to 70	11 to 40	1 to 10
Adjustment Multipliers	1	0.9	0.414	0.0911

Table A-4 shows the water consumption adjustment multipliers that are derived based on Tables A-2 and A-3. For the purposes of the 2025 CVM, the water consumption adjustment multipliers for fiscal year 1992 are assumed to be the same as fiscal year 1994. The adjustment multipliers between the years listed in Table A-4 are linearly interpolated for the 2025 CVM.

Table A-4. Water Consumption Adjustment Multipliers for Each Zone and Year

Fiscal Year	Zone1	Zone2	Zone3	Zone4	Zone5	Zone6	Zone7	Zone8	Zone9
1992	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1994	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1999	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2006	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2019	0.414	1.0	1.0	1.0	1.0	0.414	1.0	0.0911	1.0
2020	0.414	1.0	1.0	1.0	1.0	0.414	1.0	0.0911	1.0
2021	0.414	1.0	1.0	1.0	1.0	0.414	1.0	0.0911	1.0
2022	0.414	1.0	1.0	1.0	1.0	0.414	1.0	0.0911	1.0

A.3.4 Fraction of Riparian Area within Each Zone

The fraction of riparian area within each zone was estimated by intersecting a shapefile delineating the riparian area with a shapefile of riparian zones. The fraction of the riparian area within each zone was calculated as the intersected area divided by the area of each zone. Table A-5 shows the fraction of the vegetated area within each zone.

Table A-5. Fraction of Vegetated Area

Fiscal Year	Zone1	Zone2	Zone3	Zone4	Zone5	Zone6	Zone7	Zone8	Zone9
1994	0.69	0.75	0.62	0.71	0.73	0.51	0.35	0.40	0.37
1999	0.59	0.73	0.77	0.77	0.66	0.71	0.34	0.92	0.38
2006	0.59	0.57	0.81	0.77	0.65	0.70	0.52	0.35	0.27
2019	0.70	0.81	0.71	0.77	0.64	0.50	0.50	0.27	0.65
2020	0.70	0.76	0.67	0.77	0.64	0.50	0.50	0.27	0.65

Table A-5. Fraction of Vegetated Area									
Fiscal Year	Zone1	Zone2	Zone3	Zone4	Zone5	Zone6	Zone7	Zone8	Zone9
2021	0.70	0.76	0.57	0.77	0.64	0.44	0.50	0.27	0.65
2022	0.70	0.76	0.56	0.77	0.64	0.44	0.50	0.27	0.65

A.3.5 Additional Assumptions for ETS1

In addition to the data and assumptions for calculating ETSR, the ETS1 package assumes that the ET is calculated only for the model cells in the top grid layer; the elevation of the ET surface is the ground surface (i.e., top of layer 1) plus 20 ft; a uniform extinction depth of 40 ft; and an ET Curve based on the following values. Based on these assumptions, the simulated ET rate reaches its maximum ETSR when the simulated head is the same as the ground surface elevation; the simulated ET rate linearly declines to zero when the simulated head is 5 ft above or 20 ft below the ground surface. Refer to the document of the Evapotranspiration Segments Package (Banta, 2000) for the definition of PXDP, PETM, and the ET Curve.

Table A-6. The PXDP and PETM Values for the Segments of the ET Curve					
	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5
PXDP	0.001	0.375	0.475	0.5	0.875
PETM	0	0	1	1	0.8

A.4 INTEGRATED WATER BUDGETS FOR COMPONENT MODELS OF THE 2025 CVM

This section documents water budgets within and between the HSPF, R4, vadose-zone, and MODFLOW components of the 2025 Chino Valley Model (2025 CVM). These integrated water budgets supplement the 2025 CVM documentation in Section 3 of the main report, the calibration and uncertainty-analysis results in Section 4, and the projection-period water budgets used to determine the Tentative Safe Yield in Section 6.

The purpose of these water budgets is to document the principal inflows, outflows, and changes in storage for each component model; demonstrate the internal consistency of the component-model water budgets; and describe how fluxes are transferred between the HSPF, R4, vadose-zone, and MODFLOW components of the 2025 CVM.

This section is organized as follows:

- Overview of Component Models of the 2025 CVM
- HSPF Model Water Budget
- Combined R4 Runoff and Rootzone Module Water Budget
- R4 Router Module Water Budget
- Vadose Zone Water Budget
- MODFLOW Groundwater Budget
- MODFLOW Surface Water Budget
- Comparison of Fluxes Between Component Models

A.4.1 Overview of Component Models of the 2025 CVM

As described in Section 3 of the main report, the 2025 CVM is an integrated surface-water and groundwater modeling system composed of four primary components: (1) an HSPF model of the San Gabriel Mountains, (2) the R4 model of the valley-floor watershed, (3) vadose-zone lag calculations that translate DIPAW to the vadose zone to delayed DIPAW to the saturated zone, and (4) the MODFLOW groundwater-flow model. The surface-water model domains and groundwater-flow model domain are shown on Figure 3-1 of the main report, and the hydrologic subareas (HSA) used by the R4 model are shown on Figure 3-2.

Figure A-8 illustrates the primary interconnections between the component models. The figure shows how surface-water and recharge fluxes are generated by the HSPF and R4 models and then transferred to MODFLOW. The figure is intended to provide a schematic summary of the model linkages documented in the water-budget tables that follow.

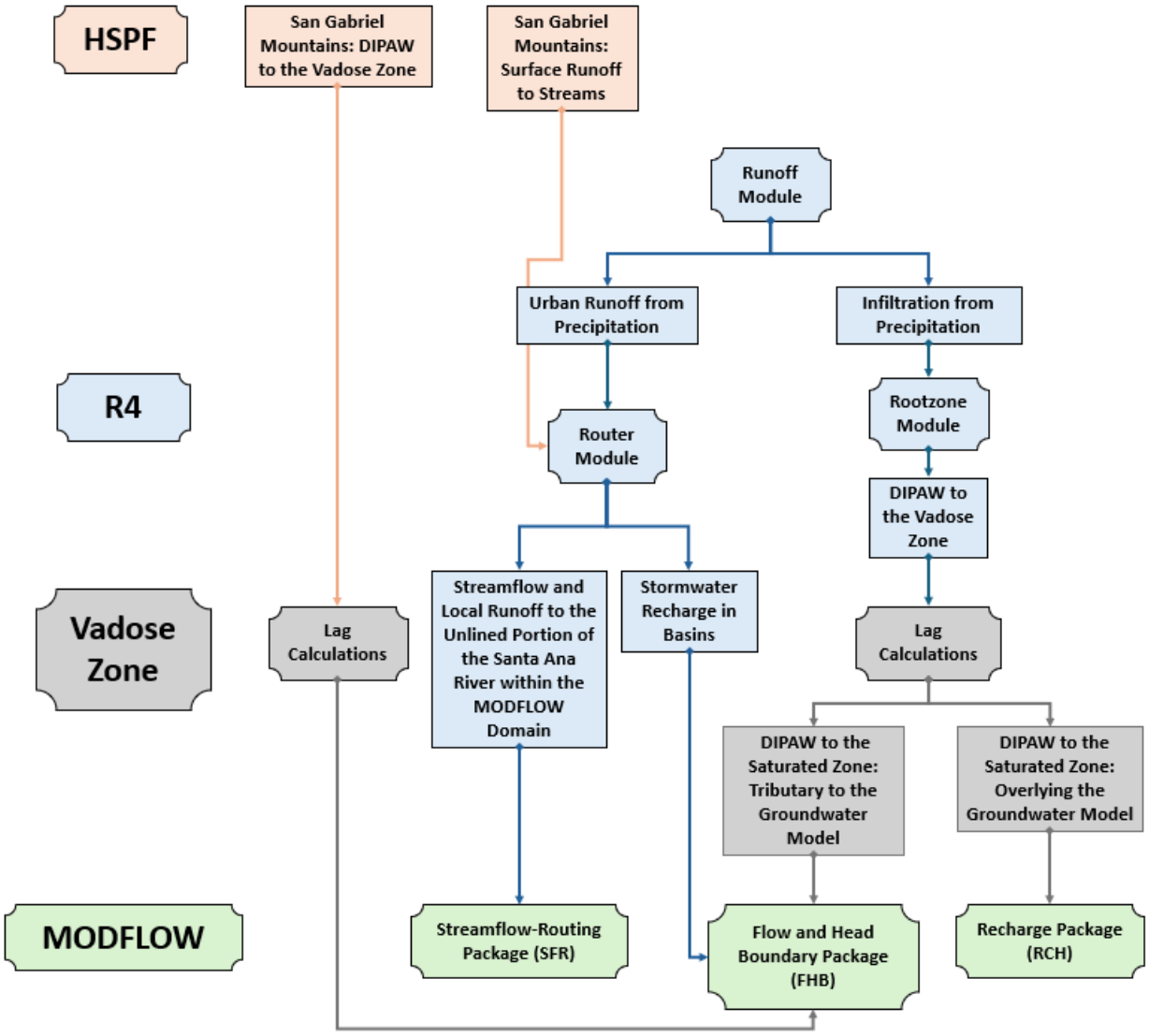

Figure A-8. Interconnections Between Component Models of the 2025 CVM.

The HSPF model represents runoff and recharge processes in the San Gabriel Mountains. The R4 model represents hydrologic processes on the valley floor. The Runoff and Rootzone modules simulate urban runoff generation, agricultural and urban applied water, evapotranspiration (ET), and DIPAW to the vadose zone. The Router module simulates surface-water routing, streambed percolation, and stormwater recharge in basins.

The vadose-zone lag calculations translate HSPF and R4-estimated DIPAW to the vadose zone into delayed DIPAW to the saturated groundwater system. As described in Section 3.2.3, travel time through the vadose zone varies spatially across the model domain.

MODFLOW receives inputs from the HSPF, R4, and vadose-zone calculations, including DIPAW to the saturated zone, stormwater recharge in basins, and streamflow to the unlined portion of the Santa Ana River (SAR) within the MODFLOW domain. MODFLOW also simulates groundwater injection and extraction at wells, riparian vegetation evapotranspiration, stream-groundwater interaction, managed aquifer recharge and subsurface flow from adjacent basins.

A.4.2 HSPF Model Water Budget

Table A-7 summarizes the annual HSPF model water budget for FY 1992 through 2022. The HSPF model was calibrated during the 2020 SYR and extended for the 2025 CVM.

For FY 1992 through 2022, average precipitation over the HSPF model domain was about 99,700 acre-ft/yr. Average evapotranspiration was about 56,800 acre-ft/yr, average surface runoff to streams was about 27,100 acre-ft/yr, and DIPAW to the vadose zone was about 14,100 acre-ft/yr. Surface runoff is used as inflow to the R4 Router module. DIPAW to the vadose zone is adjusted for vadose zone transit delay and incorporated into MODFLOW through the Flow and Head Boundary (FHB) Package.

The hydrologic reasonableness of the HSPF-derived boundary inflows was evaluated by comparing simulated and measured streamflow at available gages in the HSPF model domain. Available data are limited because most records are outside the MODFLOW calibration period or are affected by upstream dam operations. The 2020 SYR Report[1] documented monthly streamflow calibration statistics for the available gages. Except for Live Oak Canyon, calibration results ranged from satisfactory to very good.

Annual measured and simulated streamflow hydrographs were also prepared at available gages. These comparisons indicate that the HSPF model reasonably represents the magnitude and timing of mountain-front streamflow, with a tendency toward slight overprediction during dry years and underprediction during wet years at several locations. Annual changes in simulated soil moisture storage average near zero over the calibration period, indicating that the long-term HSPF water budget is generally balanced. Taken together, these results support the use of the HSPF outputs as hydrologically reasonable inflows to the R4 and MODFLOW components of the 2025 CVM.

A.4.3 R4 Runoff and Root Zone Module Water Budget

Table A-8 summarizes the annual water budget for the R4 Runoff and Rootzone modules for FY 1992 through 2022. During this period, average inflow to the Runoff and Rootzone modules was approximately 566,900 afy. Inflows included precipitation, agricultural and urban applied water, and groundwater uptake by riparian vegetation. Average outflow was approximately 566,800 afy and included urban runoff from precipitation, evaporation from impervious surfaces, evapotranspiration (ET), and DIPAW to the vadose zone.

Average urban runoff from precipitation was approximately 89,500 afy. Of this amount, approximately 70,900 afy was used as input into the Router module. The remaining 18,600 afy was not used in the Router module because it represents runoff from HSAs that are either tributary to the SAR upstream of USGS

[1] See Section 6.2.1 of the 2020 SYR Report.

gage at MWD Crossing (11066460) or tributary to Temescal Creek upstream of USGS gage at Main Street in Corona (11072100). The Router module instead uses observed streamflow data from these gages.

Average total DIPAW to the vadose zone was approximately 150,200 afy. Of this amount, approximately 103,500 afy occurred overlying the MODFLOW domain, approximately 10,500 afy was tributary to the MODFLOW domain (comprising subsurface inflow from the Chino Hills, Puente Hills, San Jose Hills, Jurupa Hills, and Santa Ana Mountains), and approximately 36,200 afy was assumed to recharge adjacent groundwater basins.

DIPAW to the vadose zone overlying and tributary to the MODFLOW domain is translated to delayed DIPAW through the vadose-zone lag calculation and incorporated into MODFLOW through the Recharge (RCH) and FHB package, respectively. The remaining 36,200 afy assumed to recharge adjacent groundwater basins is not incorporated into MODFLOW because it does not contribute to groundwater recharge within the modeled domain.

A.4.4 R4 Router Module Water Budget

Table A-9 summarizes the annual water budget for the R4 Router module for FY 1992 through 2022. Average inflow to the Router module during this period was approximately 326,000 afy. Inflows included, boundary inflows from the San Gabriel Mountains, SAR and Temescal Creek; runoff from stormwater and urban irrigation; rising groundwater to the SAR, wastewater treatment plant and imported water discharges. Average outflow was approximately 327,500 afy. Outflows included stormwater recharge in basins; streambed percolation; streamflow at SAR, Thompson Creek and Live Oak Creek; and local diversions that occur throughout the Router module domain. The average annual mass-balance difference was about -1,500 afy, or approximately -0.6 percent of total inflow, indicating good overall water-budget closure.

Streamflow and local runoff to the unlined portion of the SAR within the MODFLOW domain simulated by the Router module is used as input to MODFLOW through the SFR package. For 1992 – 2004, stormwater recharge in basins simulated by the Router module is used as input to MODFLOW through the FHB package.

A.4.5 Vadose Zone Water Budget

Table A-10 summarizes the vadose-zone water budget overlying the MODFLOW domain. As described in Section 3.2.3, vadose-zone travel time varies spatially across the model domain and delays the timing of DIPAW applied to MODFLOW. The water budget compares DIPAW to the vadose zone from the Rootzone module to DIPAW to the saturated zone from MODFLOW Realization C. The difference represents the annual change in vadose-zone storage. Positive values indicate an increase in vadose-zone storage, and negative values indicates a decrease in vadose-zone storage.

A.4.6 MODFLOW Water Budgets

Table A-11 summarizes the MODFLOW groundwater budget for Realization C for FY 1992 through 2022 over the entire active MODFLOW domain. During this period, the average inflow was about 241,600 afy. Inflows included recharge in basins, subsurface inflows from adjacent basins, DIPAW to the saturated zone, injection at wells and streambed infiltration from the SAR. Average outflow was about 258,400 afy.

Outflows included extraction at wells, rising groundwater, and ET from riparian vegetation. The average annual change in groundwater storage was about -16,900 afy.

Table A-12 summarizes the MODFLOW SFR Package water budget for Realization C for FY 1992 through 2022. Average inflow and outflow were each about 292,700 afy. Inflows included stream flow from MWD Crossing on the SAR, San Sevaine Creek, Day Creek, Cucamonga Creek, Chino Creek, Cypress Creek and Temescal Creek; local runoff and wastewater treatment plant discharges direct to the SFR stream segments; and rising groundwater. Outflows included discharge to groundwater and outflow at Prado Dam. The SFR mass-balance error was negligible

A.4.7 Comparison of Fluxes Between Component Models

As shown above, Table A-13 compares the major fluxes transferred between the HSPF, R4, and MODFLOW components of the 2025 CVM. The comparison provides a consistency check between component-model outputs and their corresponding downstream component-model inputs.

The following fluxes are transferred directly from one model component to the next:

- Stream flow from the San Gabriel Mountains (HSPF -> Router Module)
- Urban Runoff from Precipitation (Runoff Module -> Router Module)
- Stormwater Recharge in Basins from 1992 – 2004 (Router Module -> FHB)
- Streamflow and Local Runoff to the Unlined Portion of the SAR within the MODFLOW Domain (Router Module -> SFR)

As shown in Table A-13, the above component-model outputs and their corresponding downstream inputs are in good agreement.

The following fluxes are adjusted through vadose-zone lag calculations and calibration before being applied to the downstream model component:

- DIPAW from the San Gabriel Mountains (HSPF -> FHB)
- DIPAW from Chino Hills, Puente Hills, San Jose Hills, Jurupa Hills, and Santa Ana Mountains (Rootzone Module-> FHB)
- DIPAW overlying the MODFLOW Domain (Rootzone Module-> RCH)

Unlike the previous group of fluxes, differences between these component-model outputs and their corresponding downstream inputs are expected. Rather than seeking close agreement, the objective is to evaluate the magnitude of the adjustments and determine whether they are reasonable.

For DIPAW from the San Gabriel Mountains, the average DIPAW to the vadose zone is approximately 14,000 afy, while the average DIPAW reaching the saturated zone in Realization C is approximately 9,700 afy, representing an average reduction of about 4,300 afy. As noted previously, data availability in the San Gabriel Mountains is limited; therefore, an adjustment of this magnitude during calibration is reasonable.

For DIPAW from the Chino Hills, Puente Hills, San Jose Hills, Jurupa Hills, and Santa Ana Mountains, the average DIPAW to the vadose zone is approximately 10,500 afy, while the average DIPAW reaching the saturated zone in Realization C is approximately 10,100 afy, representing an average reduction of about 400 afy.

For DIPAW overlying the MODFLOW domain, the average DIPAW to the vadose zone is approximately 103,500 afy, while the average DIPAW reaching the saturated zone in Realization C is approximately 116,400 afy, representing an increase of 12,800 afy. Figure A-9 presents these fluxes as time series from FY 1992 through 2022 and also includes the cumulative change in vadose-zone storage. As shown in the figure, vadose-zone storage generally decreases over time. DIPAW to the saturated zone is greater than the DIPAW to the vadose zone on average because of the lag time calculation combined with the downward trend of DIPAW to the vadose zone.

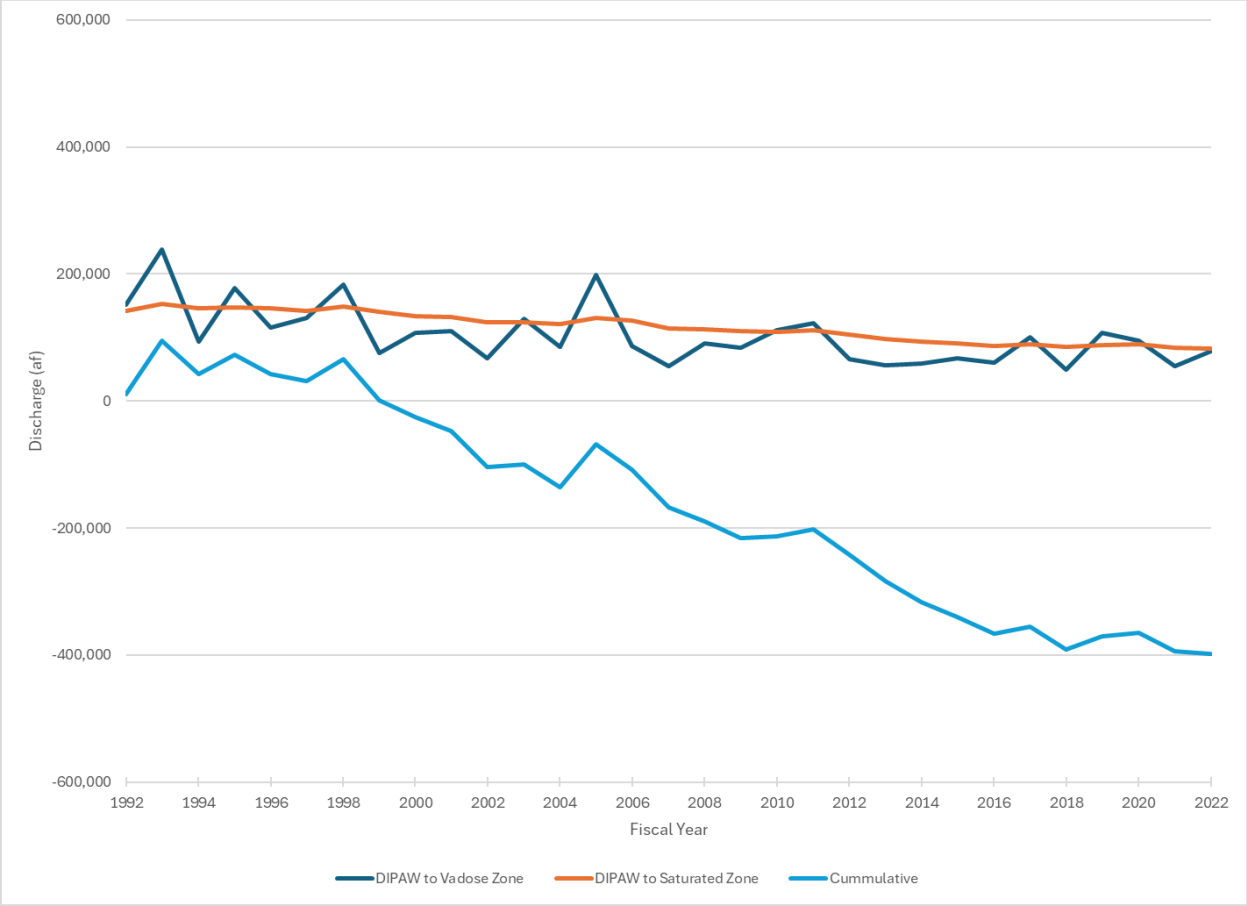

Figure A-9: Vadose Zone Flux and Storage

Overall, the integrated water budgets demonstrate that the component models are internally balanced and that the principal fluxes transferred between the HSPF, R4, vadose-zone, and MODFLOW components are reasonably consistent. These results support the use of the integrated model system to evaluate historical groundwater conditions, net recharge, and the water-budget components used in the 2025 SYR.

A.5 REFERENCES

Banta Edward R (2000). MODFLOW-2000, The U.S. Geological Survey Modular Ground-Water Model—Documentation of Packages for Simulating Evapotranspiration with a Segmented Function (ETS1) and Drains with Return Flow (DRT1) [Report] = Open-File Report 00–466. - Denver, CO : U.S. Geological Survey, 2000.

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Attachments to Appendix A

Section A.4 Tables

Table A-7. Water Budget for HSPF Model, FY 1992-2022 (acre-ft)

Fiscal Year	Inflow		Outflow					Annual Change in Soil Moisture
	Precipitation	Total Inflow	Diversions	DIPAW to the Vadose Zone	ET	Surface Runoff to Streams	Total Outflow	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1992	164,258	164,258	2,523	22,350	70,216	55,142	150,232	14,027
1993	284,826	284,826	2,226	38,764	82,769	123,448	247,207	37,618
1994	84,693	84,693	3,151	15,309	66,522	27,281	112,264	-27,570
1995	180,854	180,854	2,305	25,245	75,969	57,686	161,206	19,648
1996	109,454	109,454	2,683	18,817	70,794	37,365	129,660	-20,205
1997	107,175	107,175	3,365	17,957	59,796	35,160	116,278	-9,103
1998	205,742	205,742	2,842	26,609	75,690	62,799	167,939	37,802
1999	65,352	65,352	3,440	13,434	68,915	19,313	105,102	-39,750
2000	90,005	90,005	2,030	15,682	58,157	21,781	97,649	-7,644
2001	88,468	88,468	3,364	13,796	57,181	19,130	93,471	-5,003
2002	31,637	31,637	1,891	8,877	34,690	8,079	53,538	-21,901
2003	105,865	105,865	2,656	11,325	59,652	19,055	92,689	13,176
2004	59,906	59,906	2,781	9,395	49,957	11,127	73,260	-13,354
2005	217,870	217,870	2,659	28,235	71,430	75,572	177,895	39,974
2006	85,038	85,038	3,674	13,612	61,352	19,102	97,740	-12,702
2007	20,705	20,705	2,576	8,360	27,341	8,136	46,413	-25,707
2008	92,966	92,966	2,418	12,134	51,917	19,005	85,473	7,492
2009	63,197	63,197	2,940	9,972	44,780	12,506	70,198	-7,000
2010	114,623	114,623	3,032	13,861	60,127	25,656	102,676	11,947
2011	147,840	147,840	2,484	20,358	70,591	40,788	134,222	13,618
2012	60,651	60,651	2,471	11,035	54,528	10,027	78,062	-17,411
2013	42,230	42,230	1,491	8,085	39,067	7,473	56,116	-13,885
2014	36,481	36,481	1,668	3,249	33,826	6,624	45,367	-8,885
2015	55,545	55,545	739	4,716	45,860	6,528	57,844	-2,299
2016	63,072	63,072	758	4,645	53,549	6,288	65,240	-2,168
2017	107,691	107,691	1,826	12,295	54,562	24,036	92,719	14,972
2018	39,616	39,616	2,182	3,626	37,563	6,878	50,250	-10,634
2019	133,092	133,092	2,446	13,703	63,268	30,119	109,537	23,555
2020	86,350	86,350	3,035	11,830	60,244	15,075	90,184	-3,834
2021	49,992	49,992	2,245	7,336	45,354	7,958	62,893	-12,901
2022	95,375	95,375	2,226	11,168	55,364	20,279	89,037	6,338
Max	**284,826**	**284,826**	**3,674**	**38,764**	**82,769**	**123,448**	**247,207**	**39,974**
Min	**20,705**	**20,705**	**739**	**3,249**	**27,341**	**6,288**	**45,367**	**-39,750**
Average	**99,696**	**99,696**	**2,456**	**14,057**	**56,807**	**27,078**	**100,399**	**-703**

Table A-8. Water Budget for the Runoff and Rootzone Modules from 1950 - 2022 (acre-ft)

	Inflow					Outflow								
		Applied Water				Urban Runoff from Precipitation				DIPAW to the Vadose Zone				
Fiscal Year	Precipitation	Agriculture	Urban	Groundwater Uptake by Riparian Vegetation[a]	Total Inflow	Used in the Router Module	Not Used in the Router Module	Evaporation on Impervious Surfaces	ET	Overlying the MODFLOW Domain	Tributary to the MODFLOW Domain	Not Connected to the MODFLOW Domain	Total Outflow	Annual Change in Soil Moisture in the Root Zone
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1992	413,028	116,370	149,070	16,543	695,011	93,914	25,415	60,860	294,892	151,779	15,686	52,315	694,862	149
1993	746,187	117,778	151,081	17,278	1,032,324	221,930	57,777	88,643	311,920	238,244	25,636	85,309	1,029,458	2,866
1994	241,964	114,943	154,882	18,071	529,860	30,986	8,890	47,862	310,376	93,509	8,073	29,081	528,776	1,085
1995	579,443	108,994	151,063	15,594	855,094	153,697	44,494	79,157	314,139	178,363	17,887	63,917	851,653	3,441
1996	276,930	120,954	183,908	21,692	603,484	72,213	16,693	40,925	319,962	115,230	9,778	36,901	611,702	-8,218
1997	316,216	117,722	180,778	19,253	633,969	67,652	18,019	54,610	304,364	130,848	12,989	46,022	634,503	-534
1998	645,919	91,634	145,641	15,839	899,033	155,988	47,581	102,328	301,455	183,438	22,947	76,765	890,503	8,530
1999	176,400	96,777	162,976	18,421	454,575	18,452	4,305	45,724	286,715	75,720	4,766	21,495	457,178	-2,603
2000	236,314	102,760	192,880	20,435	552,389	44,664	9,554	49,700	297,378	107,797	10,315	35,043	554,451	-2,062
2001	299,071	87,016	171,717	17,057	574,862	71,862	14,250	55,349	280,543	110,039	9,829	33,525	575,397	-534
2002	103,663	89,467	186,409	19,482	399,021	14,870	3,094	24,591	269,635	67,295	4,104	17,613	401,202	-2,182
2003	406,119	72,116	168,931	14,442	661,608	116,233	28,286	58,610	271,104	128,807	11,770	41,399	656,210	5,398
2004	187,399	75,383	191,396	18,389	472,567	36,913	8,326	39,213	274,613	85,256	7,566	26,407	478,294	-5,727
2005	705,986	62,705	174,301	14,851	957,843	219,489	54,632	107,509	274,641	198,898	24,376	75,077	954,621	3,222
2006	246,116	59,277	176,101	16,099	497,592	44,970	10,430	57,506	260,531	86,248	7,324	28,388	495,396	2,196
2007	58,262	67,847	202,012	18,643	346,764	3,995	796	20,884	251,968	55,217	3,646	16,045	352,551	-5,787
2008	233,773	63,811	195,571	17,956	511,112	44,937	11,391	56,339	266,094	90,359	9,403	31,232	509,756	1,356
2009	198,677	59,303	192,536	16,450	466,966	40,132	10,320	45,557	252,155	83,251	8,281	28,564	468,261	-1,295
2010	365,573	56,113	186,134	16,187	624,007	92,752	23,794	75,412	263,132	111,893	13,110	41,732	621,825	2,182
2011	439,733	51,178	173,671	14,792	679,374	122,255	34,023	88,112	250,776	122,029	14,903	47,135	679,232	141
2012	187,546	54,919	191,416	16,437	450,318	30,503	8,020	50,877	267,227	66,189	4,822	21,728	449,367	951
2013	138,327	55,973	187,253	18,499	400,052	10,909	4,233	49,339	255,338	56,330	5,491	20,349	401,988	-1,936
2014	125,736	56,996	192,094	20,010	394,836	21,422	8,321	32,515	250,656	58,474	4,193	19,414	394,995	-159
2015	205,295	53,469	167,769	19,996	446,528	38,443	9,515	53,474	246,916	67,999	5,409	21,859	443,615	2,913
2016	228,967	50,024	148,952	19,149	447,092	38,737	12,615	61,524	247,788	60,046	6,126	21,473	448,309	-1,217
2017	389,776	49,543	136,813	19,990	596,122	97,482	25,638	89,105	227,059	100,935	15,110	41,450	596,777	-655
2018	121,510	52,293	150,677	21,320	345,800	18,782	5,806	33,516	219,127	49,617	3,211	15,749	345,807	-7
2019	461,072	37,756	140,444	19,609	658,881	117,631	32,365	103,488	232,620	107,986	16,298	45,223	655,610	3,271
2020	328,456	41,126	155,318	18,936	543,837	75,105	19,456	76,849	231,009	94,260	12,129	36,986	545,795	-1,958
2021	131,278	46,324	174,358	23,760	375,720	21,842	5,533	36,860	238,151	55,325	3,673	17,225	378,609	-2,889
2022	224,177	46,103	171,790	23,961	466,031	58,147	15,353	47,354	232,401	78,140	6,973	26,718	465,084	947
Max	**746,187**	**120,954**	**202,012**	**23,961**	**1,032,324**	**221,930**	**57,777**	**107,509**	**319,962**	**238,244**	**25,636**	**85,309**	**1,029,458**	**8,530**
Min	**58,262**	**37,756**	**136,813**	**14,442**	**345,800**	**3,995**	**796**	**20,884**	**219,127**	**49,617**	**3,211**	**15,749**	**345,807**	**-8,218**
Average	**303,836**	**73,441**	**171,224**	**18,359**	**566,860**	**70,868**	**18,675**	**59,155**	**267,893**	**103,533**	**10,510**	**36,198**	**566,832**	**29**

(a) Groundwater uptake by riparian vegetation is represented as an inflow in the root zone model because the model domain is limited to the root zone. When roots access shallow groundwater, water moves upward into the modeled soil column, effectively supplying the root zone from below. This condition typically occurs where the water table is shallow and within or near the rooting depth. From the perspective of the root zone water balance, this upward flux is treated as a source term. For riparian land uses, this water is considered 'applied water' to the soil column to meet the ET requirements of the vegetation.

Table A-9. Water Budget for the Router Module from 1992 - 2022 (acre-ft)

	Inflow												Outflow									
	Boundary Inflow					Runoff							Stormwater Recharge in Basins		Streambed Percolation		Boundary Outflow					
	San Gabriel Stream Flow					Stormwater from the Runoff Module																
Fiscal Year	Tributory to SAR	Tributary to Thompson and Live Oak Creeks	MWD Crossing	Temescal at Main	Hole Lake	Tributory to SAR	Tributary to Thompson and Live Oak Creeks	Irrigation	Rising Groundwater to Santa Ana River	Wastewater Treatment Plant Discharges	Imported Water Discharges to OCWD	Total Inflow	Percolation	Evaporation (includes Prado Wetlands)	SAR	Other	Santa Ana River above Prado Dam	Thompson Creek	Live Oak Creek	Diversions[a]	Total Outflow	Mass Balance Error (%)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
1992	53,344	1,234	71,236	10,531	527	76,965	16,705	14,356	20,215	87,848	0	352,961	13,945	5,854	48,645	8,710	234,224	13,317	2,651	27,994	355,340	-0.7%
1993	120,332	4,099	268,578	47,513	5,673	196,300	25,284	8,314	20,115	94,395	0	790,603	26,305	5,944	70,572	17,096	594,505	20,545	4,556	52,582	792,106	-0.2%
1994	26,691	129	45,965	16,438	13	26,321	4,646	4,019	20,115	91,327	0	235,664	7,750	5,314	50,587	4,798	148,538	3,837	515	16,601	237,940	-1.0%
1995	56,845	2,051	242,636	58,932	2,234	134,503	18,841	3,745	20,126	93,724	3,092	636,729	17,606	4,968	69,514	10,384	485,416	14,934	3,090	31,847	637,759	-0.2%
1996	36,898	669	78,680	13,539	18	62,029	9,987	4,198	20,227	92,715	15,281	334,241	10,948	4,903	49,438	7,179	233,467	7,869	1,609	20,351	335,764	-0.5%
1997	34,250	804	107,163	11,845	76	57,680	9,872	5,077	20,126	91,730	19,377	358,000	11,761	4,517	48,181	7,287	258,023	7,880	1,385	20,014	359,048	-0.3%
1998	60,700	2,026	207,814	34,189	3,660	131,408	24,198	3,735	20,126	100,249	31,664	619,770	20,098	2,995	61,165	11,095	466,870	19,317	3,816	34,499	619,857	0.0%
1999	18,807	131	79,446	9,434	0	14,141	4,291	3,835	20,126	103,207	760	254,176	5,883	2,787	44,768	3,469	182,208	3,610	426	11,339	254,490	-0.1%
2000	21,168	271	79,555	11,078	17	36,260	8,267	4,190	20,227	102,378	14,709	298,120	8,428	2,810	46,947	3,421	216,068	6,703	1,139	12,545	298,061	0.0%
2001	18,677	440	78,139	10,858	49	59,372	12,300	5,451	20,126	102,476	6,036	313,925	10,110	3,004	46,040	2,931	228,710	9,876	1,987	11,592	314,249	-0.1%
2002	7,831	37	68,335	9,536	0	12,002	2,834	5,210	20,126	102,235	0	228,146	4,965	3,321	43,297	364	169,693	2,343	387	4,674	229,044	-0.4%
2003	18,213	386	91,189	16,701	1,439	102,356	13,682	4,124	20,126	101,551	2,947	372,714	15,730	3,659	48,867	2,317	277,925	10,739	2,344	11,806	373,388	-0.2%
2004	10,715	153	80,867	10,365	10	30,996	5,824	8,310	20,227	98,887	7,135	273,488	9,496	4,347	42,872	890	205,146	4,611	954	6,968	275,284	-0.7%
2005	70,739	3,162	340,941	72,192	5,450	188,866	30,143	8,788	20,126	103,131	2,680	846,219	34,839	4,415	67,478	9,219	661,099	24,045	6,230	40,112	847,438	-0.1%
2006	18,422	294	124,780	35,068	4	37,649	7,204	9,410	20,126	102,349	1,379	356,685	13,877	4,926	60,096	2,235	259,080	5,725	1,191	11,729	358,860	-0.6%
2007	7,925	25	58,354	18,695	0	3,217	771	8,658	20,126	98,300	0	216,071	3,886	4,909	50,549	196	153,665	658	84	4,687	218,636	-1.2%
2008	18,103	501	80,716	18,943	15	37,184	7,624	7,238	20,227	93,448	0	284,000	14,094	4,693	45,276	2,136	200,602	6,016	1,314	11,758	285,888	-0.7%
2009	12,066	188	71,165	13,445	68	34,397	5,654	3,824	20,126	89,736	0	250,669	11,111	4,495	42,513	1,113	180,369	4,545	904	7,659	252,709	-0.8%
2010	24,424	680	109,995	19,253	1,093	81,359	11,220	3,427	20,126	82,505	0	354,082	19,307	4,505	44,795	3,548	257,257	8,961	1,923	15,636	355,933	-0.5%
2011	38,379	1,412	176,185	32,690	1,448	106,139	15,846	5,216	20,126	76,301	50	473,792	22,994	4,102	53,126	5,424	350,547	12,463	3,160	23,489	475,303	-0.3%
2012	9,670	89	45,660	6,621	1	26,016	4,436	2,541	20,227	69,242	11,318	195,821	9,206	4,363	37,788	593	135,360	3,678	632	6,118	197,738	-1.0%
2013	7,249	37	43,225	3,593	0	9,155	1,738	1,822	20,121	64,467	280	151,687	4,800	5,176	34,274	174	103,720	1,481	198	4,365	154,187	-1.6%
2014	6,442	31	40,236	3,841	40	19,106	2,290	1,355	20,121	56,249	0	149,710	5,825	4,804	33,208	168	101,975	1,925	299	3,654	151,858	-1.4%
2015	6,290	63	39,442	3,646	21	34,095	4,299	1,084	20,121	60,834	0	169,895	8,839	4,644	32,632	350	117,596	3,571	603	3,699	171,935	-1.2%
2016	6,061	63	47,334	4,356	70	34,361	4,327	1,063	20,131	62,582	4,046	184,394	8,911	4,609	37,314	368	127,537	3,579	625	3,528	186,471	-1.1%
2017	22,926	737	82,385	11,845	1,953	84,843	12,476	1,060	20,121	60,118	7,911	306,373	18,636	5,372	42,508	3,201	212,674	10,001	2,210	14,127	308,730	-0.8%
2018	6,599	43	35,562	2,838	8	16,188	2,565	1,060	20,121	49,529	0	134,514	6,050	5,983	32,461	205	86,304	2,137	358	3,835	137,332	-2.1%
2019	29,045	950	97,405	20,104	1,504	103,951	13,487	1,253	20,121	65,958	0	353,778	25,210	2,819	45,632	4,183	243,597	10,794	2,359	19,610	354,204	-0.1%
2020	14,764	156	57,697	18,817	0	66,845	8,163	1,256	20,131	62,781	0	250,611	17,399	2,953	41,112	1,463	169,502	6,690	1,261	10,495	250,873	-0.1%
2021	7,838	39	39,417	3,714	0	18,479	3,318	1,253	20,121	60,283	0	154,461	7,660	3,133	34,052	264	101,393	2,769	474	5,114	154,858	-0.3%
2022	19,996	215	40,294	3,983	0	49,507	8,473	1,253	20,131	63,540	0	207,393	14,817	3,139	37,811	2,602	127,892	6,742	1,487	13,101	207,591	-0.1%
Max	**120,332**	**4,099**	**340,941**	**72,192**	**5,673**	**196,300**	**30,143**	**14,356**	**20,227**	**103,207**	**31,664**	**846,219**	**34,839**	**5,983**	**70,572**	**17,096**	**661,099**	**24,045**	**6,230**	**52,582**	**847,438**	0.0%
Min	**6,061**	**25**	**35,562**	**2,838**	**0**	**3,217**	**771**	**1,060**	**20,115**	**49,529**	**0**	**134,514**	**3,886**	**2,787**	**32,461**	**168**	**86,304**	**658**	**84**	**3,528**	**137,332**	-2.1%
Average	**26,175**	**681**	**97,755**	**17,890**	**819**	**61,022**	**9,702**	**4,391**	**20,144**	**83,357**	**4,150**	**326,087**	**13,241**	**4,305**	**46,565**	**3,787**	**235,192**	**7,786**	**1,618**	**15,017**	**327,512**	-0.6%

(a) Diversions represents water that is either diverted from the creek system by local agencies or assumed to be delivered to recharge basins whose outflow is not connected to the creek system. When delivered to a recharge basin, this water is accounted for in the groundwater model through the FHB file, unless the volume is sufficiently small and can be ignored.

Table A-10. Water Budget for the Vadose Zone Overlying the MODFLOW Domain from 1992 - 2022 (acre-ft)

Fiscal Year	Inflow	Outflow	Change in Storage	
	DIPAW to Vadose Zone	DIPAW to Saturated Zone	Annual	Cummulative
	(1)	(2)	(3)	(4)
1992	151,779	141,624	10,155	10,155
1993	238,244	153,366	84,879	95,034
1994	93,509	146,519	-53,011	42,023
1995	178,363	147,294	31,068	73,091
1996	115,230	145,752	-30,522	42,569
1997	130,848	142,468	-11,620	30,949
1998	183,438	148,794	34,645	65,594
1999	75,720	140,190	-64,470	1,124
2000	107,797	133,976	-26,179	-25,055
2001	110,039	132,432	-22,392	-47,447
2002	67,295	124,428	-57,133	-104,580
2003	128,807	124,532	4,275	-100,306
2004	85,256	121,305	-36,049	-136,355
2005	198,898	130,279	68,619	-67,735
2006	86,248	126,876	-40,628	-108,363
2007	55,217	114,796	-59,579	-167,942
2008	90,359	112,281	-21,923	-189,865
2009	83,251	109,581	-26,330	-216,195
2010	111,893	109,403	2,490	-213,705
2011	122,029	110,955	11,074	-202,631
2012	66,189	105,117	-38,927	-241,558
2013	56,330	97,710	-41,380	-282,938
2014	58,474	92,919	-34,445	-317,384
2015	67,999	90,352	-22,353	-339,737
2016	60,046	87,296	-27,250	-366,987
2017	100,935	89,263	11,672	-355,315
2018	49,617	85,219	-35,602	-390,916
2019	107,986	87,509	20,476	-370,440
2020	94,260	89,259	5,000	-365,440
2021	55,325	83,596	-28,272	-393,712
2022	78,140	82,453	-4,313	-398,025
Max	**238,244**	**153,366**	**84,879**	**95,034**
Min	**49,617**	**82,453**	**-64,470**	**-398,025**
Average	**103,533**	**116,372**	**-12,840**	**-162,648**

Table A-11. Groundwater Budget for MODFLOW - Realization C from 1992 - 2022 (acre-ft)

	Inflow												Outflow					
	Recharge in Basins			Net Subsurface Inflow		DIPAW to the Saturated Zone									Rising Groundwater			
						Tributary to the MODFLOW Domain												
	Imported Water	Recycled Water	Stormwater	Bloomington Divide and Spadra/Puente Divide	Arlington Narrows, Hole Lake and Rialto-Colton	San Gabriel Mountains	Chino Hills, Puente Hills, San Jose Hills, Jurupa Hills, and Santa Ana Mountains	Overlying the MODFLOW Domain	Recharge from Onsite Wastewater Disposal Systems	Injection at Wells	Streambed Infliltration from the Santa Ana River	Total Inflow	Extraction at Wells	Riparian Veg ET	To Storm Drains in 6 Basins	To the Santa Ana River	Total Outflow	Change in Storage
Fiscal Year	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1992	13,372	0	20,781	12,228	4,908	12,610	10,766	141,624	4,357	6,752	48,902	276,300	213,180	15,030	0	22,009	250,219	26,080
1993	21,224	0	41,952	9,482	5,443	19,402	12,800	153,366	4,374	12,672	63,138	343,853	217,809	16,329	0	33,108	267,246	76,607
1994	19,730	0	2,186	9,406	4,916	14,882	12,212	146,519	4,410	6,921	38,970	260,152	200,580	15,545	320	29,582	246,026	14,126
1995	13,880	0	33,259	9,164	5,436	15,138	14,191	147,294	4,459	11,102	58,260	312,183	213,010	16,350	949	32,464	262,773	49,410
1996	3,524	0	8,171	8,814	4,774	14,556	14,044	145,752	4,506	6,769	42,629	253,539	236,018	17,268	1,260	31,426	285,971	-32,432
1997	3,828	0	7,299	8,623	4,317	14,354	13,678	142,468	4,552	7,032	46,267	252,419	243,667	16,601	1,568	30,623	292,460	-40,041
1998	15,358	0	29,024	8,574	4,933	14,366	13,412	148,794	4,595	11,964	57,793	308,813	197,431	17,291	2,099	35,080	251,901	56,912
1999	9,914	3,161	4,625	8,668	5,022	13,807	12,750	140,190	4,642	6,162	39,981	248,922	217,909	17,860	2,704	33,262	271,735	-22,813
2000	2,774	6,887	3,425	8,805	4,164	10,550	11,680	133,976	4,690	5,903	41,709	234,564	239,466	18,614	2,792	31,718	292,590	-58,026
2001	9,187	10,145	4,668	8,544	3,884	10,618	11,727	132,432	4,734	5,278	41,830	243,046	213,334	18,034	3,068	34,132	268,568	-25,522
2002	7,310	11,194	1,670	8,886	3,884	8,539	9,999	124,428	4,814	4,388	37,095	222,210	223,980	17,246	3,397	33,611	278,235	-56,025
2003	11,570	12,356	8,542	9,342	3,884	7,749	8,161	124,532	4,885	4,339	47,409	242,770	217,255	17,672	3,716	36,013	274,657	-31,887
2004	9,204	14,308	5,323	9,616	3,884	7,914	8,578	121,305	4,957	4,552	40,327	229,969	225,202	17,084	3,845	36,001	282,132	-52,163
2005	18,275	9,832	61,448	8,005	3,884	13,130	11,151	130,279	5,027	8,623	56,307	325,962	203,206	17,754	4,167	42,435	267,560	58,402
2006	40,651	8,487	22,547	7,899	3,884	11,561	10,511	126,876	5,075	4,447	46,895	288,833	211,336	17,246	4,059	38,700	271,342	17,492
2007	34,097	8,895	4,954	8,129	3,884	8,827	10,345	114,796	5,153	4,322	37,530	240,930	239,714	16,611	3,373	32,521	292,219	-51,289
2008	3,584	7,709	13,154	8,124	3,884	7,695	10,092	112,281	5,244	5,489	42,447	219,704	223,661	15,490	2,910	29,988	272,048	-52,344
2009	1,960	8,439	8,685	8,155	3,884	7,240	10,188	109,581	4,934	3,787	42,654	209,509	240,415	14,565	2,739	28,213	285,932	-76,423
2010	8,166	13,431	21,060	8,338	3,884	8,361	8,291	109,403	4,636	4,521	49,370	239,461	216,464	14,657	2,606	28,541	262,268	-22,807
2011	13,666	14,833	35,244	8,512	3,884	11,685	9,534	110,955	4,611	10,037	54,599	277,562	198,143	15,246	2,466	31,577	247,432	30,129
2012	24,593	14,784	11,269	8,124	3,884	9,086	9,641	105,117	4,530	6,195	38,925	236,148	200,994	14,185	2,492	27,754	245,425	-9,277
2013	978	16,700	5,916	7,606	3,884	6,395	8,881	97,710	4,526	5,517	37,043	195,156	219,904	13,875	2,272	23,539	259,590	-64,434
2014	1,318	21,243	4,832	7,458	3,884	3,847	8,195	92,919	4,115	4,868	38,394	191,073	222,033	13,028	1,818	22,140	259,020	-67,947
2015	613	18,030	9,087	7,480	3,884	3,676	6,946	90,352	3,947	4,645	39,834	188,494	197,223	12,657	1,520	22,210	233,611	-45,117
2016	832	18,607	10,354	7,758	3,884	3,307	5,392	87,296	3,947	4,790	42,420	188,588	190,182	12,504	1,515	22,208	226,410	-37,822
2017	14,554	18,865	17,340	7,981	3,884	6,830	7,162	89,263	3,947	4,778	48,098	222,701	183,588	12,804	1,425	24,534	222,351	350
2018	34,038	19,155	5,393	7,887	3,884	5,213	6,747	85,219	3,947	4,921	34,851	211,254	184,144	12,306	1,384	21,535	219,369	-8,115
2019	9,715	17,519	23,045	7,848	3,884	7,255	8,771	87,509	3,947	5,677	52,517	227,689	172,106	13,201	1,542	24,765	211,614	16,076
2020	20,979	19,662	14,636	7,861	3,884	8,824	9,839	89,259	3,947	6,929	44,307	230,128	186,001	12,931	1,664	25,701	226,297	3,831
2021	3,063	20,468	6,650	7,656	3,884	6,733	9,608	83,596	3,947	4,438	35,572	185,617	206,929	11,937	1,439	22,871	243,177	-57,560
2022	2,514	16,552	10,088	7,581	3,884	6,917	8,424	82,453	3,947	4,128	35,334	181,823	208,223	11,006	1,223	21,112	241,564	-59,741
Max	**40,651**	**21,243**	**61,448**	**9,233**	**5,443**	**19,402**	**14,191**	**153,366**	**5,244**	**12,672**	**63,138**	**343,853**	**243,667**	**18,614**	**4,167**	**42,435**	**292,590**	**76,607**
Min	**613**	**0**	**1,670**	**8,886**	**3,884**	**3,307**	**5,392**	**82,453**	**3,947**	**3,787**	**34,851**	**181,823**	**172,106**	**11,006**	**0**	**21,112**	**211,614**	**-76,423**
Average	**12,080**	**10,686**	**14,730**	**8,469**	**4,173**	**9,712**	**10,120**	**116,372**	**4,497**	**6,192**	**44,562**	**241,593**	**211,713**	**15,256**	**2,140**	**29,335**	**258,443**	**-16,851**

Table A-12. Surface Water Budget for MODFLOW SFR Package - Realization C from 1992 - 2022 (acre-ft)

Fiscal Year	Inflow											Outflow			Mass Balance Error (%)
	Streamflow							Local Runoff	Wastewater Treatment Plant Discharges [(a)]	Inflow from Groundwater	Total Inflow	Discharge to Groundwater	Discharge at Prado Dam	Total Outflow	
	MWD Crossing	San Sevaine Creek	Day Creek	Cucamonga and Deer Creek	Chino Creek	Cypress Creek	Temescal Creek								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1992	71,237	17,826	5,836	51,611	14,799	2,908	10,561	23,392	69,572	22,009	289,751	48,902	240,742	289,644	0.0%
1993	268,578	49,717	21,171	87,711	30,697	7,829	50,315	64,900	76,160	33,108	690,184	63,138	627,093	690,230	0.0%
1994	45,965	4,425	1,138	26,533	5,158	1,012	5,940	9,181	73,101	29,582	202,034	38,970	163,219	202,189	-0.1%
1995	242,636	28,178	10,606	57,857	22,859	4,802	55,292	43,139	71,979	32,464	569,812	58,260	511,385	569,645	0.0%
1996	78,680	13,379	3,961	44,361	27,053	2,777	5,314	12,881	68,703	31,426	288,535	42,629	246,054	288,683	-0.1%
1997	107,163	12,171	2,303	41,504	31,617	2,674	5,697	14,706	65,499	30,623	313,958	46,267	267,579	313,847	0.0%
1998	207,814	22,341	7,054	59,886	55,467	5,109	36,284	49,180	74,765	35,080	552,979	57,793	495,576	553,369	-0.1%
1999	79,446	2,359	652	28,436	5,510	477	1,511	2,789	79,788	33,262	234,230	39,981	194,253	234,234	0.0%
2000	79,555	3,936	1,920	36,111	24,220	1,986	3,841	8,625	77,804	31,718	269,716	41,709	228,064	269,773	0.0%
2001	78,139	4,430	3,602	48,202	20,111	3,431	5,168	13,893	73,752	34,132	284,858	41,830	243,139	284,969	0.0%
2002	68,334	901	287	36,788	4,118	670	649	2,436	71,963	33,611	219,758	37,095	182,617	219,712	0.0%
2003	91,189	14,890	8,886	56,964	18,694	4,132	15,421	32,871	67,623	36,013	346,683	47,409	299,469	346,879	-0.1%
2004	80,867	2,815	2,214	46,794	13,639	1,156	3,955	8,385	65,027	36,001	260,853	40,327	220,593	260,920	0.0%
2005	340,941	31,169	16,362	80,869	34,359	7,368	70,768	58,916	74,123	42,435	757,309	56,307	700,874	757,181	0.0%
2006	124,780	3,457	2,778	42,785	9,300	1,334	15,943	8,683	74,183	38,700	321,943	46,895	275,100	321,995	0.0%
2007	58,354	203	120	31,745	1,734	97	4,391	1,096	74,417	32,521	204,678	37,530	167,153	204,682	0.0%
2008	80,716	3,876	2,698	35,010	7,273	919	9,917	8,196	71,623	29,988	250,215	42,447	207,720	250,167	0.0%
2009	71,165	2,680	2,540	28,099	6,118	1,157	8,722	11,910	69,928	28,213	230,531	42,654	188,053	230,708	-0.1%
2010	109,995	8,985	6,171	35,840	12,465	2,879	20,147	29,372	63,364	28,541	317,758	49,370	268,438	317,807	0.0%
2011	176,185	14,316	8,037	39,588	16,641	3,444	31,757	38,133	61,337	31,577	421,015	54,599	366,249	420,848	0.0%
2012	45,660	1,871	1,910	18,330	15,109	639	4,005	9,153	57,580	27,754	182,010	38,925	143,059	181,983	0.0%
2013	43,225	633	299	11,678	2,043	133	1,651	4,644	55,084	23,539	142,927	37,043	105,877	142,920	0.0%
2014	40,236	1,254	824	9,766	2,676	376	5,825	11,505	49,412	22,140	144,015	38,394	105,831	144,226	-0.1%
2015	39,442	2,427	2,508	17,438	4,849	1,369	5,473	13,488	49,320	22,210	158,525	39,834	118,631	158,465	0.0%
2016	47,334	2,583	2,361	15,571	8,411	787	8,450	17,126	51,794	22,208	176,624	42,420	134,082	176,502	0.1%
2017	82,385	8,781	5,958	24,436	21,381	3,336	16,611	34,475	49,760	24,534	271,657	48,098	223,511	271,609	0.0%
2018	35,562	1,261	836	10,840	2,638	484	2,662	6,333	46,942	21,535	129,093	34,851	94,212	129,062	0.0%
2019	97,405	9,521	5,071	32,128	14,364	3,746	27,463	47,282	49,709	24,765	311,454	52,517	259,790	312,308	-0.3%
2020	57,697	5,027	3,658	25,104	9,041	2,791	17,970	25,673	49,385	25,701	222,047	44,307	178,227	222,535	-0.2%
2021	39,417	1,381	718	14,204	3,450	705	2,205	5,210	49,743	22,871	139,903	35,572	104,275	139,848	0.0%
2022	39,091	5,949	2,774	19,182	7,730	1,443	6,151	13,447	50,461	21,112	167,341	35,334	131,390	166,724	0.4%
Max	**340,941**	**49,717**	**21,171**	**87,711**	**55,467**	**7,829**	**70,768**	**64,900**	**79,788**	**42,435**	**757,309**	**63,138**	**700,874**	**757,181**	**0.4%**
Min	**35,562**	**203**	**120**	**9,766**	**1,734**	**97**	**649**	**1,096**	**46,942**	**21,112**	**129,093**	**34,851**	**94,212**	**129,062**	**-0.3%**
Average	**97,716**	**9,121**	**4,363**	**35,980**	**14,630**	**2,322**	**14,841**	**20,355**	**63,997**	**29,335**	**292,658**	**44,562**	**248,137**	**292,699**	**0.0%**

(a) Does not include RP1-002 because the discharge associate with RP1-002 is included in Cucamonga/Cypress Creek discharge

Table A-13. Comparison of Simulated Flux Exchanges Between HSPF, Rootzone, Router, and MODFLOW

Component	Model	Associated Water Budget Table	Associated Water Budget Table Column(s)	Average 1992-2022[(a),] acre-ft	Difference, acre-ft	Difference, %	Allowed to Vary during MODFLOW Calibration	Discussion
DIPAW from the San Gabriel Mountains	HSPF	Table A-7	4	14,057	-4,346	-31%	Yes	Subsurface inflow from the San Gabriel Mountains to the saturated zone is reduced during calibration.
	MODLFOW (FHB)	Table A-11	6	9,712				
Streamflow from the San Gabriel Mountains	HSPF	Table A-7	6	27,078	-222	-1%	-	Good Agreement.
	Router	Table A-9	1+2	26,856				
DIPAW from Chino Hills, Puente Hills, San Jose Hills, Jurupa Hills, and Santa Ana Mountains	Runoff/Rootzone	Table A-8	11	10,510	-390	-4%	Yes	Good Agreement.
	MODLFOW (FHB)	Table A-11	7	10,120				
DIPAW overlying the MODFLOW Domain	Runoff/Rootzone	Table A-8	10	103,533	12,840	12%	Yes	A spatially varying lag time, ranging from 0 to 36 years, is applied to Rootzone outputs prior to input into the MODFLOW RCH package. This approximates the travel time of DIPAW through the vadose zone.
	MODLFOW (RCH)	Table A-11	8	116,372				
Urban Runoff from Precipitation (Used in the Router Module)	Runoff	Table A-8	6	70,868	-143	0%	-	Good Agreement.
	Router	Table A-9	6+7	70,724				
Stormwater Recharge in Basins	Router	Table A-9	13	12,540	608	5%	No	Good Agreement.
	MODLFOW (FHB)	Table A-11	3	13,148				
Streamflow and Local Runoff to the Unlined Portion of the Santa Ana River within the MODFLOW Domain	Router	Table A-9	(1+3:6+8+10:11) - (13+16+20)	263,515	-339	0%	No	Good Agreement.
	MODLFOW (SFR)	Table A-11	1:9	263,176				

(a) Average values are based on FY 1992–2022, except for Stormwater Recharge in Basins, which is based on FY 1992–2004. Router Module-simulated stormwater recharge was only used as input to MODFLOW through FY 2004; measured recharge values were used beginning in FY 2005.

Appendix B

Results from the Calibration and Uncertainty Analysis

DRAFT

B1. R4 Validation

DRAFT

Figure B1-1
Measured and Simulated Stormwater Recharge, FY 2006-2022
Upland Basin

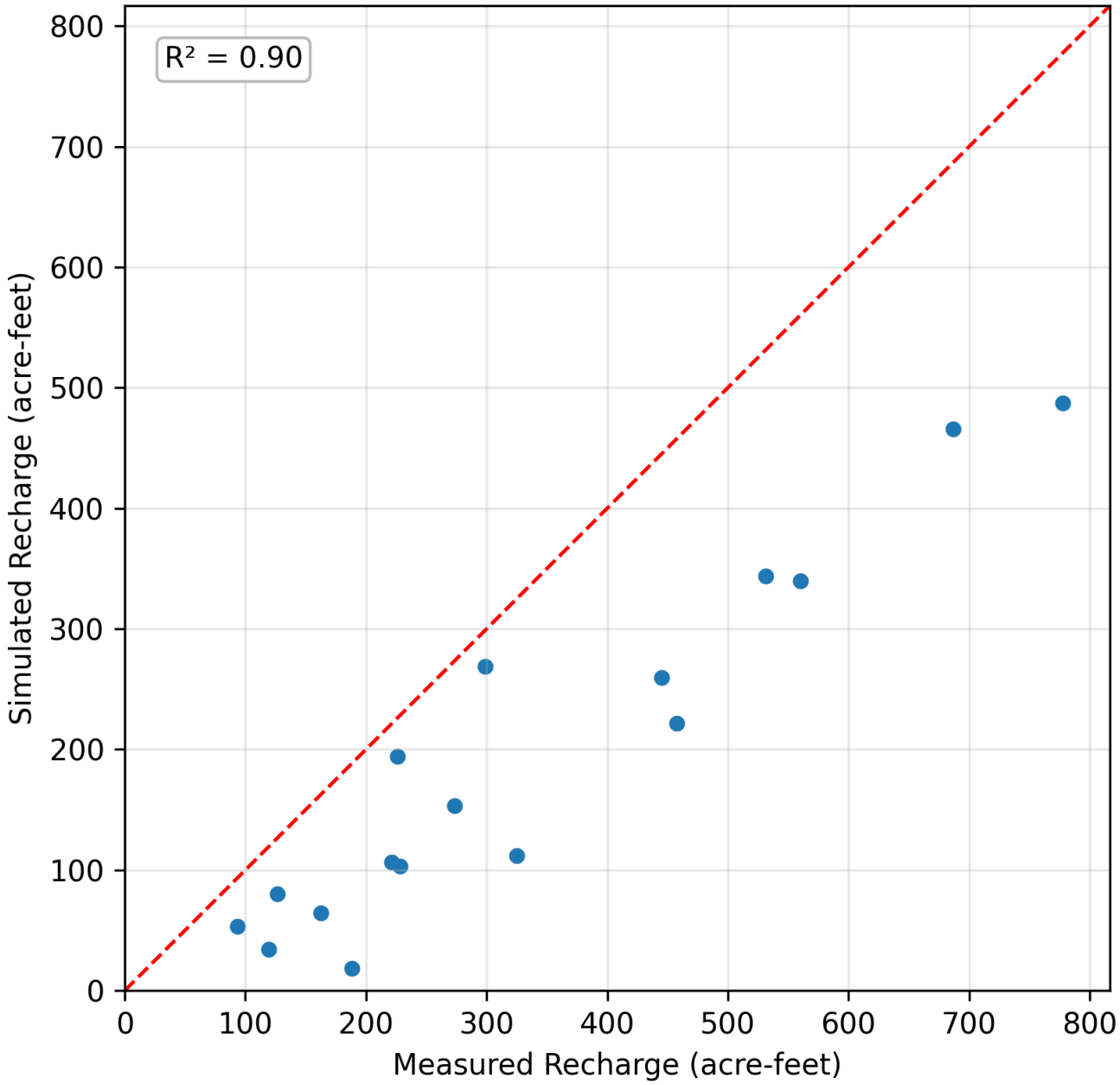


Figure B1-2
Measured and Simulated Stormwater Recharge, FY 2006-2022
Montclair Basins

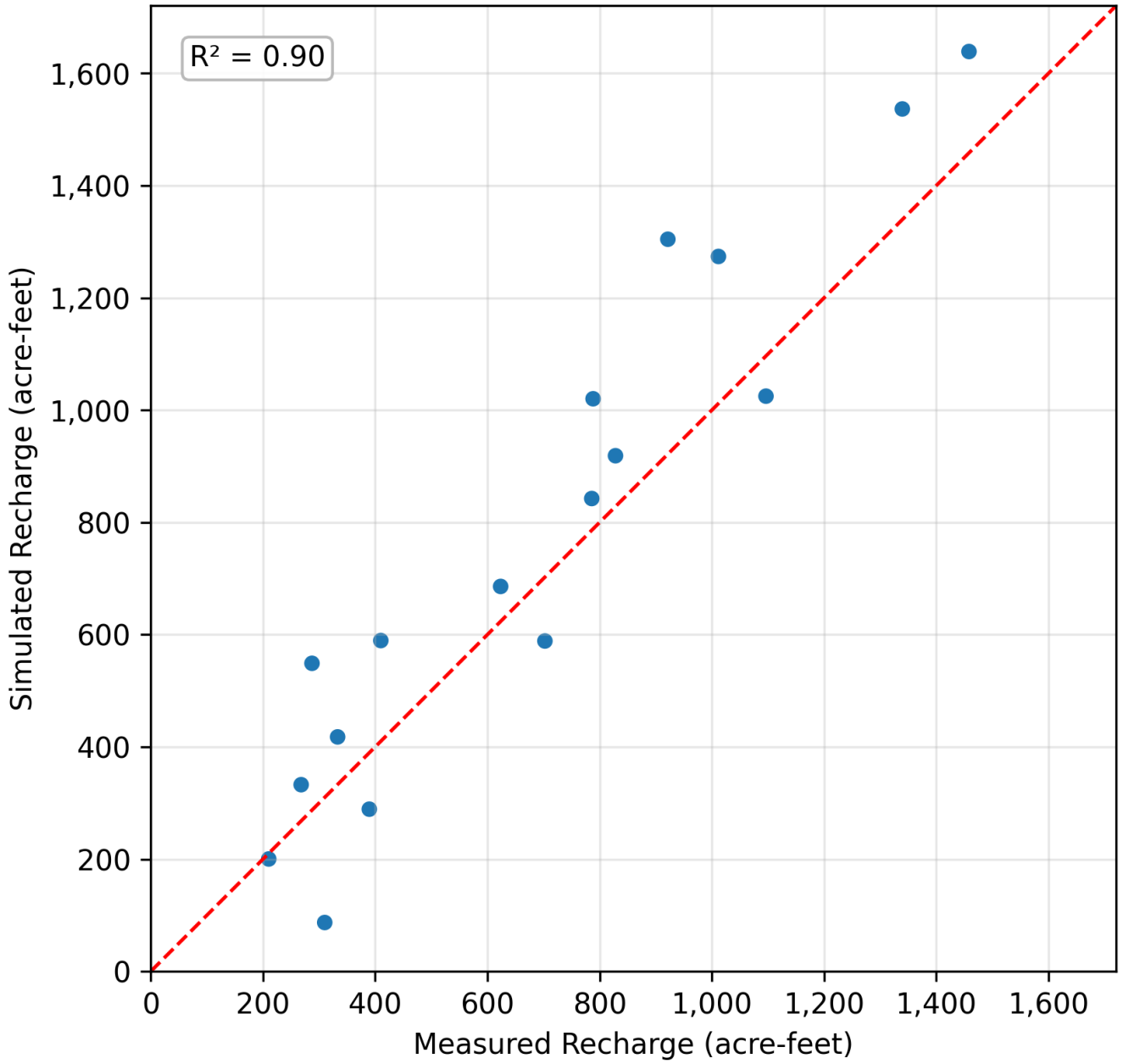


Figure B1-3
Measured and Simulated Stormwater Recharge, FY 2006-2022
Brooks Basin

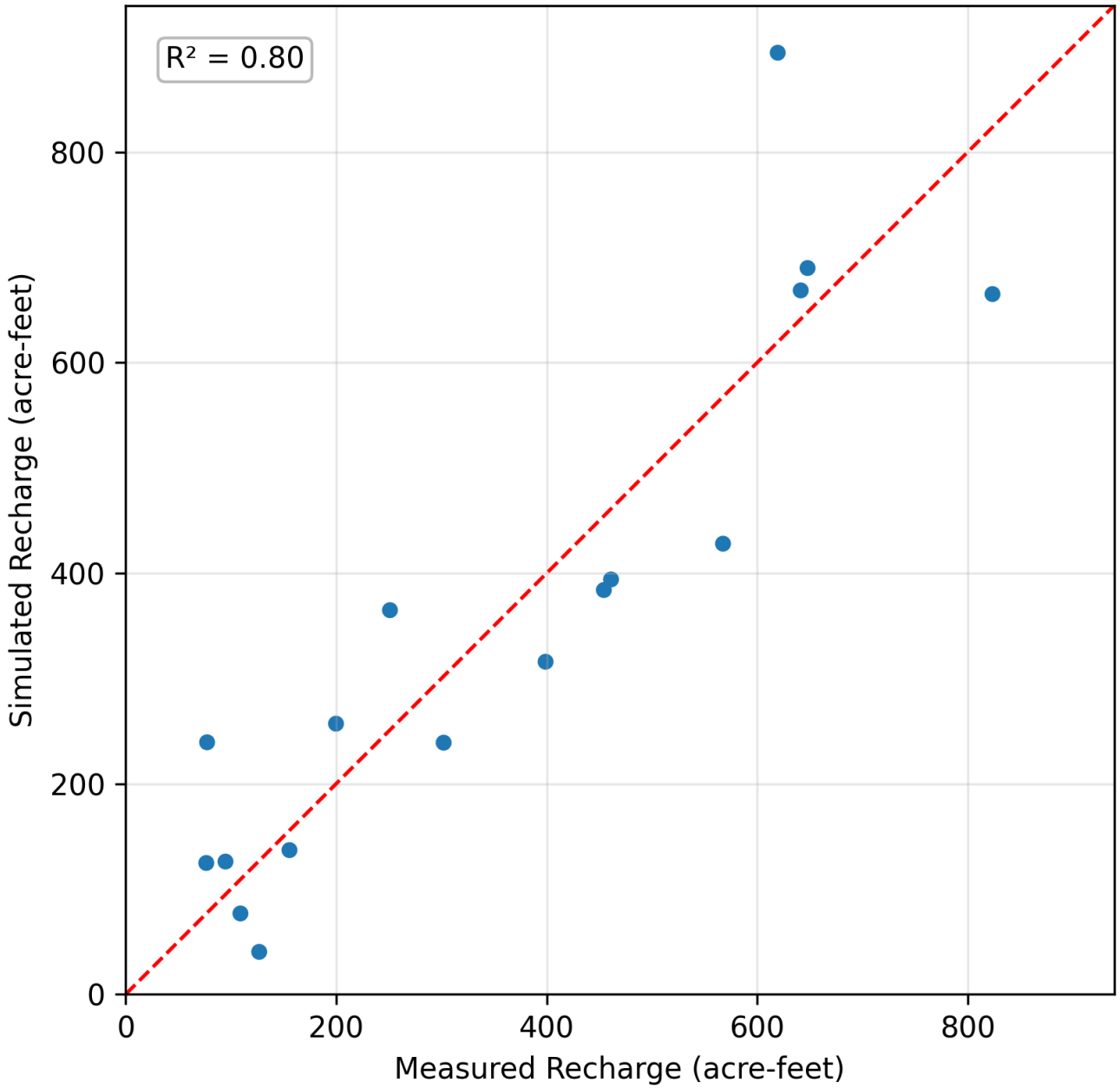


Figure B1-4
Measured and Simulated Stormwater Recharge, FY 2006-2022
7th/8th Street Basins

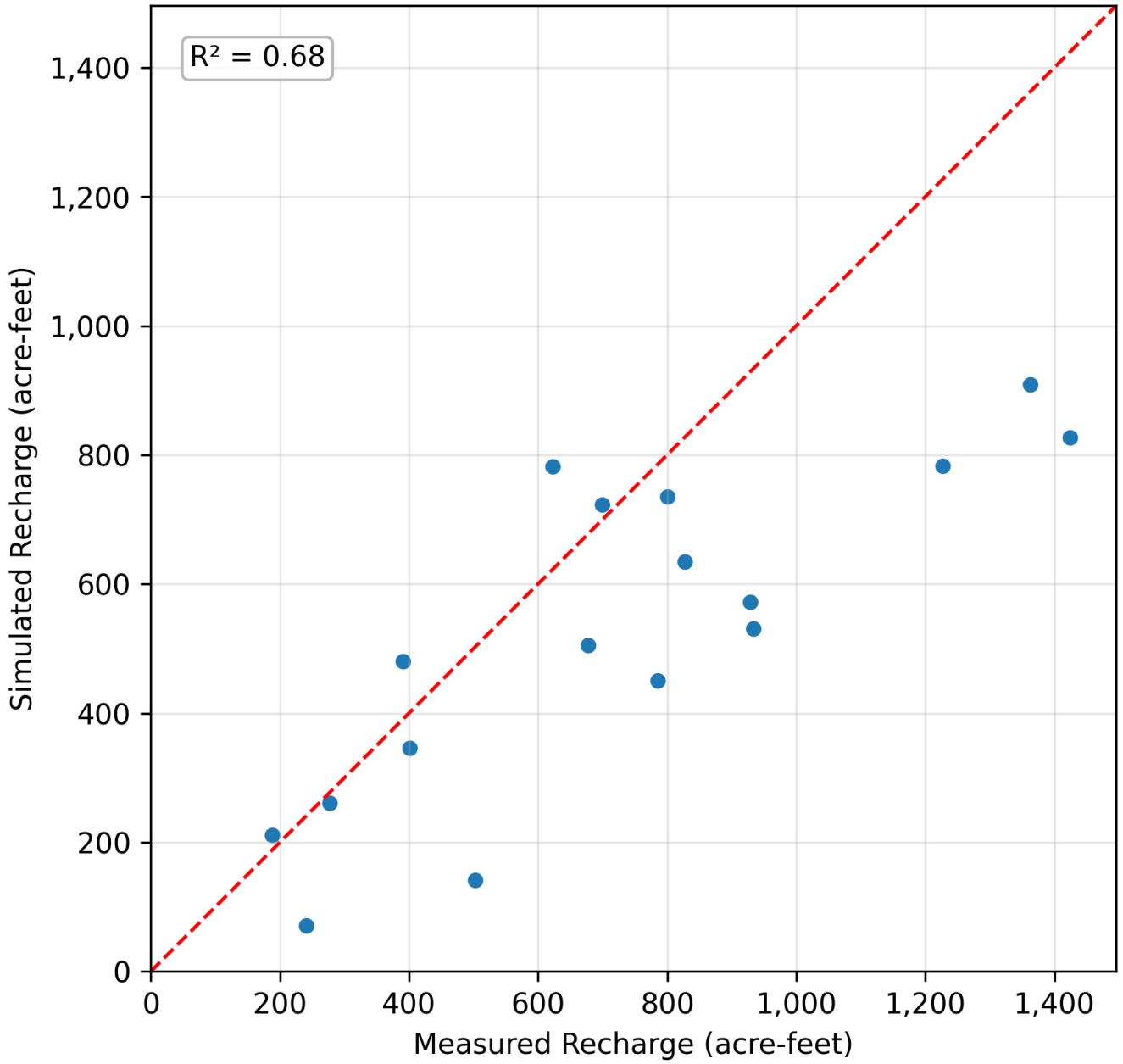


Figure B1-5
Measured and Simulated Stormwater Recharge, FY 2006-2022
Ely Basin

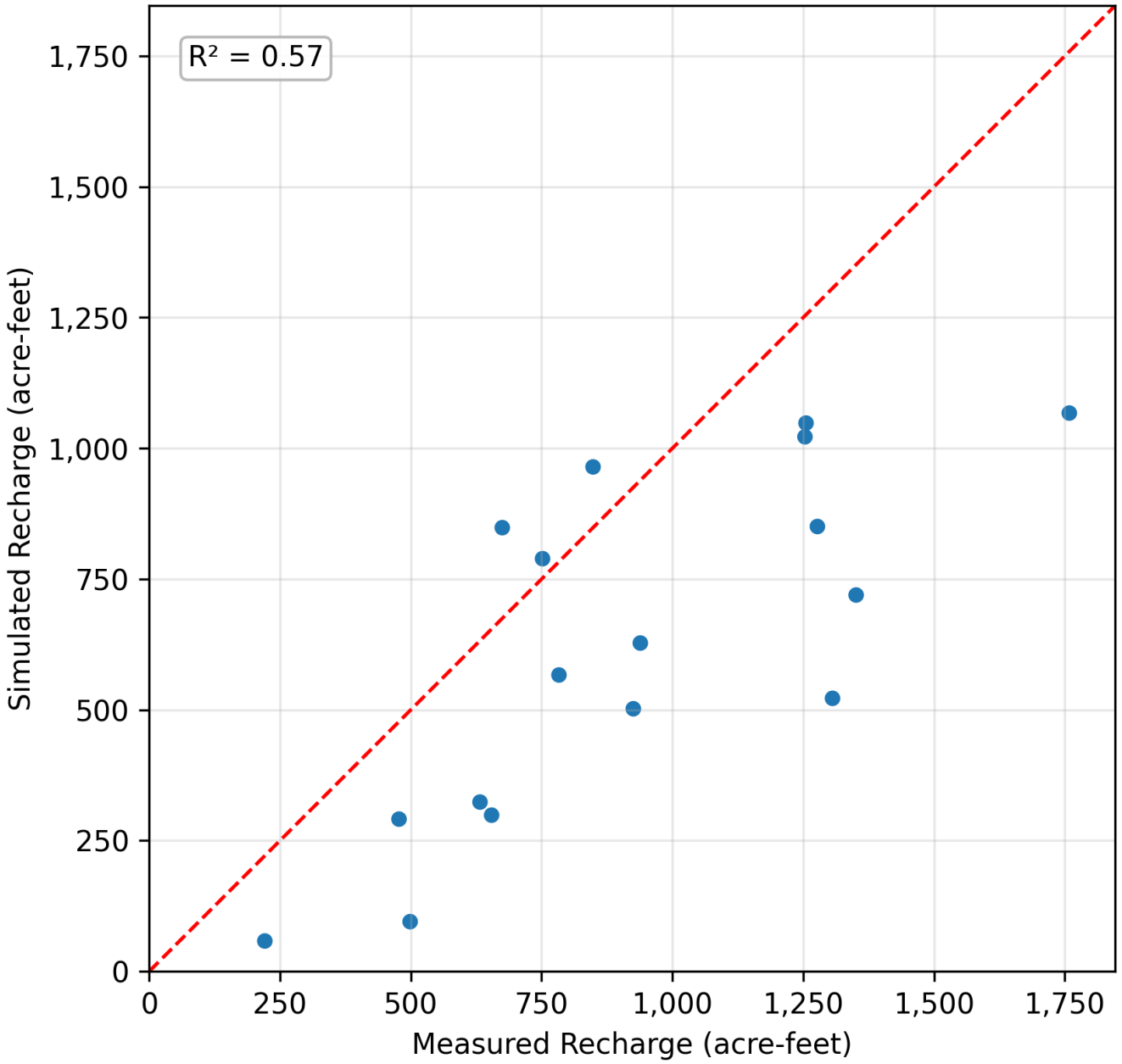


Figure B1-6
Measured and Simulated Stormwater Recharge, FY 2006-2022
Turner Basins 1-4

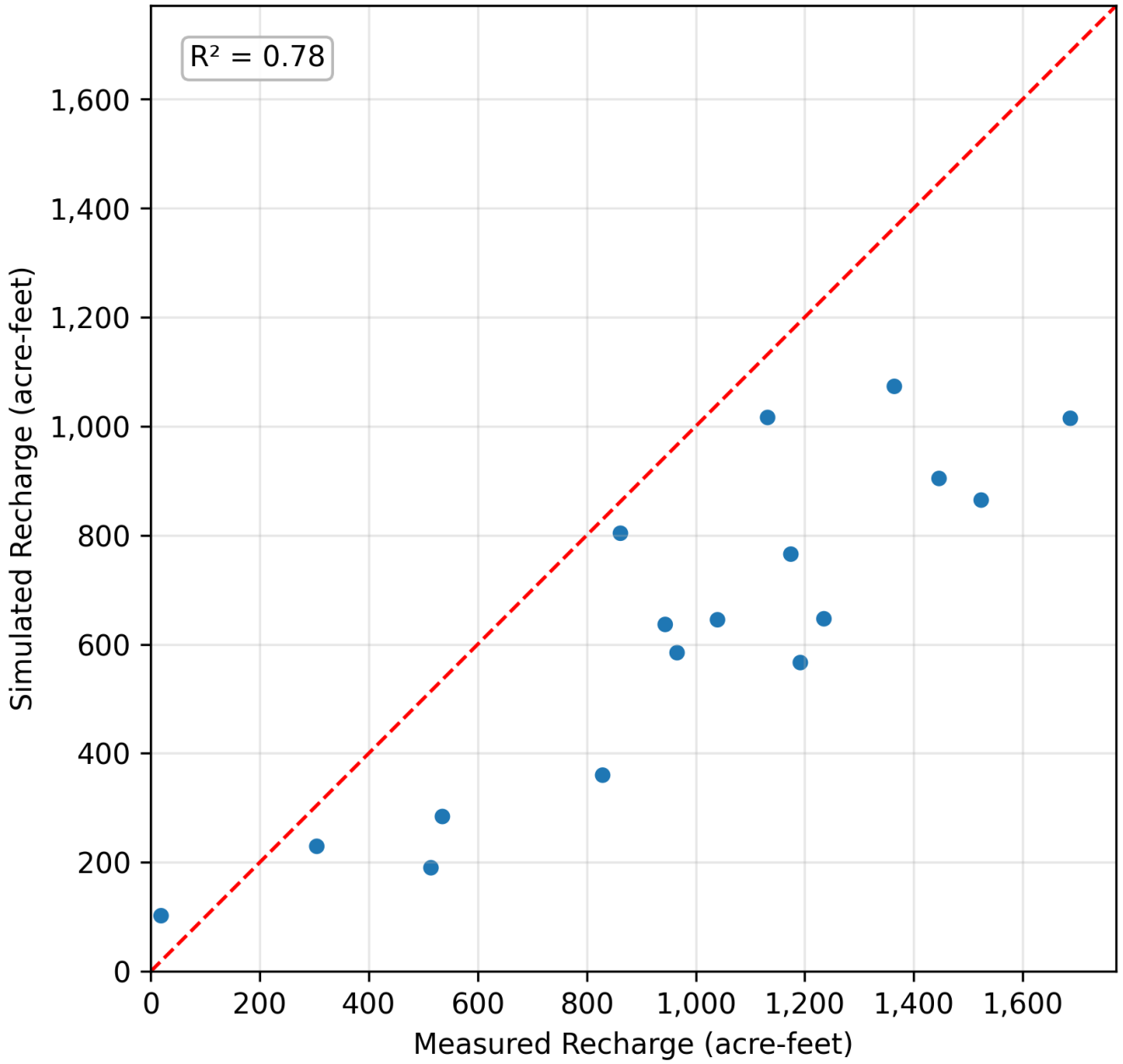


Figure B1-7
Measured and Simulated Stormwater Recharge, FY 2006-2022
Lower Day Basin

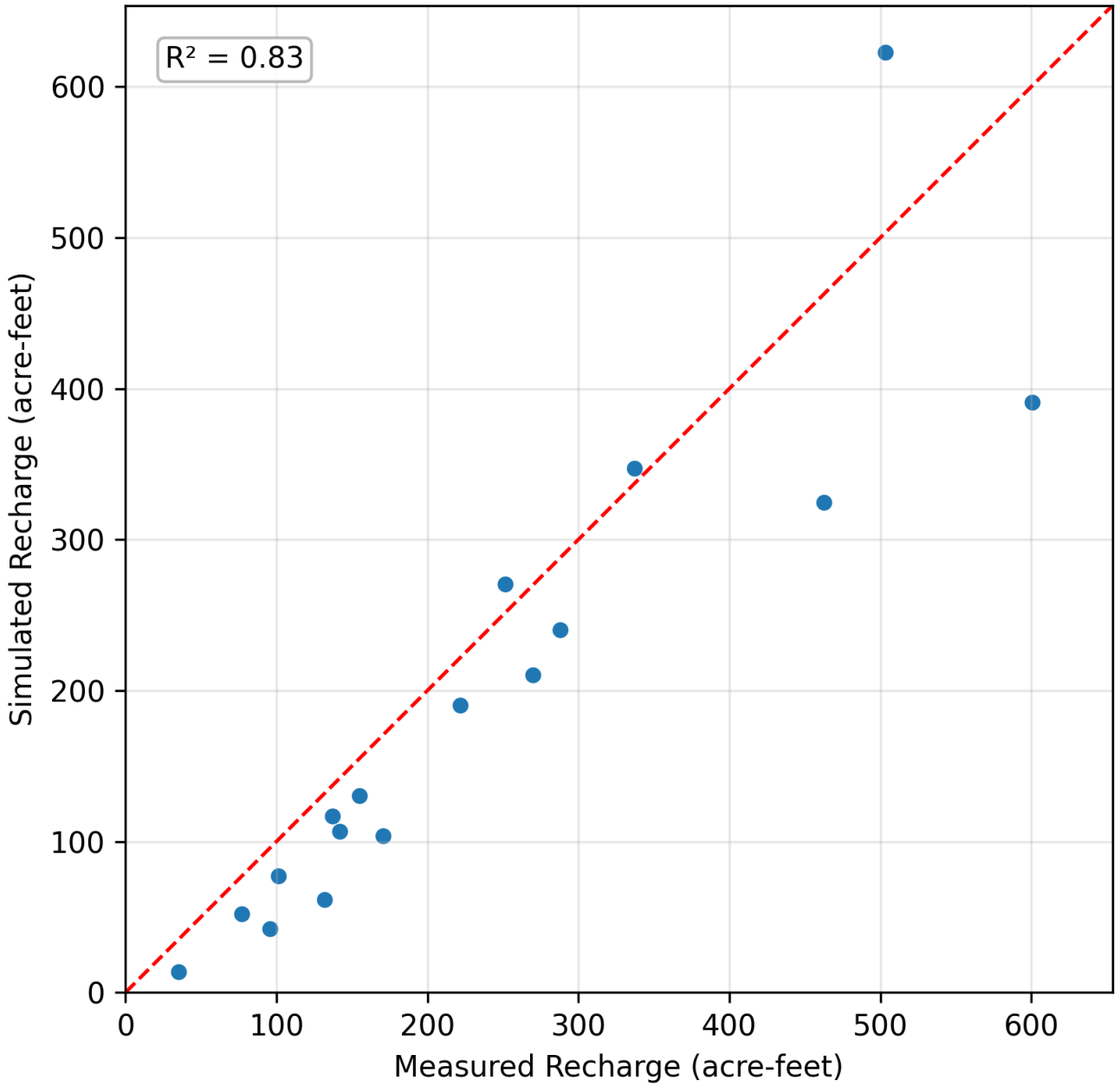


Figure B1-8
Measured and Simulated Stormwater Recharge, FY 2006-2022
Etiwanda Debris Basin

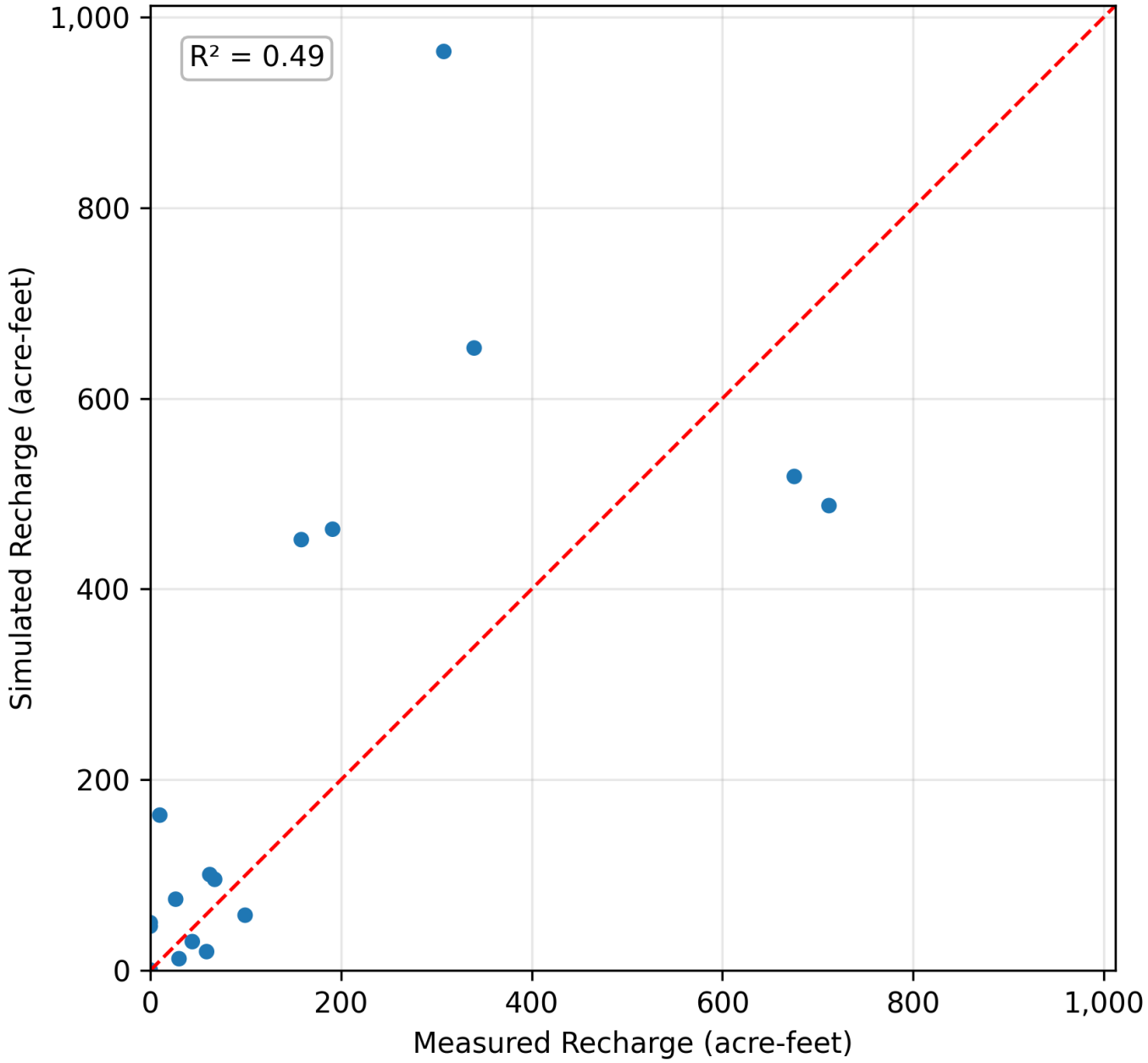


Figure B1-9
Measured and Simulated Stormwater Recharge, FY 2006-2022
Victoria Basin

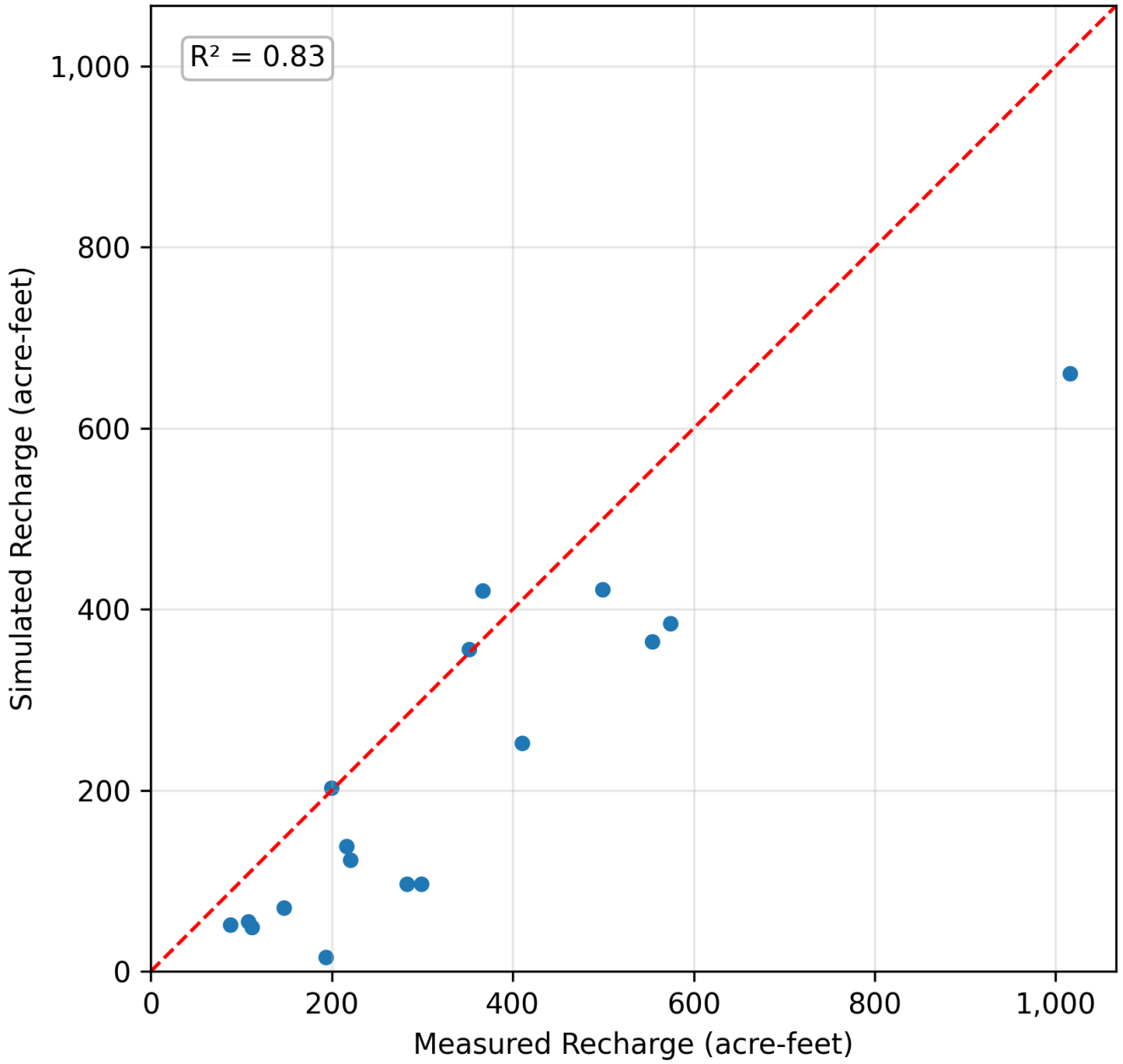


Figure B1-10
Measured and Simulated Stormwater Recharge, FY 2006-2022
San Sevaine Basins 1-5

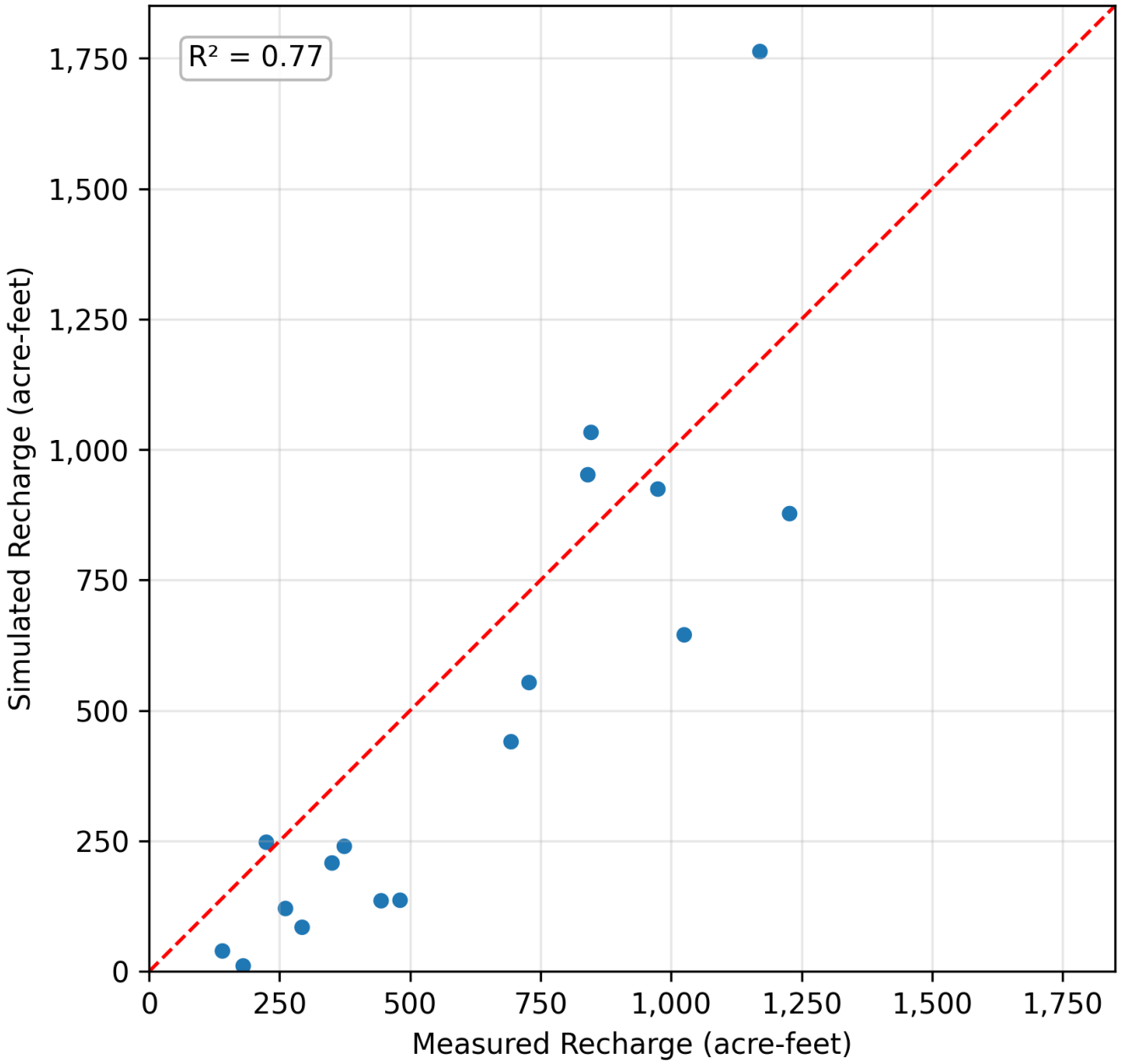


Figure B1-11
Measured and Simulated Stormwater Recharge, FY 2006-2022
Banana/Hickory Basins

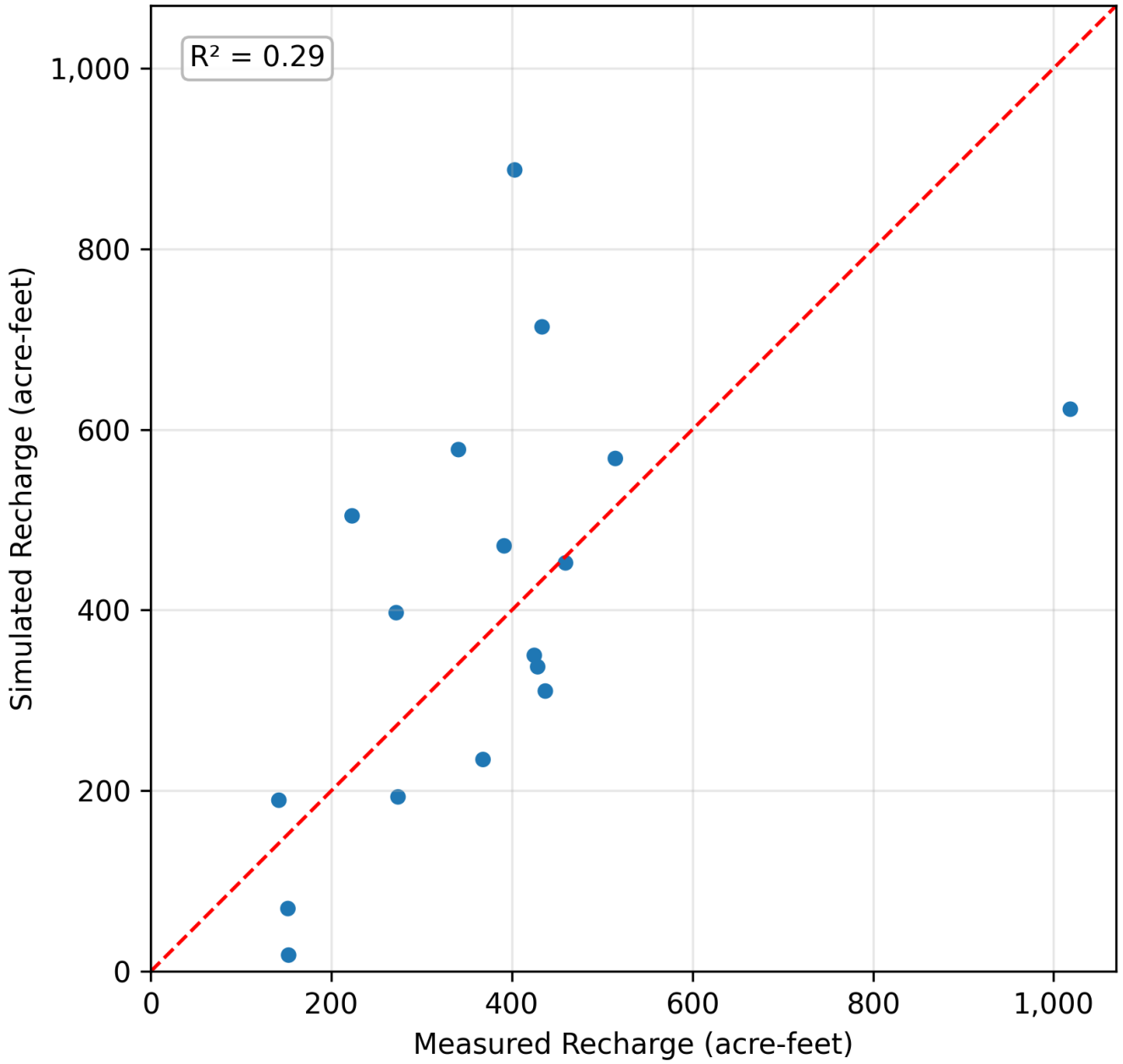


Figure B1-12
Measured and Simulated Stormwater Recharge, FY 2006-2022
RP3 Basins

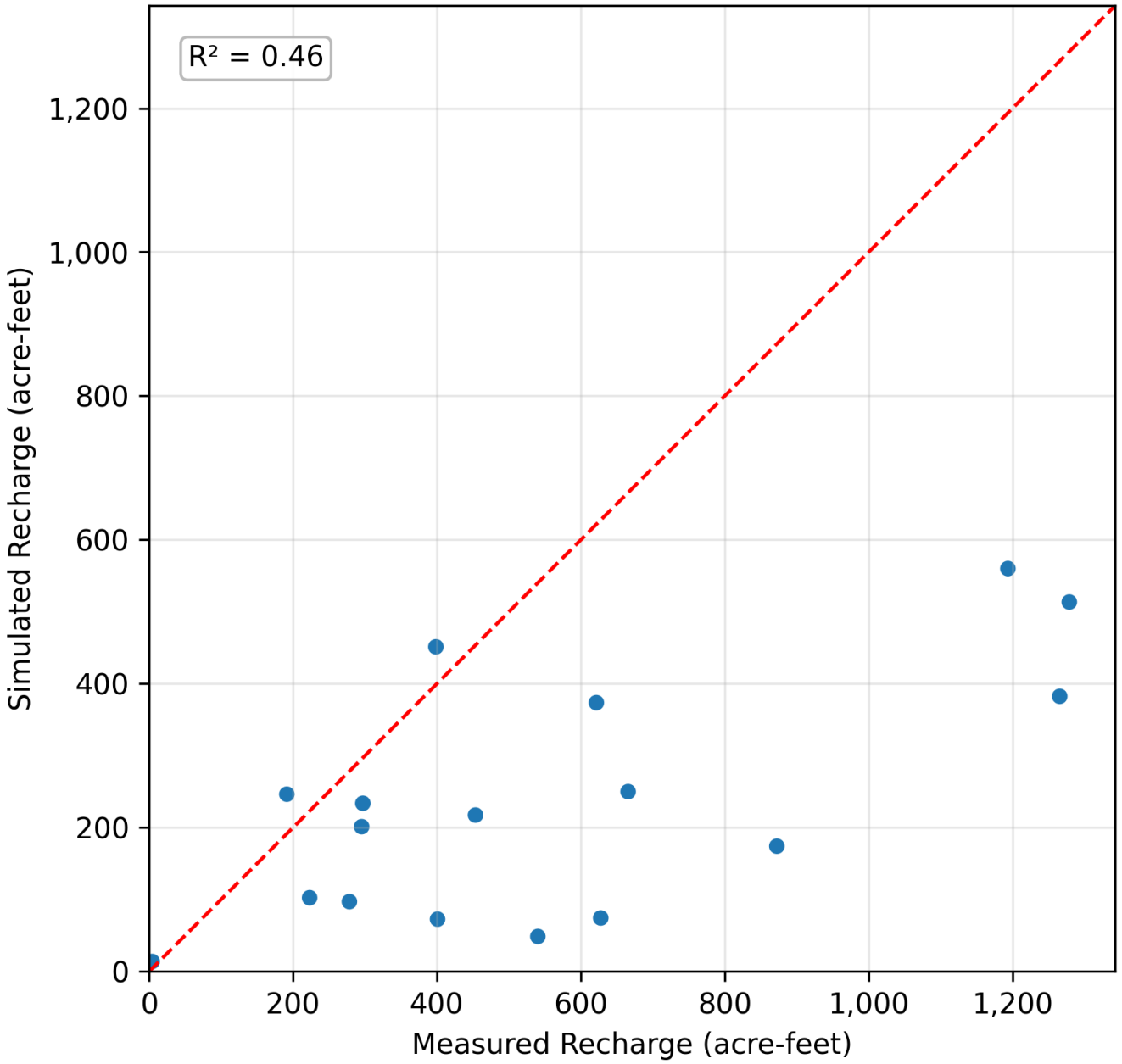


Figure B1-13
Measured and Simulated Stormwater Recharge, FY 2006-2022
Declez Basin

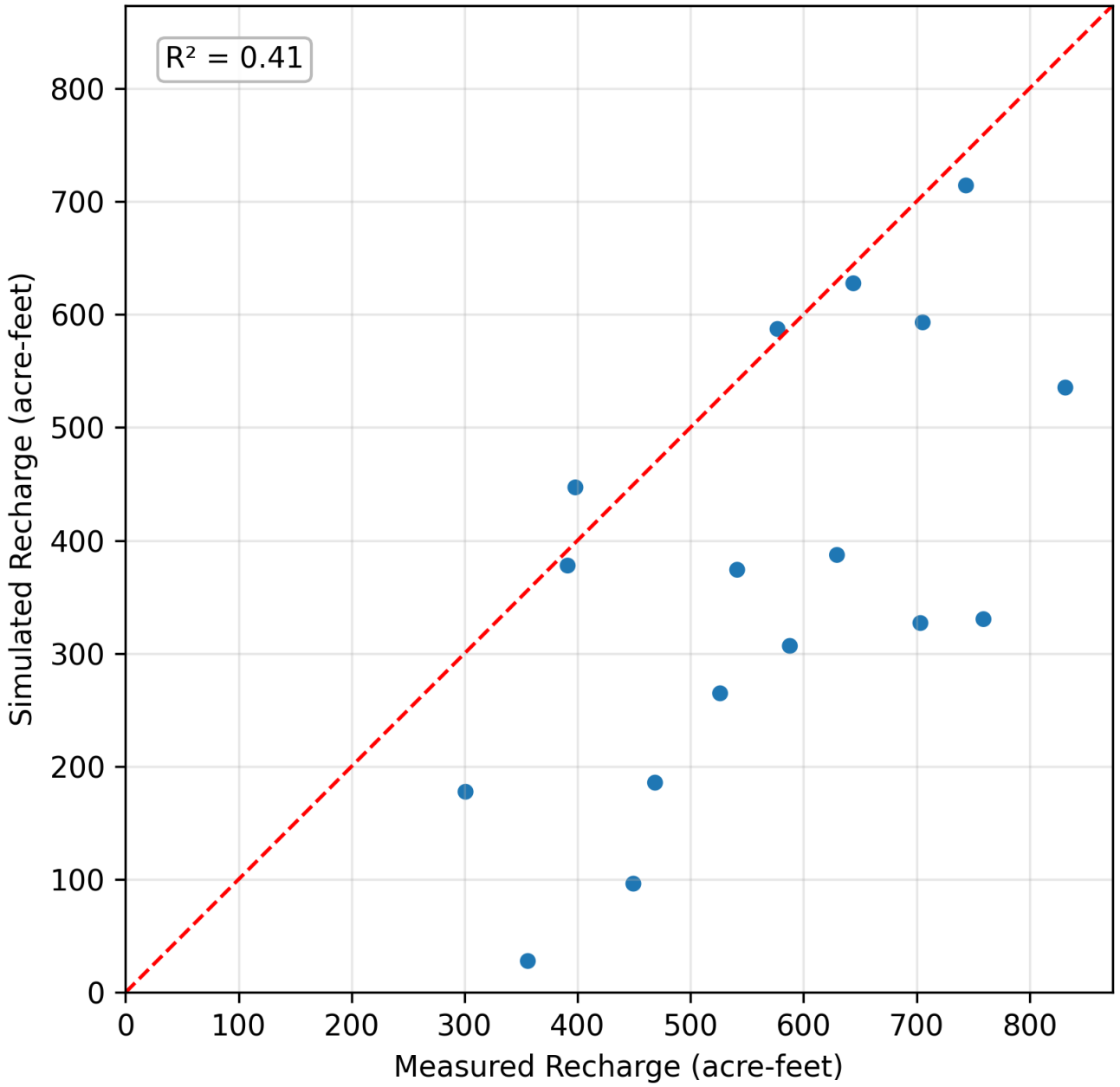
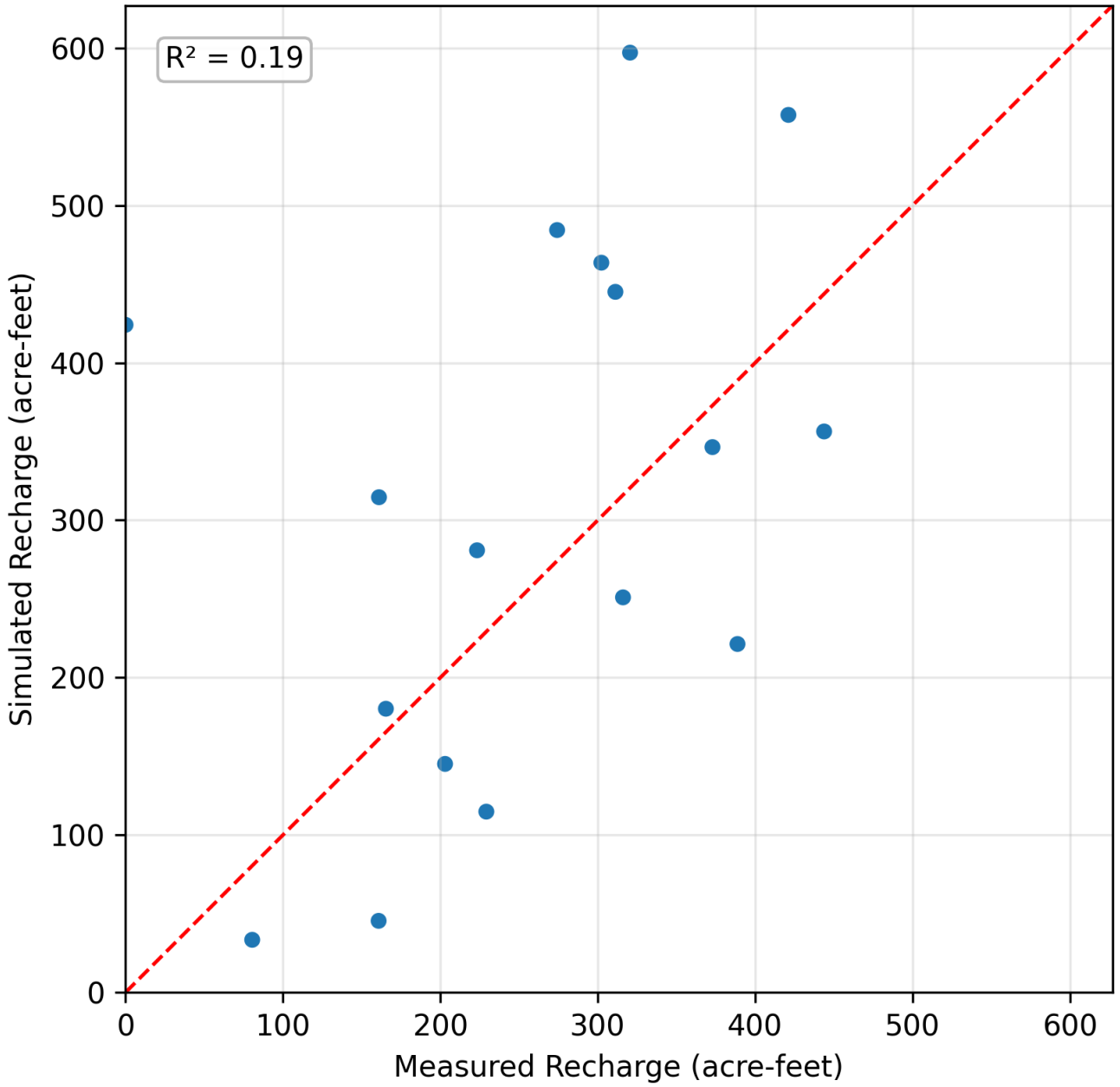


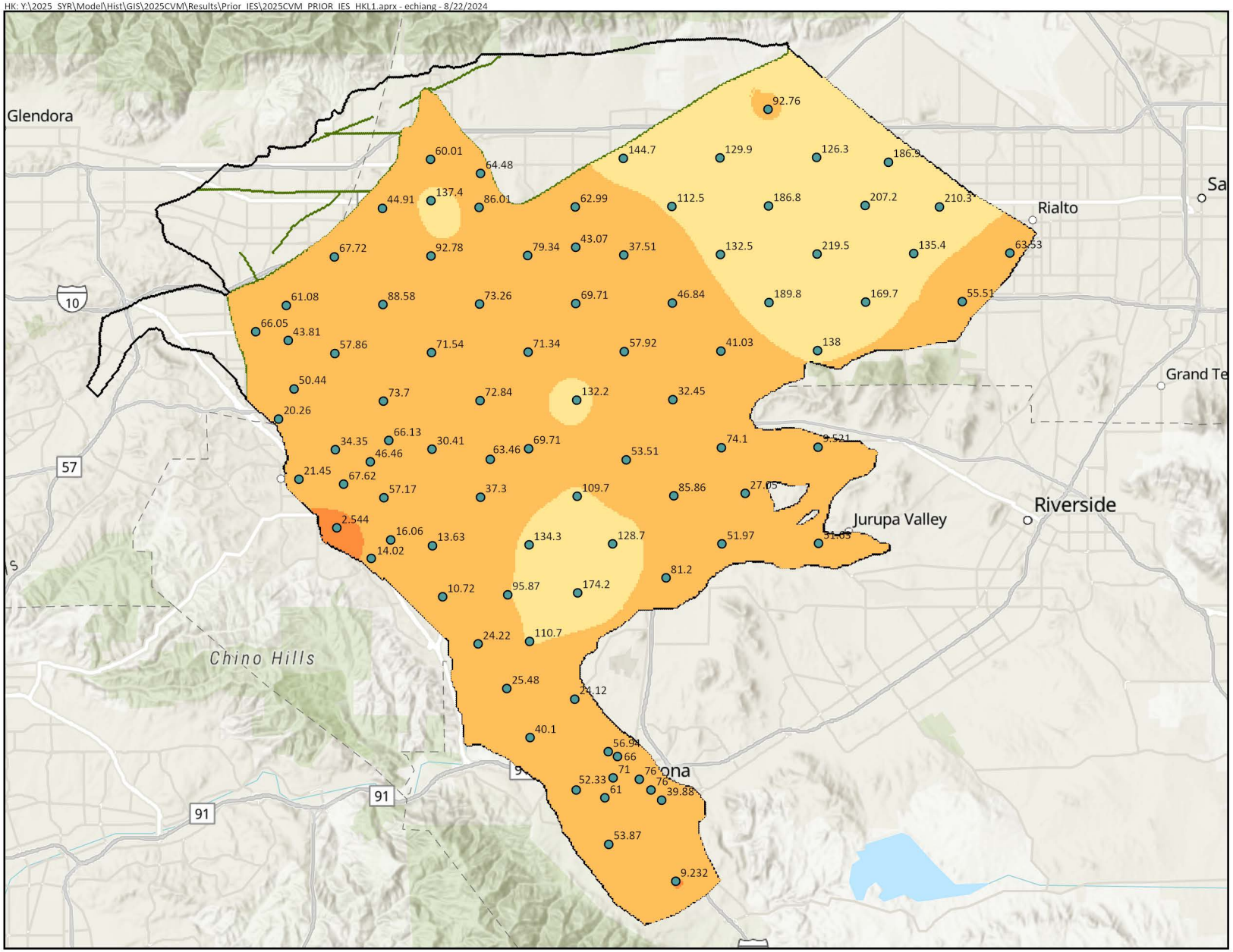
Figure B1-14
Measured and Simulated Stormwater Recharge, FY 2006-2022
Grove Basin



B2. Aquifer Parameters Obtained from Manual Calibration

DRAFT

HK: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\Prior_IES\2025CVM_PRIOR_IES_HKL1.aprx - echiang - 8/22/2024



- Model Boundary
- Faults
- Streams
- HK Pilot Points

HK Values [ft/day]

- < 0.01
- 0.01 - 0.1
- 0.1- 1
- 1.0 - 10
- 10 - 100
- 100 - 250
- > 250

Prepared by:

WEST YOST

0 2 4 Miles

0 3 6 Km

Prepared for:

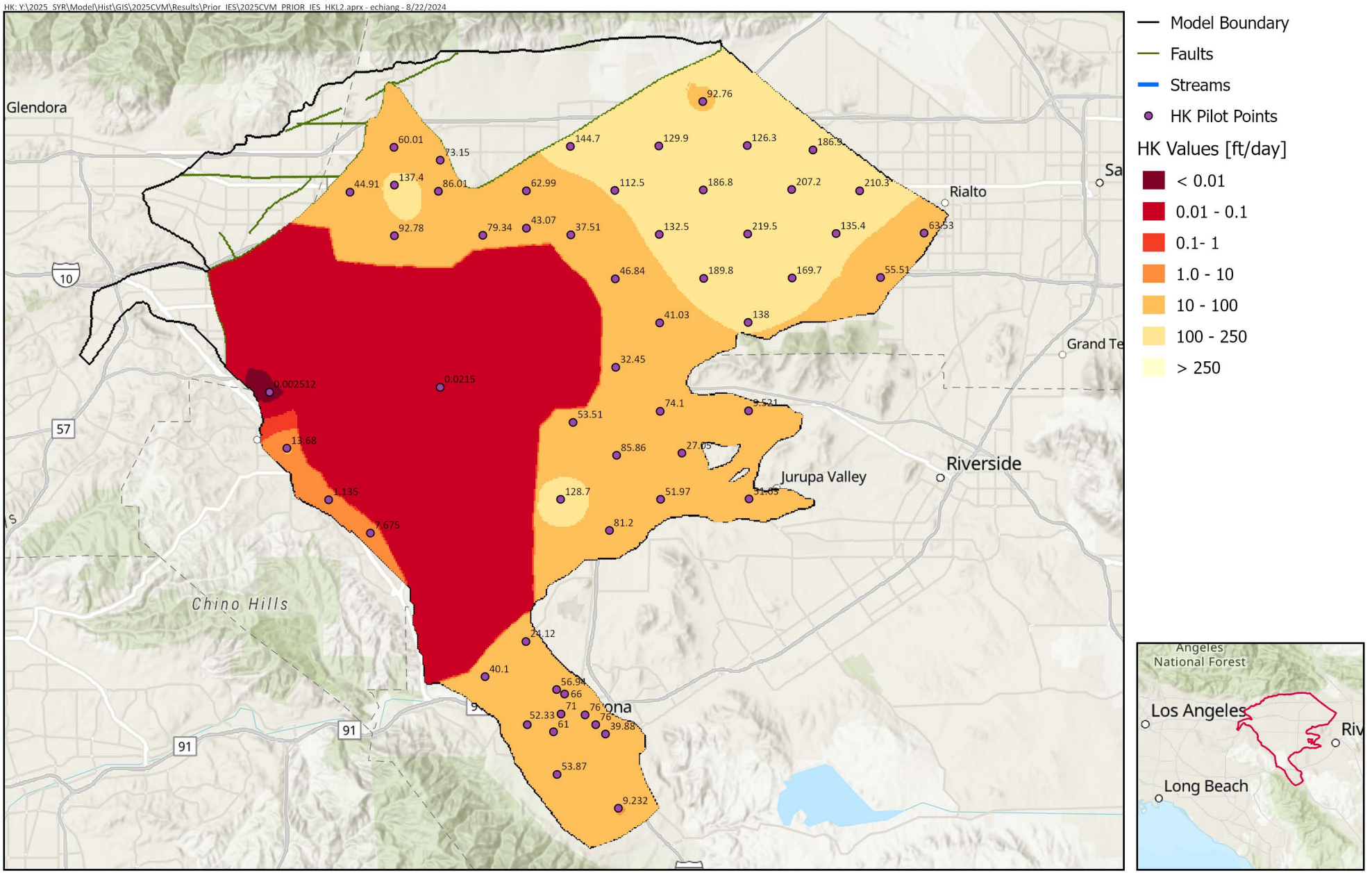
Chino Basin Watermaster

2025 Safe Yield Reevaluation

2025 CVM: Manual Calibration

HK in Layer 1

Figure B2-1



Prepared by:

WEST YOST

0 2 4 Miles

0 3 6 Km

Prepared for:

Chino Basin Watermaster

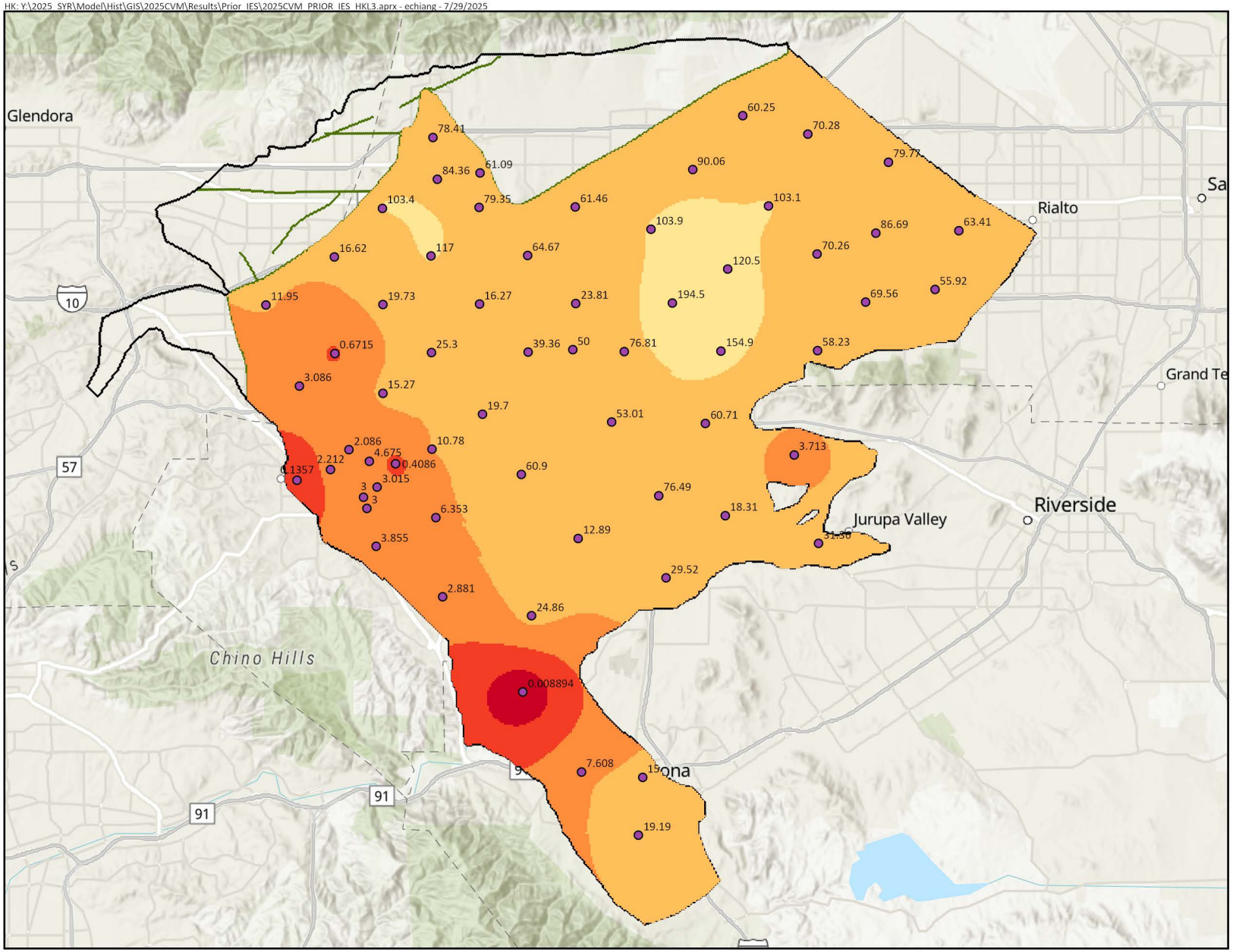
2025 Safe Yield Reevaluation

2025 CVM: Manual Calibration

HK in Layer 2

Figure B2-2

HK: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\Prior_IES\2025CVM_PRIOR_IES_HKL3.aprx - echiang - 7/29/2025



Model Boundary
Faults
Streams
HK Pilot Points

HK Values [ft/day]

- < 0.01
- 0.01 - 0.1
- 0.1- 1
- 1.0 - 10
- 10 - 100
- 100 - 250
- > 250

Prepared by:

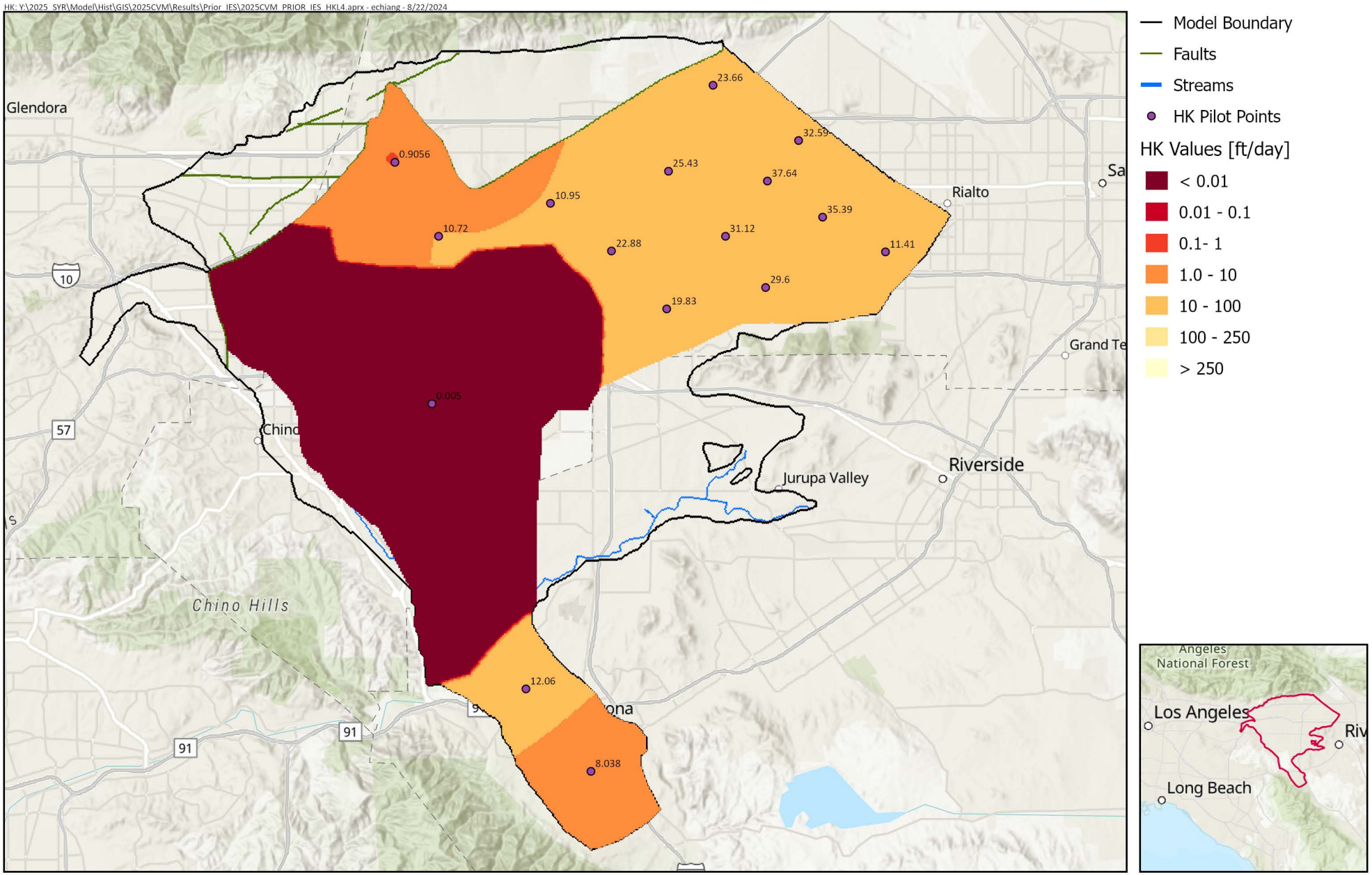
WEST YOST

0 2 4 Miles
0 3 6 Km

Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Manual Calibration
HK in Layer 3
Figure B2-3



Prepared by:

WEST YOST

Prepared for:

Chino Basin Watermaster

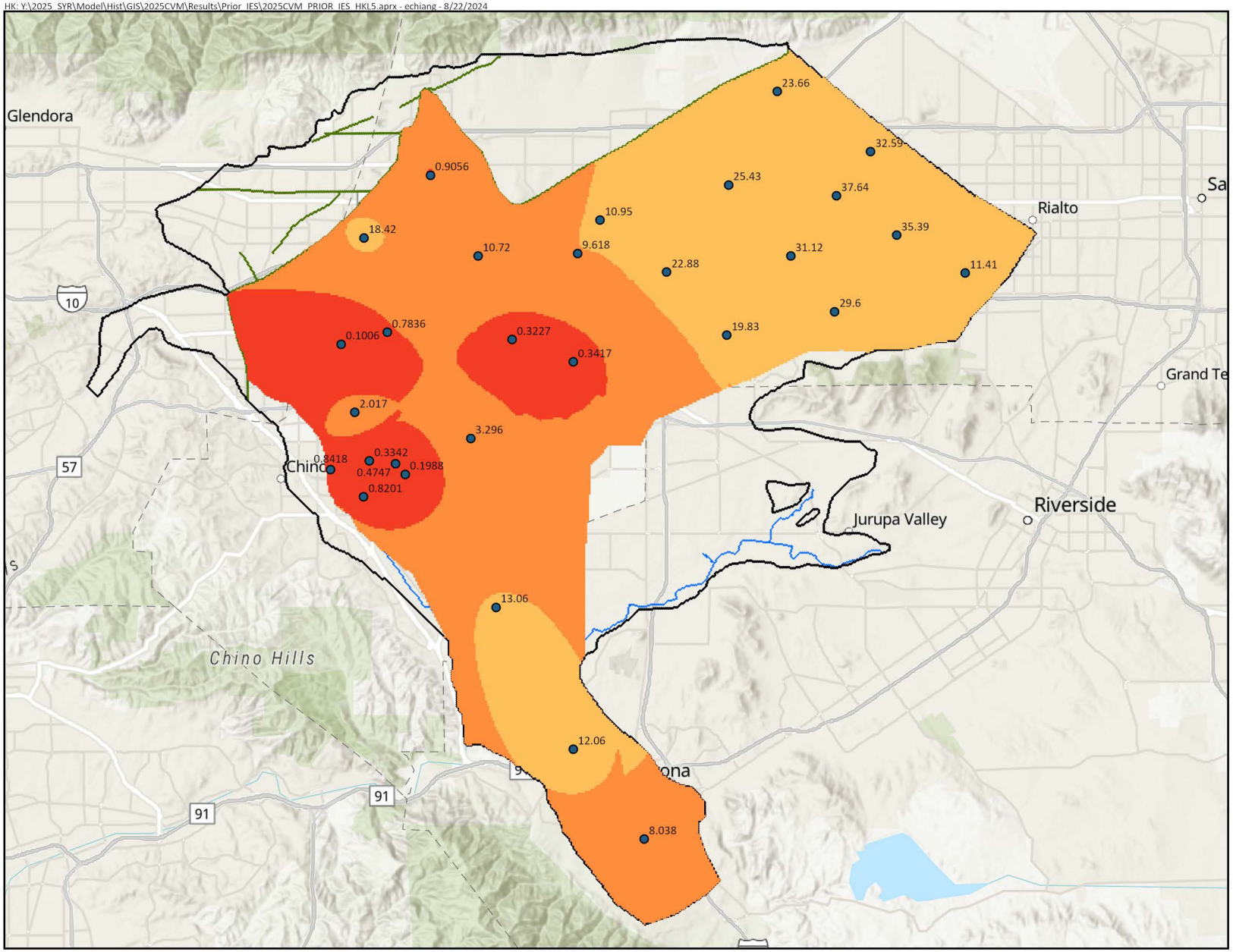
2025 Safe Yield Reevaluation

2025 CVM: Manual Calibration

HK in Layer 4

Figure B2-4

HK: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\Prior_IES\2025CVM_PRIOR_IES_HKL5.aprx - echiang - 8/22/2024



Prepared by:

WEST YOST

0 2 4 Miles

0 3 6 Km

Prepared for:

Chino Basin Watermaster

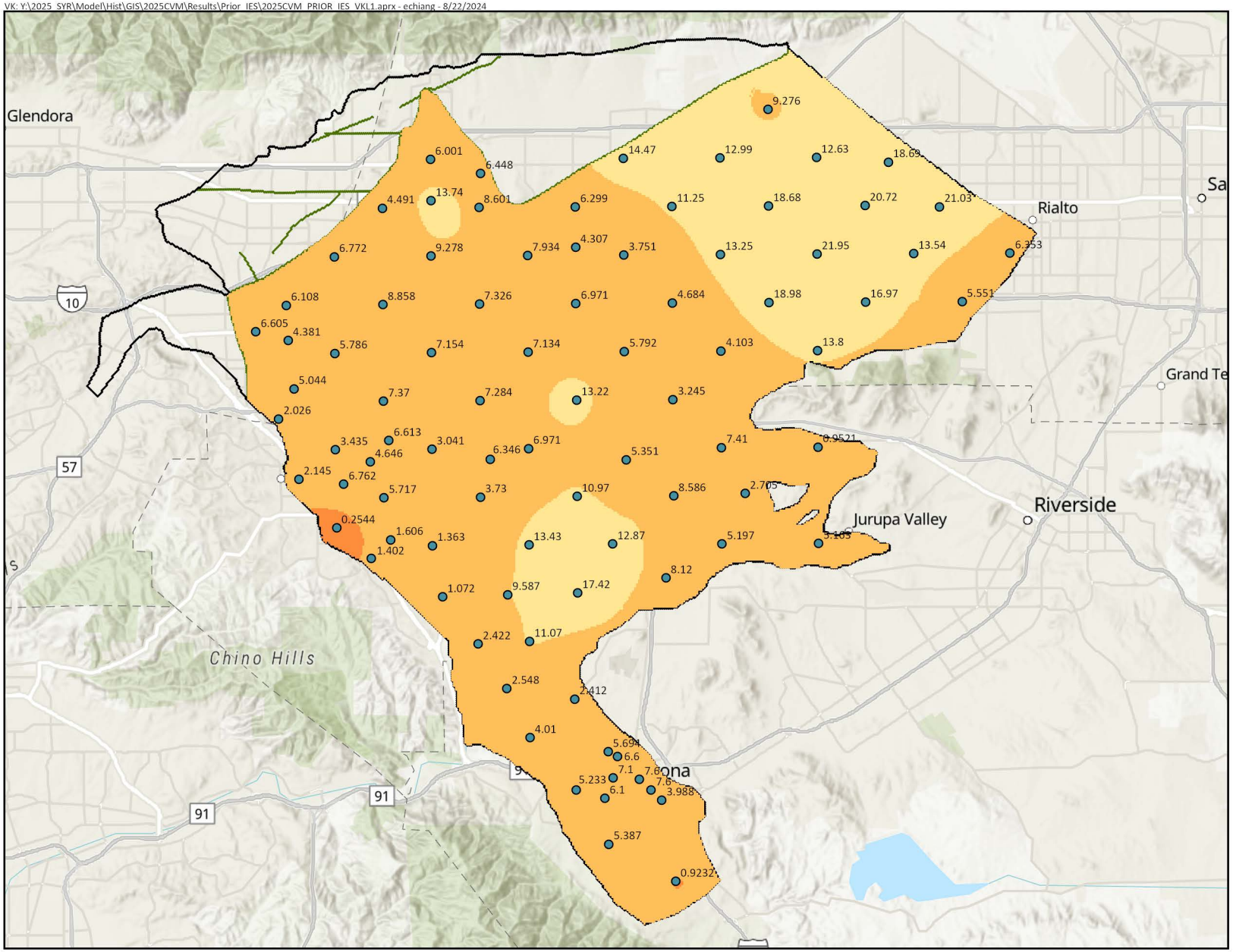
2025 Safe Yield Reevaluation

2025 CVM: Manual Calibration

HK in Layer 5

Figure B2-5

VK: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\Prior_IES\2025CVM_PRIOR_IES_VKL1.aprx - echiang - 8/22/2024



Model Boundary
Faults
Streams
VK Pilot Points

VK Values [ft/day]

- < 0.01
- 0.01 - 0.1
- 0.1- 1
- 1.0 - 10
- 10 - 100
- 100 - 250
- > 250

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

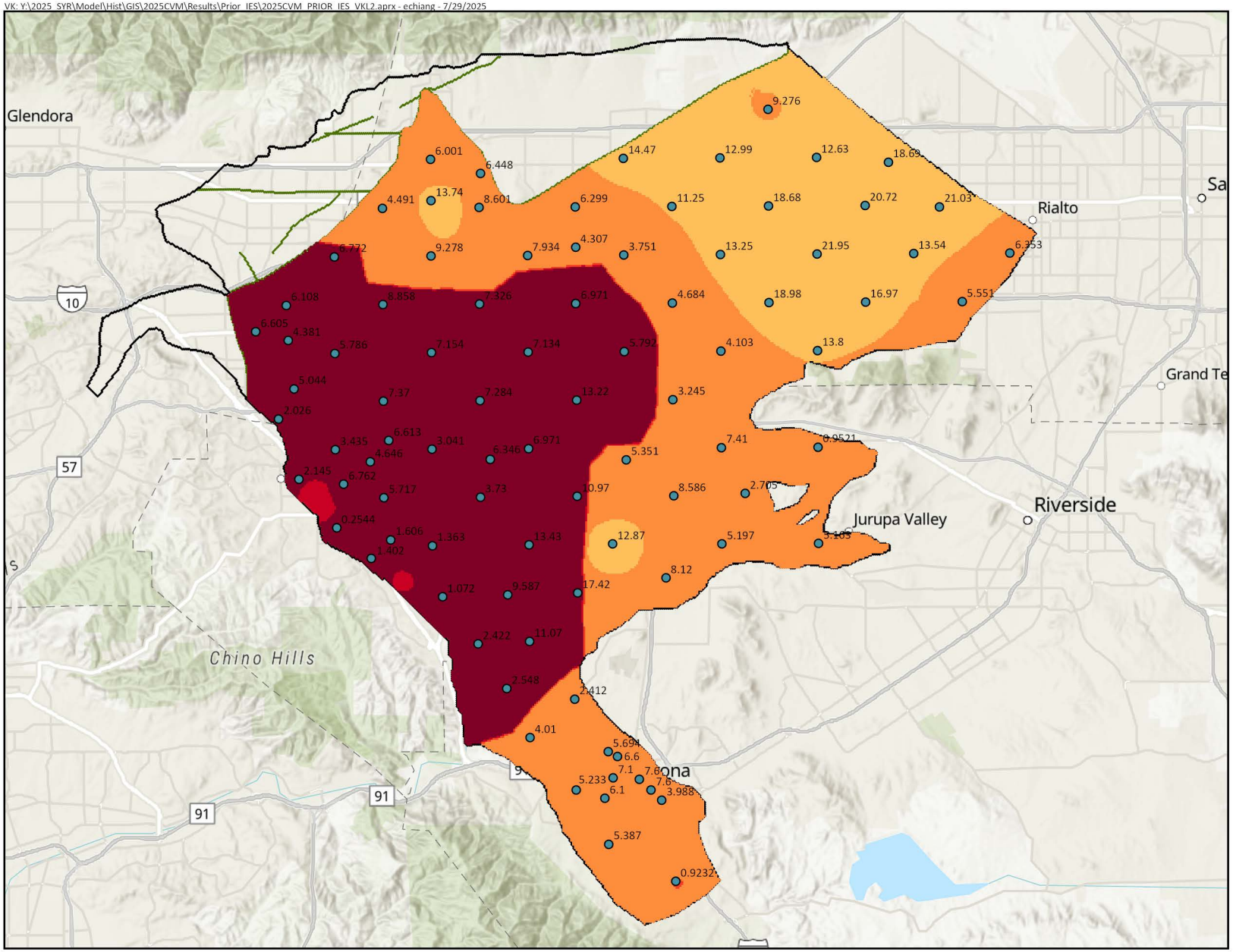
Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Model Calibration
VK in Layer 1

Figure B2-6

VK: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\Prior_IES\2025CVM_PRIOR_IES_VKL2.aprx - echiang - 7/29/2025



Model Boundary
Faults
Streams
VK Pilot Points

VK Values [ft/day]

- < 0.01
- 0.01 - 0.1
- 0.1- 1
- 1.0 - 10
- 10 - 100
- 100 - 250
- > 250

Prepared by:

WEST YOST

N

0 2 4 Miles

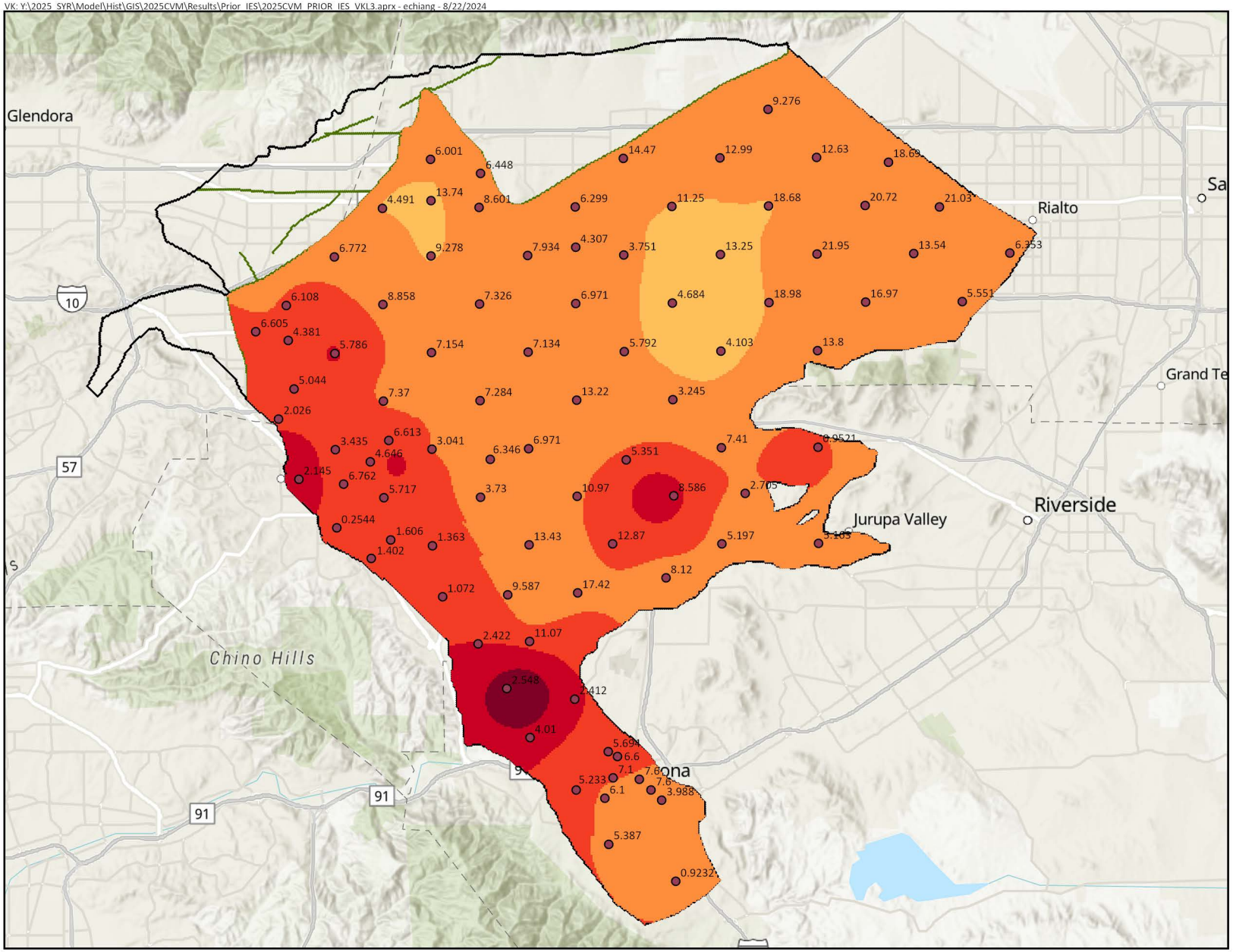
0 3 6 Km

Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Manual Calibration
VK in Layer 2
Figure B2-7

VK: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\Prior_IES\2025CVM_PRIOR_IES_VKL3.aprx - echiang - 8/22/2024



Model Boundary
Faults
Streams
VK Pilot Points

VK Values [ft/day]

- < 0.01
- 0.01 - 0.1
- 0.1- 1
- 1.0 - 10
- 10 - 100
- 100 - 250
- > 250

Prepared by:

WEST YOST

N

0 2 4 Miles

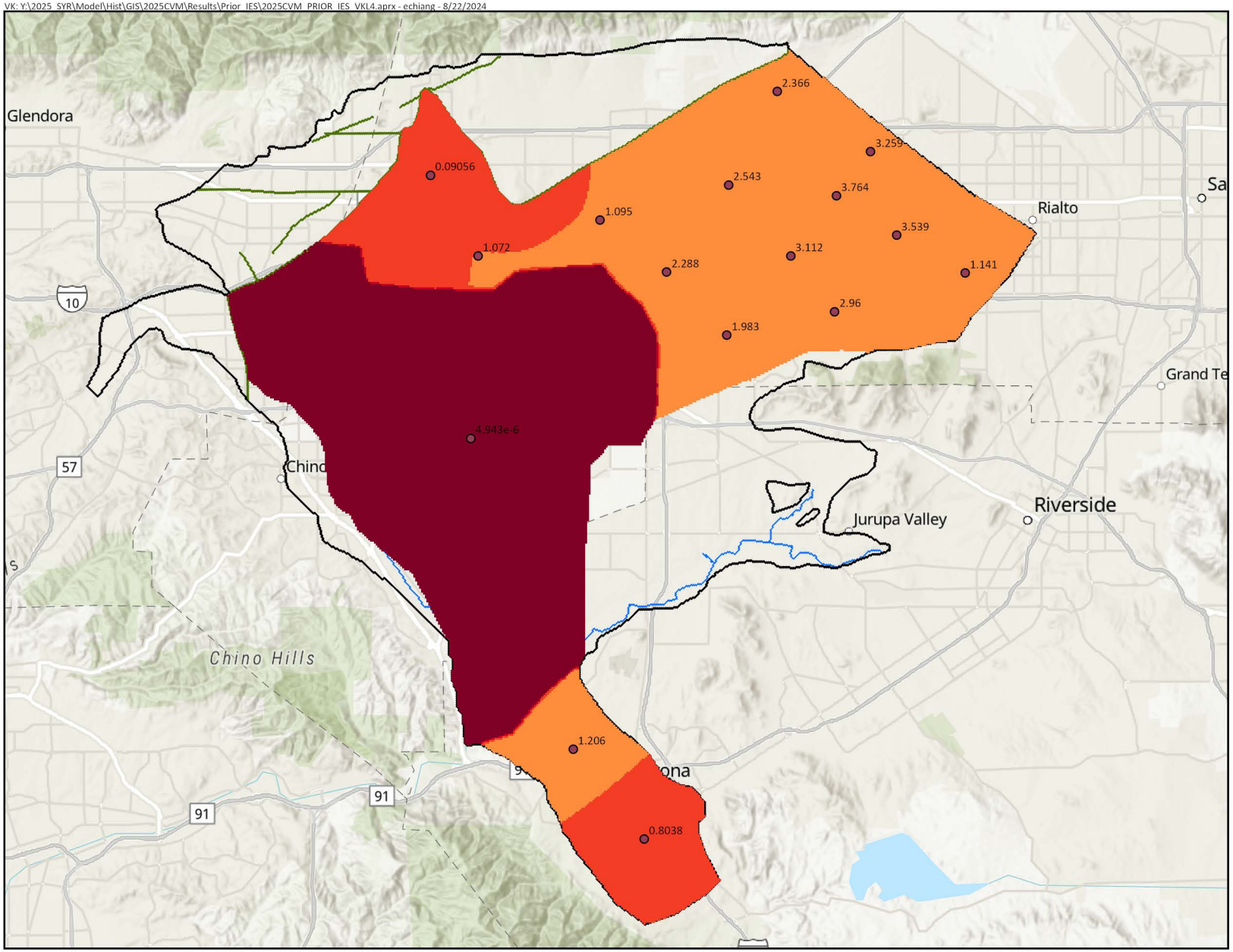
0 3 6 Km

Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Manual Calibration
VK in Layer 3
Figure B2-8

VK: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\Prior_IES\2025CVM_PRIOR_IES_VKL4.aprx - echiang - 8/22/2024



- Model Boundary
- Faults
- Streams
- VK Pilot Points

VK Values [ft/day]

- < 0.01
- 0.01 - 0.1
- 0.1- 1
- 1.0 - 10
- 10 - 100
- 100 - 250
- > 250

Prepared by:

WEST YOST

0 2 4 Miles

0 3 6 Km

Prepared for:

Chino Basin Watermaster

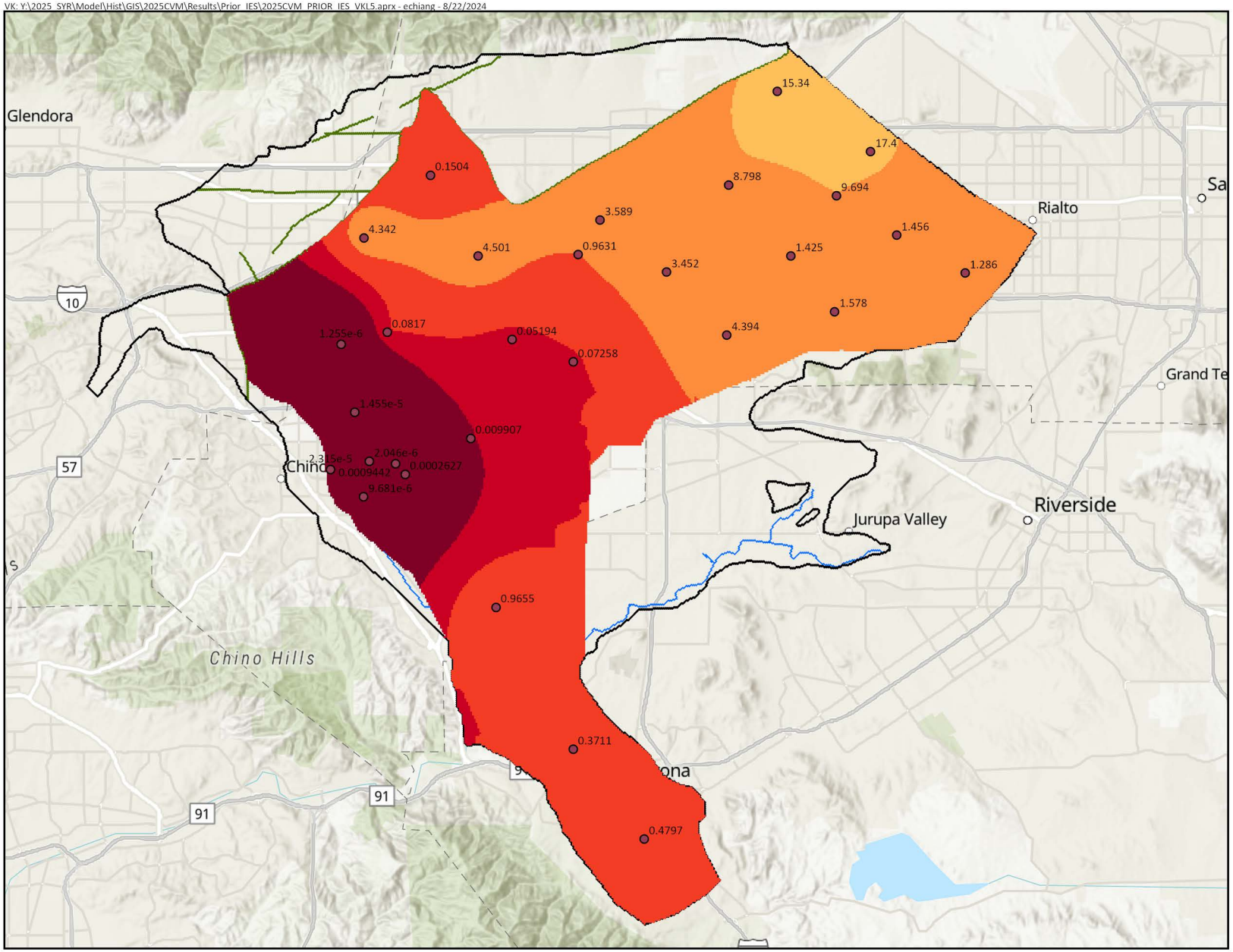
2025 Safe Yield Reevaluation

2025 CVM: Manual Calibration

VK in Layer 4

Figure B2-9

VK: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\Prior_IES\2025CVM_PRIOR_IES_VKL5.aprx - echiang - 8/22/2024



Model Boundary
Faults
Streams
VK Pilot Points

VK Values [ft/day]

- < 0.01
- 0.01 - 0.1
- 0.1- 1
- 1.0 - 10
- 10 - 100
- 100 - 250
- > 250

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

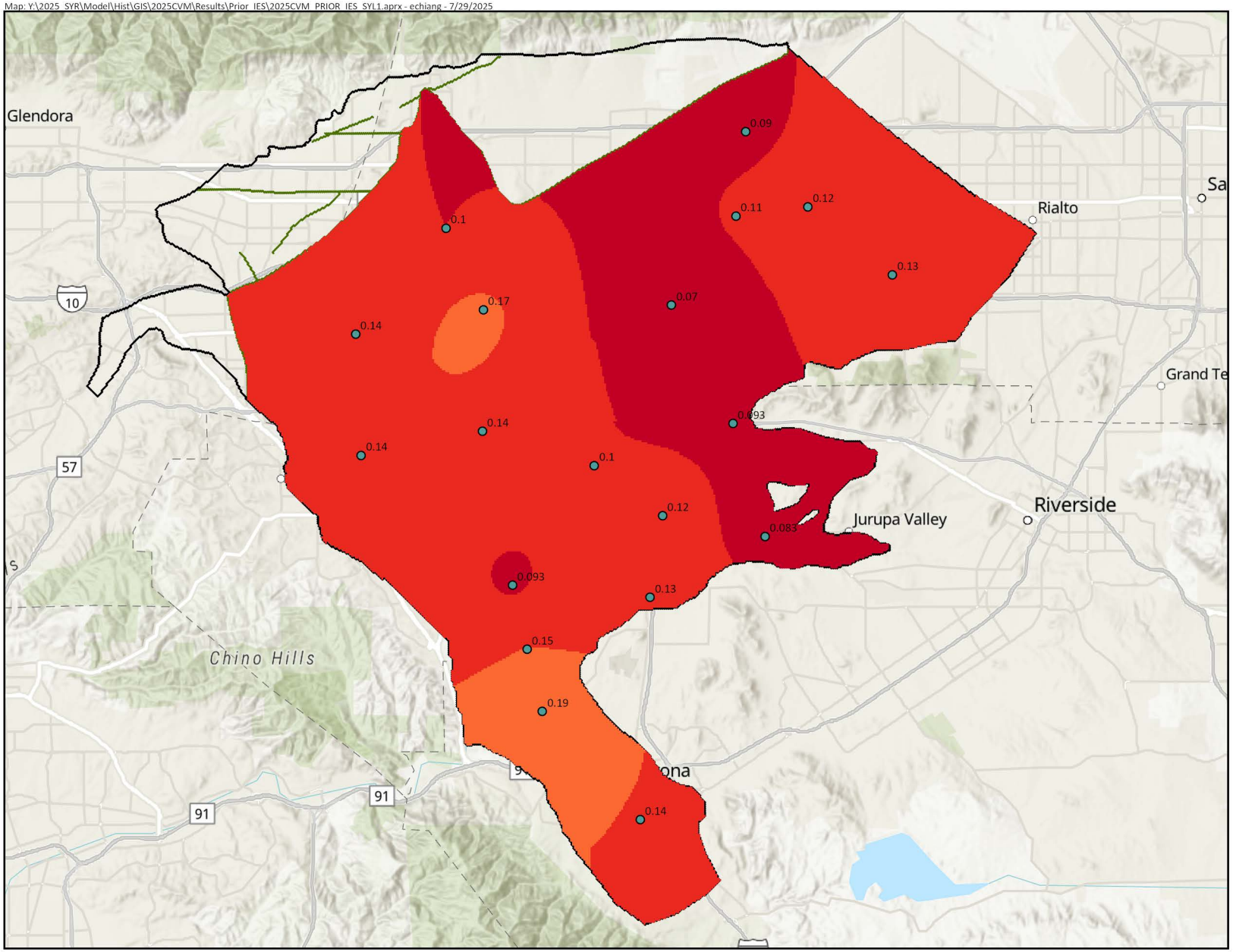
Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Manual Calibration
VK in Layer 5

Figure B2-10

Map: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\Prior_IES\2025CVM_PRIOR_IES_SYL1.aprx - echiang - 7/29/2025



Model Boundary
Faults
Streams
SY Pilot Points

SY Values
- < 0.05
- 0.05 - 0.1
- 0.1 - 0.15
- 0.15 - 0.2
- 0.2 - 0.25
- 0.25 - 0.3
- 0.3 - 0.35
- > 0.35

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

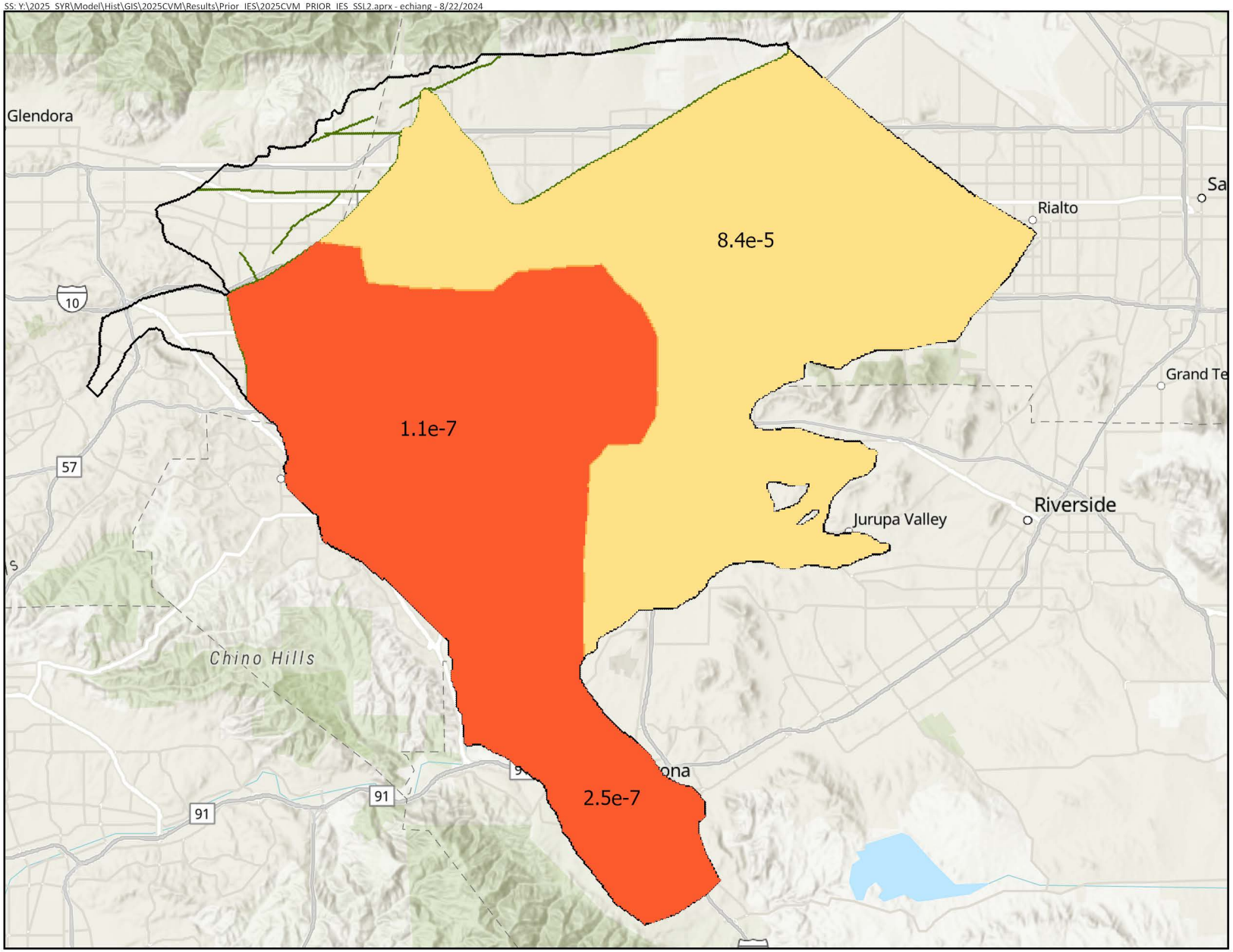
Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Manual Calibration
SY in Layer 1

Figure B2-11

SS: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\Prior_IES\2025CVM_PRIOR_IES_SSL2.aprx - echiang - 8/22/2024



Model Boundary
Faults
Streams

SS Values [1/ft]

- < 1e-8
- 1e-8 - 1e-7
- 1e-7 - 1e-6
- 1e-6 - 1e-5
- 1e-5 - 1e-4
- > 1e-4

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

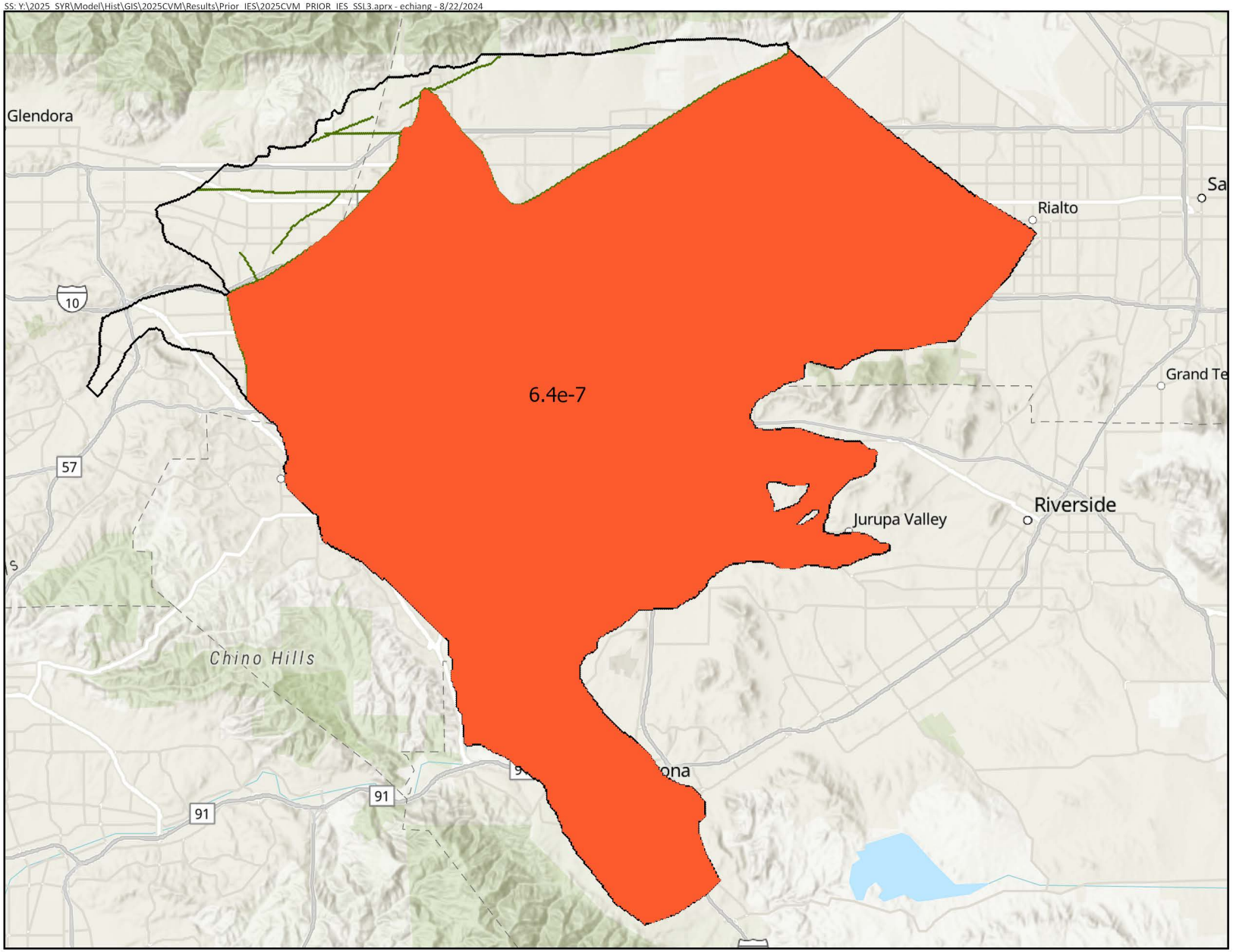
Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Manual Calibration
SS in Layer 2

Figure B2-12

SS: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\Prior_IES\2025CVM_PRIOR_IES_SSL3.aprx - echiang - 8/22/2024



Model Boundary
Faults
Streams

SS Values [1/ft]

- < 1e-8
- 1e-8 - 1e-7
- 1e-7 - 1e-6
- 1e-6 - 1e-5
- 1e-5 - 1e-4
- > 1e-4

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

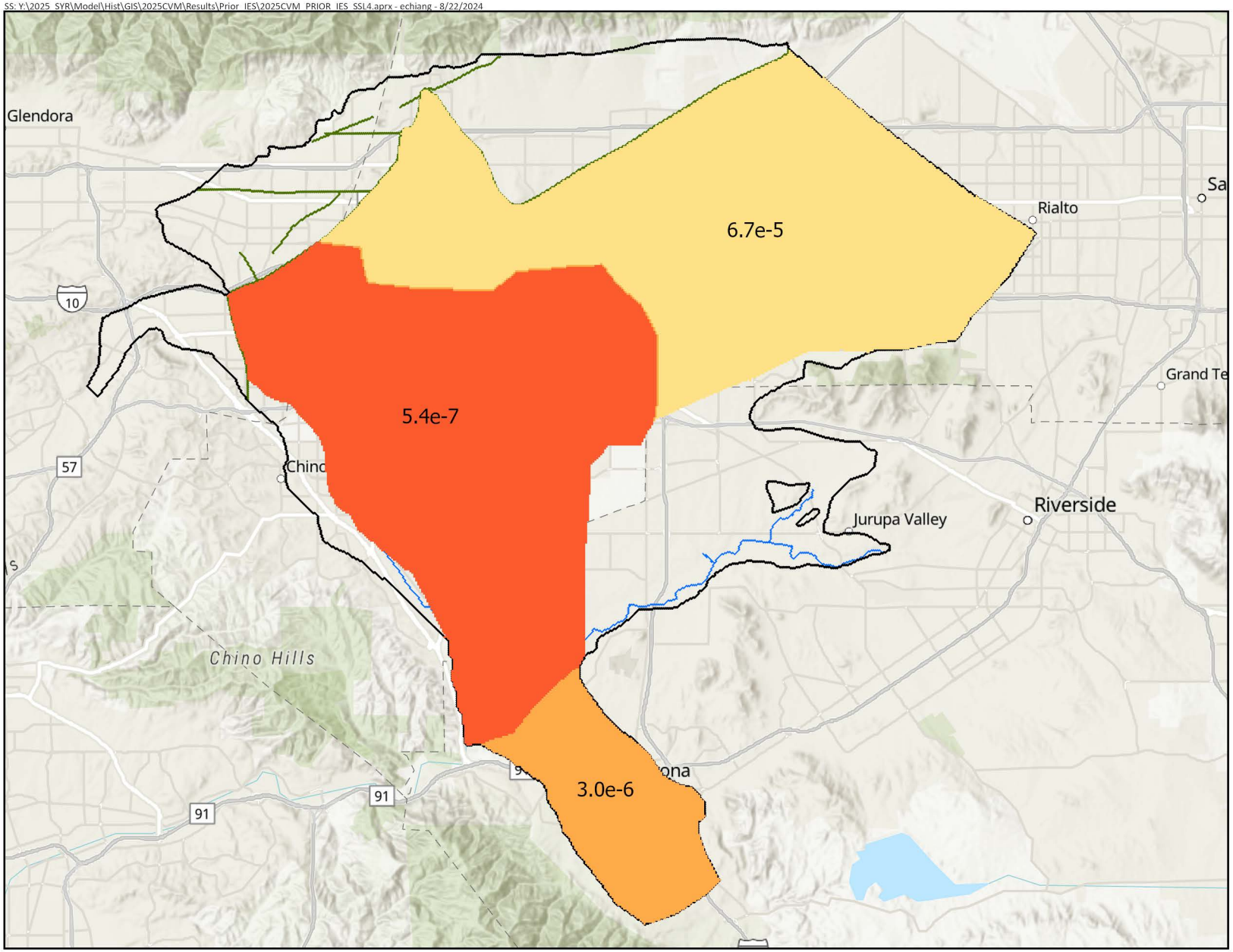
Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Manual Calibration
SS in Layer 3

Figure B2-13

SS: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\Prior_IES\2025CVM_PRIOR_IES_SSL4.aprx - echiang - 8/22/2024



Model Boundary
Faults
Streams

SS Values [1/ft]

- < 1e-8
- 1e-8 - 1e-7
- 1e-7 - 1e-6
- 1e-6 - 1e-5
- 1e-5 - 1e-4
- > 1e-4

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

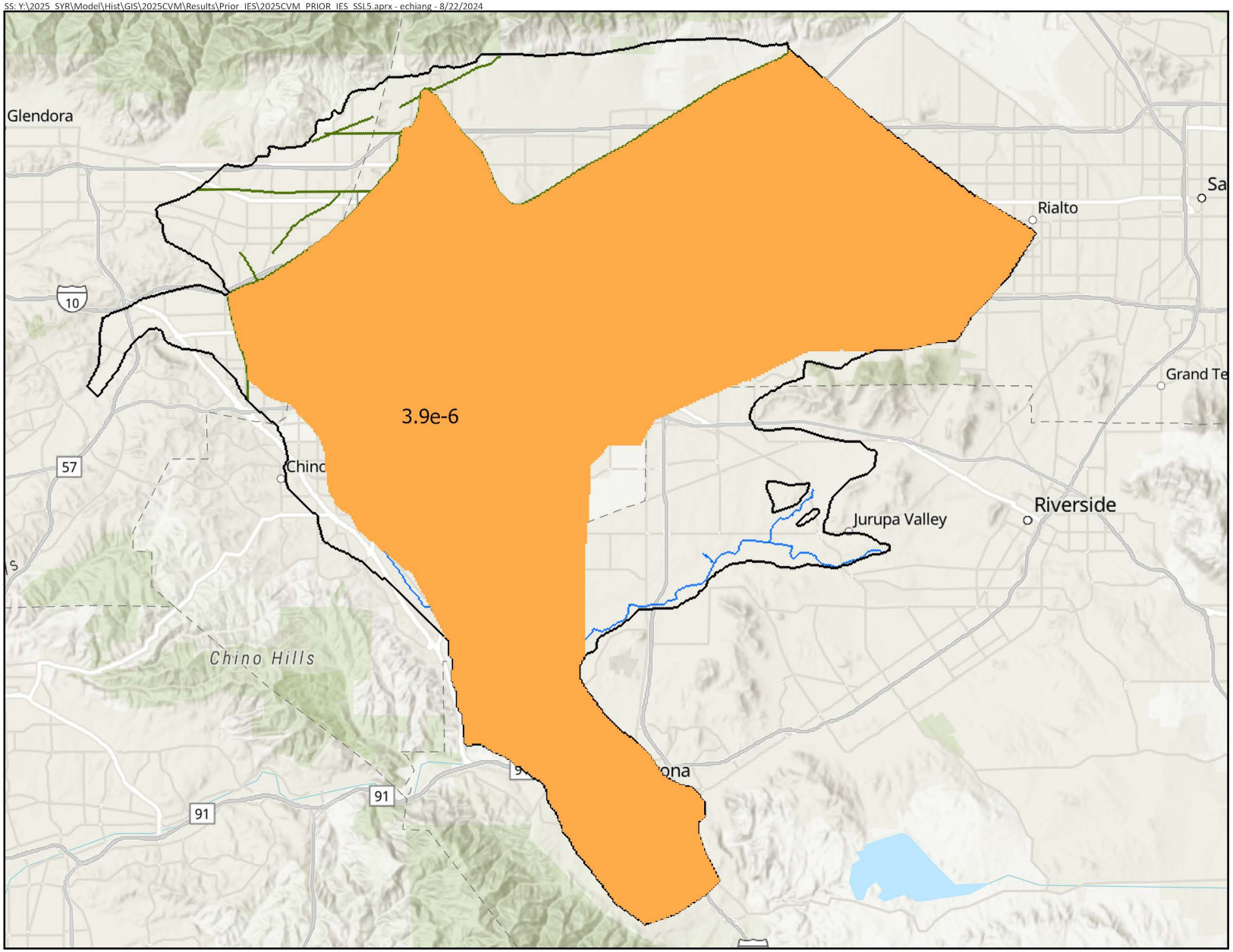
Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Manual Calibration
SS in Layer 4

Figure B2-14

SS: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\Prior_IES\2025CVM_PRIOR_IES_SSL5.aprx - echiang - 8/22/2024



Model Boundary
Faults
Streams

SS Values [1/ft]

- < 1e-8
- 1e-8 - 1e-7
- 1e-7 - 1e-6
- 1e-6 - 1e-5
- 1e-5 - 1e-4
- > 1e-4

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

Prepared for:

Chino Basin Watermaster

2025 Safe Yield Reevaluation

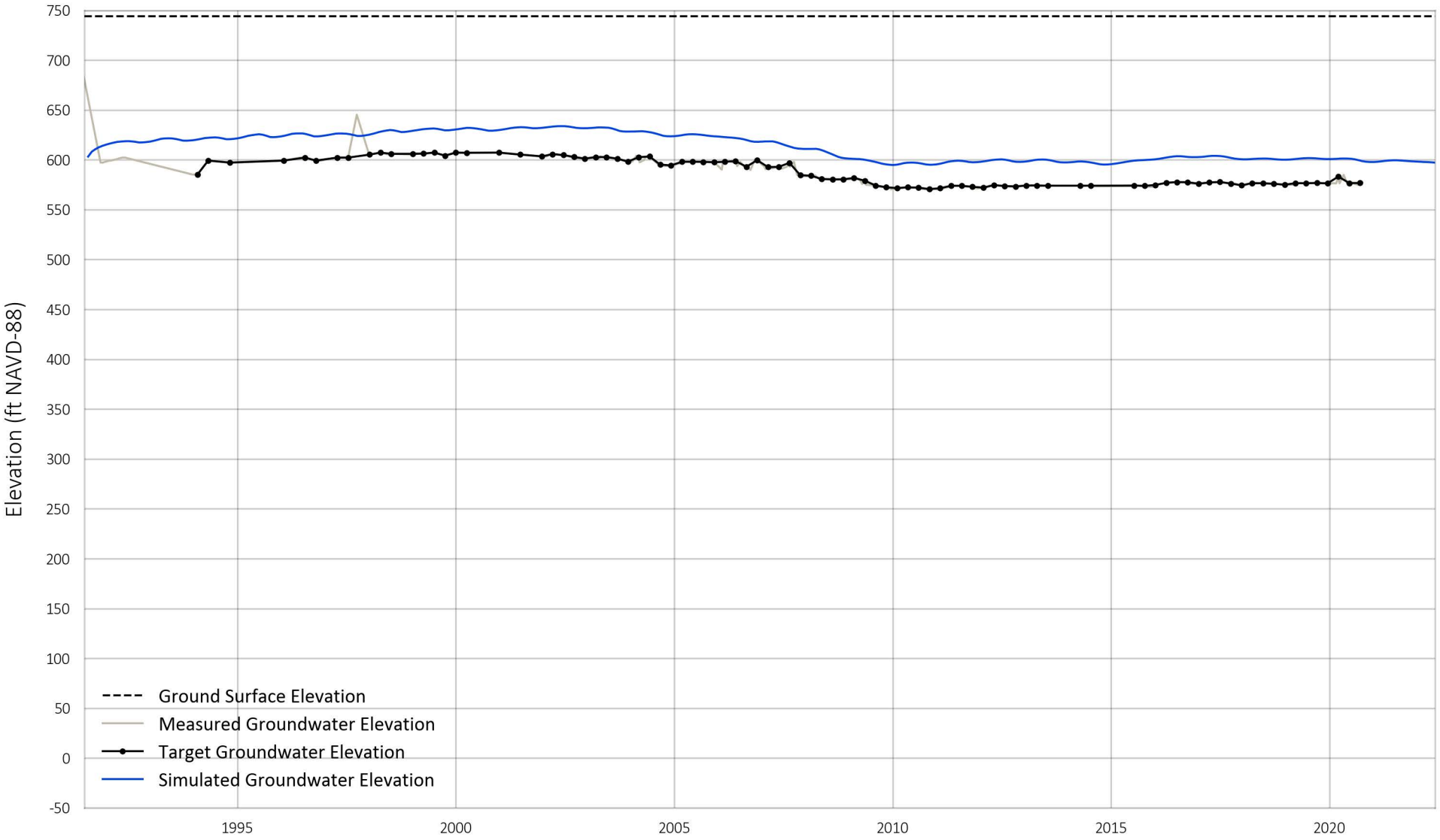
2025 CVM: Manual Calibration

SS in Layer 5

Figure B2-15

B3. Groundwater Levels Simulated Using Manually Calibrated Aquifer Parameters

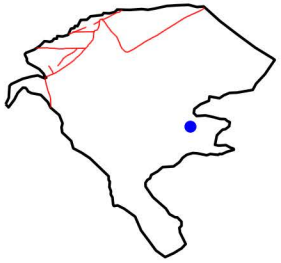
DRAFT



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

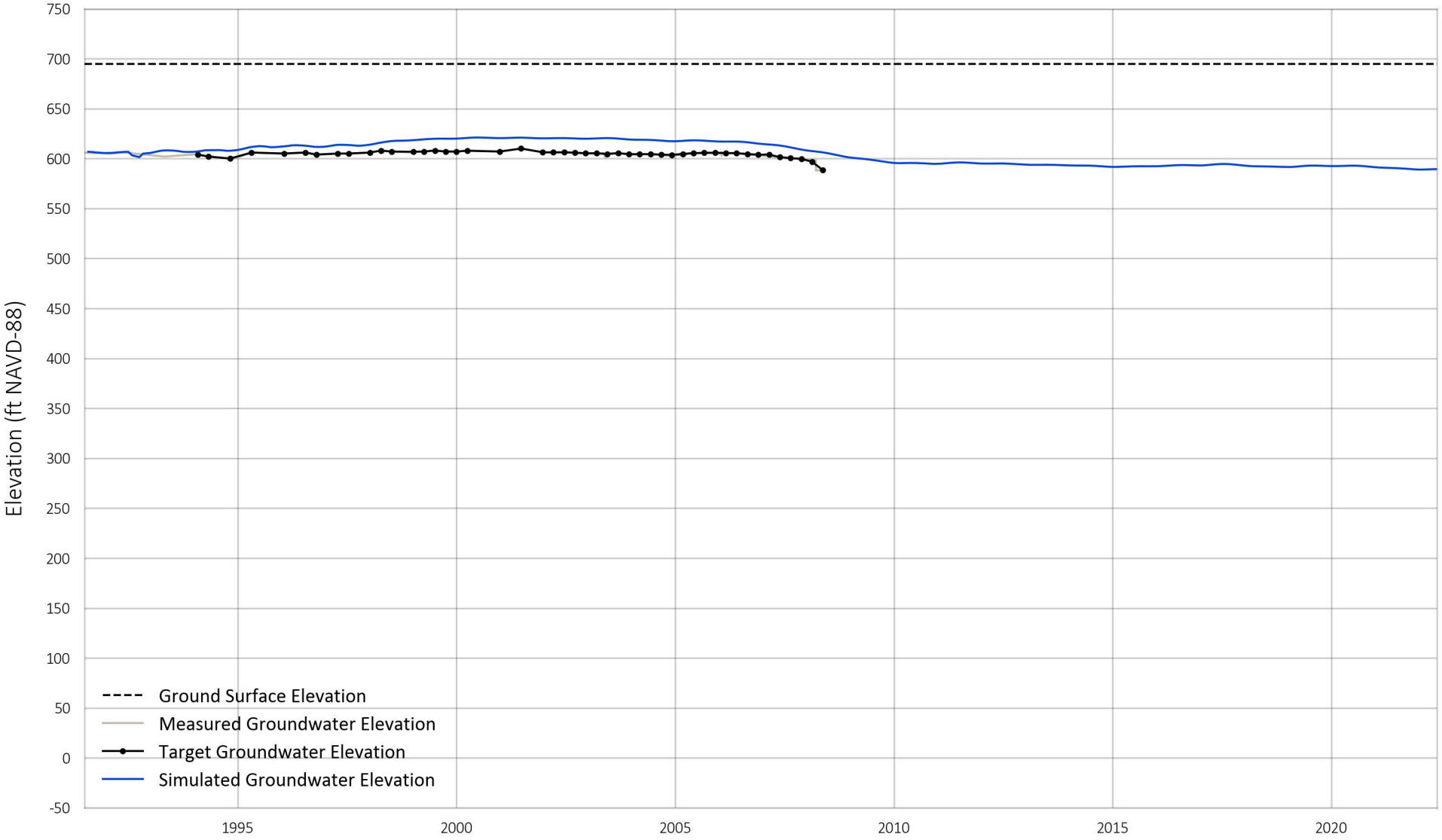
Target Groundwater Elevation (ft)
Mean = 587.71
Standard Deviation = 13.17

Simulated Groundwater Elevation (ft)
Mean = 612.82
Standard Deviation = 13.67

Mean Residual (ft) = 25.11
RMSE (ft) = 25.26

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1003582
Well Name: 03
Owner: Santa Ana River Water Company

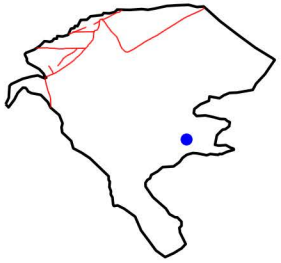
Figure B3-1



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

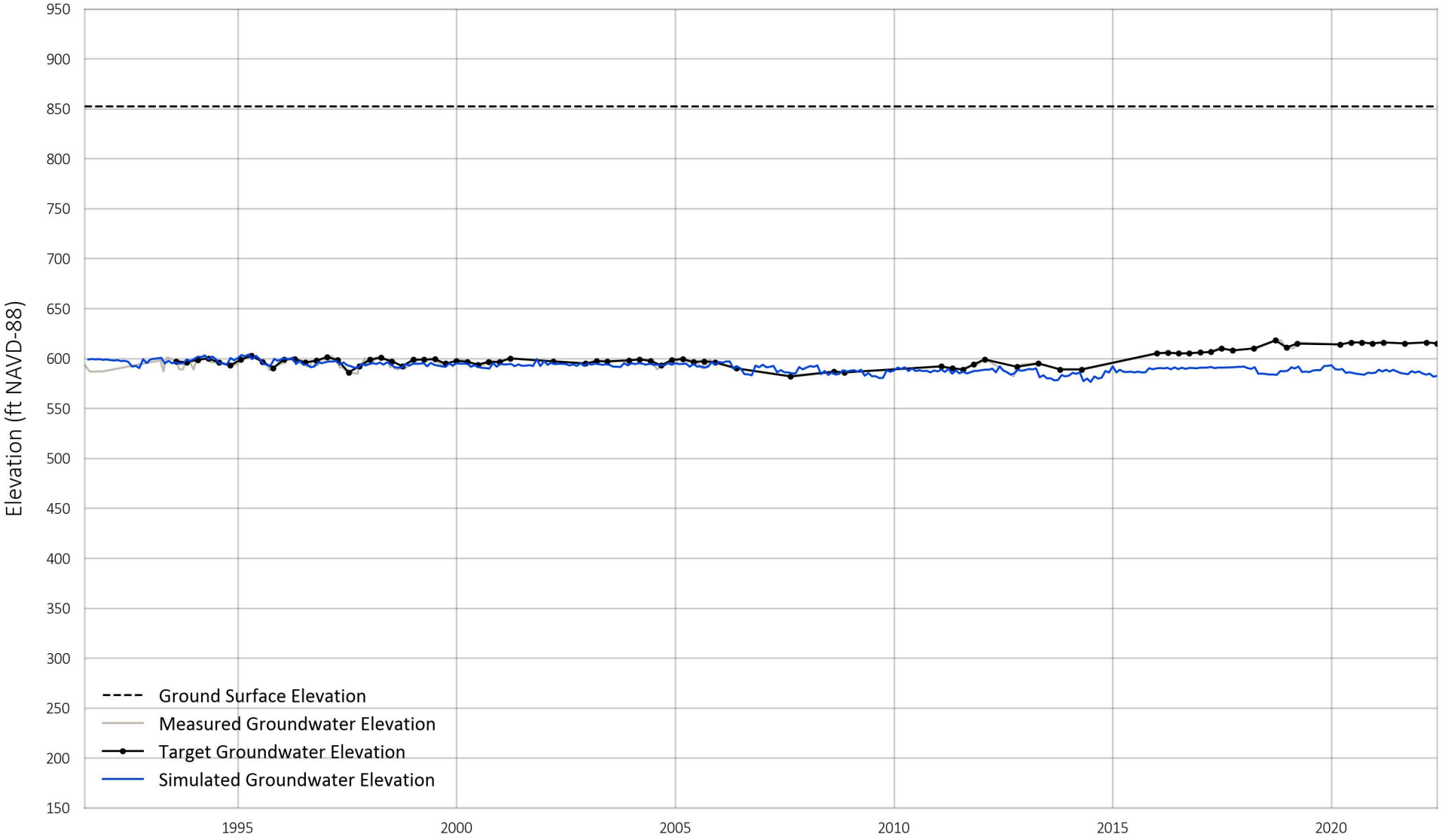
Target Groundwater Elevation (ft)
Mean = 604.63
Standard Deviation = 3.38

Simulated Groundwater Elevation (ft)
Mean = 616.12
Standard Deviation = 4.31

Mean Residual (ft) = 11.49
RMSE (ft) = 11.87

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1003630
Well Name: 07
Owner: Santa Ana River Water Company

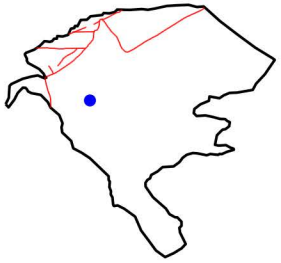
Figure B3-2



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

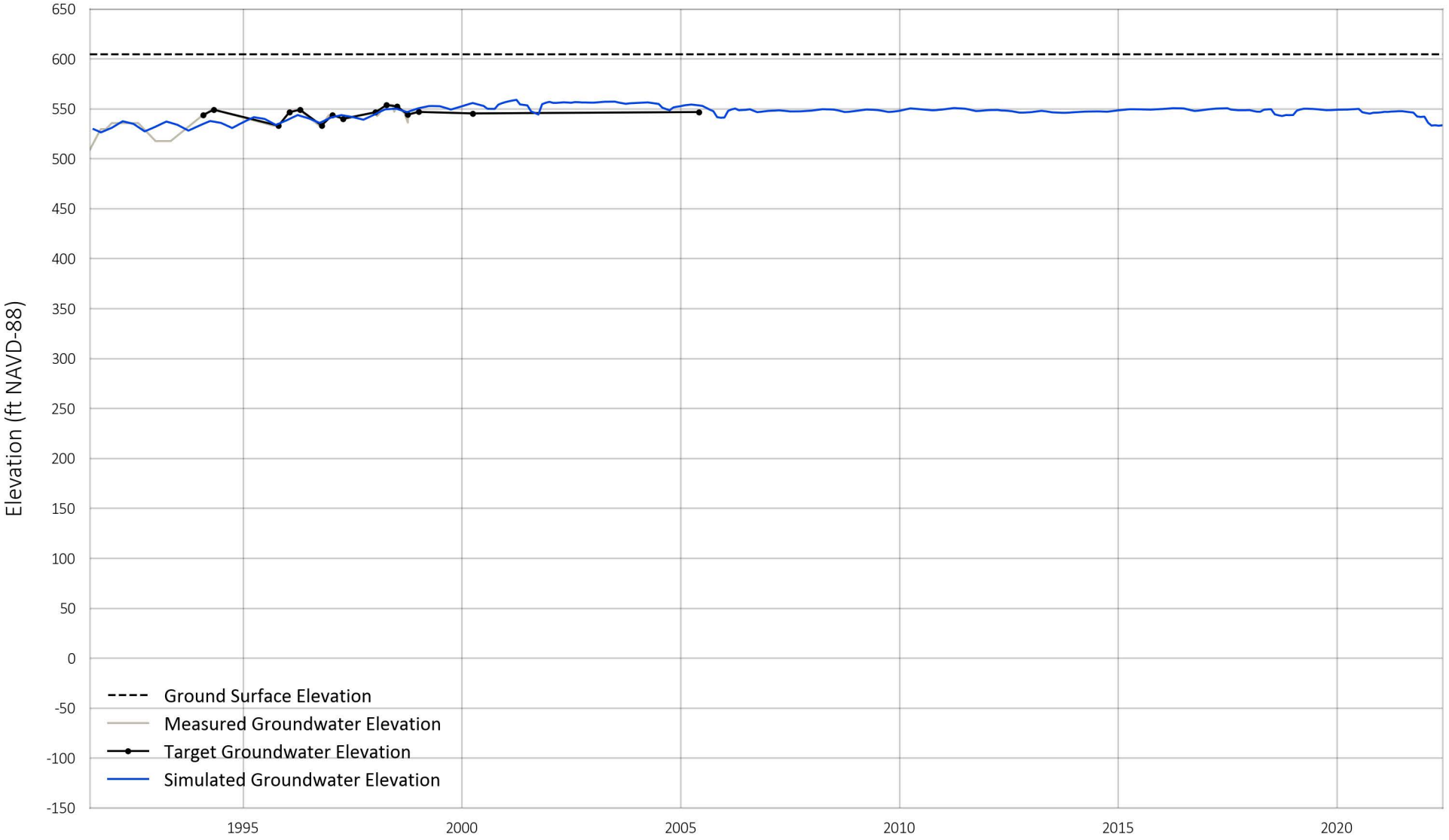
Target Groundwater Elevation (ft)
Mean = 599.51
Standard Deviation = 8.27

Simulated Groundwater Elevation (ft)
Mean = 591.73
Standard Deviation = 4.83

Mean Residual (ft) = -7.77
RMSE (ft) = 12.95

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002743
Well Name: 09
Owner: City of Chino

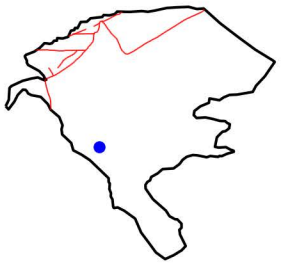
Figure B3-3



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

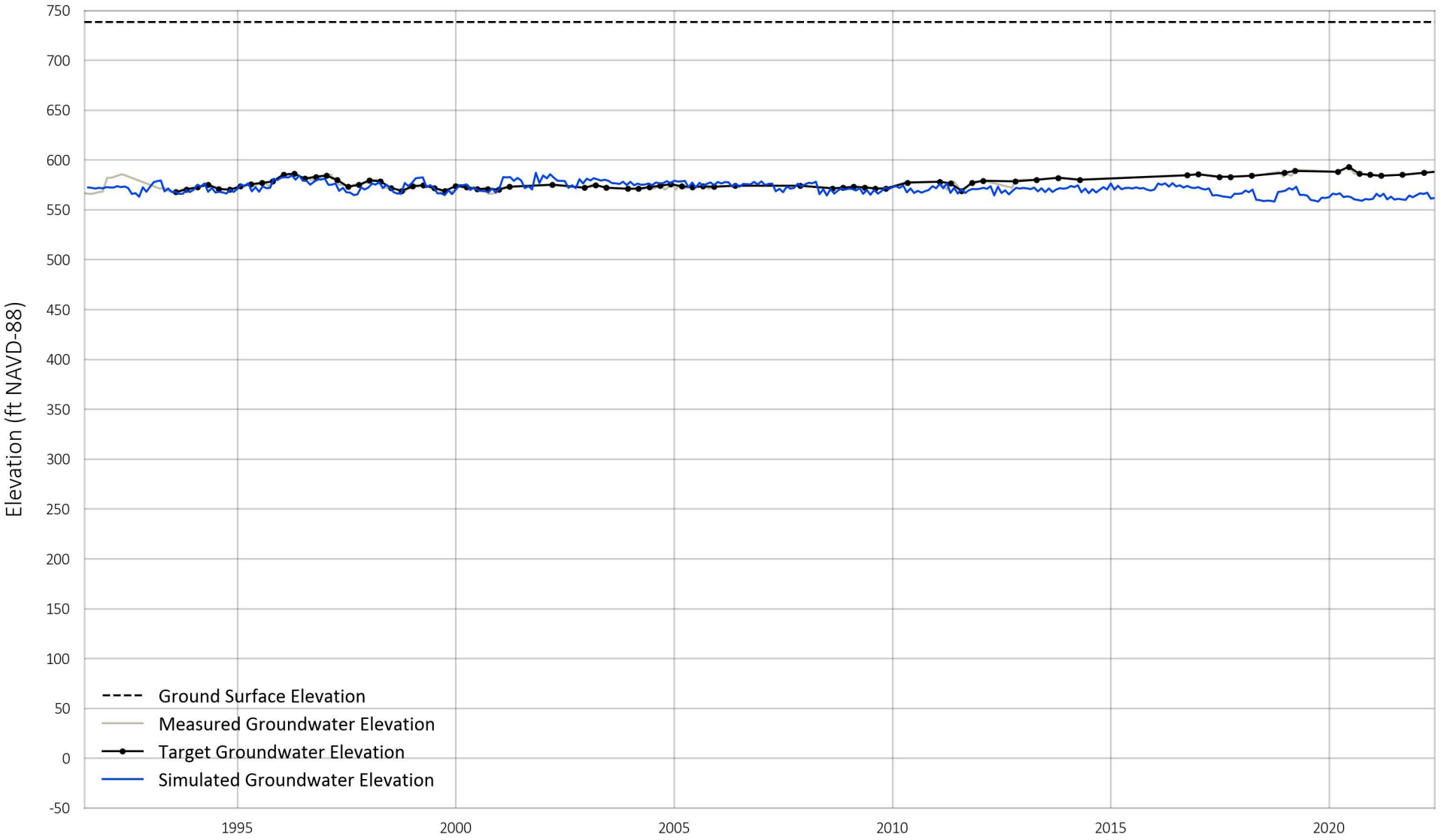
Target Groundwater Elevation (ft)
Mean = 544.81
Standard Deviation = 5.87

Simulated Groundwater Elevation (ft)
Mean = 543.97
Standard Deviation = 6.72

Mean Residual (ft) = -0.84
RMSE (ft) = 5.99

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1004299
Well Name: 09
Owner: California Institution for Men

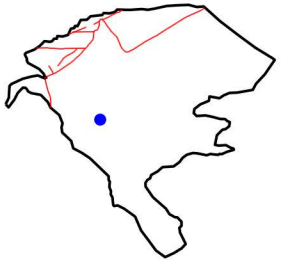
Figure B3-4



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

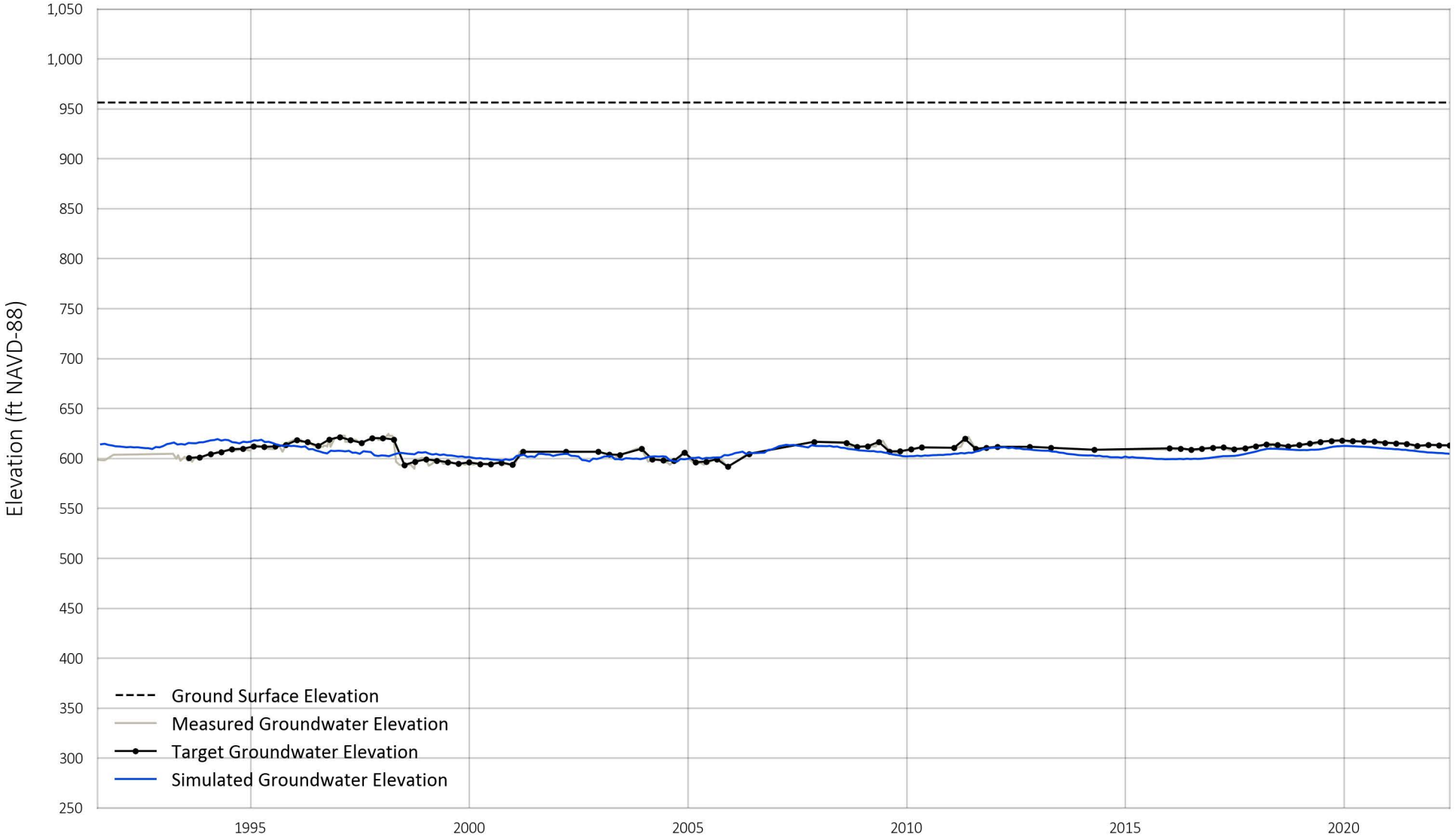
Target Groundwater Elevation (ft)
Mean = 576.70
Standard Deviation = 5.91

Simulated Groundwater Elevation (ft)
Mean = 571.96
Standard Deviation = 5.50

Mean Residual (ft) = -4.75
RMSE (ft) = 9.97

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1004185
Well Name: 13
Owner: City of Chino

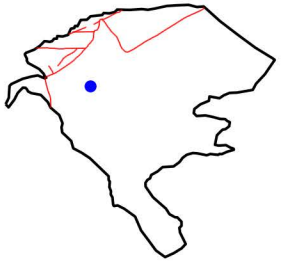
Figure B3-5



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

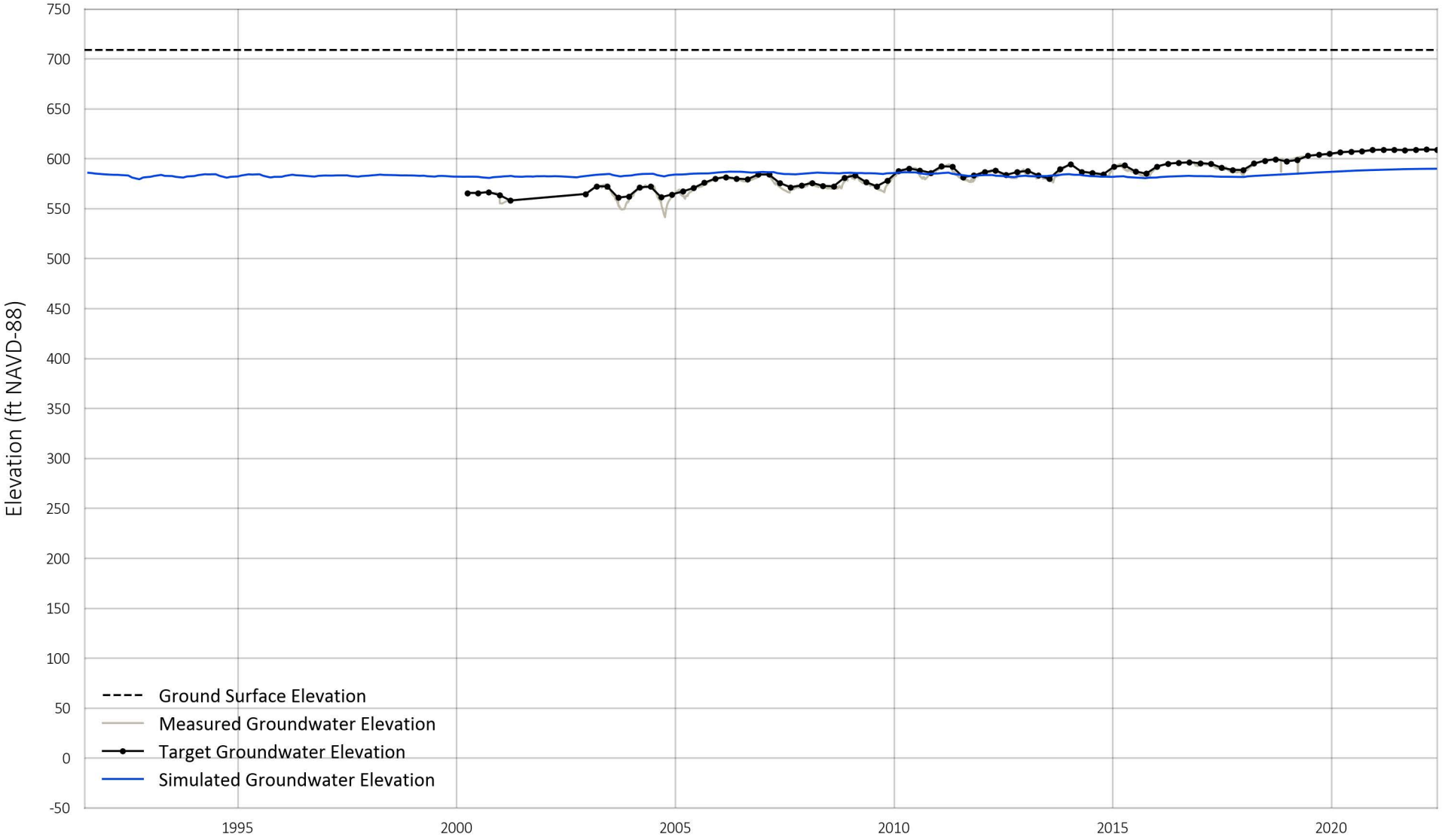
Target Groundwater Elevation (ft)
Mean = 608.77
Standard Deviation = 7.70

Simulated Groundwater Elevation (ft)
Mean = 606.13
Standard Deviation = 5.23

Mean Residual (ft) = -2.64
RMSE (ft) = 7.66

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002645
Well Name: 14
Owner: City of Chino

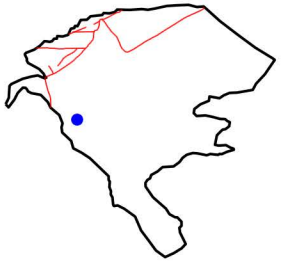
Figure B3-6



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

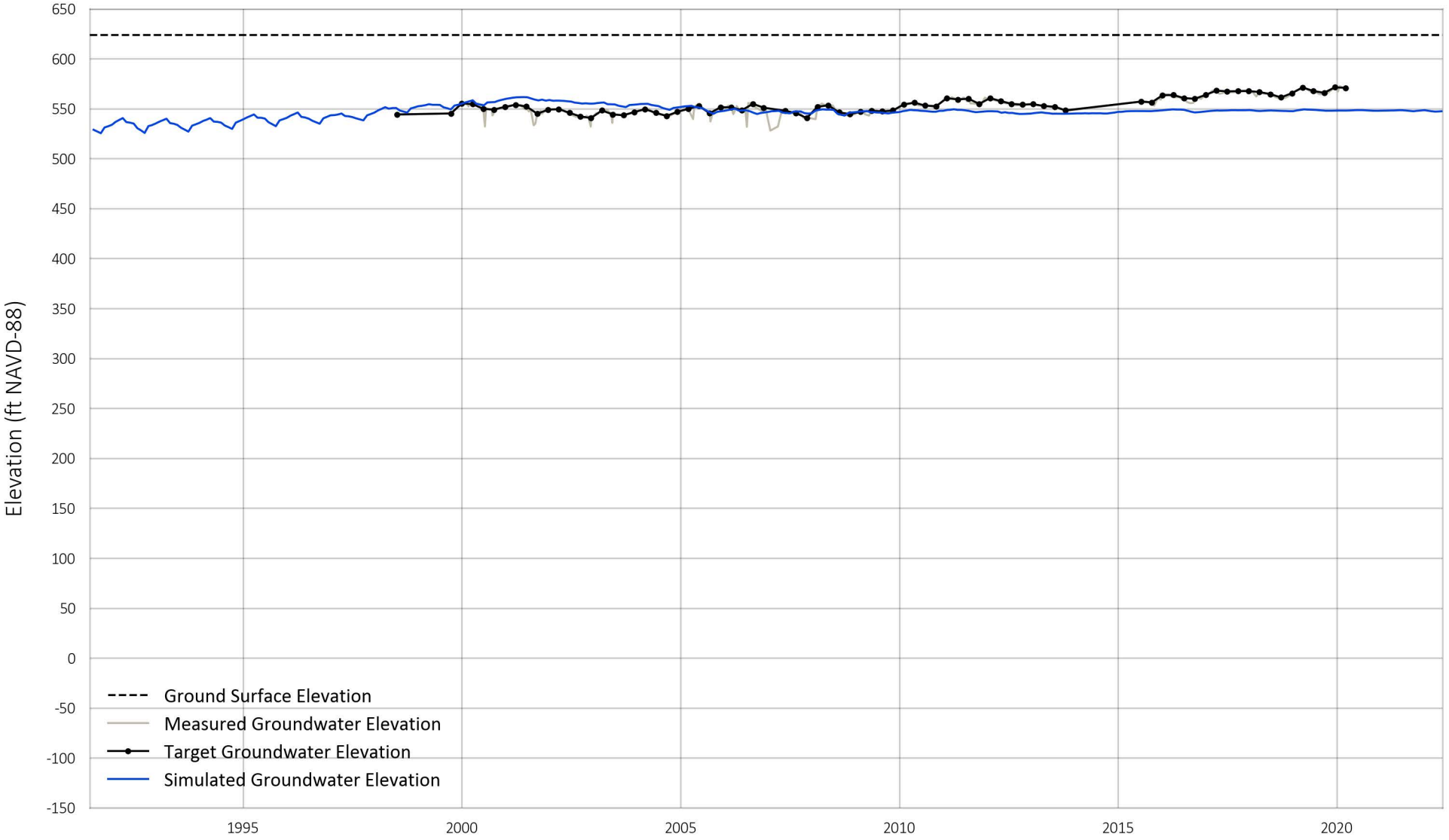
Target Groundwater Elevation (ft)
Mean = 585.50
Standard Deviation = 13.67

Simulated Groundwater Elevation (ft)
Mean = 584.38
Standard Deviation = 2.30

Mean Residual (ft) = -1.12
RMSE (ft) = 12.72

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1206674
Well Name: 15
Owner: City of Chino

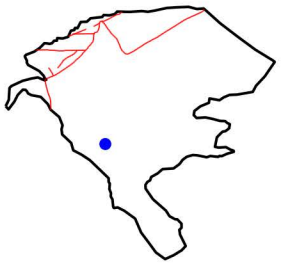
Figure B3-7



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

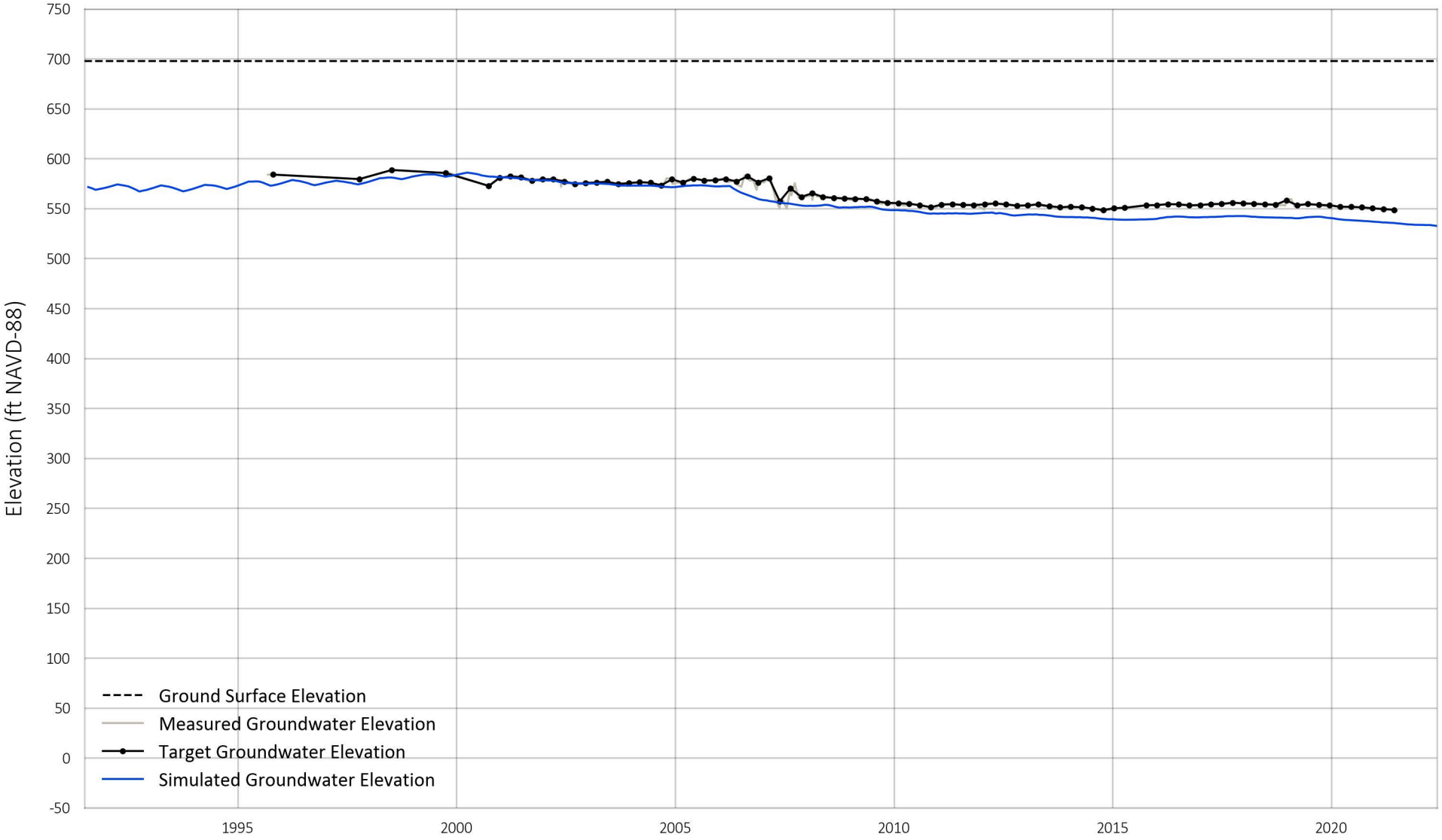
Target Groundwater Elevation (ft)
Mean = 553.89
Standard Deviation = 8.09

Simulated Groundwater Elevation (ft)
Mean = 549.73
Standard Deviation = 4.28

Mean Residual (ft) = -4.17
RMSE (ft) = 10.84

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1003878
Well Name: 73000-1
Owner: California Youth Authority

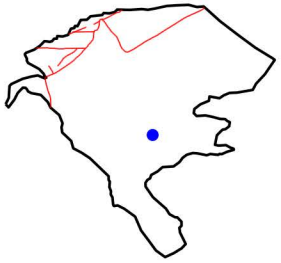
Figure B3-8



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

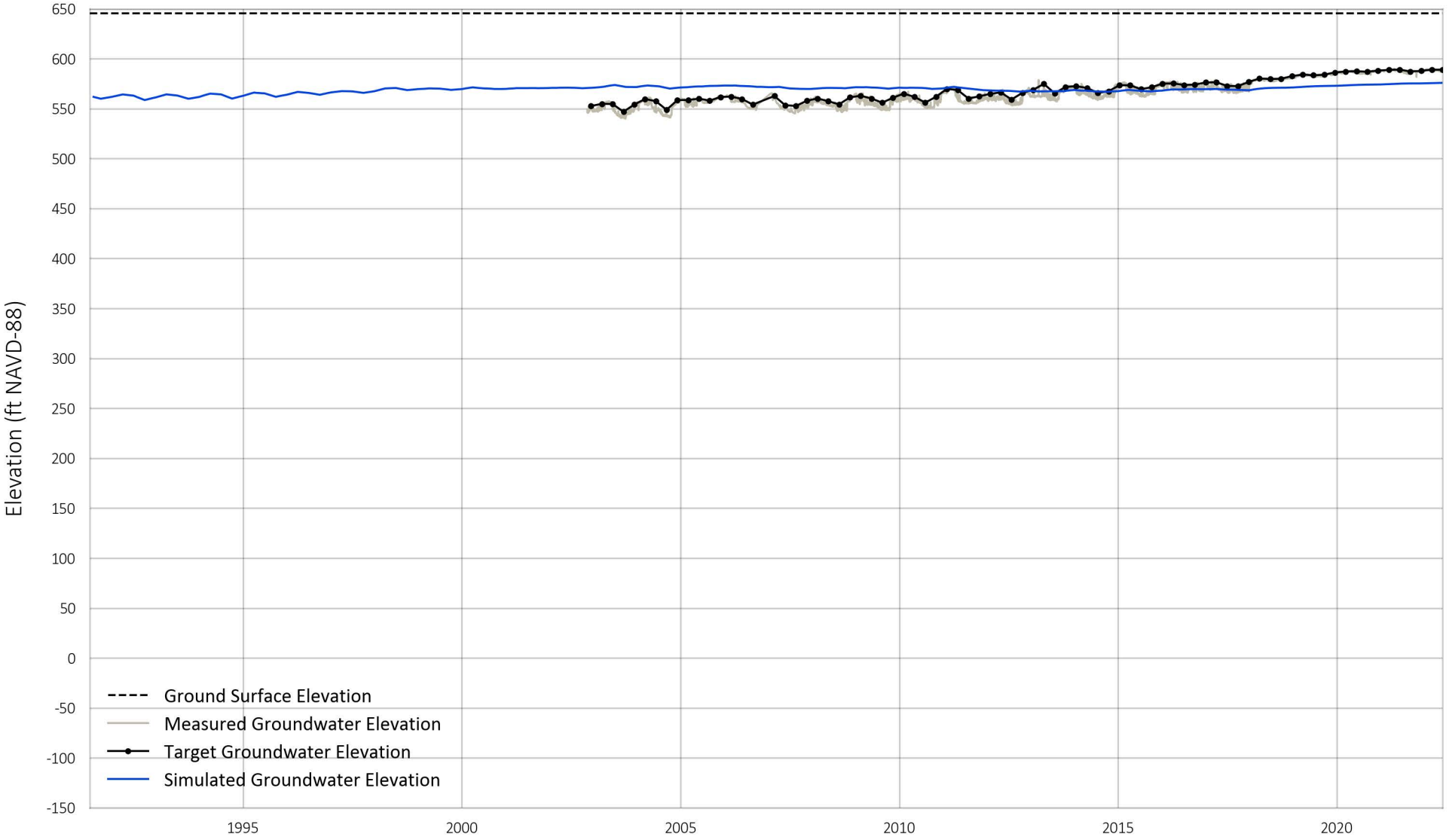
Target Groundwater Elevation (ft)
Mean = 563.00
Standard Deviation = 12.11

Simulated Groundwater Elevation (ft)
Mean = 554.46
Standard Deviation = 15.38

Mean Residual (ft) = -8.54
RMSE (ft) = 9.98

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1202650
Well Name: Private Well
Owner: Private

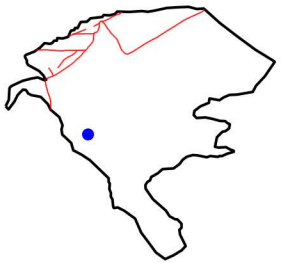
Figure B3-9



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

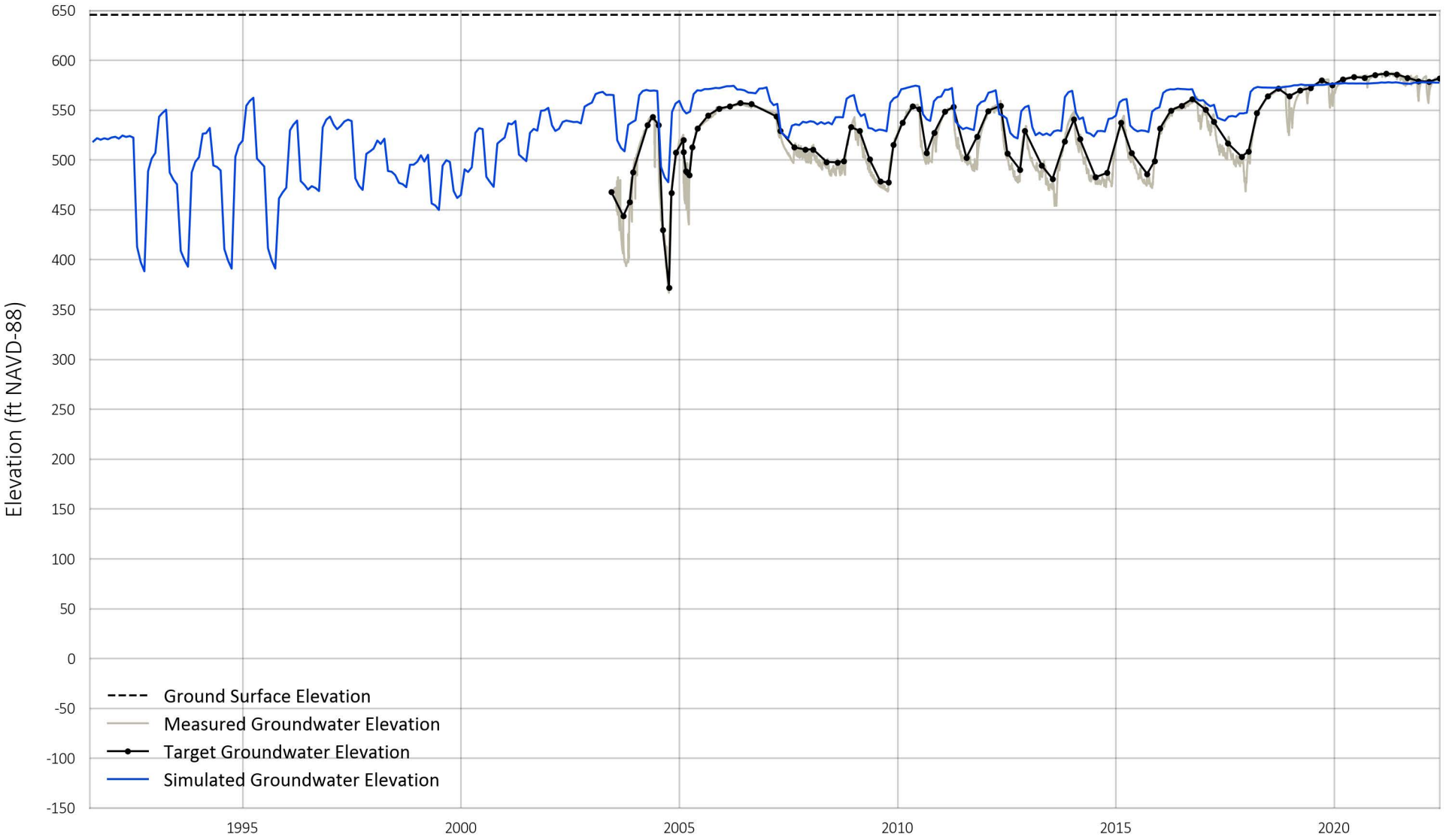
Target Groundwater Elevation (ft)
Mean = 568.62
Standard Deviation = 11.59

Simulated Groundwater Elevation (ft)
Mean = 570.75
Standard Deviation = 2.27

Mean Residual (ft) = 2.13
RMSE (ft) = 11.30

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1206955
Well Name: AP-PA/10
Owner: Chino Basin Watermaster

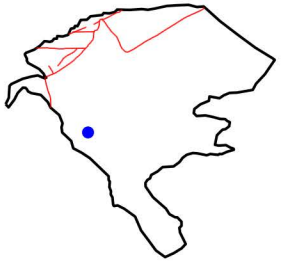
Figure B3-10



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

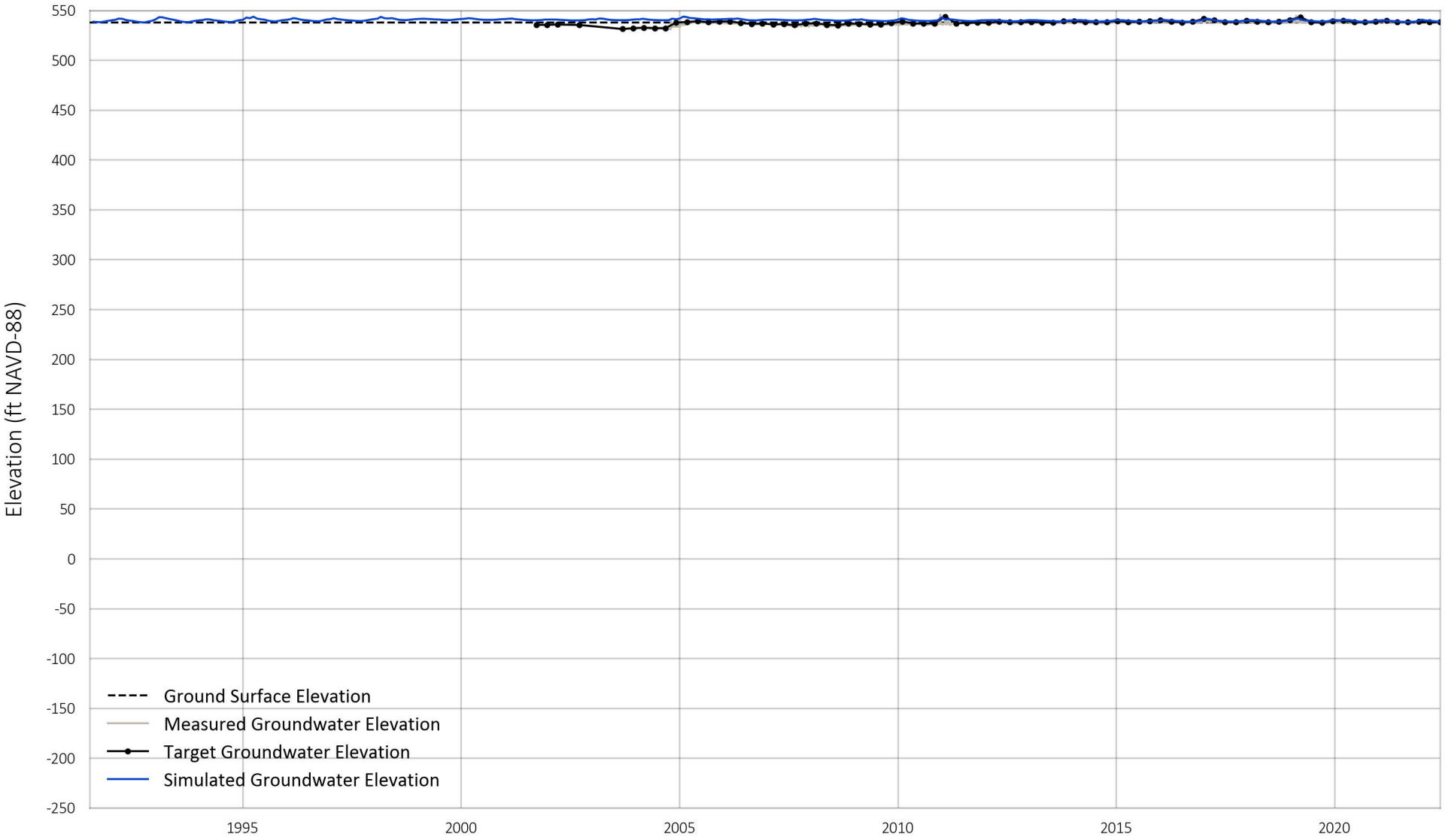
Target Groundwater Elevation (ft)
Mean = 526.27
Standard Deviation = 39.66

Simulated Groundwater Elevation (ft)
Mean = 554.32
Standard Deviation = 19.48

Mean Residual (ft) = 28.05
RMSE (ft) = 37.03

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1206952
Well Name: AP-PA/7
Owner: Chino Basin Watermaster

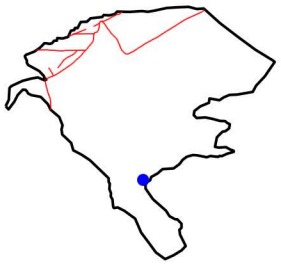
Figure B3-11



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

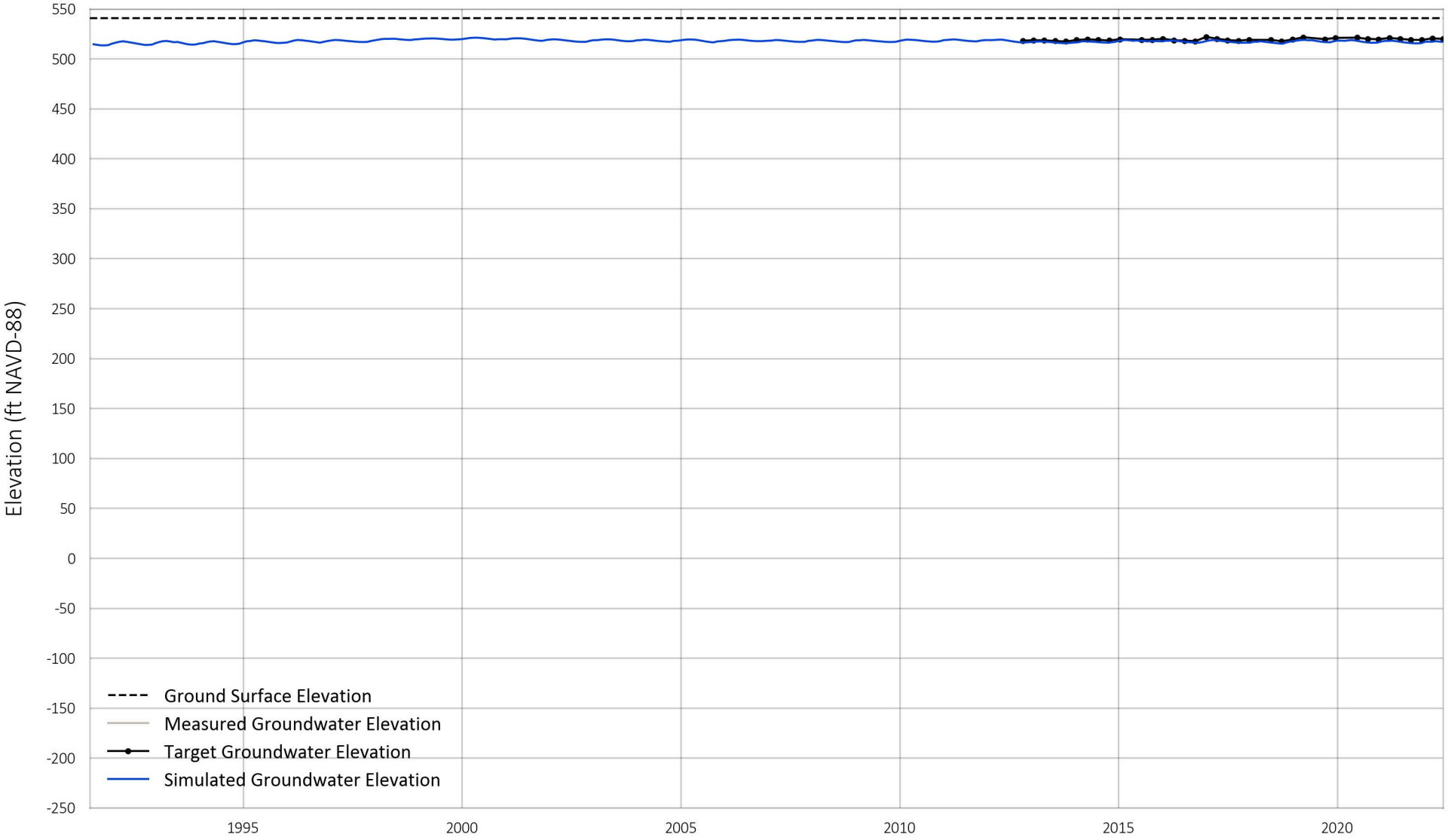
Target Groundwater Elevation (ft)
Mean = 537.59
Standard Deviation = 2.14

Simulated Groundwater Elevation (ft)
Mean = 539.82
Standard Deviation = 0.87

Mean Residual (ft) = 2.23
RMSE (ft) = 3.25

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1207088
Well Name: Archibald 1
Owner: USGS

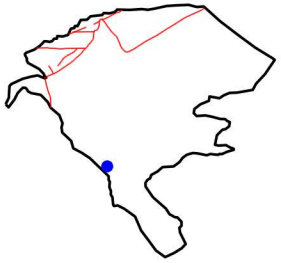
Figure B3-12



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

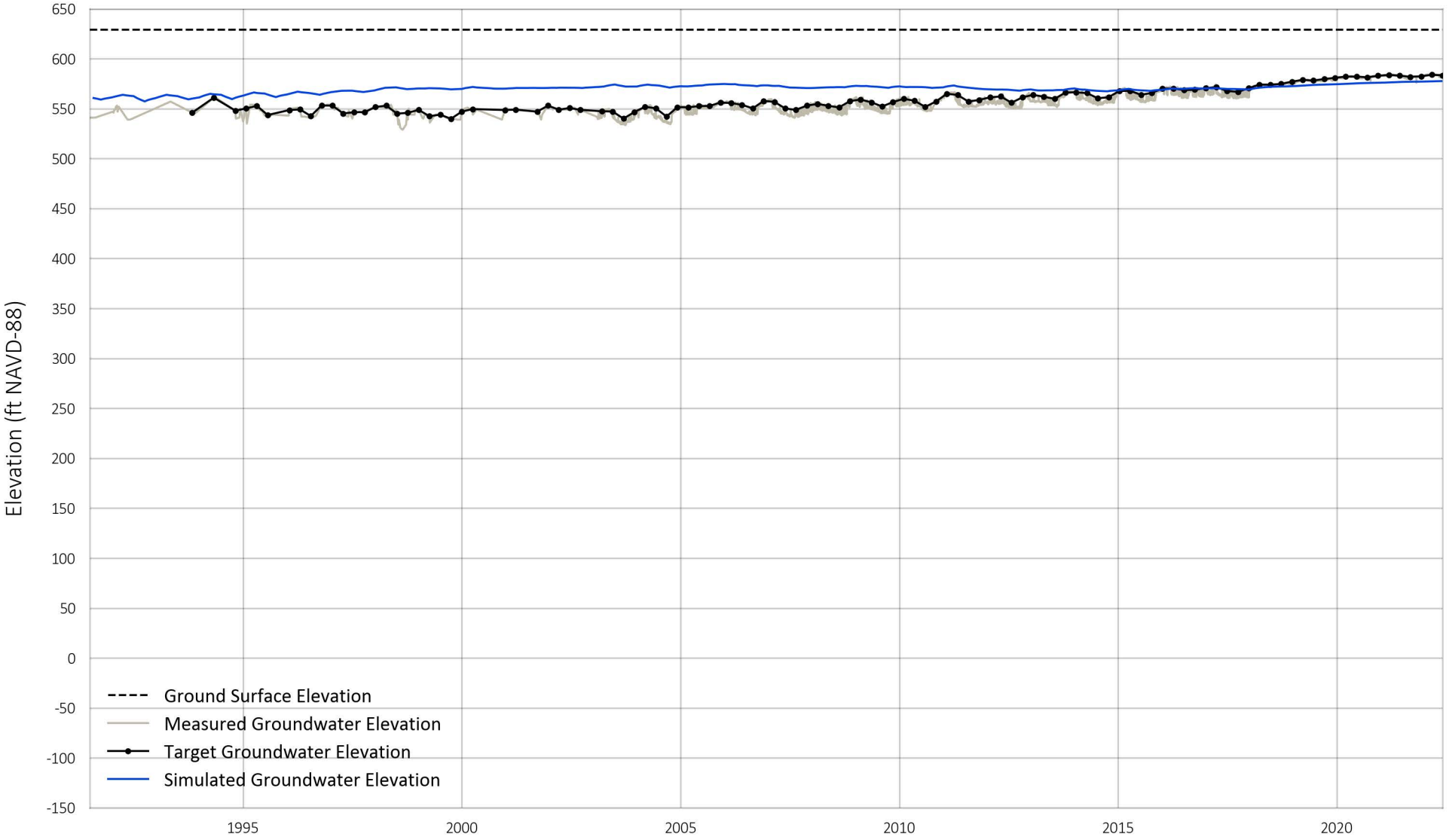
Target Groundwater Elevation (ft)
Mean = 519.18
Standard Deviation = 1.11

Simulated Groundwater Elevation (ft)
Mean = 516.88
Standard Deviation = 0.88

Mean Residual (ft) = -2.30
RMSE (ft) = 2.45

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1231807
Well Name: CAMW23-I
Owner: County of San Bernardino

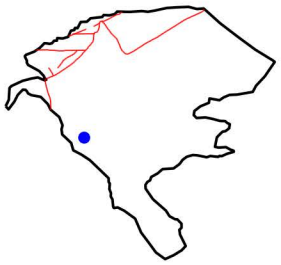
Figure B3-13



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

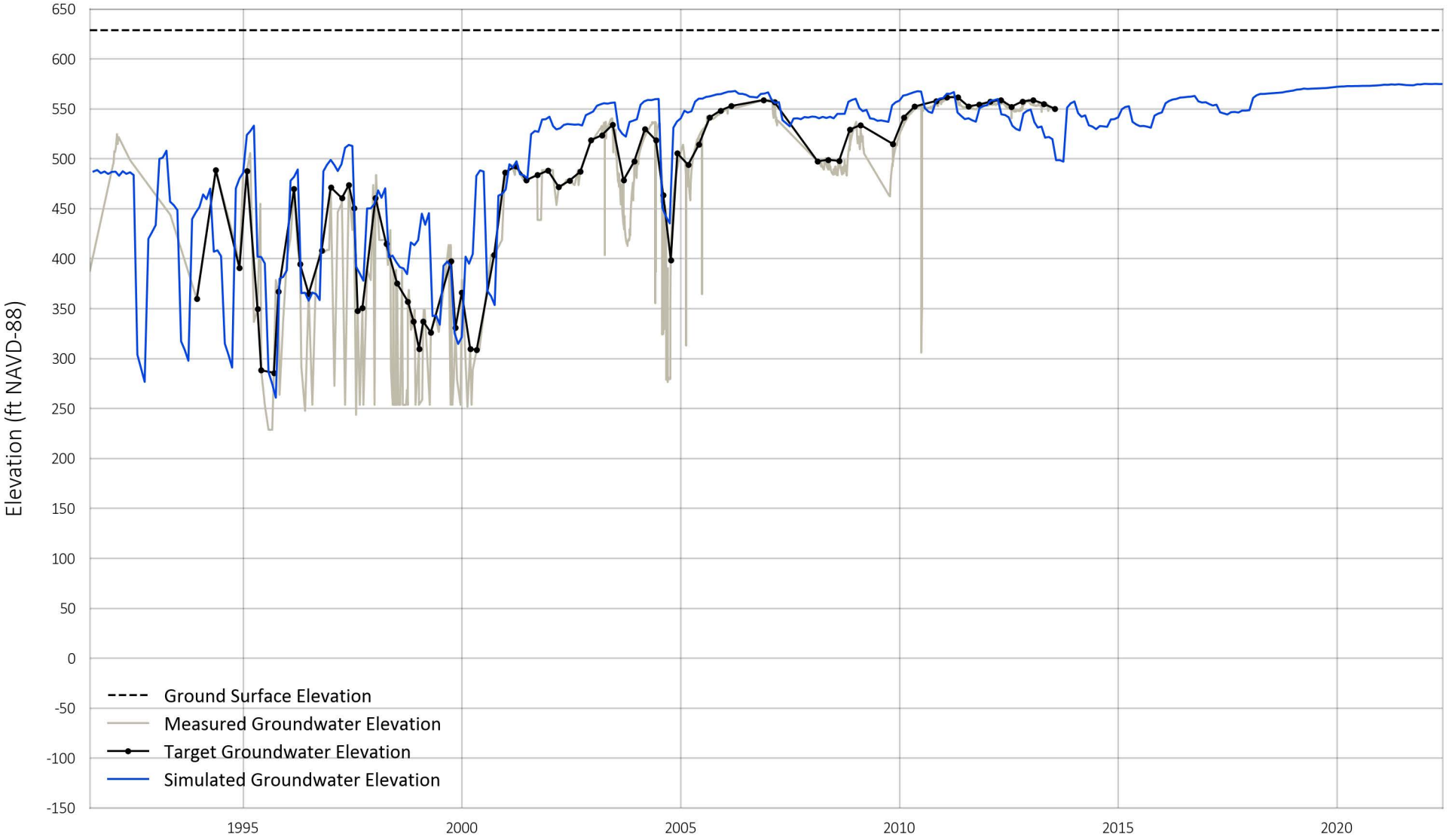
Target Groundwater Elevation (ft)
Mean = 559.15
Standard Deviation = 12.04

Simulated Groundwater Elevation (ft)
Mean = 570.72
Standard Deviation = 3.22

Mean Residual (ft) = 11.57
RMSE (ft) = 15.84

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1203215
Well Name: CH HIL 15A
Owner: City of Chino Hills

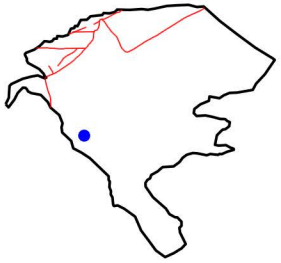
Figure B3-14



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

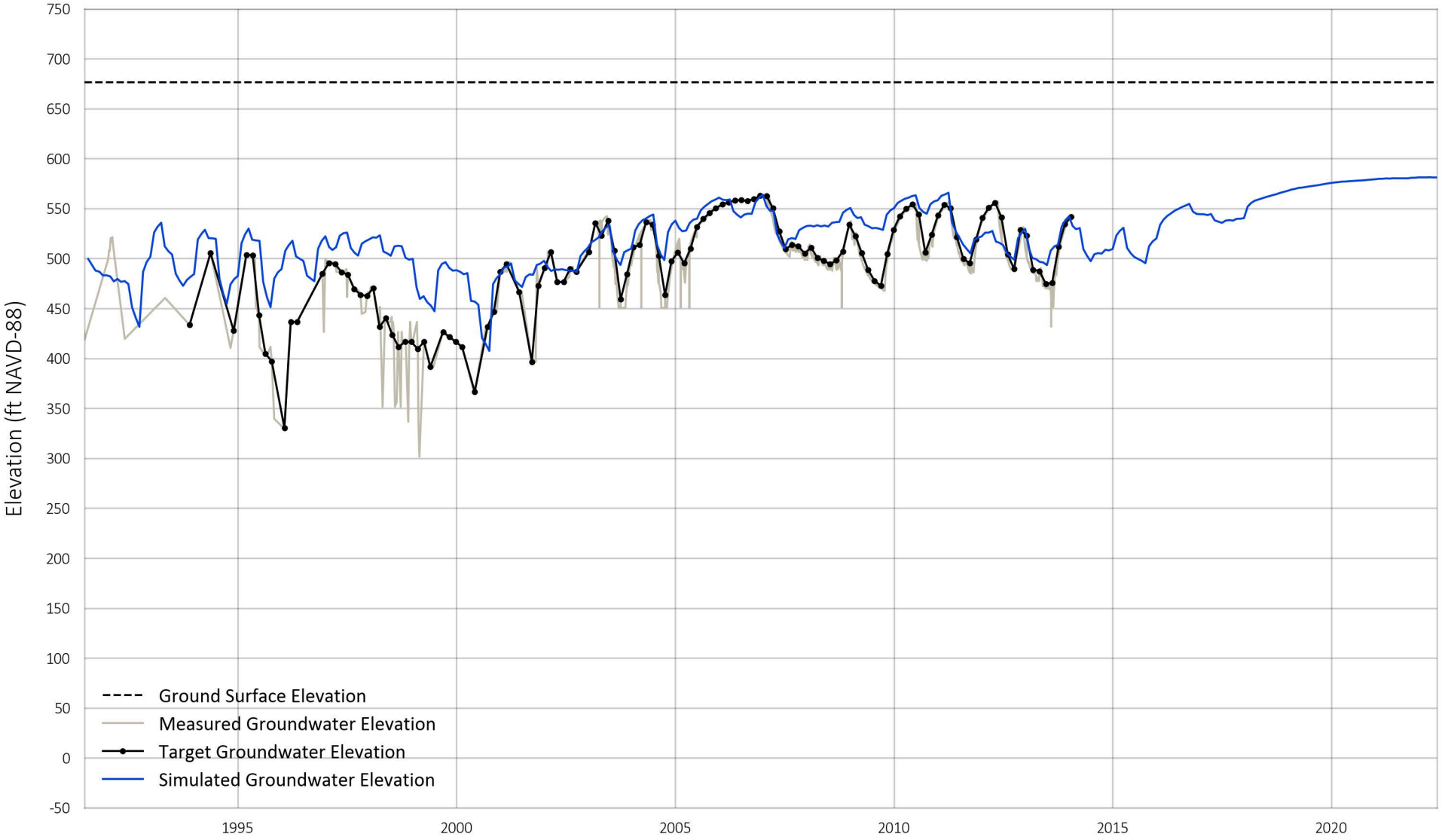
Target Groundwater Elevation (ft)
Mean = 463.32
Standard Deviation = 83.52

Simulated Groundwater Elevation (ft)
Mean = 487.88
Standard Deviation = 74.84

Mean Residual (ft) = 24.56
RMSE (ft) = 47.49

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1203214
Well Name: CH HIL 15B
Owner: City of Chino Hills

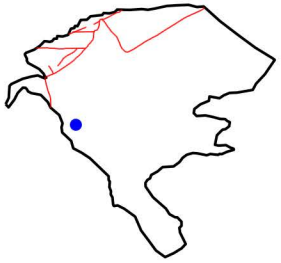
Figure B3-15



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

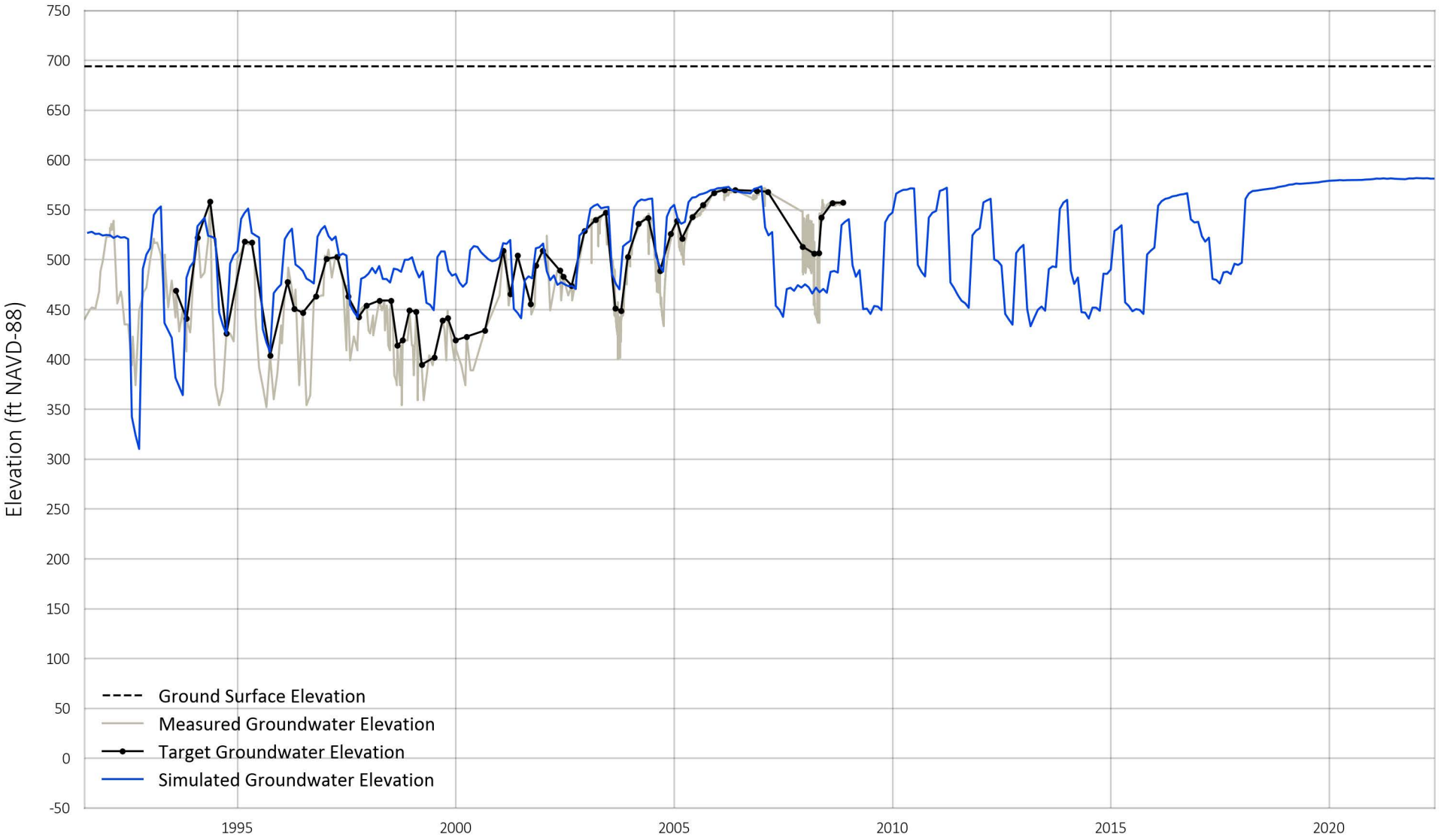
Target Groundwater Elevation (ft)
Mean = 492.96
Standard Deviation = 47.93

Simulated Groundwater Elevation (ft)
Mean = 517.86
Standard Deviation = 27.51

Mean Residual (ft) = 24.90
RMSE (ft) = 40.46

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1203106
Well Name: CH HIL 16
Owner: City of Chino Hills

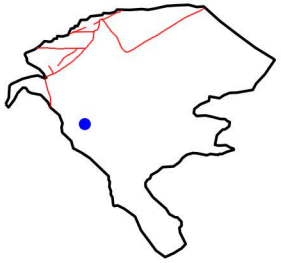
Figure B3-16



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

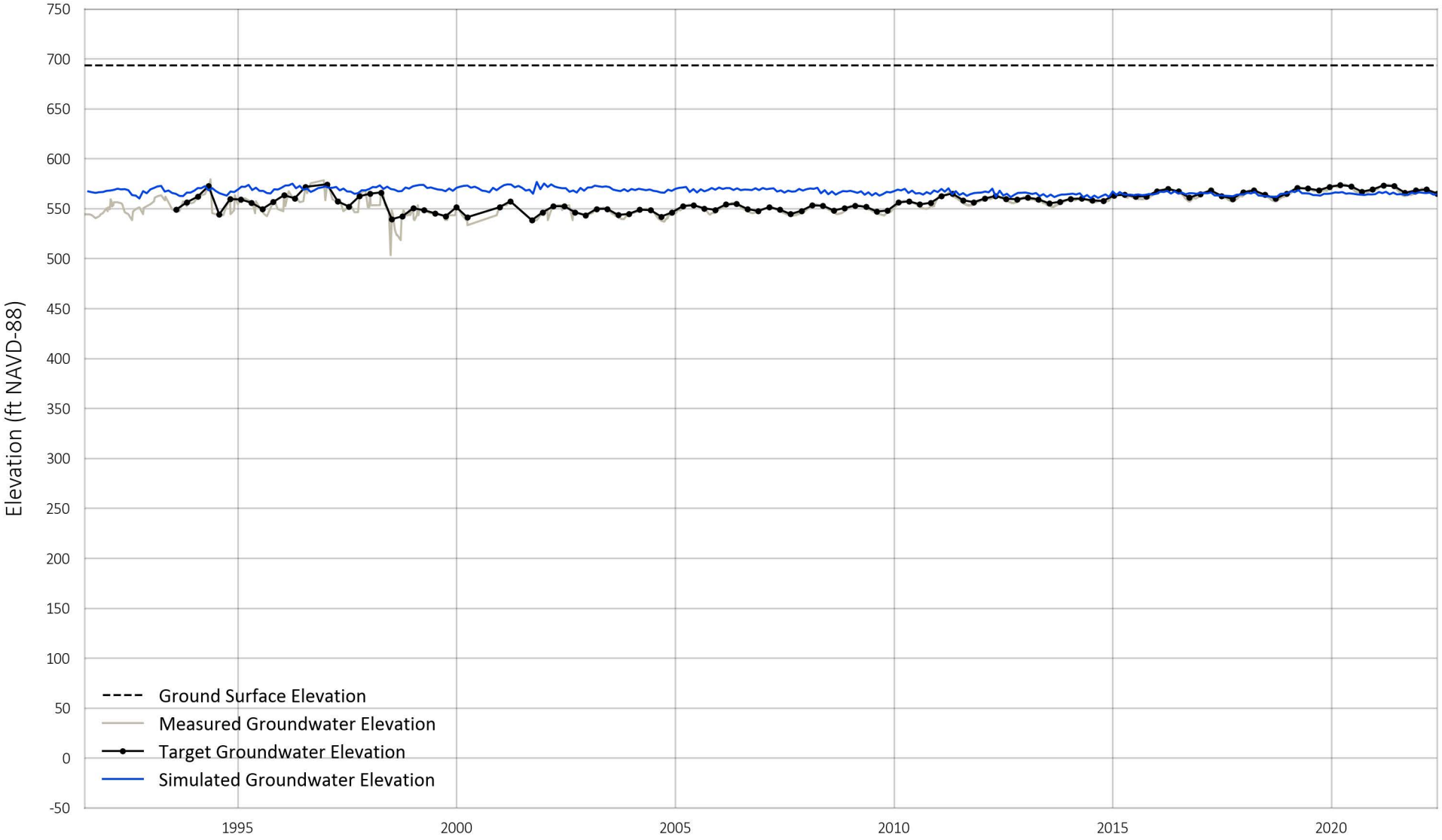
Target Groundwater Elevation (ft)
Mean = 489.43
Standard Deviation = 49.71

Simulated Groundwater Elevation (ft)
Mean = 504.44
Standard Deviation = 39.97

Mean Residual (ft) = 15.01
RMSE (ft) = 39.72

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1004179
Well Name: CH HIL 17
Owner: City of Chino Hills

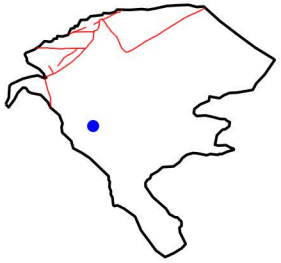
Figure B3-17



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

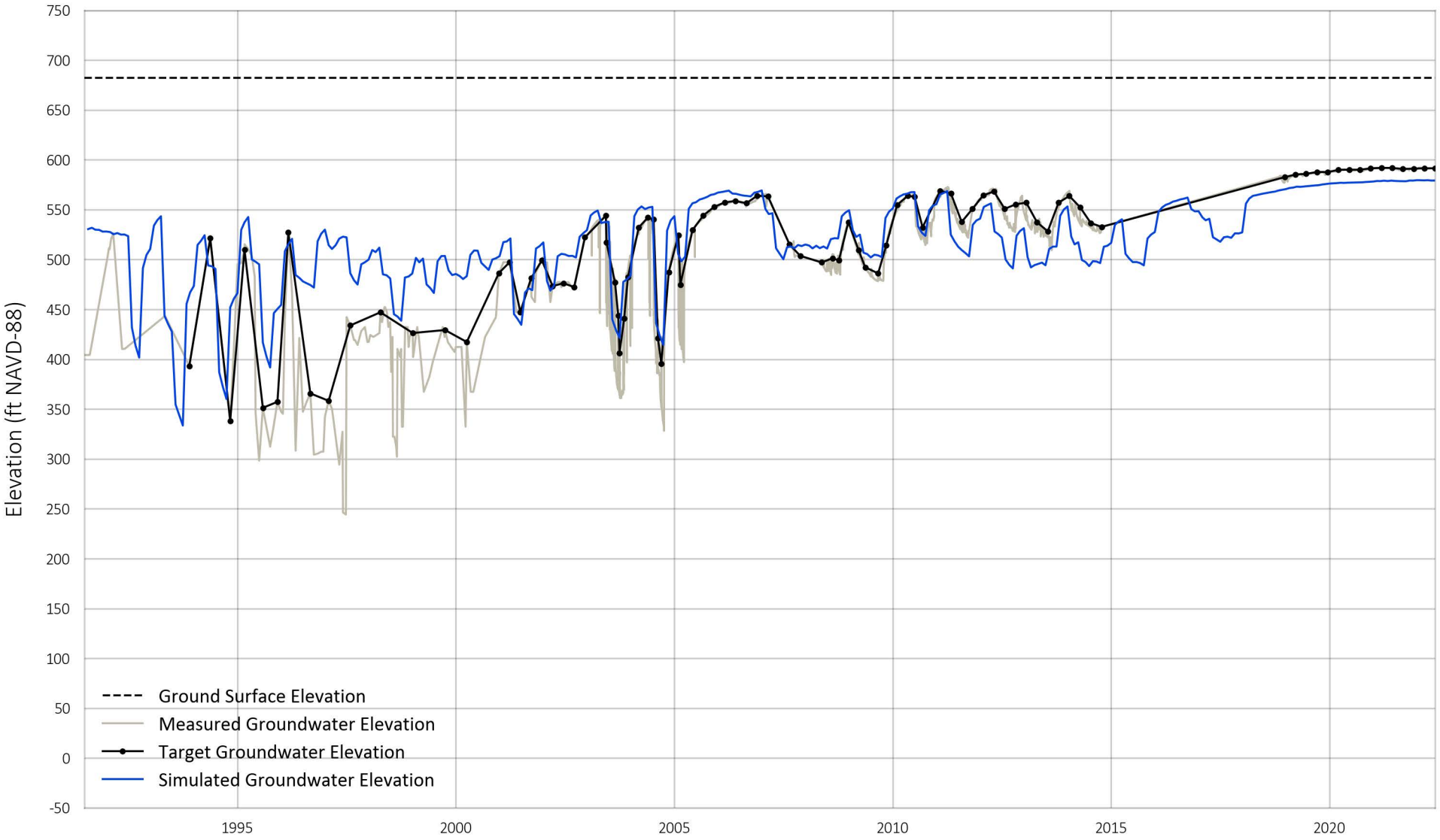
Target Groundwater Elevation (ft)
Mean = 557.09
Standard Deviation = 8.94

Simulated Groundwater Elevation (ft)
Mean = 567.13
Standard Deviation = 2.95

Mean Residual (ft) = 10.03
RMSE (ft) = 14.37

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1203149
Well Name: CH HIL 18A
Owner: City of Chino Hills

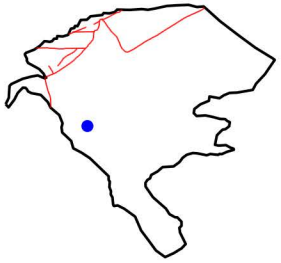
Figure B3-18



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

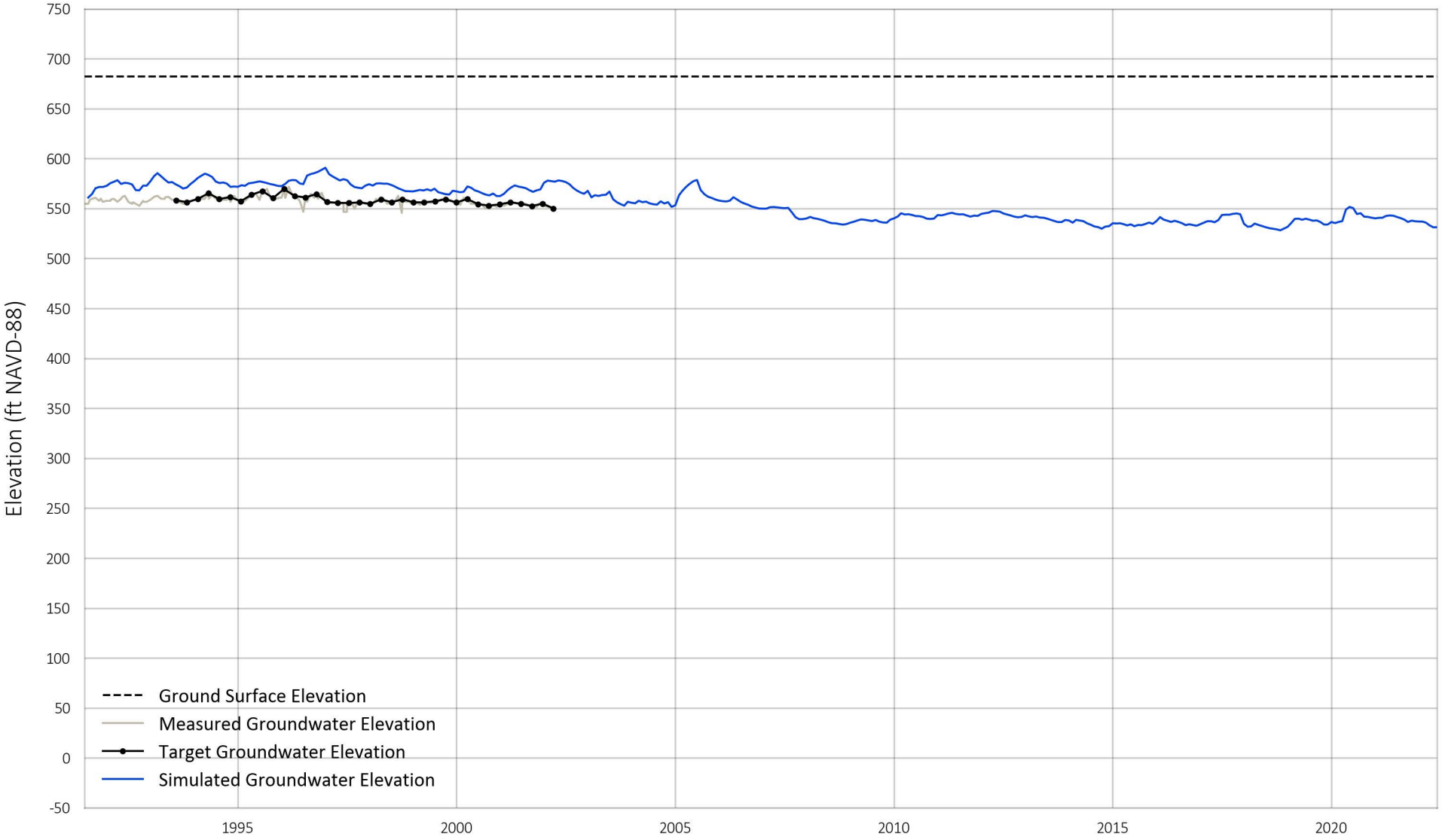
Target Groundwater Elevation (ft)
Mean = 514.55
Standard Deviation = 64.55

Simulated Groundwater Elevation (ft)
Mean = 521.49
Standard Deviation = 43.61

Mean Residual (ft) = 6.94
RMSE (ft) = 37.27

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1203158
Well Name: CH HIL 19
Owner: City of Chino Hills

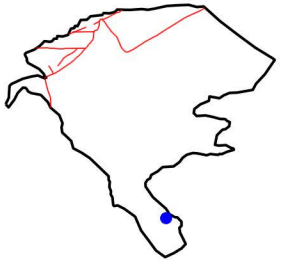
Figure B3-19



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

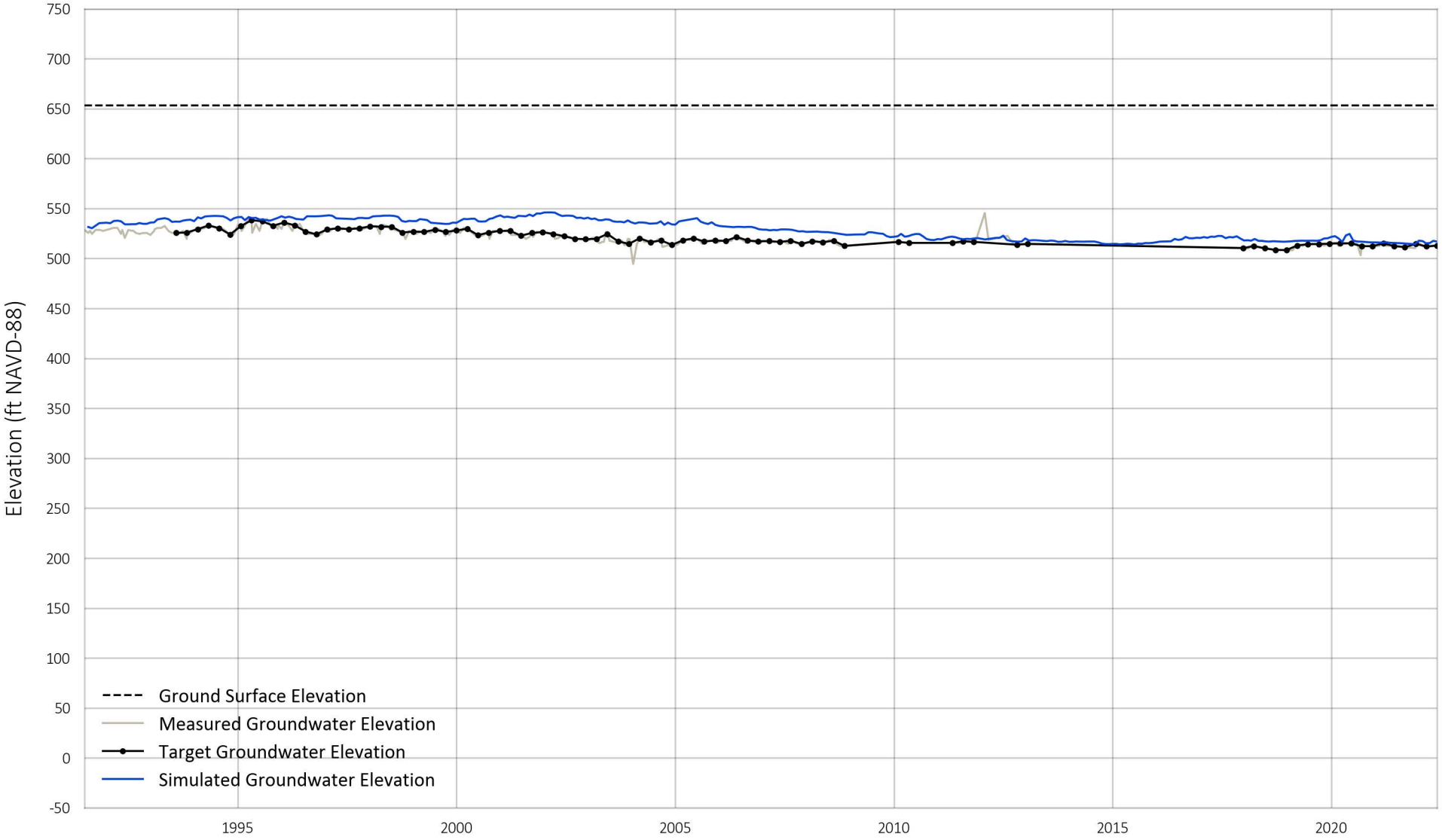
Target Groundwater Elevation (ft)
Mean = 558.21
Standard Deviation = 4.23

Simulated Groundwater Elevation (ft)
Mean = 573.34
Standard Deviation = 5.91

Mean Residual (ft) = 15.13
RMSE (ft) = 16.11

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1004636
Well Name: COR 06
Owner: City of Corona

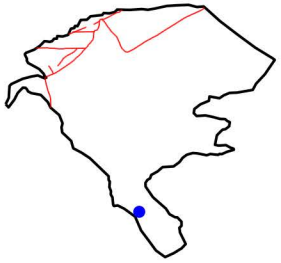
Figure B3-20



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

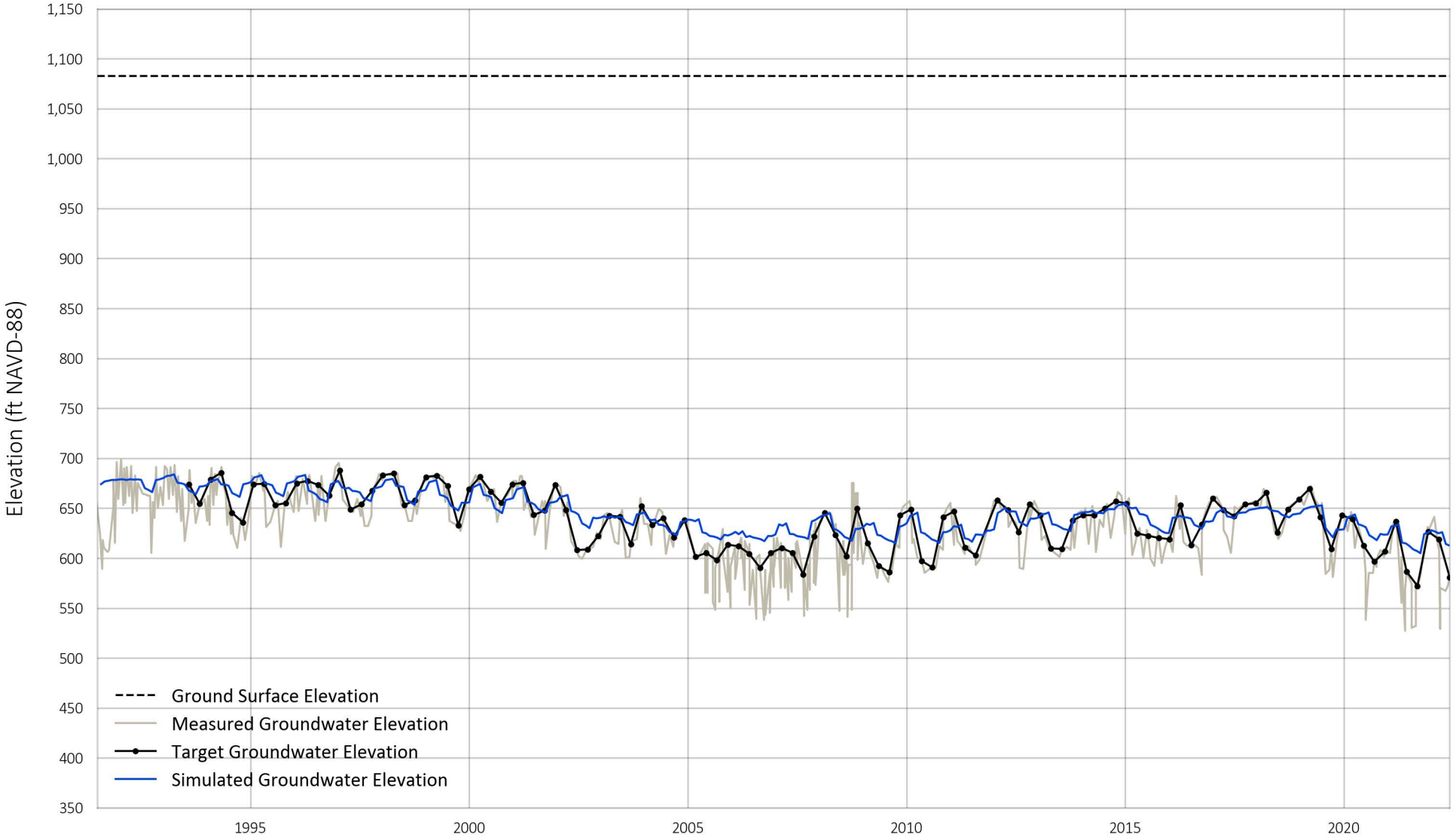
Target Groundwater Elevation (ft)
Mean = 521.06
Standard Deviation = 7.39

Simulated Groundwater Elevation (ft)
Mean = 531.79
Standard Deviation = 9.92

Mean Residual (ft) = 10.73
RMSE (ft) = 12.19

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1004920
Well Name: COR 11
Owner: City of Corona

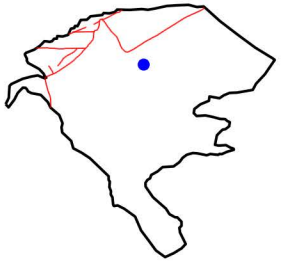
Figure B3-21



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

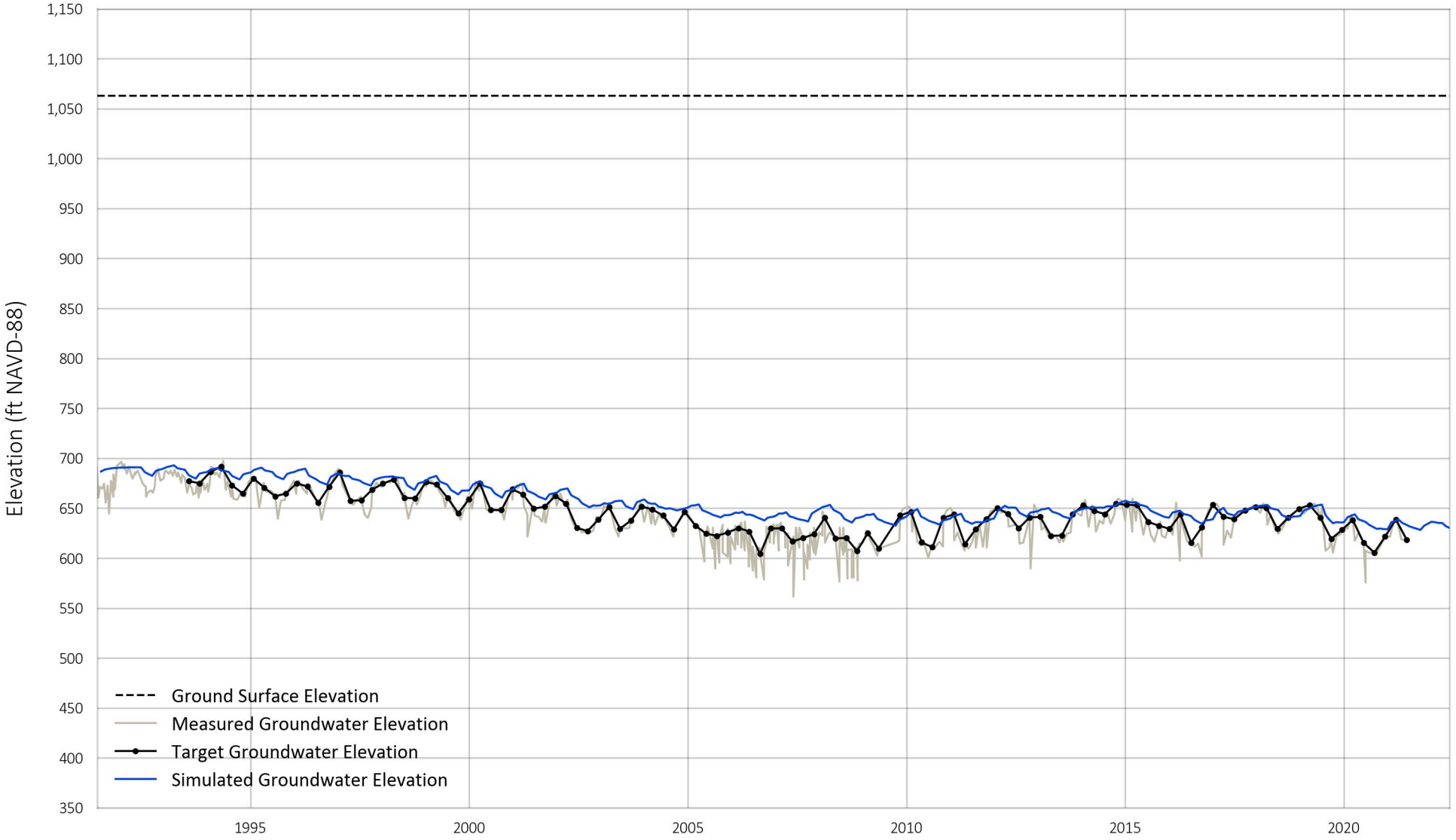
Target Groundwater Elevation (ft)
Mean = 638.00
Standard Deviation = 27.91

Simulated Groundwater Elevation (ft)
Mean = 643.84
Standard Deviation = 18.25

Mean Residual (ft) = 5.83
RMSE (ft) = 16.30

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002309
Well Name: CVWD 1
Owner: Cucamonga Valley Water District

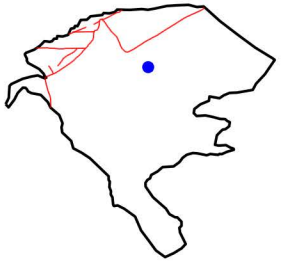
Figure B3-22



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

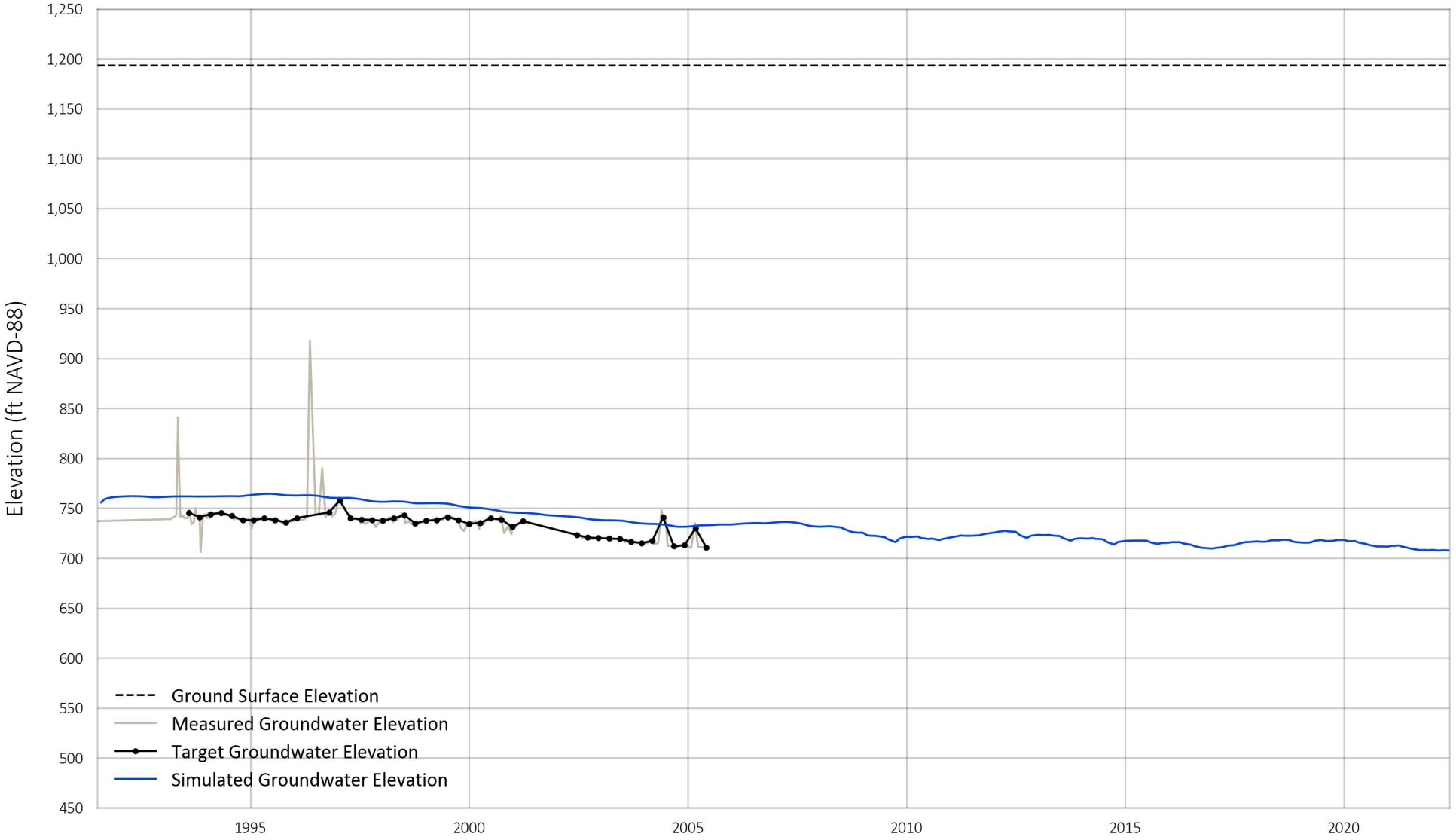
Target Groundwater Elevation (ft)
Mean = 644.21
Standard Deviation = 19.99

Simulated Groundwater Elevation (ft)
Mean = 655.34
Standard Deviation = 16.68

Mean Residual (ft) = 11.13
RMSE (ft) = 14.88

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002312
Well Name: CVWD 3
Owner: Cucamonga Valley Water District

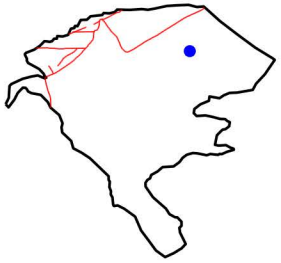
Figure B3-23



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

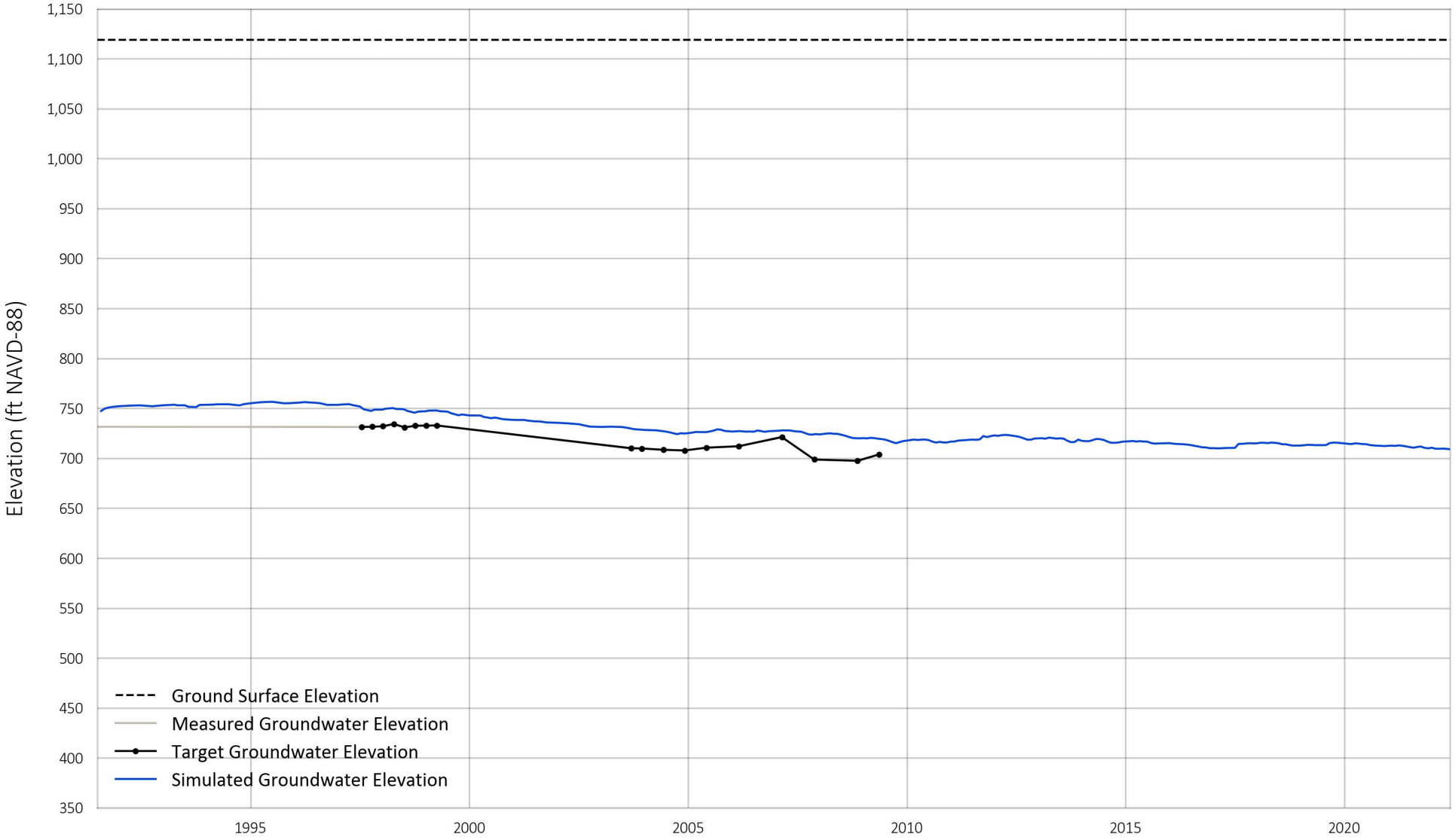
Target Groundwater Elevation (ft)
Mean = 733.83
Standard Deviation = 11.00

Simulated Groundwater Elevation (ft)
Mean = 750.63
Standard Deviation = 11.24

Mean Residual (ft) = 16.80
RMSE (ft) = 17.99

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002205
Well Name: CVWD 35
Owner: Cucamonga Valley Water District

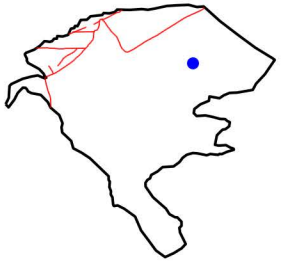
Figure B3-24



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

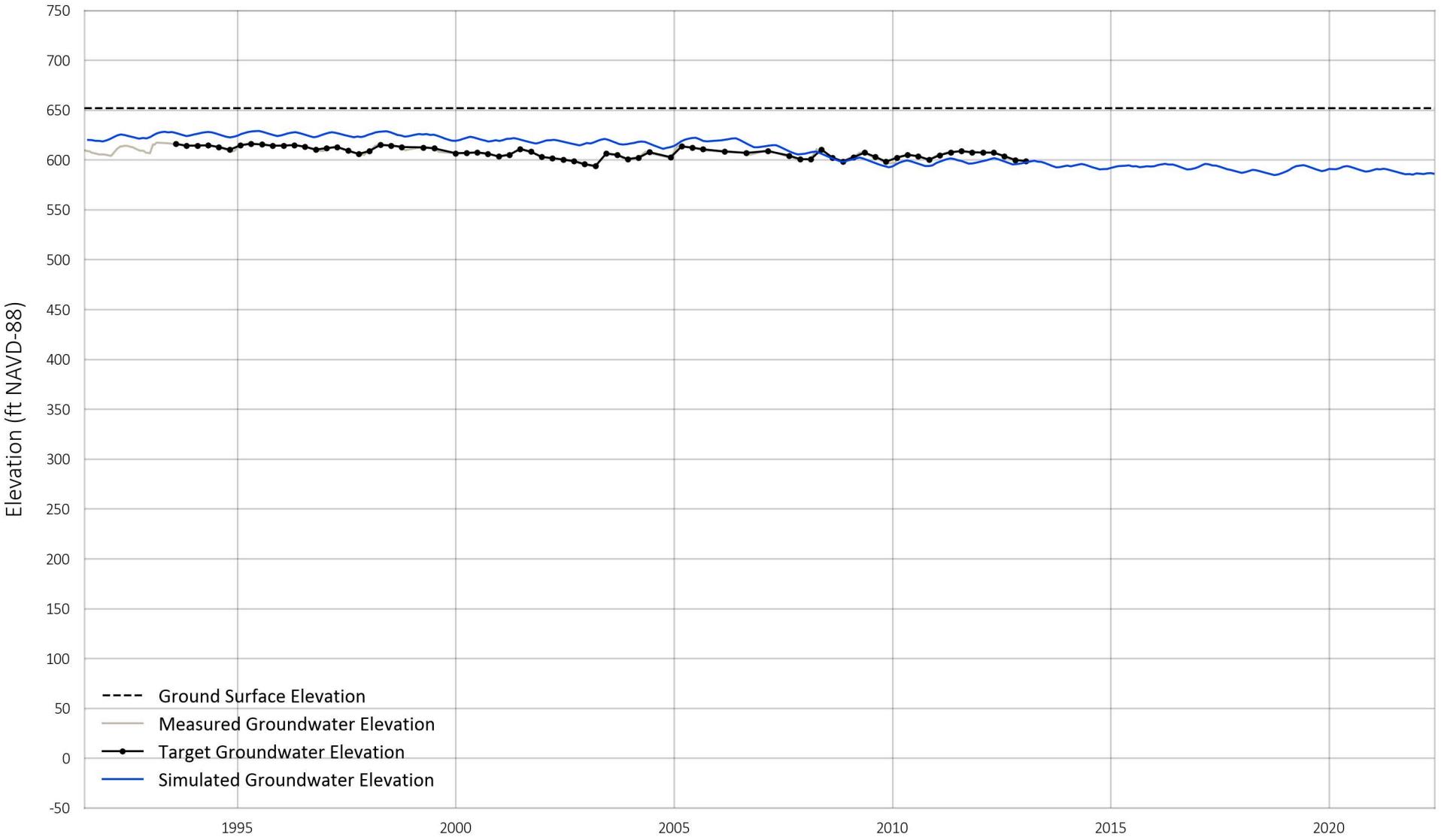
Target Groundwater Elevation (ft)
Mean = 718.79
Standard Deviation = 13.38

Simulated Groundwater Elevation (ft)
Mean = 735.66
Standard Deviation = 12.00

Mean Residual (ft) = 16.86
RMSE (ft) = 17.28

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002219
Well Name: Cal Speedway 1
Owner: California Speedway

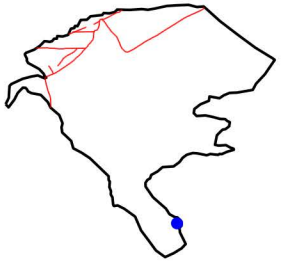
Figure B3-25



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

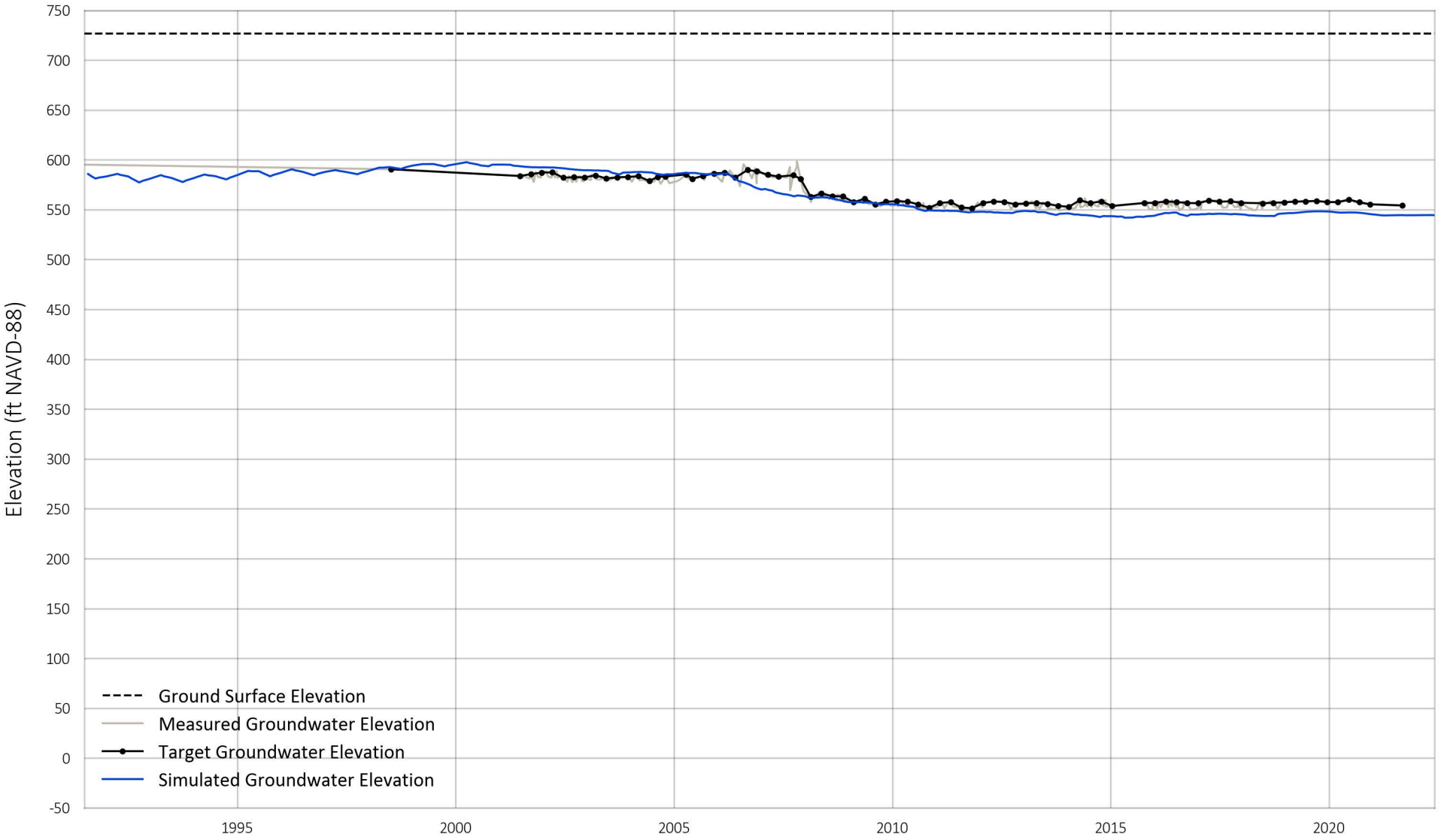
Target Groundwater Elevation (ft)
Mean = 607.18
Standard Deviation = 5.51

Simulated Groundwater Elevation (ft)
Mean = 614.81
Standard Deviation = 11.23

Mean Residual (ft) = 7.63
RMSE (ft) = 11.64

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1222093
Well Name: Corona CG-1
Owner: Riverside County Dept of Waste Resources

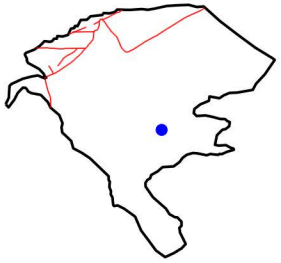
Figure B3-26



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

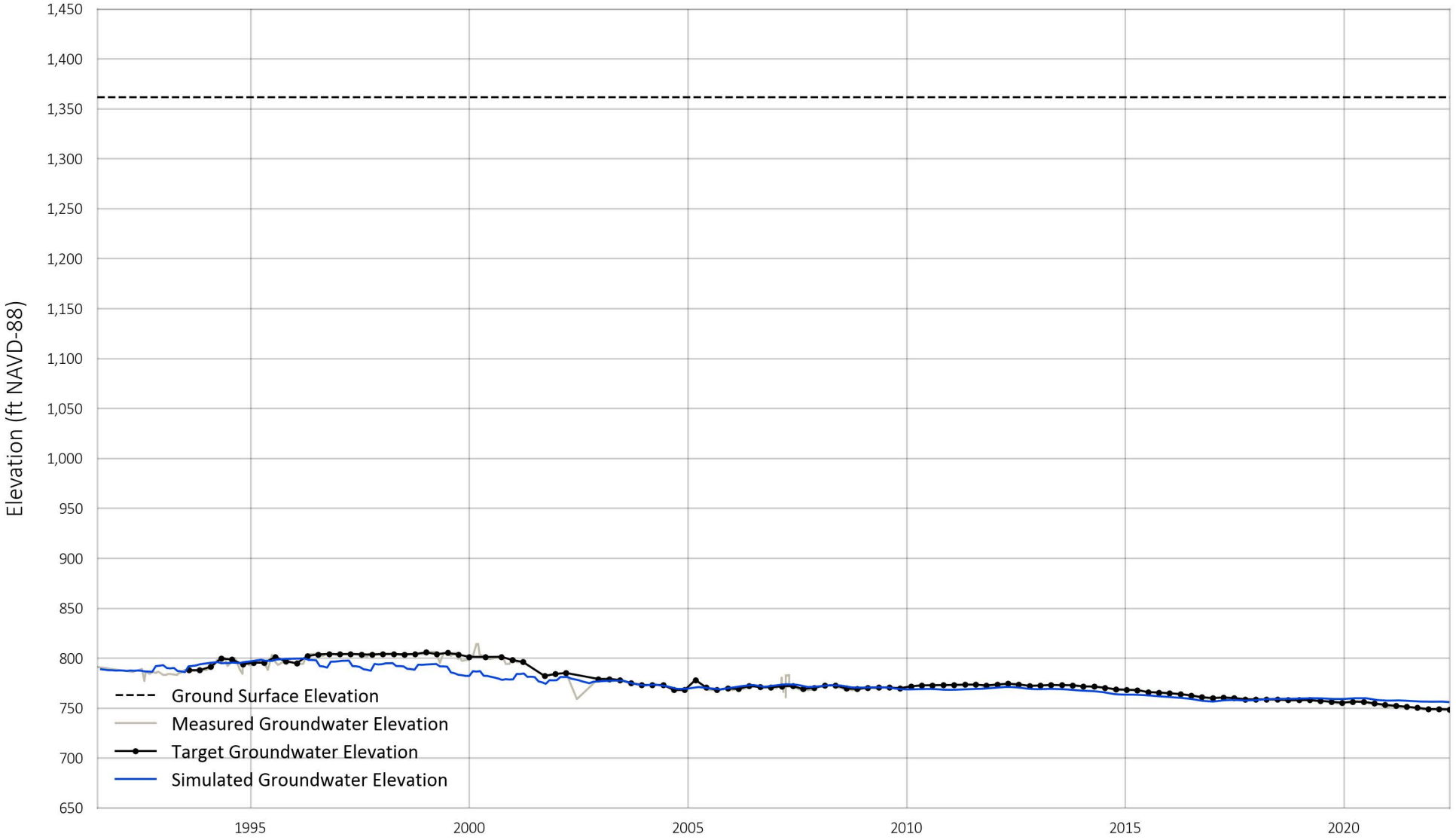
Target Groundwater Elevation (ft)
Mean = 566.87
Standard Deviation = 13.24

Simulated Groundwater Elevation (ft)
Mean = 561.22
Standard Deviation = 18.34

Mean Residual (ft) = -5.66
RMSE (ft) = 9.47

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1003810
Well Name: Private Well
Owner: Private

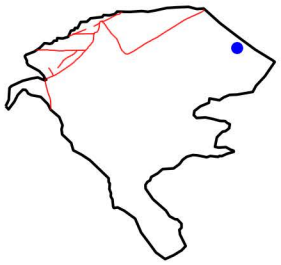
Figure B3-27



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

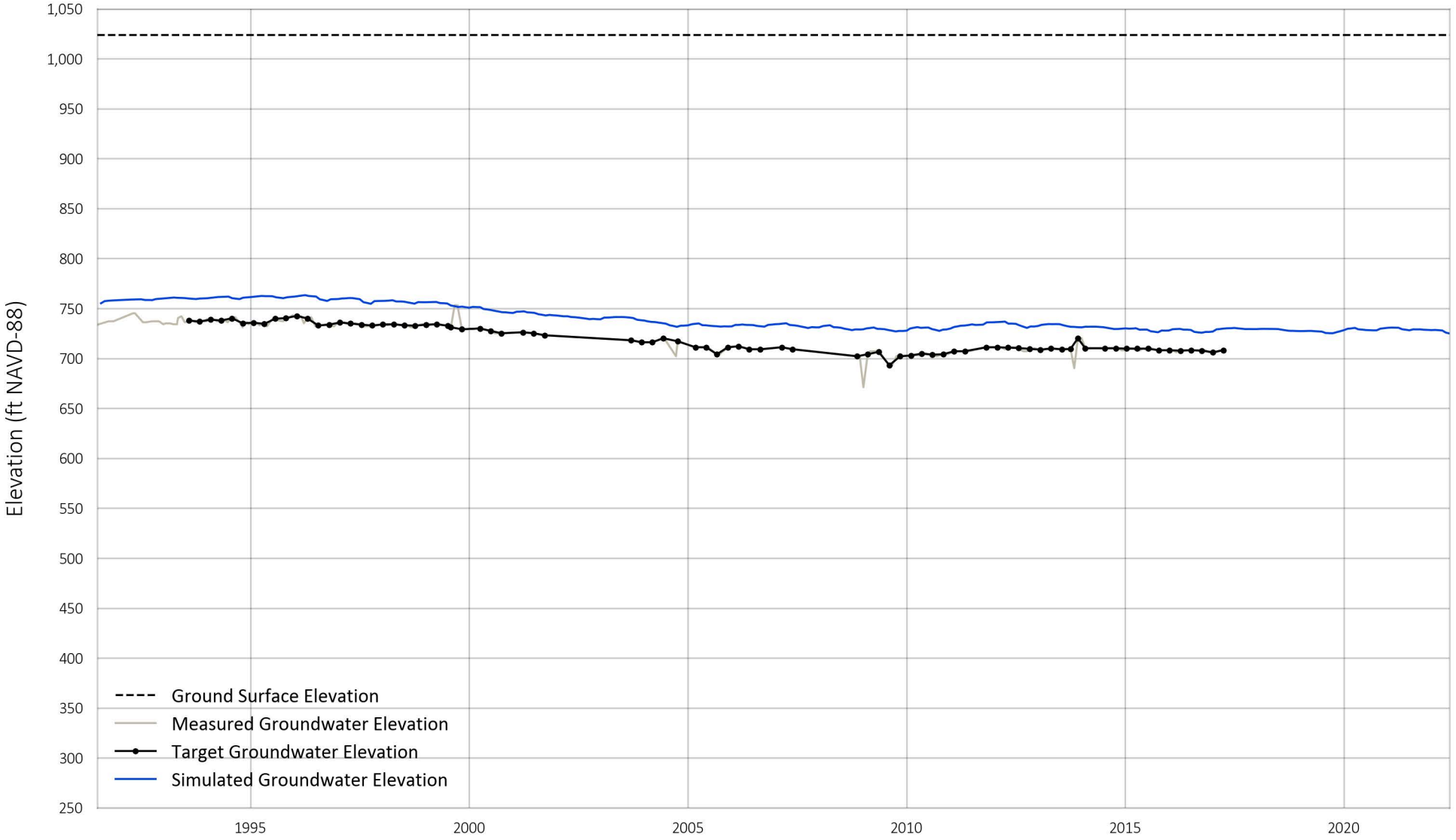
Target Groundwater Elevation (ft)
Mean = 776.16
Standard Deviation = 16.50

Simulated Groundwater Elevation (ft)
Mean = 773.43
Standard Deviation = 13.04

Mean Residual (ft) = -2.73
RMSE (ft) = 6.71

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002082
Well Name: F18A
Owner: Fontana Water Company

Figure B3-28



Prepared by:

WEST YOST
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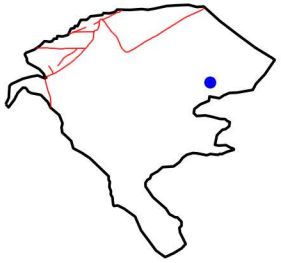
Well Location



Statistics

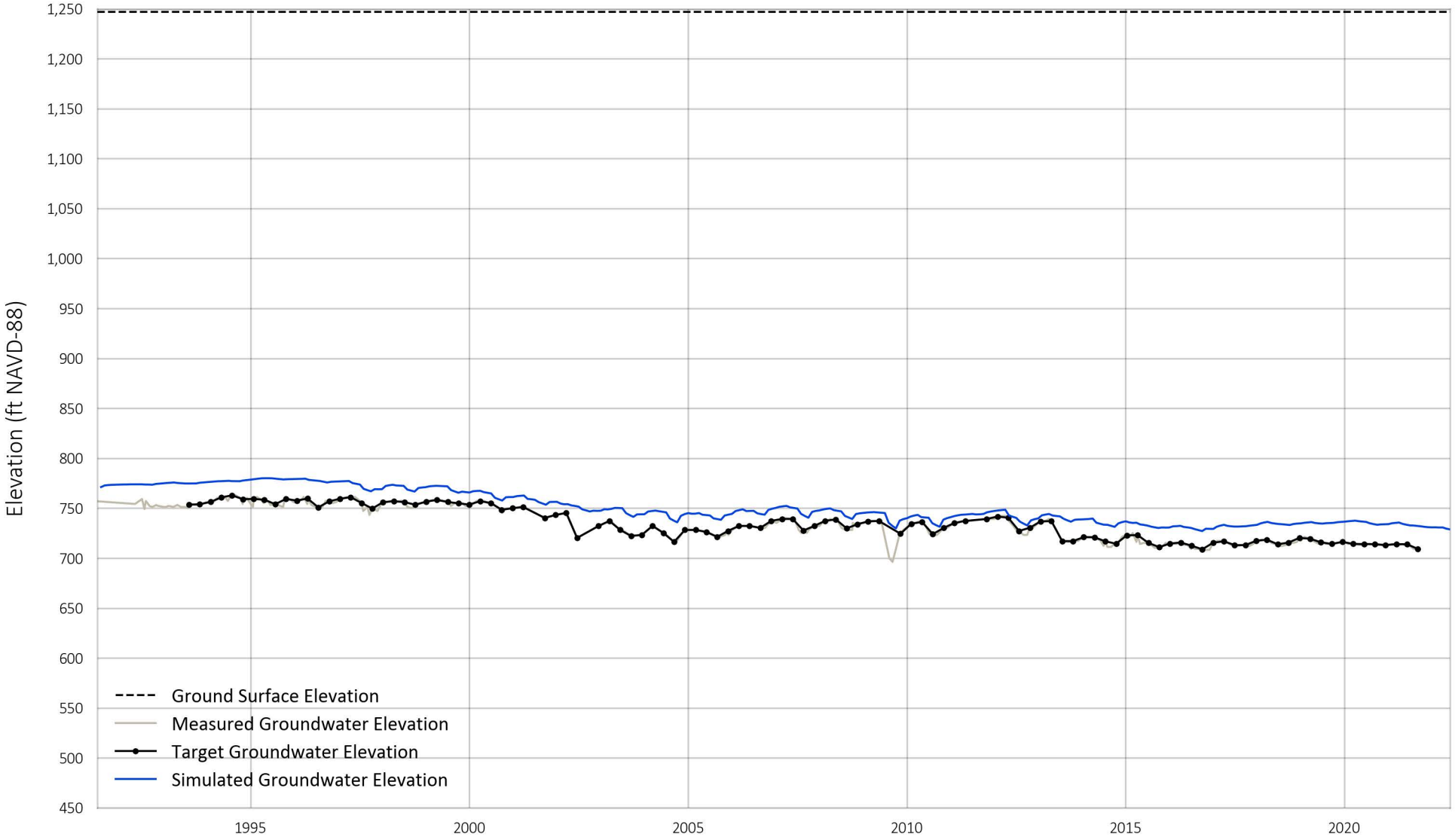
Target Groundwater Elevation (ft)
Mean = 719.18
Standard Deviation = 13.09

Simulated Groundwater Elevation (ft)
Mean = 741.81
Standard Deviation = 13.02

Mean Residual (ft) = 22.63
RMSE (ft) = 22.85

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002242
Well Name: F21A
Owner: Fontana Water Company

Figure B3-29



Prepared by:

WEST YOST
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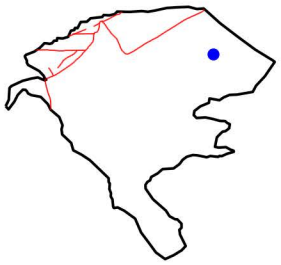
Well Location



Statistics

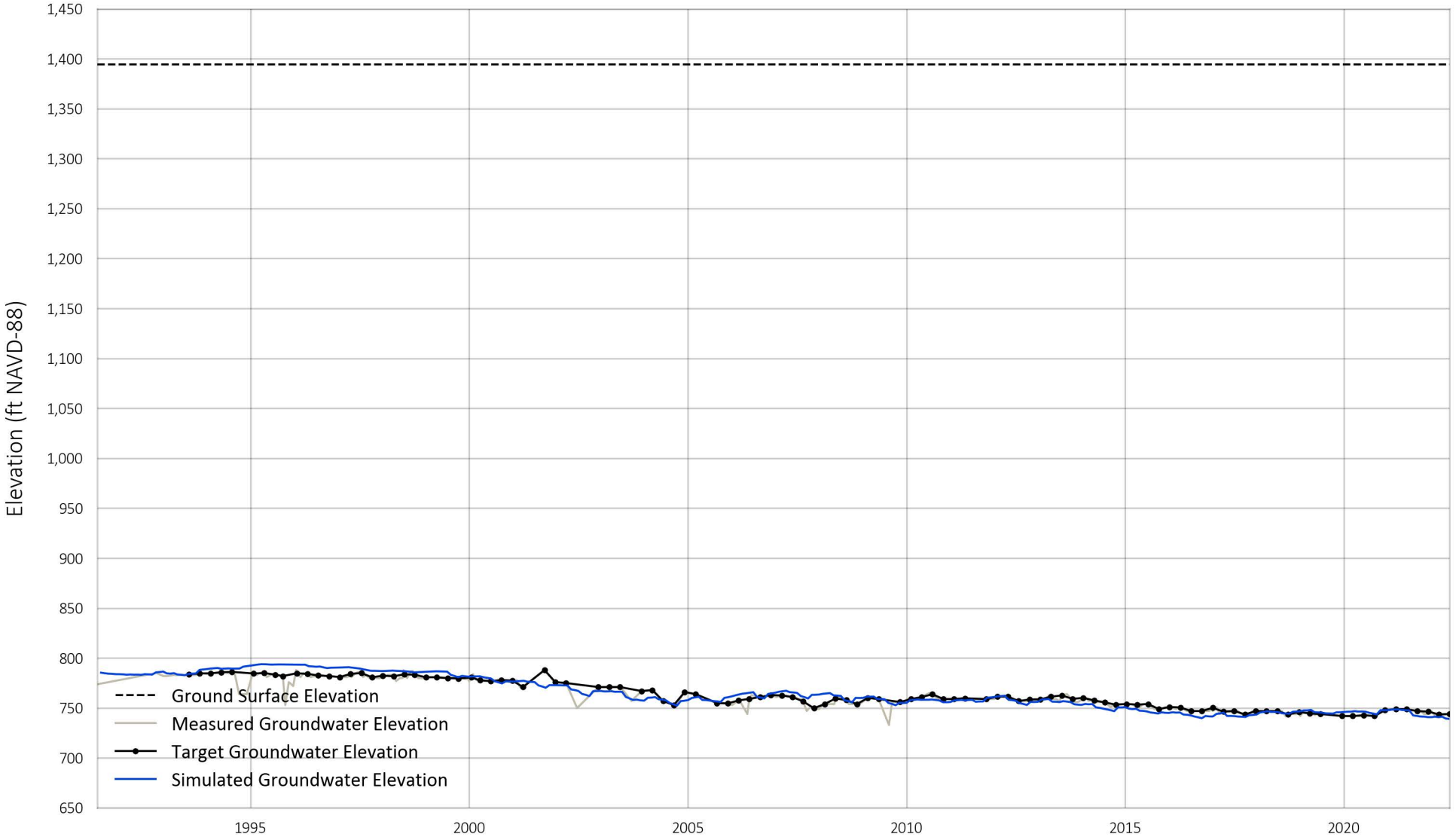
Target Groundwater Elevation (ft)
Mean = 734.09
Standard Deviation = 16.44

Simulated Groundwater Elevation (ft)
Mean = 749.61
Standard Deviation = 16.09

Mean Residual (ft) = 15.53
RMSE (ft) = 16.36

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002213
Well Name: F30A
Owner: Fontana Water Company

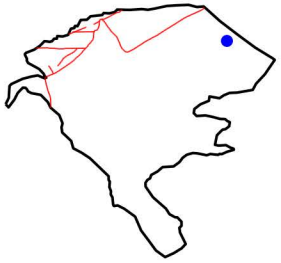
Figure B3-30



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

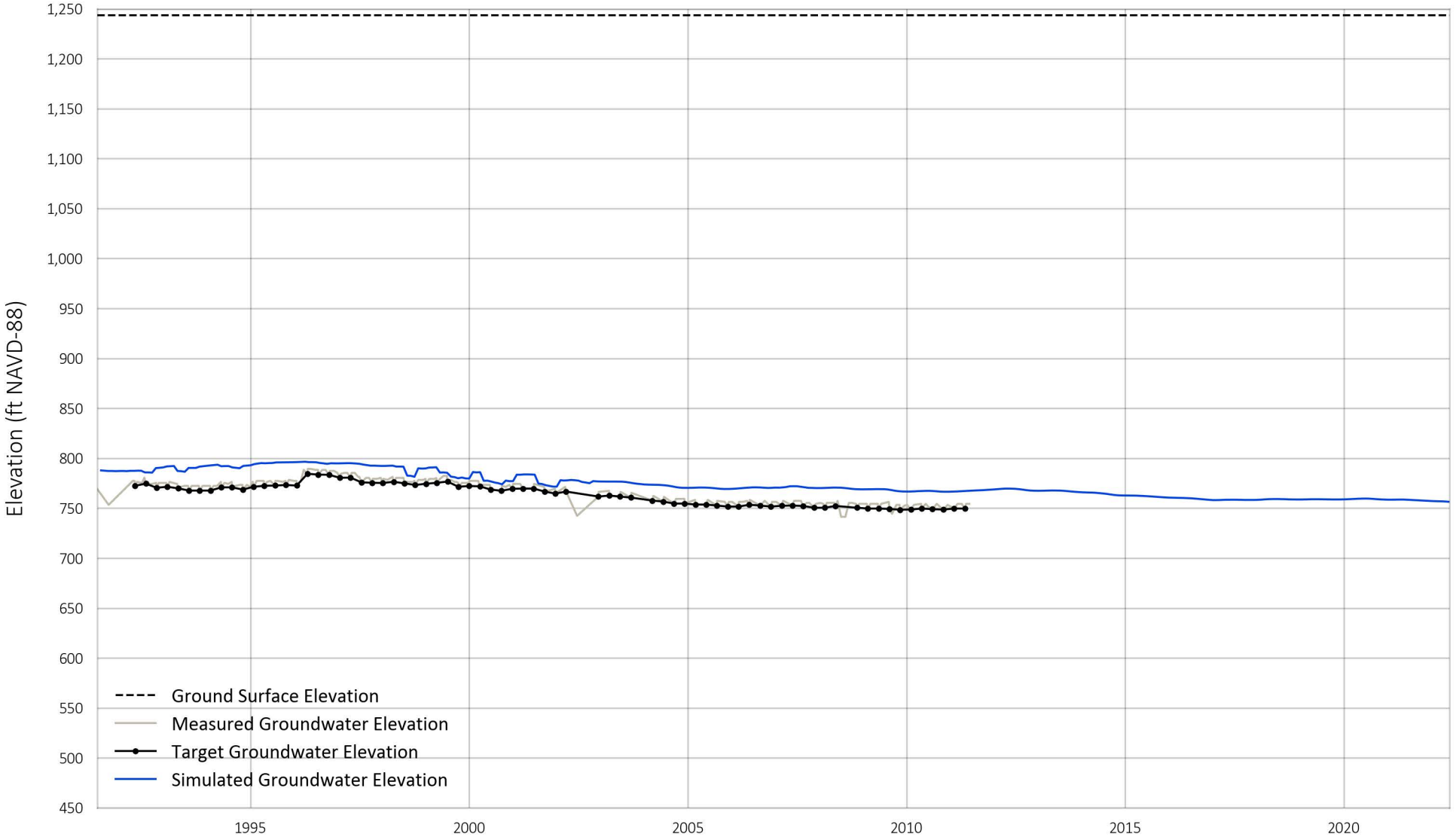
Target Groundwater Elevation (ft)
Mean = 763.12
Standard Deviation = 14.22

Simulated Groundwater Elevation (ft)
Mean = 763.47
Standard Deviation = 16.86

Mean Residual (ft) = 0.35
RMSE (ft) = 5.33

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002081
Well Name: F31A
Owner: Fontana Water Company

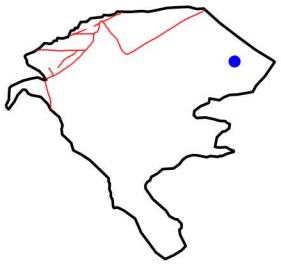
Figure B3-31



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

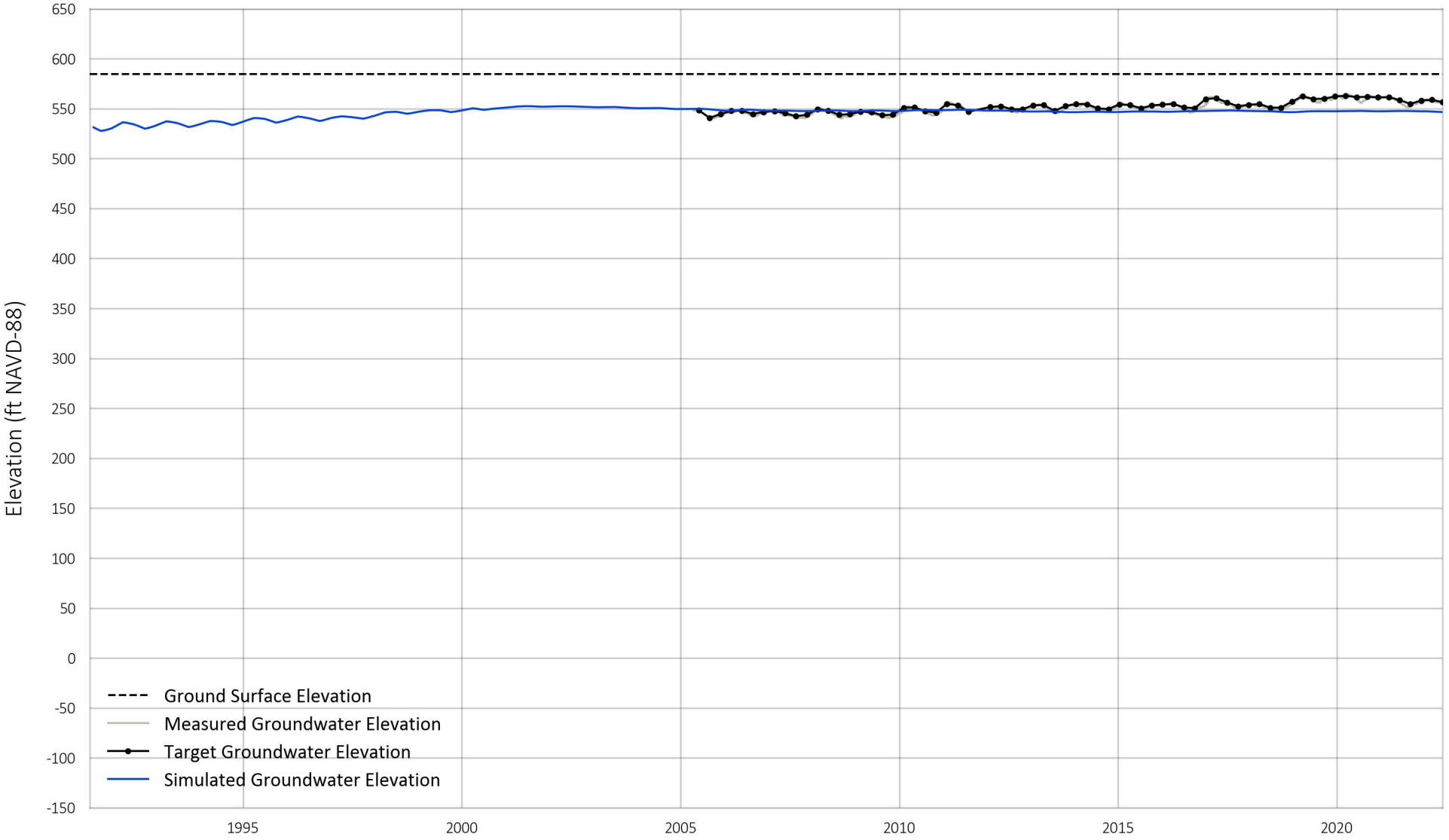
Target Groundwater Elevation (ft)
Mean = 763.91
Standard Deviation = 10.89

Simulated Groundwater Elevation (ft)
Mean = 780.33
Standard Deviation = 10.50

Mean Residual (ft) = 16.42
RMSE (ft) = 17.00

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002085
Well Name: F35A
Owner: Fontana Water Company

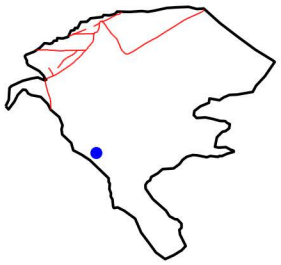
Figure B3-32



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

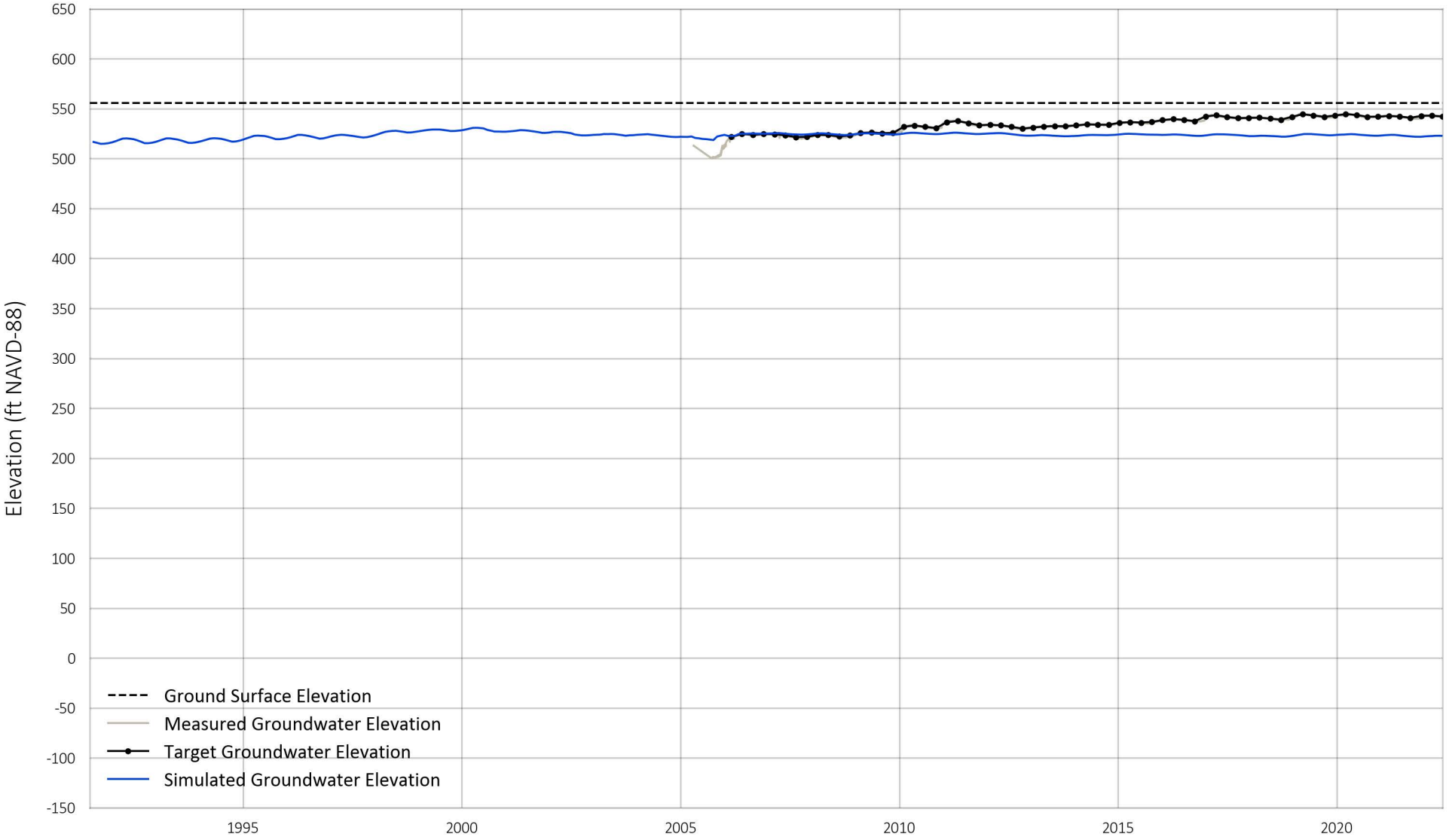
Target Groundwater Elevation (ft)
Mean = 552.09
Standard Deviation = 5.69

Simulated Groundwater Elevation (ft)
Mean = 547.65
Standard Deviation = 0.67

Mean Residual (ft) = -4.44
RMSE (ft) = 7.43

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1207980
Well Name: HCMP-3/1
Owner: Inland Empire Utilities Agency

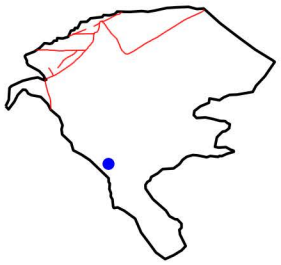
Figure B3-33



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

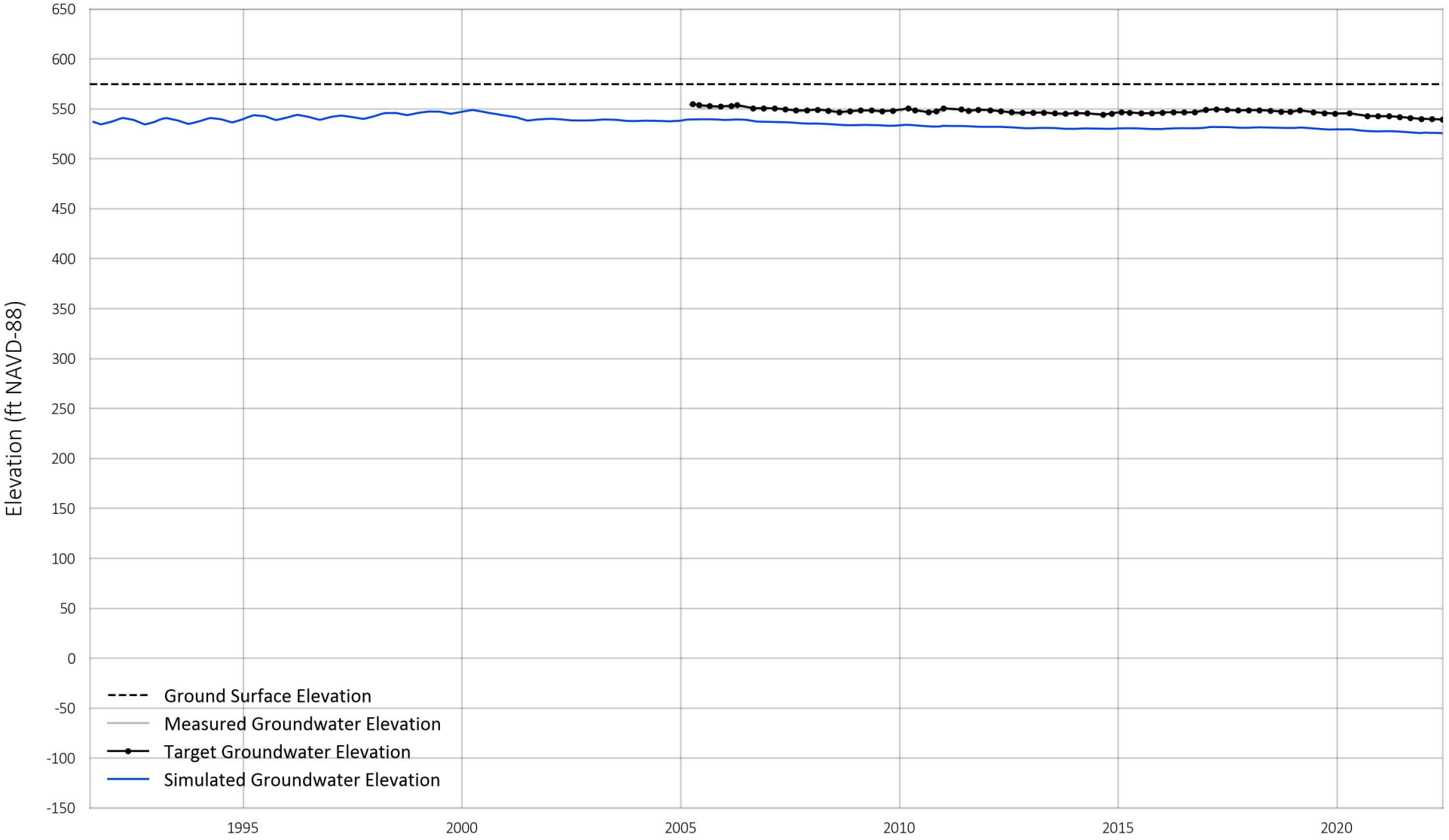
Target Groundwater Elevation (ft)
Mean = 534.51
Standard Deviation = 7.19

Simulated Groundwater Elevation (ft)
Mean = 523.93
Standard Deviation = 1.00

Mean Residual (ft) = -10.58
RMSE (ft) = 13.03

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1207981
Well Name: HCMP-4/1
Owner: Inland Empire Utilities Agency

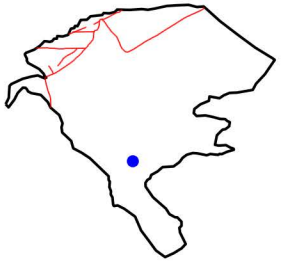
Figure B3-34



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

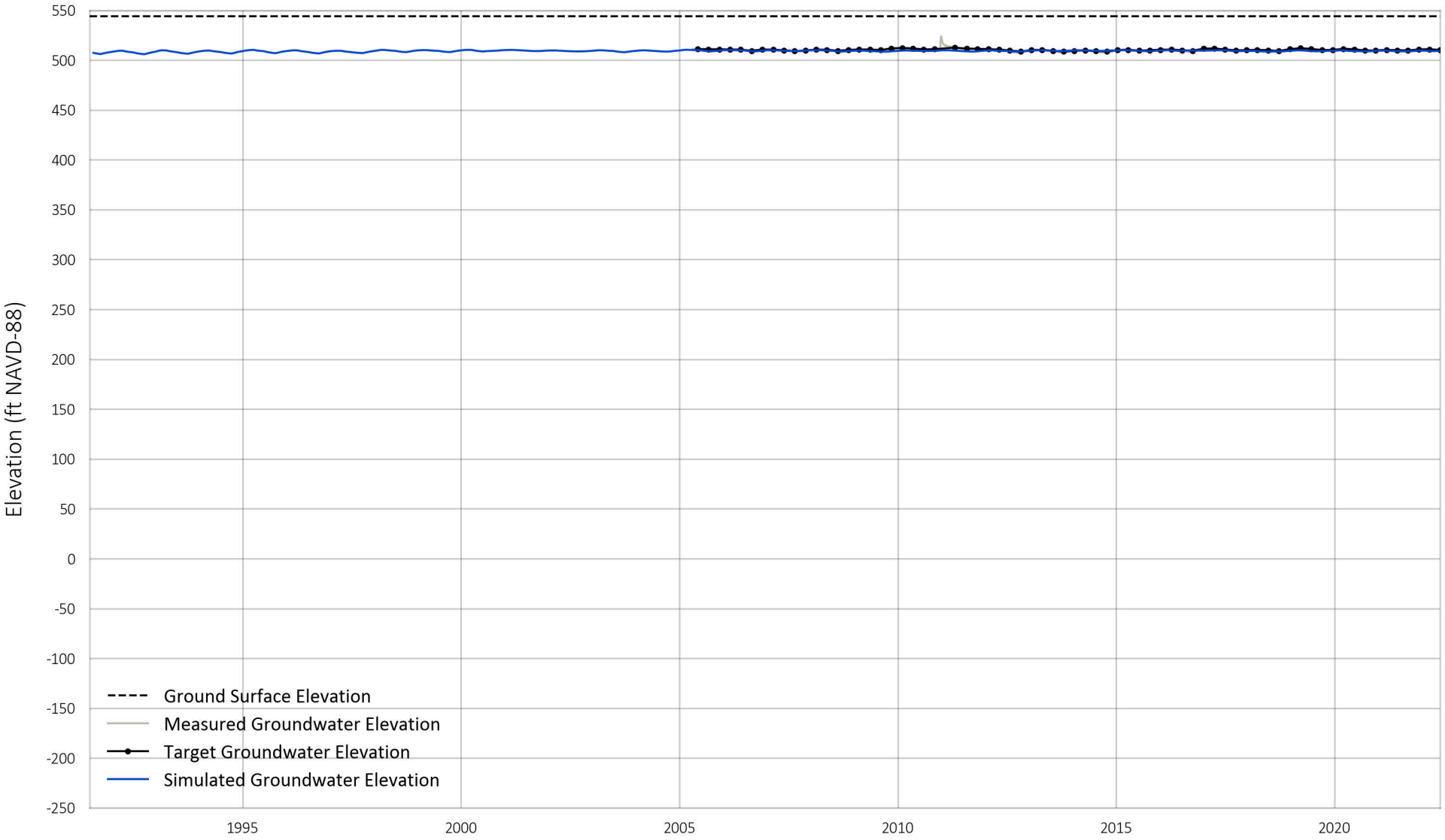
Target Groundwater Elevation (ft)
Mean = 547.20
Standard Deviation = 3.15

Simulated Groundwater Elevation (ft)
Mean = 531.90
Standard Deviation = 3.40

Mean Residual (ft) = -15.31
RMSE (ft) = 15.37

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1207982
Well Name: HCMP-5/1
Owner: Inland Empire Utilities Agency

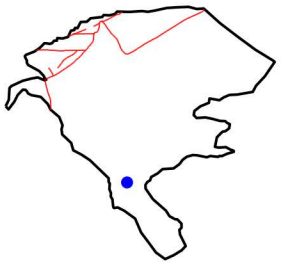
Figure B3-35



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

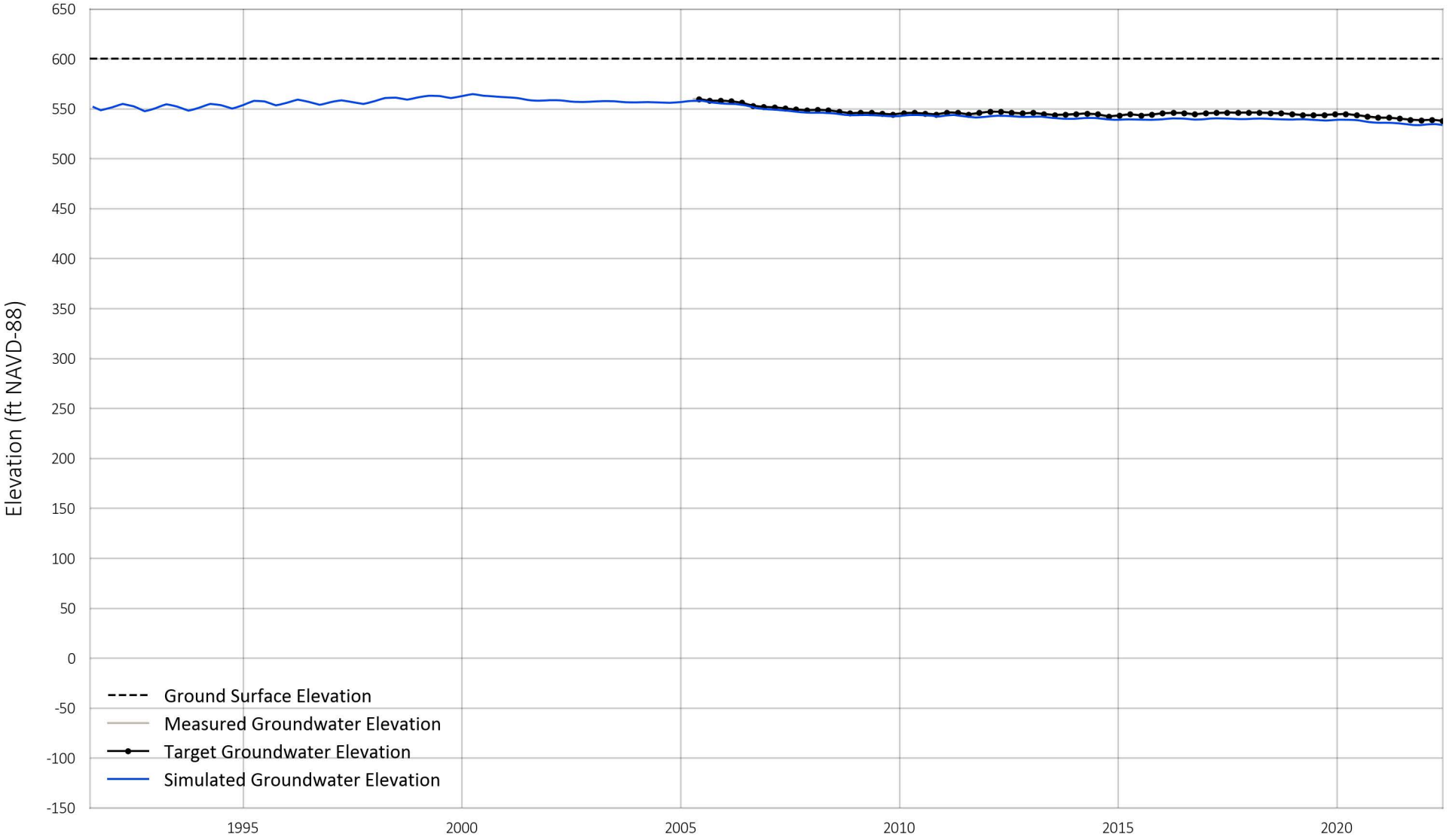
Target Groundwater Elevation (ft)
Mean = 510.33
Standard Deviation = 0.83

Simulated Groundwater Elevation (ft)
Mean = 509.32
Standard Deviation = 0.39

Mean Residual (ft) = -1.01
RMSE (ft) = 1.30

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1207983
Well Name: HCMP-6/1
Owner: Inland Empire Utilities Agency

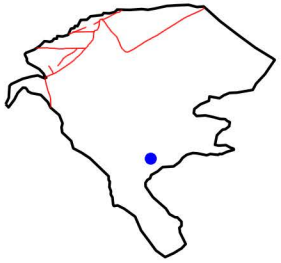
Figure B3-36



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

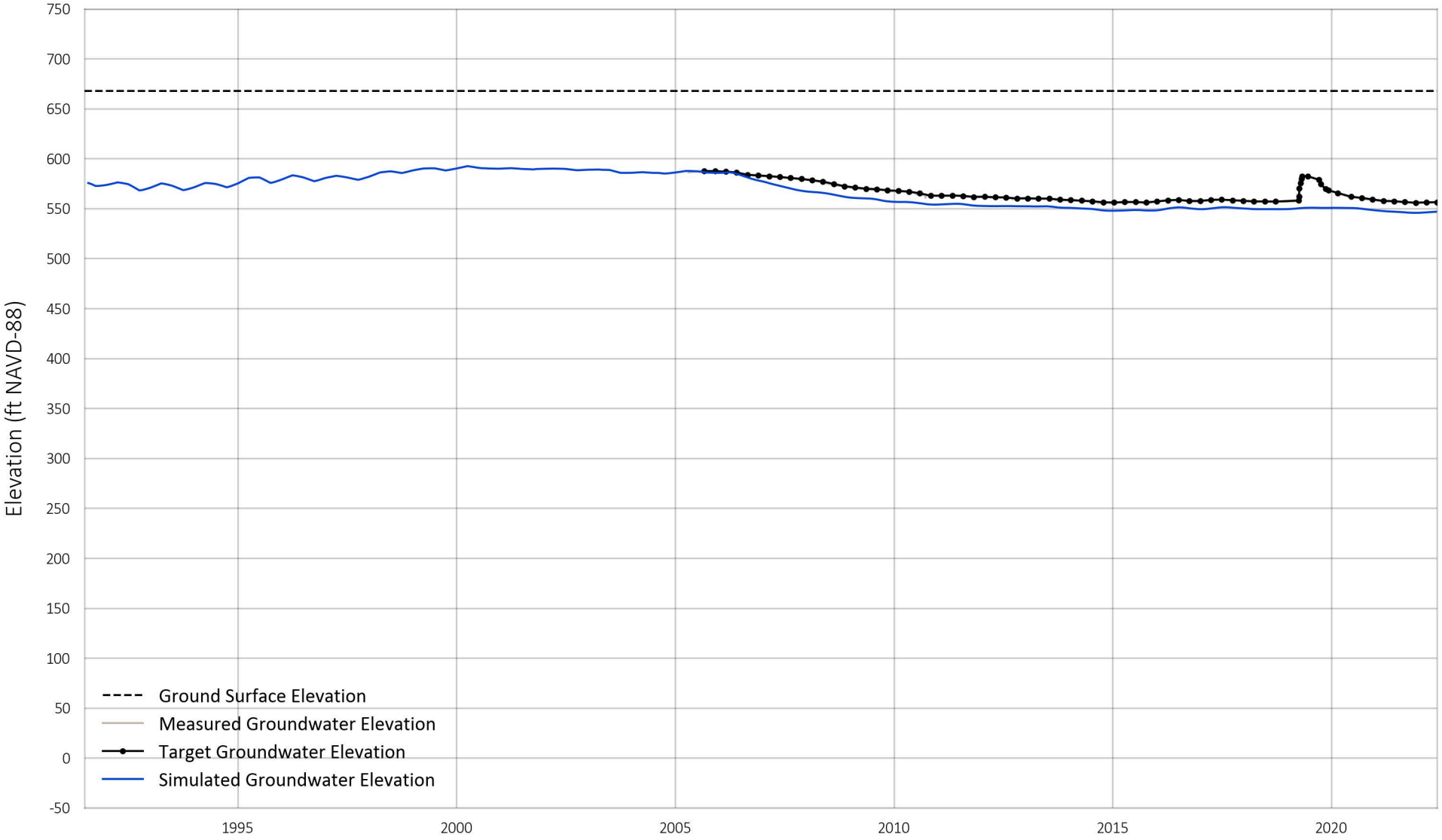
Target Groundwater Elevation (ft)
Mean = 545.95
Standard Deviation = 4.31

Simulated Groundwater Elevation (ft)
Mean = 541.99
Standard Deviation = 5.22

Mean Residual (ft) = -3.95
RMSE (ft) = 4.22

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1207984
Well Name: HCMP-7/1
Owner: Inland Empire Utilities Agency

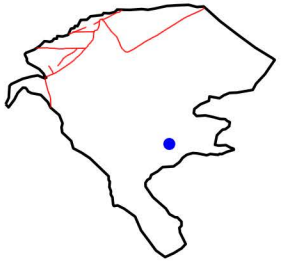
Figure B3-37



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

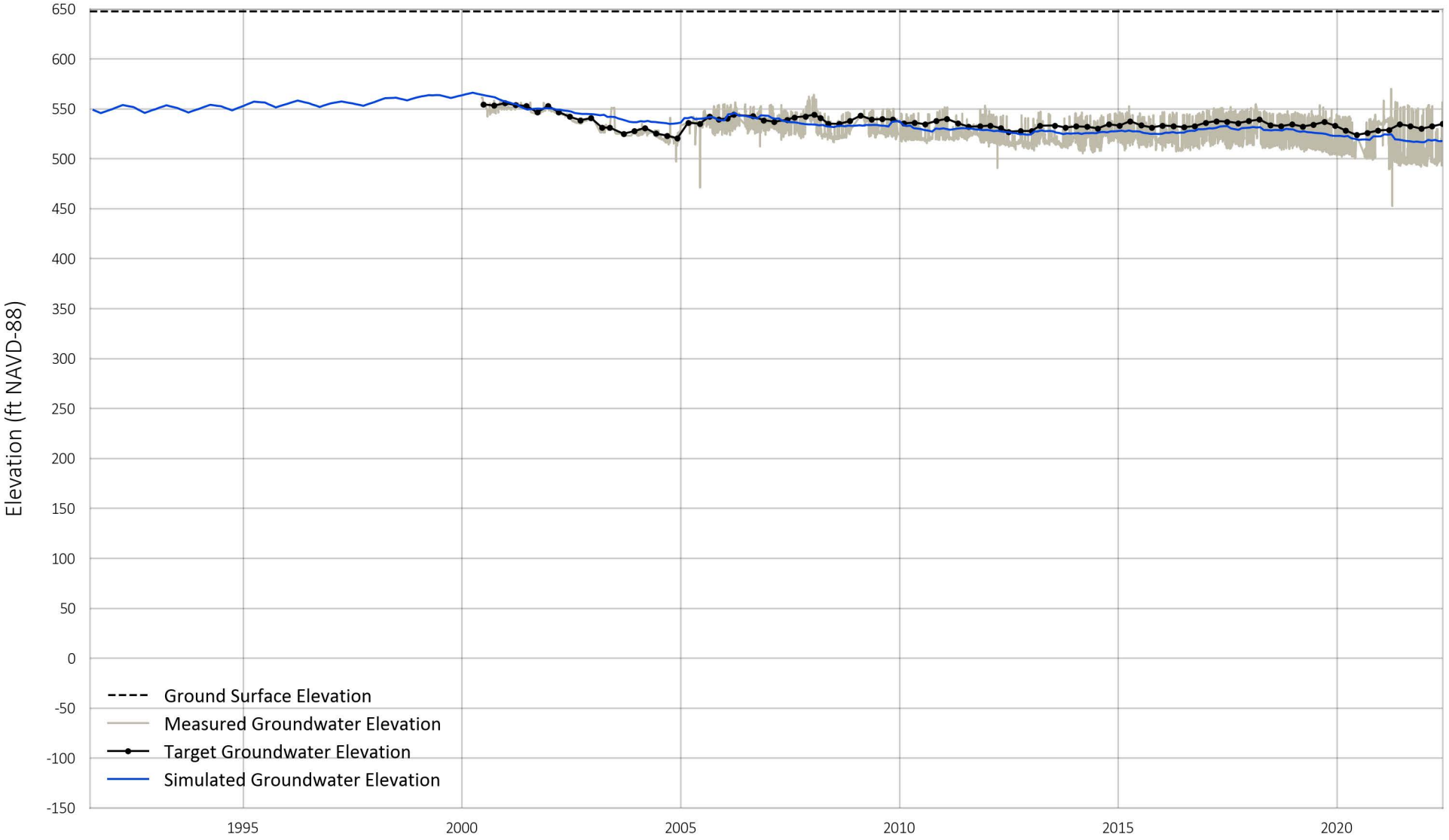
Target Groundwater Elevation (ft)
Mean = 566.07
Standard Deviation = 9.95

Simulated Groundwater Elevation (ft)
Mean = 555.50
Standard Deviation = 10.41

Mean Residual (ft) = -10.56
RMSE (ft) = 12.24

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1207985
Well Name: HCMP-8/1
Owner: Inland Empire Utilities Agency

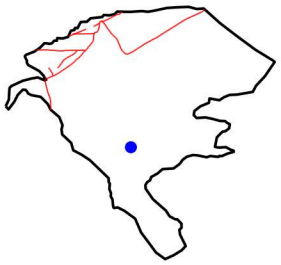
Figure B3-38



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

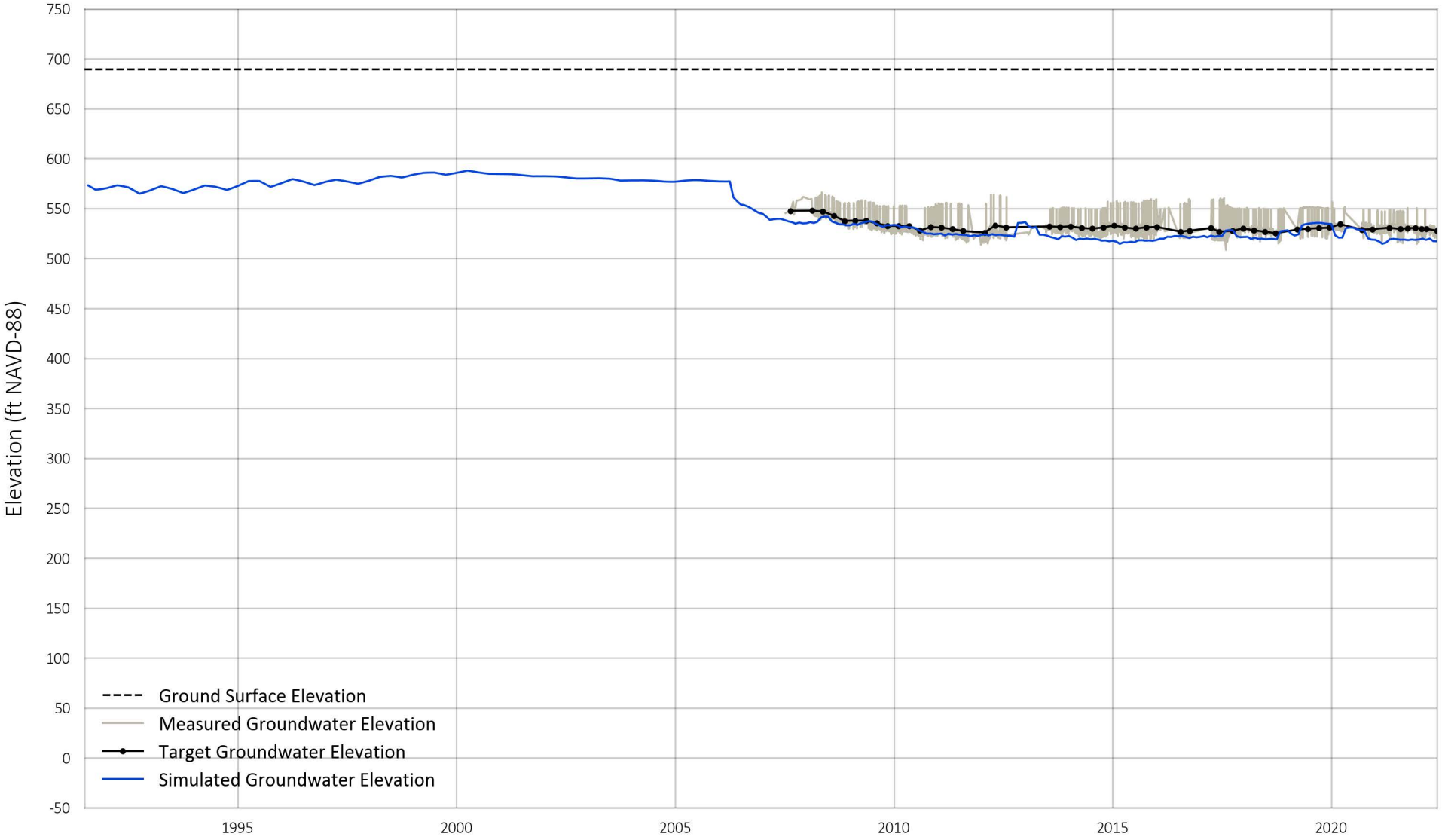
Target Groundwater Elevation (ft)
Mean = 535.77
Standard Deviation = 7.04

Simulated Groundwater Elevation (ft)
Mean = 532.89
Standard Deviation = 9.79

Mean Residual (ft) = -2.88
RMSE (ft) = 7.30

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1206682
Well Name: I-10
Owner: Chino Basin Desalter Authority

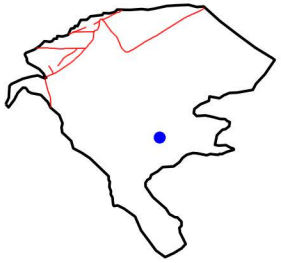
Figure B3-39



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

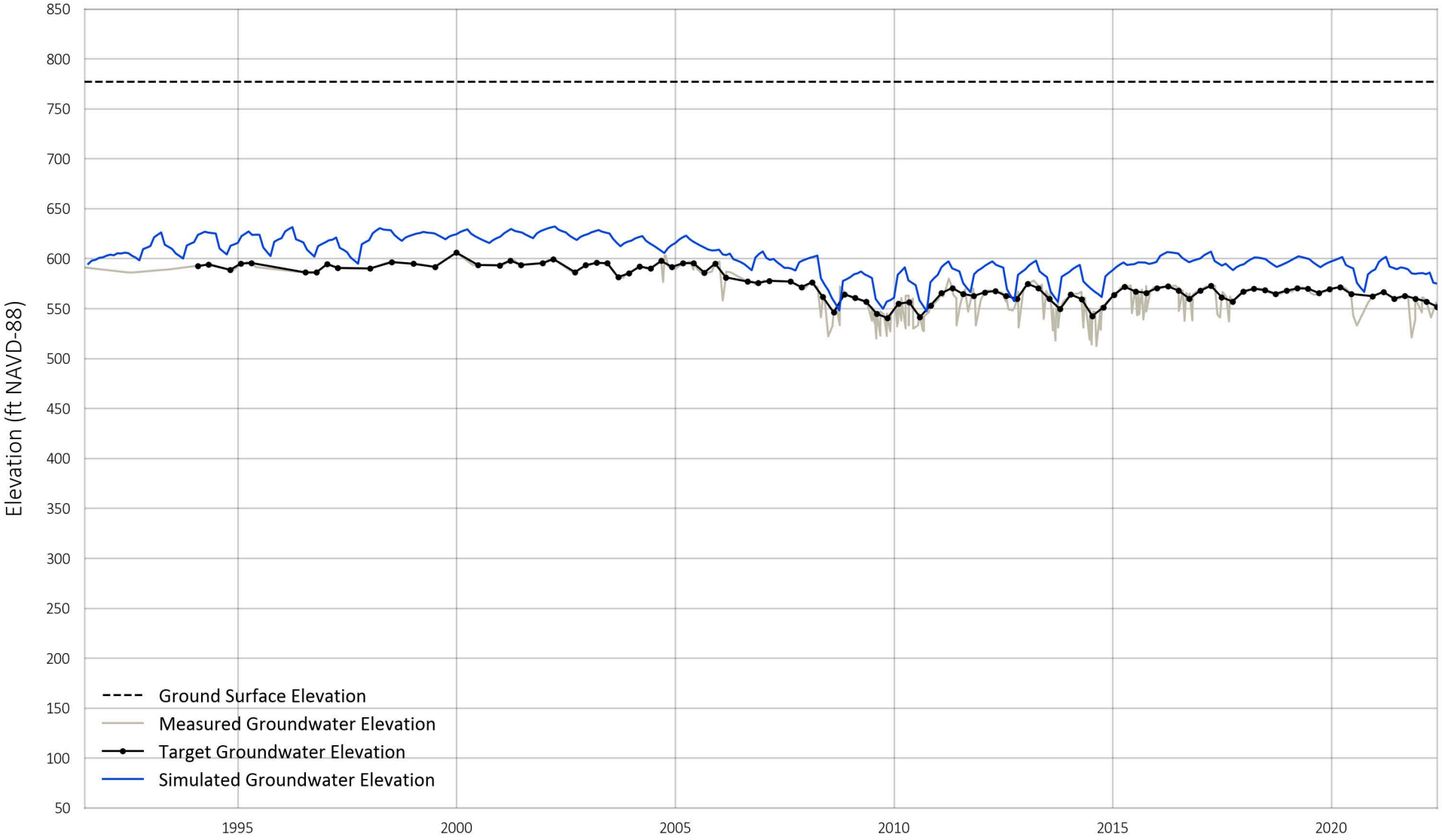
Target Groundwater Elevation (ft)
Mean = 531.83
Standard Deviation = 5.01

Simulated Groundwater Elevation (ft)
Mean = 524.86
Standard Deviation = 6.88

Mean Residual (ft) = -6.97
RMSE (ft) = 8.69

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1206962
Well Name: II-2
Owner: Chino Basin Desalter Authority

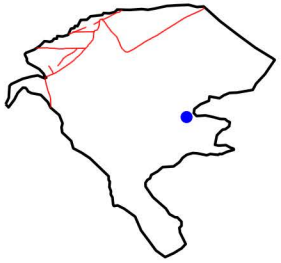
Figure B3-40



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

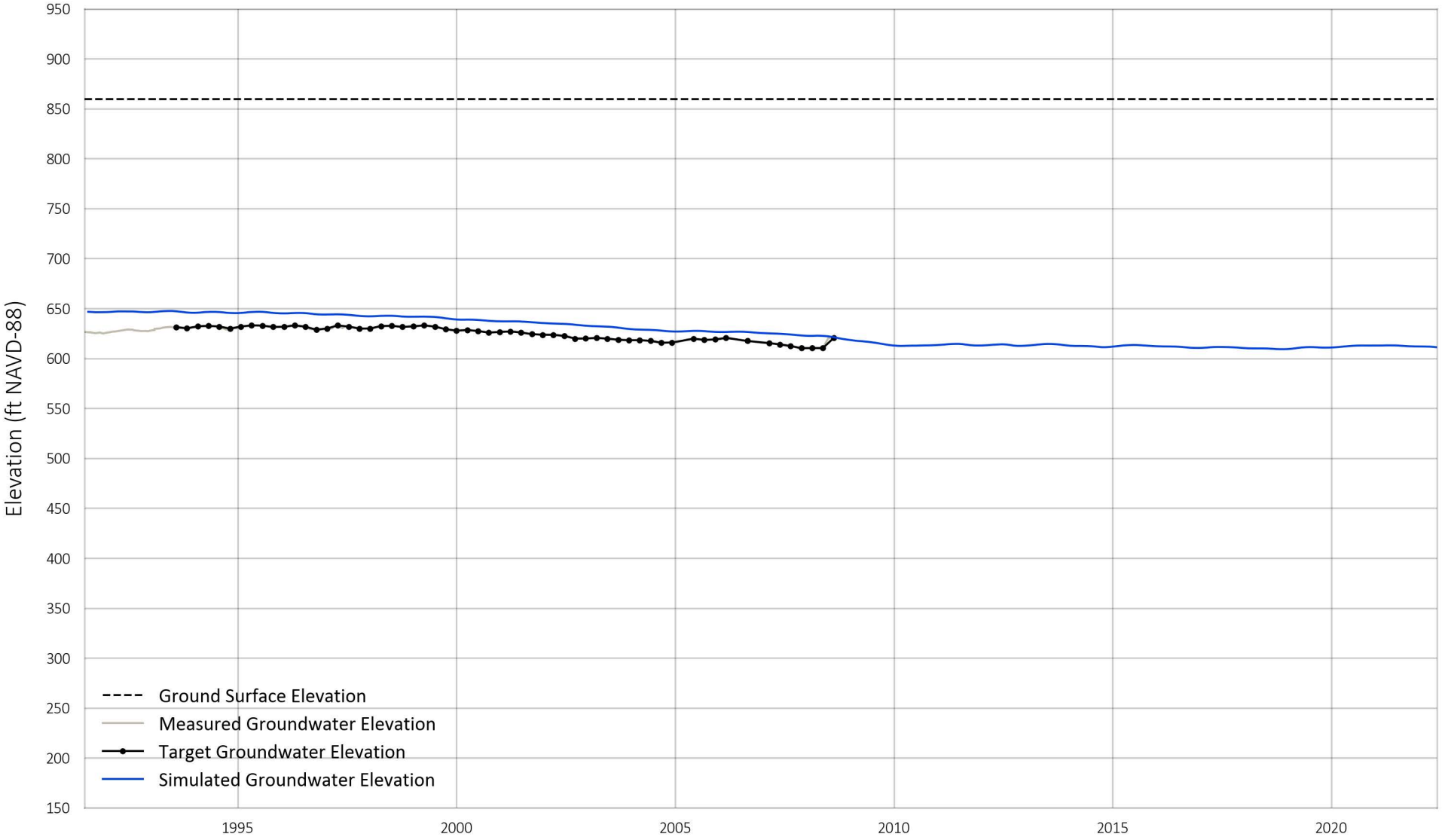
Target Groundwater Elevation (ft)
Mean = 573.70
Standard Deviation = 16.00

Simulated Groundwater Elevation (ft)
Mean = 599.12
Standard Deviation = 18.68

Mean Residual (ft) = 25.42
RMSE (ft) = 26.20

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1003502
Well Name: JCSD 16
Owner: Jurupa Community Services District

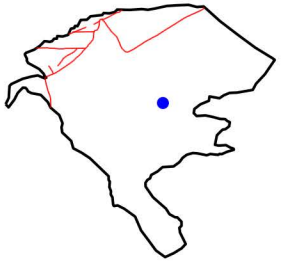
Figure B3-41



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

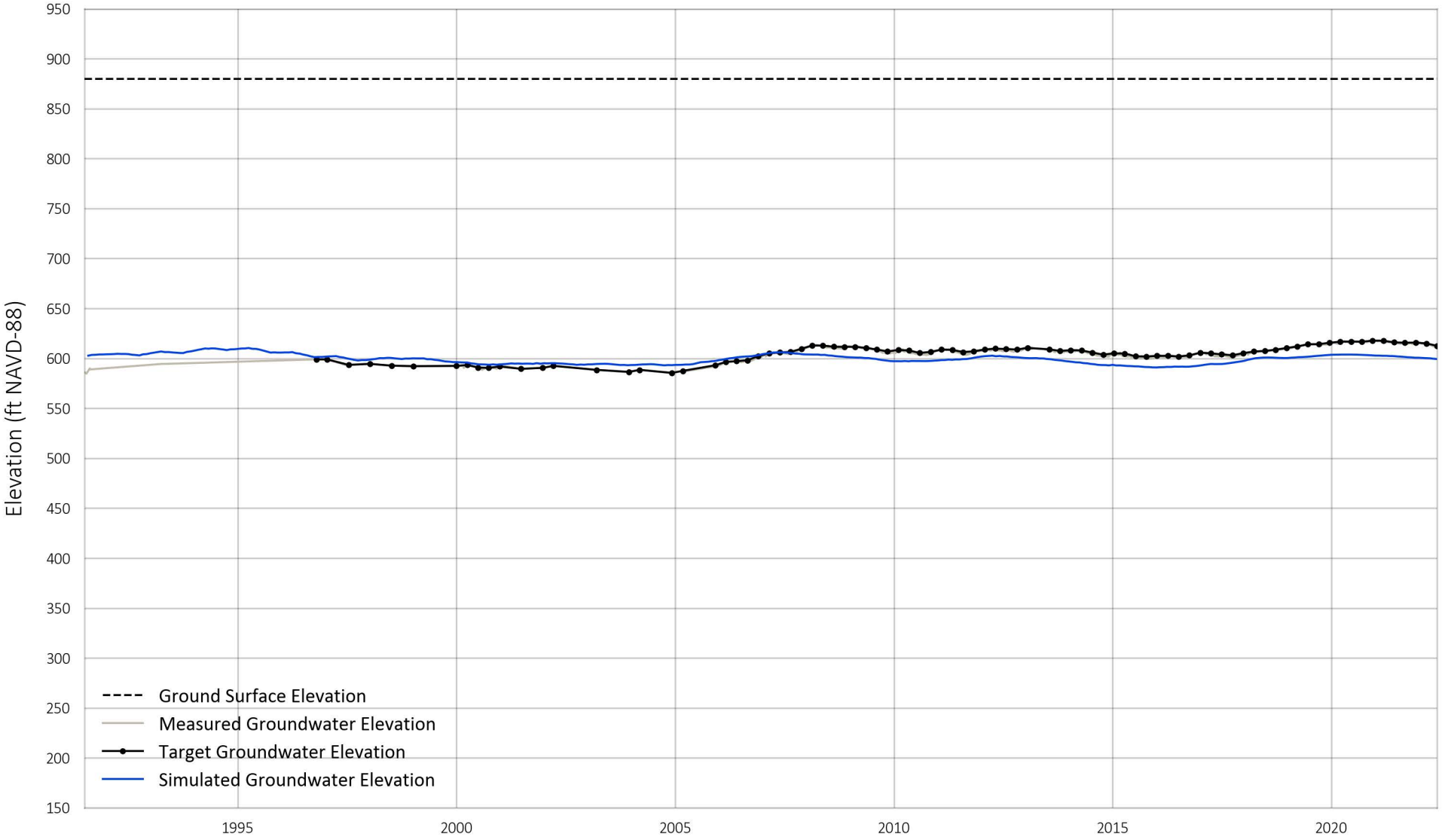
Target Groundwater Elevation (ft)
Mean = 624.98
Standard Deviation = 7.03

Simulated Groundwater Elevation (ft)
Mean = 636.51
Standard Deviation = 8.11

Mean Residual (ft) = 11.53
RMSE (ft) = 11.79

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1201166
Well Name: MIL M-03
Owner: County of San Bernardino

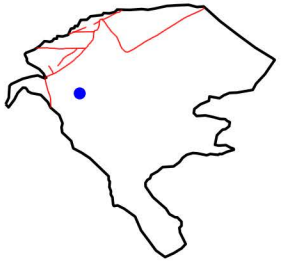
Figure B3-42



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

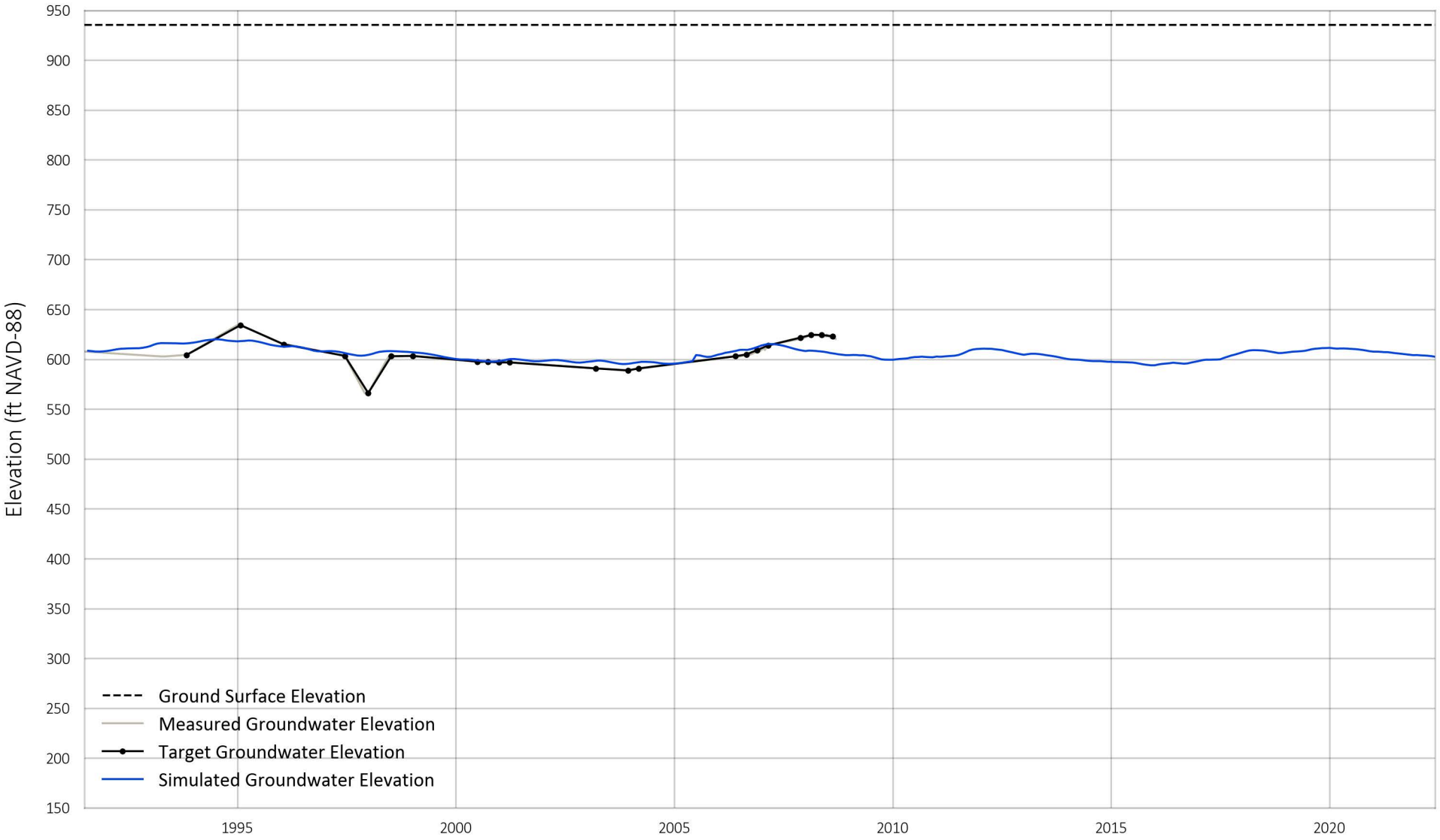
Target Groundwater Elevation (ft)
Mean = 604.48
Standard Deviation = 8.54

Simulated Groundwater Elevation (ft)
Mean = 598.53
Standard Deviation = 3.97

Mean Residual (ft) = -5.95
RMSE (ft) = 9.23

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002722
Well Name: MVWD 02
Owner: Monte Vista Water District

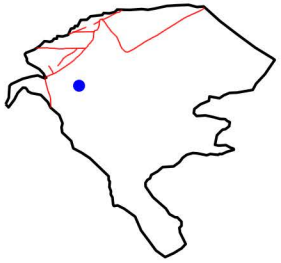
Figure B3-43



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

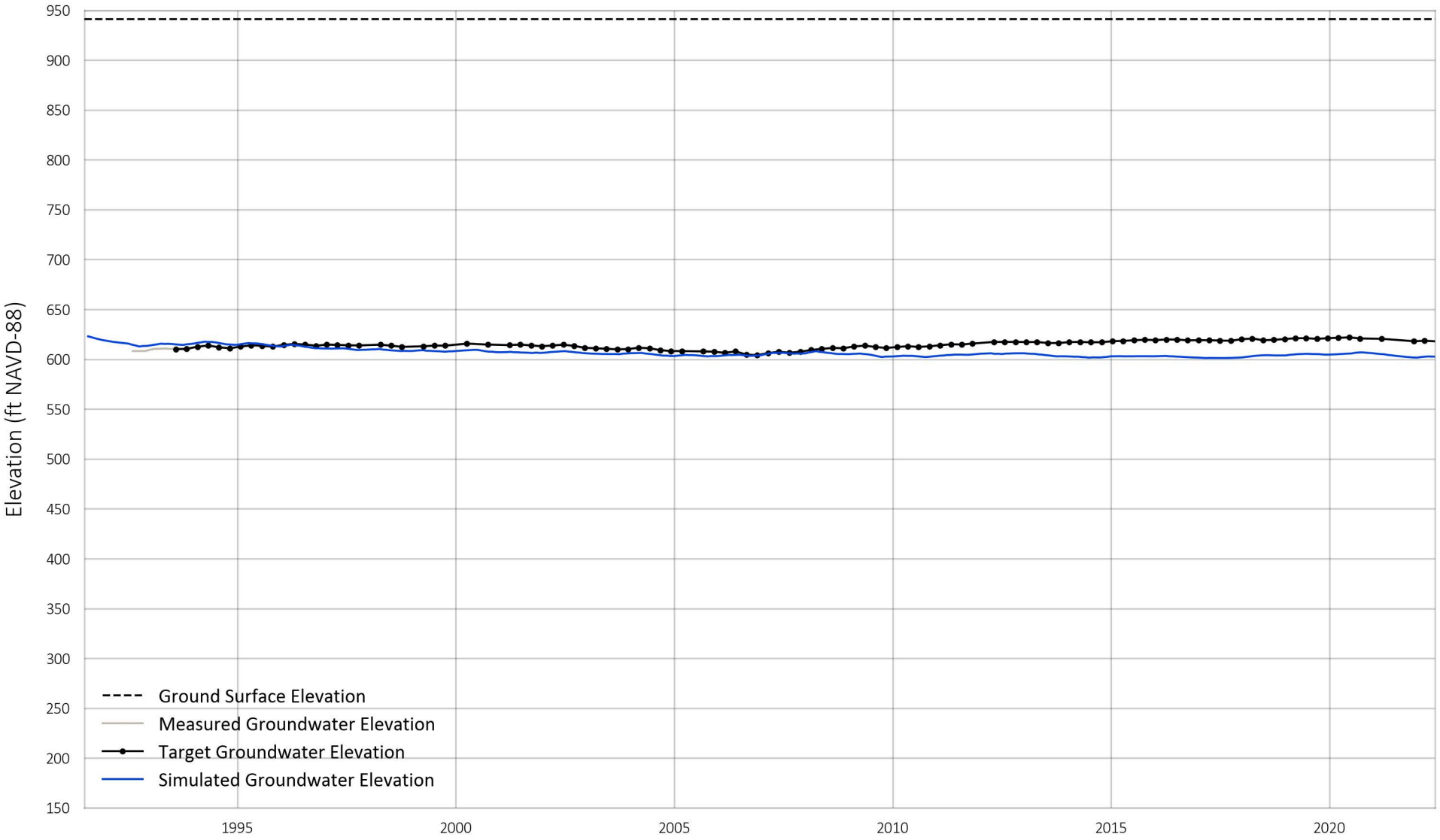
Target Groundwater Elevation (ft)
Mean = 605.14
Standard Deviation = 15.18

Simulated Groundwater Elevation (ft)
Mean = 606.11
Standard Deviation = 6.63

Mean Residual (ft) = 0.97
RMSE (ft) = 11.88

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002646
Well Name: MVWD 08
Owner: Monte Vista Water District

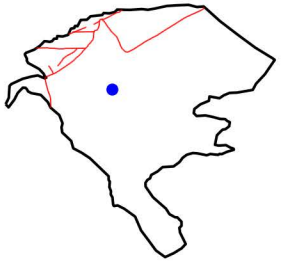
Figure B3-44



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

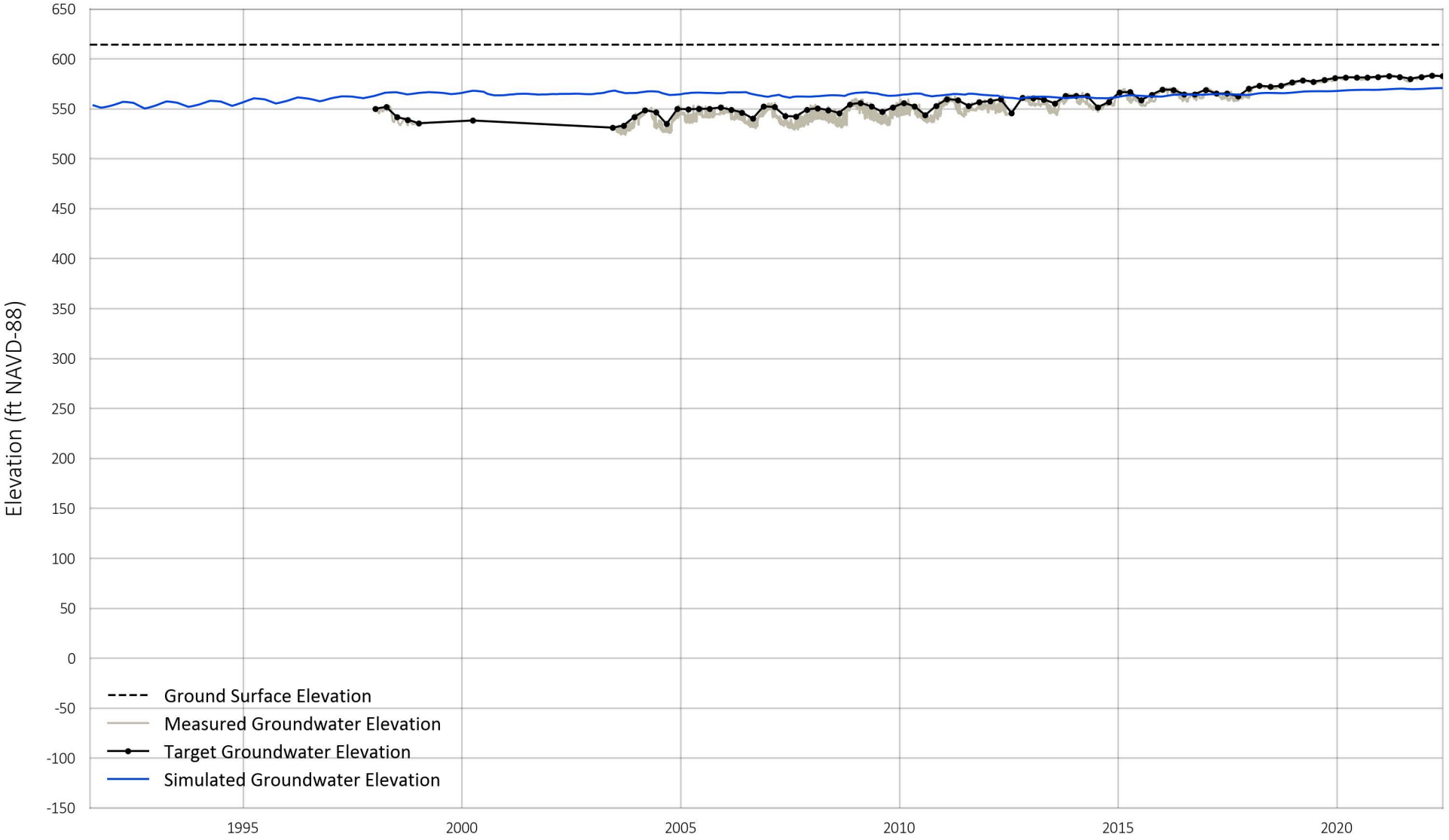
Target Groundwater Elevation (ft)
Mean = 614.36
Standard Deviation = 4.20

Simulated Groundwater Elevation (ft)
Mean = 606.24
Standard Deviation = 3.97

Mean Residual (ft) = -8.12
RMSE (ft) = 10.33

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1207026
Well Name: MW-11
Owner: General Electric Corporation

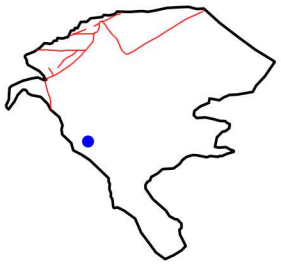
Figure B3-45



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

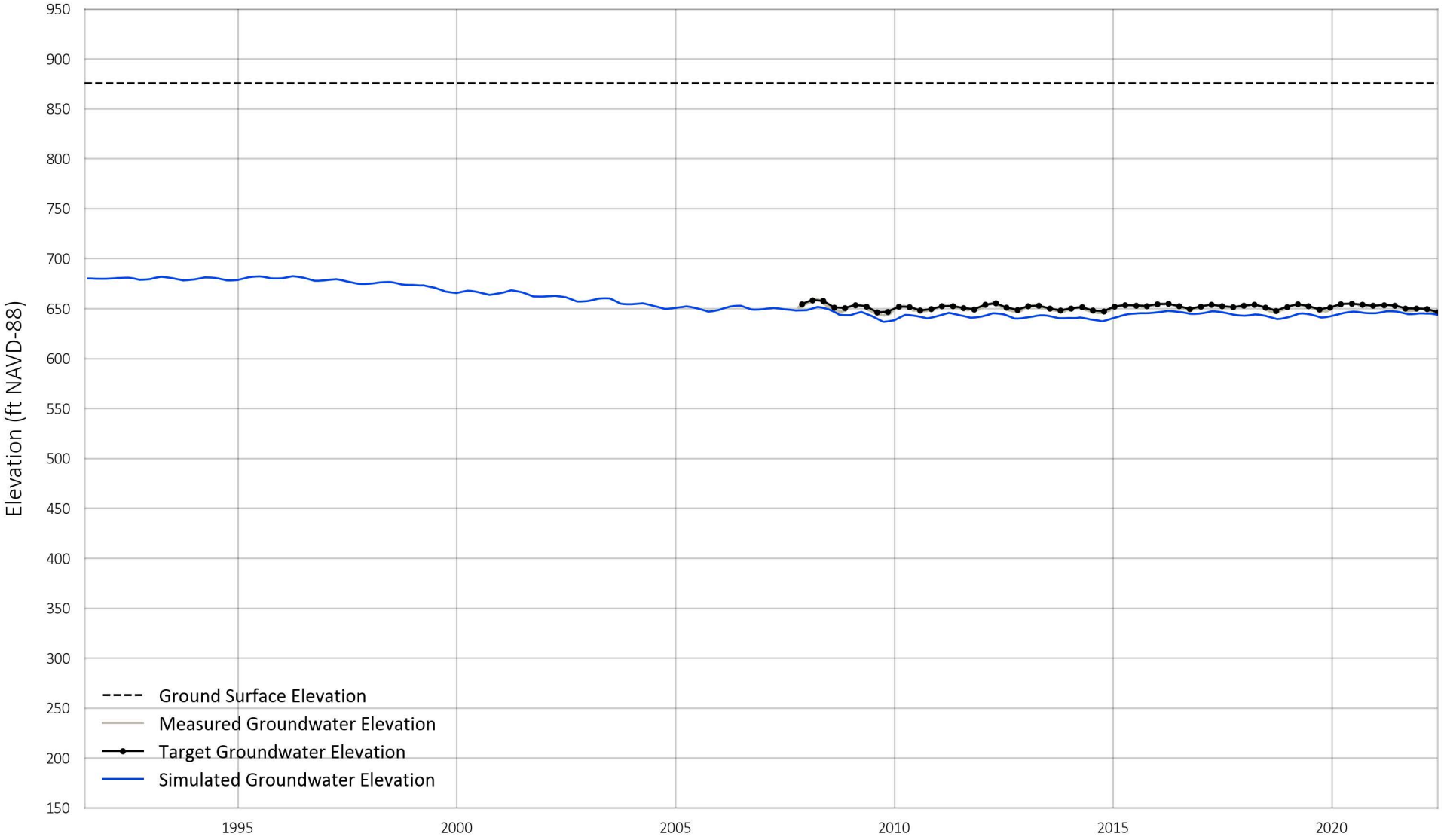
Target Groundwater Elevation (ft)
Mean = 558.65
Standard Deviation = 13.83

Simulated Groundwater Elevation (ft)
Mean = 564.74
Standard Deviation = 2.54

Mean Residual (ft) = 6.09
RMSE (ft) = 14.29

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1206765
Well Name: MW-24I
Owner: California Institution for Men

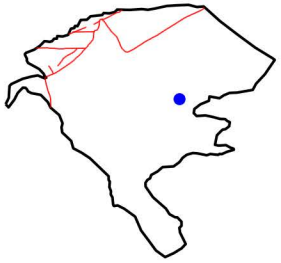
Figure B3-46



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

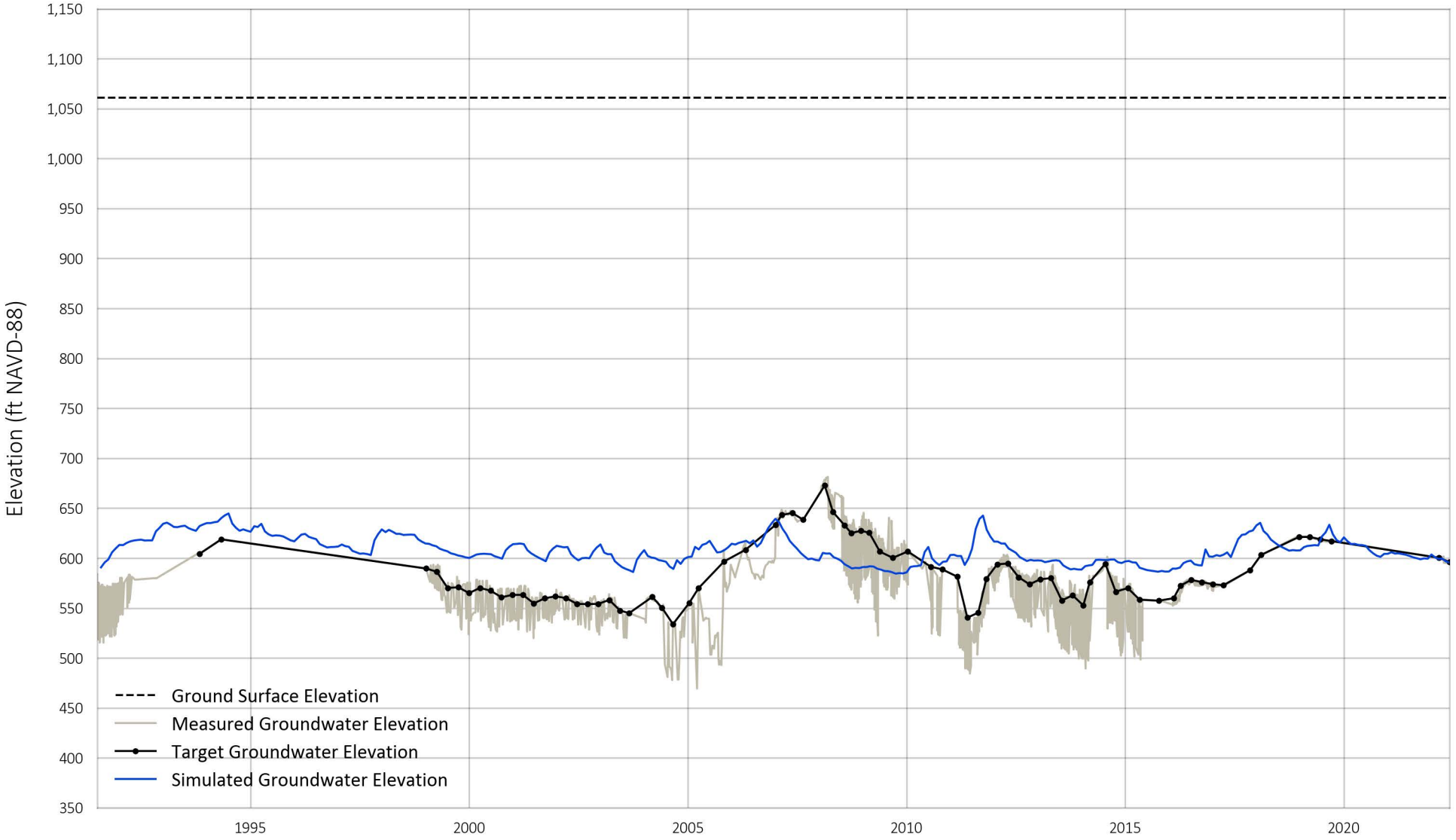
Target Groundwater Elevation (ft)
Mean = 651.64
Standard Deviation = 2.60

Simulated Groundwater Elevation (ft)
Mean = 643.54
Standard Deviation = 2.83

Mean Residual (ft) = -8.10
RMSE (ft) = 8.31

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1208799
Well Name: MZ3 1/1
Owner: Inland Empire Utilities Agency

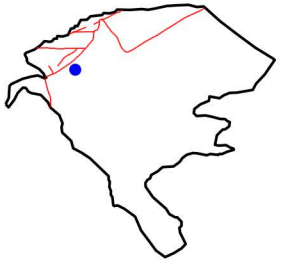
Figure B3-47



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

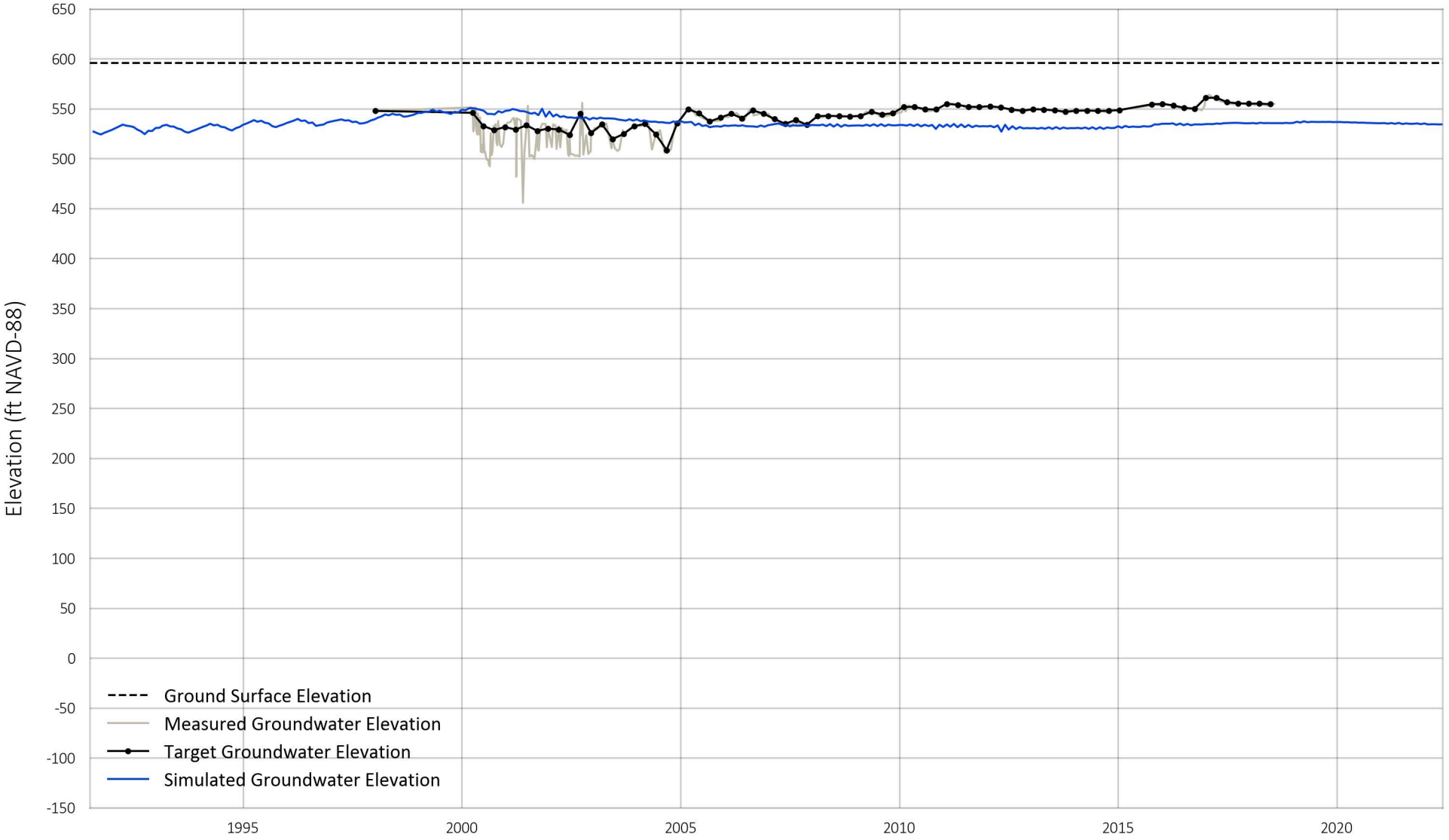
Target Groundwater Elevation (ft)
Mean = 584.21
Standard Deviation = 29.74

Simulated Groundwater Elevation (ft)
Mean = 604.27
Standard Deviation = 13.30

Mean Residual (ft) = 20.06
RMSE (ft) = 34.96

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002554
Well Name: Margarita #1
Owner: Golden State Water Company

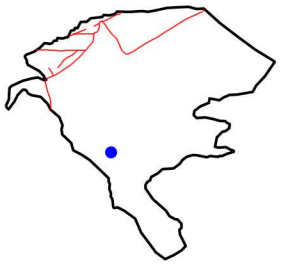
Figure B3-48



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

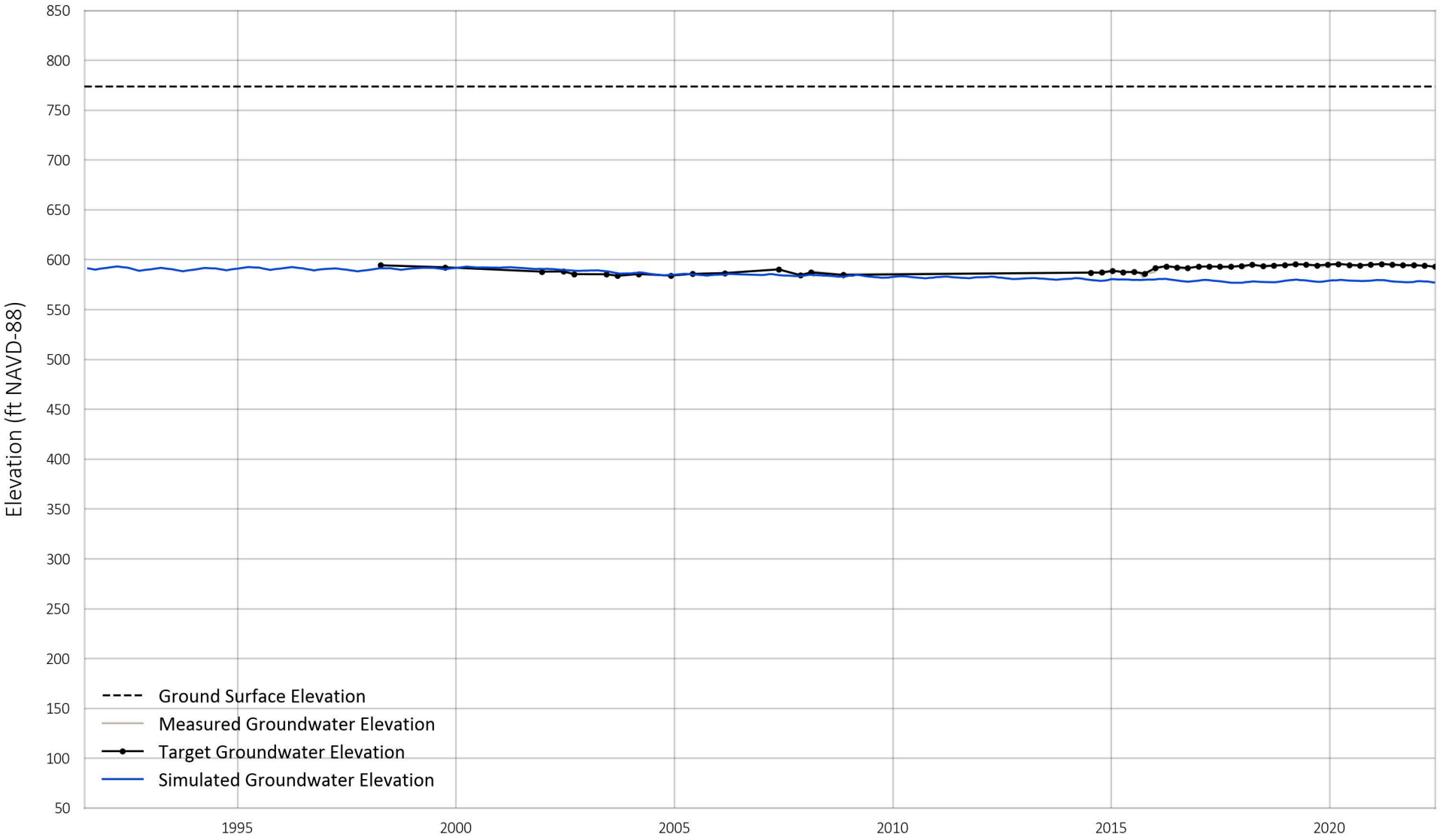
Target Groundwater Elevation (ft)
Mean = 543.27
Standard Deviation = 10.51

Simulated Groundwater Elevation (ft)
Mean = 535.52
Standard Deviation = 4.99

Mean Residual (ft) = -7.75
RMSE (ft) = 15.77

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1003983
Well Name: NA_1003983
Owner: County of San Bernardino

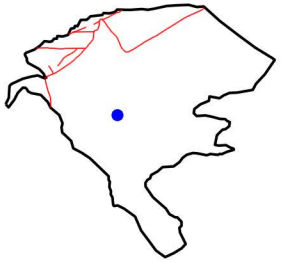
Figure B3-49



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

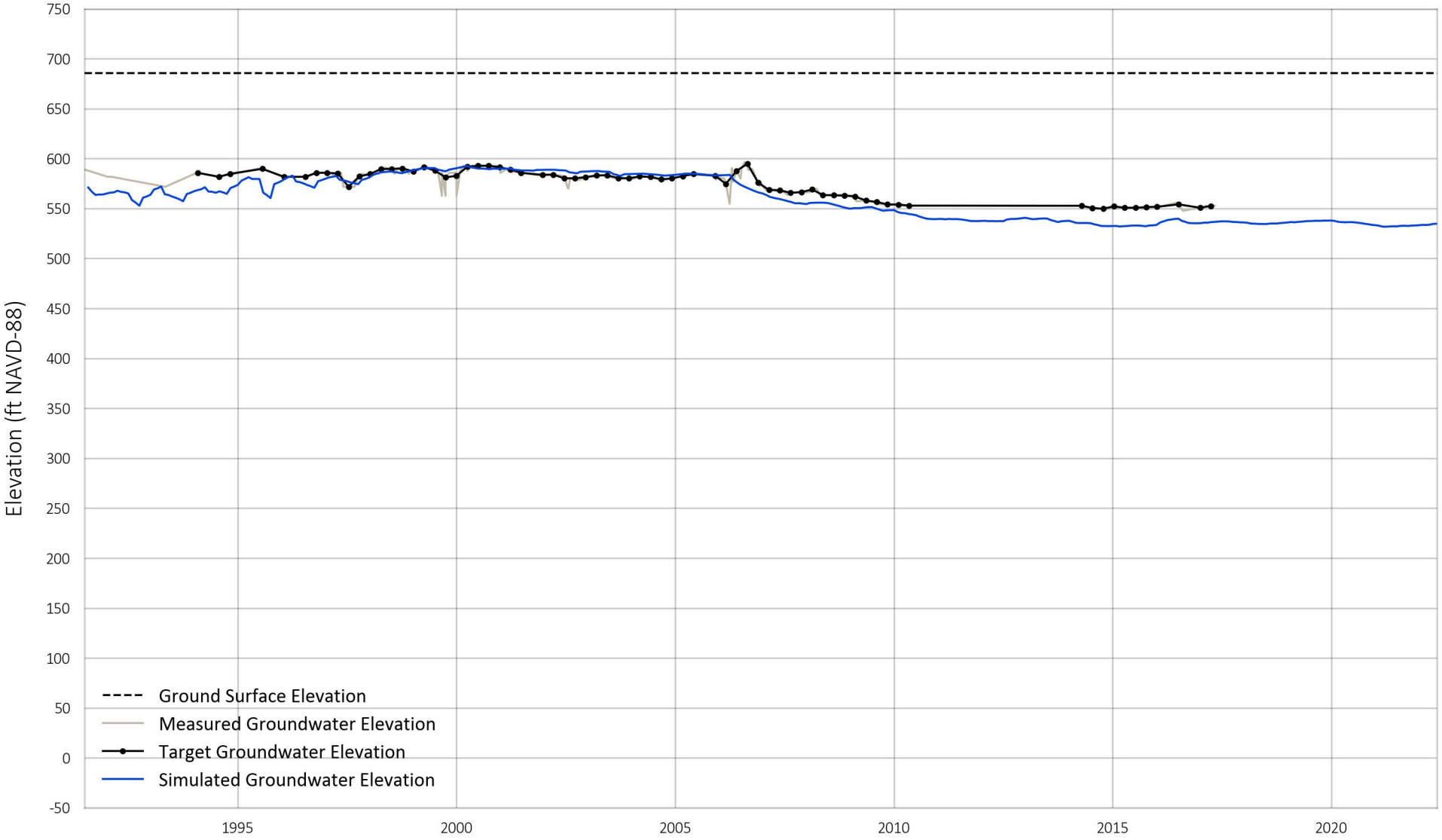
Target Groundwater Elevation (ft)
Mean = 590.87
Standard Deviation = 3.93

Simulated Groundwater Elevation (ft)
Mean = 581.15
Standard Deviation = 4.21

Mean Residual (ft) = -9.71
RMSE (ft) = 12.05

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1206525
Well Name: Private Well
Owner: Private

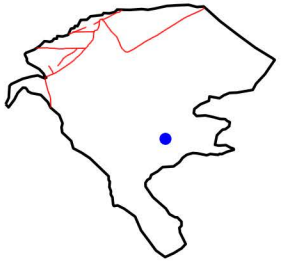
Figure B3-50



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

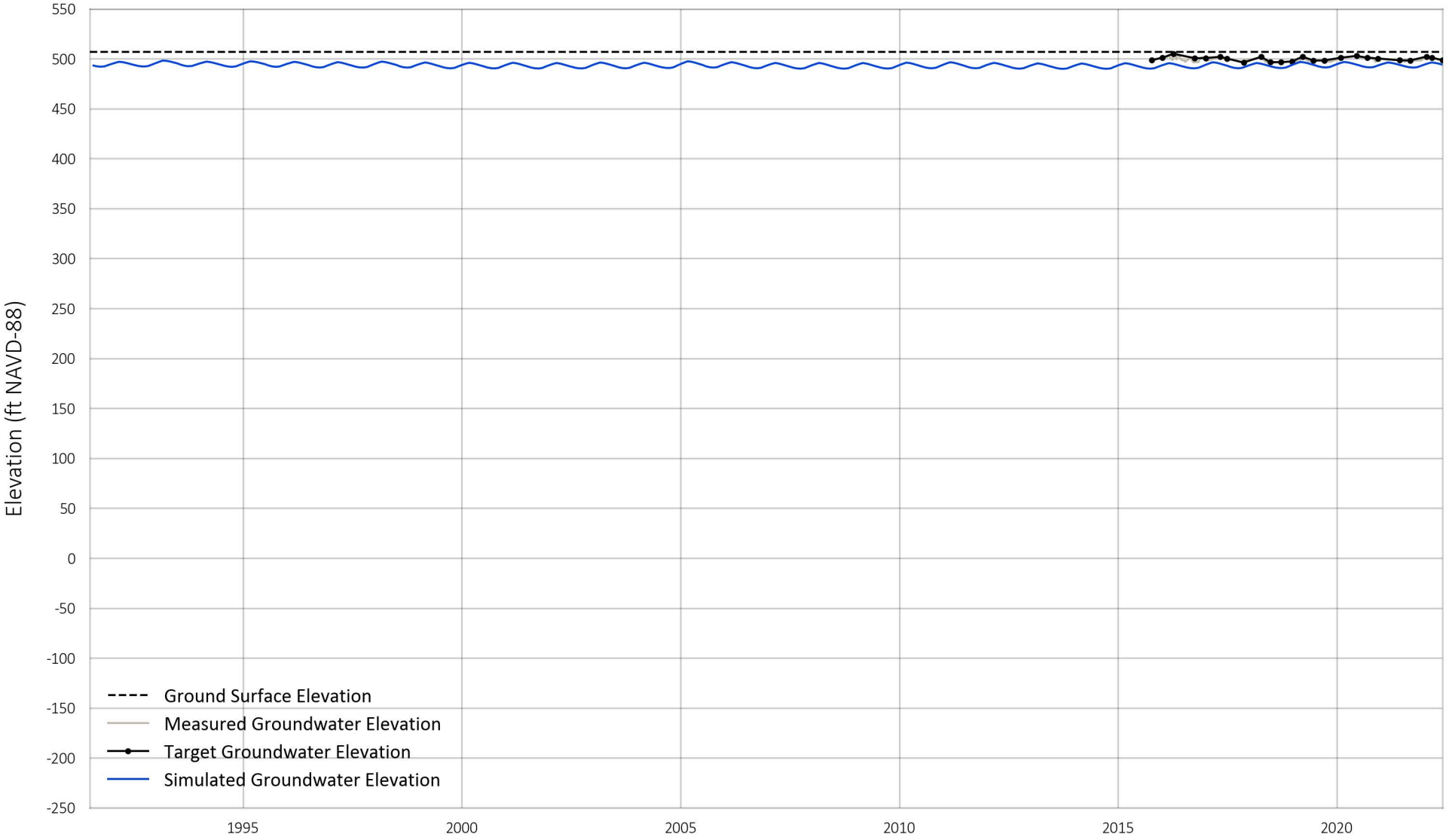
Target Groundwater Elevation (ft)
Mean = 574.93
Standard Deviation = 14.22

Simulated Groundwater Elevation (ft)
Mean = 569.40
Standard Deviation = 20.09

Mean Residual (ft) = -5.53
RMSE (ft) = 10.13

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1003613
Well Name: NOR 11
Owner: City of Norco

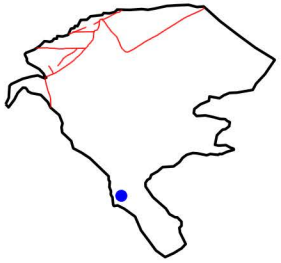
Figure B3-51



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

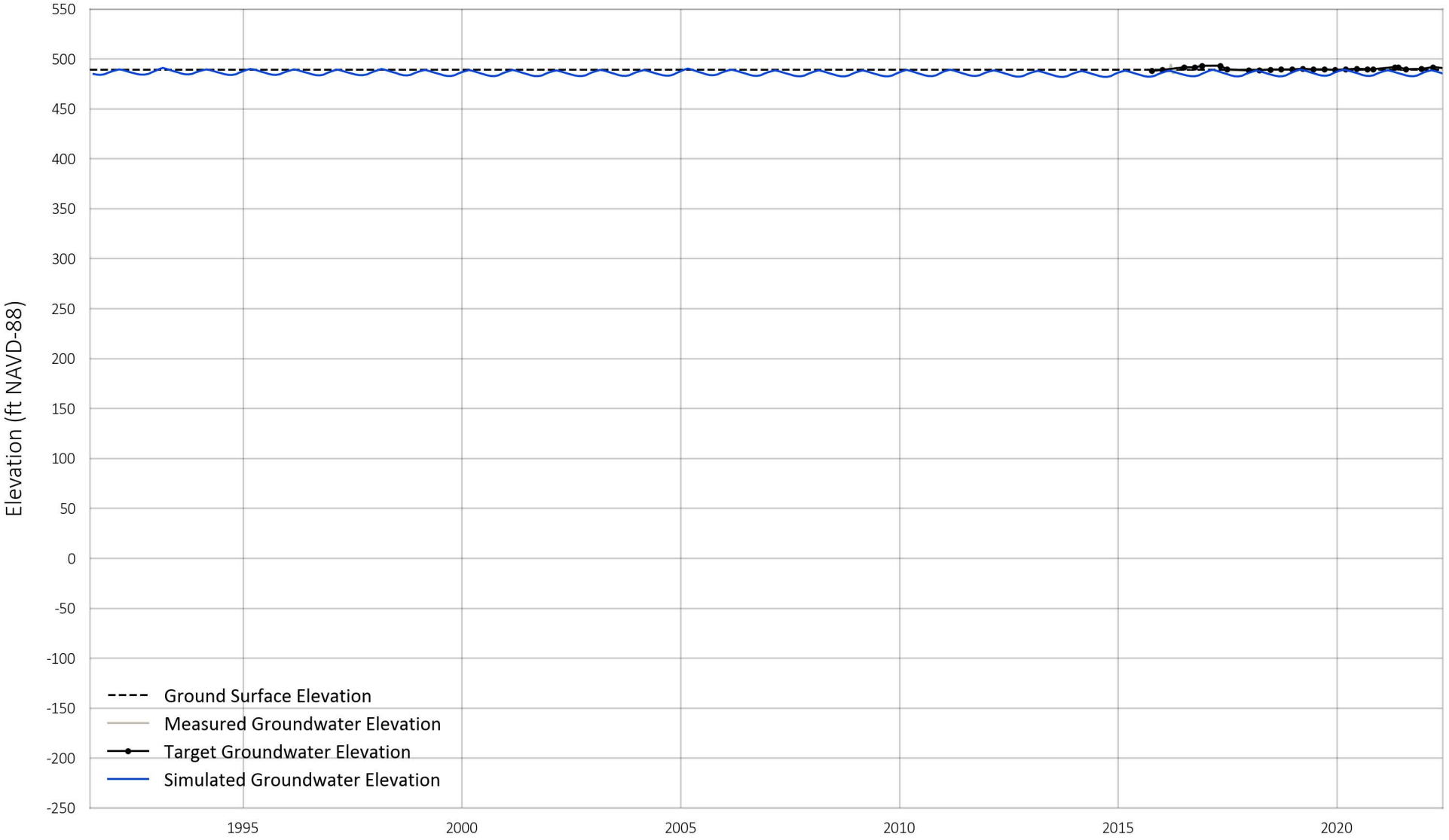
Target Groundwater Elevation (ft)
Mean = 499.89
Standard Deviation = 2.24

Simulated Groundwater Elevation (ft)
Mean = 493.33
Standard Deviation = 1.84

Mean Residual (ft) = -6.56
RMSE (ft) = 6.82

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1233985
Well Name: OCWD-PD14/1
Owner: Orange County Water District

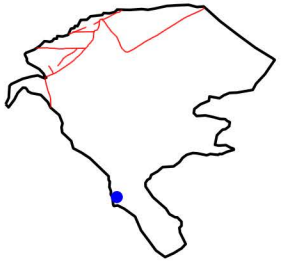
Figure B3-52



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

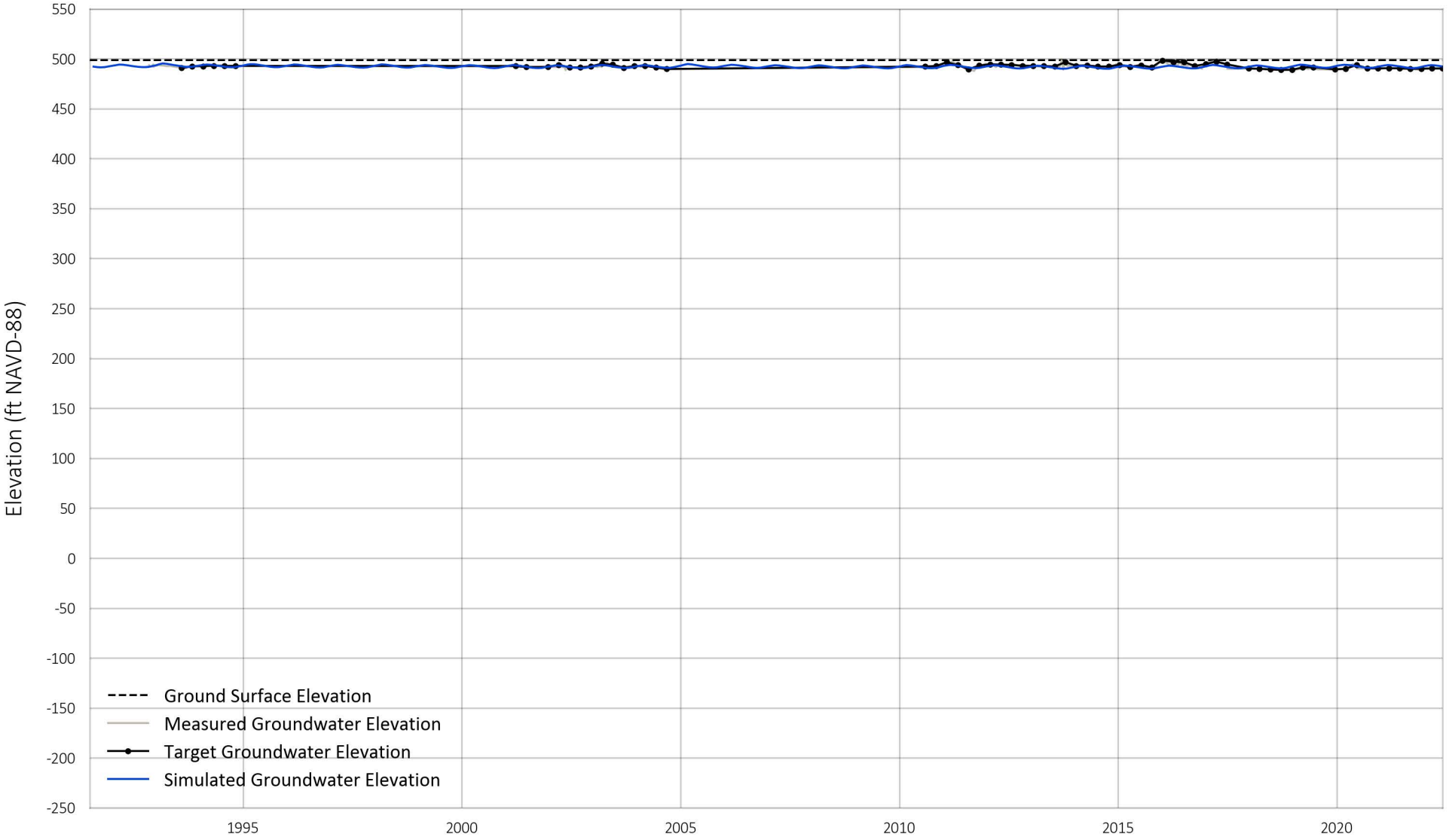
Target Groundwater Elevation (ft)
Mean = 489.96
Standard Deviation = 1.38

Simulated Groundwater Elevation (ft)
Mean = 485.15
Standard Deviation = 1.93

Mean Residual (ft) = -4.81
RMSE (ft) = 5.27

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1233987
Well Name: OCWD-PD16/1
Owner: Orange County Water District

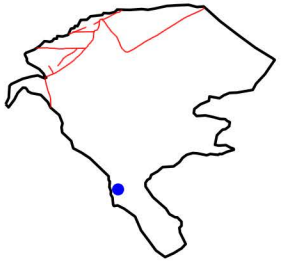
Figure B3-53



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

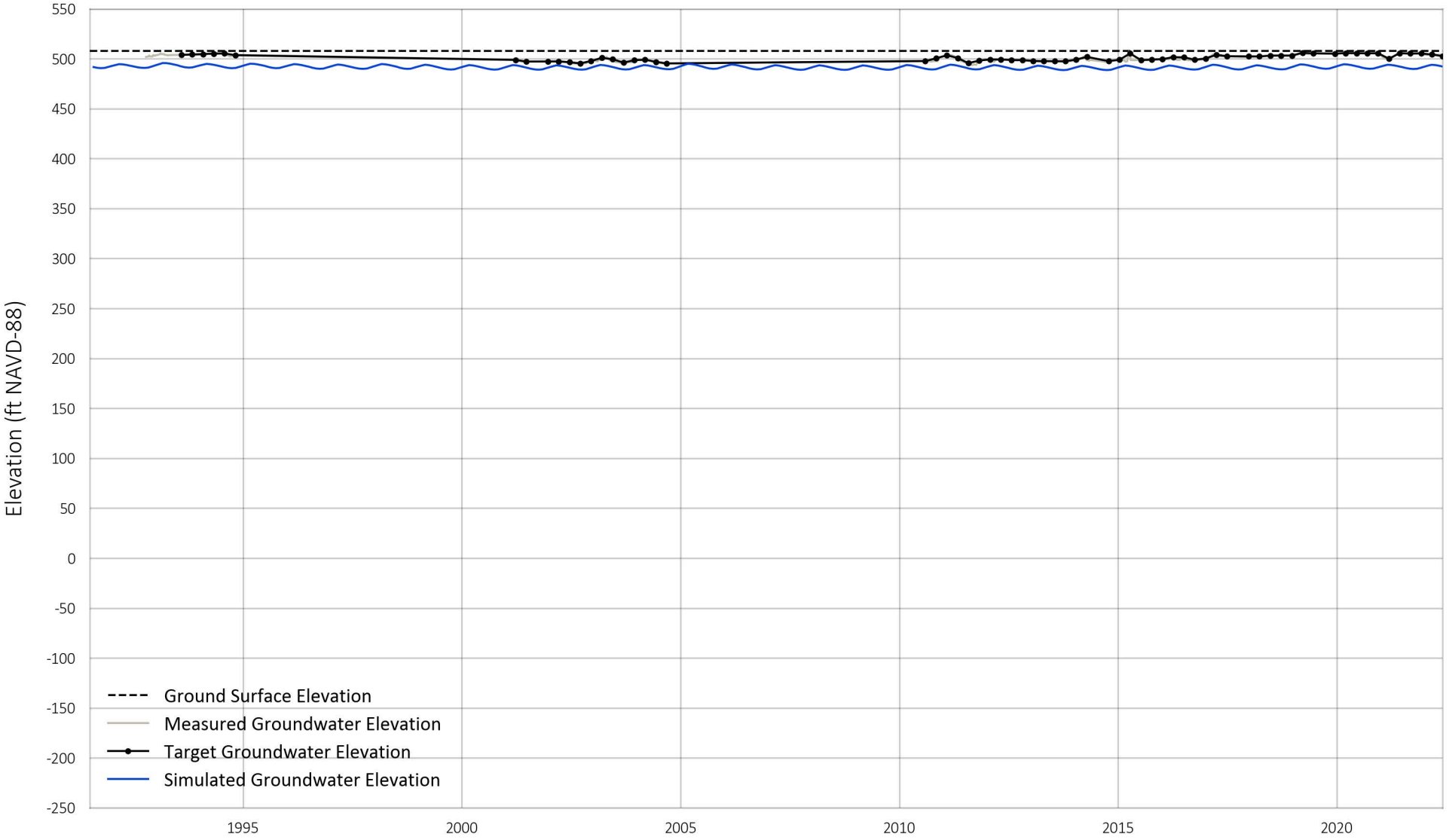
Target Groundwater Elevation (ft)
Mean = 492.37
Standard Deviation = 2.12

Simulated Groundwater Elevation (ft)
Mean = 491.99
Standard Deviation = 1.04

Mean Residual (ft) = -0.37
RMSE (ft) = 2.26

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1230523
Well Name: OCWD-PD3B
Owner: Orange County Water District

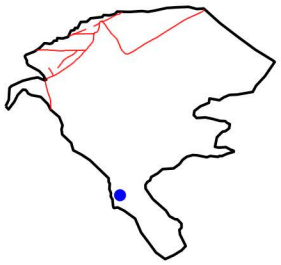
Figure B3-54



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

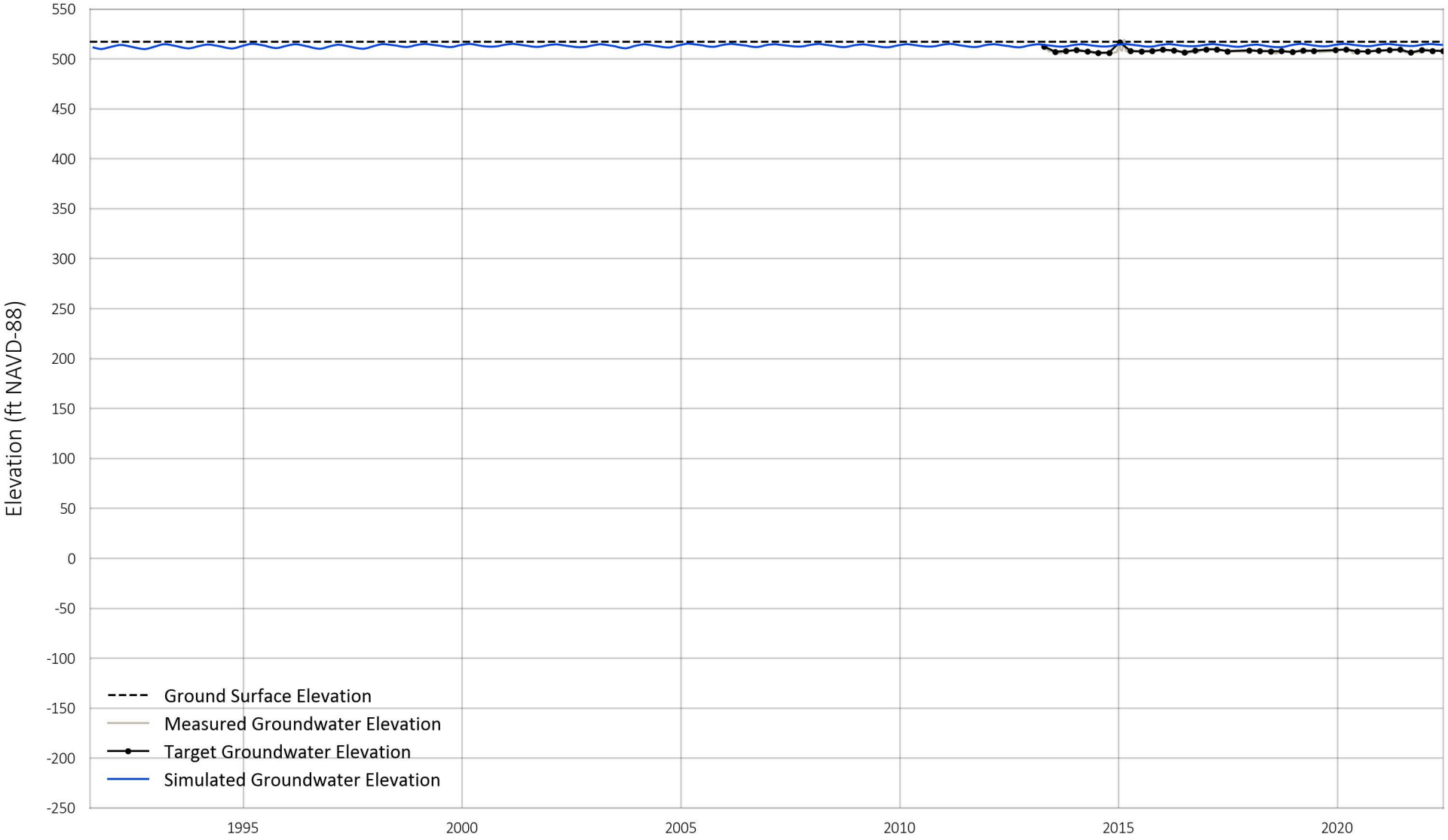
Target Groundwater Elevation (ft)
Mean = 500.86
Standard Deviation = 3.24

Simulated Groundwater Elevation (ft)
Mean = 491.47
Standard Deviation = 1.54

Mean Residual (ft) = -9.40
RMSE (ft) = 9.82

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1230529
Well Name: OCWD-PD6B
Owner: Orange County Water District

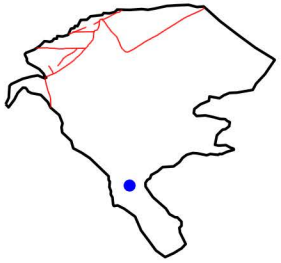
Figure B3-55



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

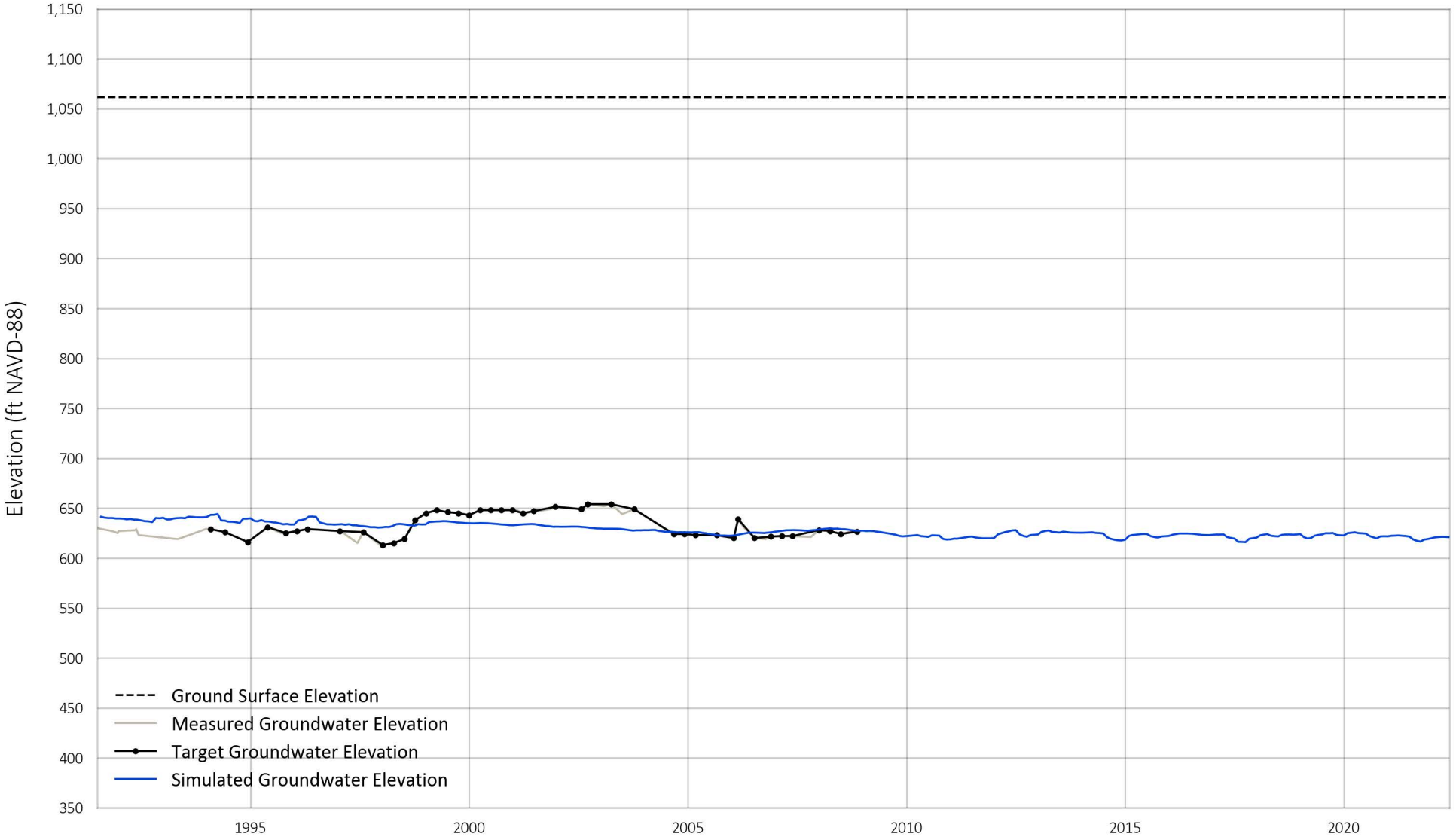
Target Groundwater Elevation (ft)
Mean = 508.16
Standard Deviation = 1.82

Simulated Groundwater Elevation (ft)
Mean = 513.42
Standard Deviation = 0.83

Mean Residual (ft) = 5.26
RMSE (ft) = 5.49

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1232806
Well Name: OCWD-PDE4
Owner: Orange County Water District

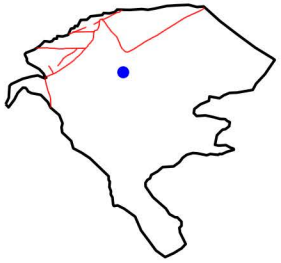
Figure B3-56



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

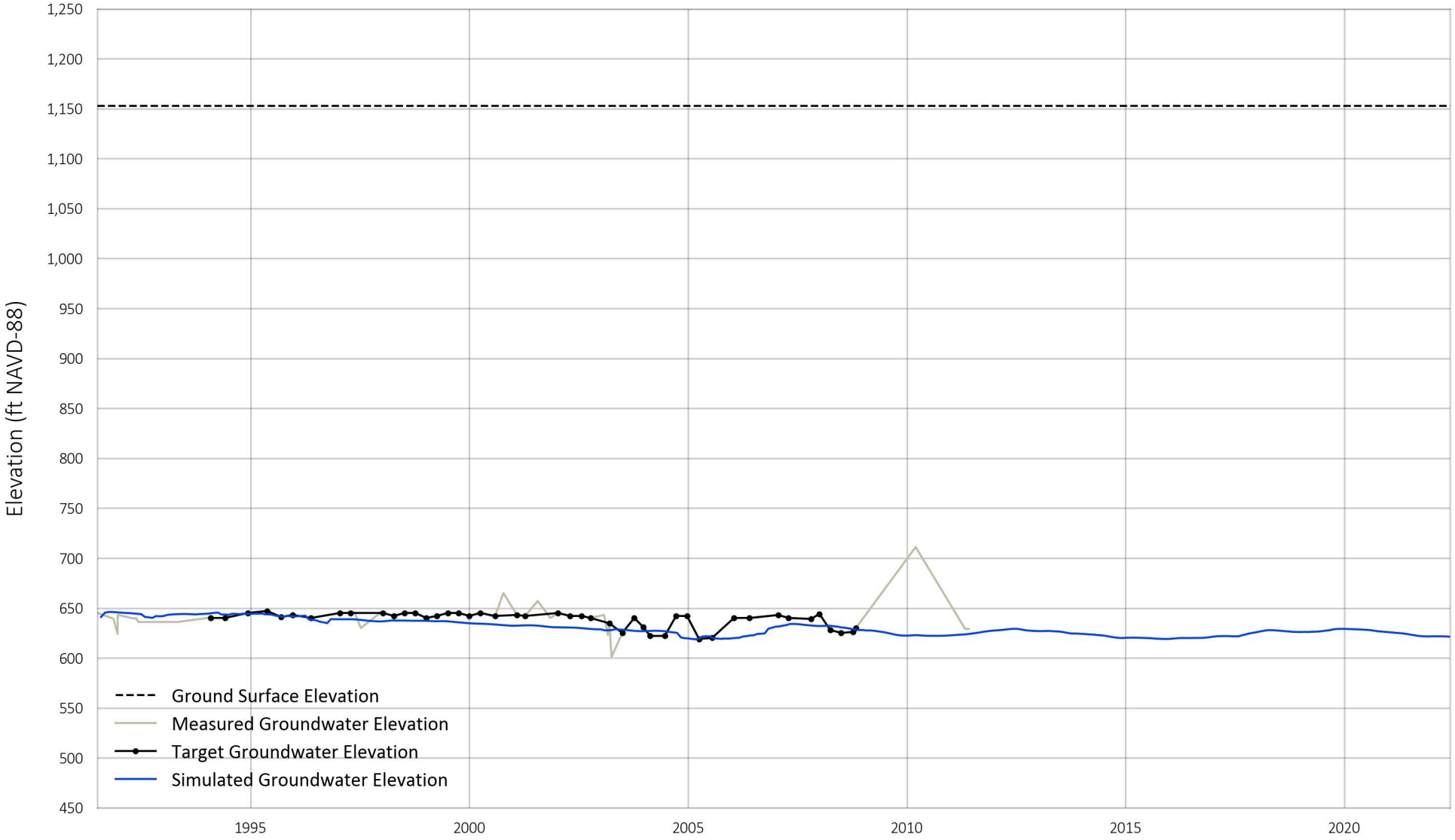
Target Groundwater Elevation (ft)
Mean = 633.47
Standard Deviation = 12.49

Simulated Groundwater Elevation (ft)
Mean = 631.81
Standard Deviation = 4.85

Mean Residual (ft) = -1.65
RMSE (ft) = 12.28

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002328
Well Name: ONT 04
Owner: City of Ontario

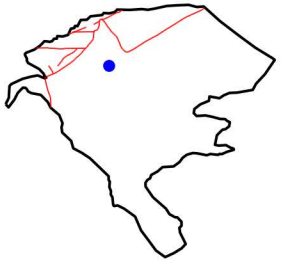
Figure B3-57



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

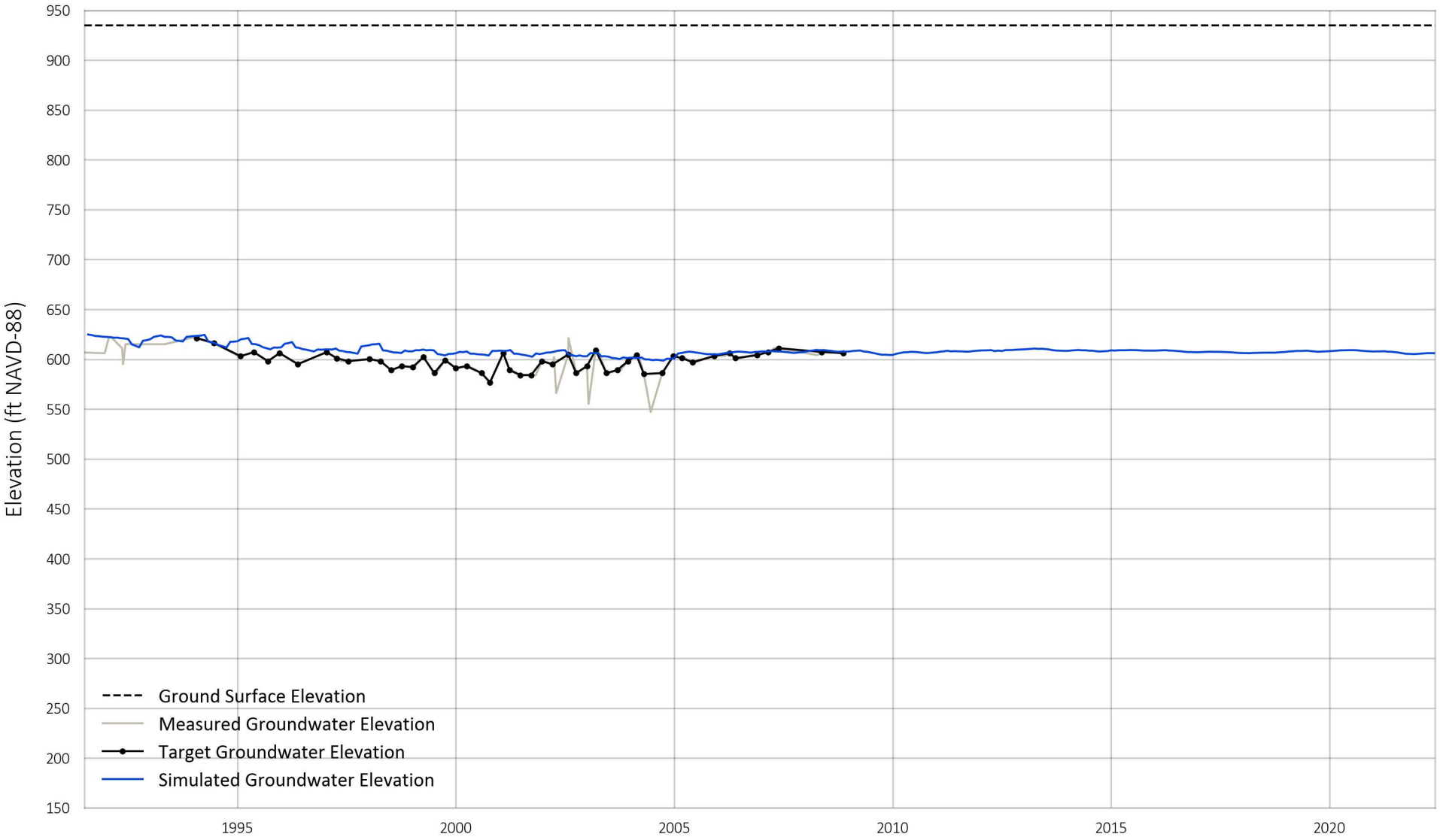
Target Groundwater Elevation (ft)
Mean = 638.65
Standard Deviation = 7.84

Simulated Groundwater Elevation (ft)
Mean = 632.67
Standard Deviation = 6.66

Mean Residual (ft) = -5.98
RMSE (ft) = 9.10

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002319
Well Name: ONT 09
Owner: City of Ontario

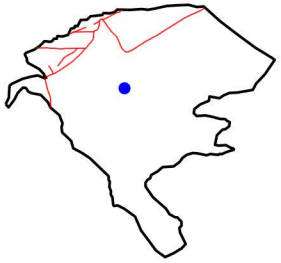
Figure B3-58



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

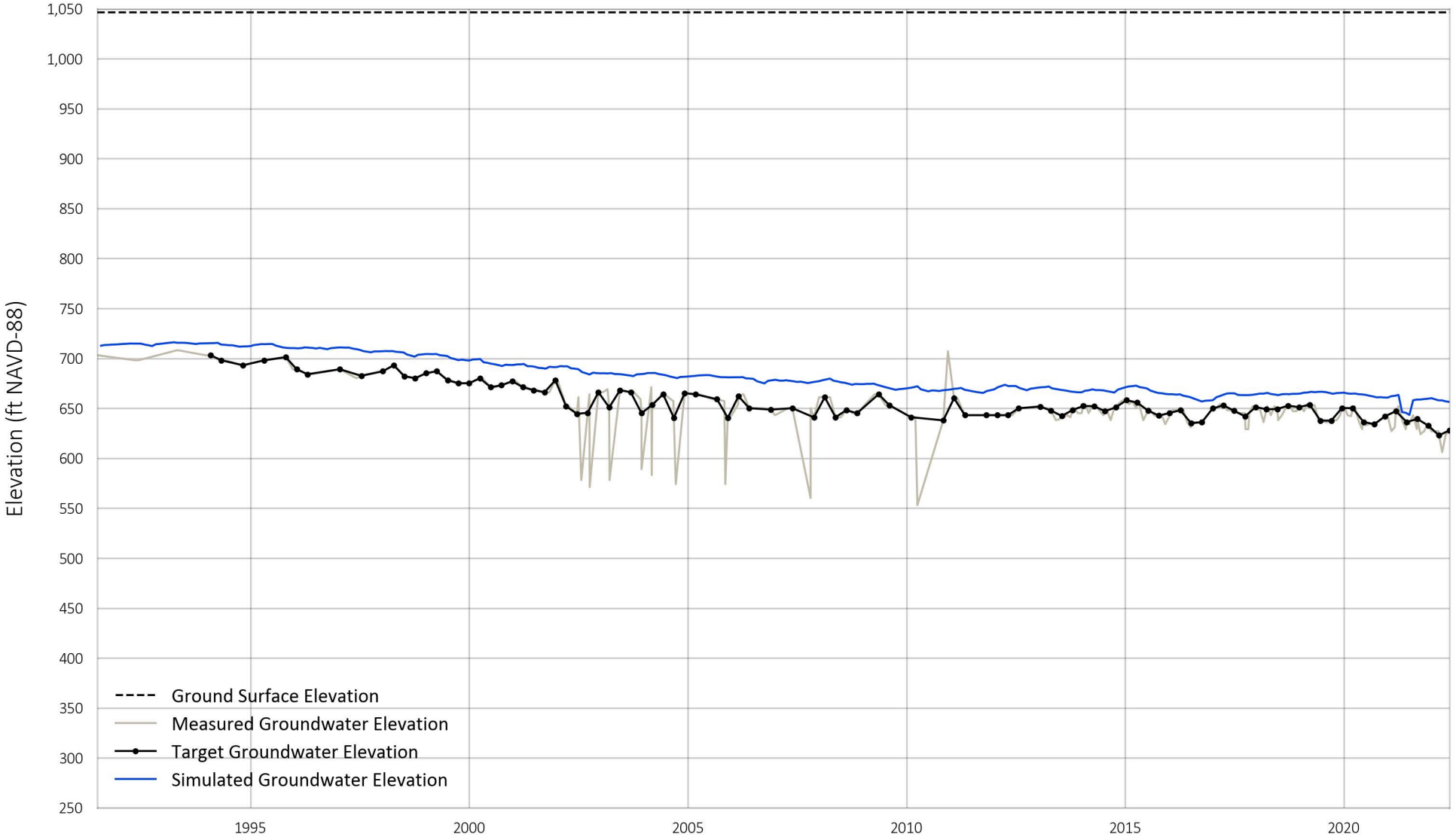
Target Groundwater Elevation (ft)
Mean = 598.06
Standard Deviation = 9.28

Simulated Groundwater Elevation (ft)
Mean = 607.46
Standard Deviation = 4.83

Mean Residual (ft) = 9.40
RMSE (ft) = 12.13

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002346
Well Name: ONT 11
Owner: City of Ontario

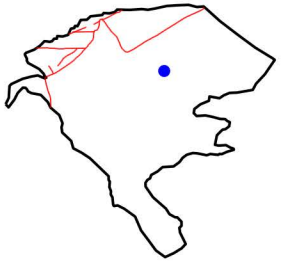
Figure B3-59



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

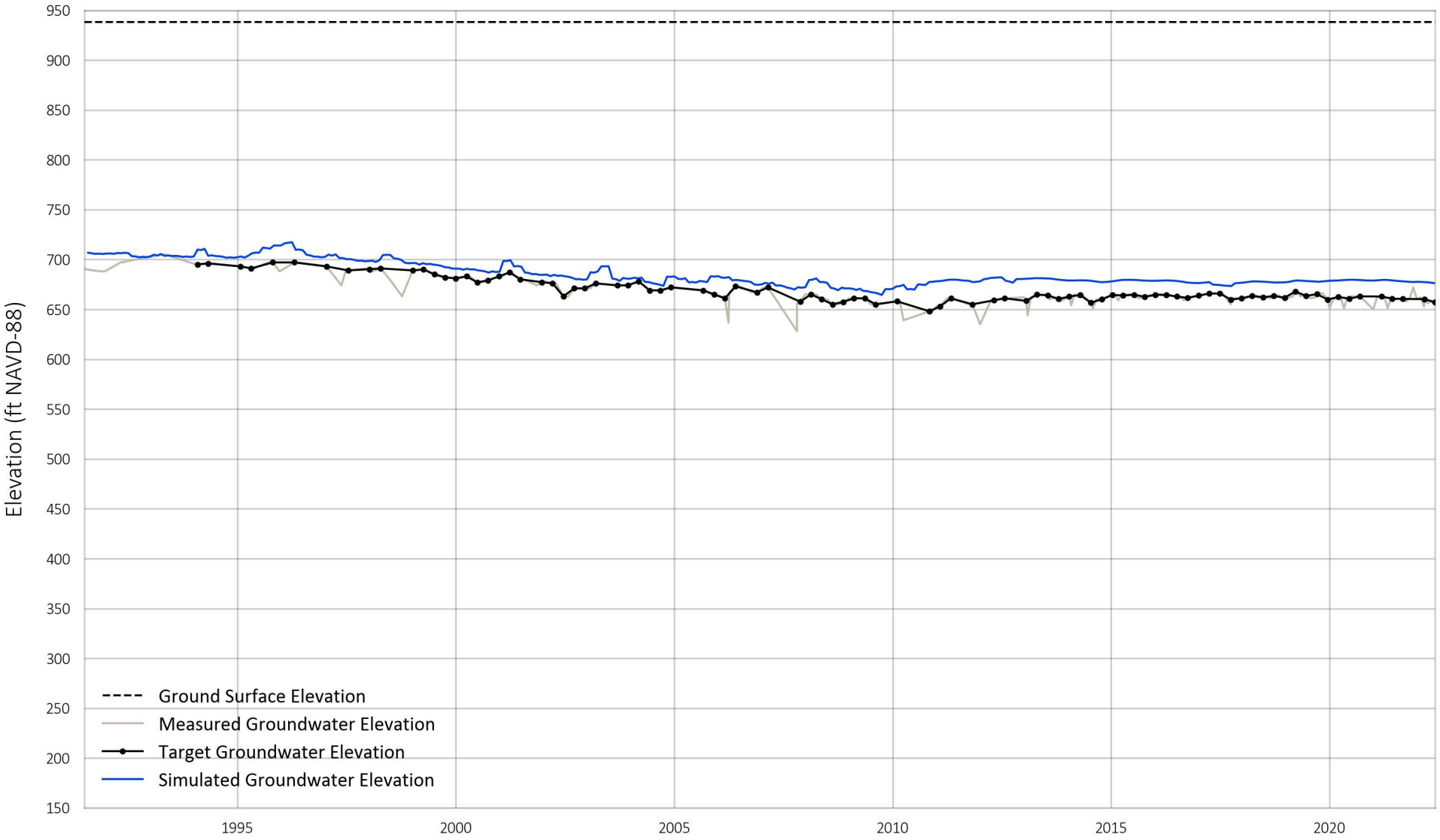
Target Groundwater Elevation (ft)
Mean = 657.32
Standard Deviation = 18.25

Simulated Groundwater Elevation (ft)
Mean = 679.20
Standard Deviation = 16.86

Mean Residual (ft) = 21.87
RMSE (ft) = 23.25

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002305
Well Name: ONT 20
Owner: City of Ontario

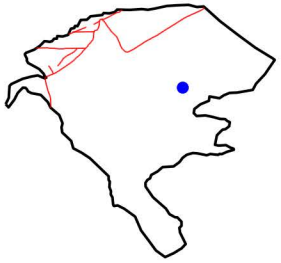
Figure B3-60



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

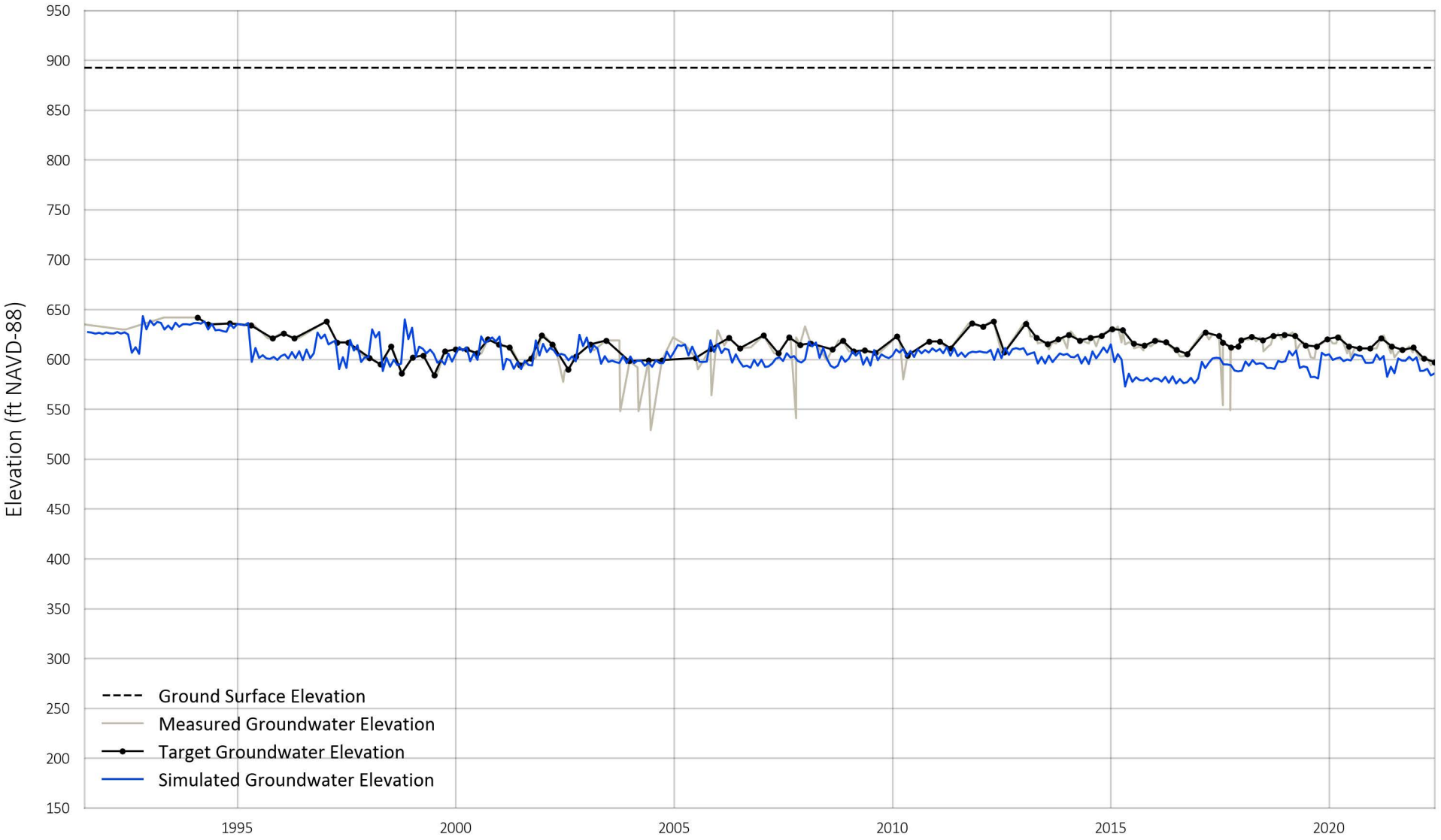
Target Groundwater Elevation (ft)
Mean = 669.35
Standard Deviation = 11.90

Simulated Groundwater Elevation (ft)
Mean = 682.84
Standard Deviation = 9.89

Mean Residual (ft) = 13.49
RMSE (ft) = 14.39

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002254
Well Name: ONT 31
Owner: City of Ontario

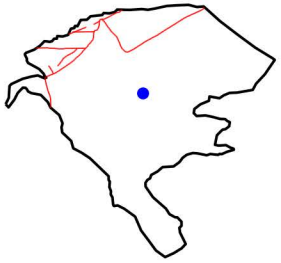
Figure B3-61



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

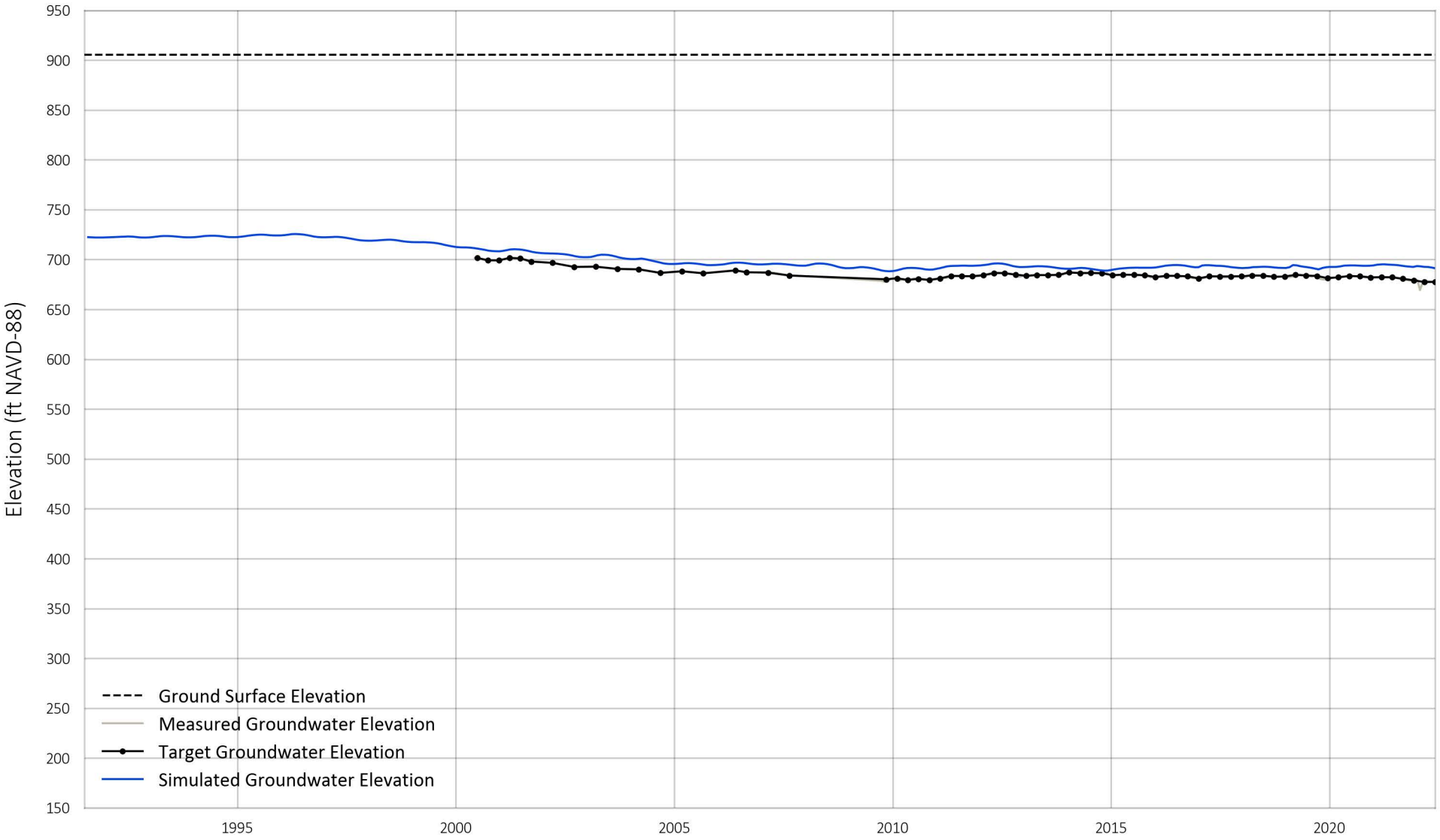
Target Groundwater Elevation (ft)
Mean = 615.02
Standard Deviation = 11.44

Simulated Groundwater Elevation (ft)
Mean = 601.60
Standard Deviation = 11.17

Mean Residual (ft) = -13.42
RMSE (ft) = 19.12

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002372
Well Name: ONT 36
Owner: City of Ontario

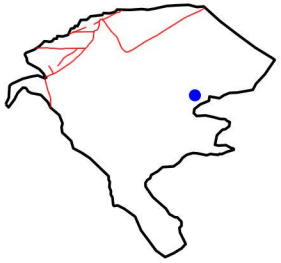
Figure B3-62



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

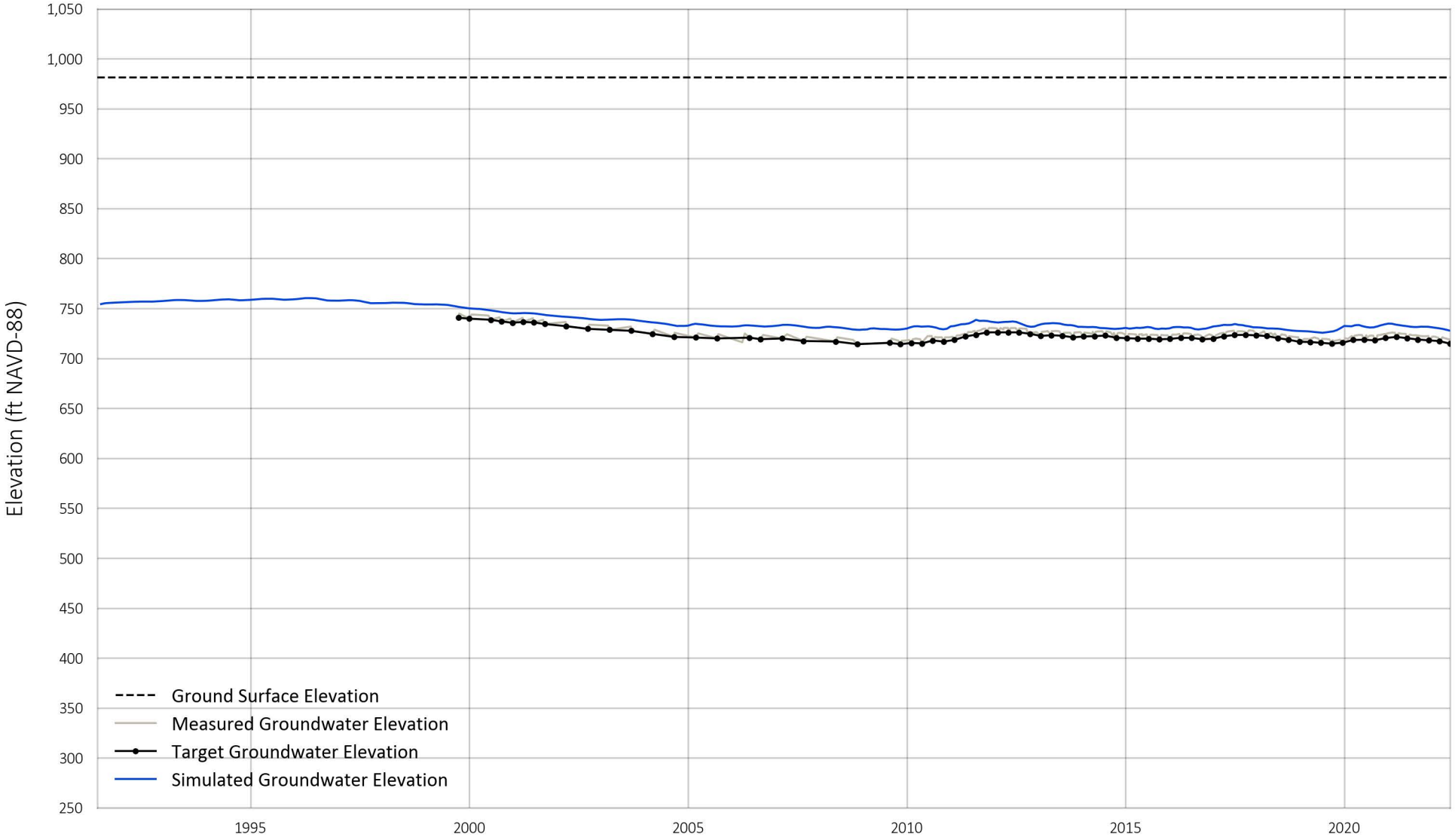
Target Groundwater Elevation (ft)
Mean = 685.58
Standard Deviation = 5.57

Simulated Groundwater Elevation (ft)
Mean = 695.03
Standard Deviation = 5.50

Mean Residual (ft) = 9.45
RMSE (ft) = 9.71

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1207066
Well Name: Offsite MW1
Owner: Alcoa

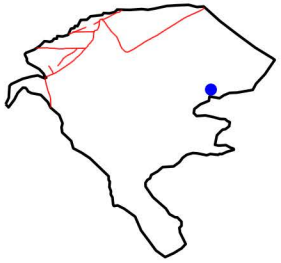
Figure B3-63



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

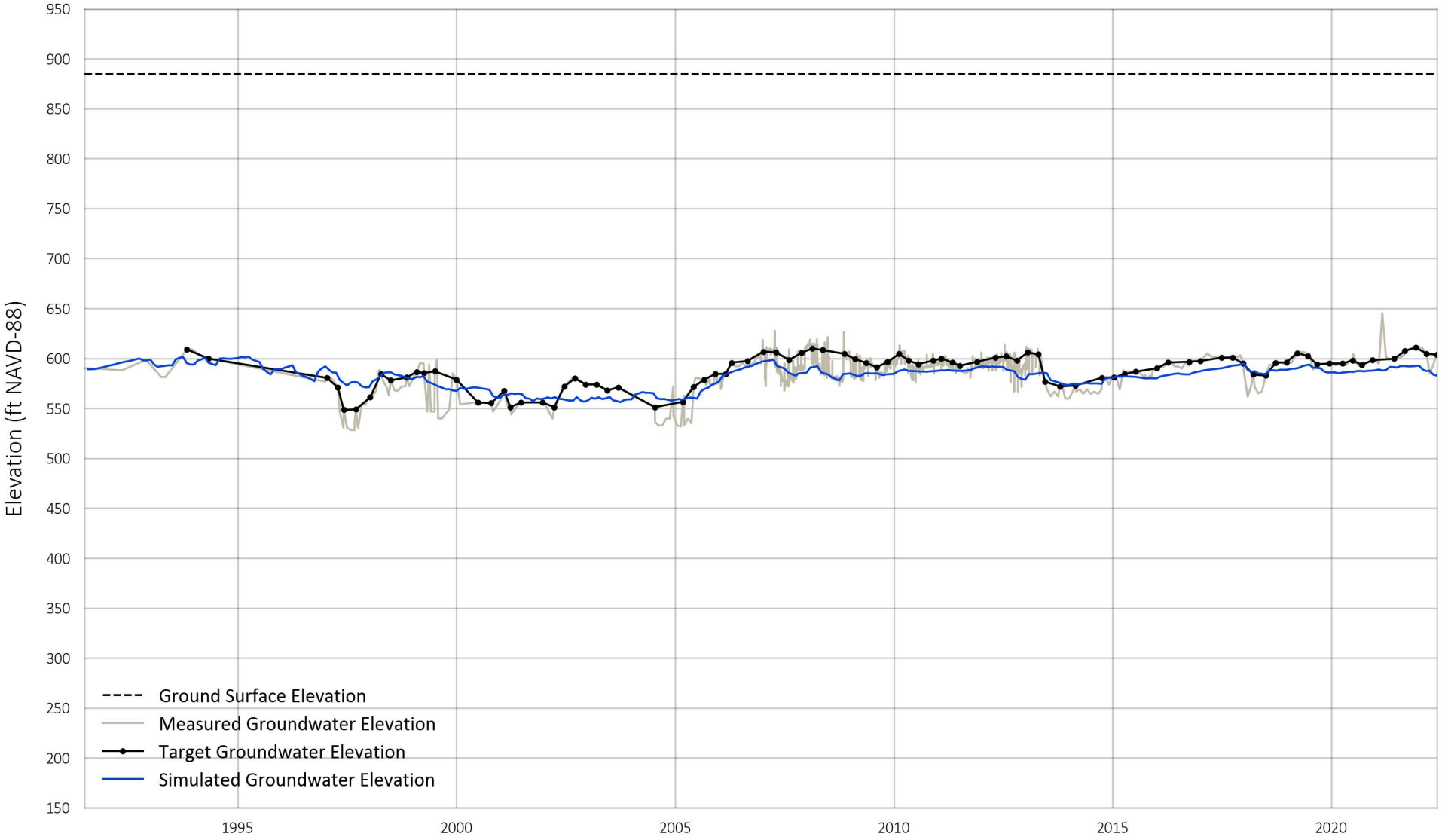
Target Groundwater Elevation (ft)
Mean = 722.31
Standard Deviation = 6.37

Simulated Groundwater Elevation (ft)
Mean = 733.77
Standard Deviation = 5.52

Mean Residual (ft) = 11.46
RMSE (ft) = 11.64

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1207069
Well Name: Offsite MW4
Owner: Alcoa

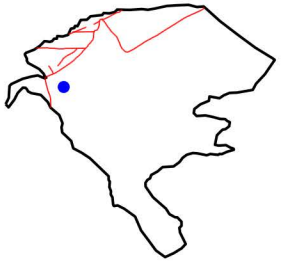
Figure B3-64



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

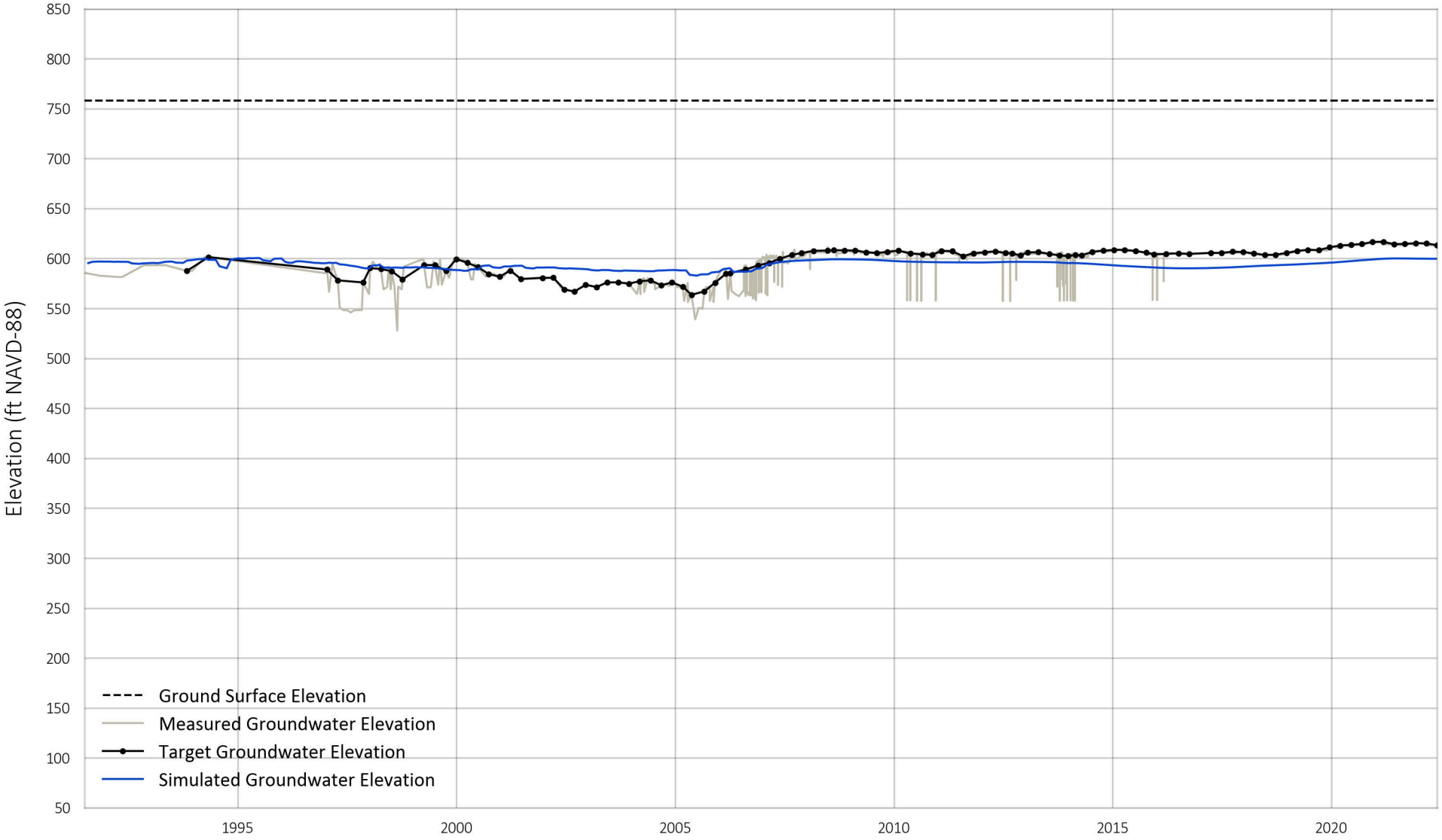
Target Groundwater Elevation (ft)
Mean = 587.33
Standard Deviation = 16.72

Simulated Groundwater Elevation (ft)
Mean = 581.01
Standard Deviation = 10.77

Mean Residual (ft) = -6.32
RMSE (ft) = 12.04

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002654
Well Name: P-16
Owner: City of Pomona

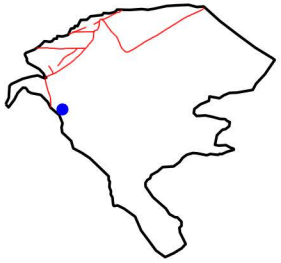
Figure B3-65



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

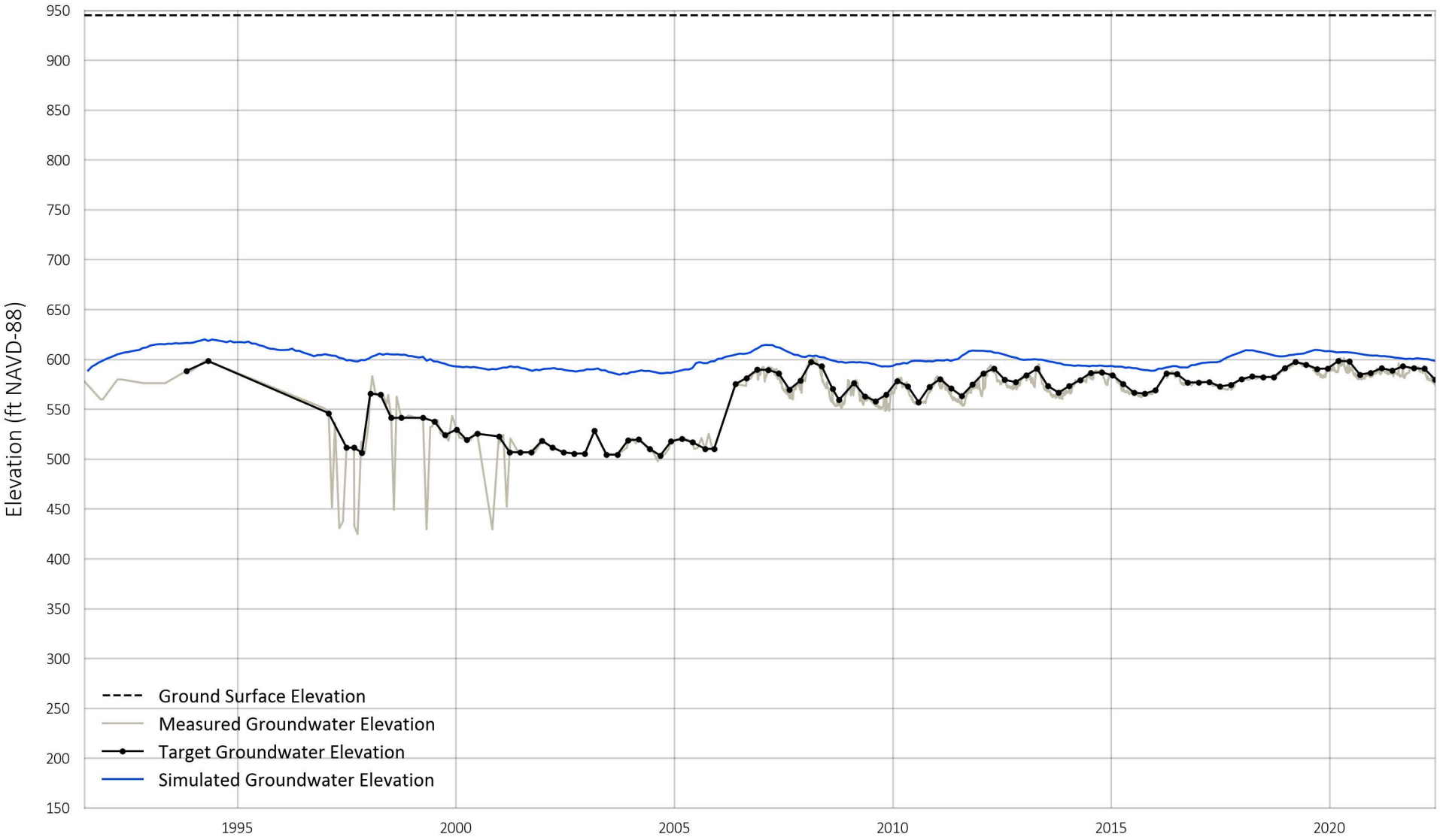
Target Groundwater Elevation (ft)
Mean = 597.38
Standard Deviation = 13.90

Simulated Groundwater Elevation (ft)
Mean = 593.51
Standard Deviation = 4.06

Mean Residual (ft) = -3.87
RMSE (ft) = 11.71

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1203062
Well Name: P-29
Owner: City of Pomona

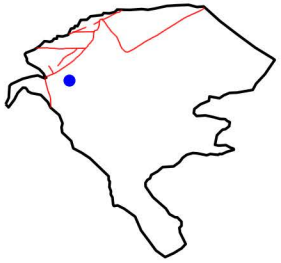
Figure B3-66



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

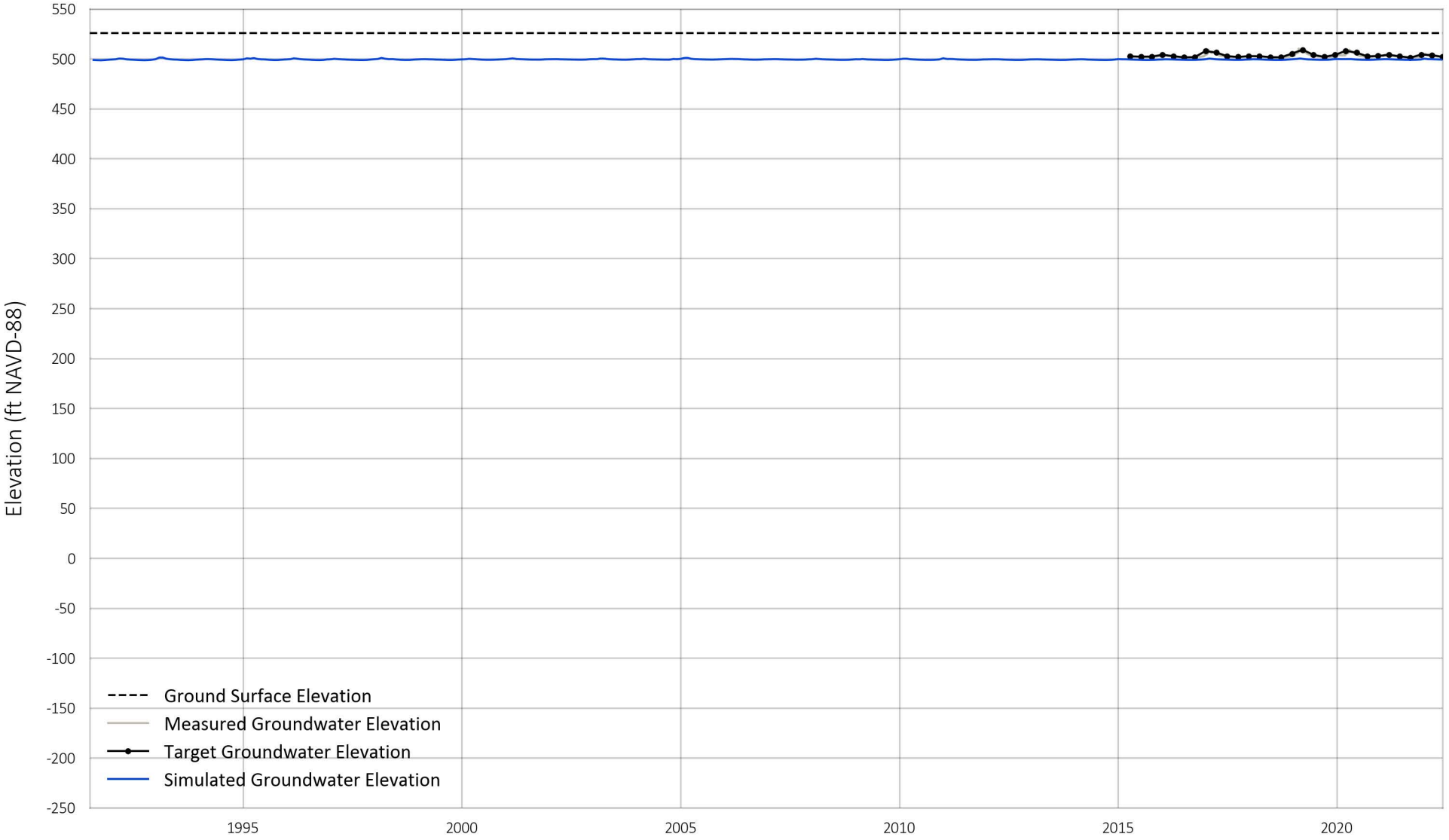
Target Groundwater Elevation (ft)
Mean = 560.19
Standard Deviation = 31.31

Simulated Groundwater Elevation (ft)
Mean = 598.48
Standard Deviation = 7.35

Mean Residual (ft) = 38.29
RMSE (ft) = 46.83

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002623
Well Name: P-30
Owner: City of Pomona

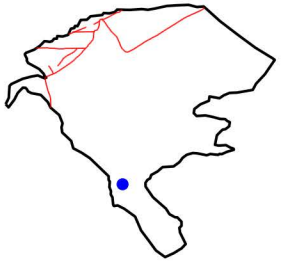
Figure B3-67



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

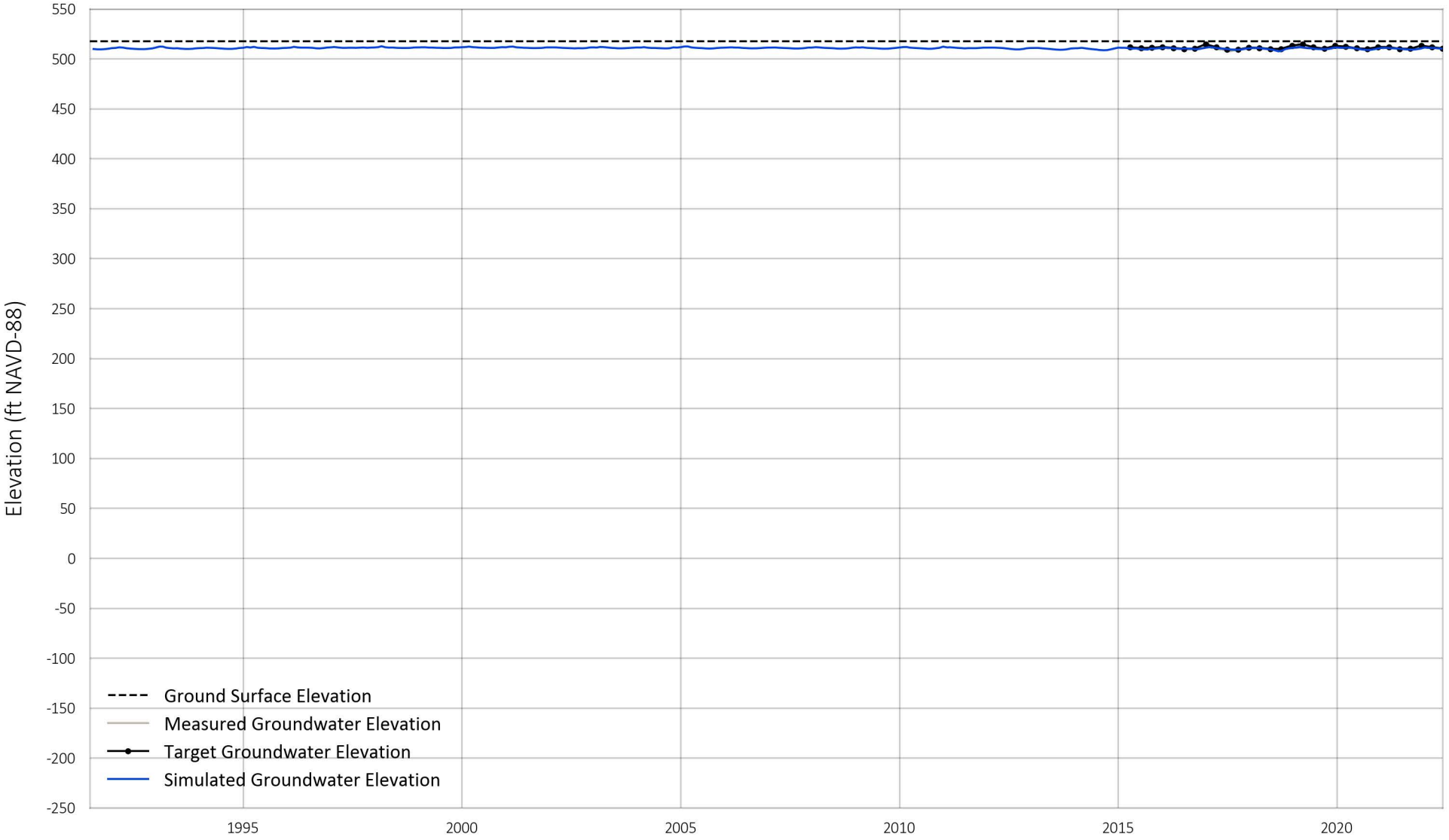
Target Groundwater Elevation (ft)
Mean = 503.36
Standard Deviation = 2.09

Simulated Groundwater Elevation (ft)
Mean = 499.15
Standard Deviation = 0.29

Mean Residual (ft) = -4.22
RMSE (ft) = 4.60

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1232875
Well Name: PB-5/1
Owner: Inland Empire Utilities Agency

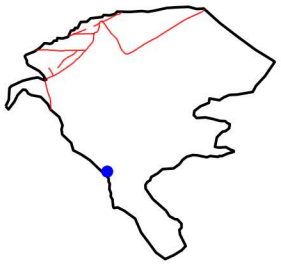
Figure B3-68



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

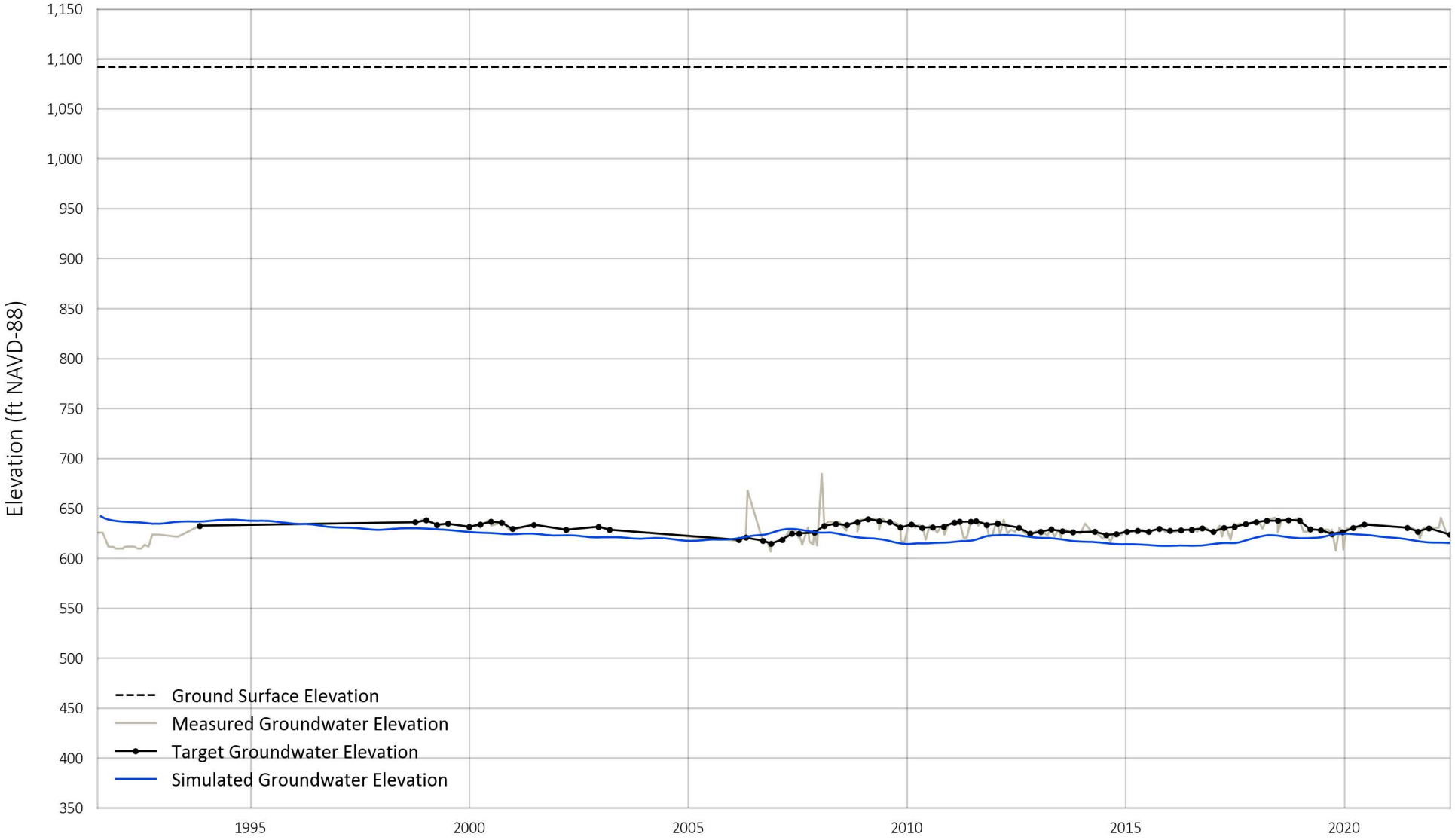
Target Groundwater Elevation (ft)
Mean = 511.15
Standard Deviation = 1.41

Simulated Groundwater Elevation (ft)
Mean = 510.09
Standard Deviation = 0.76

Mean Residual (ft) = -1.06
RMSE (ft) = 1.42

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1232872
Well Name: PB-7/1
Owner: Inland Empire Utilities Agency

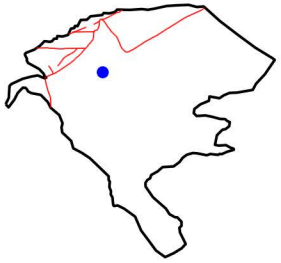
Figure B3-69



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

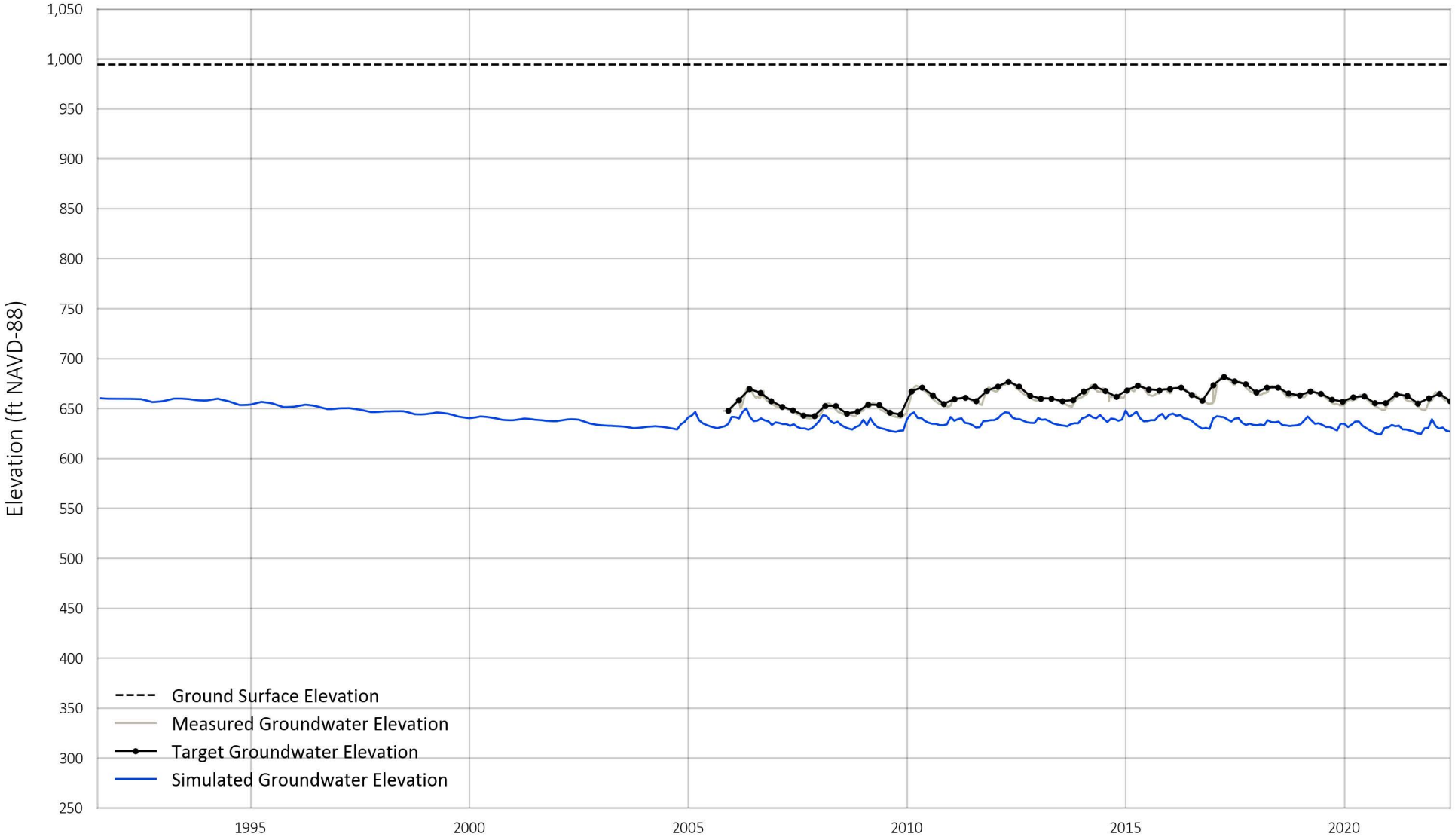
Target Groundwater Elevation (ft)
Mean = 630.31
Standard Deviation = 5.40

Simulated Groundwater Elevation (ft)
Mean = 620.38
Standard Deviation = 5.22

Mean Residual (ft) = -9.92
RMSE (ft) = 12.21

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002321
Well Name: SAWC 18
Owner: San Antonio Water Company

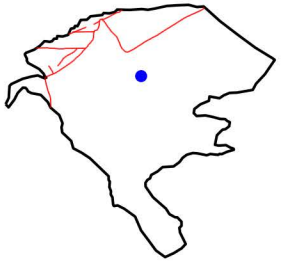
Figure B3-70



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

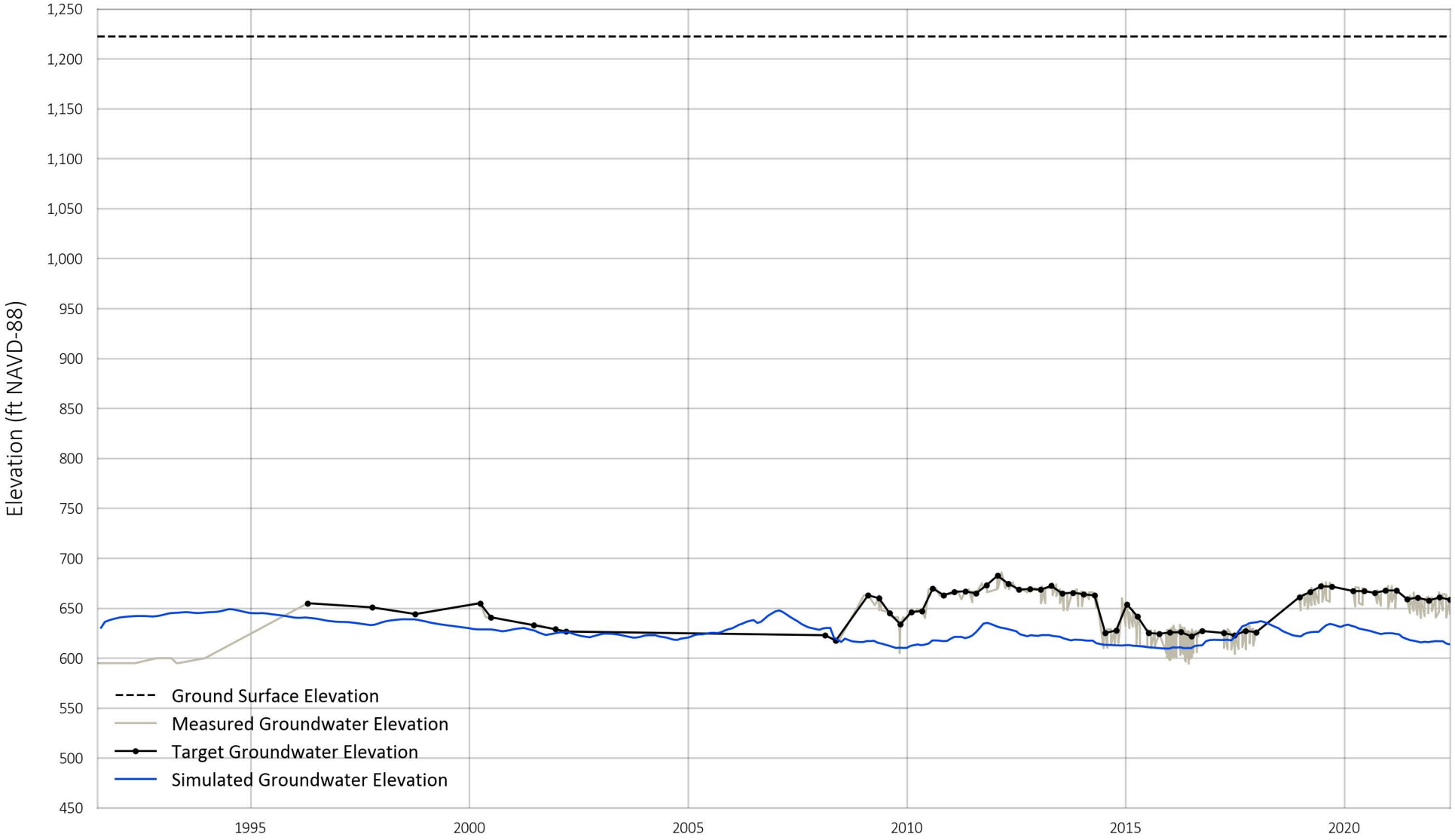
Target Groundwater Elevation (ft)
Mean = 661.63
Standard Deviation = 8.91

Simulated Groundwater Elevation (ft)
Mean = 635.62
Standard Deviation = 5.05

Mean Residual (ft) = -26.01
RMSE (ft) = 26.89

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1208082
Well Name: T-2/1
Owner: Inland Empire Utilities Agency

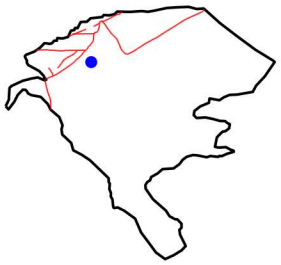
Figure B3-71



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

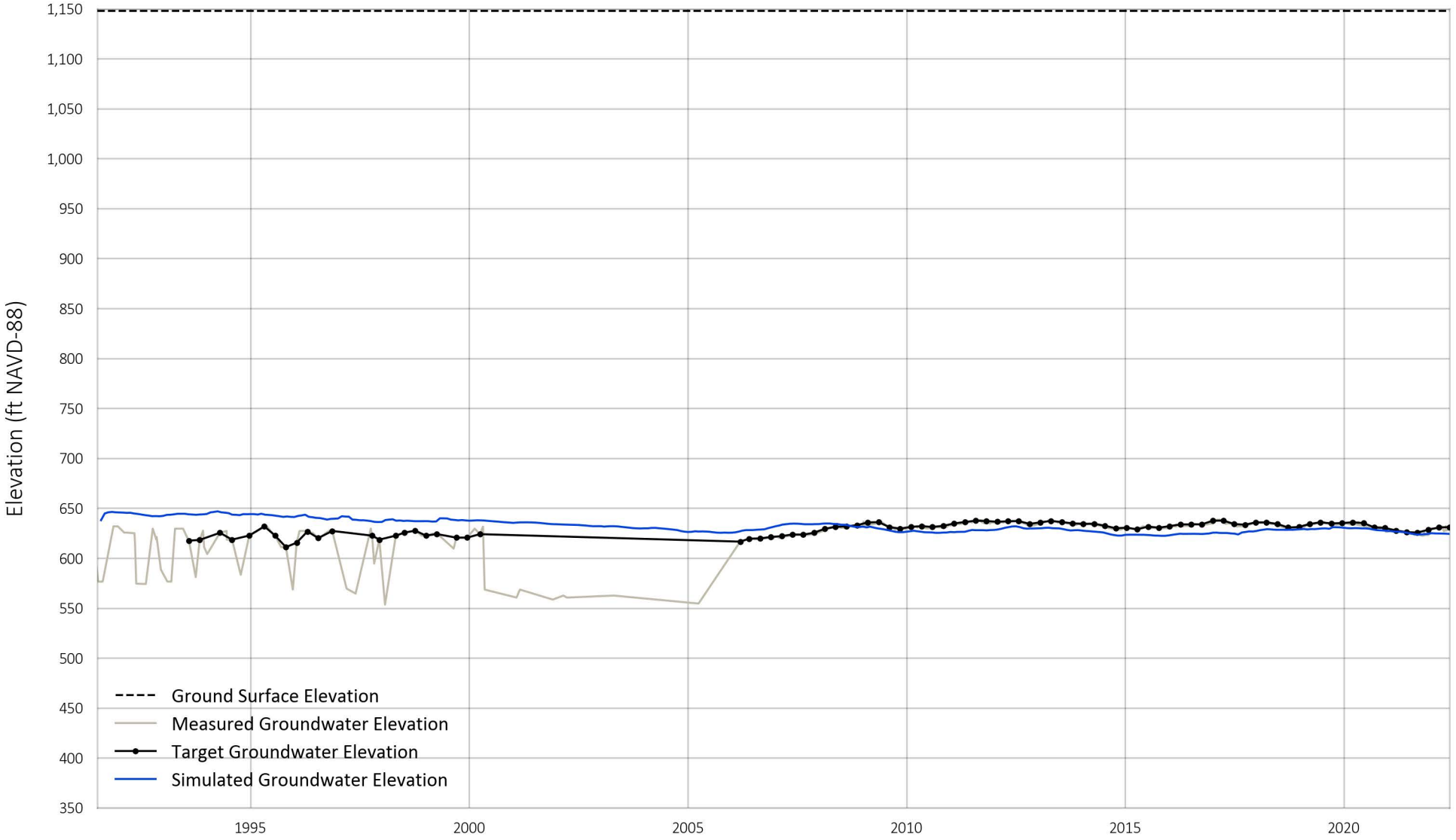
Target Groundwater Elevation (ft)
Mean = 651.08
Standard Deviation = 18.54

Simulated Groundwater Elevation (ft)
Mean = 621.48
Standard Deviation = 8.07

Mean Residual (ft) = -29.59
RMSE (ft) = 34.50

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002531
Well Name: Upland 08
Owner: City of Upland

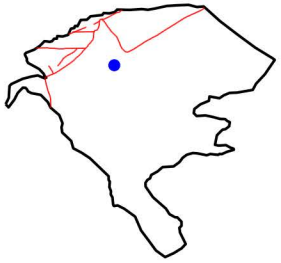
Figure B3-72



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

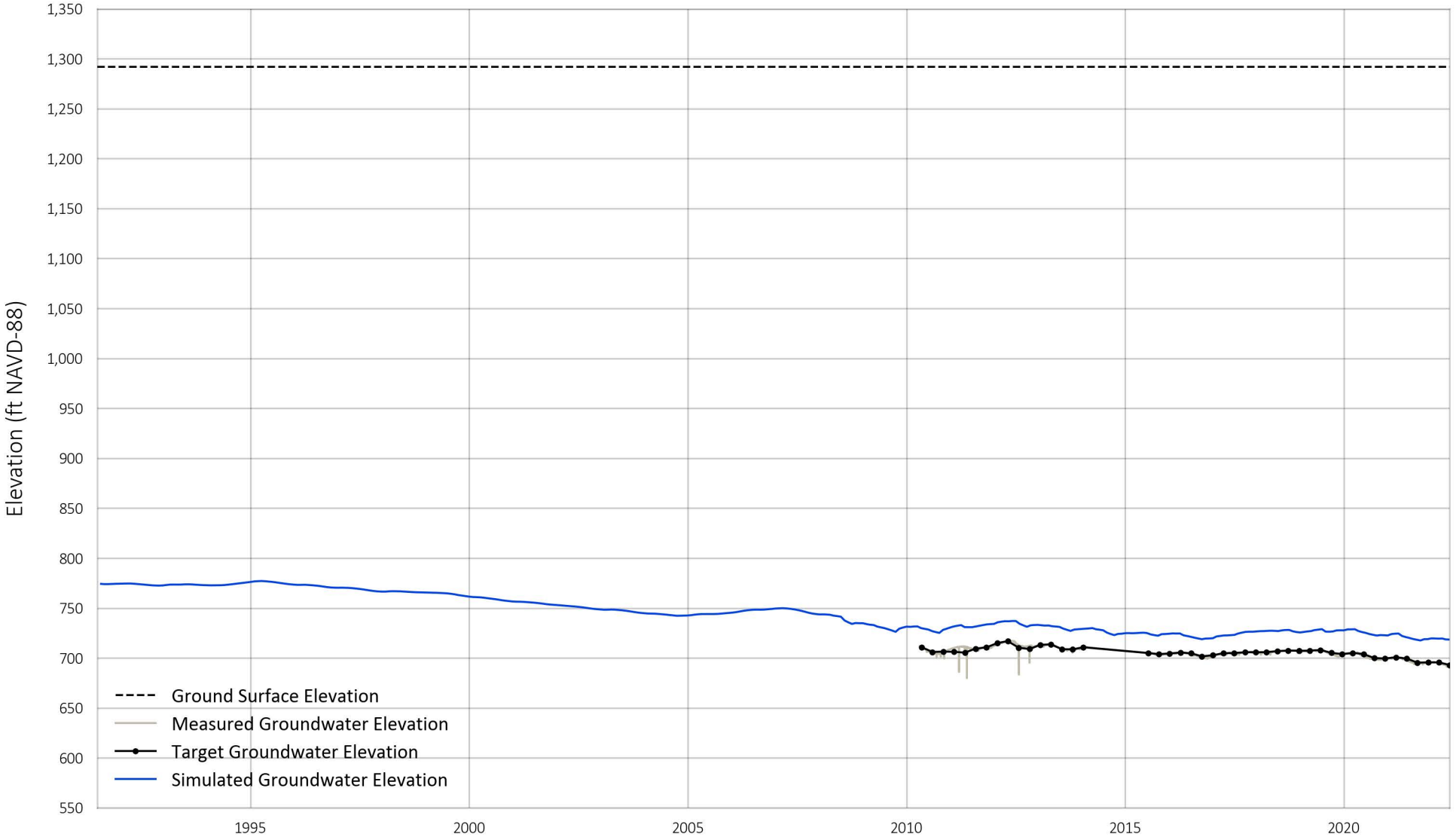
Target Groundwater Elevation (ft)
Mean = 629.40
Standard Deviation = 6.34

Simulated Groundwater Elevation (ft)
Mean = 630.94
Standard Deviation = 6.23

Mean Residual (ft) = 1.54
RMSE (ft) = 11.30

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002313
Well Name: Upland 09
Owner: City of Upland

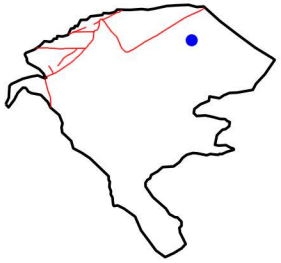
Figure B3-73



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

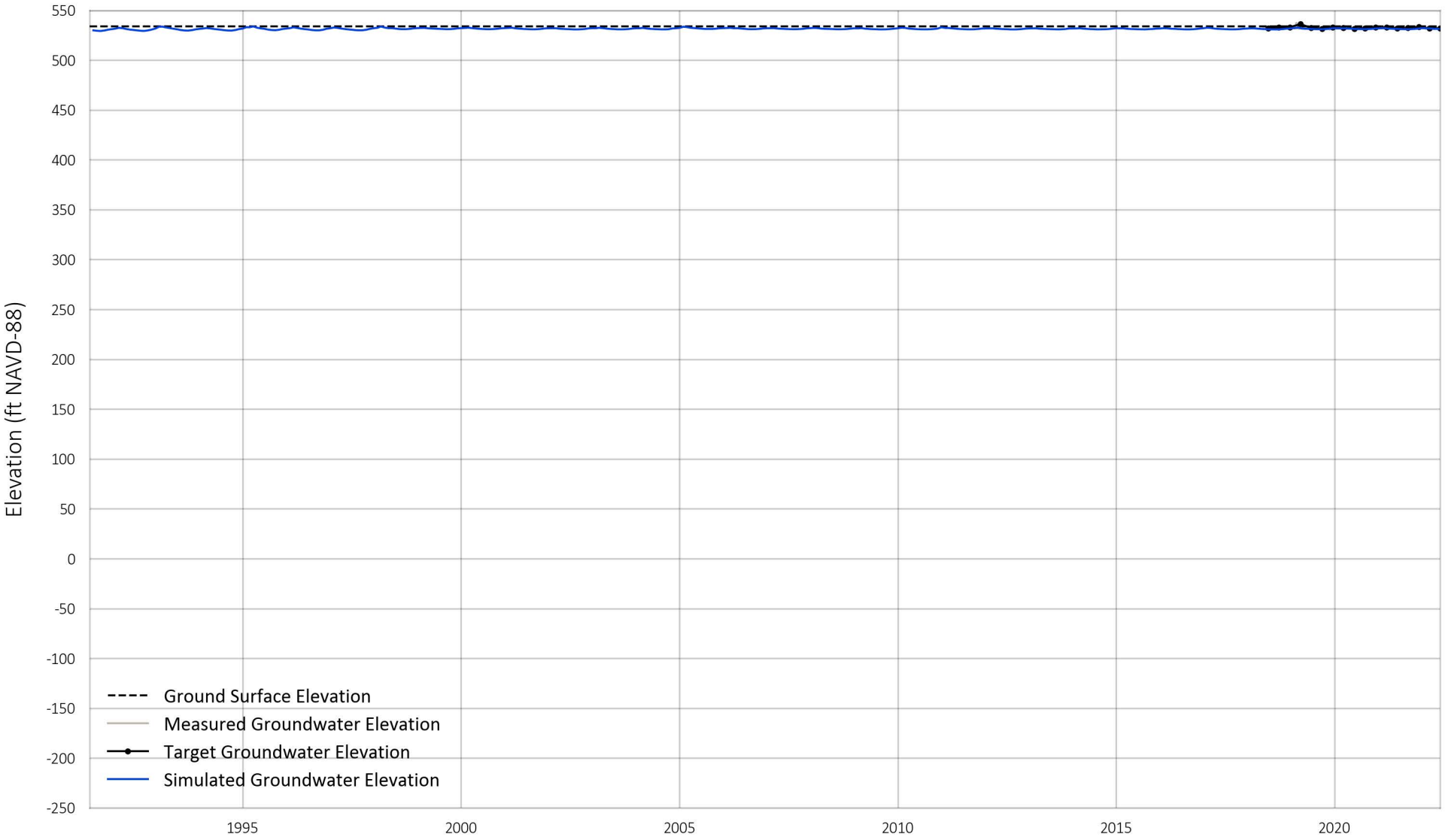
Target Groundwater Elevation (ft)
Mean = 705.62
Standard Deviation = 5.07

Simulated Groundwater Elevation (ft)
Mean = 726.63
Standard Deviation = 4.84

Mean Residual (ft) = 21.01
RMSE (ft) = 21.14

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1223006
Well Name: VCT-2/2
Owner: Inland Empire Utilities Agency

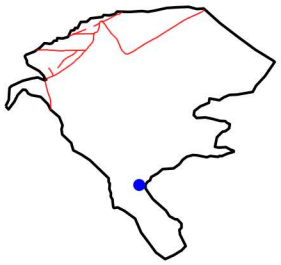
Figure B3-74



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

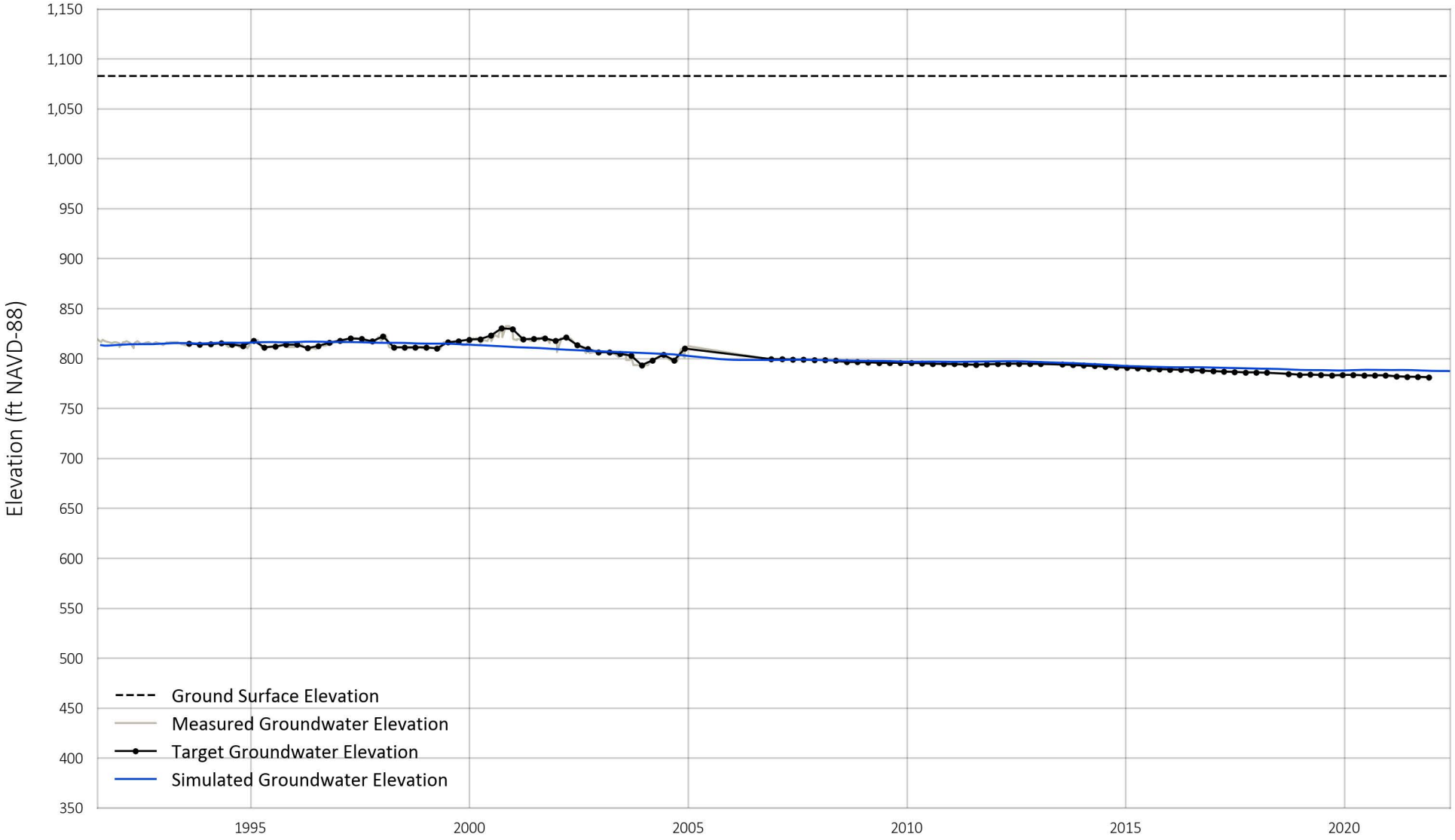
Target Groundwater Elevation (ft)
Mean = 532.50
Standard Deviation = 1.06

Simulated Groundwater Elevation (ft)
Mean = 531.39
Standard Deviation = 0.40

Mean Residual (ft) = -1.11
RMSE (ft) = 1.40

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1236959
Well Name: WRCRWA MW-8
Owner: Western Municipal Water District

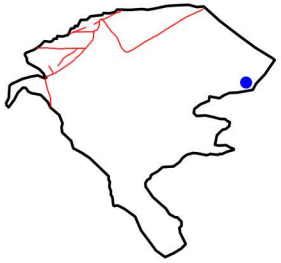
Figure B3-75



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

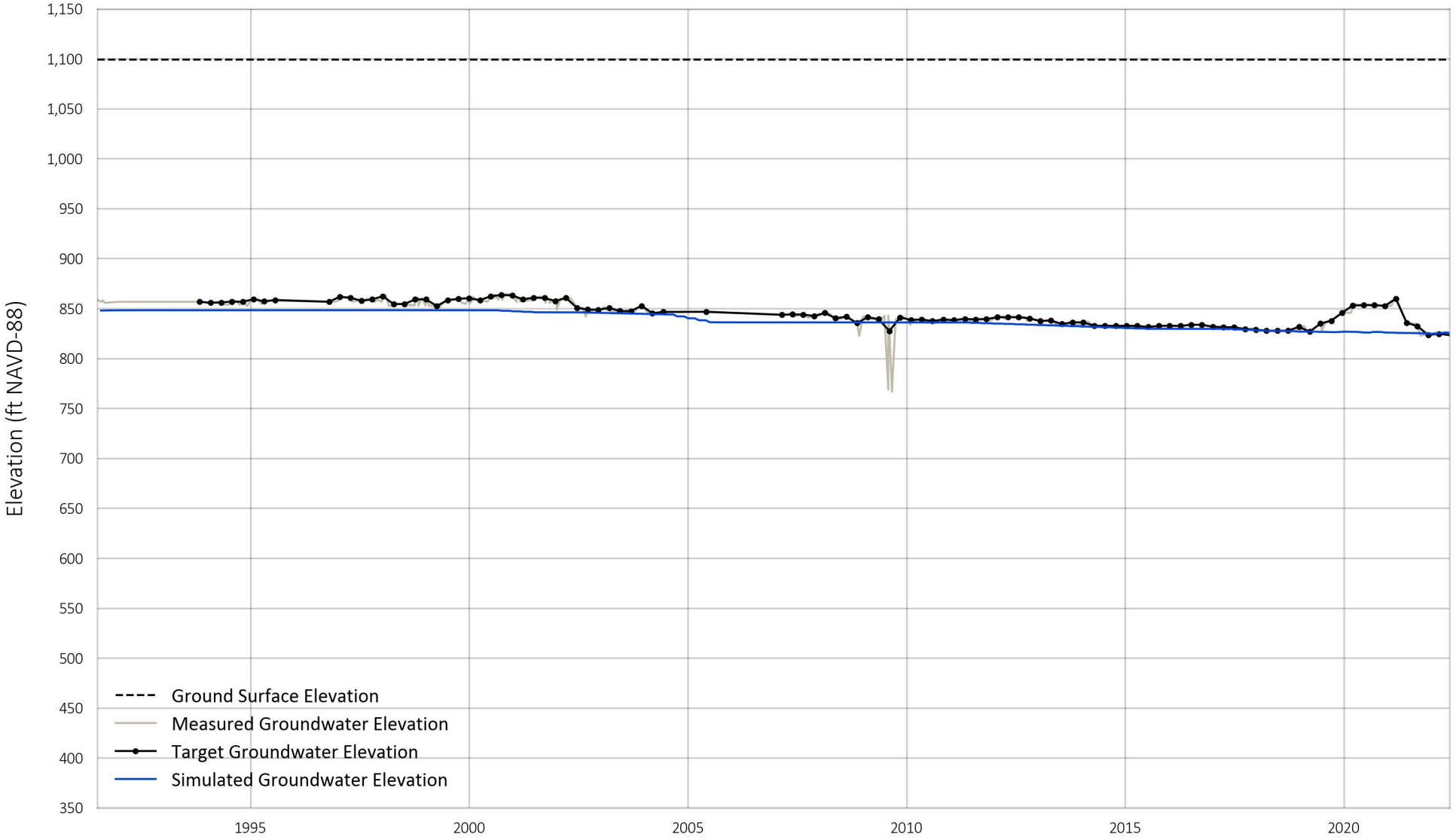
Target Groundwater Elevation (ft)
Mean = 800.75
Standard Deviation = 13.05

Simulated Groundwater Elevation (ft)
Mean = 801.78
Standard Deviation = 10.29

Mean Residual (ft) = 1.03
RMSE (ft) = 4.89

2025 CVM: Manual Calibration
HydroDaVE Well ID: 1002150
Well Name: WVWD 20
Owner: West Valley Water District

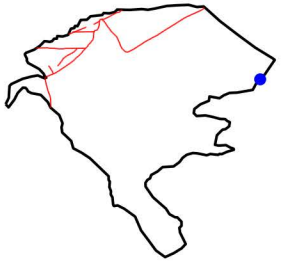
Figure B3-76



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

Target Groundwater Elevation (ft)
Mean = 844.67
Standard Deviation = 11.42

Simulated Groundwater Elevation (ft)
Mean = 837.56
Standard Deviation = 8.40

Mean Residual (ft) = -7.11
RMSE (ft) = 9.74

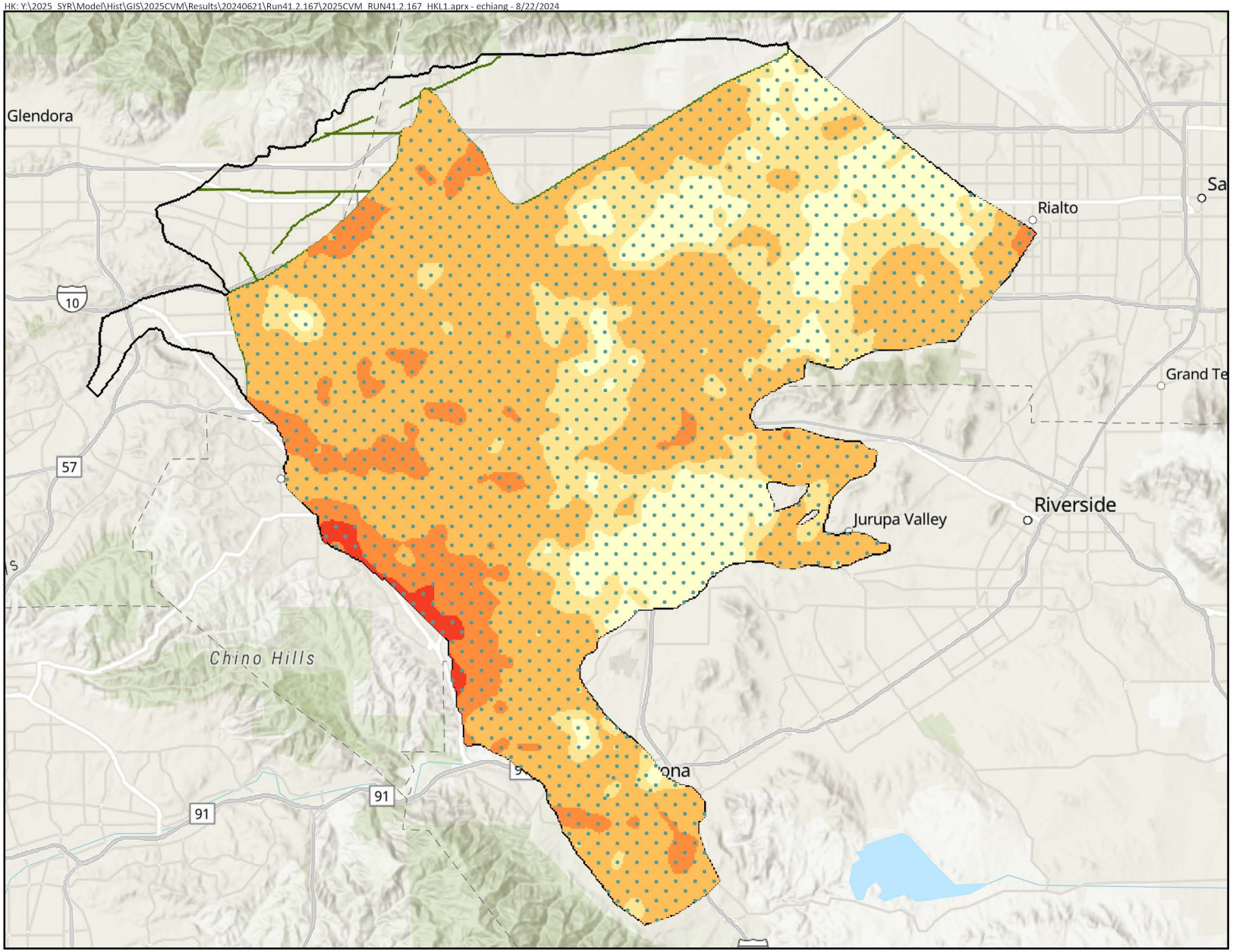
2025 CVM: Manual Calibration
HydroDaVE Well ID: 1006993
Well Name: WVWD 39
Owner: West Valley Water District

Figure B3-77

B4. Refined Aquifer Parameters from a PESTPP-IES Calibration Realization

DRAFT

HK: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\20240621\Run41.2.167\2025CVM_RUN41.2.167_HKL1.aprx - echiang - 8/22/2024



Model Boundary
Faults
Streams
HK Pilot Points

HK Values [ft/day]

- < 0.01
- 0.01 - 0.1
- 0.1- 1
- 1.0 - 10
- 10 - 100
- 100 - 250
- > 250

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

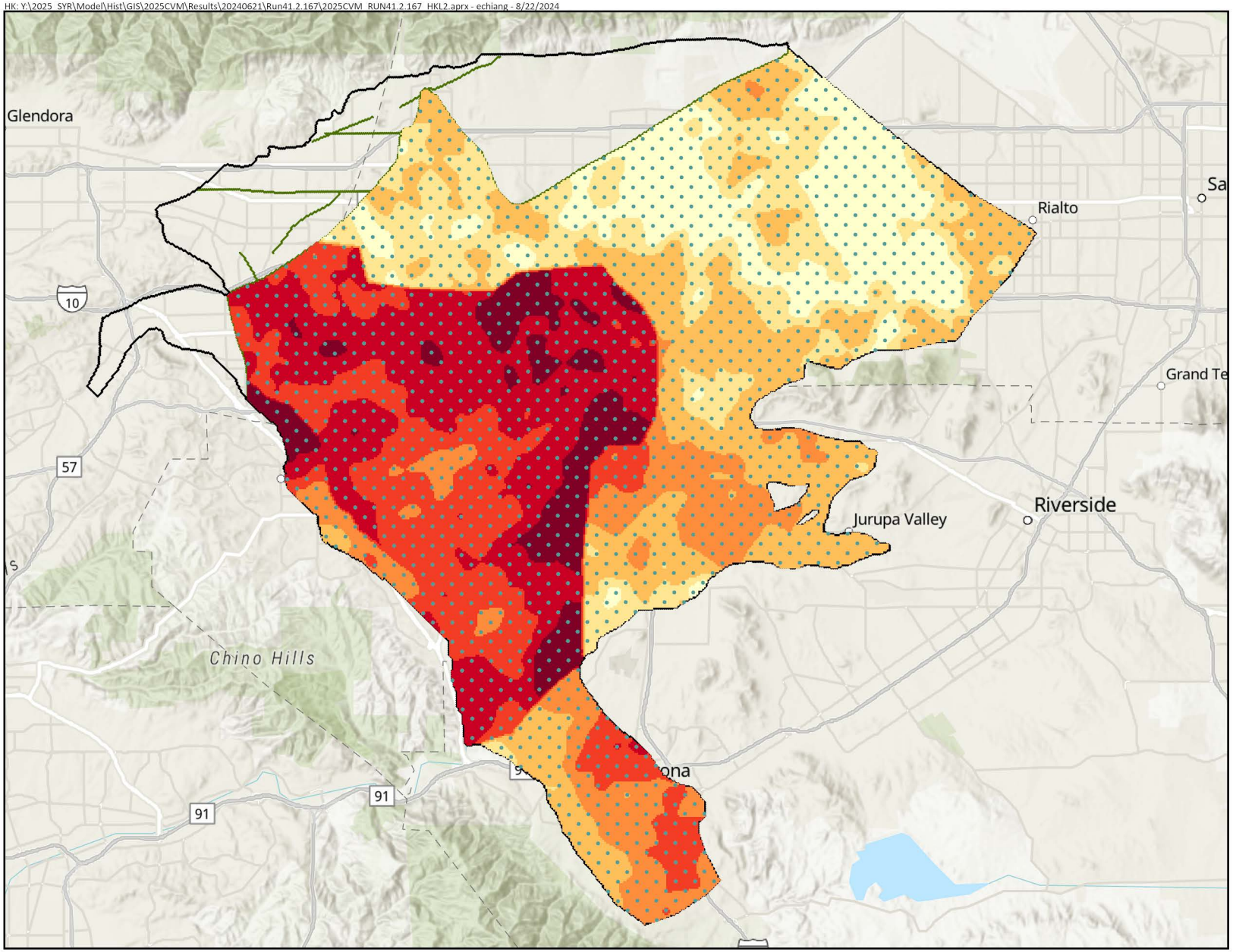
Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Run_41.2.167
HK in Layer 1

Figure B4-1

HK: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\20240621\Run41.2.167\2025CVM_RUN41.2.167_HKL2.aprx - echiang - 8/22/2024



- Model Boundary
- Faults
- Streams
- HK Pilot Points

HK Values [ft/day]

- < 0.01
- 0.01 - 0.1
- 0.1- 1
- 1.0 - 10
- 10 - 100
- 100 - 250
- > 250

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

Prepared for:

Chino Basin Watermaster

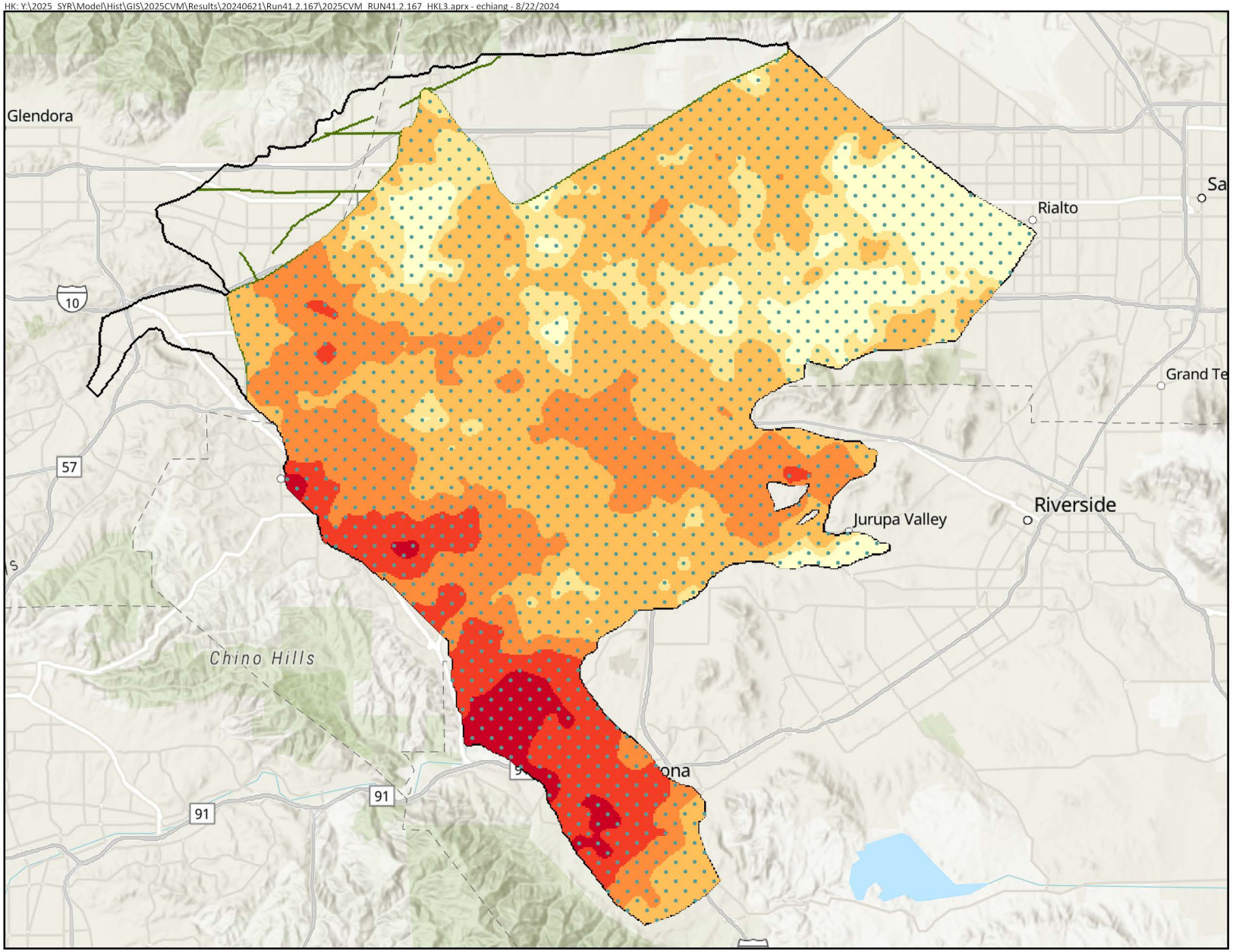
2025 Safe Yield Reevaluation

2025 CVM: Run_41.2.167

HK in Layer 2

Figure B4-2

HK: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\20240621\Run41.2.167\2025CVM_RUN41.2.167_HKL3.aprx - echiang - 8/22/2024



Model Boundary
Faults
Streams
HK Pilot Points

HK Values [ft/day]

- < 0.01
- 0.01 - 0.1
- 0.1- 1
- 1.0 - 10
- 10 - 100
- 100 - 250
- > 250

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

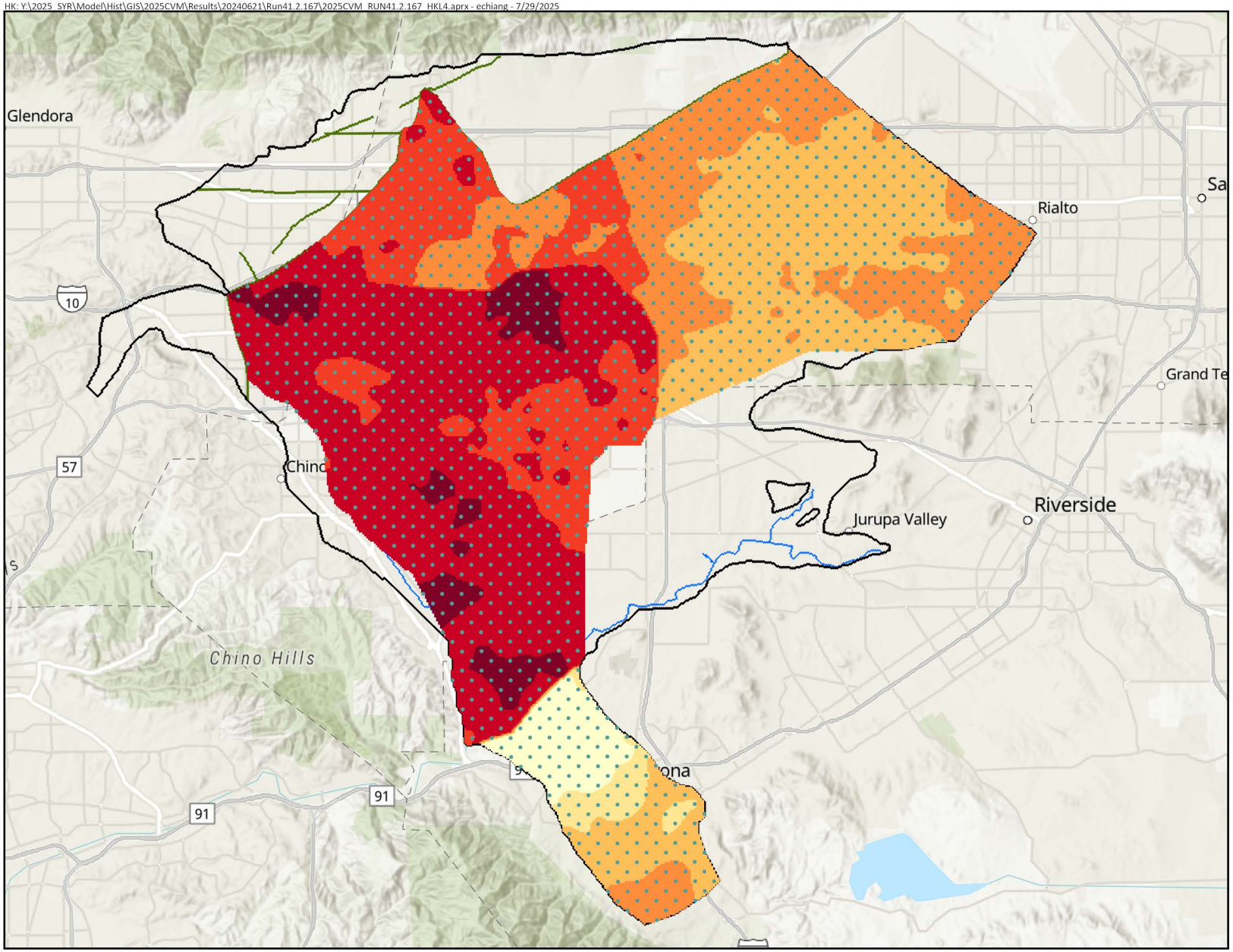
Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Run_41.2.167
HK in Layer 3

Figure B4-3

HK: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\20240621\Run41.2.167\2025CVM_RUN41.2.167_HKL4.aprx - echiang - 7/29/2025



Model Boundary
Faults
Streams
HK Pilot Points

HK Values [ft/day]
- < 0.01
- 0.01 - 0.1
- 0.1- 1
- 1.0 - 10
- 10 - 100
- 100 - 250
- > 250

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

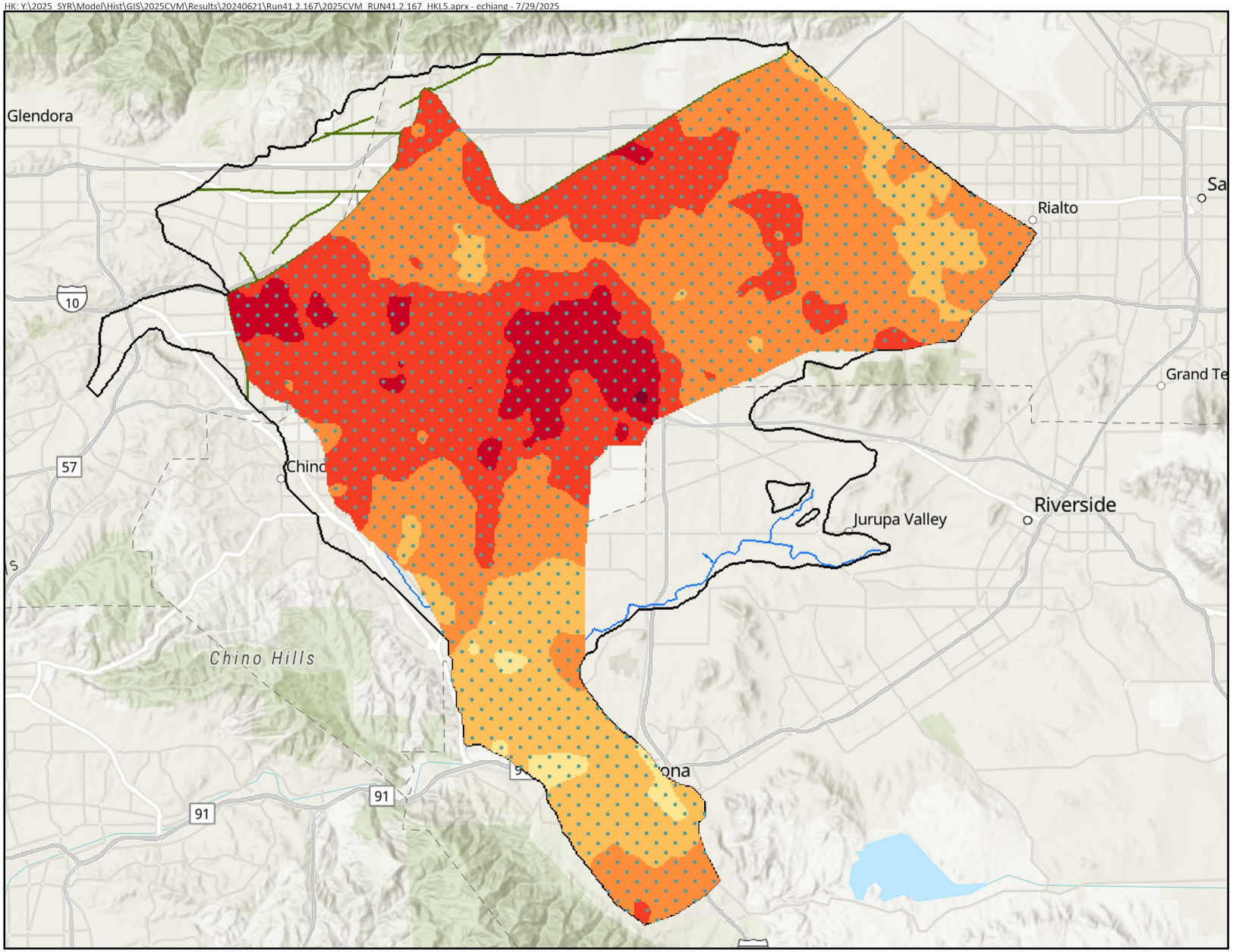
Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Run_41.2.167
HK in Layer 4

Figure B4-4

HK: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\20240621\Run41.2.167\2025CVM_RUN41.2.167_HKL5.aprx - echiang - 7/29/2025



Model Boundary
Faults
Streams
HK Pilot Points

HK Values [ft/day]

- < 0.01
- 0.01 - 0.1
- 0.1- 1
- 1.0 - 10
- 10 - 100
- 100 - 250
- > 250

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

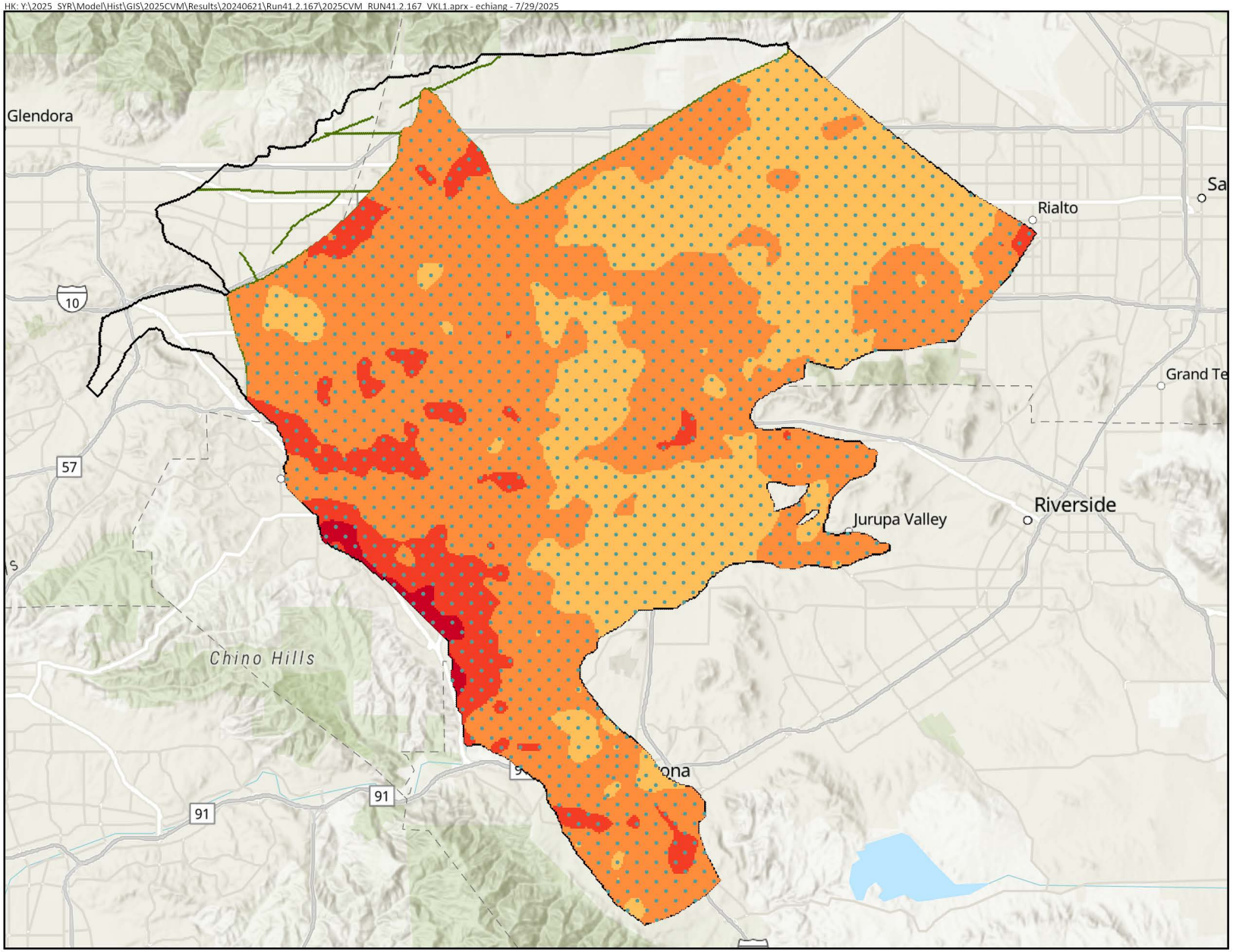
Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Run_41.2.167
HK in Layer 5

Figure B4-5

HK: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\20240621\Run41.2.167\2025CVM_RUN41.2.167_VKL1.aprx - echiang - 7/29/2025



Model Boundary
Faults
Streams
VK Pilot Points

VK Values [ft/day]

- < 0.01
- 0.01 - 0.1
- 0.1- 1
- 1.0 - 10
- 10 - 100
- 100 - 250
- > 250

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

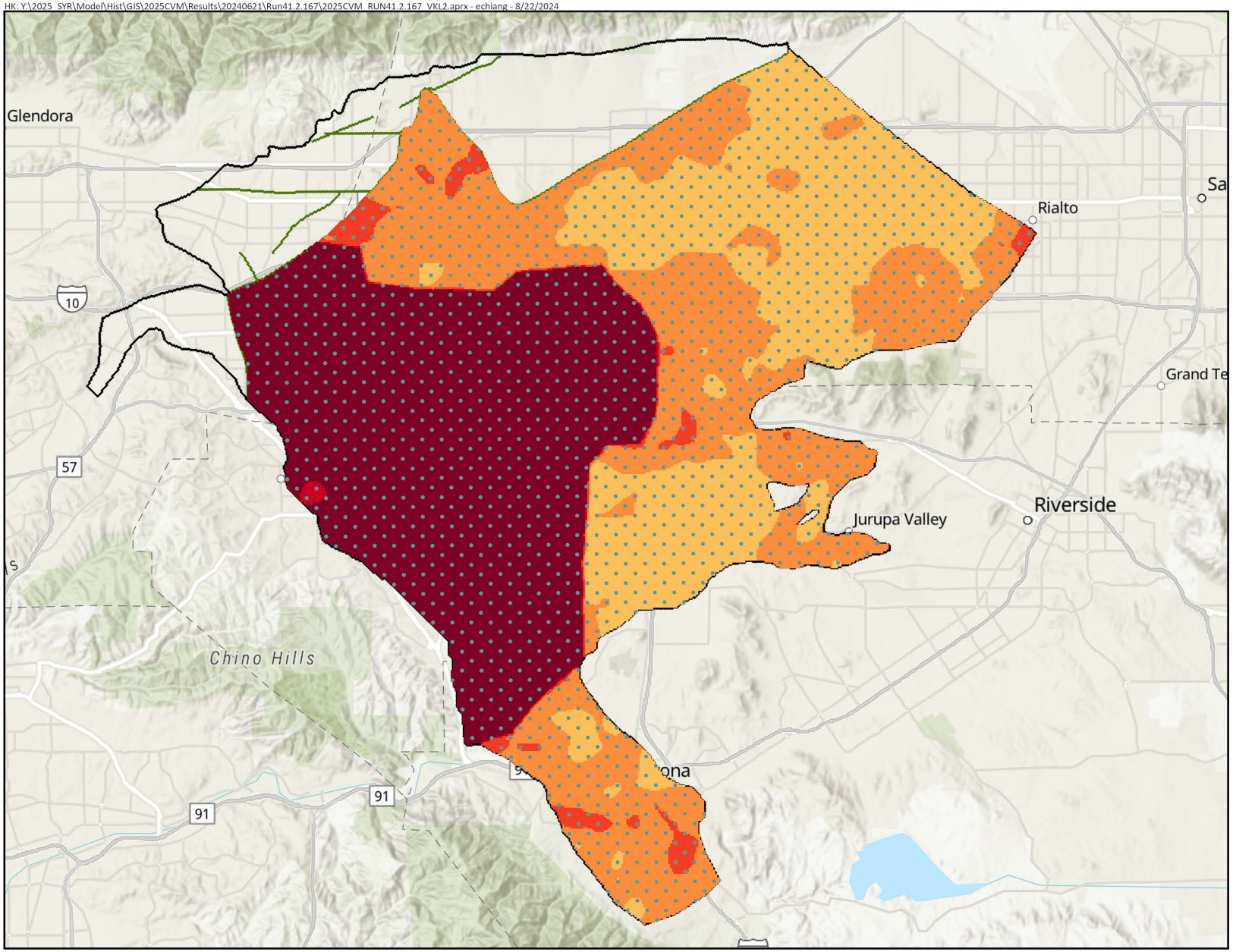
Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Run_41.2.167
VK in Layer 1

Figure B4-6

HK: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\20240621\Run41.2.167\2025CVM_RUN41.2.167_VKL2.aprx - echiang - 8/22/2024



Model Boundary
Faults
Streams
VK Pilot Points

VK Values [ft/day]

- < 0.01
- 0.01 - 0.1
- 0.1- 1
- 1.0 - 10
- 10 - 100
- 100 - 250
- > 250

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

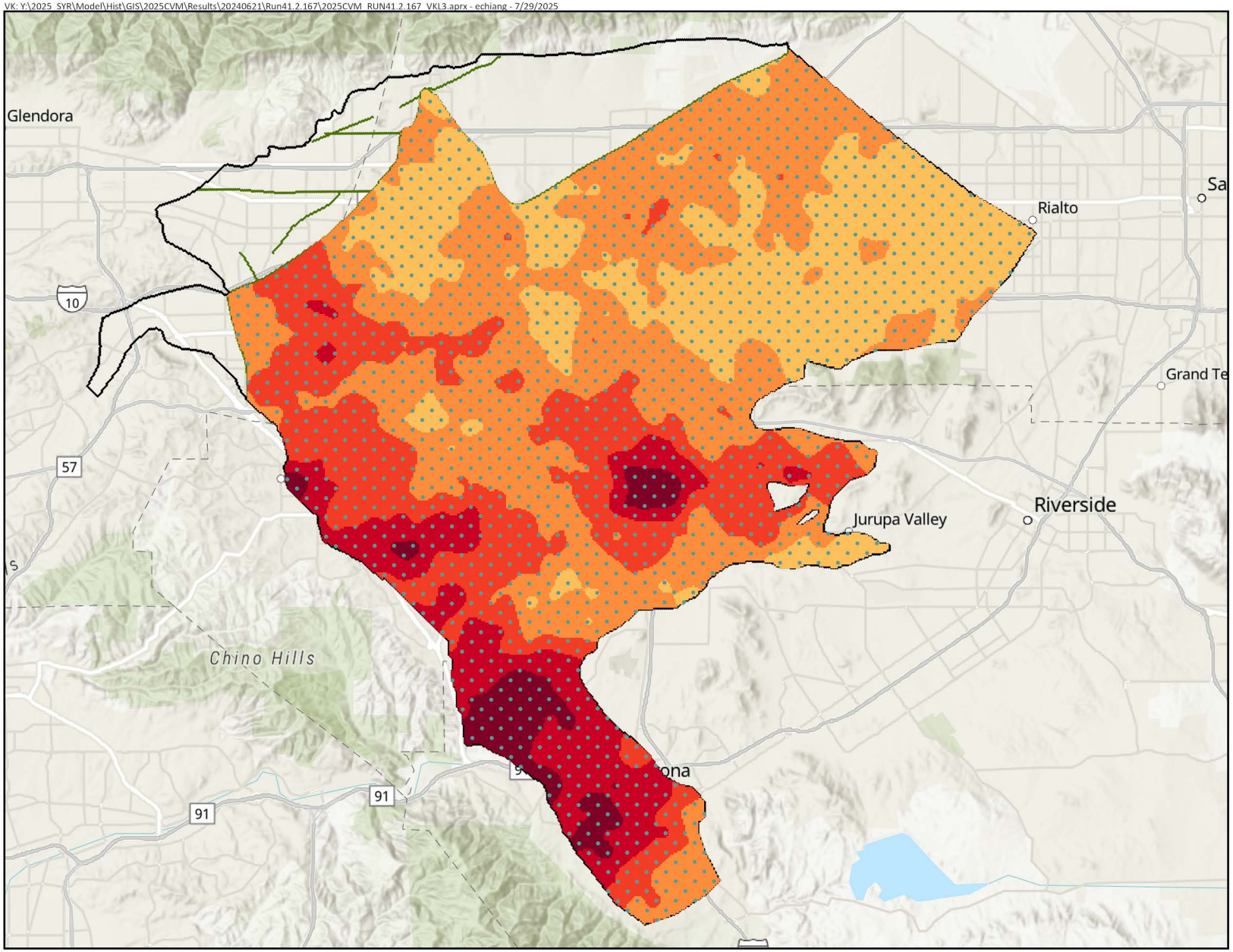
Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Run_41.2.167
VK in Layer 2

Figure B4-7

VK: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\20240621\Run41.2.167\2025CVM_RUN41.2.167_VKL3.aprx - echiang - 7/29/2025



Model Boundary
Faults
Streams
VK Pilot Points

VK Values [ft/day]

- < 0.01
- 0.01 - 0.1
- 0.1- 1
- 1.0 - 10
- 10 - 100
- 100 - 250
- > 250

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

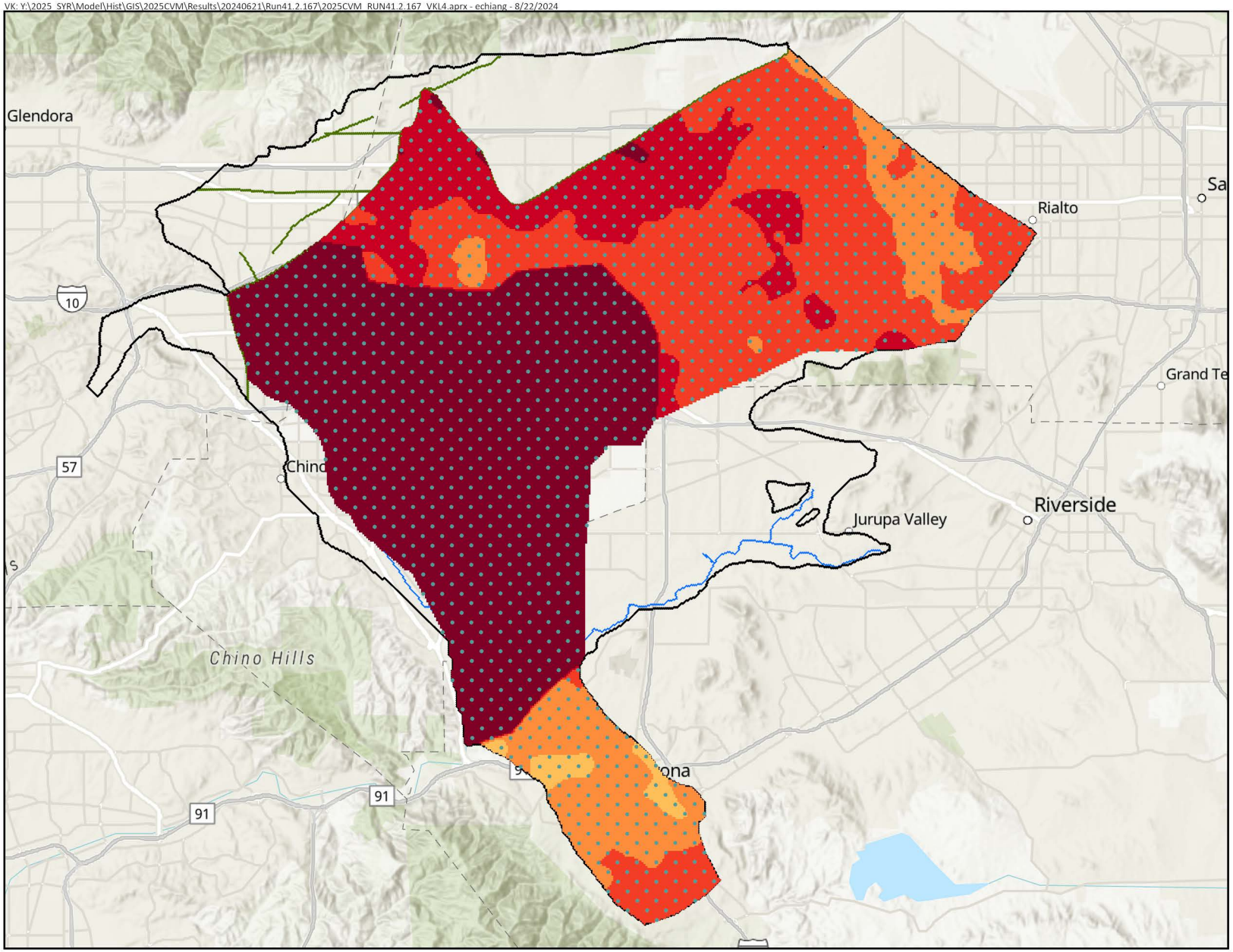
Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Run_41.2.167
VK in Layer 3

Figure B4-8

VK: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\20240621\Run41.2.167\2025CVM_RUN41.2.167_VKL4.aprx - echiang - 8/22/2024



Model Boundary
Faults
Streams
VK Pilot Points

VK Values [ft/day]

- < 0.01
- 0.01 - 0.1
- 0.1- 1
- 1.0 - 10
- 10 - 100
- 100 - 250
- > 250

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

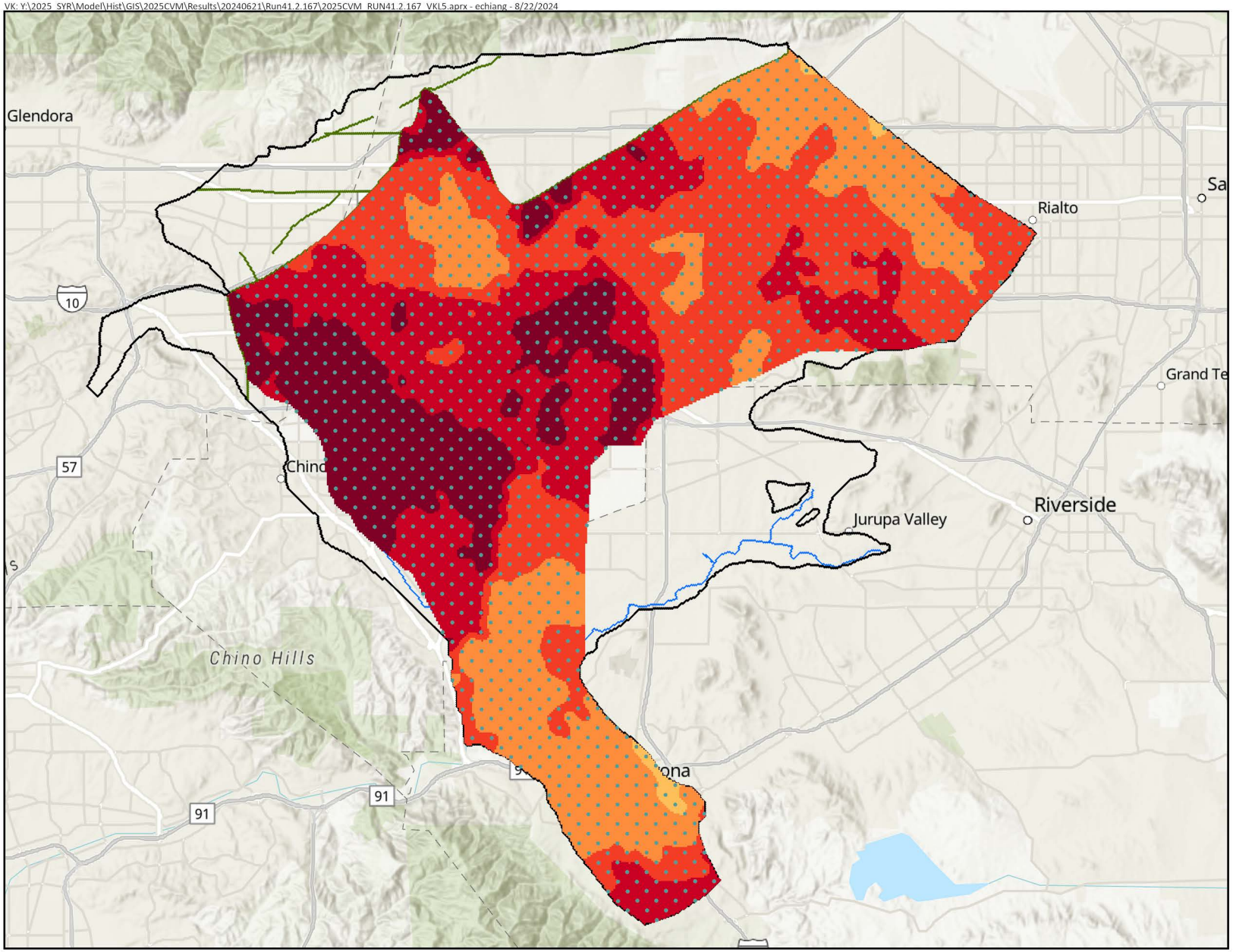
Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Run_41.2.167
VK in Layer 4

Figure B4-9

VK: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\20240621\Run41.2.167\2025CVM_RUN41.2.167_VKL5.aprx - echiang - 8/22/2024



Model Boundary
Faults
Streams
VK Pilot Points

VK Values [ft/day]

- < 0.01
- 0.01 - 0.1
- 0.1- 1
- 1.0 - 10
- 10 - 100
- 100 - 250
- > 250

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

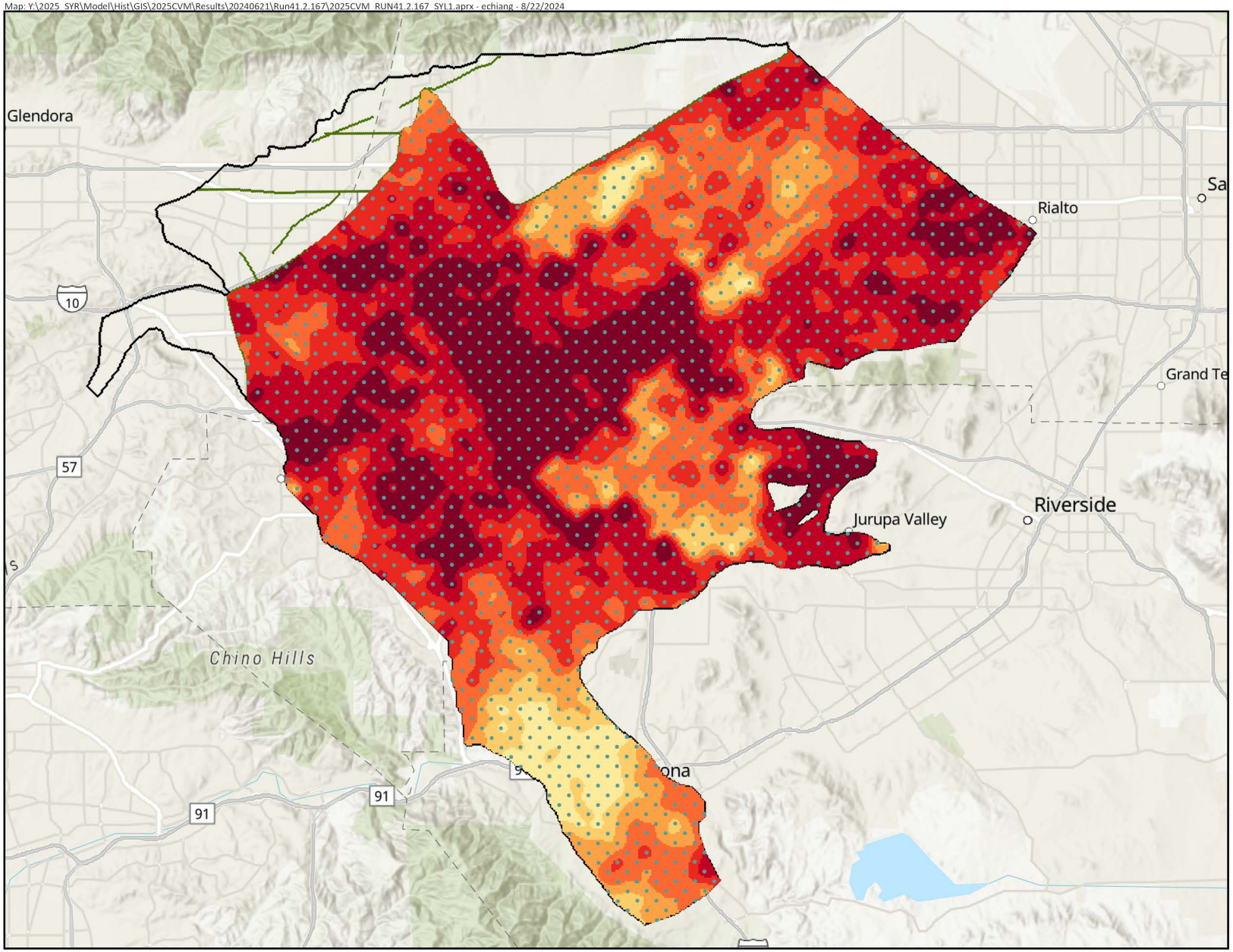
Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Run_41.2.167
VK in Layer 5

Figure B4-10

Map: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\20240621\Run41.2.167\2025CVM_RUN41.2.167_SYL1.aprx - echiang - 8/22/2024



Model Boundary
Faults
Streams
SY Pilot Points

SY Values
- < 0.05
- 0.05 - 0.1
- 0.1 - 0.15
- 0.15 - 0.2
- 0.2 - 0.25
- 0.25 - 0.3
- 0.3 - 0.35
- > 0.35

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

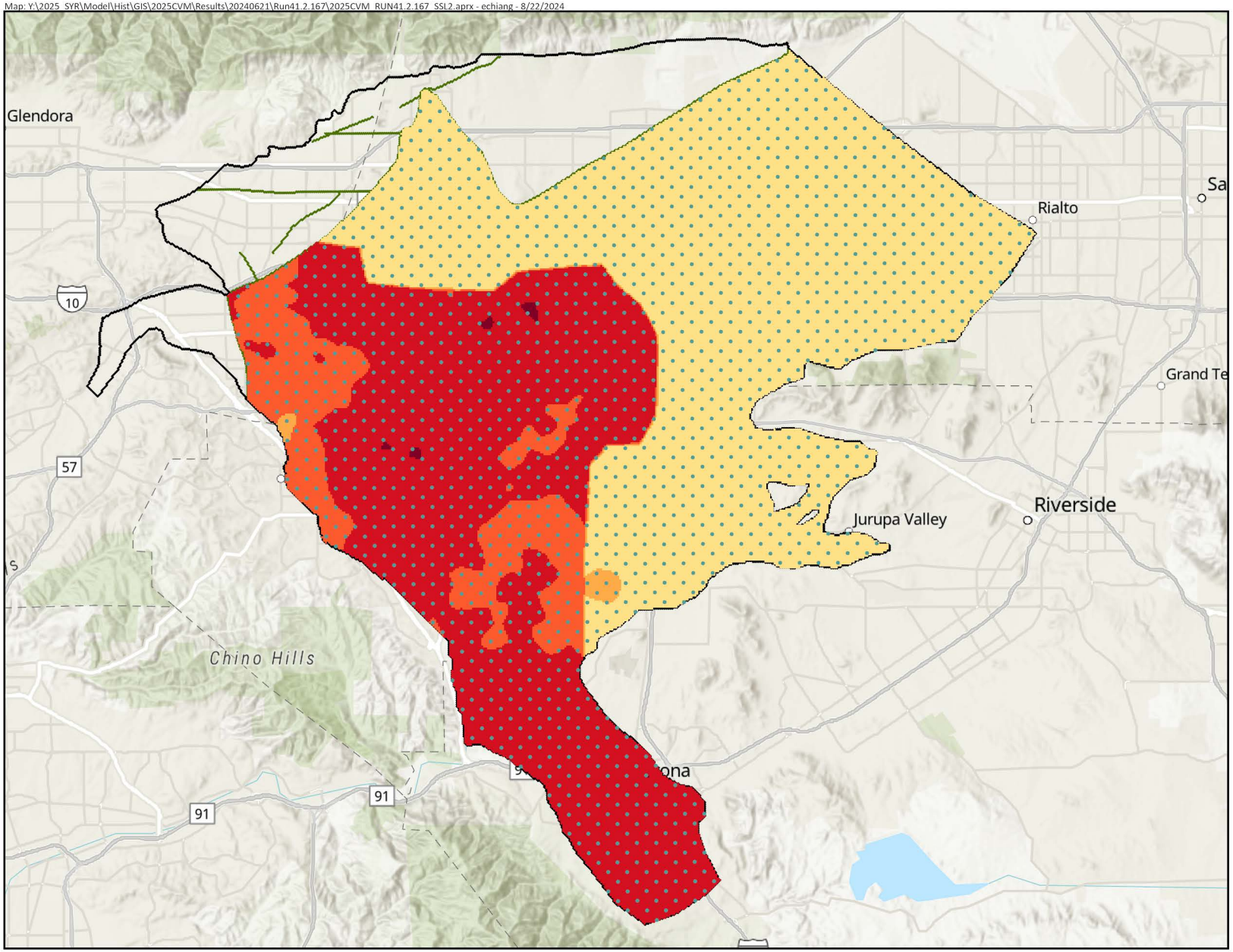
Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Run_41.2.167
SY in Layer 1

Figure B4-11

Map: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\20240621\Run41.2.167\2025CVM_RUN41.2.167_SSL2.aprx - echiang - 8/22/2024



Model Boundary
Faults
Streams
SS Pilot Points

SS Values [1/ft]

- < 1e-8
- 1e-8 - 1e-7
- 1e-7 - 1e-6
- 1e-6 - 1e-5
- 1e-5 - 1e-4
- > 1e-4

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

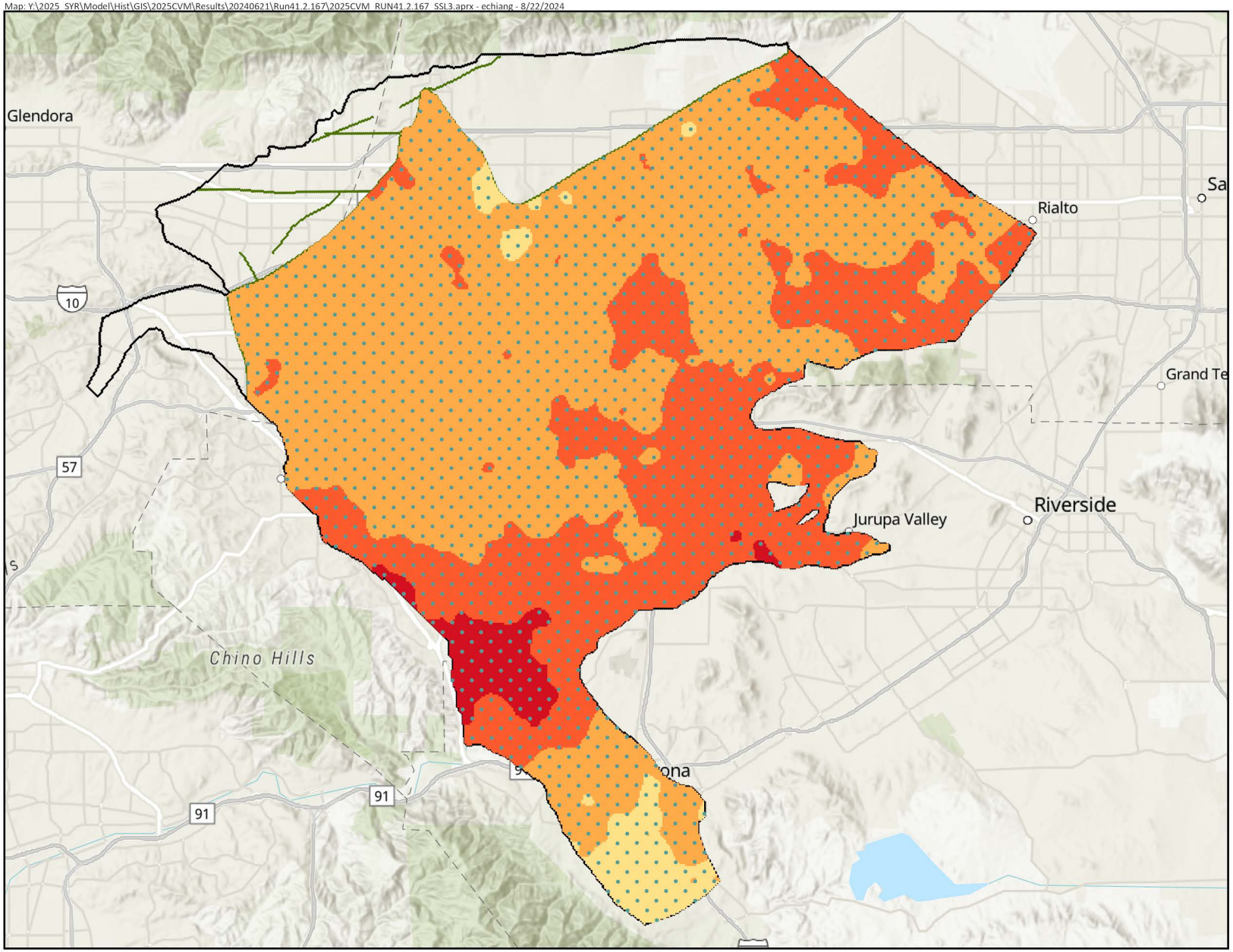
Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Run_41.2.167
SS in Layer 2

Figure B4-12

Map: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\20240621\Run41.2.167\2025CVM_RUN41.2.167_SSL3.aprx - echiang - 8/22/2024



Model Boundary
Faults
Streams
SS Pilot Points

SS Values [1/ft]

- < 1e-8
- 1e-8 - 1e-7
- 1e-7 - 1e-6
- 1e-6 - 1e-5
- 1e-5 - 1e-4
- > 1e-4

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

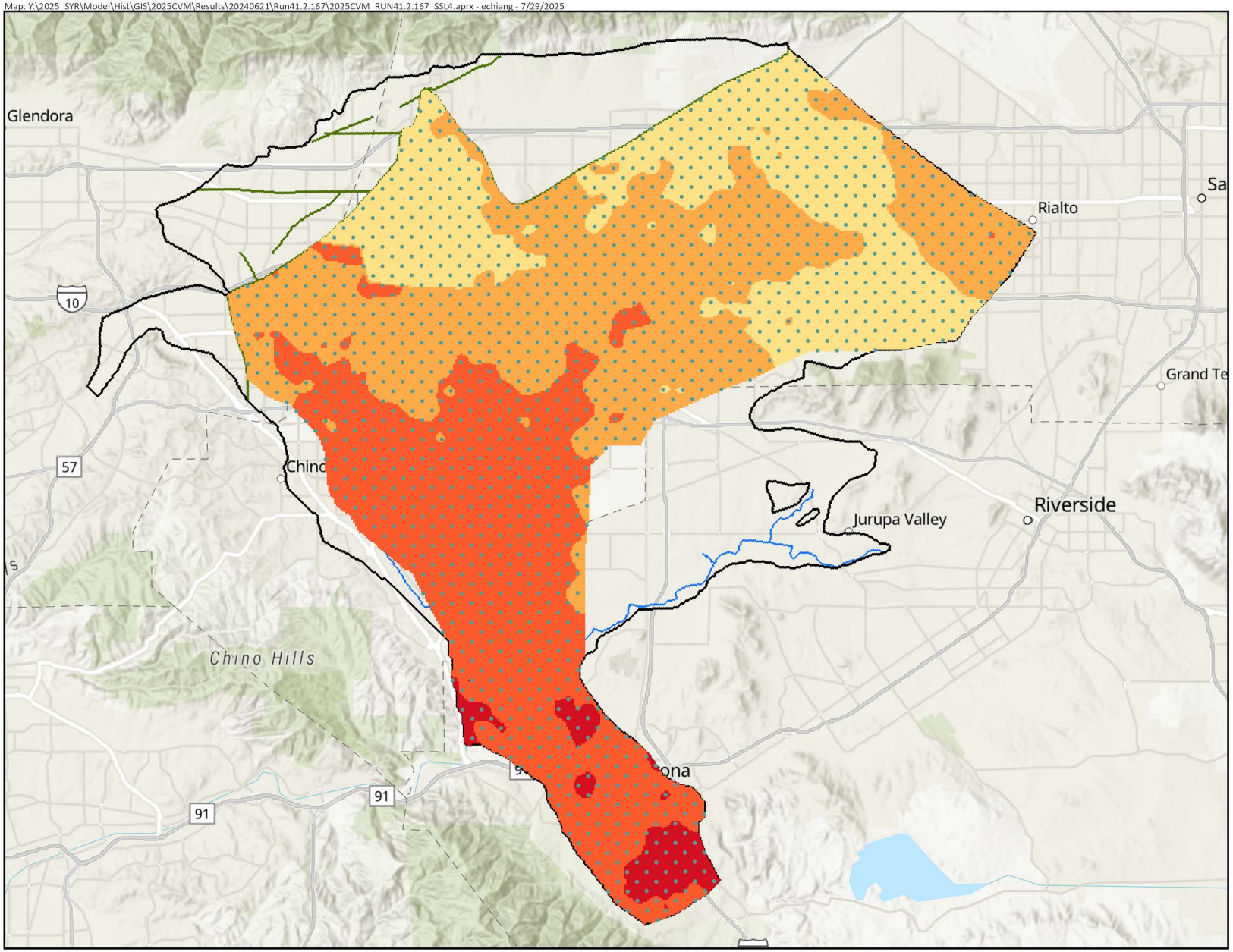
Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Run_41.2.167
SS in Layer 3

Figure B4-13

Map: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\20240621\Run41.2.167\2025CVM_RUN41.2.167_SSL4.aprx - echiang - 7/29/2025



Model Boundary
Faults
Streams
SS Pilot Points

SS Values [1/ft]

- < 1e-8
- 1e-8 - 1e-7
- 1e-7 - 1e-6
- 1e-6 - 1e-5
- 1e-5 - 1e-4
- > 1e-4

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

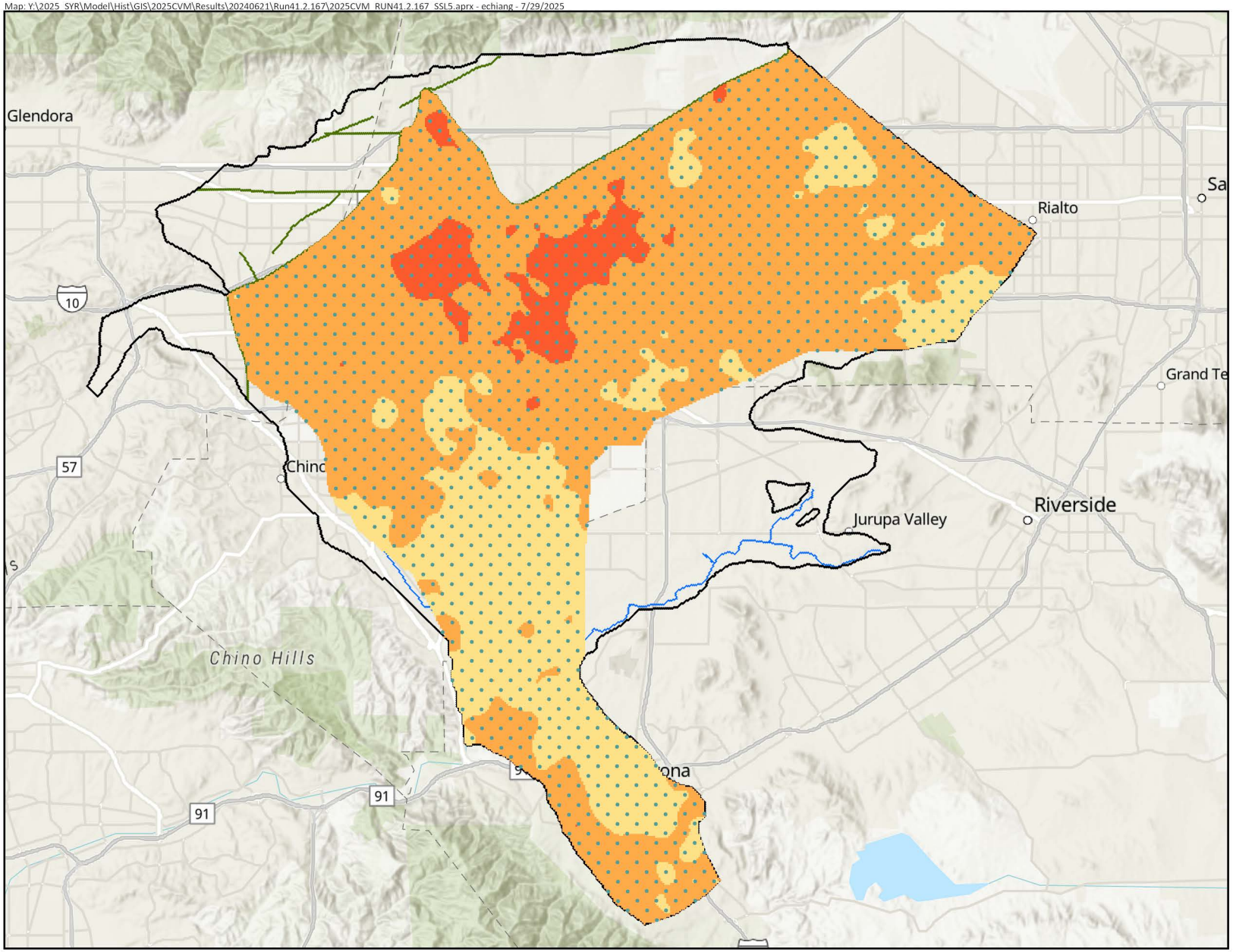
Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Run_41.2.167
SS in Layer 4

Figure B4-14

Map: Y:\2025_SYR\Model\Hist\GIS\2025CVM\Results\20240621\Run41.2.167\2025CVM_RUN41.2.167_SSL5.aprx - echiang - 7/29/2025



Model Boundary
Faults
Streams
SS Pilot Points

SS Values [1/ft]

- < 1e-8
- 1e-8 - 1e-7
- 1e-7 - 1e-6
- 1e-6 - 1e-5
- 1e-5 - 1e-4
- > 1e-4

Prepared by:

WEST YOST

N

0 2 4 Miles

0 3 6 Km

Prepared for:

Chino Basin Watermaster

2025 Safe Yield Reevaluation

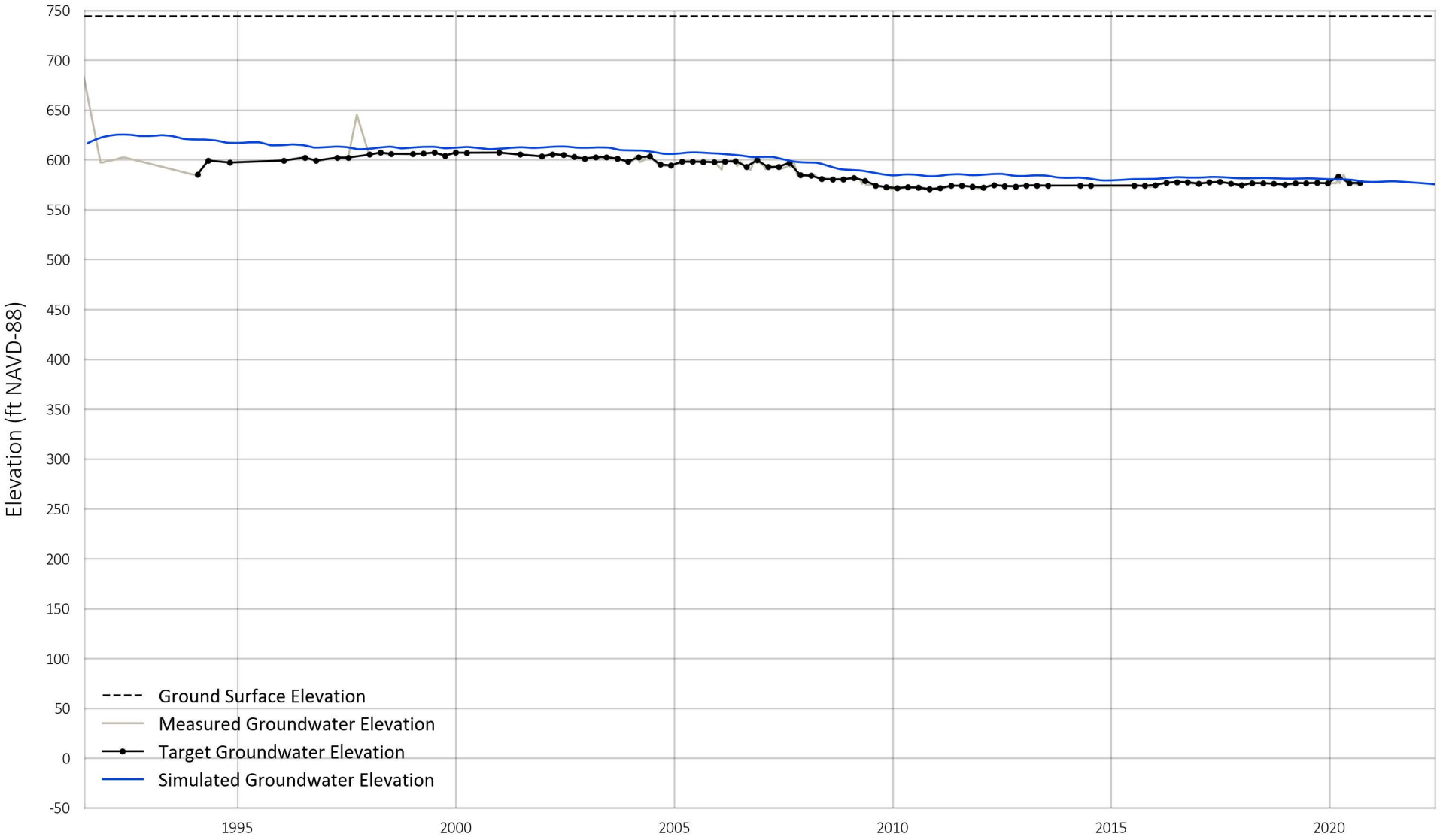
2025 CVM: Run_41.2.167

SS in Layer 5

Figure B4-15

B5. Simulated Groundwater Levels from a PESTPP-IES Calibration Realization

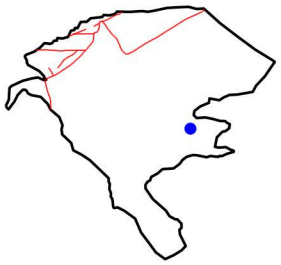
DRAFT



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

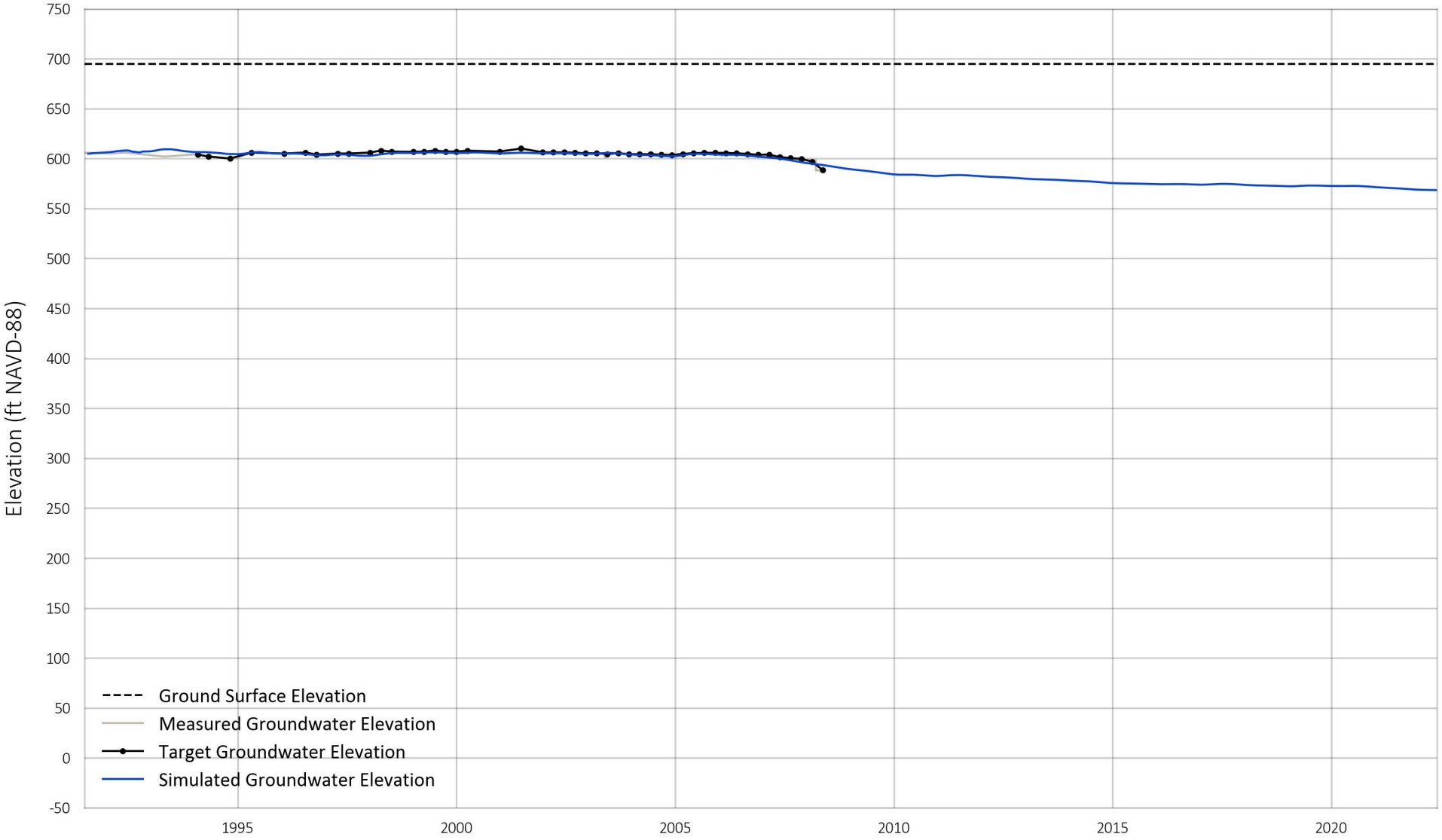
Target Groundwater Elevation (ft)
Mean = 587.71
Standard Deviation = 13.17

Simulated Groundwater Elevation (ft)
Mean = 595.92
Standard Deviation = 14.21

Mean Residual (ft) = 8.21
RMSE (ft) = 9.51

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1003582
Well Name: 03
Screened Layer(s): 1
Owner: Santa Ana River Water Company

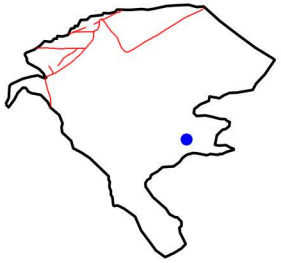
Figure B5-1



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

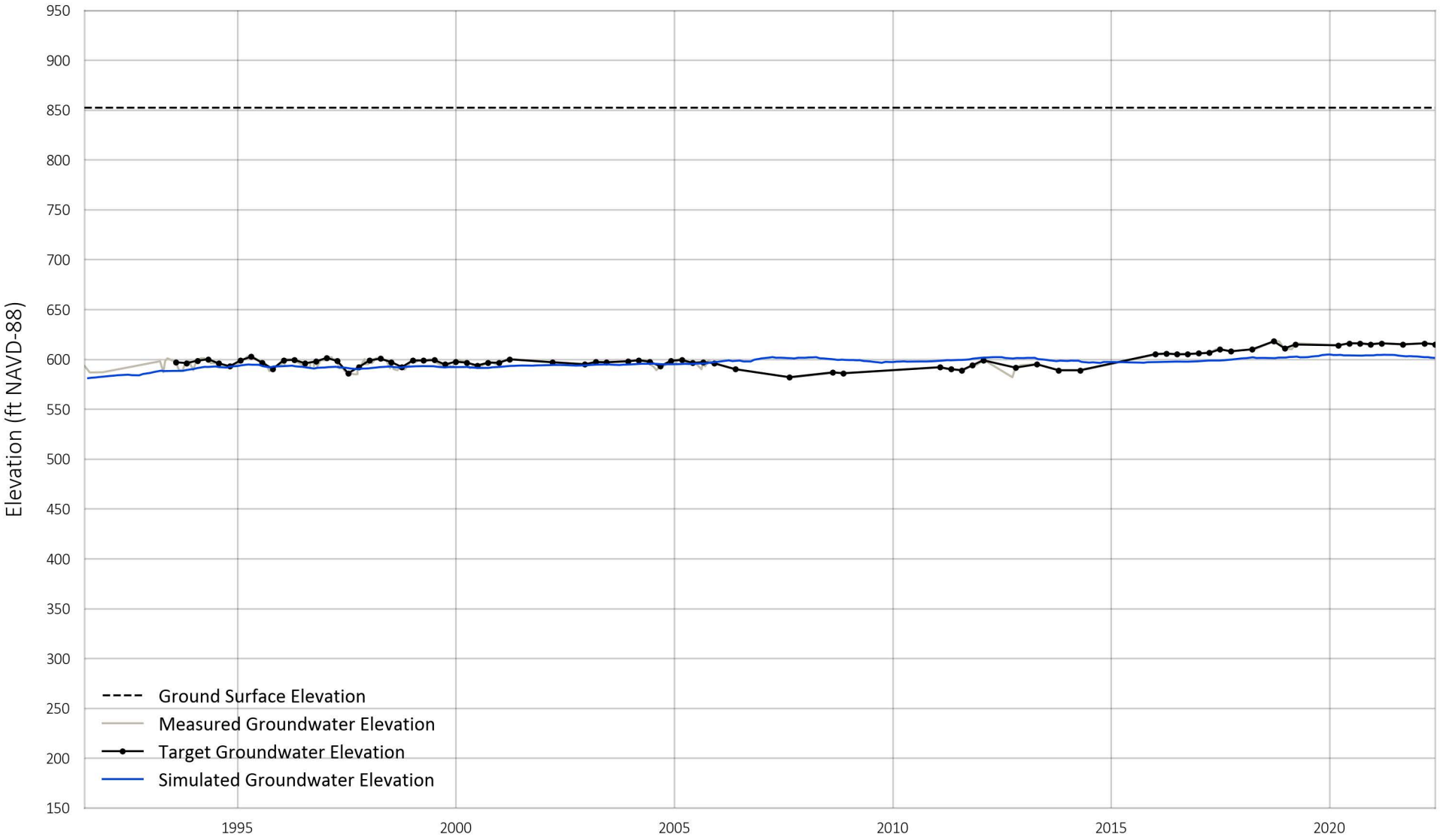
Target Groundwater Elevation (ft)
Mean = 604.63
Standard Deviation = 3.38

Simulated Groundwater Elevation (ft)
Mean = 603.54
Standard Deviation = 2.96

Mean Residual (ft) = -1.09
RMSE (ft) = 2.14

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1003630
Well Name: 07
Screened Layer(s): 1,2
Owner: Santa Ana River Water Company

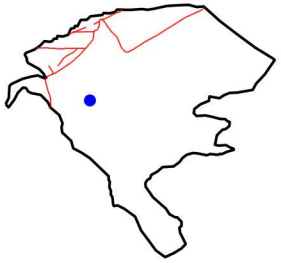
Figure B5-2



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

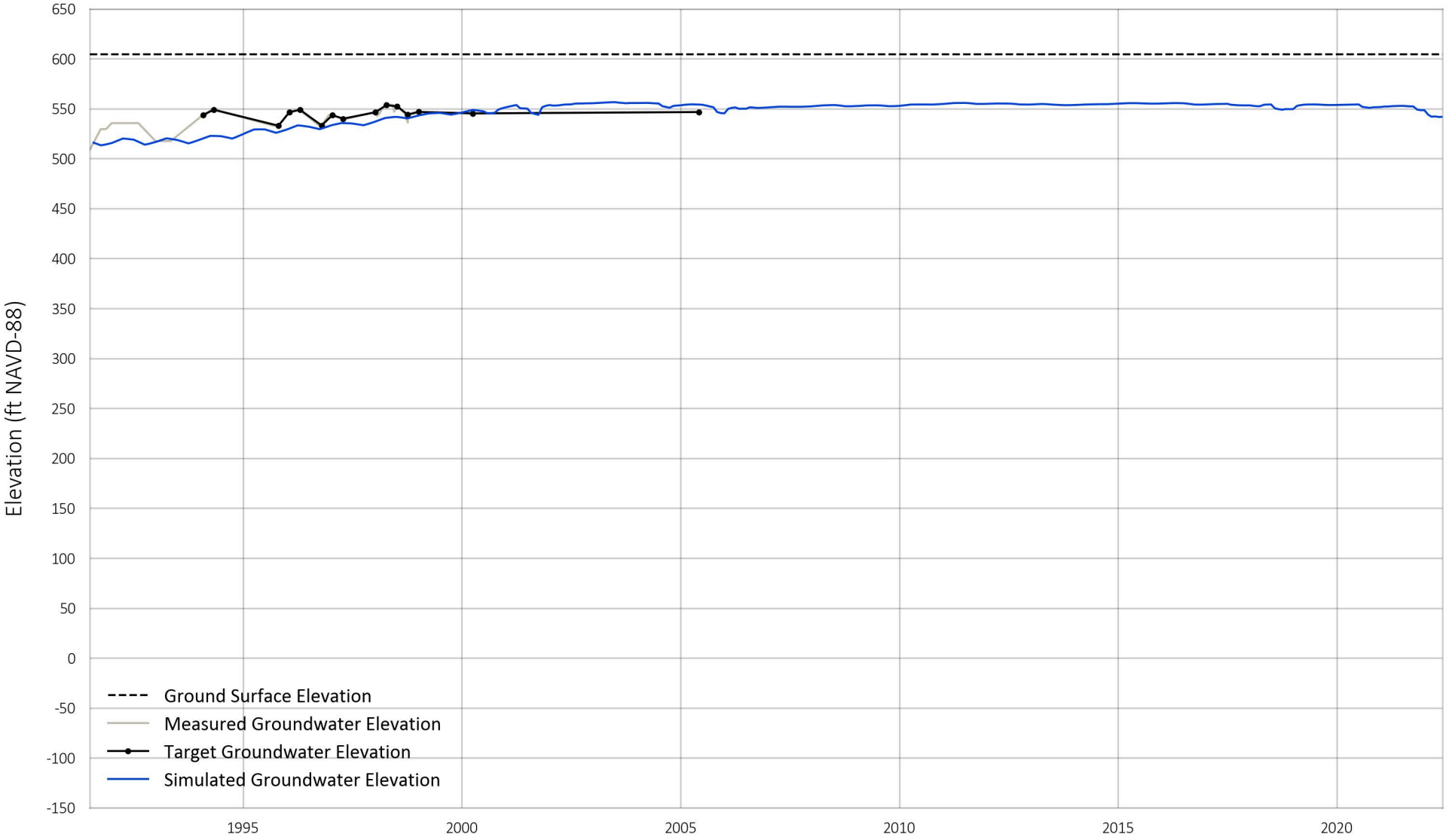
Target Groundwater Elevation (ft)
Mean = 599.51
Standard Deviation = 8.27

Simulated Groundwater Elevation (ft)
Mean = 595.31
Standard Deviation = 3.58

Mean Residual (ft) = -4.20
RMSE (ft) = 8.31

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002743
Well Name: 09
Screened Layer(s): 1,3,5
Owner: City of Chino

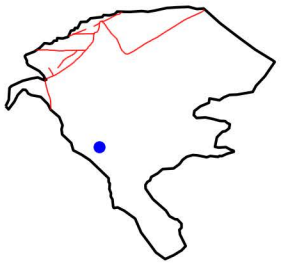
Figure B5-3



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

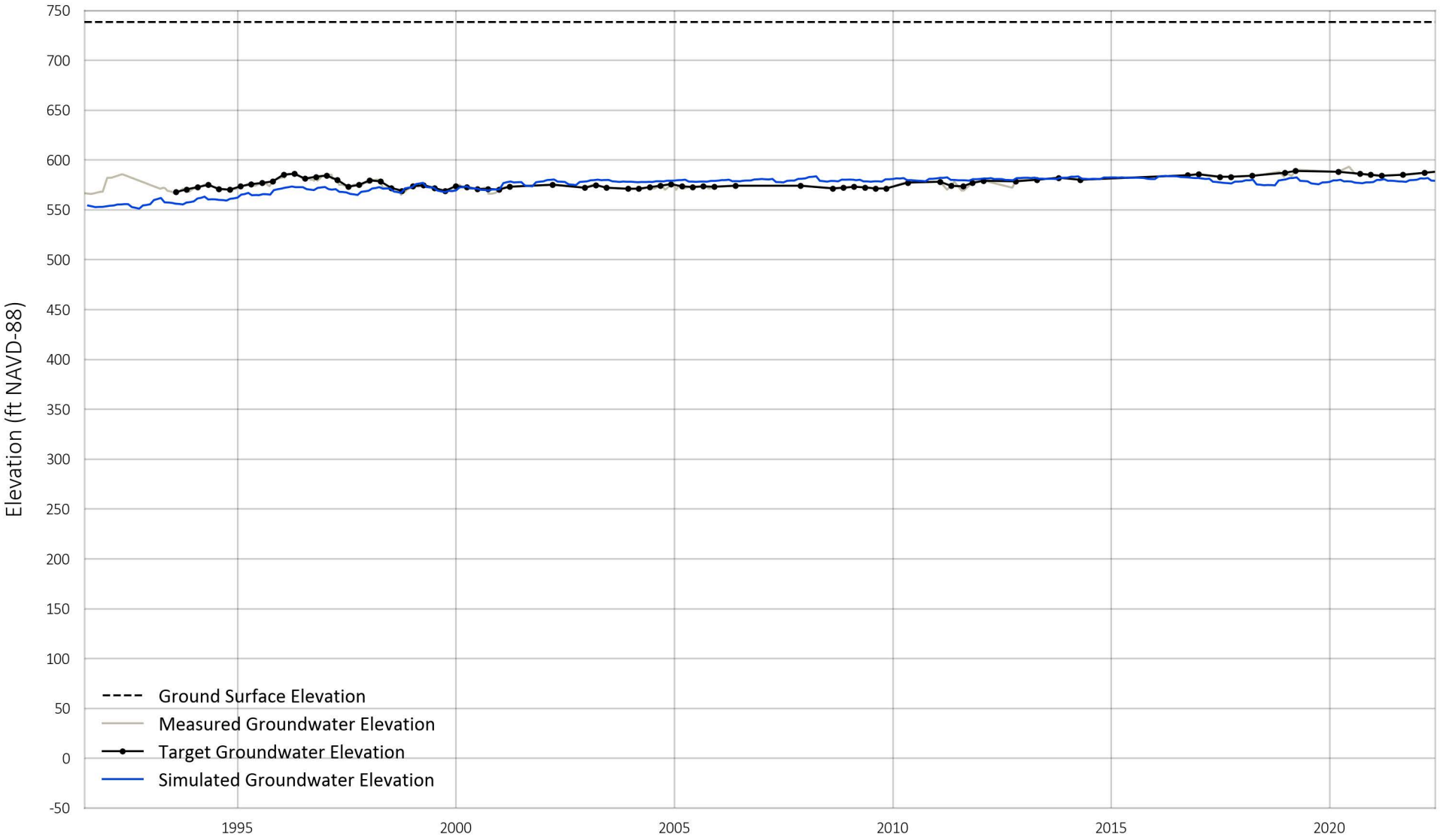
Target Groundwater Elevation (ft)
Mean = 544.81
Standard Deviation = 5.87

Simulated Groundwater Elevation (ft)
Mean = 535.80
Standard Deviation = 9.30

Mean Residual (ft) = -9.01
RMSE (ft) = 12.61

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1004299
Well Name: 09
Screened Layer(s): 1
Owner: California Institution for Men

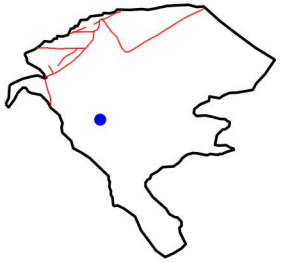
Figure B5-4



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

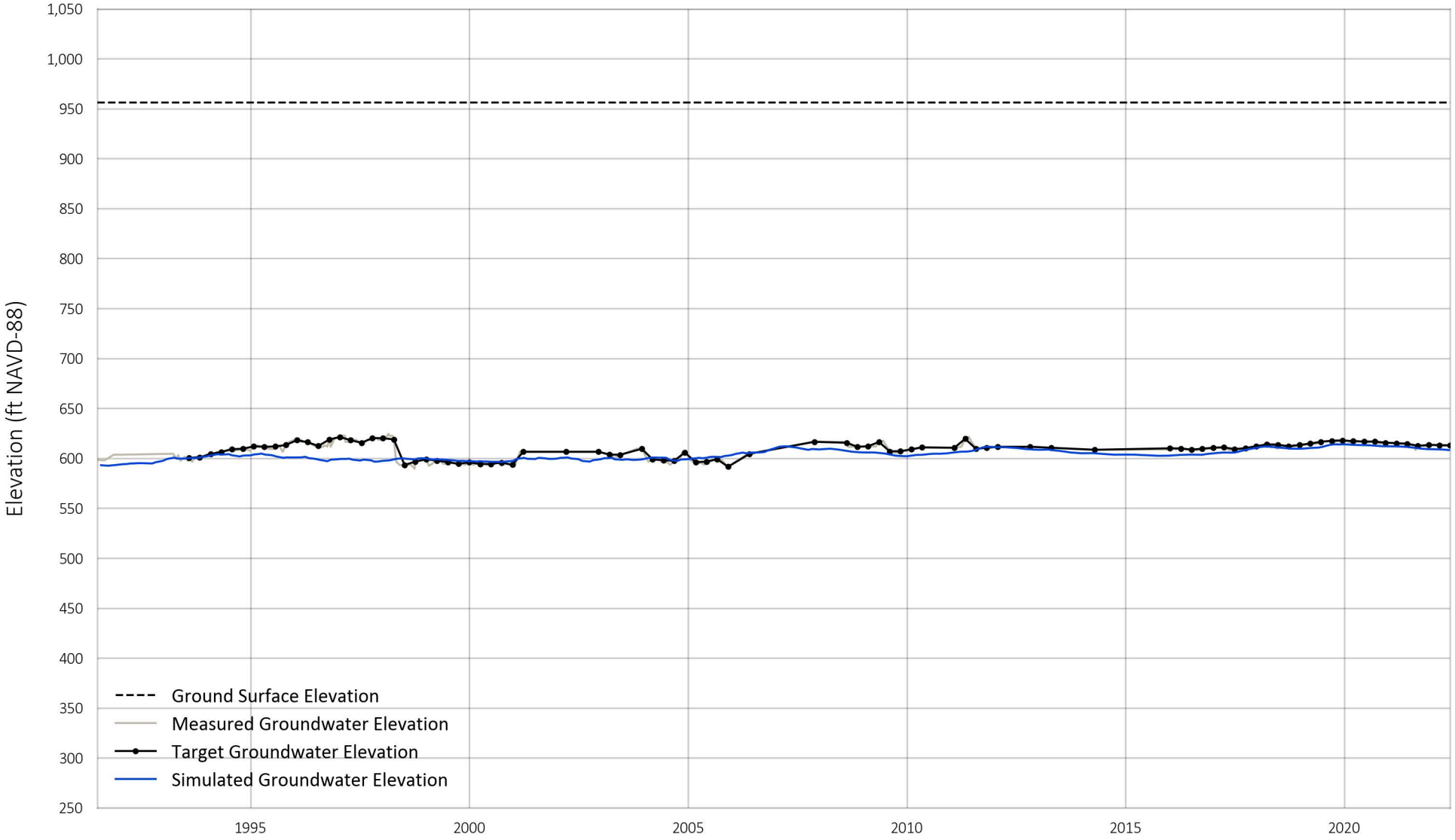
Target Groundwater Elevation (ft)
Mean = 576.52
Standard Deviation = 5.59

Simulated Groundwater Elevation (ft)
Mean = 574.14
Standard Deviation = 6.36

Mean Residual (ft) = -2.37
RMSE (ft) = 7.26

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1004185
Well Name: 13
Screened Layer(s): 1,3
Owner: City of Chino

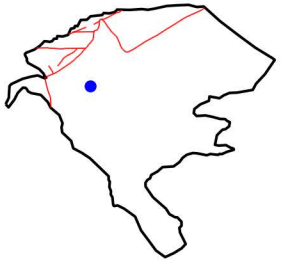
Figure B5-5



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

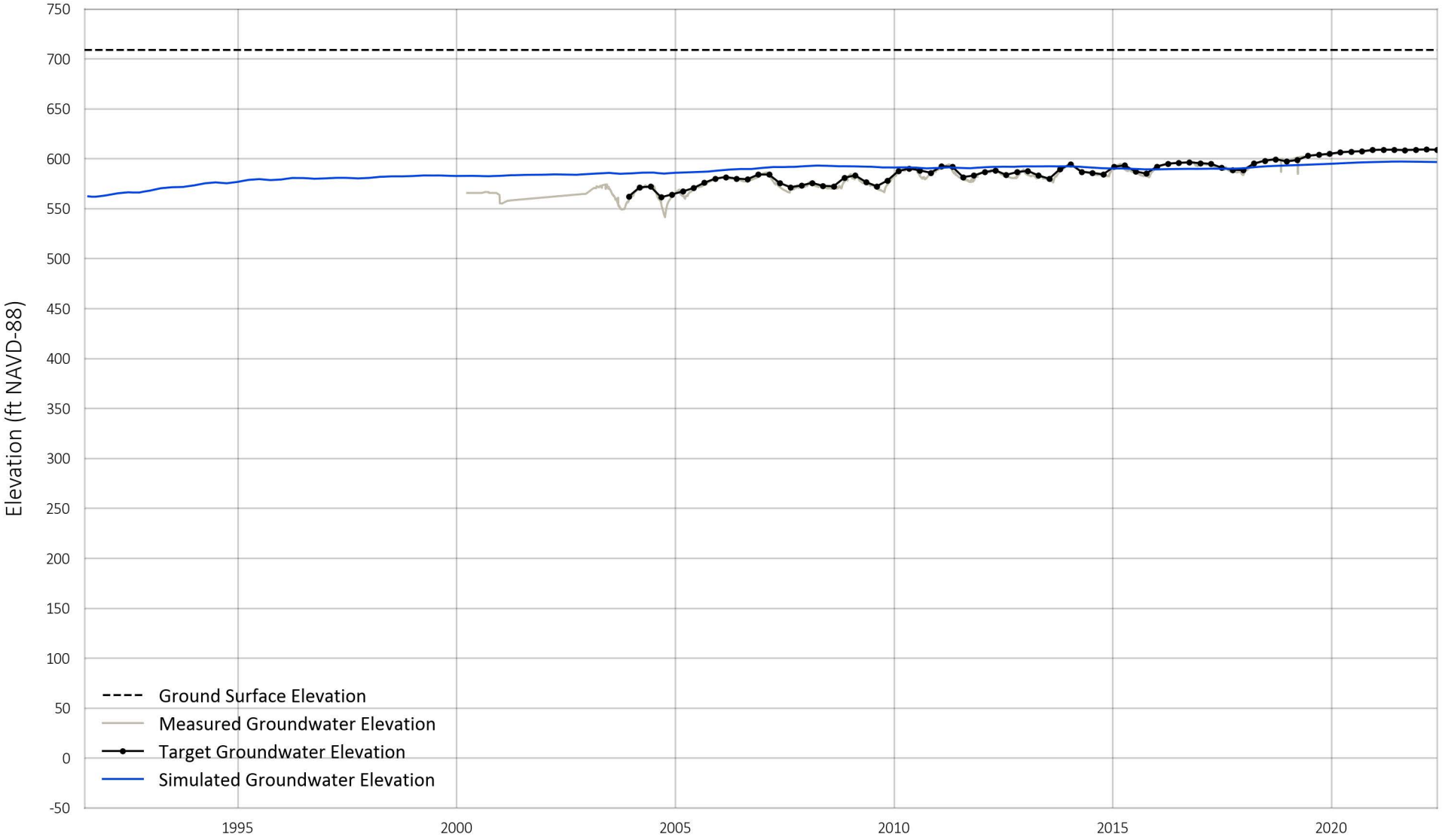
Target Groundwater Elevation (ft)
Mean = 608.77
Standard Deviation = 7.70

Simulated Groundwater Elevation (ft)
Mean = 602.96
Standard Deviation = 4.48

Mean Residual (ft) = -5.81
RMSE (ft) = 8.64

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002645
Well Name: 14
Screened Layer(s): 1,3,5
Owner: City of Chino

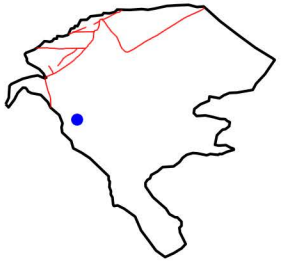
Figure B5-6



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

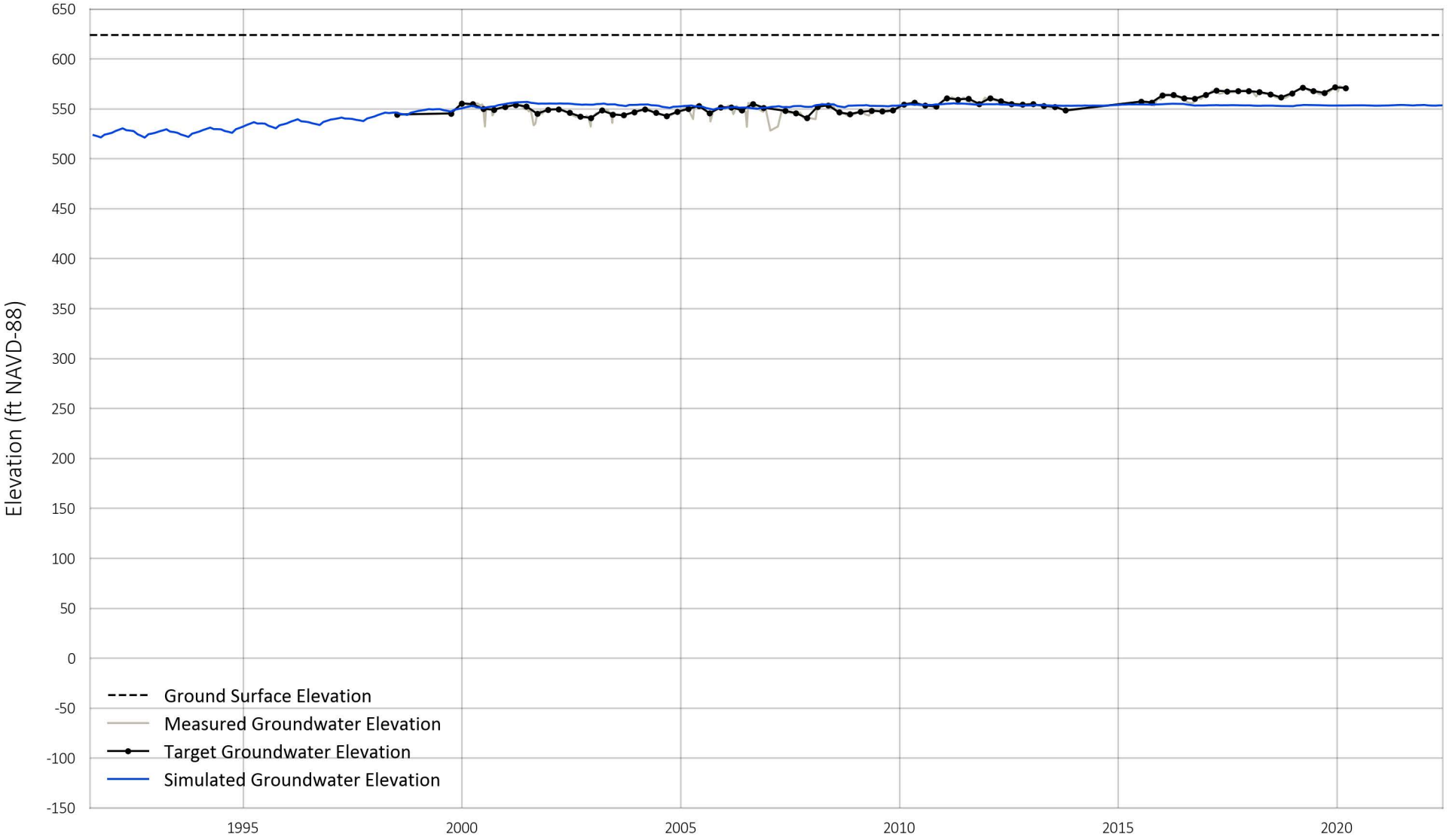
Target Groundwater Elevation (ft)
Mean = 587.87
Standard Deviation = 12.37

Simulated Groundwater Elevation (ft)
Mean = 590.21
Standard Deviation = 2.65

Mean Residual (ft) = 2.34
RMSE (ft) = 10.82

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1206674
Well Name: 15
Screened Layer(s): 1,3,5
Owner: City of Chino

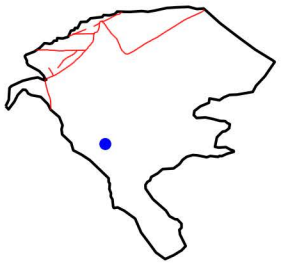
Figure B5-7



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

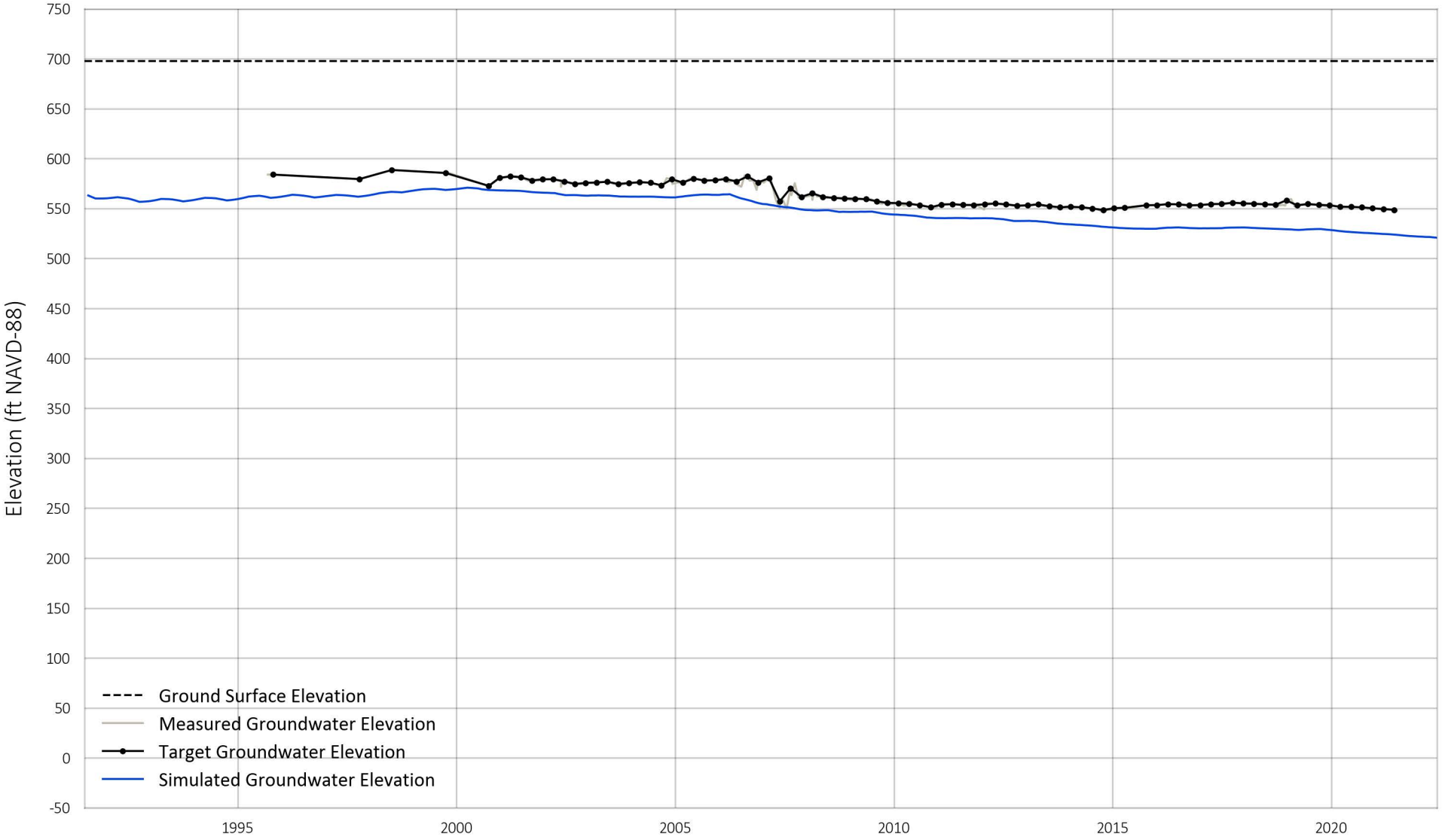
Target Groundwater Elevation (ft)
Mean = 553.89
Standard Deviation = 8.09

Simulated Groundwater Elevation (ft)
Mean = 552.60
Standard Deviation = 1.70

Mean Residual (ft) = -1.30
RMSE (ft) = 8.17

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1003878
Well Name: 73000-1
Screened Layer(s): 1
Owner: California Youth Authority

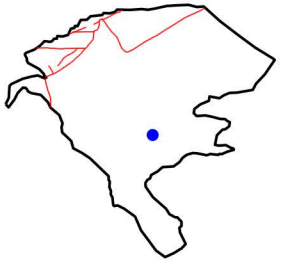
Figure B5-8



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

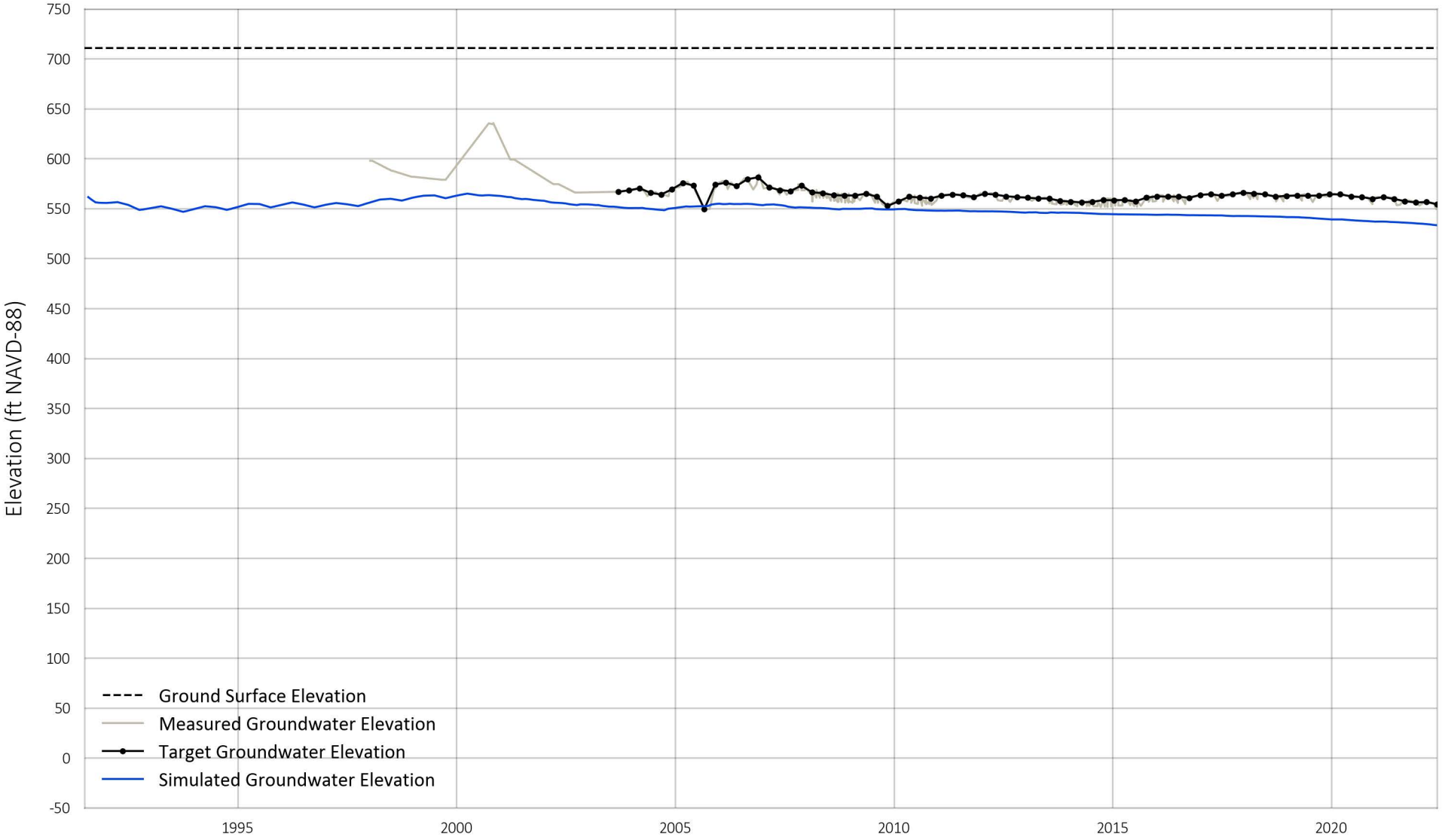
Target Groundwater Elevation (ft)
Mean = 563.00
Standard Deviation = 12.11

Simulated Groundwater Elevation (ft)
Mean = 544.97
Standard Deviation = 14.95

Mean Residual (ft) = -18.02
RMSE (ft) = 18.87

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1202650
Well Name: Private
Screened Layer(s): 1
Owner: Private

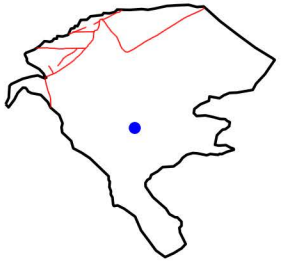
Figure B5-9



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

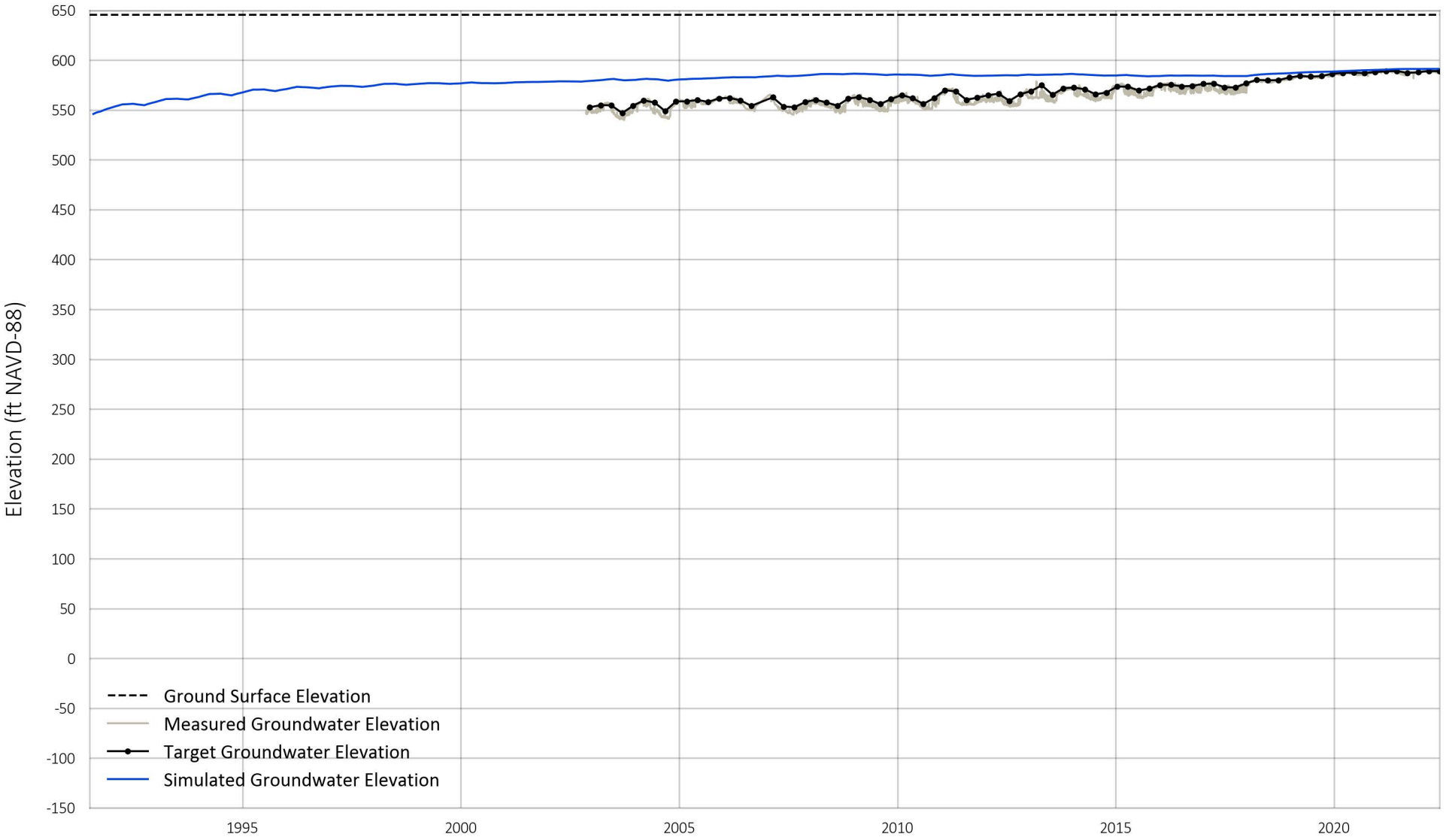
Target Groundwater Elevation (ft)
Mean = 563.38
Standard Deviation = 5.73

Simulated Groundwater Elevation (ft)
Mean = 545.13
Standard Deviation = 5.55

Mean Residual (ft) = -18.25
RMSE (ft) = 18.97

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1003856
Well Name: Private
Screened Layer(s): 1
Owner: Private

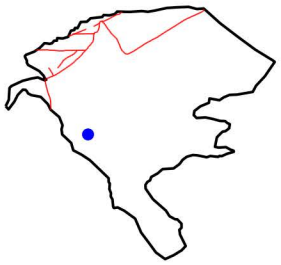
Figure B5-10



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

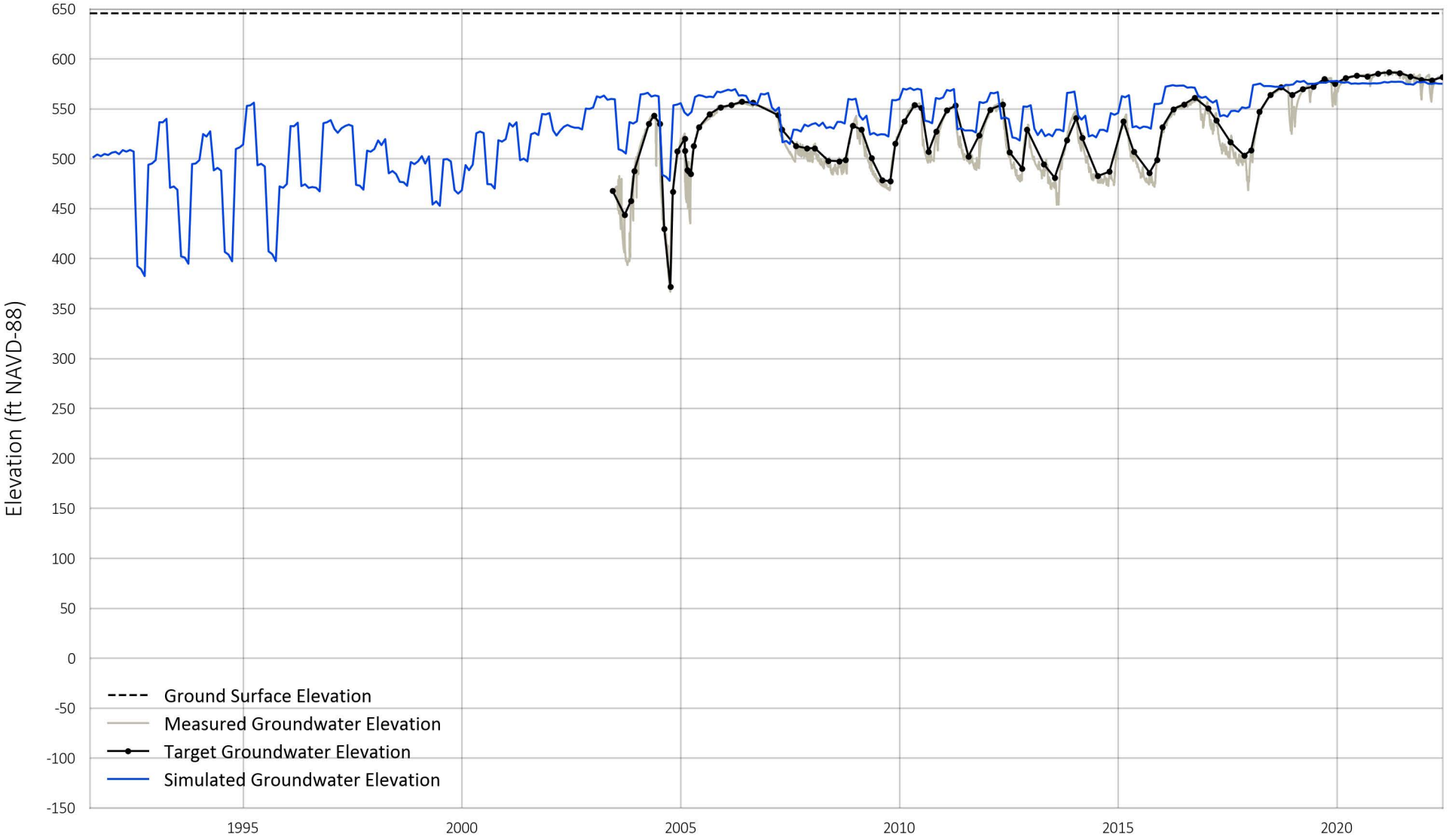
Target Groundwater Elevation (ft)
Mean = 568.62
Standard Deviation = 11.59

Simulated Groundwater Elevation (ft)
Mean = 584.03
Standard Deviation = 2.58

Mean Residual (ft) = 15.41
RMSE (ft) = 18.20

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1206955
Well Name: AP-PA/10
Screened Layer(s): 1
Owner: Chino Basin Watermaster

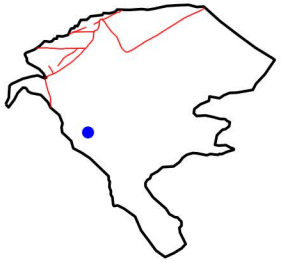
Figure B5-11



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

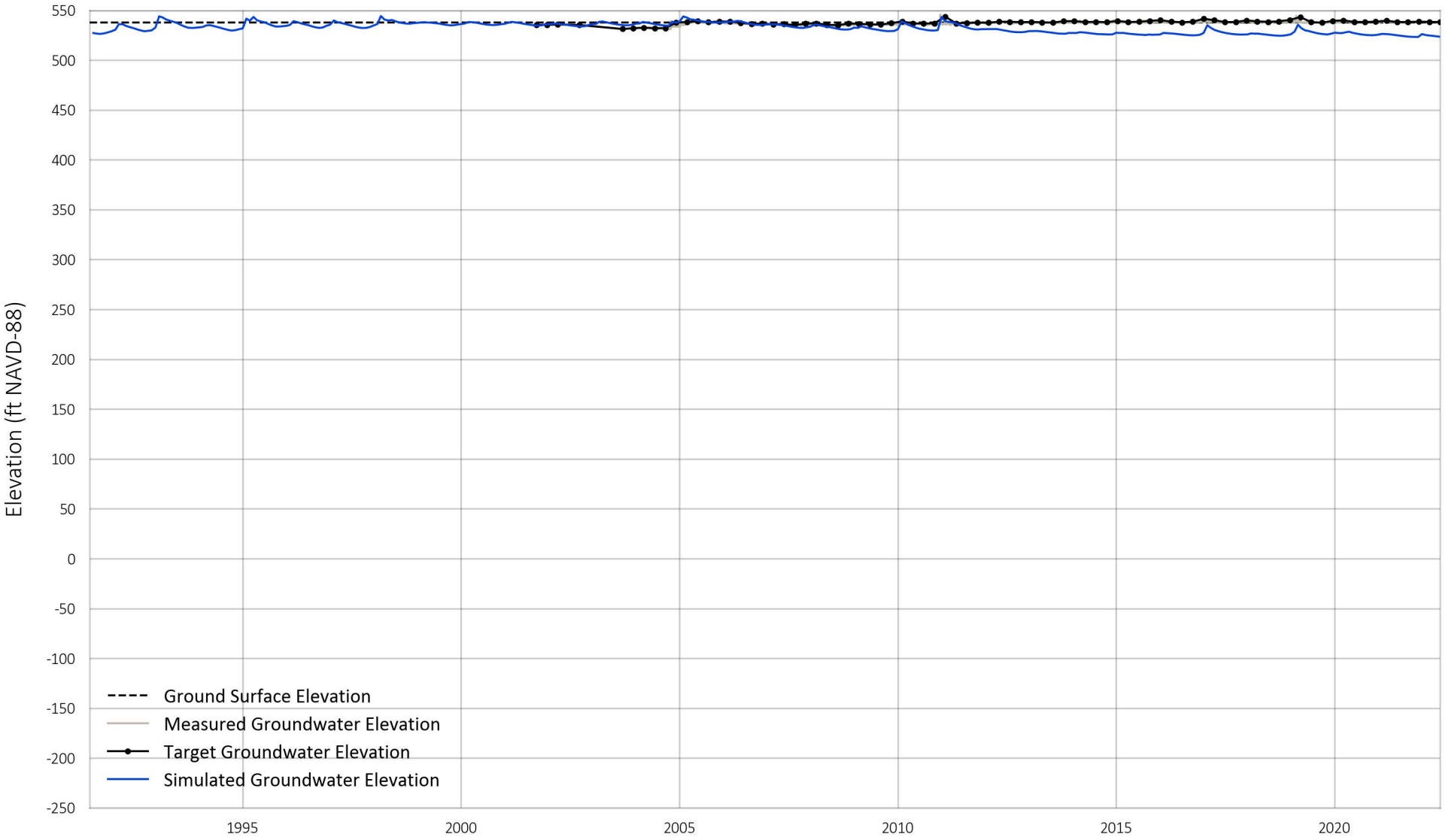
Target Groundwater Elevation (ft)
Mean = 526.27
Standard Deviation = 39.66

Simulated Groundwater Elevation (ft)
Mean = 551.38
Standard Deviation = 19.86

Mean Residual (ft) = 25.11
RMSE (ft) = 35.28

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1206952
Well Name: AP-PA/7
Screened Layer(s): 3
Owner: Chino Basin Watermaster

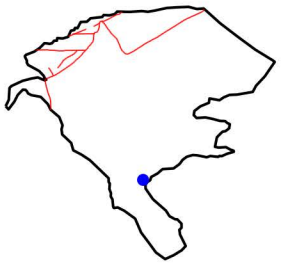
Figure B5-12



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

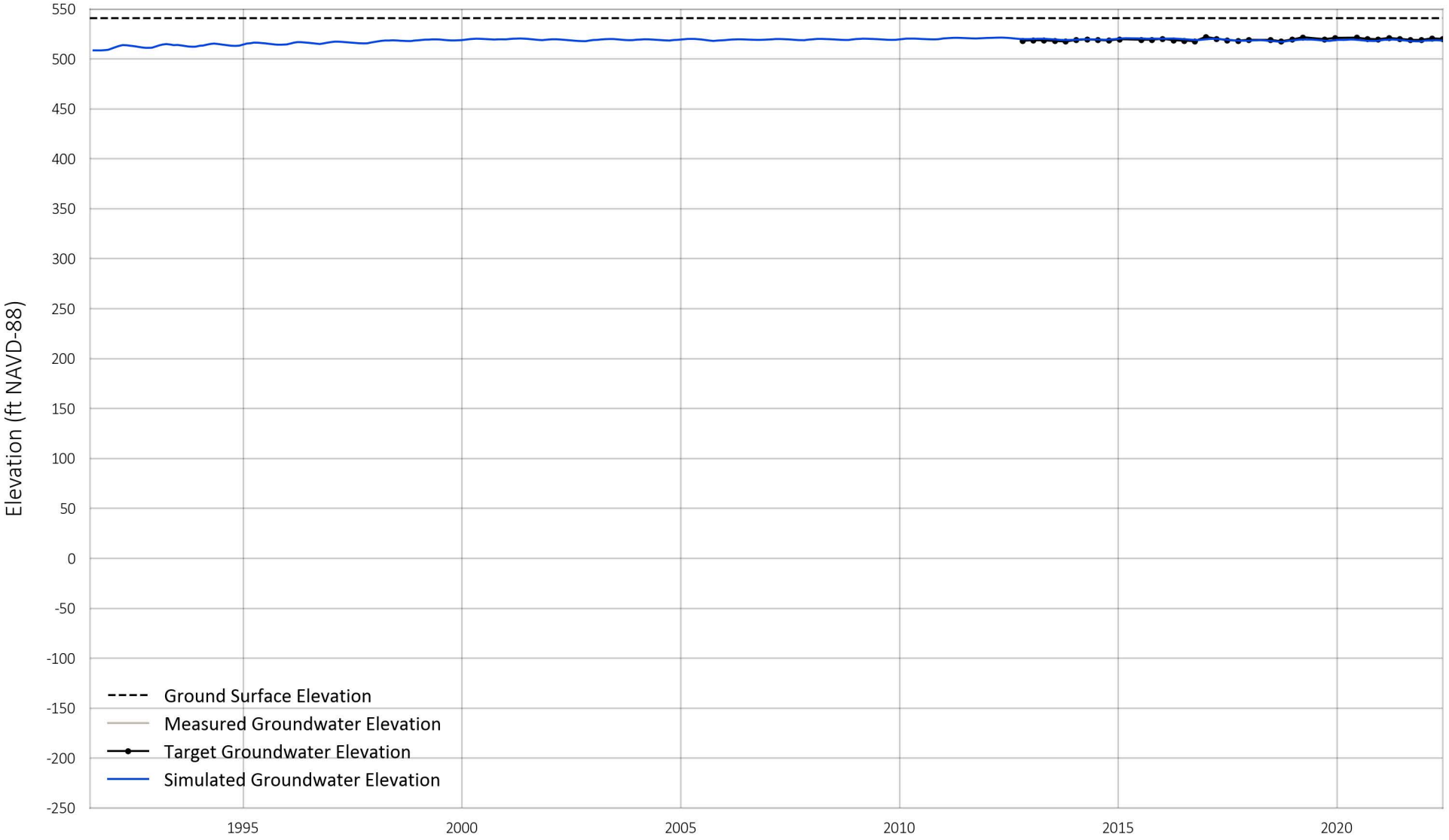
Target Groundwater Elevation (ft)
Mean = 537.59
Standard Deviation = 2.14

Simulated Groundwater Elevation (ft)
Mean = 530.45
Standard Deviation = 4.95

Mean Residual (ft) = -7.14
RMSE (ft) = 9.36

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1207088
Well Name: Archibald 1
Screened Layer(s): 1
Owner: USGS

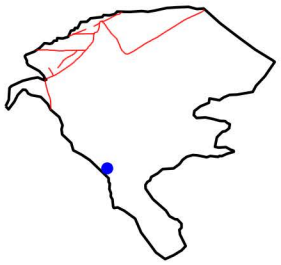
Figure B5-13



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

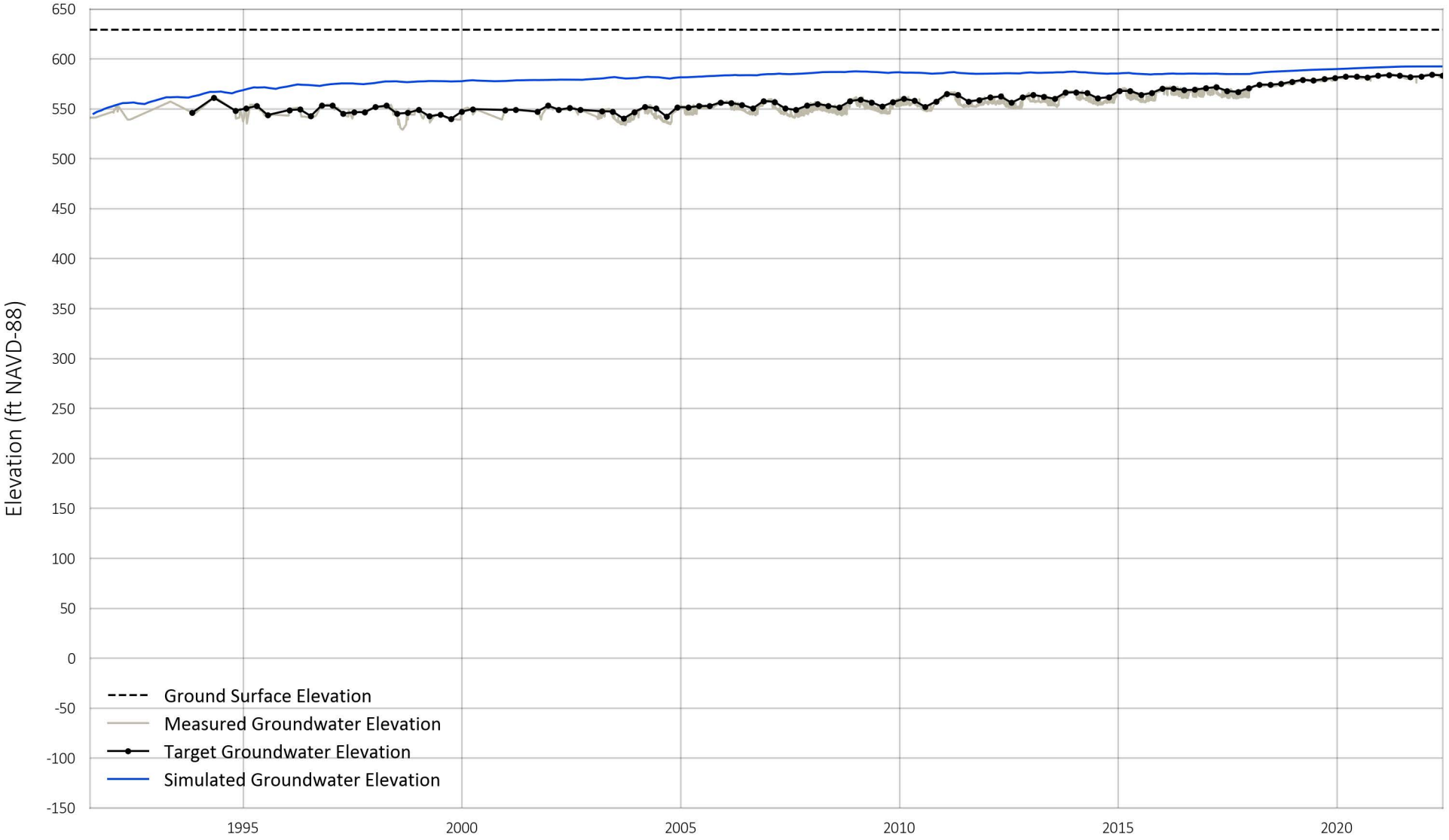
Target Groundwater Elevation (ft)
Mean = 519.18
Standard Deviation = 1.11

Simulated Groundwater Elevation (ft)
Mean = 518.74
Standard Deviation = 0.88

Mean Residual (ft) = -0.43
RMSE (ft) = 1.43

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1231807
Well Name: CAMW23-I
Screened Layer(s): 1
Owner: County of San Bernardino

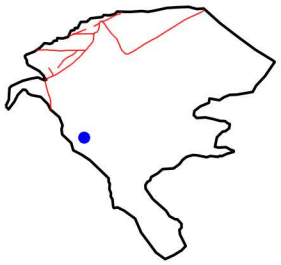
Figure B5-14



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

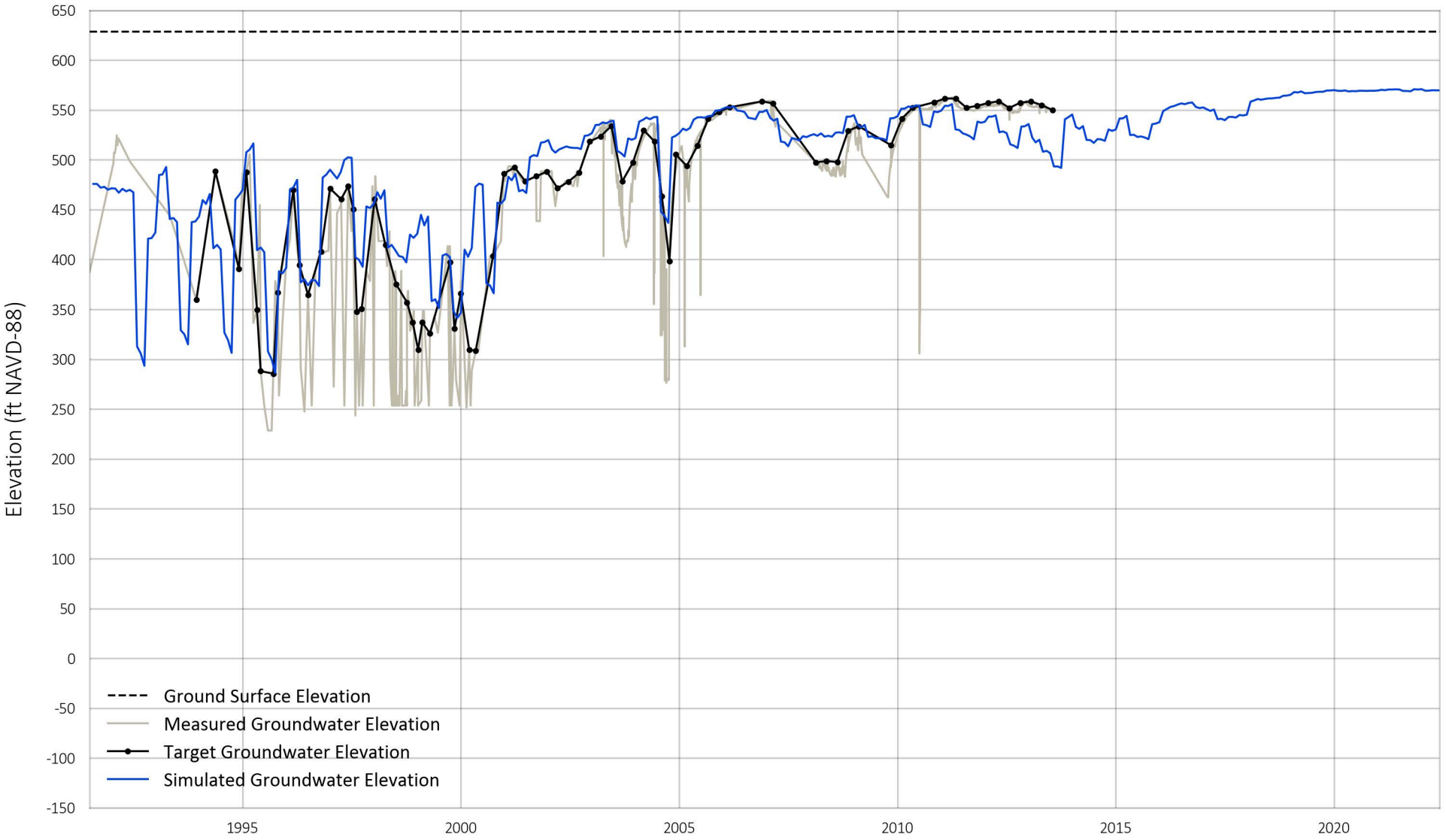
Target Groundwater Elevation (ft)
Mean = 559.15
Standard Deviation = 12.04

Simulated Groundwater Elevation (ft)
Mean = 582.03
Standard Deviation = 5.50

Mean Residual (ft) = 22.88
RMSE (ft) = 24.57

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1203215
Well Name: CH HIL 15A
Screened Layer(s): 1
Owner: City of Chino Hills

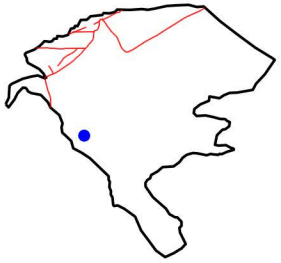
Figure B5-15



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

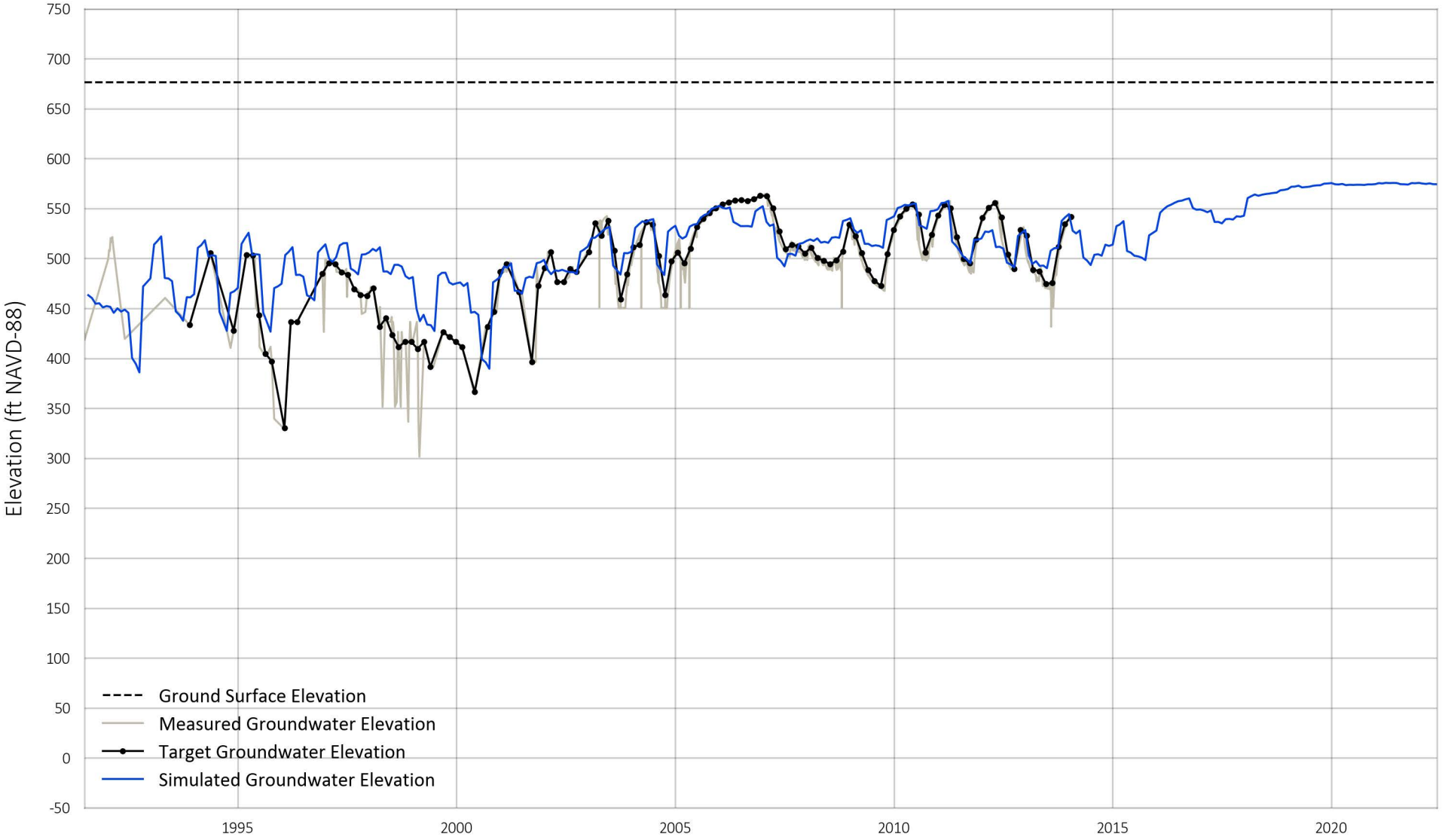
Target Groundwater Elevation (ft)
Mean = 463.32
Standard Deviation = 83.52

Simulated Groundwater Elevation (ft)
Mean = 480.76
Standard Deviation = 62.65

Mean Residual (ft) = 17.44
RMSE (ft) = 44.81

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1203214
Well Name: CH HIL 15B
Screened Layer(s): 2,3,5
Owner: City of Chino Hills

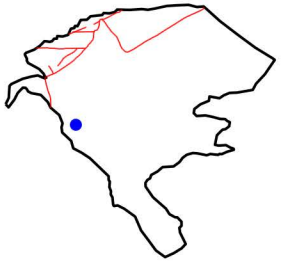
Figure B5-16



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

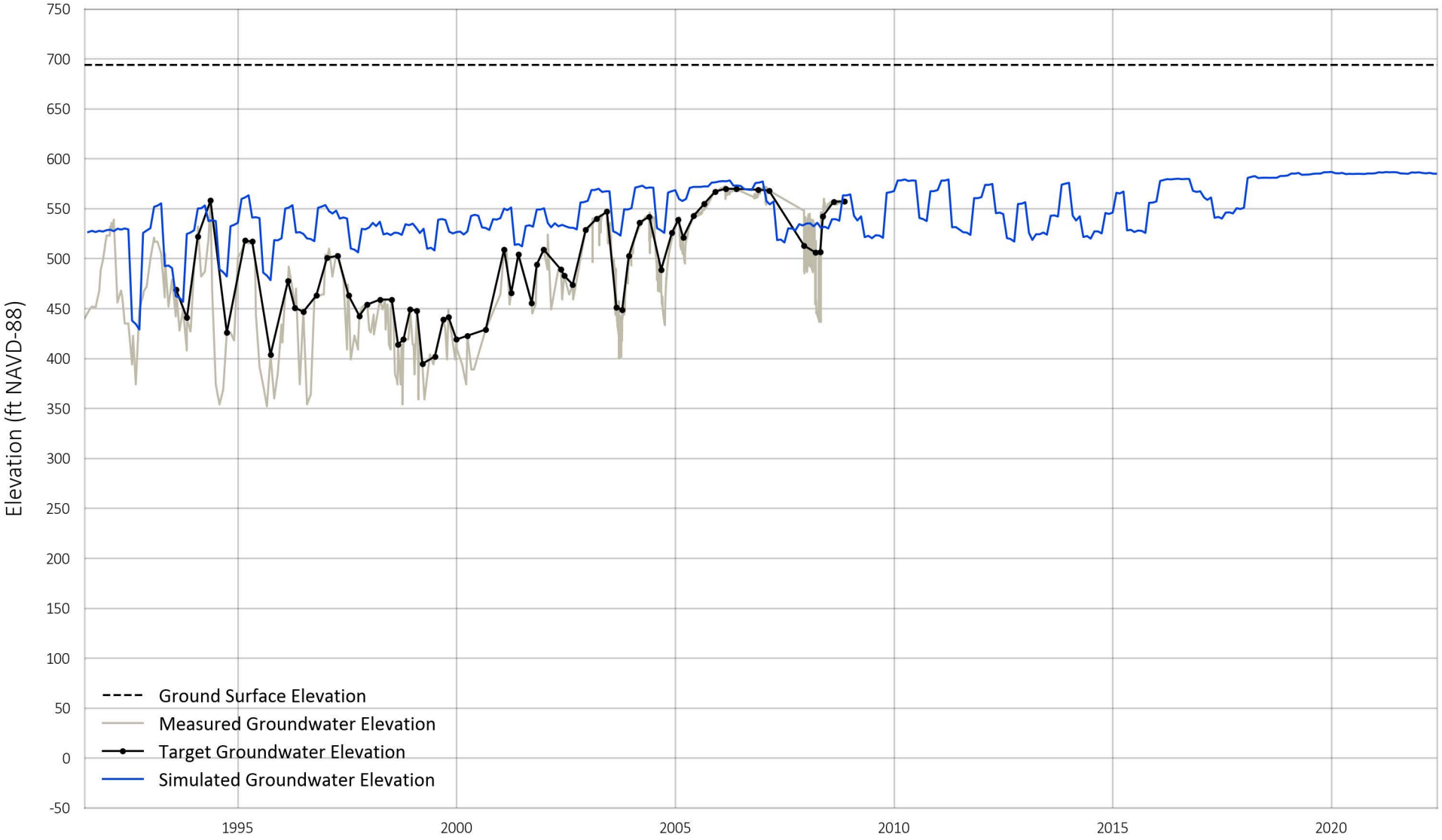
Target Groundwater Elevation (ft)
Mean = 492.96
Standard Deviation = 47.93

Simulated Groundwater Elevation (ft)
Mean = 507.78
Standard Deviation = 28.85

Mean Residual (ft) = 14.82
RMSE (ft) = 33.50

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1203106
Well Name: CH HIL 16
Screened Layer(s): 3,5
Owner: City of Chino Hills

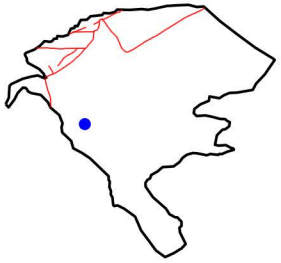
Figure B5-17



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

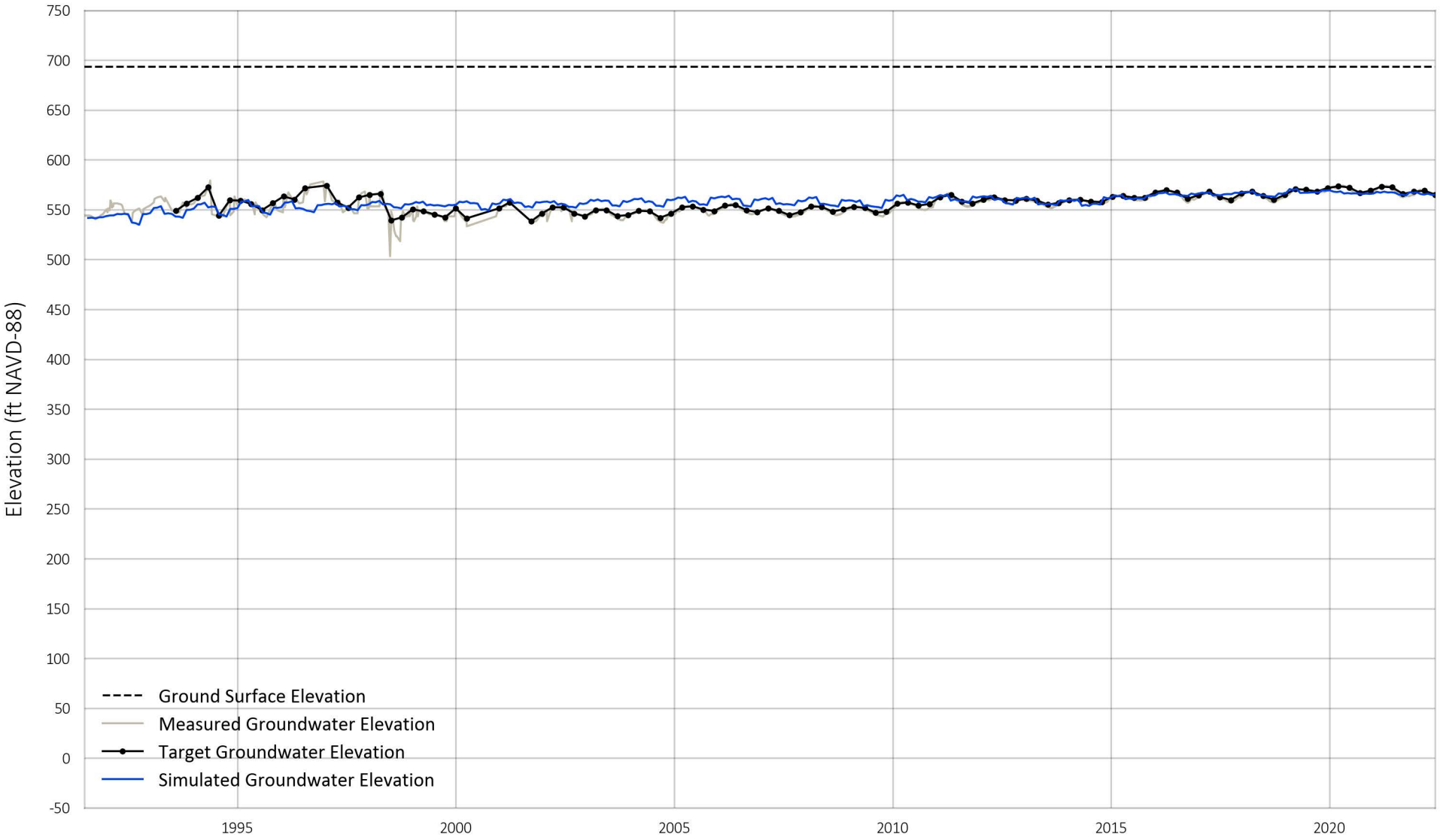
Target Groundwater Elevation (ft)
Mean = 489.43
Standard Deviation = 49.71

Simulated Groundwater Elevation (ft)
Mean = 539.65
Standard Deviation = 22.74

Mean Residual (ft) = 50.22
RMSE (ft) = 62.03

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1004179
Well Name: CH HIL 17
Screened Layer(s): 1,3,5
Owner: City of Chino Hills

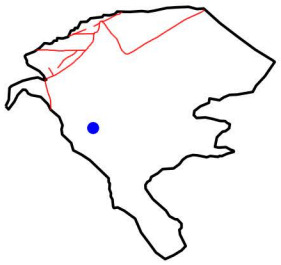
Figure B5-18



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

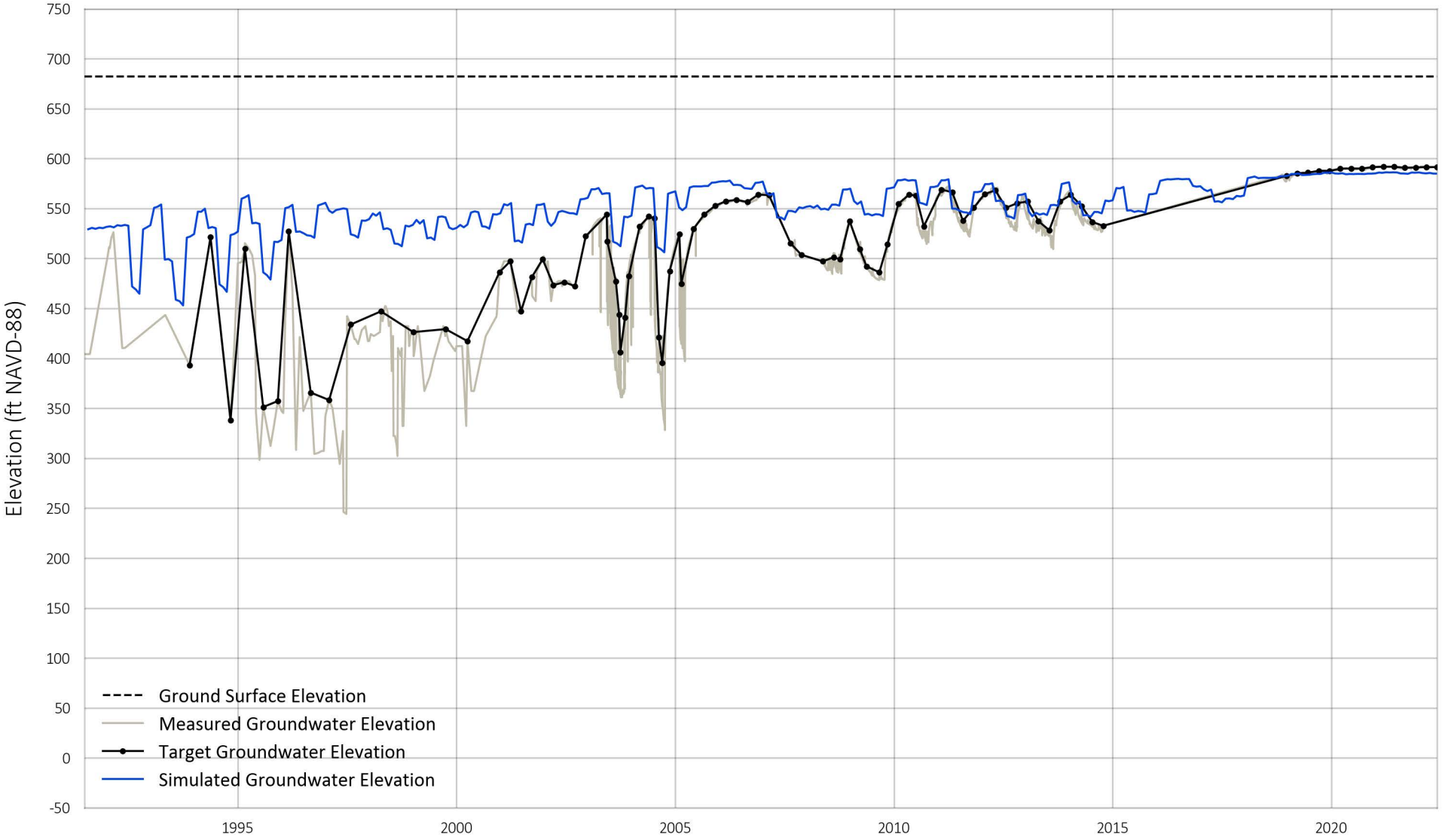
Target Groundwater Elevation (ft)
Mean = 557.09
Standard Deviation = 8.94

Simulated Groundwater Elevation (ft)
Mean = 558.30
Standard Deviation = 5.08

Mean Residual (ft) = 1.21
RMSE (ft) = 7.30

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1203149
Well Name: CH HIL 18A
Screened Layer(s): 3,5
Owner: City of Chino Hills

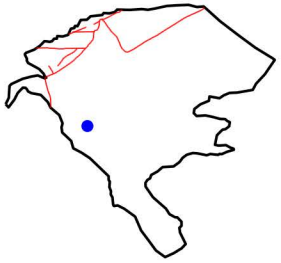
Figure B5-19



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

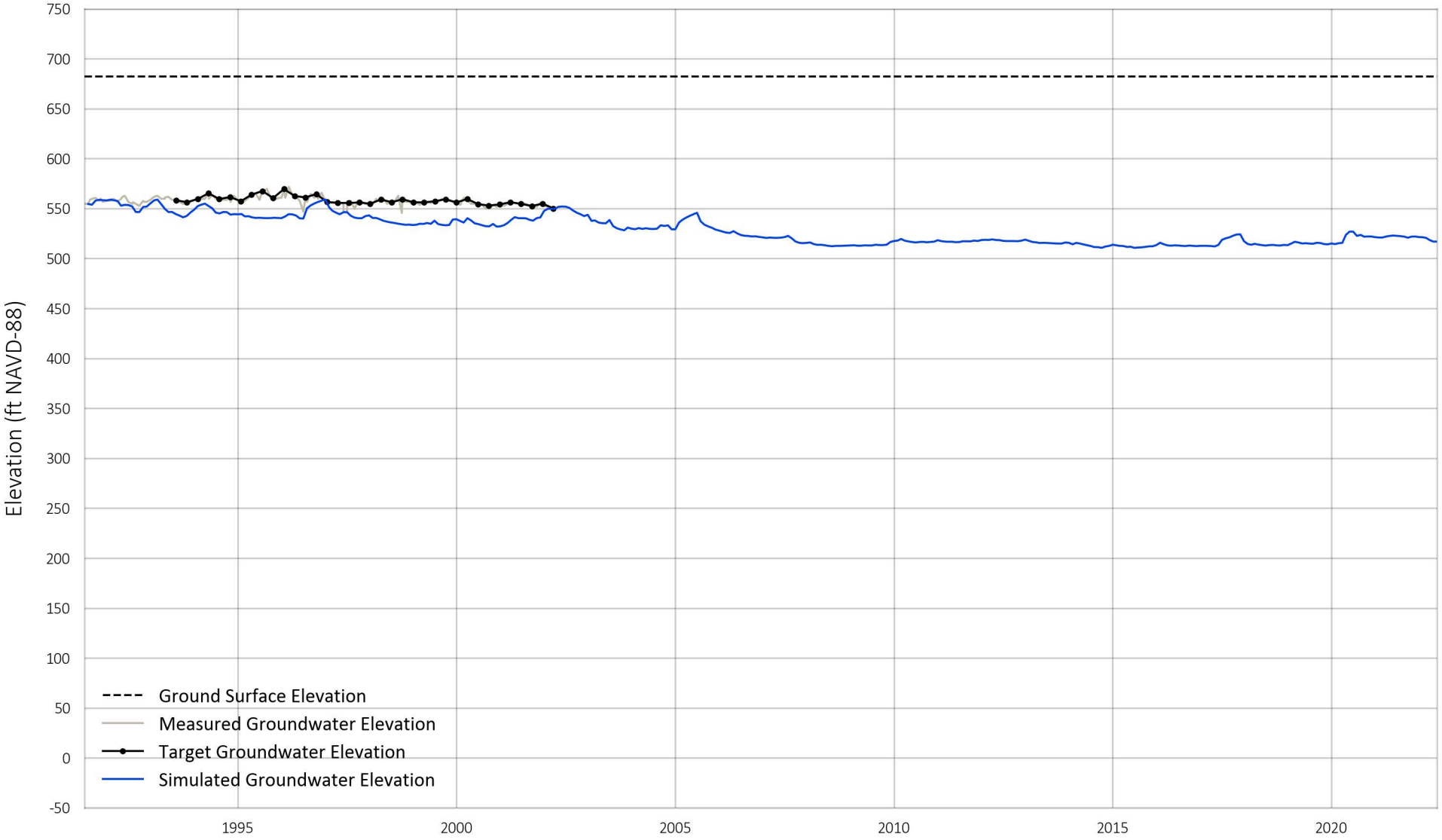
Target Groundwater Elevation (ft)
Mean = 514.55
Standard Deviation = 64.55

Simulated Groundwater Elevation (ft)
Mean = 554.69
Standard Deviation = 22.17

Mean Residual (ft) = 40.13
RMSE (ft) = 61.57

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1203158
Well Name: CH HIL 19
Screened Layer(s): 1,3,5
Owner: City of Chino Hills

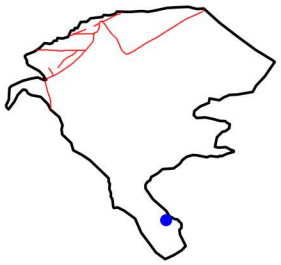
Figure B5-20



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

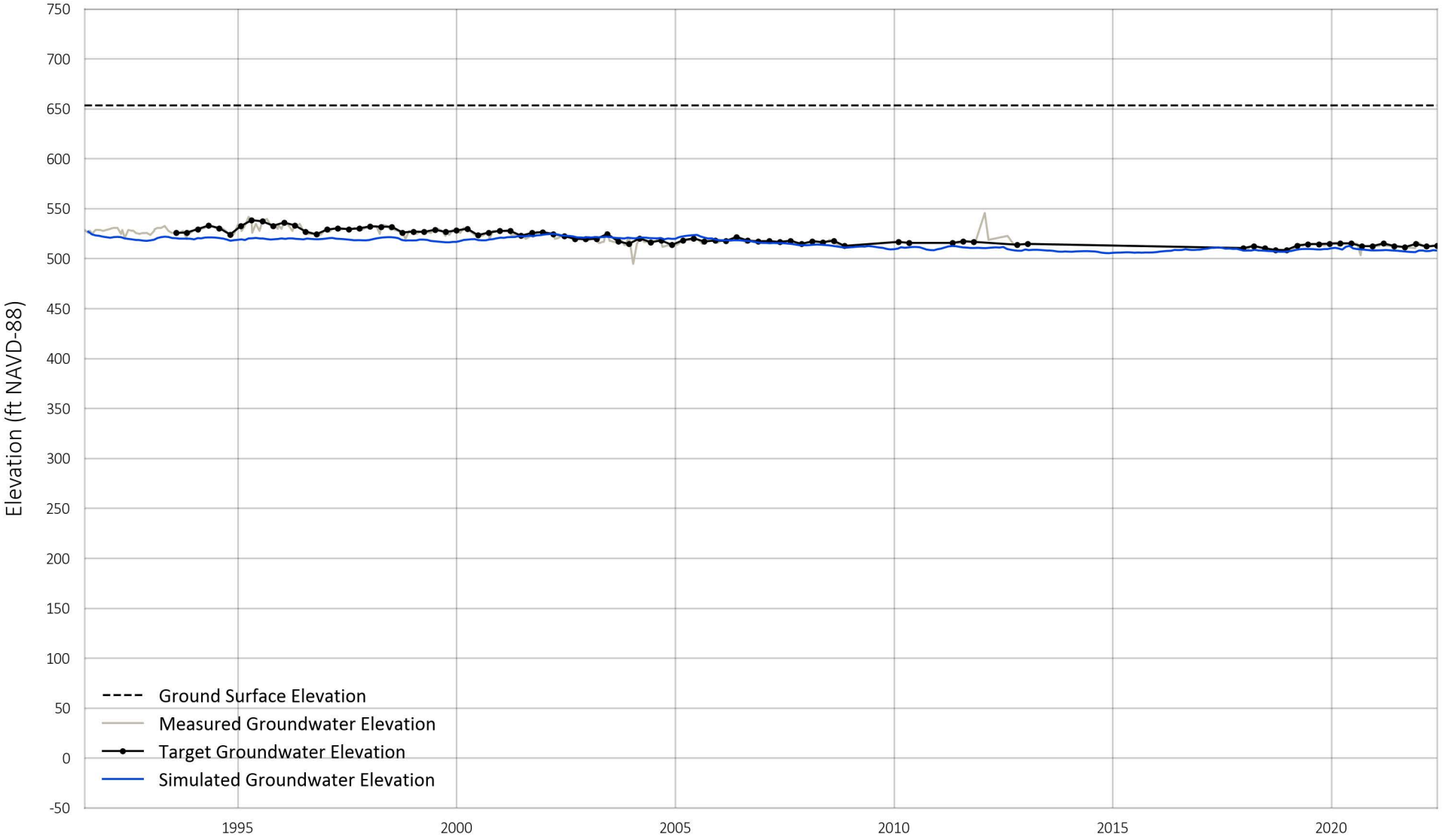
Target Groundwater Elevation (ft)
Mean = 558.21
Standard Deviation = 4.23

Simulated Groundwater Elevation (ft)
Mean = 541.68
Standard Deviation = 6.22

Mean Residual (ft) = -16.53
RMSE (ft) = 17.72

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1004636
Well Name: COR 06
Screened Layer(s): 1,2,3
Owner: City of Corona

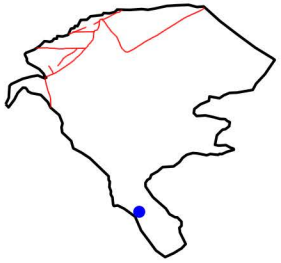
Figure B5-21



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

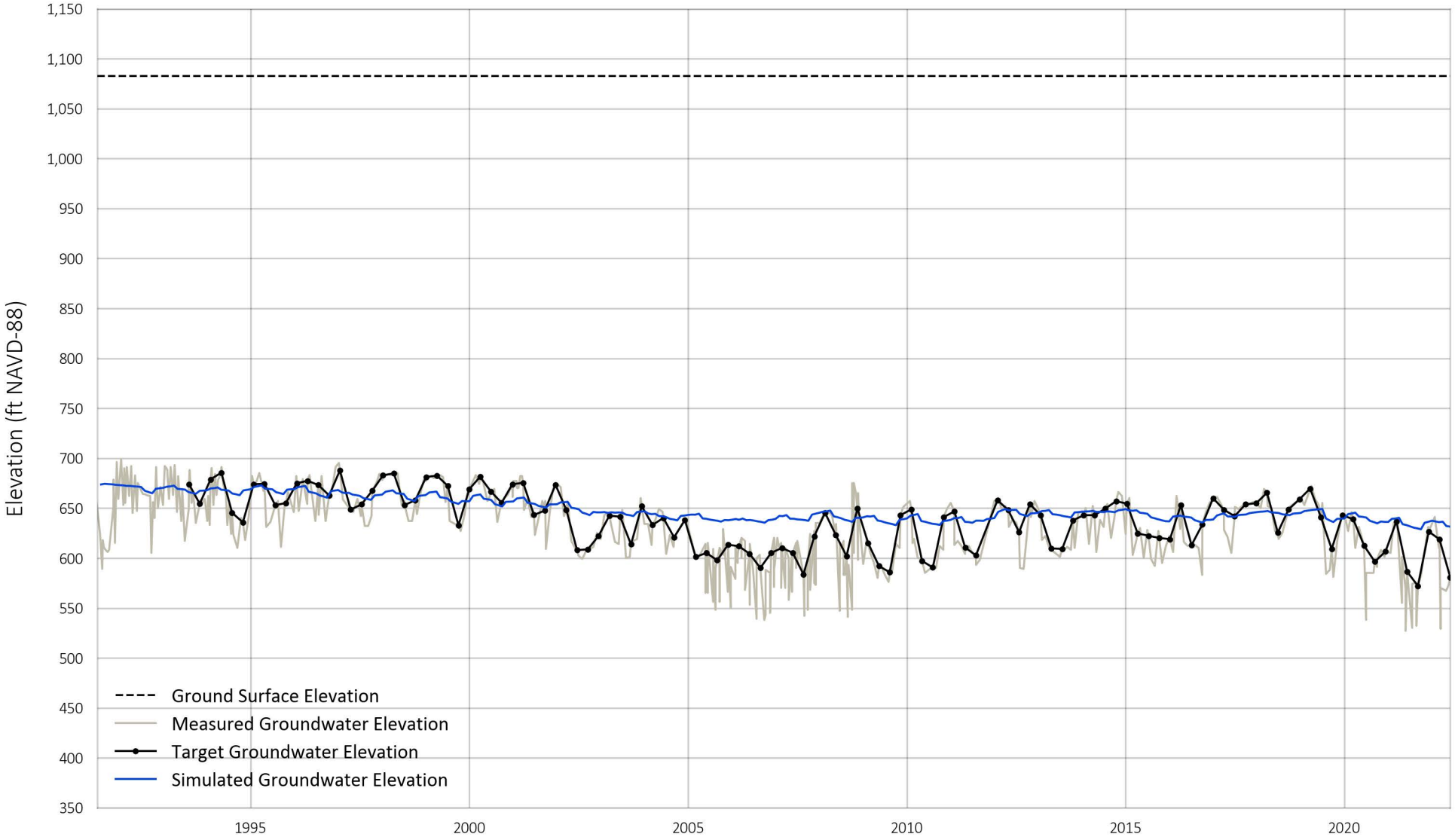
Target Groundwater Elevation (ft)
Mean = 521.06
Standard Deviation = 7.39

Simulated Groundwater Elevation (ft)
Mean = 516.13
Standard Deviation = 5.32

Mean Residual (ft) = -4.93
RMSE (ft) = 7.14

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1004920
Well Name: COR 11
Screened Layer(s): 1
Owner: City of Corona

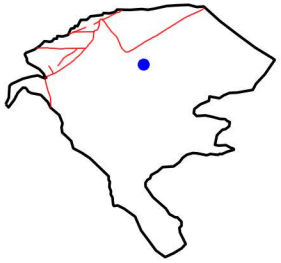
Figure B5-22



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

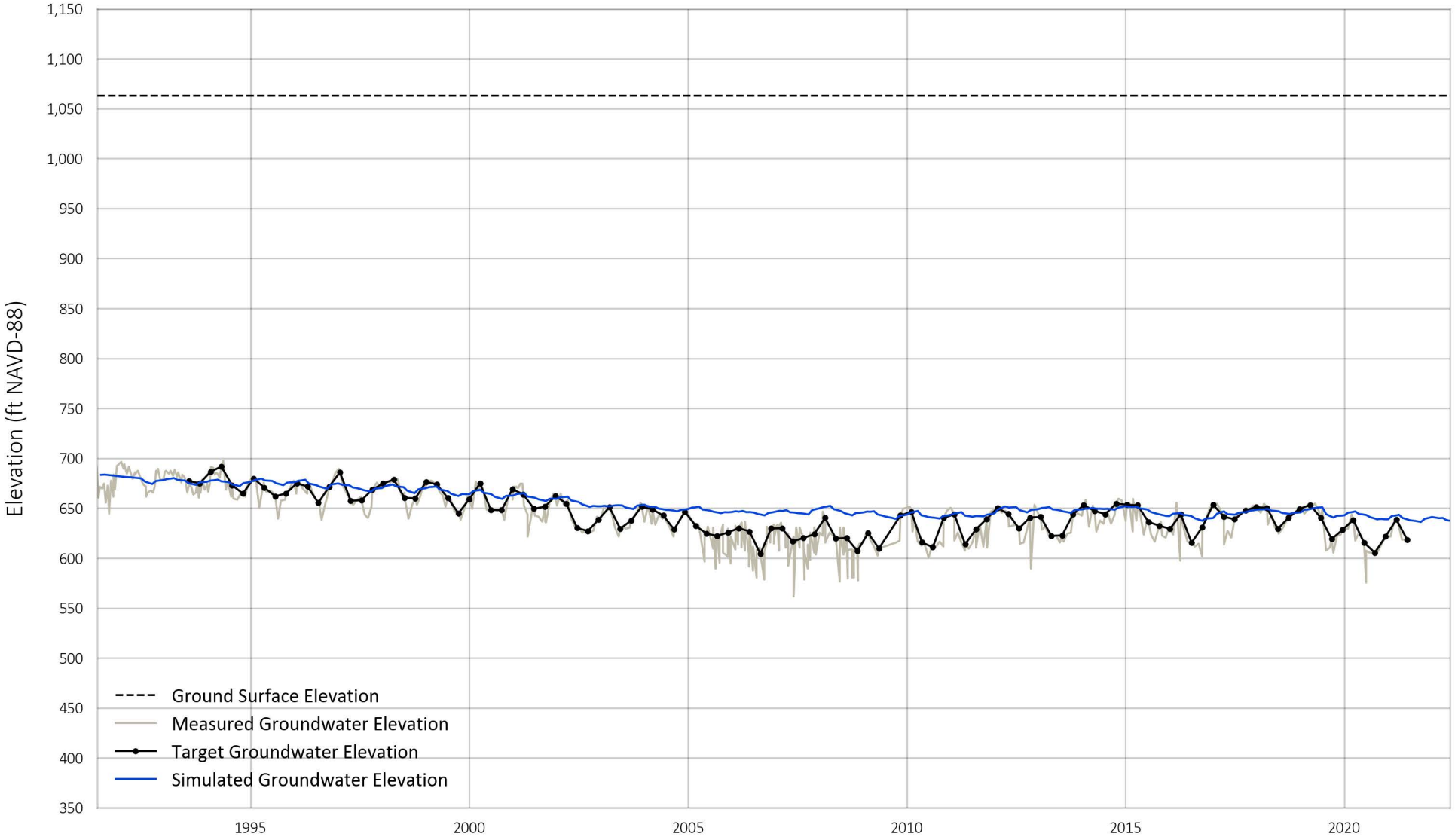
Target Groundwater Elevation (ft)
Mean = 638.00
Standard Deviation = 27.91

Simulated Groundwater Elevation (ft)
Mean = 645.68
Standard Deviation = 11.86

Mean Residual (ft) = 7.68
RMSE (ft) = 21.50

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002309
Well Name: CVWD 1
Screened Layer(s): 1,3,5
Owner: Cucamonga Valley Water District

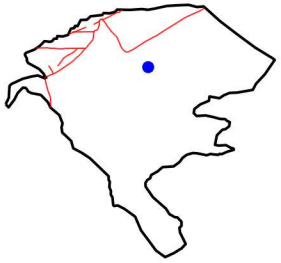
Figure B5-23



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

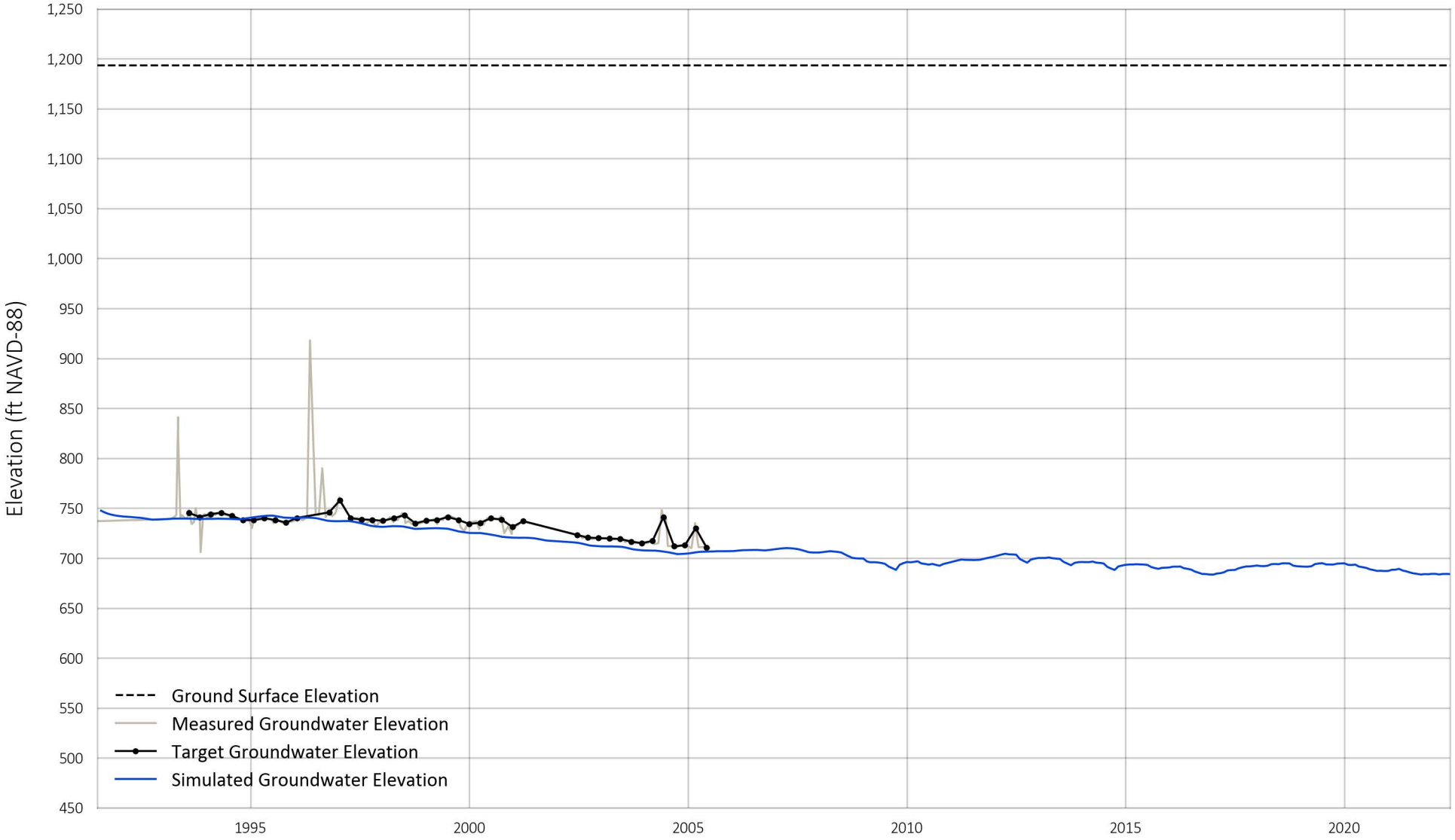
Target Groundwater Elevation (ft)
Mean = 644.21
Standard Deviation = 19.99

Simulated Groundwater Elevation (ft)
Mean = 651.35
Standard Deviation = 12.78

Mean Residual (ft) = 7.14
RMSE (ft) = 13.52

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002312
Well Name: CVWD 3
Screened Layer(s): 1,3,4,5
Owner: Cucamonga Valley Water District

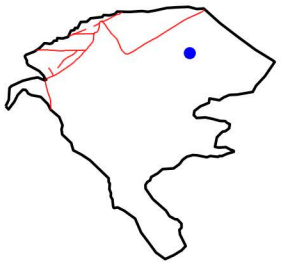
Figure B5-24



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

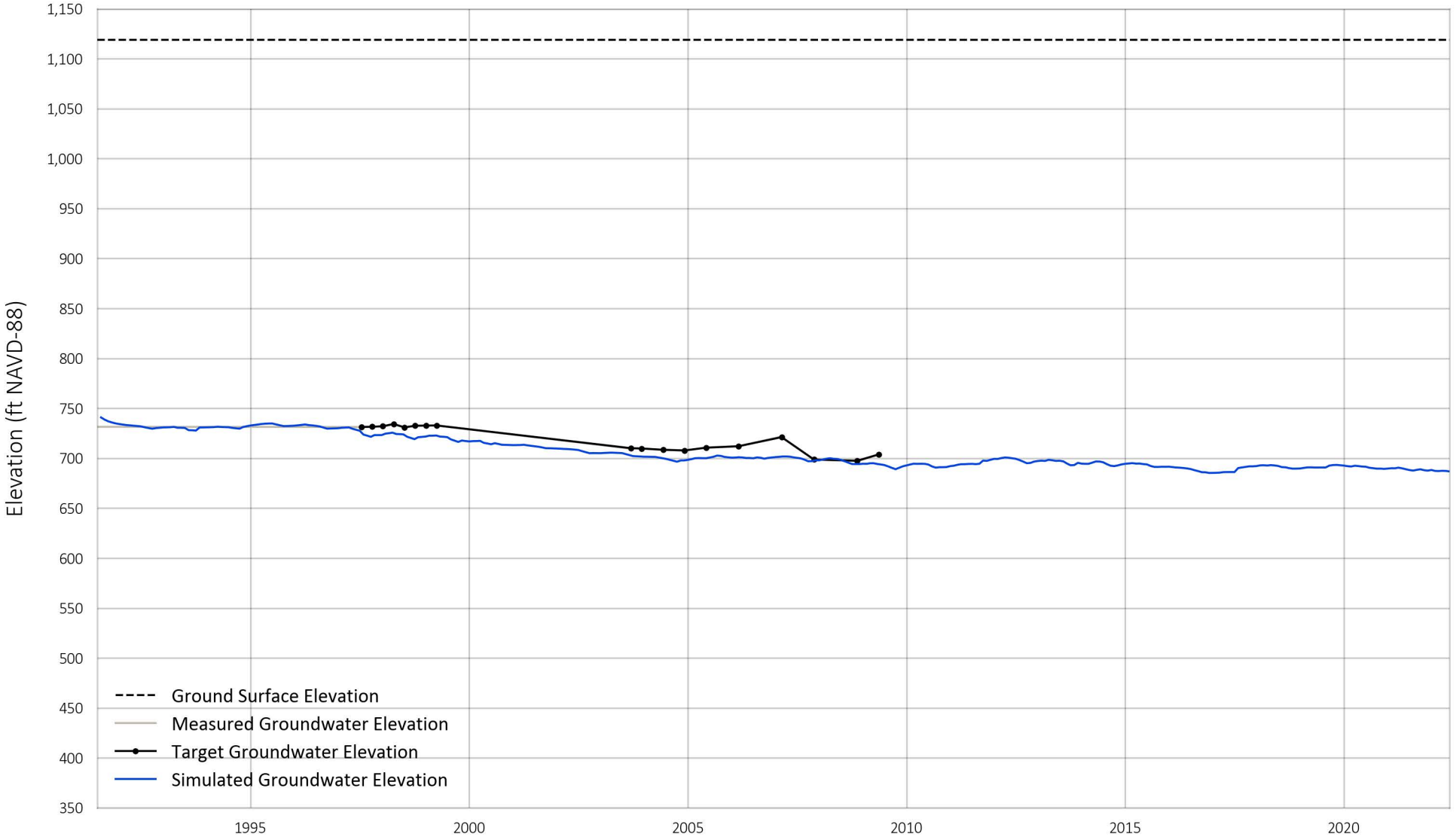
Target Groundwater Elevation (ft)
Mean = 733.83
Standard Deviation = 11.00

Simulated Groundwater Elevation (ft)
Mean = 725.08
Standard Deviation = 13.52

Mean Residual (ft) = -8.75
RMSE (ft) = 11.61

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002205
Well Name: CVWD 35
Screened Layer(s): 1,2,3,4,5
Owner: Cucamonga Valley Water District

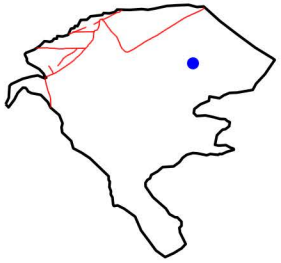
Figure B5-25



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

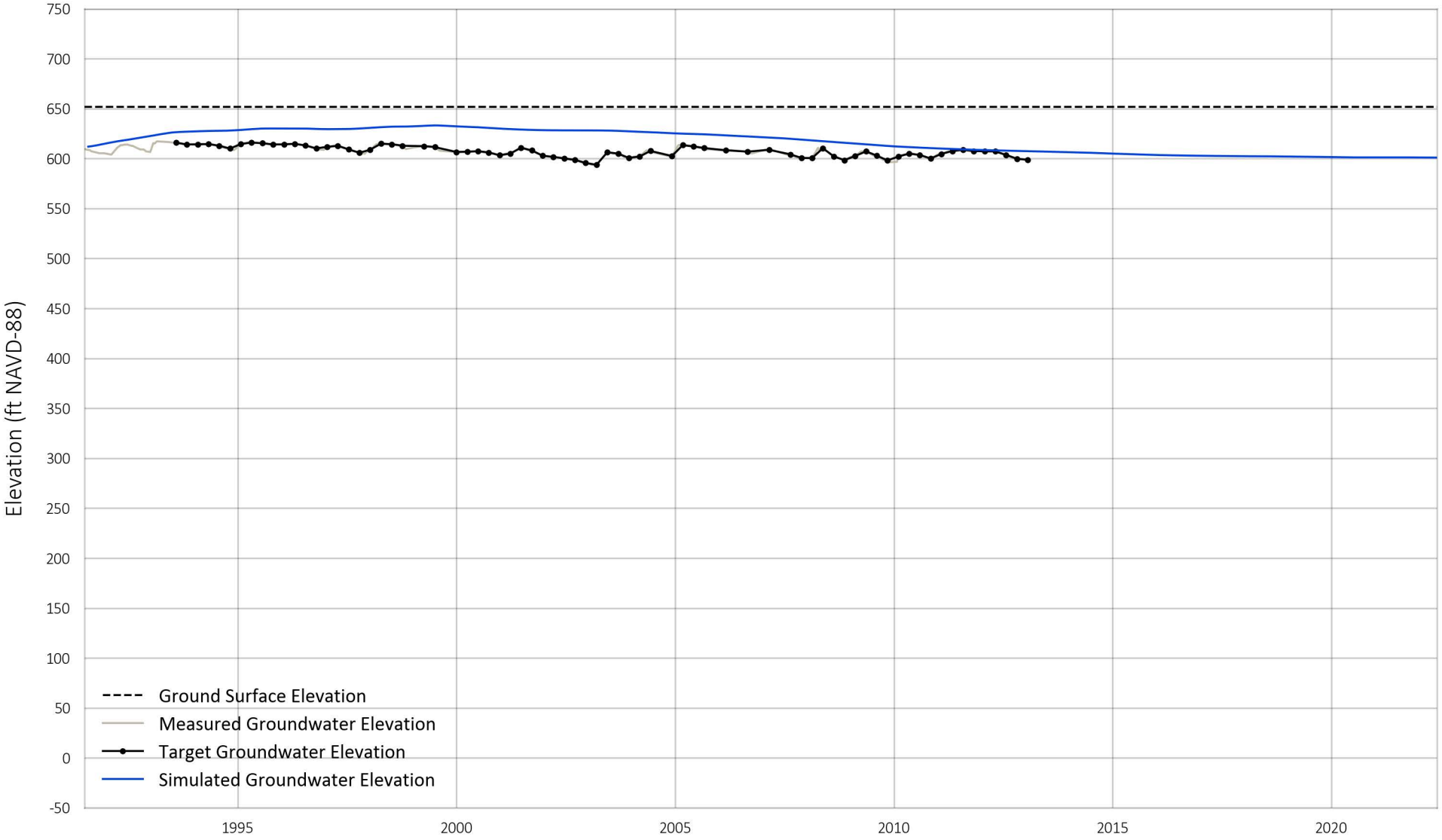
Target Groundwater Elevation (ft)
Mean = 718.79
Standard Deviation = 13.38

Simulated Groundwater Elevation (ft)
Mean = 708.47
Standard Deviation = 13.28

Mean Residual (ft) = -10.33
RMSE (ft) = 11.01

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002219
Well Name: Cal Speedway 1
Screened Layer(s): 1,2,3,5
Owner: California Speedway

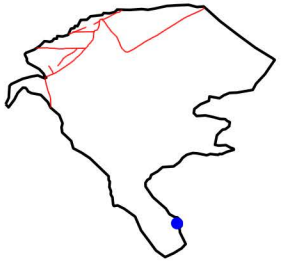
Figure B5-26



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

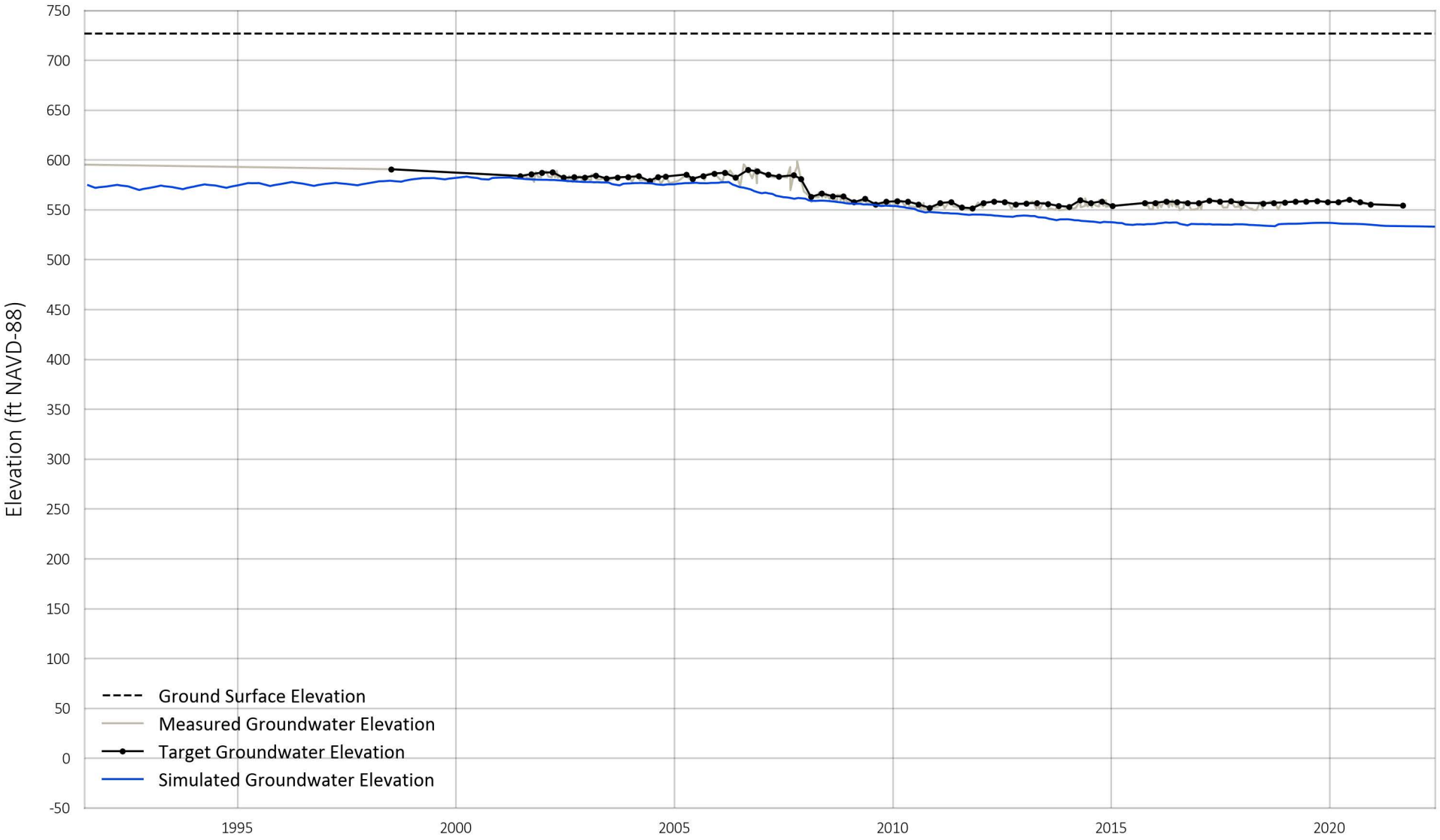
Target Groundwater Elevation (ft)
Mean = 607.18
Standard Deviation = 5.51

Simulated Groundwater Elevation (ft)
Mean = 623.47
Standard Deviation = 8.17

Mean Residual (ft) = 16.29
RMSE (ft) = 17.98

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1222093
Well Name: Corona CG-1
Screened Layer(s): 1
Owner: Riverside County Dept of Waste Resources

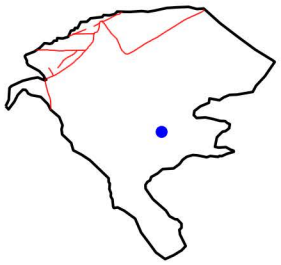
Figure B5-27



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

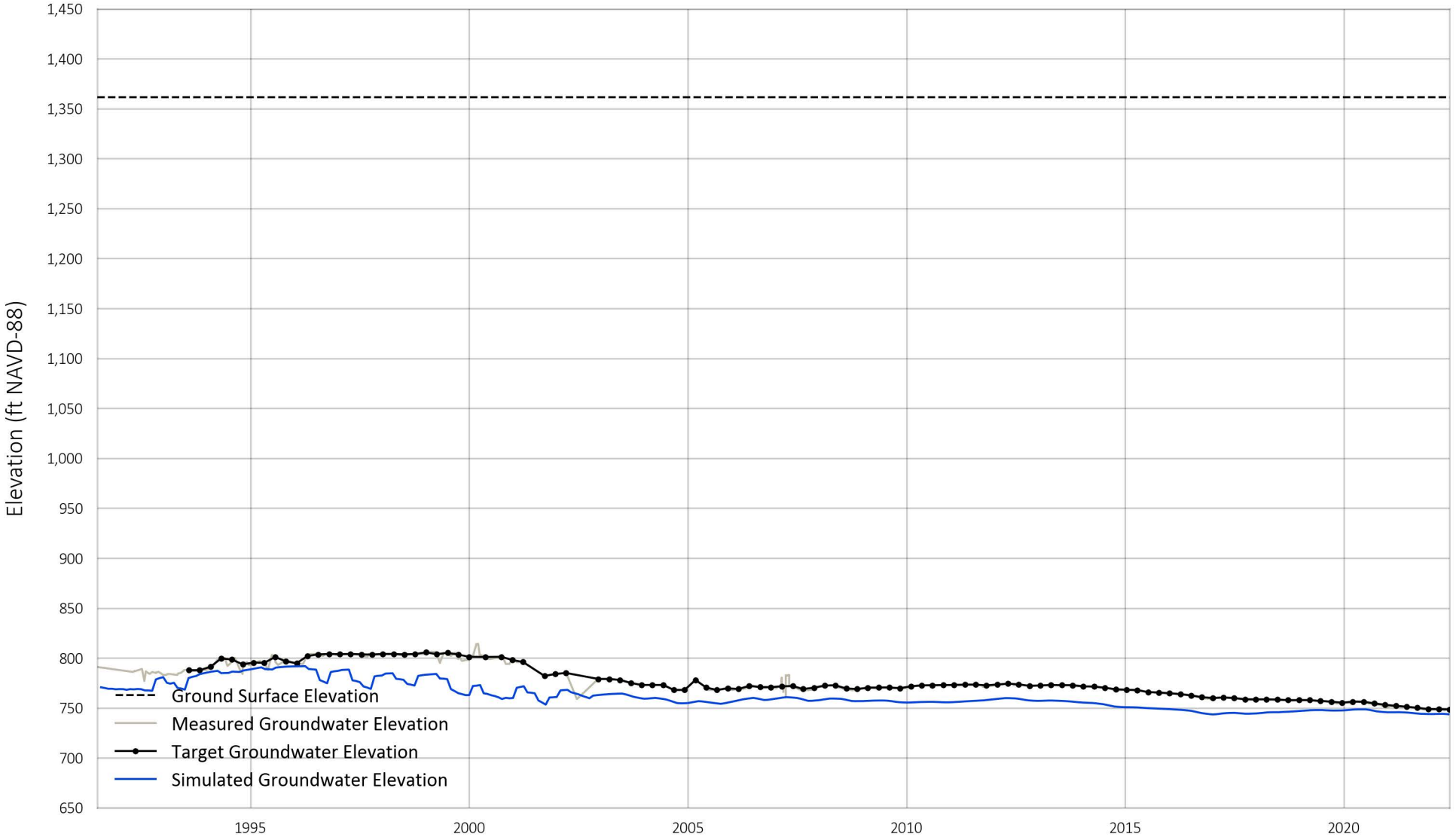
Target Groundwater Elevation (ft)
Mean = 566.87
Standard Deviation = 13.24

Simulated Groundwater Elevation (ft)
Mean = 552.99
Standard Deviation = 17.54

Mean Residual (ft) = -13.88
RMSE (ft) = 15.83

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1003810
Well Name: Private
Screened Layer(s): 1
Owner: Private

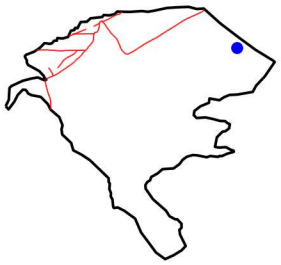
Figure B5-28



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

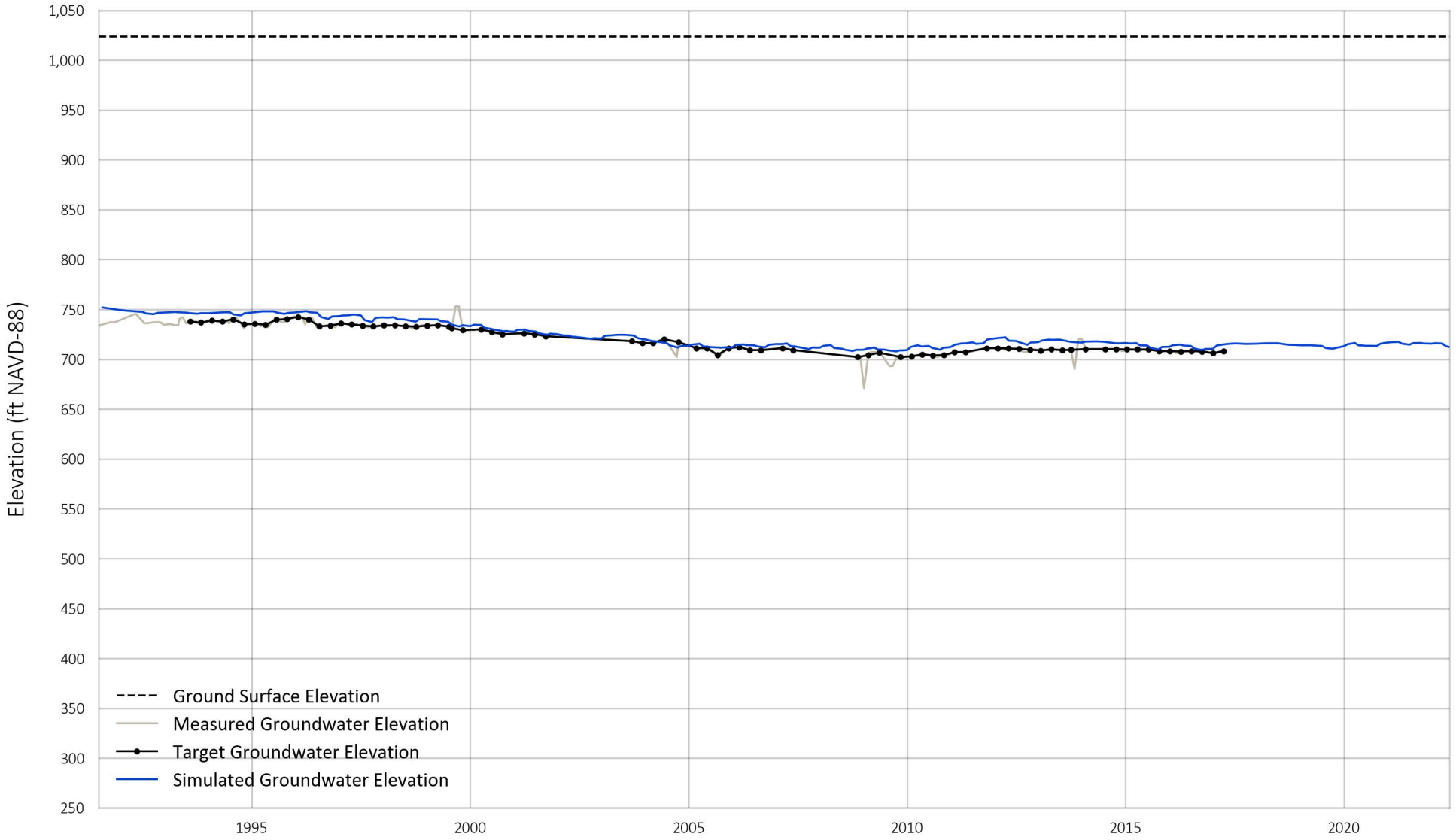
Target Groundwater Elevation (ft)
Mean = 776.16
Standard Deviation = 16.50

Simulated Groundwater Elevation (ft)
Mean = 759.91
Standard Deviation = 14.24

Mean Residual (ft) = -16.25
RMSE (ft) = 17.81

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002082
Well Name: F18A
Screened Layer(s): 1,2,3,4,5
Owner: Fontana Water Company

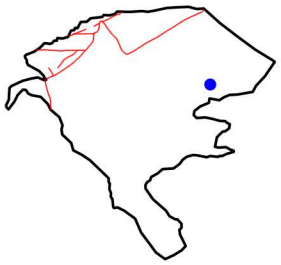
Figure B5-29



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

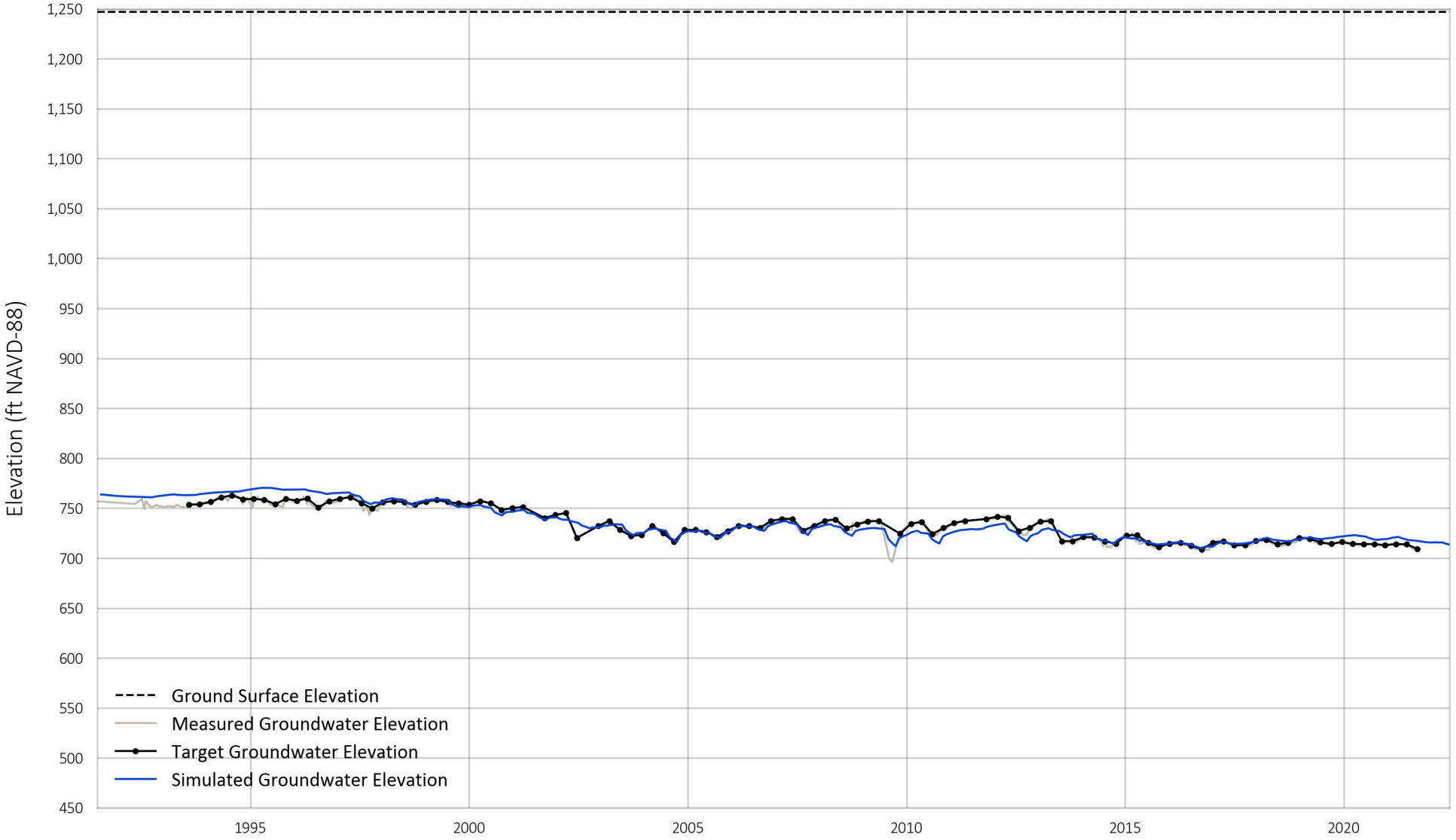
Target Groundwater Elevation (ft)
Mean = 719.49
Standard Deviation = 12.92

Simulated Groundwater Elevation (ft)
Mean = 724.43
Standard Deviation = 14.48

Mean Residual (ft) = 4.94
RMSE (ft) = 5.95

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002242
Well Name: F21A
Screened Layer(s): 1,2,3,4,5
Owner: Fontana Water Company

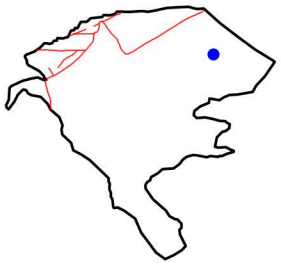
Figure B5-30



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

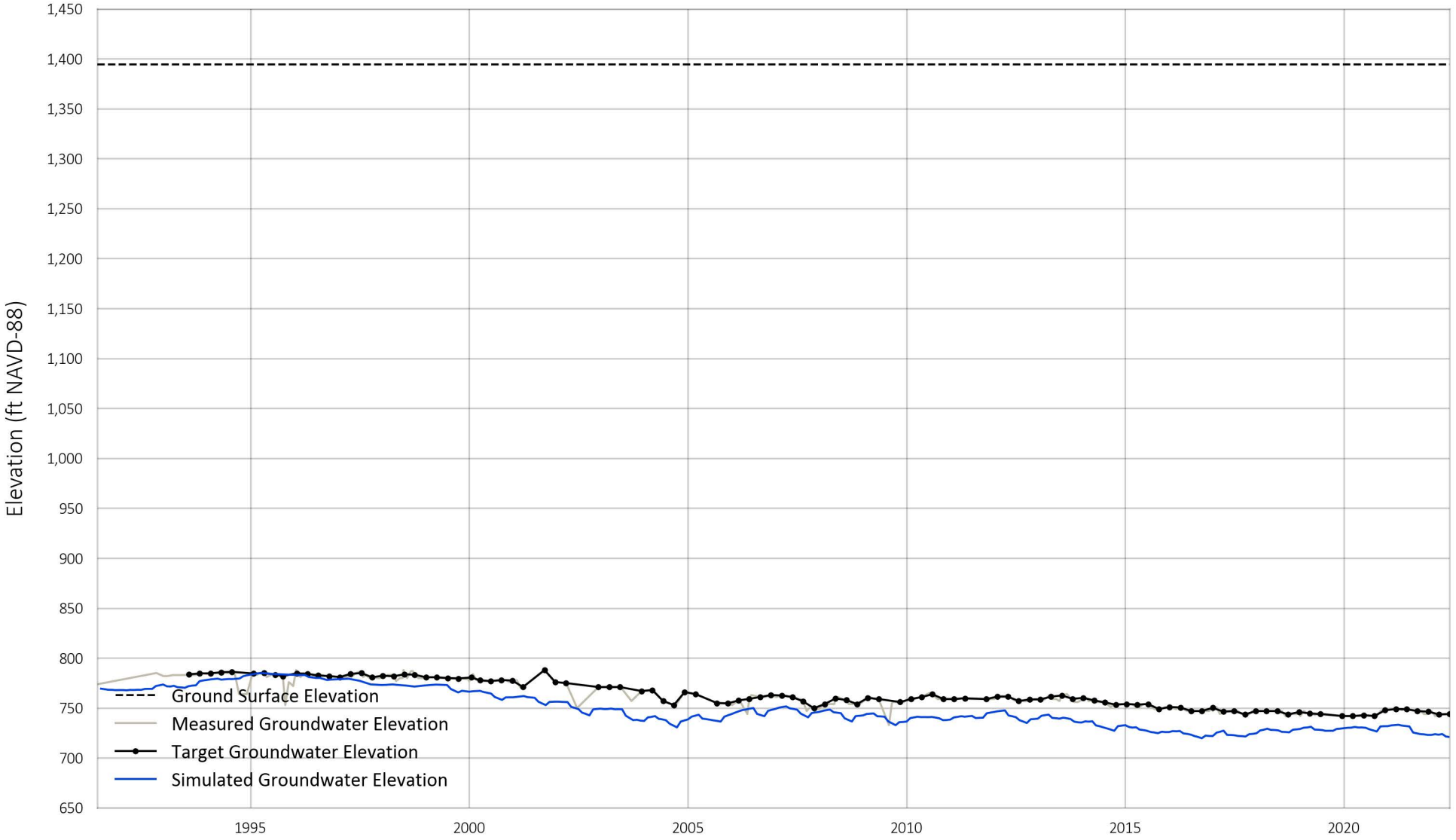
Target Groundwater Elevation (ft)
Mean = 734.09
Standard Deviation = 16.44

Simulated Groundwater Elevation (ft)
Mean = 733.33
Standard Deviation = 18.61

Mean Residual (ft) = -0.76
RMSE (ft) = 6.32

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002213
Well Name: F30A
Screened Layer(s): 1,2,3,4,5
Owner: Fontana Water Company

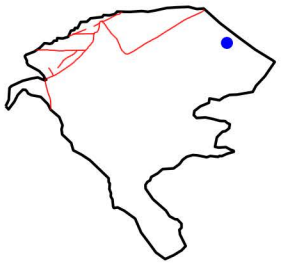
Figure B5-31



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

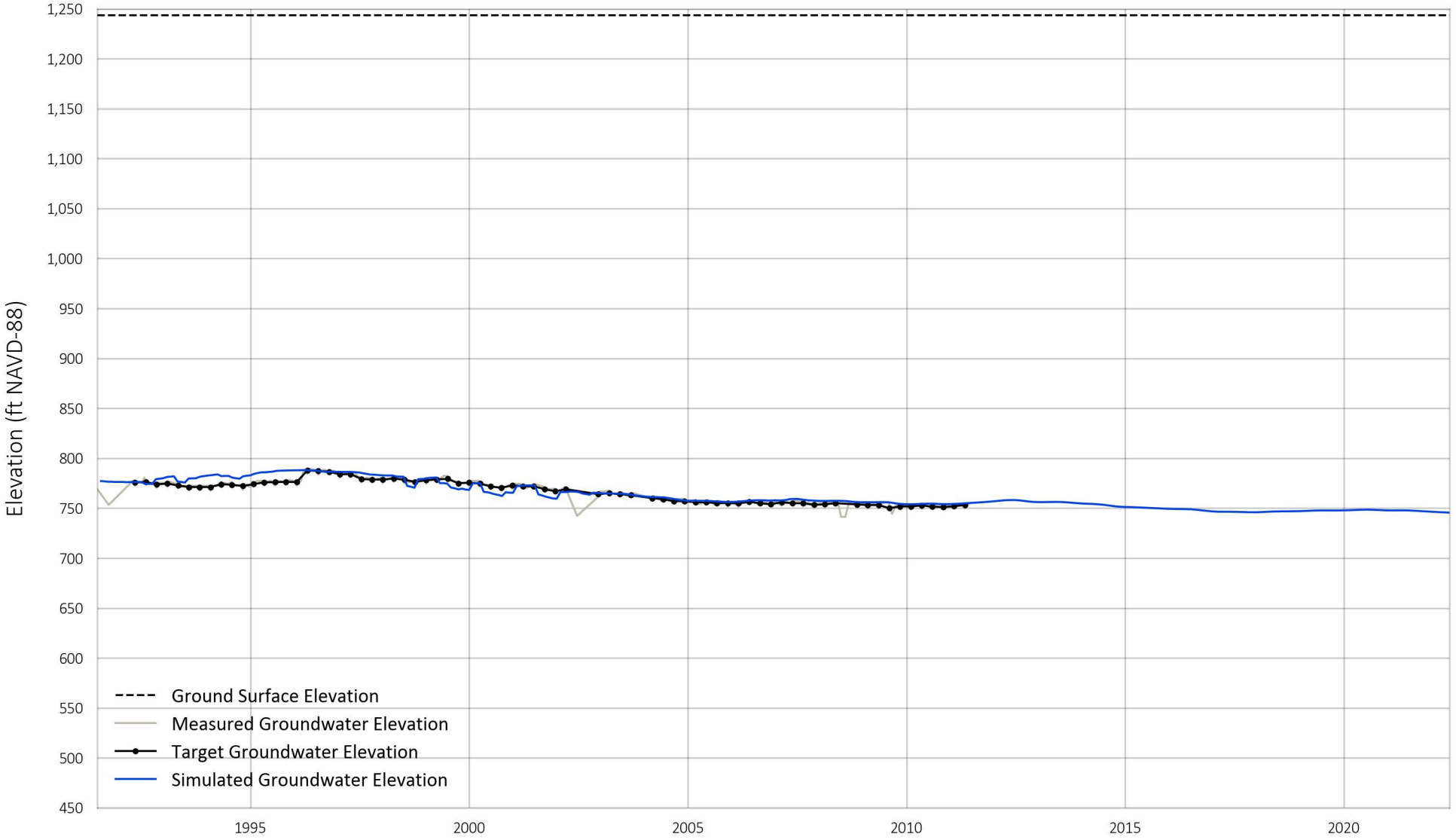
Target Groundwater Elevation (ft)
Mean = 763.12
Standard Deviation = 14.22

Simulated Groundwater Elevation (ft)
Mean = 746.07
Standard Deviation = 19.97

Mean Residual (ft) = -17.05
RMSE (ft) = 18.82

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002081
Well Name: F31A
Screened Layer(s): 1,2,3,4,5
Owner: Fontana Water Company

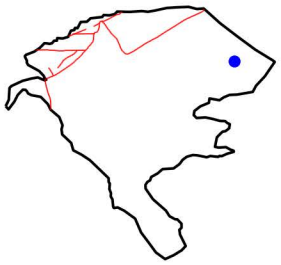
Figure B5-32



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

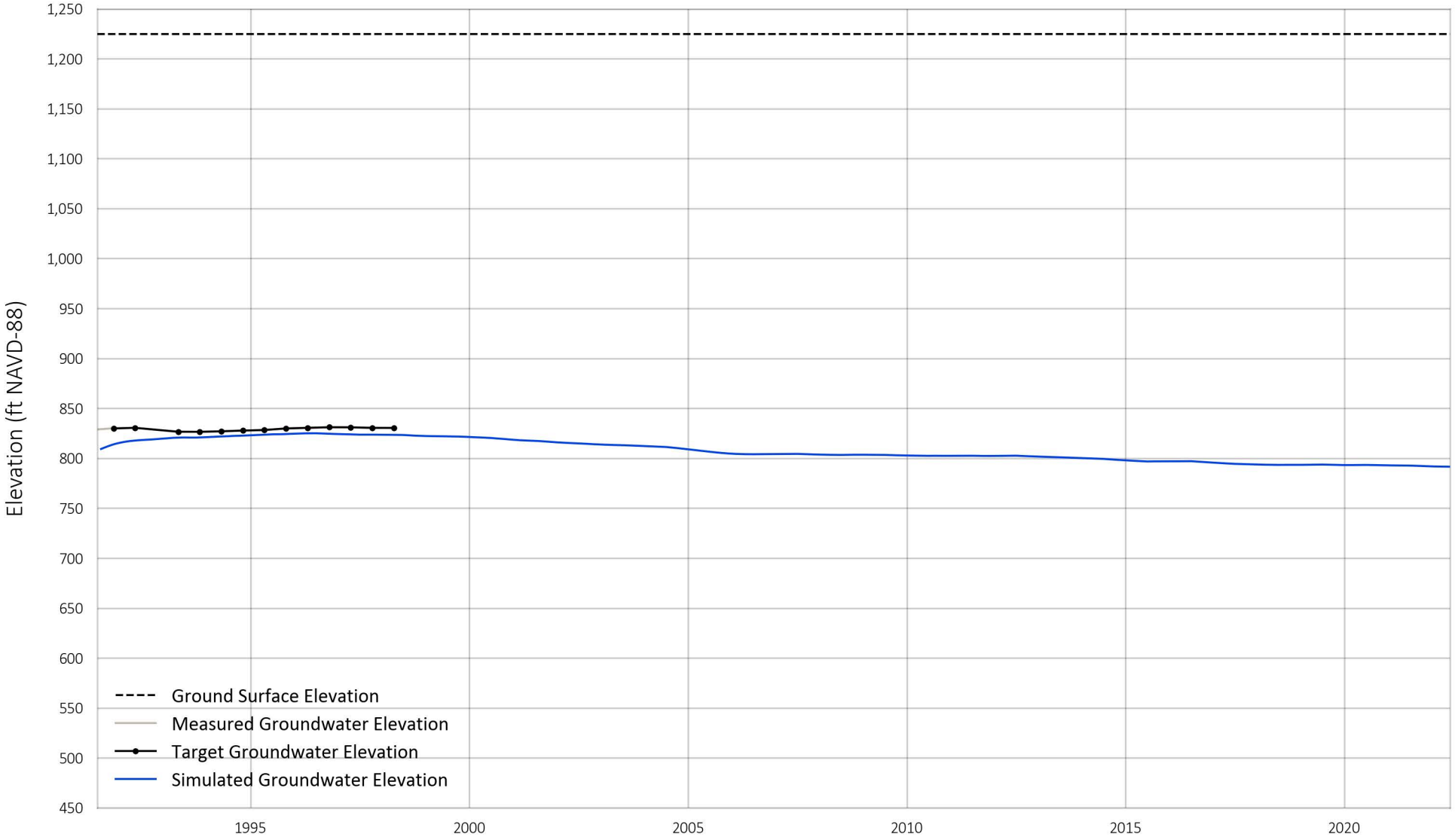
Target Groundwater Elevation (ft)
Mean = 766.85
Standard Deviation = 11.09

Simulated Groundwater Elevation (ft)
Mean = 768.53
Standard Deviation = 12.42

Mean Residual (ft) = 1.68
RMSE (ft) = 4.99

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002085
Well Name: F35A
Screened Layer(s): 5
Owner: Fontana Water Company

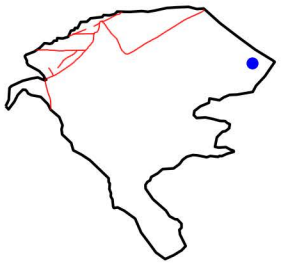
Figure B5-33



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

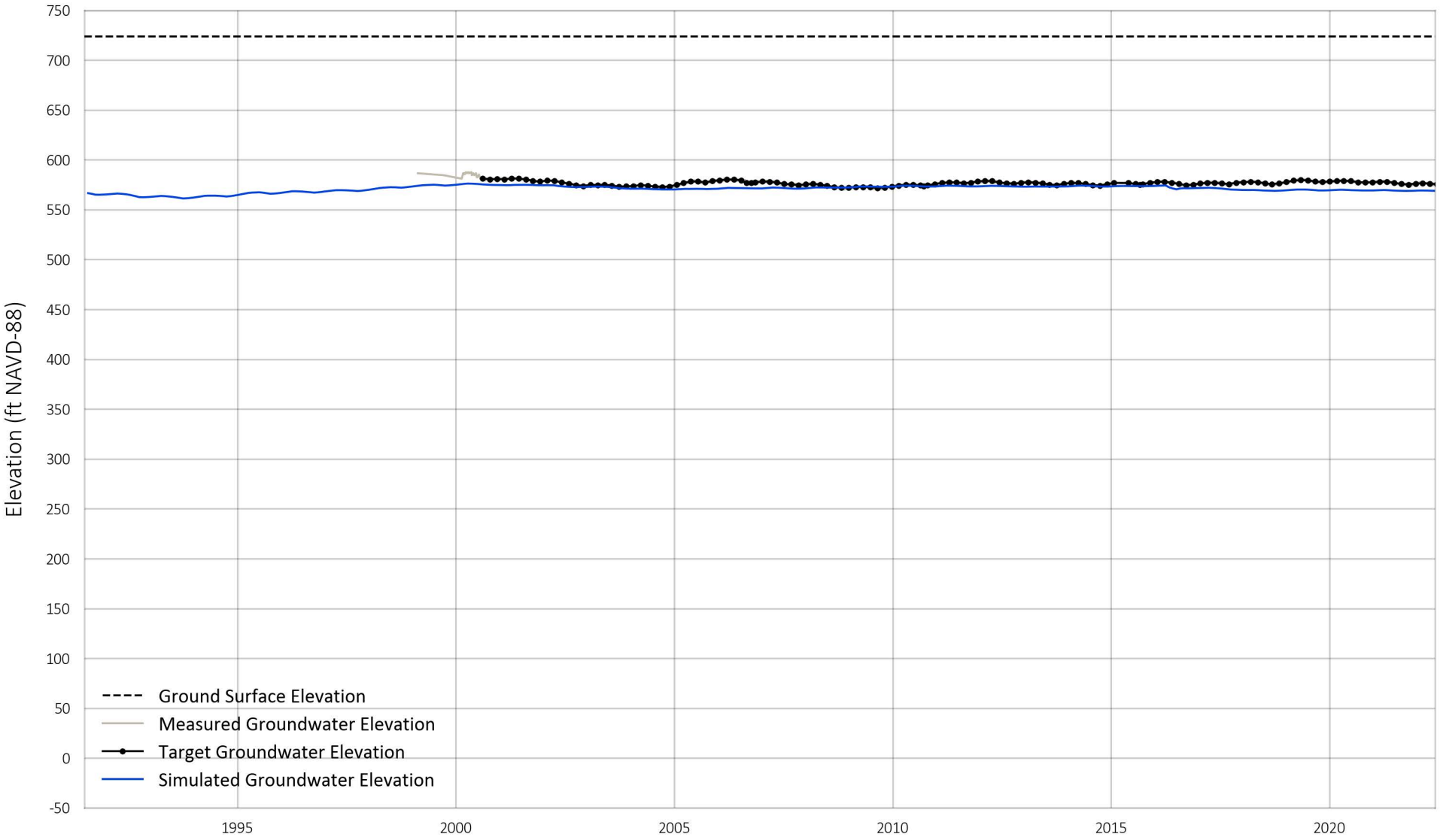
Target Groundwater Elevation (ft)
Mean = 829.20
Standard Deviation = 1.73

Simulated Groundwater Elevation (ft)
Mean = 822.00
Standard Deviation = 3.14

Mean Residual (ft) = -7.21
RMSE (ft) = 7.88

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002101
Well Name: FU28
Screened Layer(s): 1
Owner: Fontana Water Company

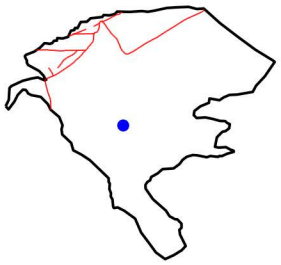
Figure B5-34



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

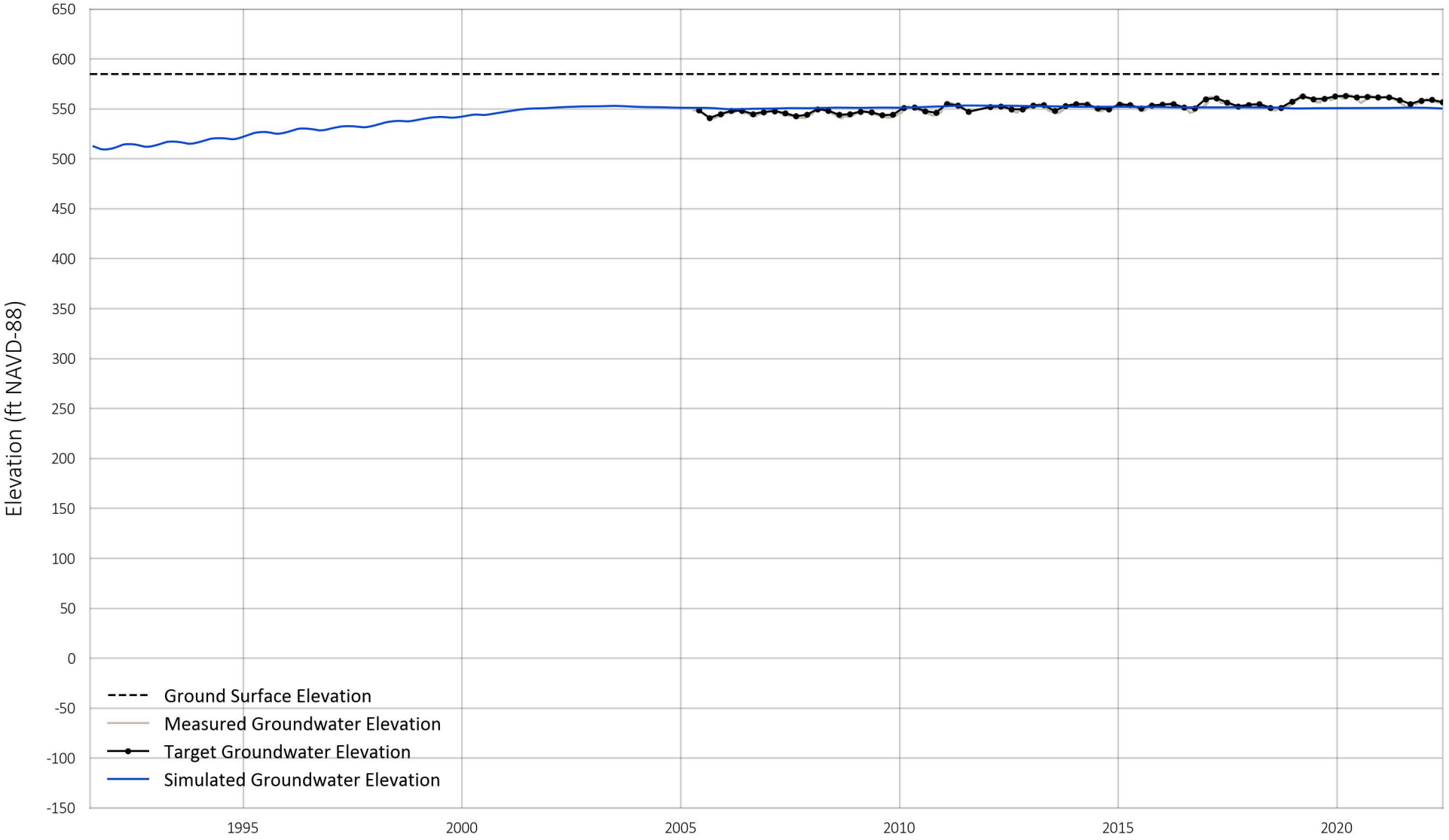
Target Groundwater Elevation (ft)
Mean = 576.49
Standard Deviation = 2.16

Simulated Groundwater Elevation (ft)
Mean = 571.10
Standard Deviation = 2.01

Mean Residual (ft) = -5.39
RMSE (ft) = 6.10

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1202246
Well Name: Private
Screened Layer(s): 1
Owner: Private

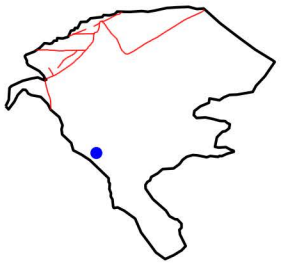
Figure B5-35



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

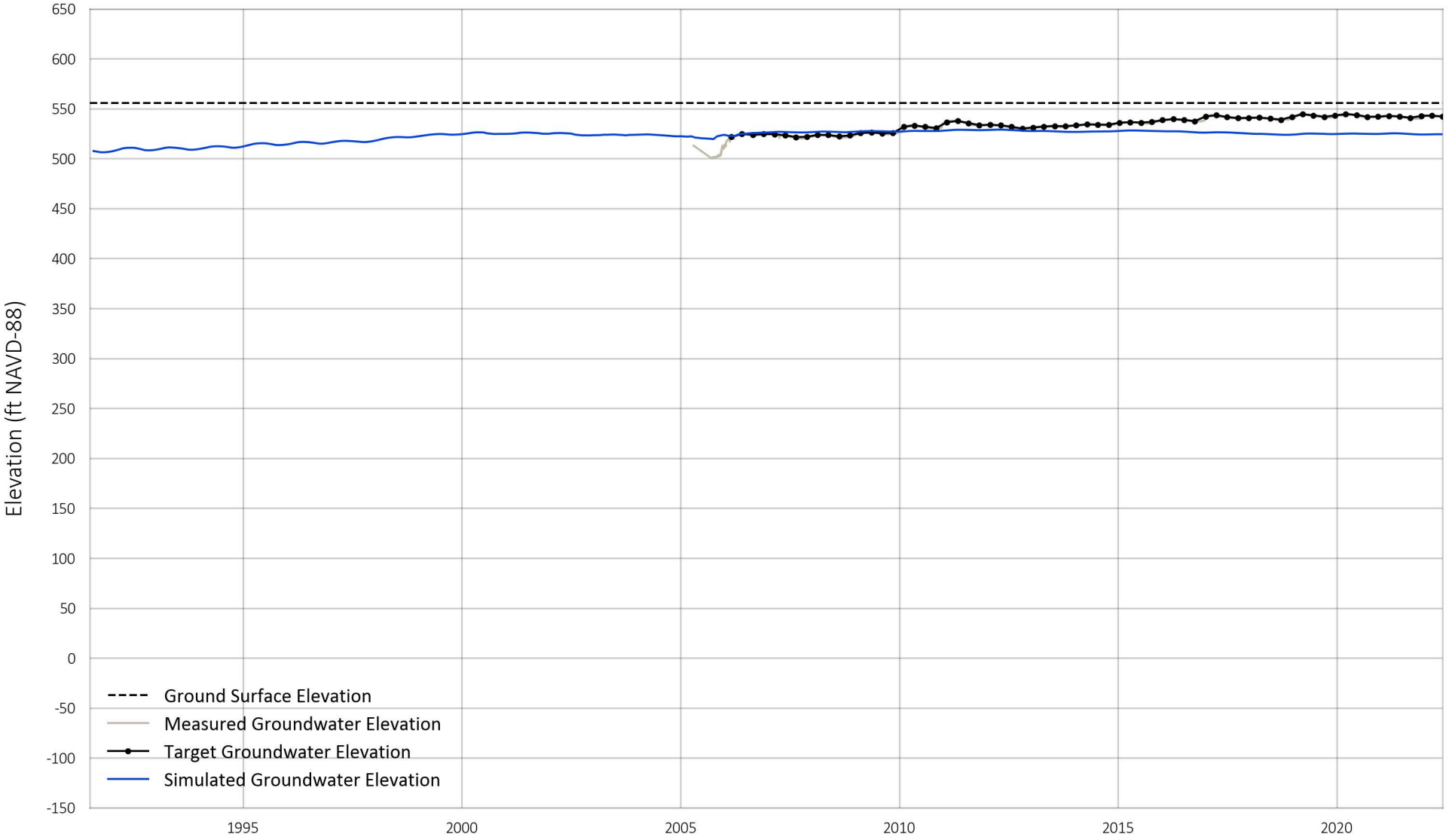
Target Groundwater Elevation (ft)
Mean = 552.09
Standard Deviation = 5.69

Simulated Groundwater Elevation (ft)
Mean = 550.74
Standard Deviation = 0.86

Mean Residual (ft) = -1.34
RMSE (ft) = 6.02

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1207980
Well Name: HCMP-3/1
Screened Layer(s): 1
Owner: Inland Empire Utilities Agency

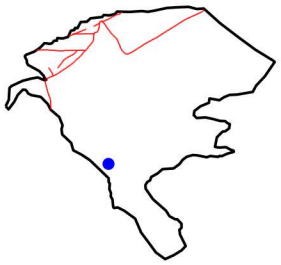
Figure B5-36



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

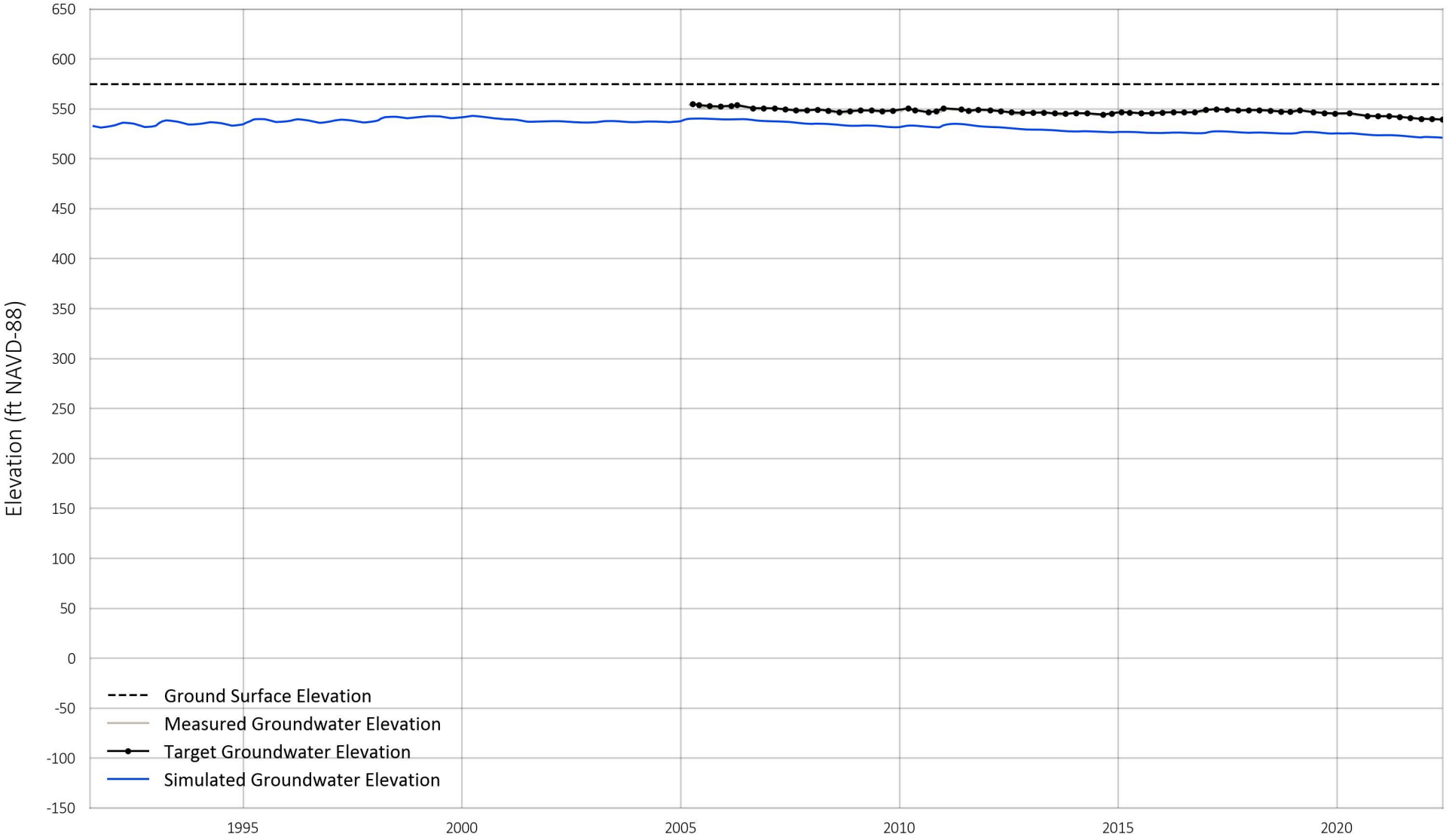
Target Groundwater Elevation (ft)
Mean = 534.51
Standard Deviation = 7.19

Simulated Groundwater Elevation (ft)
Mean = 526.14
Standard Deviation = 1.53

Mean Residual (ft) = -8.37
RMSE (ft) = 11.47

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1207981
Well Name: HCMP-4/1
Screened Layer(s): 1
Owner: Inland Empire Utilities Agency

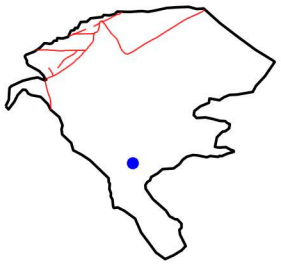
Figure B5-37



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

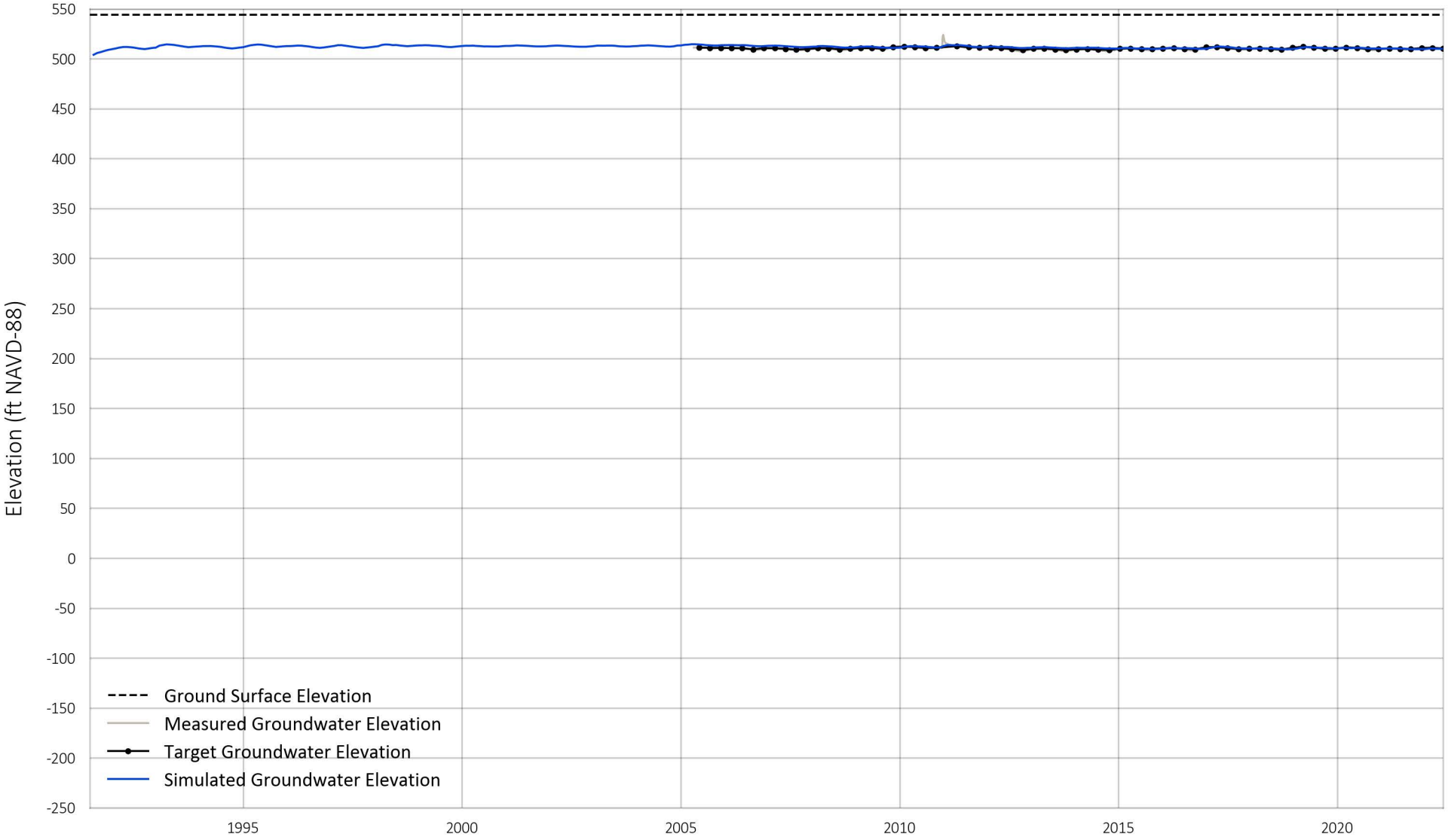
Target Groundwater Elevation (ft)
Mean = 547.20
Standard Deviation = 3.15

Simulated Groundwater Elevation (ft)
Mean = 529.47
Standard Deviation = 5.37

Mean Residual (ft) = -17.73
RMSE (ft) = 18.02

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1207982
Well Name: HCMP-5/1
Screened Layer(s): 1
Owner: Inland Empire Utilities Agency

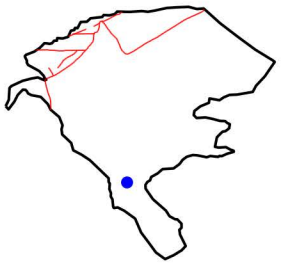
Figure B5-38



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

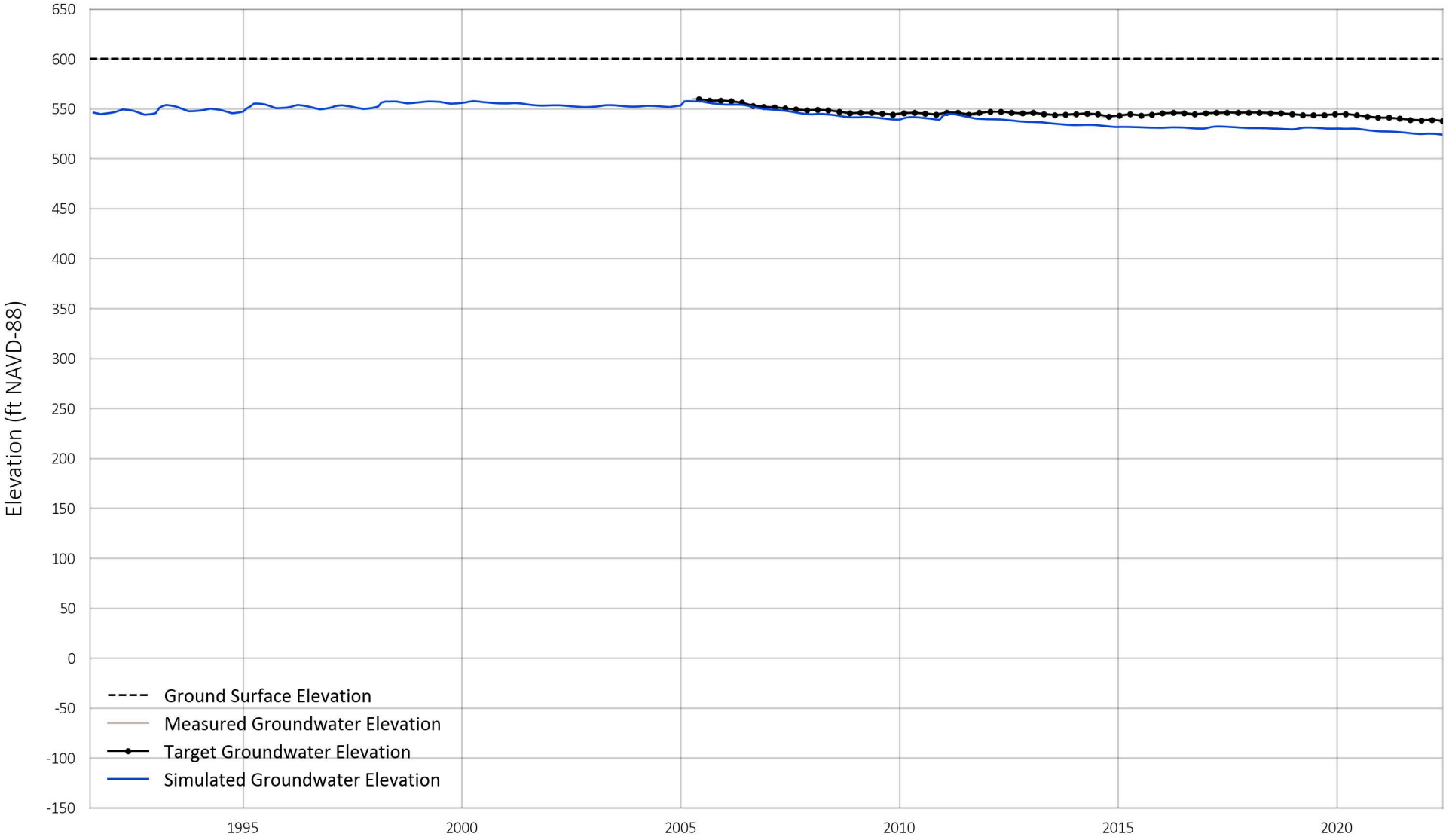
Target Groundwater Elevation (ft)
Mean = 510.33
Standard Deviation = 0.83

Simulated Groundwater Elevation (ft)
Mean = 511.21
Standard Deviation = 1.16

Mean Residual (ft) = 0.88
RMSE (ft) = 1.43

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1207983
Well Name: HCMP-6/1
Screened Layer(s): 1
Owner: Inland Empire Utilities Agency

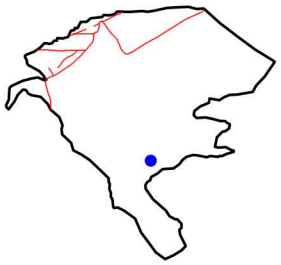
Figure B5-39



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

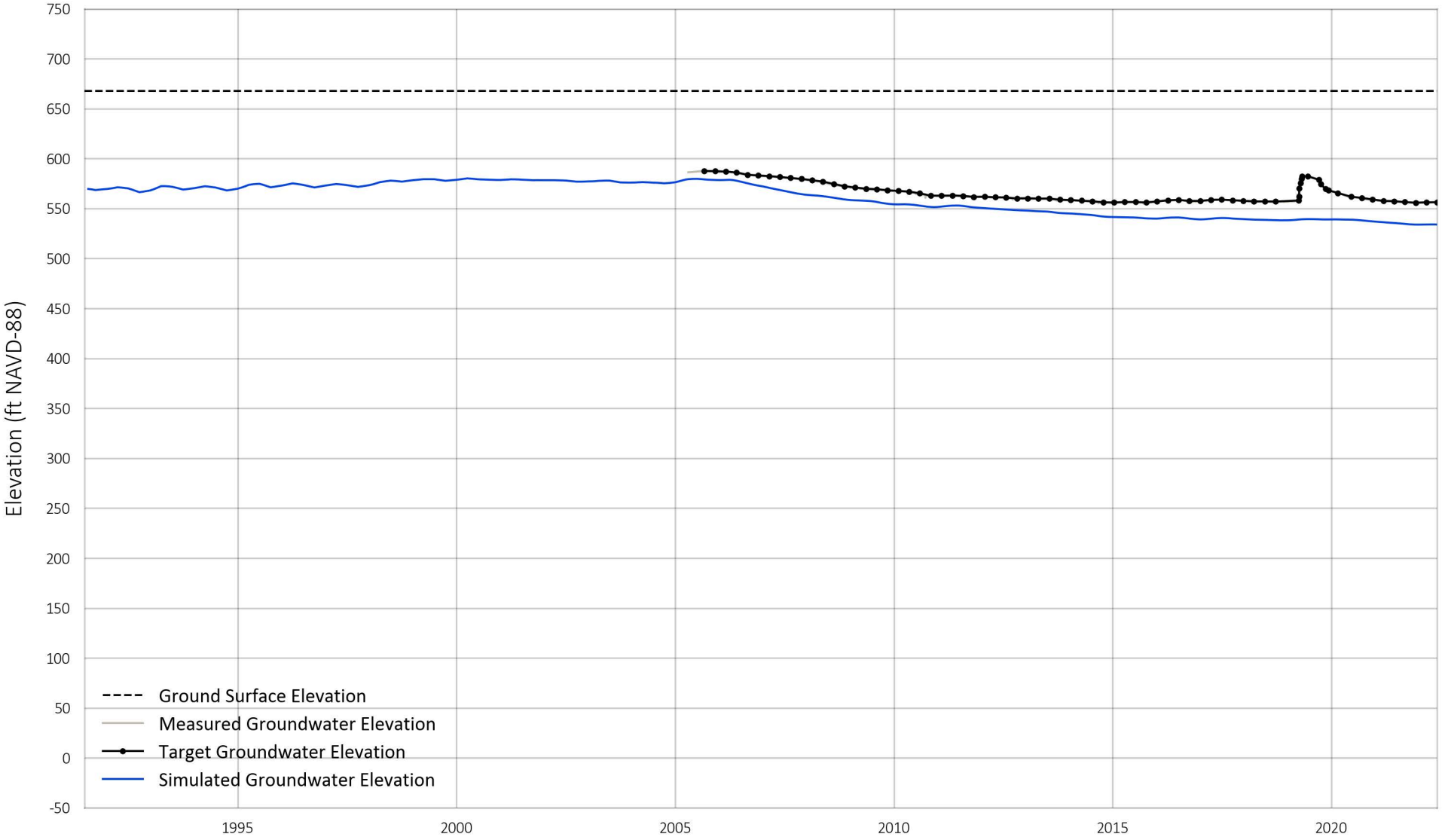
Target Groundwater Elevation (ft)
Mean = 545.95
Standard Deviation = 4.31

Simulated Groundwater Elevation (ft)
Mean = 536.42
Standard Deviation = 8.43

Mean Residual (ft) = -9.52
RMSE (ft) = 10.75

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1207984
Well Name: HCMP-7/1
Screened Layer(s): 1
Owner: Inland Empire Utilities Agency

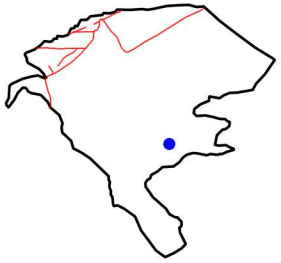
Figure B5-40



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

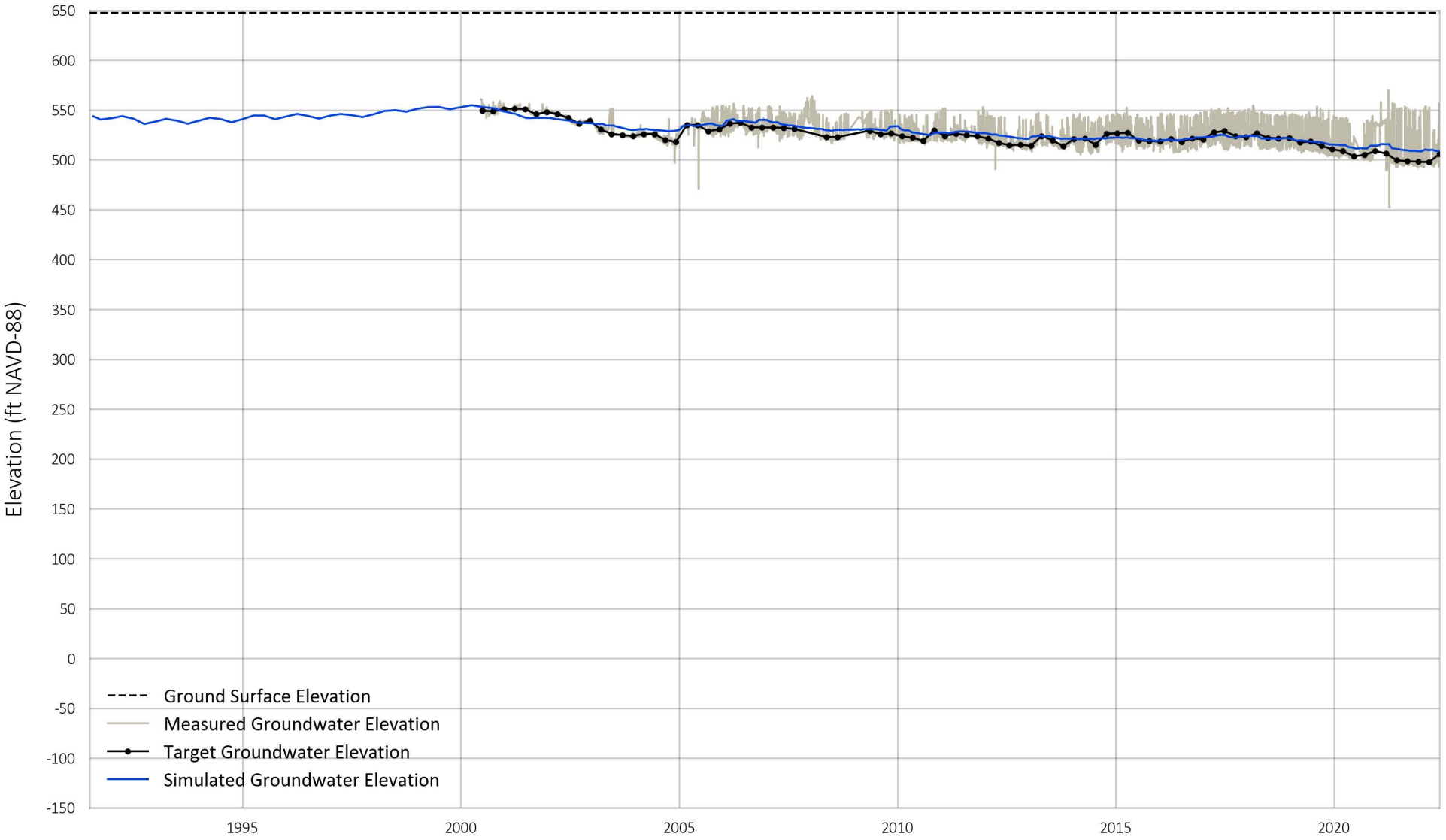
Target Groundwater Elevation (ft)
Mean = 566.07
Standard Deviation = 9.95

Simulated Groundwater Elevation (ft)
Mean = 547.64
Standard Deviation = 12.55

Mean Residual (ft) = -18.43
RMSE (ft) = 20.25

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1207985
Well Name: HCMP-8/1
Screened Layer(s): 1
Owner: Inland Empire Utilities Agency

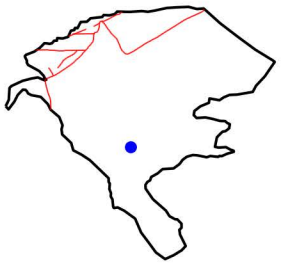
Figure B5-41



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

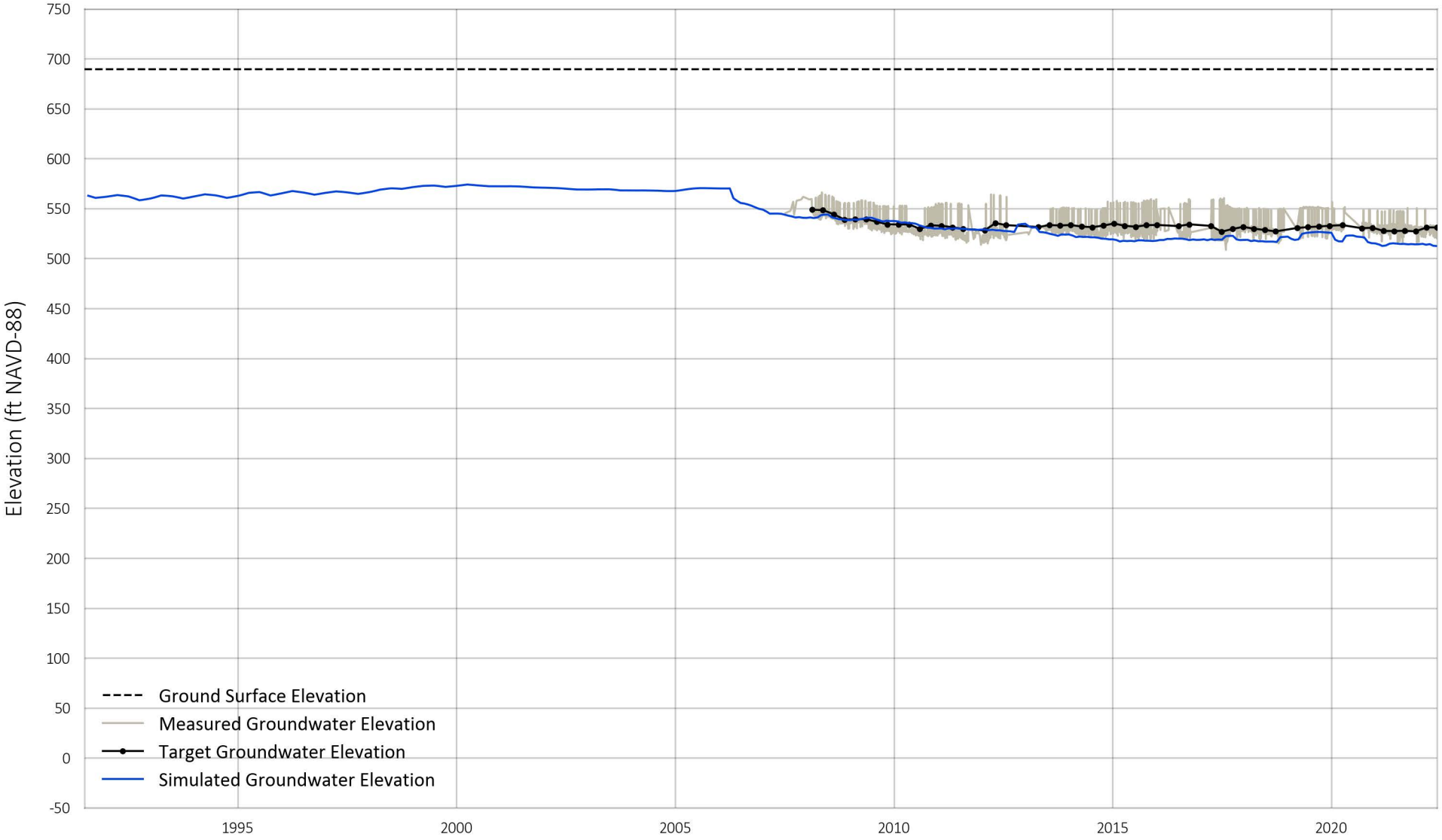
Target Groundwater Elevation (ft)
Mean = 524.27
Standard Deviation = 12.12

Simulated Groundwater Elevation (ft)
Mean = 526.66
Standard Deviation = 10.17

Mean Residual (ft) = 2.38
RMSE (ft) = 5.12

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1206682
Well Name: I-10
Screened Layer(s): 1
Owner: Chino Basin Desalter Authority

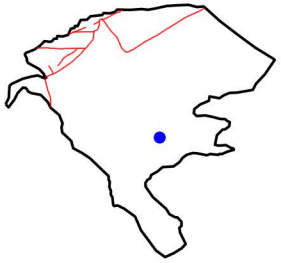
Figure B5-42



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

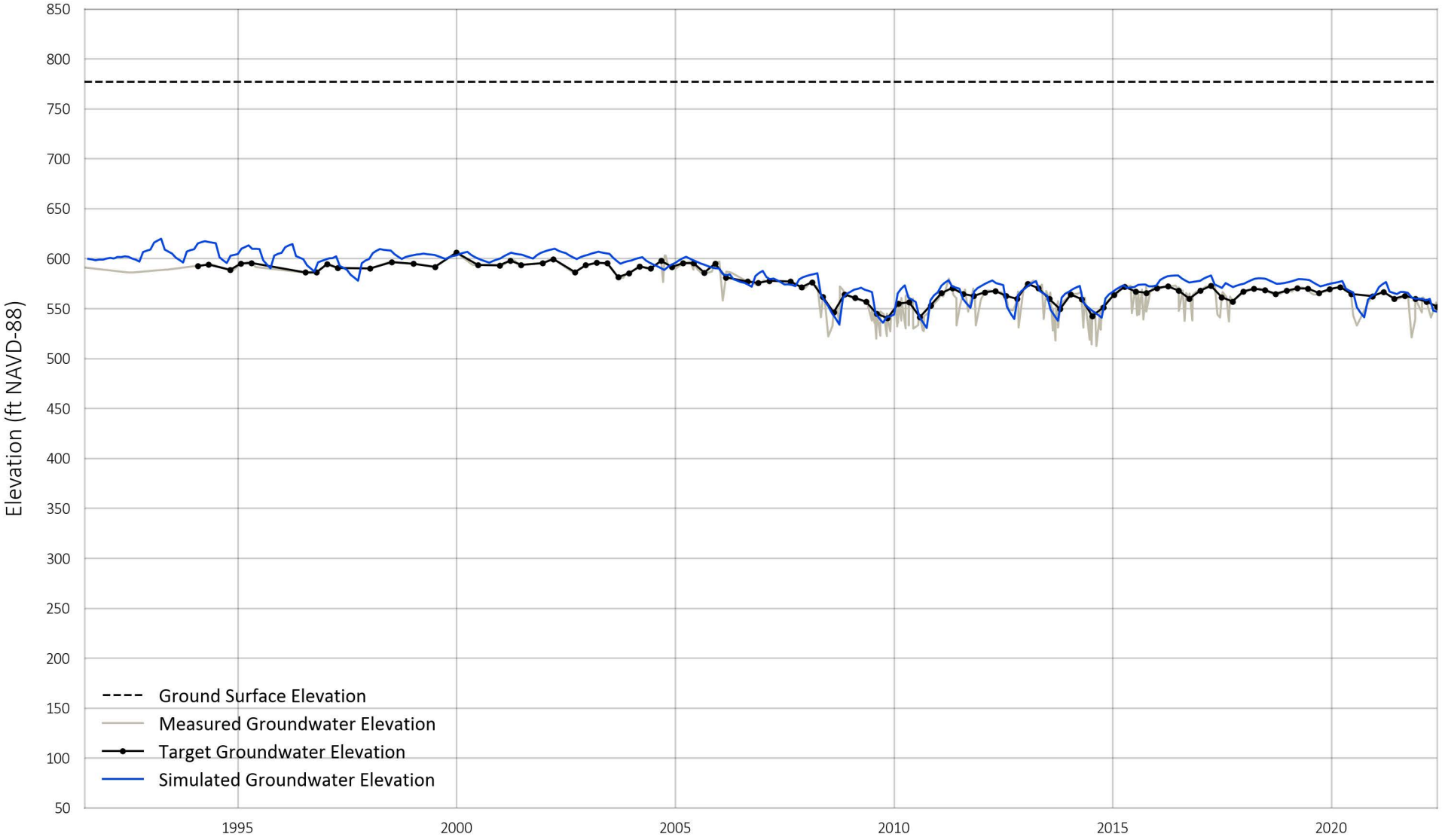
Target Groundwater Elevation (ft)
Mean = 532.92
Standard Deviation = 4.62

Simulated Groundwater Elevation (ft)
Mean = 523.91
Standard Deviation = 8.96

Mean Residual (ft) = -9.01
RMSE (ft) = 11.05

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1206962
Well Name: II-2
Screened Layer(s): 1
Owner: Chino Basin Desalter Authority

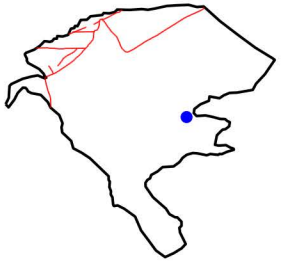
Figure B5-43



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

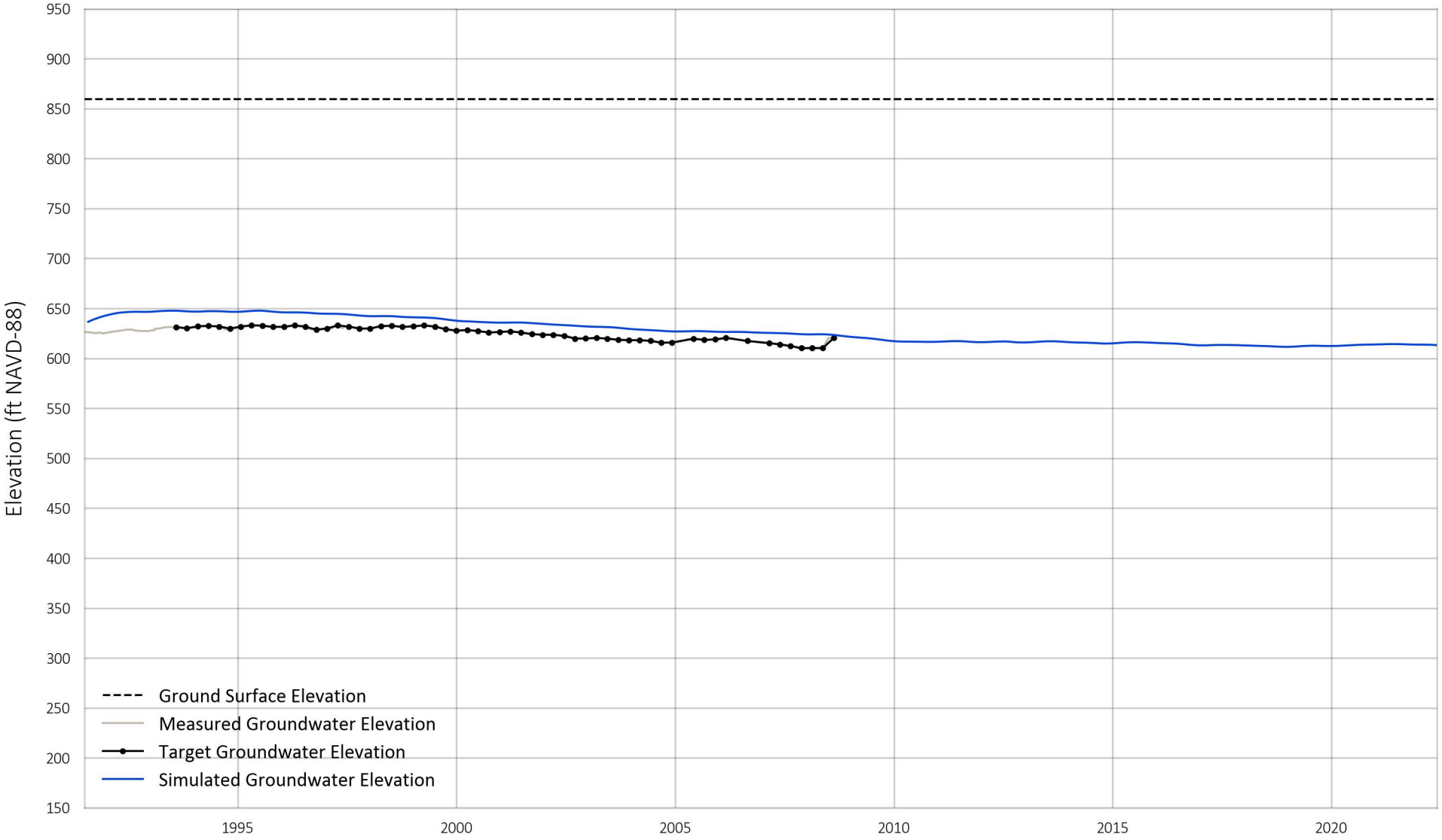
Target Groundwater Elevation (ft)
Mean = 573.70
Standard Deviation = 16.00

Simulated Groundwater Elevation (ft)
Mean = 578.41
Standard Deviation = 19.43

Mean Residual (ft) = 4.71
RMSE (ft) = 7.90

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1003502
Well Name: JCSD 16
Screened Layer(s): 1
Owner: Jurupa Community Services District

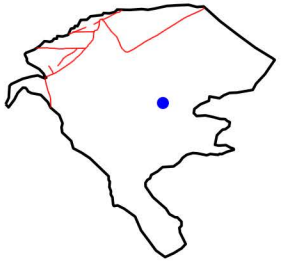
Figure B5-44



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

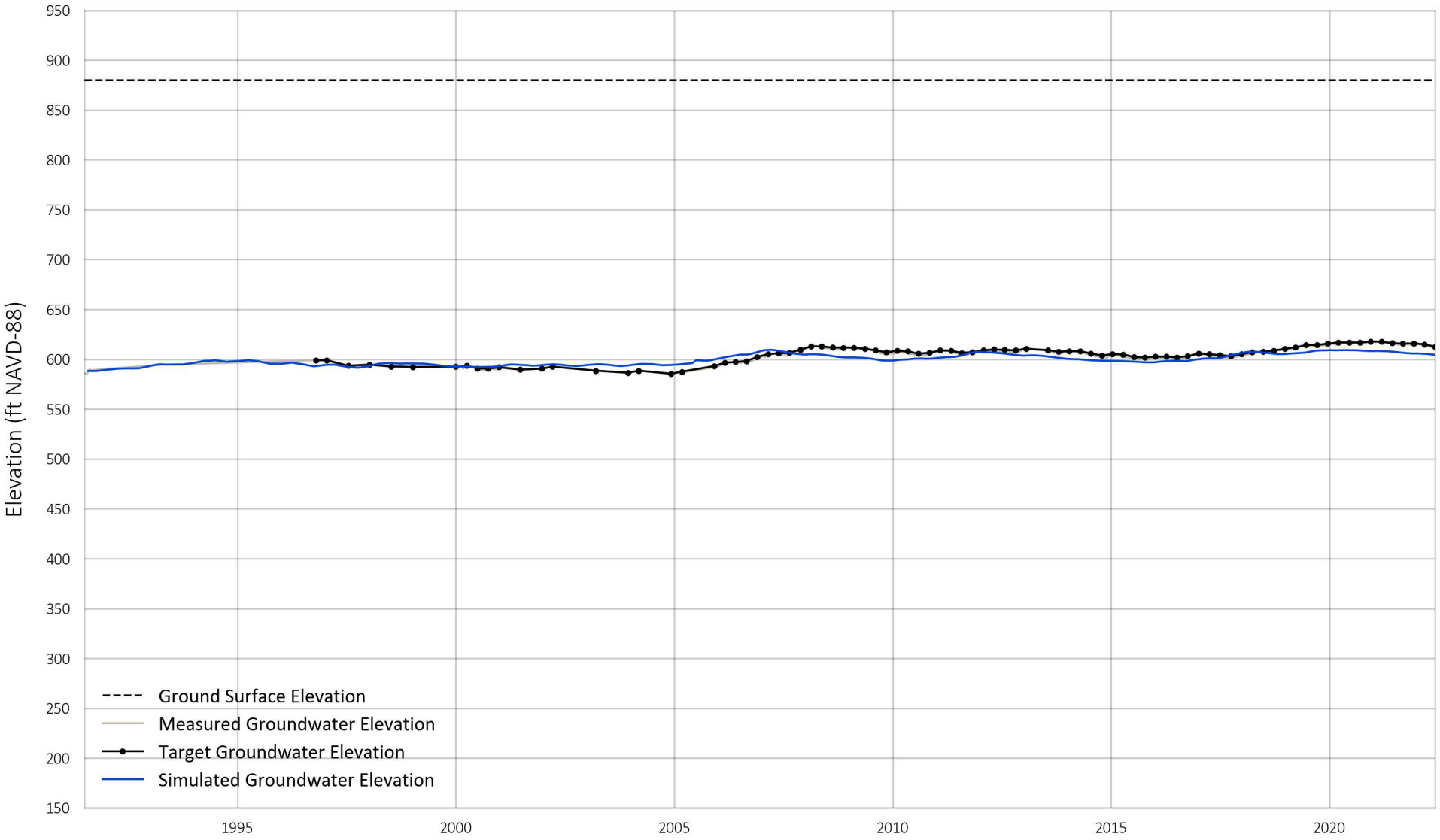
Target Groundwater Elevation (ft)
Mean = 624.98
Standard Deviation = 7.03

Simulated Groundwater Elevation (ft)
Mean = 635.63
Standard Deviation = 8.86

Mean Residual (ft) = 10.65
RMSE (ft) = 11.14

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1201166
Well Name: MIL M-03
Screened Layer(s): 1
Owner: County of San Bernardino

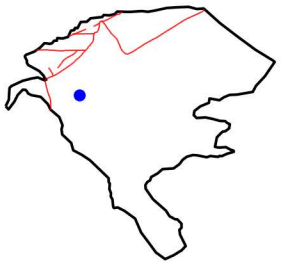
Figure B5-45



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

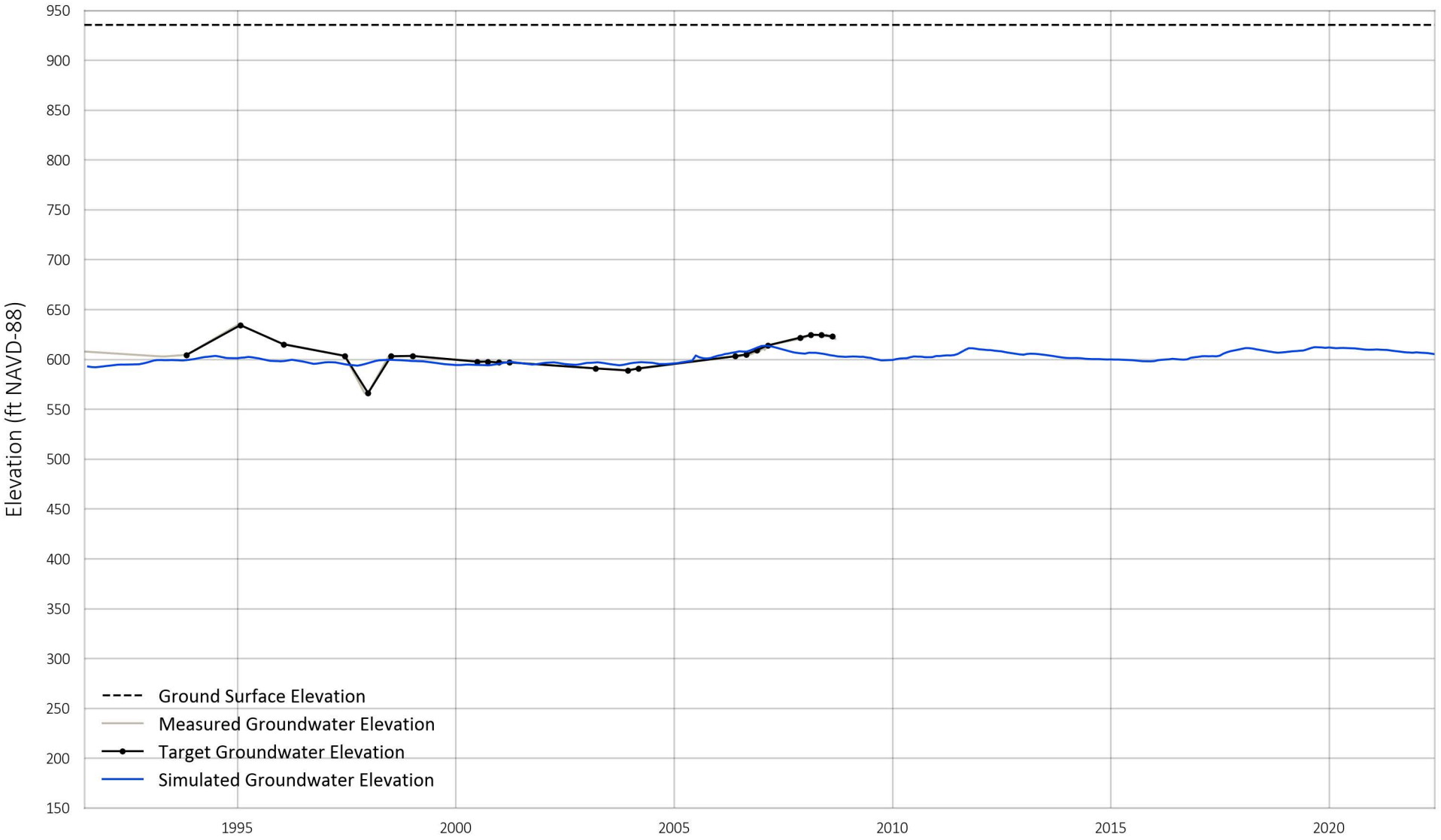
Target Groundwater Elevation (ft)
Mean = 604.48
Standard Deviation = 8.54

Simulated Groundwater Elevation (ft)
Mean = 600.06
Standard Deviation = 4.77

Mean Residual (ft) = -4.42
RMSE (ft) = 7.09

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002722
Well Name: MVWD 02
Screened Layer(s): 1,3,5
Owner: Monte Vista Water District

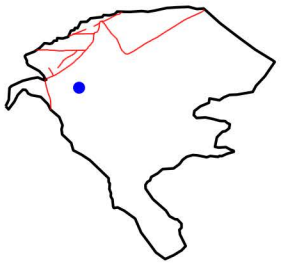
Figure B5-46



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

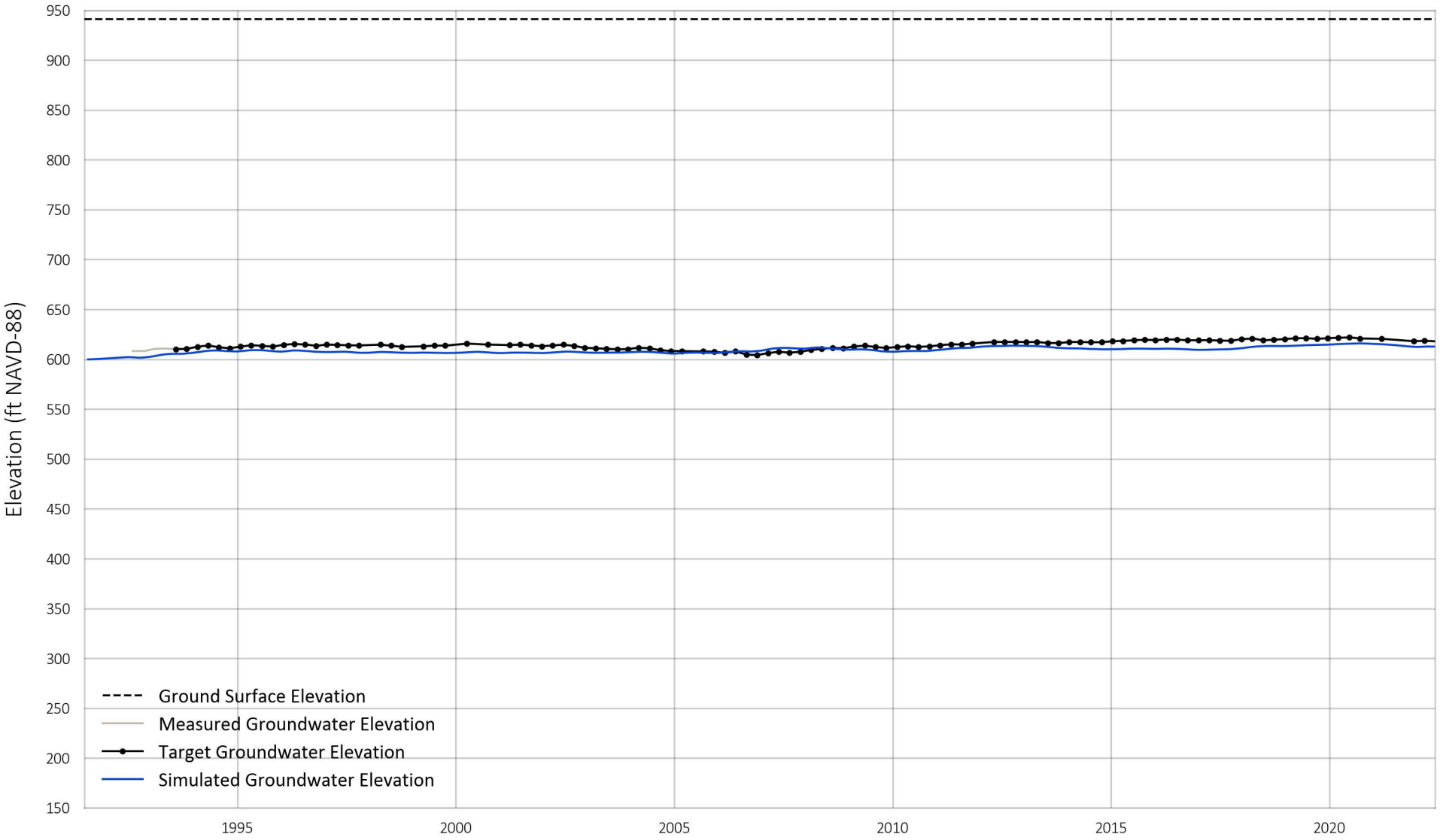
Target Groundwater Elevation (ft)
Mean = 605.14
Standard Deviation = 15.18

Simulated Groundwater Elevation (ft)
Mean = 600.31
Standard Deviation = 5.55

Mean Residual (ft) = -4.83
RMSE (ft) = 13.46

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002646
Well Name: MVWD 08
Screened Layer(s): 1
Owner: Monte Vista Water District

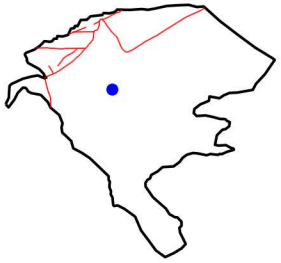
Figure B5-47



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

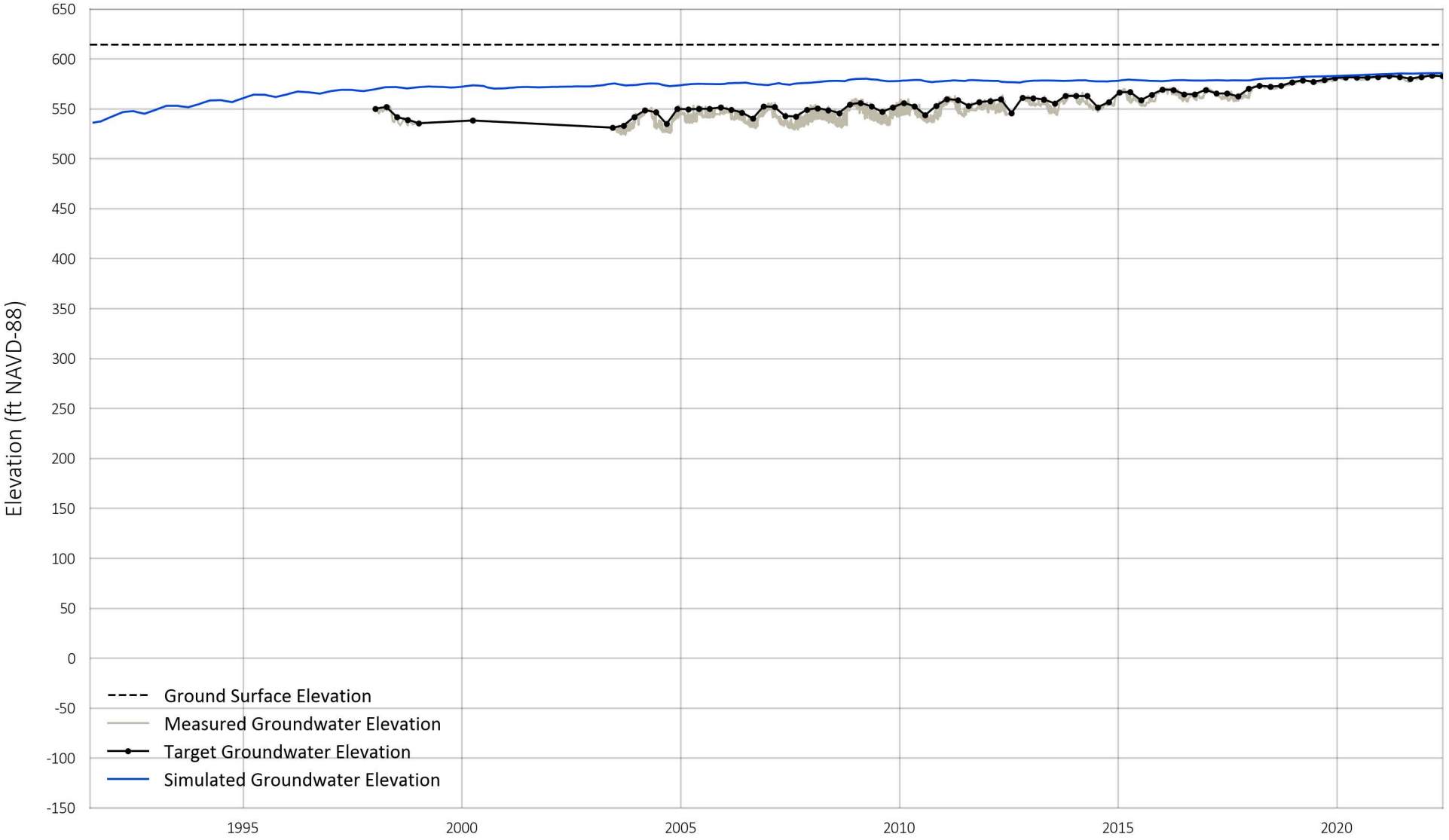
Target Groundwater Elevation (ft)
Mean = 614.36
Standard Deviation = 4.20

Simulated Groundwater Elevation (ft)
Mean = 608.23
Standard Deviation = 2.18

Mean Residual (ft) = -6.14
RMSE (ft) = 6.94

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1207026
Well Name: MW-11
Screened Layer(s): 1
Owner: General Electric Corporation

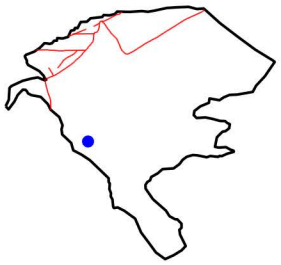
Figure B5-48



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

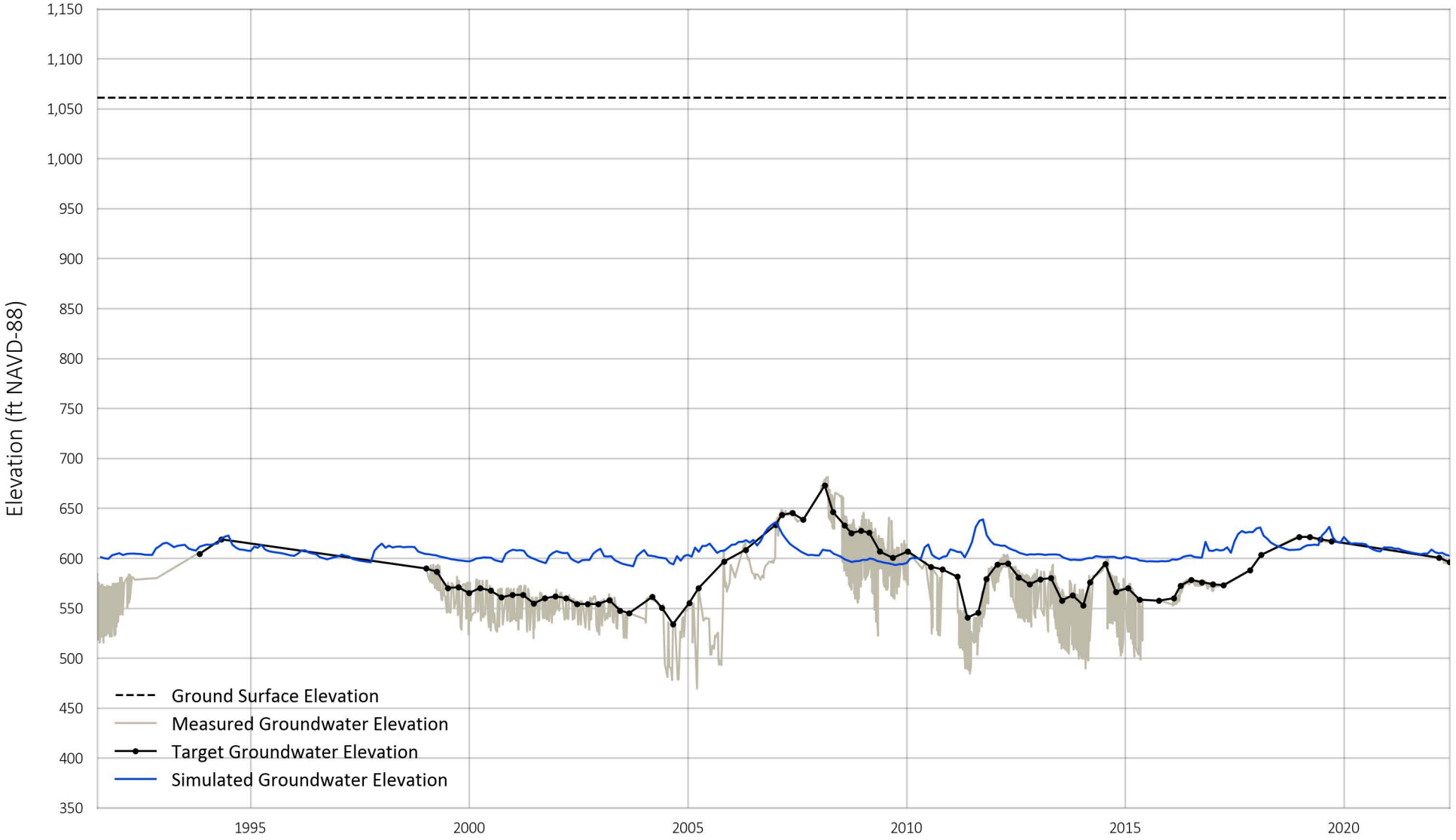
Target Groundwater Elevation (ft)
Mean = 558.65
Standard Deviation = 13.83

Simulated Groundwater Elevation (ft)
Mean = 577.02
Standard Deviation = 3.27

Mean Residual (ft) = 18.37
RMSE (ft) = 21.45

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1206765
Well Name: MW-24I
Screened Layer(s): 1
Owner: California Institution for Men

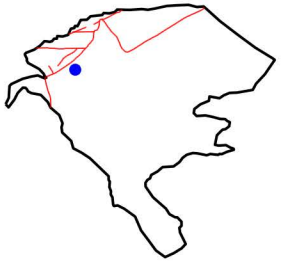
Figure B5-49



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

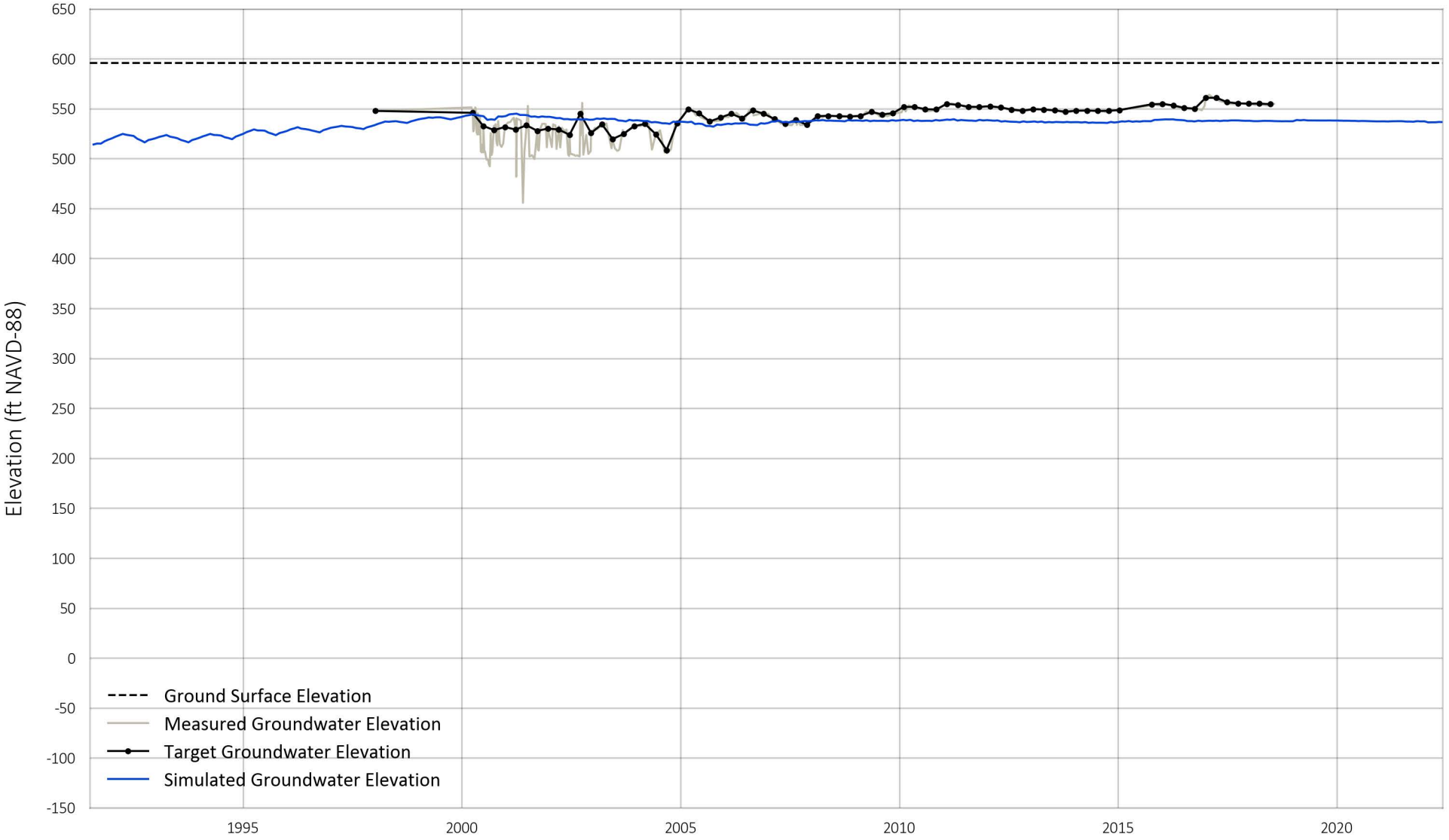
Target Groundwater Elevation (ft)
Mean = 584.21
Standard Deviation = 29.74

Simulated Groundwater Elevation (ft)
Mean = 604.12
Standard Deviation = 9.38

Mean Residual (ft) = 19.91
RMSE (ft) = 34.05

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002554
Well Name: Margarita #1
Screened Layer(s): 1
Owner: Golden State Water Company

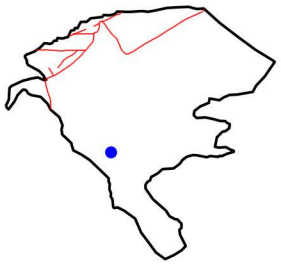
Figure B5-50



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

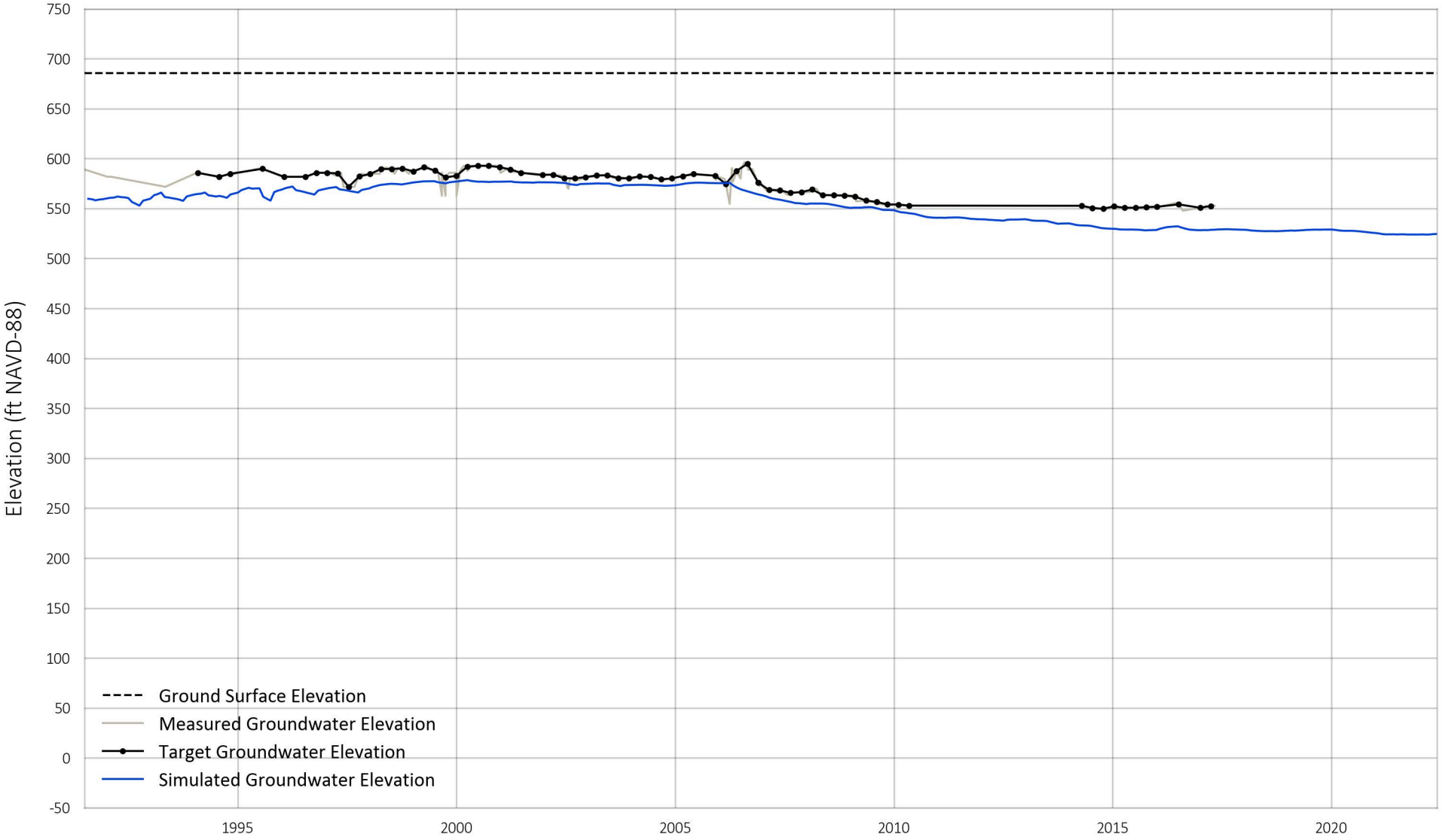
Target Groundwater Elevation (ft)
Mean = 543.27
Standard Deviation = 10.51

Simulated Groundwater Elevation (ft)
Mean = 537.49
Standard Deviation = 2.33

Mean Residual (ft) = -5.78
RMSE (ft) = 12.74

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1003983
Well Name: NA_1003983
Screened Layer(s): 1,3
Owner: County of San Bernardino

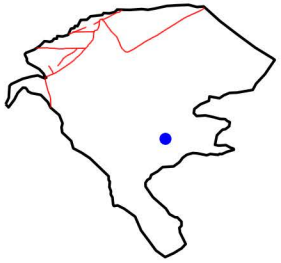
Figure B5-51



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

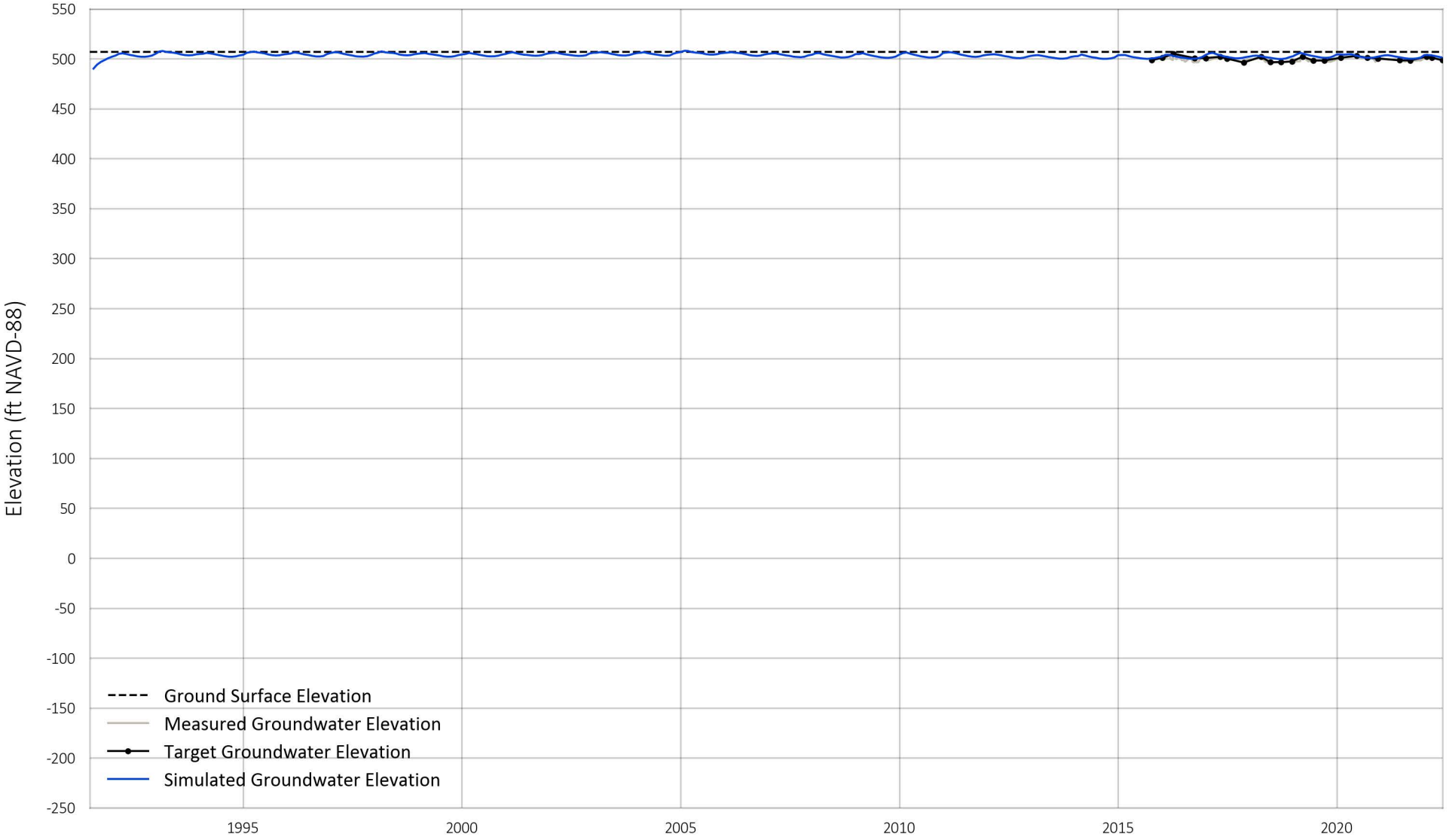
Target Groundwater Elevation (ft)
Mean = 574.93
Standard Deviation = 14.22

Simulated Groundwater Elevation (ft)
Mean = 561.78
Standard Deviation = 16.66

Mean Residual (ft) = -13.15
RMSE (ft) = 14.59

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1003613
Well Name: NOR 11
Screened Layer(s): 1,2,3
Owner: City of Norco

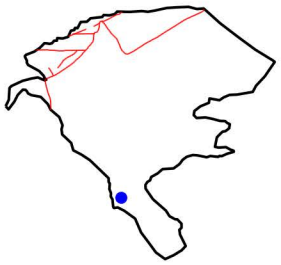
Figure B5-52



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

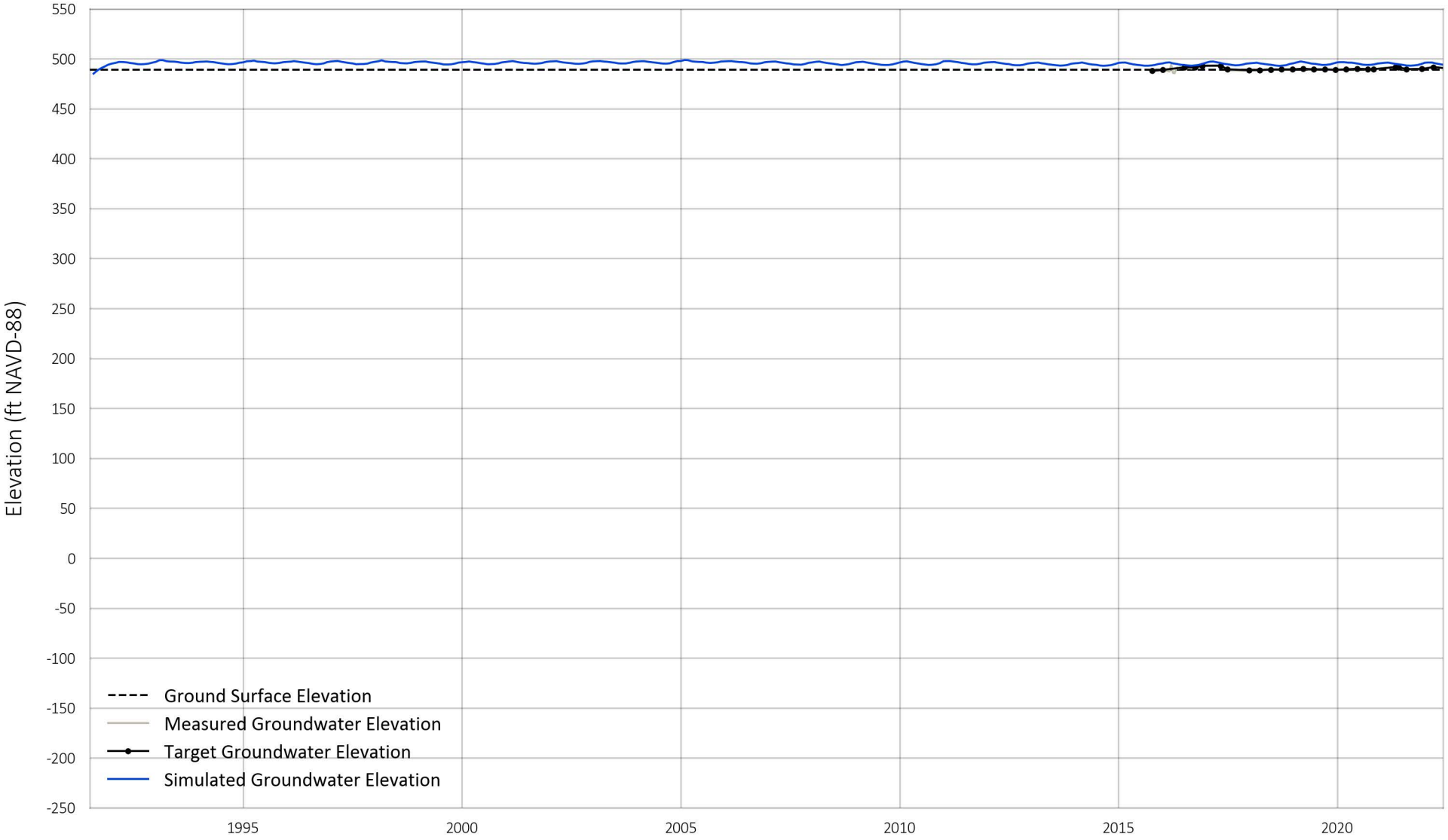
Target Groundwater Elevation (ft)
Mean = 499.89
Standard Deviation = 2.24

Simulated Groundwater Elevation (ft)
Mean = 502.01
Standard Deviation = 1.46

Mean Residual (ft) = 2.12
RMSE (ft) = 2.72

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1233985
Well Name: OCWD-PD14/1
Screened Layer(s): 1
Owner: Orange County Water District

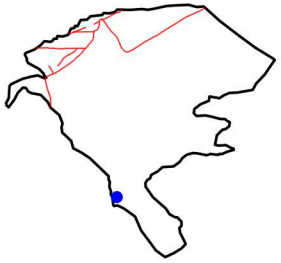
Figure B5-53



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

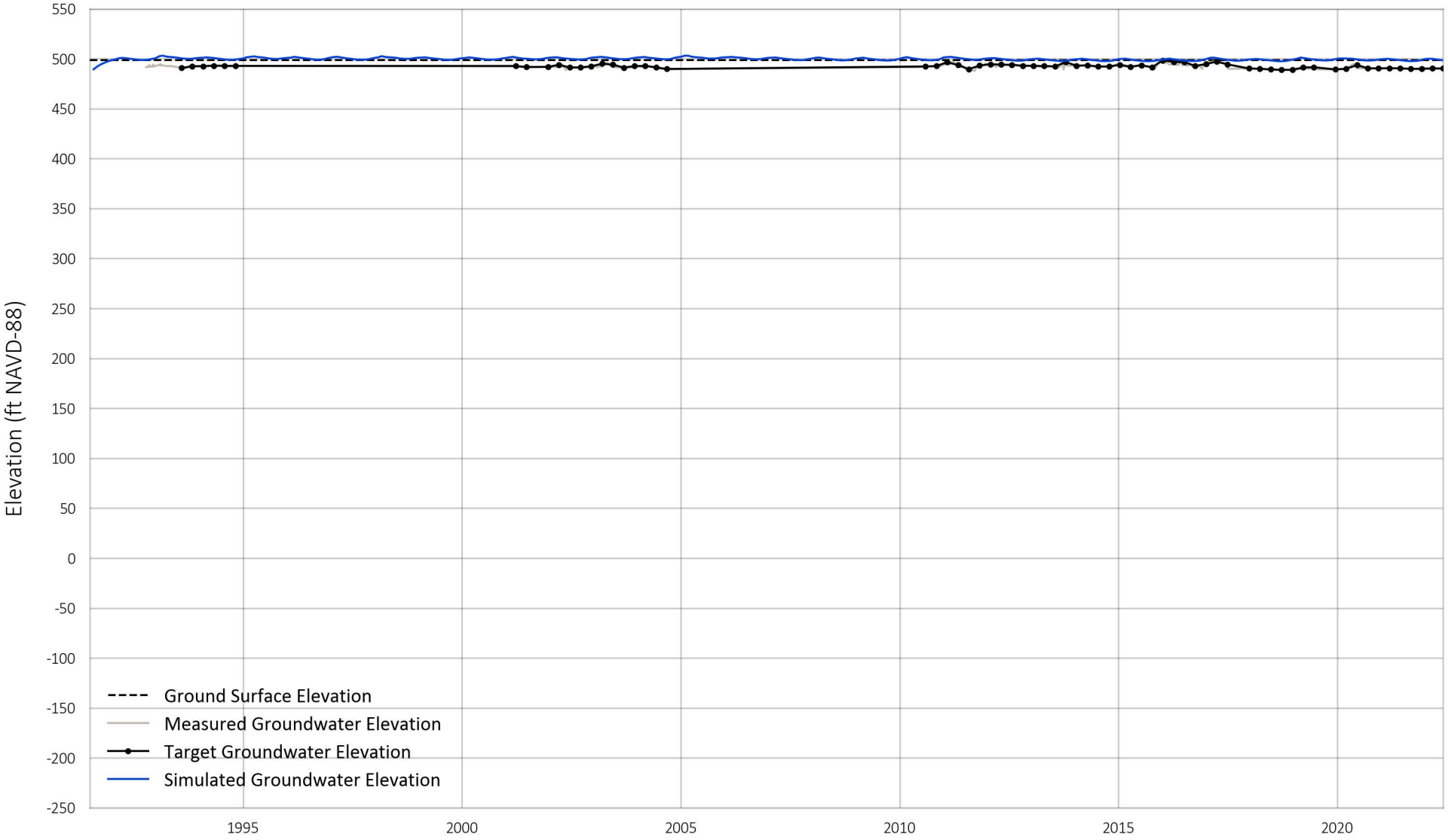
Target Groundwater Elevation (ft)
Mean = 489.96
Standard Deviation = 1.38

Simulated Groundwater Elevation (ft)
Mean = 494.66
Standard Deviation = 1.01

Mean Residual (ft) = 4.70
RMSE (ft) = 4.97

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1233987
Well Name: OCWD-PD16/1
Screened Layer(s): 1
Owner: Orange County Water District

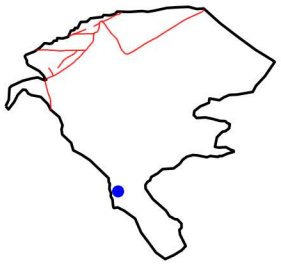
Figure B5-54



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

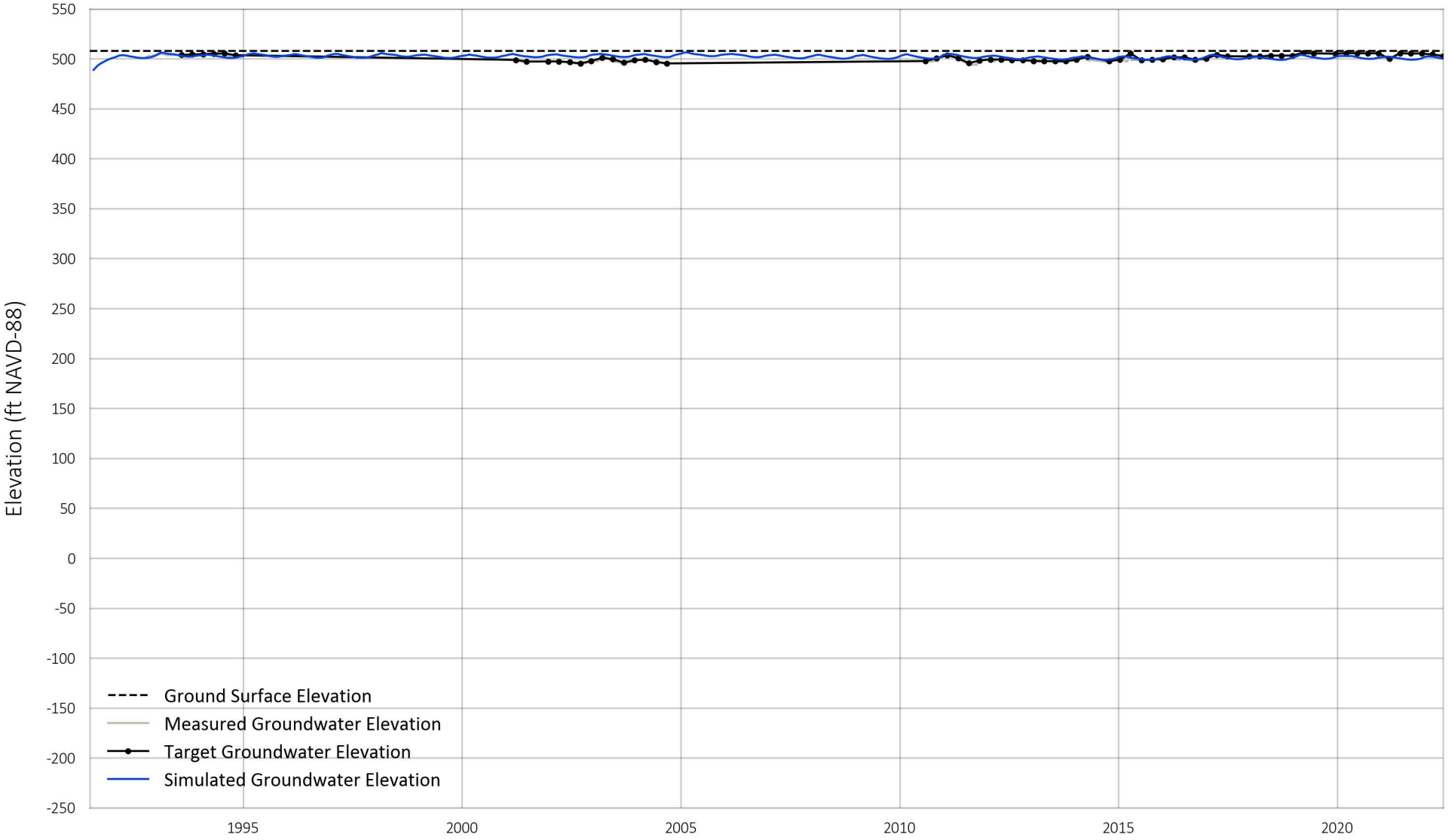
Target Groundwater Elevation (ft)
Mean = 492.37
Standard Deviation = 2.12

Simulated Groundwater Elevation (ft)
Mean = 499.41
Standard Deviation = 1.08

Mean Residual (ft) = 7.05
RMSE (ft) = 7.36

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1230523
Well Name: OCWD-PD3B
Screened Layer(s): 1
Owner: Orange County Water District

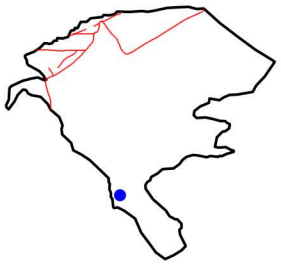
Figure B5-55



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

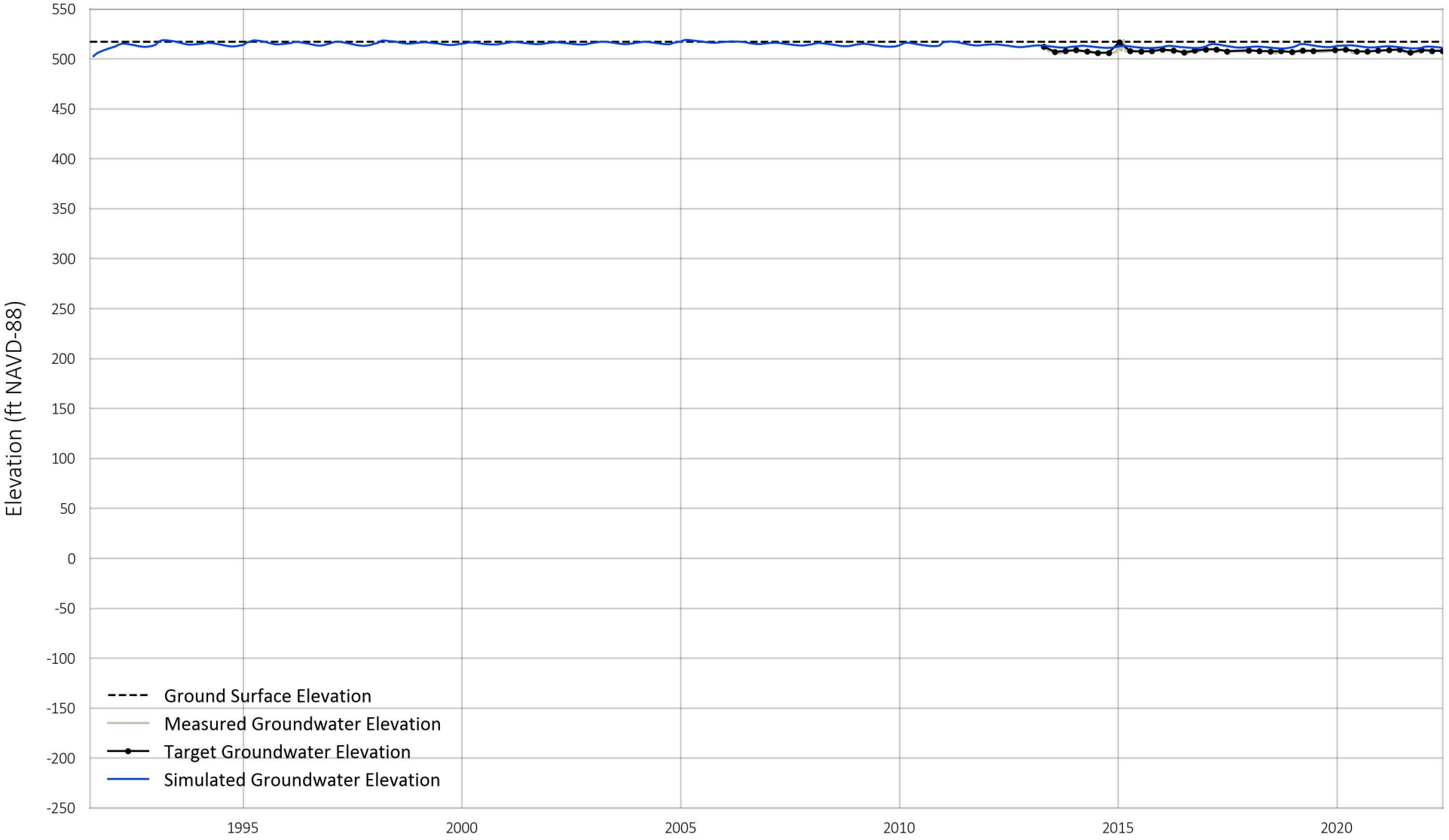
Target Groundwater Elevation (ft)
Mean = 500.86
Standard Deviation = 3.24

Simulated Groundwater Elevation (ft)
Mean = 501.53
Standard Deviation = 1.51

Mean Residual (ft) = 0.67
RMSE (ft) = 3.65

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1230529
Well Name: OCWD-PD6B
Screened Layer(s): 1
Owner: Orange County Water District

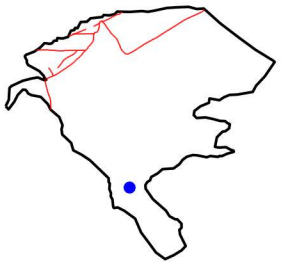
Figure B5-56



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

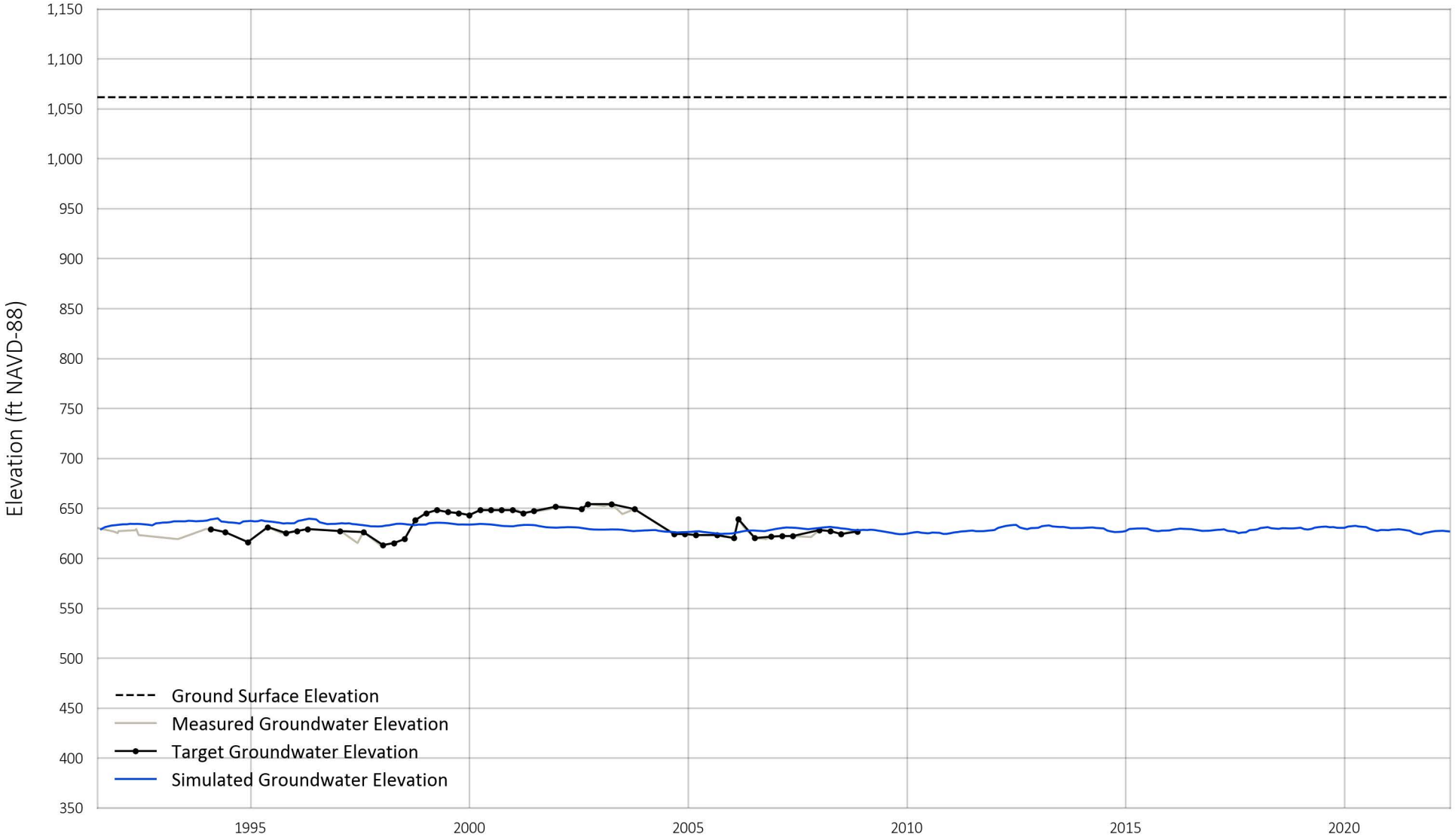
Target Groundwater Elevation (ft)
Mean = 508.16
Standard Deviation = 1.82

Simulated Groundwater Elevation (ft)
Mean = 511.84
Standard Deviation = 1.02

Mean Residual (ft) = 3.68
RMSE (ft) = 4.07

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1232806
Well Name: OCWD-PDE4
Screened Layer(s): 1
Owner: Orange County Water District

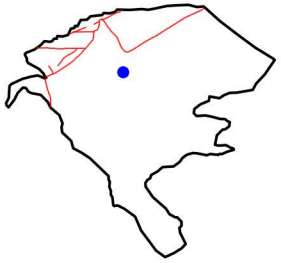
Figure B5-57



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

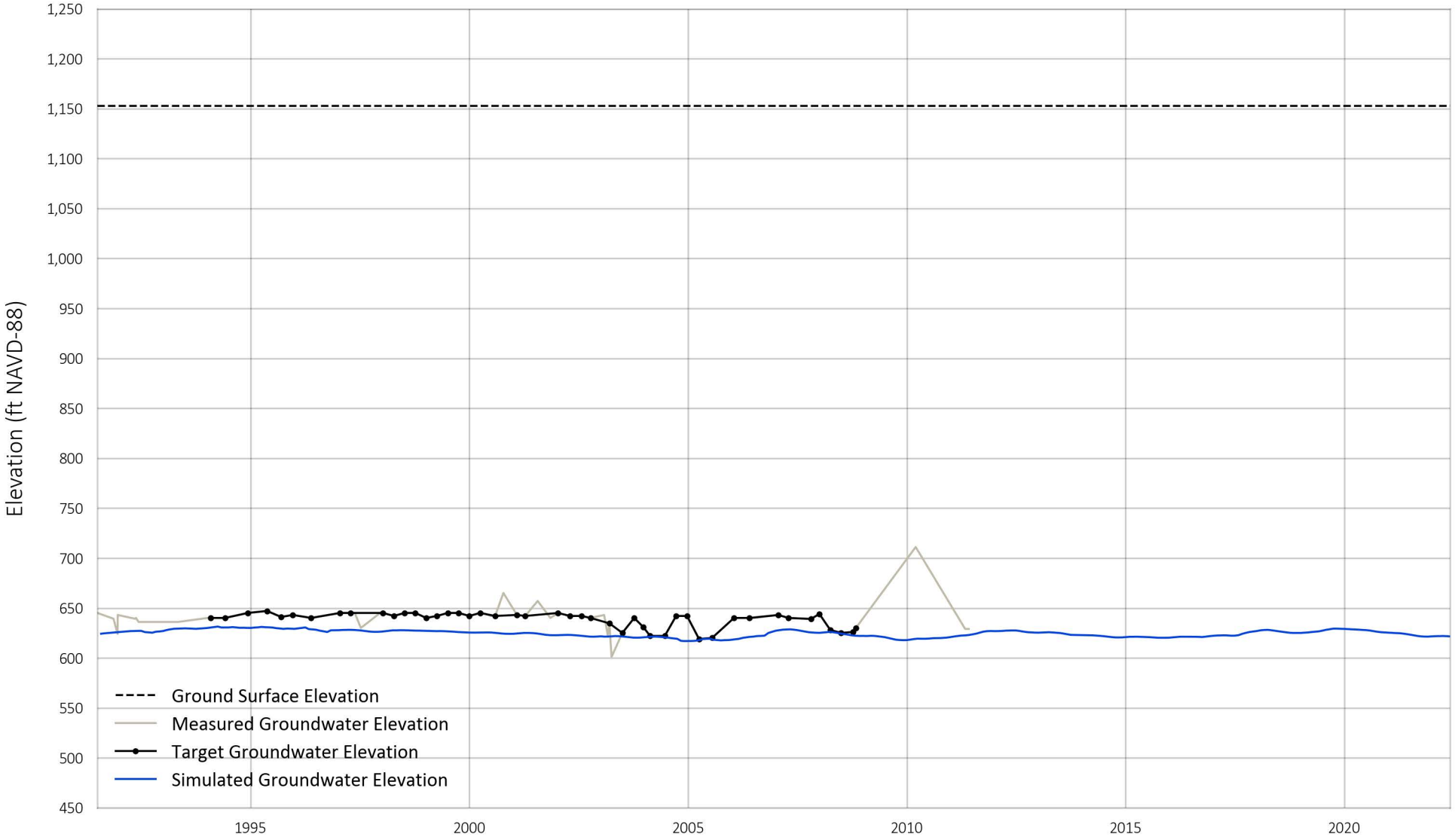
Target Groundwater Elevation (ft)
Mean = 633.47
Standard Deviation = 12.49

Simulated Groundwater Elevation (ft)
Mean = 630.63
Standard Deviation = 4.38

Mean Residual (ft) = -2.84
RMSE (ft) = 13.29

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002328
Well Name: ONT 04
Screened Layer(s): 1,2,3,4,5
Owner: City of Ontario

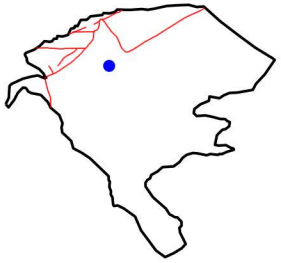
Figure B5-58



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

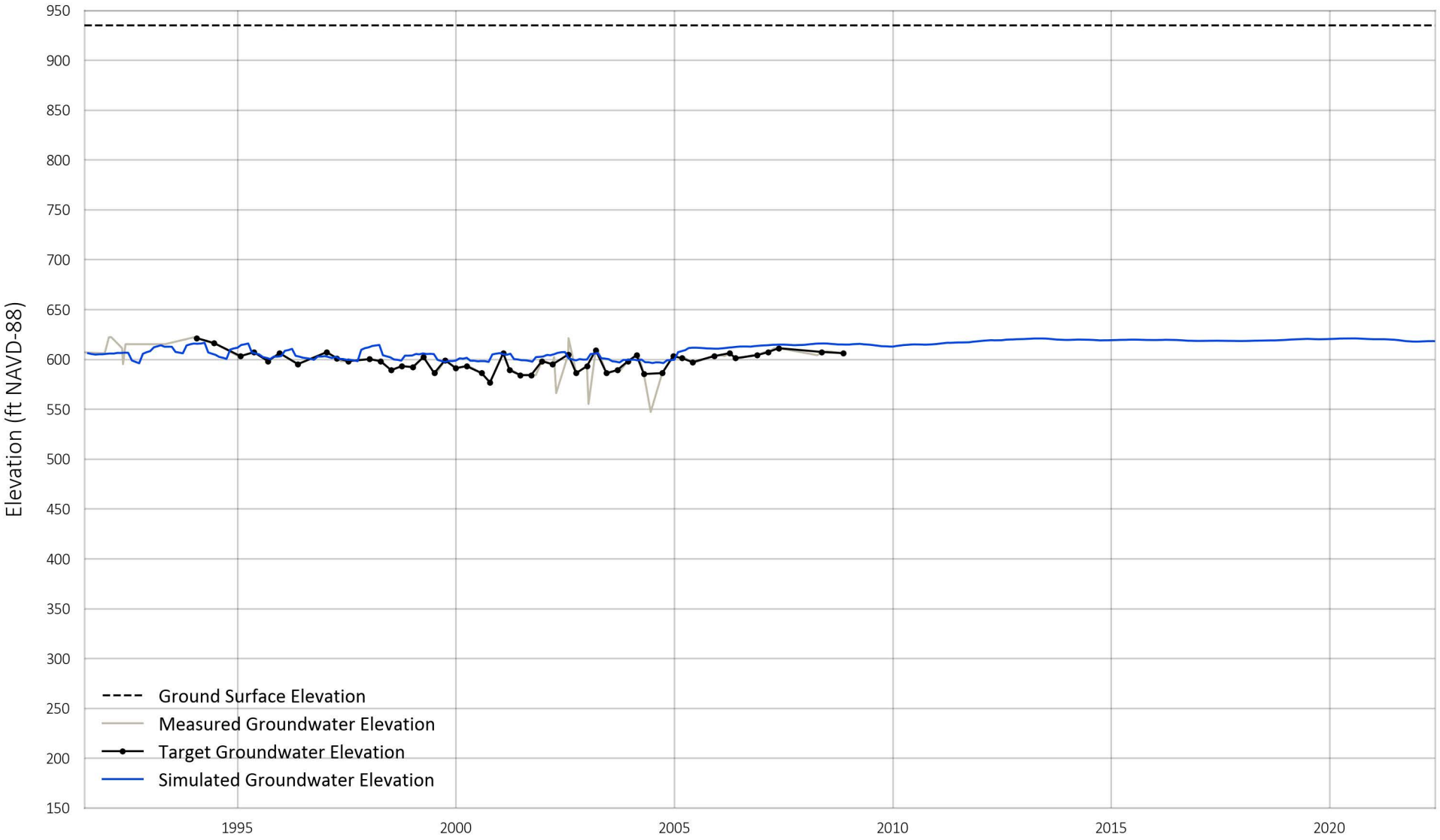
Target Groundwater Elevation (ft)
Mean = 638.65
Standard Deviation = 7.84

Simulated Groundwater Elevation (ft)
Mean = 623.85
Standard Deviation = 4.25

Mean Residual (ft) = -14.80
RMSE (ft) = 16.15

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002319
Well Name: ONT 09
Screened Layer(s): 1,2,3,4,5
Owner: City of Ontario

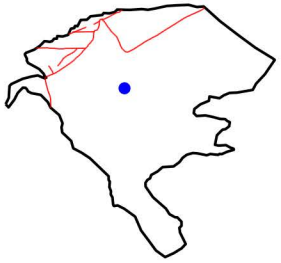
Figure B5-59



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

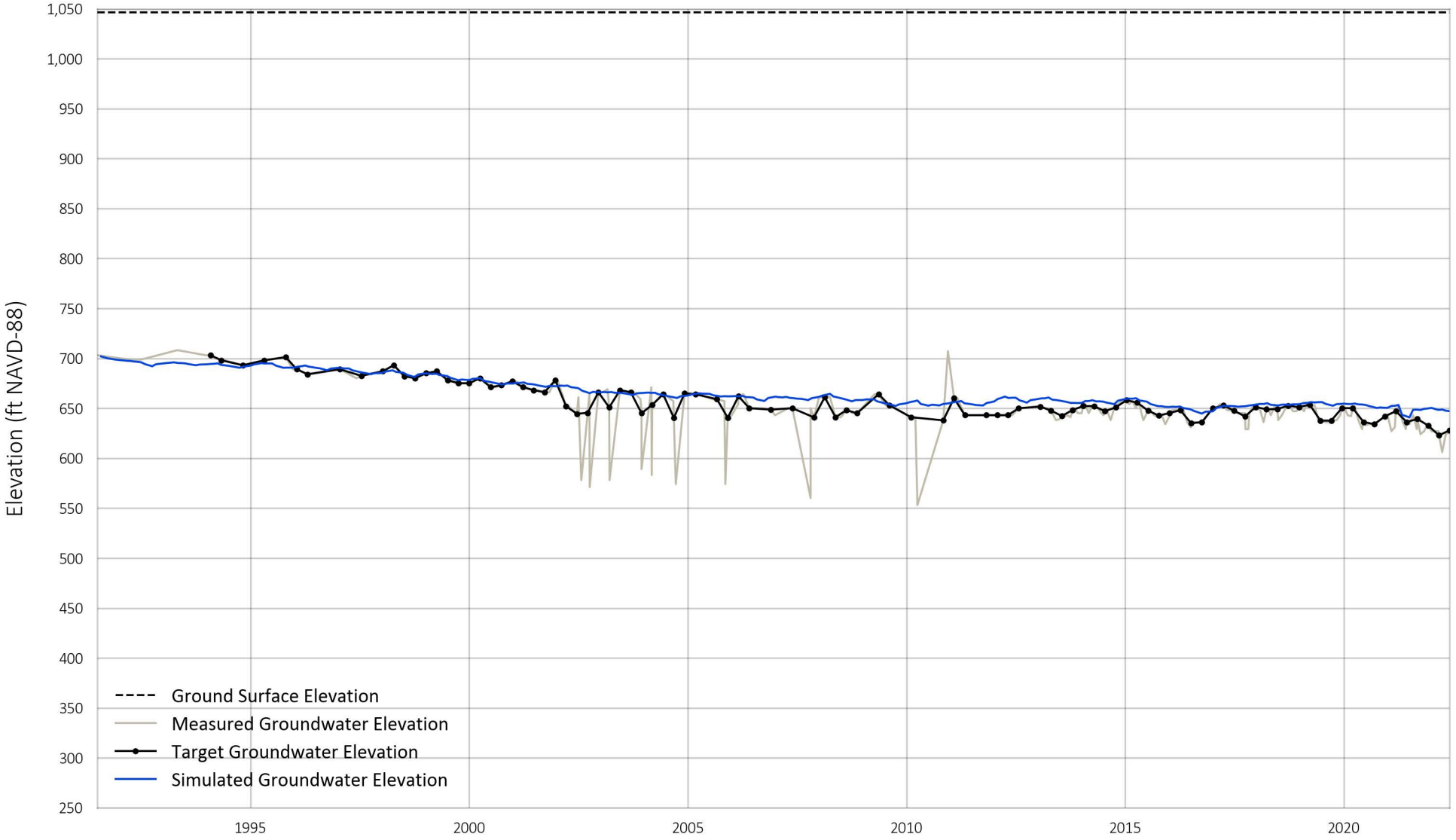
Target Groundwater Elevation (ft)
Mean = 598.06
Standard Deviation = 9.28

Simulated Groundwater Elevation (ft)
Mean = 603.69
Standard Deviation = 5.90

Mean Residual (ft) = 5.63
RMSE (ft) = 9.03

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002346
Well Name: ONT 11
Screened Layer(s): 1,3,5
Owner: City of Ontario

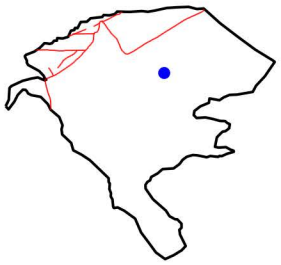
Figure B5-60



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

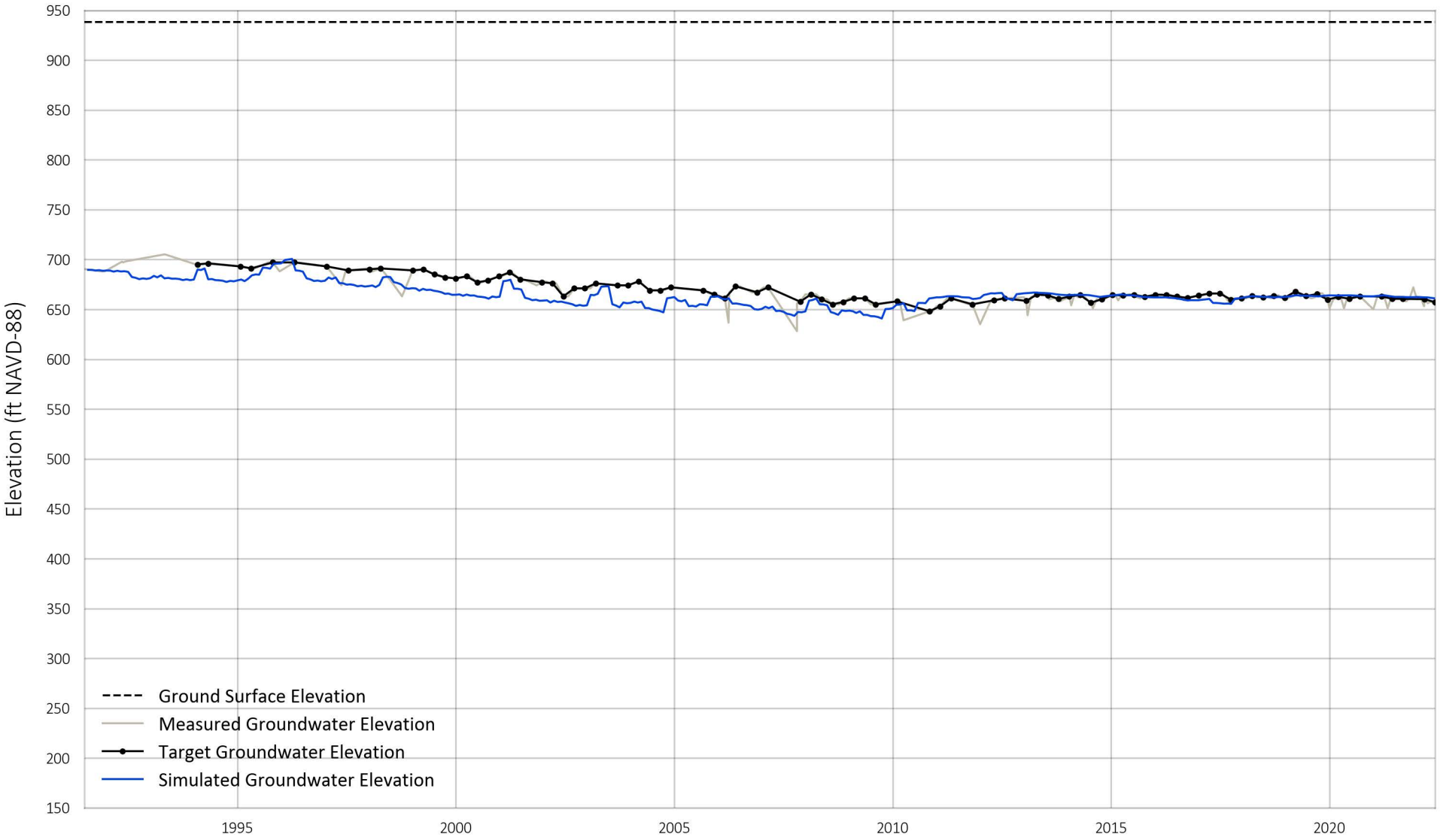
Target Groundwater Elevation (ft)
Mean = 657.32
Standard Deviation = 18.25

Simulated Groundwater Elevation (ft)
Mean = 661.39
Standard Deviation = 14.08

Mean Residual (ft) = 4.07
RMSE (ft) = 8.72

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002305
Well Name: ONT 20
Screened Layer(s): 1,3
Owner: City of Ontario

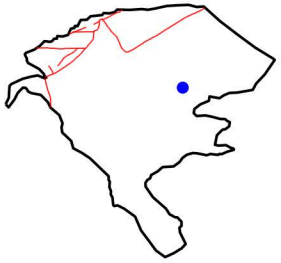
Figure B5-61



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

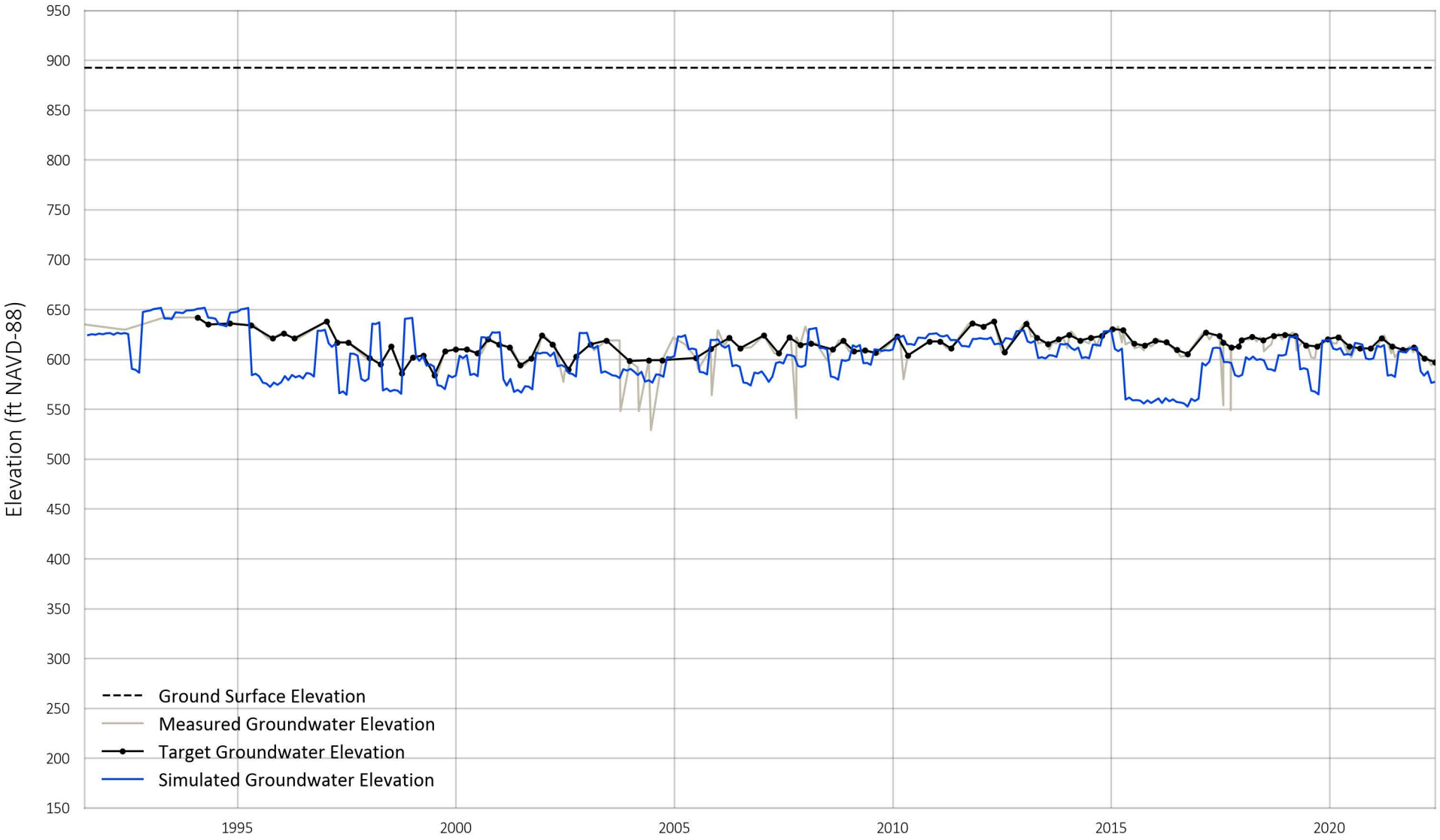
Target Groundwater Elevation (ft)
Mean = 669.35
Standard Deviation = 11.90

Simulated Groundwater Elevation (ft)
Mean = 660.88
Standard Deviation = 10.07

Mean Residual (ft) = -8.47
RMSE (ft) = 11.94

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002254
Well Name: ONT 31
Screened Layer(s): 1,2,3,4,5
Owner: City of Ontario

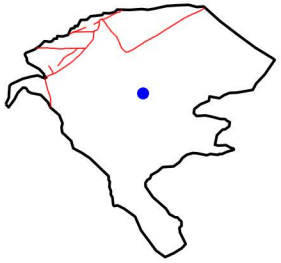
Figure B5-62



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

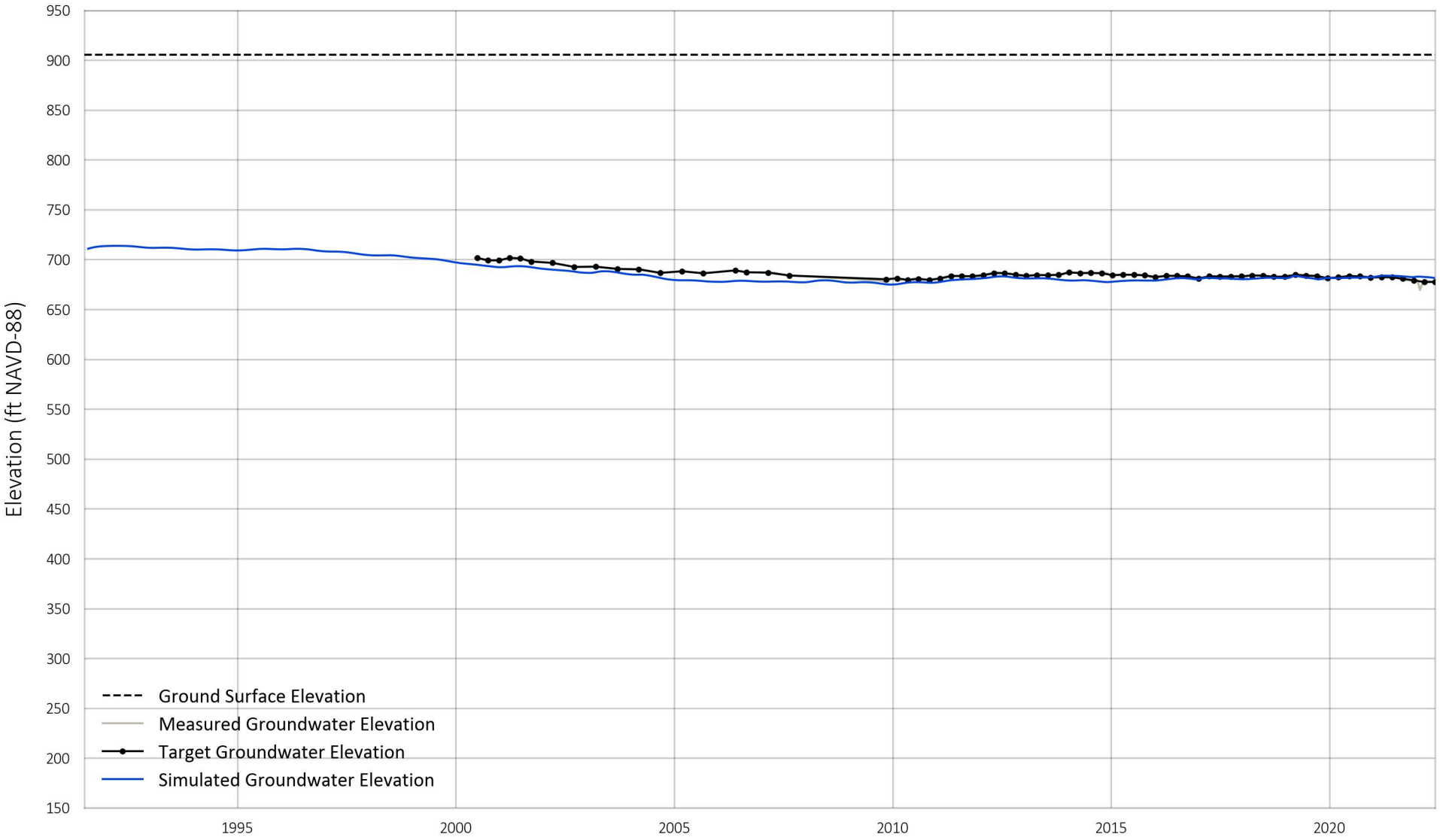
Target Groundwater Elevation (ft)
Mean = 615.02
Standard Deviation = 11.44

Simulated Groundwater Elevation (ft)
Mean = 597.14
Standard Deviation = 20.98

Mean Residual (ft) = -17.88
RMSE (ft) = 26.08

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002372
Well Name: ONT 36
Screened Layer(s): 1,3,5
Owner: City of Ontario

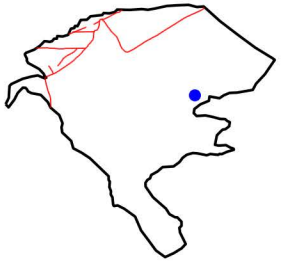
Figure B5-63



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

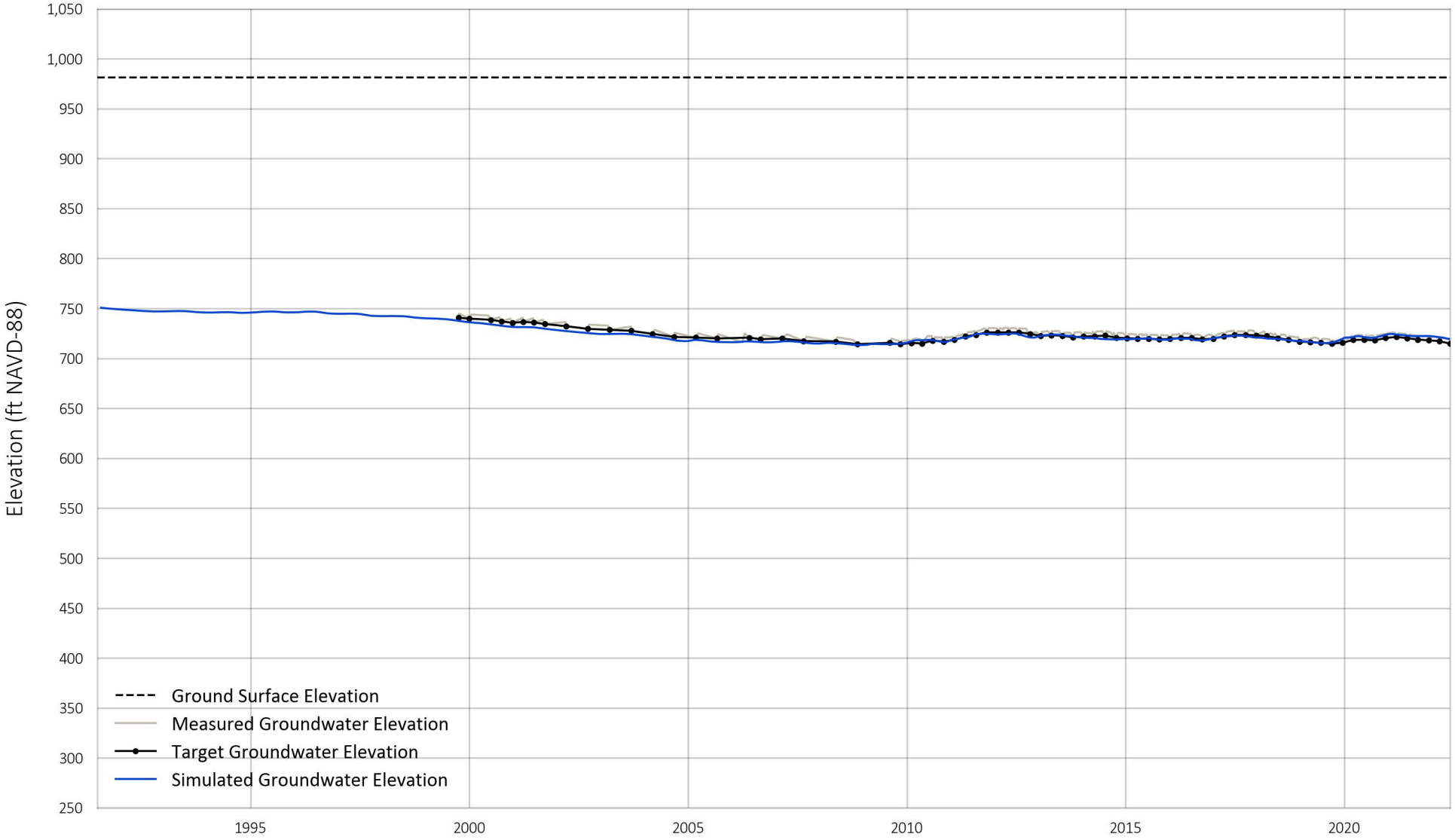
Target Groundwater Elevation (ft)
Mean = 685.58
Standard Deviation = 5.57

Simulated Groundwater Elevation (ft)
Mean = 679.97
Standard Deviation = 4.63

Mean Residual (ft) = -5.61
RMSE (ft) = 6.35

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1207066
Well Name: Offsite MW1
Screened Layer(s): 1
Owner: Alcoa

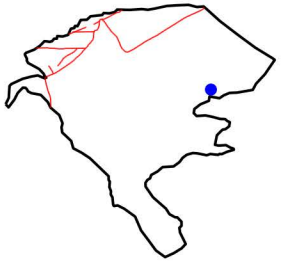
Figure B5-64



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

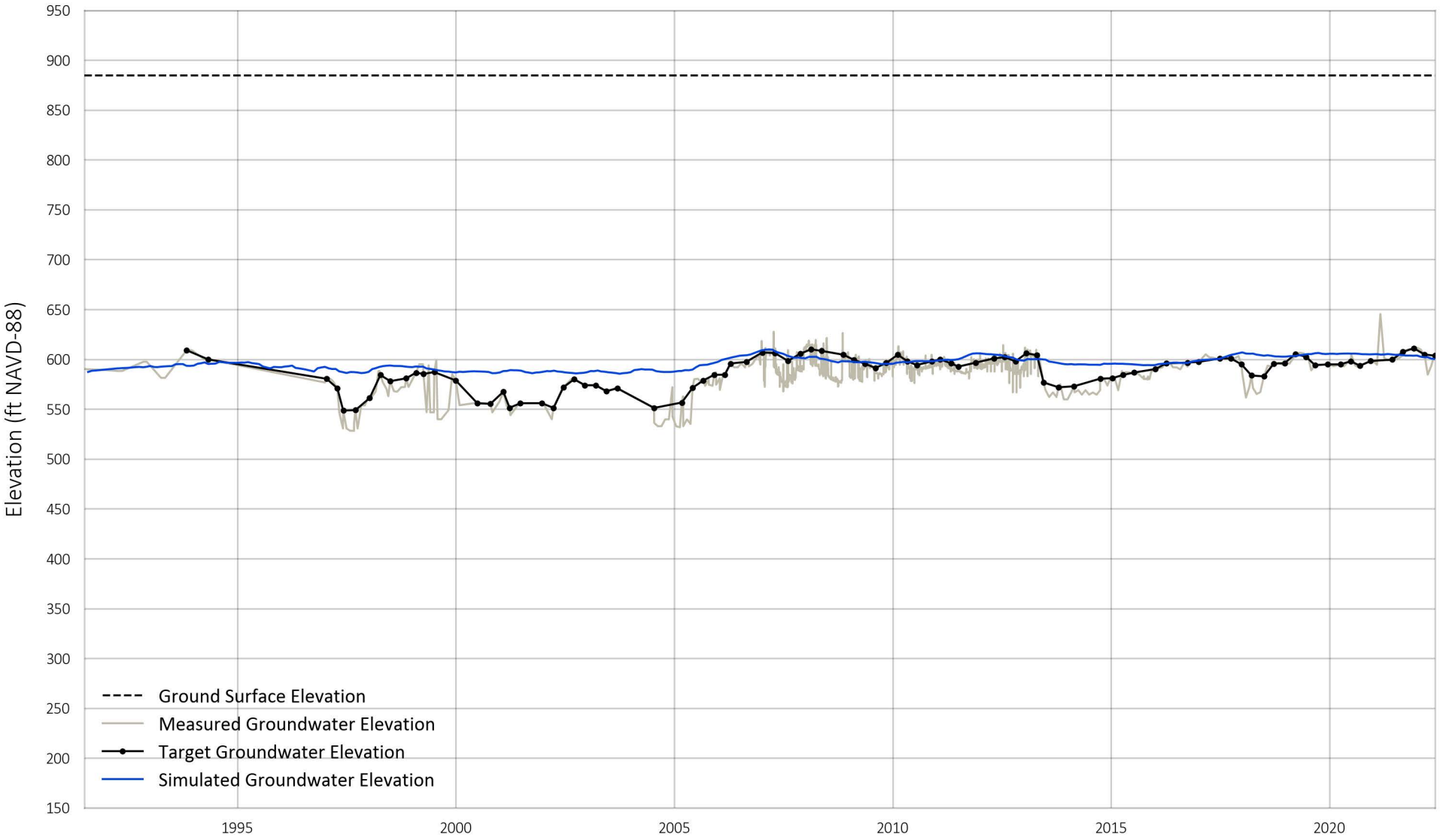
Target Groundwater Elevation (ft)
Mean = 722.31
Standard Deviation = 6.37

Simulated Groundwater Elevation (ft)
Mean = 719.91
Standard Deviation = 5.28

Mean Residual (ft) = -2.40
RMSE (ft) = 3.26

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1207069
Well Name: Offsite MW4
Screened Layer(s): 1
Owner: Alcoa

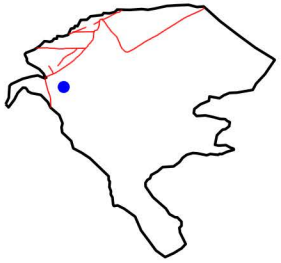
Figure B5-65



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

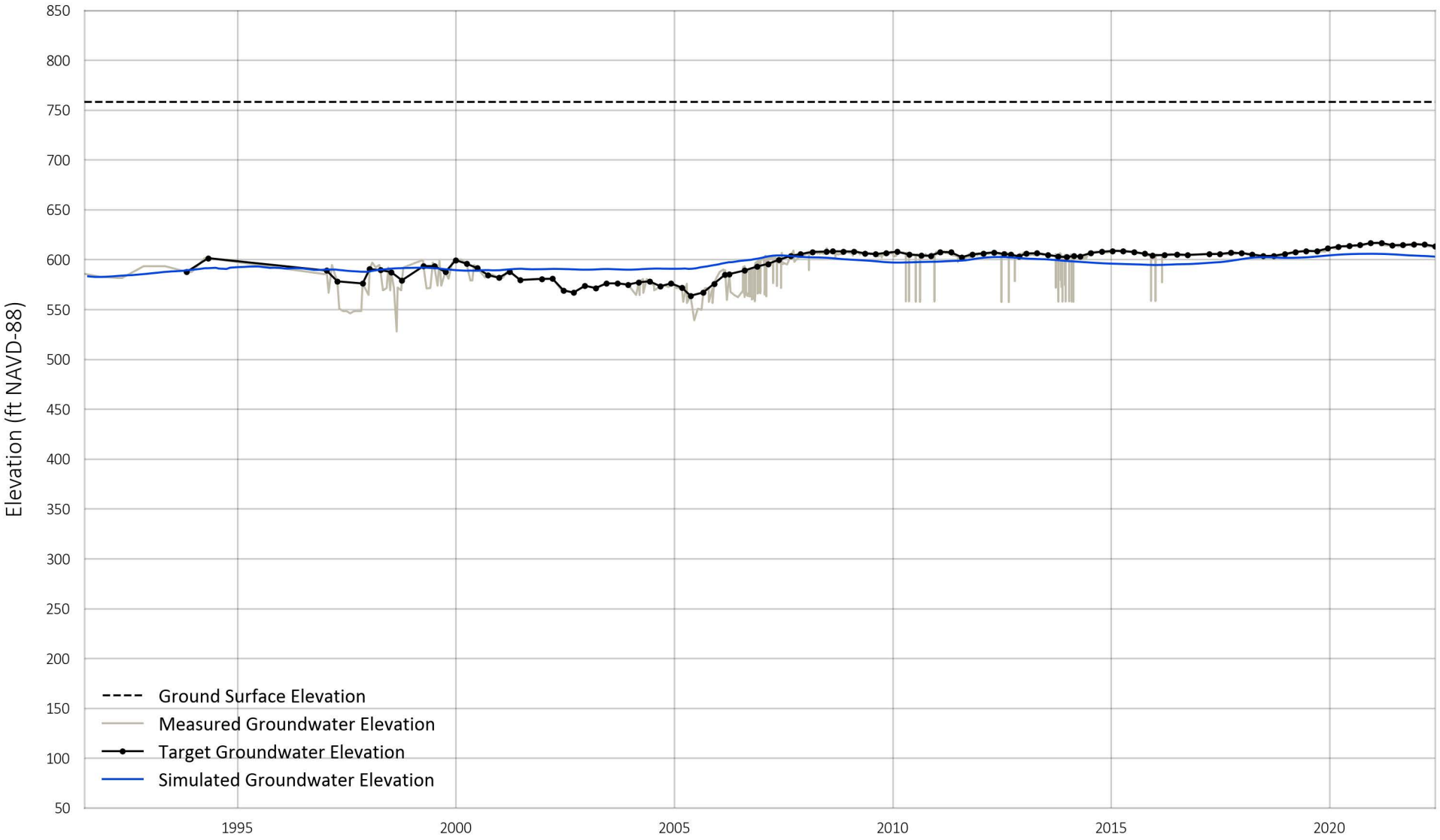
Target Groundwater Elevation (ft)
Mean = 587.33
Standard Deviation = 16.72

Simulated Groundwater Elevation (ft)
Mean = 595.83
Standard Deviation = 6.09

Mean Residual (ft) = 8.50
RMSE (ft) = 15.08

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002654
Well Name: P-16
Screened Layer(s): 1
Owner: City of Pomona

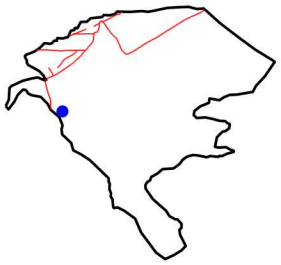
Figure B5-66



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

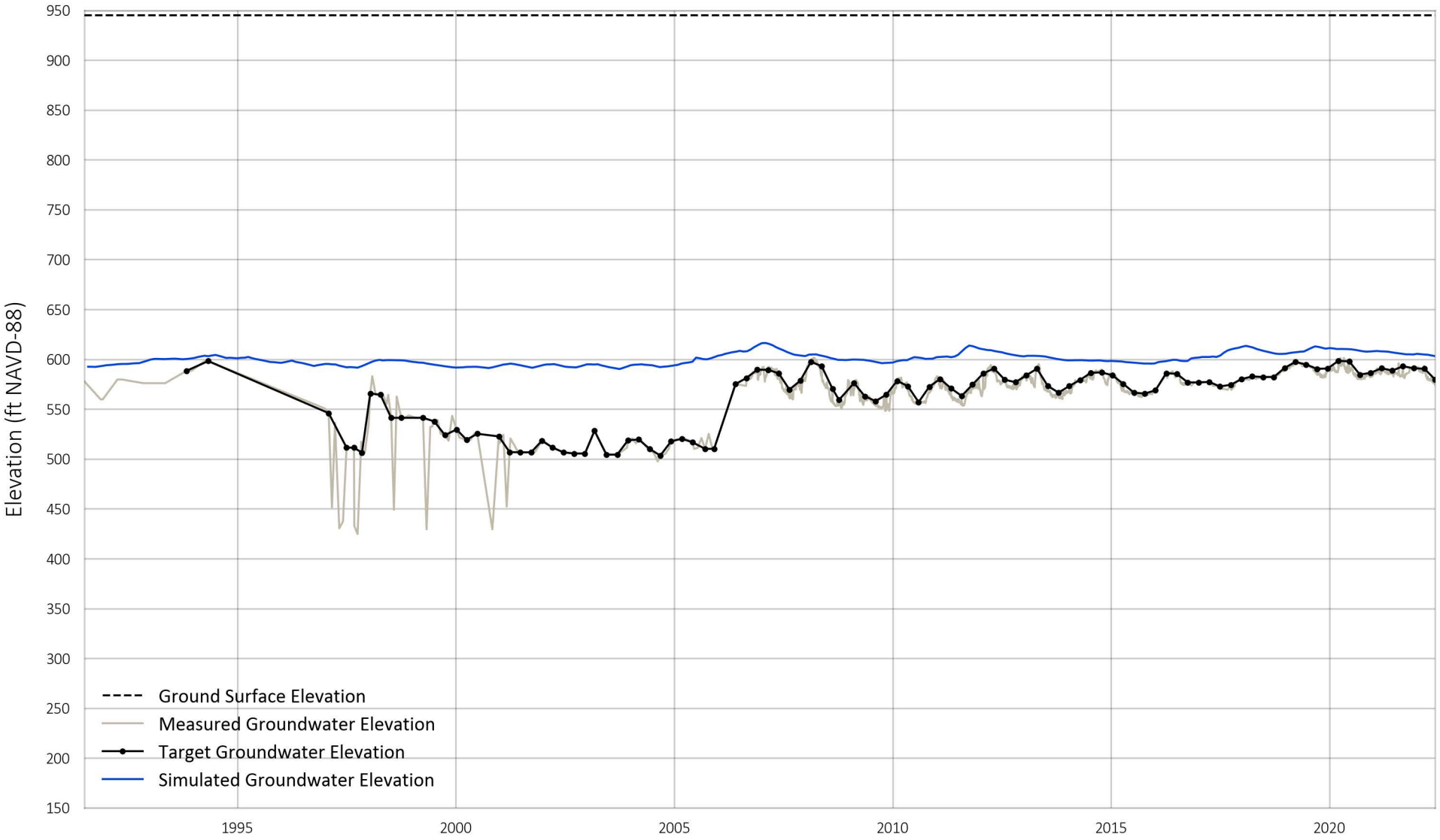
Target Groundwater Elevation (ft)
Mean = 597.38
Standard Deviation = 13.90

Simulated Groundwater Elevation (ft)
Mean = 595.76
Standard Deviation = 4.94

Mean Residual (ft) = -1.63
RMSE (ft) = 10.56

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1203062
Well Name: P-29
Screened Layer(s): 1
Owner: City of Pomona

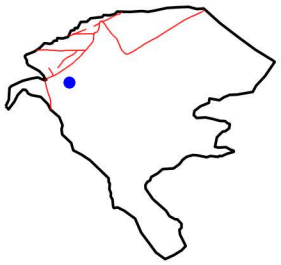
Figure B5-67



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

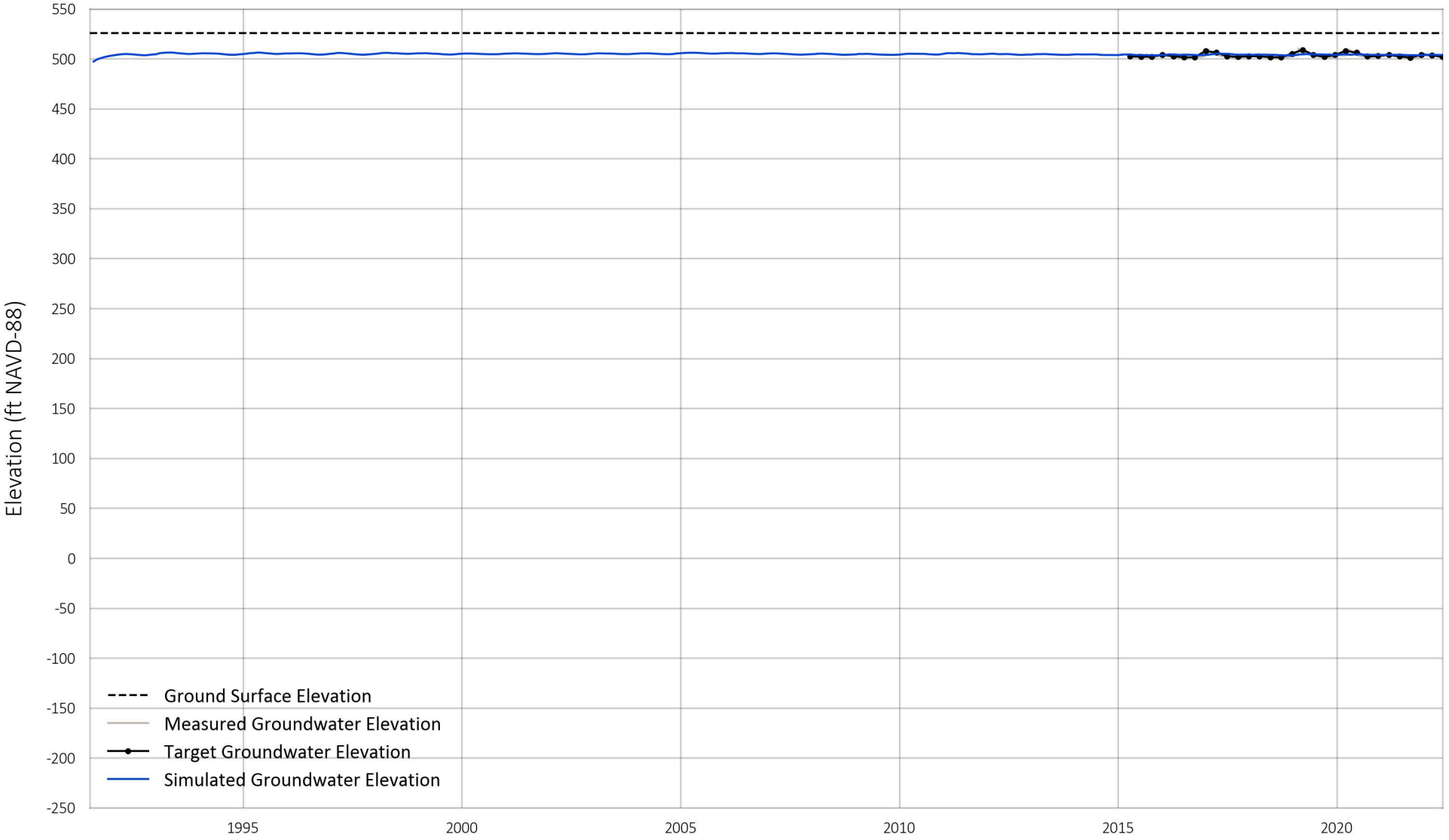
Target Groundwater Elevation (ft)
Mean = 560.19
Standard Deviation = 31.31

Simulated Groundwater Elevation (ft)
Mean = 599.73
Standard Deviation = 5.96

Mean Residual (ft) = 39.53
RMSE (ft) = 47.87

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002623
Well Name: P-30
Screened Layer(s): 1,3
Owner: City of Pomona

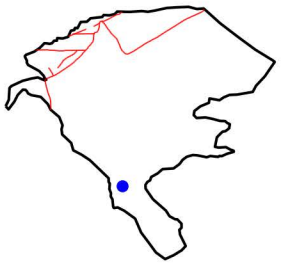
Figure B5-68



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

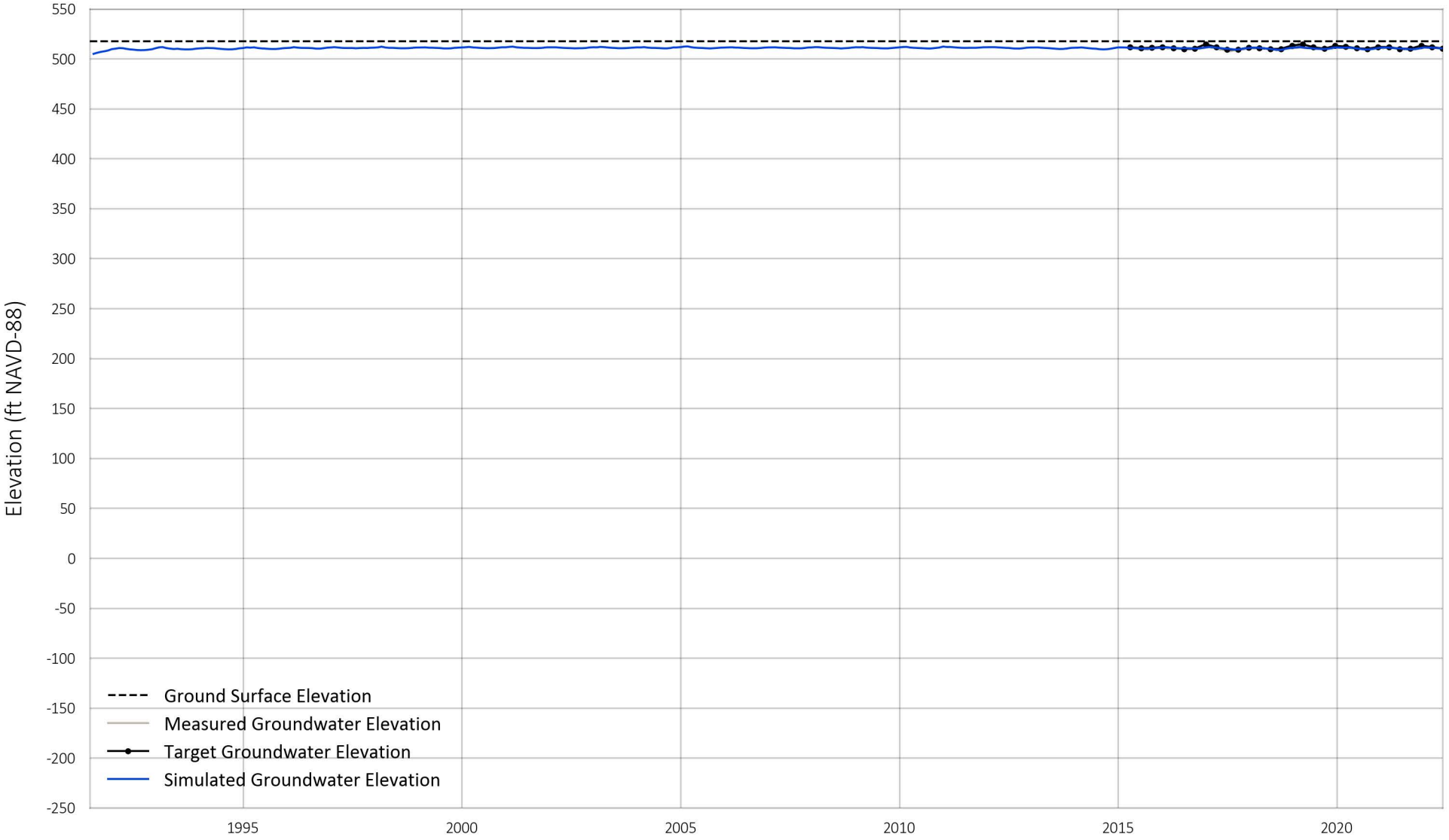
Target Groundwater Elevation (ft)
Mean = 503.36
Standard Deviation = 2.09

Simulated Groundwater Elevation (ft)
Mean = 503.94
Standard Deviation = 0.39

Mean Residual (ft) = 0.57
RMSE (ft) = 2.05

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1232875
Well Name: PB-5/1
Screened Layer(s): 1
Owner: Inland Empire Utilities Agency

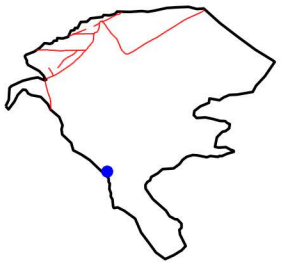
Figure B5-69



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

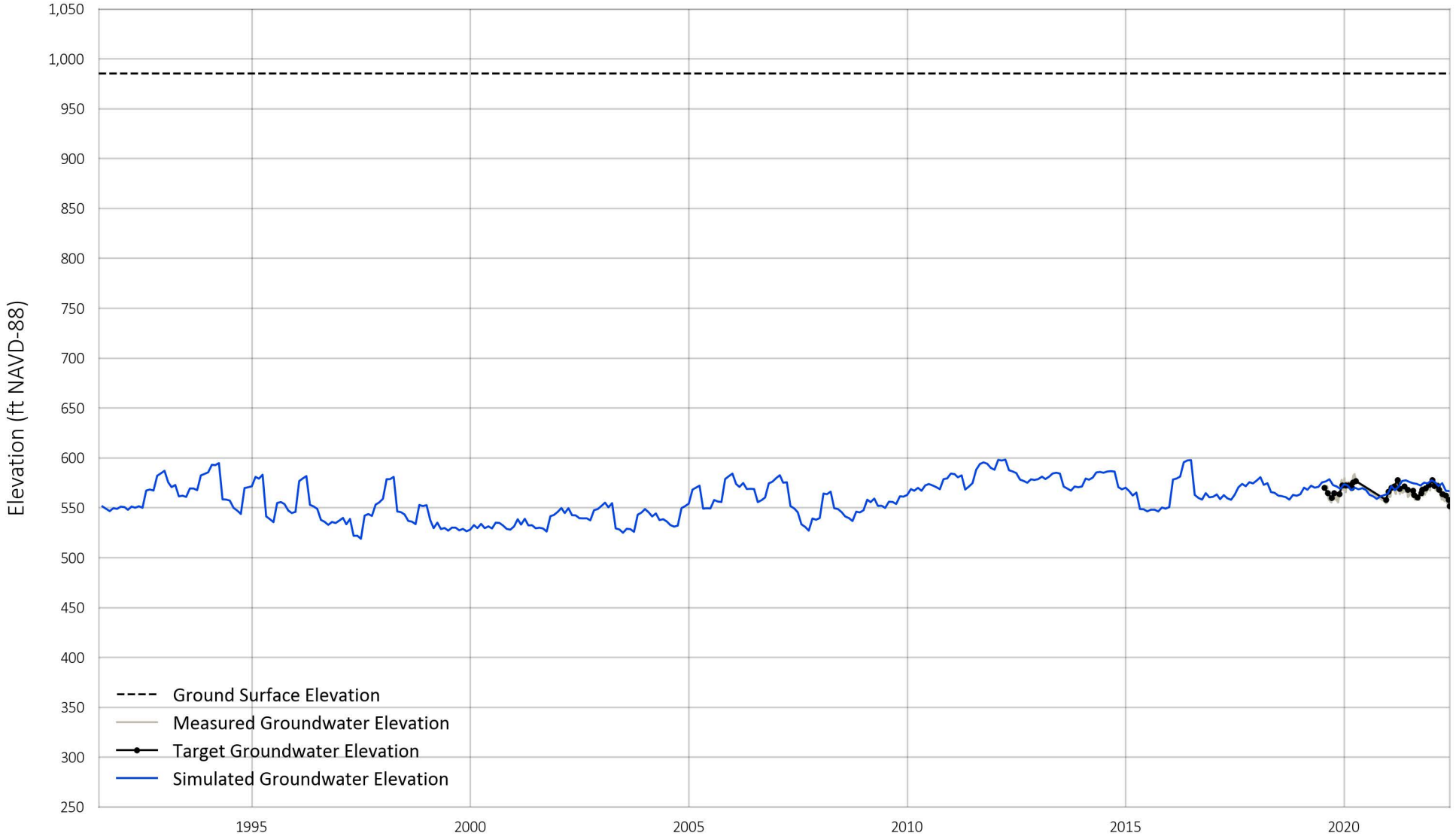
Target Groundwater Elevation (ft)
Mean = 511.15
Standard Deviation = 1.41

Simulated Groundwater Elevation (ft)
Mean = 510.39
Standard Deviation = 0.64

Mean Residual (ft) = -0.75
RMSE (ft) = 1.24

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1232872
Well Name: PB-7/1
Screened Layer(s): 1
Owner: Inland Empire Utilities Agency

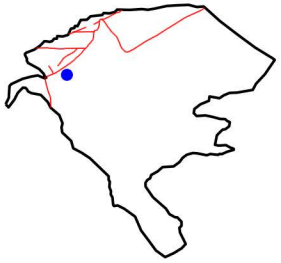
Figure B5-70



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

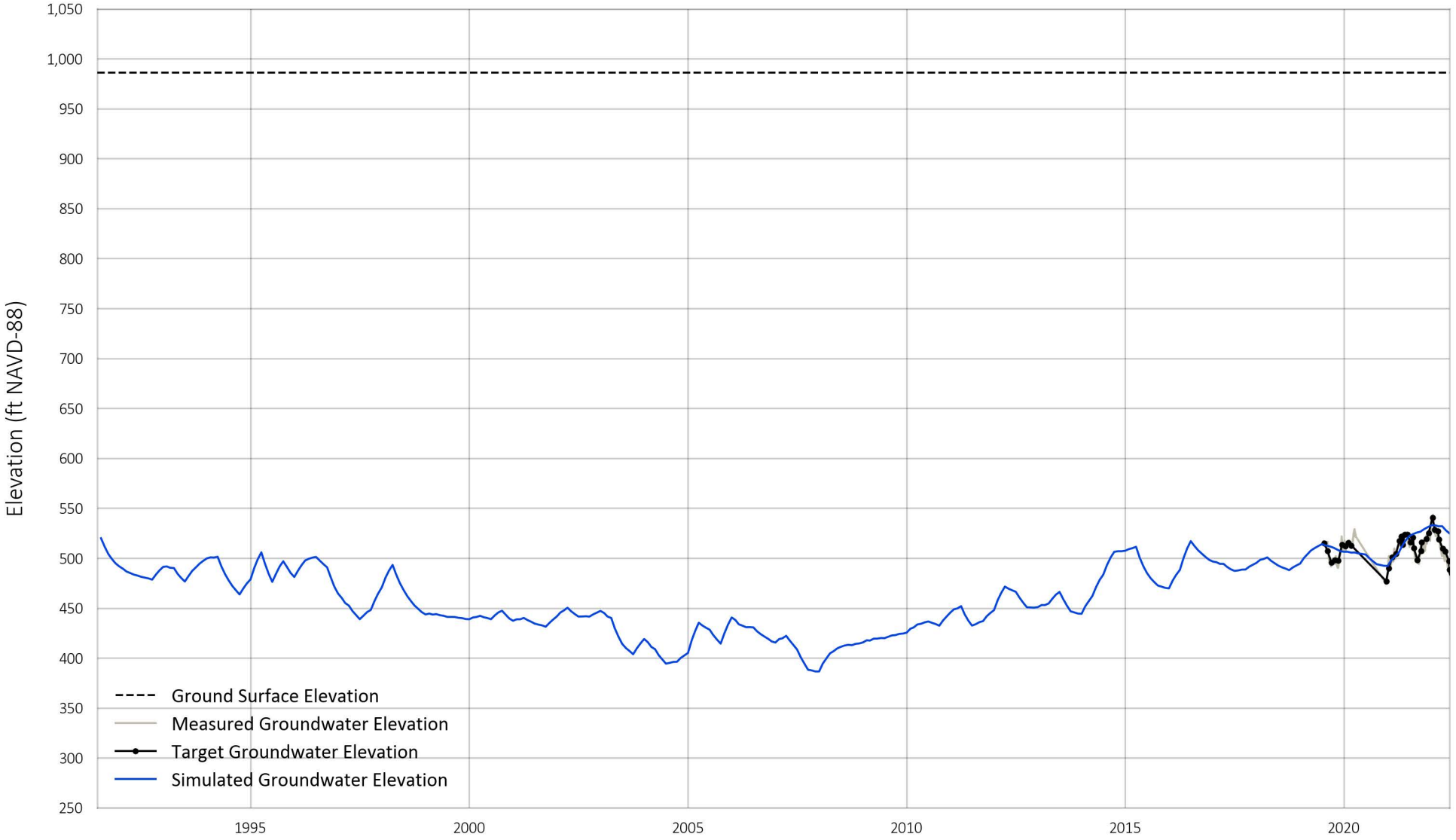
Target Groundwater Elevation (ft)
Mean = 567.81
Standard Deviation = 6.04

Simulated Groundwater Elevation (ft)
Mean = 569.96
Standard Deviation = 3.68

Mean Residual (ft) = 2.16
RMSE (ft) = 6.32

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1237159
Well Name: PX2
Screened Layer(s): 3
Owner: Chino Basin Watermaster

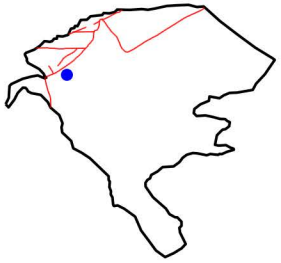
Figure B5-71



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

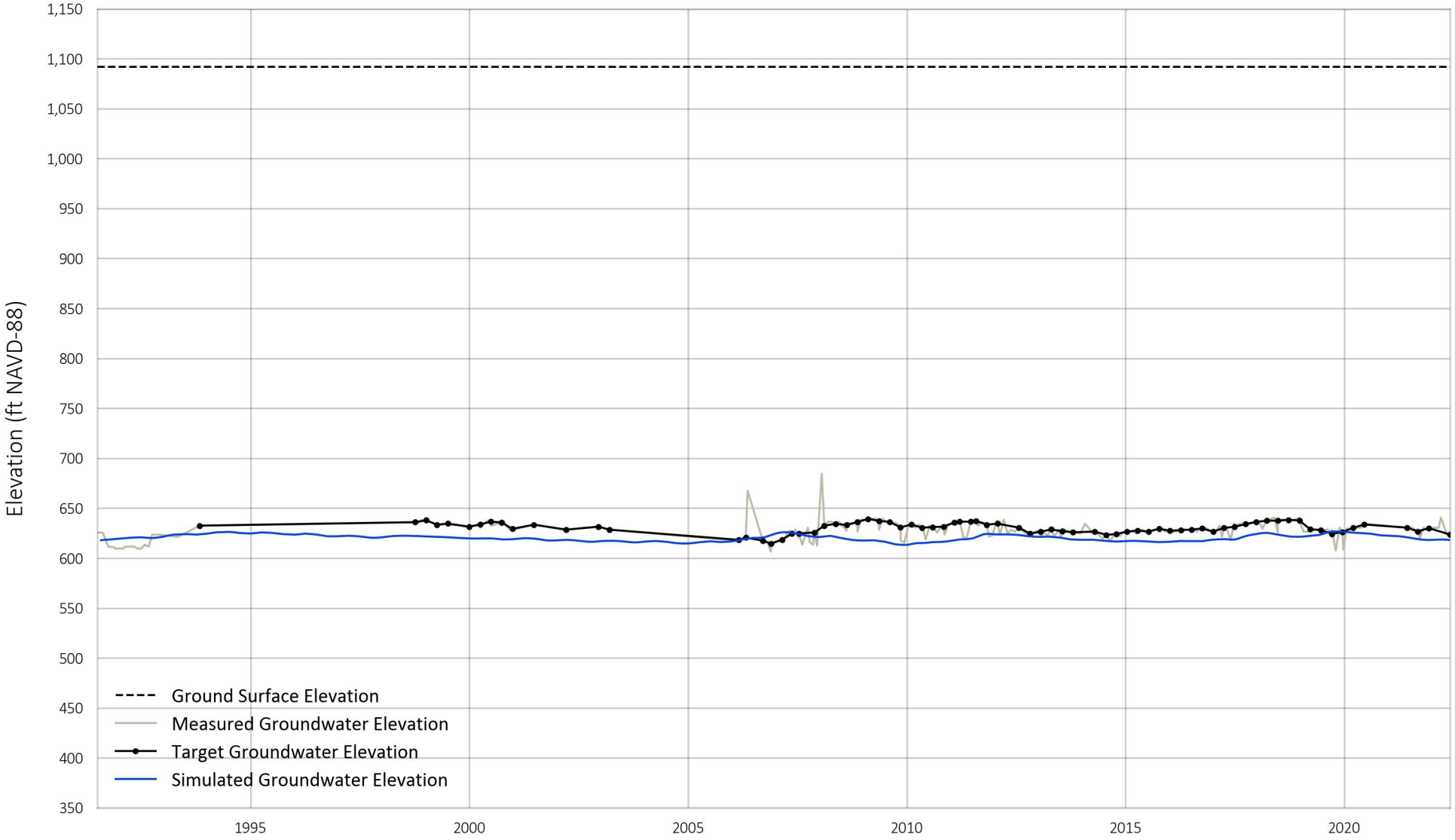
Target Groundwater Elevation (ft)
Mean = 510.12
Standard Deviation = 13.64

Simulated Groundwater Elevation (ft)
Mean = 515.63
Standard Deviation = 11.82

Mean Residual (ft) = 5.51
RMSE (ft) = 14.10

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1237160
Well Name: PX3
Screened Layer(s): 5
Owner: Chino Basin Watermaster

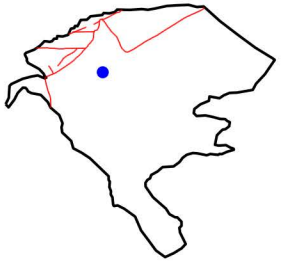
Figure B5-72



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

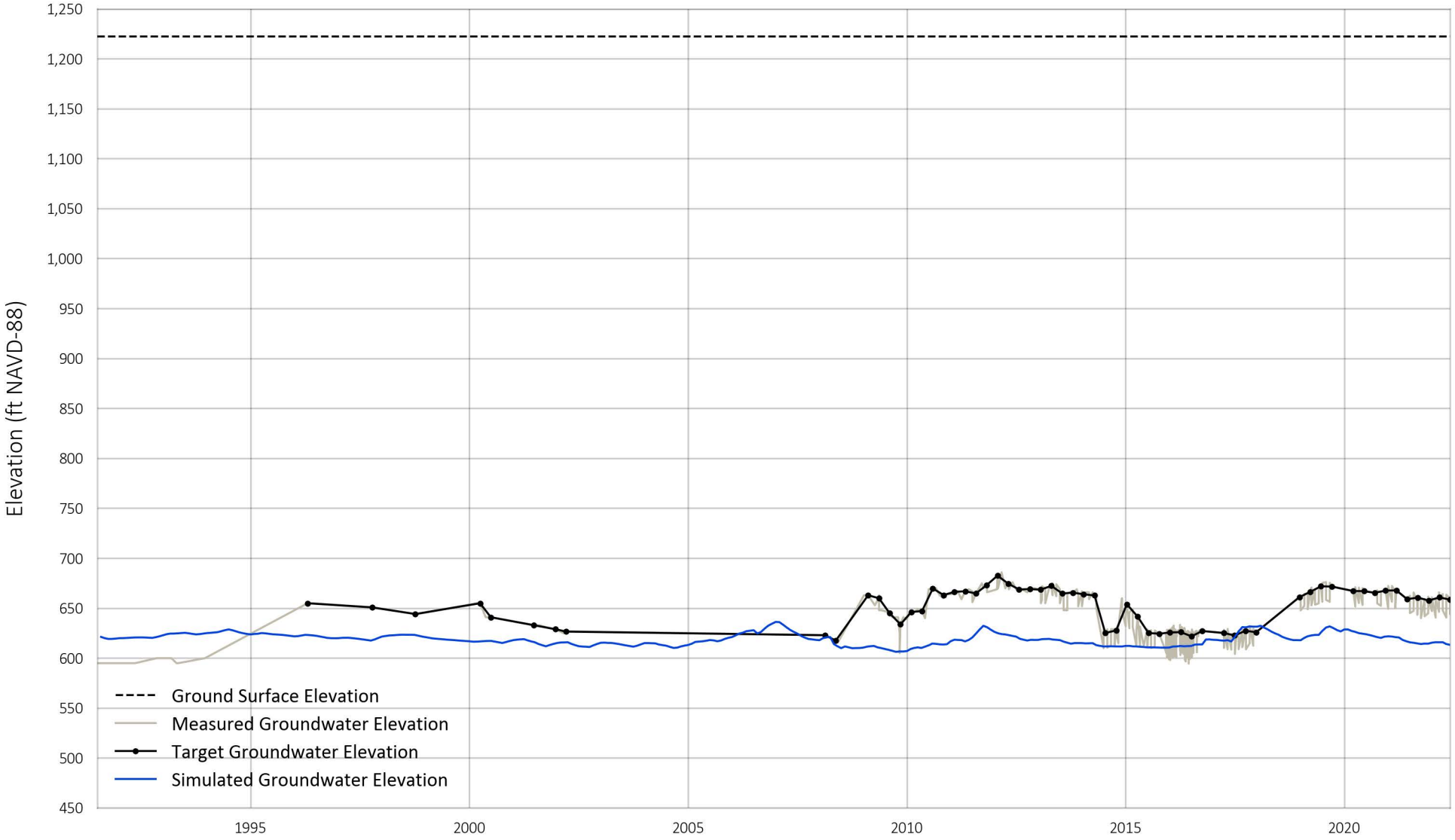
Target Groundwater Elevation (ft)
Mean = 630.31
Standard Deviation = 5.40

Simulated Groundwater Elevation (ft)
Mean = 618.35
Standard Deviation = 3.15

Mean Residual (ft) = -11.95
RMSE (ft) = 13.48

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002321
Well Name: SAWC 18
Screened Layer(s): 1
Owner: San Antonio Water Company

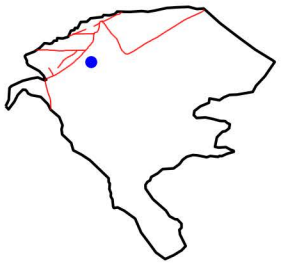
Figure B5-73



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

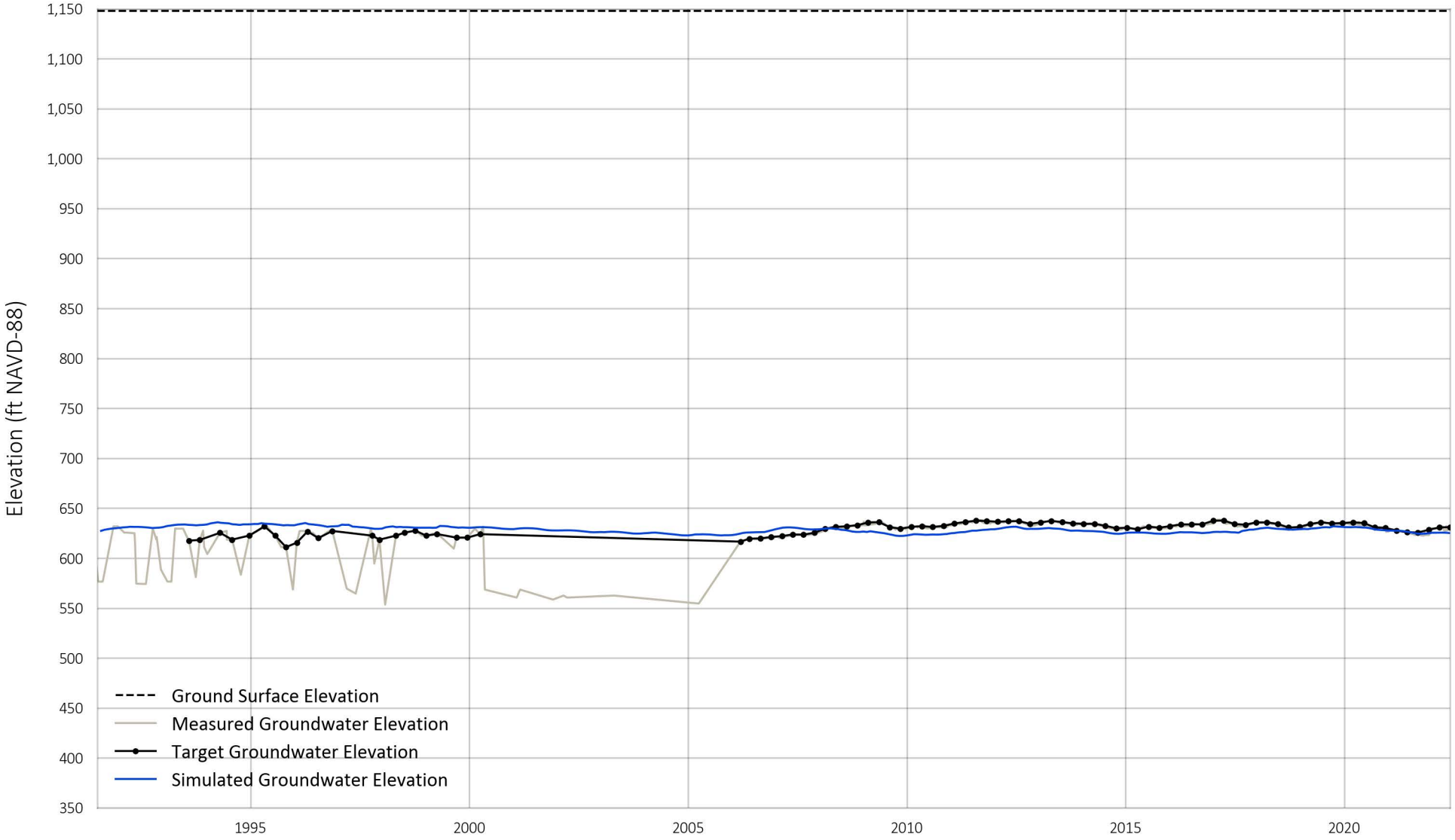
Target Groundwater Elevation (ft)
Mean = 651.08
Standard Deviation = 18.54

Simulated Groundwater Elevation (ft)
Mean = 615.63
Standard Deviation = 5.99

Mean Residual (ft) = -35.45
RMSE (ft) = 39.44

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002531
Well Name: Upland 08
Screened Layer(s): 1,2,3
Owner: City of Upland

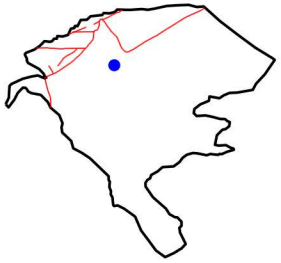
Figure B5-74



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

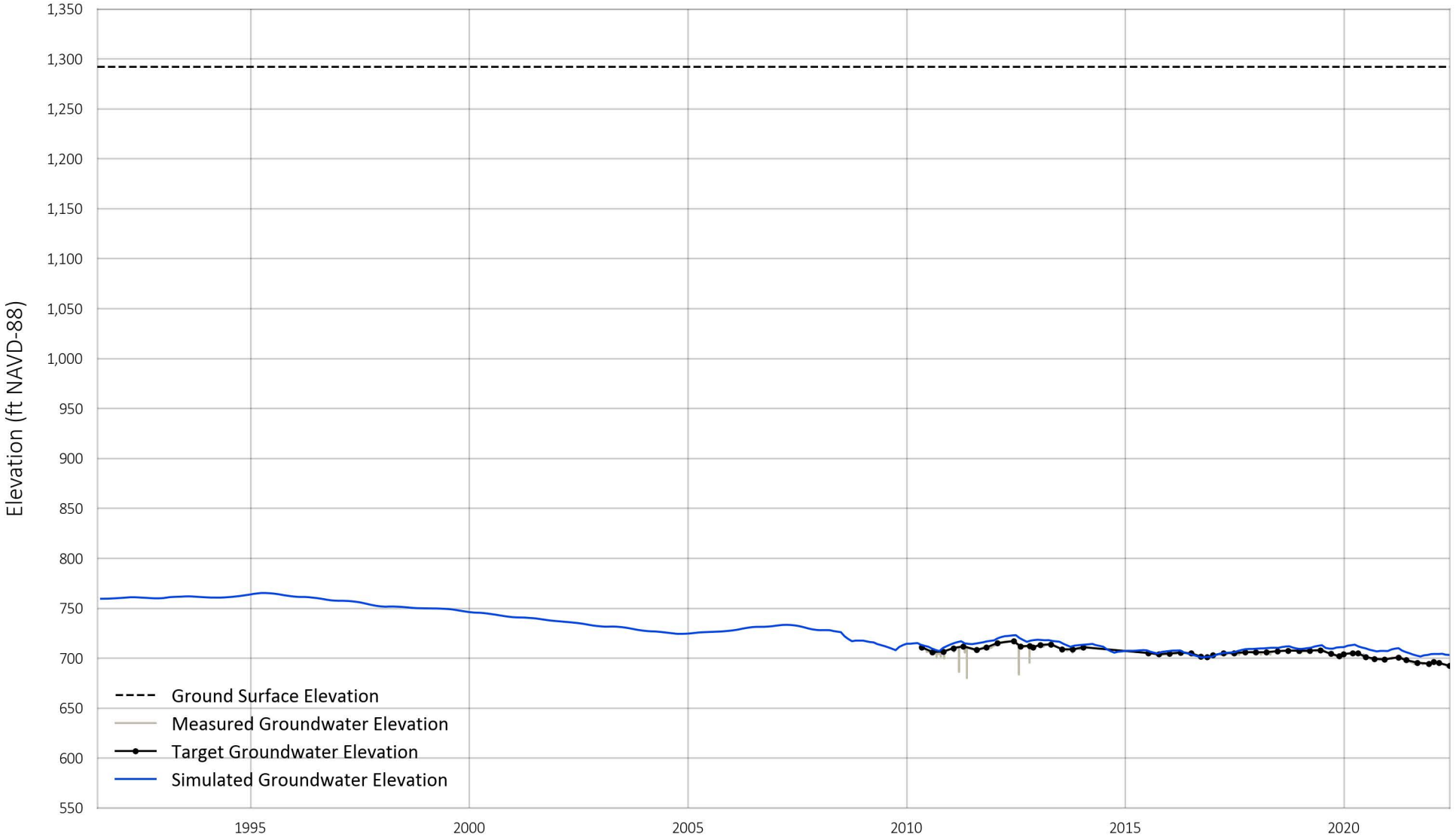
Target Groundwater Elevation (ft)
Mean = 629.40
Standard Deviation = 6.34

Simulated Groundwater Elevation (ft)
Mean = 626.86
Standard Deviation = 3.73

Mean Residual (ft) = -2.54
RMSE (ft) = 9.02

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002313
Well Name: Upland 09
Screened Layer(s): 1,2,3
Owner: City of Upland

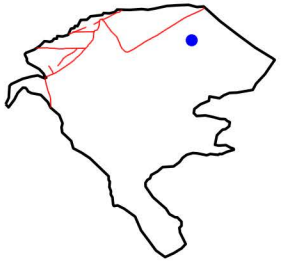
Figure B5-75



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

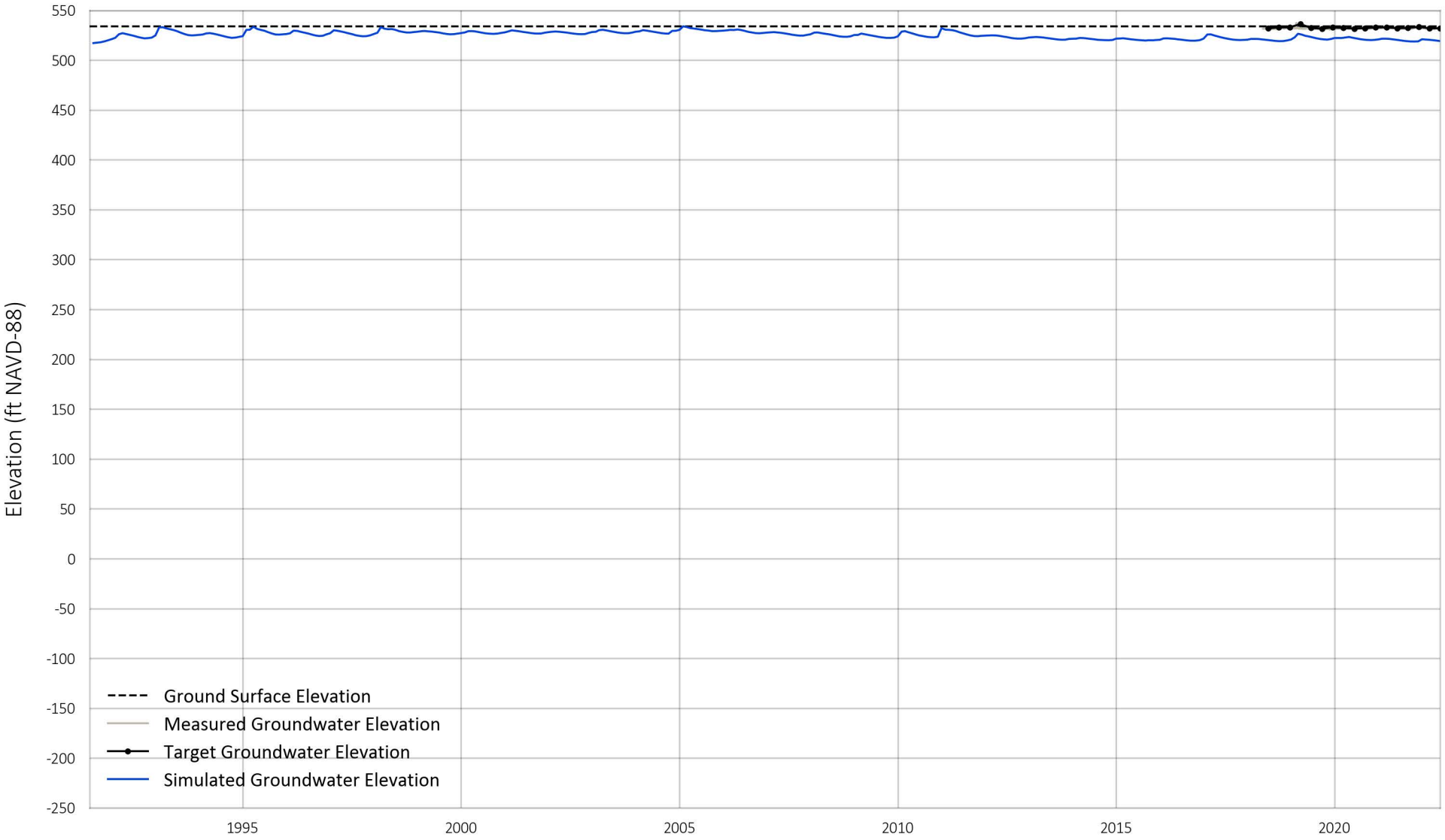
Target Groundwater Elevation (ft)
Mean = 705.43
Standard Deviation = 5.53

Simulated Groundwater Elevation (ft)
Mean = 707.93
Standard Deviation = 5.38

Mean Residual (ft) = 2.50
RMSE (ft) = 3.82

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1223006
Well Name: VCT-2/2
Screened Layer(s): 1
Owner: Inland Empire Utilities Agency

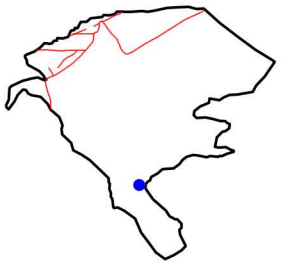
Figure B5-76



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

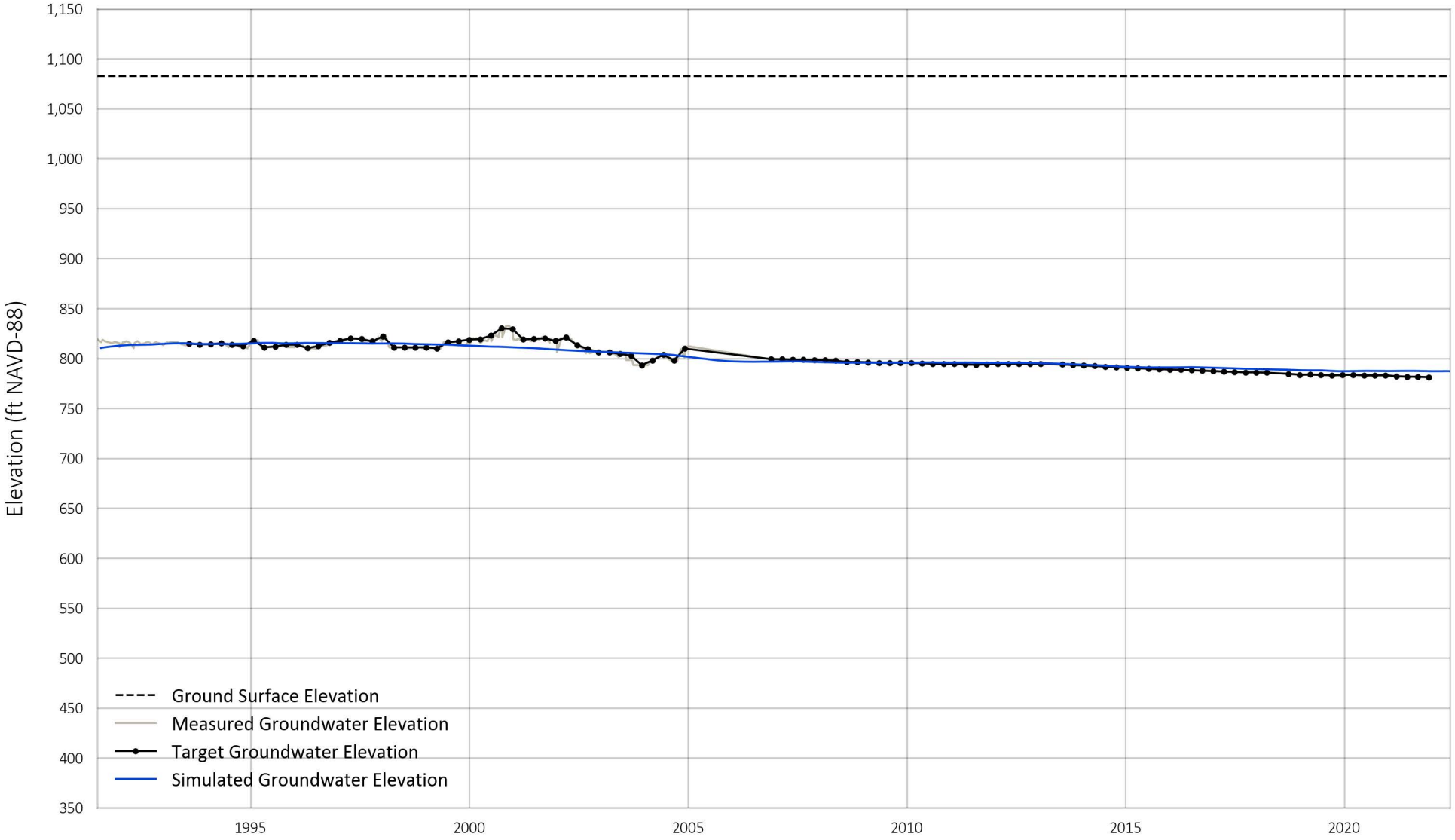
Target Groundwater Elevation (ft)
Mean = 532.50
Standard Deviation = 1.06

Simulated Groundwater Elevation (ft)
Mean = 520.75
Standard Deviation = 1.79

Mean Residual (ft) = -11.75
RMSE (ft) = 11.84

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1236959
Well Name: WRCRWA MW-8
Screened Layer(s): 1
Owner: Western Municipal Water District

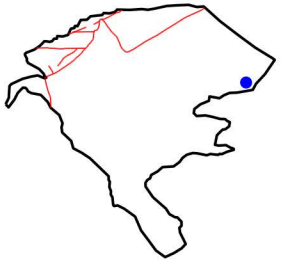
Figure B5-77



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

Target Groundwater Elevation (ft)
Mean = 800.75
Standard Deviation = 13.05

Simulated Groundwater Elevation (ft)
Mean = 800.54
Standard Deviation = 10.56

Mean Residual (ft) = -0.22
RMSE (ft) = 4.70

2025 CVM: Run44C.100.3.39
HydroDaVE Well ID: 1002150
Well Name: WVWD 20
Screened Layer(s): 1,2
Owner: West Valley Water District

Figure B5-78

B6. Simulated Water Budgets from Selected PESTPP-IES Calibration Realizations

DRAFT

Table B6-1 Water Budget for the Chino Basin for the Calibration Period - Realization A (af)

Fiscal Year	Recharge												Discharge					Change in Storage		
	R*	I*	R*	R*	R*	R*	I*	R*	I	I	I		I	I	R*	R*				
	Subsurface Inflow								Managed Aquifer Recharge				Groundwater Pumping							
	Bloomington Divide	Chino/Puente Hills, Jurupa Hills, and Rialto Basin	Net Temescal Basin	Six Basins	Cucamonga Basin	Spadra Basin	Deep Infiltration of Precipitation and Applied Water	Streambed Infiltration	Stormwater	Recycled Water	Imported Water	Total Recharge	Overlying Non-Ag and Appropriative Pools	Overlying Agricultural Pool	Riparian Veg ET	Rising Groundwater	Total Discharge	Annual	Cumulative	Net Recharge
1992	8,684	5,585	10,331	3,121	28,593	1	109,943	50,520	3,598	0	5,568	225,946	102,664	77,336	15,623	24,776	220,399	5,547	5,547	179,979
1993	6,489	6,329	6,045	3,433	19,261	3	117,672	61,949	6,619	0	14,224	242,023	88,040	83,284	16,282	36,003	223,608	18,415	23,962	175,515
1994	6,419	6,269	8,777	3,594	17,509	6	120,206	40,655	1,486	0	16,448	221,368	93,564	72,115	16,374	32,481	214,534	6,834	30,796	156,065
1995	5,854	6,742	7,318	3,329	16,671	9	114,831	55,996	4,662	0	10,375	225,787	98,173	62,171	16,668	35,882	212,894	12,893	43,689	162,863
1996	6,174	6,844	9,157	3,508	16,365	14	116,571	42,916	2,425	0	82	204,058	109,609	71,220	17,685	34,218	232,732	-28,675	15,015	152,073
1997	5,589	6,791	9,334	3,291	16,230	19	116,097	45,946	3,305	0	16	206,617	112,998	68,968	17,658	34,026	233,650	-27,033	-12,018	154,917
1998	5,994	6,716	7,055	3,248	16,103	25	101,021	56,438	5,780	0	8,352	210,733	104,141	45,302	17,741	37,827	205,011	5,721	-6,296	146,812
1999	6,694	6,402	8,310	3,293	16,030	29	98,007	38,969	1,007	984	5,839	185,564	118,738	46,730	17,808	34,895	218,171	-32,607	-38,903	126,038
2000	6,750	6,051	7,747	3,208	15,861	33	109,384	40,071	1,985	3,630	997	195,716	133,609	46,538	18,928	33,705	232,781	-37,065	-75,968	138,456
2001	6,839	6,161	8,550	3,036	15,758	37	108,001	39,478	3,162	6,221	6,538	203,781	129,866	41,429	18,484	36,793	226,572	-22,791	-98,759	135,745
2002	6,801	5,532	8,869	2,971	15,673	42	101,105	36,498	1,148	7,444	6,493	192,576	139,934	38,650	17,985	36,475	233,043	-40,467	-139,226	124,179
2003	7,485	5,060	6,354	2,977	15,526	45	93,122	46,125	6,284	7,112	6,548	196,638	133,793	36,507	17,995	38,701	226,996	-30,357	-169,584	126,282
2004	7,851	5,158	5,600	2,942	15,536	47	91,852	39,150	3,357	8,942	7,607	188,043	139,028	36,809	17,672	37,227	230,735	-42,692	-212,276	116,595
2005	7,061	6,416	2,063	3,004	15,429	50	104,984	53,674	17,648	9,377	12,259	231,964	123,538	34,503	18,281	43,375	219,697	12,267	-200,009	148,673
2006	7,344	6,104	7,676	3,372	15,385	50	86,977	45,238	12,940	1,303	34,567	220,957	133,372	30,812	17,629	39,337	221,151	-194	-200,203	128,120
2007	7,972	5,745	6,947	3,015	15,275	48	90,531	38,706	4,745	2,993	32,960	208,938	152,223	29,919	17,583	33,115	232,841	-23,903	-224,106	122,287
2008	7,826	5,712	5,737	2,845	15,284	47	84,962	44,654	10,205	2,340	0	179,612	157,812	26,280	15,960	31,388	231,440	-51,828	-275,934	129,924
2009	7,646	5,850	4,572	2,797	15,352	49	82,208	45,476	7,512	2,684	0	174,146	165,801	23,386	14,989	29,816	233,992	-59,846	-335,780	126,657
2010	8,223	5,221	3,693	2,800	15,369	50	81,327	50,958	14,273	7,210	5,000	194,123	137,948	22,038	14,680	30,320	204,985	-10,862	-346,642	136,913
2011	8,046	5,414	2,973	2,769	15,367	50	82,179	54,822	17,052	8,065	9,465	206,201	123,354	18,042	15,496	33,848	190,739	15,462	-331,180	139,329
2012	7,910	5,156	4,895	2,868	15,267	50	76,092	40,865	9,271	8,634	22,560	193,568	136,731	22,412	14,677	29,278	203,097	-9,529	-340,709	118,419
2013	7,695	5,124	4,704	2,779	15,181	51	71,185	39,022	5,271	10,479	0	161,491	139,128	24,074	13,866	25,476	202,543	-41,052	-381,762	111,670
2014	7,503	4,976	4,414	2,846	15,039	54	73,000	40,457	4,299	13,593	795	166,977	148,475	22,131	13,444	23,962	208,012	-41,035	-422,797	115,182
2015	7,943	4,463	3,977	2,588	14,866	54	73,435	41,784	8,001	10,840	0	167,952	134,339	17,552	12,662	23,939	188,493	-20,541	-443,338	120,510
2016	7,953	3,804	3,724	2,640	14,705	54	73,143	44,292	9,236	13,222	0	172,772	129,492	16,908	12,329	24,357	183,085	-10,314	-453,652	122,864
2017	8,097	4,432	3,419	2,547	14,479	54	65,673	50,496	11,575	13,934	13,150	187,857	127,244	16,191	13,028	26,438	182,900	4,957	-448,695	121,308
2018	7,978	3,833	4,931	2,409	14,076	53	67,253	36,457	4,494	13,212	33,763	188,458	123,992	16,776	12,578	23,584	176,930	11,528	-437,166	105,321
2019	8,006	5,110	2,749	2,467	13,881	52	64,066	54,924	12,861	11,145	6,510	181,772	116,396	15,478	12,796	26,601	171,272	10,500	-426,666	124,719
2020	7,942	4,853	4,163	2,385	13,768	53	65,834	47,030	9,967	12,953	18,103	187,051	132,618	15,722	12,785	27,490	188,615	-1,564	-428,230	115,720
2021	8,066	4,996	5,108	2,463	13,815	56	63,813	37,266	4,911	15,728	2,229	158,449	146,973	14,929	11,842	24,888	198,633	-40,184	-468,414	103,762
2022	7,909	4,626	3,529	2,500	13,739	58	63,498	37,211	8,108	15,042	1,742	157,961	148,608	14,077	11,015	22,951	196,651	-38,690	-507,104	107,211
Statistics for the Calibration Period 1992 through 2022																				
Total	228,744	171,477	182,722	91,043	491,392	1,243	2,767,971	1,398,045	217,187	207,086	282,191	6,039,100	3,982,201	1,108,289	482,543	973,171	6,546,204	-507,104		4,094,110
Percent	3.8%	2.8%	3.0%	1.5%	8.1%	0.0%	45.8%	23.1%	3.6%	3.4%	4.7%	100.0%	60.8%	16.9%	7.4%	14.9%	100.0%			
Average	7,379	5,532	5,894	2,937	15,851	40	89,289	45,098	7,006	6,680	9,103	194,810	128,458	35,751	15,566	31,393	211,168	-16,358		132,068
Median	7,695	5,532	5,600	2,942	15,369	49	86,977	44,292	5,780	7,210	6,510	193,568	132,618	29,919	15,960	32,481	214,534	-20,541		126,282
Maximum	8,684	6,844	10,331	3,594	28,593	58	120,206	61,949	17,648	15,728	34,567	242,023	165,801	83,284	18,928	43,375	233,992	18,415	43,689	179,979
Minimum	5,589	3,804	2,063	2,385	13,739	1	63,498	36,457	1,007	0	0	157,961	88,040	14,077	11,015	22,951	171,272	-59,846	-507,104	103,762

Note: column heading R means model results and column heading I means model input. Asterisks indicate components that had volumes or related parameters that were allowed to vary during the uncertainty analysis.

Table B6-2 Water Budget for the Chino Basin for the Calibration Period - Realization B (af)

Fiscal Year	Recharge												Discharge					Change in Storage		
	R*	I*	R*	R*	R*	R*	I*	R*	I	I	I		I	I	R*	R*				
	Subsurface Inflow								Managed Aquifer Recharge				Groundwater Pumping							
	Bloomington Divide	Chino/Puente Hills, Jurupa Hills, and Rialto Basin	Net Temescal Basin	Six Basins	Cucamonga Basin	Spadra Basin	Deep Infiltration of Precipitation and Applied Water	Streambed Infiltration	Stormwater	Recycled Water	Imported Water	Total Recharge	Overlying Non-Ag and Appropriative Pools	Overlying Agricultural Pool	Riparian Veg ET	Rising Groundwater	Total Discharge	Annual	Cumulative	Net Recharge
1992	15,065	5,585	9,215	5,502	21,349	1	109,449	49,906	3,598	0	5,568	225,240	102,664	77,336	14,830	26,297	221,126	4,114	4,114	178,545
1993	12,597	6,329	2,574	5,784	16,227	5	110,624	65,053	6,619	0	14,224	240,035	88,040	83,284	15,606	35,623	222,553	17,482	21,596	174,582
1994	12,221	6,269	4,386	6,141	14,981	10	120,091	41,424	1,486	0	16,448	223,458	93,564	72,115	15,064	31,206	211,950	11,509	33,105	160,740
1995	11,943	6,742	1,331	5,863	14,347	18	121,103	59,508	4,662	0	10,375	235,891	98,173	62,171	15,679	34,509	210,532	25,359	58,464	175,329
1996	11,642	6,844	2,977	6,233	14,147	29	112,188	43,648	2,425	0	82	200,215	109,609	71,220	16,181	32,634	229,644	-29,429	29,035	151,319
1997	11,429	6,791	2,436	6,021	13,939	41	108,862	47,645	3,305	0	16	200,484	112,998	68,968	16,156	32,136	230,258	-29,773	-738	152,176
1998	11,745	6,716	-282	5,868	13,745	55	107,252	60,593	5,780	0	8,352	219,824	104,141	45,302	16,758	36,486	202,688	17,136	16,398	158,227
1999	12,386	6,402	1,544	5,999	13,694	72	100,855	38,843	1,007	984	5,839	187,626	118,738	46,730	17,127	33,730	216,326	-28,700	-12,302	129,945
2000	13,051	6,051	778	5,889	13,459	100	97,242	40,963	1,985	3,630	997	184,145	133,609	46,538	17,502	32,393	230,042	-45,898	-58,199	129,623
2001	13,017	6,161	1,806	5,599	13,200	146	108,197	40,889	3,162	6,221	6,538	204,935	129,866	41,429	16,995	35,635	223,925	-18,990	-77,189	139,547
2002	13,537	5,532	2,685	5,424	12,992	198	100,084	36,422	1,148	7,444	6,493	191,959	139,934	38,650	16,454	34,545	229,583	-37,624	-114,813	127,023
2003	13,924	5,060	359	5,355	12,874	221	85,763	47,625	6,284	7,112	6,548	191,126	133,793	36,507	16,598	37,284	224,181	-33,055	-147,868	123,584
2004	14,017	5,158	282	5,243	12,815	233	101,975	39,253	3,357	8,942	7,607	198,883	139,028	36,809	16,106	35,925	227,867	-28,984	-176,852	130,304
2005	12,489	6,416	-3,734	5,300	12,619	268	103,692	58,691	17,648	9,377	12,259	235,024	123,538	34,503	16,947	43,666	218,655	16,370	-160,483	152,775
2006	13,189	6,104	2,272	5,891	12,492	242	91,469	45,724	12,940	1,303	34,567	226,194	133,372	30,812	16,834	39,455	220,473	5,720	-154,762	134,034
2007	14,319	5,745	1,981	5,496	12,303	229	83,248	38,627	4,745	2,993	32,960	202,647	152,223	29,919	15,897	32,515	230,554	-27,907	-182,669	118,283
2008	14,213	5,712	699	5,269	12,410	231	91,905	44,902	10,205	2,340	0	187,884	157,812	26,280	14,619	31,146	229,858	-41,973	-224,643	139,779
2009	14,425	5,850	-187	5,130	12,435	235	84,070	46,032	7,512	2,684	0	178,186	165,801	23,386	14,388	30,053	233,628	-55,442	-280,085	131,061
2010	14,926	5,221	-958	5,039	12,386	223	83,730	52,271	14,273	7,210	5,000	199,320	137,948	22,038	14,005	30,462	204,453	-5,133	-285,218	142,642
2011	14,977	5,414	-1,579	4,895	12,372	218	87,183	57,447	17,052	8,065	9,465	215,508	123,354	18,042	14,562	33,231	189,189	26,319	-258,899	150,185
2012	14,702	5,156	724	4,983	12,156	217	75,091	41,446	9,271	8,634	22,560	194,940	136,731	22,412	13,942	29,821	202,906	-7,966	-266,865	119,983
2013	14,191	5,124	613	4,901	12,035	239	77,676	39,215	5,271	10,479	0	169,743	139,128	24,074	13,542	25,825	202,568	-32,825	-299,689	119,898
2014	13,937	4,976	282	4,979	11,915	253	69,337	40,704	4,299	13,593	795	165,071	148,475	22,131	12,500	24,766	207,872	-42,801	-342,490	113,417
2015	13,979	4,463	-104	4,600	11,784	212	70,284	41,976	8,001	10,840	0	166,035	134,339	17,552	12,171	24,885	188,947	-22,912	-365,402	118,139
2016	14,153	3,804	-80	4,541	11,645	198	67,451	44,716	9,236	13,222	0	168,886	129,492	16,908	12,246	25,098	183,743	-14,857	-380,260	118,321
2017	14,632	4,432	-299	4,315	11,398	216	62,460	50,974	11,575	13,934	13,150	186,788	127,244	16,191	12,748	27,532	183,715	3,073	-377,187	119,424
2018	14,277	3,833	1,665	4,024	10,970	221	73,205	36,404	4,494	13,212	33,763	196,067	123,992	16,776	12,206	24,691	177,665	18,402	-358,785	112,195
2019	14,076	5,110	-756	4,074	10,795	209	65,394	55,167	12,861	11,145	6,510	184,586	116,396	15,478	12,707	27,775	172,357	12,228	-346,557	126,448
2020	14,521	4,853	702	3,923	10,741	238	65,340	47,749	9,967	12,953	18,103	189,092	132,618	15,722	13,086	28,963	190,390	-1,297	-347,854	115,987
2021	14,476	4,996	1,494	4,001	10,778	265	68,349	37,455	4,911	15,728	2,229	164,679	146,973	14,929	11,525	25,975	199,402	-34,723	-382,578	109,223
2022	14,378	4,626	-334	4,046	10,650	260	60,093	37,422	8,108	15,042	1,742	156,034	148,608	14,077	10,532	24,018	197,235	-41,201	-423,779	104,700
Statistics for the Calibration Period 1992 through 2022																				
Total	422,431	171,477	32,493	160,329	399,653	5,301	2,763,664	1,428,695	217,187	207,086	282,191	6,090,506	3,982,201	1,108,289	455,513	968,282	6,514,285	-423,779		4,177,435
Percent	6.9%	2.8%	0.5%	2.6%	6.6%	0.1%	45.4%	23.5%	3.6%	3.4%	4.6%	100.0%	61.1%	17.0%	7.0%	14.9%	100.0%			
Average	13,627	5,532	1,048	5,172	12,892	171	89,150	46,087	7,006	6,680	9,103	196,468	128,458	35,751	14,694	31,235	210,138	-13,670		134,756
Median	14,017	5,532	702	5,269	12,435	217	87,183	44,716	5,780	7,210	6,510	194,940	132,618	29,919	14,830	31,206	211,950	-18,990		129,945
Maximum	15,065	6,844	9,215	6,233	21,349	268	121,103	65,053	17,648	15,728	34,567	240,035	165,801	83,284	17,502	43,666	233,628	26,319	58,464	178,545
Minimum	11,429	3,804	-3,734	3,923	10,650	1	60,093	36,404	1,007	0	0	156,034	88,040	14,077	10,532	24,018	172,357	-55,442	-423,779	104,700

Note: column heading R means model results and column heading I means model input. Asterisks indicate components that had volumes or related parameters that were allowed to vary during the uncertainty analysis.

Table B6-3 Water Budget for the Chino Basin for the Calibration Period - Realization D (af)

Fiscal Year	Recharge												Discharge					Change in Storage		
	R*	I*	R*	R*	R*	R*	I*	R*	I	I	I		I	I	R*	R*				
	Subsurface Inflow								Managed Aquifer Recharge				Groundwater Pumping							
	Bloomington Divide	Chino/Puente Hills, Jurupa Hills, and Rialto Basin	Net Temescal Basin	Six Basins	Cucamonga Basin	Spadra Basin	Deep Infiltration of Precipitation and Applied Water	Streambed Infiltration	Stormwater	Recycled Water	Imported Water	Total Recharge	Overlying Non-Ag and Appropriative Pools	Overlying Agricultural Pool	Riparian Veg ET	Rising Groundwater	Total Discharge	Annual	Cumulative	Net Recharge
1992	12,509	5,585	7,103	6,194	30,385	0	117,907	51,850	3,598	0	5,568	240,698	102,664	77,336	15,871	28,303	224,174	16,525	16,525	190,956
1993	9,993	6,329	3,004	6,897	20,542	1	116,264	66,256	6,619	0	14,224	250,128	88,040	83,284	17,009	38,998	227,331	22,797	39,322	179,897
1994	10,143	6,269	5,695	6,825	18,988	1	116,881	43,345	1,486	0	16,448	226,083	93,564	72,115	16,371	34,822	216,873	9,210	48,532	158,441
1995	9,667	6,742	3,549	6,734	18,358	2	109,437	61,868	4,662	0	10,375	231,394	98,173	62,171	16,573	38,078	214,996	16,398	64,930	166,367
1996	9,038	6,844	5,492	6,933	18,130	4	118,090	46,714	2,425	0	82	213,752	109,609	71,220	17,829	36,984	235,642	-21,890	43,039	158,857
1997	8,801	6,791	5,211	6,490	17,918	5	107,772	50,535	3,305	0	16	206,845	112,998	68,968	17,346	36,633	235,944	-29,099	13,940	152,850
1998	9,062	6,716	2,953	6,505	17,705	7	117,363	61,152	5,780	0	8,352	235,596	104,141	45,302	18,178	41,525	209,146	26,450	40,390	167,541
1999	9,548	6,402	4,523	6,674	17,540	10	105,186	42,521	1,007	984	5,839	200,234	118,738	46,730	18,559	39,225	223,253	-23,019	17,371	135,626
2000	10,238	6,051	3,942	6,173	17,336	17	100,096	43,946	1,985	3,630	997	194,411	133,609	46,538	18,226	38,117	236,490	-42,079	-24,708	133,441
2001	10,707	6,161	5,084	5,772	17,147	26	100,181	43,855	3,162	6,221	6,538	204,853	129,866	41,429	18,224	41,246	230,765	-25,912	-50,620	132,624
2002	11,126	5,532	5,629	5,469	16,941	34	106,590	39,676	1,148	7,444	6,493	206,083	139,934	38,650	17,479	40,100	236,164	-30,080	-80,700	134,566
2003	11,360	5,060	3,294	5,304	16,796	36	92,427	49,768	6,284	7,112	6,548	203,990	133,793	36,507	18,170	42,458	230,928	-26,938	-107,639	129,700
2004	11,769	5,158	2,969	5,091	16,737	37	99,864	42,316	3,357	8,942	7,607	203,849	139,028	36,809	17,886	41,011	234,734	-30,885	-138,524	128,402
2005	10,560	6,416	-861	5,675	16,586	43	103,149	57,554	17,648	9,377	12,259	238,406	123,538	34,503	18,004	48,015	224,061	14,345	-124,179	150,751
2006	11,016	6,104	4,650	6,240	16,500	39	87,223	49,190	12,940	1,303	34,567	229,774	133,372	30,812	17,419	44,502	226,105	3,668	-120,510	131,982
2007	11,714	5,745	4,114	5,816	16,413	36	86,942	41,195	4,745	2,993	32,960	212,673	152,223	29,919	17,066	37,578	236,787	-24,114	-144,624	122,076
2008	11,556	5,712	2,859	5,419	16,469	36	94,215	47,001	10,205	2,340	0	195,813	157,812	26,280	15,937	35,396	235,426	-39,612	-184,237	142,140
2009	11,350	5,850	2,013	5,116	16,473	37	88,777	47,549	7,512	2,684	0	187,362	165,801	23,386	15,185	33,831	238,203	-50,841	-235,078	135,662
2010	11,843	5,221	1,219	4,885	16,481	34	80,900	54,145	14,273	7,210	5,000	201,210	137,948	22,038	14,809	34,538	209,333	-8,123	-243,201	139,653
2011	12,047	5,414	570	5,152	16,437	34	88,970	58,000	17,052	8,065	9,465	221,205	123,354	18,042	15,241	38,028	194,665	26,539	-216,661	150,406
2012	11,638	5,156	2,559	5,279	16,284	35	77,315	42,441	9,271	8,634	22,560	201,171	136,731	22,412	14,866	33,707	207,716	-6,544	-223,206	121,404
2013	11,032	5,124	2,313	4,964	16,194	39	84,952	39,983	5,271	10,479	0	180,351	139,128	24,074	13,596	28,902	205,700	-25,349	-248,554	127,374
2014	10,806	4,976	1,947	4,630	16,051	42	72,291	41,213	4,299	13,593	795	170,644	148,475	22,131	12,490	27,318	210,415	-39,770	-288,325	116,448
2015	10,957	4,463	1,398	4,026	15,840	36	72,304	42,629	8,001	10,840	0	170,494	134,339	17,552	11,999	27,430	191,320	-20,826	-309,150	120,225
2016	11,361	3,804	1,305	3,808	15,646	33	66,051	45,291	9,236	13,222	0	169,757	129,492	16,908	11,987	27,584	185,970	-16,214	-325,364	116,964
2017	11,671	4,432	1,014	3,649	15,411	36	69,350	51,791	11,575	13,934	13,150	196,012	127,244	16,191	12,698	30,062	186,195	9,816	-315,548	126,167
2018	11,235	3,833	2,848	3,631	14,983	38	71,159	36,988	4,494	13,212	33,763	196,184	123,992	16,776	11,952	27,004	179,724	16,460	-299,088	110,253
2019	11,151	5,110	611	3,508	14,809	37	67,836	56,181	12,861	11,145	6,510	189,758	116,396	15,478	12,598	30,914	175,387	14,371	-284,717	128,591
2020	11,408	4,853	2,102	3,722	14,735	43	66,814	48,094	9,967	12,953	18,103	192,793	132,618	15,722	12,782	32,204	193,326	-533	-285,251	116,751
2021	11,251	4,996	2,832	3,718	14,848	48	65,666	37,896	4,911	15,728	2,229	164,120	146,973	14,929	11,661	28,548	202,112	-37,992	-323,242	105,955
2022	11,417	4,626	737	3,453	14,777	48	62,536	37,724	8,108	15,042	1,742	160,210	148,608	14,077	10,582	26,383	199,649	-39,440	-362,682	106,461
Statistics for the Calibration Period 1992 through 2022																				
Total	337,974	171,477	92,680	163,752	529,459	874	2,814,505	1,478,666	217,187	207,086	282,191	6,295,851	3,982,201	1,108,289	478,596	1,089,446	6,658,533	-362,682		4,238,532
Percent	5.4%	2.7%	1.5%	2.6%	8.4%	0.0%	44.7%	23.5%	3.4%	3.3%	4.5%	100.0%	59.8%	16.6%	7.2%	16.4%	100.0%			
Average	10,902	5,532	2,990	5,282	17,079	28	90,790	47,699	7,006	6,680	9,103	203,092	128,458	35,751	15,439	35,143	214,791	-11,699		136,727
Median	11,151	5,532	2,859	5,304	16,481	36	88,970	46,714	5,780	7,210	6,510	201,210	132,618	29,919	15,937	35,396	216,873	-20,826		132,624
Maximum	12,509	6,844	7,103	6,933	30,385	48	118,090	66,256	17,648	15,728	34,567	250,128	165,801	83,284	18,559	48,015	238,203	26,539	64,930	190,956
Minimum	8,801	3,804	-861	3,453	14,735	0	62,536	36,988	1,007	0	0	160,210	88,040	14,077	10,582	26,383	175,387	-50,841	-362,682	105,955

Note: column heading R means model results and column heading I means model input. Asterisks indicate components that had volumes or related parameters that were allowed to vary during the uncertainty analysis.

Table B6-4 Water Budget for the Chino Basin for the Calibration Period - Realization E (af)

Fiscal Year	Recharge												Discharge					Change in Storage		
	R*	I*	R*	R*	R*	R*	I*	R*	I	I	I		I	I	R*	R*				
	Subsurface Inflow								Managed Aquifer Recharge				Groundwater Pumping							
	Bloomington Divide	Chino/Puente Hills, Jurupa Hills, and Rialto Basin	Net Temescal Basin	Six Basins	Cucamonga Basin	Spadra Basin	Deep Infiltration of Precipitation and Applied Water	Streambed Infiltration	Stormwater	Recycled Water	Imported Water	Total Recharge	Overlying Non-Ag and Appropriative Pools	Overlying Agricultural Pool	Riparian Veg ET	Rising Groundwater	Total Discharge	Annual	Cumulative	Net Recharge
1992	15,084	5,585	9,339	4,602	22,550	1	113,388	49,734	3,598	0	5,568	229,449	102,664	77,336	15,956	20,500	216,455	12,994	12,994	187,426
1993	13,037	6,329	4,876	5,221	15,675	2	123,654	57,705	6,619	0	14,224	247,341	88,040	83,284	17,230	29,956	218,510	28,831	41,825	185,931
1994	12,849	6,269	6,945	5,919	15,109	3	109,462	39,132	1,486	0	16,448	213,624	93,564	72,115	16,202	26,123	208,004	5,620	47,445	154,851
1995	12,145	6,742	4,351	5,852	14,876	5	112,486	53,365	4,662	0	10,375	224,859	98,173	62,171	16,037	29,206	205,588	19,272	66,717	169,241
1996	11,682	6,844	6,002	6,508	14,900	8	117,924	40,102	2,425	0	82	206,478	109,609	71,220	16,591	27,639	225,059	-18,581	48,136	162,166
1997	12,102	6,791	5,532	6,310	14,800	11	113,006	42,978	3,305	0	16	204,852	112,998	68,968	16,641	27,489	226,096	-21,244	26,891	160,705
1998	12,460	6,716	2,752	6,277	14,735	16	113,315	53,410	5,780	0	8,352	223,812	104,141	45,302	17,016	31,172	197,631	26,180	53,072	167,271
1999	13,266	6,402	4,328	6,640	14,848	24	104,390	35,159	1,007	984	5,839	192,888	118,738	46,730	17,516	28,979	211,964	-19,077	33,995	139,569
2000	13,515	6,051	3,518	6,333	14,685	37	108,646	36,718	1,985	3,630	997	196,115	133,609	46,538	17,787	28,249	226,184	-30,069	3,926	145,452
2001	14,238	6,161	4,379	5,999	14,511	48	107,007	35,807	3,162	6,221	6,538	204,069	129,866	41,429	17,175	31,084	219,554	-15,485	-11,558	143,052
2002	14,429	5,532	4,800	5,789	14,290	60	111,533	32,182	1,148	7,444	6,493	203,700	139,934	38,650	17,204	29,995	225,782	-22,082	-33,640	142,565
2003	15,020	5,060	2,100	5,723	14,220	66	95,088	42,689	6,284	7,112	6,548	199,911	133,793	36,507	17,099	32,381	219,779	-19,868	-53,508	136,771
2004	15,035	5,158	1,910	5,612	14,259	69	98,339	35,187	3,357	8,942	7,607	195,476	139,028	36,809	16,807	30,462	223,105	-27,630	-81,138	131,658
2005	14,262	6,416	-1,855	5,855	14,098	75	106,324	51,551	17,648	9,377	12,259	236,010	123,538	34,503	17,341	37,099	212,481	23,529	-57,608	159,935
2006	14,677	6,104	3,963	6,672	14,101	64	94,313	41,709	12,940	1,303	34,567	230,413	133,372	30,812	16,772	33,335	214,290	16,123	-41,486	144,436
2007	14,364	5,745	3,302	6,324	14,094	53	92,408	35,903	4,745	2,993	32,960	212,891	152,223	29,919	16,062	26,981	225,185	-12,294	-53,780	133,896
2008	14,051	5,712	2,040	5,975	14,194	50	85,295	42,026	10,205	2,340	0	181,886	157,812	26,280	15,408	25,306	224,806	-42,920	-96,699	138,833
2009	14,619	5,850	946	5,682	14,298	50	80,726	44,244	7,512	2,684	0	176,611	165,801	23,386	14,737	24,102	228,025	-51,414	-148,113	135,089
2010	15,255	5,221	143	5,497	14,181	49	90,933	49,343	14,273	7,210	5,000	207,104	137,948	22,038	14,940	24,721	199,647	7,458	-140,656	155,233
2011	15,662	5,414	-601	5,450	14,155	47	87,535	53,712	17,052	8,065	9,465	215,954	123,354	18,042	15,345	26,937	183,678	32,276	-108,380	156,142
2012	14,957	5,156	1,523	5,720	14,058	46	87,101	41,266	9,271	8,634	22,560	210,292	136,731	22,412	15,074	23,890	198,107	12,185	-96,195	140,133
2013	14,052	5,124	1,362	5,513	13,970	53	77,444	39,581	5,271	10,479	0	172,847	139,128	24,074	14,489	21,012	198,703	-25,856	-122,051	126,867
2014	14,271	4,976	981	5,387	13,743	64	66,271	41,633	4,299	13,593	795	166,013	148,475	22,131	14,265	20,119	204,990	-38,977	-161,028	117,241
2015	14,571	4,463	503	4,772	13,457	53	71,675	42,903	8,001	10,840	0	171,239	134,339	17,552	13,666	20,520	186,077	-14,838	-175,866	126,213
2016	14,380	3,804	387	4,509	13,280	50	75,240	45,379	9,236	13,222	0	179,487	129,492	16,908	13,973	21,251	181,623	-2,137	-178,003	131,041
2017	14,641	4,432	265	4,207	13,112	55	61,644	49,389	11,575	13,934	13,150	186,404	127,244	16,191	14,551	23,239	181,225	5,179	-172,824	121,530
2018	14,464	3,833	2,106	3,974	12,687	59	68,262	37,525	4,494	13,212	33,763	194,379	123,992	16,776	13,808	20,395	174,970	19,408	-153,416	113,201
2019	14,397	5,110	-353	3,978	12,499	53	66,250	53,611	12,861	11,145	6,510	186,061	116,396	15,478	14,599	22,930	169,404	16,657	-136,759	130,877
2020	14,369	4,853	1,029	3,855	12,561	60	64,961	47,593	9,967	12,953	18,103	190,303	132,618	15,722	13,963	24,234	186,537	3,766	-132,992	121,050
2021	14,070	4,996	1,843	3,978	12,805	71	67,134	38,313	4,911	15,728	2,229	166,076	146,973	14,929	13,348	21,766	197,016	-30,940	-163,932	113,006
2022	13,985	4,626	14	3,968	12,700	73	64,704	38,156	8,108	15,042	1,742	163,117	148,608	14,077	12,865	20,025	195,574	-32,458	-196,390	113,443
Statistics for the Calibration Period 1992 through 2022																				
Total	435,908	171,477	78,427	168,098	443,449	1,373	2,836,458	1,348,009	217,187	207,086	282,191	6,189,663	3,982,201	1,108,289	484,467	811,096	6,386,053	-196,390		4,404,824
Percent	7.0%	2.8%	1.3%	2.7%	7.2%	0.0%	45.8%	21.8%	3.5%	3.3%	4.6%	100.0%	62.4%	17.4%	7.6%	12.7%	100.0%			
Average	14,062	5,532	2,530	5,423	14,305	44	91,499	43,484	7,006	6,680	9,103	199,667	128,458	35,751	15,628	26,164	206,002	-6,335		142,091
Median	14,364	5,532	2,040	5,682	14,181	50	92,408	42,026	5,780	7,210	6,510	199,911	132,618	29,919	15,956	26,123	208,004	-12,294		139,569
Maximum	15,662	6,844	9,339	6,672	22,550	75	123,654	57,705	17,648	15,728	34,567	247,341	165,801	83,284	17,787	37,099	228,025	32,276	66,717	187,426
Minimum	11,682	3,804	-1,855	3,855	12,499	1	61,644	32,182	1,007	0	0	163,117	88,040	14,077	12,865	20,025	169,404	-51,414	-196,390	113,006

Note: column heading R means model results and column heading I means model input. Asterisks indicate components that had volumes or related parameters that were allowed to vary during the uncertainty analysis.

Appendix C

Scenario Design Information

DRAFT

C.1 OBJECTIVES

This appendix describes how the conservation regulations adopted by the State Board on July 3, 2024 (Conservation Regulation)[1] were incorporated into the three Water Plan Scenarios. It presents the Reference Water Plans for the major Appropriative Pool retailers (major AP retailers)[2], explains how the reductions in water demand for the major AP retailers relative to their respective Reference Water Plans were estimated in the Water Plan Scenarios to reflect varying levels of compliance with the Conservation Regulation, and shows how those reductions in water demand were translated into changes in urban outdoor water use through adjustments to R4 model parameters.

C.2 REFERENCE WATER PLANS FOR APPROPRIATIVE POOL RETAILERS

Section 5.4.1 describes the Refence Water Plans, which represent the best estimate of future cultural conditions in the absence of the Conservation Regulation adopted by the State Water Resources Control Board (State Board). Tables C-1 through C-9 summarize the projected monthly distribution of supplies under the Reference Water Plans for each of the nine major AP retailers.

C.3 CONSERVATION REGULATION AND WATER PLAN SCENARIOS

The Conservation Regulation, which took effect in January 2025, requires water agencies to calculate their total urban water use annually and compare it to an agency-specific overall water use objective. This objective is the sum of four components: (1) residential water use, including indoor, outdoor, and residential agricultural use; (2) water losses; (3) outdoor irrigation for commercial, industrial, and institutional landscapes with dedicated irrigation meters (CII landscapes with DIMs); and (4) bonus credits for recycled water use. Each component is determined by combining agency-specific factors such as population, climate, and landscape area with the adopted statewide efficiency standards[3] below.

- Indoor Residential Standard
  - Until January 1, 2025: 55 gallons per capita per day (gpcd)
  - January 1, 2025 through December 31, 2029: 47 gpcd
  - Beginning January 1, 2030: 42 gpcd
- Outdoor Residential Standard
  - Through June 30, 2035: Landscape Efficiency Factor4 (LEF) = 0.80

[1] The Conservation Regulation is described in more detail in Section 5.4.2.2.2.
[2] The major AP retailers include the City of Chino (Chino), City of Chino Hills (Chino Hills), City of Ontario (Ontario), City of Pomona (Pomona), City of Upland (Upland), Cucamonga Valley Water District (CVWD), Fontana Water Company (FWC), Jurupa Community Services District (JCSD), Monte Vista Water District (MVWD.
[3] final-text-conservation-way-of-life.pdf
[4] Landscape Efficiency Factor (LEF) is defined as a parameter that determines the maximum allowable irrigation for outdoor landscapes.

- July 1, 2035 through June 30, 2040: LEF = 0.63
- Beginning July 1, 2040: LEF = 0.55

- CII landscape with DIMs Standard
  - July 1, 2028 through June 30, 2035: LEF = 0.80
  - July 1, 2035 through June 30, 2040: LEF = 0.63
  - Beginning July 1, 2040: LEF = 0.45

Given that compliance with the Conservation Regulation is not required until 2027, and no historical data exists to evaluate how customers or the State will respond, there is significant uncertainty about its impact on future demands. To address this uncertainty, we collaborated with the major AP retailers to develop three response scenarios (expected response, limited response, and robust response) to align with the three Water Plan Scenarios (expected demand, high demand, and low demand). This section presents the methods used to estimate the water use objectives for each of the major AP retailers, the major AP retailer input that informed assumptions, and the development of three response scenarios.

C.3.1 Estimating Water Use Objectives

Retailer-specific water use objectives for 2025, 2030, 2035, 2040, and 2045 were developed for the following water use categories:

- Residential (including indoor, outdoor, and residential agriculture)
- CII landscapes with DIMs

C.3.1.1 Residential Water Use Objectives

The residential water use objectives were obtained from the State Board's database[5], which calculates retailer-specific values for 2025, 2030, 2035, 2040, and 2045. The database applies the adopted efficiency standards for residential use shown above to each retailer's service area using residential landscape area measurements along with average annual evapotranspiration, precipitation, and population data from 2017–2021.

[5] provisional-data-impacts-for-making-conservation-a-way-of-life.xlsx (Version 4.1, 2024-06-04)

C.3.1.2 CII Landscapes with DIMs Water Use Objectives

Unlike the residential objectives, the State Board had not calculated landscape area measurements for CII landscapes with DIMs when the scenarios were developed for this study. As a result, it was not possible to derive these objectives directly from the State Board's database. Instead, the analysis relied on the adopted efficiency standards for CII landscapes with DIMs, supplemented by information from the major AP retailers on current use patterns and landscape efficiency conditions. The following approach was applied to each major AP retailer:

1. Estimate the current water use for CII landscapes with DIMs.
2. Set the 2025 objective equal to 100 percent of current use.
3. Set the 2030 objective equal to 80 percent of current use.
4. Set the 2035 objective equal to 65 percent of current use.
5. Set the 2040 and 2045 objectives equal to 55 percent of current use.

C.3.1.3 Adjusting Water Use Objectives for Population Growth

While the water use objectives above account for increased conservation measures over time, they do not incorporate future population growth. To address this, the objectives were converted into gallons per gpcd and then multiplied by projected service area populations, as reported in the 2020 UWMPs. The resulting values are referred to as the nominal water use objectives.

C.3.2 Key Findings from Discussions with Appropriative Pool Retailers

In spring 2024, we met with the AP retailers facing the largest estimated reductions in demand (City of Ontario, JCSD, Upland, CVWD, and Pomona) to review assumptions and discuss what range of demand reductions could be considered realistic under the Conservation Regulation. A common message from all retailers was the high degree of uncertainty about how they and their customers will respond to the Conservation Regulation. However, several consistent themes emerged from these discussions, which provided a foundation for developing response scenarios that bracket the range of plausible outcomes. These themes are summarized below.

- Retailers indicated that meeting CII landscapes with DIM objectives is likely to be less challenging than meeting residential objectives. This is primarily due to California's Assembly Bill 1572[6], which prohibits the use of potable water for irrigating non-functional turf at CII properties beginning January 1, 2028.
- Recently developed and developing areas, such as Eastvale and Ontario Ranch, are expected to have lower residential water use than older areas. Newer communities are built under modern landscape and building codes, including California's Model Water Efficient Landscape

[6] California's Assembly Bill 1572

Ordinance (MWELO), which require efficient irrigation systems, reduced turf areas, and water-saving fixtures indoors. As a result, their residential water use is lower compared to older neighborhoods that were developed under less stringent landscape and building codes.

- Agencies facing water use reductions greater than 10–15 percent from their current use may struggle to comply without external support but may be able to comply with external funding or technical assistance.
- Most agencies plan to reduce imported water use to meet the objectives, except for Upland and Chino, which indicated they would reduce groundwater pumping instead.

C.3.3 Development of Conservation Regulation Response Scenarios

Based on the discussions with the AP retailers, three Conservation Regulation response scenarios (expected response, limited response, and robust response) were defined to align with the three Water Plan Scenarios (expected demand, high demand, and low demand, respectively). These scenarios are summarized in Table 5-5 and were presented in the draft Scenario Design TM #3 and the June 25th, 2024 workshop. The final Scenario Design TM #3[7] reflects the feedback received from the retailers.

For each major AP retailer, the following steps were performed to calculate the total potable water demand reduction for each scenario. First, total potable demand under the Reference Water Plan for 2025, 2030, 2035, 2040, and 2045 was separated into residential demand and CII landscapes with DIMs demand using retailer-specific ratios. Second, the reduction under full compliance with the Conservation Regulation was calculated for each category by subtracting the nominal water use objective from the corresponding reference demand. Third, the scenario-specific reduction percentage was applied to these full compliance reductions for each category. Finally, the residential and CII landscapes with DIMs reductions were combined to obtain the total demand reduction for each scenario. Table C-10 summarizes the data used and the results of each step for 2030 through 2045; 2025 was omitted since the Conservation Regulation is not projected to impact the Reference Water Plans for FY 2025.

C.3.4 Scenario-Specific Water Supply Plans

For each major AP retailer, the projected monthly distribution of supplies (Water Supply Plans) under each Water Plan Scenario was derived by applying the scenario-specific reductions from Table C-10 to the total potable demand under the Reference Water Plan. It was assumed that all demand reductions would result in equivalent reductions in imported water supply, except for the Cities of Chino and Upland who indicated that reductions would come from reduced groundwater pumping. Additional modifications were then incorporated to reflect the differences in groundwater and imported water utilization and assumed buildout conditions between the scenarios. The Low Demand Scenario corresponds to lower groundwater and higher imported water utilization and assumes a slower-than-expected buildout, whereas the High

[7] Final Scenario Design TM #3

Demand Scenario reflects higher groundwater and lower imported water utilization along with faster-than-expected buildout (see Sections 5.4.3.3 and 5.4.3.4 for details).

Draft Water Supply Plans for each scenario were shared with each AP retailers for review. Feedback received was incorporated into the analysis. If no response was received, approval was assumed. The final Water Supply Plans are shown in Tables C-11 through C-19.

C.4 INTEGRATION OF WATER PLAN SCENARIOS INTO R4

C.4.1 Integration Framework

This subsection outlines the framework for translating scenario-specific total demand reductions into modeling inputs for the 2025 SYR projection ensemble. It describes how urban outdoor water use is isolated from total demand reductions, how the R4 model estimates that use, which parameters control it, and how those parameters were determined to produce the outdoor water use for the Expected, High and Low Demand Scenarios.

The total demand reductions for each Water Plan Scenario described in the previous section reflect decreases in four categories:

- Residential indoor water use
- Residential outdoor water use
- Residential agricultural water use
- CII landscapes with DIMs outdoor water use

Because the R4 model only simulates outdoor water use, the reductions associated with residential indoor water use are subtracted from the total demand reductions. The remaining portion (residential outdoor, residential agricultural, and CII landscapes with DIMs) is collectively referred to as urban outdoor water use.

C.4.1.1 R4 Applied Water Calculations

Urban outdoor water use is simulated in R4 and is not a direct model input. Instead, R4 determines urban outdoor water use by estimating irrigation demands based on soil type, vegetation, irrigation method, precipitation, and evapotranspiration (ET). Applied water not consumed by the vegetation or lost to evaporation will infiltrate past the rootzone and contribute to deep percolation of precipitation and applied water (DIPAW). The R4 estimates of DIPAW become input to the groundwater-flow model.

The R4 parameters with the greatest influence on urban outdoor water use are:

- Irrigation efficiency (IE): the fraction of applied irrigation water effectively used by plants, with the remainder lost to runoff, evaporation, or deep percolation.
- Crop coefficient (K_c): a factor that adjusts reference evapotranspiration (ET_0) to reflect the actual water requirements of specific vegetation types.
- Percent irrigated area (IA): the proportion of a land use category (e.g., residential or commercial parcels) that is covered by irrigated landscapes rather than non-irrigated surfaces such as roofs, pavement, or native vegetation.

Applied water can be expressed with the following simplified equation with these parameters:

$$Applied\ Water \approx \left(IA * \frac{K_c}{IE}\right) * ET_0$$

This formulation is not a complete water balance; rather, it is a simplified way of approximating applied water as a function of climate, landscape characteristics, and irrigation methods. It is useful for comparing sensitivities of applied water to the R4 parameters, but it does not account for the dynamic soil-moisture water balance calculated with R4.

C.4.1.2 Adjusting R4 Parameters to Reflect Changes in Urban Outdoor Water Use

Under the Conservation Regulation, IE, K_c, and IA are expected to change over time. Irrigation efficiency is projected to increase with the adoption of more efficient irrigation technologies and practices (e.g., drip systems, smart controllers). Crop coefficients are projected to decrease as landscapes shift from high-water-use turf to climate-appropriate vegetation with lower water requirements. Percent irrigated area is projected to decrease as new developments incorporate less irrigated landscaping and as existing landscapes are converted to include more non-irrigated or low-water-use areas.

Based on the expected trends in irrigation efficiency, crop coefficient, and percent irrigated area under the Conservation Regulation, initial parameter values were developed for each Water Plan Scenario (Expected, High, and Low). These initial estimates reflect how outdoor water use is anticipated to change over time for each scenario. Input from the parties and the Chino Basin Water Conservation District indicated the following trends:

- Increases in irrigation efficiency of residential areas (e.g., replacing sprinklers with drip irrigation) is likely to be less prevalent than other forms of conservation. Irrigation efficiency is likely to increase by a greater degree in commercial and industrial areas.
- Rebates for removing turf would likely reduce irrigated area and the crop coefficient. There are several areas (e.g., some areas within the City of Upland) where replacing lawns may be a challenge due to strong local opposition.

The parameter sets were to match the simulated applied water with the projected reductions for each scenario. The following subsections describe the process of estimating urban outdoor water use reductions and refining the R4 parameters for each Water Plan Scenario.

C.4.2 Estimating Urban Outdoor Water Use Reductions

To translate the total demand reduction by agency for each Water Plan Scenario summarized in Table C-10 into the portion expected to occur in the outdoor sector, a set of assumptions was developed regarding the share of total conservation attributed to outdoor water use. Outdoor reductions were assumed to represent 0 percent of the total reductions in 2025, 30 percent in 2030, 77 percent in 2035 and 90 percent in 2040 and 2045. This approach ensured that the timing of outdoor reductions was consistent with the gradual increase of efficiency standards in the regulation.

The Conservation Regulation allows retailers to meet a portion of their Water Use Objective through recycled water use credits. Several AP retailers (Cucamonga Valley Water District, Fontana Water Company, and the City of Ontario) projected an increase in recycled water supply in the future. For these agencies, it was assumed that a portion of the increase in recycled water supply (compared to the projections in 2025) would be used to meet the Water Use Objective, accounting for part of the total reduction in outdoor water use. It was assumed that the portion of the increase in recycled water supply applied to the credit ranged from 90 percent in the Low Demand Scenario to 70 percent in the Expected Demand Scenario and 50 percent in the High Demand Scenario, reflecting more aggressive conversion of outdoor irrigation sourced by recycled water in the Low Demand Scenario.

Table C-20 presents the projected reductions in outdoor water use for each AP retailer from 2030 to 2045, including the underlying assumptions regarding the proportion of total conservation occurring in the outdoor sector and the application of recycled water credits.

C.4.3 Estimating Projected Reference Outdoor Water Use

The above section calculates urban outdoor water use reductions, but the R4 model estimates total outdoor urban water use. Therefore, it was necessary to estimate the projected outdoor water use in the absence of the Conservation Regulation (Reference outdoor water use). During calibration, the outdoor water use for each Water Plan Scenario was compared to the Reference outdoor water use. The difference between the two was evaluated against the projected reduction in outdoor water use for the corresponding Water Plan Scenario. Reference outdoor water use was estimated with the following steps:

1. The Runoff/Rootzone modules were run using 2017 Reference land surface parameters with the 2030 Average Climate time series, and total annual outdoor water use was calculated for FY 2024–2080.
2. The Runoff/Rootzone modules were run using 2040 Reference land surface parameters with the 2040 Average Climate time series, and total annual outdoor water use was calculated for FY 2024–2080.
3. The Runoff/Rootzone modules were run using 2040 Reference land surface parameters with the 2070 Average Climate time series, and total annual outdoor water use was calculated for FY 2024–2080.
4. The results of the three model runs were linearly interpolated to produce a continuous annual time series of Reference outdoor water use for FY 2024–2080.

C.4.4 R4 Parameter Adjustment Methods

The R4 parameters of irrigation efficiency, crop coefficient, and percent irrigated area were adjusted by comparing the average scenario-specific projected urban outdoor water use with the model-simulated outdoor water use over the Inland Empire Utilities Agency's (IEUA) major wastewater treatment plant service areas (sewersheds) from FY 2041 through 2050. The IEUA Sewershed (Figure C-1) includes the service areas of the Cities of Chino, Chino Hills, Upland, Ontario, the Cucamonga Valley Water District, Fontana, and the Monte Vista Water District. The IEUA Sewershed is used for this process because complete data was available for this region and the Sewershed was used for calibration of the R4 applied water (see Section 4). The period of FY 2041 through 2050 was averaged to account for the variable hydrology over the period to approximate water use in 2045, when the Conservation Regulation is assumed to take full effect and maximum reductions in water use are reached. Parameter adjustment was performed with the following steps:

1. The 2040 Reference land surface parameters were updated by modifying irrigation efficiency, crop coefficient, and percent irrigated area for urban land use classes to reflect conditions that would generate the required reductions in outdoor use given in the Expected Demand Water Plan Scenario while remaining within ranges specified in relevant literature. These modified parameters were defined as the 2040 Expected Demand land surface parameters.
    a. Urban land use classes include commercial, industrial, residential, and golf courses. Commercial, industrial, and residential land uses are classified as "legacy" or "new" depending on when they are converted from agricultural or undeveloped land. If the land

was developed after 2015, it is assumed that the water use parameters are more efficient to align with California's Model Water Efficient Landscape Ordinance (MWELO).[8]

2. The Runoff/Rootzone modules were run using 2017 Reference land surface parameters with the 2030 Average Climate time series, and total annual outdoor water use was calculated for FY 2024–2080 (this run was completed as part of Step 1 in the Reference scenario above).
3. The Runoff/Rootzone modules were run using the 2040 Expected Demand land surface parameters with the 2040 Average Climate time series, and total annual outdoor water use was calculated for FY 2024–2080.
4. The Runoff/Rootzone modules were run using the 2040 Expected Demand land surface parameters with the 2070 Average Climate time series, and total annual outdoor water use was calculated for FY 2024–2080.
5. The results of the three model runs (Steps 2 through 4) were linearly interpolated to produce a continuous annual time series of outdoor water use for FY 2024–2080 under the Expected Demand/Average Climate Scenario.
6. The average outdoor water use for IEUA Sewershed was calculated for the period 2041–2050.
7. The calculated average outdoor water use was compared to the Reference volume. The difference between the two values was evaluated against the projected reduction in outdoor water use for the Expected Demand Water Plan Scenario in 2045. If the difference was greater than the specified tolerance (4 percent), the parameters were updated and steps 2–7 were repeated. Once the difference was within the specified tolerance, the parameter estimation was complete.

The same steps were used to adjust the 2040 High Demand and 2040 Low Demand R4 outdoor water use parameters.

C.4.5 Results

Table C-21 shows the final applied water coefficients $\left(IA * \frac{K_c}{IE}\right)$ for the five land use types for the historical calibration period (1990 and 2022; intermediate land use years are omitted for brevity) and the projection scenarios for 2040. The applied water coefficients in Table C-21 are averaged across the watershed.

Table C-22 shows the comparison between the simulated reduction in urban outdoor water use for each demand scenario compared to the targets. For each demand scenario, the simulated and target reduction in urban outdoor water use was within 4 percent.

[8] Model Water Efficient Landscape Ordinance

Table C-21. Final Applied Water Coefficients for R4 Demand Scenarios

Year	Scenario	Average Applied Water Coefficient [IA*(Kc/IE)]				
		Commercial and Industrial[a]		Residential[a]		Golf Courses[b]
		Existing	New	Existing	New	Existing
1990	Historical	1.06	N/A	1.06	N/A	0.92
2022		0.76	0.44	0.76	0.55	0.77
2040	High Demand	0.70	0.45	0.73	0.52	0.77
	Expected Demand	0.65	0.42	0.67	0.47	0.74
	Low Demand	0.62	0.39	0.62	0.45	0.73

(a) For 1990, "New" development in the Residential and Commercial/Industrial categories did not exist in the model; therefore, no applied water coefficients are shown for those land use types in that year.

(b) The crop coefficient for Golf Courses varies monthly in 1990. Therefore, the applied water coefficient for Golf Courses in 1990 was calculated using the maximum monthly crop coefficient applied during the peak irrigation season (April through August).

Table C-22. Results of Irrigation Parameter Adjustments for IEUA Sewershed

Demand Scenario	Target Reduction in UOWU in 2045[a], af	Average Simulated Reduction in UOWU 2041-2050 [a], af	Simulated minus Target, af	Simulated divided by Target (%)
Low Demand	23,000	22,900	-100	100
Expected Demand	18,200	17,500	-700	96
High Demand	11,200	11,400	200	102

(a) Results are rounded to the nearest hundred

C.4.6 Outdoor Water Use Time Series

Figure C-2 illustrates historical and projected urban outdoor water use simulated by the R4 model across the IEUA sewersheds.

- The dashed gray line shows the corresponding projection from the 2020 SYR for comparison (starting in 2019).
- The solid curves represent the 2025 SYR projections for the three Water Plan Scenarios under the Average Climate condition (Scenarios 1, 4, and 7); the shaded dark-purple band between them indicates the range of urban outdoor water use attributable to differences in demand assumptions alone.
- The lighter-purple shading encompasses the full range of projected outdoor water use across all nine Projection Scenarios, reflecting the additional influence of climate: hotter/drier conditions increase outdoor use, while cooler/wetter conditions reduce it.

Table C-1. City of Chino - Reference Water Plan
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year		Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	2025	Groundwater	Potable	Chino Basin		423	423	423	571	712	770	702	702	702	702	655	563	**7,348**	**20,848**
	2025	Groundwater (Imported)	Potable	Chino Basin	CDA	417	417	417	417	417	417	418	417	417	417	417	417	**5,000**	
	2025	Surface Water (Imported)	Potable	SWP	WFA	229	229	229	231	243	375	520	630	630	229	229	229	**4,000**	
	2025	Recycled	Non-Potable	IEUA		119	163	151	272	375	450	547	780	694	487	280	180	**4,500**	
2030	2030	Groundwater	Potable	Chino Basin		424	424	424	593	830	1,162	1,490	1,494	1,342	1,046	780	602	**10,610**	**22,310**
	2030	Groundwater (Imported)	Potable	Chino Basin	CDA	417	417	417	417	417	417	418	417	417	417	417	417	**5,000**	
	2030	Surface Water (Imported)	Potable	SWP	WFA	100	115	122	190	229	229	250	246	229	229	153	110	**2,200**	
	2030	Recycled	Non-Potable	IEUA		119	163	151	272	375	450	547	780	694	487	280	180	**4,500**	
2035	2035	Groundwater	Potable	Chino Basin		743	743	761	1,103	1,253	1,338	1,395	1,384	1,078	854	637	583	**11,872**	**23,072**
	2035	Groundwater (Imported)	Potable	Chino Basin	CDA	417	417	417	417	417	417	418	417	417	417	417	417	**5,000**	
	2035	Surface Water (Imported)	Potable	SWP	WFA	100	115	122	190	229	229	250	246	229	229	153	110	**2,200**	
	2035	Recycled	Non-Potable	IEUA		106	145	135	242	334	400	486	694	617	433	249	160	**4,000**	
2040	2040	Groundwater	Potable	Chino Basin		888	865	909	1,035	1,188	1,296	1,360	1,382	1,181	1,117	900	845	**12,966**	**23,966**
	2040	Groundwater (Imported)	Potable	Chino Basin	CDA	417	417	417	417	417	417	418	417	417	417	417	417	**5,000**	
	2040	Surface Water (Imported)	Potable	SWP	WFA	100	115	122	190	229	229	250	246	229	229	153	110	**2,200**	
	2040	Recycled	Non-Potable	IEUA		101	137	128	230	317	380	462	659	586	411	237	152	**3,800**	
2045	2045	Groundwater	Potable	Chino Basin		633	633	633	1,060	1,165	2,235	2,285	2,428	1,378	1,378	1,060	847	**15,736**	**26,735**
	2045	Groundwater (Imported)	Potable	Chino Basin	CDA	417	417	417	417	417	417	418	417	417	417	417	417	**5,000**	
	2045	Surface Water (Imported)	Potable	SWP	WFA	100	115	122	190	229	229	250	246	229	229	153	110	**2,200**	
	2045	Recycled	Non-Potable	IEUA		101	137	128	230	317	380	462	659	586	411	237	152	**3,800**	

Table C-2 City of Chino Hills - Reference Water Plan
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year		Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	2025	Groundwater	Potable	Chino Basin		55	82	86	202	224	214	249	256	222	216	173	115	**2,093**	**17,120**
	2025	Groundwater (Imported)	Potable	Chino Basin	CDA	326	302	345	342	355	374	385	361	354	372	348	337	**4,200**	
	2025	Groundwater (Imported)	Potable	Chino Basin	MVWD	263	215	240	248	350	319	339	284	202	258	319	266	**3,303**	
	2025	Surface Water (Imported)	Potable	Other	MVWD	152	144	152	204	266	337	401	444	442	359	252	151	**3,303**	
	2025	Surface Water (Imported)	Potable	SWP	WFA	162	174	252	207	206	274	296	296	207	207	170	161	**2,613**	
	2025	Recycled	Non-Potable	IEUA		49	38	53	101	143	182	227	234	229	178	114	59	**1,609**	
2030	2030	Groundwater	Potable	Chino Basin		56	83	88	206	228	218	253	261	226	220	177	117	**2,132**	**17,334**
	2030	Groundwater (Imported)	Potable	Chino Basin	CDA	326	302	345	342	355	374	385	361	354	372	348	337	**4,200**	
	2030	Groundwater (Imported)	Potable	Chino Basin	MVWD	268	219	245	253	357	326	345	289	205	263	325	271	**3,365**	
	2030	Surface Water (Imported)	Potable	Other	MVWD	154	147	155	208	271	343	409	453	450	366	256	154	**3,365**	
	2030	Surface Water (Imported)	Potable	SWP	WFA	165	177	257	211	210	279	302	302	211	211	173	164	**2,662**	
	2030	Recycled	Non-Potable	IEUA		49	38	53	101	143	182	227	234	229	178	114	59	**1,609**	
2035	2035	Groundwater	Potable	Chino Basin		57	86	91	212	235	224	261	269	232	226	182	121	**2,196**	**17,678**
	2035	Groundwater (Imported)	Potable	Chino Basin	CDA	326	302	345	342	355	374	385	361	354	372	348	337	**4,200**	
	2035	Groundwater (Imported)	Potable	Chino Basin	MVWD	276	226	252	260	367	335	355	298	212	271	335	279	**3,466**	
	2035	Surface Water (Imported)	Potable	Other	MVWD	159	152	159	214	279	353	421	466	463	377	264	159	**3,466**	
	2035	Surface Water (Imported)	Potable	SWP	WFA	170	182	264	218	216	288	311	311	217	217	178	169	**2,742**	
	2035	Recycled	Non-Potable	IEUA		49	38	53	101	143	182	227	234	229	178	114	59	**1,609**	
2040	2040	Groundwater	Potable	Chino Basin		58	86	91	213	236	225	262	270	233	227	183	121	**2,204**	**17,725**
	2040	Groundwater (Imported)	Potable	Chino Basin	CDA	326	302	345	342	355	374	385	361	354	372	348	337	**4,200**	
	2040	Groundwater (Imported)	Potable	Chino Basin	MVWD	277	227	253	261	369	337	357	299	212	272	336	280	**3,479**	
	2040	Surface Water (Imported)	Potable	Other	MVWD	160	152	160	215	280	355	422	468	465	378	265	159	**3,479**	
	2040	Surface Water (Imported)	Potable	SWP	WFA	171	183	265	219	217	289	312	312	218	218	179	170	**2,753**	
	2040	Recycled	Non-Potable	IEUA		49	38	53	101	143	182	227	234	229	178	114	59	**1,609**	
2045	2045	Groundwater	Potable	Chino Basin		58	87	91	213	237	226	263	271	234	228	183	122	**2,213**	**17,769**
	2045	Groundwater (Imported)	Potable	Chino Basin	CDA	326	302	345	342	355	374	385	361	354	372	348	337	**4,200**	
	2045	Groundwater (Imported)	Potable	Chino Basin	MVWD	278	228	254	262	370	338	358	300	213	273	337	281	**3,492**	
	2045	Surface Water (Imported)	Potable	Other	MVWD	160	153	161	216	281	356	424	470	467	380	266	160	**3,492**	
	2045	Surface Water (Imported)	Potable	SWP	WFA	172	184	266	219	218	290	313	313	219	219	180	171	**2,763**	
	2045	Recycled	Non-Potable	IEUA		49	38	53	101	143	182	227	234	229	178	114	59	**1,609**	

Table C-3. Cucamonga Valley Water District - Reference Water Plan
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year		Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	2025	Groundwater	Transfer	Chino Basin														-	53,367
	2025	Groundwater	Potable	Chino Basin		581	544	573	798	911	1,035	1,173	1,173	1,054	958	809	641	**10,250**	
	2025	Groundwater	Potable	Cucamonga Basin		567	531	559	779	889	1,010	1,144	1,144	1,028	935	789	625	**10,000**	
	2025	Surface Water	Potable	Deer Canyon		3	3	3	4	4	5	6	6	5	5	4	3	**51**	
	2025	Surface Water	Potable	Cucamonga Canyon		45	42	45	62	71	81	92	92	82	75	63	50	**800**	
	2025	Surface Water (Imported)	Potable	SWP	IEUA/MWD	1,607	1,506	1,585	2,209	2,522	2,864	3,246	3,246	2,917	2,652	2,239	1,774	**28,367**	
	2025	Recycled	Non-Potable	IEUA		102	96	101	140	160	182	206	206	185	168	142	113	**1,801**	
	2025	Surface Water	Potable	Day/East Canyon		119	111	117	163	187	212	240	240	216	196	166	131	**2,098**	
2030	2030	Groundwater	Transfer	Chino Basin														**0**	58,089
	2030	Groundwater	Potable	Chino Basin		837	784	825	1,150	1,313	1,492	1,690	1,691	1,519	1,381	1,166	924	**14,772**	
	2030	Groundwater	Potable	Cucamonga Basin		567	531	559	779	889	1,010	1,144	1,144	1,028	935	789	625	**10,000**	
	2030	Surface Water	Potable	Deer Canyon		3	3	3	4	4	5	6	6	5	5	4	3	**51**	
	2030	Surface Water	Potable	Cucamonga Canyon		45	42	45	62	71	81	92	92	82	75	63	50	**800**	
	2030	Surface Water (Imported)	Potable	SWP	IEUA/MWD	1,607	1,506	1,585	2,209	2,522	2,864	3,246	3,246	2,917	2,652	2,239	1,774	**28,367**	
	2030	Recycled	Non-Potable	IEUA		113	106	112	156	178	202	229	229	206	187	158	125	**2,001**	
	2030	Surface Water	Potable	Day/East Canyon		119	111	117	163	187	212	240	240	216	196	166	131	**2,098**	
2035	2035	Groundwater	Transfer	Chino Basin														**0**	59,647
	2035	Groundwater	Potable	Chino Basin		925	867	912	1,271	1,452	1,649	1,869	1,869	1,679	1,527	1,289	1,021	**16,330**	
	2035	Groundwater	Potable	Cucamonga Basin		567	531	559	779	889	1,010	1,144	1,144	1,028	935	789	625	**10,000**	
	2035	Surface Water	Potable	Deer Canyon		3	3	3	4	4	5	6	6	5	5	4	3	**51**	
	2035	Surface Water	Potable	Cucamonga Canyon		45	42	45	62	71	81	92	92	82	75	63	50	**800**	
	2035	Surface Water (Imported)	Potable	SWP	IEUA/MWD	1,607	1,506	1,585	2,209	2,522	2,864	3,246	3,246	2,917	2,652	2,239	1,774	**28,367**	
	2035	Recycled	Non-Potable	IEUA		113	106	112	156	178	202	229	229	206	187	158	125	**2,001**	
	2035	Surface Water	Potable	Day/East Canyon		119	111	117	163	187	212	240	240	216	196	166	131	**2,098**	
2040	2040	Groundwater	Transfer	Chino Basin														**0**	60,947
	2040	Groundwater	Potable	Chino Basin		999	936	985	1,373	1,567	1,780	2,017	2,018	1,813	1,648	1,391	1,103	**17,630**	
	2040	Groundwater	Potable	Cucamonga Basin		567	531	559	779	889	1,010	1,144	1,144	1,028	935	789	625	**10,000**	
	2040	Surface Water	Potable	Deer Canyon		3	3	3	4	4	5	6	6	5	5	4	3	**51**	
	2040	Surface Water	Potable	Cucamonga Canyon		45	42	45	62	71	81	92	92	82	75	63	50	**800**	
	2040	Surface Water (Imported)	Potable	SWP	IEUA/MWD	1,607	1,506	1,585	2,209	2,522	2,864	3,246	3,246	2,917	2,652	2,239	1,774	**28,367**	
	2040	Recycled	Non-Potable	IEUA		113	106	112	156	178	202	229	229	206	187	158	125	**2,001**	
	2040	Surface Water	Potable	Day/East Canyon		119	111	117	163	187	212	240	240	216	196	166	131	**2,098**	
2045	2045	Groundwater	Transfer	Chino Basin														**0**	60,947
	2045	Groundwater	Potable	Chino Basin		999	936	985	1,373	1,567	1,780	2,017	2,018	1,813	1,648	1,391	1,103	**17,630**	
	2045	Groundwater	Potable	Cucamonga Basin		567	531	559	779	889	1,010	1,144	1,144	1,028	935	789	625	**10,000**	
	2045	Surface Water	Potable	Deer Canyon		3	3	3	4	4	5	6	6	5	5	4	3	**51**	
	2045	Surface Water	Potable	Cucamonga Canyon		45	42	45	62	71	81	92	92	82	75	63	50	**800**	
	2045	Surface Water (Imported)	Potable	SWP	IEUA/MWD	1,607	1,506	1,585	2,209	2,522	2,864	3,246	3,246	2,917	2,652	2,239	1,774	**28,367**	
	2045	Recycled	Non-Potable	IEUA		113	106	112	156	178	202	229	229	206	187	158	125	**2,001**	
	2045	Surface Water	Potable	Day/East Canyon		119	111	117	163	187	212	240	240	216	196	166	131	**2,098**	

Table C-4 Fontana Water Company - Reference Water Plan
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year		Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	2025	Groundwater	Potable	No-Man's Land		160	139	139	127	143	141	162	160	154	168	168	161	**1,822**	**45,593**
	2025	Groundwater	Potable	Chino Basin		316	341	388	759	794	1,134	1,232	1,229	1,020	1,013	657	395	**9,278**	
	2025	Groundwater	Potable	Rialto-Colton Basin		355	308	309	282	317	314	359	355	342	372	373	356	**4,043**	
	2025	Groundwater	Potable	Lytle Basin		562	487	488	446	500	496	568	561	541	589	589	563	**6,390**	
	2025	Surface Water	Potable	Lytle Creek		454	488	492	556	517	397	357	337	337	240	293	390	**4,860**	
	2025	Surface Water (Imported)	Potable	SWP	IEUA	958	905	1,160	1,176	1,414	1,357	1,483	1,516	1,409	1,623	1,050	948	**15,000**	
	2025	Surface Water (Imported)	Potable	Sandhill	SBVMWD	204	193	247	251	302	289	316	323	301	346	224	202	**3,200**	
	2025	Recycled	Non-Potable	IEUA		35	39	34	81	110	146	130	114	114	69	80	48	**1,000**	
2030	2030	Groundwater	Potable	No-Man's Land		163	142	142	130	145	144	165	163	157	171	171	164	**1,856**	**46,909**
	2030	Groundwater	Potable	Chino Basin		340	367	417	816	854	1,220	1,326	1,322	1,098	1,090	707	425	**9,983**	
	2030	Groundwater	Potable	Rialto-Colton Basin		362	314	315	288	323	320	366	362	349	380	380	363	**4,120**	
	2030	Groundwater	Potable	Lytle Basin		562	487	488	446	500	496	568	561	541	589	589	563	**6,390**	
	2030	Surface Water	Potable	Lytle Creek		454	488	492	556	517	397	357	337	337	240	293	390	**4,860**	
	2030	Surface Water (Imported)	Potable	SWP	IEUA	958	905	1,160	1,176	1,414	1,357	1,483	1,516	1,409	1,623	1,050	948	**15,000**	
	2030	Surface Water (Imported)	Potable	Sandhill	SBVMWD	204	193	247	251	302	289	316	323	301	346	224	202	**3,200**	
	2030	Recycled	Non-Potable	IEUA		53	58	51	121	165	219	195	171	172	104	121	72	**1,500**	
2035	2035	Groundwater	Potable	No-Man's Land		166	144	145	132	148	147	168	166	160	174	174	167	**1,891**	**48,665**
	2035	Groundwater	Potable	Chino Basin		379	409	465	910	952	1,360	1,478	1,474	1,224	1,215	788	473	**11,128**	
	2035	Groundwater	Potable	Rialto-Colton Basin		369	320	321	293	329	326	373	368	355	387	387	370	**4,196**	
	2035	Groundwater	Potable	Lytle Basin		562	487	488	446	500	496	568	561	541	589	589	563	**6,390**	
	2035	Surface Water	Potable	Lytle Creek		454	488	492	556	517	397	357	337	337	240	293	390	**4,860**	
	2035	Surface Water (Imported)	Potable	SWP	IEUA	958	905	1,160	1,176	1,414	1,357	1,483	1,516	1,409	1,623	1,050	948	**15,000**	
	2035	Surface Water (Imported)	Potable	Sandhill	SBVMWD	204	193	247	251	302	289	316	323	301	346	224	202	**3,200**	
	2035	Recycled	Non-Potable	IEUA		71	78	67	161	219	292	260	228	229	138	161	95	**2,000**	
2040	2040	Groundwater	Potable	No-Man's Land		169	147	147	135	151	149	171	169	163	177	177	170	**1,925**	**50,442**
	2040	Groundwater	Potable	Chino Basin		418	452	514	1,005	1,052	1,502	1,633	1,628	1,352	1,342	870	523	**12,293**	
	2040	Groundwater	Potable	Rialto-Colton Basin		376	326	327	299	335	332	380	375	362	394	394	377	**4,274**	
	2040	Groundwater	Potable	Lytle Basin		562	487	488	446	500	496	568	561	541	589	589	563	**6,390**	
	2040	Surface Water	Potable	Lytle Creek		454	488	492	556	517	397	357	337	337	240	293	390	**4,860**	
	2040	Surface Water (Imported)	Potable	SWP	IEUA	958	905	1,160	1,176	1,414	1,357	1,483	1,516	1,409	1,623	1,050	948	**15,000**	
	2040	Surface Water (Imported)	Potable	Sandhill	SBVMWD	204	193	247	251	302	289	316	323	301	346	224	202	**3,200**	
	2040	Recycled	Non-Potable	IEUA		89	97	84	202	274	366	324	285	286	173	201	119	**2,500**	
2045	2045	Groundwater	Potable	No-Man's Land		172	149	150	137	153	152	174	172	166	181	181	173	**1,960**	**51,943**
	2045	Groundwater	Potable	Chino Basin		449	485	551	1,078	1,128	1,611	1,751	1,746	1,450	1,440	933	561	**13,183**	
	2045	Groundwater	Potable	Rialto-Colton Basin		382	332	333	304	341	338	386	382	368	401	401	383	**4,350**	
	2045	Groundwater	Potable	Lytle Basin		562	487	488	446	500	496	568	561	541	589	589	563	**6,390**	
	2045	Surface Water	Potable	Lytle Creek		454	488	492	556	517	397	357	337	337	240	293	390	**4,860**	
	2045	Surface Water (Imported)	Potable	SWP	IEUA	958	905	1,160	1,176	1,414	1,357	1,483	1,516	1,409	1,623	1,050	948	**15,000**	
	2045	Surface Water (Imported)	Potable	Sandhill	SBVMWD	204	193	247	251	302	289	316	323	301	346	224	202	**3,200**	
	2045	Recycled	Non-Potable	IEUA		106	117	101	242	329	439	389	342	343	207	241	143	**3,000**	

Table C-5. Jurupa Community Services District - Reference Water Plan
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year		Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	2025	Groundwater	Potable	Chino Basin		472	472	566	755	849	943	1,038	1,038	943	943	755	660	**9,432**	**31,525**
	2025	Groundwater (Imported)	Potable	Riverside South Basin	Rubidoux Community Services District	100	100	120	160	180	200	220	220	200	200	160	140	**2,000**	
	2025	Groundwater (Imported)	Potable	Chino Basin	CDA	587	587	704	939	1,056	1,173	1,291	1,291	1,173	1,173	939	821	**11,733**	
	2025	Groundwater (Imported)	Potable	Chino Basin	CVWD	300	300	360	480	540	600	660	660	600	600	480	420	**6,000**	
	2025	Groundwater (Imported)	Potable	Chino Basin	City of Ontario	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	2025	Groundwater (Imported)	Potable	Chino Basin	WMWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	2025	Groundwater (Imported)	Transfer	Chino Basin	CDA	60	60	72	96	108	120	132	132	120	120	96	84	**1,200**	
	2025	Groundwater	Non-Potable	Riverside South Basin		25	25	30	40	45	50	55	55	50	50	40	35	**500**	
	2025	Groundwater	Non-Potable	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	2025	Recycled	Non-Potable	JCSD Rec. Water Project		33	33	40	53	59	66	73	73	66	66	53	46	**660**	
2030	2030	Groundwater	Potable	Chino Basin		597	597	717	955	1,075	1,194	1,314	1,314	1,194	1,194	955	836	**11,942**	**34,035**
	2030	Groundwater (Imported)	Potable	Riverside South Basin	Rubidoux Community Services District	100	100	120	160	180	200	220	220	200	200	160	140	**2,000**	
	2030	Groundwater (Imported)	Potable	Chino Basin	CDA	587	587	704	939	1,056	1,173	1,291	1,291	1,173	1,173	939	821	**11,733**	
	2030	Groundwater (Imported)	Potable	Chino Basin	CVWD	300	300	360	480	540	600	660	660	600	600	480	420	**6,000**	
	2030	Groundwater (Imported)	Potable	Chino Basin	City of Ontario	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	2030	Groundwater (Imported)	Potable	Chino Basin	WMWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	2030	Groundwater (Imported)	Transfer	Chino Basin	CDA	60	60	72	96	108	120	132	132	120	120	96	84	**1,200**	
	2030	Groundwater	Non-Potable	Riverside South Basin		25	25	30	40	45	50	55	55	50	50	40	35	**500**	
	2030	Groundwater	Non-Potable	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	2030	Recycled	Non-Potable	JCSD Rec. Water Project		33	33	40	53	59	66	73	73	66	66	53	46	**660**	
2035	2035	Groundwater	Potable	Chino Basin		687	687	824	1,099	1,236	1,373	1,511	1,511	1,373	1,373	1,099	961	**13,732**	**35,825**
	2035	Groundwater (Imported)	Potable	Riverside South Basin	Rubidoux Community Services District	100	100	120	160	180	200	220	220	200	200	160	140	**2,000**	
	2035	Groundwater (Imported)	Potable	Chino Basin	CDA	587	587	704	939	1,056	1,173	1,291	1,291	1,173	1,173	939	821	**11,733**	
	2035	Groundwater (Imported)	Potable	Chino Basin	CVWD	300	300	360	480	540	600	660	660	600	600	480	420	**6,000**	
	2035	Groundwater (Imported)	Potable	Chino Basin	City of Ontario	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	2035	Groundwater (Imported)	Potable	Chino Basin	WMWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	2035	Groundwater (Imported)	Transfer	Chino Basin	CDA	60	60	72	96	108	120	132	132	120	120	96	84	**1,200**	
	2035	Groundwater	Non-Potable	Riverside South Basin		25	25	30	40	45	50	55	55	50	50	40	35	**500**	
	2035	Groundwater	Non-Potable	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	2035	Recycled	Non-Potable	JCSD Rec. Water Project		33	33	40	53	59	66	73	73	66	66	53	46	**660**	
2040	2040	Groundwater	Potable	Chino Basin		785	785	942	1,256	1,413	1,570	1,727	1,727	1,570	1,570	1,256	1,099	**15,702**	**37,795**
	2040	Groundwater (Imported)	Potable	Riverside South Basin	Rubidoux Community Services District	100	100	120	160	180	200	220	220	200	200	160	140	**2,000**	
	2040	Groundwater (Imported)	Potable	Chino Basin	CDA	587	587	704	939	1,056	1,173	1,291	1,291	1,173	1,173	939	821	**11,733**	
	2040	Groundwater (Imported)	Potable	Chino Basin	CVWD	300	300	360	480	540	600	660	660	600	600	480	420	**6,000**	
	2040	Groundwater (Imported)	Potable	Chino Basin	City of Ontario	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	2040	Groundwater (Imported)	Potable	Chino Basin	WMWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	2040	Groundwater (Imported)	Transfer	Chino Basin	CDA	60	60	72	96	108	120	132	132	120	120	96	84	**1,200**	
	2040	Groundwater	Non-Potable	Riverside South Basin		25	25	30	40	45	50	55	55	50	50	40	35	**500**	
	2040	Groundwater	Non-Potable	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	2040	Recycled	Non-Potable	JCSD Rec. Water Project		33	33	40	53	59	66	73	73	66	66	53	46	**660**	
2045	2045	Groundwater	Potable	Chino Basin		785	785	942	1,256	1,413	1,570	1,727	1,727	1,570	1,570	1,256	1,099	**15,702**	**37,795**
	2045	Groundwater (Imported)	Potable	Riverside South Basin	Rubidoux Community Services District	100	100	120	160	180	200	220	220	200	200	160	140	**2,000**	
	2045	Groundwater (Imported)	Potable	Chino Basin	CDA	587	587	704	939	1,056	1,173	1,291	1,291	1,173	1,173	939	821	**11,733**	
	2045	Groundwater (Imported)	Potable	Chino Basin	CVWD	300	300	360	480	540	600	660	660	600	600	480	420	**6,000**	
	2045	Groundwater (Imported)	Potable	Chino Basin	City of Ontario	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	2045	Groundwater (Imported)	Potable	Chino Basin	WMWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	2045	Groundwater (Imported)	Transfer	Chino Basin	CDA	60	60	72	96	108	120	132	132	120	120	96	84	**1,200**	
	2045	Groundwater	Non-Potable	Riverside South Basin		25	25	30	40	45	50	55	55	50	50	40	35	**500**	
	2045	Groundwater	Non-Potable	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	2045	Recycled	Non-Potable	JCSD Rec. Water Project		33	33	40	53	59	66	73	73	66	66	53	46	**660**	

Table C-6. Monte Vista Water District - Reference Water Plan
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year		Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	2025	Groundwater	Transfer	Chino Basin		263	215	240	248	350	319	339	284	202	258	319	266	**3,303**	**20,838**
	2025	Surface Water (Imported)	Transfer	SWP	WFA	152	144	152	204	266	337	401	444	442	359	252	151	**3,303**	
	2025	Groundwater	Potable	Chino Basin		593	486	542	560	791	722	765	641	456	583	721	601	**7,461**	
	2025	Groundwater (Imported)	Potable	Other	SAWCo	68	63	10	0	0	0	0	0	0	34	131	171	**477**	
	2025	Surface Water (Imported)	Potable	SWP	WFA	138	131	138	185	241	306	364	404	401	326	228	137	**3,000**	
	2025	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	28	26	4	0	0	0	0	0	0	14	53	70	**194**	
	2025	Recycled	Non-Potable	IEUA		35	41	38	73	112	133	149	147	137	115	86	36	**1,100**	
	2025	Surface Water (Imported)	Non-Potable	SWP	WFA	92	87	92	123	161	204	243	269	267	217	152	92	**2,000**	
2030	2030	Groundwater	Transfer	Chino Basin		268	219	245	253	357	326	345	289	205	263	325	271	**3,365**	**21,295**
	2030	Surface Water (Imported)	Transfer	SWP	WFA	154	147	155	208	271	343	409	453	450	366	256	154	**3,365**	
	2030	Groundwater	Potable	Chino Basin		620	508	566	585	826	754	799	670	476	609	753	627	**7,793**	
	2030	Groundwater (Imported)	Potable	Other	SAWCo	68	63	10	0	0	0	0	0	0	34	131	171	**477**	
	2030	Surface Water (Imported)	Potable	SWP	WFA	138	131	138	185	241	306	364	404	401	326	228	137	**3,000**	
	2030	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	28	26	4	0	0	0	0	0	0	14	53	70	**194**	
	2030	Recycled	Non-Potable	IEUA		35	41	38	73	112	133	149	147	137	115	86	36	**1,100**	
	2030	Surface Water (Imported)	Non-Potable	SWP	WFA	92	87	92	123	161	204	243	269	267	217	152	92	**2,000**	
2035	2035	Groundwater	Transfer	Chino Basin		276	226	252	260	367	335	355	298	212	271	335	279	**3,466**	**22,106**
	2035	Surface Water (Imported)	Transfer	SWP	WFA	159	152	159	214	279	353	421	466	463	377	264	159	**3,466**	
	2035	Groundwater	Potable	Chino Basin		668	548	611	631	891	813	862	722	513	657	812	677	**8,404**	
	2035	Groundwater (Imported)	Potable	Other	SAWCo	68	63	10	0	0	0	0	0	0	34	131	171	**477**	
	2035	Surface Water (Imported)	Potable	SWP	WFA	138	131	138	185	241	306	364	404	401	326	228	137	**3,000**	
	2035	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	28	26	4	0	0	0	0	0	0	14	53	70	**194**	
	2035	Recycled	Non-Potable	IEUA		35	41	38	73	112	133	149	147	137	115	86	36	**1,100**	
	2035	Surface Water (Imported)	Non-Potable	SWP	WFA	92	87	92	123	161	204	243	269	267	217	152	92	**2,000**	
2040	2040	Groundwater	Transfer	Chino Basin		277	227	253	261	369	337	357	299	212	272	336	280	**3,479**	**22,396**
	2040	Surface Water (Imported)	Transfer	SWP	WFA	160	152	160	215	280	355	422	468	465	378	265	159	**3,479**	
	2040	Groundwater	Potable	Chino Basin		689	565	630	650	919	838	888	745	529	677	837	698	**8,666**	
	2040	Groundwater (Imported)	Potable	Other	SAWCo	68	63	10	0	0	0	0	0	0	34	131	171	**477**	
	2040	Surface Water (Imported)	Potable	SWP	WFA	138	131	138	185	241	306	364	404	401	326	228	137	**3,000**	
	2040	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	28	26	4	0	0	0	0	0	0	14	53	70	**194**	
	2040	Recycled	Non-Potable	IEUA		35	41	38	73	112	133	149	147	137	115	86	36	**1,100**	
	2040	Surface Water (Imported)	Non-Potable	SWP	WFA	92	87	92	123	161	204	243	269	267	217	152	92	**2,000**	
2045	2045	Groundwater	Transfer	Chino Basin		278	228	254	262	370	338	358	300	213	273	337	281	**3,492**	**22,691**
	2045	Surface Water (Imported)	Transfer	SWP	WFA	160	153	161	216	281	356	424	470	467	380	266	160	**3,492**	
	2045	Groundwater	Potable	Chino Basin		711	582	649	670	947	864	916	768	546	698	863	719	**8,935**	
	2045	Groundwater (Imported)	Potable	Other	SAWCo	68	63	10	0	0	0	0	0	0	34	131	171	**477**	
	2045	Surface Water (Imported)	Potable	SWP	WFA	138	131	138	185	241	306	364	404	401	326	228	137	**3,000**	
	2045	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	28	26	4	0	0	0	0	0	0	14	53	70	**194**	
	2045	Recycled	Non-Potable	IEUA		35	41	38	73	112	133	149	147	137	115	86	36	**1,100**	
	2045	Surface Water (Imported)	Non-Potable	SWP	WFA	92	87	92	123	161	204	243	269	267	217	152	92	**2,000**	

Table C-7. City of Ontario - Reference Water Plan
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year		Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	2025	Groundwater	Potable	Chino Basin		1,163	1,356	1,300	1,827	2,033	2,309	2,285	2,166	1,716	1,442	1,375	1,278	**20,249**	**52,550**
	2025	Groundwater (Imported)	Potable	Chino Basin	CDA	788	628	728	656	627	588	644	637	720	843	822	852	**8,533**	
	2025	Groundwater (Imported)	Potable	Other	SAWCo	27	34	38	34	35	39	39	39	36	38	36	31	**426**	
	2025	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	11	14	16	14	14	16	16	16	15	15	15	13	**174**	
	2025	Surface Water (Imported)	Potable	SWP	WFA	493	489	544	585	908	887	1,076	1,445	1,668	1,522	939	443	**11,000**	
	2025	Recycled Water	Non-Potable	IEUA		526	480	519	752	1,007	1,200	1,520	1,702	1,565	1,150	1,068	680	**12,168**	
2030	2030	Groundwater	Potable	Chino Basin		1,316	1,534	1,471	2,068	2,300	2,613	2,586	2,451	1,942	1,632	1,556	1,447	**22,915**	**58,513**
	2030	Groundwater (Imported)	Potable	Chino Basin	CDA	788	628	728	656	627	588	644	637	720	843	822	852	**8,533**	
	2030	Groundwater (Imported)	Potable	Other	SAWCo	27	34	38	34	35	39	39	39	36	38	36	31	**426**	
	2030	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	11	14	16	14	14	16	16	16	15	15	15	13	**174**	
	2030	Surface Water (Imported)	Potable	SWP	WFA	583	578	643	691	1,074	1,048	1,272	1,708	1,971	1,799	1,109	523	**13,000**	
	2030	Recycled Water	Non-Potable	IEUA		582	531	574	832	1,115	1,328	1,682	1,884	1,732	1,272	1,182	752	**13,465**	
2035	2035	Groundwater	Potable	Chino Basin		1,432	1,670	1,601	2,251	2,504	2,844	2,815	2,668	2,113	1,777	1,693	1,575	**24,943**	**63,838**
	2035	Groundwater (Imported)	Potable	Chino Basin	CDA	788	628	728	656	627	588	644	637	720	843	822	852	**8,533**	
	2035	Groundwater (Imported)	Potable	Other	SAWCo	27	34	38	34	35	39	39	39	36	38	36	31	**426**	
	2035	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	11	14	16	14	14	16	16	16	15	15	15	13	**174**	
	2035	Surface Water (Imported)	Potable	SWP	WFA	672	667	742	798	1,239	1,209	1,468	1,971	2,274	2,076	1,280	604	**15,000**	
	2035	Recycled Water	Non-Potable	IEUA		638	582	629	912	1,222	1,456	1,844	2,065	1,898	1,395	1,296	824	**14,762**	
2040	2040	Groundwater	Potable	Chino Basin		1,808	2,107	2,020	2,841	3,160	3,589	3,552	3,367	2,667	2,242	2,137	1,987	**31,476**	**73,668**
	2040	Groundwater (Imported)	Potable	Chino Basin	CDA	788	628	728	656	627	588	644	637	720	843	822	852	**8,533**	
	2040	Groundwater (Imported)	Potable	Other	SAWCo	27	34	38	34	35	39	39	39	36	38	36	31	**426**	
	2040	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	11	14	16	14	14	16	16	16	15	15	15	13	**174**	
	2040	Surface Water (Imported)	Potable	SWP	WFA	762	756	841	904	1,404	1,370	1,663	2,234	2,578	2,353	1,451	684	**17,000**	
	2040	Recycled Water	Non-Potable	IEUA		694	633	685	993	1,329	1,584	2,006	2,247	2,065	1,517	1,410	897	**16,059**	
2045	2045	Groundwater	Potable	Chino Basin		1,808	2,107	2,020	2,841	3,160	3,589	3,552	3,367	2,667	2,242	2,137	1,987	**31,476**	**73,668**
	2045	Groundwater (Imported)	Potable	Chino Basin	CDA	788	628	728	656	627	588	644	637	720	843	822	852	**8,533**	
	2045	Groundwater (Imported)	Potable	Other	SAWCo	27	34	38	34	35	39	39	39	36	38	36	31	**426**	
	2045	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	11	14	16	14	14	16	16	16	15	15	15	13	**174**	
	2045	Surface Water (Imported)	Potable	SWP	WFA	762	756	841	904	1,404	1,370	1,663	2,234	2,578	2,353	1,451	684	**17,000**	
	2045	Recycled Water	Non-Potable	IEUA		694	633	685	993	1,329	1,584	2,006	2,247	2,065	1,517	1,410	897	**16,059**	

Table C-8. City of Pomona - Reference Water Plan
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year		Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	2025	Groundwater	Potable	Chino Basin		880	839	867	865	919	889	953	967	951	952	907	868	**10,858**	**24,708**
	2025	Groundwater	Potable	Six Basins		203	194	218	246	294	329	370	374	352	308	258	204	**3,350**	
	2025	Groundwater	Potable	Spadra Basin		2	4	5	5	7	25	31	26	24	18	3	0	**150**	
	2025	Surface Water	Potable	San Antonio Creek		159	127	187	218	213	190	182	161	143	144	134	143	**2,000**	
	2025	Surface Water (Imported)	Potable	Weymouth	TVMWD	172	136	161	385	518	704	893	946	850	638	393	203	**6,000**	
	2025	Recycled	Non-Potable	PWRP		31	89	118	204	236	321	341	345	271	195	134	63	**2,350**	
2030	2030	Groundwater	Potable	Chino Basin		947	903	933	931	989	957	1,026	1,041	1,024	1,025	976	934	**11,685**	**25,535**
	2030	Groundwater	Potable	Six Basins		203	194	218	246	294	329	370	374	352	308	258	204	**3,350**	
	2030	Groundwater	Potable	Spadra Basin		2	4	5	5	7	25	31	26	24	18	3	0	**150**	
	2030	Surface Water	Potable	San Antonio Creek		159	127	187	218	213	190	182	161	143	144	134	143	**2,000**	
	2030	Surface Water (Imported)	Potable	Weymouth	TVMWD	172	136	161	385	518	704	893	946	850	638	393	203	**6,000**	
	2030	Recycled	Non-Potable	PWRP		31	89	118	204	236	321	341	345	271	195	134	63	**2,350**	
2035	2035	Groundwater	Potable	Chino Basin		1,016	970	1,001	1,000	1,061	1,027	1,101	1,118	1,099	1,100	1,047	1,002	**12,543**	**26,393**
	2035	Groundwater	Potable	Six Basins		203	194	218	246	294	329	370	374	352	308	258	204	**3,350**	
	2035	Groundwater	Potable	Spadra Basin		2	4	5	5	7	25	31	26	24	18	3	0	**150**	
	2035	Surface Water	Potable	San Antonio Creek		159	127	187	218	213	190	182	161	143	144	134	143	**2,000**	
	2035	Surface Water (Imported)	Potable	Weymouth	TVMWD	172	136	161	385	518	704	893	946	850	638	393	203	**6,000**	
	2035	Recycled	Non-Potable	PWRP		31	89	118	204	236	321	341	345	271	195	134	63	**2,350**	
2040	2040	Groundwater	Potable	Chino Basin		1,084	1,034	1,068	1,066	1,132	1,096	1,174	1,192	1,172	1,173	1,117	1,069	**13,376**	**27,226**
	2040	Groundwater	Potable	Six Basins		203	194	218	246	294	329	370	374	352	308	258	204	**3,350**	
	2040	Groundwater	Potable	Spadra Basin		2	4	5	5	7	25	31	26	24	18	3	0	**150**	
	2040	Surface Water	Potable	San Antonio Creek		159	127	187	218	213	190	182	161	143	144	134	143	**2,000**	
	2040	Surface Water (Imported)	Potable	Weymouth	TVMWD	172	136	161	385	518	704	893	946	850	638	393	203	**6,000**	
	2040	Recycled	Non-Potable	PWRP		31	89	118	204	236	321	341	345	271	195	134	63	**2,350**	
2045	2045	Groundwater	Potable	Chino Basin		1,153	1,101	1,136	1,135	1,205	1,166	1,250	1,269	1,247	1,249	1,189	1,138	**14,238**	**28,088**
	2045	Groundwater	Potable	Six Basins		203	194	218	246	294	329	370	374	352	308	258	204	**3,350**	
	2045	Groundwater	Potable	Spadra Basin		2	4	5	5	7	25	31	26	24	18	3	0	**150**	
	2045	Surface Water	Potable	San Antonio Creek		159	127	187	218	213	190	182	161	143	144	134	143	**2,000**	
	2045	Surface Water (Imported)	Potable	Weymouth	TVMWD	172	136	161	385	518	704	893	946	850	638	393	203	**6,000**	
	2045	Recycled	Non-Potable	PWRP		31	89	118	204	236	321	341	345	271	195	134	63	**2,350**	

Table C-9. City of Upland - Reference Water Plan
Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year		Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	2025	Groundwater	Transfer	Six Basins		0	0	0	0	0	0	0	0	0	241	3	0	**244**	**22,368**
	2025	Groundwater	Potable	Chino Basin		488	385	422	519	647	535	520	559	480	444	285	460	**5,743**	
	2025	Groundwater	Potable	Cucamonga Basin		0	0	0	0	0	0	0	0	181	169	164	169	**683**	
	2025	Groundwater	Potable	Six Basins		222	284	284	345	350	398	440	465	397	329	295	311	**4,122**	
	2025	Groundwater (Imported)	Potable	Other	SAWCo	247	237	247	436	558	686	695	673	524	459	437	187	**5,386**	
	2025	Recycled	Non-Potable	IEUA		21	23	21	49	66	92	111	87	94	79	41	20	**703**	
	2025	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	149	163	189	187	200	190	194	134	106	55	58	55	**1,679**	
	2025	Surface Water (Imported)	Potable	SWP	WFA	256	197	194	201	221	272	452	516	489	476	292	243	**3,808**	
2030	2030	Groundwater	Transfer	Six Basins		0	0	0	0	0	0	0	0	0	243	3	0	**246**	**23,141**
	2030	Groundwater	Potable	Chino Basin		488	385	422	519	647	535	520	559	480	444	285	460	**5,743**	
	2030	Groundwater	Potable	Cucamonga Basin		0	0	0	0	0	0	0	0	181	169	164	169	**683**	
	2030	Groundwater	Potable	Six Basins		222	284	284	345	350	398	440	465	397	329	295	311	**4,122**	
	2030	Groundwater (Imported)	Potable	Other	SAWCo	247	237	247	436	558	686	695	673	524	459	437	187	**5,386**	
	2030	Recycled	Non-Potable	IEUA		21	23	21	49	66	92	111	87	94	79	41	20	**703**	
	2030	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	149	163	189	187	200	190	194	134	106	55	58	55	**1,679**	
	2030	Surface Water (Imported)	Potable	SWP	WFA	308	237	233	242	266	327	543	620	587	573	351	292	**4,579**	
2035	2035	Groundwater	Transfer	Six Basins		0	0	0	0	0	0	0	0	0	244	3	0	**247**	**24,144**
	2035	Groundwater	Potable	Chino Basin		488	385	422	519	647	535	520	559	480	444	285	460	**5,743**	
	2035	Groundwater	Potable	Cucamonga Basin		0	0	0	0	0	0	0	0	181	169	164	169	**683**	
	2035	Groundwater	Potable	Six Basins		222	284	284	345	350	398	440	465	397	329	295	311	**4,122**	
	2035	Groundwater (Imported)	Potable	Other	SAWCo	247	237	247	436	558	686	695	673	524	459	437	187	**5,386**	
	2035	Recycled	Non-Potable	IEUA		21	23	21	49	66	92	111	87	94	79	41	20	**703**	
	2035	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	149	163	189	187	200	190	194	134	106	55	58	55	**1,679**	
	2035	Surface Water (Imported)	Potable	SWP	WFA	375	289	284	295	324	399	662	756	716	698	428	356	**5,581**	
2040	2040	Groundwater	Transfer	Six Basins		0	0	0	0	0	0	0	0	0	245	4	0	**249**	**24,628**
	2040	Groundwater	Potable	Chino Basin		488	385	422	519	647	535	520	559	480	444	285	460	**5,743**	
	2040	Groundwater	Potable	Cucamonga Basin		0	0	0	0	0	0	0	0	181	169	164	169	**683**	
	2040	Groundwater	Potable	Six Basins		222	284	284	345	350	398	440	465	397	329	295	311	**4,122**	
	2040	Groundwater (Imported)	Potable	Other	SAWCo	247	237	247	436	558	686	695	673	524	459	437	187	**5,386**	
	2040	Recycled	Non-Potable	IEUA		21	23	21	49	66	92	111	87	94	79	41	20	**703**	
	2040	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	149	163	189	187	200	190	194	134	106	55	58	55	**1,679**	
	2040	Surface Water (Imported)	Potable	SWP	WFA	407	314	308	320	352	433	719	821	778	758	465	387	**6,063**	
2045	2045	Groundwater	Transfer	Six Basins		0	0	0	0	0	0	0	0	0	246	4	0	**250**	**25,003**
	2045	Groundwater	Potable	Chino Basin		488	385	422	519	647	535	520	559	480	444	285	460	**5,743**	
	2045	Groundwater	Potable	Cucamonga Basin		0	0	0	0	0	0	0	0	181	169	164	169	**683**	
	2045	Groundwater	Potable	Six Basins		222	284	284	345	350	398	440	465	397	329	295	311	**4,122**	
	2045	Groundwater (Imported)	Potable	Other	SAWCo	247	237	247	436	558	686	695	673	524	459	437	187	**5,386**	
	2045	Recycled	Non-Potable	IEUA		21	23	21	49	66	92	111	87	94	79	41	20	**703**	
	2045	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	149	163	189	187	200	190	194	134	106	55	58	55	**1,679**	
	2045	Surface Water (Imported)	Potable	SWP	WFA	433	334	327	340	374	460	764	872	826	805	494	411	**6,437**	

Table C-10. Calculation of Potable Water Demand Reductions for Water Plan Scenarios

all values in acre-feet per year

Appropriative Pool Party	Year[a]	Reference Total Potable Demand	Residential Water Use				CII with DIMs Water Use				Water Use Reductions for Robust Response (Low Demand Scenario)			Water Use Reductions for Expected Response (Expected Demand Scenario)			Water Use Reductions for Limited Response (High Demand Scenario)		
			Percent of Reference Total Potable Demand[b]	Reference	Water Use Objective	Reduction assuming Full Compliance[c]	Percent of Reference Total Potable Demand[b]	Reference	Water Use Objective	Reduction assuming Full Compliance	Residential	CII with DIMs	Total	Residential	CII with DIMs	Total	Residential	CII with DIMs	Total
		A	B	C = A*B	D	E = C-D	F	G = A*F	H	I = G-H	J = 0.8*E	K = 0.9*I	L = J+K	M = 0.6*E	N = 0.7*I	O = M+N	P = 0.35*E	Q = 0.5*I	R = P+Q
City of Chino	2030	17,810	73%	12,943	12,452	491	19%	3,322	2,883	439	393	395	788	295	307	602	172	219	391
	2035	19,072		13,860	12,272	1,589		3,557	2,789	768	1,271	691	1,962	953	537	1,491	556	384	940
	2040	20,166		14,655	12,440	2,215		3,761	2,774	987	1,772	888	2,661	1,329	691	2,020	775	494	1,269
	2045	22,935		16,668	13,152	3,516		4,278	3,291	987	2,813	888	3,702	2,110	691	2,801	1,231	494	1,724
City of Chino Hills	2030	13,706	79%	10,852	11,135	0	18%	2,524	2,082	443	0	398	398	0	310	310	0	221	221
	2035	13,990		11,077	10,345	731		2,577	1,802	775	585	697	1,283	439	542	981	256	387	643
	2040	14,028		11,108	10,165	942		2,584	1,588	996	754	897	1,650	565	697	1,263	330	498	828
	2045	14,065		11,136	10,606	531		2,590	1,594	996	425	897	1,321	318	697	1,016	186	498	684
Cucamonga Valley Water District	2030	47,487	70%	33,433	31,659	1,774	25%	11,727	10,820	907	1,419	816	2,235	1,064	635	1,699	621	454	1,074
	2035	49,424		34,796	30,495	4,301		12,206	8,001	4,205	3,441	3,784	7,225	2,581	2,943	5,524	1,506	2,102	3,608
	2040	51,325		36,135	31,006	5,129		12,675	5,074	7,601	4,103	6,841	10,944	3,077	5,321	8,398	1,795	3,801	5,596
	2045	51,361		36,160	31,031	5,129		12,684	5,083	7,601	4,103	6,841	10,944	3,077	5,321	8,398	1,795	3,801	5,596
Fontana Water Company	2030	45,409	82%	37,444	37,833	0	8%	3,546	3,135	411	0	369	369	0	287	287	0	205	205
	2035	46,665		38,479	37,255	1,225		3,644	2,925	718	980	647	1,626	735	503	1,238	429	359	788
	2040	47,942		39,532	37,350	2,182		3,744	2,820	924	1,746	831	2,577	1,309	647	1,956	764	462	1,226
	2045	48,943		40,358	38,462	1,896		3,822	2,898	924	1,517	831	2,348	1,138	647	1,784	664	462	1,125
Jurupa Community Services District	2030	31,675	82%	26,021	23,035	2,985	13%	3,972	3,460	512	2,388	460	2,849	1,791	358	2,149	1,045	256	1,301
	2035	33,465		27,491	22,965	4,526		4,196	3,301	895	3,621	806	4,427	2,716	627	3,342	1,584	448	2,032
	2040	35,435		29,110	23,251	5,859		4,443	3,292	1,151	4,687	1,036	5,723	3,515	806	4,321	2,051	576	2,626
	2045	35,435		29,110	23,251	5,859		4,443	3,292	1,151	4,687	1,036	5,723	3,515	806	4,321	2,051	576	2,626
Monte Vista Water District	2030	10,171	82%	8,340	8,588	0	16%	1,600	1,280	320	0	288	288	0	224	224	0	160	160
	2035	10,171		8,340	9,048	0		1,600	1,040	560	0	504	504	0	392	392	0	280	280
	2040	10,171		8,340	9,176	0		1,600	880	720	0	648	648	0	504	504	0	360	360
	2045	10,171		8,340	9,375	0		1,600	880	720	0	648	648	0	504	504	0	360	360
City of Ontario	2030	45,048	64%	28,832	28,383	449	32%	14,601	12,828	1,773	359	1,596	1,955	269	1,241	1,511	157	887	1,044
	2035	49,076		31,410	29,294	2,116		15,906	12,804	3,103	1,693	2,792	4,485	1,270	2,172	3,442	741	1,551	2,292
	2040	57,609		36,871	33,896	2,975		18,672	14,683	3,989	2,380	3,590	5,971	1,785	2,792	4,578	1,041	1,995	3,036
	2045	57,609		36,871	33,896	2,975		18,672	14,683	3,989	2,380	3,590	5,971	1,785	2,792	4,578	1,041	1,995	3,036
Pomona	2030	23,185	86%	20,017	19,877	139	8%	1,885	1,652	233	112	209	321	84	163	246	49	116	165
	2035	24,043		20,757	19,454	1,303		1,954	1,547	407	1,043	366	1,409	782	285	1,067	456	203	660
	2040	24,876		21,476	19,565	1,912		2,022	1,499	523	1,529	471	2,000	1,147	366	1,513	669	262	931
	2045	25,738		22,221	20,243	1,978		2,092	1,569	523	1,582	471	2,053	1,187	366	1,553	692	262	954
City of Upland	2030	20,192	81%	16,326	13,390	2,936	17%	3,490	2,955	534	2,349	481	2,830	1,762	374	2,136	1,028	267	1,295
	2035	21,194		17,136	12,476	4,660		3,663	2,727	935	3,728	842	4,570	2,796	655	3,451	1,631	468	2,099
	2040	21,676		17,525	12,213	5,312		3,746	2,543	1,203	4,250	1,082	5,332	3,187	842	4,029	1,859	601	2,461
	2045	22,050		17,828	12,615	5,213		3,811	2,608	1,203	4,170	1,082	5,252	3,128	842	3,969	1,824	601	2,426
Total	2030	254,683		194,207	186,352	8,775		46,666	41,095	5,571	7,020	5,014	12,033	5,265	3,899	9,164	3,071	2,785	5,856
	2035	267,099		203,347	183,603	20,451		49,303	36,937	12,366	16,361	11,129	27,490	12,271	8,656	20,927	7,158	6,183	13,341
	2040	283,228		214,753	189,062	26,526		53,247	35,153	18,094	21,221	16,285	37,506	15,916	12,666	28,582	9,284	9,047	18,331
	2045	288,307		218,692	192,630	27,096		53,992	35,898	18,094	21,677	16,285	37,962	16,258	12,666	28,924	9,484	9,047	18,531

[a] 2025 is not shown because it was assumed that the Conservation Regulation would not have a material impact on Water Plans in 2025.

[b] Based on the information in the State Board's database as of May 2024.

[c] If the water use objective equals or exceeds the reference water demand, the reduction is assumed to be zero.

Table C-11a. City of Chino - Low Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Potable	Chino Basin		389	389	389	525	655	708	646	646	646	646	603	518	**6,760**	**20,848**
	Groundwater (Imported)	Potable	Chino Basin	CDA	417	417	417	417	417	417	418	417	417	417	417	417	**5,000**	
	Surface Water (Imported)	Potable	SWP	WFA	262	262	262	265	279	430	596	723	723	262	262	262	**4,588**	
	Recycled	Non-Potable	IEUA		119	163	151	272	375	450	547	780	694	487	280	180	**4,500**	
2031	Groundwater	Potable	Chino Basin		358	358	358	502	702	983	1,260	1,264	1,135	885	660	509	**8,974**	**21,522**
	Groundwater (Imported)	Potable	Chino Basin	CDA	417	417	417	417	417	417	418	417	417	417	417	417	**5,000**	
	Surface Water (Imported)	Potable	SWP	WFA	139	159	169	263	317	317	346	341	317	317	212	152	**3,049**	
	Recycled	Non-Potable	IEUA		119	163	151	272	375	450	547	780	694	487	280	180	**4,500**	
2038	Groundwater	Potable	Chino Basin		561	561	574	832	946	1,010	1,053	1,045	814	645	481	440	**8,960**	**21,109**
	Groundwater (Imported)	Potable	Chino Basin	CDA	417	417	417	417	417	417	418	417	417	417	417	417	**5,000**	
	Surface Water (Imported)	Potable	SWP	WFA	143	165	175	272	327	327	358	352	327	327	219	157	**3,150**	
	Recycled	Non-Potable	IEUA		106	145	135	242	334	400	486	694	617	433	249	160	**4,000**	
2045	Groundwater	Potable	Chino Basin		635	618	650	740	849	926	972	988	844	798	643	604	**9,268**	**21,305**
	Groundwater (Imported)	Potable	Chino Basin	CDA	417	417	417	417	417	417	418	417	417	417	417	417	**5,000**	
	Surface Water (Imported)	Potable	SWP	WFA	147	169	180	280	336	336	368	362	336	336	225	162	**3,237**	
	Recycled	Non-Potable	IEUA		101	137	128	230	317	380	462	659	586	411	237	152	**3,800**	
2051	Groundwater	Potable	Chino Basin		434	434	434	726	798	1,530	1,565	1,662	944	944	726	580	**10,775**	**23,034**
	Groundwater (Imported)	Potable	Chino Basin	CDA	417	417	417	417	417	417	418	417	417	417	417	417	**5,000**	
	Surface Water (Imported)	Potable	SWP	WFA	157	181	192	299	359	359	393	387	359	359	241	173	**3,459**	
	Recycled	Non-Potable	IEUA		101	137	128	230	317	380	462	659	586	411	237	152	**3,800**	

Table 11b. City of Chino - Expected Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Potable	Chino Basin		423	423	423	571	712	770	702	702	702	702	655	563	**7,348**	**20,848**
	Groundwater (Imported)	Potable	Chino Basin	CDA	417	417	417	417	417	417	418	417	417	417	417	417	**5,000**	
	Surface Water (Imported)	Potable	SWP	WFA	229	229	229	231	243	375	520	630	630	229	229	229	**4,000**	
	Recycled	Non-Potable	IEUA		119	163	151	272	375	450	547	780	694	487	280	180	**4,500**	
2030	Groundwater	Potable	Chino Basin		400	400	400	559	783	1,096	1,406	1,409	1,266	987	736	568	**10,008**	**21,708**
	Groundwater (Imported)	Potable	Chino Basin	CDA	417	417	417	417	417	417	418	417	417	417	417	417	**5,000**	
	Surface Water (Imported)	Potable	SWP	WFA	100	115	122	190	229	229	250	246	229	229	153	110	**2,200**	
	Recycled	Non-Potable	IEUA		119	163	151	272	375	450	547	780	694	487	280	180	**4,500**	
2035	Groundwater	Potable	Chino Basin		650	650	665	965	1,096	1,170	1,220	1,210	943	747	557	510	**10,381**	**21,581**
	Groundwater (Imported)	Potable	Chino Basin	CDA	417	417	417	417	417	417	418	417	417	417	417	417	**5,000**	
	Surface Water (Imported)	Potable	SWP	WFA	100	115	122	190	229	229	250	246	229	229	153	110	**2,200**	
	Recycled	Non-Potable	IEUA		106	145	135	242	334	400	486	694	617	433	249	160	**4,000**	
2040	Groundwater	Potable	Chino Basin		750	730	767	874	1,003	1,094	1,148	1,167	997	943	760	713	**10,946**	**21,945**
	Groundwater (Imported)	Potable	Chino Basin	CDA	417	417	417	417	417	417	418	417	417	417	417	417	**5,000**	
	Surface Water (Imported)	Potable	SWP	WFA	100	115	122	190	229	229	250	246	229	229	153	110	**2,200**	
	Recycled	Non-Potable	IEUA		101	137	128	230	317	380	462	659	586	411	237	152	**3,800**	
2045	Groundwater	Potable	Chino Basin		521	521	521	871	958	1,837	1,878	1,996	1,133	1,133	871	696	**12,935**	**23,934**
	Groundwater (Imported)	Potable	Chino Basin	CDA	417	417	417	417	417	417	418	417	417	417	417	417	**5,000**	
	Surface Water (Imported)	Potable	SWP	WFA	100	115	122	190	229	229	250	246	229	229	153	110	**2,200**	
	Recycled	Non-Potable	IEUA		101	137	128	230	317	380	462	659	586	411	237	152	**3,800**	

Table 11c. City of Chino - High Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Potable	Chino Basin		440	440	440	594	740	801	730	730	730	730	681	586	**7,642**	**20,848**
	Groundwater (Imported)	Potable	Chino Basin	CDA	417	417	417	417	417	417	418	417	417	417	417	417	**5,000**	
	Surface Water (Imported)	Potable	SWP	WFA	212	212	212	214	225	347	482	584	584	212	212	212	**3,706**	
	Recycled	Non-Potable	IEUA		119	163	151	272	375	450	547	780	694	487	280	180	**4,500**	
2029	Groundwater	Potable	Chino Basin		425	425	425	595	833	1,166	1,495	1,499	1,346	1,049	782	604	**10,643**	**21,918**
	Groundwater (Imported)	Potable	Chino Basin	CDA	417	417	417	417	417	417	418	417	417	417	417	417	**5,000**	
	Surface Water (Imported)	Potable	SWP	WFA	81	93	98	153	184	184	202	199	184	184	123	89	**1,776**	
	Recycled	Non-Potable	IEUA		119	163	151	272	375	450	547	780	694	487	280	180	**4,500**	
2033	Groundwater	Potable	Chino Basin		714	714	731	1,060	1,204	1,286	1,340	1,330	1,036	821	612	560	**11,407**	**22,132**
	Groundwater (Imported)	Potable	Chino Basin	CDA	417	417	417	417	417	417	418	417	417	417	417	417	**5,000**	
	Surface Water (Imported)	Potable	SWP	WFA	78	90	96	149	179	179	196	193	179	179	120	86	**1,725**	
	Recycled	Non-Potable	IEUA		106	145	135	242	334	400	486	694	617	433	249	160	**4,000**	
2037	Groundwater	Potable	Chino Basin		837	815	856	975	1,119	1,221	1,281	1,302	1,113	1,052	848	796	**12,216**	**22,697**
	Groundwater (Imported)	Potable	Chino Basin	CDA	417	417	417	417	417	417	418	417	417	417	417	417	**5,000**	
	Surface Water (Imported)	Potable	SWP	WFA	76	88	93	145	175	175	191	188	175	175	117	84	**1,681**	
	Recycled	Non-Potable	IEUA		101	137	128	230	317	380	462	659	586	411	237	152	**3,800**	
2041	Groundwater	Potable	Chino Basin		589	589	589	986	1,084	2,079	2,126	2,259	1,282	1,282	986	788	**14,641**	**25,011**
	Groundwater (Imported)	Potable	Chino Basin	CDA	417	417	417	417	417	417	418	417	417	417	417	417	**5,000**	
	Surface Water (Imported)	Potable	SWP	WFA	71	82	87	136	163	163	178	176	163	163	109	79	**1,571**	
	Recycled	Non-Potable	IEUA		101	137	128	230	317	380	462	659	586	411	237	152	**3,800**	

Table C-12a. City of Chino Hills - Low Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Potable	Chino Basin		56	83	88	205	228	218	253	261	225	220	177	117	**2,130**	**15,138**
	Groundwater (Imported)	Potable	Chino Basin	CDA	326	302	345	342	355	374	385	361	354	372	348	337	**4,200**	
	Groundwater (Imported)	Potable	Chino Basin	MVWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water (Imported)	Potable	Other	MVWD	298	258	282	325	443	471	531	523	462	443	410	300	**4,746**	
	Surface Water (Imported)	Potable	SWP	WFA	161	169	249	191	187	258	277	276	188	189	155	153	**2,453**	
	Recycled	Non-Potable	IEUA		49	38	53	101	143	182	227	234	229	178	114	59	**1,609**	
2031	Groundwater	Potable	Chino Basin		56	83	88	205	228	218	253	261	225	220	177	117	**2,130**	**14,916**
	Groundwater (Imported)	Potable	Chino Basin	CDA	326	302	345	342	355	374	385	361	354	372	348	337	**4,200**	
	Groundwater (Imported)	Potable	Chino Basin	MVWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water (Imported)	Potable	Other	MVWD	287	249	271	313	426	454	512	504	445	427	395	289	**4,571**	
	Surface Water (Imported)	Potable	SWP	WFA	156	165	242	188	185	253	272	271	186	186	153	150	**2,407**	
	Recycled	Non-Potable	IEUA		49	38	53	101	143	182	227	234	229	178	114	59	**1,609**	
2038	Groundwater	Potable	Chino Basin		56	83	88	205	228	218	253	261	225	220	177	117	**2,130**	**14,316**
	Groundwater (Imported)	Potable	Chino Basin	CDA	326	302	345	342	355	374	385	361	354	372	348	337	**4,200**	
	Groundwater (Imported)	Potable	Chino Basin	MVWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water (Imported)	Potable	Other	MVWD	259	225	245	282	385	410	462	455	402	386	357	261	**4,128**	
	Surface Water (Imported)	Potable	SWP	WFA	143	152	223	177	174	236	255	254	175	176	144	140	**2,249**	
	Recycled	Non-Potable	IEUA		49	38	53	101	143	182	227	234	229	178	114	59	**1,609**	
2045	Groundwater	Potable	Chino Basin		56	83	88	205	228	218	253	261	225	220	177	117	**2,130**	**13,987**
	Groundwater (Imported)	Potable	Chino Basin	CDA	326	302	345	342	355	374	385	361	354	372	348	337	**4,200**	
	Groundwater (Imported)	Potable	Chino Basin	MVWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water (Imported)	Potable	Other	MVWD	245	213	232	267	364	388	437	430	380	365	337	247	**3,904**	
	Surface Water (Imported)	Potable	SWP	WFA	136	145	212	169	166	225	243	242	167	168	138	133	**2,144**	
	Recycled	Non-Potable	IEUA		49	38	53	101	143	182	227	234	229	178	114	59	**1,609**	
2051	Groundwater	Potable	Chino Basin		56	83	88	205	228	218	253	261	225	220	177	117	**2,130**	**14,352**
	Groundwater (Imported)	Potable	Chino Basin	CDA	326	302	345	342	355	374	385	361	354	372	348	337	**4,200**	
	Groundwater (Imported)	Potable	Chino Basin	MVWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water (Imported)	Potable	Other	MVWD	260	225	246	283	386	411	463	456	403	387	358	261	**4,140**	
	Surface Water (Imported)	Potable	SWP	WFA	145	153	224	179	177	239	257	257	178	178	146	141	**2,274**	
	Recycled	Non-Potable	IEUA		49	38	53	101	143	182	227	234	229	178	114	59	**1,609**	

Table C-12b. City of Chino Hills- Expected Demand Water Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2025

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Potable	Chino Basin		61	91	95	223	248	236	275	283	245	239	192	127	**2,315**	**15,138**
	Groundwater (Imported)	Potable	Chino Basin	CDA	326	302	345	342	355	374	385	361	354	372	348	337	**4,200**	
	Groundwater (Imported)	Potable	Chino Basin	MVWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water (Imported)	Potable	Other	MVWD	290	252	274	316	431	459	518	510	450	432	399	292	**4,624**	
	Surface Water (Imported)	Potable	SWP	WFA	157	165	243	186	182	251	270	269	183	184	151	149	**2,390**	
	Recycled	Non-Potable	IEUA		49	38	53	101	143	182	227	234	229	178	114	59	**1,609**	
2030	Groundwater	Potable	Chino Basin		61	91	95	223	248	236	275	283	245	239	192	127	**2,315**	**15,005**
	Groundwater (Imported)	Potable	Chino Basin	CDA	326	302	345	342	355	374	385	361	354	372	348	337	**4,200**	
	Groundwater (Imported)	Potable	Chino Basin	MVWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water (Imported)	Potable	Other	MVWD	283	245	267	308	420	448	505	497	439	421	389	285	**4,507**	
	Surface Water (Imported)	Potable	SWP	WFA	154	162	239	185	182	249	268	268	183	184	151	148	**2,374**	
	Recycled	Non-Potable	IEUA		49	38	53	101	143	182	227	234	229	178	114	59	**1,609**	
2035	Groundwater	Potable	Chino Basin		61	91	95	223	248	236	275	283	245	239	192	127	**2,315**	**14,617**
	Groundwater (Imported)	Potable	Chino Basin	CDA	326	302	345	342	355	374	385	361	354	372	348	337	**4,200**	
	Groundwater (Imported)	Potable	Chino Basin	MVWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water (Imported)	Potable	Other	MVWD	264	229	250	288	392	418	471	464	409	393	363	266	**4,204**	
	Surface Water (Imported)	Potable	SWP	WFA	146	155	226	180	177	240	259	259	179	179	147	142	**2,289**	
	Recycled	Non-Potable	IEUA		49	38	53	101	143	182	227	234	229	178	114	59	**1,609**	
2040	Groundwater	Potable	Chino Basin		61	91	95	223	248	236	275	283	245	239	192	127	**2,315**	**14,375**
	Groundwater (Imported)	Potable	Chino Basin	CDA	326	302	345	342	355	374	385	361	354	372	348	337	**4,200**	
	Groundwater (Imported)	Potable	Chino Basin	MVWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water (Imported)	Potable	Other	MVWD	253	220	240	276	376	401	452	445	393	377	349	255	**4,038**	
	Surface Water (Imported)	Potable	SWP	WFA	141	150	219	174	172	232	251	250	173	173	142	137	**2,213**	
	Recycled	Non-Potable	IEUA		49	38	53	101	143	182	227	234	229	178	114	59	**1,609**	
2045	Groundwater	Potable	Chino Basin		61	91	95	223	248	236	275	283	245	239	192	127	**2,315**	**14,658**
	Groundwater (Imported)	Potable	Chino Basin	CDA	326	302	345	342	355	374	385	361	354	372	348	337	**4,200**	
	Groundwater (Imported)	Potable	Chino Basin	MVWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water (Imported)	Potable	Other	MVWD	265	230	250	288	393	419	472	465	411	394	364	266	**4,219**	
	Surface Water (Imported)	Potable	SWP	WFA	147	156	228	182	180	243	262	262	181	181	149	143	**2,315**	
	Recycled	Non-Potable	IEUA		49	38	53	101	143	182	227	234	229	178	114	59	**1,609**	

Table C-12c. City of Chino Hills - High Demand Water Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Potable	Chino Basin		65	98	103	241	268	255	297	306	265	258	207	137	**2,500**	**15,138**
	Groundwater (Imported)	Potable	Chino Basin	CDA	326	302	345	342	355	374	385	361	354	372	348	337	**4,200**	
	Groundwater (Imported)	Potable	Chino Basin	MVWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water (Imported)	Potable	Other	MVWD	282	245	267	308	420	447	504	496	438	421	389	284	**4,502**	
	Surface Water (Imported)	Potable	SWP	WFA	152	161	236	181	177	245	263	262	179	179	147	145	**2,327**	
	Recycled	Non-Potable	IEUA		49	38	53	101	143	182	227	234	229	178	114	59	**1,609**	
2029	Groundwater	Potable	Chino Basin		65	98	103	241	268	255	297	306	265	258	207	137	**2,500**	**15,093**
	Groundwater (Imported)	Potable	Chino Basin	CDA	326	302	345	342	355	374	385	361	354	372	348	337	**4,200**	
	Groundwater (Imported)	Potable	Chino Basin	MVWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water (Imported)	Potable	Other	MVWD	279	242	264	304	414	441	497	490	433	415	384	281	**4,443**	
	Surface Water (Imported)	Potable	SWP	WFA	152	160	235	183	179	246	265	264	181	181	149	146	**2,341**	
	Recycled	Non-Potable	IEUA		49	38	53	101	143	182	227	234	229	178	114	59	**1,609**	
2033	Groundwater	Potable	Chino Basin		65	98	103	241	268	255	297	306	265	258	207	137	**2,500**	**14,955**
	Groundwater (Imported)	Potable	Chino Basin	CDA	326	302	345	342	355	374	385	361	354	372	348	337	**4,200**	
	Groundwater (Imported)	Potable	Chino Basin	MVWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water (Imported)	Potable	Other	MVWD	270	234	256	294	401	428	482	475	419	402	372	272	**4,305**	
	Surface Water (Imported)	Potable	SWP	WFA	149	158	232	184	181	246	265	264	183	183	150	145	**2,341**	
	Recycled	Non-Potable	IEUA		49	38	53	101	143	182	227	234	229	178	114	59	**1,609**	
2037	Groundwater	Potable	Chino Basin		65	98	103	241	268	255	297	306	265	258	207	137	**2,500**	**14,809**
	Groundwater (Imported)	Potable	Chino Basin	CDA	326	302	345	342	355	374	385	361	354	372	348	337	**4,200**	
	Groundwater (Imported)	Potable	Chino Basin	MVWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water (Imported)	Potable	Other	MVWD	264	229	249	287	392	417	470	463	409	393	363	265	**4,203**	
	Surface Water (Imported)	Potable	SWP	WFA	146	155	227	181	178	241	260	260	179	180	148	142	**2,298**	
	Recycled	Non-Potable	IEUA		49	38	53	101	143	182	227	234	229	178	114	59	**1,609**	
2041	Groundwater	Potable	Chino Basin		65	98	103	241	268	255	297	306	265	258	207	137	**2,500**	**14,990**
	Groundwater (Imported)	Potable	Chino Basin	CDA	326	302	345	342	355	374	385	361	354	372	348	337	**4,200**	
	Groundwater (Imported)	Potable	Chino Basin	MVWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water (Imported)	Potable	Other	MVWD	271	235	256	295	402	429	483	476	420	403	373	273	**4,316**	
	Surface Water (Imported)	Potable	SWP	WFA	150	160	233	186	184	248	268	267	185	185	152	147	**2,365**	
	Recycled	Non-Potable	IEUA		49	38	53	101	143	182	227	234	229	178	114	59	**1,609**	

Table C-13a. Cucamonga Valley Water District - Low Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Transfer	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	**46,262**
	Groundwater	Potable	Chino Basin		756	708	745	1,038	1,185	1,346	1,526	1,526	1,371	1,246	1,052	834	**13,333**	
	Groundwater	Potable	Cucamonga Basin		423	396	417	581	663	753	853	853	766	697	588	466	**7,455**	
	Surface Water	Potable	Deer Canyon		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water	Potable	Cucamonga Canyon		45	42	45	62	71	81	92	92	82	75	63	50	**800**	
	Surface Water (Imported)	Potable	SWP	IEUA/MWD	1,177	1,103	1,161	1,618	1,847	2,097	2,377	2,377	2,136	1,942	1,640	1,299	**20,775**	
	Recycled	Non-Potable	IEUA		102	96	101	140	160	182	206	206	185	168	142	113	**1,801**	
	Surface Water	Potable	Day/East Canyon		119	111	117	163	187	212	240	240	216	196	166	131	**2,098**	
2031	Groundwater	Transfer	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	**47,253**
	Groundwater	Potable	Chino Basin		723	677	712	993	1,134	1,288	1,459	1,460	1,312	1,193	1,007	798	**12,757**	
	Groundwater	Potable	Cucamonga Basin		429	402	423	590	673	765	866	866	778	708	597	473	**7,571**	
	Surface Water	Potable	Deer Canyon		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water	Potable	Cucamonga Canyon		45	42	45	62	71	81	92	92	82	75	63	50	**800**	
	Surface Water (Imported)	Potable	SWP	IEUA/MWD	1,248	1,169	1,231	1,715	1,958	2,224	2,520	2,520	2,265	2,059	1,738	1,377	**22,026**	
	Recycled	Non-Potable	IEUA		113	106	112	156	178	202	229	229	206	187	158	125	**2,001**	
	Surface Water	Potable	Day/East Canyon		119	111	117	163	187	212	240	240	216	196	166	131	**2,098**	
2038	Groundwater	Transfer	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	**44,200**
	Groundwater	Potable	Chino Basin		668	626	658	917	1,048	1,190	1,349	1,349	1,212	1,102	930	737	**11,785**	
	Groundwater	Potable	Cucamonga Basin		432	405	426	594	678	770	872	872	784	713	601	476	**7,623**	
	Surface Water	Potable	Deer Canyon		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water	Potable	Cucamonga Canyon		45	42	45	62	71	81	92	92	82	75	63	50	**800**	
	Surface Water (Imported)	Potable	SWP	IEUA/MWD	1,127	1,056	1,112	1,549	1,769	2,008	2,276	2,276	2,046	1,860	1,570	1,244	**19,893**	
	Recycled	Non-Potable	IEUA		113	106	112	156	178	202	229	229	206	187	158	125	**2,001**	
	Surface Water	Potable	Day/East Canyon		119	111	117	163	187	212	240	240	216	196	166	131	**2,098**	
2045	Groundwater	Transfer	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	**42,382**
	Groundwater	Potable	Chino Basin		559	524	551	768	877	996	1,129	1,129	1,015	922	779	617	**9,868**	
	Groundwater	Potable	Cucamonga Basin		437	409	430	600	685	778	881	881	792	720	608	481	**7,700**	
	Surface Water	Potable	Deer Canyon		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water	Potable	Cucamonga Canyon		45	42	45	62	71	81	92	92	82	75	63	50	**800**	
	Surface Water (Imported)	Potable	SWP	IEUA/MWD	1,130	1,059	1,115	1,554	1,774	2,014	2,283	2,283	2,052	1,865	1,575	1,248	**19,951**	
	Recycled	Non-Potable	IEUA		113	106	112	156	178	202	229	229	206	187	158	125	**2,001**	
	Surface Water	Potable	Day/East Canyon		117	109	115	160	184	208	236	236	212	193	163	129	**2,062**	
2051	Groundwater	Transfer	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	**42,418**
	Groundwater	Potable	Chino Basin		559	524	551	768	877	996	1,129	1,129	1,015	922	779	617	**9,868**	
	Groundwater	Potable	Cucamonga Basin		437	409	430	600	685	778	881	881	792	720	608	481	**7,700**	
	Surface Water	Potable	Deer Canyon		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water	Potable	Cucamonga Canyon		45	42	45	62	71	81	92	92	82	75	63	50	**800**	
	Surface Water (Imported)	Potable	SWP	IEUA/MWD	1,130	1,059	1,115	1,554	1,774	2,014	2,283	2,283	2,052	1,865	1,575	1,248	**19,951**	
	Recycled	Non-Potable	IEUA		113	106	112	156	178	202	229	229	206	187	158	125	**2,001**	
	Surface Water	Potable	Day/East Canyon		119	111	117	163	187	212	240	240	216	196	166	131	**2,098**	

Table C-13b. Cucamonga Valley Water District - Expected Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Transfer	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	**46,262**
	Groundwater	Potable	Chino Basin		788	738	777	1,082	1,235	1,404	1,591	1,591	1,429	1,299	1,097	869	**13,900**	
	Groundwater	Potable	Cucamonga Basin		454	425	447	623	711	808	915	915	822	748	631	500	**8,000**	
	Surface Water	Potable	Deer Canyon		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water	Potable	Cucamonga Canyon		45	42	45	62	71	81	92	92	82	75	63	50	**800**	
	Surface Water (Imported)	Potable	SWP	IEUA/MWD	1,114	1,044	1,099	1,531	1,748	1,985	2,250	2,250	2,022	1,838	1,552	1,230	**19,663**	
	Recycled	Non-Potable	IEUA		102	96	101	140	160	182	206	206	185	168	142	113	**1,801**	
	Surface Water	Potable	Day/East Canyon		119	111	117	163	187	212	240	240	216	196	166	131	**2,098**	
2030	Groundwater	Transfer	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	**47,789**
	Groundwater	Potable	Chino Basin		759	711	748	1,043	1,191	1,353	1,533	1,534	1,378	1,253	1,058	838	**13,400**	
	Groundwater	Potable	Cucamonga Basin		454	425	447	623	711	808	915	915	822	748	631	500	**8,000**	
	Surface Water	Potable	Deer Canyon		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water	Potable	Cucamonga Canyon		45	42	45	62	71	81	92	92	82	75	63	50	**800**	
	Surface Water (Imported)	Potable	SWP	IEUA/MWD	1,217	1,141	1,201	1,673	1,911	2,170	2,459	2,459	2,210	2,009	1,696	1,344	**21,490**	
	Recycled	Non-Potable	IEUA		113	106	112	156	178	202	229	229	206	187	158	125	**2,001**	
	Surface Water	Potable	Day/East Canyon		119	111	117	163	187	212	240	240	216	196	166	131	**2,098**	
2035	Groundwater	Transfer	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	**45,901**
	Groundwater	Potable	Chino Basin		702	658	693	965	1,103	1,252	1,419	1,419	1,275	1,160	979	775	**12,400**	
	Groundwater	Potable	Cucamonga Basin		454	425	447	623	711	808	915	915	822	748	631	500	**8,000**	
	Surface Water	Potable	Deer Canyon		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water	Potable	Cucamonga Canyon		45	42	45	62	71	81	92	92	82	75	63	50	**800**	
	Surface Water (Imported)	Potable	SWP	IEUA/MWD	1,167	1,094	1,151	1,604	1,832	2,080	2,357	2,357	2,119	1,926	1,626	1,288	**20,602**	
	Recycled	Non-Potable	IEUA		113	106	112	156	178	202	229	229	206	187	158	125	**2,001**	
	Surface Water	Potable	Day/East Canyon		119	111	117	163	187	212	240	240	216	196	166	131	**2,098**	
2040	Groundwater	Transfer	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	**44,928**
	Groundwater	Potable	Chino Basin		589	552	581	810	924	1,050	1,190	1,190	1,069	972	821	651	**10,400**	
	Groundwater	Potable	Cucamonga Basin		454	425	447	623	711	808	915	915	822	748	631	500	**8,000**	
	Surface Water	Potable	Deer Canyon		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water	Potable	Cucamonga Canyon		45	42	45	62	71	81	92	92	82	75	63	50	**800**	
	Surface Water (Imported)	Potable	SWP	IEUA/MWD	1,227	1,150	1,211	1,687	1,926	2,187	2,479	2,479	2,228	2,025	1,710	1,355	**21,665**	
	Recycled	Non-Potable	IEUA		113	106	112	156	178	202	229	229	206	187	158	125	**2,001**	
	Surface Water	Potable	Day/East Canyon		117	109	115	160	184	208	236	236	212	193	163	129	**2,062**	
2045	Groundwater	Transfer	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	**44,964**
	Groundwater	Potable	Chino Basin		589	552	581	810	924	1,050	1,190	1,190	1,069	972	821	651	**10,400**	
	Groundwater	Potable	Cucamonga Basin		454	425	447	623	711	808	915	915	822	748	631	500	**8,000**	
	Surface Water	Potable	Deer Canyon		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water	Potable	Cucamonga Canyon		45	42	45	62	71	81	92	92	82	75	63	50	**800**	
	Surface Water (Imported)	Potable	SWP	IEUA/MWD	1,227	1,150	1,211	1,687	1,926	2,187	2,479	2,479	2,228	2,025	1,710	1,355	**21,665**	
	Recycled	Non-Potable	IEUA		113	106	112	156	178	202	229	229	206	187	158	125	**2,001**	
	Surface Water	Potable	Day/East Canyon		119	111	117	163	187	212	240	240	216	196	166	131	**2,098**	

Table C-13c. Cucamonga Valley Water District - High Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Transfer	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	**46,262**
	Groundwater	Potable	Chino Basin		820	768	809	1,126	1,286	1,461	1,656	1,656	1,488	1,352	1,142	905	**14,467**	
	Groundwater	Potable	Cucamonga Basin		484	454	478	666	760	863	978	978	878	799	674	534	**8,545**	
	Surface Water	Potable	Deer Canyon		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water	Potable	Cucamonga Canyon		45	42	45	62	71	81	92	92	82	75	63	50	**800**	
	Surface Water (Imported)	Potable	SWP	IEUA/MWD	1,051	985	1,037	1,445	1,649	1,873	2,123	2,123	1,908	1,734	1,464	1,160	**18,551**	
	Recycled	Non-Potable	IEUA		102	96	101	140	160	182	206	206	185	168	142	113	**1,801**	
	Surface Water	Potable	Day/East Canyon		119	111	117	163	187	212	240	240	216	196	166	131	**2,098**	
2029	Groundwater	Transfer	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	**48,414**
	Groundwater	Potable	Chino Basin		796	745	784	1,093	1,248	1,418	1,607	1,608	1,444	1,313	1,108	878	**14,043**	
	Groundwater	Potable	Cucamonga Basin		478	448	471	657	749	851	964	964	866	788	665	527	**8,429**	
	Surface Water	Potable	Deer Canyon		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water	Potable	Cucamonga Canyon		45	42	45	62	71	81	92	92	82	75	63	50	**800**	
	Surface Water (Imported)	Potable	SWP	IEUA/MWD	1,192	1,117	1,176	1,639	1,871	2,125	2,408	2,408	2,164	1,967	1,661	1,316	**21,043**	
	Recycled	Non-Potable	IEUA		113	106	112	156	178	202	229	229	206	187	158	125	**2,001**	
	Surface Water	Potable	Day/East Canyon		119	111	117	163	187	212	240	240	216	196	166	131	**2,098**	
2033	Groundwater	Transfer	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	**47,817**
	Groundwater	Potable	Chino Basin		737	691	727	1,013	1,157	1,314	1,490	1,490	1,338	1,217	1,027	814	**13,015**	
	Groundwater	Potable	Cucamonga Basin		475	445	468	653	745	846	958	958	861	783	661	524	**8,377**	
	Surface Water	Potable	Deer Canyon		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water	Potable	Cucamonga Canyon		45	42	45	62	71	81	92	92	82	75	63	50	**800**	
	Surface Water (Imported)	Potable	SWP	IEUA/MWD	1,219	1,143	1,203	1,676	1,914	2,173	2,463	2,463	2,214	2,012	1,699	1,346	**21,526**	
	Recycled	Non-Potable	IEUA		113	106	112	156	178	202	229	229	206	187	158	125	**2,001**	
	Surface Water	Potable	Day/East Canyon		119	111	117	163	187	212	240	240	216	196	166	131	**2,098**	
2037	Groundwater	Transfer	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	**47,730**
	Groundwater	Potable	Chino Basin		619	580	611	851	972	1,104	1,251	1,251	1,124	1,022	863	684	**10,932**	
	Groundwater	Potable	Cucamonga Basin		471	441	464	647	738	838	949	949	853	776	655	519	**8,300**	
	Surface Water	Potable	Deer Canyon		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water	Potable	Cucamonga Canyon		45	42	45	62	71	81	92	92	82	75	63	50	**800**	
	Surface Water (Imported)	Potable	SWP	IEUA/MWD	1,339	1,255	1,321	1,841	2,101	2,386	2,705	2,705	2,430	2,210	1,866	1,478	**23,635**	
	Recycled	Non-Potable	IEUA		113	106	112	156	178	202	229	229	206	187	158	125	**2,001**	
	Surface Water	Potable	Day/East Canyon		117	109	115	160	184	208	236	236	212	193	163	129	**2,062**	
2041	Groundwater	Transfer	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	**47,766**
	Groundwater	Potable	Chino Basin		619	580	611	851	972	1,104	1,251	1,251	1,124	1,022	863	684	**10,932**	
	Groundwater	Potable	Cucamonga Basin		471	441	464	647	738	838	949	949	853	776	655	519	**8,300**	
	Surface Water	Potable	Deer Canyon		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Surface Water	Potable	Cucamonga Canyon		45	42	45	62	71	81	92	92	82	75	63	50	**800**	
	Surface Water (Imported)	Potable	SWP	IEUA/MWD	1,339	1,255	1,321	1,841	2,101	2,386	2,705	2,705	2,430	2,210	1,866	1,478	**23,635**	
	Recycled	Non-Potable	IEUA		113	106	112	156	178	202	229	229	206	187	158	125	**2,001**	
	Surface Water	Potable	Day/East Canyon		119	111	117	163	187	212	240	240	216	196	166	131	**2,098**	

Table C-14a. Fontana Water Company - Low Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Potable	No-Man's Land		160	139	139	127	143	141	162	160	154	168	168	161	**1,822**	**45,593**
	Groundwater	Potable	Chino Basin		291	314	357	698	730	1,043	1,134	1,131	939	932	604	363	**8,536**	
	Groundwater	Potable	Rialto-Colton Basin		355	308	309	282	317	314	359	355	342	372	373	356	**4,043**	
	Groundwater	Potable	Lytle Basin		562	487	488	446	500	496	568	561	541	589	589	563	**6,390**	
	Surface Water	Potable	Lytle Creek		454	488	492	556	517	397	357	337	337	240	293	390	**4,860**	
	Surface Water (Imported)	Potable	SWP	IEUA	997	942	1,207	1,224	1,472	1,412	1,543	1,577	1,466	1,689	1,093	986	**15,609**	
	Surface Water (Imported)	Potable	Sandhill	SBVMWD	213	201	258	261	314	302	330	337	313	361	233	211	**3,334**	
	Recycled	Non-Potable	IEUA		35	39	34	81	110	146	130	114	114	69	80	48	**1,000**	
2031	Groundwater	Potable	No-Man's Land		163	142	142	130	145	144	165	163	157	171	171	164	**1,856**	**46,540**
	Groundwater	Potable	Chino Basin		313	338	384	751	786	1,122	1,220	1,217	1,010	1,003	650	391	**9,184**	
	Groundwater	Potable	Rialto-Colton Basin		362	314	315	288	323	320	366	362	349	380	380	363	**4,120**	
	Groundwater	Potable	Lytle Basin		562	487	488	446	500	496	568	561	541	589	589	563	**6,390**	
	Surface Water	Potable	Lytle Creek		454	488	492	556	517	397	357	337	337	240	293	390	**4,860**	
	Surface Water (Imported)	Potable	SWP	IEUA	980	927	1,187	1,204	1,447	1,389	1,518	1,551	1,442	1,661	1,075	970	**15,352**	
	Surface Water (Imported)	Potable	Sandhill	SBVMWD	209	198	253	257	309	296	324	331	308	355	229	207	**3,277**	
	Recycled	Non-Potable	IEUA		53	58	51	121	165	219	195	171	172	104	121	72	**1,500**	
2038	Groundwater	Potable	No-Man's Land		166	144	145	132	148	147	168	166	160	174	174	167	**1,891**	**47,039**
	Groundwater	Potable	Chino Basin		348	377	428	837	876	1,251	1,360	1,356	1,126	1,118	725	436	**10,238**	
	Groundwater	Potable	Rialto-Colton Basin		369	320	321	293	329	326	373	368	355	387	387	370	**4,196**	
	Groundwater	Potable	Lytle Basin		562	487	488	446	500	496	568	561	541	589	589	563	**6,390**	
	Surface Water	Potable	Lytle Creek		454	488	492	556	517	397	357	337	337	240	293	390	**4,860**	
	Surface Water (Imported)	Potable	SWP	IEUA	919	869	1,113	1,129	1,357	1,302	1,424	1,455	1,353	1,558	1,008	910	**14,396**	
	Surface Water (Imported)	Potable	Sandhill	SBVMWD	196	185	237	241	289	278	303	310	288	332	215	194	**3,068**	
	Recycled	Non-Potable	IEUA		71	78	67	161	219	292	260	228	229	138	161	95	**2,000**	
2045	Groundwater	Potable	No-Man's Land		169	147	147	135	151	149	171	169	163	177	177	170	**1,925**	**47,865**
	Groundwater	Potable	Chino Basin		385	416	473	925	968	1,382	1,502	1,498	1,244	1,235	801	481	**11,310**	
	Groundwater	Potable	Rialto-Colton Basin		376	326	327	299	335	332	380	375	362	394	394	377	**4,274**	
	Groundwater	Potable	Lytle Basin		562	487	488	446	500	496	568	561	541	589	589	563	**6,390**	
	Surface Water	Potable	Lytle Creek		454	488	492	556	517	397	357	337	337	240	293	390	**4,860**	
	Surface Water (Imported)	Potable	SWP	IEUA	874	827	1,059	1,074	1,291	1,239	1,354	1,384	1,287	1,482	959	865	**13,693**	
	Surface Water (Imported)	Potable	Sandhill	SBVMWD	186	176	225	228	275	264	288	294	274	315	204	184	**2,913**	
	Recycled	Non-Potable	IEUA		89	97	84	202	274	366	324	285	286	173	201	119	**2,500**	
2051	Groundwater	Potable	No-Man's Land		172	149	150	137	153	152	174	172	166	181	181	173	**1,960**	**49,595**
	Groundwater	Potable	Chino Basin		413	446	507	992	1,038	1,482	1,611	1,607	1,334	1,324	859	516	**12,128**	
	Groundwater	Potable	Rialto-Colton Basin		382	332	333	304	341	338	386	382	368	401	401	383	**4,350**	
	Groundwater	Potable	Lytle Basin		562	487	488	446	500	496	568	561	541	589	589	563	**6,390**	
	Surface Water	Potable	Lytle Creek		454	488	492	556	517	397	357	337	337	240	293	390	**4,860**	
	Surface Water (Imported)	Potable	SWP	IEUA	890	841	1,078	1,093	1,314	1,261	1,378	1,409	1,310	1,508	976	881	**13,939**	
	Surface Water (Imported)	Potable	Sandhill	SBVMWD	189	179	229	233	280	268	293	300	279	321	208	187	**2,967**	
	Recycled	Non-Potable	IEUA		106	117	101	242	329	439	389	342	343	207	241	143	**3,000**	

Table C-14b. Fontana Water Company - Expected Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Potable	No-Man's Land		160	139	139	127	143	141	162	160	154	168	168	161	**1,822**	**45,593**
	Groundwater	Potable	Chino Basin		316	341	388	759	794	1,134	1,232	1,229	1,020	1,013	657	395	**9,278**	
	Groundwater	Potable	Rialto-Colton Basin		355	308	309	282	317	314	359	355	342	372	373	356	**4,043**	
	Groundwater	Potable	Lytle Basin		562	487	488	446	500	496	568	561	541	589	589	563	**6,390**	
	Surface Water	Potable	Lytle Creek		454	488	492	556	517	397	357	337	337	240	293	390	**4,860**	
	Surface Water (Imported)	Potable	SWP	IEUA	958	905	1,160	1,176	1,414	1,357	1,483	1,516	1,409	1,623	1,050	948	**15,000**	
	Surface Water (Imported)	Potable	Sandhill	SBVMWD	204	193	247	251	302	289	316	323	301	346	224	202	**3,200**	
	Recycled	Non-Potable	IEUA		35	39	34	81	110	146	130	114	114	69	80	48	**1,000**	
2030	Groundwater	Potable	No-Man's Land		163	142	142	130	145	144	165	163	157	171	171	164	**1,856**	**46,622**
	Groundwater	Potable	Chino Basin		340	367	417	816	854	1,220	1,326	1,322	1,098	1,090	707	425	**9,983**	
	Groundwater	Potable	Rialto-Colton Basin		362	314	315	288	323	320	366	362	349	380	380	363	**4,120**	
	Groundwater	Potable	Lytle Basin		562	487	488	446	500	496	568	561	541	589	589	563	**6,390**	
	Surface Water	Potable	Lytle Creek		454	488	492	556	517	397	357	337	337	240	293	390	**4,860**	
	Surface Water (Imported)	Potable	SWP	IEUA	943	891	1,142	1,158	1,392	1,336	1,460	1,492	1,387	1,598	1,034	933	**14,764**	
	Surface Water (Imported)	Potable	Sandhill	SBVMWD	201	190	243	247	297	285	311	318	296	341	220	199	**3,148**	
	Recycled	Non-Potable	IEUA		53	58	51	121	165	219	195	171	172	104	121	72	**1,500**	
2035	Groundwater	Potable	No-Man's Land		166	144	145	132	148	147	168	166	160	174	174	167	**1,891**	**47,427**
	Groundwater	Potable	Chino Basin		379	409	465	910	952	1,360	1,478	1,474	1,224	1,215	788	473	**11,128**	
	Groundwater	Potable	Rialto-Colton Basin		369	320	321	293	329	326	373	368	355	387	387	370	**4,196**	
	Groundwater	Potable	Lytle Basin		562	487	488	446	500	496	568	561	541	589	589	563	**6,390**	
	Surface Water	Potable	Lytle Creek		454	488	492	556	517	397	357	337	337	240	293	390	**4,860**	
	Surface Water (Imported)	Potable	SWP	IEUA	893	844	1,082	1,097	1,319	1,265	1,383	1,413	1,314	1,513	979	884	**13,985**	
	Surface Water (Imported)	Potable	Sandhill	SBVMWD	190	180	230	233	281	269	294	301	280	322	208	188	**2,977**	
	Recycled	Non-Potable	IEUA		71	78	67	161	219	292	260	228	229	138	161	95	**2,000**	
2040	Groundwater	Potable	No-Man's Land		169	147	147	135	151	149	171	169	163	177	177	170	**1,925**	**48,486**
	Groundwater	Potable	Chino Basin		418	452	514	1,005	1,052	1,502	1,633	1,628	1,352	1,342	870	523	**12,293**	
	Groundwater	Potable	Rialto-Colton Basin		376	326	327	299	335	332	380	375	362	394	394	377	**4,274**	
	Groundwater	Potable	Lytle Basin		562	487	488	446	500	496	568	561	541	589	589	563	**6,390**	
	Surface Water	Potable	Lytle Creek		454	488	492	556	517	397	357	337	337	240	293	390	**4,860**	
	Surface Water (Imported)	Potable	SWP	IEUA	855	809	1,036	1,050	1,263	1,212	1,325	1,354	1,259	1,449	938	846	**13,396**	
	Surface Water (Imported)	Potable	Sandhill	SBVMWD	182	172	220	223	269	258	282	288	268	308	199	180	**2,848**	
	Recycled	Non-Potable	IEUA		89	97	84	202	274	366	324	285	286	173	201	119	**2,500**	
2045	Groundwater	Potable	No-Man's Land		172	149	150	137	153	152	174	172	166	181	181	173	**1,960**	**50,159**
	Groundwater	Potable	Chino Basin		449	485	551	1,078	1,128	1,611	1,751	1,746	1,450	1,440	933	561	**13,183**	
	Groundwater	Potable	Rialto-Colton Basin		382	332	333	304	341	338	386	382	368	401	401	383	**4,350**	
	Groundwater	Potable	Lytle Basin		562	487	488	446	500	496	568	561	541	589	589	563	**6,390**	
	Surface Water	Potable	Lytle Creek		454	488	492	556	517	397	357	337	337	240	293	390	**4,860**	
	Surface Water (Imported)	Potable	SWP	IEUA	864	817	1,047	1,061	1,276	1,225	1,339	1,368	1,272	1,465	948	855	**13,537**	
	Surface Water (Imported)	Potable	Sandhill	SBVMWD	184	174	223	226	271	260	285	291	270	311	202	182	**2,879**	
	Recycled	Non-Potable	IEUA		106	117	101	242	329	439	389	342	343	207	241	143	**3,000**	

Table C-14c. Fontana Water Company - High Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Potable	No-Man's Land		160	139	139	127	143	141	162	160	154	168	168	161	**1,822**	**45,593**
	Groundwater	Potable	Chino Basin		341	369	419	819	857	1,224	1,331	1,327	1,102	1,094	709	426	**10,020**	
	Groundwater	Potable	Rialto-Colton Basin		355	308	309	282	317	314	359	355	342	372	373	356	**4,043**	
	Groundwater	Potable	Lytle Basin		562	487	488	446	500	496	568	561	541	589	589	563	**6,390**	
	Surface Water	Potable	Lytle Creek		454	488	492	556	517	397	357	337	337	240	293	390	**4,860**	
	Surface Water (Imported)	Potable	SWP	IEUA	919	869	1,113	1,128	1,357	1,302	1,423	1,454	1,352	1,557	1,008	909	**14,391**	
	Surface Water (Imported)	Potable	Sandhill	SBVMWD	196	185	237	240	289	277	303	310	288	332	215	194	**3,066**	
	Recycled	Non-Potable	IEUA		35	39	34	81	110	146	130	114	114	69	80	48	**1,000**	
2029	Groundwater	Potable	No-Man's Land		163	142	142	130	145	144	165	163	157	171	171	164	**1,856**	**46,704**
	Groundwater	Potable	Chino Basin		367	397	451	882	923	1,318	1,432	1,428	1,186	1,177	763	459	**10,782**	
	Groundwater	Potable	Rialto-Colton Basin		362	314	315	288	323	320	366	362	349	380	380	363	**4,120**	
	Groundwater	Potable	Lytle Basin		562	487	488	446	500	496	568	561	541	589	589	563	**6,390**	
	Surface Water	Potable	Lytle Creek		454	488	492	556	517	397	357	337	337	240	293	390	**4,860**	
	Surface Water (Imported)	Potable	SWP	IEUA	905	856	1,096	1,112	1,337	1,283	1,402	1,433	1,332	1,534	993	896	**14,177**	
	Surface Water (Imported)	Potable	Sandhill	SBVMWD	193	182	234	237	285	273	299	305	284	327	211	191	**3,019**	
	Recycled	Non-Potable	IEUA		53	58	51	121	165	219	195	171	172	104	121	72	**1,500**	
2033	Groundwater	Potable	No-Man's Land		166	144	145	132	148	147	168	166	160	174	174	167	**1,891**	**47,877**
	Groundwater	Potable	Chino Basin		409	442	503	983	1,028	1,469	1,596	1,592	1,322	1,312	851	511	**12,018**	
	Groundwater	Potable	Rialto-Colton Basin		369	320	321	293	329	326	373	368	355	387	387	370	**4,196**	
	Groundwater	Potable	Lytle Basin		562	487	488	446	500	496	568	561	541	589	589	563	**6,390**	
	Surface Water	Potable	Lytle Creek		454	488	492	556	517	397	357	337	337	240	293	390	**4,860**	
	Surface Water (Imported)	Potable	SWP	IEUA	870	822	1,054	1,068	1,285	1,233	1,347	1,377	1,280	1,474	954	861	**13,624**	
	Surface Water (Imported)	Potable	Sandhill	SBVMWD	185	175	224	227	273	262	287	293	272	314	203	183	**2,898**	
	Recycled	Non-Potable	IEUA		71	78	67	161	219	292	260	228	229	138	161	95	**2,000**	
2037	Groundwater	Potable	No-Man's Land		169	147	147	135	151	149	171	169	163	177	177	170	**1,925**	**49,216**
	Groundwater	Potable	Chino Basin		452	488	555	1,086	1,136	1,622	1,763	1,759	1,460	1,450	940	565	**13,276**	
	Groundwater	Potable	Rialto-Colton Basin		376	326	327	299	335	332	380	375	362	394	394	377	**4,274**	
	Groundwater	Potable	Lytle Basin		562	487	488	446	500	496	568	561	541	589	589	563	**6,390**	
	Surface Water	Potable	Lytle Creek		454	488	492	556	517	397	357	337	337	240	293	390	**4,860**	
	Surface Water (Imported)	Potable	SWP	IEUA	842	796	1,020	1,034	1,244	1,193	1,304	1,333	1,239	1,427	923	833	**13,189**	
	Surface Water (Imported)	Potable	Sandhill	SBVMWD	179	169	217	220	264	254	277	283	263	303	196	177	**2,802**	
	Recycled	Non-Potable	IEUA		89	97	84	202	274	366	324	285	286	173	201	119	**2,500**	
2041	Groundwater	Potable	No-Man's Land		172	149	150	137	153	152	174	172	166	181	181	173	**1,960**	**50,818**
	Groundwater	Potable	Chino Basin		485	524	595	1,164	1,218	1,740	1,891	1,886	1,566	1,555	1,008	606	**14,238**	
	Groundwater	Potable	Rialto-Colton Basin		382	332	333	304	341	338	386	382	368	401	401	383	**4,350**	
	Groundwater	Potable	Lytle Basin		562	487	488	446	500	496	568	561	541	589	589	563	**6,390**	
	Surface Water	Potable	Lytle Creek		454	488	492	556	517	397	357	337	337	240	293	390	**4,860**	
	Surface Water (Imported)	Potable	SWP	IEUA	844	798	1,022	1,036	1,246	1,195	1,306	1,335	1,241	1,430	925	835	**13,212**	
	Surface Water (Imported)	Potable	Sandhill	SBVMWD	179	169	217	220	265	254	278	284	264	304	197	177	**2,808**	
	Recycled	Non-Potable	IEUA		106	117	101	242	329	439	389	342	343	207	241	143	**3,000**	

Table C-15a. Jurupa Community Services District - Low Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Potable	Chino Basin		593	593	712	694	781	868	955	955	868	868	694	829	**9,408**	**30,678**
	Groundwater (Imported)	Potable	Riverside South Basin	Rubidoux Community Services District	0	0	0	158	178	198	217	217	198	198	158	0	**1,522**	
	Groundwater (Imported)	Potable	Chino Basin	CDA	991	894	981	945	944	944	979	954	986	1,058	1,027	1,030	**11,733**	
	Groundwater (Imported)	Potable	Chino Basin	CVWD	297	297	356	474	534	593	652	652	593	593	474	415	**5,931**	
	Groundwater (Imported)	Potable	Chino Basin	City of Ontario	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Potable	Chino Basin	WMWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Transfer	Chino Basin	CDA	0	0	0	96	108	120	132	132	120	120	96	0	**924**	
	Groundwater	Non-Potable	Riverside South Basin		25	25	30	40	45	50	55	55	50	50	40	35	**500**	
	Groundwater	Non-Potable	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Recycled	Non-Potable	JCSD Rec. Water Project		33	33	40	53	59	66	73	73	66	66	53	46	**660**	
2031	Groundwater	Potable	Chino Basin		507	507	608	811	912	1,014	1,115	1,115	1,014	1,014	811	710	**10,138**	**31,186**
	Groundwater (Imported)	Potable	Riverside South Basin	Rubidoux Community Services District	87	87	104	139	156	174	191	191	174	174	139	122	**1,739**	
	Groundwater (Imported)	Potable	Chino Basin	CDA	991	894	981	945	944	944	979	954	986	1,058	1,027	1,030	**11,733**	
	Groundwater (Imported)	Potable	Chino Basin	CVWD	261	261	313	417	469	522	574	574	522	522	417	365	**5,217**	
	Groundwater (Imported)	Potable	Chino Basin	City of Ontario	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Potable	Chino Basin	WMWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Transfer	Chino Basin	CDA	60	60	72	96	108	120	132	132	120	120	96	84	**1,200**	
	Groundwater	Non-Potable	Riverside South Basin		25	25	30	40	45	50	55	55	50	50	40	35	**500**	
	Groundwater	Non-Potable	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Recycled	Non-Potable	JCSD Rec. Water Project		33	33	40	53	59	66	73	73	66	66	53	46	**660**	
2038	Groundwater	Potable	Chino Basin		659	659	790	817	919	1,021	1,123	1,123	1,021	1,021	817	922	**10,891**	**31,291**
	Groundwater (Imported)	Potable	Riverside South Basin	Rubidoux Community Services District	0	0	0	142	160	177	195	195	177	177	142	0	**1,366**	
	Groundwater (Imported)	Potable	Chino Basin	CDA	991	894	981	945	944	944	979	954	986	1,058	1,027	1,030	**11,733**	
	Groundwater (Imported)	Potable	Chino Basin	CVWD	261	261	313	417	469	522	574	574	522	522	417	365	**5,217**	
	Groundwater (Imported)	Potable	Chino Basin	City of Ontario	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Potable	Chino Basin	WMWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Transfer	Chino Basin	CDA	0	0	0	96	108	120	132	132	120	120	96	0	**924**	
	Groundwater	Non-Potable	Riverside South Basin		25	25	30	40	45	50	55	55	50	50	40	35	**500**	
	Groundwater	Non-Potable	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Recycled	Non-Potable	JCSD Rec. Water Project		33	33	40	53	59	66	73	73	66	66	53	46	**660**	
2045	Groundwater	Potable	Chino Basin		687	687	824	858	965	1,072	1,180	1,180	1,072	1,072	858	962	**11,417**	**32,073**
	Groundwater (Imported)	Potable	Riverside South Basin	Rubidoux Community Services District	0	0	0	145	163	181	200	200	181	181	145	0	**1,397**	
	Groundwater (Imported)	Potable	Chino Basin	CDA	991	894	981	945	944	944	979	954	986	1,058	1,027	1,030	**11,733**	
	Groundwater (Imported)	Potable	Chino Basin	CVWD	272	272	327	435	490	544	599	599	544	544	435	381	**5,442**	
	Groundwater (Imported)	Potable	Chino Basin	City of Ontario	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Potable	Chino Basin	WMWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Transfer	Chino Basin	CDA	0	0	0	96	108	120	132	132	120	120	96	0	**924**	
	Groundwater	Non-Potable	Riverside South Basin		25	25	30	40	45	50	55	55	50	50	40	35	**500**	
	Groundwater	Non-Potable	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Recycled	Non-Potable	JCSD Rec. Water Project		33	33	40	53	59	66	73	73	66	66	53	46	**660**	
2051	Groundwater	Potable	Chino Basin		536	536	643	858	965	1,072	1,180	1,180	1,072	1,072	858	751	**10,723**	**31,379**
	Groundwater (Imported)	Potable	Riverside South Basin	Rubidoux Community Services District	0	0	0	145	163	181	200	200	181	181	145	0	**1,397**	
	Groundwater (Imported)	Potable	Chino Basin	CDA	991	894	981	945	944	944	979	954	986	1,058	1,027	1,030	**11,733**	
	Groundwater (Imported)	Potable	Chino Basin	CVWD	272	272	327	435	490	544	599	599	544	544	435	381	**5,442**	
	Groundwater (Imported)	Potable	Chino Basin	City of Ontario	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Potable	Chino Basin	WMWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Transfer	Chino Basin	CDA	0	0	0	96	108	120	132	132	120	120	96	0	**924**	
	Groundwater	Non-Potable	Riverside South Basin		25	25	30	40	45	50	55	55	50	50	40	35	**500**	
	Groundwater	Non-Potable	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Recycled	Non-Potable	JCSD Rec. Water Project		33	33	40	53	59	66	73	73	66	66	53	46	**660**	

Table C-15b. Jurupa Community Services District - Expected Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Potable	Chino Basin		624	624	748	755	849	943	1,038	1,038	943	943	755	873	**10,131**	**30,889**
	Groundwater (Imported)	Potable	Riverside South Basin	Rubidoux Community Services District	0	0	0	147	166	184	203	203	184	184	147	0	**1,418**	
	Groundwater (Imported)	Potable	Chino Basin	CDA	991	894	981	945	944	944	979	954	986	1,058	1,027	1,030	**11,733**	
	Groundwater (Imported)	Potable	Chino Basin	CVWD	276	276	331	442	497	552	608	608	552	552	442	387	**5,524**	
	Groundwater (Imported)	Potable	Chino Basin	City of Ontario	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Potable	Chino Basin	WMWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Transfer	Chino Basin	CDA	0	0	0	96	108	120	132	132	120	120	96	0	**924**	
	Groundwater	Non-Potable	Riverside South Basin		25	25	30	40	45	50	55	55	50	50	40	35	**500**	
	Groundwater	Non-Potable	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Recycled	Non-Potable	JCSD Rec. Water Project		33	33	40	53	59	66	73	73	66	66	53	46	**660**	
2030	Groundwater	Potable	Chino Basin		725	725	870	943	1,061	1,179	1,297	1,297	1,179	1,179	943	1,014	**12,414**	**31,886**
	Groundwater (Imported)	Potable	Riverside South Basin	Rubidoux Community Services District	0	0	0	120	135	150	165	165	150	150	120	0	**1,155**	
	Groundwater (Imported)	Potable	Chino Basin	CDA	991	894	981	945	944	944	979	954	986	1,058	1,027	1,030	**11,733**	
	Groundwater (Imported)	Potable	Chino Basin	CVWD	225	225	270	360	405	450	495	495	450	450	360	315	**4,500**	
	Groundwater (Imported)	Potable	Chino Basin	City of Ontario	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Potable	Chino Basin	WMWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Transfer	Chino Basin	CDA	0	0	0	96	108	120	132	132	120	120	96	0	**924**	
	Groundwater	Non-Potable	Riverside South Basin		25	25	30	40	45	50	55	55	50	50	40	35	**500**	
	Groundwater	Non-Potable	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Recycled	Non-Potable	JCSD Rec. Water Project		33	33	40	53	59	66	73	73	66	66	53	46	**660**	
2035	Groundwater	Potable	Chino Basin		754	754	905	991	1,115	1,239	1,363	1,363	1,239	1,239	991	1,056	**13,011**	**32,483**
	Groundwater (Imported)	Potable	Riverside South Basin	Rubidoux Community Services District	0	0	0	120	135	150	165	165	150	150	120	0	**1,155**	
	Groundwater (Imported)	Potable	Chino Basin	CDA	991	894	981	945	944	944	979	954	986	1,058	1,027	1,030	**11,733**	
	Groundwater (Imported)	Potable	Chino Basin	CVWD	225	225	270	360	405	450	495	495	450	450	360	315	**4,500**	
	Groundwater (Imported)	Potable	Chino Basin	City of Ontario	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Potable	Chino Basin	WMWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Transfer	Chino Basin	CDA	0	0	0	96	108	120	132	132	120	120	96	0	**924**	
	Groundwater	Non-Potable	Riverside South Basin		25	25	30	40	45	50	55	55	50	50	40	35	**500**	
	Groundwater	Non-Potable	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Recycled	Non-Potable	JCSD Rec. Water Project		33	33	40	53	59	66	73	73	66	66	53	46	**660**	
2040	Groundwater	Potable	Chino Basin		804	804	965	1,070	1,204	1,338	1,472	1,472	1,338	1,338	1,070	1,126	**14,002**	**33,474**
	Groundwater (Imported)	Potable	Riverside South Basin	Rubidoux Community Services District	0	0	0	120	135	150	165	165	150	150	120	0	**1,155**	
	Groundwater (Imported)	Potable	Chino Basin	CDA	991	894	981	945	944	944	979	954	986	1,058	1,027	1,030	**11,733**	
	Groundwater (Imported)	Potable	Chino Basin	CVWD	225	225	270	360	405	450	495	495	450	450	360	315	**4,500**	
	Groundwater (Imported)	Potable	Chino Basin	City of Ontario	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Potable	Chino Basin	WMWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Transfer	Chino Basin	CDA	0	0	0	96	108	120	132	132	120	120	96	0	**924**	
	Groundwater	Non-Potable	Riverside South Basin		25	25	30	40	45	50	55	55	50	50	40	35	**500**	
	Groundwater	Non-Potable	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Recycled	Non-Potable	JCSD Rec. Water Project		33	33	40	53	59	66	73	73	66	66	53	46	**660**	
2045	Groundwater	Potable	Chino Basin		804	804	965	1,070	1,204	1,338	1,472	1,472	1,338	1,338	1,070	1,126	**14,002**	**33,474**
	Groundwater (Imported)	Potable	Riverside South Basin	Rubidoux Community Services District	0	0	0	120	135	150	165	165	150	150	120	0	**1,155**	
	Groundwater (Imported)	Potable	Chino Basin	CDA	991	894	981	945	944	944	979	954	986	1,058	1,027	1,030	**11,733**	
	Groundwater (Imported)	Potable	Chino Basin	CVWD	225	225	270	360	405	450	495	495	450	450	360	315	**4,500**	
	Groundwater (Imported)	Potable	Chino Basin	City of Ontario	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Potable	Chino Basin	WMWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Transfer	Chino Basin	CDA	0	0	0	96	108	120	132	132	120	120	96	0	**924**	
	Groundwater	Non-Potable	Riverside South Basin		25	25	30	40	45	50	55	55	50	50	40	35	**500**	
	Groundwater	Non-Potable	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Recycled	Non-Potable	JCSD Rec. Water Project		33	33	40	53	59	66	73	73	66	66	53	46	**660**	

Table C-15c. Jurupa Community Services District - High Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Potable	Chino Basin		655	655	786	815	917	1,019	1,121	1,121	1,019	1,019	815	917	**10,858**	**31,154**
	Groundwater (Imported)	Potable	Riverside South Basin	Rubidoux Community Services District	0	0	0	137	155	172	189	189	172	172	137	0	**1,323**	
	Groundwater (Imported)	Potable	Chino Basin	CDA	991	894	981	945	944	944	979	954	986	1,058	1,027	1,030	**11,733**	
	Groundwater (Imported)	Potable	Chino Basin	CVWD	258	258	309	412	464	516	567	567	516	516	412	361	**5,156**	
	Groundwater (Imported)	Potable	Chino Basin	City of Ontario	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Potable	Chino Basin	WMWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Transfer	Chino Basin	CDA	0	0	0	96	108	120	132	132	120	120	96	0	**924**	
	Groundwater	Non-Potable	Riverside South Basin		25	25	30	40	45	50	55	55	50	50	40	35	**500**	
	Groundwater	Non-Potable	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Recycled	Non-Potable	JCSD Rec. Water Project		33	33	40	53	59	66	73	73	66	66	53	46	**660**	
2029	Groundwater	Potable	Chino Basin		777	777	932	1,032	1,161	1,290	1,419	1,419	1,290	1,290	1,032	1,088	**13,504**	**32,735**
	Groundwater (Imported)	Potable	Riverside South Basin	Rubidoux Community Services District	0	0	0	115	129	144	158	158	144	144	115	0	**1,106**	
	Groundwater (Imported)	Potable	Chino Basin	CDA	991	894	981	945	944	944	979	954	986	1,058	1,027	1,030	**11,733**	
	Groundwater (Imported)	Potable	Chino Basin	CVWD	215	215	258	345	388	431	474	474	431	431	345	302	**4,308**	
	Groundwater (Imported)	Potable	Chino Basin	City of Ontario	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Potable	Chino Basin	WMWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Transfer	Chino Basin	CDA	0	0	0	96	108	120	132	132	120	120	96	0	**924**	
	Groundwater	Non-Potable	Riverside South Basin		25	25	30	40	45	50	55	55	50	50	40	35	**500**	
	Groundwater	Non-Potable	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Recycled	Non-Potable	JCSD Rec. Water Project		33	33	40	53	59	66	73	73	66	66	53	46	**660**	
2033	Groundwater	Potable	Chino Basin		861	861	1,034	1,184	1,332	1,480	1,628	1,628	1,480	1,480	1,184	1,206	**15,357**	**34,425**
	Groundwater (Imported)	Potable	Riverside South Basin	Rubidoux Community Services District	0	0	0	98	110	123	135	135	123	123	98	0	**944**	
	Groundwater (Imported)	Potable	Chino Basin	CDA	991	894	981	945	944	944	979	954	986	1,058	1,027	1,030	**11,733**	
	Groundwater (Imported)	Potable	Chino Basin	CVWD	215	215	258	345	388	431	474	474	431	431	345	302	**4,308**	
	Groundwater (Imported)	Potable	Chino Basin	City of Ontario	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Potable	Chino Basin	WMWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Transfer	Chino Basin	CDA	0	0	0	96	108	120	132	132	120	120	96	0	**924**	
	Groundwater	Non-Potable	Riverside South Basin		25	25	30	40	45	50	55	55	50	50	40	35	**500**	
	Groundwater	Non-Potable	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Recycled	Non-Potable	JCSD Rec. Water Project		33	33	40	53	59	66	73	73	66	66	53	46	**660**	
2037	Groundwater	Potable	Chino Basin		936	936	1,123	1,307	1,470	1,633	1,797	1,797	1,633	1,633	1,307	1,310	**16,880**	**35,168**
	Groundwater (Imported)	Potable	Riverside South Basin	Rubidoux Community Services District	0	0	0	95	107	119	130	130	119	119	95	0	**913**	
	Groundwater (Imported)	Potable	Chino Basin	CDA	991	894	981	945	944	944	979	954	986	1,058	1,027	1,030	**11,733**	
	Groundwater (Imported)	Potable	Chino Basin	CVWD	178	178	213	285	320	356	391	391	356	356	285	249	**3,558**	
	Groundwater (Imported)	Potable	Chino Basin	City of Ontario	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Potable	Chino Basin	WMWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Transfer	Chino Basin	CDA	0	0	0	96	108	120	132	132	120	120	96	0	**924**	
	Groundwater	Non-Potable	Riverside South Basin		25	25	30	40	45	50	55	55	50	50	40	35	**500**	
	Groundwater	Non-Potable	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Recycled	Non-Potable	JCSD Rec. Water Project		33	33	40	53	59	66	73	73	66	66	53	46	**660**	
2041	Groundwater	Potable	Chino Basin		936	936	1,123	1,307	1,470	1,633	1,797	1,797	1,633	1,633	1,307	1,310	**16,880**	**35,168**
	Groundwater (Imported)	Potable	Riverside South Basin	Rubidoux Community Services District	0	0	0	95	107	119	130	130	119	119	95	0	**913**	
	Groundwater (Imported)	Potable	Chino Basin	CDA	991	894	981	945	944	944	979	954	986	1,058	1,027	1,030	**11,733**	
	Groundwater (Imported)	Potable	Chino Basin	CVWD	178	178	213	285	320	356	391	391	356	356	285	249	**3,558**	
	Groundwater (Imported)	Potable	Chino Basin	City of Ontario	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Potable	Chino Basin	WMWD	0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Groundwater (Imported)	Transfer	Chino Basin	CDA	0	0	0	96	108	120	132	132	120	120	96	0	**924**	
	Groundwater	Non-Potable	Riverside South Basin		25	25	30	40	45	50	55	55	50	50	40	35	**500**	
	Groundwater	Non-Potable	Chino Basin		0	0	0	0	0	0	0	0	0	0	0	0	**0**	
	Recycled	Non-Potable	JCSD Rec. Water Project		33	33	40	53	59	66	73	73	66	66	53	46	**660**	

Table C-16a. Monte Vista Water District - Low Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Transfer	Chino Basin		133	116	126	145	198	211	238	235	207	199	184	134	**2,127**	**15,095**
	Surface Water (Imported)	Transfer	SWP	WFA	145	126	137	158	216	230	259	255	225	216	200	146	**2,312**	
	Groundwater	Potable	Chino Basin		342	274	308	303	436	367	375	279	158	269	394	347	**3,853**	
	Groundwater (Imported)	Potable	Other	SAWCo	68	63	10	0	0	0	0	0	0	34	131	171	**477**	
	Surface Water (Imported)	Potable	SWP	WFA	310	282	302	377	502	588	684	723	688	595	470	311	**5,832**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	28	26	4	0	0	0	0	0	0	14	53	70	**194**	
	Recycled	Non-Potable	IEUA		10	11	10	20	30	36	41	40	37	31	24	10	**300**	
2031	Groundwater	Transfer	Chino Basin		136	118	129	148	202	215	243	239	211	202	187	137	**2,167**	**14,894**
	Surface Water (Imported)	Transfer	SWP	WFA	148	128	140	161	220	234	264	260	229	220	204	149	**2,356**	
	Groundwater	Potable	Chino Basin		340	272	306	301	432	363	370	275	154	265	391	345	**3,813**	
	Groundwater (Imported)	Potable	Other	SAWCo	68	63	10	0	0	0	0	0	0	34	131	171	**477**	
	Surface Water (Imported)	Potable	SWP	WFA	298	271	290	361	481	563	655	692	658	570	451	299	**5,588**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	28	26	4	0	0	0	0	0	0	14	53	70	**194**	
	Recycled	Non-Potable	IEUA		10	11	10	20	30	36	41	40	37	31	24	10	**300**	
2038	Groundwater	Transfer	Chino Basin		140	122	132	153	208	222	250	246	217	208	193	141	**2,232**	**14,819**
	Surface Water (Imported)	Transfer	SWP	WFA	152	132	144	166	226	241	272	267	236	227	210	153	**2,426**	
	Groundwater	Potable	Chino Basin		336	268	302	296	426	357	363	268	148	259	385	341	**3,748**	
	Groundwater (Imported)	Potable	Other	SAWCo	68	63	10	0	0	0	0	0	0	34	131	171	**477**	
	Surface Water (Imported)	Potable	SWP	WFA	291	264	283	352	469	548	638	673	639	554	439	292	**5,442**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	28	26	4	0	0	0	0	0	0	14	53	70	**194**	
	Recycled	Non-Potable	IEUA		10	11	10	20	30	36	41	40	37	31	24	10	**300**	
2045	Groundwater	Transfer	Chino Basin		141	122	133	153	209	223	251	247	218	209	194	142	**2,241**	**14,694**
	Surface Water (Imported)	Transfer	SWP	WFA	153	133	145	167	227	242	273	269	237	228	210	154	**2,436**	
	Groundwater	Potable	Chino Basin		335	268	302	295	425	356	362	267	147	258	384	340	**3,739**	
	Groundwater (Imported)	Potable	Other	SAWCo	68	63	10	0	0	0	0	0	0	34	131	171	**477**	
	Surface Water (Imported)	Potable	SWP	WFA	284	258	276	343	457	535	622	656	623	541	429	284	**5,308**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	28	26	4	0	0	0	0	0	0	14	53	70	**194**	
	Recycled	Non-Potable	IEUA		10	11	10	20	30	36	41	40	37	31	24	10	**300**	
2051	Groundwater	Transfer	Chino Basin		141	122	133	154	210	223	252	248	219	210	194	142	**2,249**	**14,712**
	Surface Water (Imported)	Transfer	SWP	WFA	153	133	145	167	228	243	274	270	238	228	211	154	**2,445**	
	Groundwater	Potable	Chino Basin		335	267	301	295	424	355	361	266	146	257	384	339	**3,731**	
	Groundwater (Imported)	Potable	Other	SAWCo	68	63	10	0	0	0	0	0	0	34	131	171	**477**	
	Surface Water (Imported)	Potable	SWP	WFA	284	258	276	344	458	536	623	657	624	541	429	285	**5,317**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	28	26	4	0	0	0	0	0	0	14	53	70	**194**	
	Recycled	Non-Potable	IEUA		10	11	10	20	30	36	41	40	37	31	24	10	**300**	

Table C-16b. Monte Vista Water District - Expected Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Transfer	Chino Basin		145	126	137	158	216	230	259	255	225	216	200	146	**2,312**	**15,095**
	Surface Water (Imported)	Transfer	SWP	WFA	145	126	137	158	216	230	259	255	225	216	200	146	**2,312**	
	Groundwater	Potable	Chino Basin		372	298	335	330	474	399	407	304	172	292	428	377	**4,188**	
	Groundwater (Imported)	Potable	Other	SAWCo	68	63	10	0	0	0	0	0	0	34	131	171	**477**	
	Surface Water (Imported)	Potable	SWP	WFA	283	257	275	343	457	535	623	659	626	542	428	283	**5,312**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	28	26	4	0	0	0	0	0	0	14	53	70	**194**	
	Recycled	Non-Potable	IEUA		10	11	10	20	30	36	41	40	37	31	24	10	**300**	
2030	Groundwater	Transfer	Chino Basin		148	128	140	161	220	234	264	260	229	220	204	149	**2,356**	**14,958**
	Surface Water (Imported)	Transfer	SWP	WFA	148	128	140	161	220	234	264	260	229	220	204	149	**2,356**	
	Groundwater	Potable	Chino Basin		369	295	333	327	470	395	403	299	167	288	425	375	**4,144**	
	Groundwater (Imported)	Potable	Other	SAWCo	68	63	10	0	0	0	0	0	0	34	131	171	**477**	
	Surface Water (Imported)	Potable	SWP	WFA	273	249	266	332	442	517	602	636	604	523	414	274	**5,132**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	28	26	4	0	0	0	0	0	0	14	53	70	**194**	
	Recycled	Non-Potable	IEUA		10	11	10	20	30	36	41	40	37	31	24	10	**300**	
2035	Groundwater	Transfer	Chino Basin		152	132	144	166	226	241	272	267	236	227	210	153	**2,426**	**14,931**
	Surface Water (Imported)	Transfer	SWP	WFA	152	132	144	166	226	241	272	267	236	227	210	153	**2,426**	
	Groundwater	Potable	Chino Basin		365	291	329	322	463	388	395	291	161	281	419	370	**4,074**	
	Groundwater (Imported)	Potable	Other	SAWCo	68	63	10	0	0	0	0	0	0	34	131	171	**477**	
	Surface Water (Imported)	Potable	SWP	WFA	269	244	262	326	434	507	590	623	591	513	406	270	**5,034**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	28	26	4	0	0	0	0	0	0	14	53	70	**194**	
	Recycled	Non-Potable	IEUA		10	11	10	20	30	36	41	40	37	31	24	10	**300**	
2040	Groundwater	Transfer	Chino Basin		153	133	145	167	227	242	273	269	237	228	210	154	**2,436**	**14,838**
	Surface Water (Imported)	Transfer	SWP	WFA	153	133	145	167	227	242	273	269	237	228	210	154	**2,436**	
	Groundwater	Potable	Chino Basin		364	291	328	321	462	387	394	290	160	280	418	370	**4,064**	
	Groundwater (Imported)	Potable	Other	SAWCo	68	63	10	0	0	0	0	0	0	34	131	171	**477**	
	Surface Water (Imported)	Potable	SWP	WFA	264	239	256	319	425	497	578	610	579	502	398	264	**4,932**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	28	26	4	0	0	0	0	0	0	14	53	70	**194**	
	Recycled	Non-Potable	IEUA		10	11	10	20	30	36	41	40	37	31	24	10	**300**	
2045	Groundwater	Transfer	Chino Basin		153	133	145	167	228	243	274	270	238	228	211	154	**2,445**	**14,856**
	Surface Water (Imported)	Transfer	SWP	WFA	153	133	145	167	228	243	274	270	238	228	211	154	**2,445**	
	Groundwater	Potable	Chino Basin		364	290	327	321	461	386	393	289	159	280	417	369	**4,055**	
	Groundwater (Imported)	Potable	Other	SAWCo	68	63	10	0	0	0	0	0	0	34	131	171	**477**	
	Surface Water (Imported)	Potable	SWP	WFA	264	240	257	320	426	498	579	611	580	503	399	265	**4,941**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	28	26	4	0	0	0	0	0	0	14	53	70	**194**	
	Recycled	Non-Potable	IEUA		10	11	10	20	30	36	41	40	37	31	24	10	**300**	

Table C-16c. Monte Vista Water District - High Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Transfer	Chino Basin		157	136	148	171	233	248	280	275	243	233	216	158	**2,497**	**15,095**
	Surface Water (Imported)	Transfer	SWP	WFA	145	126	137	158	216	230	259	255	225	216	200	146	**2,312**	
	Groundwater	Potable	Chino Basin		402	321	362	356	512	431	440	328	185	315	463	408	**4,523**	
	Groundwater (Imported)	Potable	Other	SAWCo	68	63	10	0	0	0	0	0	0	34	131	171	**477**	
	Surface Water (Imported)	Potable	SWP	WFA	255	232	248	310	412	483	562	594	565	489	386	256	**4,792**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	28	26	4	0	0	0	0	0	0	14	53	70	**194**	
	Recycled	Non-Potable	IEUA		10	11	10	20	30	36	41	40	37	31	24	10	**300**	
2029	Groundwater	Transfer	Chino Basin		160	139	151	174	237	253	285	281	248	238	220	161	**2,544**	**15,022**
	Surface Water (Imported)	Transfer	SWP	WFA	148	128	140	161	220	234	264	260	229	220	204	149	**2,356**	
	Groundwater	Potable	Chino Basin		399	319	359	353	507	426	435	323	181	311	459	405	**4,476**	
	Groundwater (Imported)	Potable	Other	SAWCo	68	63	10	0	0	0	0	0	0	34	131	171	**477**	
	Surface Water (Imported)	Potable	SWP	WFA	249	227	243	302	402	471	548	579	551	477	377	250	**4,676**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	28	26	4	0	0	0	0	0	0	14	53	70	**194**	
	Recycled	Non-Potable	IEUA		10	11	10	20	30	36	41	40	37	31	24	10	**300**	
2033	Groundwater	Transfer	Chino Basin		164	143	155	179	244	260	293	289	255	245	226	165	**2,620**	**15,043**
	Surface Water (Imported)	Transfer	SWP	WFA	152	132	144	166	226	241	272	267	236	227	210	153	**2,426**	
	Groundwater	Potable	Chino Basin		394	315	355	348	500	419	426	314	173	304	452	400	**4,400**	
	Groundwater (Imported)	Potable	Other	SAWCo	68	63	10	0	0	0	0	0	0	34	131	171	**477**	
	Surface Water (Imported)	Potable	SWP	WFA	247	224	240	299	399	466	542	572	543	471	373	248	**4,626**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	28	26	4	0	0	0	0	0	0	14	53	70	**194**	
	Recycled	Non-Potable	IEUA		10	11	10	20	30	36	41	40	37	31	24	10	**300**	
2037	Groundwater	Transfer	Chino Basin		165	143	156	180	245	261	294	290	256	246	227	166	**2,630**	**14,982**
	Surface Water (Imported)	Transfer	SWP	WFA	153	133	145	167	227	242	273	269	237	228	210	154	**2,436**	
	Groundwater	Potable	Chino Basin		393	314	354	347	499	418	425	313	172	303	451	399	**4,390**	
	Groundwater (Imported)	Potable	Other	SAWCo	68	63	10	0	0	0	0	0	0	34	131	171	**477**	
	Surface Water (Imported)	Potable	SWP	WFA	243	221	237	295	393	459	534	563	535	464	368	244	**4,556**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	28	26	4	0	0	0	0	0	0	14	53	70	**194**	
	Recycled	Non-Potable	IEUA		10	11	10	20	30	36	41	40	37	31	24	10	**300**	
2041	Groundwater	Transfer	Chino Basin		166	144	157	181	246	262	296	291	257	247	228	167	**2,640**	**15,000**
	Surface Water (Imported)	Transfer	SWP	WFA	153	133	145	167	228	243	274	270	238	228	211	154	**2,445**	
	Groundwater	Potable	Chino Basin		393	314	354	346	498	417	424	312	172	302	450	398	**4,380**	
	Groundwater (Imported)	Potable	Other	SAWCo	68	63	10	0	0	0	0	0	0	34	131	171	**477**	
	Surface Water (Imported)	Potable	SWP	WFA	244	222	237	295	393	460	535	564	536	465	369	245	**4,565**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	28	26	4	0	0	0	0	0	0	14	53	70	**194**	
	Recycled	Non-Potable	IEUA		10	11	10	20	30	36	41	40	37	31	24	10	**300**	

Table C-17a. City of Ontario - Low Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Potable	Chino Basin		1,322	1,497	1,474	1,980	2,334	2,577	2,652	2,731	2,431	2,105	1,744	1,402	**24,249**	**52,550**
	Groundwater (Imported)	Potable	Chino Basin	CDA	788	628	728	656	627	588	644	637	720	843	822	852	**8,533**	
	Groundwater (Imported)	Potable	Other	SAWCo	27	34	38	34	35	39	39	39	36	38	36	31	**426**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	11	14	16	14	14	16	16	16	15	15	15	13	**174**	
	Surface Water (Imported)	Potable	SWP	WFA	314	311	346	372	578	564	685	920	1,061	969	597	282	**7,000**	
	Recycled Water	Non-Potable	IEUA		526	480	519	752	1,007	1,200	1,520	1,702	1,565	1,150	1,068	680	**12,168**	
2031	Groundwater	Potable	Chino Basin		1,465	1,656	1,633	2,188	2,588	2,853	2,943	3,046	2,727	2,365	1,946	1,550	**26,960**	**56,558**
	Groundwater (Imported)	Potable	Chino Basin	CDA	788	628	728	656	627	588	644	637	720	843	822	852	**8,533**	
	Groundwater (Imported)	Potable	Other	SAWCo	27	34	38	34	35	39	39	39	36	38	36	31	**426**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	11	14	16	14	14	16	16	16	15	15	15	13	**174**	
	Surface Water (Imported)	Potable	SWP	WFA	314	311	346	372	578	564	685	920	1,061	969	597	282	**7,000**	
	Recycled Water	Non-Potable	IEUA		582	531	574	832	1,115	1,328	1,682	1,884	1,732	1,272	1,182	752	**13,465**	
2038	Groundwater	Potable	Chino Basin		1,484	1,684	1,655	2,229	2,619	2,896	2,974	3,049	2,698	2,333	1,947	1,577	**27,145**	**59,353**
	Groundwater (Imported)	Potable	Chino Basin	CDA	788	628	728	656	627	588	644	637	720	843	822	852	**8,533**	
	Groundwater (Imported)	Potable	Other	SAWCo	27	34	38	34	35	39	39	39	36	38	36	31	**426**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	11	14	16	14	14	16	16	16	15	15	15	13	**174**	
	Surface Water (Imported)	Potable	SWP	WFA	373	370	411	442	686	670	813	1,092	1,260	1,151	709	335	**8,313**	
	Recycled Water	Non-Potable	IEUA		638	582	629	912	1,222	1,456	1,844	2,065	1,898	1,395	1,296	824	**14,762**	
2045	Groundwater	Potable	Chino Basin		1,829	2,080	2,040	2,758	3,226	3,575	3,660	3,731	3,276	2,828	2,381	1,950	**33,333**	**67,697**
	Groundwater (Imported)	Potable	Chino Basin	CDA	788	628	728	656	627	588	644	637	720	843	822	852	**8,533**	
	Groundwater (Imported)	Potable	Other	SAWCo	27	34	38	34	35	39	39	39	36	38	36	31	**426**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	11	14	16	14	14	16	16	16	15	15	15	13	**174**	
	Surface Water (Imported)	Potable	SWP	WFA	411	408	454	488	758	739	898	1,205	1,391	1,270	783	369	**9,173**	
	Recycled Water	Non-Potable	IEUA		694	633	685	993	1,329	1,584	2,006	2,247	2,065	1,517	1,410	897	**16,059**	
2051	Groundwater	Potable	Chino Basin		1,829	2,080	2,040	2,758	3,226	3,575	3,660	3,731	3,276	2,828	2,381	1,950	**33,333**	**67,697**
	Groundwater (Imported)	Potable	Chino Basin	CDA	788	628	728	656	627	588	644	637	720	843	822	852	**8,533**	
	Groundwater (Imported)	Potable	Other	SAWCo	27	34	38	34	35	39	39	39	36	38	36	31	**426**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	11	14	16	14	14	16	16	16	15	15	15	13	**174**	
	Surface Water (Imported)	Potable	SWP	WFA	411	408	454	488	758	739	898	1,205	1,391	1,270	783	369	**9,173**	
	Recycled Water	Non-Potable	IEUA		694	633	685	993	1,329	1,584	2,006	2,247	2,065	1,517	1,410	897	**16,059**	

Table C-17b. City of Ontario - Expected Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Potable	Chino Basin		1,437	1,627	1,602	2,152	2,537	2,801	2,883	2,969	2,642	2,288	1,896	1,524	**26,358**	**52,550**
	Groundwater (Imported)	Potable	Chino Basin	CDA	788	628	728	656	627	588	644	637	720	843	822	852	**8,533**	
	Groundwater (Imported)	Potable	Other	SAWCo	27	34	38	34	35	39	39	39	36	38	36	31	**426**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	11	14	16	14	14	16	16	16	15	15	15	13	**174**	
	Surface Water (Imported)	Potable	SWP	WFA	219	218	242	260	404	394	479	643	742	677	417	197	**4,891**	
	Recycled Water	Non-Potable	IEUA		526	480	519	752	1,007	1,200	1,520	1,702	1,565	1,150	1,068	680	**12,168**	
2030	Groundwater	Potable	Chino Basin		1,609	1,819	1,794	2,403	2,843	3,133	3,232	3,345	2,995	2,598	2,137	1,703	**29,612**	**57,002**
	Groundwater (Imported)	Potable	Chino Basin	CDA	788	628	728	656	627	588	644	637	720	843	822	852	**8,533**	
	Groundwater (Imported)	Potable	Other	SAWCo	27	34	38	34	35	39	39	39	36	38	36	31	**426**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	11	14	16	14	14	16	16	16	15	15	15	13	**174**	
	Surface Water (Imported)	Potable	SWP	WFA	215	213	237	255	396	386	469	630	727	663	409	193	**4,793**	
	Recycled Water	Non-Potable	IEUA		582	531	574	832	1,115	1,328	1,682	1,884	1,732	1,272	1,182	752	**13,465**	
2035	Groundwater	Potable	Chino Basin		1,652	1,875	1,842	2,482	2,916	3,224	3,311	3,395	3,004	2,598	2,167	1,756	**30,222**	**60,396**
	Groundwater (Imported)	Potable	Chino Basin	CDA	788	628	728	656	627	588	644	637	720	843	822	852	**8,533**	
	Groundwater (Imported)	Potable	Other	SAWCo	27	34	38	34	35	39	39	39	36	38	36	31	**426**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	11	14	16	14	14	16	16	16	15	15	15	13	**174**	
	Surface Water (Imported)	Potable	SWP	WFA	281	279	311	334	519	506	614	825	952	869	536	253	**6,279**	
	Recycled Water	Non-Potable	IEUA		638	582	629	912	1,222	1,456	1,844	2,065	1,898	1,395	1,296	824	**14,762**	
2040	Groundwater	Potable	Chino Basin		2,041	2,320	2,276	3,077	3,599	3,988	4,083	4,162	3,655	3,155	2,656	2,175	**37,187**	**69,090**
	Groundwater (Imported)	Potable	Chino Basin	CDA	788	628	728	656	627	588	644	637	720	843	822	852	**8,533**	
	Groundwater (Imported)	Potable	Other	SAWCo	27	34	38	34	35	39	39	39	36	38	36	31	**426**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	11	14	16	14	14	16	16	16	15	15	15	13	**174**	
	Surface Water (Imported)	Potable	SWP	WFA	301	299	332	357	554	541	657	882	1,018	929	573	270	**6,711**	
	Recycled Water	Non-Potable	IEUA		694	633	685	993	1,329	1,584	2,006	2,247	2,065	1,517	1,410	897	**16,059**	
2045	Groundwater	Potable	Chino Basin		2,041	2,320	2,276	3,077	3,599	3,988	4,083	4,162	3,655	3,155	2,656	2,175	**37,187**	**69,090**
	Groundwater (Imported)	Potable	Chino Basin	CDA	788	628	728	656	627	588	644	637	720	843	822	852	**8,533**	
	Groundwater (Imported)	Potable	Other	SAWCo	27	34	38	34	35	39	39	39	36	38	36	31	**426**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	11	14	16	14	14	16	16	16	15	15	15	13	**174**	
	Surface Water (Imported)	Potable	SWP	WFA	301	299	332	357	554	541	657	882	1,018	929	573	270	**6,711**	
	Recycled Water	Non-Potable	IEUA		694	633	685	993	1,329	1,584	2,006	2,247	2,065	1,517	1,410	897	**16,059**	

Table C-17c. City of Ontario - High Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Potable	Chino Basin		1,552	1,758	1,730	2,324	2,740	3,025	3,113	3,206	2,853	2,471	2,048	1,646	**28,467**	**52,550**
	Groundwater (Imported)	Potable	Chino Basin	CDA	788	628	728	656	627	588	644	637	720	843	822	852	**8,533**	
	Groundwater (Imported)	Potable	Other	SAWCo	27	34	38	34	35	39	39	39	36	38	36	31	**426**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	11	14	16	14	14	16	16	16	15	15	15	13	**174**	
	Surface Water (Imported)	Potable	SWP	WFA	125	124	138	148	230	224	272	366	422	385	237	112	**2,782**	
	Recycled Water	Non-Potable	IEUA		526	480	519	752	1,007	1,200	1,520	1,702	1,565	1,150	1,068	680	**12,168**	
2029	Groundwater	Potable	Chino Basin		1,754	1,983	1,955	2,619	3,099	3,415	3,523	3,646	3,264	2,831	2,329	1,856	**32,275**	**57,469**
	Groundwater (Imported)	Potable	Chino Basin	CDA	788	628	728	656	627	588	644	637	720	843	822	852	**8,533**	
	Groundwater (Imported)	Potable	Other	SAWCo	27	34	38	34	35	39	39	39	36	38	36	31	**426**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	11	14	16	14	14	16	16	16	15	15	15	13	**174**	
	Surface Water (Imported)	Potable	SWP	WFA	116	116	128	138	214	209	254	341	394	359	222	105	**2,597**	
	Recycled Water	Non-Potable	IEUA		582	531	574	832	1,115	1,328	1,682	1,884	1,732	1,272	1,182	752	**13,465**	
2033	Groundwater	Potable	Chino Basin		1,823	2,069	2,033	2,739	3,218	3,558	3,654	3,746	3,315	2,867	2,392	1,938	**33,352**	**61,546**
	Groundwater (Imported)	Potable	Chino Basin	CDA	788	628	728	656	627	588	644	637	720	843	822	852	**8,533**	
	Groundwater (Imported)	Potable	Other	SAWCo	27	34	38	34	35	39	39	39	36	38	36	31	**426**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	11	14	16	14	14	16	16	16	15	15	15	13	**174**	
	Surface Water (Imported)	Potable	SWP	WFA	193	191	213	229	355	347	421	565	652	595	367	173	**4,299**	
	Recycled Water	Non-Potable	IEUA		638	582	629	912	1,222	1,456	1,844	2,065	1,898	1,395	1,296	824	**14,762**	
2037	Groundwater	Potable	Chino Basin		2,256	2,566	2,517	3,402	3,979	4,409	4,515	4,602	4,041	3,489	2,937	2,405	**41,116**	**70,632**
	Groundwater (Imported)	Potable	Chino Basin	CDA	788	628	728	656	627	588	644	637	720	843	822	852	**8,533**	
	Groundwater (Imported)	Potable	Other	SAWCo	27	34	38	34	35	39	39	39	36	38	36	31	**426**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	11	14	16	14	14	16	16	16	15	15	15	13	**174**	
	Surface Water (Imported)	Potable	SWP	WFA	194	192	214	230	357	349	423	568	656	598	369	174	**4,324**	
	Recycled Water	Non-Potable	IEUA		694	633	685	993	1,329	1,584	2,006	2,247	2,065	1,517	1,410	897	**16,059**	
2041	Groundwater	Potable	Chino Basin		2,256	2,566	2,517	3,402	3,979	4,409	4,515	4,602	4,041	3,489	2,937	2,405	**41,116**	**70,632**
	Groundwater (Imported)	Potable	Chino Basin	CDA	788	628	728	656	627	588	644	637	720	843	822	852	**8,533**	
	Groundwater (Imported)	Potable	Other	SAWCo	27	34	38	34	35	39	39	39	36	38	36	31	**426**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	11	14	16	14	14	16	16	16	15	15	15	13	**174**	
	Surface Water (Imported)	Potable	SWP	WFA	194	192	214	230	357	349	423	568	656	598	369	174	**4,324**	
	Recycled Water	Non-Potable	IEUA		694	633	685	993	1,329	1,584	2,006	2,247	2,065	1,517	1,410	897	**16,059**	

Table C-18a. City of Pomona - Low Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Potable	Chino Basin		809	772	797	796	845	818	877	890	875	876	834	798	**9,989**	**24,708**
	Groundwater	Potable	Six Basins		203	194	218	246	294	329	370	374	352	308	258	204	**3,350**	
	Groundwater	Potable	Spadra Basin		2	4	5	5	7	25	31	26	24	18	3	0	**150**	
	Surface Water	Potable	San Antonio Creek		159	127	187	218	213	190	182	161	143	144	134	143	**2,000**	
	Surface Water (Imported)	Potable	Weymouth	TVMWD	197	156	185	440	593	806	1,023	1,083	973	731	450	232	**6,869**	
	Recycled	Non-Potable	PWRP		31	89	118	204	236	321	341	345	271	195	134	63	**2,350**	
2031	Groundwater	Potable	Chino Basin		871	831	858	857	910	881	944	958	942	943	898	859	**10,750**	**25,214**
	Groundwater	Potable	Six Basins		203	194	218	246	294	329	370	374	352	308	258	204	**3,350**	
	Groundwater	Potable	Spadra Basin		2	4	5	5	7	25	31	26	24	18	3	0	**150**	
	Surface Water	Potable	San Antonio Creek		159	127	187	218	213	190	182	161	143	144	134	143	**2,000**	
	Surface Water (Imported)	Potable	Weymouth	TVMWD	190	150	178	424	571	776	985	1,043	937	704	433	224	**6,614**	
	Recycled	Non-Potable	PWRP		31	89	118	204	236	321	341	345	271	195	134	63	**2,350**	
2038	Groundwater	Potable	Chino Basin		935	892	921	920	976	945	1,013	1,028	1,011	1,012	964	922	**11,540**	**24,984**
	Groundwater	Potable	Six Basins		203	194	218	246	294	329	370	374	352	308	258	204	**3,350**	
	Groundwater	Potable	Spadra Basin		2	4	5	5	7	25	31	26	24	18	3	0	**150**	
	Surface Water	Potable	San Antonio Creek		159	127	187	218	213	190	182	161	143	144	134	143	**2,000**	
	Surface Water (Imported)	Potable	Weymouth	TVMWD	161	127	150	359	483	657	833	882	792	595	366	189	**5,595**	
	Recycled	Non-Potable	PWRP		31	89	118	204	236	321	341	345	271	195	134	63	**2,350**	
2045	Groundwater	Potable	Chino Basin		997	951	982	981	1,041	1,008	1,081	1,097	1,078	1,079	1,028	983	**12,306**	**25,226**
	Groundwater	Potable	Six Basins		203	194	218	246	294	329	370	374	352	308	258	204	**3,350**	
	Groundwater	Potable	Spadra Basin		2	4	5	5	7	25	31	26	24	18	3	0	**150**	
	Surface Water	Potable	San Antonio Creek		159	127	187	218	213	190	182	161	143	144	134	143	**2,000**	
	Surface Water (Imported)	Potable	Weymouth	TVMWD	146	115	136	325	438	595	755	800	718	539	332	171	**5,070**	
	Recycled	Non-Potable	PWRP		31	89	118	204	236	321	341	345	271	195	134	63	**2,350**	
2051	Groundwater	Potable	Chino Basin		1,061	1,013	1,045	1,044	1,108	1,073	1,150	1,167	1,148	1,149	1,094	1,047	**13,099**	**26,035**
	Groundwater	Potable	Six Basins		203	194	218	246	294	329	370	374	352	308	258	204	**3,350**	
	Groundwater	Potable	Spadra Basin		2	4	5	5	7	25	31	26	24	18	3	0	**150**	
	Surface Water	Potable	San Antonio Creek		159	127	187	218	213	190	182	161	143	144	134	143	**2,000**	
	Surface Water (Imported)	Potable	Weymouth	TVMWD	146	115	137	326	439	597	757	802	720	541	333	172	**5,086**	
	Recycled	Non-Potable	PWRP		31	89	118	204	236	321	341	345	271	195	134	63	**2,350**	

Table C-18b. City of Pomona - Expected Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Potable	Chino Basin		880	839	867	865	919	889	953	967	951	952	907	868	**10,858**	**24,708**
	Groundwater	Potable	Six Basins		203	194	218	246	294	329	370	374	352	308	258	204	**3,350**	
	Groundwater	Potable	Spadra Basin		2	4	5	5	7	25	31	26	24	18	3	0	**150**	
	Surface Water	Potable	San Antonio Creek		159	127	187	218	213	190	182	161	143	144	134	143	**2,000**	
	Surface Water (Imported)	Potable	Weymouth	TVMWD	172	136	161	385	518	704	893	946	850	638	393	203	**6,000**	
	Recycled	Non-Potable	PWRP		31	89	118	204	236	321	341	345	271	195	134	63	**2,350**	
2030	Groundwater	Potable	Chino Basin		947	903	933	931	989	957	1,026	1,041	1,024	1,025	976	934	**11,685**	**25,289**
	Groundwater	Potable	Six Basins		203	194	218	246	294	329	370	374	352	308	258	204	**3,350**	
	Groundwater	Potable	Spadra Basin		2	4	5	5	7	25	31	26	24	18	3	0	**150**	
	Surface Water	Potable	San Antonio Creek		159	127	187	218	213	190	182	161	143	144	134	143	**2,000**	
	Surface Water (Imported)	Potable	Weymouth	TVMWD	165	131	155	369	497	675	857	907	815	612	377	194	**5,754**	
	Recycled	Non-Potable	PWRP		31	89	118	204	236	321	341	345	271	195	134	63	**2,350**	
2035	Groundwater	Potable	Chino Basin		1,016	970	1,001	1,000	1,061	1,027	1,101	1,118	1,099	1,100	1,047	1,002	**12,543**	**25,326**
	Groundwater	Potable	Six Basins		203	194	218	246	294	329	370	374	352	308	258	204	**3,350**	
	Groundwater	Potable	Spadra Basin		2	4	5	5	7	25	31	26	24	18	3	0	**150**	
	Surface Water	Potable	San Antonio Creek		159	127	187	218	213	190	182	161	143	144	134	143	**2,000**	
	Surface Water (Imported)	Potable	Weymouth	TVMWD	142	112	133	316	426	579	735	778	699	525	323	167	**4,933**	
	Recycled	Non-Potable	PWRP		31	89	118	204	236	321	341	345	271	195	134	63	**2,350**	
2040	Groundwater	Potable	Chino Basin		1,084	1,034	1,068	1,066	1,132	1,096	1,174	1,192	1,172	1,173	1,117	1,069	**13,376**	**25,713**
	Groundwater	Potable	Six Basins		203	194	218	246	294	329	370	374	352	308	258	204	**3,350**	
	Groundwater	Potable	Spadra Basin		2	4	5	5	7	25	31	26	24	18	3	0	**150**	
	Surface Water	Potable	San Antonio Creek		159	127	187	218	213	190	182	161	143	144	134	143	**2,000**	
	Surface Water (Imported)	Potable	Weymouth	TVMWD	129	102	121	288	387	527	668	708	635	477	294	152	**4,487**	
	Recycled	Non-Potable	PWRP		31	89	118	204	236	321	341	345	271	195	134	63	**2,350**	
2045	Groundwater	Potable	Chino Basin		1,153	1,101	1,136	1,135	1,205	1,166	1,250	1,269	1,247	1,249	1,189	1,138	**14,238**	**26,535**
	Groundwater	Potable	Six Basins		203	194	218	246	294	329	370	374	352	308	258	204	**3,350**	
	Groundwater	Potable	Spadra Basin		2	4	5	5	7	25	31	26	24	18	3	0	**150**	
	Surface Water	Potable	San Antonio Creek		159	127	187	218	213	190	182	161	143	144	134	143	**2,000**	
	Surface Water (Imported)	Potable	Weymouth	TVMWD	128	101	120	285	384	522	662	701	630	473	291	150	**4,447**	
	Recycled	Non-Potable	PWRP		31	89	118	204	236	321	341	345	271	195	134	63	**2,350**	

Table C-18c. City of Pomona - High Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Potable	Chino Basin		950	907	936	935	992	961	1,030	1,045	1,027	1,028	979	937	**11,727**	**24,708**
	Groundwater	Potable	Six Basins		203	194	218	246	294	329	370	374	352	308	258	204	**3,350**	
	Groundwater	Potable	Spadra Basin		2	4	5	5	7	25	31	26	24	18	3	0	**150**	
	Surface Water	Potable	San Antonio Creek		159	127	187	218	213	190	182	161	143	144	134	143	**2,000**	
	Surface Water (Imported)	Potable	Weymouth	TVMWD	147	116	138	329	443	602	764	809	727	546	336	173	**5,131**	
	Recycled	Non-Potable	PWRP		31	89	118	204	236	321	341	345	271	195	134	63	**2,350**	
2029	Groundwater	Potable	Chino Basin		1,022	976	1,007	1,006	1,068	1,034	1,108	1,124	1,106	1,107	1,054	1,008	**12,620**	**25,370**
	Groundwater	Potable	Six Basins		203	194	218	246	294	329	370	374	352	308	258	204	**3,350**	
	Groundwater	Potable	Spadra Basin		2	4	5	5	7	25	31	26	24	18	3	0	**150**	
	Surface Water	Potable	San Antonio Creek		159	127	187	218	213	190	182	161	143	144	134	143	**2,000**	
	Surface Water (Imported)	Potable	Weymouth	TVMWD	141	111	132	314	423	575	730	773	694	521	321	166	**4,900**	
	Recycled	Non-Potable	PWRP		31	89	118	204	236	321	341	345	271	195	134	63	**2,350**	
2033	Groundwater	Potable	Chino Basin		1,097	1,047	1,081	1,080	1,146	1,110	1,189	1,207	1,187	1,188	1,131	1,083	**13,546**	**25,733**
	Groundwater	Potable	Six Basins		203	194	218	246	294	329	370	374	352	308	258	204	**3,350**	
	Groundwater	Potable	Spadra Basin		2	4	5	5	7	25	31	26	24	18	3	0	**150**	
	Surface Water	Potable	San Antonio Creek		159	127	187	218	213	190	182	161	143	144	134	143	**2,000**	
	Surface Water (Imported)	Potable	Weymouth	TVMWD	124	98	117	278	374	509	646	684	614	461	284	147	**4,337**	
	Recycled	Non-Potable	PWRP		31	89	118	204	236	321	341	345	271	195	134	63	**2,350**	
2037	Groundwater	Potable	Chino Basin		1,170	1,117	1,153	1,151	1,222	1,183	1,268	1,287	1,266	1,267	1,206	1,154	**14,446**	**26,295**
	Groundwater	Potable	Six Basins		203	194	218	246	294	329	370	374	352	308	258	204	**3,350**	
	Groundwater	Potable	Spadra Basin		2	4	5	5	7	25	31	26	24	18	3	0	**150**	
	Surface Water	Potable	San Antonio Creek		159	127	187	218	213	190	182	161	143	144	134	143	**2,000**	
	Surface Water (Imported)	Potable	Weymouth	TVMWD	115	91	108	256	345	470	595	631	566	426	262	135	**3,999**	
	Recycled	Non-Potable	PWRP		31	89	118	204	236	321	341	345	271	195	134	63	**2,350**	
2041	Groundwater	Potable	Chino Basin		1,246	1,189	1,227	1,226	1,301	1,260	1,350	1,370	1,347	1,349	1,284	1,229	**15,377**	**27,134**
	Groundwater	Potable	Six Basins		203	194	218	246	294	329	370	374	352	308	258	204	**3,350**	
	Groundwater	Potable	Spadra Basin		2	4	5	5	7	25	31	26	24	18	3	0	**150**	
	Surface Water	Potable	San Antonio Creek		159	127	187	218	213	190	182	161	143	144	134	143	**2,000**	
	Surface Water (Imported)	Potable	Weymouth	TVMWD	112	89	105	250	337	459	582	616	553	416	256	132	**3,907**	
	Recycled	Non-Potable	PWRP		31	89	118	204	236	321	341	345	271	195	134	63	**2,350**	

Table C-19a. City of Upland - Low Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Transfer	Six Basins		0	0	0	0	0	0	0	0	0	241	3	0	**244**	**18,511**
	Groundwater	Potable	Chino Basin		238	187	206	253	316	261	253	272	234	216	139	224	**2,799**	
	Groundwater	Potable	Cucamonga Basin		0	0	0	0	0	0	0	0	136	126	122	127	**511**	
	Groundwater	Potable	Six Basins		166	213	213	258	262	298	329	348	297	246	221	233	**3,082**	
	Groundwater (Imported)	Potable	Other	SAWCo	247	237	247	436	558	686	695	673	524	459	437	187	**5,386**	
	Recycled	Non-Potable	IEUA		21	23	21	49	66	92	111	87	94	79	41	20	**703**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	149	163	189	187	200	190	194	134	106	55	58	55	**1,679**	
	Surface Water (Imported)	Potable	SWP	WFA	276	213	209	217	238	293	487	556	527	514	315	262	**4,107**	
2031	Groundwater	Transfer	Six Basins		0	0	0	0	0	0	0	0	0	243	3	0	**246**	**18,311**
	Groundwater	Potable	Chino Basin		202	159	174	214	268	221	215	231	198	184	118	190	**2,373**	
	Groundwater	Potable	Cucamonga Basin		0	0	0	0	0	0	0	0	115	107	104	107	**433**	
	Groundwater	Potable	Six Basins		141	180	180	219	222	252	279	295	251	209	187	197	**2,613**	
	Groundwater (Imported)	Potable	Other	SAWCo	247	237	247	436	558	686	695	673	524	459	437	187	**5,386**	
	Recycled	Non-Potable	IEUA		21	23	21	49	66	92	111	87	94	79	41	20	**703**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	149	163	189	187	200	190	194	134	106	55	58	55	**1,679**	
	Surface Water (Imported)	Potable	SWP	WFA	328	253	248	257	283	348	579	661	626	610	374	311	**4,878**	
2038	Groundwater	Transfer	Six Basins		0	0	0	0	0	0	0	0	0	244	3	0	**247**	**17,575**
	Groundwater	Potable	Chino Basin		137	108	118	145	182	150	146	157	135	125	80	129	**1,611**	
	Groundwater	Potable	Cucamonga Basin		0	0	0	0	0	0	0	0	78	73	70	73	**294**	
	Groundwater	Potable	Six Basins		96	122	122	149	151	171	190	200	171	142	127	134	**1,774**	
	Groundwater (Imported)	Potable	Other	SAWCo	247	237	247	436	558	686	695	673	524	459	437	187	**5,386**	
	Recycled	Non-Potable	IEUA		21	23	21	49	66	92	111	87	94	79	41	20	**703**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	149	163	189	187	200	190	194	134	106	55	58	55	**1,679**	
	Surface Water (Imported)	Potable	SWP	WFA	395	305	299	310	341	420	698	796	754	735	451	375	**5,880**	
2045	Groundwater	Transfer	Six Basins		0	0	0	0	0	0	0	0	0	245	4	0	**249**	**17,296**
	Groundwater	Potable	Chino Basin		109	86	94	115	144	119	116	124	107	99	63	102	**1,277**	
	Groundwater	Potable	Cucamonga Basin		0	0	0	0	0	0	0	0	62	58	56	58	**233**	
	Groundwater	Potable	Six Basins		76	97	97	118	120	136	150	159	135	112	101	106	**1,406**	
	Groundwater (Imported)	Potable	Other	SAWCo	247	237	247	436	558	686	695	673	524	459	437	187	**5,386**	
	Recycled	Non-Potable	IEUA		21	23	21	49	66	92	111	87	94	79	41	20	**703**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	149	163	189	187	200	190	194	134	106	55	58	55	**1,679**	
	Surface Water (Imported)	Potable	SWP	WFA	427	330	324	336	369	454	755	861	816	796	488	406	**6,362**	
2051	Groundwater	Transfer	Six Basins		0	0	0	0	0	0	0	0	0	246	4	0	**250**	**17,751**
	Groundwater	Potable	Chino Basin		111	88	96	118	148	122	119	128	110	101	65	105	**1,312**	
	Groundwater	Potable	Cucamonga Basin		0	0	0	0	0	0	0	0	64	59	57	59	**239**	
	Groundwater	Potable	Six Basins		78	100	100	121	123	140	154	163	139	115	104	109	**1,445**	
	Groundwater (Imported)	Potable	Other	SAWCo	247	237	247	436	558	686	695	673	524	459	437	187	**5,386**	
	Recycled	Non-Potable	IEUA		21	23	21	49	66	92	111	87	94	79	41	20	**703**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	149	163	189	187	200	190	194	134	106	55	58	55	**1,679**	
	Surface Water (Imported)	Potable	SWP	WFA	453	349	343	355	391	481	799	912	864	843	517	430	**6,736**	

Table C-19b. City of Upland - Expected Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Transfer	Six Basins		0	0	0	0	0	0	0	0	0	241	3	0	**244**	**18,975**
	Groundwater	Potable	Chino Basin		266	210	230	283	353	292	284	305	262	242	155	251	**3,133**	
	Groundwater	Potable	Cucamonga Basin		0	0	0	0	0	0	0	0	152	141	137	142	**572**	
	Groundwater	Potable	Six Basins		186	238	238	289	293	333	369	389	332	276	247	260	**3,450**	
	Groundwater (Imported)	Potable	Other	SAWCo	247	237	247	436	558	686	695	673	524	459	437	187	**5,386**	
	Recycled	Non-Potable	IEUA		21	23	21	49	66	92	111	87	94	79	41	20	**703**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	149	163	189	187	200	190	194	134	106	55	58	55	**1,679**	
	Surface Water (Imported)	Potable	SWP	WFA	256	197	194	201	221	272	452	516	489	476	292	243	**3,808**	
2030	Groundwater	Transfer	Six Basins		0	0	0	0	0	0	0	0	0	243	3	0	**246**	**19,006**
	Groundwater	Potable	Chino Basin		239	188	206	254	317	261	254	273	235	217	139	225	**2,808**	
	Groundwater	Potable	Cucamonga Basin		0	0	0	0	0	0	0	0	136	127	123	127	**512**	
	Groundwater	Potable	Six Basins		167	213	213	259	263	299	330	349	298	247	222	233	**3,092**	
	Groundwater (Imported)	Potable	Other	SAWCo	247	237	247	436	558	686	695	673	524	459	437	187	**5,386**	
	Recycled	Non-Potable	IEUA		21	23	21	49	66	92	111	87	94	79	41	20	**703**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	149	163	189	187	200	190	194	134	106	55	58	55	**1,679**	
	Surface Water (Imported)	Potable	SWP	WFA	308	237	233	242	266	327	543	620	587	573	351	292	**4,579**	
2035	Groundwater	Transfer	Six Basins		0	0	0	0	0	0	0	0	0	244	3	0	**247**	**18,694**
	Groundwater	Potable	Chino Basin		190	150	164	202	252	208	202	217	187	173	111	179	**2,232**	
	Groundwater	Potable	Cucamonga Basin		0	0	0	0	0	0	0	0	108	101	98	101	**407**	
	Groundwater	Potable	Six Basins		133	170	169	206	209	237	263	277	237	196	176	185	**2,458**	
	Groundwater (Imported)	Potable	Other	SAWCo	247	237	247	436	558	686	695	673	524	459	437	187	**5,386**	
	Recycled	Non-Potable	IEUA		21	23	21	49	66	92	111	87	94	79	41	20	**703**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	149	163	189	187	200	190	194	134	106	55	58	55	**1,679**	
	Surface Water (Imported)	Potable	SWP	WFA	375	289	284	295	324	399	662	756	716	698	428	356	**5,581**	
2040	Groundwater	Transfer	Six Basins		0	0	0	0	0	0	0	0	0	245	4	0	**249**	**18,599**
	Groundwater	Potable	Chino Basin		168	133	145	179	223	184	179	192	166	153	98	158	**1,979**	
	Groundwater	Potable	Cucamonga Basin		0	0	0	0	0	0	0	0	96	89	86	89	**361**	
	Groundwater	Potable	Six Basins		117	150	150	182	185	210	233	246	210	174	156	164	**2,179**	
	Groundwater (Imported)	Potable	Other	SAWCo	247	237	247	436	558	686	695	673	524	459	437	187	**5,386**	
	Recycled	Non-Potable	IEUA		21	23	21	49	66	92	111	87	94	79	41	20	**703**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	149	163	189	187	200	190	194	134	106	55	58	55	**1,679**	
	Surface Water (Imported)	Potable	SWP	WFA	407	314	308	320	352	433	719	821	778	758	465	387	**6,063**	
2045	Groundwater	Transfer	Six Basins		0	0	0	0	0	0	0	0	0	246	4	0	**250**	**19,034**
	Groundwater	Potable	Chino Basin		170	134	147	181	226	187	181	195	168	155	99	161	**2,005**	
	Groundwater	Potable	Cucamonga Basin		0	0	0	0	0	0	0	0	97	90	88	91	**366**	
	Groundwater	Potable	Six Basins		119	152	152	185	188	213	236	249	212	176	158	167	**2,208**	
	Groundwater (Imported)	Potable	Other	SAWCo	247	237	247	436	558	686	695	673	524	459	437	187	**5,386**	
	Recycled	Non-Potable	IEUA		21	23	21	49	66	92	111	87	94	79	41	20	**703**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	149	163	189	187	200	190	194	134	106	55	58	55	**1,679**	
	Surface Water (Imported)	Potable	SWP	WFA	433	334	327	340	374	460	764	872	826	805	494	411	**6,437**	

Table C-19c. City of Upland - High Demand Water Plan Scenario
Projected Monthly Distribution of Supplies (af)
2025 to 2045

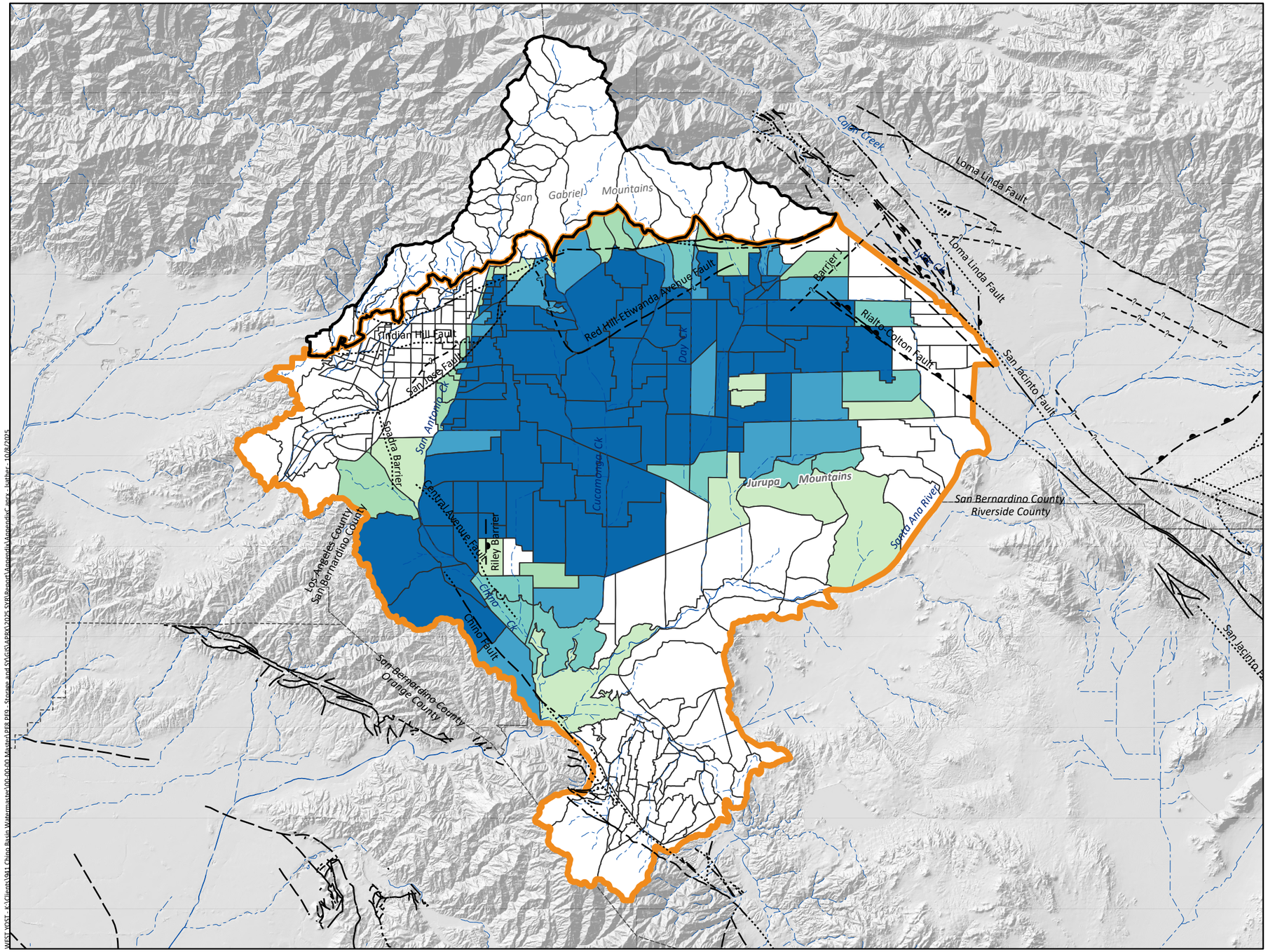
Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Transfer	Six Basins		0	0	0	0	0	0	0	0	0	241	3	0	**244**	**19,556**
	Groundwater	Potable	Chino Basin		299	236	259	318	397	328	318	342	294	272	175	282	**3,519**	
	Groundwater	Potable	Cucamonga Basin		0	0	0	0	0	0	0	0	170	159	154	159	**642**	
	Groundwater	Potable	Six Basins		209	267	267	324	329	374	414	437	373	309	278	292	**3,875**	
	Groundwater (Imported)	Potable	Other	SAWCo	247	237	247	436	558	686	695	673	524	459	437	187	**5,386**	
	Recycled	Non-Potable	IEUA		21	23	21	49	66	92	111	87	94	79	41	20	**703**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	149	163	189	187	200	190	194	134	106	55	58	55	**1,679**	
	Surface Water (Imported)	Potable	SWP	WFA	236	182	178	185	204	251	416	475	450	439	269	224	**3,509**	
2029	Groundwater	Transfer	Six Basins		0	0	0	0	0	0	0	0	0	243	3	0	**246**	**19,846**
	Groundwater	Potable	Chino Basin		281	222	243	299	373	308	299	322	277	256	164	265	**3,307**	
	Groundwater	Potable	Cucamonga Basin		0	0	0	0	0	0	0	0	160	149	144	150	**603**	
	Groundwater	Potable	Six Basins		196	251	251	305	310	352	389	411	350	291	261	275	**3,642**	
	Groundwater (Imported)	Potable	Other	SAWCo	247	237	247	436	558	686	695	673	524	459	437	187	**5,386**	
	Recycled	Non-Potable	IEUA		21	23	21	49	66	92	111	87	94	79	41	20	**703**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	149	163	189	187	200	190	194	134	106	55	58	55	**1,679**	
	Surface Water (Imported)	Potable	SWP	WFA	288	222	218	226	248	306	508	579	549	535	328	273	**4,280**	
2033	Groundwater	Transfer	Six Basins		0	0	0	0	0	0	0	0	0	244	3	0	**247**	**20,046**
	Groundwater	Potable	Chino Basin		251	198	217	267	333	275	267	287	247	229	147	237	**2,955**	
	Groundwater	Potable	Cucamonga Basin		0	0	0	0	0	0	0	0	143	133	129	134	**539**	
	Groundwater	Potable	Six Basins		175	224	224	272	277	314	348	367	313	260	233	246	**3,254**	
	Groundwater (Imported)	Potable	Other	SAWCo	247	237	247	436	558	686	695	673	524	459	437	187	**5,386**	
	Recycled	Non-Potable	IEUA		21	23	21	49	66	92	111	87	94	79	41	20	**703**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	149	163	189	187	200	190	194	134	106	55	58	55	**1,679**	
	Surface Water (Imported)	Potable	SWP	WFA	355	274	269	279	307	377	626	715	678	661	405	337	**5,282**	
2037	Groundwater	Transfer	Six Basins		0	0	0	0	0	0	0	0	0	245	4	0	**249**	**20,168**
	Groundwater	Potable	Chino Basin		238	187	206	253	315	260	253	272	234	216	139	224	**2,797**	
	Groundwater	Potable	Cucamonga Basin		0	0	0	0	0	0	0	0	135	126	122	126	**510**	
	Groundwater	Potable	Six Basins		166	212	212	258	262	297	329	348	296	246	221	232	**3,080**	
	Groundwater (Imported)	Potable	Other	SAWCo	247	237	247	436	558	686	695	673	524	459	437	187	**5,386**	
	Recycled	Non-Potable	IEUA		21	23	21	49	66	92	111	87	94	79	41	20	**703**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	149	163	189	187	200	190	194	134	106	55	58	55	**1,679**	
	Surface Water (Imported)	Potable	SWP	WFA	387	299	293	304	335	412	684	780	739	721	442	368	**5,764**	
2041	Groundwater	Transfer	Six Basins		0	0	0	0	0	0	0	0	0	246	4	0	**250**	**20,578**
	Groundwater	Potable	Chino Basin		239	188	207	254	317	262	254	274	235	218	140	225	**2,812**	
	Groundwater	Potable	Cucamonga Basin		0	0	0	0	0	0	0	0	136	127	123	127	**513**	
	Groundwater	Potable	Six Basins		167	214	214	259	263	299	331	350	298	247	222	234	**3,097**	
	Groundwater (Imported)	Potable	Other	SAWCo	247	237	247	436	558	686	695	673	524	459	437	187	**5,386**	
	Recycled	Non-Potable	IEUA		21	23	21	49	66	92	111	87	94	79	41	20	**703**	
	Surface Water (Imported)	Potable	San Antonio Creek	SAWCo	149	163	189	187	200	190	194	134	106	55	58	55	**1,679**	
	Surface Water (Imported)	Potable	SWP	WFA	412	318	312	324	356	438	728	831	787	768	471	391	**6,138**	

Table C-20. Calculation of Outdoor Water Use Reductions with Recycled Water Credits

all values in acre-feet per year

Appropriative Pool Party	Year[(a)]	% of Total Reduction from Outdoor Use	Increase in Recycled Water (RW) Use vs. 2025	Water Use Reductions for Robust Response (Low Demand Scenario)				Water Use Reductions for Expected Response (Expected Demand Scenario)				Water Use Reductions for Limited Response (High Demand Scenario)			
				Total Reduction (Indoor + Outdoor, before RW Credit)	Outdoor Reduction (before RW Credit)	RW Credit (90% of Increase)	Outdoor Reduction (after RW Credit)	Total Reduction (Indoor + Outdoor, before RW Credit)	Outdoor Reduction (before RW Credit)	RW Credit (70% of Increase)	Outdoor Reduction (after RW Credit)	Total Reduction (Indoor + Outdoor, before RW Credit)	Outdoor Reduction (before RW Credit)	RW Credit (50% of Increase)	Outdoor Reduction (after RW Credit)
		A	B	C	D = A * C	E = 0.9 * B	F = D-E	G	H = A * G	I = 0.7 * B	J = H - I	K	L = A * K	M = 0.5 * B	N = L - M
Chino	2030	30%	0	788	236	0	236	602	180	0	180	391	117	0	117
	2035	77%	0	1,962	1,511	0	1,511	1,491	1,148	0	1,148	940	724	0	724
	2040	90%	0	2,661	2,395	0	2,395	2,020	1,818	0	1,818	1,269	1,142	0	1,142
	2045	90%	0	3,702	3,331	0	3,331	2,801	2,521	0	2,521	1,724	1,552	0	1,552
City of Chino Hills	2030	30%	0	398	120	0	120	310	93	0	93	221	66	0	66
	2035	77%	0	1,283	988	0	988	981	756	0	756	643	495	0	495
	2040	90%	0	1,650	1,485	0	1,485	1,263	1,136	0	1,136	828	745	0	745
	2045	90%	0	1,321	1,189	0	1,189	1,016	914	0	914	684	615	0	615
Cucamonga Valley Water District	2030	30%	200	2,235	671	180	491	1,790	537	140	397	1,074	322	100	222
	2035	77%	200	7,225	5,563	180	5,383	5,945	4,577	140	4,437	3,608	2,778	100	2,678
	2040	90%	200	10,944	9,850	180	9,670	9,158	8,242	140	8,102	5,596	5,036	100	4,936
	2045	90%	200	10,944	9,850	180	9,670	9,158	8,242	140	8,102	5,596	5,036	100	4,936
Fontana Water Company	2030	30%	411	369	111	369	-259	287	86	287	-201	205	62	205	-144
	2035	77%	718	1,626	1,252	647	606	1,238	953	503	450	788	607	359	247
	2040	90%	924	2,577	2,319	831	1,488	1,956	1,760	647	1,114	1,226	1,103	462	641
	2045	90%	924	2,348	2,113	831	1,282	1,784	1,606	647	959	1,125	1,013	462	551
Jurupa Community Services District	2030	30%	0	2,849	855	0	855	2,149	645	0	645	1,301	390	0	390
	2035	77%	0	4,427	3,409	0	3,409	3,342	2,574	0	2,574	2,032	1,564	0	1,564
	2040	90%	0	5,723	5,151	0	5,151	4,321	3,889	0	3,889	2,626	2,363	0	2,363
	2045	90%	0	5,723	5,151	0	5,151	4,321	3,889	0	3,889	2,626	2,363	0	2,363
Monte Vista Water District	2030	30%	0	288	86	0	86	224	67	0	67	160	48	0	48
	2035	77%	0	504	388	0	388	392	302	0	302	280	216	0	216
	2040	90%	0	648	583	0	583	504	454	0	454	360	324	0	324
	2045	90%	0	648	583	0	583	504	454	0	454	360	324	0	324
City of Ontario	2030	30%	1,297	1,955	586	1,167	-581	1,511	453	908	-455	1,044	313	649	-335
	2035	77%	2,594	4,485	3,454	2,335	1,119	3,442	2,650	1,816	834	2,292	1,765	1,297	468
	2040	90%	3,481	5,971	5,373	3,132	2,241	4,578	4,120	2,436	1,683	3,036	2,732	1,740	992
	2045	90%	3,481	5,971	5,373	3,132	2,241	4,578	4,120	2,436	1,683	3,036	2,732	1,740	992
Pomona	2030	30%	0	321	96	0	96	246	74	0	74	165	50	0	50
	2035	77%	0	1,409	1,085	0	1,085	1,067	821	0	821	660	508	0	508
	2040	90%	0	2,000	1,800	0	1,800	1,513	1,362	0	1,362	931	838	0	838
	2045	90%	0	2,053	1,848	0	1,848	1,553	1,398	0	1,398	954	858	0	858
City of Upland	2030	30%	0	2,830	849	0	849	2,136	641	0	641	1,295	388	0	388
	2035	77%	0	4,570	3,519	0	3,519	3,451	2,657	0	2,657	2,099	1,616	0	1,616
	2040	90%	0	5,332	4,799	0	4,799	4,029	3,626	0	3,626	2,461	2,215	0	2,215
	2045	90%	0	5,252	4,727	0	4,727	3,969	3,572	0	3,572	2,426	2,183	0	2,183
Total	2030	-	1,908	12,033	3,610	1,717	1,893	9,255	2,776	1,335	1,441	5,856	1,757	954	803
	2035		3,512	27,490	21,168	3,161	18,006	21,347	16,438	2,459	13,979	13,341	10,273	1,756	8,516
	2040		4,604	37,506	33,755	4,144	29,612	29,342	26,408	3,223	23,185	18,331	16,498	2,302	14,196
	2045		4,604	37,962	34,166	4,144	30,022	29,684	26,715	3,223	23,493	18,531	16,678	2,302	14,376

[(a)] 2025 is not shown because it was assumed that the Conservation Regulation would not have a material impact on Water Plans in 2025.



Main Features

- HPSF Model Domain
- R4 Model Domain

Hydrologic Sub Area within IEUA Sewershed

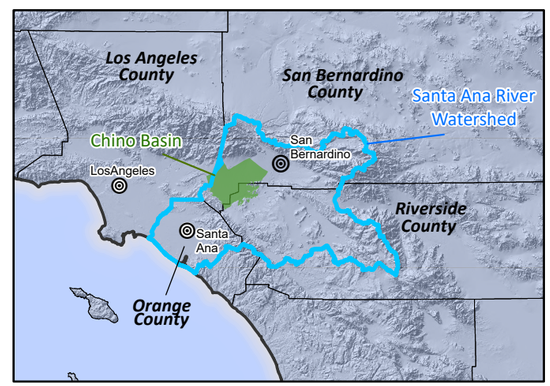
- 100% (Fully within Sewershed)
- 75–99%
- 50–75%
- 25–50%
- 1–25%
- 0% (Fully outside Sewershed)

Other Features

- Rivers and Streams
- Flood Control and/or Conservation Basins

Faults

- Location Certain
- Location Approximate
- Approximate Location of Groundwater Barrier
- Location Concealed
- Location Uncertain



Prepared by:

WEST YOST
Water. Engineered.

N

0 3 6 Miles

0 4 8 Km

Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

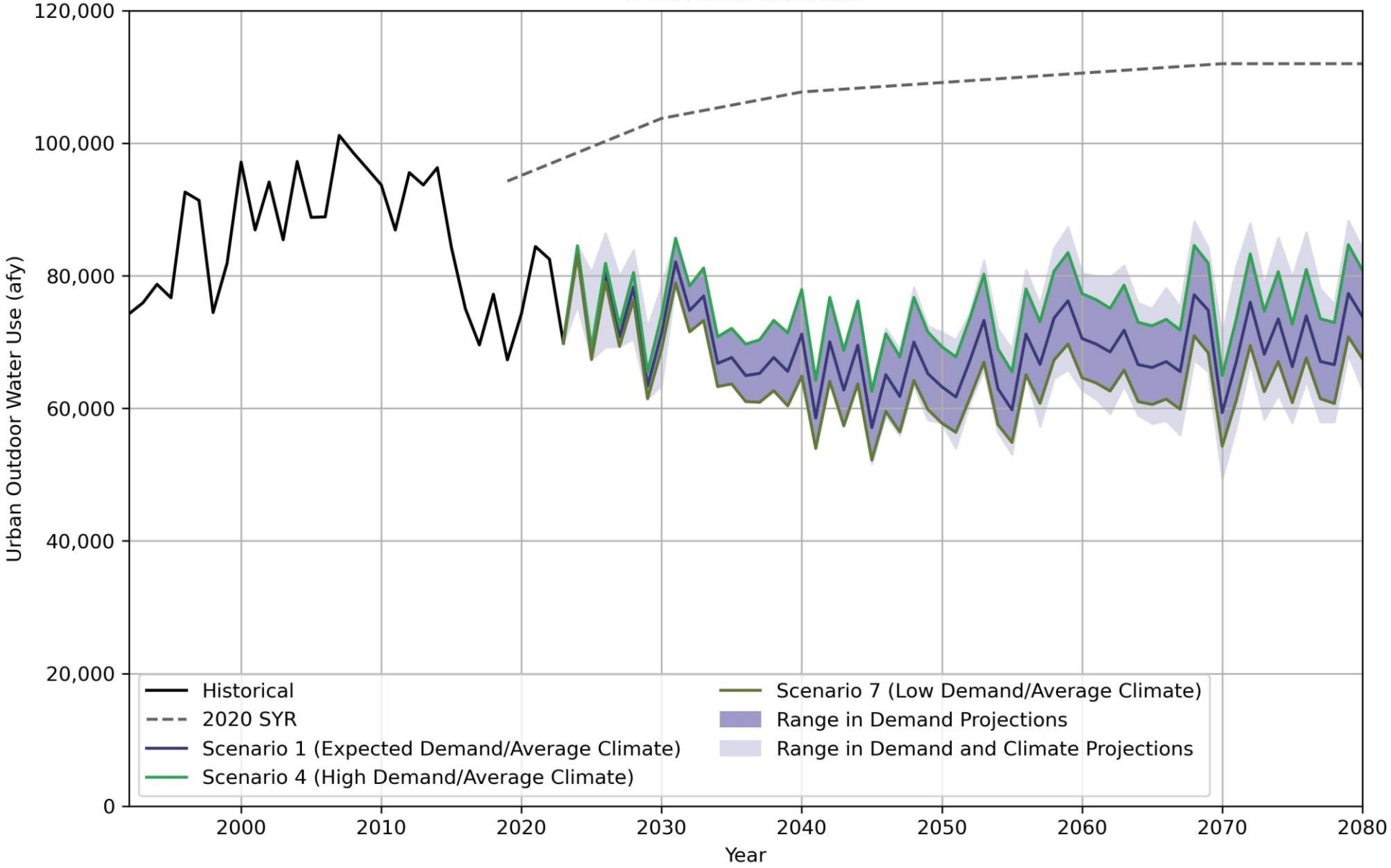
CHINO BASIN WATERMASTER
Partners in Basin Management

IEUA Sewershed

Figure C-1

WEST YOST - K:\Clients\941 Chino Basin Watermaster\001-00 MasterPRJ\PRJ - Storage and SY\GIS\APRX\2025 SY\Rialto\Appendix\Appendix.aprx - lkelher - 10/8/2025

Figure C-2
Historical and Projected Urban Outdoor Water Use
IEUA Sewersheds



Appendix D

TSY Ensemble Results

DRAFT

117°40'0"W

34°0'0"N

Groundwater Model Wells

- Chino Basin Desalter Authority
- Chino Basin Watermaster
- City of Chino
- City of Chino Hills
- City of Ontario
- City of Pomona
- City of Upland
- Cucamonga Valley Water District
- Fontana Water Company
- Jurupa Community Services District
- Monte Vista Water District
- Golden State Water Company

OBMP Management Zones

Hydrology

Streams & Flood Control Channels

Flood Control & Conservation Basins

Faults

- Location Certain
- Location Approximate
- Approximate Location of Groundwater Barrier
- Location Concealed
- Location Uncertain

Produced by:

WEST YOST
Water. Engineered.

Author: LMS

Date: 7/18/2025

Document Name: Appendix D-1 Hydrographs

0 1 2 3 4 5 Miles

0 2 4 6 8 KM

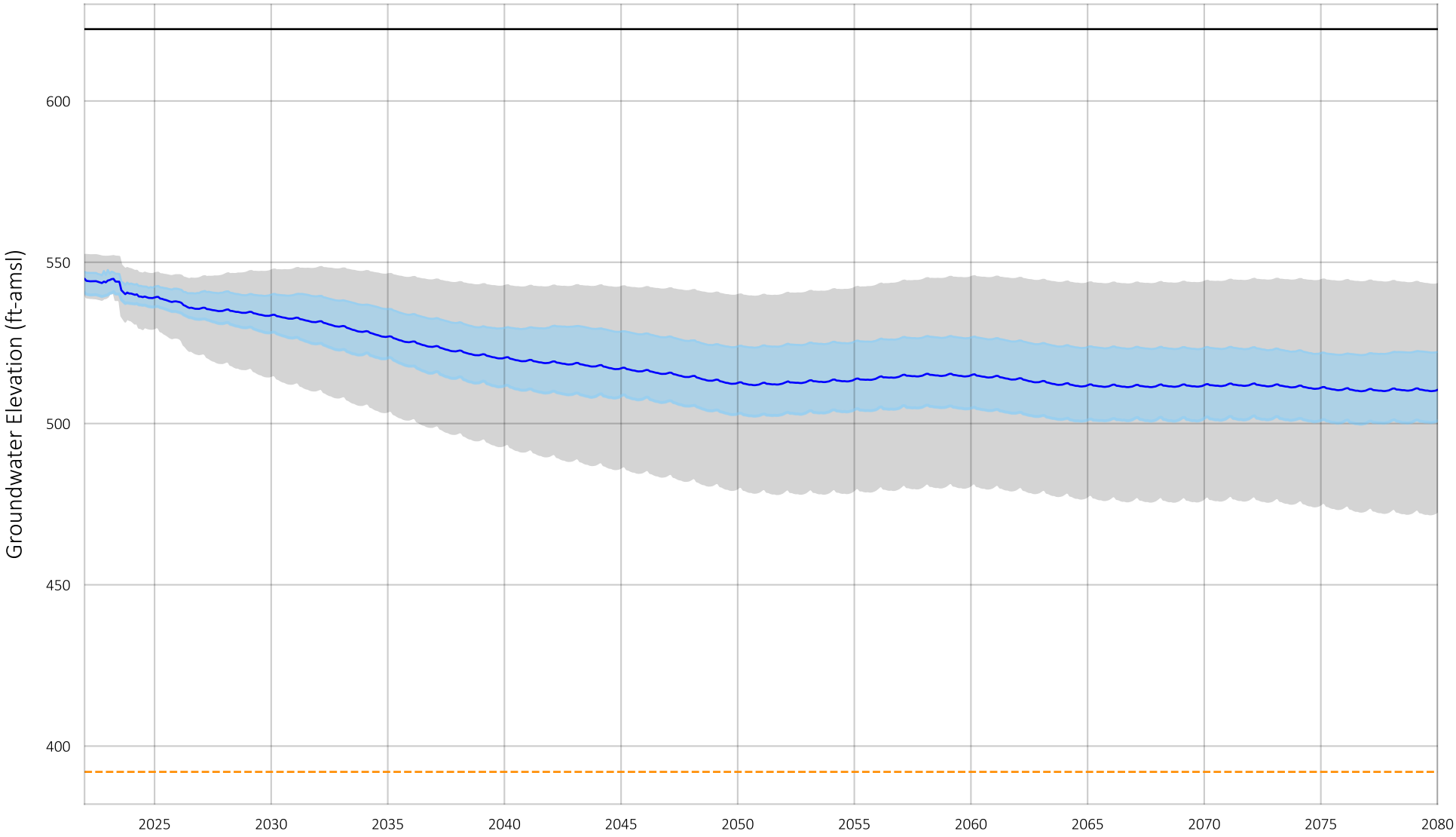
Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

CHINO BASIN WATERMASTER
Partners In Basin Management

Location of Wells with Groundwater Elevation Time Series in the Planning Period in Appendix D

Figure D-1



Well Location

Legend

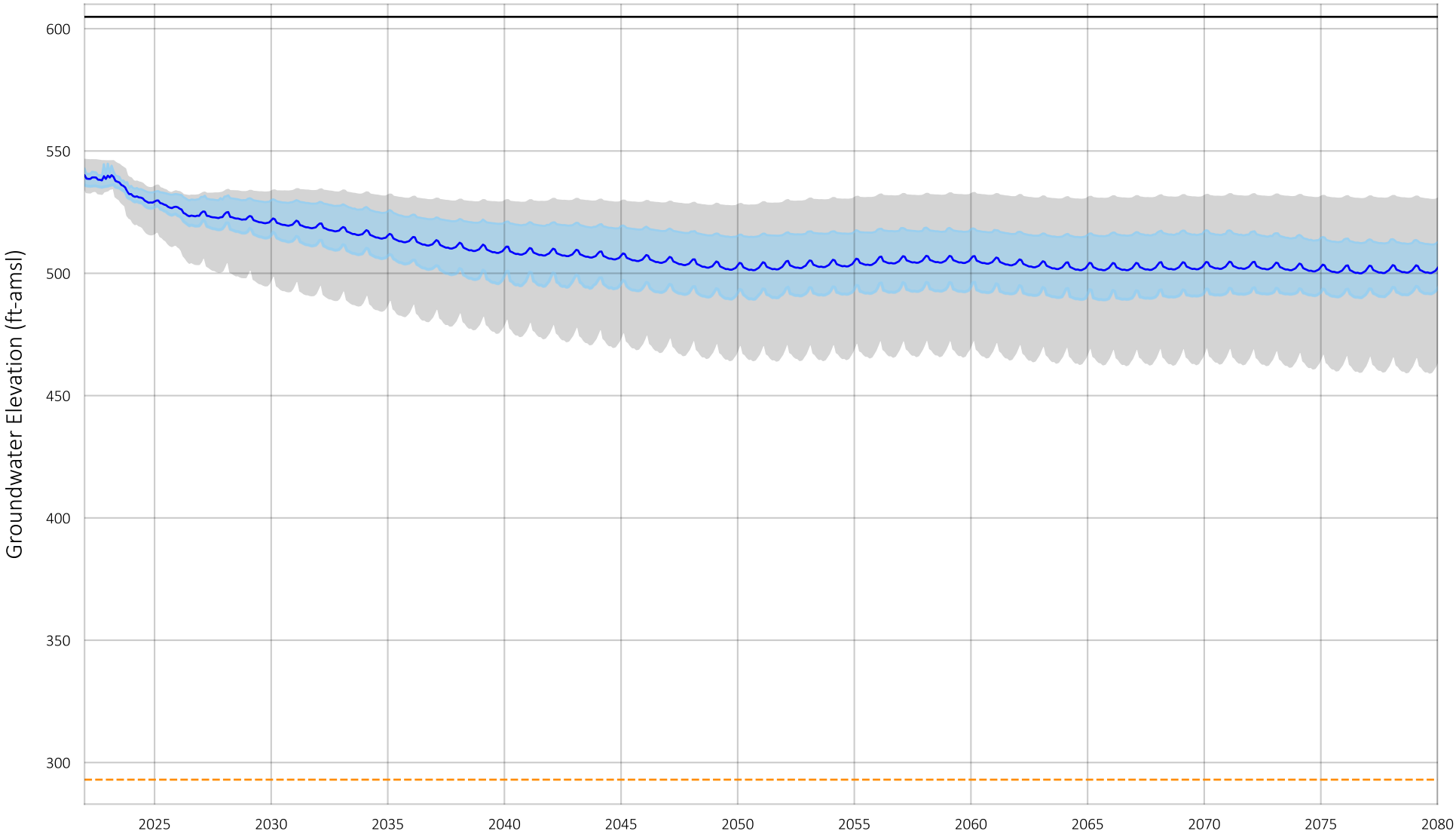
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

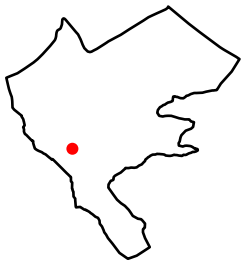
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-1
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 290 - 500

Figure D-2



Well Location



Legend

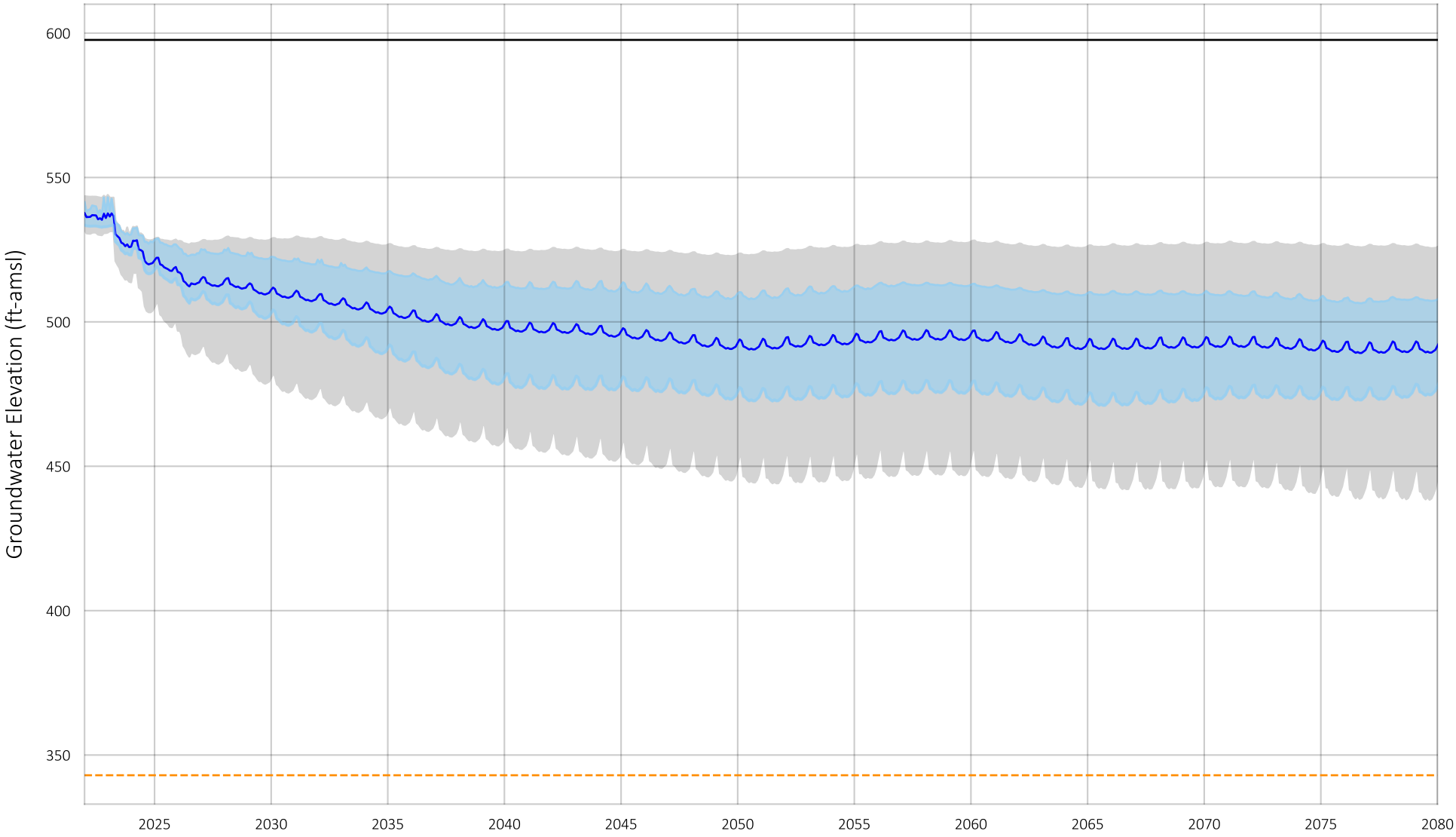
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

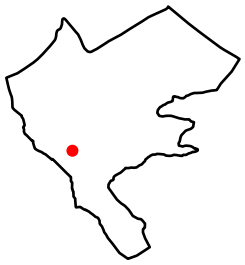
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-2
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 230 - 475

Figure D-3



Well Location



Legend

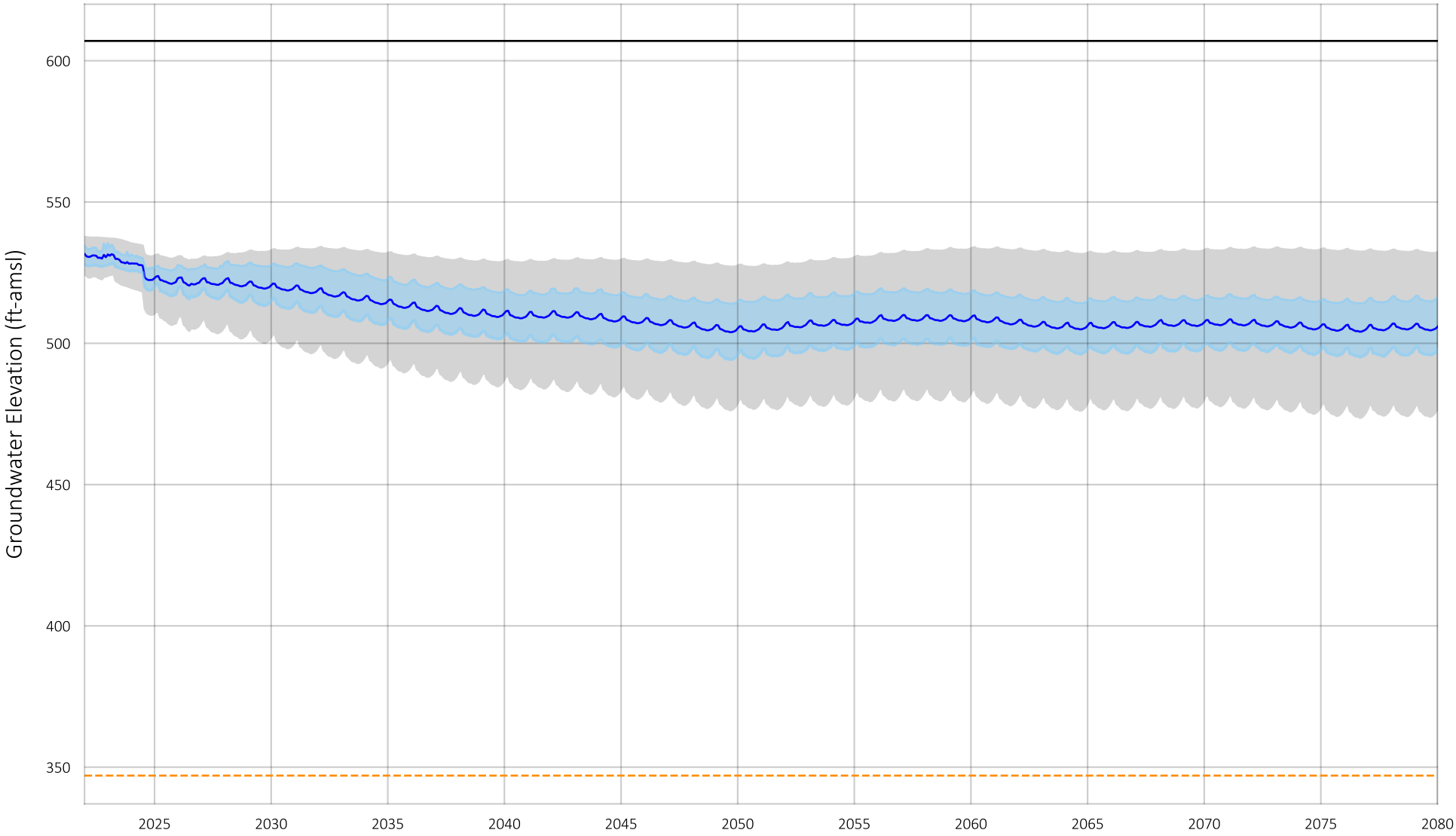
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

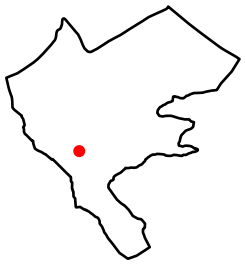
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-3
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 235 - 525

Figure D-4



Well Location



Legend

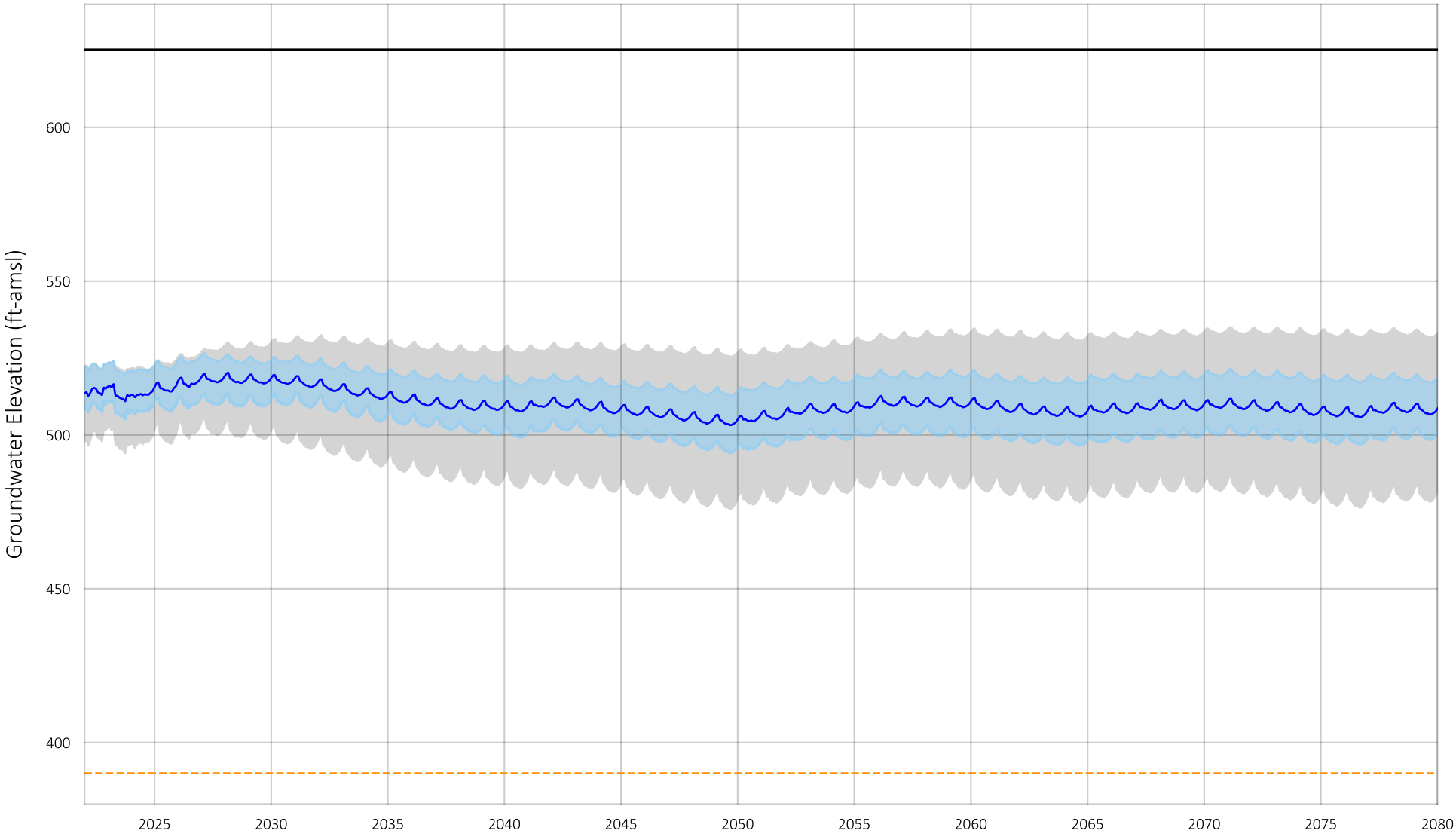
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-4
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 200 - 480

Figure D-5



Well Location

Legend

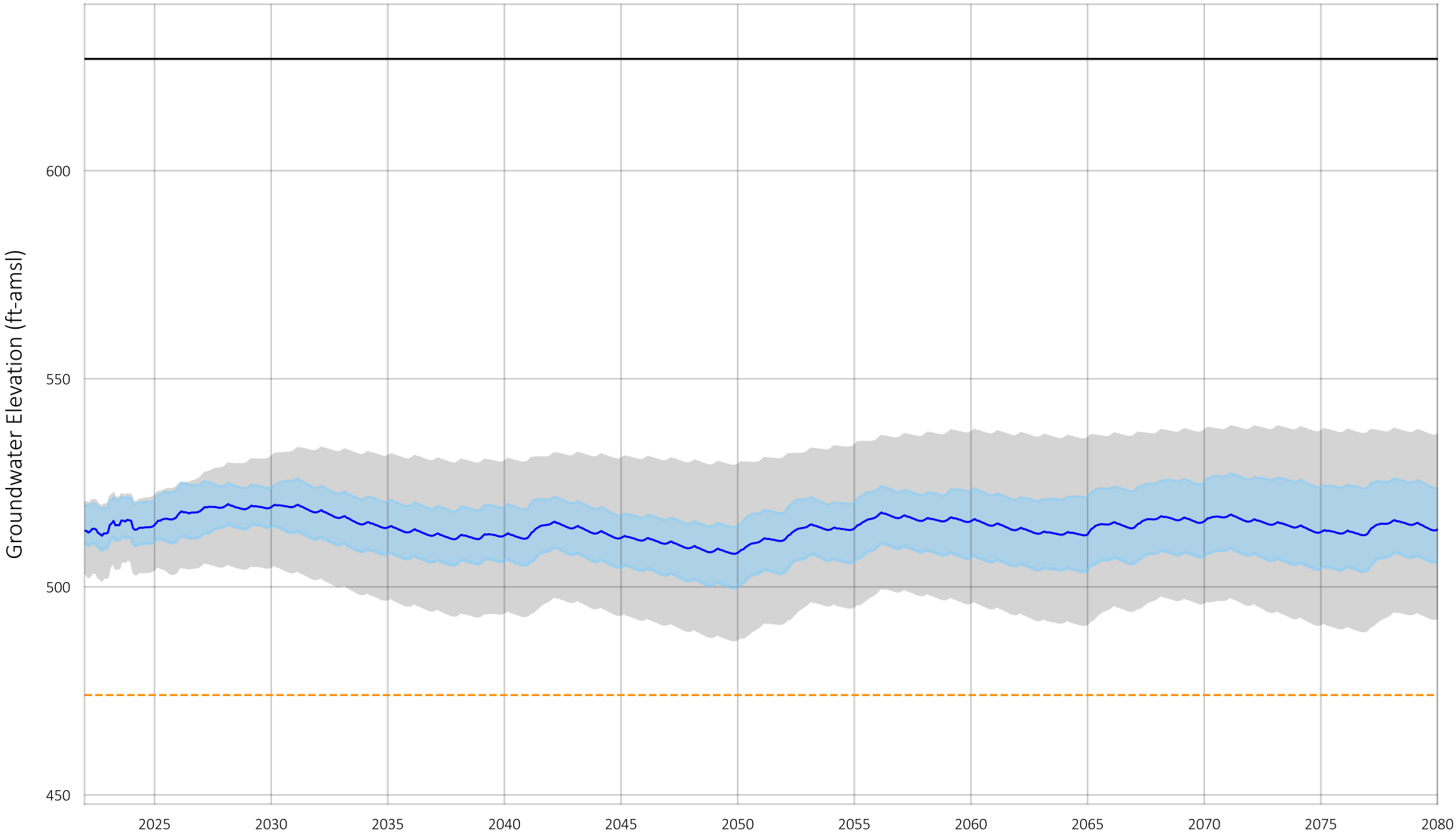
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-5
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 160 - 385

Figure D-6



Well Location

Legend

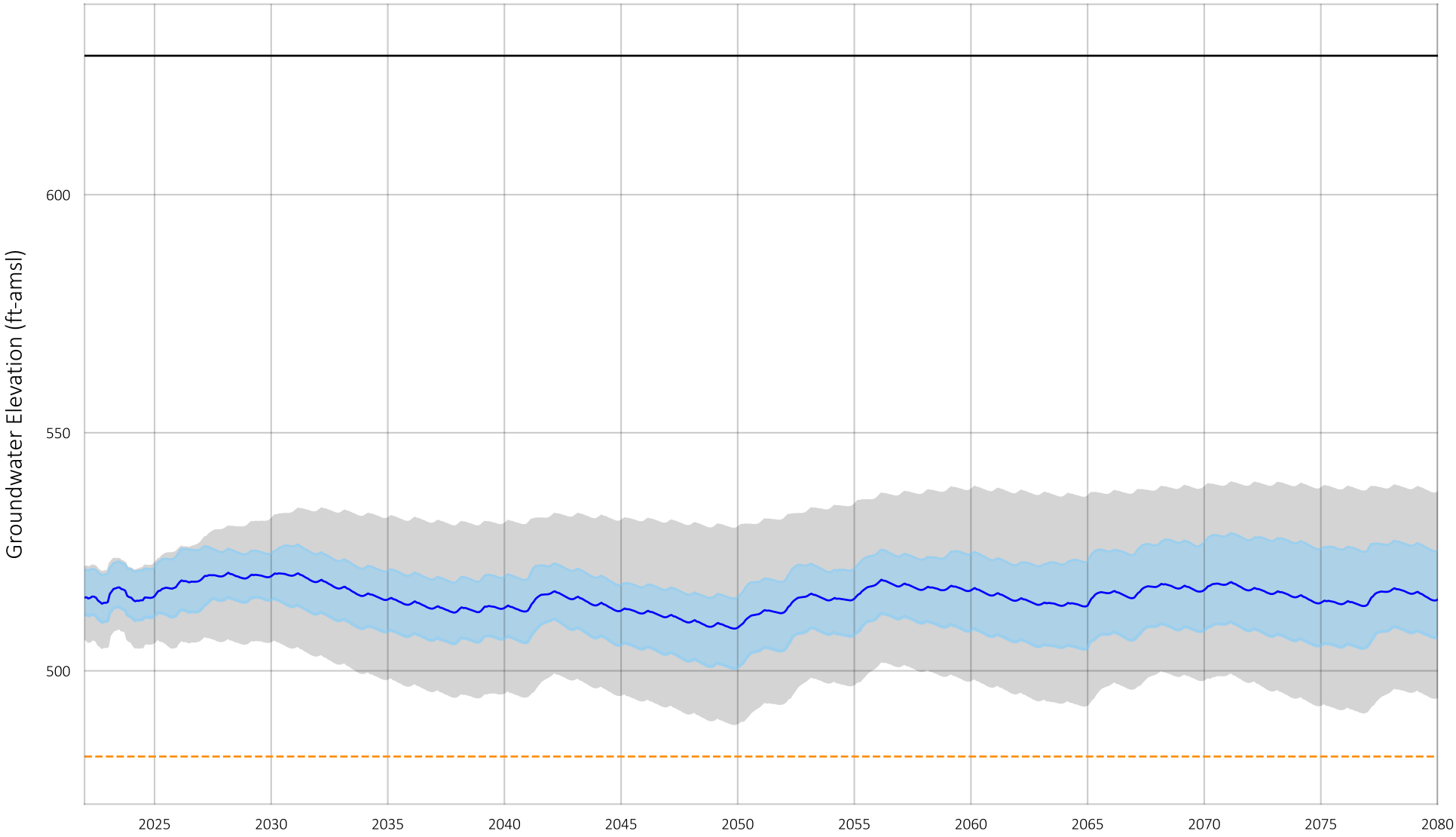
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-6
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 175 - 305

Figure D-7



Well Location

Legend

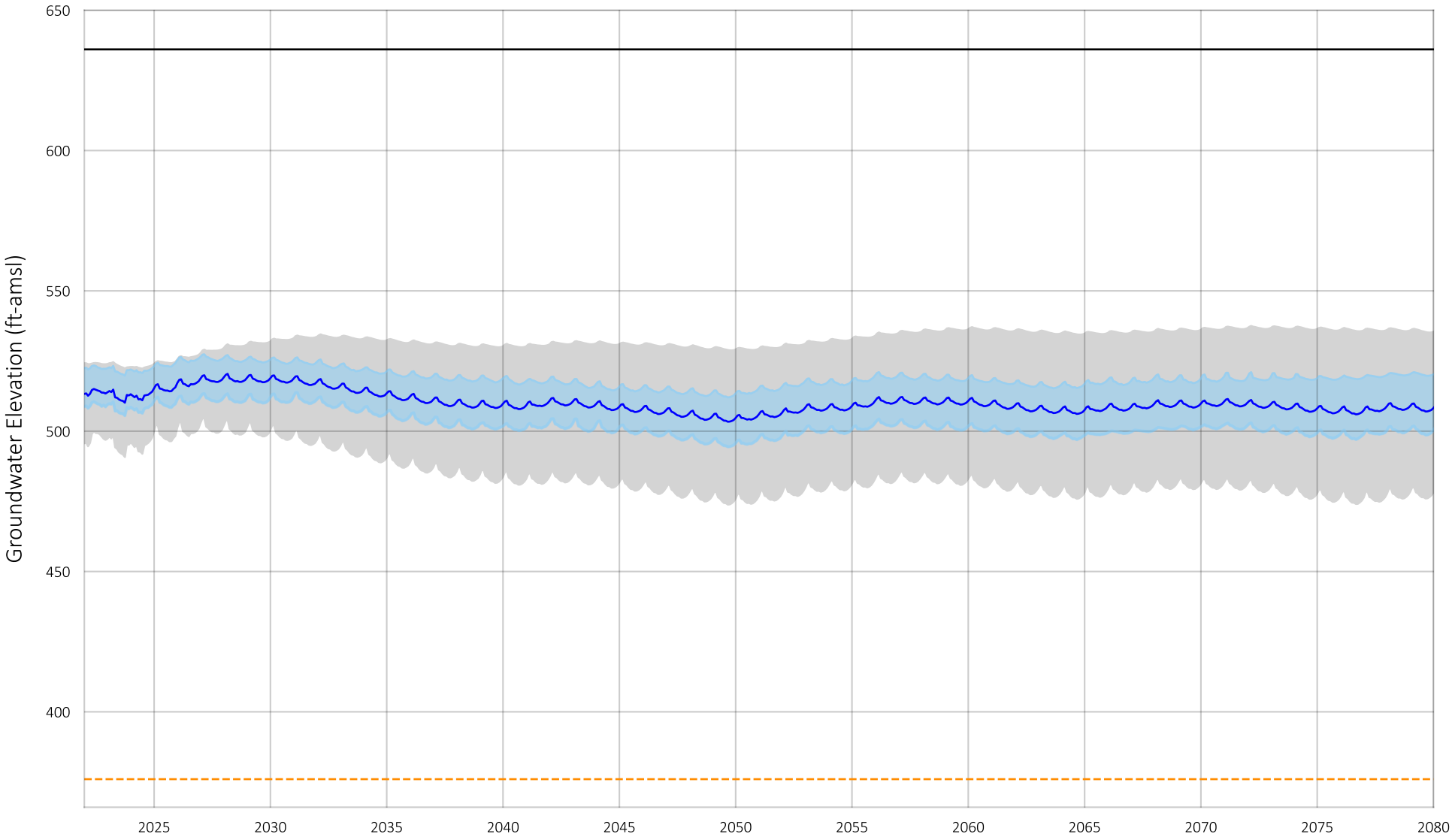
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-7
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 180 - 300

Figure D-8



Well Location

Legend

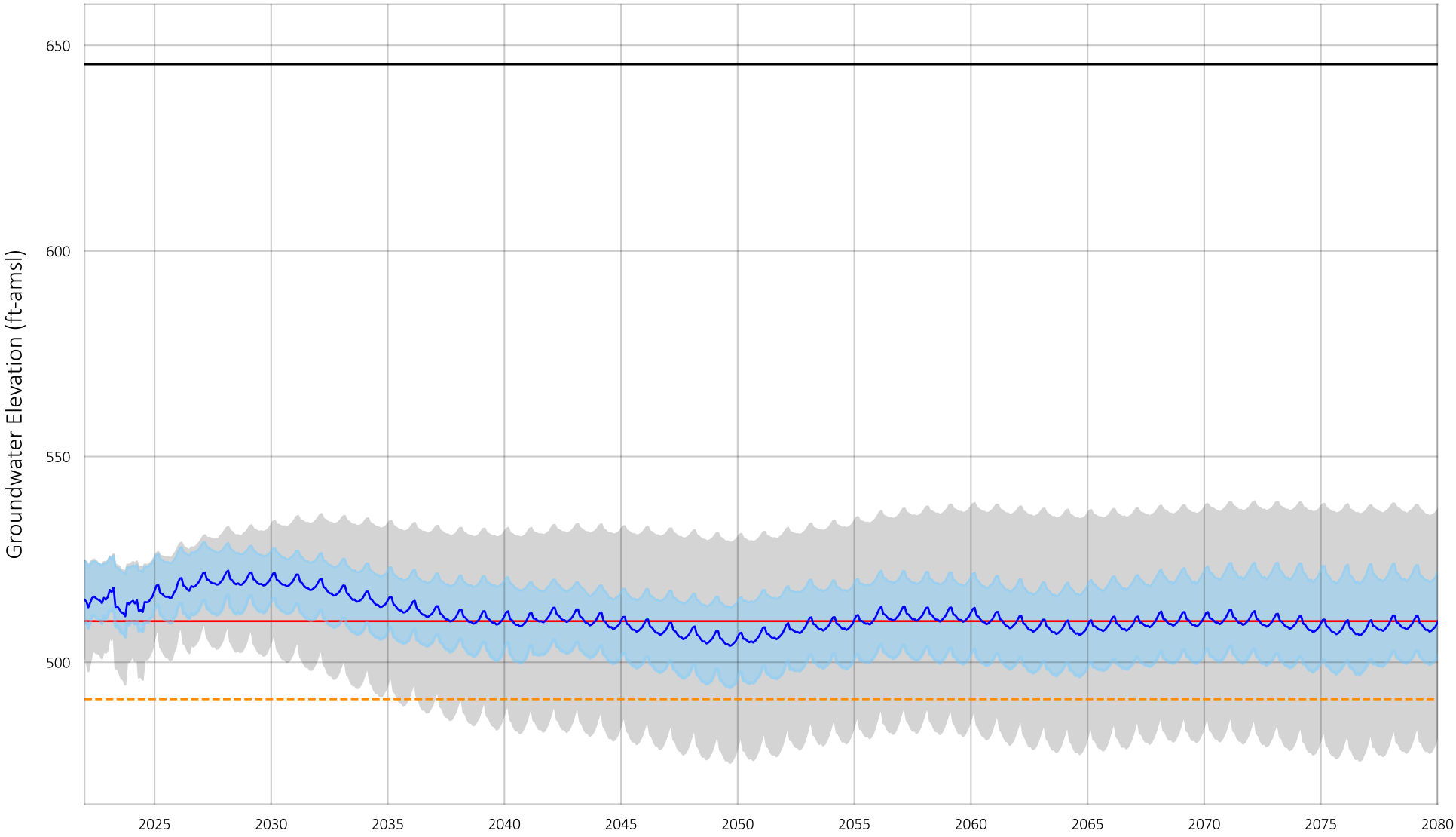
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-8
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 180 - 415

Figure D-9



Well Location

Legend

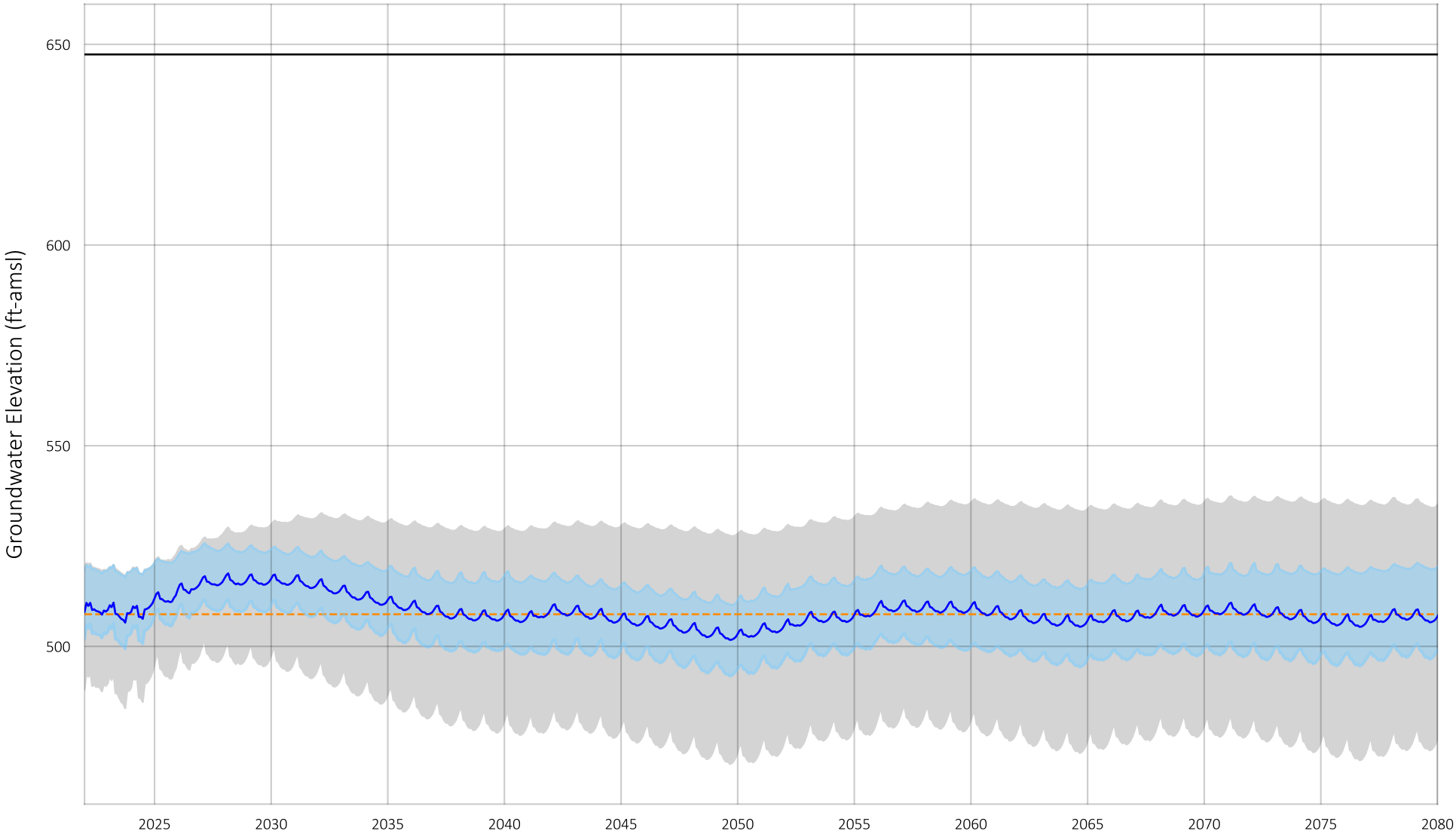
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

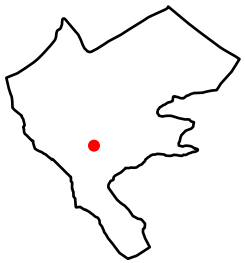
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-9
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 190 - 430

Figure D-10



Well Location



Legend

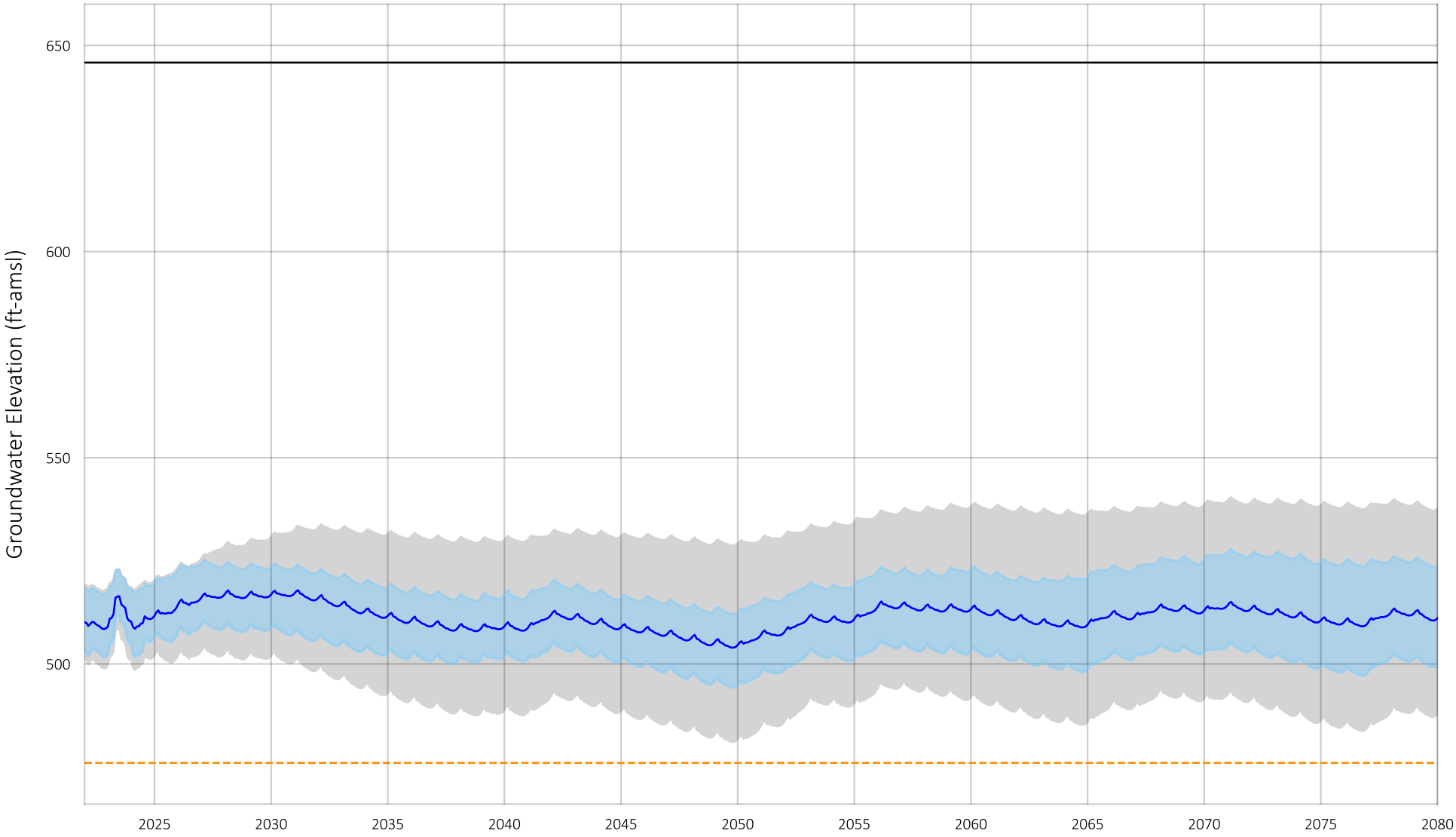
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-10
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 180 - 340

Figure D-11



Well Location

Legend

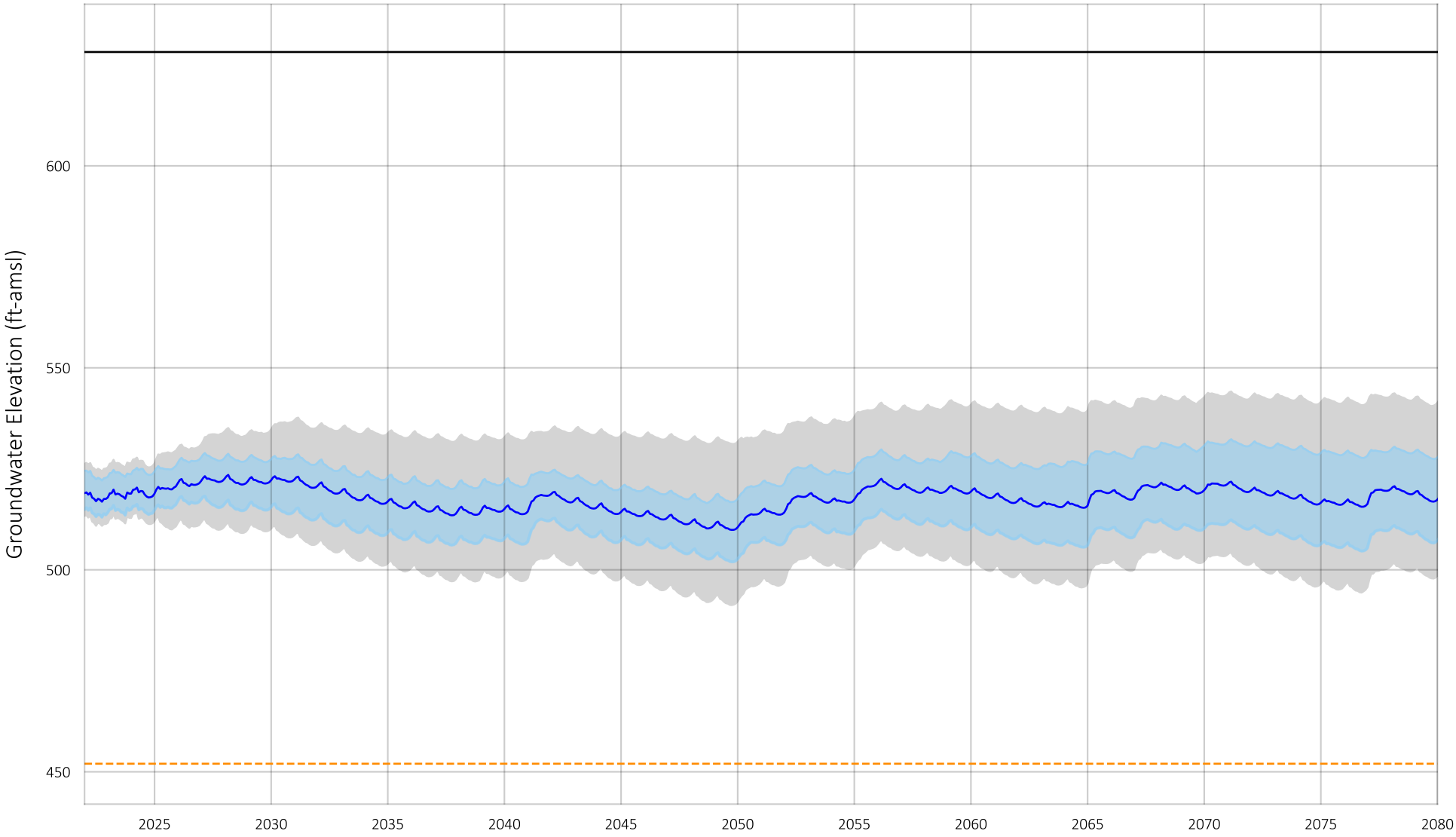
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

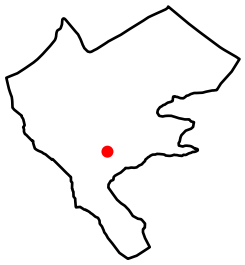
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-11
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 160 - 260

Figure D-12



Well Location



Legend

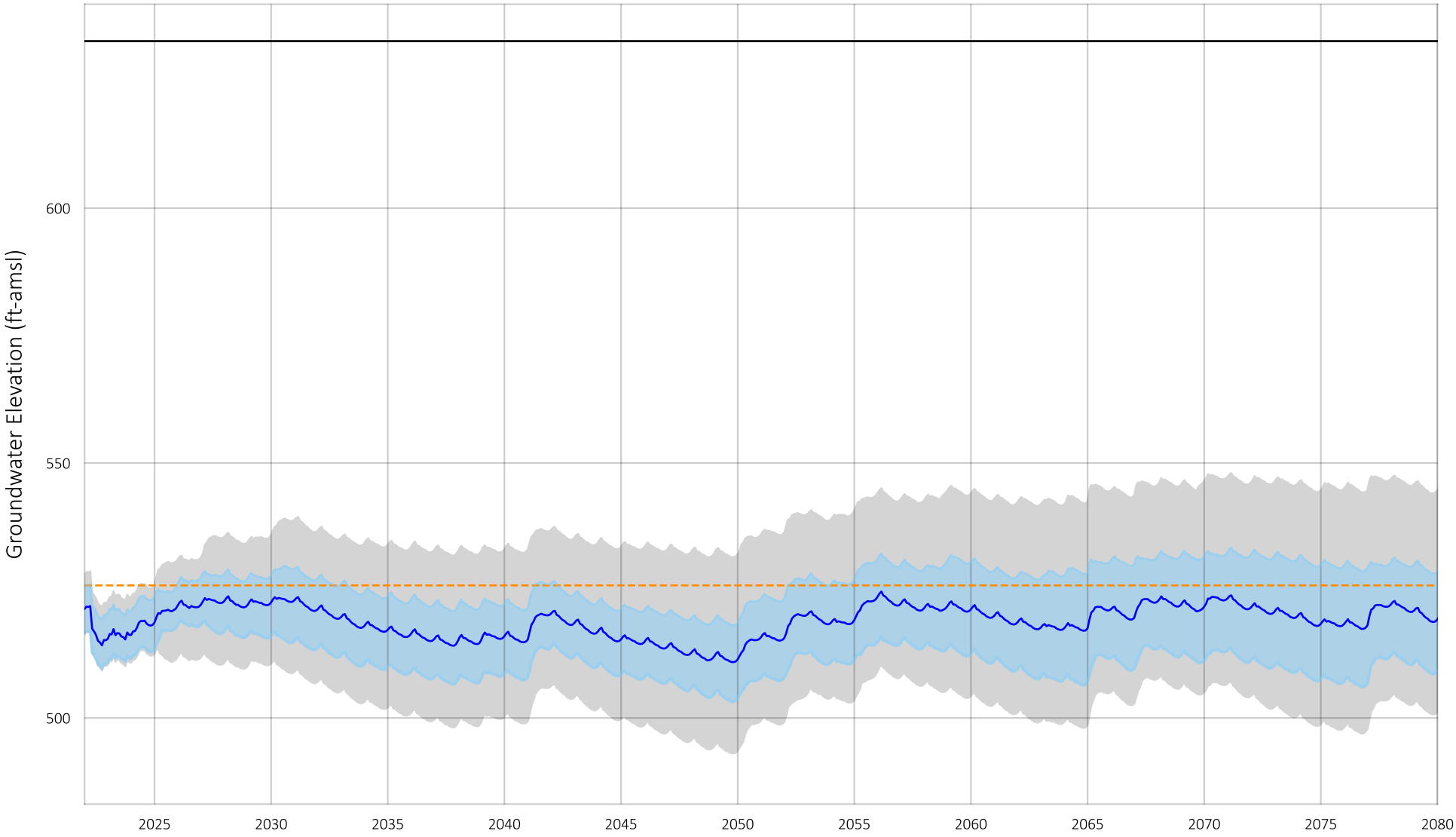
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

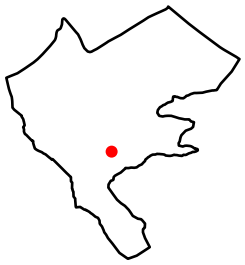
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-13
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 180 - 352

Figure D-13



Well Location



Legend

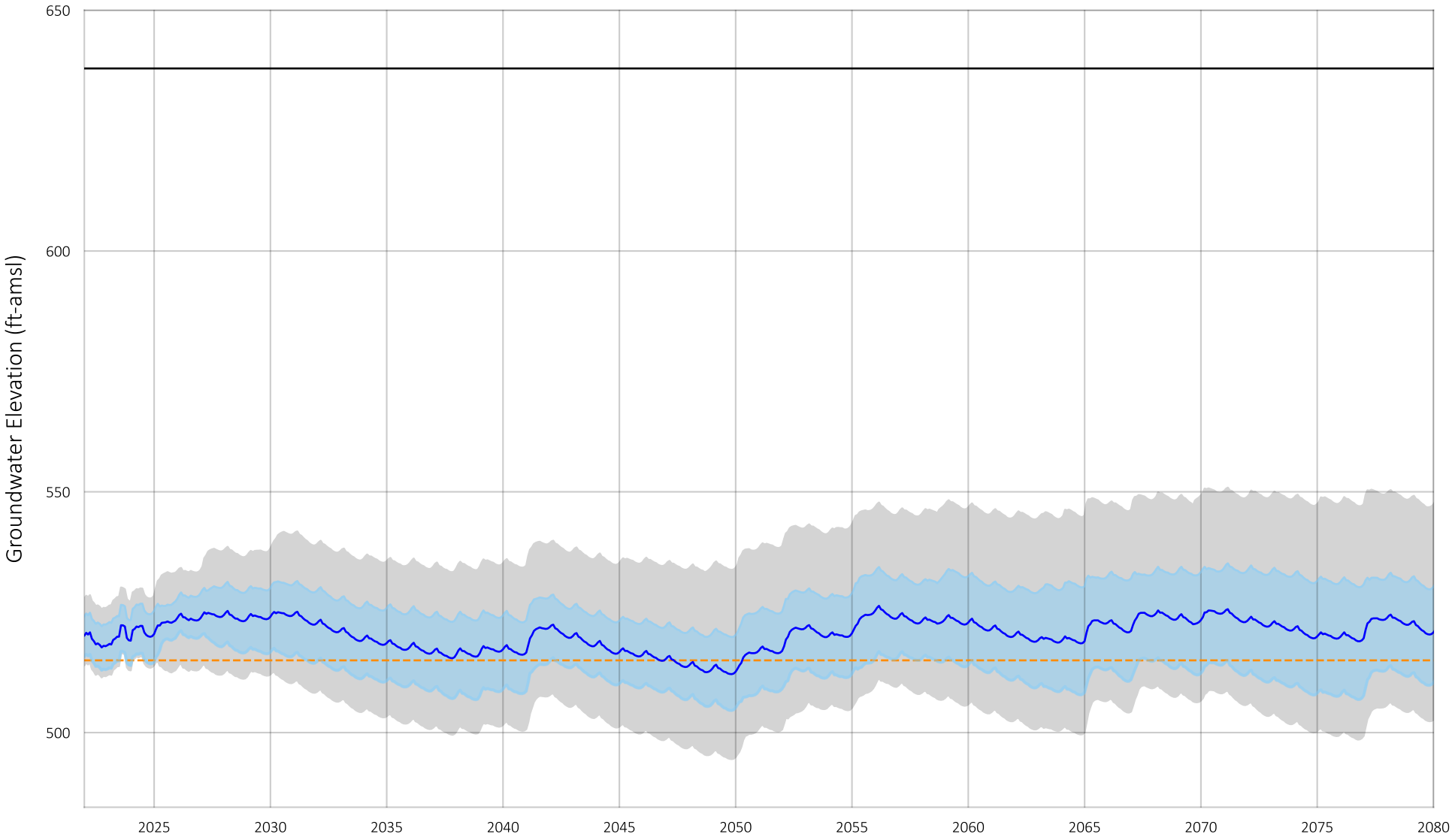
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

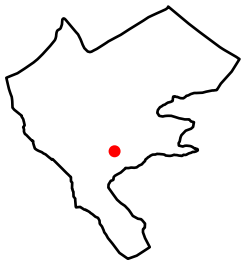
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-14
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 100 - 460

Figure D-14



Well Location



Legend

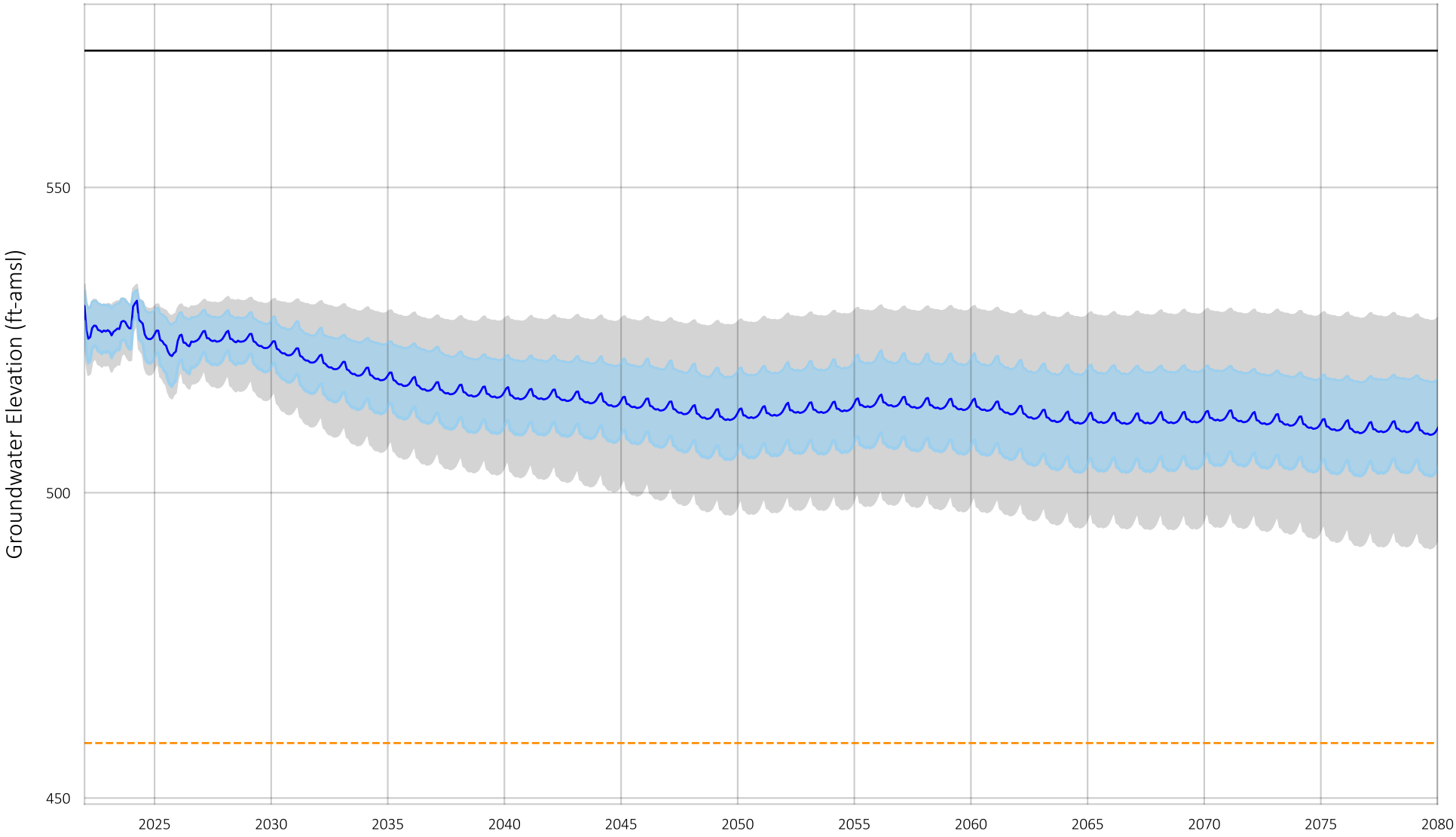
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-15
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 100 - 310

Figure D-15



Well Location

Legend

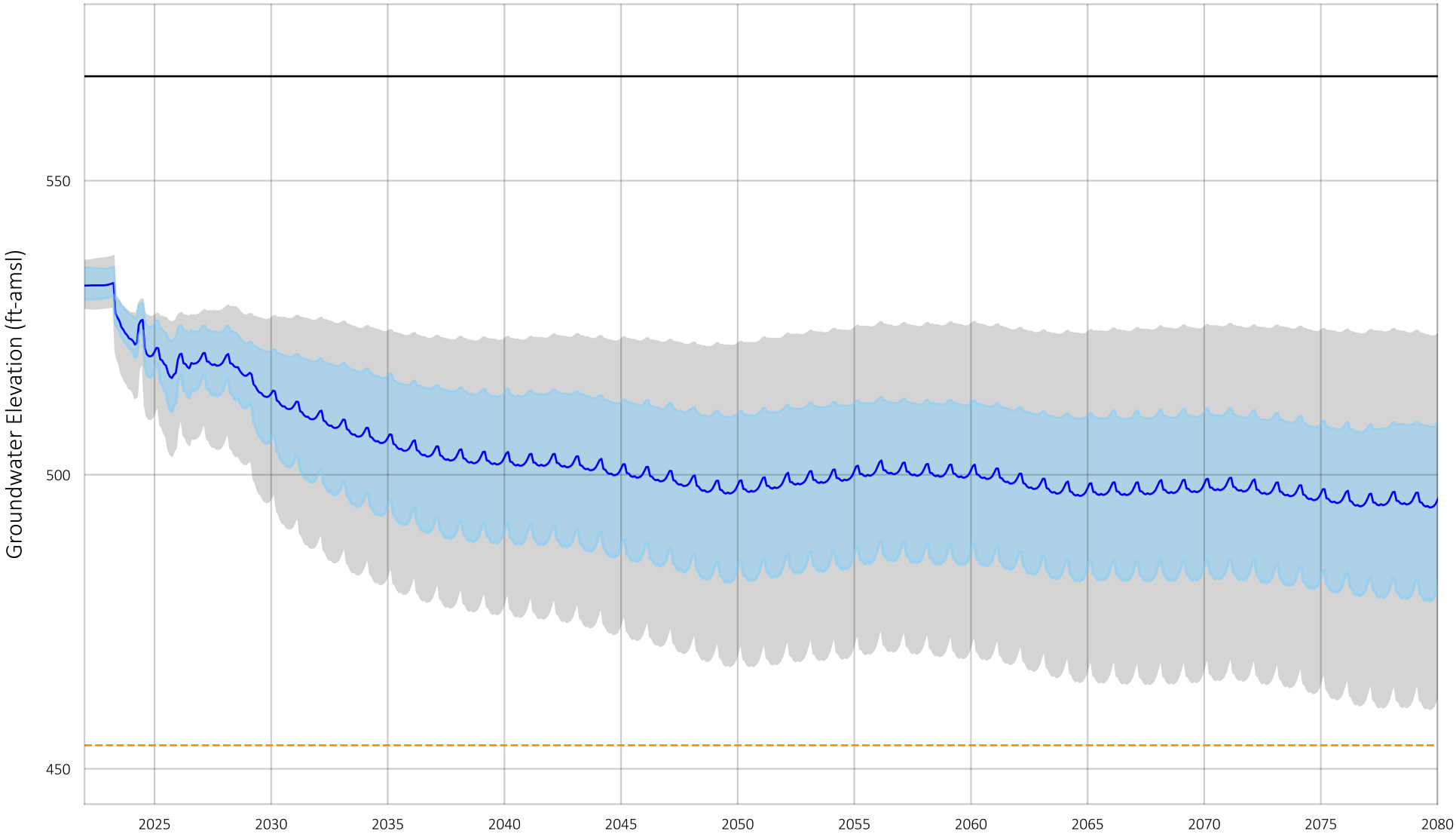
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-16
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 100 - 140

Figure D-16



Well Location

Legend

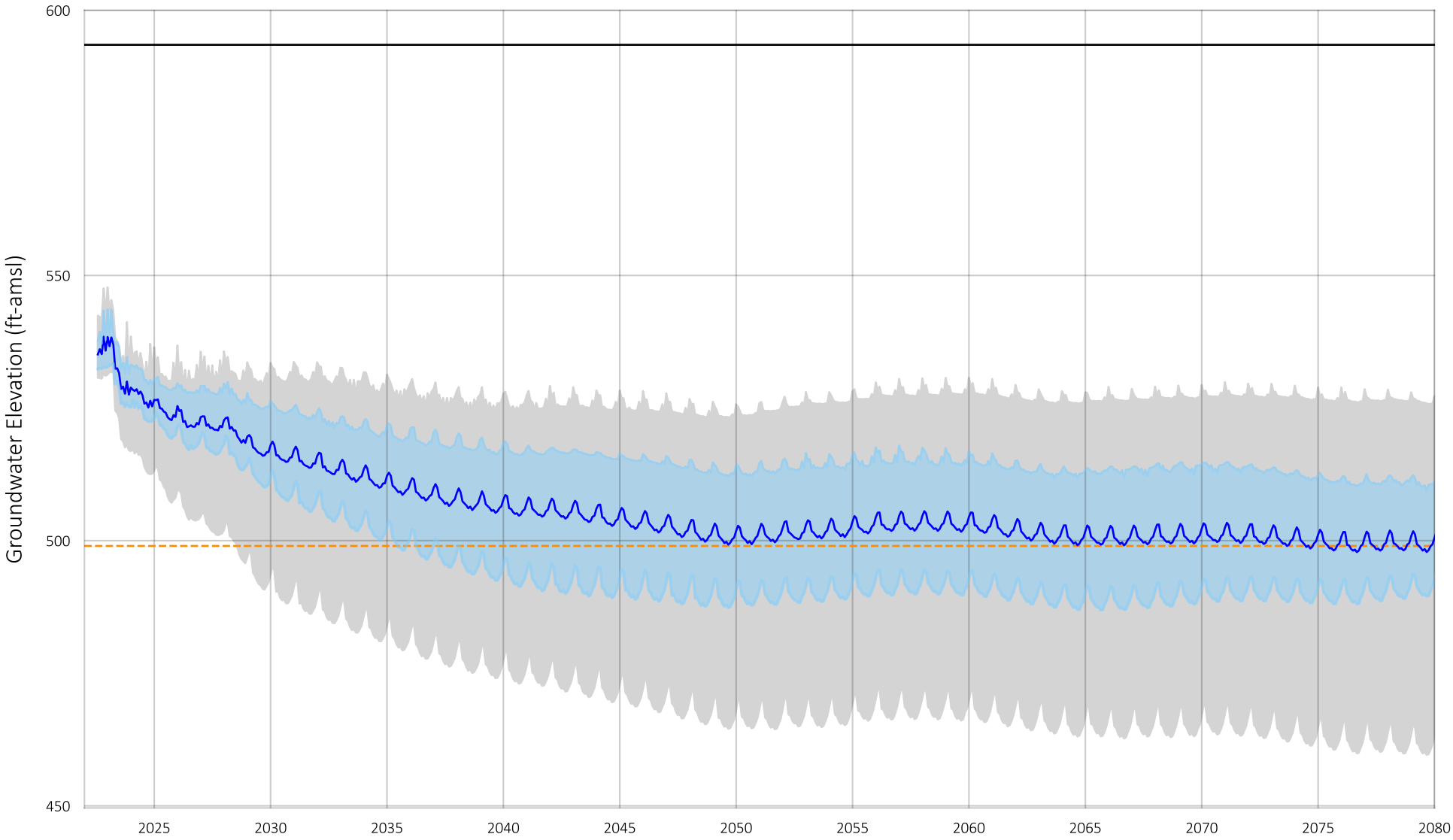
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

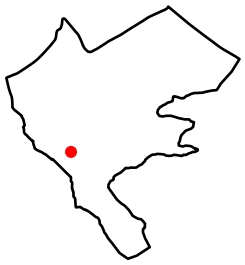
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-17
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 100 - 146

Figure D-17



Well Location



Legend

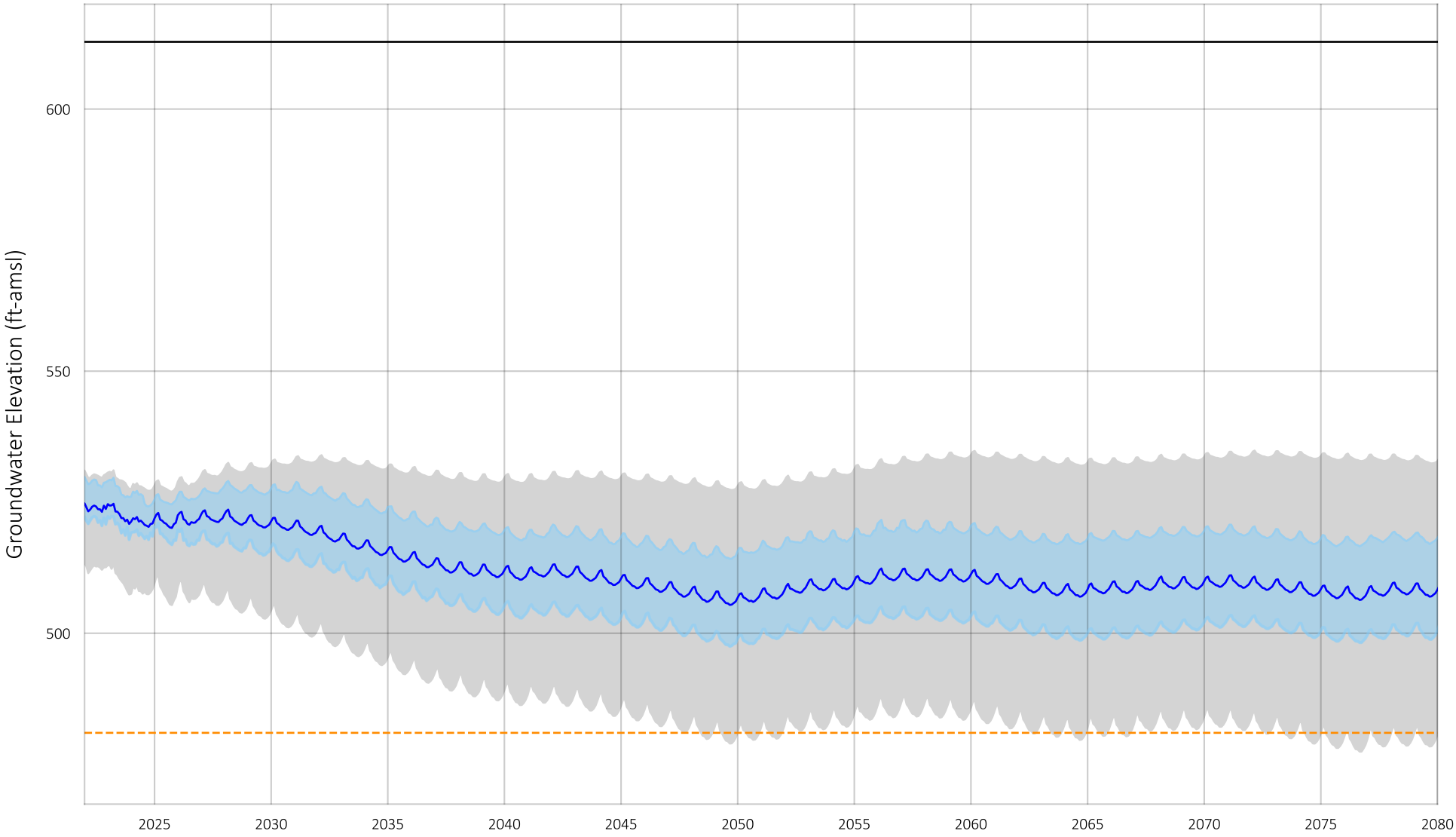
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-18
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 100 - 176

Figure D-18



Well Location

Legend

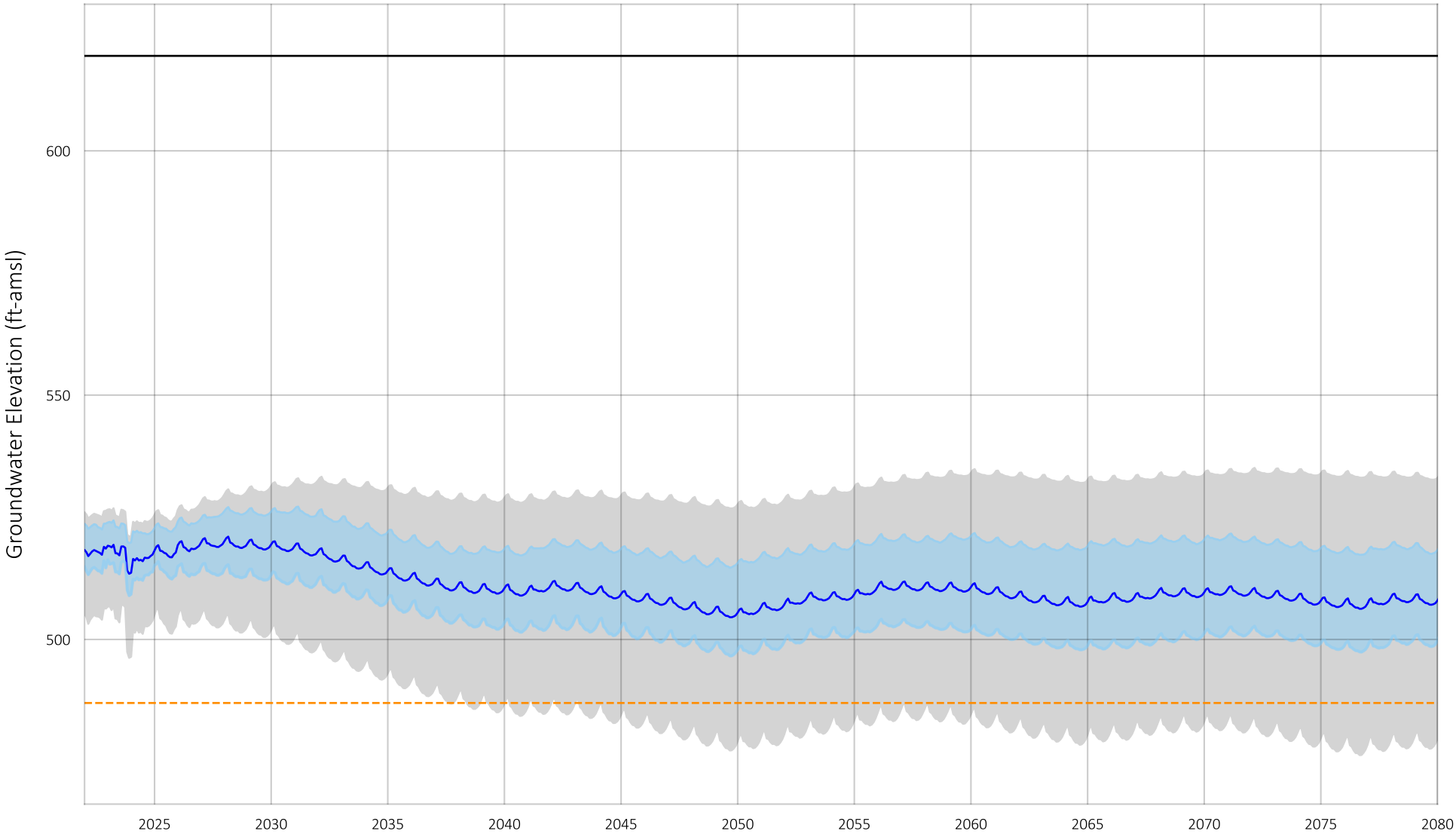
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

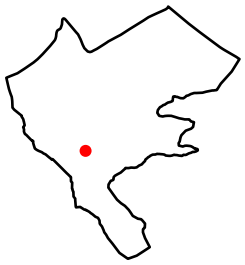
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-20
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 100 - 325

Figure D-19



Well Location



Legend

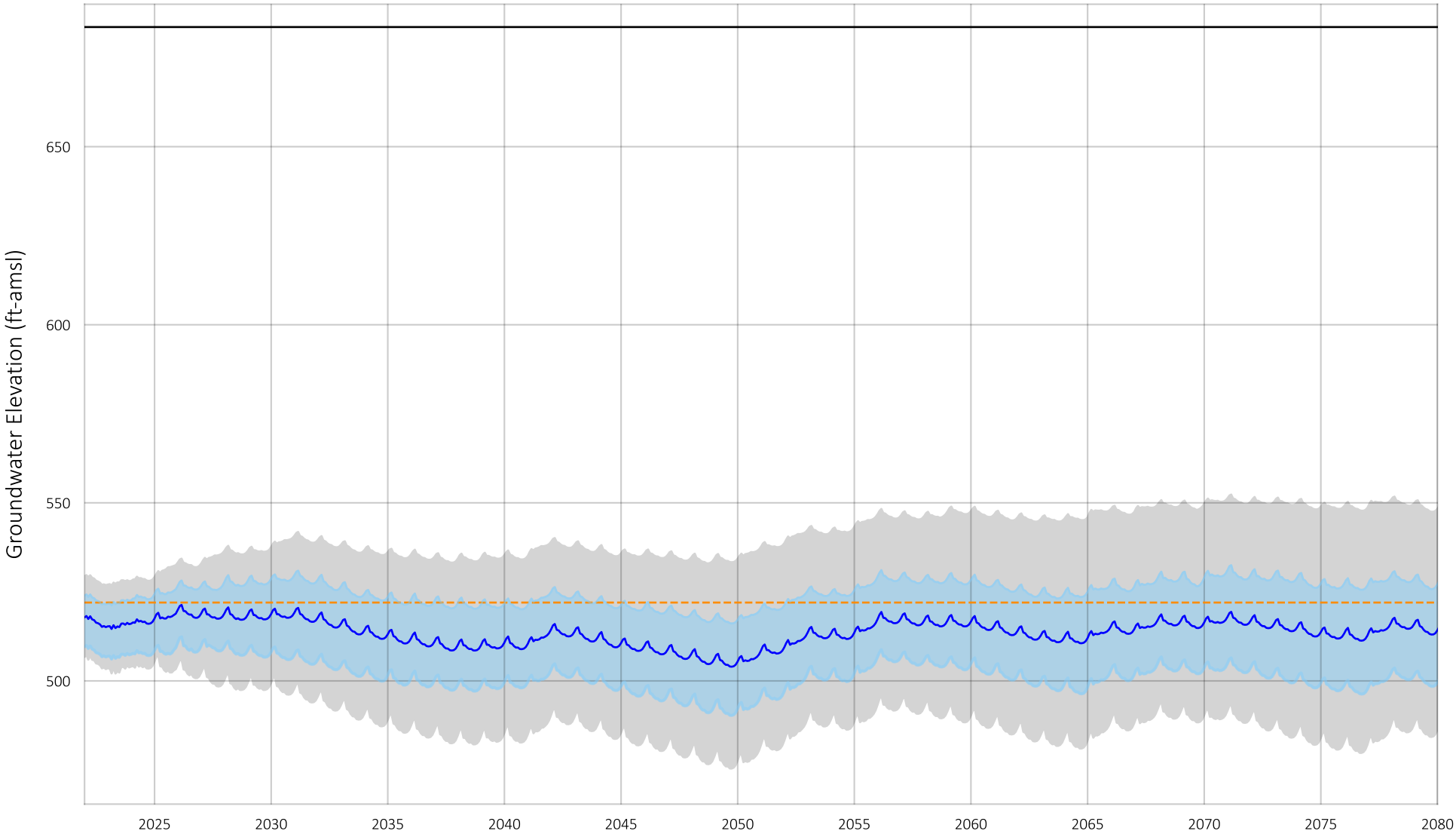
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

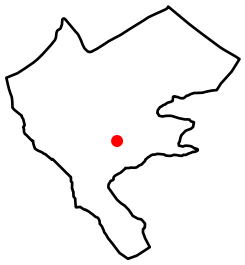
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-21
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 120 - 465

Figure D-20



Well Location



Legend

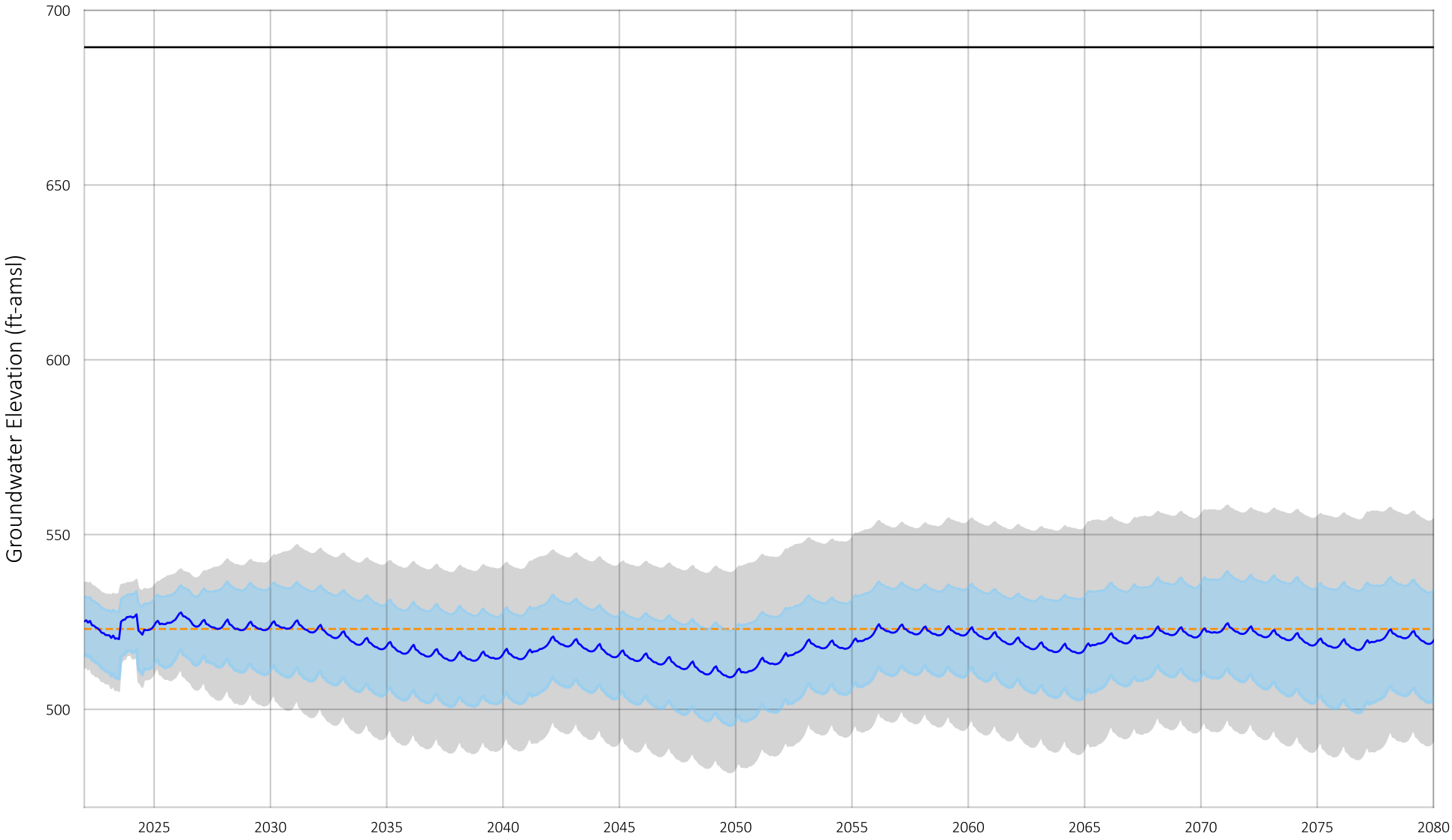
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

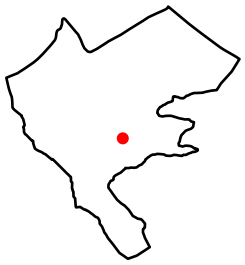
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: II-1
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 155 - 390

Figure D-21



Well Location



Legend

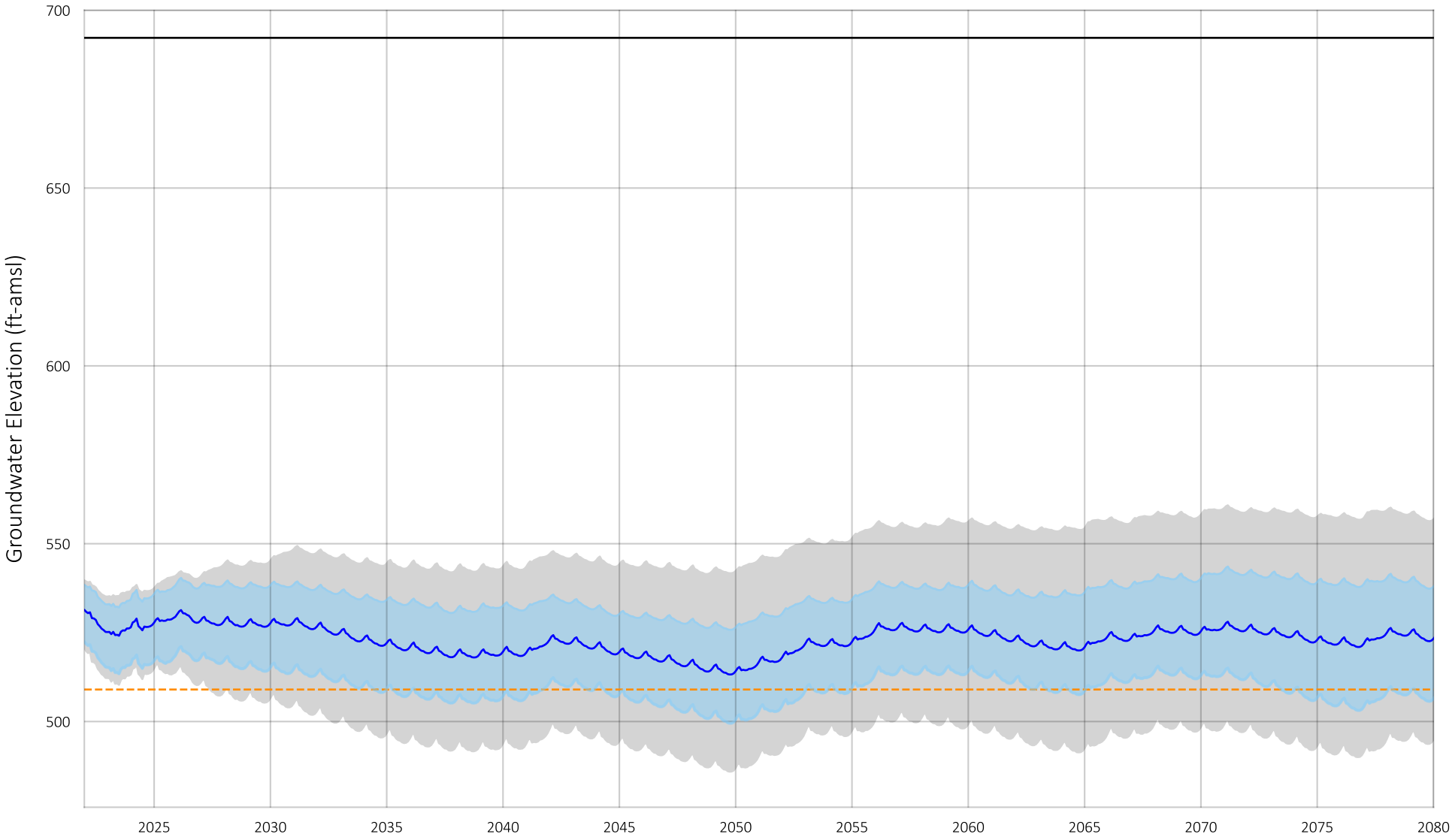
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

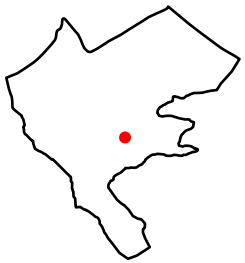
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: II-2
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 156 - 312

Figure D-22



Well Location



Legend

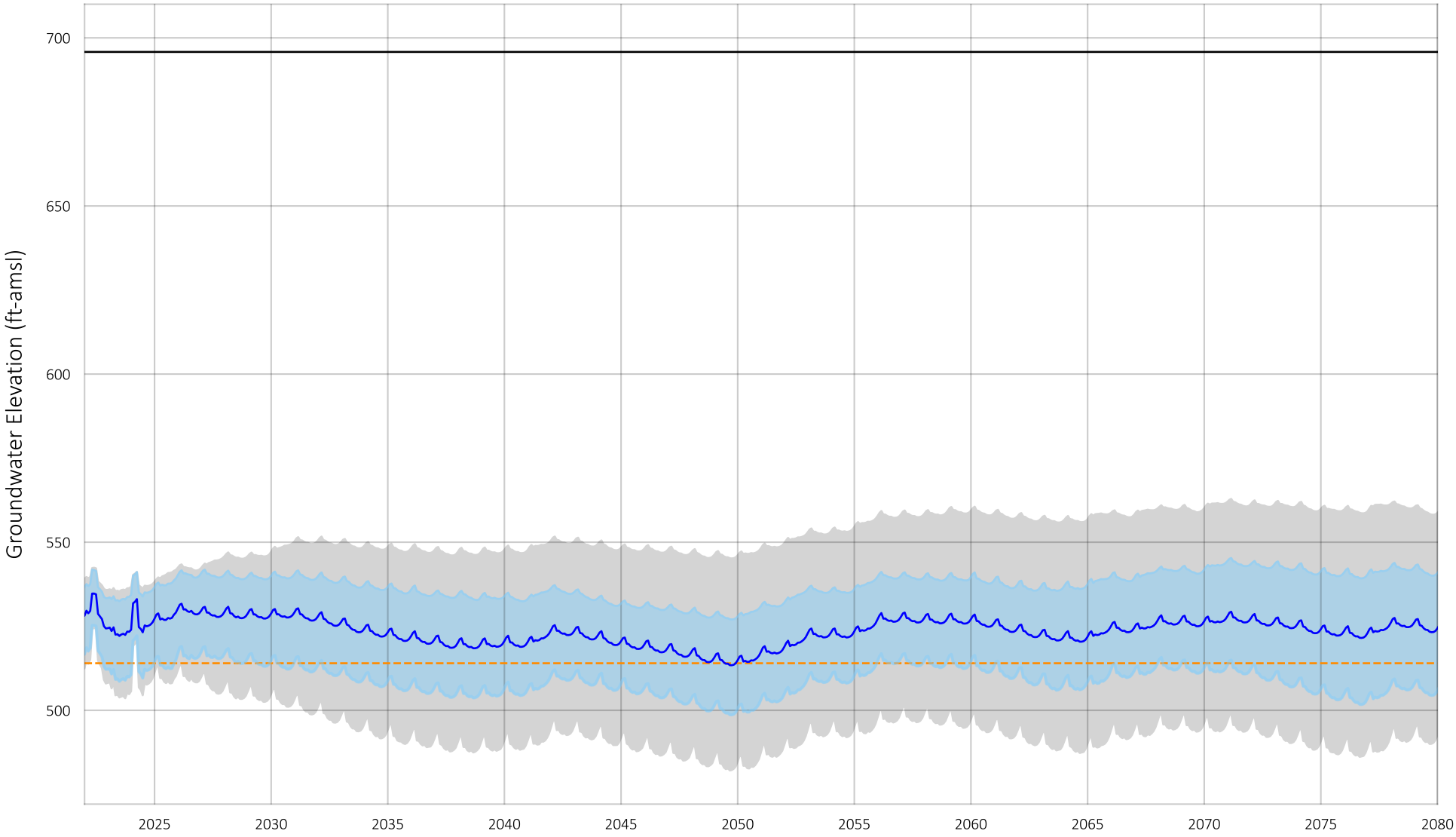
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

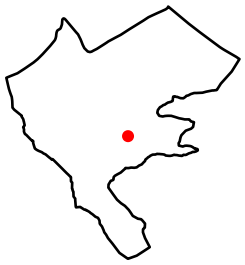
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: II-3
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 160 - 325

Figure D-23



Well Location



Legend

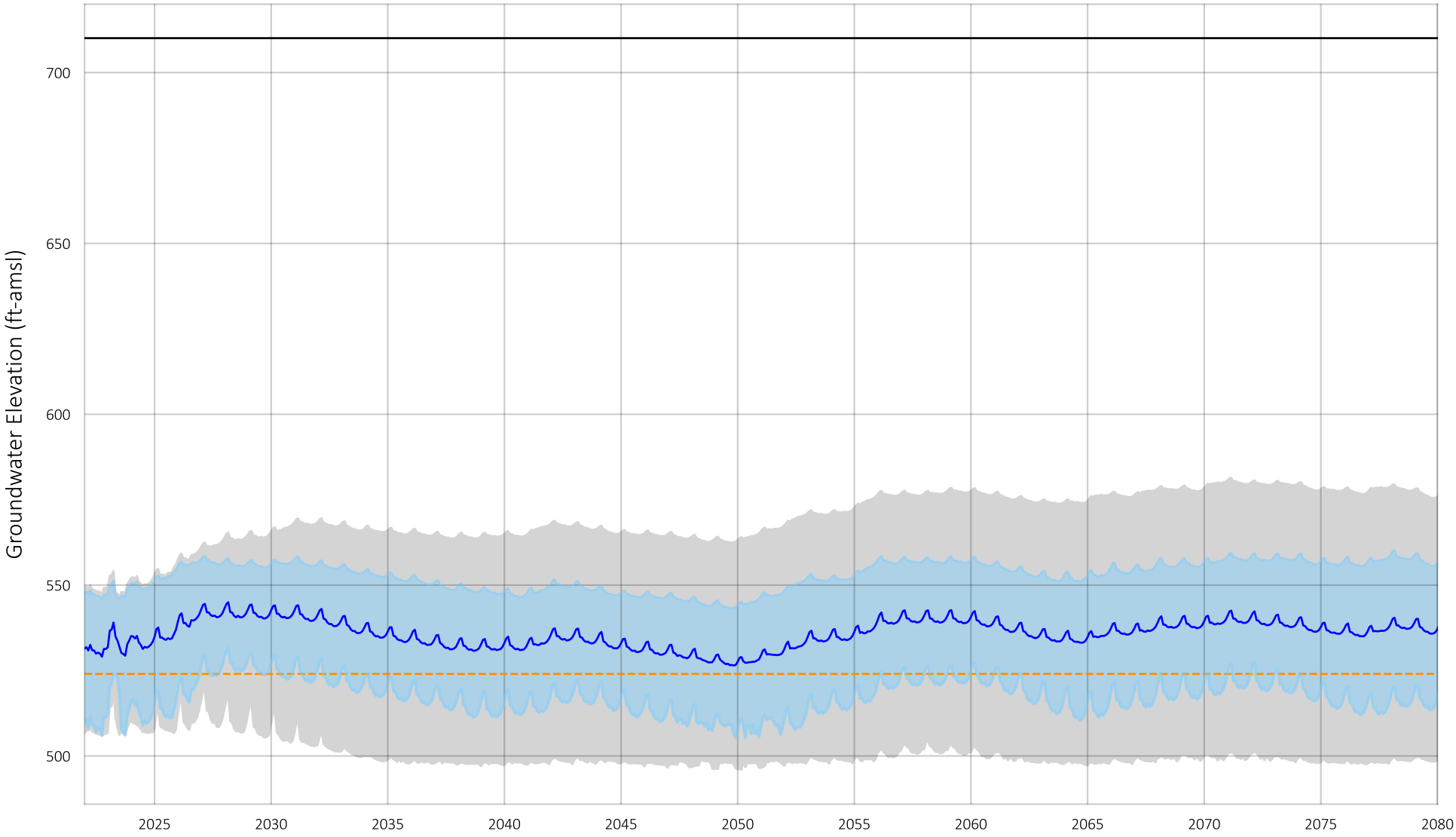
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

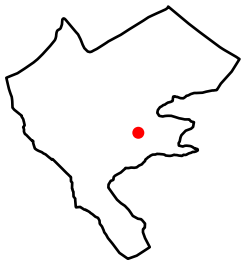
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: II-4
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 156 - 340

Figure D-24



Well Location



Legend

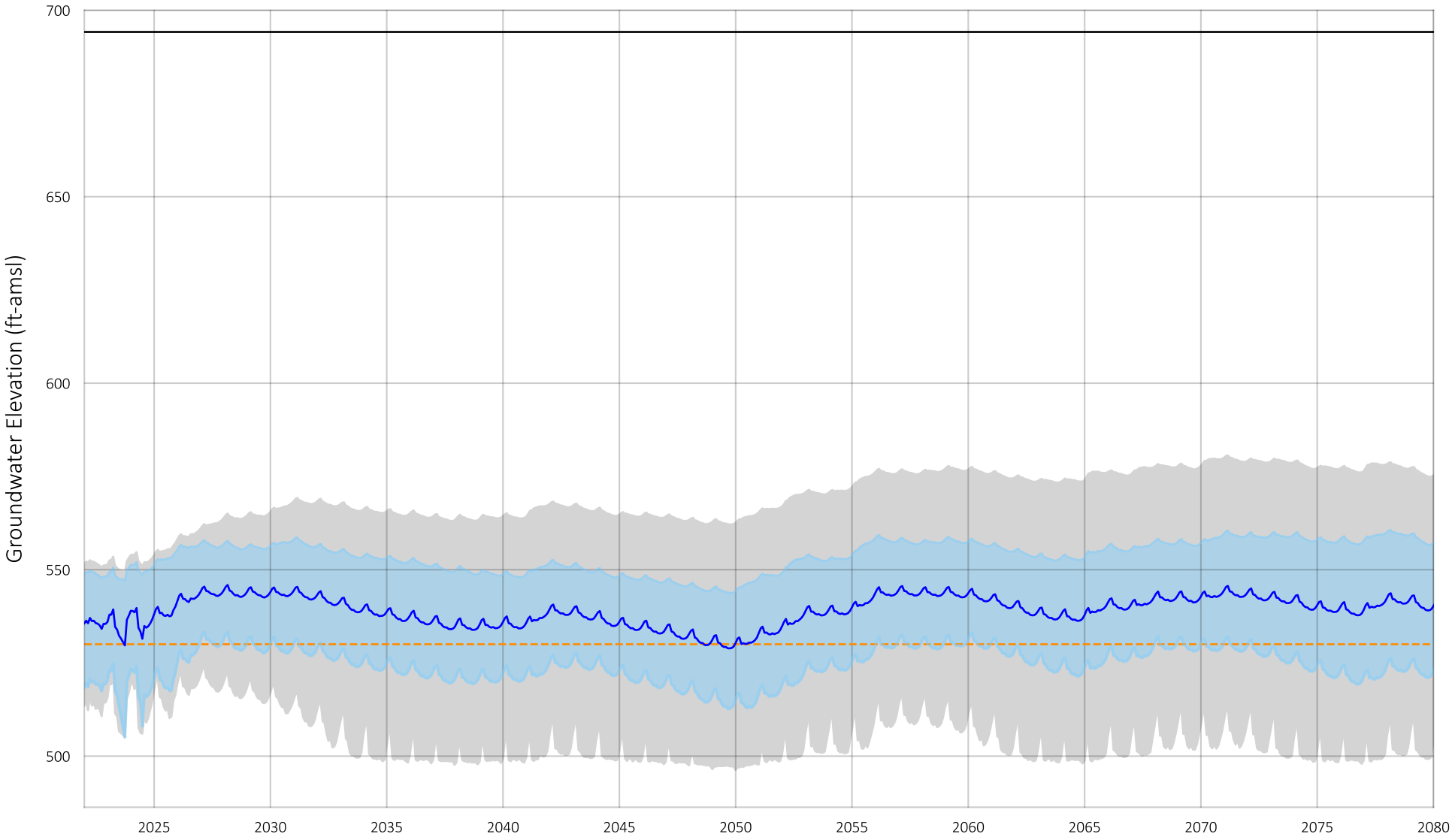
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: II-6
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 150 - 295

Figure D-25



Well Location

Legend

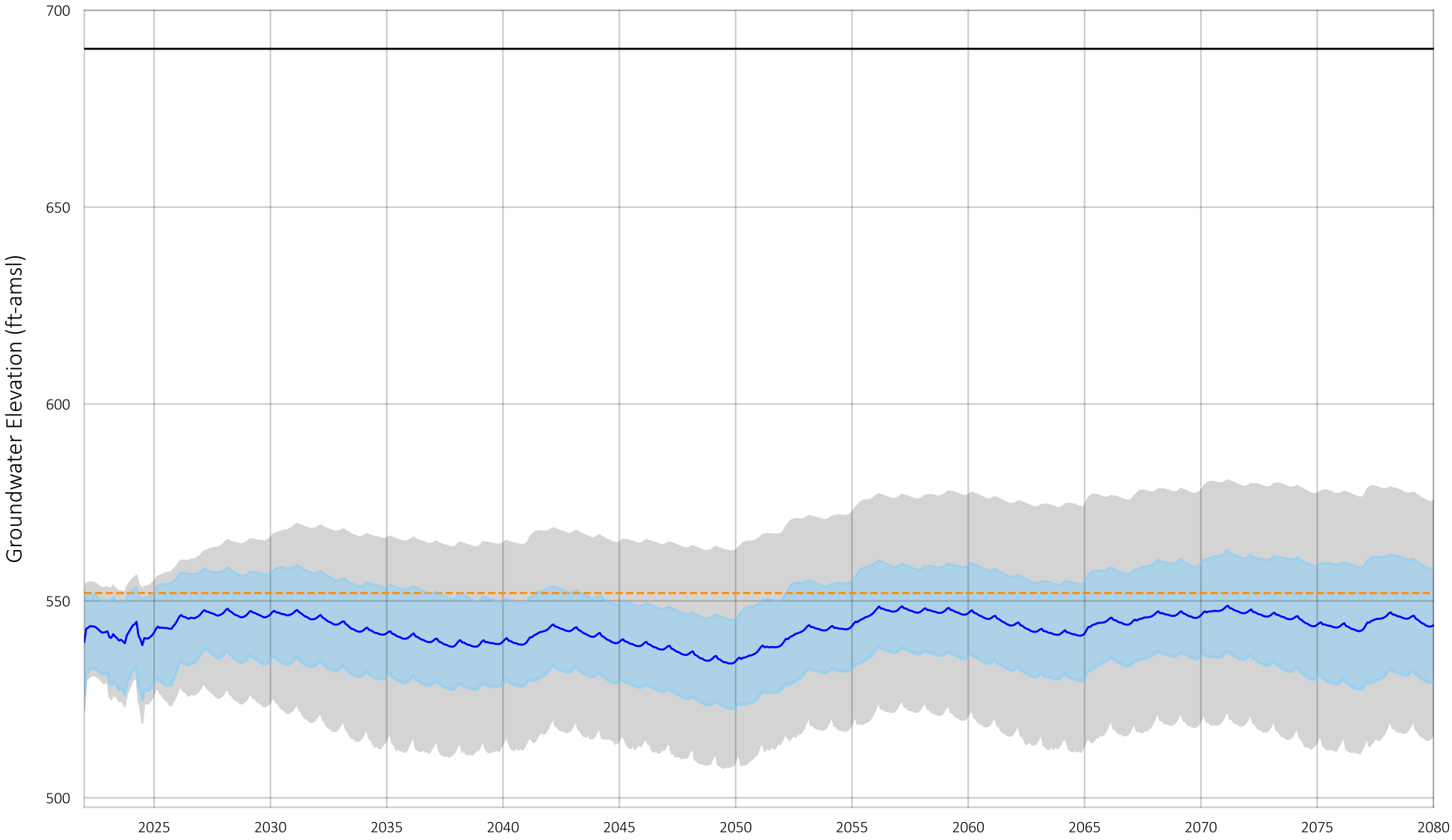
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: II-7
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 140 - 245

Figure D-26



Well Location

Legend

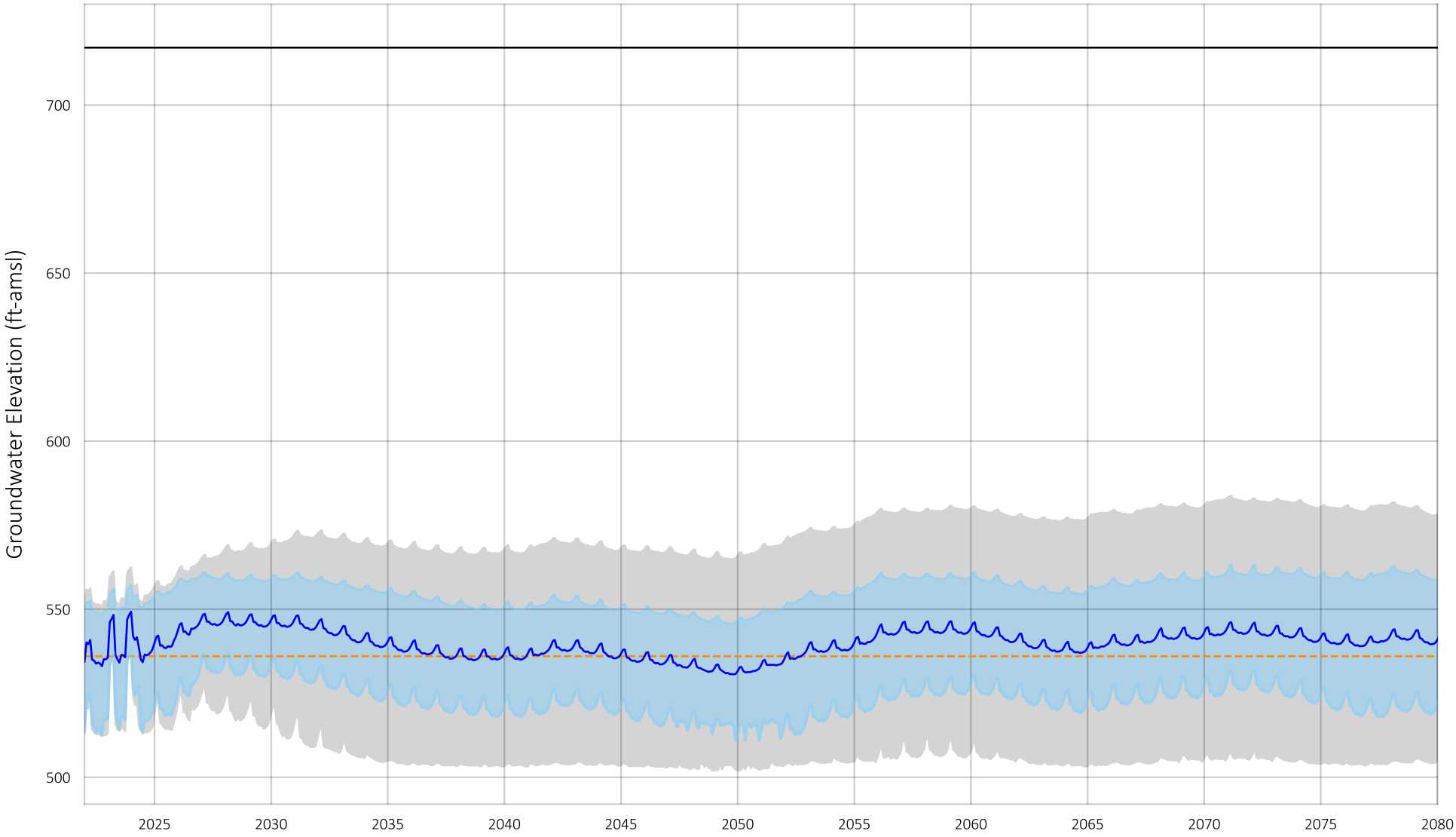
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: II-8
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 130 - 230

Figure D-27



Well Location

Legend

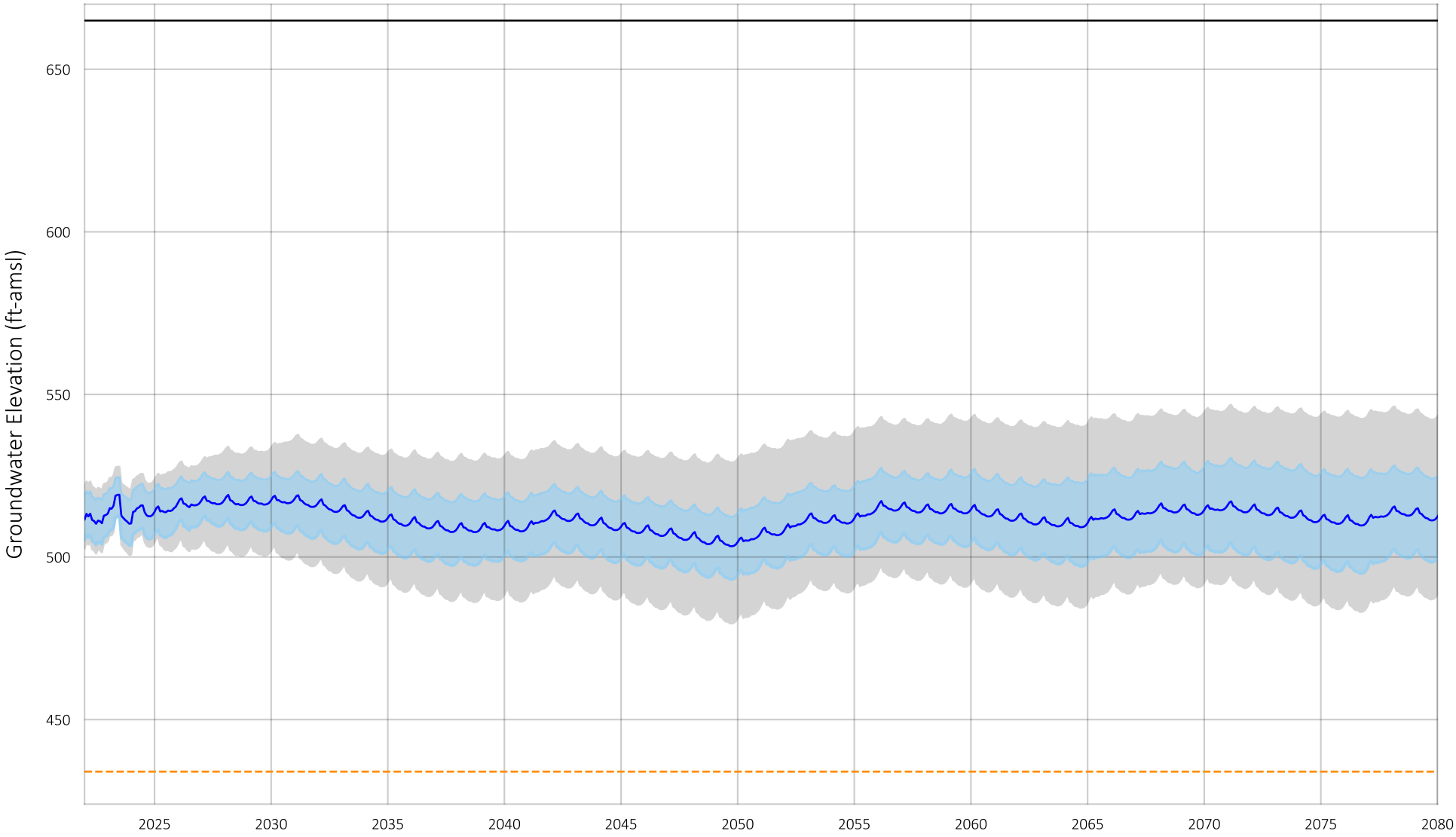
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

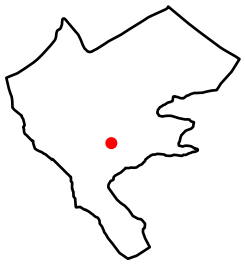
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: II-9A
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 160 - 295

Figure D-28



Well Location



Legend

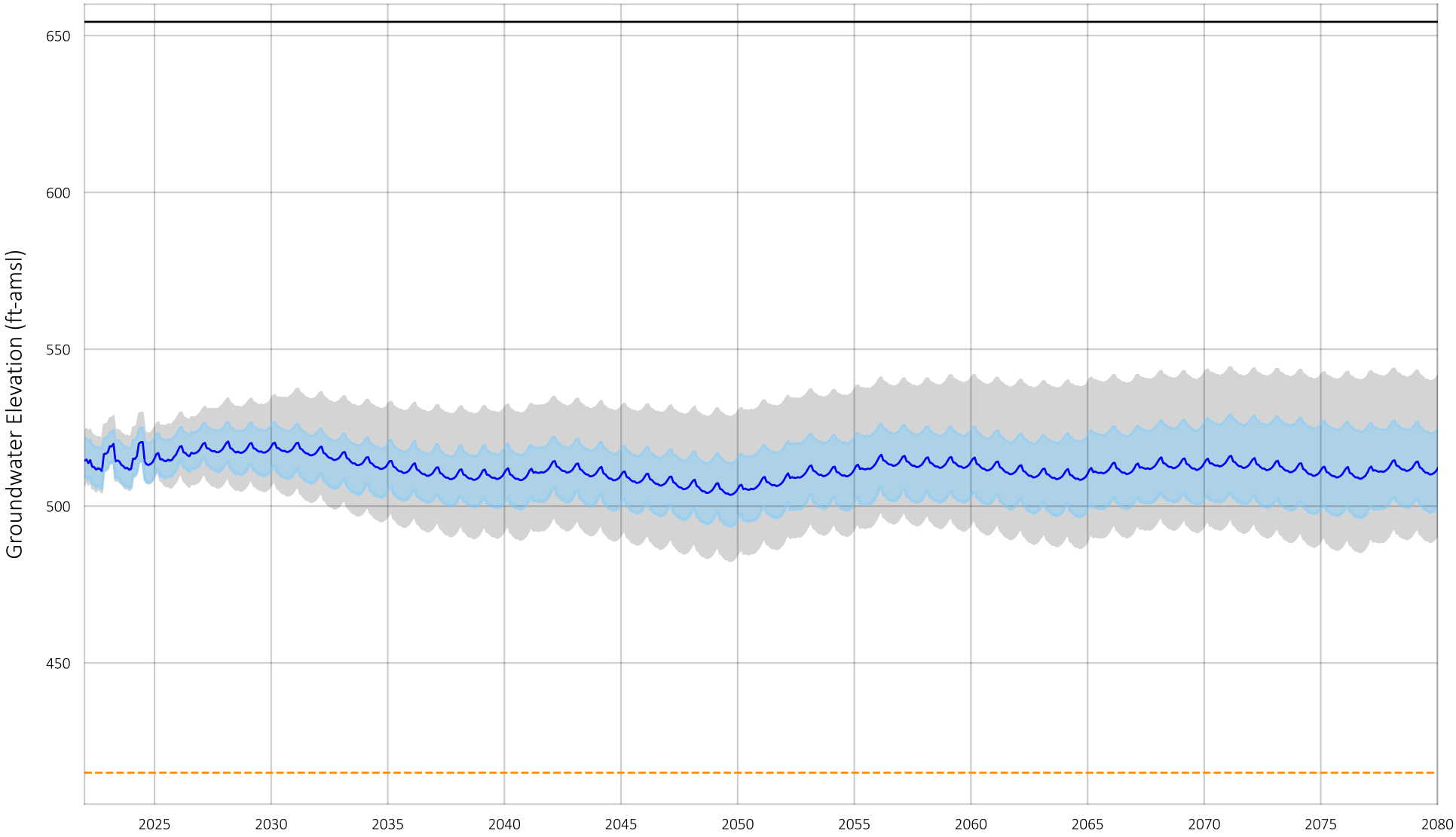
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

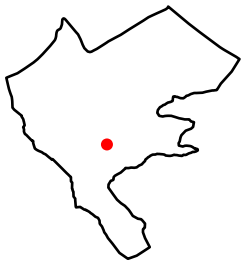
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: II-10
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 200 - 385

Figure D-29



Well Location



Legend

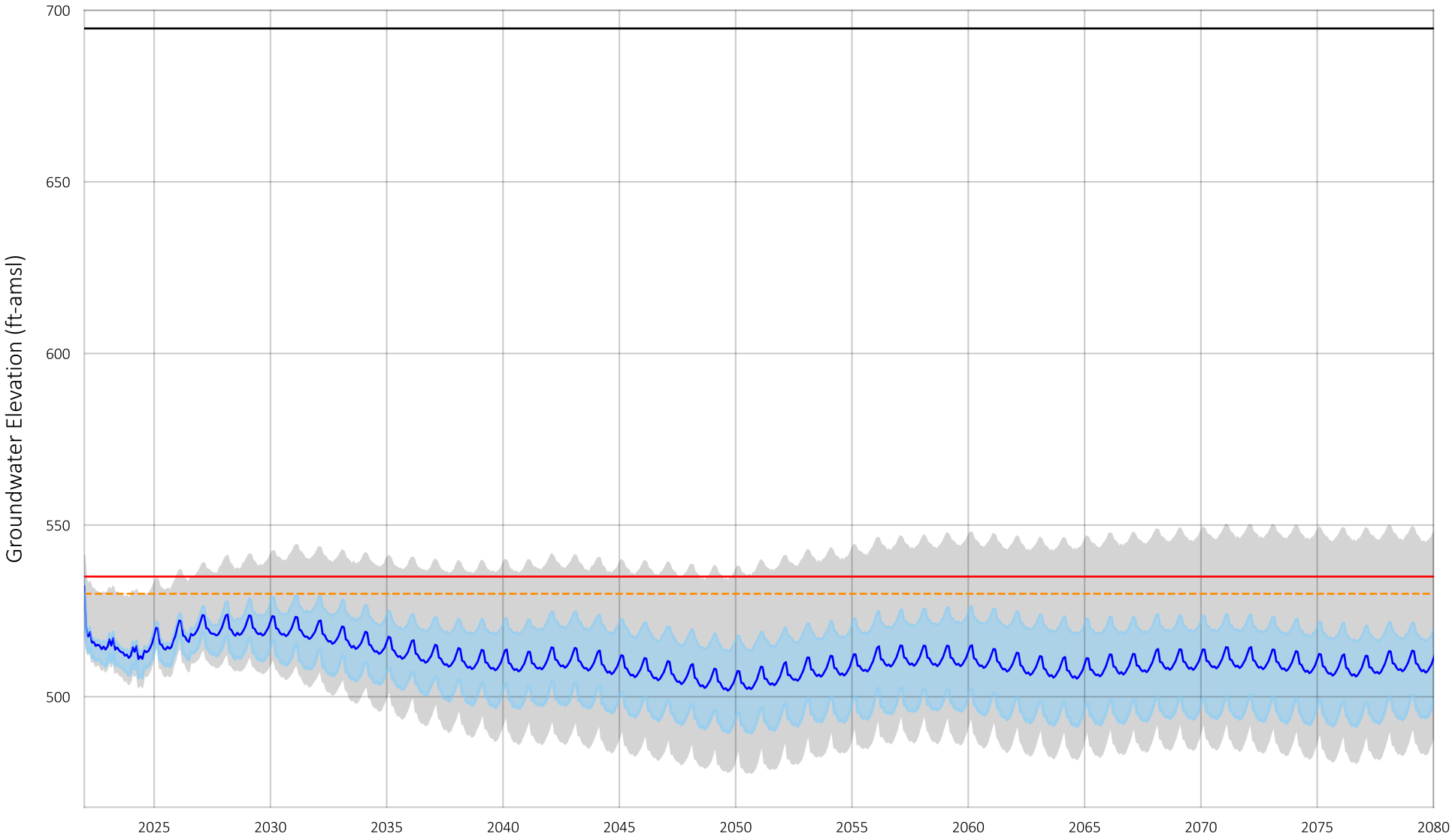
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: II-11
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 210 - 395

Figure D-30



Well Location

Legend

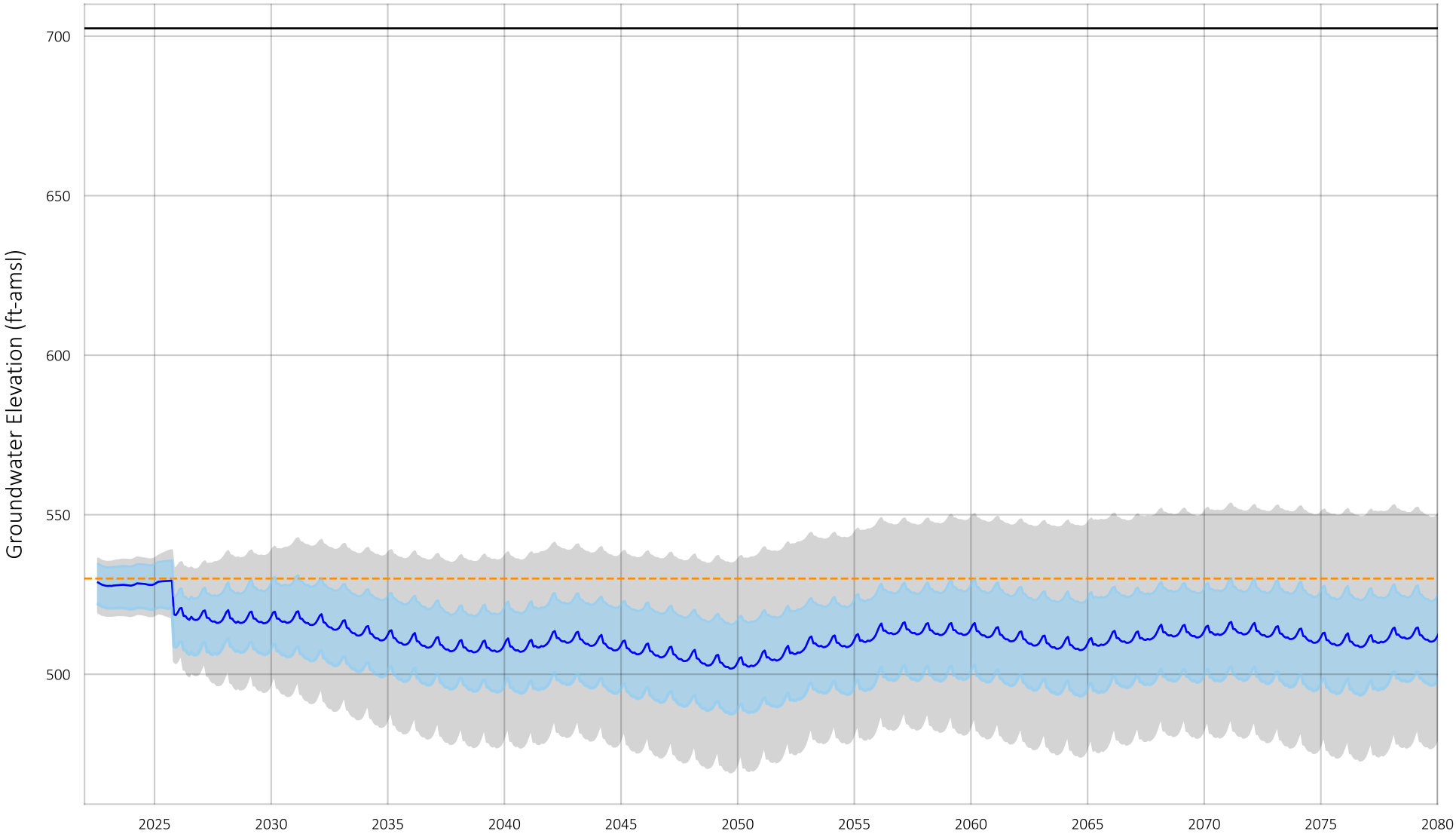
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: II-12
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 230 - 552

Figure D-31



Well Location

Legend

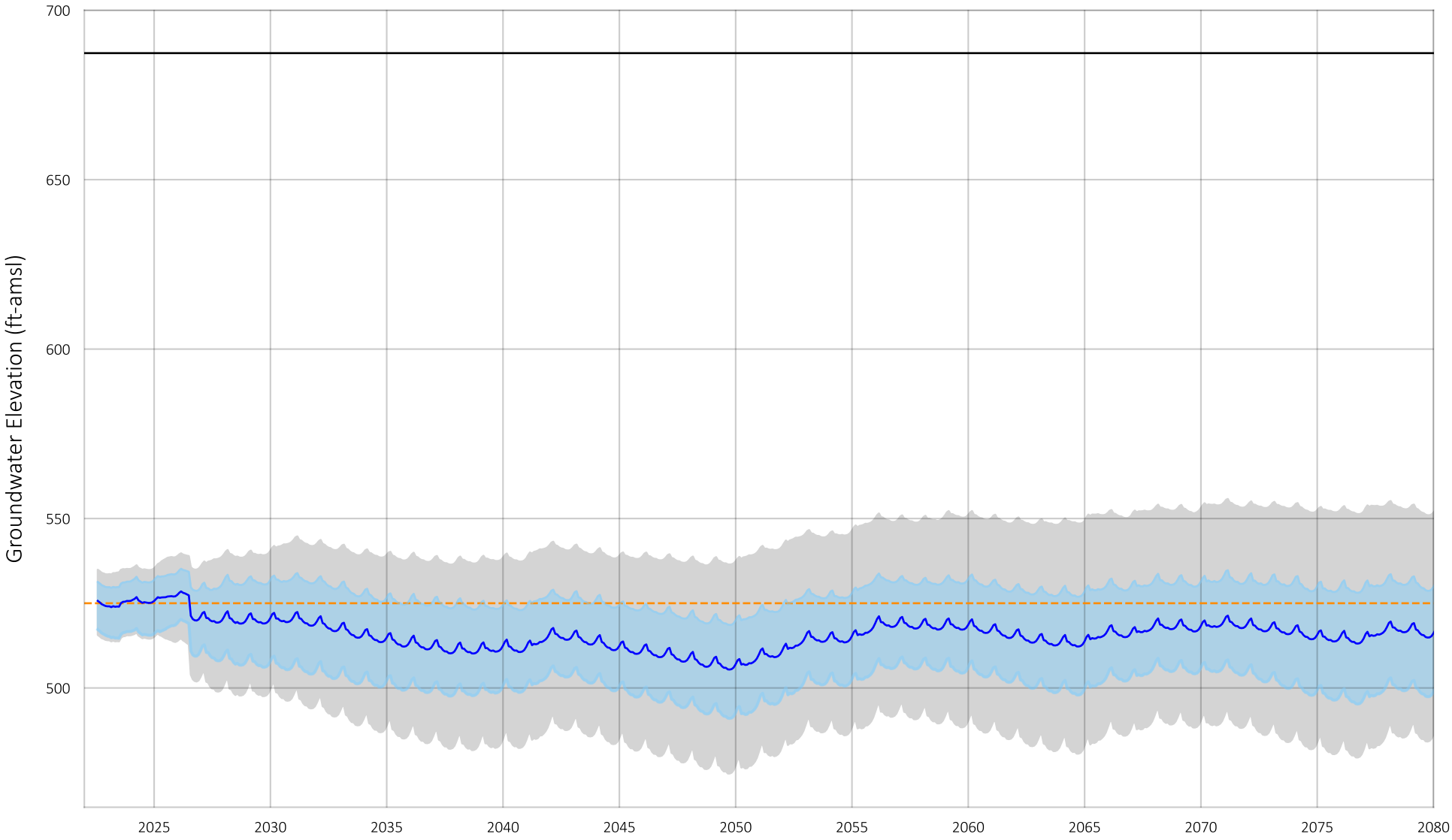
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

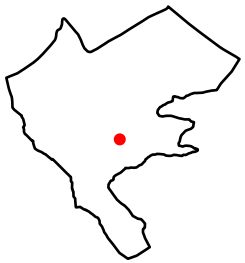
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CDA II-13
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): no data - no data

Figure D-32



Well Location



Legend

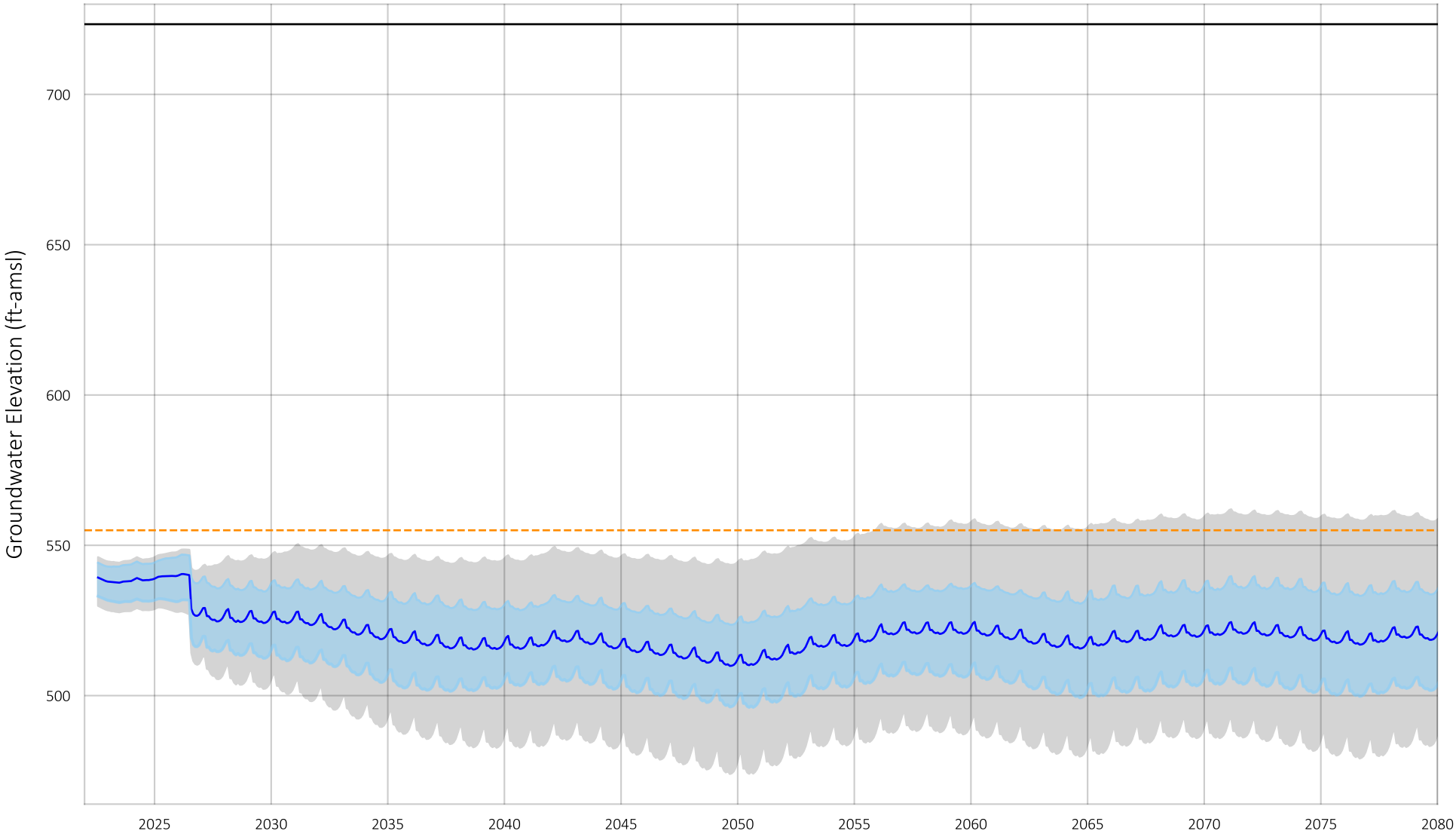
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

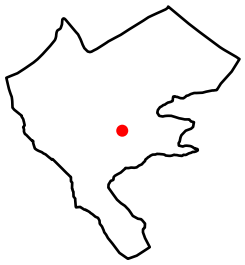
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CDA II-14
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): no data - no data

Figure D-33



Well Location



Legend

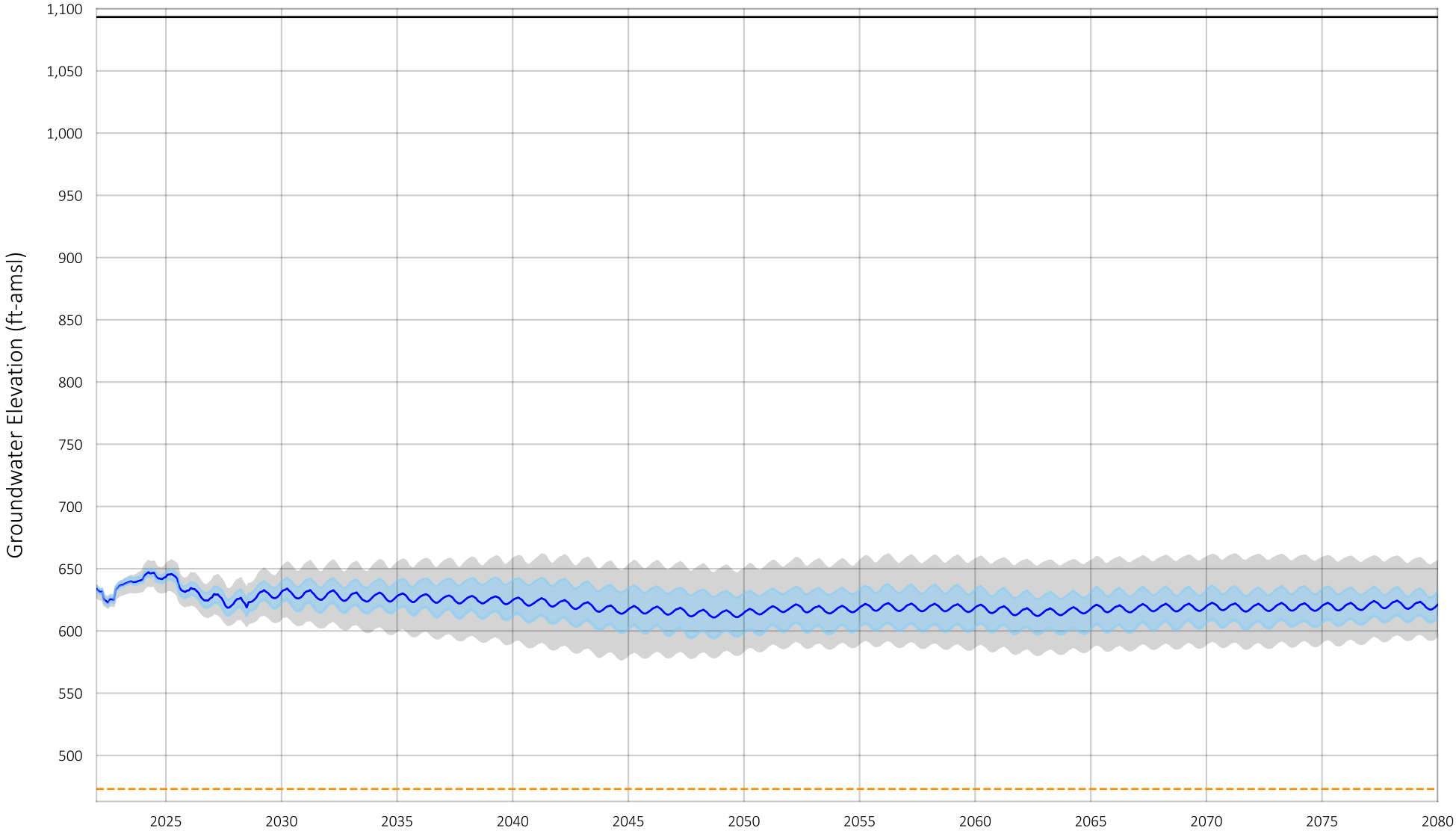
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

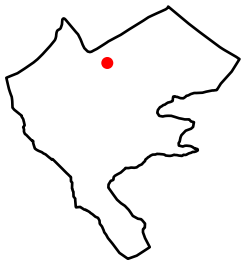
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CDA II-15
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): no data - no data

Figure D-34



Well Location



Legend

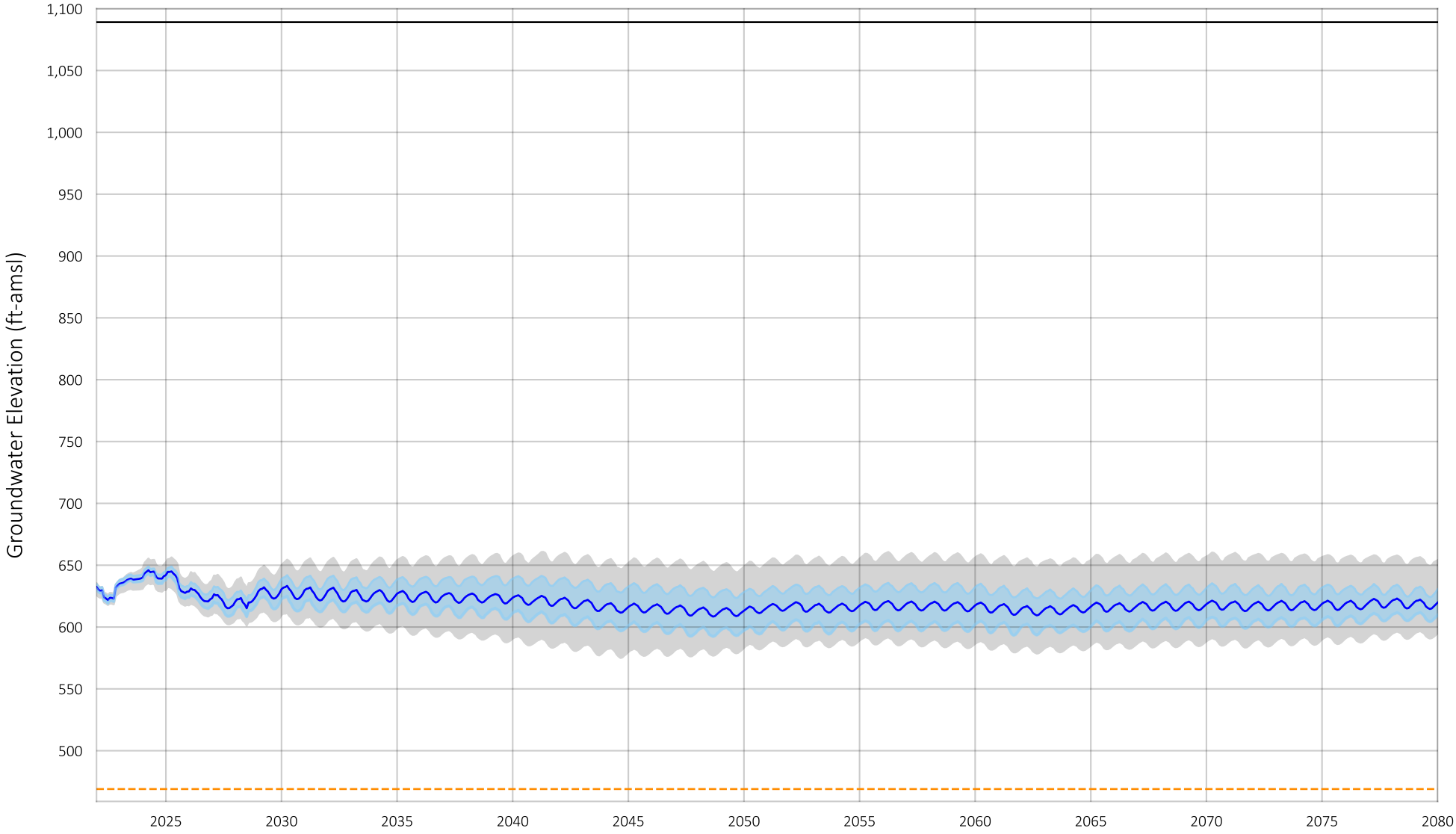
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

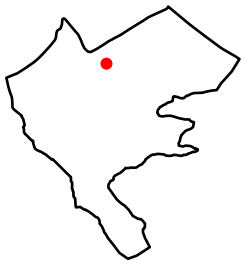
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 4
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 494 - 1032

Figure D-35



Well Location



Legend

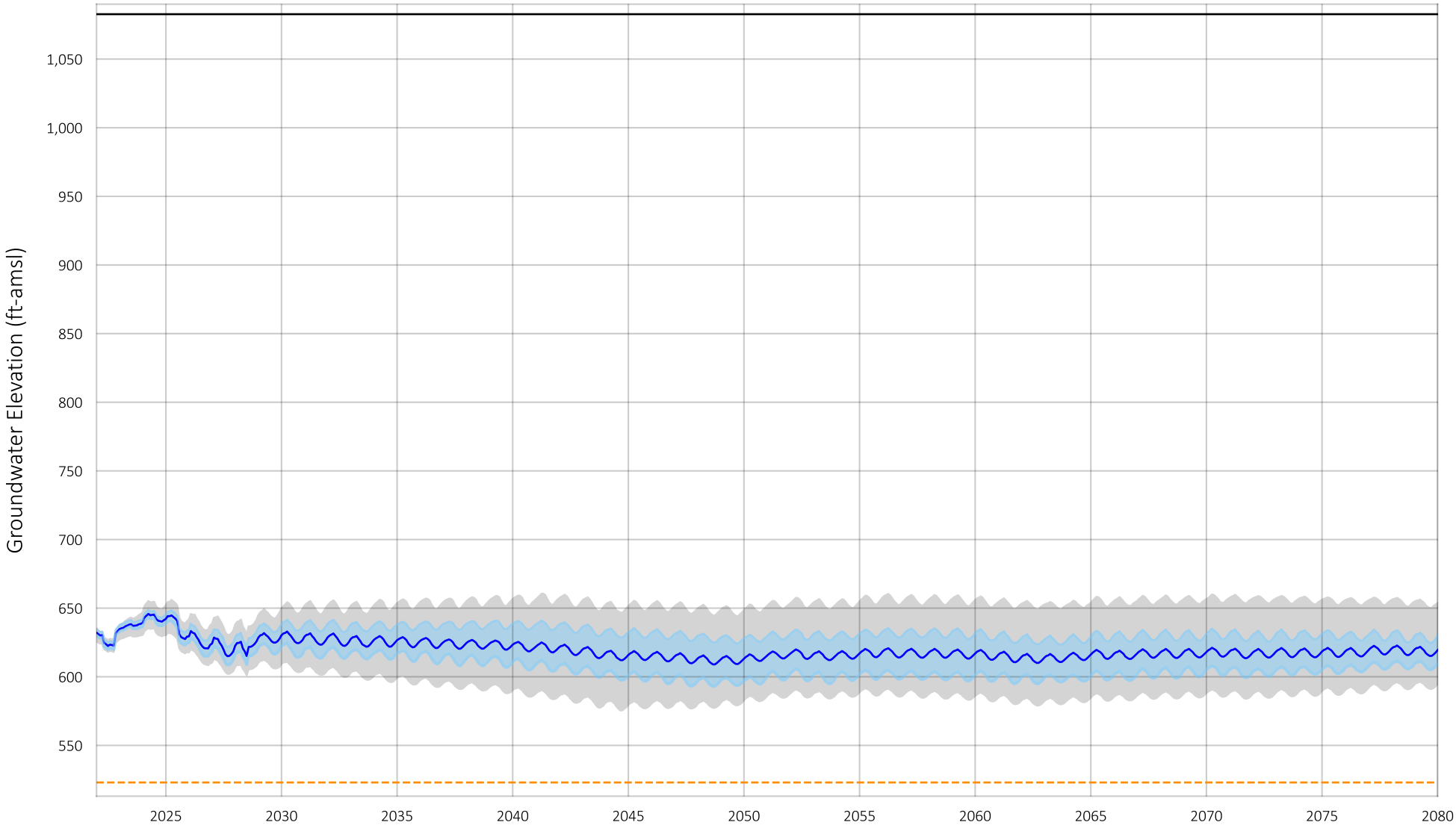
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

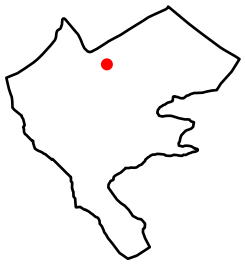
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 30
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 470 - 1240

Figure D-36



Well Location



Legend

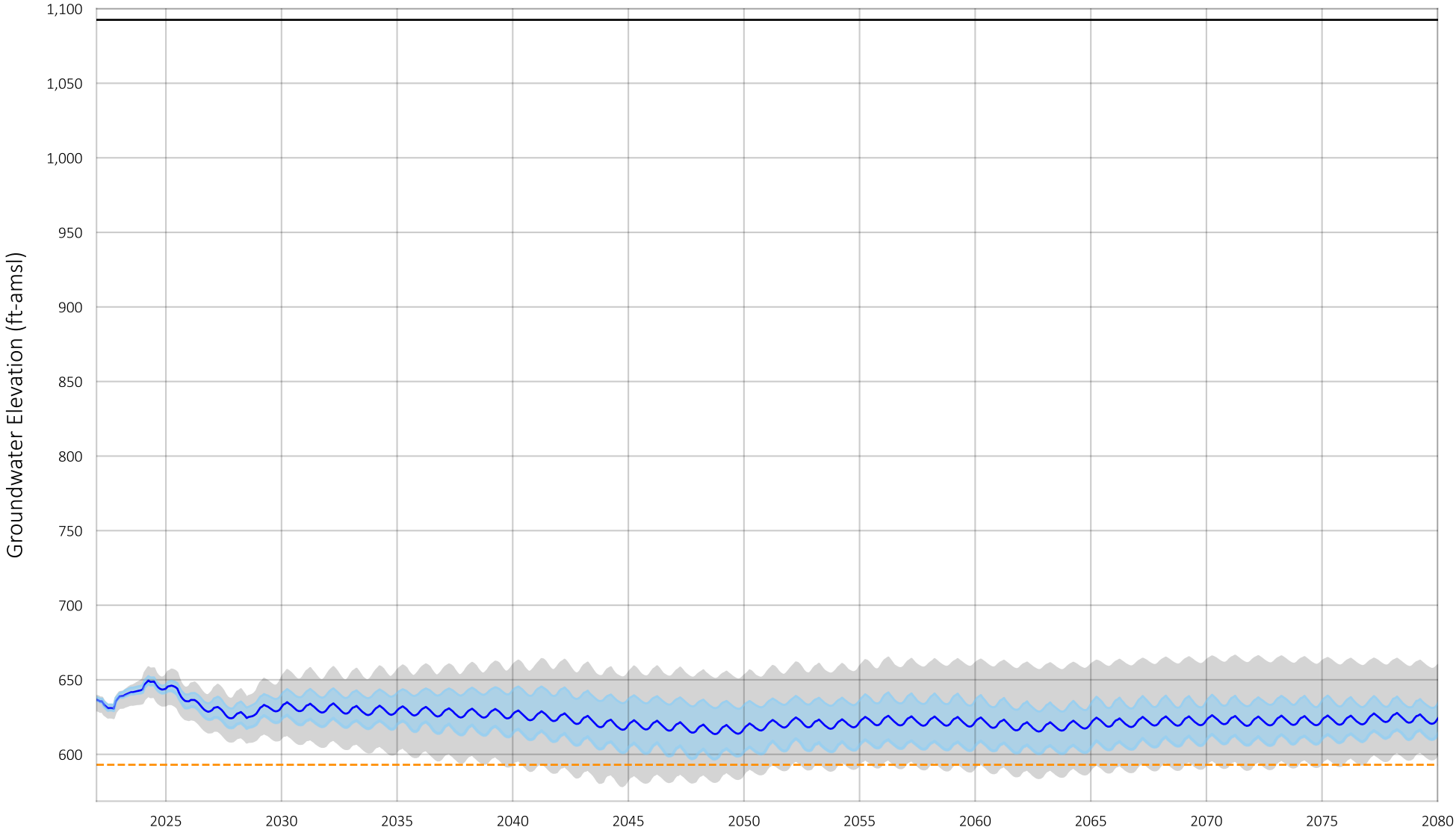
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

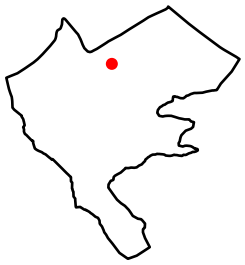
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 1
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 432 - 1184

Figure D-37



Well Location



Legend

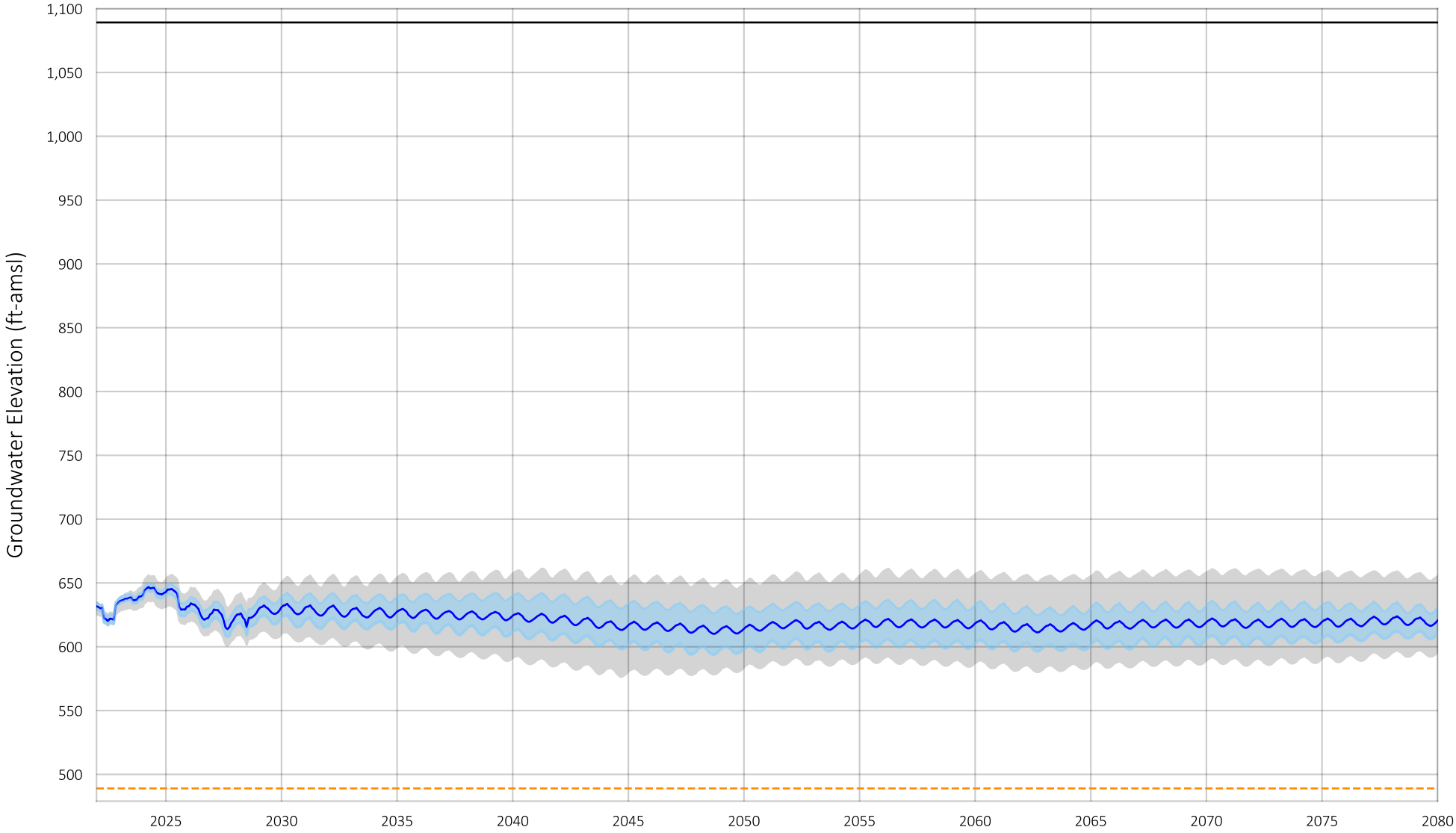
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

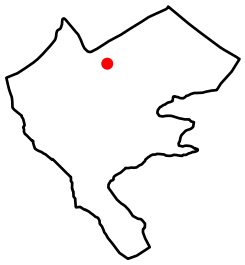
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 5
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 538 - 1238

Figure D-38



Well Location



Legend

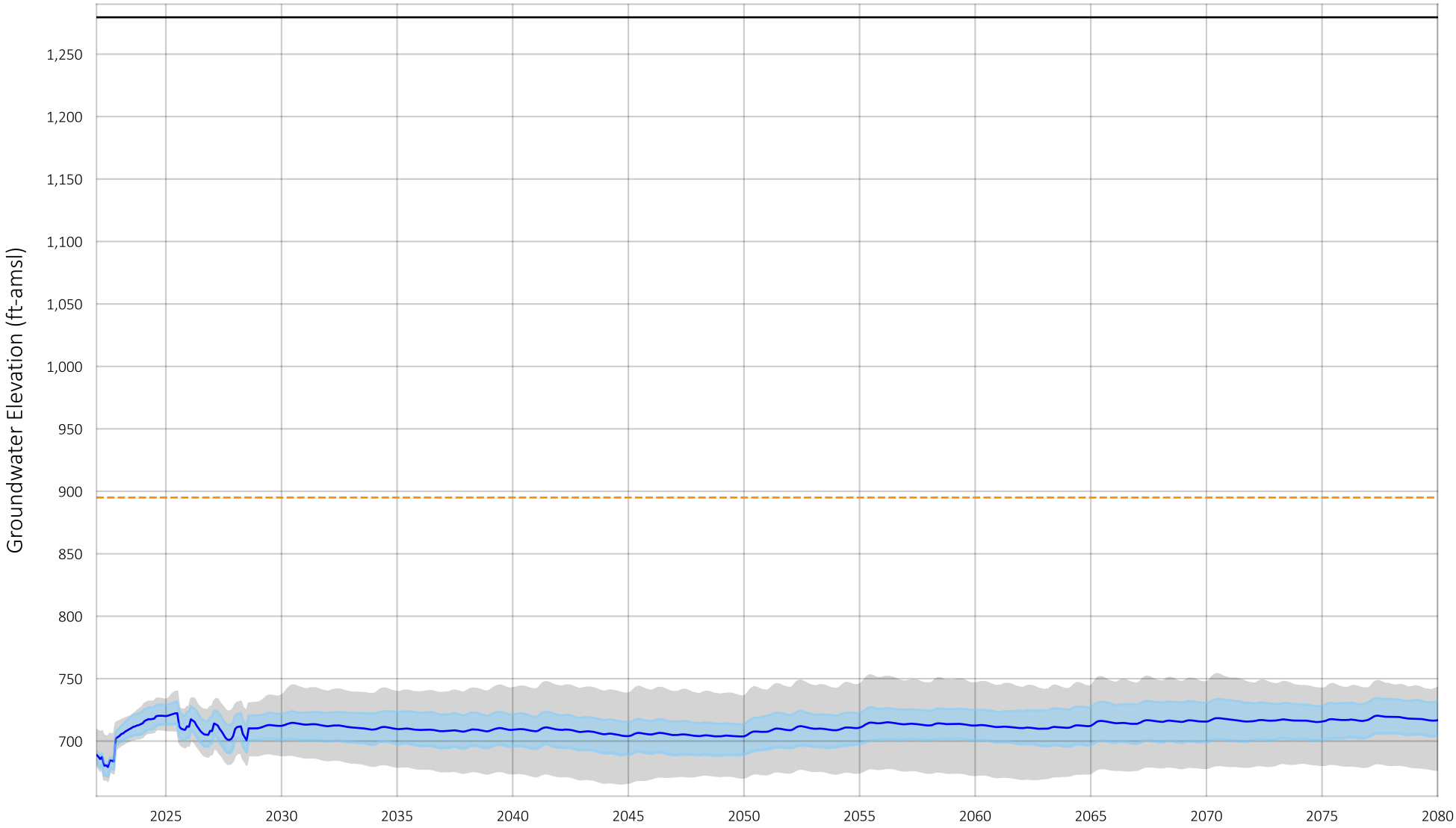
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

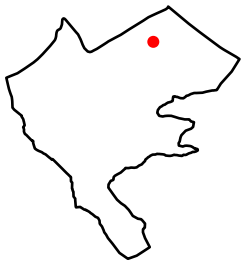
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 38
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 610 - 1180

Figure D-39



Well Location



Legend

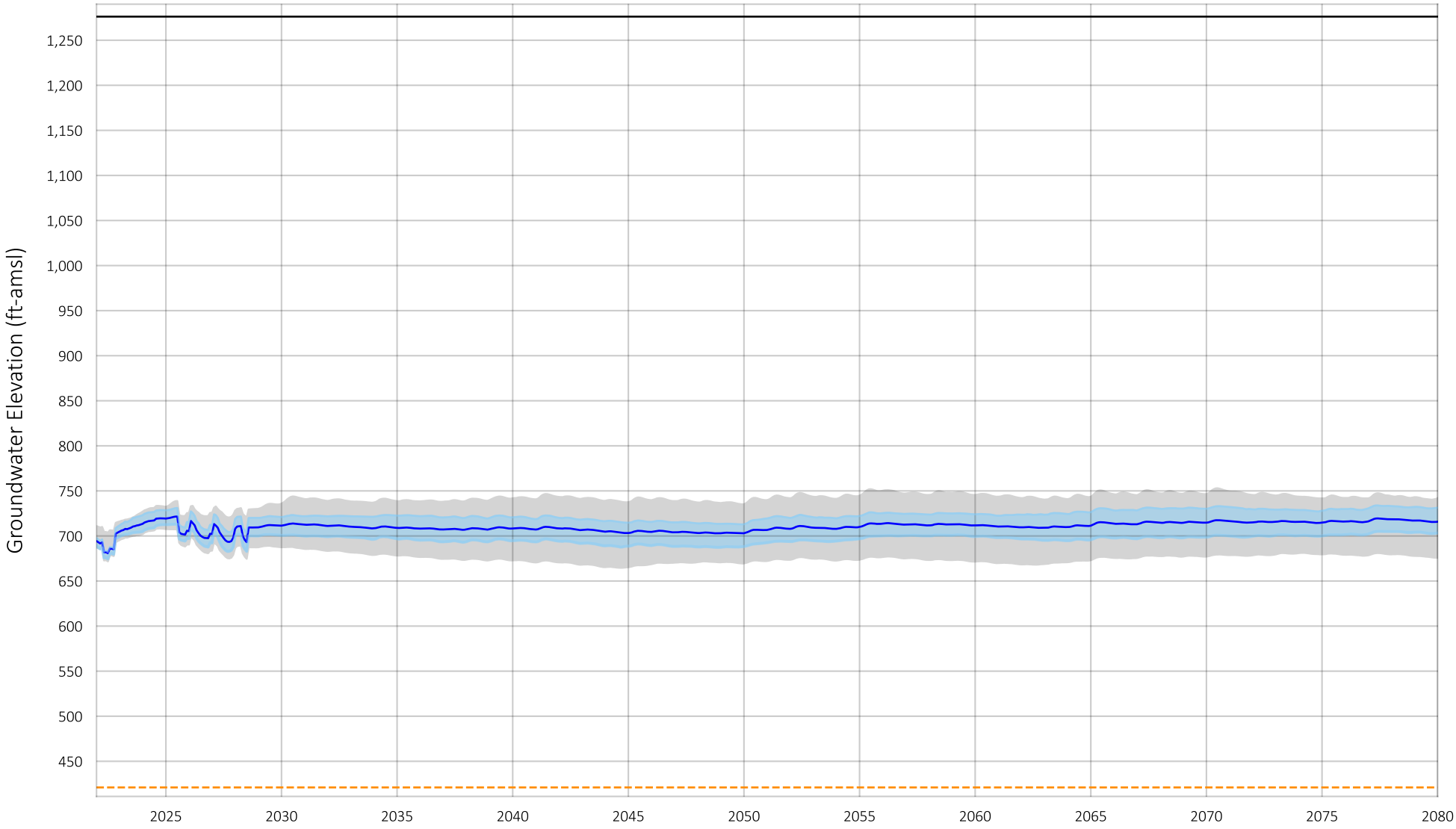
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

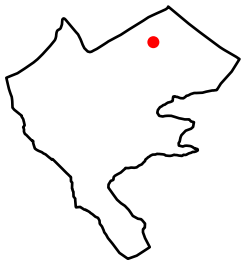
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 39
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 750 - 1130

Figure D-40



Well Location



Legend

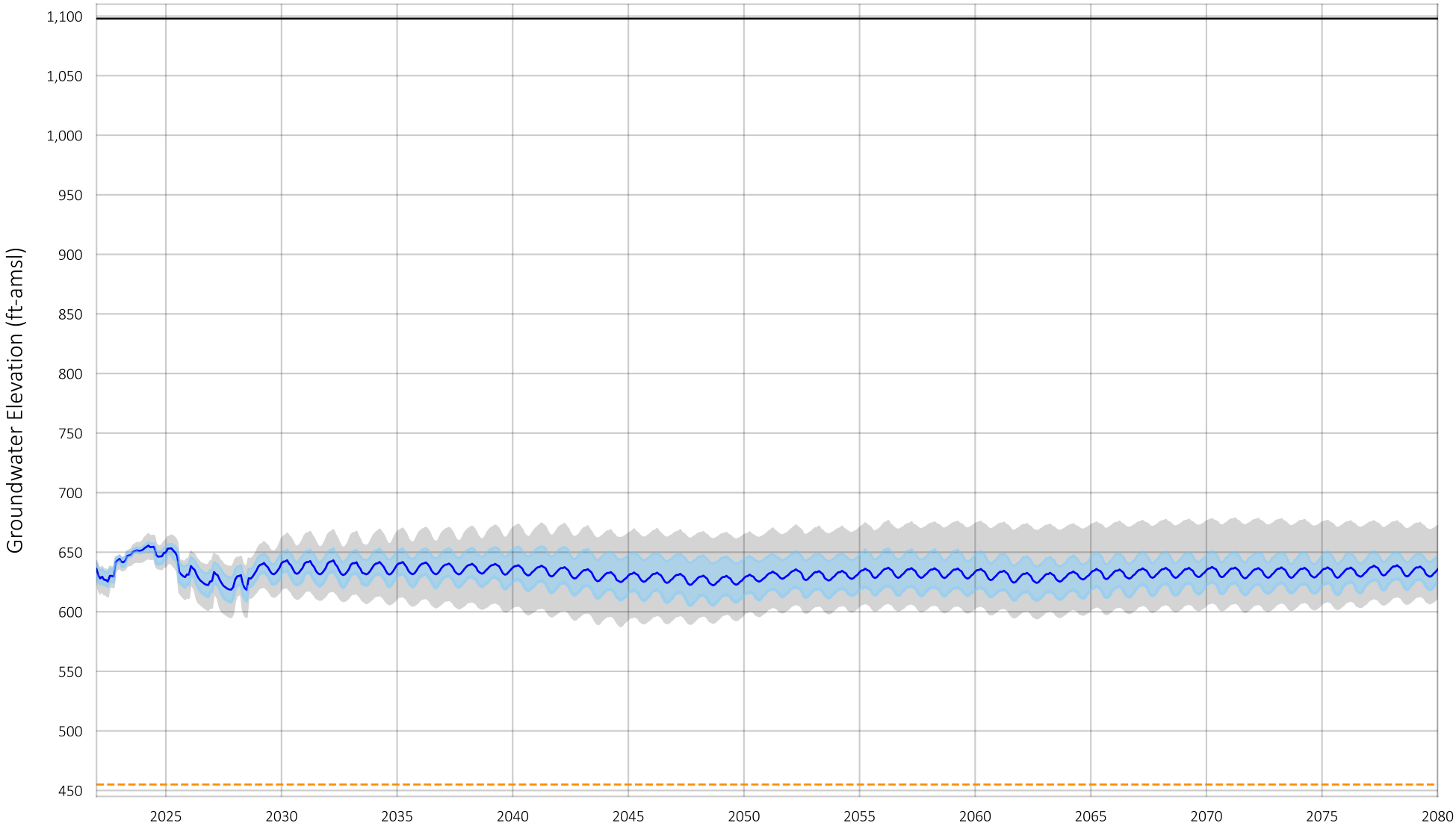
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

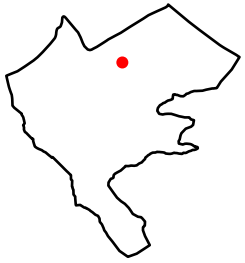
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 40
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 750 - 1070

Figure D-41



Well Location



Legend

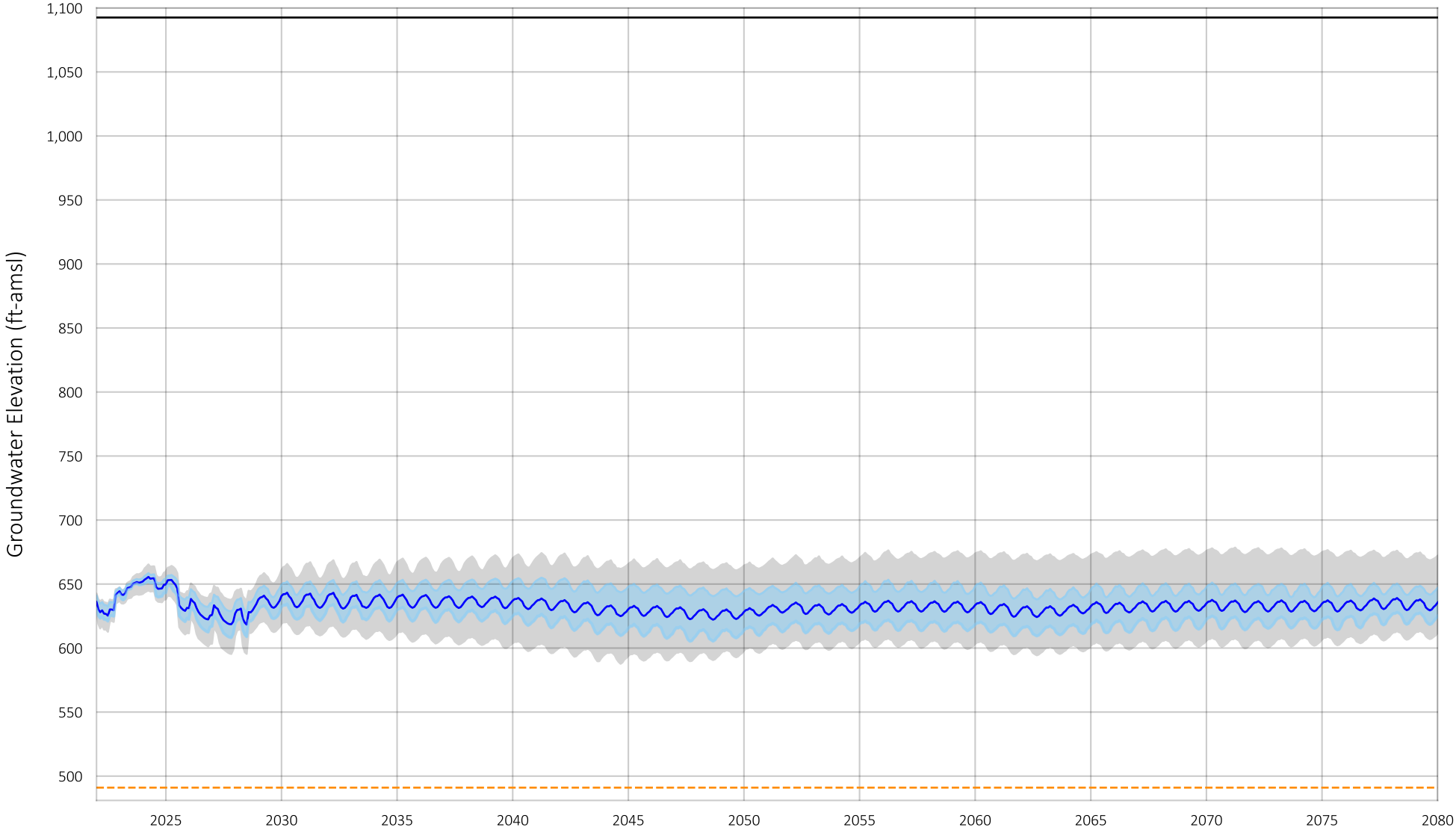
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

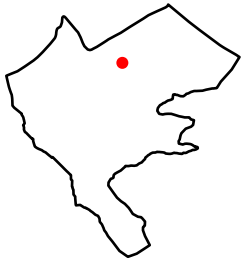
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 41
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 647 - 987

Figure D-42



Well Location



Legend

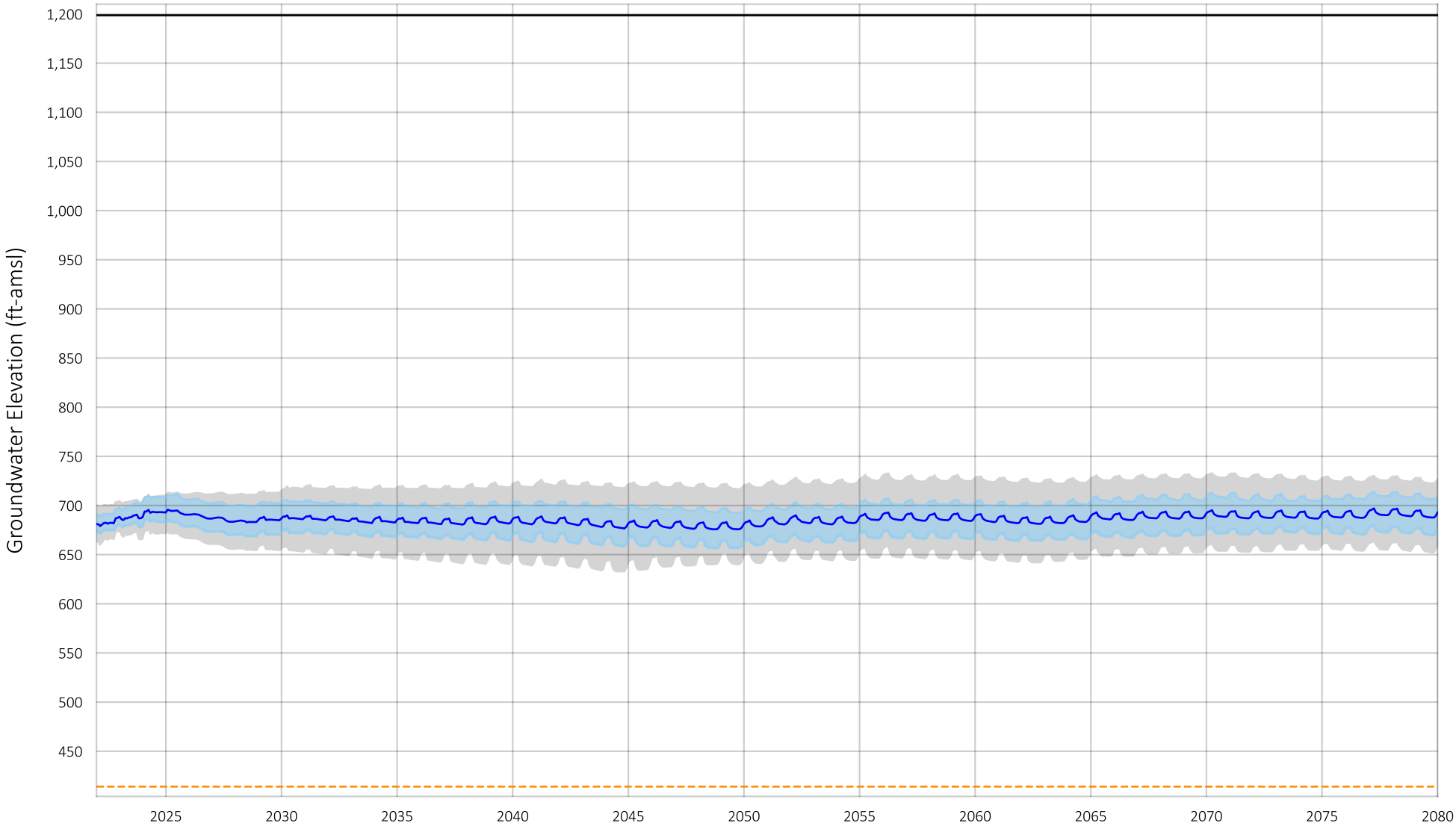
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

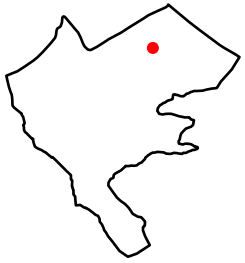
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 42
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 650 - 990

Figure D-43



Well Location



Legend

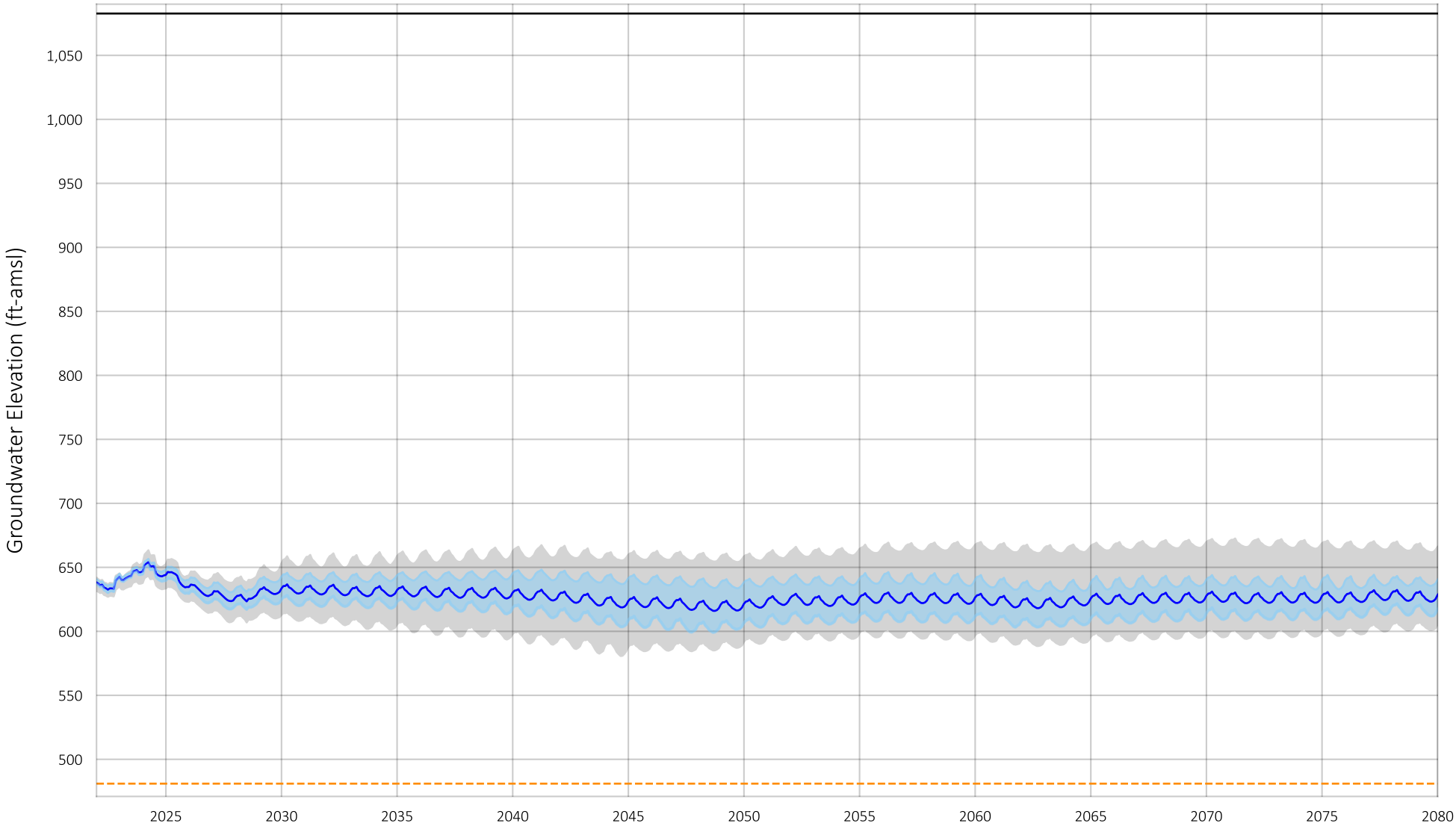
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

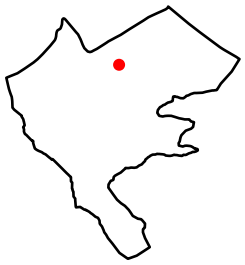
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 43
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 650 - 800

Figure D-44



Well Location



Legend

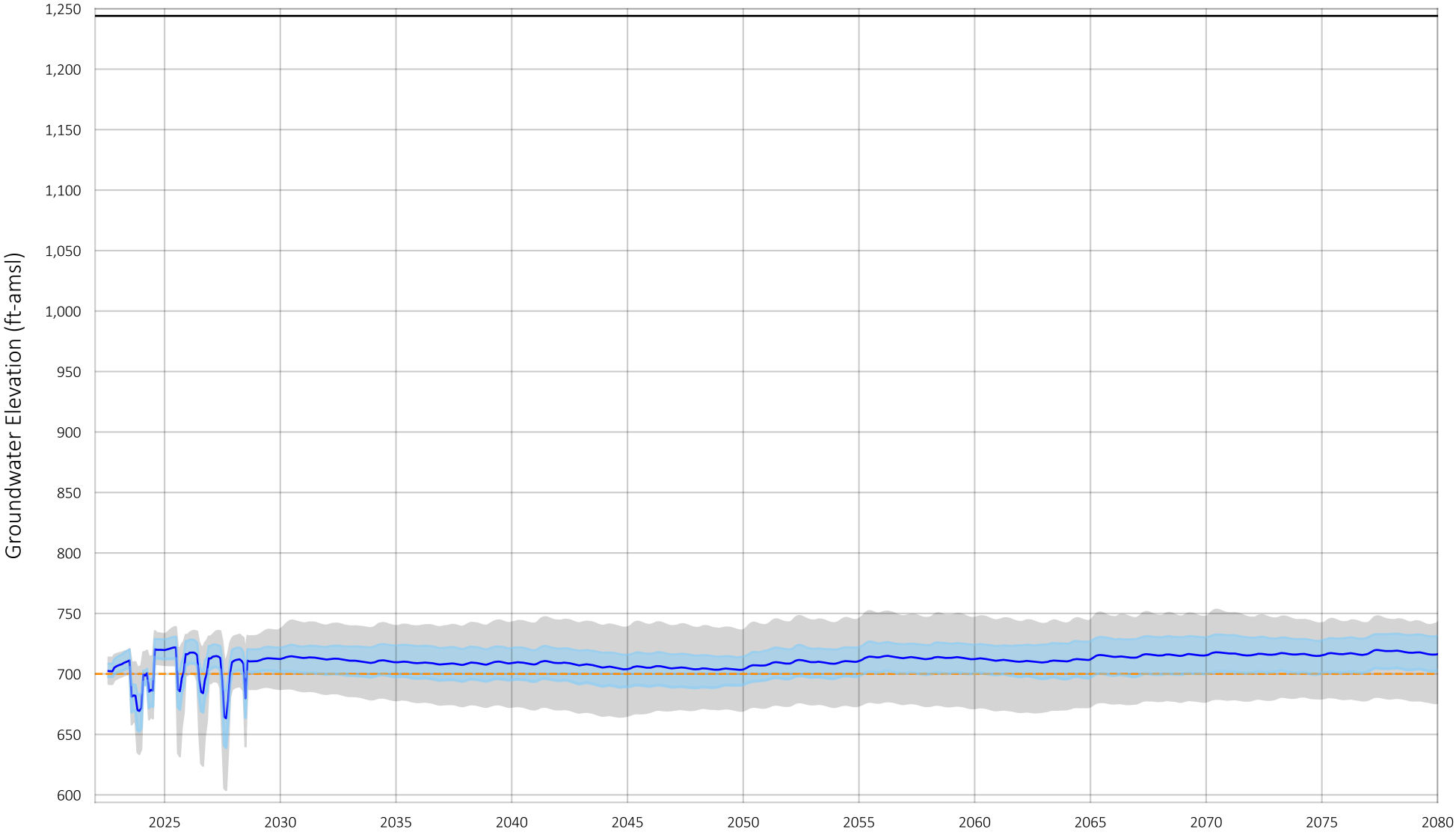
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

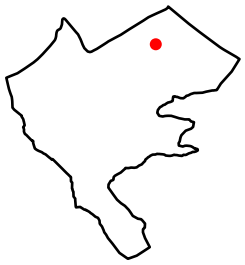
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 46
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 650 - 990

Figure D-45



Well Location



Legend

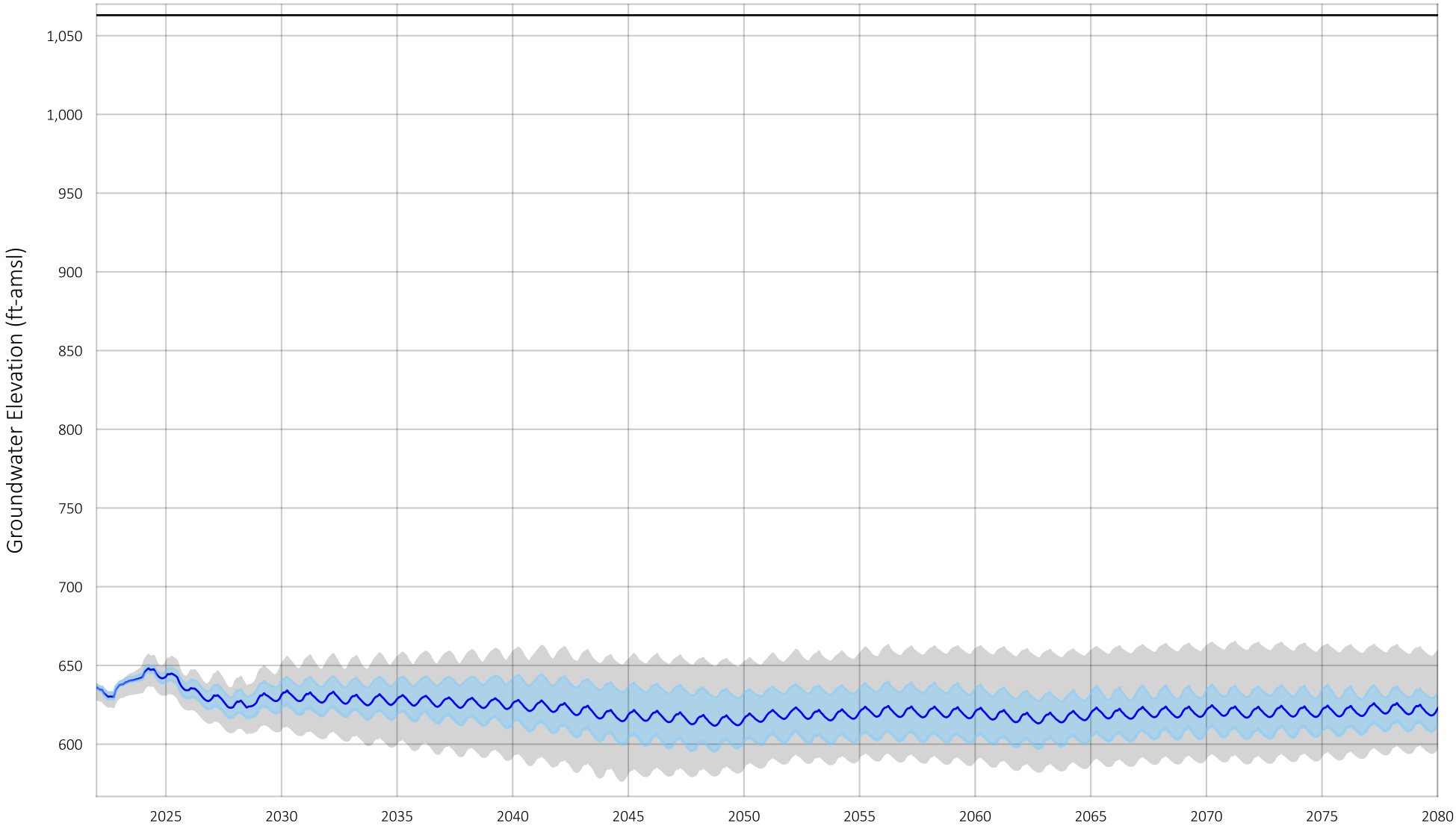
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

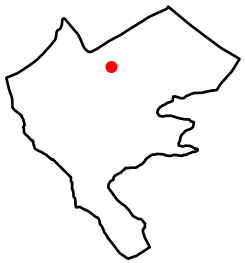
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 48
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): no data - no data

Figure D-46



Well Location



Legend

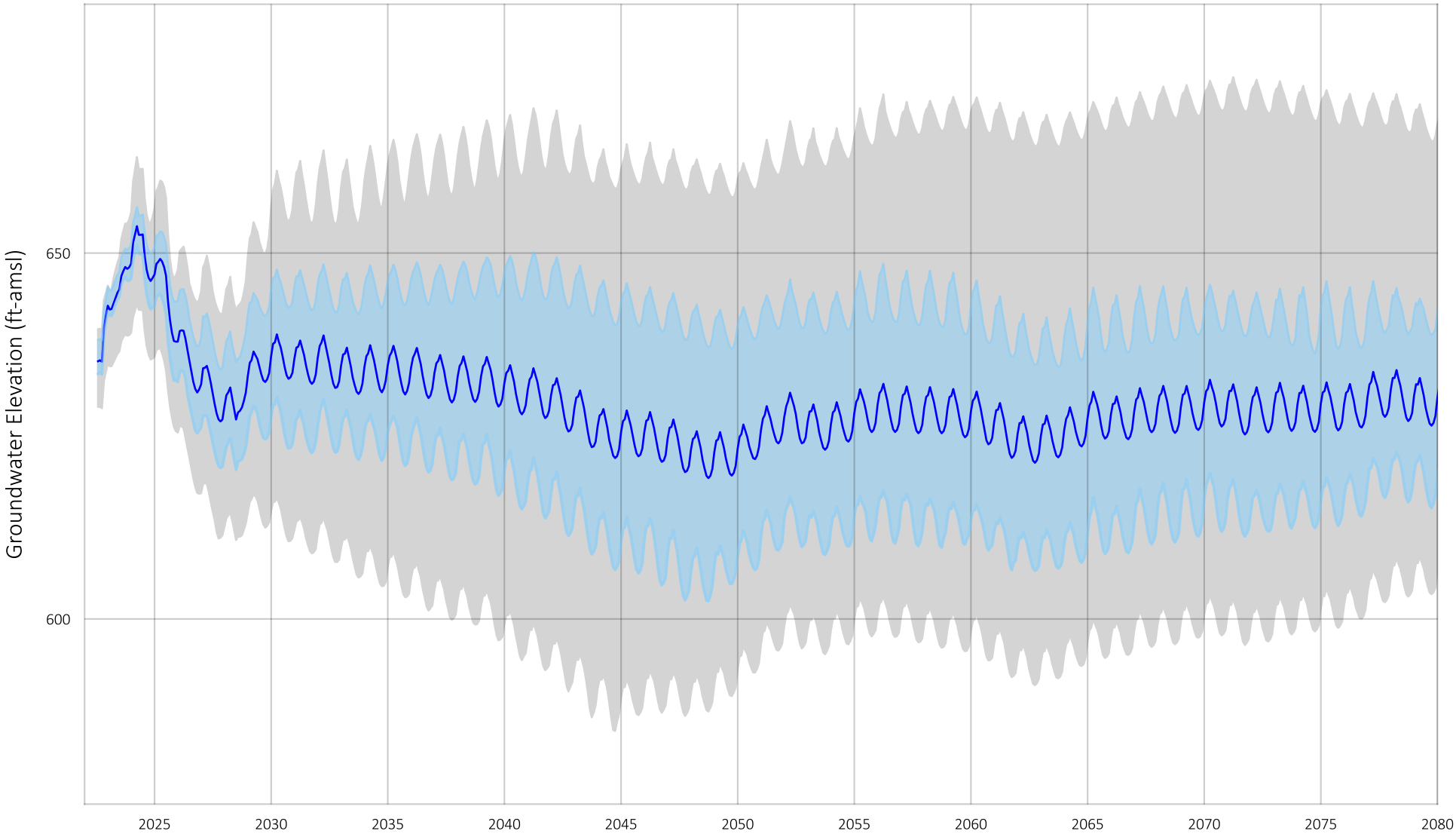
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

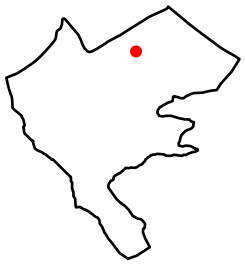
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 3
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 341 - 810

Figure D-47



Well Location



Legend

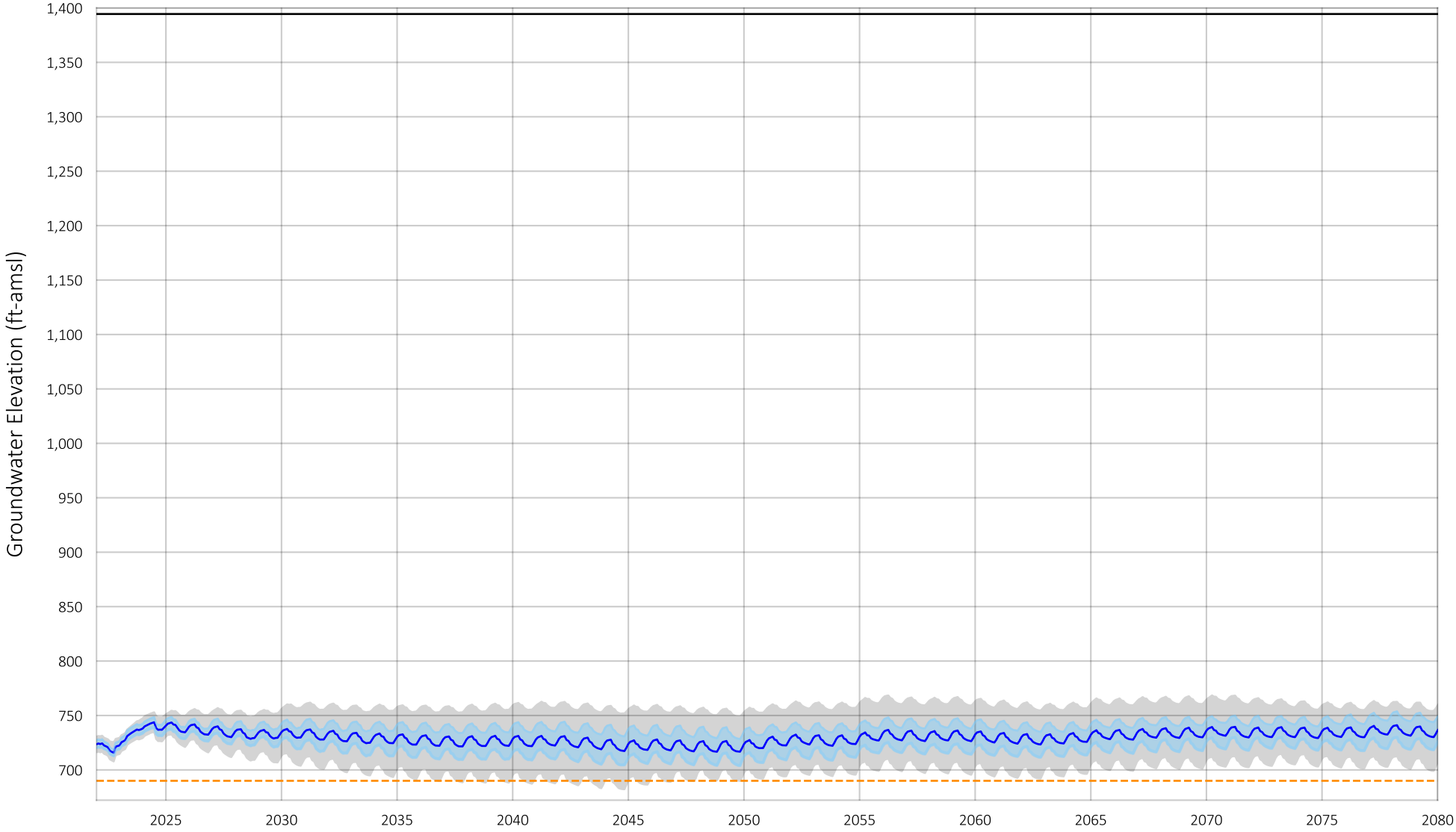
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

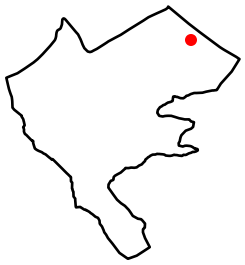
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ASR2-CB-50
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): no data - no data

Figure D-48



Well Location



Legend

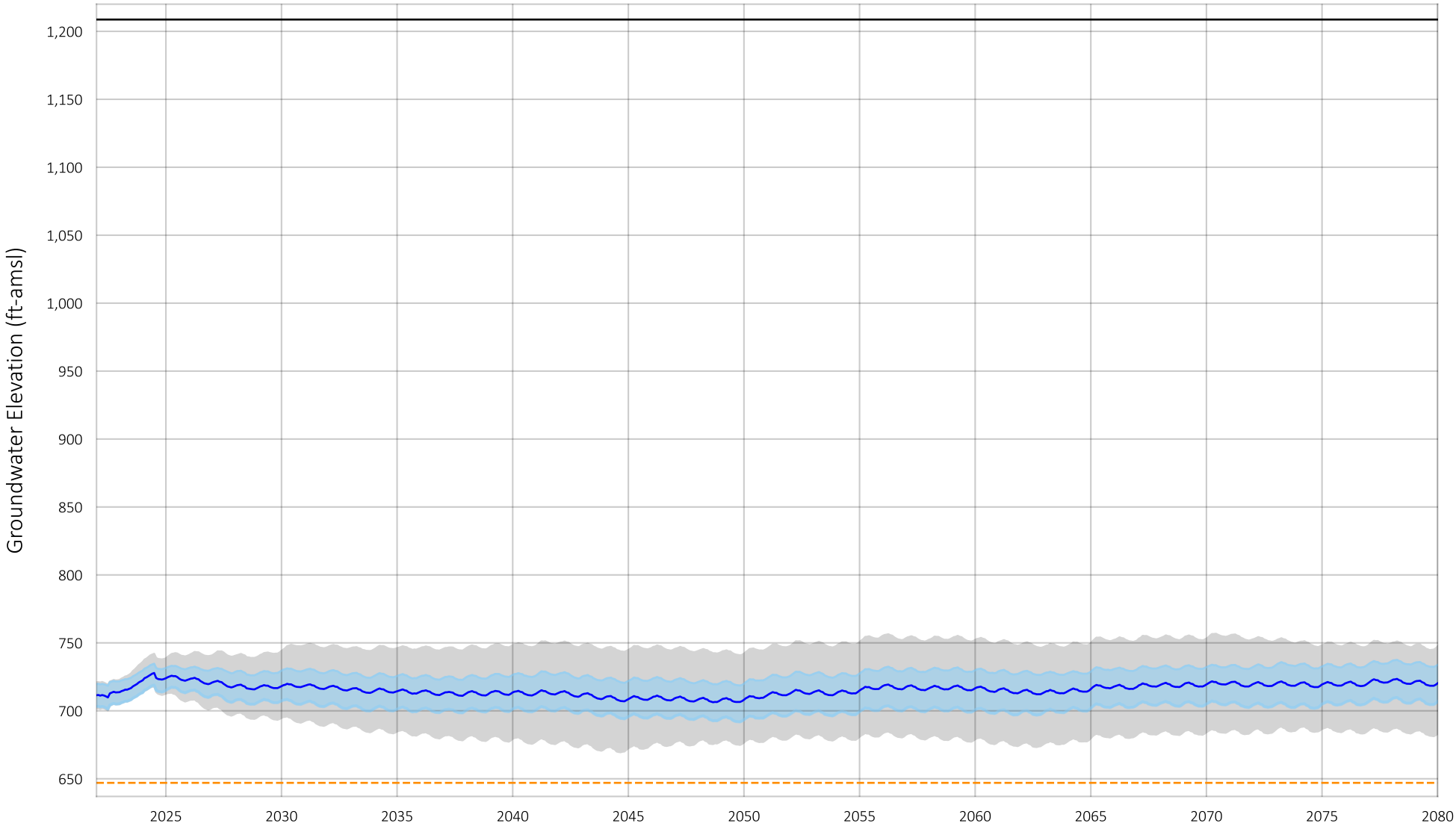
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

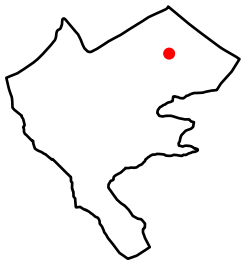
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F31A
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 700 - 1030

Figure D-49



Well Location



Legend

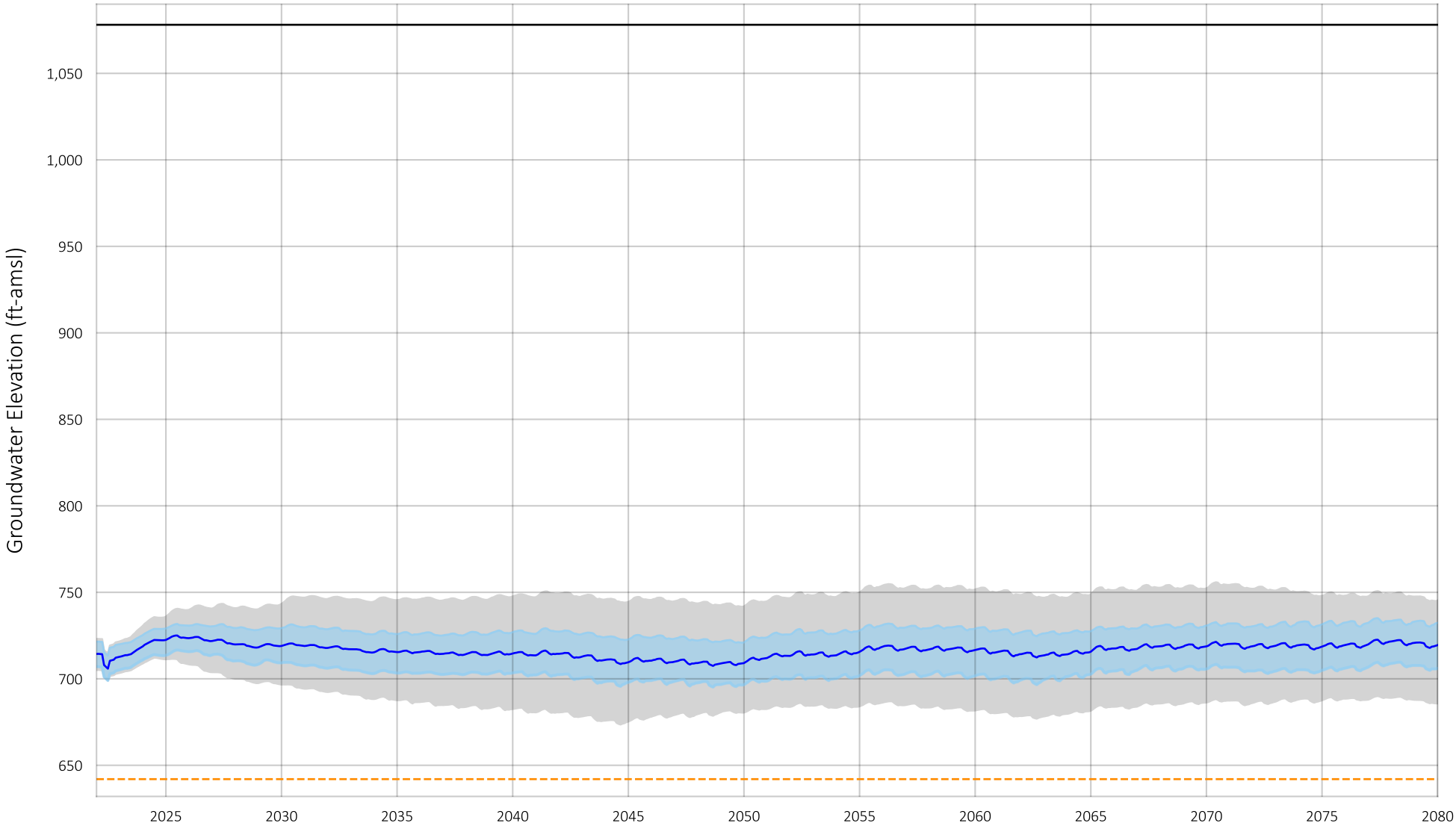
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

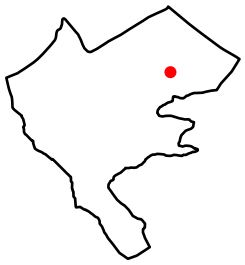
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F7A
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 590 - 1000

Figure D-50



Well Location



Legend

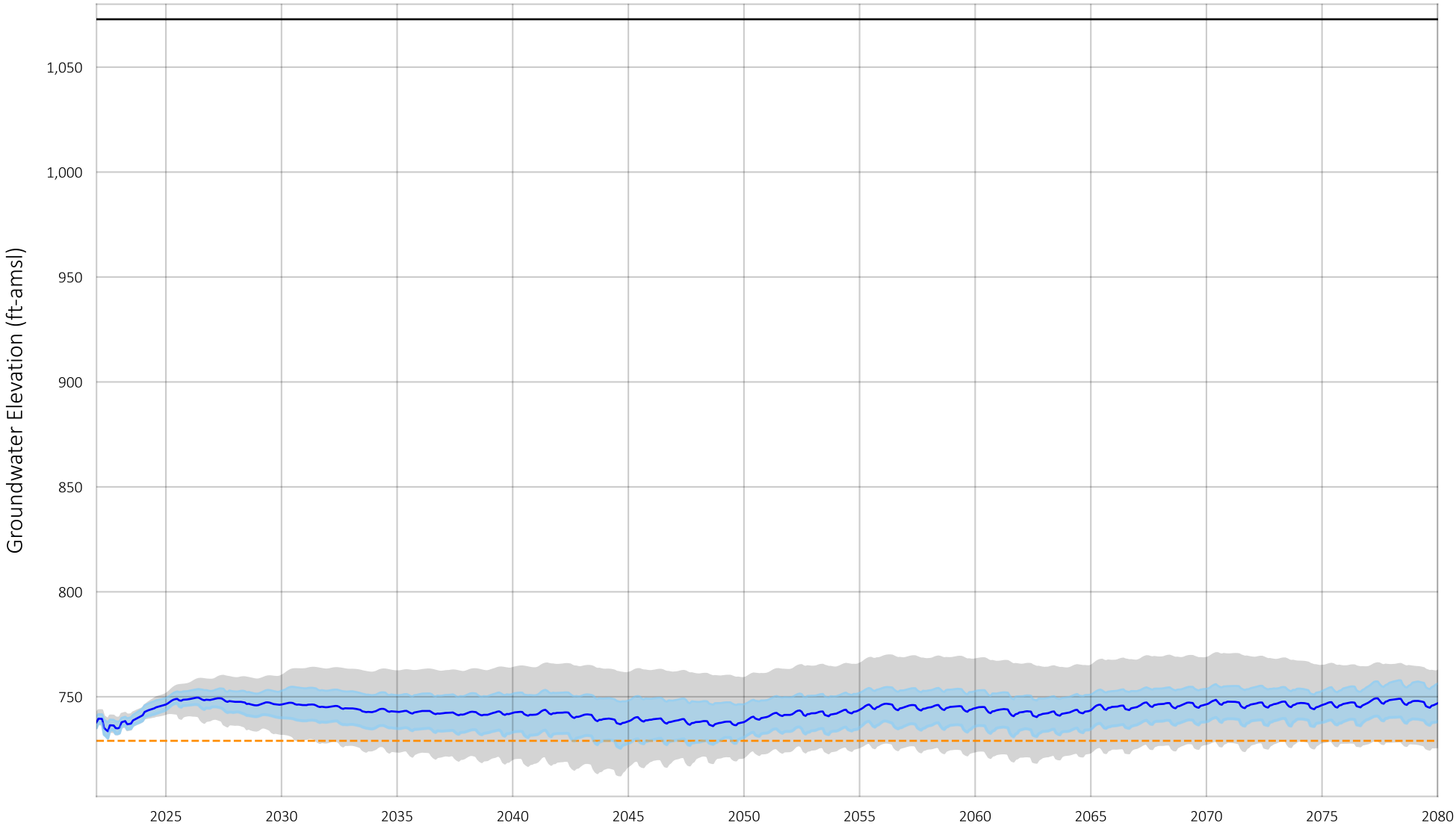
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

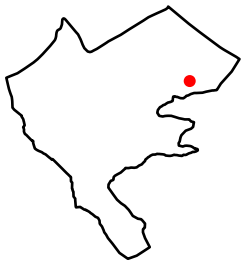
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F17B
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 500 - 860

Figure D-51



Well Location



Legend

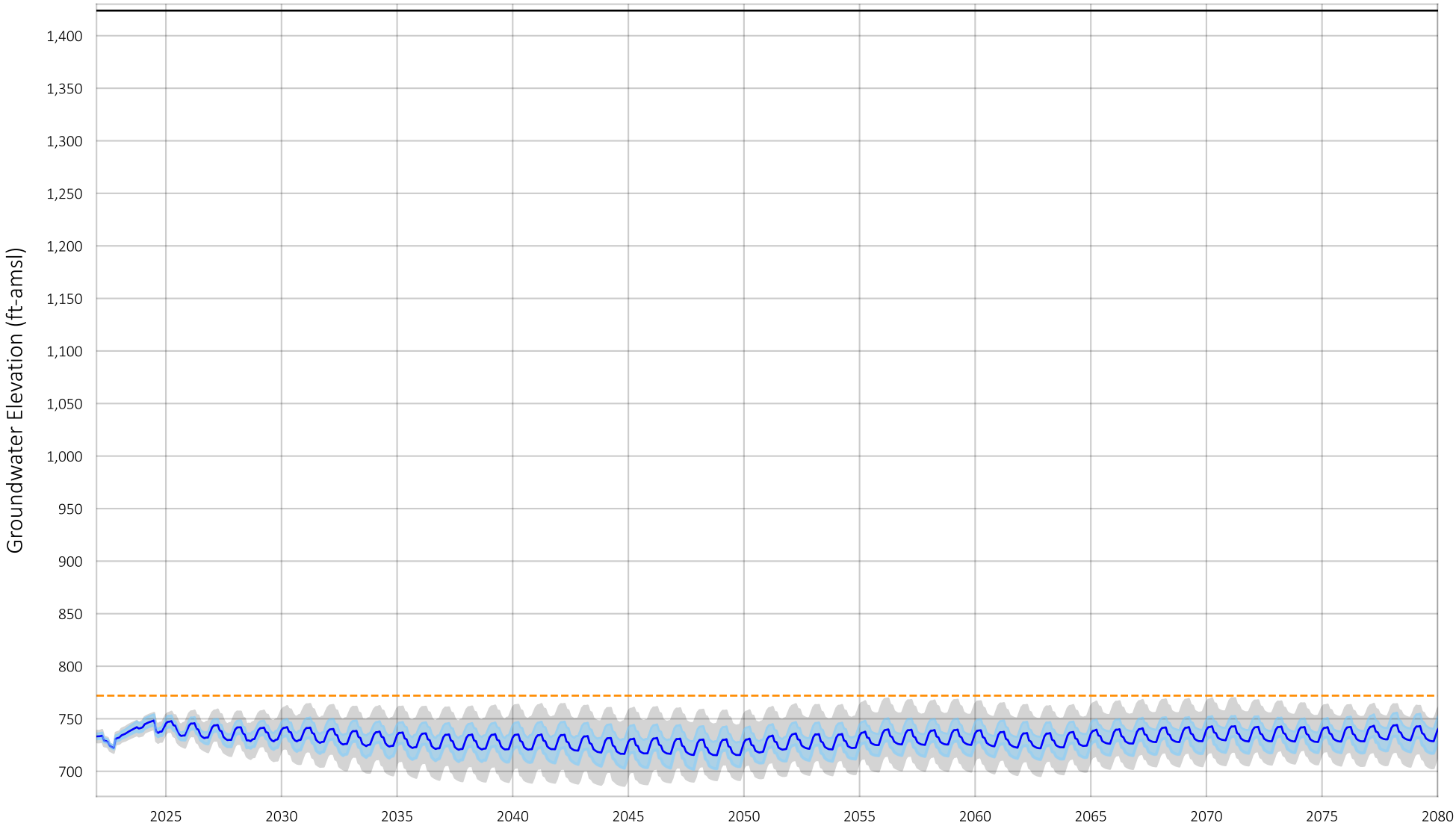
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

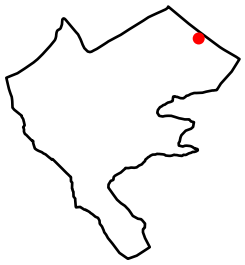
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F23A
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 450 - 740

Figure D-52



Well Location



Legend

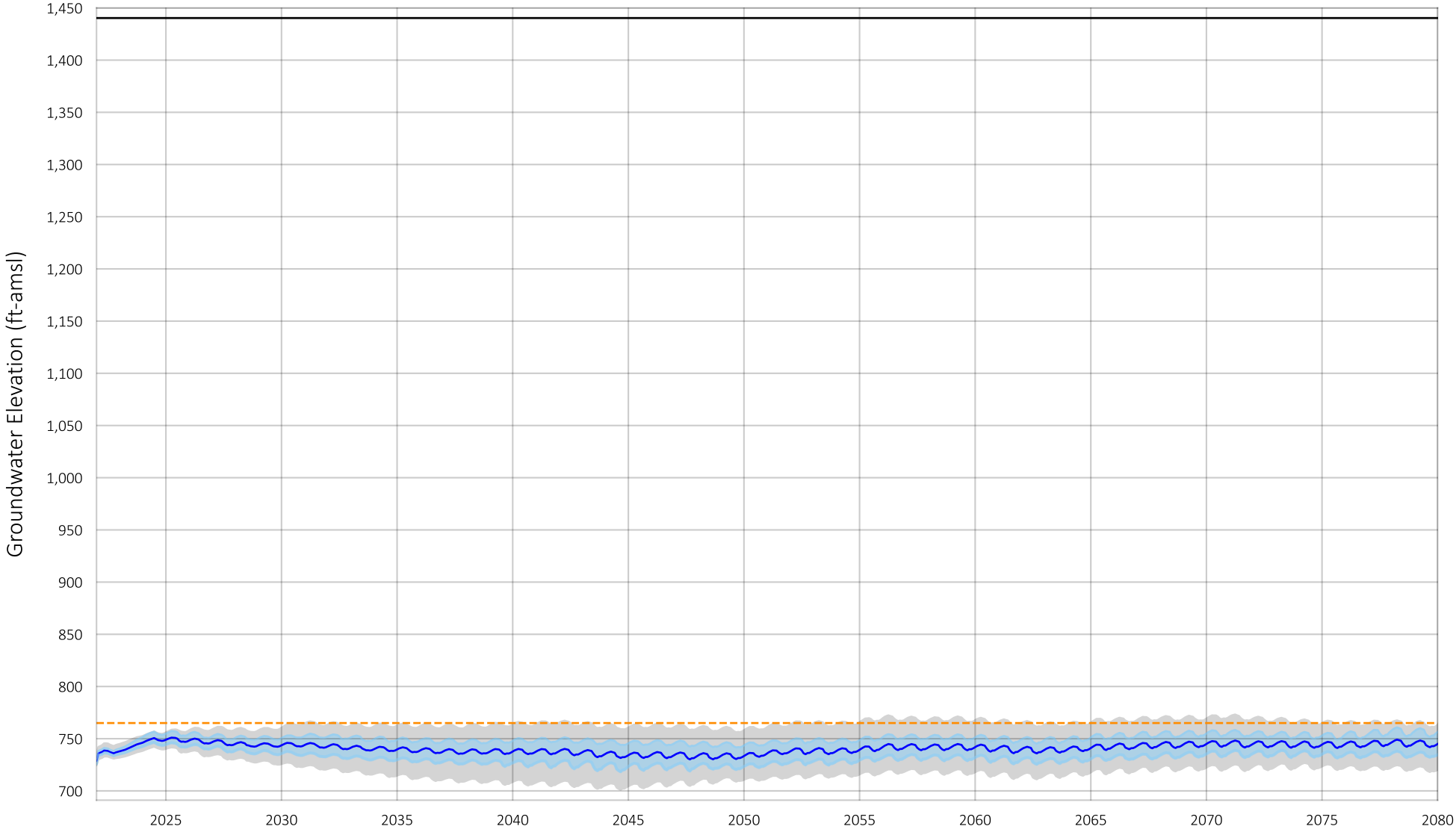
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

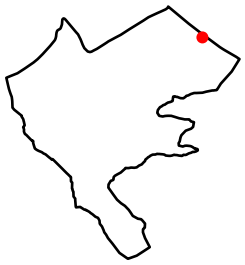
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F24A
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 680 - 1080

Figure D-53



Well Location



Legend

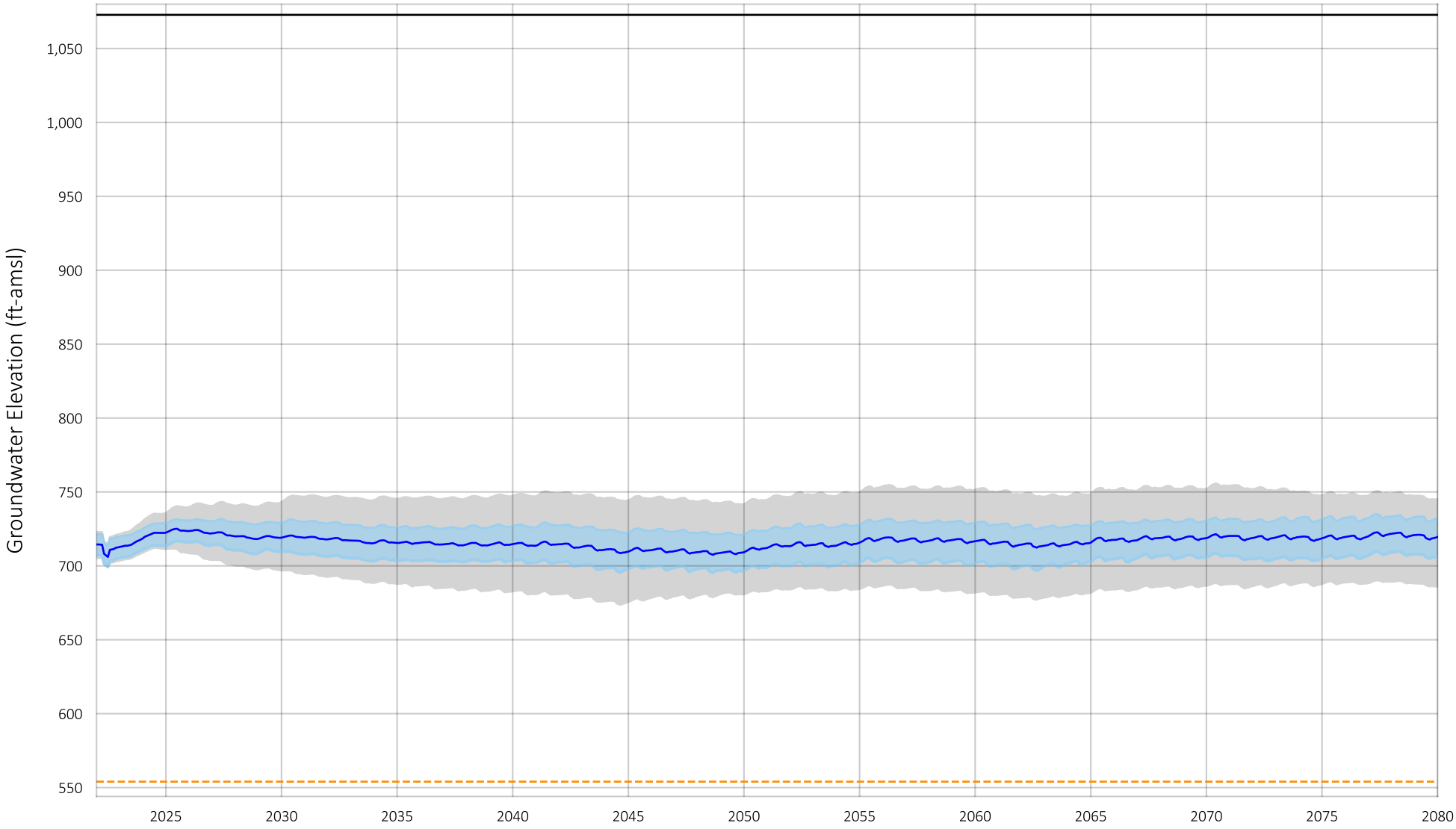
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

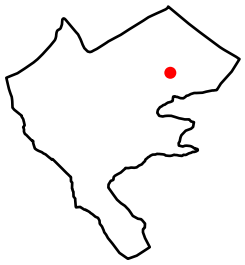
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F26A
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 700 - 1120

Figure D-54



Well Location



Legend

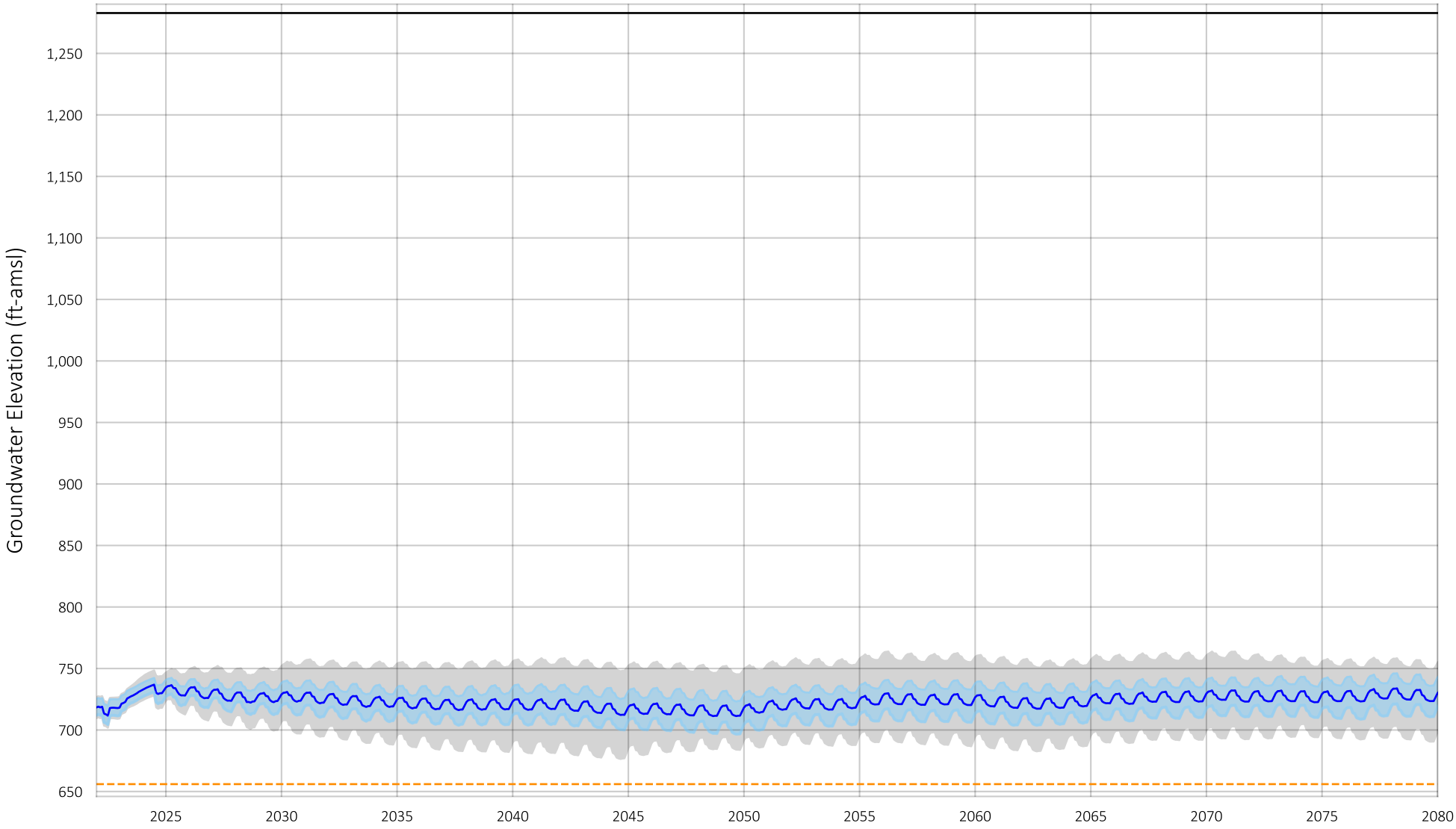
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

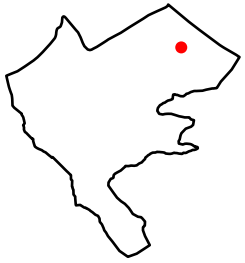
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F17C
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 500 - 910

Figure D-55



Well Location



Legend

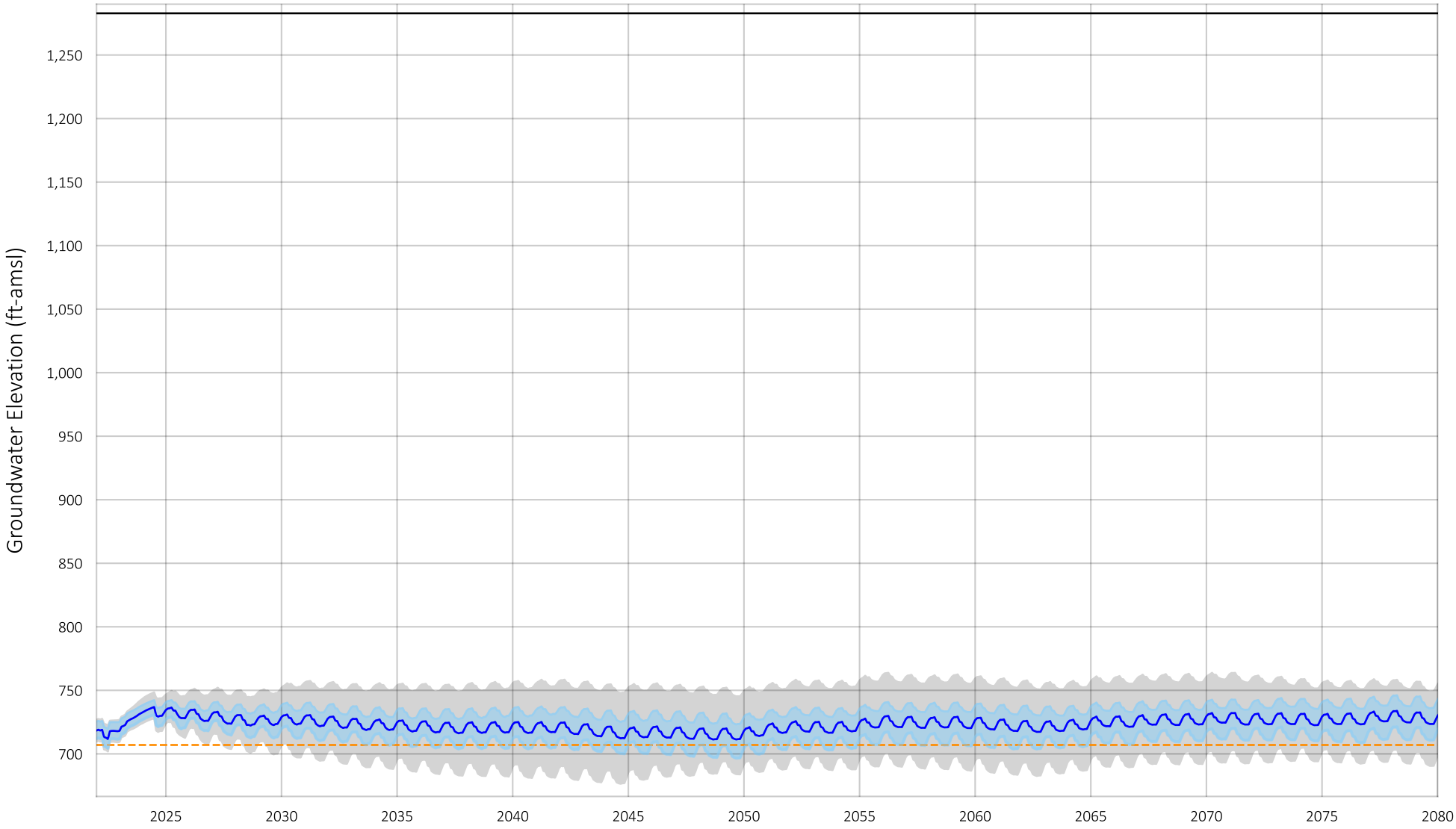
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

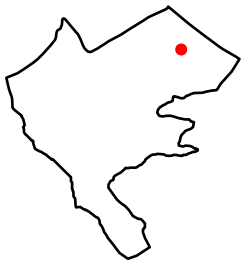
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F44A
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 570 - 950

Figure D-56



Well Location



Legend

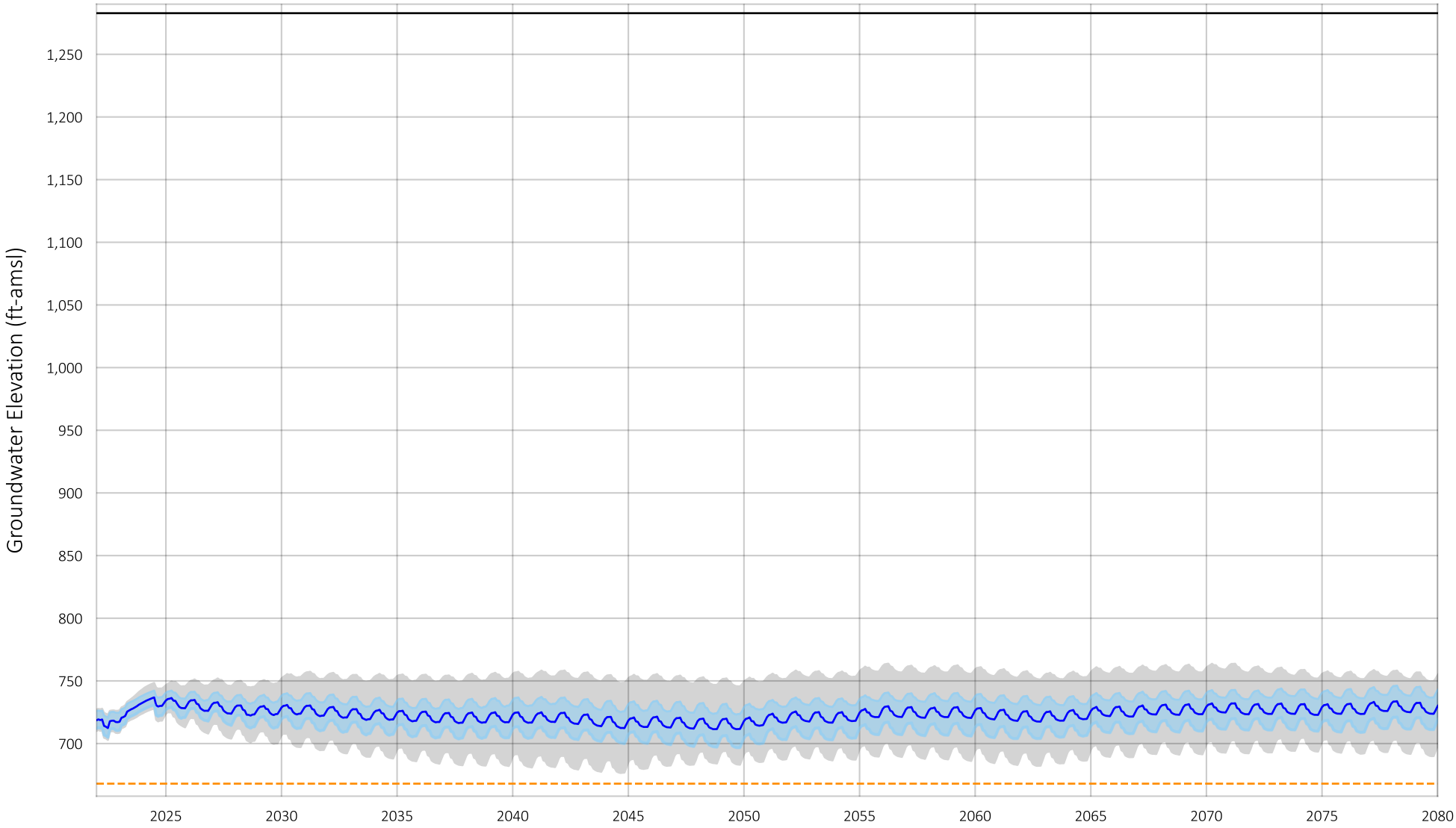
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

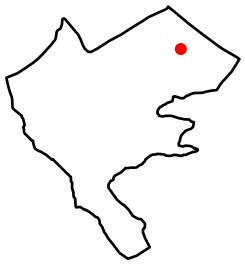
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F44B
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 650 - 990

Figure D-57



Well Location



Legend

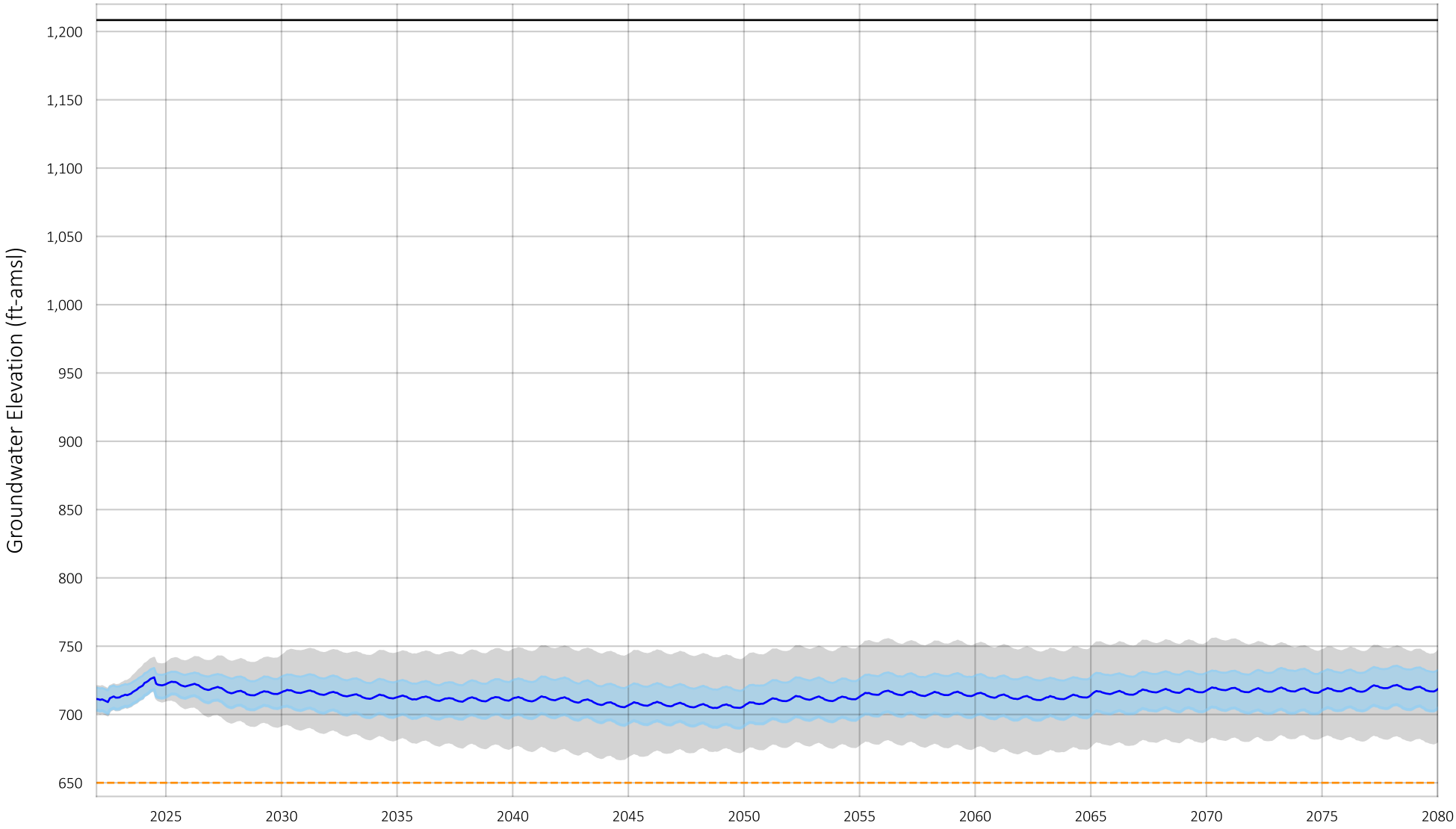
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

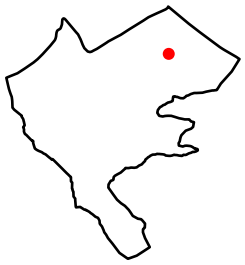
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F44C
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 650 - 990

Figure D-58



Well Location



Legend

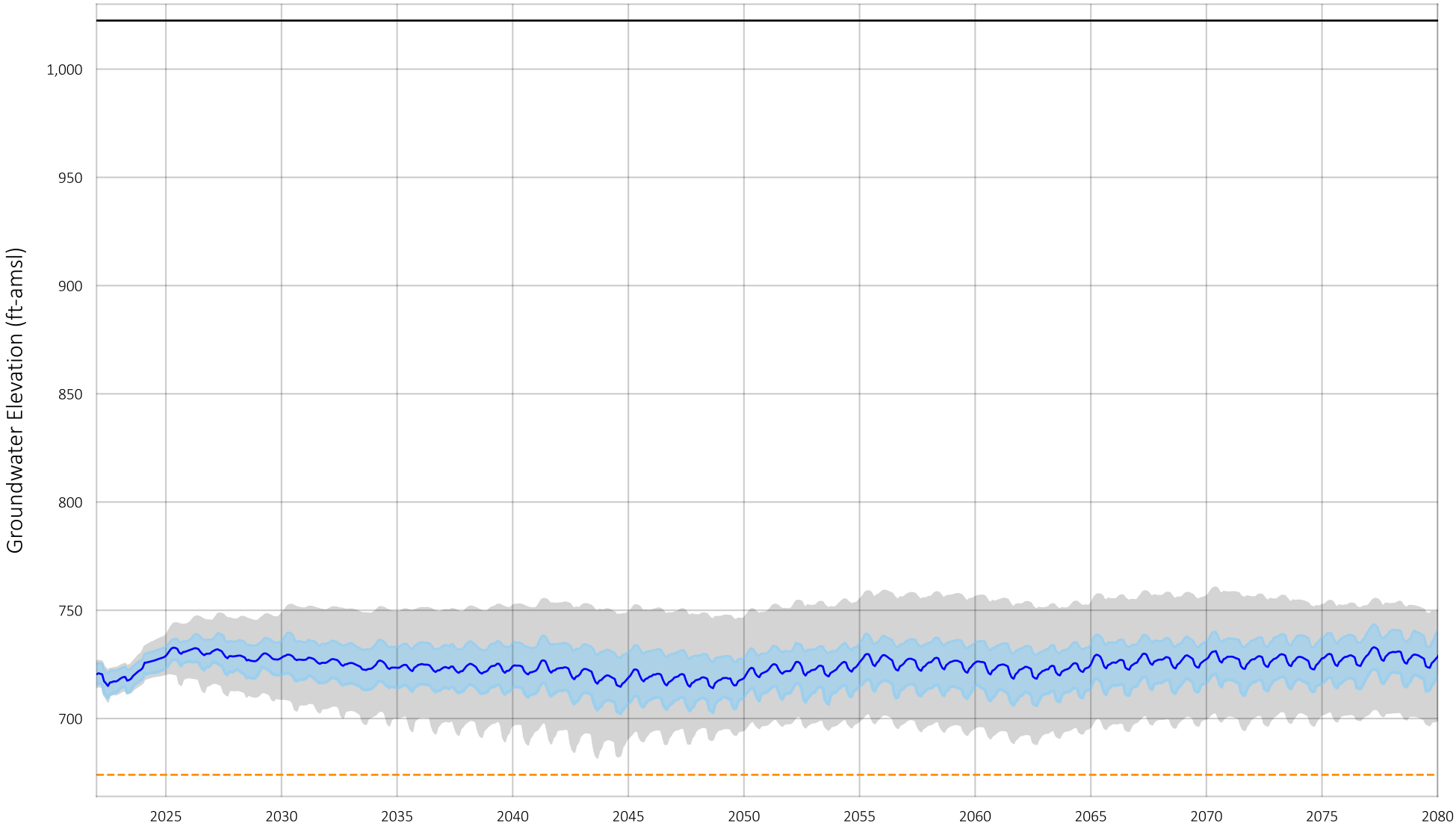
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

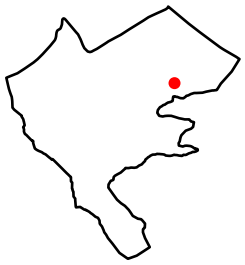
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F7B
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 600 - 990

Figure D-59



Well Location



Legend

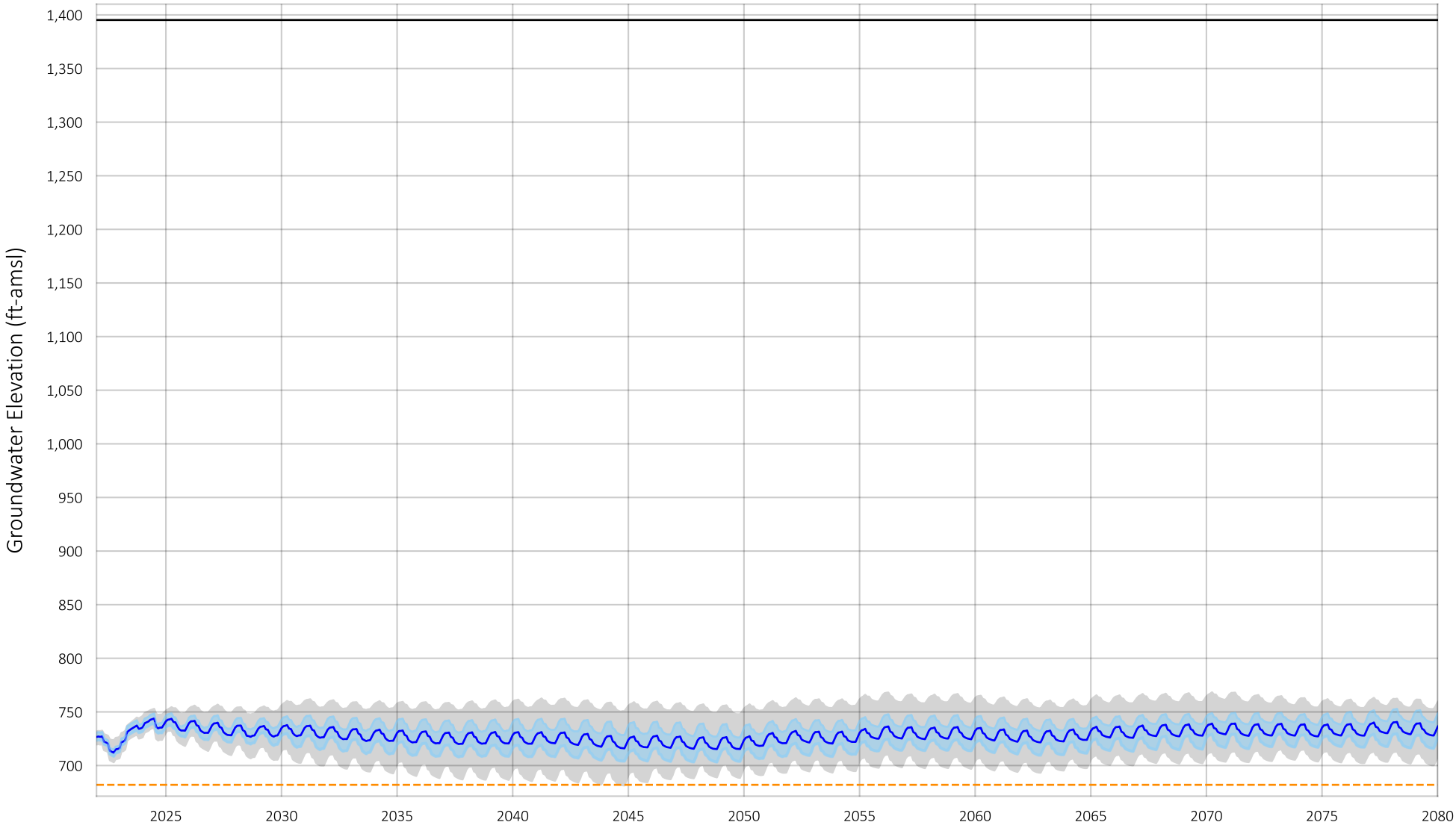
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

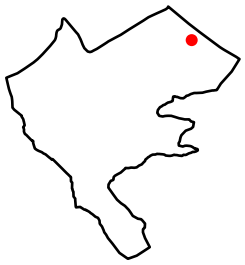
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F21B
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 530 - 610

Figure D-60



Well Location



Legend

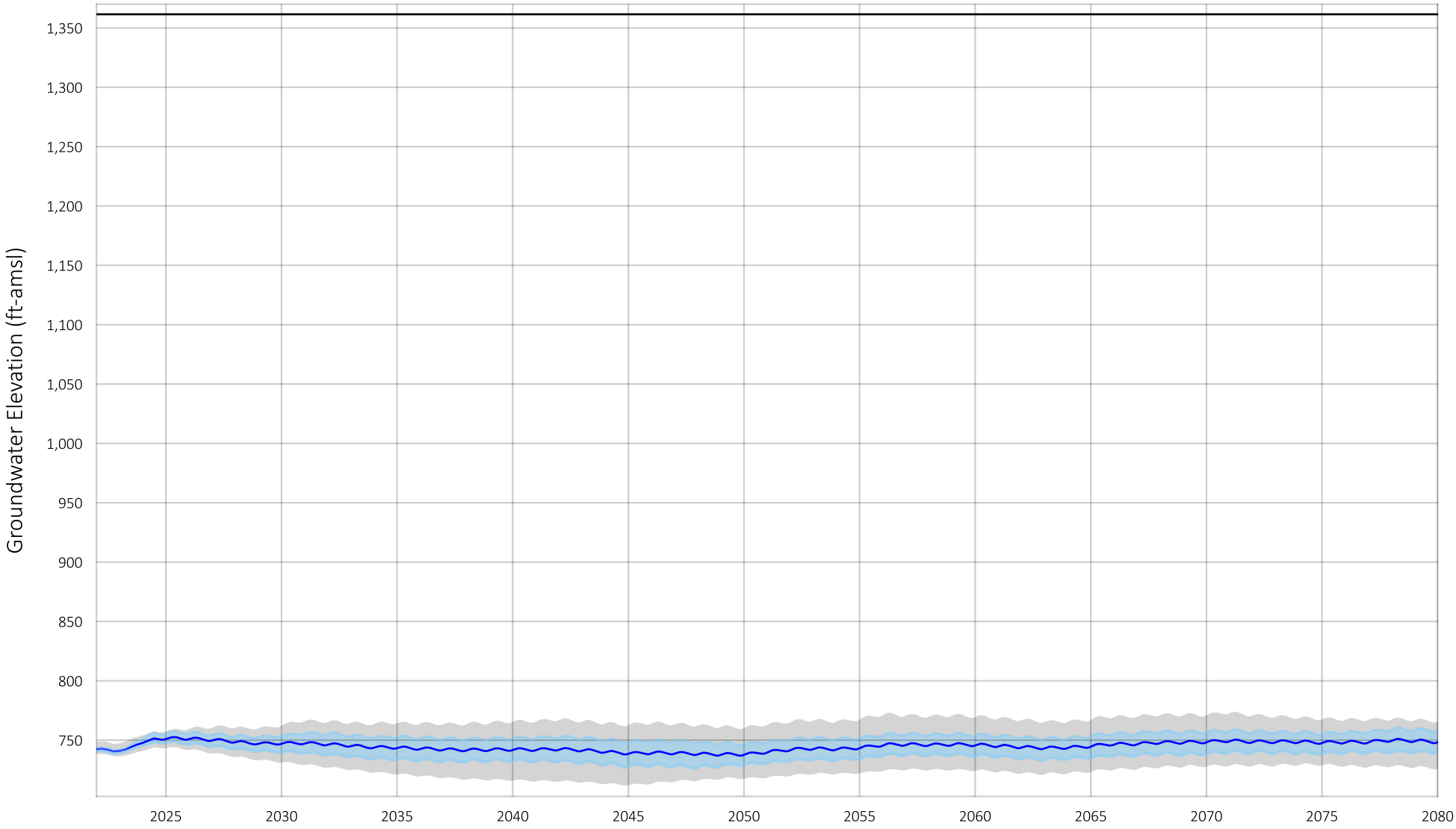
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

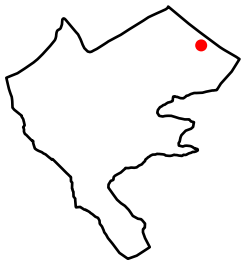
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F31B
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 735 - 1000

Figure D-61



Well Location



Legend

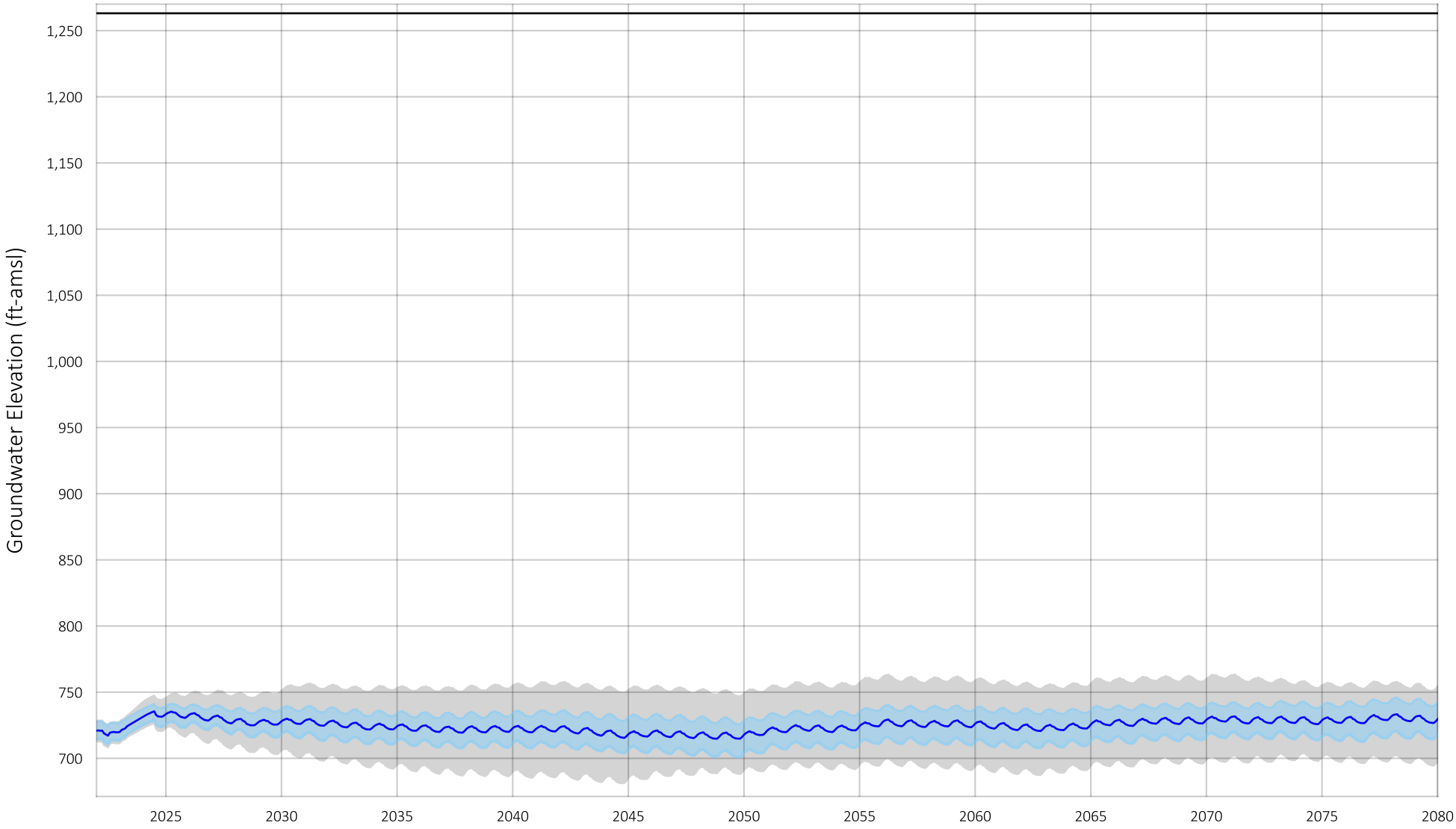
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

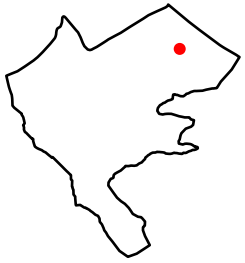
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F18A
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 650 - 860

Figure D-62



Well Location



Legend

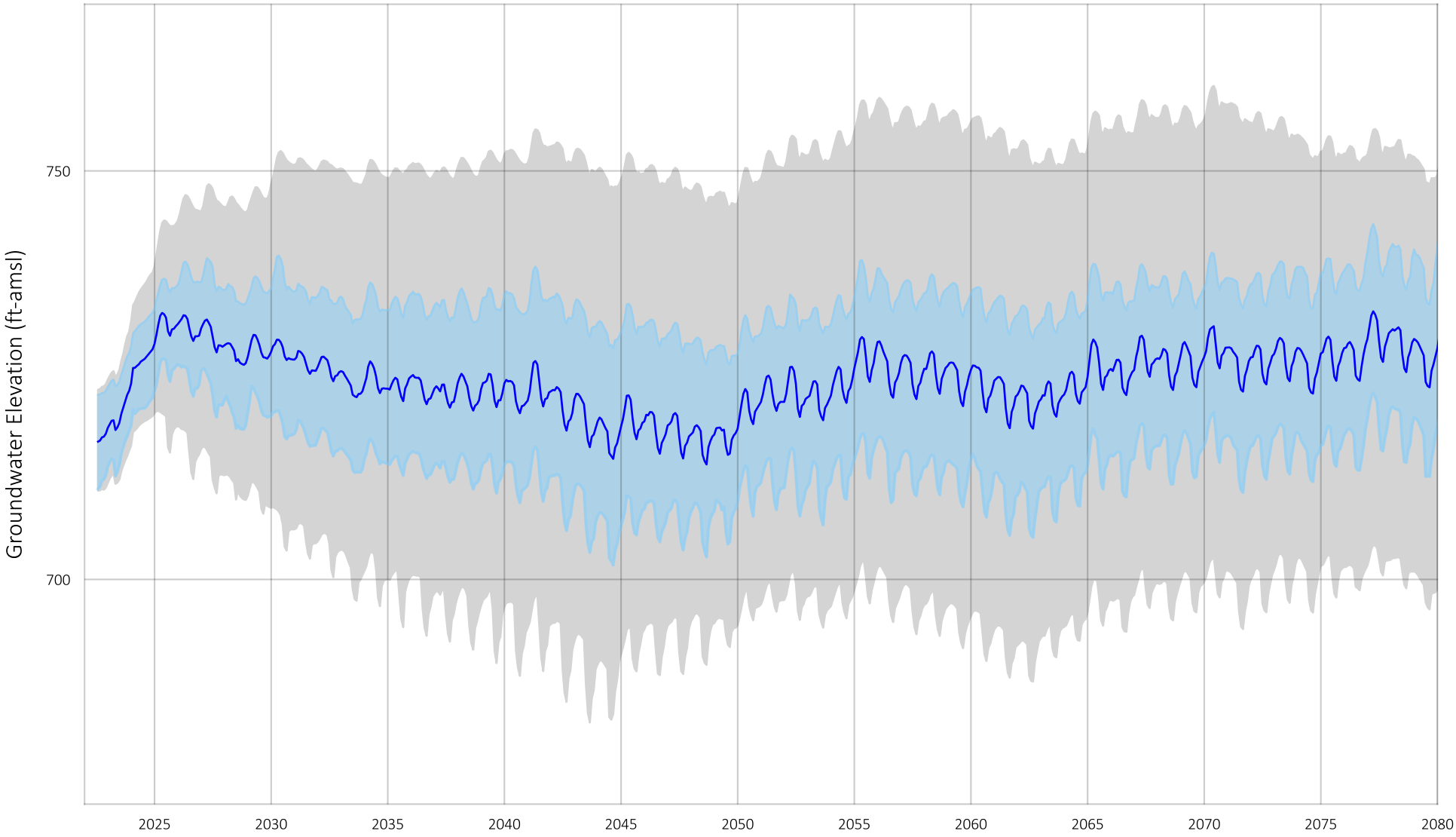
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

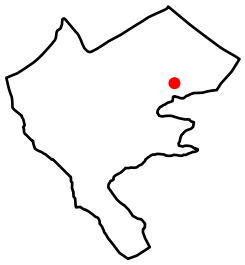
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F2A
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 580 - 900

Figure D-63



Well Location



Legend

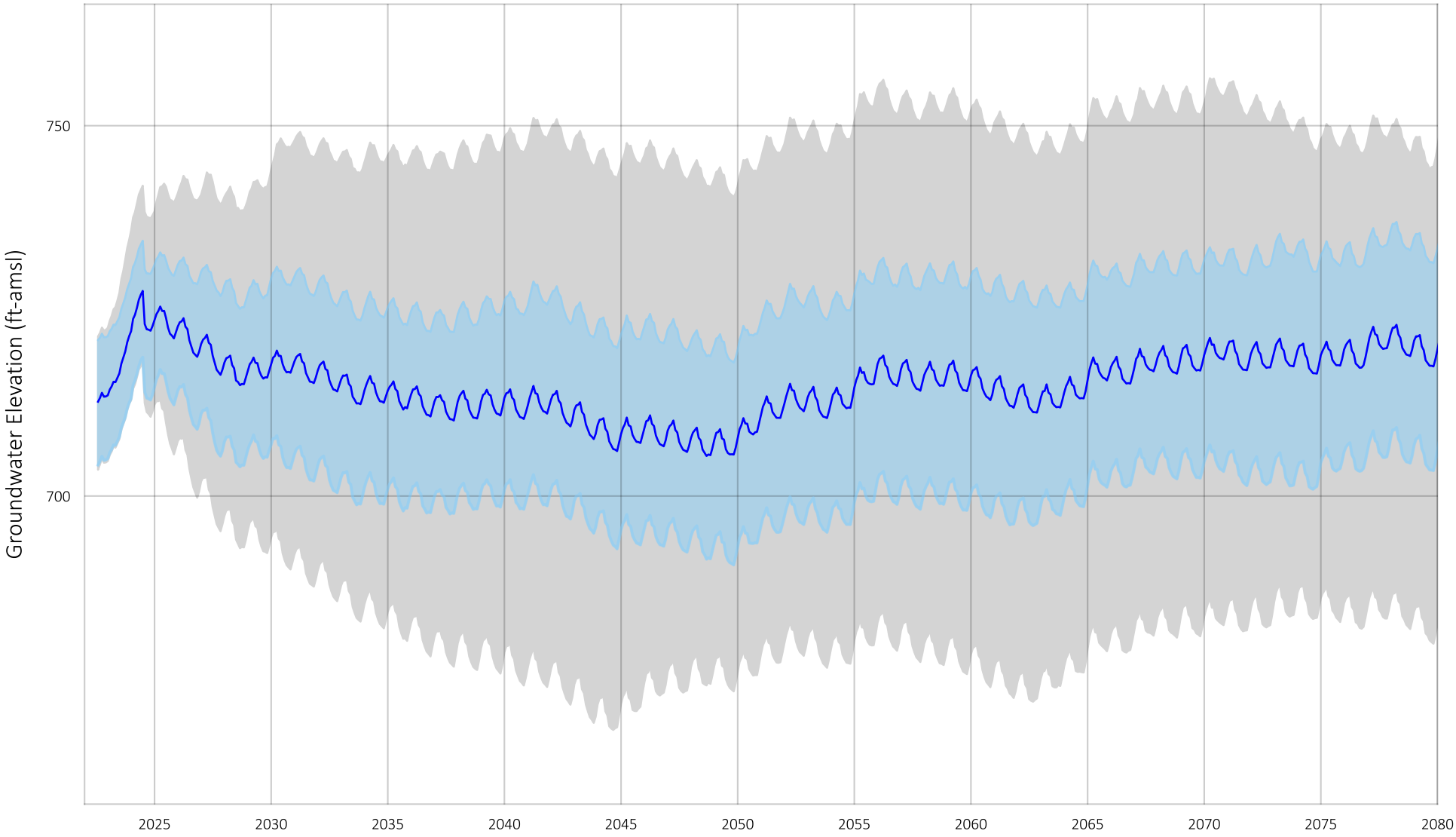
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

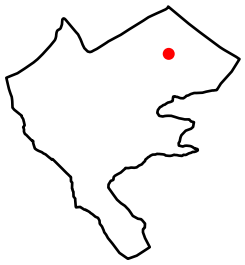
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F21C
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): no data - no data

Figure D-64



Well Location



Legend

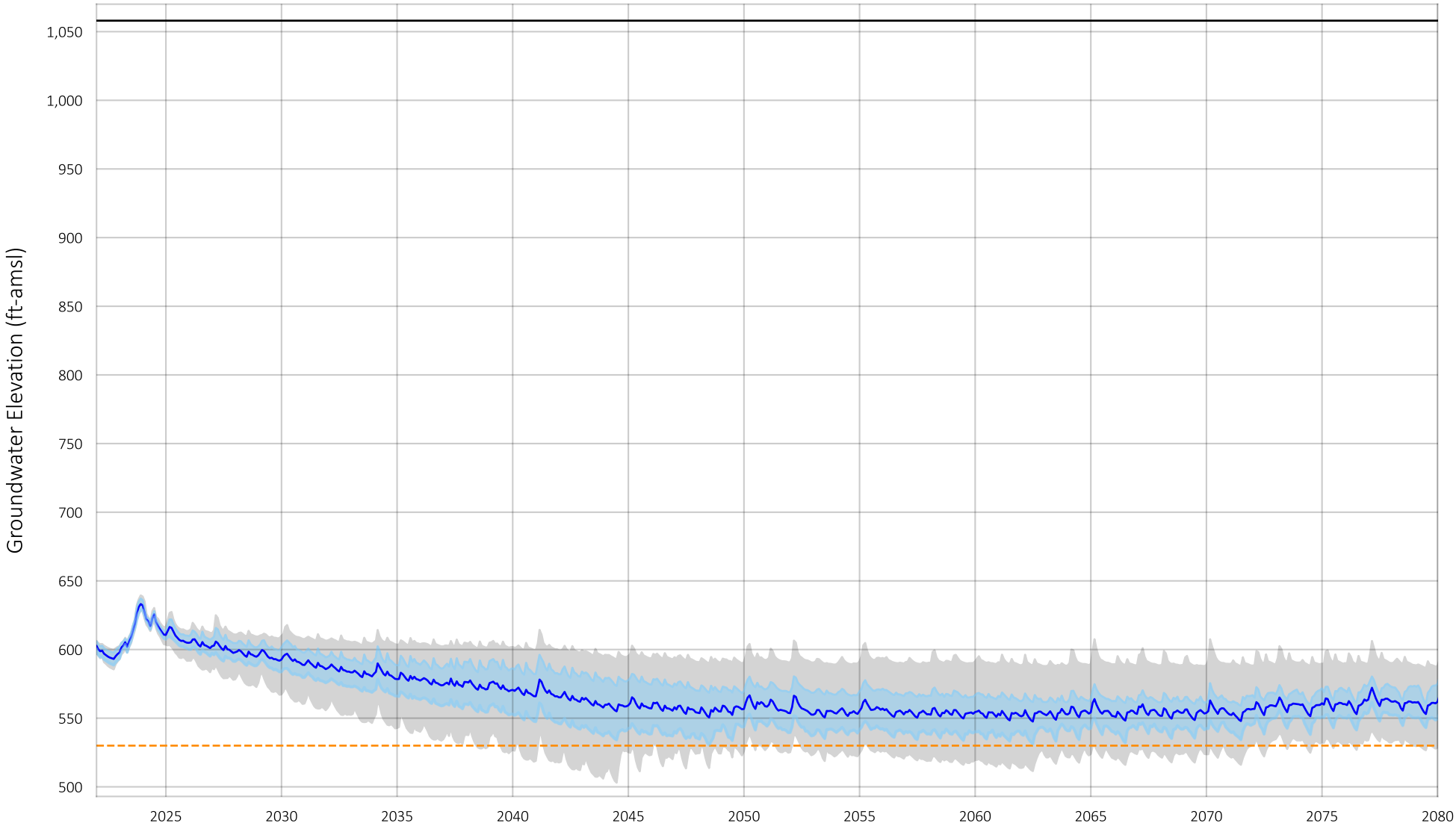
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

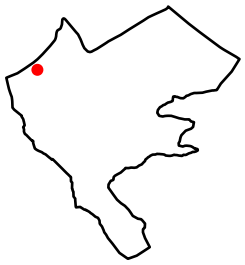
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F7C
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): no data - no data

Figure D-65



Well Location



Legend

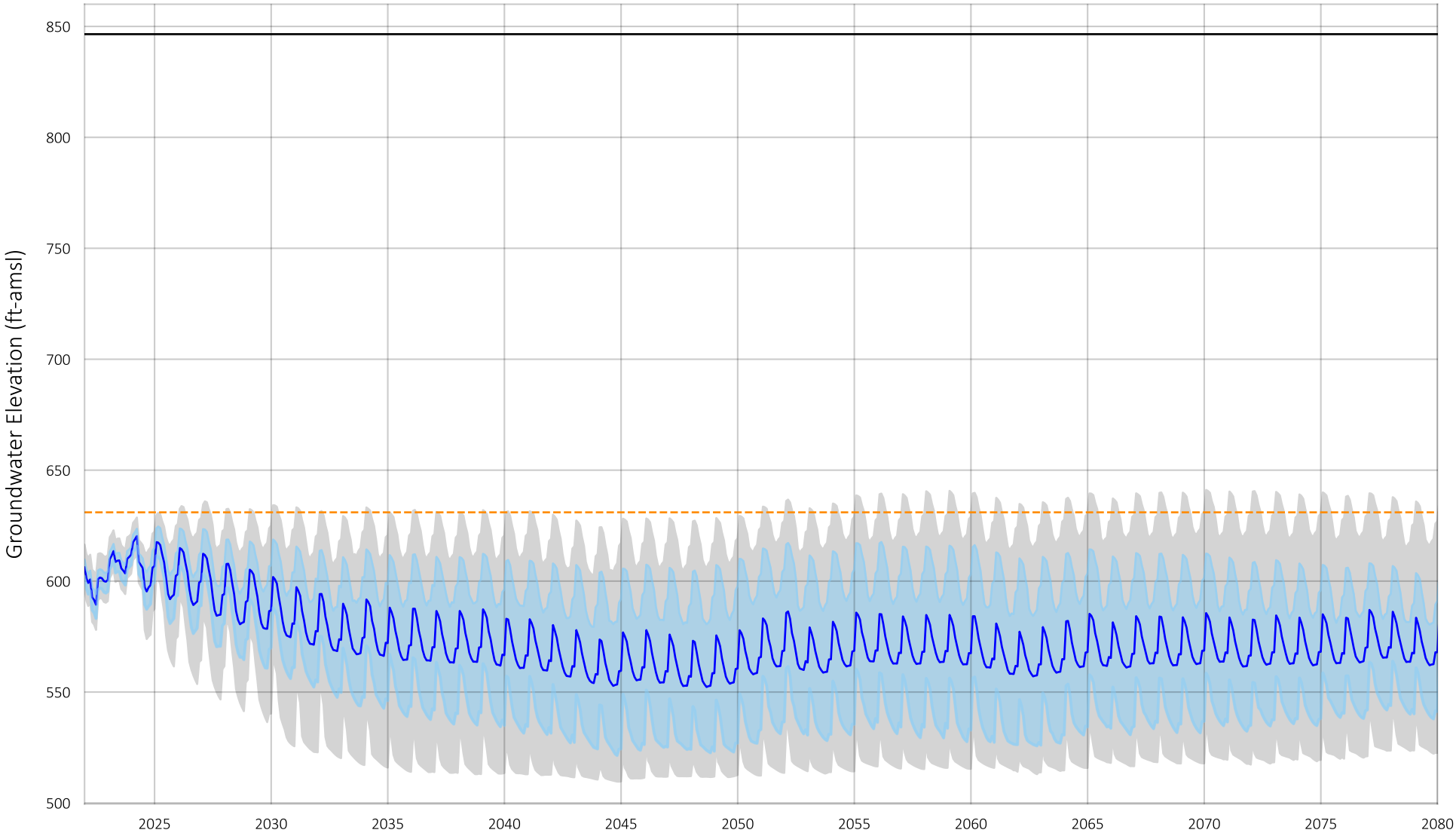
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: Margarita #2
Well Owner: Golden State Water Company
Screen Interval (ft-bgs): 530 - 620

Figure D-66



Well Location

Legend

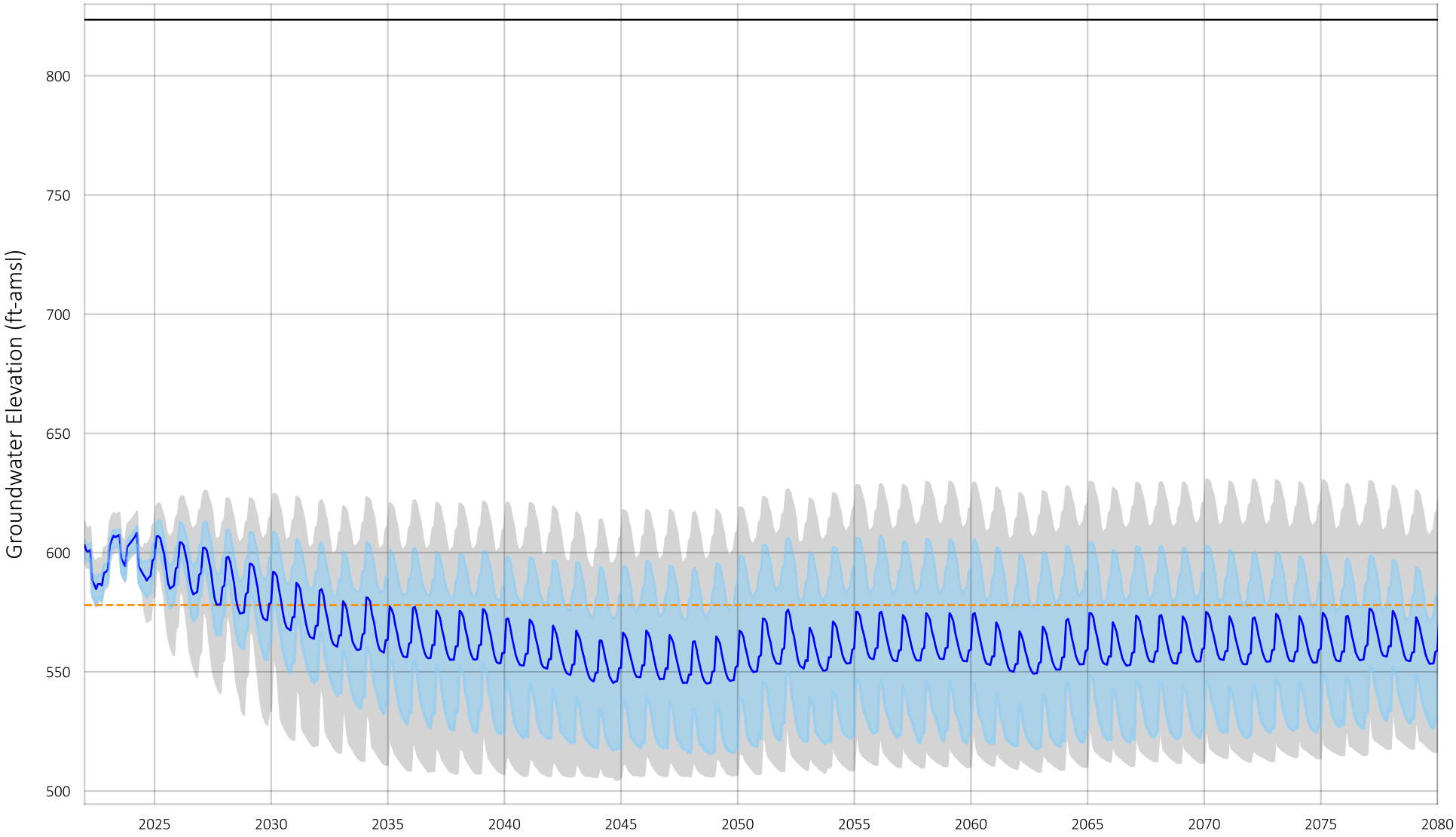
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 13
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 220 - 446

Figure D-67



Well Location

Legend

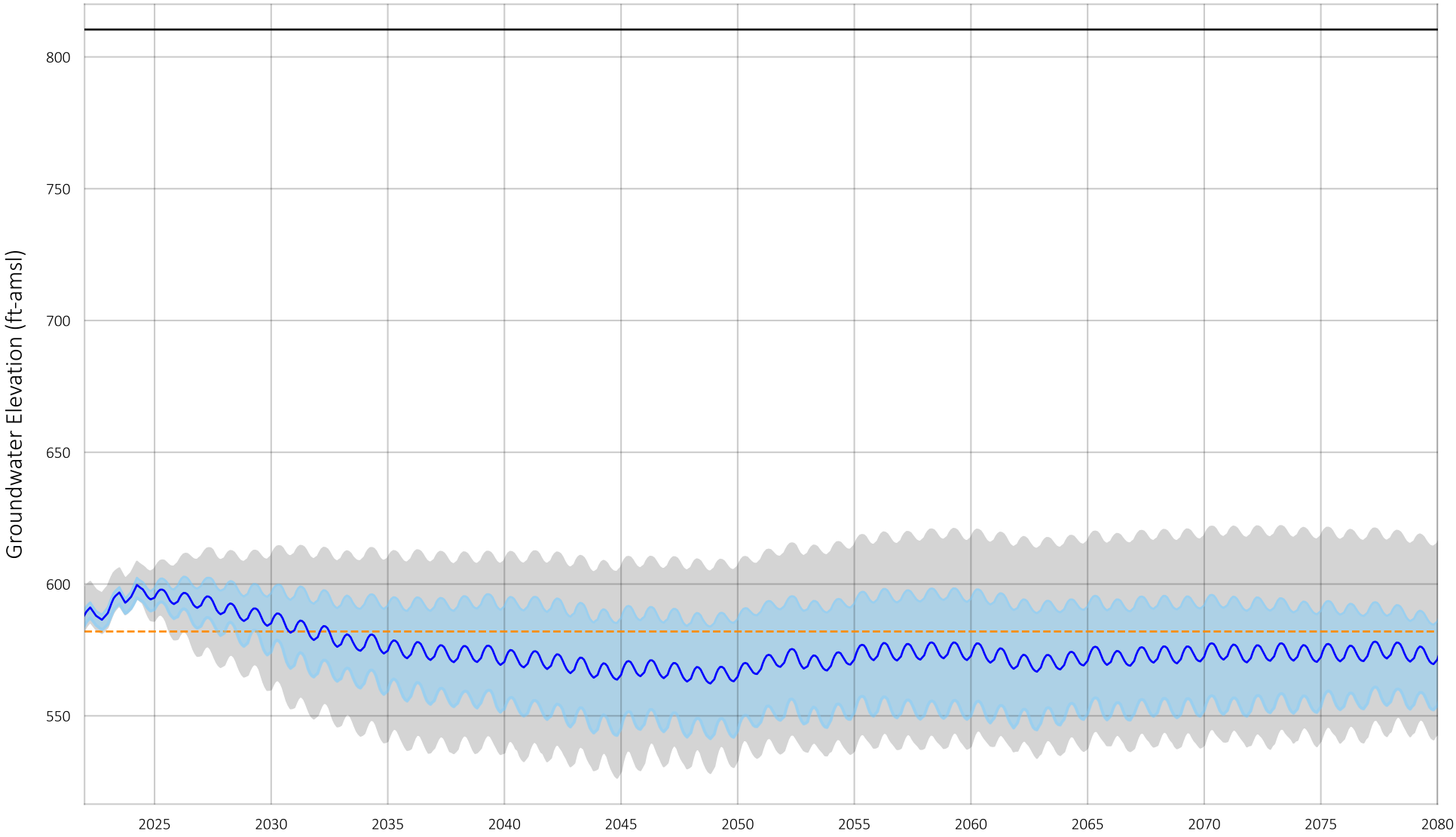
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

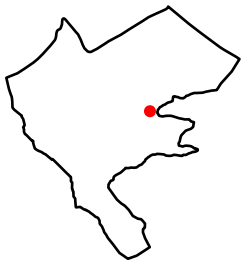
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 17
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 250 - 400

Figure D-68



Well Location



Legend

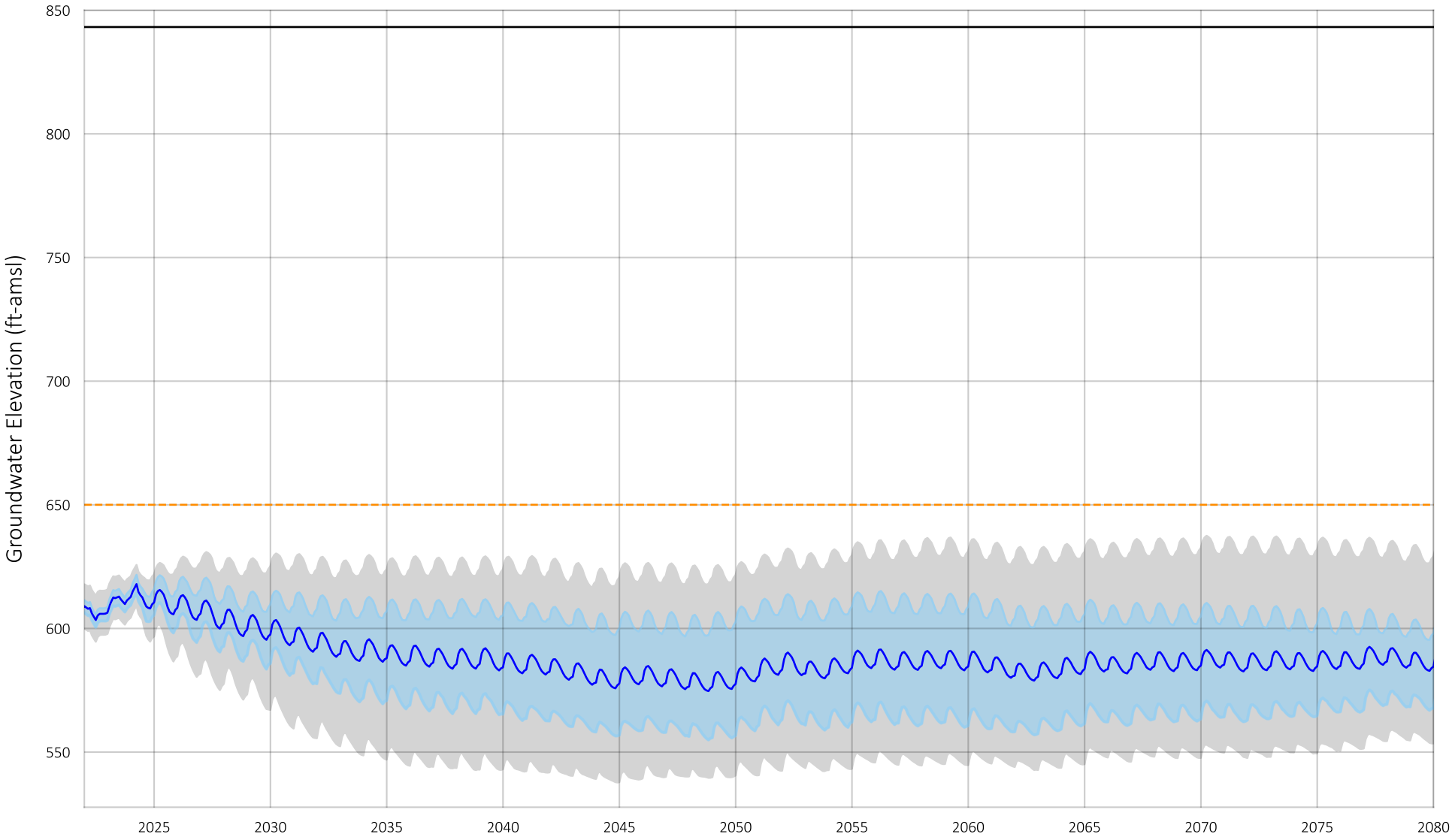
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 18
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 230 - 390

Figure D-69



Well Location

Legend

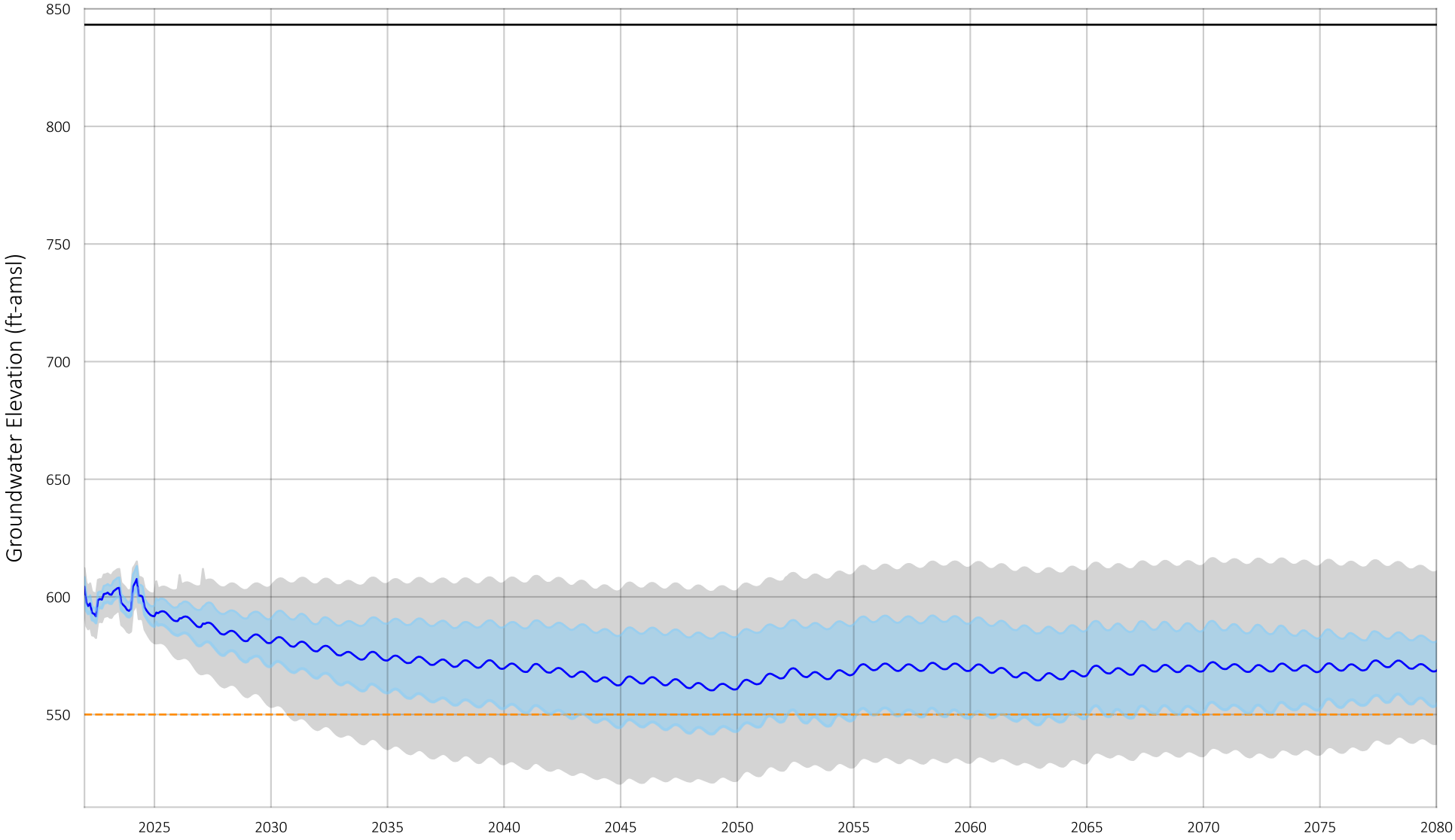
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 06
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 198 - 386

Figure D-70



Well Location

Legend

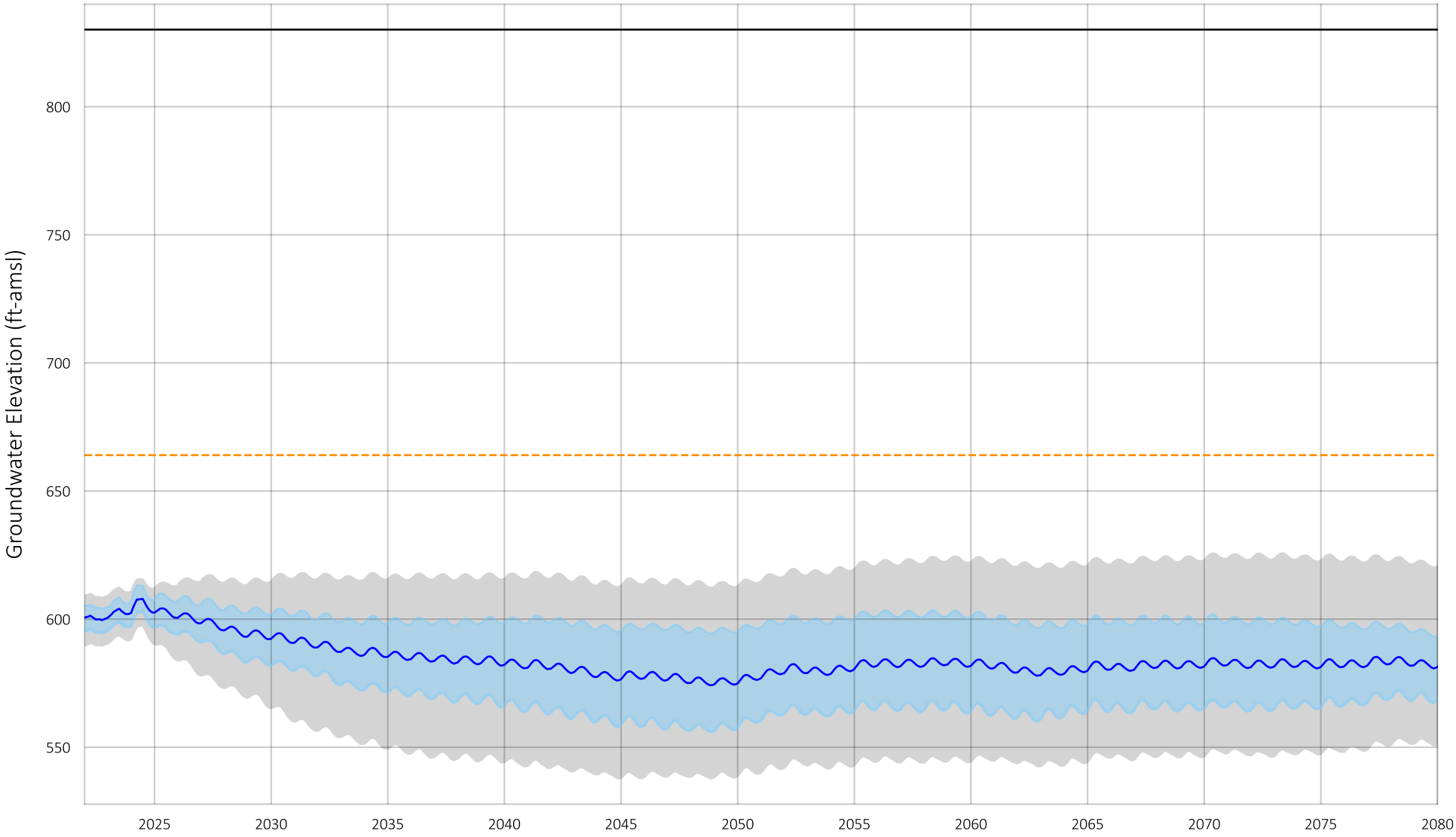
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 19
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 230 - 390

Figure D-71



Well Location

Legend

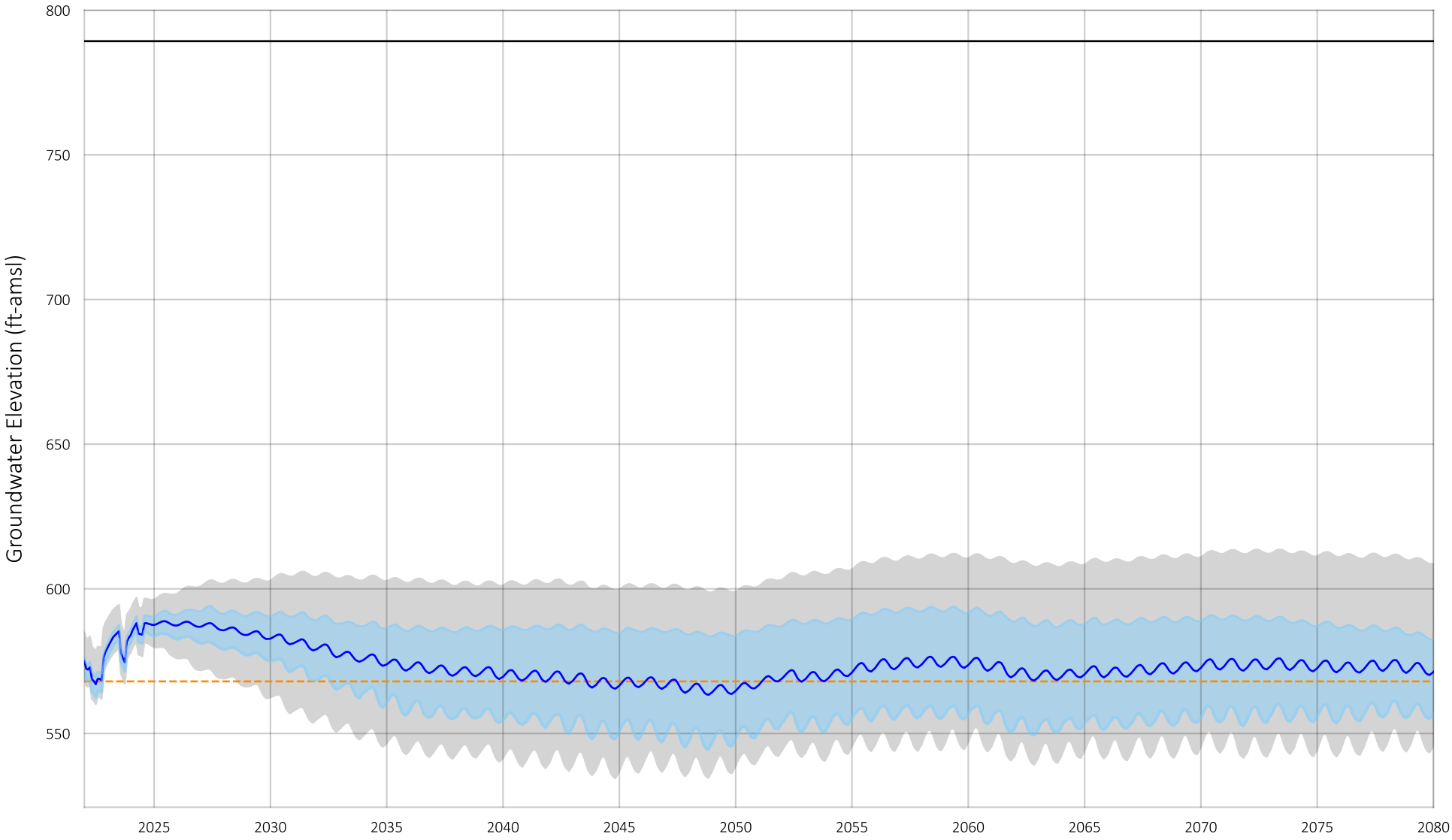
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

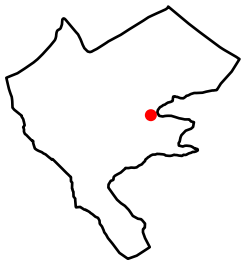
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 20
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 170 - 406

Figure D-72



Well Location



Legend

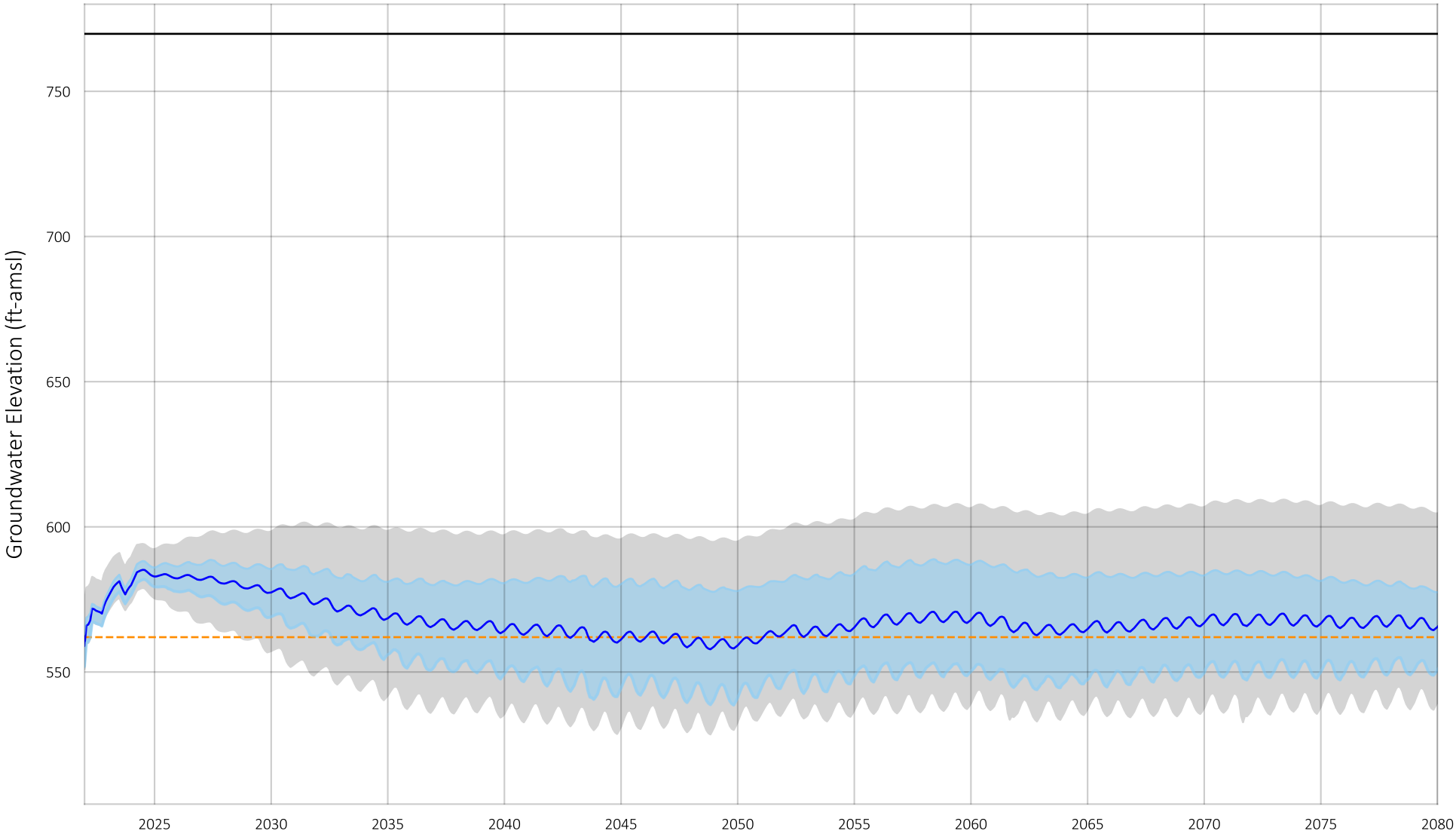
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

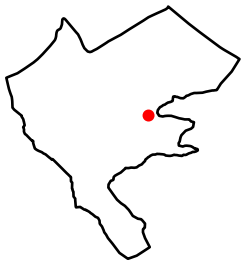
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 15
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 224 - 364

Figure D-73



Well Location



Legend

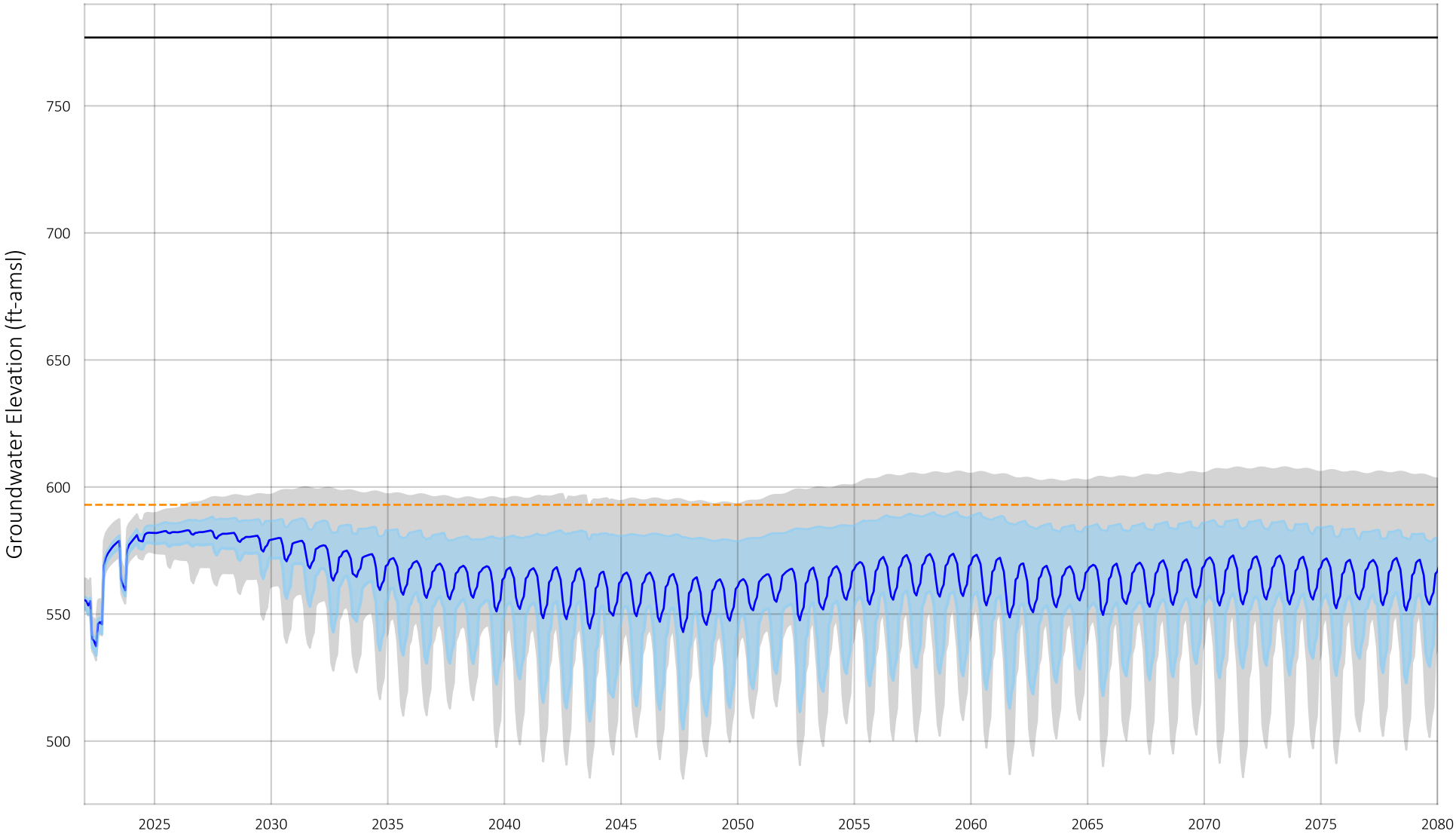
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 14
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 210 - 370

Figure D-74



Well Location

Legend

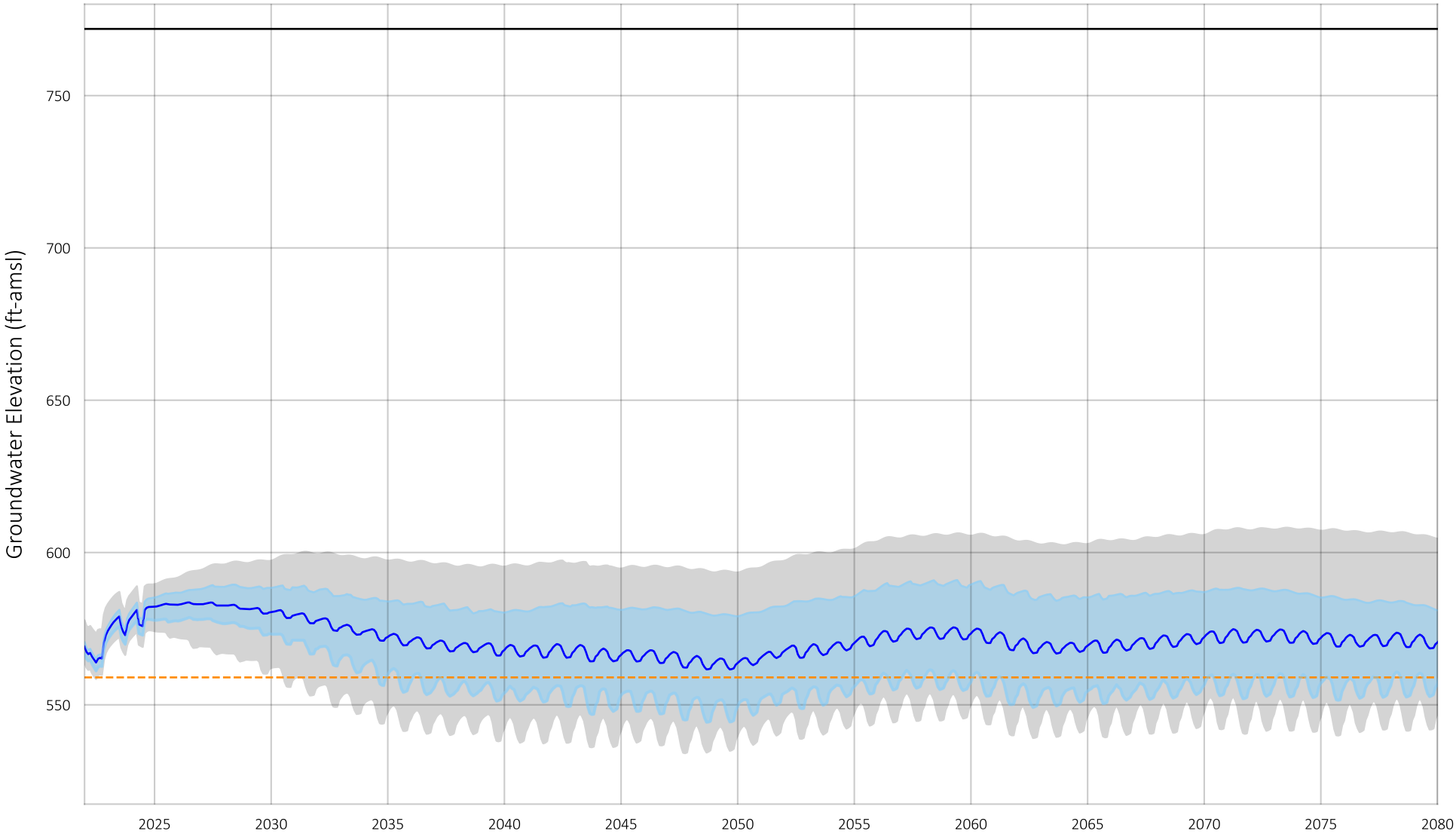
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 16
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 225 - 275

Figure D-75



Well Location

Legend

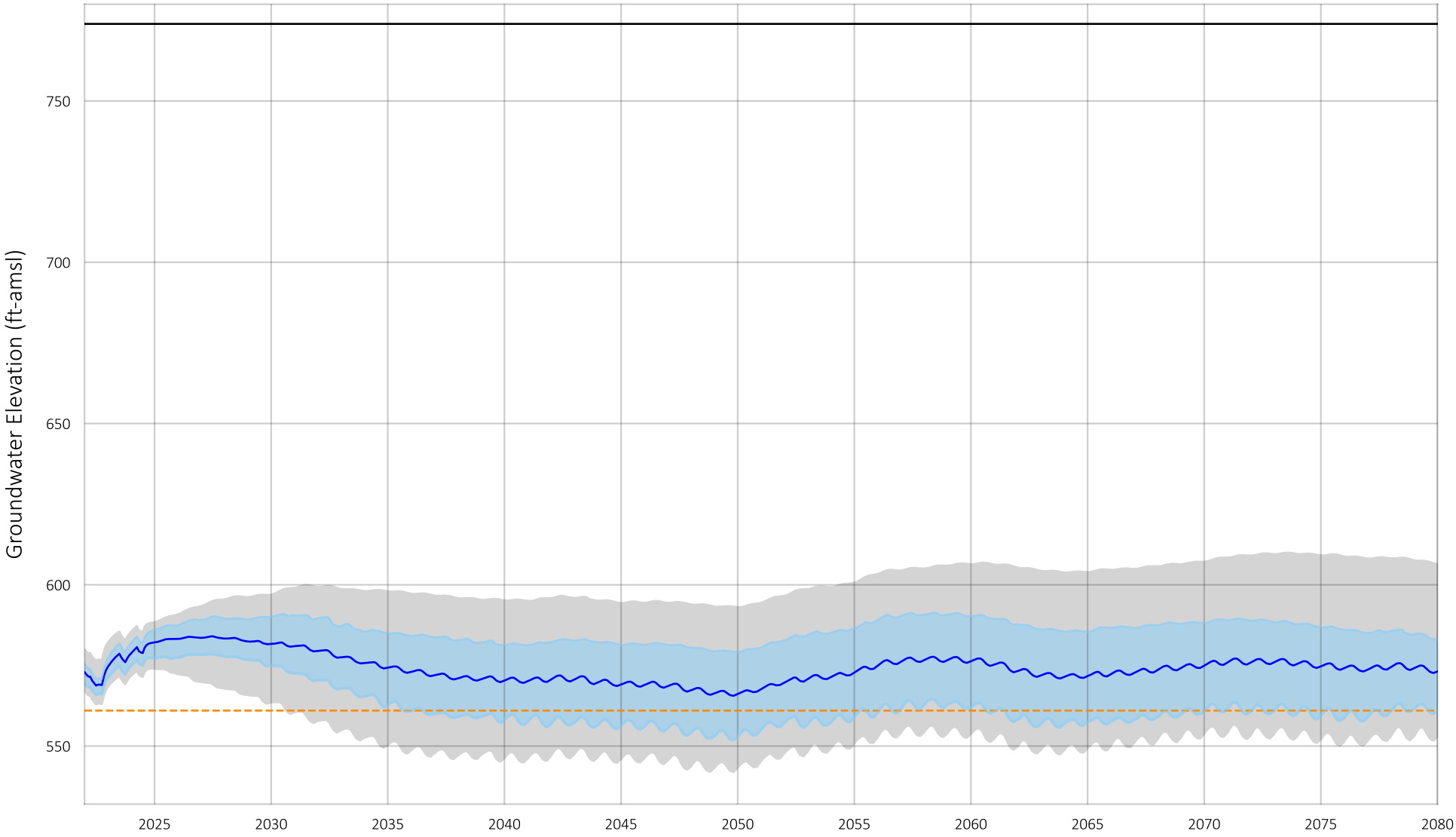
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 12
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 215 - 330

Figure D-76



Well Location

Legend

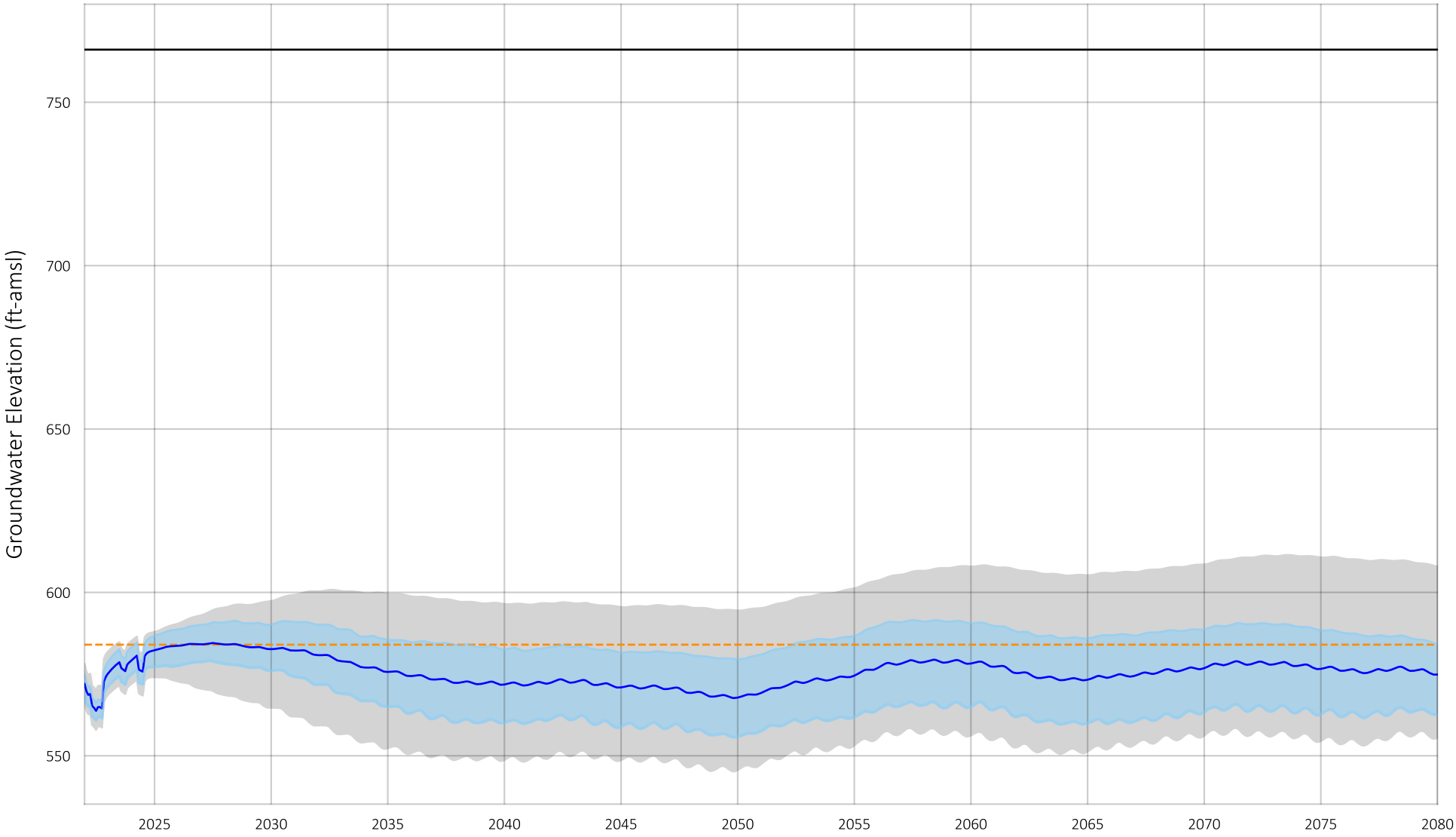
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

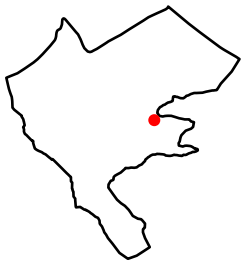
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 11
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 215 - 312

Figure D-77



Well Location



Legend

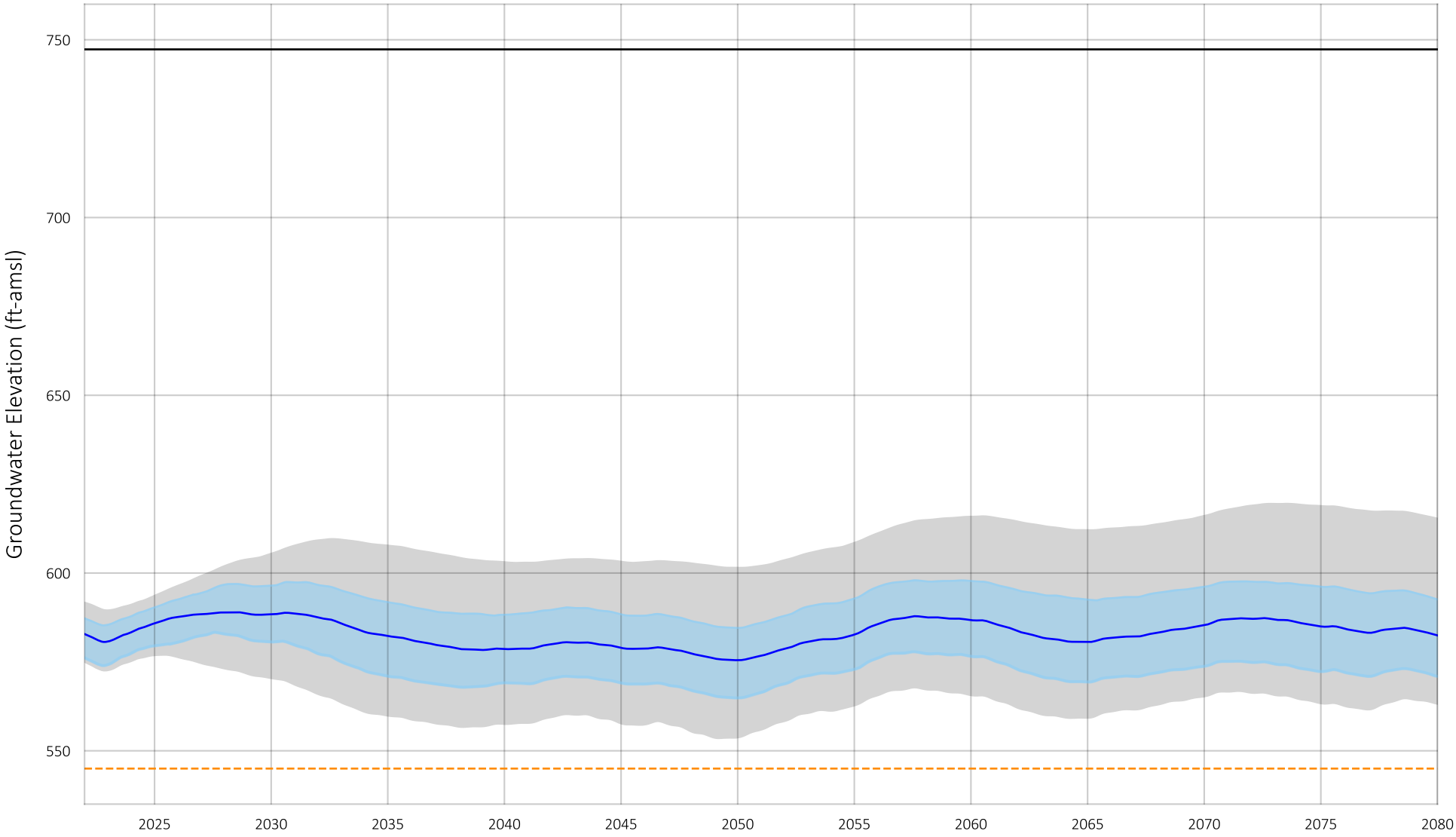
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

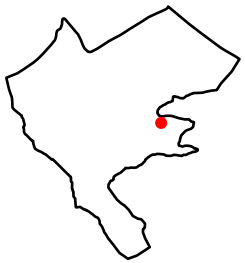
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 08
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 185 - 261

Figure D-78



Well Location



Legend

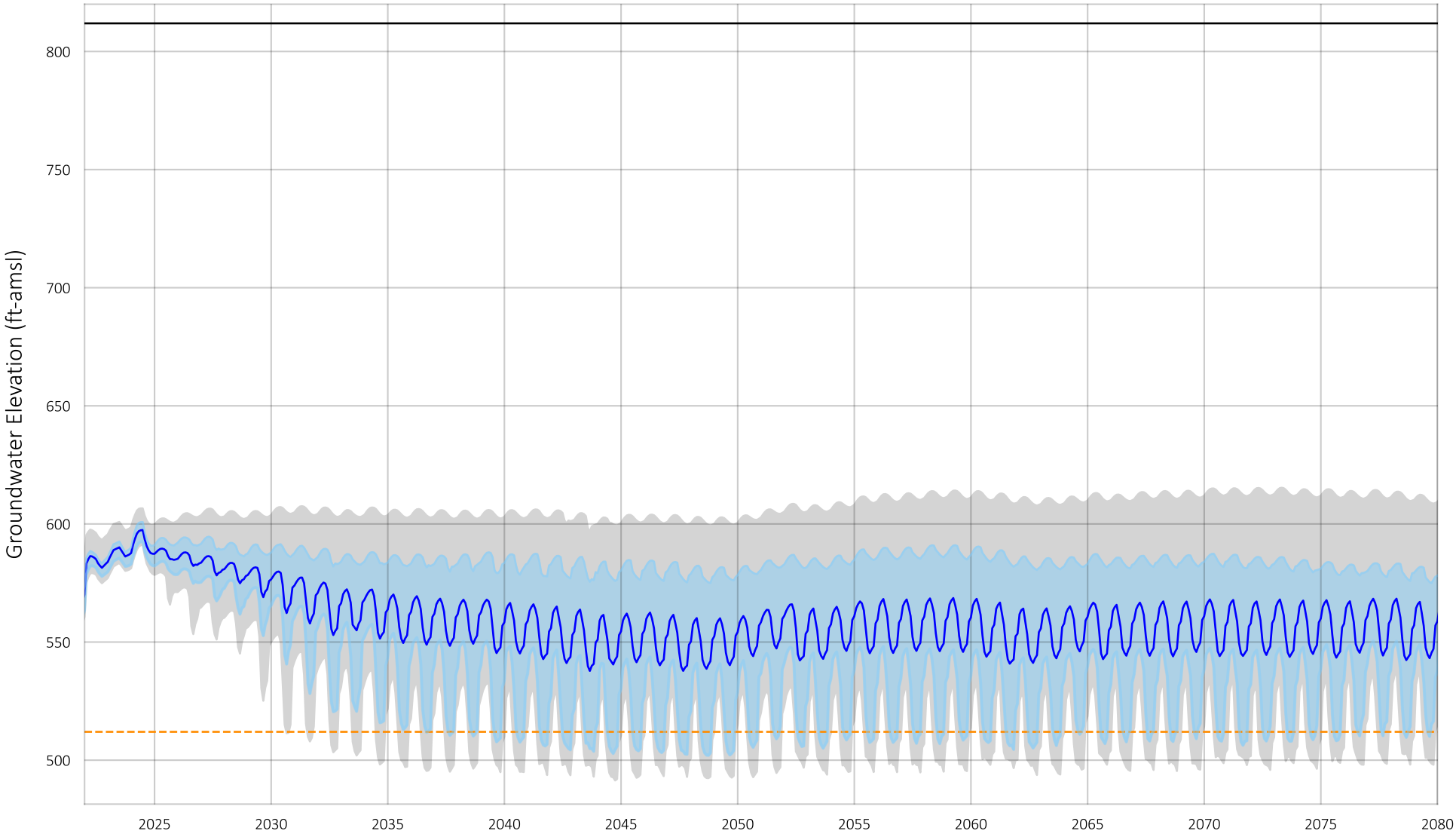
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 24
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 105 - 420

Figure D-79



Well Location

Legend

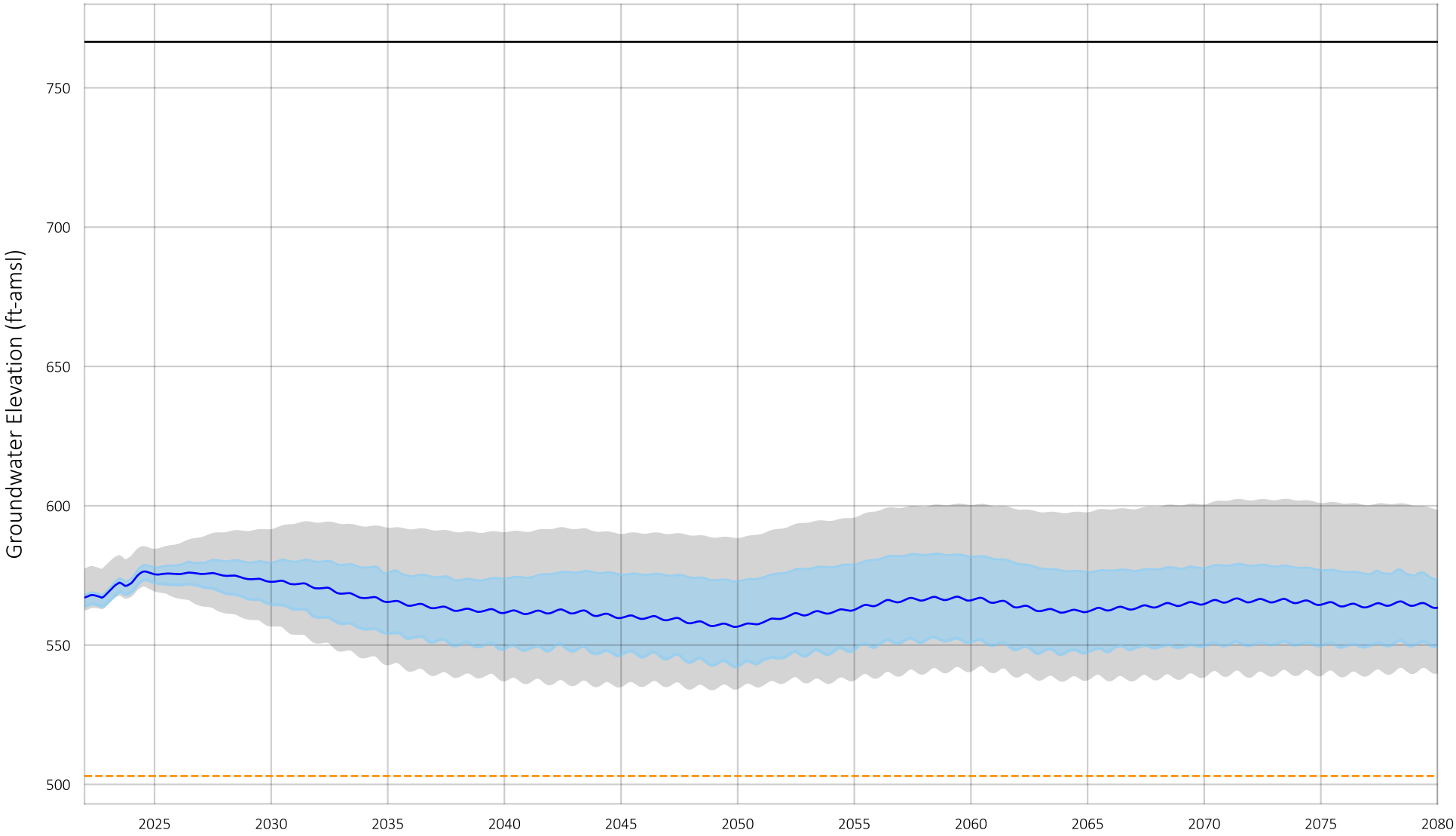
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

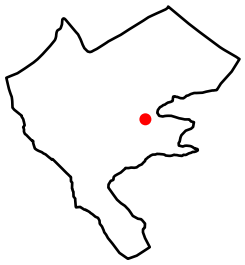
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 22
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 300 - 410

Figure D-80



Well Location



Legend

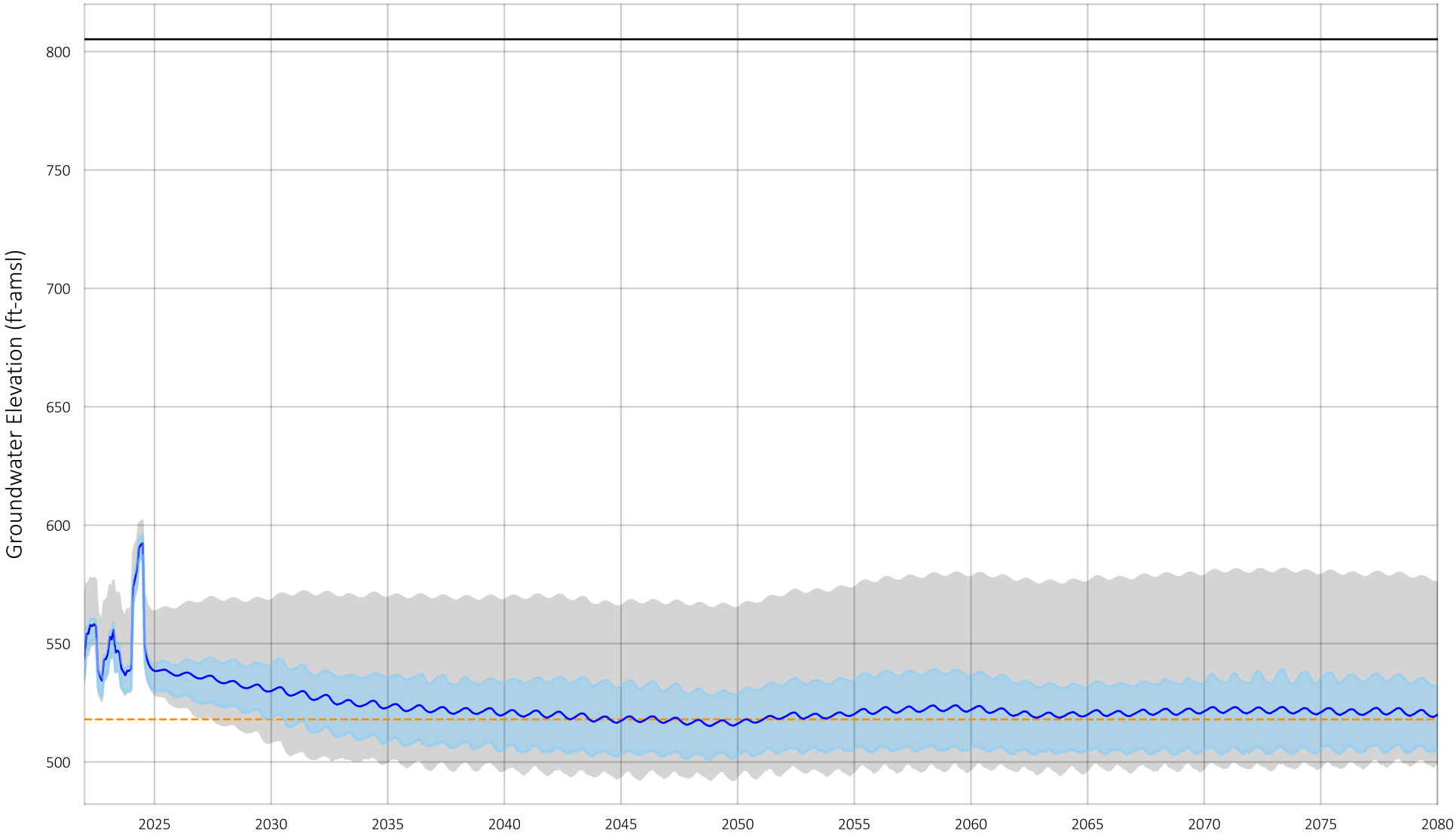
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 23
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 265 - 390

Figure D-81



Well Location

Legend

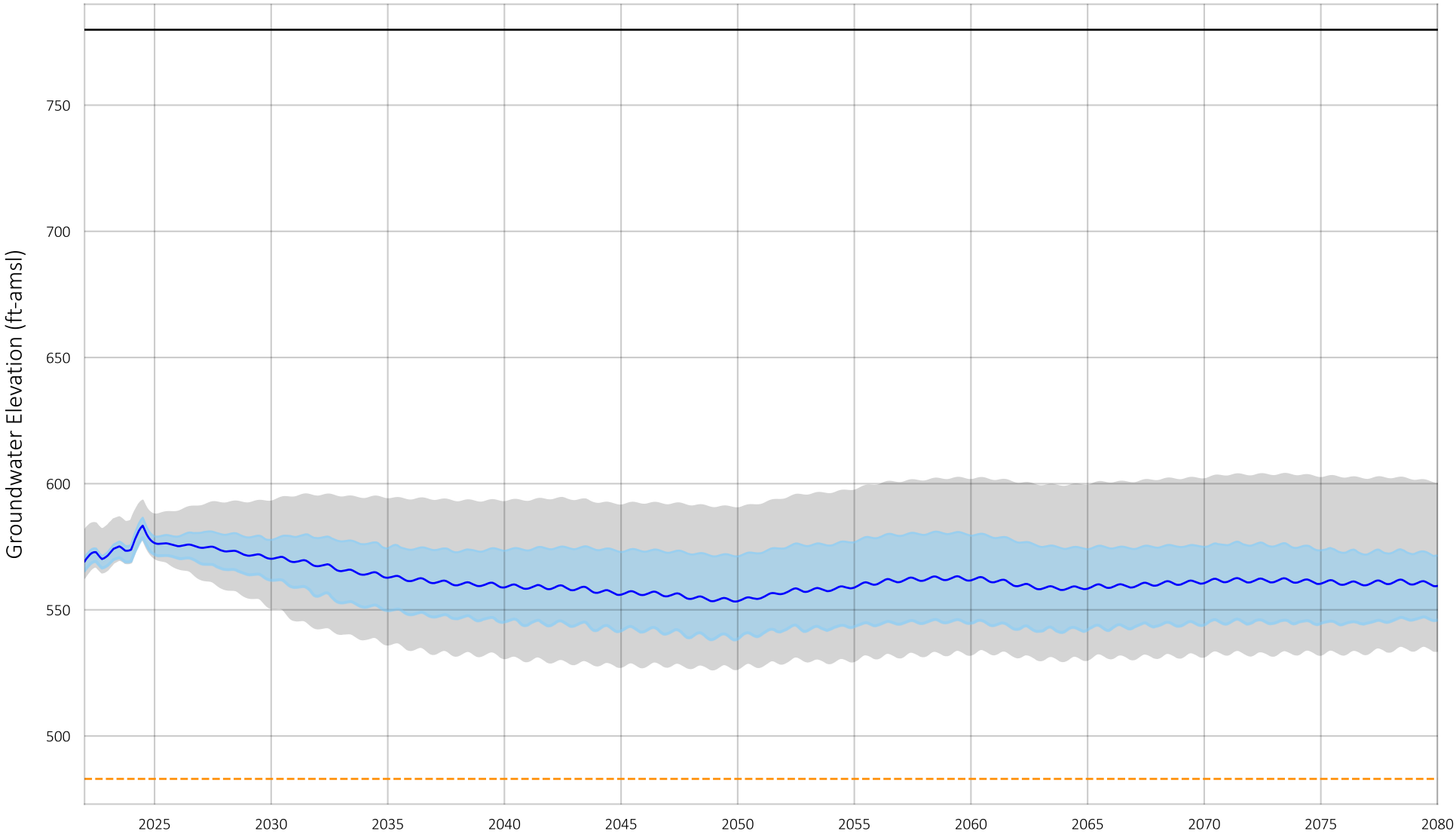
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 25
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 280 - 420

Figure D-82



Well Location

Legend

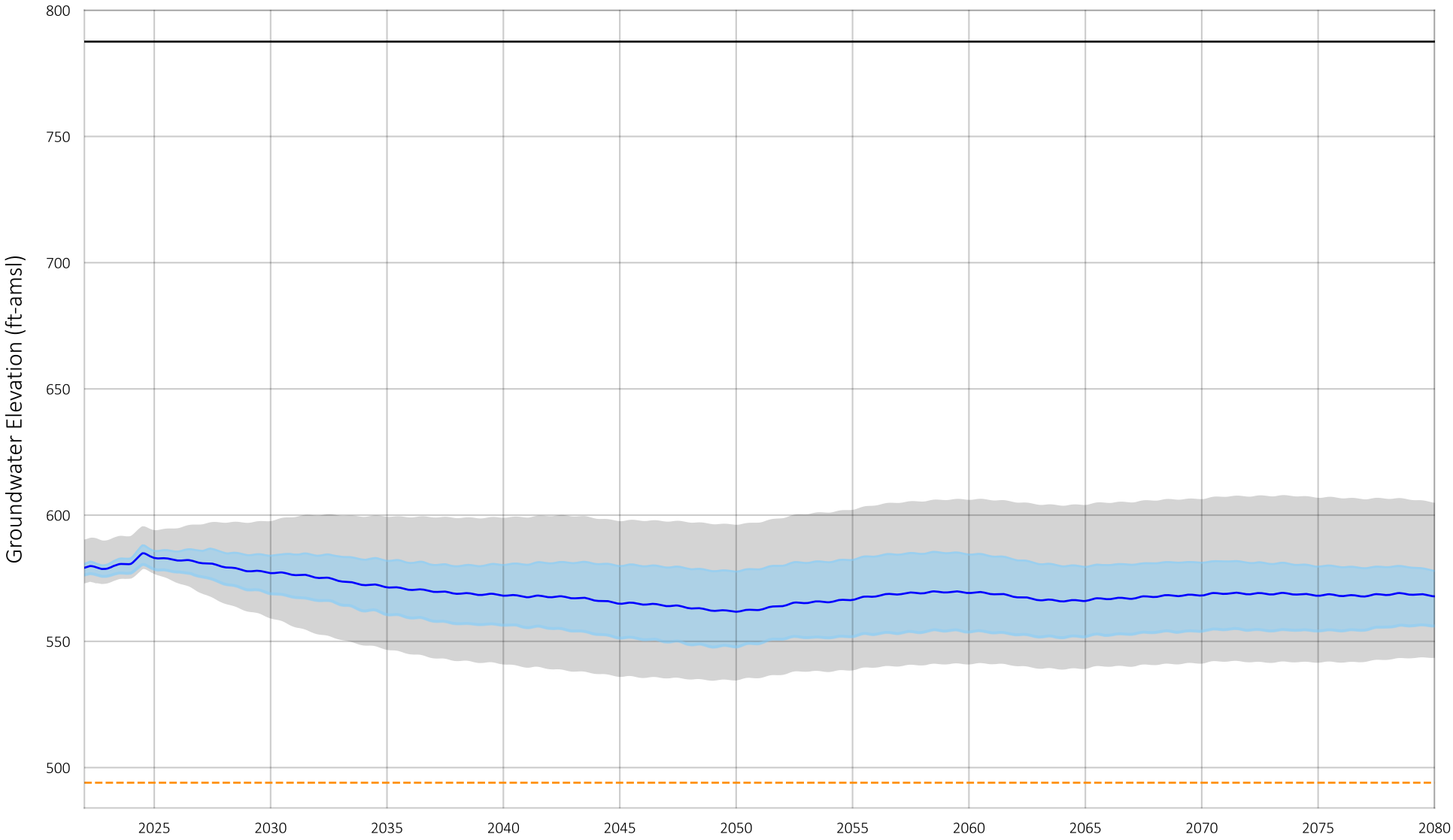
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 27
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 300 - 400

Figure D-83



Well Location

Legend

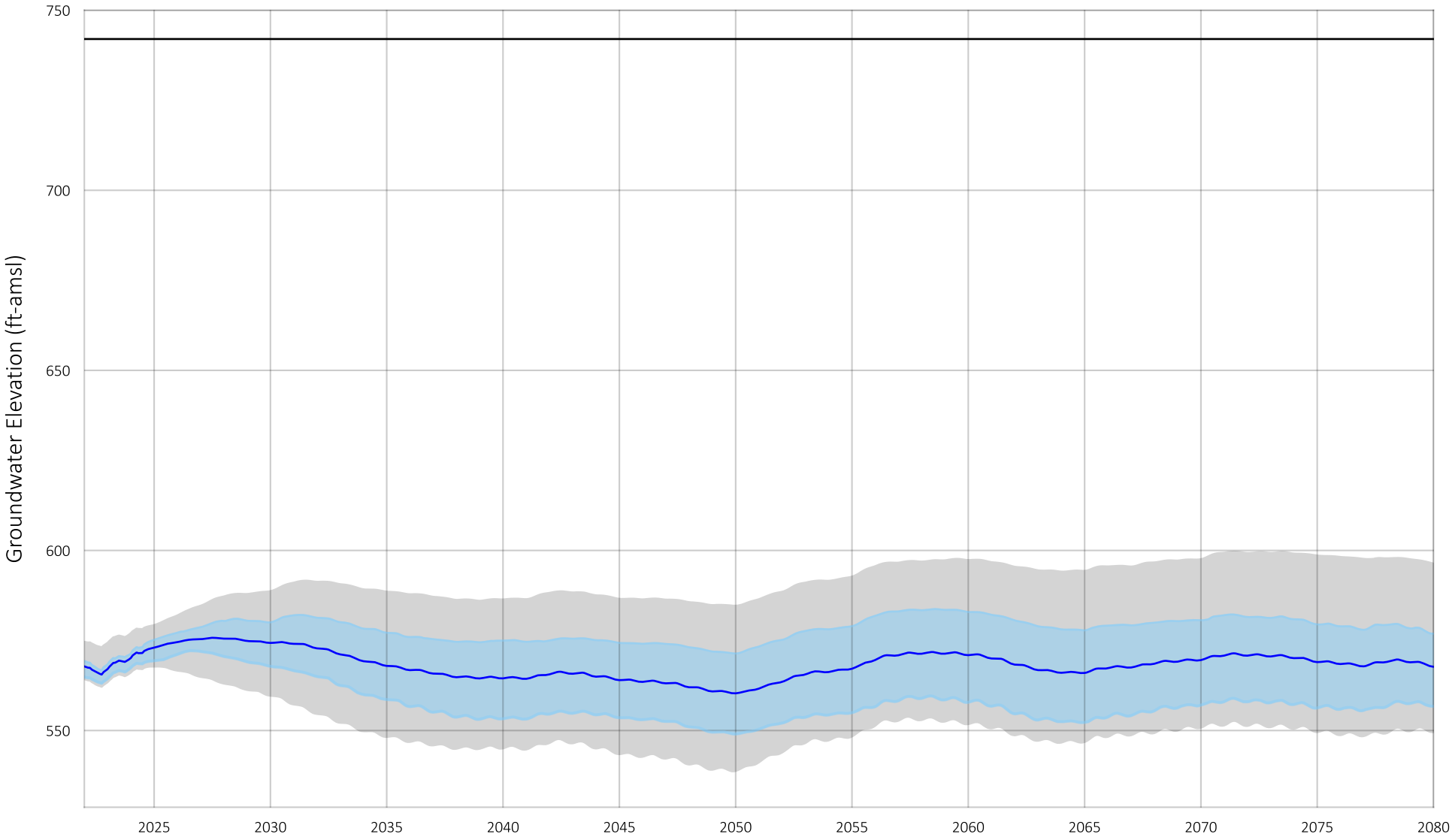
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 28
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 300 - 500

Figure D-84



Well Location

Legend

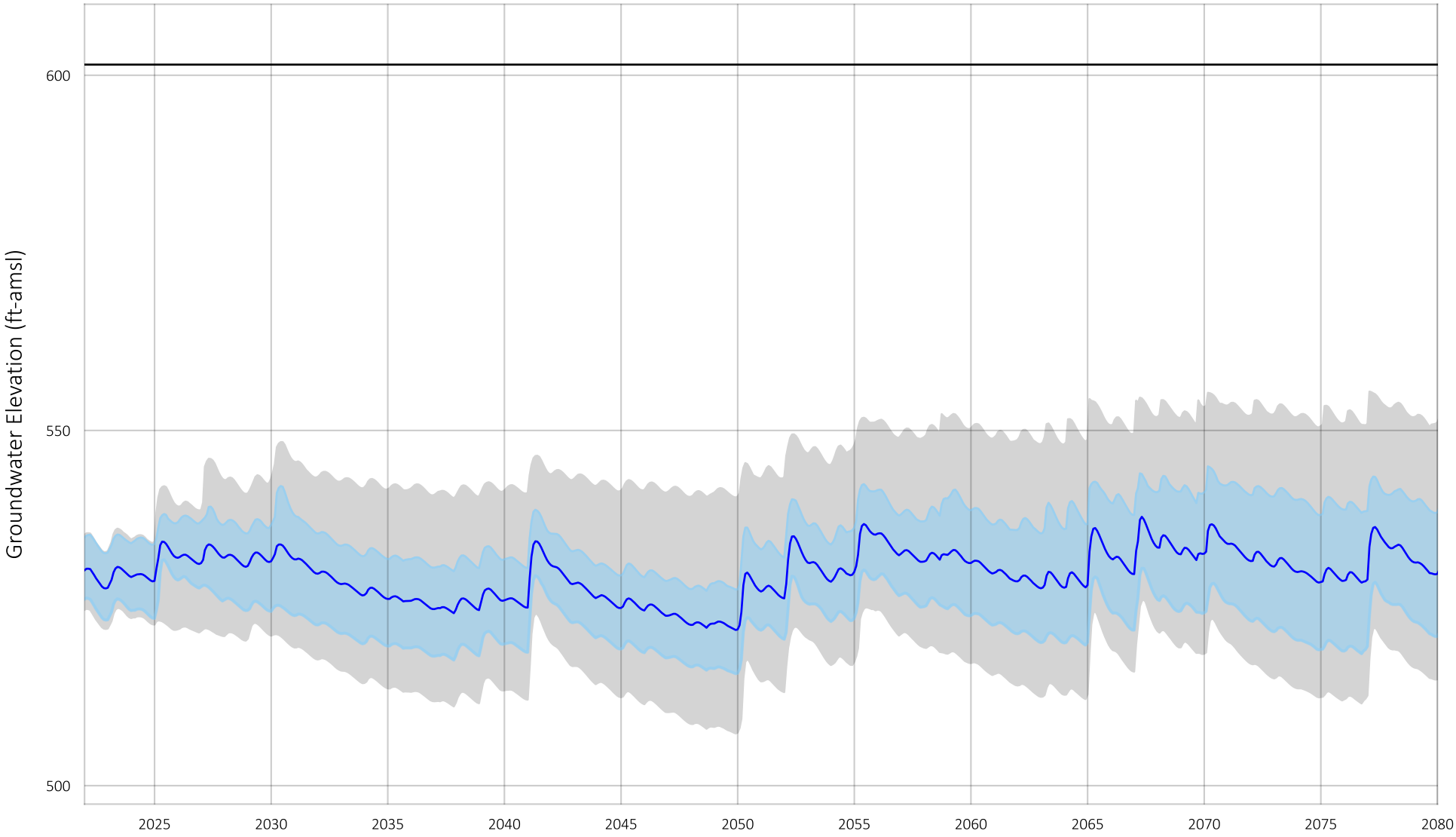
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

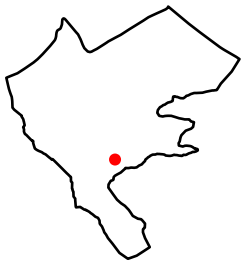
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: High School Irrigation Well
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): no data - no data

Figure D-85



Well Location



Legend

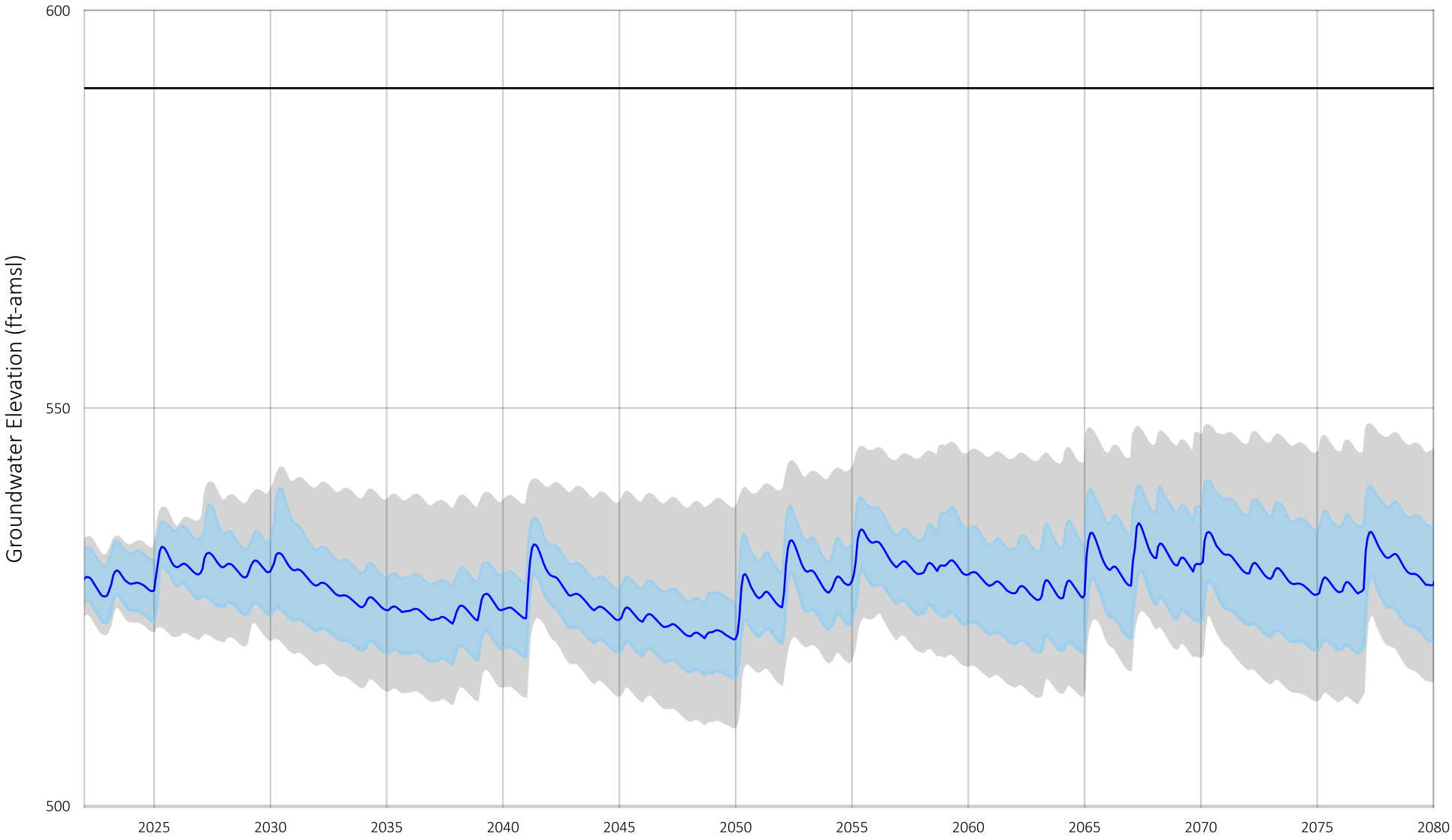
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

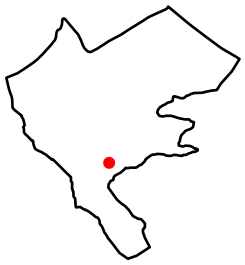
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 41
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 105 - 235.6

Figure D-86



Well Location



Legend

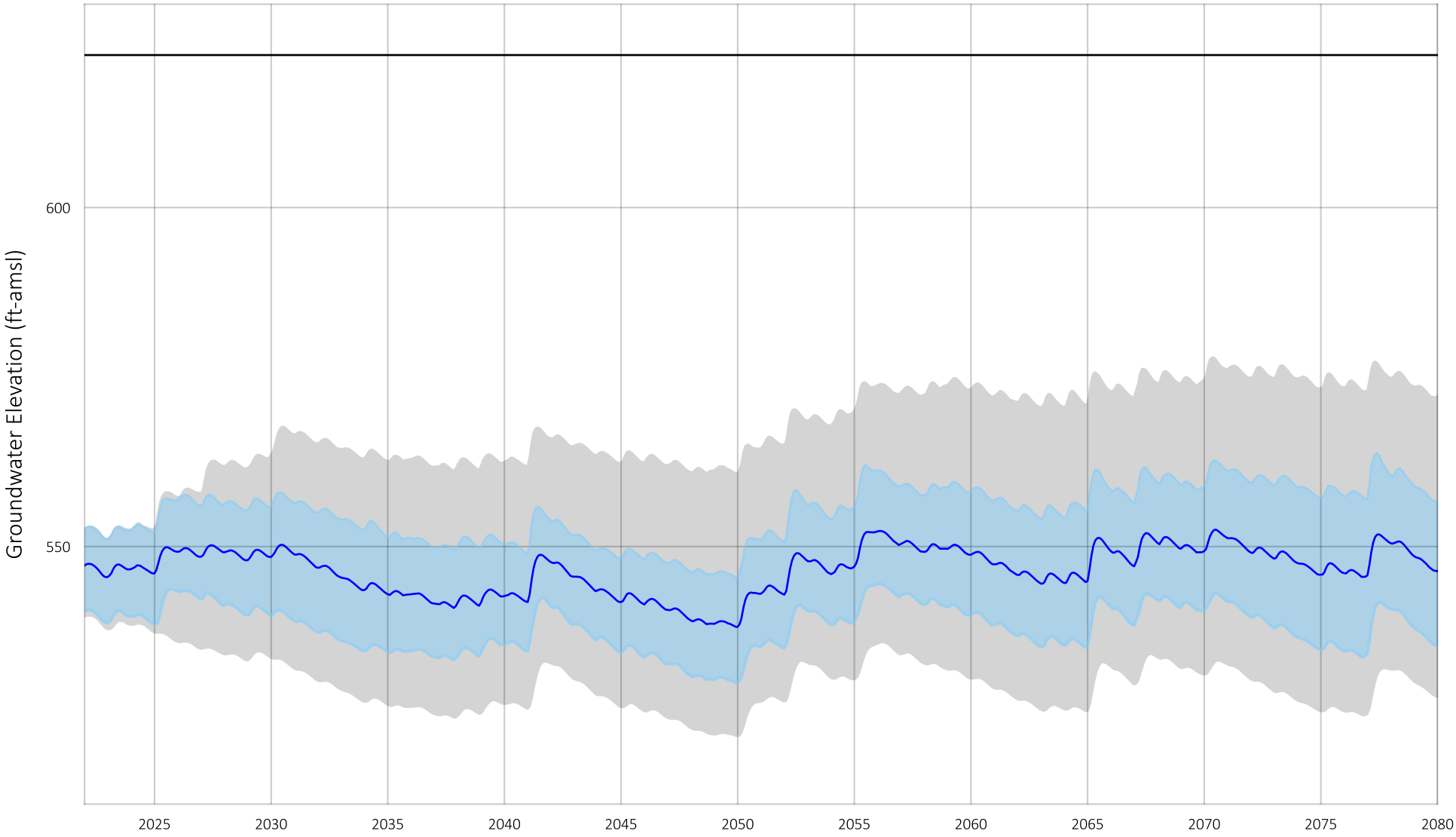
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

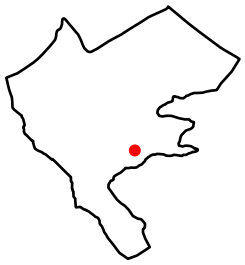
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 40
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 90 - 245.7

Figure D-87



Well Location



Legend

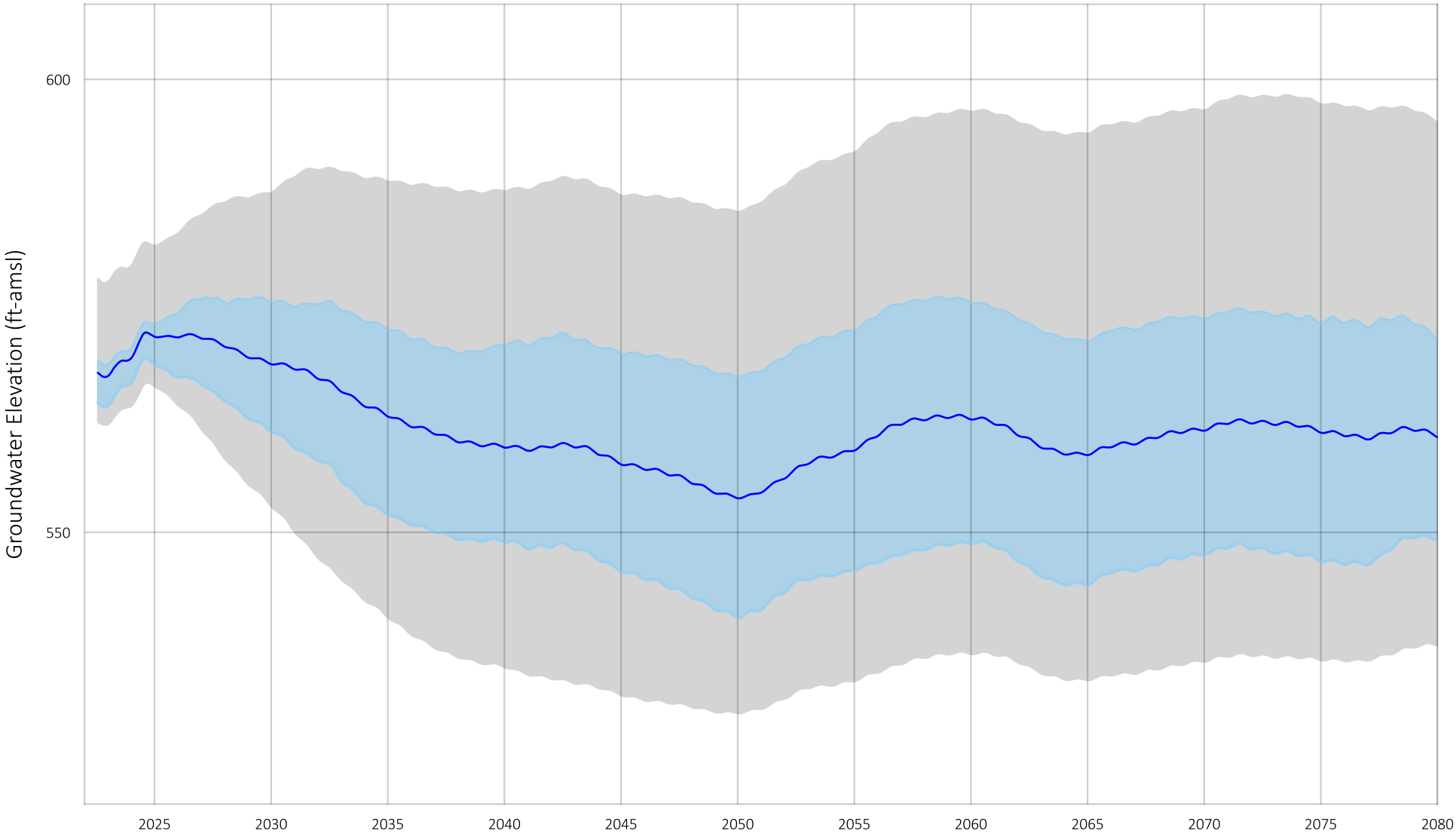
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

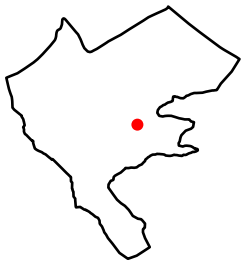
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 42
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 90 - 190

Figure D-88



Well Location



Legend

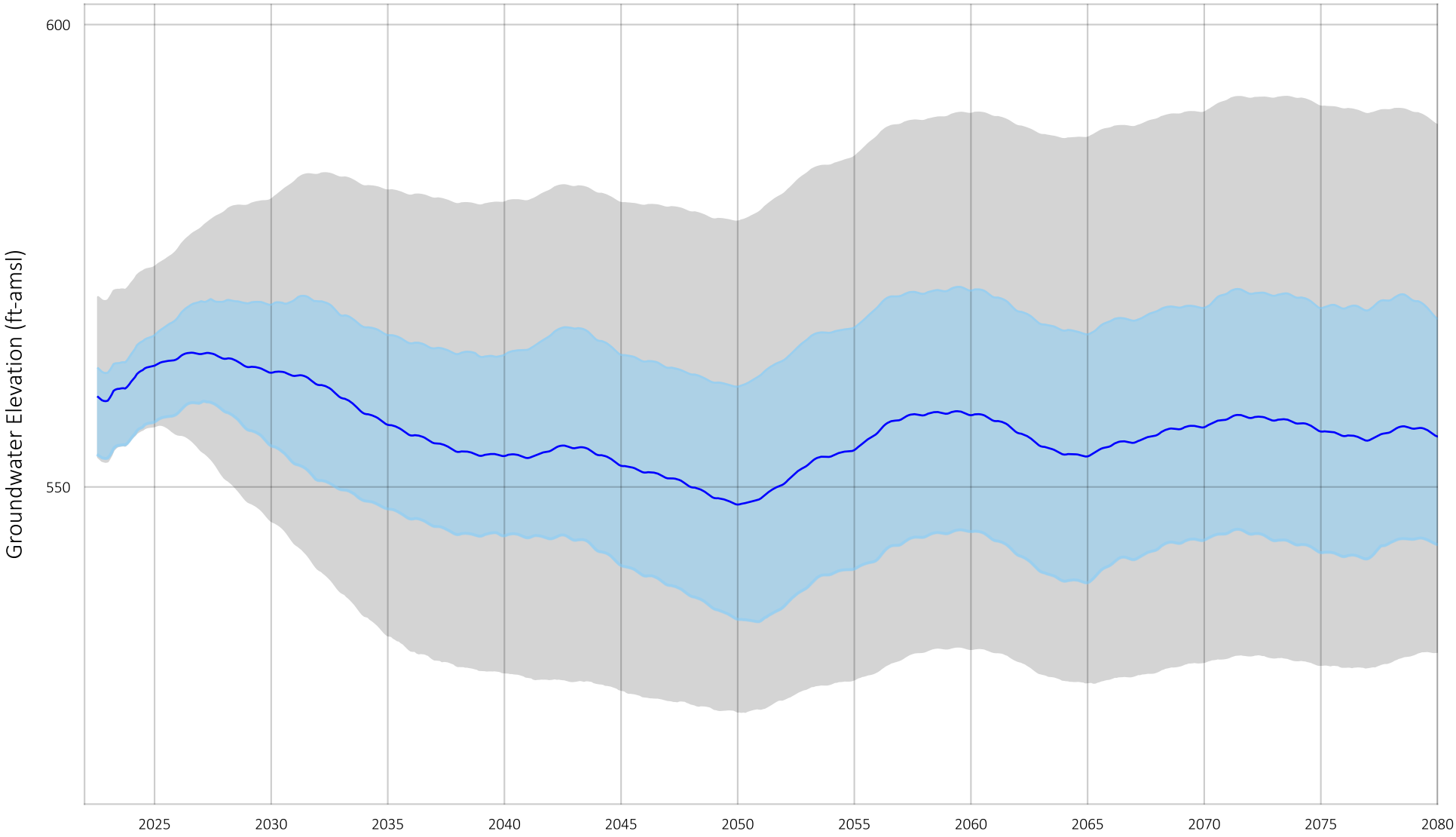
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

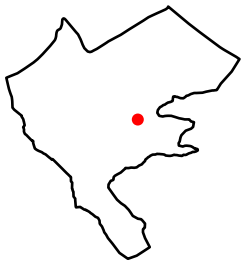
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: IDI-3A
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): no data - no data

Figure D-89



Well Location



Legend

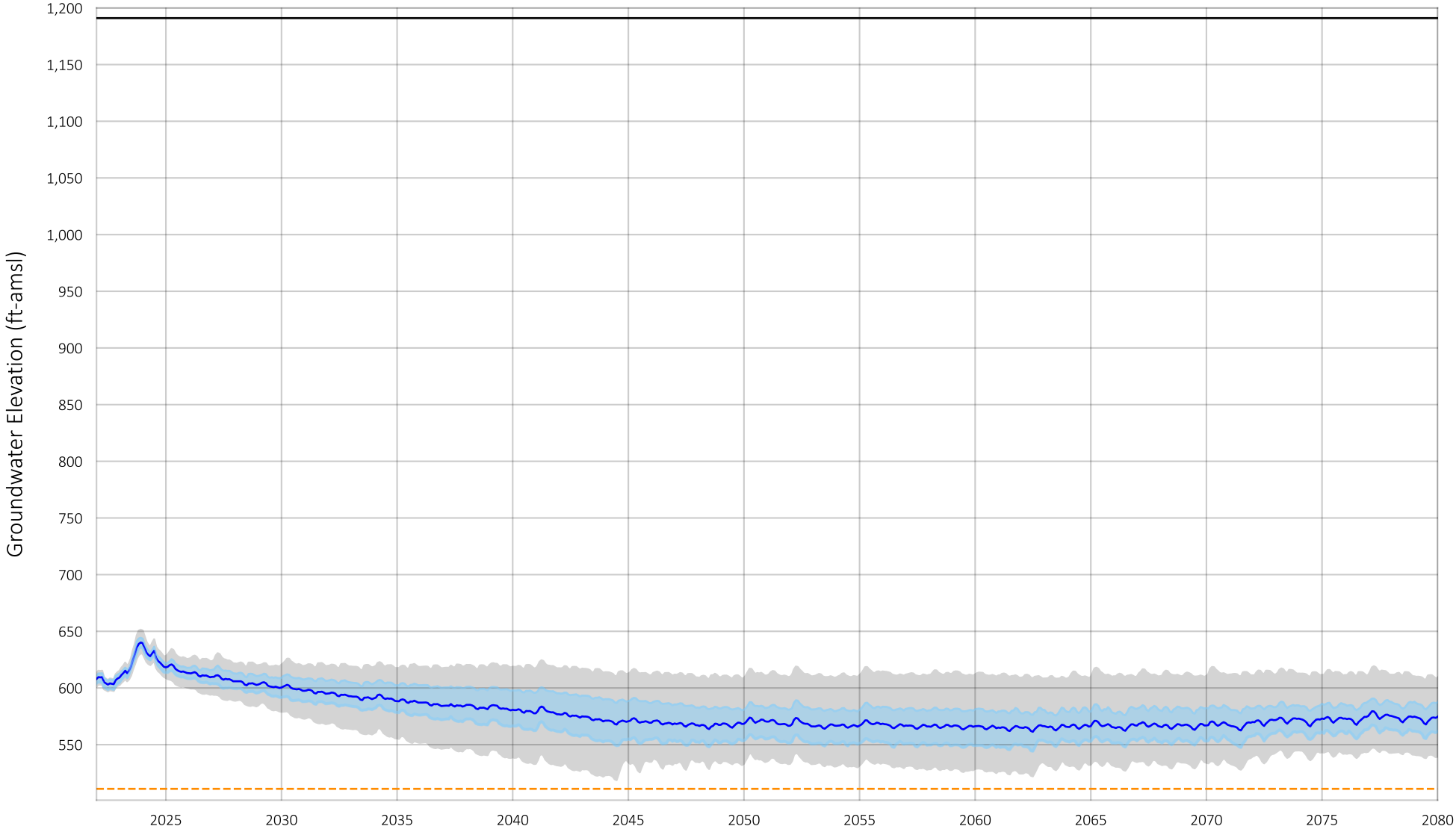
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

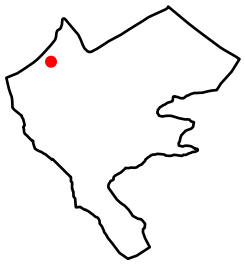
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: IDI-5A
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): no data - no data

Figure D-90



Well Location



Legend

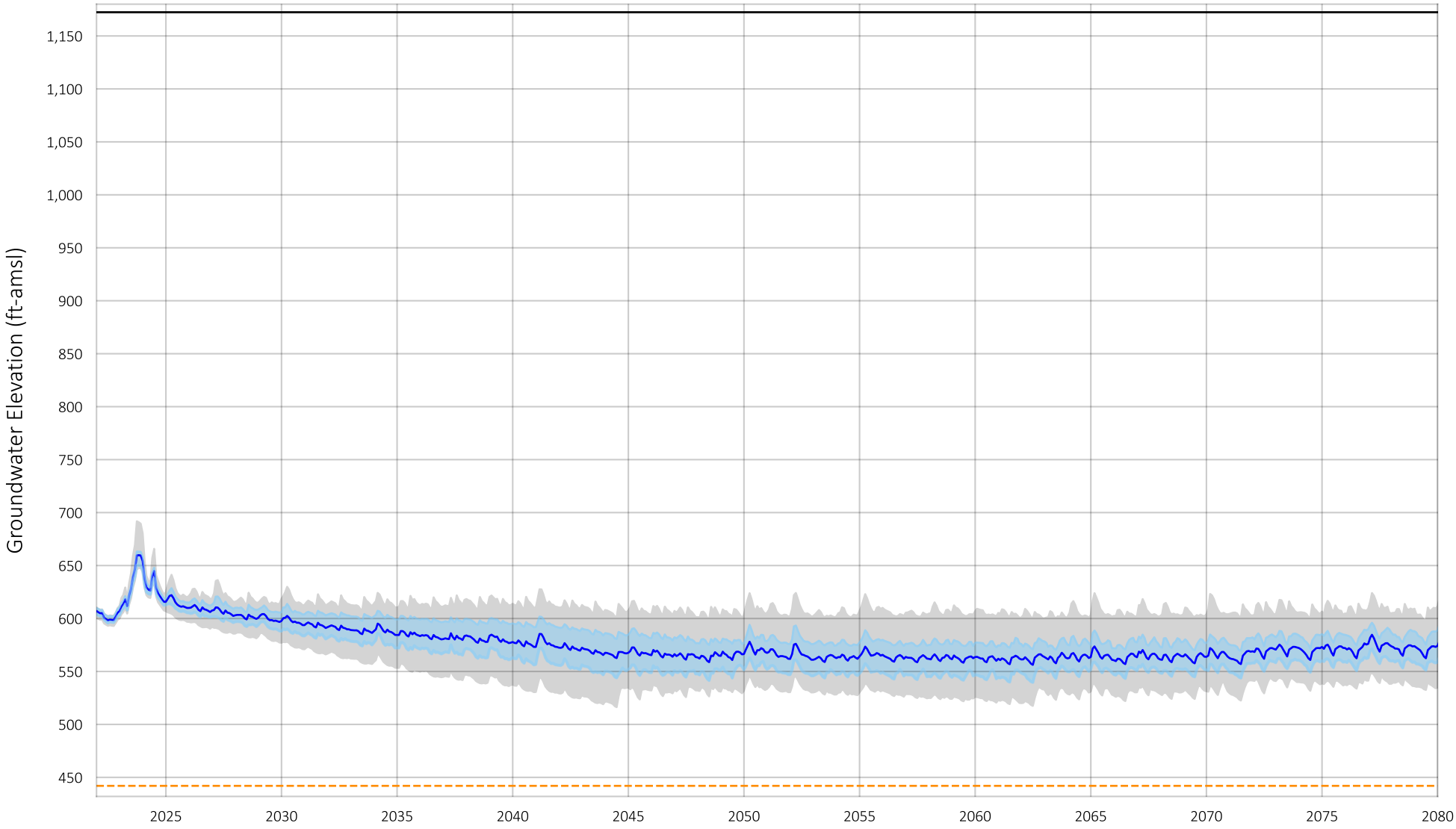
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

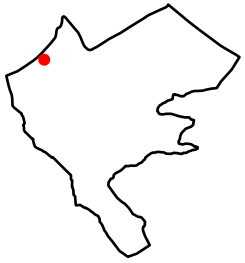
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 04
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 484 - 864

Figure D-91



Well Location



Legend

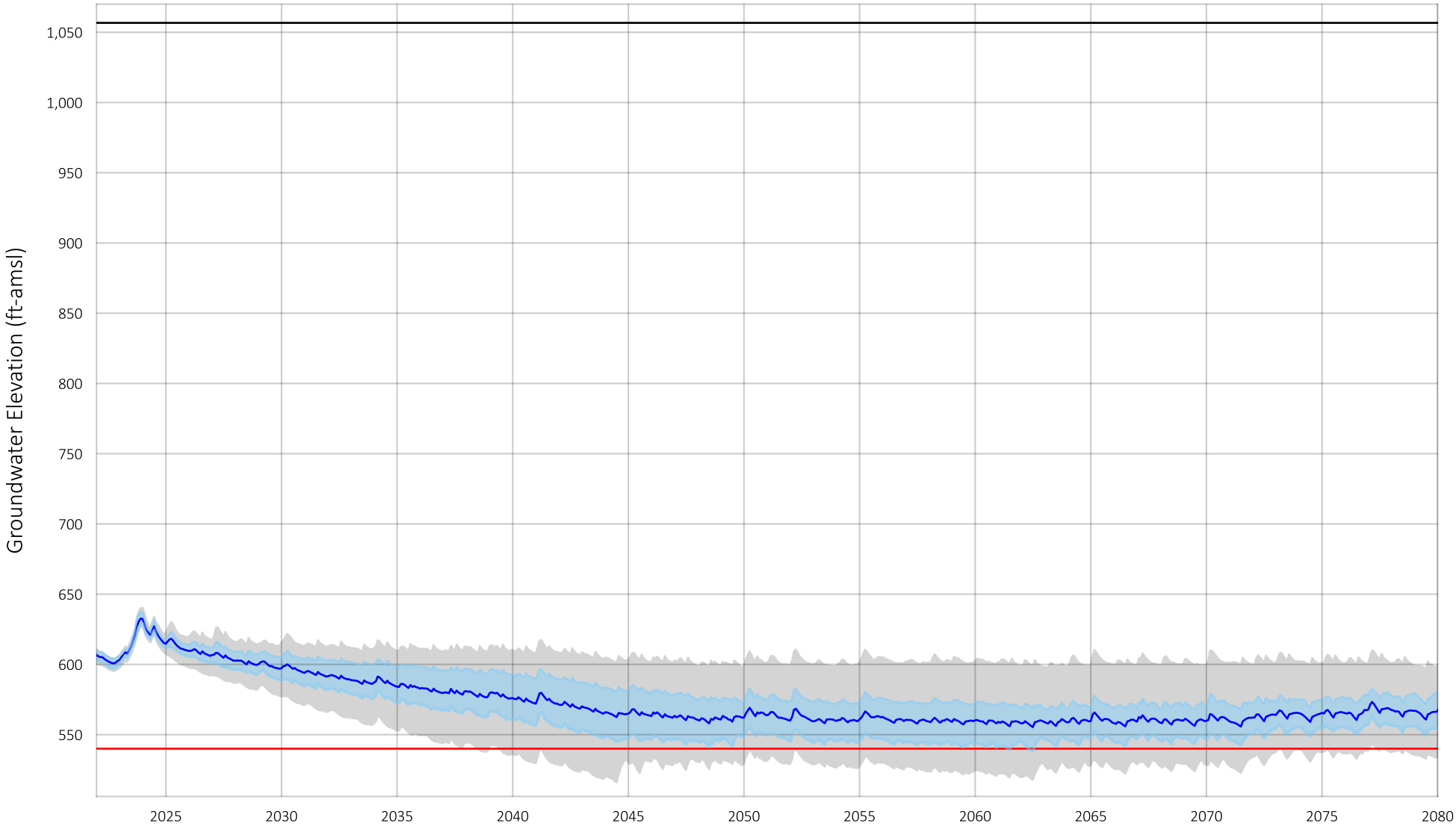
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

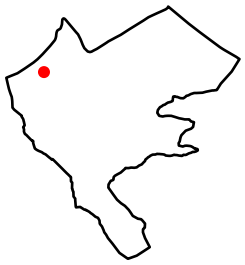
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 05
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 422 - 990

Figure D-92



Well Location



Legend

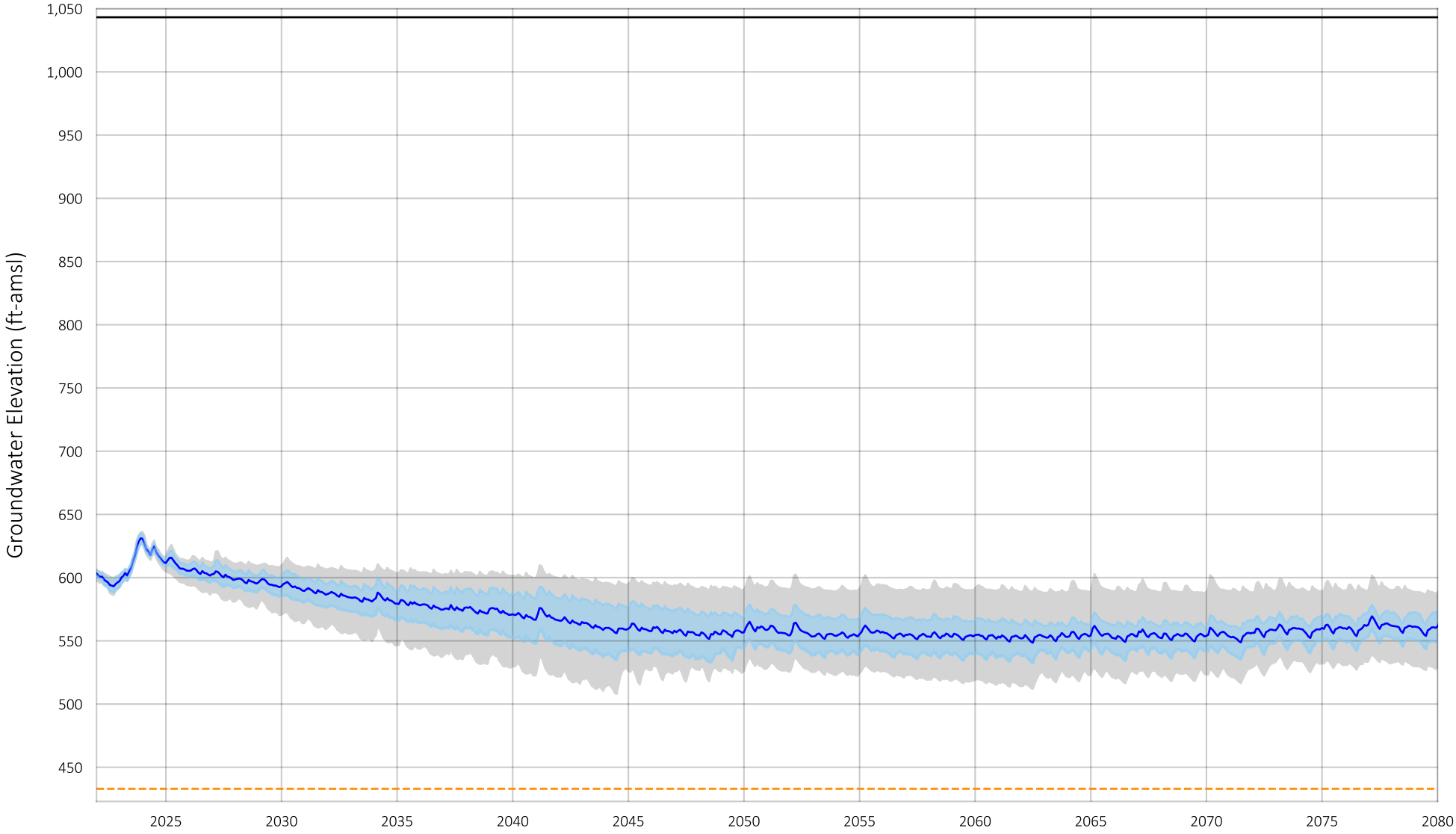
- Land Subsidence Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

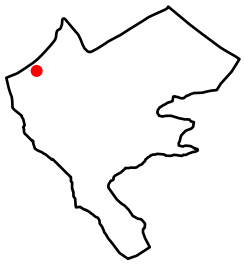
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 10
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 520 - 1084

Figure D-93



Well Location



Legend

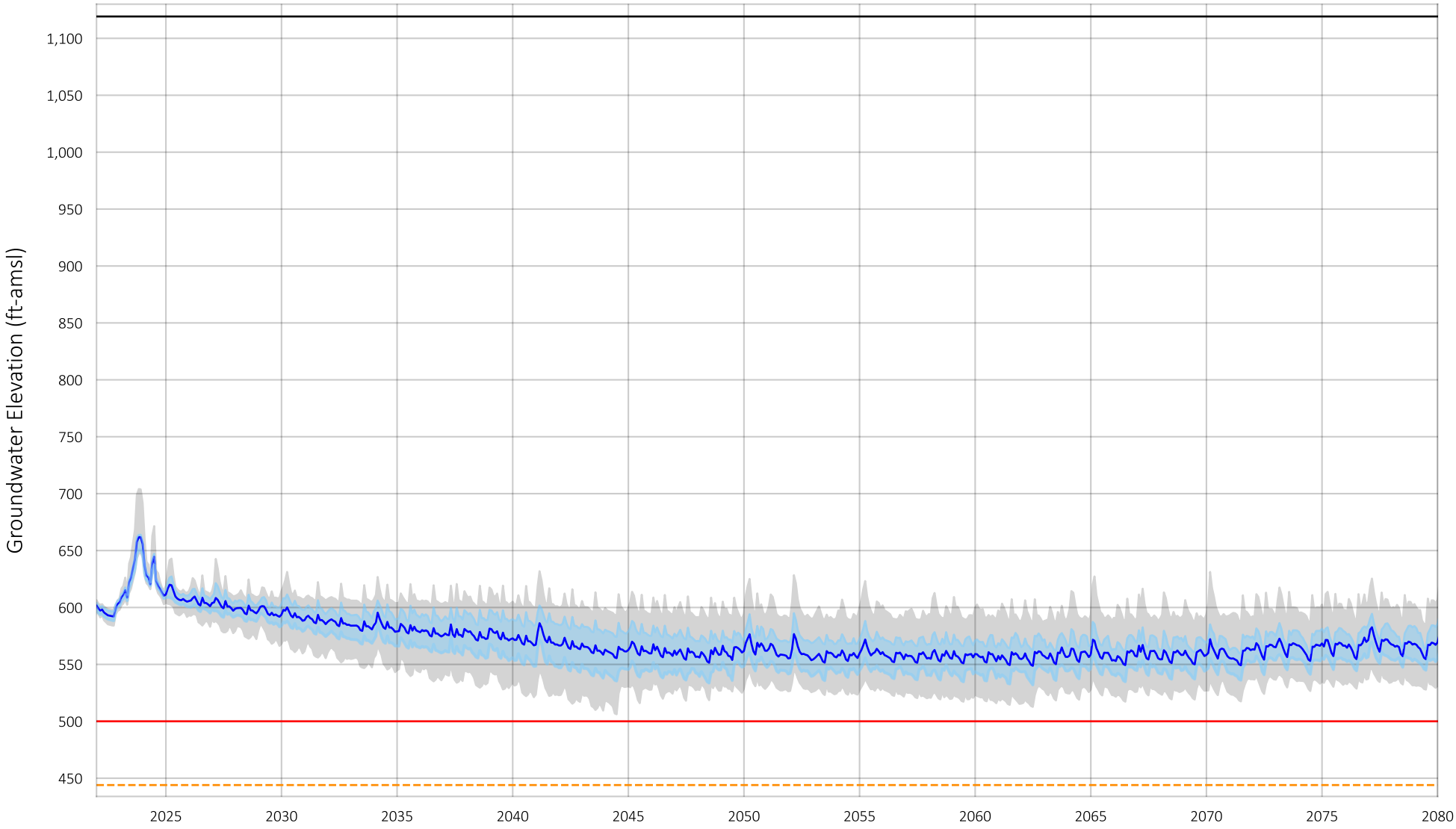
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

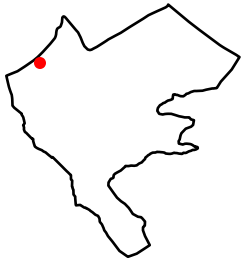
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 19
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 620 - 1230

Figure D-94



Well Location



Legend

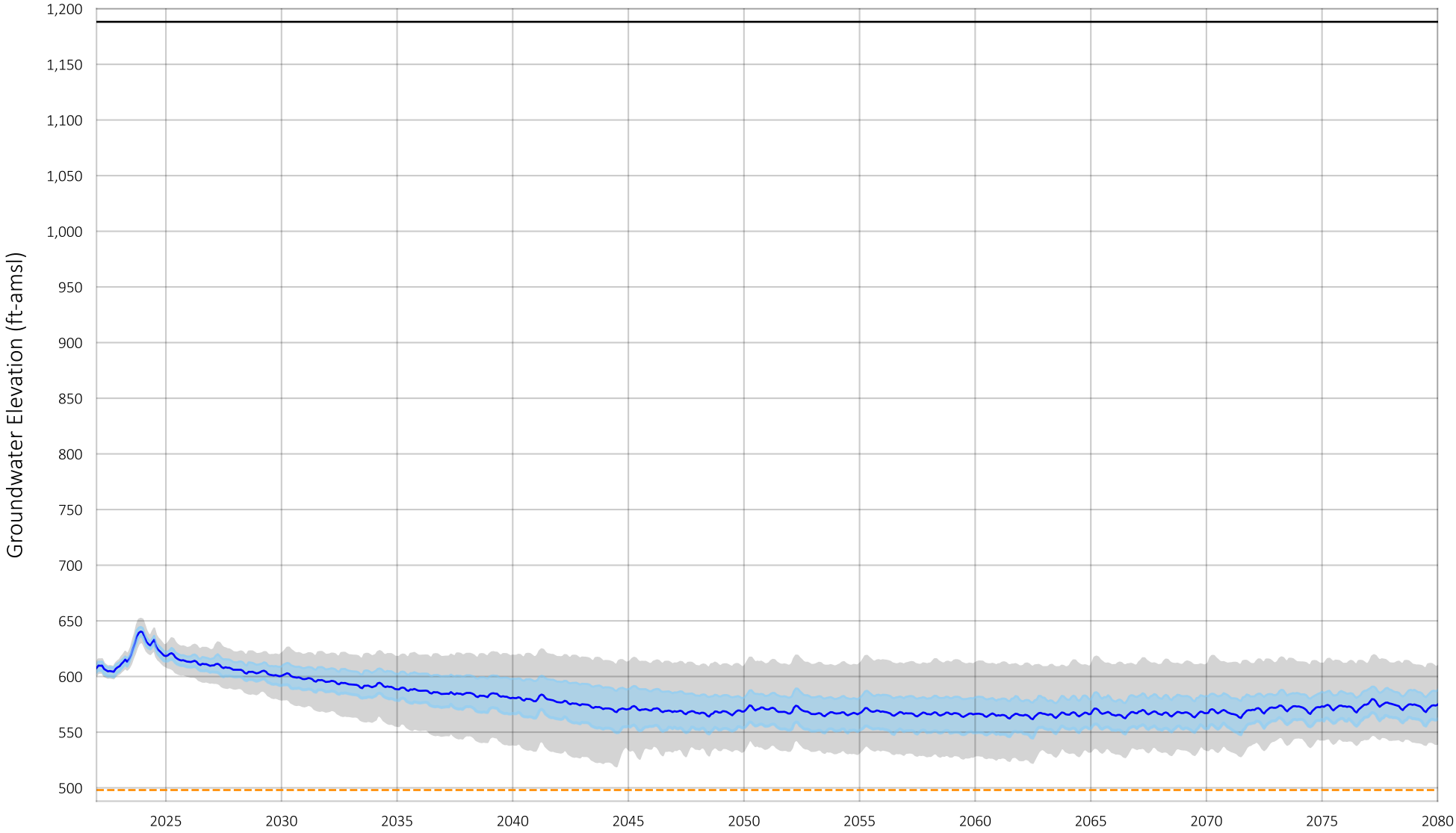
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

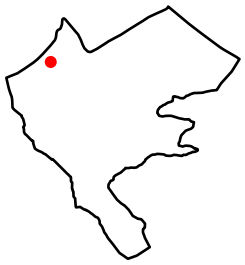
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 26
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 685 - 1240

Figure D-95



Well Location



Legend

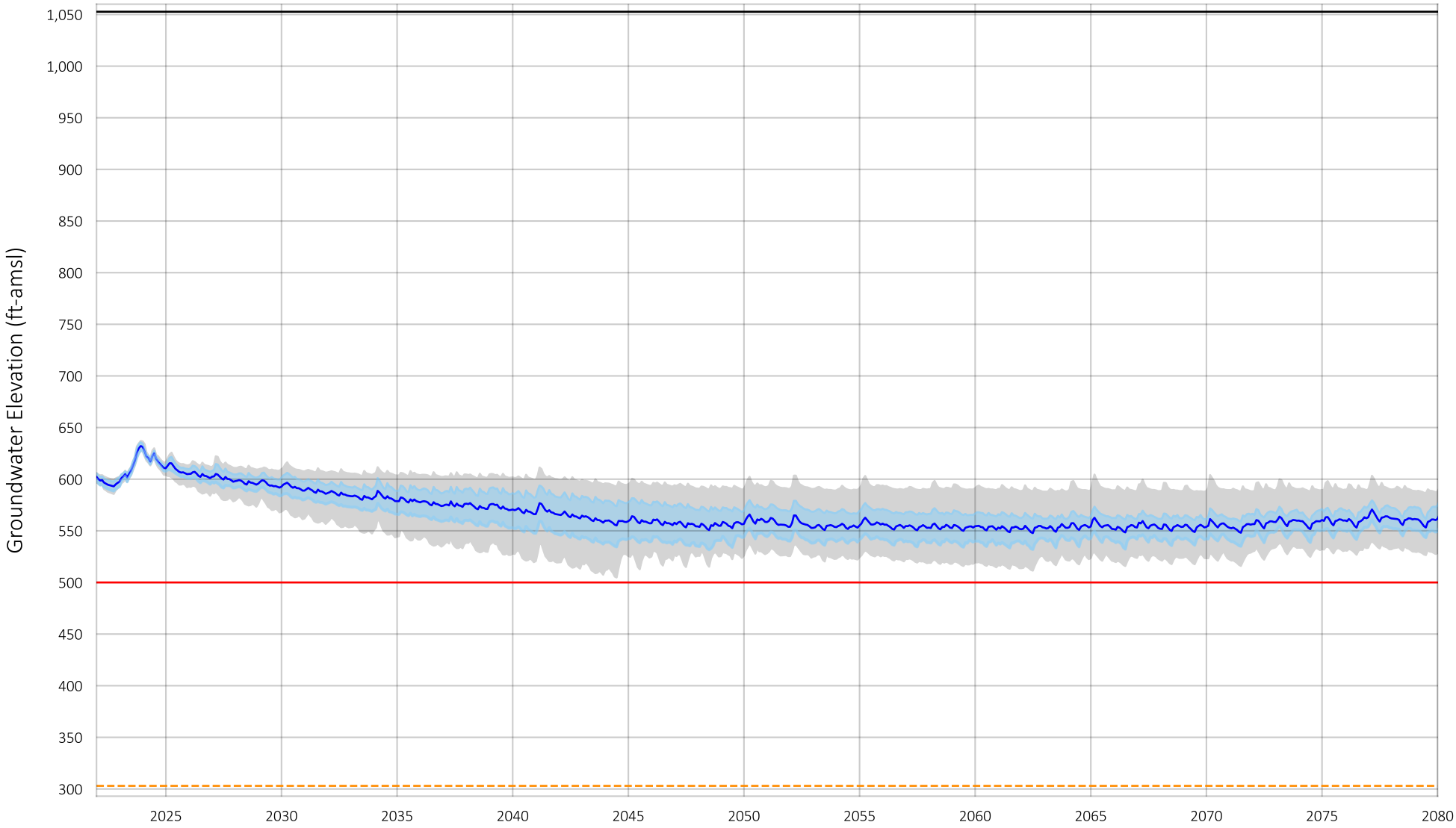
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

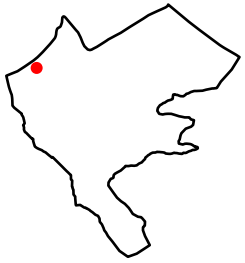
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 27
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 710 - 1180

Figure D-96



Well Location



Legend

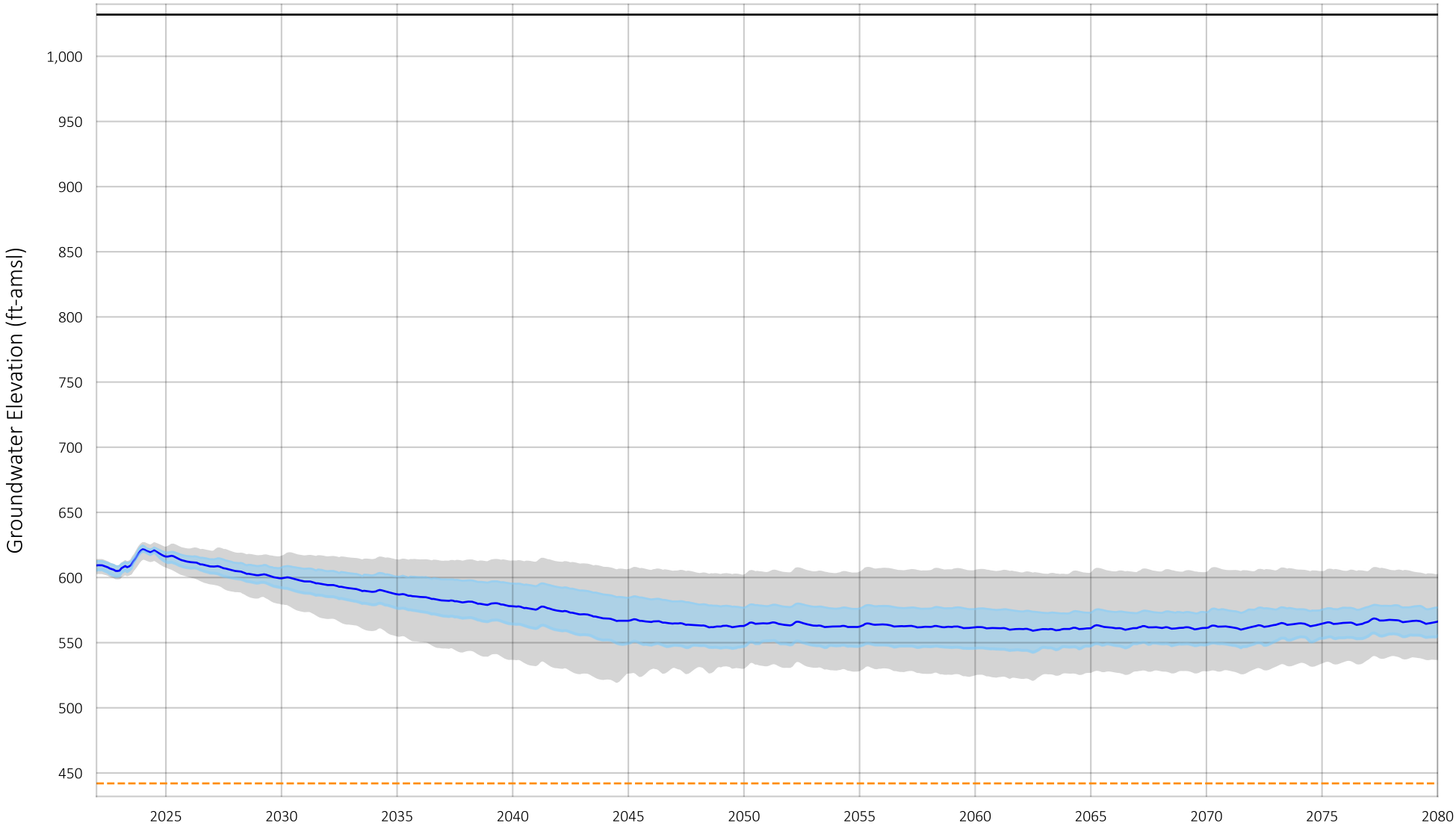
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

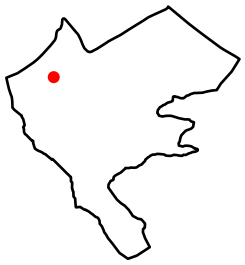
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 28
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 635 - 1225

Figure D-97



Well Location



Legend

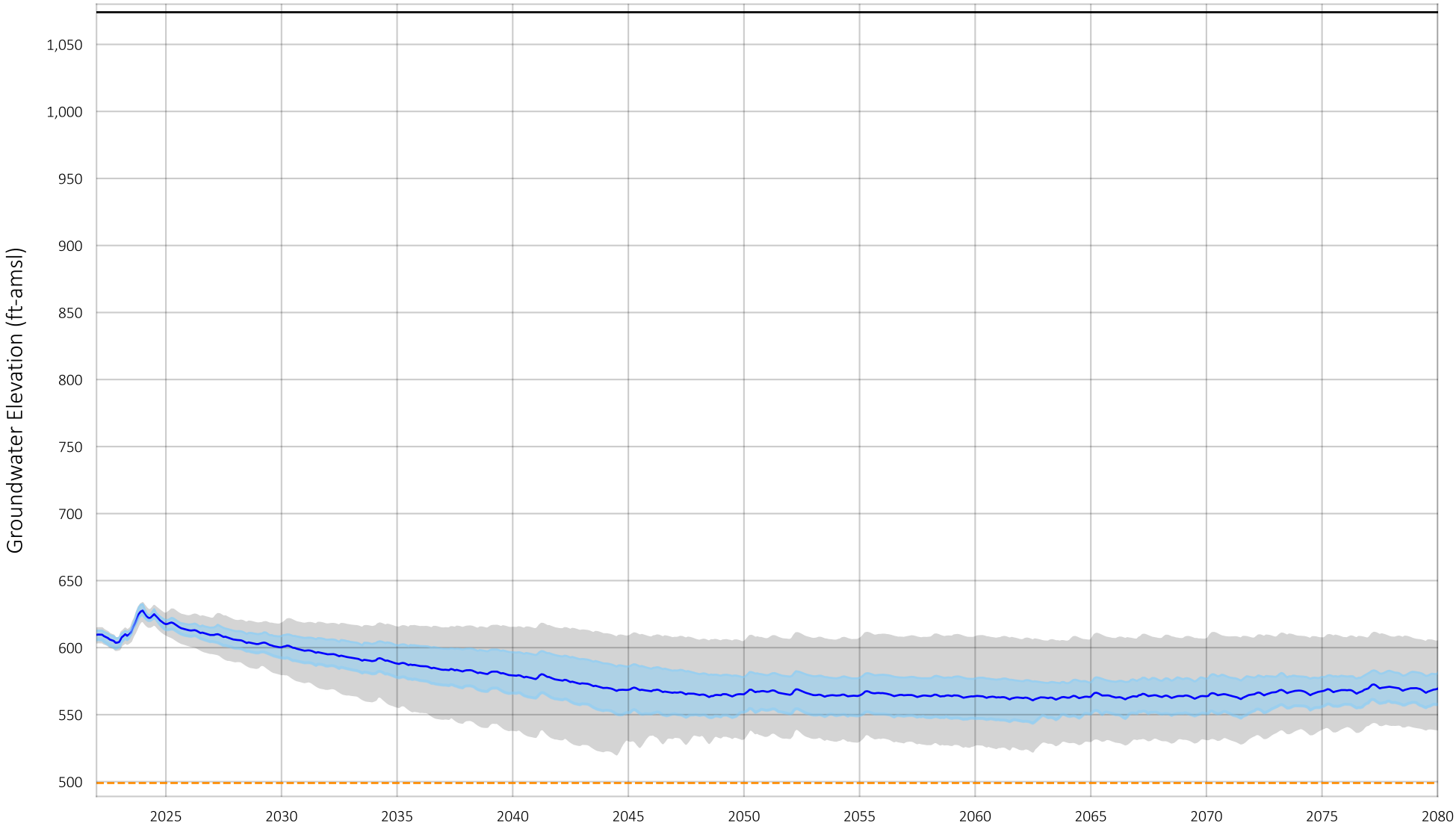
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

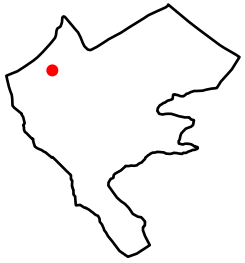
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 32
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 625 - 1107

Figure D-98



Well Location



Legend

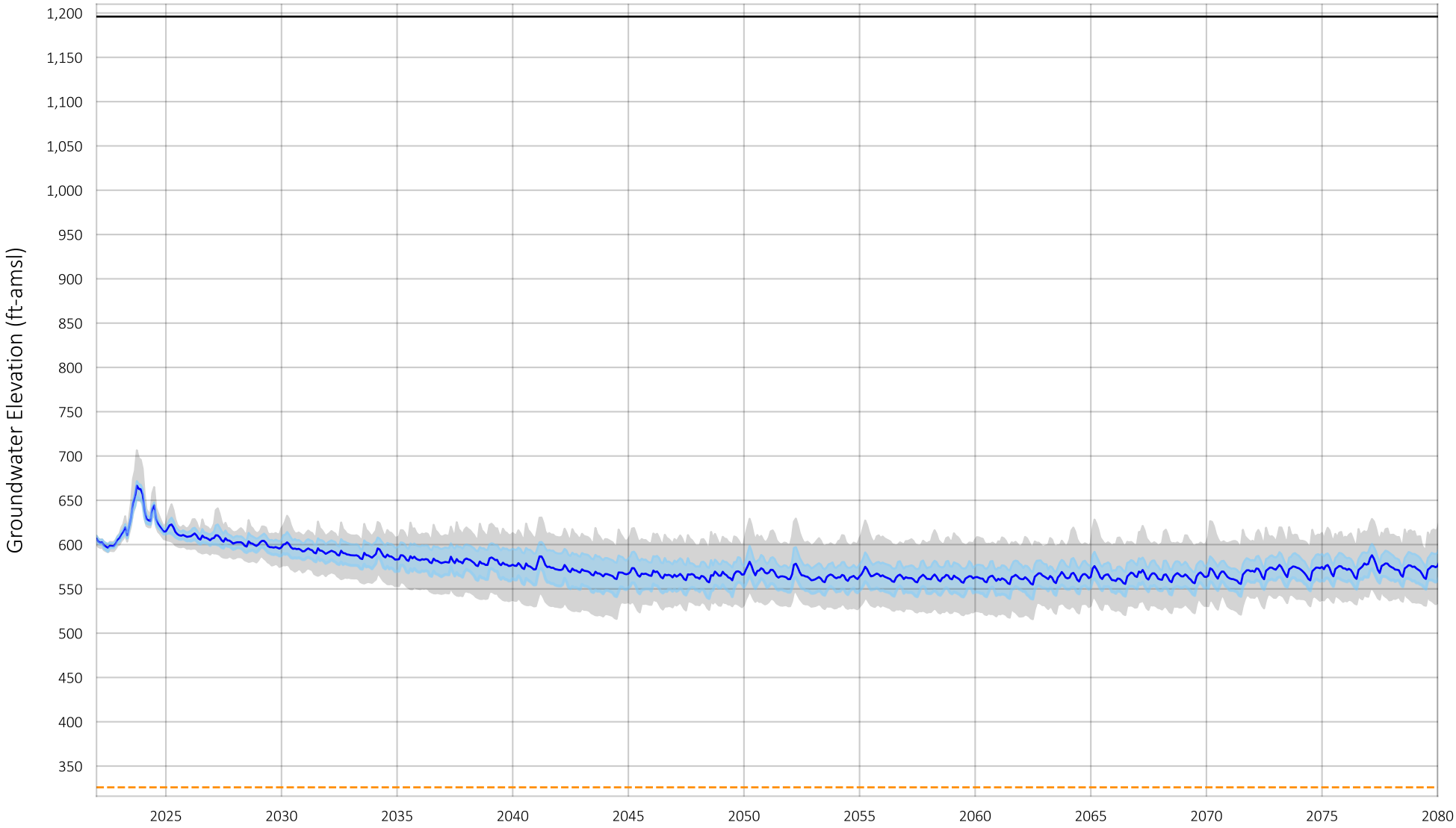
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

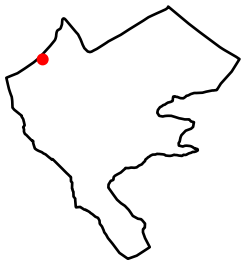
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 30
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 628 - 1161

Figure D-99



Well Location



Legend

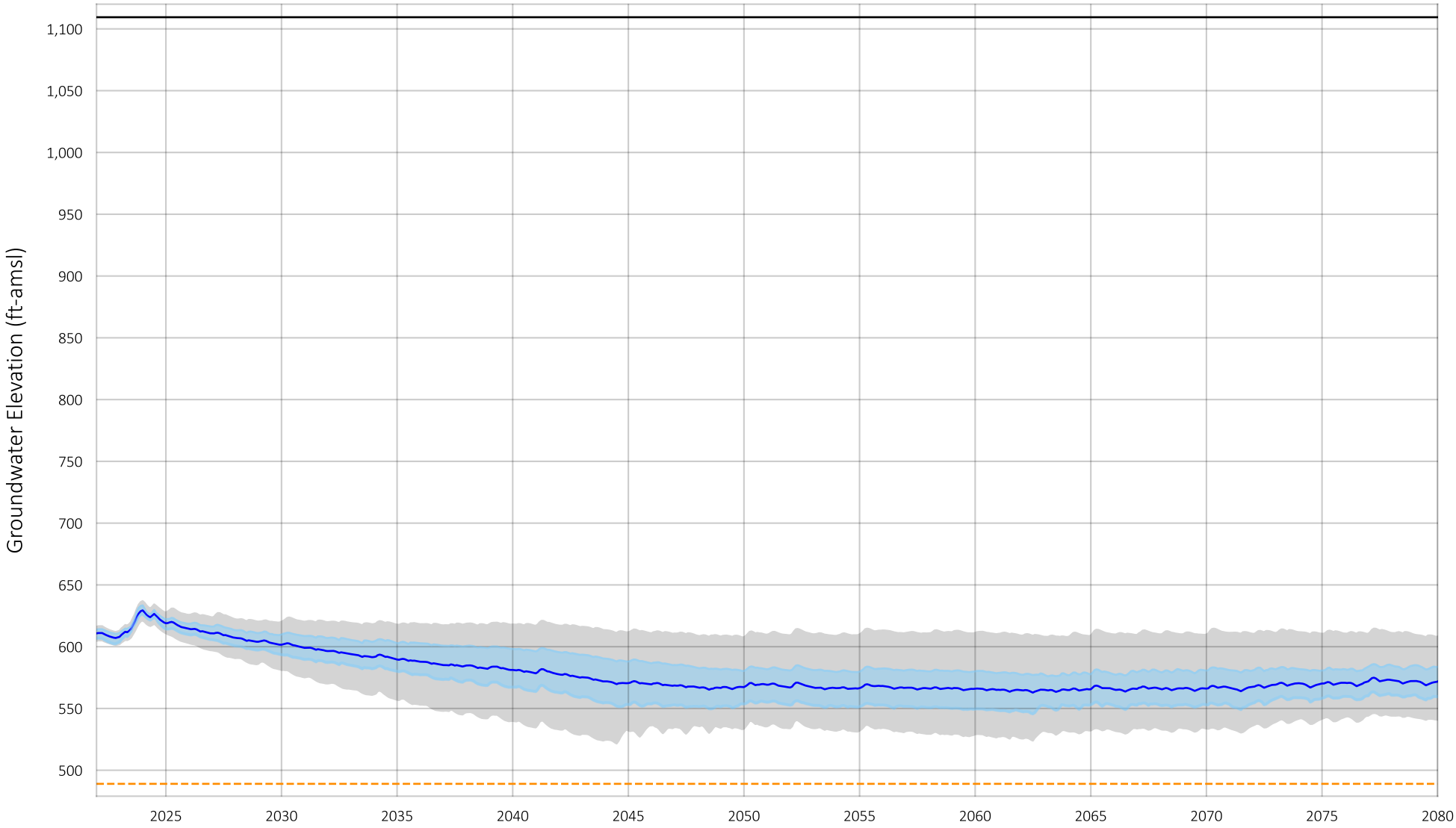
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

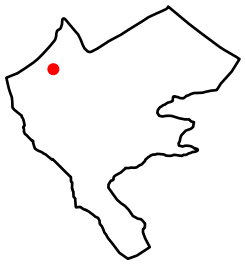
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 31
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 780 - 1410

Figure D-100



Well Location



Legend

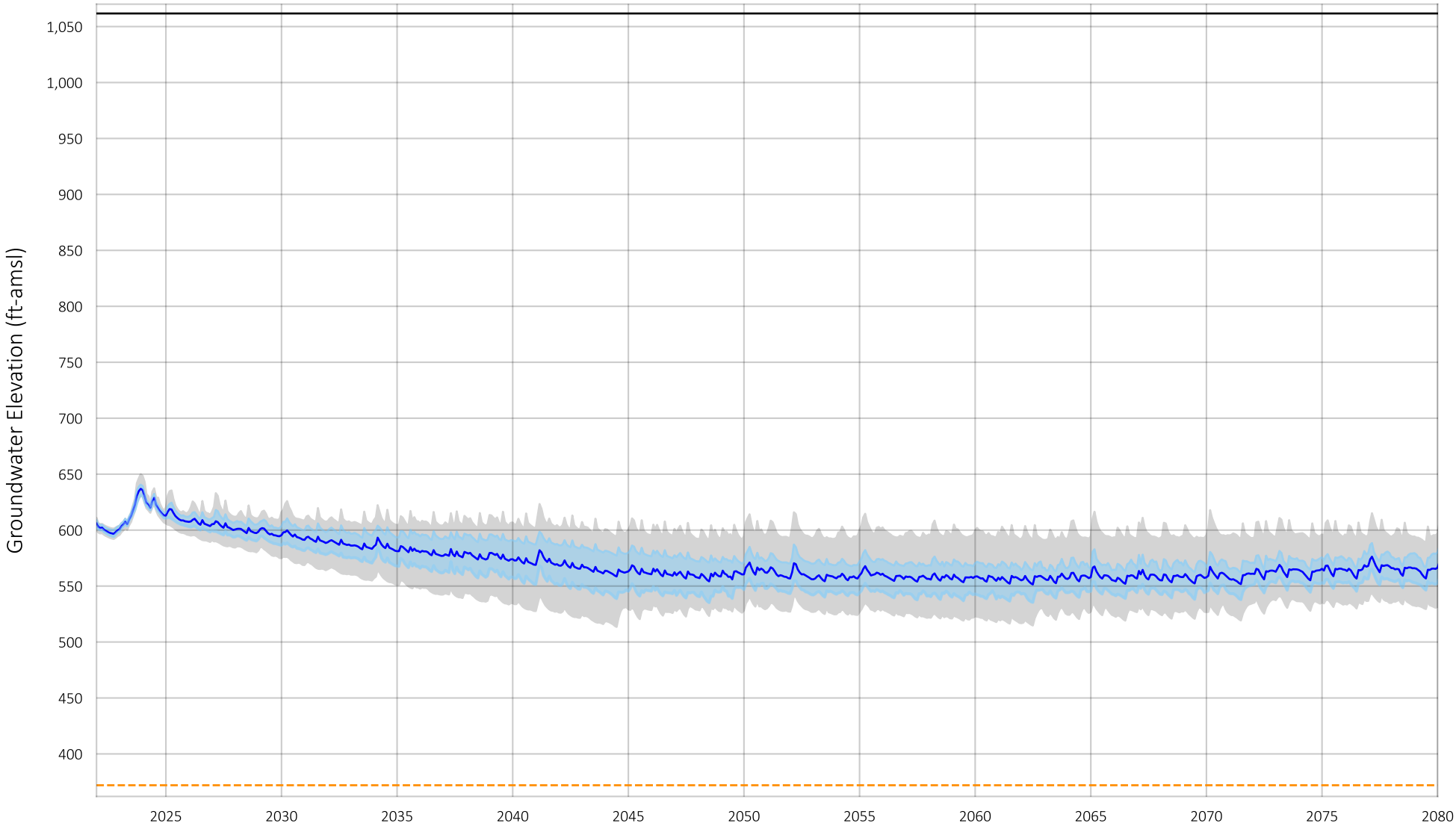
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

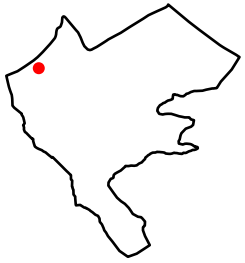
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 33
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 665 - 1200

Figure D-101



Well Location



Legend

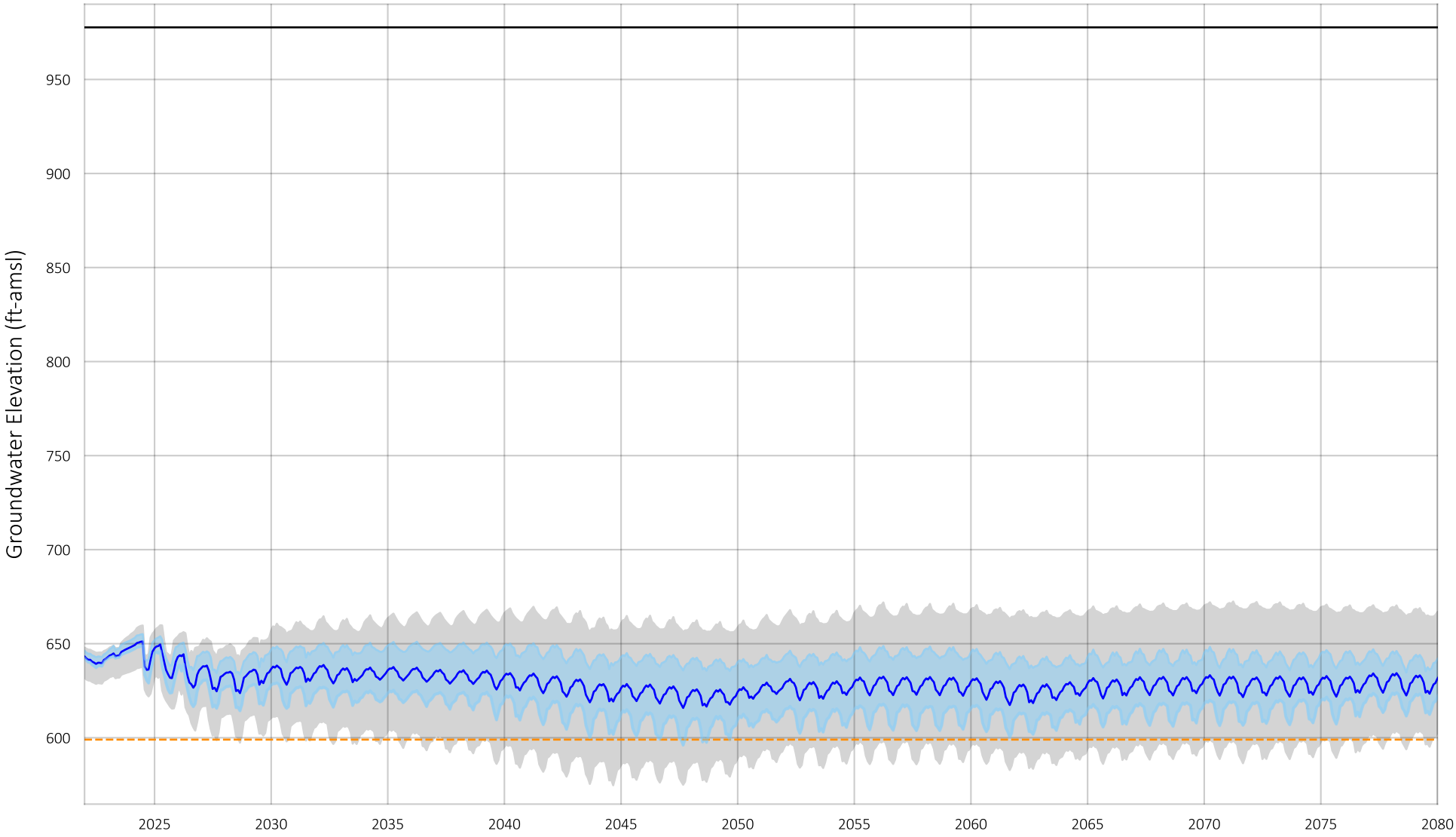
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

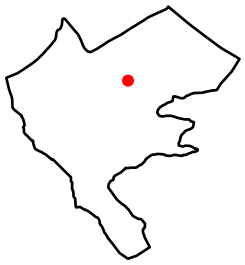
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 34
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 664 - 1224

Figure D-102



Well Location



Legend

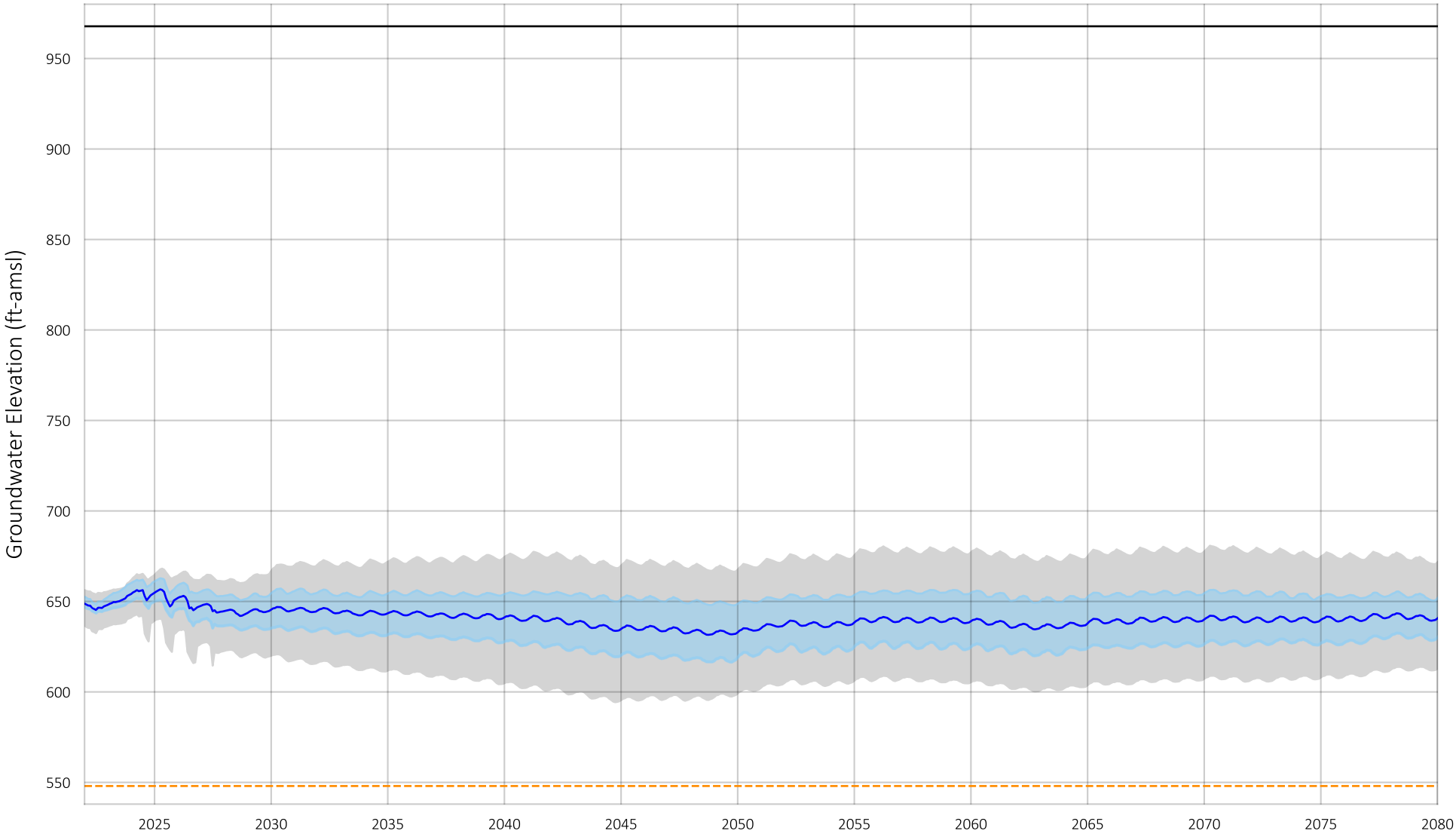
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

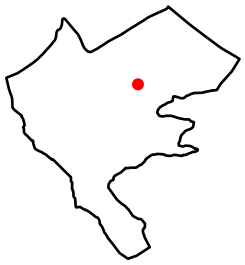
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 37
Well Owner: City of Ontario
Screen Interval (ft-bgs): 400 - 860

Figure D-103



Well Location



Legend

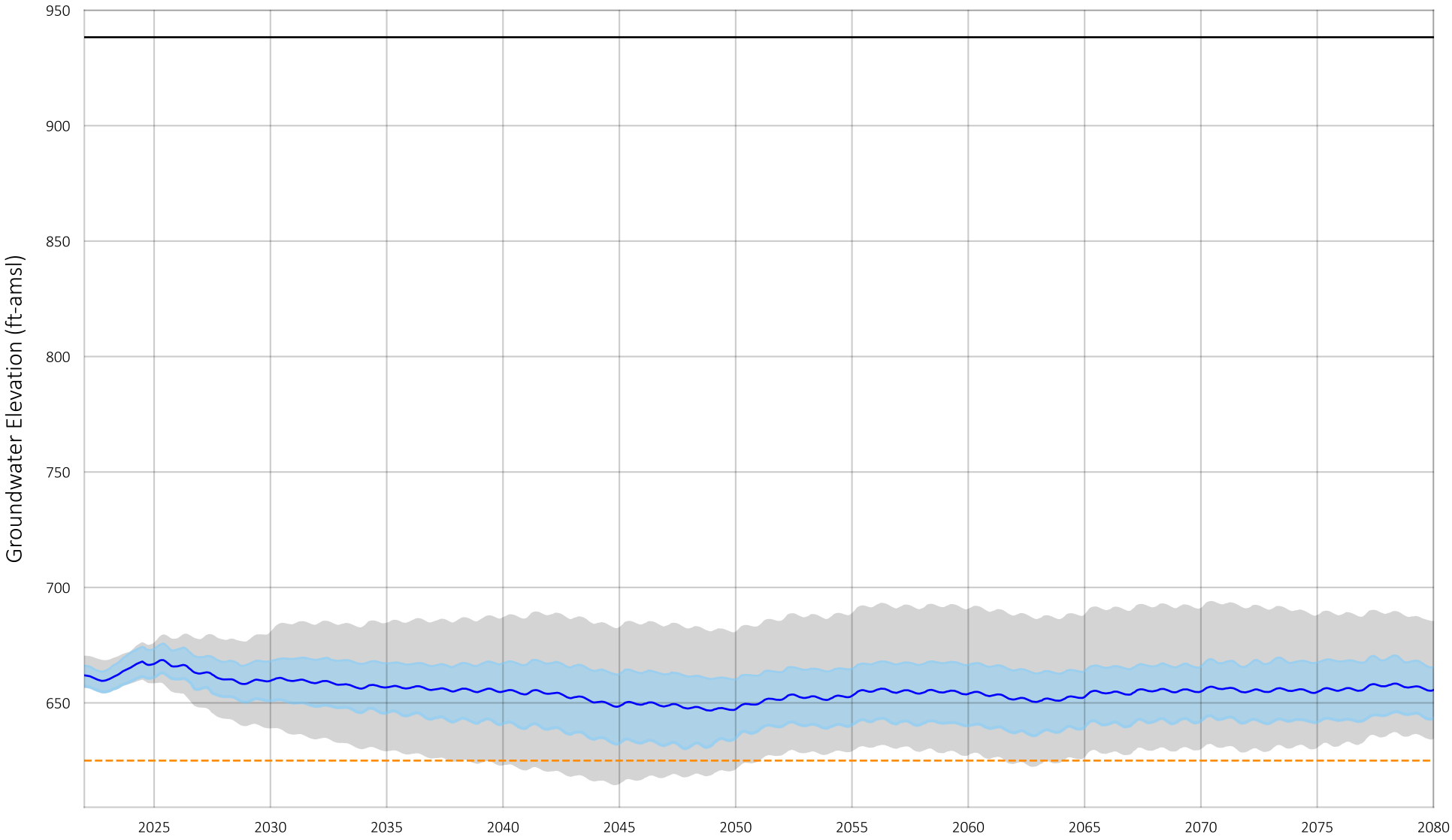
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

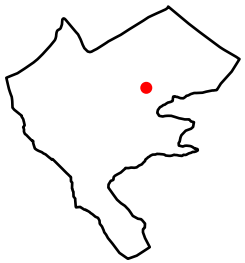
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 30
Well Owner: City of Ontario
Screen Interval (ft-bgs): 420 - 1040

Figure D-104



Well Location



Legend

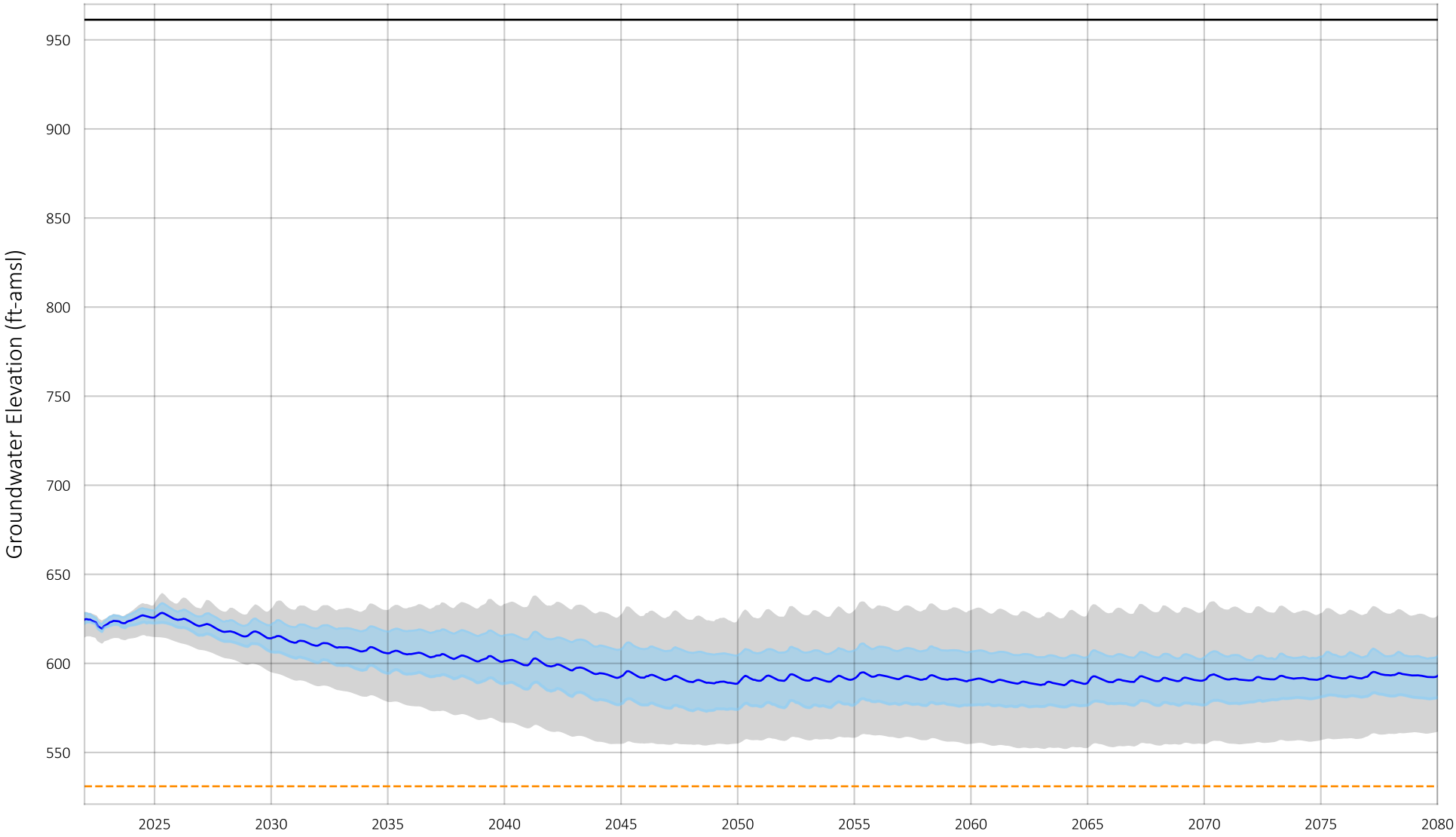
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

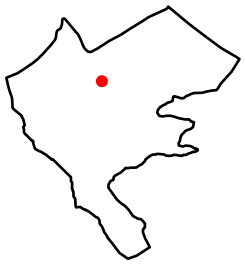
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 31
Well Owner: City of Ontario
Screen Interval (ft-bgs): 400 - 980

Figure D-105



Well Location



Legend

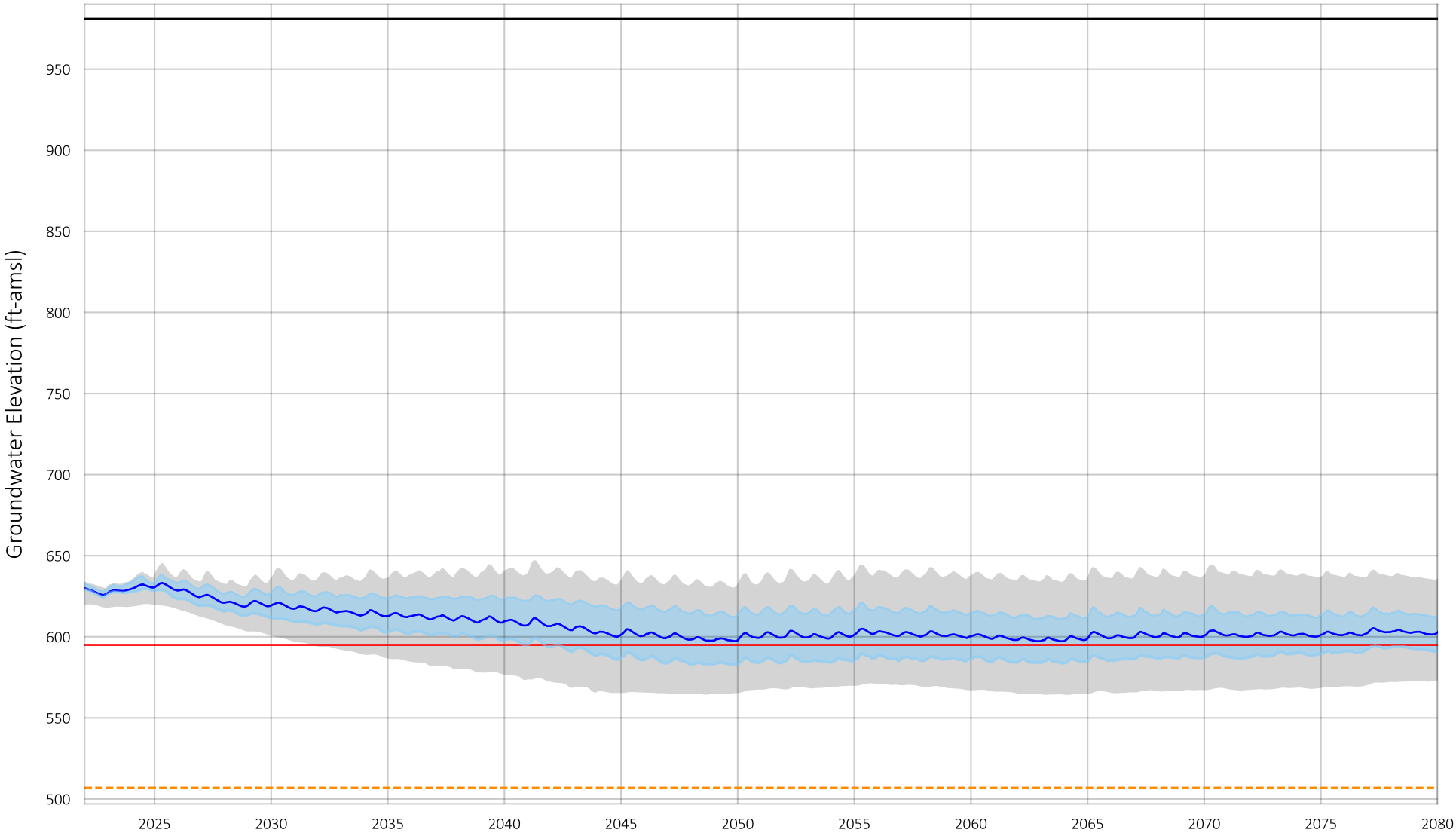
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

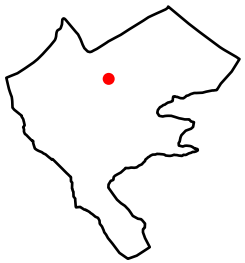
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 29
Well Owner: City of Ontario
Screen Interval (ft-bgs): 400 - 1095

Figure D-106



Well Location



Legend

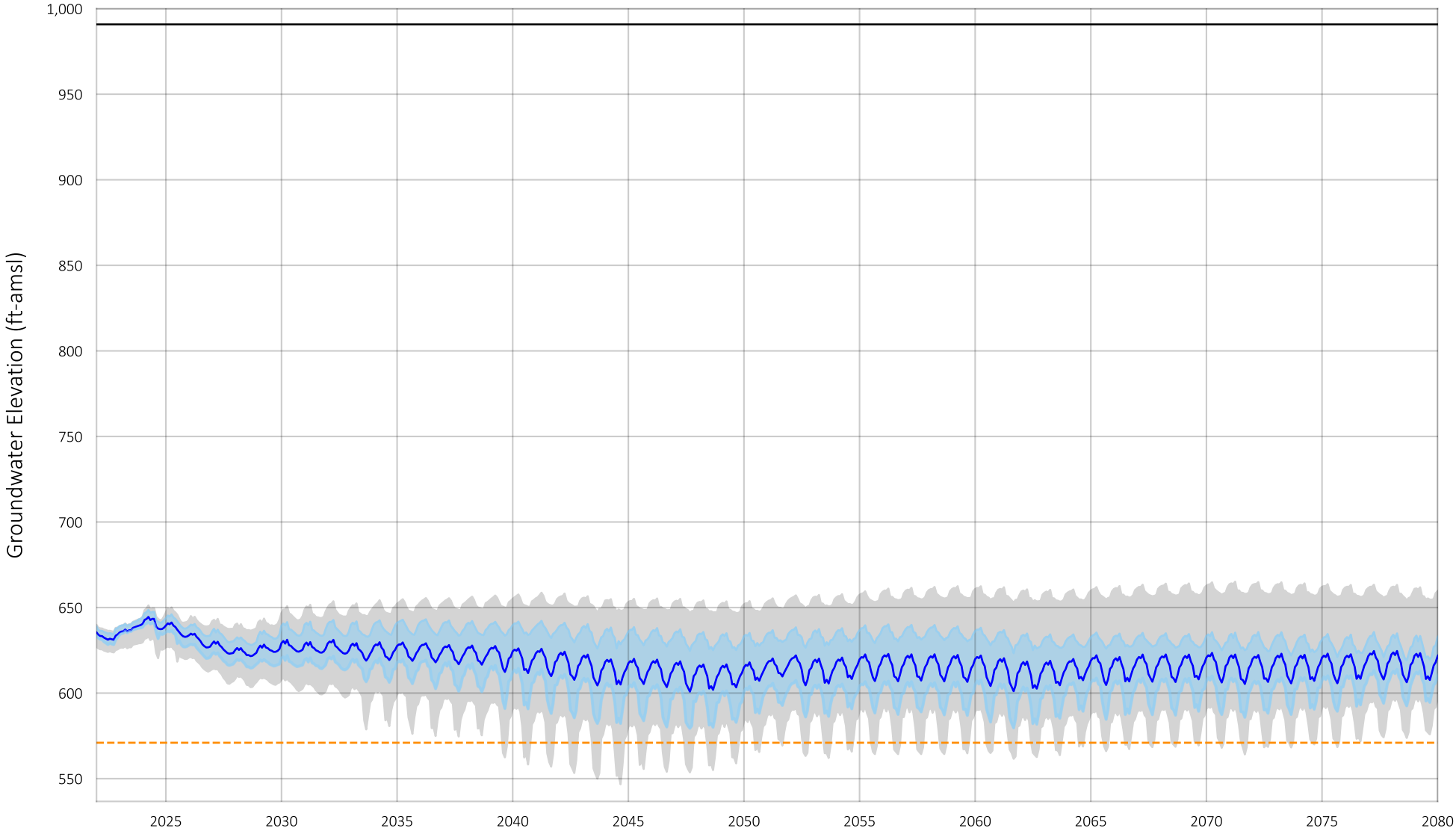
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

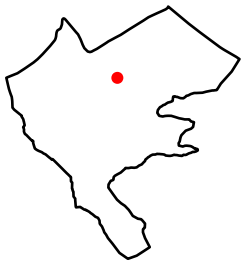
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 25
Well Owner: City of Ontario
Screen Interval (ft-bgs): 370 - 903

Figure D-107



Well Location



Legend

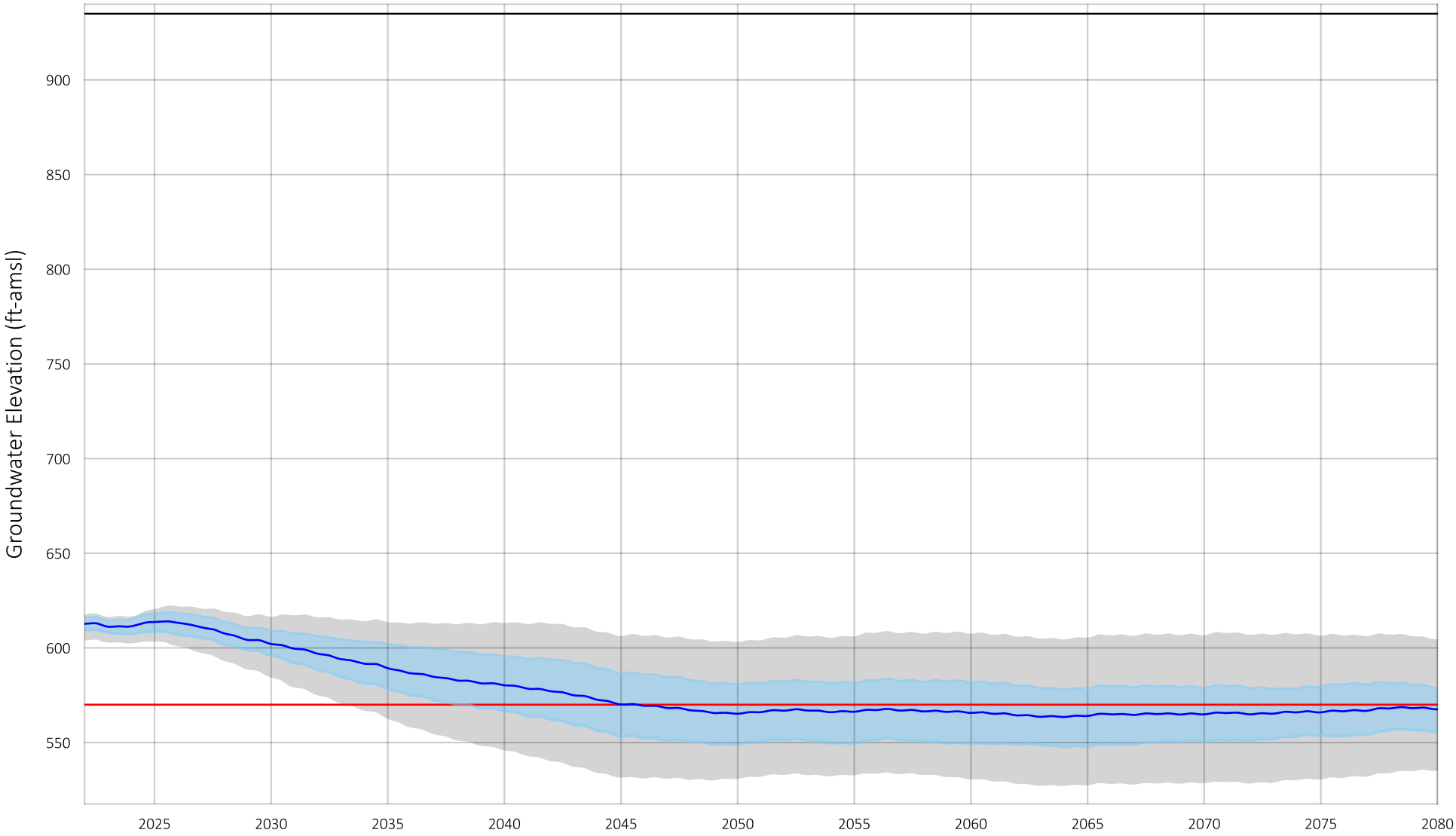
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

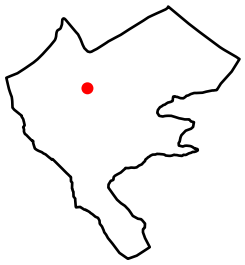
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 24
Well Owner: City of Ontario
Screen Interval (ft-bgs): 484 - 952

Figure D-108



Well Location



Legend

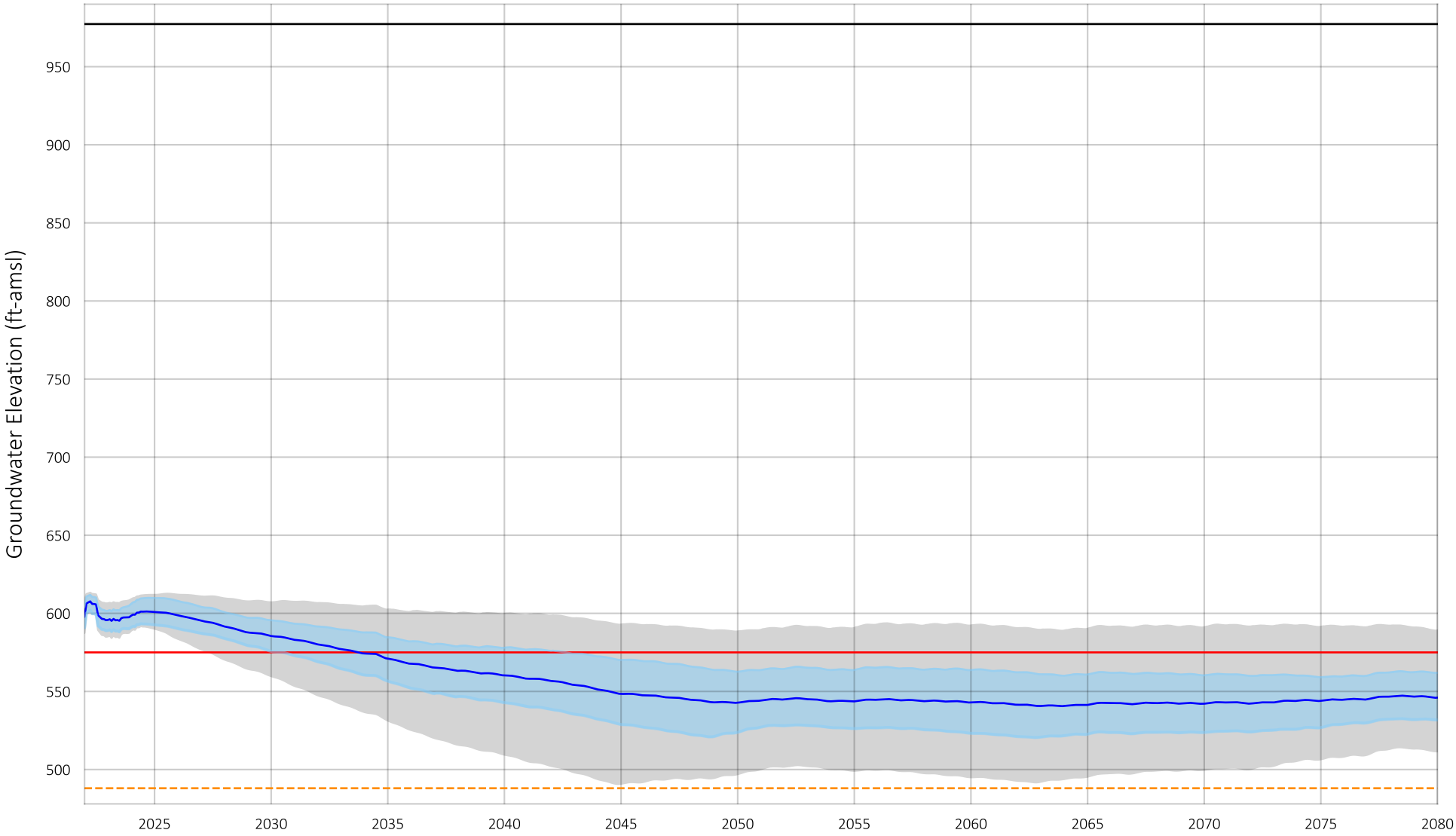
- Land Subsidence Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

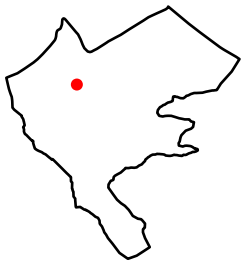
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 11
Well Owner: City of Ontario
Screen Interval (ft-bgs): 464 - 1080

Figure D-109



Well Location



Legend

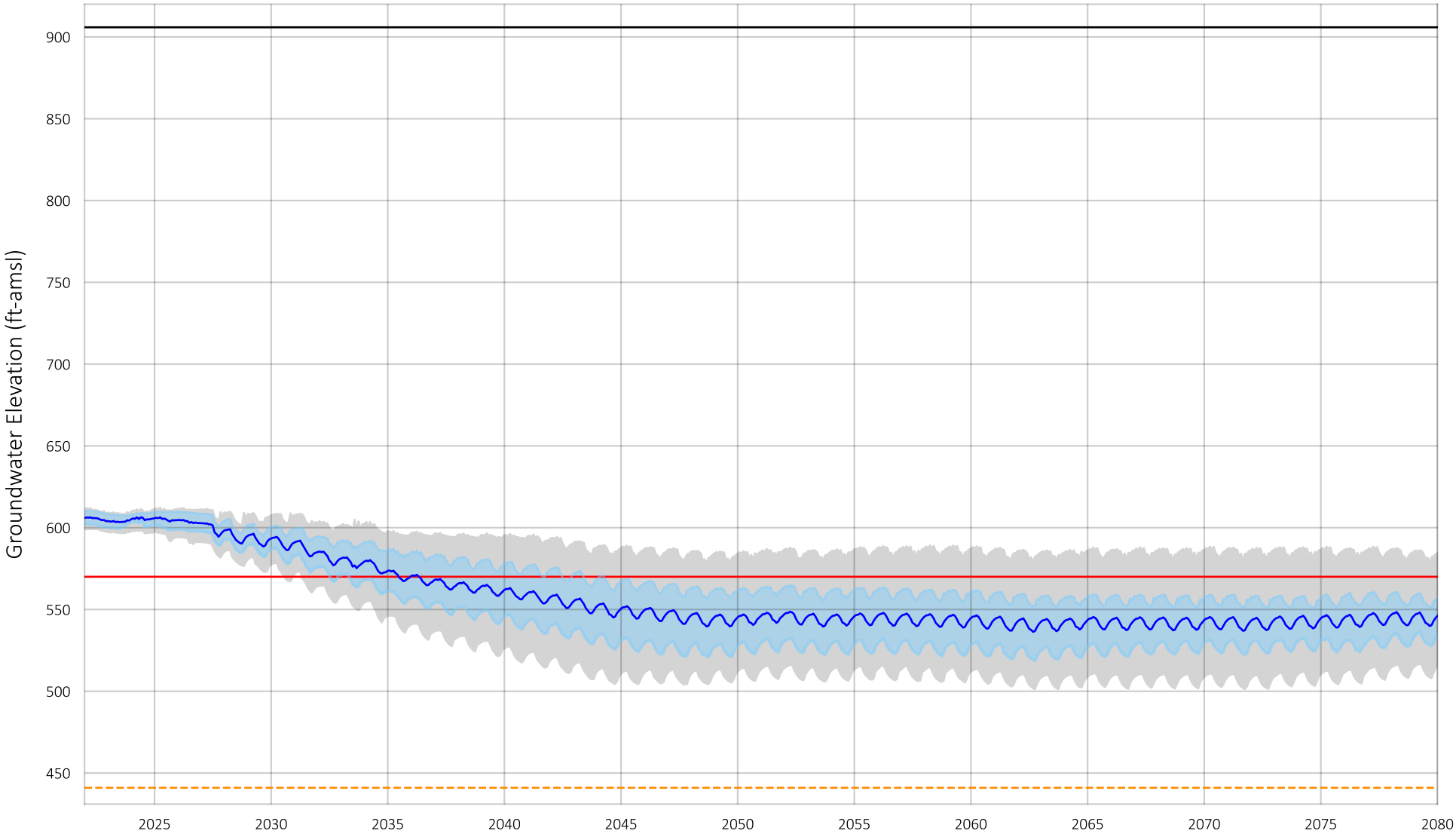
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

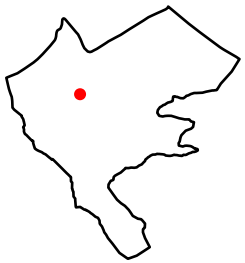
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 35
Well Owner: City of Ontario
Screen Interval (ft-bgs): 580 - 1020

Figure D-110



Well Location



Legend

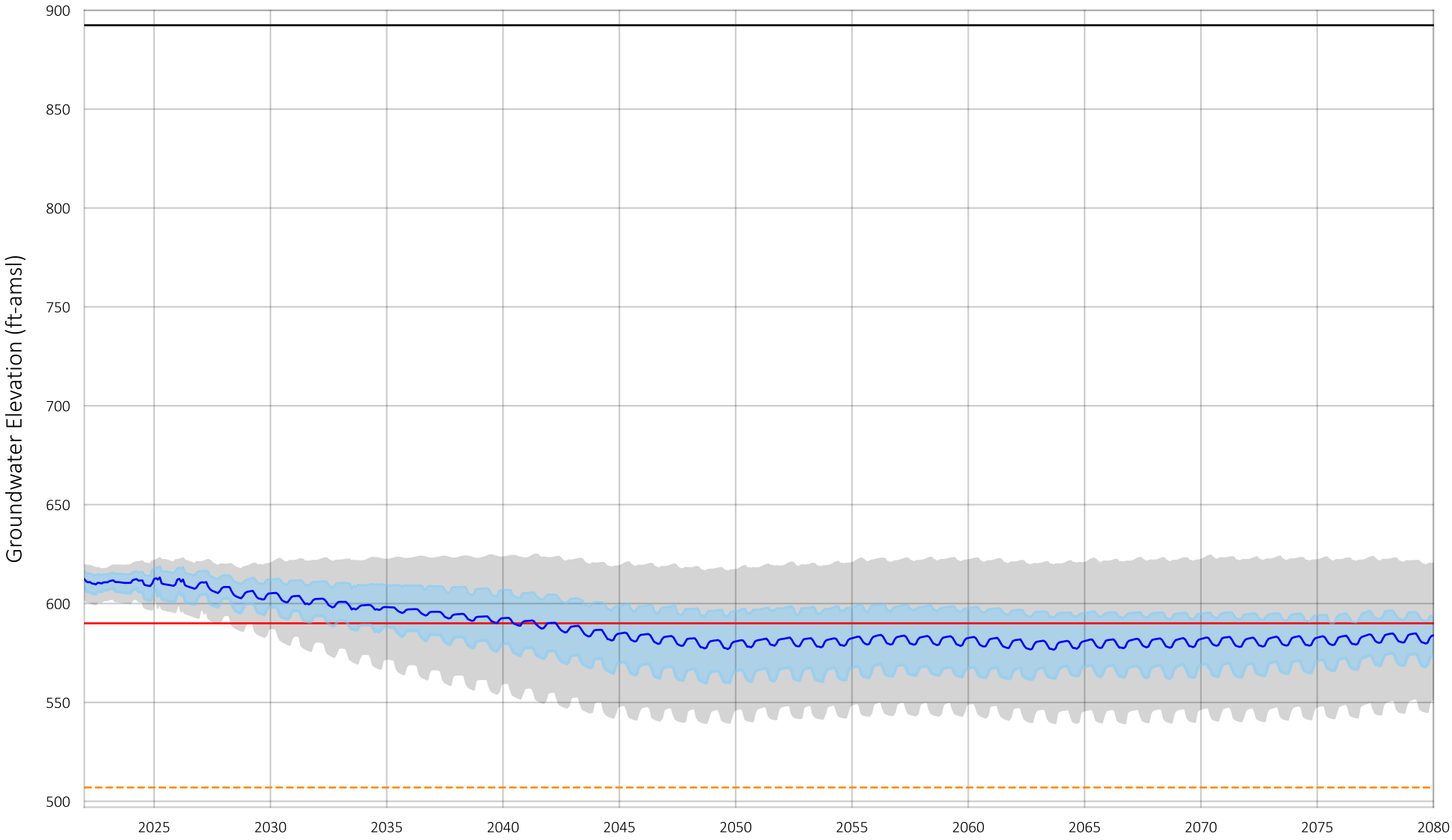
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

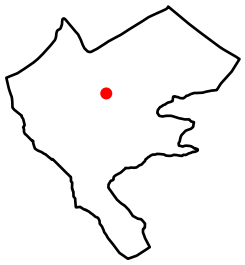
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 34
Well Owner: City of Ontario
Screen Interval (ft-bgs): 508 - 773

Figure D-111



Well Location



Legend

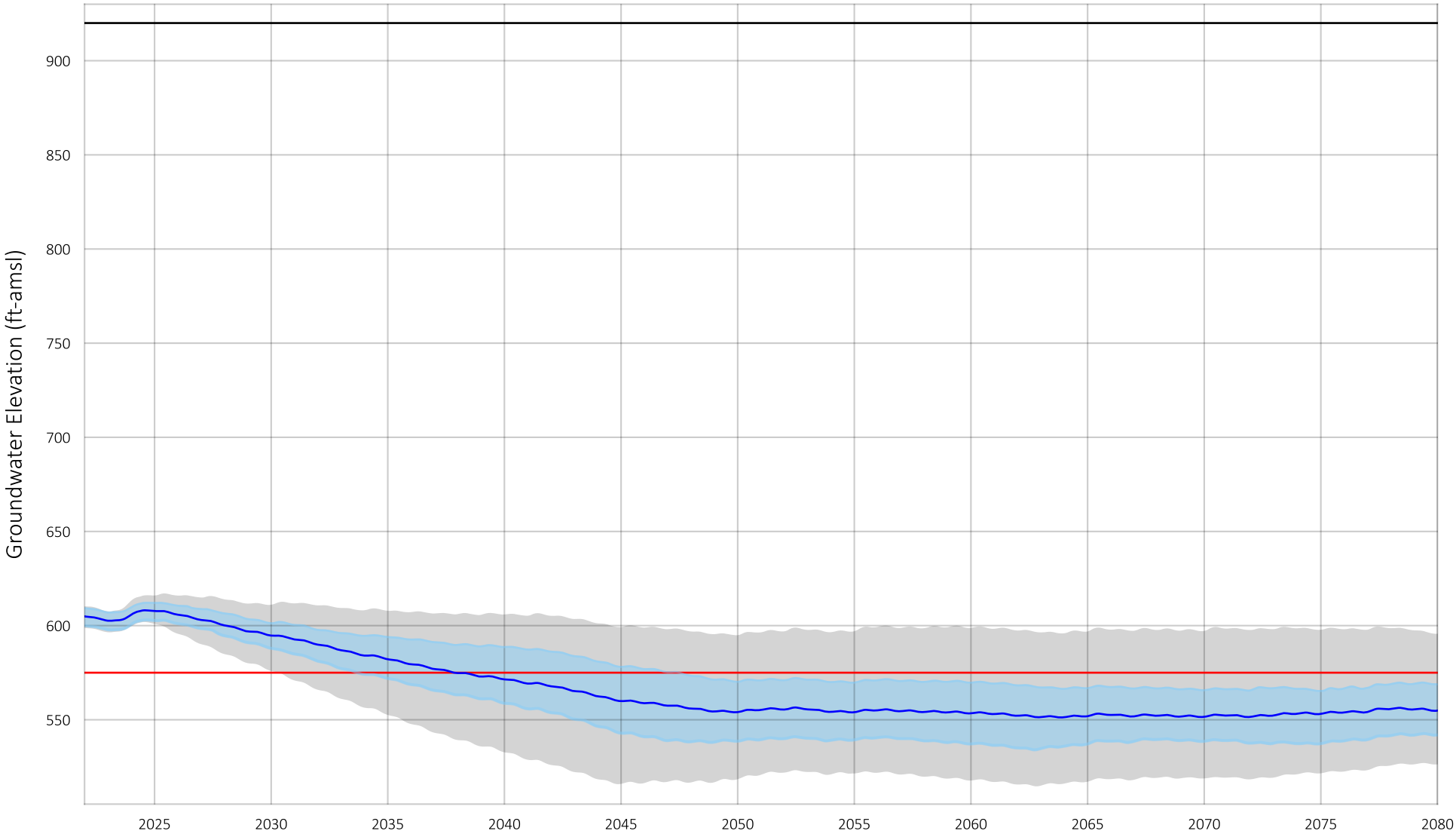
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

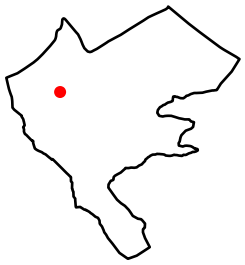
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 36
Well Owner: City of Ontario
Screen Interval (ft-bgs): 530 - 1000

Figure D-112



Well Location



Legend

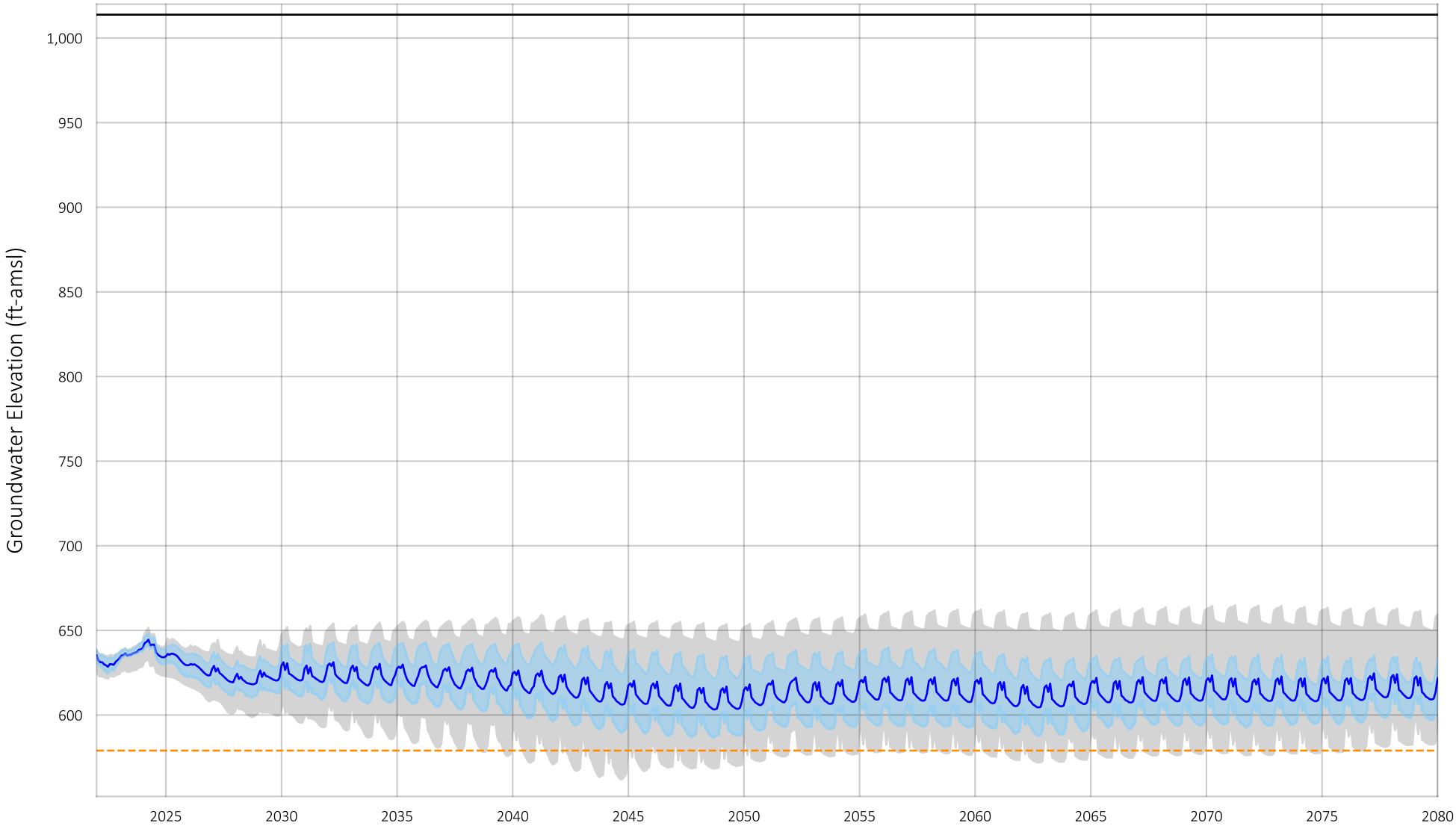
- Land Subsidence Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

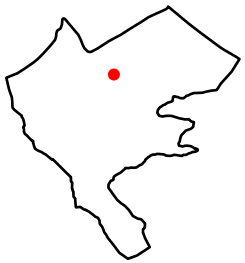
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 15
Well Owner: City of Ontario
Screen Interval (ft-bgs): 474 - 966

Figure D-113



Well Location



Legend

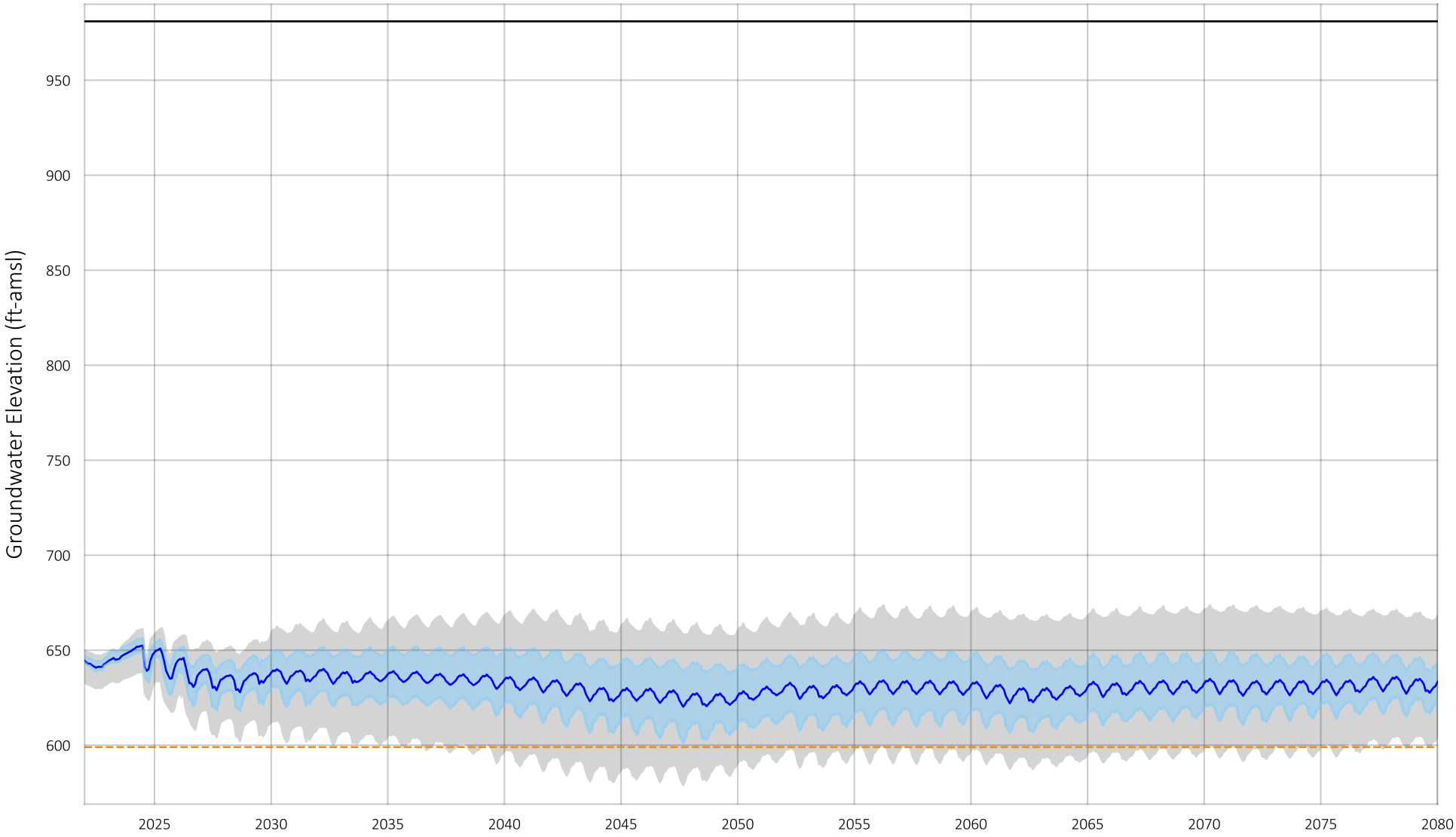
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

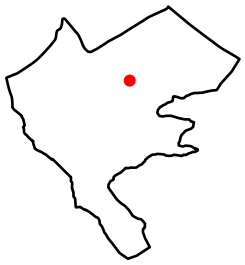
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 38
Well Owner: City of Ontario
Screen Interval (ft-bgs): 500 - 1010

Figure D-114



Well Location



Legend

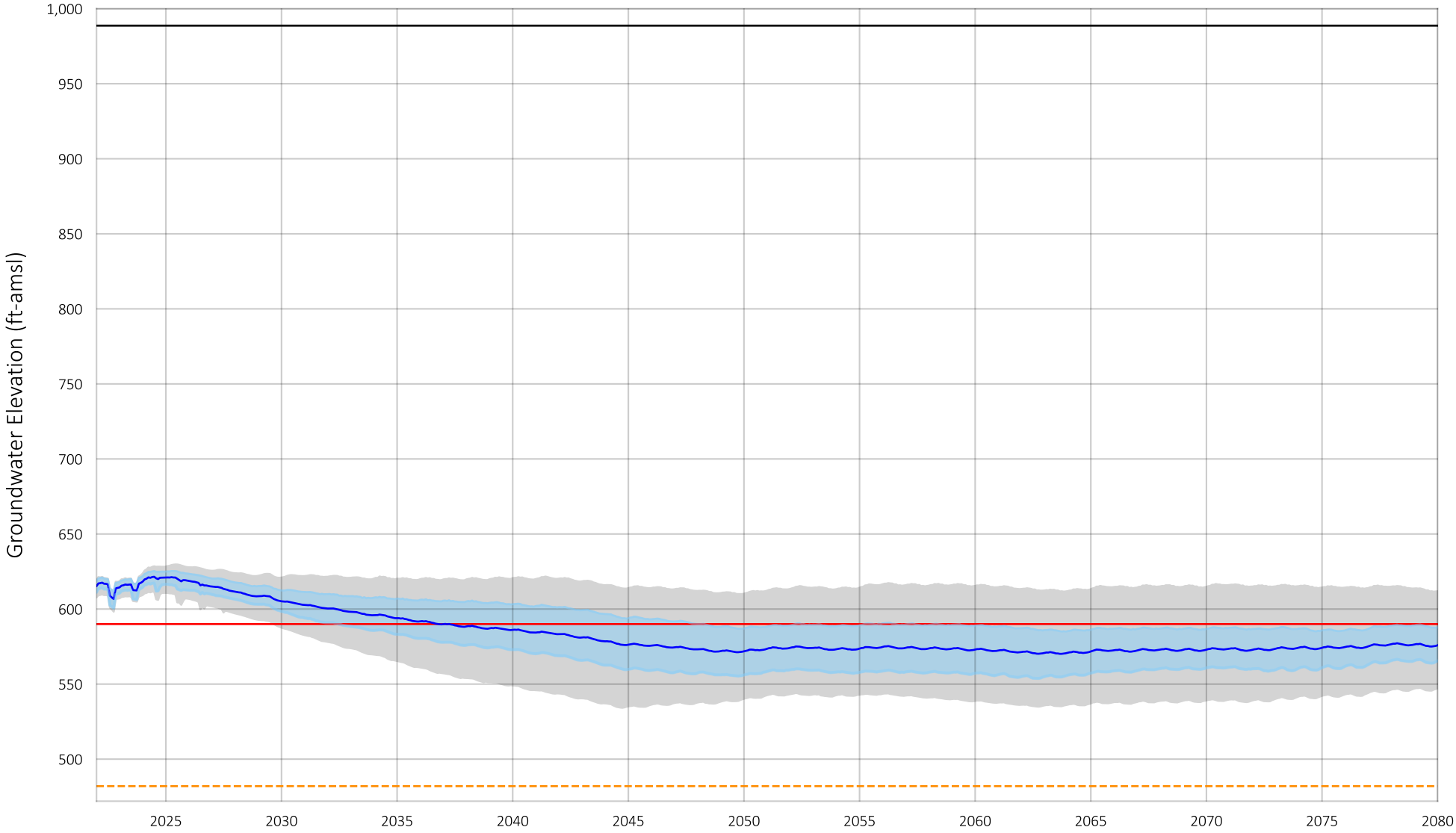
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

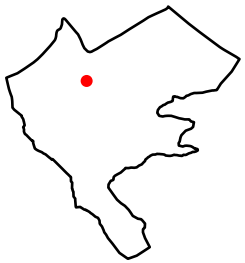
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 39
Well Owner: City of Ontario
Screen Interval (ft-bgs): 400 - 850

Figure D-115



Well Location



Legend

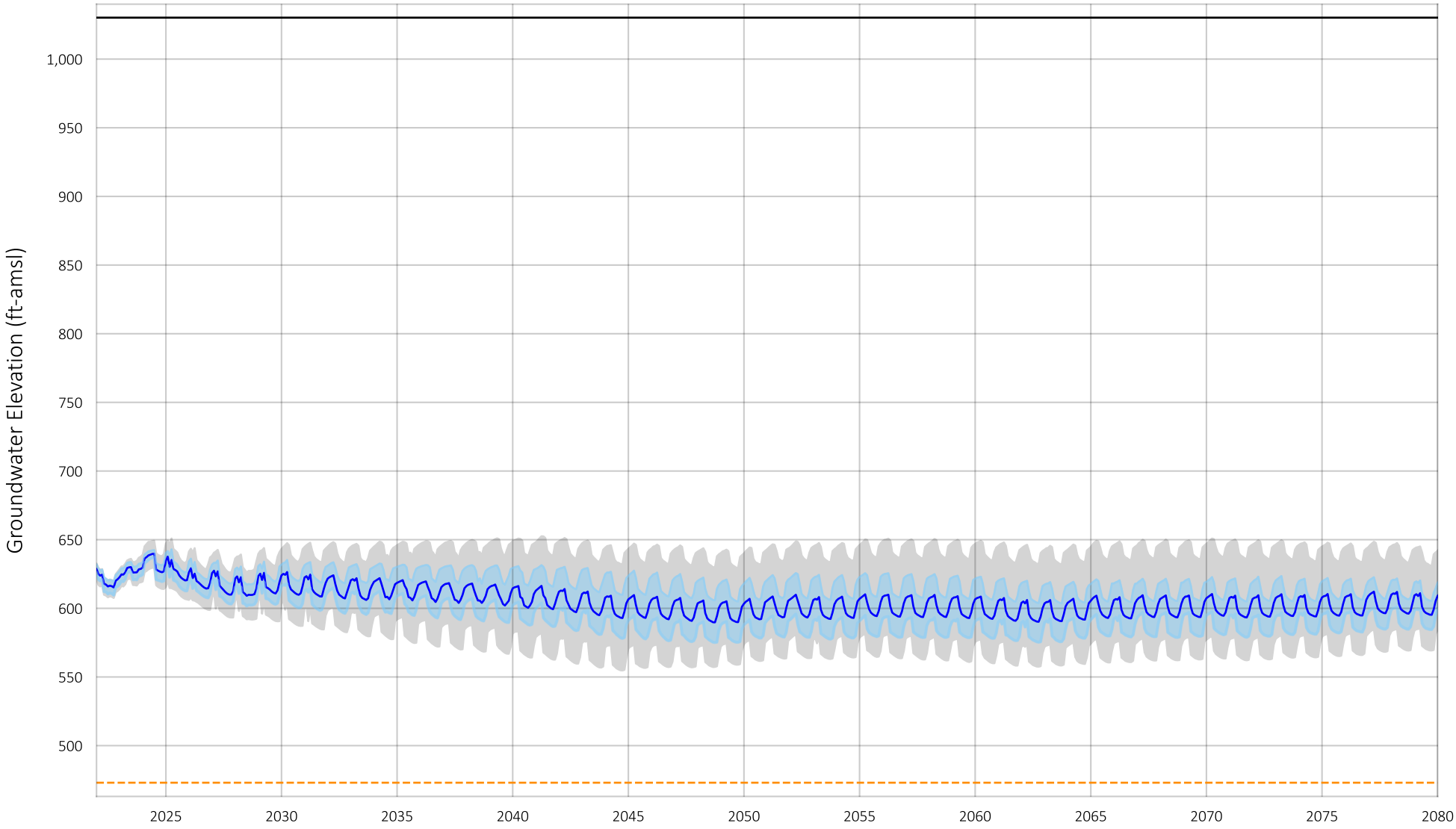
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

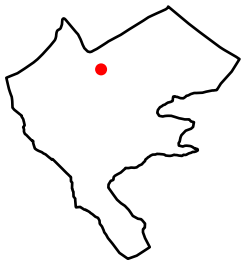
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 40
Well Owner: City of Ontario
Screen Interval (ft-bgs): 500 - 1005

Figure D-116



Well Location



Legend

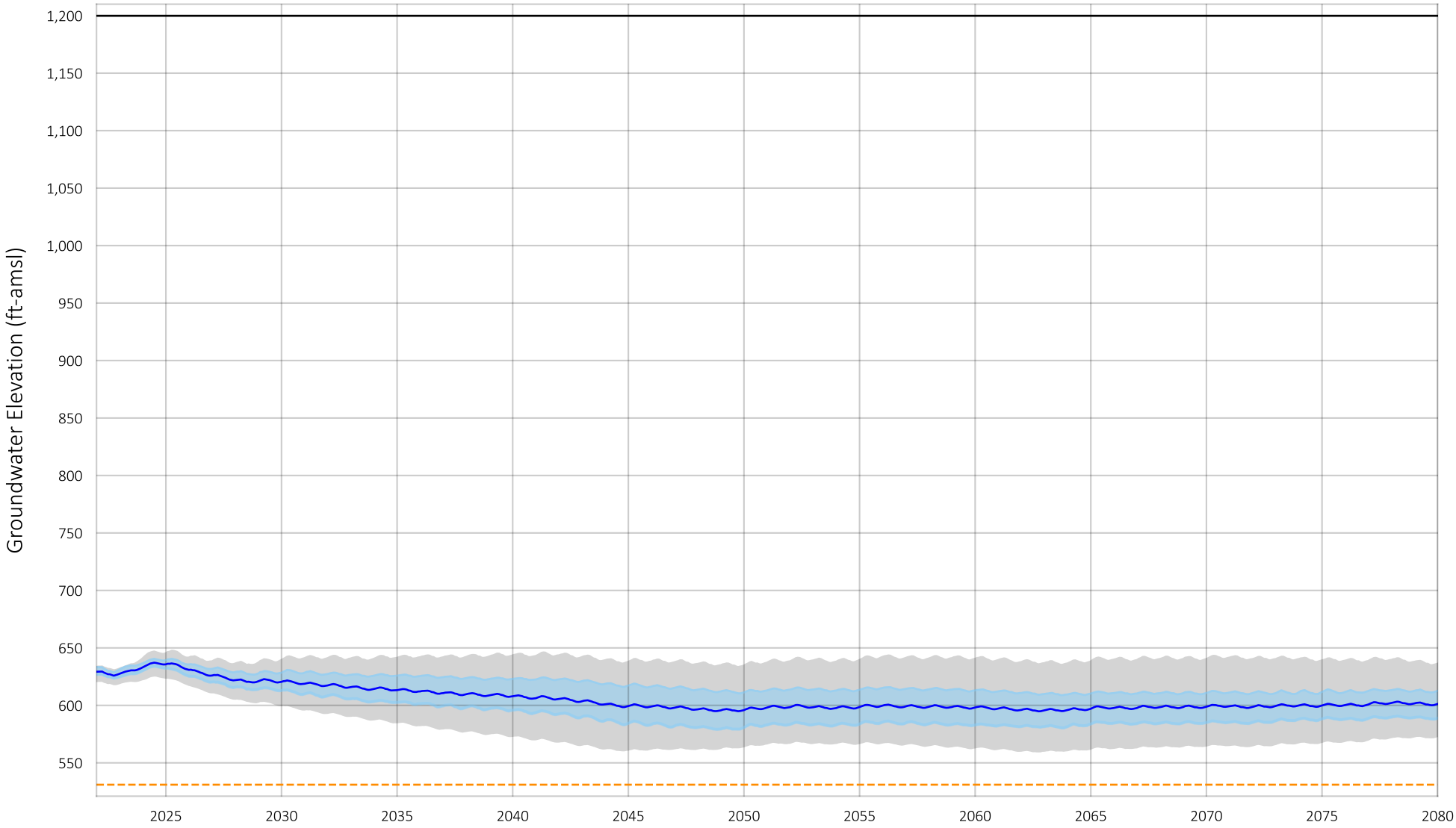
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

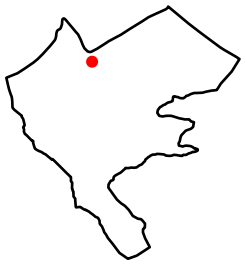
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 41
Well Owner: City of Ontario
Screen Interval (ft-bgs): 600 - 1020

Figure D-117



Well Location



Legend

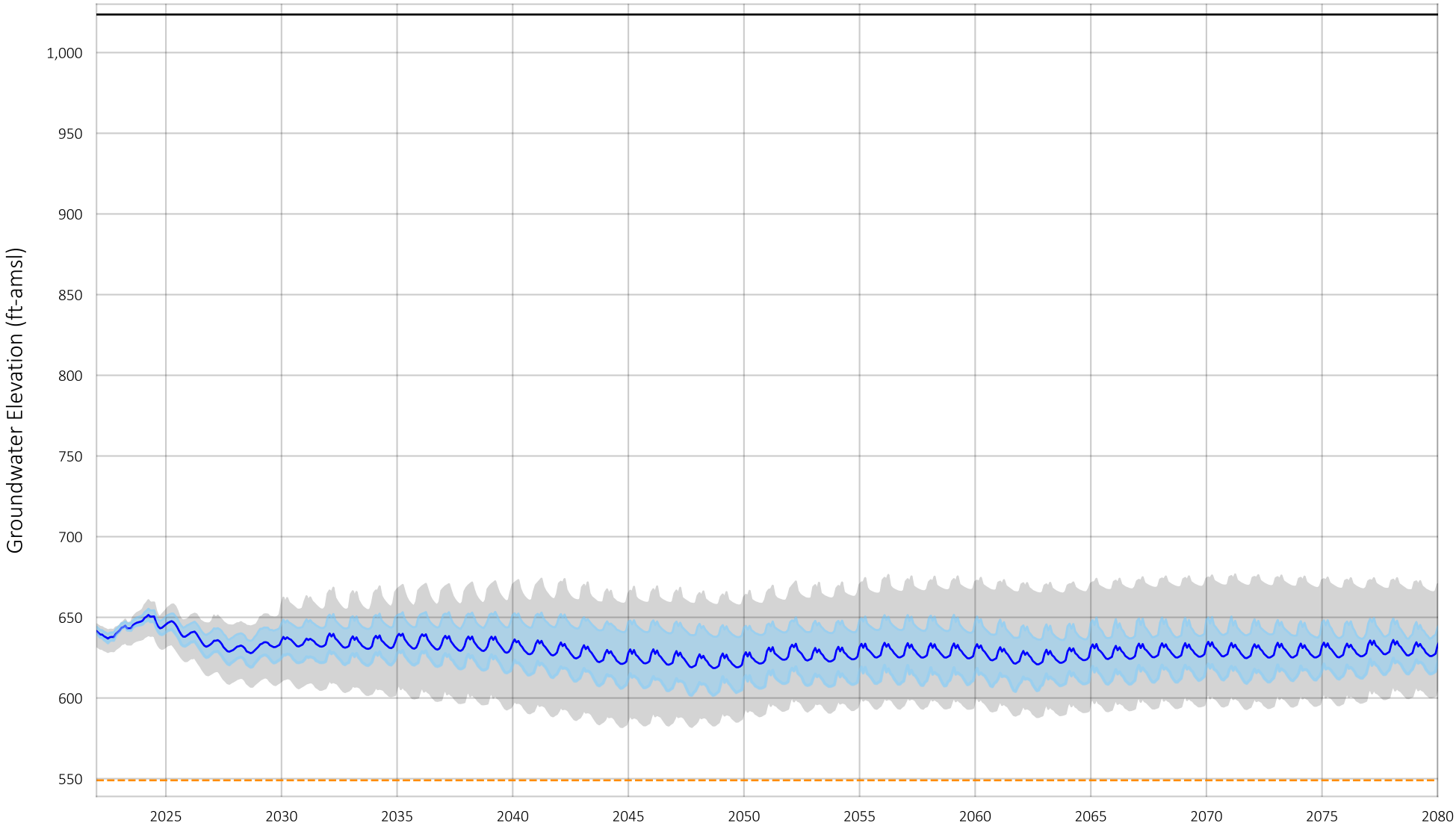
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

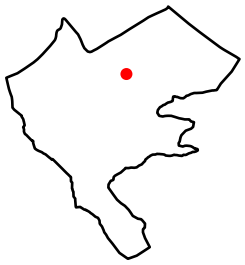
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 46
Well Owner: City of Ontario
Screen Interval (ft-bgs): 718 - 1137

Figure D-118



Well Location



Legend

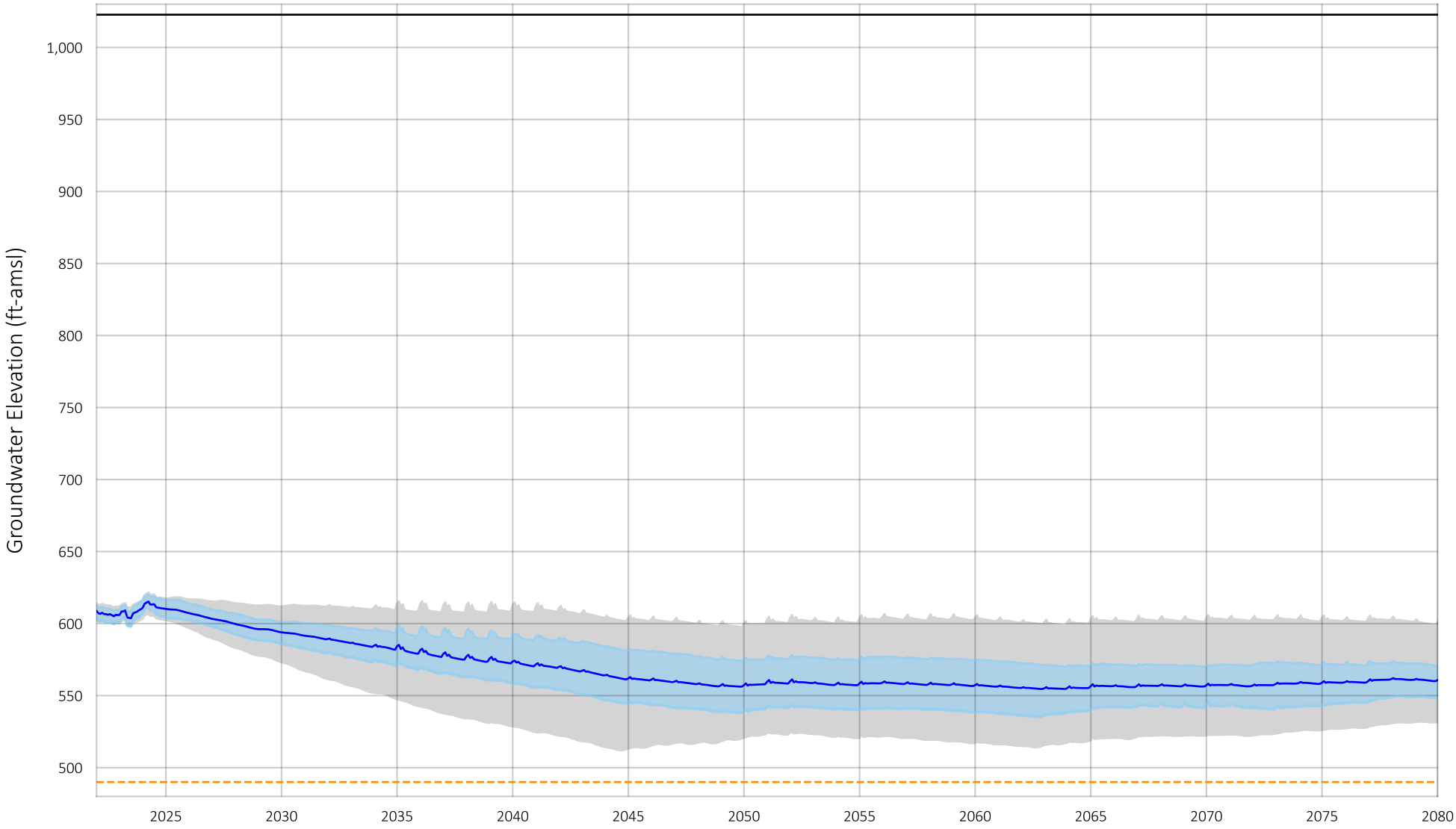
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

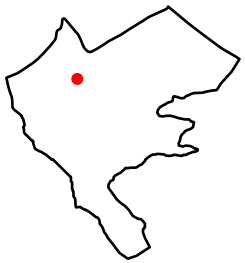
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 47
Well Owner: City of Ontario
Screen Interval (ft-bgs): 528 - 950

Figure D-119



Well Location



Legend

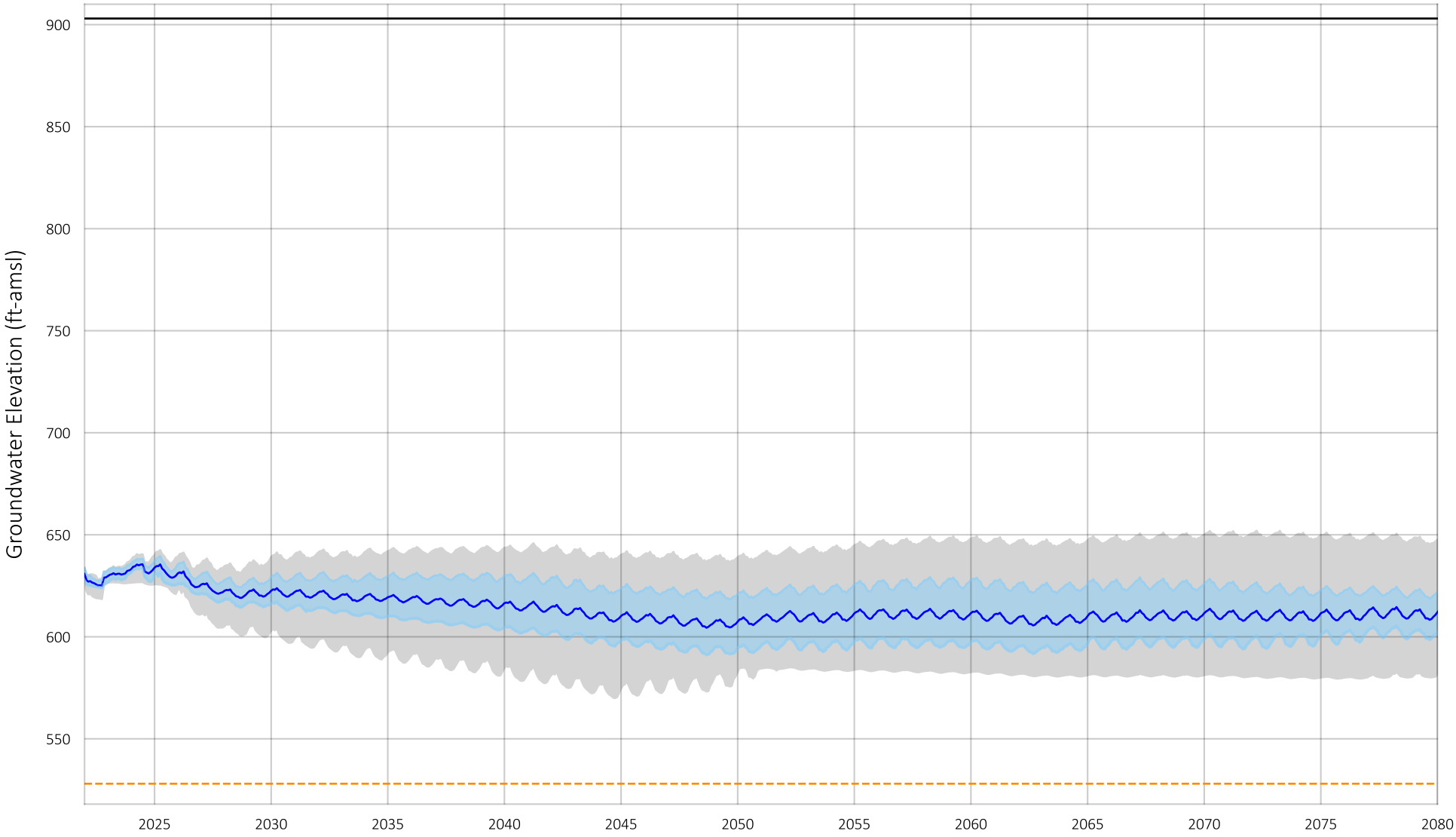
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

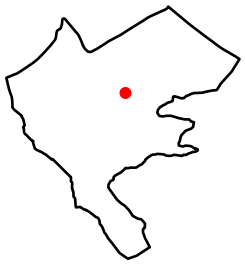
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 45
Well Owner: City of Ontario
Screen Interval (ft-bgs): 614 - 1040

Figure D-120



Well Location



Legend

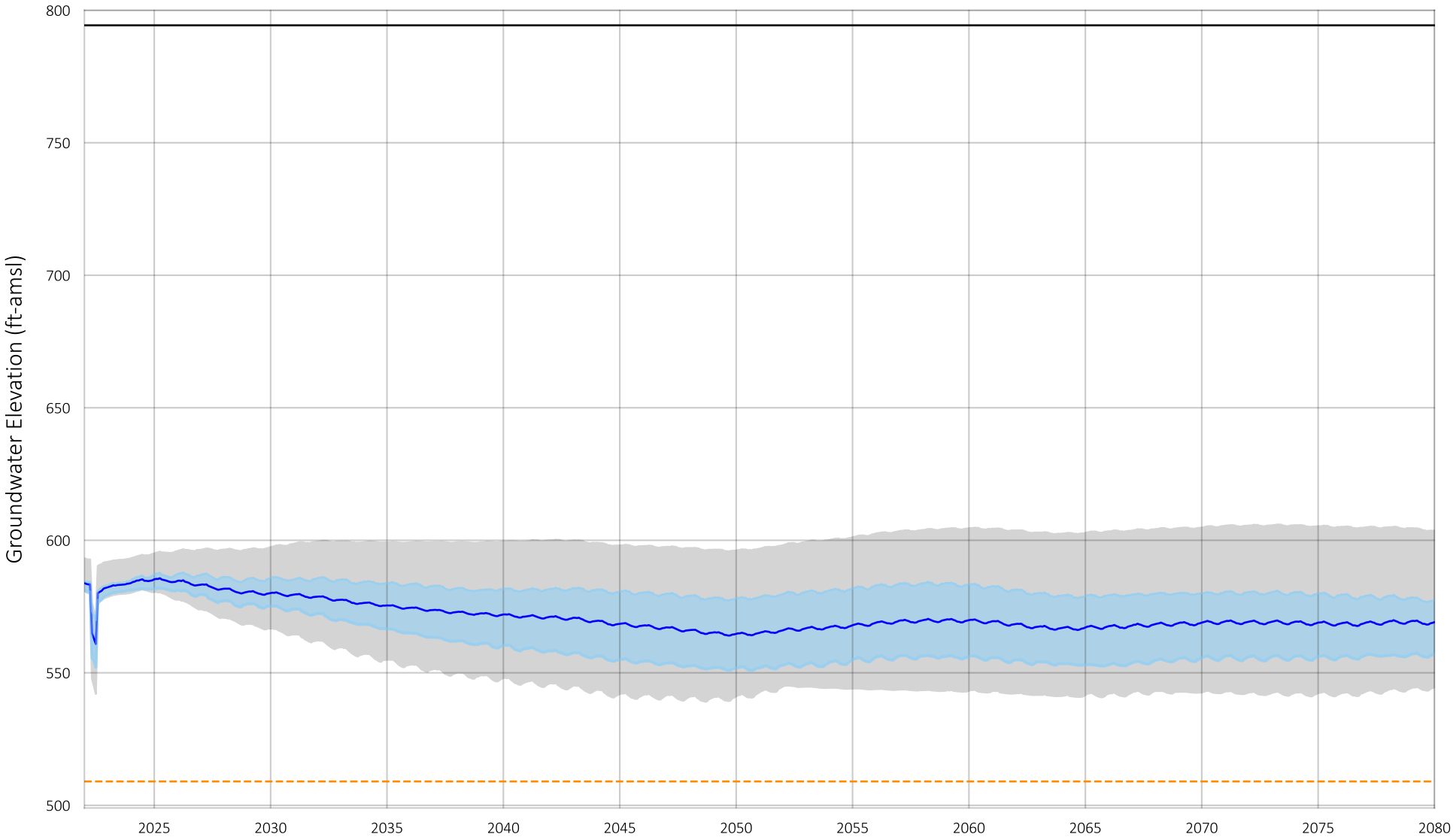
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

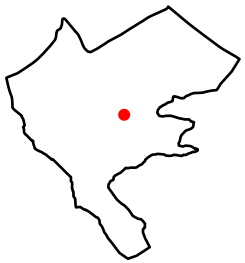
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 49
Well Owner: City of Ontario
Screen Interval (ft-bgs): 412 - 805

Figure D-121



Well Location



Legend

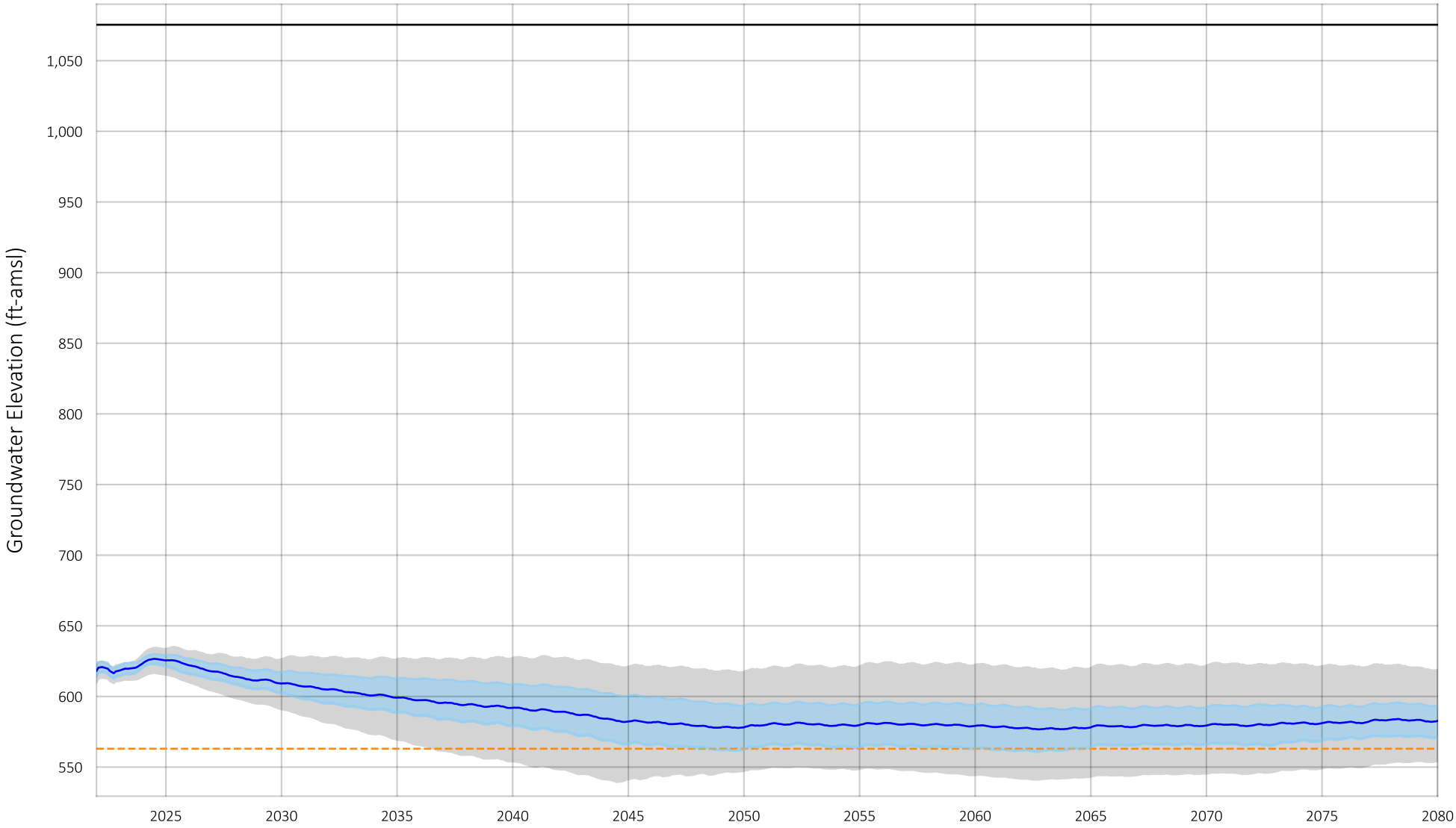
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

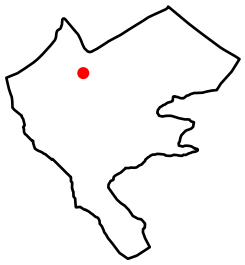
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 50
Well Owner: City of Ontario
Screen Interval (ft-bgs): 322 - 665

Figure D-122



Well Location



Legend

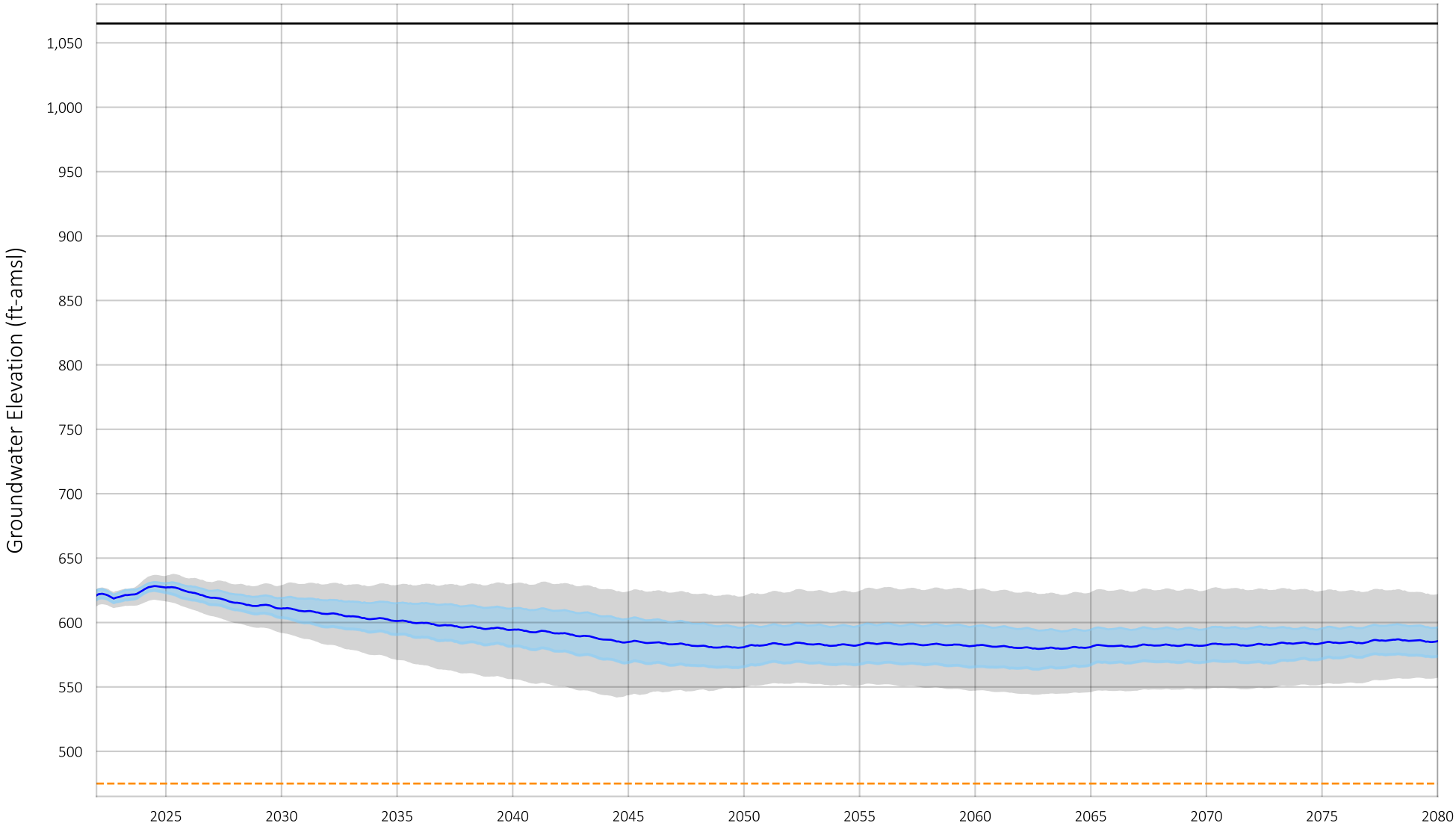
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

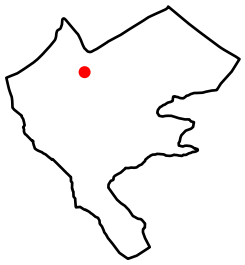
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 44
Well Owner: City of Ontario
Screen Interval (ft-bgs): 600 - 1250

Figure D-123



Well Location



Legend

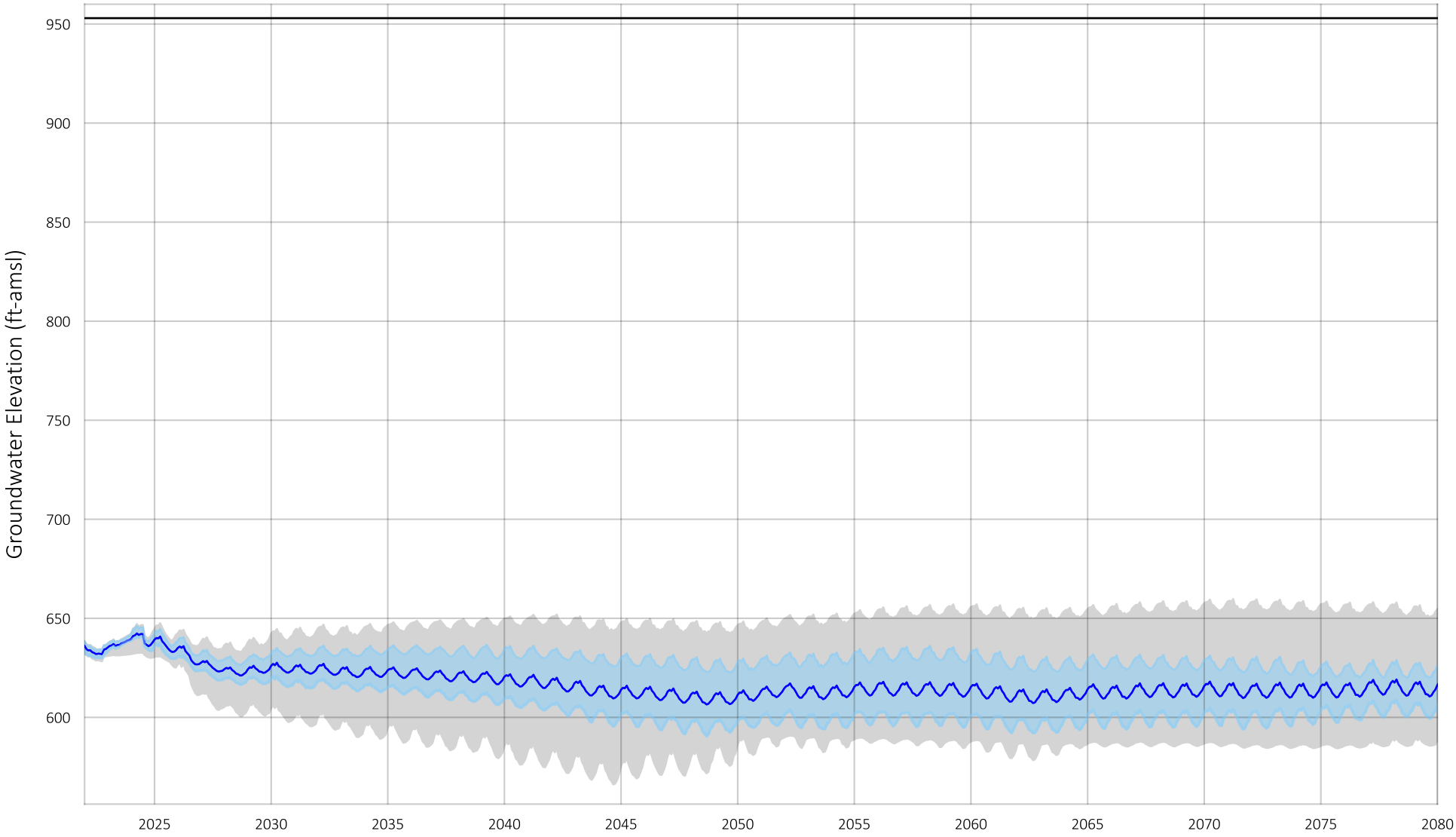
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

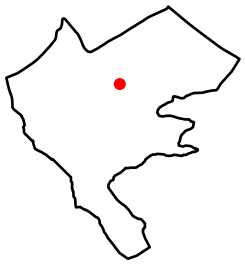
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 52
Well Owner: City of Ontario
Screen Interval (ft-bgs): 580 - 1135

Figure D-124



Well Location



Legend

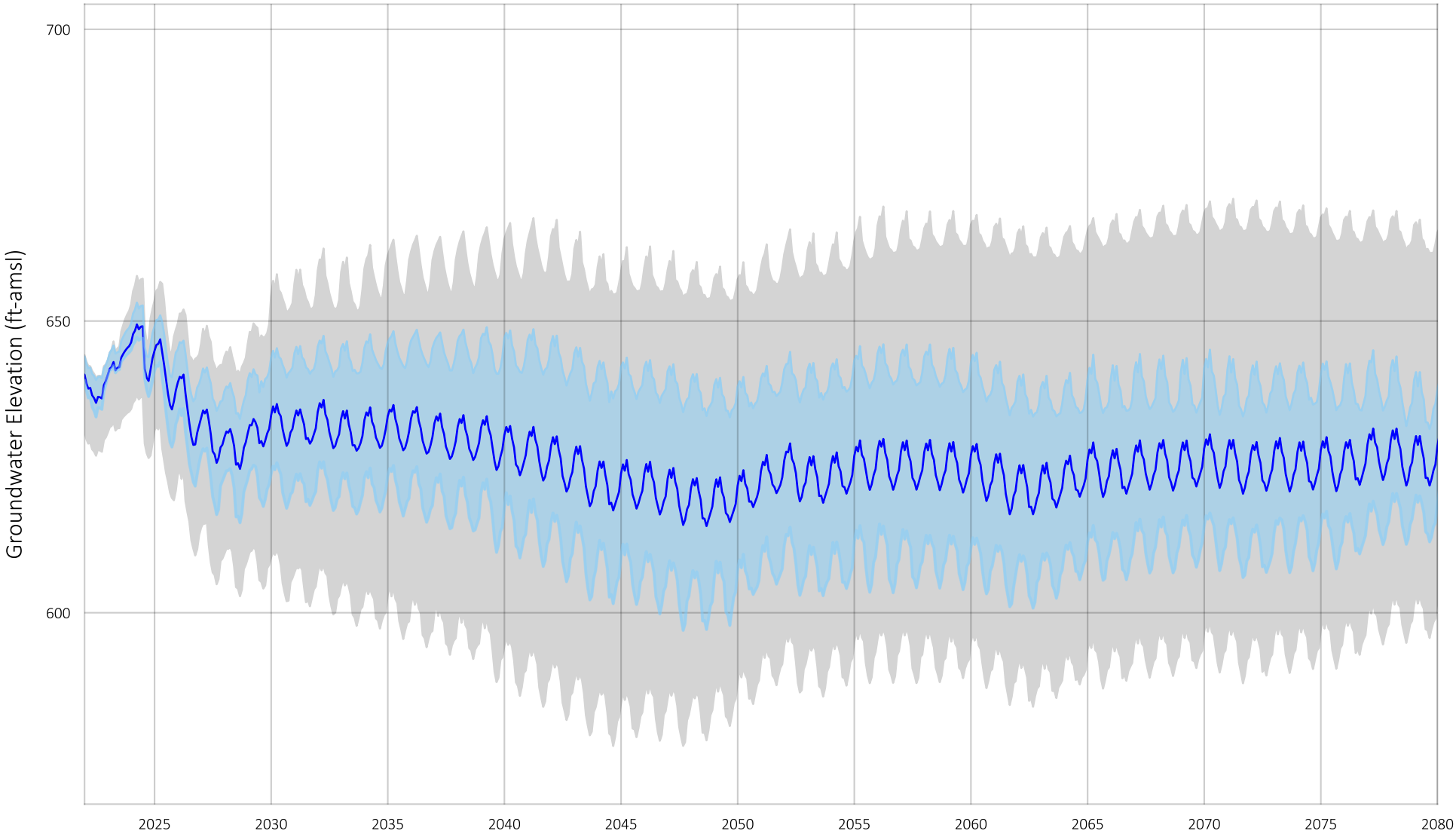
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

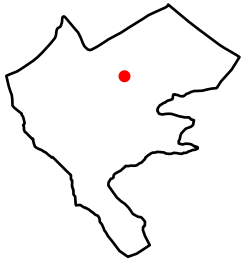
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 43
Well Owner: City of Ontario
Screen Interval (ft-bgs): 430 - 866

Figure D-125



Well Location



Legend

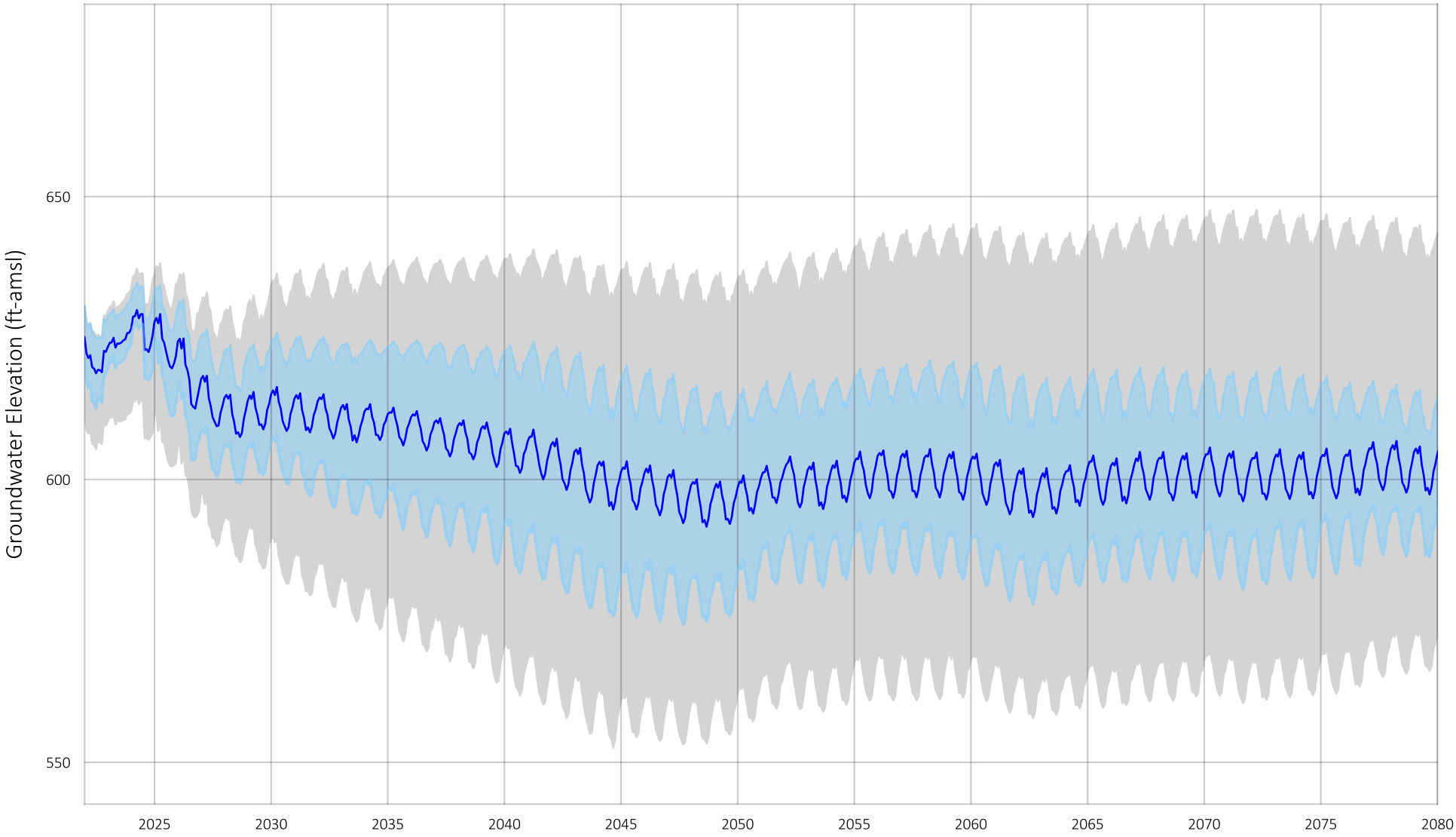
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

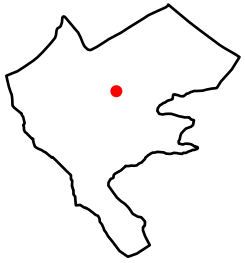
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 42
Well Owner: City of Ontario
Screen Interval (ft-bgs): no data - no data

Figure D-126



Well Location



Legend

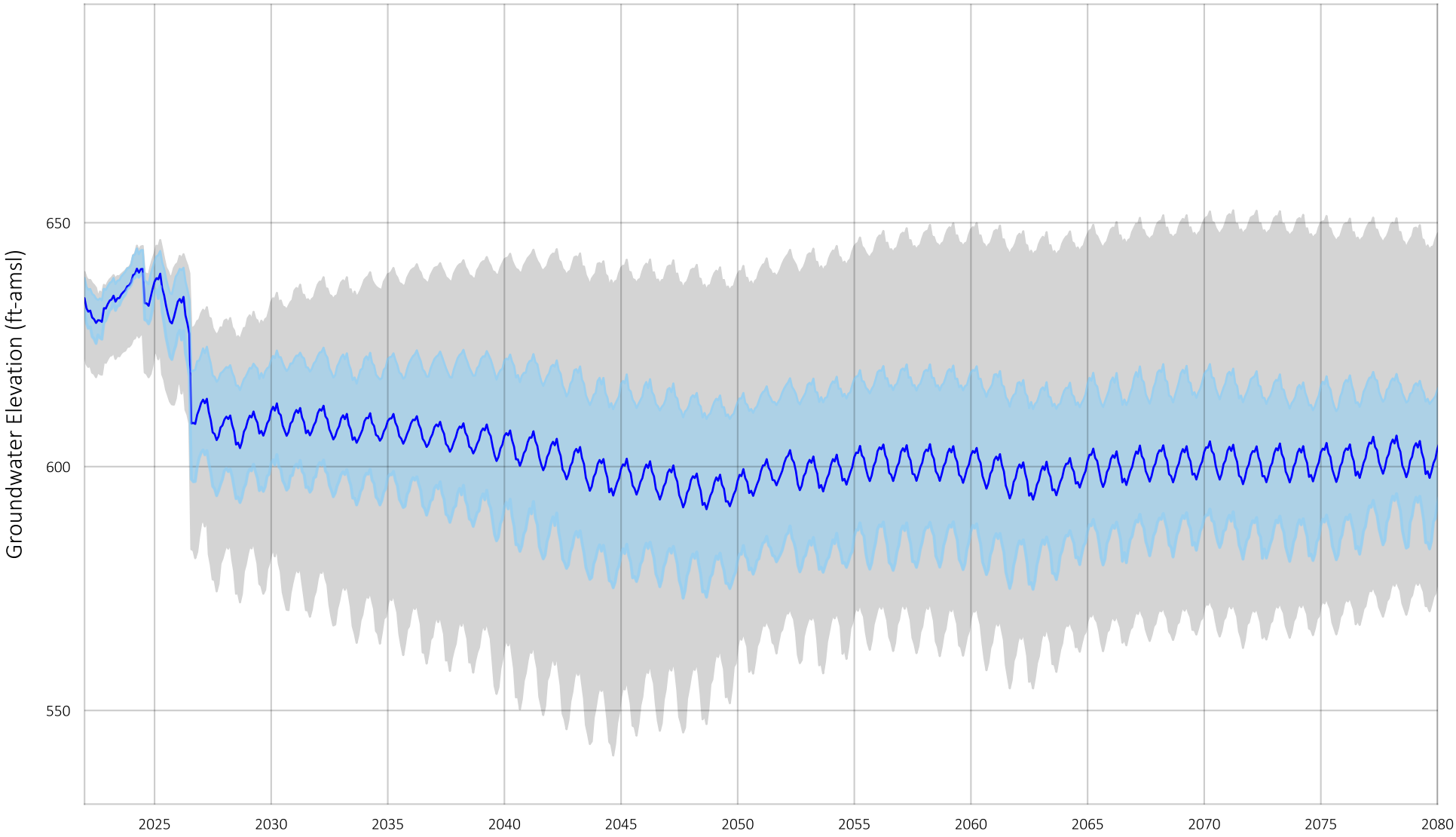
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

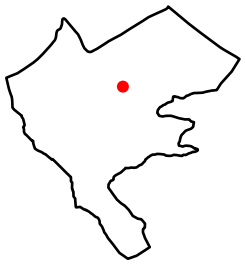
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 48
Well Owner: City of Ontario
Screen Interval (ft-bgs): no data - no data

Figure D-127



Well Location



Legend

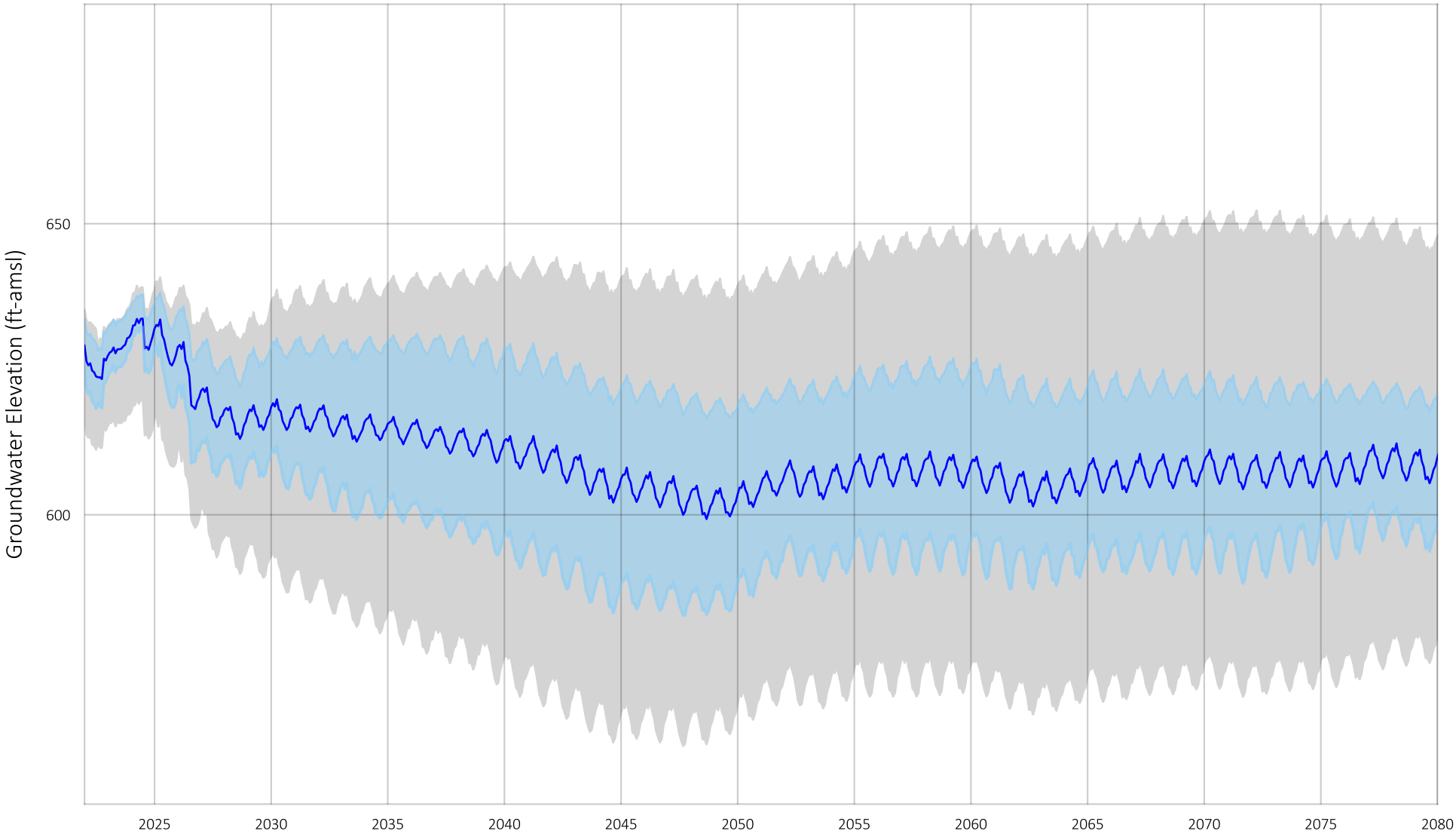
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

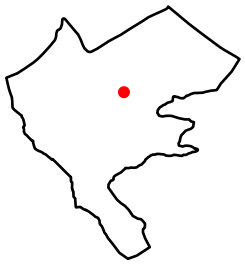
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 51
Well Owner: City of Ontario
Screen Interval (ft-bgs): no data - no data

Figure D-128



Well Location



Legend

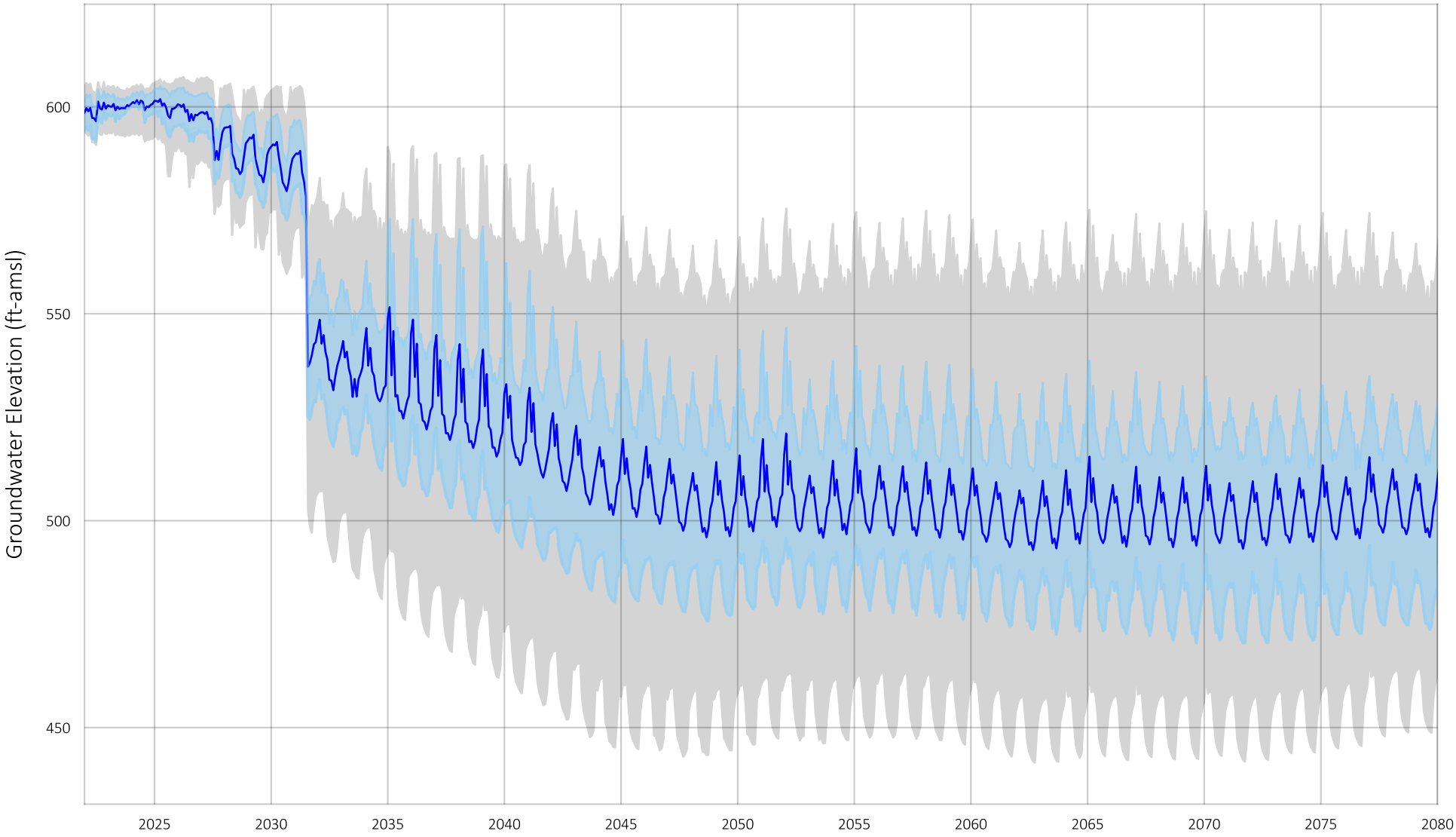
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

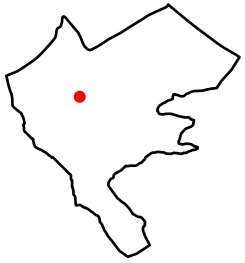
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 53
Well Owner: City of Ontario
Screen Interval (ft-bgs): no data - no data

Figure D-129



Well Location



Legend

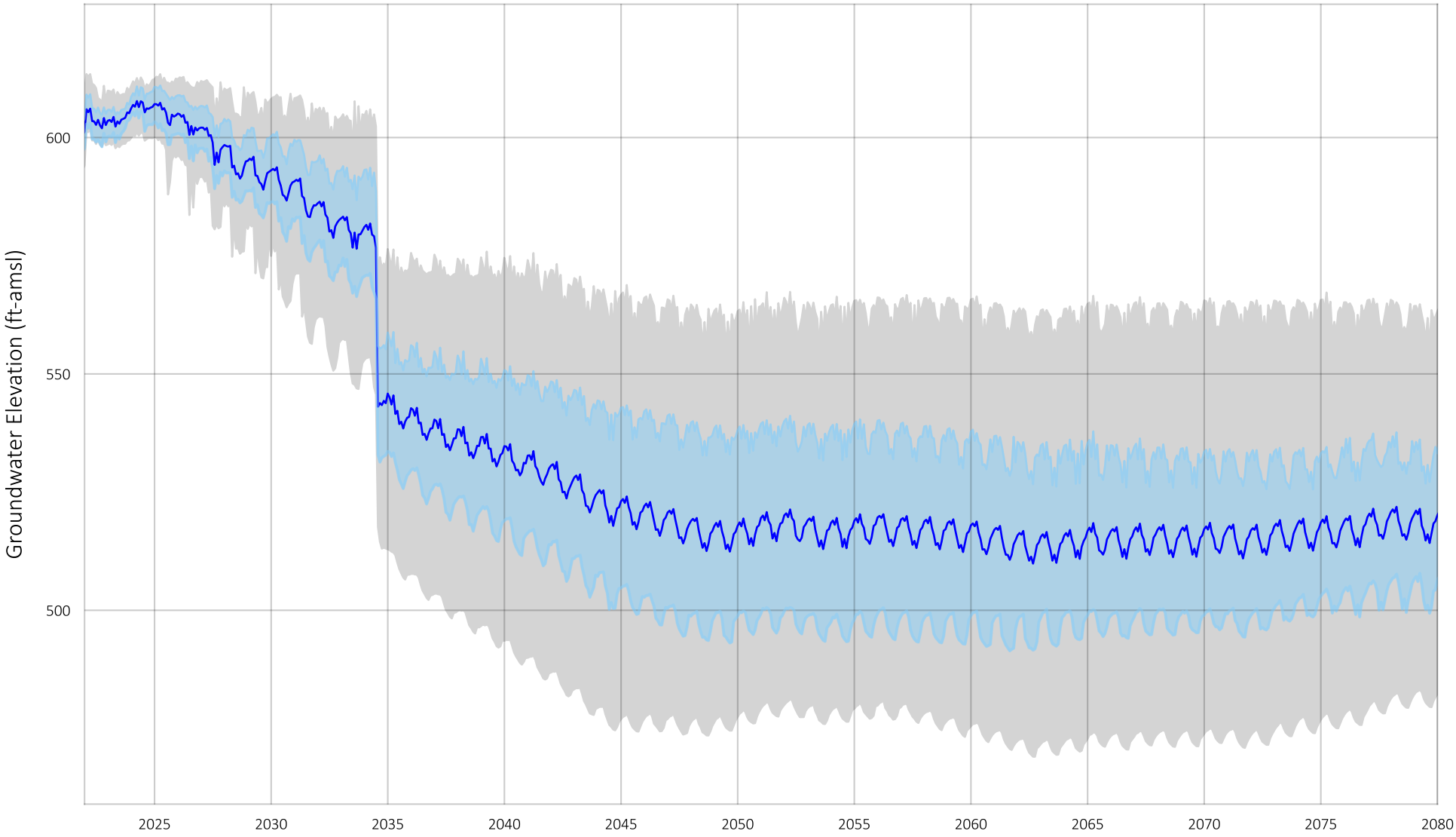
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

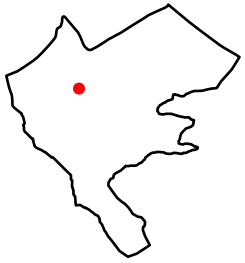
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 55
Well Owner: City of Ontario
Screen Interval (ft-bgs): no data - no data

Figure D-130



Well Location



Legend

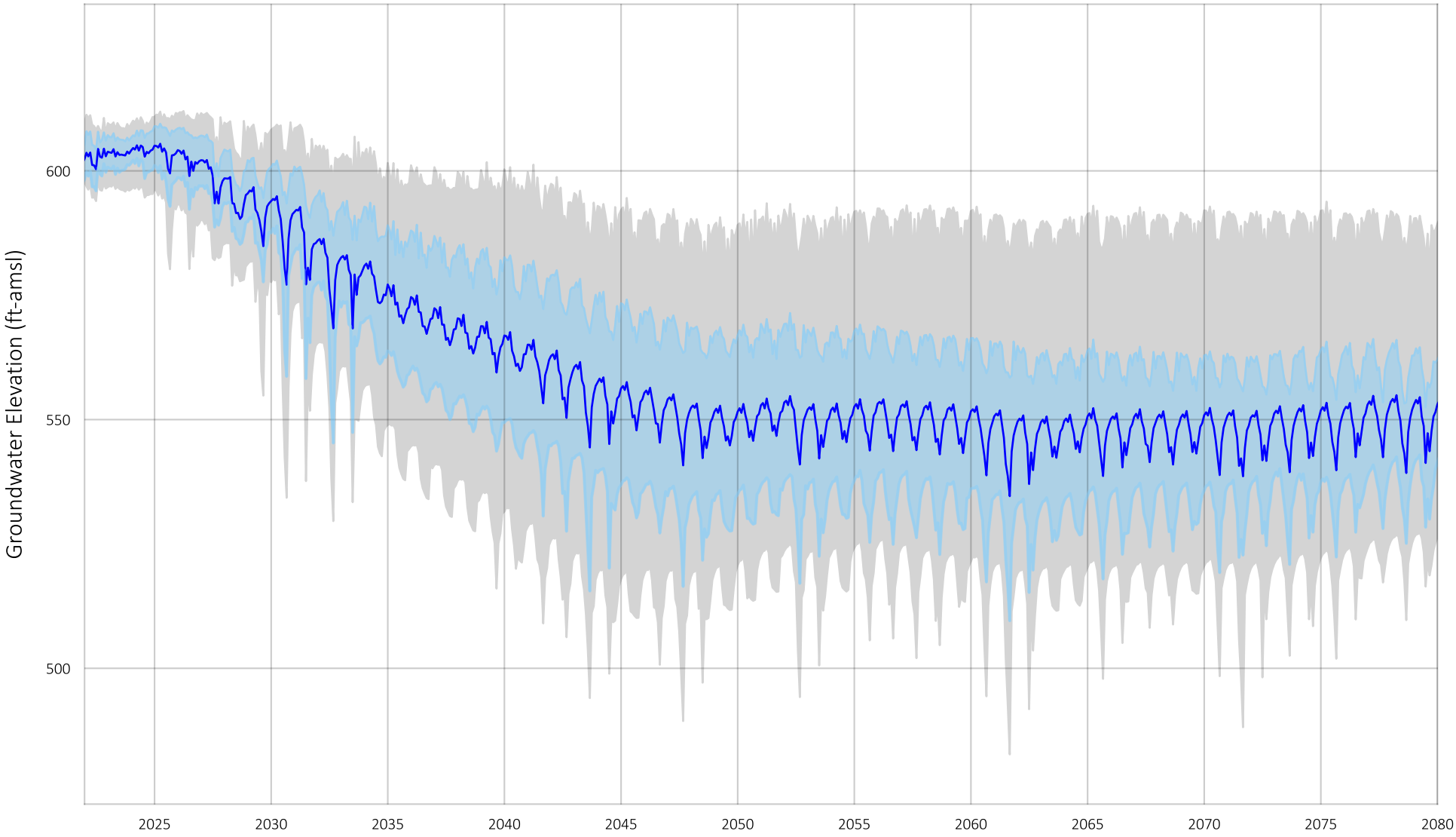
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

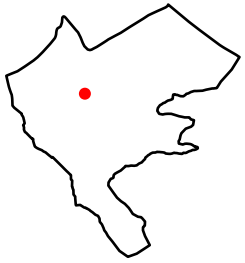
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 56
Well Owner: City of Ontario
Screen Interval (ft-bgs): no data - no data

Figure D-131



Well Location



Legend

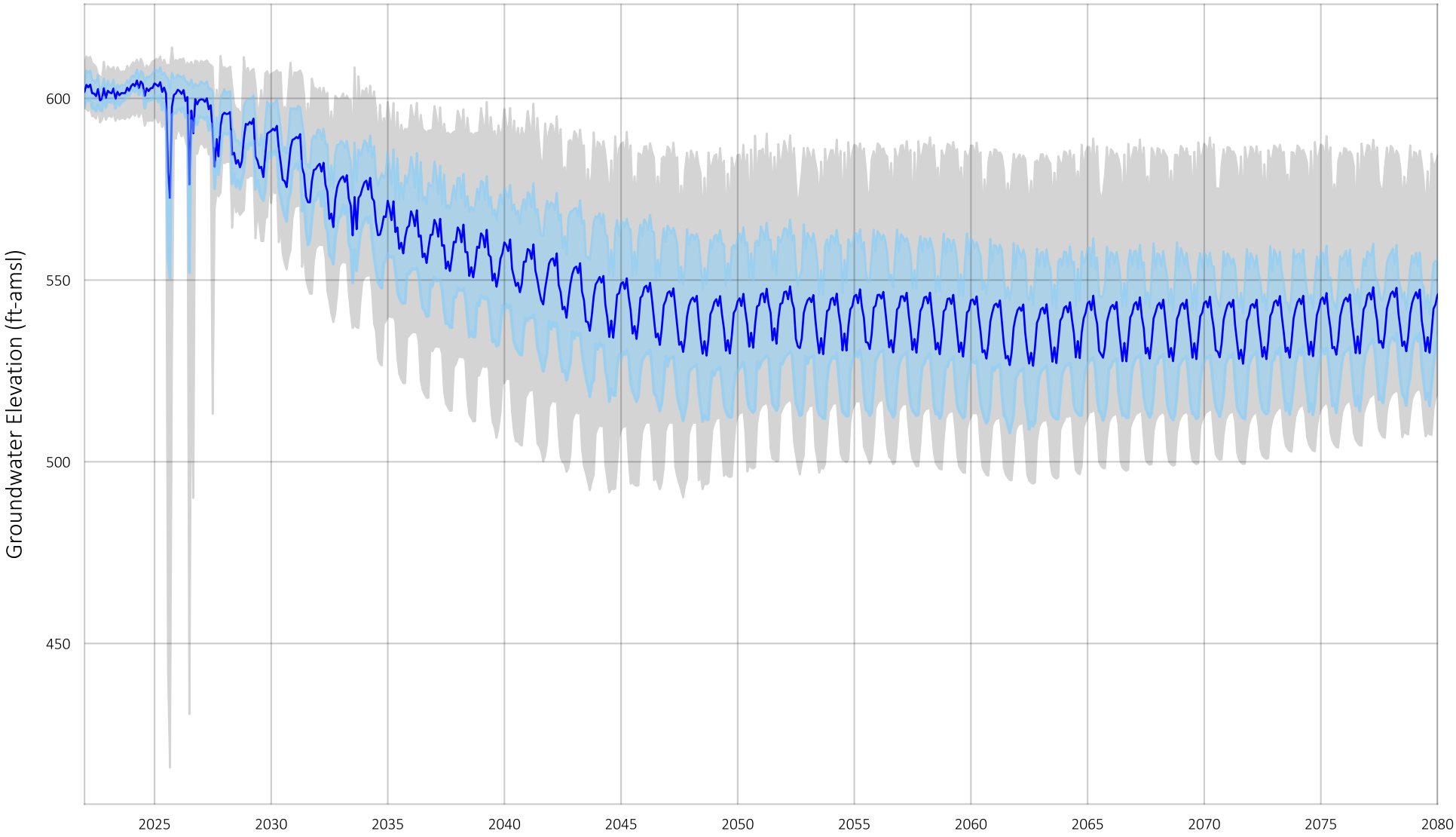
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

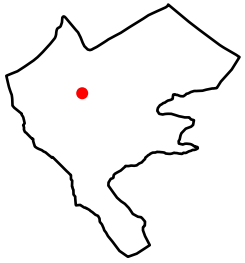
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 57
Well Owner: City of Ontario
Screen Interval (ft-bgs): no data - no data

Figure D-132



Well Location



Legend

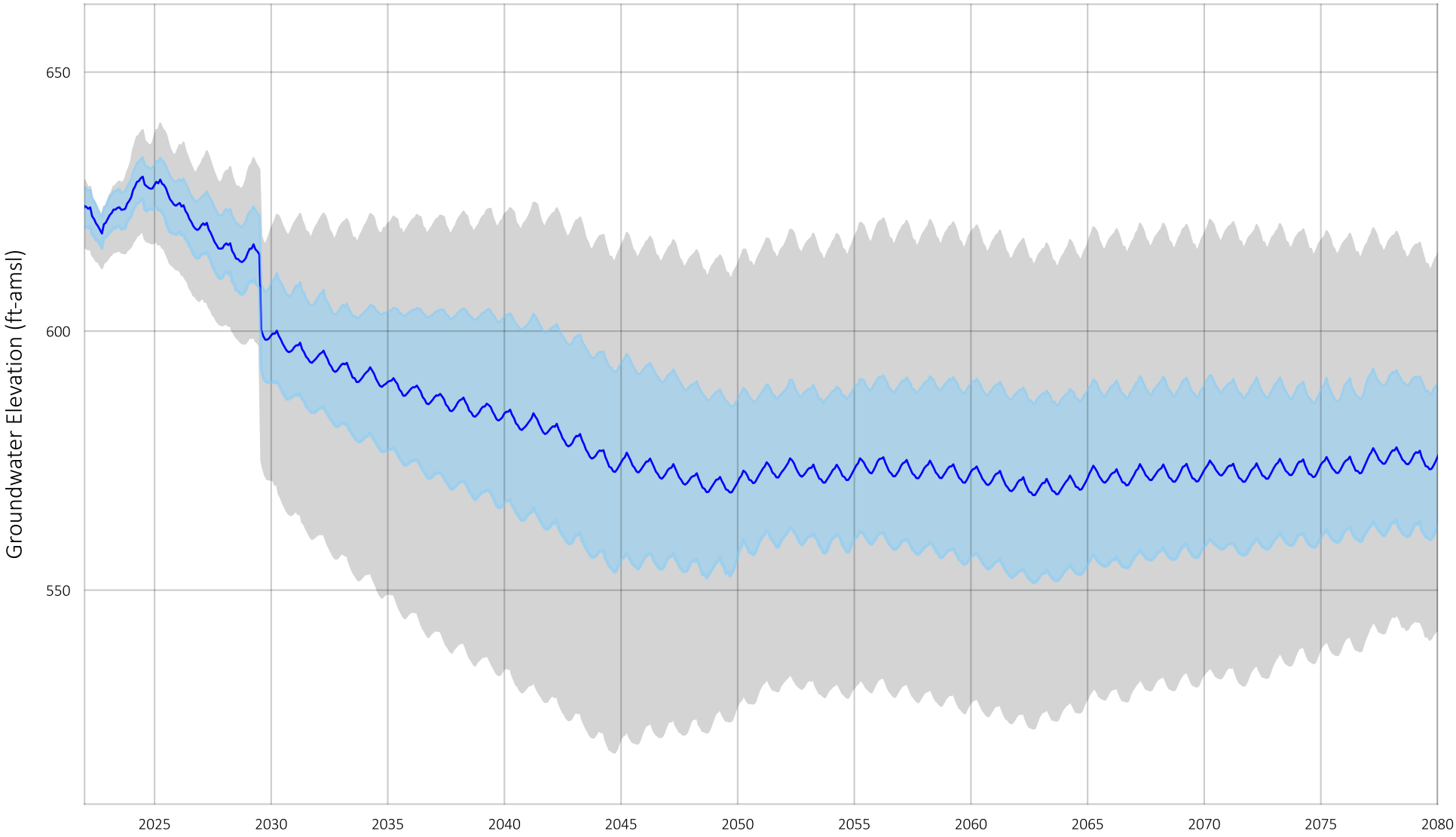
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

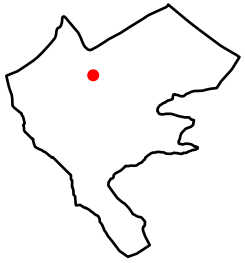
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 58
Well Owner: City of Ontario
Screen Interval (ft-bgs): no data - no data

Figure D-133



Well Location



Legend

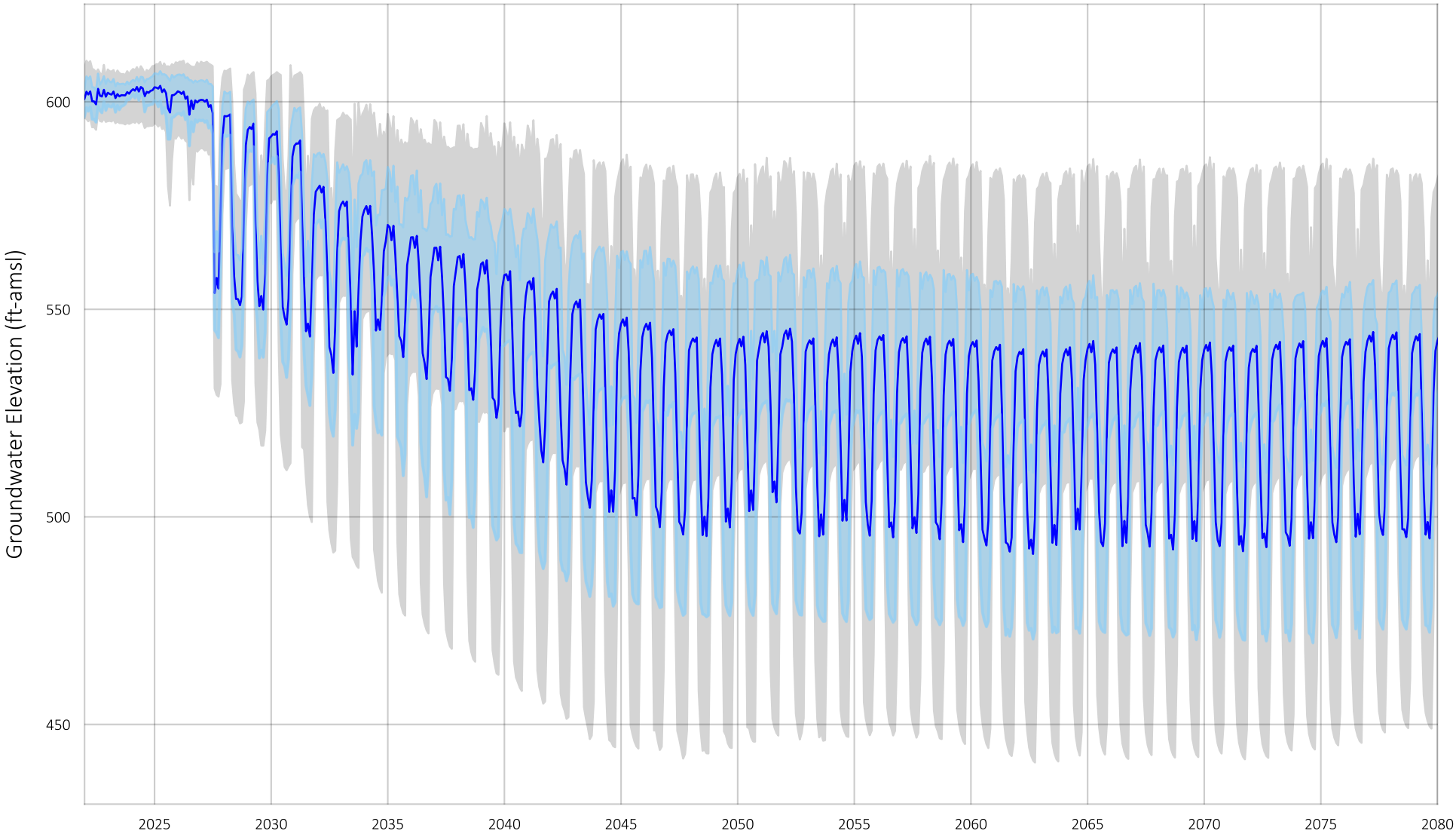
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

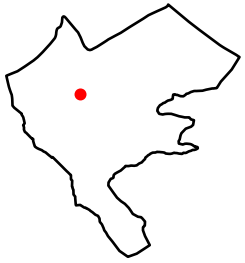
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 109
Well Owner: City of Ontario
Screen Interval (ft-bgs): no data - no data

Figure D-134



Well Location



Legend

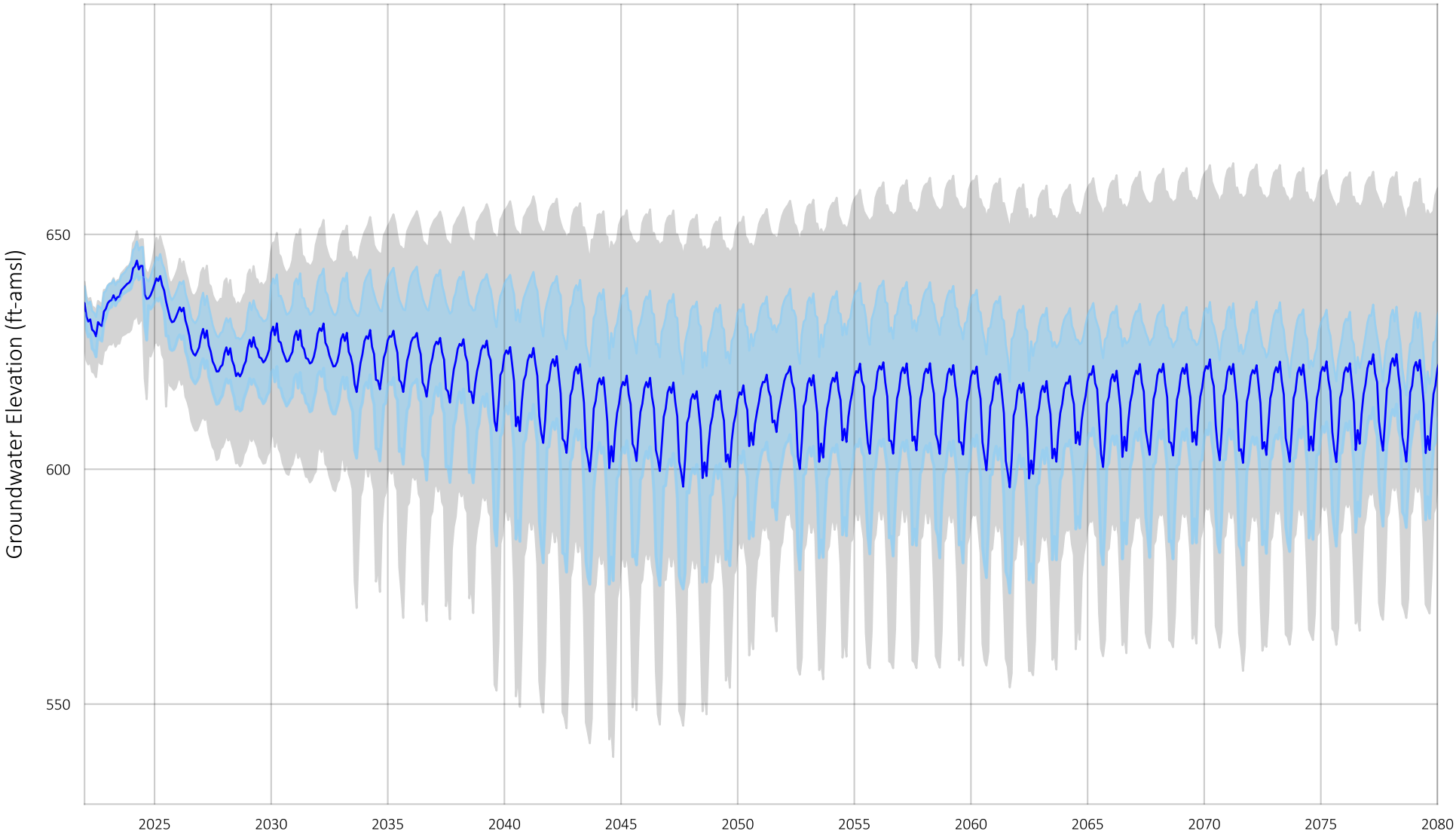
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

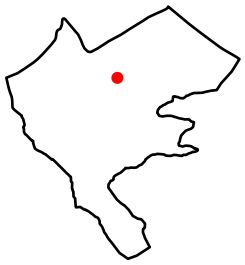
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 120
Well Owner: City of Ontario
Screen Interval (ft-bgs): no data - no data

Figure D-135



Well Location



Legend

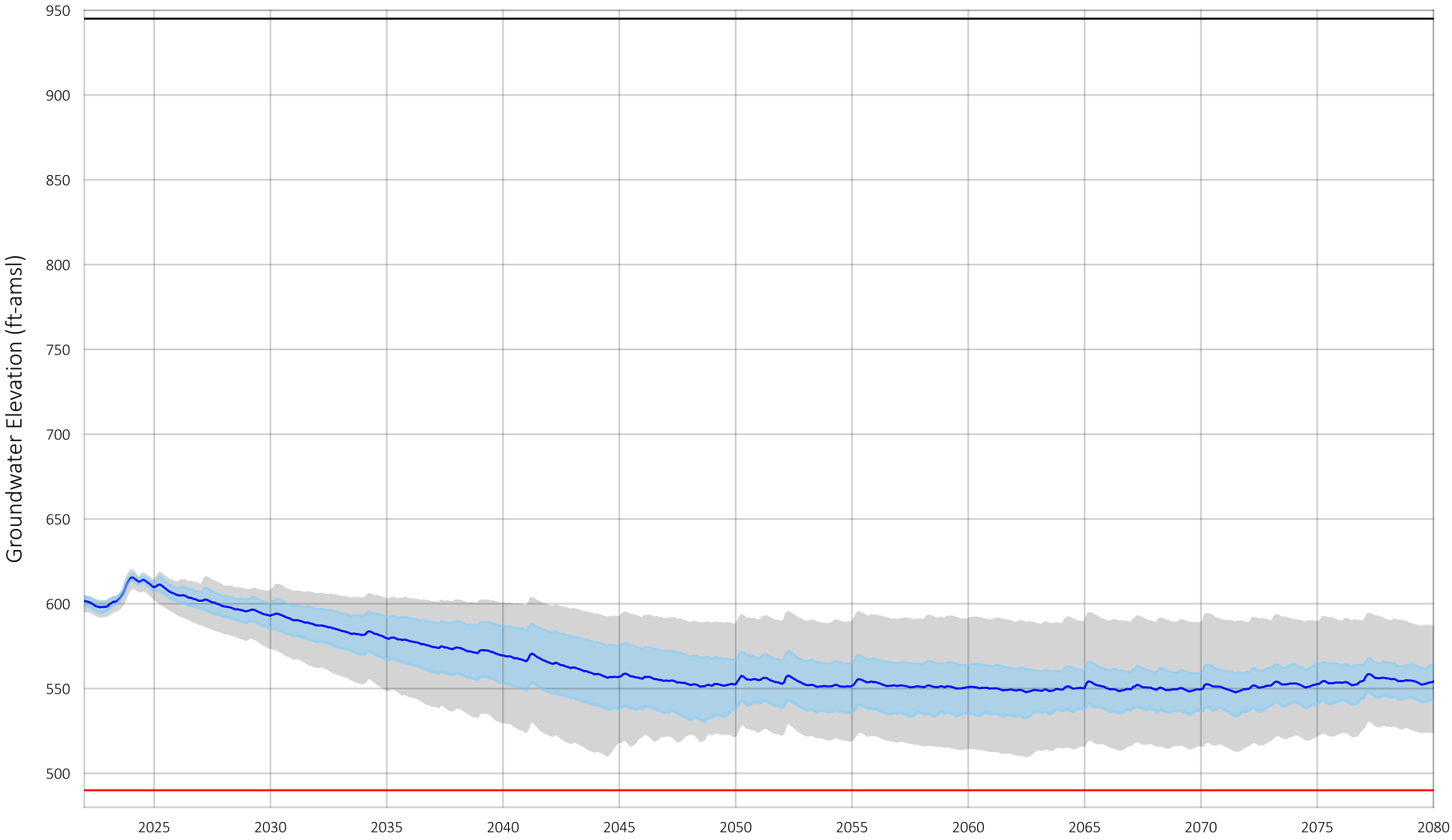
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

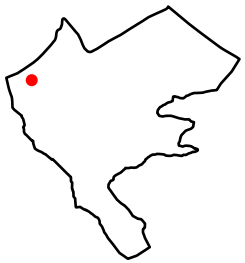
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 136
Well Owner: City of Ontario
Screen Interval (ft-bgs): no data - no data

Figure D-136



Well Location



Legend

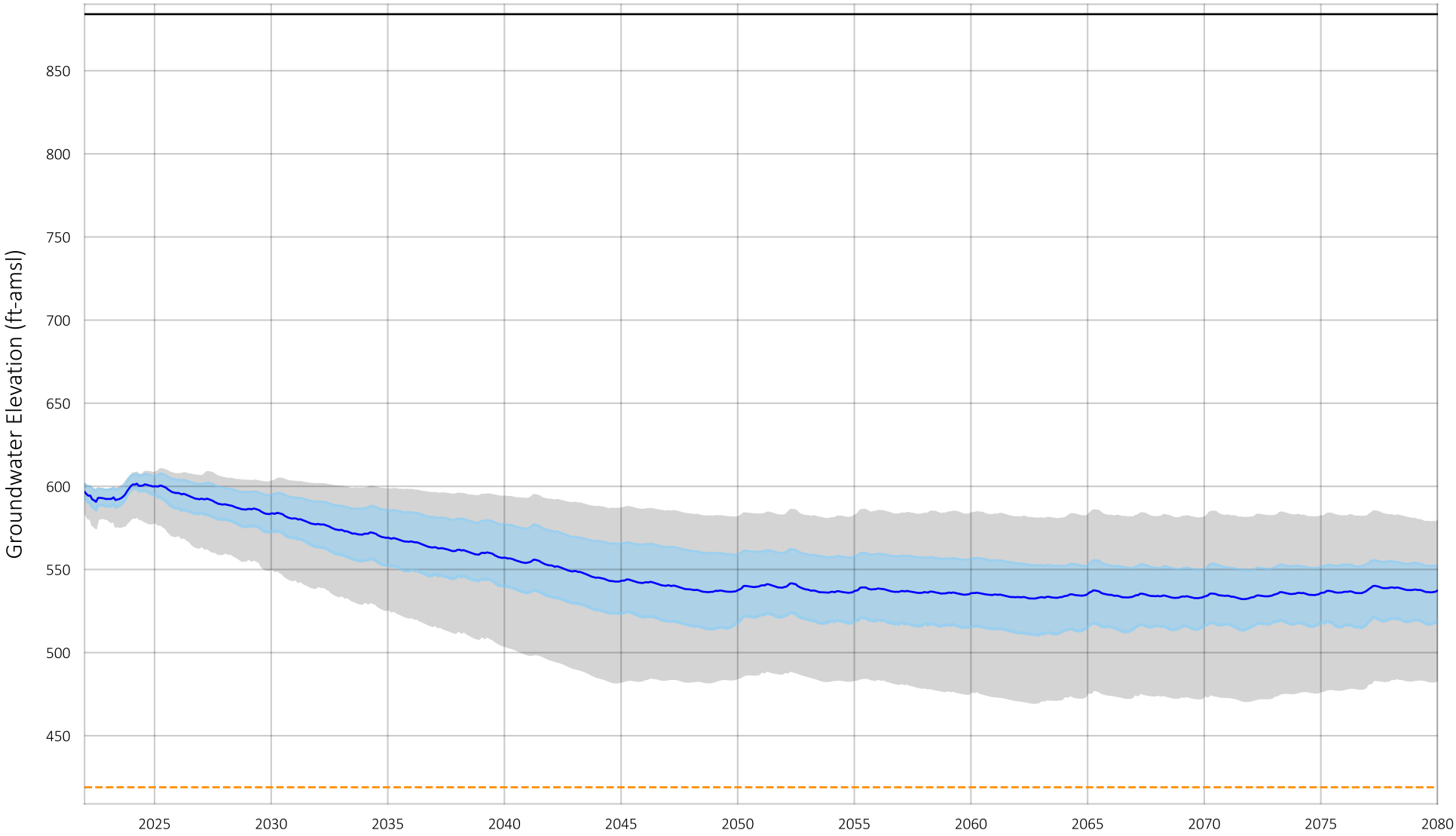
- Land Subsidence Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

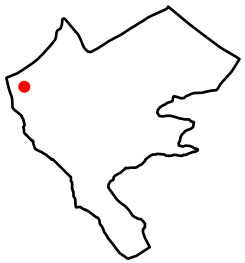
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-30
Well Owner: City of Pomona
Screen Interval (ft-bgs): 565 - 875

Figure D-137



Well Location



Legend

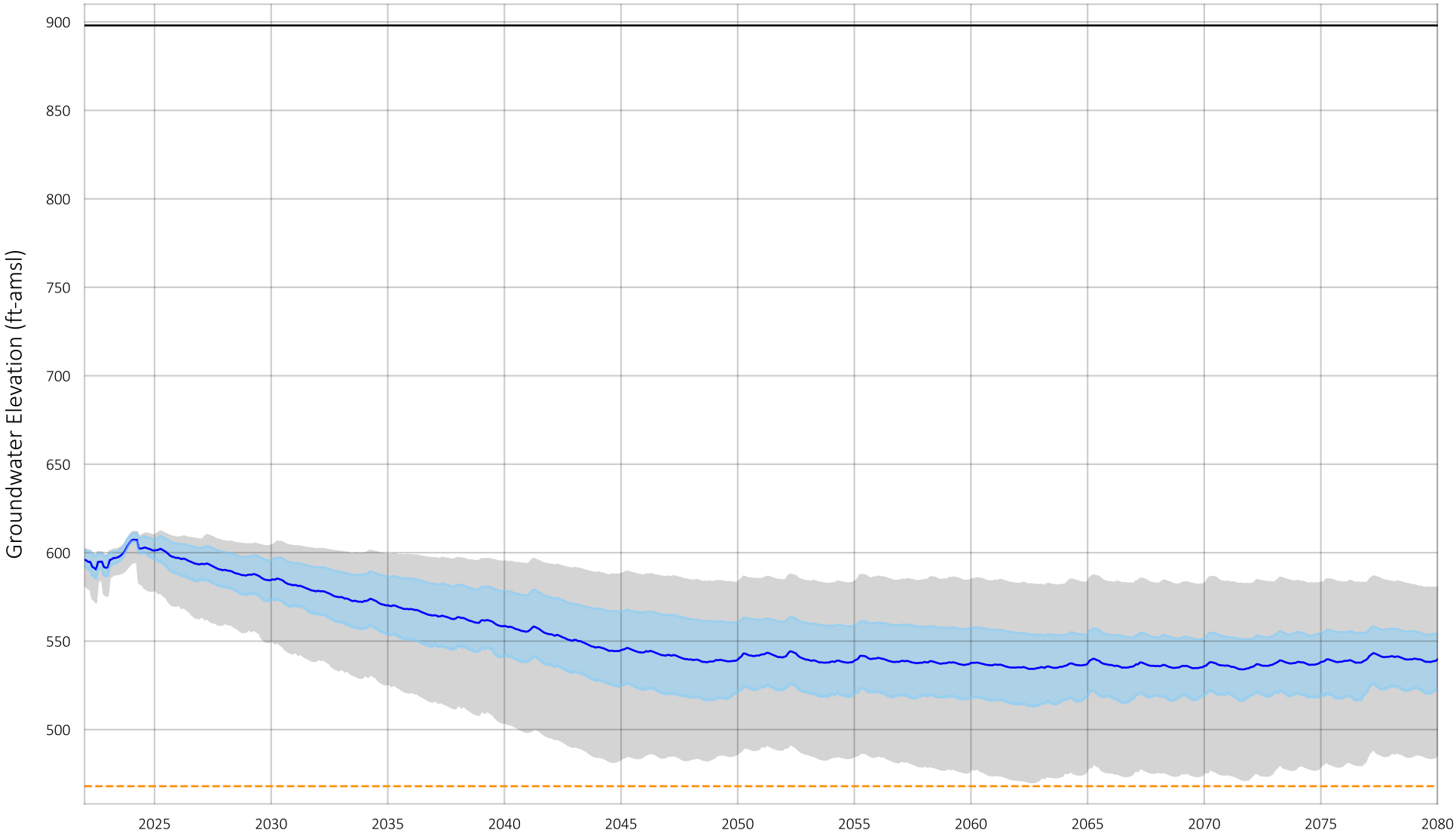
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

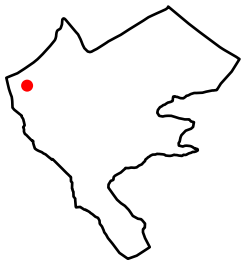
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-06
Well Owner: City of Pomona
Screen Interval (ft-bgs): 185 - 536

Figure D-138



Well Location



Legend

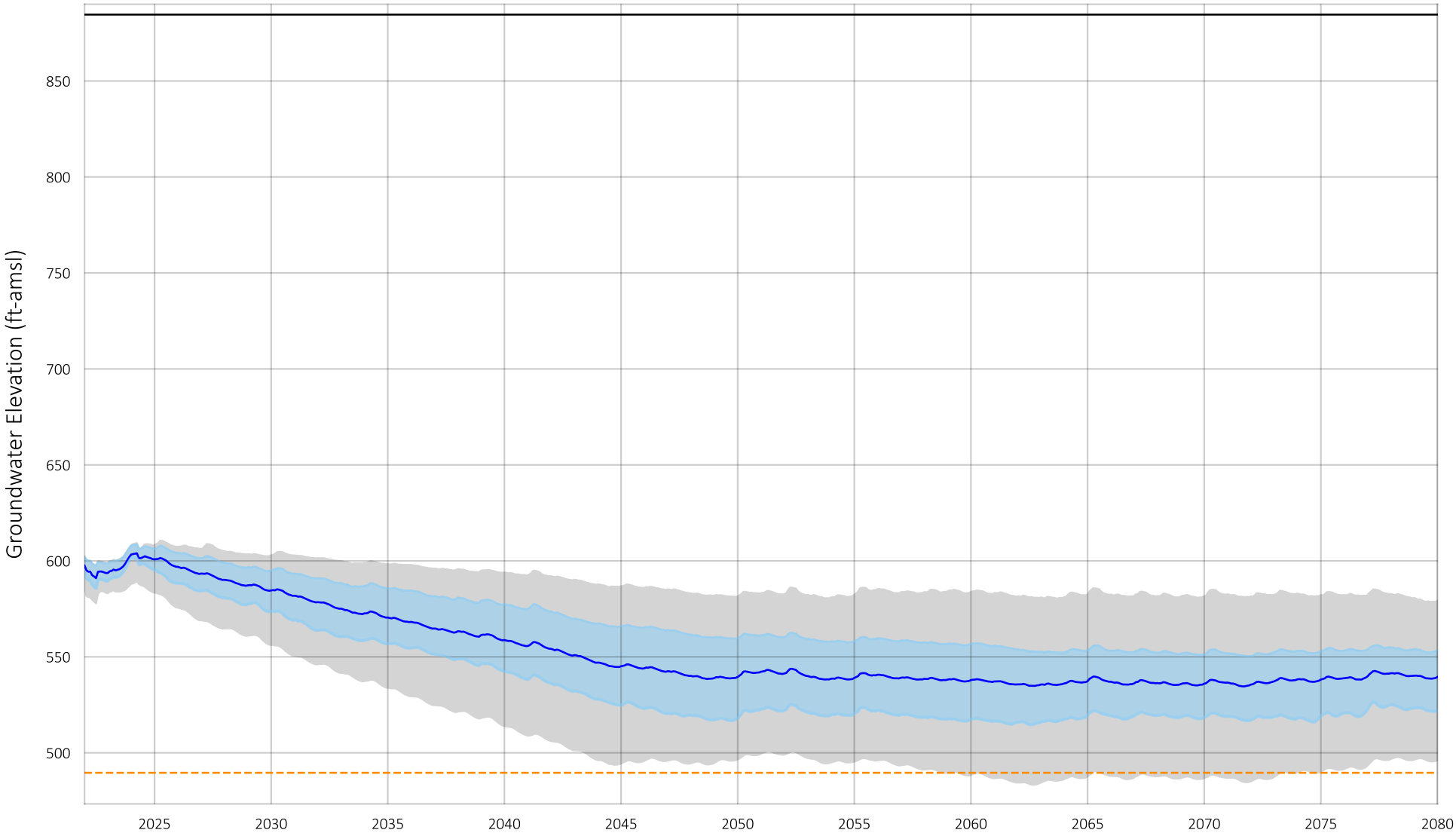
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

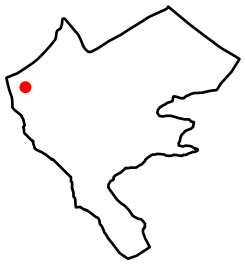
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-02
Well Owner: City of Pomona
Screen Interval (ft-bgs): 360 - 770

Figure D-139



Well Location



Legend

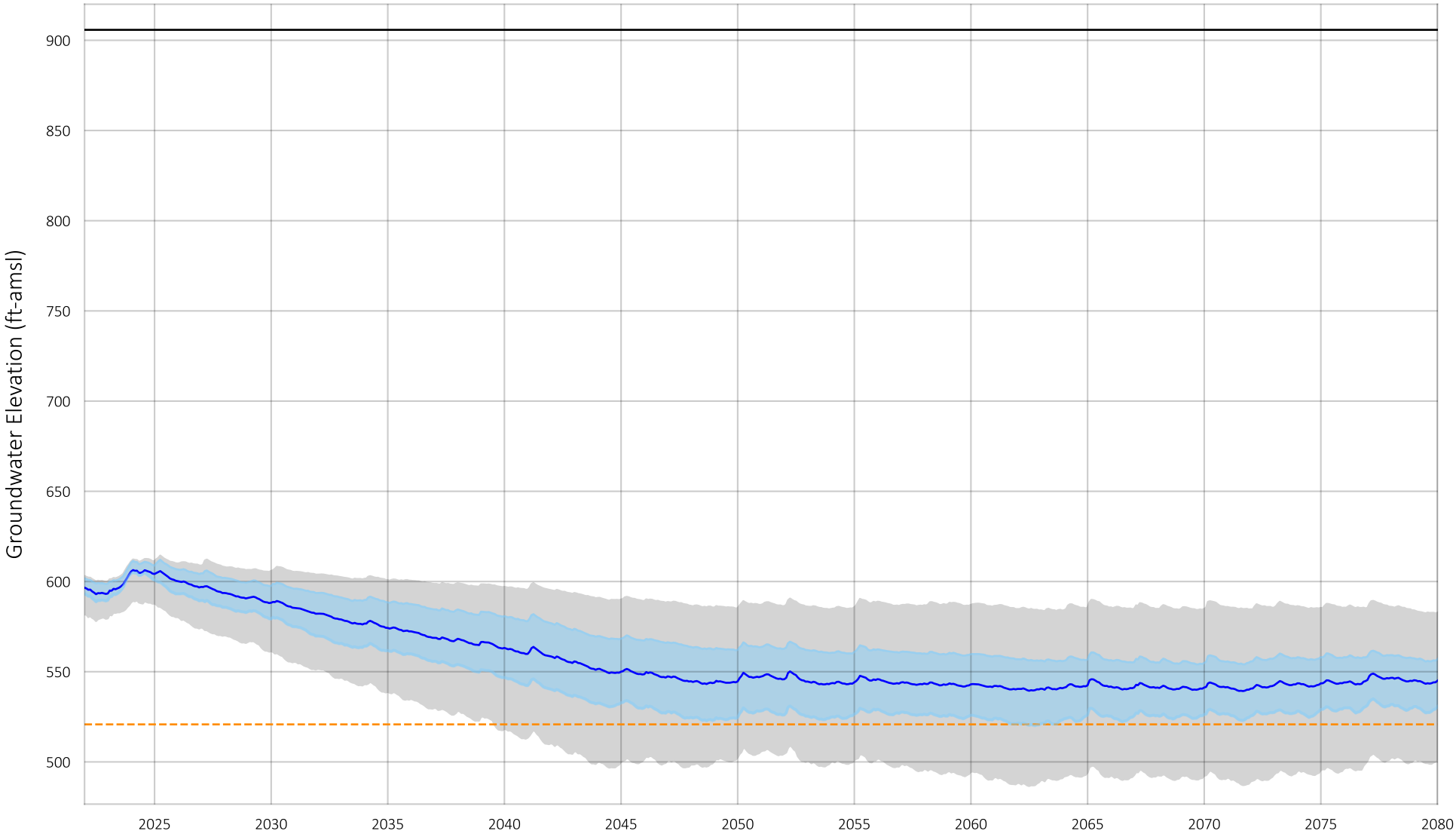
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

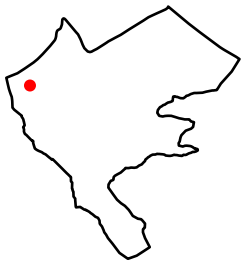
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-16
Well Owner: City of Pomona
Screen Interval (ft-bgs): 270 - 328

Figure D-140



Well Location



Legend

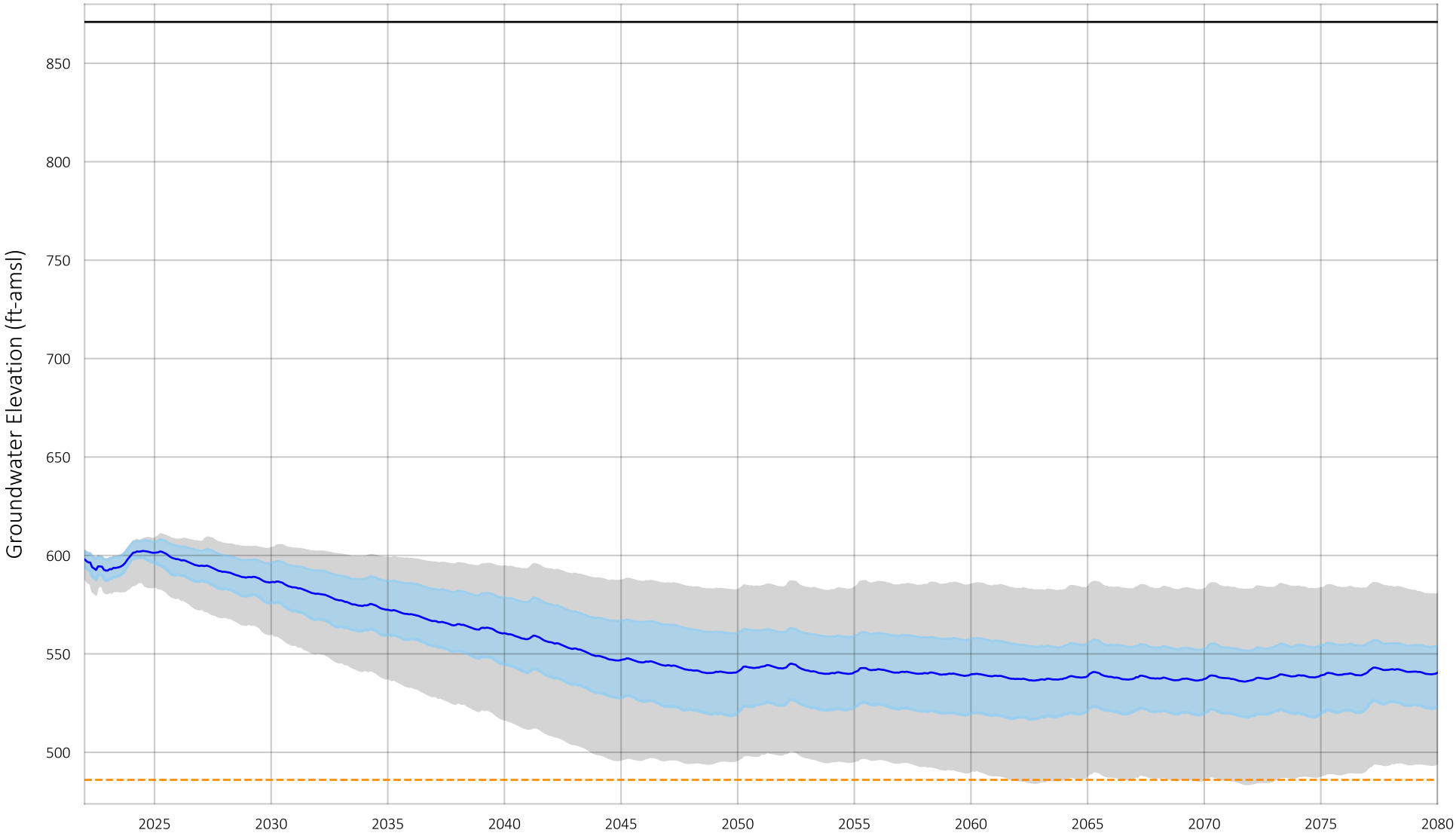
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

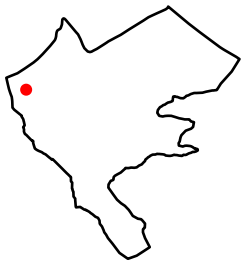
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-10B
Well Owner: City of Pomona
Screen Interval (ft-bgs): 295 - 784

Figure D-141



Well Location



Legend

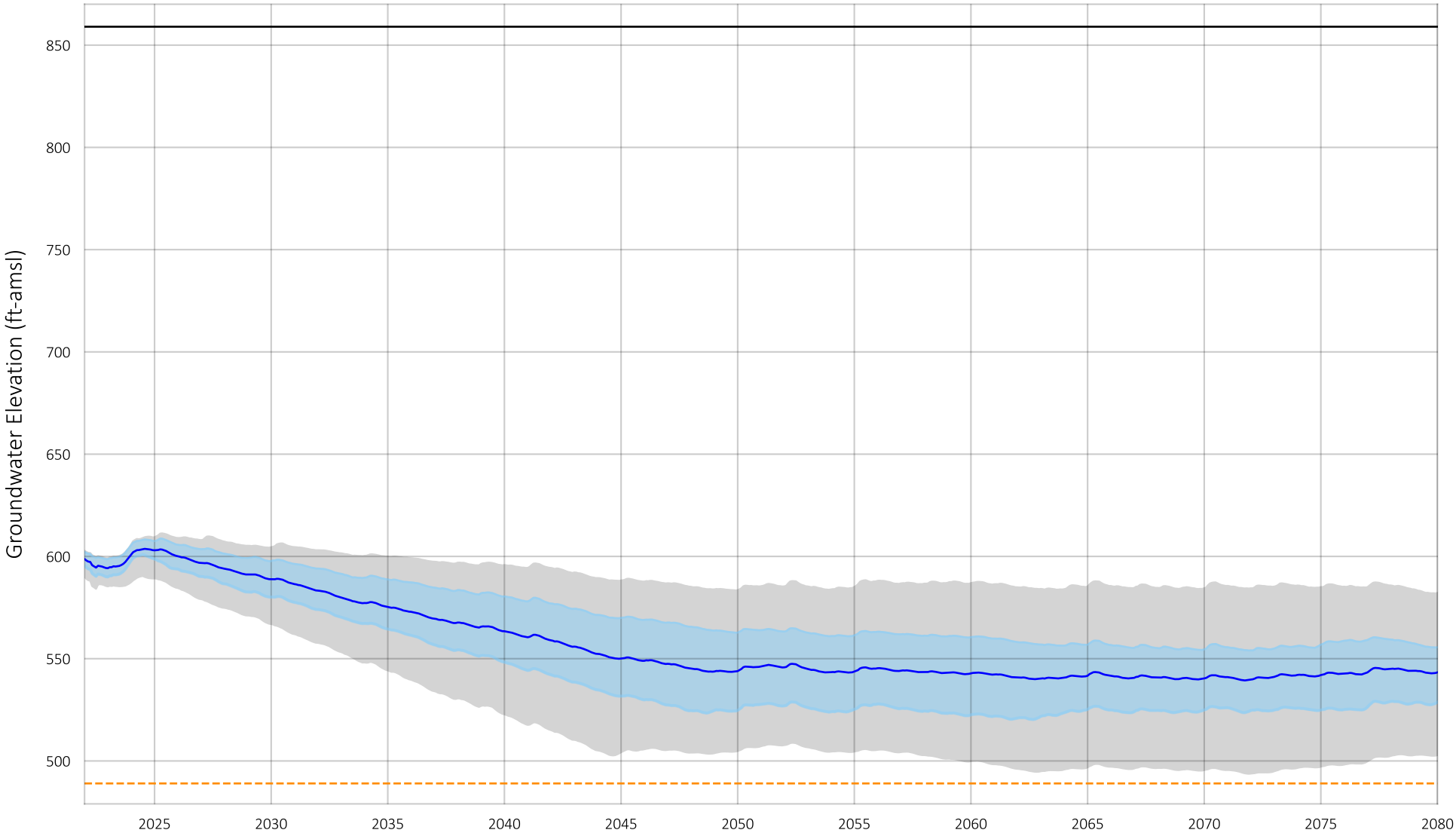
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

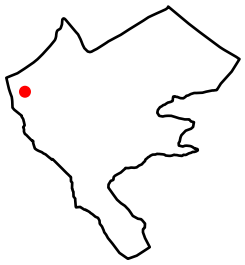
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-17
Well Owner: City of Pomona
Screen Interval (ft-bgs): 454 - 536

Figure D-142



Well Location



Legend

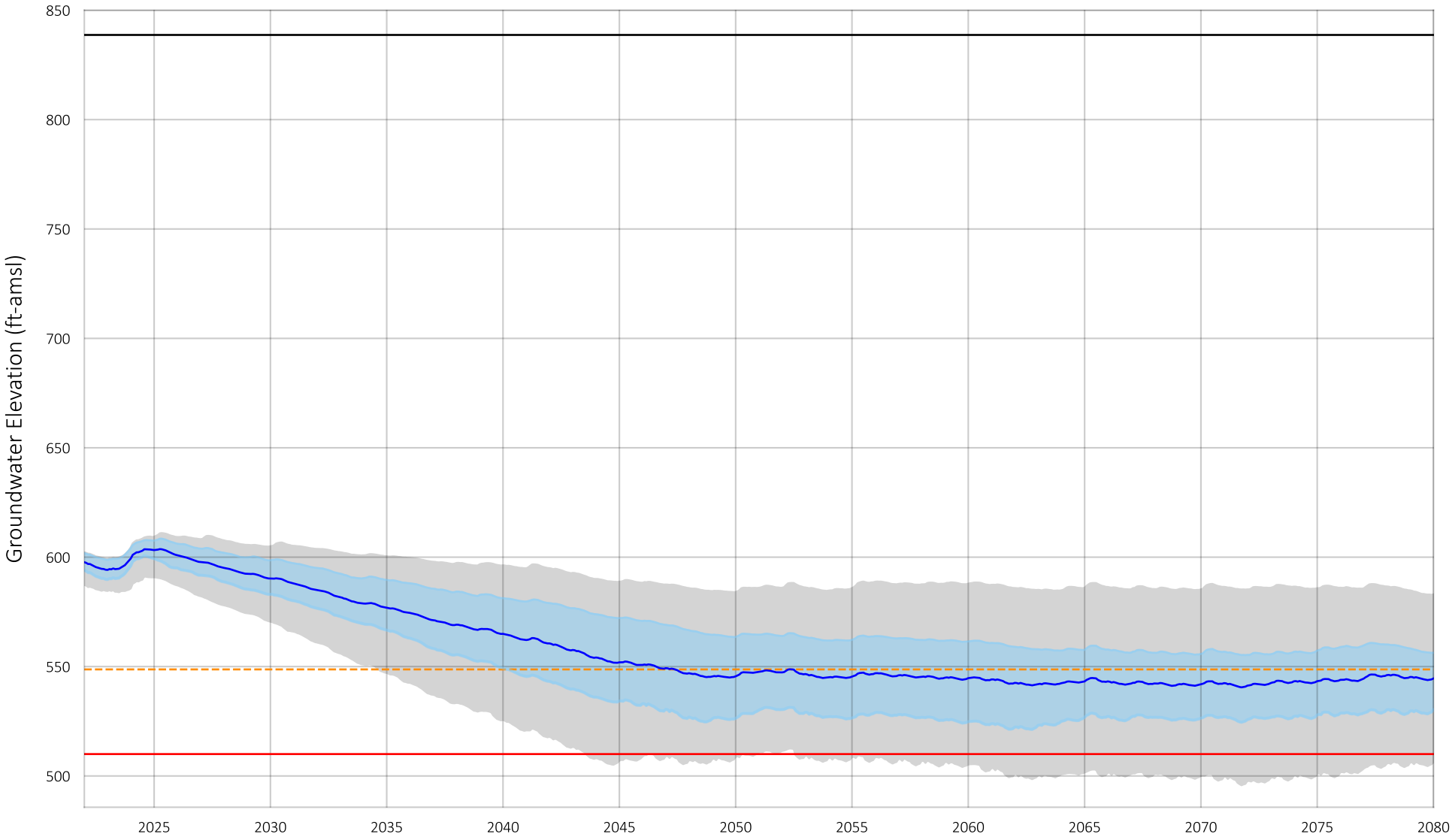
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

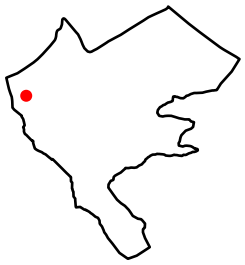
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-15
Well Owner: City of Pomona
Screen Interval (ft-bgs): 210 - 533

Figure D-143



Well Location



Legend

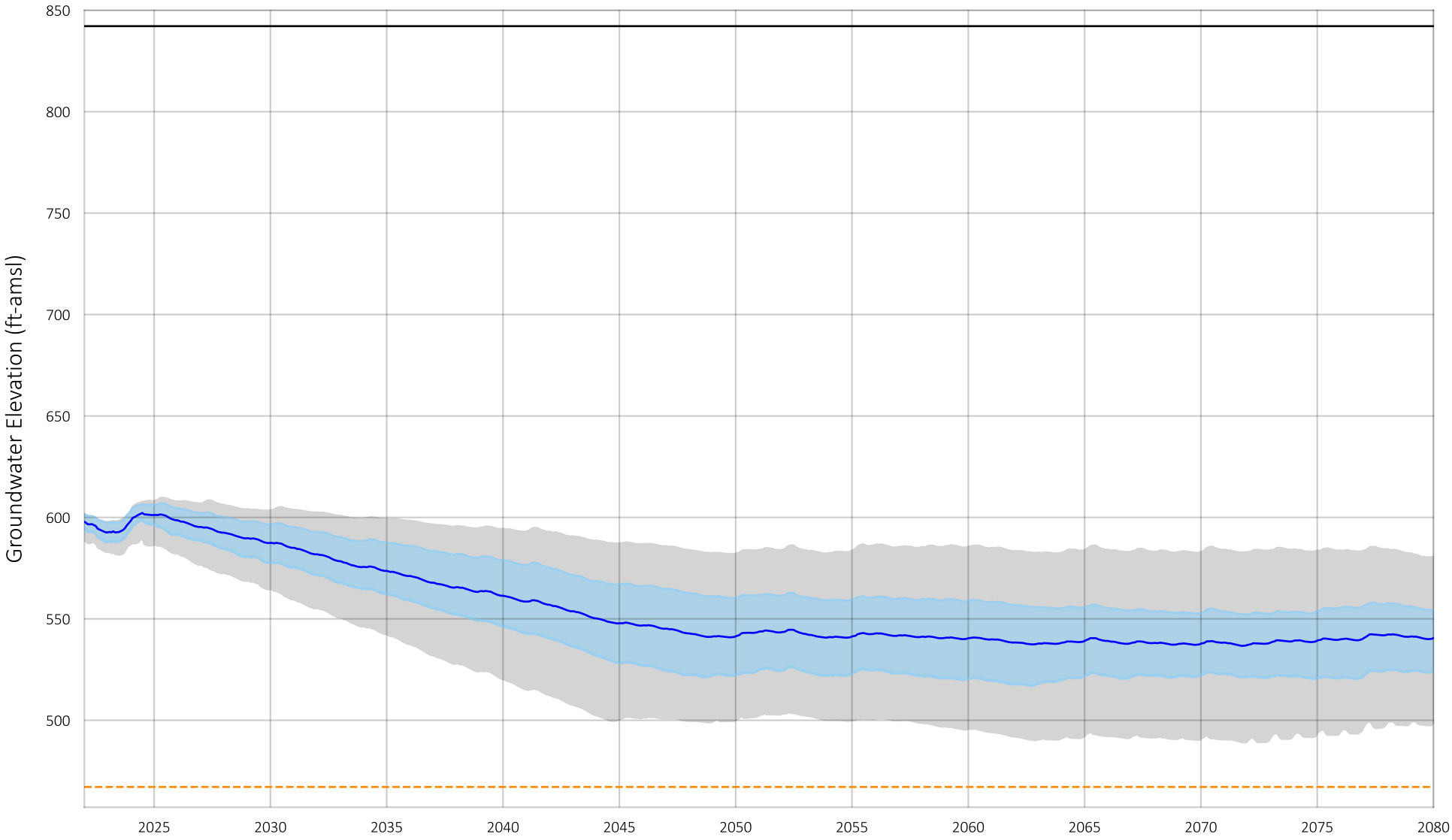
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

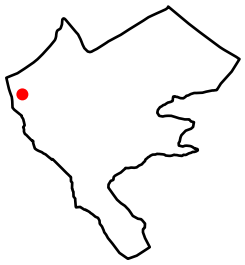
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-26
Well Owner: City of Pomona
Screen Interval (ft-bgs): 300 - 775

Figure D-144



Well Location



Legend

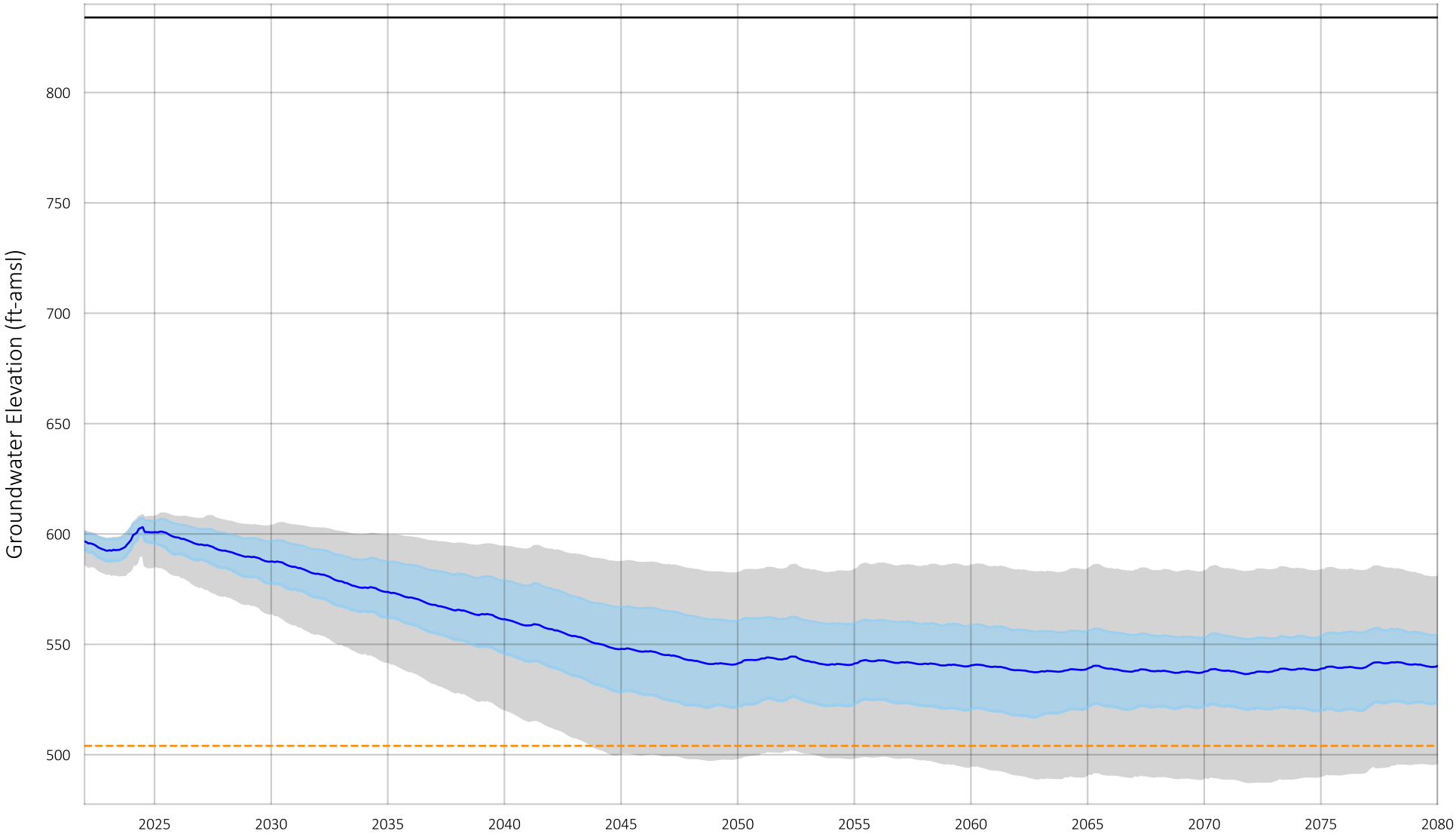
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

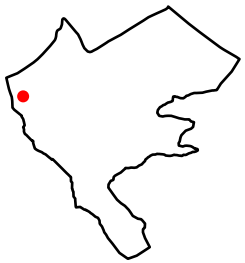
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-23
Well Owner: City of Pomona
Screen Interval (ft-bgs): 235 - 635

Figure D-145



Well Location



Legend

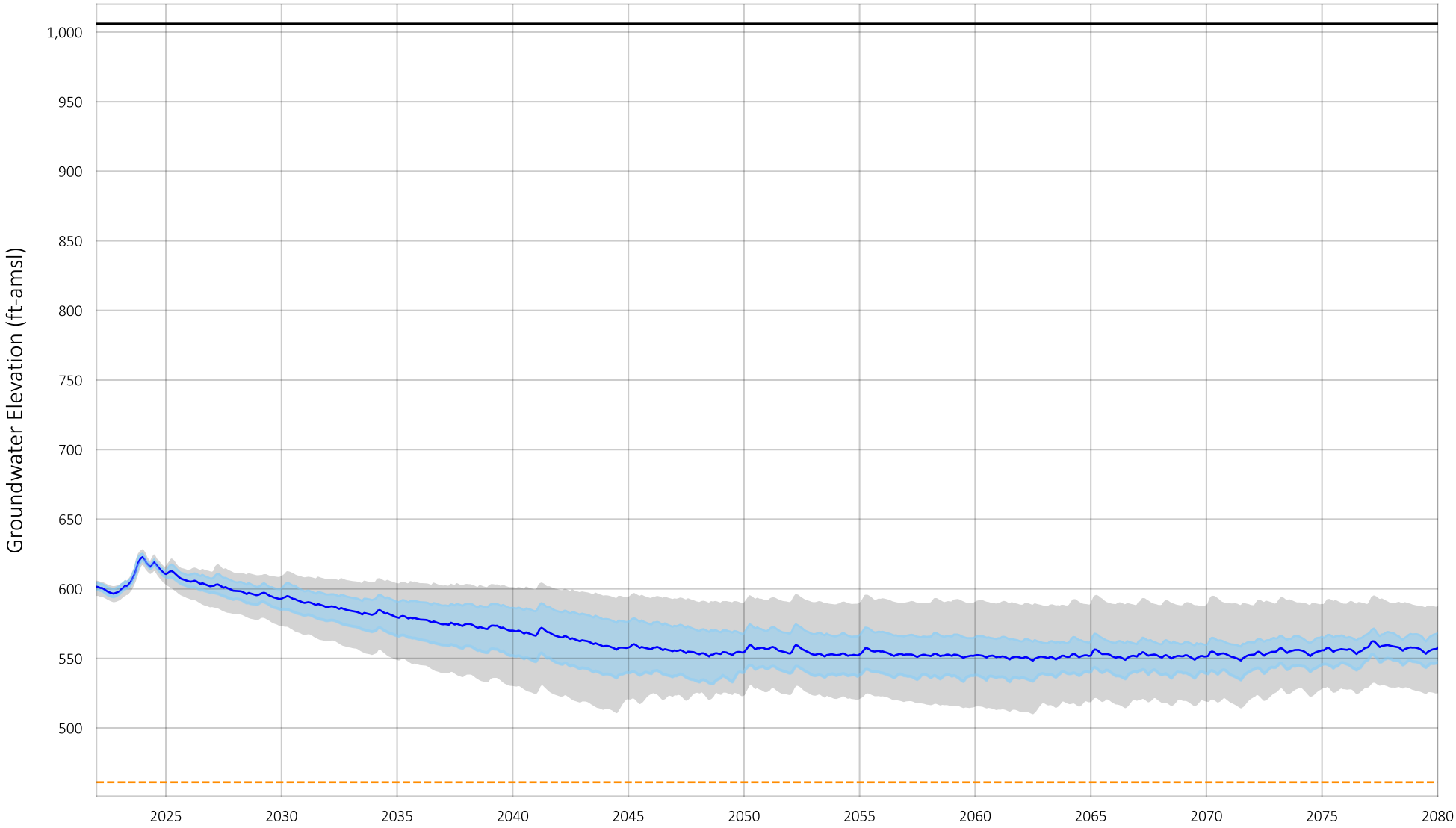
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

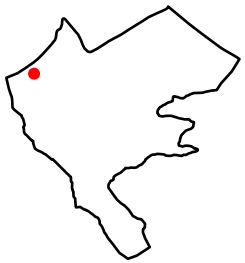
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-25
Well Owner: City of Pomona
Screen Interval (ft-bgs): 245 - 780

Figure D-146



Well Location



Legend

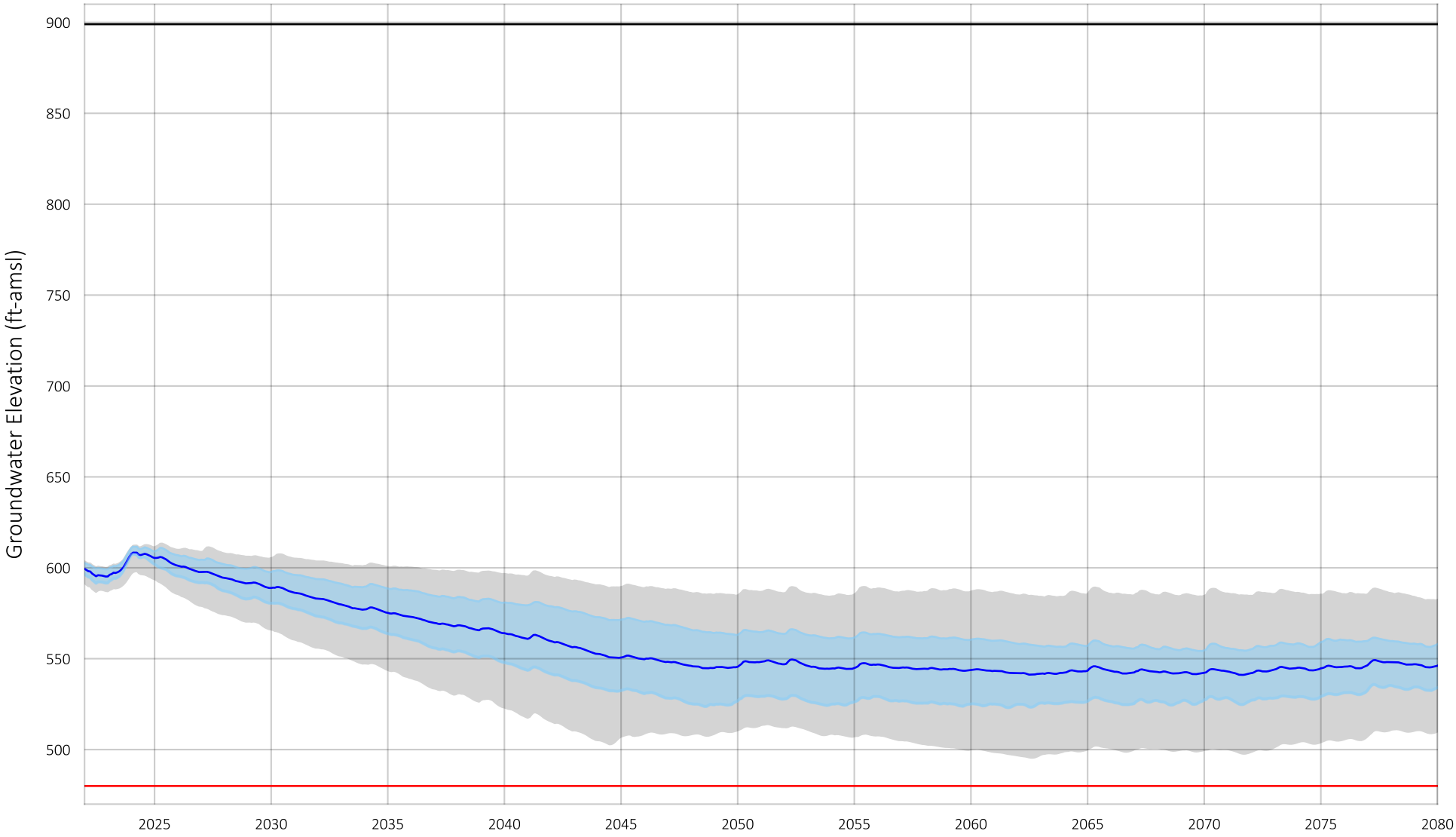
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

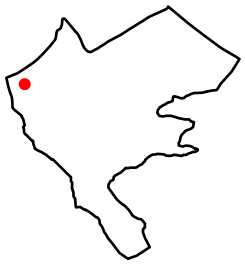
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-27
Well Owner: City of Pomona
Screen Interval (ft-bgs): 472 - 849

Figure D-147



Well Location



Legend

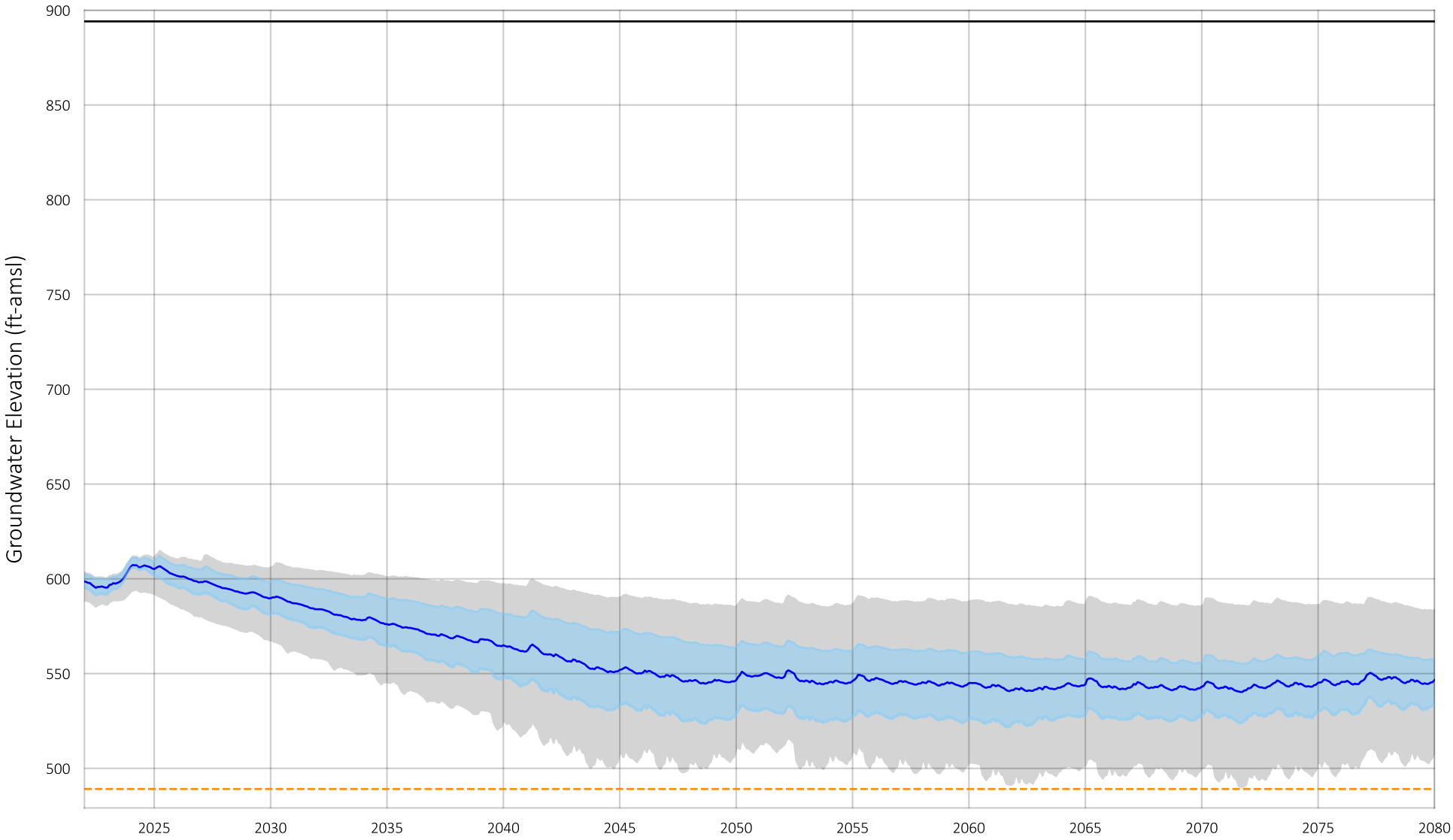
- Land Subsidence Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

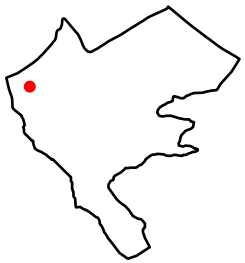
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-35
Well Owner: City of Pomona
Screen Interval (ft-bgs): 450 - 1085

Figure D-148



Well Location



Legend

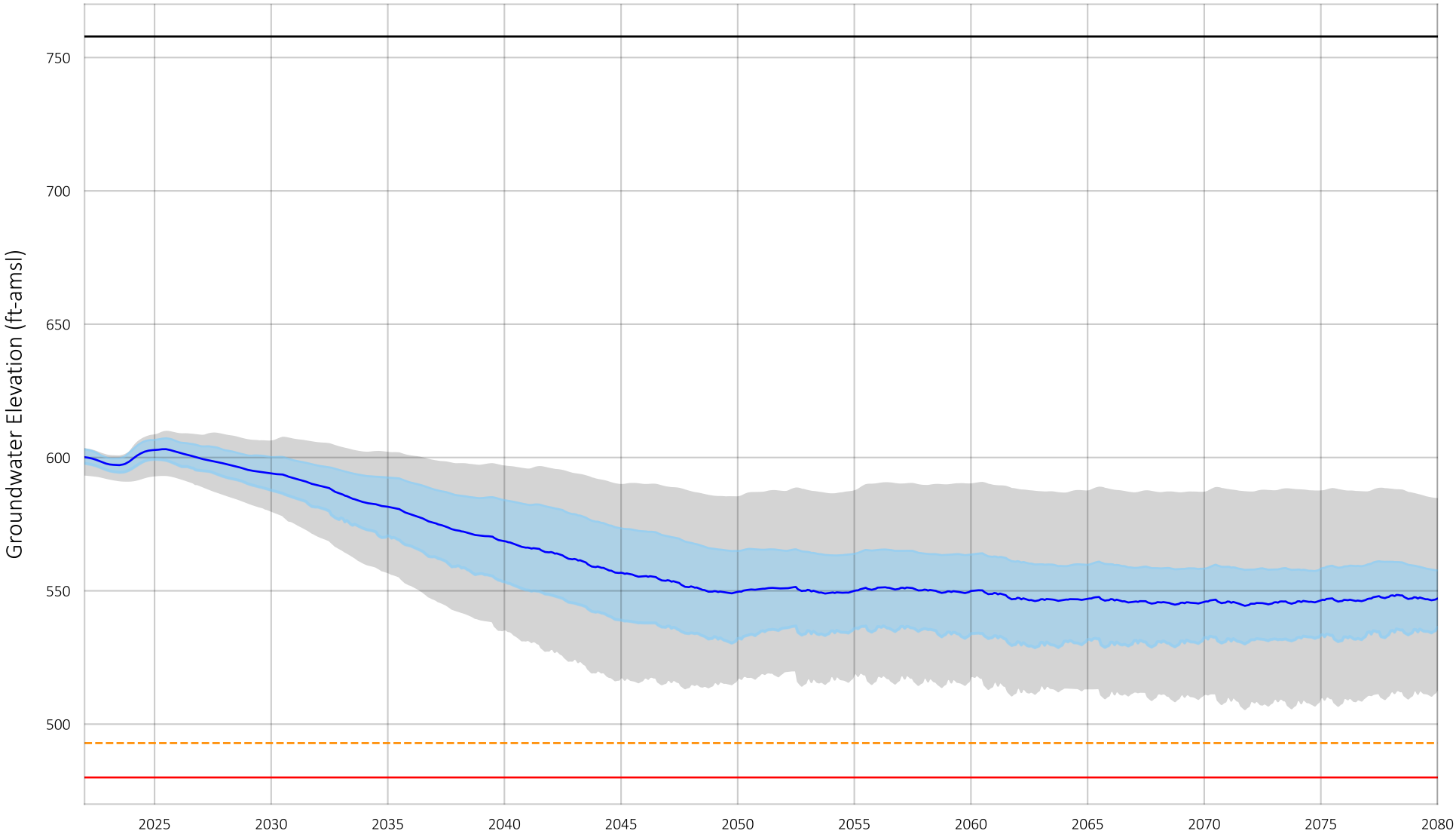
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

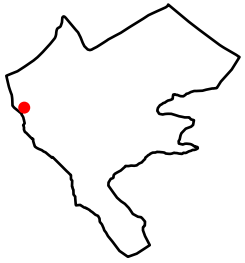
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-34
Well Owner: City of Pomona
Screen Interval (ft-bgs): 363 - 427

Figure D-149



Well Location



Legend

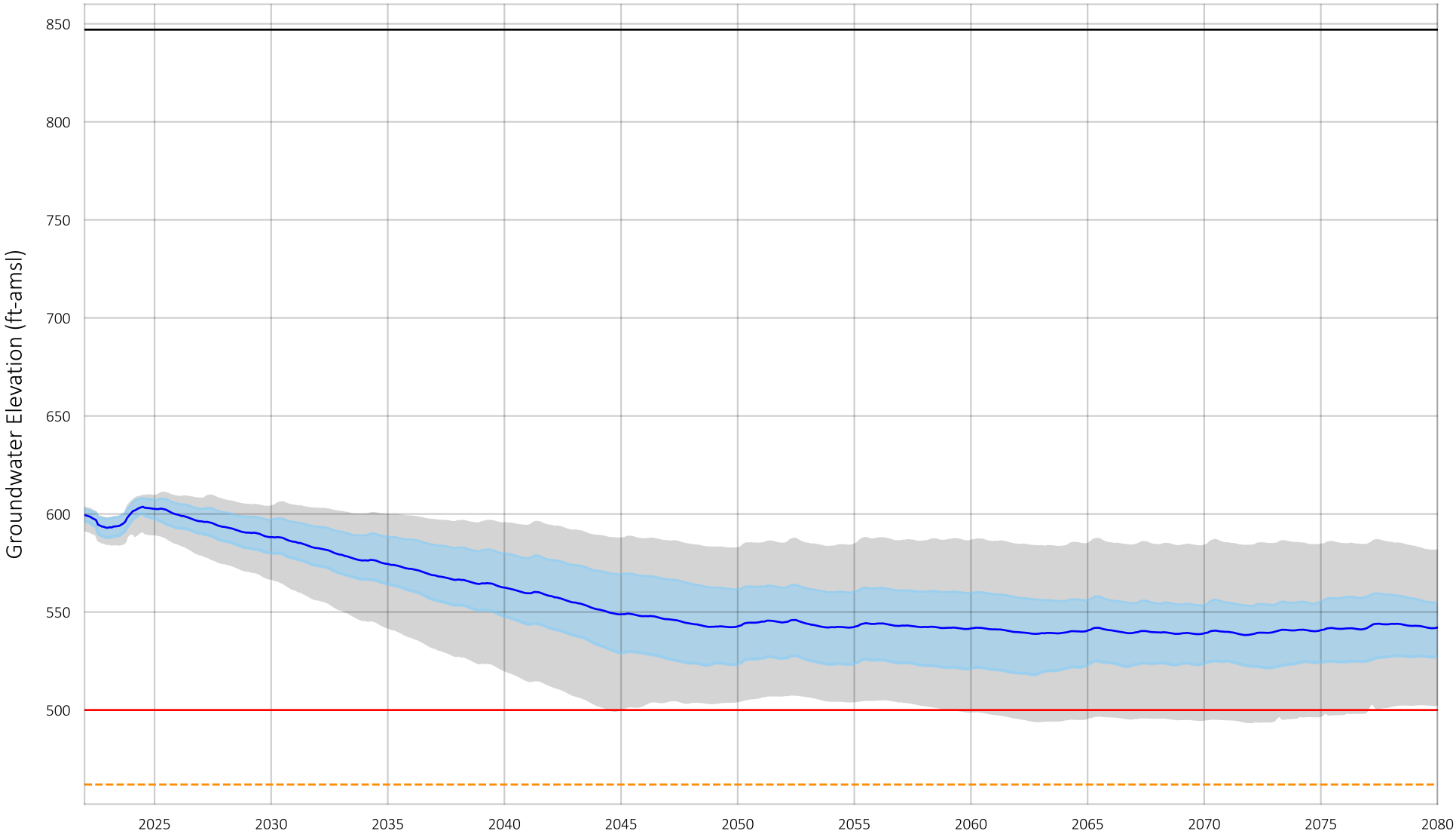
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

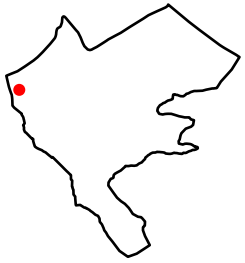
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-29
Well Owner: City of Pomona
Screen Interval (ft-bgs): 248 - 352

Figure D-150



Well Location



Legend

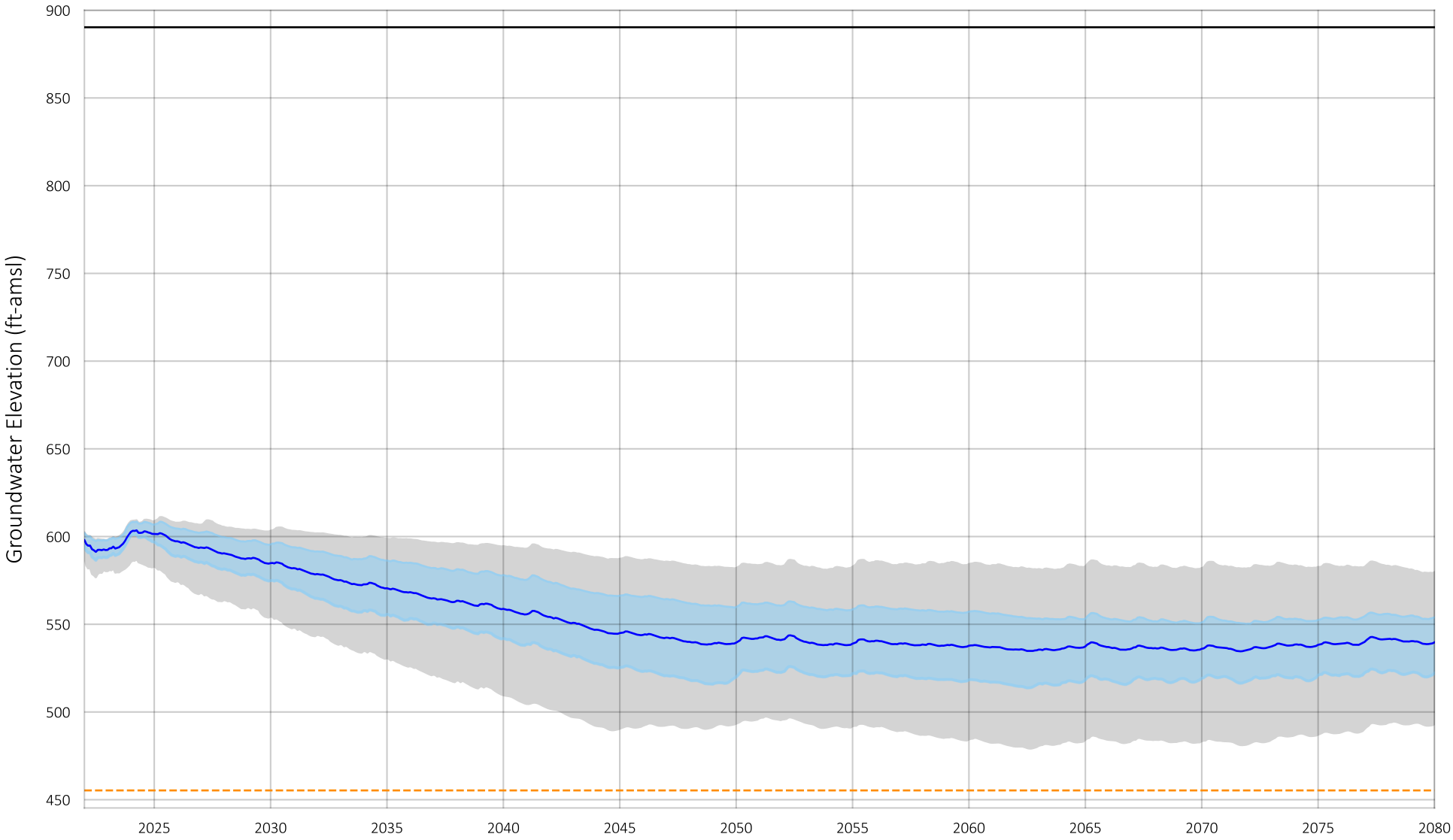
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

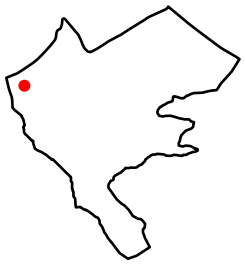
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-36
Well Owner: City of Pomona
Screen Interval (ft-bgs): 340 - 700

Figure D-151



Well Location



Legend

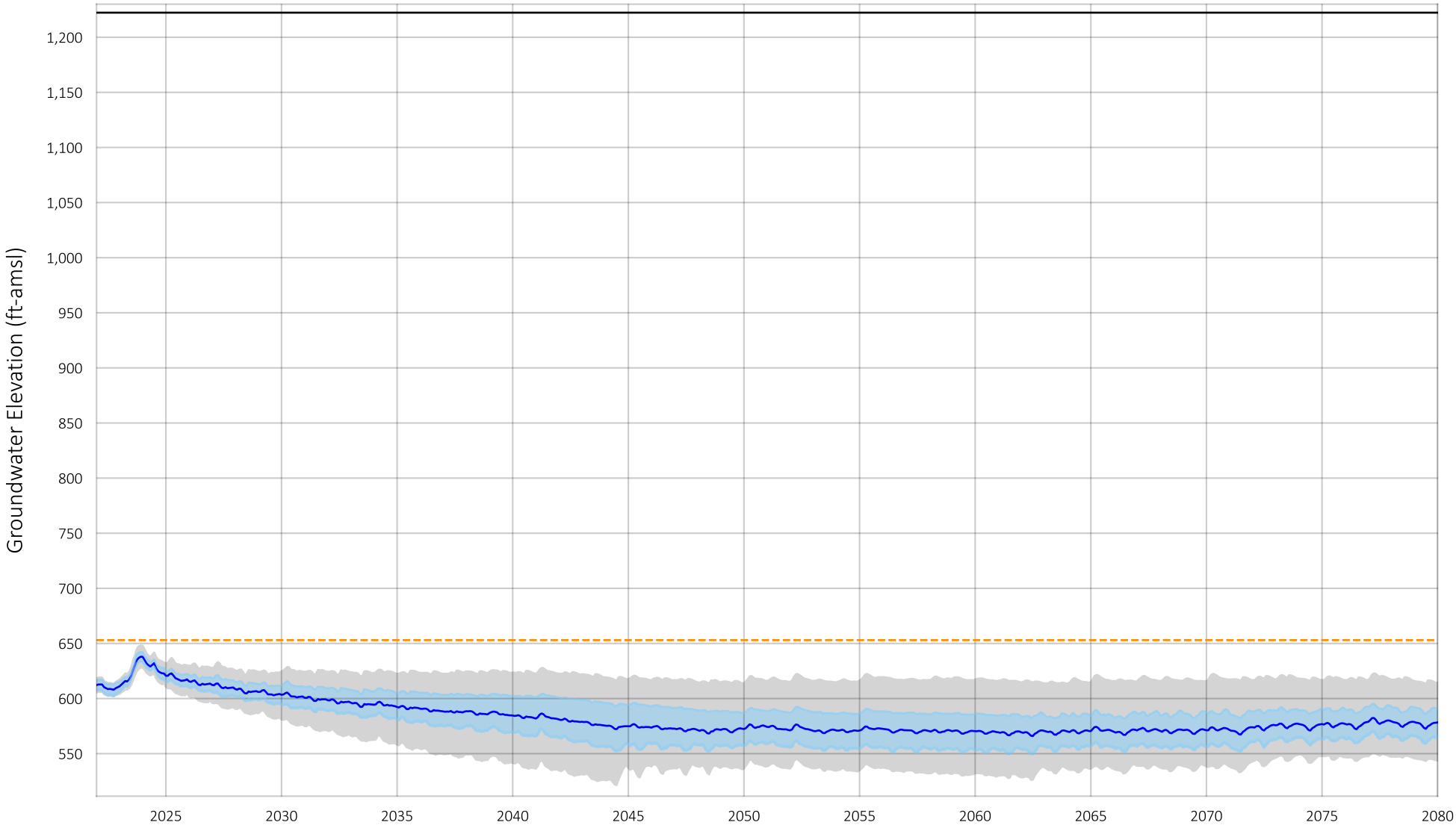
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

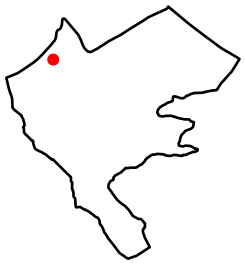
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-05B
Well Owner: City of Pomona
Screen Interval (ft-bgs): 457 - 615

Figure D-152



Well Location



Legend

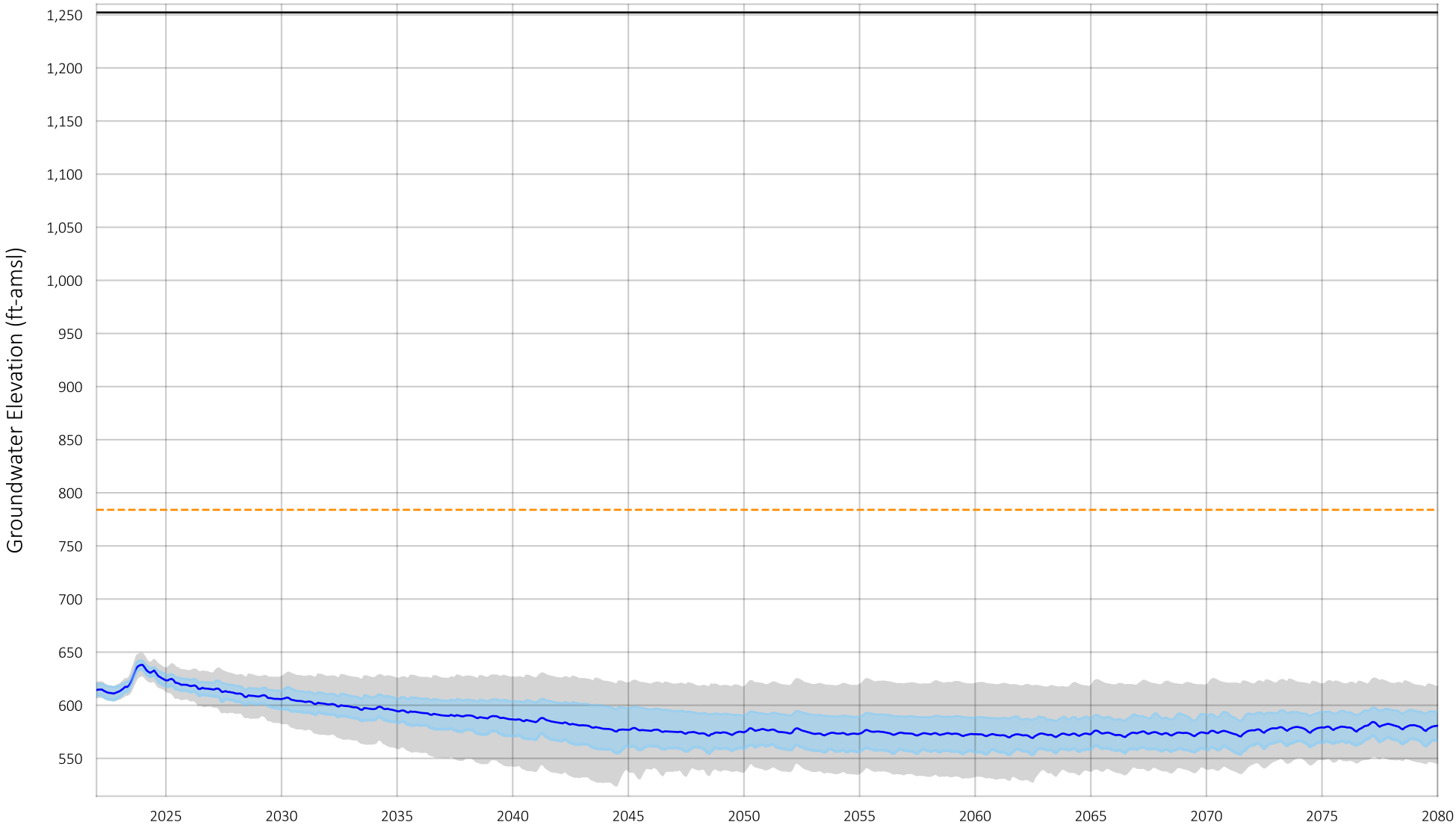
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

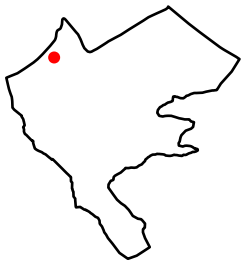
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: Upland 08
Well Owner: City of Upland
Screen Interval (ft-bgs): 522 - 985

Figure D-153



Well Location



Legend

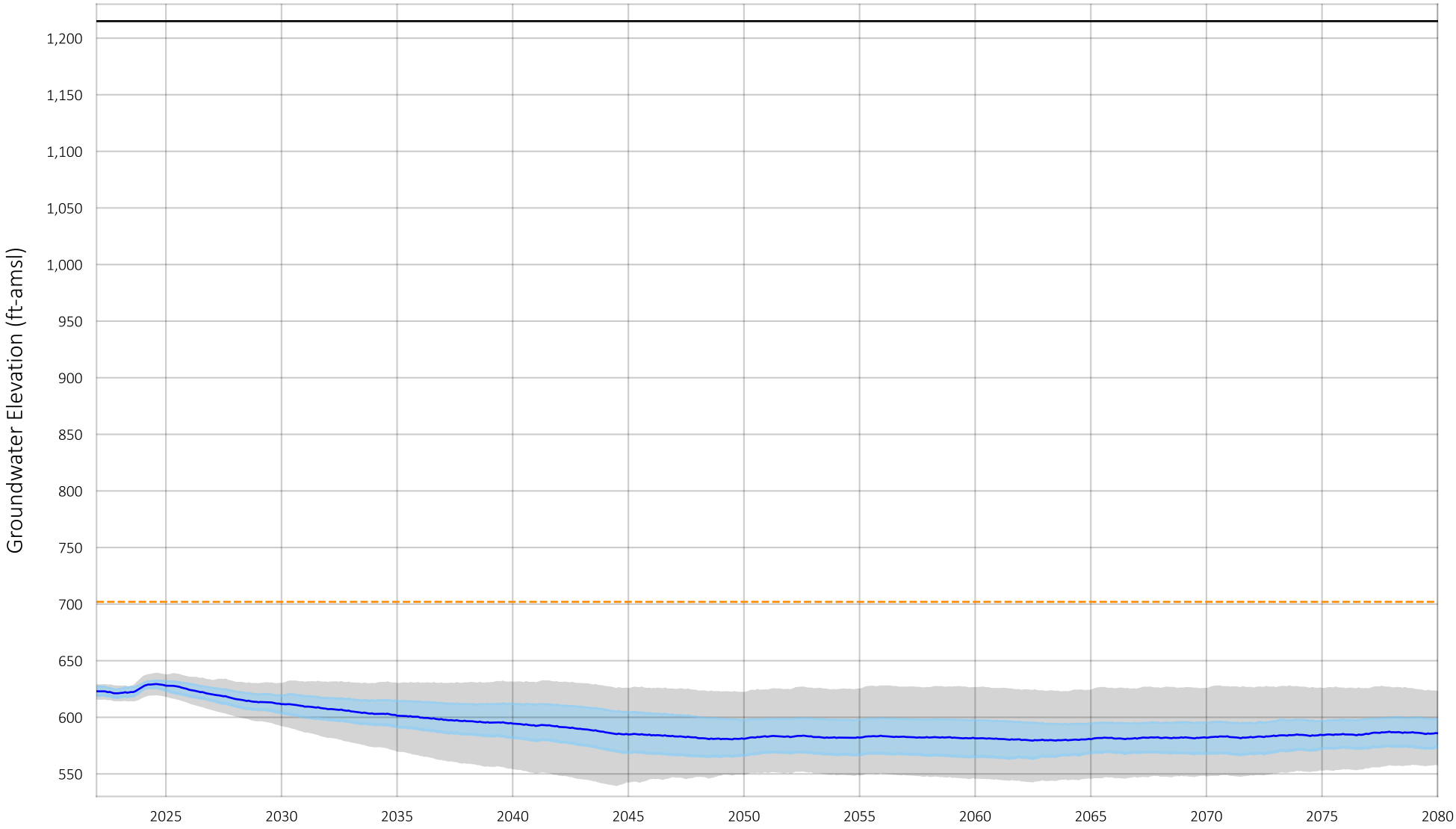
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

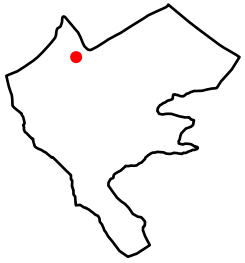
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: Upland 03
Well Owner: City of Upland
Screen Interval (ft-bgs): 492 - 904

Figure D-154



Well Location



Legend

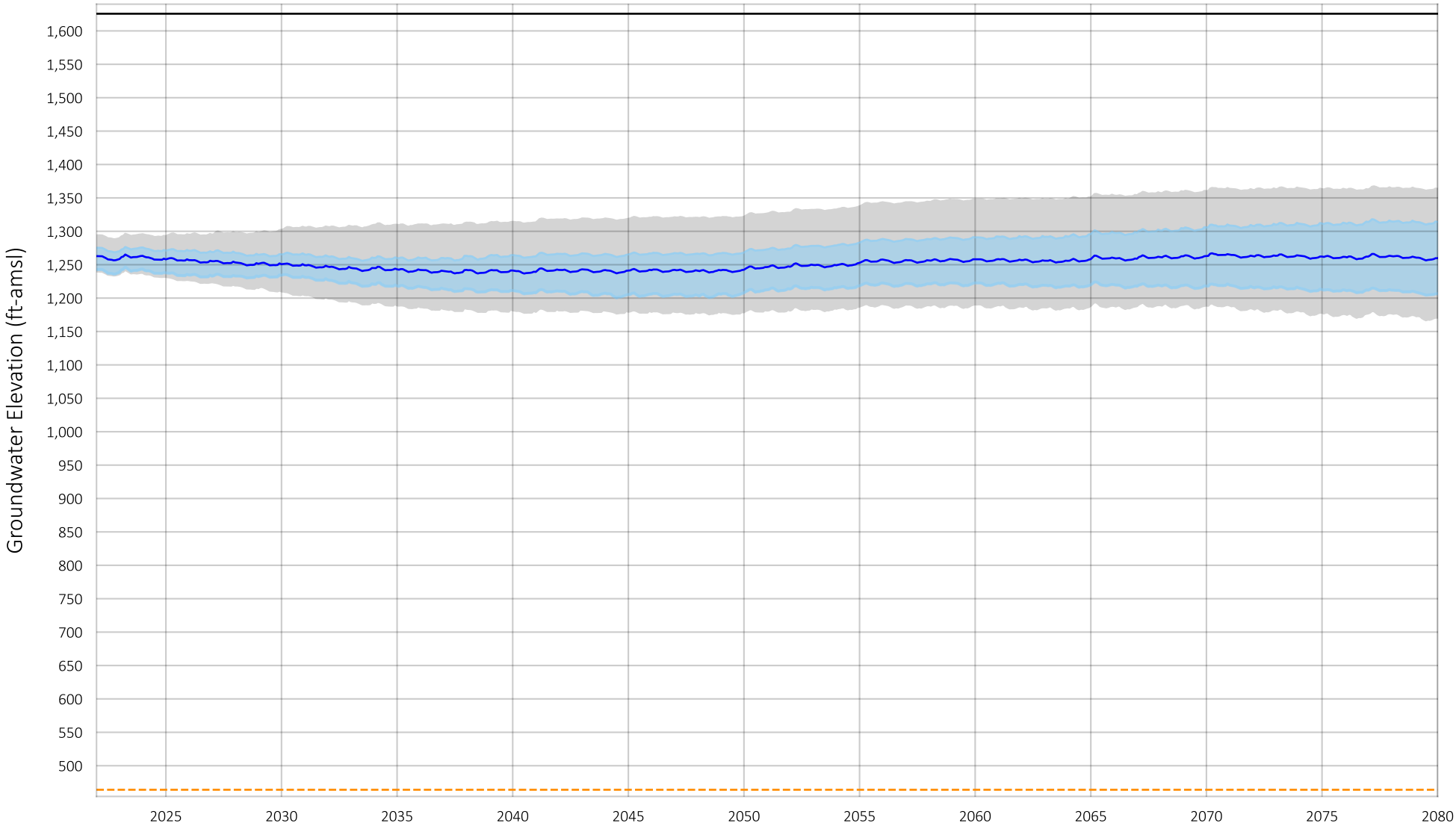
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

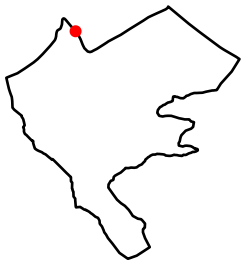
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: Upland 07A
Well Owner: City of Upland
Screen Interval (ft-bgs): 640 - 1020

Figure D-155



Well Location



Legend

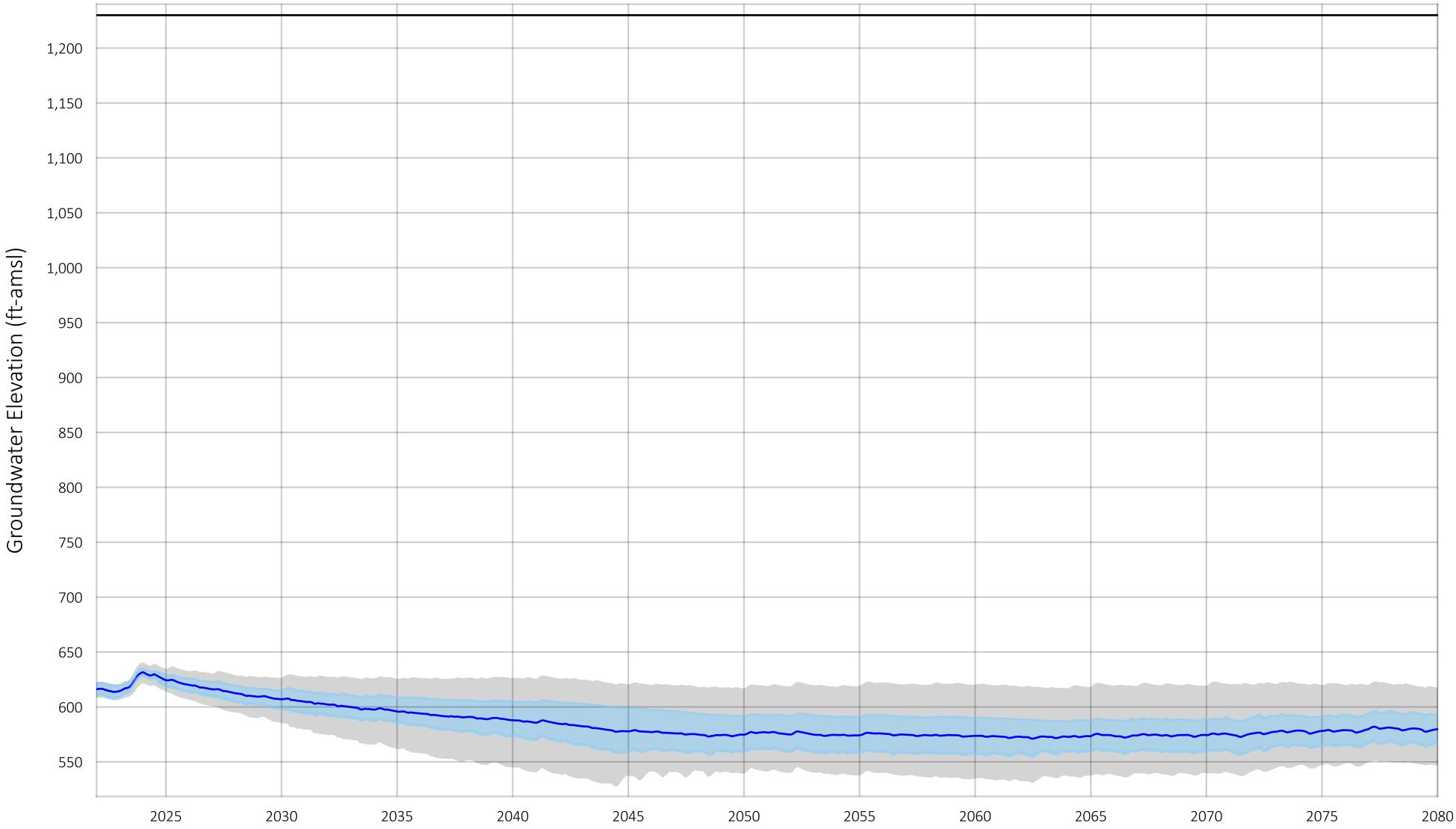
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

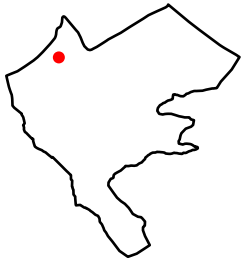
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: Upland 20
Well Owner: City of Upland
Screen Interval (ft-bgs): 300 - 860

Figure D-156



Well Location



Legend

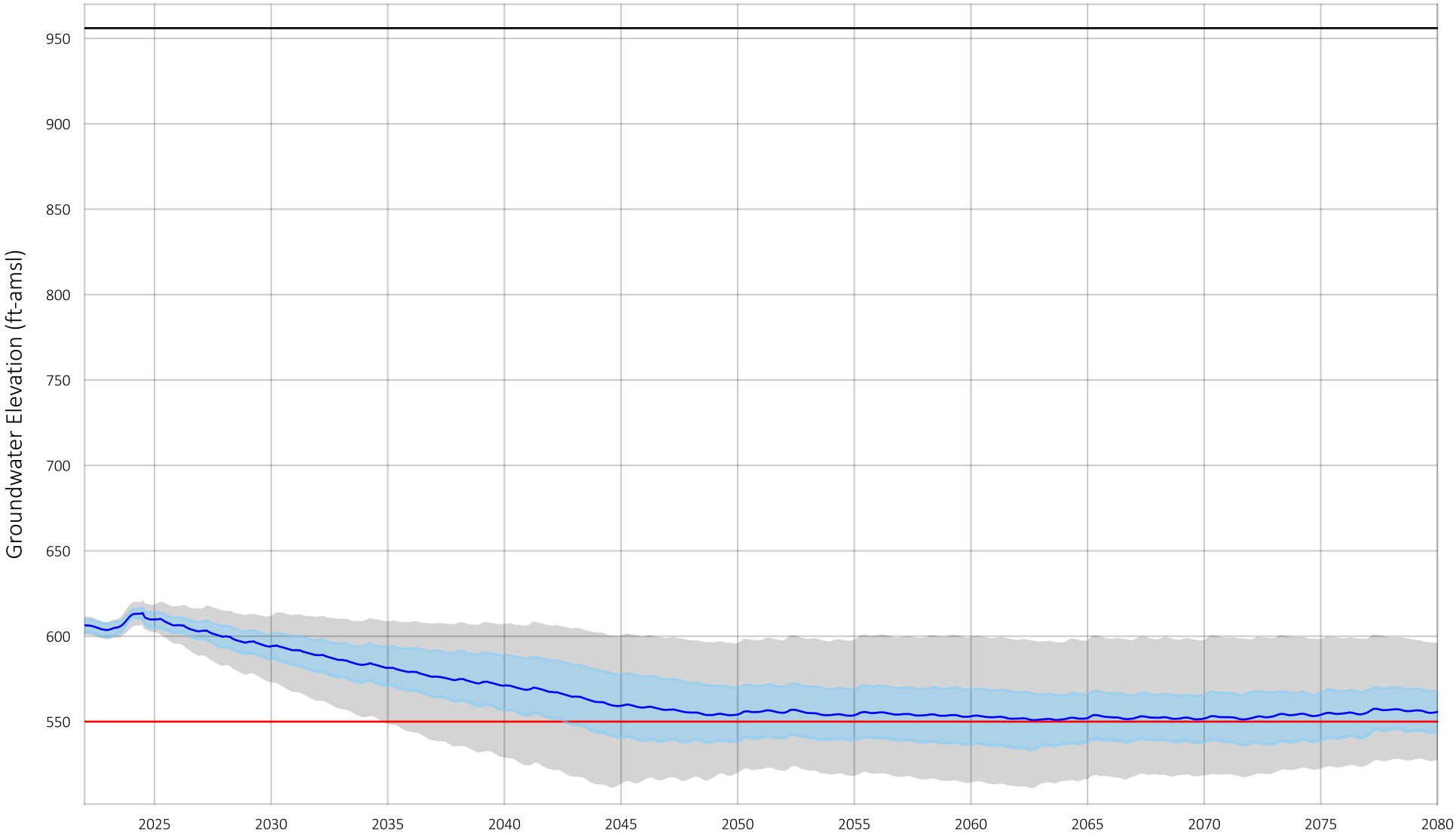
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

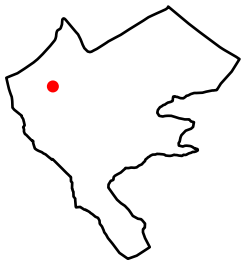
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: Upland 21A
Well Owner: City of Upland
Screen Interval (ft-bgs): 620 - 1000

Figure D-157



Well Location



Legend

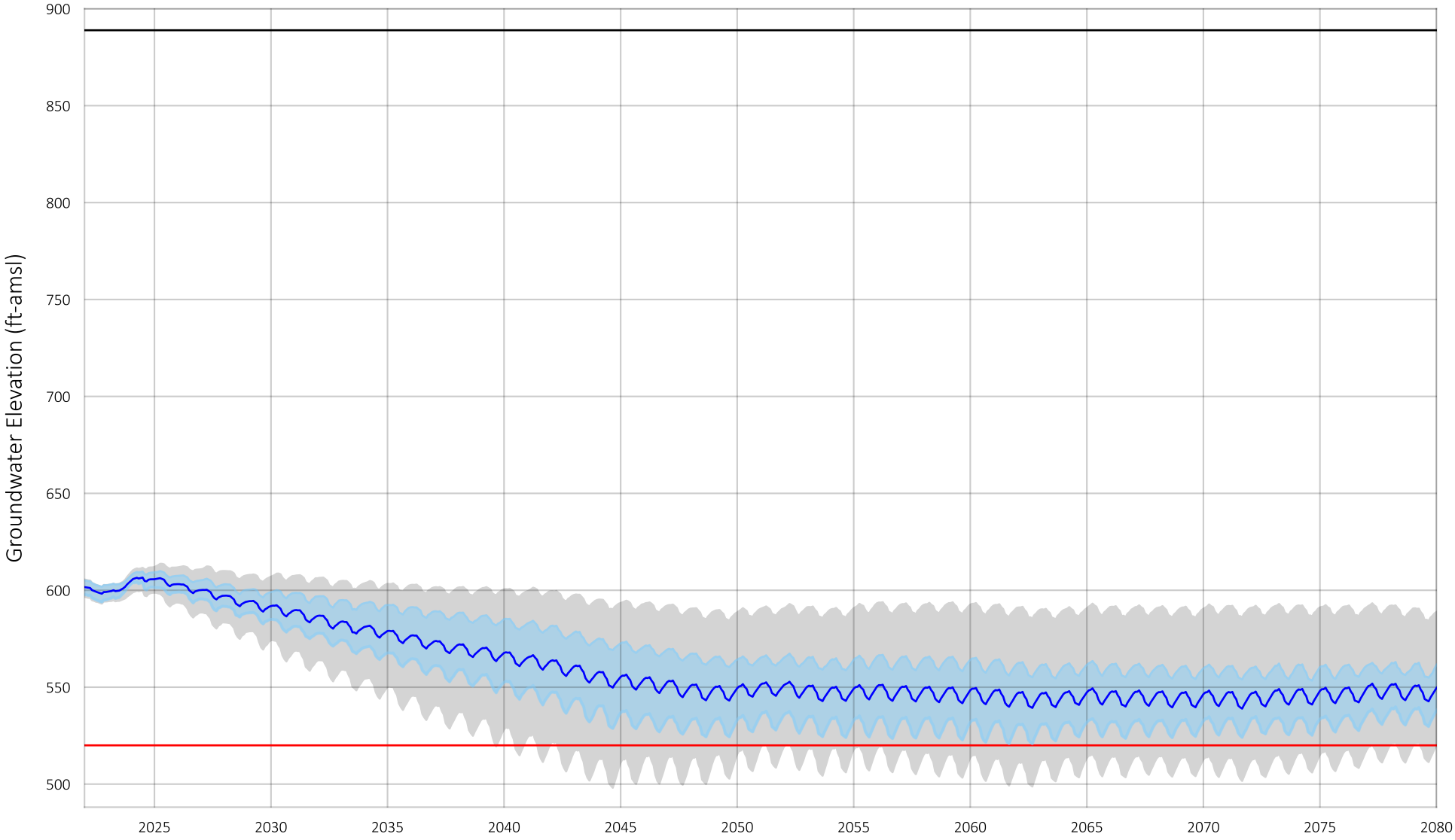
- Land Subsidence Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

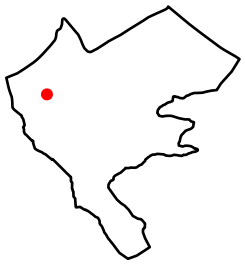
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: 14
Well Owner: City of Chino
Screen Interval (ft-bgs): 480 - 1200

Figure D-158



Well Location



Legend

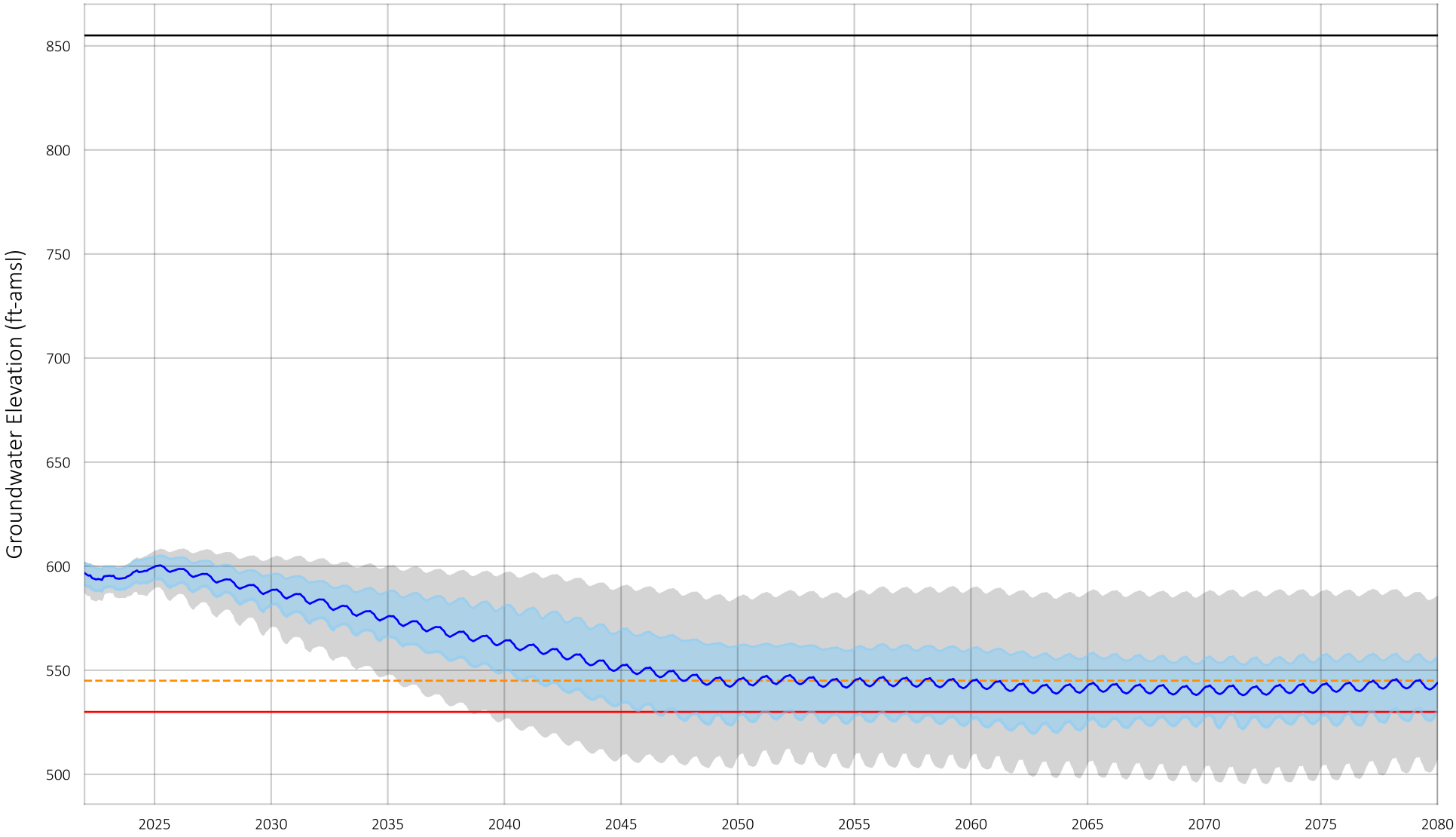
- Land Subsidence Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

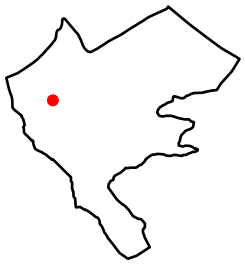
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: 12
Well Owner: City of Chino
Screen Interval (ft-bgs): 420 - 1150

Figure D-159



Well Location



Legend

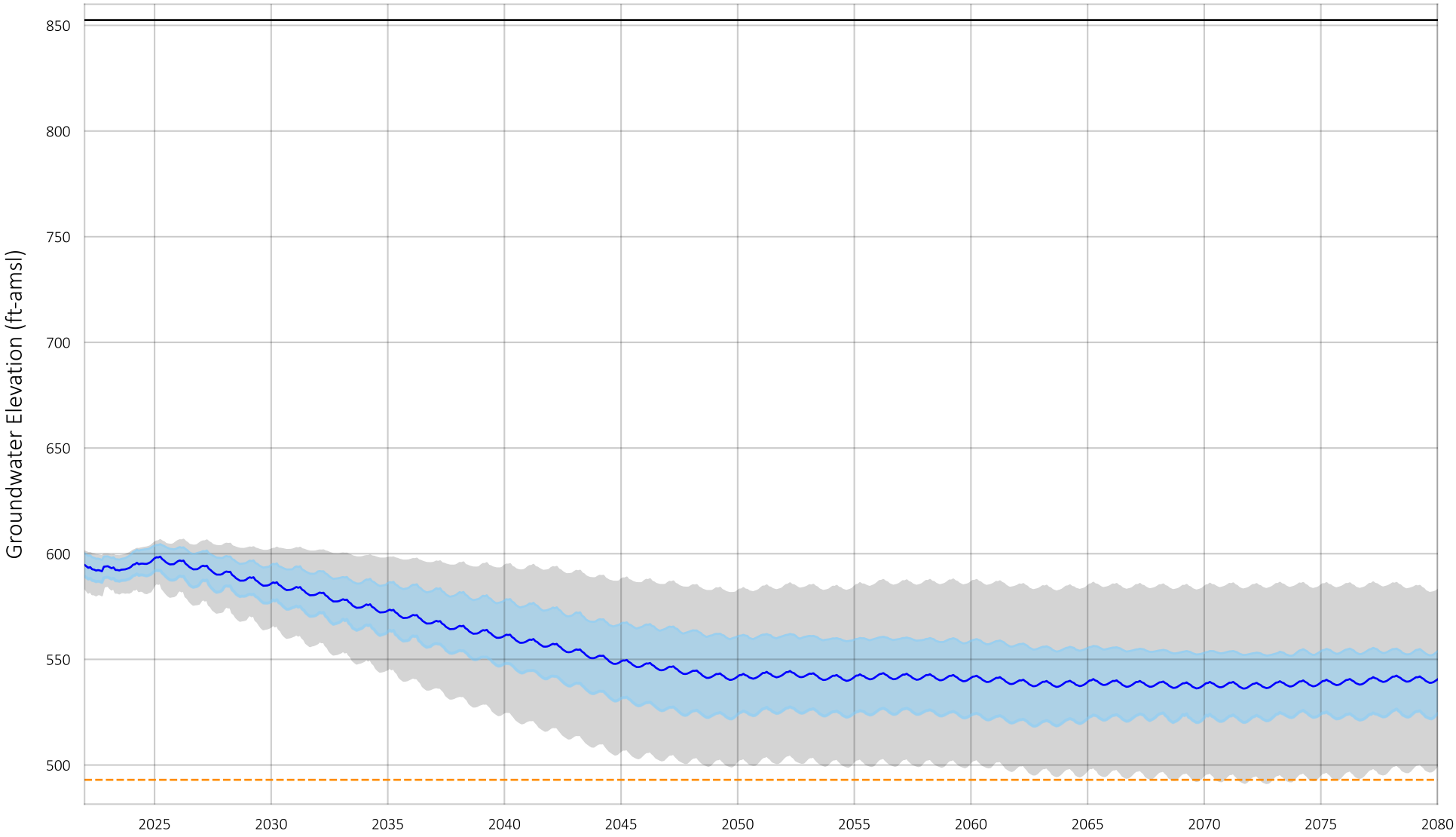
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

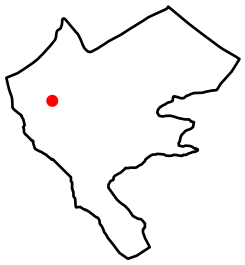
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: 05
Well Owner: City of Chino
Screen Interval (ft-bgs): 430 - 1078

Figure D-160



Well Location



Legend

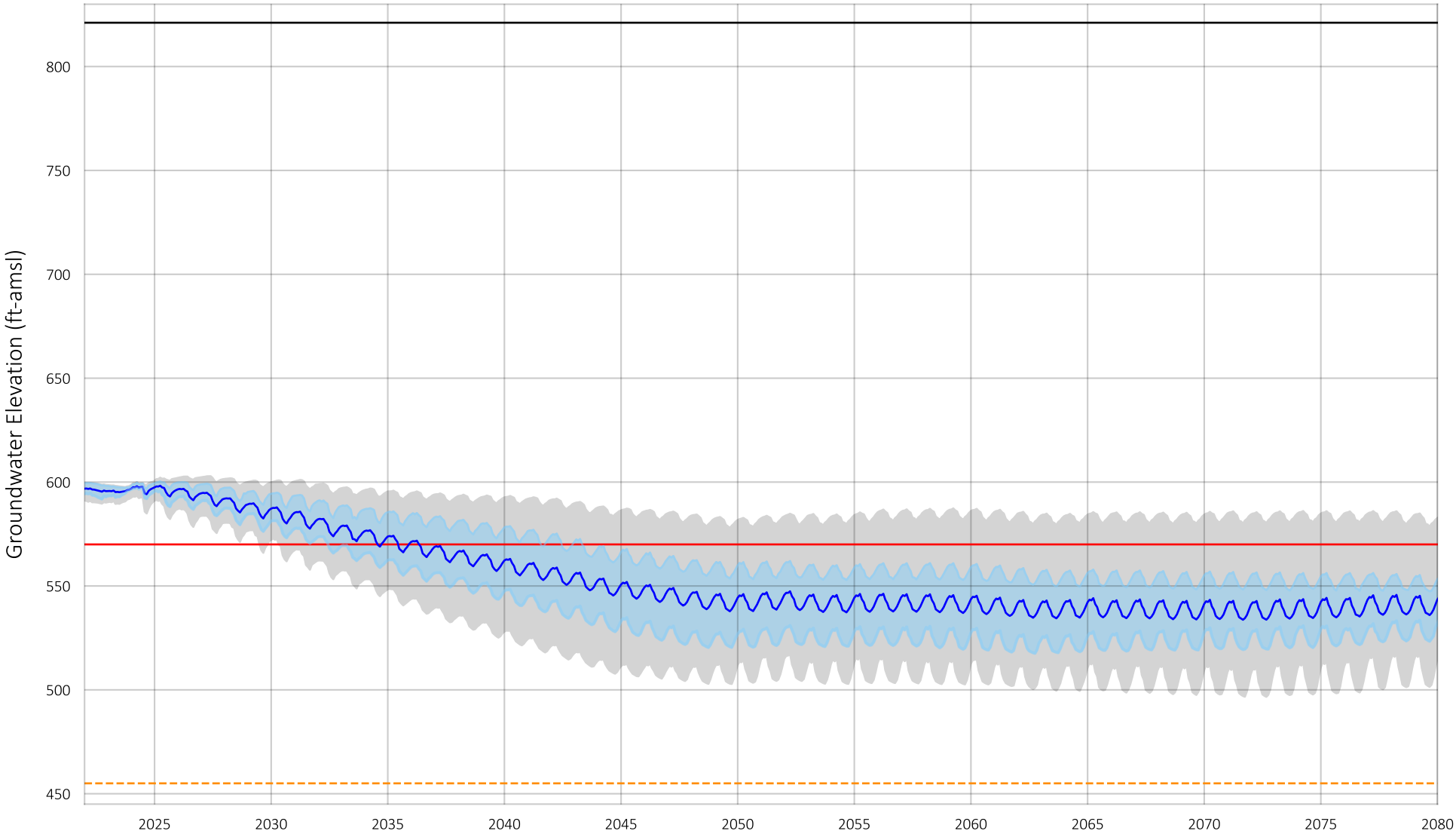
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

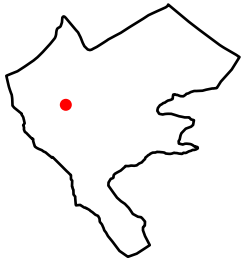
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: 09
Well Owner: City of Chino
Screen Interval (ft-bgs): 310 - 1030

Figure D-161



Well Location



Legend

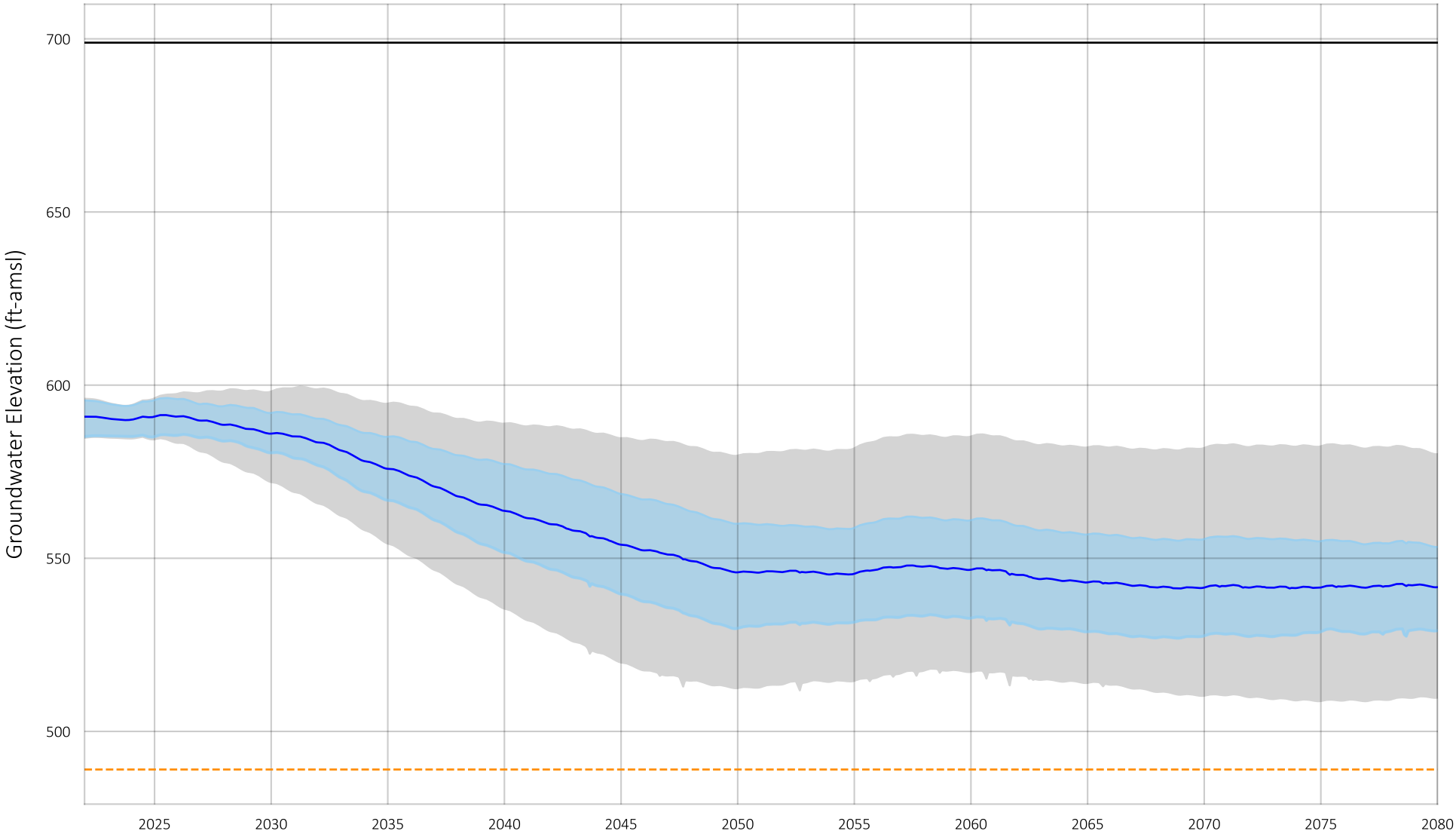
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

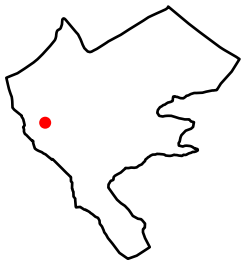
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: 11
Well Owner: City of Chino
Screen Interval (ft-bgs): 390 - 910

Figure D-162



Well Location



Legend

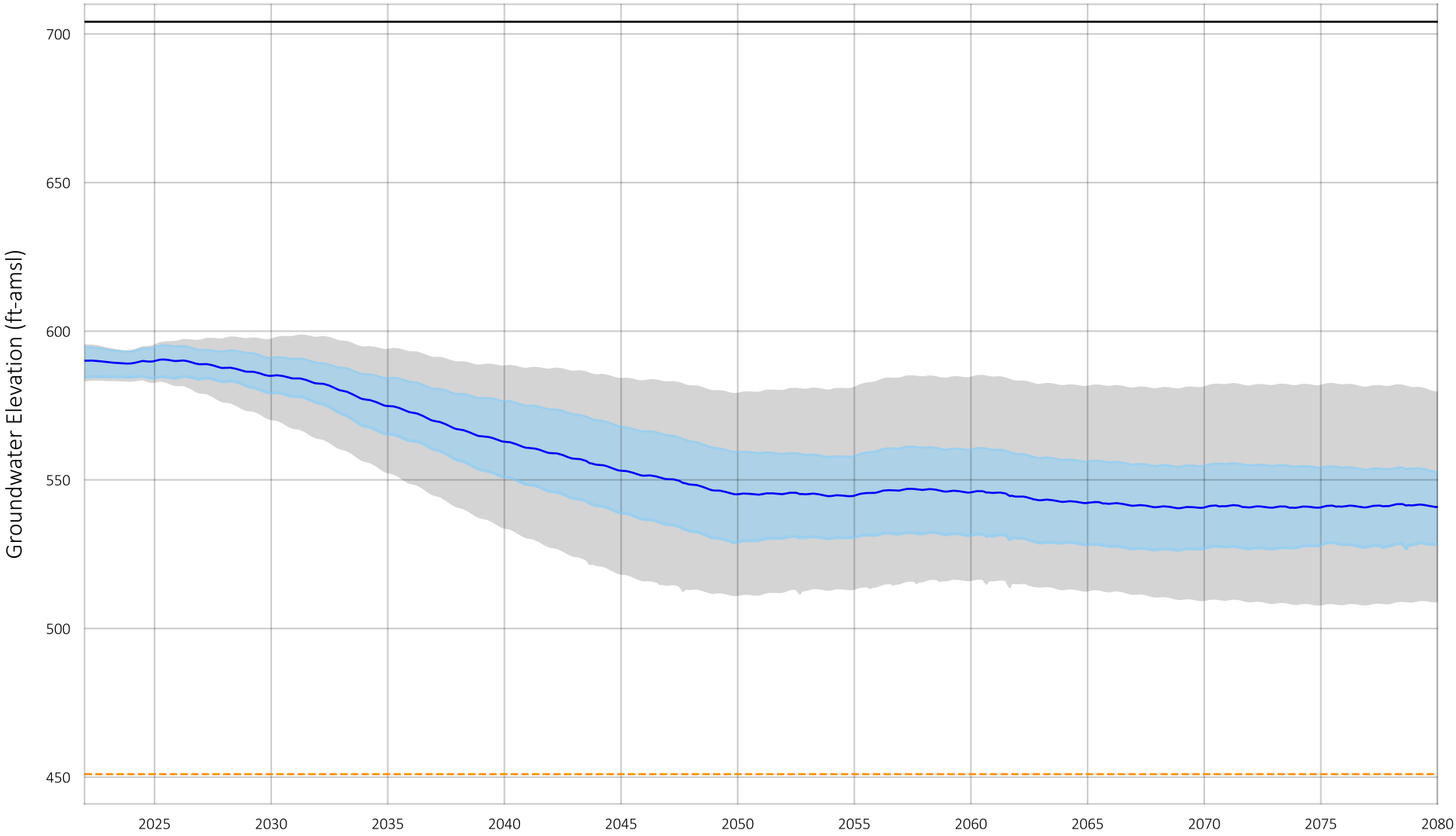
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

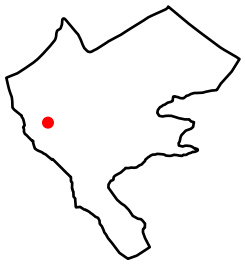
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: 06
Well Owner: City of Chino
Screen Interval (ft-bgs): 200 - 375

Figure D-163



Well Location



Legend

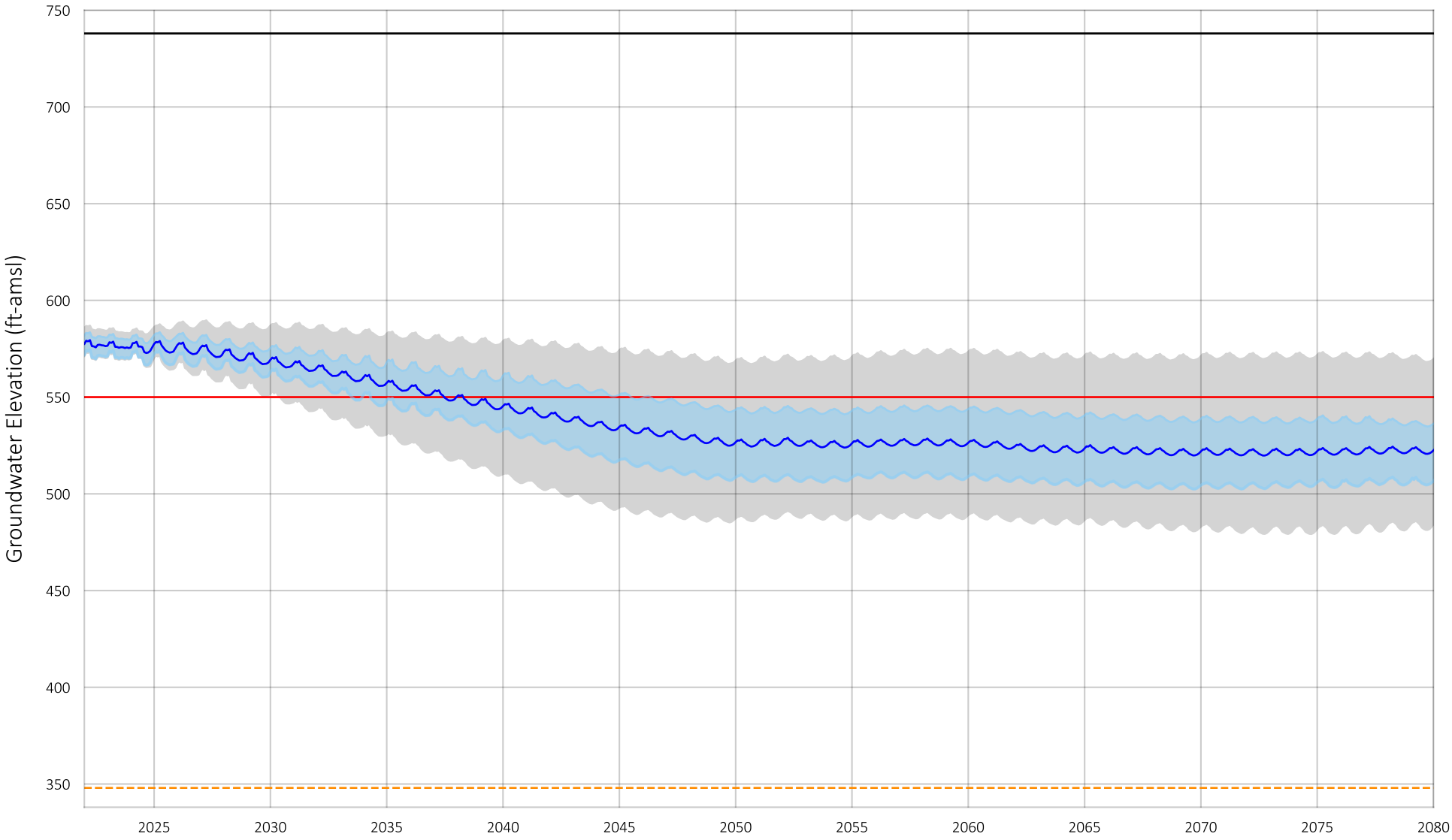
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

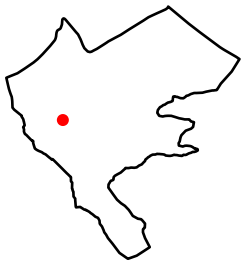
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: 04
Well Owner: City of Chino
Screen Interval (ft-bgs): 160 - 275

Figure D-164



Well Location



Legend

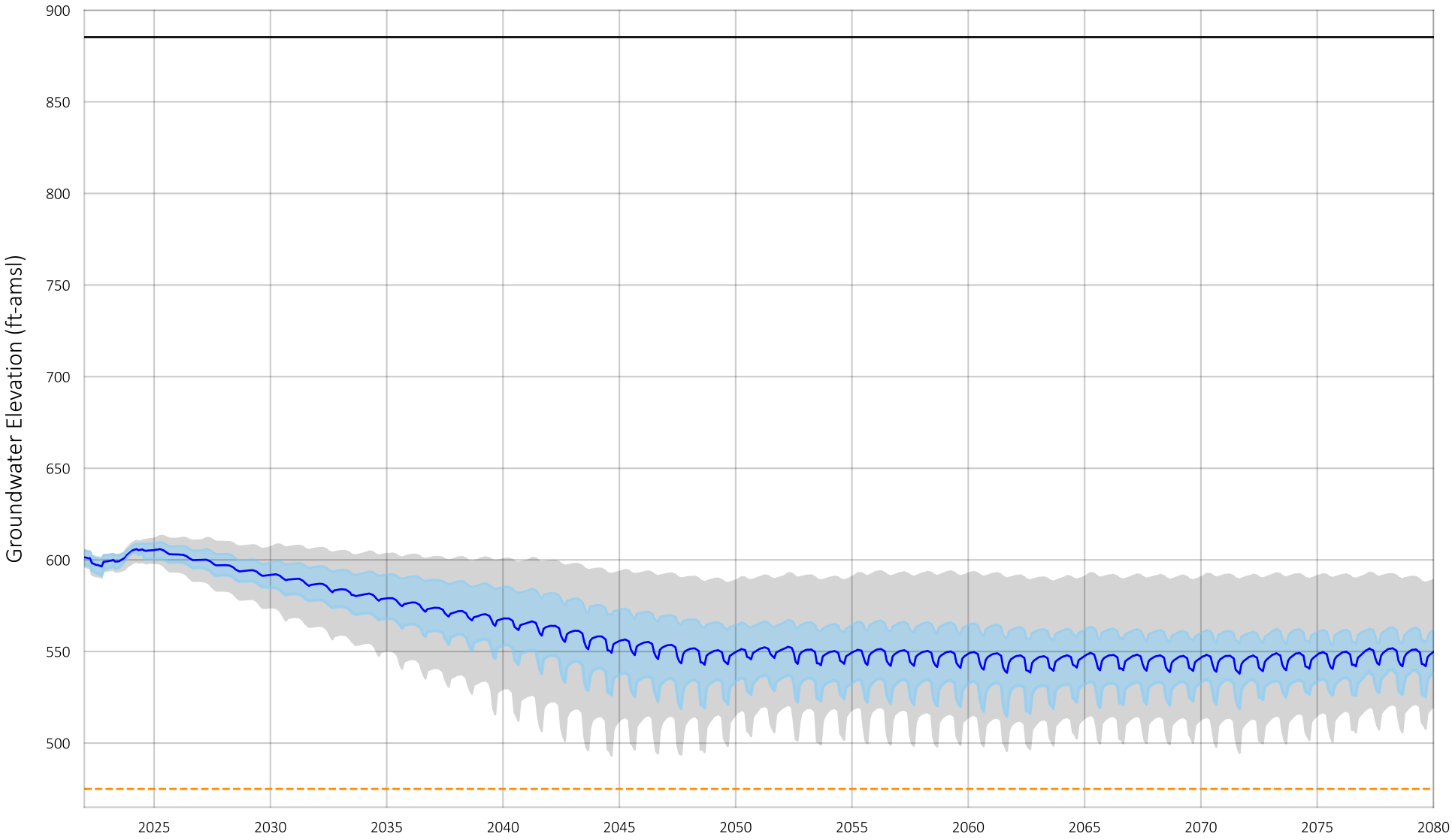
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

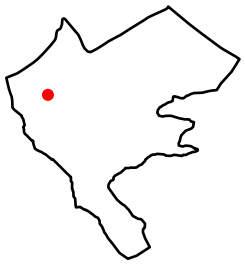
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: 13
Well Owner: City of Chino
Screen Interval (ft-bgs): 290 - 720

Figure D-165



Well Location



Legend

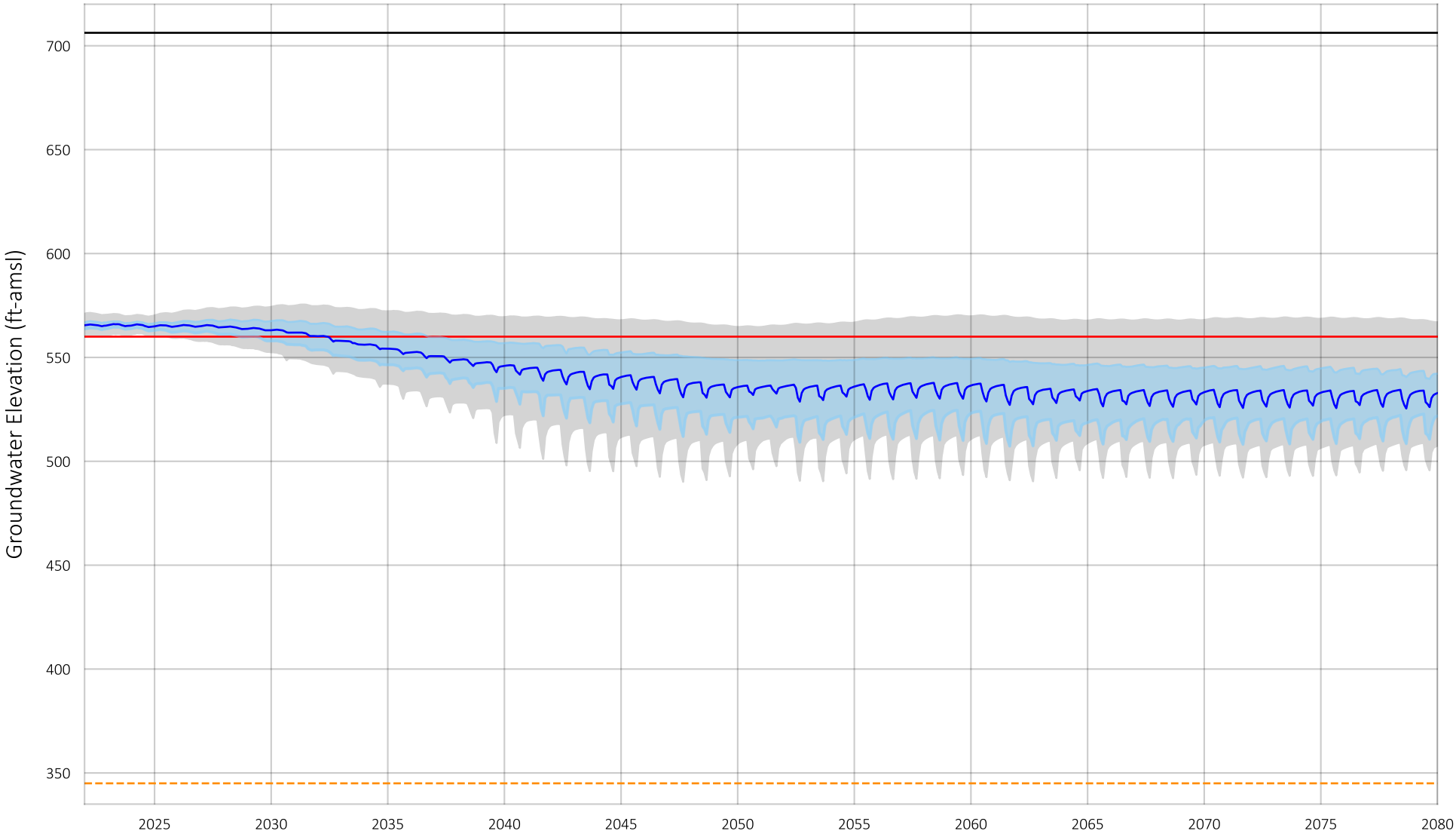
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: 10
Well Owner: City of Chino
Screen Interval (ft-bgs): 355 - 1090

Figure D-166



Well Location

Legend

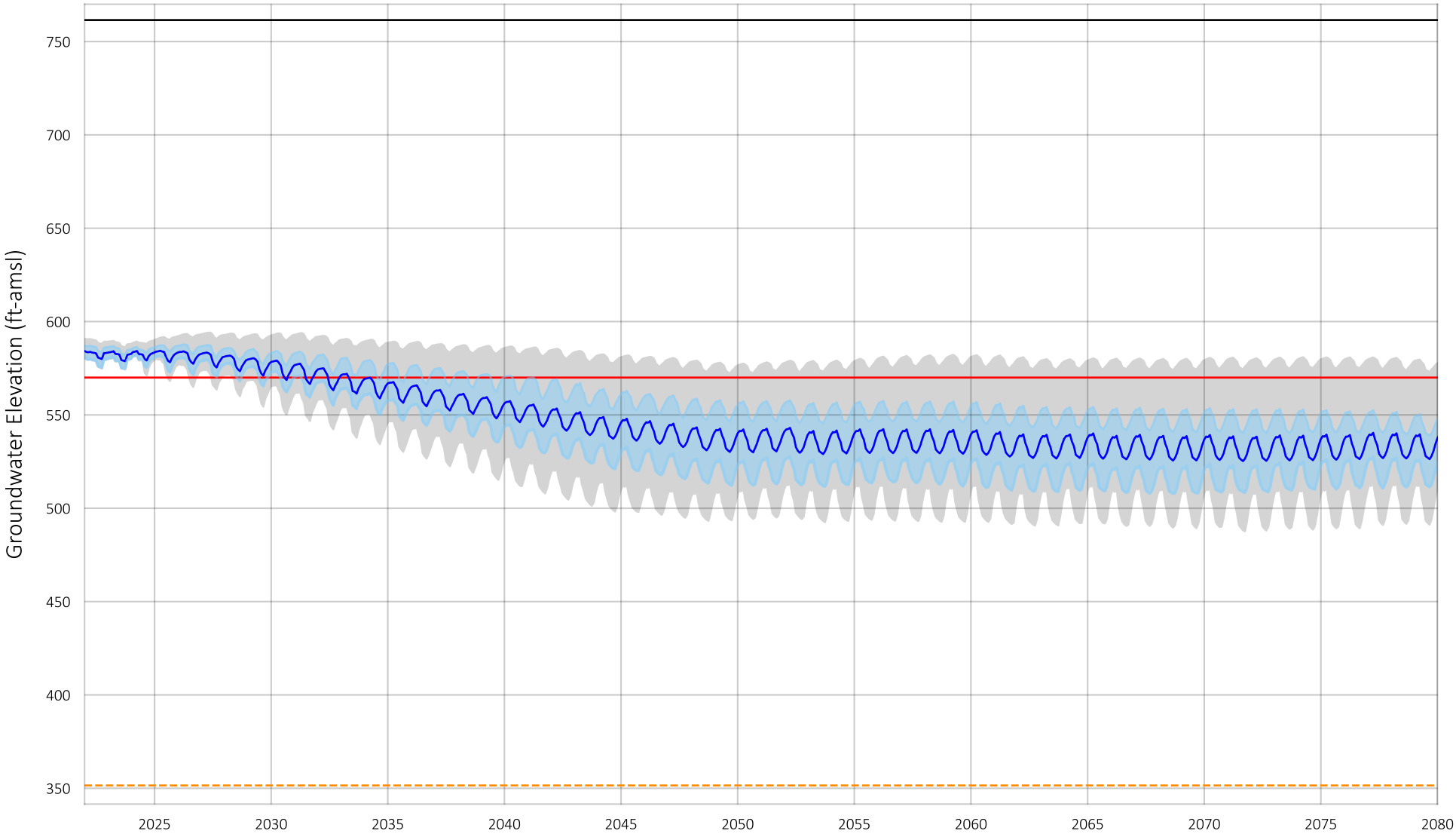
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

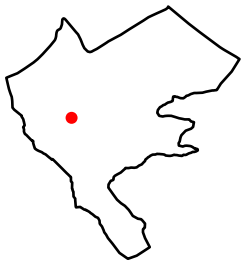
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CDF Well 16
Well Owner: City of Chino
Screen Interval (ft-bgs): 220 - 805

Figure D-167



Well Location



Legend

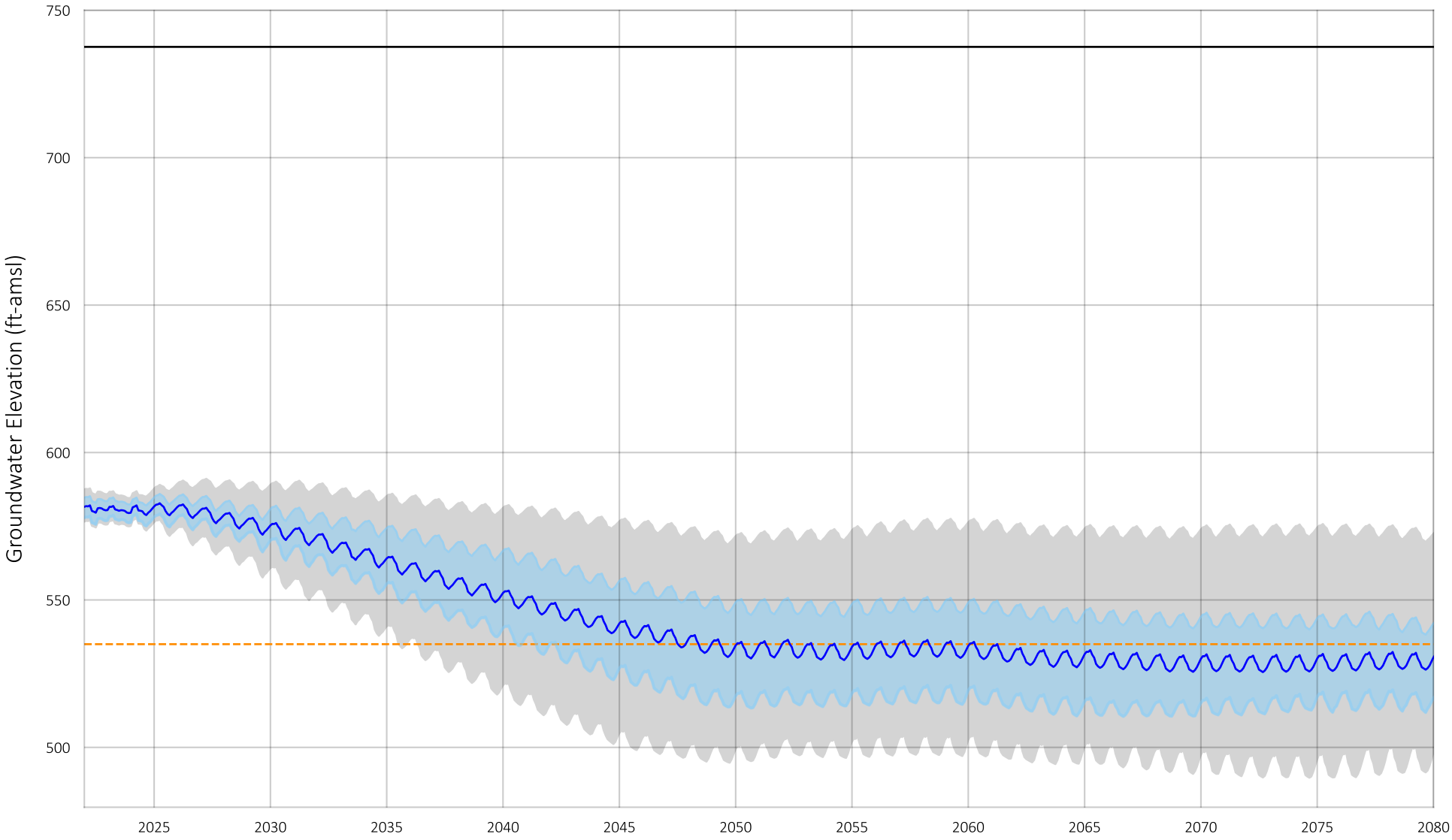
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

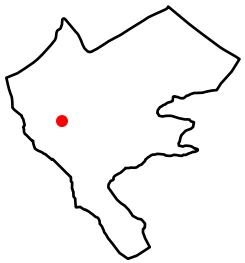
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: Chino 18
Well Owner: City of Chino
Screen Interval (ft-bgs): 250 - 830

Figure D-168



Well Location



Legend

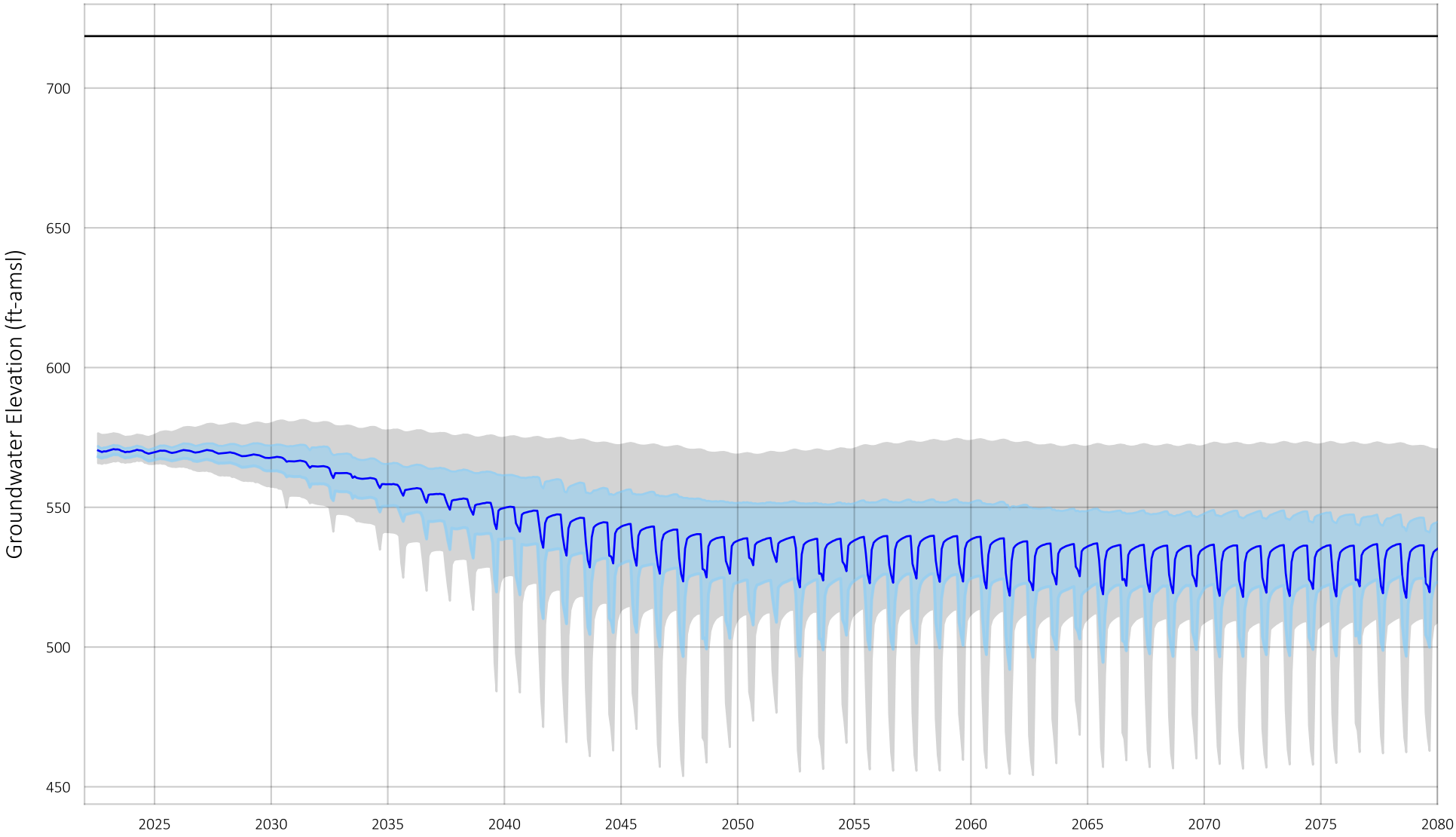
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

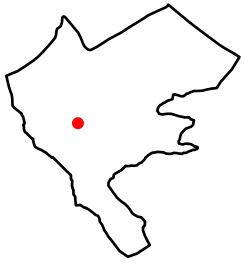
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: 19
Well Owner: City of Chino
Screen Interval (ft-bgs): 280 - 540

Figure D-169



Well Location



Legend

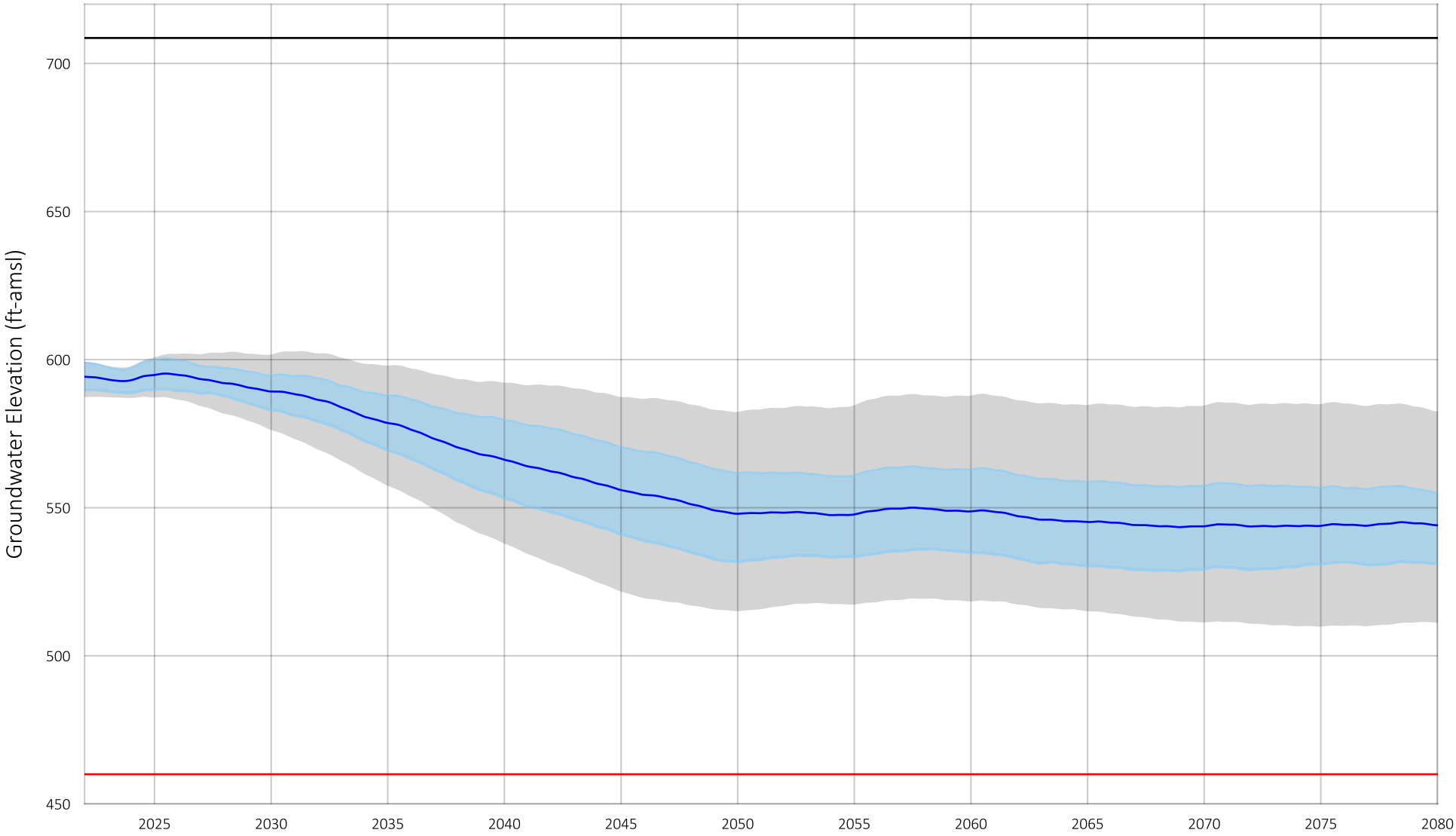
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

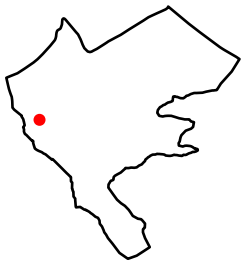
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CDF Well 17
Well Owner: City of Chino
Screen Interval (ft-bgs): 230 - 550

Figure D-170



Well Location



Legend

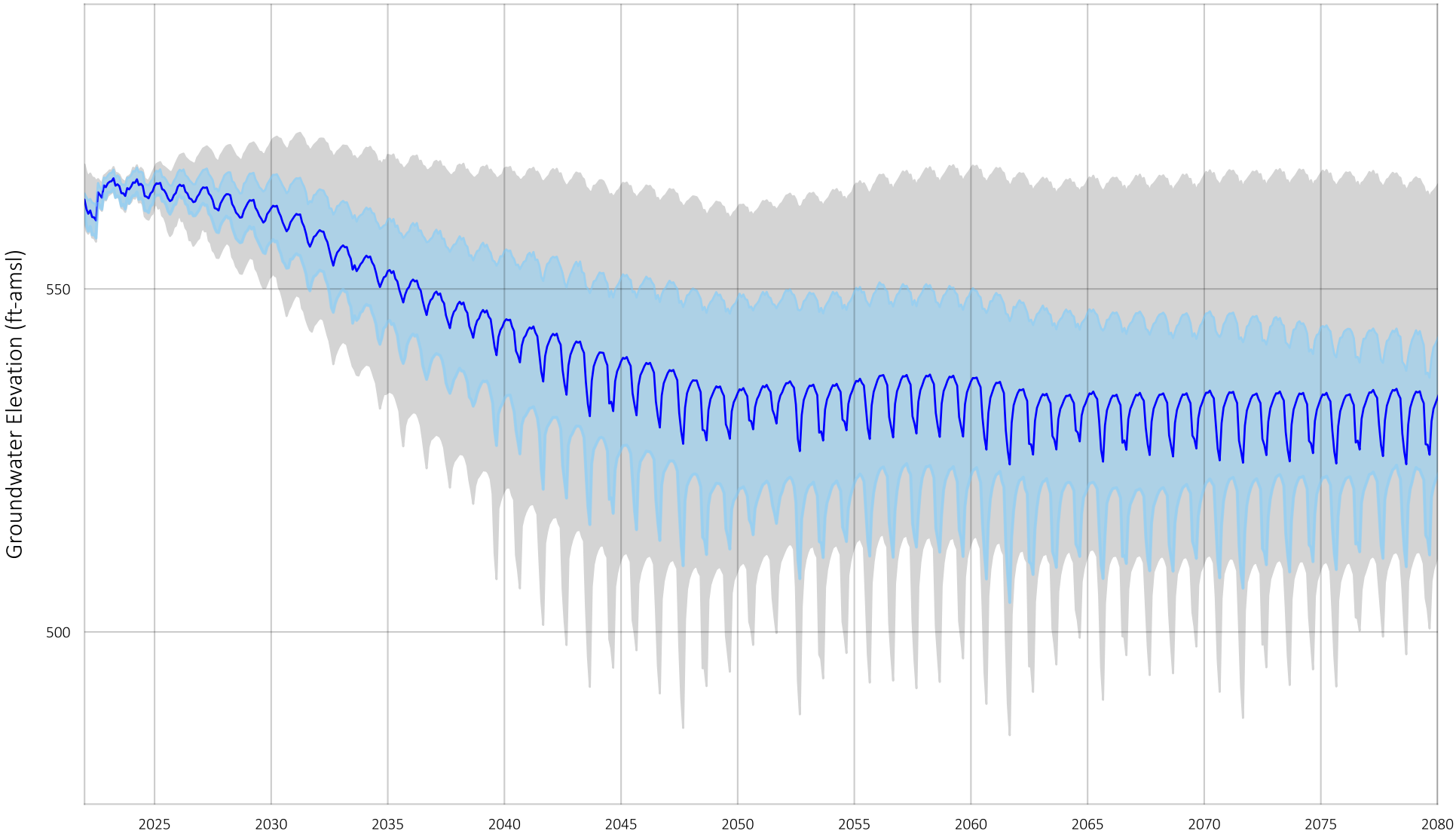
- Land Subsidence Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

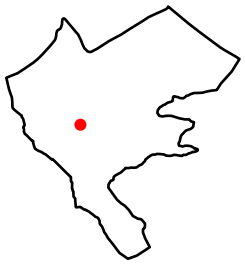
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: 15
Well Owner: City of Chino
Screen Interval (ft-bgs): 270 - 820

Figure D-171



Well Location



Legend

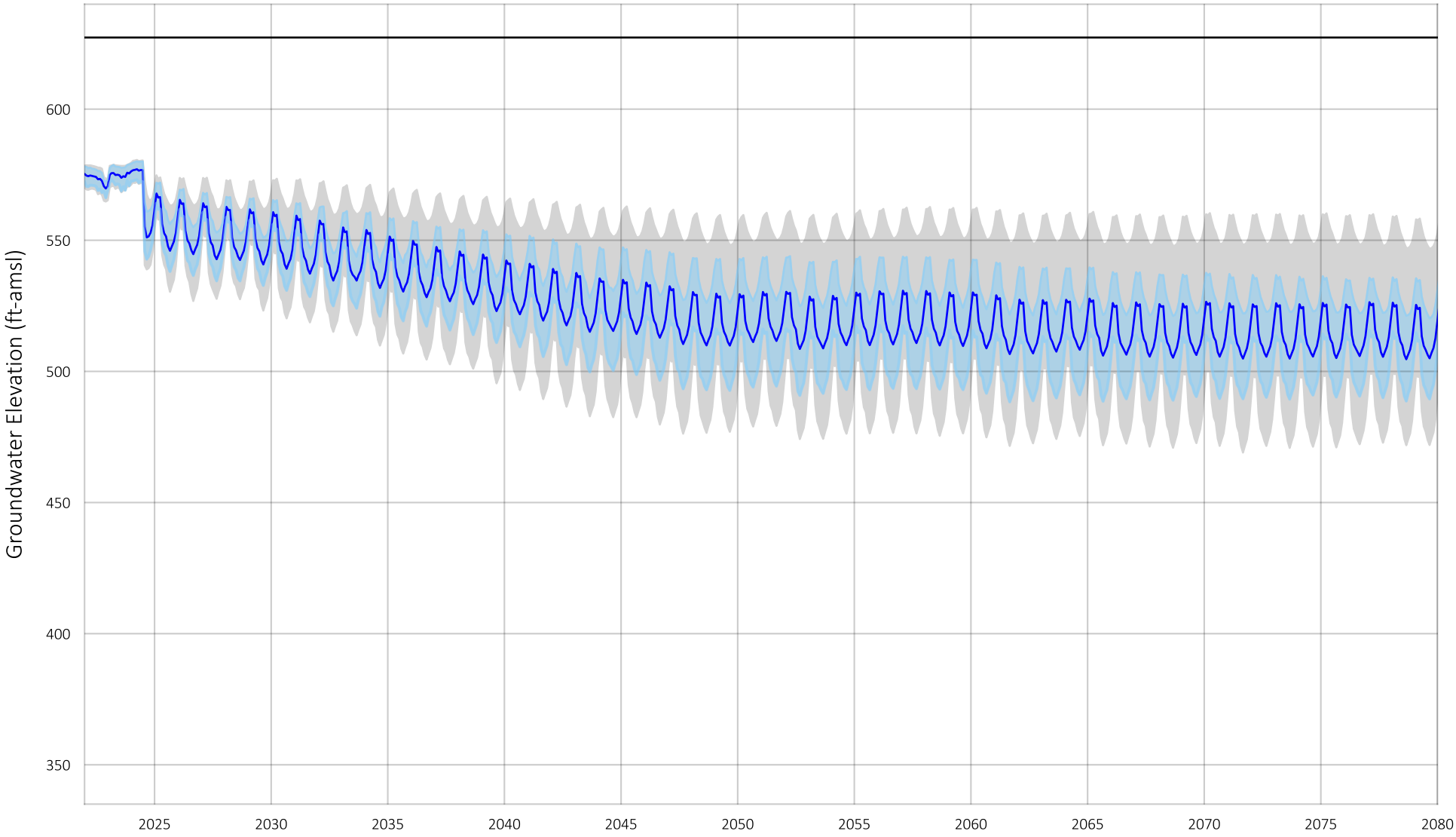
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

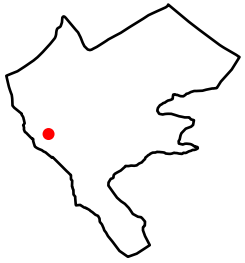
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: Future Well CH-20
Well Owner: City of Chino
Screen Interval (ft-bgs): no data - no data

Figure D-172



Well Location



Legend

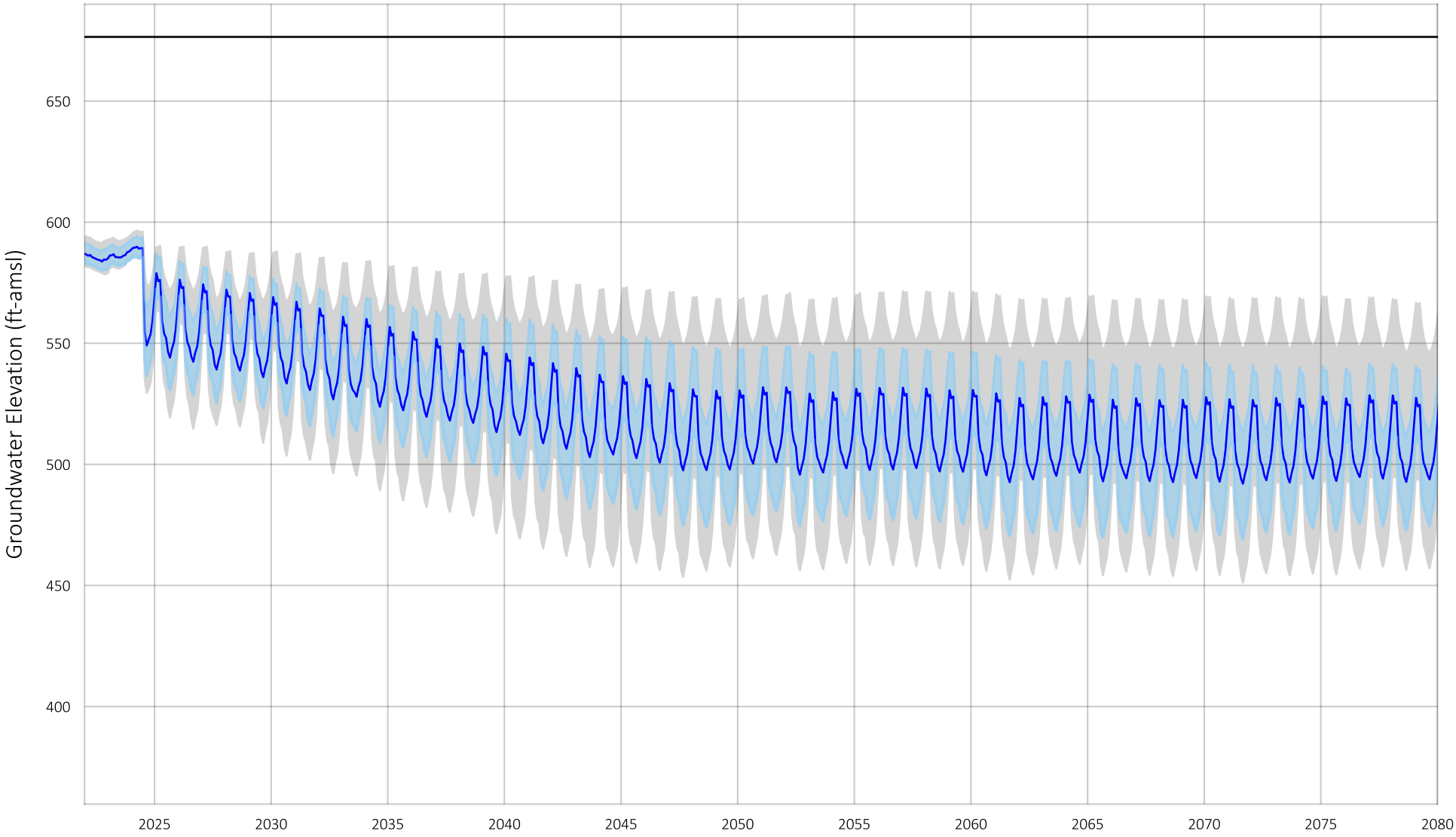
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

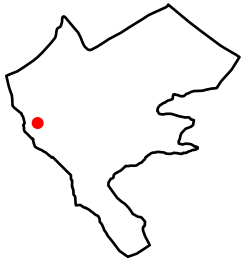
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CH HIL 01B
Well Owner: City of Chino Hills
Screen Interval (ft-bgs): 440 - 1180

Figure D-173



Well Location



Legend

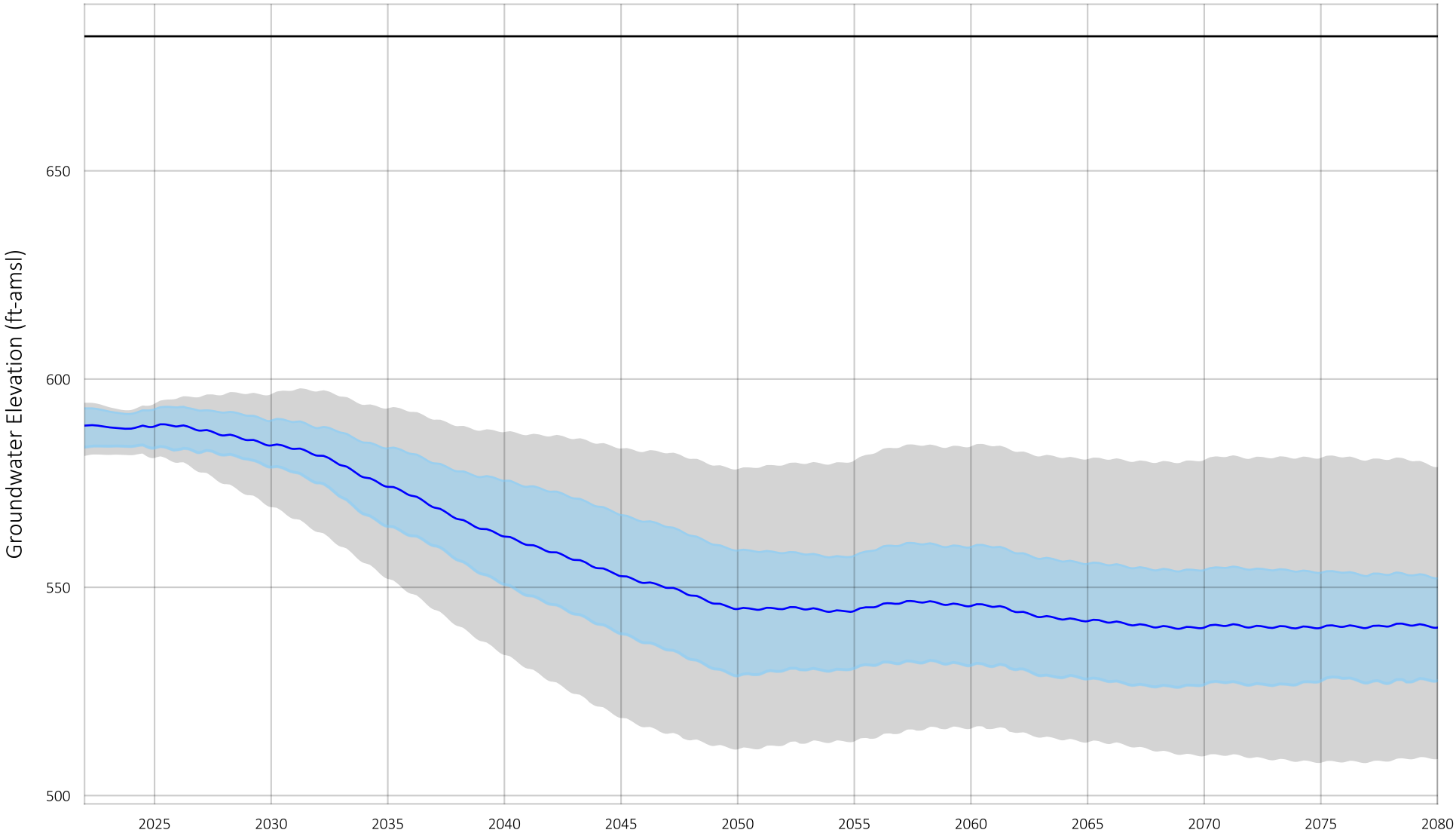
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

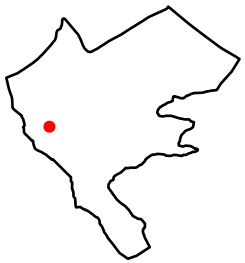
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CH HIL 16
Well Owner: City of Chino Hills
Screen Interval (ft-bgs): 430 - 940

Figure D-174



Well Location



Legend

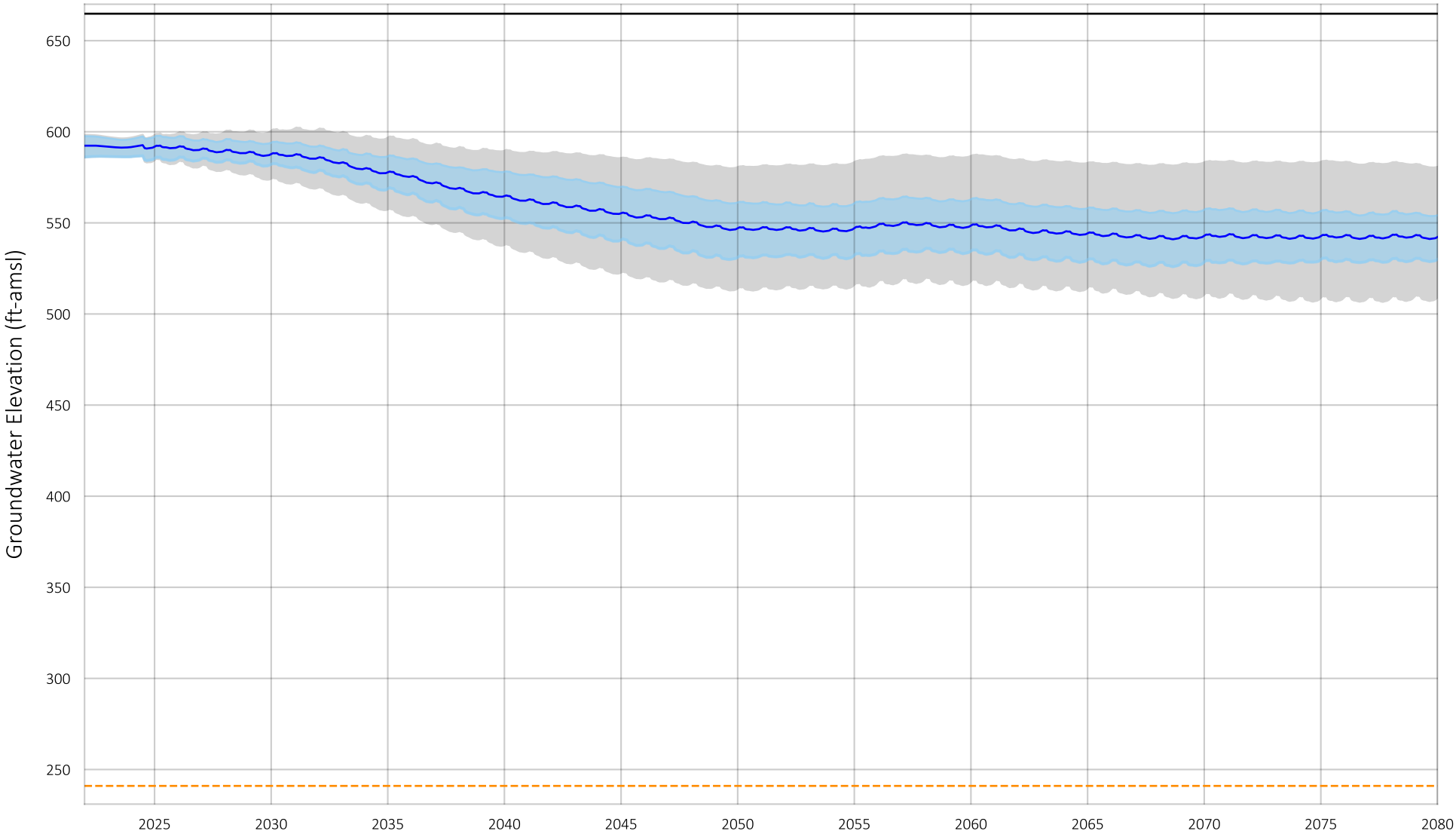
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

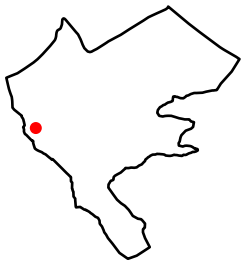
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CH HIL 19
Well Owner: City of Chino Hills
Screen Interval (ft-bgs): 340 - 1000

Figure D-175



Well Location



Legend

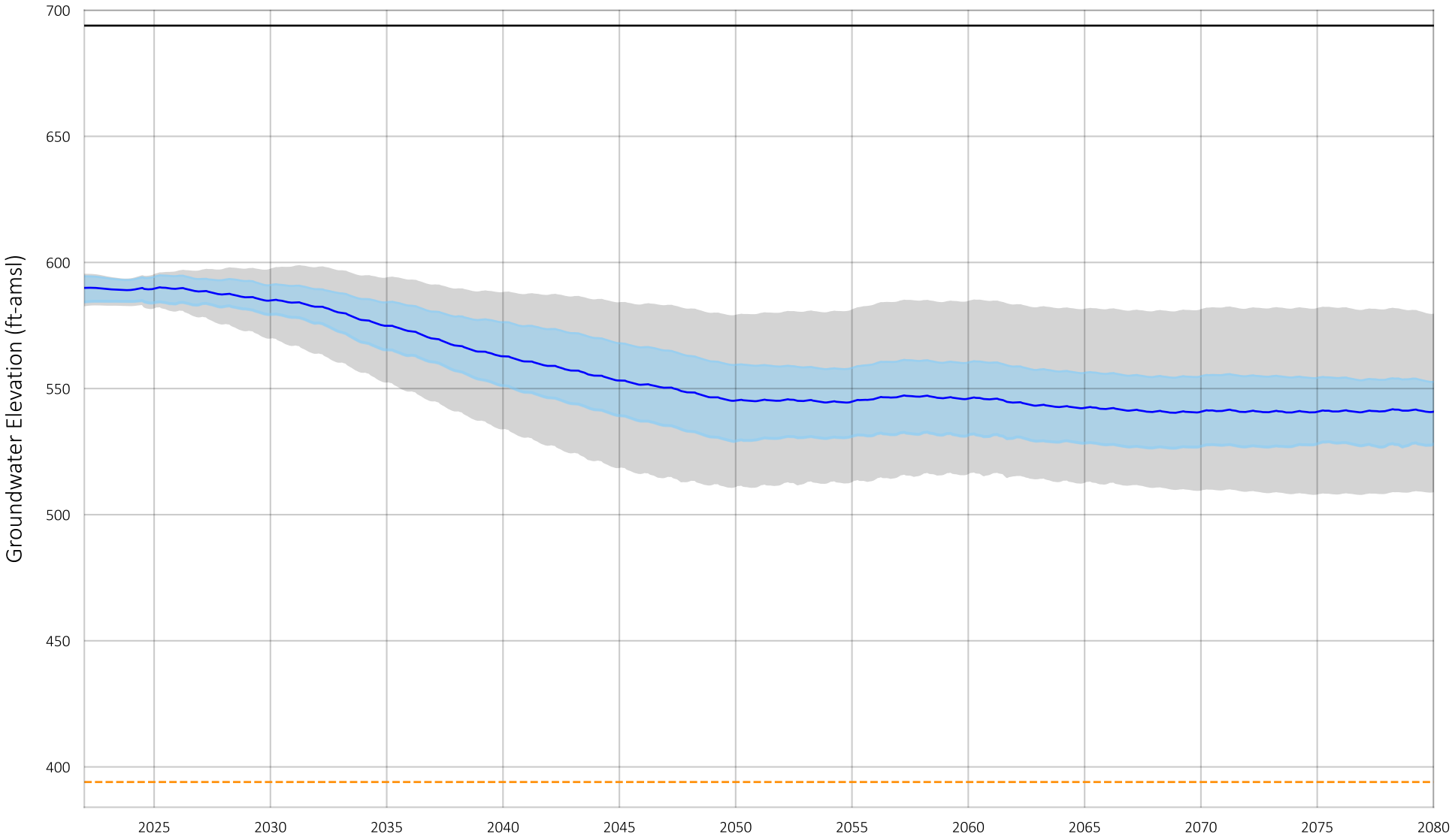
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

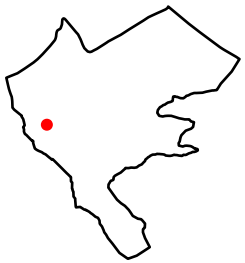
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CH HIL 07B
Well Owner: City of Chino Hills
Screen Interval (ft-bgs): 120 - 360

Figure D-176



Well Location



Legend

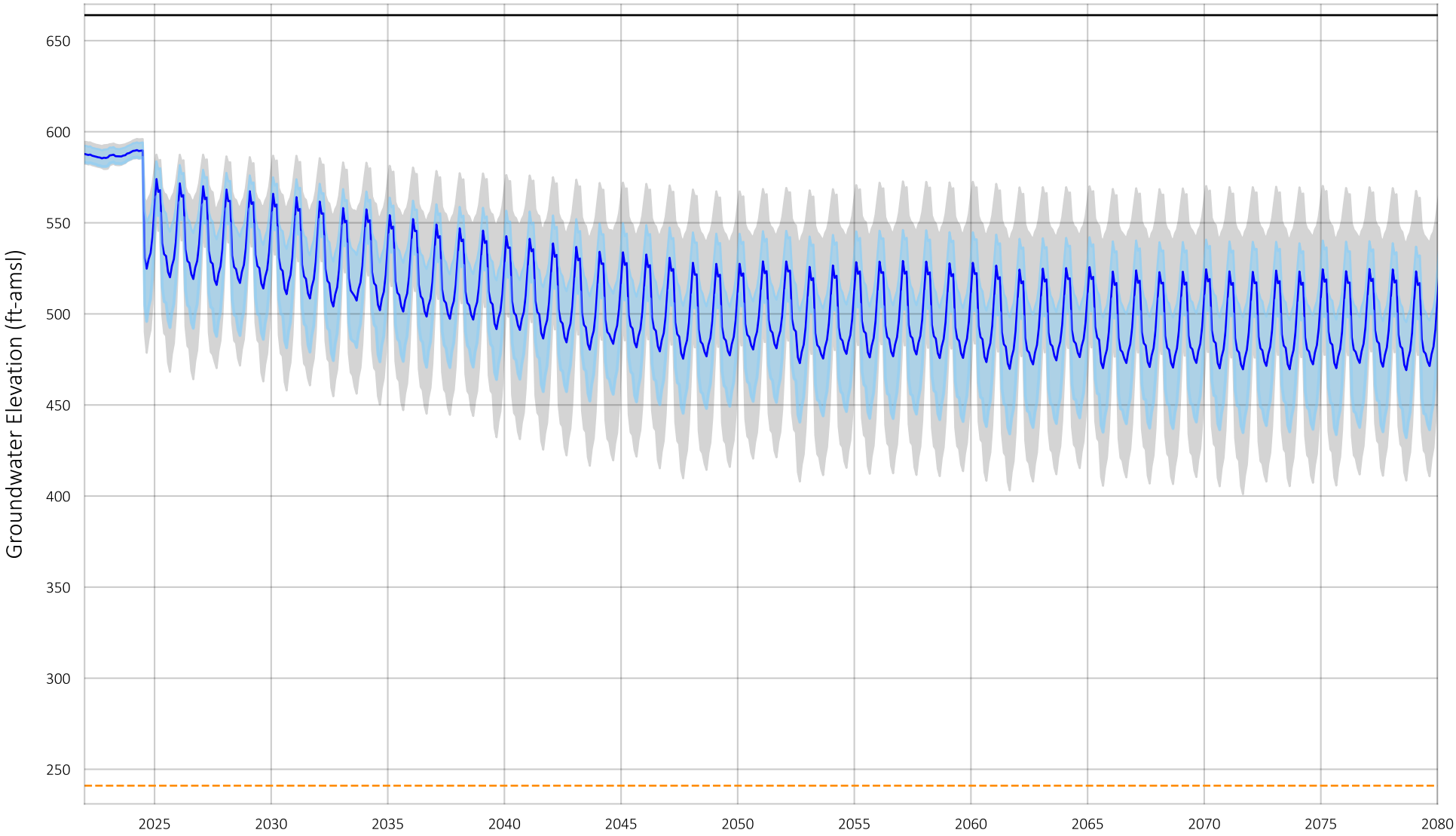
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

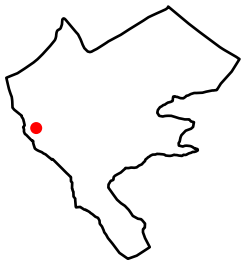
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CH HIL 17
Well Owner: City of Chino Hills
Screen Interval (ft-bgs): 300 - 980

Figure D-177



Well Location



Legend

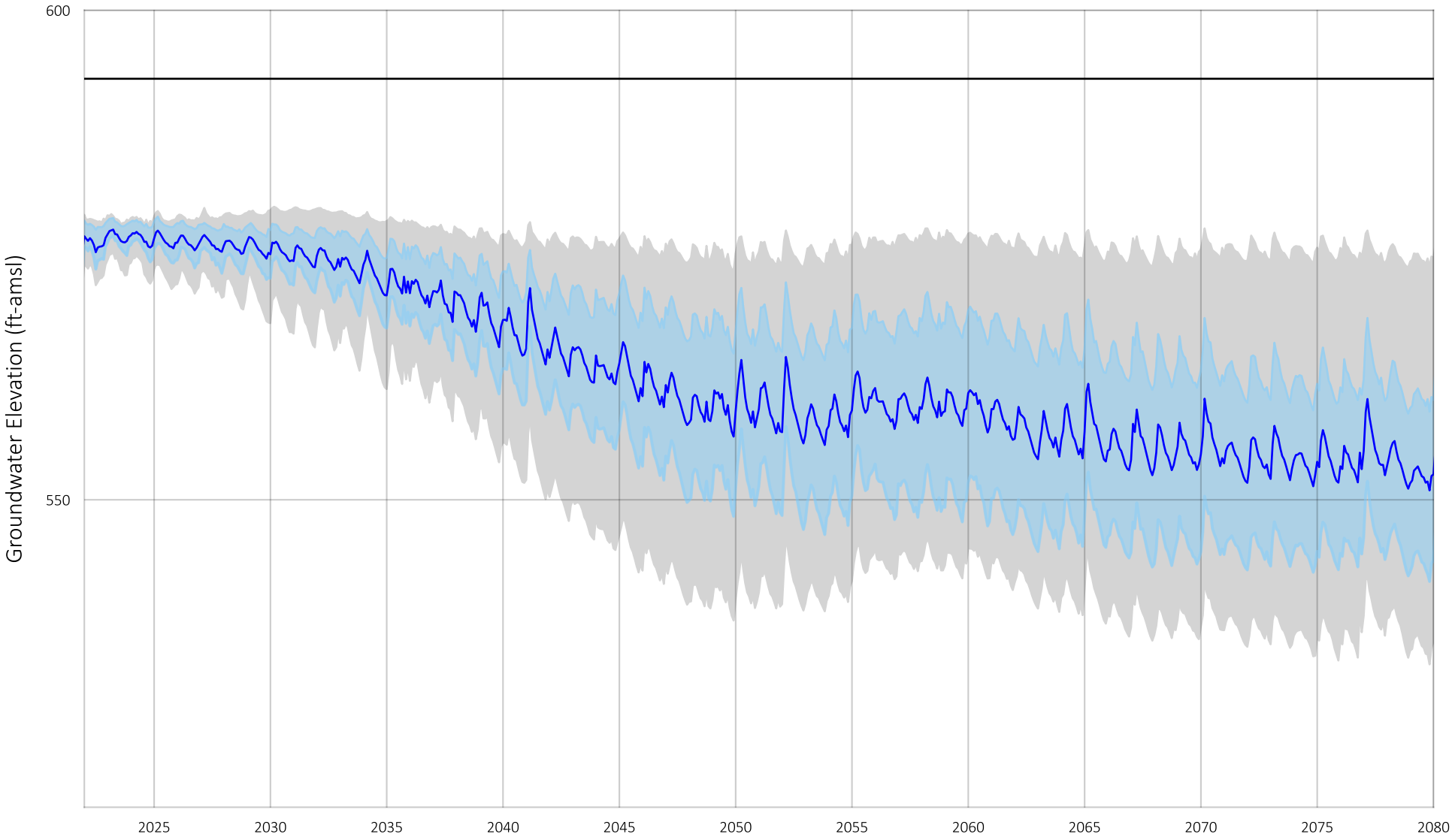
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

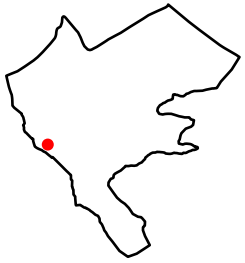
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CH HIL 07A
Well Owner: City of Chino Hills
Screen Interval (ft-bgs): 135 - 950

Figure D-178



Well Location



Legend

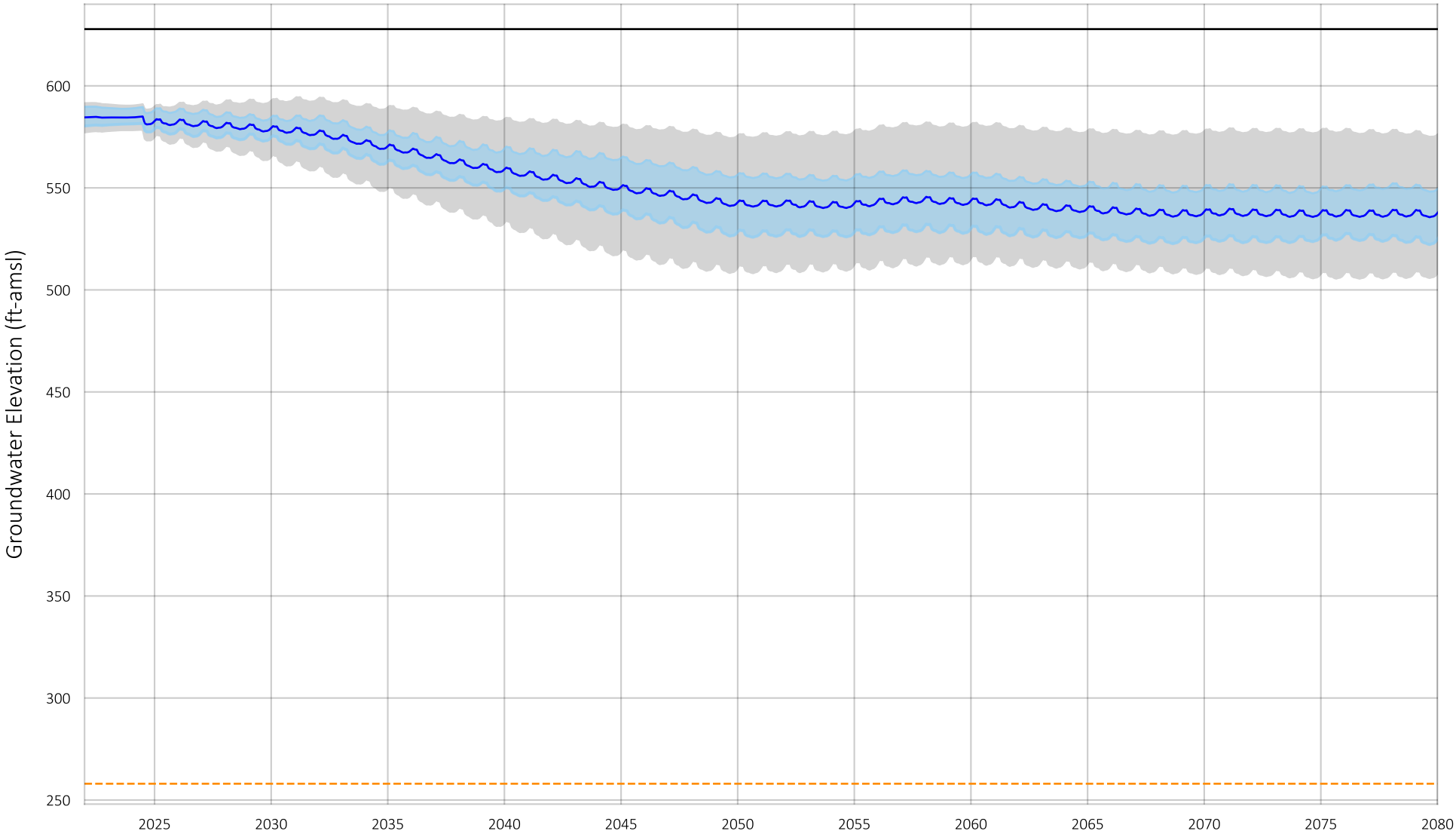
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

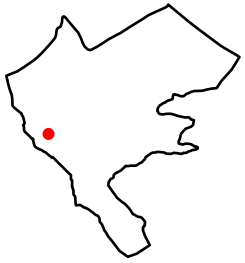
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CH HIL 05
Well Owner: City of Chino Hills
Screen Interval (ft-bgs): 160 - 570

Figure D-179



Well Location



Legend

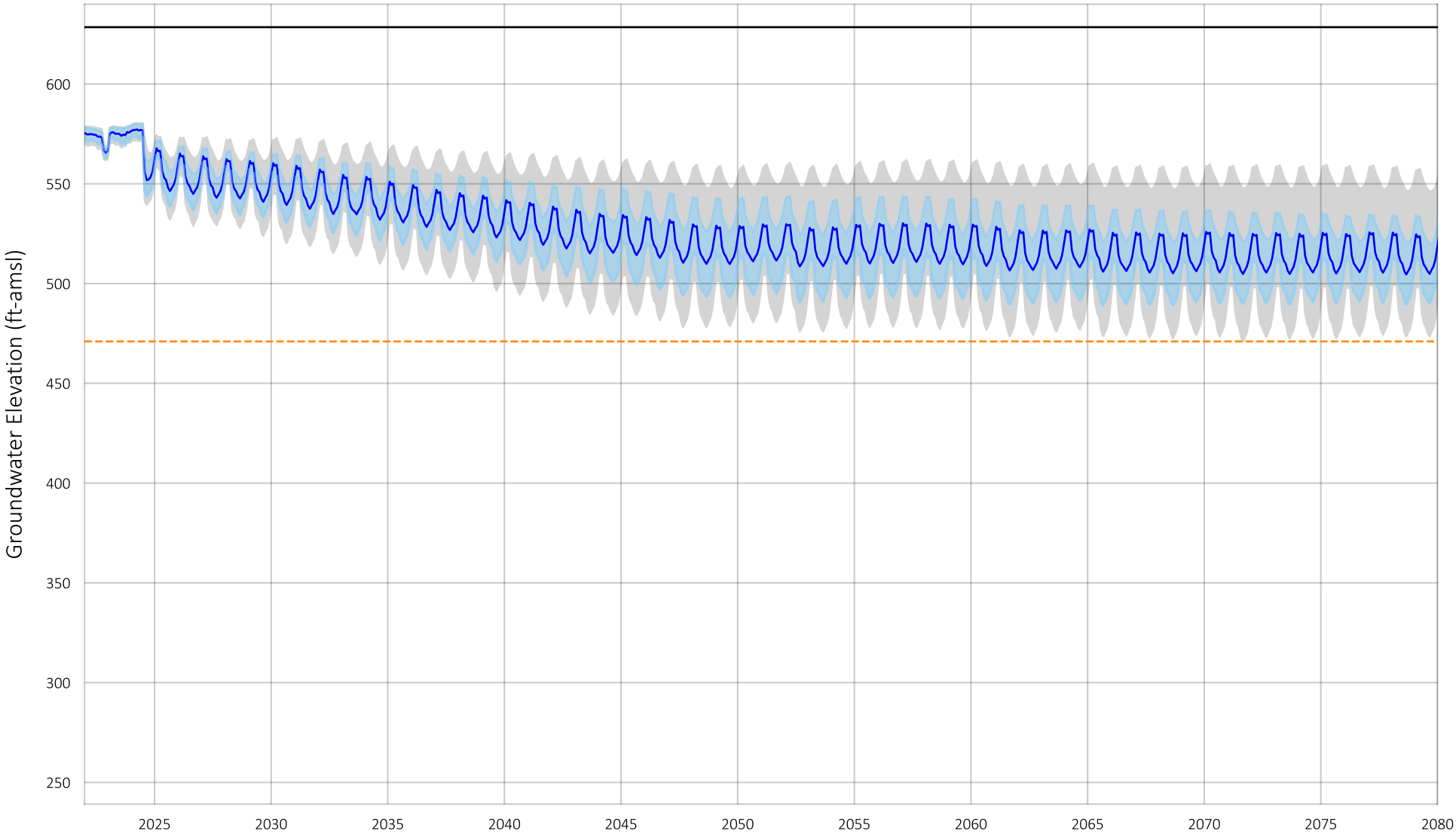
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

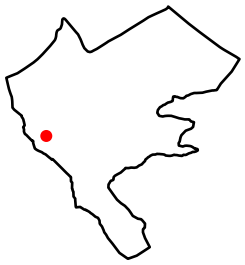
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CH HIL 01A
Well Owner: City of Chino Hills
Screen Interval (ft-bgs): 166 - 317

Figure D-180



Well Location



Legend

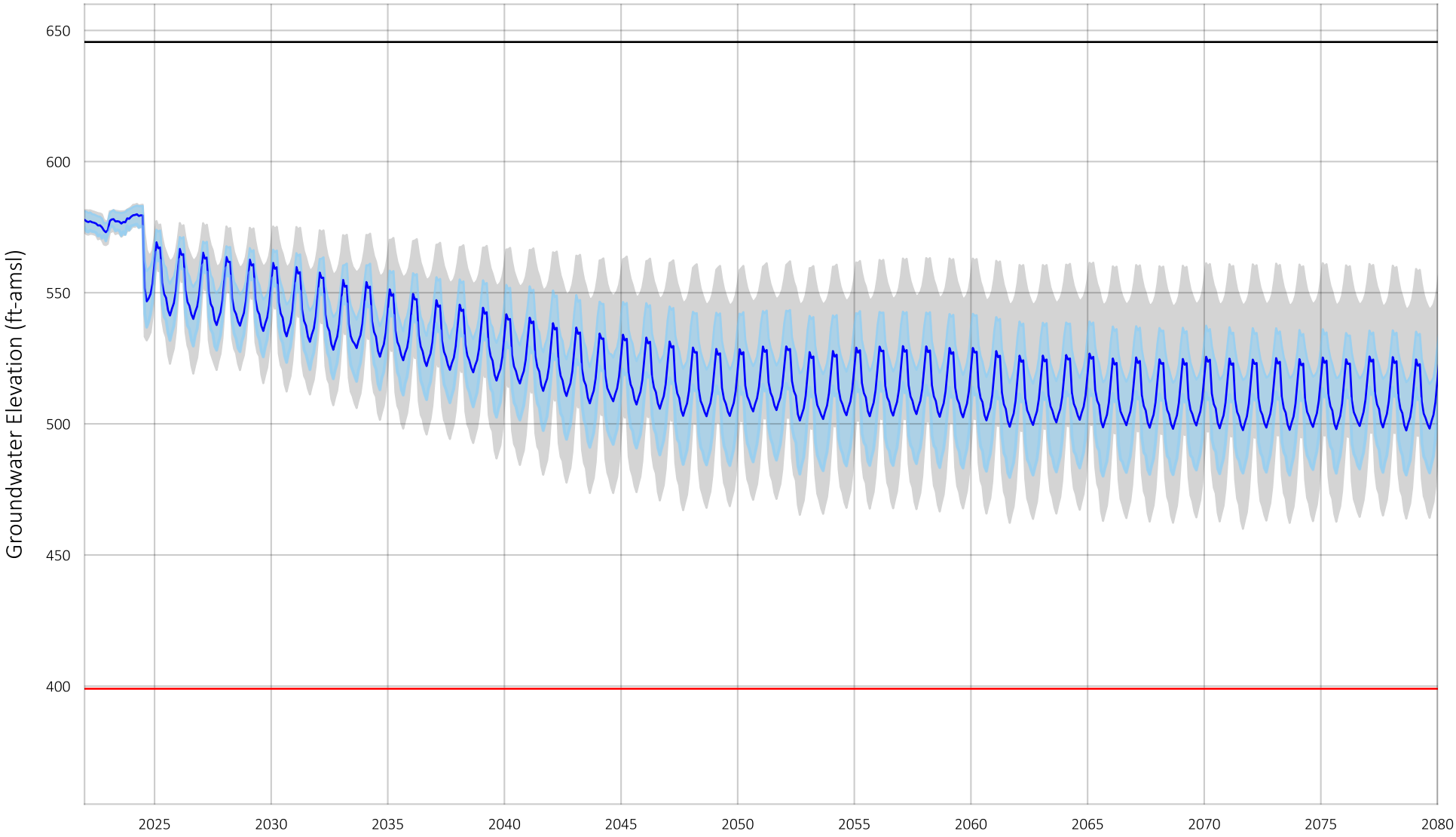
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

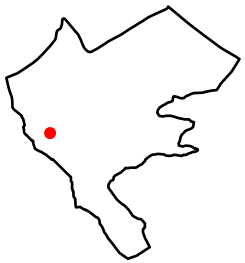
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CH HIL 15B
Well Owner: City of Chino Hills
Screen Interval (ft-bgs): 360 - 900

Figure D-181



Well Location



Legend

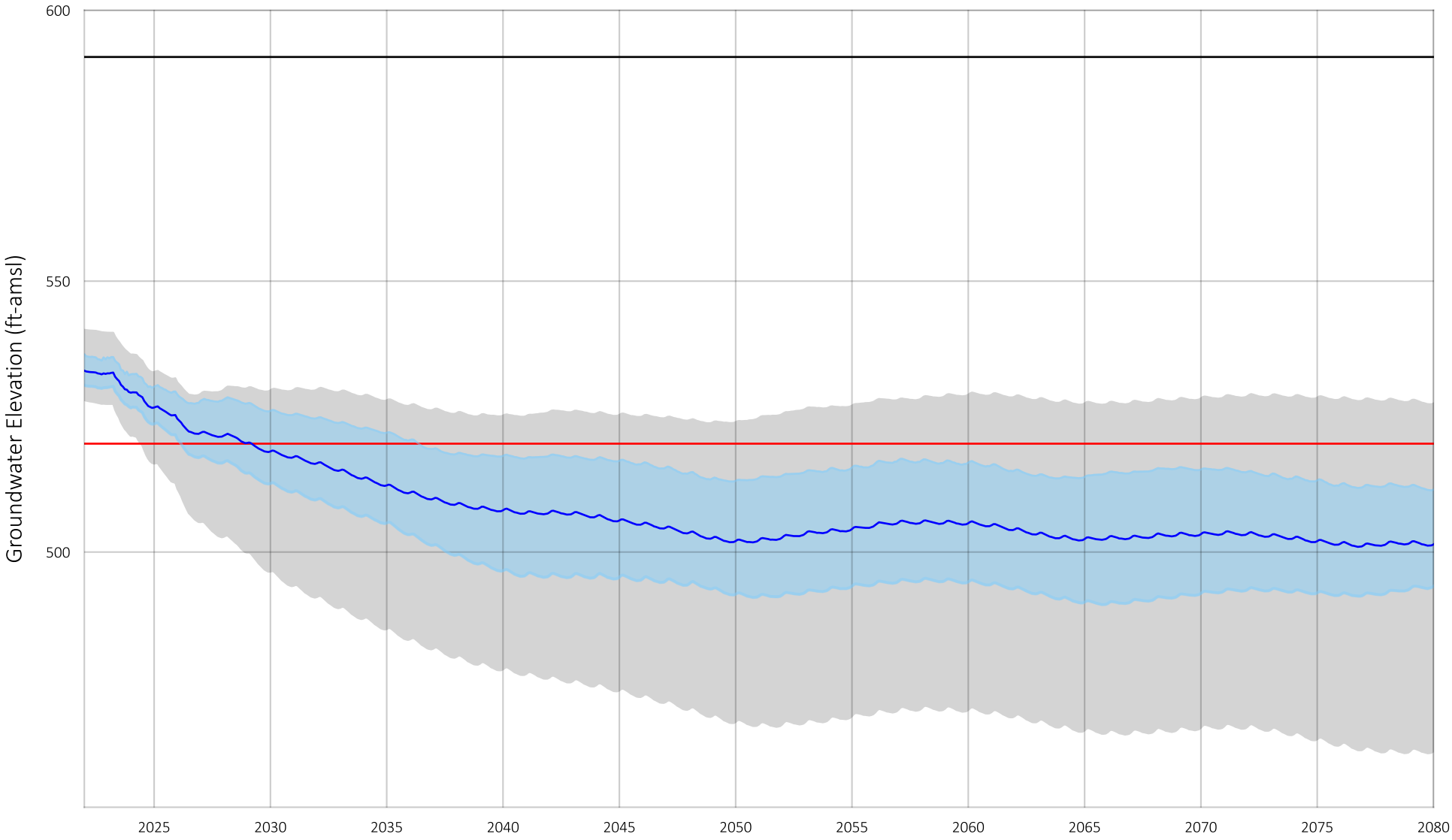
- Land Subsidence Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

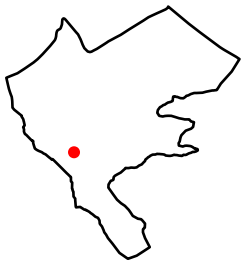
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: AP-PA 7
Well Owner: Chino Basin Watermaster
Screen Interval (ft-bgs): 438 - 448

Figure D-182



Well Location



Legend

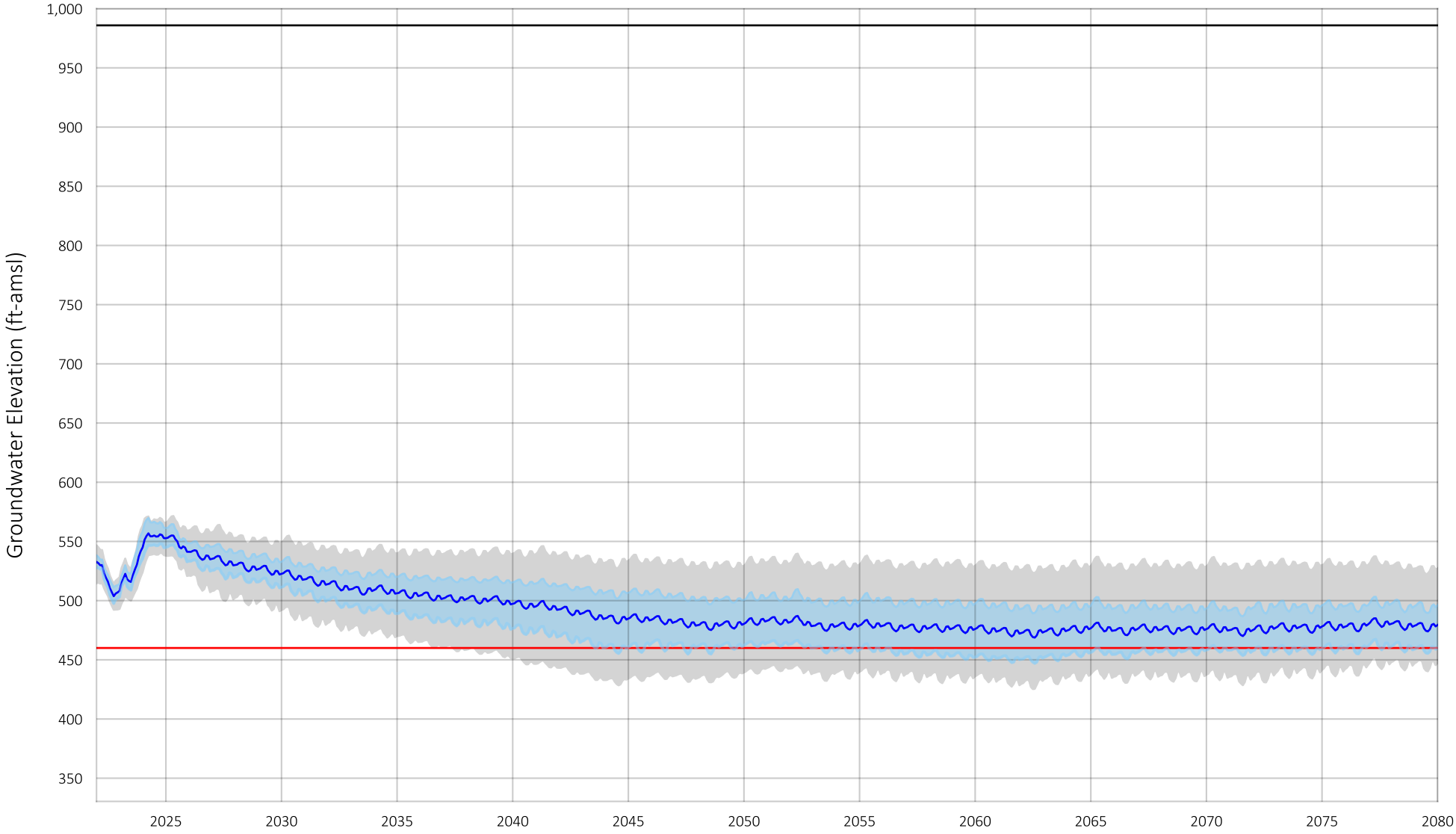
- Land Subsidence Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

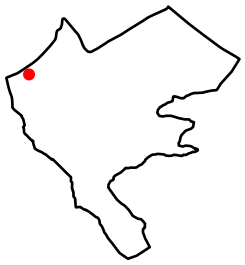
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CCPA-2
Well Owner: Chino Basin Watermaster
Screen Interval (ft-bgs): 235 - 295

Figure D-183



Well Location



Legend

- Land Subsidence Threshold
- Ground Surface Elevation
- Likelihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: PX2-3
Well Owner: Chino Basin Watermaster
Screen Interval (ft-bgs): 980 - 1010

Figure D-184

Appendix E

Peer Review and Stakeholder Comments and Responses

DRAFT

E1. Responses to Comments for May 2026 Draft of the 2025 Safe Yield Reevaluation Report

DRAFT

25 Edelman, Suite 120
Irvine CA 92618

949.420.3030 phone
530.756.5991 fax
westyost.com

TECHNICAL MEMORANDUM

DATE: May 14, 2026

Project No.: 941-80-25-32
SENT VIA: EMAIL

TO: Todd Corbin

CC: Edgar Tellez Foster

FROM: Garrett Rapp, PE, RCE #86007

REVIEWED BY: Andy Malone, PG

SUBJECT: Responses to Comments for May 2026 Draft of the 2025 Safe Yield Reevaluation Report

DRAFT

OVERVIEW OF REVIEW PROCESS

The 2025 Safe Yield Reevaluation (2025 SYR) was subject to multiple layers of review, including:

- Independent third-party peer review conducted by S.S. Papadopulos & Associates (SSP&A)[1] (see Appendix E-2)
- Technical review and recommendations from the Appropriative Pool (AP) and its consultant, Thomas Harder & Company (THC) (see Appendix E-3)
- Written comments from Watermaster parties and agencies, including the State of California, City of Ontario, Monte Vista Water District, and Jurupa Community Services District (see Appendices E-4 through E-7, respectively)

Following receipt of these comments, Watermaster and West Yost developed a December 2025 scope of work to address the SSP&A and THC recommendations and to incorporate relevant stakeholder feedback. Comments were addressed through two primary mechanisms:

1. Implementation of the scope of work, which resulted in targeted technical refinements to the model and analysis
2. Expanded documentation and clarification in the revised report

[1] Comments and initial West Yost responses are included in Appendix E of the October 2025 Draft 2025 SYR Report.

This technical memorandum (TM) documents:

- How the 2025 SYR was updated through implementation of the scope of work
- How agency and stakeholder comments were addressed in the revised report

IMPLEMENTATION OF PEER REVIEW RECOMMENDATIONS

This section describes the scope work, results, and outcomes of implementation of the selected peer review recommendations.

Scope of Work

Peer review recommendations from SSP&A and THC were evaluated and consolidated into a targeted scope of work designed to:

- Improve transparency of model inputs and outputs
- Confirm hydrologic consistency across model components
- Refine calibration and uncertainty analysis
- Enhance documentation of model assumptions and results

SSP&A reviewed the "model calibration, development of future scenarios, and uncertainty quantification, to assess whether the resulting Safe Yield estimates are reasonable and based on sound underlying technical principles."[2] The review included access to model files, documentation, and supporting model processing scripts. SSP&A concluded that the 2025 CVM is well-calibrated and technically robust; they recommended refinements that were intended to improve confidence in model results rather than fundamentally alter the modeling framework. The scope of work was organized into a series of technical tasks that were implemented for the revised 2025 SYR:[3]

- Task 1. Develop Integrated Water Budgets
- Task 2. Refine Calibration Data
- Task 3. Refine Model Mechanics and Numerical Stability
- Task 4. Prepare, Run, and Process Additional PESTPP-IES Configuration and Projection Ensemble
- Task 5. Update Report and Appendices
- Task 6. Conduct Stakeholder Workshop

[2] SSP&A Peer Review Report, ibid

[3] Business Item III.B. of the January 2026 Watermaster Board Meeting (scope begins on page 193 of the Meeting Package)

- Task 7. Project Management and Meetings

Throughout the implementation of the scope of work, Watermaster and West Yost staff met with SSP&A and THC staff to review intermediate findings, answer questions, and refine the results of the work. Meetings were held on March 5, March 24, April 7, and May 14, 2026.

Summary of Implemented Scope of Work

Task 1 – Develop Integrated Water Budgets

Objective:

Develop comprehensive, internally consistent water budgets across the HSPF, R4, and MODFLOW components of the Chino Valley Model (CVM) to verify mass-balance closure, to improve transparency of inflow and outflow components, and to confirm that the representation of recharge, boundary inflows, and discharge processes are physically realistic and consistent across models. This task directly responded to peer review and stakeholder comments requesting improved transparency and reconciliation of water budget components.

Key Updates:

- Preparation of annual water budgets for model components
- Reconciliation of inflow and outflow terms across models
- Verification of upstream boundary inflows and recharge estimates
- Expanded accounting of recharge components, including precipitation and applied water contributions to DIPAW

Task 2 – Refine Calibration Data

Objective:

Refine the calibration dataset to improve the accuracy and representativeness of model calibration targets by evaluating data completeness, spatial and temporal distribution, and observation weighting, with the goal of achieving a more balanced and defensible calibration across measured groundwater levels and streamflow observations. This task addressed the peer review comments regarding calibration bias, observation weighting, and representation of key hydrologic signals.

Key Updates:

- Revision of groundwater-level observation datasets
- Adjustment of observation weighting, including streamflow targets
- Removal or down-weighting of observations with known bias or redundancy

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Task 3 – Refine Model Mechanics and Numerical Stability

Objective:

Evaluate and refine key aspects of model configuration, parameterization, and numerical solution settings to ensure stable and reliable model performance, improve representation of key hydrologic processes, and confirm that model assumptions and parameter ranges remain physically reasonable within the context of the uncertainty analysis framework. This task responded to peer review comments regarding model mechanics, parameterization (including multipliers), and numerical stability.

Key Updates:

- Evaluation and refinement of DIPAW and lateral inflow multipliers
- Adjustment of solver convergence criteria
- Review of pumping representation and boundary conditions
- Refinement of observation noise assumptions

Task 4 – Prepare, Run, and Process Additional PESTPP-IES Configuration and Projection Ensemble

Objective:

Implement an updated calibration and uncertainty analysis using the PESTPP-IES framework to generate a revised ensemble of calibrated model realizations that better capture the range of plausible system behavior, improve agreement with observed data, and provide a robust basis for evaluating future basin conditions and Safe Yield. This task directly addressed peer review recommendations related to uncertainty characterization, ensemble development, and calibration robustness.

Key Updates:

- New PESTPP-IES calibration runs using refined datasets (e.g., streamflow, groundwater levels) and configurations
- Evaluation of calibration performance and residuals
- Selection of representative calibrated realizations
- Updated Projection Ensemble simulations

Task 5 – Update Report and Appendices

Objective:

Revise the 2025 SYR documentation by incorporating additional analyses, improve explanations of model inputs and results, and improve presentation of key findings. This task responded to peer review and stakeholder comments requesting improved explanation of model results and differences between the 2020 and 2025 analyses.

Key Updates:

- Expanded discussion of recharge components, including DIPAW (Section 6.2.1)

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- Additional water budget tables and figures (Appendix A)
- Clarification of differences between the 2020 and 2025 CVMs (Sections 4 and 6)
- Improved documentation of assumptions and methodology (Sections 4 and 6)

Outcome

Implementation of the scope of work resulted in targeted refinements to the 2025 CVM and corresponding updates to the 2025 SYR Report, focused on improving transparency and documentation of the analysis:

- Development of integrated water budgets confirmed consistency among model components (particularly the HSPF and R4 models) and improved accounting of recharge and discharge processes, including clearer representation of DIPAW (Appendix A).
- Refinements to calibration data and observation weighting improved balance between groundwater-level and streamflow targets and reduced localized bias while maintaining overall calibration performance (Section 4).
- Updates to model mechanics and numerical settings enhanced stability and clarified the role of key parameters within the uncertainty framework (Section 4).
- The updated PESTPP-IES calibration and Projection Ensemble provided a more robust representation of uncertainty for the 2025 SYR (Section 4).

These updates improve the clarity and traceability of the analysis and enhance confidence in model results. Consistent with the independent peer review, the CVM remains well-calibrated and technically robust, and the refinements implemented resulted in improving transparency rather than fundamentally changing the modeling approach or conclusions.

RESPONSE TO AGENCY AND STAKEHOLDER COMMENTS

Agency and stakeholder comments were reviewed following implementation of the scope of work described above. Comments related to model calibration, recharge representation, uncertainty analysis, and water budget development were addressed through the technical refinements implemented as part of that scope.

The remaining comments primarily relate to interpretation of results, transparency, and documentation, and are addressed through clarification in the revised report. A summary of these comments and responses is provided in Table 1.

SUMMARY

The 2025 Safe Yield Reevaluation was developed through an iterative review process that included independent peer review, stakeholder technical input, and written comments from Watermaster parties and agencies. In response, Watermaster implemented a focused scope of work to improve transparency, consistency, and documentation of the modeling and analysis.

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Revisions primarily enhance the clarity and interpretation of results, including water budget accounting, calibration, and documentation of recharge and uncertainty. Agency and stakeholder comments were addressed through these refinements or additional clarification. The revised 2025 SYR reflects a responsive and defensible application of the Court-approved 2022 Safe Yield Reset Methodology and provides a reliable characterization of Basin conditions and Safe Yield.

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Table E-1. Summary of Comments and Responses to Party Comments on October 2025 Draft 2025 SYR Report				
ID	Source	Comment Summary	Response	Disposition
1	State (Rees)	Table 4-7 (water budget) should include all components (e.g., groundwater pumping, managed aquifer recharge) for completeness	Table 4-7 was updated to address the comment	Addressed
2	State (Rees)	Provide tabular water budget comparisons between the 2020 and 2025 CVMs (not just figures)	Tables of water budget components can be found in the tables showing each of the chosen calibrated realizations (Tables 4-X and Appendix B).	Addressed
3	State (Rees)	Quantify implications of Safe Yield vs. net recharge on changes in physical storage	The relationship between Safe Yield, net recharge, managed storage, and physical storage is described in Sections 6.1.2.1, 6.2.1.1, and 7.3.1, including Figures 6-13 through 6-15 and Figure 7-27. Additional retrospective accounting of annual net recharge, Court-approved Safe Yield, and unused Safe Yield placed into storage was not added because it is beyond the scope of this evaluation.	Clarified
4	State (Rees)	Concur with West Yost's response that the use of calibrating multipliers for DIPAW and lateral inflow is a reasonable approach to account for uncertainties in these water balance components in the current modeling effort.	No response necessary	Addressed
5	Ontario	The Draft 2025 SYR presents DIPAW trends and their relationship to Safe Yield in a manner that is not fully clear or appears inconsistent. Specifically, the figure showing DIPAW trends suggests stabilization over time, while the narrative indicates that declining DIPAW is a contributing factor to reduced Safe Yield. Ontario requests clarification of how DIPAW trends are represented, how they relate to Safe Yield, and how these relationships should be interpreted in the context of the overall analysis.	DIPAW trends and their relationship to Safe Yield were reviewed and clarified in Section 6.2.1. Additional discussion was included to explain the temporal variability of DIPAW, including the influence of hydrologic conditions, land use changes, and applied water. The report clarifies that while DIPAW is a significant component of recharge, changes in Safe Yield reflect the combined influence of multiple factors, including other recharge components, discharge processes, and the updated CVM calibration and uncertainty analysis.	Addressed
6	MVWD	The magnitude of the reduction in Safe Yield relative to 2020 Safe Yield Recalculation results is not adequately explained or validated.	The revised report includes expanded discussion of differences between the 2020 and 2025 CVMs, including updated calibration, revised recharge estimates, and implementation of the ensemble-based methodology (Sections 4.3.2 and 6.2.1). Regarding validation, the results of the peer review and implementation of the recommendations have demonstrated that the results of the 2025 SYR are reasonable and valid.	Addressed
7	MVWD	Concerns regarding the use of 2022 Safe Yield Reset Methodology (2022 SYRM) relative to prior court-approved approaches	Section 1 describes the process through which the 2022 SYRM was developed, adopted by the Court, and implemented. MVWD staff participated in the peer review during the development of the 2022 SYRM.	Clarified
8	JCSD/AP Letter	Additional time is needed to evaluate results and understand the basis for changes in Safe Yield	Addressed through November 2025 workshop, implementing peer review recommendations, expanding discussion of differences (Sections 4.3.2 and 6.2.1), and subsequent stakeholder communication.	Addressed
9	JCSD/AP Letter	Need clearer explanation of the basis for differences between 2020 and 2025 results and their implications for future planning	See response to Comment 5 above. Discussing the implications for future planning is beyond the scope of this report; however, Section 7 discusses recommendations for exploring optimizing basin operations based on the 2025 SYR results.	Addressed
10	JCSD/AP Letter	Need to understand whether future model refinements could result in similarly large changes	The revised report clarifies that differences between 2020 and 2025 results reflect updated data, calibration, and methodology. Future updates will continue to be influenced by new monitoring data, evolving planning information, and modeling practices consistent with the approved methodology.	Clarified
11	AP Letter	Improve transparency of recharge components, including precipitation vs. applied water contributions	Additional accounting of recharge components was included in the revised water budget documentation to improve transparency (see Appendix A).	Addressed
12	AP Letter	Clarify differences in Santa Ana River infiltration between 2020 and 2025 models	Differences were evaluated and attributed to updated model inputs (hydraulic conductivity parameters) and calibration. Additional explanation was included in Section 4.3.2 of the revised report.	Addressed

E2. Peer Review of the Draft 2025 Safe Yield Reevaluation (October 2025) S.S. Papadopulos & Associates

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Peer Review of the Draft 2025 Safe Yield Reevaluation

Prepared for:

Chino Basin Watermaster

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October 16, 2025

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Appendices

Appendix A. Time Series Plots Comparing Observed and Simulated Groundwater Levels

Acronyms

2015 SYRM	2015 Safe Yield Reset Methodology
2020 SYR	2020 Safe Yield Recalculation
2022 SYRM	2022 Safe Yield Reset Methodology
2025 SYR	2025 Safe Yield Reevaluation
AFY	Acre-feet per year
CVM	Chino Valley Model
DIPAW	Deep Infiltration of Precipitation and Applied Water
DWR	California Department of Water Resources
ET	Evapotranspiration

FY	Fiscal Year
MAR	Managed Aquifer Recharge
PESTPP-IES	Iterative Ensemble Smoother from the PEST++ software suite
SSP&A	S.S. Papadopulos & Associates, Inc.

Executive Summary

S.S. Papadopulos & Associates, Inc. (SSP&A) was retained by the Chino Basin Watermaster to perform an independent peer review of the Draft 2025 Safe Yield Reevaluation (2025 SYR; West Yost, 2025).

The purpose of this review was to evaluate whether the methodology, model calibration, and uncertainty analysis used in the 2025 SYR provide a sound and defensible estimate of Safe Yield for Fiscal Years (FYs) 2021–2030.

The Draft 2025 Safe Yield Reevaluation provides a technically sound and defensible foundation for estimating the Chino Basin's Safe Yield. Implementing the recommended refinements will improve confidence in the hydrologic modeling framework, ensure consistency across model components, and strengthen the basis for stakeholder decision-making on basin management.

The 2025 SYR builds upon the 2022 Safe Yield Reset Methodology (2022 SYRM) and represents the latest step in a long series of technical efforts that use the Chino Valley Model (CVM) to estimate Safe Yield. The CVM is part of an integrated hydrologic system that combines surface water, land use, unsaturated zone, and saturated groundwater system. It remains the principal tool for estimating Chino Basin's Safe Yield.

The 2025 SYR estimated a Safe Yield ranging from 116,000 to 119,000 acre-feet per year (AFY), which is lower than the 2020 Safe Yield estimate of 131,000 AFY for the same projection period (FYs 2021–2030). This decrease, though partly attributable to updated data, revised calibration methods, and expanded uncertainty analysis, represents a significant change that has important implications for stakeholders who rely on Safe Yield to guide basin management, pumping rights, and replenishment obligations.

This peer review found that the 2025 SYR demonstrates substantial technical rigor and advancement relative to previous evaluations, particularly in model calibration and the treatment of uncertainty. However, several areas of improvement were identified to further enhance the transparency, consistency, and defensibility of the final Safe Yield estimates. Key recommendations include:

- **Develop integrated water budgets** across all model components (HSPF, R4, HYDRUS-2D, and MODFLOW-NWT) to ensure internal consistency and avoid potential gaps or double-counting.
- **Refine model calibration** by strengthening streamflow and groundwater-level representation, addressing spatial and temporal bias, representing trends, avoiding the use of recharge multipliers that decouple linked model systems, and avoiding randomized observation noise that may distort temporal trends.

Introduction

Chino Basin Watermaster retained S.S. Papadopulos & Associates, Inc. (SSP&A) to perform a peer review of the Draft 2025 Safe Yield Reevaluation (2025 SYR; West Yost, 2025). The purpose of the peer review was to evaluate whether the methodology, model calibration, and uncertainty analysis used in the 2025 SYR provide a sound and defensible estimate of Safe Yield for Fiscal Years (FYs) 2021–2030.

Background

The Chino Valley Model (CVM) has been developed over many years. It simulates a basin with complex hydrology and hydrogeology with inter-basin flows and faulted basin boundaries, and changes in anthropogenic conditions such as land use, water demand and supply, and surface water management, that are referred to as cultural conditions. The integrated model incorporates meteorological data, land use and surface water components, runoff and surface routing, managed recharge, vadose zone induced time lag, streamflow, groundwater flow, and stream-aquifer interaction, within the Chino Valley and the surrounding watersheds. The CVM incorporates observed data from multiple sources for a variety of water budget components, is routinely updated to incorporate new data, uses state of the art modeling tools and methods, and remains the primary tool for calculating Chino Basin's Safe Yield. The integrated model is an amalgamation of four different software programs that are directly or indirectly used to represent the hydrologic system in and around the Chino Basin. It is comprised of Hydrological Simulation Program-FORTRAN, or HSPF (Version 12.5, Bicknell et al., 2005), R4 Model (WEI, 2007), HYDRUS-2D (Rassam et al., 2003), and MODFLOW-NWT (Version 1.3.0, Niswonger et al., 2011).

The Chino Basin's Safe Yield was first defined in the 1978 Stipulated Judgment at 140,000 acre-feet per year (AFY). Subsequent re-evaluations have progressively lowered this figure. The 2015 Safe Yield Reset Methodology (2015 SYRM) estimated a Safe Yield of 135,000 AFY for FYs 2011-2020 and the 2020 Safe Yield Recalculation (2020 SYR) estimated a Safe Yield of 131,000 AFY for FYs 2021-2030. The 2015 SYRM was used for the 2015 and 2020 Safe Yield Recalculations. The 2015 SYRM introduced the use of long-term hydrology in the model rather than only a 10-year look-back period. The 2020 SYR used the long-term hydrology period from 1950-2011 for the planning period.

Stemming from Chino Basin Watermaster's outreach initiatives, a revised Safe Yield Reset Methodology was developed in 2022 called the 2022 SYRM. The current 2025 SYR is a mid-decade reevaluation pursuant to the 2022 SYRM. It continues the 2015 SYRM methodology, which introduced long-term hydrology (1950–2011) and integrates more recent data. The following key tasks were identified based on the 2022 SYRM:

- Recalibrate the CVM.
- Explicitly quantify uncertainty in the estimated Safe Yield.
- Develop future scenarios for climate and cultural conditions to determine a plausible range of future net recharge and groundwater conditions that can cause Undesirable Results or Material Physical Injury.

The historical CVM simulation period is FYs 1992-2022 and Safe Yield was calculated for FYs 2021-2030. Safe Yield was estimated to be between 116,000 and 119,000 AFY. A wider range of Safe Yield estimates was developed considering all the factors considered for the uncertainty.

Objectives

The primary objective of the SSP&A effort was to perform an independent peer review of Draft 2025 SYR. As part of the review, the model, the accompanying report, and relevant past reports, background data and information were reviewed. The peer review focused on model calibration, development of future scenarios, and uncertainty quantification, to assess whether the resulting Safe Yield estimates are reasonable and based on sound underlying technical principles.

The review examined whether uncertainty has been adequately and appropriately addressed, explored the reasons behind changes in the revised safe-yield estimates compared to the 2020 evaluation, whether these differences stem from the incorporation of more recent data, adjustments in projection estimates, or modifications to the model calibration methodology, and assessed whether the tools and analytical methods employed are appropriate for the intended purpose.

Safe Yield Calculations

Background

The Safe Yield calculations are detailed by WEI (2020). The report documents how Chino Basin inflows, outflows, and the change in groundwater storage are considered within the context of the CVM for estimating Safe Yield for FYs 2021-2030. Net recharge calculations for the historical simulation period (FYs 1992-2022), as detailed by WEI (2020), form the basis of Safe Yield calculations. Put simply, both the net recharge and Safe Yield estimates use the same calculations but for two different time periods, historical versus projected.

Sources of Uncertainty

A range of Safe Yield estimates were calculated by the 2025 SYR to account for uncertainty. Two sources of uncertainty were considered: (1) uncertainties in future climate and cultural conditions simulated as **projection scenarios**; and (2) the uncertainty associated with calibration of the CVM quantified using an ensemble of **model realizations**.

The projection scenarios considered future climate variability and water demand conditions in the Chino Basin. Three climate scenarios and three water demand scenarios were considered, resulting in nine unique combinations of future conditions. **Projection Scenarios 1-9** are described in the following section.

Hundreds of model realizations were generated by perturbing input variables such as aquifer properties and boundary conditions as part of the model calibration process. This was facilitated by PESTPP-IES (White, 2018; White et al., 2020), an Iterative Ensemble Smoother from the PEST++ software suite used for parameter estimation and uncertainty quantification in numerical models using an ensemble of model runs. Out of the hundreds of model realizations, five CVM realizations were manually selected for 2025 SYR. These selections were based on calculated net recharge from the individual realizations for FYs 1992-2022. The calculated net recharge from FYs 1992-2022 was used as a surrogate for Safe Yield. The five **Model Realizations (A-E)** were selected to represent the ensemble variability of net recharge. The selected realizations are comprised of the mean net recharge realization (Realization C), one standard deviation on both sides of the mean (Realizations B and D for lower and higher net recharge, respectively) and two standard deviations on both sides of the mean (Realizations A and E for lower and higher net recharge, respectively).

The combination of nine projection scenarios (labeled as numbers 1-9) and five model realizations (labeled as letters A-E) produced 45 unique Safe Yield estimates for the 2021-2030 period as shown in **Figure 1**. A range of approximately 30,000 AFY was estimated when all 45 simulations were considered. To assess the range of uncertainty provided only by the Projection Scenarios, Safe Yield values were plotted only for Realization C, representing the mean Safe Yield realization. **Figure 2** shows that an uncertainty range of approximately 20,000 AFY was represented by the Projection Scenarios, which are a combination of future climate and water demand projections. The contribution of climate projections to uncertainty is in the order of 20,000 AFY, which is the dominant reason for the uncertainty range provided by the Projection Scenarios. Water demand projections provide an uncertainty in the order of 1,000 AFY.

Figure 3 shows that the range of uncertainty provided by Model Realizations A-E plotted for Projection Scenario 1 (average climate and water demand projections) is approximately 10,000 AFY. The average Safe Yield based on **Figure 1** and **Figure 2** are similar, indicating that model uncertainty is contributing to a wider range of uncertainty but is not influencing the average Safe Yield.

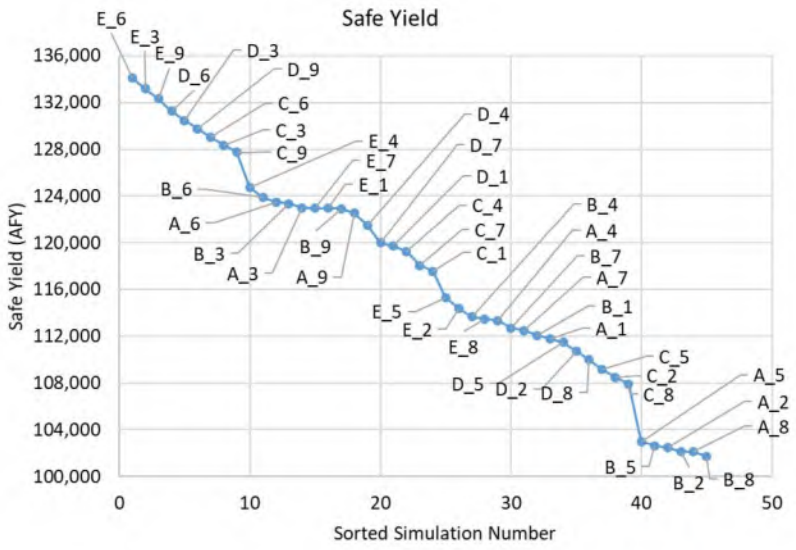


Figure 1. The range of estimated Safe Yield values for the 2021-2030 period within the Chino Basin. The letters A-E represent different model realizations and numbers 1-9 represent projection scenarios.

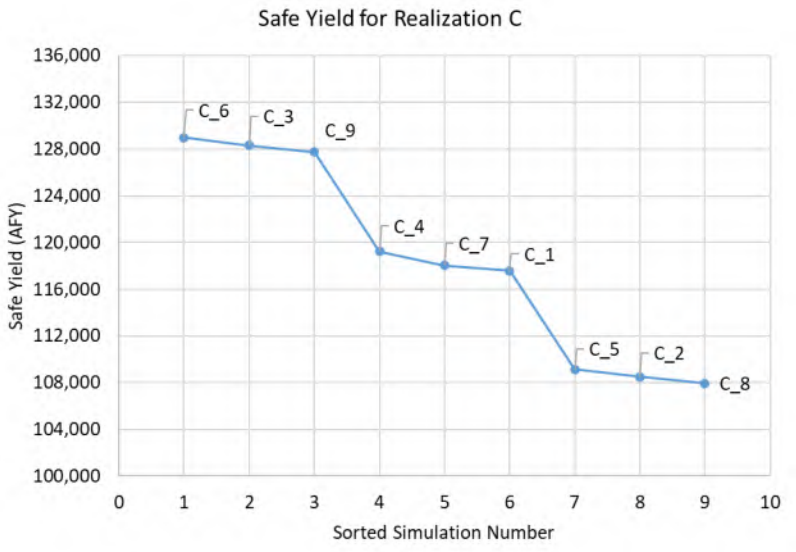


Figure 2. The range of estimated Safe Yield values for the 2021-2030 period within the Chino Basin only considering Realization C (mean net recharge/Safe Yield) with Projection Scenarios 1-9.

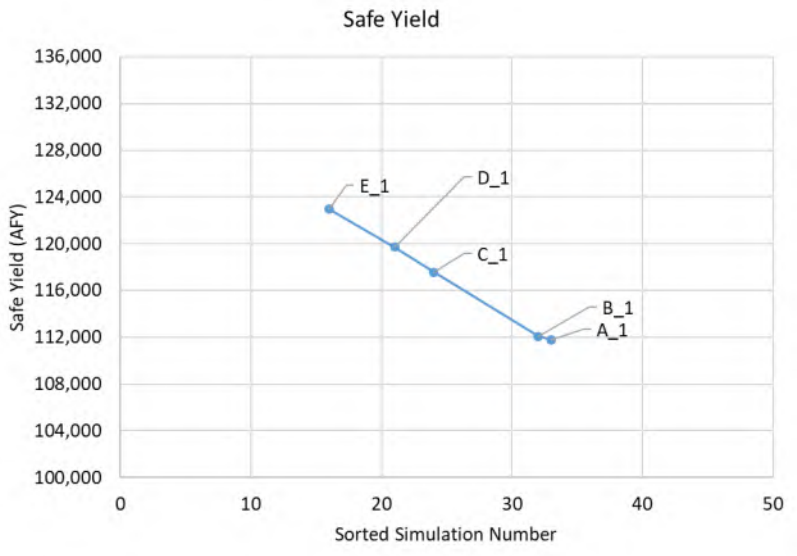


Figure 3. The range of estimated Safe Yield values for the 2021-2030 period within the Chino Basin only considering Projection Scenario 1 (expected water demand) with Realizations A-E.

Review of Safe Yield Estimates

To focus on relevant processes and water budget components, it is critical to understand how Safe Yield calculations were performed. As described by WEI (2020), inflows for the Safe Yield calculations include net subsurface inflow to Chino Basin from surrounding basins, deep infiltration of precipitation and applied water (DIPAW), streambed infiltration, and managed aquifer recharge (MAR) from stormwater. Outflows considered for the calculations include riparian evapotranspiration (ET) and aquifer to stream flow, referred to as 'rising groundwater.' The difference between inflows and outflows listed above provided net recharge, or Safe Yield estimates. These inflows and outflows exclude MAR from recycled and imported water, change in groundwater storage, and groundwater pumping.

MAR from recycled and imported water (supplemental recharge) is not counted towards Safe Yield, hence not included as an inflow term. Historical supplemental recharge data are generally measured. Future estimates of recycled water recharge were provided by the Inland Empire Utilities Agency and future estimates of imported water recharge were calculated based on the projected water rights and use of storage by various stakeholders. Beyond 2023, no additional imported water recharge was assumed for storage and recovery programs. In general, reliable information is available for the supplemental recharge water budget term.

As illustrated by WEI (2020), Safe Yield calculations can be alternatively performed by utilizing the remaining water budget components that are not incorporated in the calculation described above by subtracting groundwater storage depletion and supplemental recharge from groundwater pumping. Two out of the three water budget terms, i.e., groundwater pumping in the Chino Basin and the supplemental recharge, are generally known. The third term, the storage change, which is affected by all inflows and outflows to/from the groundwater system is calculated from the CVM. Change in groundwater storage can also be inferred from temporal changes in measured groundwater levels, and therefore, it is critical that changes in groundwater

elevations at monitoring well locations are well represented by the CVM. Therefore, model calibration, selection of appropriate realizations, and estimated water budget components form key aspects of Safe Yield calculations.

Based on the forgoing discussion, the peer review focused on: (1) Projection Scenarios, particularly on climate projections; and (2) the CVM, exploring water budgets, model calibration, and uncertainty quantification. These items are further discussed in the following sections.

Projection Scenarios

Projection Scenarios are based on three climate projections and three water demand projections. The climate projections consider average, hot/dry, and cool/wet scenarios bracketing Safe Yield estimates based on different meteorological conditions, while water demand projections consider expected, low, and high future water demand.

For generating climate projections precipitation and reference ET were varied in the R4 model resulting in changed recharge to groundwater. Three sets of seven-year periods were selected from historical data to represent FYs 2024-2030 under average, dry, and wet conditions for Safe Yield assessment. Precipitation and reference ET time series for the period FYs 1959-2008 was reused for the projection period of FYs 2031-2080. The documented method for developing the precipitation and reference ET time-series for future projections is consistent with the guidance (DWR, 2018) provided by the California Department of Water Resources (DWR), including the historic period selection and the use of change factors for generating future conditions.

The projected water plan scenarios were developed to capture future cultural conditions. Reference Water Plans were first developed for Overlying Agricultural, Overlying Non-agricultural, and Appropriative Pools. Uncertainty was considered for water demands, groundwater utilization, and imported water utilization. The approach explicitly considers variability in growth, conservation policy, climate impacts on demand, and reliance on different supply sources. Three Water Plan scenarios were developed: Average, High-Demand, and Low-Demand. Total demands changed for the 2025 SYR as compared to the 2020 SYR because of recent data through 2023, updated growth assumptions, explicit climate-demand linkage by incorporating multipliers for precipitation and temperature, and dynamic groundwater and imported water use. Water Plan variability accounts for several factors that reasonably consider uncertainty.

A likelihood weight was ascribed to each of the nine Projection Scenarios. Alternative weighting schemes were evaluated as part of the review and did not have a large effect on resulting Safe Yield estimates. The weights used in the Safe Yield assessment are reasonable.

The key takeaways from the peer review of Projection Scenarios are:

- Climate scenarios provide the largest uncertainty. Therefore, planning efforts for the Chino Basin need to address and mitigate uncertainties associated with climate impacts.
- Water Plan scenarios are based on stakeholder feedback and can be managed by adapting and refining in the future as more data become available.

Model

The CVM is an intricate and interconnected representation of the hydrological and hydrogeological system that it simulates. The complexity of the system emanates from the challenging natural conditions of the basin such as its geological structure and from the surface water and groundwater operations and management that result in complexities such as the inter-basin flows and the surface water groundwater interaction. The model forms the basis of Safe Yield estimates for the Chino Basin, and therefore, there are key aspects of the hydrological system that the model is expected to capture. To assess the model's performance in estimating Safe Yield, the peer review focused on water budgets, model calibration, and uncertainty quantification.

Water Budgets

The integrated model is comprised of four different models that are directly or indirectly simulated in sequence: HSPF, R4, HYDRUS-2D, and MODFLOW. The extents of these models are shown in **Figure 4**. The HSPF domain encompasses the San Gabriel mountains and generally simulates the partitioning of precipitation into ET, runoff, and groundwater recharge. The runoff generated by HSPF becomes inflow to the R4 Model and the recharge from HSPF becomes inflow to the MODFLOW model. The R4 Model receives water from HSPF, simulates precipitation over its extents, and computes runoff, routes the water through managed surface water systems, and calculates recharge from stormwater percolation, precipitation, and applied water on urban and agricultural land uses. **Figure 5** presents a schematic of the connections between different models.

The runoff and recharge calculated by R4 is used as an inflow boundary for the stream network simulated by MODFLOW and as a recharge boundary for MODFLOW, respectively. The shallow infiltration from R4 applied to MODFLOW as deep infiltration was time-lagged to account for seepage through the unsaturated zone. The time lag was varied in space with different areas lagged differently ranging from 1 to 36 years. HYDRUS-2D was used to estimate the distribution of lag and documented by WEI (2020). HYDRUS-2D was not simulated for the 2025 SYR assessment.

During the peer review it was unclear whether water budgets were consistent and balanced within each model and between different models, particularly with regards to the R4 Model. The R4 Model plays a crucial role in providing: (1) Inflows to streams, which feeds to streamflow calibration within MODFLOW; (2) Lateral inflow to MODFLOW; and (3) Recharge to MODFLOW.

Inflow to streams in MODFLOW partially come from runoff calculated by the R4 Model. This is important because outflow from the basin measured at the Prado Dam outflow gage is a key component for water budgets for the overall system. Similarly, lateral inflow to MODFLOW in many parts of the basin is provided by R4. It is important to ensure that the spatial components of R4 properly account for recharge, runoff, and infiltration occurring outside of the CVM MODFLOW model domain providing lateral inflows to MODFLOW, to avoid potential errors such as double counting or gaps in water budgets.

As part of model calibration, discussed in further detail below, recharge applied to MODFLOW was decreased for history matching. However, this approach created a disconnect between the shallow infiltration of water

and its deep percolation to the saturated zone. Given that the CVM represents an integrated system, modifying the recharge received by MODFLOW raises concern about whether the adjustment is physically justified and which component of the overall water budget (such as runoff, unsaturated zone storage, or surface ET) it is implicitly compensating for.

The application of lagging water movement through the unsaturated zone introduces several considerations that need to be carefully evaluated. First, the applied lag values need to be assessed for physical realism by validating whether they represent plausible delays between infiltration and recharge. This evaluation needs to be supported by real-world observations, such as groundwater-level responses to known recharge events. Second, the potential for numerical artifacts introduced by lagging needs to be examined, particularly within the unsaturated zone where storage may be consistently accumulating or depleting, as such artifacts can distort the simulated water budget and affect overall model balance.

Based on these evaluations, the necessity of including lagging needs to be confirmed. If lagging is found to improve model realism, its implementation needs to be calibrated and validated to ensure that it enhances model performance without introducing bias or imbalance in the simulated water budgets.

Following are the recommendations from the review of the suite of integrated models:

1. Develop comprehensive water budgets within and between the individual models (HSPF, R4, and MODFLOW) to ensure consistency and balance across the integrated system.
2. Consider incorporating the R4 Model within the calibration process to better link surface-water and groundwater components and improve streamflow calibration.
3. Reassess the lag representation for both physical realism and numerical integrity, confirming its necessity through comparison with observed groundwater responses.

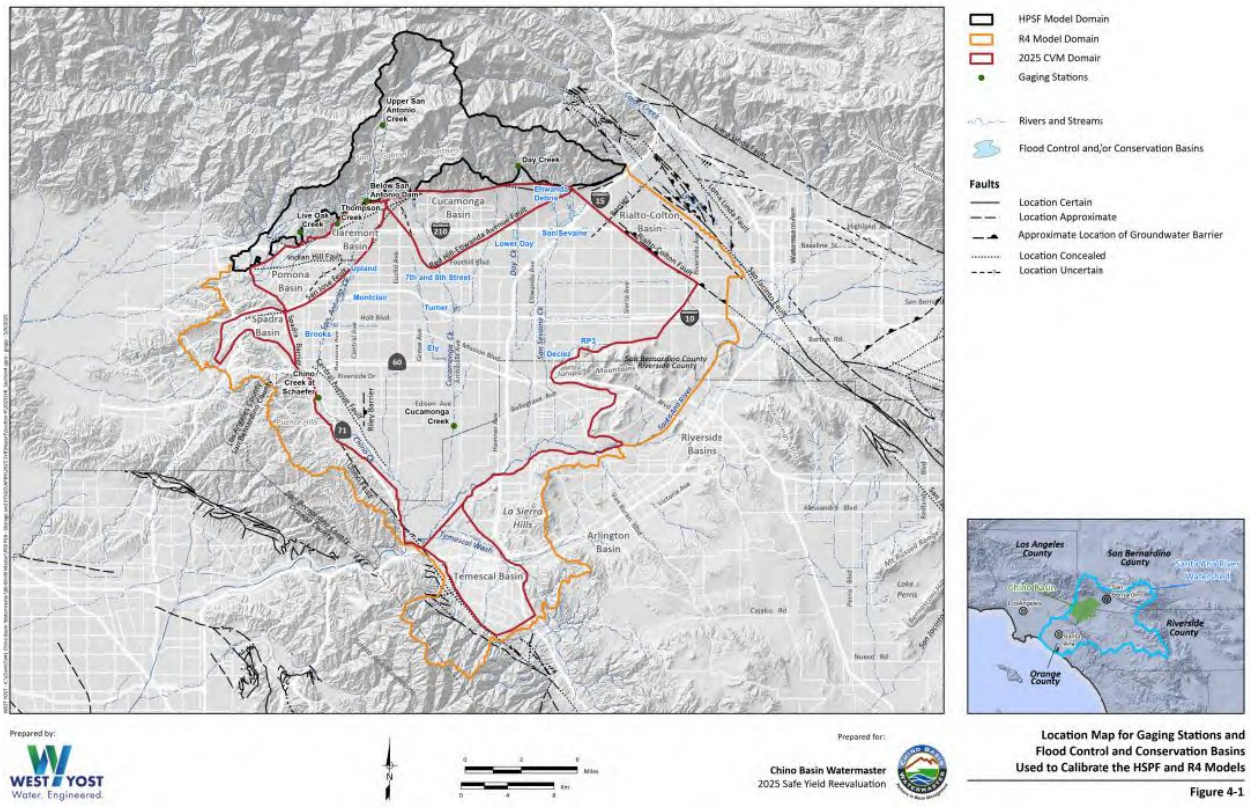
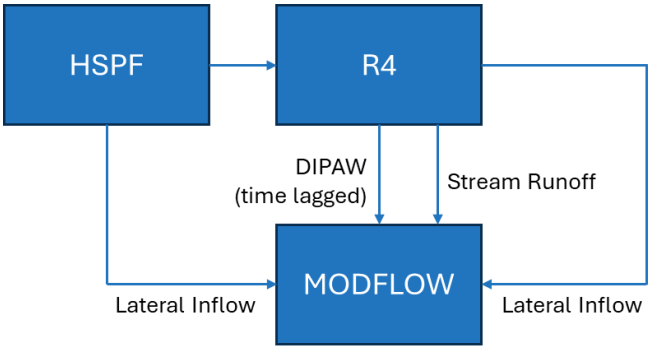


Figure 4. The spatial extent of the HSPF model, R4 Model, and the Chino Valley Model (*reproduced from West Yost (2025) Figure 4-1 of the Draft 2025 SYR*).



DIPAW: Deep Infiltration of Precipitation and Applied Water.
Time lagging was provided by HYDRUS-2D.

Figure 5. A schematic illustrating connections between different modeling software used for the integrated hydrological model. Note that this is not a complete water budget schematic.

Model Calibration

As part of the peer review of the CVM the following items were reviewed: (1) history-matching of observed data, i.e., streamflow and groundwater levels; (2) calibration of aquifer parameters and the plausibility of these parameters; and (3) calibration of boundary conditions.

Streamflow Observations

A combination of streamflow and groundwater-level observations provides essential constraints on the water budget and helps reduce model uncertainty. Streamflow observations at the Prado Dam outflow gage represent a critical dataset for model calibration. However, an error was identified in the PEST setup for streamflow observations, and as a result, streamflow did not meaningfully contribute to the overall objective function.

The overall streamflow calibration is primarily influenced by specified inflows to the SFR package, which are partly generated using the R4 Model. The groundwater model contributes only about 5–10% of the total streamflow. Because these specified inflows play a critical role in model calibration, developing consistent water budgets is vital for improving calibration integrity. Incorporating the R4 Model within the calibration framework would help achieve this integration.

Streamflow observations need to be incorporated within PEST to constrain flows between the groundwater and stream systems. If the R4 Model is included in the calibration framework, the weight assigned to streamflow observations should be increased to ensure that streamflow contributes more effectively to the overall objective function.

Groundwater Level Observations

Groundwater levels were the primary dataset used for model calibration. Overall, the average conditions in the Chino Basin are well represented by the model as seen in **Figure 6**, however, a spatial bias is apparent based on the spatial distribution of average groundwater level residuals over the simulation period with northern and eastern areas overpredicting groundwater levels and western areas consistently underpredicting groundwater levels.

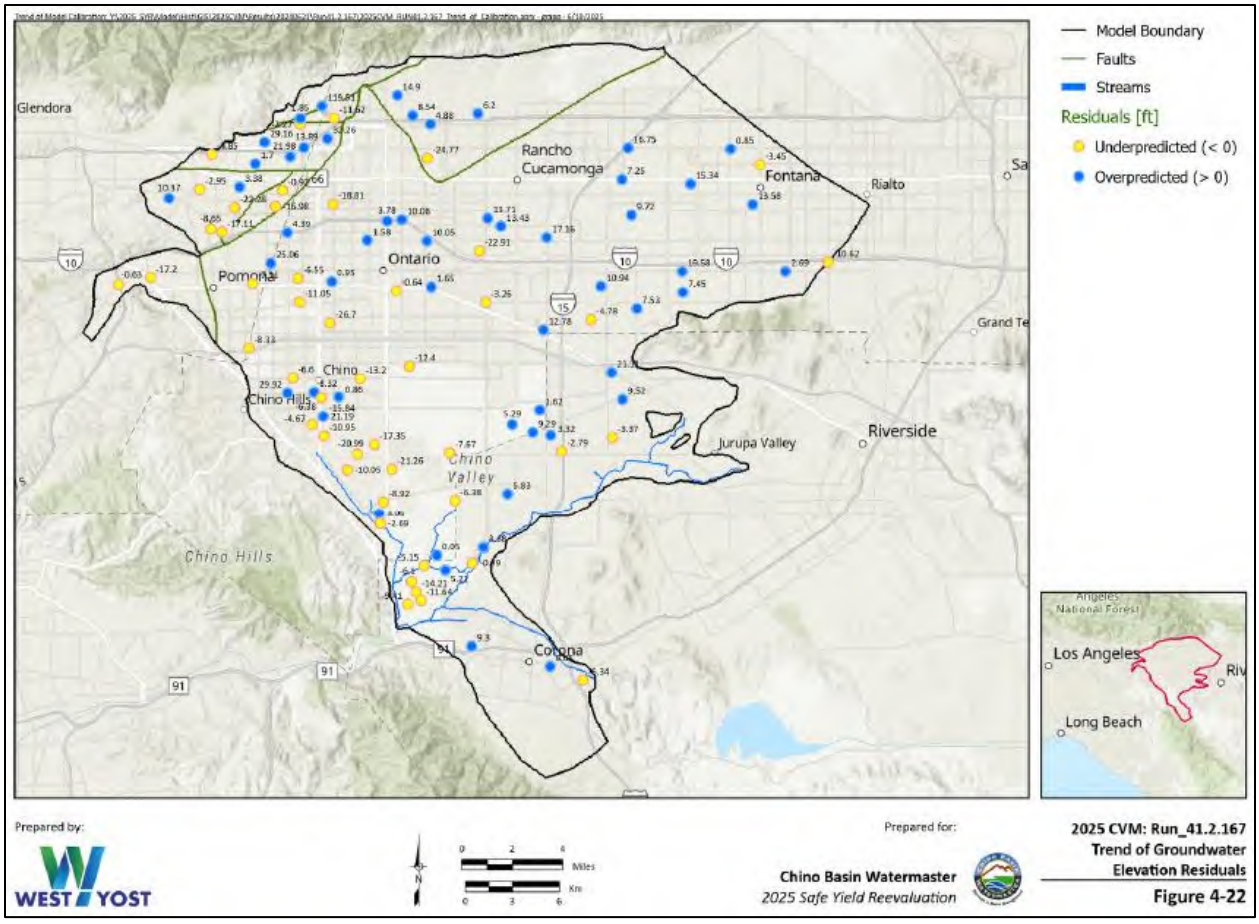
To examine the change in spatial bias with time, a residual map and scatterplots are shown in **Figures 7, 8, and 9** for the periods 1991-2001, 2001-2011, and 2011-2022, respectively. Spatial bias is more pronounced for later times during the simulation. A temporal bias is also highlighted with groundwater levels generally overestimated initially and underestimated towards the end of the simulation. Addressing spatial and temporal bias is important for the model to reasonably represent conditions in the valley in the context of basin-wide groundwater management.

The spatial and temporal bias was further examined by reviewing groundwater level time series comparing observed and simulated groundwater levels. **Figure 10** presents example hydrographs illustrating that in some hydrographs the collection of realizations bracket observed data, some hydrographs are biased too low with all realizations underpredicting groundwater levels particularly to the west and some hydrographs are

biased too high with all realization overpredicting groundwater levels particularly in the northeast areas of the basin.

Figure 11 shows example hydrographs illustrating that recent trends of increasing observed groundwater levels are misrepresented by the model, which shows an opposite declining trend during the last decade. Increasing groundwater levels indicate storage accretion that directly influences Safe Yield estimates. The incorrect representation of these trends is likely to result in an underestimation of the Basin's Safe Yield.

All hydrographs are provided in **Appendix A**.



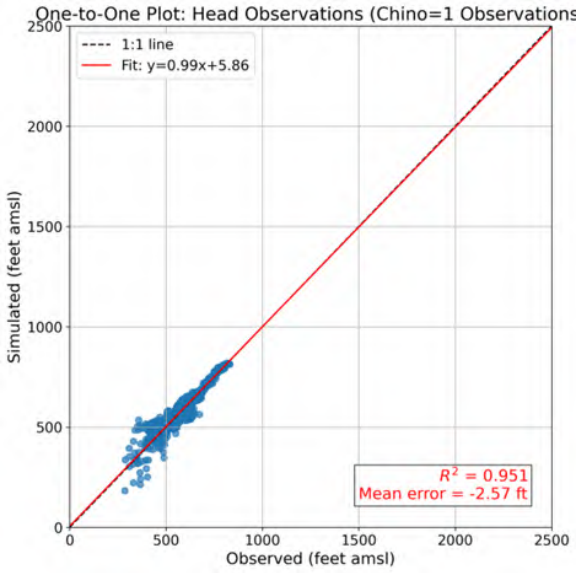


Figure 6. Map showing spatial distribution of groundwater level residuals and scatterplot comparing observed and simulated groundwater levels within the Chino Basin for the entire simulation period.

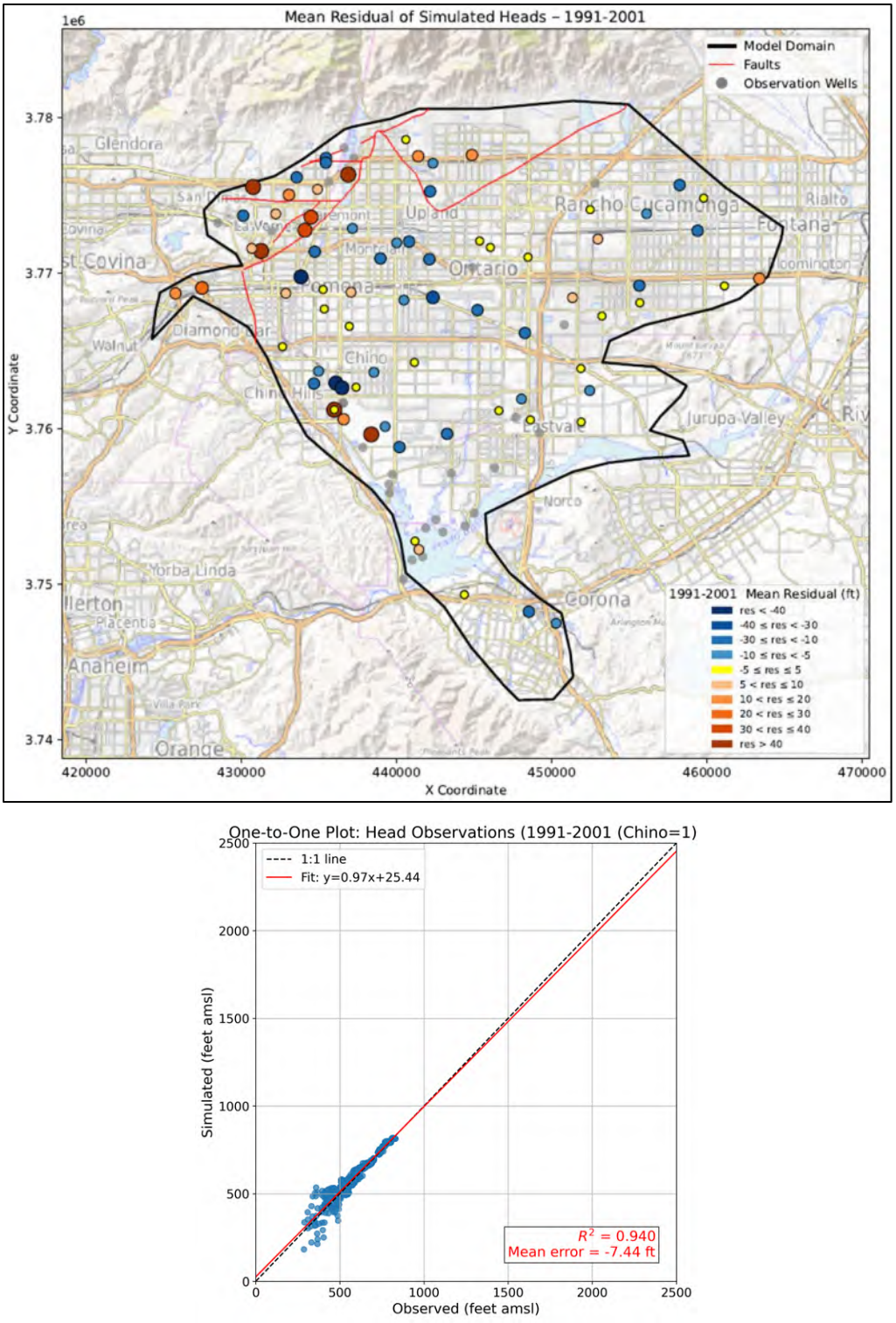


Figure 7. Map showing spatial distribution of groundwater level residuals and scatterplot comparing observed and simulated groundwater levels within the Chino Basin for FY 1991-2001.

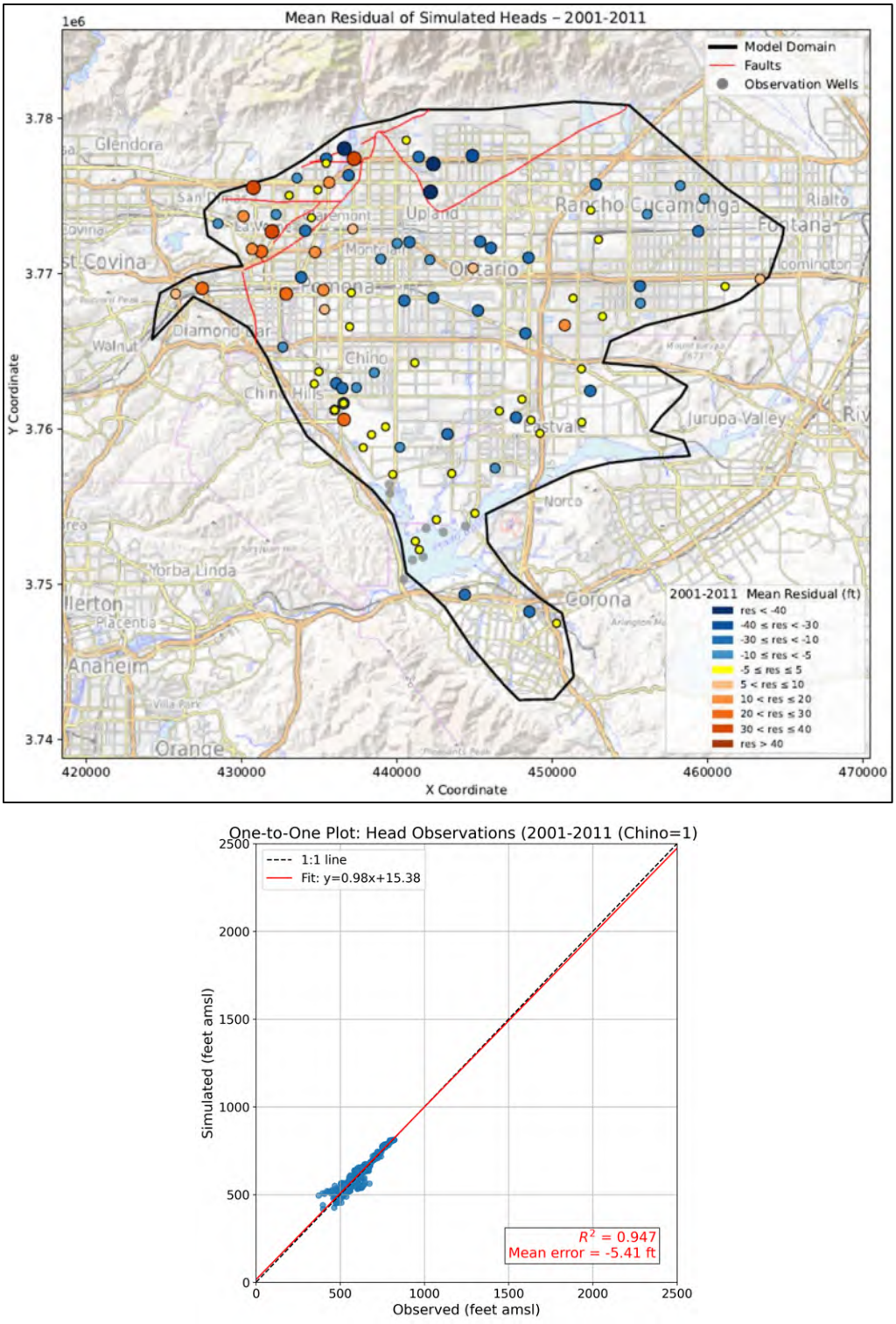
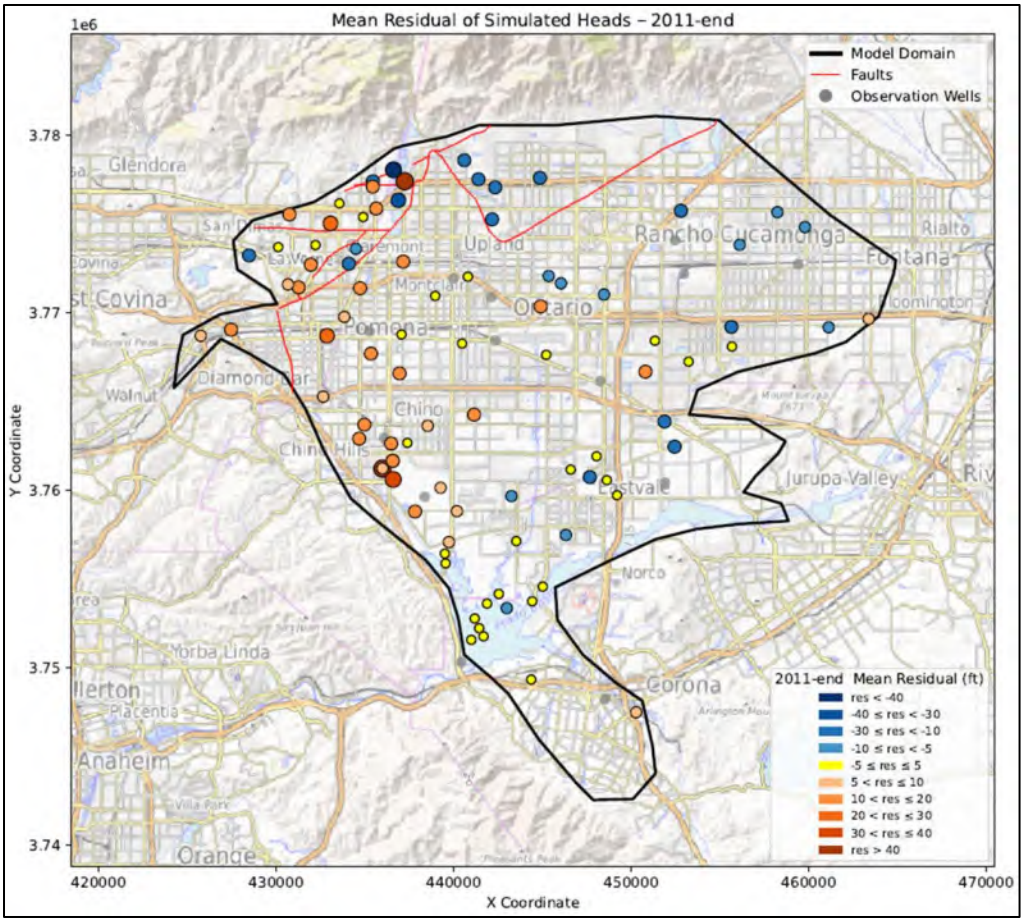


Figure 8. Map showing spatial distribution of groundwater level residuals and scatterplot comparing observed and simulated groundwater levels within the Chino Basin for FY 2001-2011.



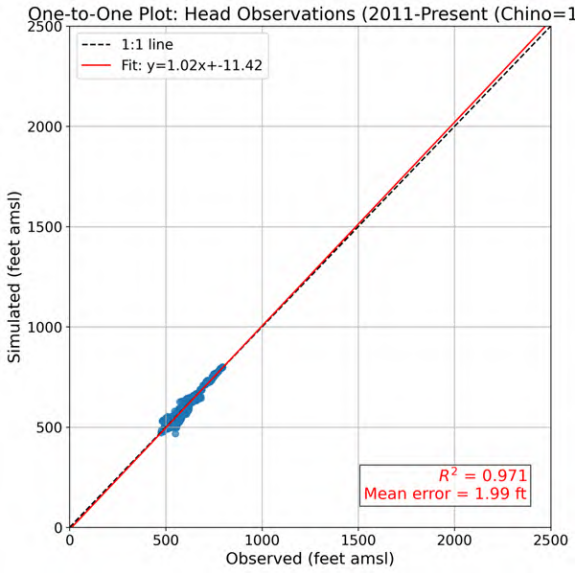


Figure 9. Map showing spatial distribution of groundwater level residuals and scatterplot comparing observed and simulated groundwater levels within the Chino Basin for FY 2011-2022.

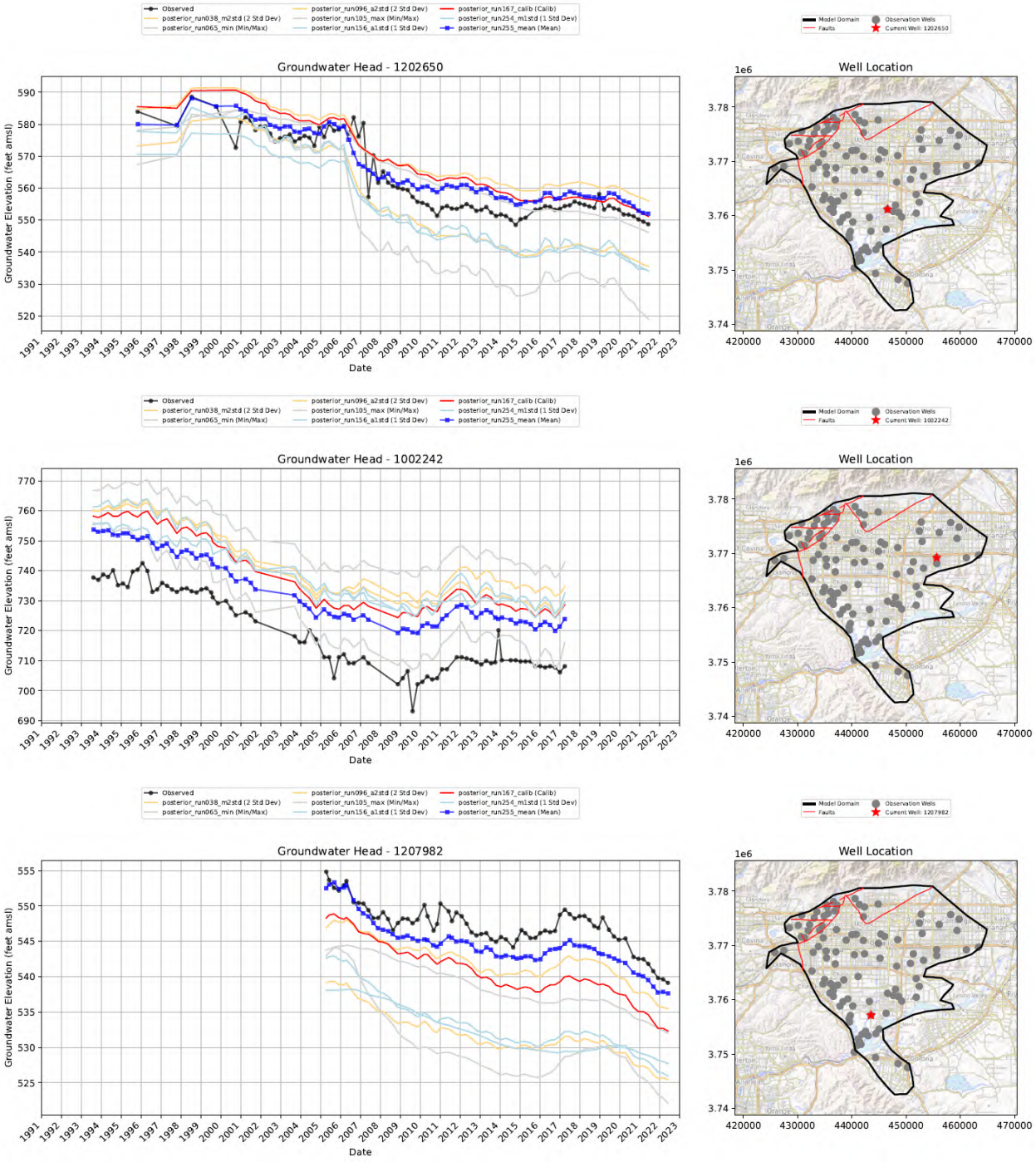


Figure 10. Time series plots comparing observed and simulated groundwater levels. Plots for all observations are provided in Appendix A.

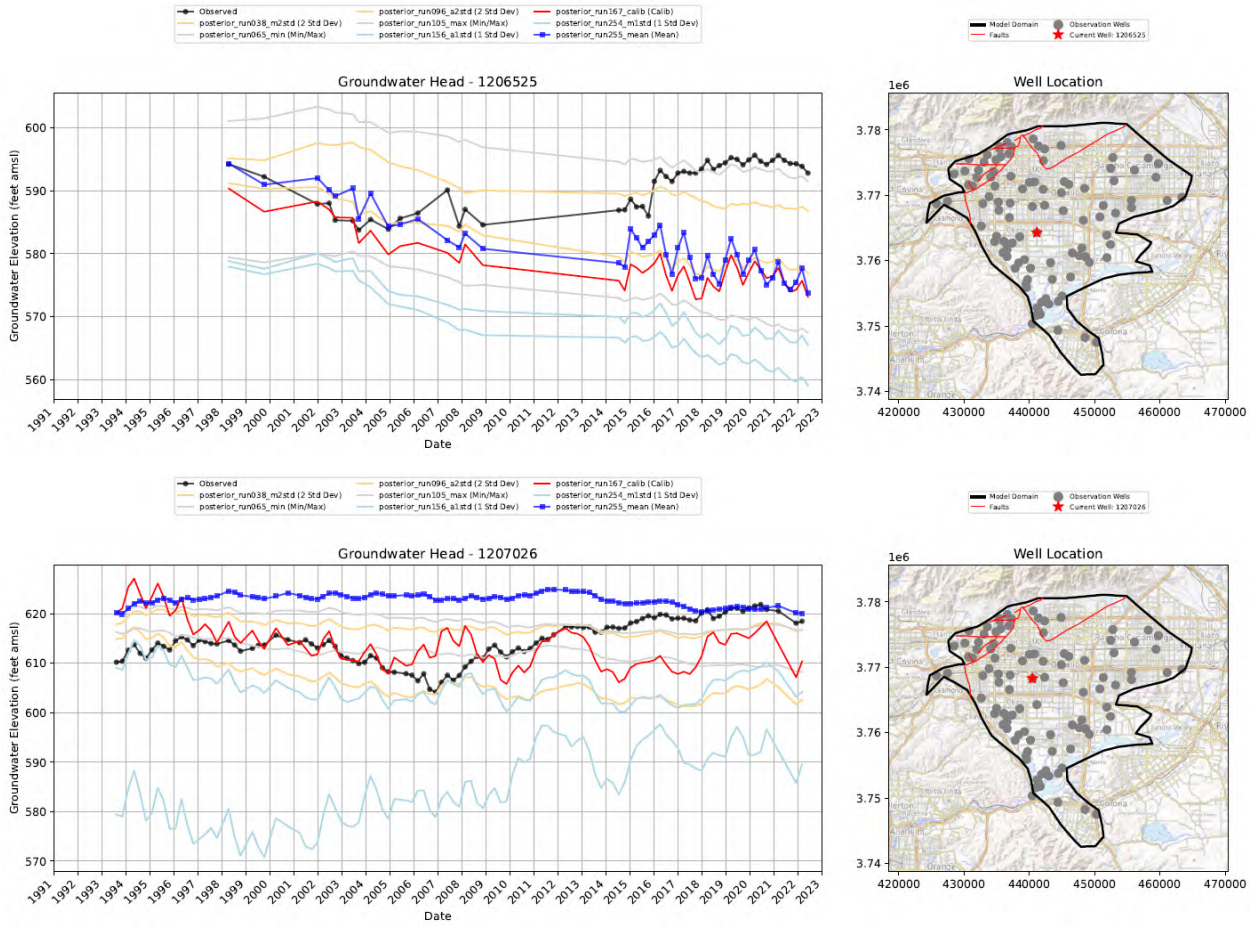


Figure 11. Time series plots comparing trends in observed and simulated groundwater levels.

Aquifer Properties

In addition to history-matching of observations, it is equally important that the calibrated aquifer parameters are within reasonable ranges. Overall, the calibrated values of aquifer properties are within reasonable ranges.

Boundary Conditions

Groundwater recharge, ET, and lateral inflow time series were changed during calibration by applying a multiplier to the recharge, ET, and inflow inputs. The calibrated ET multipliers were centered around 1.0 indicating that the overall ET is consistent with the inputs. However, recharge multipliers consistently reduced the applied recharge with a minimum, average, and maximum multiplier of 0.9, 0.94, and 1.0, respectively. The lateral inflow multipliers also reduced inflow rates, but to a lesser extent.

Given that the groundwater recharge was derived from the R4 Model, which was also validated as part of the 2025 SYR, changing groundwater recharge leads to a disconnect between different modeling systems that are

part of the same integrated system. It is recommended to avoid using recharge and lateral inflow multipliers as part of model calibration.

Model Calibration Findings

Streamflow and groundwater level observations on average, are well represented by the CVM. The calibrated aquifer properties are also within a reasonable range. However, there are specific issues that were identified during the peer review that can improve the Safe Yield estimation of the Chino Basin. To address these issues, following are the recommendations related to model calibration.

Key recommendations for streamflow observations include:

- Incorporate streamflow observations within PEST and increase their weighting to ensure that streamflow observations meaningfully contribute to the overall calibration objective function.
- Evaluate the reasonableness of surface headwater inflows to streams to confirm that upstream boundary conditions are appropriately represented.
- Consider integrating the R4 Model within the calibration framework to improve consistency between surface-water and groundwater systems and strengthen overall water-budget accounting.
- Consider incorporating cumulative streamflow volumes as additional observations to aid in the model calibration. This will help constrain the overall flow budgets of the system.

Key recommendations for groundwater level observations include:

- Avoid calibrating multipliers for DIPAW and lateral inflow.
- Consider storage change as an additional calibration target in the form of “head change” targets or “type-hydrographs” if cluster analysis is performed.
- Monitor calibration improvement in groundwater levels.
  - Address spatial bias in the model – north and east heads overestimated, west underestimated.
  - Ensure that recent trends showing increasing groundwater levels are well represented.

Additional recommendations for the CVM include:

- Address pumping curtailment in the model to ensure that all the prescribed pumping is simulated. Pumping curtailment happens automatically with MODFLOW-NWT when simulated water levels are too low. Consequently, the rate of groundwater extracted by the model may not match the specified extraction rate.
- Currently the head closure criteria is set to 15 feet. It is recommended to reduce this value to the extent practical. A maximum of one foot is recommended.
- Check if any pumping wells are co-located with a constant head boundary.
- Include stream inflows for the last stress period that are currently missing.

Uncertainty Quantification

The uncertainty quantification was facilitated by the software PESTPP-IES. Starting with the prior parameter ensemble based on manual calibration, two PESTPP-IES iterations were performed to generate hundreds of model realizations. Out of hundreds, five realizations labeled A-E were selected based on their net recharge estimates. The five realizations represented the mean, +/- one standard deviation, and +/- two standard deviations of net recharge, capturing a wide range of values representing model uncertainty. The range of net recharge values are shown in **Figure 12**.

To assess the effect of model calibration, net recharge was calculated for two more simulations in addition to the five selected realizations. The first model was the 'calibration' model. This model is one of the realizations that provided the lowest objective function, a measure of model calibration. The selected 'calibration' model is the same as the realization presented in the 2025 SYR report (West Yost, 2025) to illustrate model performance. The second model was the 'base' model. This model was simulated using the 'base' parameters that PESTPP-IES creates as a starting point for the subsequent calibration iteration. Net recharge values for the 'calibration' and the 'base' models are also shown in **Figure 12**. The net recharge calculated using the additional models is greater than the net recharge based on the 'mean' realization (Realization C) by 2,000 to 4,000 AFY. Note that the net recharge estimates are equivalent to Safe Yield estimates in terms of calculations, but the difference is the period over which the calculations are made. Net recharge computes average values for the simulation period FY 1992-2022 whereas Safe Yield calculations are made for the FY 2021-2030 period.

To account for measurement uncertainty, PESTPP-IES offers an option to introduce measurement noise in the calibration process. Measurement noise was introduced for both the streamflow data and groundwater level data. An example histogram of the introduced noise is shown in **Figure 13**. For streamflow data, the noise creates negative values that are physically meaningless. Moreover, the observation at Prado Dam is a key observation that is closely monitored and has a long period of record and therefore, it is questionable whether observation noise should be considered for that observation. It is recommended that measurement noise should be avoided for streamflow observations.

With regards to groundwater level observations, **Figure 13** shows that more than 30 feet of noise was introduced during the calibration process and **Figure 14** shows the time series of the randomized noise. The approach of introducing randomized and uncorrelated noise can mislead the calibration process and potentially lead to misrepresentation of trends. The use of uncorrelated observation noise for time-series hydrographs can also artificially reduce uncertainty estimates. Based on these findings, it is recommended that introducing noise be avoided, and if needed a systematic approach be used rather than using randomized noise. A systematic approach will retain the head changes observed within a hydrograph, which is an essential component when Safe Yield estimation is the principal objective of the model.

Following is a summary of findings and recommendations for uncertainty quantification:

- Model uncertainty is not fully captured. Several observations are outside of the modeled range provided by selected realizations.

- Enhance model uncertainty quantification by basing representative model realizations on both calibration quality and net recharge variability.
- Avoid the use of random noise in observations.
  - » Avoid streamflow observation noise.
  - » Avoid observation noise in groundwater, if possible; or use systematic noise that retains temporal changes in individual hydrographs to capture change in storage.
- In the report (West Yost, 2025):
  - » Add uncertainty bands around groundwater level time-series plots in Appendix B.
  - » Presenting calibration realization does not provide insights into how the model that is selected for Safe Yield calculations is really performing. It is recommended that calibration results for the 'mean' realization (Realization C) be presented in the report since it forms the basis of Safe Yield estimates.

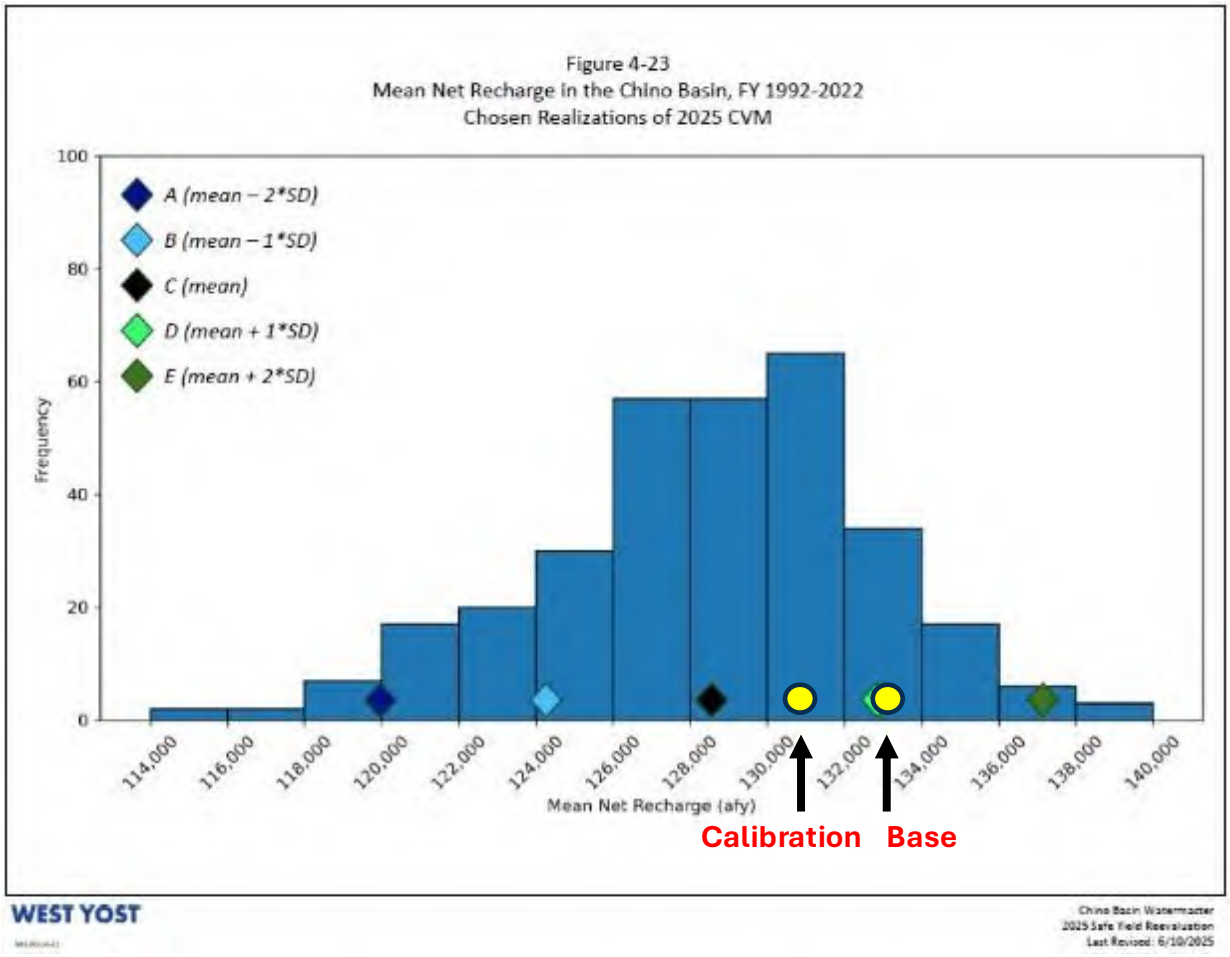
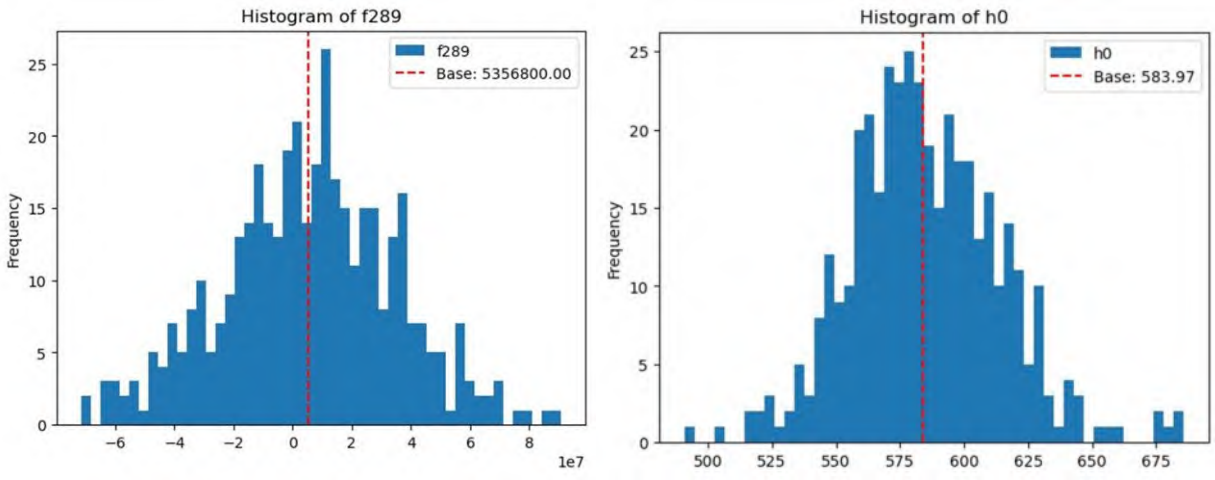


Figure 12. Comparison of net recharge estimates between selected realizations and calibrated simulations (*background image reproduced from West Yost (2025) Figure 4-23 of the Draft 2025 SYR*).



(a) (b)

Figure 13. Examples of observation noise used as part of model calibration for (a) streamflow; and (b) groundwater levels.

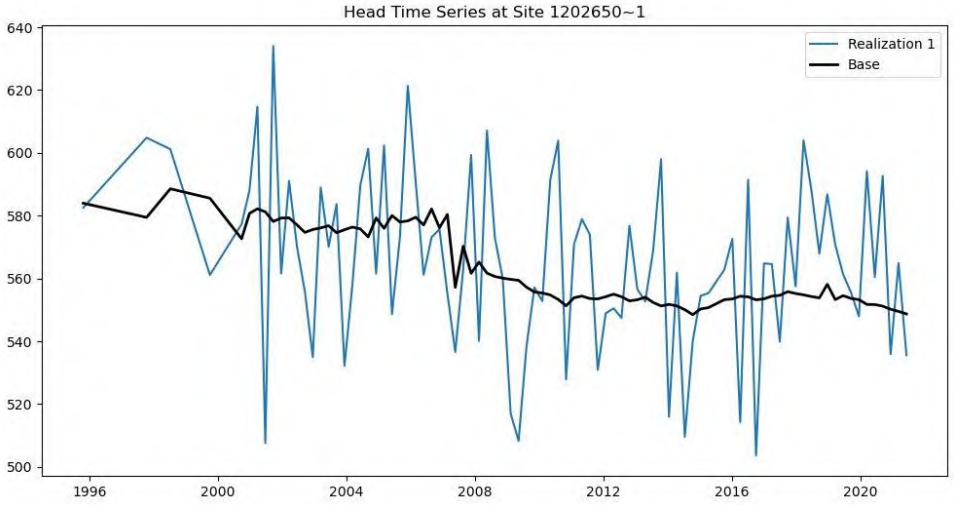


Figure 14. An example of randomized hydrograph observation noise used as part of model calibration for groundwater levels.

Conclusions

The peer review documented in this report examined several aspects relevant to the estimation of Safe Yield and the associated uncertainties for the Chino Basin. The Draft 2025 SYR demonstrates significant technical rigor and advances over previous evaluations. The CVM is fundamentally sound and provides a credible basis for Safe Yield estimation. Addressing the recommended improvements will strengthen the defensibility of the Final 2025 SYR.

This review leads to the following overarching recommendations. Details associated with each recommendation are provided in the respective sections of this report.

1. Develop integrated water budgets.
2. Refine model calibration to improve the accuracy of Safe Yield estimates.

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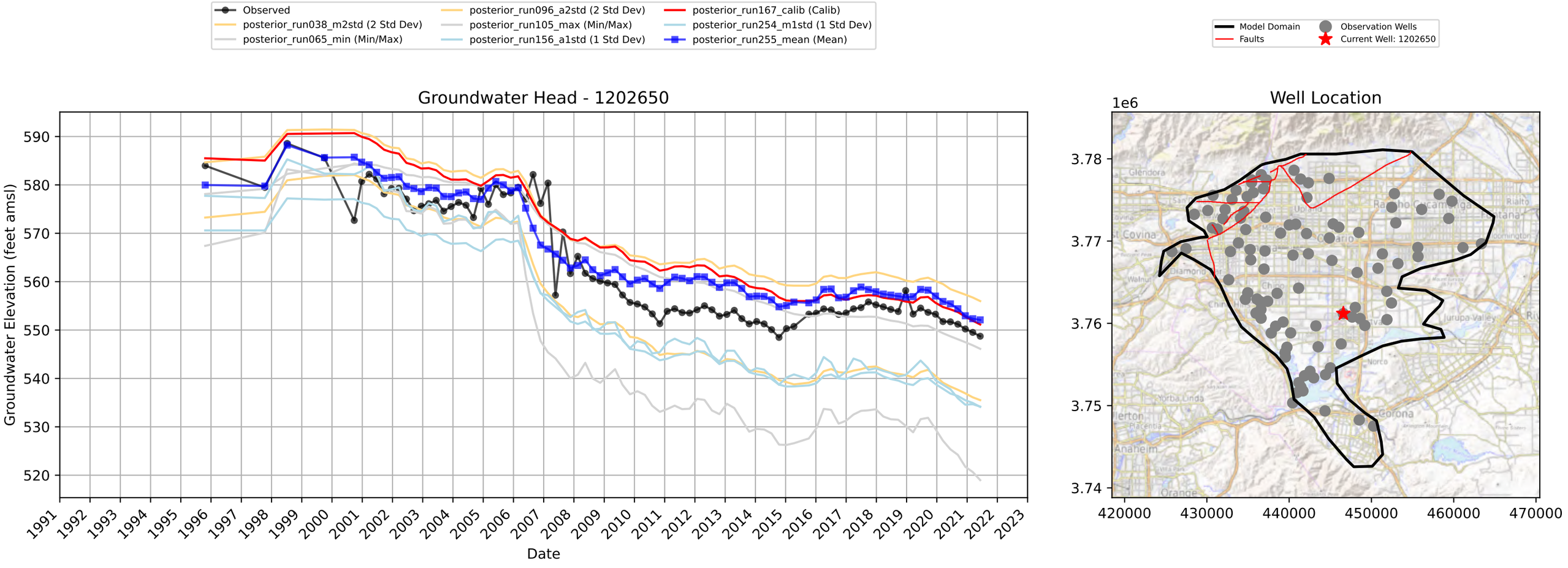
Appendix A

Time Series Plots Comparing Observed and Simulated Groundwater Levels


Observed
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posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
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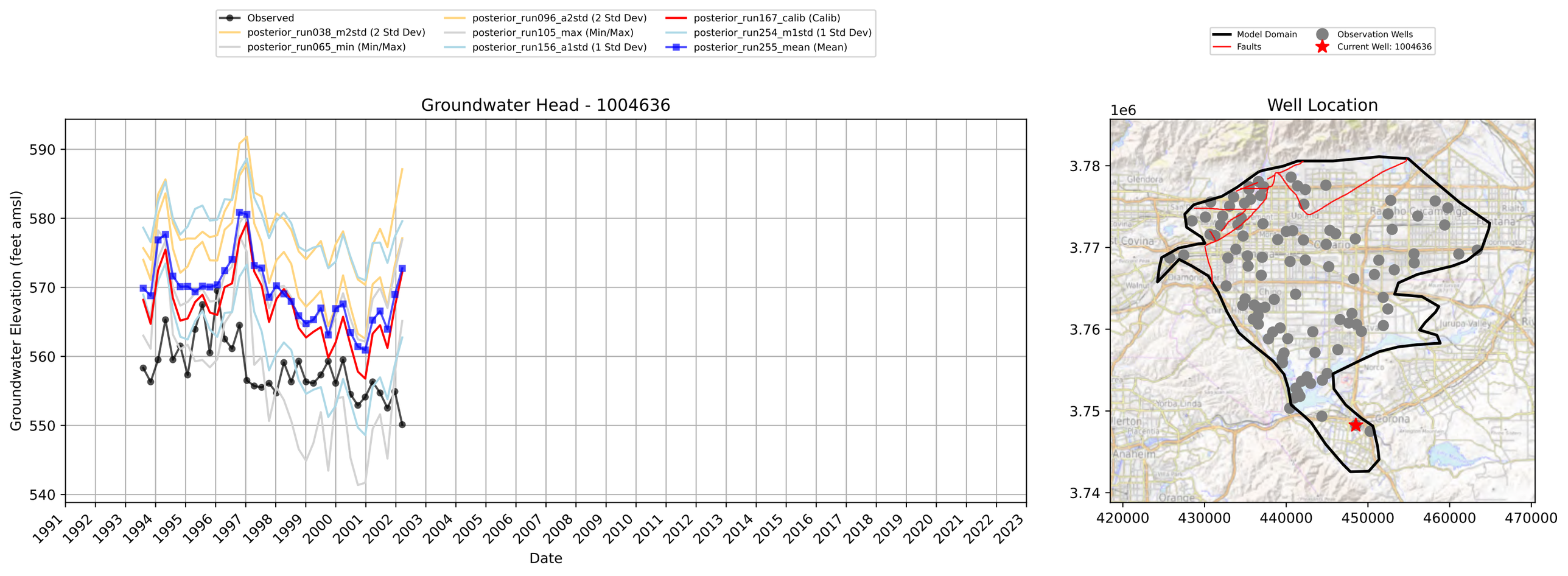
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1202650
Well Location
1e6


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
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posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
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Groundwater Elevation (feet amsl)
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Faults
Observation Wells
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Well Location
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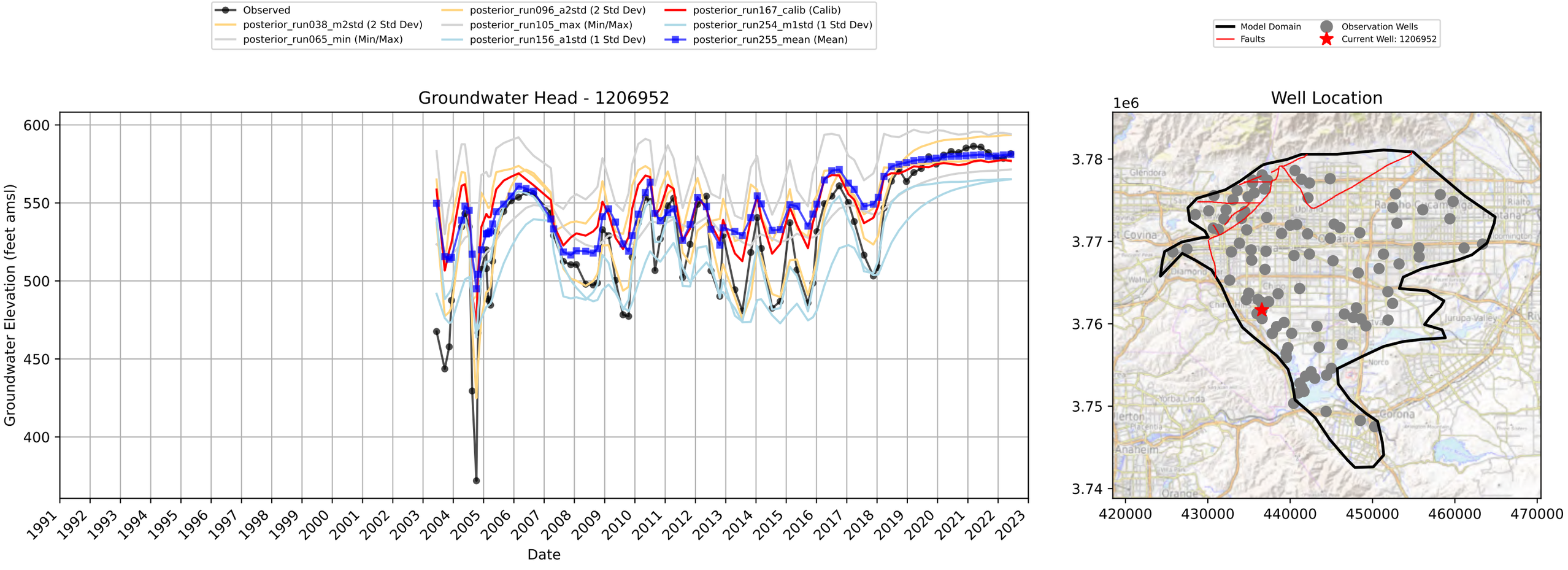
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posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
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Groundwater Elevation (feet amsl)
600
550
500
450
400
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1206952
Well Location
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3.76
3.75
3.74
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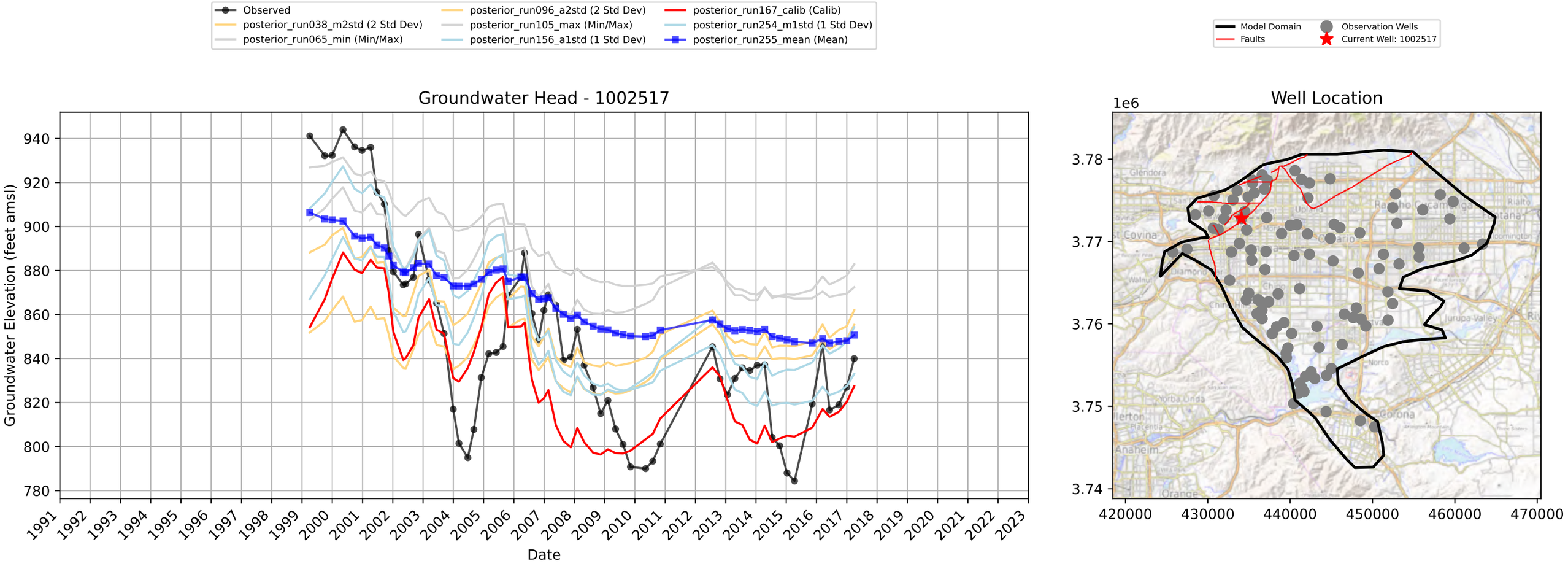
Norco
Yorba Linda
Corona
Anaheim
Orange
Jurupa Valley


Observed
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posterior_run156_a1std (1 Std Dev)
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Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002517
Well Location
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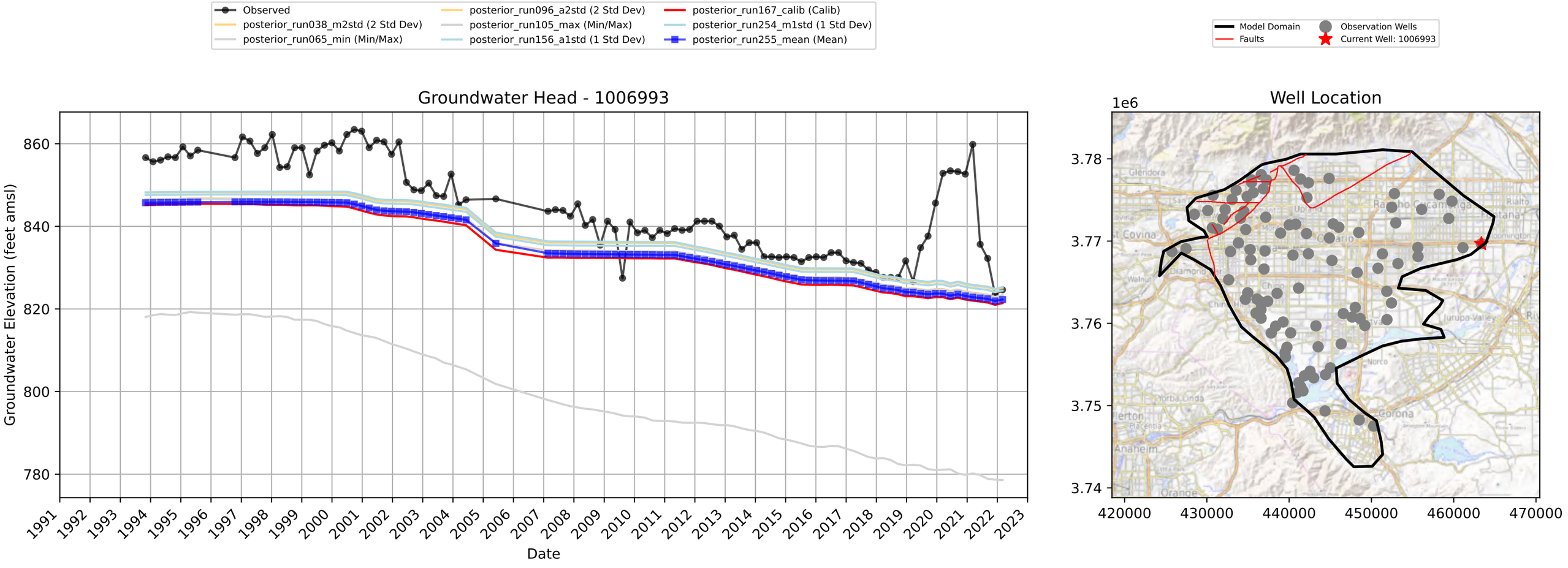
Observed
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posterior_run096_a2std (2 Std Dev)
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posterior_run156_a1std (1 Std Dev)
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posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
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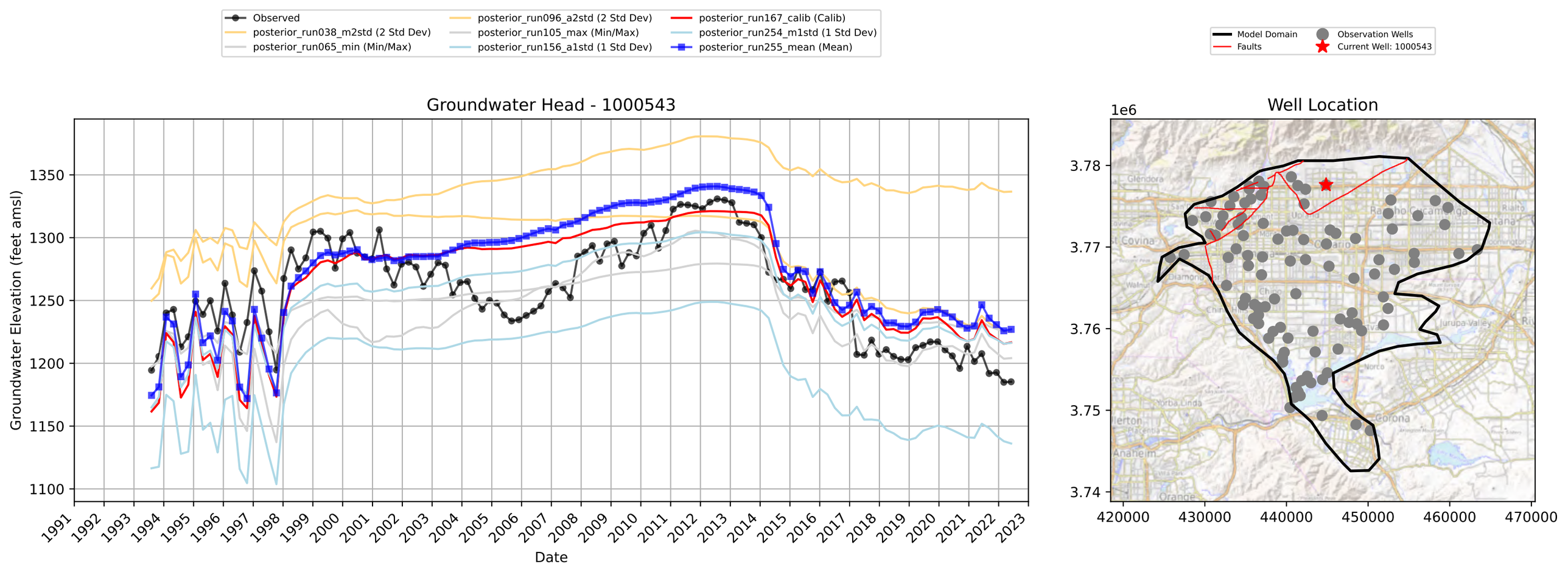
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1006993
Well Location
1e6


Observed
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posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
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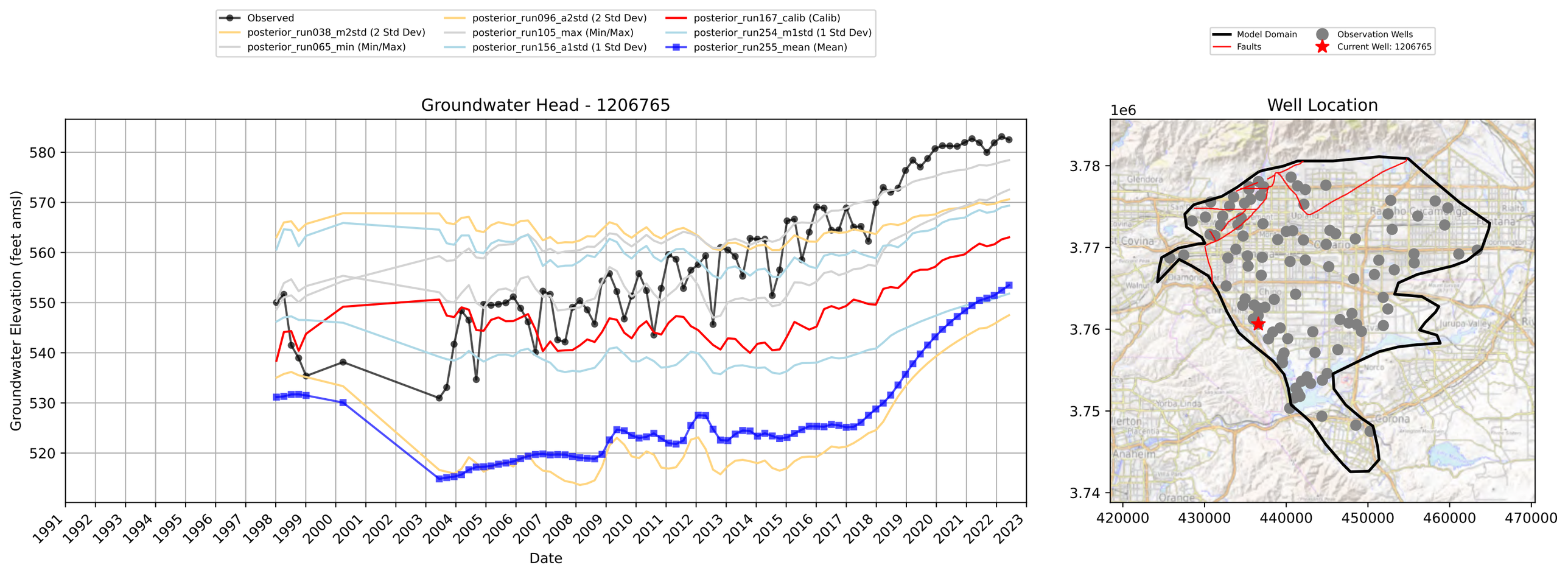
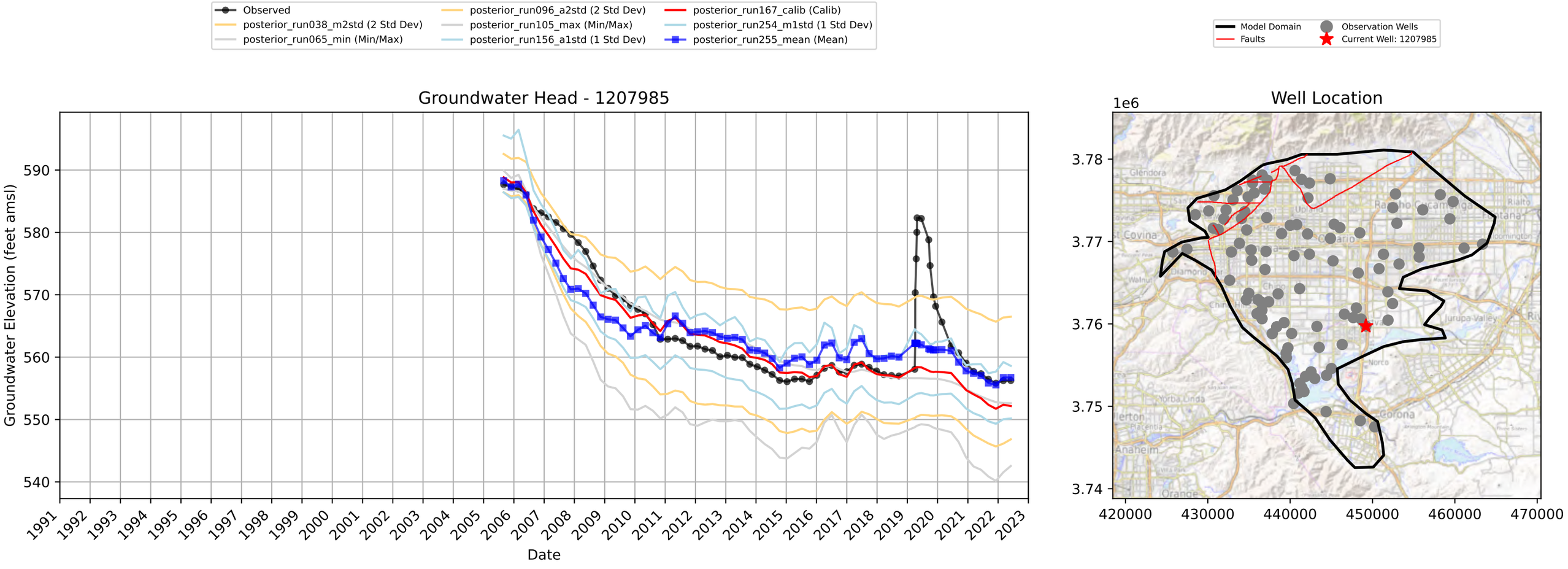
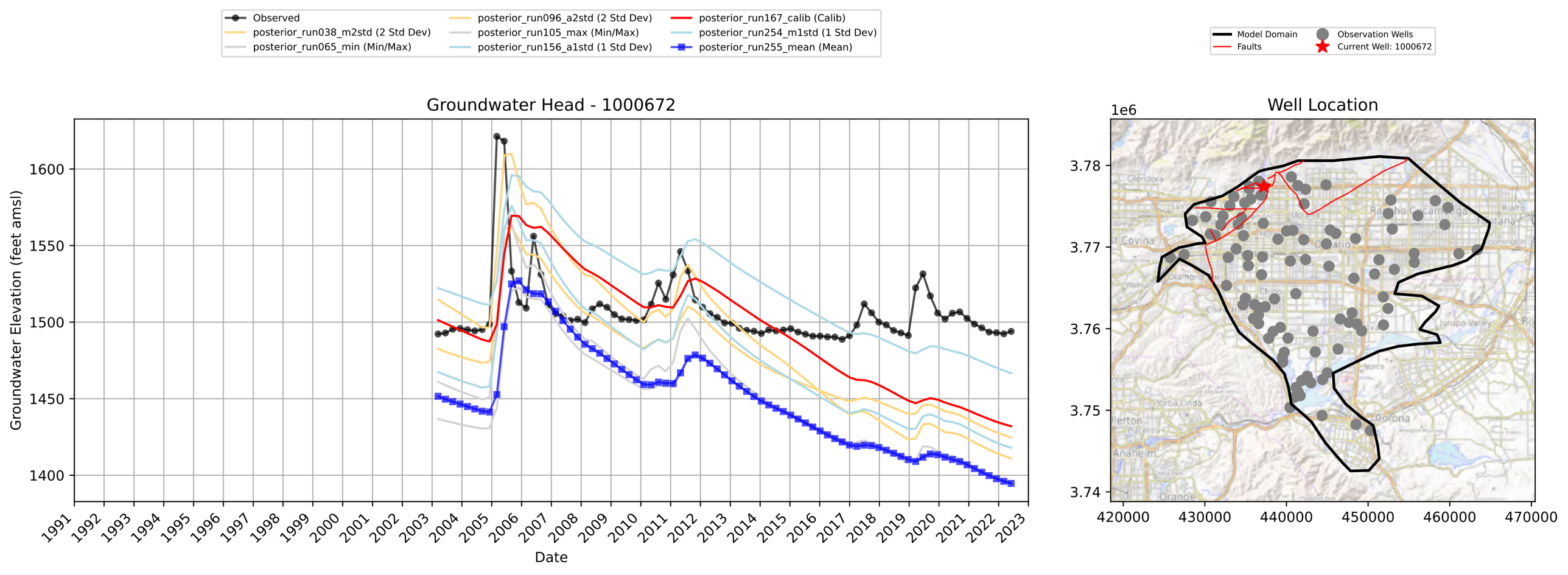
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1000543
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1000543
Well Location
1e6


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1206765
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1206765
Well Location
1e6


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1207985
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1207985
Well Location
1e6


Observed
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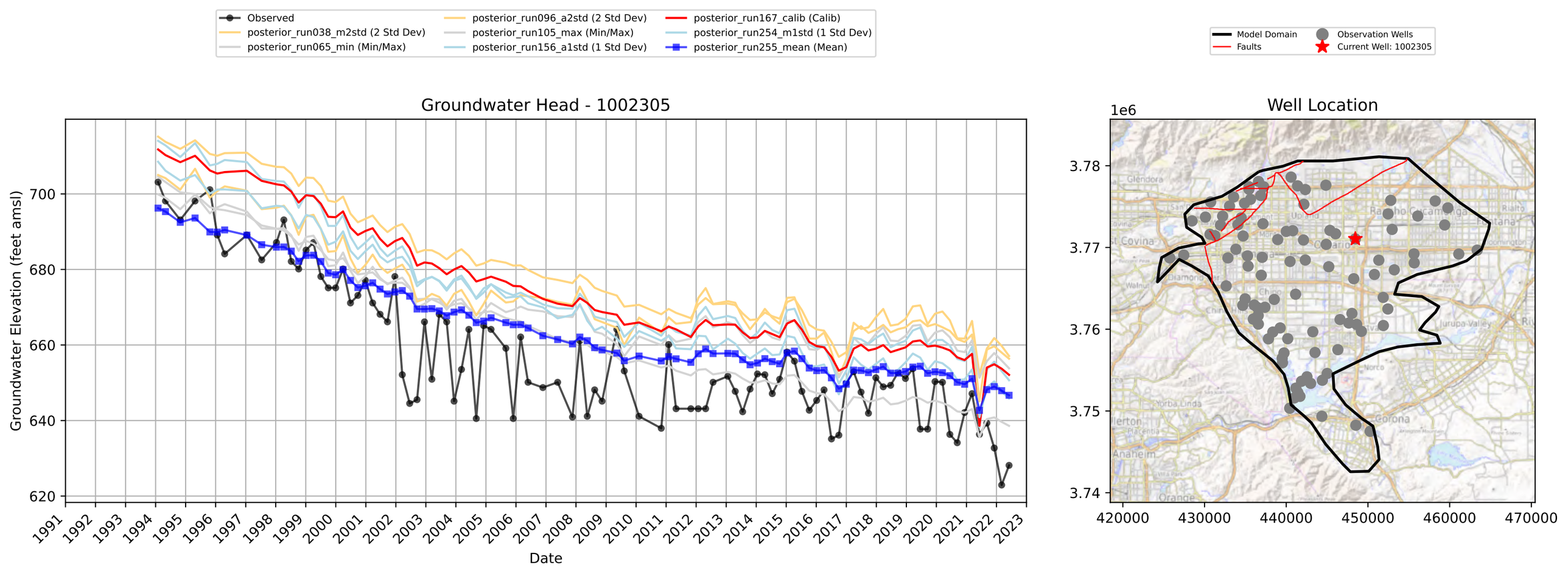
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1000672
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1000672
Well Location
1e6


Observed
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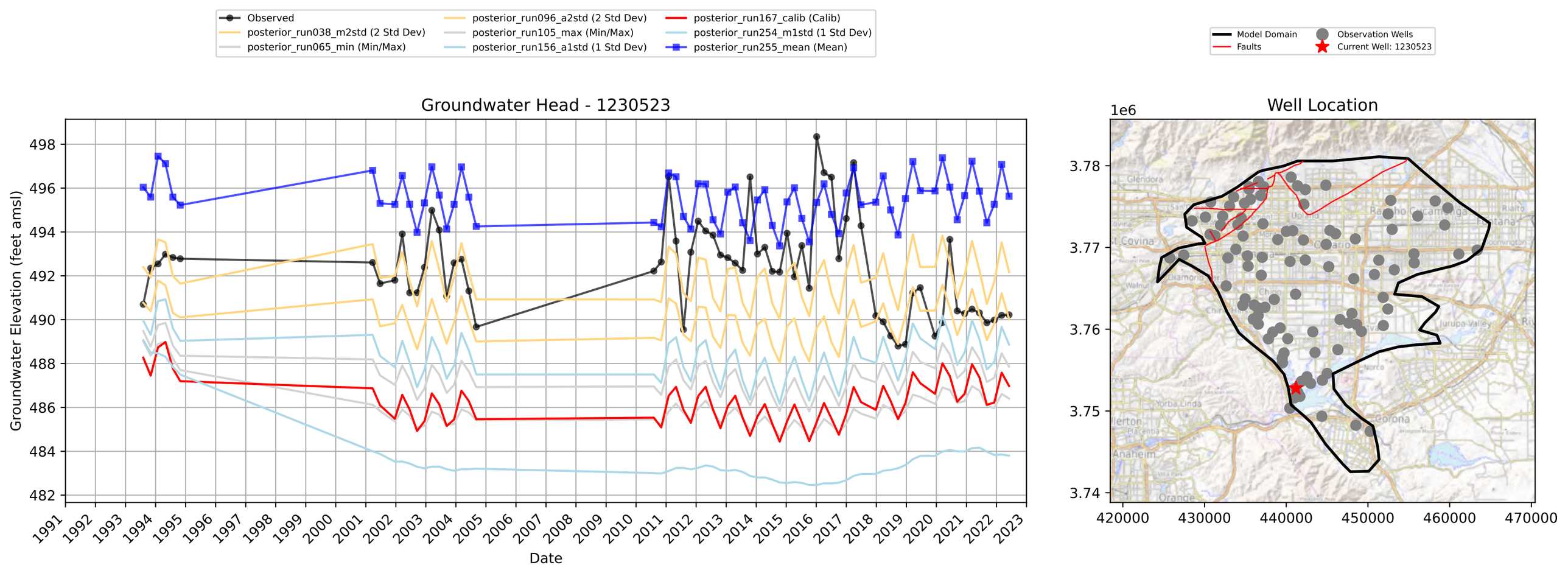
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002305
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002305
Well Location
1e6


Observed
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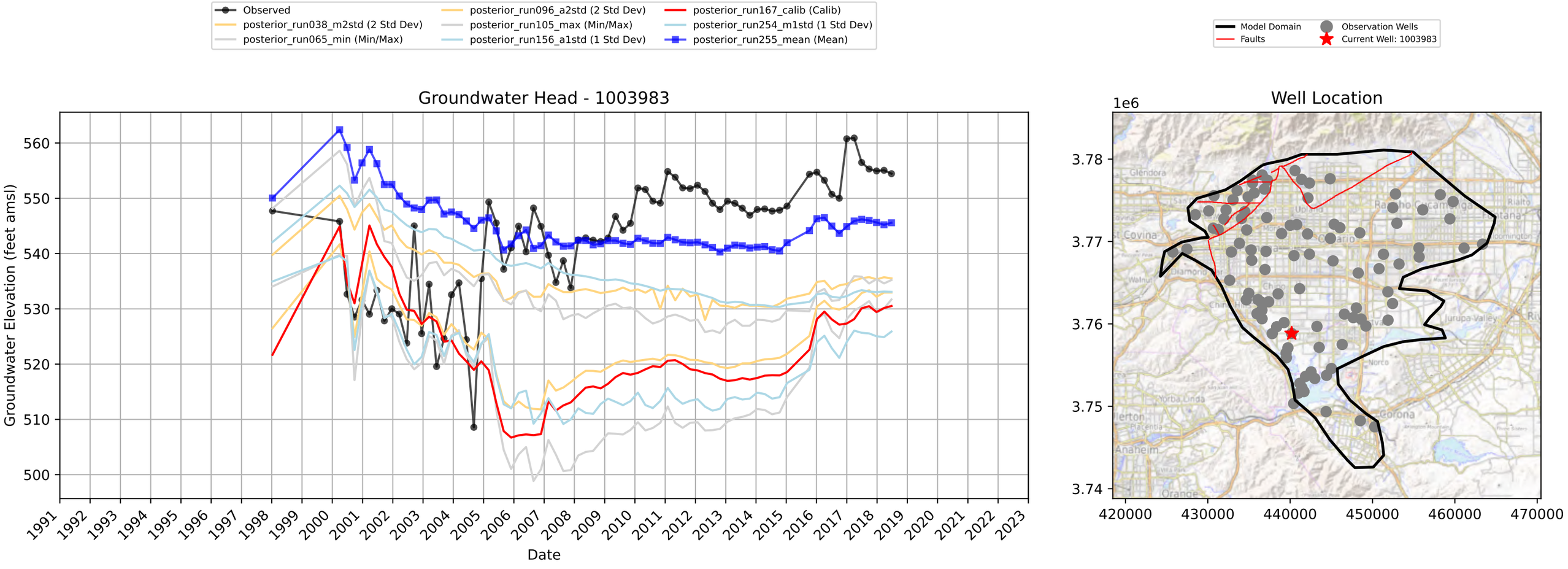
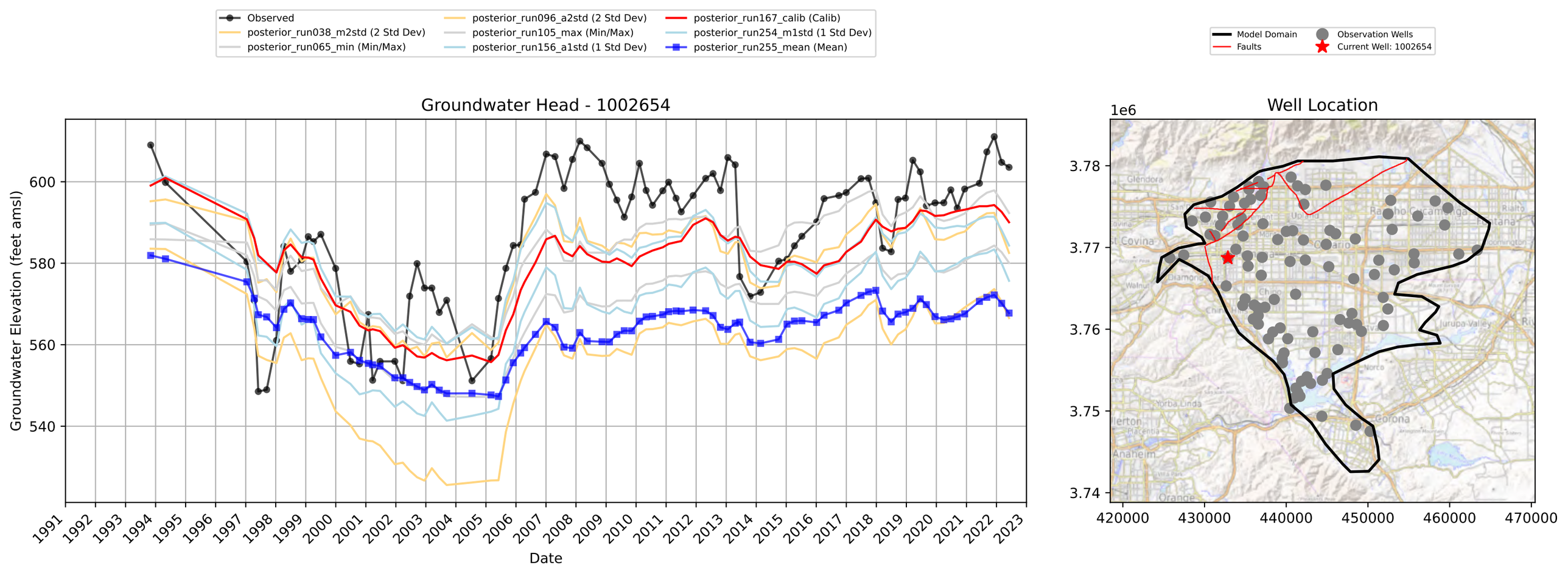
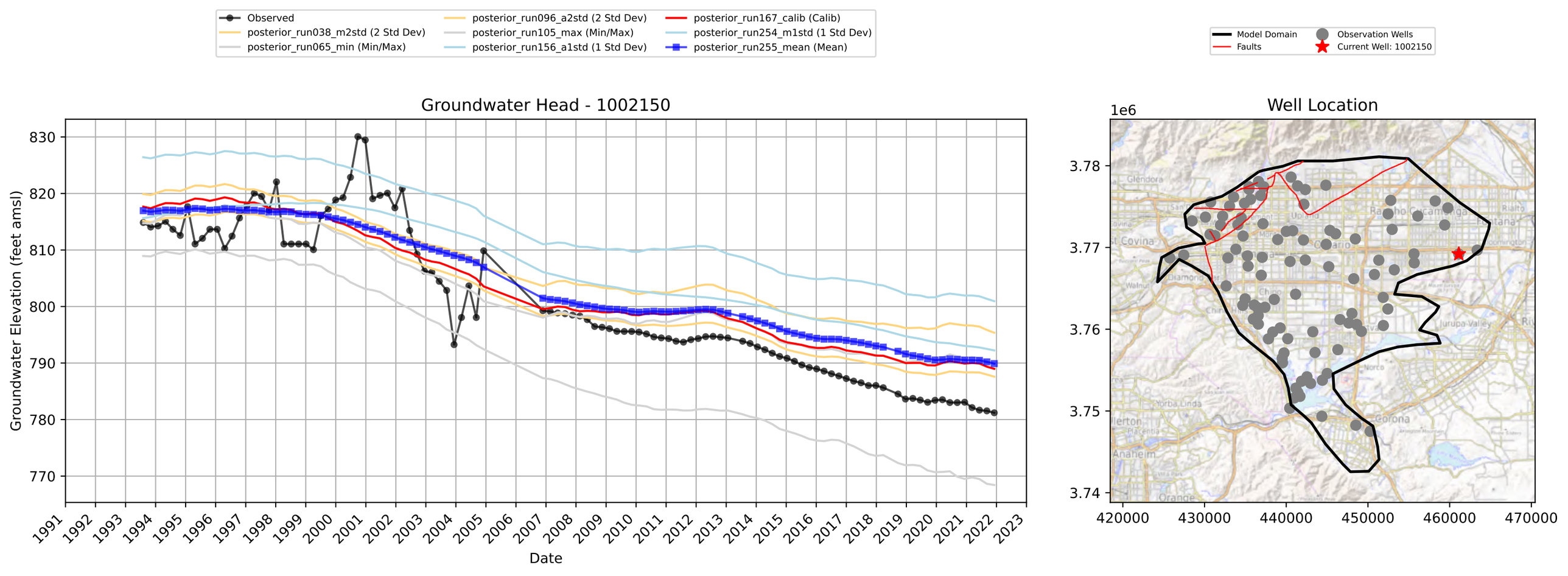
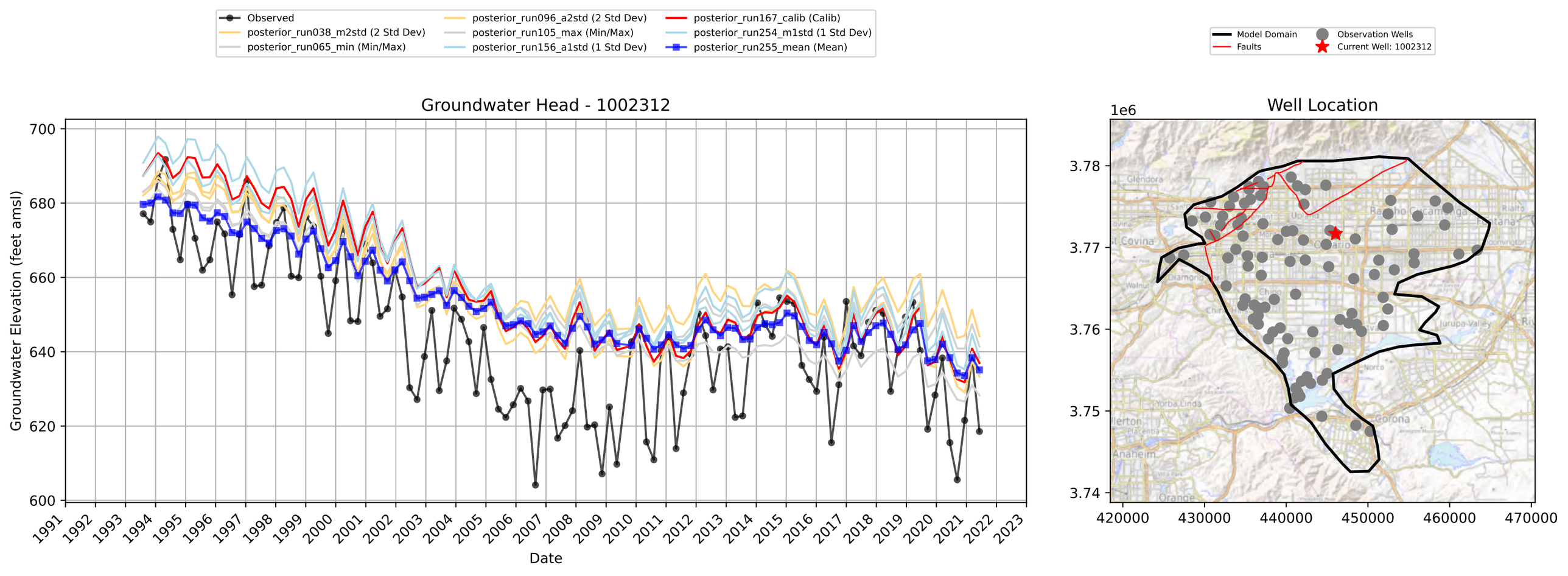
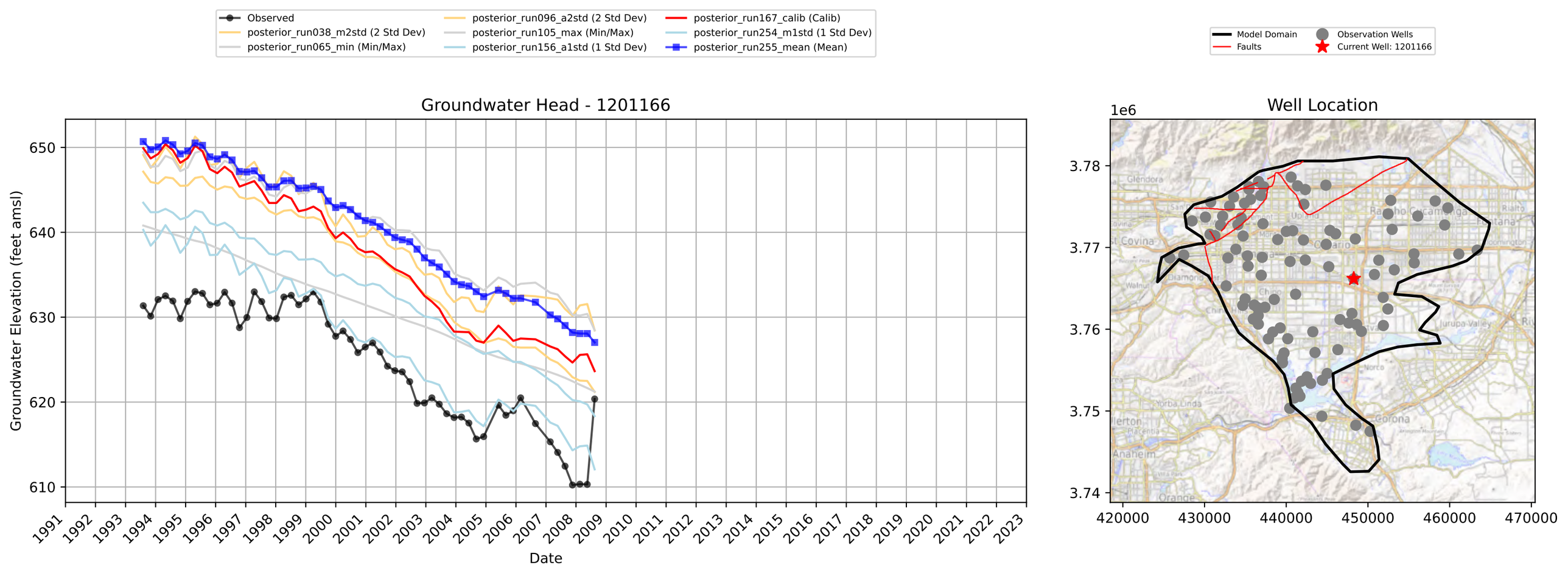
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1230523
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1230523
Well Location
1e6

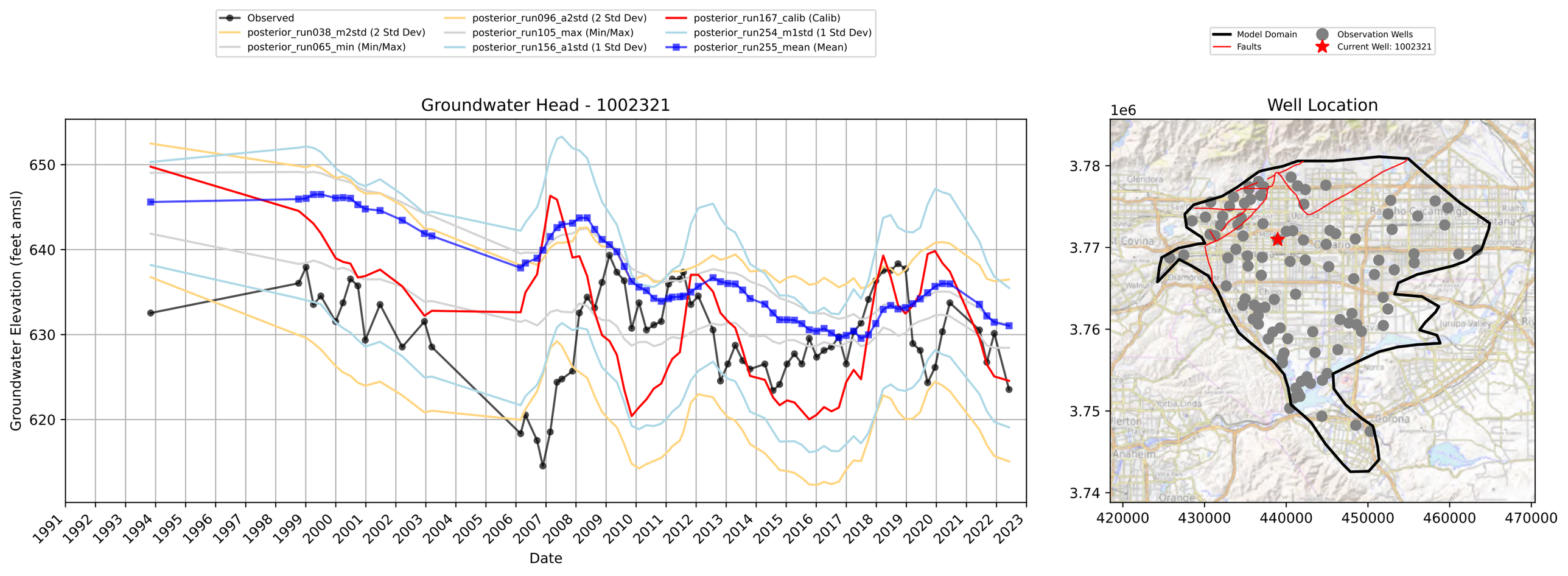

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1003983
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1003983
Well Location
1e6

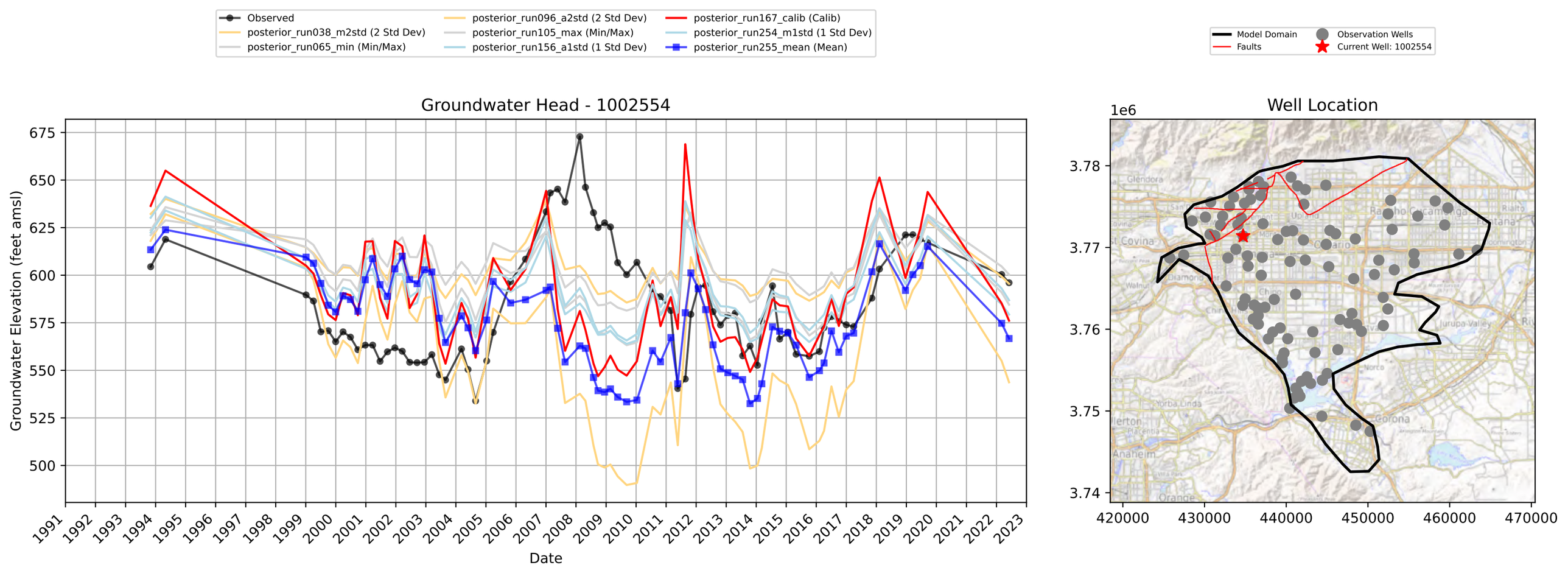

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002654
Groundwater Elevation (feet amsl)
600
580
560
540
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1002654
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Diamond
Chino
Jurupa Valley
Norco
Yorba Linda
Corona
Anaheim
Orange


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002150
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002150
Well Location
1e6


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002312
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002312
Well Location
1e6


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1201166
Groundwater Elevation (feet amsl)
650
640
630
620
610
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1201166
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Corona
Norco
Anaheim
Orange
Jurupa Valley
Rialto


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002321
Groundwater Elevation (feet amsl)
650
640
630
620
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1002321
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Diamond
Chino
Jurupa Valley
Norco
Yorba Linda
Corona
Anaheim
Orange


Observed
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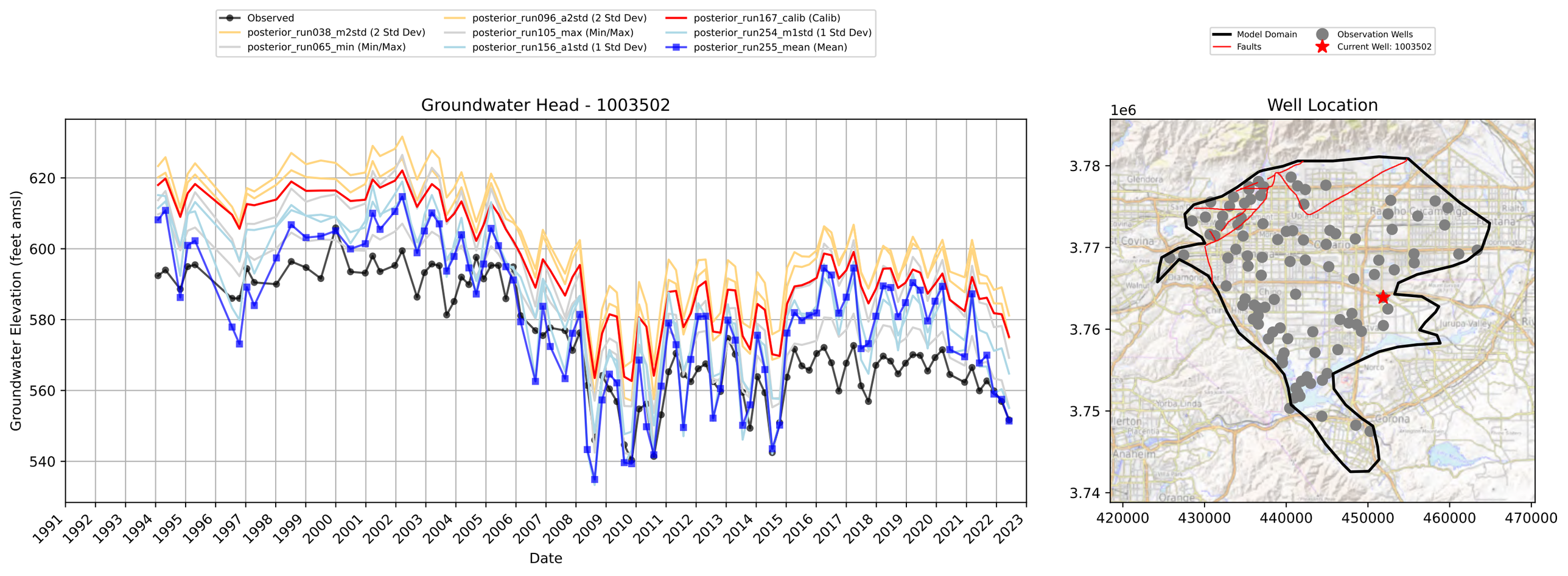
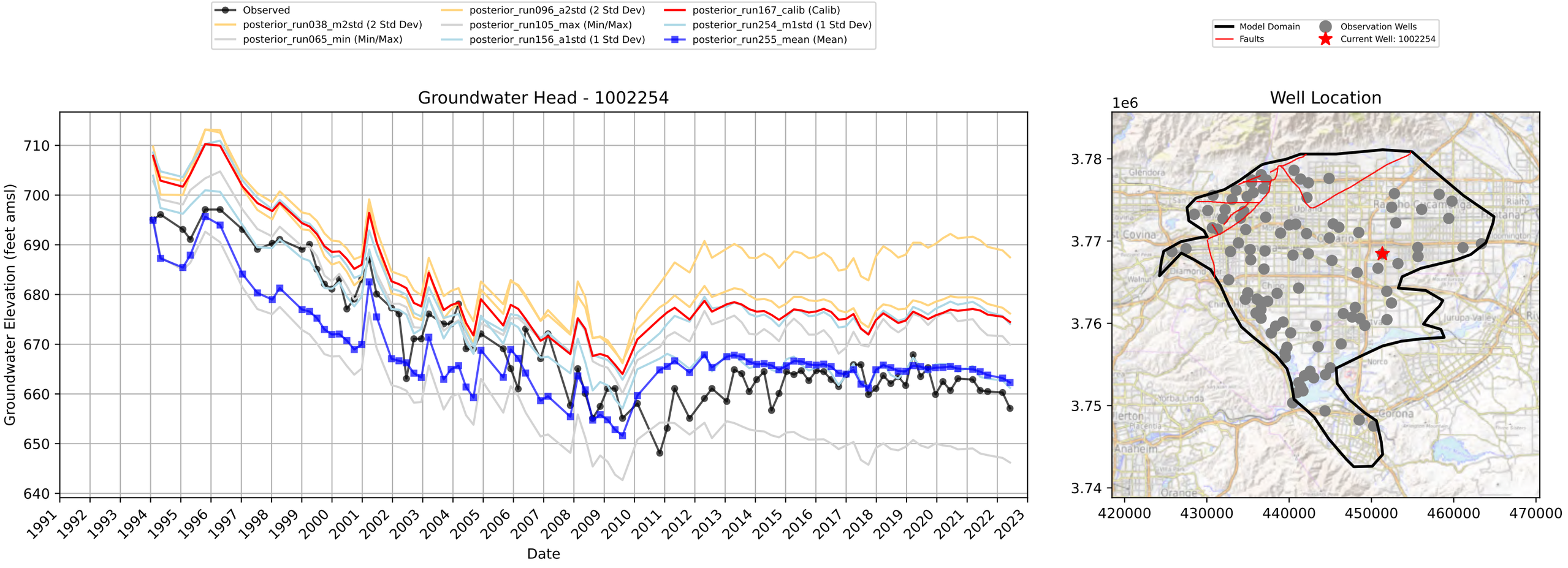
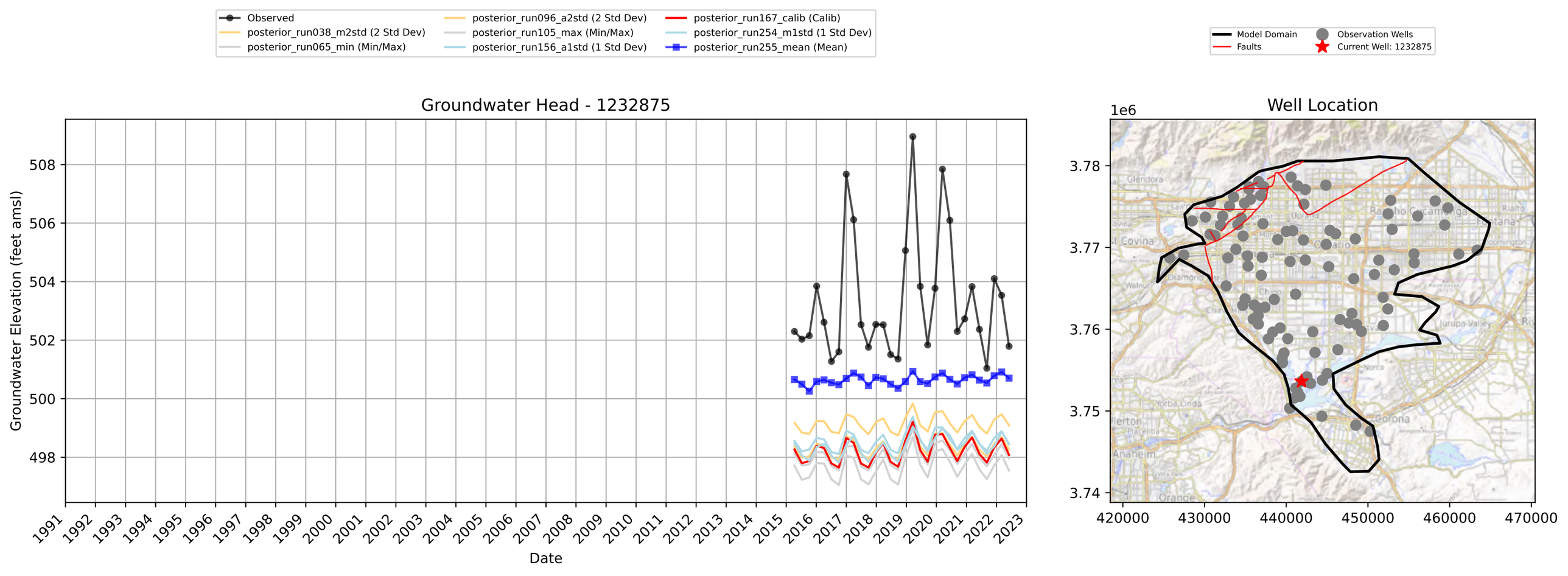
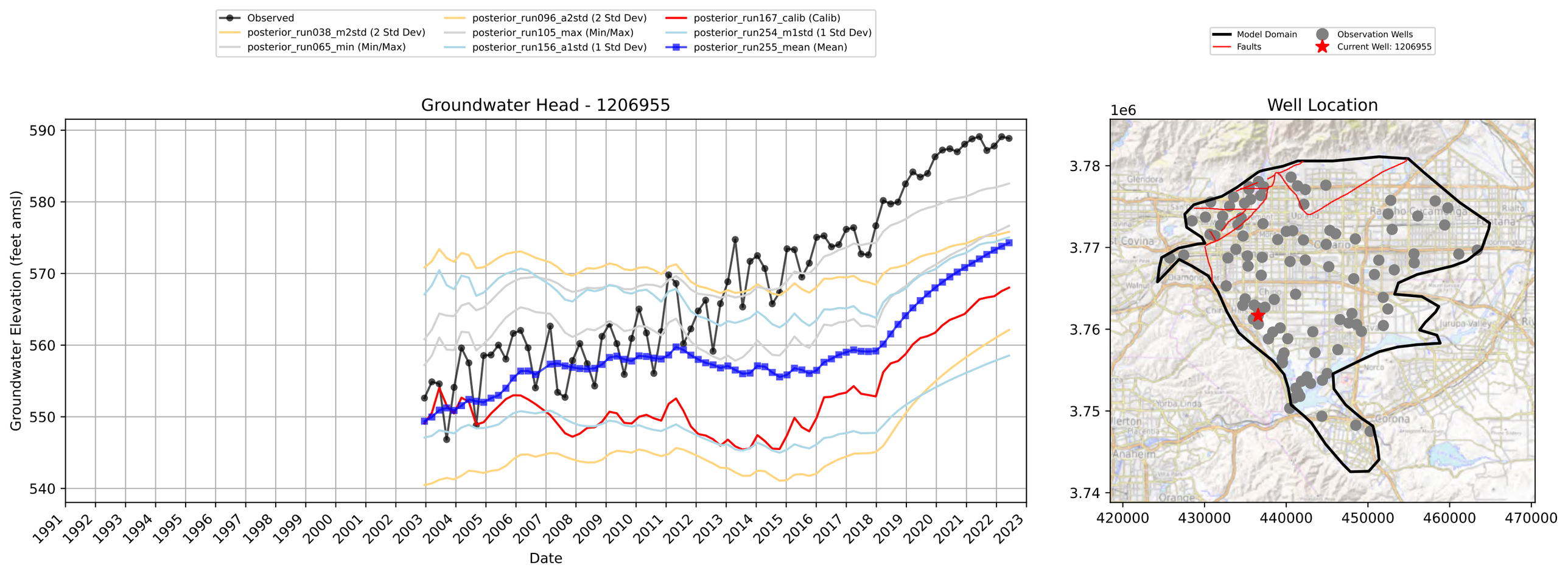
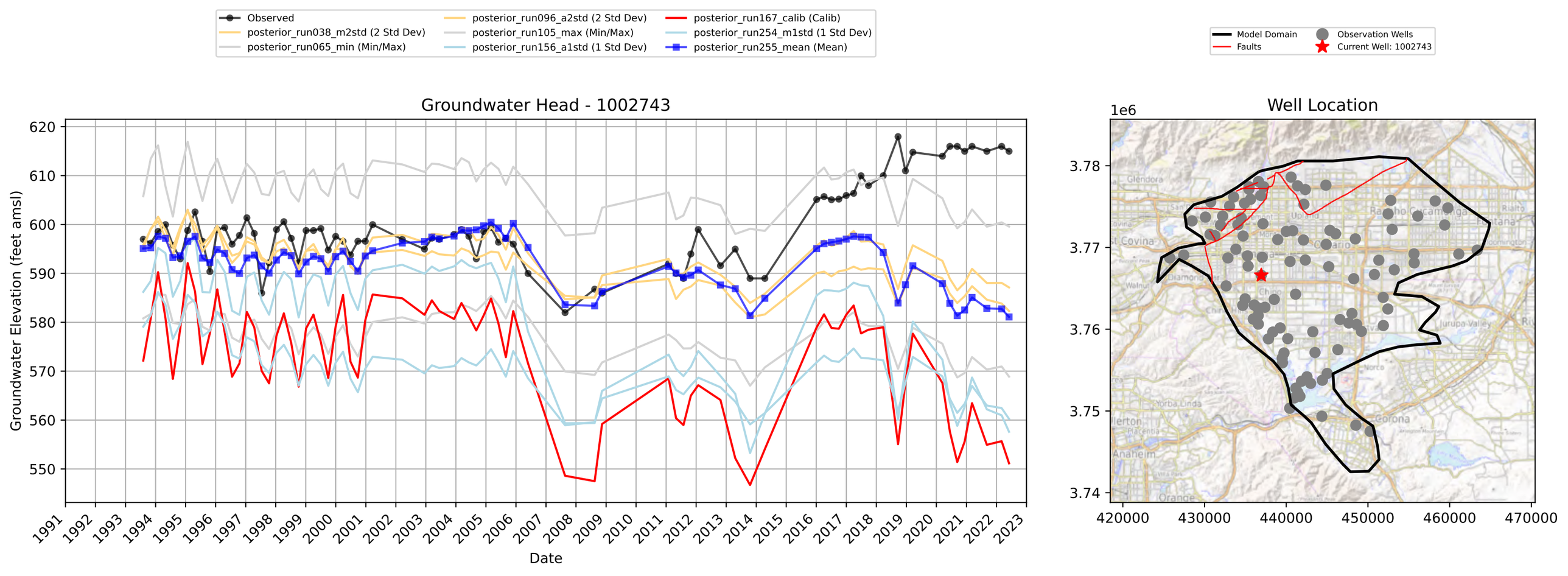
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002554
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002554
Well Location
1e6

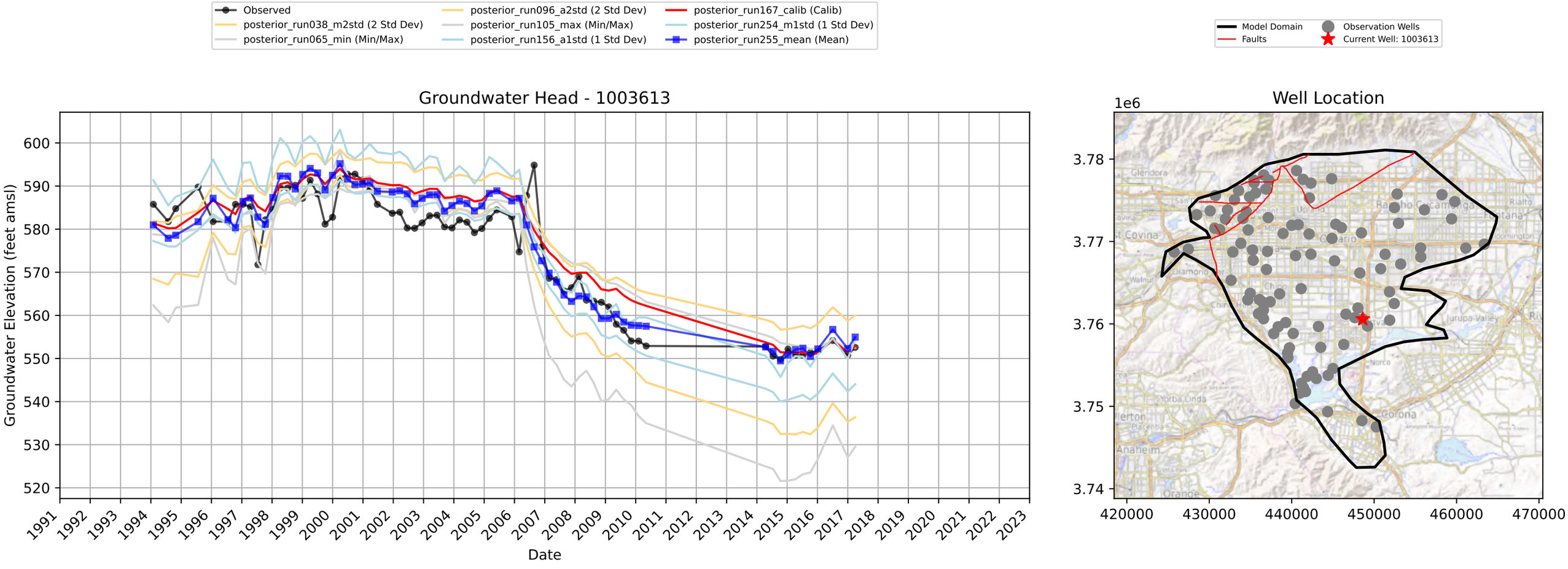

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1003502
Groundwater Elevation (feet amsl)
620
600
580
560
540
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1003502
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Diamond
Chino
Norco
Corona
Yorba Linda
Anaheim
Orange
Jurupa Valley

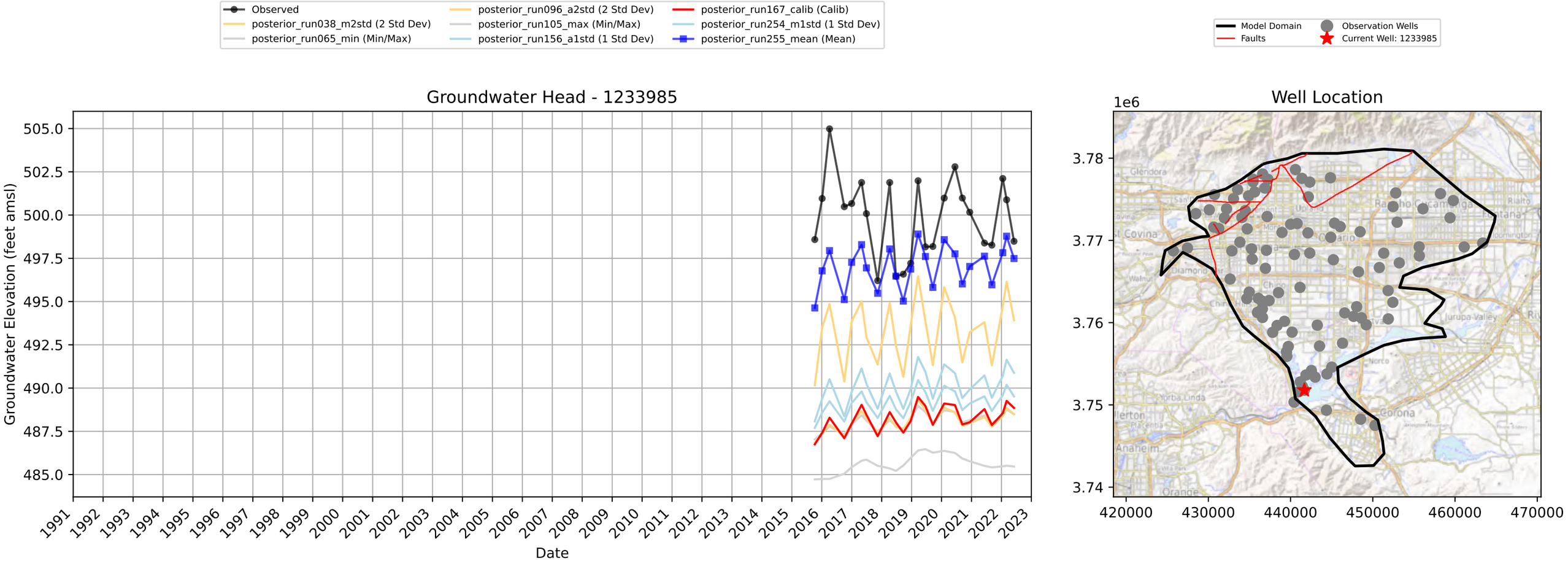

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002254
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002254
Well Location
1e6

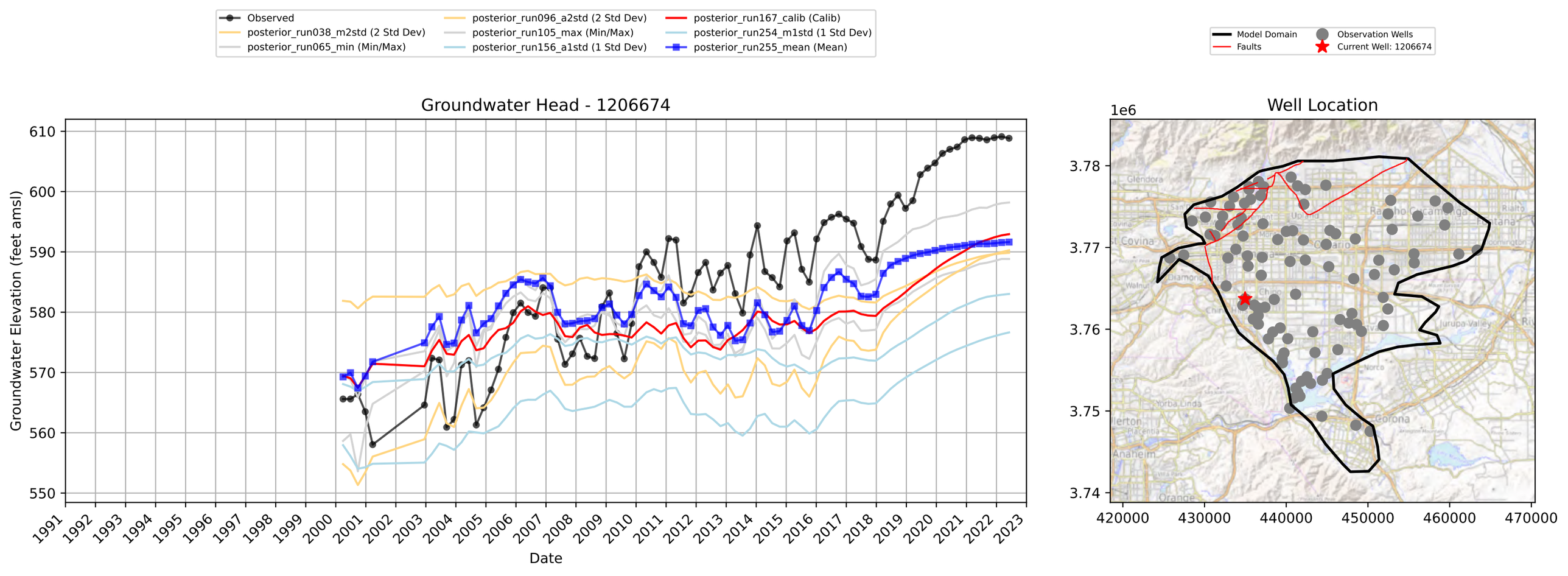

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1232875
Groundwater Elevation (feet amsl)
508
506
504
502
500
498
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1232875
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Diamond
Chino
Rancho Cucamonga
Rialto
Fontana
Jurupa Valley
Norco
Corona
Yorba Linda
Anaheim
Orange

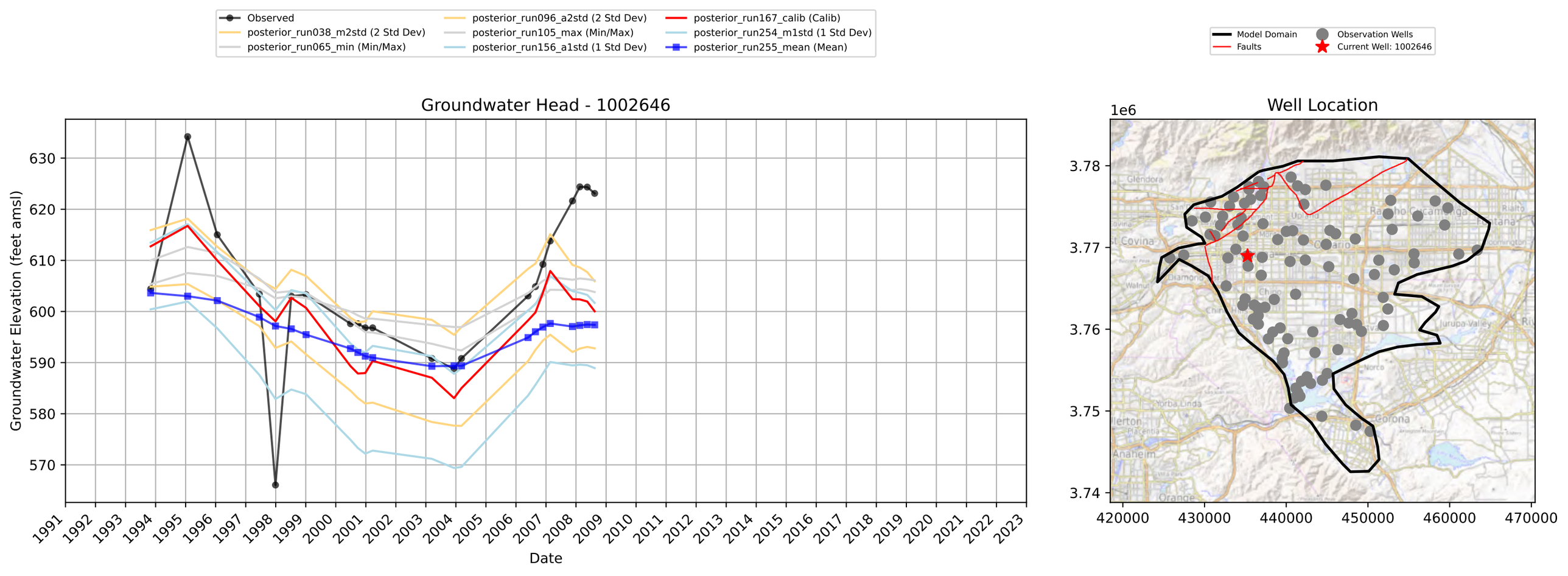

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1206955
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1206955
Well Location
1e6

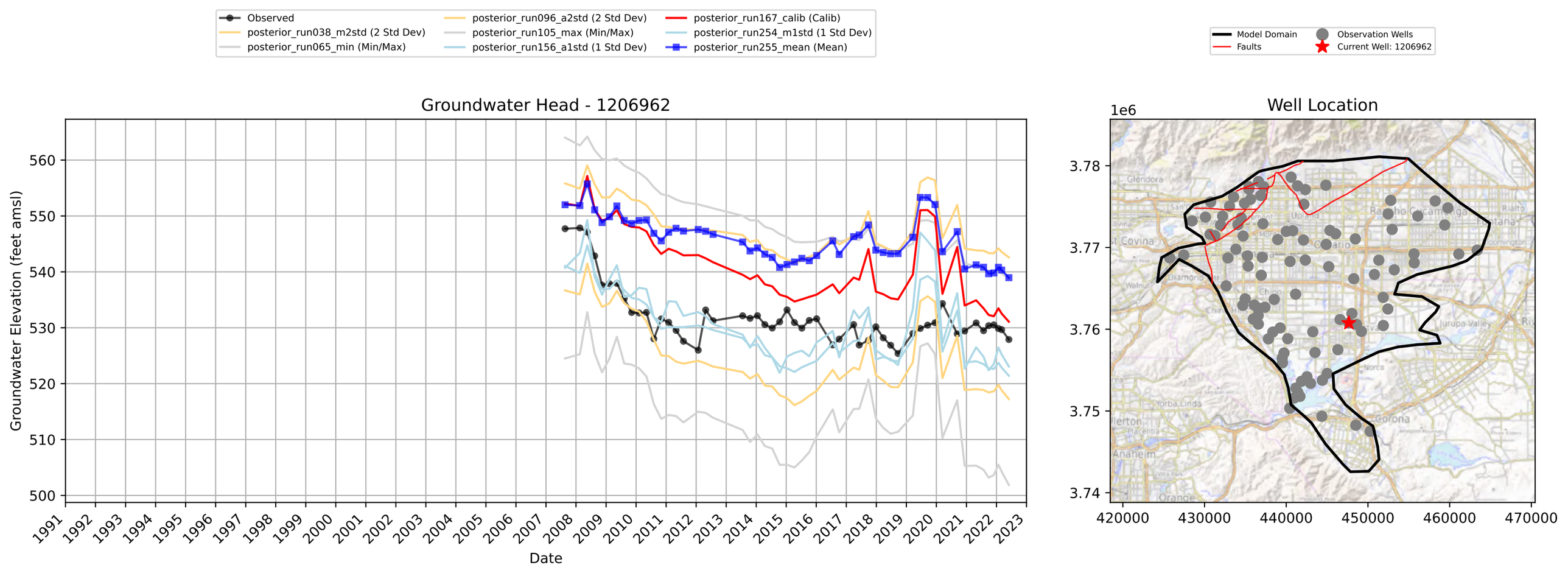

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002743
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002743
Well Location
1e6

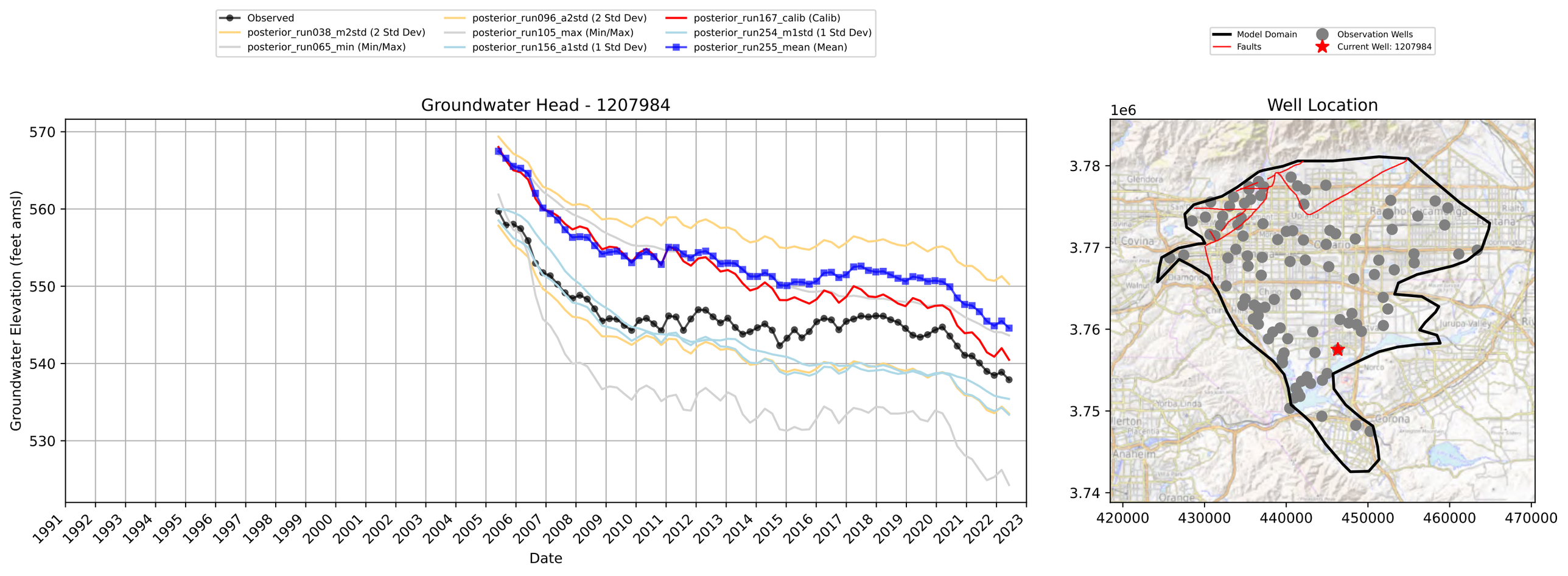

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1003613
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1003613
Well Location
1e6

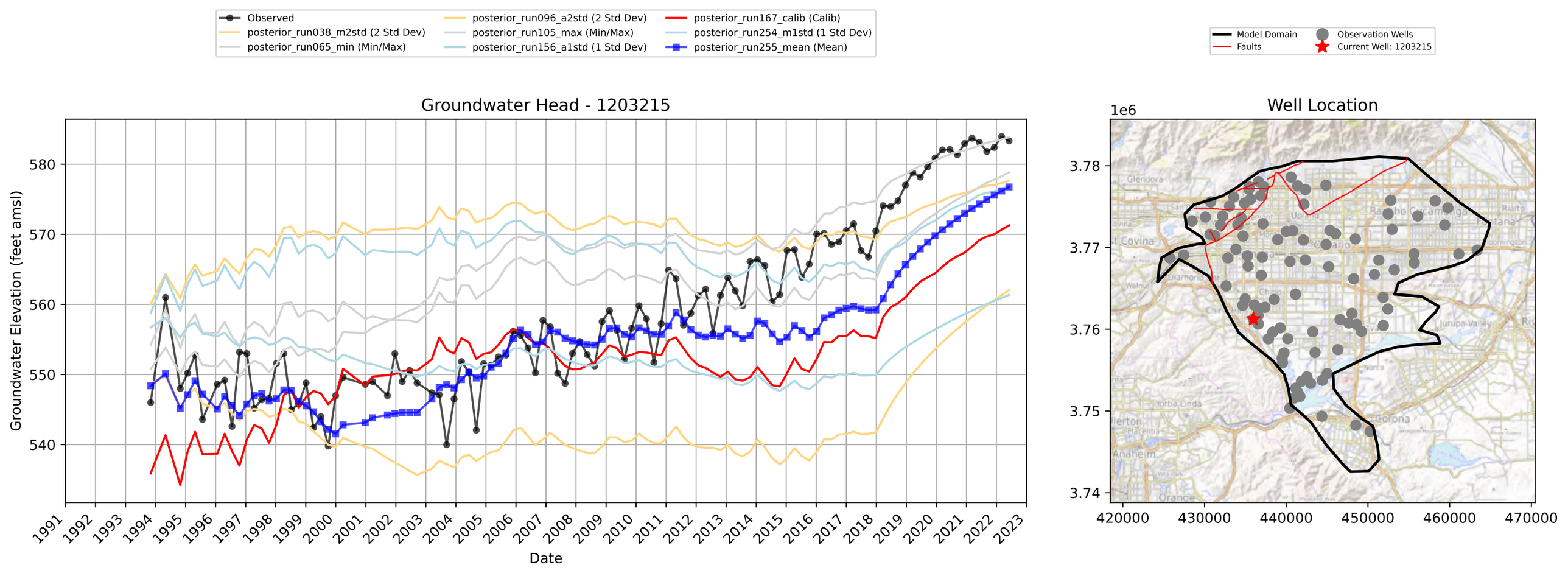

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1233985
Groundwater Elevation (feet amsl)
505.0
502.5
500.0
497.5
495.0
492.5
490.0
487.5
485.0
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1233985
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Diamond
Chino
Rancho Cucamonga
Rialto
Fontana
Jurupa Valley
Norco
Yorba Linda
Corona
Anaheim
Orange

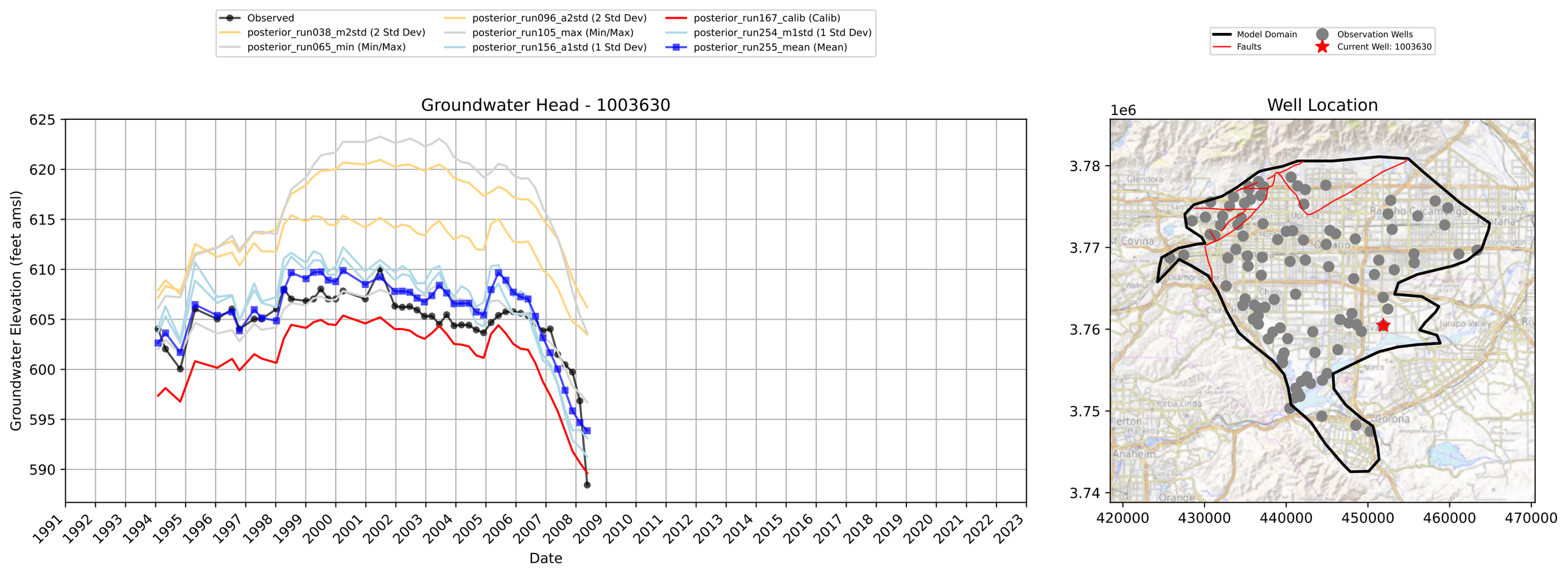

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1206674
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1206674
Well Location
1e6


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002646
Groundwater Elevation (feet amsl)
630
620
610
600
590
580
570
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1002646
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Diamond
Chino
Norco
Yorba Linda
Corona
Anaheim
Orange
Jurupa Valley


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1206962
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1206962
Well Location
1e6


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1207984
Groundwater Elevation (feet amsl)
570
560
550
540
530
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1207984
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Corona
Norco
Anaheim
Orange
Jurupa Valley


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1203215
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1203215
Well Location
1e6


Observed
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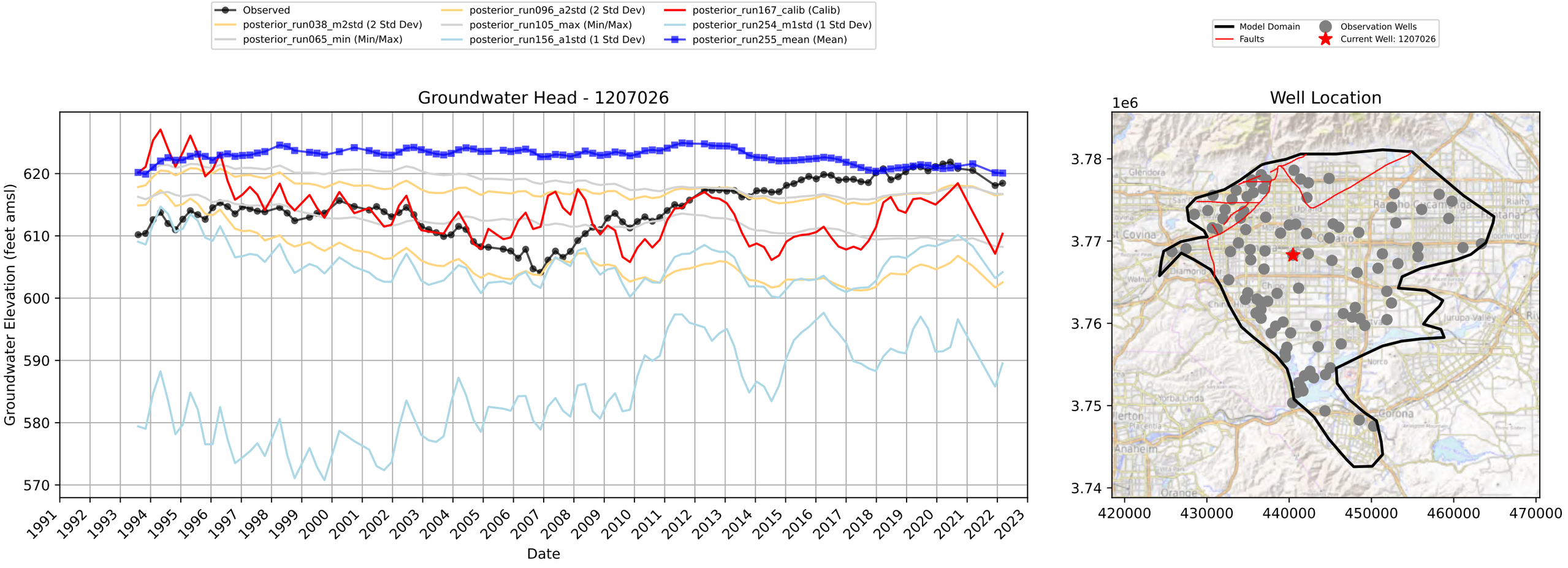
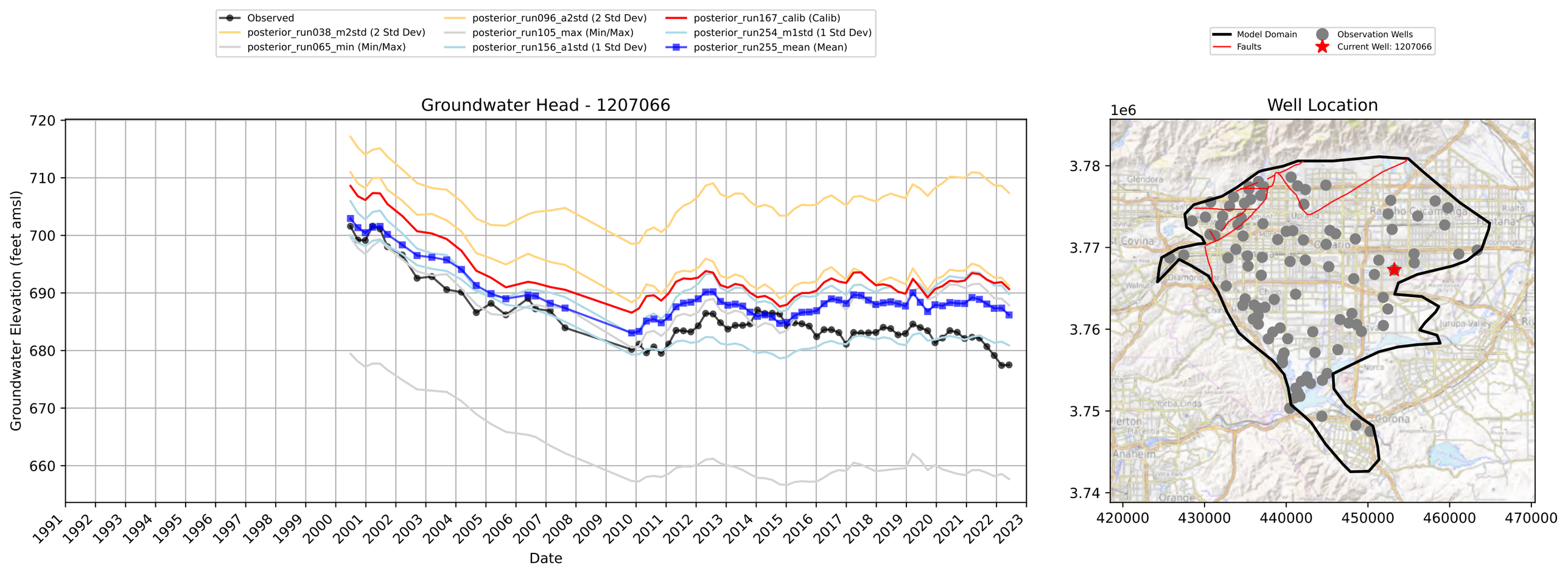
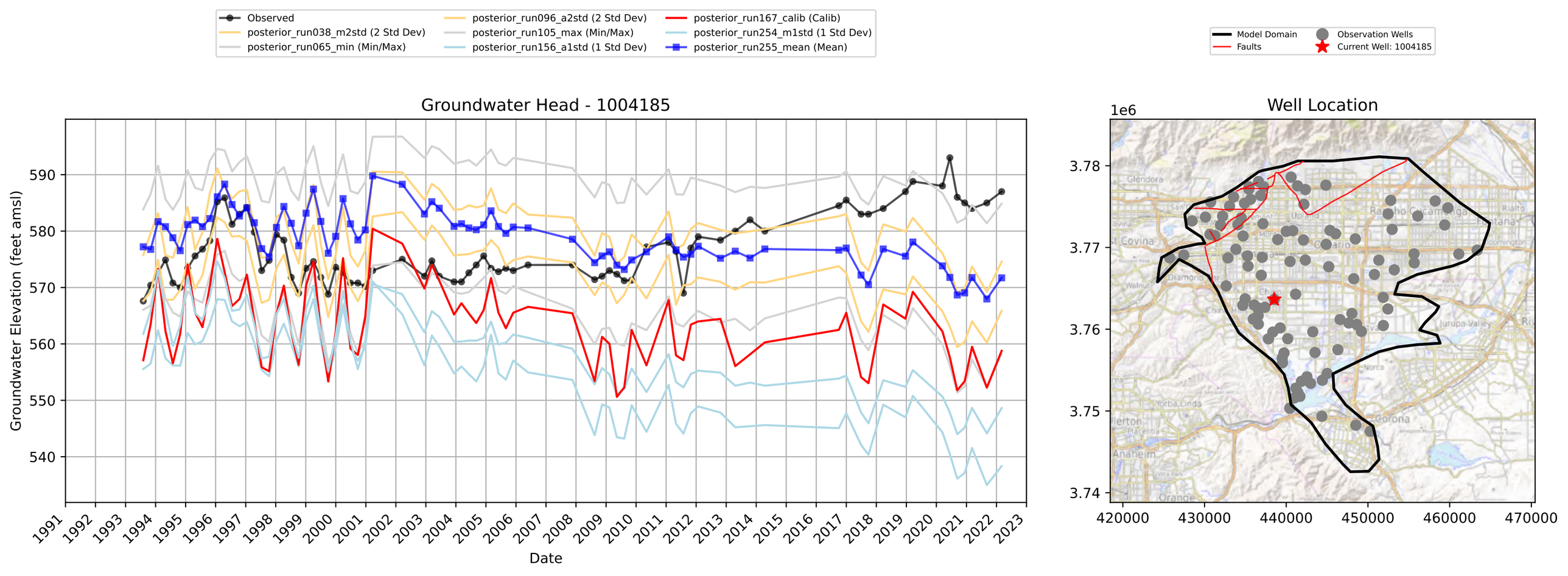
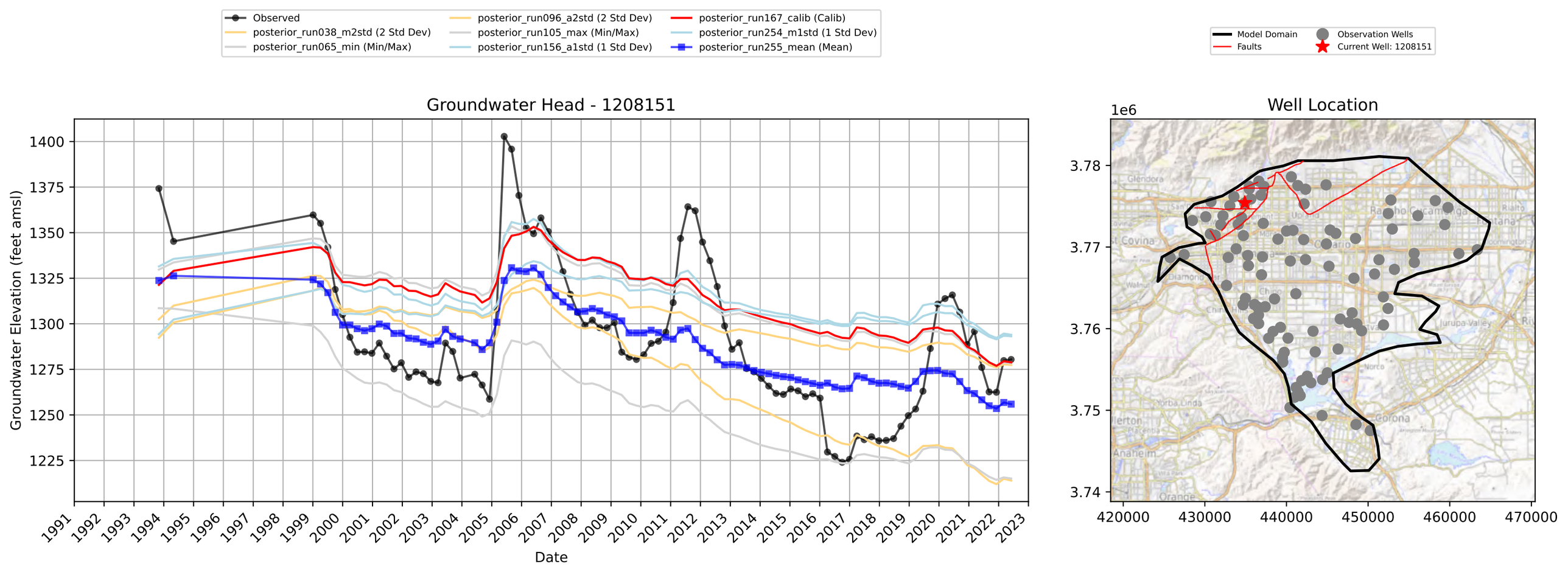
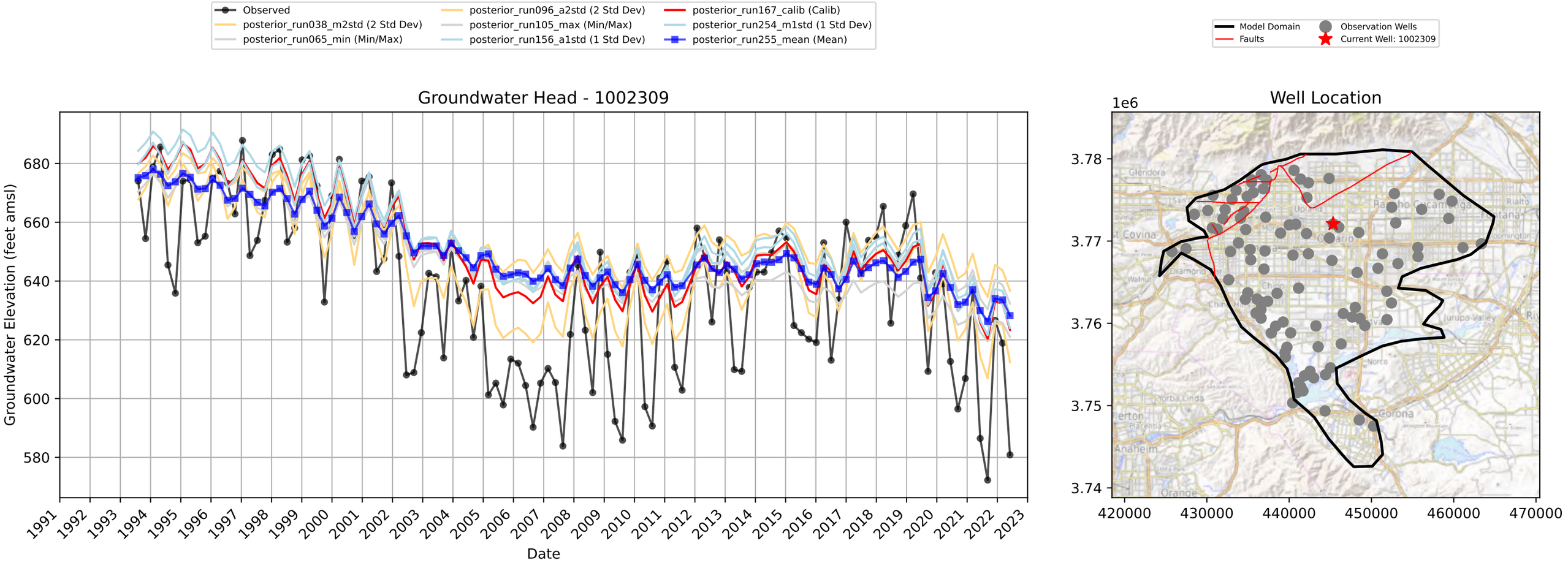
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1003630
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1003630
Well Location
1e6

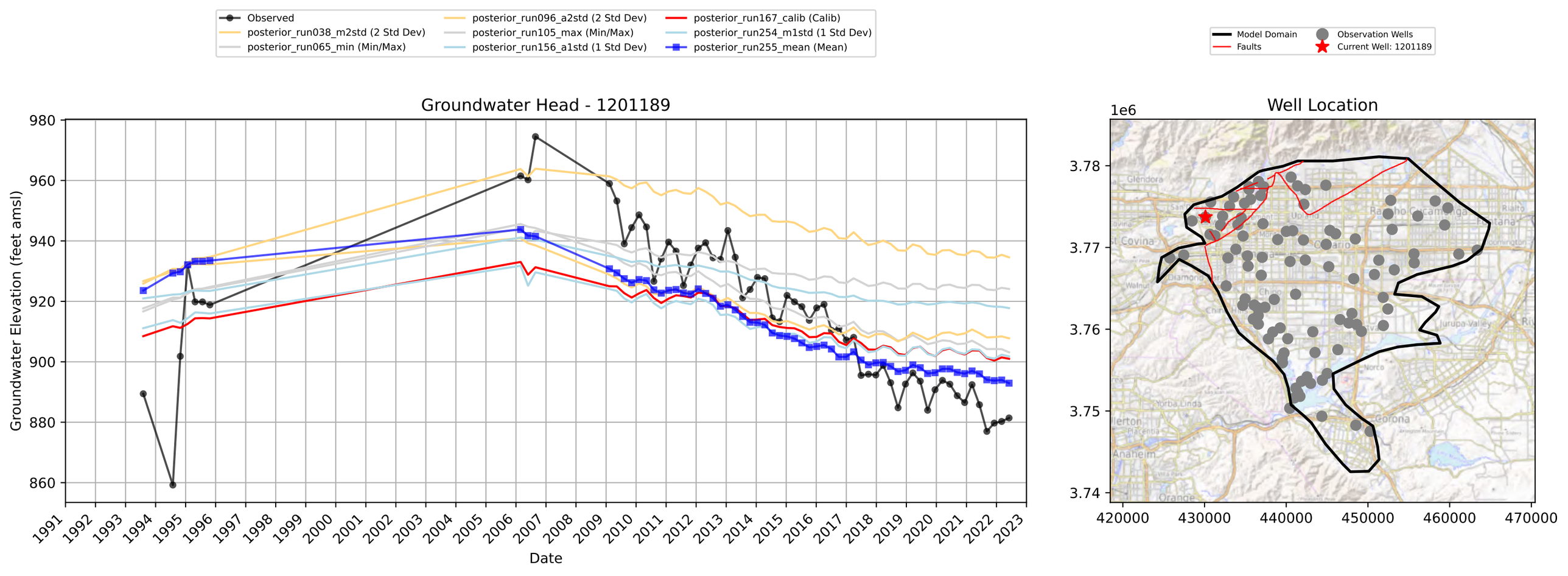

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1207026
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1207026
Well Location
1e6

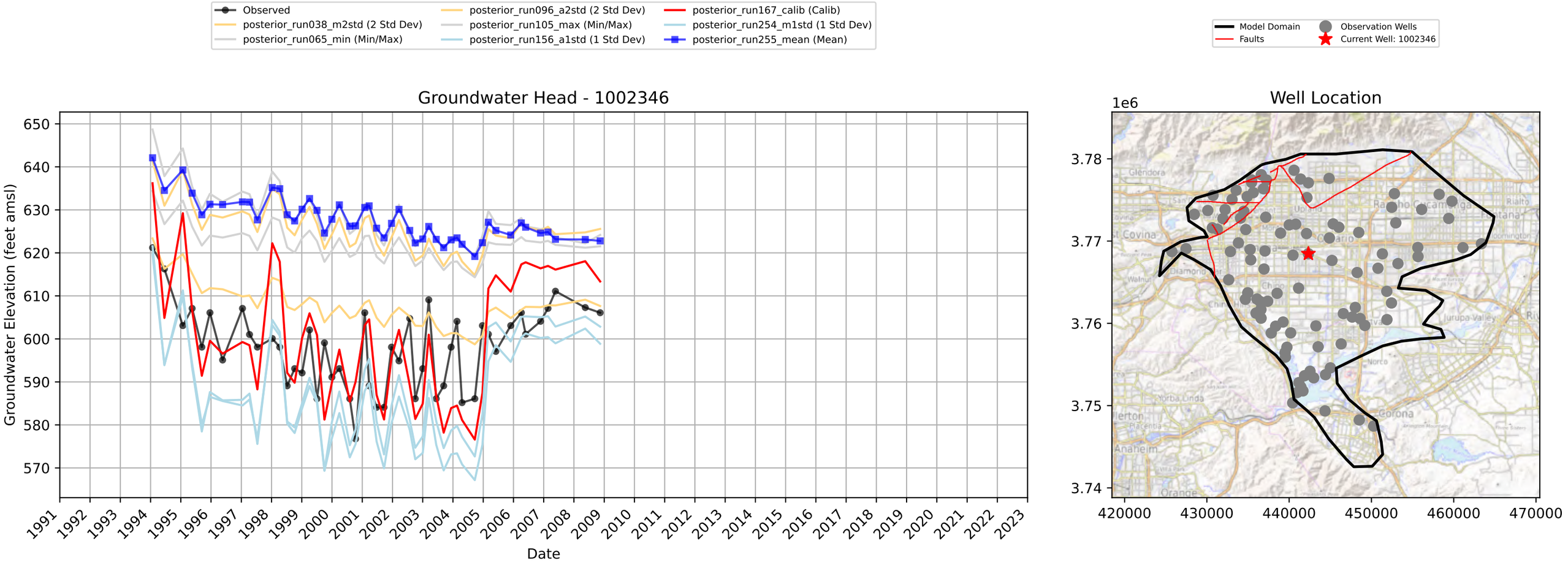

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Model Domain
Faults
Observation Wells
Current Well: 1207066
Groundwater Head - 1207066
Groundwater Elevation (feet amsl)
Date
Well Location
1e6
Glendora
Covina
Diamond Bar
Chino
Jurupa Valley
Norco
Corona
Yorba Linda
Anaheim
Orange

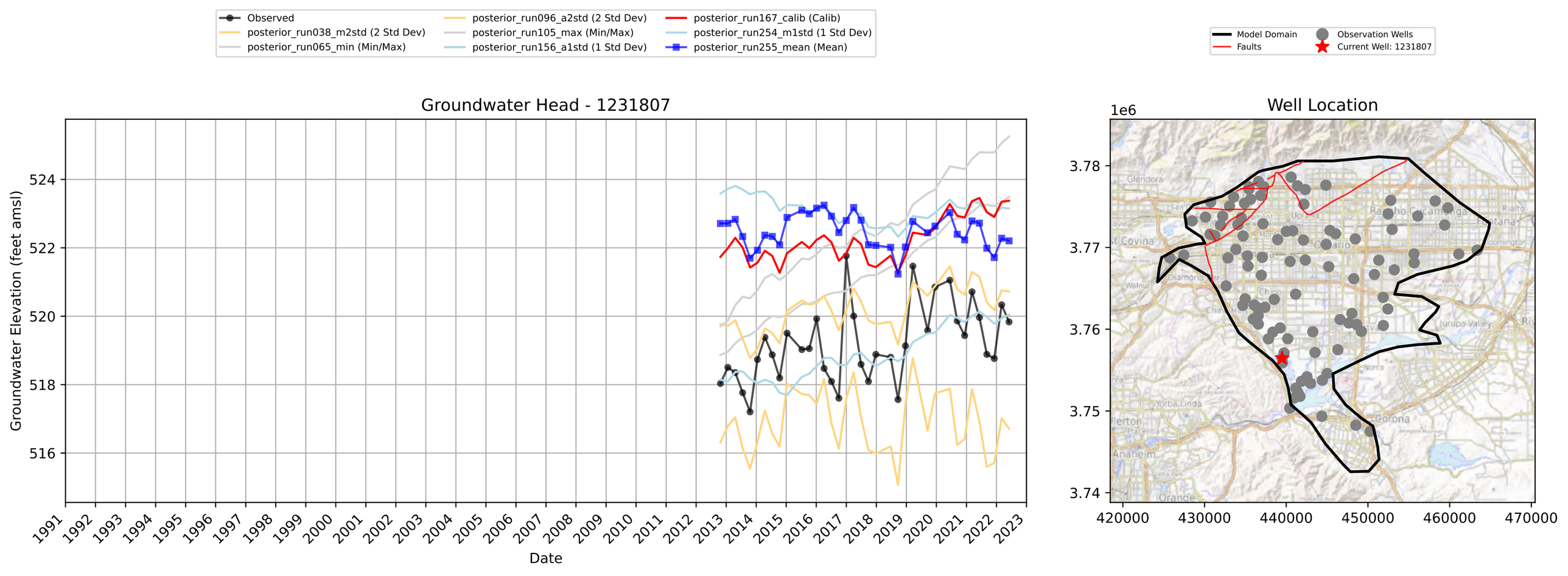

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1004185
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1004185
Well Location
1e6

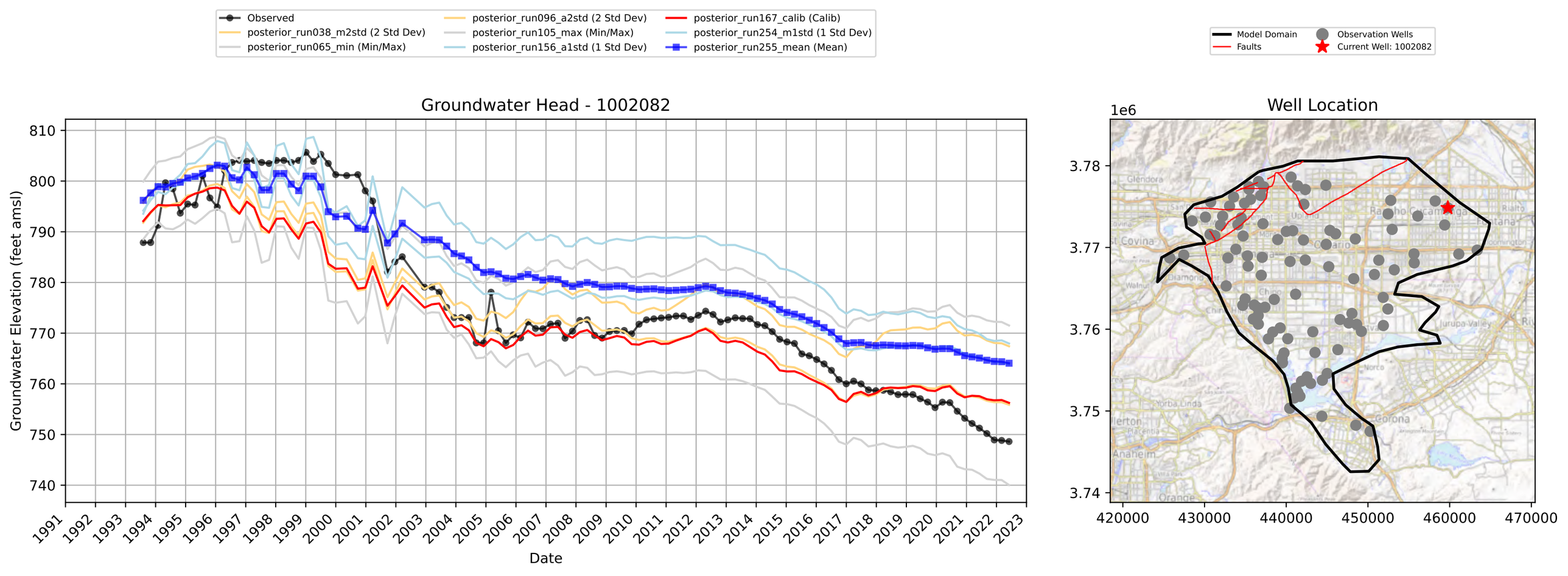

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1208151
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1208151
Well Location
1e6

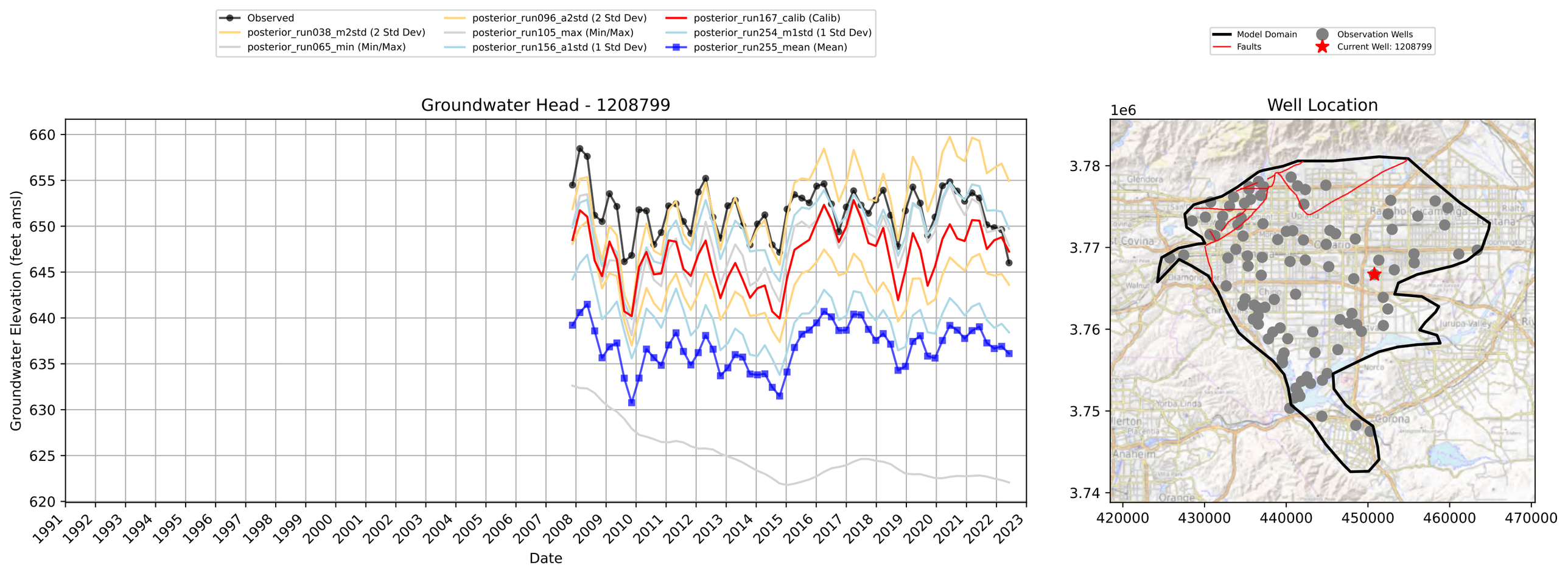

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002309
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002309
Well Location
1e6

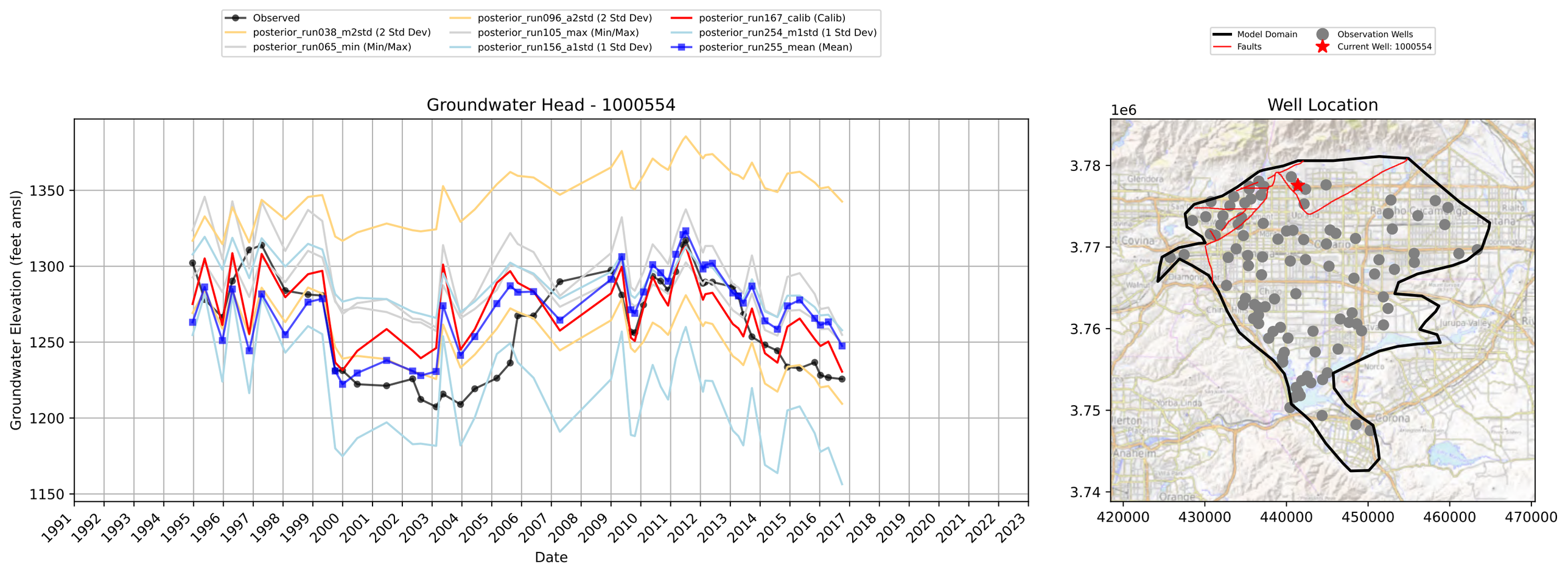

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1201189
Groundwater Elevation (feet amsl)
980
960
940
920
900
880
860
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1201189
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Diamond
Walnut
Chino
Rialto
Fontana
Jurupa Valley
Norco
Yorba Linda
Corona
Anaheim
Orange

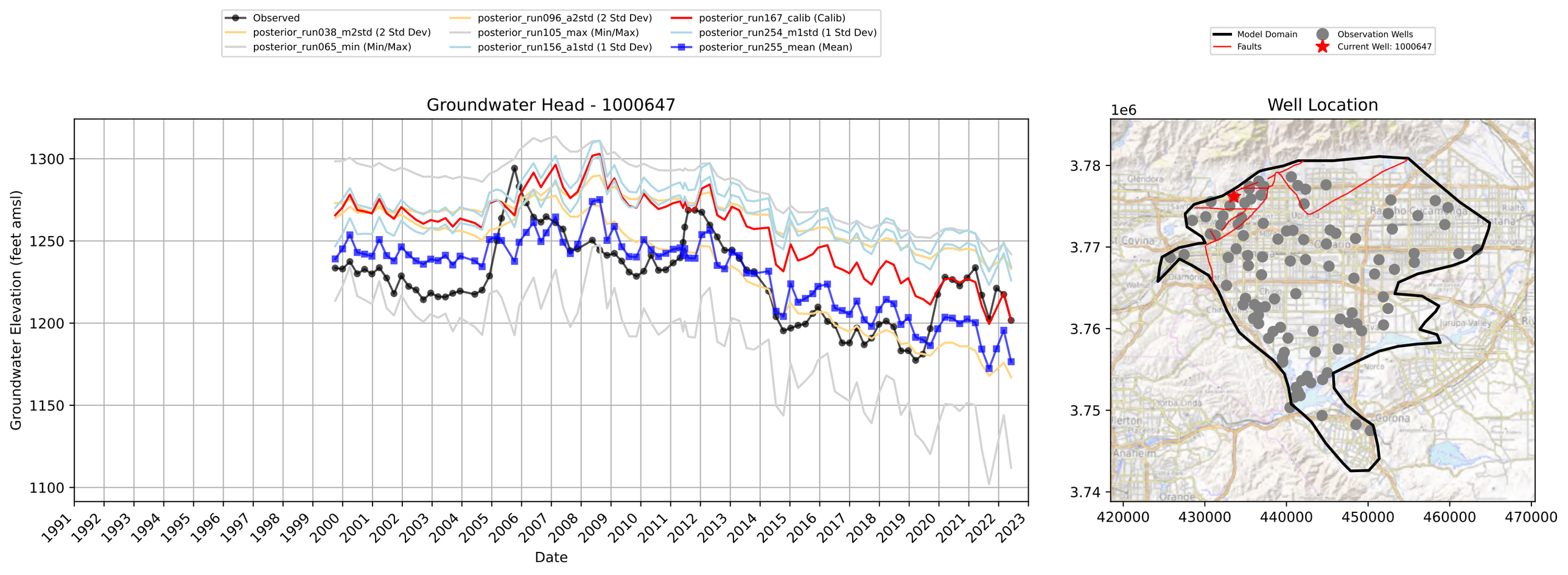

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002346
Groundwater Elevation (feet amsl)
650
640
630
620
610
600
590
580
570
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1002346
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Diamond
Walnut
Chino
Rialto
Jurupa Valley
Norco
Yorba Linda
Placentia
Corona
Anaheim
Orange

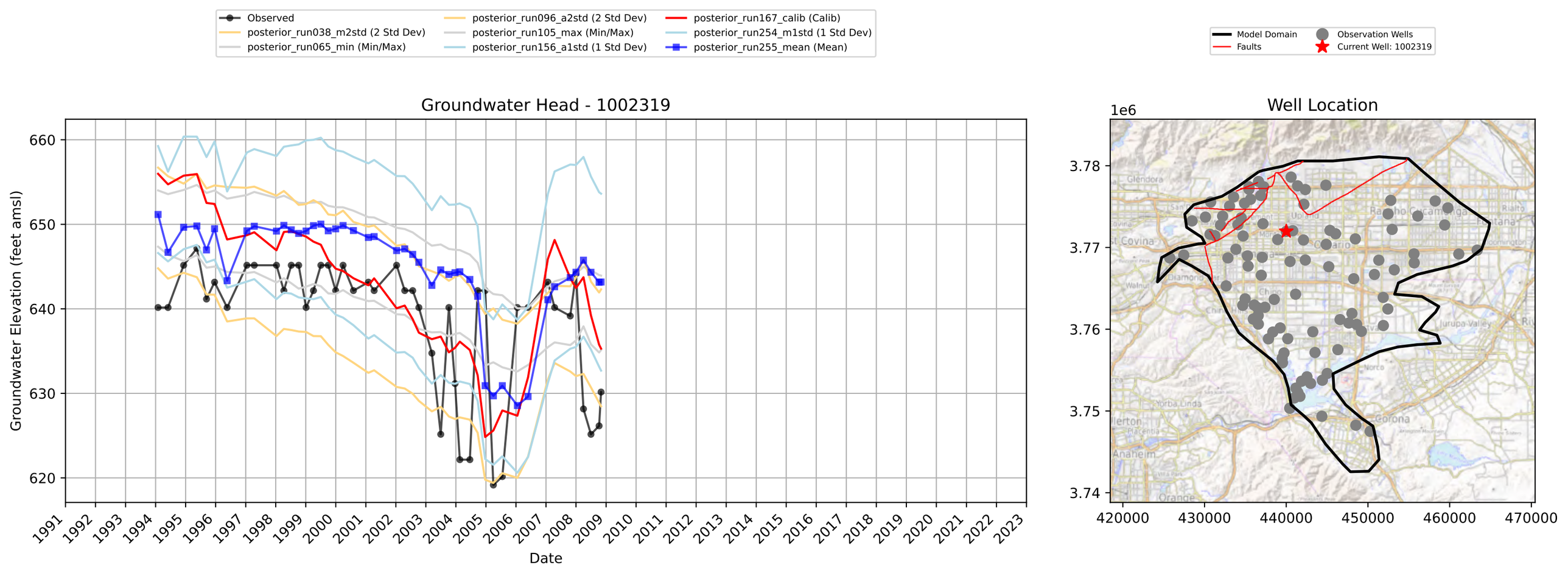

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1231807
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1231807
Well Location
1e6

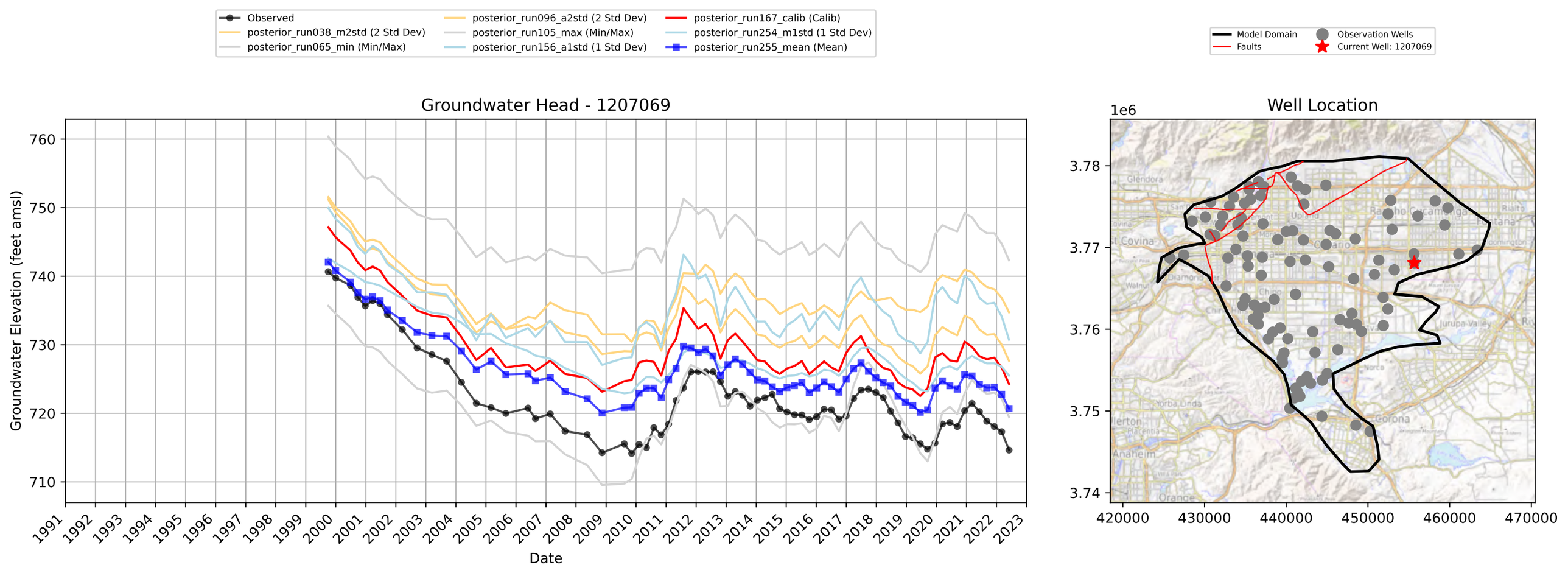

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002082
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002082
Well Location
1e6

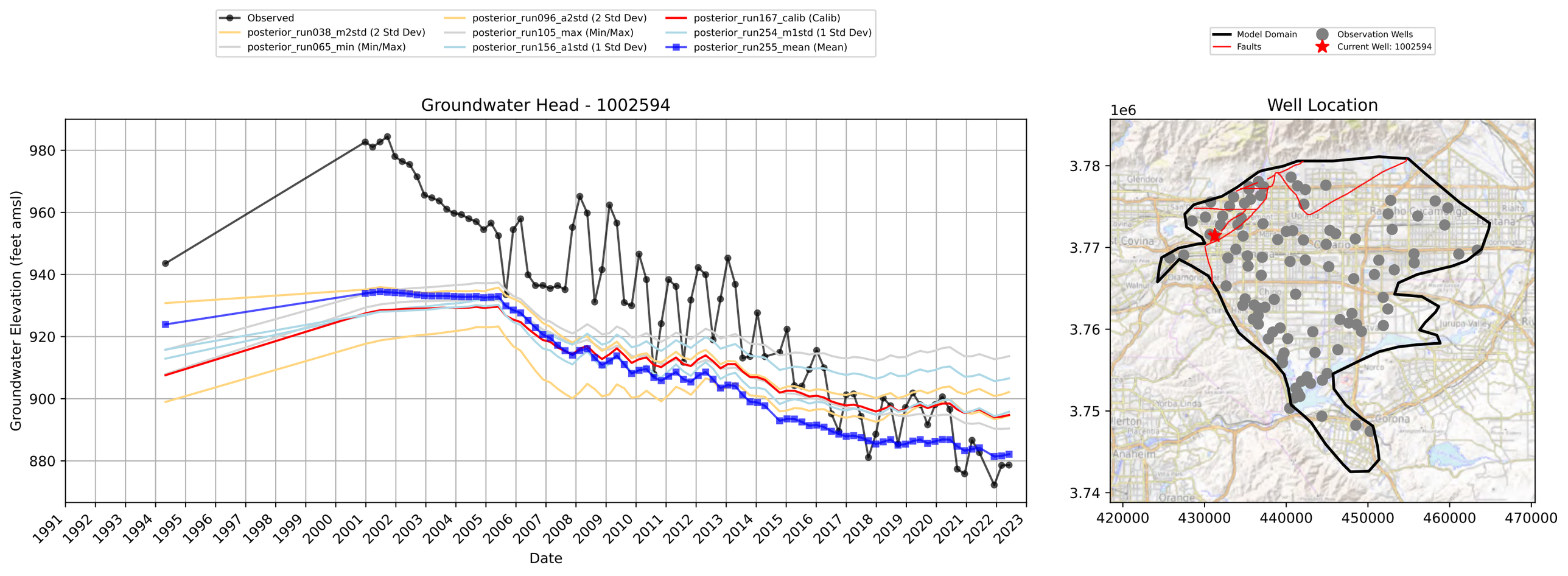

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1208799
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1208799
Well Location
1e6

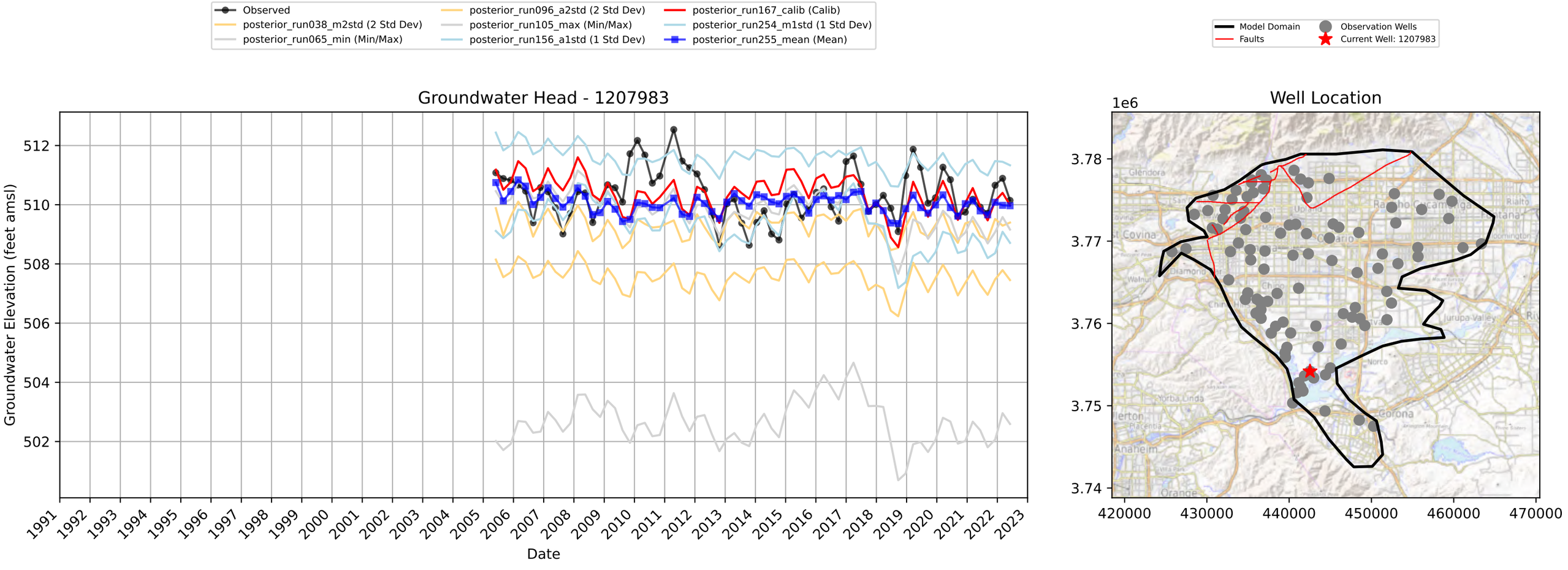

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1000554
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1000554
Well Location
1e6

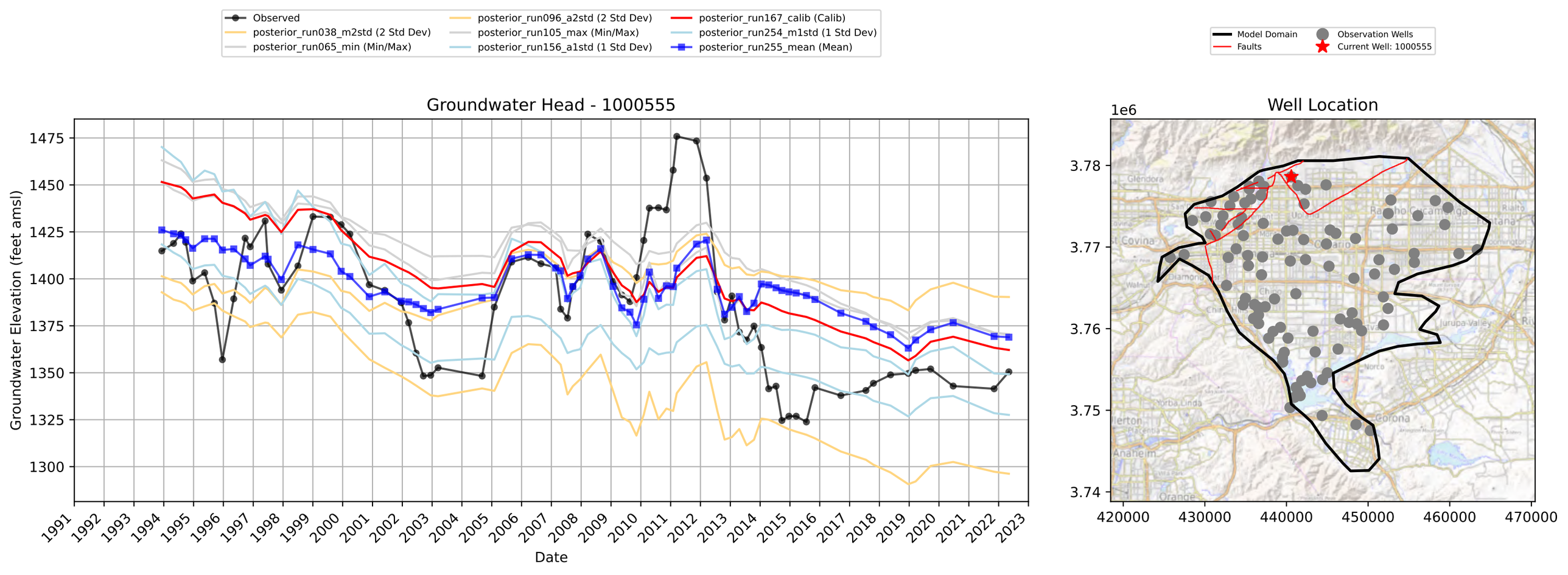

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1000647
Groundwater Elevation (feet amsl)
1300
1250
1200
1150
1100
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1000647
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Diamond
Chino
Norco
Corona
Yorba Linda
Anaheim
Orange
Jurupa Valley

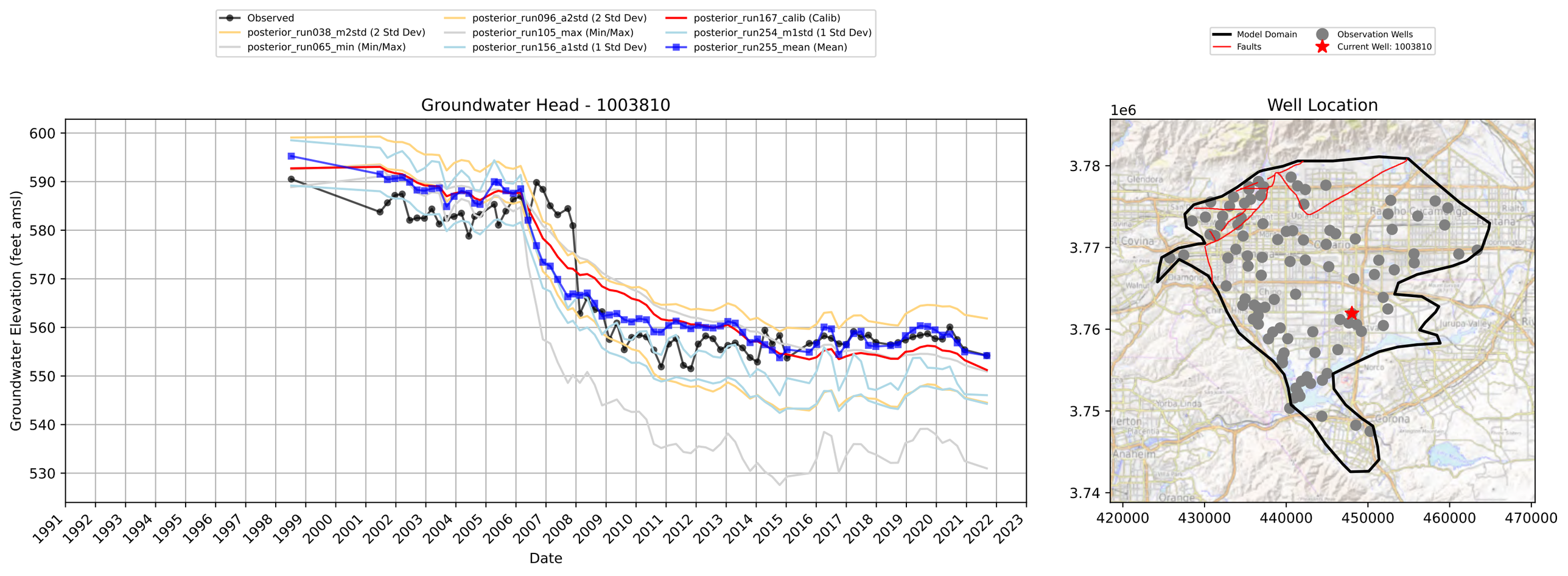

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002319
Groundwater Elevation (feet amsl)
660
650
640
630
620
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1002319
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Diamond
Corona
Norco
Anaheim
Orange
Jurupa Valley

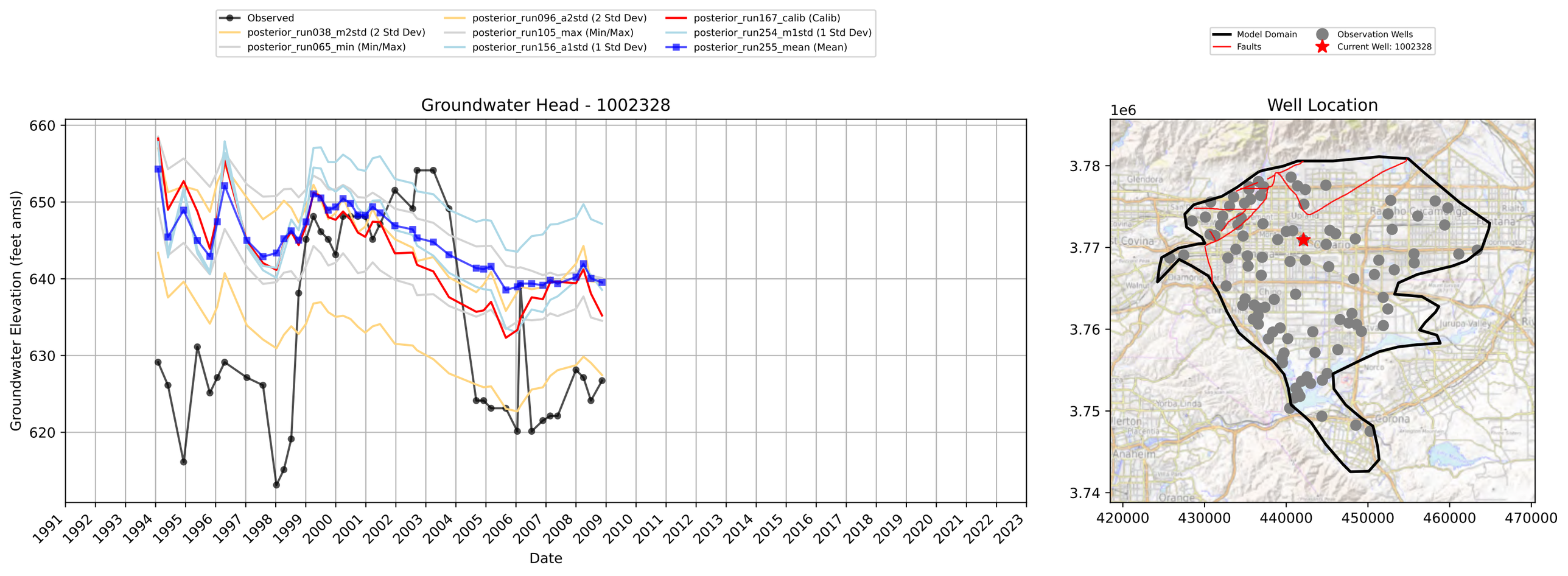

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1207069
Groundwater Elevation (feet amsl)
760
750
740
730
720
710
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1207069
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Diamond
Walnut
Chino
Rialto
Fontana
Jurupa Valley
Norco
Corona
Yorba Linda
Anaheim
Orange

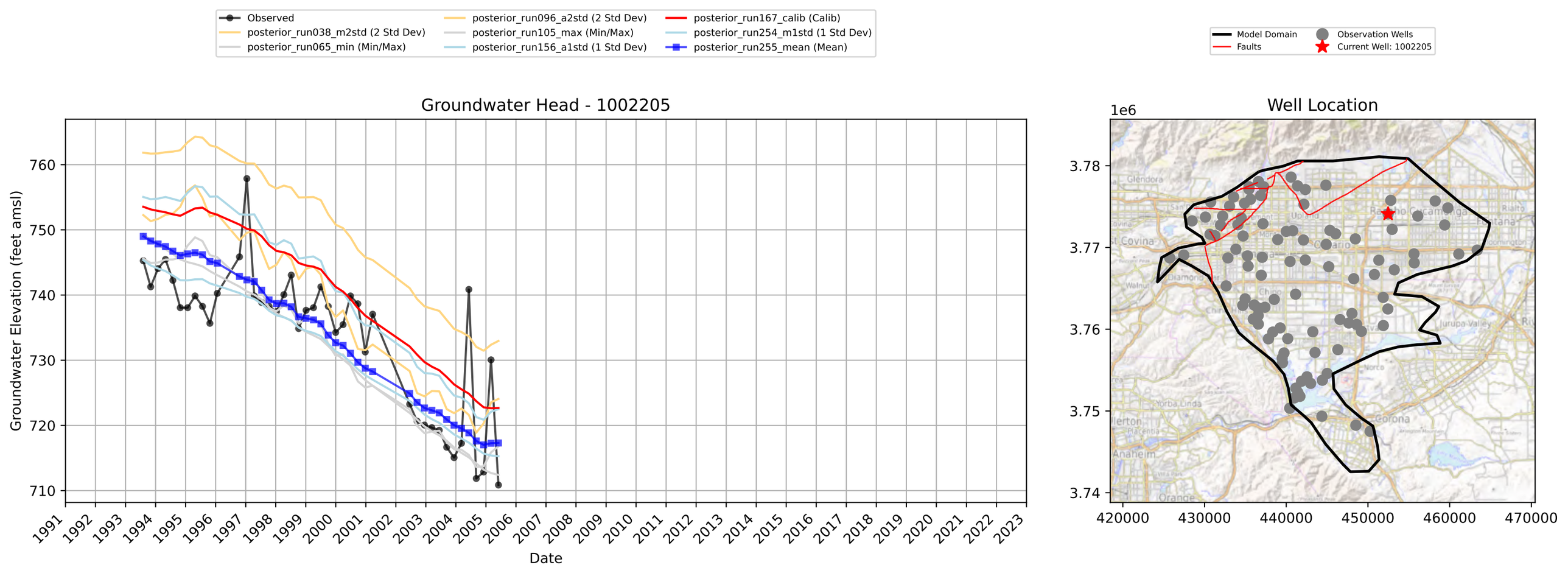

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002594
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002594
Well Location
1e6

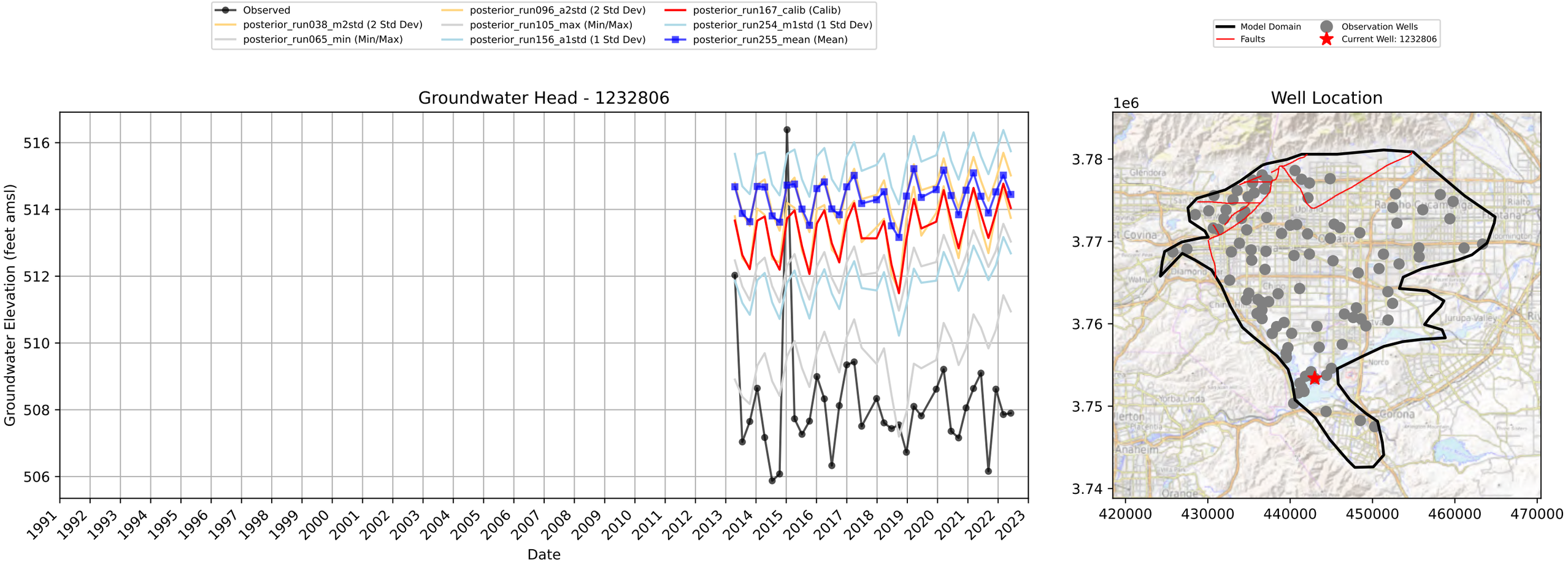

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1207983
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1207983
Well Location
1e6


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1000555
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1000555
Well Location
1e6


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Model Domain
Faults
Observation Wells
Current Well: 1003810
Groundwater Head - 1003810
Groundwater Elevation (feet amsl)
Date
Well Location
1e6
Glendora
Covina
Diamond
Chino
Rialto
Jurupa Valley
Norco
Yorba Linda
Corona
Anaheim
Orange


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002328
Groundwater Elevation (feet amsl)
660
650
640
630
620
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1002328
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Diamond
Walnut
Chino
Jurupa Valley
Norco
Yorba Linda
Placentia
Corona
Anaheim
Orange


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002205
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002205
Well Location
1e6


Observed
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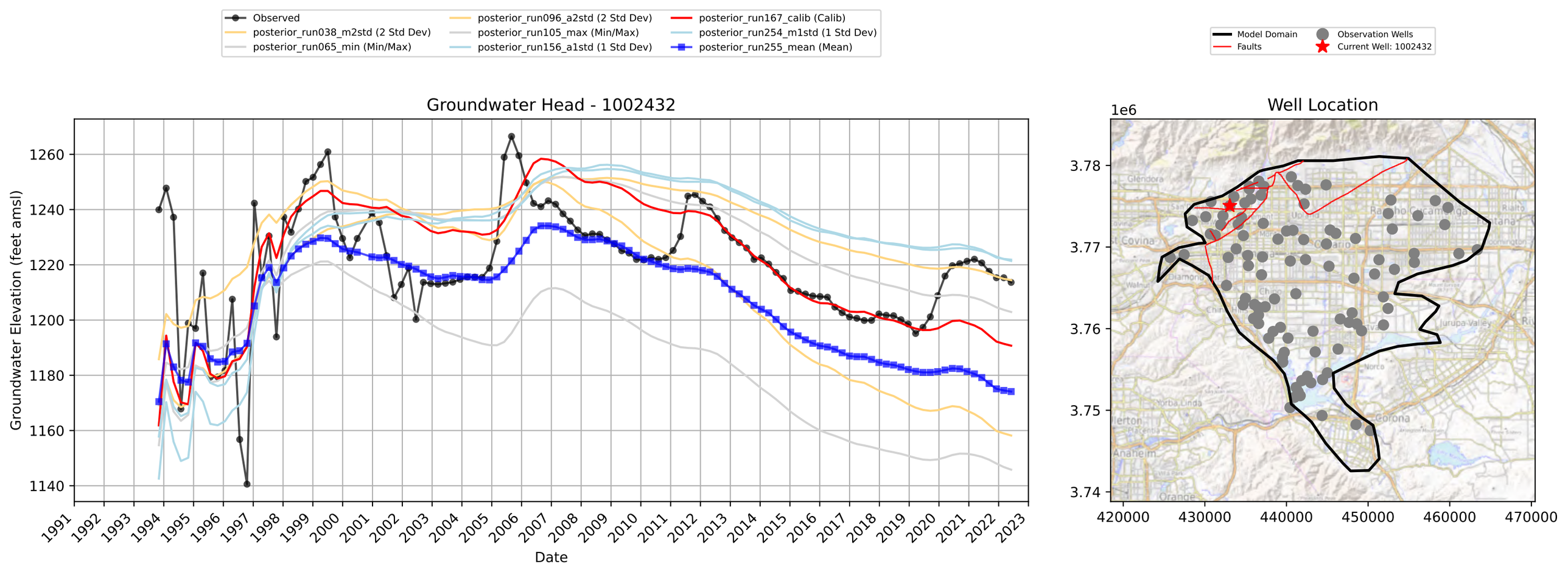
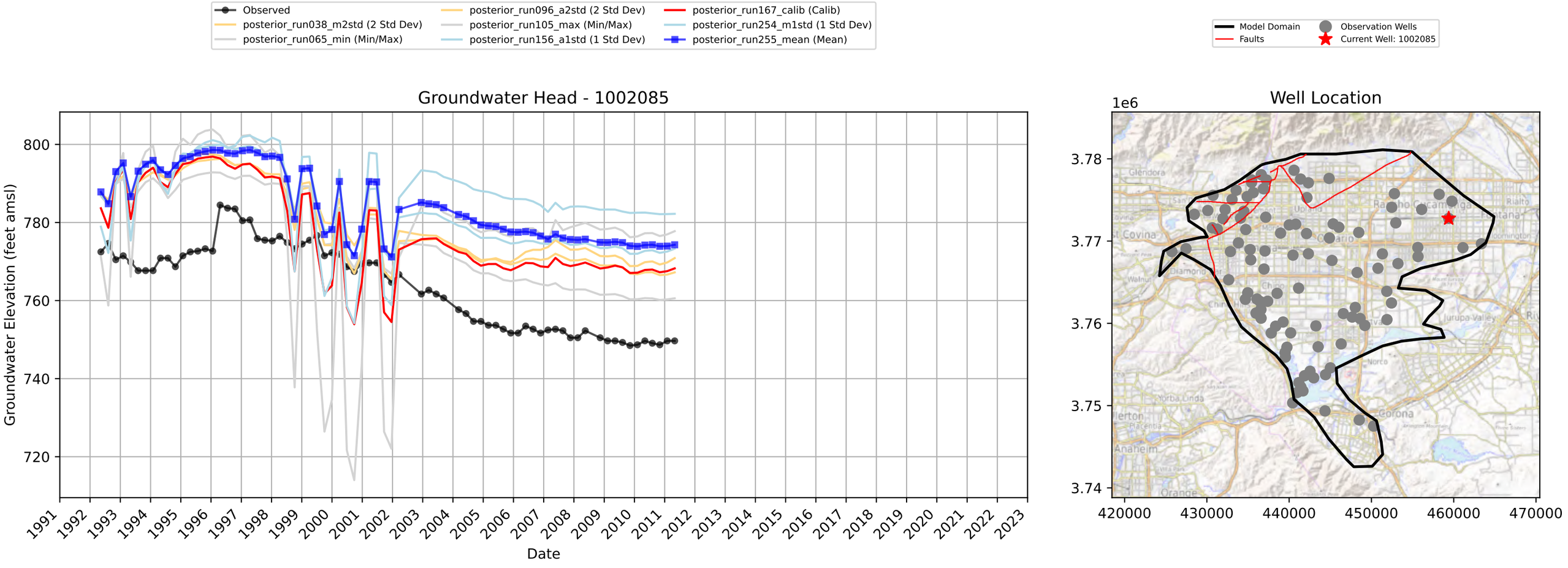
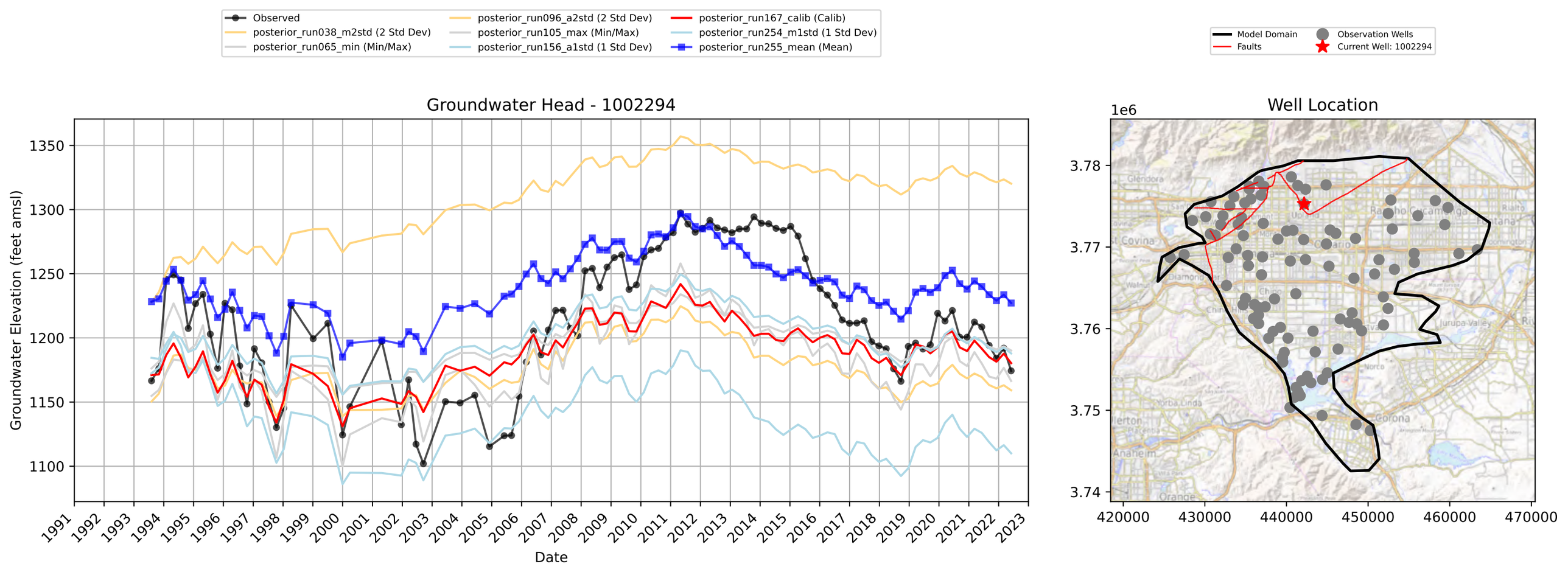
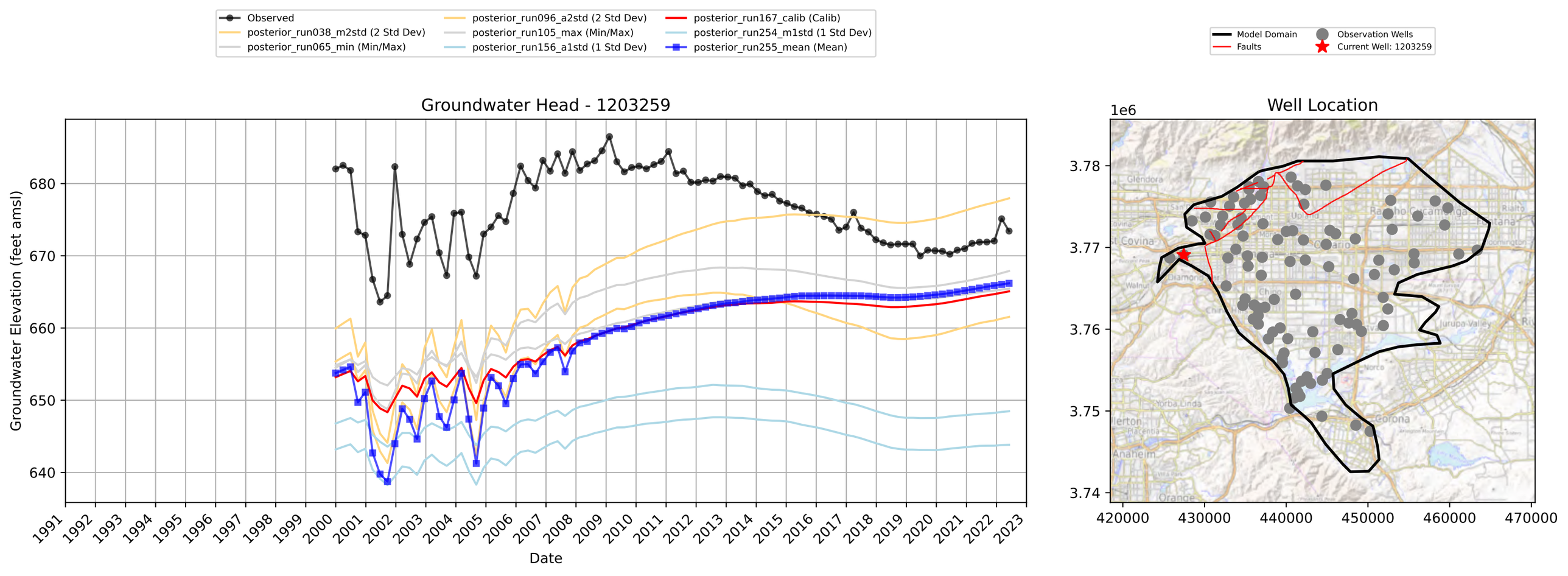
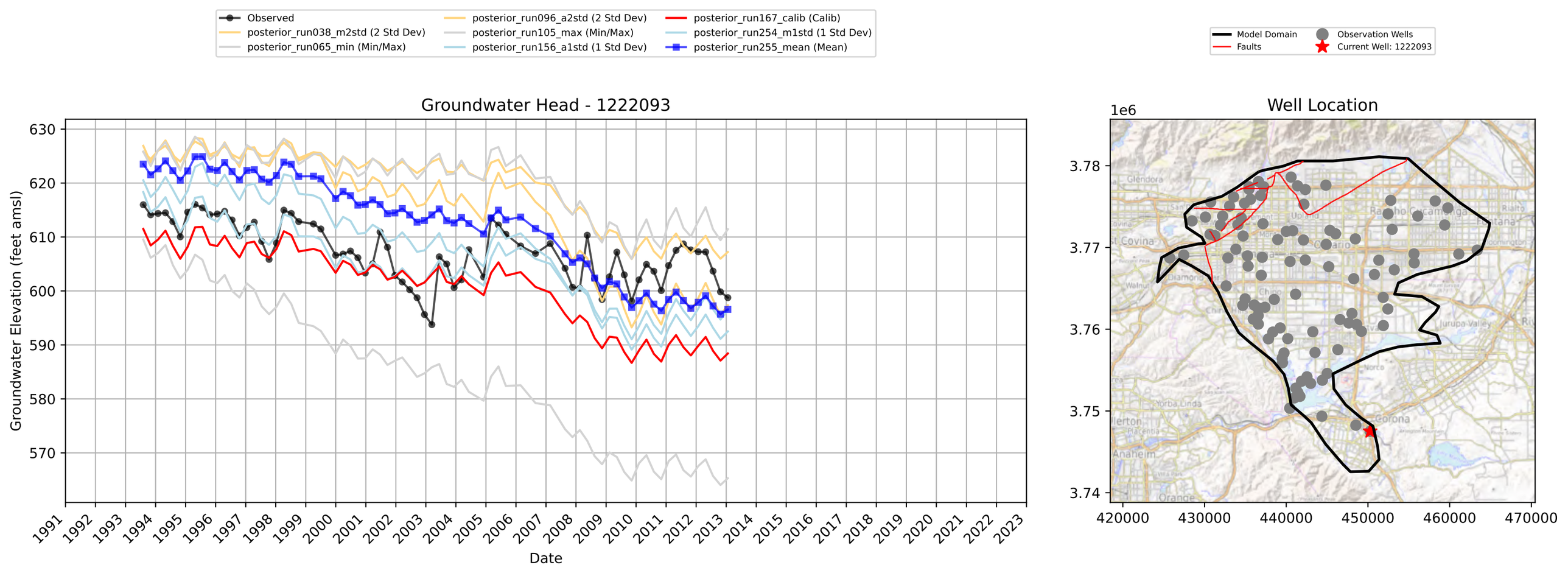
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1232806
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1232806
Well Location
1e6

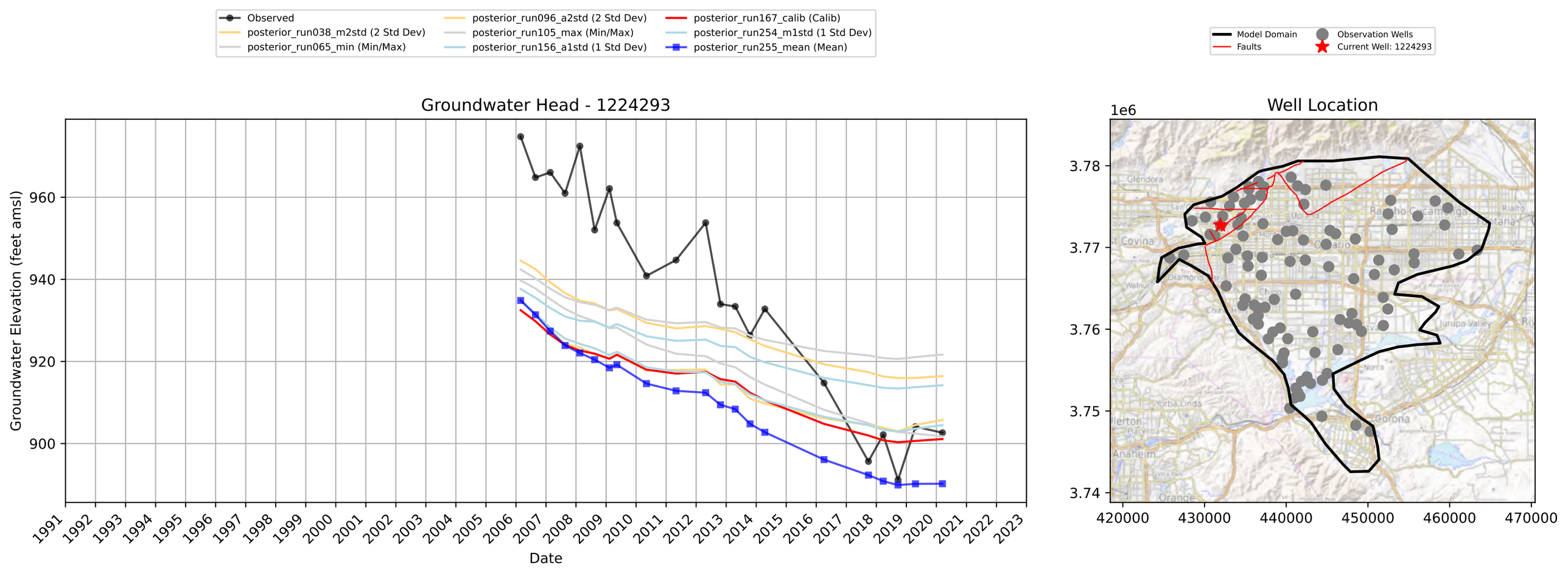

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002432
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002432
Well Location
1e6

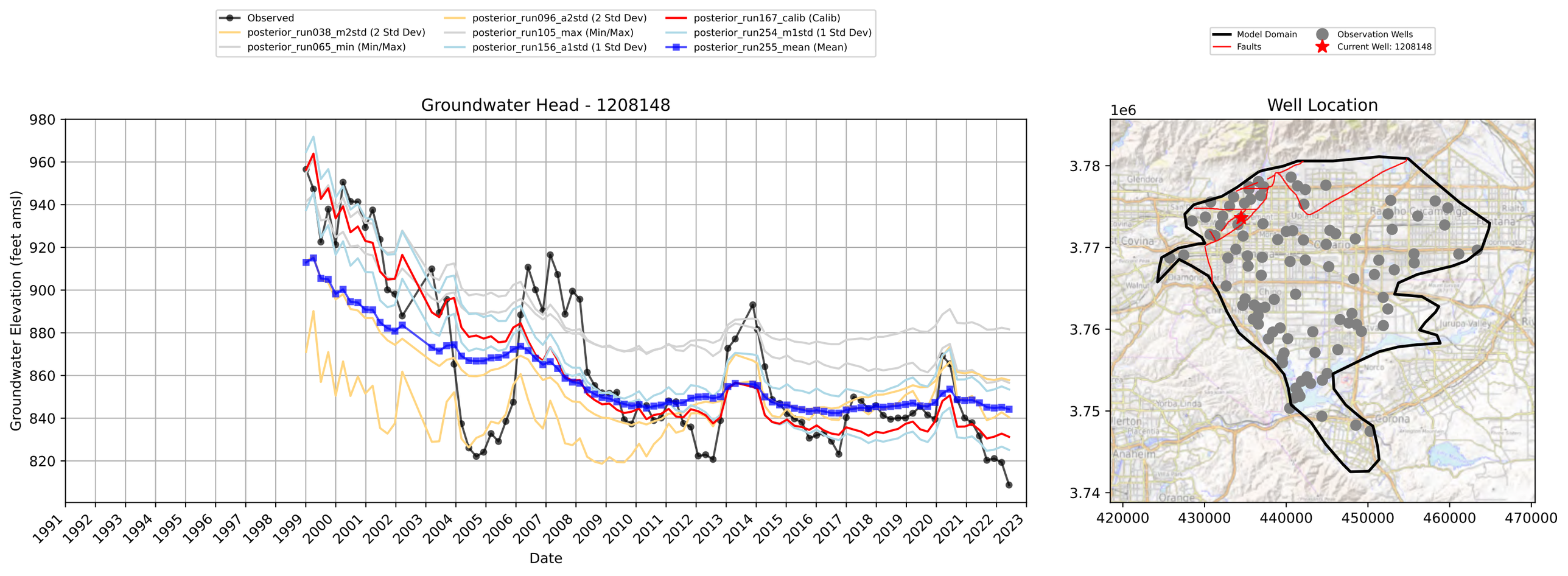

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002085
Groundwater Elevation (feet amsl)
800
780
760
740
720
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1002085
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Diamond
Walnut
Chino
Jurupa Valley
Norco
Yorba Linda
Corona
Anaheim
Orange

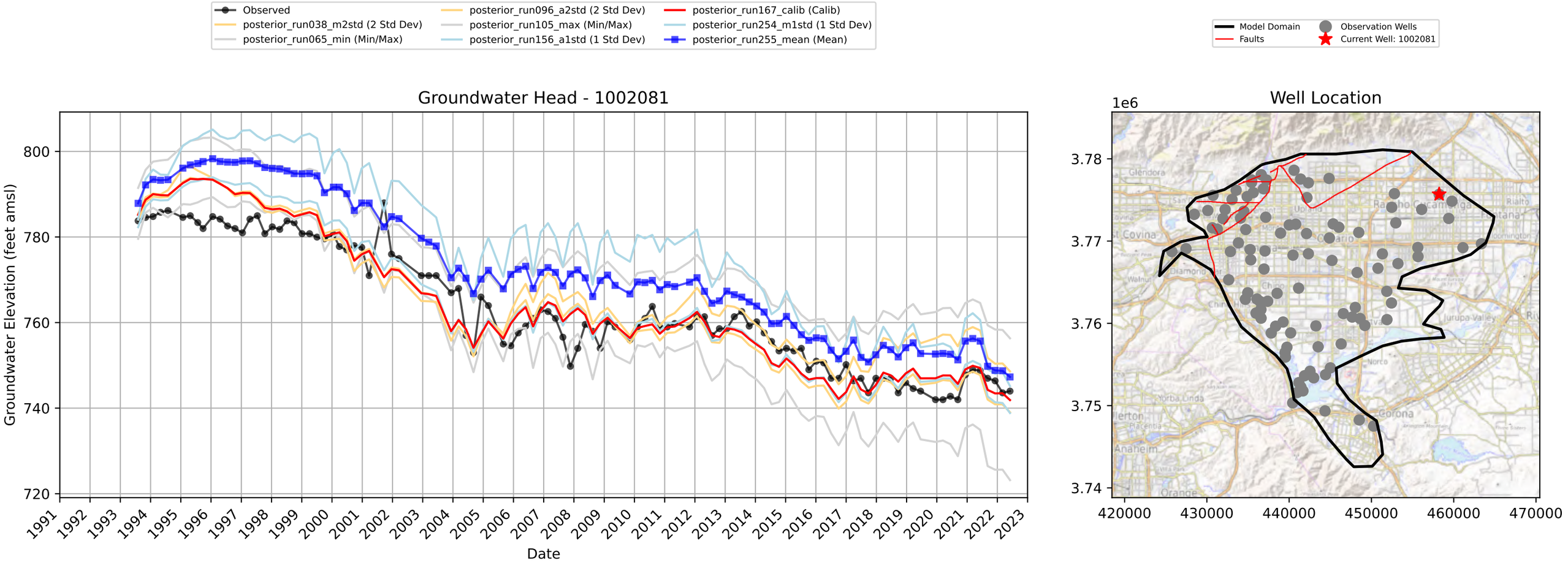

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002294
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002294
Well Location
1e6

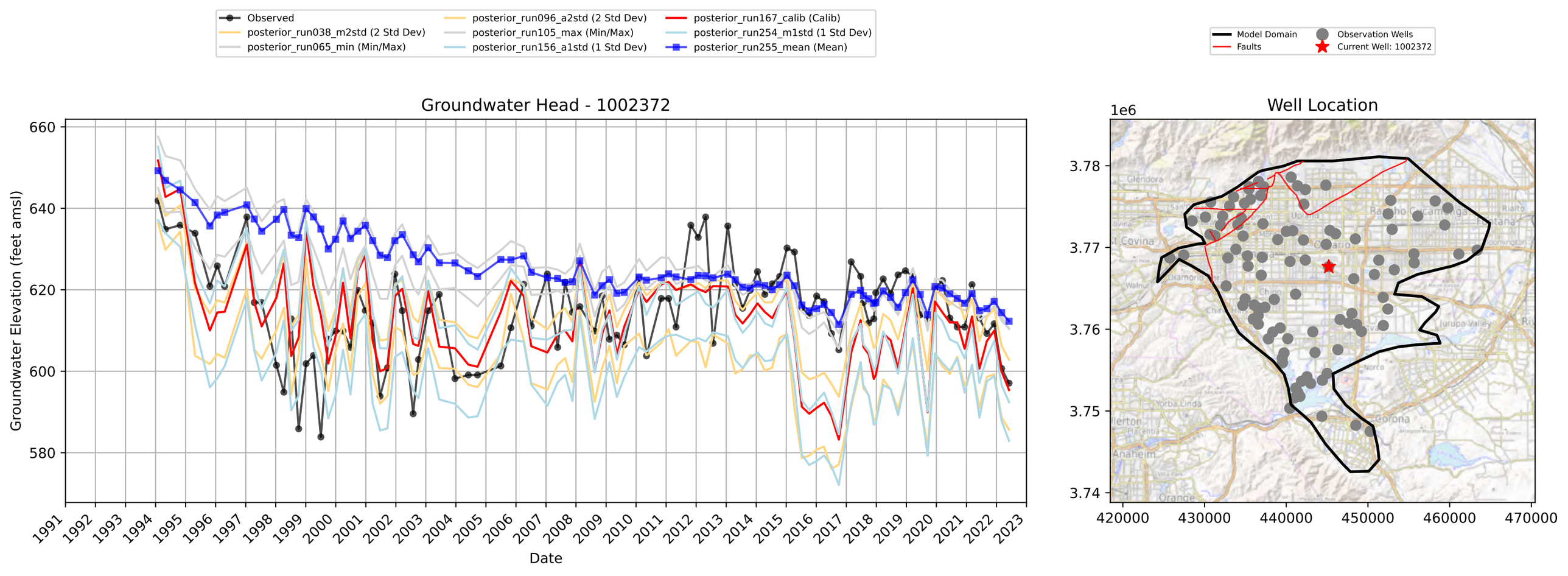

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1203259
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1203259
Well Location
1e6

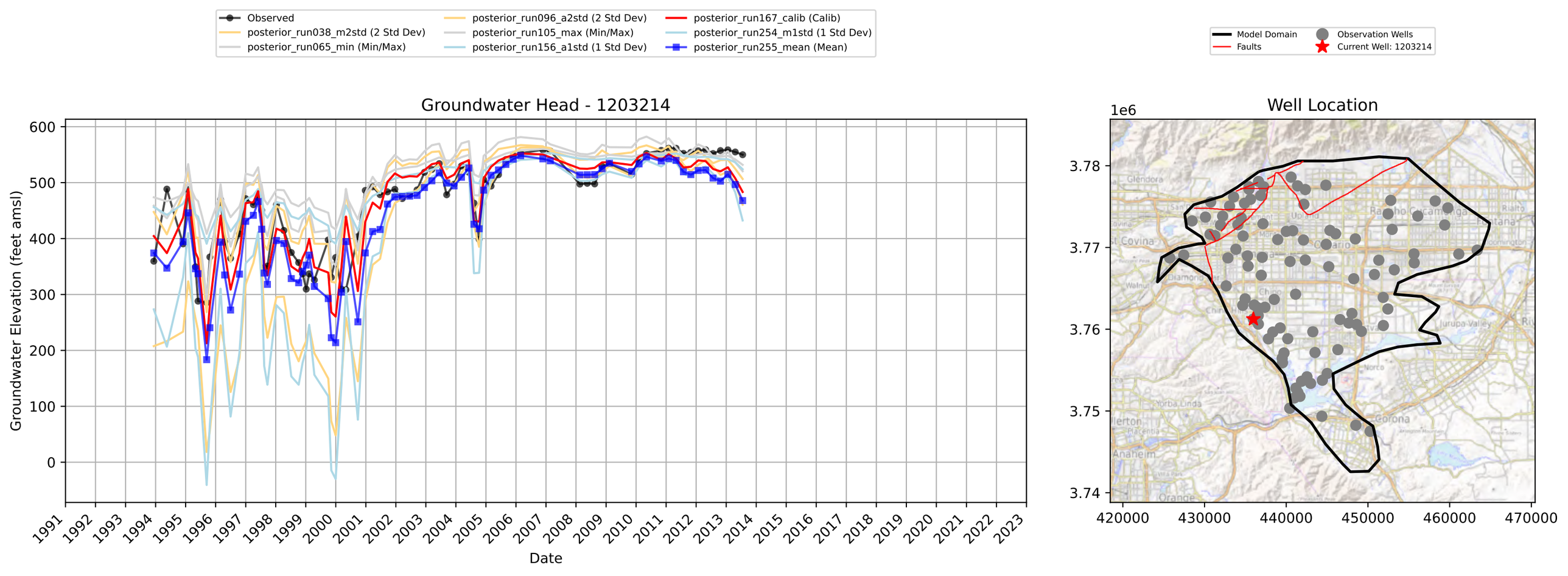

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1222093
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1222093
Well Location
1e6

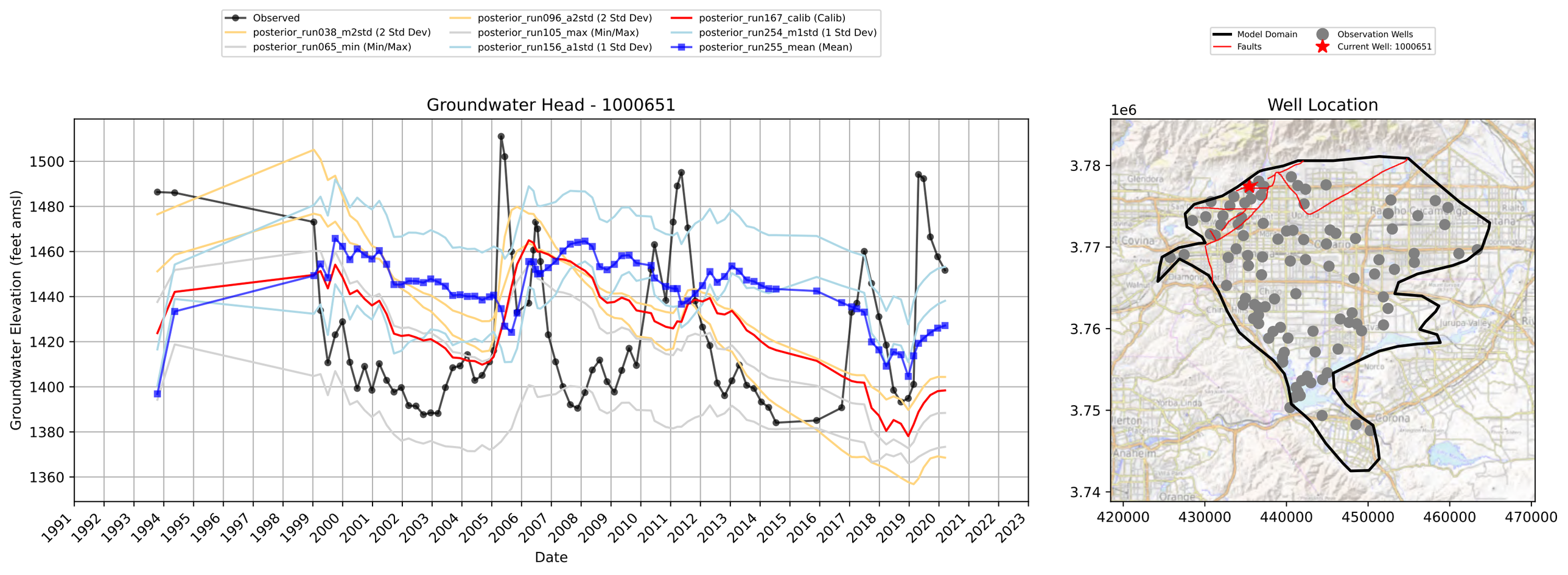

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1224293
Groundwater Elevation (feet amsl)
960
940
920
900
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1224293
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Diamond
Chino
Norco
Yorba Linda
Corona
Anaheim
Orange
Jurupa Valley

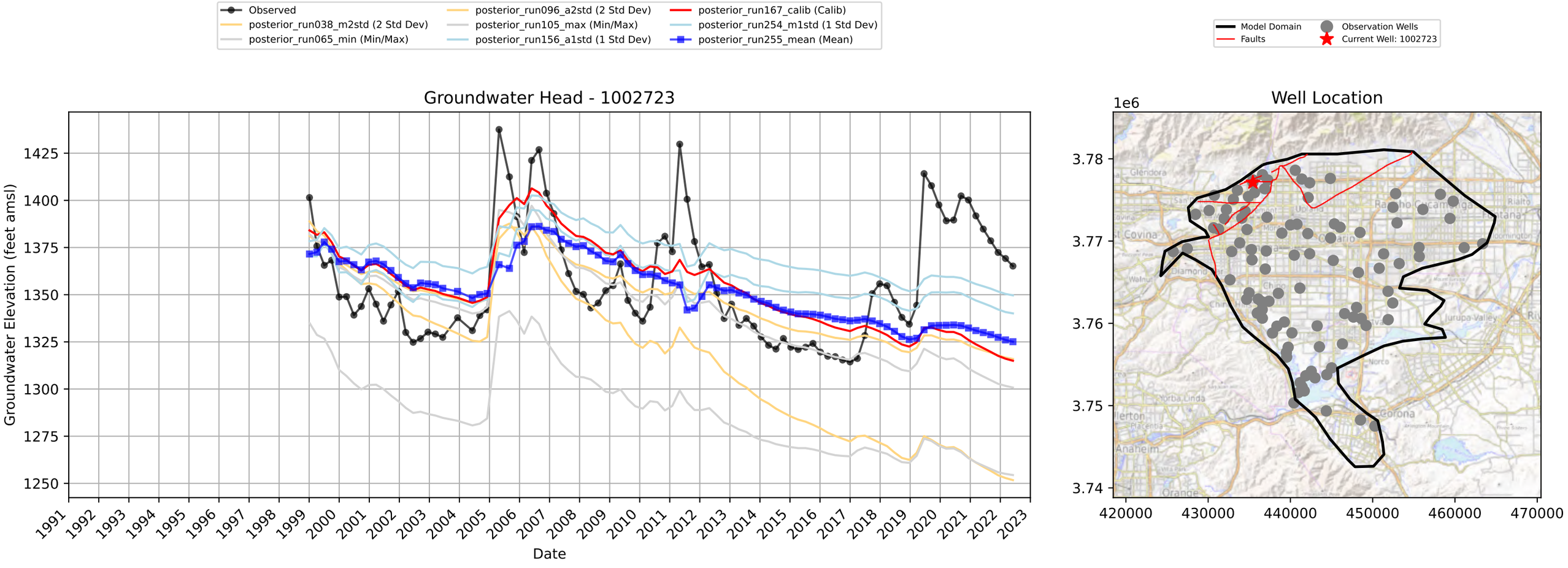

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1208148
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1208148
Well Location
1e6

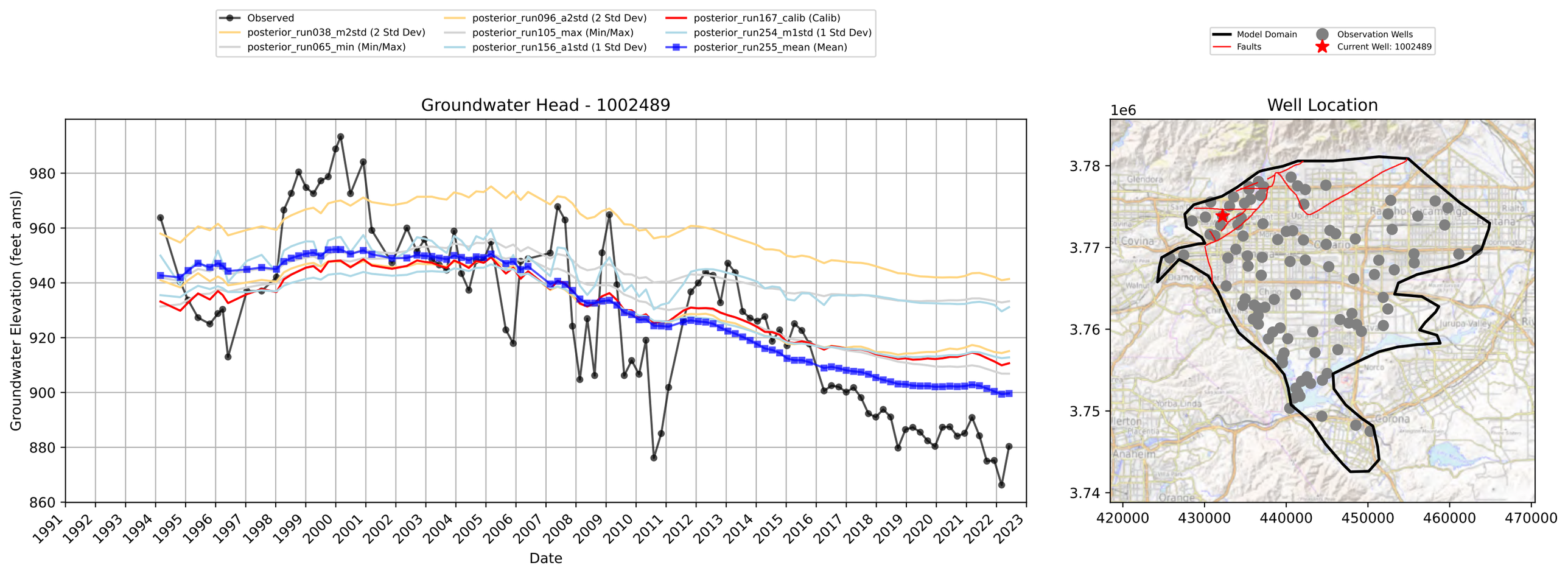

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002081
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002081
Well Location
1e6

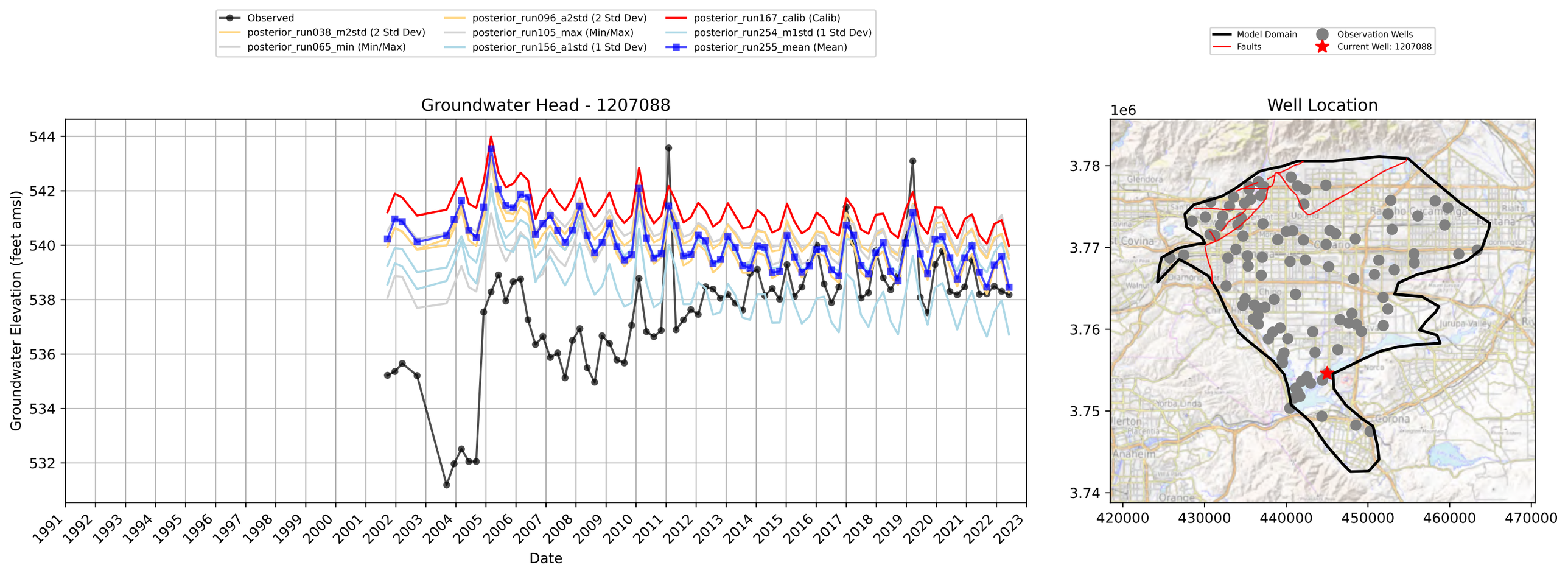

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002372
Groundwater Elevation (feet amsl)
660
640
620
600
580
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1002372
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Diamond
Chino
Rialto
Fontana
Jurupa Valley
Norco
Yorba Linda
Corona
Anaheim
Orange

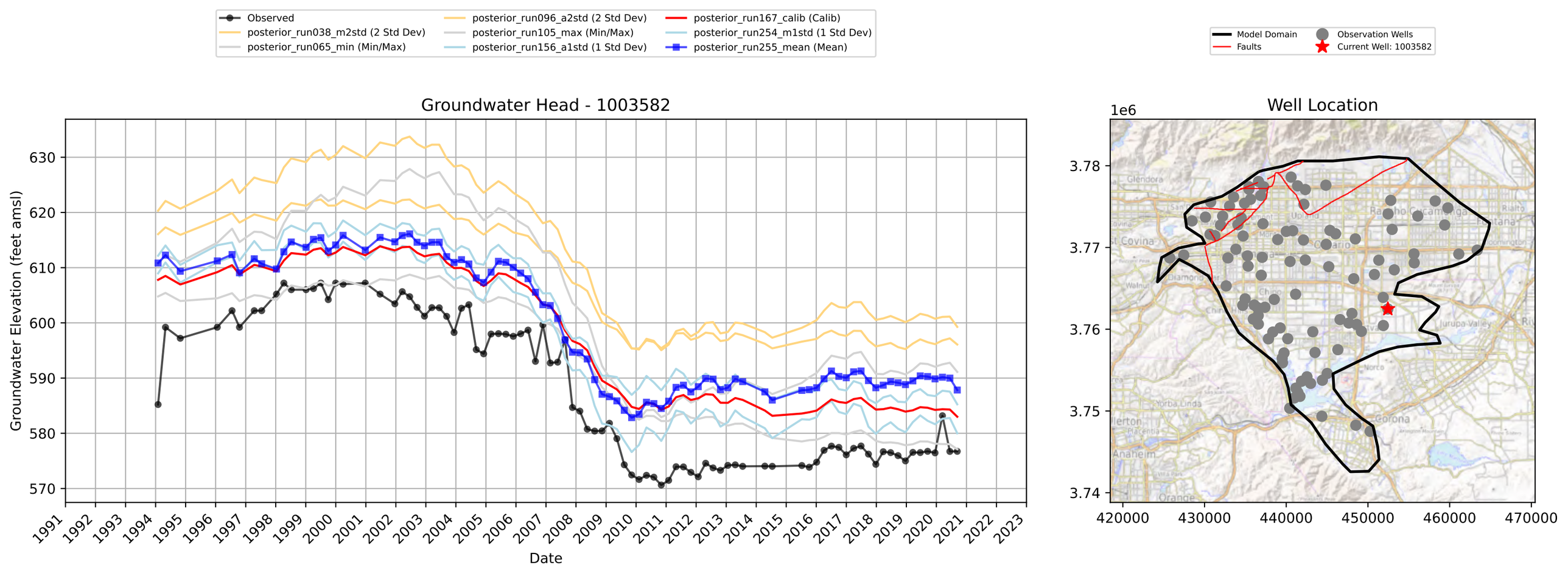

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1203214
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1203214
Well Location
1e6

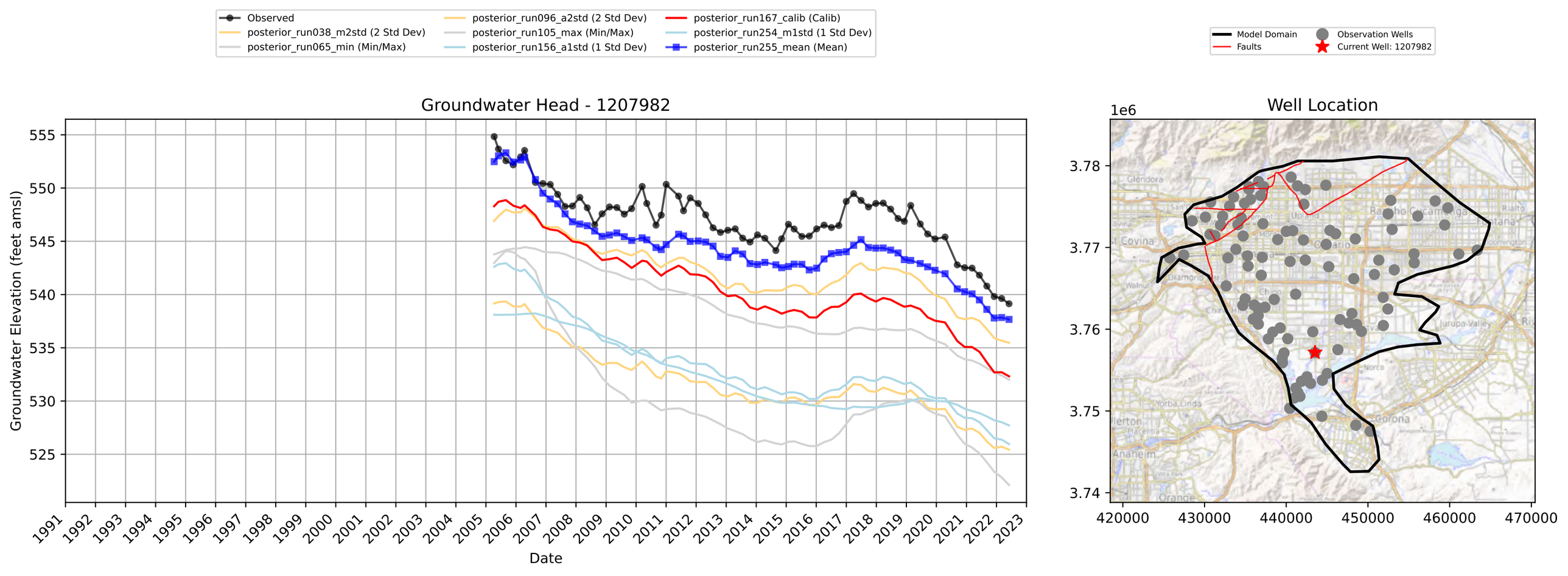

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1000651
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1000651
Well Location
1e6

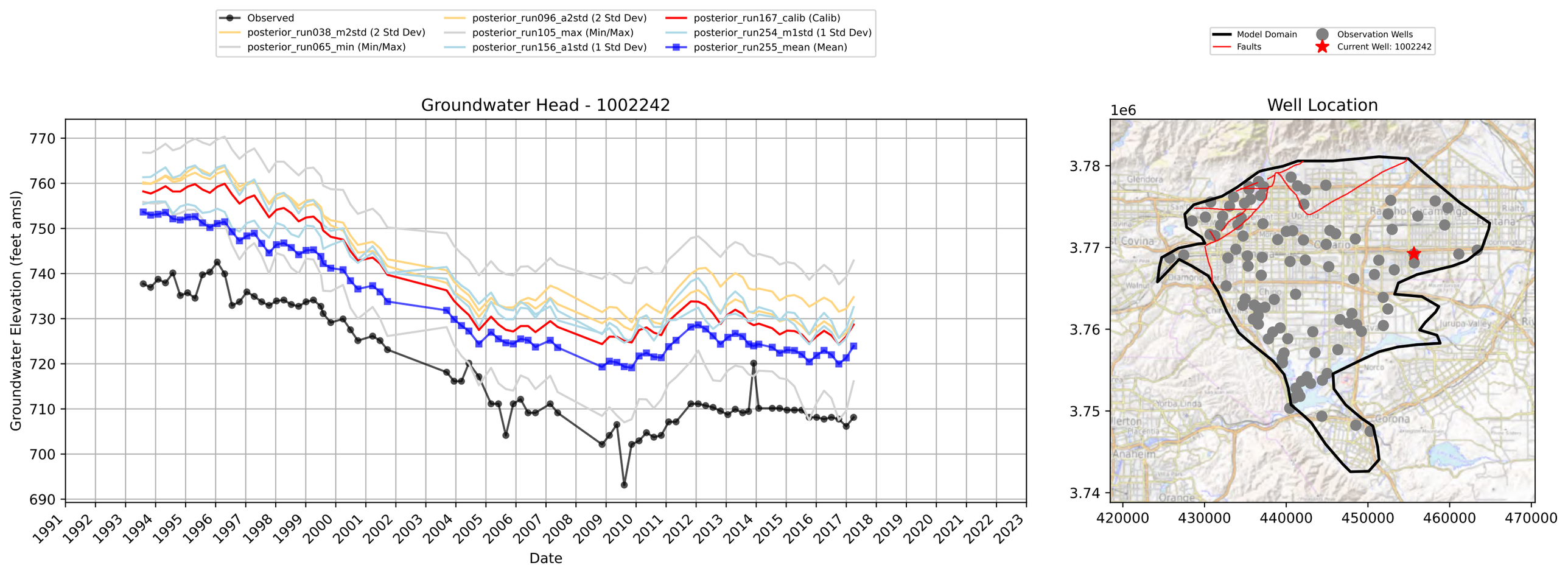

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002723
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002723
Well Location
1e6

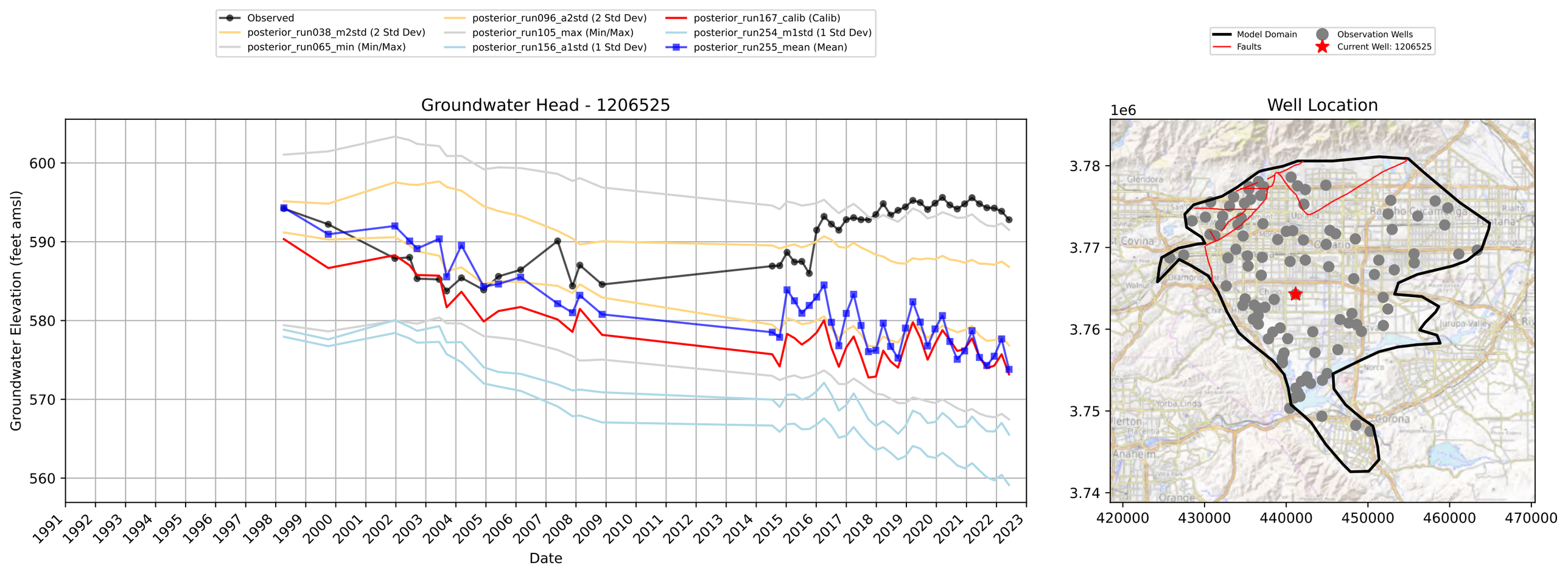

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002489
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002489
Well Location
1e6

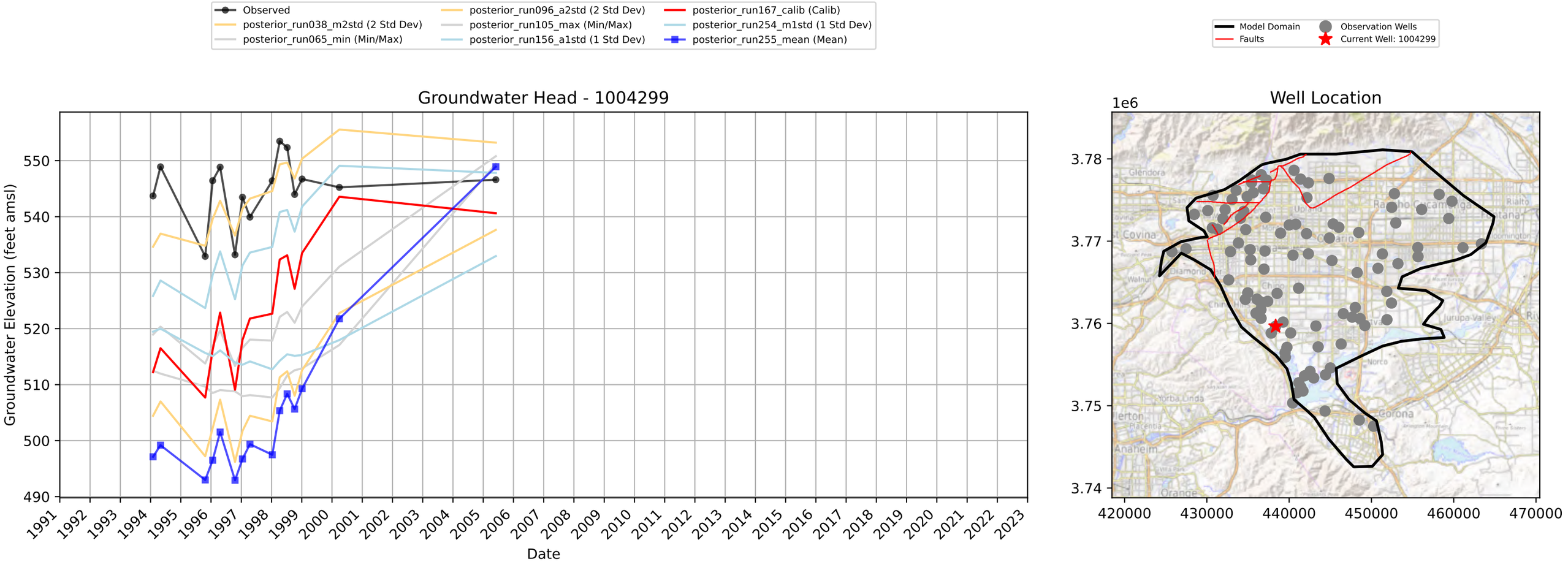

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1207088
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1207088
Well Location
1e6

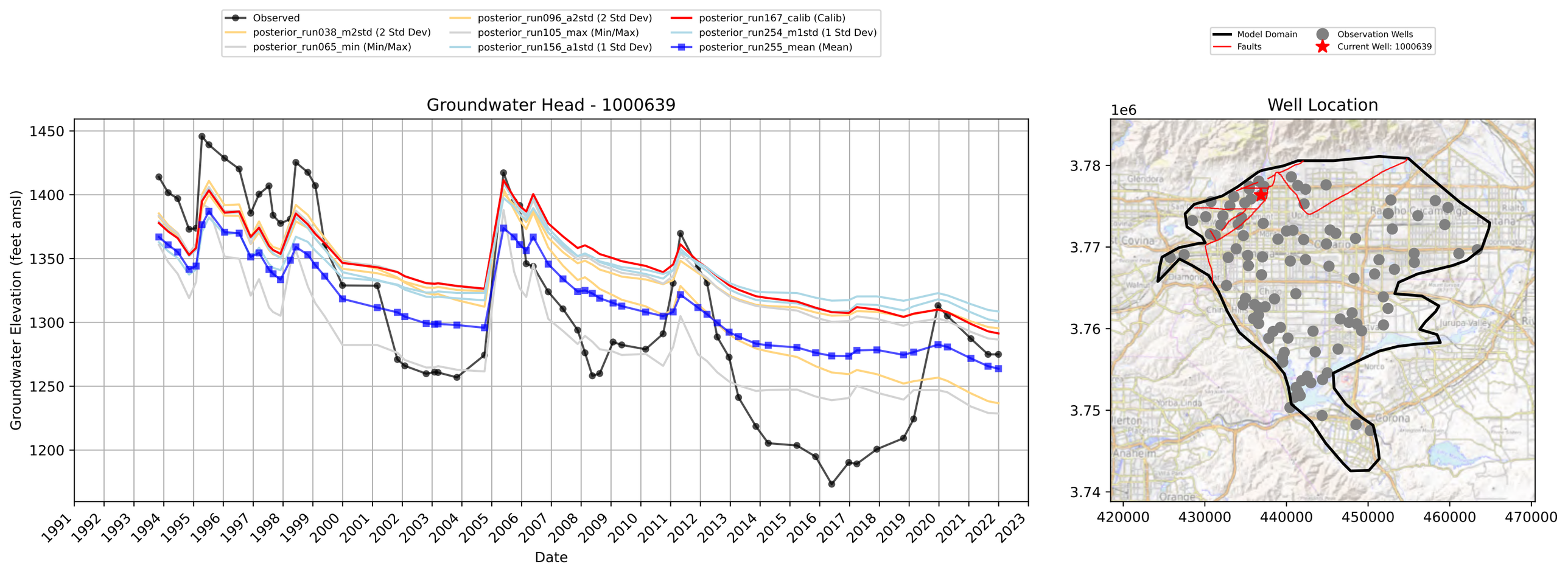

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1003582
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1003582
Well Location
1e6

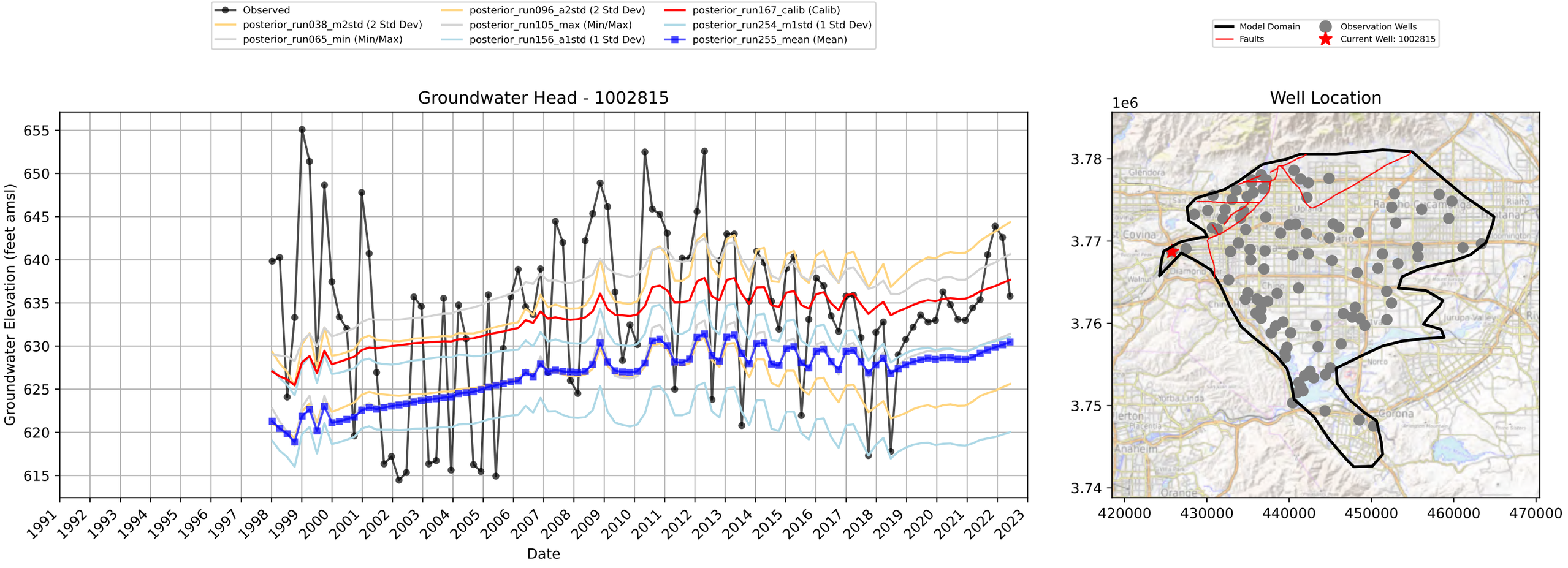

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1207982
Groundwater Elevation (feet amsl)
555
550
545
540
535
530
525
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1207982
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Diamond
Chino
Jurupa Valley
Norco
Corona
Yorba Linda
Anaheim
Orange

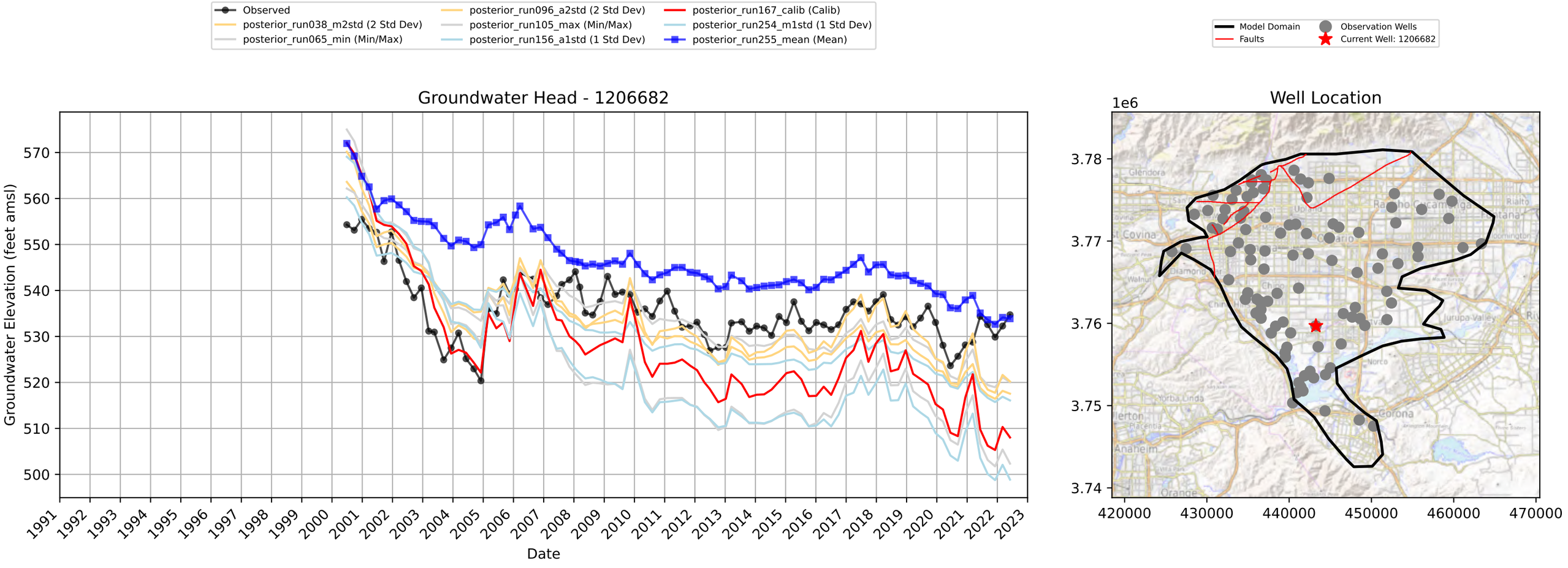

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002242
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002242
Well Location
1e6

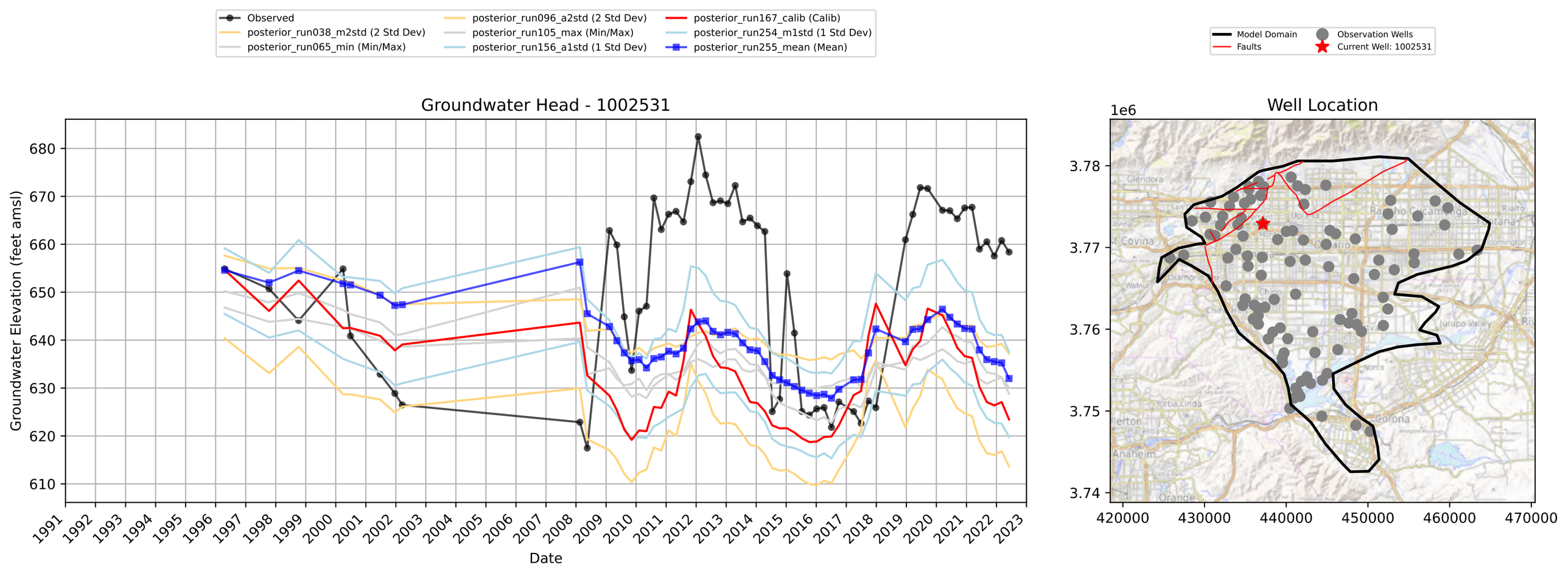

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1206525
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1206525
Well Location
1e6


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1004299
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1004299
Well Location
1e6


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1000639
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1000639
Well Location
1e6


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002815
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002815
Well Location
1e6


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1206682
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1206682
Well Location
1e6


Observed
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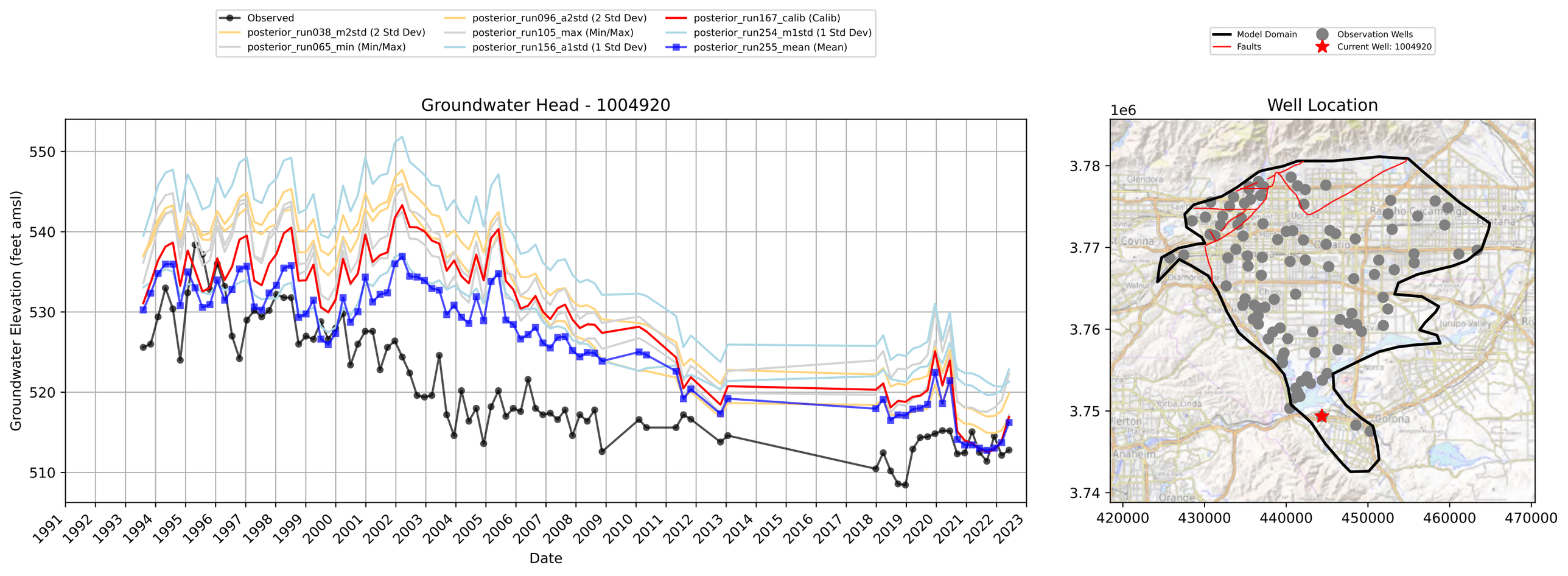
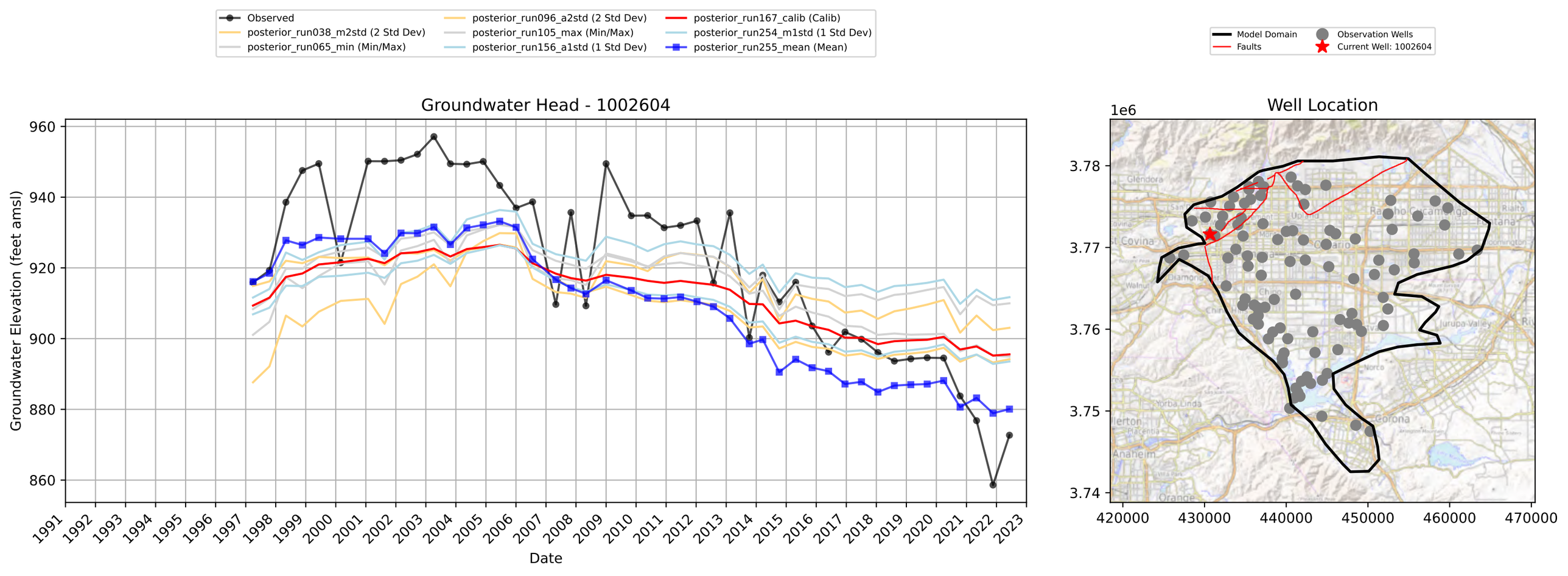
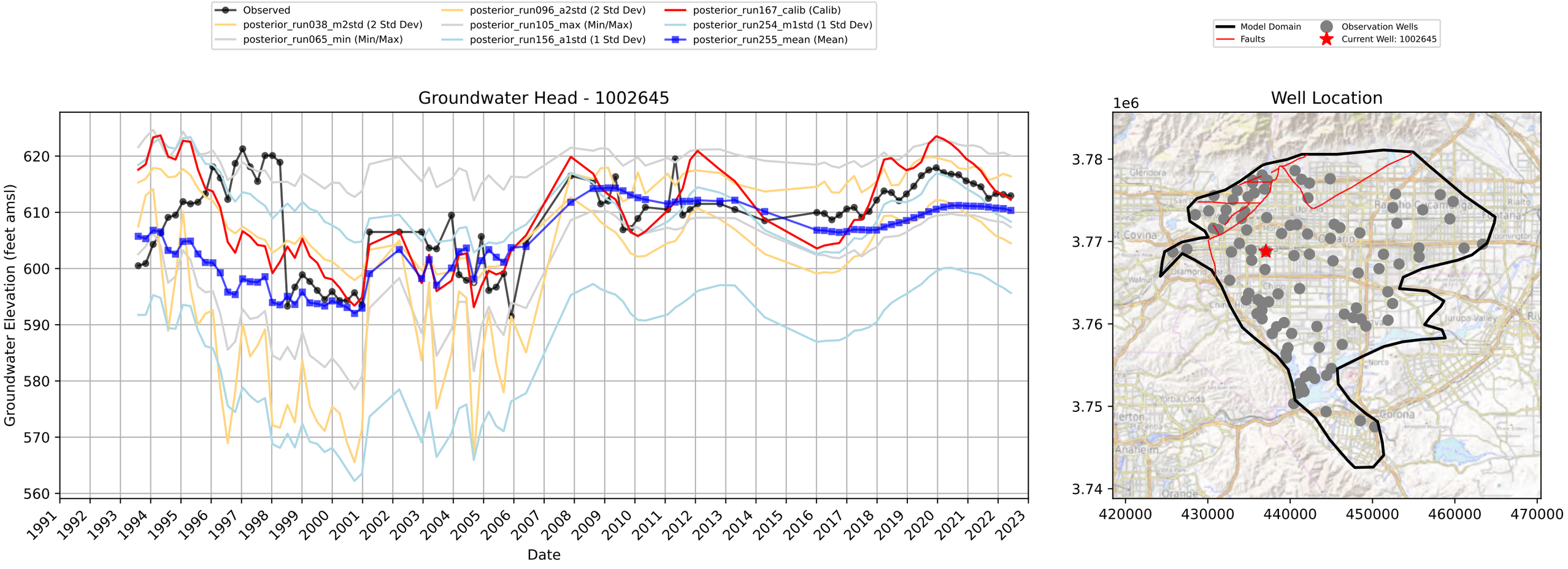
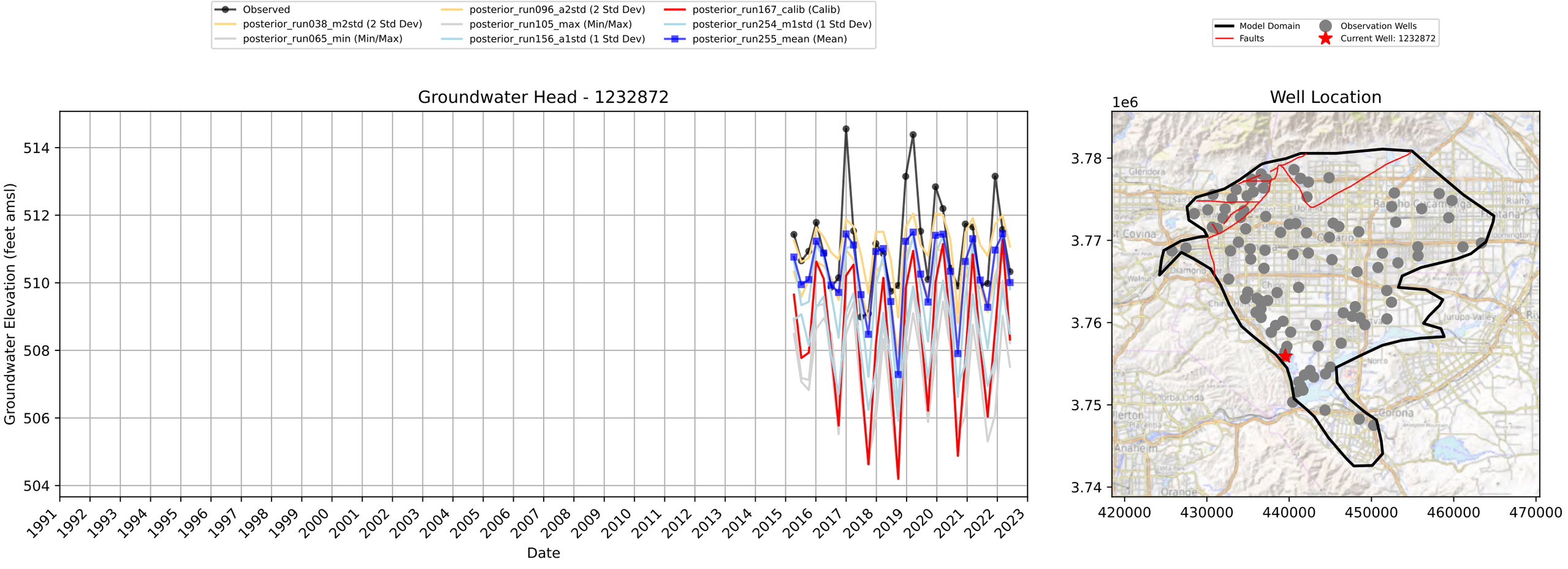
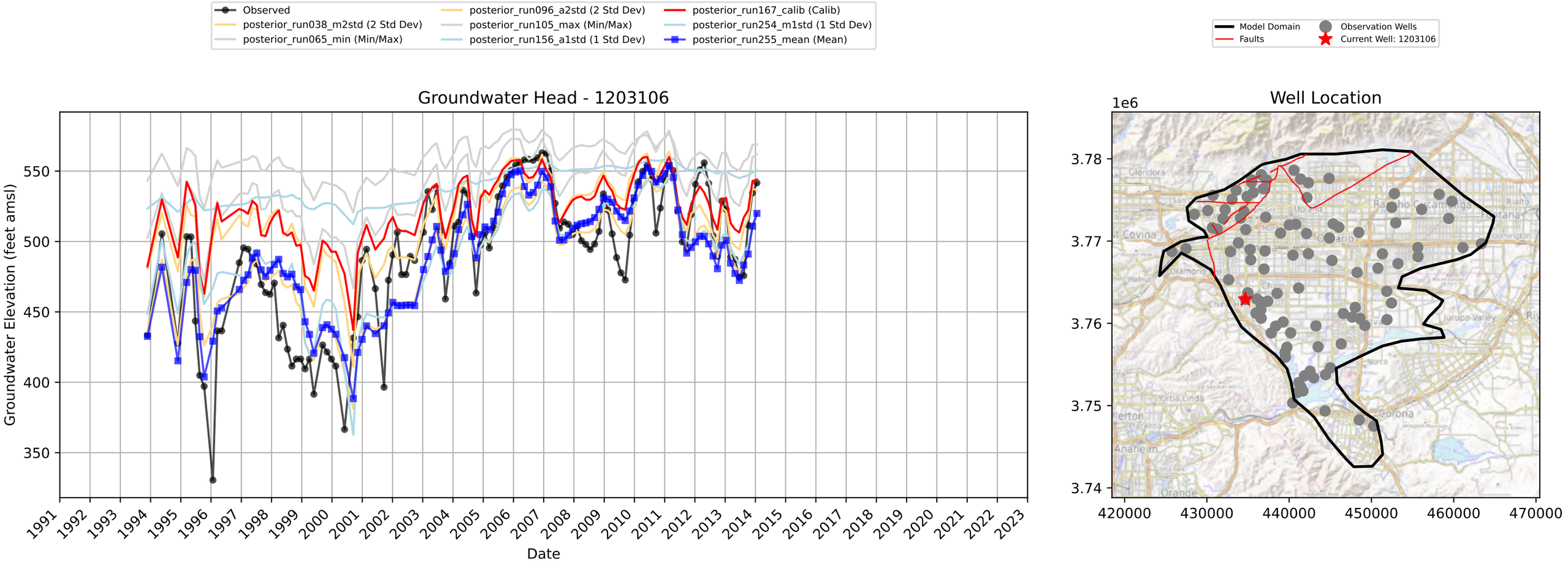
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002531
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002531
Well Location
1e6

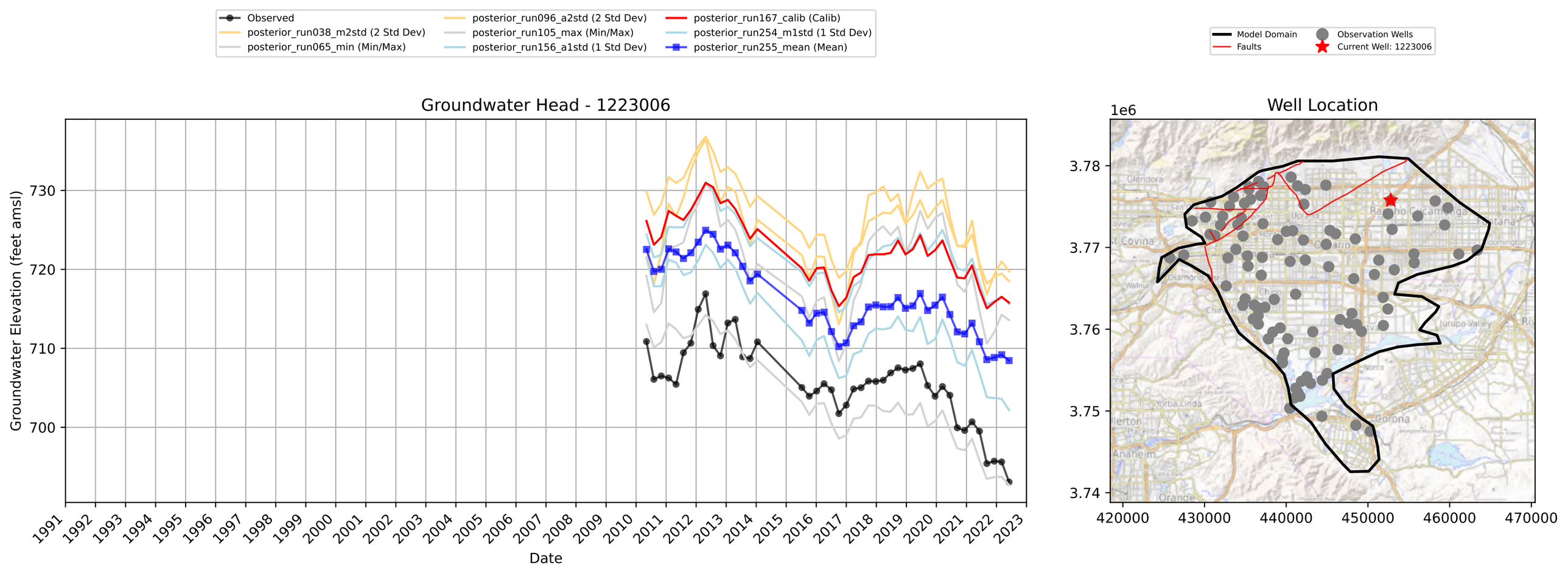

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1004920
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1004920
Well Location
1e6

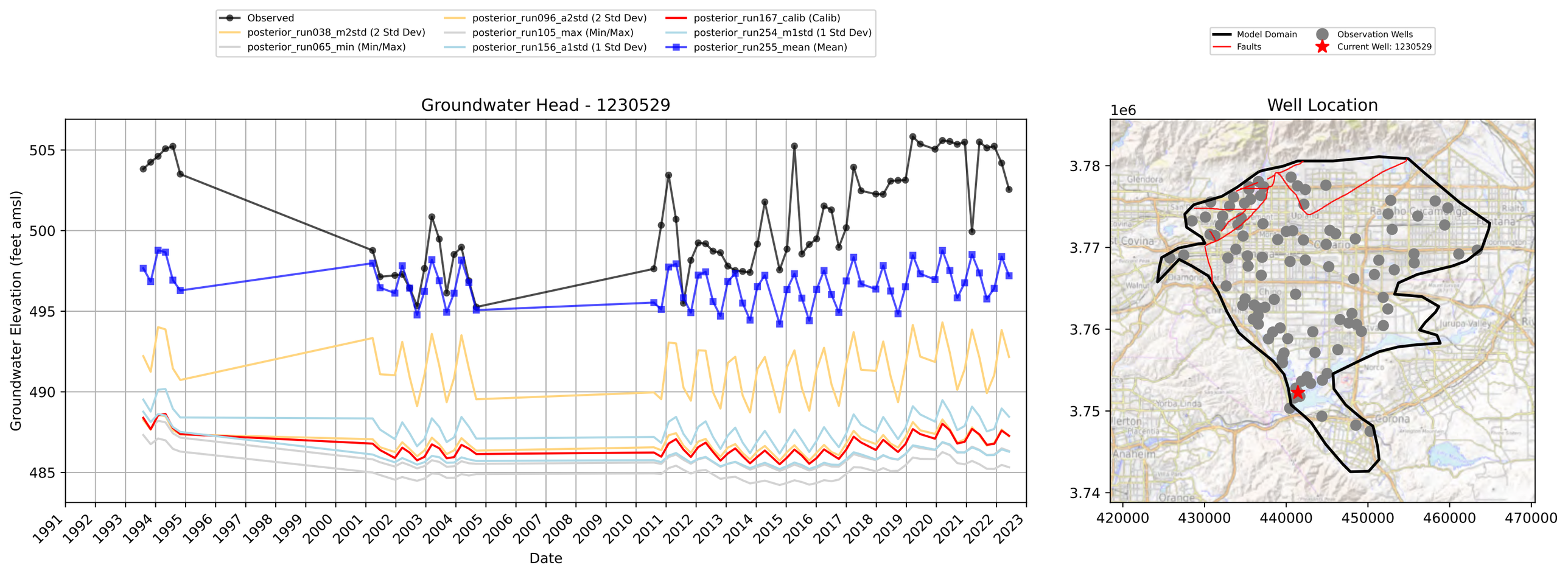

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002604
Groundwater Elevation (feet amsl)
960
940
920
900
880
860
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1002604
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Diamond
Chino
Norco
Corona
Yorba Linda
Anaheim
Orange
Jurupa Valley

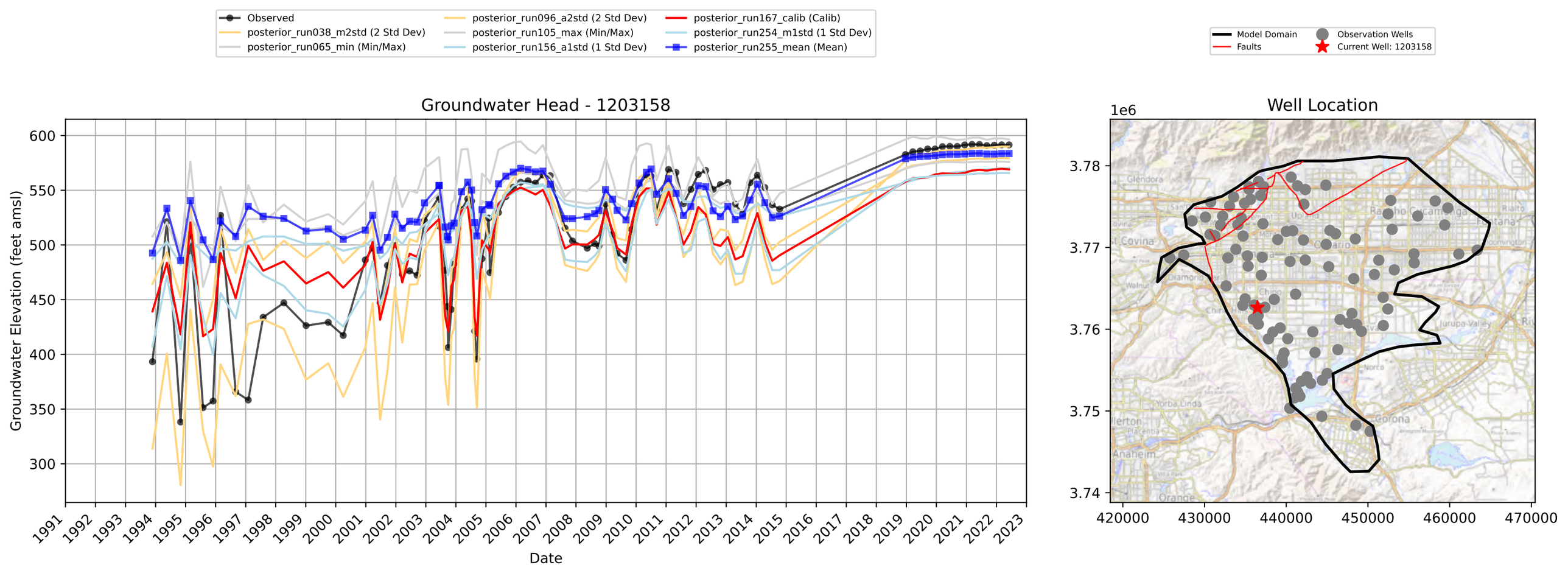

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002645
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002645
Well Location
1e6

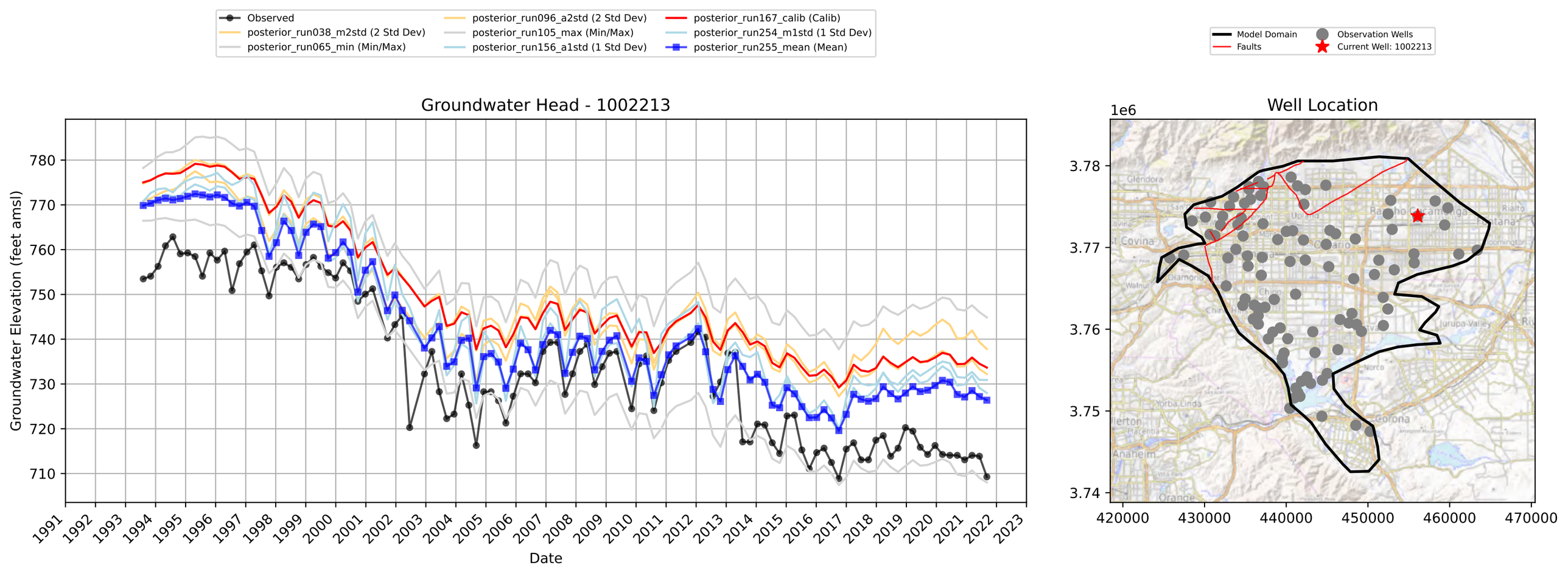

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1232872
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1232872
Well Location
1e6

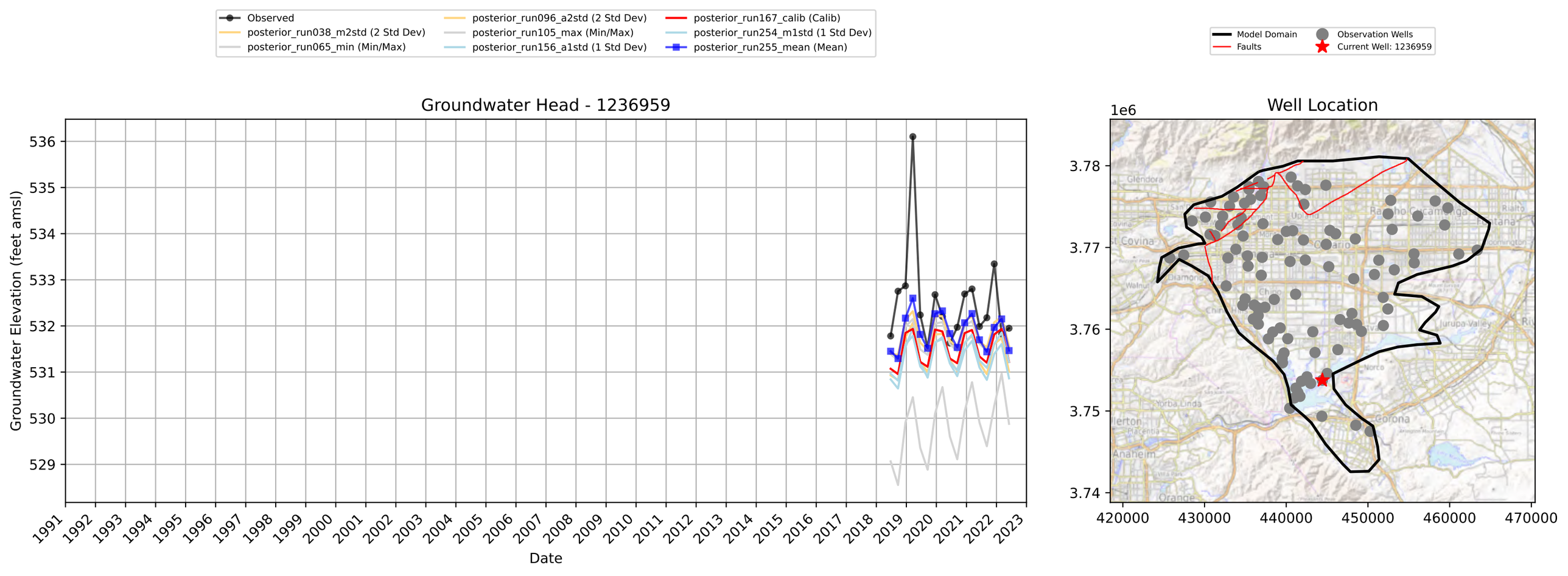

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1203106
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1203106
Well Location
1e6

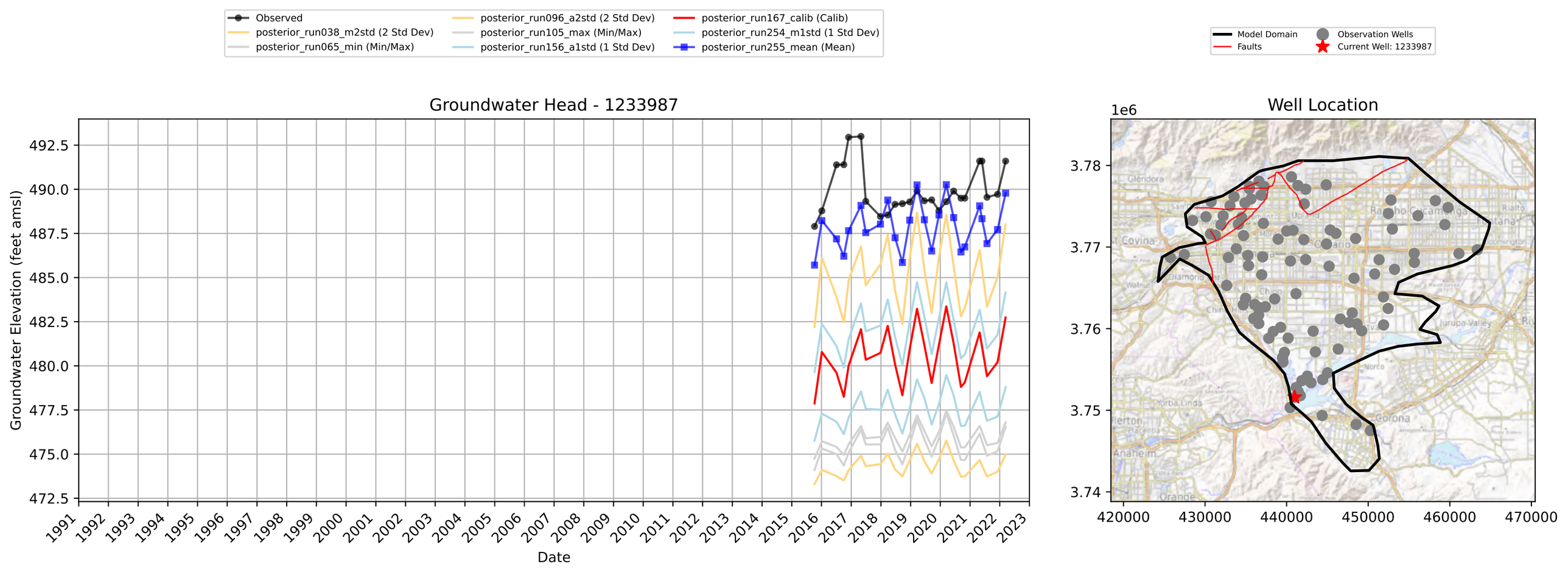

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1223006
Groundwater Elevation (feet amsl)
730
720
710
700
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1223006
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Diamond
Walnut
Chino
Norco
Yorba Linda
Corona
Anaheim
Orange
Jurupa Valley

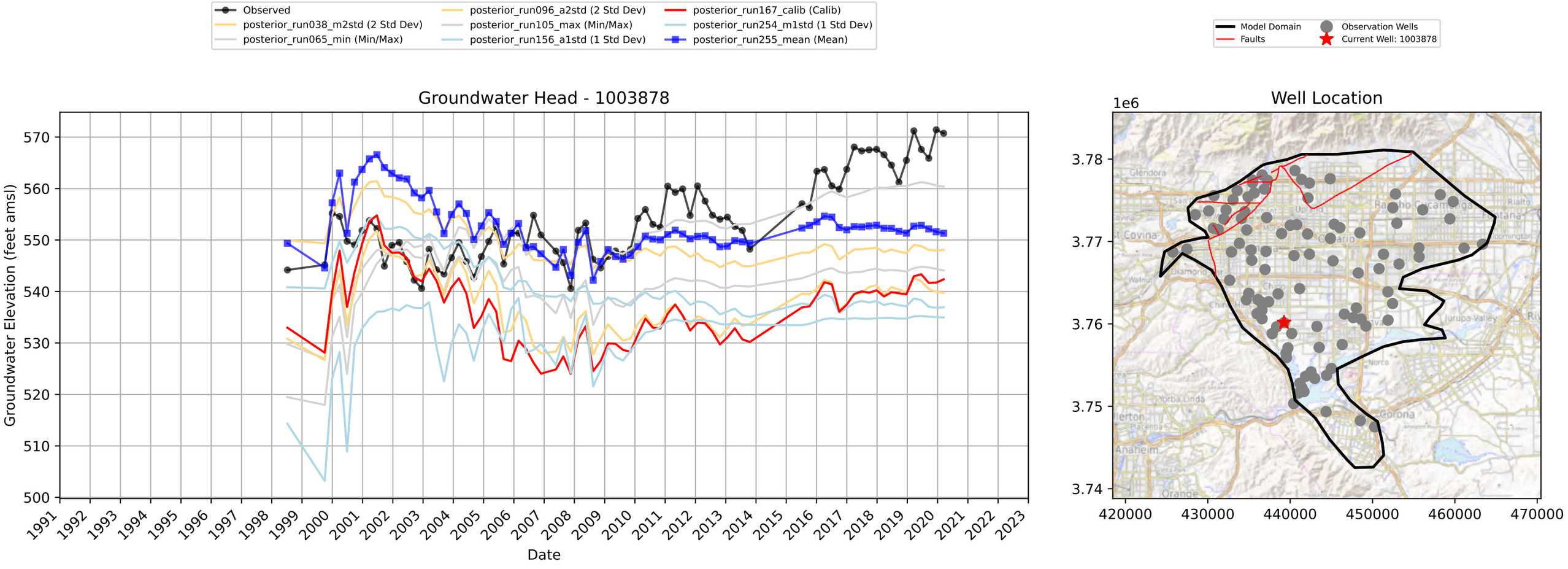

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1230529
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1230529
Well Location
1e6

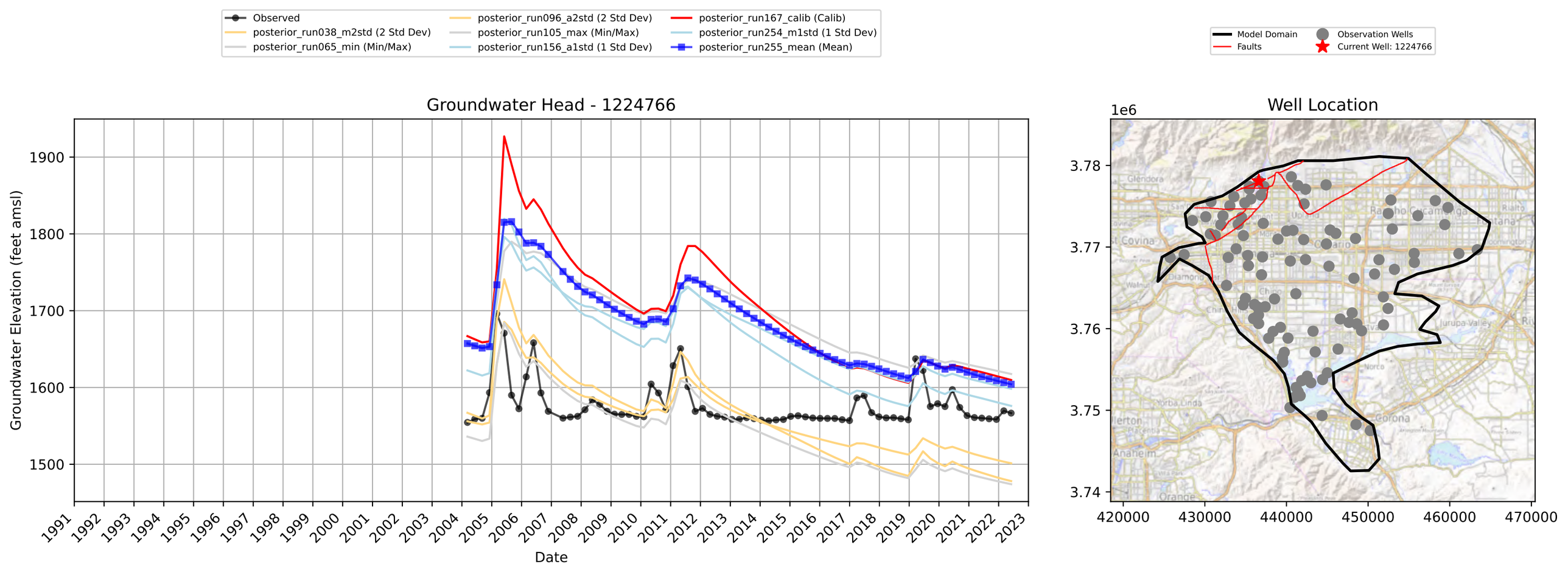

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1203158
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1203158
Well Location
1e6

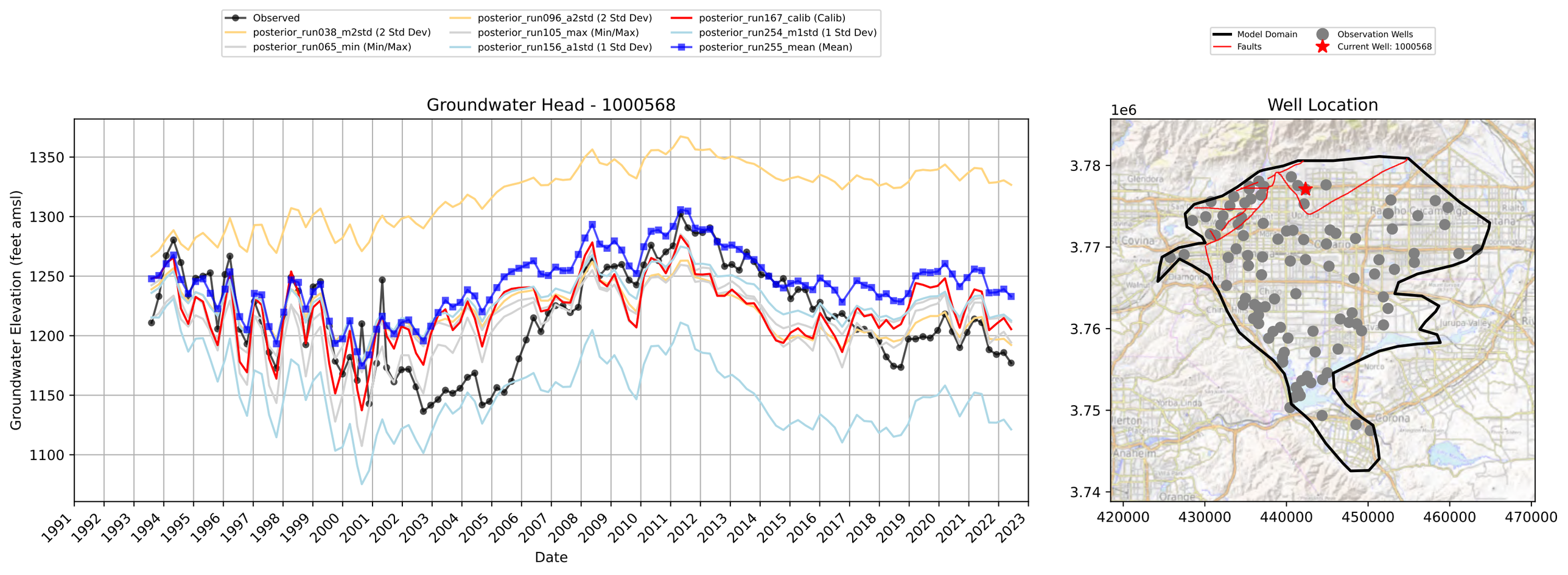

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002213
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002213
Well Location
1e6

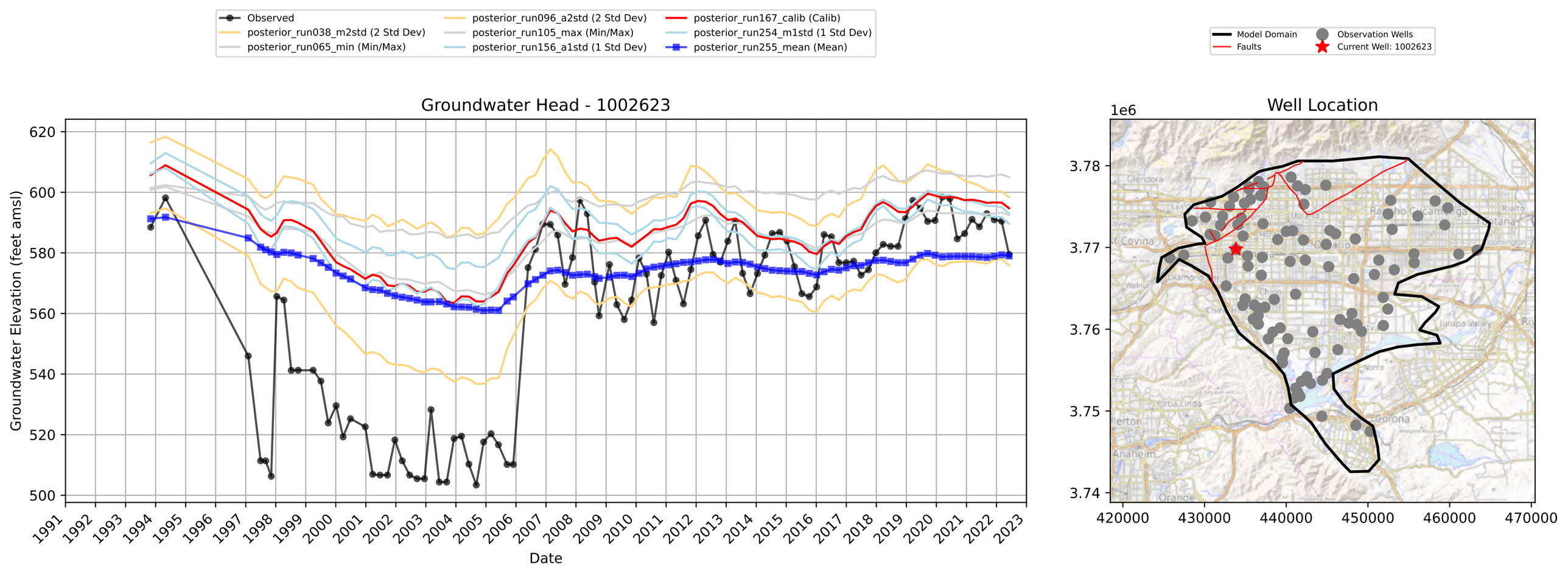

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1236959
Groundwater Elevation (feet amsl)
536
535
534
533
532
531
530
529
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1236959
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Diamond
Walnut
Chino
Rancho Cucamonga
Ontario
Rialto
Fontana
Jurupa Valley
Norco
Yorba Linda
Corona
Anaheim
Orange

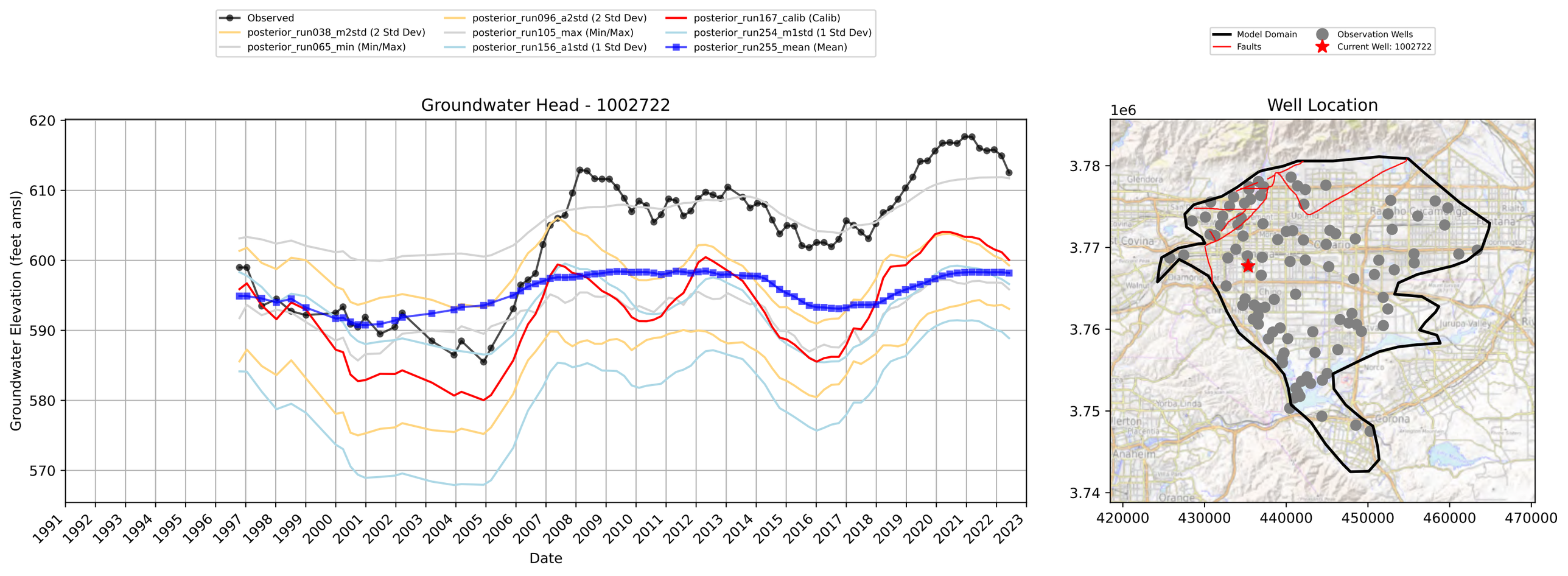

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1233987
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1233987
Well Location
1e6

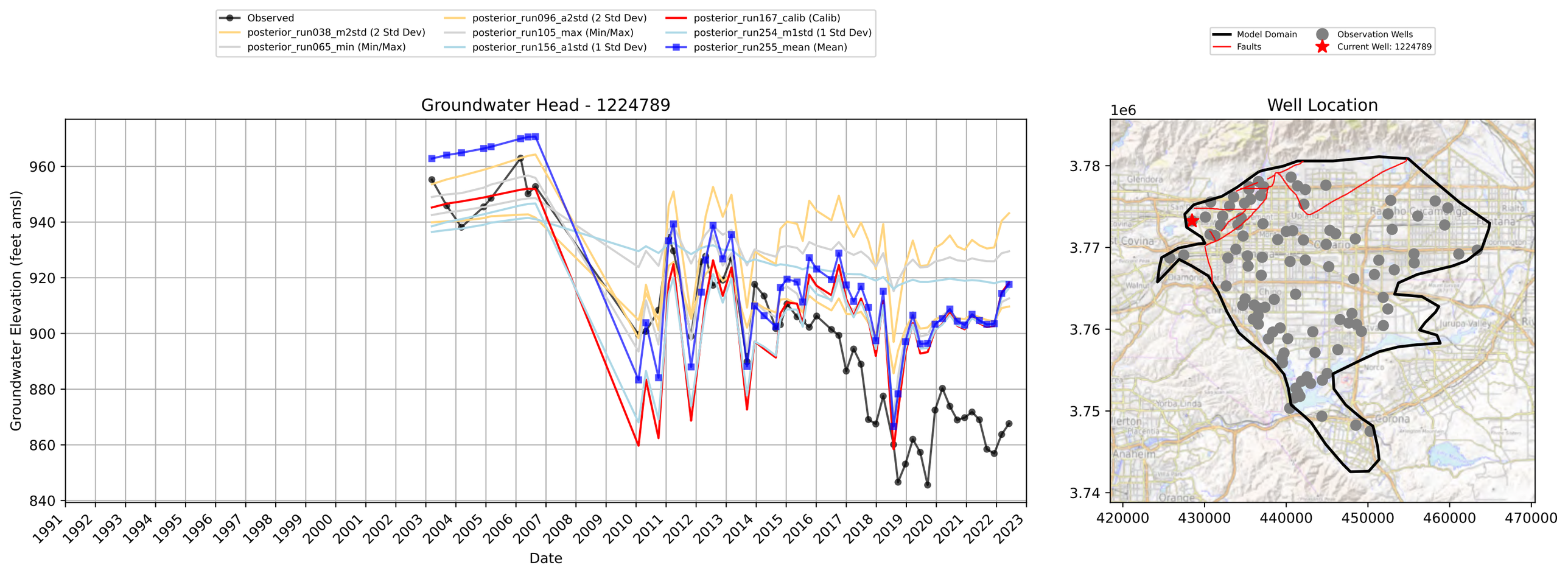

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1003878
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1003878
Well Location
1e6

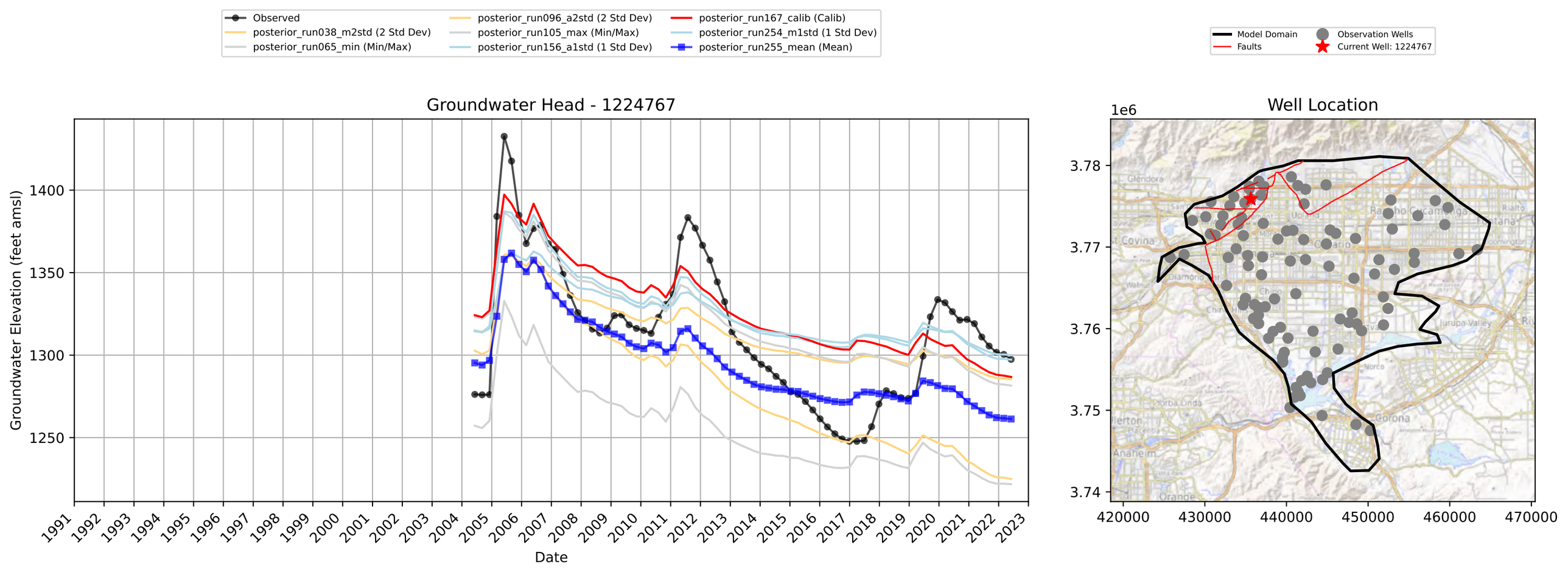

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1224766
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1224766
Well Location
1e6


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1000568
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1000568
Well Location
1e6


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002623
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002623
Well Location
1e6


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002722
Groundwater Elevation (feet amsl)
Date
620
610
600
590
580
570
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Model Domain
Faults
Observation Wells
Current Well: 1002722
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
440000
450000
460000
470000
Glendora
Covina
Diamond
Chino
Jurupa Valley
Norco
Corona
Yorba Linda
Anaheim
Orange


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1224789
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1224789
Well Location
1e6


Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1224767
Groundwater Elevation (feet amsl)
1400
1350
1300
1250
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
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Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
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450000
460000
470000
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Covina
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Anaheim
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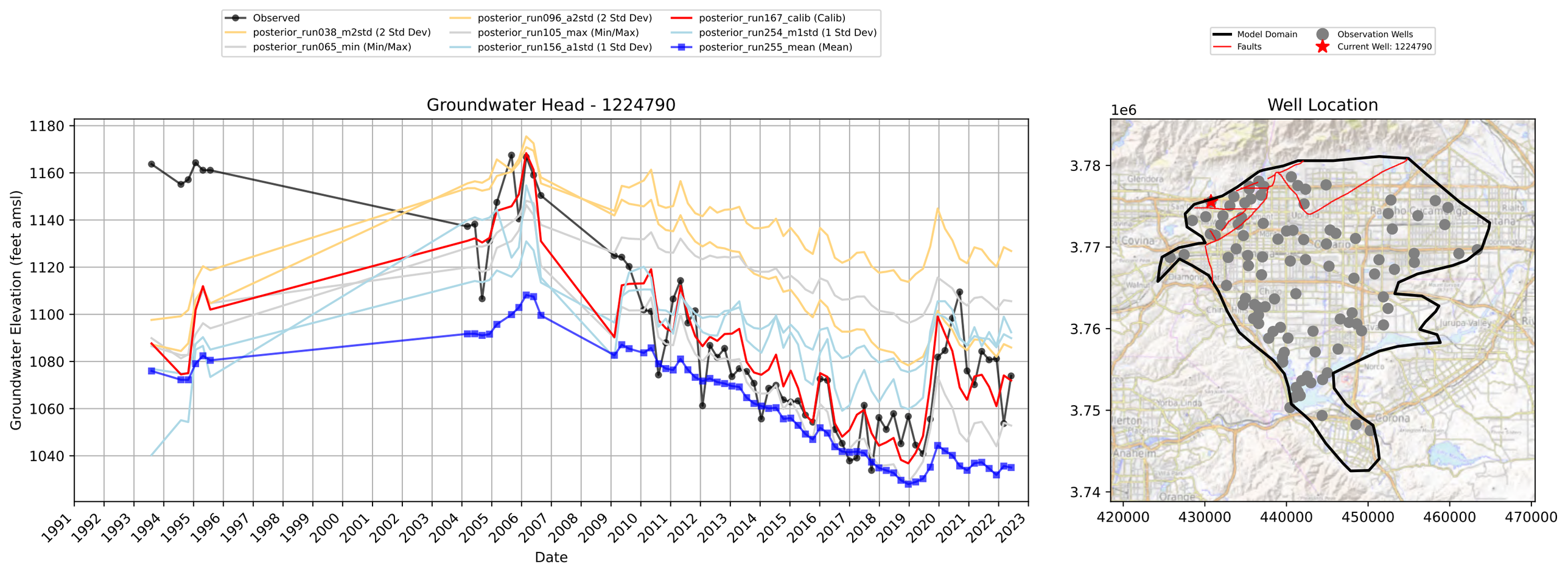
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Date
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Faults
Observation Wells
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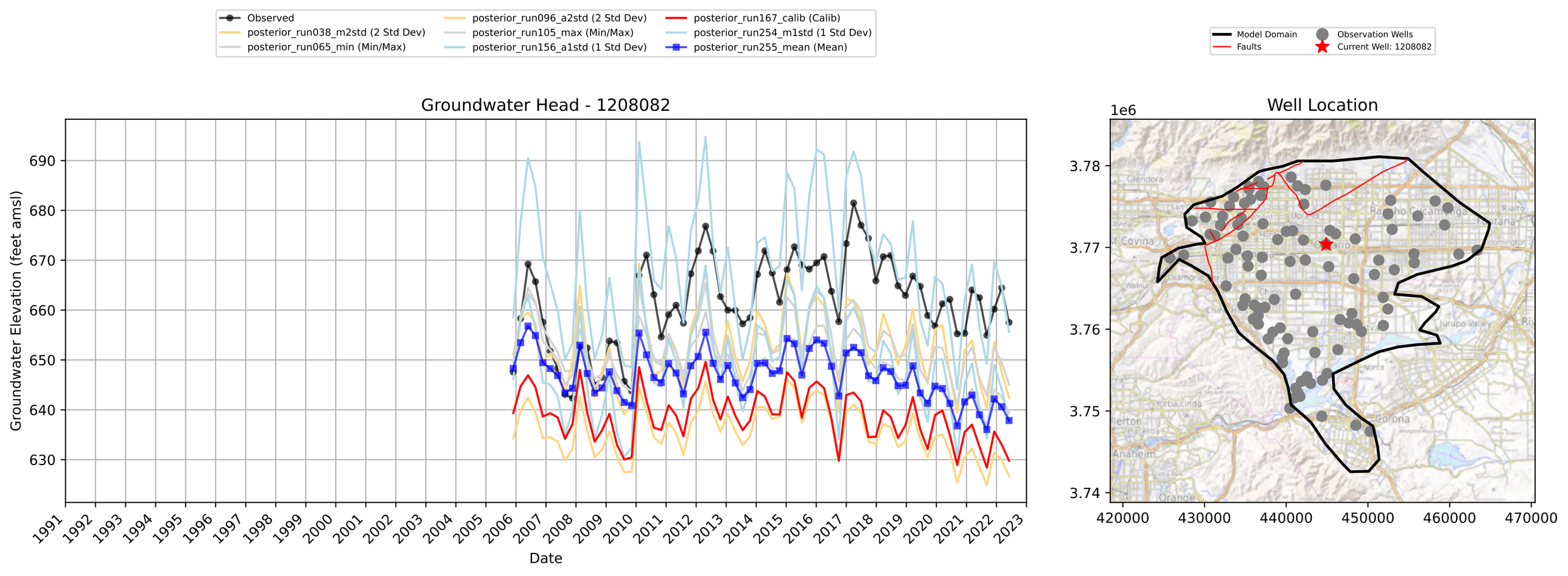
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posterior_run255_mean (Mean)
Groundwater Head - 1208082
Groundwater Elevation (feet amsl)
690
680
670
660
650
640
630
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1208082
Well Location
1e6
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3.77
3.76
3.75
3.74
420000
430000
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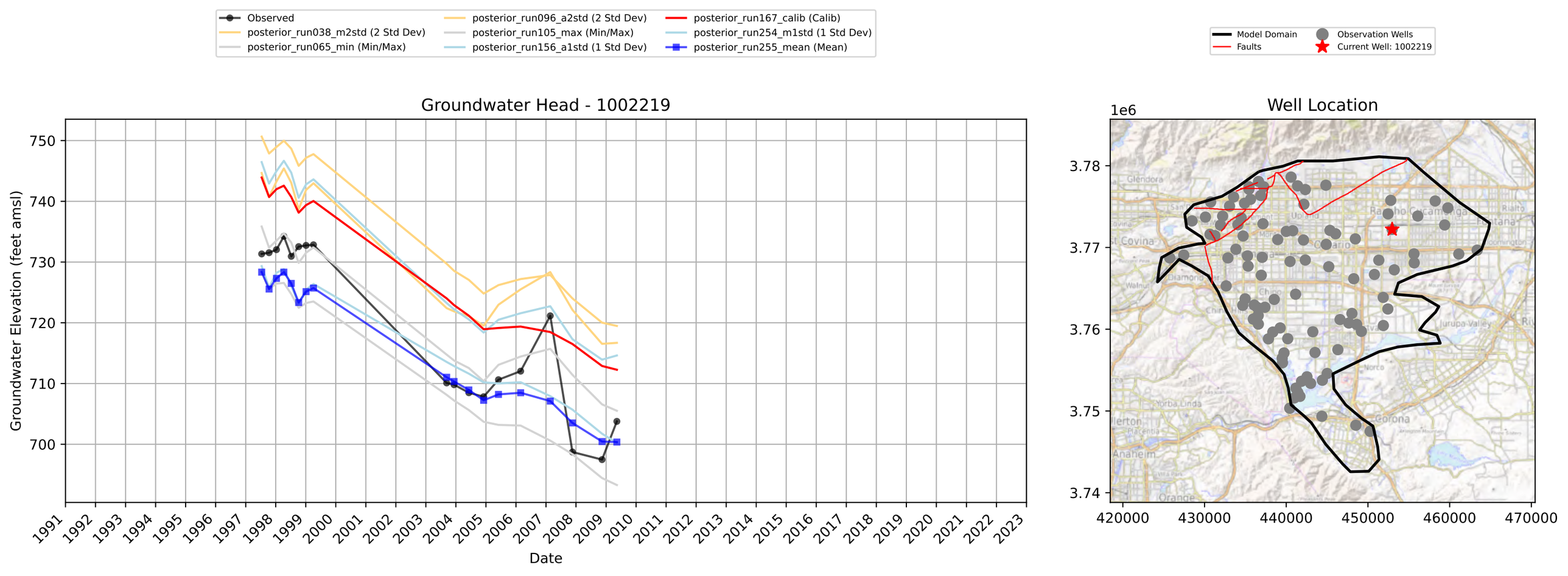
Orange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posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
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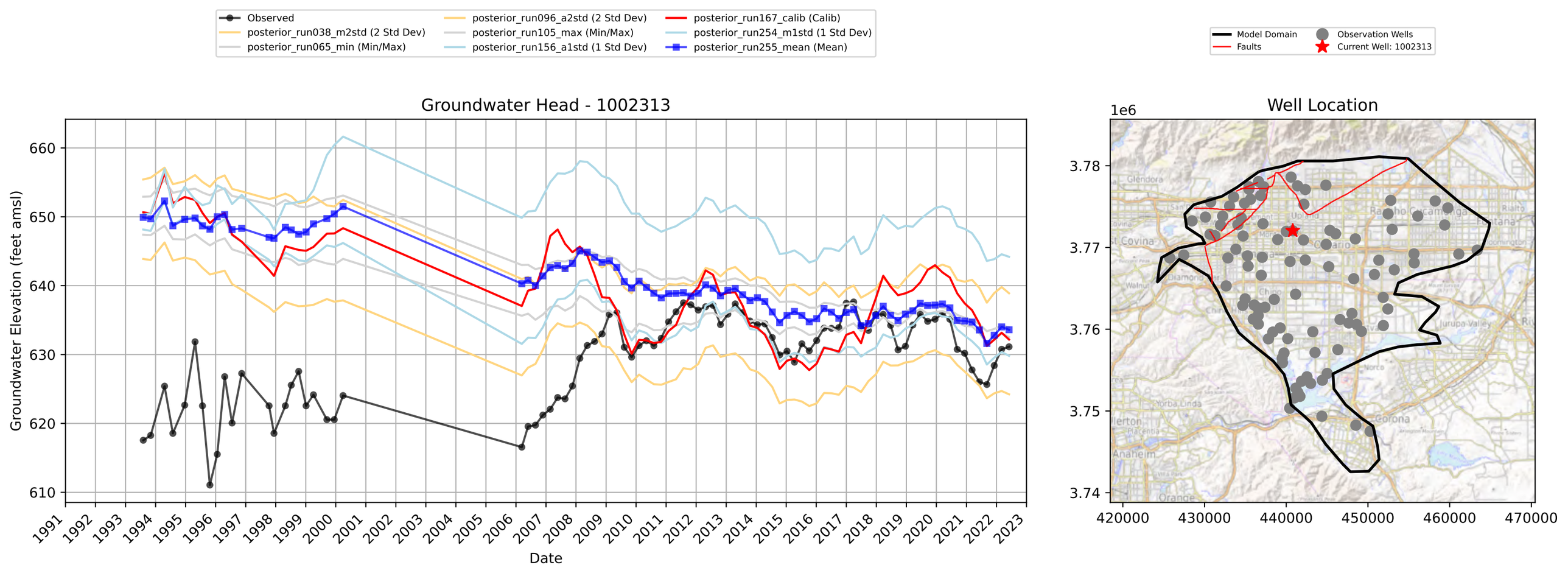
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002219
Well Location
1e6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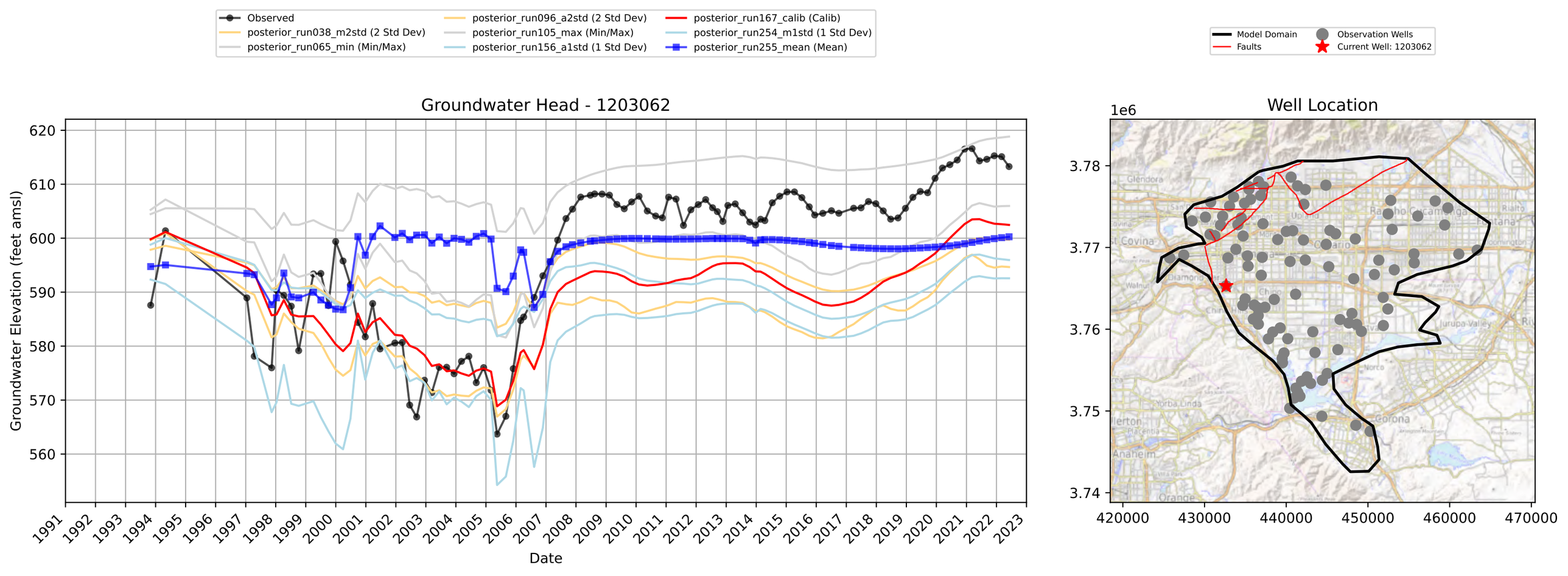
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002313
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002313
Well Location
1e6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posterior_run255_mean (Mean)
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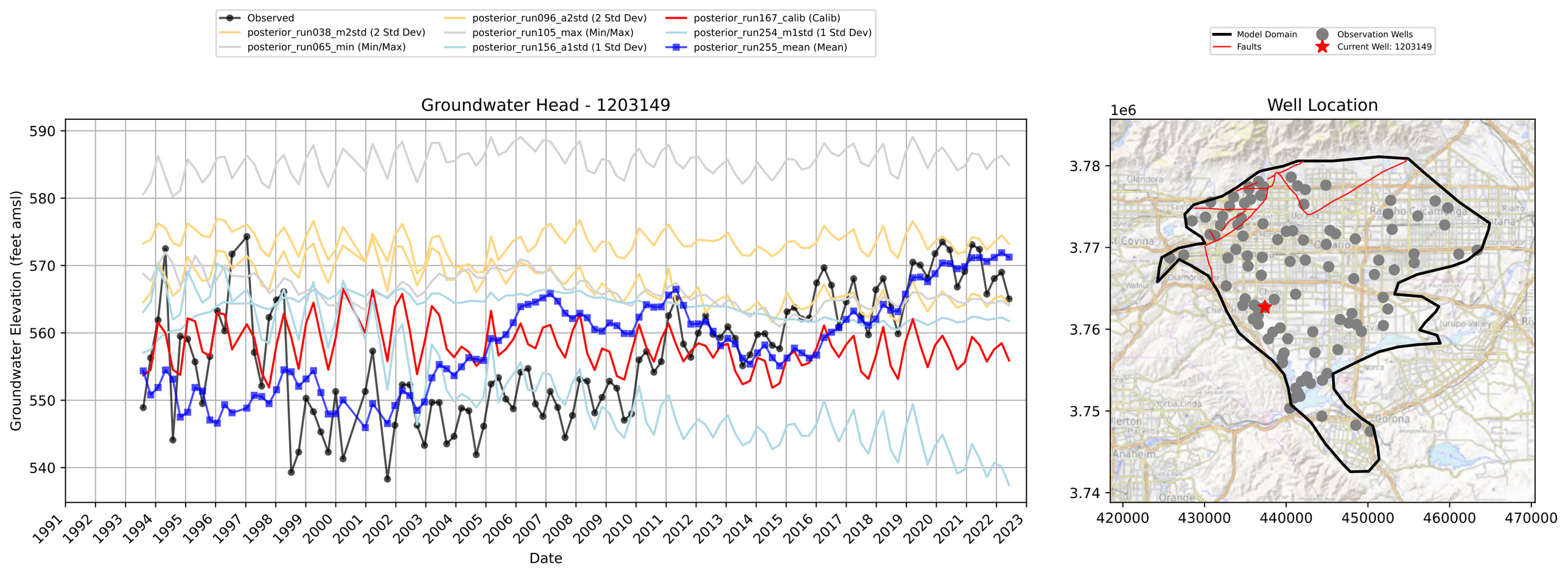
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1203062
Well Location
1e6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posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1203149
Groundwater Elevation (feet amsl)
590
580
570
560
550
540
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1203149
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
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Covina
Diamond
Chino
Norco
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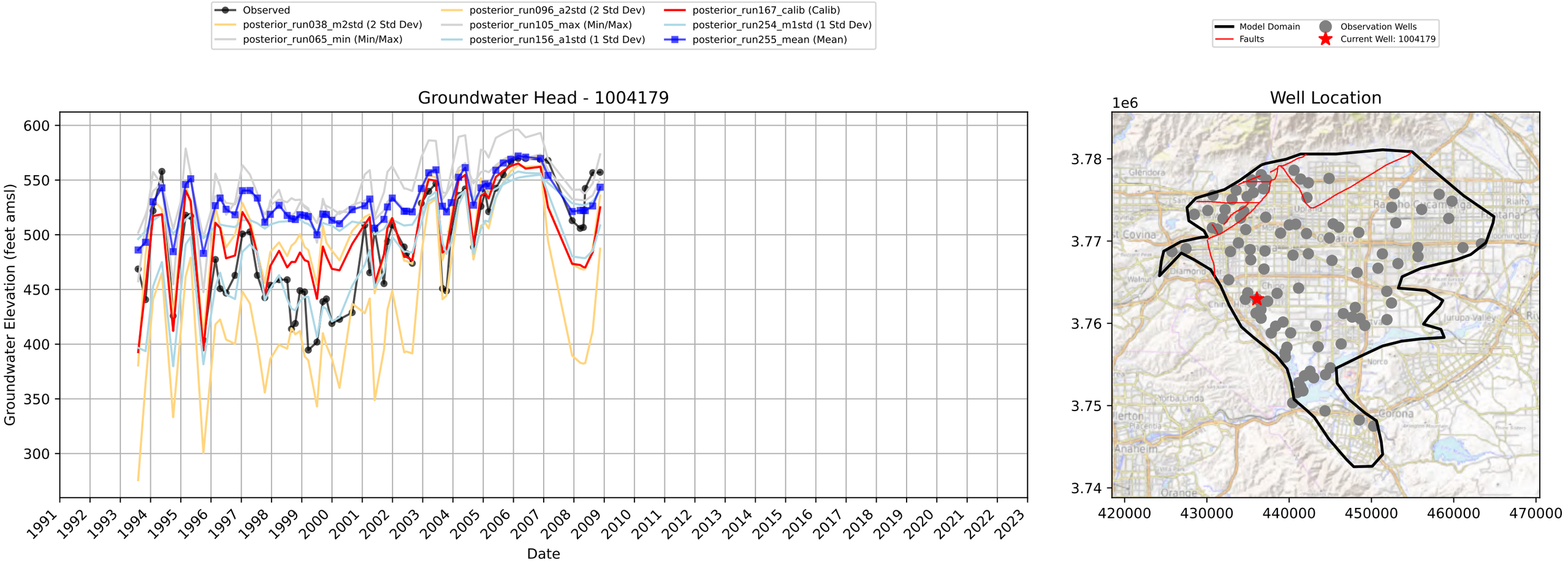
Yorba Linda
Anaheim
Orange
Jurupa Valley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posterior_run156_a1std (1 Std Dev)
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posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
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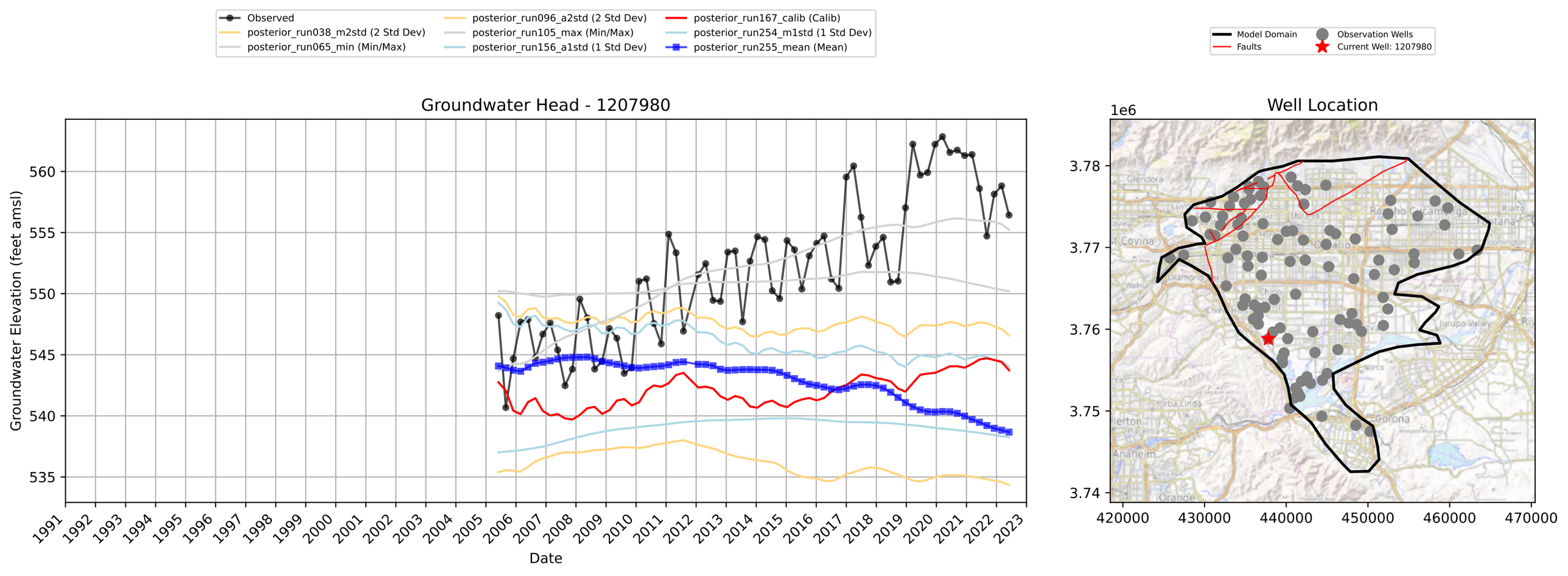
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1004179
Well Location
1e6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posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1207980
Groundwater Elevation (feet amsl)
560
555
550
545
540
535
1991
1992
1993
1994
1995
1996
1997
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1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1207980
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
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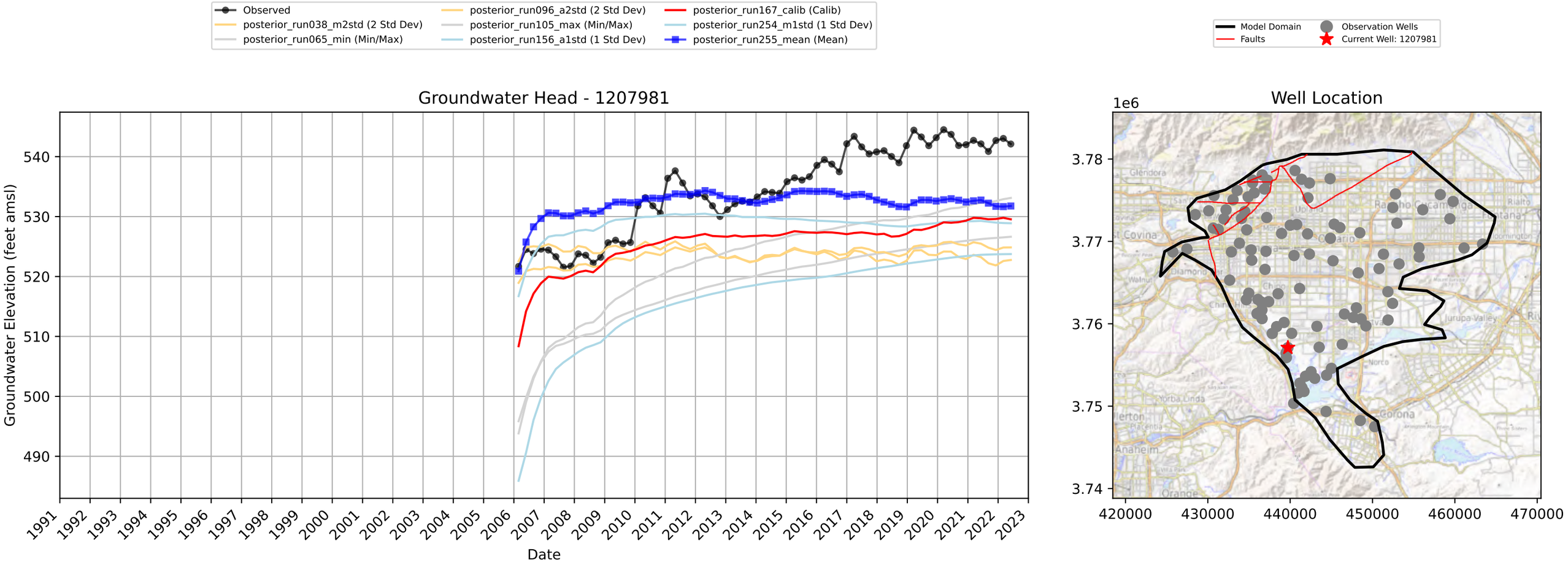
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posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1207981
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1207981
Well Location
1e6

E3. Comments to the Chino Basin Watermaster Draft Report on the 2025 Safe Yield Reevaluation (December 2025) Appropriative Pool (Thomas Harder & Company)

DRAFT

Thomas Harder & Co.
Groundwater Consulting

December 5, 2025

Mr. John Schatz, Esq.
P.O. Box 7775
Laguna Niguel, CA 92607-7775

Re: Comments to the Chino Basin Watermaster Draft Report on the 2025 Safe Yield Reevaluation

Dear John:

This letter summarizes our review of Chino Basin Watermaster's draft report entitled "2025 Safe Yield Reevaluation," dated October 2025. The 2025 Safe Yield Reevaluation summarized in the draft report is the culmination of numerous workshops, consultant and stakeholder input, and 3rd party peer review. While we were able to render opinions and comment on the Safe Yield Reevaluation (SYR) methodology and the assumptions used for input into the various models used to estimate Safe Yield, we did not have the benefit of reviewing the electronic model and parameter estimation files and, therefore, must rely on the 3rd party peer review by S.S. Papadopulos and Associates (SSP&A) for validation of the calculations used to arrive at the Safe Yield estimate (it is our understanding that they had access to the model and parameter estimation files). Along those lines, we have yet to receive responses to our January 9, 2025 "responses to responses" letter. That letter requested, among other things, that model files be provided.

It is our understanding that 45 calibrated realizations of the Chino Valley Model (CVM) were considered in the forecast uncertainty analysis to reevaluate the Chino Basin Safe Yield. The likelihood weighted average Safe Yield from the analysis was 117,500 acre-ft/yr

We have general comments, questions and recommendations regarding the following key topics:

- Deep Infiltration of Precipitation and Applied Water (DIPAW)
- Santa Ana River (SAR) Infiltration
- Model Calibration

Our remaining comments focus on the recommendations provided by SSP&A and our opinion as to whether addressing those recommendations would significantly impact the 2025 SYR.

Deep Infiltration of Precipitation and Applied Water (DIPAW)

DIPAW is the largest single contributor to inflow in the Chino Basin. Other inflows are boundary inflow ("underflow"), recharge through the streambed of the Santa Ana River, and managed aquifer recharge (MAR). Based on the water budget for Realization C,[1] of the average 174,607 acre-ft/yr of total recharge between 1992 and 2022 (including managed recharge), 86,066 acre-ft/yr (49 percent) came from DIPAW. Between 1992 and 2000, the relative percentage was 58 percent of the total recharge.

Both the 2020 and 2025 SYR evaluations have shown that the rate of recharge from DIPAW has been steadily decreasing since approximately Yr 2000. Referencing the period from Yr 2000 to 2022 from Realization C of the 2025 SYR, DIPAW reduced from 105,227 acre-ft in Yr 2000 to 60,536 acre-ft in 2022, which amounts to approximately 44,700 acre-ft/yr of reduced recharge to the basin. While there is not a 1:1 correlation between reduced DIPAW and reduced estimates of Chino Basin Safe Yield over the period between 2000 and 2020, the reductions in DIPAW appear to be a major factor in the decrease.

Review of the DIPAW estimates in the 2025 Safe Yield Reevaluation has raised some questions.

Why is the range of historical DIPAW estimates from the 45 calibrated realizations so narrow?

Prior to 2022, the stated range of annual DIPAW, based on analysis of the 45 calibrated realizations used in the uncertainty analysis, was very near the mean. By comparison, the 20th and 80th percentile deviation from the mean in the forecast appears to be as much as +/- 10,000 acre-ft in any given year (see below Figure 1). Given the uncertainty in recharge from precipitation and applied water, it would be expected that the historical DIPAW estimates (prior to 2022) would have a much greater uncertainty than indicated on Figure 6-8. On a related note, Figure 4-17 (and again on Figure 4-24) shows the range of net recharge during the historical period (1992 to 2022) to be approximately 30,000 acre-ft. Given the very narrow range of DIPAW, what process(es) is/are the source of this uncertainty in net recharge for the historical period?

[1] West Yost, 2025. Draft 2025 Safe Yield Reevaluation. Appendix B

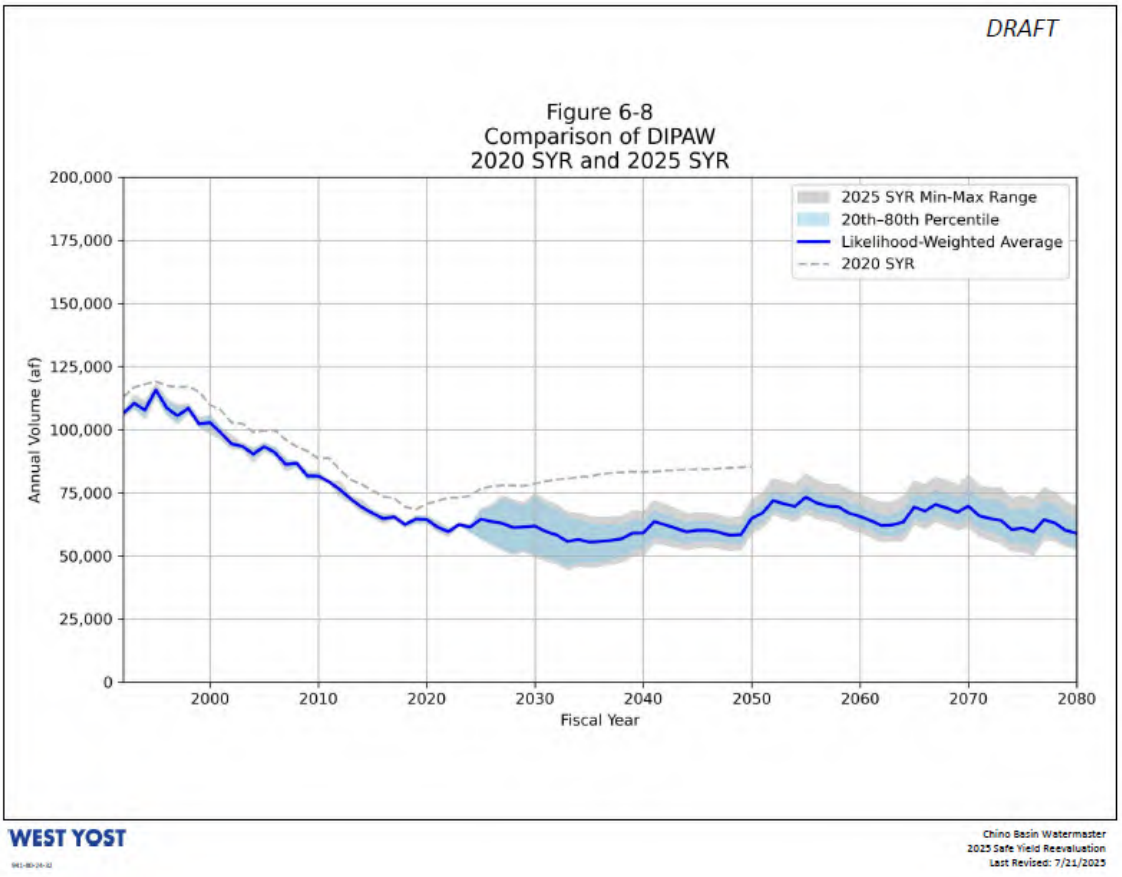

Figure 1. 2025 Safe Yield Reevaluation - Comparison of 2020 and 2025 DIPAW

Why are the 2020 SYR DIPAW estimates from the historical period (model calibration) consistently higher than the range of DIPAW from the 2025 SYR realizations?

The 2020 SYR DIPAW estimates for the historical period were consistently higher than the mean 2025 SYR DIPAW estimates and are outside the range of uncertainty for DIPAW (see gray dashed line on the above Figure 6-8). Comparison of annual 2020 DIPAW estimates with 2025 DIPAW estimates shows that the 2020 values are, on average,[2] approximately 8,500 acre-ft/yr higher than those from 2025. In some years (e.g. 1999), the 2020 DIPAW is as much as 13,500 acre-ft higher than was estimated for the 2025 SYR. It would be expected that the 2020 DIPAW estimates would be in the range of uncertainty. What changed in the updated model analysis to result in the lower DIPAW?

In answering the above questions, it would be helpful to understand which of the DIPAW factors (precipitation or applied water) has the greatest impact on the reduction. West Yost does not

[2] We compared the averages of both the 2020 SYR DIPAW and 2025 SYR DIPAW for the 1992 to 2018 period common to both analyses.

explicitly quantify each element of DIPAW in the historical water budgets published in the draft report.[3] Precipitation for the period from 1999 to 2022 was generally below the long-term average which would be expected to result in less infiltration. Decreases in applied water would generally be expected after Yr 2000 resulting from a transition of land use in the southern Chino Basin from irrigated crops and dairy to urban development.

- To what degree is precipitation vs applied water recharge a factor in controlling the reduction in DIPAW based on the current report?
- Of the applied water recharge, how much is associated with urban landscape irrigation and how much is associated with agricultural irrigation? While the draft report discusses validation of urban outdoor water use,[4] there is no discussion about changes to infiltration of applied water from agriculture or validation of the agricultural applied water recharge in the report.
- Were there changes to these DIPAW factors between the 2020 and 2025 modeling efforts? If so, which ones?
- Which factors had the greatest impact on the reduction in Safe Yield between the 2020 and 2025 SYR?

Santa Ana River Infiltration

Santa Ana River infiltration estimates also decreased between the 2020 and 2025 SYR. For the period common to both analyses (1992 to 2018), SAR infiltration decreased, on average, approximately 10,000 acre-ft/yr in the 2025 SYR relative to the 2020 SYR. While this is balanced to some degree by reduced discharge associated with rising groundwater at Prado Dam and less evapotranspiration along the SAR, there is still a net reduction in inflow of approximately 3,300 acre-ft/yr. What changed in the updated model analysis to result in the lower SAR infiltration?

Model Calibration

Based on comparison of measured and model-generated groundwater levels across the Chino Valley Model as a whole (see SYR report Figure 4-19), it appears that the model is acceptably calibrated, from a statistical standpoint, for the period from 1992 to 2022. Having said this, there are a couple of broad issues with the calibration that we request be addressed.

1. Comparison of the prior DIPAW estimates from the 2020 SYR with those obtained through the PESTPP-IES process suggest that the criteria by which the calibration is judged are not

[3] West Yost, 2025. Draft 2025 Safe Yield Reevaluation. Table 4-7; Appendix B; Tables B-7-1 through B-7-4
[4] West Yost, 2025. Draft 2025 Safe Yield Reevaluation. Table 4-2

met,[5] at least as it relates to DIPAW. As we understand it, the R4 output for DIPAW serves as input to the MODFLOW model and is allowed to vary in the PESTPP-IES process. As such, it is our understanding that the original R4 output serves as the "prior" about which the new inputs would be allowed to vary. Given our understanding, the prior 2020 DIPAW estimates should fall within the range of DIPAW estimates derived from the PESTPP-IES calibration (unless the upper and lower bounds were adjusted during the calibration process). As noted on page 3 herein, they do not.

2. There are a few calibration target wells in the west central part of the basin where model-generated groundwater levels are systematically deviating from the measured data. Correcting these localized systematic deviations may require revisiting assumptions for DIPAW in these areas.

Additional detailed comments are as follows:

R4 Validation

It is our understanding that the R4 model was not changed significantly between the 2020 SYR and the current SYR, other than to update it with more recent data. West Yost validated the R4 model by reviewing the results of recharge and streamflow calibration, updated with data through 2022, at various stormwater capture basins and streamflow gages in the basin.[6] In the west-central part of the Chino Basin, review of the measured and model-generated data indicate that the R4 model is underestimating streamflow which is resulting in underestimates of groundwater recharge.

At the Cucamonga Creek stream gage, comparison of measured and simulated streamflow prior to 2018 showed that the data scatter was centered on either side of the ideal line (see Figure 2 below).

[5] West Yost, 2025. Draft 2025 Safe Yield Reevaluation. Appendix B6 Assessment and Evaluation of PESTPP-IES Calibration Results

[6] West Yost, 2025. Draft 2025 Safe Yield Reevaluation. Appendix B

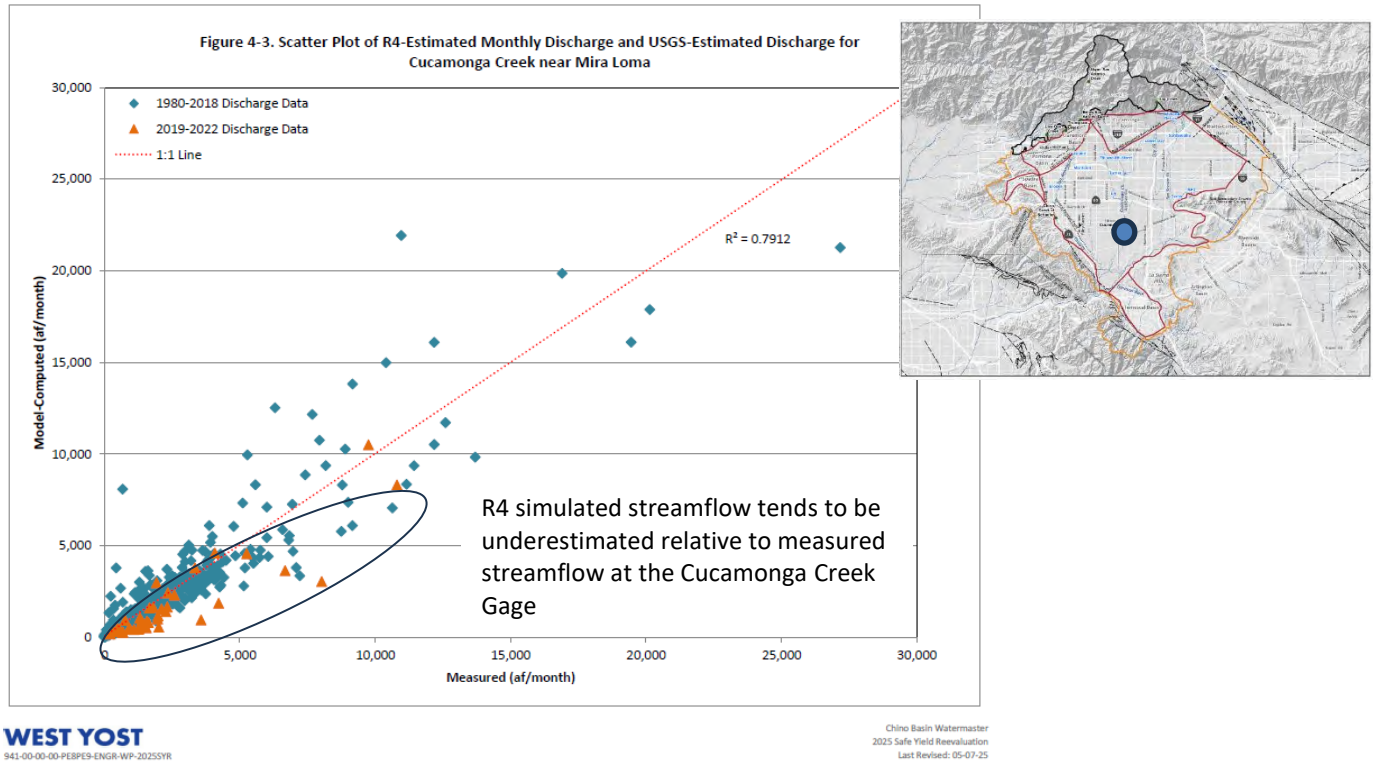

Figure 2. Measured v. Model-Generated Streamflow at the Cucamonga Creek Stream Gage

More recent simulations of streamflow at this gage indicate that the model is underestimating streamflow at this location (see Figure 2). The implication is that there is less water in the model than in the real system, particularly after 2018.

From the groundwater recharge perspective, simulated recharge in stormwater capture basins in the west central part of the Chino Basin is underestimated relative to what has been observed. For example, in the Turner Basin, simulated recharge is consistently underestimated (see Figure 3; Figure B1-6 from the 2025 Safe Yield Reevaluation draft report).

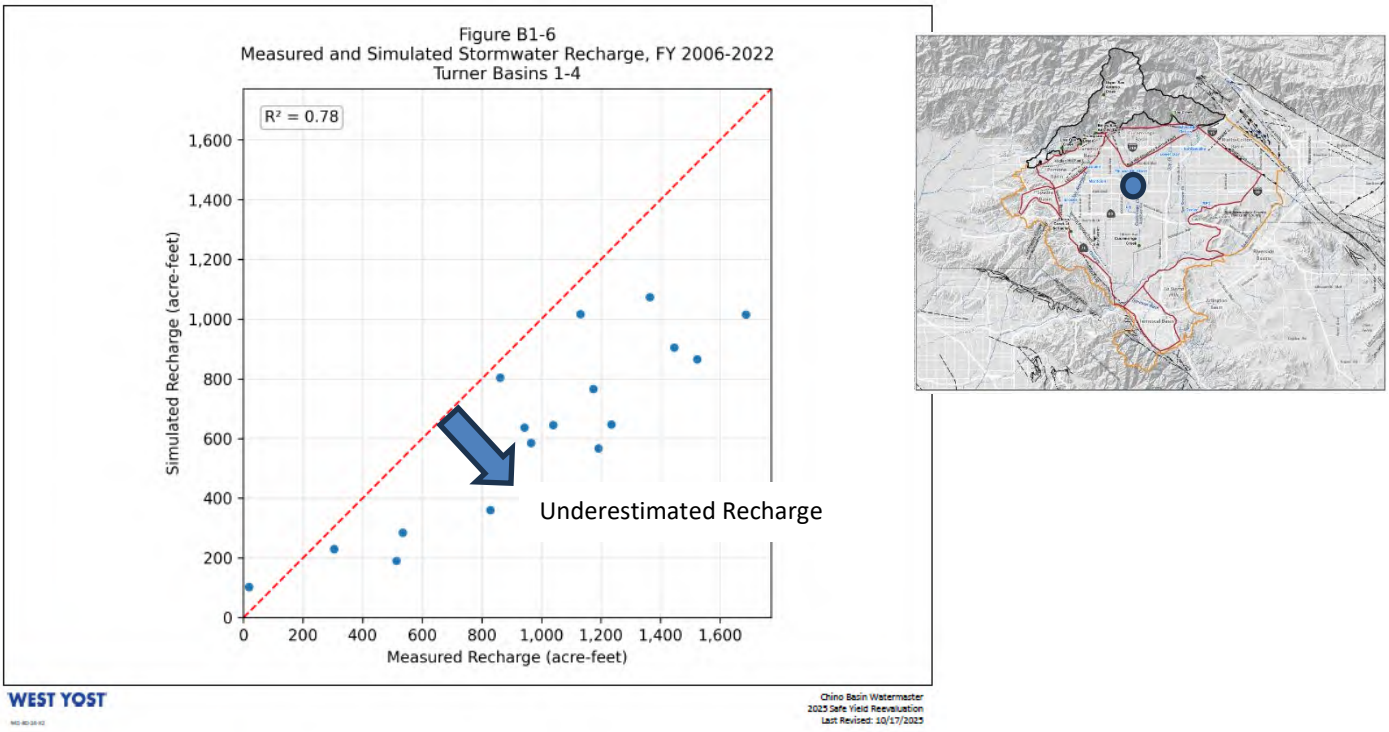

Figure 3. Measured v. Model-Generated Recharge at the Turner Recharge Basins

The same relationship is shown for the Ely Basins (see Figure 4; Figure B1-5 from the 2025 Safe Yield Reevaluation draft report).

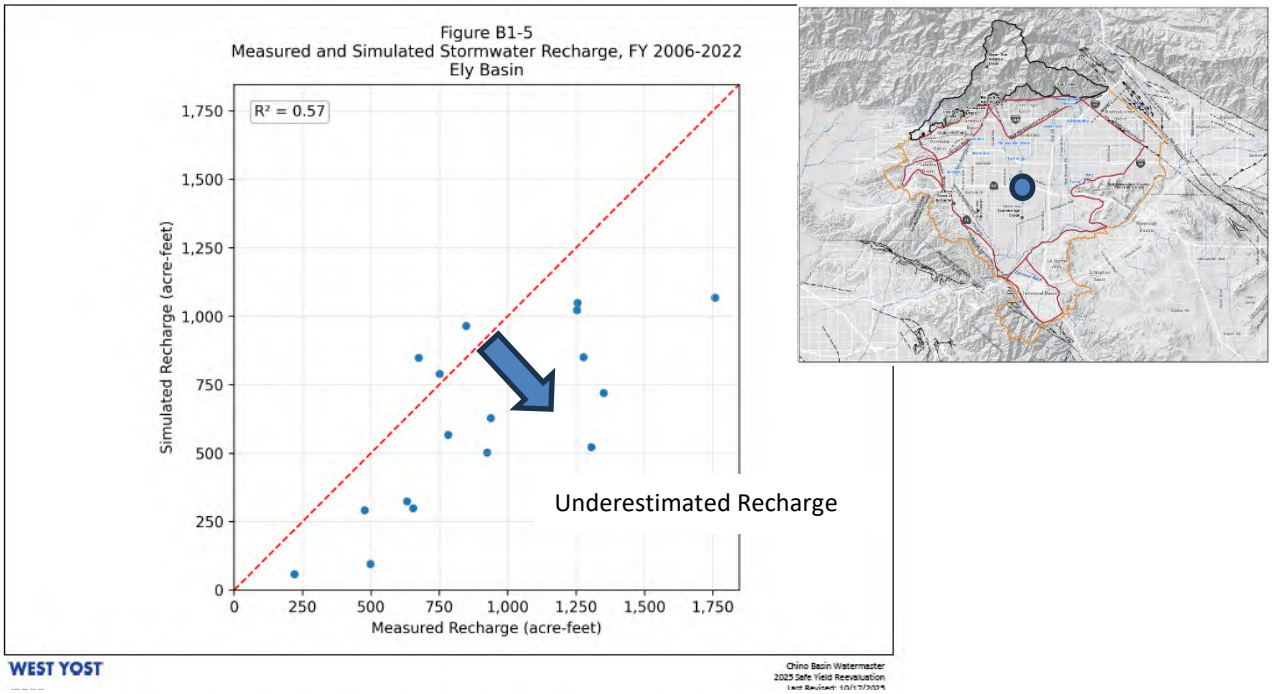

Figure 4. Measured v. Model-Generated Recharge at the Ely Recharge Basins

The implications of underestimated surface water flow and groundwater recharge in the central Chino Basin may have implications for the groundwater flow model calibration in this area, as discussed below.

Groundwater Flow Model (MODFLOW) Calibration

Comparison of measured groundwater levels with model-generated groundwater levels from some wells located in the central part of the Chino Basin shows a systematic divergence whereby measured groundwater levels are rising while simulated groundwater levels are dropping. It is noted that SSP&A noted the same diverging trends at some wells in their peer review letter.[7] As an example, a groundwater level calibration well located in the southwest Chino Basin (Well 1206525) shows an increasing measured groundwater level trend but simulated groundwater levels are dropping (see Figure 5). As groundwater pumping in the Chino Basin is metered (and therefore more certain), the implication here is that groundwater recharge is underestimated in this area. This is consistent with the R4 validation results showing underpredicted recharge in the upgradient recharge basins, described earlier herein.

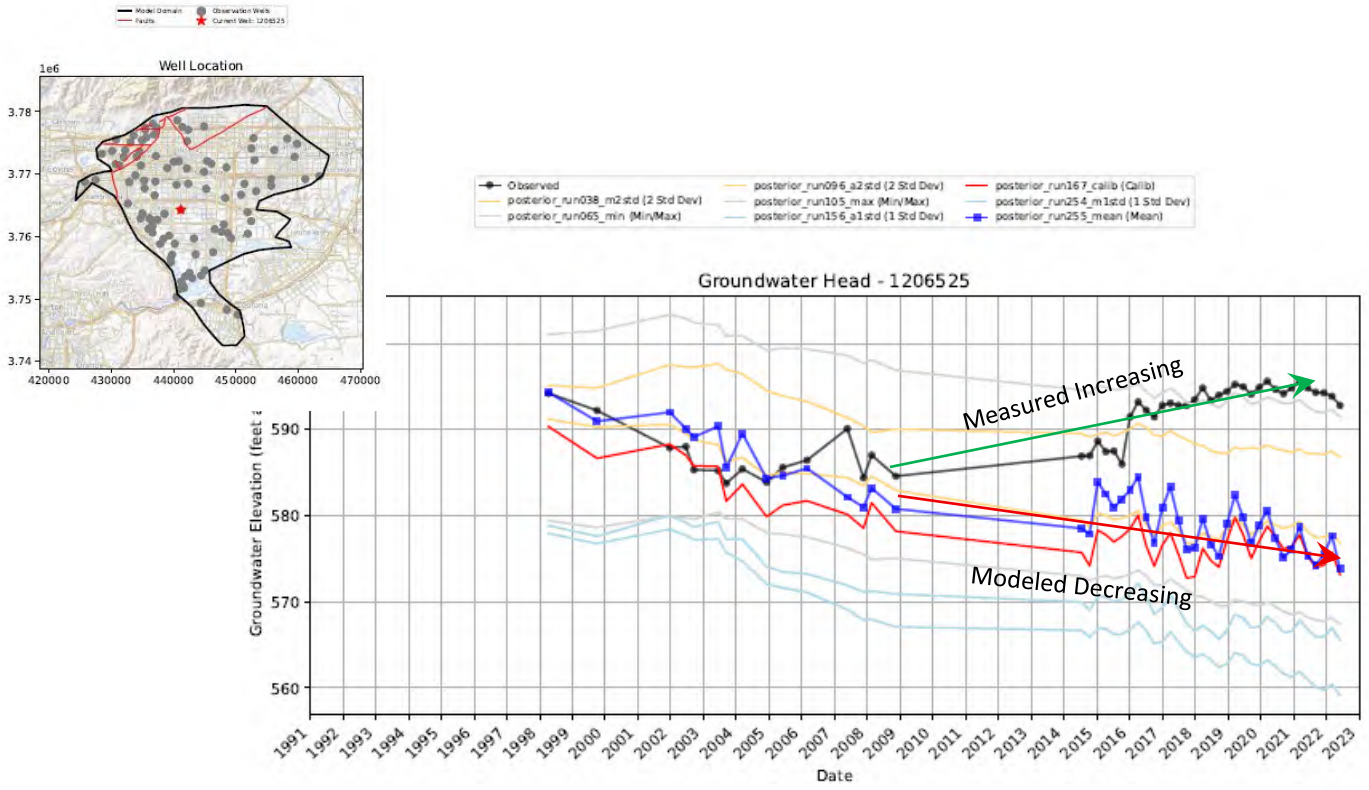

Figure 5. Calibration Well 1206525 showing deviation of measured and model-generated groundwater level trends.

[7] West Yost, 2025. Draft 2025 Safe Yield Reevaluation. Appendix E, pg. 19.

Implications of Localized Model Calibration Issues for DIPAW Estimates

It is our understanding that DIPAW is a direct result of output from the R4 model. Recharge output from the R4 model is used as recharge input to the MODFLOW model recharge package. Thus, it is possible that the same model assumptions that result in underestimates of surface water flow and recharge by the R4 model could result in underestimates in DIPAW. While not confirmed, underestimates of stormwater capture basin recharge and DIPAW could explain the systematic diverging trends in the groundwater level hydrographs at some wells in the central and southwest area of the Chino Basin. This part of the basin still has large areas of agricultural land use (see Figure 6). As noted earlier in this letter, applied water recharge from agricultural land use is not addressed in the draft 2025 SYR report. In addition to answering our questions regarding DIPAW outlined earlier herein, we recommend that West Yost reevaluate the assumptions used in the R4 model to estimate DIPAW particularly in the area of ongoing agricultural land use.

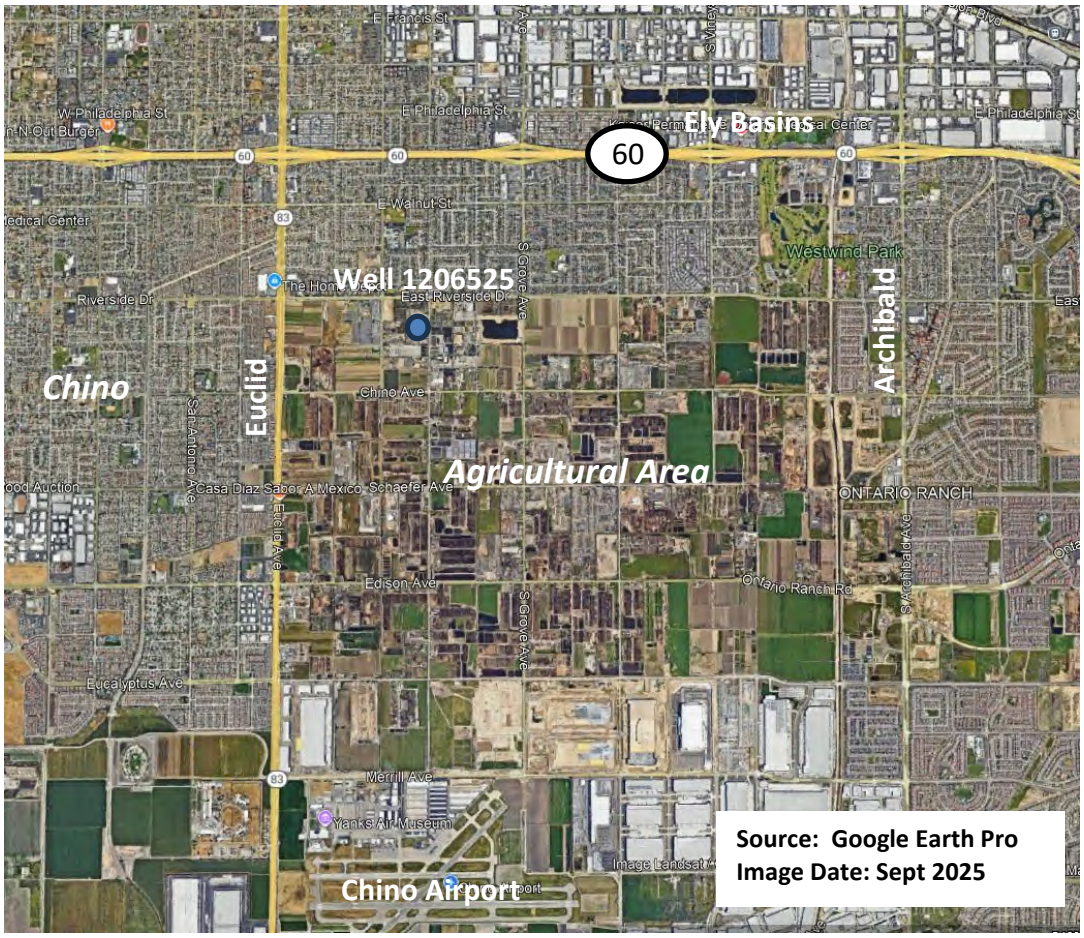

Figure 6. Aerial image of Chino Basin Between Highway 60 and the Chino Airport showing active agricultural area.

Recommendations

In support of answering the questions raised in this letter, we recommend the following prior to finalizing the Safe Yield Reevaluation:

1. Review the assumptions for surface water supply to the R4 model upgradient of the Chino Basin to ensure they are representative (Note: this is also an SSP&A recommendation).
2. Review the assumptions for agricultural applied water recharge to ensure they are representative of local conditions.
3. Provide an individual accounting of precipitation and applied water recharge components of DIPAW in the water budget.
4. We recommend a localized calibration in the areas where modeled groundwater levels show systematic deviations from measured groundwater levels (e.g. Well 1206525). This can be done by adjusting parameters within defendable ranges, including DIPAW, in the areas of concern without running PEST.

We agree with most of SSP&A's recommendations; however, we believe that several can be deferred until the 2030 update. West Yost summarized these recommendations and their proposed approach to address them during their November 6th presentation as shown in Figure 7 below. Specifically, West Yost is proposing to incorporate the near-term recommendations (the lefthand column in the figure) and defer those recommendations listed in the righthand column in the figure.

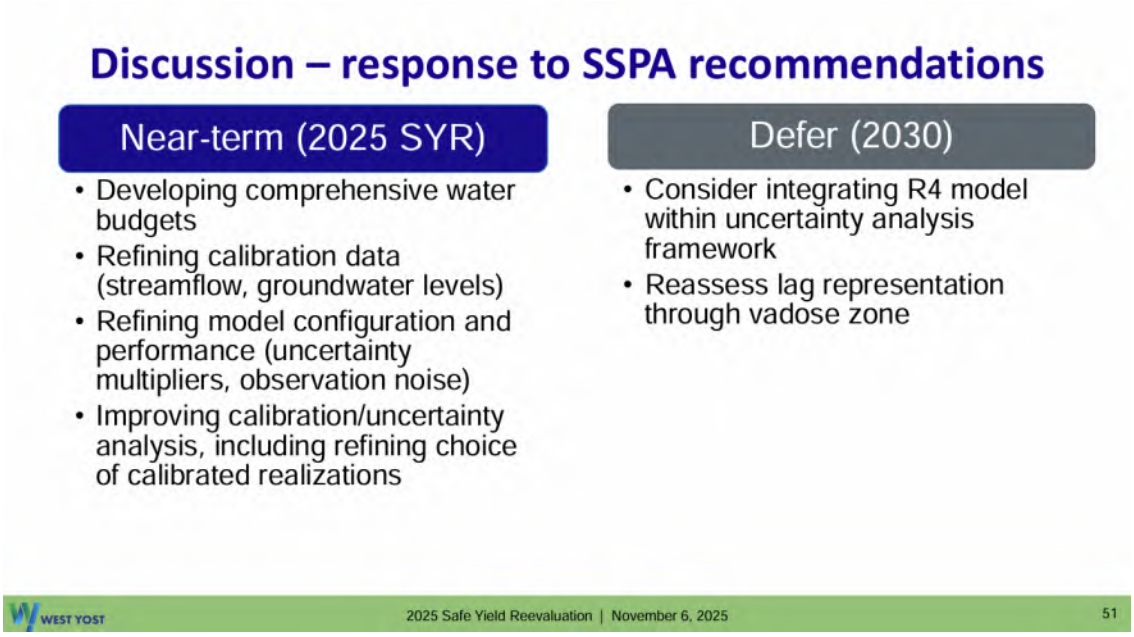

Figure 7. Slide from West Yost November 6th presentation regarding SSP&A recommendations.

We agree with West Yost's proposal to develop comprehensive water budgets and to defer integrating the R4 model within the uncertainty analysis framework and reassess lag representation through the vadose zone. Depending on responses to our questions and comments herein, it may be prudent to defer "refining calibration data", "refining model configuration and performance", and "improving calibration/uncertainty analysis, …" to 2030. We further note that R4 uncertainty and lag representation may be incorporated to some extent via recharge array multipliers but cannot provide a firm assessment regarding this issue without the model and parameter estimation input files.

As always, we appreciate the opportunity to provide our services to you and the Chino Basin Appropriative Pool. If you have any questions, please contact us.

Sincerely,

Jim Van de Water, P.G., C.HG.
Principal Hydrogeologist

Thomas Harder, P.G., C.HG.
Principal Hydrogeologist

E4. Comments on 2025 Safe Yield Reevaluation Draft Report (December 2025)
State of California (Rick Rees, WSP)

DRAFT

Outlook

Comments on 2025 Safe Yield Reevaluation Draft Report

From Rees, Rick <richard.rees@wsp.com>

Date Fri 12/5/2025 1:37 PM

To etellezfoster@cbwm.org <etellezfoster@cbwm.org>; Garrett Rapp <grapp@westyost.com>

Cc Stewart, Craig <craig.stewart@wsp.com>; Carol.Boyd@doj.ca.gov <Carol.Boyd@doj.ca.gov>; Medrano, Jaime@CDCR <Jaime.Medrano2@cdcr.ca.gov>; 'Tariq.Awan@cdcr.ca.gov' <Tariq.Awan@cdcr.ca.gov>; Imelda.Cadigal@cdcr.ca.gov <Imelda.Cadigal@cdcr.ca.gov>; Callahan, Lewis@CDCR (Lewis.Callahan@cdcr.ca.gov) <Lewis.Callahan@cdcr.ca.gov>; Maeda, Michael@CDCR <michael.maeda@cdcr.ca.gov>; Farrell, Jennifer@CDCR <Jennifer.Farrell@cdcr.ca.gov>

Hello Edgar and Garrett,

WSP, on behalf of the State of California, submits the following comments on the Draft 2025 Safe Yield Reevaluation Report (2025 SYR Report):

- Table 4-7. Footnote (a) of the table states that “Components not shown include groundwater pumping and managed aquifer recharge. These components are derived from historical data and, other than minor revisions, are not different between the 2020 CVM and 2025 CVM.” (2025 SYR Report, p. 4-41.) We suggest including these components for completeness. Providing the information would document “the minor revisions.”

- Section 4.3.2.3, Summary of Water Budget (Figures 4-25 through 4-27). This section shows some components of the water budget in graphical format for the 2020 CVM and for the 2025 CVM Min-Max range and 2025 CVM mean. (2025 SYR Report, pp. 4-43 through 4-45.) The 2020 SYR report included tables of all of the water budget components for the calibration period and for the projection period. We suggest including similar water budget tables to allow comparison of the 2020 CVM SYR estimates with the 2025 CVM mean, and if feasible, with water budget components of the likelihood weighted average.

- Section 7.3.1, Summary of Findings, third paragraph. The paragraph states that managed storage is impacted by Reoperation credits and Safe Yield. The paragraph further explains that Reoperation credits will no longer be available after 2030 and that producing water from managed storage can result in a greater-than-accounted decline in physical storage when the managed storage was derived from an estimated Safe Yield that was greater than actual average net recharge. (2025 SYR Report, p. 7-4.) We agree. We would add that this potential for greater-than-accounted decline in physical storage can be calculated using the annual net recharge from the calibrated model, the court-approved Safe Yield, and the amount of unused Safe Yield placed in storage each year. Reporting this value for the period since the prospective Safe Yield methodology was adopted may be helpful in illustrating how the use of managed storage can contribute to a decline in physical storage that exceeds what is calculated based on managed storage and Safe Yield (rather than on managed storage and actual net recharge). We understand that under the current methodology for calculating Safe Yield, future droughts will add to this value and above average precipitation years will reduce this value.

- Appendix E-1, Response to Recommendations from SSP&A Peer Review Report, Recommendation 8, “Avoid calibrating multipliers for DIPAW and lateral inflow” and West Yost’s response to this comment. (2025 SYR Report, Appendix E-1, p. E-3). We concur with West Yost’s response that the use of calibrating multipliers for DIPAW and lateral inflow is a reasonable approach to account for uncertainties in these water balance components in the current modeling effort.

Thank you for the opportunity to submit these comments. Please let us know if you have any questions or would like to discuss.

Rick Rees

G. Richard Rees, PG 6612, CHG 704
Principal Hydrogeologist

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E5. 2025 Safe Yield Reevaluation Draft Ontario Comments (December 2025) City of Ontario

DRAFT

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CITY MANAGER

December 5, 2025

Garrett Rapp, Senior Engineer - West Yost
Edgar Tellez Foster, Water Resources Manager and Planning Director
Chino Basin Watermaster
9641 San Bernardino Road
Rancho Cucamonga, CA 91730
Email: grapp@westyost.com and etellezfoster@cbwm.org

2025 Safe Yield Reevaluation Draft Ontario Comments

Dear Mr. Rapp and Mr. Tellez Foster,

On November 6, 2025, West Yost presented the Draft 2025 Safe Yield Reevaluation (SYR) to the Chino Basin Watermaster (Watermaster) stakeholders. Results from the West Yost analysis and subsequent peer review revealed a significant decline in Safe Yield of 13,500 acre-feet, the largest decline in the basin's history. The City of Ontario (Ontario) appreciates the opportunity to comment on this draft.

During the presentation, stakeholders noted that a figure in the report - *Figure 6-8 (Comparison of DIPAW,* p. 143) - depicts Deep Infiltration of Precipitation and Applied Water (DIPAW) stabilizing overtime rather than exhibiting a continued downward trend. This characterization appears to differ from earlier statements suggesting that the decline in Safe Yield is driven, in part, by a steady decline in DIPAW. During the September 18, 2025, Advisory Committee peer-review presentation, S.S. Papadopulos & Associates (SSPA) confirmed the relationship. In that discussion, Ontario inquired about what the DIPAW multiplier accounted for, and SSPA advised against using calibrating multipliers for purposes of refining the Safe Yield. West Yost has documented this recommendation in the current draft report.

Looking ahead, this observation creates a constructive opportunity to collaborate on enhancing future analysis and documentation. It may be useful to explore further how DIPAW trends are being represented, how they inform and correlate to Safe Yield, and how any refinements or clarifications can be incorporated into subsequent analytical cycles.

Thank you for your consideration on this matter.

Sincerely,

Chad Nishida, P.E.
Water Resources Manager

cc: Scott Burton, Utilities General Manager
Courtney Jones, Deputy General Manager

E6. 2025 Draft Safe Yield Reevaluation Report Comments (December 2025)
Monte Vista Water District

DRAFT

Monte Vista Water District
Dedicated to Quality, Service and Innovation
Justin Scott-Coe, PhD, CSDM
GENERAL MANAGER

December 17, 2025

Edgar Tellez-Foster, Chino Basin Watermaster
Garrett Rapp, West Yost
By email: etellezfoster@cbwm.org and grapp@westyost.com

2025 Draft Safe Yield Reevaluation Report

Dear Mr. Tellez Foster and Mr. Rapp,

Monte Vista Water District appreciates this opportunity to provide comments on the above-referenced draft report. We acknowledge that our comments are submitted after the December 5, 2025, deadline and appreciate your consideration. We also acknowledge and fully support the comments, recommendations, and requests already provided by the Appropriative Pool, Jurupa Community Services District, and City of Ontario, including the Appropriative Pool's unanimous determination on December 11, 2025, that the technical analysis work for the 2025 Safe Yield Reevaluation (SYR) is not yet complete.

Monte Vista Water District has consistently expressed concerns regarding Watermaster's approach to the 2025 SYR. The 2025 SYR stems from the 2017 Court Order requiring Watermaster to "cause the Basin model to be updated and a model evaluation of Safe Yield, in a manner consistent with the Reset Technical Memorandum, to be initiated no later than January 1, 2024, in order to ensure that the same may be completed by June 30, 2025." In the 2020 Court Order adopting the findings of the 2020 Safe Yield Recalculation Report, Judge Reichert provides a glowing review of the Report and its "proven" methodology that has "stood the test of time," and specifically critiques the City of Chino's argument for an uncertainty analysis:

> "Chino's argument would lead to a range of Safe Yields with no particular basis for the selection of one over another. There is no logical basis on which the court could make that decision. It would result in a lengthy trial and analysts experts' opinions of varying opinions. The weight that the court gives to Wildermuth evaluation as proven itself and stood the test of time. Therefore the court selects that one."

Sandra S. Rose, PRESIDENT
G. Michael Milhiser, VICE PRESIDENT
Tony Lopez, DIRECTOR / BOARD AUDITOR
Philip L. Erwin, DIRECTOR
Manny Martinez, DIRECTOR

Nevertheless, Watermaster decided to set aside this proven methodology and, instead, to adopt a new methodology – previously panned by the Judge – for use in conducting its required mid-term model update and Safe Yield evaluation. This introduced further complexity and, shall we say, uncertainty into an already complicated and litigious process. Along the way, the District has attempted to point out issues with Watermaster's implementation of its new methodology, from illogically formulated and weighted scenarios to inappropriately adjusted demand projections, that threaten to bear out Judge Reichert's skepticism.

The result of this mid-term evaluation, using a new methodology to update the Chino Valley Model, is an estimated reduction of 2021-2030 Safe Yield that is ***more than quadruple*** the size of the original Safe Yield reduction set by the Court in 2020 (2020: 135,000 – ***4,000*** = 131,000; 2025: 135,000 – ***17,500*** = 117,500). The 2025 Draft Report recognizes the difference between the 2020 and 2025 model calculations, but its attempt to explain why two versions of the same model would generate such diverse results is currently inadequate. Importantly, the independent peer review of the 2025 SYR recognizes that the sizable reduction in Safe Yield "represents a significant change that has important implications for stakeholders who rely on Safe Yield to guide basin management, pumping rights, and replenishment obligations." Such a significant change has not yet been adequately explained or validated.

Watermaster's stakeholders, and especially the municipal water providers that comprise the Appropriative Pool, have already expended substantial public resources on Watermaster's efforts to develop a new Safe Yield Reset methodology and to update its model. Unfortunately, the widely divergent results between the 2020 and 2025 models calls for further technical evaluation. We look forward to the Appropriative Pool's technical consultant working with Watermaster on a recommended scope of work to implement, as cost-effectively as possible, recommendations to improve the model and achieve a reasonable reevaluation of Safe Yield.

Sincerely,

Monte Vista Water District

Justin M. Scott-Coe
General Manager/CEO

cc: Watermaster Stakeholders via Ruby Favela Quintero, Chino Basin Watermaster
By email: RFavelaQuintero@cbwm.org

E7. Comments to the CBWM Draft Report on the 2025 Safe Yield Reevaluation (December 2025) Jurupa Community Services District

DRAFT

Jurupa
COMMUNITY SERVICES DISTRICT
Proudly serving Jurupa Valley and Eastvale

December 5, 2025

VIA EMAIL
Chino Basin Watermaster
9641 San Bernardino Road
Rancho Cucamonga, CA 91730
Attn: Edgar Tellez Foster (etellezfoster@cbwm.org)

Re: Comments to the CBWM Draft Report on the 2025 Safe Yield Reevaluation

Dear Edgar:

We write to request that Watermaster provide and/or obtain from the Court additional time to allow the parties to fully review and engage in substantive discussions regarding the evaluation of the of Safe Yield with the updated model ("2025 SYE"). Additional time is necessary to allow the Appropriative Pool ("AP") to provide Watermaster meaningful advice before Watermaster reports to the Court on the 2025 SYE.

As you know, the Court's April 28, 2017 Orders for Watermaster's Motion Regarding 2015 Safe Yield Reset Agreement, Amendment of Restated Judgement, Paragraph 6 ("2017 Court Order") required that Watermaster evaluate and update the Chino Valley Model and conduct an evaluation of the of Safe Yield with the updated model by June 30, 2025. (2017 Order, § 4.6, pp. 17-18.) Watermaster shared the preliminary model estimates on March 27, 2025, identifying a substantial decrease in the safe yield, which prompted a request for peer review. In May 2025, Watermaster developed a scope of work and began a search to retain an expert to conduct that peer review. Considering this, Watermaster asked the Court to extend its deadline to complete the 2025 SYE to October 31, 2025, which the Court granted. Watermaster has since retained S.S. Papadopulos and Associates ("SSPA") to complete the peer review. SSPA issued a Draft Peer Review of the 2025 SYE dated October 16, 2025. On October 29, 2025, Watermaster circulated the initial Draft 2025 SYR Report and Appendices ("Draft Report"). Watermaster hosted a workshop to address this initial draft on November 6, 2025, and on Monday, November 24, 2025, circulated a slightly revised draft of the Draft Report. Although Appendix E-1 to the SSPA's Draft Peer Review Report details West Yost's responses to the recommendations made by SSPA, including recommendations to address certain recommendations in the current 2025 SYE, any such revisions made in the revised draft are not highlighted or otherwise identified.

Nevertheless, Watermaster requested any comments to the Draft Report be submitted less than two weeks later, by Friday, December 5.

The AP retained Tomas Harder & Co. to assist in the review and analysis of what is now a 218-page Draft Report and 606 pages of appendices. On December 5, 2025, the Appropriative Pool submitted a ten-page letter raising several comments and questions regarding the Draft Report. We share these comments and questions, and respectfully request that Watermaster provide time sufficient to allow West Yost, SSPA, and/or Watermaster to respond to these comments and questions, and for the parties to digest and potentially continue a dialogue to ensure that all affected parties have a fair opportunity to understand the basis for the significant purported change in the Safe Yield over such a relatively small period of time and the import and steps appropriate in response to the modeling.

We note that the report states that the differences between the 2020 and 2025 models "are not attributable to any single factor but reflect refinements in the model processes that more accurately represent the range of possible conditions in the 2025 CVM." (Draft Report, § 4.3.2, p. 4-42.) Table 6-3 appears to indicate that the modeling projects net recharge to decrease through FY 2031-2040, but then increase for FY 2041-2050. Ultimately, we need to understand the basis for the current and change and whether that basis provides any reason for a more moderated approach to assessing the safe yield over time. To plan for our customers' future water needs, we need to have a better understanding of whether continued refinements in the modeling process will result in such extreme changes moving forward, what actions or inactions could further reduce the safe yield, and how we can utilize modeling results to take measures to optimize or maximize the safe yield on a move-forward basis.

The additional time we are requesting is necessary to provide opportunity for JCSD and other parties to analyze these reports and to meaningfully to engage in the Watermaster process before Watermaster submits anything regarding the 2025 SYE to the Court for potential approval.

Sincerely,

Chris Berch, P.E.

cc: Garrett Rapp (grapp@westyost.com)
Todd Corbin (tcorbin@cbwm.org)
Chris Diggs (chris.diggs@pomonaca.gov)