Appendix A

Supplemental Hydrogeologic Information

DRAFT

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 document the data, methods, and interpretations used to (1) develop and update the hydrogeologic cross-sections that define the subsurface framework of the Chino Basin and surrounding basins and (2) describe the development of the Evapotranspiration (ET) Package implemented in the MODFLOW model (ETS1 Package).

The hydrogeologic cross-sections presented in Section A.2 illustrate the updates to the 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.

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.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.

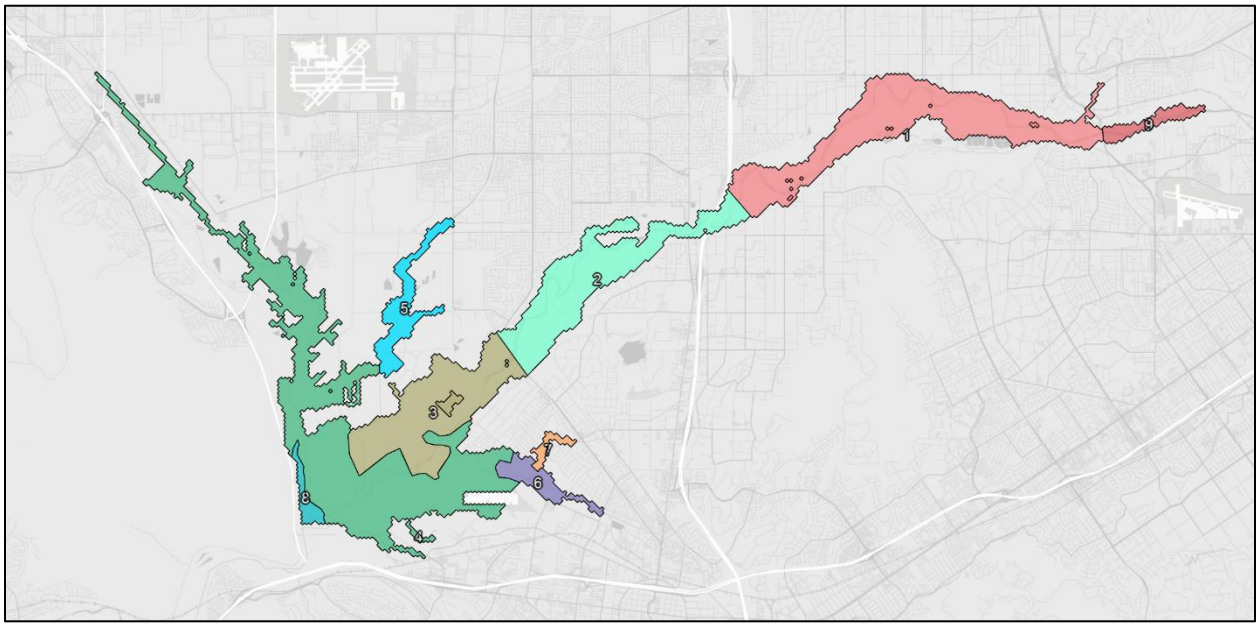

Figure A-6. Zones of Riparian Habitats

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 SAR 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 Pardo 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.

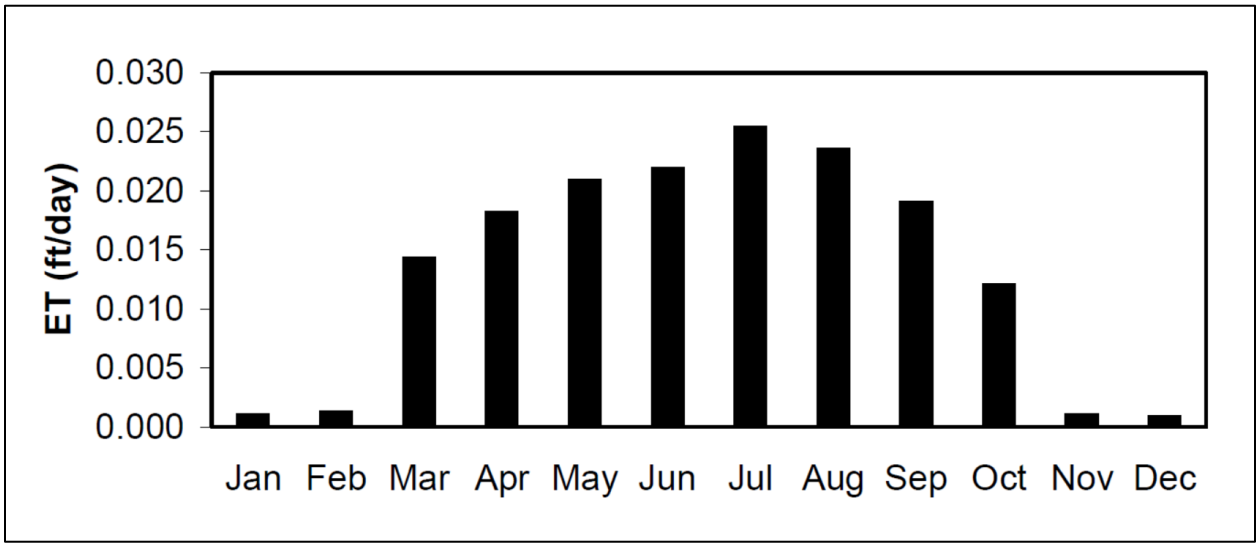

Figure A-7. Monthly evapotranspiration for Sothern Cottonwood Willow Riparian Woodland in Pardo Basin. Merkel (2007)

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
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 adjudgment 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 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 were 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
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 assumption 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 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.

Lines and Bilhorn (1996). *Riparian Vegetation and its Water Use During 1995 Along the Mojave River*, Southern California.

Merkel & Associates, Inc. (2007). *Evapotranspiration Analysis of the Prado Basin*, Santa Ana River, California.

C (West)

C' (East)

Section G-G'

Section N-N'

Section E-E'

Section H-H'

Section M-M'

Spadra Basin

Chino Basin

Riverside Basin

State Hwy 71

P-21

P-24

P-26

San Antonio Creek

Chino 12

ONT-15

ONT-33

Euclid Ave

ONT-34

West Cucamonga Creek

Cucamonga Creek

ONT-36

ONT-49

Interstate 15

Day Creek

Etiwanda Creek

San Sevaine Creek

F21B

01S06W25C02

WVWD 37

Interstate 10

MMWC 06

WVWD 39

Bloomington Divide

Layer 1

Layer 2

Layer 3

Layer 4

Layer 5

Spadra Barrier

Bottom of Aquifer

Consolidated Bedrock

Bedrock Fault

Elevation (ft-msl)

2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
-200
-400
-600
-800

0
10,000
20,000
30,000
40,000
50,000
60,000
70,000
80,000
90,000
1x10^5
1.1x10^5
1.2x10^5

Distance Along Baseline (ft)

Report: FENCE - ELOGS/PERFS/ZONES - B SIZE; File: 2025_SYR_CROSSSECTIONS.GPJ; 8/24/2023

ft
200
100
50
0
VERTICAL SCALE
2,000 4,000 6,000 ft
HORIZONTAL SCALE
VERITCAL EXAGGERATION 33:1

BOREHOLE LEGEND

Well Screen Interval

Resistivity Electrical Log

Groundwater Elevation (ft-amsl)
Spring 2022

Water Level Measurement

Water Table

LITHOLOGY

Gravel
Granite
Silt
Sandstone/Siltstone
Sand
Decomposed Granite
Clay
Crystalline Bedrock

Where the lithologic graphic column is split, the primary component is on the left side of the column; secondary component(s) are on the right.

The delineation of layers on this cross-section were drawn from a holistic analysis of the entire data set. For this reason, the layer boundaries do not always match specific observations at every well on every cross-section exactly, but do honor the general patterns of the Chino Basin hydrostratigraphy.

MODEL HYDROSTRATIGRAPHY

Water Bearing Sediments

Layer 1 - Shallow aquifer system
Layer 2 - Upper confining unit in the deep aquifer system
Layer 3 - Upper portion of the deep aquifer system
Layer 4 - Lower confining unit in the deep aquifer system
Layer 5 - Lower portion of the deep aquifer system

Consolidated Bedrock

Undifferentiated sedimentary bedrock or crystalline bedrock formation

Hydrogeologic Cross-section: C-C'

Appendix A-1

D (West)

D' (Northeast)

Spadra Basin

Chino Basin

Cucamonga Basin

Section G-G'

Section N-N'

Section K-K'

State Hwy 57

State Hwy 71

Interstate 10

San Antonio Creek

Cucamonga Canyon Wash

P-28

P-19

01S09W25G01

Spadra MW-1

P-22

4

A-136

P-34

BRK-2

PX-2

MVWD 28

MVWD 26

MVWD 27

Upland 21A

Upland 18

CVWD 34

Layer 1

Layer 2

Layer 3

Layer 4

Layer 5

Spadra Barrier

West Cucamonga Barrier

Bottom of Aquifer

Consolidated Bedrock

Elevation (ft-msl)

2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
-200
-400
-600
-800

0
10,000
20,000
30,000
40,000
50,000
60,000
70,000
80,000

Distance Along Baseline (ft)

Report: FENCE - ELOGS/PERFS/ZONES - B SIZE; File: 2025_SYR_CROSSSECTIONS.GPJ; 8/20/2023

ft
200
100
50
0
VERTICAL SCALE
2,000
4,000
6,000 ft
HORIZONTAL SCALE
VERTICAL EXAGGERATION 33:1

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Layer 5 - Lower portion of the deep aquifer system

Consolidated Bedrock

Undifferentiated sedimentary bedrock or crystalline bedrock formation

Hydrogeologic Cross-Section: D-D’

Lorem ipsum

Appendix A-2

F (Southwest)

F' (Northeast)

Section G-G'

Section A-A'

Section B-B'

Section I-I'

Section M-M'

Chino Basin

Rialto-Colton Basin

Chino Puente Hills

Chino Creek

State Hwy 71

HCMP-3

CCPA-2

I-1

Euclid Ave

02S07W21D01

East Irr

Cucamonga Creek

ONT 50

State Hwy 60

Interstate 15

KOSF-1

Etiwanda Creek

San Sevaine Creek

Interstate 10

Deep Well No. 3

F17C

Foothill Blvd

F31B

F18A

F10D

Layer 1

Layer 2

Layer 3

Layer 4

Layer 5

Bedrock Fault

Rialto-Colton Fault

Consolidated Bedrock

Bottom of Aquifer

Elevation (ft-msl)

Distance Along Baseline (ft)

2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
-200
-400
-600
-800

0
10,000
20,000
30,000
40,000
50,000
60,000
70,000
80,000
90,000
1x10^5
1.1x10^5
1.2x10^5

Report: FENCE - ELOGS/PERFS/ZONES - B SIZE; File: 2025_SYR_CROSSSECTIONS.GPJ; 8/21/2023

BOREHOLE LEGEND

Well Screen Interval

Resistivity Electrical Log

Groundwater Elevation (ft-amsl)
Spring 2022

Water Level Measurement

Water Table

BOREHOLE LEGEND

LITHOLOGY

Gravel
Granite
Silt
Sandstone/Siltstone
Sand
Decomposed Granite
Clay
Crystalline Bedrock

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Consolidated Bedrock

Undifferentiated sedimentary bedrock or crystalline bedrock formation

VERTICAL SCALE
ft
200
100
50
0
2,000 4,000 6,000 ft
HORIZONTAL SCALE
VERTICAL EXAGGERATION 33:1

Hydrogeologic Cross-Section: F-F'

Appendix A-3

K (North)

K' (South)

SAWC 16

State Hwy 210

Upland -20

Upland 18

Section D-D'

Section E-E'

Section J-J'

Section H-H'

Section A-A'

Section N-N'

Chino Basin

Prado Basin

Temescal Basin

Foothill Blvd

West Cucamonga Creek

Interstate 10

Ontario-52

Ontario-40

Cucamonga Creek

State Hwy 60

OIA MW-1

OIA MW-2

East Irr

II-12

Cucamonga Creek

CDA II-11

CD1-7

Cucamonga Creek

HCMP-5

Santa Ana River

Norco Well 12

COR 30

COR 24

State Hwy 91

Layer 1

Layer 2

Layer 3

Layer 4

Layer 5

West Cucamonga Barrier

Bedrock Fault

Consolidated Bedrock

Elevation (ft-msl)

2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
-200
-400
-600
-800

0
10,000
20,000
30,000
40,000
50,000
60,000
70,000
80,000
90,000
1x10^5
1.1x10^5
1.2x10^5

Distance Along Baseline (ft)

Report: FENCE - ELOGS/PERFS/ZONES - B SIZE; File: 2025_SYR_CROSSSECTIONS.GPJ; 10/22/2025

ft
300
200
100
0
VERTICAL SCALE
2,000 4,000 6,000 ft
HORIZONTAL SCALE
VERTICAL EXAGGERATION 14:1

BOREHOLE LEGEND

Well Screen Interval

Resistivity Electrical Log

Groundwater Elevation (ft-amsl)
Spring 2022

Water Level Measurement

Water Table

LITHOLOGY

Gravel
Granite
Silt
Sandstone/Siltstone
Sand
Decomposed Granite
Clay
Crystalline Bedrock

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Layer 5 - Lower portion of the deep aquifer system

Consolidated Bedrock

Undifferentiated sedimentary bedrock or crystalline bedrock formation

Hydrostratigraphic Cross-section: K-K'

Appendix A-4

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

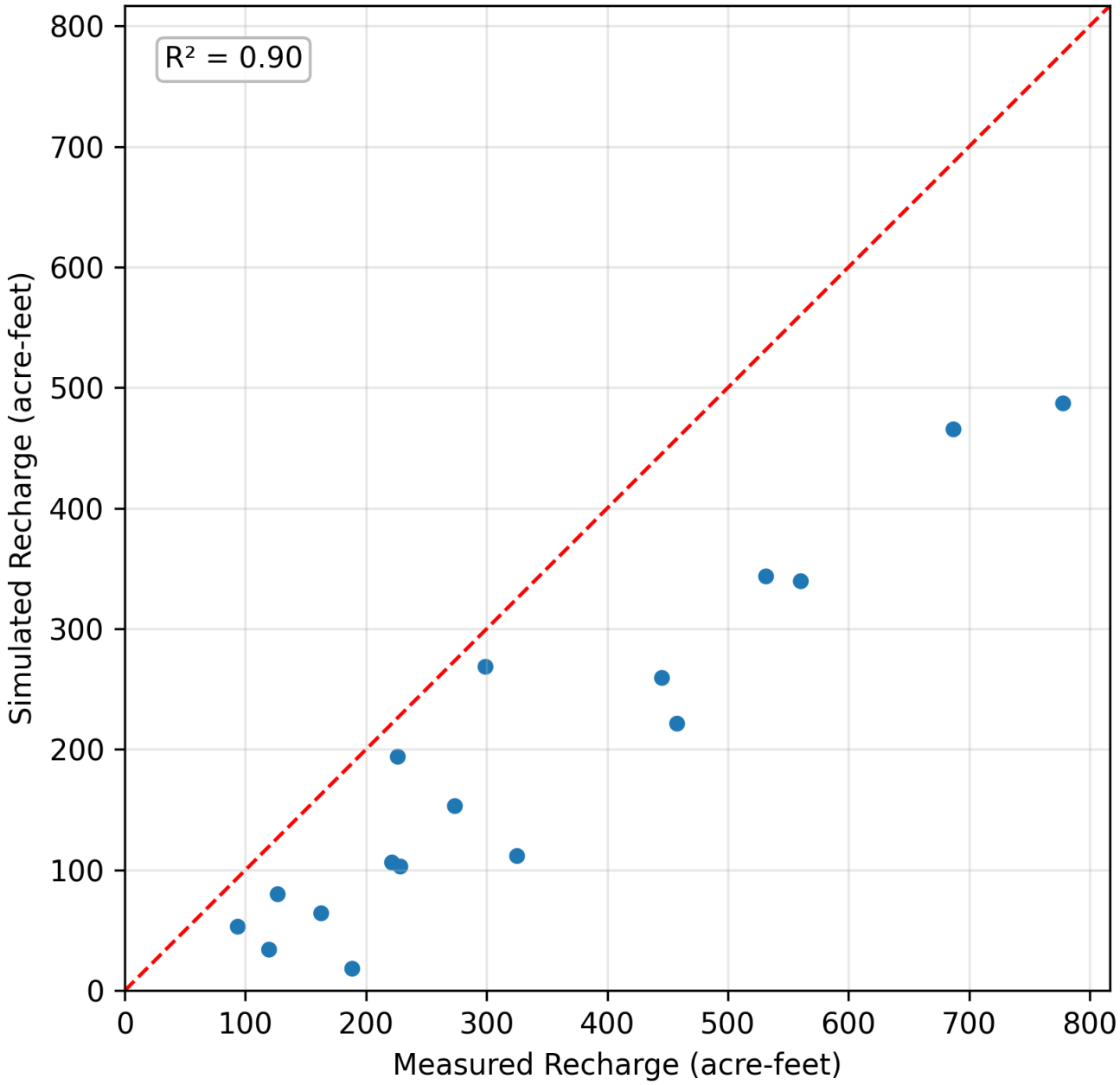


Figure B1-2
Measured and Simulated Stormwater Recharge, FY 2006-2022
Montclair Basins

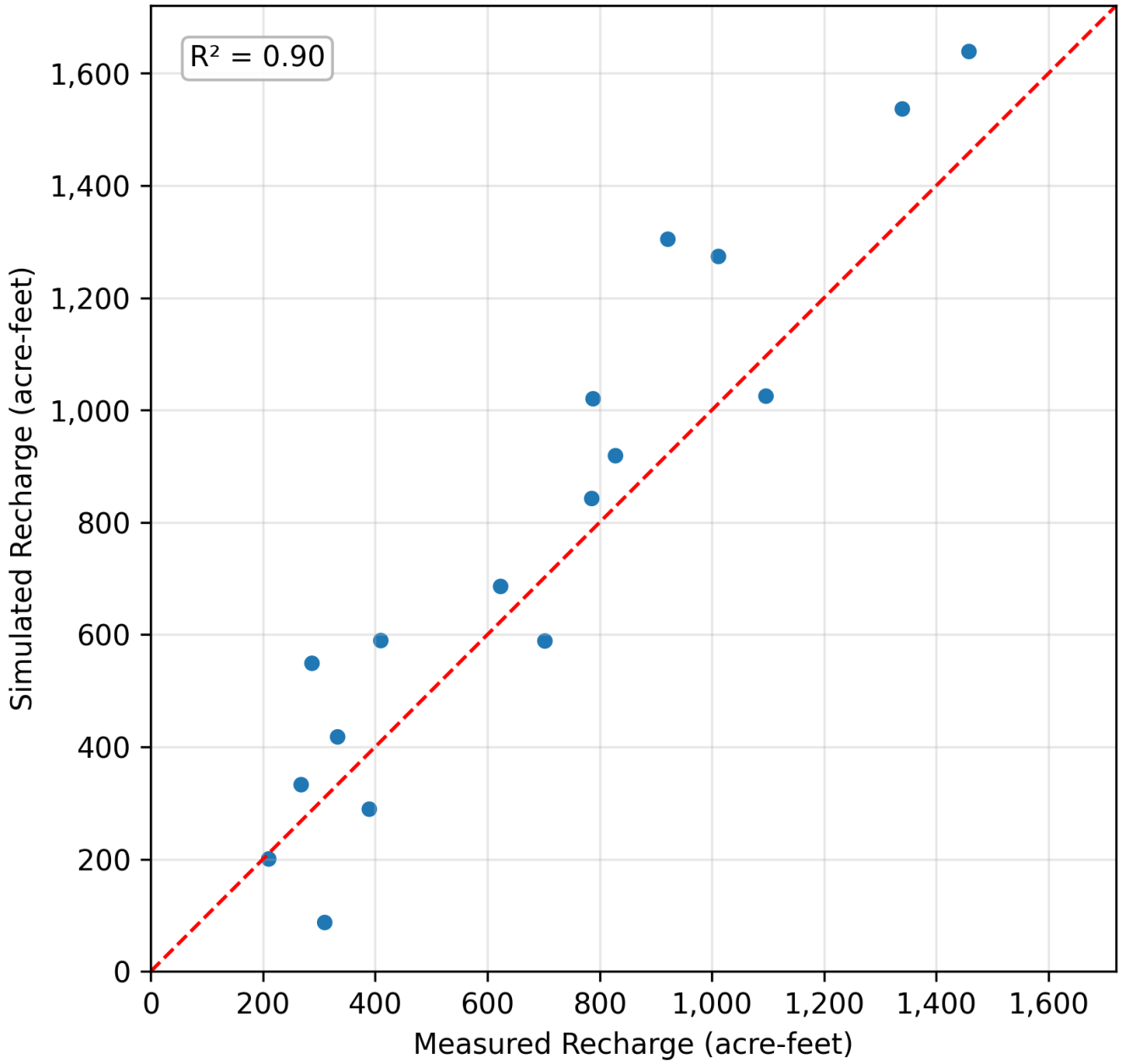


Figure B1-3
Measured and Simulated Stormwater Recharge, FY 2006-2022
Brooks Basin

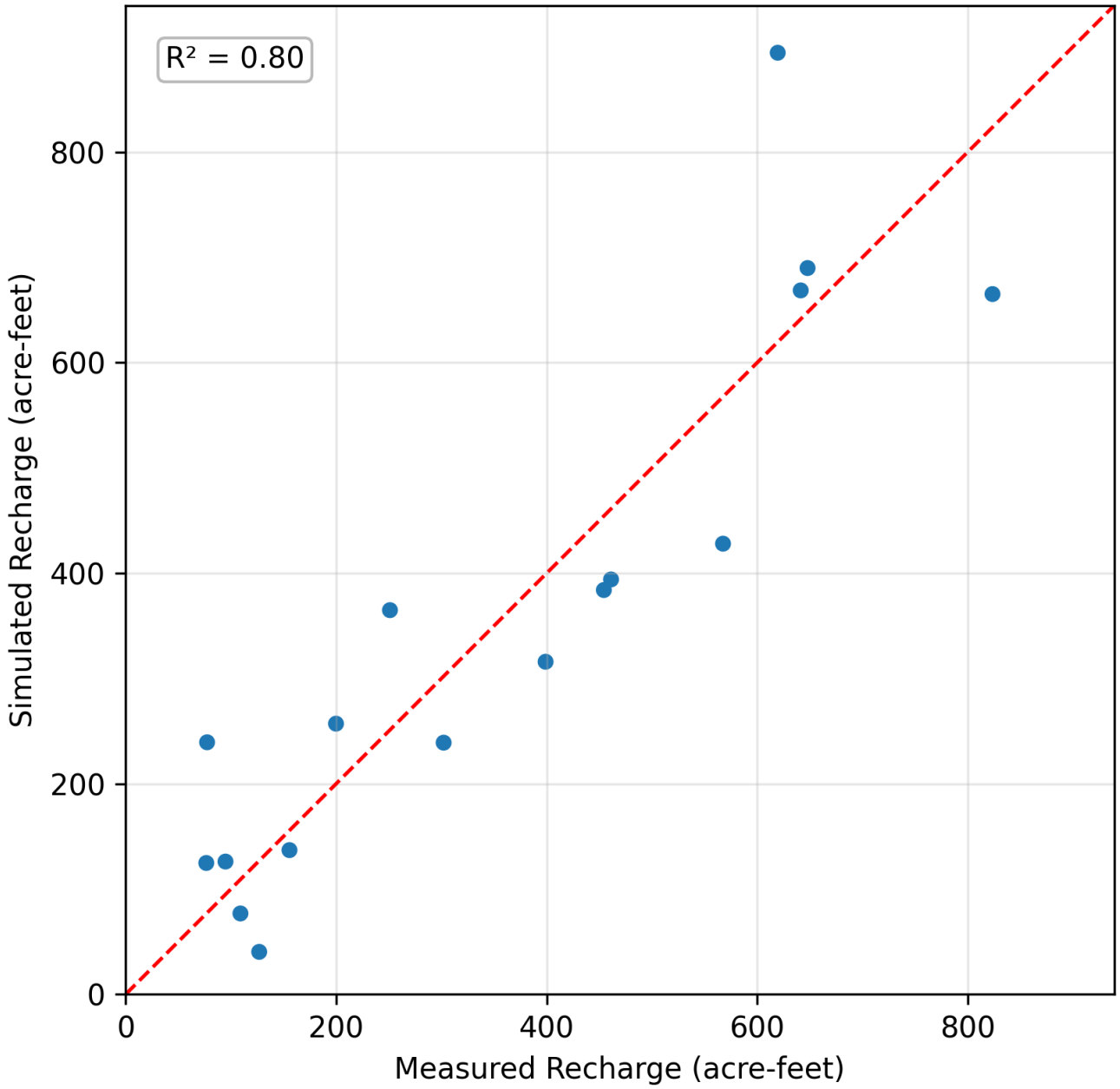


Figure B1-4
Measured and Simulated Stormwater Recharge, FY 2006-2022
7th/8th Street Basins

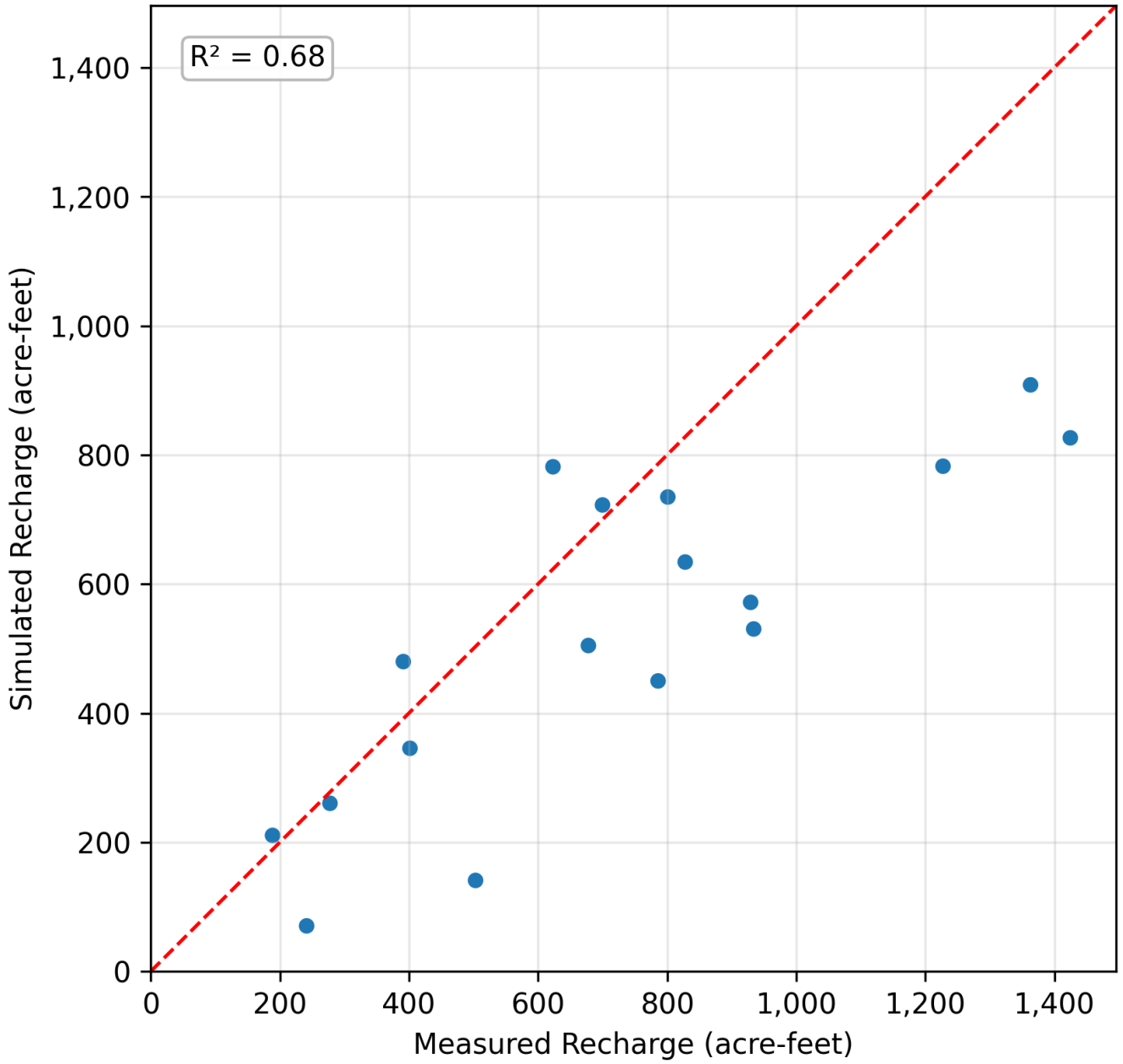


Figure B1-5
Measured and Simulated Stormwater Recharge, FY 2006-2022
Ely Basin

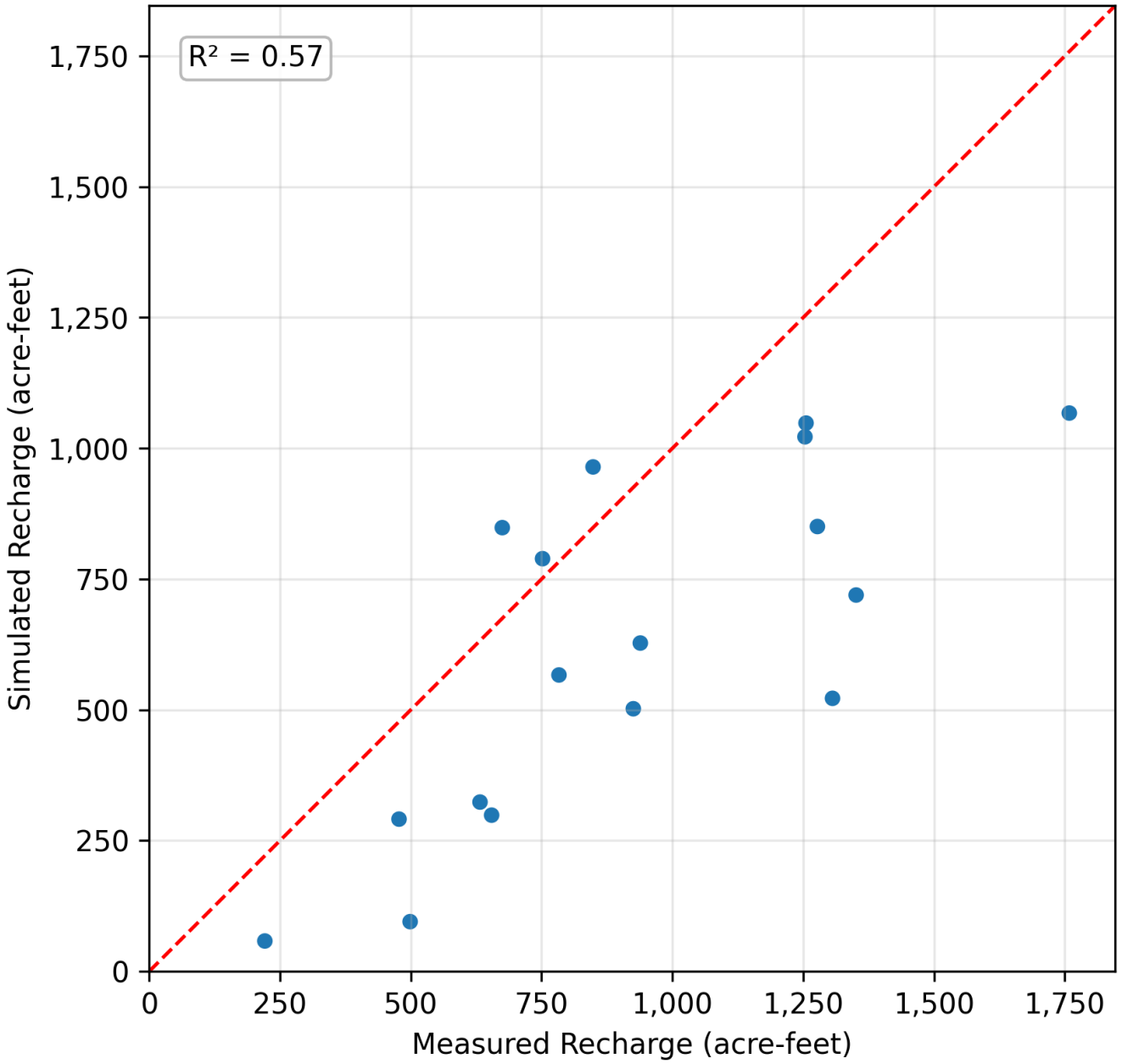


Figure B1-6
Measured and Simulated Stormwater Recharge, FY 2006-2022
Turner Basins 1-4

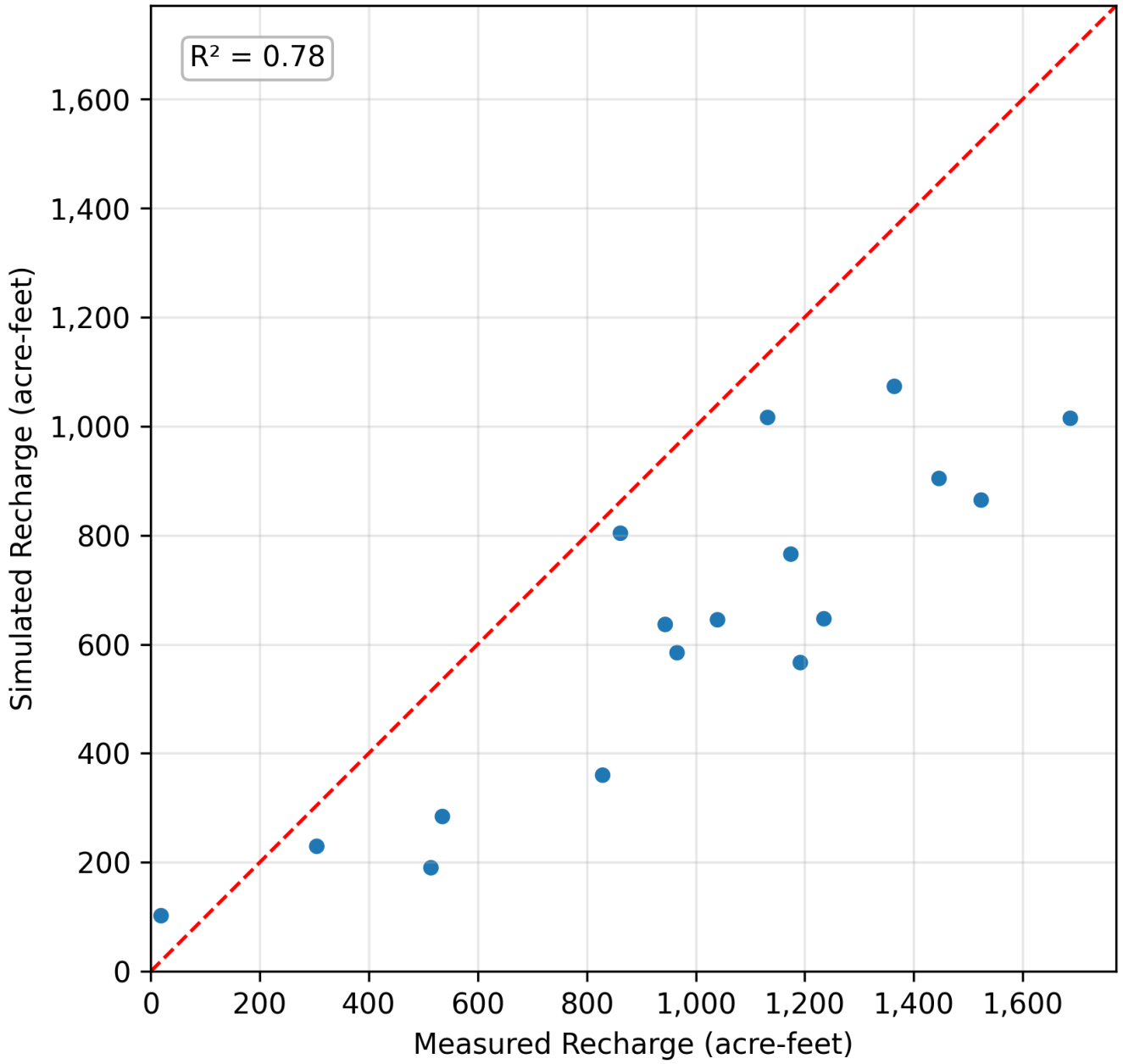


Figure B1-7
Measured and Simulated Stormwater Recharge, FY 2006-2022
Lower Day Basin

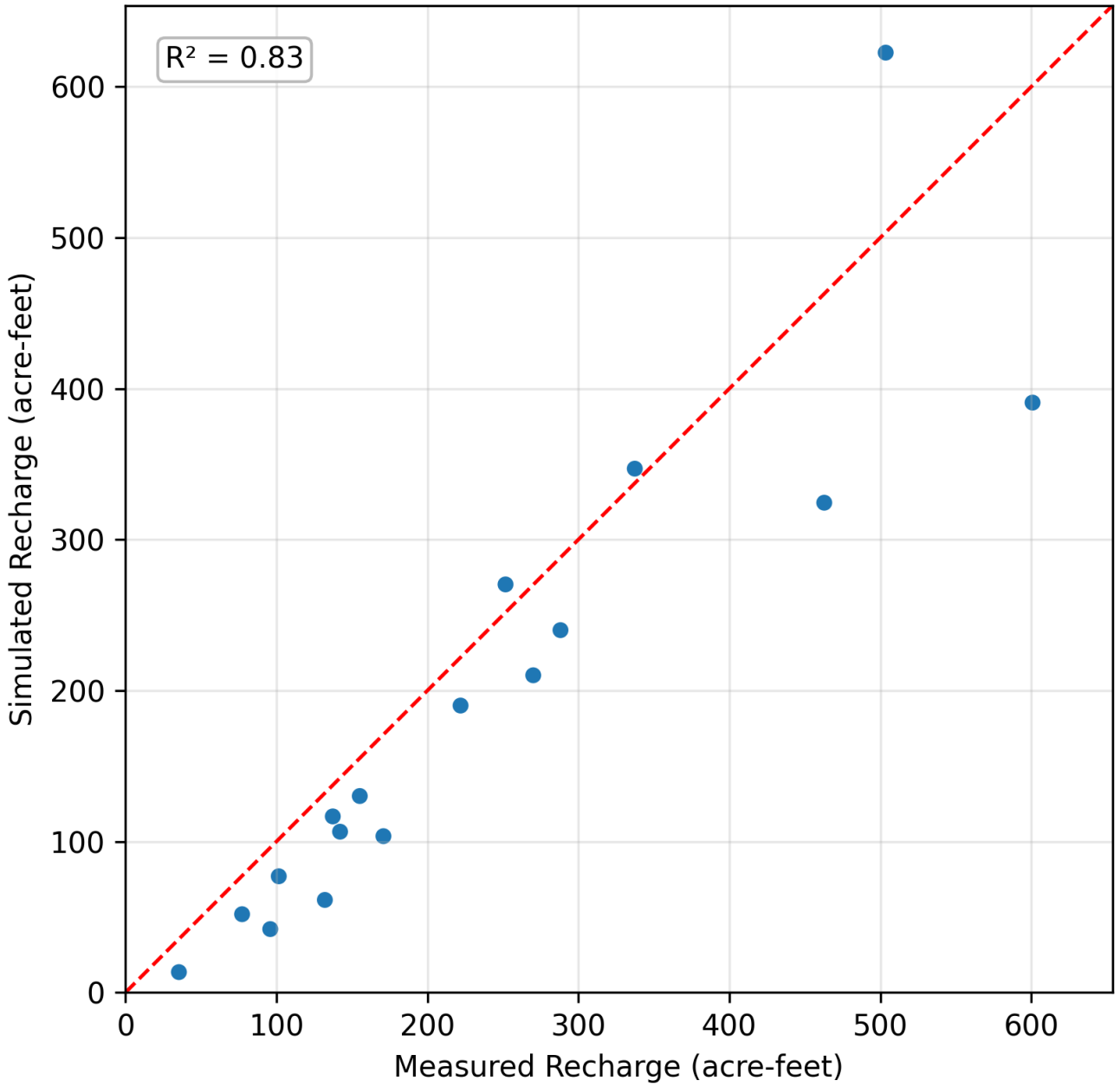


Figure B1-8
Measured and Simulated Stormwater Recharge, FY 2006-2022
Etiwanda Debris Basin

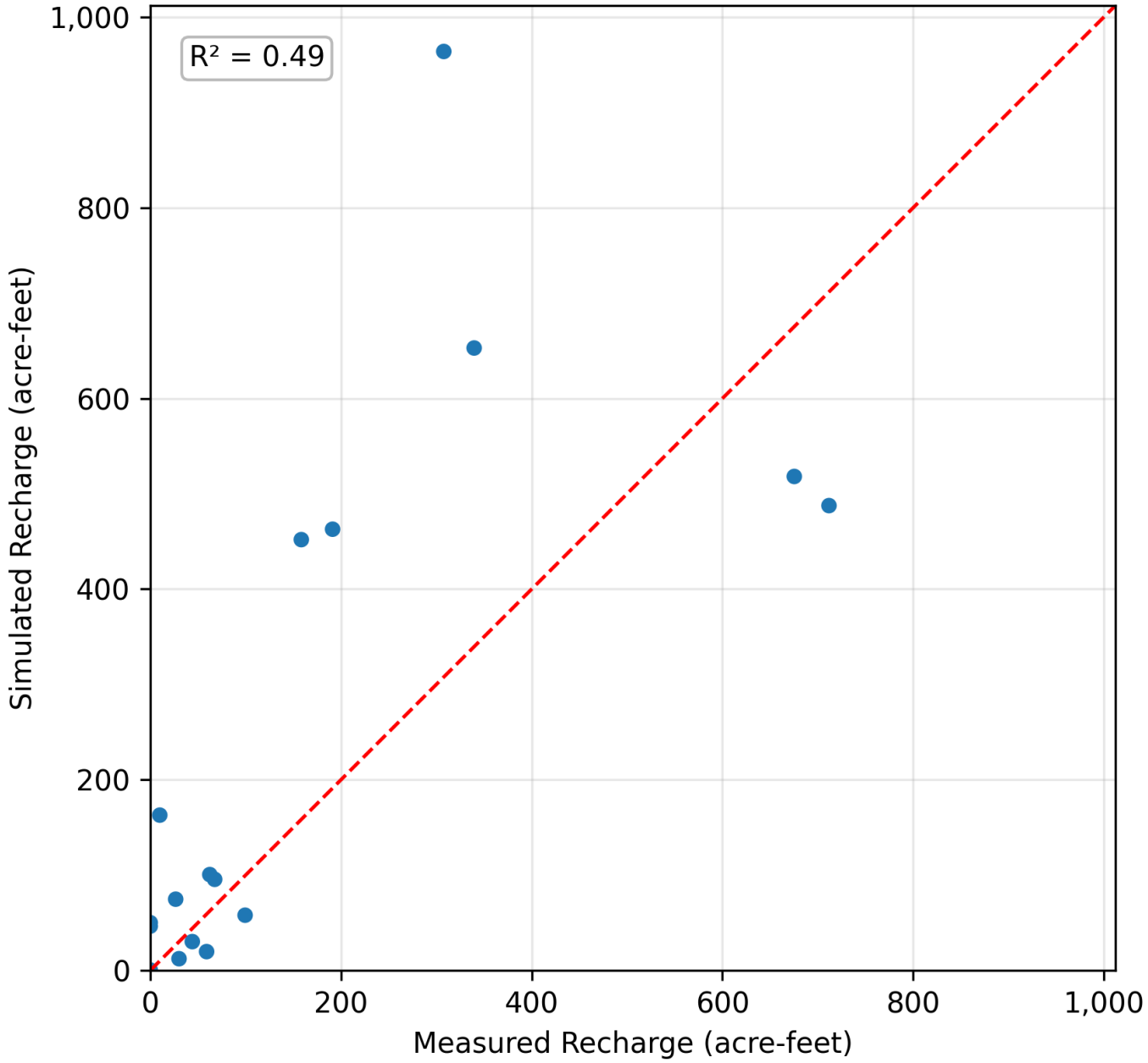


Figure B1-9
Measured and Simulated Stormwater Recharge, FY 2006-2022
Victoria Basin

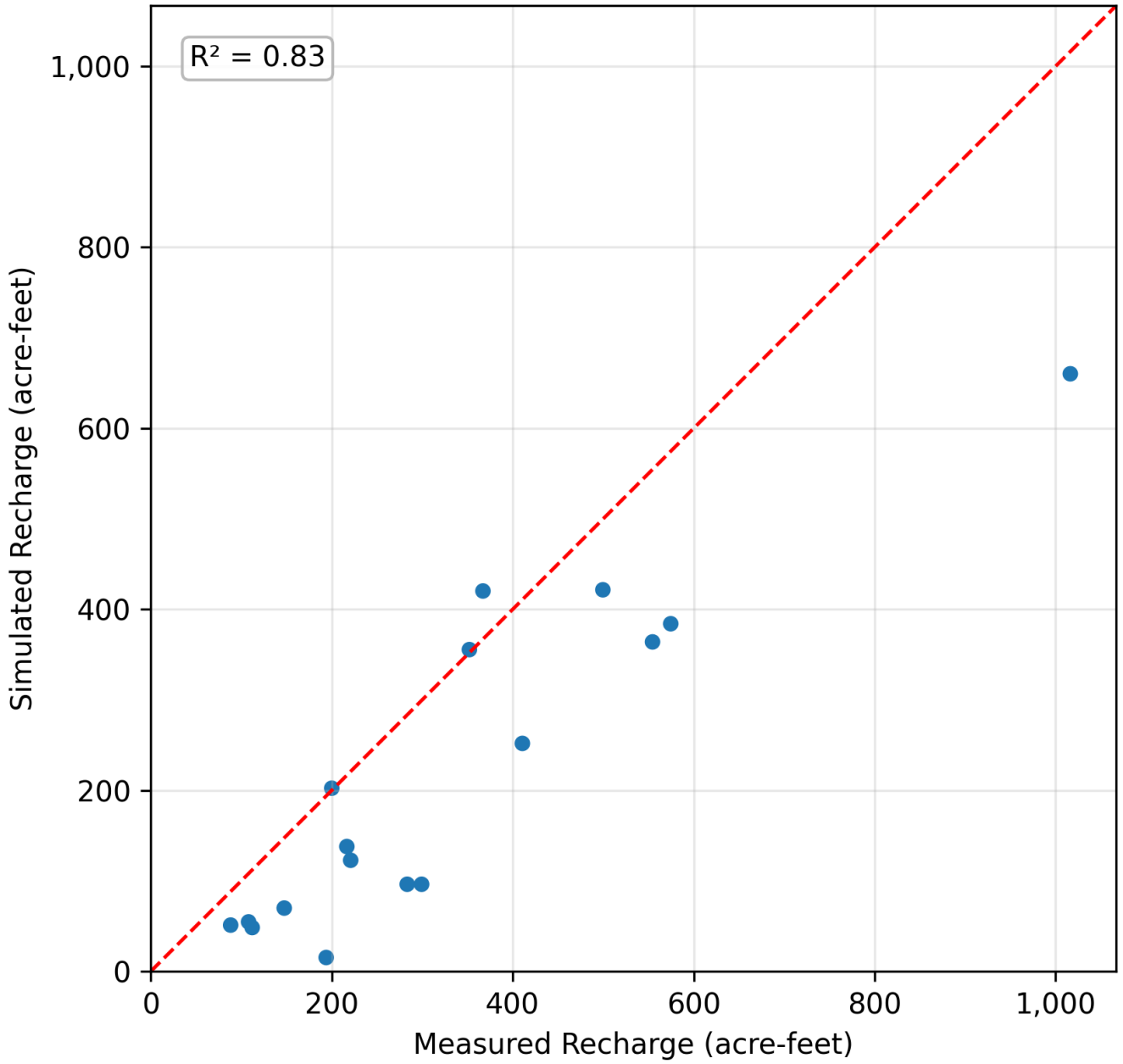


Figure B1-10
Measured and Simulated Stormwater Recharge, FY 2006-2022
San Sevaine Basins 1-5

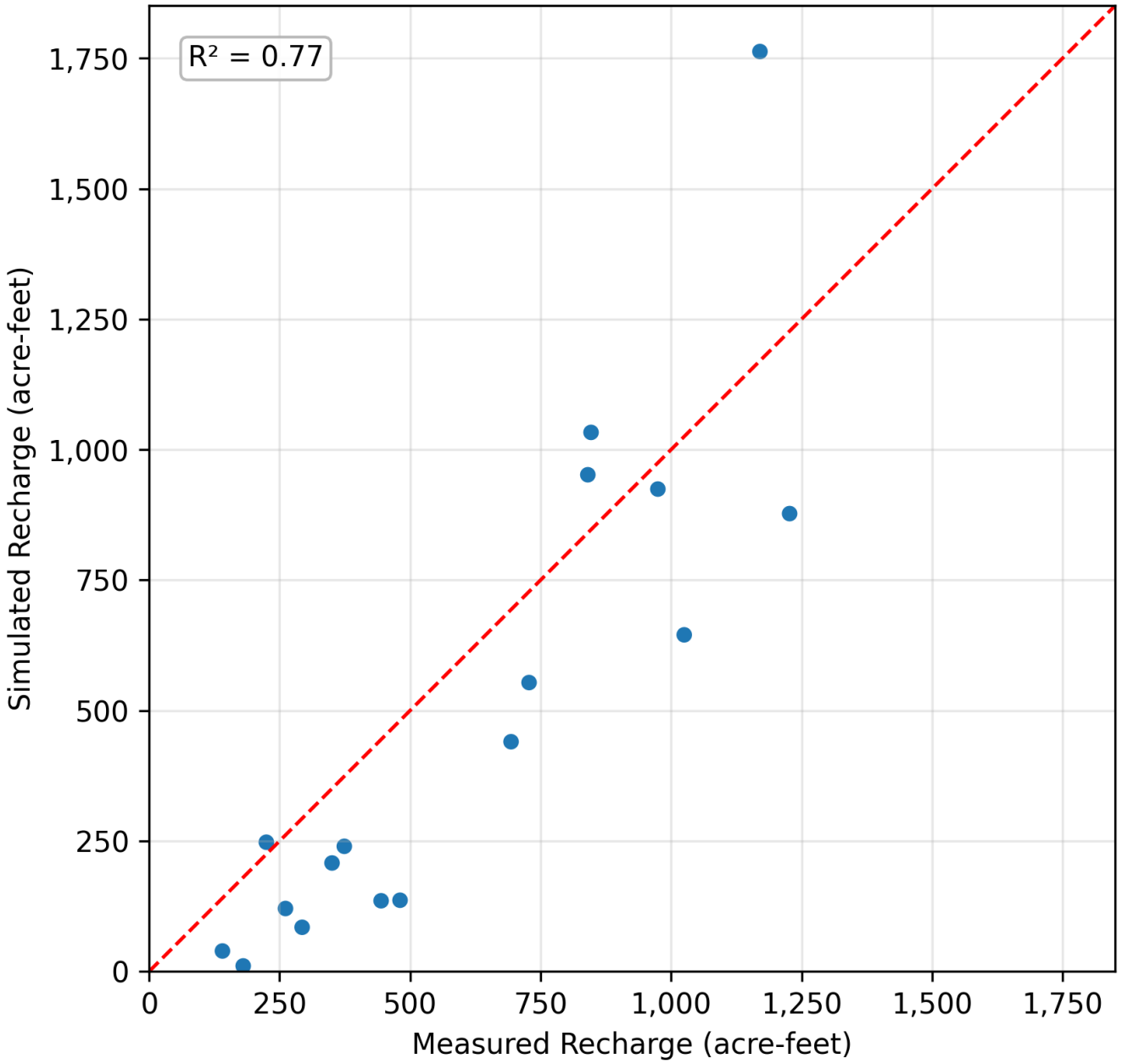


Figure B1-11
Measured and Simulated Stormwater Recharge, FY 2006-2022
Banana/Hickory Basins

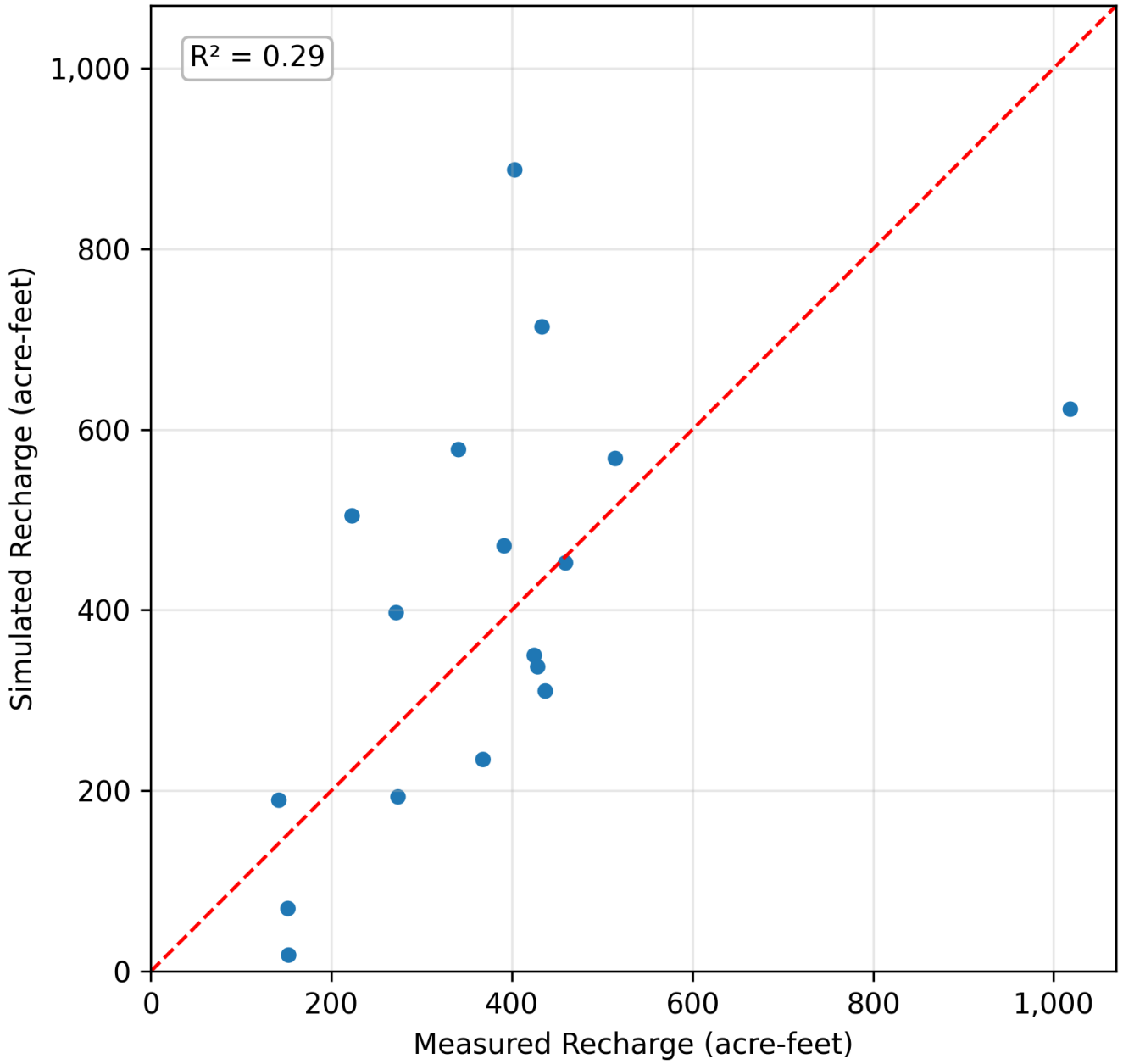


Figure B1-12
Measured and Simulated Stormwater Recharge, FY 2006-2022
RP3 Basins

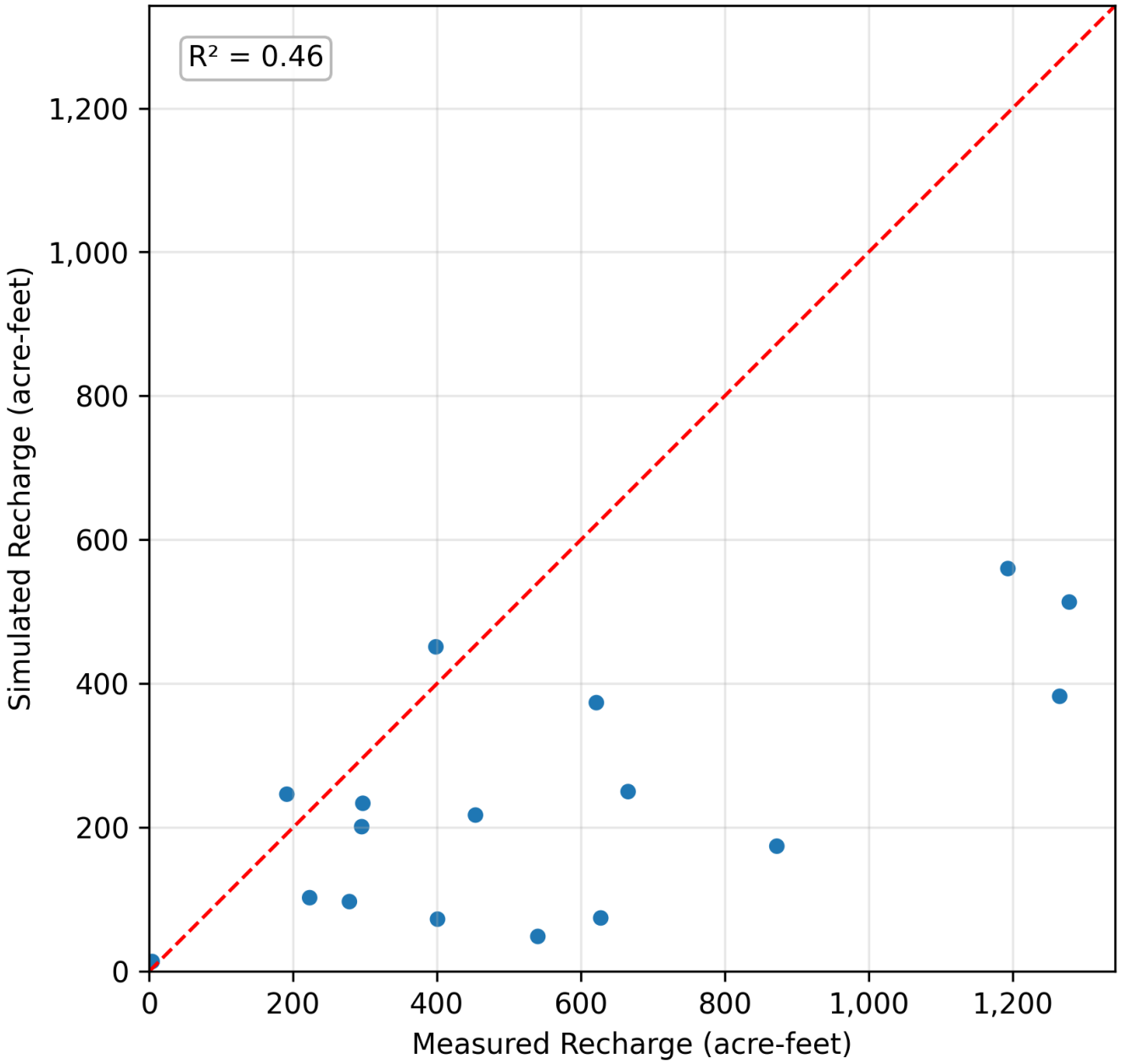


Figure B1-13
Measured and Simulated Stormwater Recharge, FY 2006-2022
Declez Basin

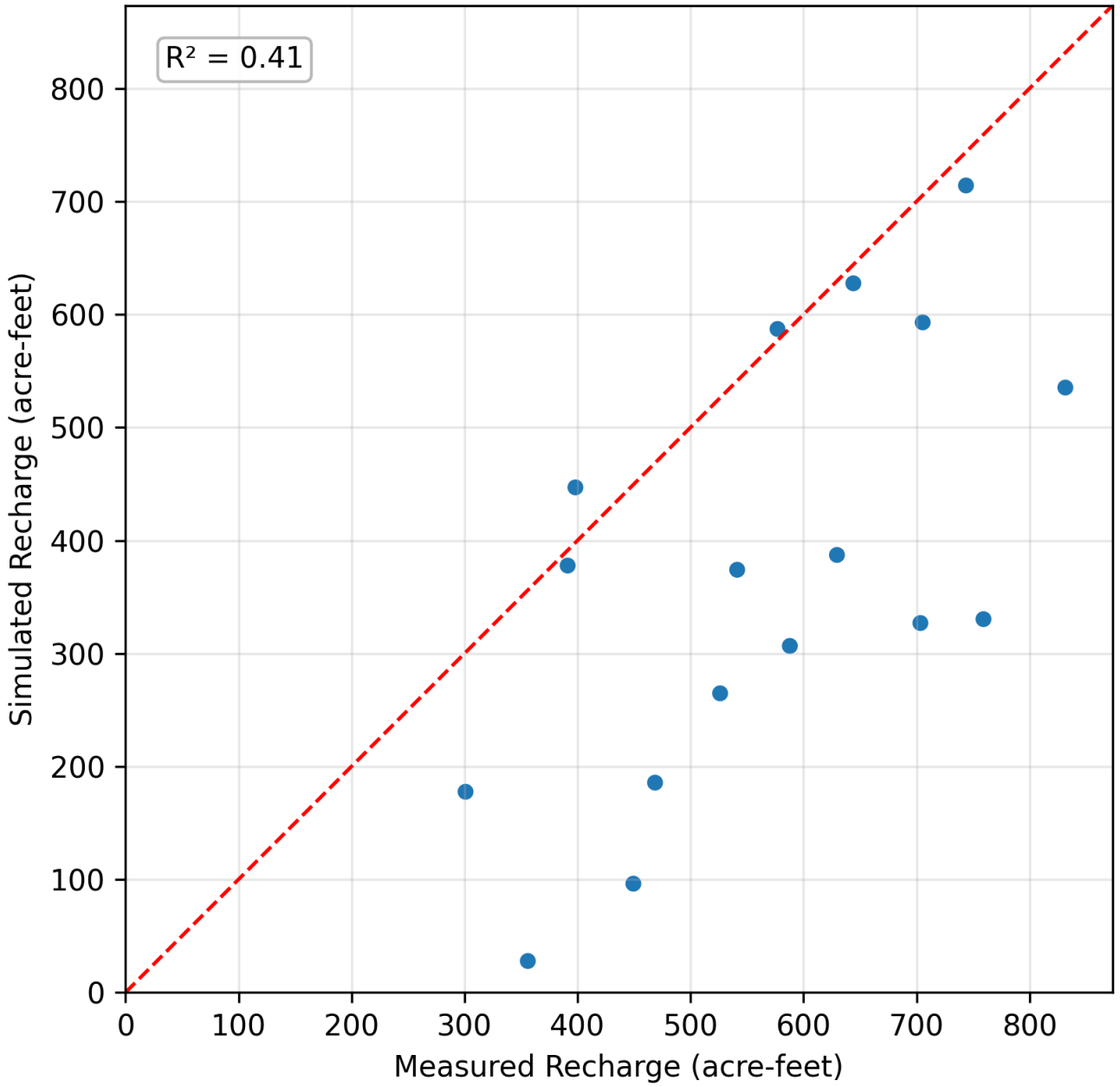
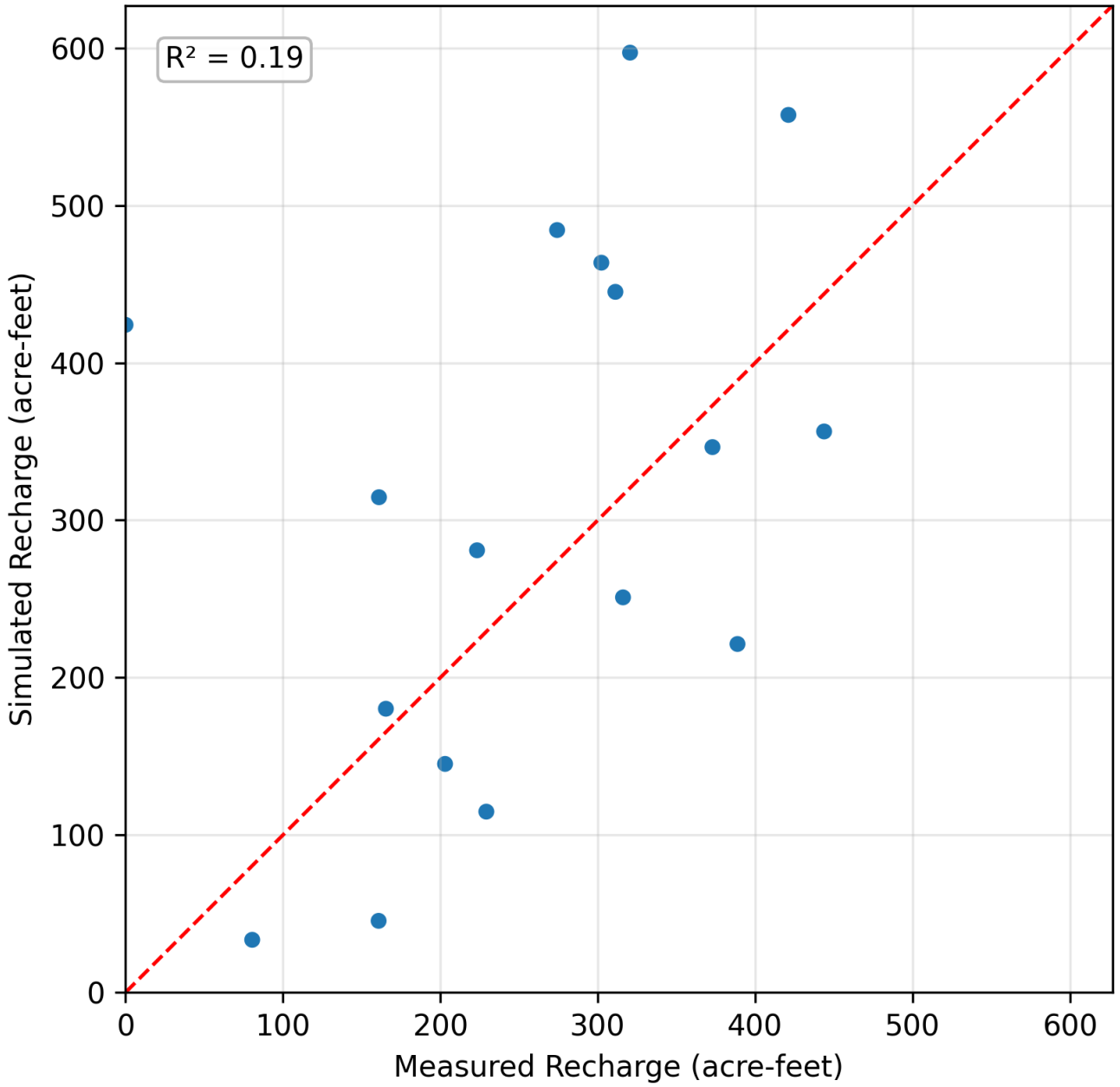


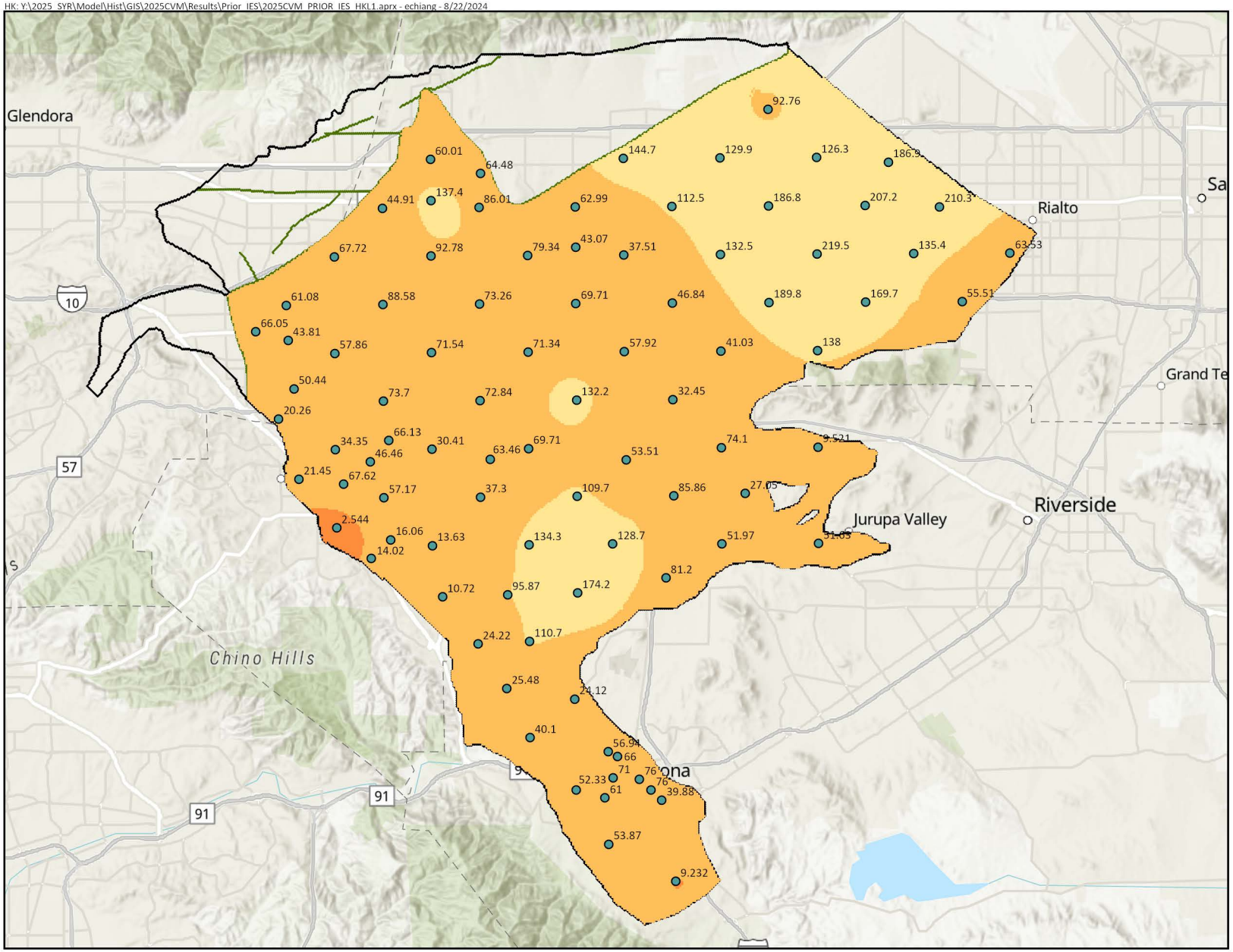
Figure B1-14
Measured and Simulated Stormwater Recharge, FY 2006-2022
Grove Basin



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:

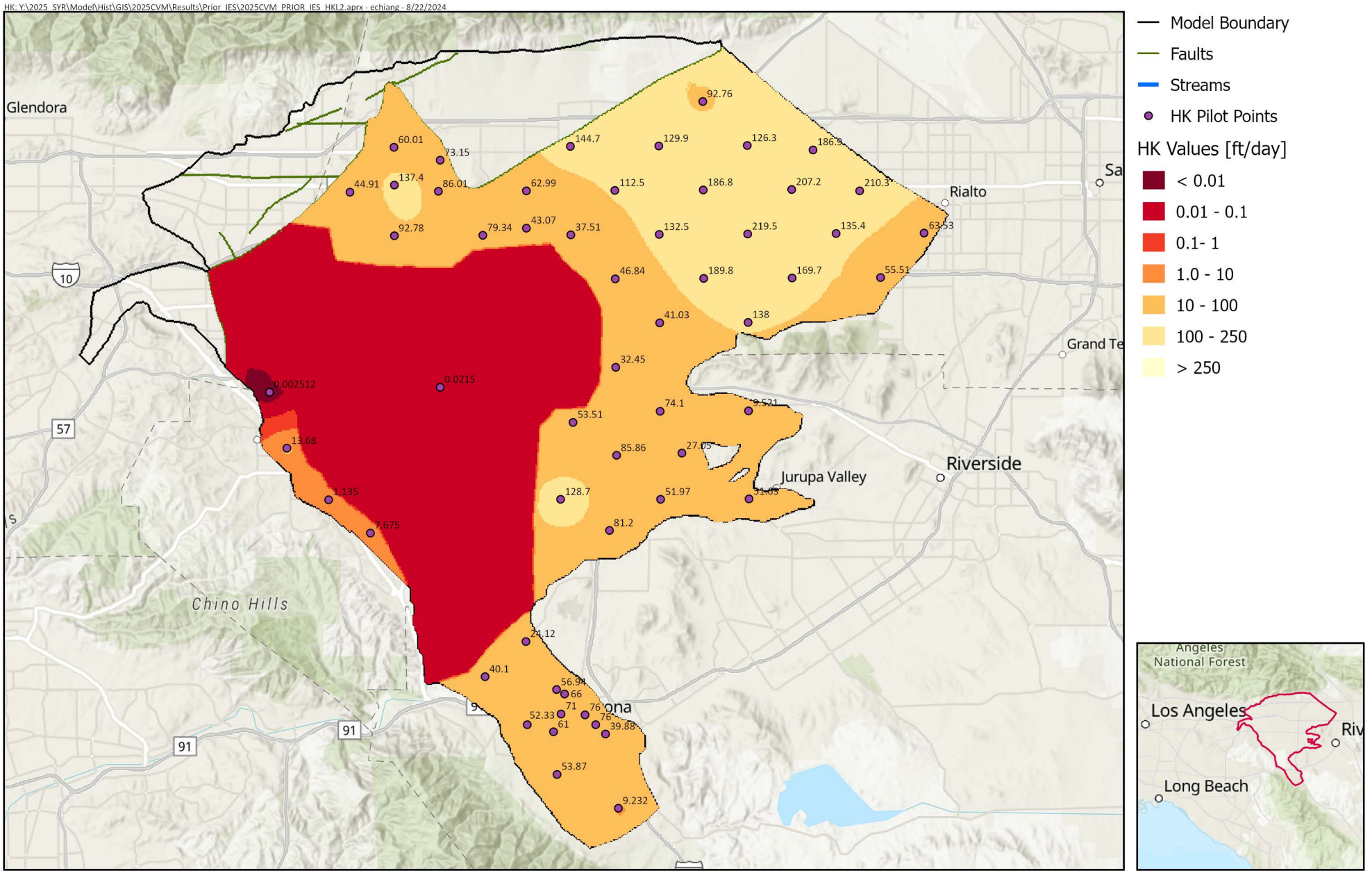
Chino Basin Watermaster

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

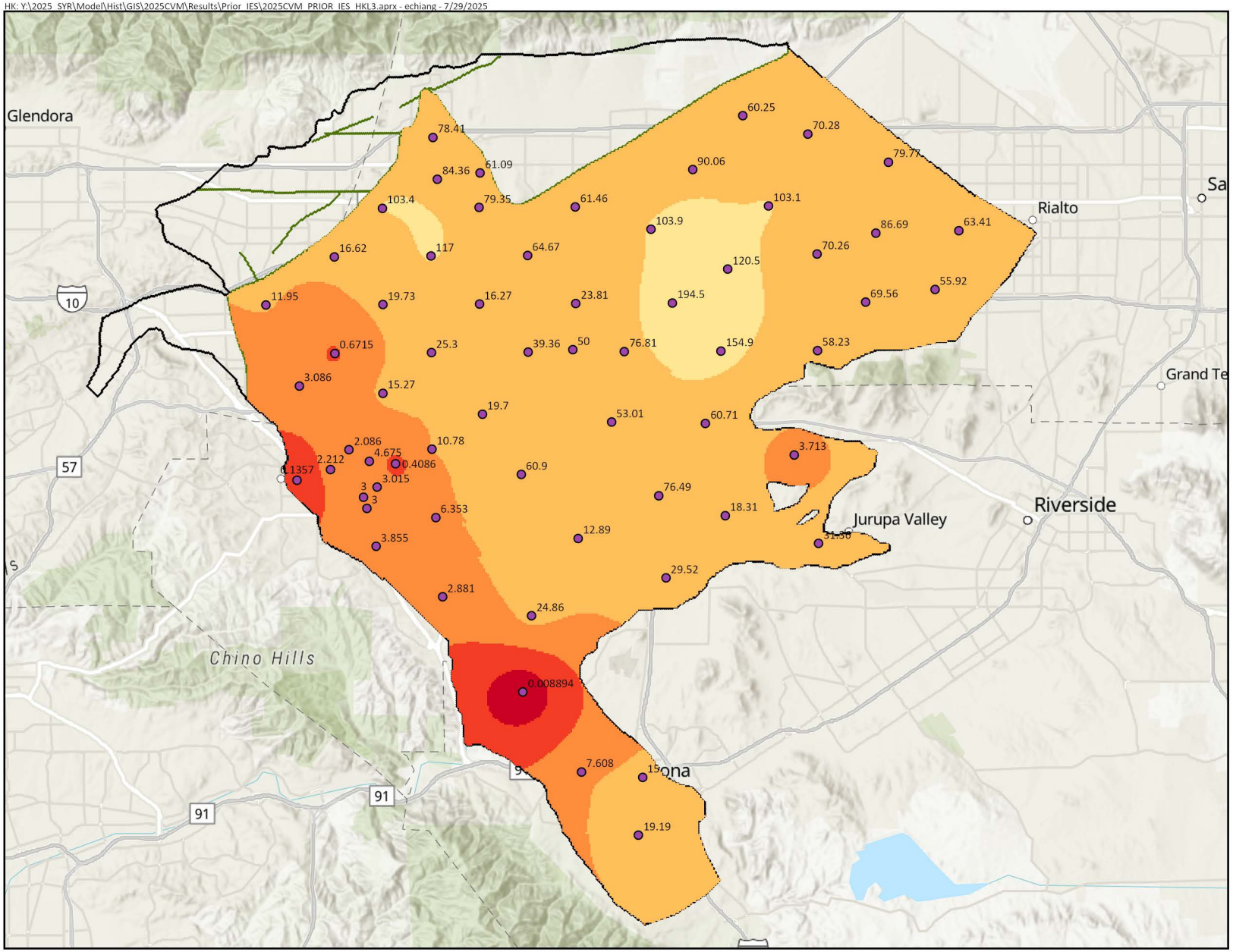
2025 Safe Yield Reevaluation

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:

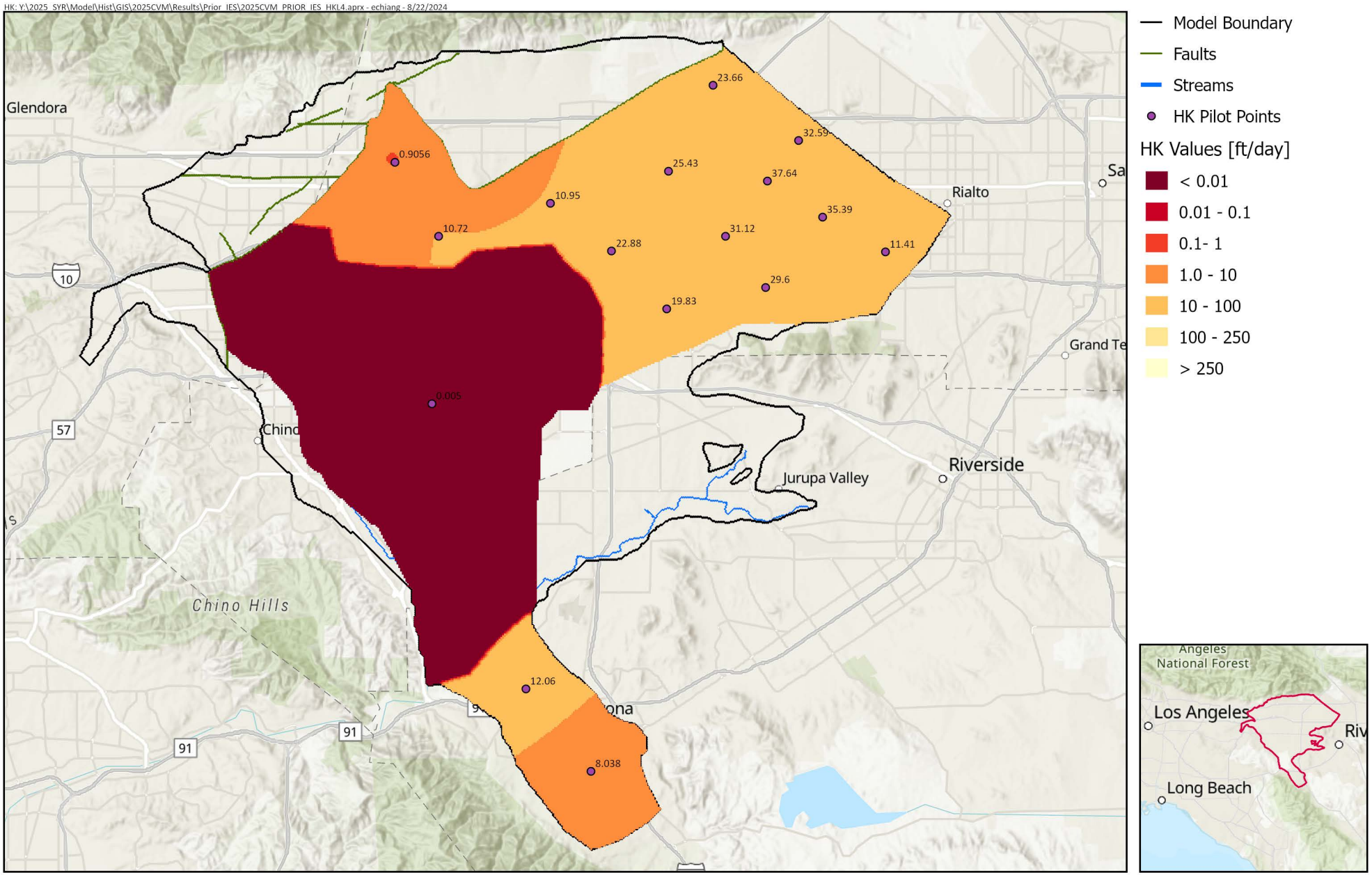
WEST YOST

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

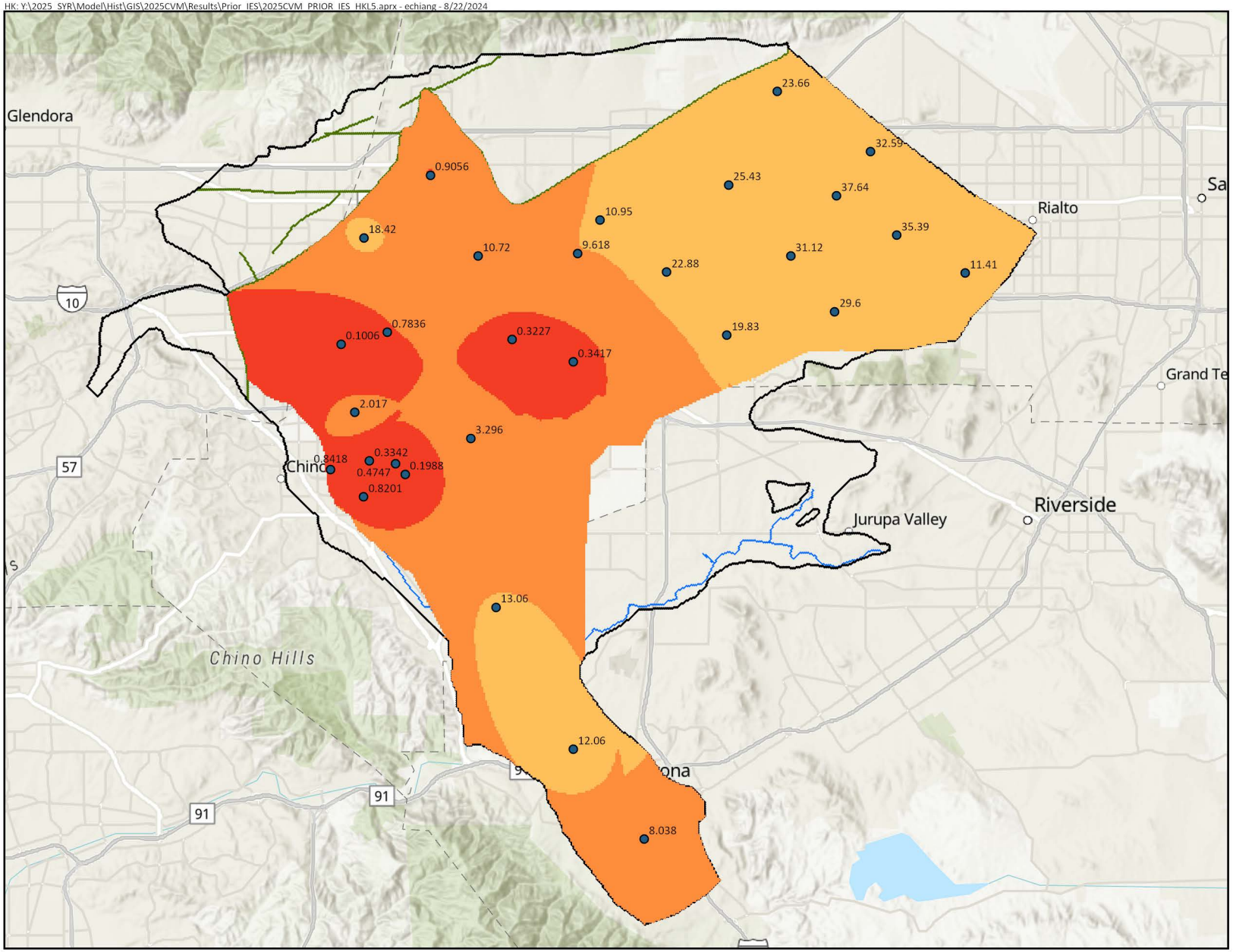
2025 Safe Yield Reevaluation

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

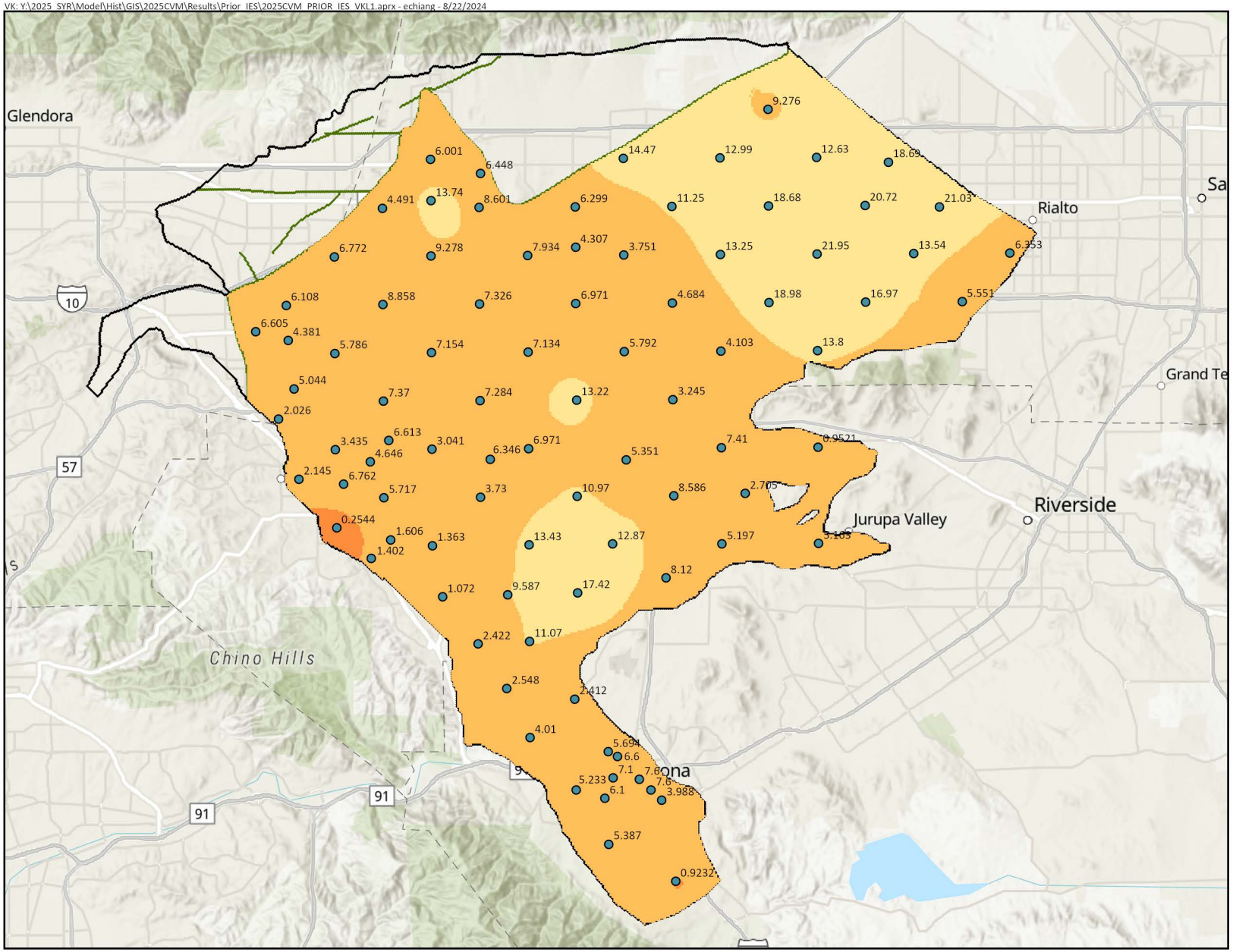
2025 Safe Yield Reevaluation

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

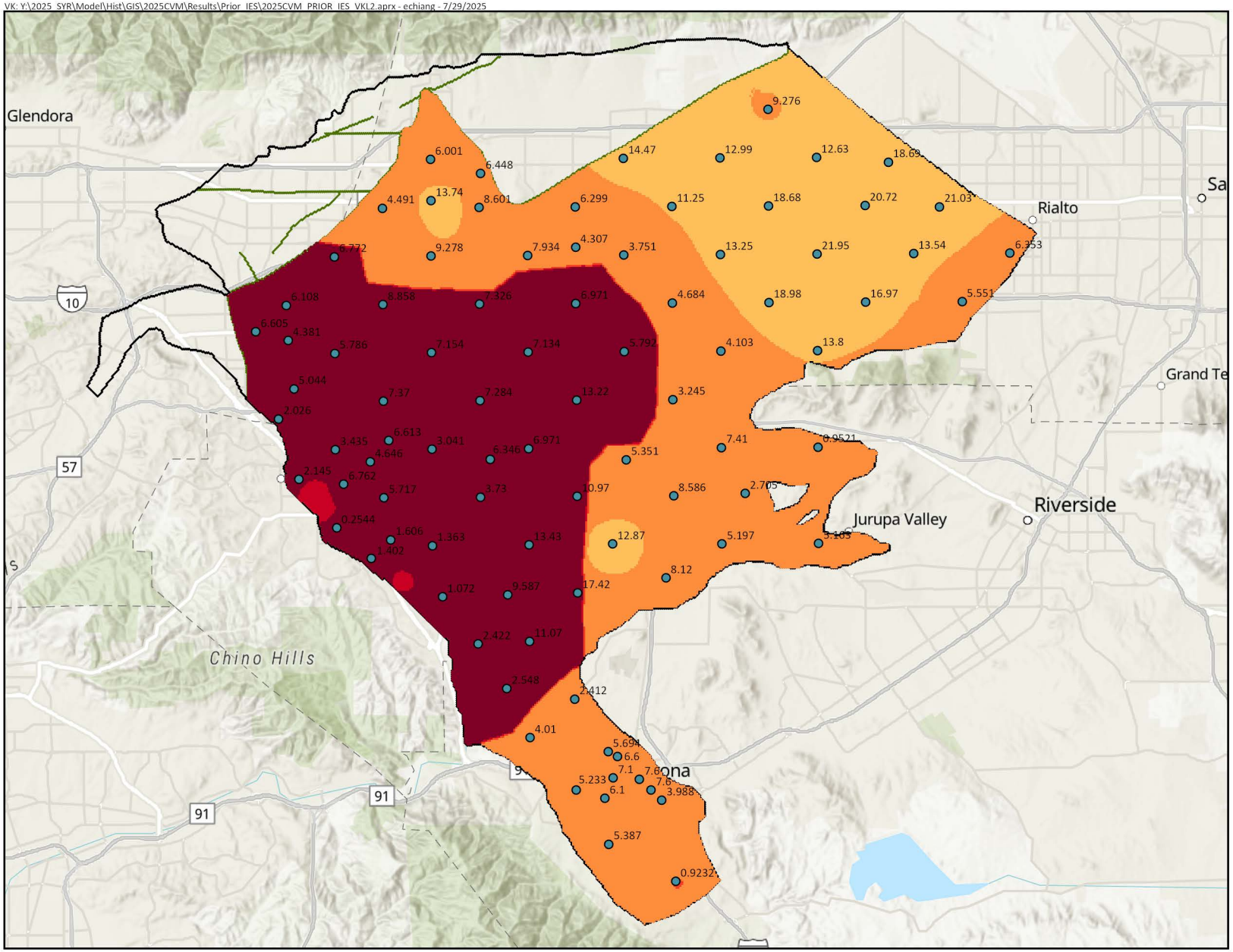
Prepared for:

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

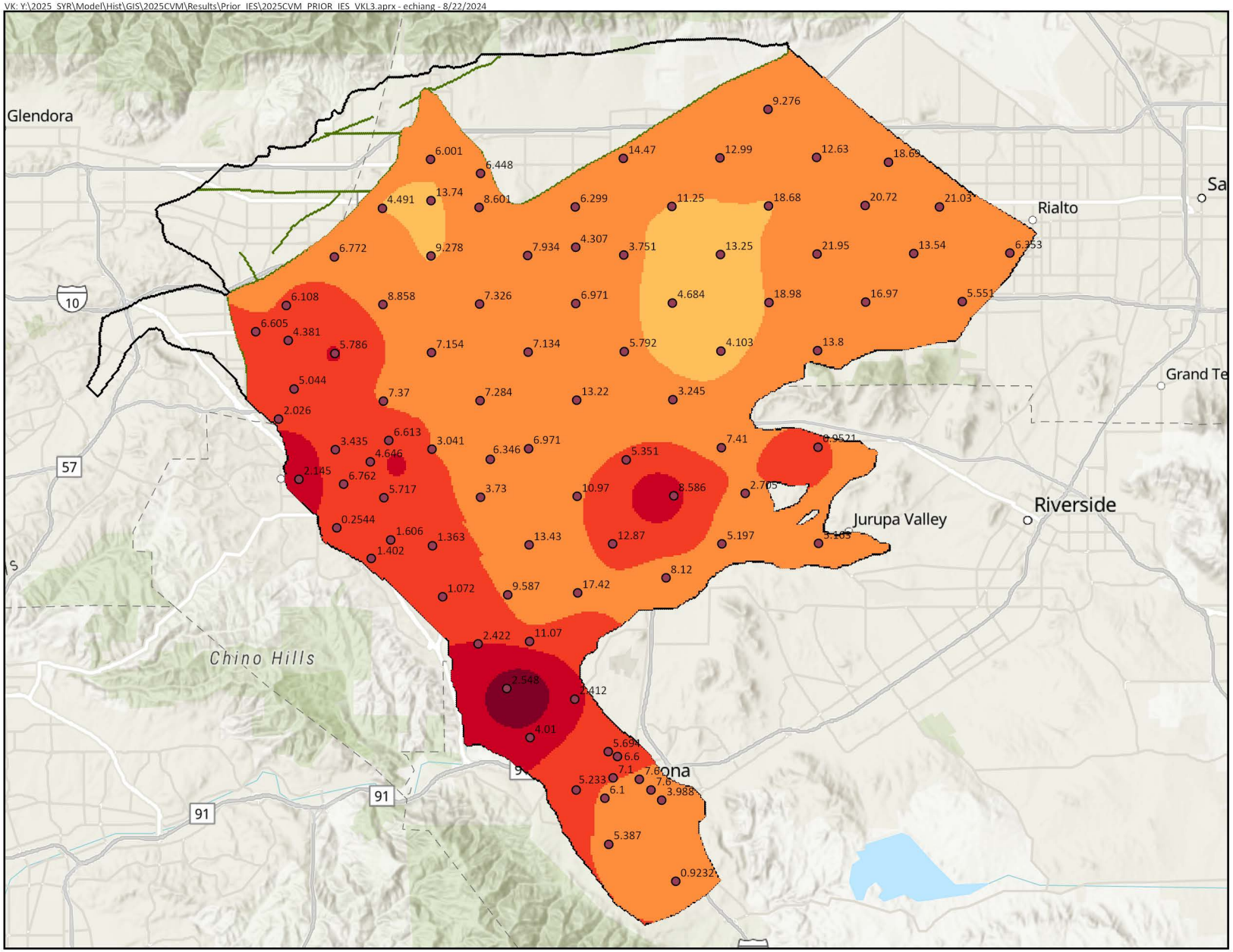
0 3 6 Km

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

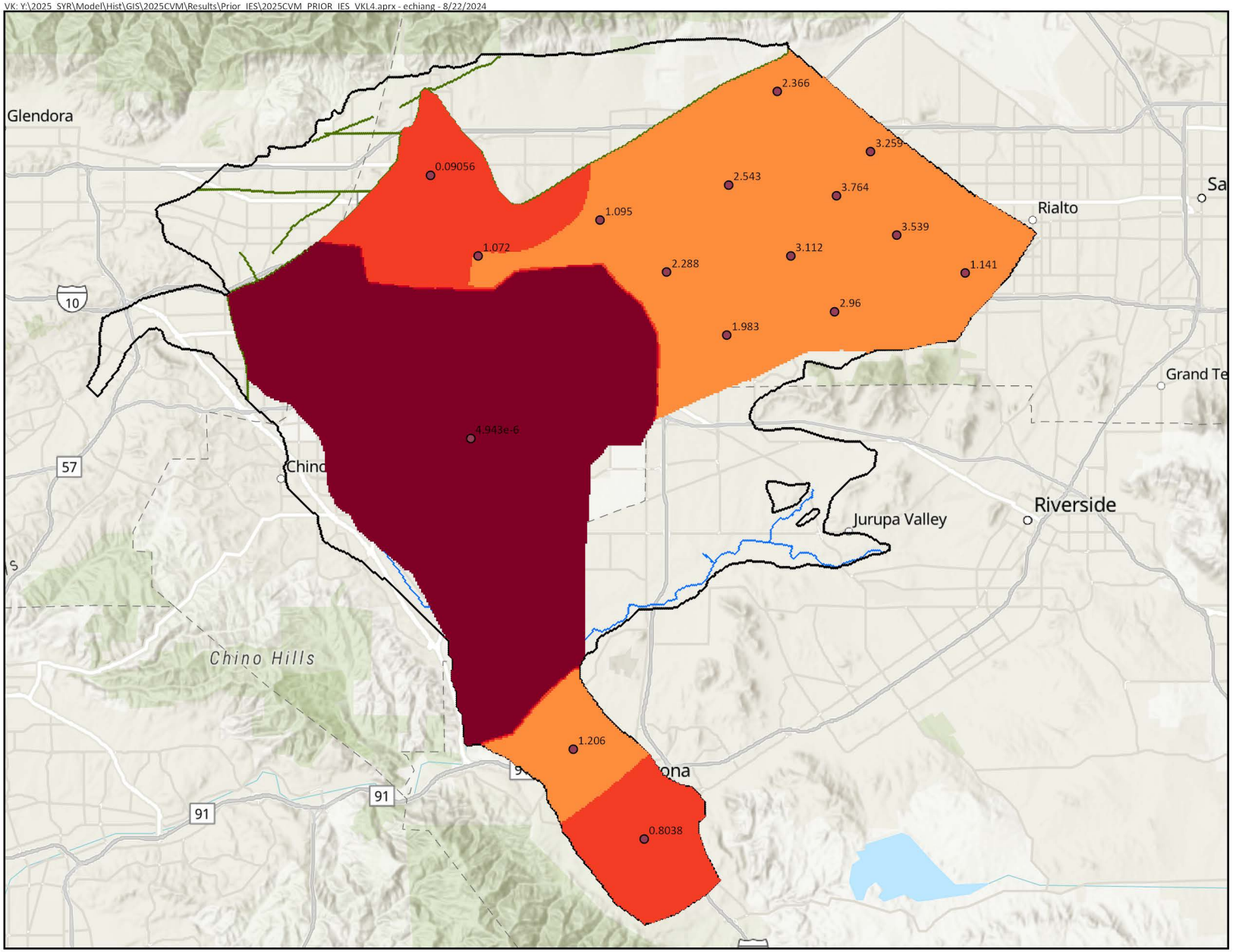
0 3 6 Km

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

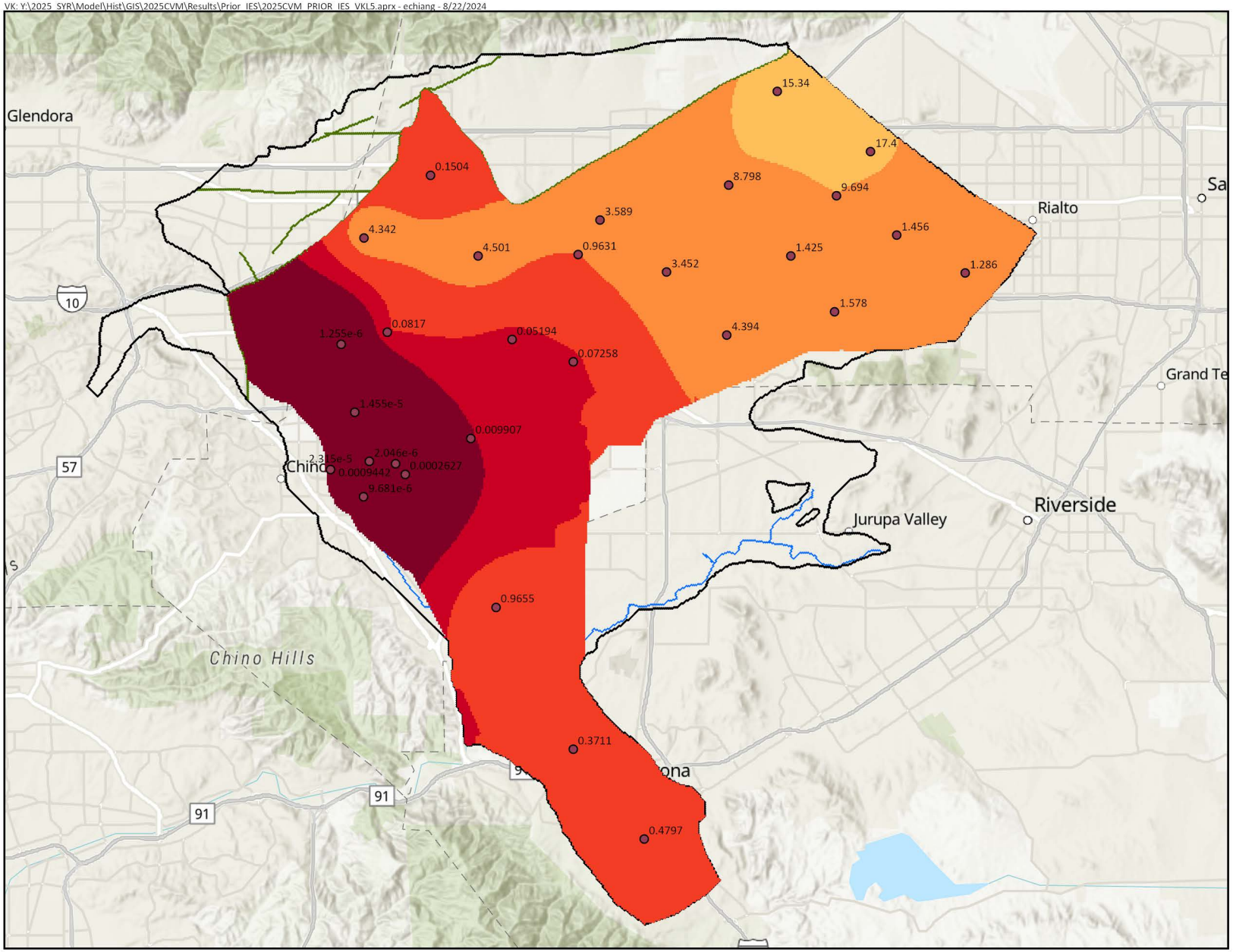
2025 Safe Yield Reevaluation

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

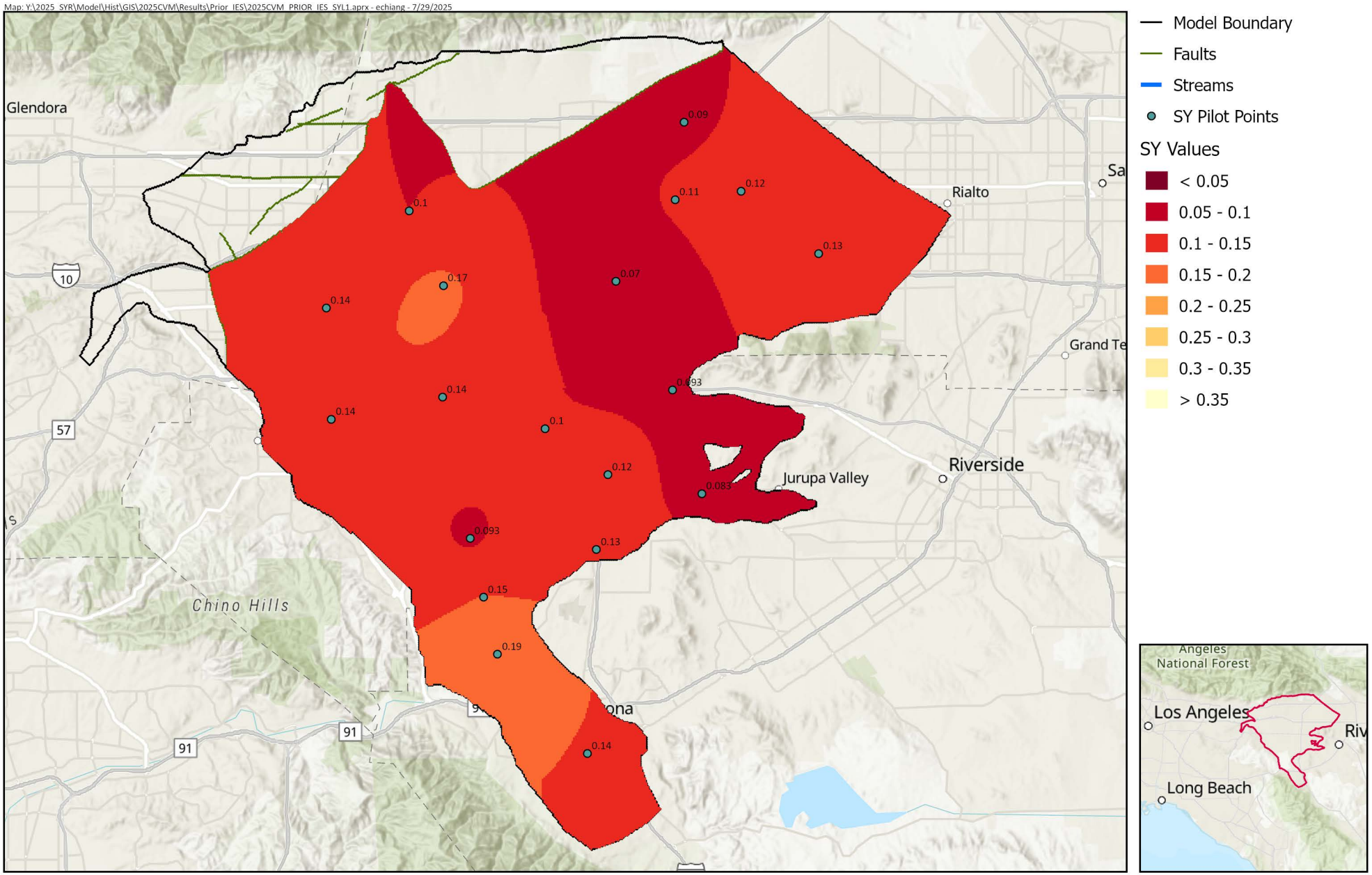
0 3 6 Km

Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

2025 CVM: Manual Calibration
VK in Layer 5

Figure B2-10



Prepared by:

WEST YOST

0 2 4 Miles

0 3 6 Km

Prepared for:

Chino Basin Watermaster

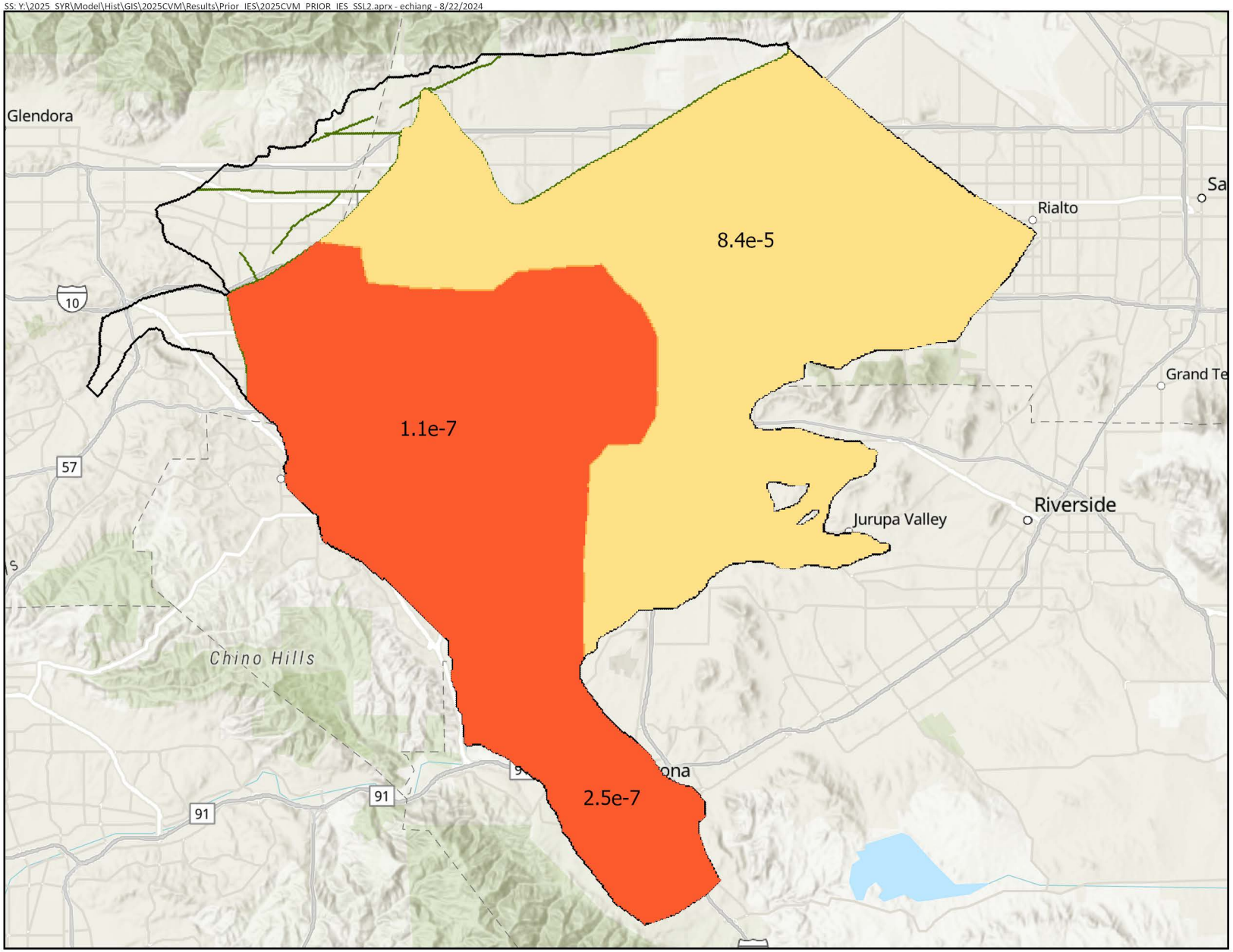
2025 Safe Yield Reevaluation

2025 CVM: Manual Calibration

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

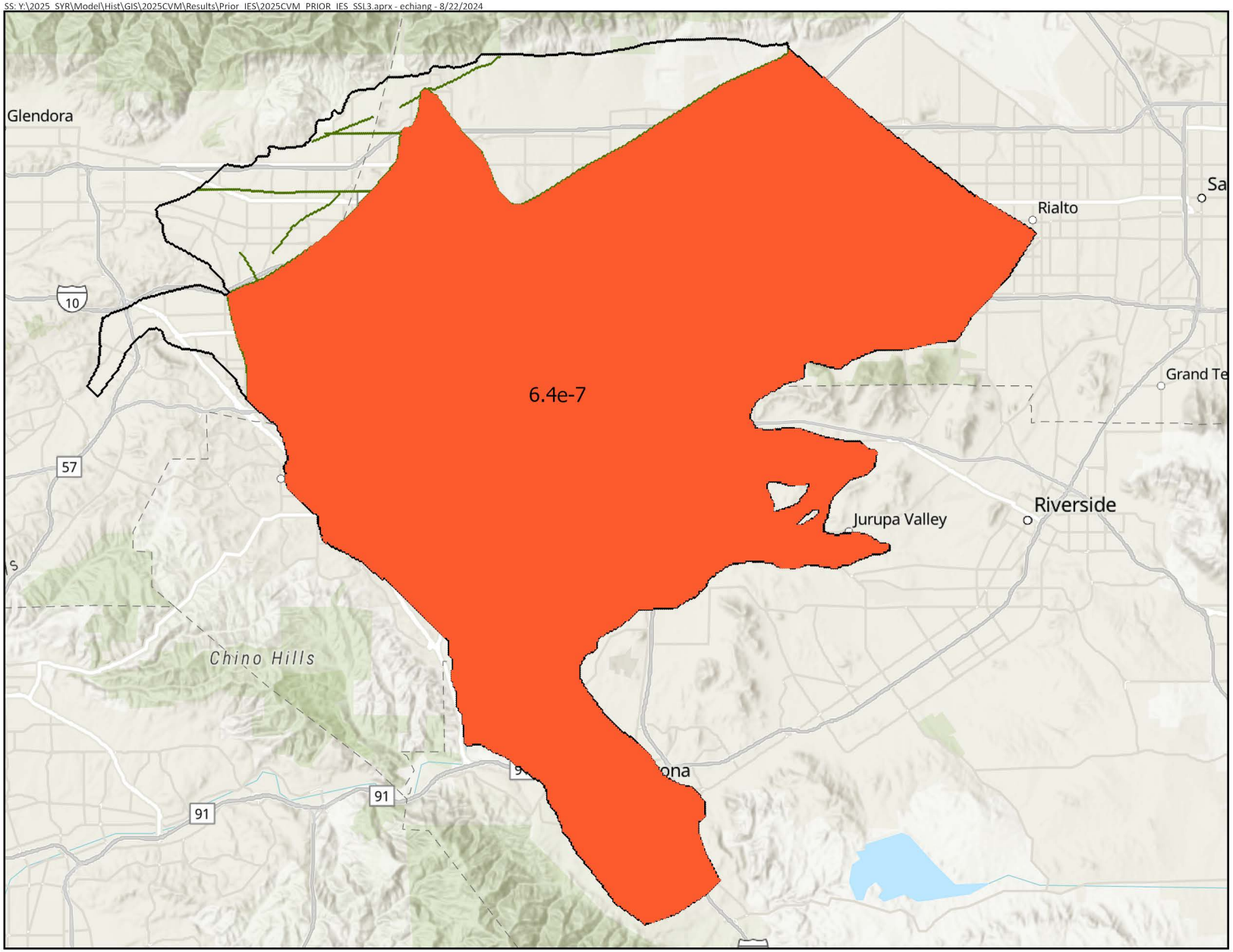
Prepared for:

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

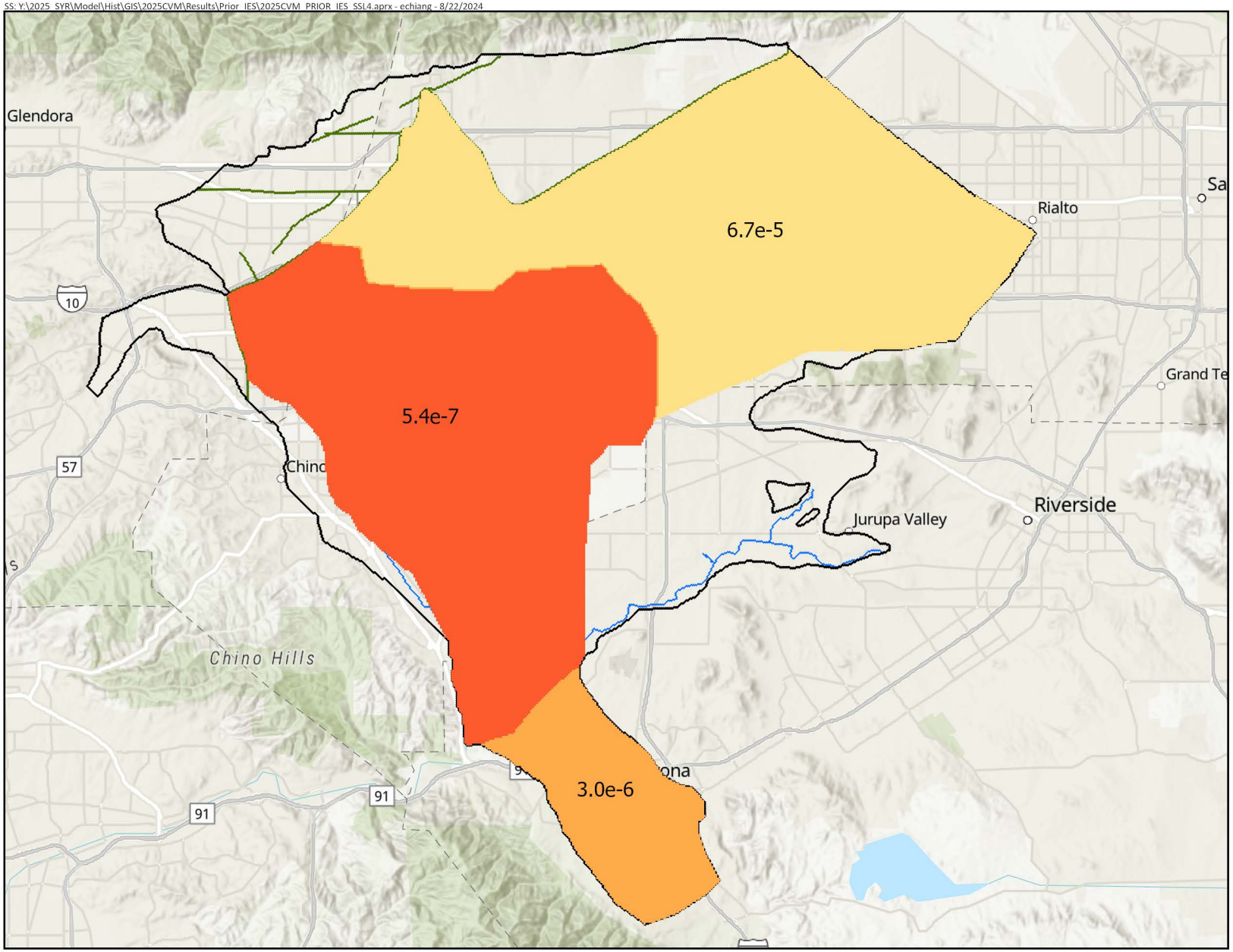
Prepared for:

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

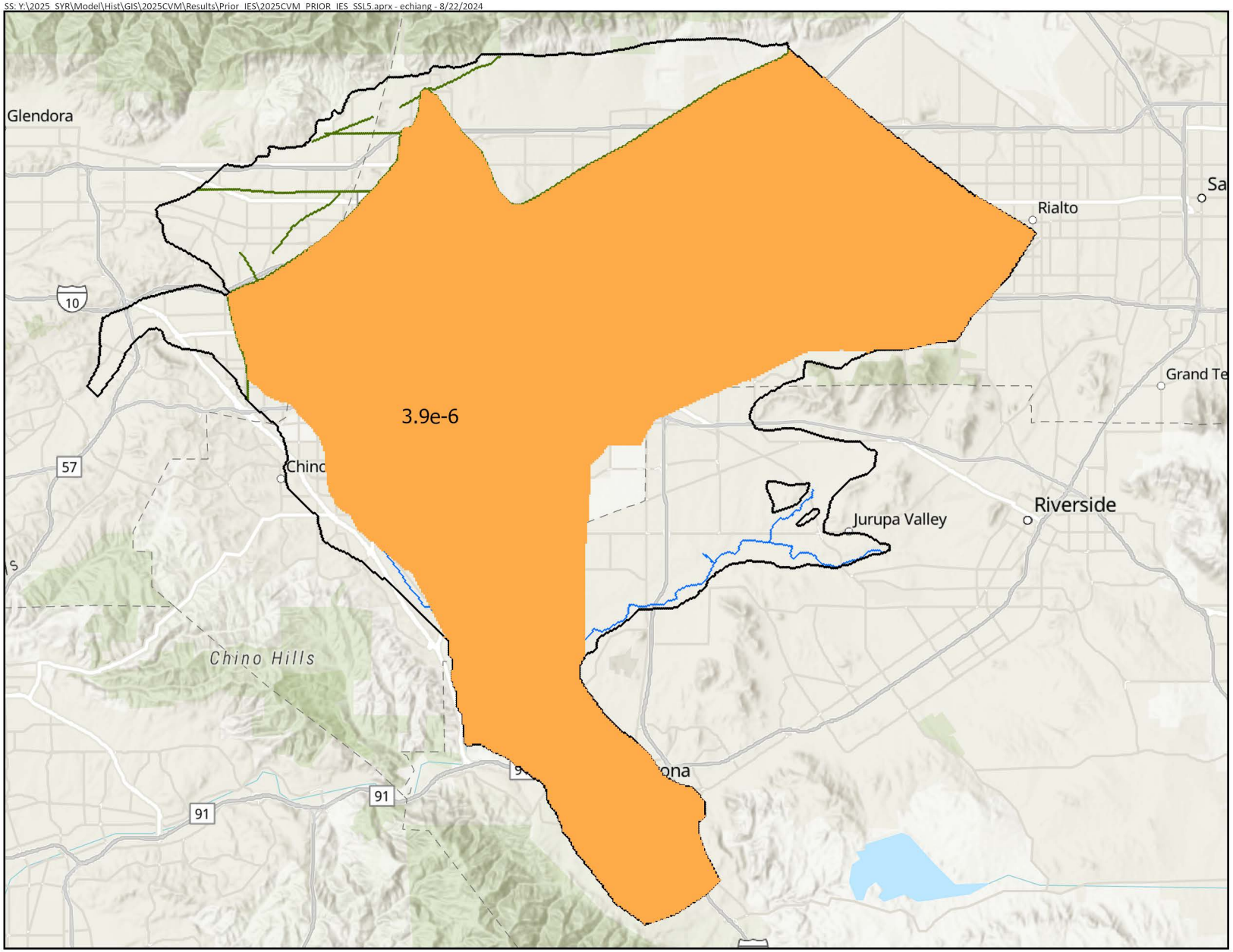
Prepared for:

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

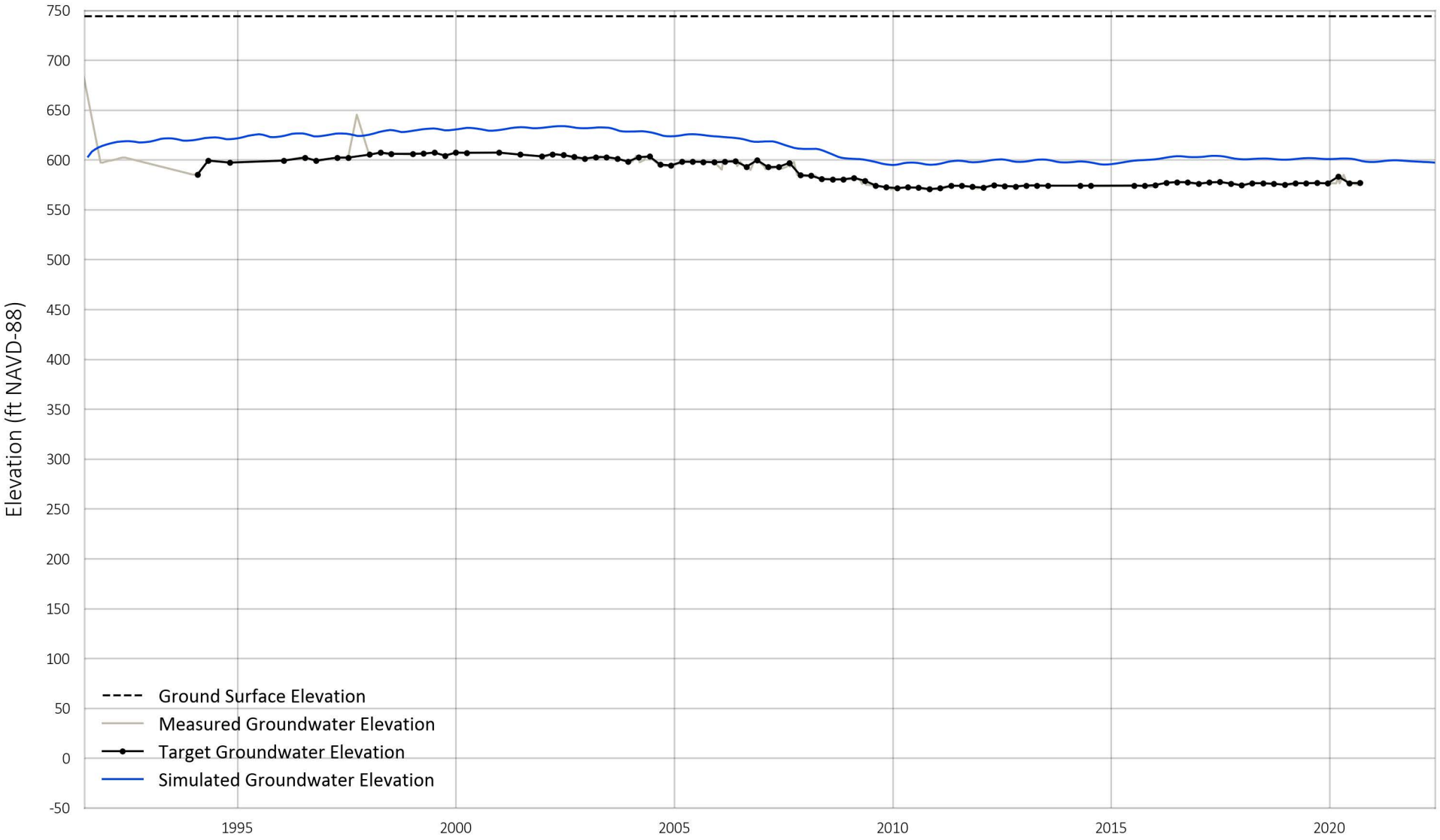
2025 CVM: Manual Calibration

SS in Layer 5

Figure B2-15

B3. Groundwater Levels Simulated Using Manually Calibrated Aquifer Parameters

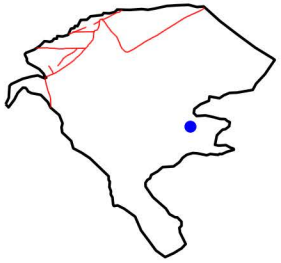
DRAFT



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

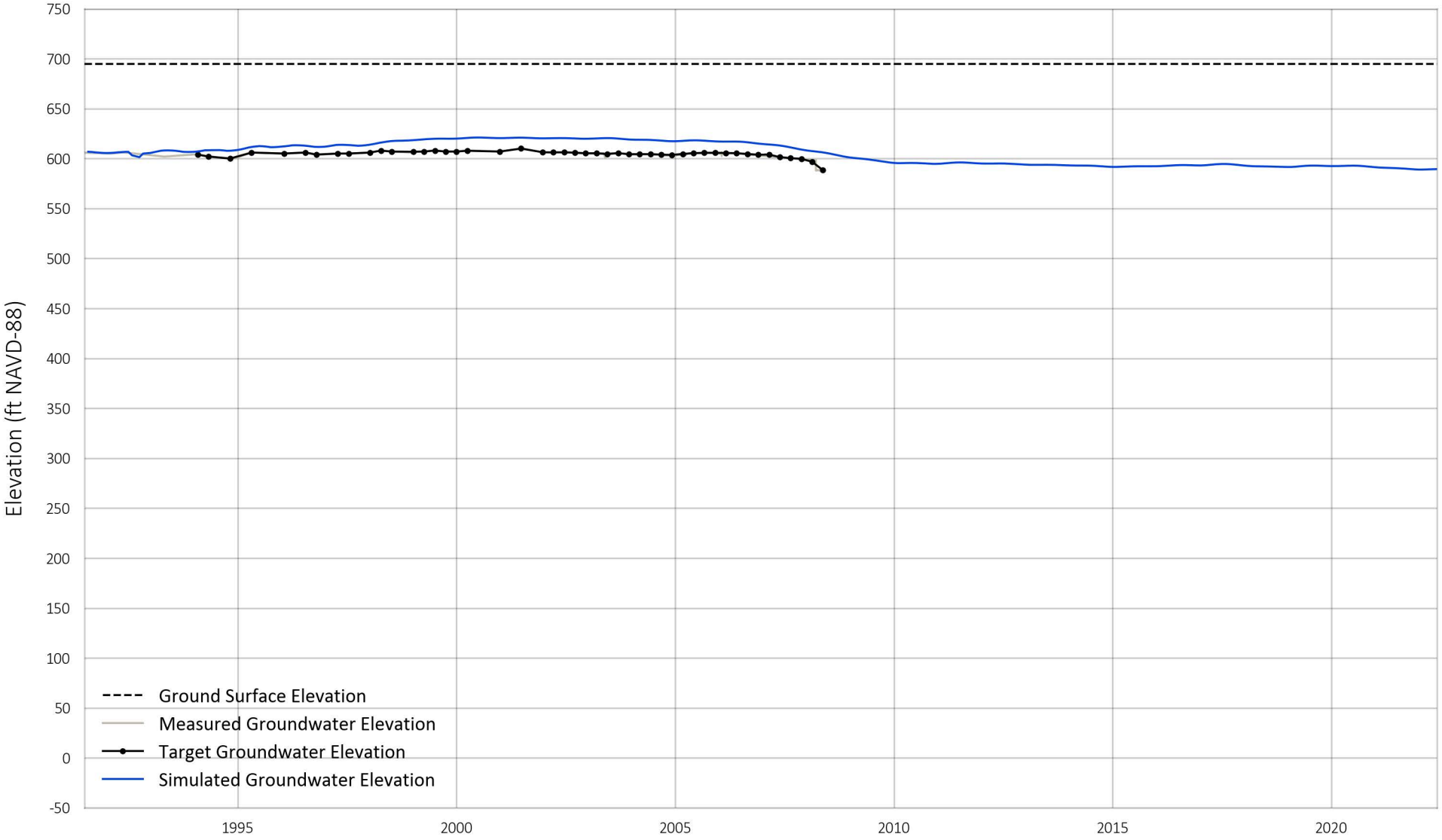
Target Groundwater Elevation (ft)
Mean = 587.71
Standard Deviation = 13.17

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

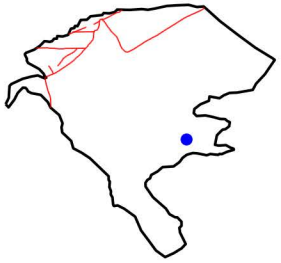
Figure B3-1



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

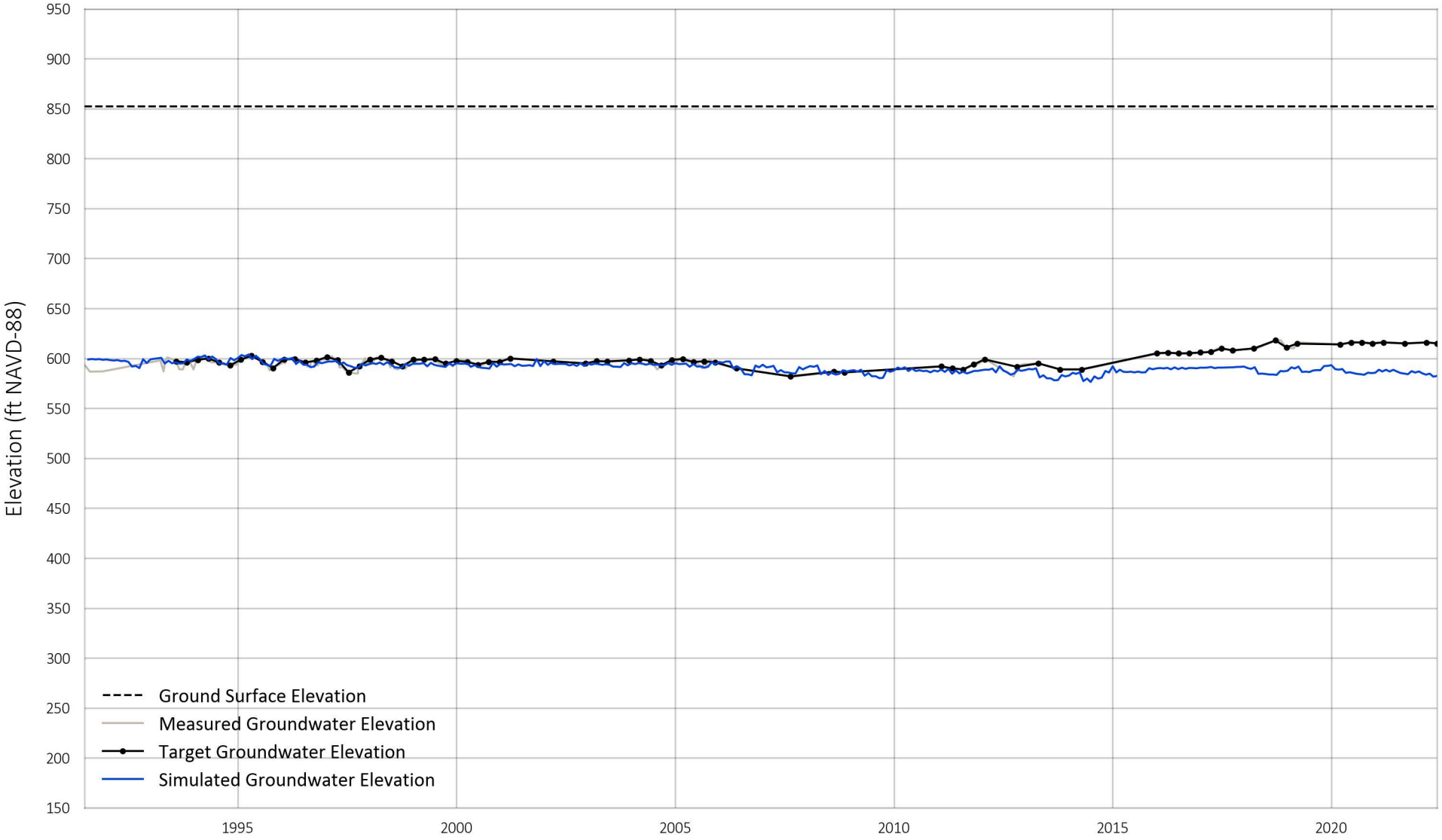
Target Groundwater Elevation (ft)
Mean = 604.63
Standard Deviation = 3.38

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

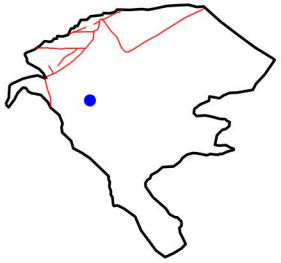
Figure B3-2



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

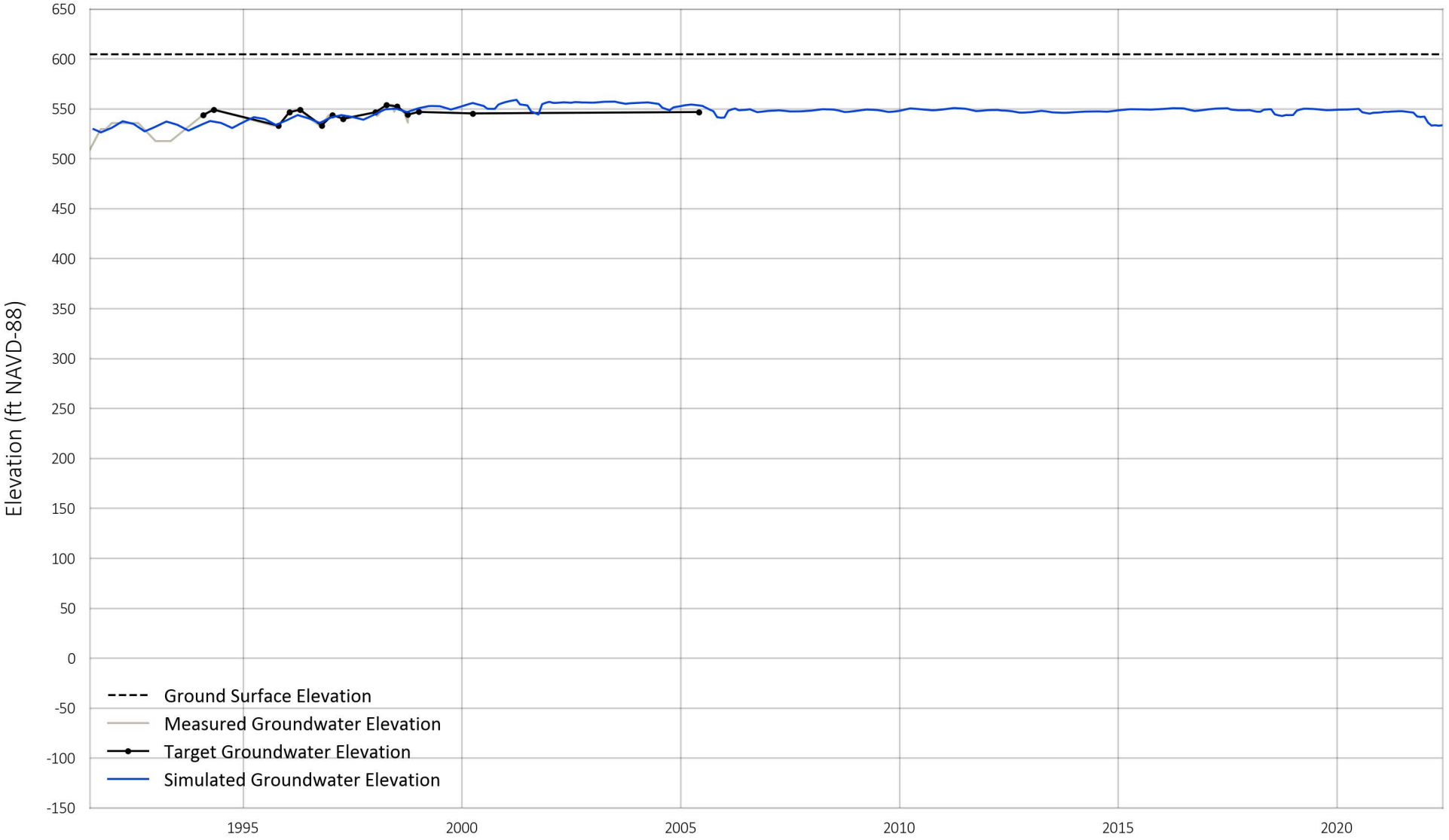
Target Groundwater Elevation (ft)
Mean = 599.51
Standard Deviation = 8.27

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

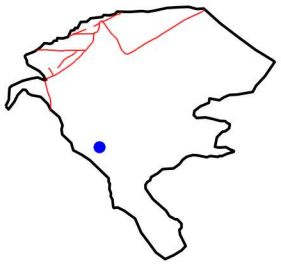
Figure B3-3



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

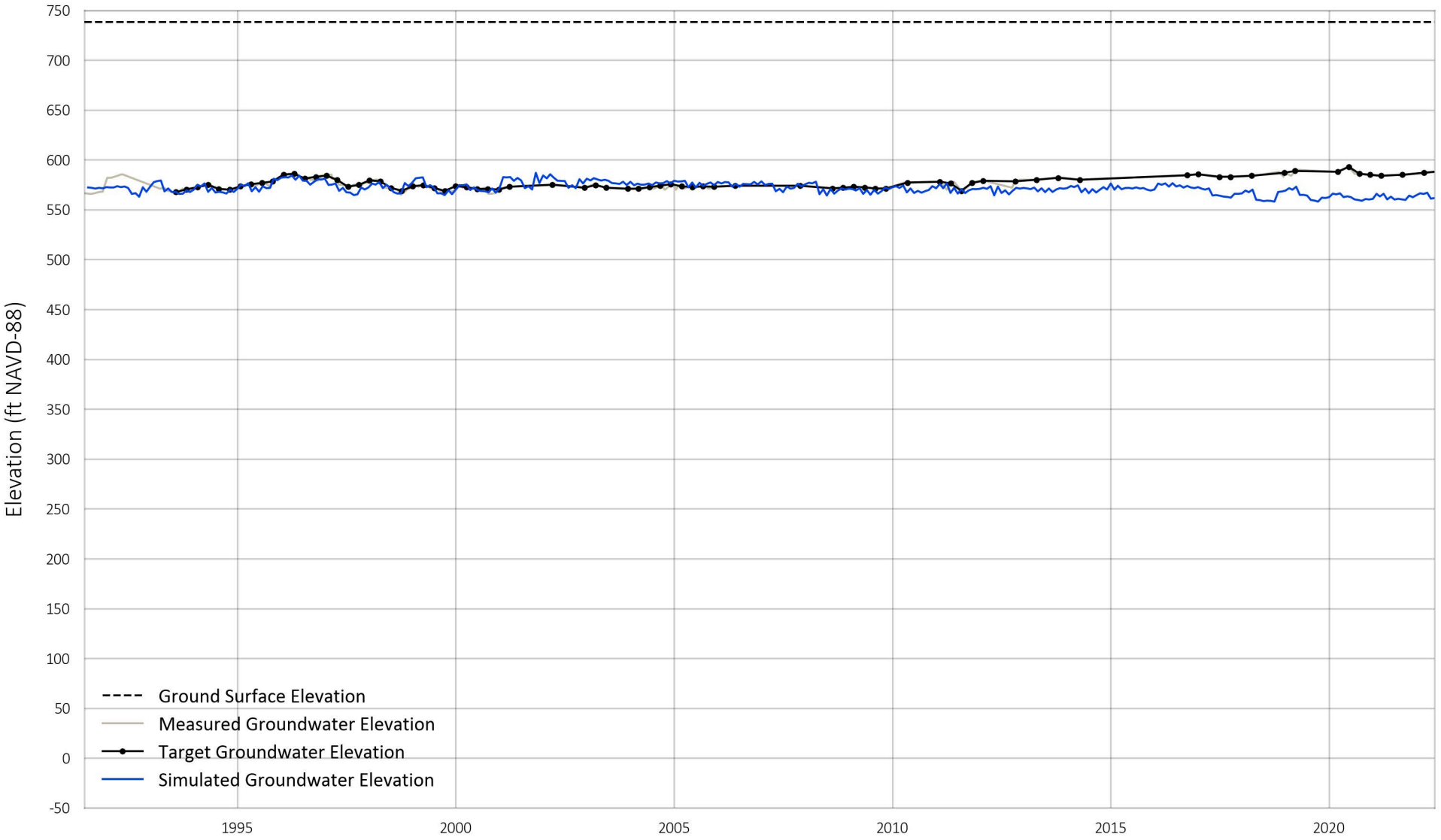
Target Groundwater Elevation (ft)
Mean = 544.81
Standard Deviation = 5.87

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

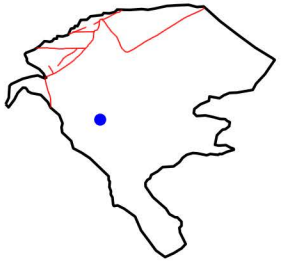
Figure B3-4



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

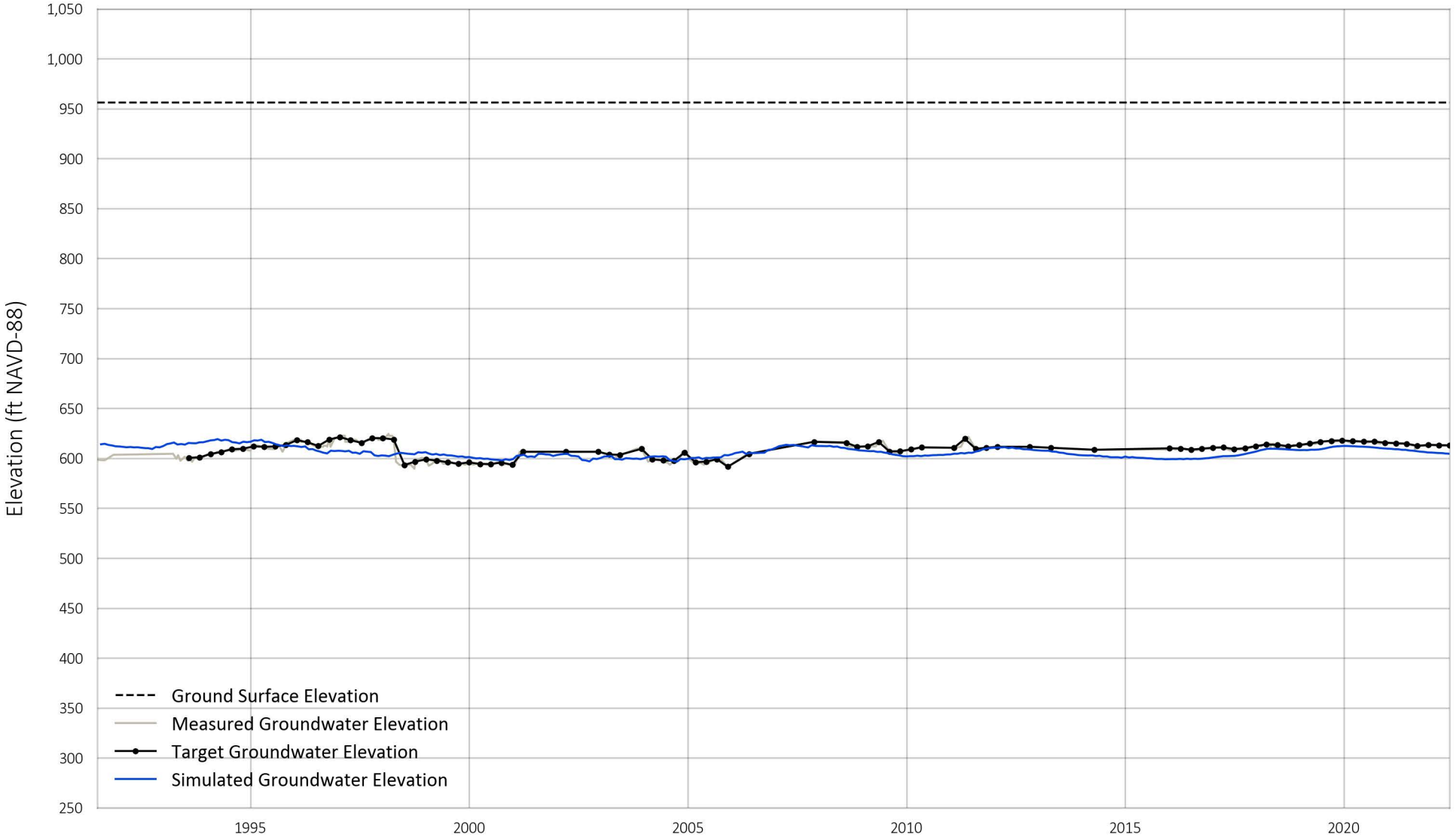
Target Groundwater Elevation (ft)
Mean = 576.70
Standard Deviation = 5.91

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

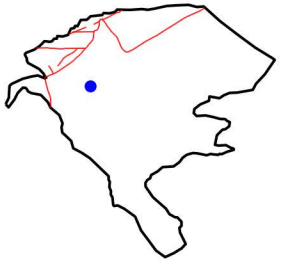
Figure B3-5



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

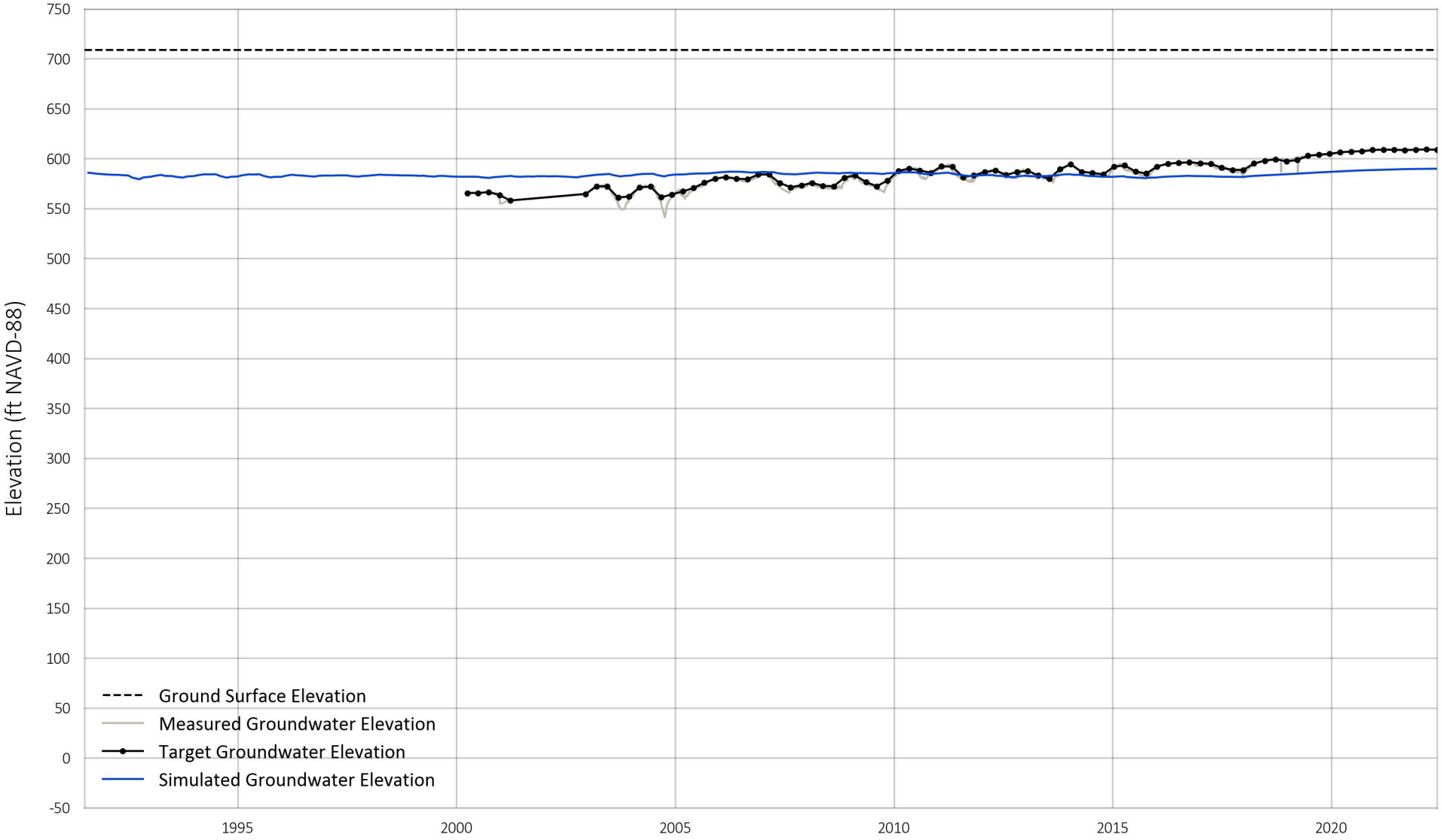
Target Groundwater Elevation (ft)
Mean = 608.77
Standard Deviation = 7.70

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

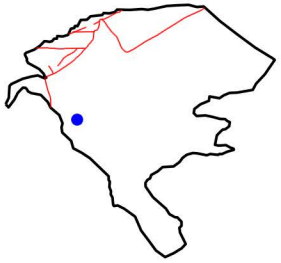
Figure B3-6



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

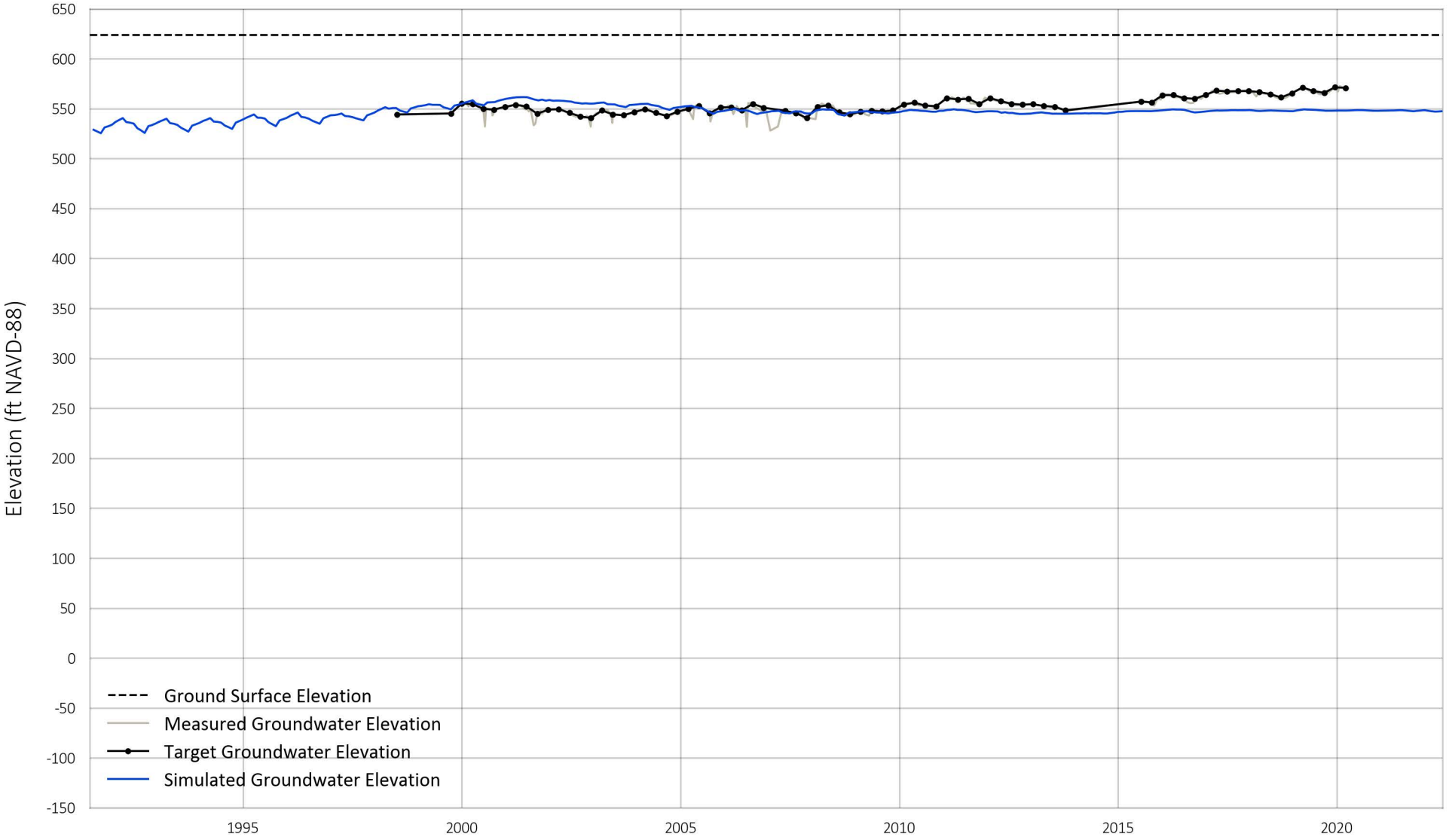
Target Groundwater Elevation (ft)
Mean = 585.50
Standard Deviation = 13.67

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

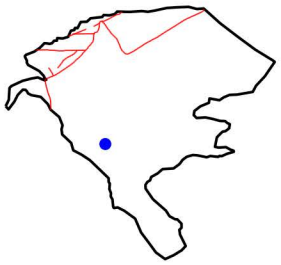
Figure B3-7



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

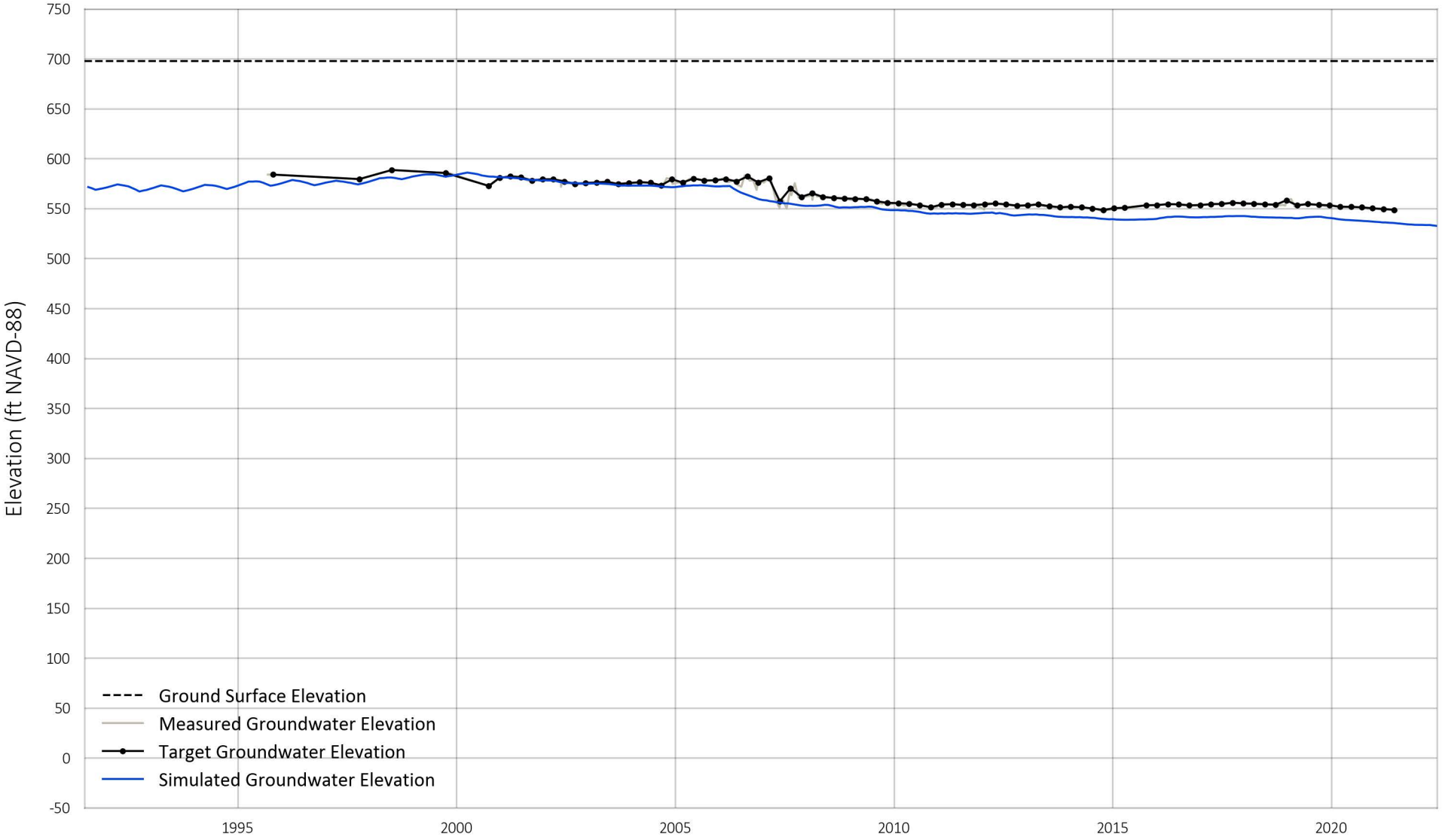
Target Groundwater Elevation (ft)
Mean = 553.89
Standard Deviation = 8.09

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

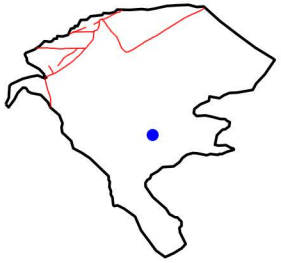
Figure B3-8



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

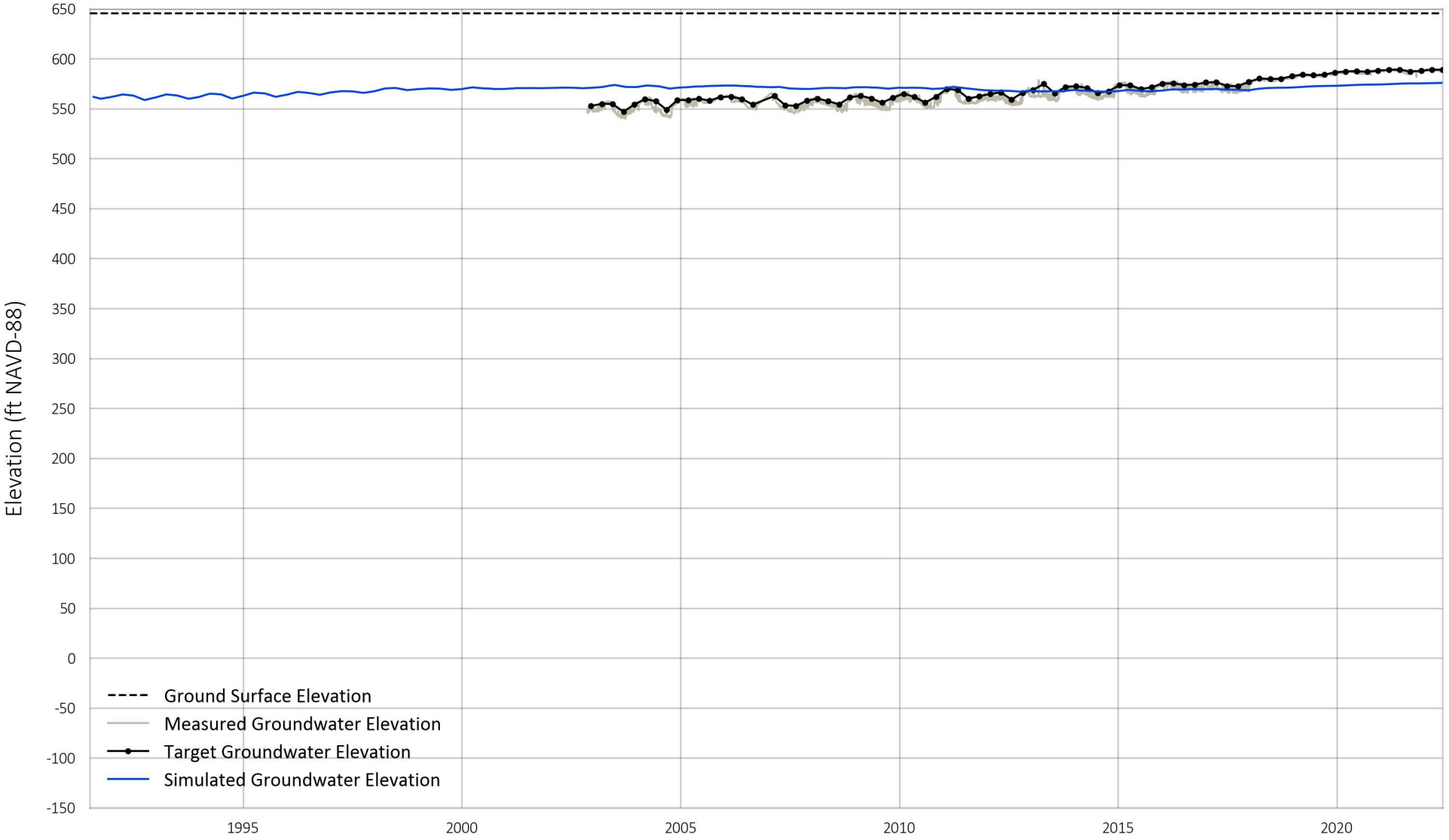
Target Groundwater Elevation (ft)
Mean = 563.00
Standard Deviation = 12.11

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

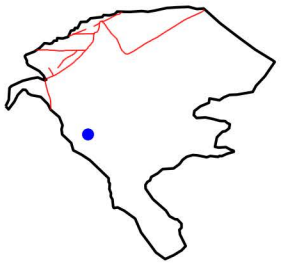
Figure B3-9



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

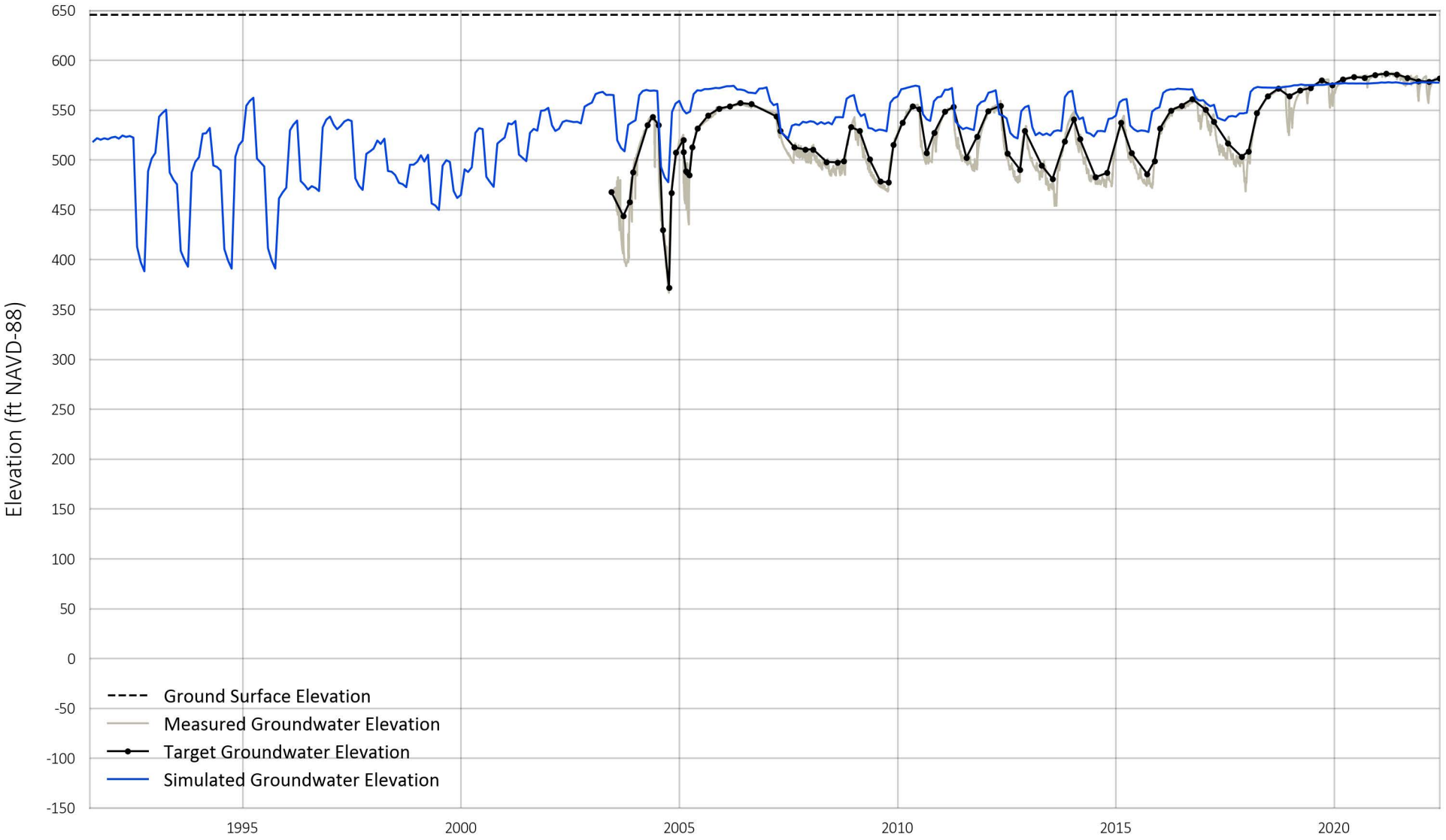
Target Groundwater Elevation (ft)
Mean = 568.62
Standard Deviation = 11.59

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

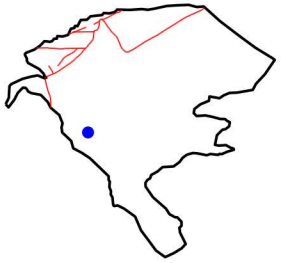
Figure B3-10



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

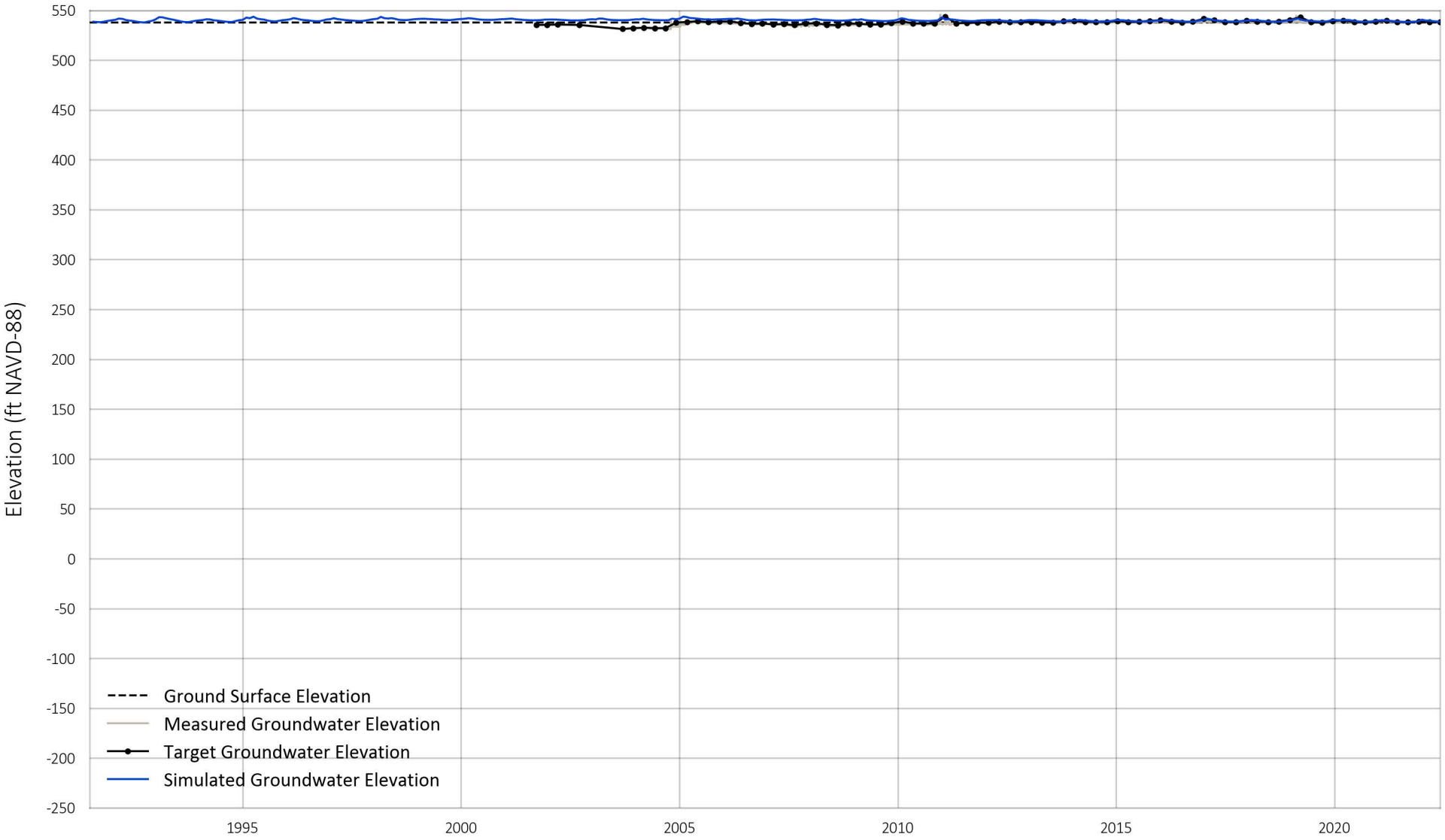
Target Groundwater Elevation (ft)
Mean = 526.27
Standard Deviation = 39.66

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

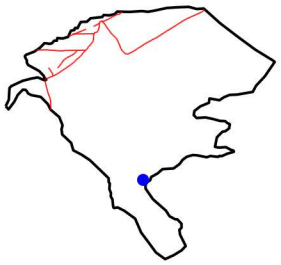
Figure B3-11



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

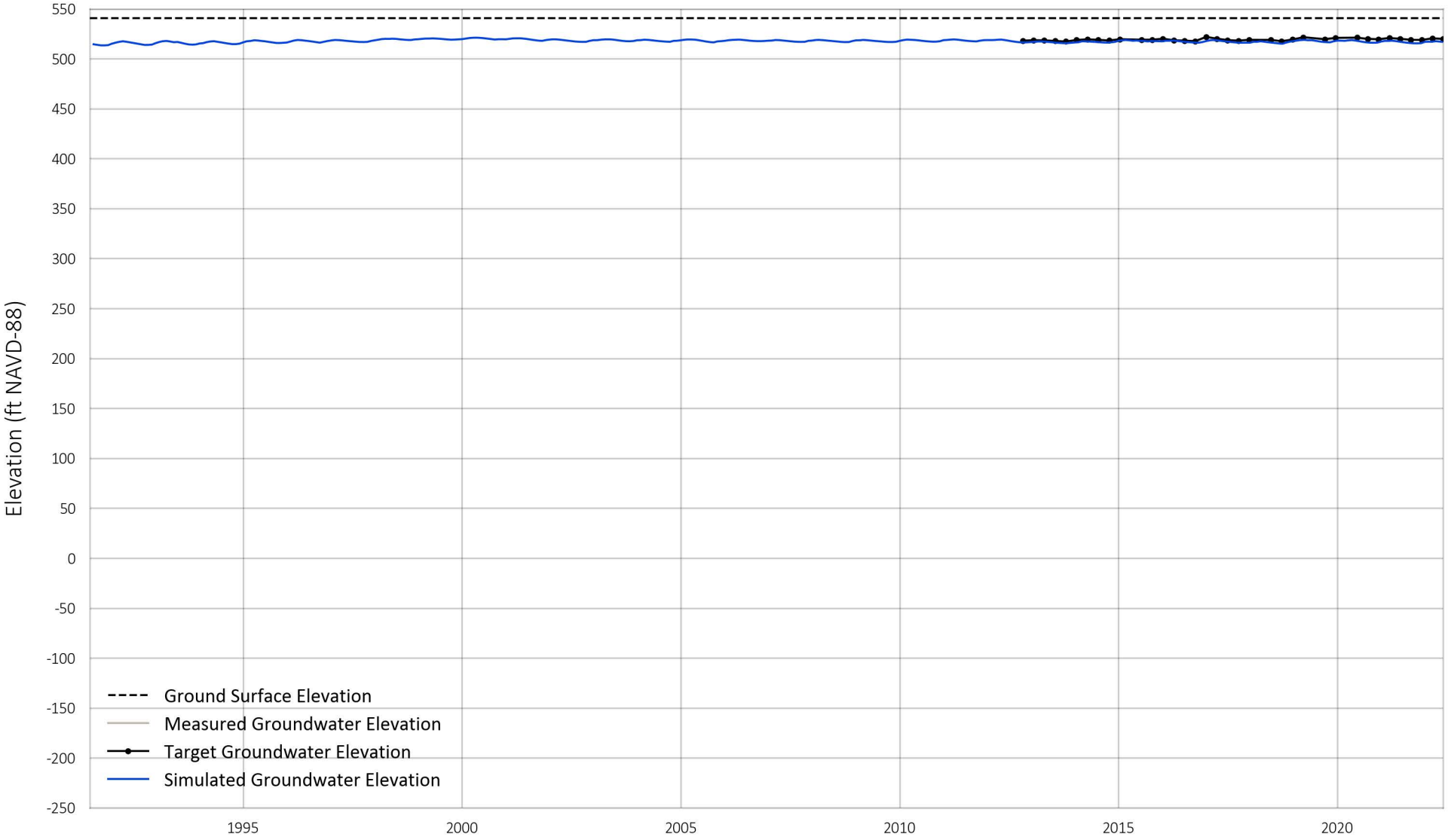
Target Groundwater Elevation (ft)
Mean = 537.59
Standard Deviation = 2.14

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

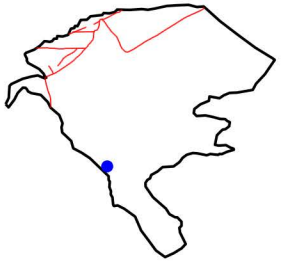
Figure B3-12



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

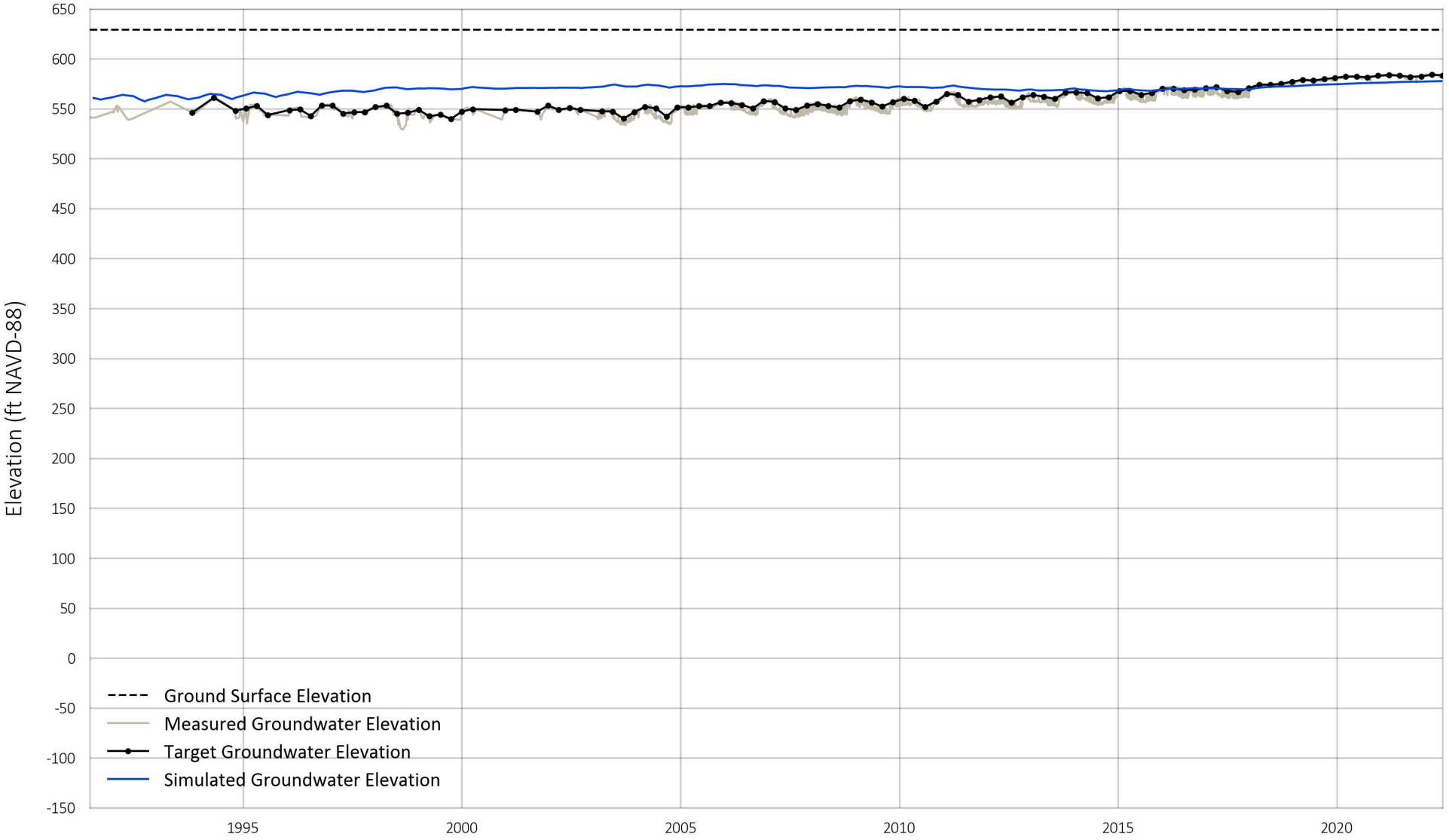
Target Groundwater Elevation (ft)
Mean = 519.18
Standard Deviation = 1.11

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

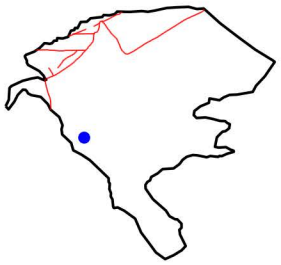
Figure B3-13



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

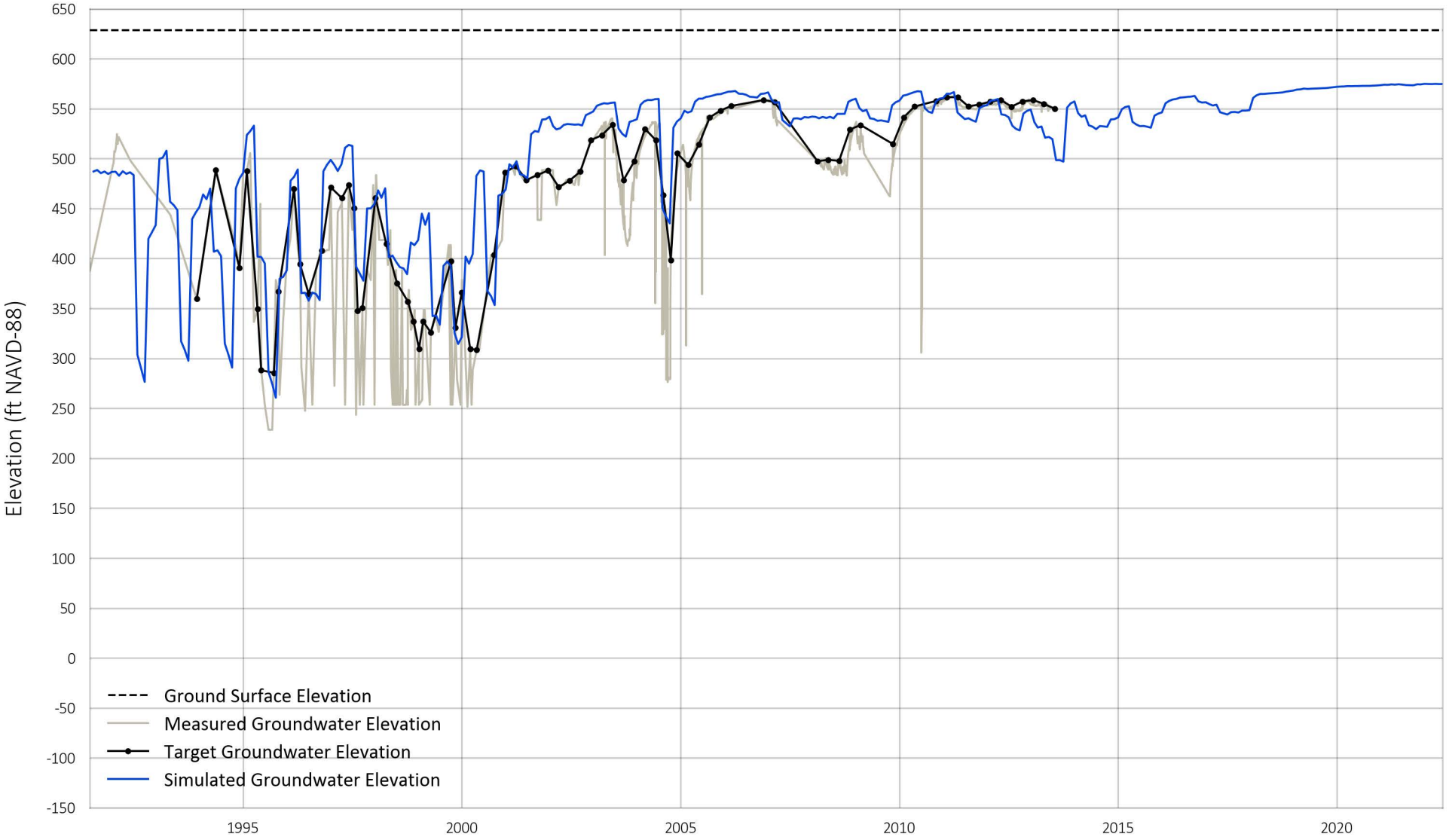
Target Groundwater Elevation (ft)
Mean = 559.15
Standard Deviation = 12.04

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

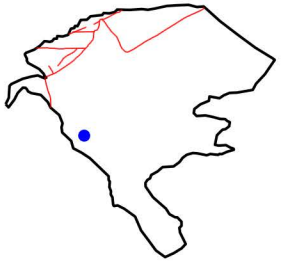
Figure B3-14



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

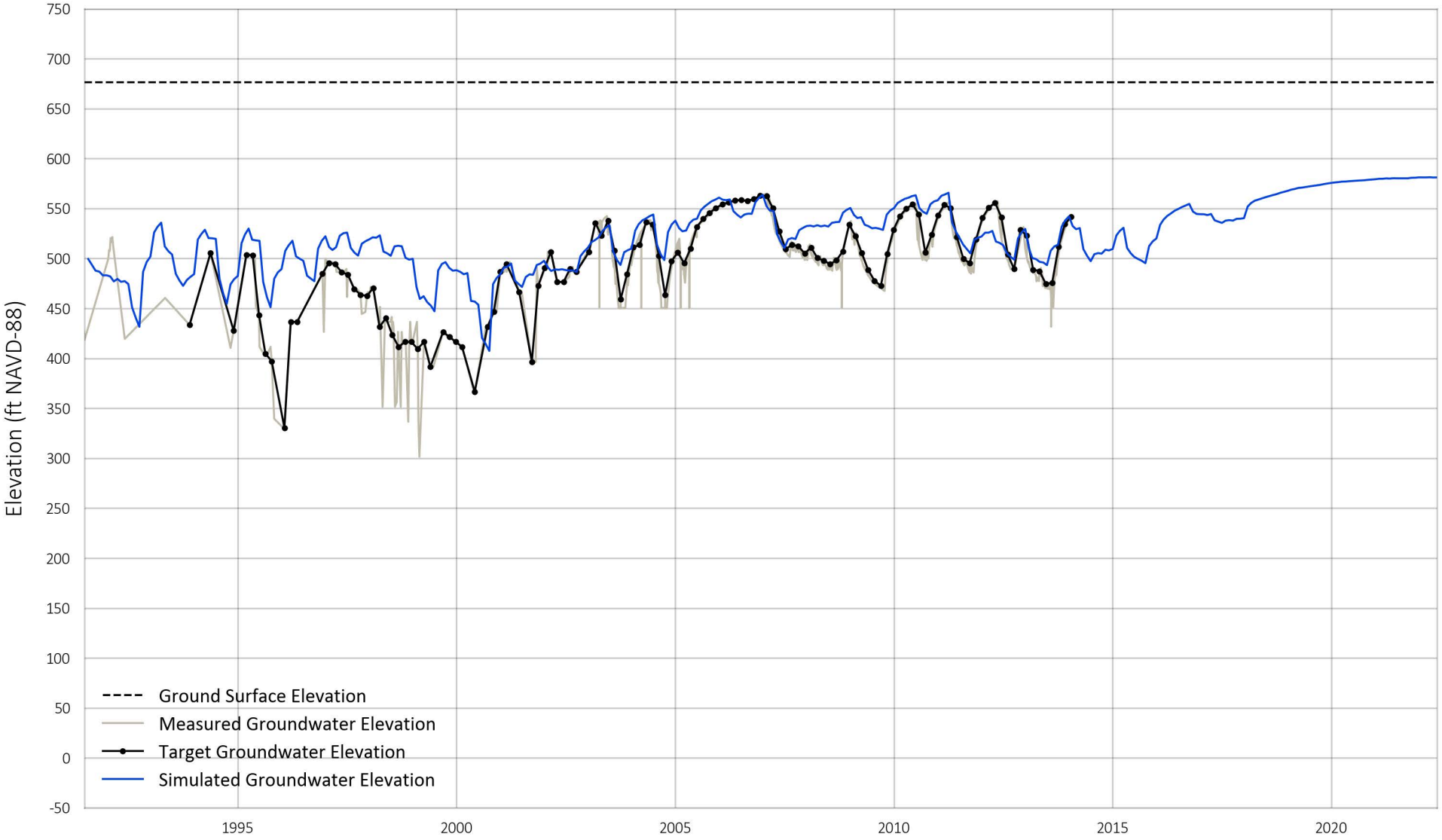
Target Groundwater Elevation (ft)
Mean = 463.32
Standard Deviation = 83.52

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

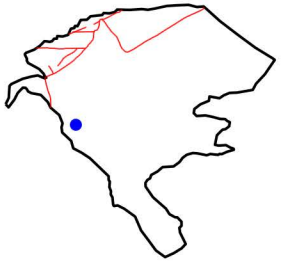
Figure B3-15



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

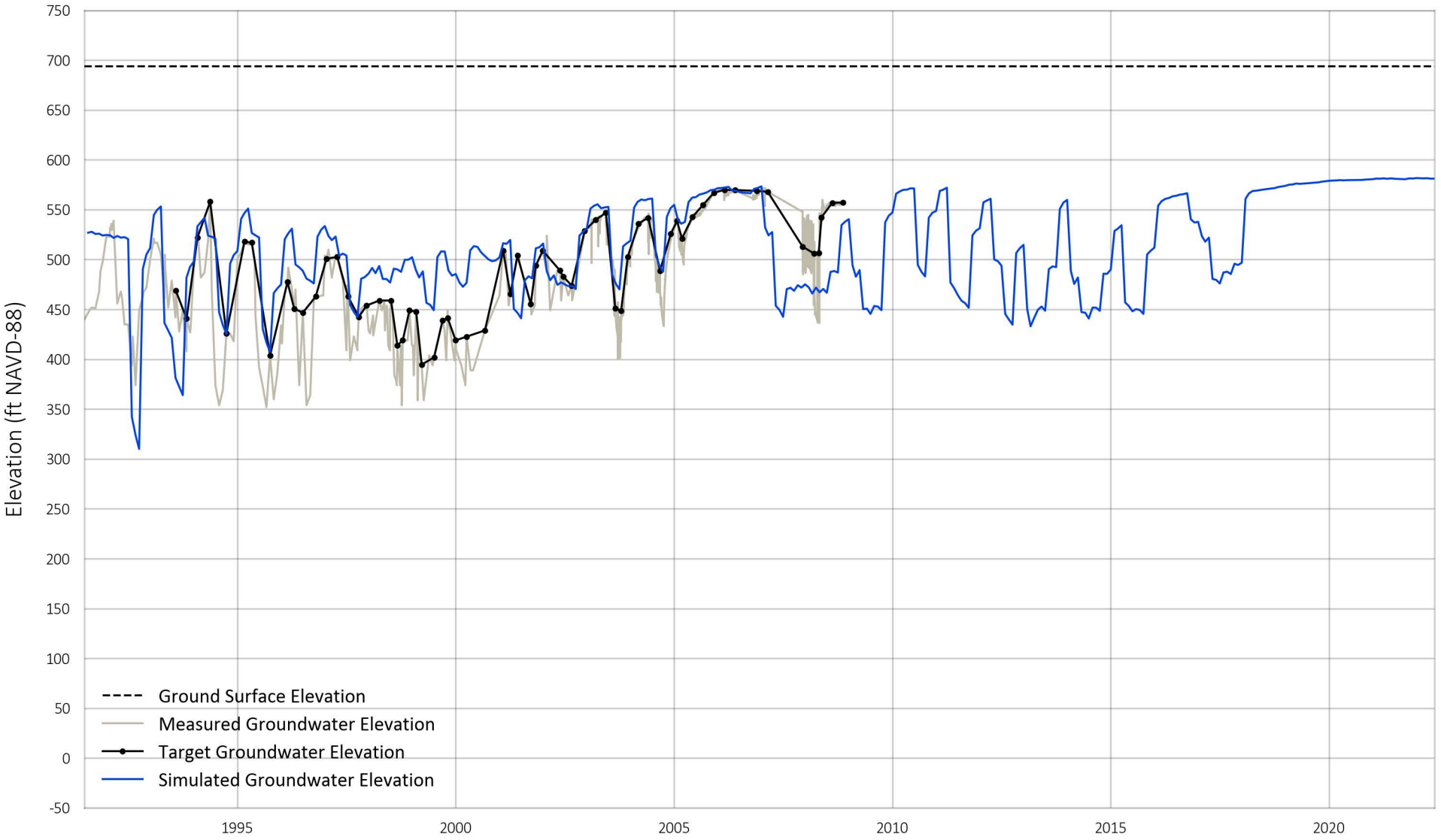
Target Groundwater Elevation (ft)
Mean = 492.96
Standard Deviation = 47.93

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

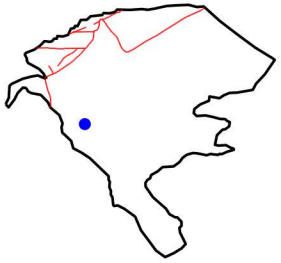
Figure B3-16



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

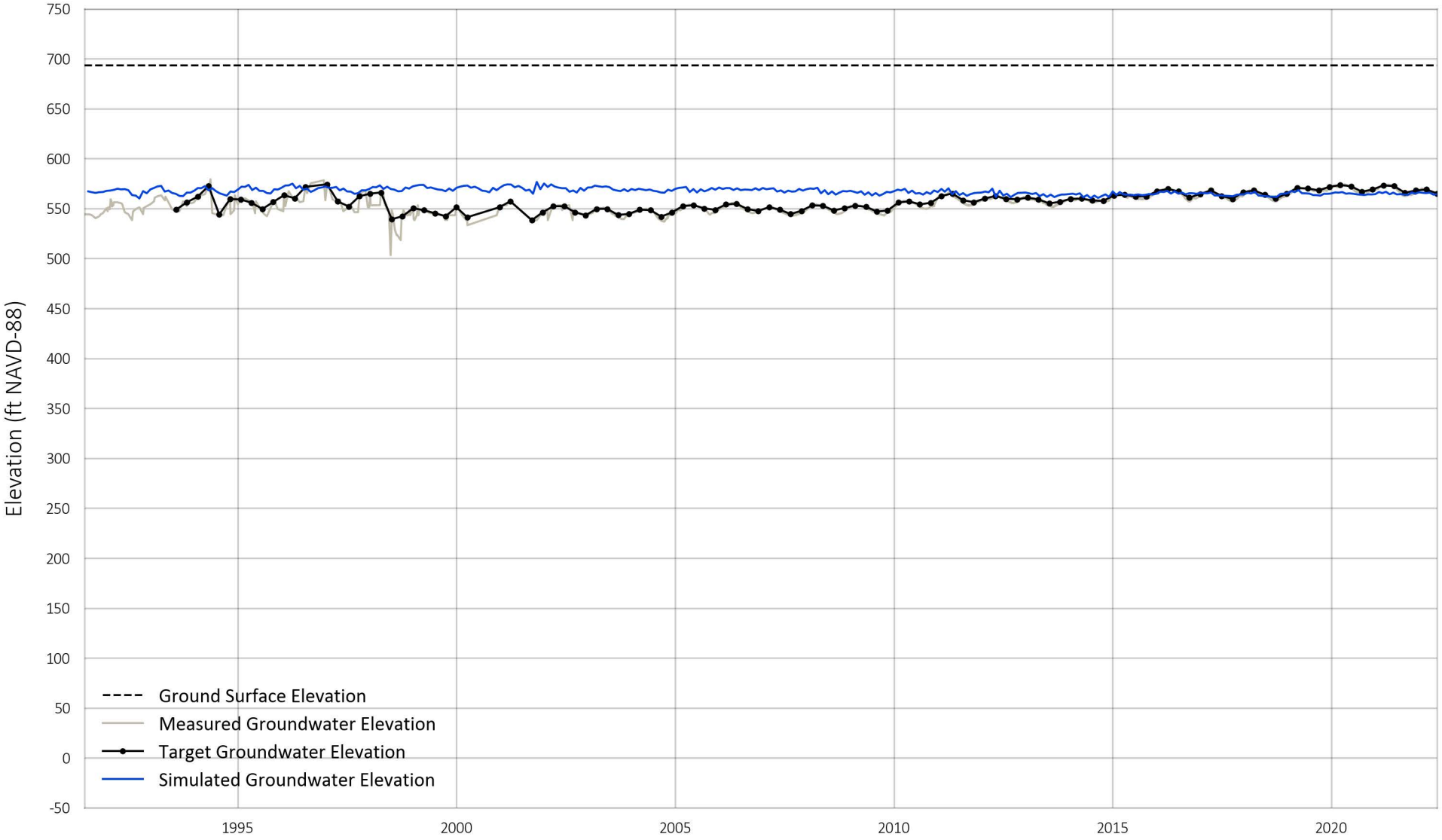
Target Groundwater Elevation (ft)
Mean = 489.43
Standard Deviation = 49.71

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

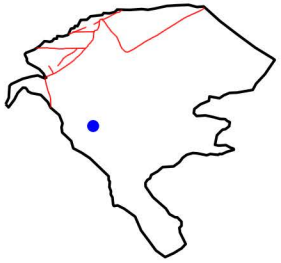
Figure B3-17



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

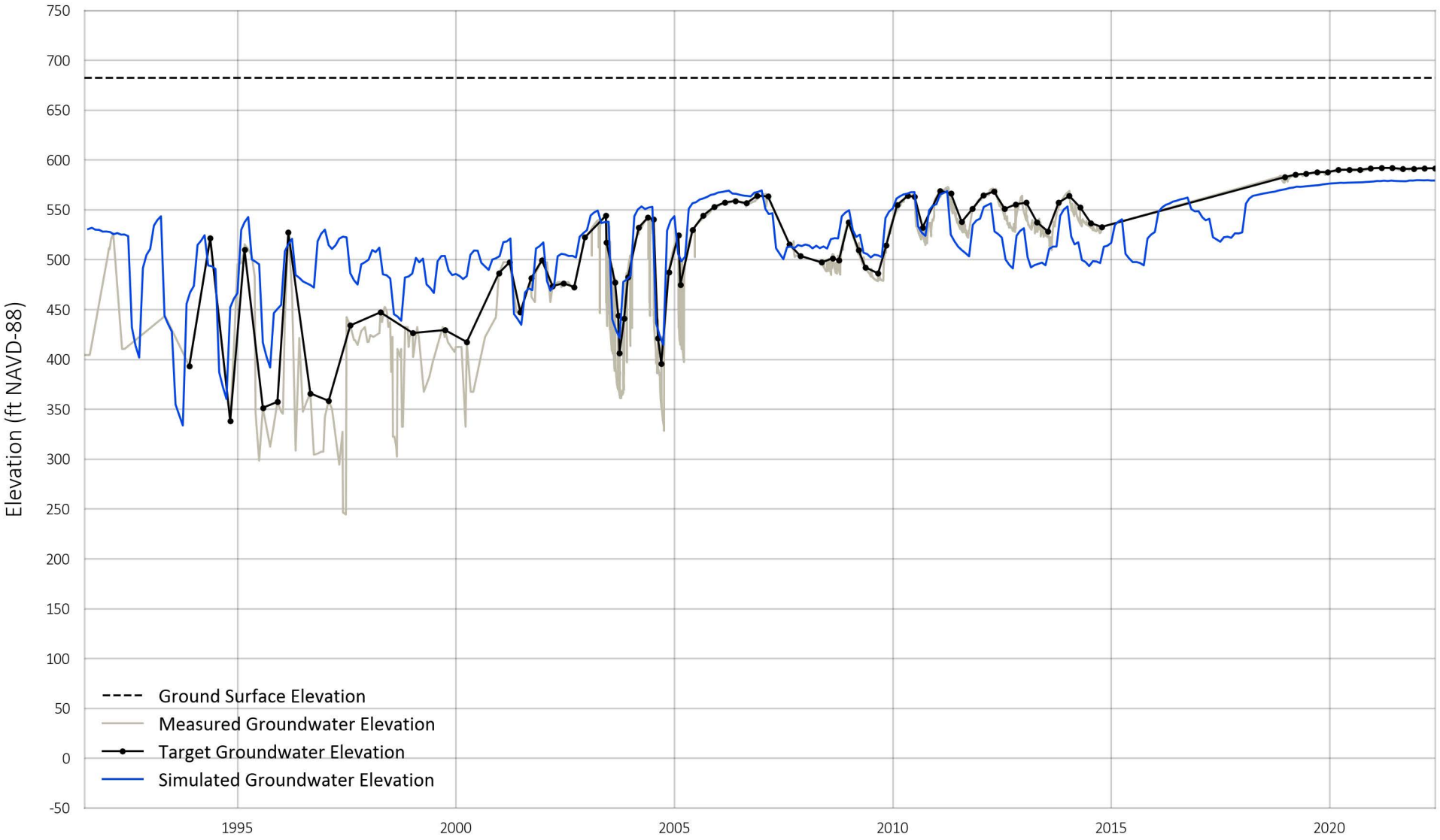
Target Groundwater Elevation (ft)
Mean = 557.09
Standard Deviation = 8.94

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

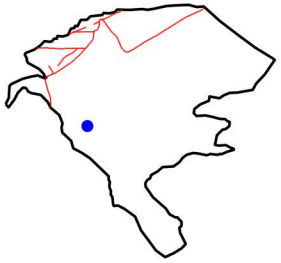
Figure B3-18



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

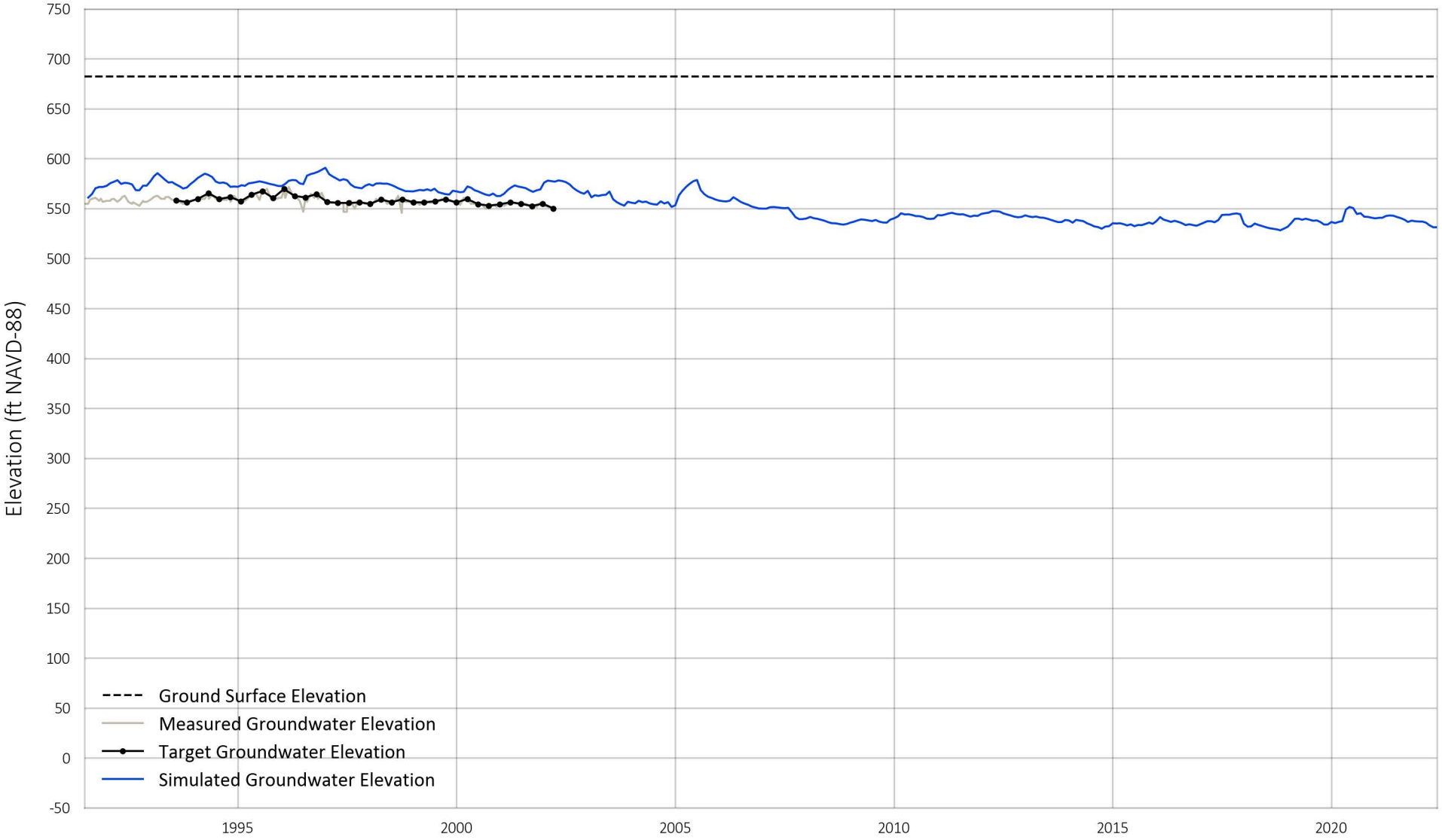
Target Groundwater Elevation (ft)
Mean = 514.55
Standard Deviation = 64.55

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

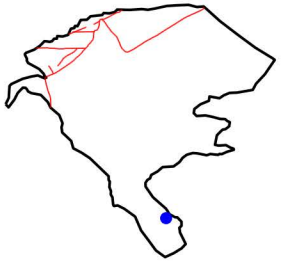
Figure B3-19



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

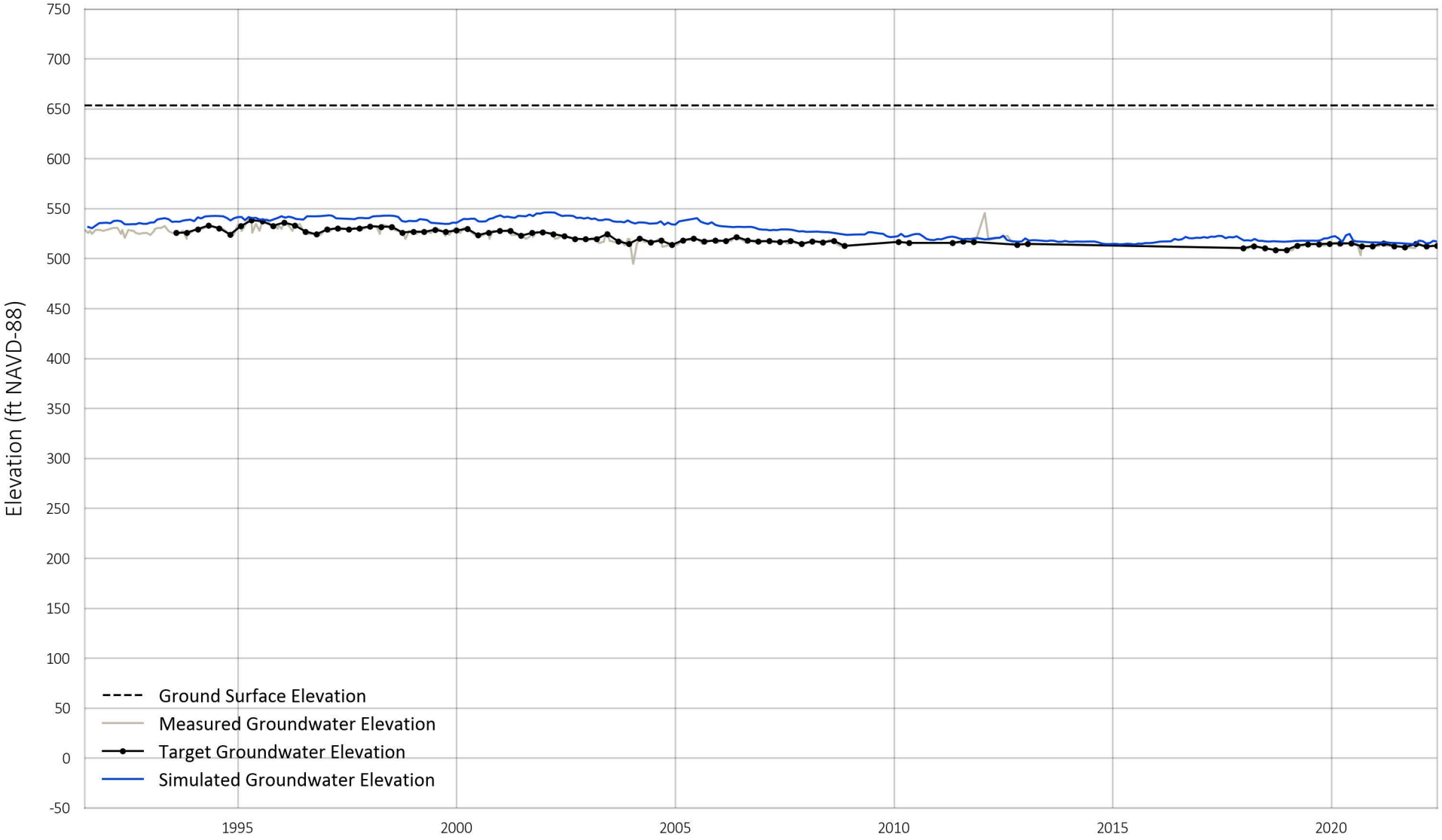
Target Groundwater Elevation (ft)
Mean = 558.21
Standard Deviation = 4.23

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

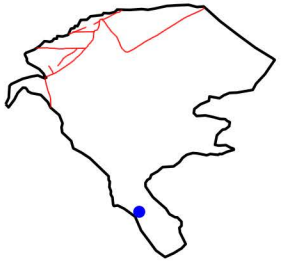
Figure B3-20



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

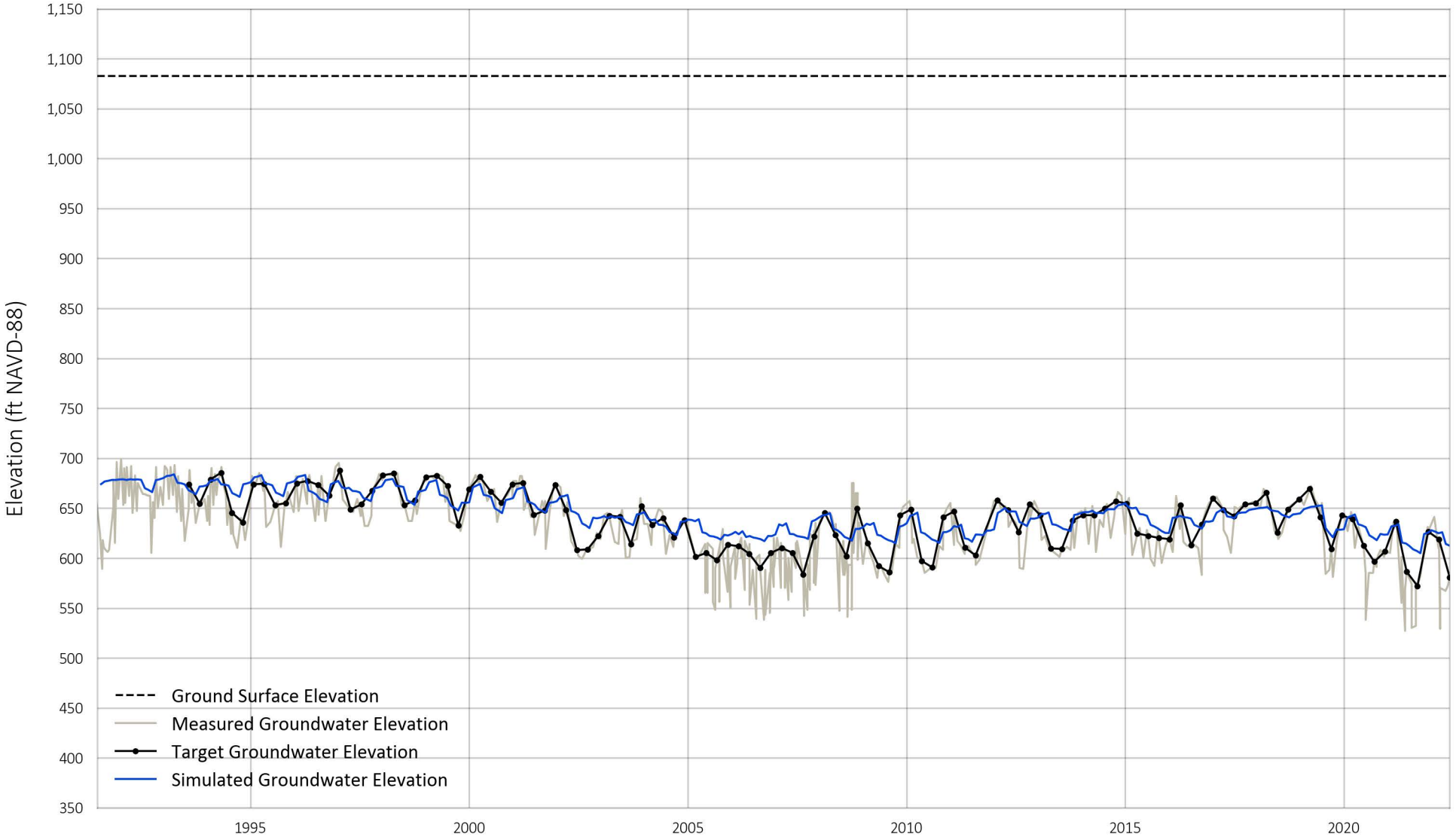
Target Groundwater Elevation (ft)
Mean = 521.06
Standard Deviation = 7.39

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

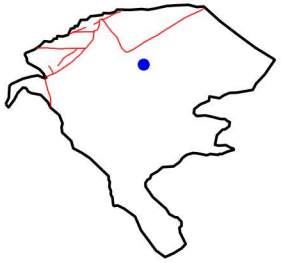
Figure B3-21



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

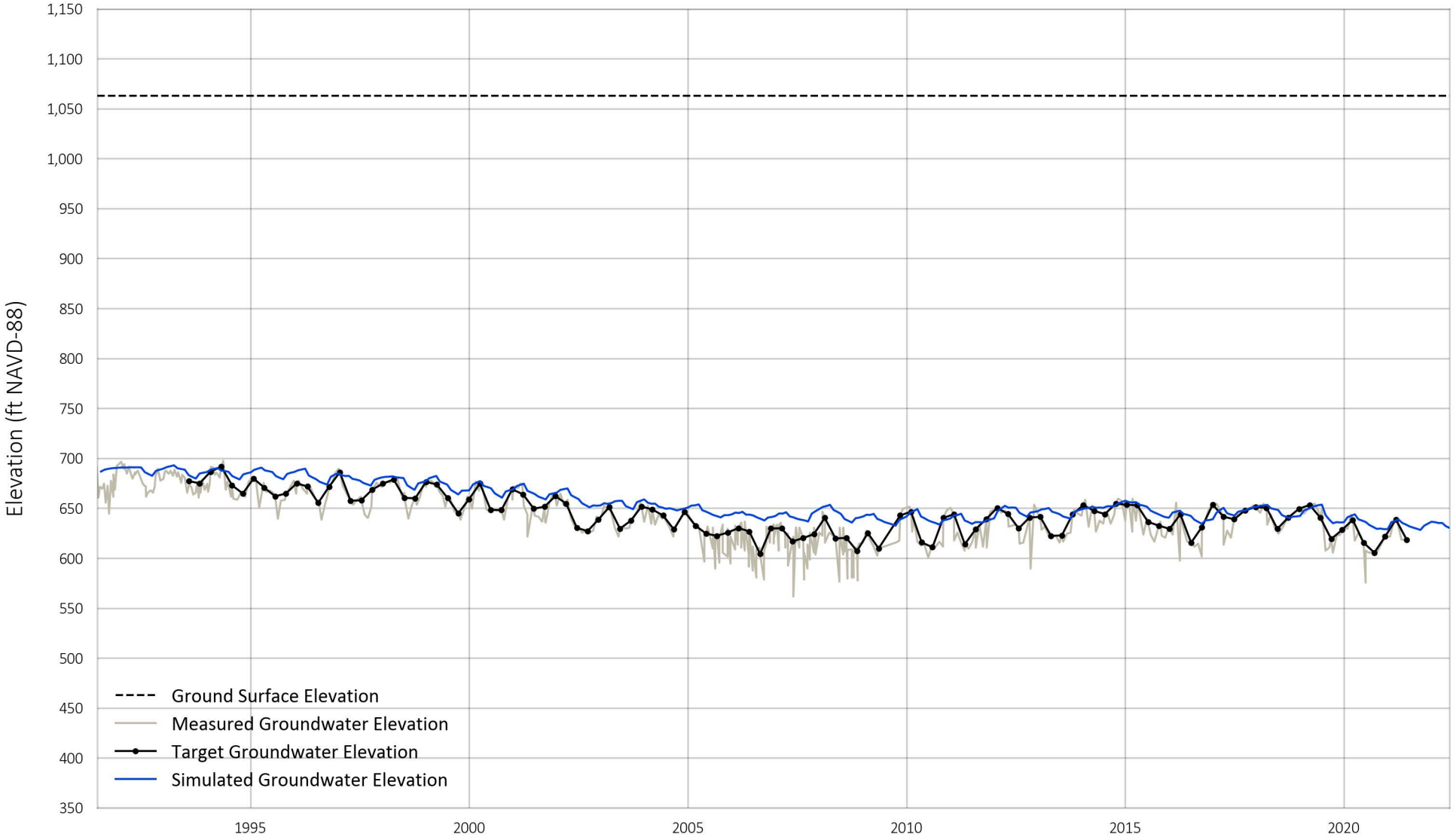
Target Groundwater Elevation (ft)
Mean = 638.00
Standard Deviation = 27.91

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

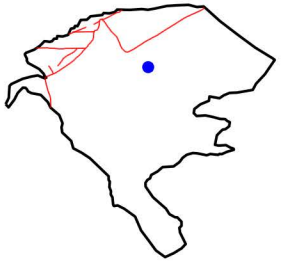
Figure B3-22



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

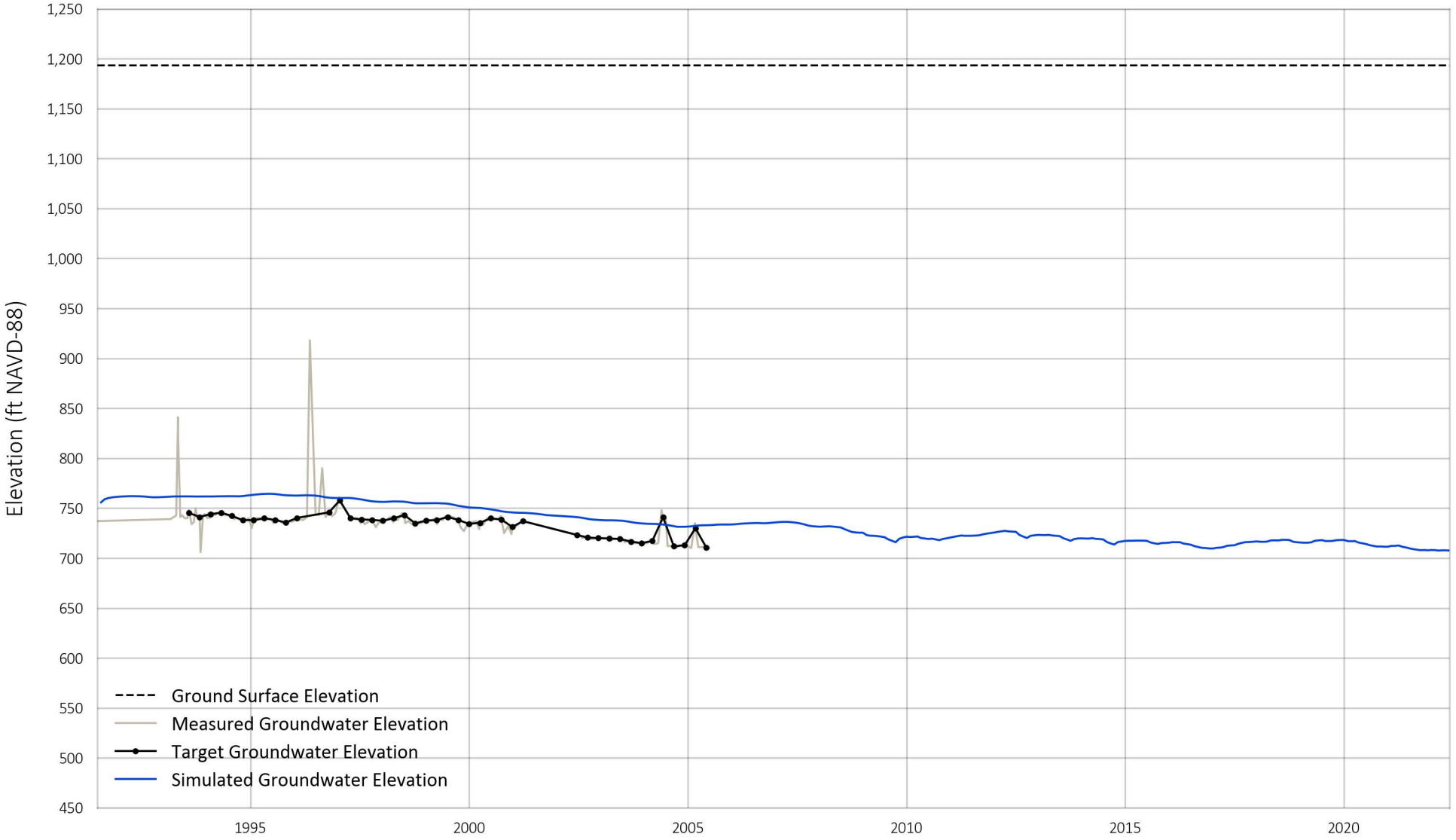
Target Groundwater Elevation (ft)
Mean = 644.21
Standard Deviation = 19.99

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

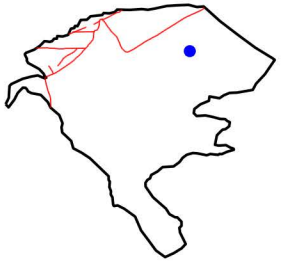
Figure B3-23



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

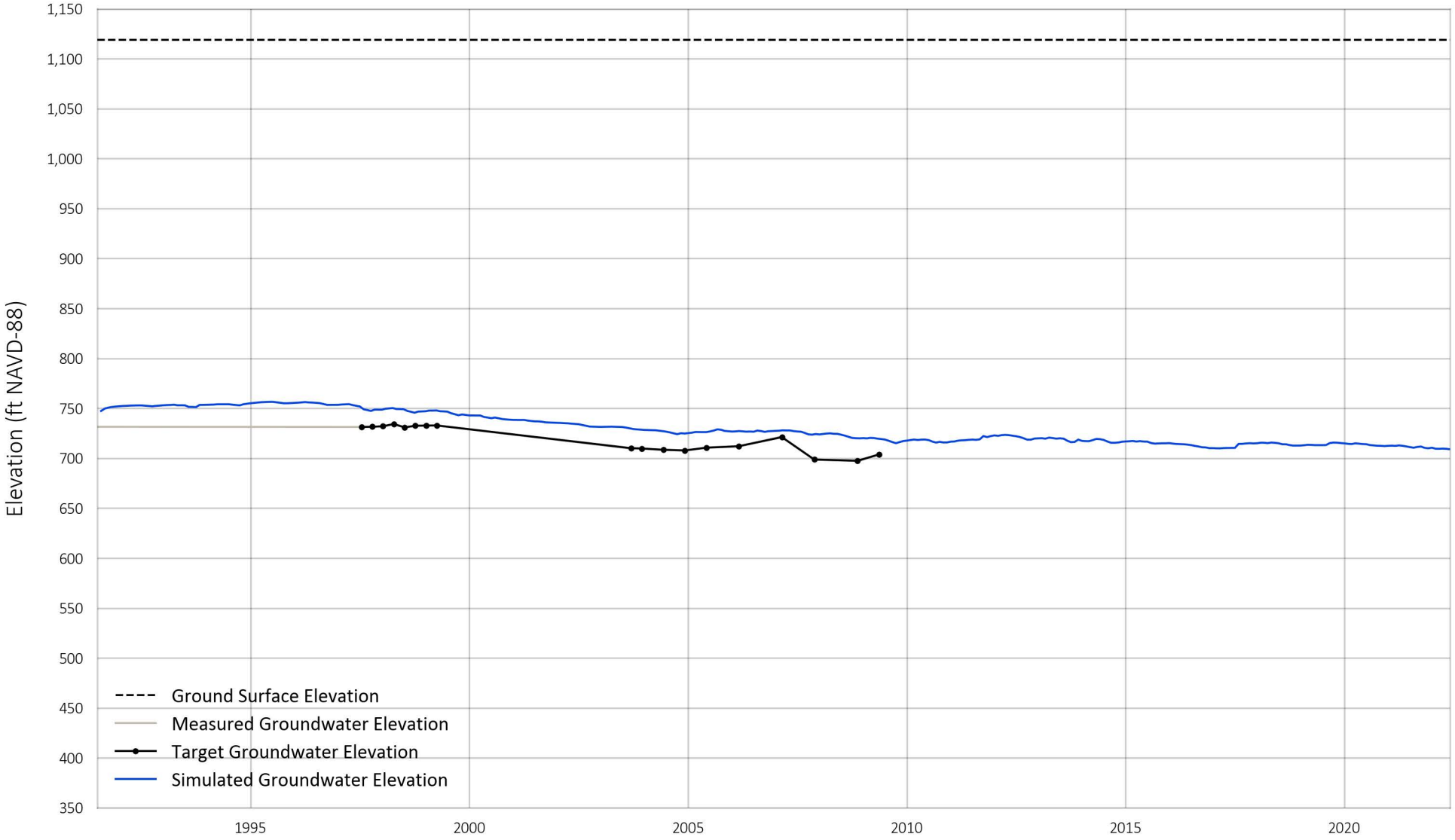
Target Groundwater Elevation (ft)
Mean = 733.83
Standard Deviation = 11.00

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

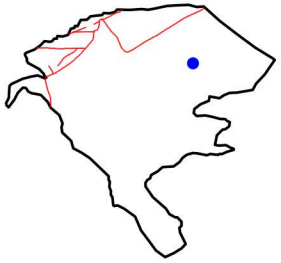
Figure B3-24



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

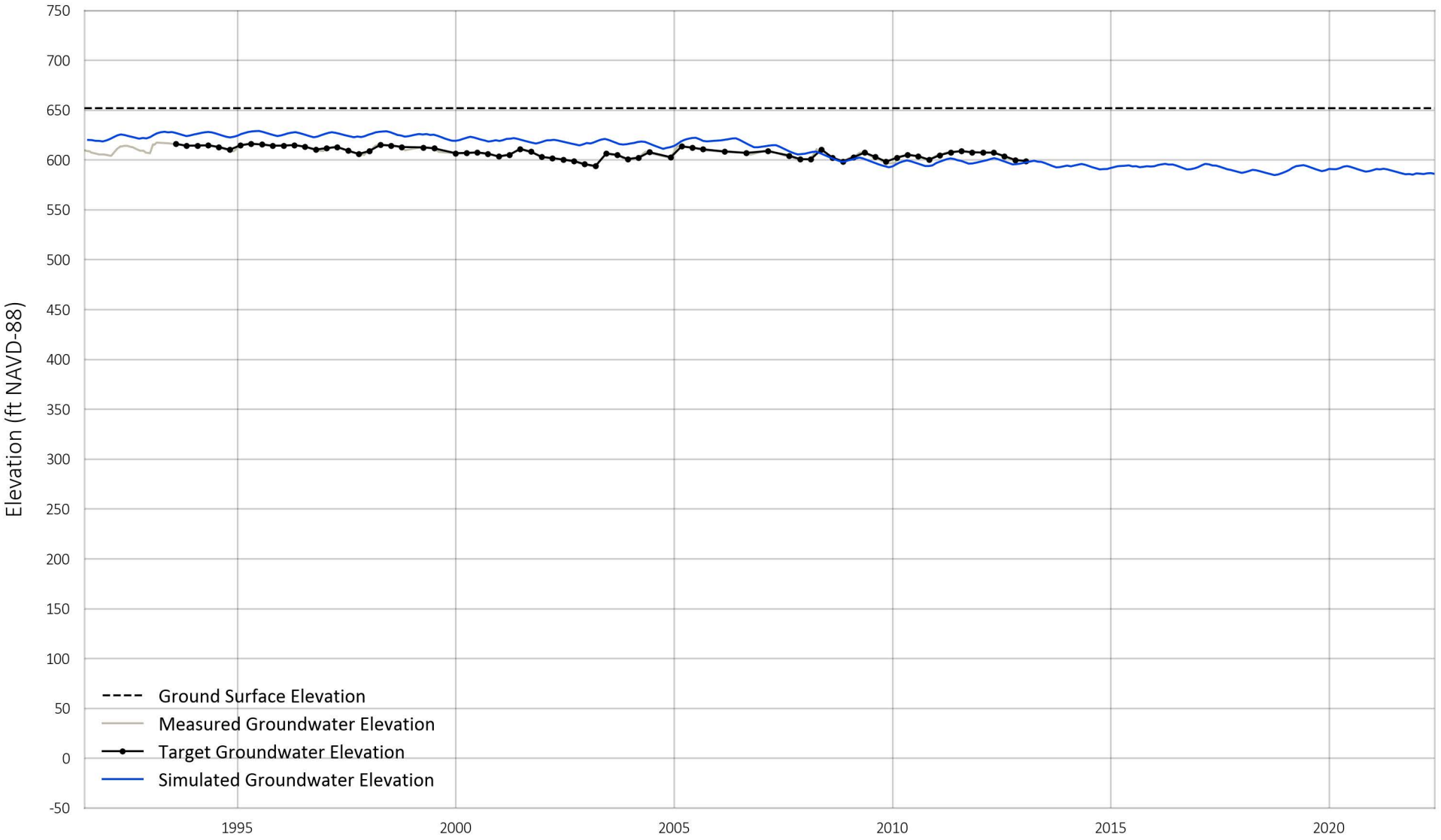
Target Groundwater Elevation (ft)
Mean = 718.79
Standard Deviation = 13.38

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

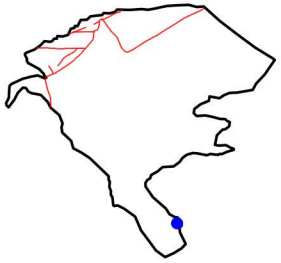
Figure B3-25



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

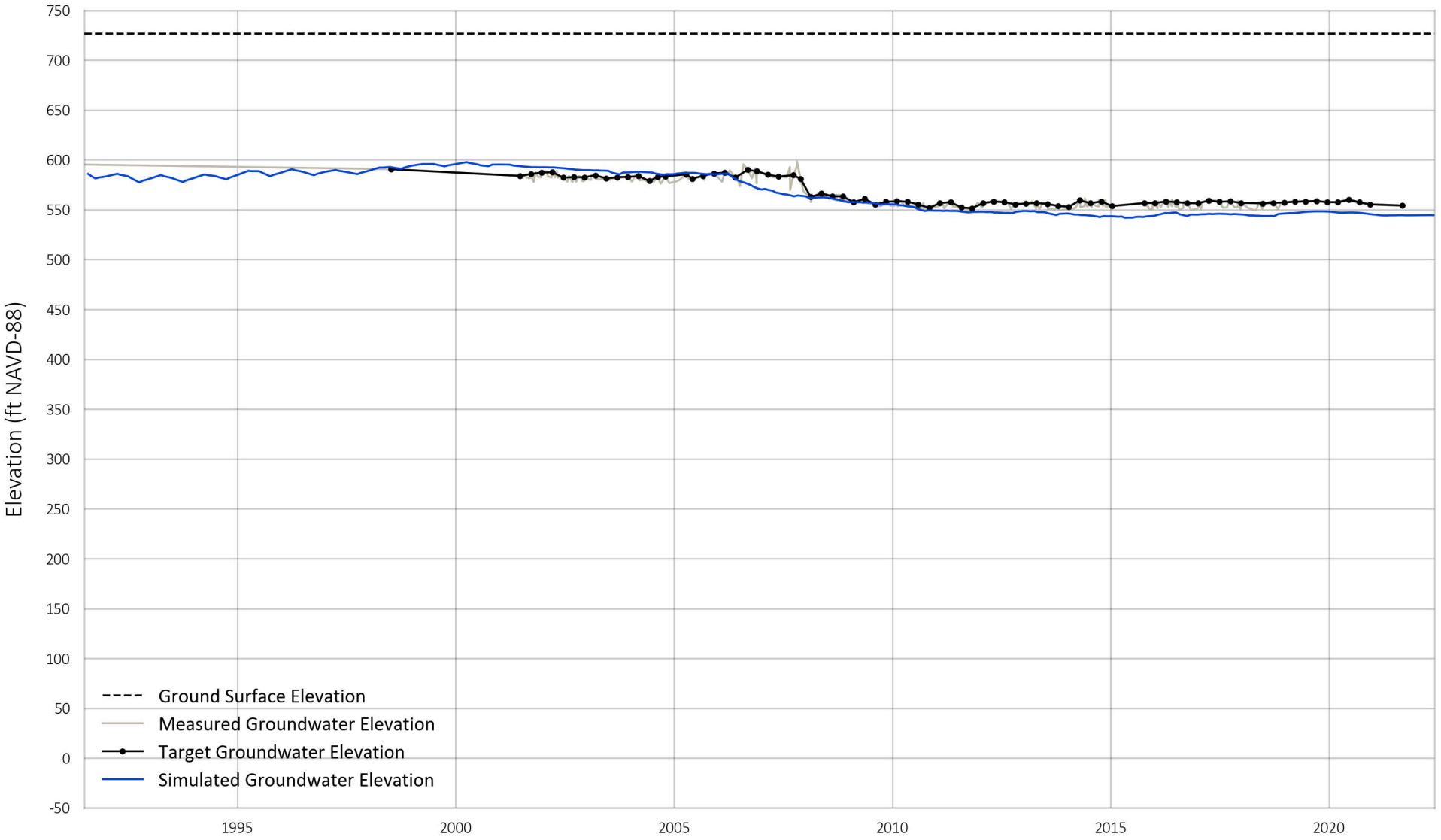
Target Groundwater Elevation (ft)
Mean = 607.18
Standard Deviation = 5.51

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

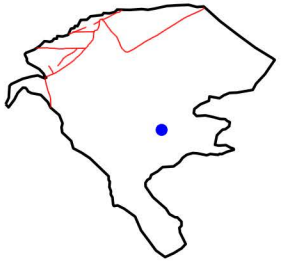
Figure B3-26



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

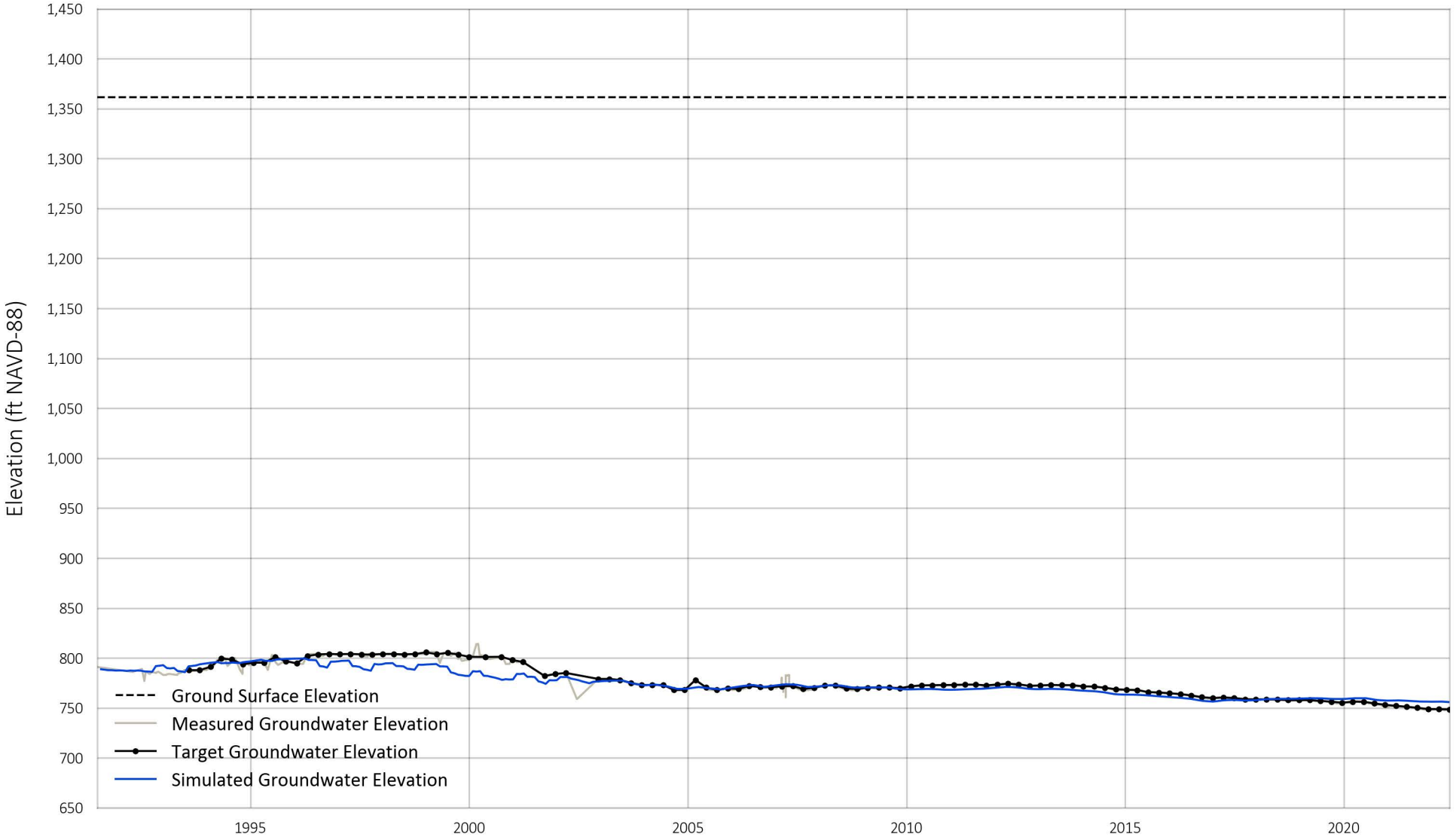
Target Groundwater Elevation (ft)
Mean = 566.87
Standard Deviation = 13.24

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

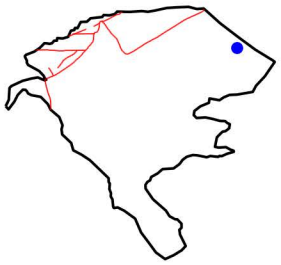
Figure B3-27



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

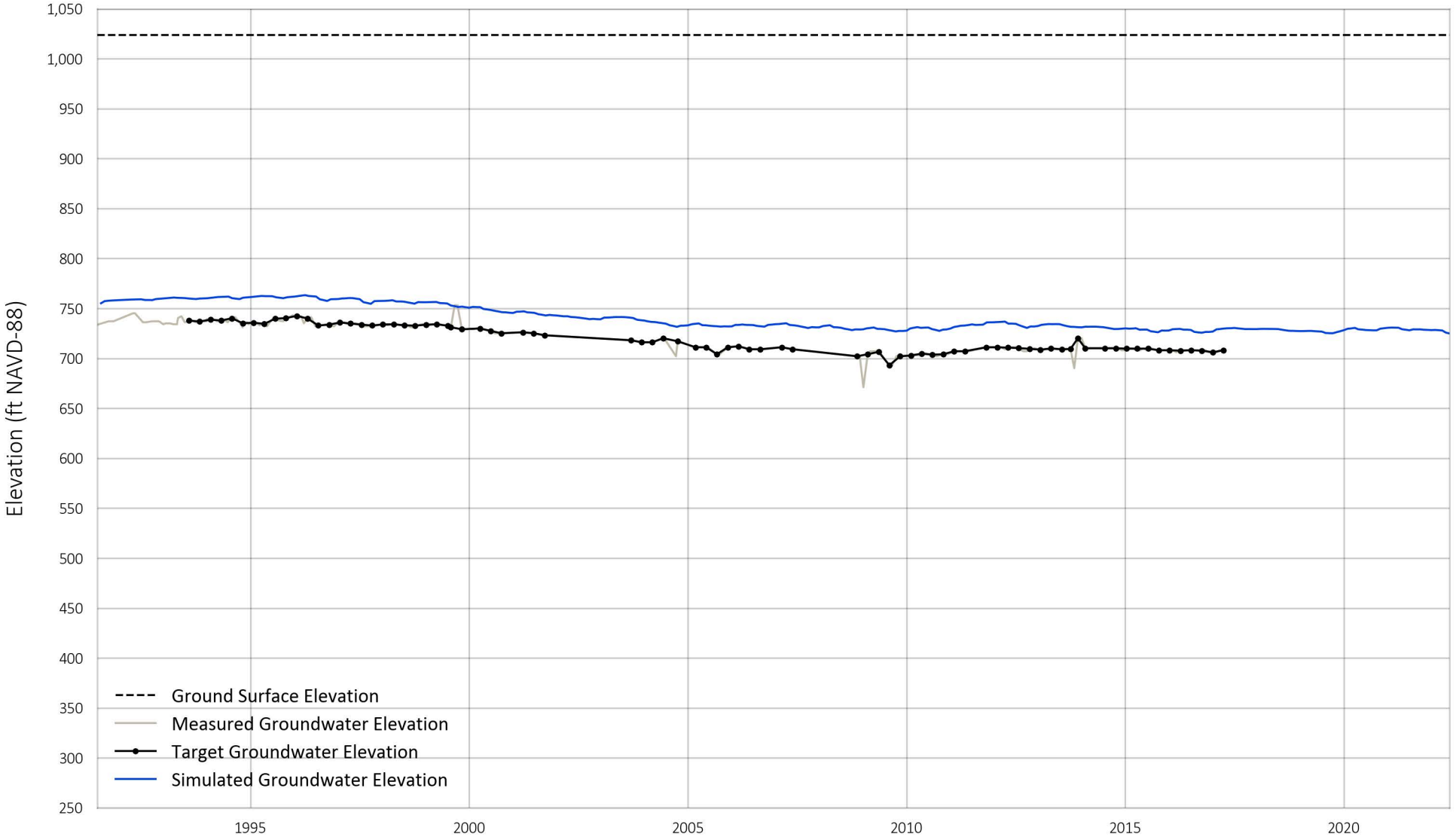
Target Groundwater Elevation (ft)
Mean = 776.16
Standard Deviation = 16.50

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

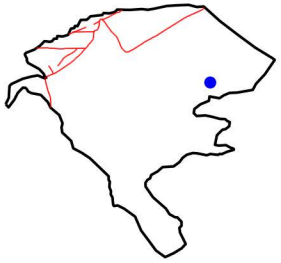
Figure B3-28



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

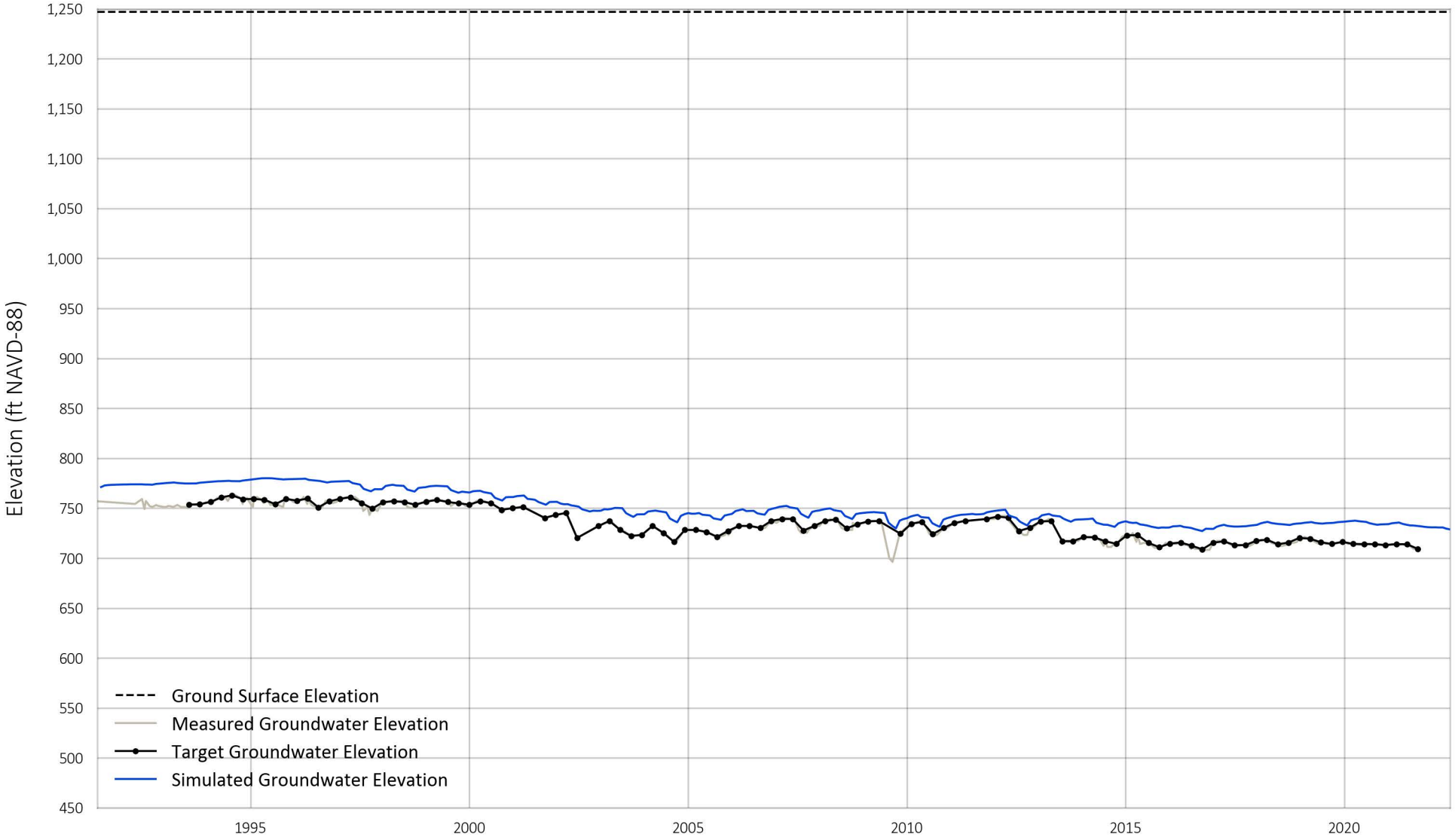
Target Groundwater Elevation (ft)
Mean = 719.18
Standard Deviation = 13.09

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

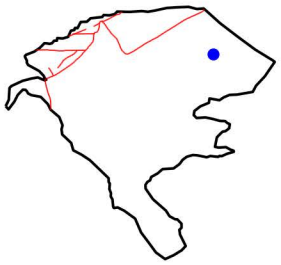
Figure B3-29



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

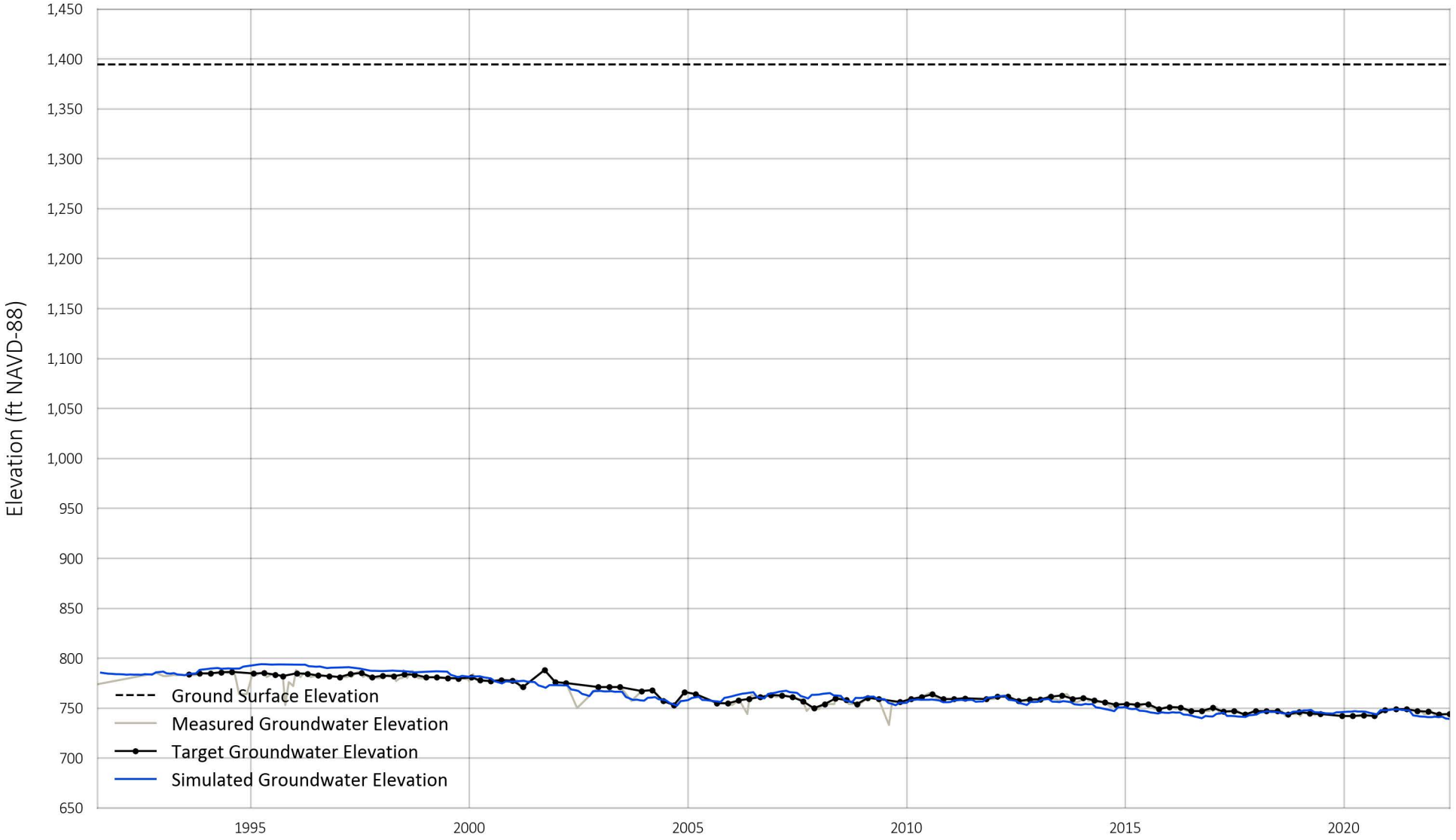
Target Groundwater Elevation (ft)
Mean = 734.09
Standard Deviation = 16.44

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

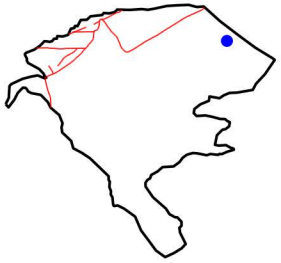
Figure B3-30



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

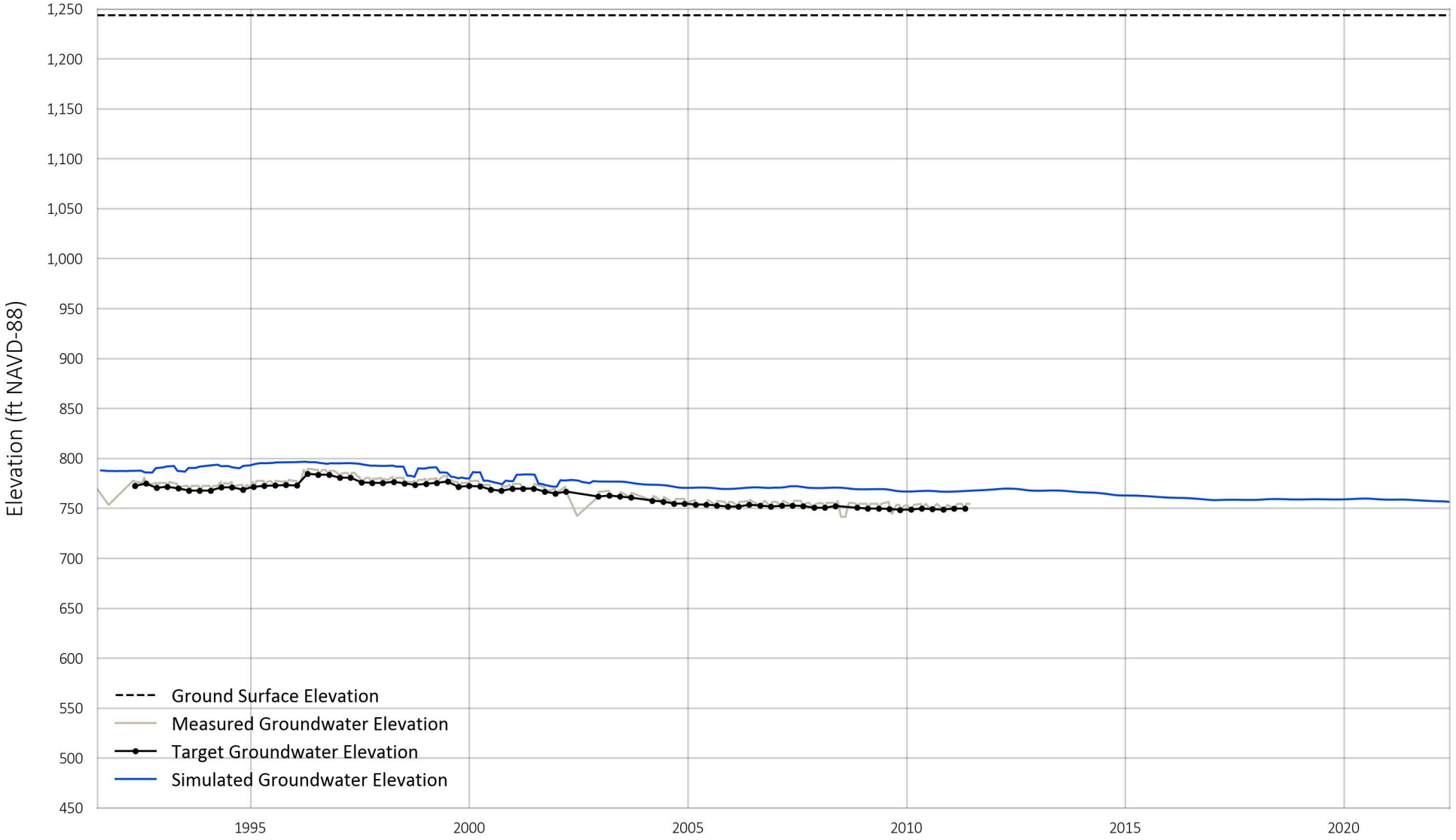
Target Groundwater Elevation (ft)
Mean = 763.12
Standard Deviation = 14.22

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

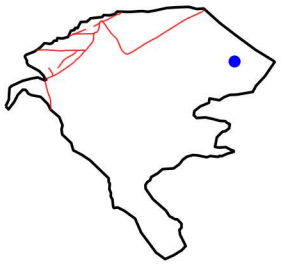
Figure B3-31



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

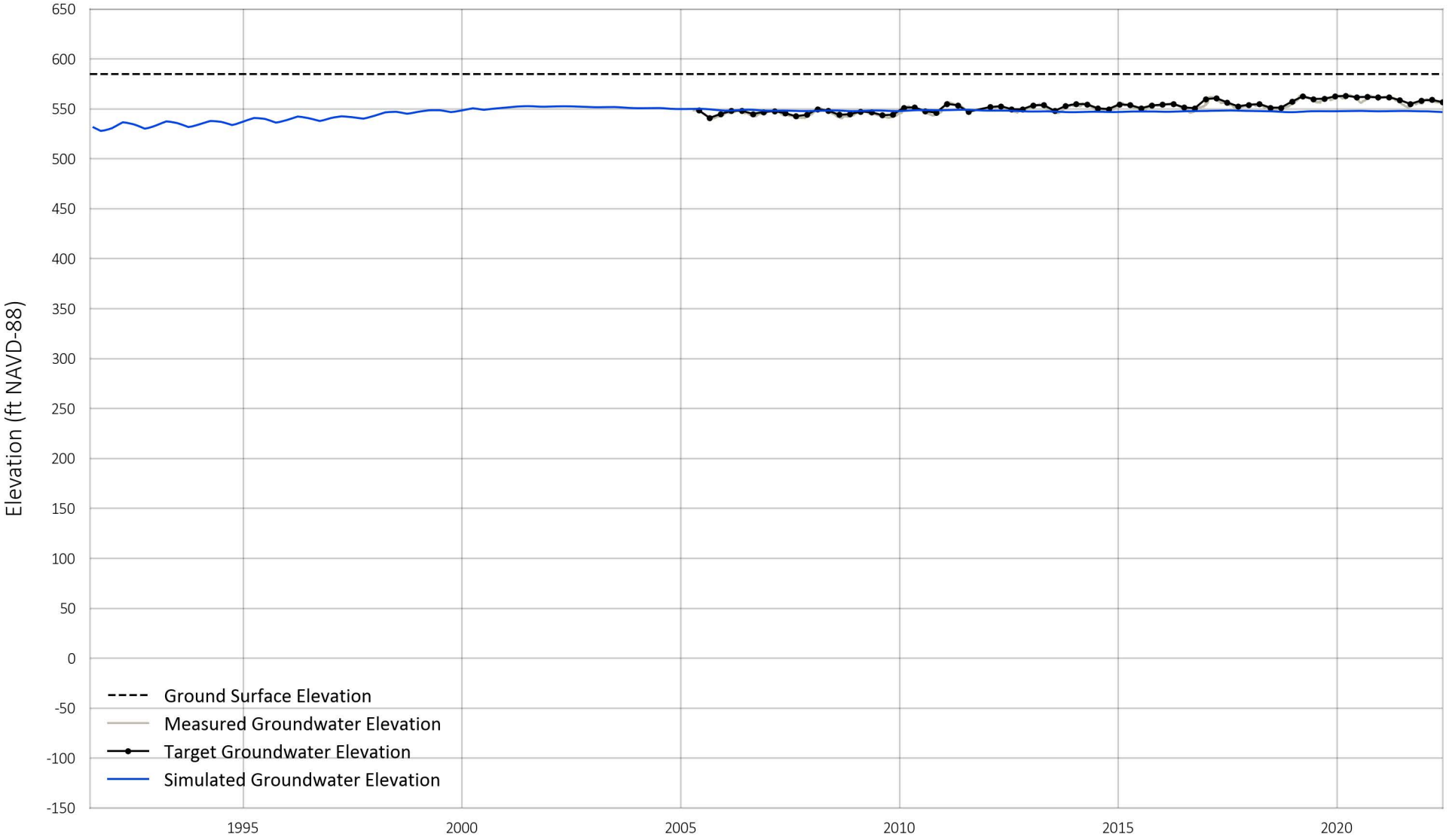
Target Groundwater Elevation (ft)
Mean = 763.91
Standard Deviation = 10.89

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

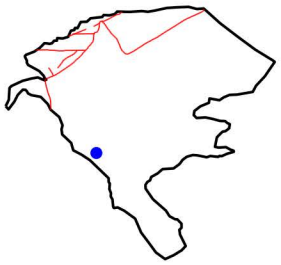
Figure B3-32



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

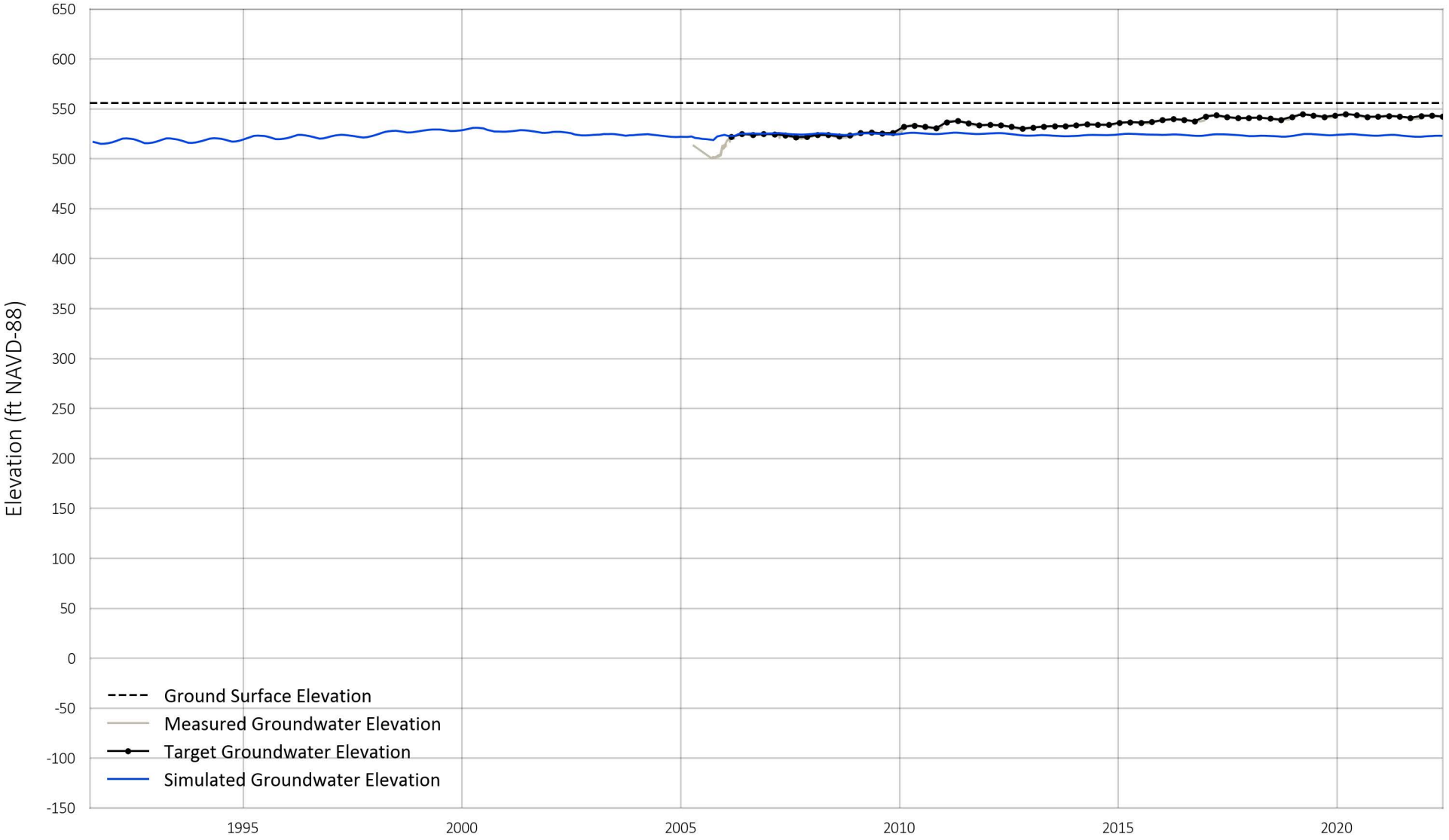
Target Groundwater Elevation (ft)
Mean = 552.09
Standard Deviation = 5.69

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

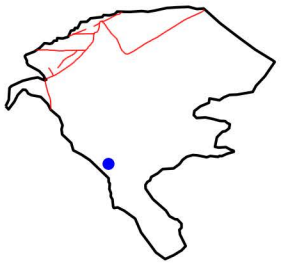
Figure B3-33



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

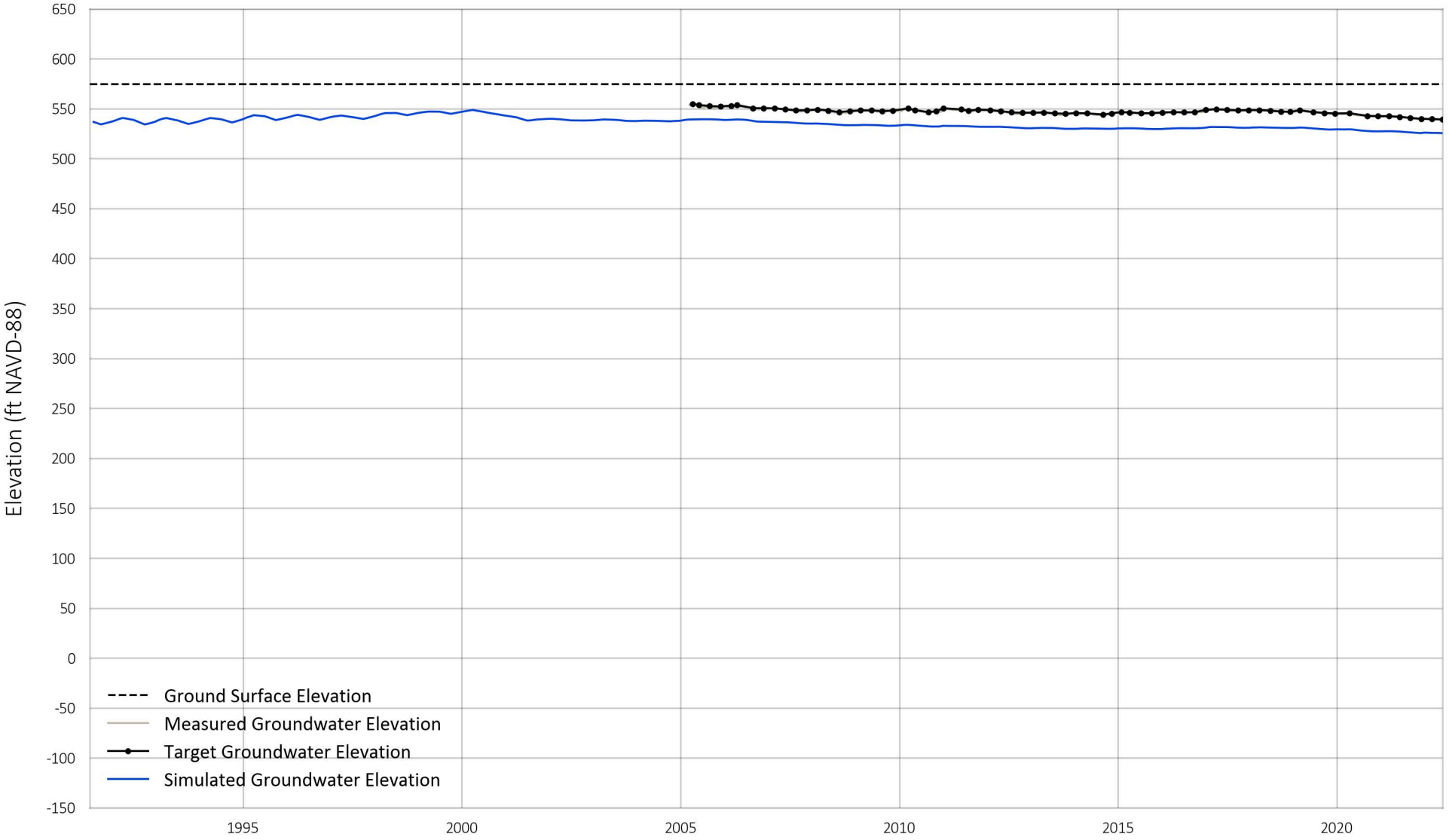
Target Groundwater Elevation (ft)
Mean = 534.51
Standard Deviation = 7.19

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

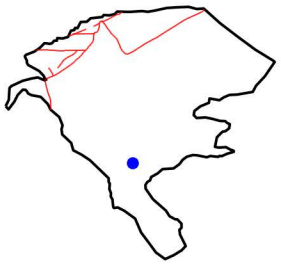
Figure B3-34



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

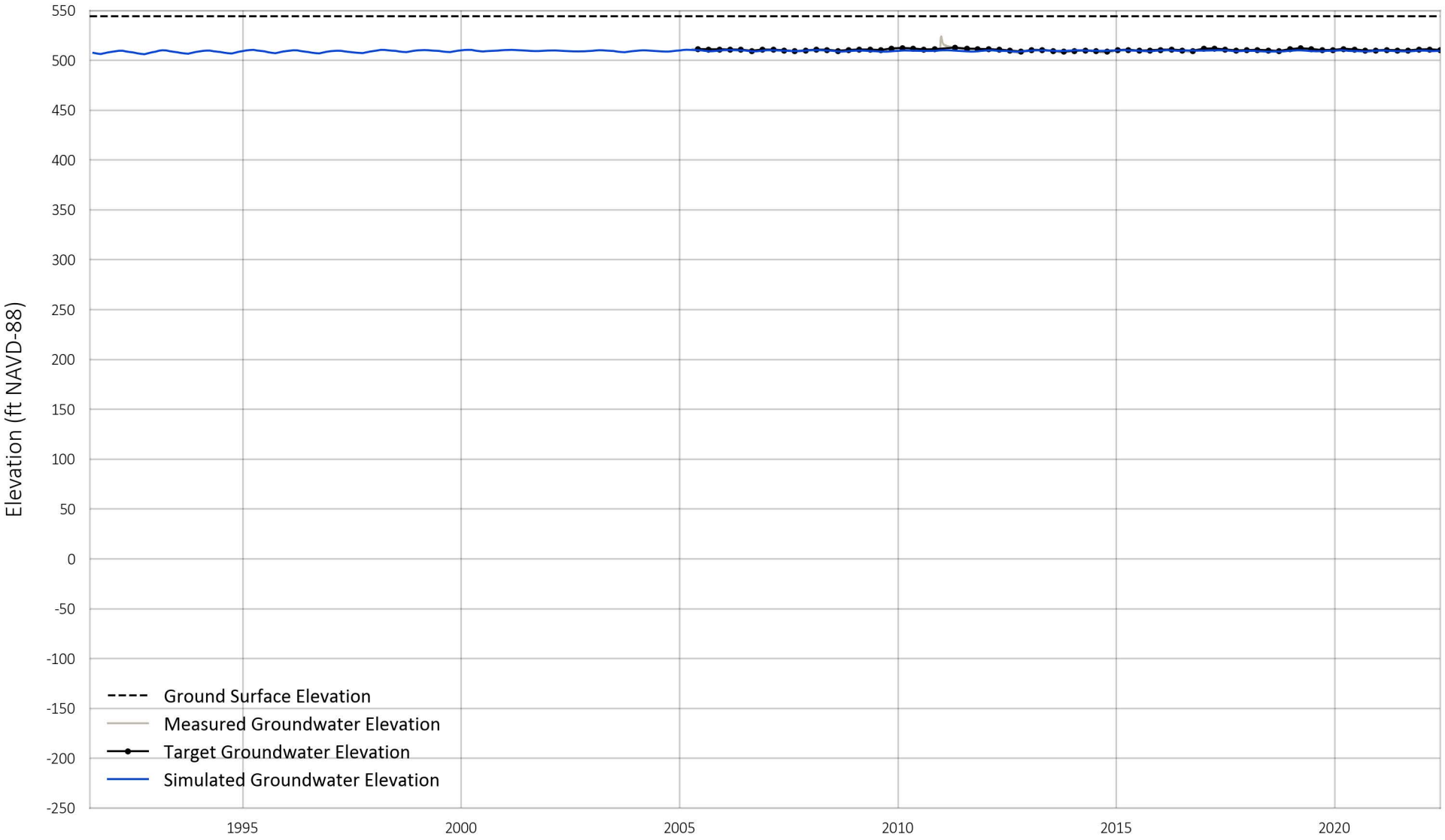
Target Groundwater Elevation (ft)
Mean = 547.20
Standard Deviation = 3.15

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

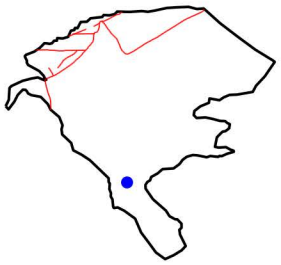
Figure B3-35



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

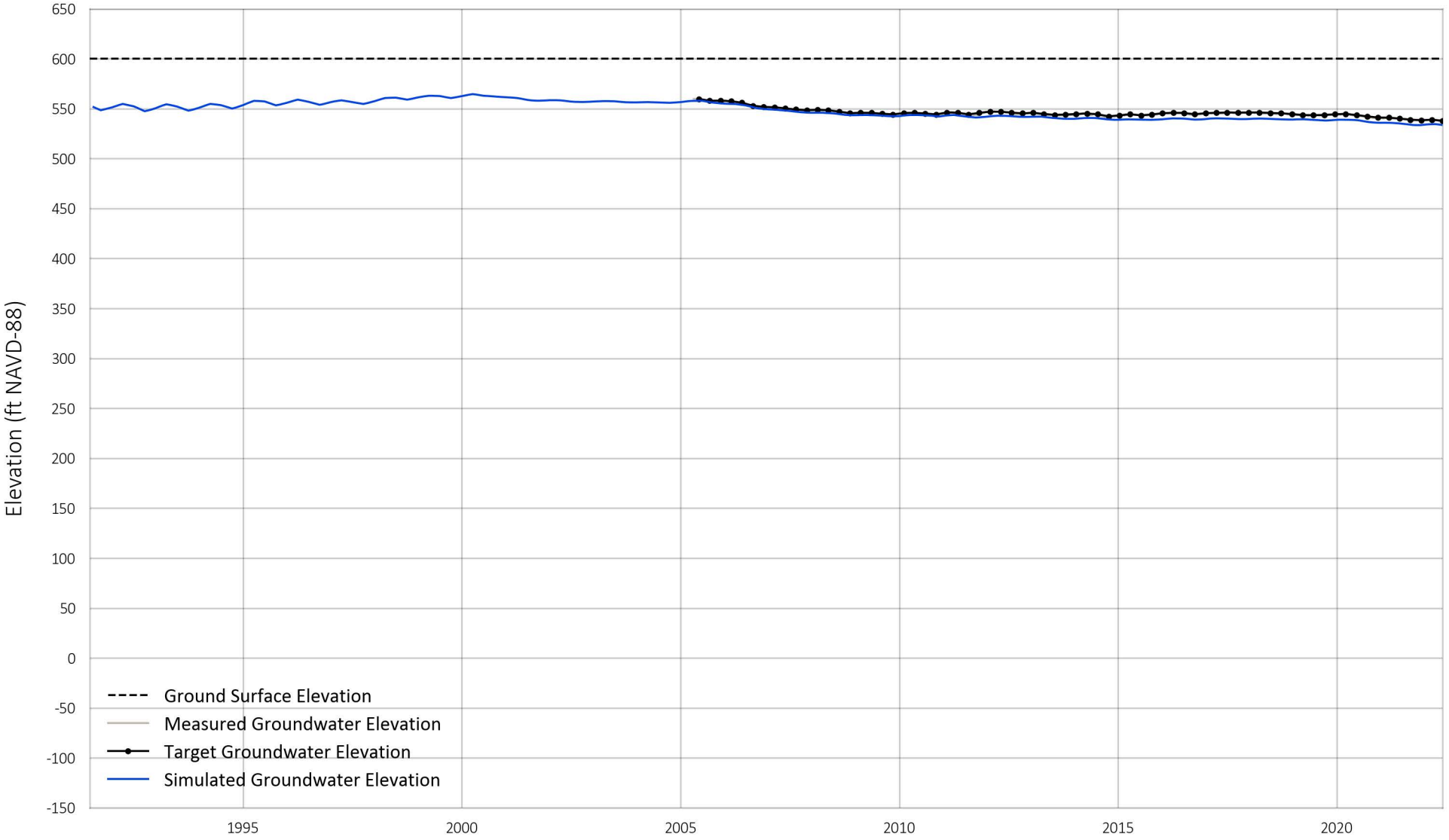
Target Groundwater Elevation (ft)
Mean = 510.33
Standard Deviation = 0.83

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

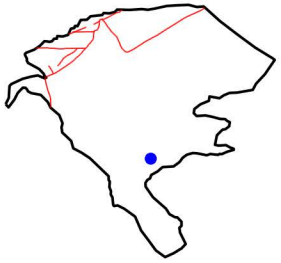
Figure B3-36



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

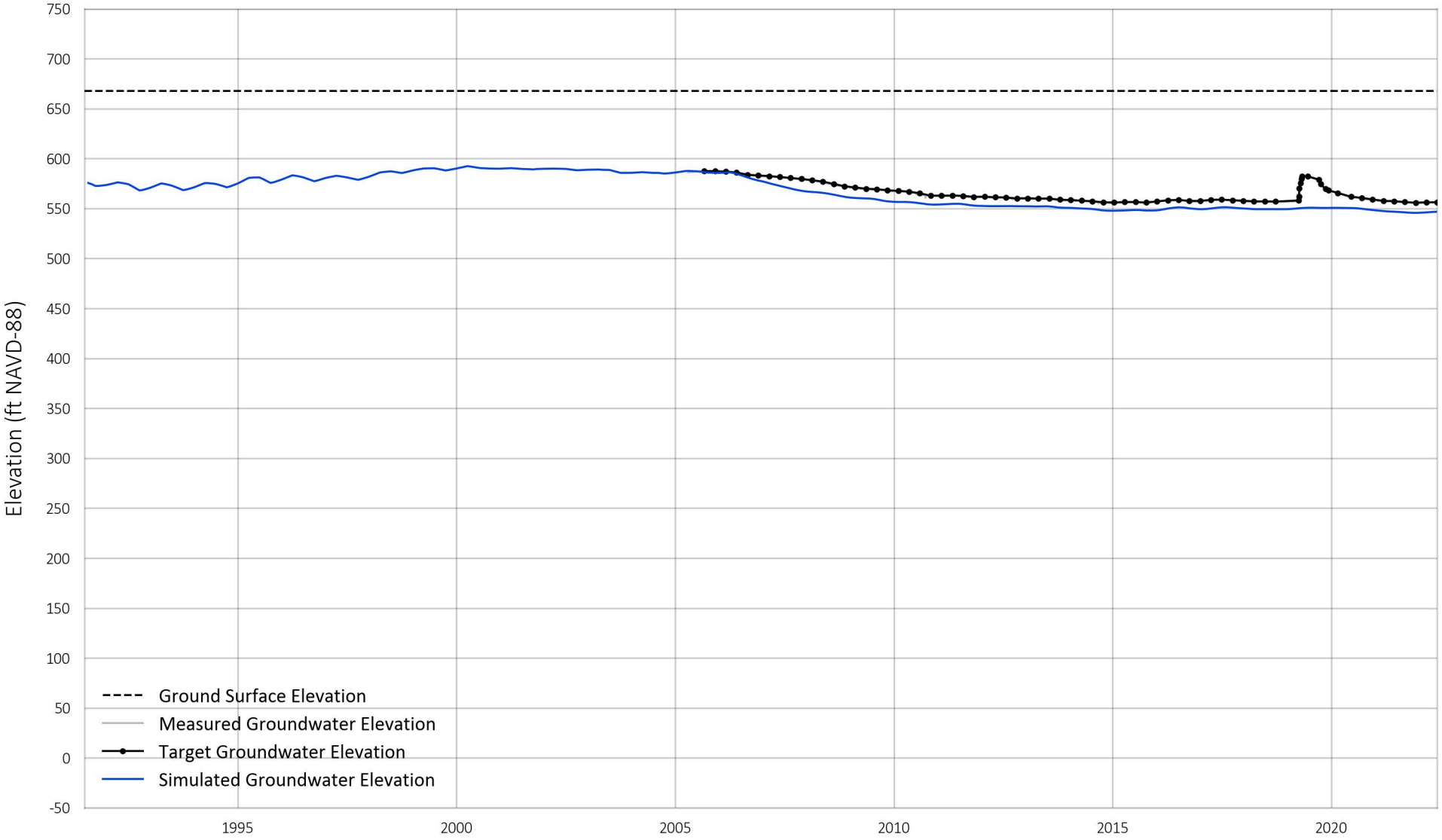
Target Groundwater Elevation (ft)
Mean = 545.95
Standard Deviation = 4.31

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

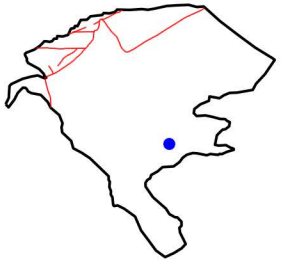
Figure B3-37



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

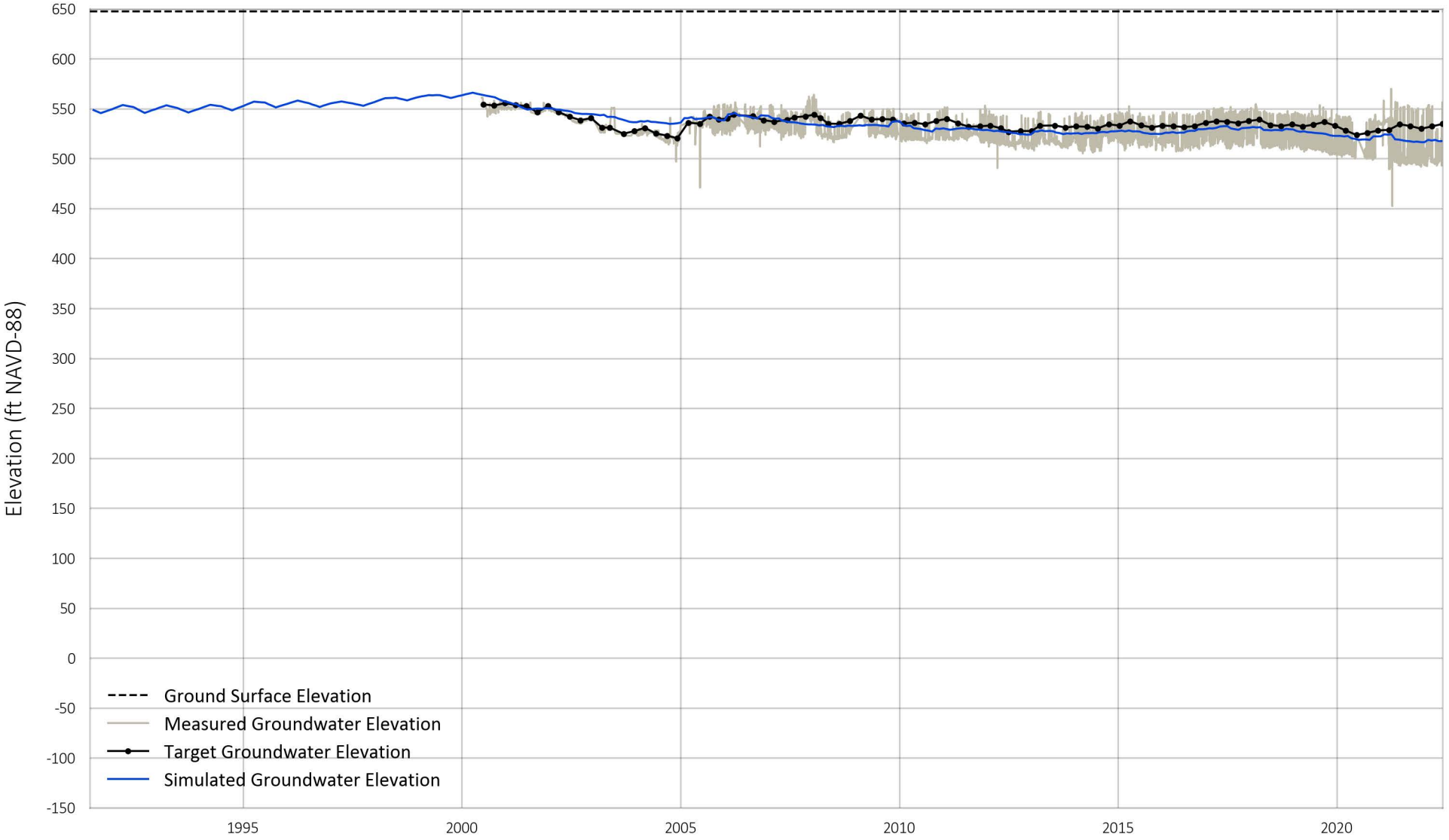
Target Groundwater Elevation (ft)
Mean = 566.07
Standard Deviation = 9.95

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

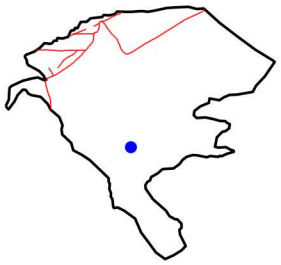
Figure B3-38



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

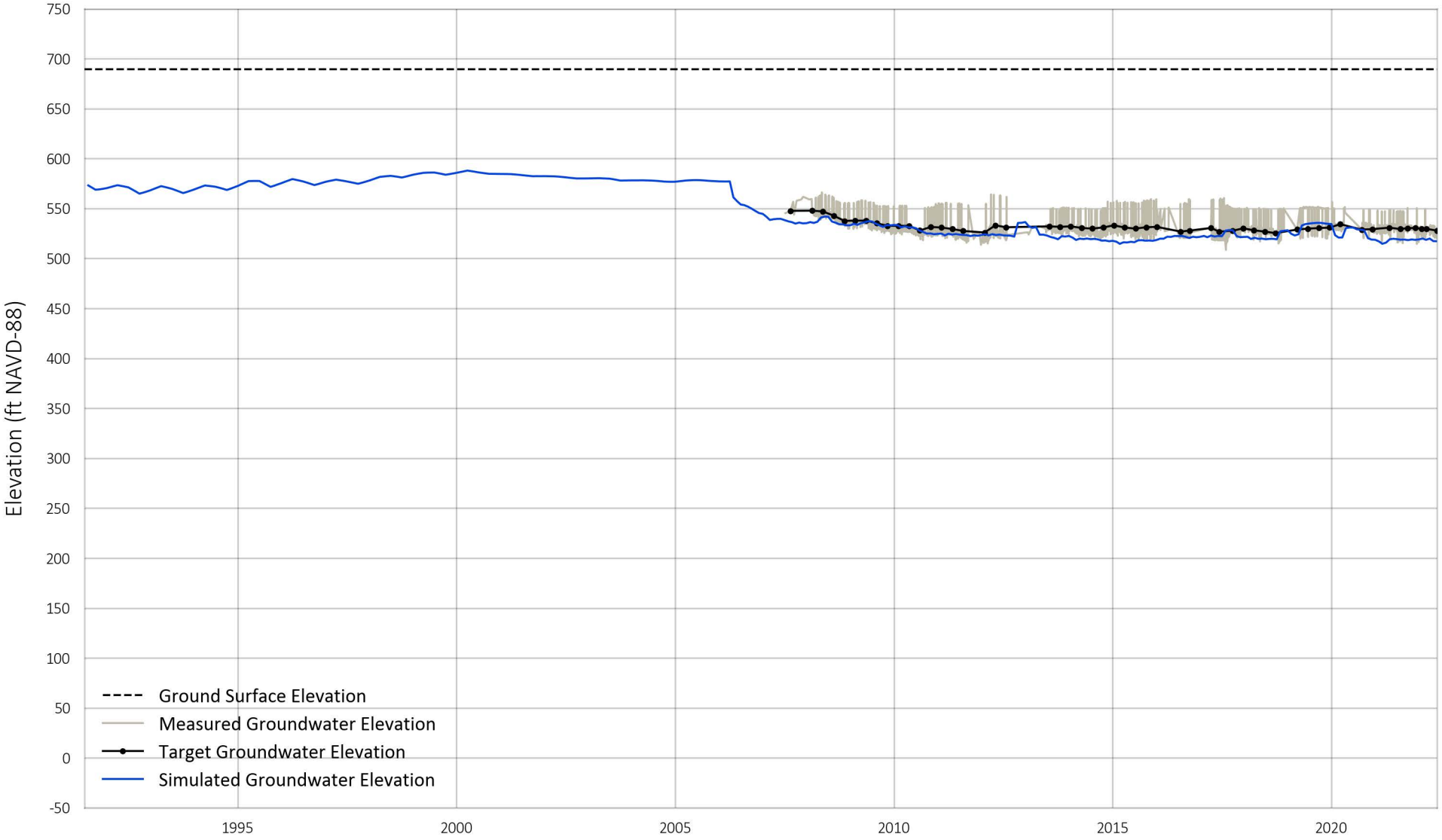
Target Groundwater Elevation (ft)
Mean = 535.77
Standard Deviation = 7.04

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

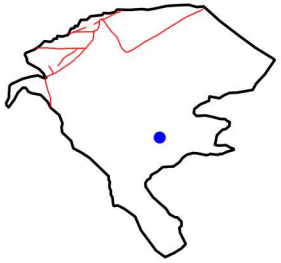
Figure B3-39



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

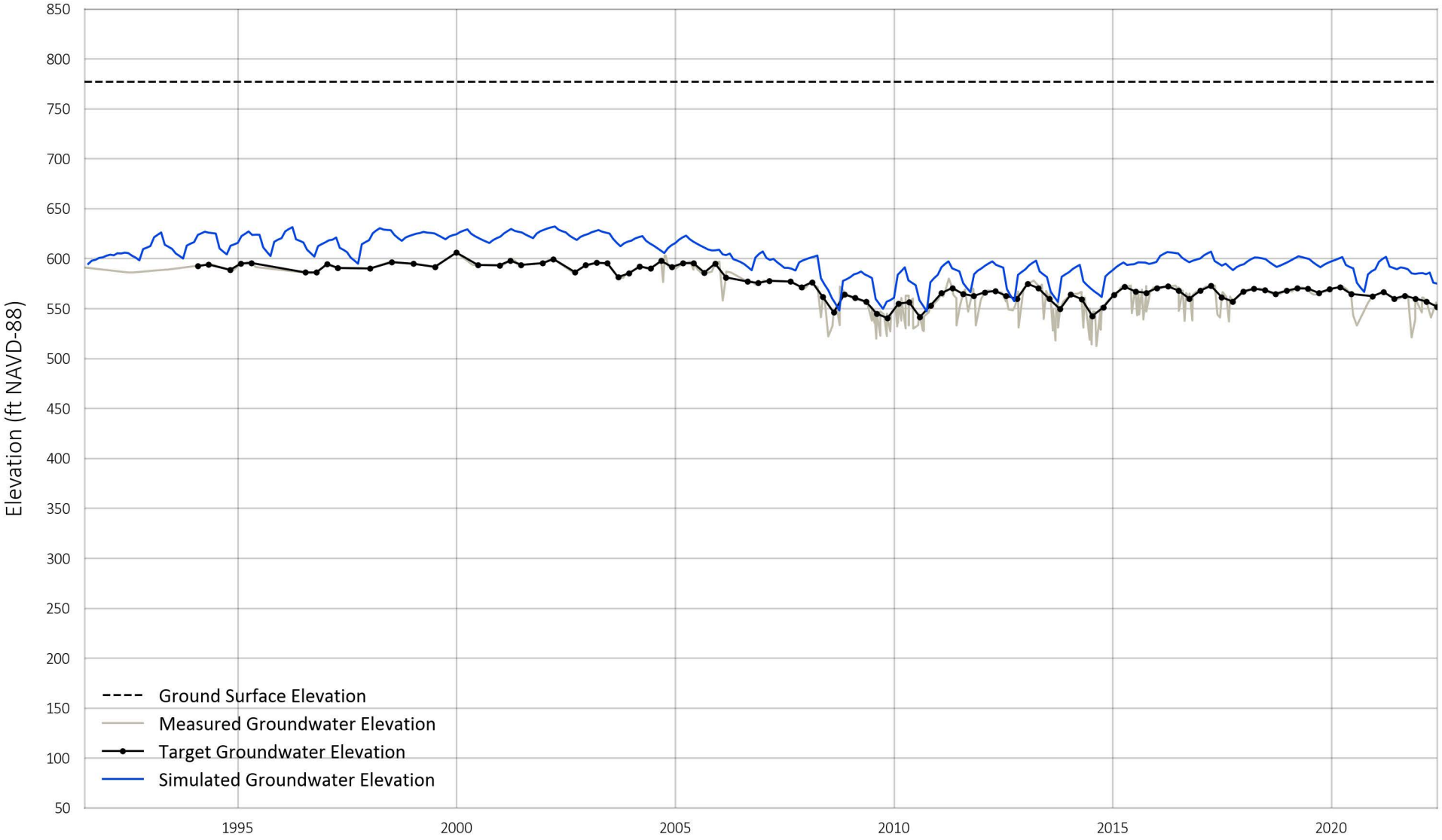
Target Groundwater Elevation (ft)
Mean = 531.83
Standard Deviation = 5.01

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

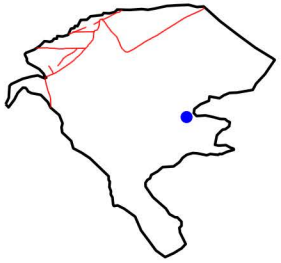
Figure B3-40



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

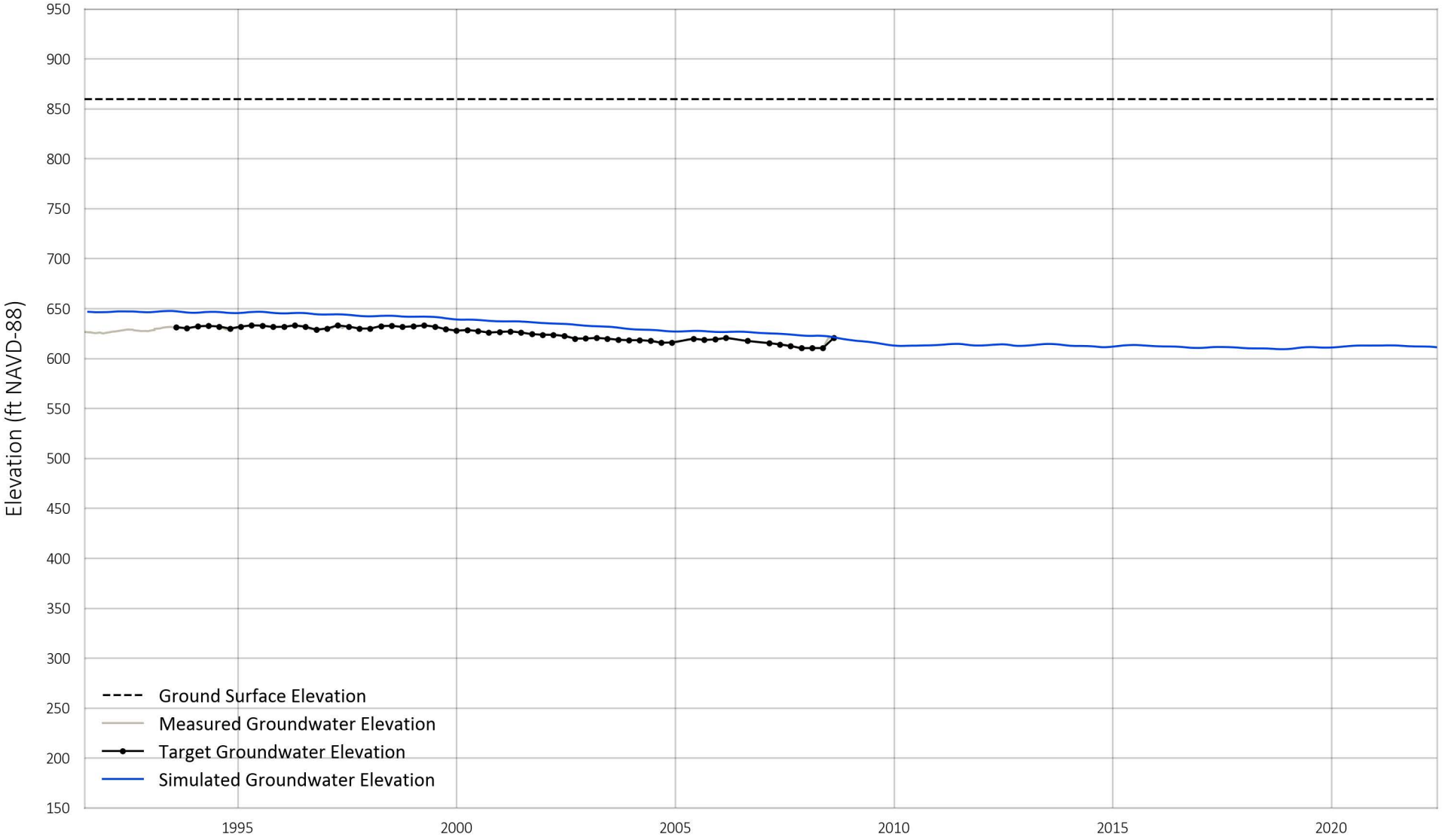
Target Groundwater Elevation (ft)
Mean = 573.70
Standard Deviation = 16.00

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

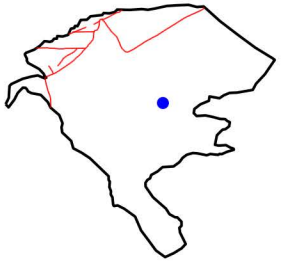
Figure B3-41



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

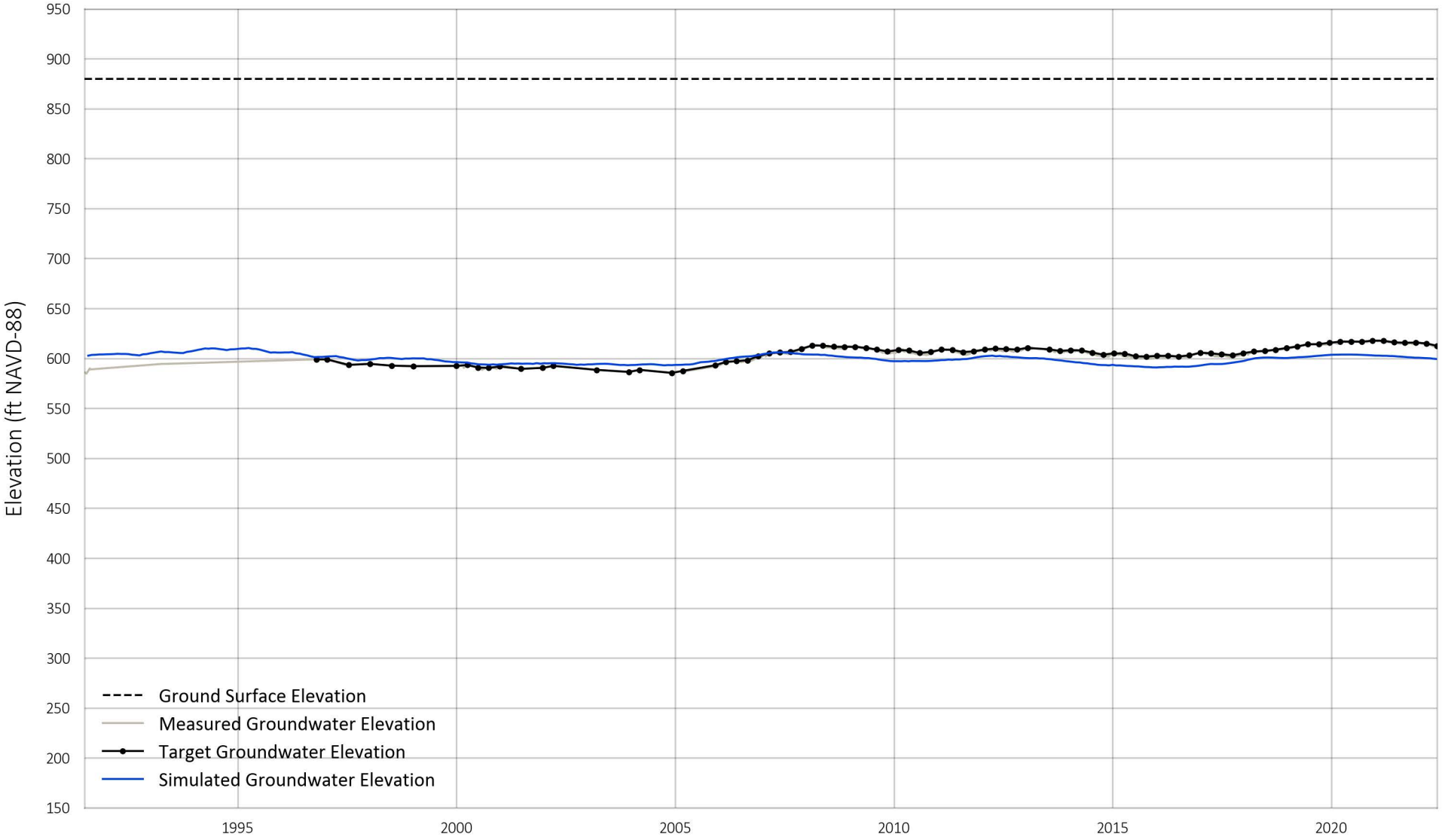
Target Groundwater Elevation (ft)
Mean = 624.98
Standard Deviation = 7.03

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

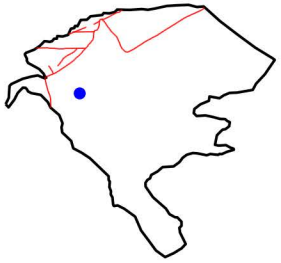
Figure B3-42



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

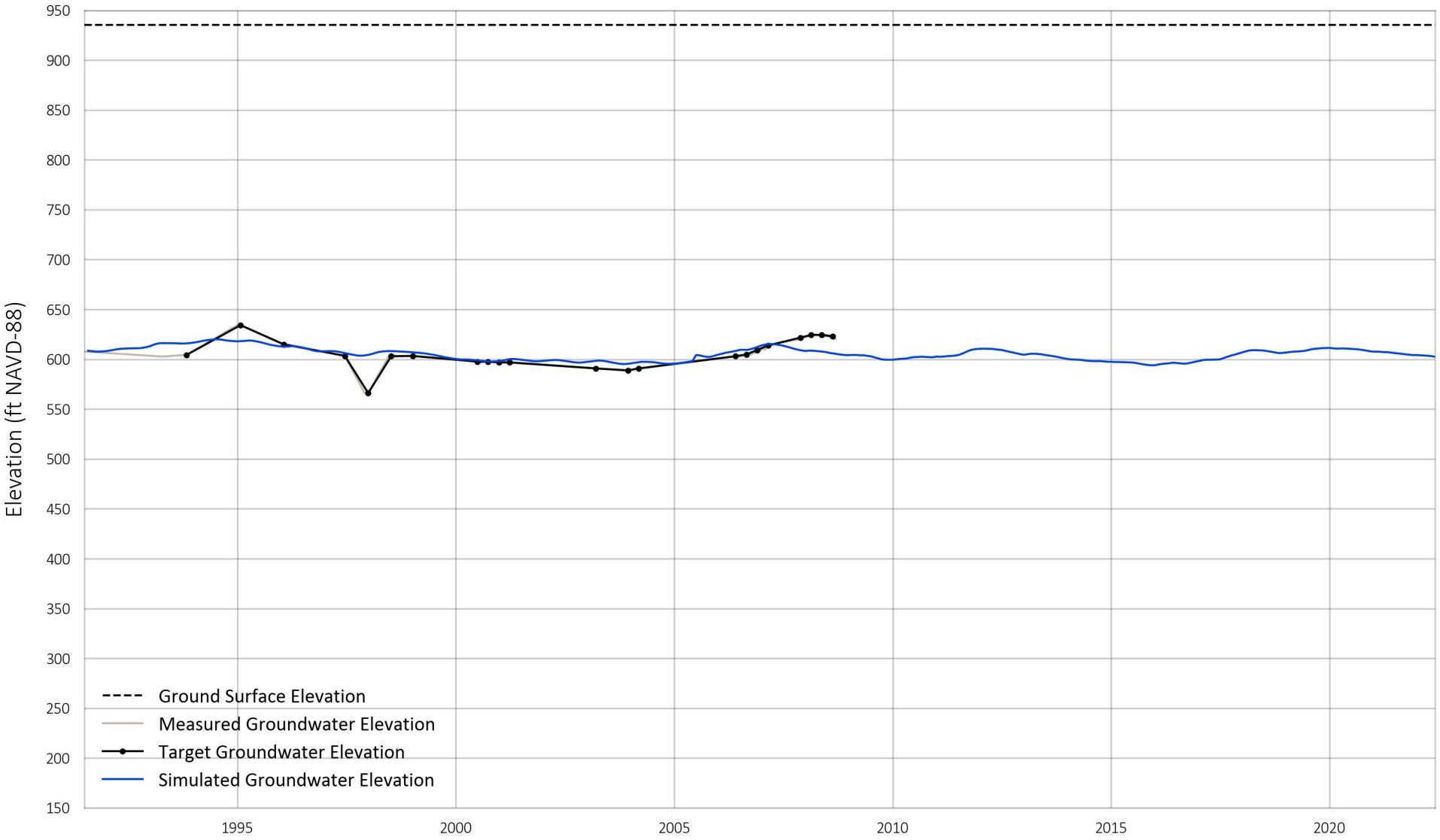
Target Groundwater Elevation (ft)
Mean = 604.48
Standard Deviation = 8.54

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

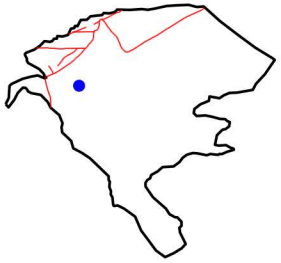
Figure B3-43



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

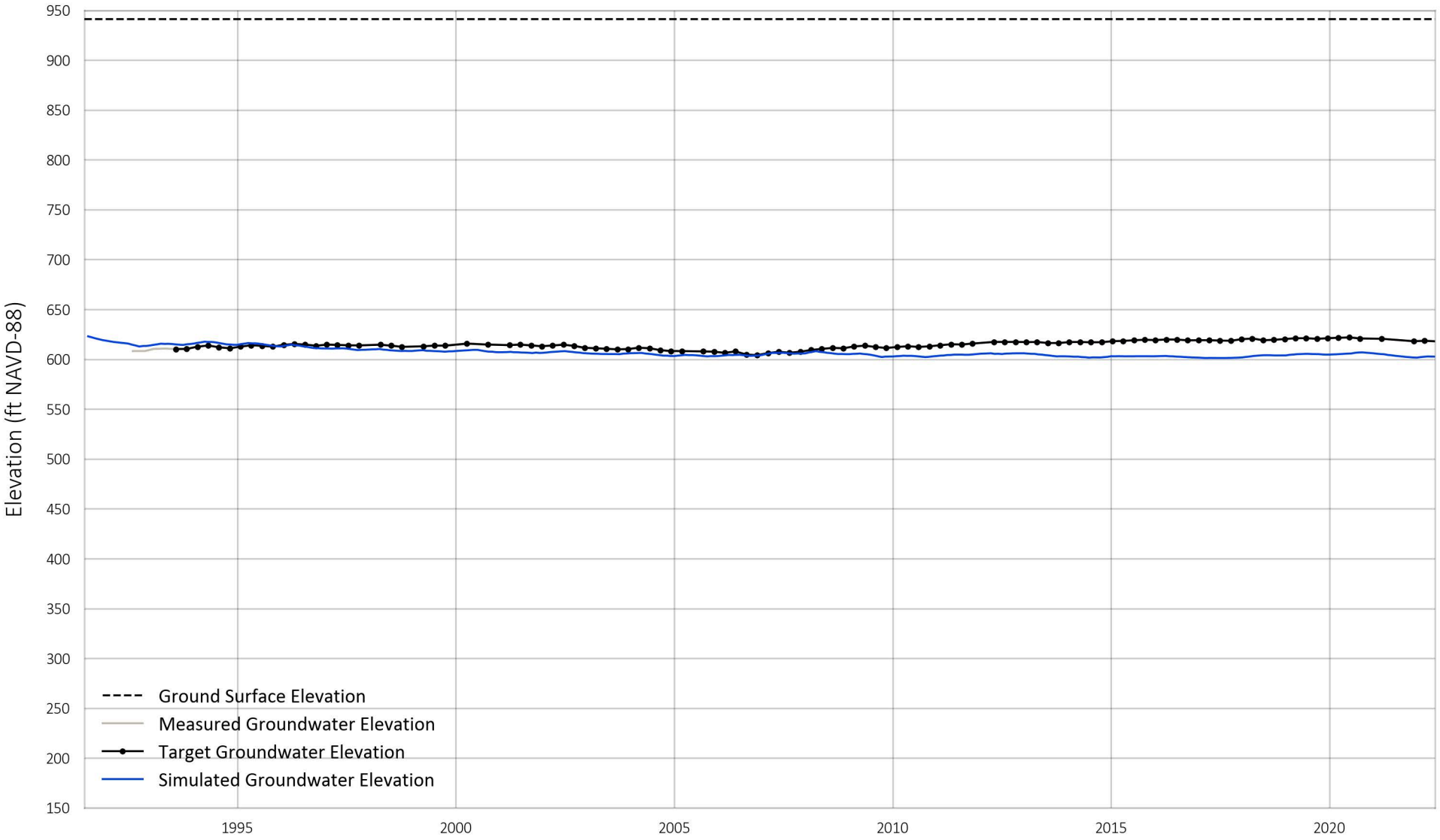
Target Groundwater Elevation (ft)
Mean = 605.14
Standard Deviation = 15.18

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

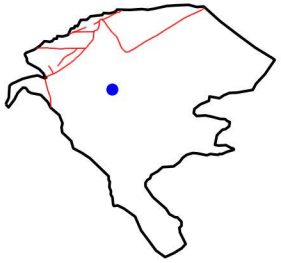
Figure B3-44



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

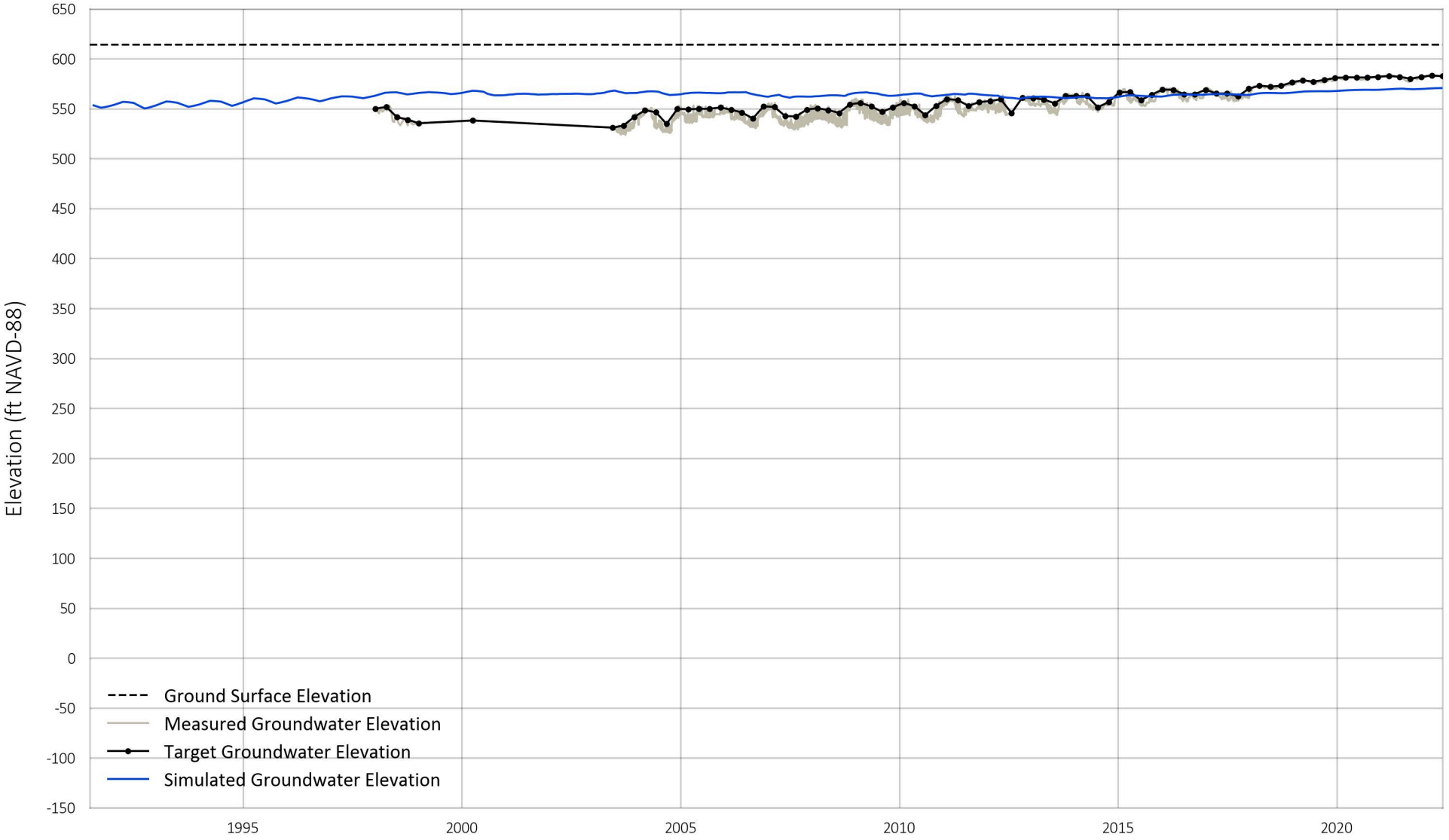
Target Groundwater Elevation (ft)
Mean = 614.36
Standard Deviation = 4.20

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

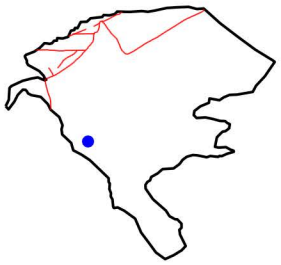
Figure B3-45



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

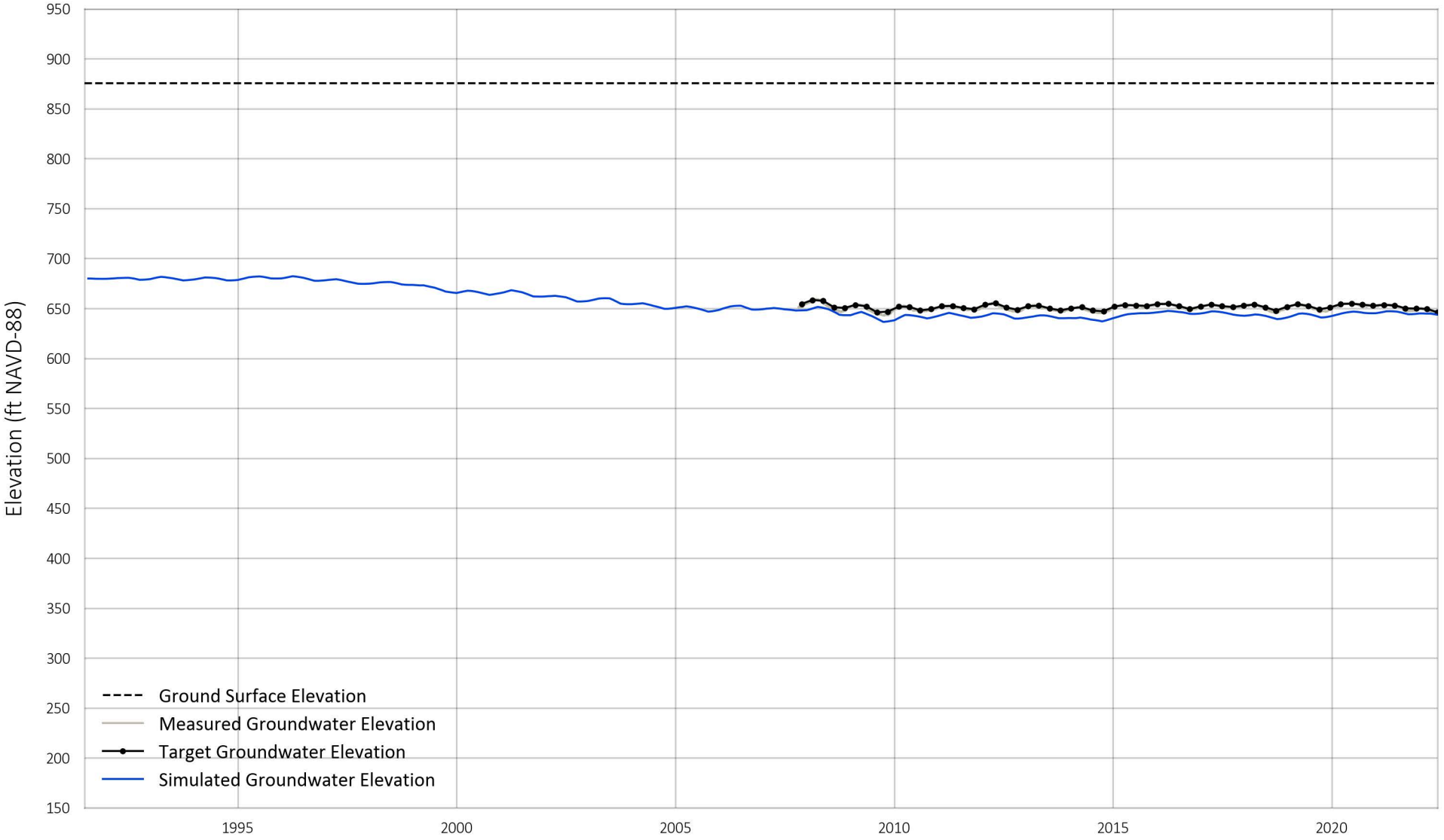
Target Groundwater Elevation (ft)
Mean = 558.65
Standard Deviation = 13.83

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

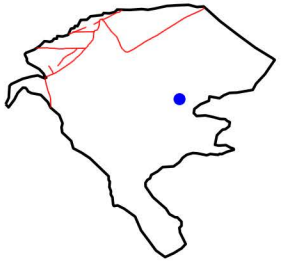
Figure B3-46



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

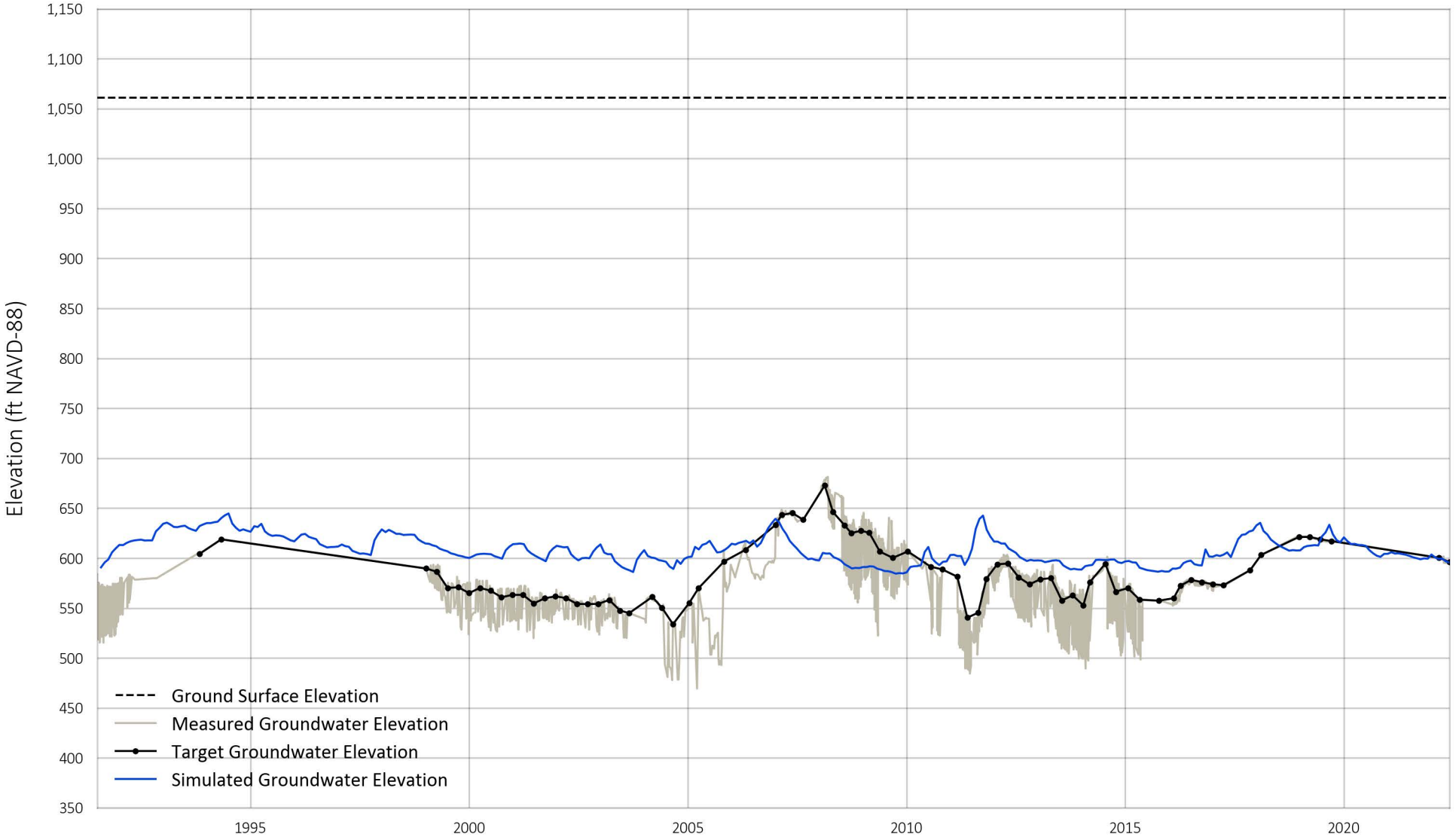
Target Groundwater Elevation (ft)
Mean = 651.64
Standard Deviation = 2.60

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

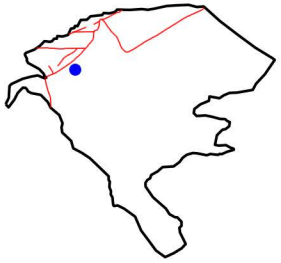
Figure B3-47



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

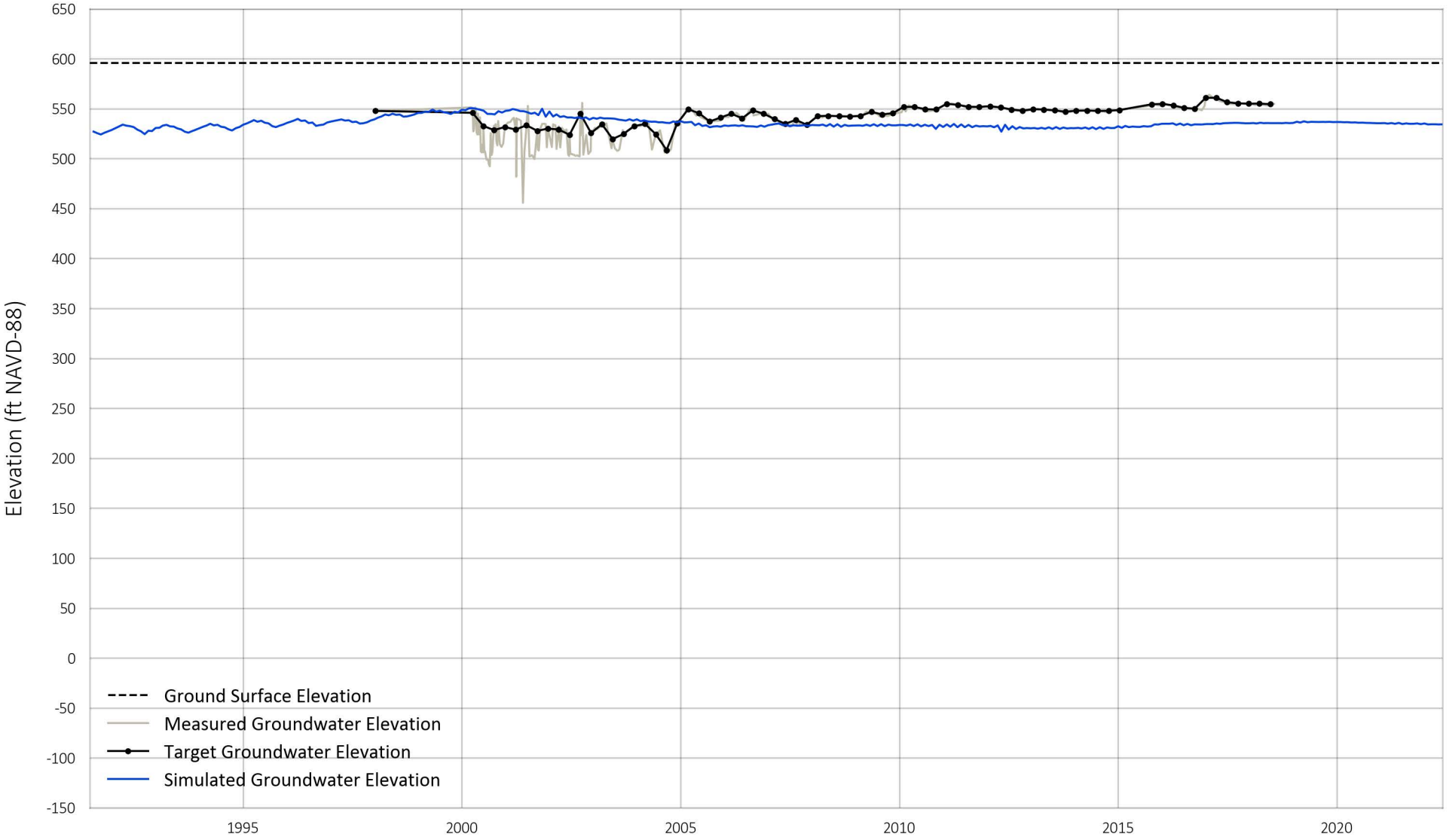
Target Groundwater Elevation (ft)
Mean = 584.21
Standard Deviation = 29.74

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

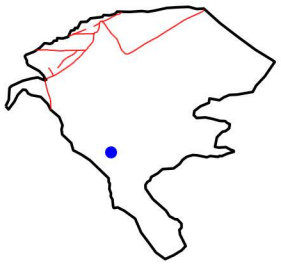
Figure B3-48



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

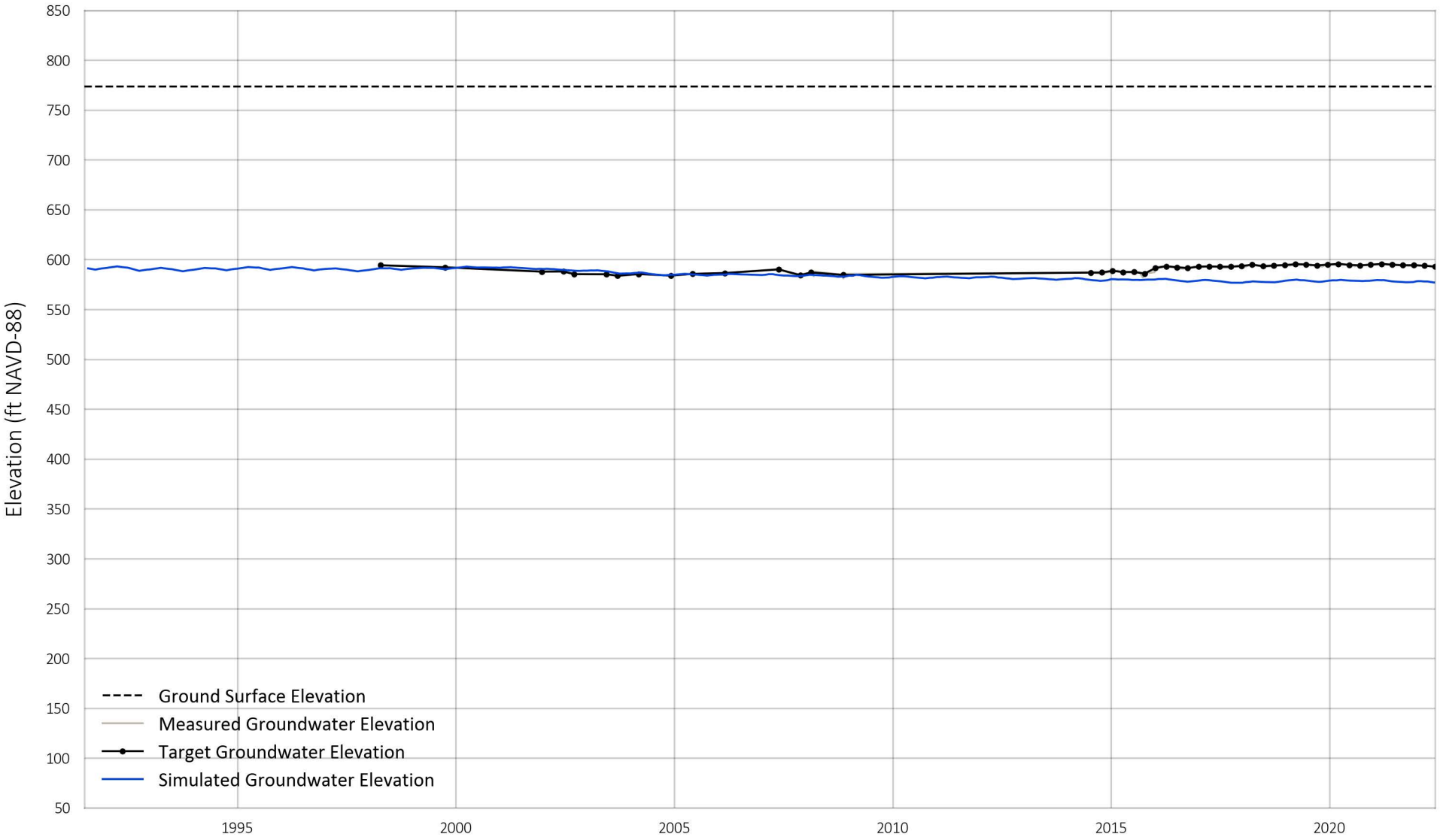
Target Groundwater Elevation (ft)
Mean = 543.27
Standard Deviation = 10.51

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

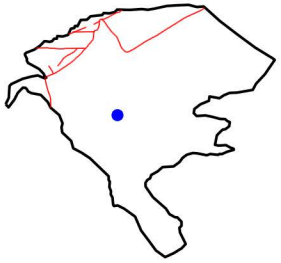
Figure B3-49



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

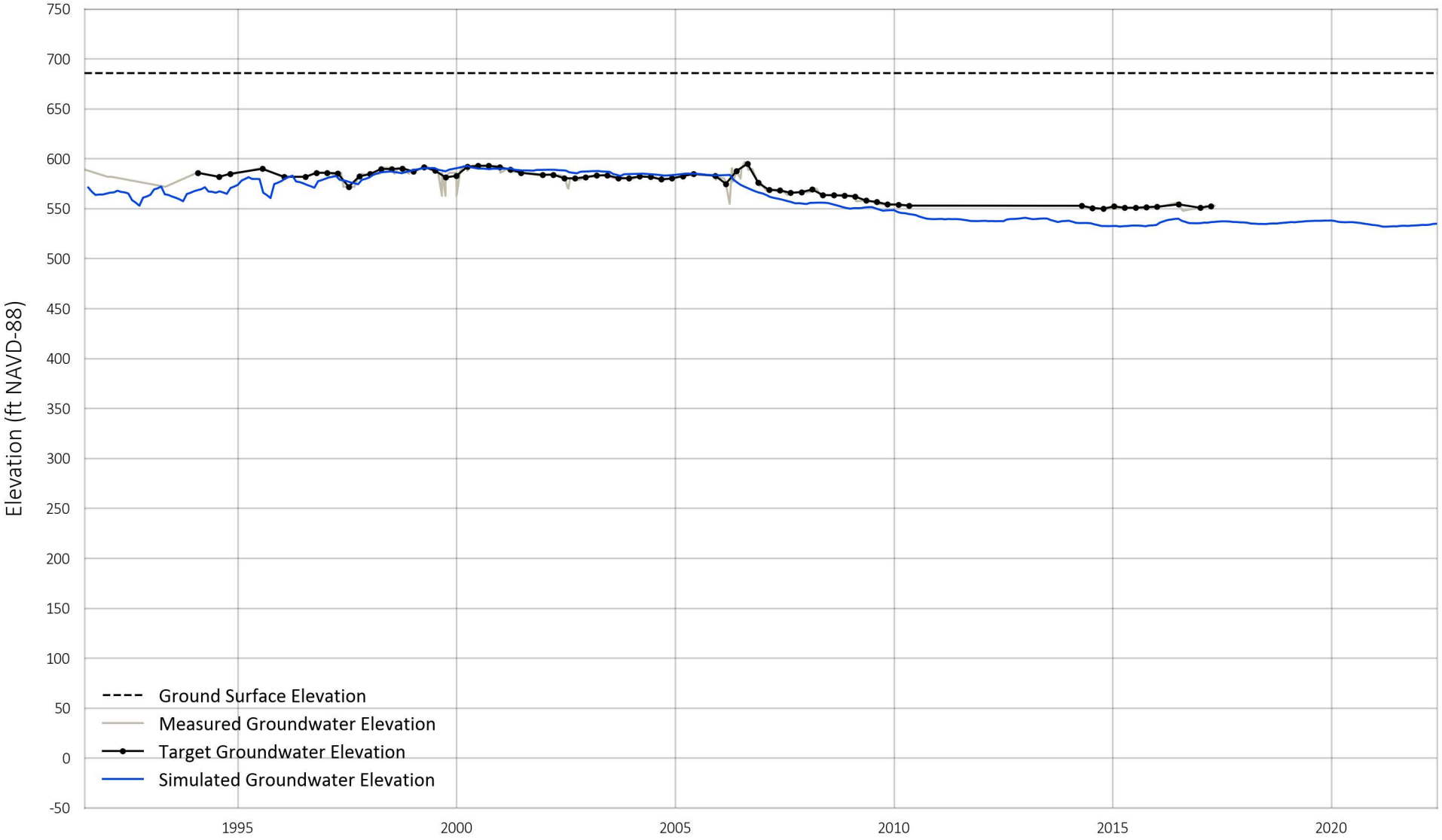
Target Groundwater Elevation (ft)
Mean = 590.87
Standard Deviation = 3.93

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

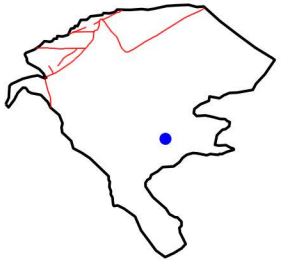
Figure B3-50



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

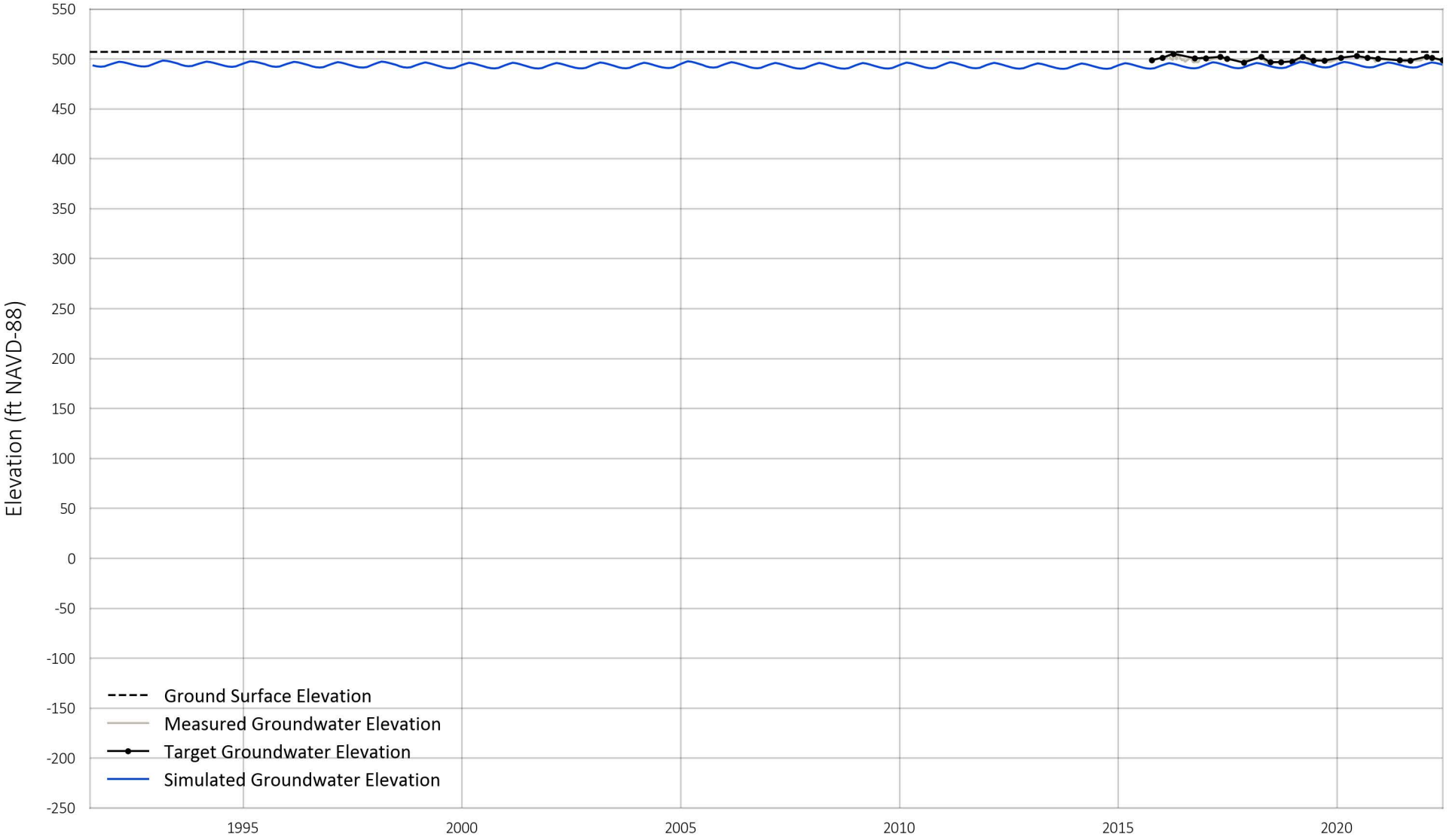
Target Groundwater Elevation (ft)
Mean = 574.93
Standard Deviation = 14.22

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

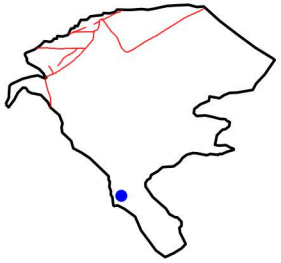
Figure B3-51



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

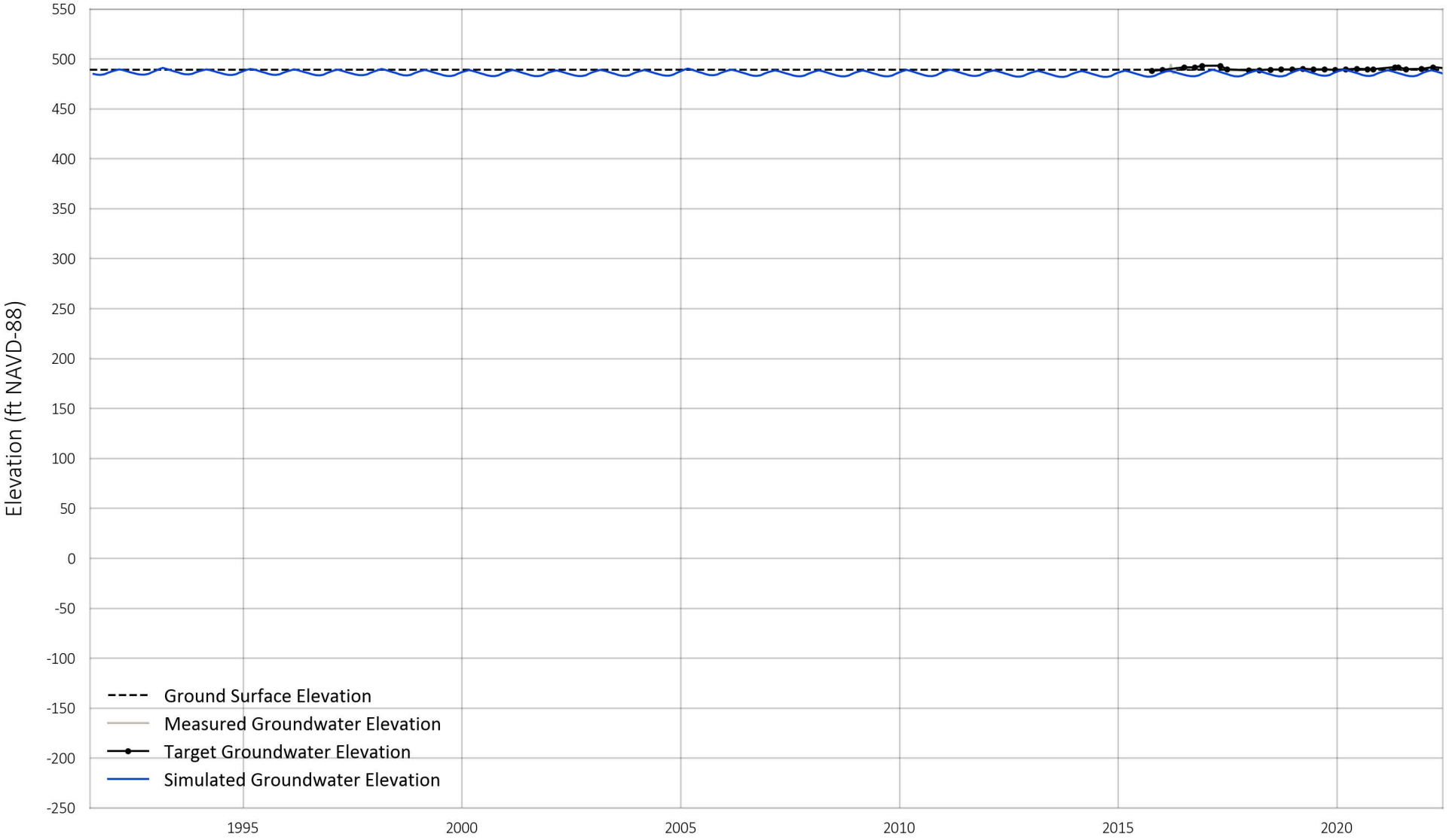
Target Groundwater Elevation (ft)
Mean = 499.89
Standard Deviation = 2.24

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

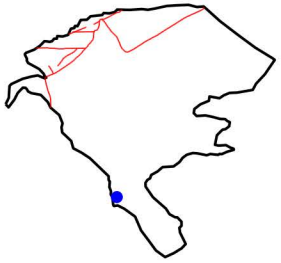
Figure B3-52



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

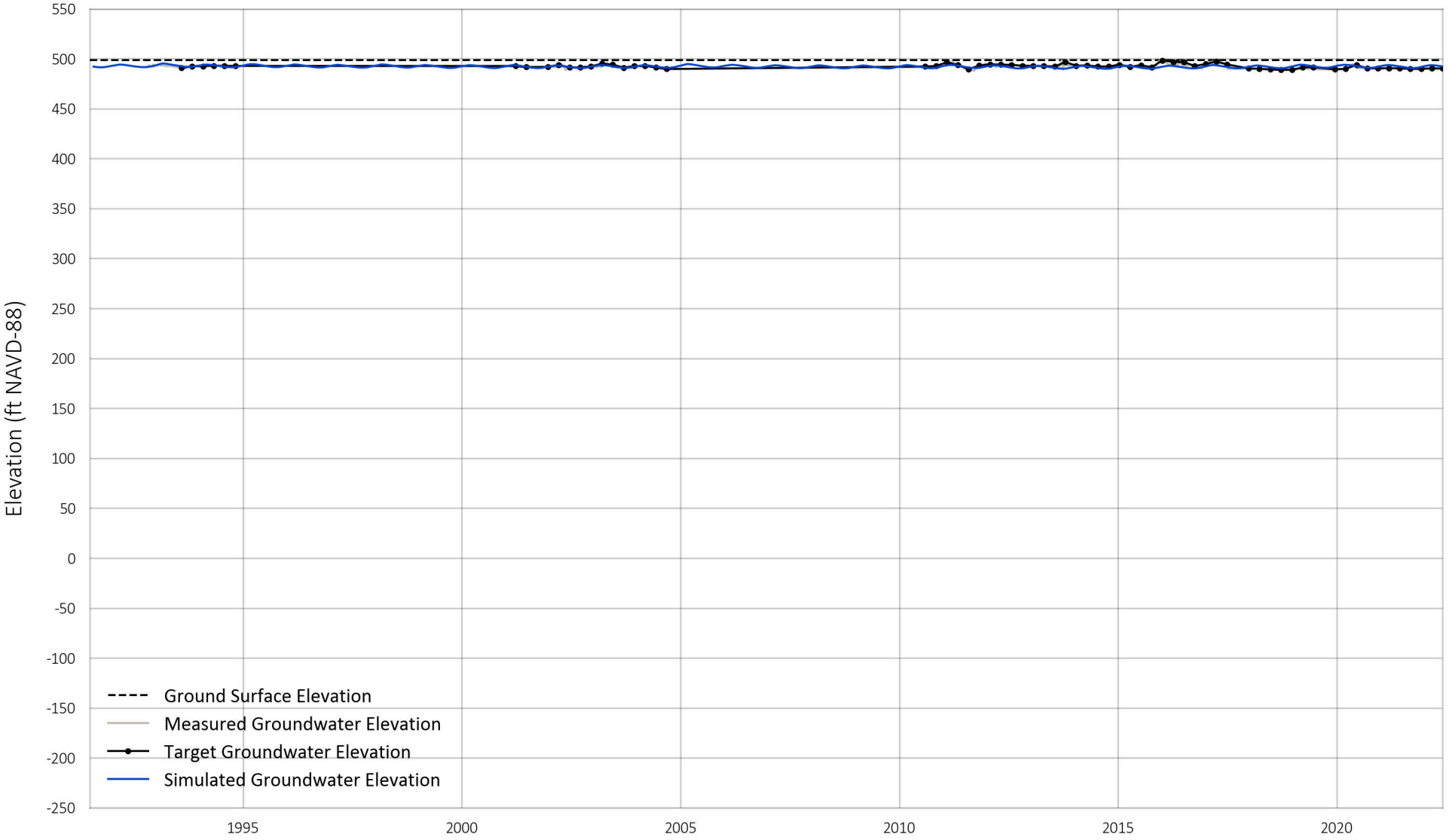
Target Groundwater Elevation (ft)
Mean = 489.96
Standard Deviation = 1.38

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

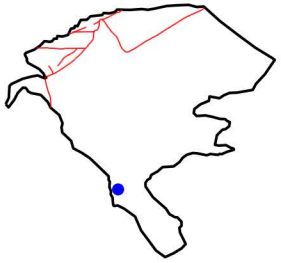
Figure B3-53



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

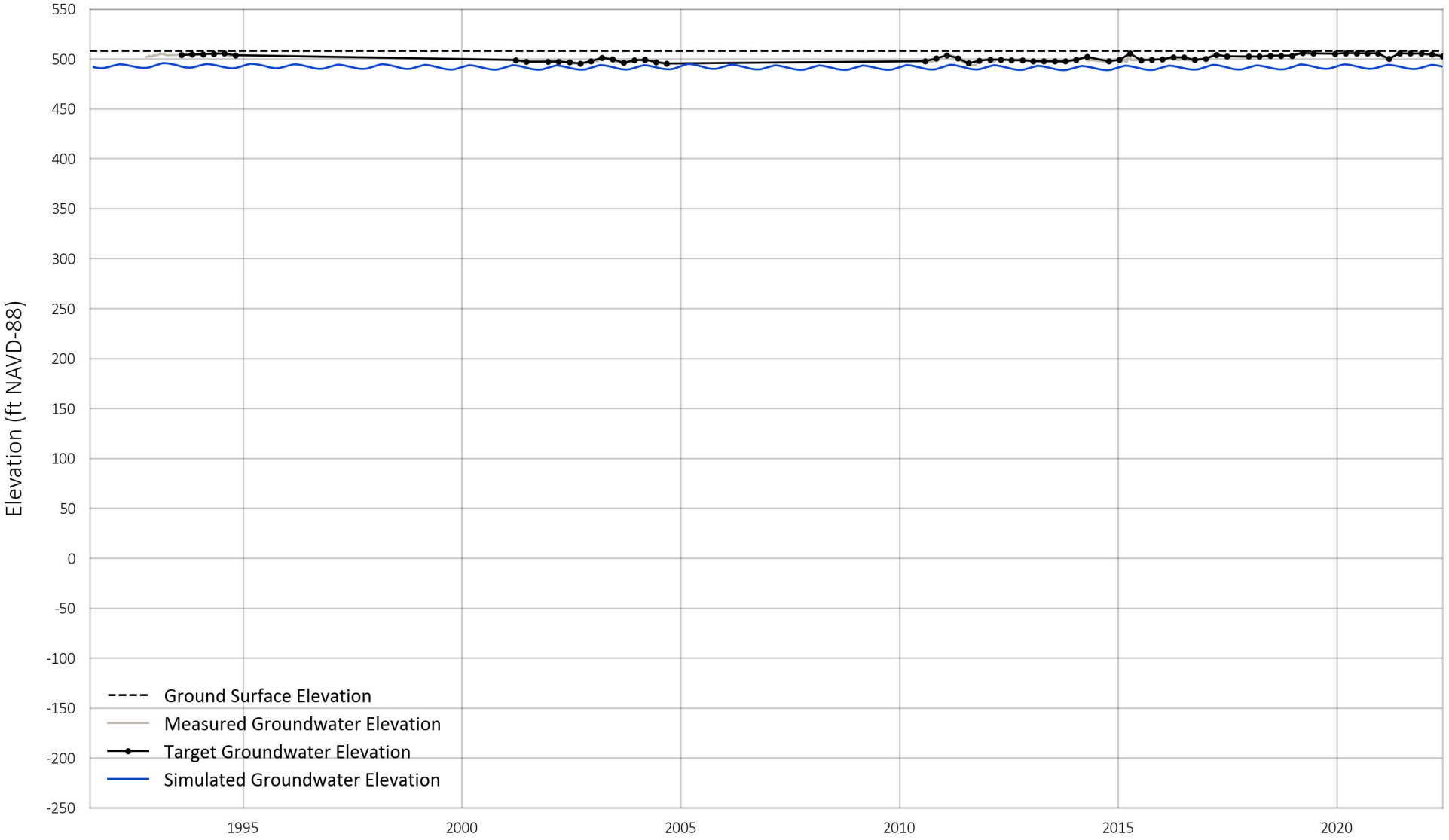
Target Groundwater Elevation (ft)
Mean = 492.37
Standard Deviation = 2.12

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

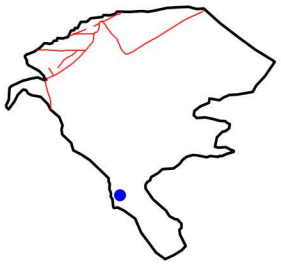
Figure B3-54



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

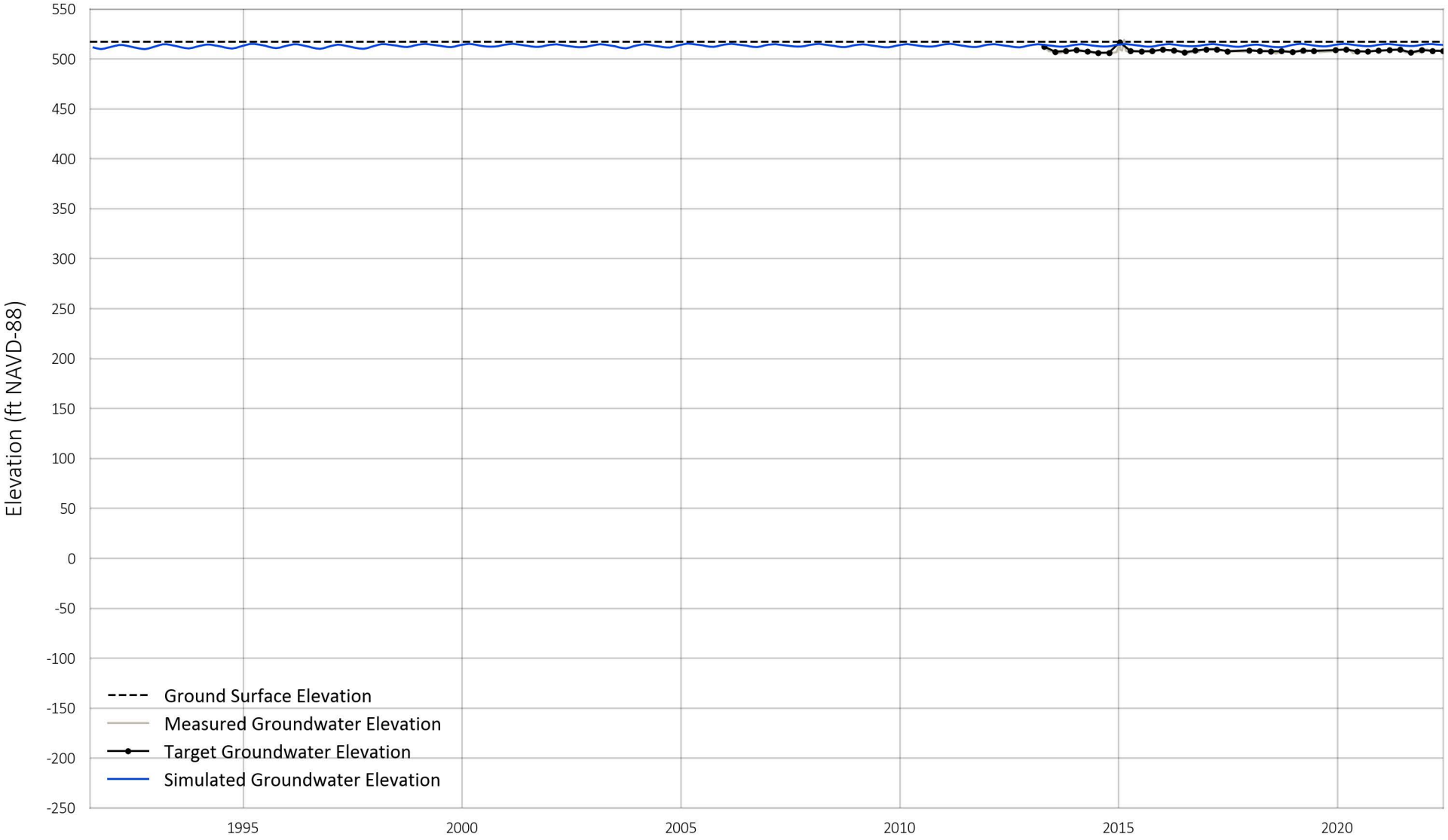
Target Groundwater Elevation (ft)
Mean = 500.86
Standard Deviation = 3.24

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

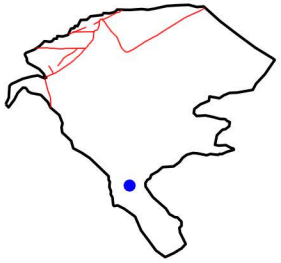
Figure B3-55



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

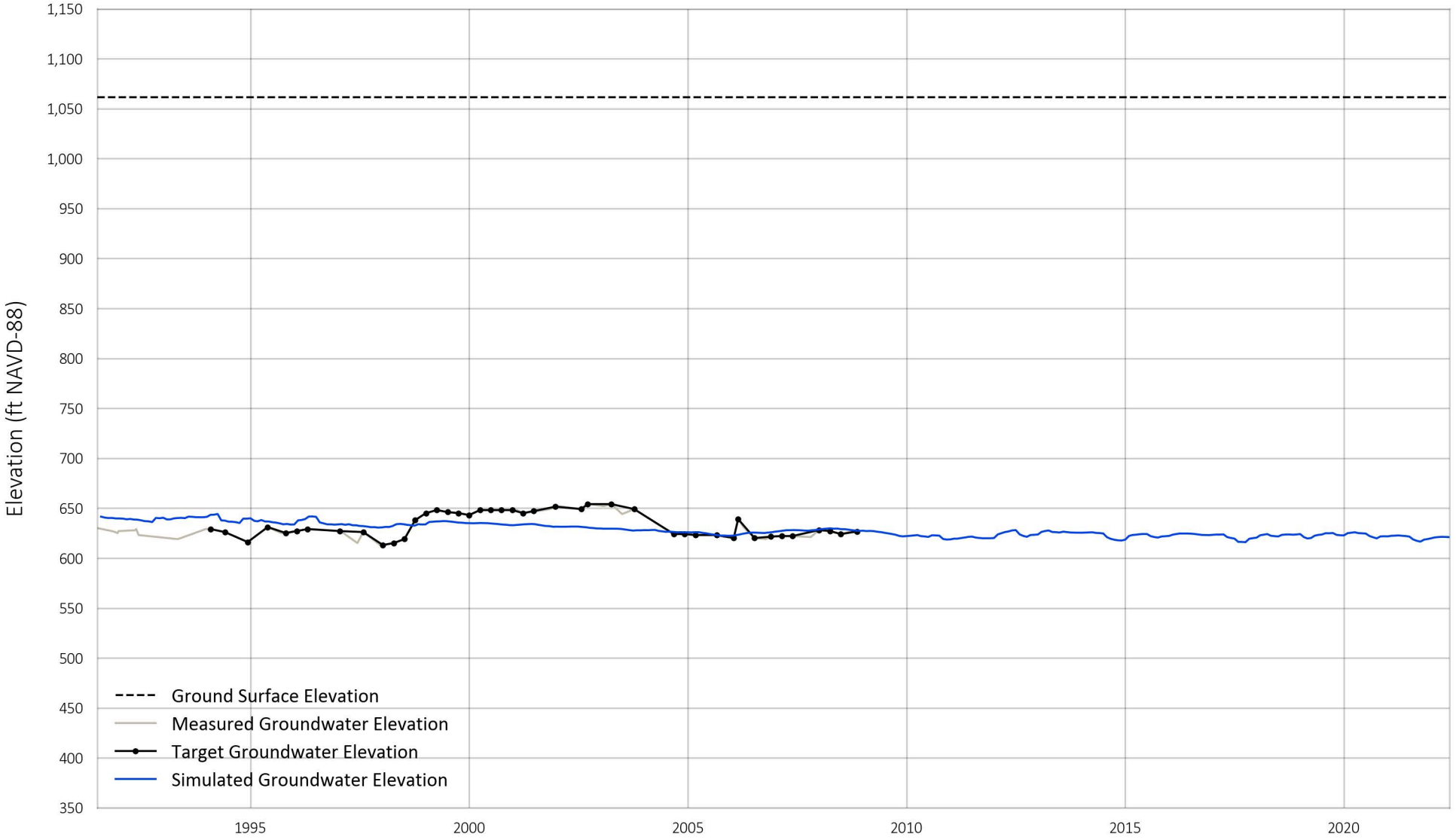
Target Groundwater Elevation (ft)
Mean = 508.16
Standard Deviation = 1.82

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

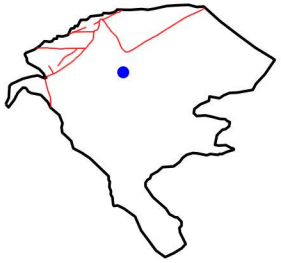
Figure B3-56



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

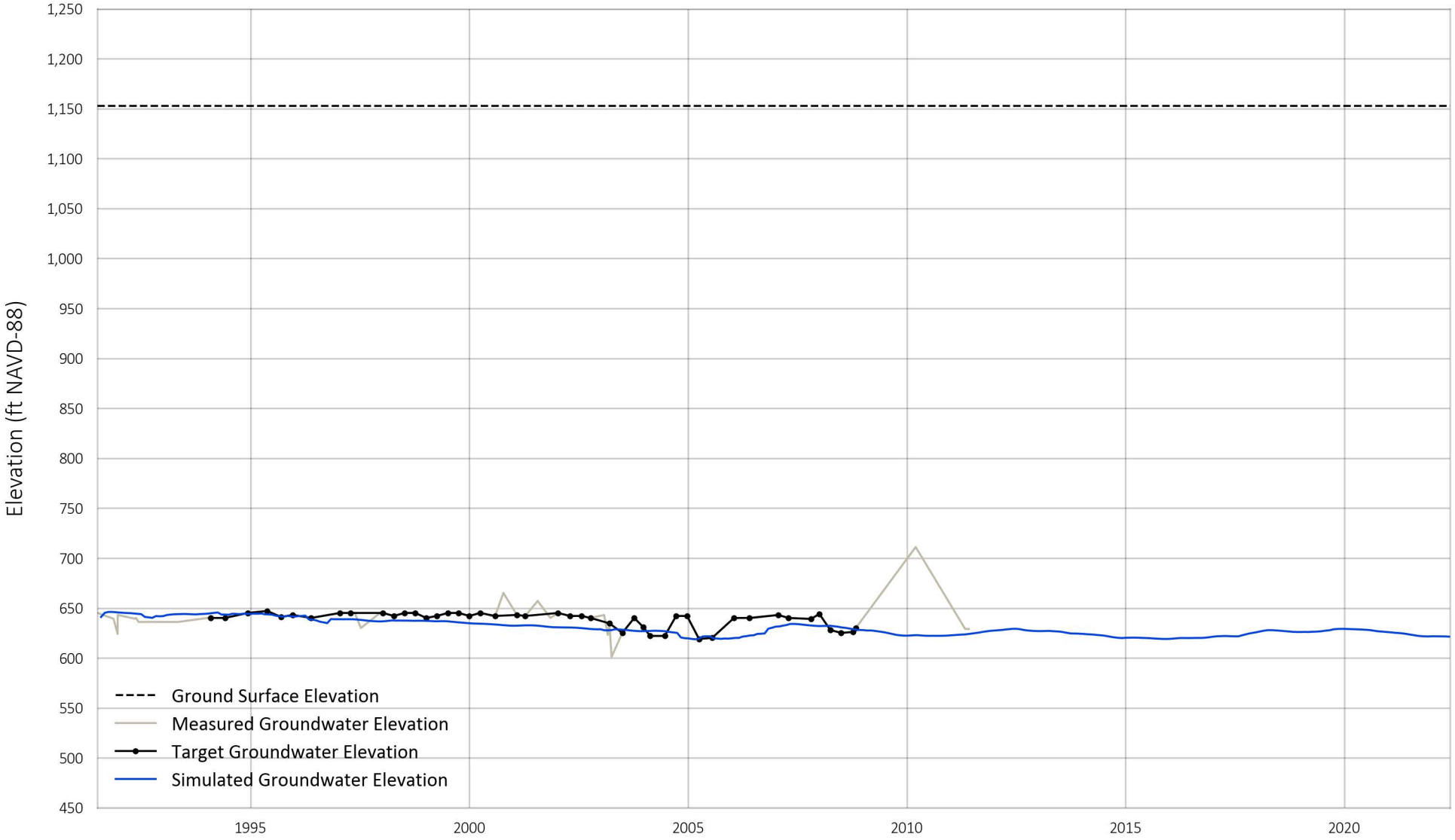
Target Groundwater Elevation (ft)
Mean = 633.47
Standard Deviation = 12.49

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

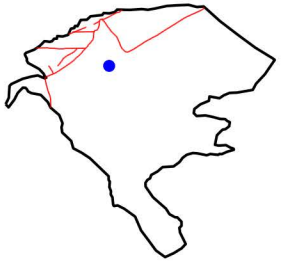
Figure B3-57



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

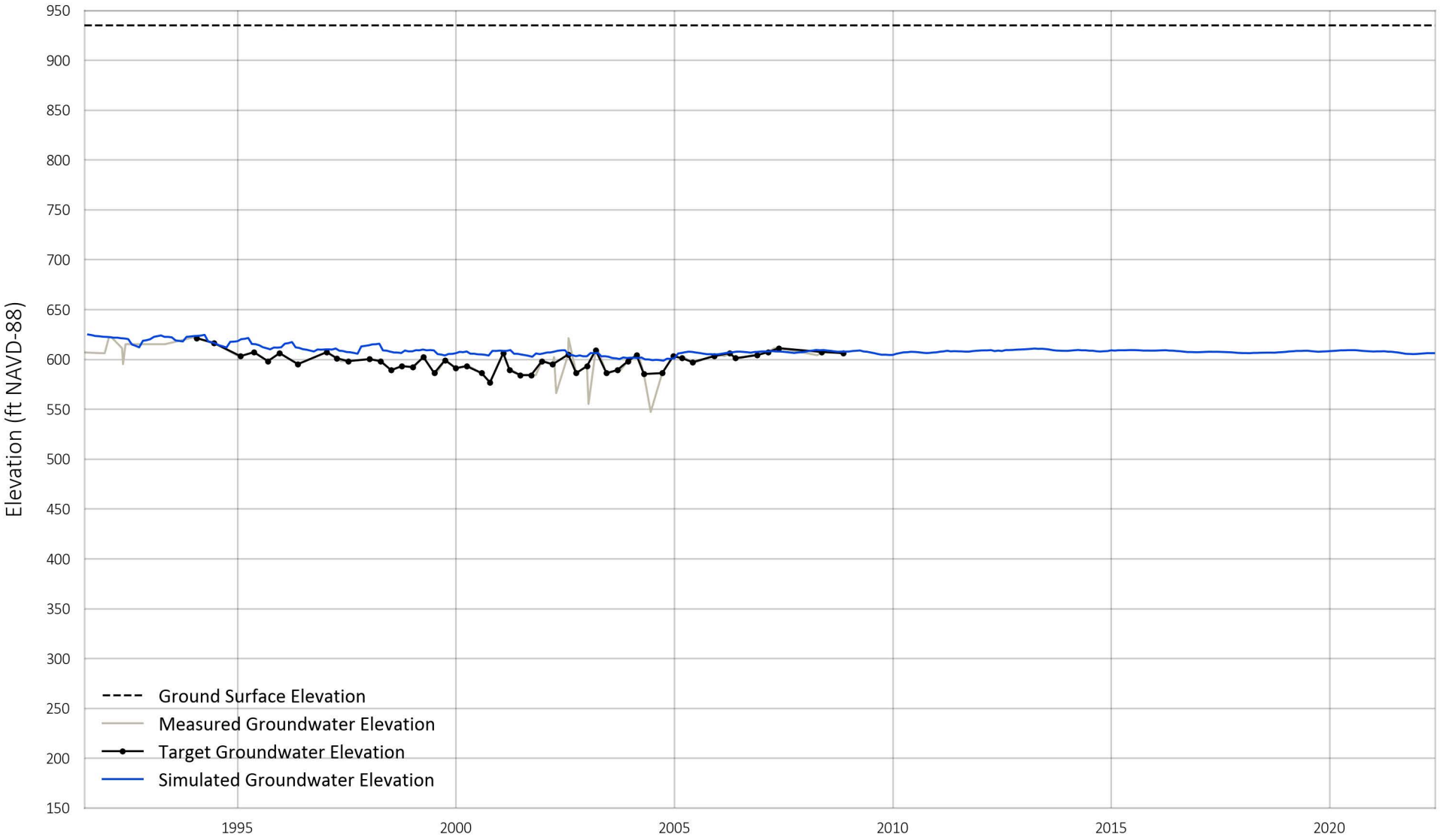
Target Groundwater Elevation (ft)
Mean = 638.65
Standard Deviation = 7.84

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

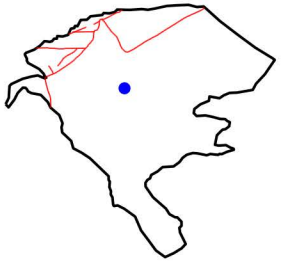
Figure B3-58



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

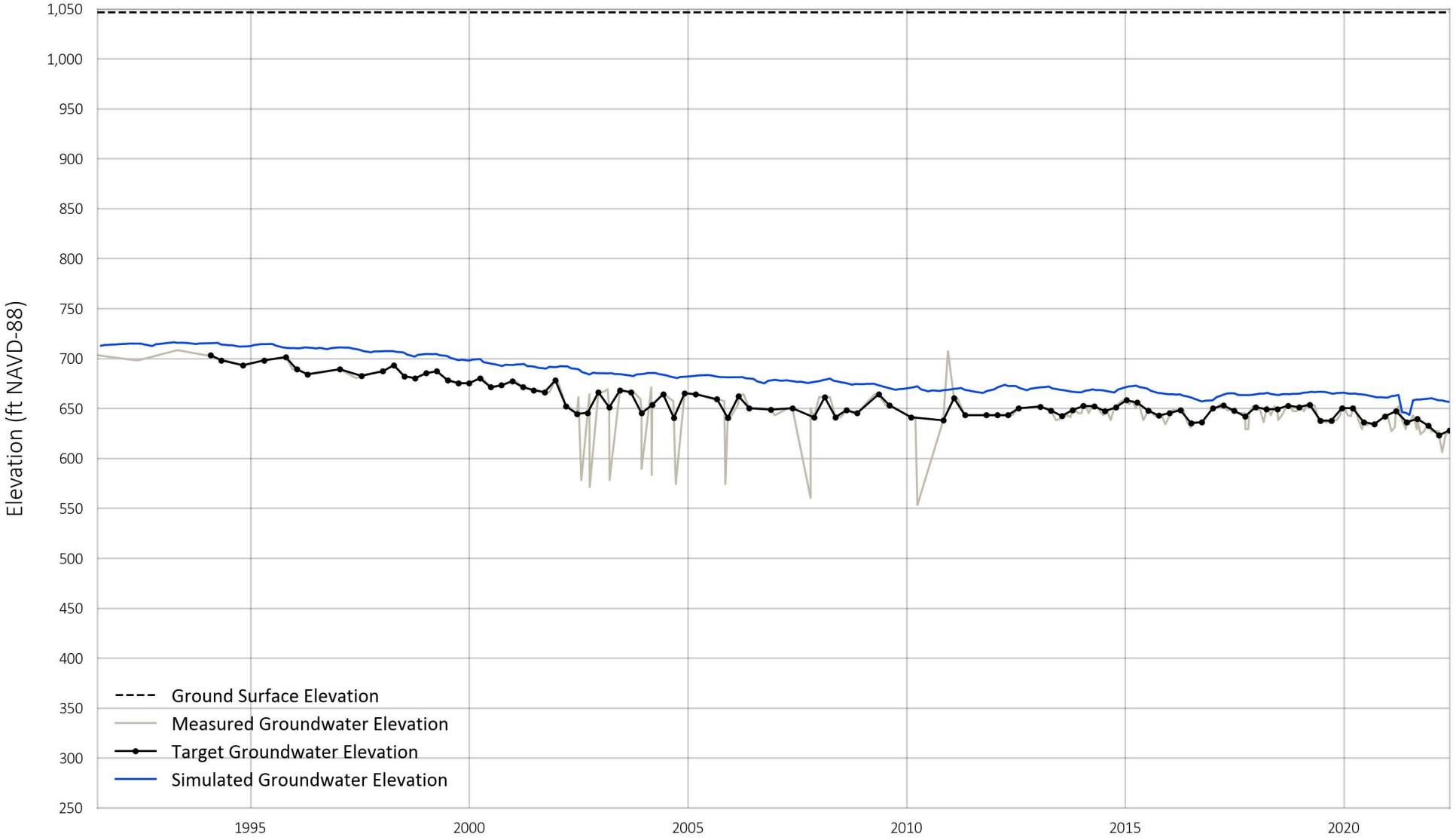
Target Groundwater Elevation (ft)
Mean = 598.06
Standard Deviation = 9.28

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

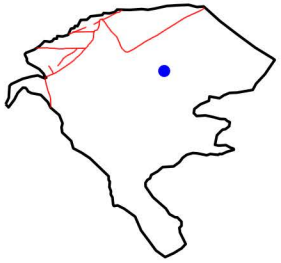
Figure B3-59



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

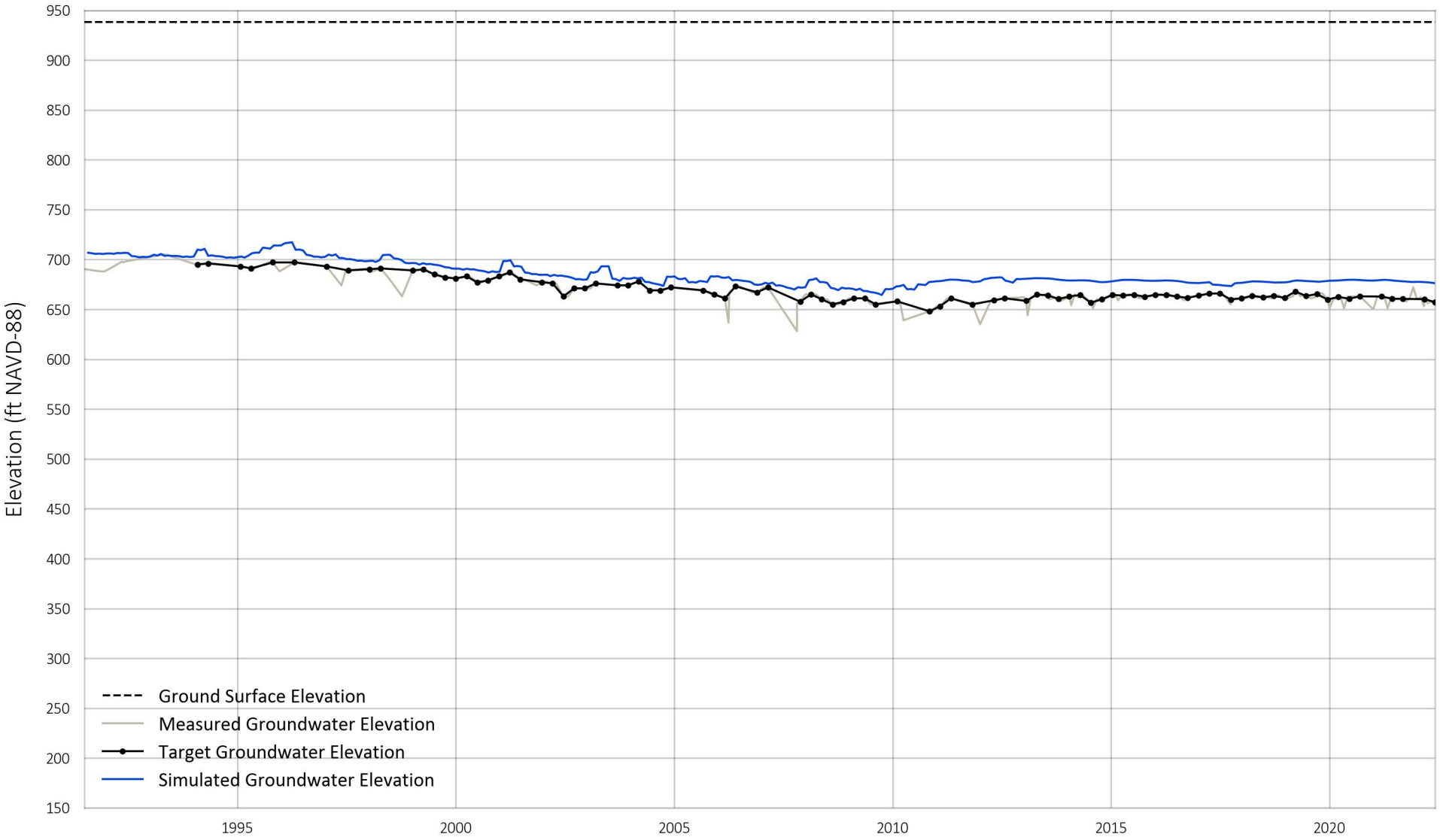
Target Groundwater Elevation (ft)
Mean = 657.32
Standard Deviation = 18.25

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

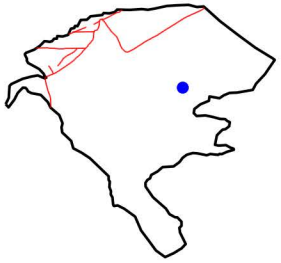
Figure B3-60



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

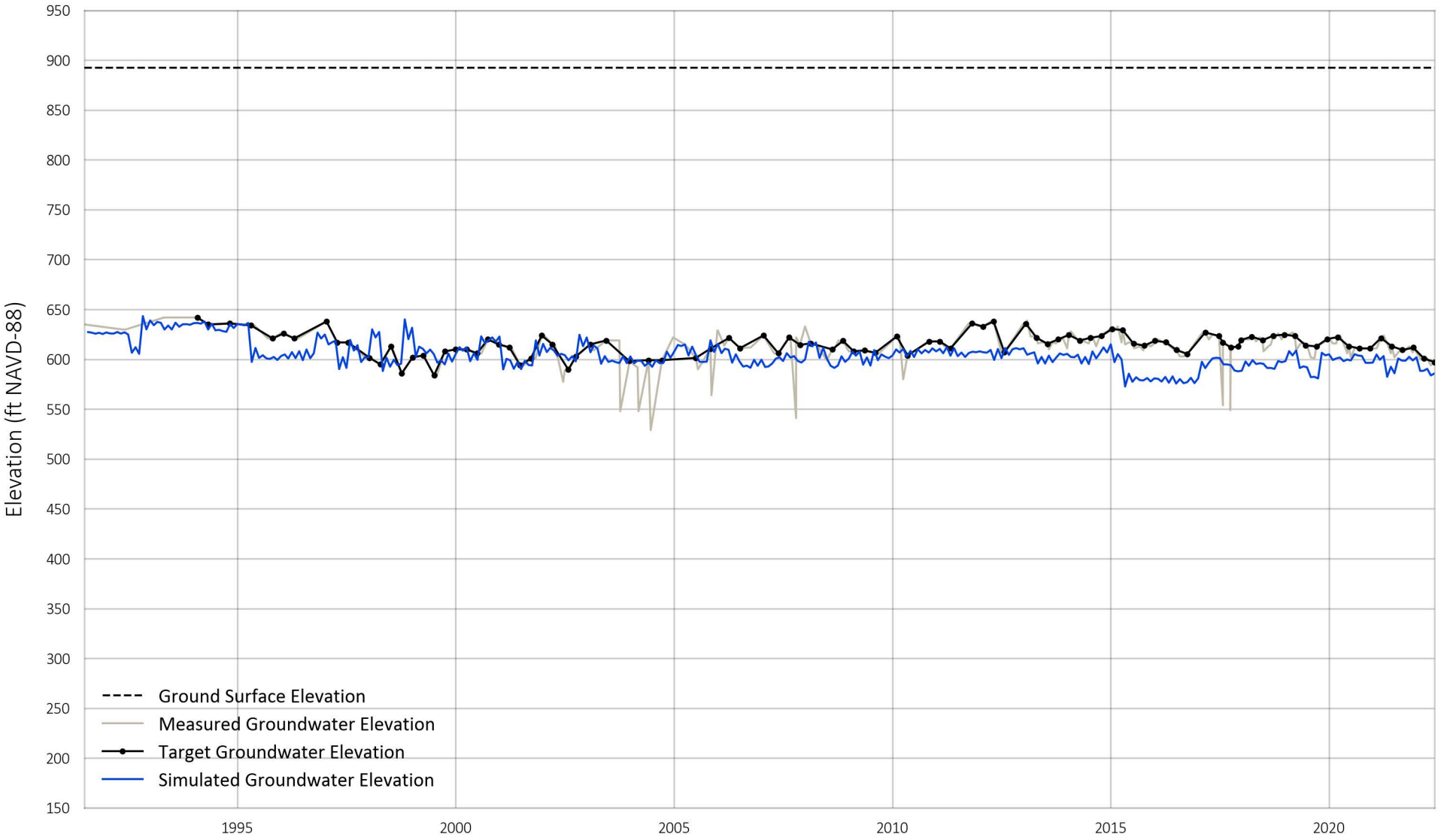
Target Groundwater Elevation (ft)
Mean = 669.35
Standard Deviation = 11.90

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

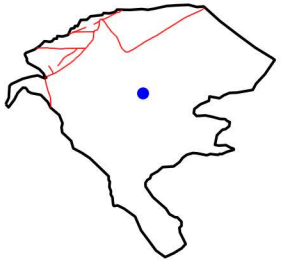
Figure B3-61



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

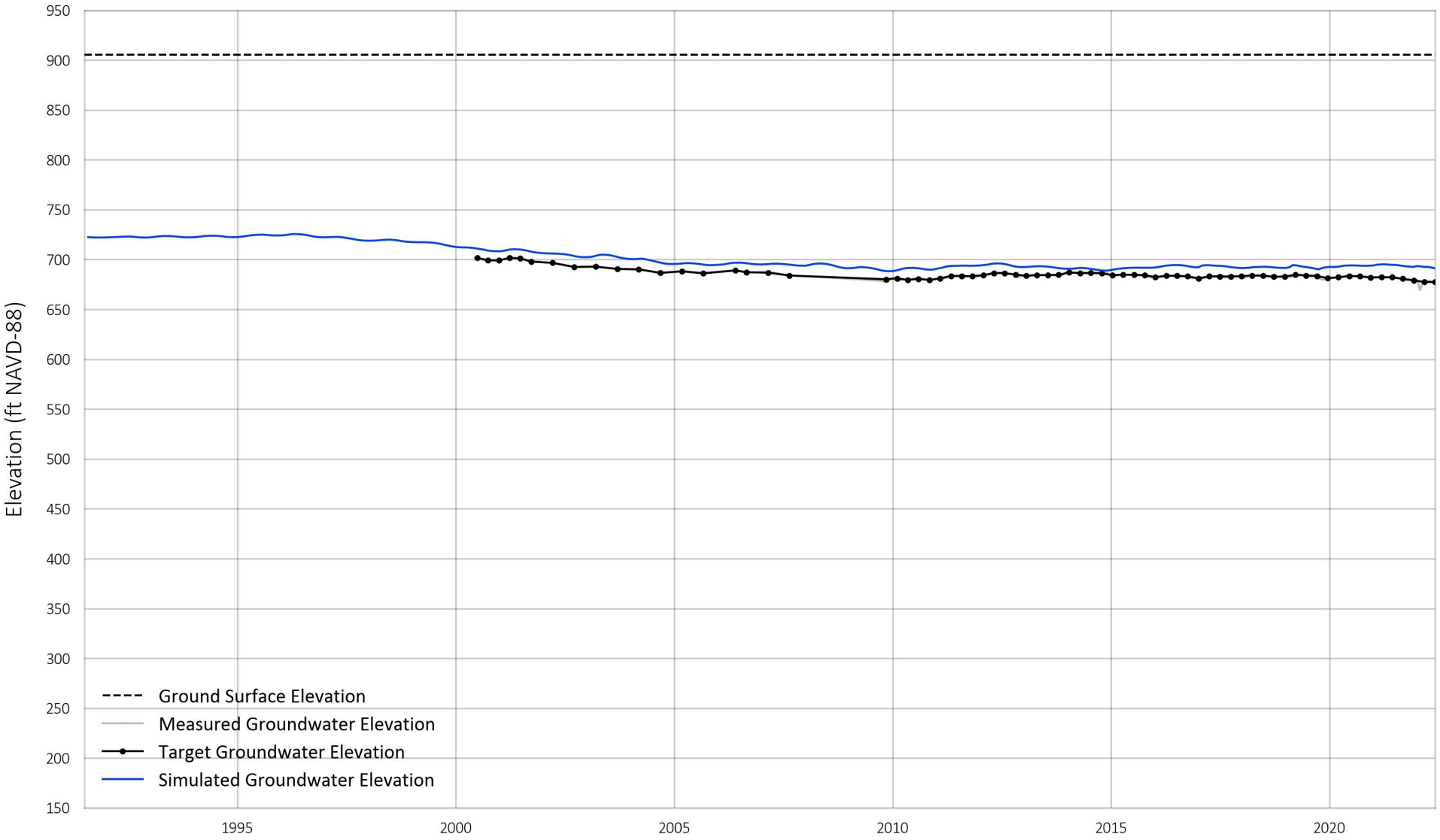
Target Groundwater Elevation (ft)
Mean = 615.02
Standard Deviation = 11.44

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

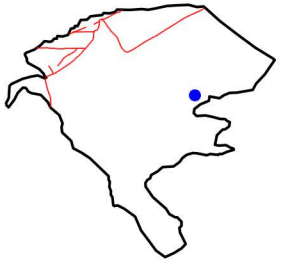
Figure B3-62



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

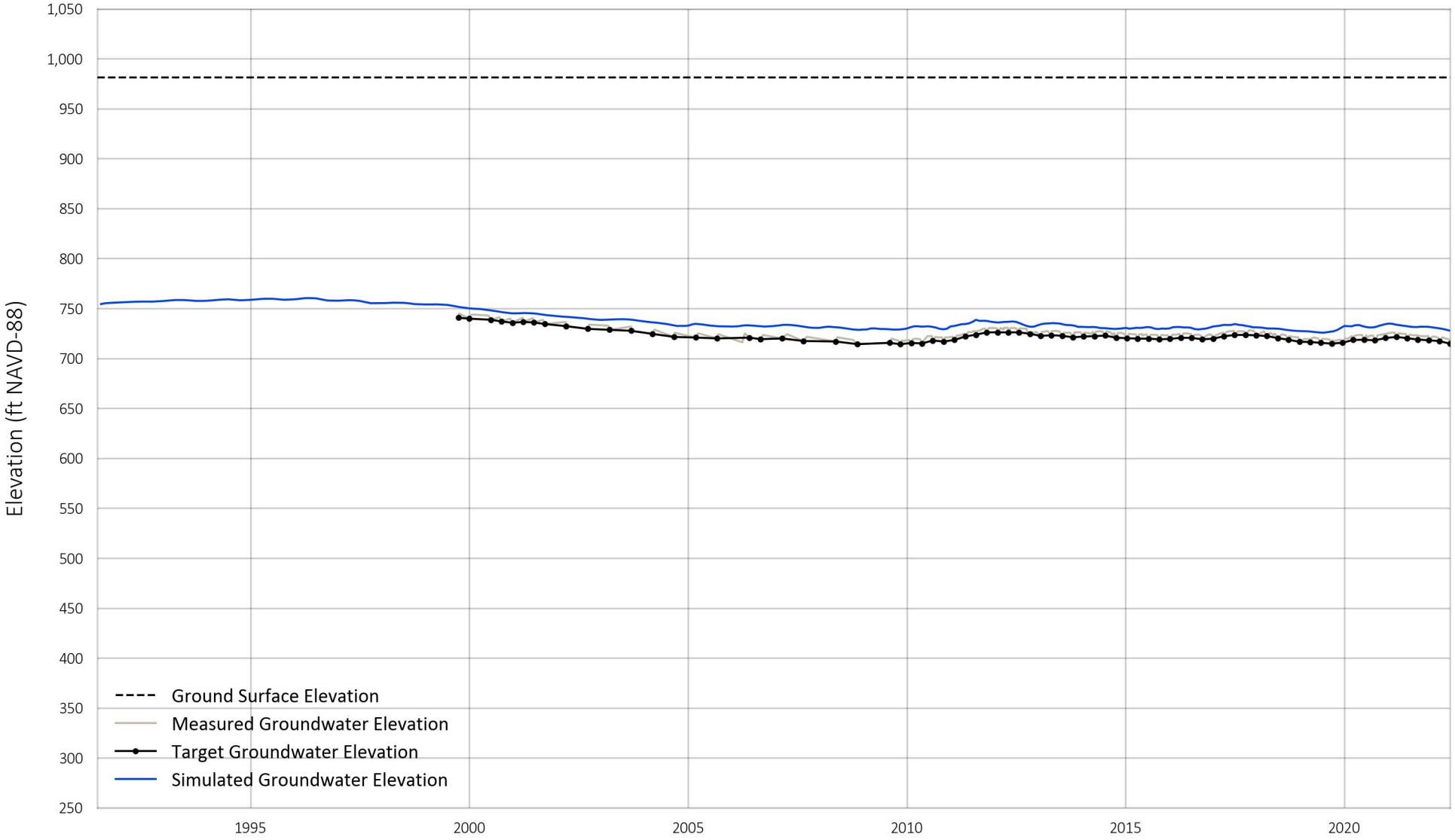
Target Groundwater Elevation (ft)
Mean = 685.58
Standard Deviation = 5.57

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

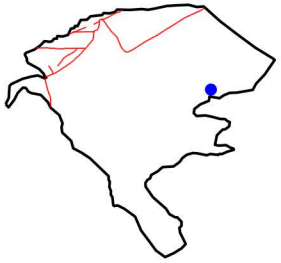
Figure B3-63



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

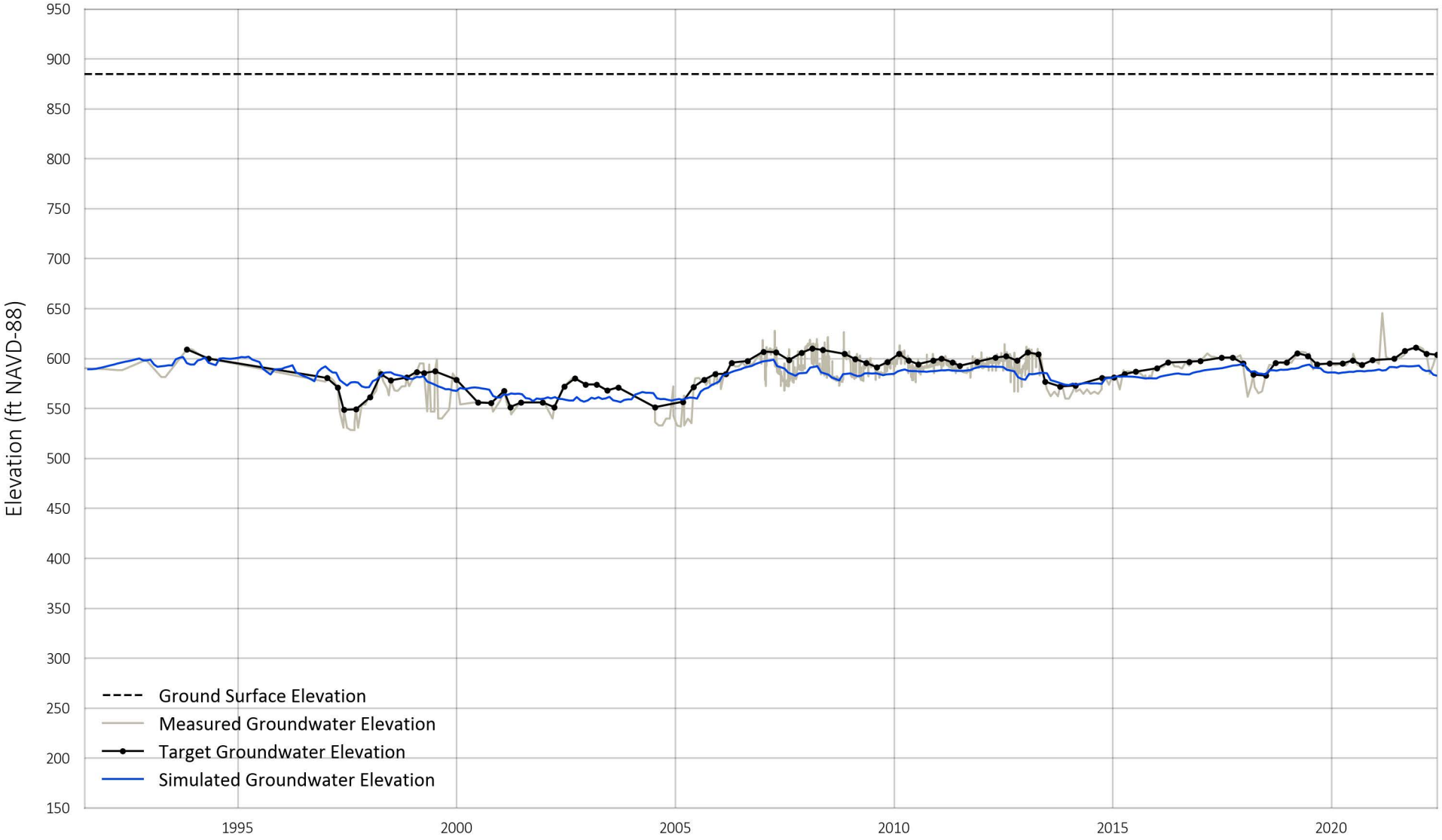
Target Groundwater Elevation (ft)
Mean = 722.31
Standard Deviation = 6.37

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

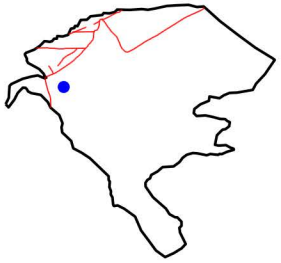
Figure B3-64



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

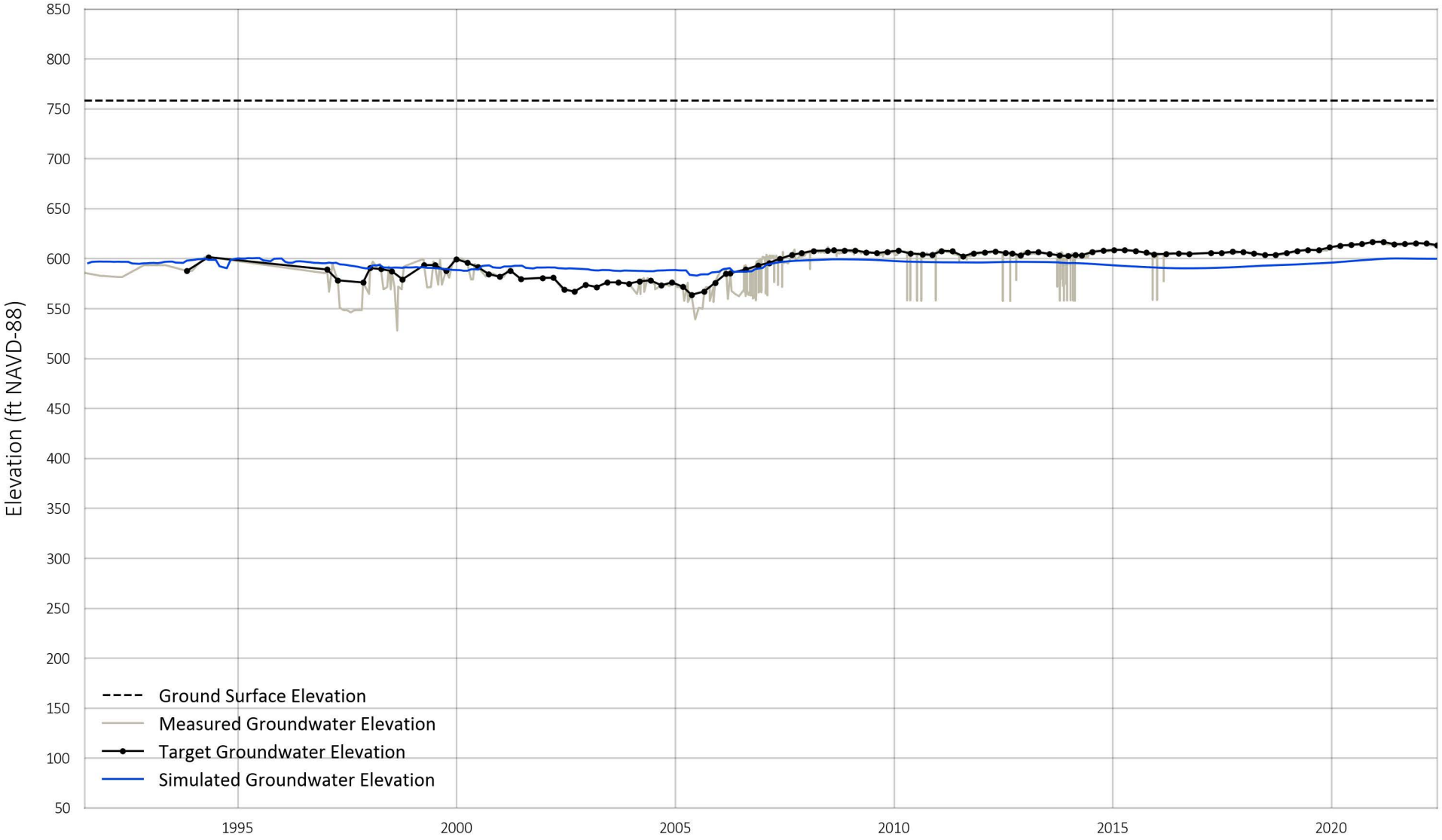
Target Groundwater Elevation (ft)
Mean = 587.33
Standard Deviation = 16.72

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

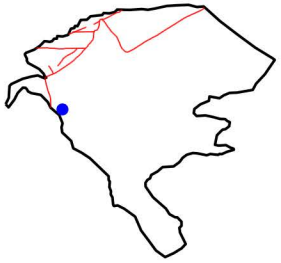
Figure B3-65



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

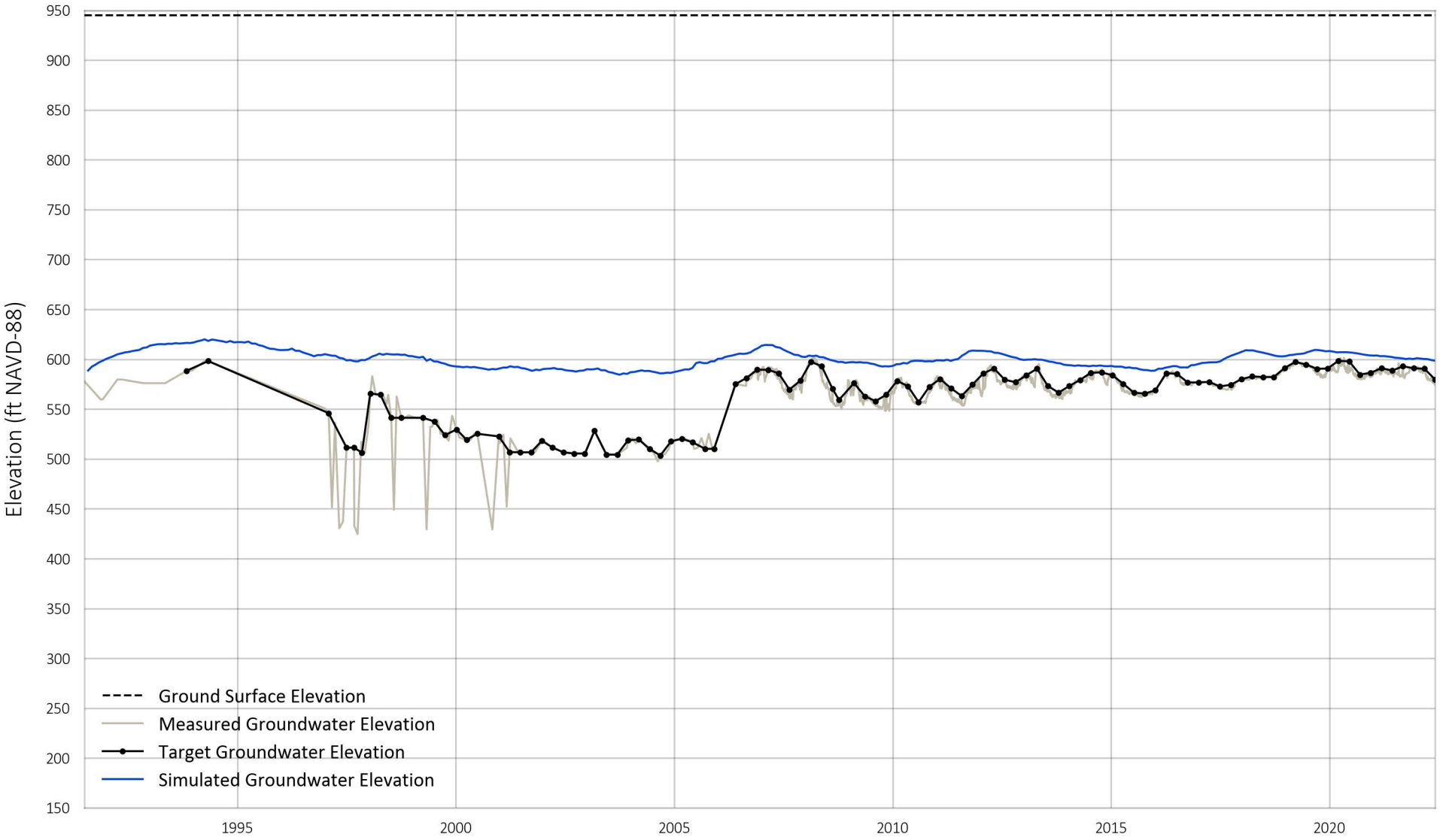
Target Groundwater Elevation (ft)
Mean = 597.38
Standard Deviation = 13.90

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

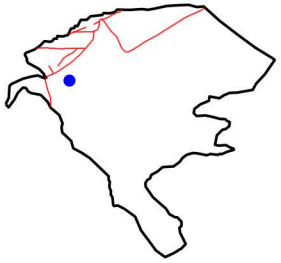
Figure B3-66



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

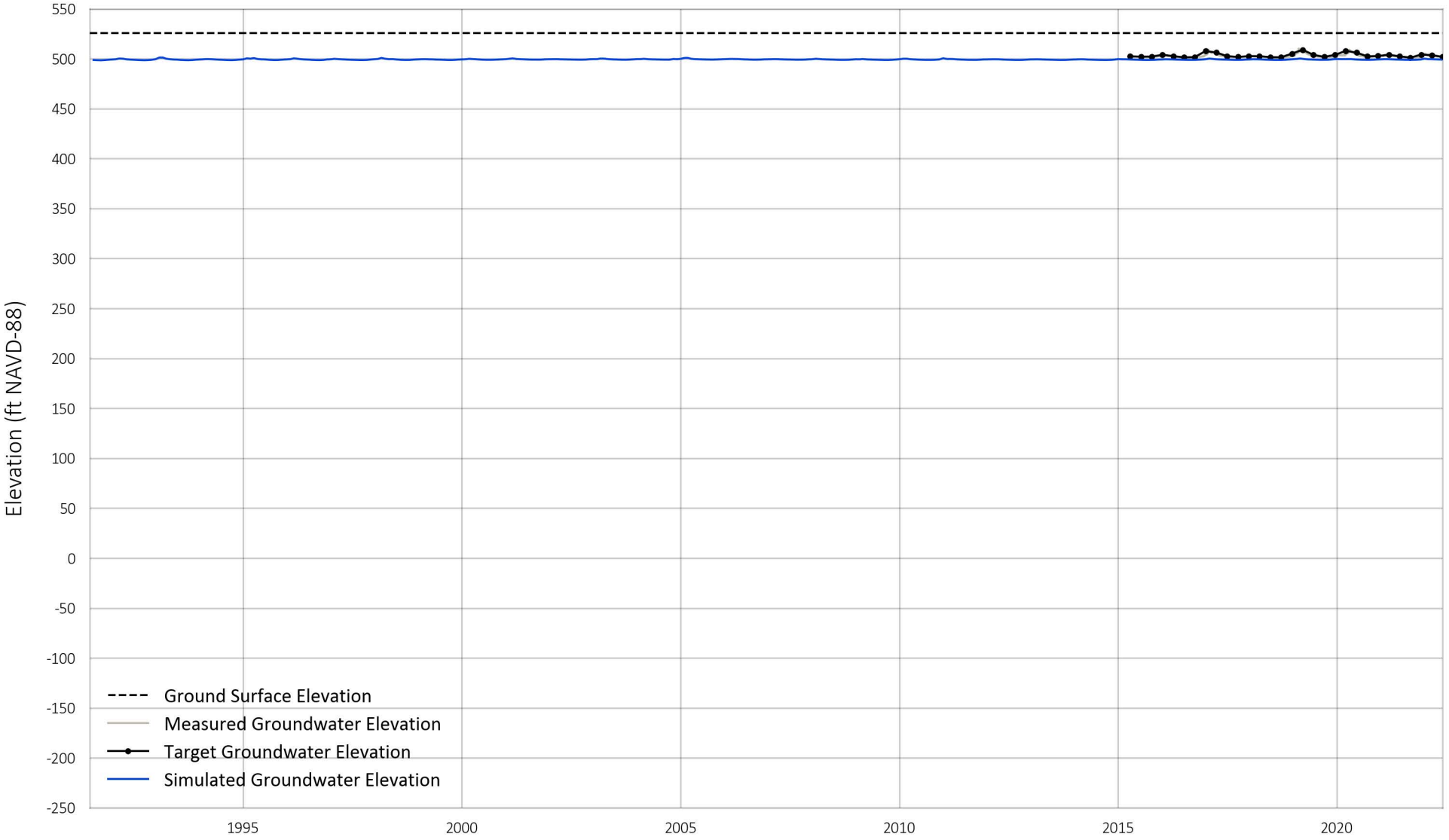
Target Groundwater Elevation (ft)
Mean = 560.19
Standard Deviation = 31.31

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

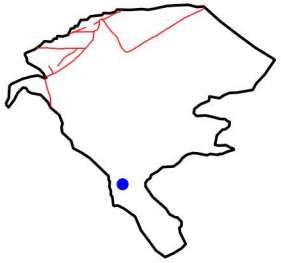
Figure B3-67



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

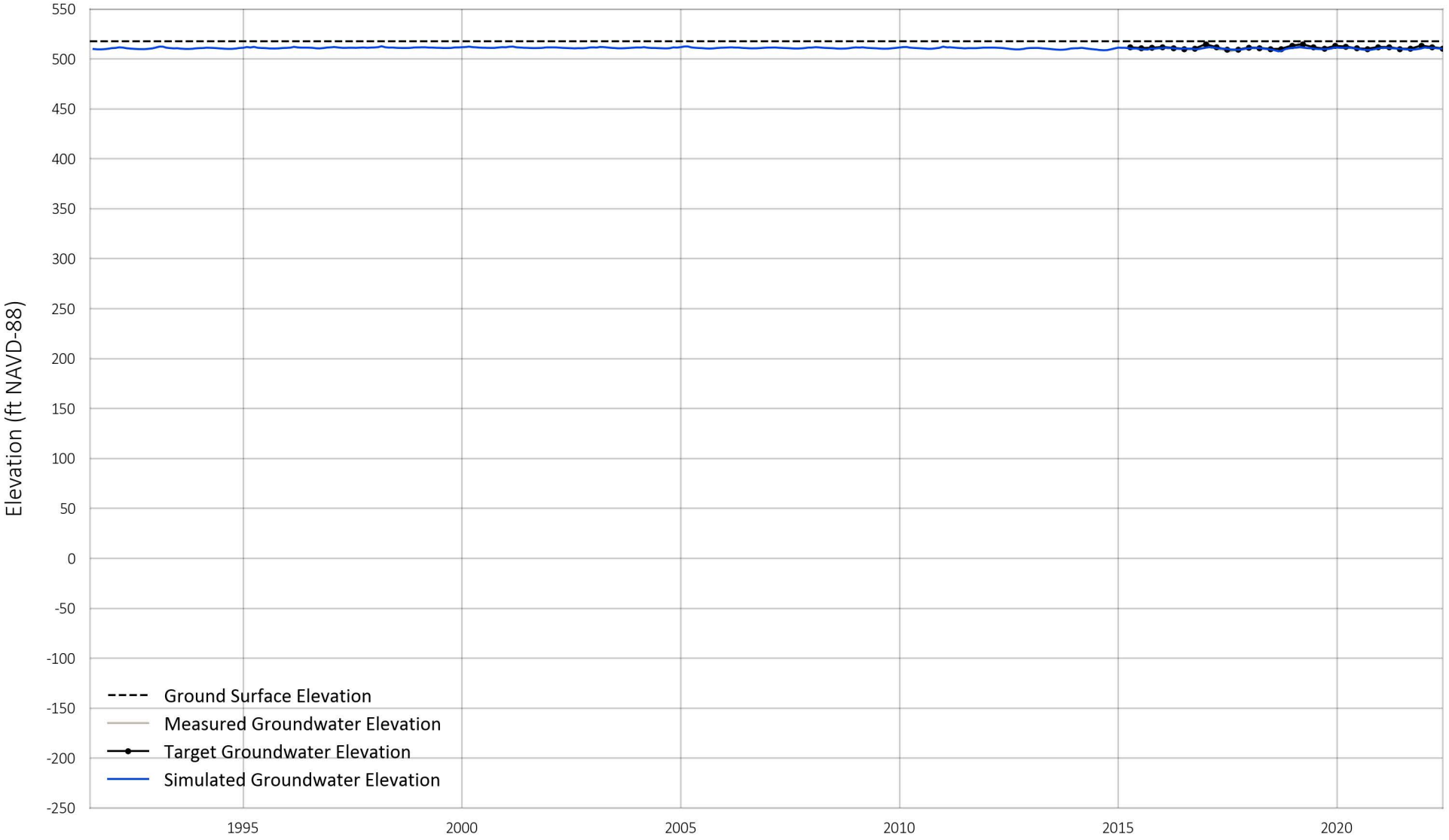
Target Groundwater Elevation (ft)
Mean = 503.36
Standard Deviation = 2.09

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

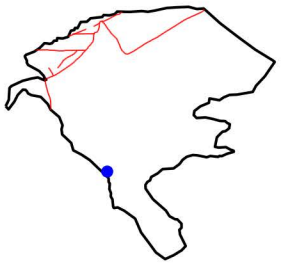
Figure B3-68



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

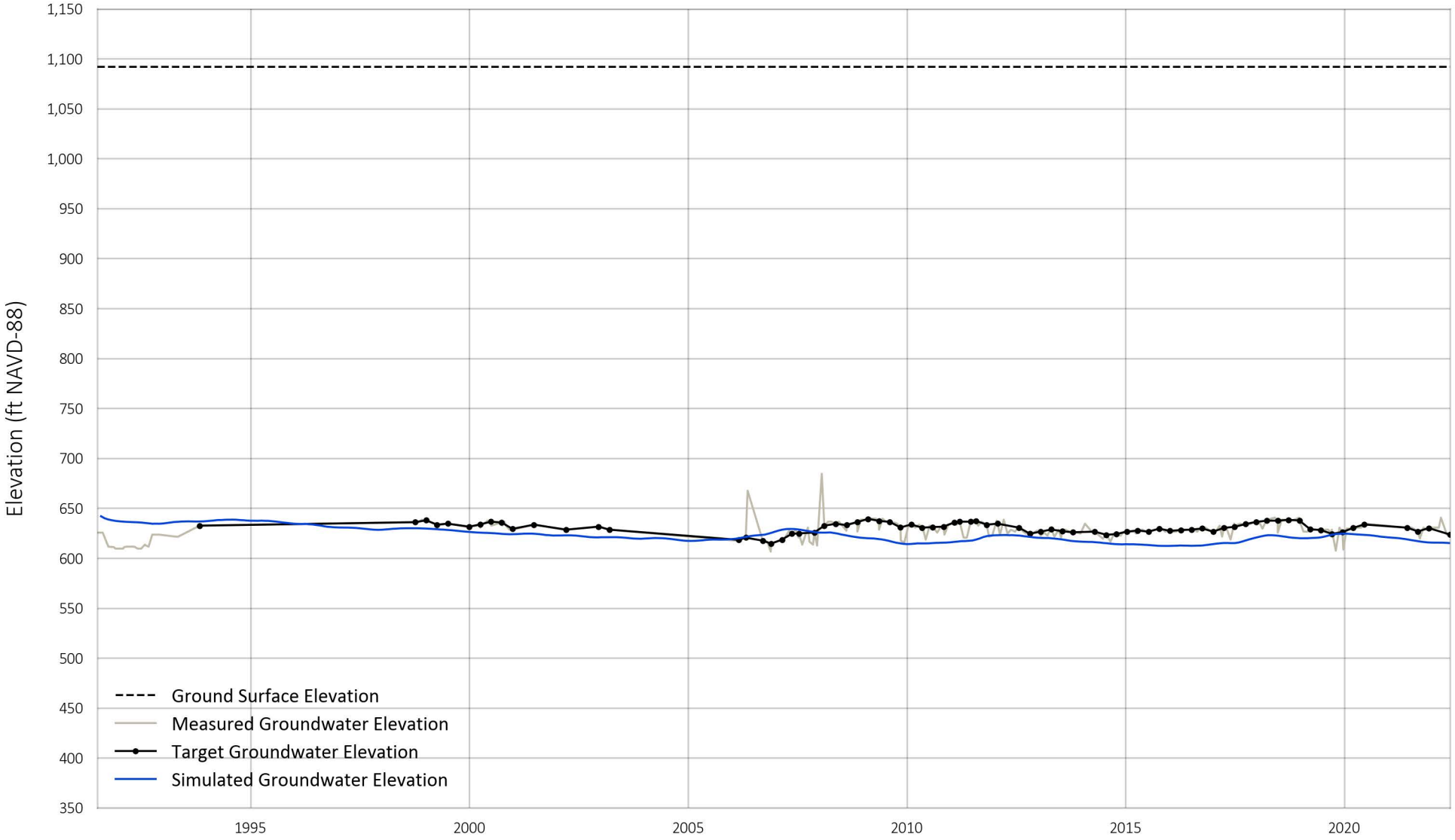
Target Groundwater Elevation (ft)
Mean = 511.15
Standard Deviation = 1.41

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

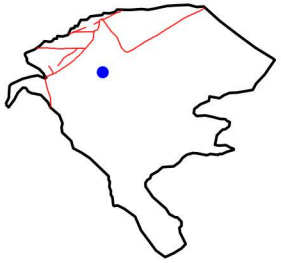
Figure B3-69



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

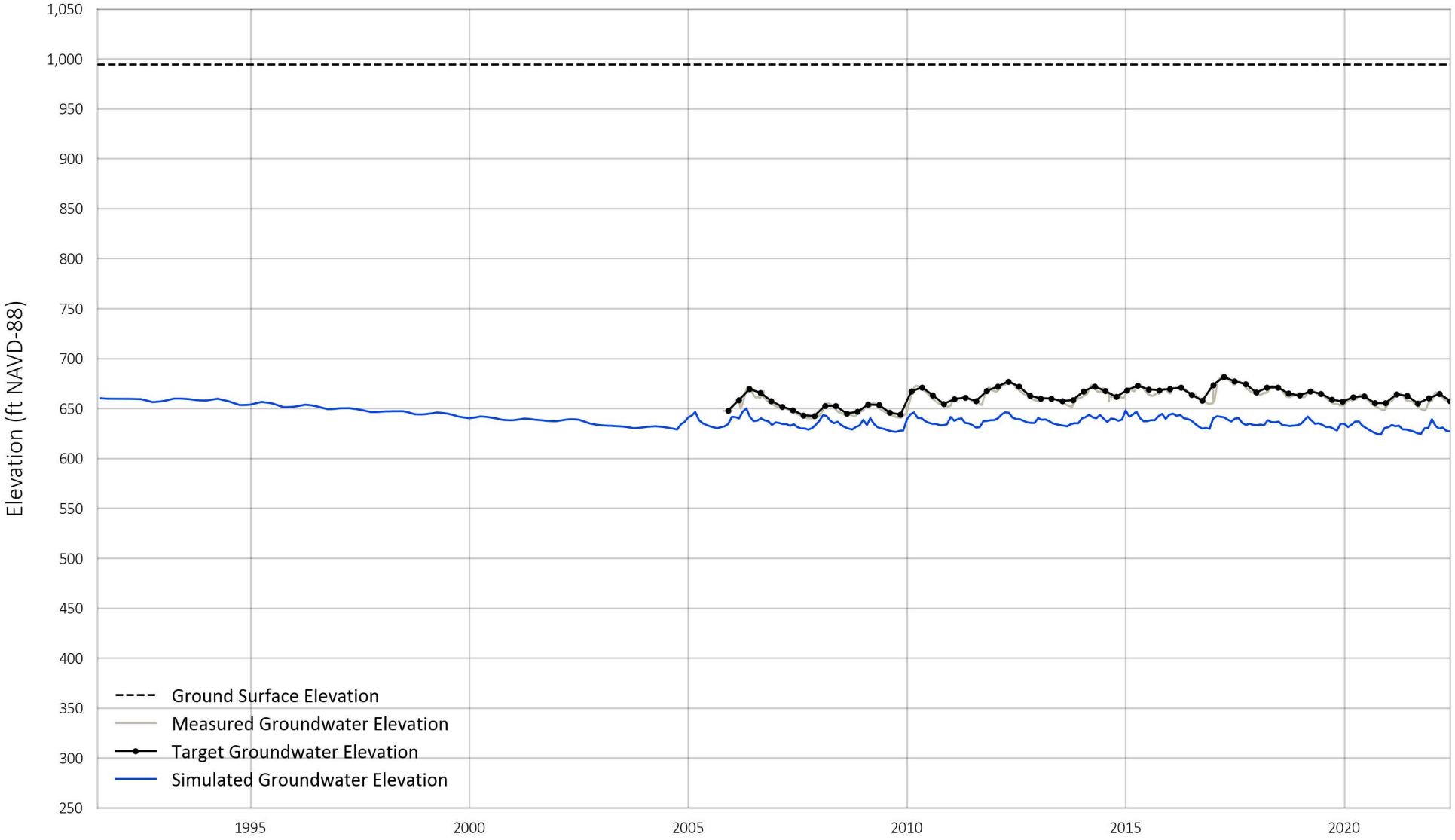
Target Groundwater Elevation (ft)
Mean = 630.31
Standard Deviation = 5.40

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

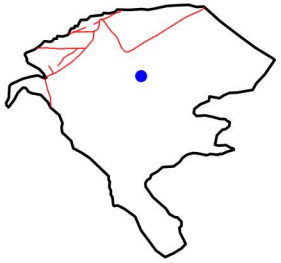
Figure B3-70



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

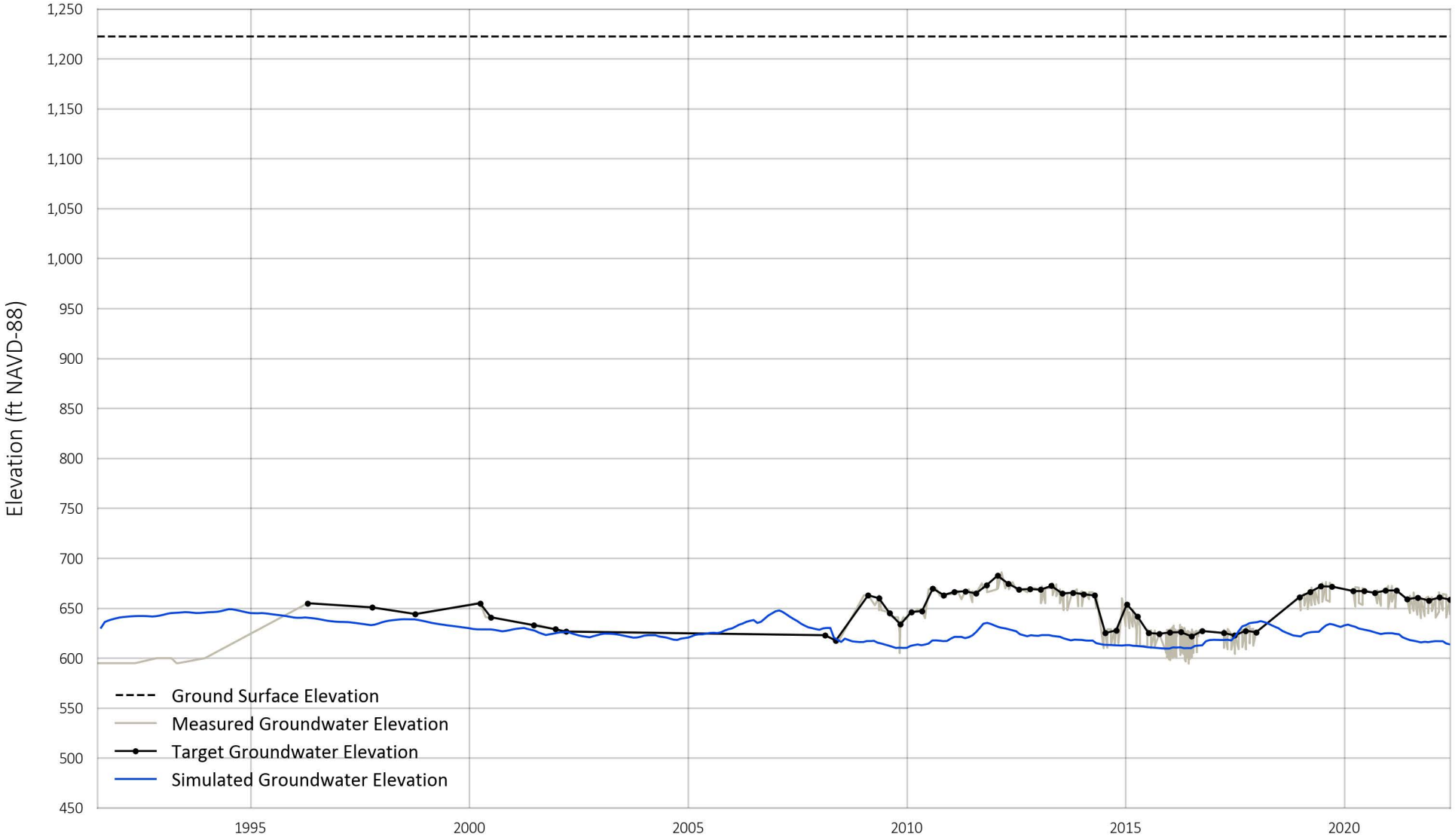
Target Groundwater Elevation (ft)
Mean = 661.63
Standard Deviation = 8.91

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

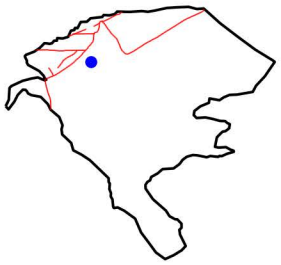
Figure B3-71



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

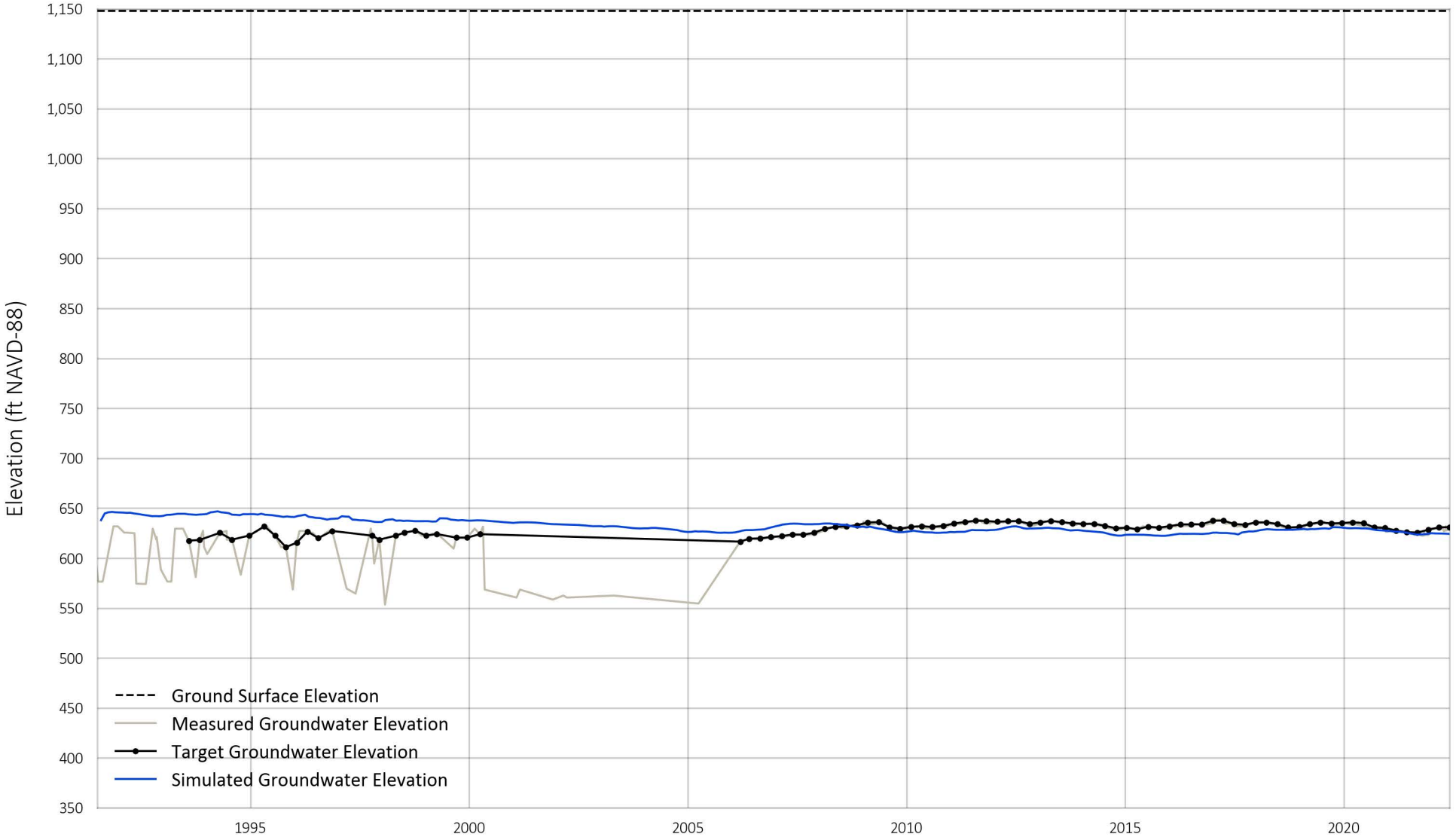
Target Groundwater Elevation (ft)
Mean = 651.08
Standard Deviation = 18.54

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

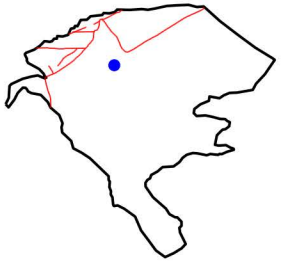
Figure B3-72



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

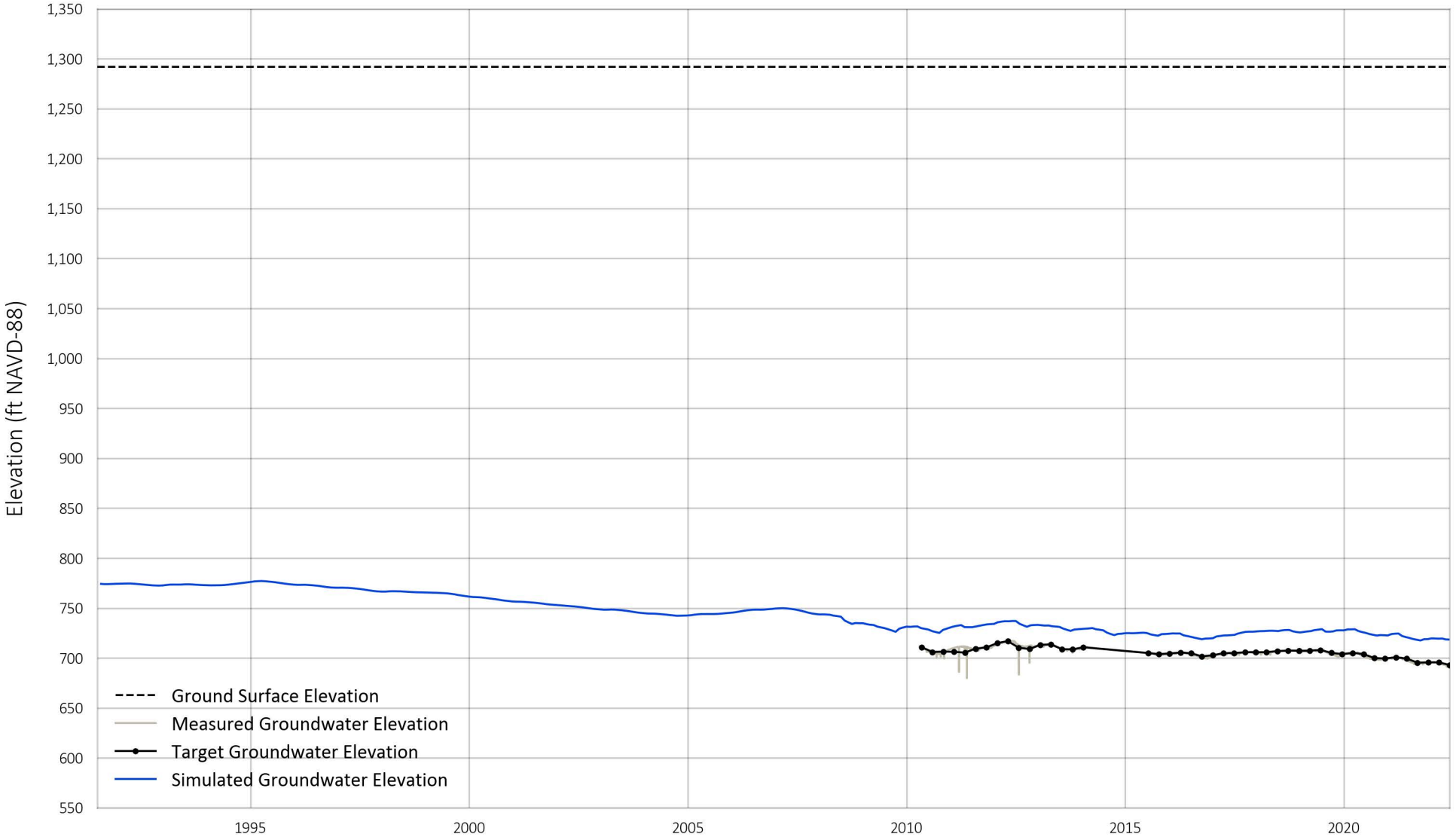
Target Groundwater Elevation (ft)
Mean = 629.40
Standard Deviation = 6.34

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

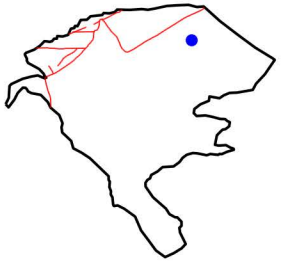
Figure B3-73



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

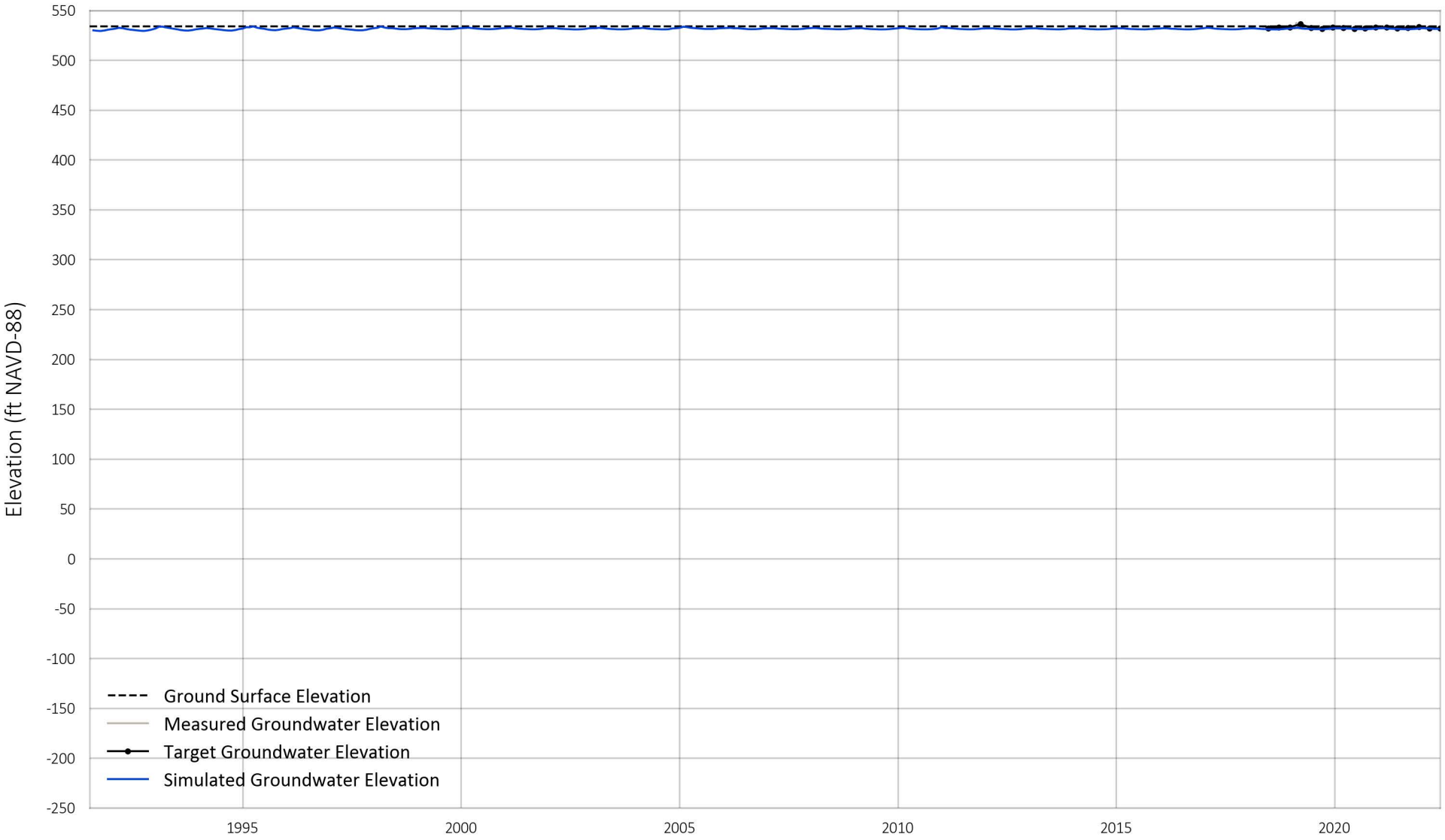
Target Groundwater Elevation (ft)
Mean = 705.62
Standard Deviation = 5.07

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

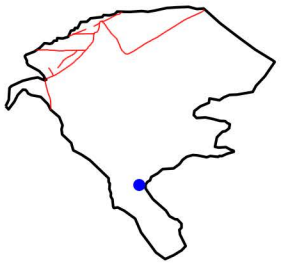
Figure B3-74



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

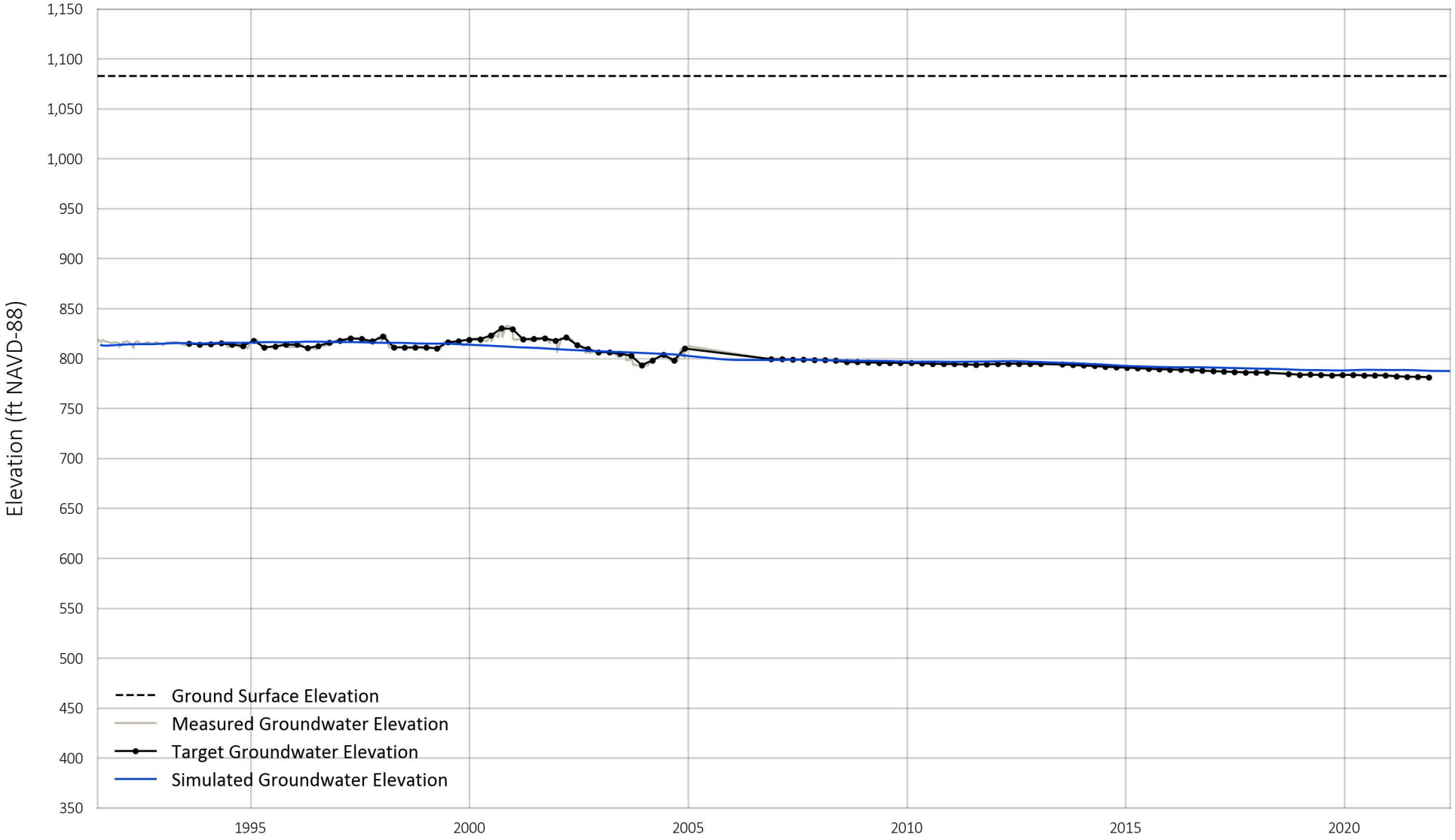
Target Groundwater Elevation (ft)
Mean = 532.50
Standard Deviation = 1.06

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

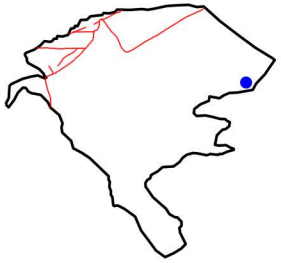
Figure B3-75



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

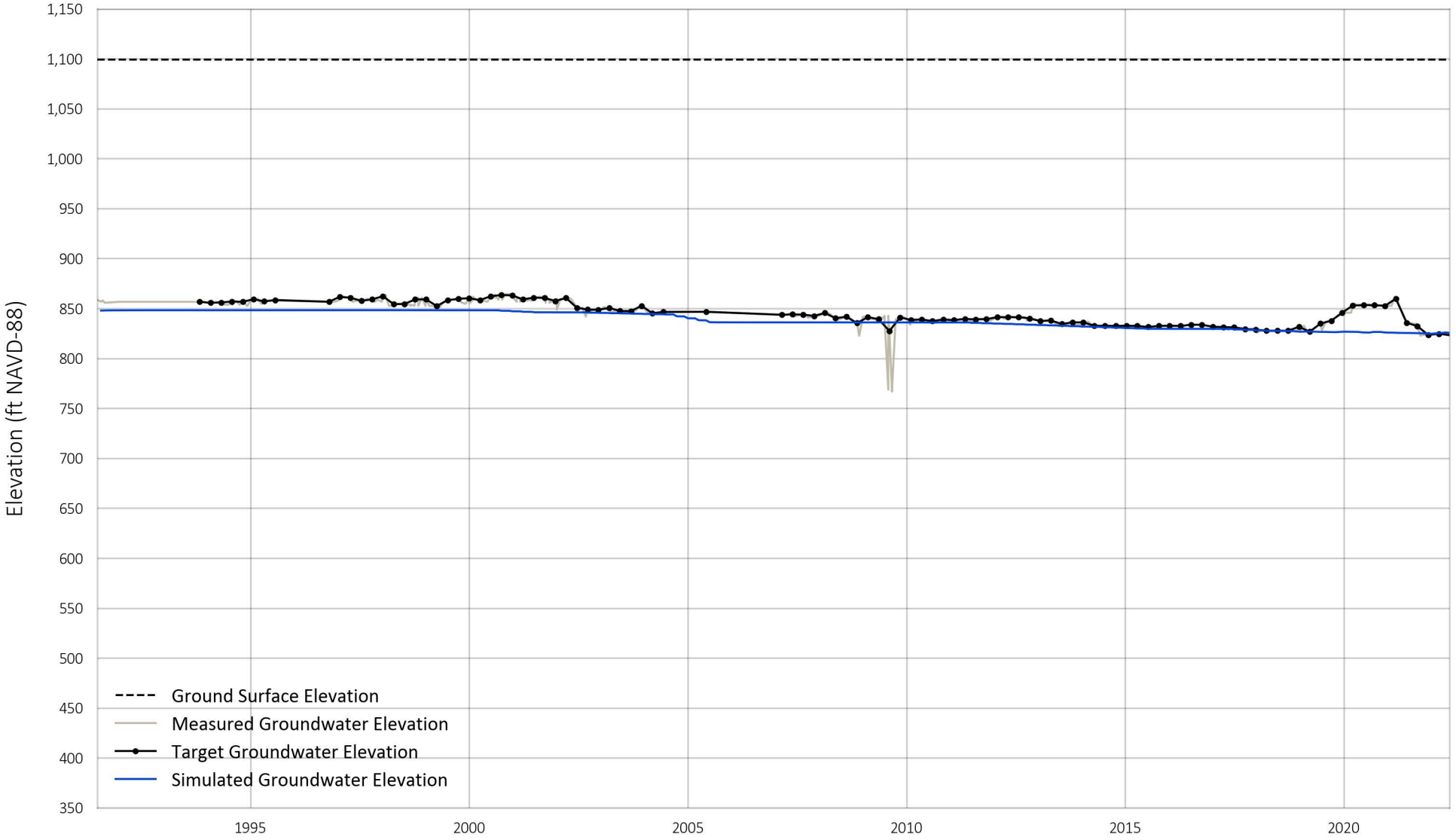
Target Groundwater Elevation (ft)
Mean = 800.75
Standard Deviation = 13.05

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

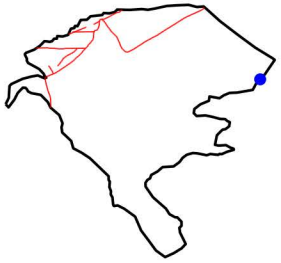
Figure B3-76



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

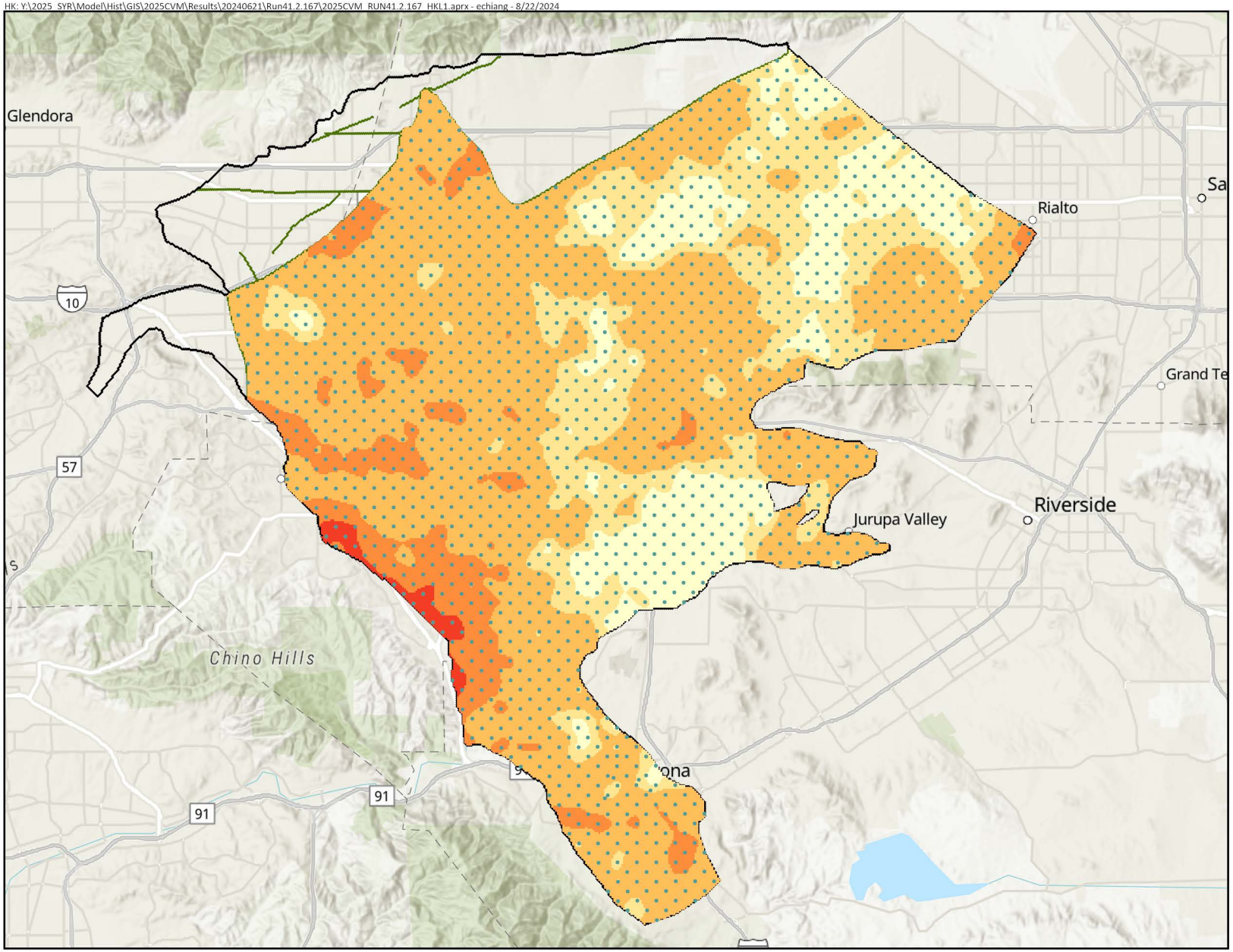
2025 CVM: Manual Calibration
HydroDaVE Well ID: 1006993
Well Name: WVWD 39
Owner: West Valley Water District

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

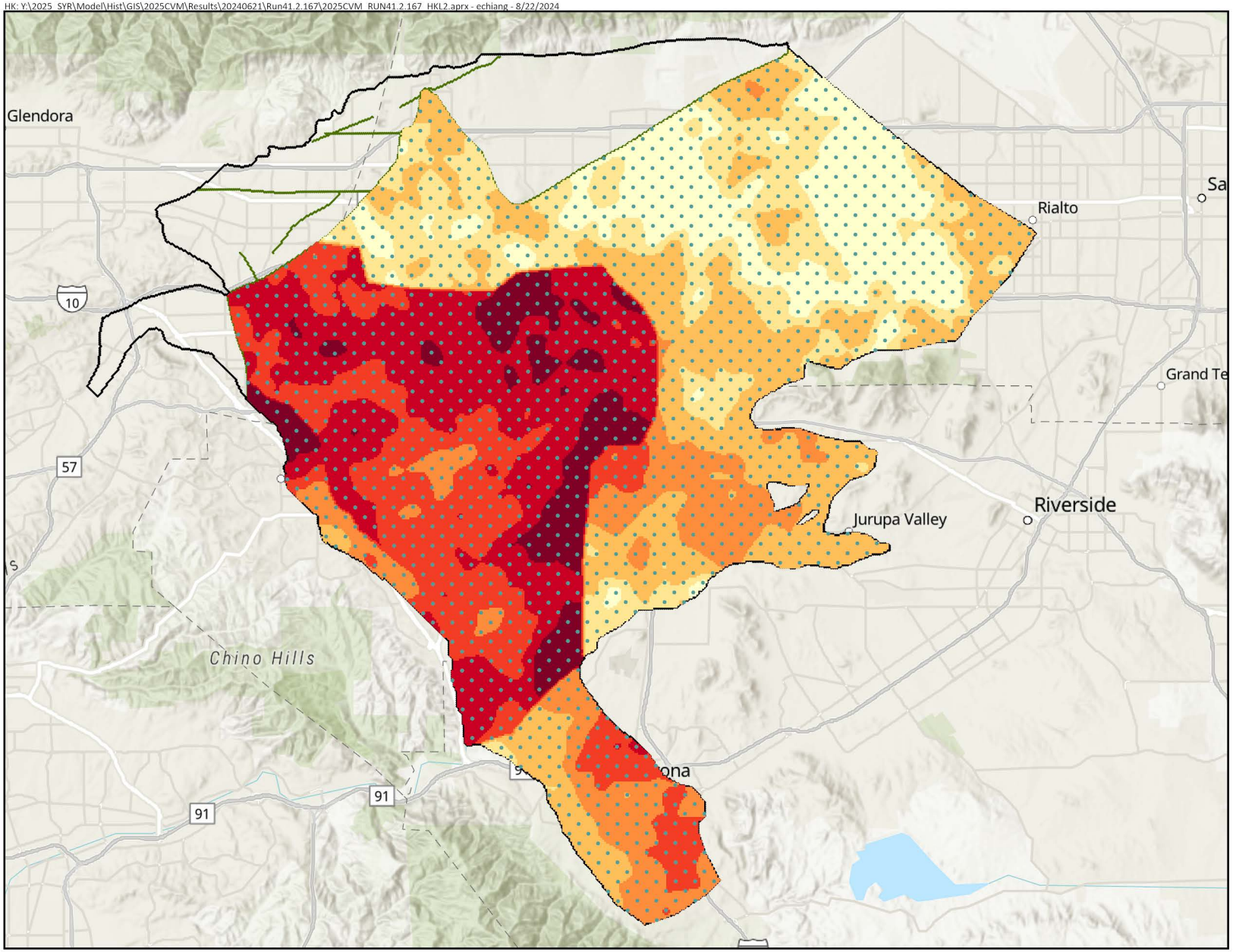
Prepared for:

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

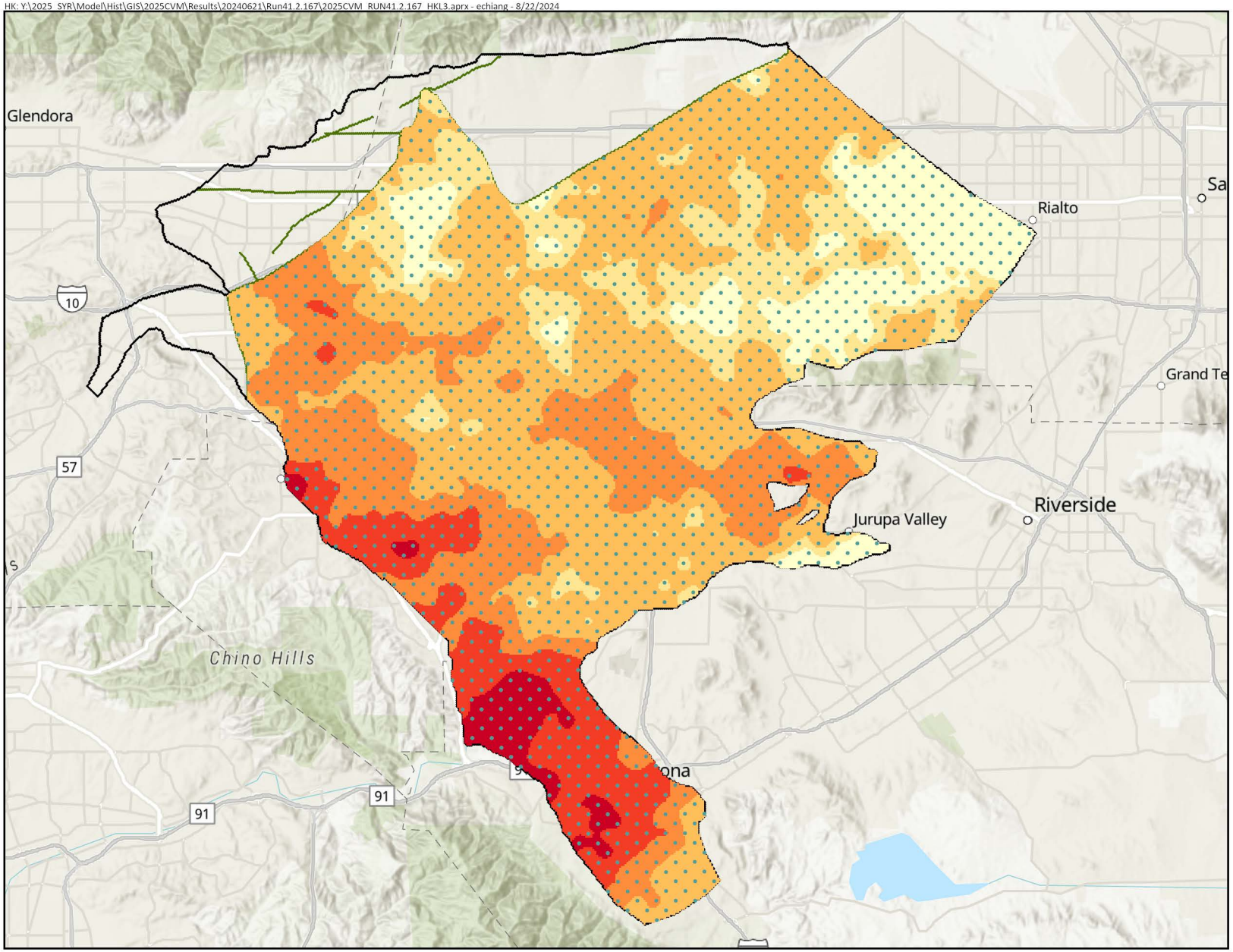
2025 Safe Yield Reevaluation

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

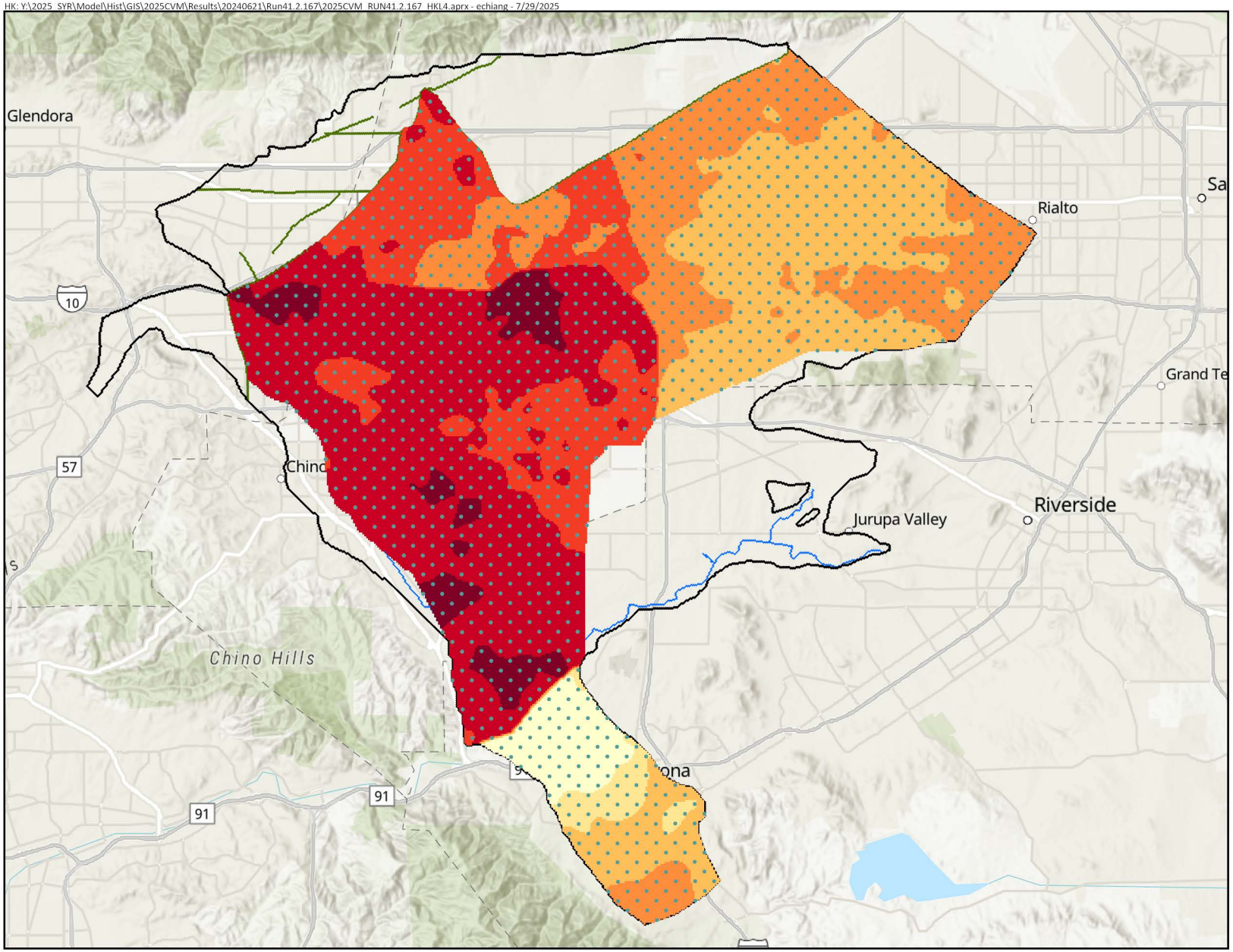
Prepared for:

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

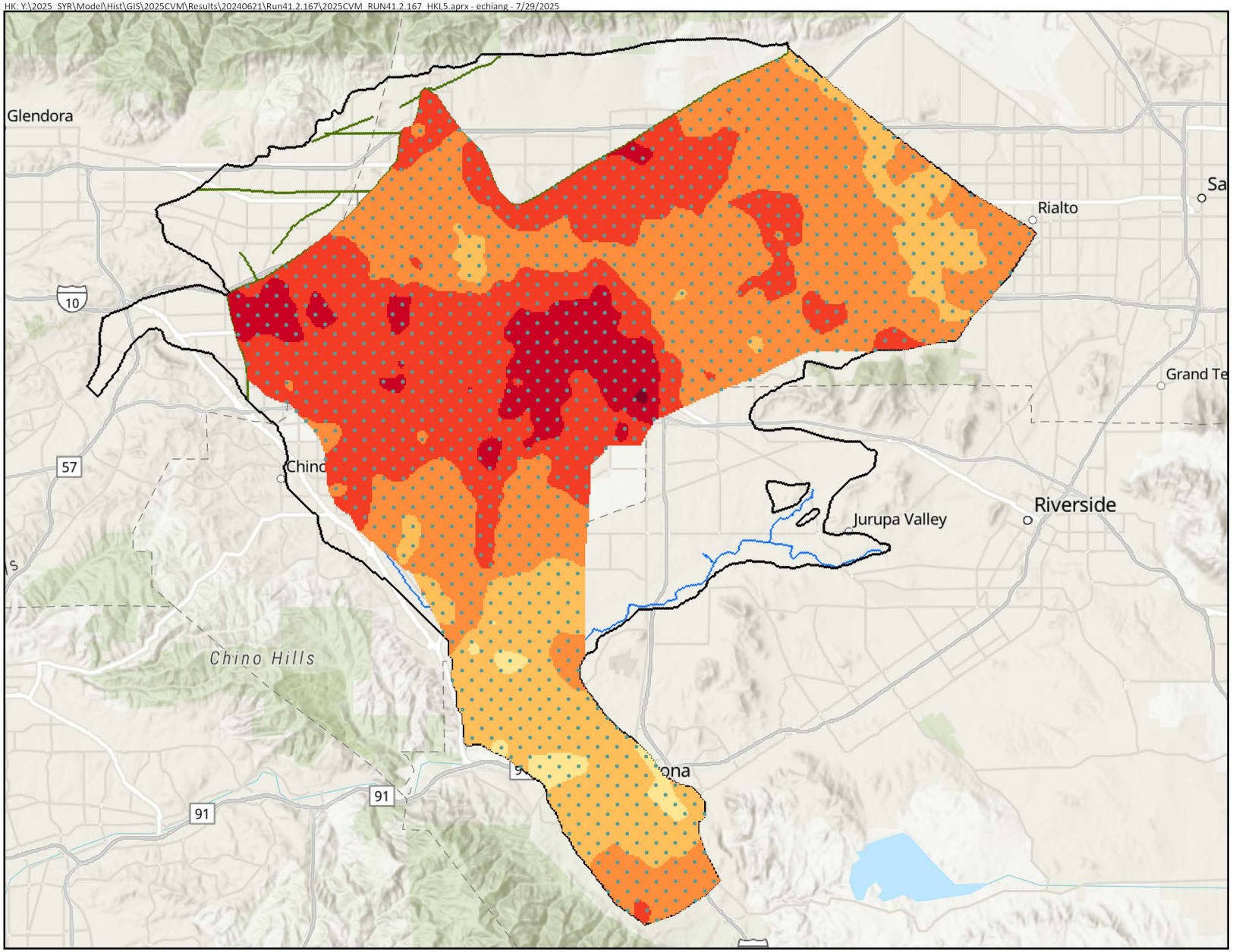
Prepared for:

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

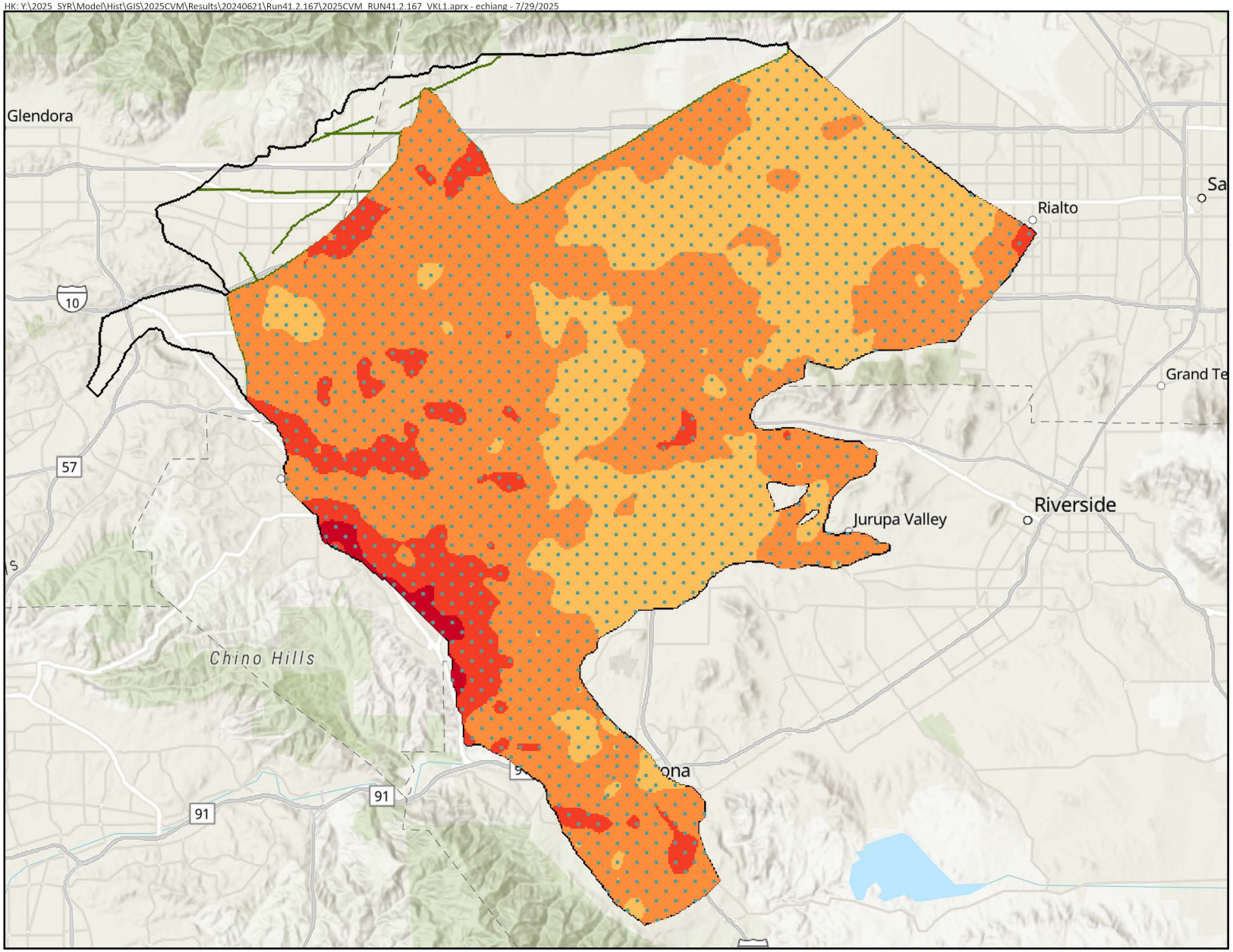
Prepared for:

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

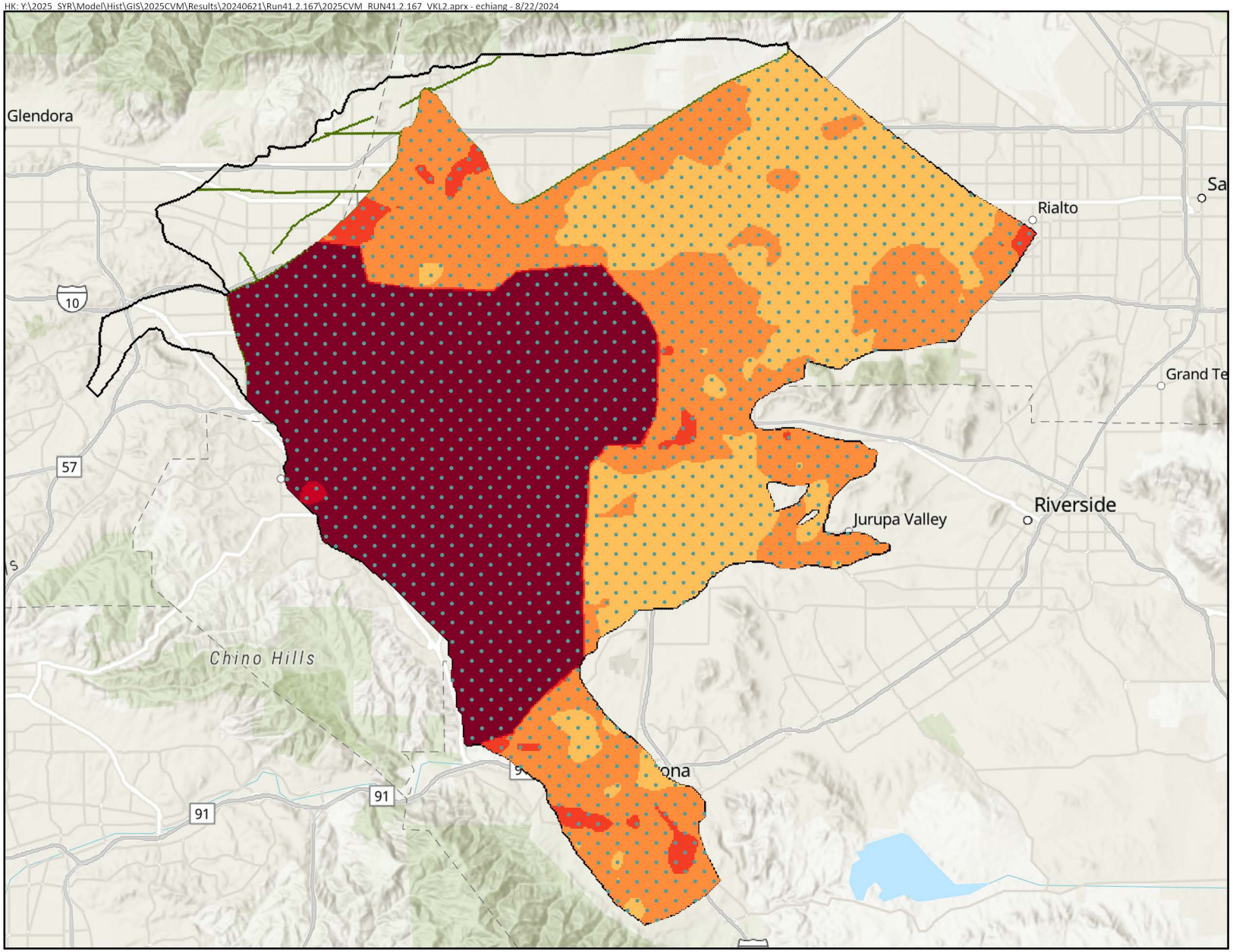
Prepared for:

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

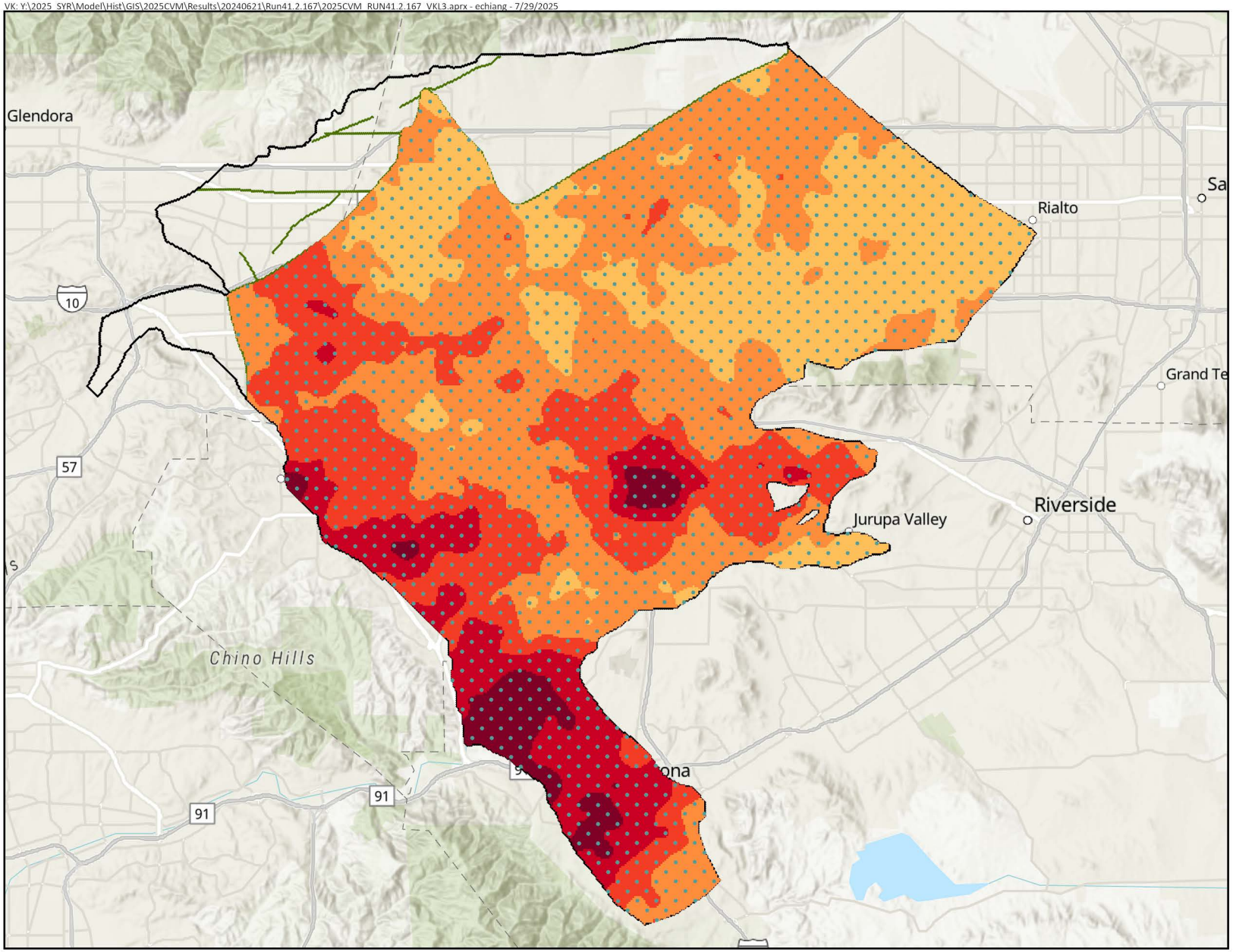
Prepared for:

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

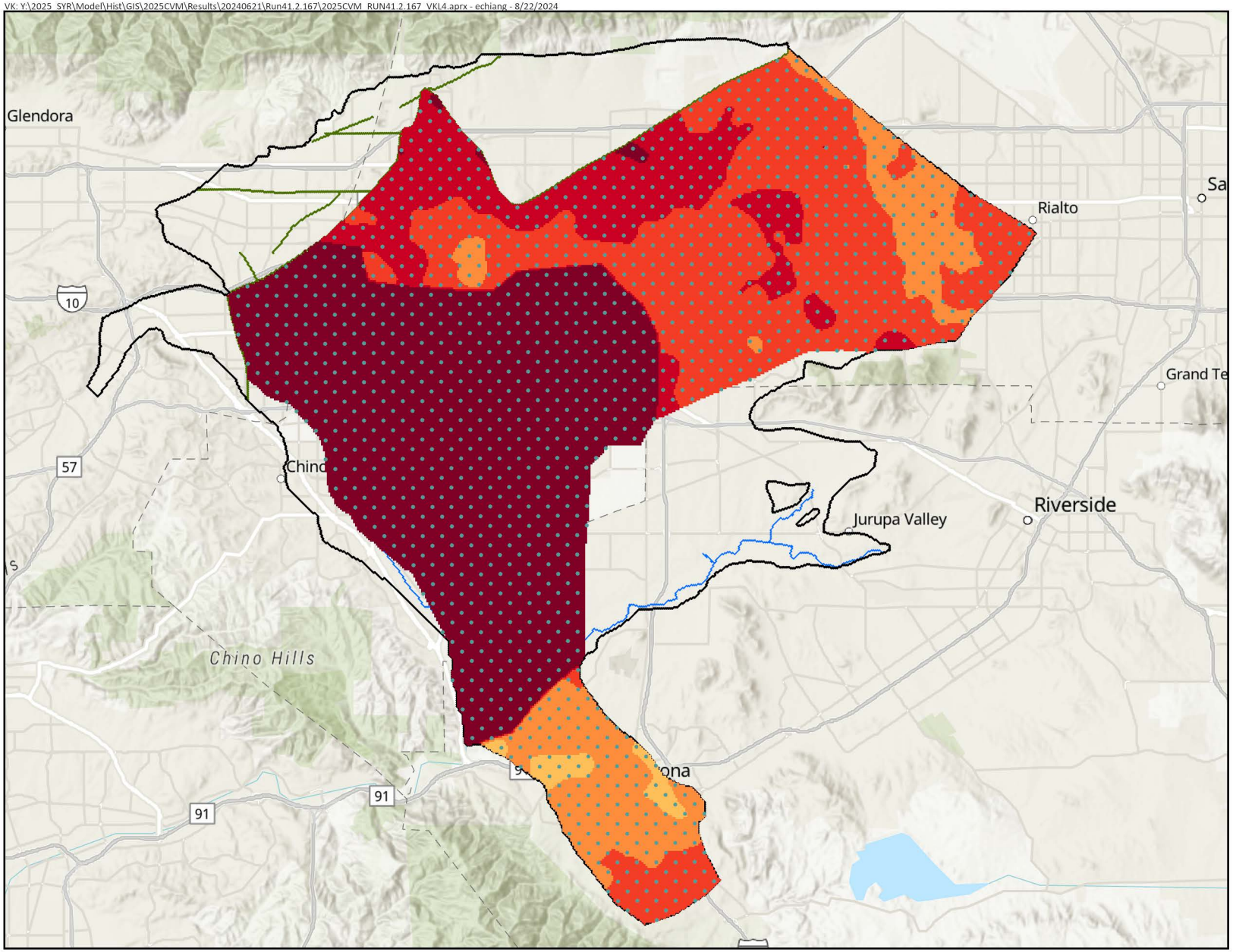
Prepared for:

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

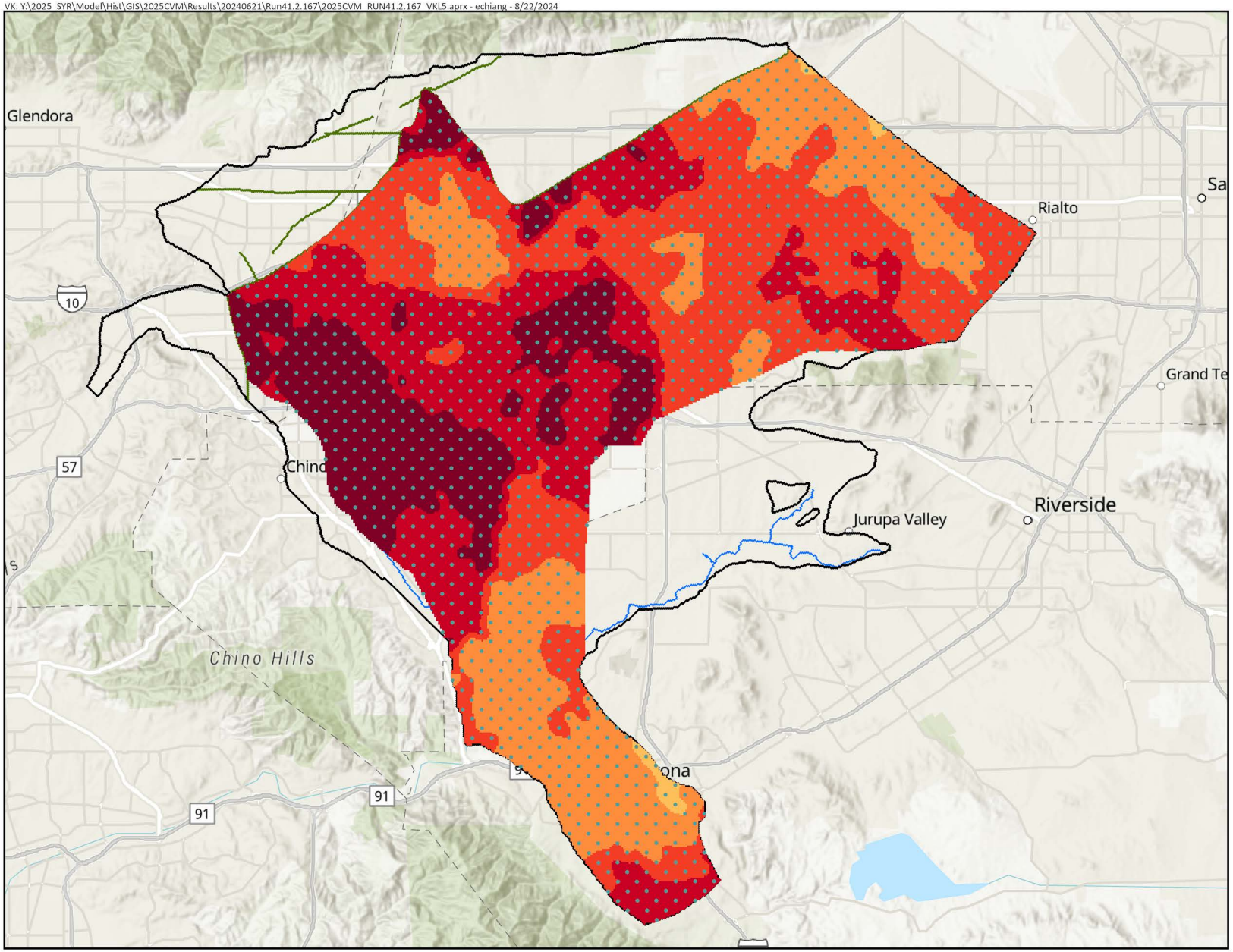
Prepared for:

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

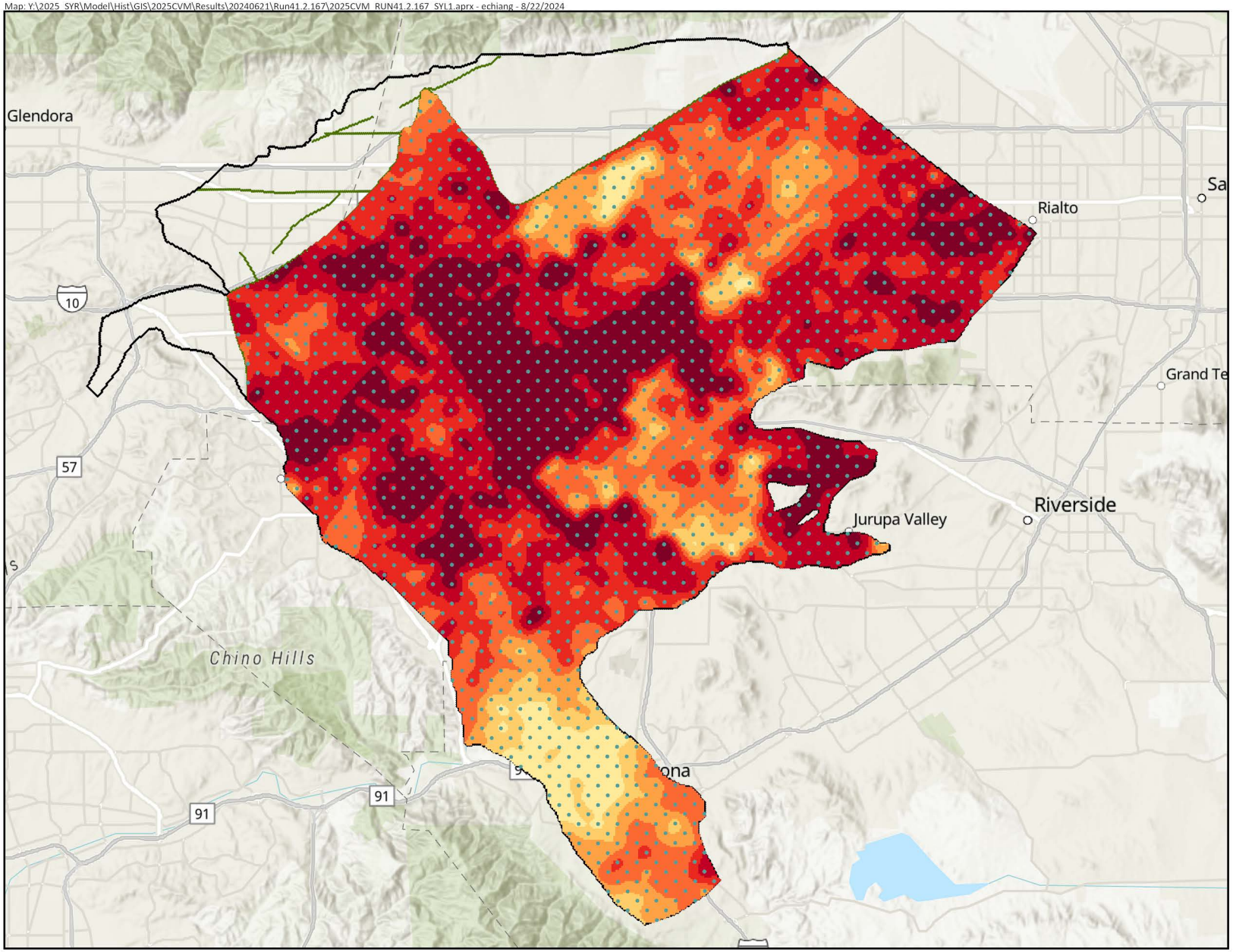
Prepared for:

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

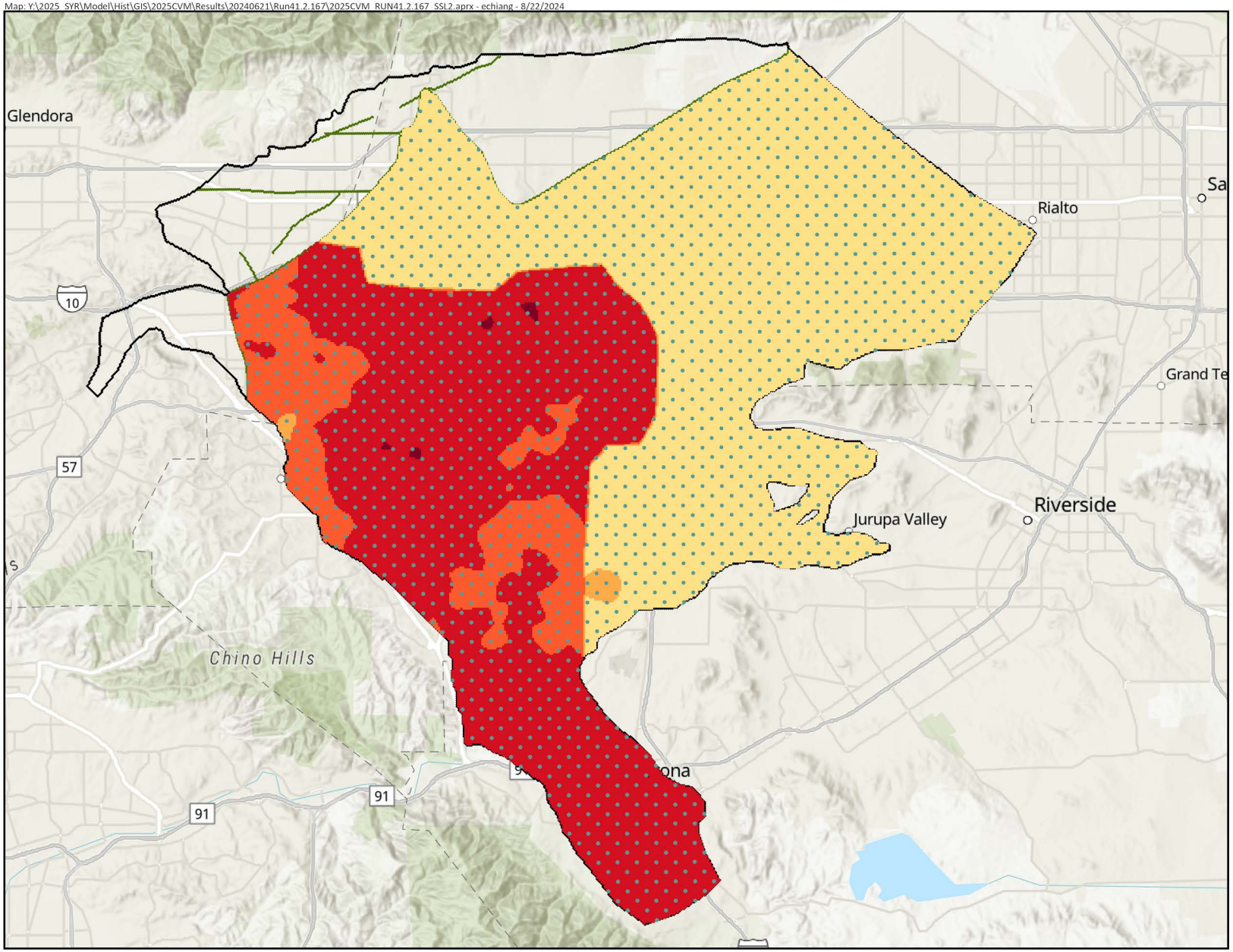
Prepared for:

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

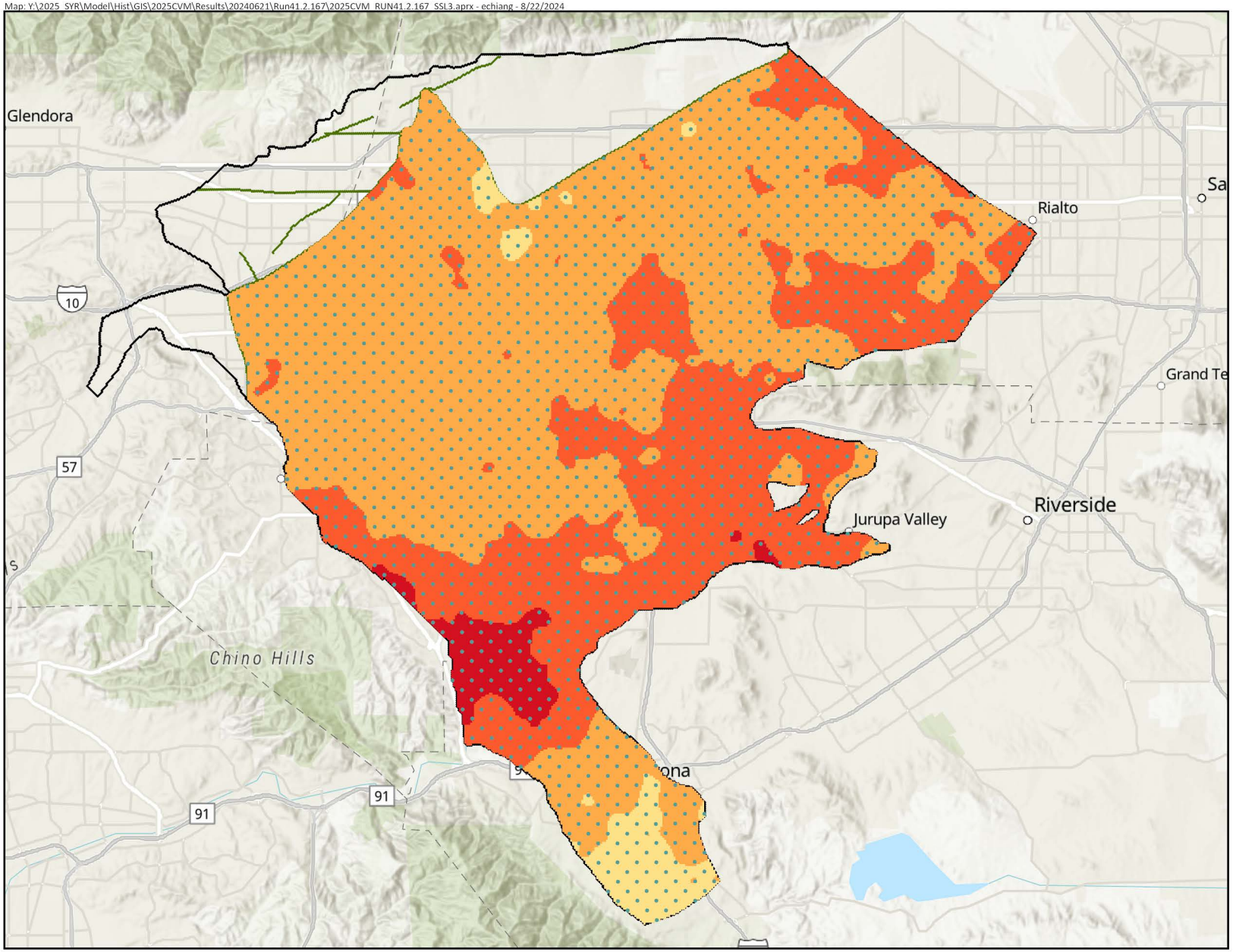
Prepared for:

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

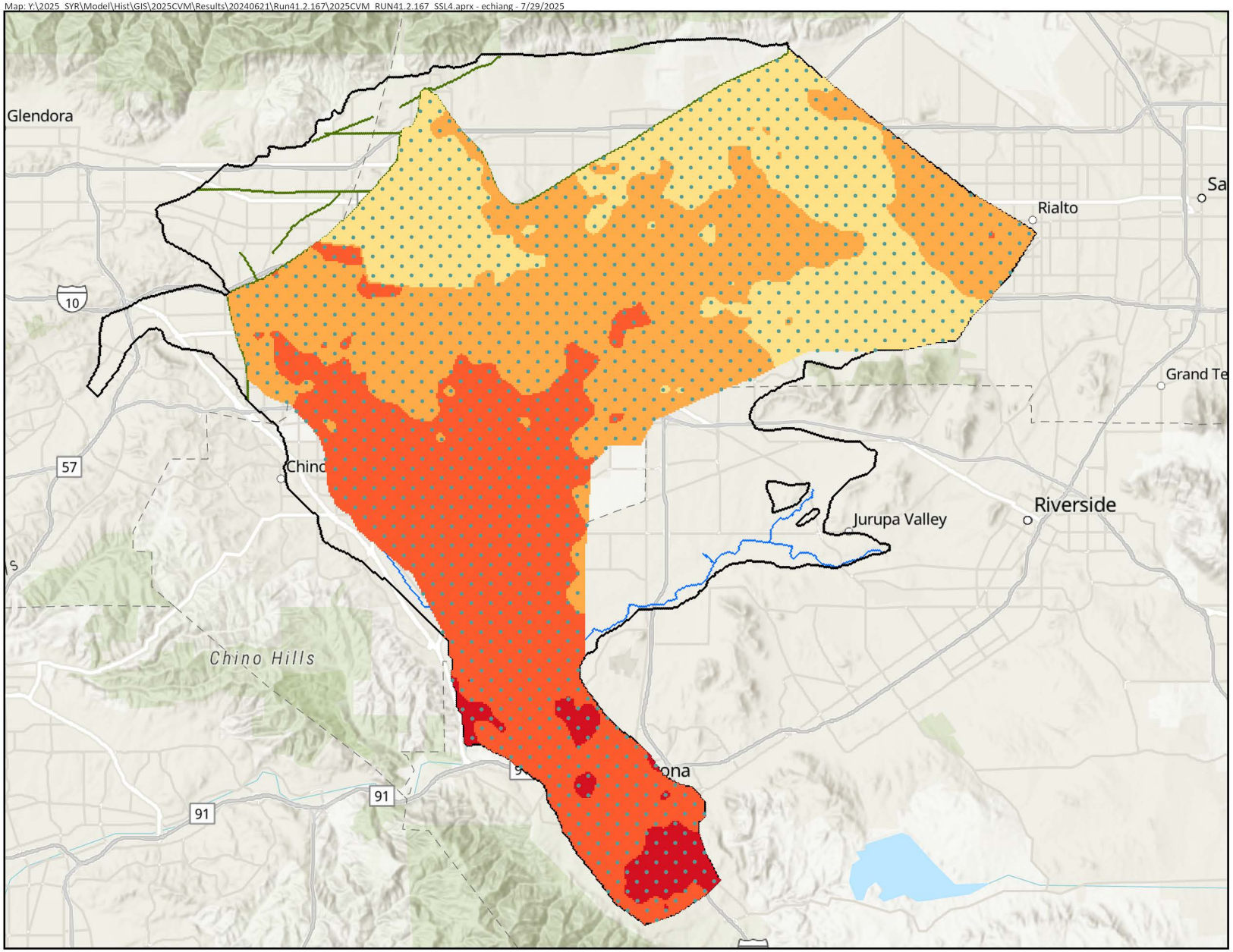
Prepared for:

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

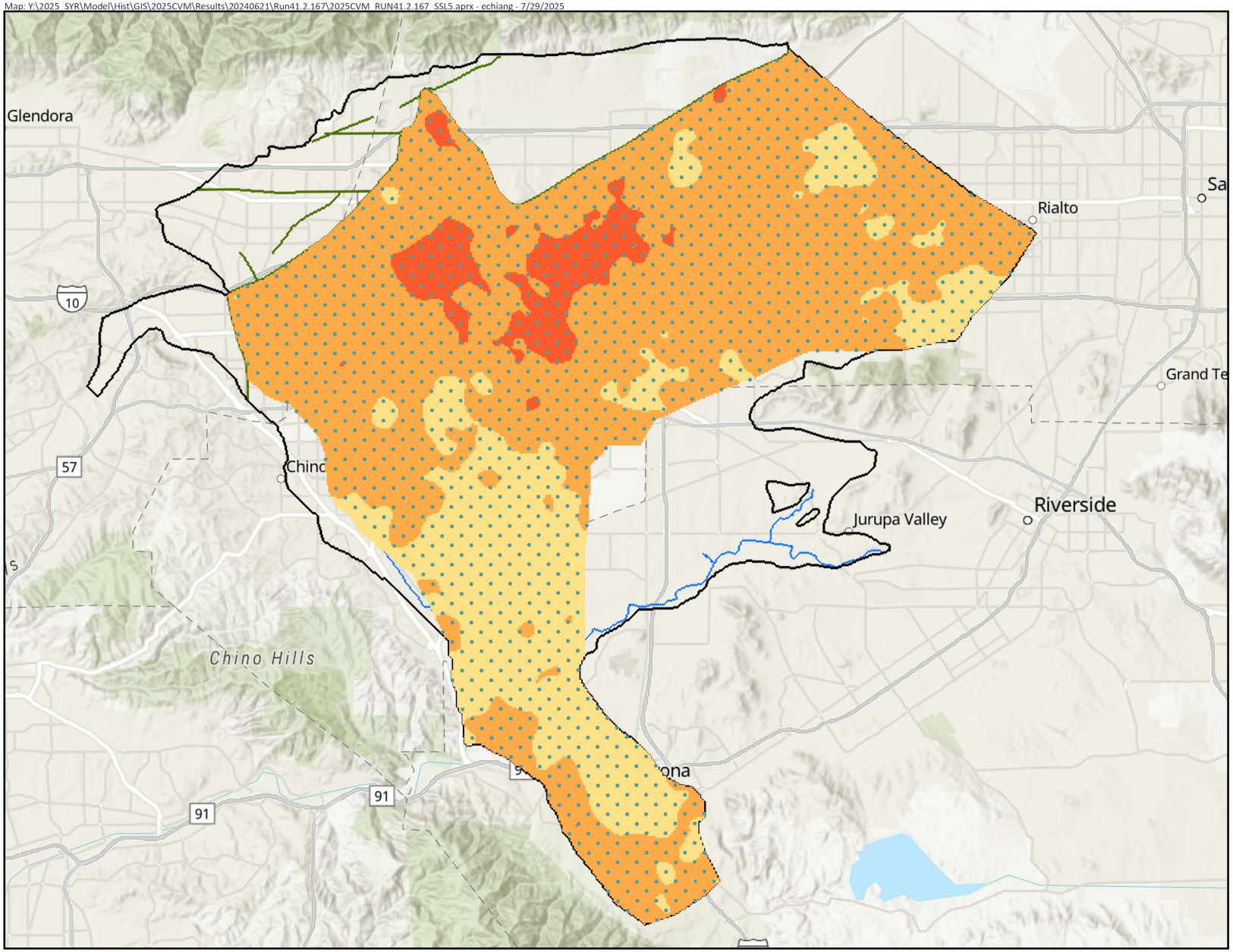
Prepared for:

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

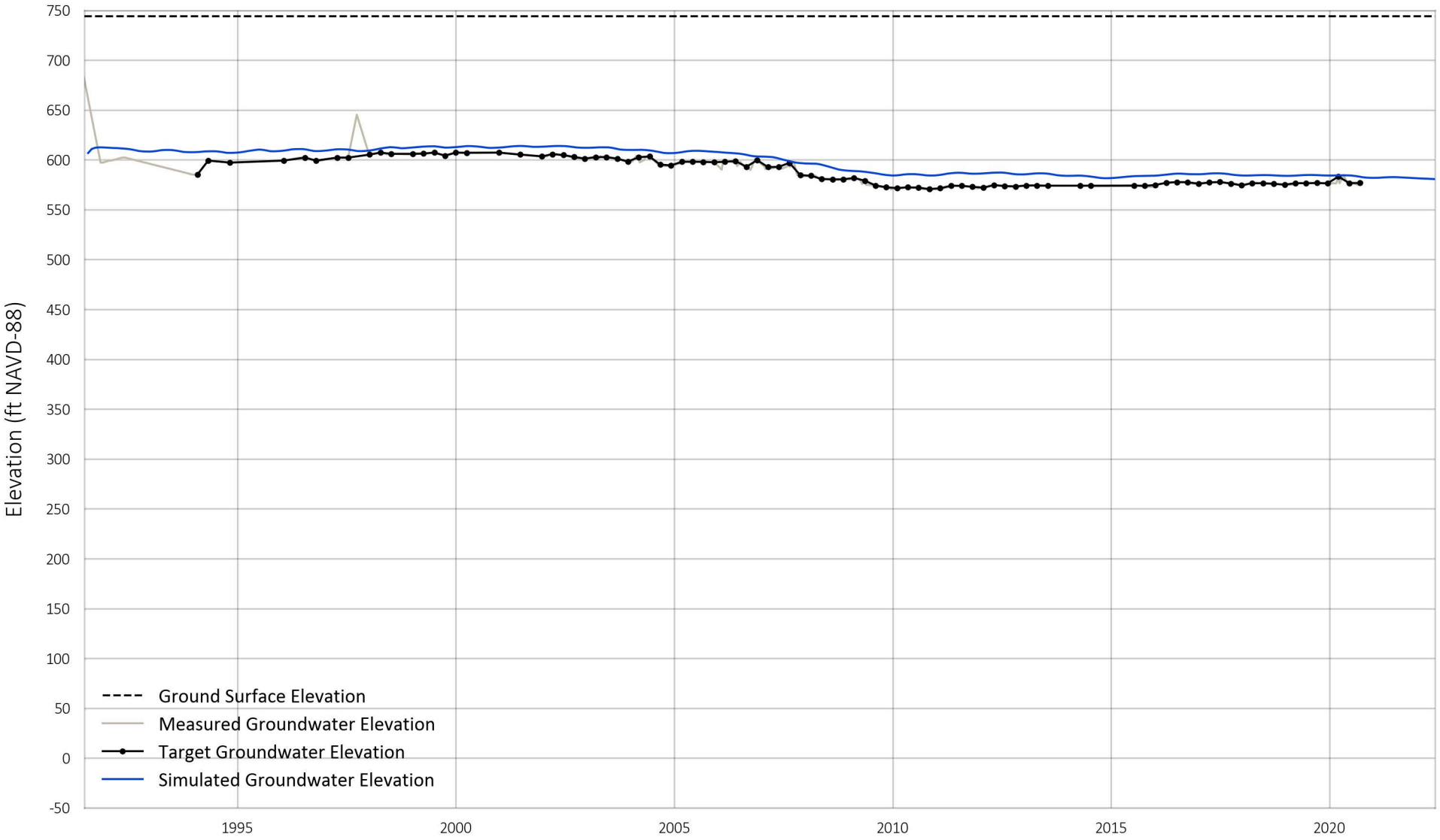
2025 CVM: Run_41.2.167

SS in Layer 5

Figure B4-15

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

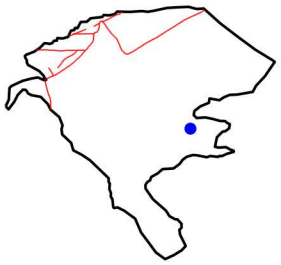
DRAFT



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

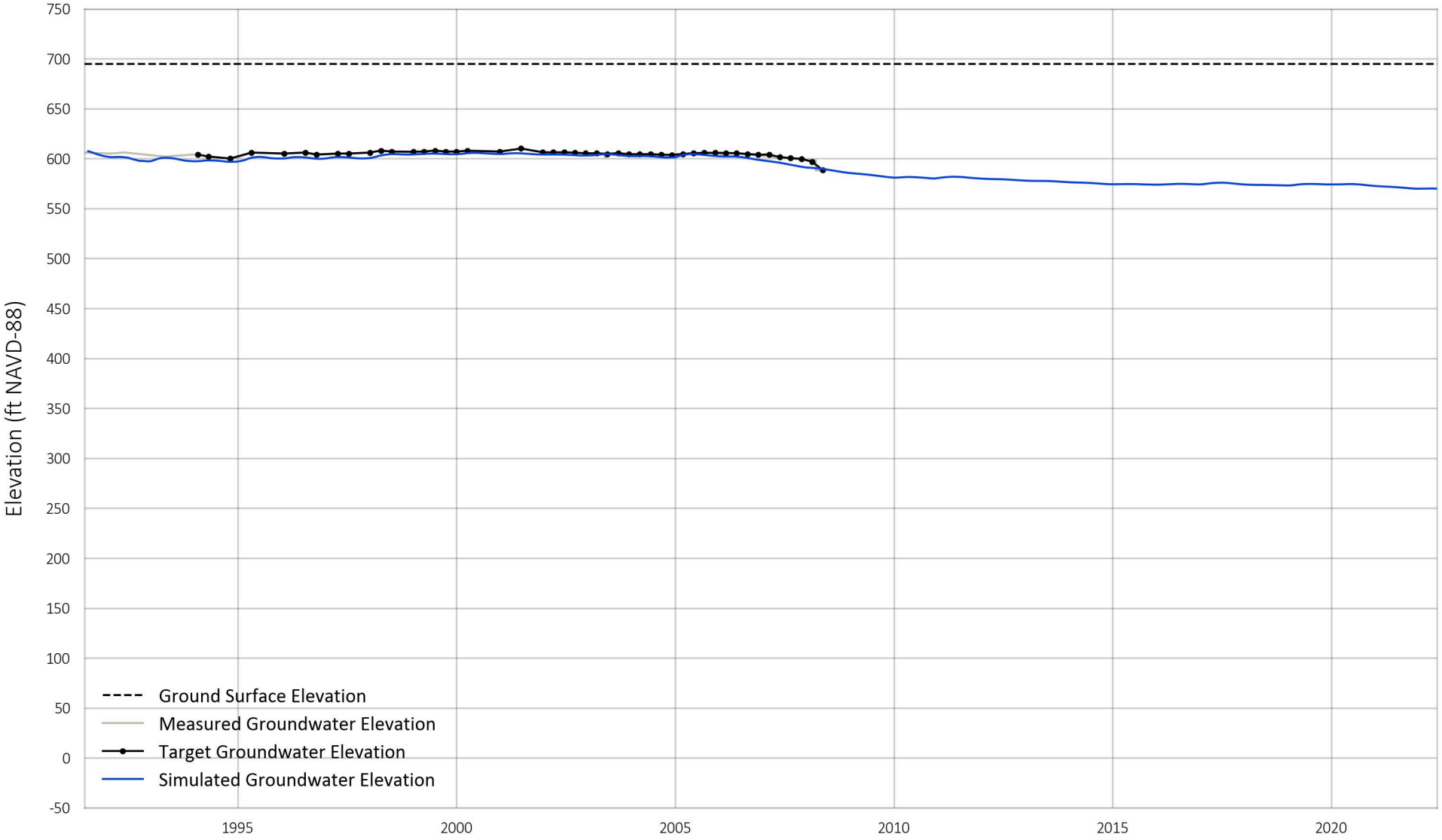
Target Groundwater Elevation (ft)
Mean = 587.71
Standard Deviation = 13.17

Simulated Groundwater Elevation (ft)
Mean = 597.23
Standard Deviation = 12.22

Mean Residual (ft) = 9.52
RMSE (ft) = 9.98

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1003582
Well Name: 03
Owner: Santa Ana River Water Company

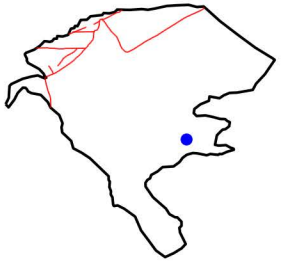
Figure B5-1



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

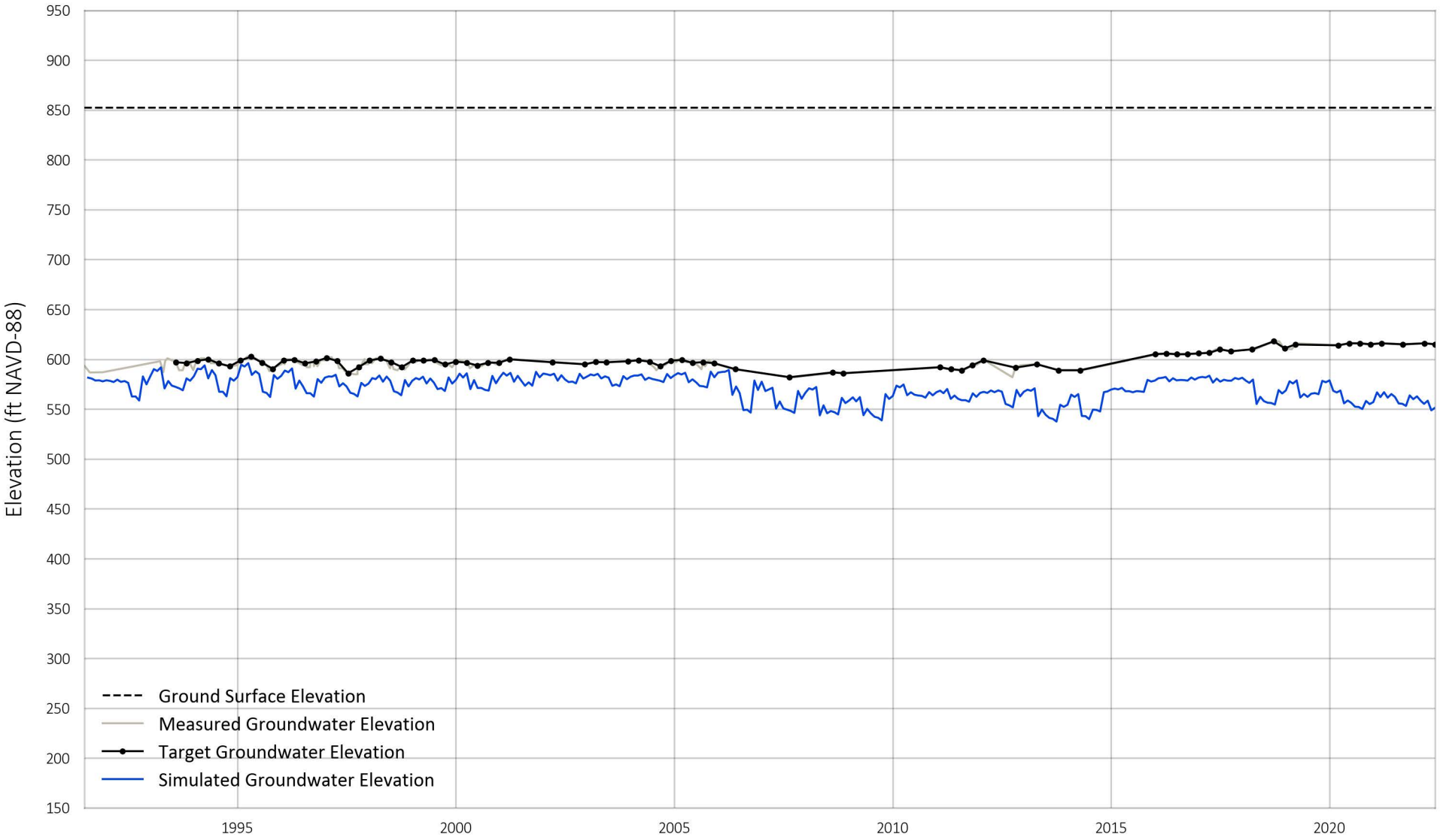
Target Groundwater Elevation (ft)
Mean = 604.63
Standard Deviation = 3.38

Simulated Groundwater Elevation (ft)
Mean = 601.26
Standard Deviation = 3.85

Mean Residual (ft) = -3.37
RMSE (ft) = 3.82

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1003630
Well Name: 07
Owner: Santa Ana River Water Company

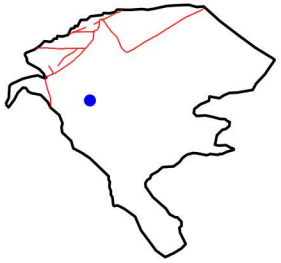
Figure B5-2



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

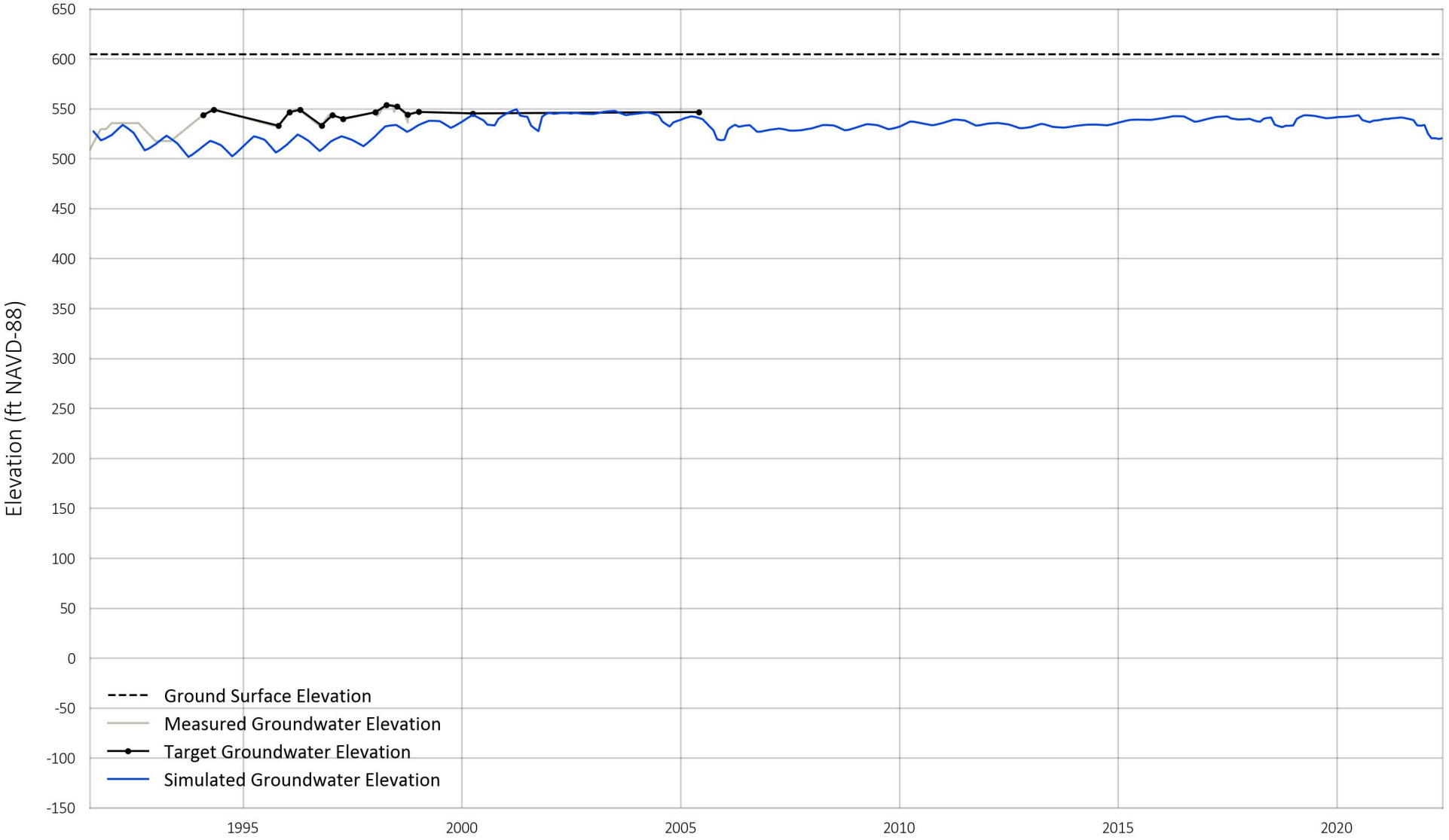
Target Groundwater Elevation (ft)
Mean = 599.51
Standard Deviation = 8.27

Simulated Groundwater Elevation (ft)
Mean = 572.81
Standard Deviation = 11.23

Mean Residual (ft) = -26.70
RMSE (ft) = 30.15

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002743
Well Name: 09
Owner: City of Chino

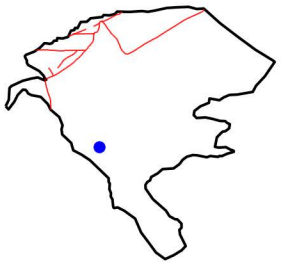
Figure B5-3



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

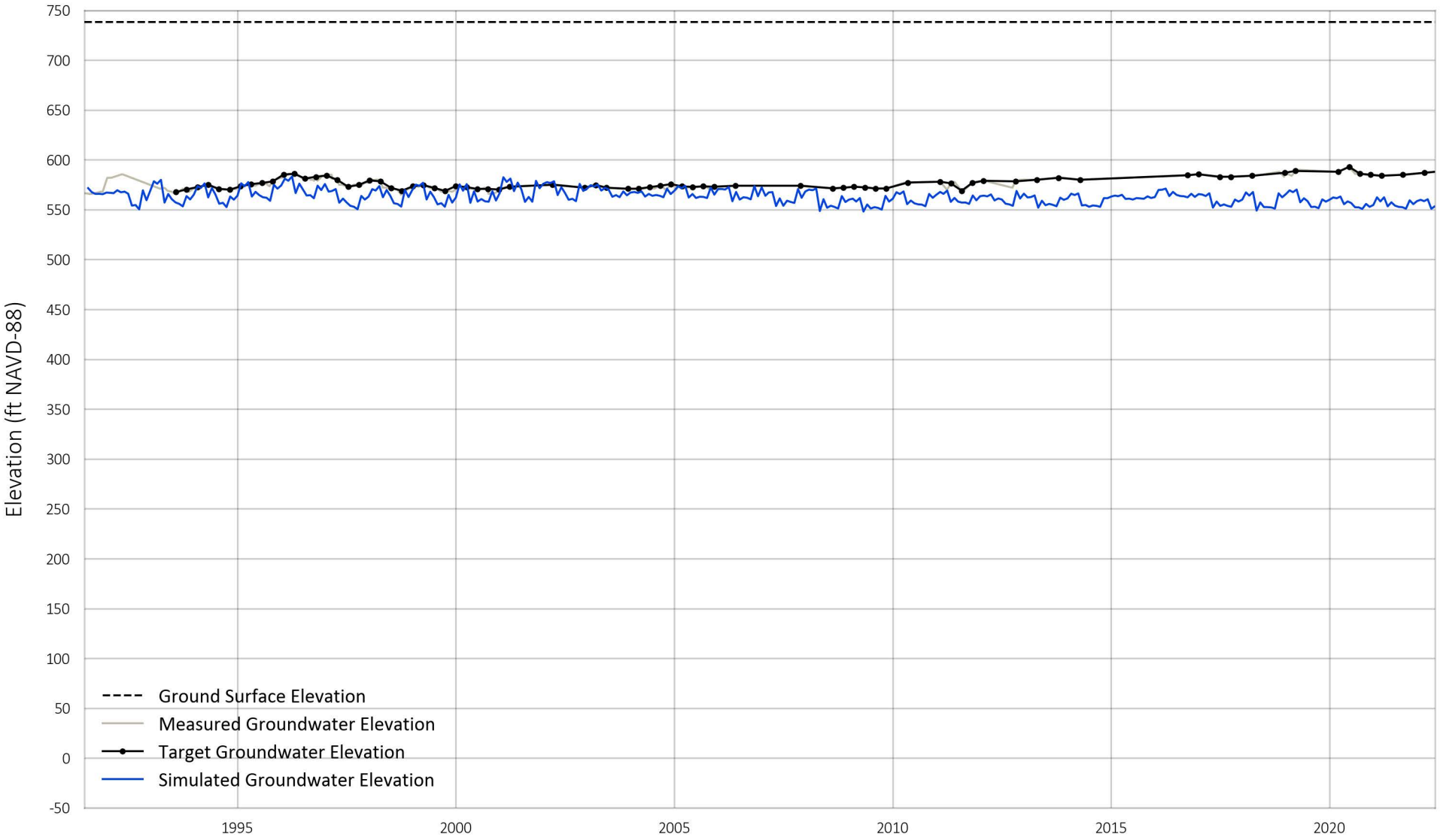
Target Groundwater Elevation (ft)
Mean = 544.81
Standard Deviation = 5.87

Simulated Groundwater Elevation (ft)
Mean = 523.82
Standard Deviation = 11.02

Mean Residual (ft) = -20.99
RMSE (ft) = 22.66

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1004299
Well Name: 09
Owner: California Institution for Men

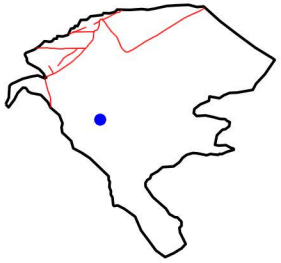
Figure B5-4



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

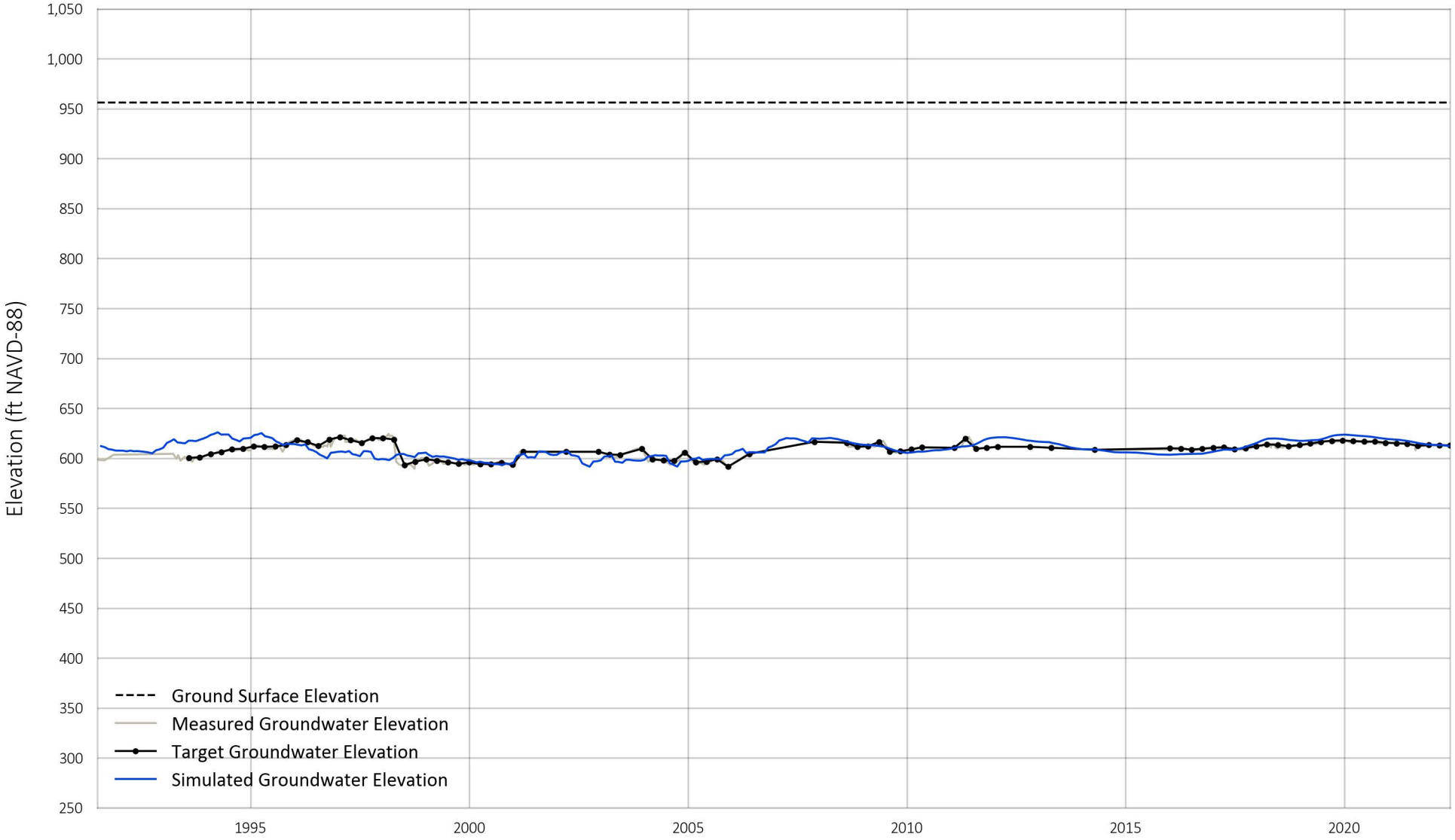
Target Groundwater Elevation (ft)
Mean = 576.70
Standard Deviation = 5.91

Simulated Groundwater Elevation (ft)
Mean = 563.50
Standard Deviation = 6.91

Mean Residual (ft) = -13.20
RMSE (ft) = 16.01

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1004185
Well Name: 13
Owner: City of Chino

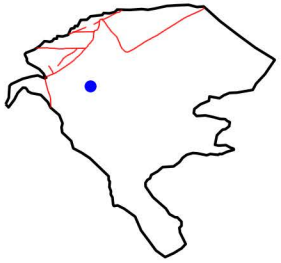
Figure B5-5



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

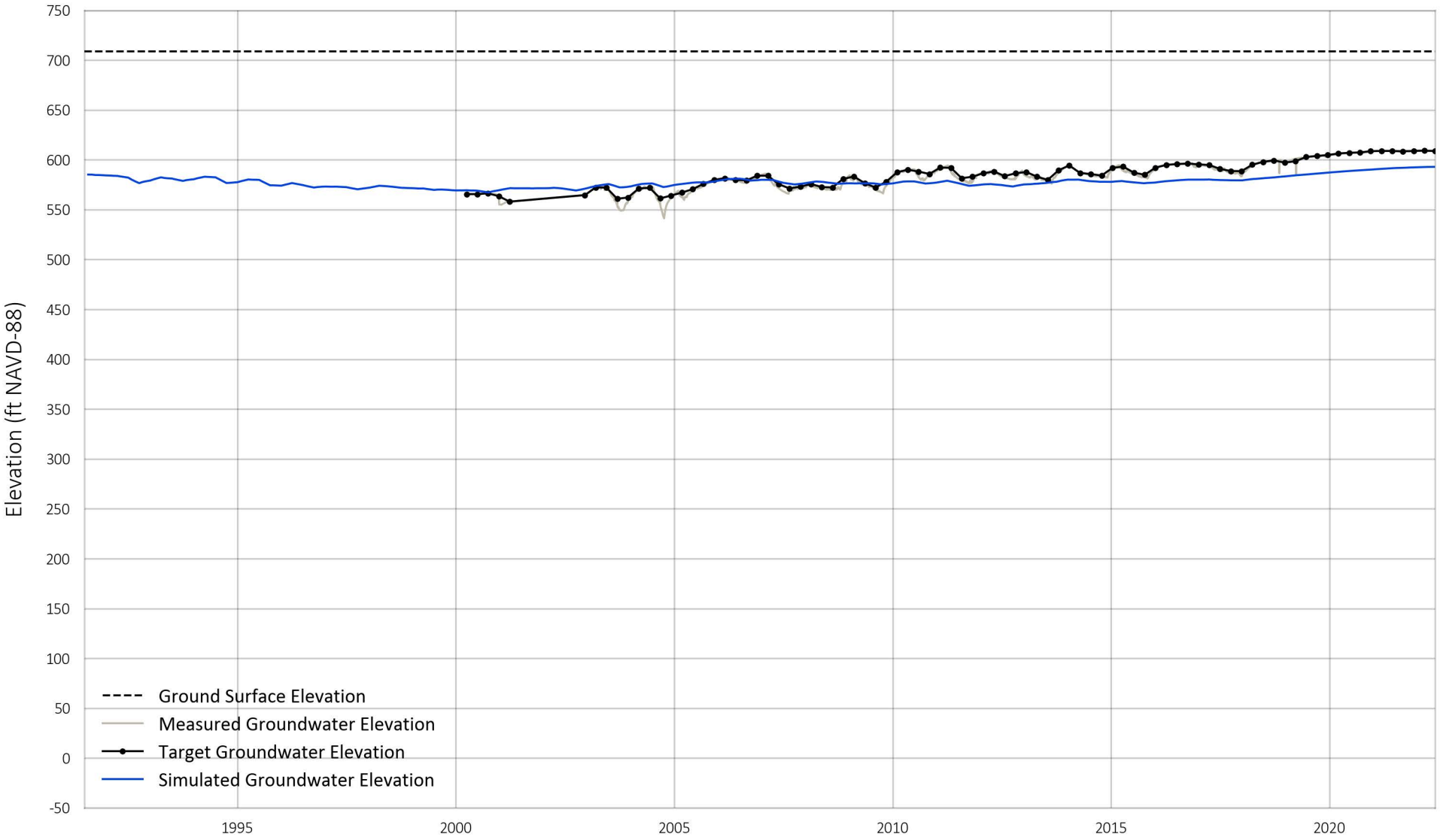
Target Groundwater Elevation (ft)
Mean = 608.77
Standard Deviation = 7.70

Simulated Groundwater Elevation (ft)
Mean = 609.72
Standard Deviation = 8.69

Mean Residual (ft) = 0.95
RMSE (ft) = 7.68

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002645
Well Name: 14
Owner: City of Chino

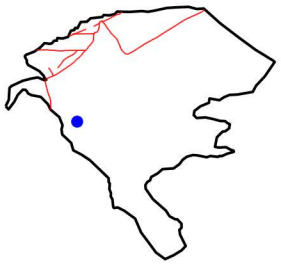
Figure B5-6



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

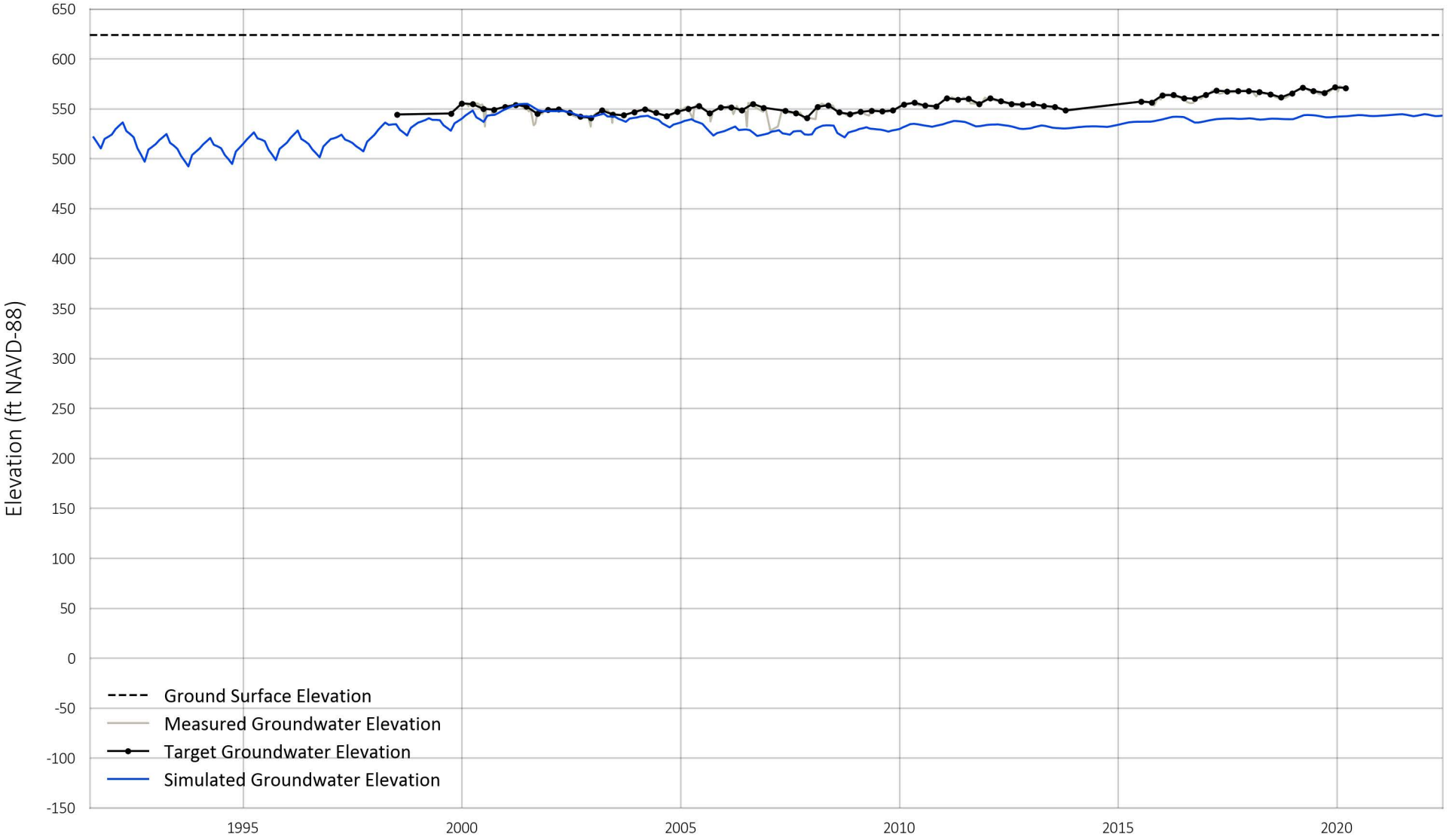
Target Groundwater Elevation (ft)
Mean = 585.50
Standard Deviation = 13.67

Simulated Groundwater Elevation (ft)
Mean = 578.89
Standard Deviation = 5.62

Mean Residual (ft) = -6.60
RMSE (ft) = 11.28

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1206674
Well Name: 15
Owner: City of Chino

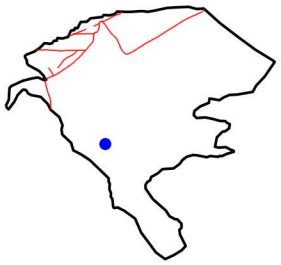
Figure B5-7



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

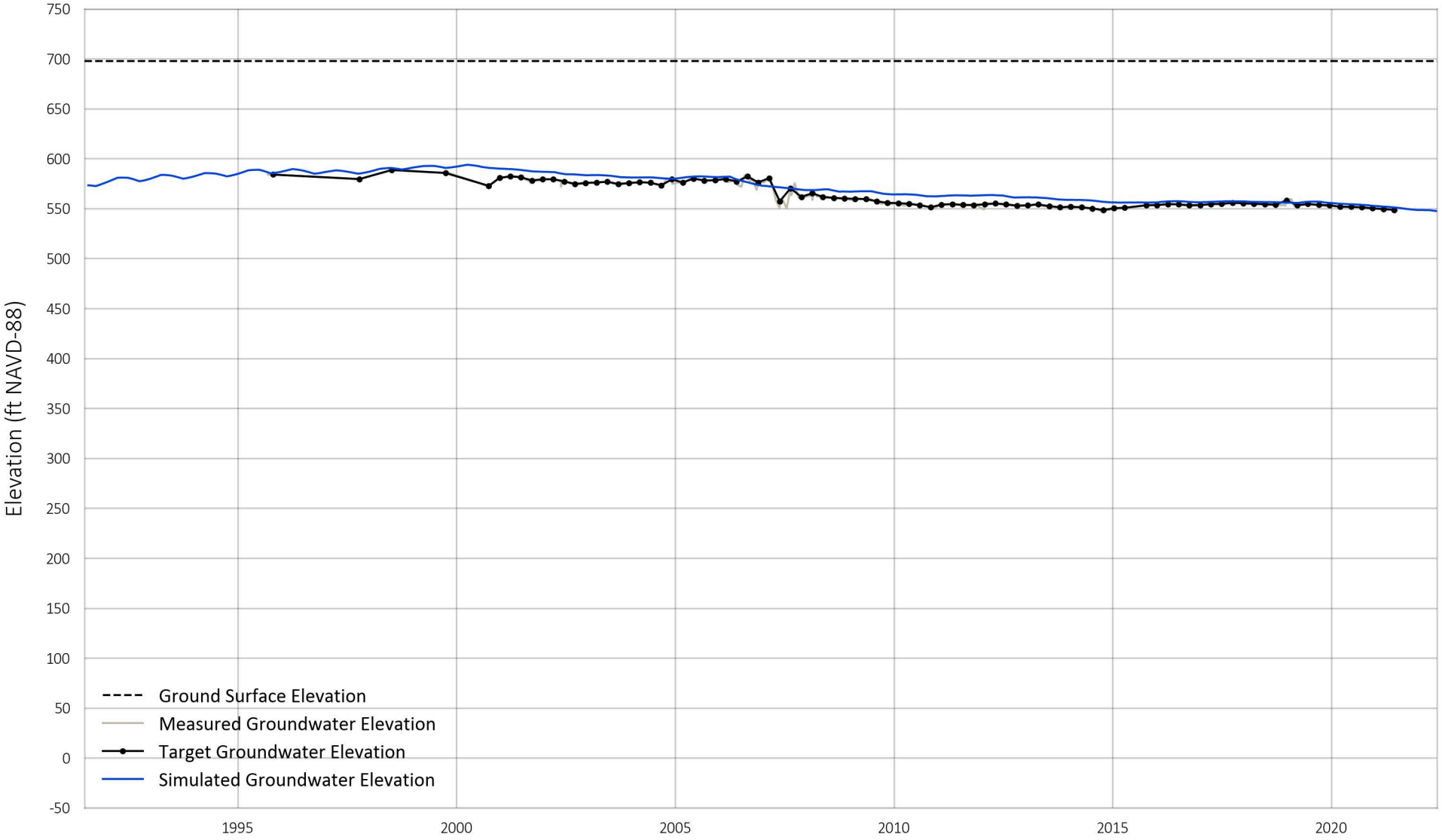
Target Groundwater Elevation (ft)
Mean = 553.89
Standard Deviation = 8.09

Simulated Groundwater Elevation (ft)
Mean = 536.54
Standard Deviation = 7.05

Mean Residual (ft) = -17.35
RMSE (ft) = 19.59

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1003878
Well Name: 73000-1
Owner: California Youth Authority

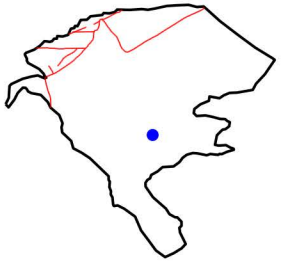
Figure B5-8



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

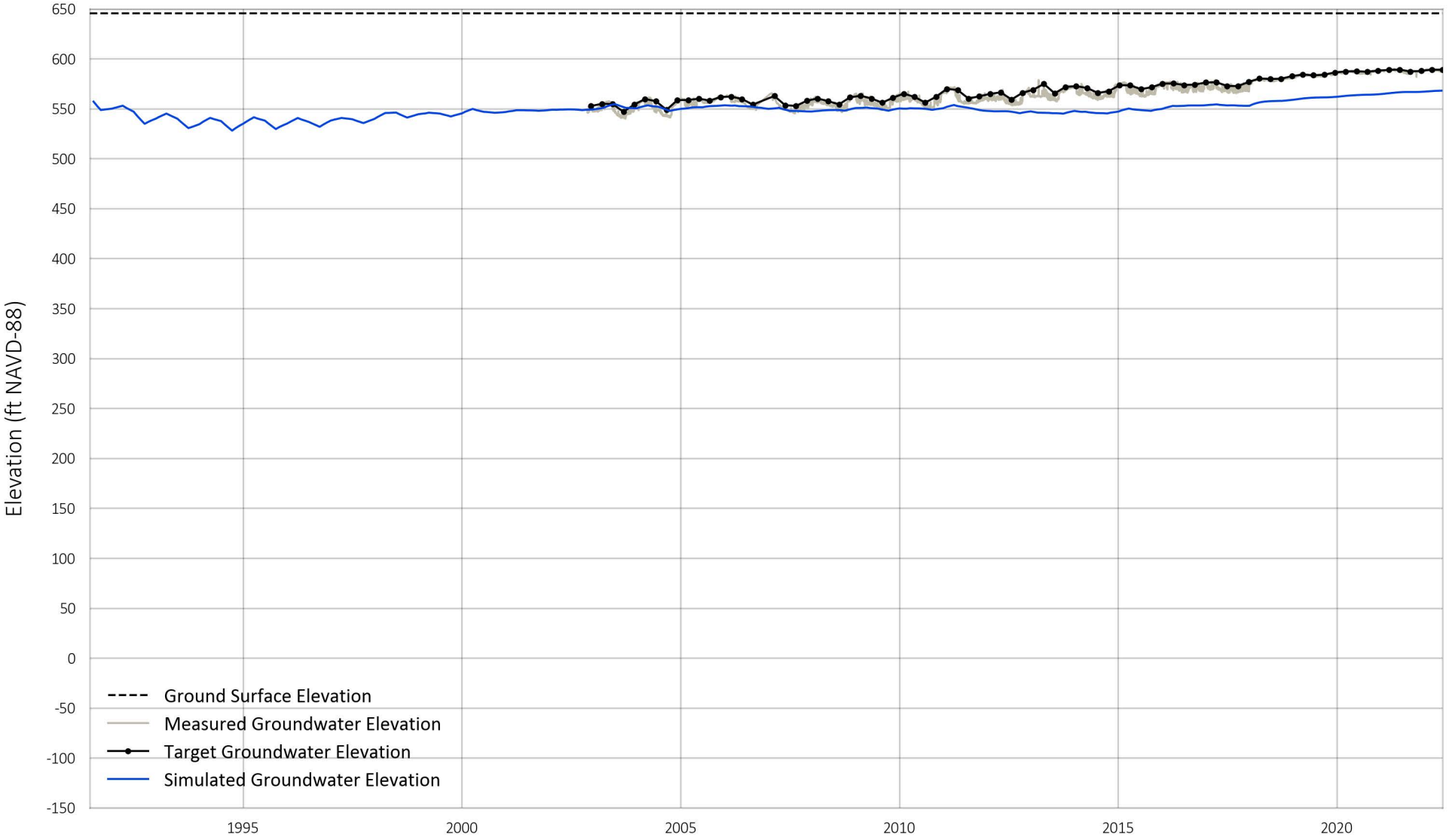
Target Groundwater Elevation (ft)
Mean = 563.00
Standard Deviation = 12.11

Simulated Groundwater Elevation (ft)
Mean = 568.29
Standard Deviation = 12.20

Mean Residual (ft) = 5.29
RMSE (ft) = 6.57

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1202650
Well Name: Private Well
Owner: Private

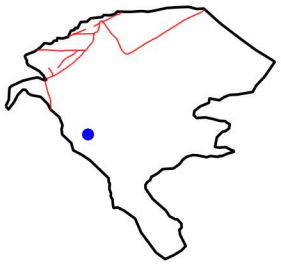
Figure B5-9



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

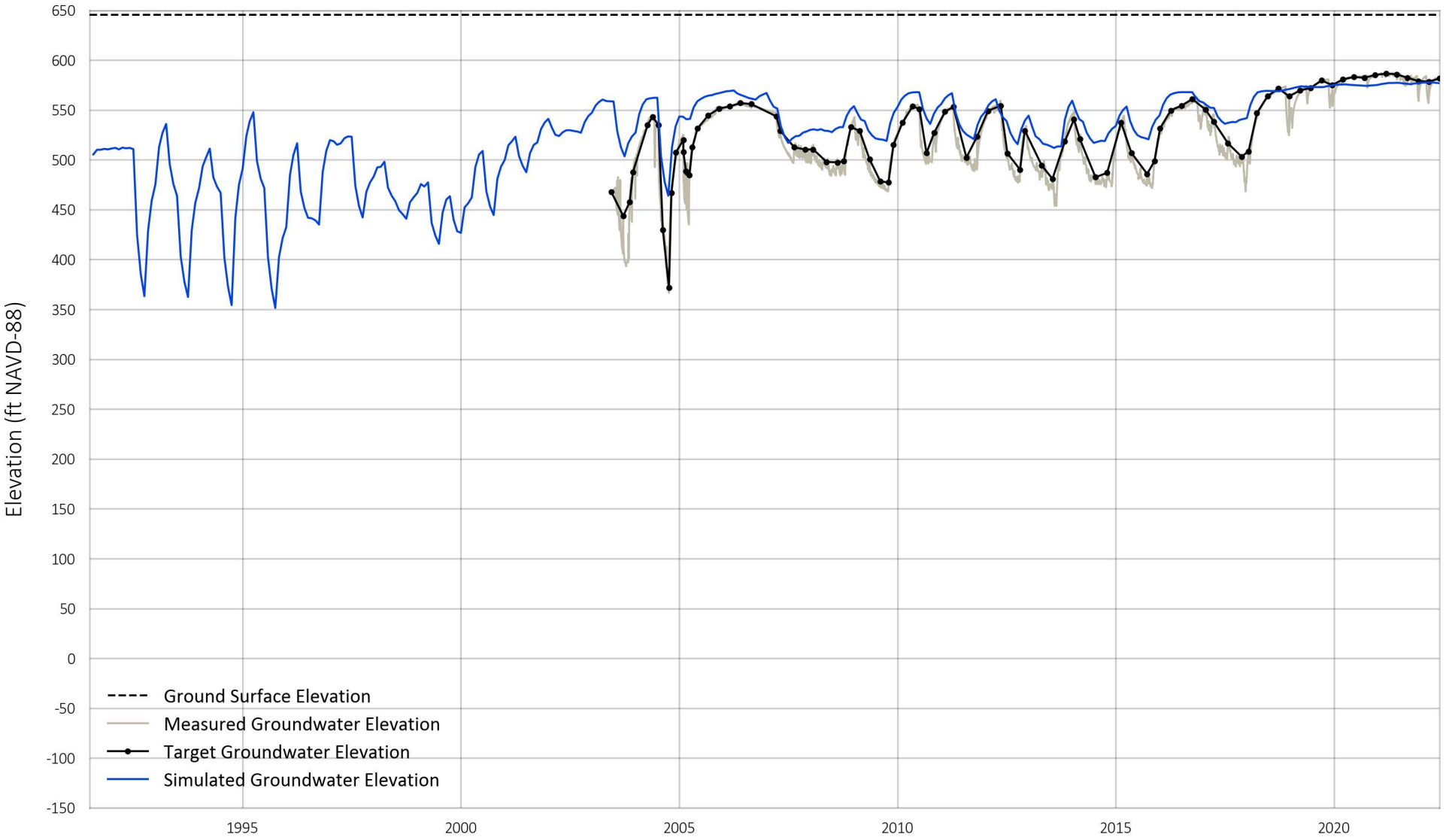
Target Groundwater Elevation (ft)
Mean = 568.62
Standard Deviation = 11.59

Simulated Groundwater Elevation (ft)
Mean = 552.78
Standard Deviation = 6.12

Mean Residual (ft) = -15.84
RMSE (ft) = 17.74

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1206955
Well Name: AP-PA/10
Owner: Chino Basin Watermaster

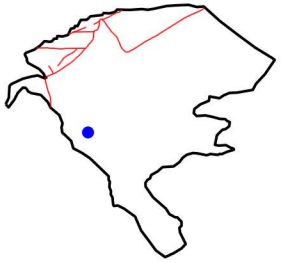
Figure B5-10



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

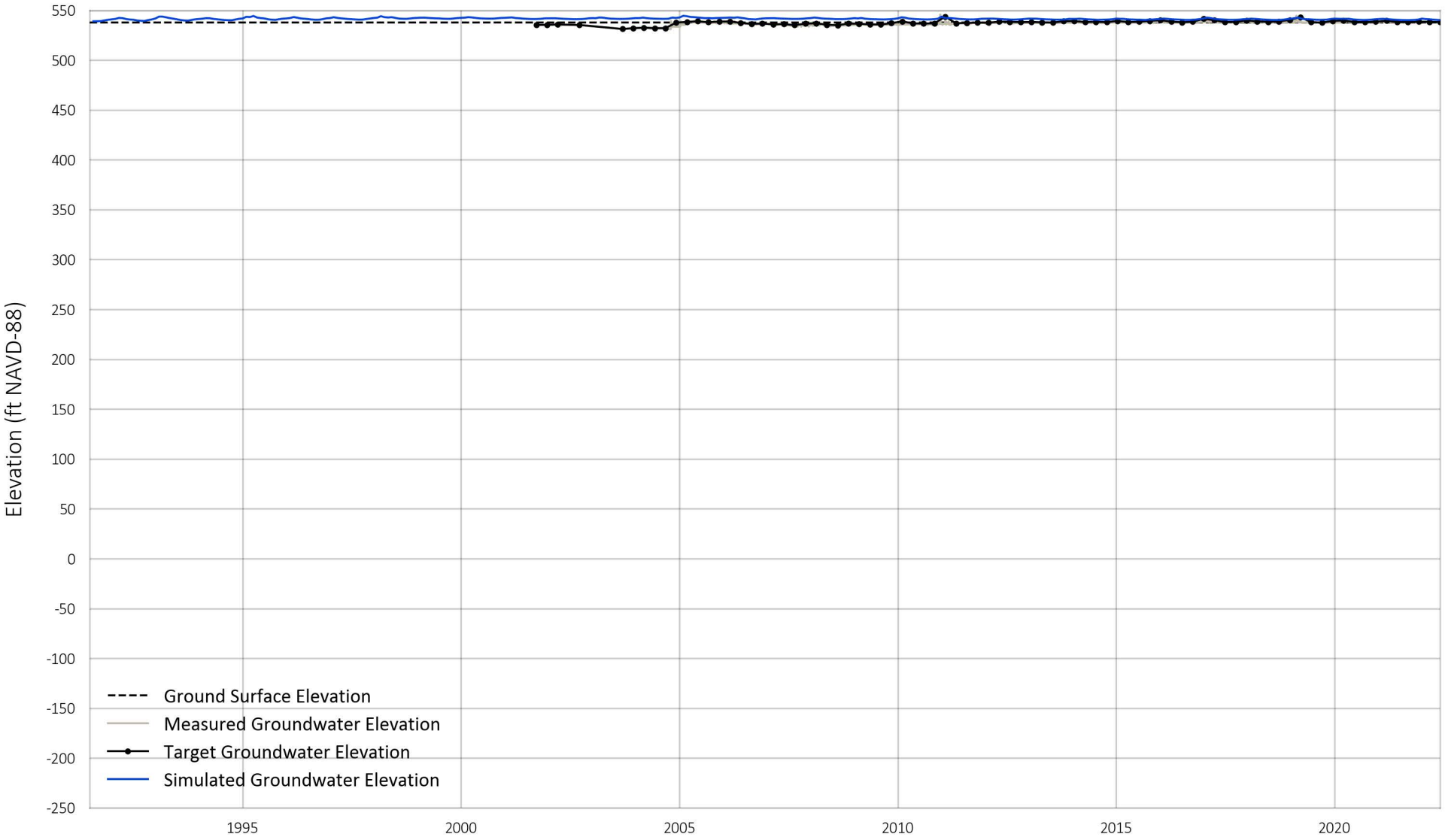
Target Groundwater Elevation (ft)
Mean = 526.27
Standard Deviation = 39.66

Simulated Groundwater Elevation (ft)
Mean = 547.46
Standard Deviation = 21.72

Mean Residual (ft) = 21.19
RMSE (ft) = 29.81

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1206952
Well Name: AP-PA/7
Owner: Chino Basin Watermaster

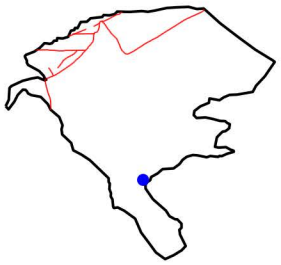
Figure B5-11



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

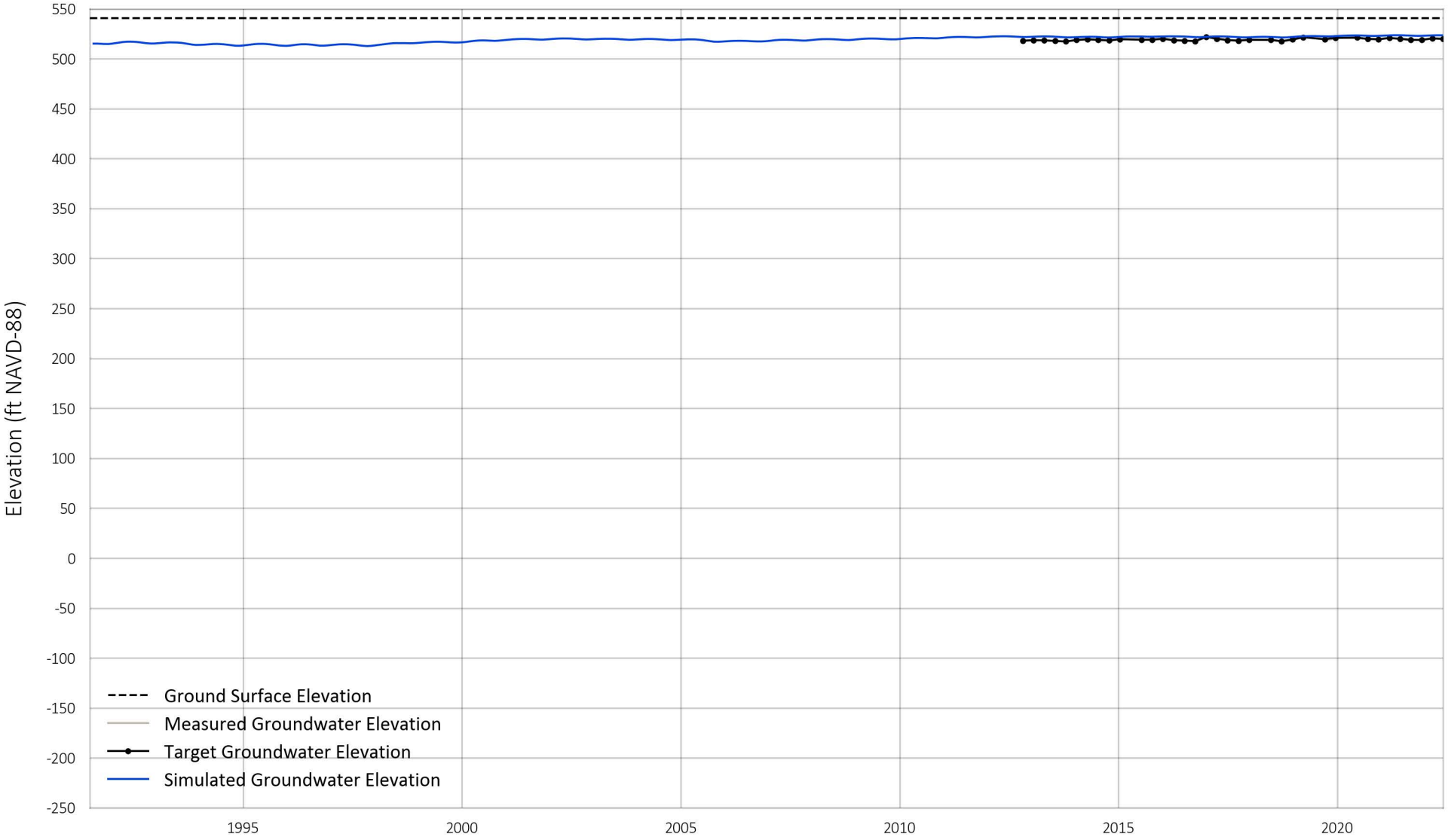
Target Groundwater Elevation (ft)
Mean = 537.59
Standard Deviation = 2.14

Simulated Groundwater Elevation (ft)
Mean = 541.27
Standard Deviation = 0.72

Mean Residual (ft) = 3.68
RMSE (ft) = 4.34

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1207088
Well Name: Archibald 1
Owner: USGS

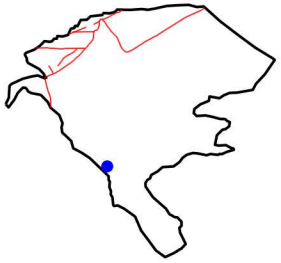
Figure B5-12



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

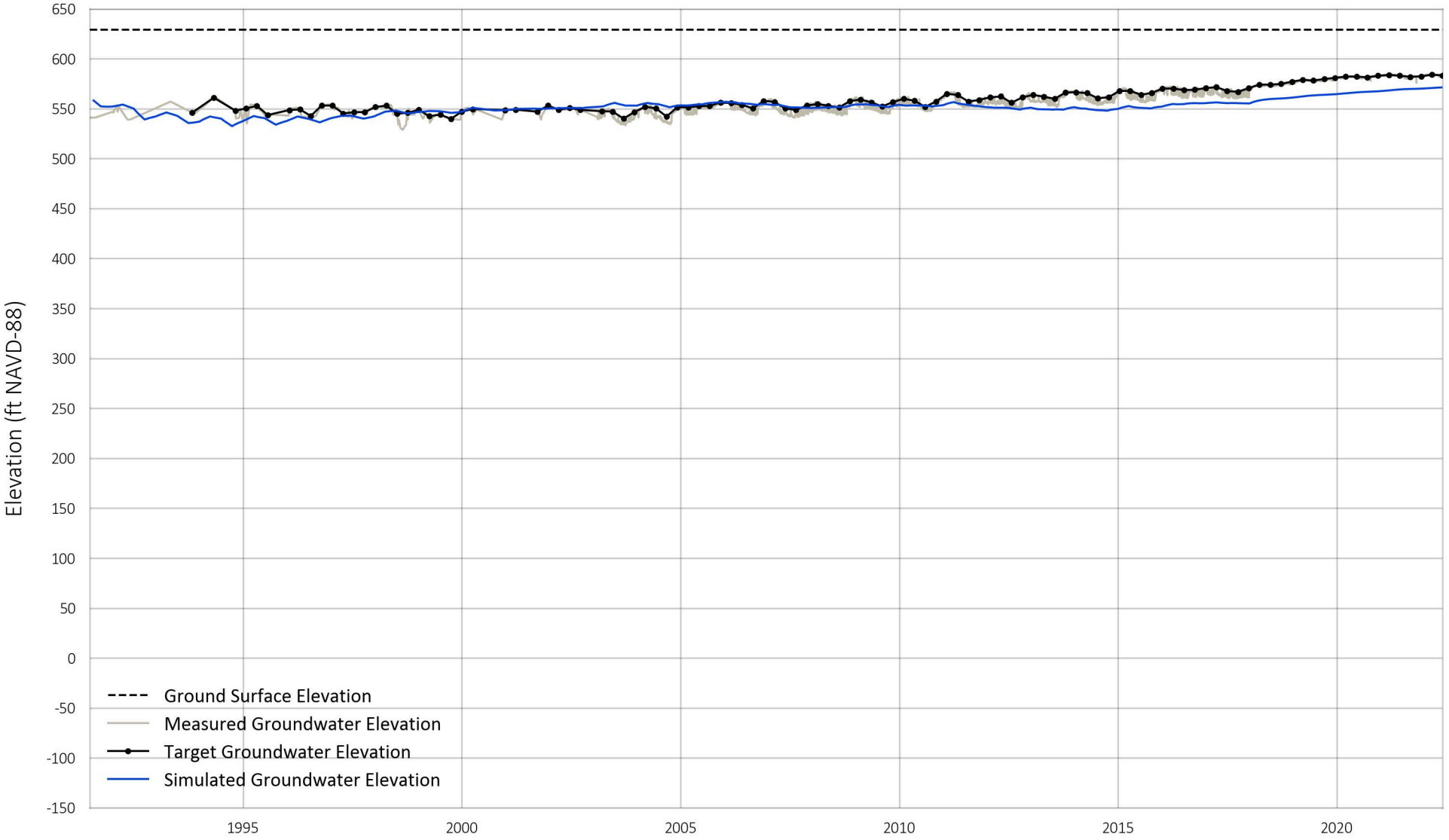
Target Groundwater Elevation (ft)
Mean = 519.18
Standard Deviation = 1.11

Simulated Groundwater Elevation (ft)
Mean = 522.23
Standard Deviation = 0.65

Mean Residual (ft) = 3.06
RMSE (ft) = 3.18

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1231807
Well Name: CAMW23-I
Owner: County of San Bernardino

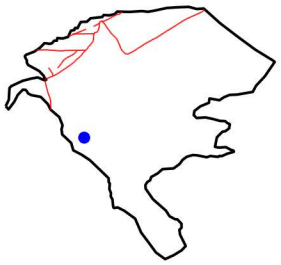
Figure B5-13



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

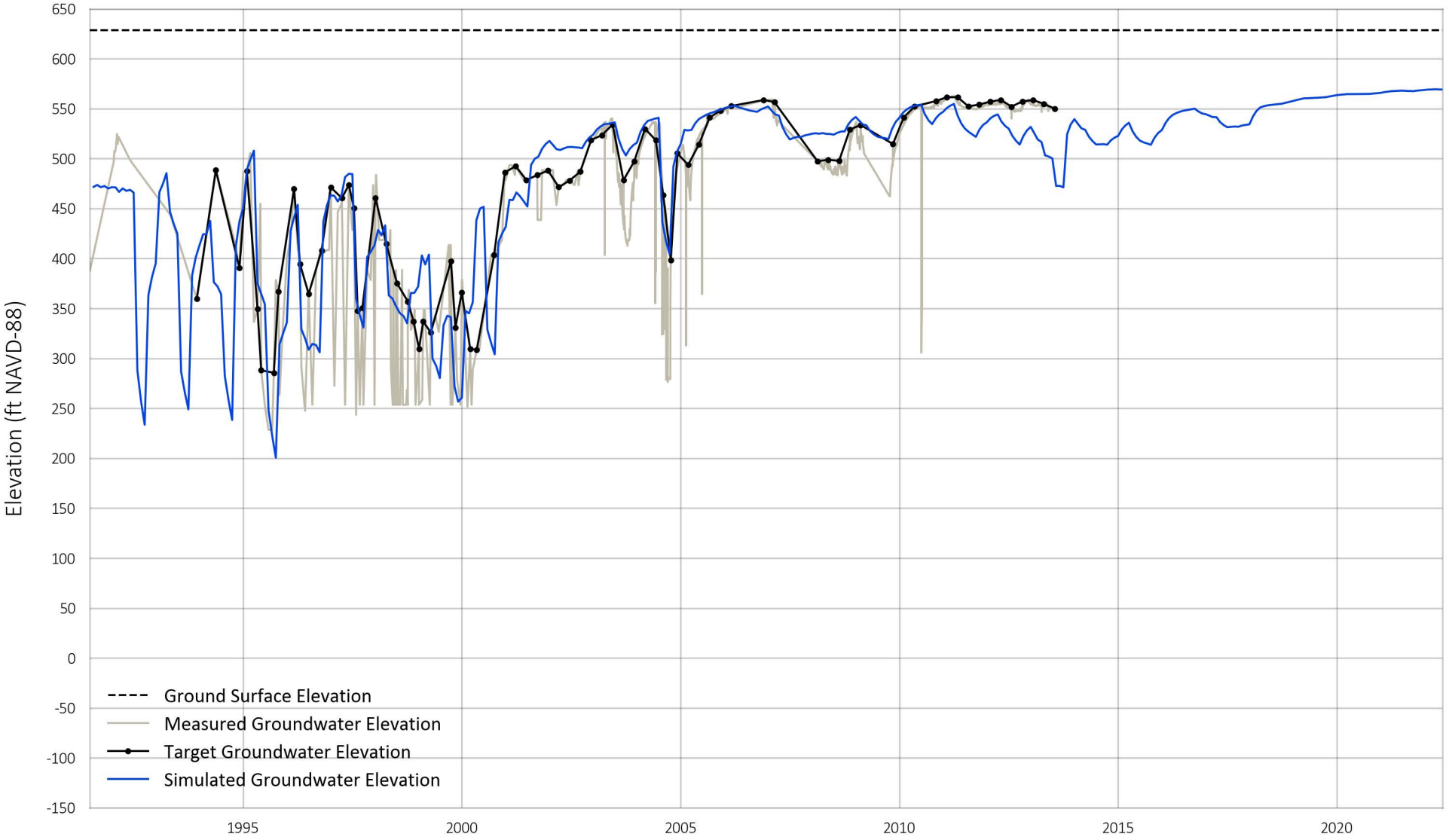
Target Groundwater Elevation (ft)
Mean = 559.15
Standard Deviation = 12.04

Simulated Groundwater Elevation (ft)
Mean = 552.47
Standard Deviation = 7.68

Mean Residual (ft) = -6.68
RMSE (ft) = 10.21

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1203215
Well Name: CH HIL 15A
Owner: City of Chino Hills

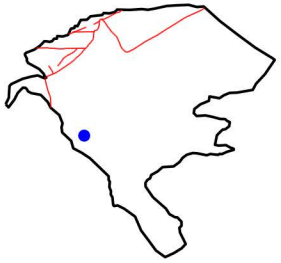
Figure B5-14



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

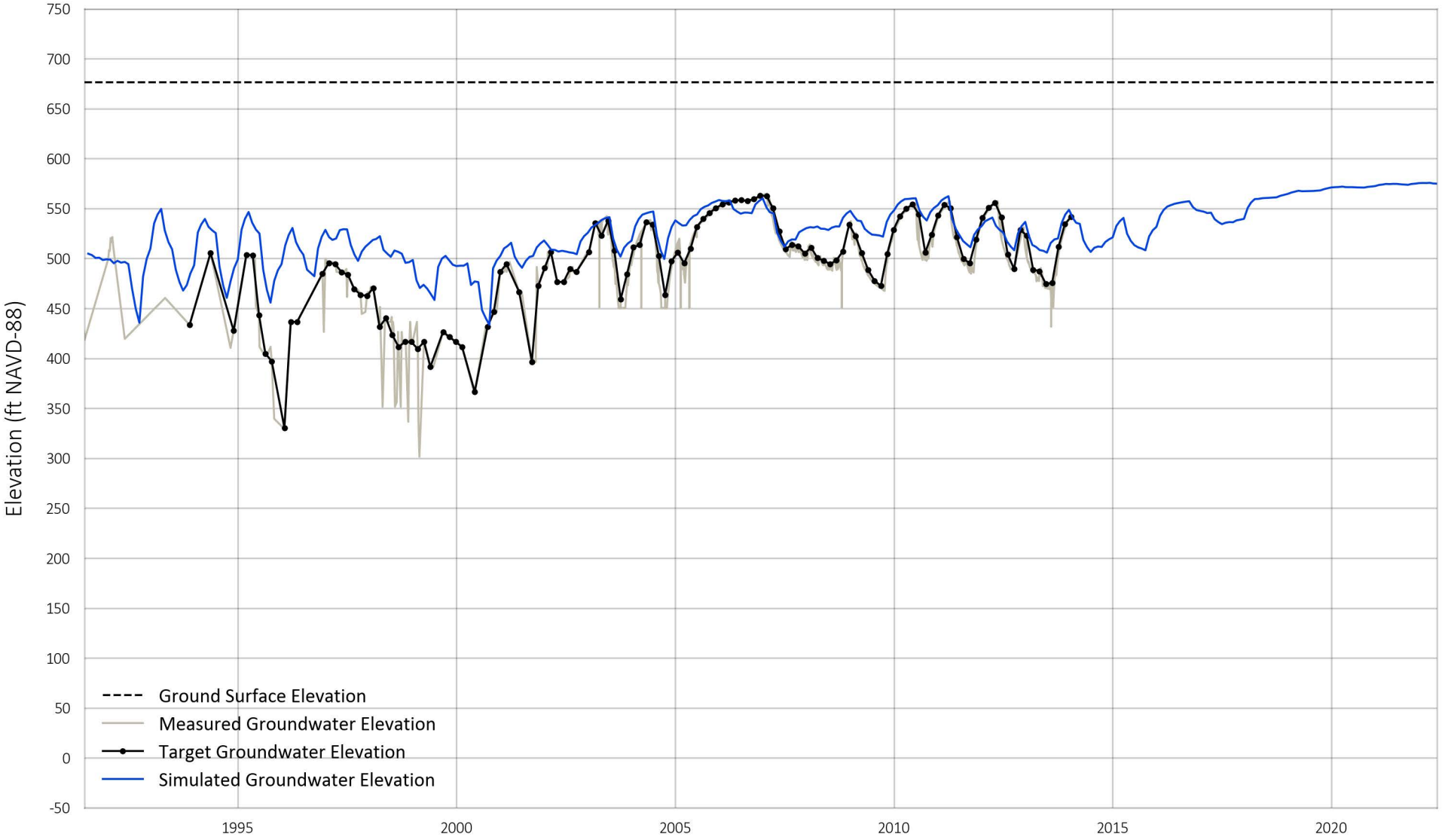
Target Groundwater Elevation (ft)
Mean = 463.32
Standard Deviation = 83.52

Simulated Groundwater Elevation (ft)
Mean = 458.65
Standard Deviation = 87.46

Mean Residual (ft) = -4.67
RMSE (ft) = 41.40

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1203214
Well Name: CH HIL 15B
Owner: City of Chino Hills

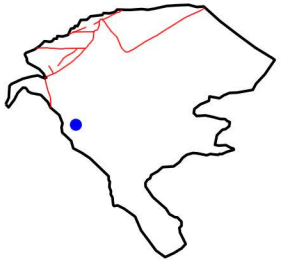
Figure B5-15



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

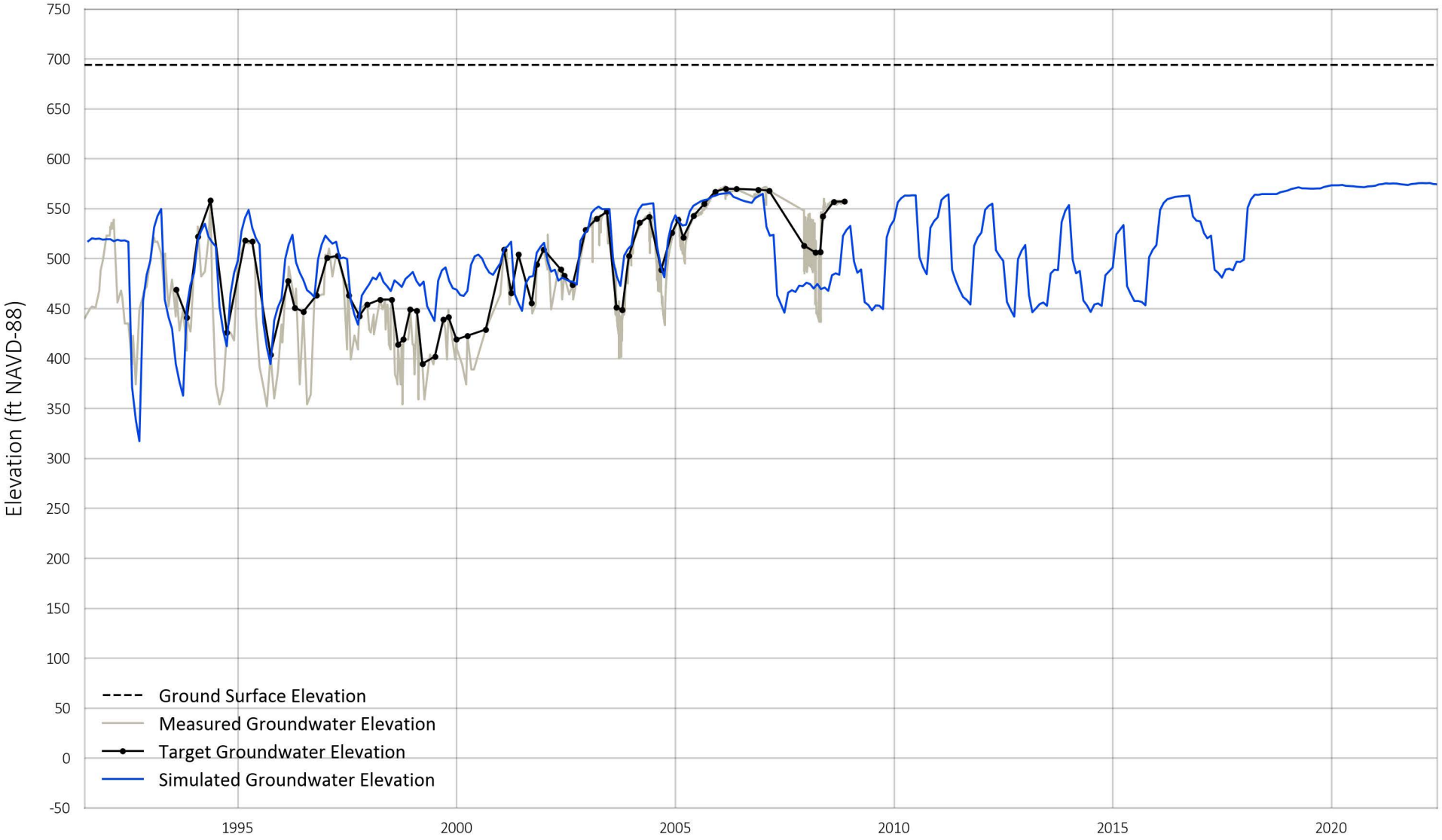
Target Groundwater Elevation (ft)
Mean = 492.96
Standard Deviation = 47.93

Simulated Groundwater Elevation (ft)
Mean = 522.89
Standard Deviation = 23.03

Mean Residual (ft) = 29.92
RMSE (ft) = 43.14

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1203106
Well Name: CH HIL 16
Owner: City of Chino Hills

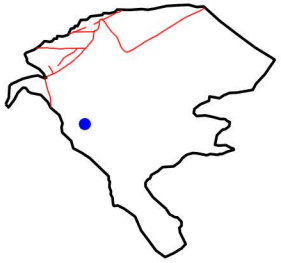
Figure B5-16



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

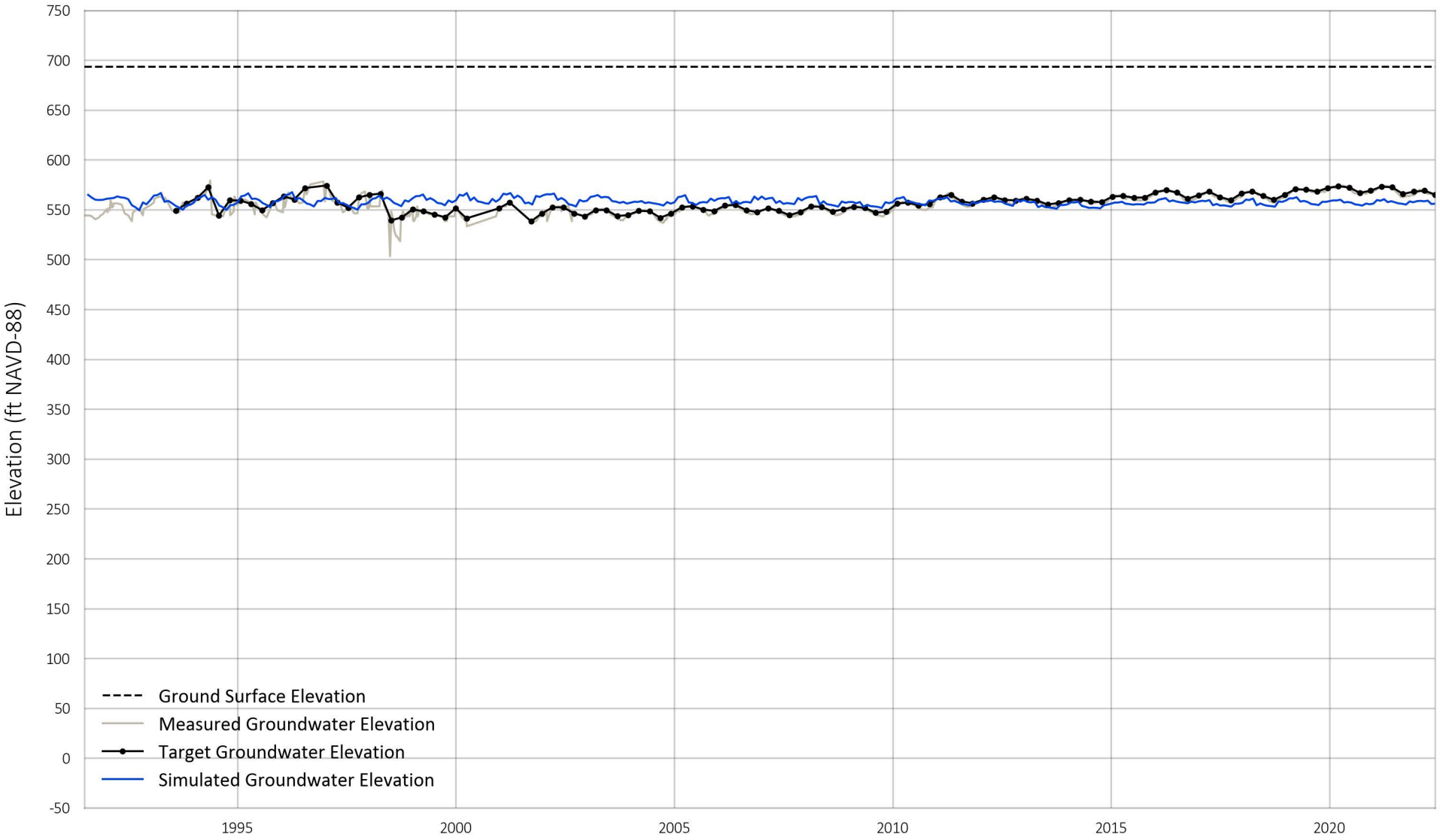
Target Groundwater Elevation (ft)
Mean = 489.43
Standard Deviation = 49.71

Simulated Groundwater Elevation (ft)
Mean = 497.75
Standard Deviation = 39.39

Mean Residual (ft) = 8.32
RMSE (ft) = 33.64

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1004179
Well Name: CH HIL 17
Owner: City of Chino Hills

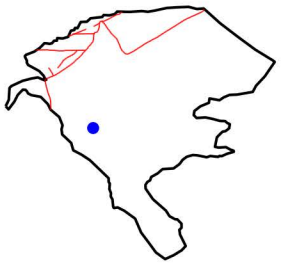
Figure B5-17



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

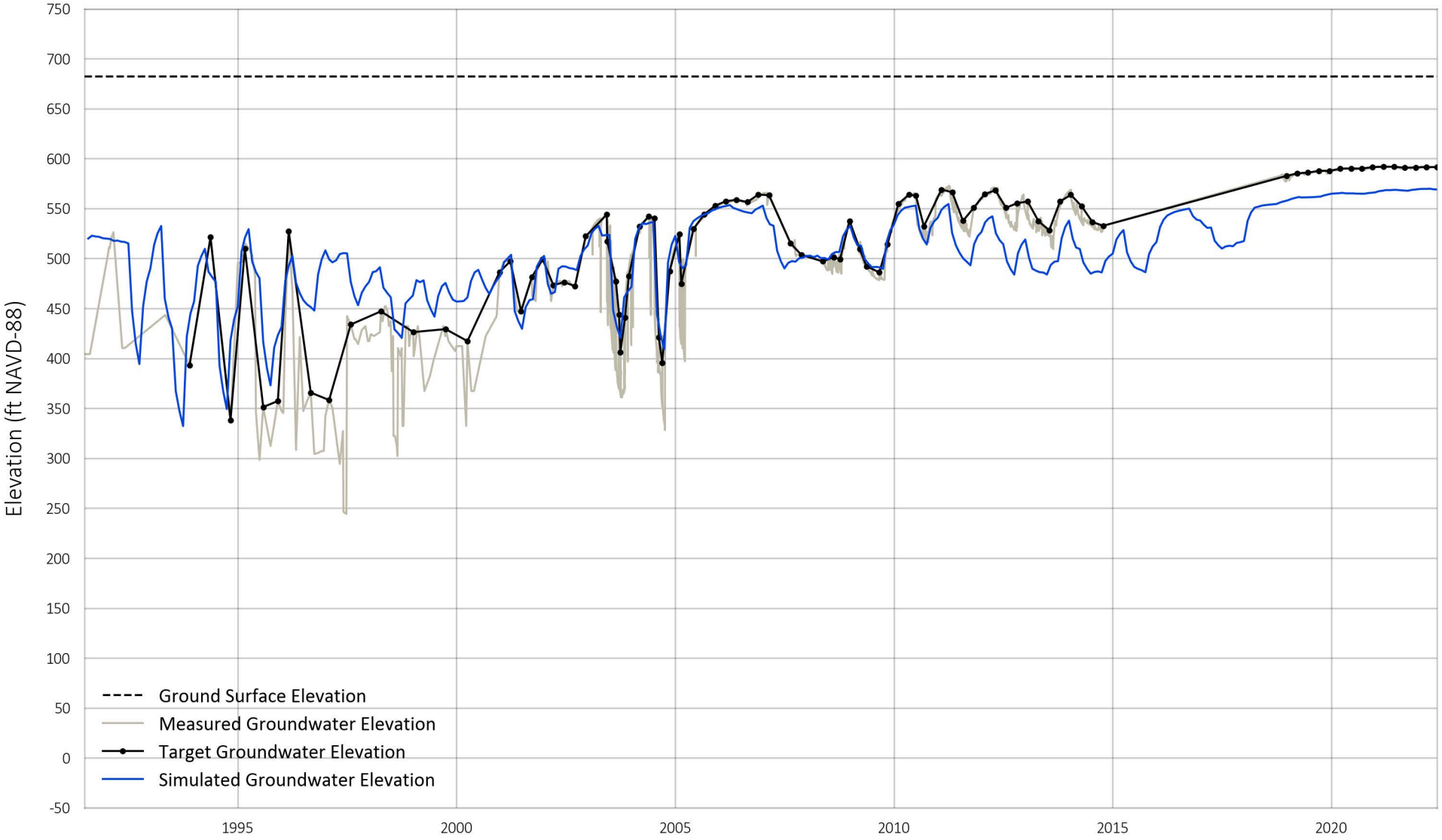
Target Groundwater Elevation (ft)
Mean = 557.09
Standard Deviation = 8.94

Simulated Groundwater Elevation (ft)
Mean = 557.95
Standard Deviation = 3.22

Mean Residual (ft) = 0.86
RMSE (ft) = 9.47

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1203149
Well Name: CH HIL 18A
Owner: City of Chino Hills

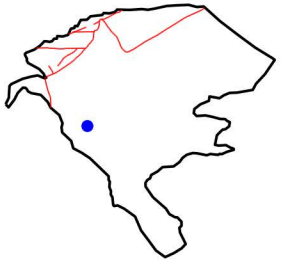
Figure B5-18



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

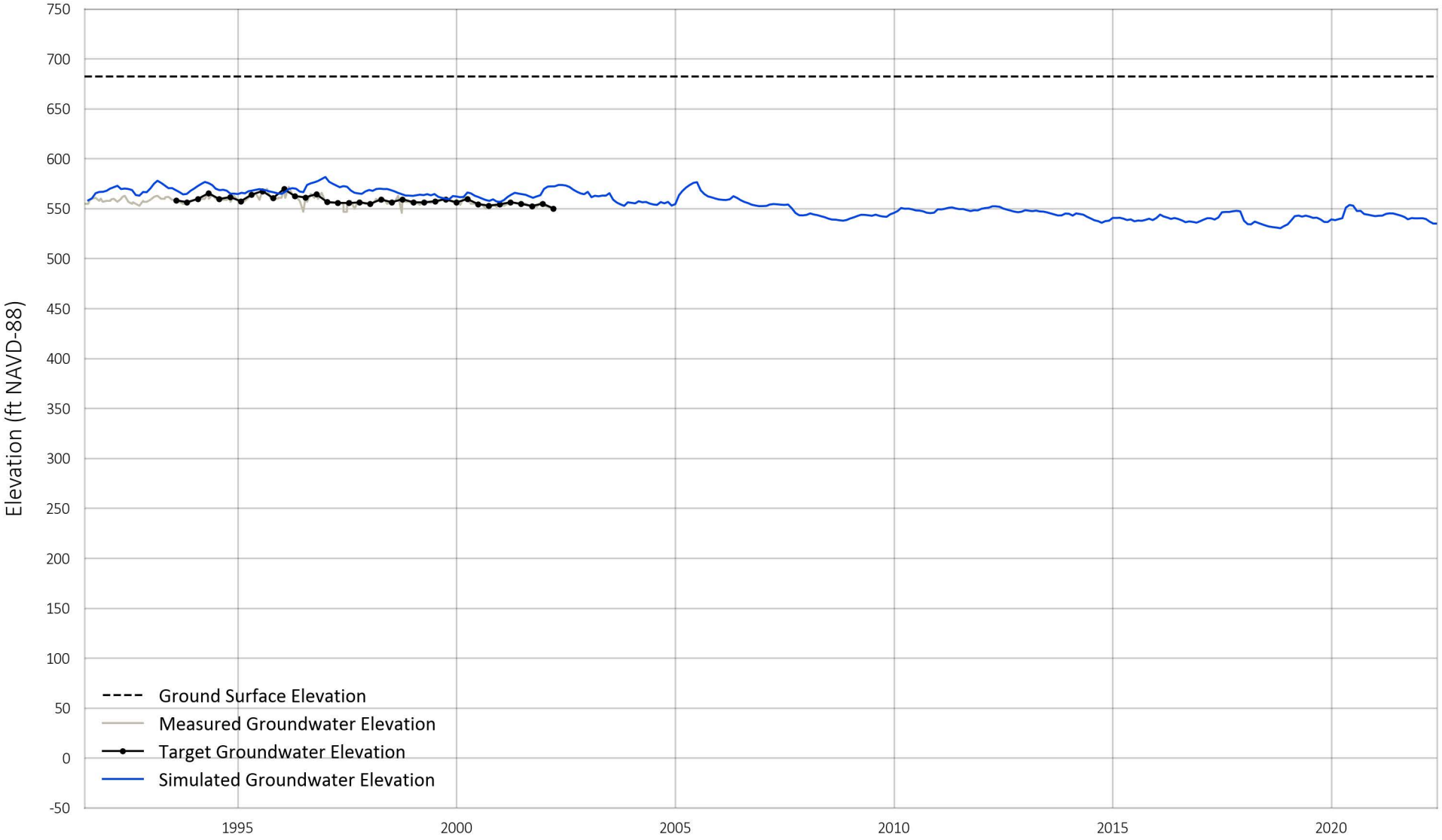
Target Groundwater Elevation (ft)
Mean = 514.55
Standard Deviation = 64.55

Simulated Groundwater Elevation (ft)
Mean = 508.18
Standard Deviation = 42.57

Mean Residual (ft) = -6.38
RMSE (ft) = 33.92

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1203158
Well Name: CH HIL 19
Owner: City of Chino Hills

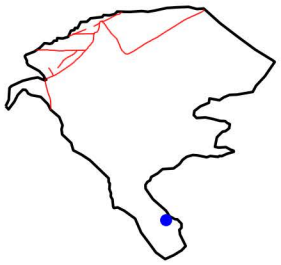
Figure B5-19



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

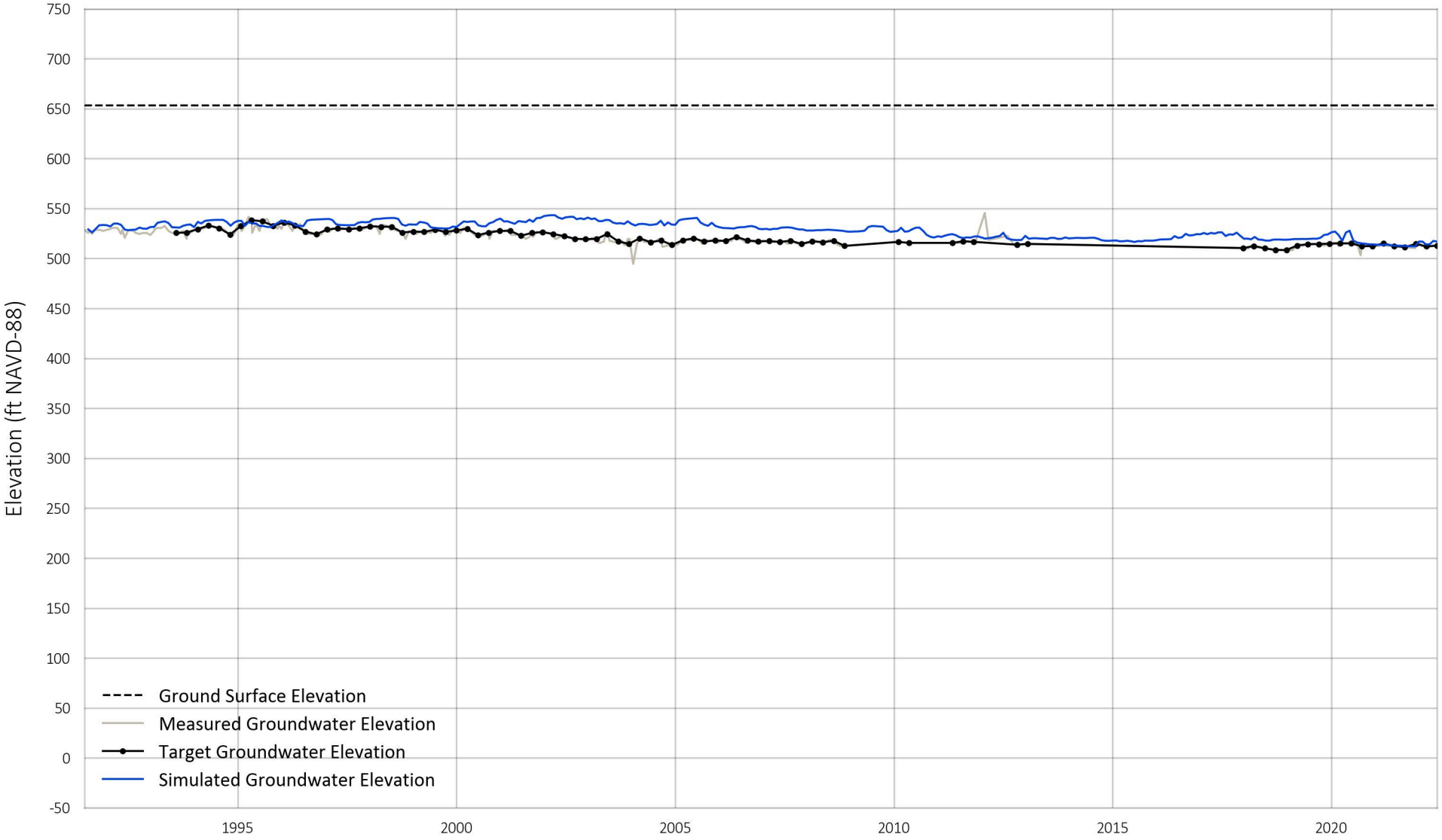
Target Groundwater Elevation (ft)
Mean = 558.21
Standard Deviation = 4.23

Simulated Groundwater Elevation (ft)
Mean = 566.86
Standard Deviation = 4.99

Mean Residual (ft) = 8.65
RMSE (ft) = 10.11

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1004636
Well Name: COR 06
Owner: City of Corona

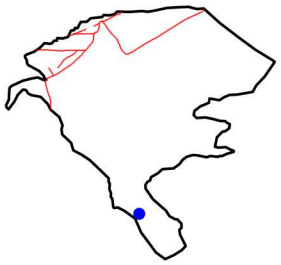
Figure B5-20



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

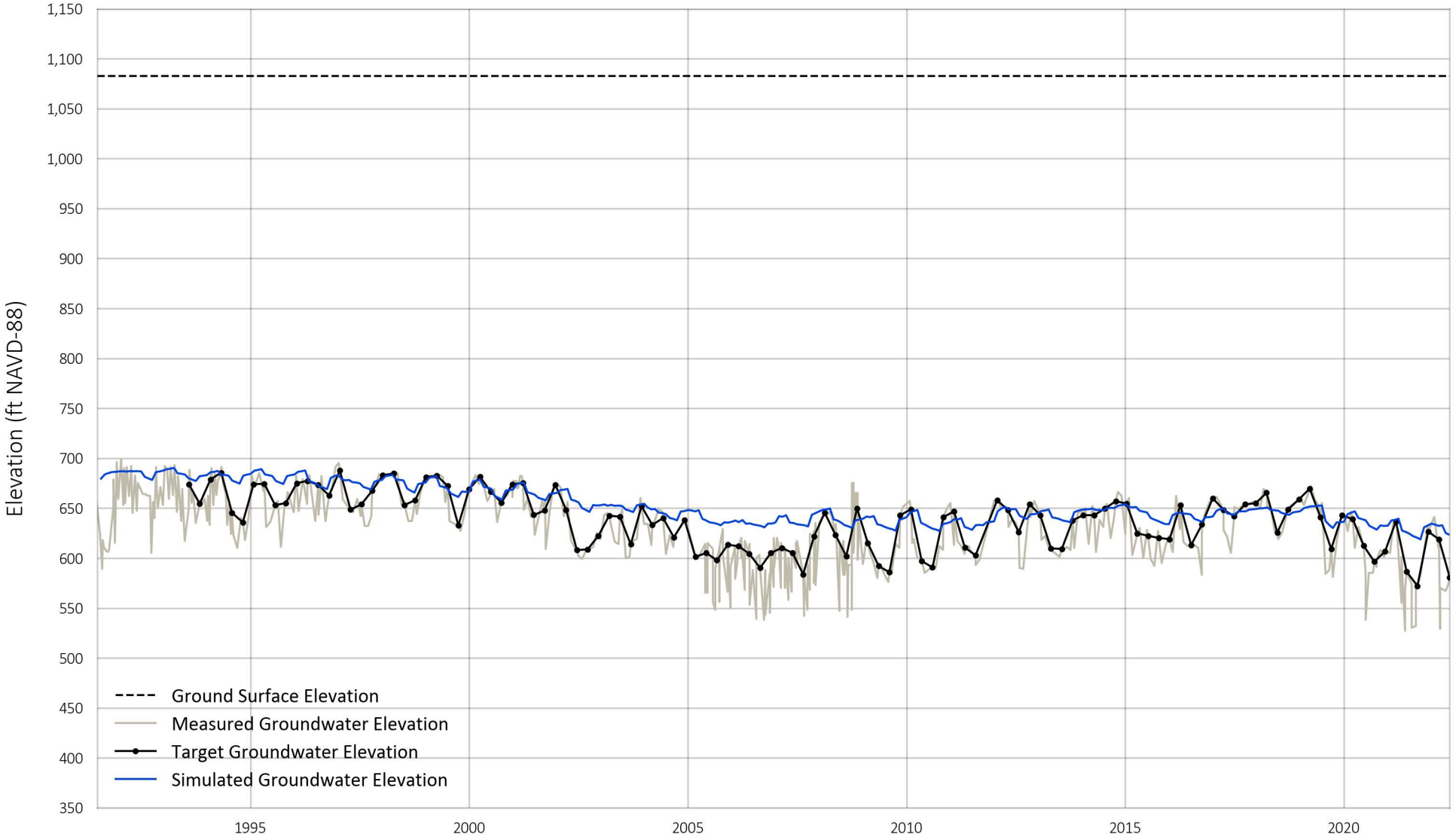
Target Groundwater Elevation (ft)
Mean = 521.06
Standard Deviation = 7.39

Simulated Groundwater Elevation (ft)
Mean = 530.36
Standard Deviation = 8.24

Mean Residual (ft) = 9.30
RMSE (ft) = 11.11

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1004920
Well Name: COR 11
Owner: City of Corona

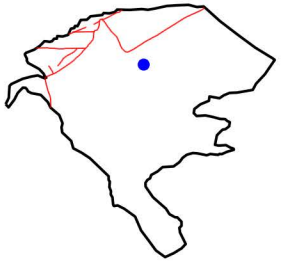
Figure B5-21



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

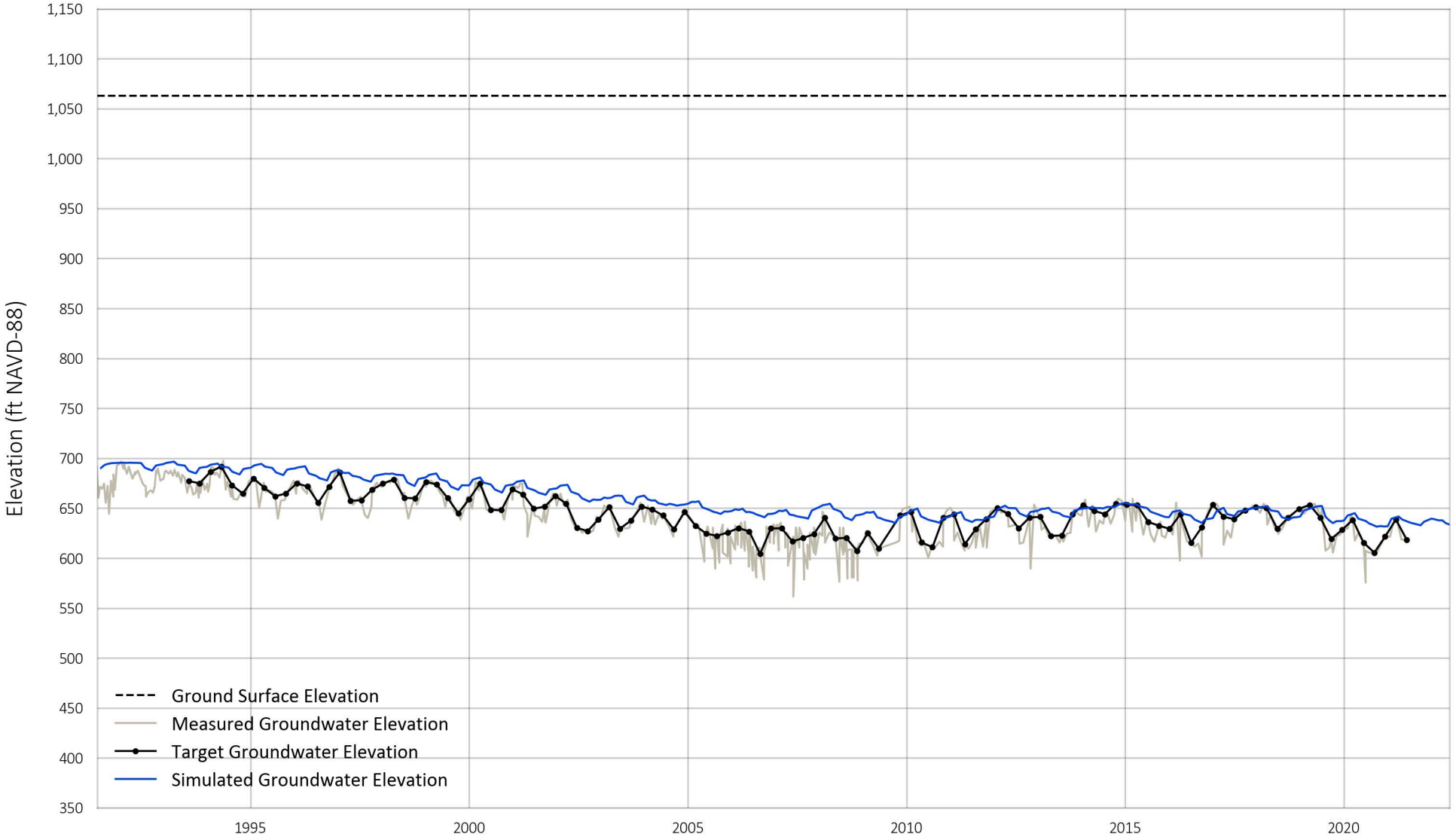
Target Groundwater Elevation (ft)
Mean = 638.00
Standard Deviation = 27.91

Simulated Groundwater Elevation (ft)
Mean = 651.72
Standard Deviation = 17.54

Mean Residual (ft) = 13.71
RMSE (ft) = 21.95

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002309
Well Name: CVWD 1
Owner: Cucamonga Valley Water District

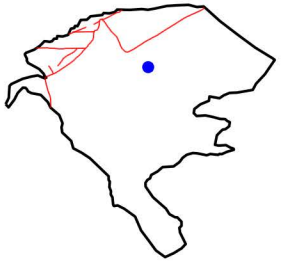
Figure B5-22



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

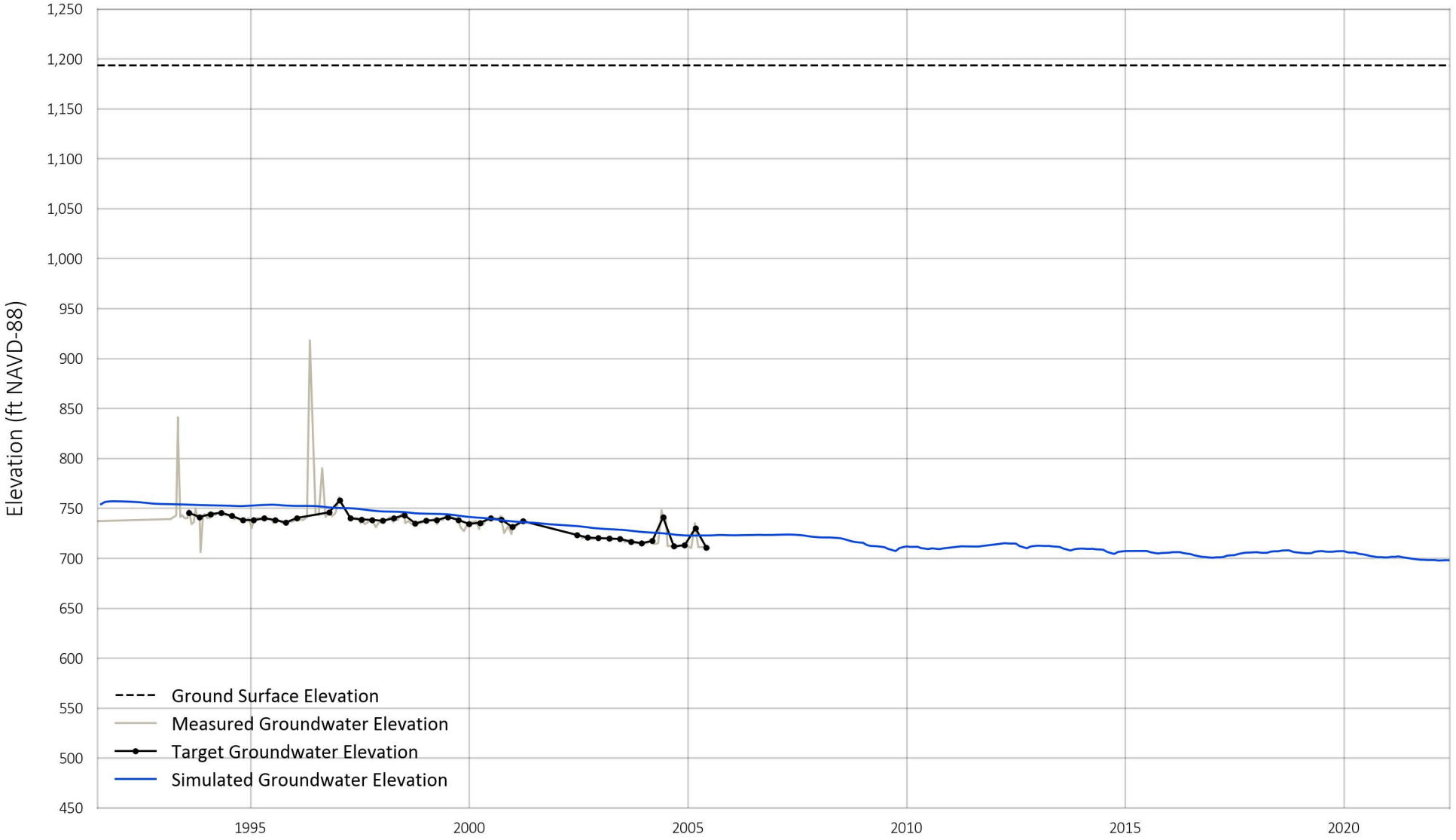
Target Groundwater Elevation (ft)
Mean = 644.21
Standard Deviation = 19.99

Simulated Groundwater Elevation (ft)
Mean = 657.63
Standard Deviation = 17.71

Mean Residual (ft) = 13.43
RMSE (ft) = 16.99

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002312
Well Name: CVWD 3
Owner: Cucamonga Valley Water District

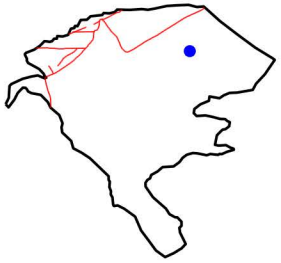
Figure B5-23



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

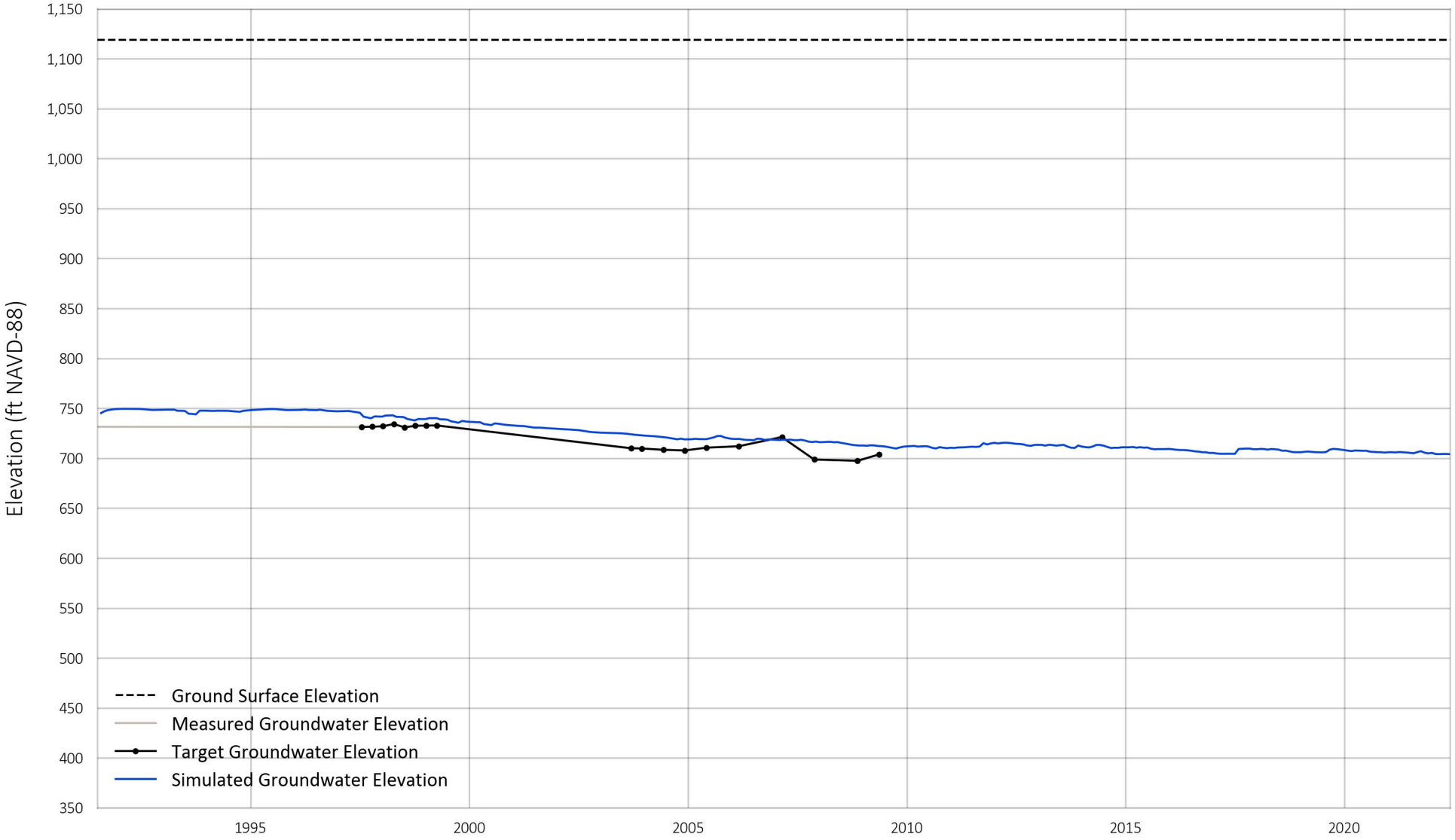
Target Groundwater Elevation (ft)
Mean = 733.83
Standard Deviation = 11.00

Simulated Groundwater Elevation (ft)
Mean = 741.08
Standard Deviation = 10.82

Mean Residual (ft) = 7.25
RMSE (ft) = 9.63

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002205
Well Name: CVWD 35
Owner: Cucamonga Valley Water District

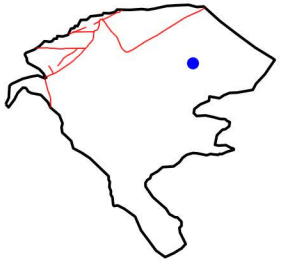
Figure B5-24



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

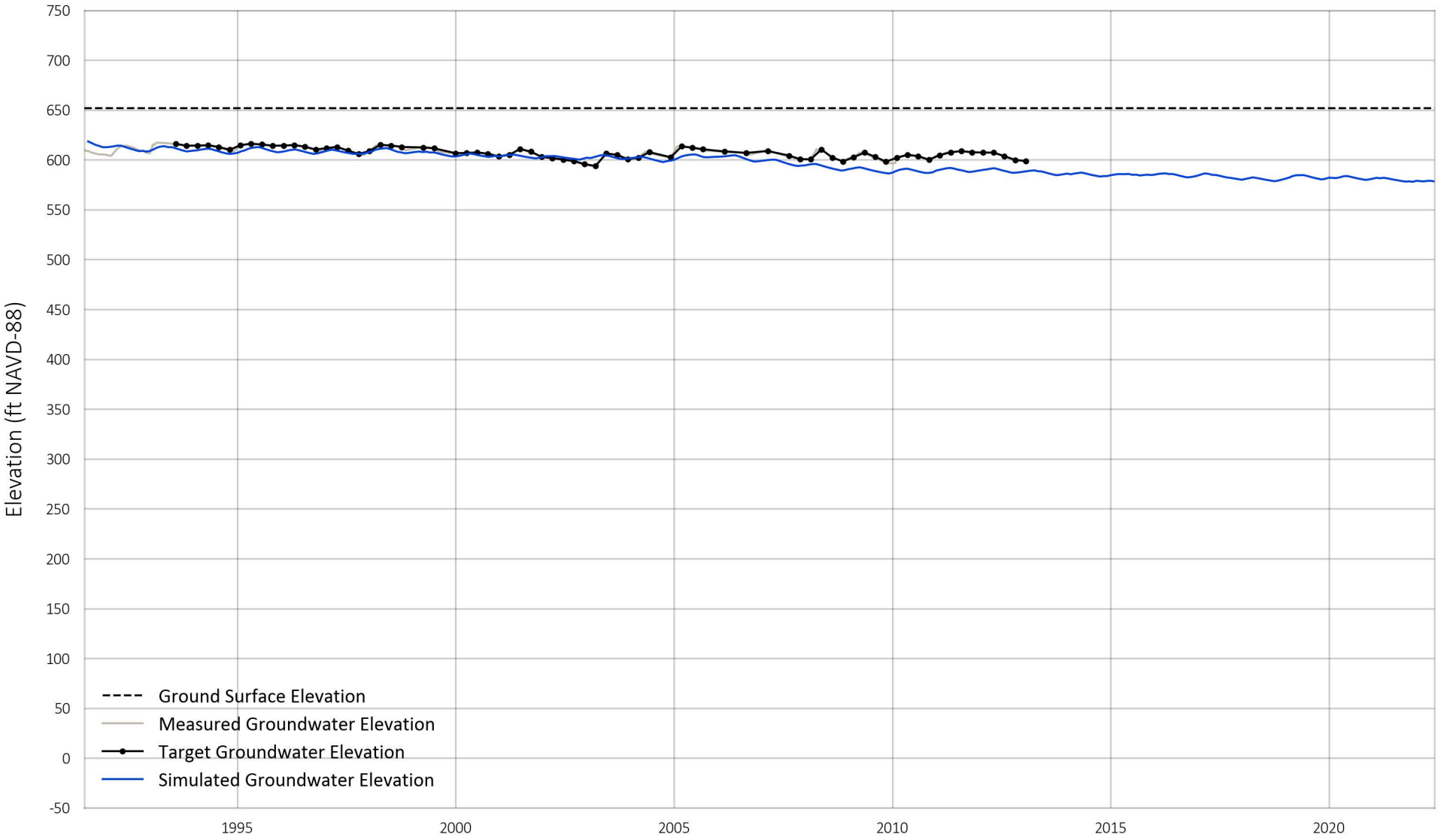
Target Groundwater Elevation (ft)
Mean = 718.79
Standard Deviation = 13.38

Simulated Groundwater Elevation (ft)
Mean = 728.51
Standard Deviation = 11.83

Mean Residual (ft) = 9.72
RMSE (ft) = 10.65

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002219
Well Name: Cal Speedway 1
Owner: California Speedway

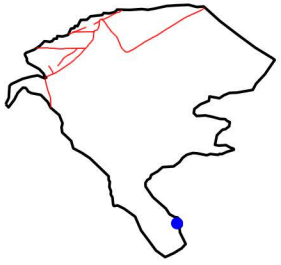
Figure B5-25



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

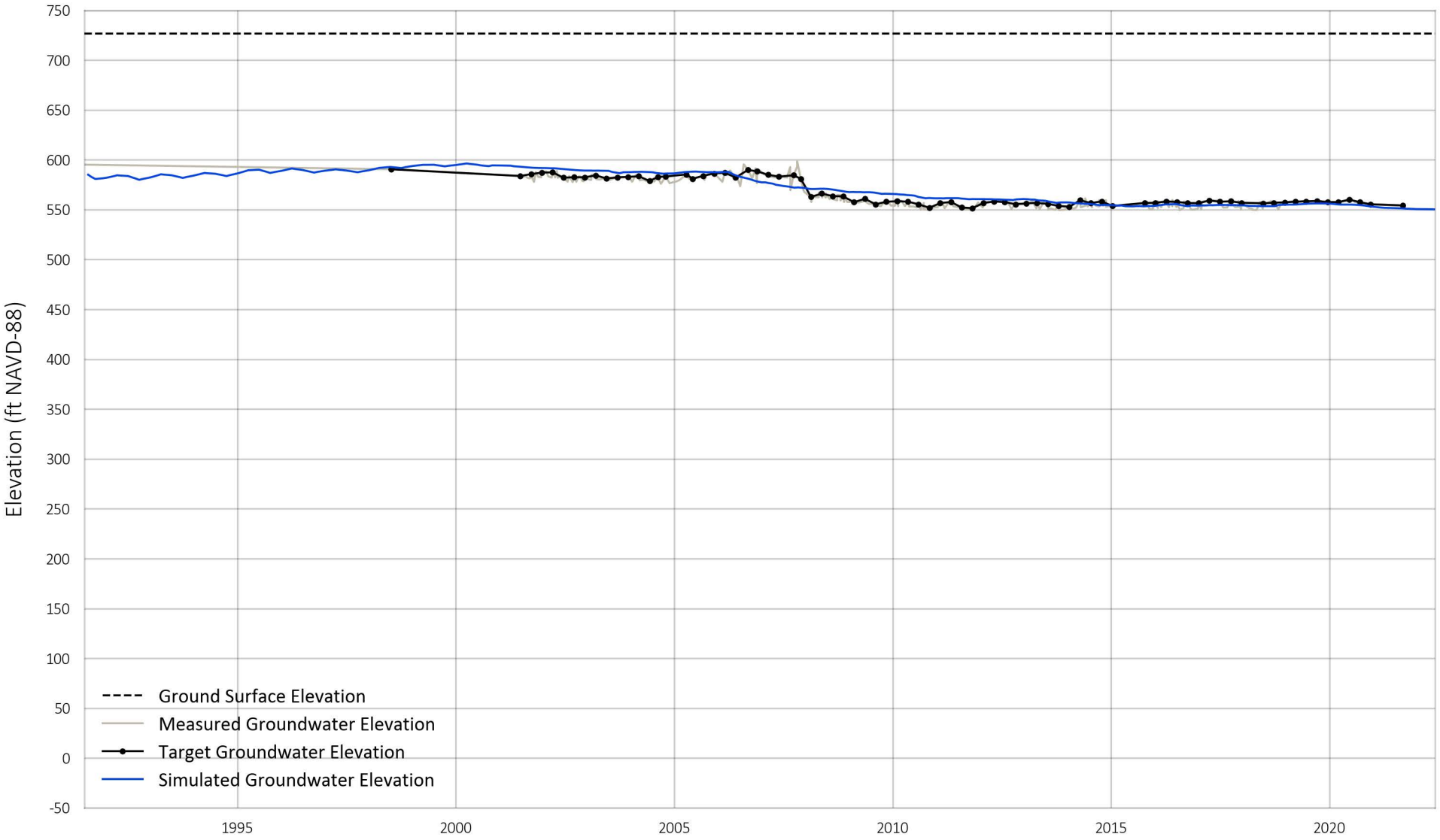
Target Groundwater Elevation (ft)
Mean = 607.18
Standard Deviation = 5.51

Simulated Groundwater Elevation (ft)
Mean = 600.84
Standard Deviation = 7.83

Mean Residual (ft) = -6.34
RMSE (ft) = 8.65

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1222093
Well Name: Corona CG-1
Owner: Riverside County Dept of Waste Resources

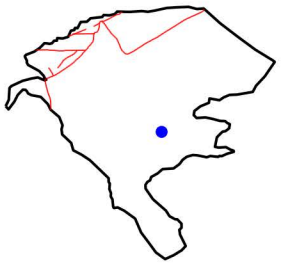
Figure B5-26



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

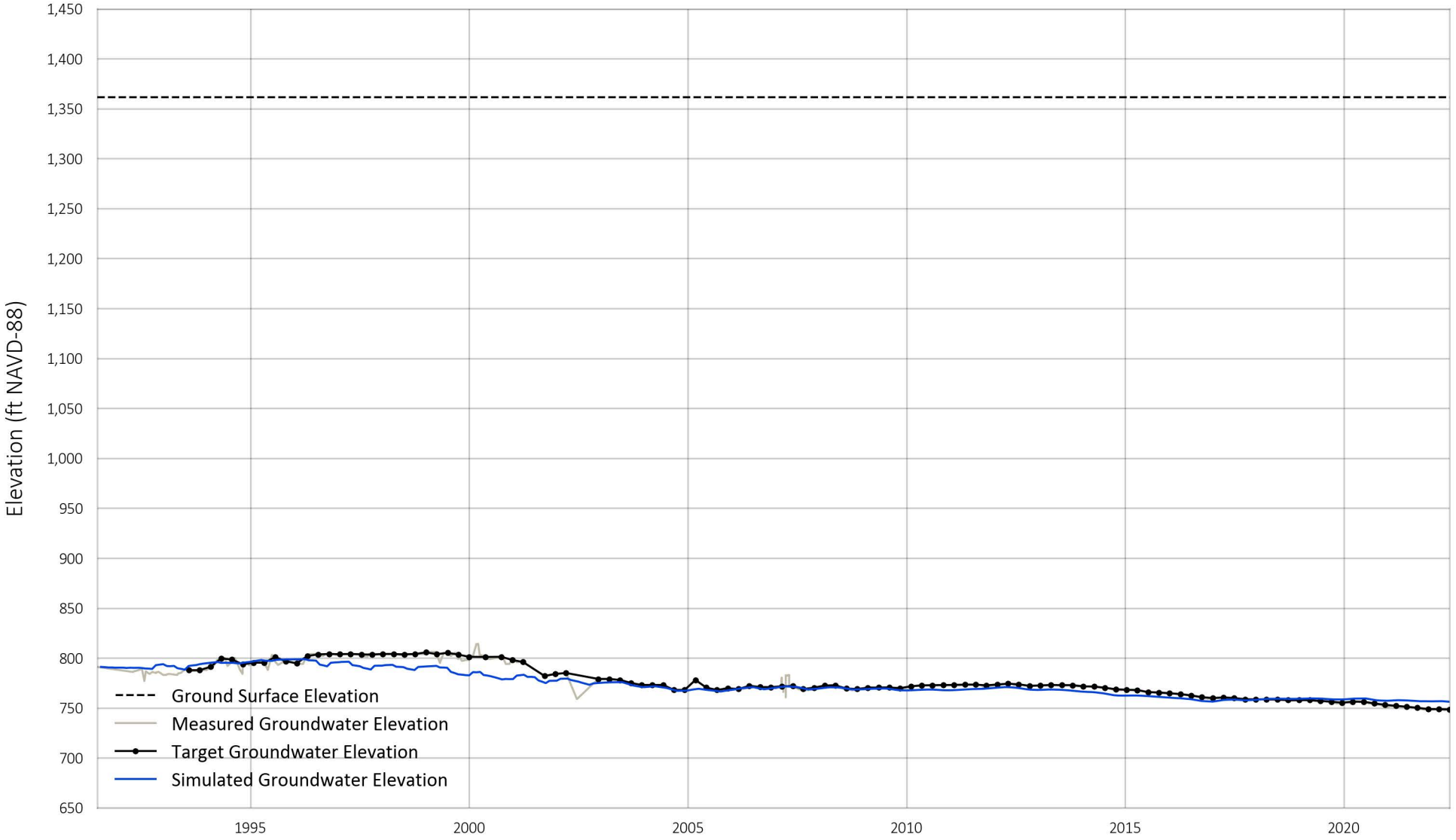
Target Groundwater Elevation (ft)
Mean = 566.87
Standard Deviation = 13.24

Simulated Groundwater Elevation (ft)
Mean = 568.50
Standard Deviation = 14.24

Mean Residual (ft) = 1.62
RMSE (ft) = 5.63

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1003810
Well Name: Private Well
Owner: Private

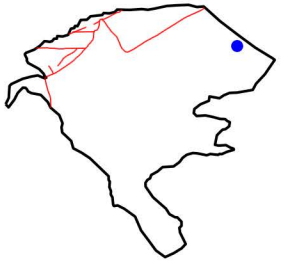
Figure B5-27



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

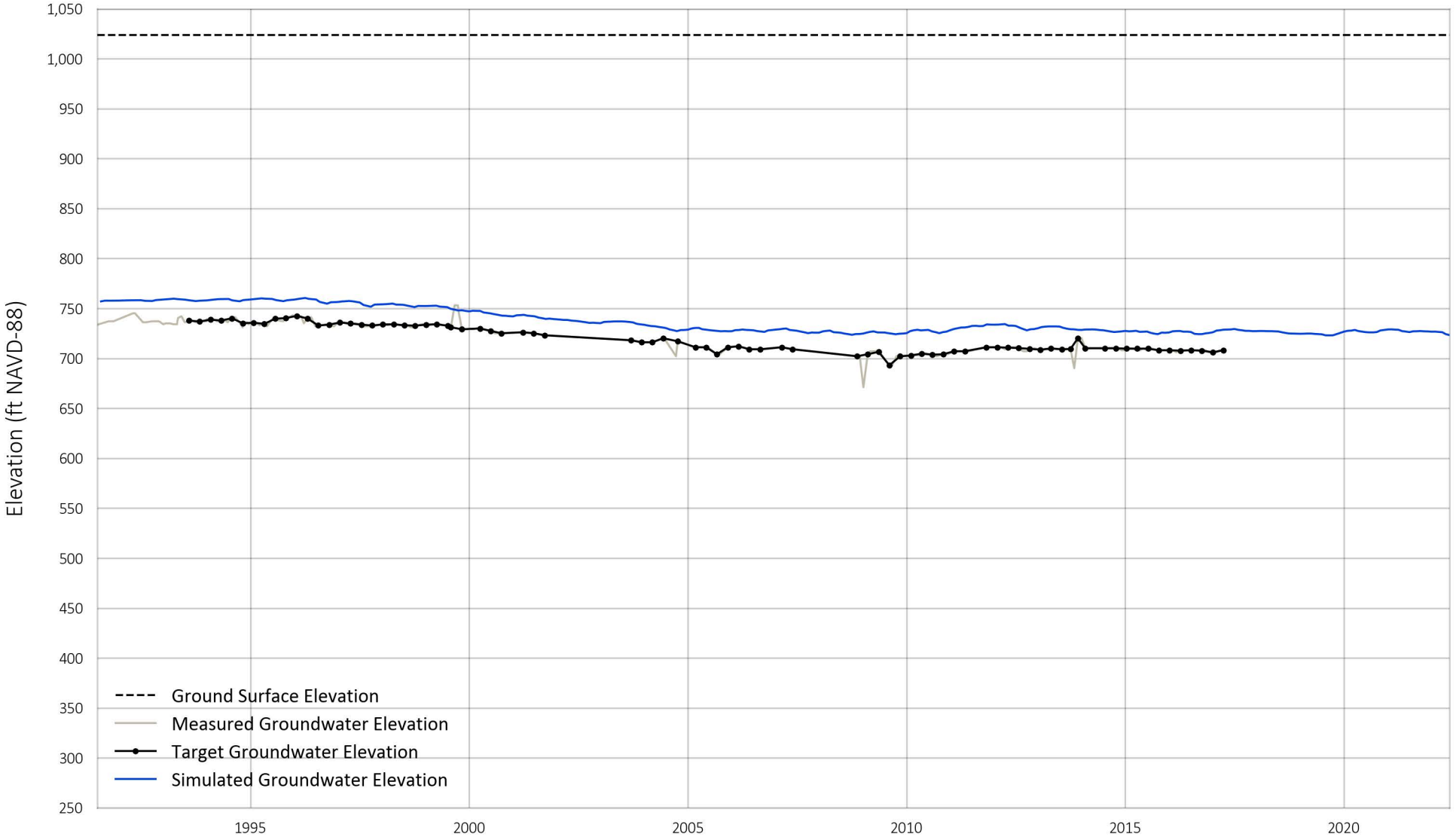
Target Groundwater Elevation (ft)
Mean = 776.16
Standard Deviation = 16.50

Simulated Groundwater Elevation (ft)
Mean = 772.72
Standard Deviation = 13.04

Mean Residual (ft) = -3.45
RMSE (ft) = 6.94

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002082
Well Name: F18A
Owner: Fontana Water Company

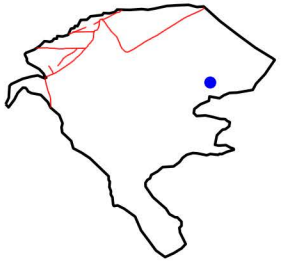
Figure B5-28



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

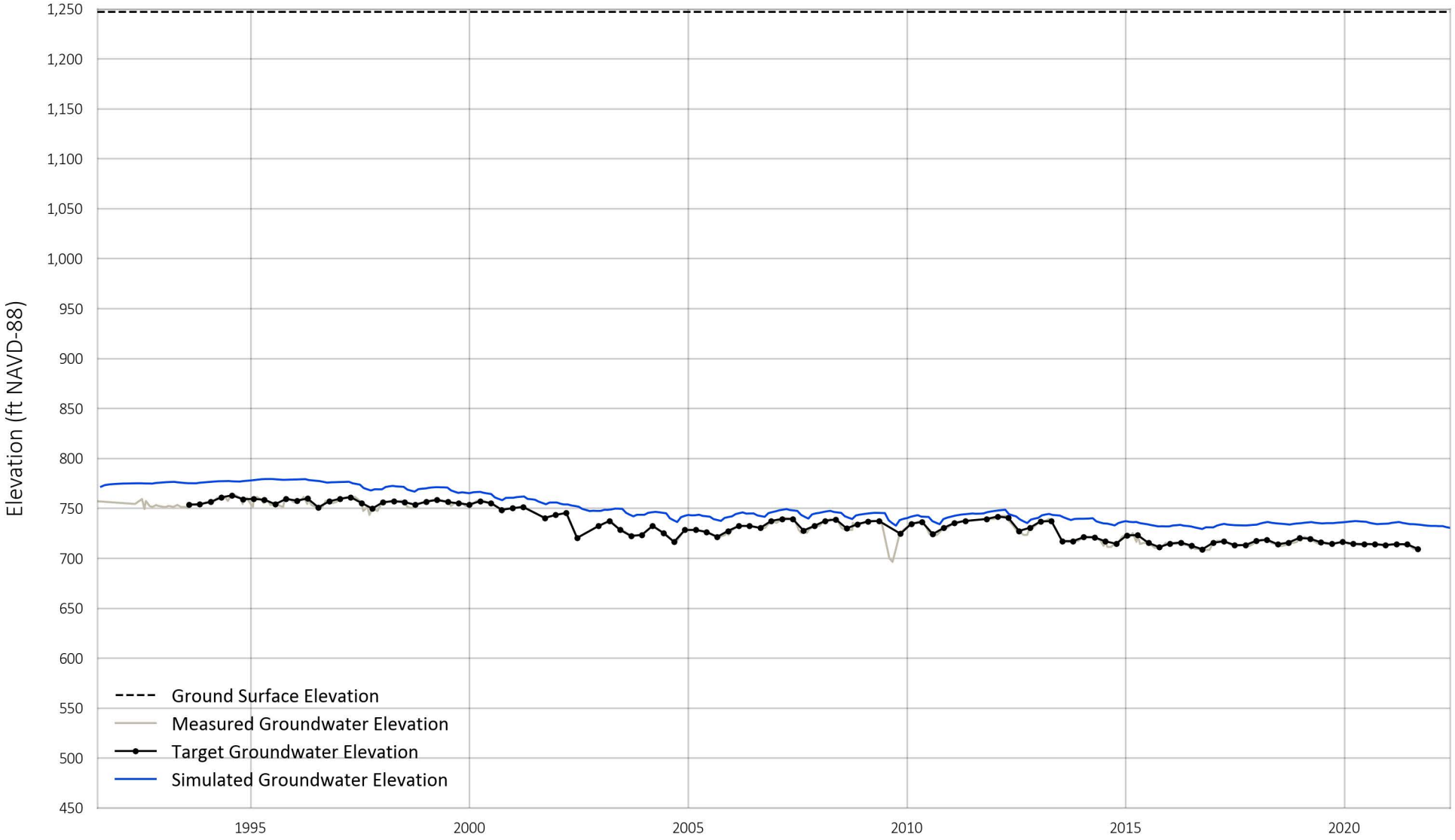
Target Groundwater Elevation (ft)
Mean = 719.18
Standard Deviation = 13.09

Simulated Groundwater Elevation (ft)
Mean = 738.75
Standard Deviation = 13.06

Mean Residual (ft) = 19.58
RMSE (ft) = 19.85

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002242
Well Name: F21A
Owner: Fontana Water Company

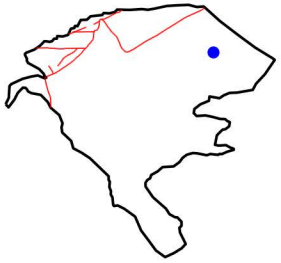
Figure B5-29



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

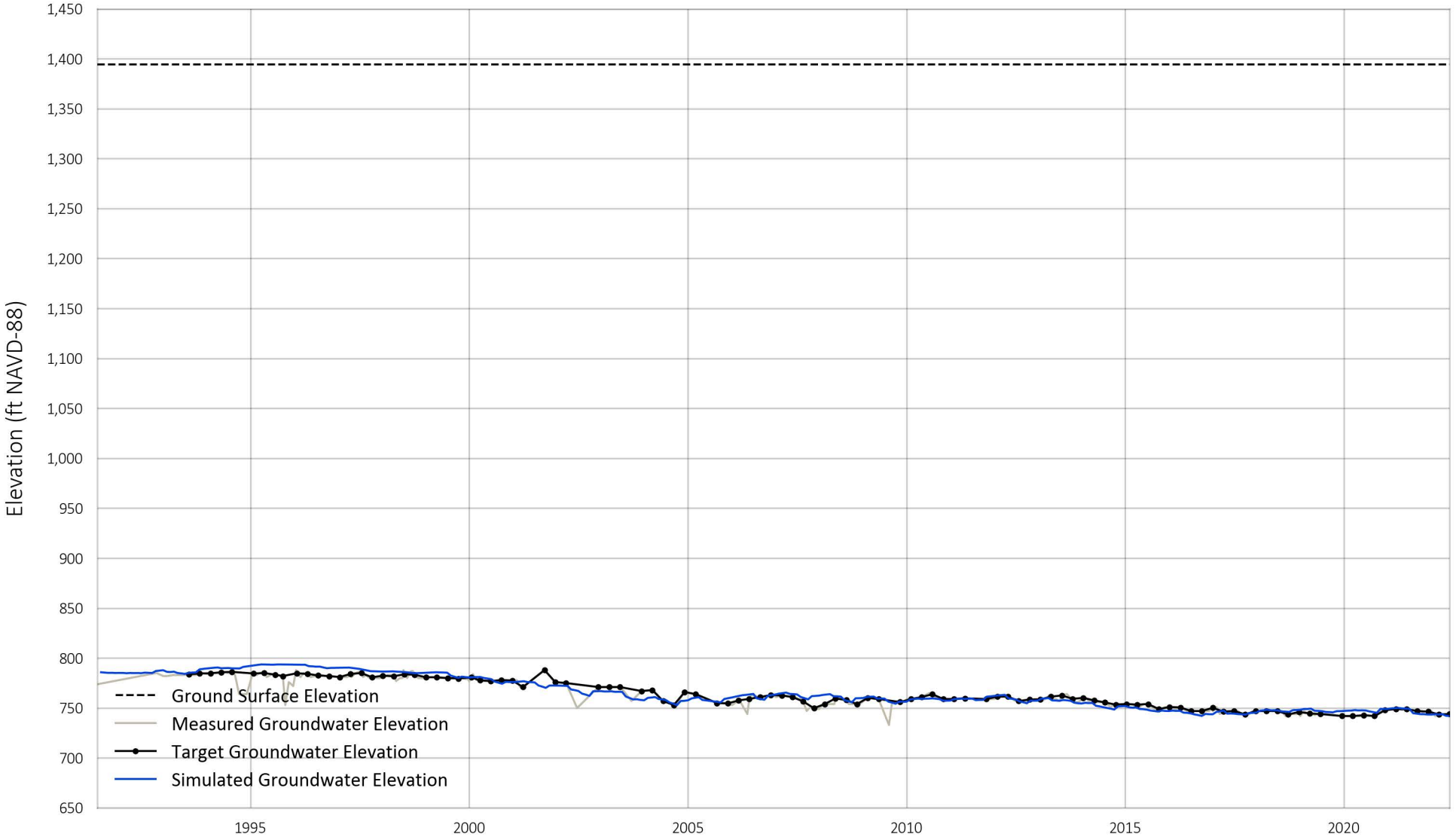
Target Groundwater Elevation (ft)
Mean = 734.09
Standard Deviation = 16.44

Simulated Groundwater Elevation (ft)
Mean = 749.43
Standard Deviation = 15.69

Mean Residual (ft) = 15.34
RMSE (ft) = 16.26

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002213
Well Name: F30A
Owner: Fontana Water Company

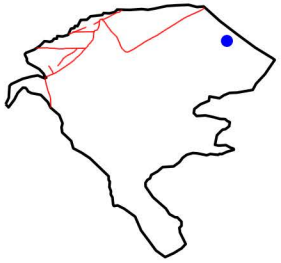
Figure B5-30



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

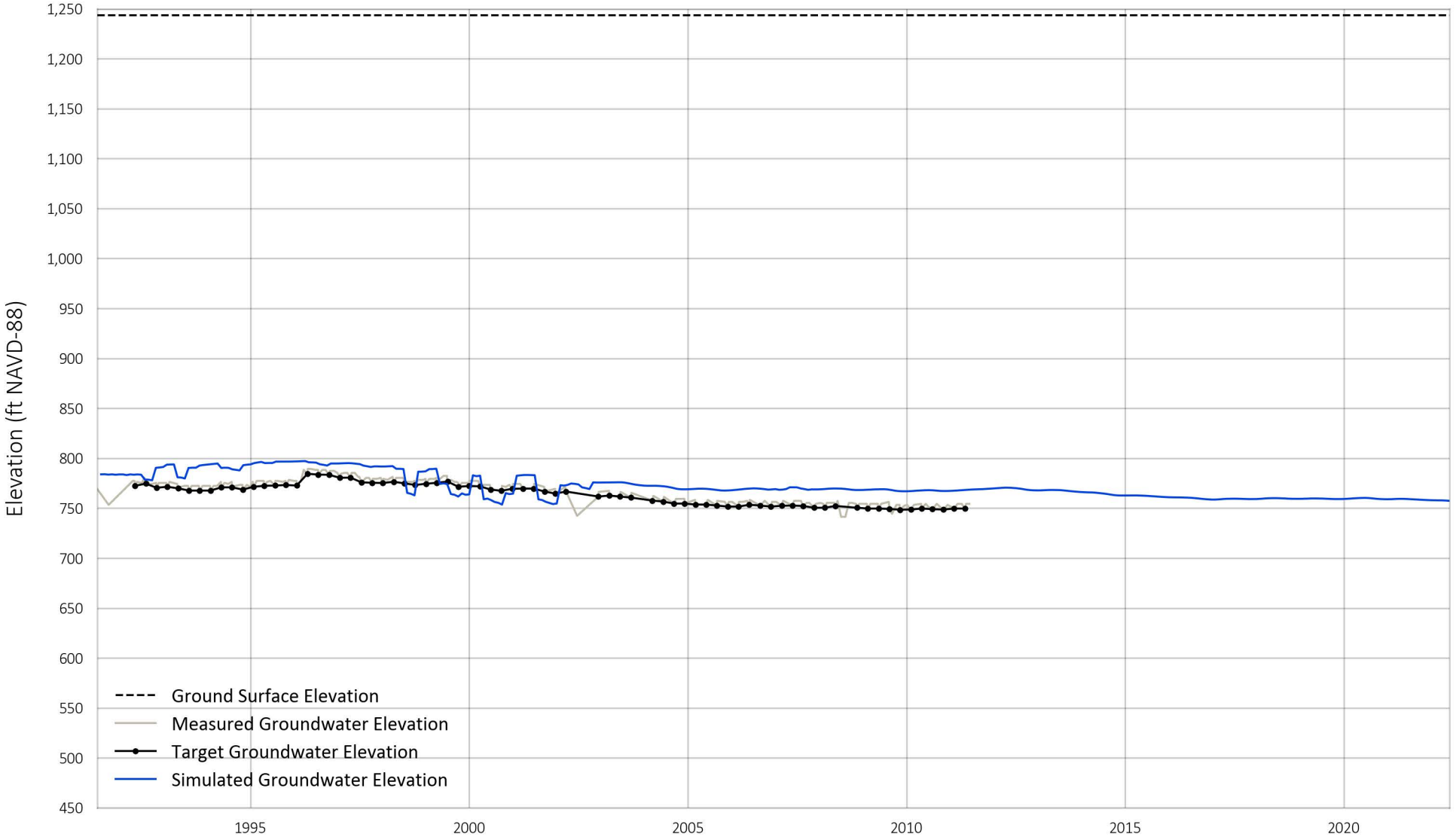
Target Groundwater Elevation (ft)
Mean = 763.12
Standard Deviation = 14.22

Simulated Groundwater Elevation (ft)
Mean = 763.97
Standard Deviation = 16.08

Mean Residual (ft) = 0.85
RMSE (ft) = 4.85

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002081
Well Name: F31A
Owner: Fontana Water Company

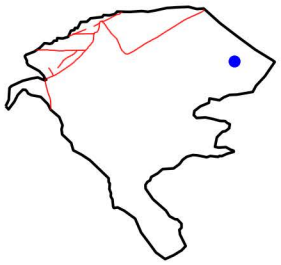
Figure B5-31



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

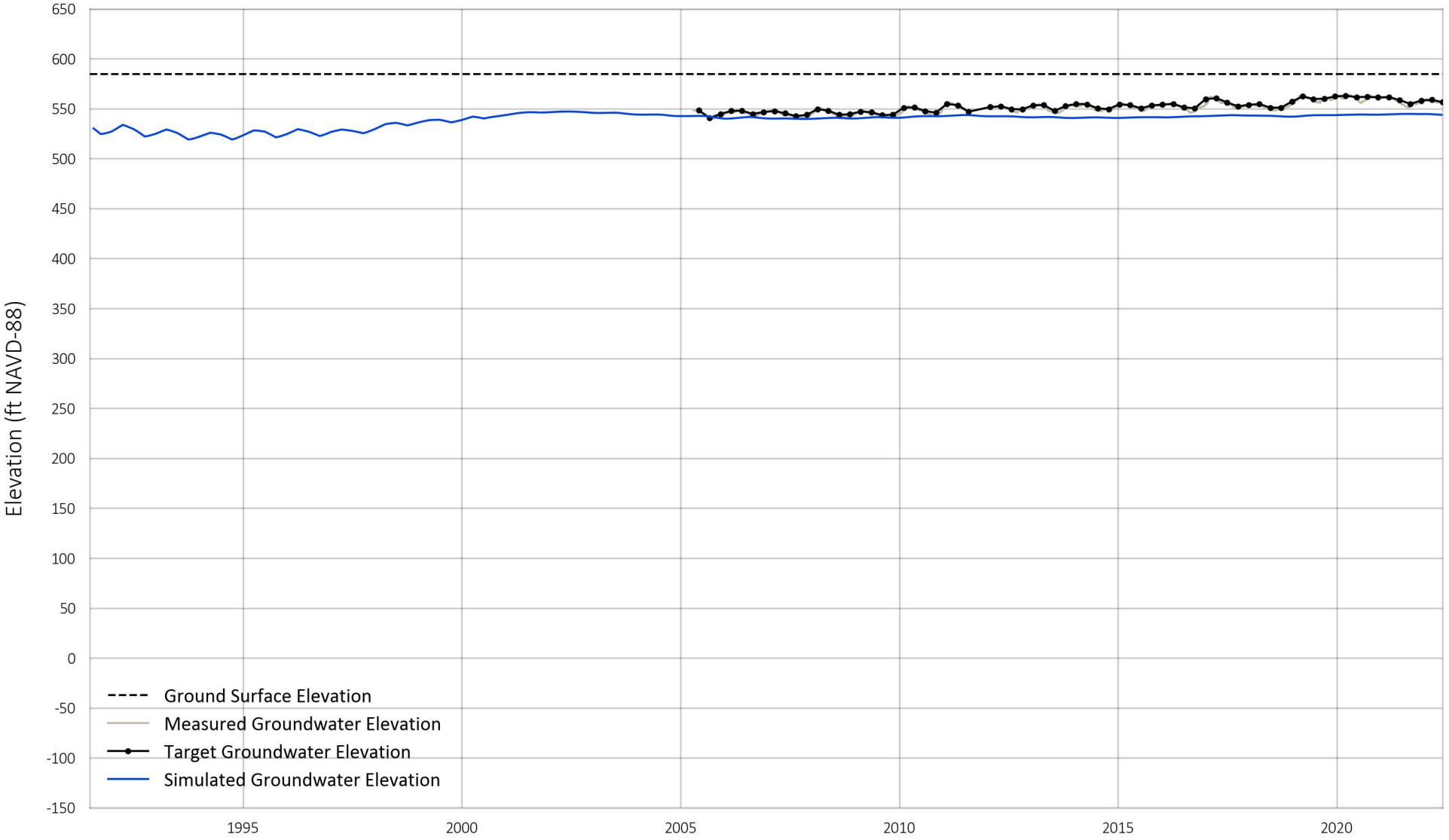
Target Groundwater Elevation (ft)
Mean = 763.91
Standard Deviation = 10.89

Simulated Groundwater Elevation (ft)
Mean = 777.49
Standard Deviation = 12.22

Mean Residual (ft) = 13.58
RMSE (ft) = 16.42

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002085
Well Name: F35A
Owner: Fontana Water Company

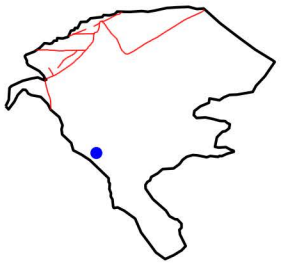
Figure B5-32



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

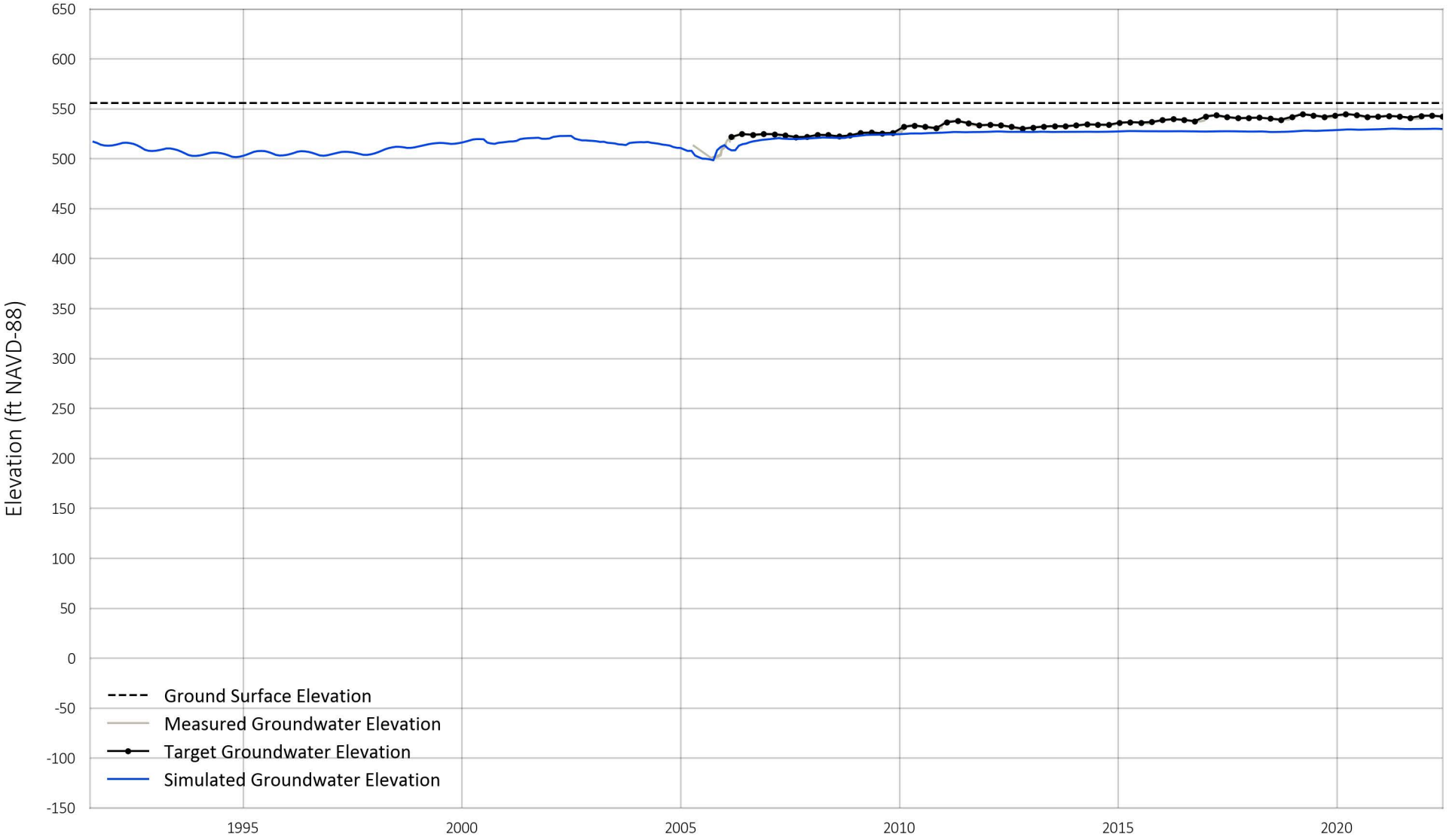
Target Groundwater Elevation (ft)
Mean = 552.09
Standard Deviation = 5.69

Simulated Groundwater Elevation (ft)
Mean = 542.04
Standard Deviation = 1.35

Mean Residual (ft) = -10.05
RMSE (ft) = 11.14

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1207980
Well Name: HCMP-3/1
Owner: Inland Empire Utilities Agency

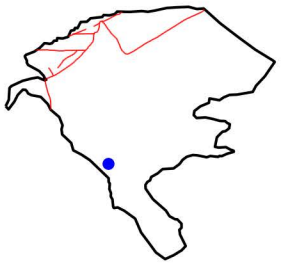
Figure B5-33



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

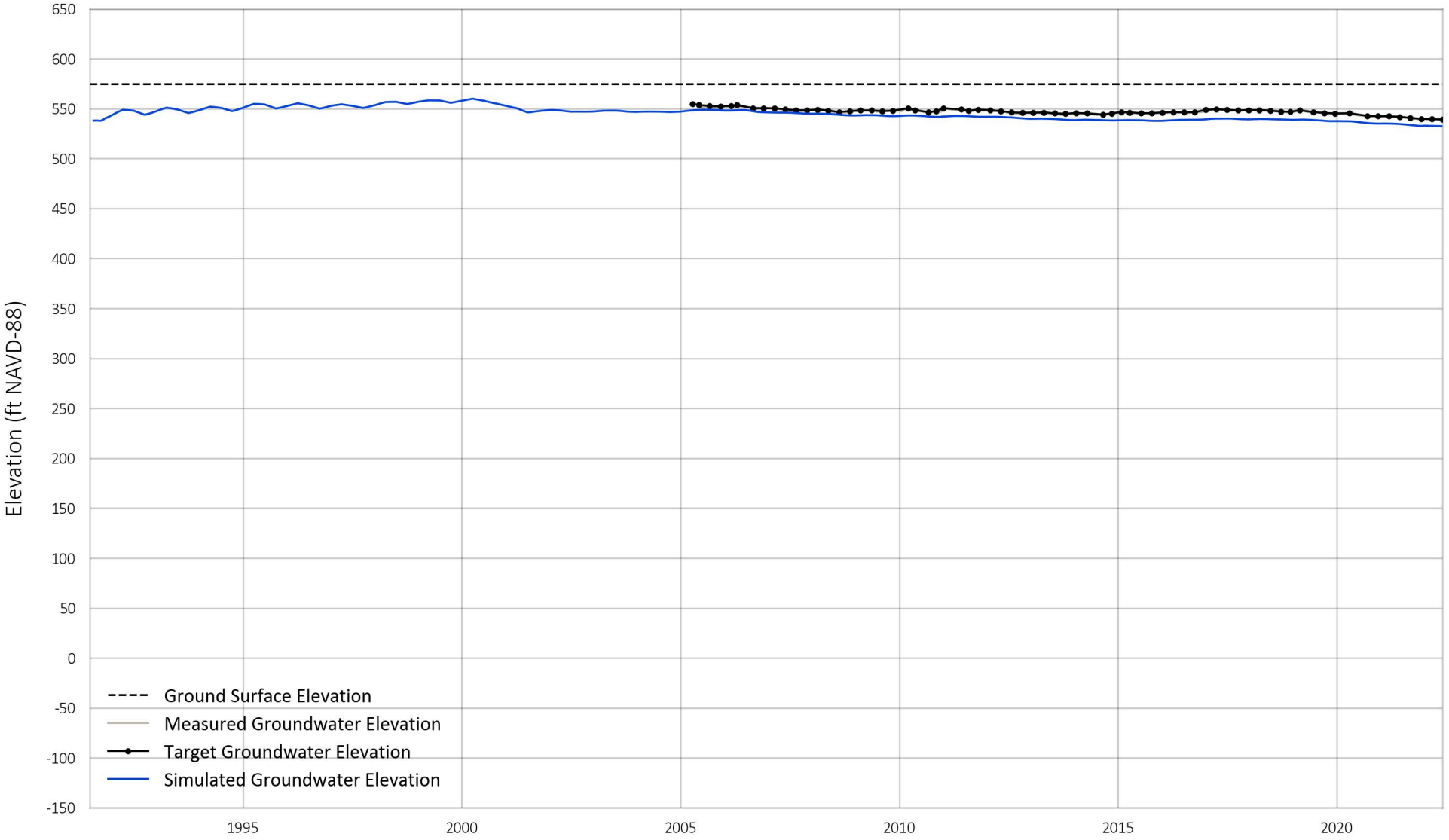
Target Groundwater Elevation (ft)
Mean = 534.51
Standard Deviation = 7.19

Simulated Groundwater Elevation (ft)
Mean = 525.59
Standard Deviation = 3.91

Mean Residual (ft) = -8.92
RMSE (ft) = 9.99

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1207981
Well Name: HCMP-4/1
Owner: Inland Empire Utilities Agency

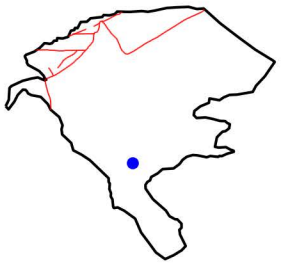
Figure B5-34



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

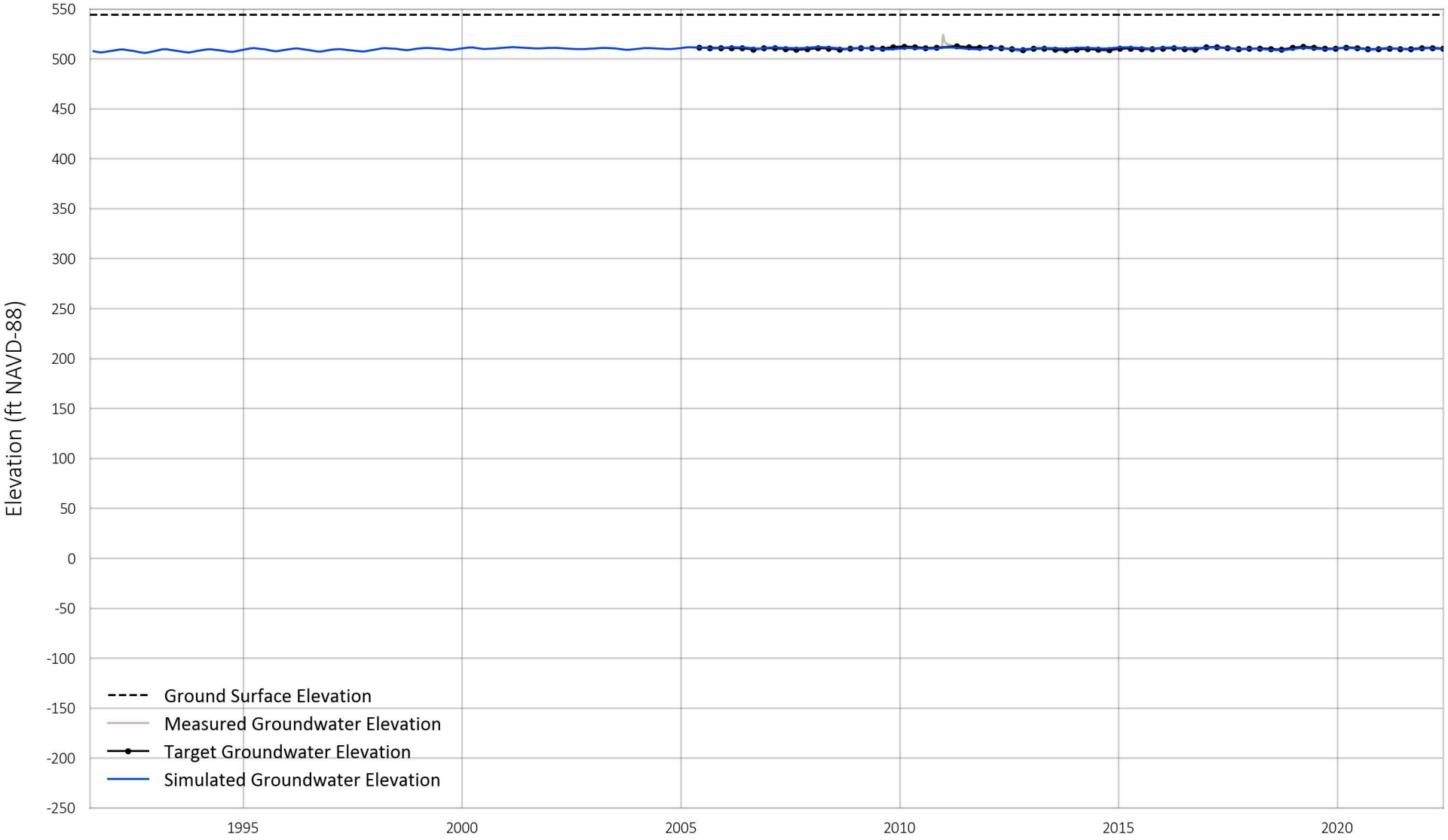
Target Groundwater Elevation (ft)
Mean = 547.20
Standard Deviation = 3.15

Simulated Groundwater Elevation (ft)
Mean = 540.83
Standard Deviation = 4.05

Mean Residual (ft) = -6.38
RMSE (ft) = 6.62

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1207982
Well Name: HCMP-5/1
Owner: Inland Empire Utilities Agency

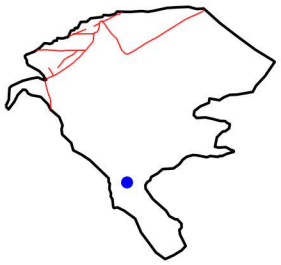
Figure B5-35



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

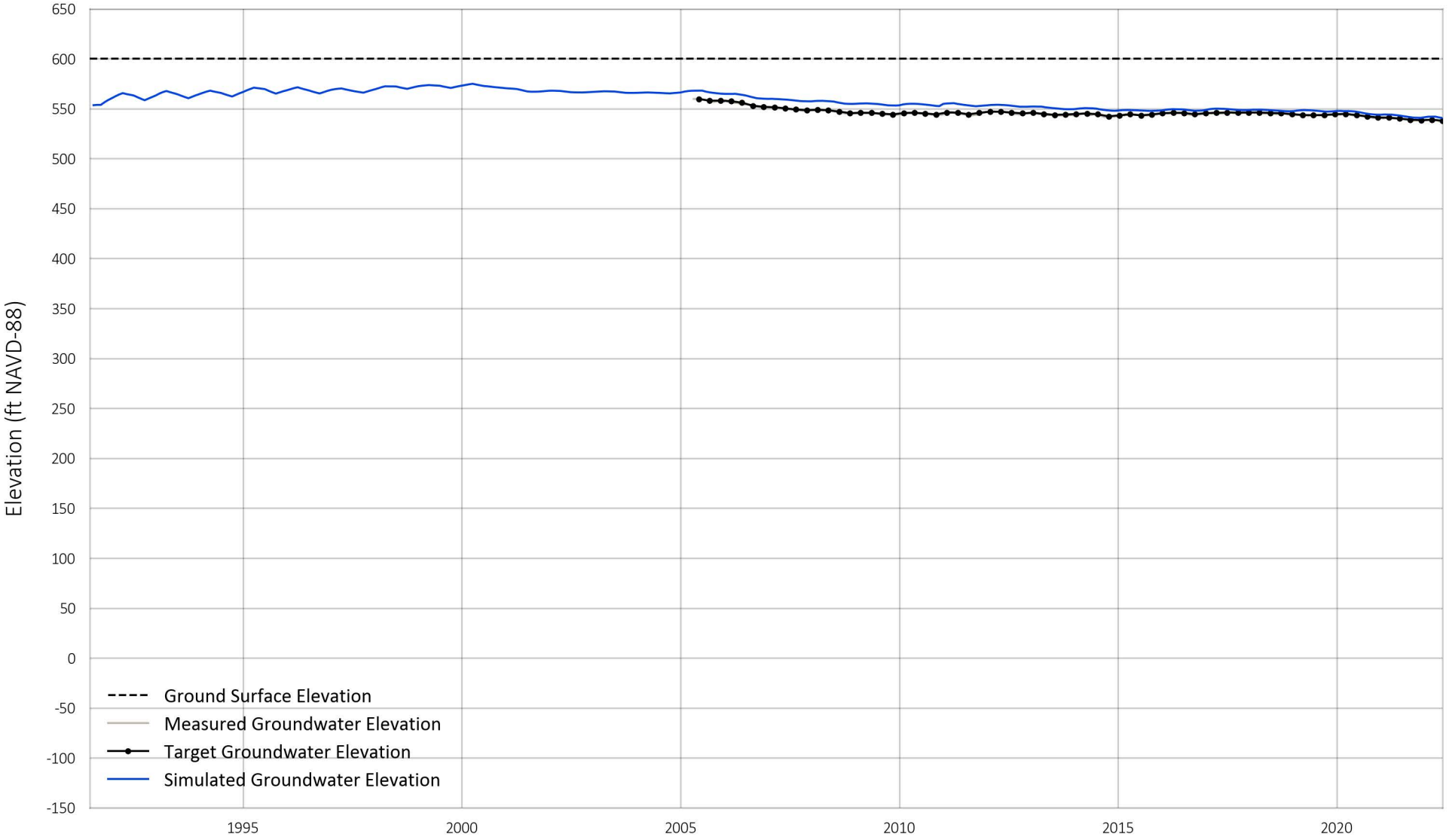
Target Groundwater Elevation (ft)
Mean = 510.33
Standard Deviation = 0.83

Simulated Groundwater Elevation (ft)
Mean = 510.38
Standard Deviation = 0.59

Mean Residual (ft) = 0.05
RMSE (ft) = 0.89

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1207983
Well Name: HCMP-6/1
Owner: Inland Empire Utilities Agency

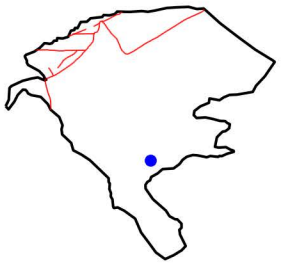
Figure B5-36



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

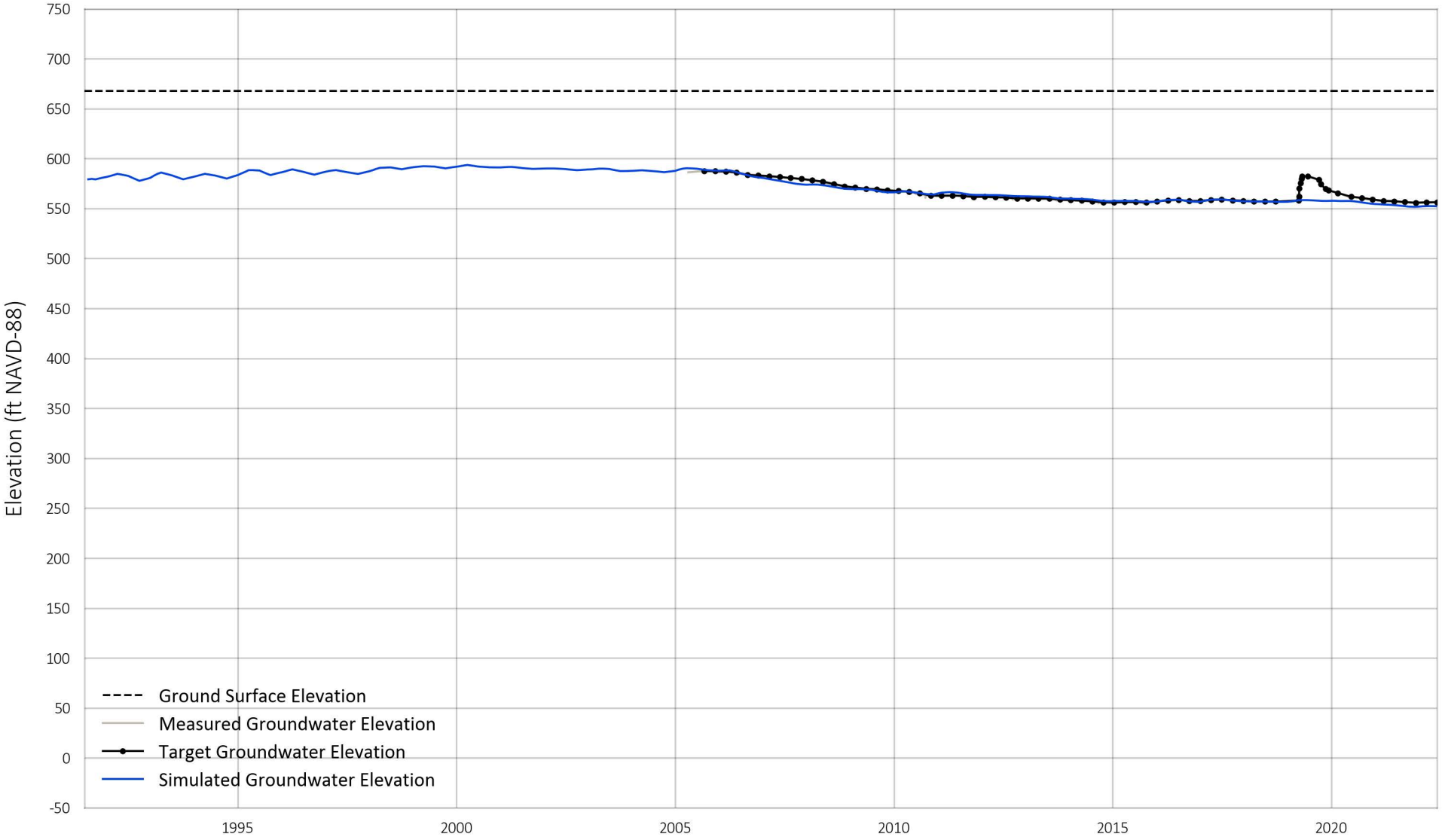
Target Groundwater Elevation (ft)
Mean = 545.95
Standard Deviation = 4.31

Simulated Groundwater Elevation (ft)
Mean = 551.77
Standard Deviation = 6.02

Mean Residual (ft) = 5.83
RMSE (ft) = 6.34

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1207984
Well Name: HCMP-7/1
Owner: Inland Empire Utilities Agency

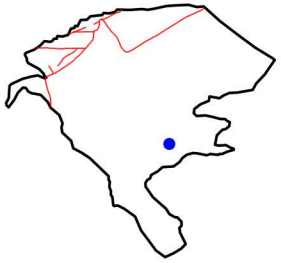
Figure B5-37



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

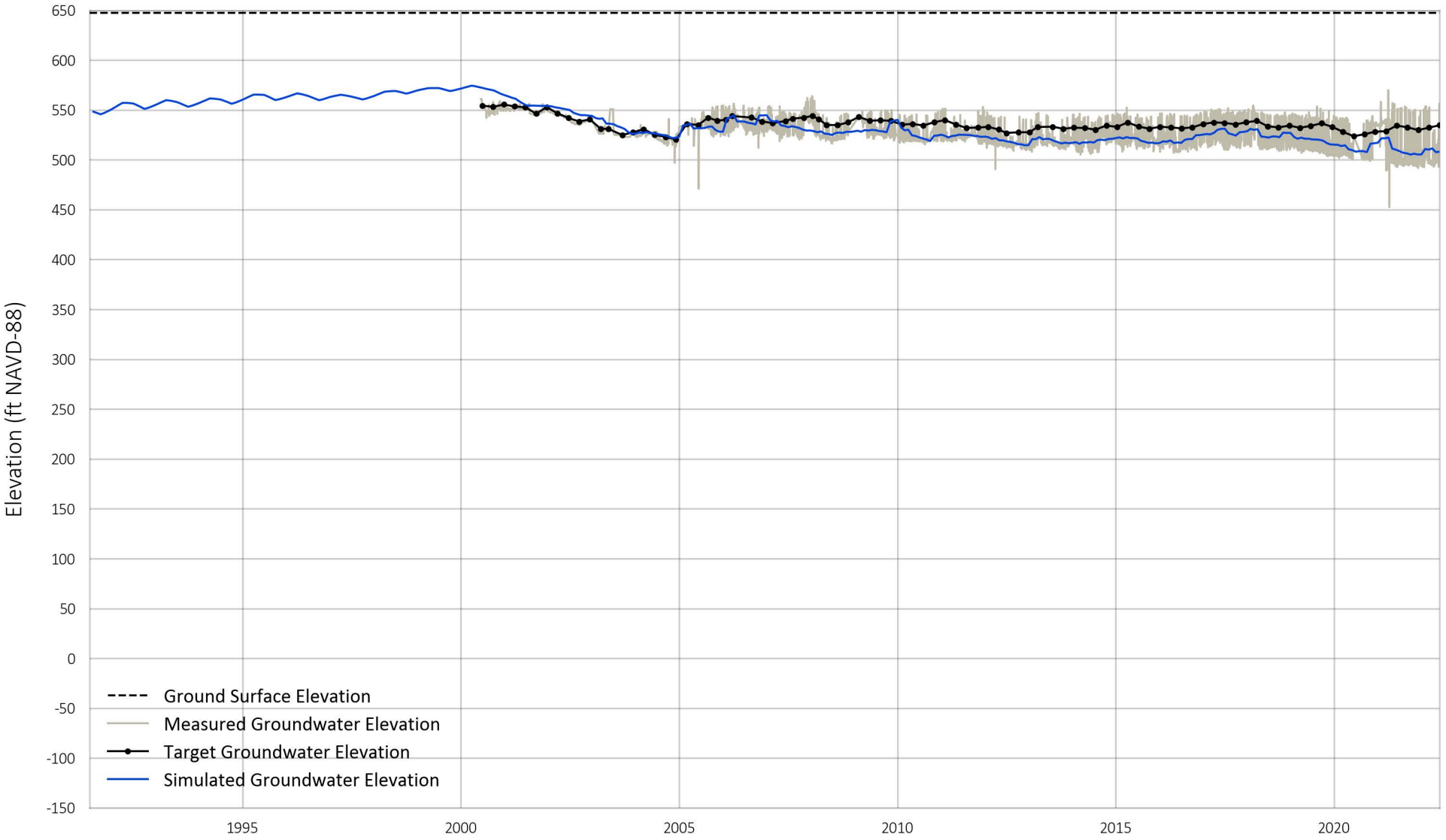
Target Groundwater Elevation (ft)
Mean = 566.07
Standard Deviation = 9.95

Simulated Groundwater Elevation (ft)
Mean = 563.28
Standard Deviation = 9.12

Mean Residual (ft) = -2.79
RMSE (ft) = 6.82

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1207985
Well Name: HCMP-8/1
Owner: Inland Empire Utilities Agency

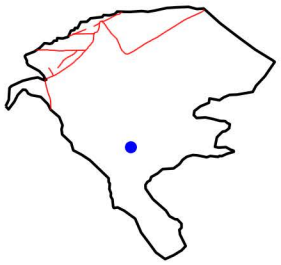
Figure B5-38



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

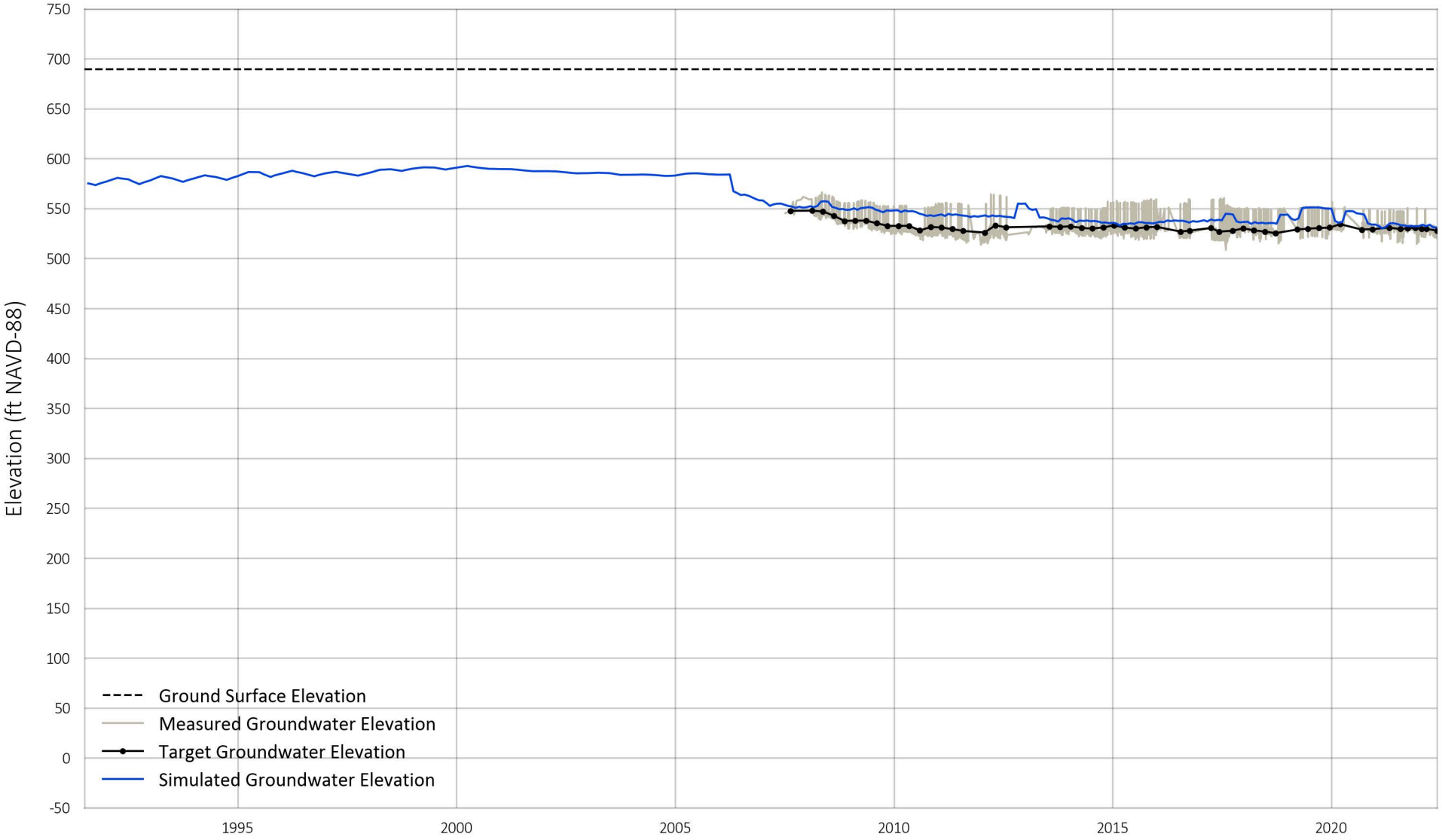
Target Groundwater Elevation (ft)
Mean = 535.77
Standard Deviation = 7.04

Simulated Groundwater Elevation (ft)
Mean = 528.10
Standard Deviation = 13.63

Mean Residual (ft) = -7.67
RMSE (ft) = 11.83

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1206682
Well Name: I-10
Owner: Chino Basin Desalter Authority

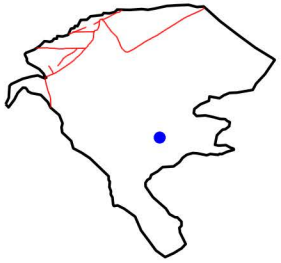
Figure B5-39



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

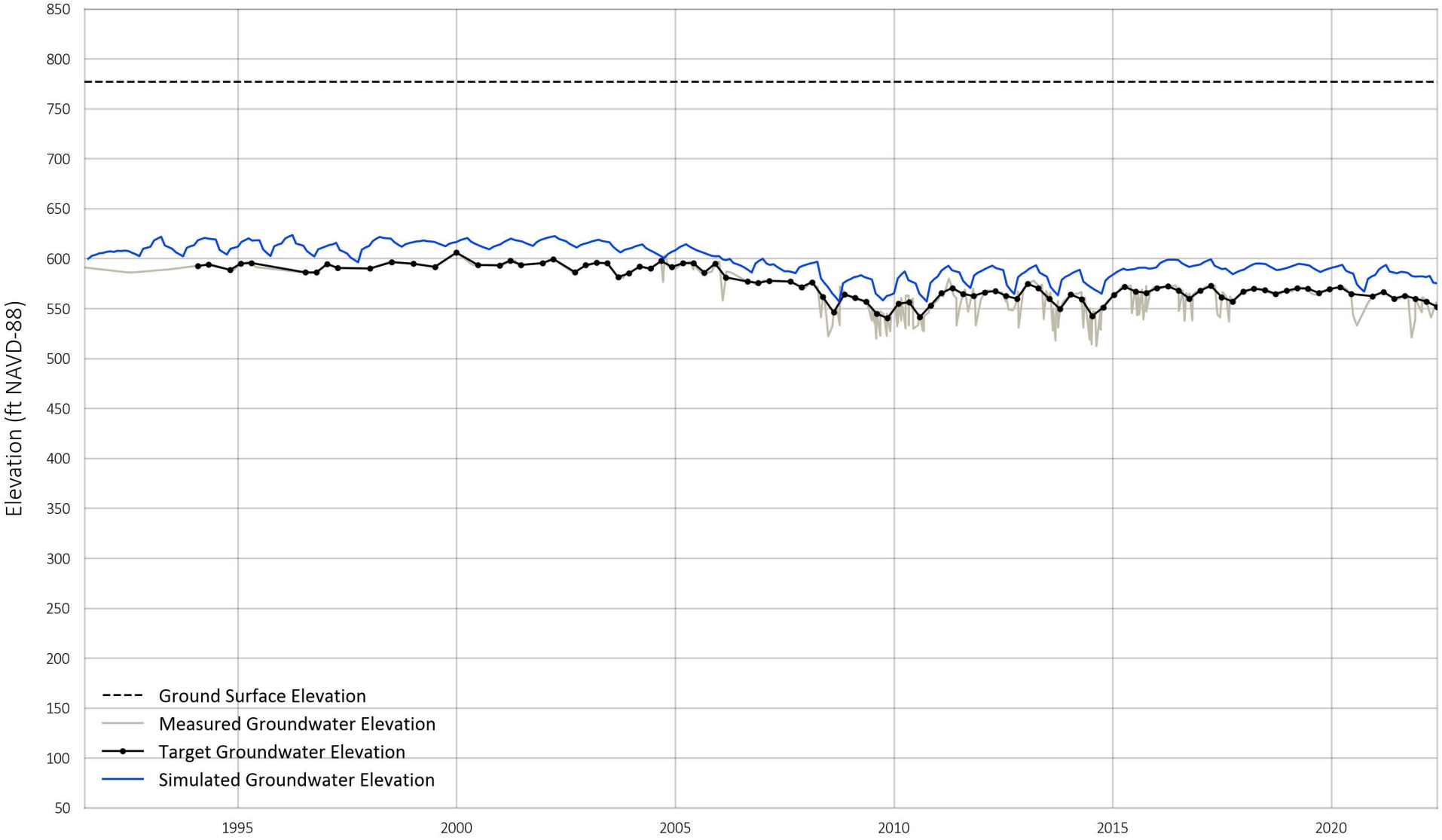
Target Groundwater Elevation (ft)
Mean = 531.83
Standard Deviation = 5.01

Simulated Groundwater Elevation (ft)
Mean = 541.12
Standard Deviation = 6.68

Mean Residual (ft) = 9.29
RMSE (ft) = 10.63

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1206962
Well Name: II-2
Owner: Chino Basin Desalter Authority

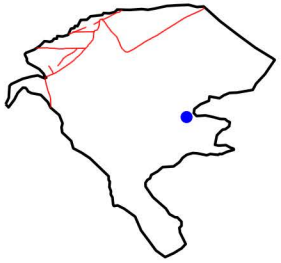
Figure B5-40



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

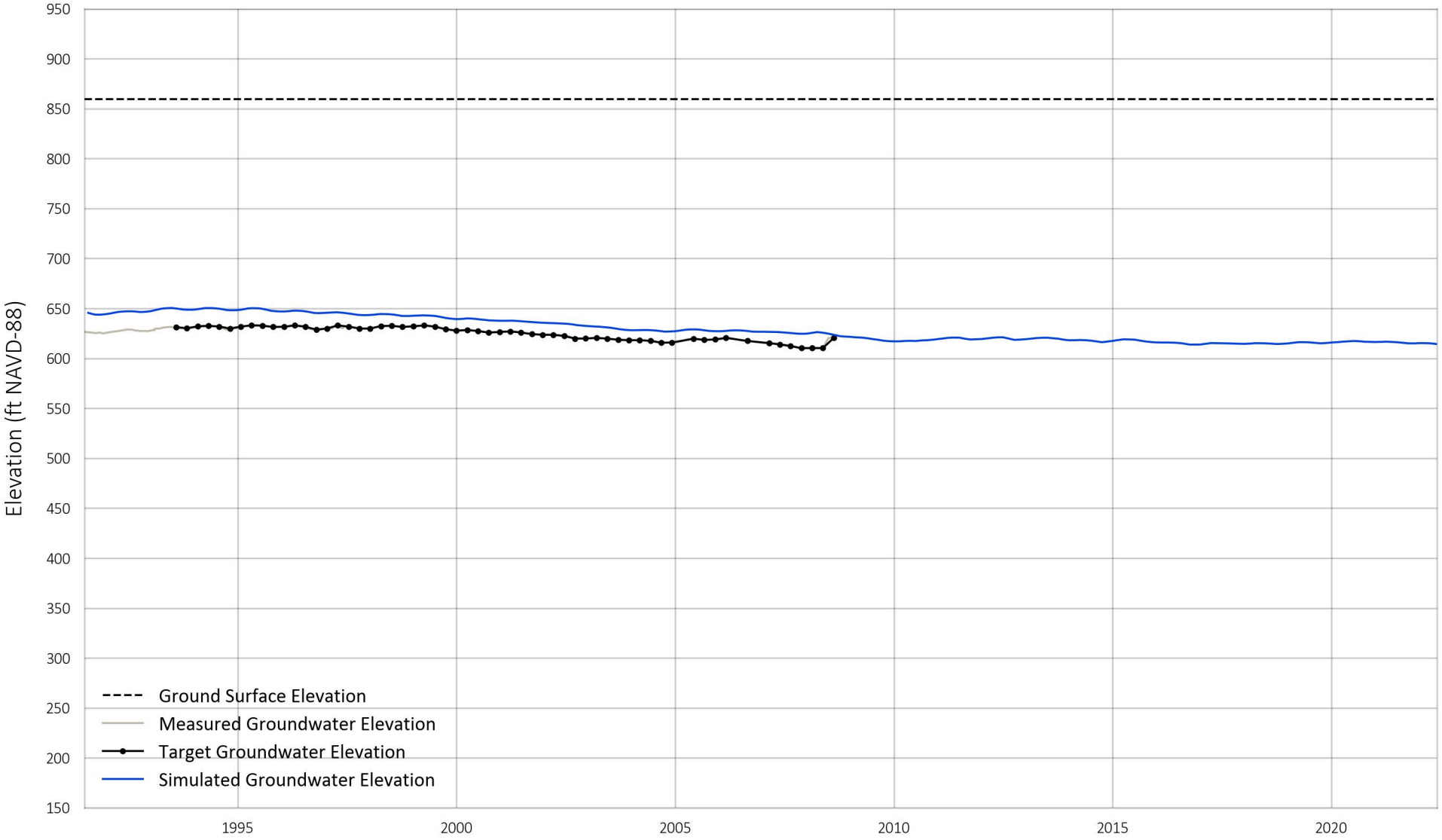
Target Groundwater Elevation (ft)
Mean = 573.70
Standard Deviation = 16.00

Simulated Groundwater Elevation (ft)
Mean = 594.81
Standard Deviation = 15.64

Mean Residual (ft) = 21.11
RMSE (ft) = 21.61

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1003502
Well Name: JCSD 16
Owner: Jurupa Community Services District

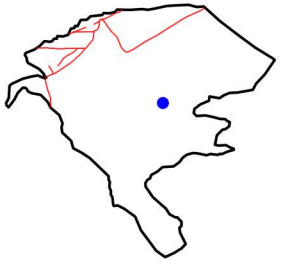
Figure B5-41



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

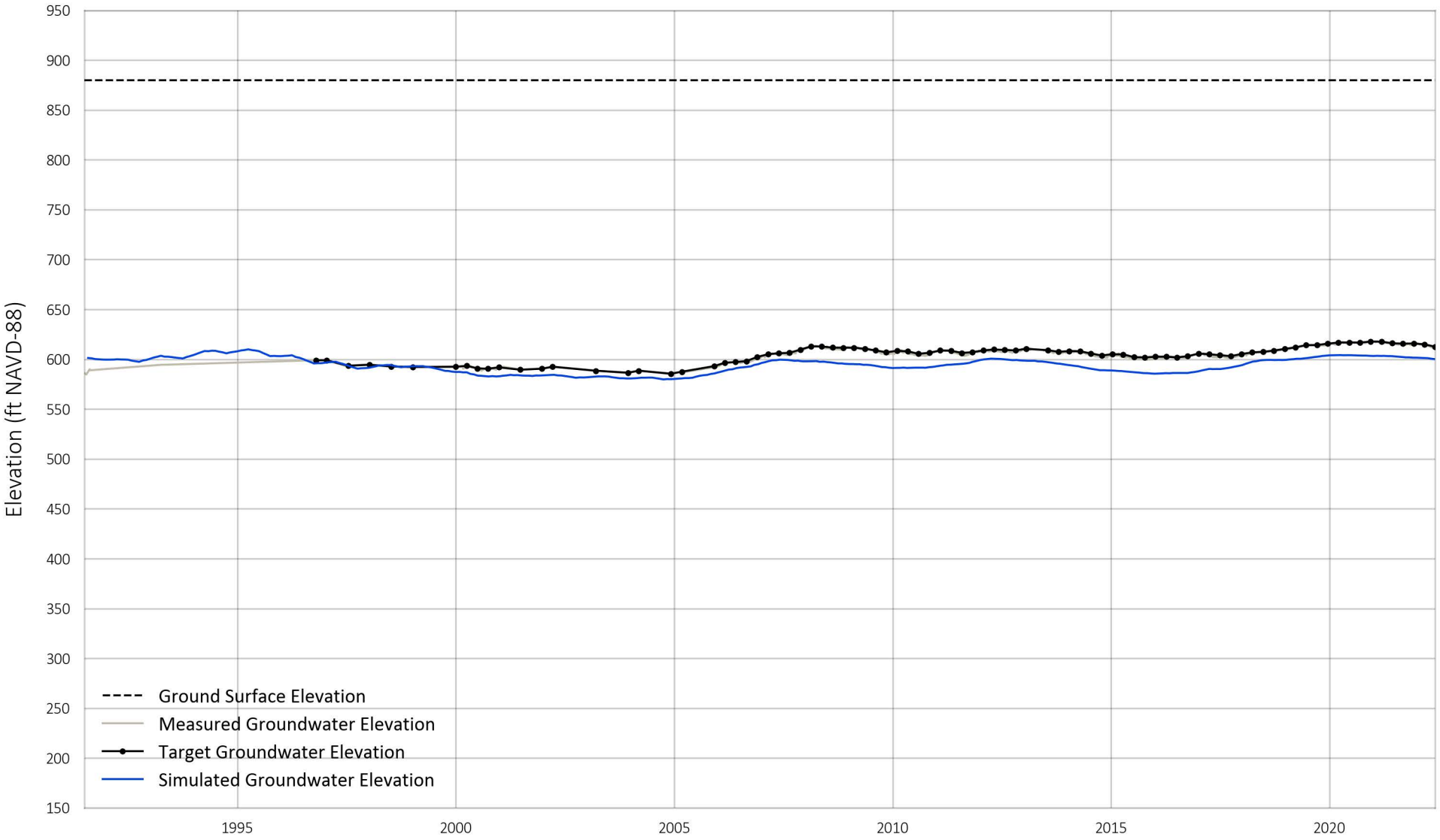
Target Groundwater Elevation (ft)
Mean = 624.98
Standard Deviation = 7.03

Simulated Groundwater Elevation (ft)
Mean = 637.76
Standard Deviation = 8.68

Mean Residual (ft) = 12.78
RMSE (ft) = 13.13

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1201166
Well Name: MIL M-03
Owner: County of San Bernardino

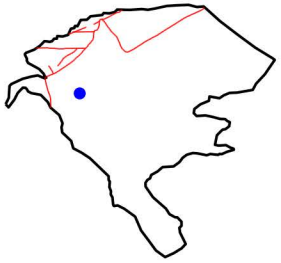
Figure B5-42



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

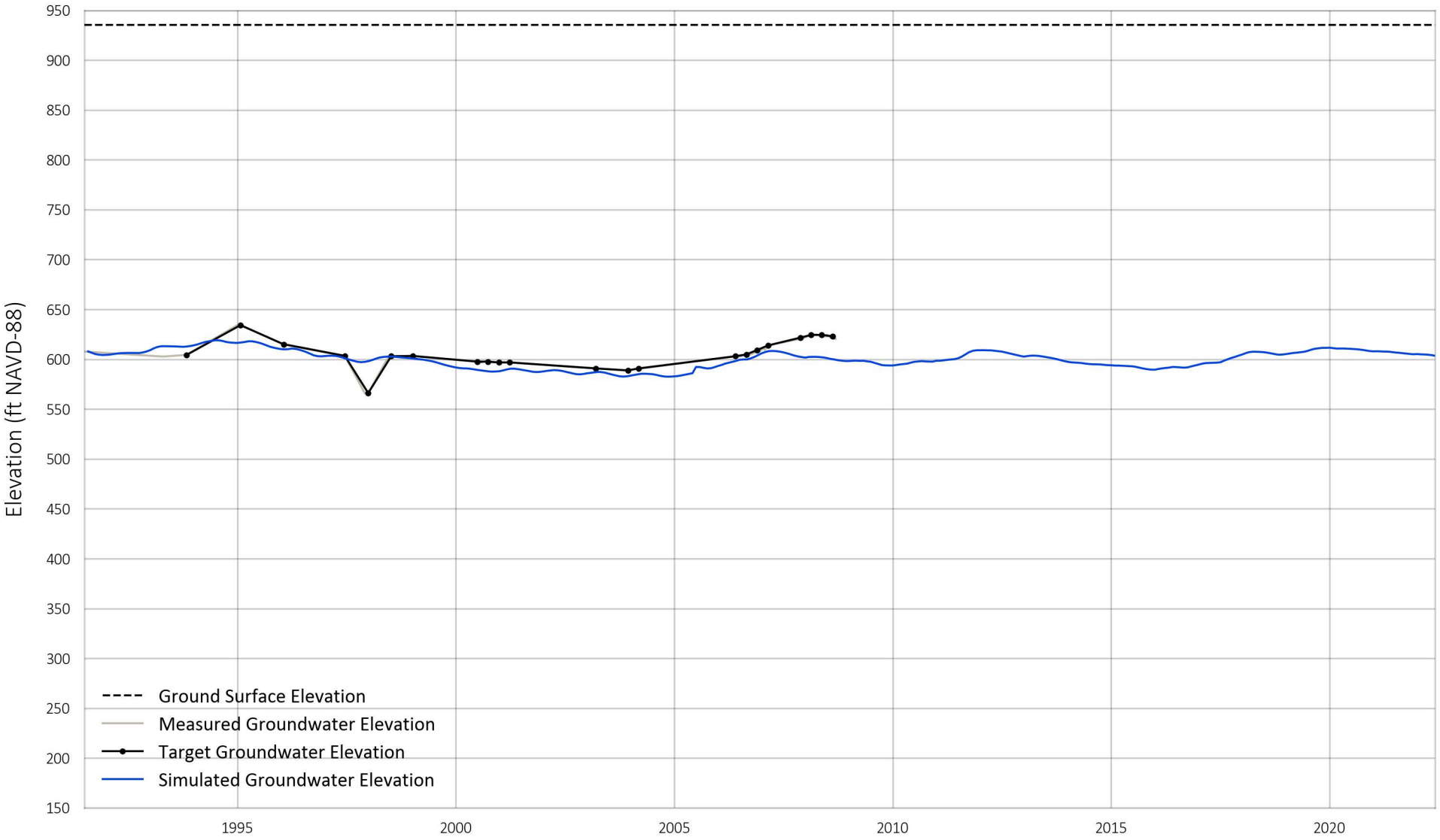
Target Groundwater Elevation (ft)
Mean = 604.48
Standard Deviation = 8.54

Simulated Groundwater Elevation (ft)
Mean = 593.43
Standard Deviation = 6.59

Mean Residual (ft) = -11.05
RMSE (ft) = 11.92

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002722
Well Name: MVWD 02
Owner: Monte Vista Water District

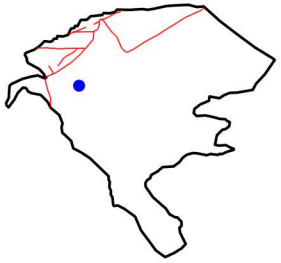
Figure B5-43



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

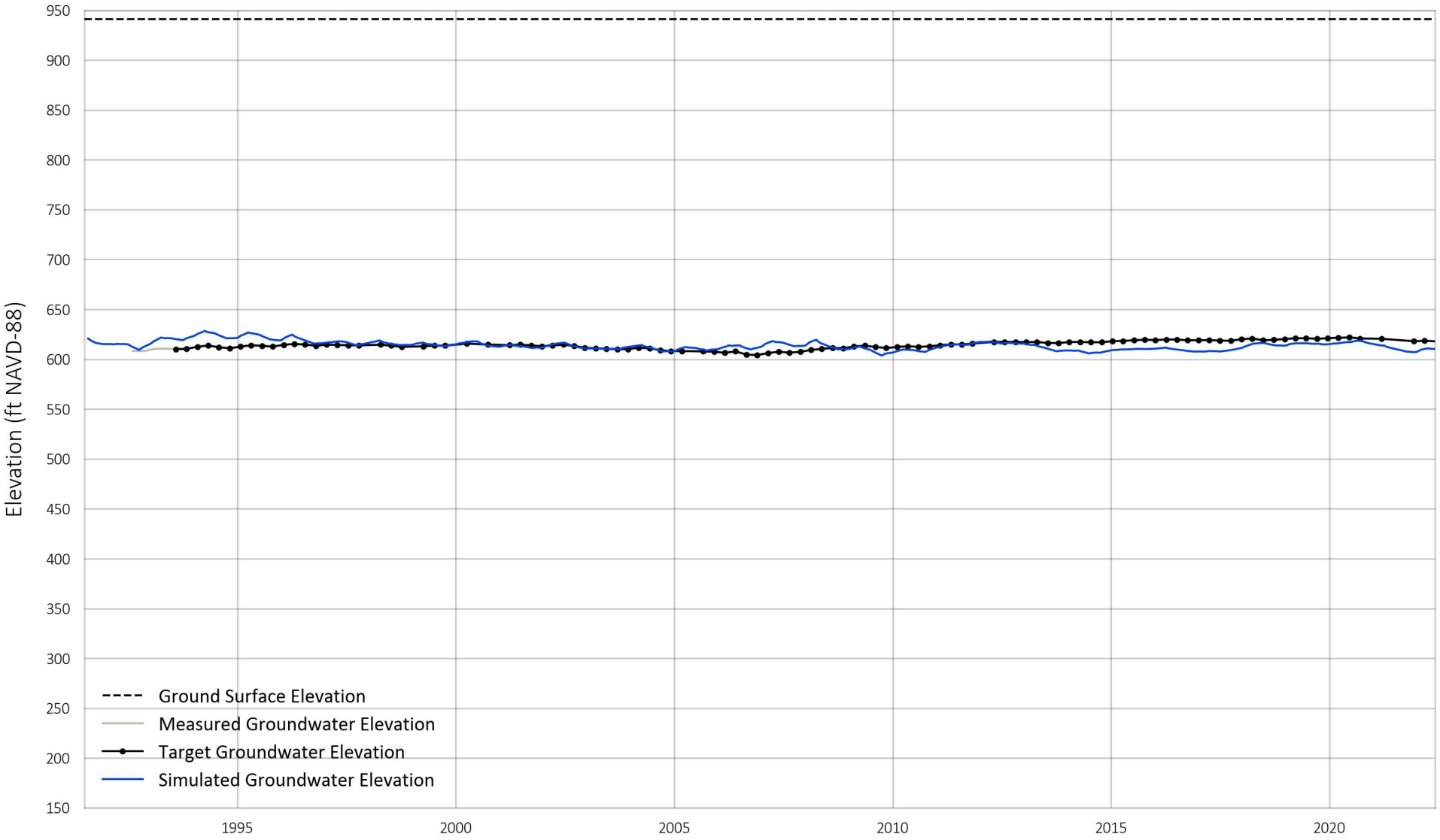
Target Groundwater Elevation (ft)
Mean = 605.14
Standard Deviation = 15.18

Simulated Groundwater Elevation (ft)
Mean = 598.59
Standard Deviation = 9.22

Mean Residual (ft) = -6.55
RMSE (ft) = 13.15

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002646
Well Name: MVWD 08
Owner: Monte Vista Water District

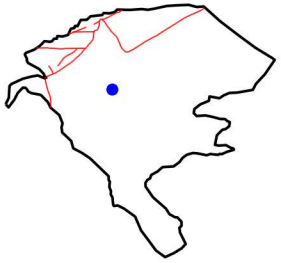
Figure B5-44



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

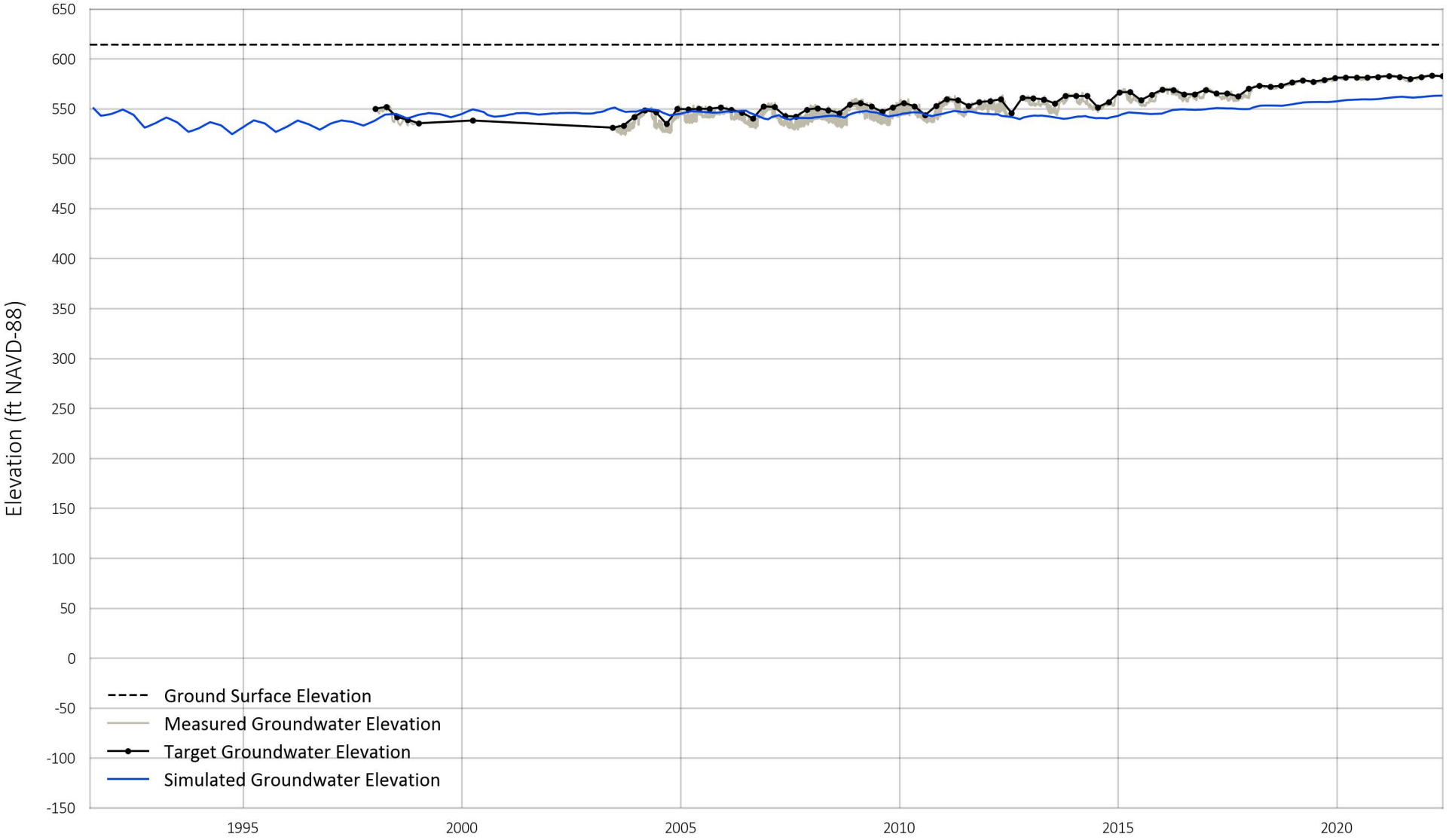
Target Groundwater Elevation (ft)
Mean = 614.36
Standard Deviation = 4.20

Simulated Groundwater Elevation (ft)
Mean = 613.72
Standard Deviation = 4.60

Mean Residual (ft) = -0.64
RMSE (ft) = 6.37

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1207026
Well Name: MW-11
Owner: General Electric Corporation

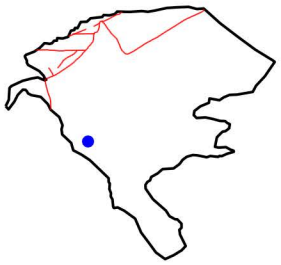
Figure B5-45



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

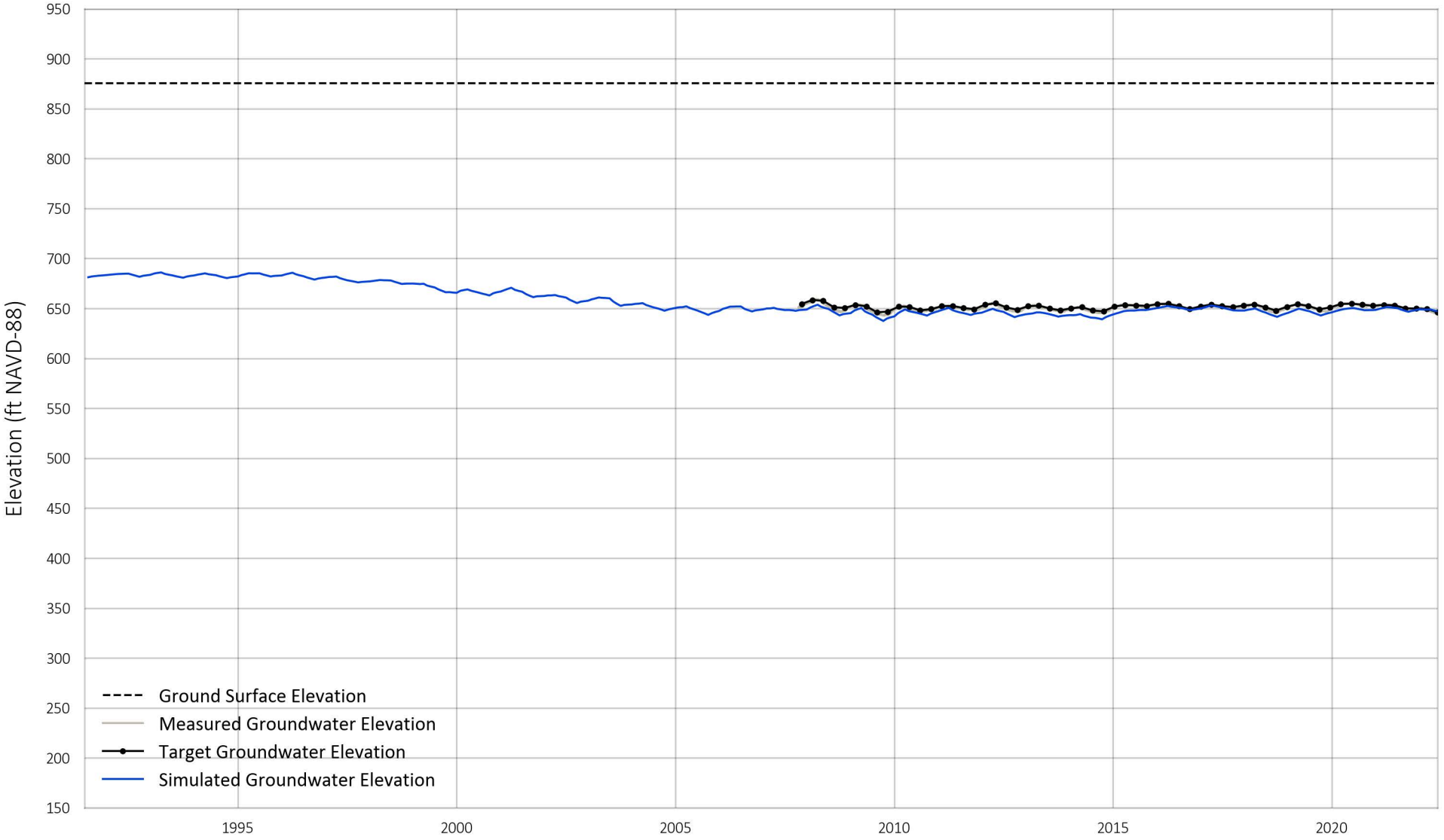
Target Groundwater Elevation (ft)
Mean = 558.65
Standard Deviation = 13.83

Simulated Groundwater Elevation (ft)
Mean = 547.70
Standard Deviation = 6.34

Mean Residual (ft) = -10.95
RMSE (ft) = 14.83

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1206765
Well Name: MW-24I
Owner: California Institution for Men

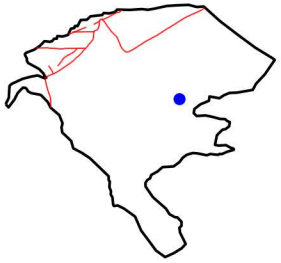
Figure B5-46



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

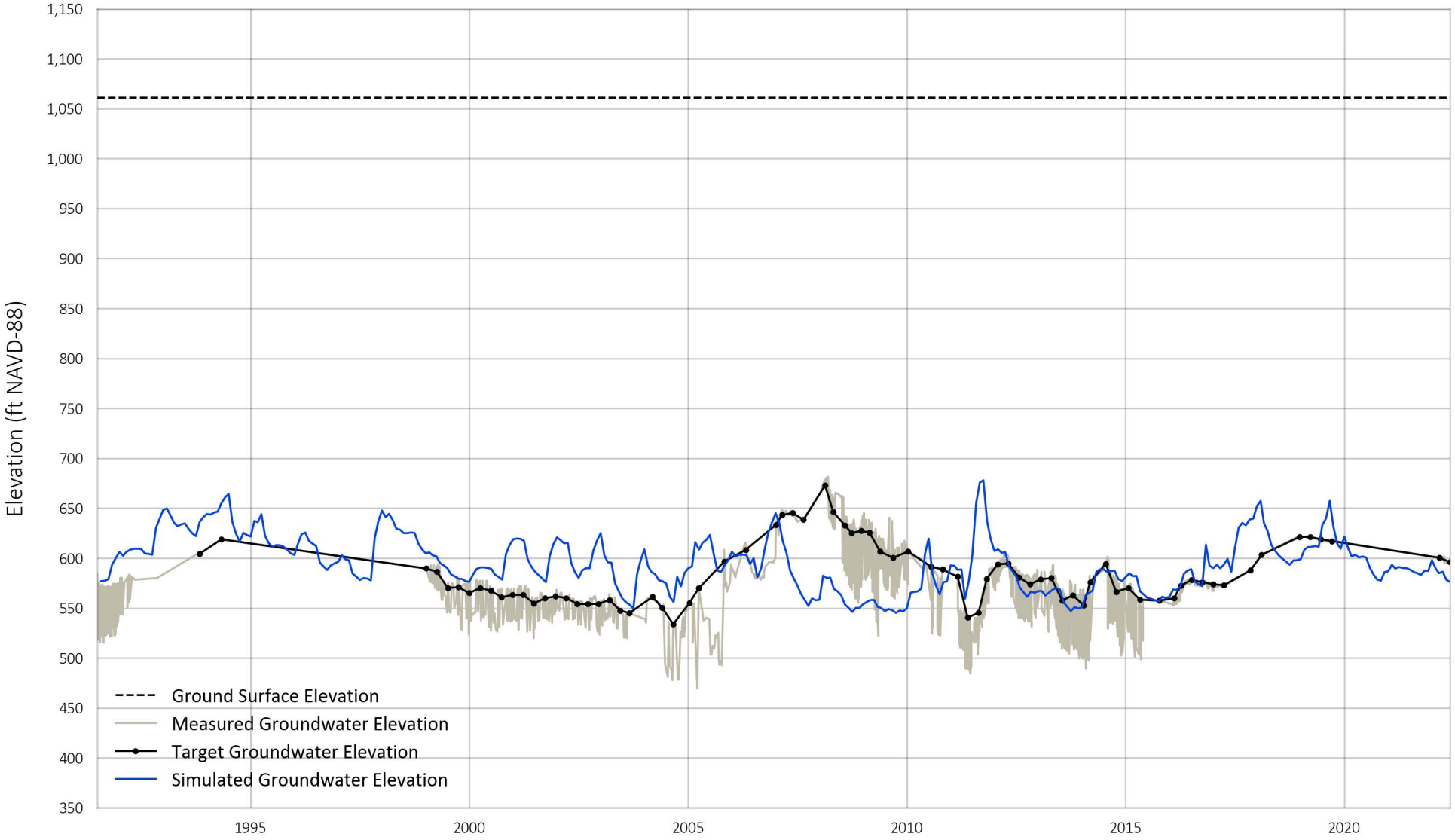
Target Groundwater Elevation (ft)
Mean = 651.64
Standard Deviation = 2.60

Simulated Groundwater Elevation (ft)
Mean = 646.85
Standard Deviation = 3.12

Mean Residual (ft) = -4.78
RMSE (ft) = 5.17

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1208799
Well Name: MZ3 1/1
Owner: Inland Empire Utilities Agency

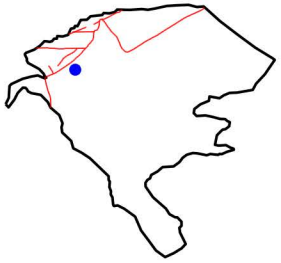
Figure B5-47



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

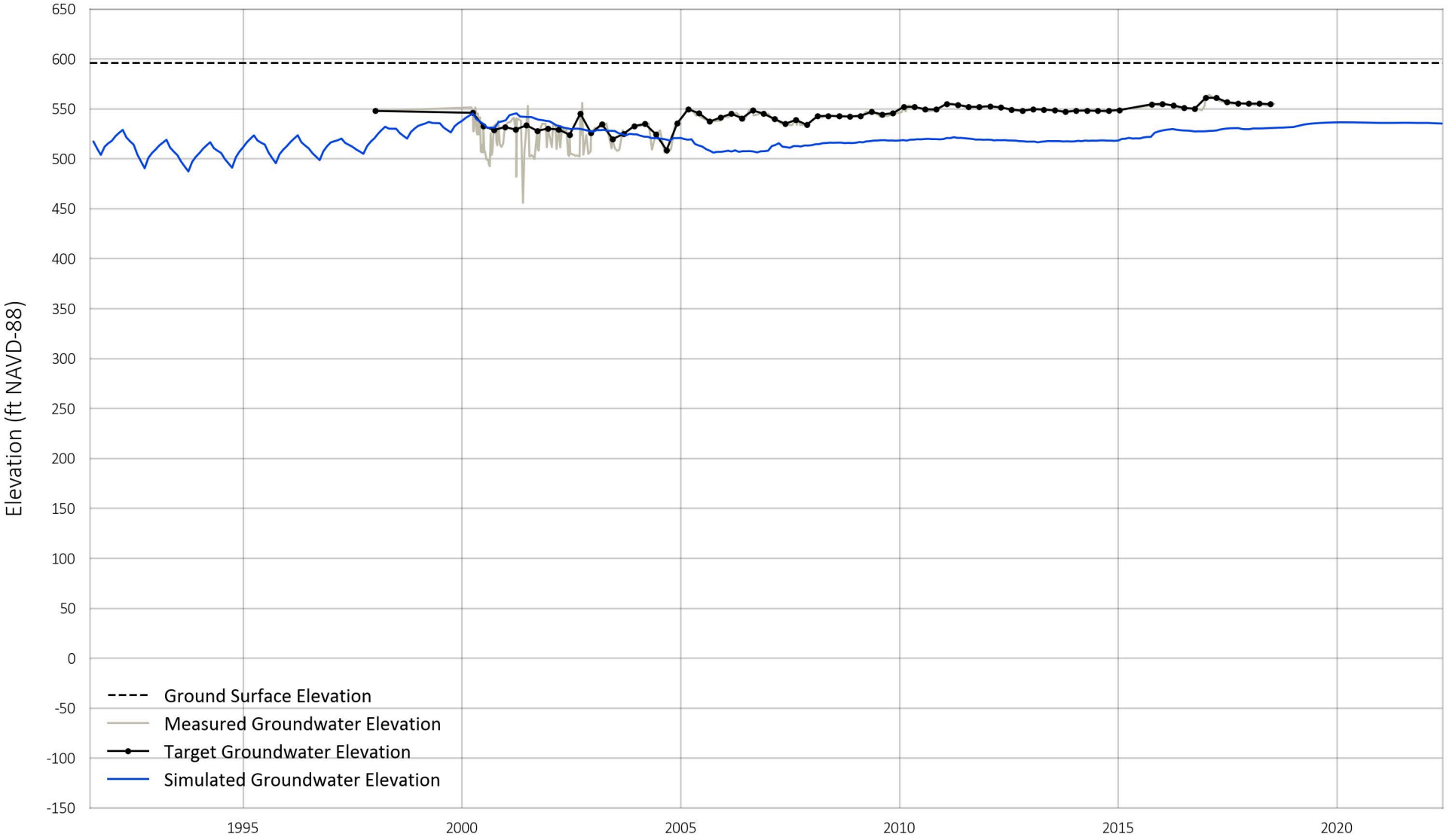
Target Groundwater Elevation (ft)
Mean = 584.21
Standard Deviation = 29.74

Simulated Groundwater Elevation (ft)
Mean = 588.60
Standard Deviation = 28.18

Mean Residual (ft) = 4.39
RMSE (ft) = 38.95

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002554
Well Name: Margarita #1
Owner: Golden State Water Company

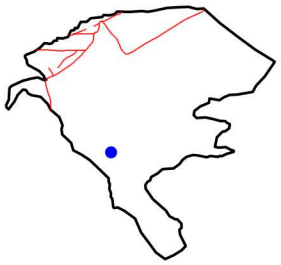
Figure B5-48



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

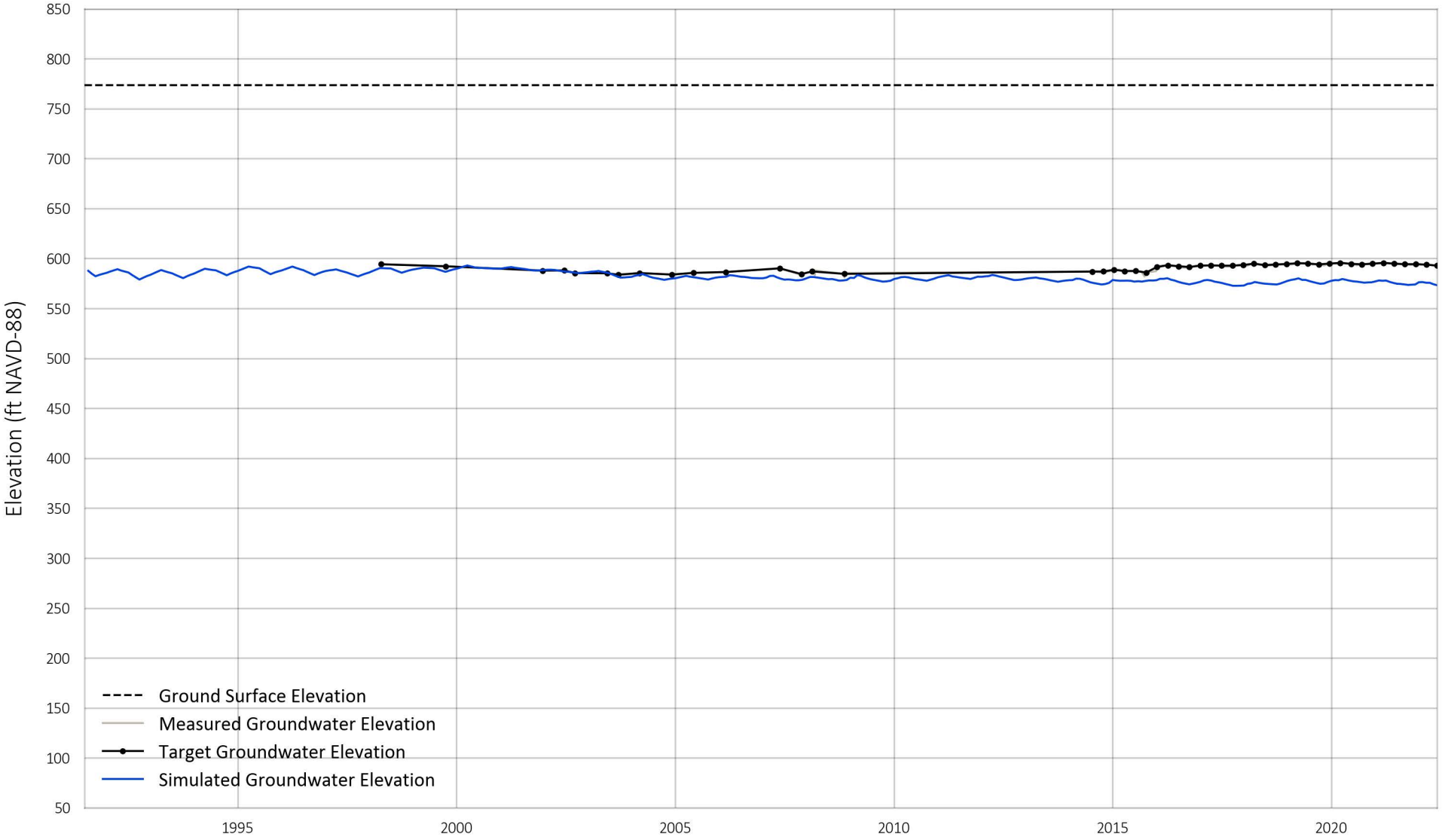
Target Groundwater Elevation (ft)
Mean = 543.27
Standard Deviation = 10.51

Simulated Groundwater Elevation (ft)
Mean = 522.01
Standard Deviation = 8.83

Mean Residual (ft) = -21.26
RMSE (ft) = 25.88

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1003983
Well Name: NA_1003983
Owner: County of San Bernardino

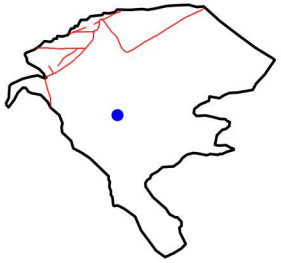
Figure B5-49



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

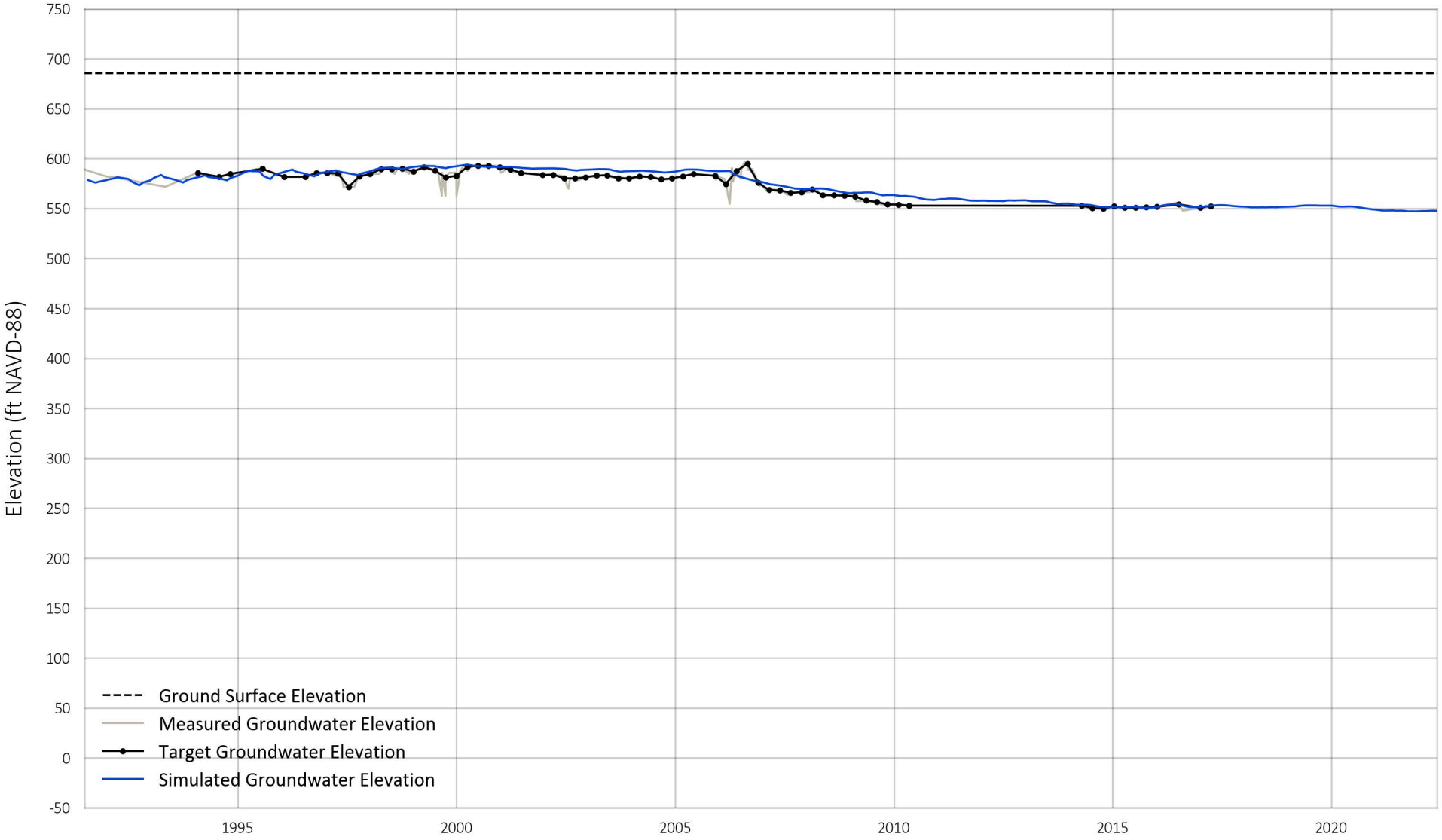
Target Groundwater Elevation (ft)
Mean = 590.87
Standard Deviation = 3.93

Simulated Groundwater Elevation (ft)
Mean = 578.47
Standard Deviation = 4.21

Mean Residual (ft) = -12.40
RMSE (ft) = 14.12

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1206525
Well Name: Private Well
Owner: Private

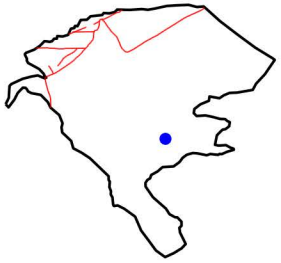
Figure B5-50



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

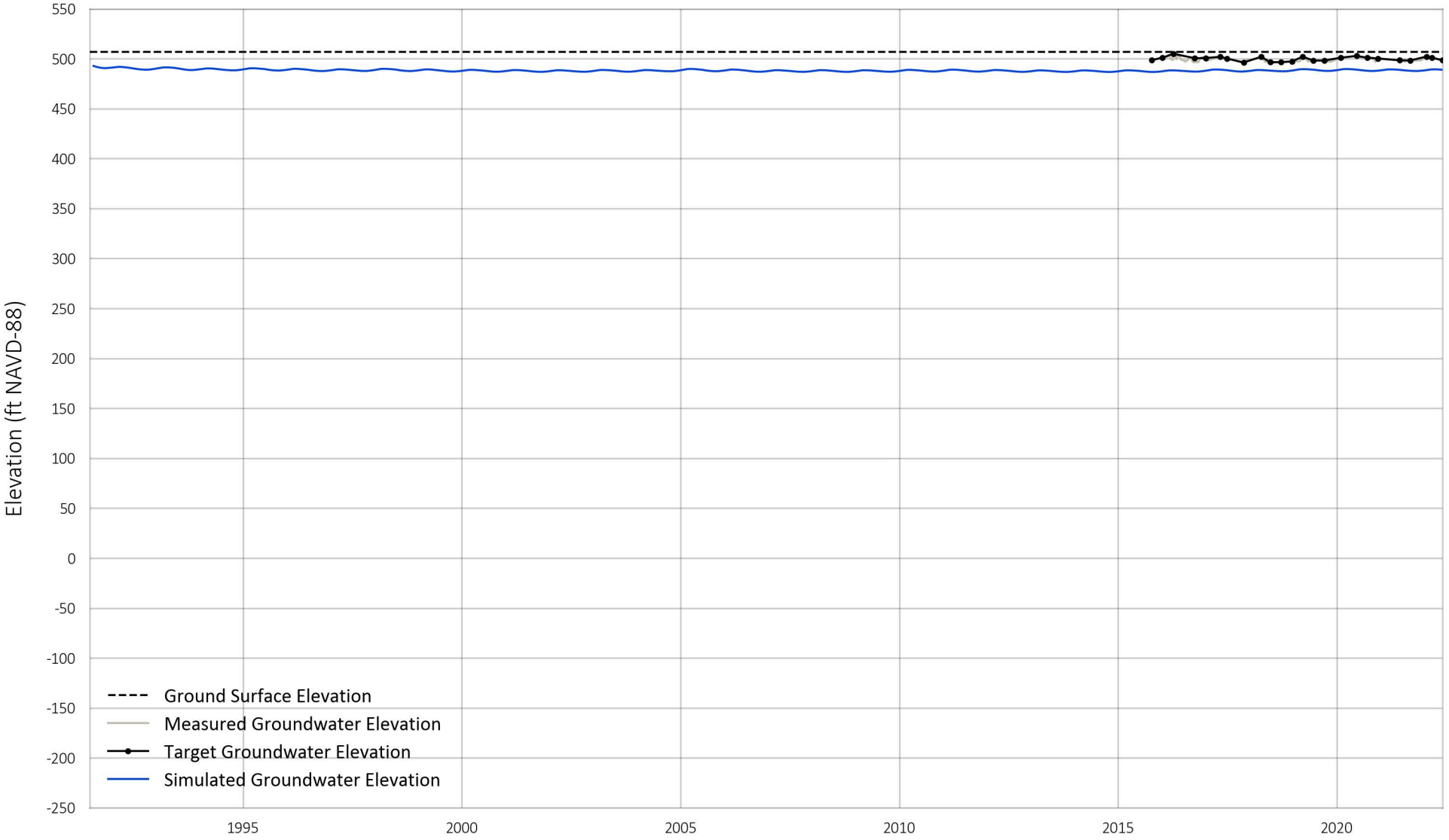
Target Groundwater Elevation (ft)
Mean = 574.93
Standard Deviation = 14.22

Simulated Groundwater Elevation (ft)
Mean = 578.25
Standard Deviation = 14.20

Mean Residual (ft) = 3.32
RMSE (ft) = 5.66

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1003613
Well Name: NOR 11
Owner: City of Norco

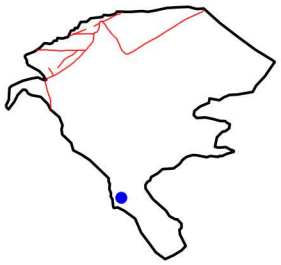
Figure B5-51



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

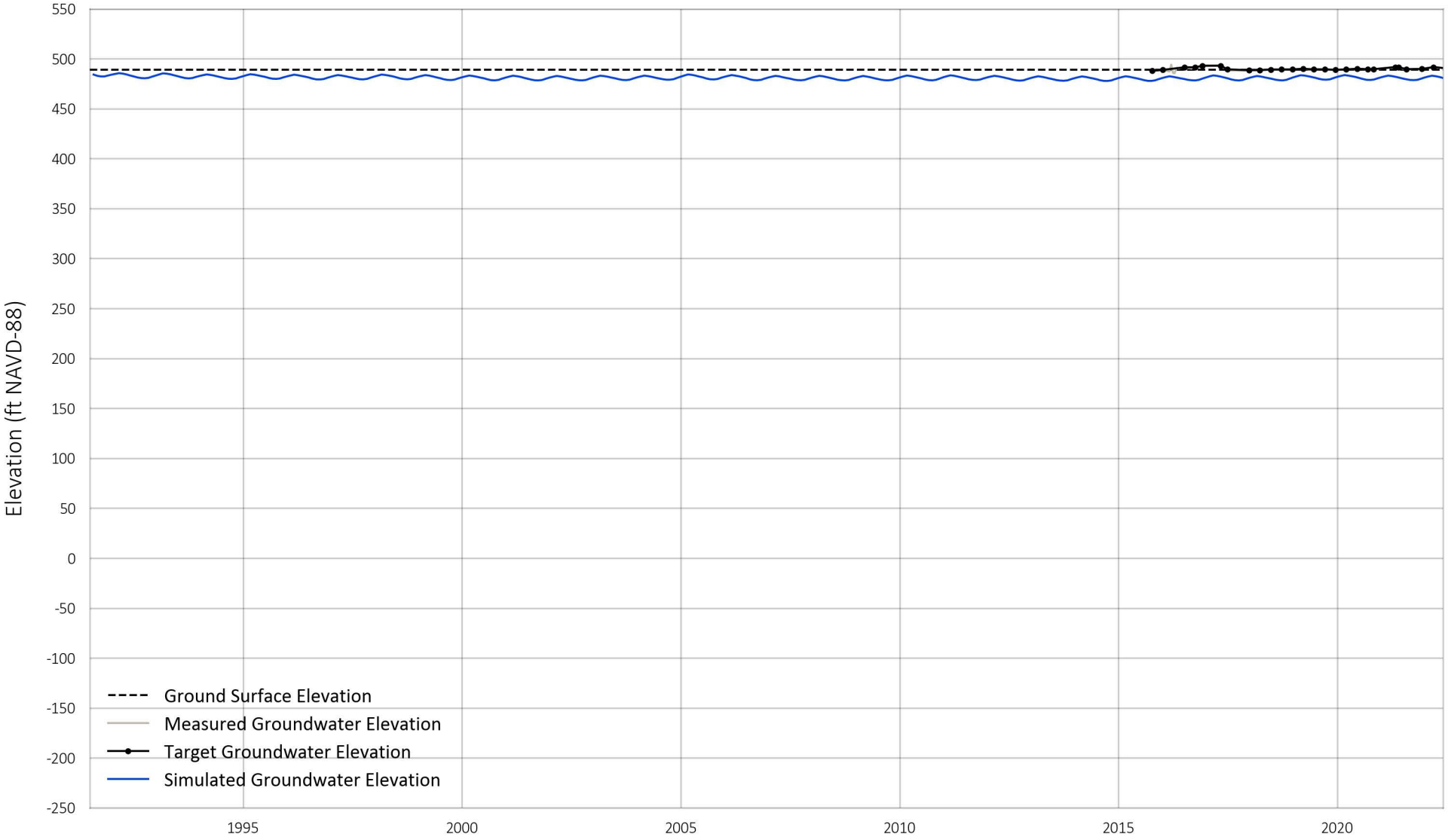
Target Groundwater Elevation (ft)
Mean = 499.89
Standard Deviation = 2.24

Simulated Groundwater Elevation (ft)
Mean = 488.25
Standard Deviation = 0.74

Mean Residual (ft) = -11.64
RMSE (ft) = 11.81

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1233985
Well Name: OCWD-PD14/1
Owner: Orange County Water District

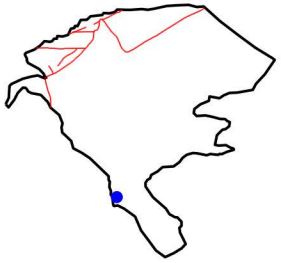
Figure B5-52



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

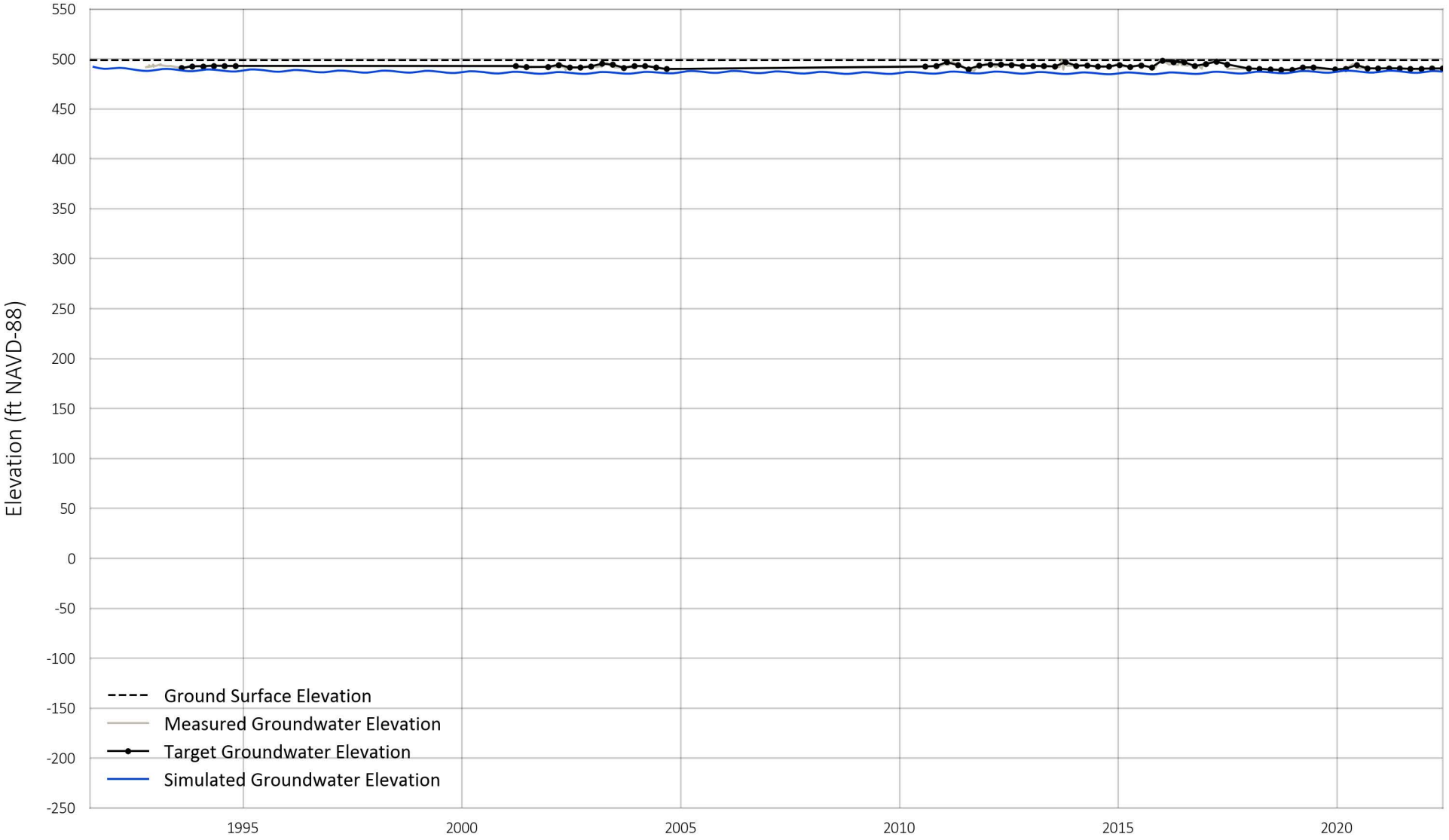
Target Groundwater Elevation (ft)
Mean = 489.96
Standard Deviation = 1.38

Simulated Groundwater Elevation (ft)
Mean = 480.55
Standard Deviation = 1.54

Mean Residual (ft) = -9.41
RMSE (ft) = 9.58

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1233987
Well Name: OCWD-PD16/1
Owner: Orange County Water District

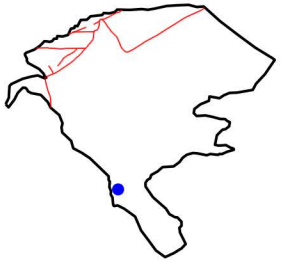
Figure B5-53



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

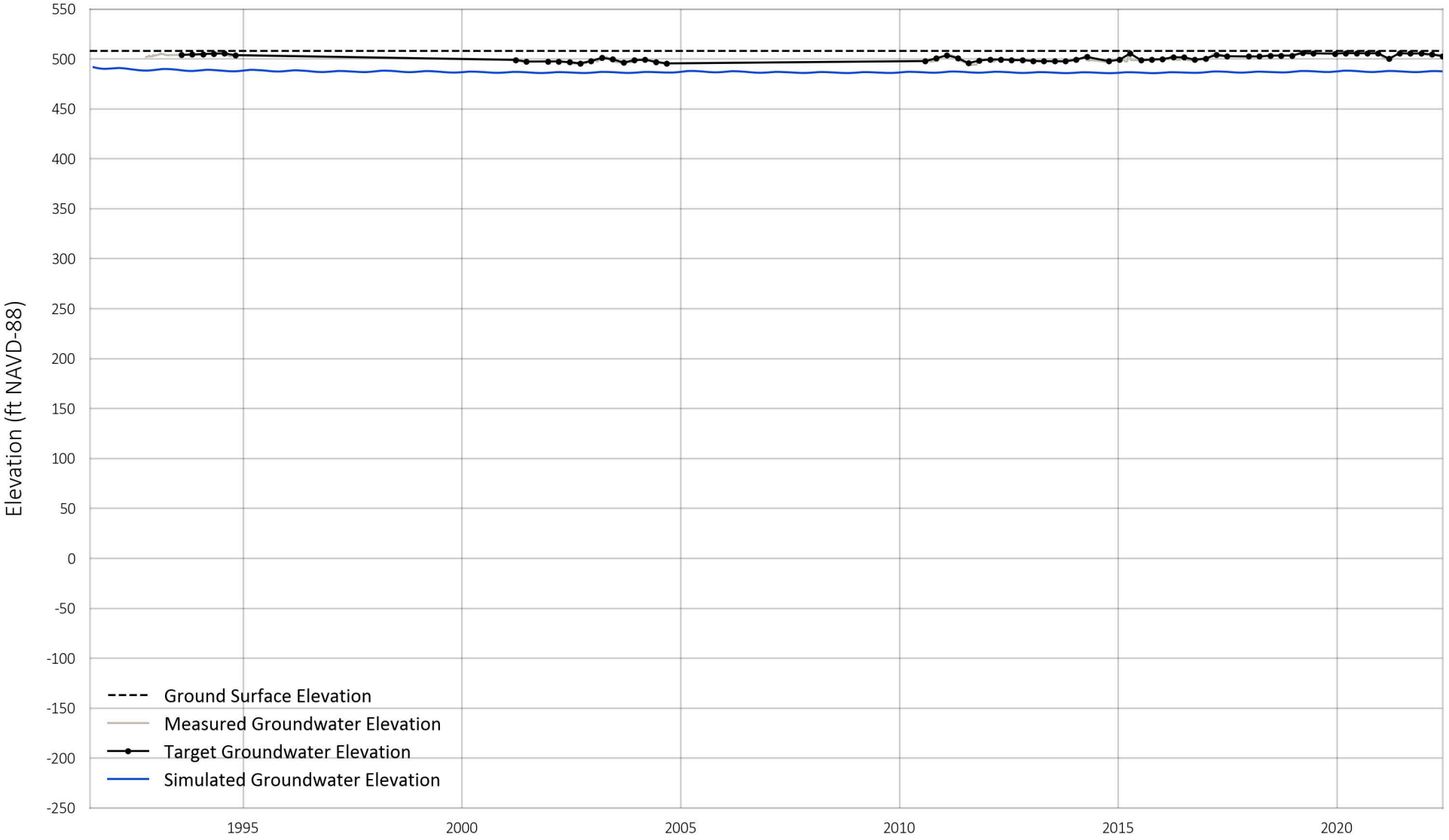
Target Groundwater Elevation (ft)
Mean = 492.37
Standard Deviation = 2.12

Simulated Groundwater Elevation (ft)
Mean = 486.27
Standard Deviation = 1.01

Mean Residual (ft) = -6.10
RMSE (ft) = 6.57

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1230523
Well Name: OCWD-PD3B
Owner: Orange County Water District

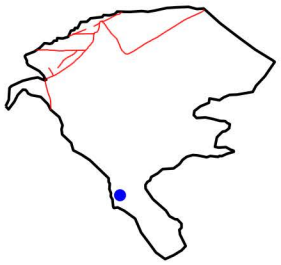
Figure B5-54



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

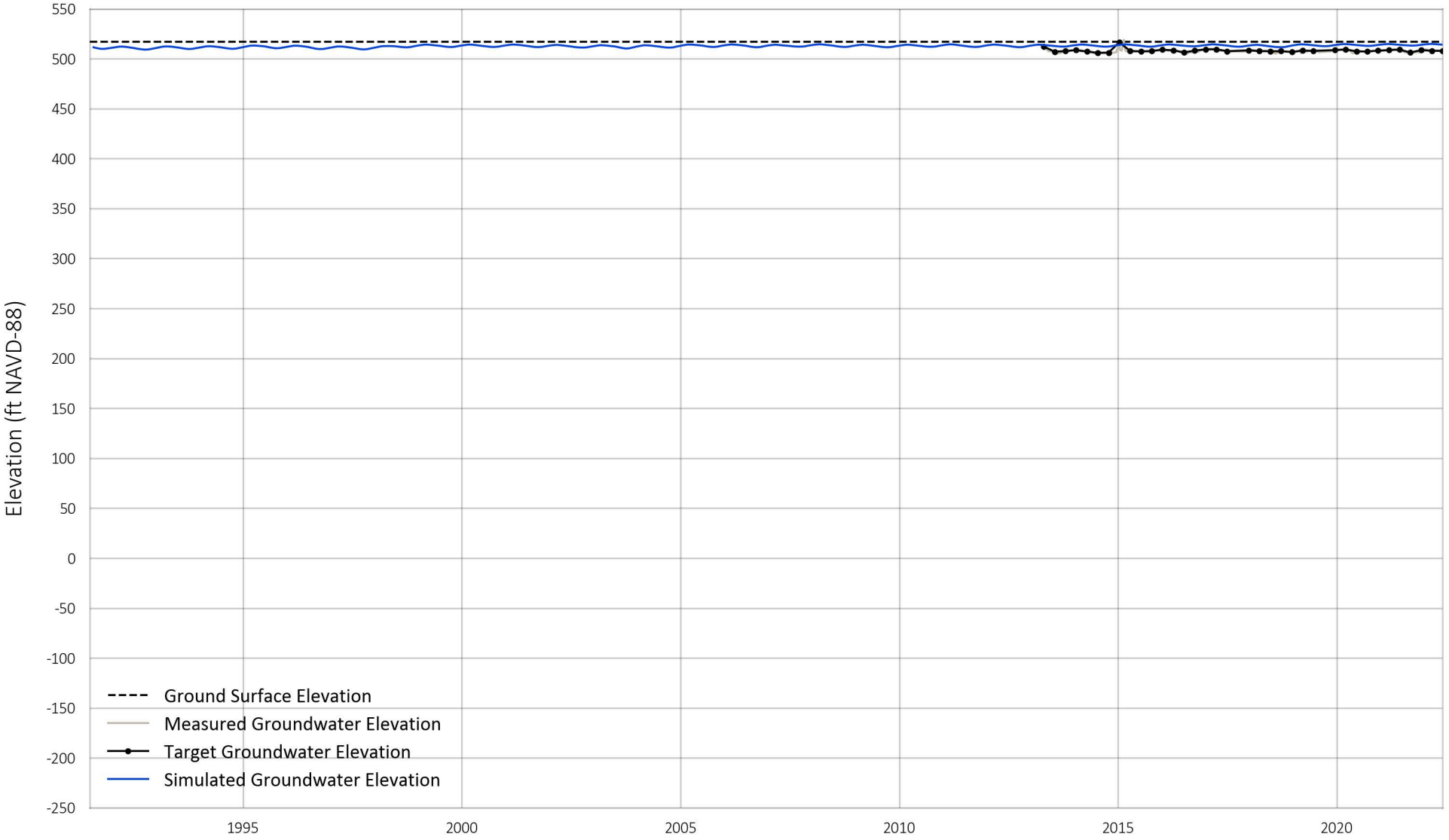
Target Groundwater Elevation (ft)
Mean = 500.86
Standard Deviation = 3.24

Simulated Groundwater Elevation (ft)
Mean = 486.65
Standard Deviation = 0.73

Mean Residual (ft) = -14.21
RMSE (ft) = 14.47

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1230529
Well Name: OCWD-PD6B
Owner: Orange County Water District

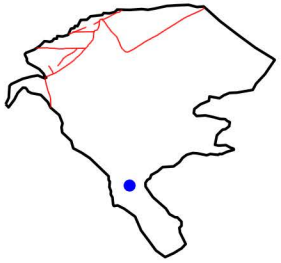
Figure B5-55



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

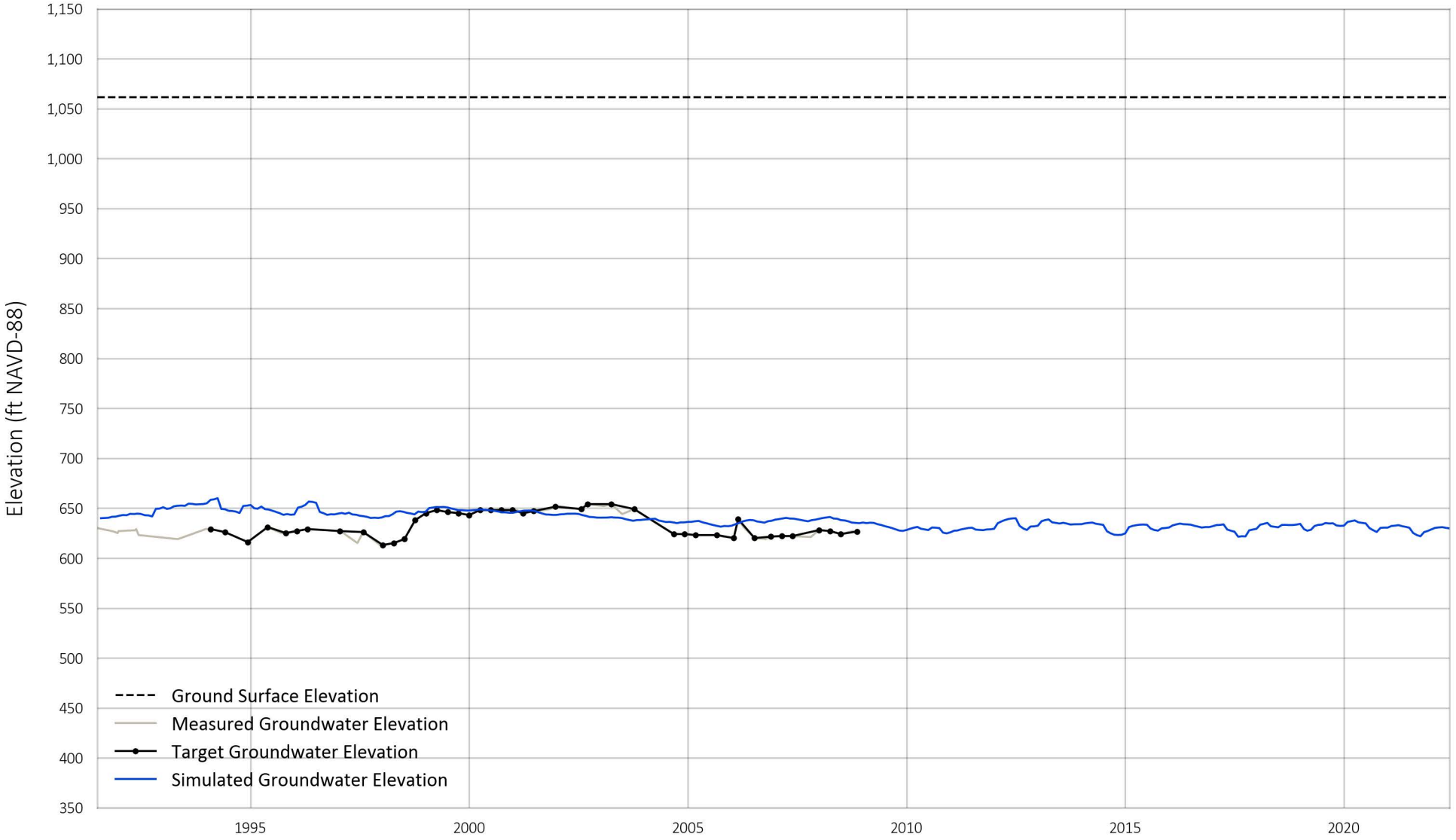
Target Groundwater Elevation (ft)
Mean = 508.16
Standard Deviation = 1.82

Simulated Groundwater Elevation (ft)
Mean = 513.38
Standard Deviation = 0.78

Mean Residual (ft) = 5.22
RMSE (ft) = 5.48

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1232806
Well Name: OCWD-PDE4
Owner: Orange County Water District

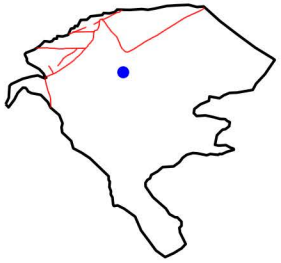
Figure B5-56



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

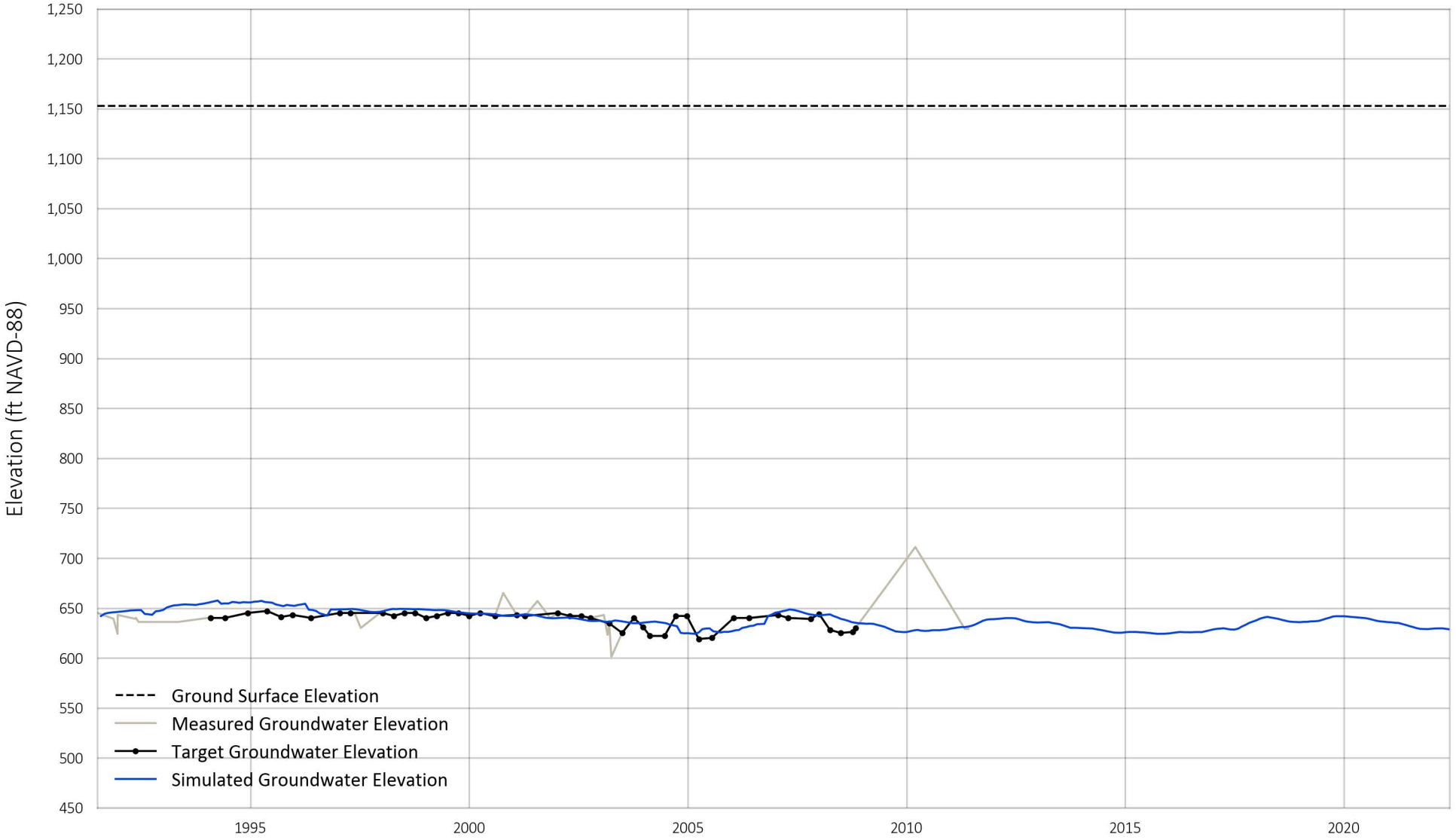
Target Groundwater Elevation (ft)
Mean = 633.47
Standard Deviation = 12.49

Simulated Groundwater Elevation (ft)
Mean = 643.52
Standard Deviation = 6.02

Mean Residual (ft) = 10.05
RMSE (ft) = 15.73

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002328
Well Name: ONT 04
Owner: City of Ontario

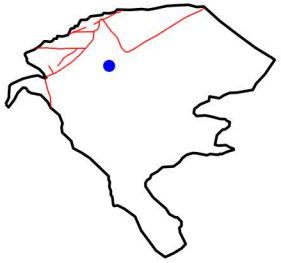
Figure B5-57



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

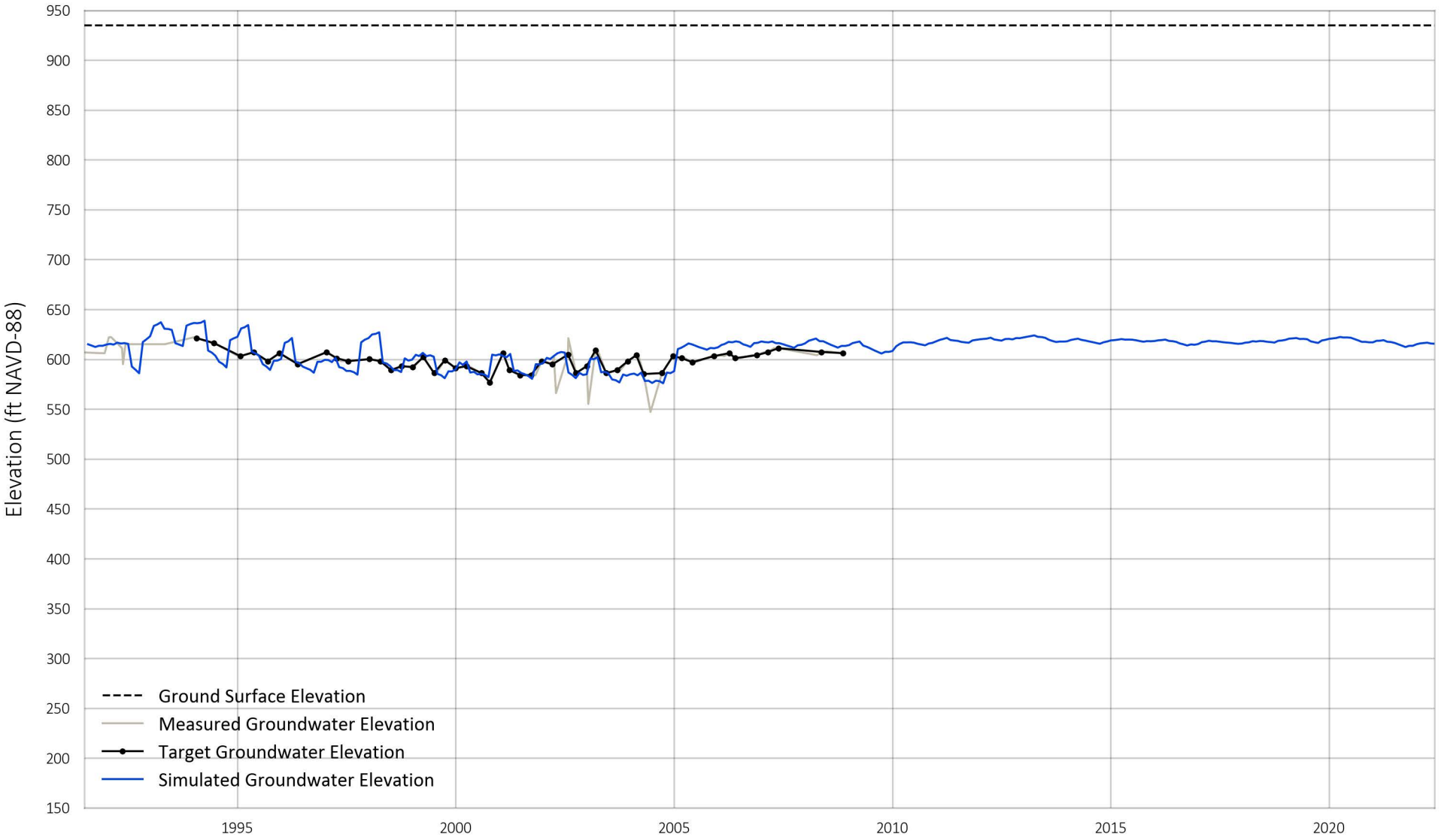
Target Groundwater Elevation (ft)
Mean = 638.65
Standard Deviation = 7.84

Simulated Groundwater Elevation (ft)
Mean = 642.42
Standard Deviation = 8.17

Mean Residual (ft) = 3.78
RMSE (ft) = 8.27

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002319
Well Name: ONT 09
Owner: City of Ontario

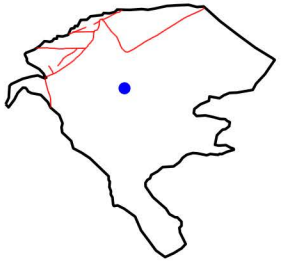
Figure B5-58



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

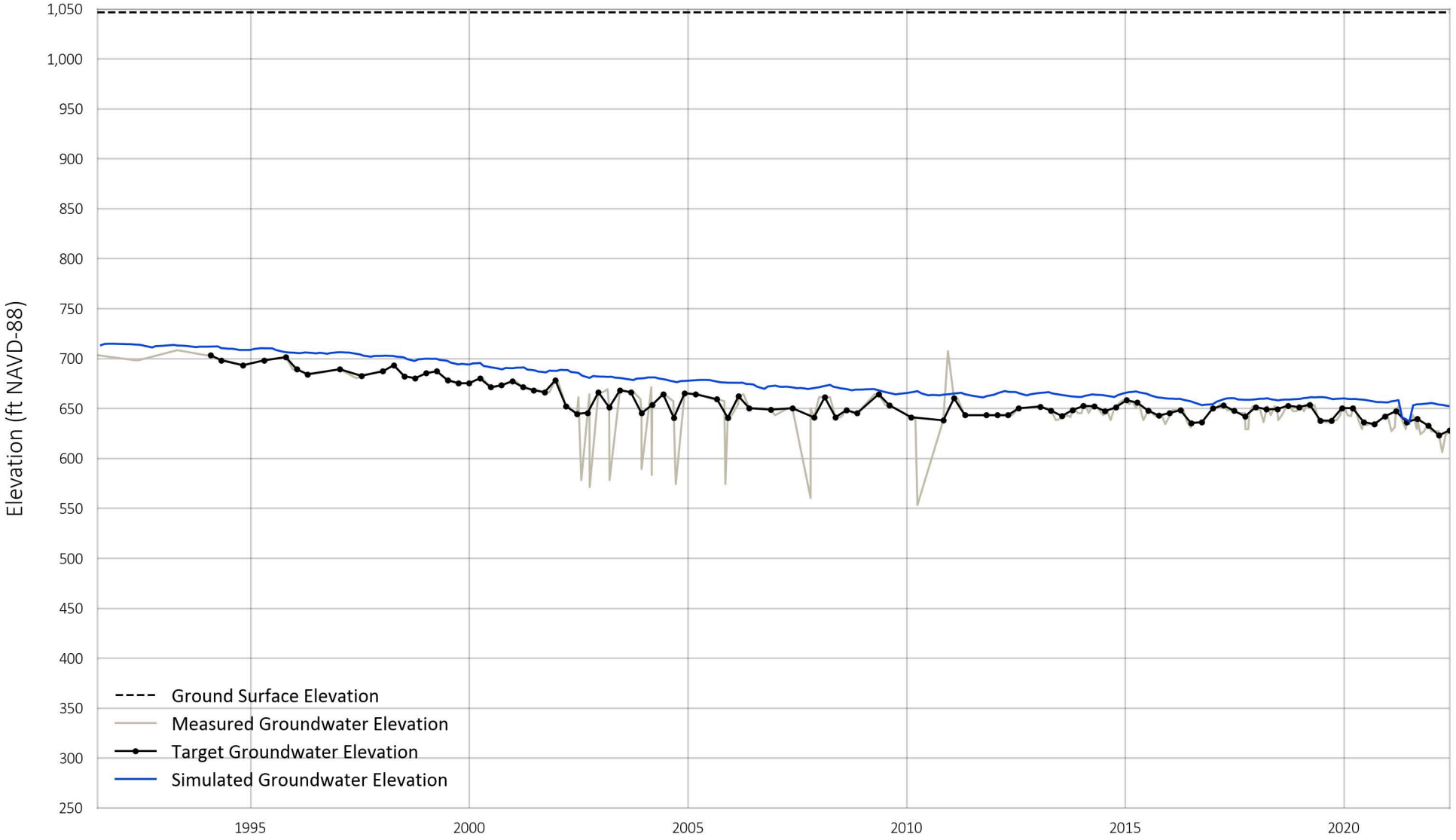
Target Groundwater Elevation (ft)
Mean = 598.06
Standard Deviation = 9.28

Simulated Groundwater Elevation (ft)
Mean = 599.72
Standard Deviation = 14.53

Mean Residual (ft) = 1.65
RMSE (ft) = 11.18

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002346
Well Name: ONT 11
Owner: City of Ontario

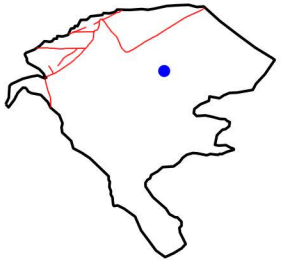
Figure B5-59



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

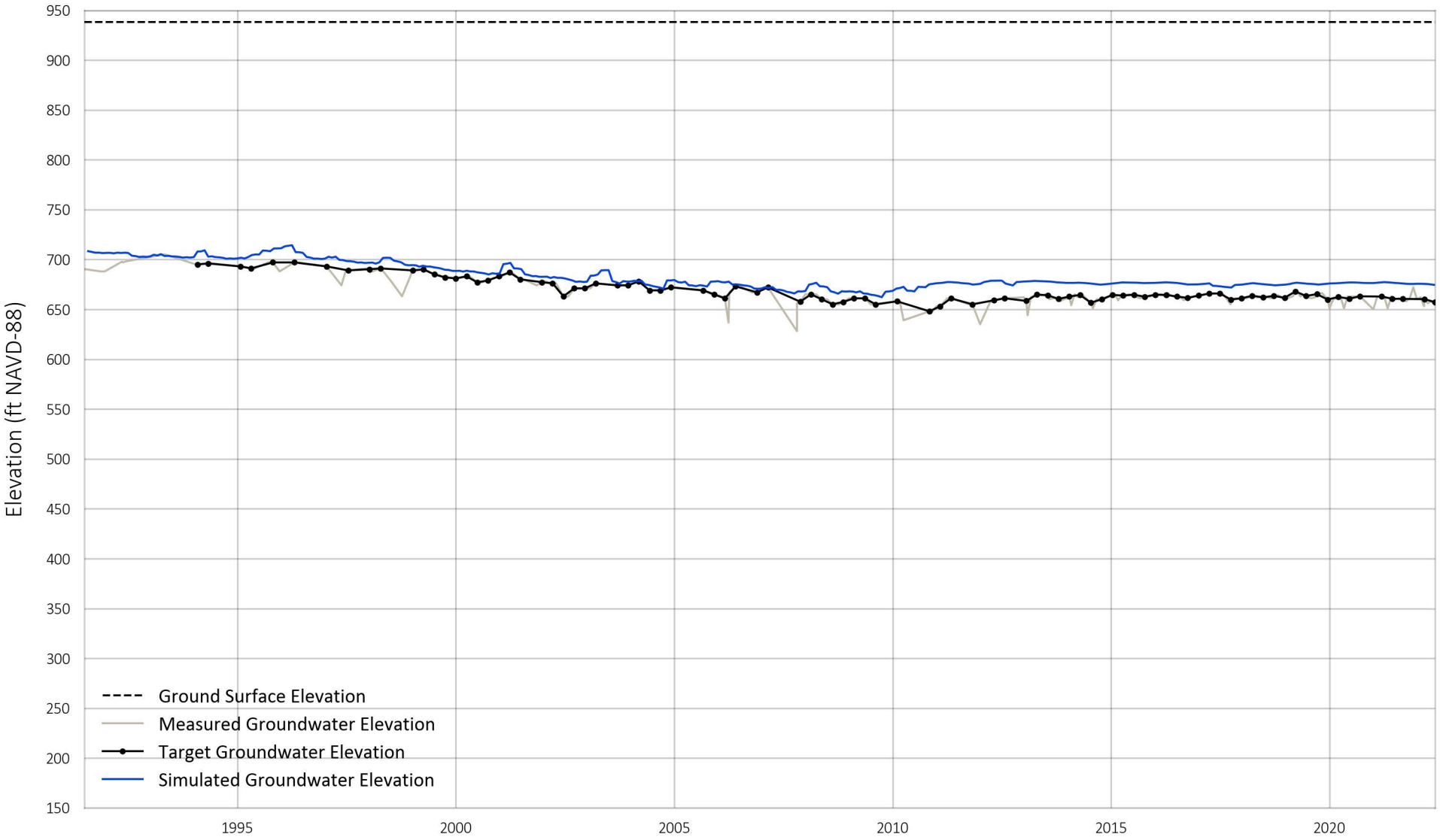
Target Groundwater Elevation (ft)
Mean = 657.32
Standard Deviation = 18.25

Simulated Groundwater Elevation (ft)
Mean = 674.49
Standard Deviation = 17.20

Mean Residual (ft) = 17.16
RMSE (ft) = 18.91

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002305
Well Name: ONT 20
Owner: City of Ontario

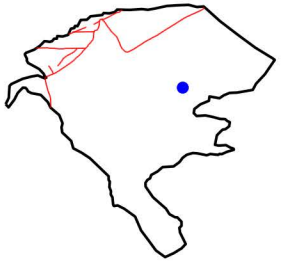
Figure B5-60



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

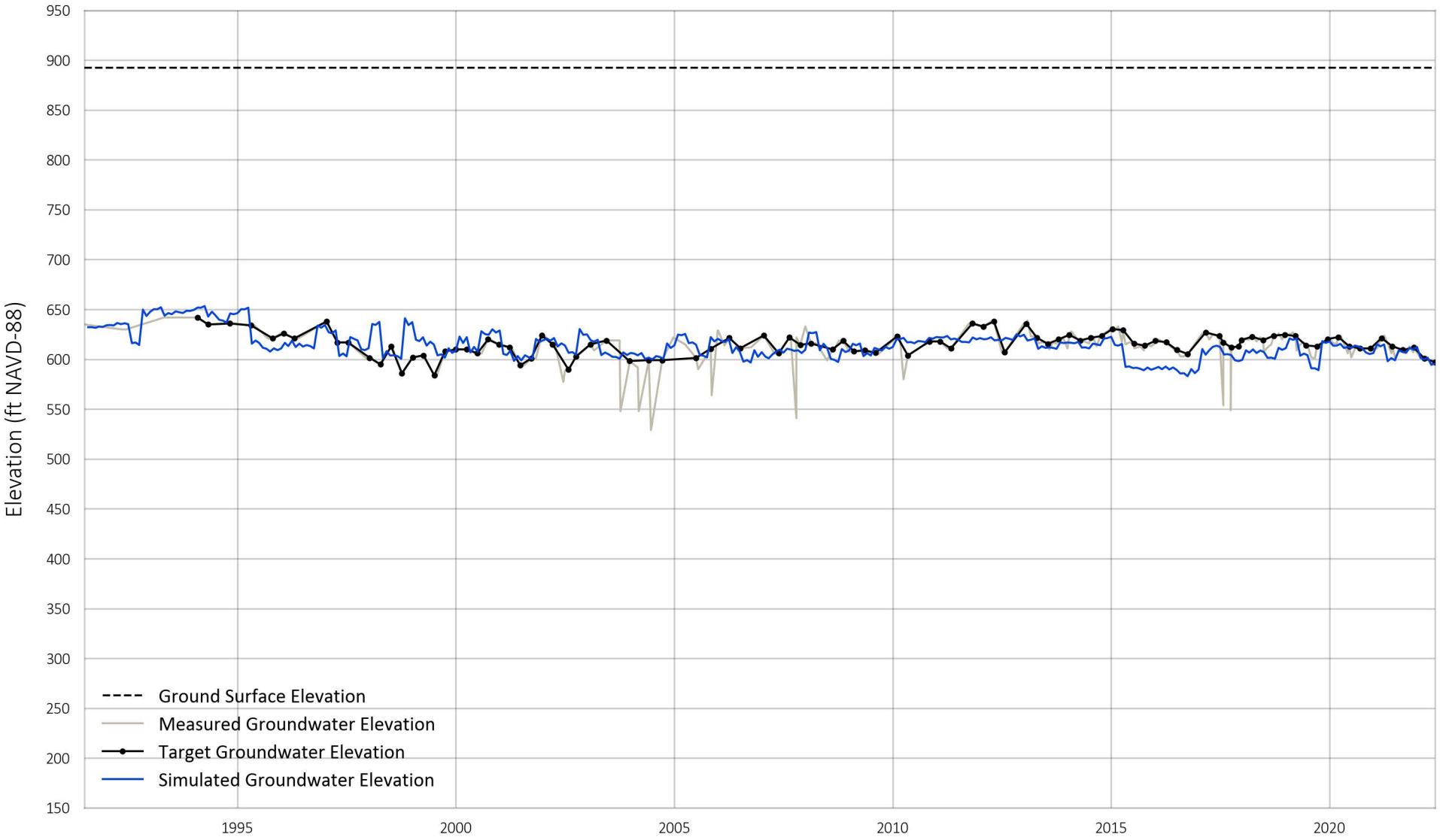
Target Groundwater Elevation (ft)
Mean = 669.35
Standard Deviation = 11.90

Simulated Groundwater Elevation (ft)
Mean = 680.29
Standard Deviation = 10.12

Mean Residual (ft) = 10.94
RMSE (ft) = 12.05

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002254
Well Name: ONT 31
Owner: City of Ontario

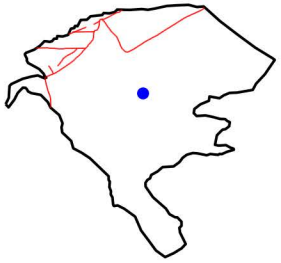
Figure B5-61



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

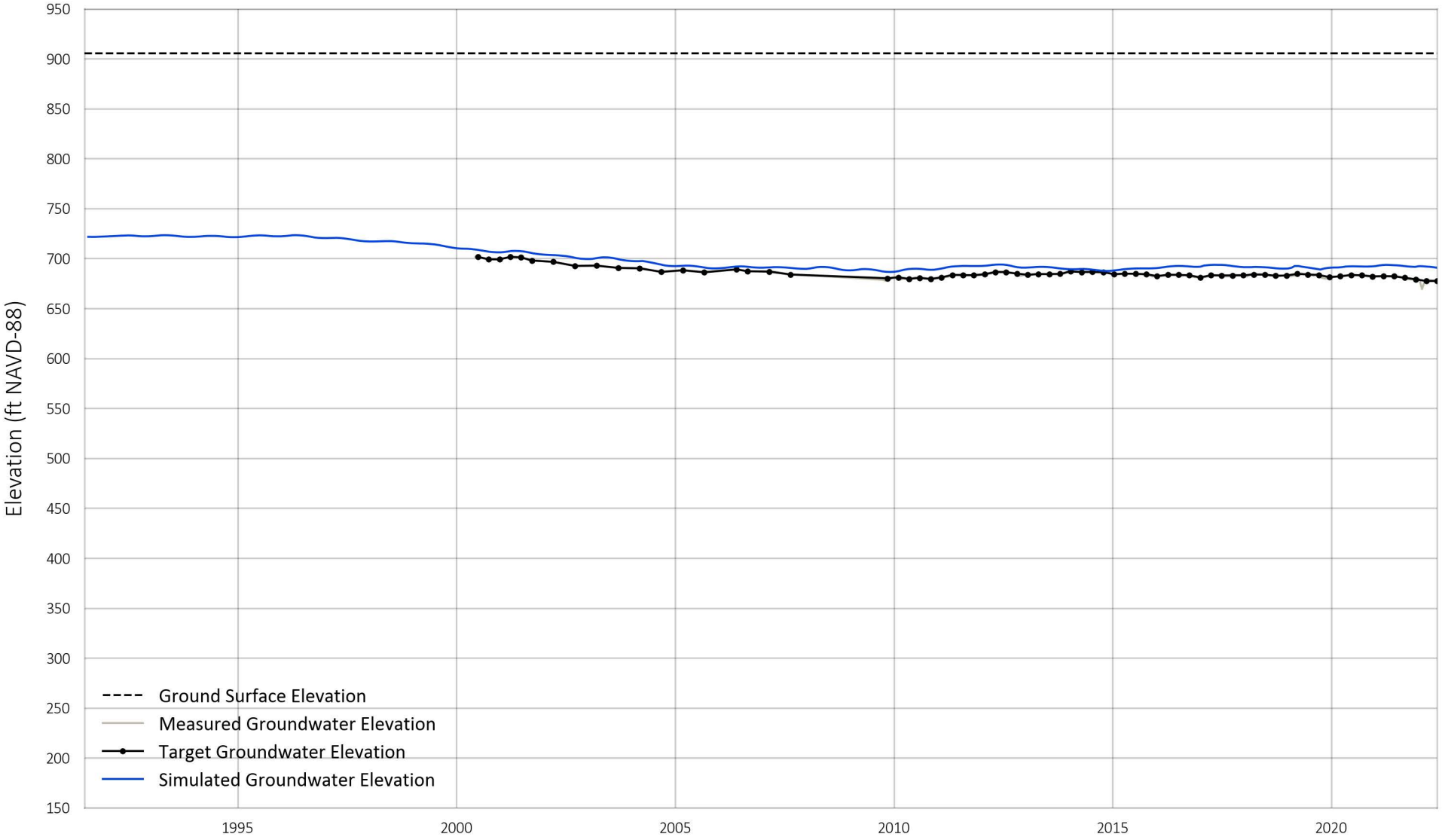
Target Groundwater Elevation (ft)
Mean = 615.02
Standard Deviation = 11.44

Simulated Groundwater Elevation (ft)
Mean = 611.76
Standard Deviation = 11.62

Mean Residual (ft) = -3.26
RMSE (ft) = 12.94

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002372
Well Name: ONT 36
Owner: City of Ontario

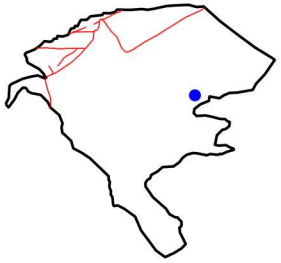
Figure B5-62



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

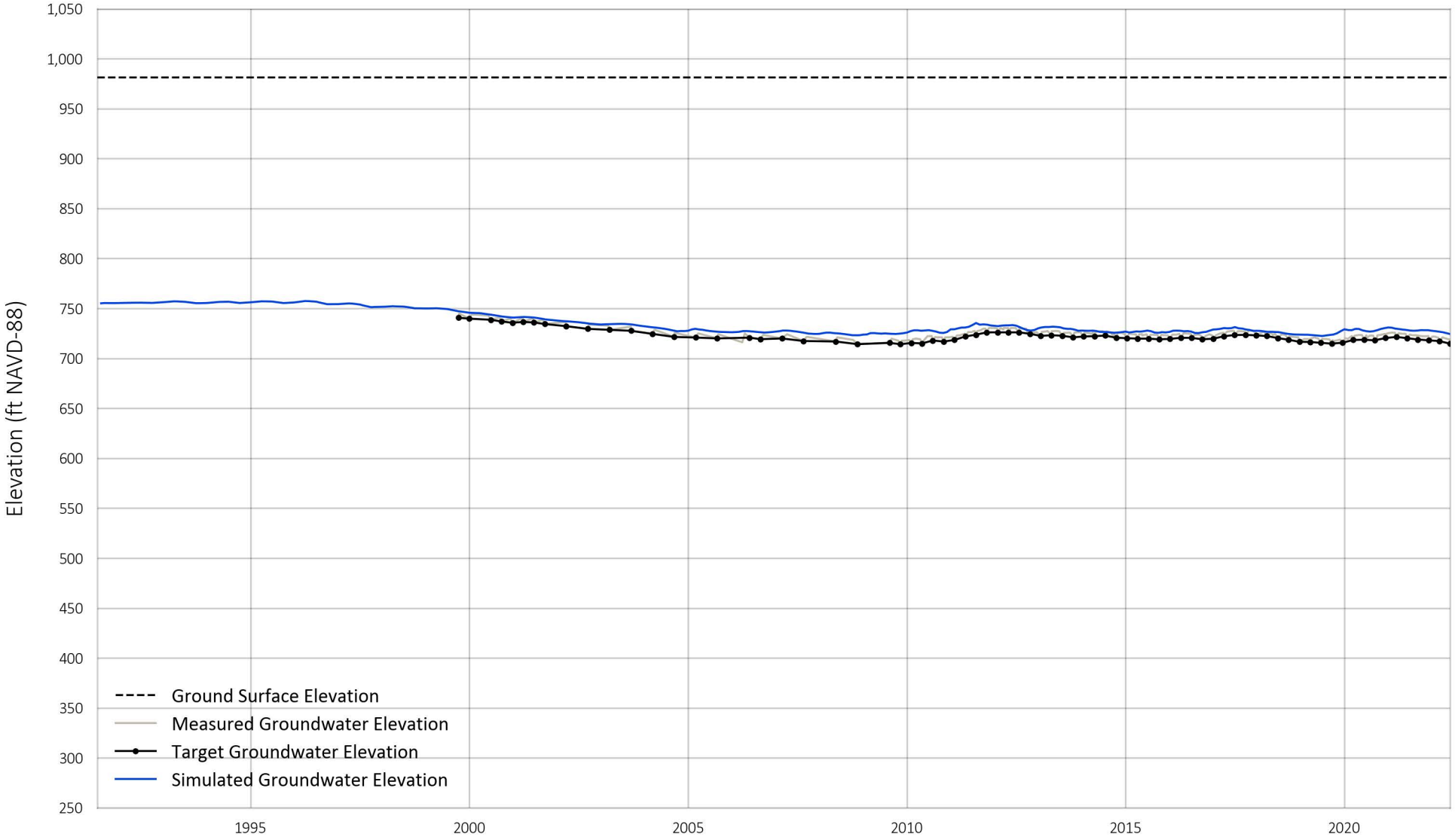
Target Groundwater Elevation (ft)
Mean = 685.58
Standard Deviation = 5.57

Simulated Groundwater Elevation (ft)
Mean = 693.11
Standard Deviation = 5.14

Mean Residual (ft) = 7.53
RMSE (ft) = 7.94

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1207066
Well Name: Offsite MW1
Owner: Alcoa

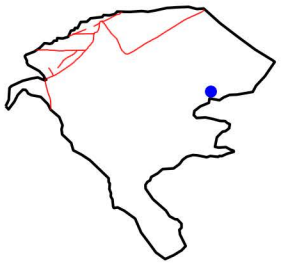
Figure B5-63



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

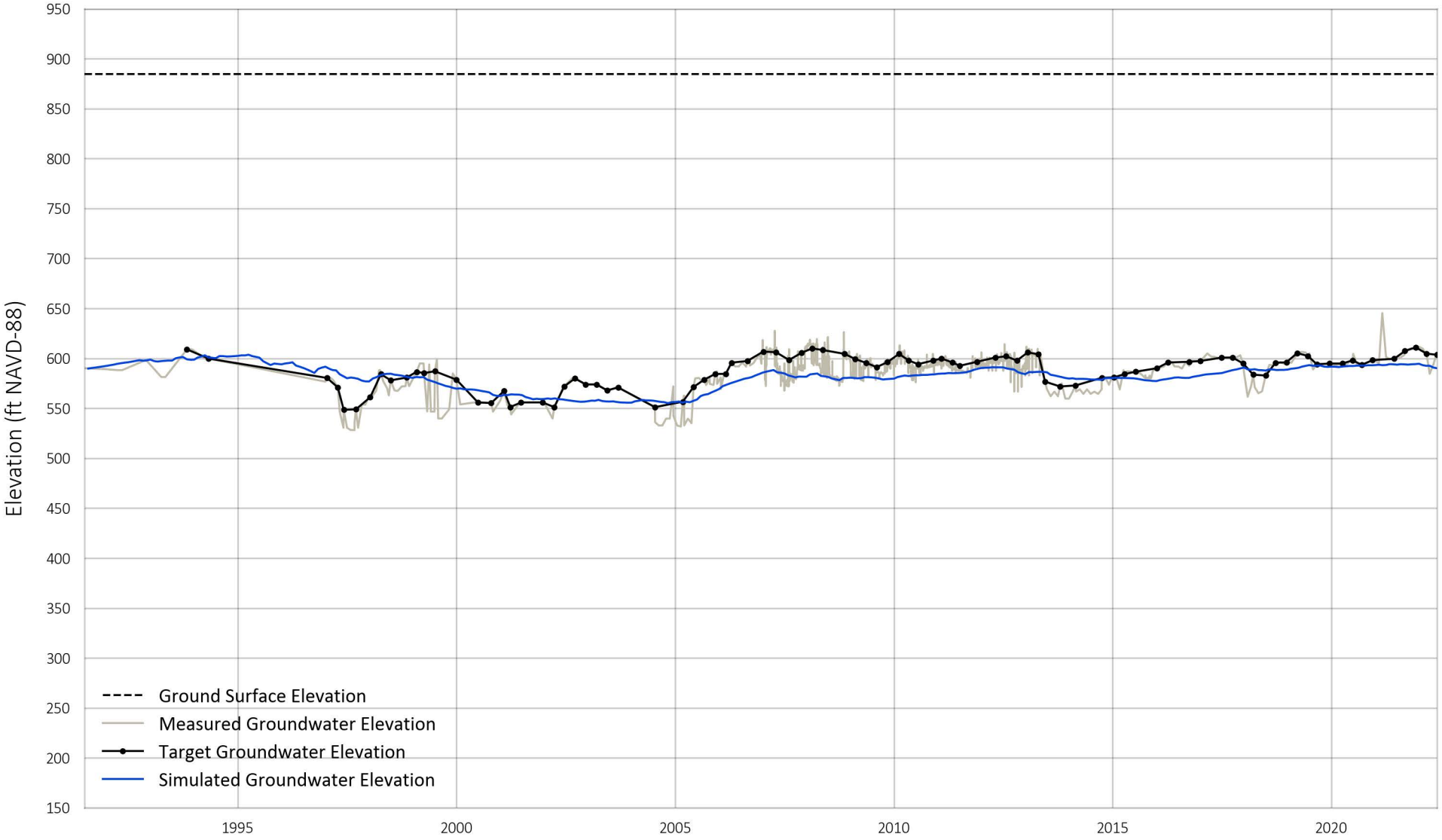
Target Groundwater Elevation (ft)
Mean = 722.31
Standard Deviation = 6.37

Simulated Groundwater Elevation (ft)
Mean = 729.76
Standard Deviation = 5.41

Mean Residual (ft) = 7.45
RMSE (ft) = 7.72

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1207069
Well Name: Offsite MW4
Owner: Alcoa

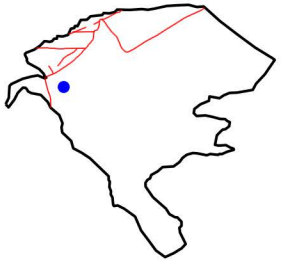
Figure B5-64



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

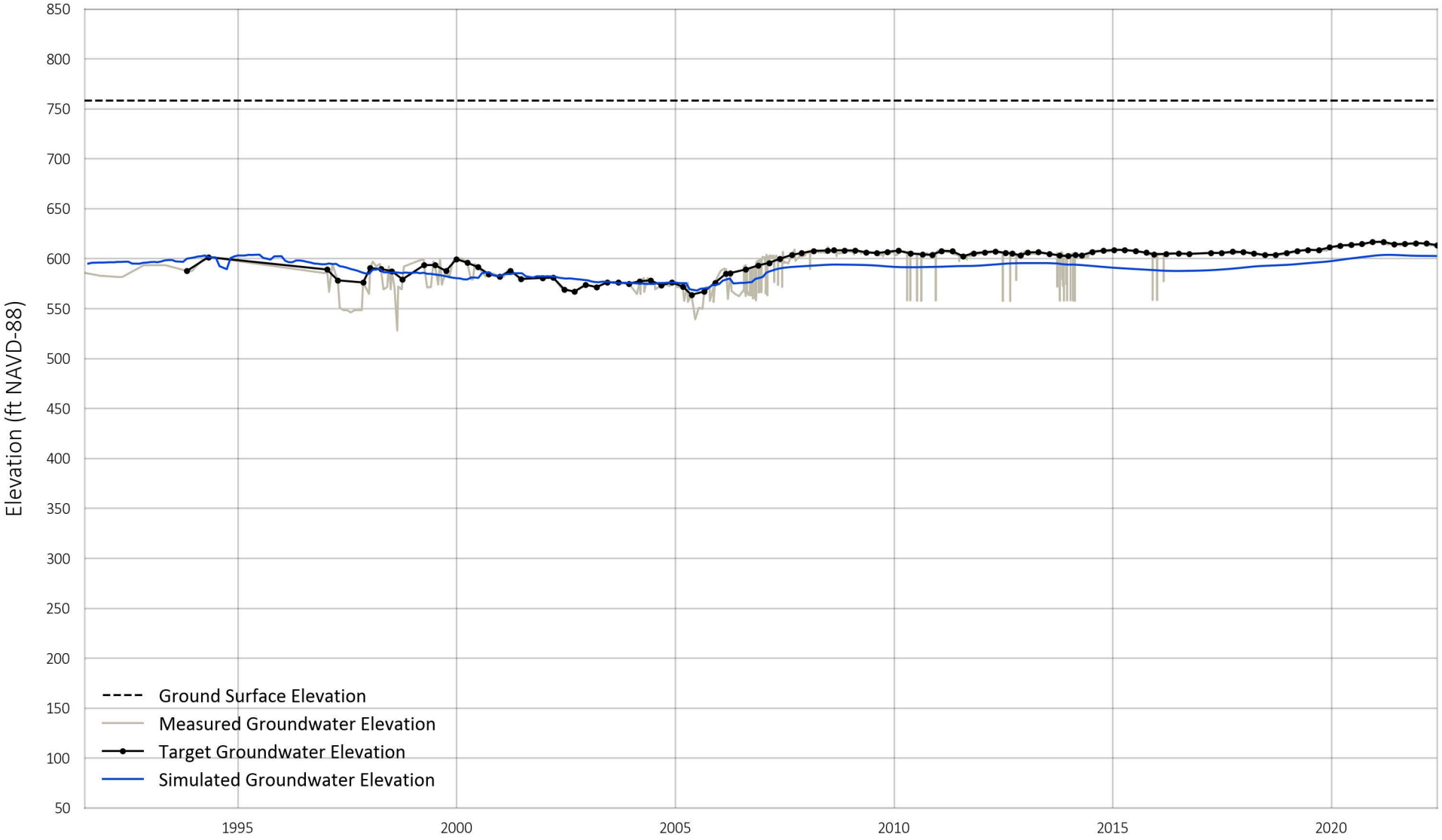
Target Groundwater Elevation (ft)
Mean = 587.33
Standard Deviation = 16.72

Simulated Groundwater Elevation (ft)
Mean = 580.22
Standard Deviation = 11.43

Mean Residual (ft) = -7.11
RMSE (ft) = 13.72

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002654
Well Name: P-16
Owner: City of Pomona

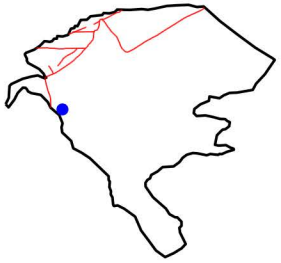
Figure B5-65



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

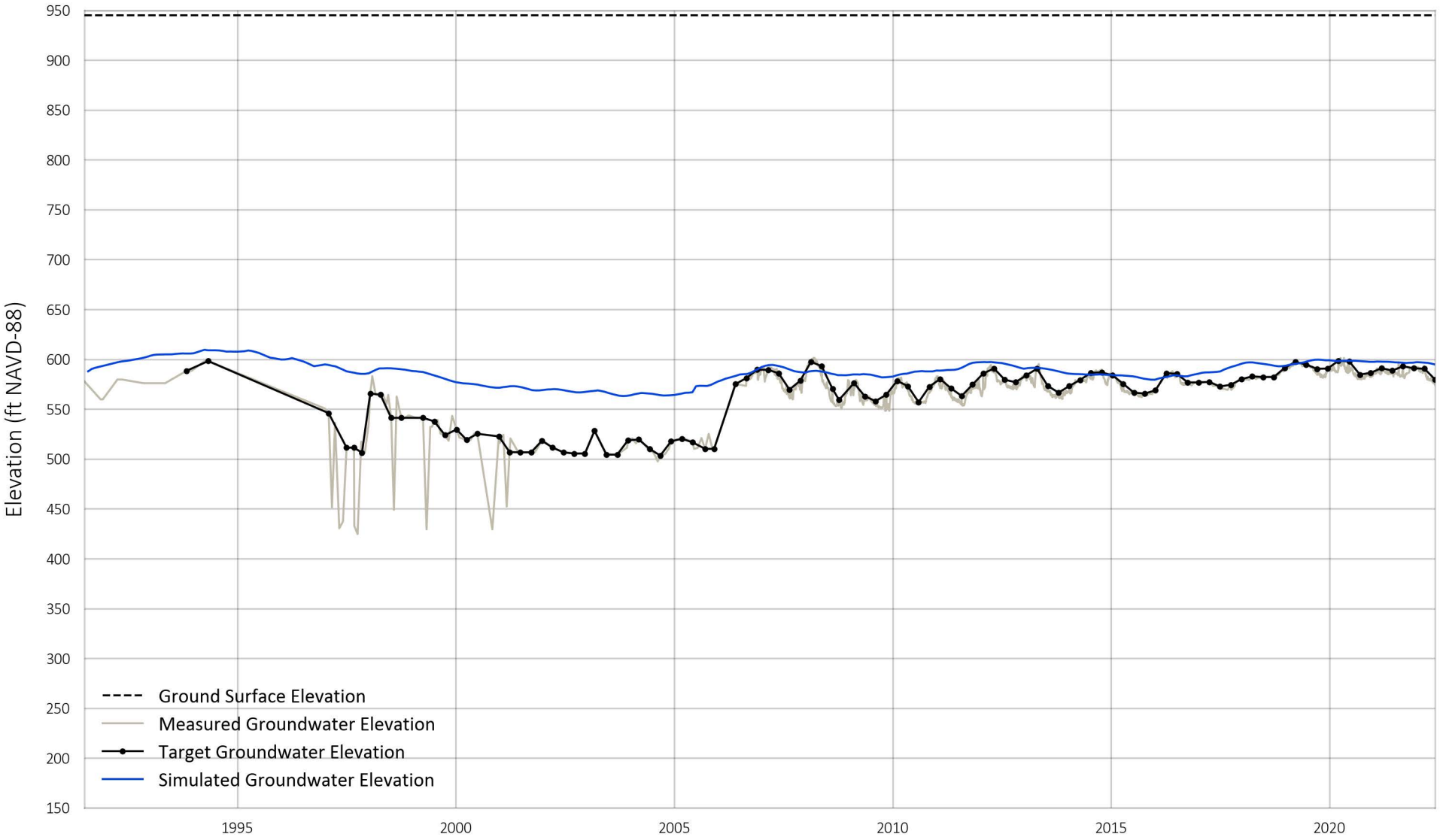
Target Groundwater Elevation (ft)
Mean = 597.38
Standard Deviation = 13.90

Simulated Groundwater Elevation (ft)
Mean = 589.05
Standard Deviation = 8.16

Mean Residual (ft) = -8.33
RMSE (ft) = 11.64

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1203062
Well Name: P-29
Owner: City of Pomona

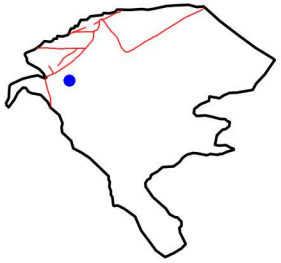
Figure B5-66



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

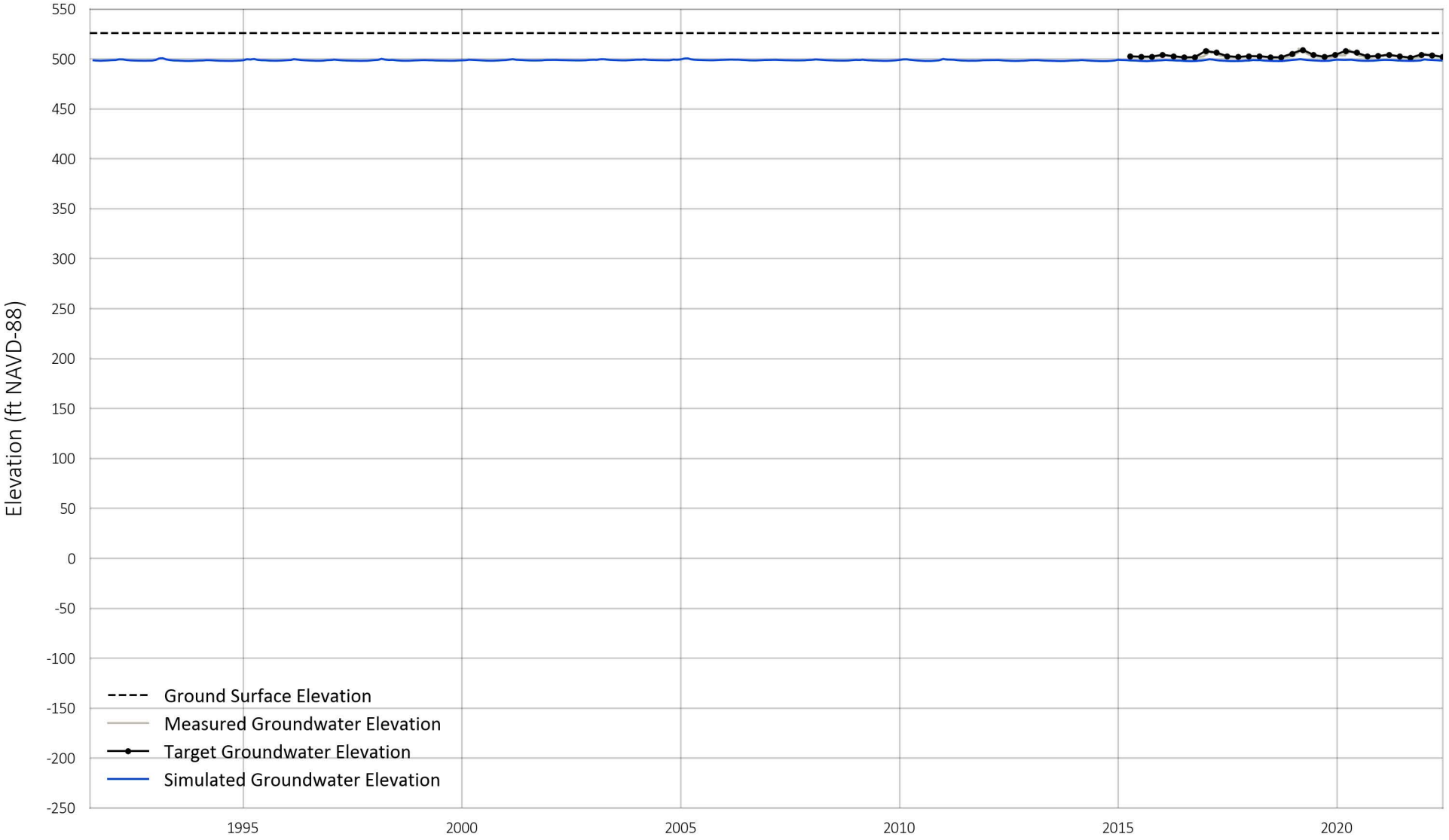
Target Groundwater Elevation (ft)
Mean = 560.19
Standard Deviation = 31.31

Simulated Groundwater Elevation (ft)
Mean = 585.25
Standard Deviation = 10.61

Mean Residual (ft) = 25.06
RMSE (ft) = 34.13

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002623
Well Name: P-30
Owner: City of Pomona

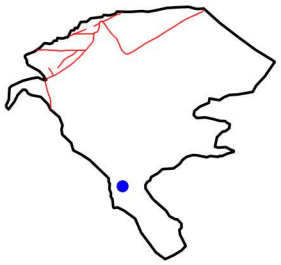
Figure B5-67



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

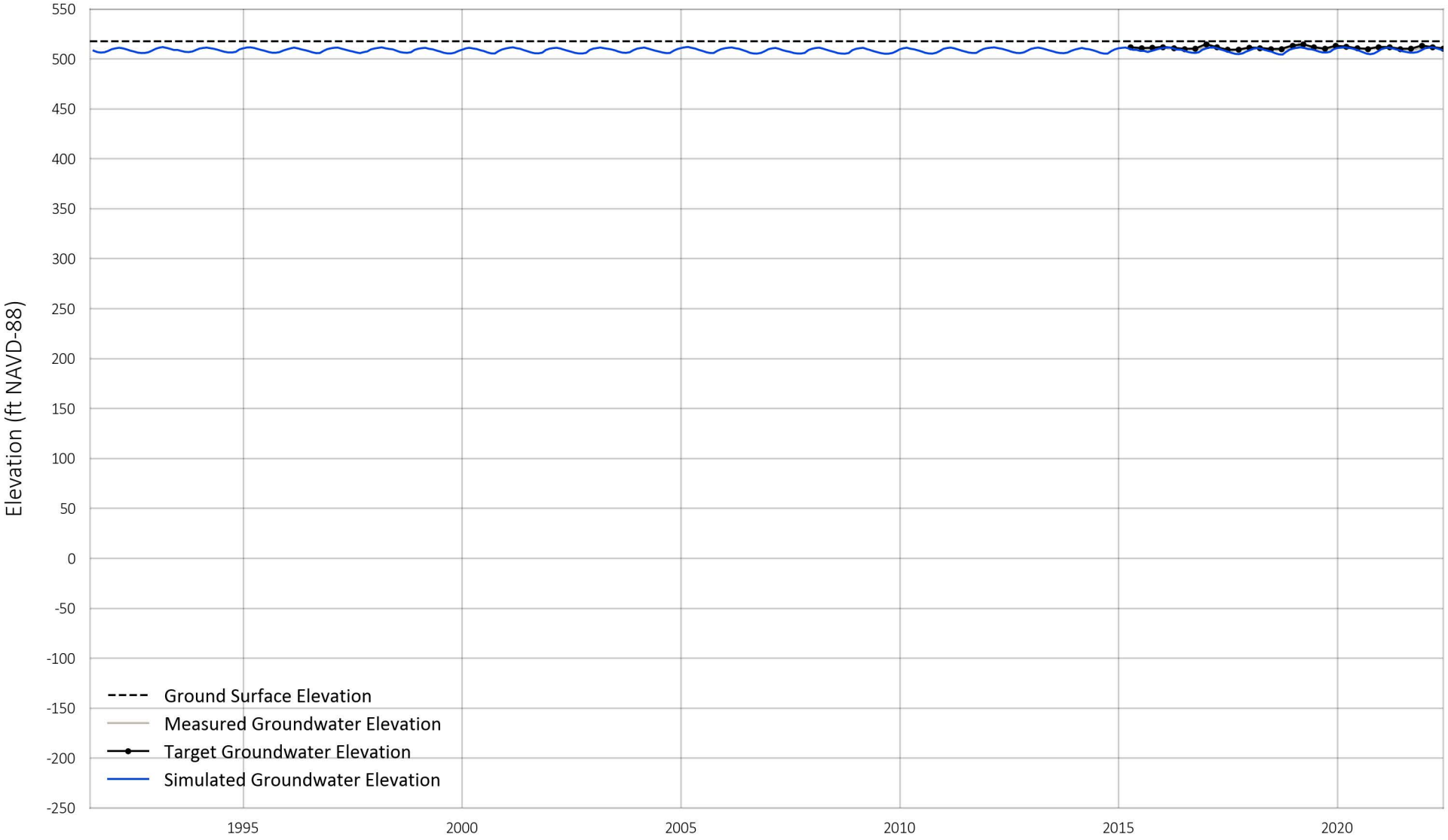
Target Groundwater Elevation (ft)
Mean = 503.36
Standard Deviation = 2.09

Simulated Groundwater Elevation (ft)
Mean = 498.21
Standard Deviation = 0.41

Mean Residual (ft) = -5.15
RMSE (ft) = 5.44

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1232875
Well Name: PB-5/1
Owner: Inland Empire Utilities Agency

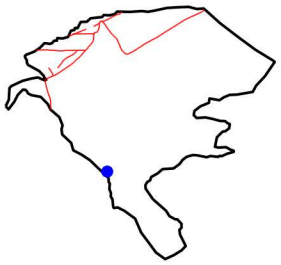
Figure B5-68



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

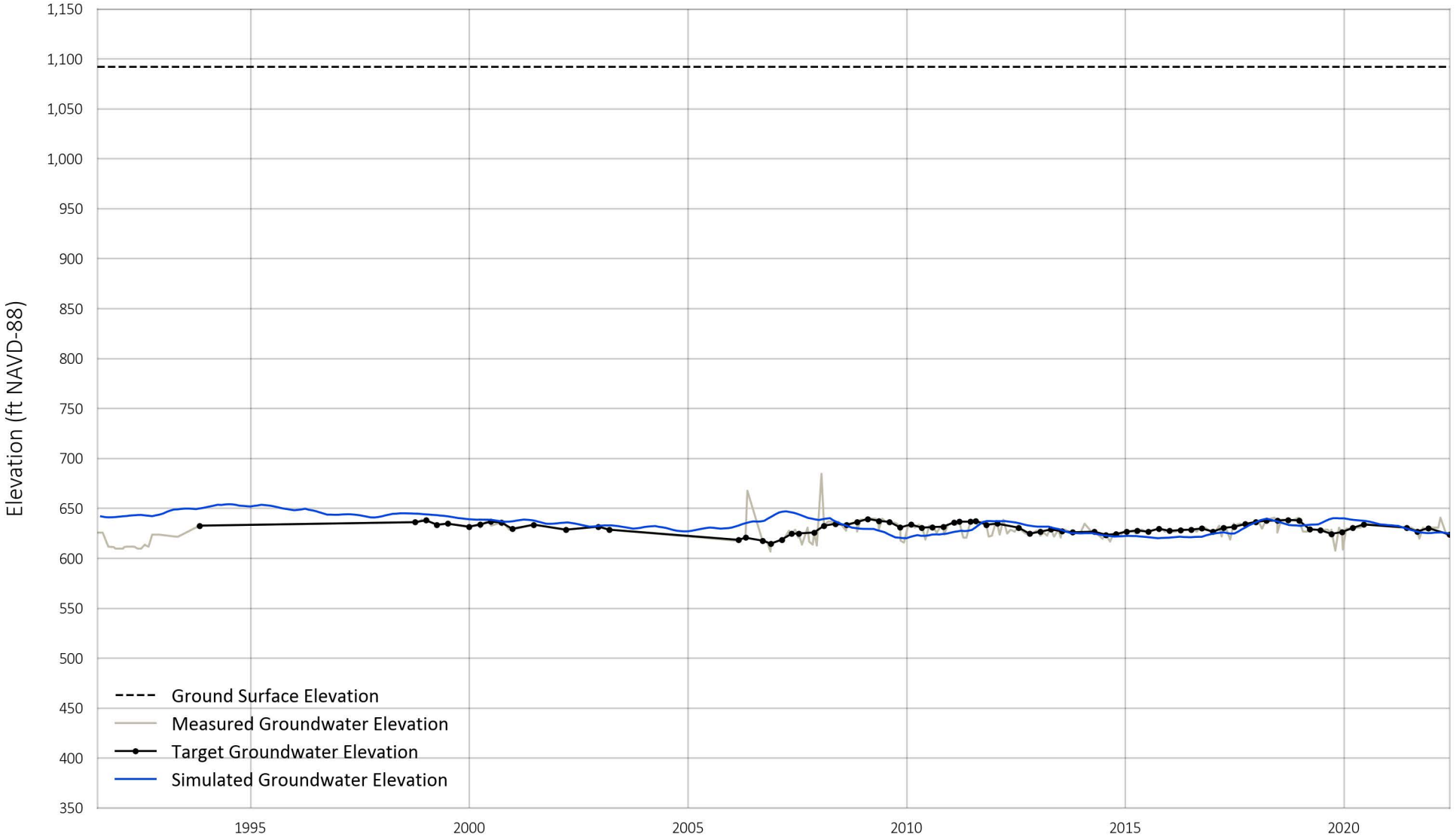
Target Groundwater Elevation (ft)
Mean = 511.15
Standard Deviation = 1.41

Simulated Groundwater Elevation (ft)
Mean = 508.46
Standard Deviation = 2.03

Mean Residual (ft) = -2.69
RMSE (ft) = 3.05

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1232872
Well Name: PB-7/1
Owner: Inland Empire Utilities Agency

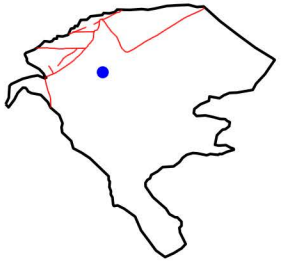
Figure B5-69



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

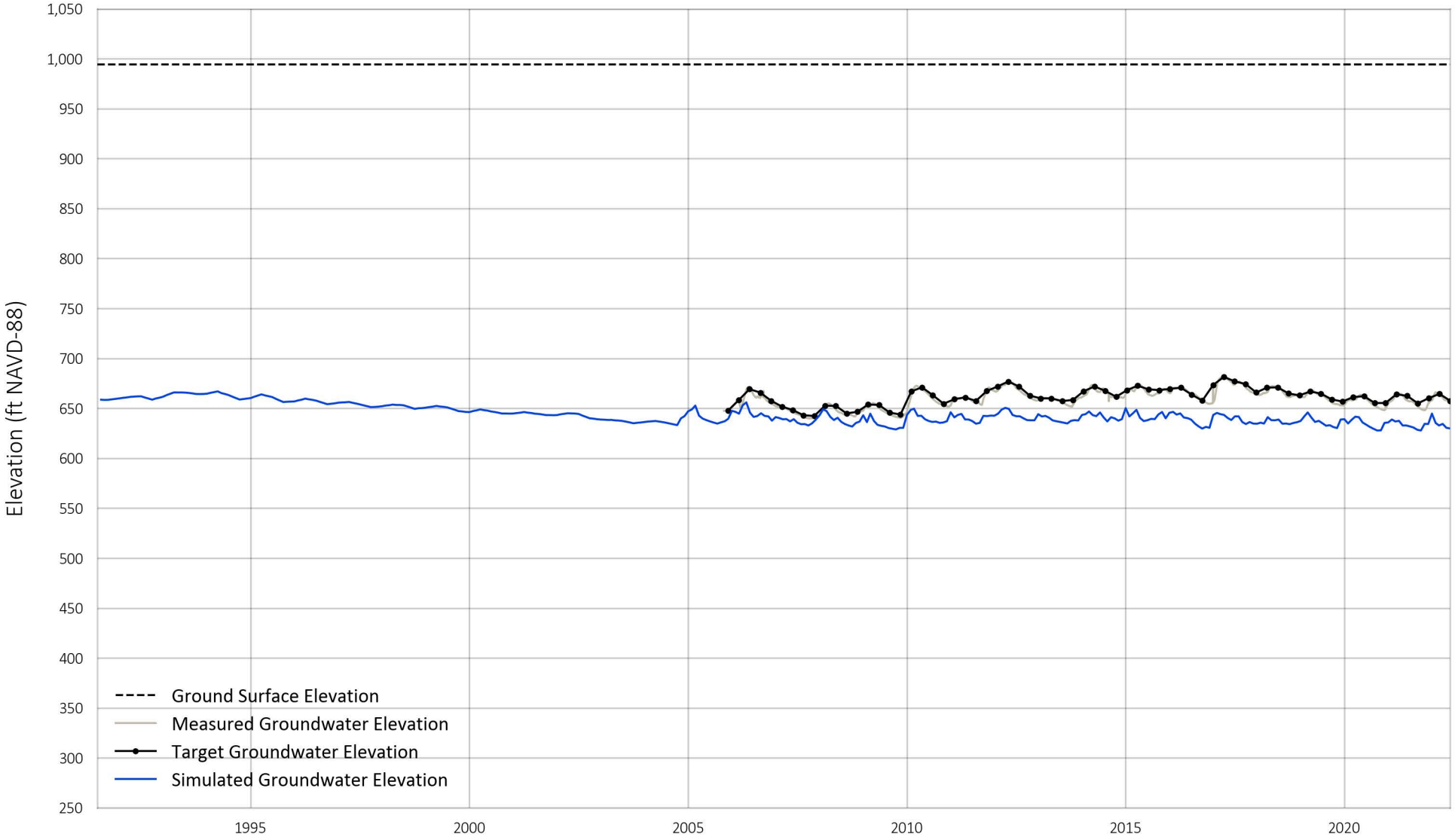
Target Groundwater Elevation (ft)
Mean = 630.31
Standard Deviation = 5.40

Simulated Groundwater Elevation (ft)
Mean = 631.89
Standard Deviation = 7.64

Mean Residual (ft) = 1.58
RMSE (ft) = 9.25

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002321
Well Name: SAWC 18
Owner: San Antonio Water Company

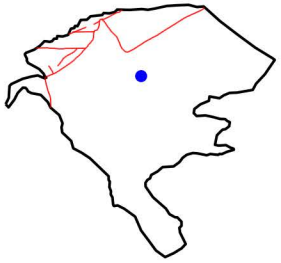
Figure B5-70



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

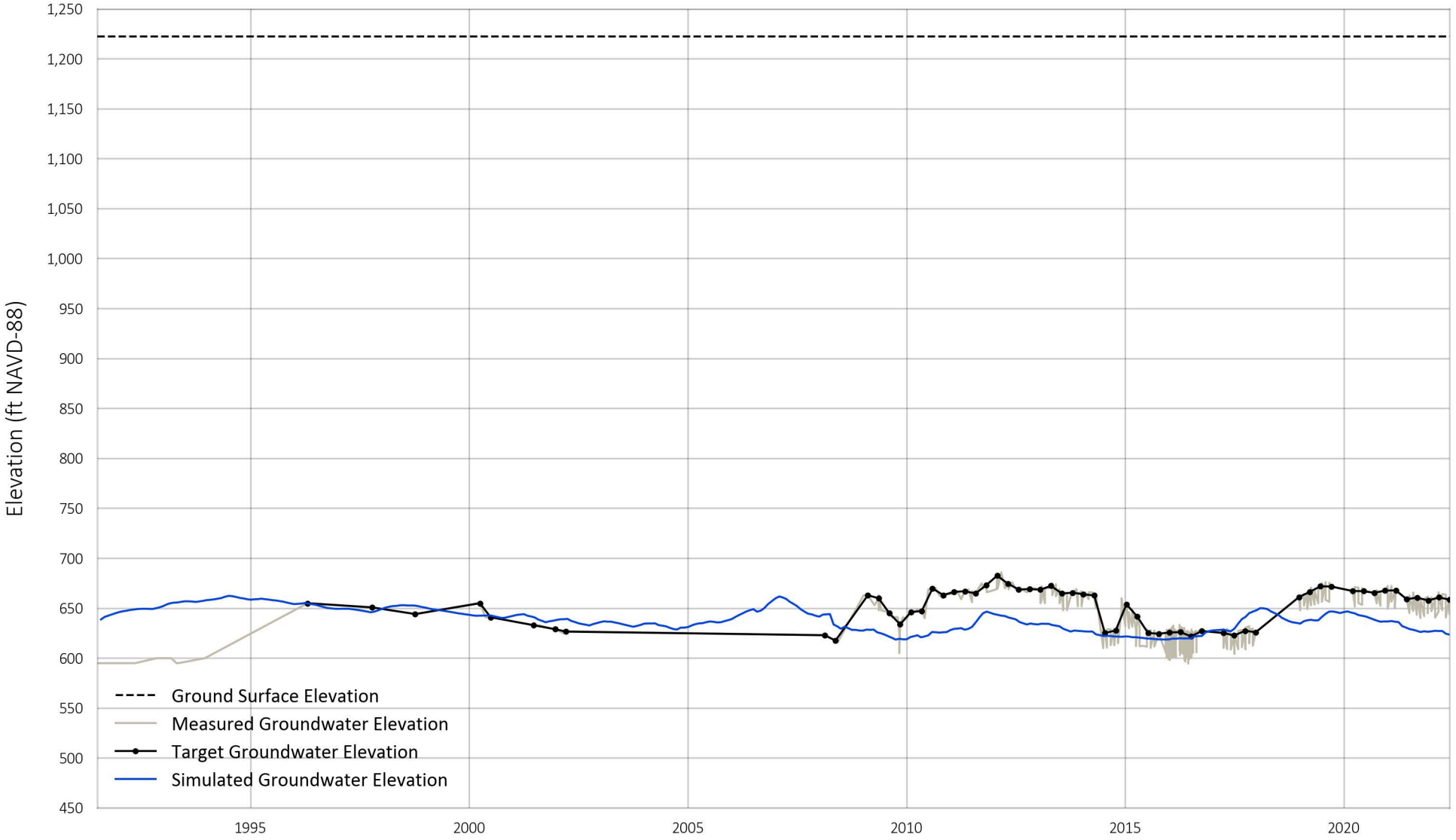
Target Groundwater Elevation (ft)
Mean = 661.63
Standard Deviation = 8.91

Simulated Groundwater Elevation (ft)
Mean = 638.72
Standard Deviation = 5.07

Mean Residual (ft) = -22.91
RMSE (ft) = 24.10

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1208082
Well Name: T-2/1
Owner: Inland Empire Utilities Agency

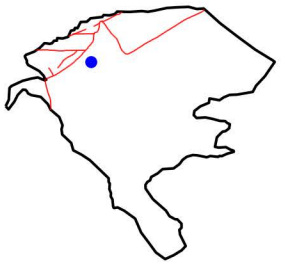
Figure B5-71



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

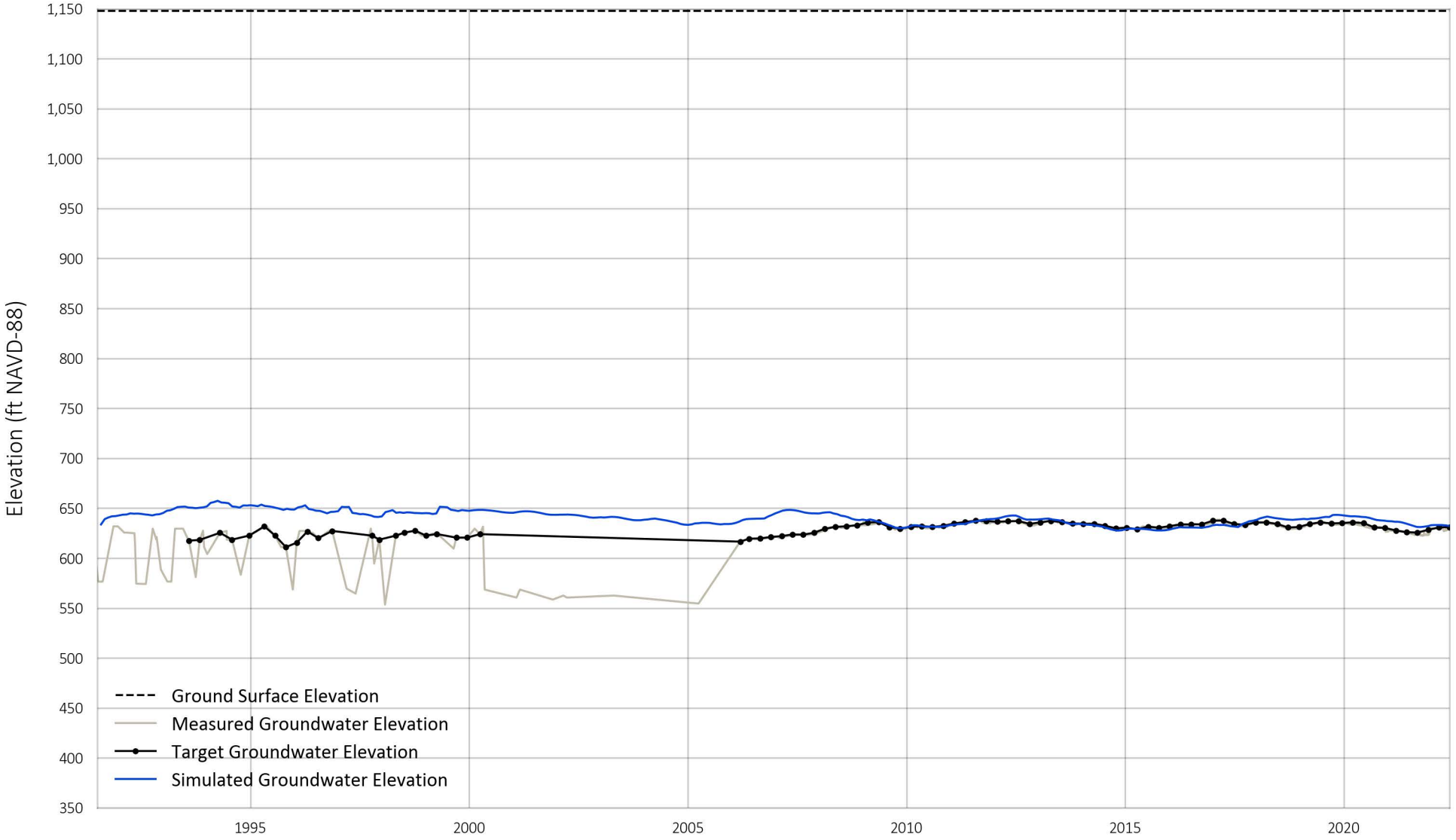
Target Groundwater Elevation (ft)
Mean = 651.08
Standard Deviation = 18.54

Simulated Groundwater Elevation (ft)
Mean = 632.27
Standard Deviation = 9.55

Mean Residual (ft) = -18.81
RMSE (ft) = 26.12

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002531
Well Name: Upland 08
Owner: City of Upland

Figure B5-72



Prepared by:

WEST YOST
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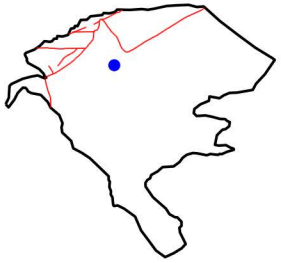
Well Location



Statistics

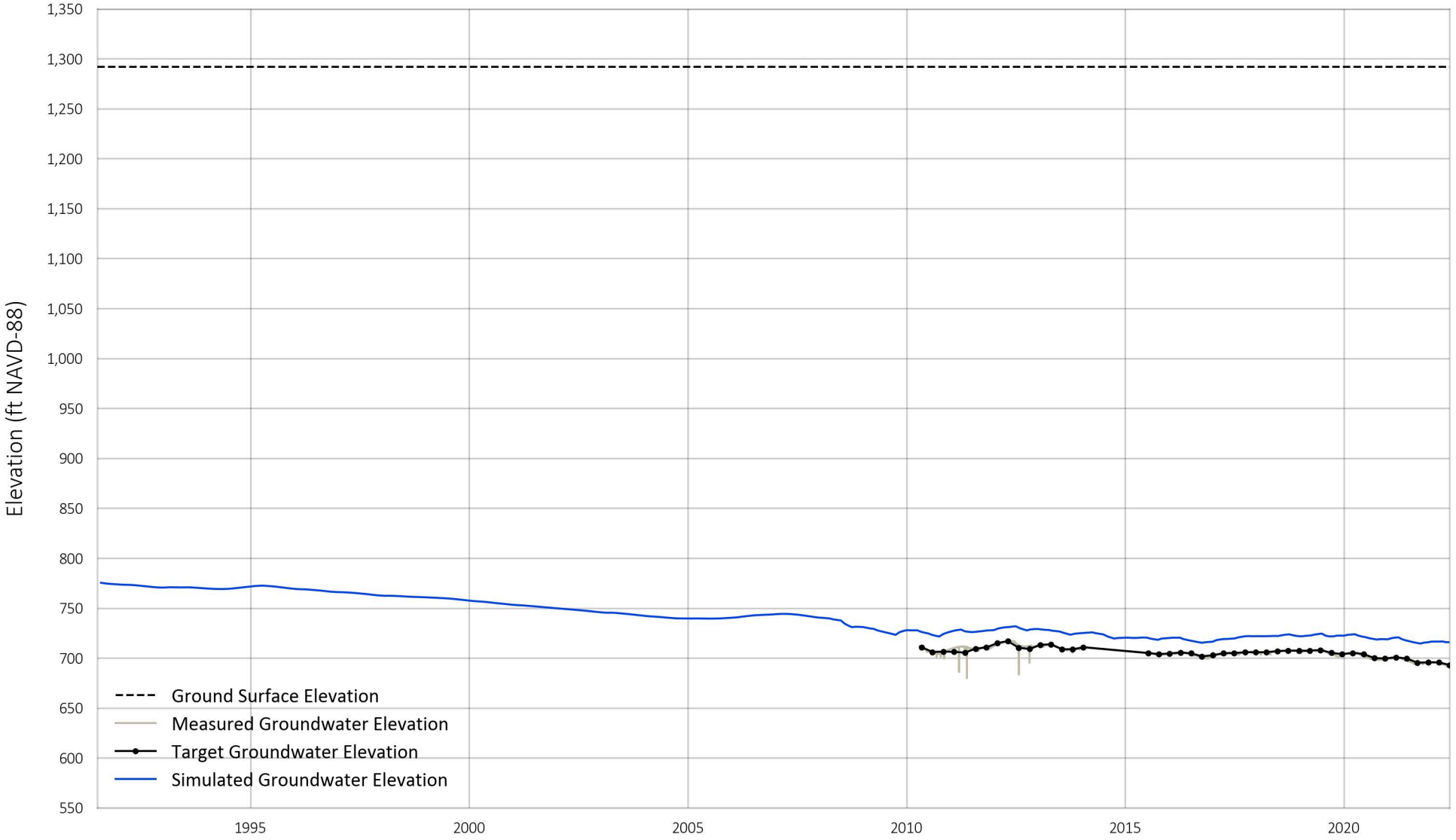
Target Groundwater Elevation (ft)
Mean = 629.40
Standard Deviation = 6.34

Simulated Groundwater Elevation (ft)
Mean = 639.48
Standard Deviation = 7.00

Mean Residual (ft) = 10.08
RMSE (ft) = 15.41

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002313
Well Name: Upland 09
Owner: City of Upland

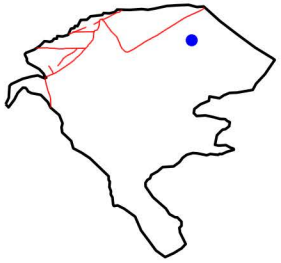
Figure B5-73



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

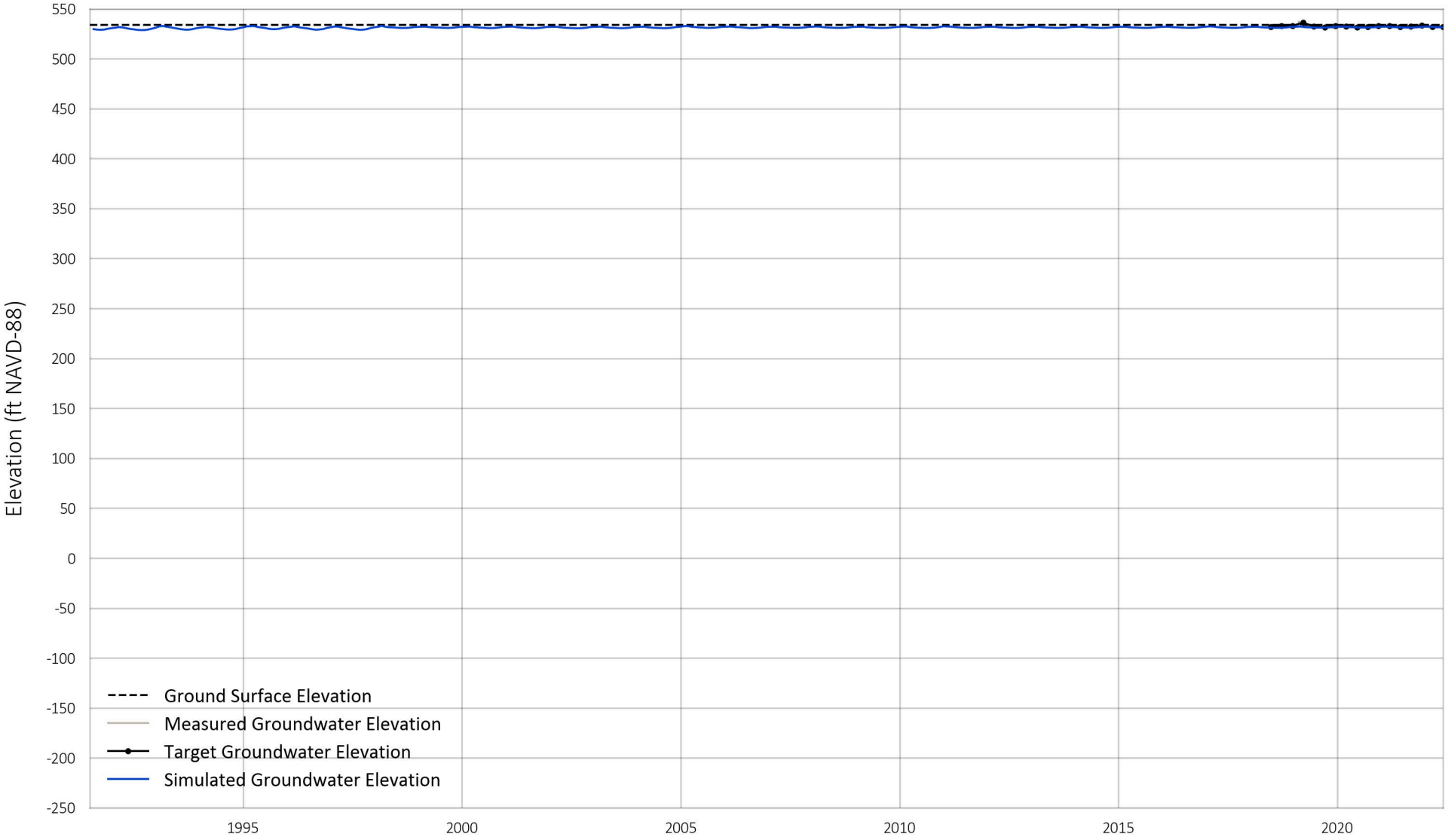
Target Groundwater Elevation (ft)
Mean = 705.62
Standard Deviation = 5.07

Simulated Groundwater Elevation (ft)
Mean = 722.37
Standard Deviation = 4.29

Mean Residual (ft) = 16.75
RMSE (ft) = 16.93

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1223006
Well Name: VCT-2/2
Owner: Inland Empire Utilities Agency

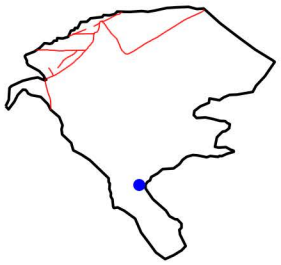
Figure B5-74



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

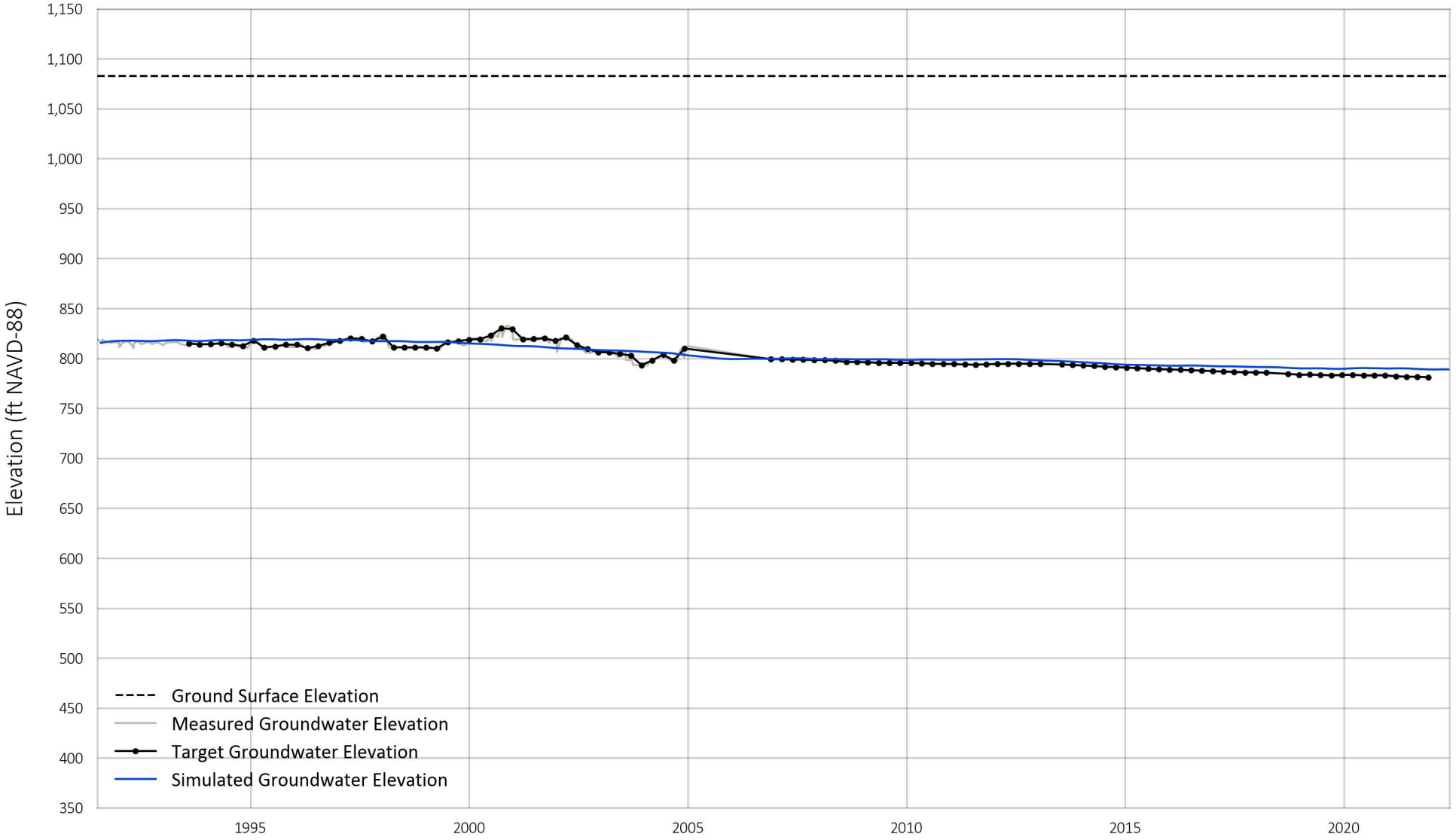
Target Groundwater Elevation (ft)
Mean = 532.50
Standard Deviation = 1.06

Simulated Groundwater Elevation (ft)
Mean = 531.51
Standard Deviation = 0.37

Mean Residual (ft) = -0.99
RMSE (ft) = 1.34

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1236959
Well Name: WRCRWA MW-8
Owner: Western Municipal Water District

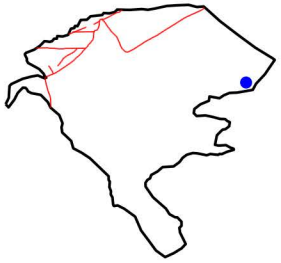
Figure B5-75



Prepared by:

WEST YOST
Water. Engineered.

Well Location



Statistics

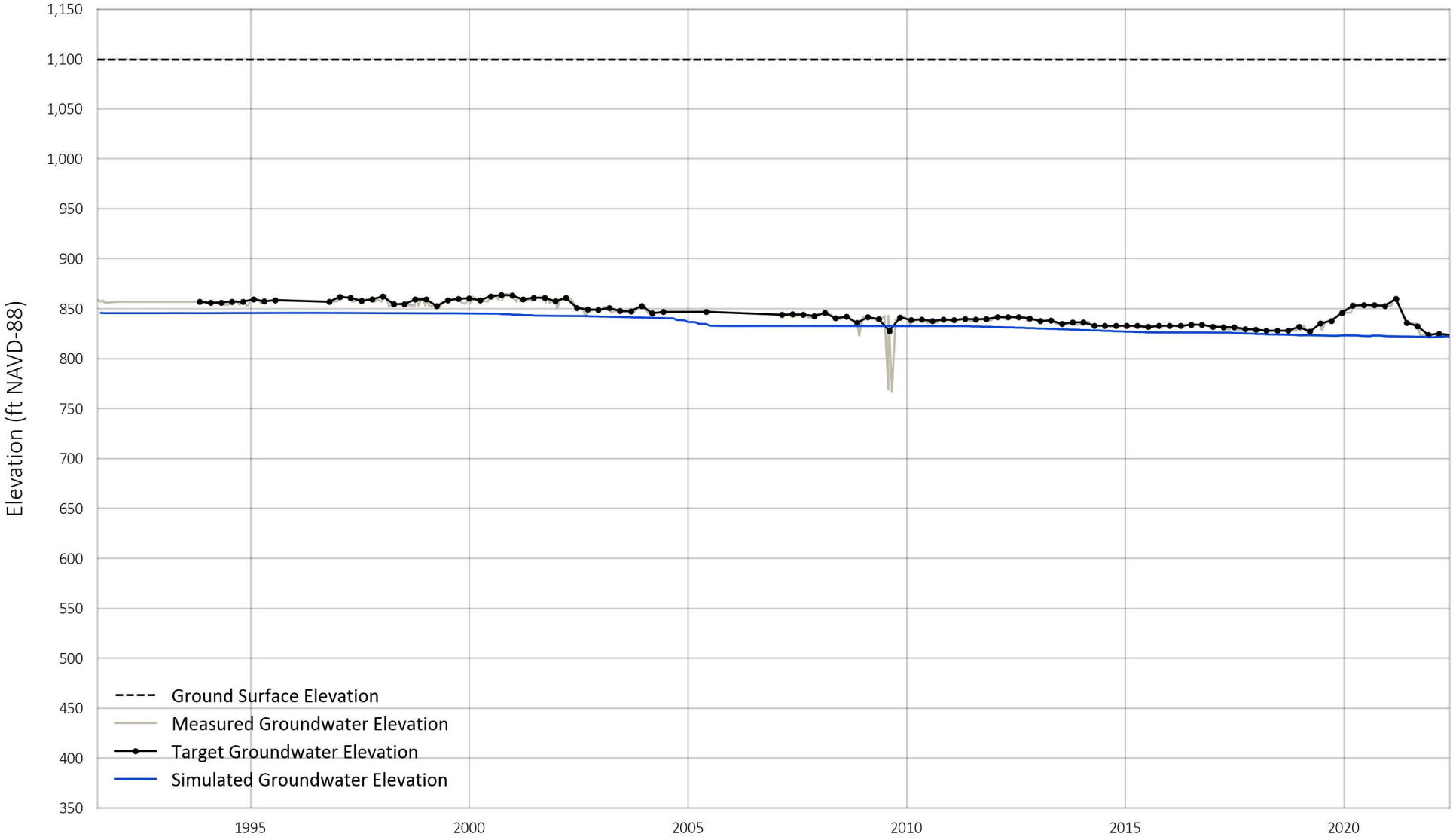
Target Groundwater Elevation (ft)
Mean = 800.75
Standard Deviation = 13.05

Simulated Groundwater Elevation (ft)
Mean = 803.44
Standard Deviation = 10.46

Mean Residual (ft) = 2.69
RMSE (ft) = 5.61

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1002150
Well Name: WVWD 20
Owner: West Valley Water District

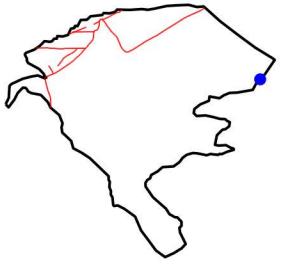
Figure B5-76



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 = 834.05
Standard Deviation = 8.62

Mean Residual (ft) = -10.62
RMSE (ft) = 12.50

2025 CVM: Run_41.2.167
HydroDaVE Well ID: 1006993
Well Name: WVWD 39
Owner: West Valley Water District

Figure B5-77

B6. Assessment and Evaluation of PESTPP-IES Calibration Results

DRAFT

Unlike traditional calibration approaches that assume a single fixed set of observed values, PESTPP-IES treats observations as uncertain data by generating and working with an observation ensemble. This enables:

- Full representation of measurement uncertainty.
- Matching between parameter realizations and perturbed observations in a statistically consistent way.
- A fully Bayesian formulation, where model outputs are compared against realizations of observations, not just single point values.

Definitions and Roles

Measured Observations

- These are the best-estimate groundwater levels (head, in ft) stored in the pest control (.pst) file under the observation data section. They define the center of the observation distribution but are not treated as absolute truths.

Prior Observation Ensemble

- Represents multiple plausible versions of observed data, sampled around the measured values using observation weights or a covariance matrix.
- Encodes the uncertainty in each observation before calibration.
- Each ensemble member has a different realization of observations, and the model is calibrated against these.

Posterior Observation Ensemble

- Consists of model-simulated values from each parameter realization after (or during) IES iterations/updates.
- These values are compared, realization-by-realization, against the corresponding entries in the prior observation ensemble.
- They reflect how well the model, using updated parameters, matches the full range of observational uncertainty.

Prior Parameter Ensemble

- A prior parameter ensemble is a collection of parameter sets that reflects the modeler's initial understanding or assumptions about the values and variability of model parameters before calibration or data assimilation. It serves as the starting point for ensemble-based calibration methods such as PESTPP-IES.

Posterior Parameter Ensemble

- A posterior parameter ensemble is the collection of model parameter sets that result from updating a prior ensemble through calibration using observational data. It reflects the refined

understanding of parameter values after assimilation of measurement information, as implemented through ensemble-based calibration techniques such as those used in PESTPP-IES.

What Should One Expect from PESTPP-IES?

Posterior observation ensemble means should converge toward the mean of the prior observation ensemble

- What this means: the mean across all realizations in the posterior observation ensemble should move toward the mean of the prior observation ensemble.
- Why: The prior ensemble mean represents the average "target" the model is trying to match, given observation uncertainty. The iterative ensemble smoother updates parameters to reduce systematic bias between model outputs and these targets. If the model is structurally adequate, calibration should push the ensemble-average simulated values closer to the average observed values.
- Interpretation: If the posterior mean is far from the prior mean after calibration, it may indicate: Structural bias in the model. Poorly estimated parameters. Insufficient iterations. Overly restrictive parameter bounds.

Posterior observation spread (uncertainty) should decrease if calibration is effective.

- What this means: The spread (variance or standard deviation) of the posterior ensemble should tell us how much uncertainty remains in the simulated observations after calibration.
- Why: The prior spread represents the assumed uncertainty in the measurements and model before calibration. The ensemble smoother uses the data to reduce uncertainty in parameters (and therefore in simulated observations). If calibration is effective, the posterior spread will usually shrink — but not vanish — because: Some uncertainty is irreducible (measurement error). Model limitations prevent a perfect fit.
- Special cases: If the posterior spread is larger than the prior spread, it may mean: The update step introduced instability (common if too few realizations or high nonlinearity). The parameter updates increased output sensitivity. The observation noise model is inconsistent with reality.

Observation Residuals (posterior – prior) should have Mean Near Zero, Variance Matching Noise

- What this means: Observation residuals = (posterior observation ensemble − prior observation ensemble). Across all realizations, these residuals should: Have a mean close to 0 (no systematic bias). Have a variance close to the observation noise variance specified in the weights of the PEST control file or observation covariance.
- Why: A zero-mean residual means the calibration is unbiased — no systematic over or under prediction. Matching the variance to the noise model means the calibration is consistent with the uncertainty assumptions: Too small → the model is overfitting (forcing the model to match noise). Too large → the model is underfitting (model isn't using all available information).
- Practical check: Plot a histogram of residuals for each observation across the ensemble. Ideally, it should be roughly centered at zero and have a spread matching the expected standard deviation.

Posterior parameter spread should decrease

- What this means: A decrease in parameter means coupled with reduced spread (standard deviation) indicates improved parameter definition and less uncertainty.
- Why: A reduced standard deviation indicates that the estimated parameter value is constrained within a narrower range of possibilities, implying a more precise estimate. However, decrease in means alone does not necessarily imply improved parameter definition. Parameters could decrease simply due to bias, incorrect assumptions, or artifacts of the calibration method. If the decreased means and reduced variability correspond to improved alignment with observational data, this strongly indicates improved parameter definition.

Evaluation for the Head Observation Ensembles of 2025 CVM

To evaluate the quality of the calibration, we compared measured observations from the original .pst file, the prior observation ensemble, and the posterior observation ensemble generated after the second PESTPP-IES iteration. The following statistics summarize the comparison.

1. Ensemble Mean Alignment

- Prior Mean: 745.71 ft
- Posterior Mean: 746.69 ft
- Difference: 0.98 ft

🔎 Interpretation: The posterior mean is very close to the prior mean. This indicates that the model successfully centered simulated head values around the prior expectation — systematic bias has been effectively eliminated.

2. Spread (Uncertainty) Changes

- Prior Spread (Std Dev): 59.22 ft
- Posterior Spread (Std Dev): 12.99 ft

🔎 Interpretation: The spread of the posterior is dramatically smaller — roughly 78% less than the prior. This shows that the calibration strongly reduced uncertainty, meaning the ensemble has converged tightly toward plausible predictions.

3. Residual Distribution

- Residual Mean: 0.98 ft
- Residual Spread (Std Dev): 62.26 ft

🔎 Interpretation: Residuals are:

- Nearly unbiased (mean ≈ 0),
- And the residual spread is close to the original (prior) observation spread.

This means that:

- The posterior doesn't overfit — it's not forced to exactly match noisy data.
- The ensemble spread reflects realistic error.

Example

Figure 1 illustrates how the posterior ensembles (orange) compare to the prior ensembles (blue) for 8 randomly selected groundwater head observations. Each distribution represents variability across all realizations, with the measured head shown as a black vertical line.

Key observations:

- In most cases, the posterior distributions shift closer to the measured values, indicating successful calibration.
- The posterior spread is consistently narrower, reflecting reduced uncertainty after inversion.
- The measured values generally fall near the peak of the posterior distribution, showing that the model is reproducing observed heads realistically.

These results suggest that PESTPP-IES effectively calibrated the model, improving both accuracy and confidence in simulated head values.

Evaluation for the Parameter Ensembles of 2025 CVM

To evaluate the quality of the calibration, we compared prior parameter ensemble with the posterior parameter ensemble after the second PESTPP-IES iteration. Table 1 summarizes the evolution of parameter uncertainty during the PESTPP-IES calibration process. Parameters are grouped by their four-character prefixes, representing logical parameter sets (e.g., hk1p, vk5p, rchm). For each group, the mean and standard deviation of the prior (initial) and posterior (calibrated) ensembles are reported. A key indicator of calibration effectiveness—standard deviation—is included to highlight the degree of uncertainty reduction. The following observations summarize the comparison:

Horizontal Hydraulic Conductivity (HK):

- **Significant Improvement:** Parameters of HK in model layer 1 (i.e., hk1p) notably improved, with substantial decreases in mean (from ~159.47 to ~70.73) and variability (standard deviation from ~206.89 to ~109.60). A similar trend is observed for HK parameters in layer 5 (hk5p), reflecting effective constraint through the calibration process.
- **Moderate Improvement:** Parameters such as hk2p, hk3p, and hk4p showed moderate decreases in uncertainty, indicating increased parameter stability and reliability post-calibration.

Vertical Hydraulic Conductivity (VK):

- **High Uncertainty Reduction:** VK parameters (vk1p, vk2p, etc.) exhibited significant improvements in calibration. Overall, mean values decreased notably from approximately 11.65 to 6.06.

- **Significant Variability Reduction:** Standard deviations reduced dramatically, often by over 50%, notably in parameters such as vk1p1, vk1p2, vk1p6, and vk1p8. These reductions strongly indicate improved parameter identifiability and reliability.
- **Moderate Range Adjustments:** Although extreme ranges changed minimally, the substantial decrease in internal variability significantly improved parameter confidence.

Stable Parameters

- All other parameters demonstrated minor adjustments, reflecting prior adequate constraints or lower sensitivity to calibration.

Conclusion

For the groundwater head observations:

- The posterior ensemble is statistically consistent, tightly constrained, and well-centered on measured values.
- Calibration performance meets the theoretical expectations for PESTPP-IES:
    - Posterior mean aligns with prior and measured values.
    - Posterior spread drops meaningfully.
    - Residuals confirm unbiased model behavior.

The current model serves as an example of effective ensemble smoother calibration applied to a groundwater system. It demonstrates key characteristics of a well-calibrated model, including reduced uncertainty, alignment of simulated outputs with measured observations, and statistically consistent residuals. These outcomes highlight the robustness of the PESTPP-IES approach when applied to complex hydrogeologic systems.

Table 1. Comparison of Prior and Posterior Parameter Ensembles					
Prefix	**Parameter**	**Prior Parameter Ensemble (initial estimates)**		**Posterior Parameter Ensemble (after 2nd Iteration)**	
		mean	**std dev**	**mean**	**std dev**
etsm	Multiplier of maximum ET array (—)	1.00	0.05	1.00	0.04
fhbf	Multiplier of specified flow (—)	0.86	0.30	0.87	0.29
fhbh	Addend to specified head (ft)	4.71	5.29	4.70	5.30
hfb	hydraulic characteristic of HFB (1/day)	7.86E-04	3.11E-03	6.14E-04	1.92E-03
rchm	Multiplier of recharge array (—)	0.94	0.03	0.94	0.02
sfrh	hydraulic conductivity of SFR (ft/day)	2.18	2.99	2.18	2.98
hk1p	HK in Layer 1 (ft/day)	159.47	206.89	70.73	109.60
hk2p	HK in Layer 2 (ft/day)	119.16	195.72	100.22	166.56
hk3p	HK in Layer 3 (ft/day)	124.36	188.35	121.11	173.54
hk4p	HK in Layer 4 (ft/day)	47.88	123.44	48.00	112.32
hk5p	HK in Layer 5 (ft/day)	56.04	126.25	12.18	28.90
ss2p	SS in Layer 2 (1/ft)	3.30E-05	4.22E-05	1.48E-05	2.23E-05
ss3p	SS in Layer 3 (1/ft)	4.89E-06	1.40E-05	8.60E-06	1.71E-05
ss4p	SS in Layer 4 (1/ft)	3.01E-05	3.99E-05	1.55E-05	2.35E-05
ss5p	SS in Layer 5 (1/ft)	1.81E-05	3.00E-05	8.66E-06	1.55E-05
sy1p	SY in Layer 1 (—)	0.18	0.16	0.16	0.10
vk1p	VK in Layer 1 (ft/day)	18.07	21.32	8.04	11.49
vk2p	VK in Layer 2 (ft/day)	11.71	19.36	6.02	11.24
vk3p	VK in Layer 3 (ft/day)	11.67	18.37	11.71	17.34
vk4p	VK in Layer 4 (ft/day)	4.61	12.35	1.09	3.09
vk5p	VK in Layer 5 (ft/day)	10.94	33.67	1.97	5.86

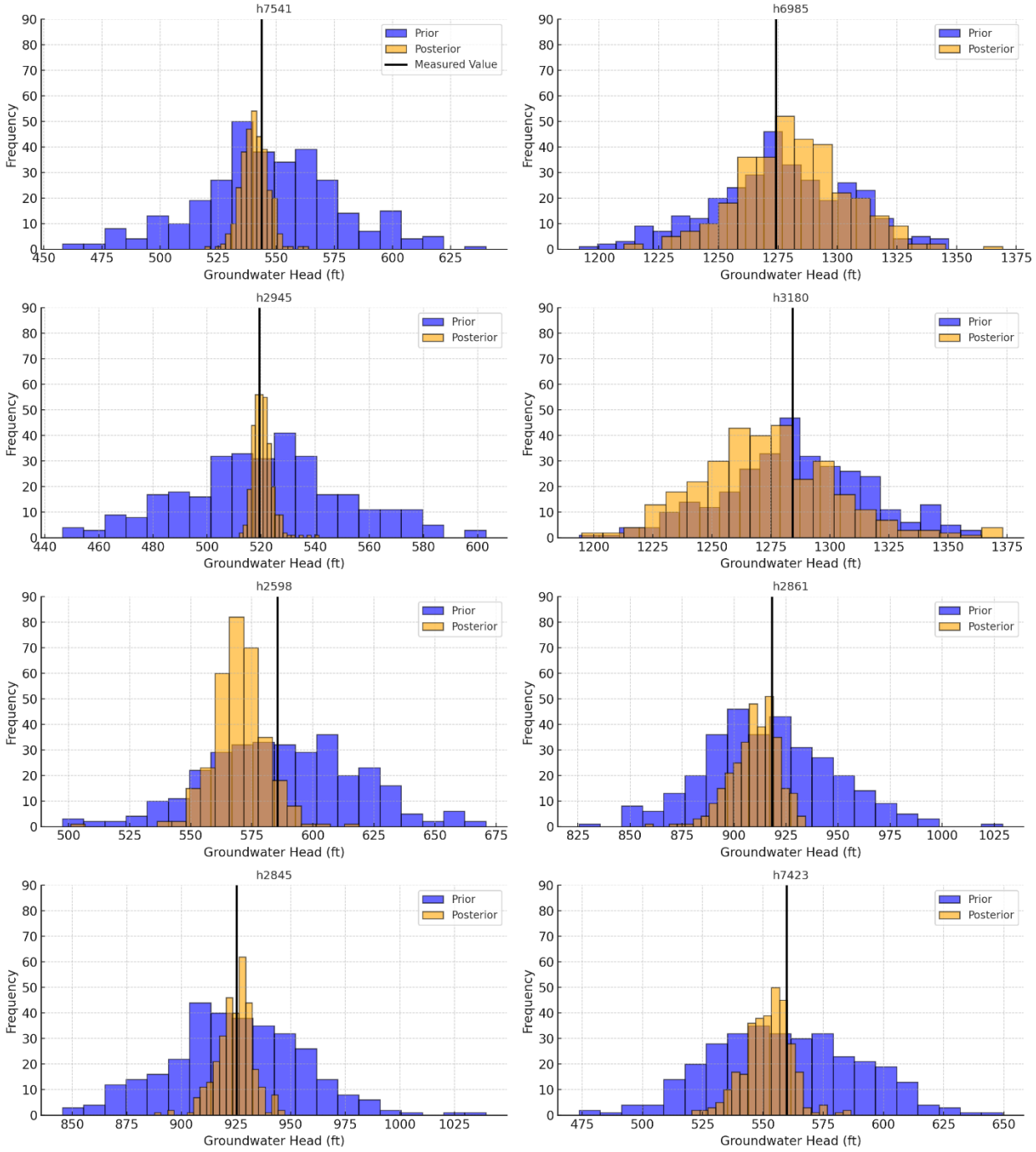


Figure 1. Prior vs Posterior Distributions of Head Values

B7. Simulated Water Budgets from Selected PESTPP-IES Calibration Realizations

DRAFT

Table B7-1 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	8,733	5,220	2,730	6,185	12,497	6	107,135	24,946	3,598	0	5,568	176,617	102,664	77,336	18,149	7,237	205,385	-28,768	-28,768	145,663
1993	7,165	5,921	3,425	6,180	10,328	6	108,798	28,850	6,619	0	14,224	191,516	88,040	83,284	17,540	8,155	197,018	-5,502	-34,270	151,598
1994	6,569	5,920	4,258	6,259	10,076	7	107,773	21,476	1,486	0	16,448	180,273	93,564	72,115	17,835	8,439	191,954	-11,681	-45,951	137,550
1995	6,197	6,326	4,185	6,031	9,789	8	116,416	24,830	4,662	0	10,375	188,820	98,173	62,171	17,438	10,268	188,050	770	-45,181	150,739
1996	6,063	6,411	4,839	6,238	9,507	10	106,014	20,500	2,425	0	82	162,089	109,609	71,220	18,235	10,290	209,353	-47,265	-92,446	133,482
1997	6,014	6,346	4,782	5,964	9,269	11	102,473	22,512	3,305	0	16	160,692	112,998	68,968	18,569	9,691	210,226	-49,534	-141,980	132,416
1998	5,920	6,293	4,458	5,946	9,075	14	107,533	24,627	5,780	0	8,352	177,998	104,141	45,302	19,089	11,466	179,999	-2,001	-143,980	139,090
1999	5,912	5,989	4,349	5,962	9,266	15	102,258	18,028	1,007	984	5,839	159,609	118,738	46,730	18,467	12,782	196,717	-37,108	-181,088	121,537
2000	5,964	5,657	3,783	5,812	8,951	17	105,865	18,398	1,985	3,630	997	161,058	133,609	46,538	18,589	14,536	213,273	-52,215	-233,303	123,305
2001	5,610	5,758	4,255	5,583	8,803	19	99,730	18,201	3,162	6,221	6,538	163,880	129,866	41,429	18,451	16,840	206,586	-42,706	-276,010	115,830
2002	5,693	5,259	4,359	5,503	8,981	22	94,101	18,047	1,148	7,444	6,493	157,051	139,934	38,650	17,646	16,848	213,078	-56,027	-332,037	108,620
2003	5,901	4,882	3,738	5,459	9,079	26	94,553	21,038	6,284	7,112	6,548	164,621	133,793	36,507	17,894	17,131	205,325	-40,704	-372,740	115,935
2004	6,020	4,953	2,880	5,367	9,402	28	90,036	18,878	3,357	8,942	7,607	157,469	139,028	36,809	17,172	17,885	210,894	-53,425	-426,165	105,863
2005	4,698	6,075	1,665	5,537	9,421	31	91,724	23,076	17,648	9,377	12,259	181,510	123,538	34,503	17,305	18,987	194,333	-12,823	-438,988	123,583
2006	4,596	5,780	4,558	5,882	9,599	31	93,065	19,891	12,940	1,303	34,567	192,211	133,372	30,812	18,201	13,171	195,556	-3,345	-442,333	124,969
2007	5,522	5,432	3,593	5,331	9,714	29	85,490	20,041	4,745	2,993	32,960	175,850	152,223	29,919	17,947	9,870	209,959	-34,109	-476,442	112,080
2008	6,072	5,413	3,091	5,124	10,023	28	87,150	23,514	10,205	2,340	0	152,961	157,812	26,280	17,536	8,658	210,286	-57,325	-533,767	124,427
2009	6,459	5,545	2,776	5,120	10,181	27	81,773	24,659	7,512	2,684	0	146,736	165,801	23,386	17,141	7,384	213,712	-66,976	-600,743	119,527
2010	6,767	5,031	2,429	5,089	10,188	27	83,417	26,497	14,273	7,210	5,000	165,929	137,948	22,038	16,592	7,185	183,762	-17,833	-618,576	129,942
2011	7,090	5,174	2,297	5,108	10,420	27	79,127	27,004	17,052	8,065	9,465	170,827	123,354	18,042	16,865	8,118	166,379	4,449	-614,128	128,315
2012	7,018	4,893	2,345	5,105	10,425	26	73,374	24,003	9,271	8,634	22,560	167,653	136,731	22,412	16,234	6,971	182,347	-14,694	-628,821	113,255
2013	6,866	4,923	2,164	4,949	10,246	27	72,573	24,125	5,271	10,479	0	141,622	139,128	24,074	16,309	5,536	185,047	-43,425	-672,246	109,298
2014	6,744	4,824	1,977	4,995	10,017	29	69,119	25,480	4,299	13,593	795	141,873	148,475	22,131	15,940	5,037	191,583	-49,710	-721,957	106,508
2015	6,671	4,374	1,839	4,591	9,833	29	67,295	26,837	8,001	10,840	0	140,310	134,339	17,552	15,983	4,987	172,861	-32,551	-754,508	108,500
2016	6,896	3,804	1,757	4,600	9,703	30	66,768	27,400	9,236	13,222	0	143,416	129,492	16,908	15,774	5,430	167,603	-24,187	-778,695	108,990
2017	7,121	4,345	1,796	4,478	9,522	31	64,687	28,522	11,575	13,934	13,150	159,161	127,244	16,191	15,640	5,565	164,640	-5,479	-784,174	110,872
2018	6,962	3,728	2,101	4,264	9,287	32	62,495	24,155	4,494	13,212	33,763	164,491	123,992	16,776	15,566	4,885	161,219	3,272	-780,902	97,065
2019	7,023	5,899	1,858	4,344	9,179	32	65,510	29,746	12,861	11,145	6,510	154,107	116,396	15,478	15,083	5,622	152,580	1,527	-779,374	115,747
2020	7,275	5,334	1,872	4,342	9,345	33	62,846	27,216	9,967	12,953	18,103	159,284	132,618	15,722	15,566	5,751	169,656	-10,372	-789,747	106,912
2021	7,371	5,533	1,854	4,398	9,423	34	61,069	23,749	4,911	15,728	2,229	136,297	146,973	14,929	14,469	5,079	181,450	-45,153	-834,900	98,793
2022	7,520	5,500	1,214	4,424	9,300	36	60,939	24,869	8,108	15,042	1,742	138,694	148,608	14,077	14,243	4,558	181,485	-42,791	-877,691	103,110
Statistics for the Calibration Period 1992 through 2022																				
Total	200,431	166,541	93,226	164,169	300,849	731	2,671,104	731,113	217,187	207,086	282,191	5,034,627	3,982,201	1,108,289	527,467	294,361	5,912,318	-877,691		3,723,523
Percent	4.0%	3.3%	1.9%	3.3%	6.0%	0.0%	53.1%	14.5%	4.3%	4.1%	5.6%	100.0%	67.4%	18.7%	8.9%	5.0%	100.0%			
Average	6,466	5,372	3,007	5,296	9,705	24	86,165	23,584	7,006	6,680	9,103	162,407	128,458	35,751	17,015	9,496	190,720	-28,313		120,114
Median	6,569	5,432	2,776	5,331	9,522	27	87,150	24,125	5,780	7,210	6,510	161,058	132,618	29,919	17,305	8,155	191,954	-32,551		115,935
Maximum	8,733	6,411	4,839	6,259	12,497	36	116,416	29,746	17,648	15,728	34,567	192,211	165,801	83,284	19,089	18,987	213,712	4,449	-28,768	151,598
Minimum	4,596	3,728	1,214	4,264	8,803	6	60,939	18,028	1,007	0	0	136,297	88,040	14,077	14,243	4,558	152,580	-66,976	-877,691	97,065

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 B7-2 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	15,249	5,220	3,088	5,064	15,394	3	105,334	20,395	3,598	0	5,568	178,912	102,664	77,336	17,901	3,437	201,337	-22,425	-22,425	152,006
1993	12,033	5,921	3,864	4,893	11,484	2	110,145	24,504	6,619	0	14,224	193,688	88,040	83,284	16,790	4,375	192,489	1,199	-21,226	158,299
1994	11,172	5,920	5,072	4,876	10,482	2	104,412	17,842	1,486	0	16,448	177,712	93,564	72,115	16,413	4,670	186,762	-9,050	-30,276	140,181
1995	10,420	6,326	4,707	4,759	9,839	3	118,084	22,223	4,662	0	10,375	191,399	98,173	62,171	16,740	5,917	183,001	8,397	-21,878	158,367
1996	10,052	6,411	5,578	4,895	9,489	3	106,496	17,198	2,425	0	82	162,630	109,609	71,220	16,701	6,519	204,049	-41,420	-63,298	139,328
1997	9,773	6,346	5,500	4,950	9,159	4	103,390	18,689	3,305	0	16	161,132	112,998	68,968	16,094	6,133	204,193	-43,061	-106,359	138,888
1998	9,484	6,293	4,773	4,975	8,868	5	109,217	22,413	5,780	0	8,352	180,159	104,141	45,302	17,087	6,735	173,265	6,894	-99,466	147,985
1999	9,396	5,989	4,877	5,050	8,787	5	104,625	15,972	1,007	984	5,839	162,532	118,738	46,730	17,221	7,446	190,136	-27,604	-127,069	131,041
2000	9,529	5,657	4,219	5,053	8,516	6	101,969	16,682	1,985	3,630	997	158,241	133,609	46,538	17,038	8,724	205,909	-47,668	-174,737	127,853
2001	9,067	5,758	4,897	4,975	8,295	7	100,661	16,513	3,162	6,221	6,538	166,094	129,866	41,429	16,951	12,343	200,588	-34,494	-209,232	124,042
2002	9,423	5,259	4,851	4,911	8,234	8	92,539	14,963	1,148	7,444	6,493	155,274	139,934	38,650	16,443	13,325	208,351	-53,077	-262,309	111,570
2003	9,768	4,882	3,898	4,872	8,182	9	92,709	18,880	6,284	7,112	6,548	163,145	133,793	36,507	16,059	12,841	199,199	-36,054	-298,362	120,585
2004	9,966	4,953	3,101	4,815	8,224	10	87,205	16,379	3,357	8,942	7,607	154,558	139,028	36,809	15,893	13,520	205,251	-50,693	-349,055	108,595
2005	7,738	6,075	1,647	4,802	8,143	11	94,722	21,794	17,648	9,377	12,259	184,216	123,538	34,503	16,139	14,314	188,494	-4,278	-353,333	132,128
2006	8,141	5,780	5,199	4,907	8,097	11	89,638	16,975	12,940	1,303	34,567	187,557	133,372	30,812	16,392	8,920	189,496	-1,939	-355,272	126,374
2007	9,386	5,432	4,446	4,596	8,050	10	86,198	15,567	4,745	2,993	32,960	174,383	152,223	29,919	16,118	6,085	204,345	-29,962	-385,234	116,228
2008	9,947	5,413	3,865	4,613	8,210	10	87,500	18,672	10,205	2,340	0	150,775	157,812	26,280	14,973	4,599	203,664	-52,889	-438,123	128,863
2009	10,325	5,545	3,360	4,627	8,278	10	82,547	19,909	7,512	2,684	0	144,797	165,801	23,386	14,665	3,606	207,458	-62,661	-500,785	123,842
2010	10,668	5,031	2,922	4,594	8,256	10	81,096	23,181	14,273	7,210	5,000	162,241	137,948	22,038	14,705	3,362	178,053	-15,812	-516,597	131,963
2011	10,977	5,174	2,976	4,498	8,316	10	79,122	24,807	17,052	8,065	9,465	170,460	123,354	18,042	14,938	3,751	160,085	10,375	-506,222	134,242
2012	10,598	4,893	3,139	4,466	8,254	9	76,285	20,501	9,271	8,634	22,560	168,610	136,731	22,412	14,764	3,386	177,292	-8,682	-514,903	119,267
2013	10,234	4,923	3,079	4,505	8,145	9	73,625	20,103	5,271	10,479	0	140,373	139,128	24,074	14,608	2,767	180,577	-40,204	-555,107	112,519
2014	9,983	4,824	2,961	4,596	7,990	10	72,192	20,827	4,299	13,593	795	142,070	148,475	22,131	14,336	2,312	187,255	-45,184	-600,292	111,034
2015	9,949	4,374	2,747	4,264	7,818	10	66,422	22,440	8,001	10,840	0	136,864	134,339	17,552	14,474	2,562	168,927	-32,062	-632,354	108,989
2016	10,443	3,804	2,577	4,240	7,673	11	64,821	23,770	9,236	13,222	0	139,796	129,492	16,908	14,495	2,574	163,470	-23,673	-656,027	109,504
2017	10,784	4,345	2,446	4,111	7,514	11	65,552	24,542	11,575	13,934	13,150	157,964	127,244	16,191	14,133	2,531	160,098	-2,134	-658,161	114,217
2018	10,519	3,728	3,160	3,769	7,282	11	62,685	20,453	4,494	13,212	33,763	163,075	123,992	16,776	14,550	2,356	157,673	5,401	-652,760	99,194
2019	10,603	5,899	2,364	3,921	7,184	11	65,815	26,496	12,861	11,145	6,510	152,810	116,396	15,478	14,230	2,718	148,823	3,987	-648,773	118,207
2020	10,891	5,334	2,720	3,863	7,226	11	65,473	23,626	9,967	12,953	18,103	160,169	132,618	15,722	14,244	2,918	165,502	-5,333	-654,106	111,951
2021	10,972	5,533	2,920	3,908	7,262	11	60,500	19,873	4,911	15,728	2,229	133,846	146,973	14,929	13,564	3,100	178,567	-44,721	-698,827	99,225
2022	11,241	5,500	1,740	3,943	7,206	12	57,852	20,736	8,108	15,042	1,742	133,123	148,608	14,077	13,643	2,406	178,734	-45,611	-744,438	100,290
Statistics for the Calibration Period 1992 through 2022																				
Total	318,732	166,541	112,691	142,310	265,857	255	2,668,829	626,927	217,187	207,086	282,191	5,008,605	3,982,201	1,108,289	482,302	180,252	5,753,044	-744,438		3,856,776
Percent	6.4%	3.3%	2.2%	2.8%	5.3%	0.0%	53.3%	12.5%	4.3%	4.1%	5.6%	100.0%	69.2%	19.3%	8.4%	3.1%	100.0%			
Average	10,282	5,372	3,635	4,591	8,576	8	86,091	20,223	7,006	6,680	9,103	161,568	128,458	35,751	15,558	5,815	185,582	-24,014		124,412
Median	10,234	5,432	3,160	4,627	8,224	10	87,205	20,395	5,780	7,210	6,510	162,241	132,618	29,919	15,893	4,375	187,255	-27,604		123,842
Maximum	15,249	6,411	5,578	5,064	15,394	12	118,084	26,496	17,648	15,728	34,567	193,688	165,801	83,284	17,901	14,314	208,351	10,375	-21,226	158,367
Minimum	7,738	3,728	1,647	3,769	7,184	2	57,852	14,963	1,007	0	0	133,123	88,040	14,077	13,564	2,312	148,823	-62,661	-744,438	99,194

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 B7-3 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	23,535	5,220	5,020	3,763	12,934	2	106,288	25,293	3,598	0	5,568	191,220	102,664	77,336	18,580	6,302	204,882	-13,662	-13,662	160,770
1993	18,995	5,921	4,263	3,830	11,009	2	113,602	30,996	6,619	0	14,224	209,462	88,040	83,284	17,591	7,225	196,139	13,323	-339	170,423
1994	18,015	5,920	4,824	3,961	10,442	2	109,477	21,089	1,486	0	16,448	191,664	93,564	72,115	17,503	7,257	190,439	1,225	886	150,456
1995	17,309	6,326	3,407	3,903	9,798	3	114,866	27,723	4,662	0	10,375	198,372	98,173	62,171	17,866	7,850	186,060	12,312	13,198	162,281
1996	16,891	6,411	4,316	4,178	9,289	3	112,201	20,405	2,425	0	82	176,202	109,609	71,220	18,417	7,681	206,928	-30,726	-17,528	150,022
1997	16,735	6,346	3,969	4,300	8,867	4	108,241	22,407	3,305	0	16	174,190	112,998	68,968	17,959	7,263	207,187	-32,997	-50,525	148,952
1998	17,005	6,293	2,292	4,490	8,527	5	106,789	27,414	5,780	0	8,352	186,948	104,141	45,302	18,327	8,472	176,242	10,706	-39,819	151,797
1999	17,455	5,989	3,040	4,592	8,554	5	101,710	17,196	1,007	984	5,839	166,371	118,738	46,730	19,513	8,636	193,617	-27,247	-67,066	131,398
2000	18,290	5,657	1,724	4,574	8,062	6	102,253	18,503	1,985	3,630	997	165,680	133,609	46,538	19,046	8,769	207,963	-42,283	-109,348	133,238
2001	18,564	5,758	2,248	4,468	7,740	7	98,834	17,971	3,162	6,221	6,538	171,510	129,866	41,429	18,505	11,360	201,160	-29,649	-138,997	128,887
2002	19,331	5,259	2,450	4,385	7,753	8	97,667	17,504	1,148	7,444	6,493	169,441	139,934	38,650	18,552	12,541	209,677	-40,236	-179,233	124,411
2003	20,341	4,882	1,341	4,316	7,698	9	93,834	22,164	6,284	7,112	6,548	174,530	133,793	36,507	18,023	12,380	200,703	-26,173	-205,406	130,466
2004	20,825	4,953	789	4,191	7,865	10	90,179	18,753	3,357	8,942	7,607	167,471	139,028	36,809	17,512	13,057	206,406	-38,935	-244,341	120,353
2005	18,579	6,075	-1,471	4,207	7,772	11	92,687	26,023	17,648	9,377	12,259	193,168	123,538	34,503	17,386	14,055	189,482	3,686	-240,654	140,092
2006	18,529	5,780	4,173	4,503	7,852	11	90,080	19,886	12,940	1,303	34,567	199,625	133,372	30,812	17,898	10,429	192,511	7,114	-233,541	135,427
2007	19,542	5,432	3,464	4,275	7,837	11	88,334	19,508	4,745	2,993	32,960	189,101	152,223	29,919	17,600	8,458	208,201	-19,100	-252,640	127,090
2008	20,097	5,413	2,399	4,159	7,995	10	85,520	24,325	10,205	2,340	0	162,463	157,812	26,280	16,639	7,613	208,344	-45,881	-298,521	135,872
2009	20,606	5,545	1,701	4,112	8,076	10	80,397	25,951	7,512	2,684	0	156,594	165,801	23,386	15,823	6,732	211,741	-55,147	-353,668	131,356
2010	20,947	5,031	1,235	4,058	7,962	10	82,207	29,344	14,273	7,210	5,000	177,277	137,948	22,038	15,440	6,318	181,743	-4,466	-358,135	143,309
2011	20,913	5,174	1,060	3,992	8,106	10	79,436	31,739	17,052	8,065	9,465	185,012	123,354	18,042	16,136	6,798	164,330	20,682	-337,453	144,548
2012	19,625	4,893	2,141	4,100	8,041	10	76,277	25,410	9,271	8,634	22,560	180,964	136,731	22,412	15,701	6,184	181,027	-64	-337,517	127,885
2013	19,013	4,923	2,227	4,059	7,762	10	72,486	24,805	5,271	10,479	0	151,034	139,128	24,074	15,655	5,755	184,612	-33,578	-371,095	119,145
2014	19,015	4,824	2,154	4,134	7,468	11	67,543	25,924	4,299	13,593	795	149,761	148,475	22,131	14,884	5,237	190,728	-40,966	-412,061	115,252
2015	19,234	4,374	1,847	3,677	7,241	11	68,033	27,660	8,001	10,840	0	150,918	134,339	17,552	15,257	5,220	172,369	-21,451	-433,512	119,600
2016	19,503	3,804	1,914	3,643	7,118	12	65,212	28,743	9,236	13,222	0	152,407	129,492	16,908	15,011	5,319	166,729	-14,323	-447,835	118,855
2017	19,824	4,345	1,848	3,526	6,948	12	64,726	30,152	11,575	13,934	13,150	170,040	127,244	16,191	14,904	5,564	163,903	6,138	-441,697	122,489
2018	19,309	3,728	2,687	3,340	6,717	13	62,813	24,387	4,494	13,212	33,763	174,462	123,992	16,776	14,827	5,215	160,809	13,652	-428,045	107,445
2019	19,456	5,899	1,845	3,360	6,645	13	63,158	31,695	12,861	11,145	6,510	162,586	116,396	15,478	14,772	5,913	152,560	10,026	-418,018	124,246
2020	19,554	5,334	2,577	3,336	6,845	13	64,161	28,111	9,967	12,953	18,103	170,954	132,618	15,722	15,195	6,176	169,712	1,242	-416,776	118,526
2021	19,073	5,533	2,750	3,361	6,962	14	59,842	23,693	4,911	15,728	2,229	144,094	146,973	14,929	13,925	5,886	181,713	-37,619	-454,396	106,327
2022	19,335	5,500	1,337	3,398	6,893	15	59,115	24,975	8,108	15,042	1,742	145,458	148,608	14,077	13,808	5,588	182,081	-36,623	-491,018	109,278
Statistics for the Calibration Period 1992 through 2022																				
Total	595,445	166,541	75,569	124,192	252,776	275	2,677,968	759,750	217,187	207,086	282,191	5,358,979	3,982,201	1,108,289	518,255	241,252	5,849,997	-491,018		4,110,195
Percent	11.1%	3.1%	1.4%	2.3%	4.7%	0.0%	50.0%	14.2%	4.1%	3.9%	5.3%	100.0%	68.1%	18.9%	8.9%	4.1%	100.0%			
Average	19,208	5,372	2,438	4,006	8,154	9	86,386	24,508	7,006	6,680	9,103	172,870	128,458	35,751	16,718	7,782	188,710	-15,839		132,587
Median	19,309	5,432	2,248	4,100	7,852	10	88,334	24,975	5,780	7,210	6,510	171,510	132,618	29,919	17,386	7,225	190,439	-19,100		130,466
Maximum	23,535	6,411	5,020	4,592	12,934	15	114,866	31,739	17,648	15,728	34,567	209,462	165,801	83,284	19,513	14,055	211,741	20,682	13,198	170,423
Minimum	16,735	3,728	-1,471	3,336	6,645	2	59,115	17,196	1,007	0	0	144,094	88,040	14,077	13,808	5,215	152,560	-55,147	-491,018	106,327

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 B7-4 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	24,770	5,220	3,054	4,710	13,859	6	106,736	24,691	3,598	0	5,568	192,211	102,664	77,336	17,905	4,686	202,591	-10,380	-10,380	164,052
1993	22,650	5,921	3,333	4,903	9,555	8	108,458	29,486	6,619	0	14,224	205,155	88,040	83,284	16,773	5,573	193,669	11,486	1,106	168,586
1994	22,173	5,920	4,166	5,093	8,847	10	111,320	18,781	1,486	0	16,448	194,243	93,564	72,115	16,652	5,814	188,145	6,098	7,204	155,329
1995	21,221	6,326	3,849	4,902	8,523	12	116,218	24,247	4,662	0	10,375	200,335	98,173	62,171	16,668	7,959	184,972	15,363	22,567	165,333
1996	20,641	6,411	4,704	5,108	8,508	14	110,567	17,133	2,425	0	82	175,594	109,609	71,220	16,835	8,617	206,281	-30,687	-8,120	150,060
1997	21,311	6,346	4,614	4,973	8,439	17	109,860	19,370	3,305	0	16	178,252	112,998	68,968	17,315	8,202	207,483	-29,232	-37,352	152,718
1998	22,352	6,293	4,114	5,025	8,408	21	108,756	22,865	5,780	0	8,352	191,967	104,141	45,302	16,961	10,402	176,806	15,160	-22,191	156,251
1999	23,178	5,989	4,258	5,059	8,445	23	101,281	15,674	1,007	984	5,839	171,739	118,738	46,730	17,691	12,171	195,330	-23,592	-45,783	135,054
2000	24,571	5,657	3,708	4,974	8,458	25	98,645	16,678	1,985	3,630	997	169,326	133,609	46,538	17,538	13,747	211,433	-42,107	-87,889	133,414
2001	25,580	5,758	4,843	4,910	8,423	28	98,214	16,524	3,162	6,221	6,538	180,201	129,866	41,429	17,080	17,237	205,612	-25,411	-113,300	133,125
2002	26,538	5,259	4,894	4,897	8,430	31	93,966	15,402	1,148	7,444	6,493	174,501	139,934	38,650	16,500	16,276	211,359	-36,858	-150,158	127,789
2003	27,609	4,882	4,348	4,889	8,451	34	92,189	19,096	6,284	7,112	6,548	181,443	133,793	36,507	17,257	15,674	203,231	-21,788	-171,946	134,851
2004	27,939	4,953	3,458	4,872	8,500	37	91,327	16,000	3,357	8,942	7,607	176,991	139,028	36,809	16,219	16,766	208,822	-31,831	-203,777	127,457
2005	26,309	6,075	1,495	5,021	8,442	39	92,744	21,869	17,648	9,377	12,259	201,277	123,538	34,503	16,366	17,380	191,787	9,490	-194,288	145,895
2006	25,459	5,780	5,576	5,335	8,390	39	89,650	16,769	12,940	1,303	34,567	205,807	133,372	30,812	17,150	12,198	193,532	12,275	-182,013	140,589
2007	24,670	5,432	4,405	4,823	8,471	36	87,485	15,648	4,745	2,993	32,960	191,668	152,223	29,919	16,696	8,380	207,218	-15,550	-197,563	130,640
2008	24,651	5,413	3,712	4,572	8,646	35	85,979	19,648	10,205	2,340	0	165,201	157,812	26,280	15,873	6,890	206,855	-41,654	-239,217	140,098
2009	25,172	5,545	3,349	4,561	8,732	34	83,395	21,529	7,512	2,684	0	162,514	165,801	23,386	15,919	5,908	211,014	-48,500	-287,717	138,003
2010	25,999	5,031	3,012	4,543	8,723	34	81,330	24,245	14,273	7,210	5,000	179,400	137,948	22,038	14,825	5,666	180,476	-1,076	-288,793	146,699
2011	26,181	5,174	3,074	4,568	8,705	33	79,607	25,397	17,052	8,065	9,465	187,321	123,354	18,042	15,509	6,324	163,229	24,092	-264,701	147,959
2012	24,543	4,893	3,192	4,604	8,646	32	75,899	20,978	9,271	8,634	22,560	183,253	136,731	22,412	15,274	5,562	179,978	3,275	-261,425	131,224
2013	23,656	4,923	3,118	4,446	8,662	33	72,986	20,617	5,271	10,479	0	154,191	139,128	24,074	14,969	4,797	182,968	-28,777	-290,202	123,945
2014	23,793	4,824	2,983	4,506	8,615	34	69,100	21,745	4,299	13,593	795	154,287	148,475	22,131	14,619	4,351	189,576	-35,289	-325,491	120,929
2015	24,462	4,374	2,682	4,220	8,504	35	65,407	23,719	8,001	10,840	0	152,245	134,339	17,552	15,532	4,275	171,698	-19,453	-344,944	121,598
2016	24,811	3,804	2,506	4,232	8,424	35	64,094	24,685	9,236	13,222	0	155,048	129,492	16,908	15,254	4,355	166,009	-10,961	-355,905	122,217
2017	25,225	4,345	2,405	4,194	8,340	35	66,787	25,609	11,575	13,934	13,150	175,599	127,244	16,191	14,708	4,647	162,789	12,810	-343,095	129,161
2018	24,450	3,728	3,091	4,060	8,091	36	62,894	20,916	4,494	13,212	33,763	178,732	123,992	16,776	14,963	4,301	160,032	18,701	-324,394	112,494
2019	23,609	5,899	2,705	4,037	8,098	36	65,044	26,862	12,861	11,145	6,510	166,807	116,396	15,478	14,737	4,904	151,516	15,291	-309,103	129,511
2020	23,165	5,334	2,817	4,044	8,080	36	65,671	24,150	9,967	12,953	18,103	174,321	132,618	15,722	14,994	5,060	168,394	5,927	-303,176	123,211
2021	22,666	5,533	2,730	3,992	8,204	38	63,753	20,738	4,911	15,728	2,229	150,520	146,973	14,929	14,408	4,581	180,891	-30,371	-333,547	113,575
2022	23,243	5,500	1,582	3,977	8,193	40	59,679	22,273	8,108	15,042	1,742	149,379	148,608	14,077	13,833	4,295	180,813	-31,434	-364,981	114,467
Statistics for the Calibration Period 1992 through 2022																				
Total	752,593	166,541	107,778	144,051	268,814	905	2,679,039	653,343	217,187	207,086	282,191	5,479,527	3,982,201	1,108,289	497,019	256,999	5,844,508	-364,981		4,236,233
Percent	13.7%	3.0%	2.0%	2.6%	4.9%	0.0%	48.9%	11.9%	4.0%	3.8%	5.1%	100.0%	68.1%	19.0%	8.5%	4.4%	100.0%			
Average	24,277	5,372	3,477	4,647	8,671	29	86,421	21,076	7,006	6,680	9,103	176,759	128,458	35,751	16,033	8,290	188,533	-11,774		136,653
Median	24,543	5,432	3,333	4,710	8,458	34	87,485	20,978	5,780	7,210	6,510	176,991	132,618	29,919	16,219	5,908	189,576	-15,550		133,414
Maximum	27,939	6,411	5,576	5,335	13,859	40	116,218	29,486	17,648	15,728	34,567	205,807	165,801	83,284	17,905	17,380	211,433	24,092	22,567	168,586
Minimum	20,641	3,728	1,495	3,977	8,080	6	59,679	15,402	1,007	0	0	149,379	88,040	14,077	13,833	4,275	151,516	-48,500	-364,981	112,494

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[d]	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	726	1,790	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	3,364	5,945	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	6,081	9,158	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	6,081	9,158	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	3,990	9,255	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	9,077	21,347	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	13,426	29,342	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	13,426	29,684	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.

[d] CVWD's reductions for CII with DIMs under the expected response was assumed to be 80% of the full reduction.

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**	**47,698**
	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	1,212	1,136	1,196	1,666	1,903	2,160	2,449	2,449	2,200	2,001	1,689	1,338	**21,399**	
	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**	**45,480**
	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	1,143	1,071	1,128	1,572	1,794	2,038	2,309	2,309	2,075	1,887	1,593	1,262	**20,181**	
	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**	**44,168**
	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	1,184	1,110	1,168	1,628	1,859	2,111	2,392	2,392	2,150	1,954	1,650	1,307	**20,905**	
	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**	**44,204**
	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	1,184	1,110	1,168	1,628	1,859	2,111	2,392	2,392	2,150	1,954	1,650	1,307	**20,905**	
	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**	**44,632**
	Groundwater	Potable	Chino Basin		258	279	317	619	648	926	1,006	1,003	833	827	536	322	**7,575**	
	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**	**45,678**
	Groundwater	Potable	Chino Basin		273	295	335	655	685	979	1,064	1,061	881	875	567	341	**8,011**	
	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	996	942	1,207	1,224	1,472	1,412	1,543	1,577	1,466	1,689	1,093	986	**15,607**	
	Surface Water (Imported)	Potable	Sandhill	SBVMWD	213	201	258	261	314	302	330	337	313	361	233	211	**3,333**	
	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**	**45,479**
	Groundwater	Potable	Chino Basin		295	319	363	710	743	1,060	1,153	1,149	954	948	614	369	**8,678**	
	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**	**45,858**
	Groundwater	Potable	Chino Basin		317	342	389	761	796	1,137	1,236	1,232	1,023	1,016	659	396	**9,303**	
	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**	**47,211**
	Groundwater	Potable	Chino Basin		332	359	408	797	834	1,191	1,294	1,291	1,072	1,064	690	415	**9,744**	
	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**	**46,554**
	Groundwater	Potable	Chino Basin		374	404	459	898	940	1,342	1,459	1,455	1,208	1,199	777	467	**10,981**	
	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**	**48,013**
	Groundwater	Potable	Chino Basin		407	440	500	978	1,023	1,461	1,588	1,584	1,315	1,305	846	509	**11,955**	
	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	912	863	1,105	1,120	1,347	1,293	1,413	1,444	1,342	1,546	1,000	903	**14,288**	
	Surface Water (Imported)	Potable	Sandhill	SBVMWD	194	184	235	239	287	275	301	308	286	329	213	192	**3,044**	
	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**	**49,437**
	Groundwater	Potable	Chino Basin		462	500	568	1,110	1,162	1,659	1,804	1,799	1,493	1,483	961	578	**13,578**	
	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**	**51,223**
	Groundwater	Potable	Chino Basin		520	562	639	1,250	1,308	1,868	2,030	2,024	1,681	1,669	1,082	650	**15,283**	
	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**	**53,202**
	Groundwater	Potable	Chino Basin		566	612	695	1,359	1,422	2,031	2,208	2,202	1,828	1,815	1,177	707	**16,622**	
	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		1,067	1,018	1,051	1,050	1,114	1,079	1,156	1,173	1,154	1,155	1,100	1,052	**13,168**	**26,104**
	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		955	912	941	940	998	966	1,035	1,051	1,033	1,034	985	942	**11,793**	**24,774**
	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		1,240	1,183	1,222	1,220	1,295	1,254	1,344	1,364	1,341	1,343	1,278	1,223	**15,308**	**27,065**
	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

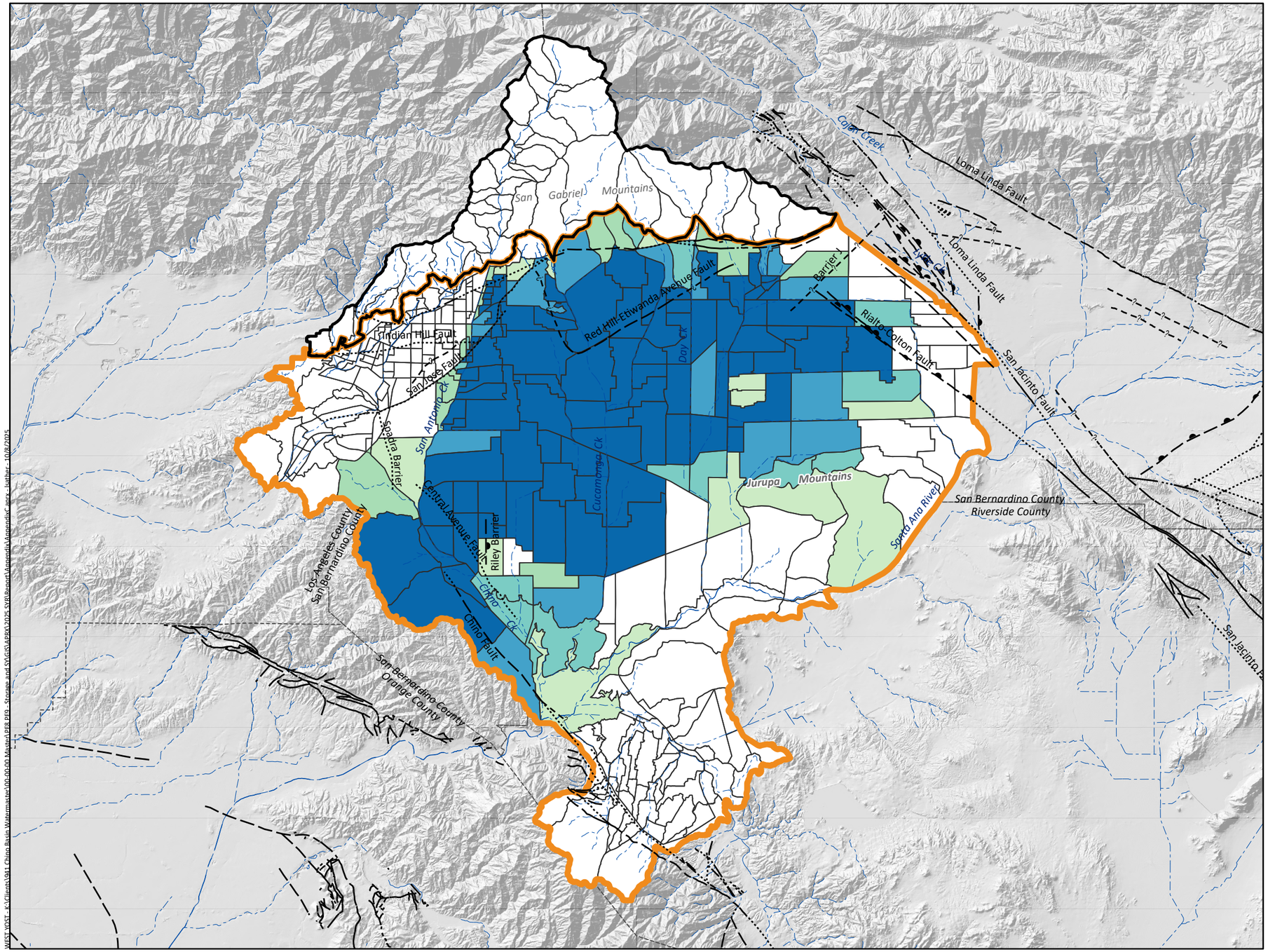
Fiscal Year	Water Supply	Demand Met with Supply	Source of Supply	Source of Imported Water	January	February	March	April	May	June	July	August	September	October	November	December	Total Annual Supply	Grand Total Annual Supply
2025	Groundwater	Transfer	Six Basins		0	0	0	0	0	0	0	0	0	241	3	0	**244**	**19,556**
	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

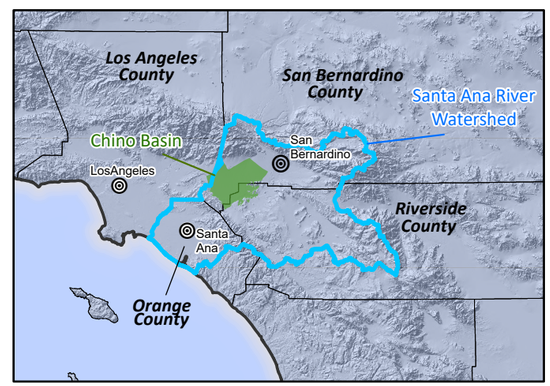
- 100% (Fully within Sewershed)
- 75–99%
- 50–75%
- 25–50%
- 1–25%
- 0% (Fully outside Sewershed)

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:

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N

0 3 6 Miles

0 4 8 Km

Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

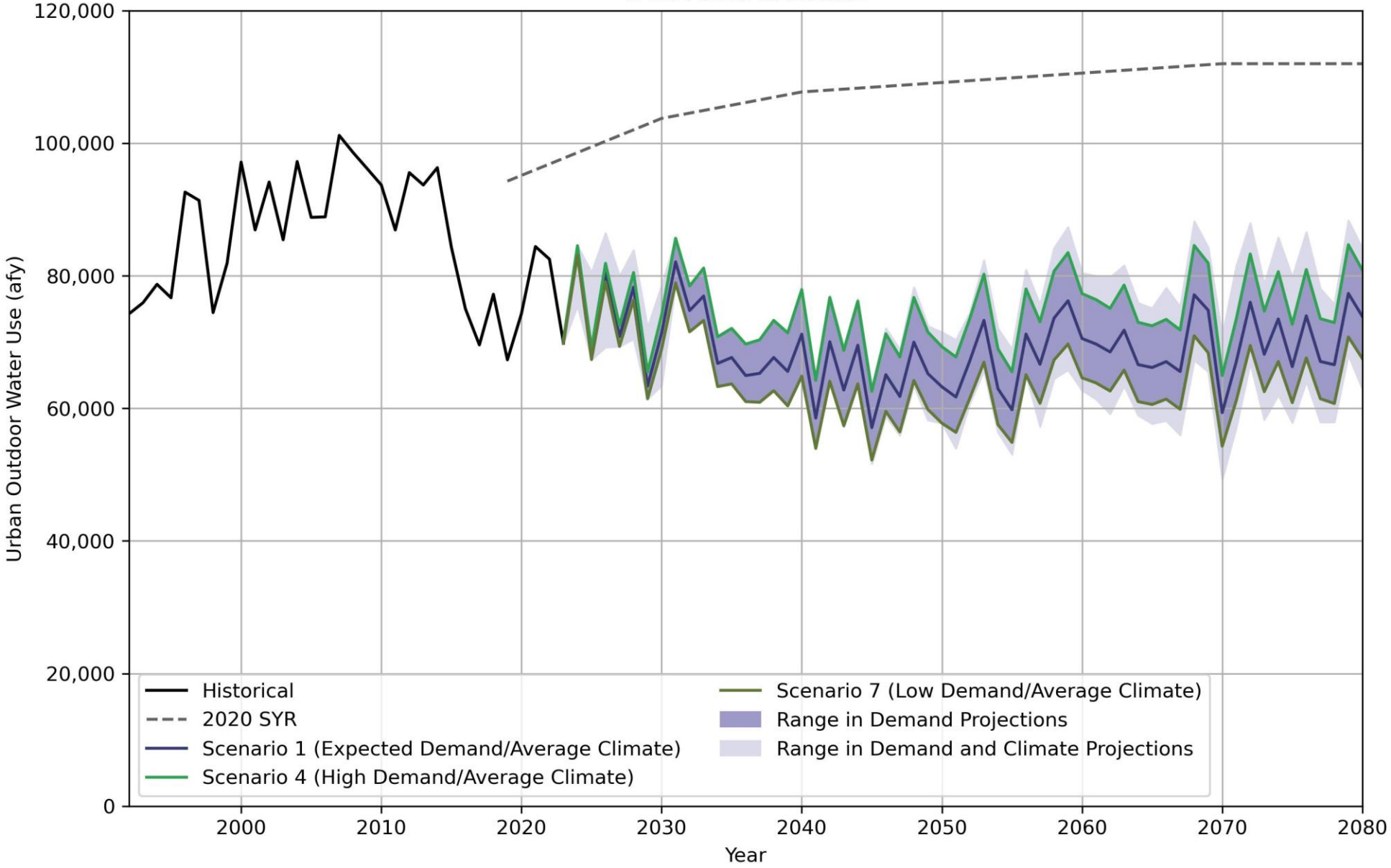
CHINO BASIN WATERMASTER
Partners in Basin Management

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

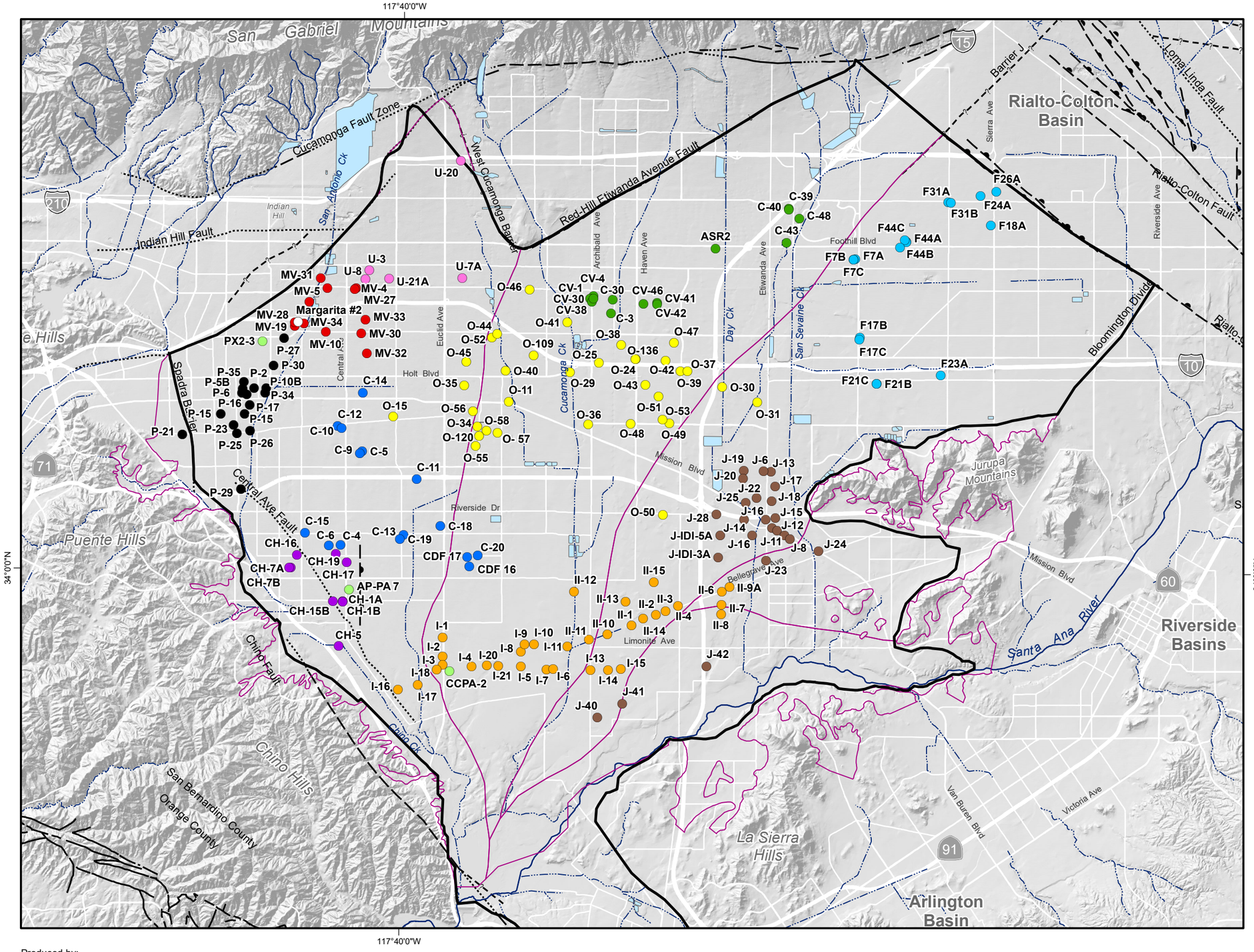
Figure C-2
Historical and Projected Urban Outdoor Water Use
IEUA Sewersheds



Appendix D

TSY Ensemble Results

DRAFT



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 Concealed

Location Approximate

Location Uncertain

Approximate Location of Groundwater Barrier

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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

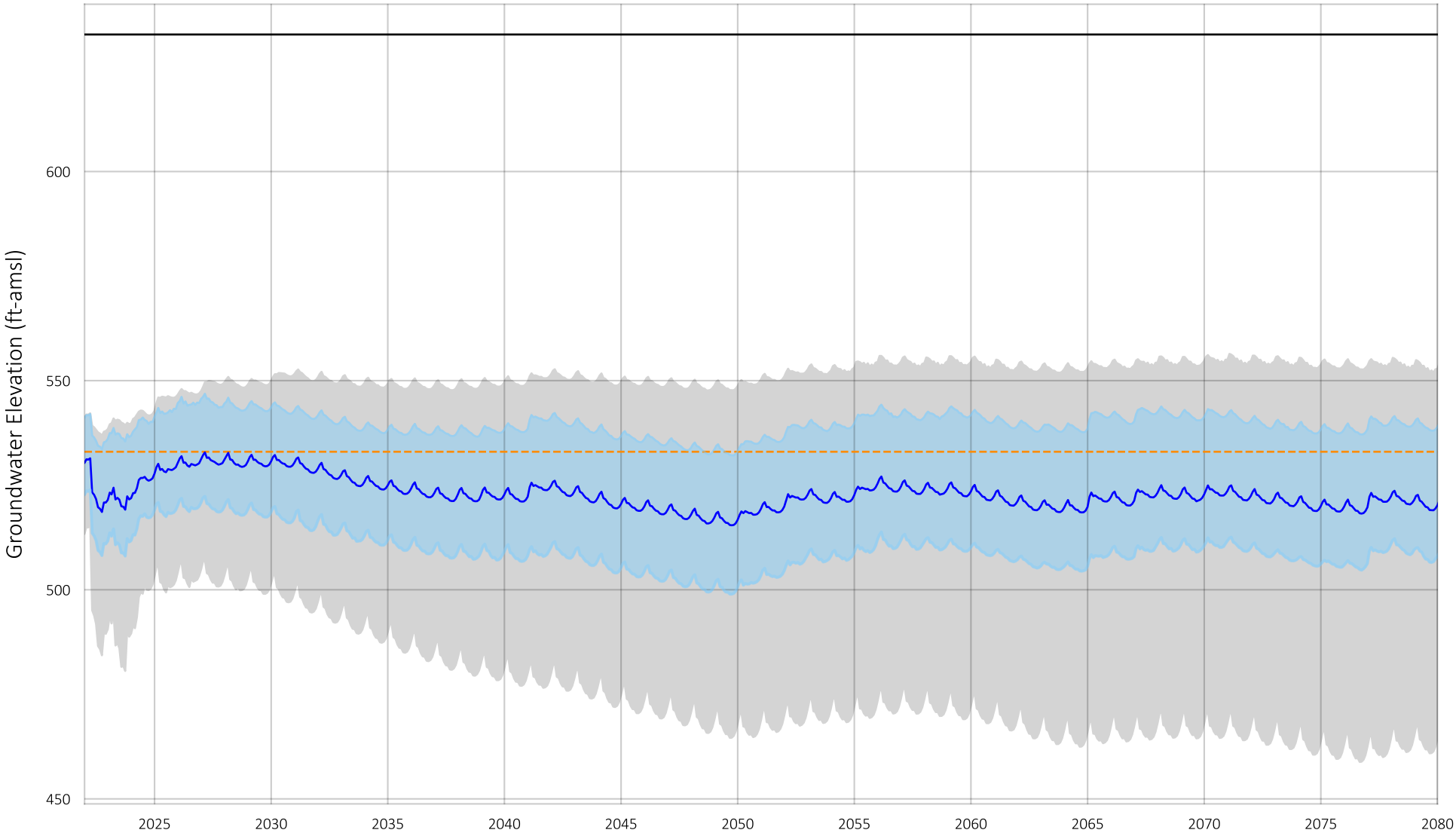
Prepared for:

Chino Basin Watermaster
2025 Safe Yield Reevaluation

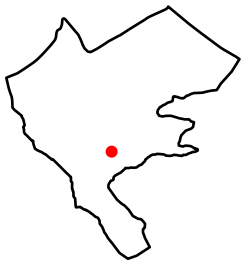
CHINO BASIN WATERMASTER
Partners In Basin Management

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
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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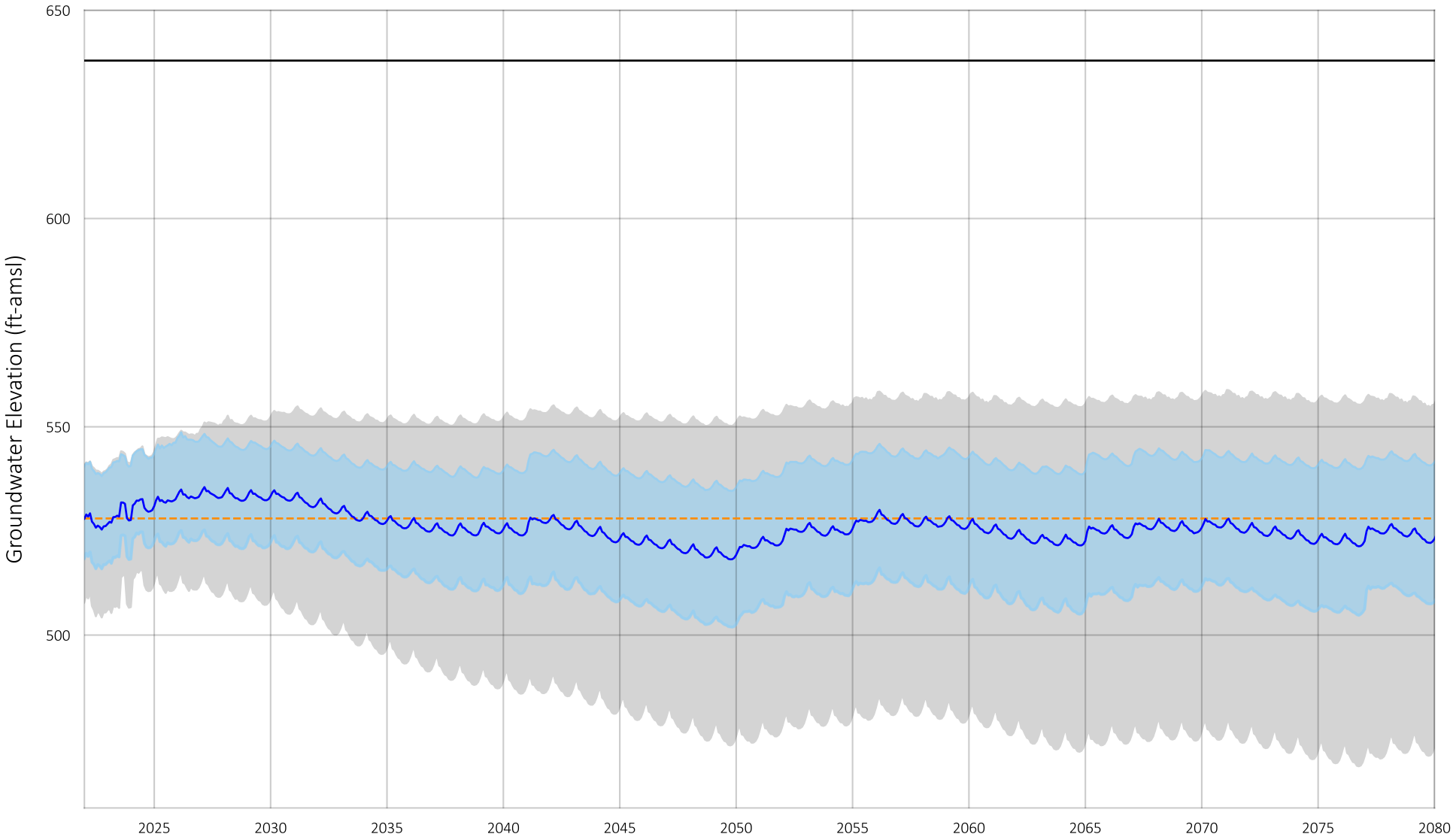
Simulated Groundwater Levels
Well Name: I-14
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 100 - 460

Figure D-2



Well Location

Legend

- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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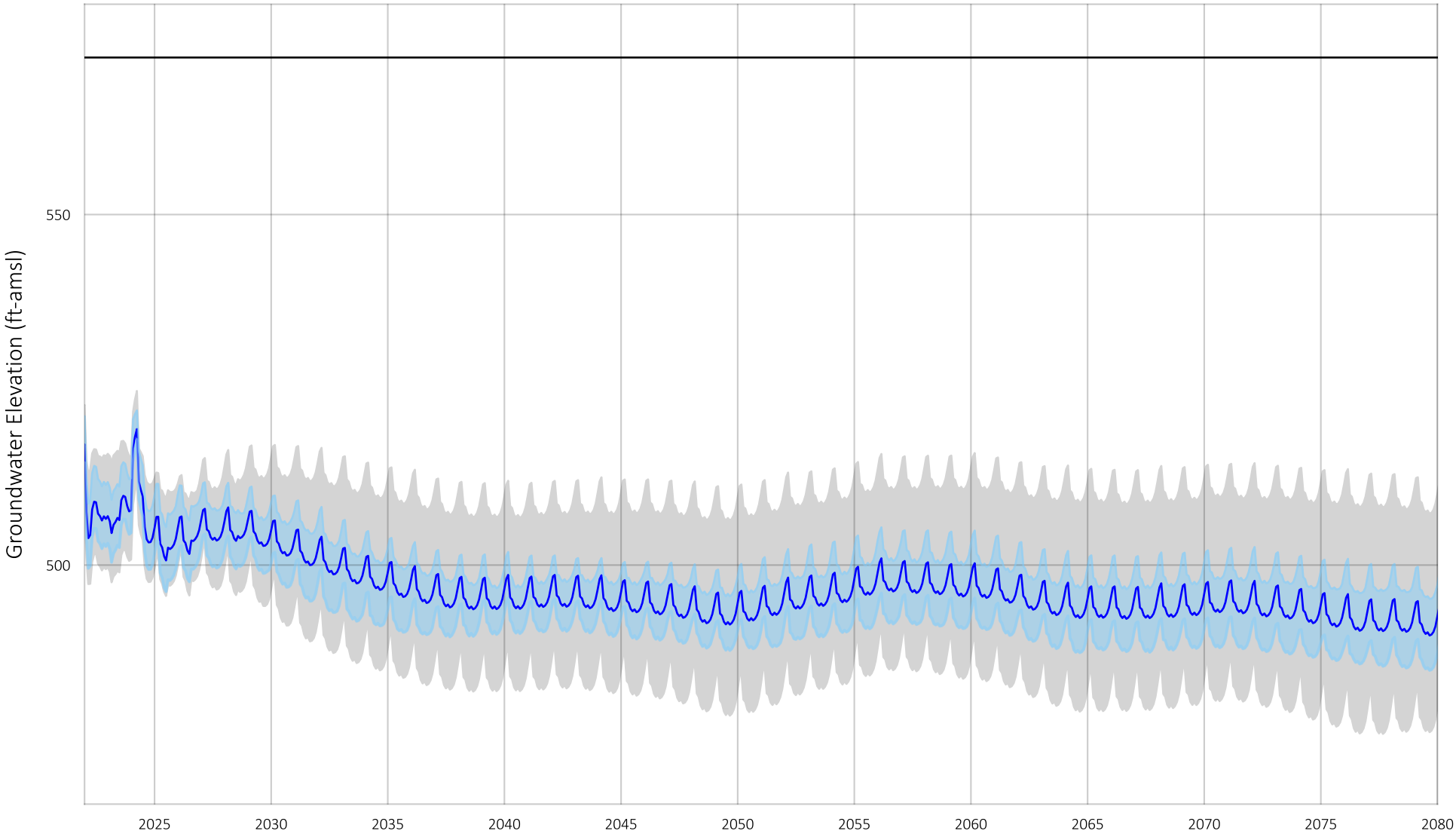
Simulated Groundwater Levels
Well Name: I-15
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 100 - 310

Figure D-3



Well Location

Legend

- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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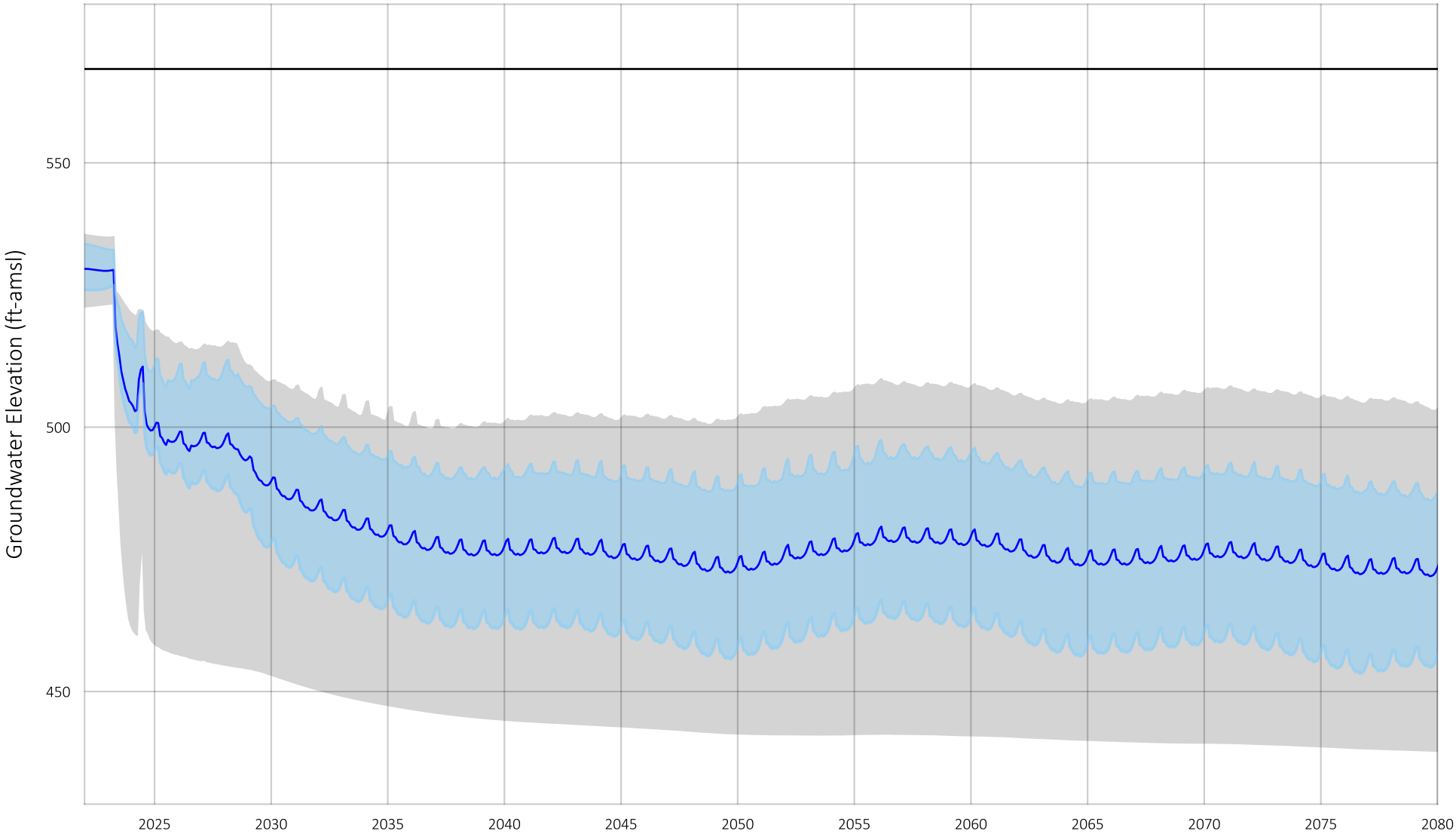
Simulated Groundwater Levels
Well Name: I-16
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 100 - 140

Figure D-4



Well Location

Legend

- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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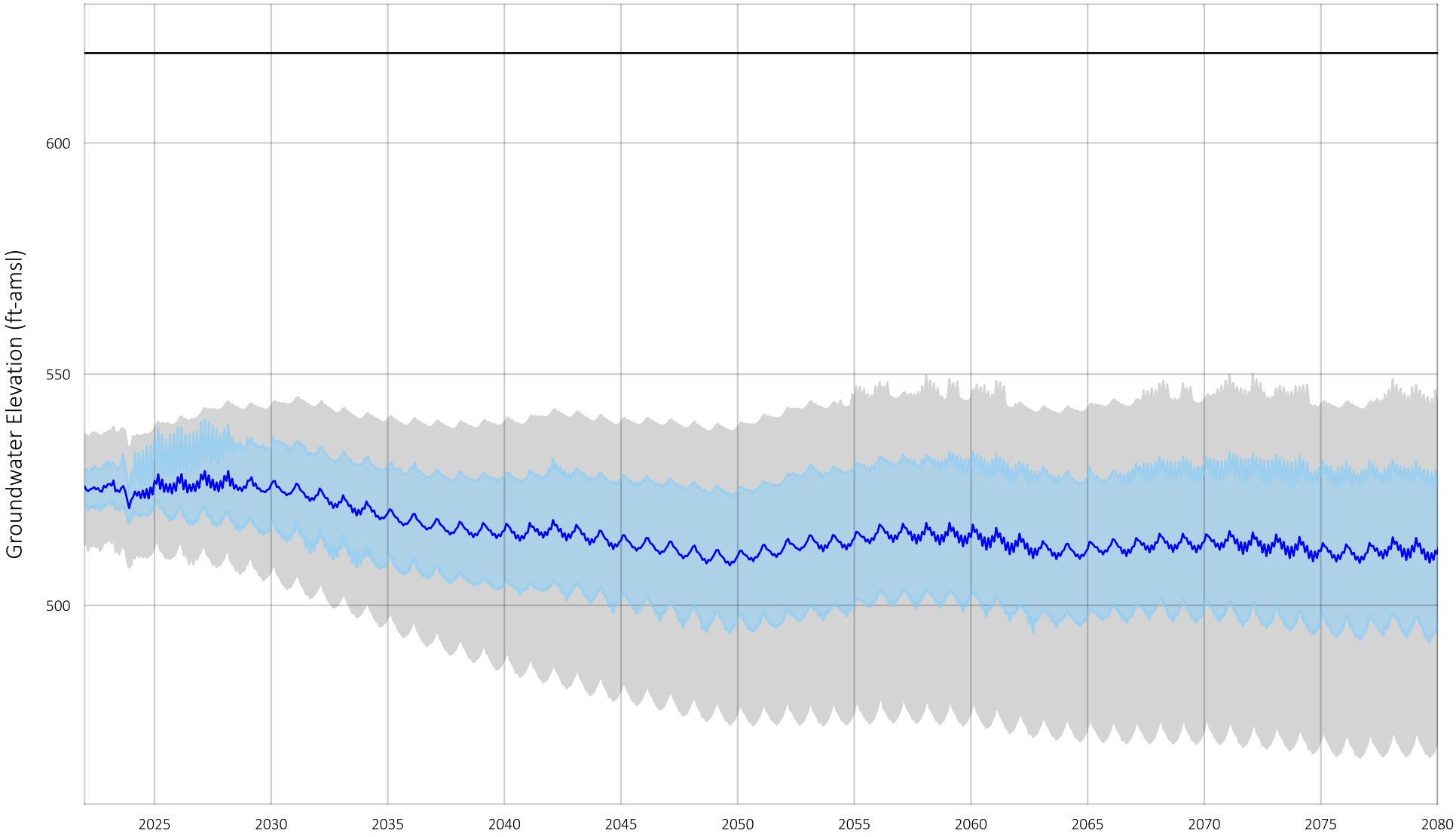
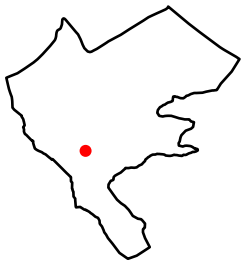
Simulated Groundwater Levels
Well Name: I-17
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 100 - 146

Figure D-5



Well Location



Legend

- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

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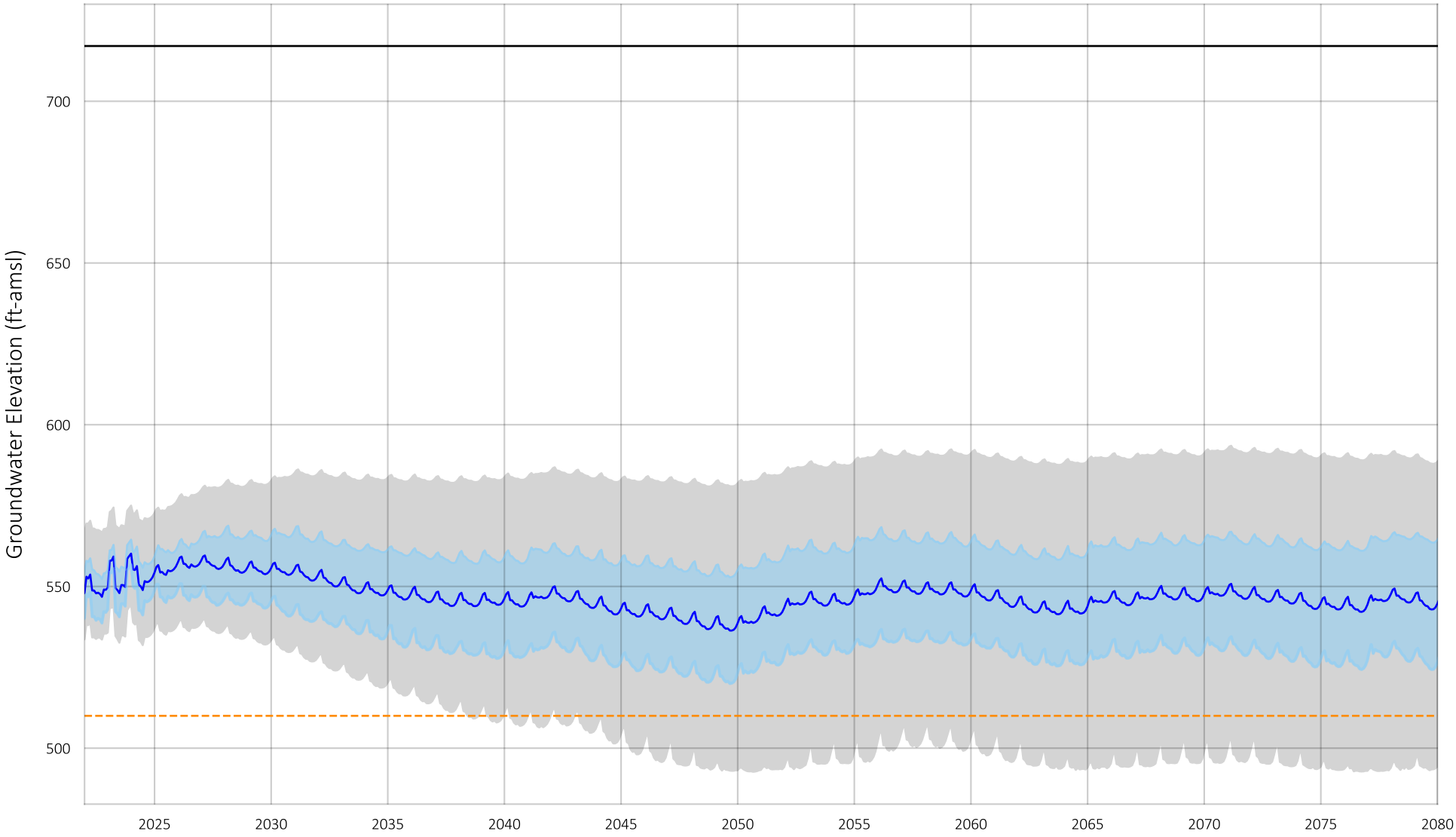
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-21
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 120 - 465

Figure D-6



Well Location

Legend

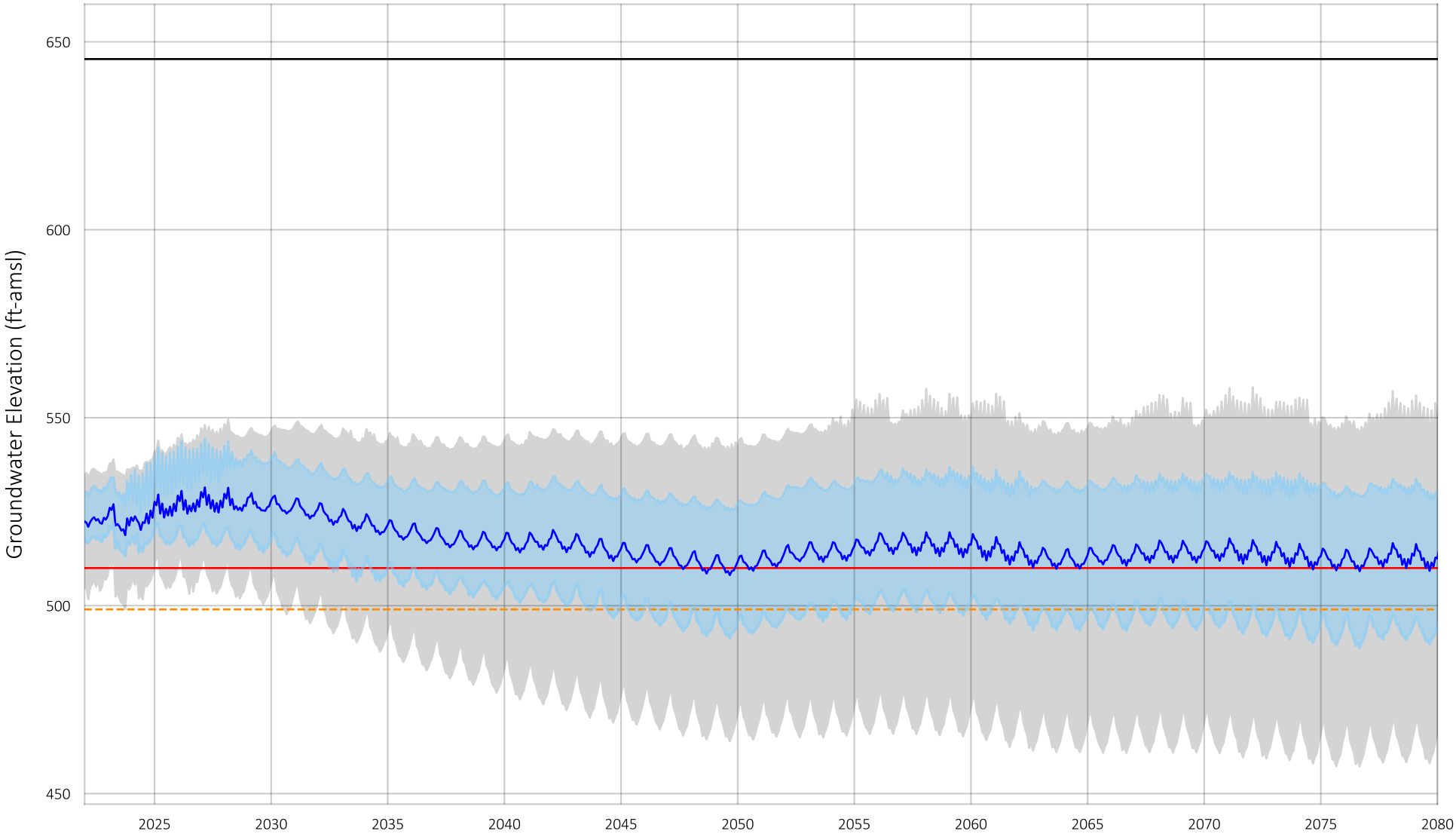
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

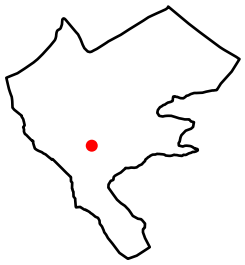
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: II-9A
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 160 - 295

Figure D-7



Well Location



Legend

- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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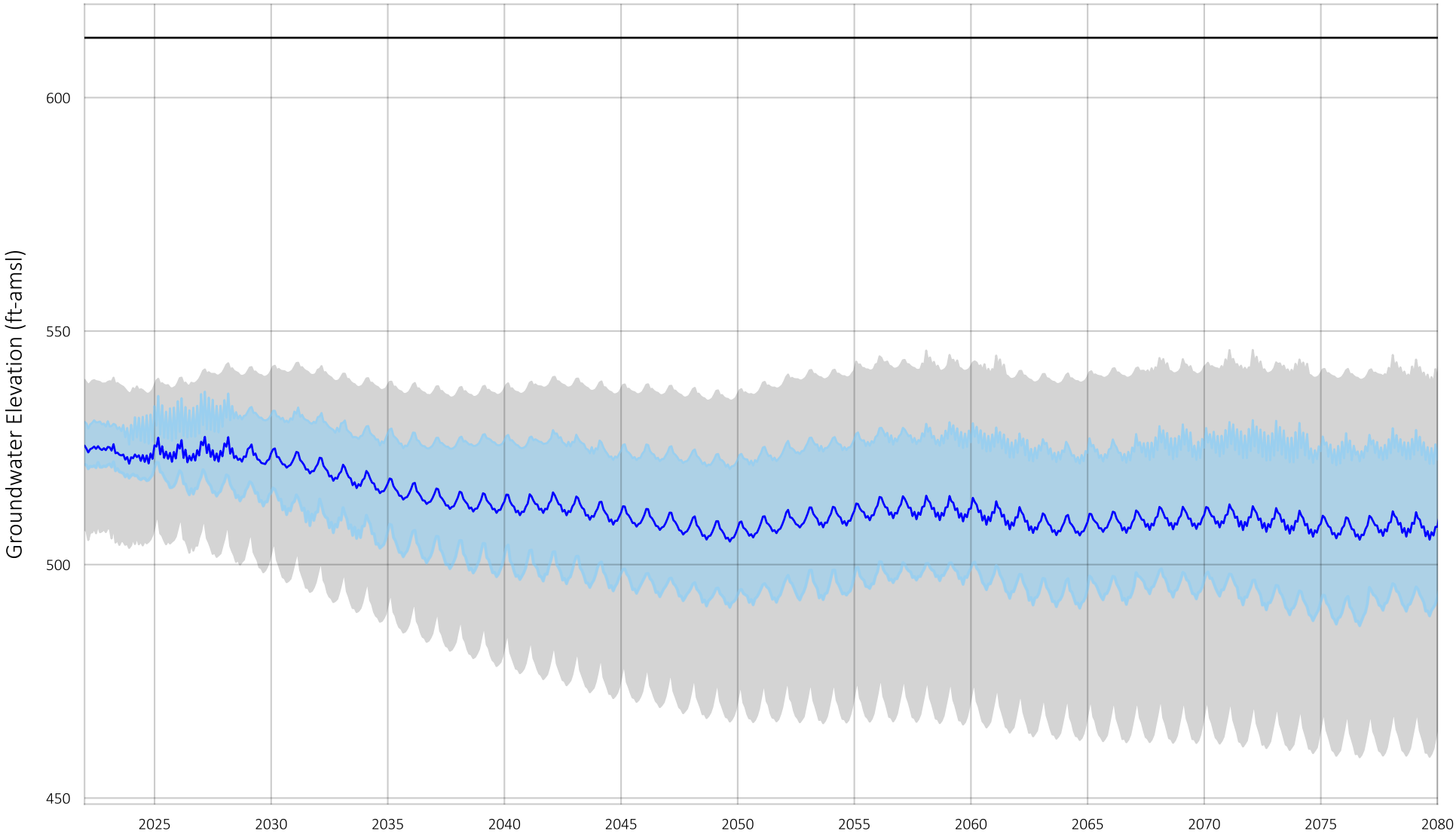
Simulated Groundwater Levels
Well Name: I-9
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 190 - 430

Figure D-8



Well Location

Legend

- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

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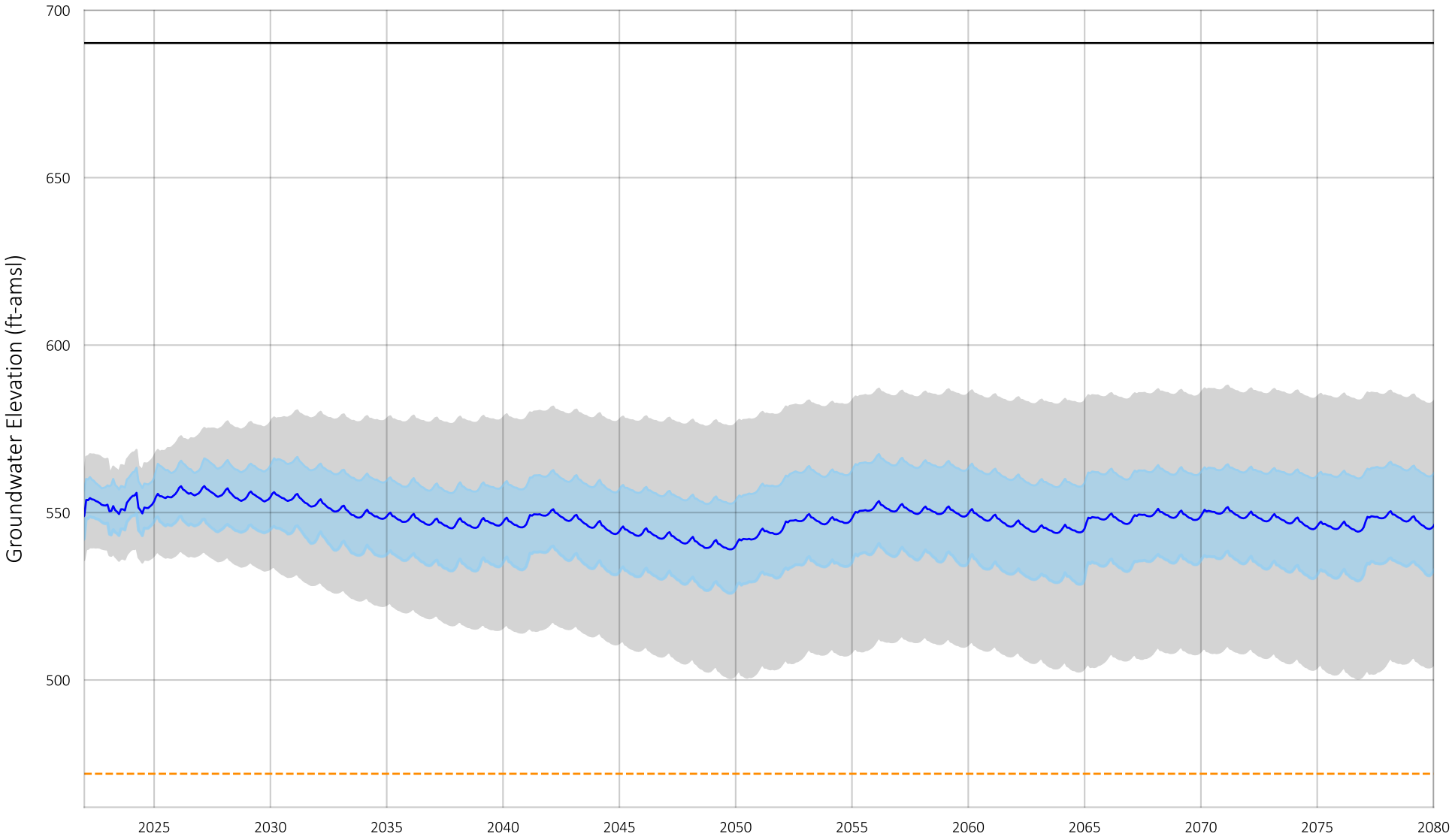
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-20
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 100 - 325

Figure D-9



Well Location

Legend

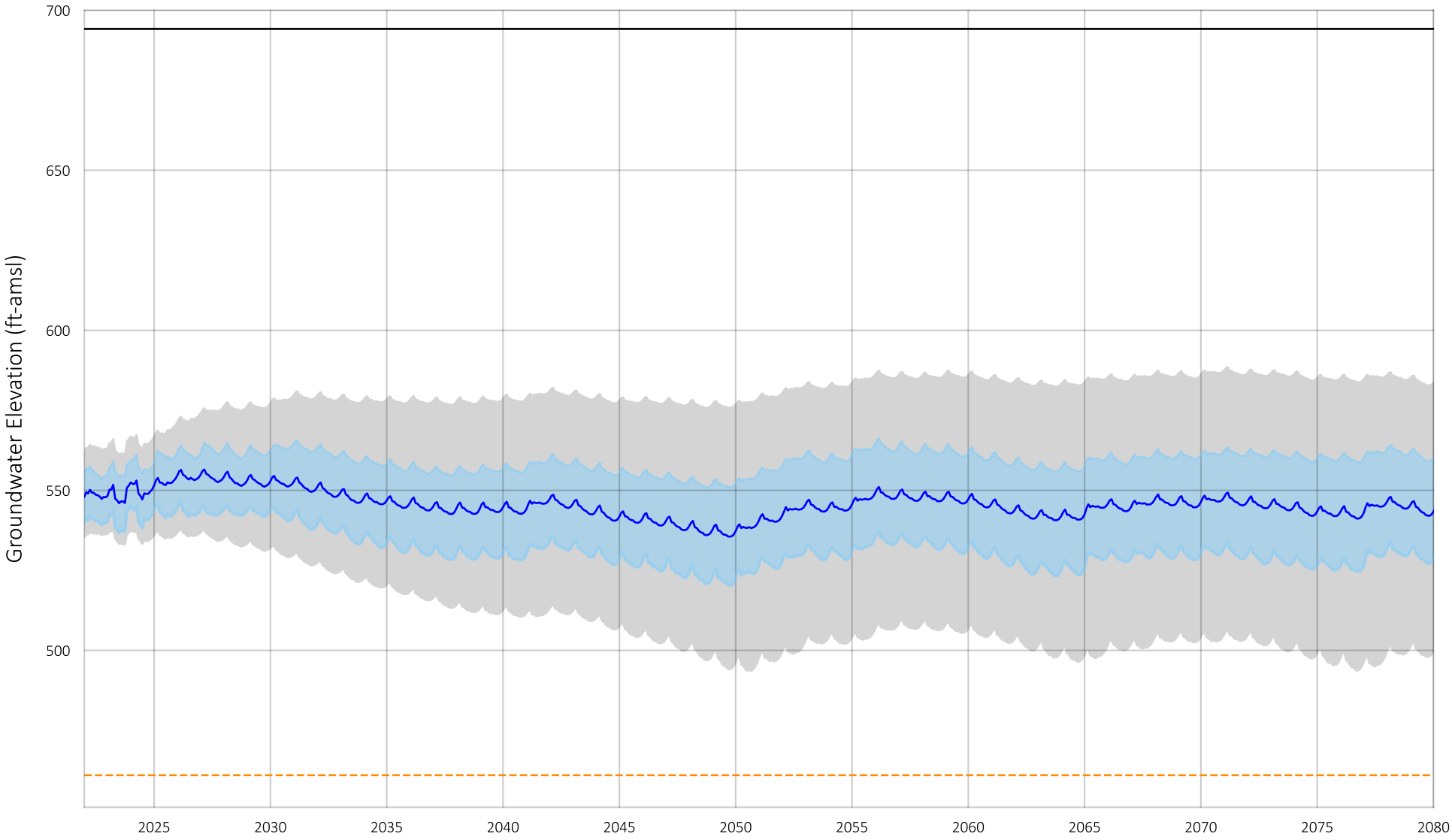
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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-10



Well Location

Legend

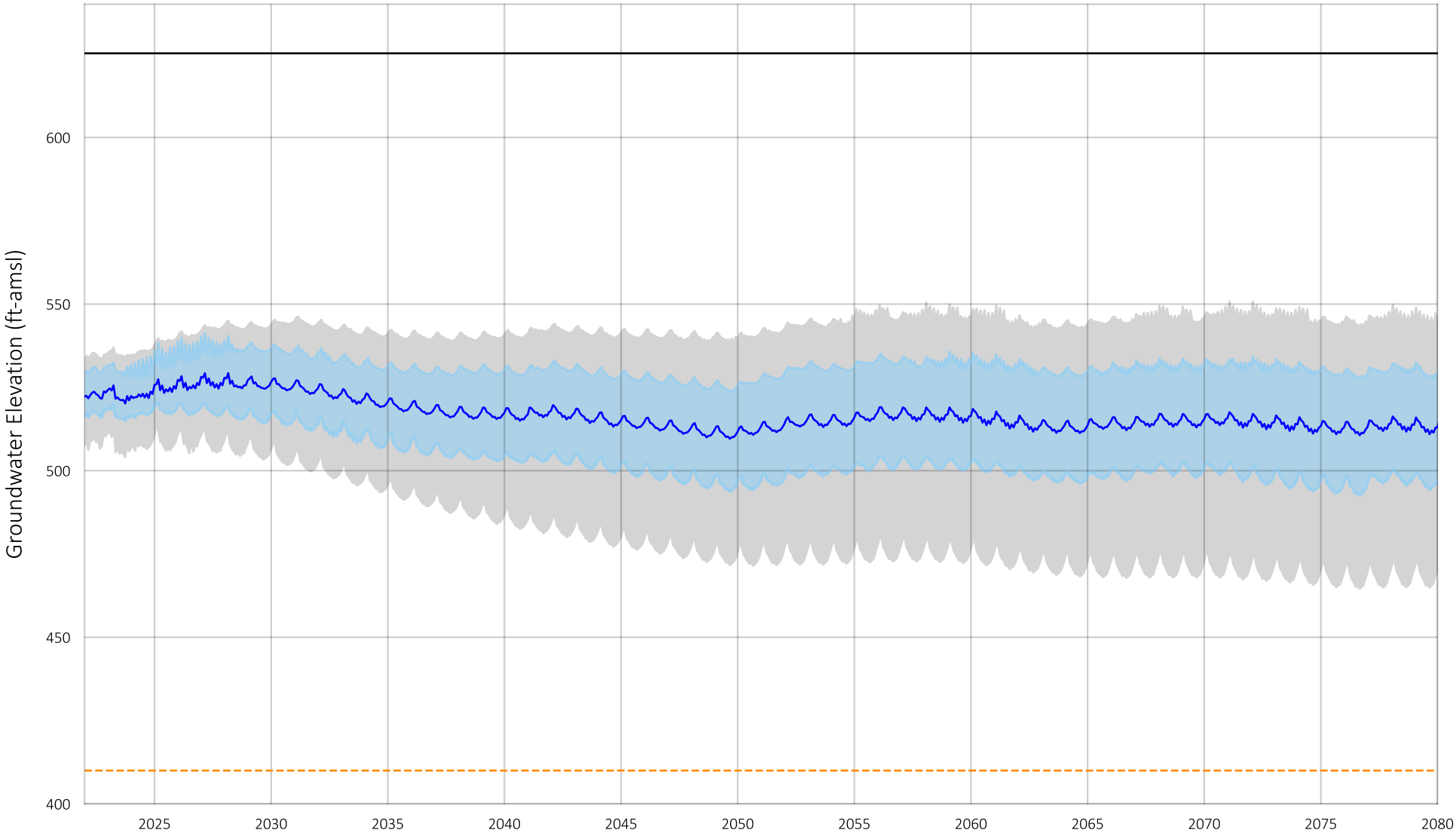
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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-11



Well Location

Legend

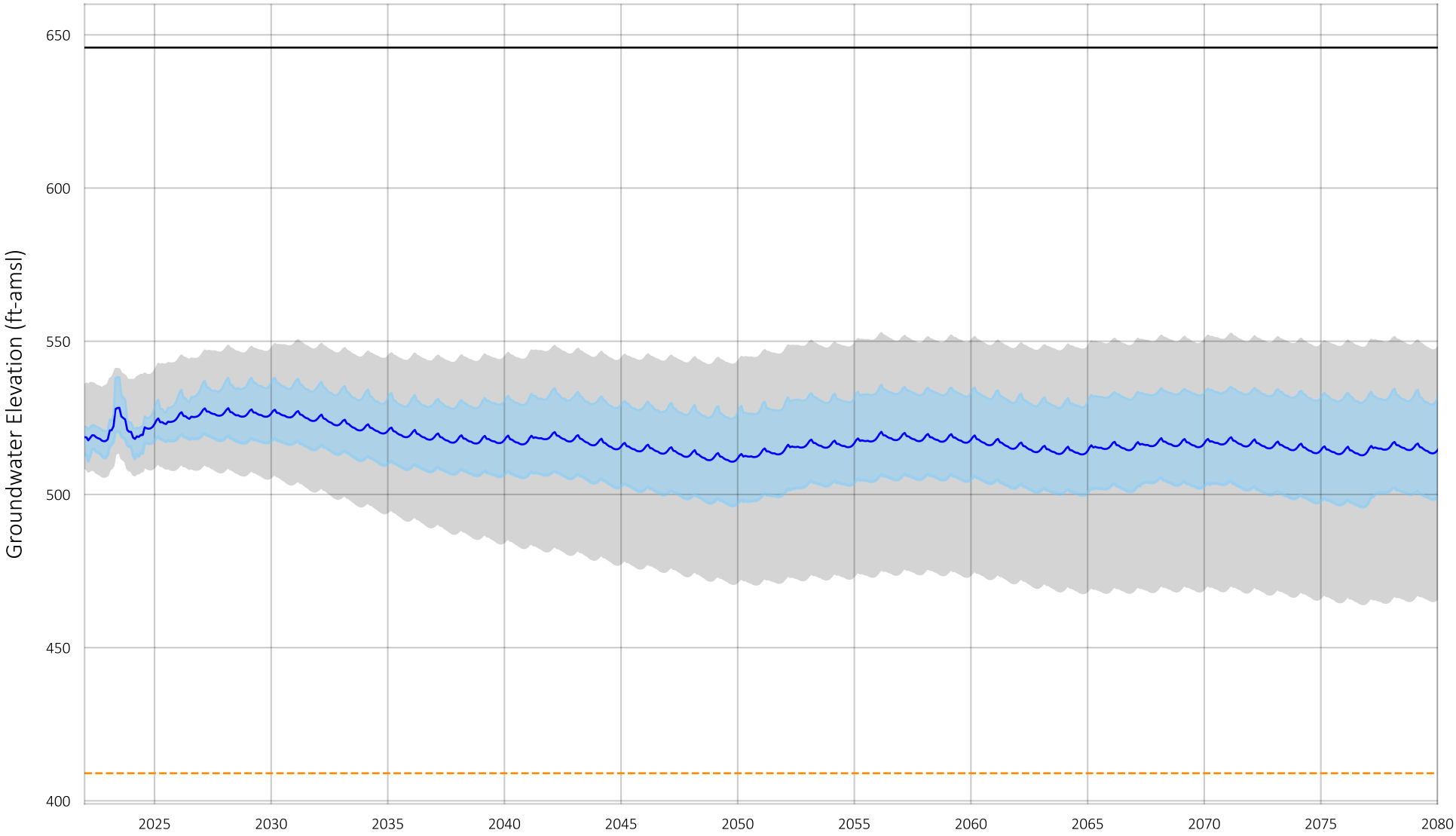
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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-12



Well Location

Legend

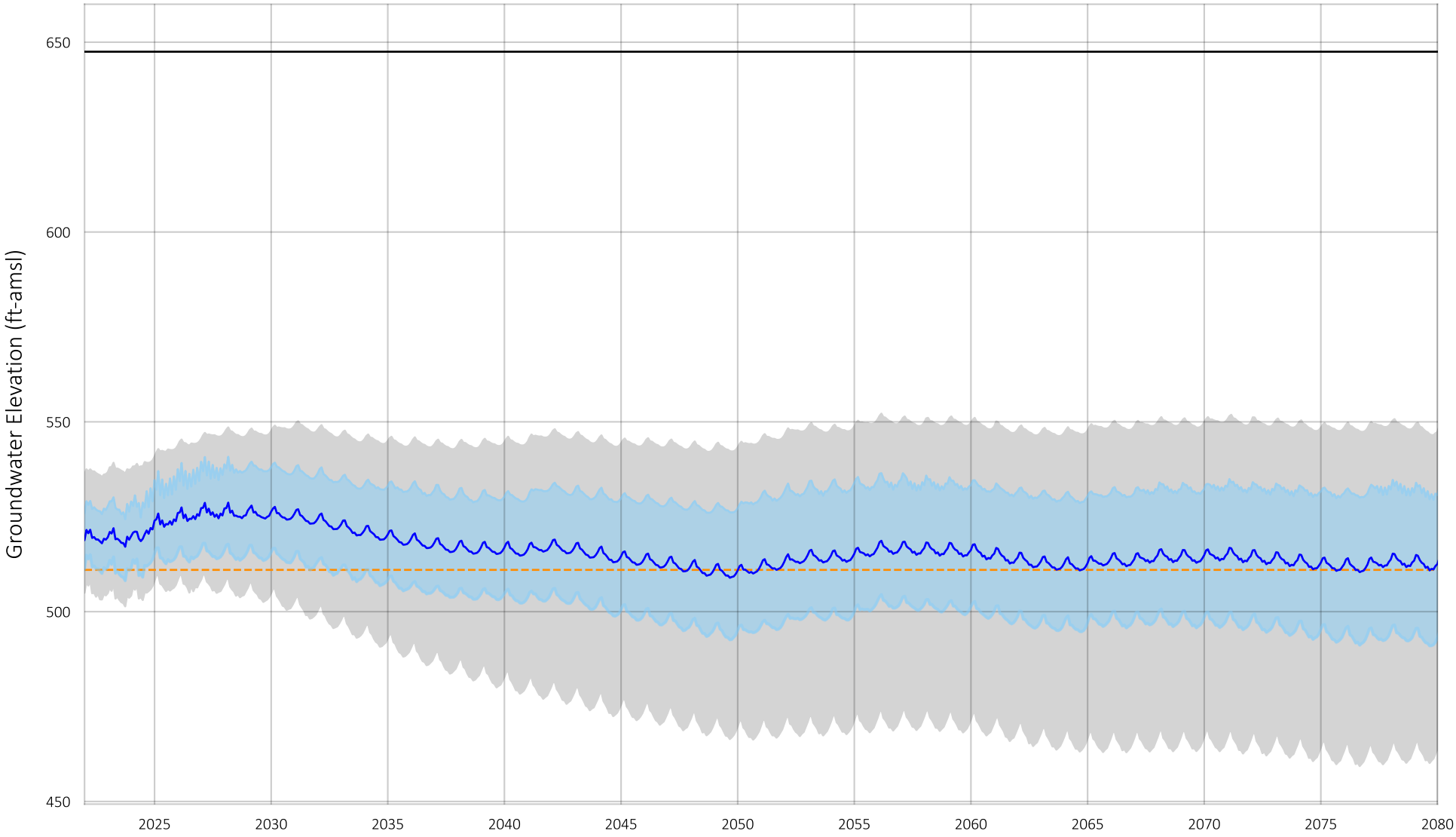
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

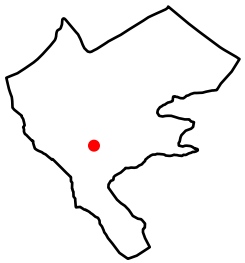
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-11
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 160 - 260

Figure D-13



Well Location



Legend

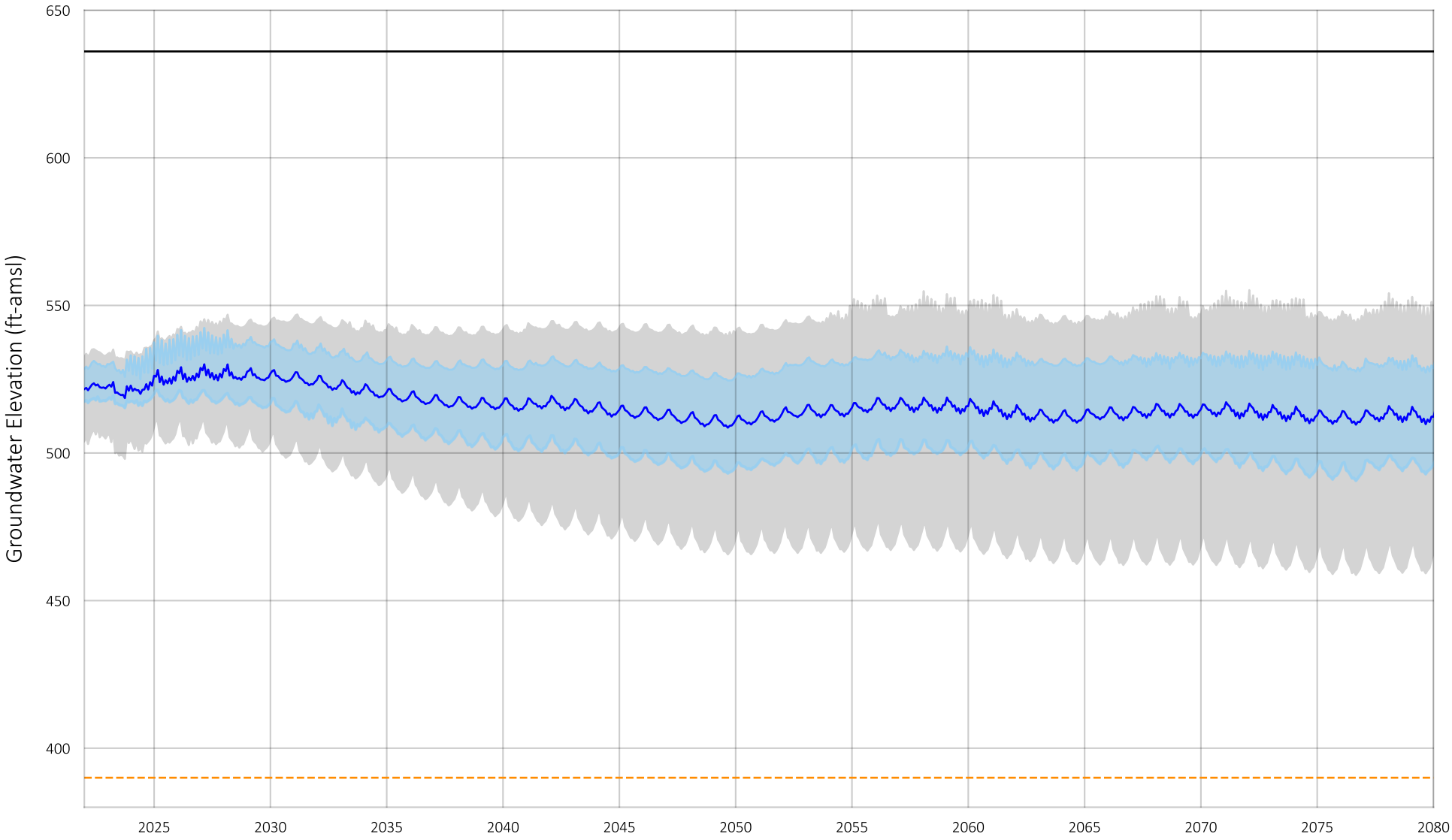
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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-14



Well Location

Legend

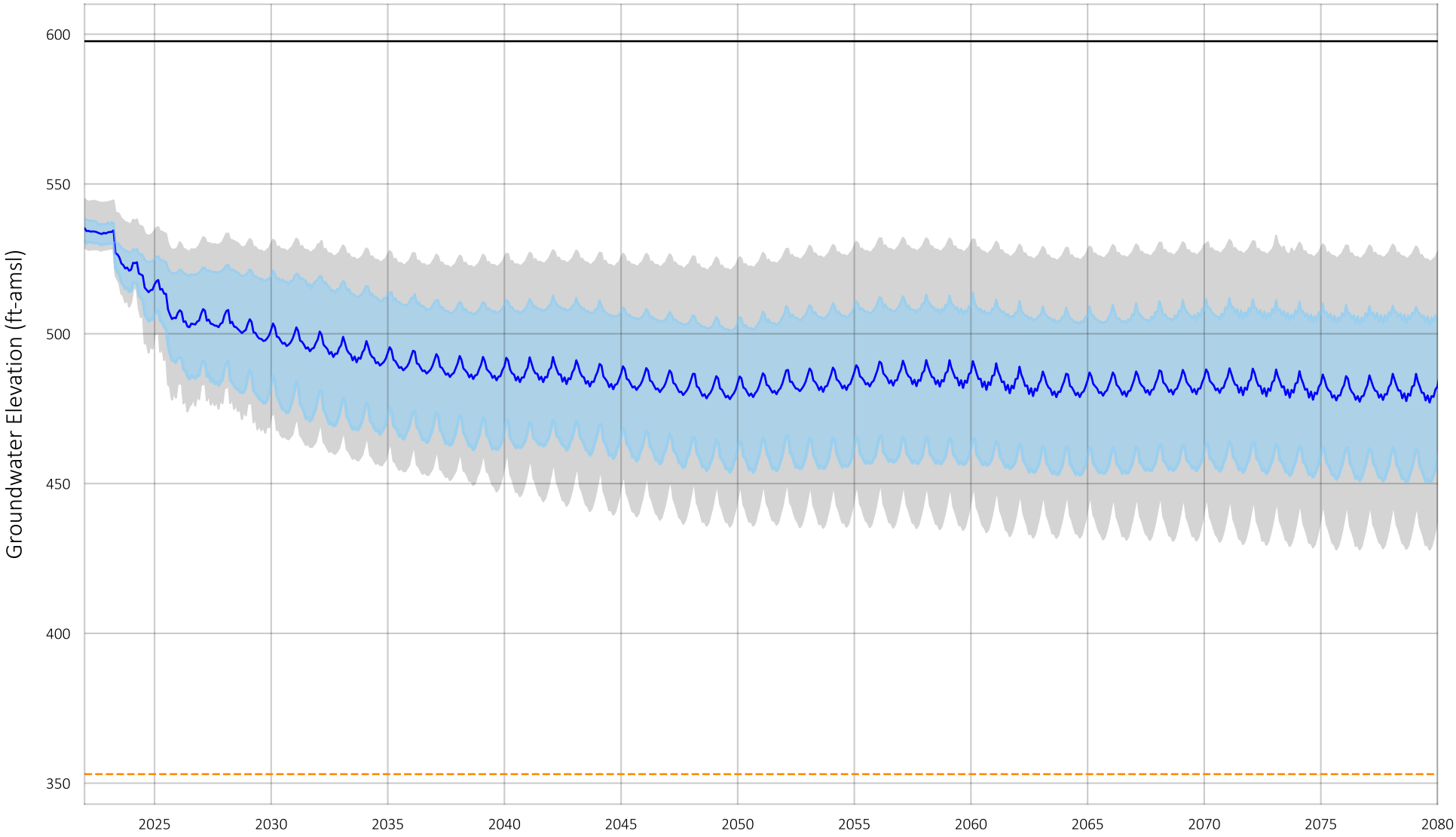
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

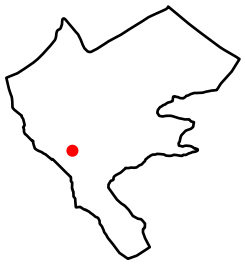
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-8
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 180 - 415

Figure D-15



Well Location



Legend

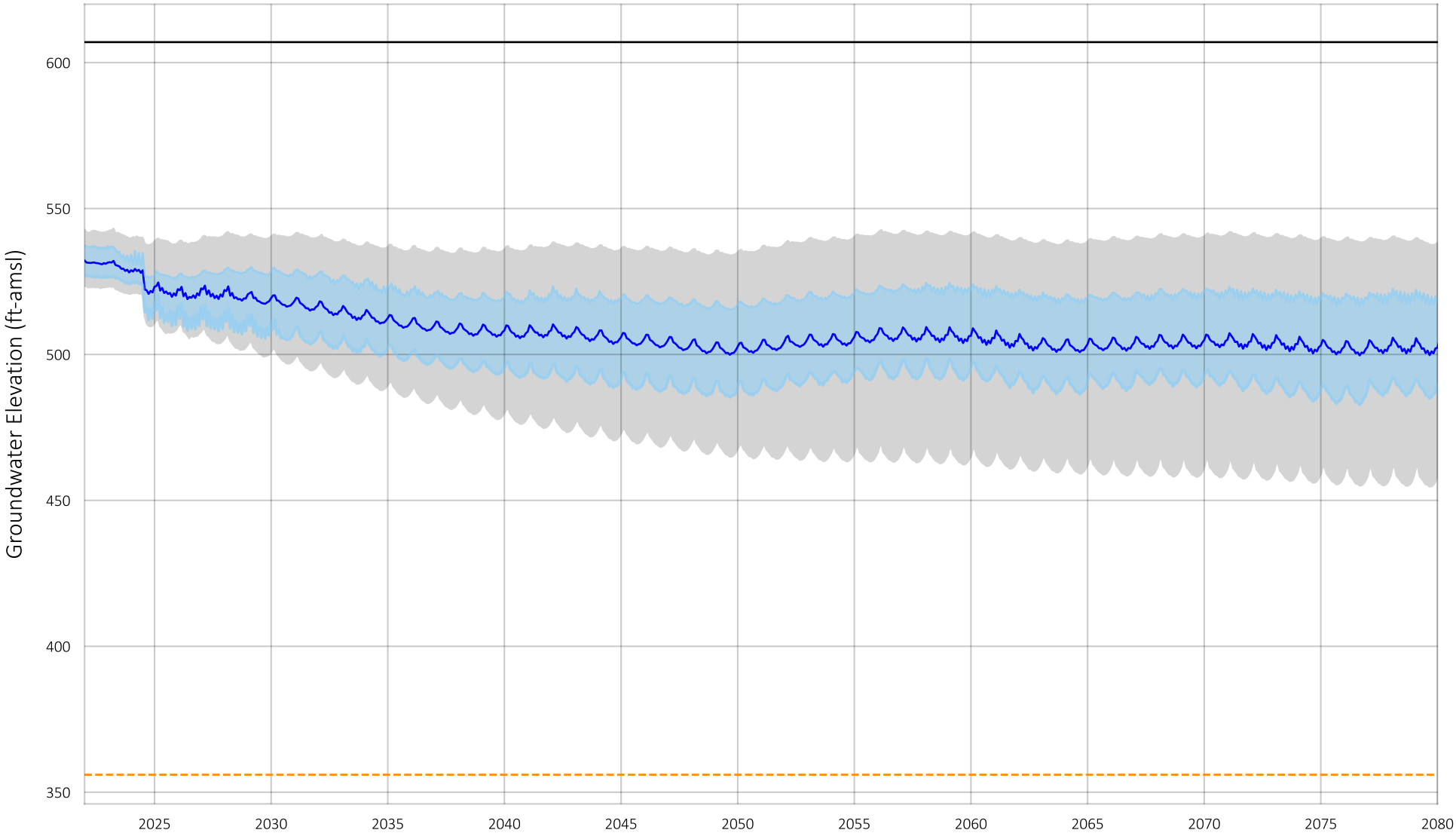
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

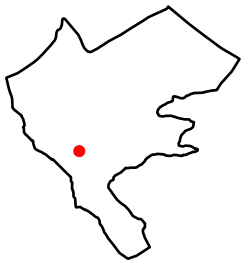
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-3
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 235 - 525

Figure D-16



Well Location



Legend

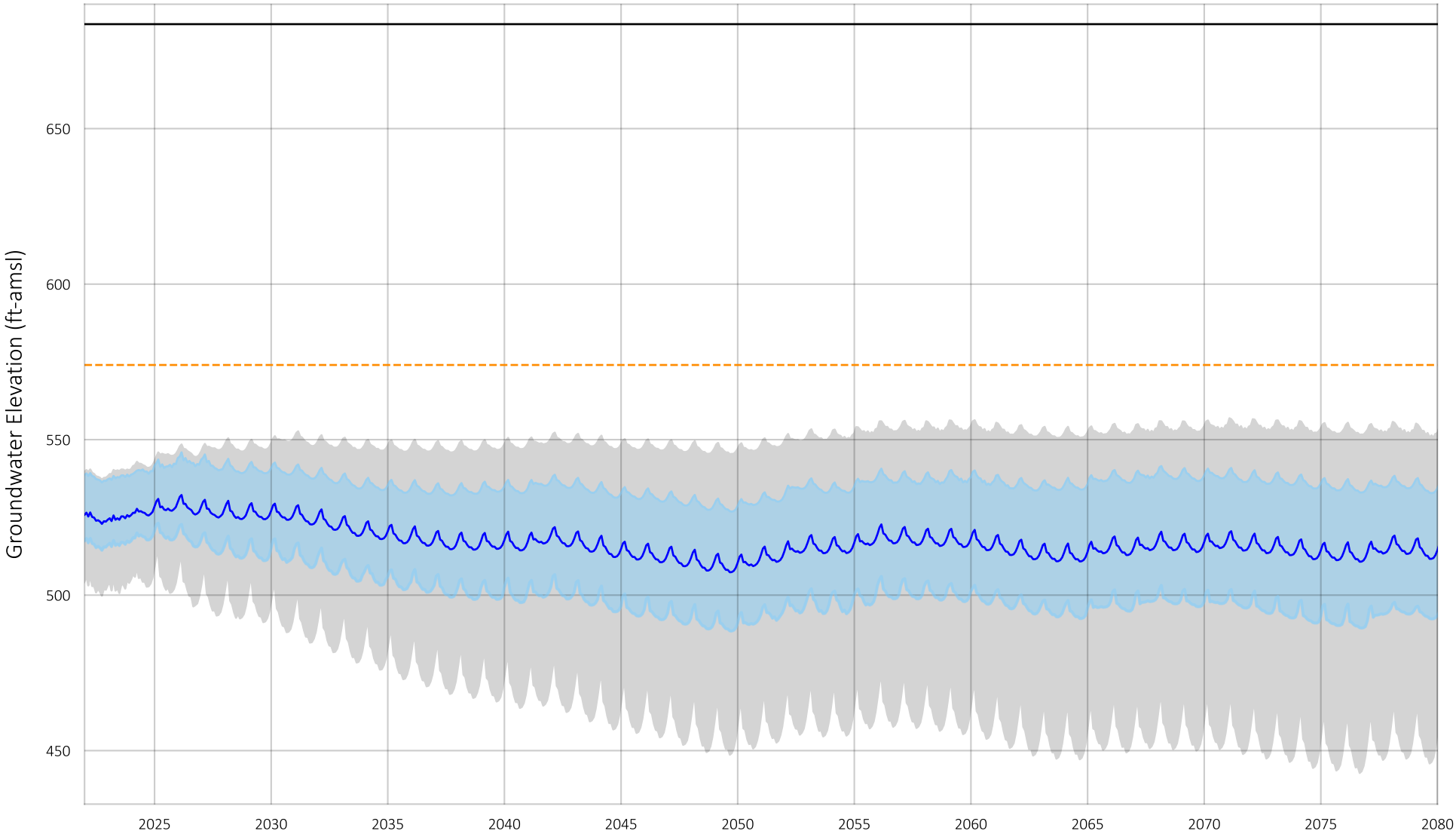
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

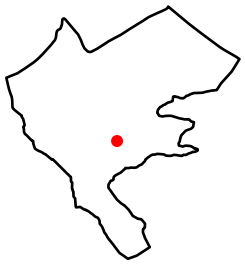
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-4
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 200 - 480

Figure D-17



Well Location



Legend

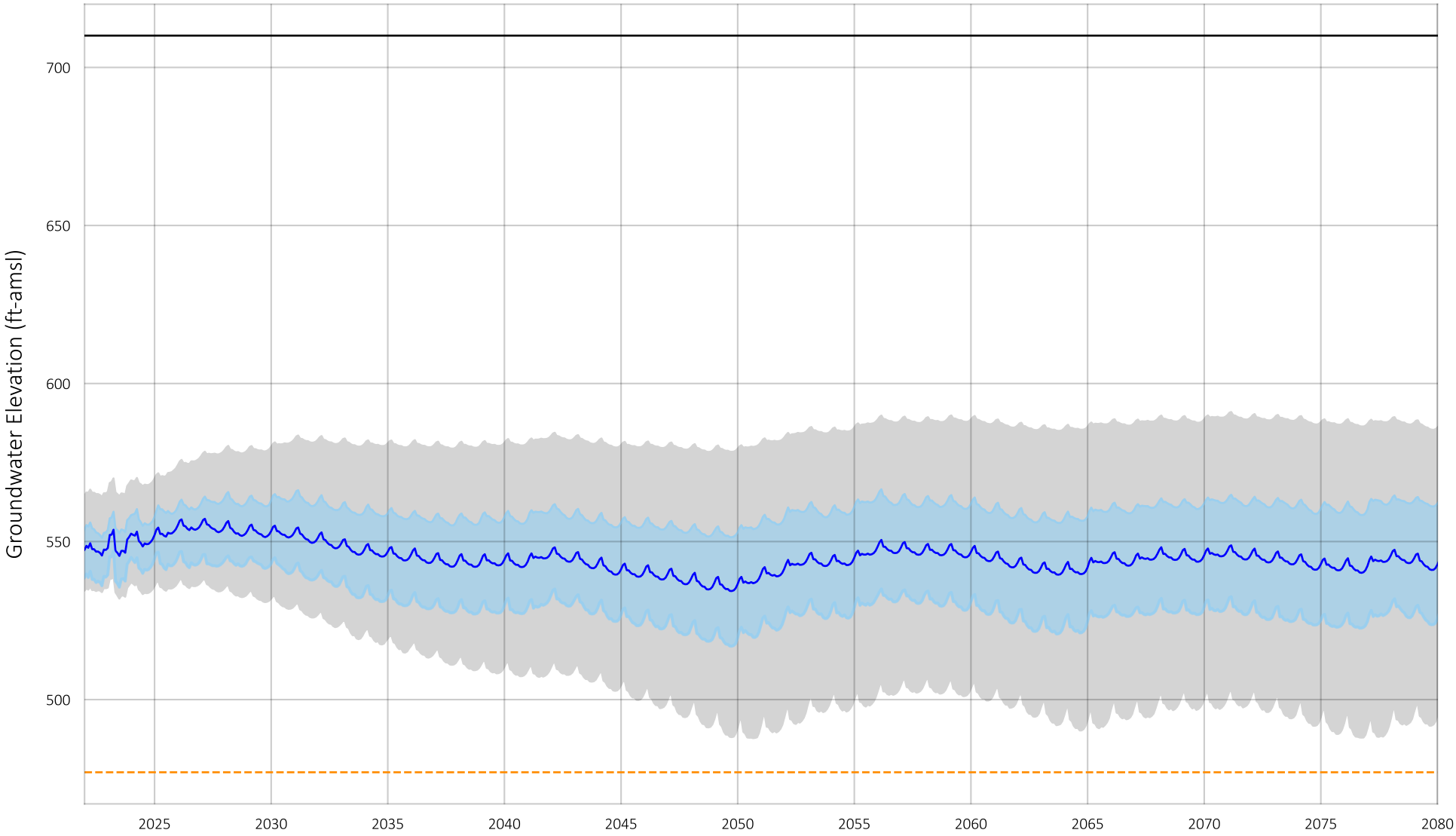
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

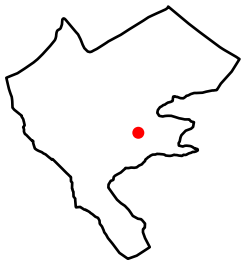
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: II-1
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 155 - 390

Figure D-18



Well Location



Legend

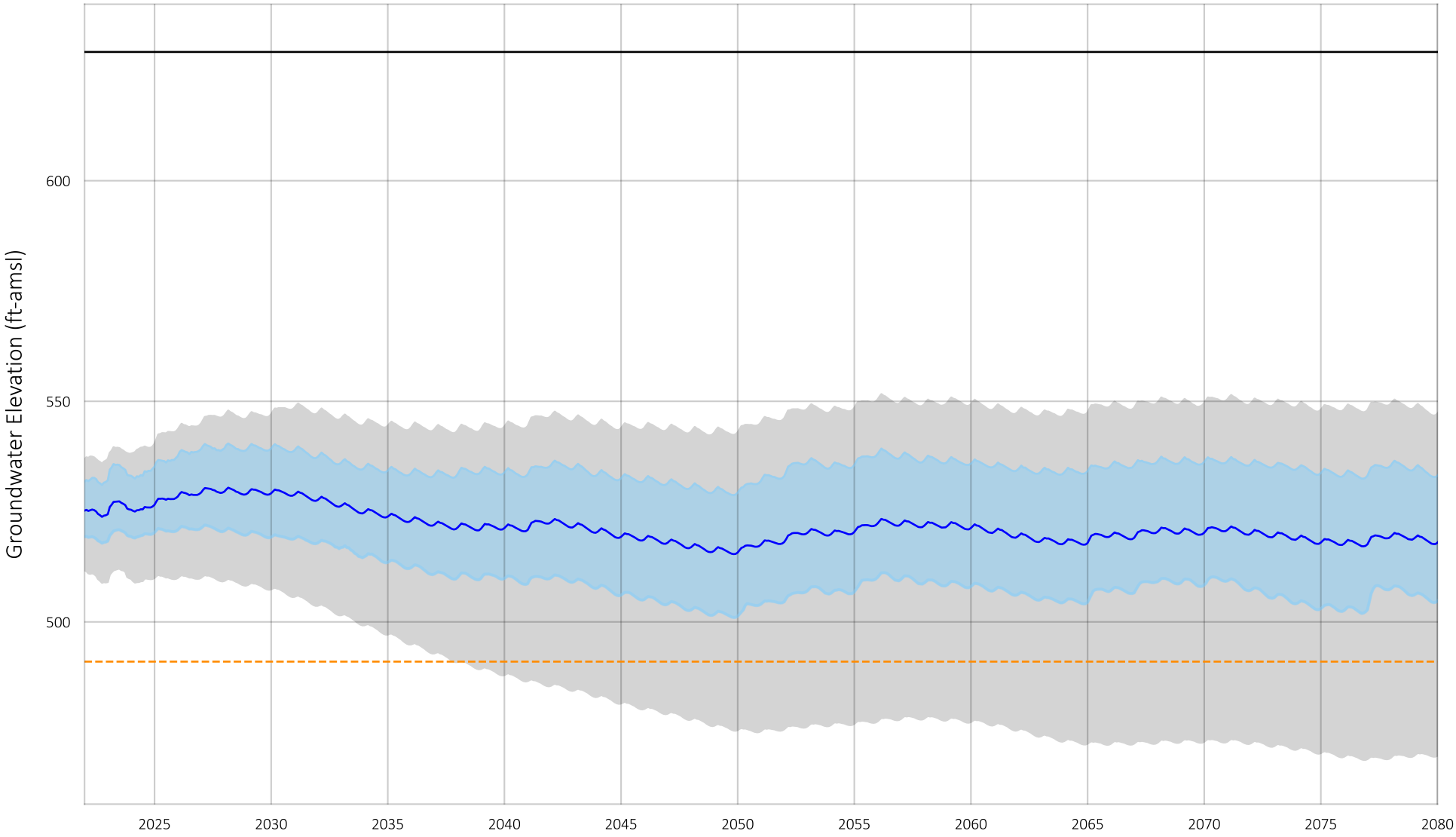
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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-19



Well Location

Legend

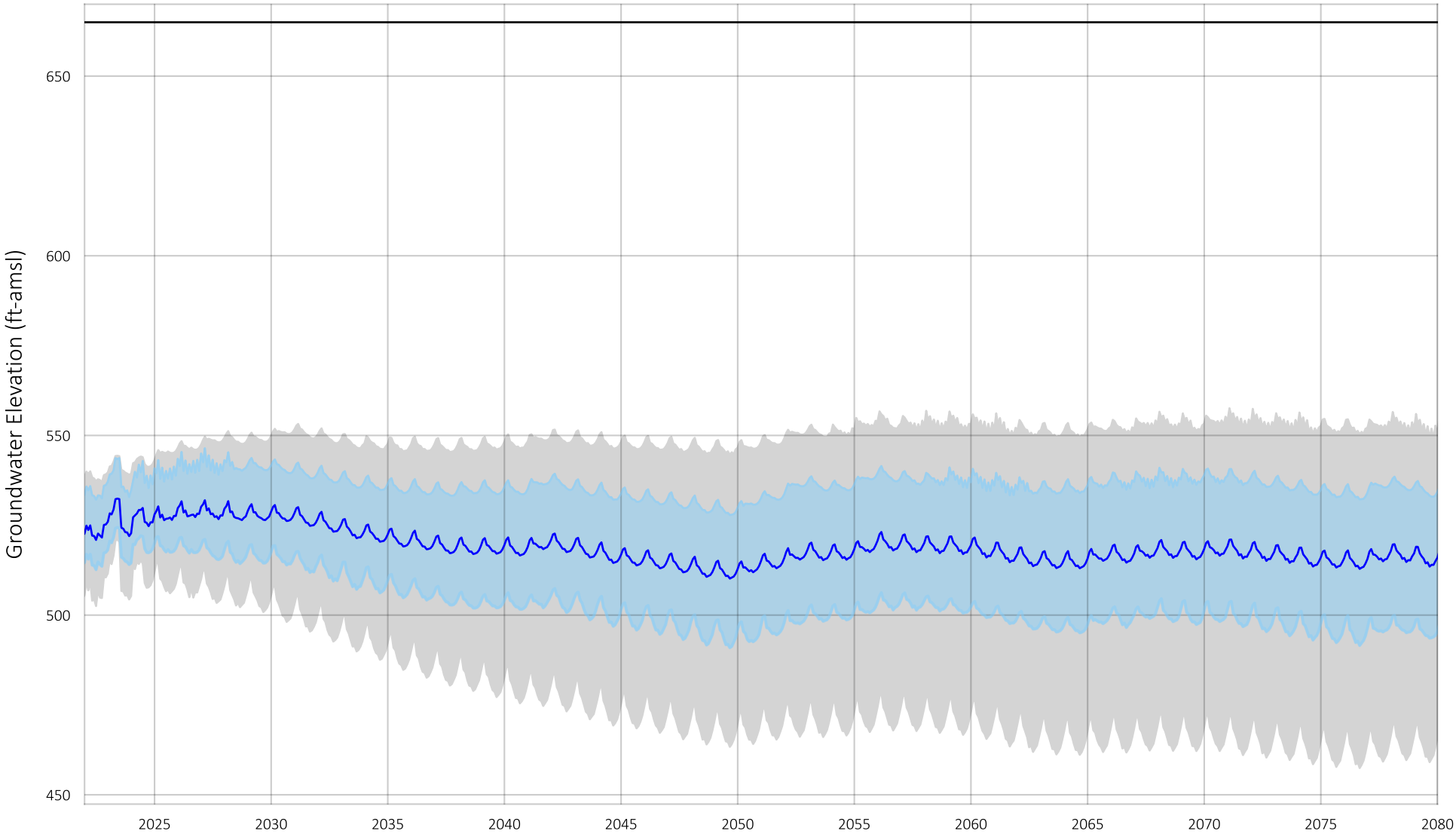
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

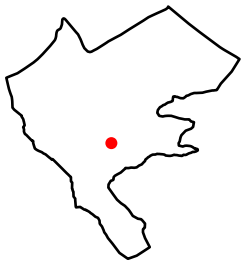
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-7
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 180 - 300

Figure D-20



Well Location



Legend

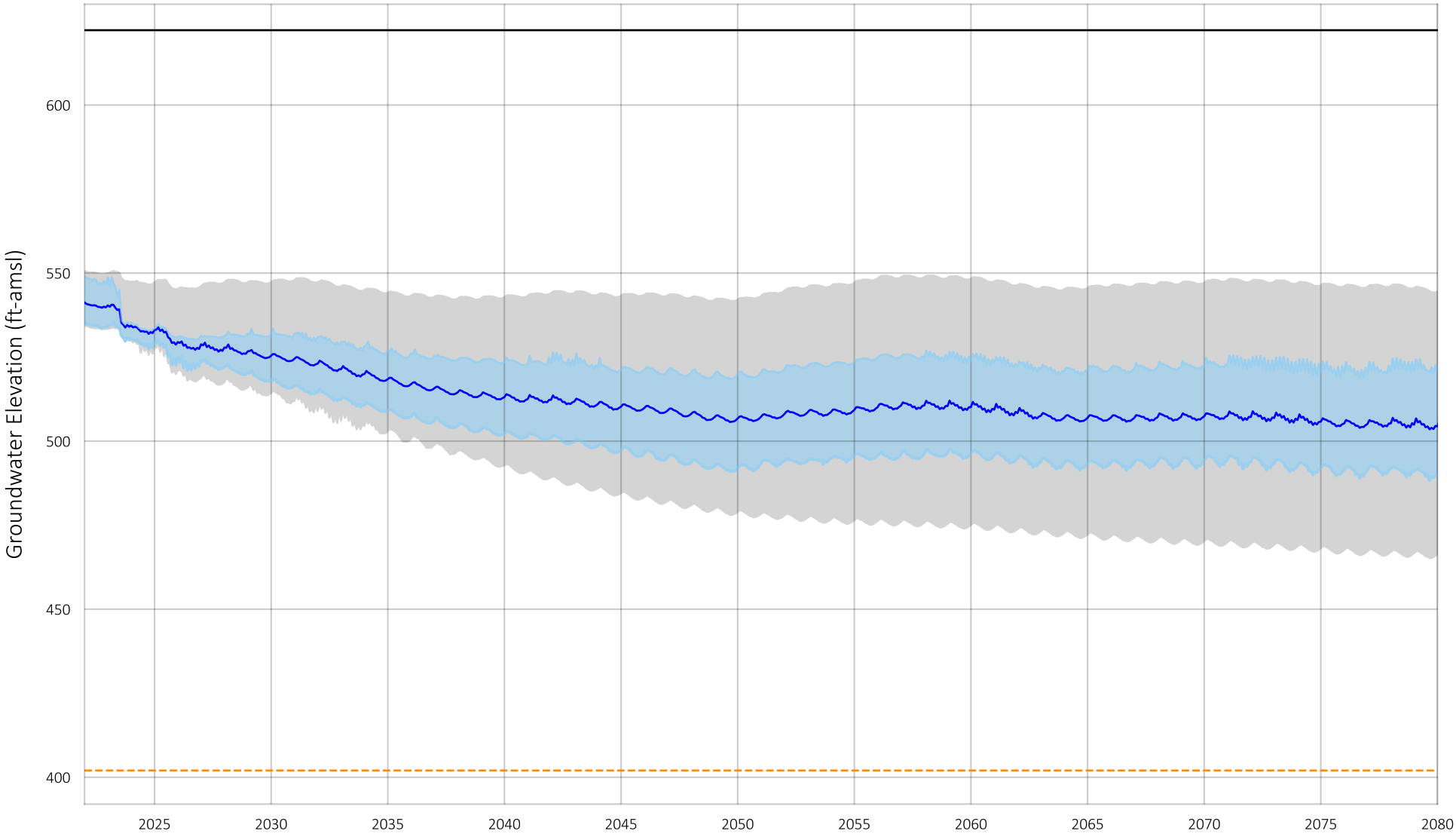
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

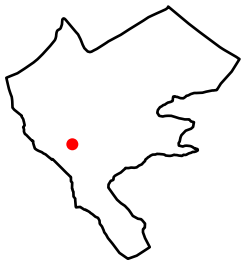
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: II-10
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 200 - 385

Figure D-21



Well Location



Legend

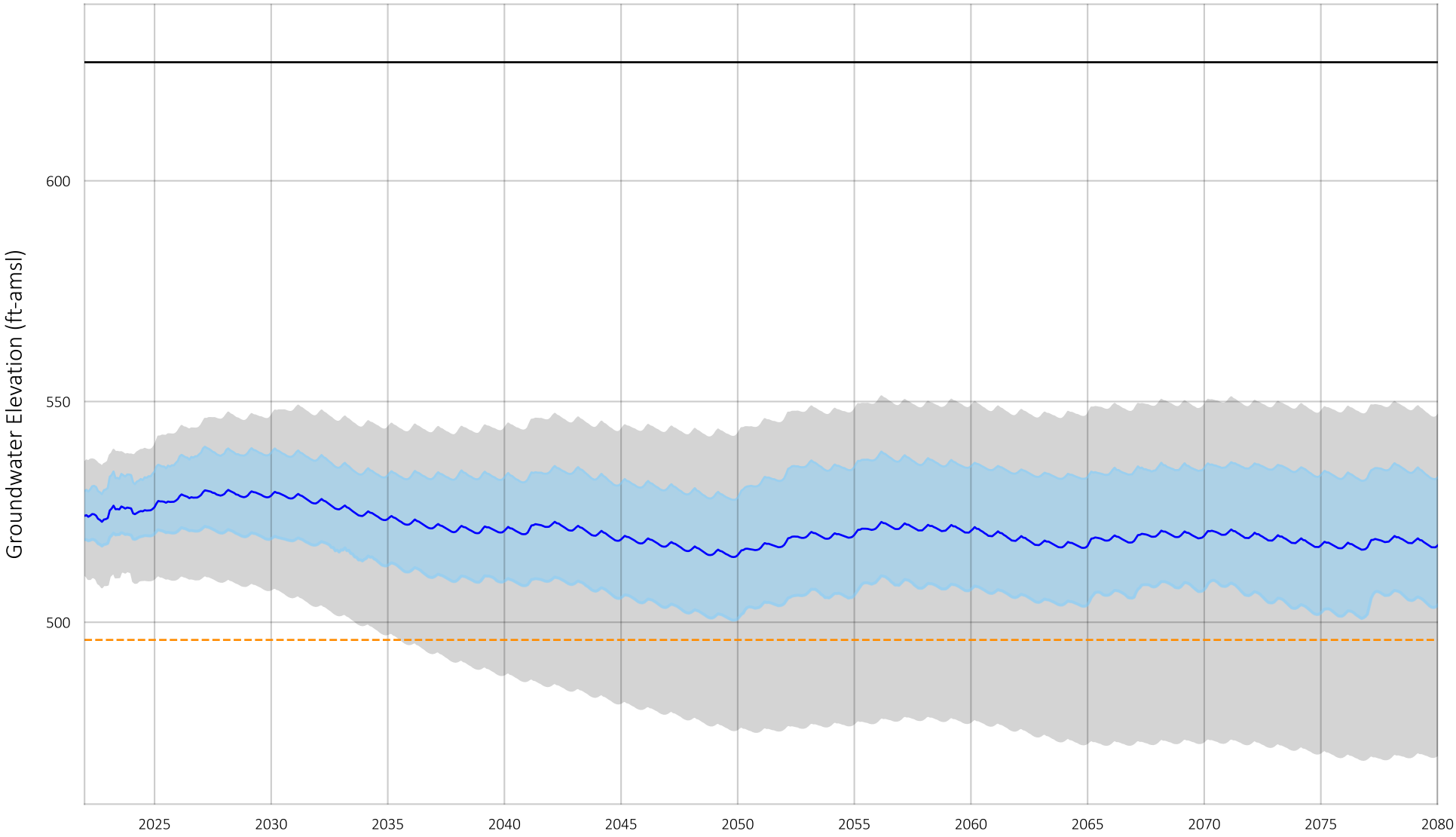
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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-22



Well Location

Legend

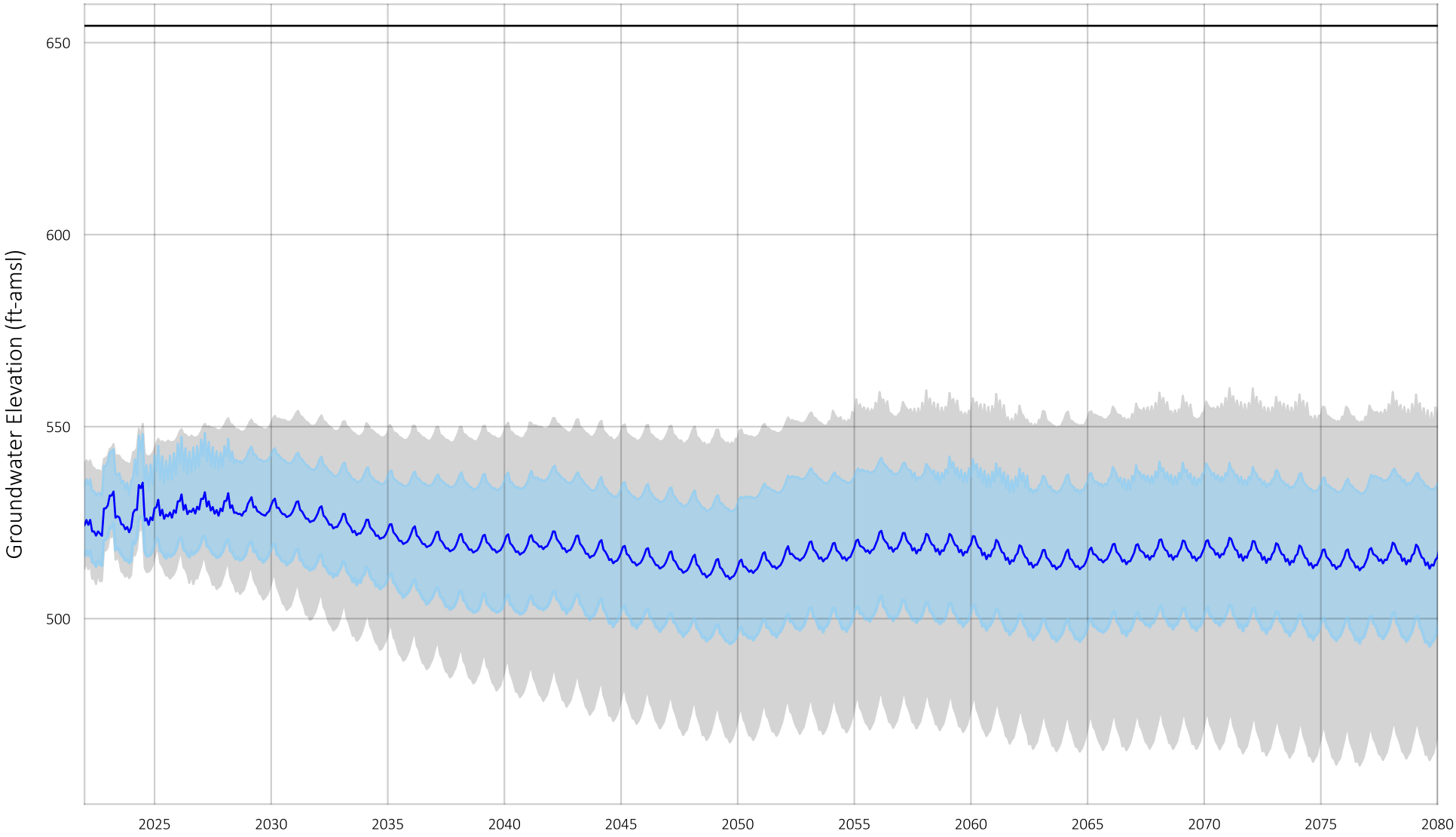
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

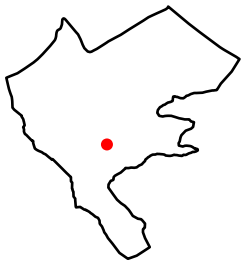
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-6
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 175 - 305

Figure D-23



Well Location



Legend

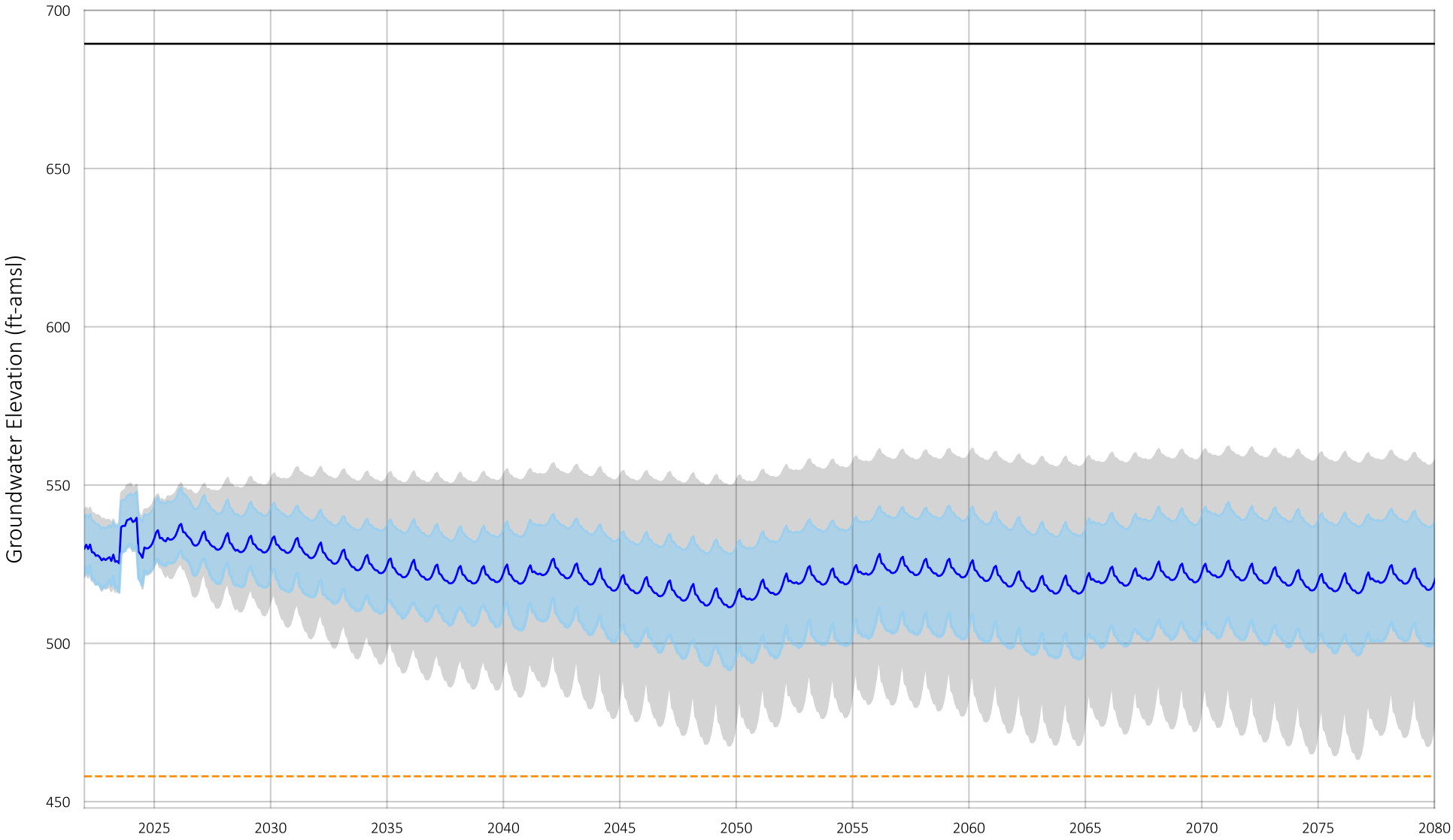
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

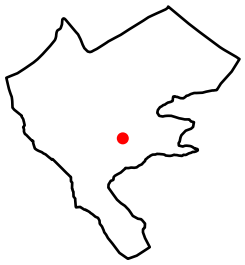
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: II-11
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 210 - 395

Figure D-24



Well Location



Legend

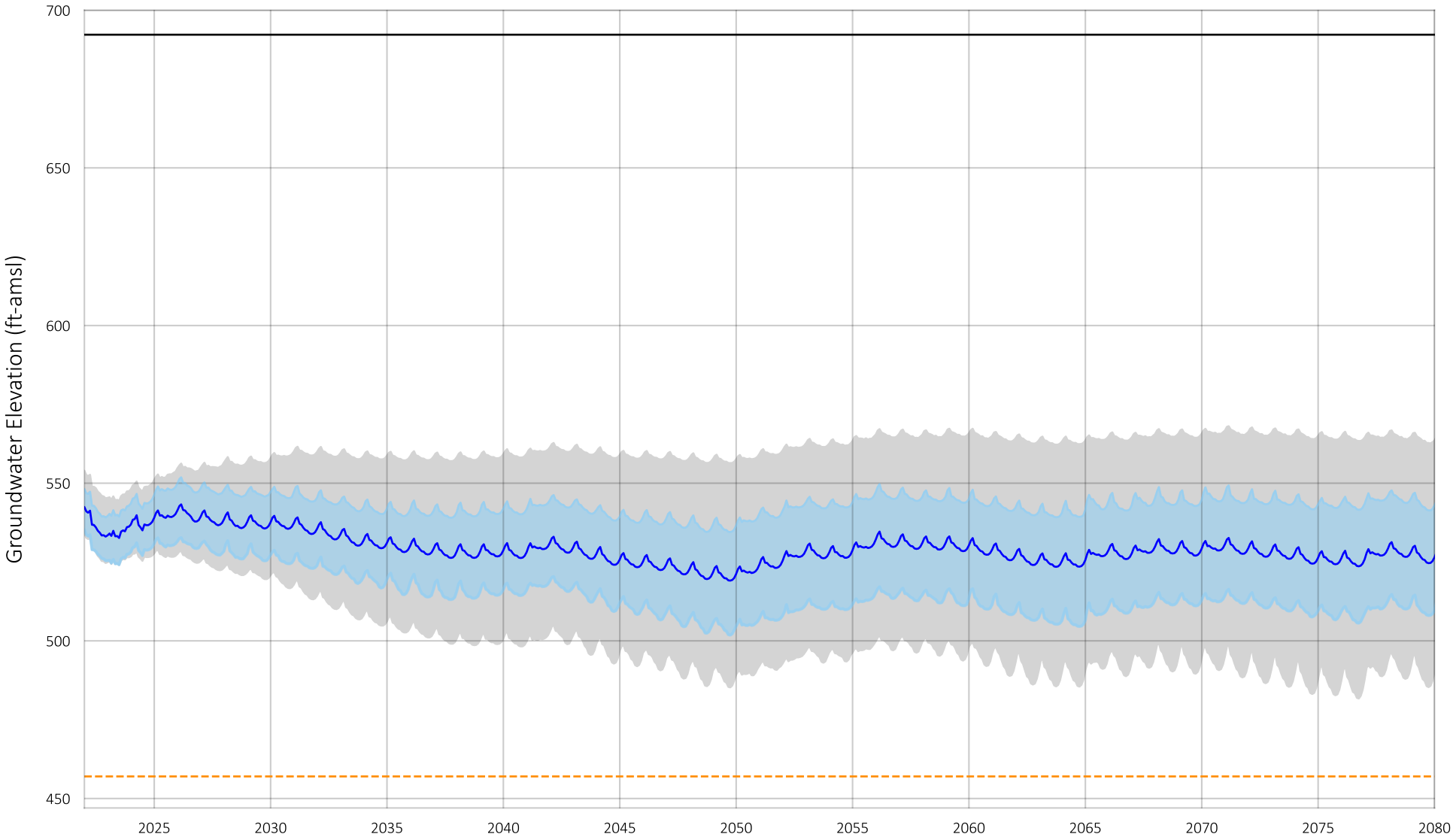
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

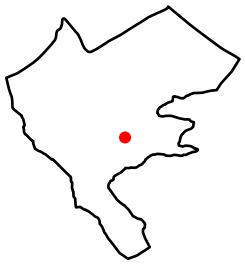
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: II-2
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 156 - 312

Figure D-25



Well Location



Legend

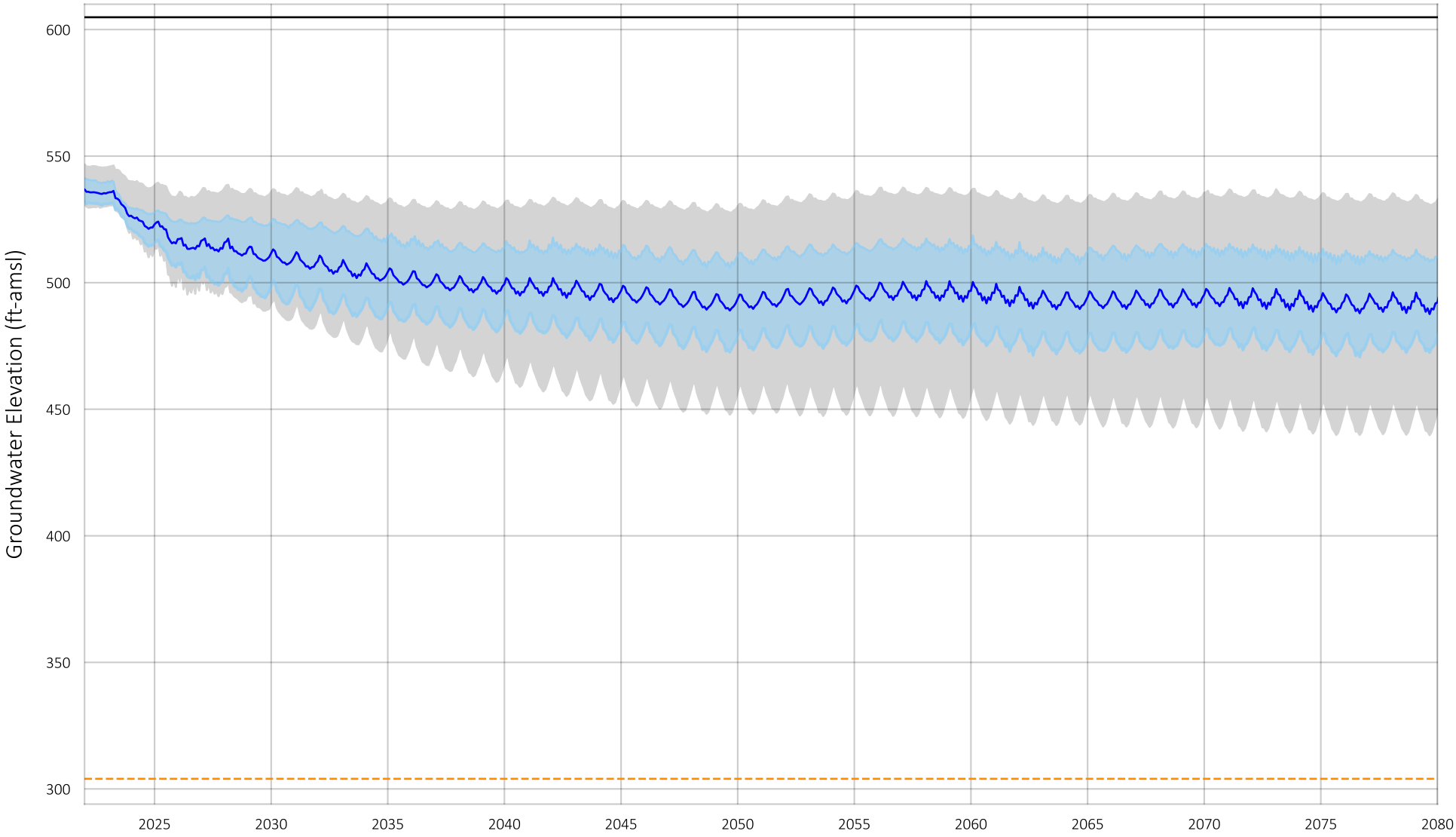
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

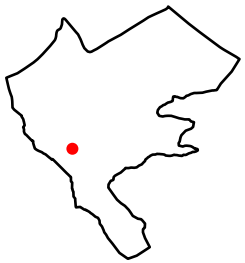
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: II-3
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 160 - 325

Figure D-26



Well Location



Legend

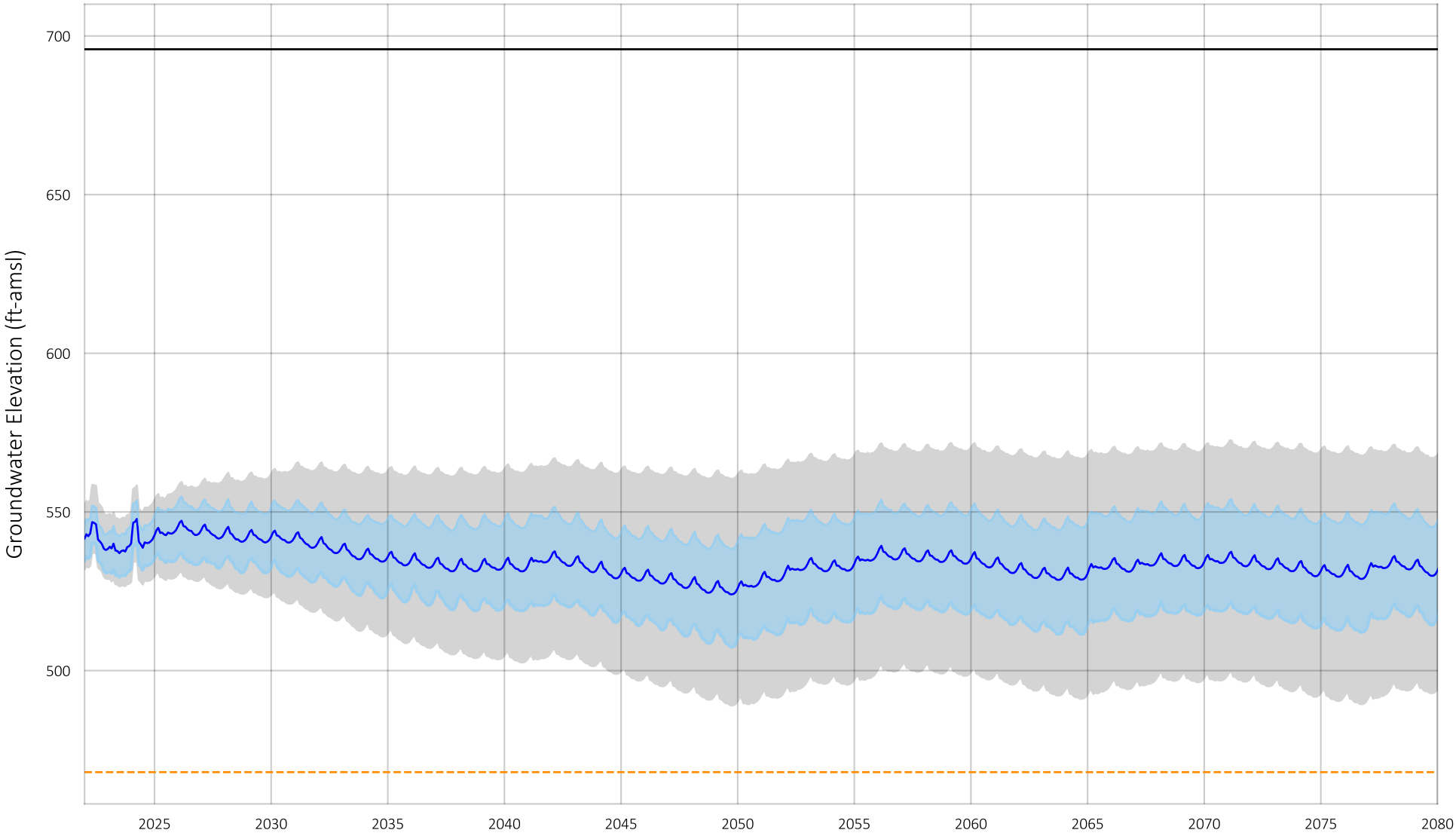
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

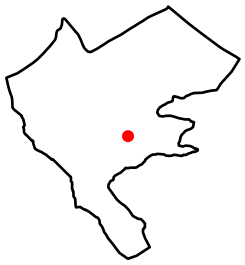
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-2
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 230 - 475

Figure D-27



Well Location



Legend

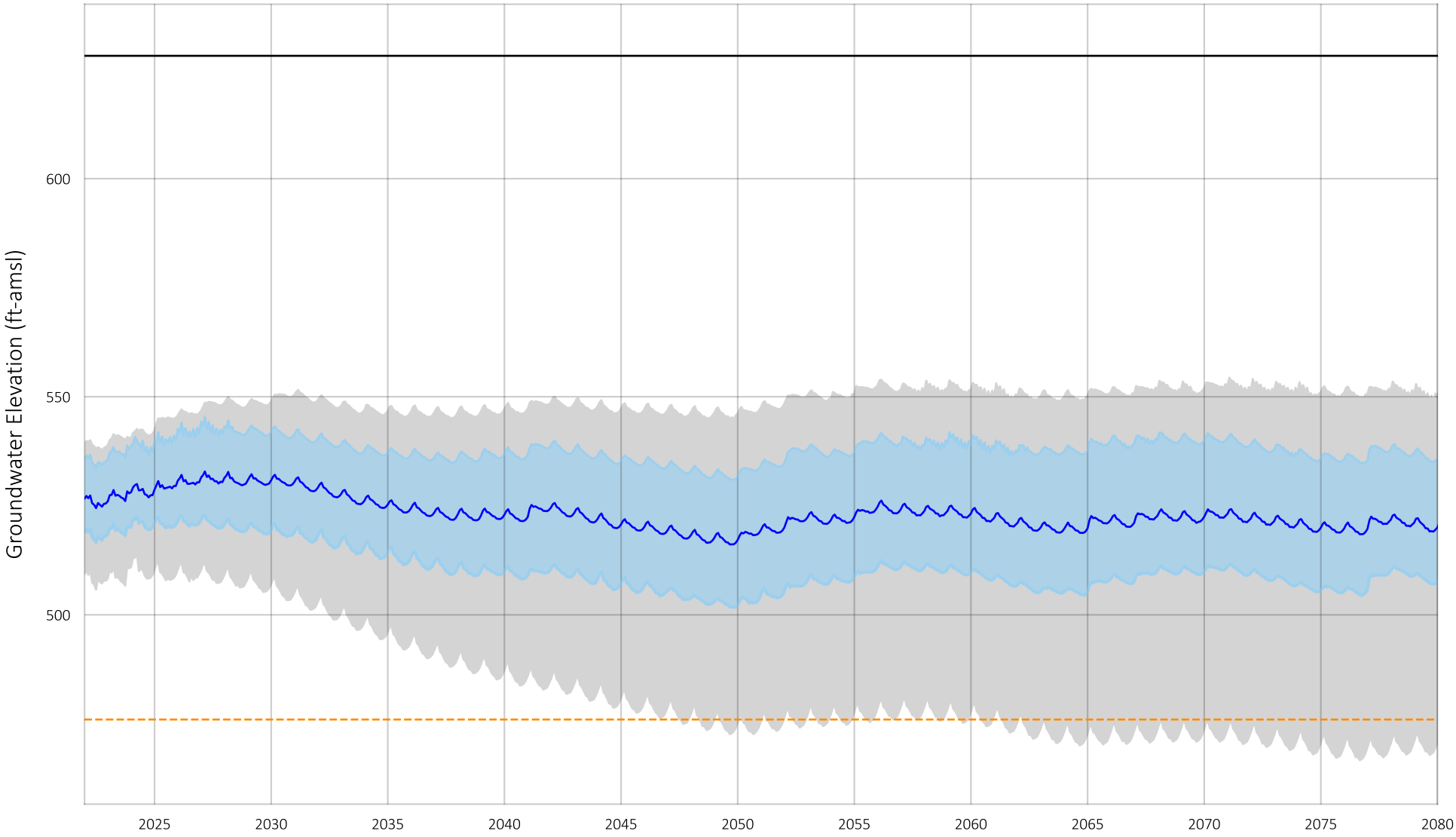
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

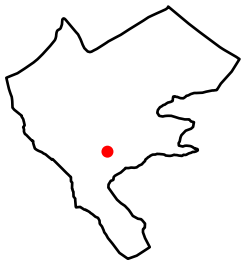
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: II-4
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 156 - 340

Figure D-28



Well Location



Legend

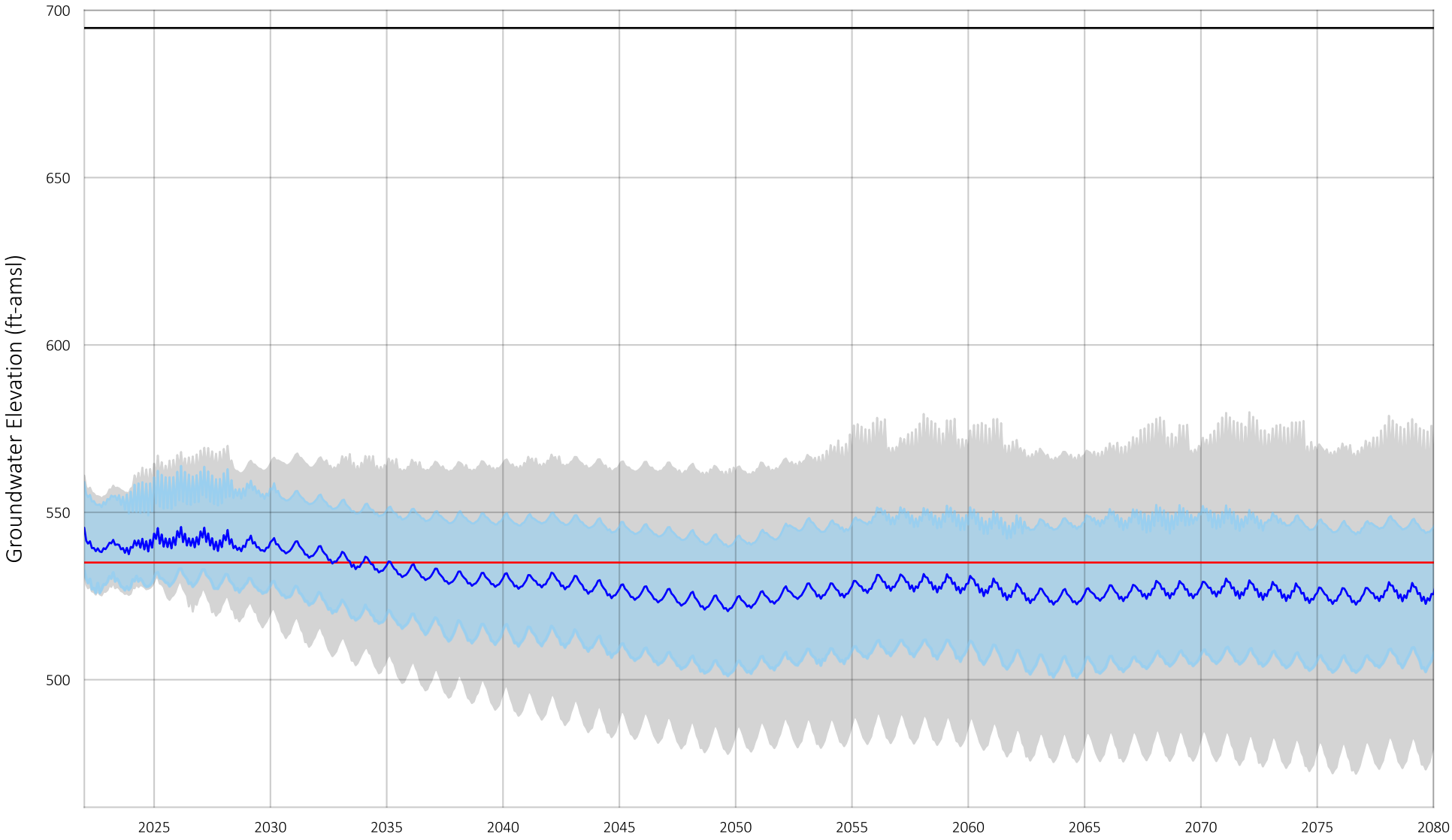
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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-29



Well Location

Legend

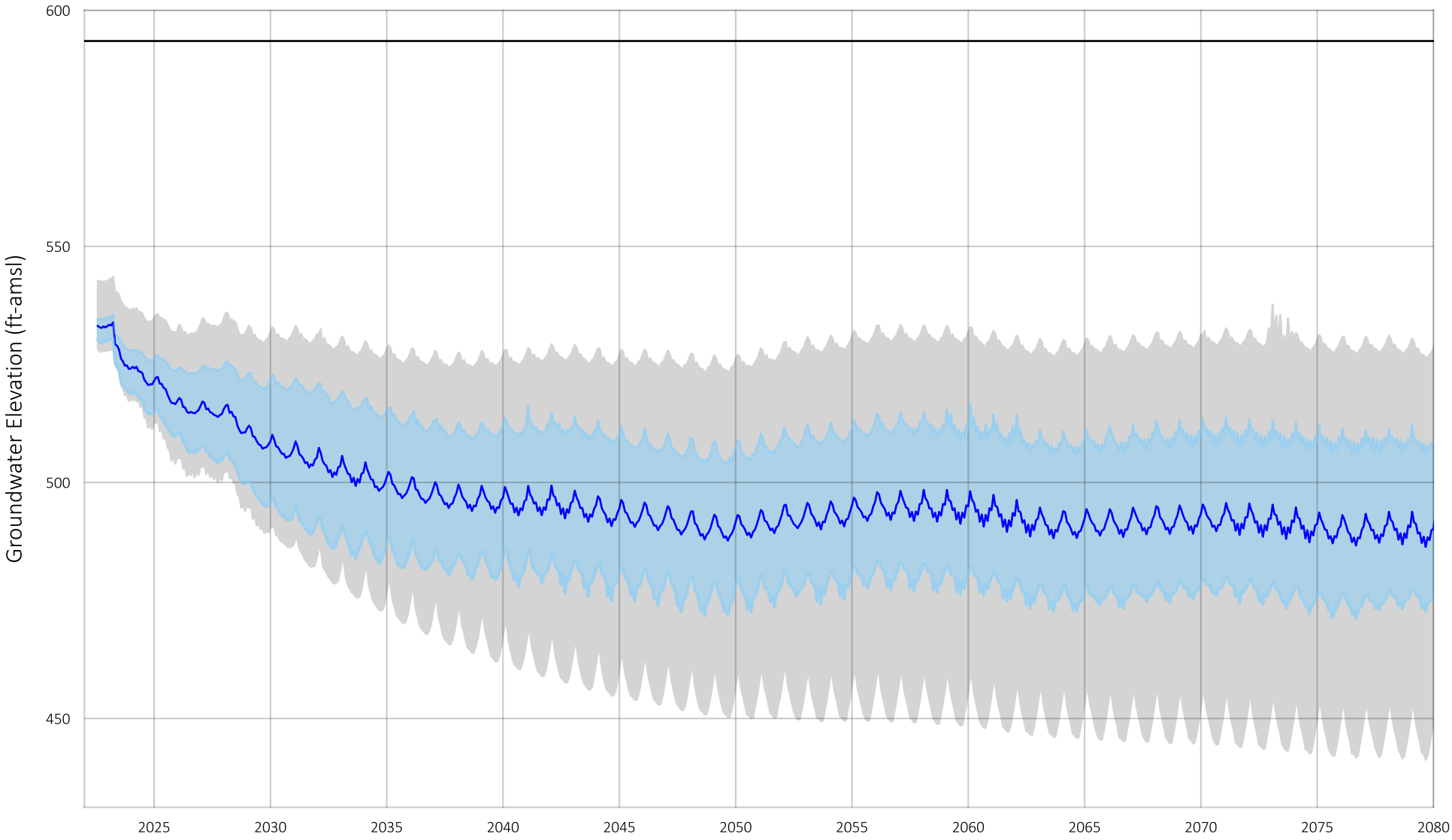
- Land Subsidence Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

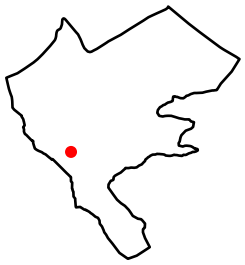
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: II-12
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 230 - 552

Figure D-30



Well Location



Legend

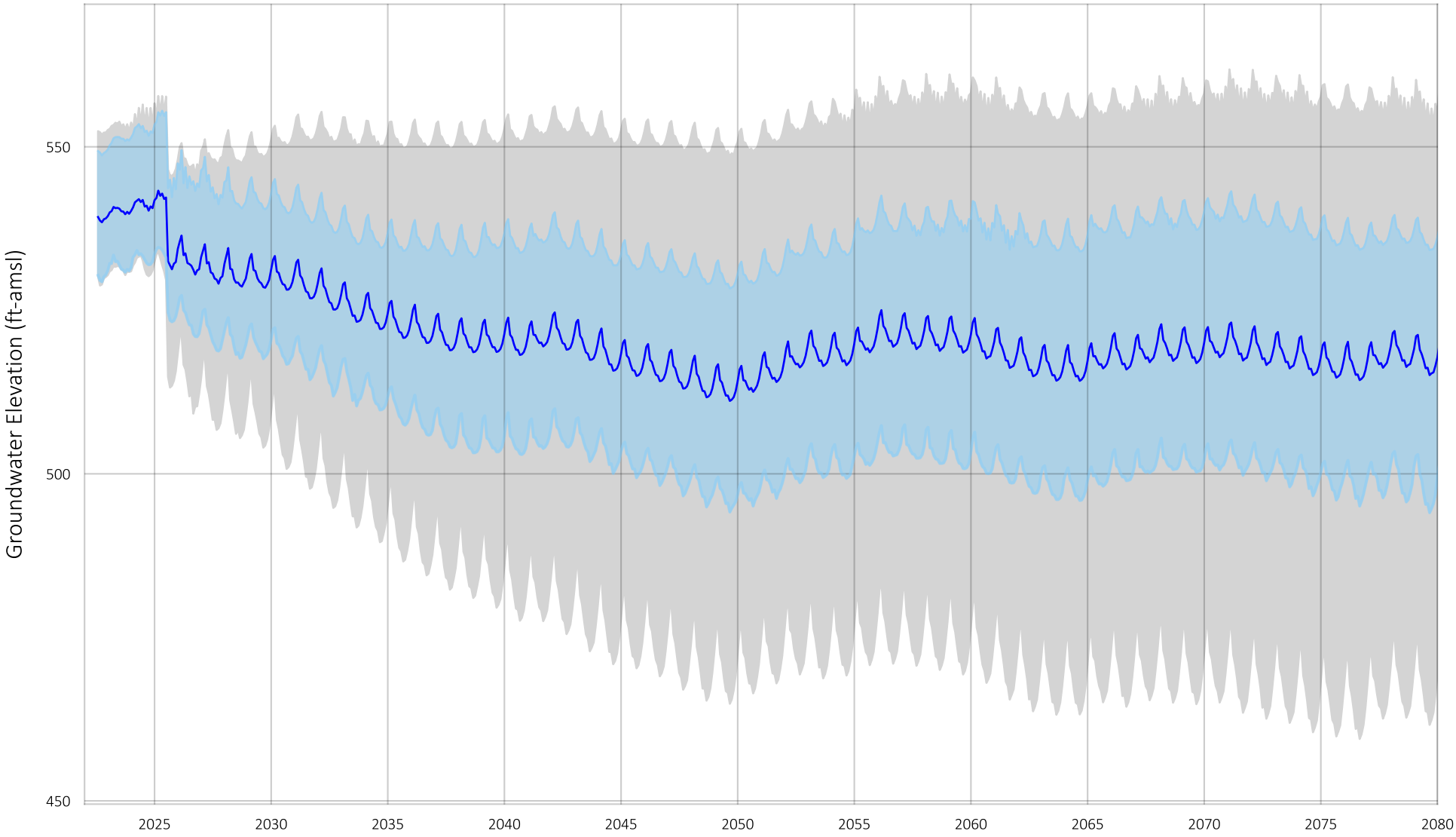
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

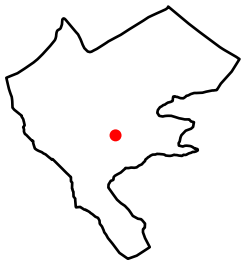
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: I-18
Well Owner: Chino Basin Desalter Authority
Screen Interval (ft-bgs): 100 - 176

Figure D-31



Well Location



Legend

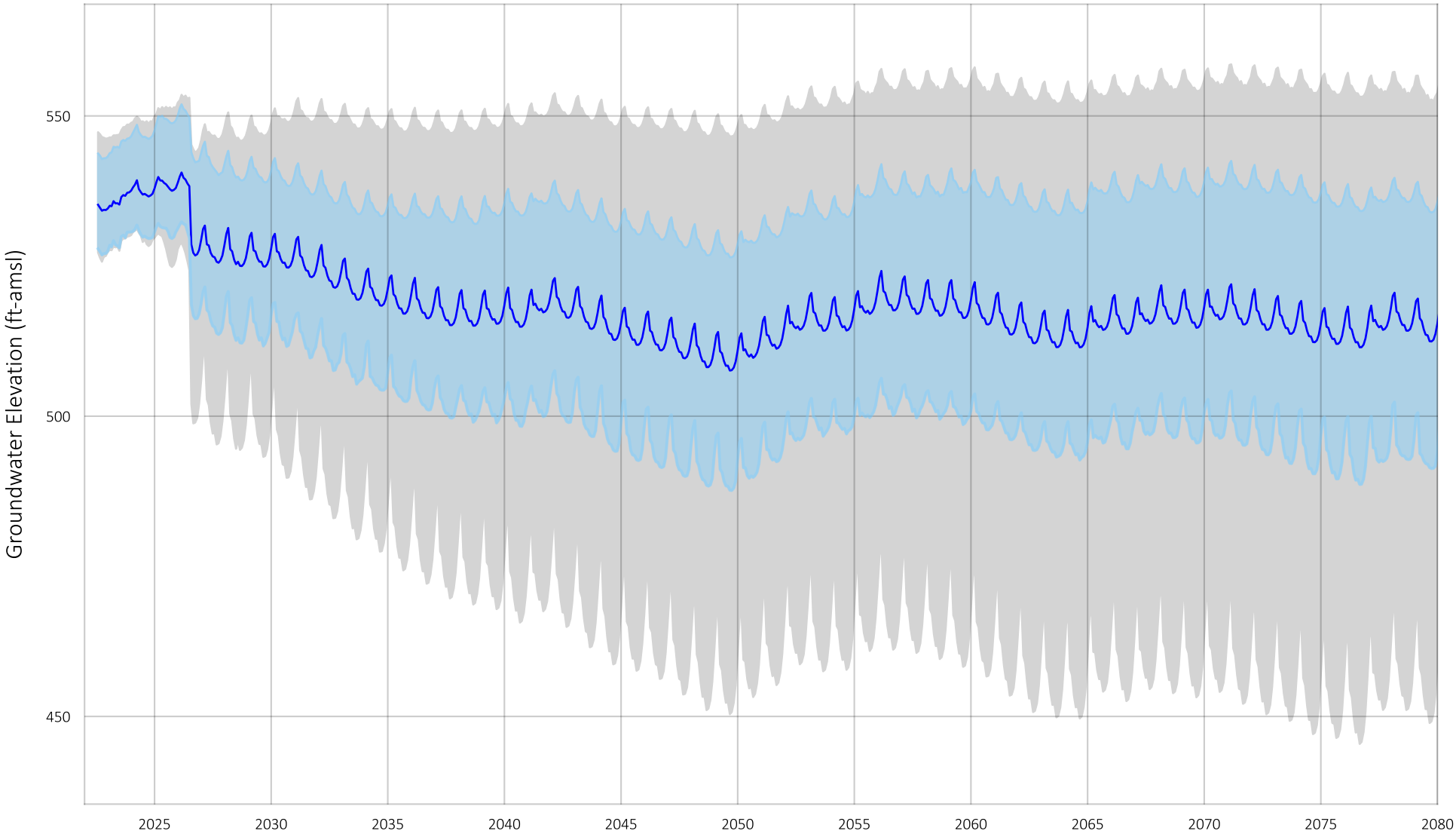
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

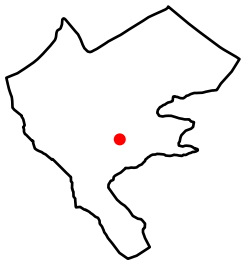
WEST YOST
Water. Engineered.

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

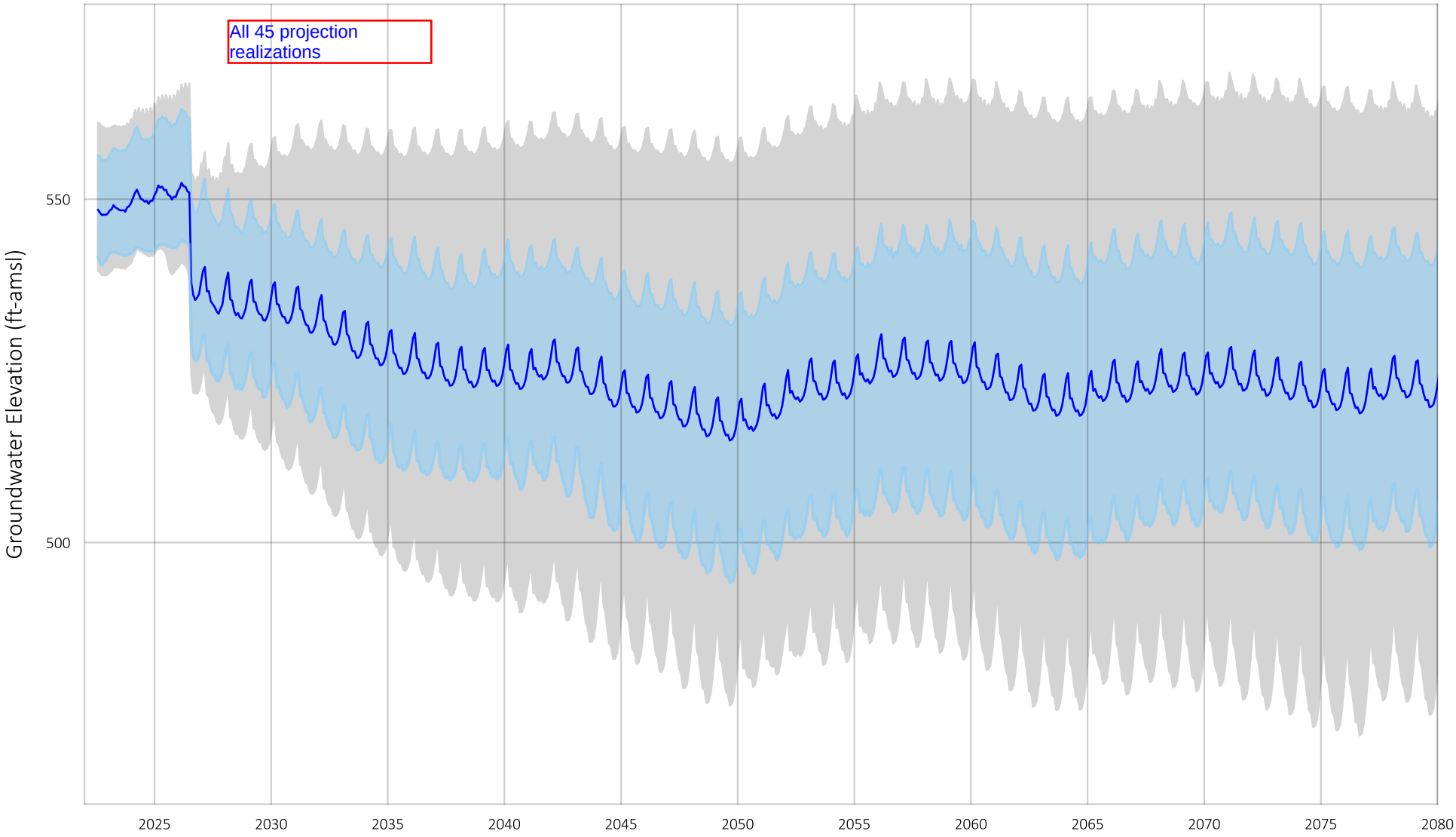
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

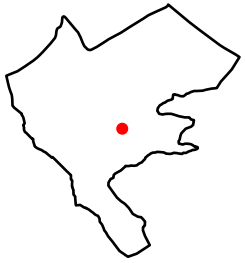
WEST YOST
Water. Engineered.

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

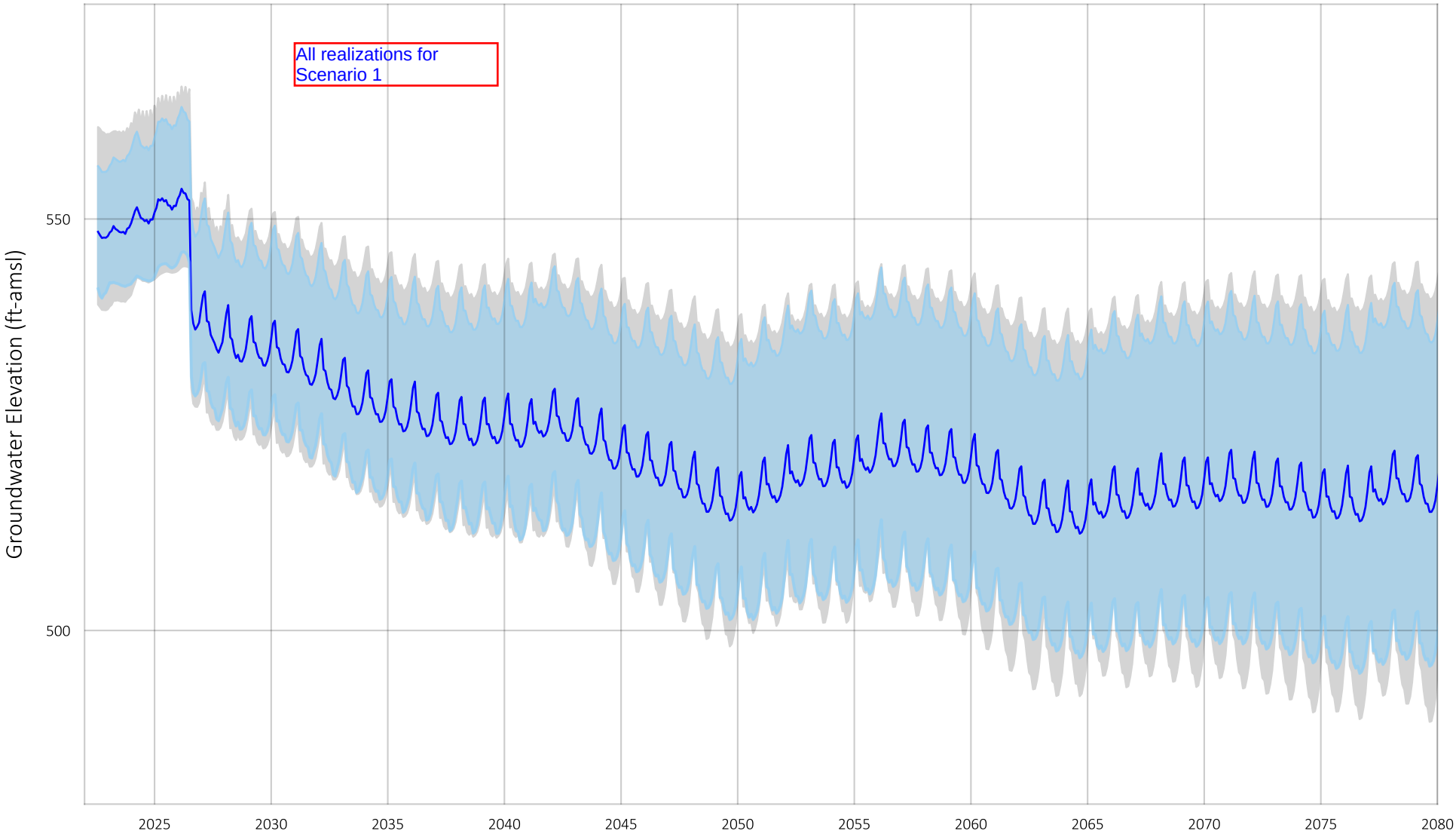
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

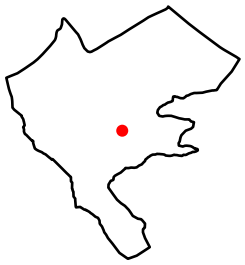
WEST YOST
Water. Engineered.

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

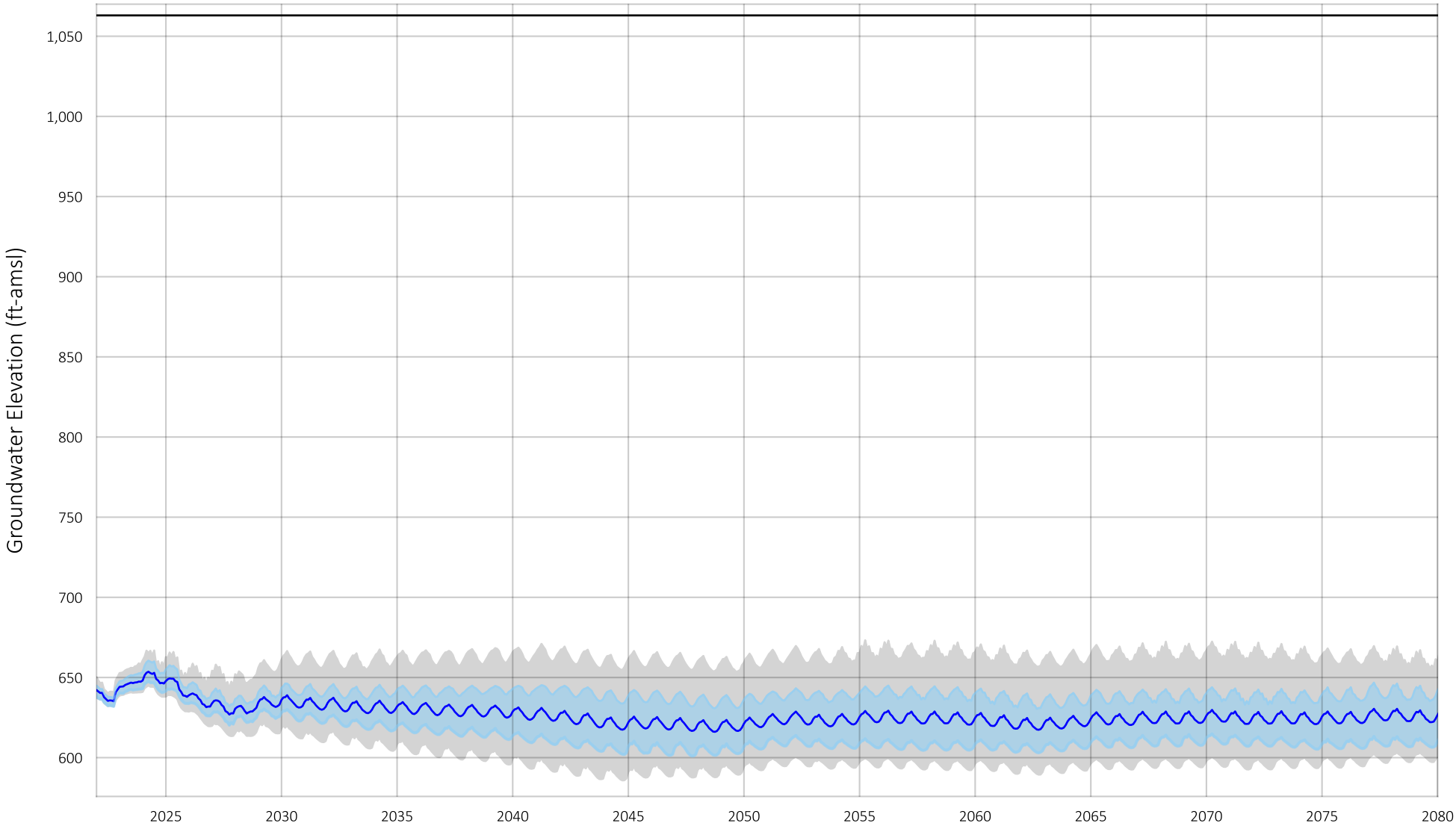
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

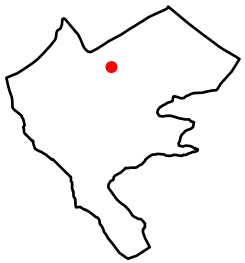
WEST YOST
Water. Engineered.

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

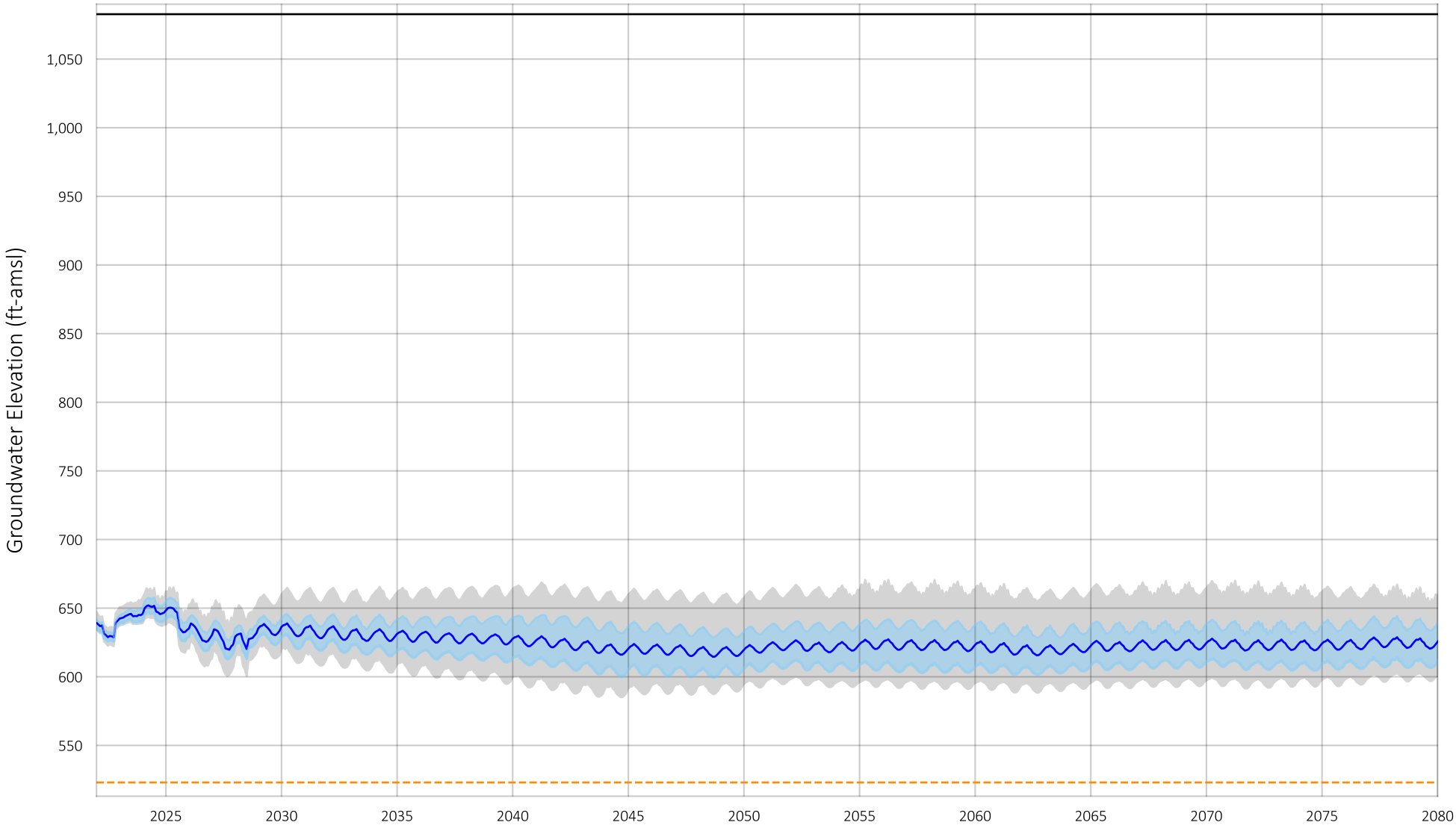
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

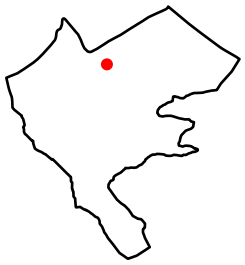
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 3
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 341 - 810

Figure D-35



Well Location



Legend

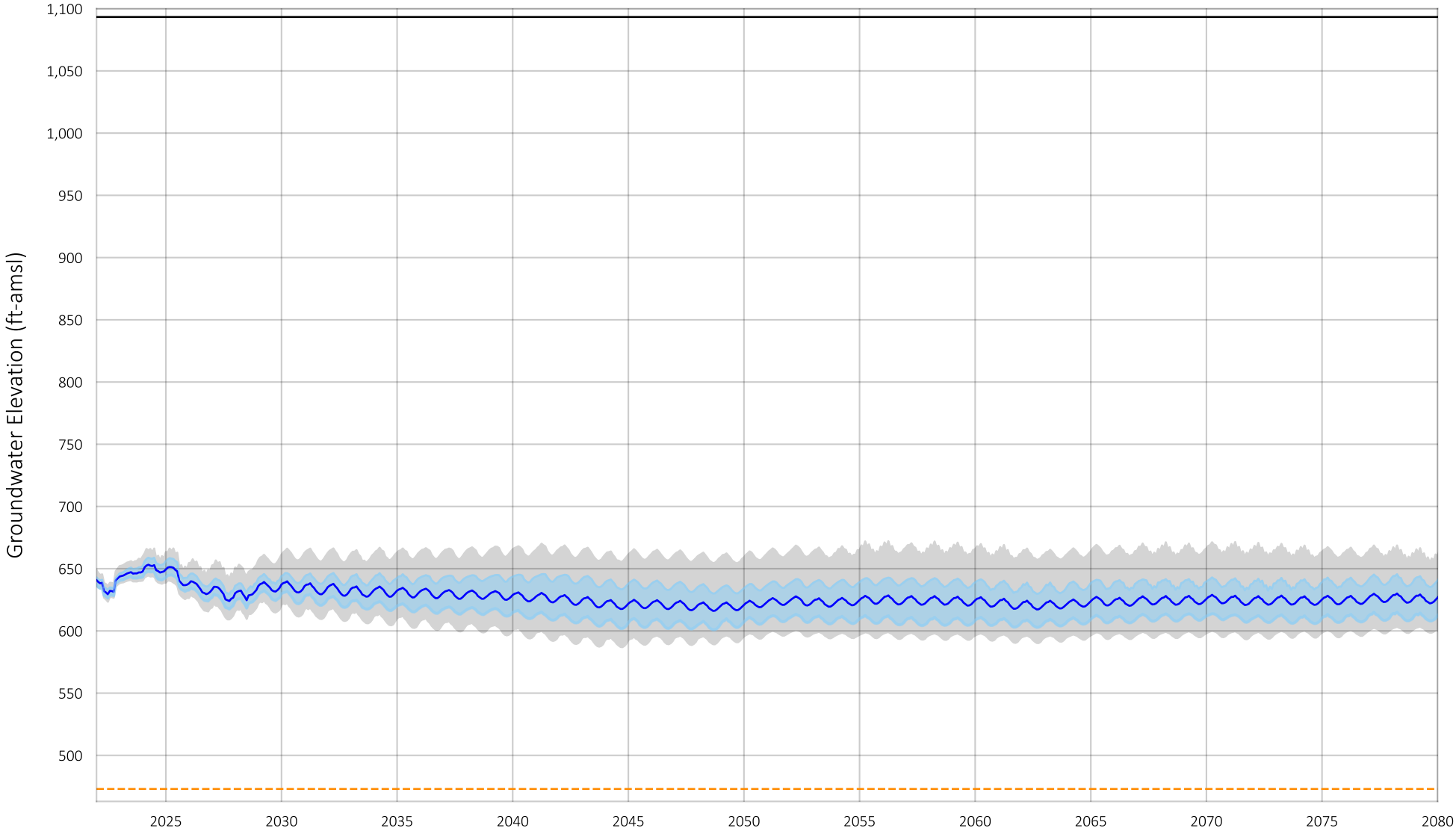
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

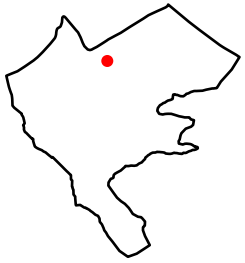
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 1
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 432 - 1184

Figure D-36



Well Location



Legend

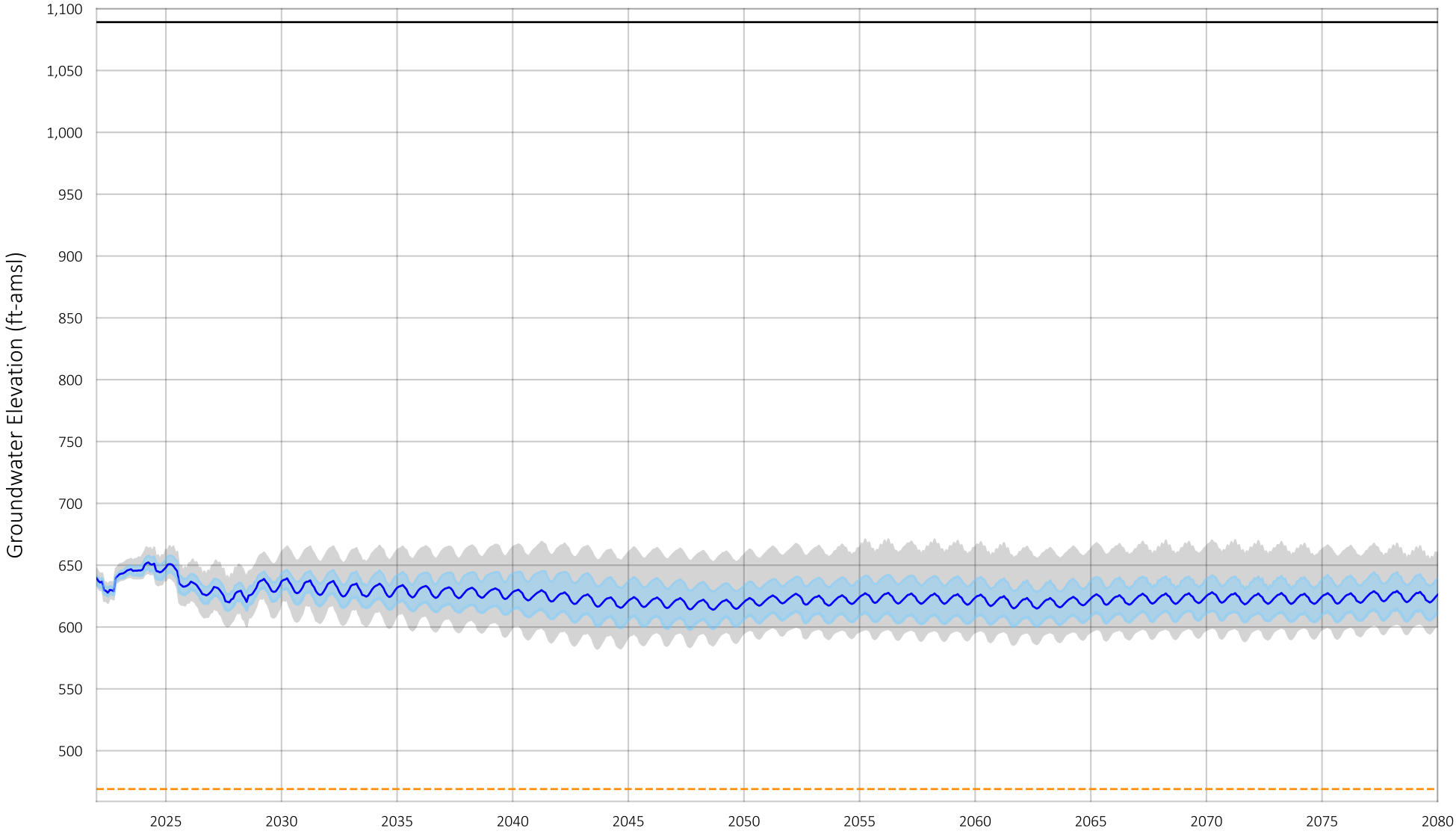
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

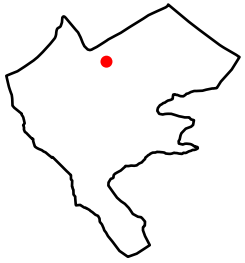
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 4
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 494 - 1032

Figure D-37



Well Location



Legend

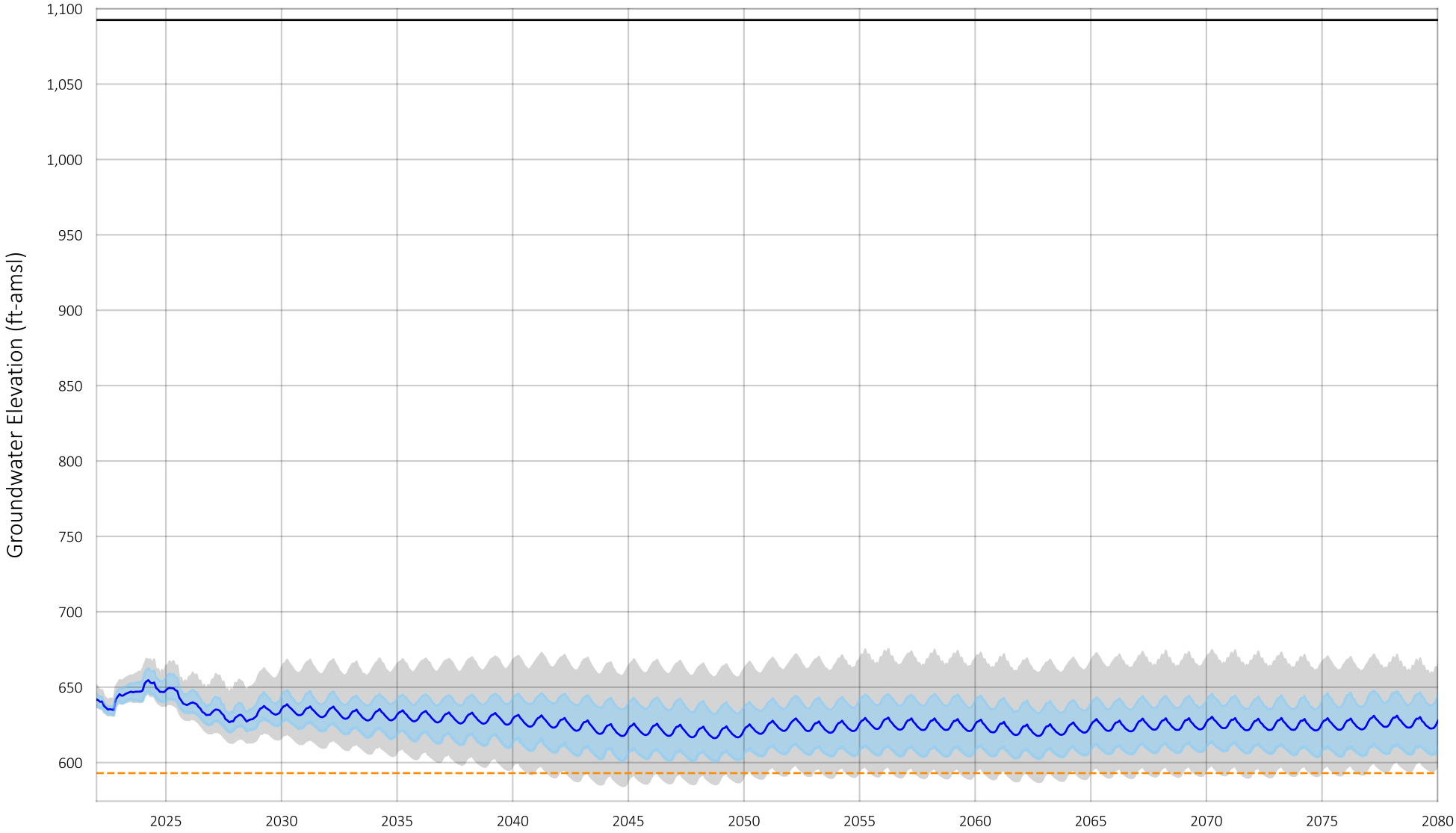
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

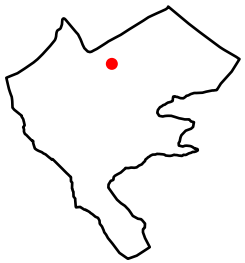
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 30
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 470 - 1240

Figure D-38



Well Location



Legend

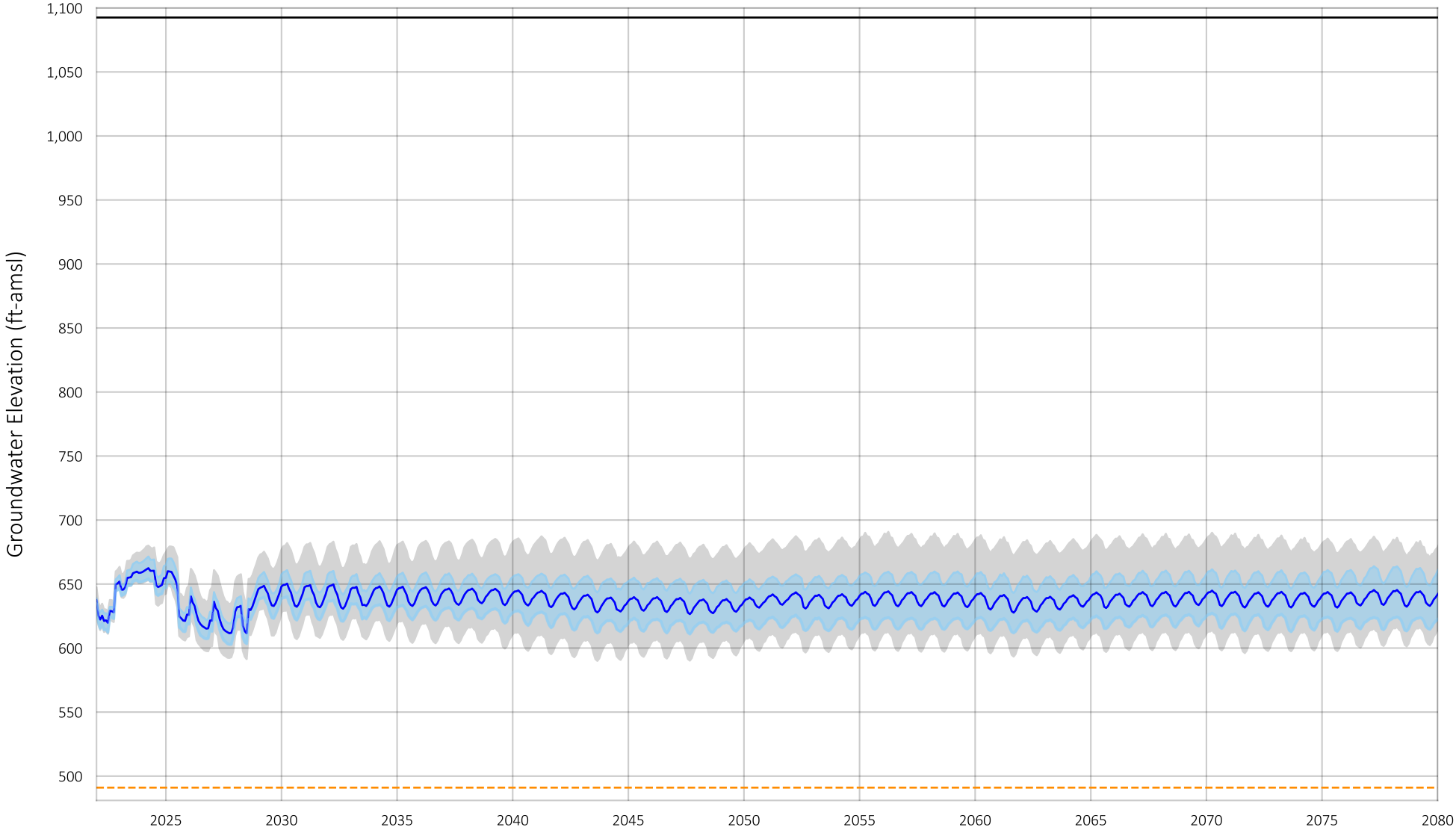
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

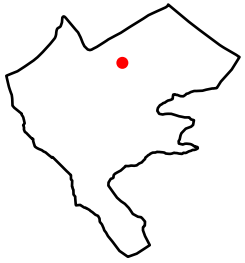
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 5
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 538 - 1238

Figure D-39



Well Location



Legend

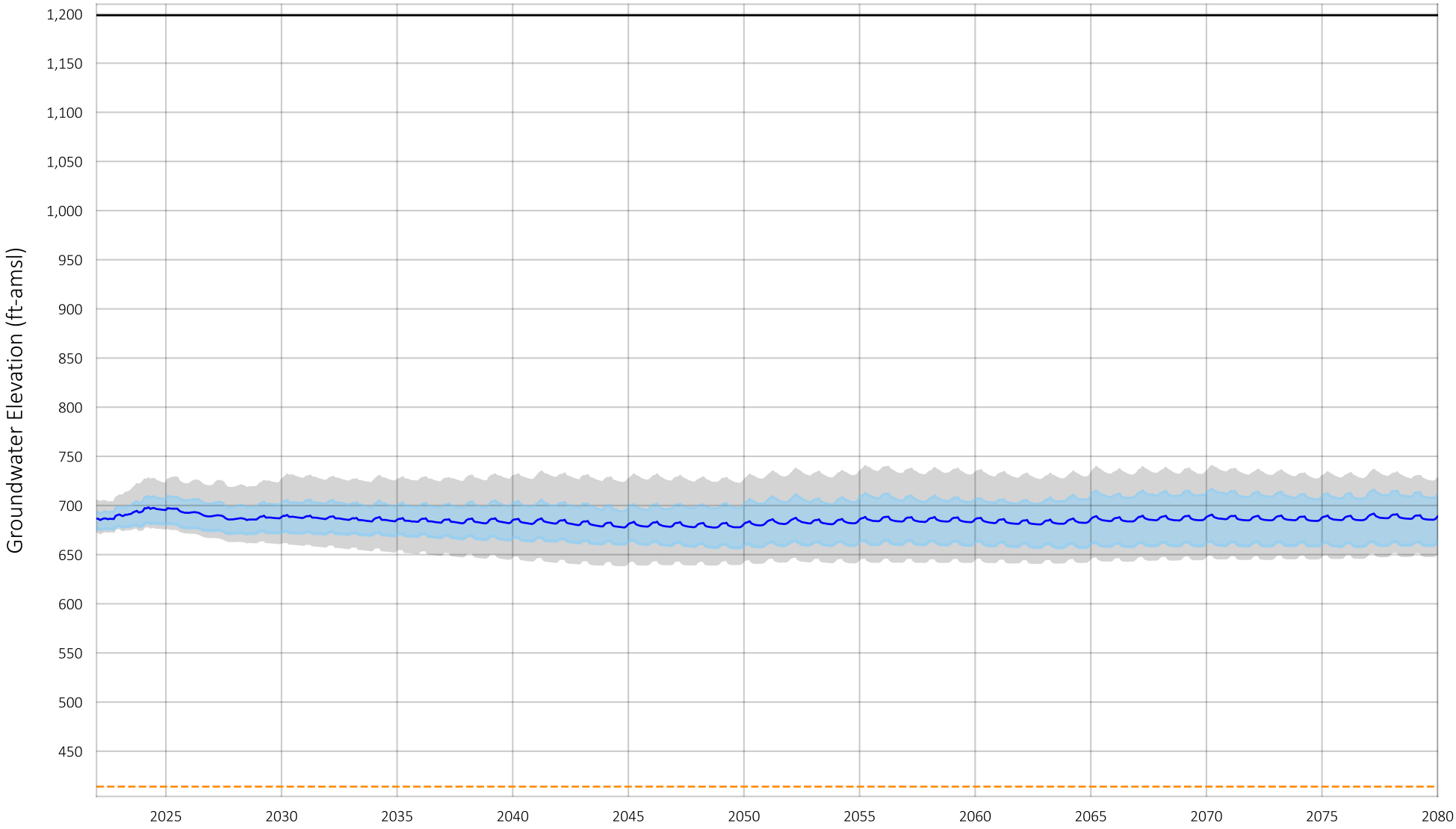
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

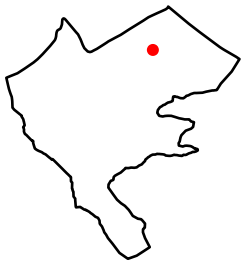
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 42
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 650 - 990

Figure D-40



Well Location



Legend

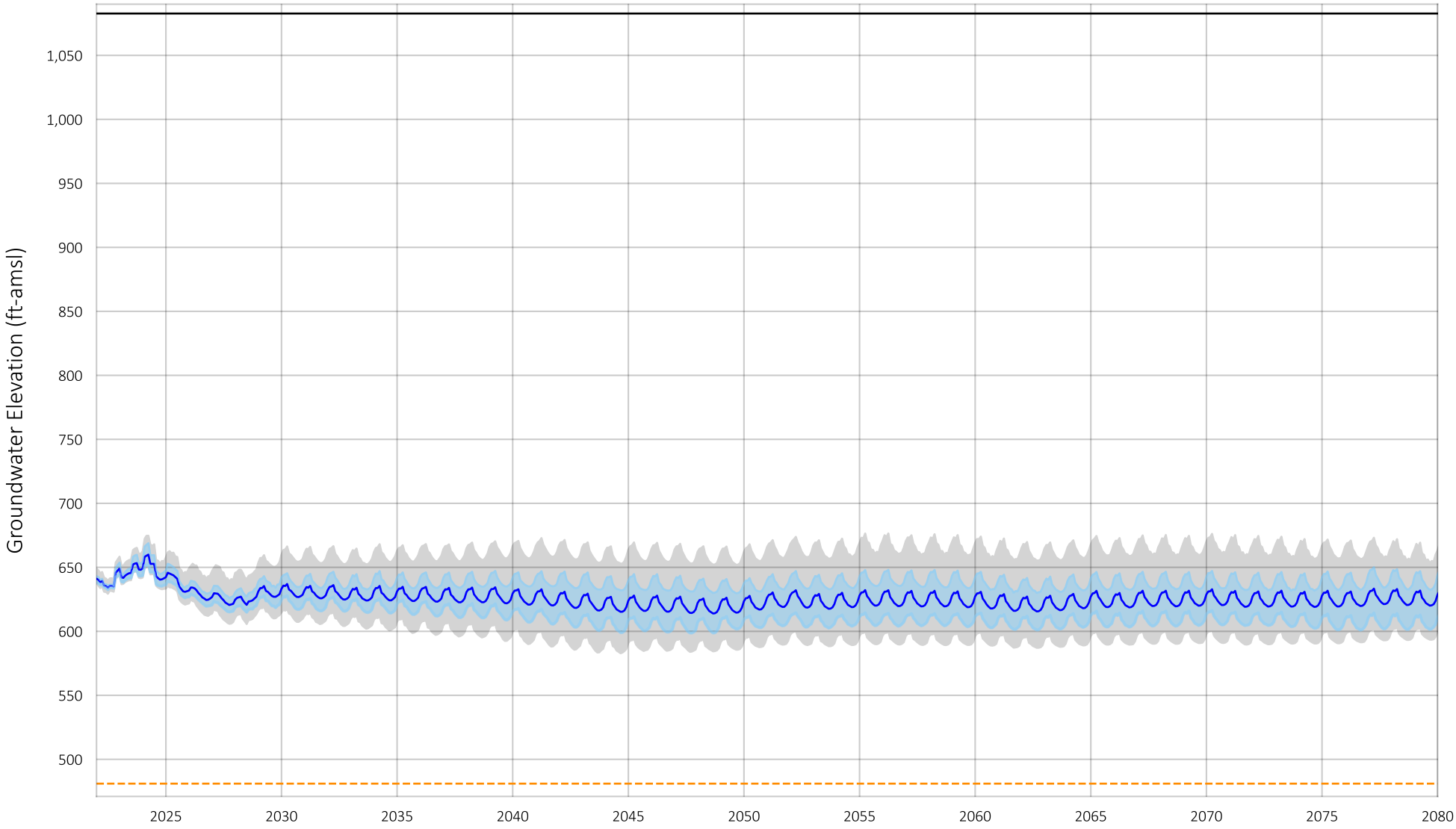
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

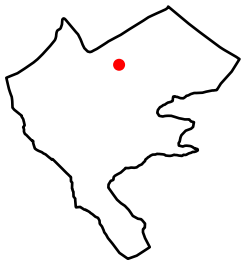
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 43
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 650 - 800

Figure D-41



Well Location



Legend

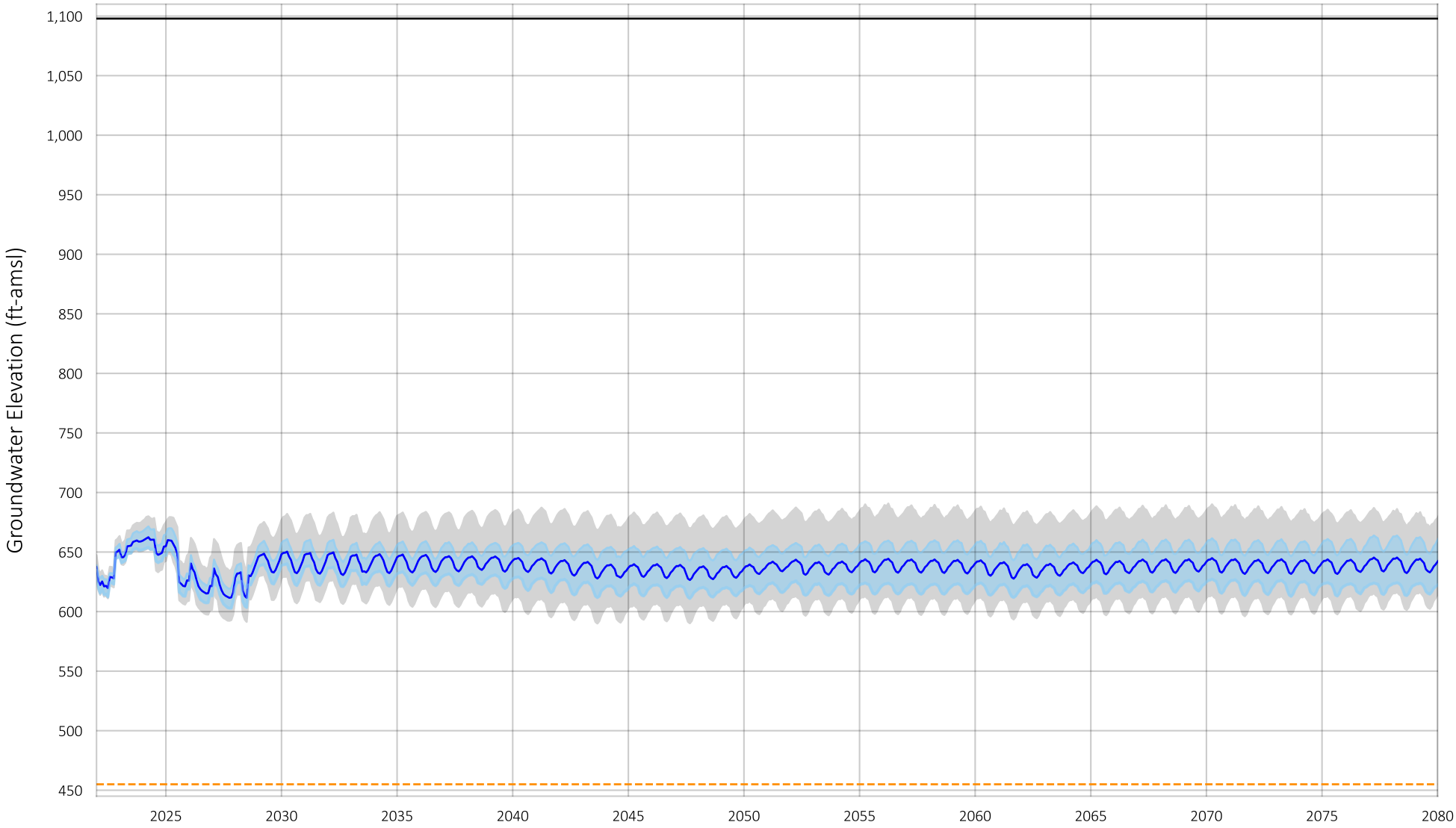
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

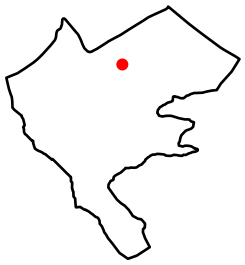
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 46
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 650 - 990

Figure D-42



Well Location



Legend

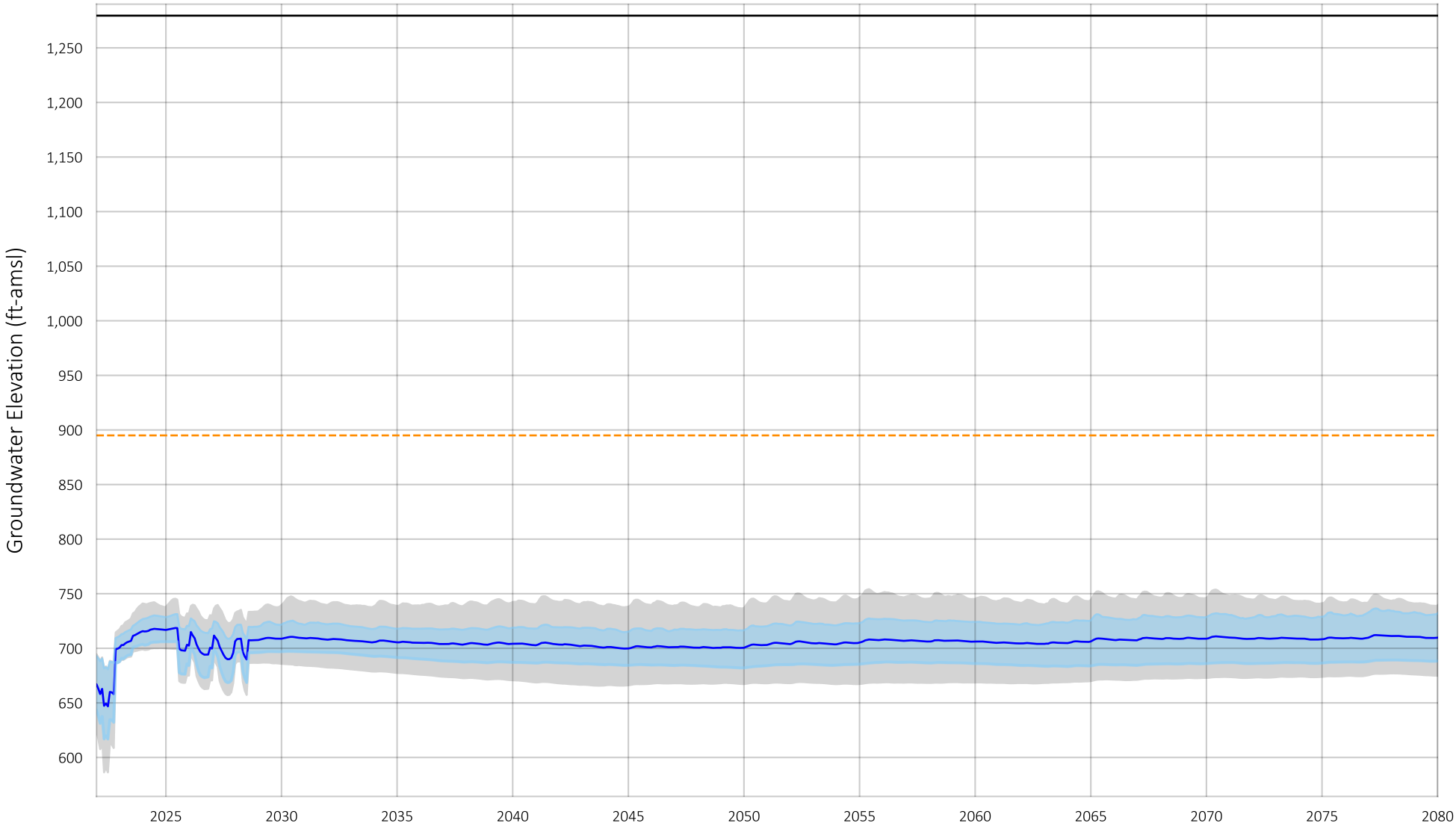
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

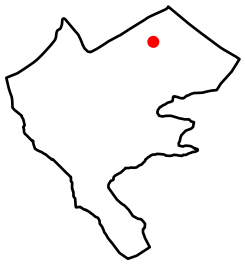
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 41
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 647 - 987

Figure D-43



Well Location



Legend

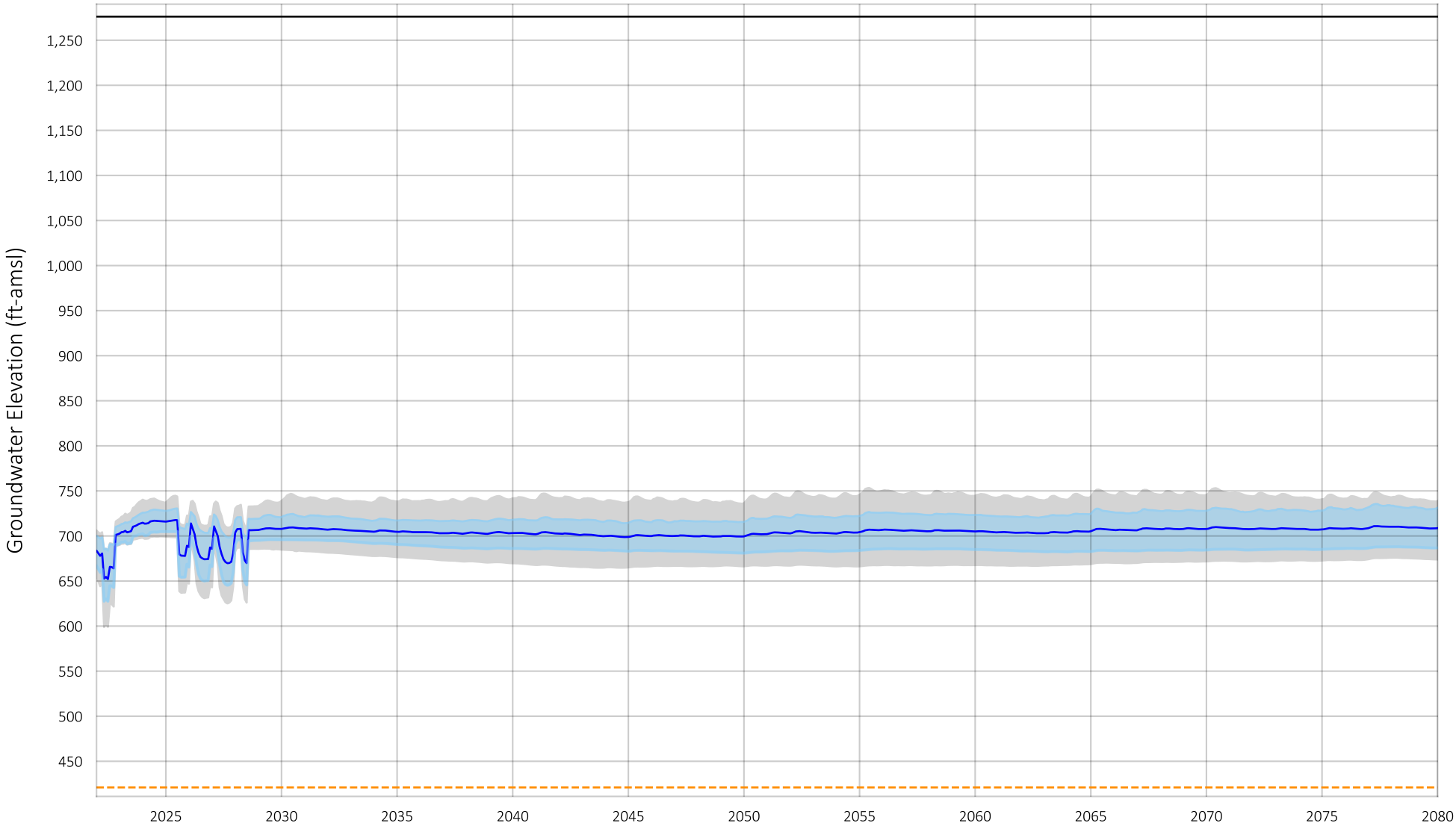
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

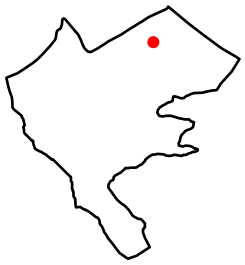
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 39
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 750 - 1130

Figure D-44



Well Location



Legend

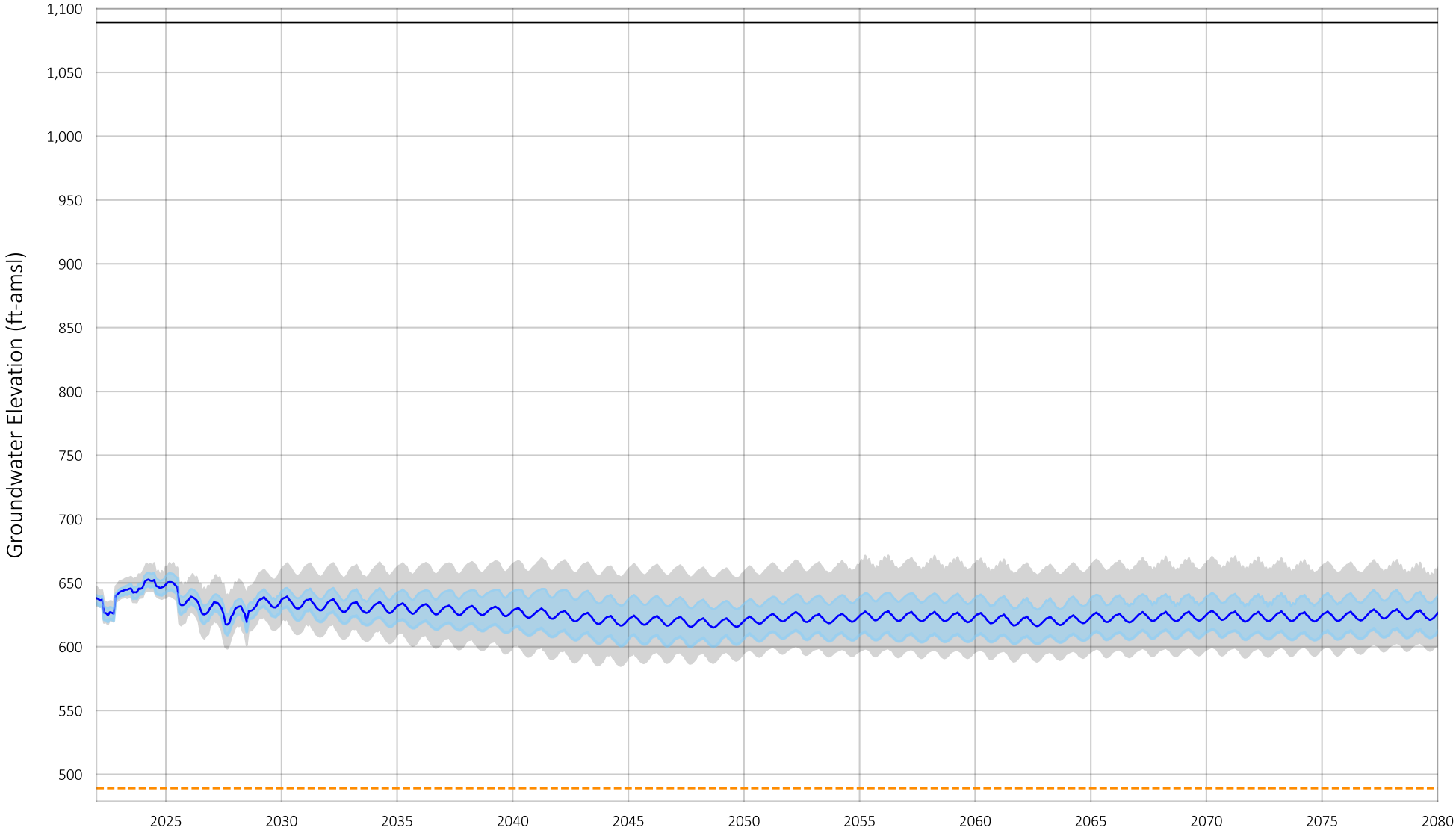
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

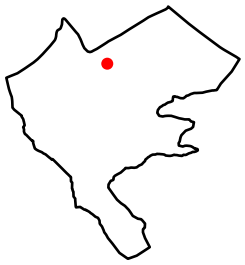
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 40
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 750 - 1070

Figure D-45



Well Location



Legend

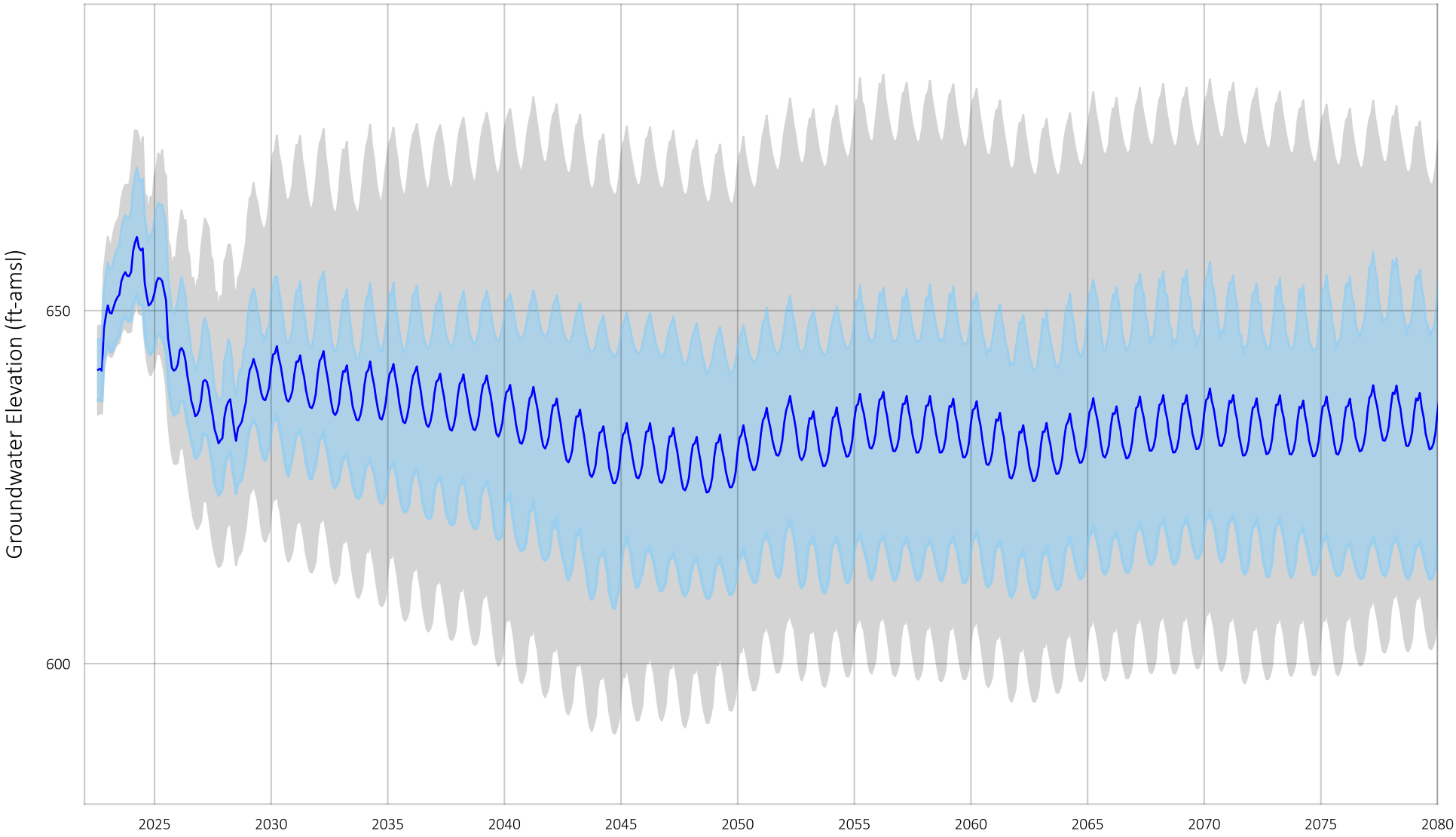
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

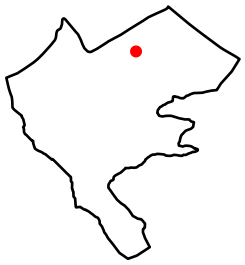
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 38
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): 610 - 1180

Figure D-46



Well Location



Legend

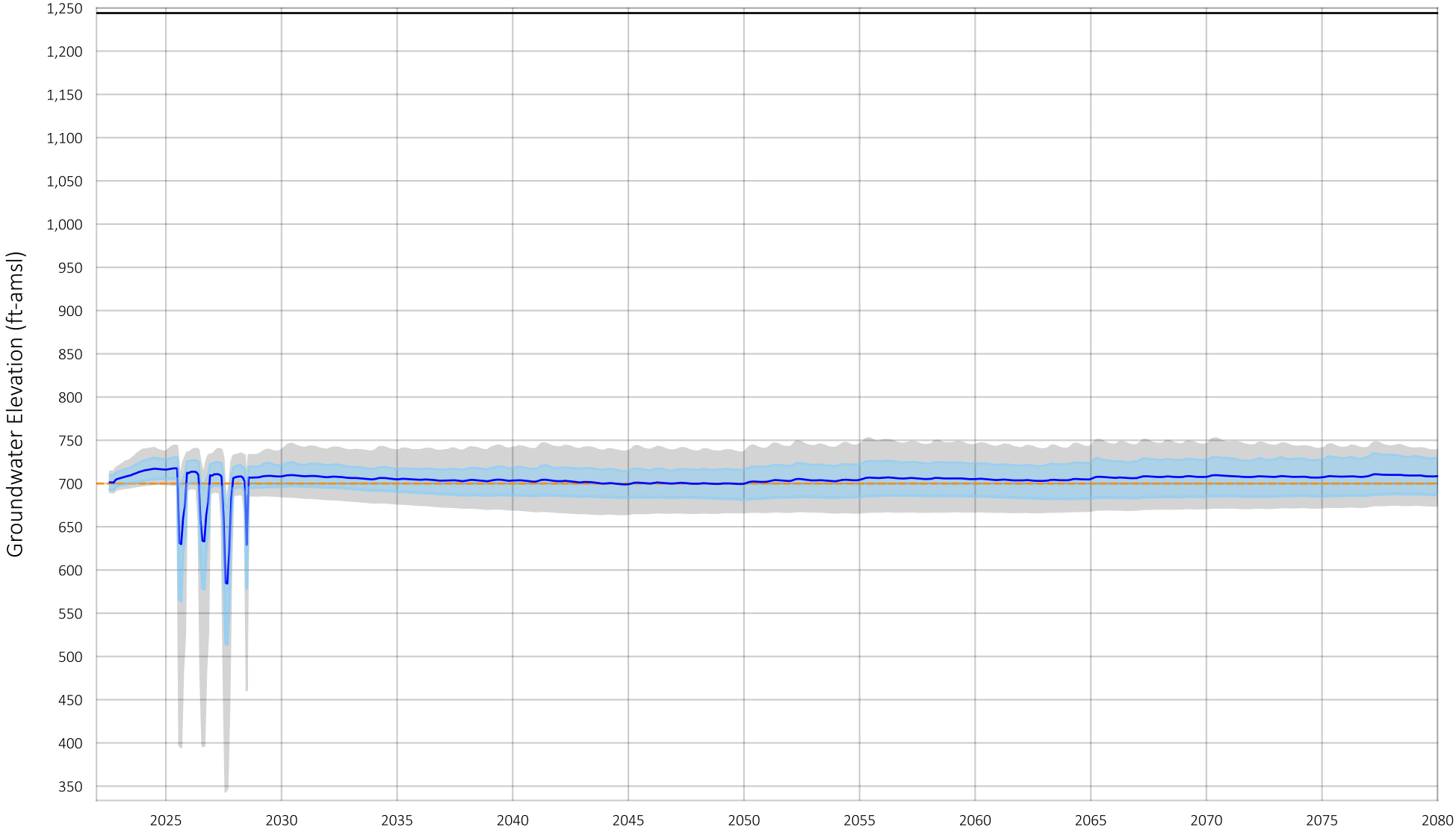
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

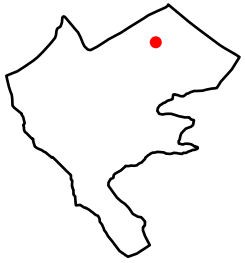
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ASR2-CB-50
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): no data - no data

Figure D-47



Well Location



Legend

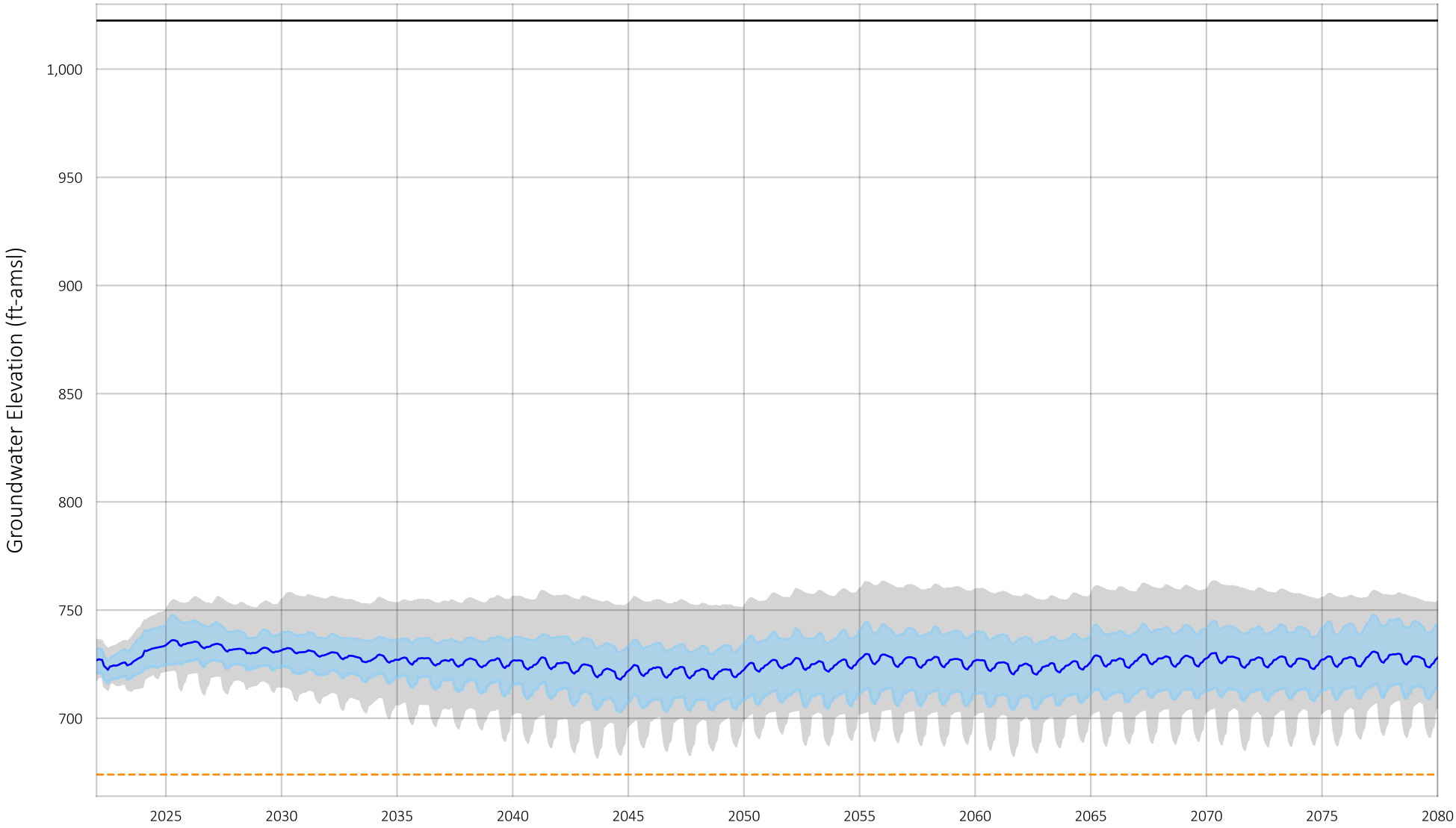
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

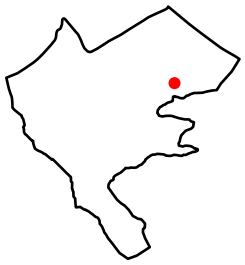
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CVWD 48
Well Owner: Cucamonga Valley Water District
Screen Interval (ft-bgs): no data - no data

Figure D-48



Well Location



Legend

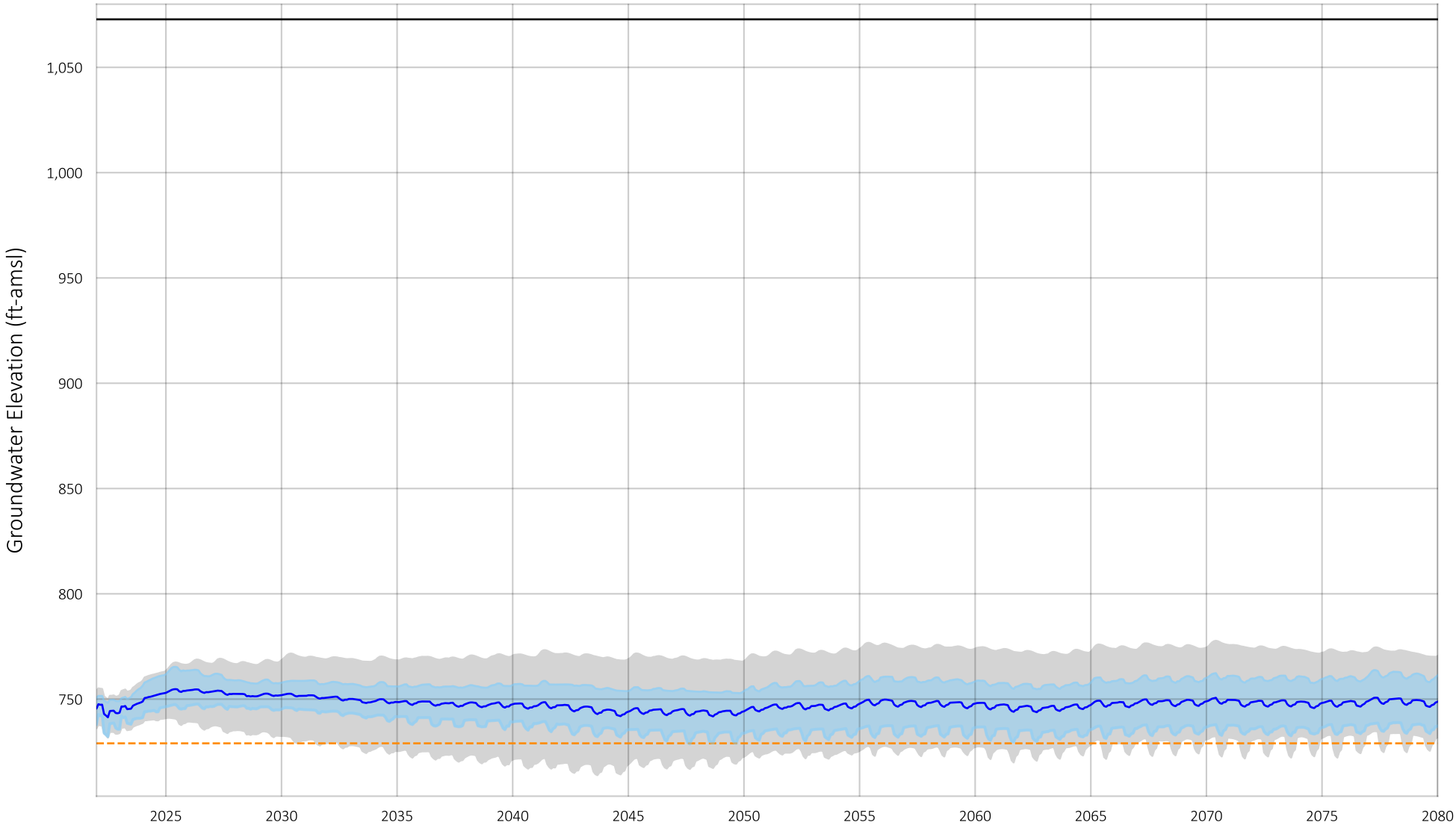
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

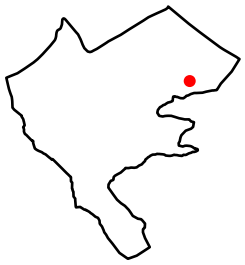
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F21B
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 530 - 610

Figure D-49



Well Location



Legend

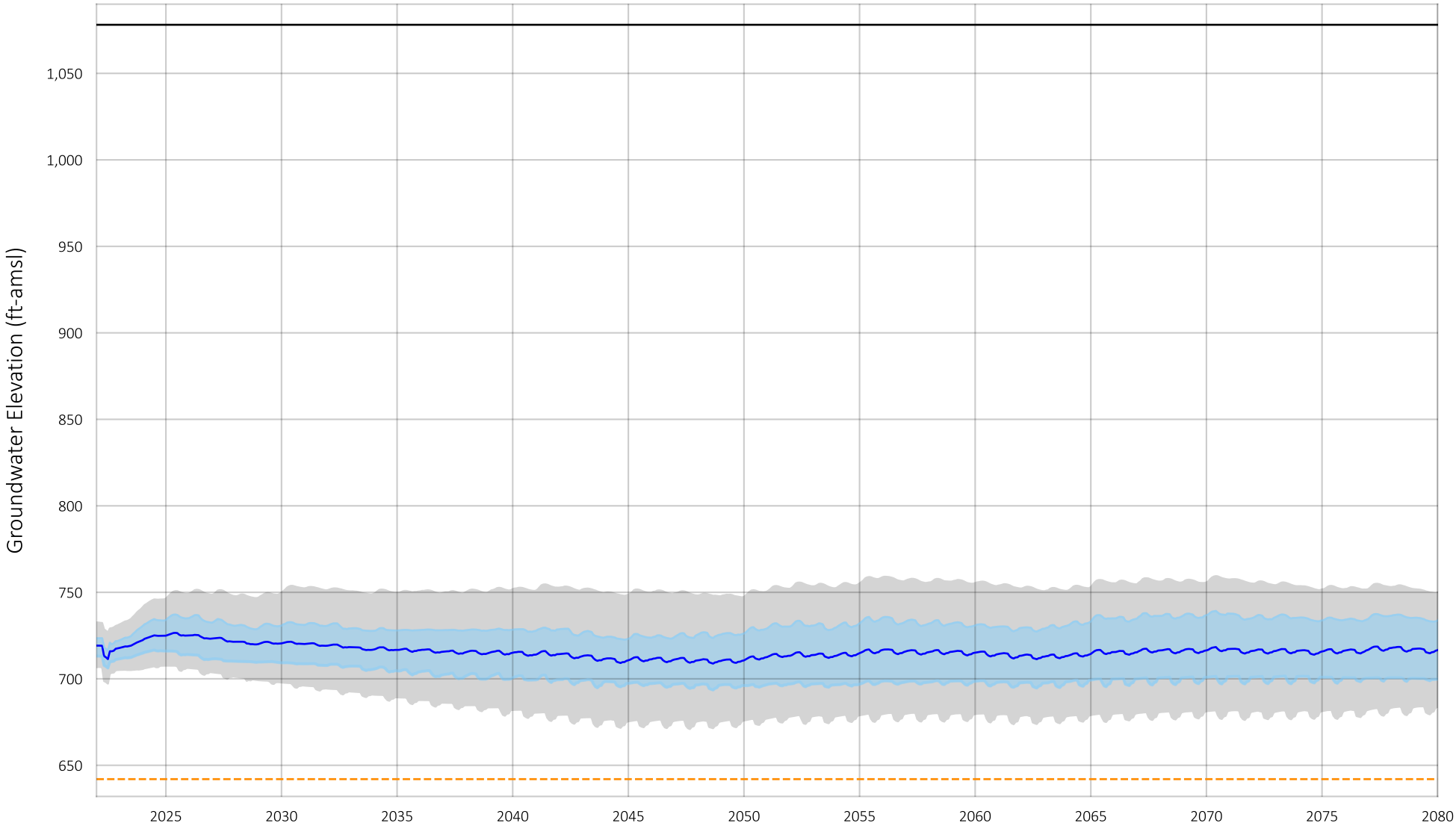
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

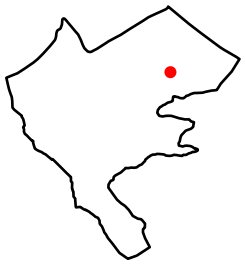
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F23A
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 450 - 740

Figure D-50



Well Location



Legend

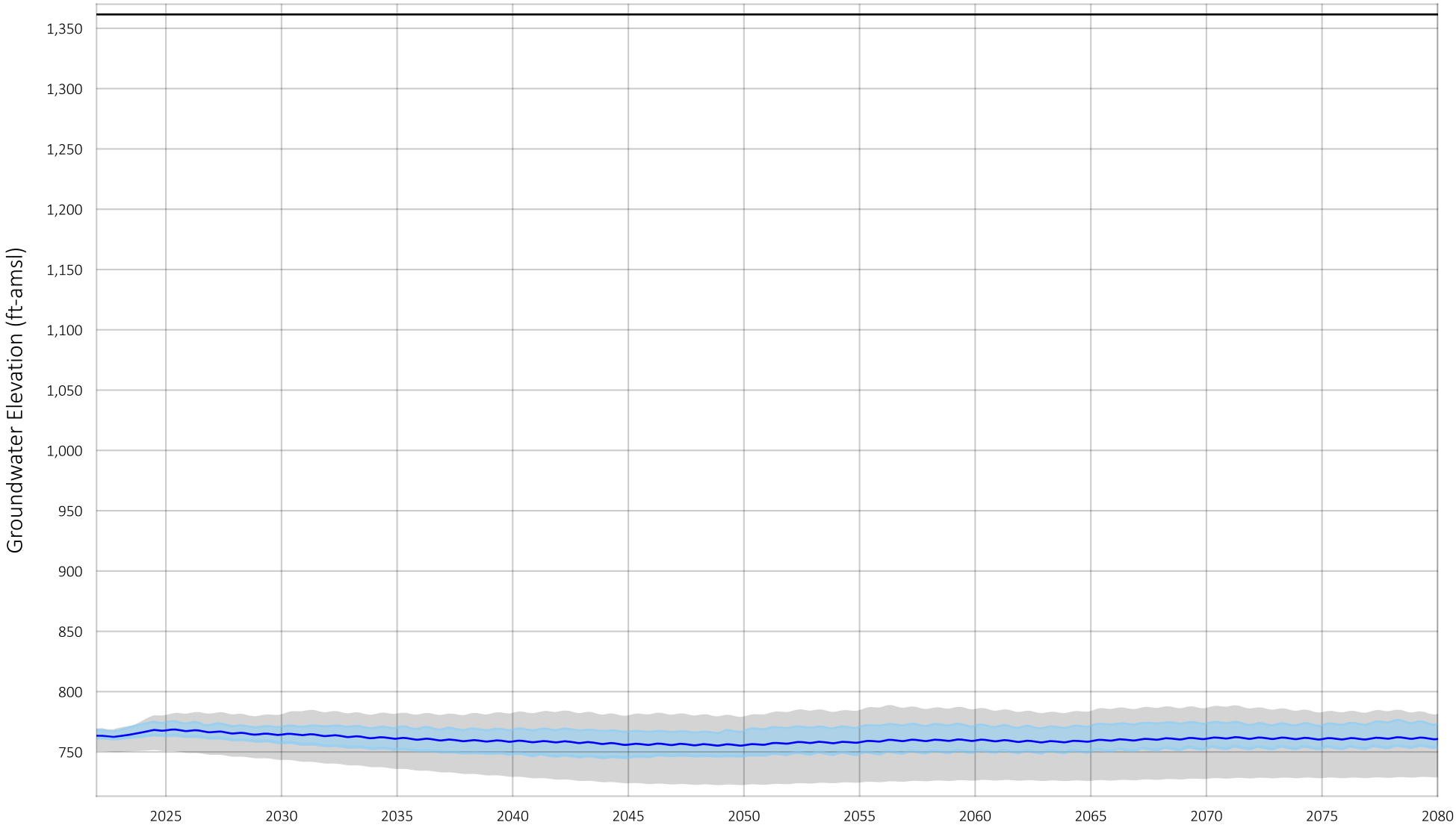
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

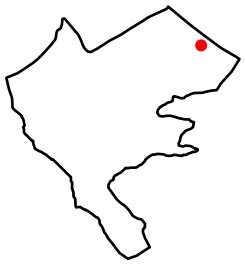
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F17B
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 500 - 860

Figure D-51



Well Location



Legend

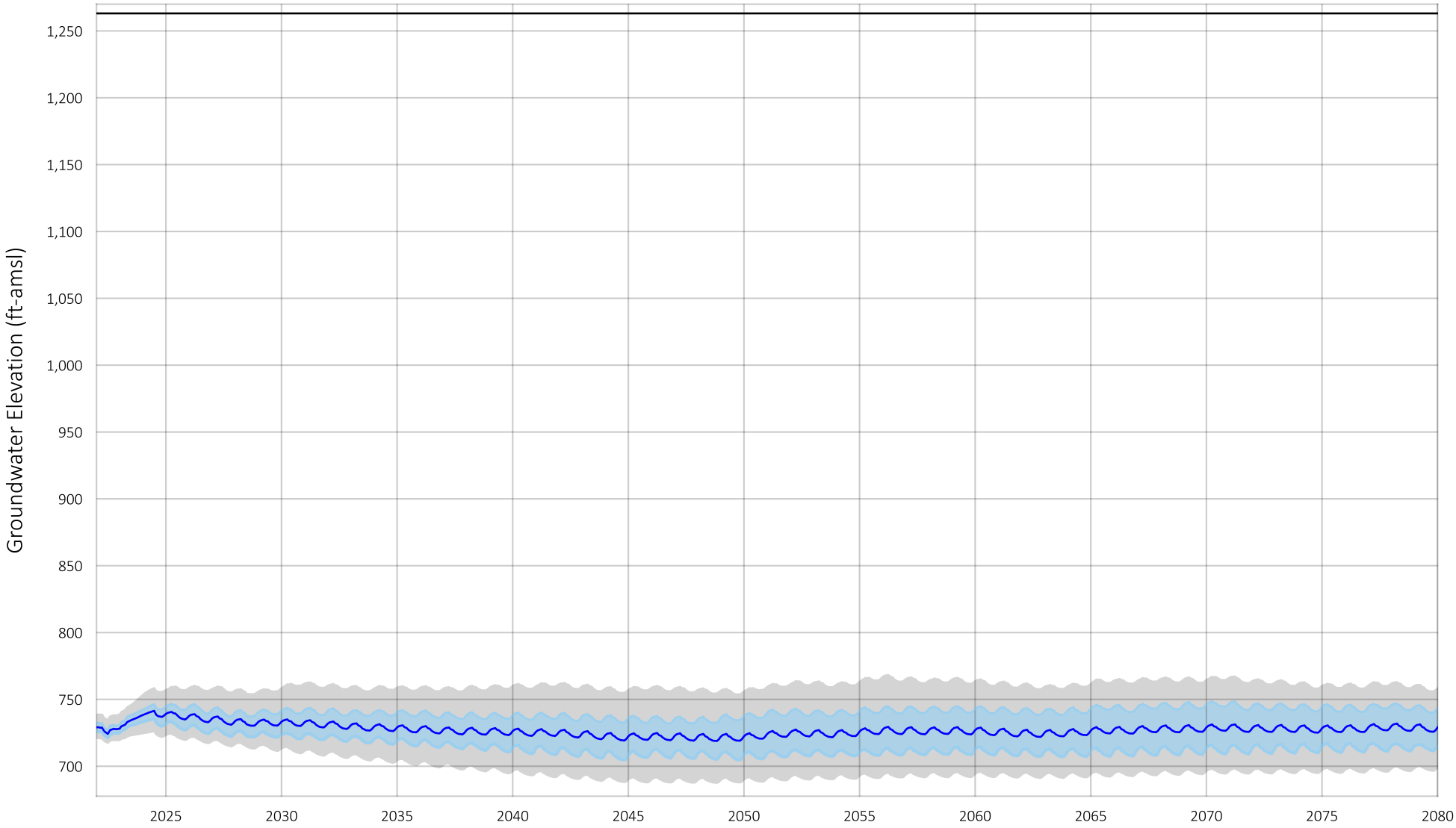
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

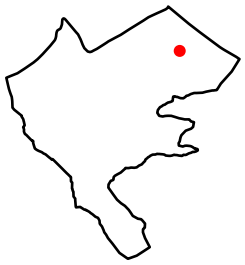
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F18A
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 650 - 860

Figure D-52



Well Location



Legend

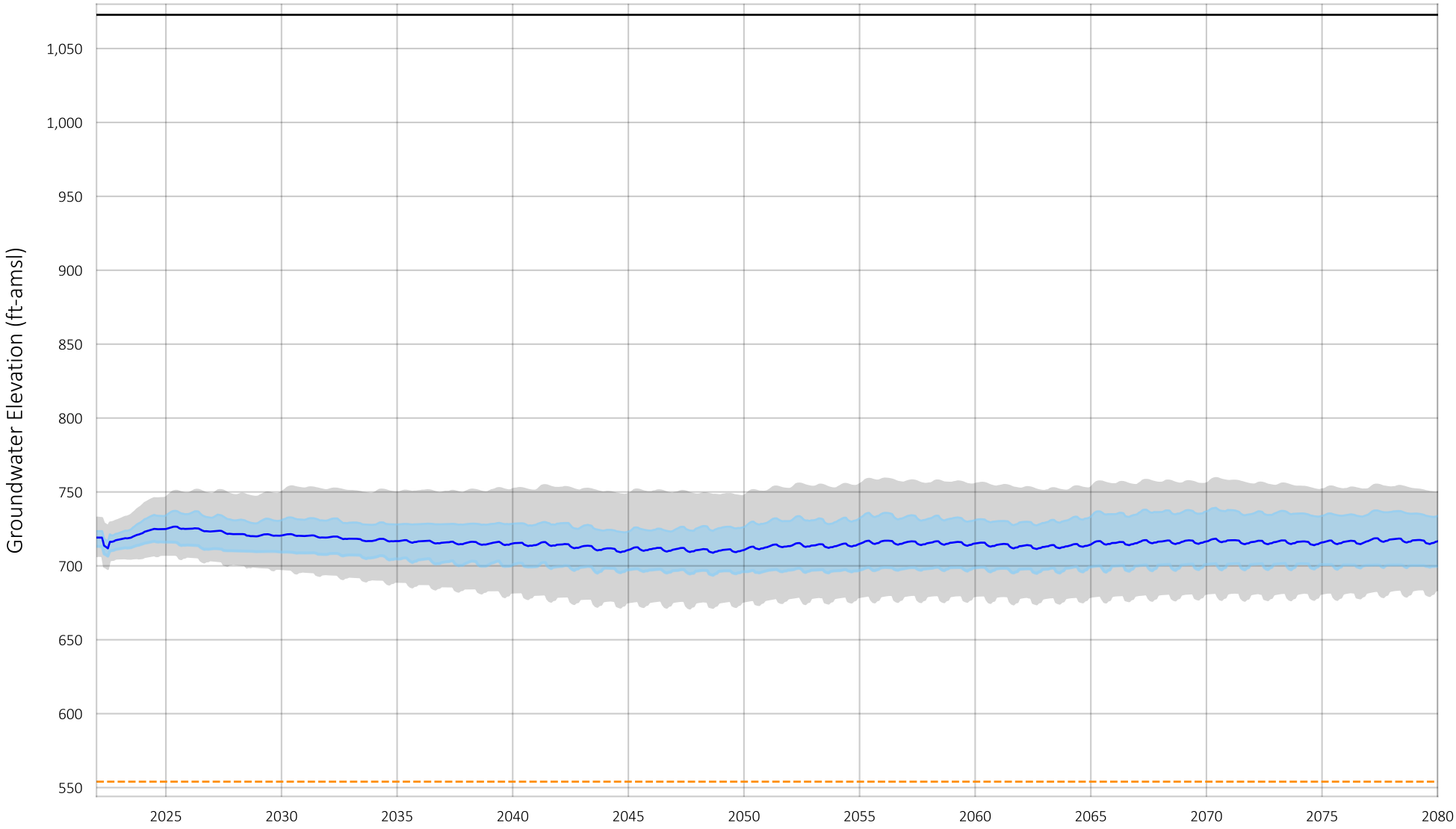
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

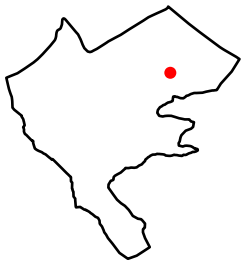
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F2A
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 580 - 900

Figure D-53



Well Location



Legend

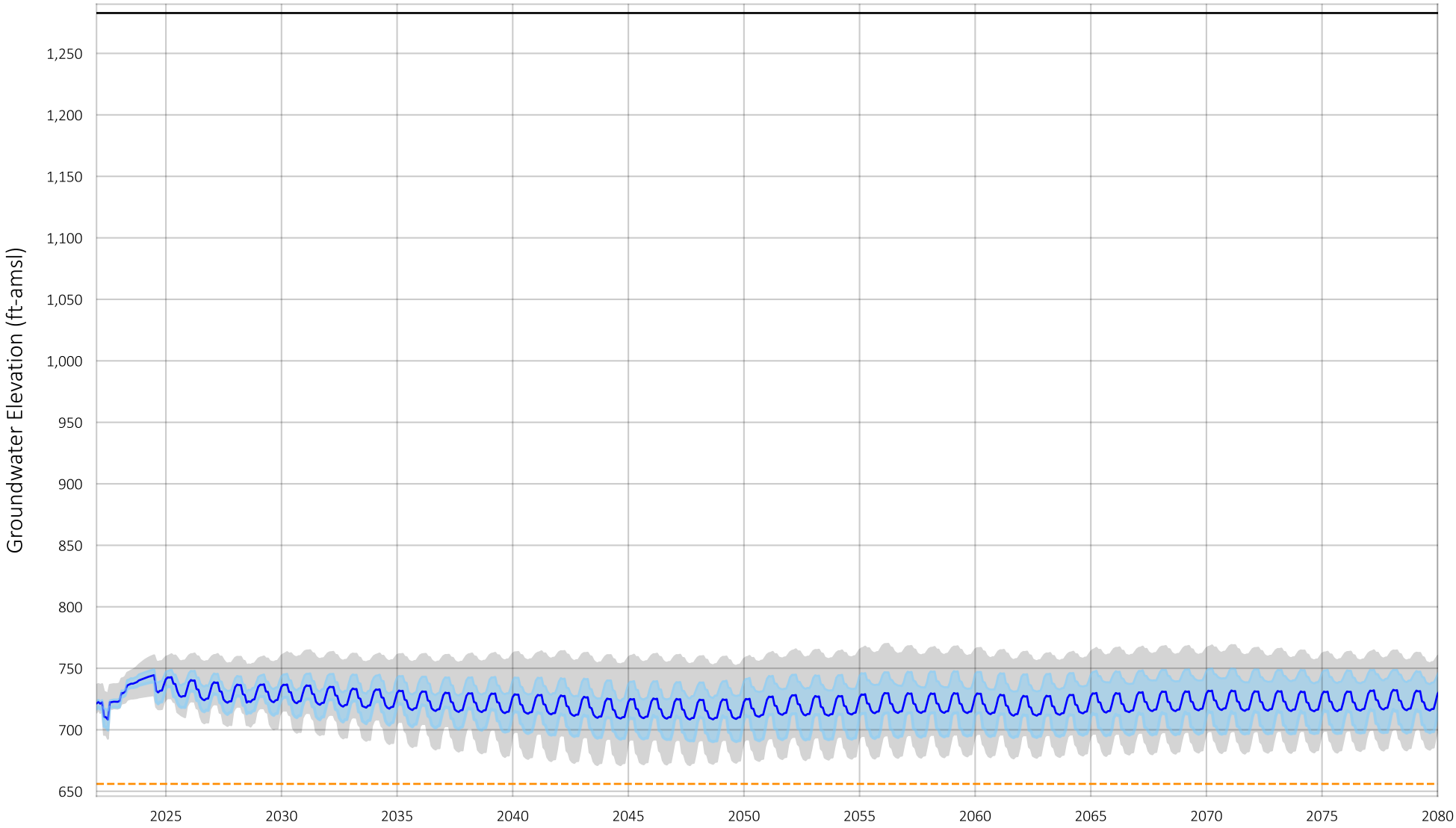
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

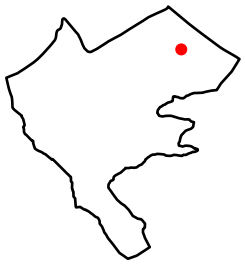
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F17C
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 500 - 910

Figure D-54



Well Location



Legend

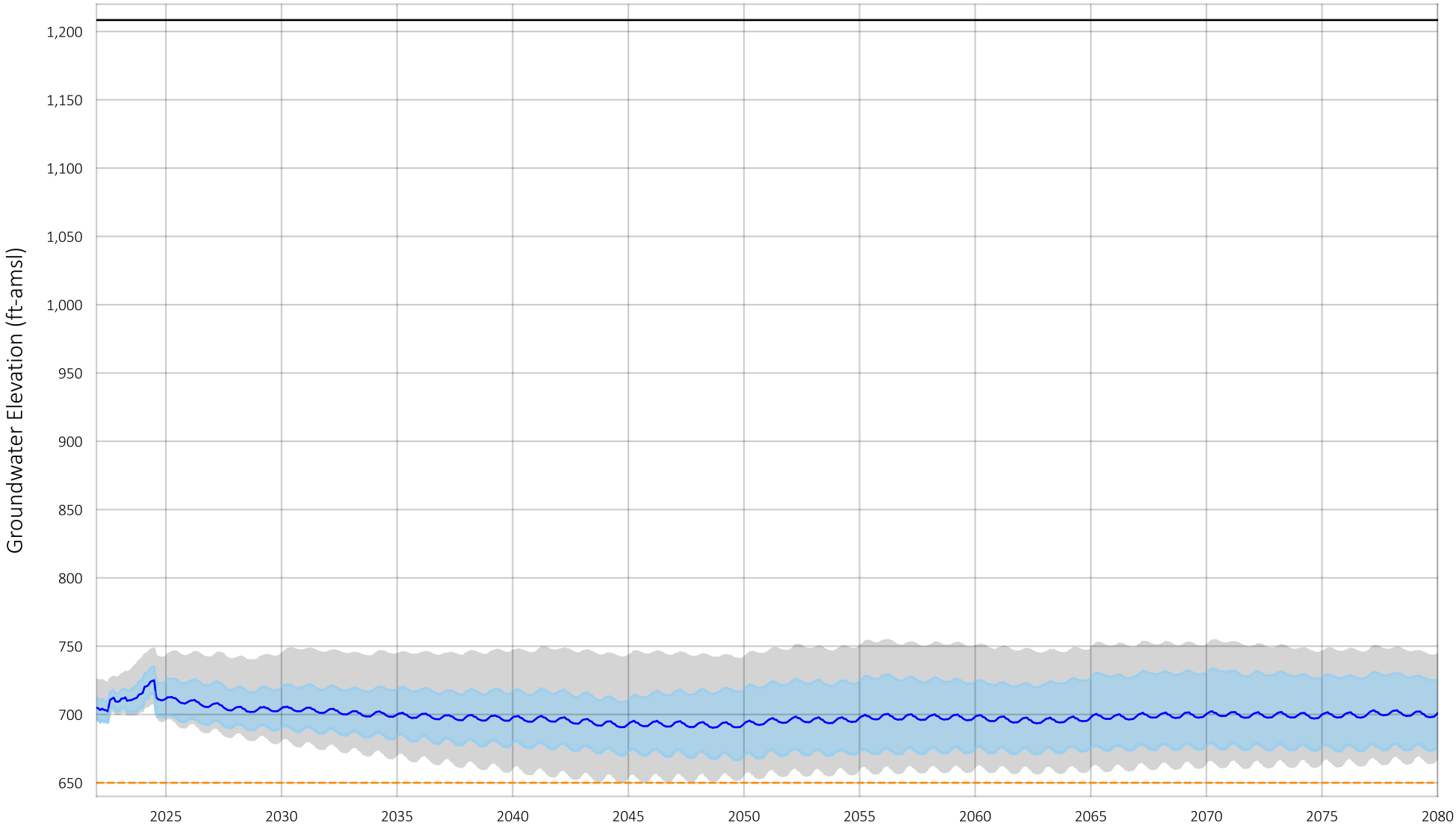
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

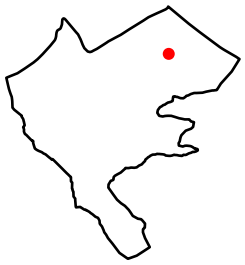
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F44A
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 570 - 950

Figure D-55



Well Location



Legend

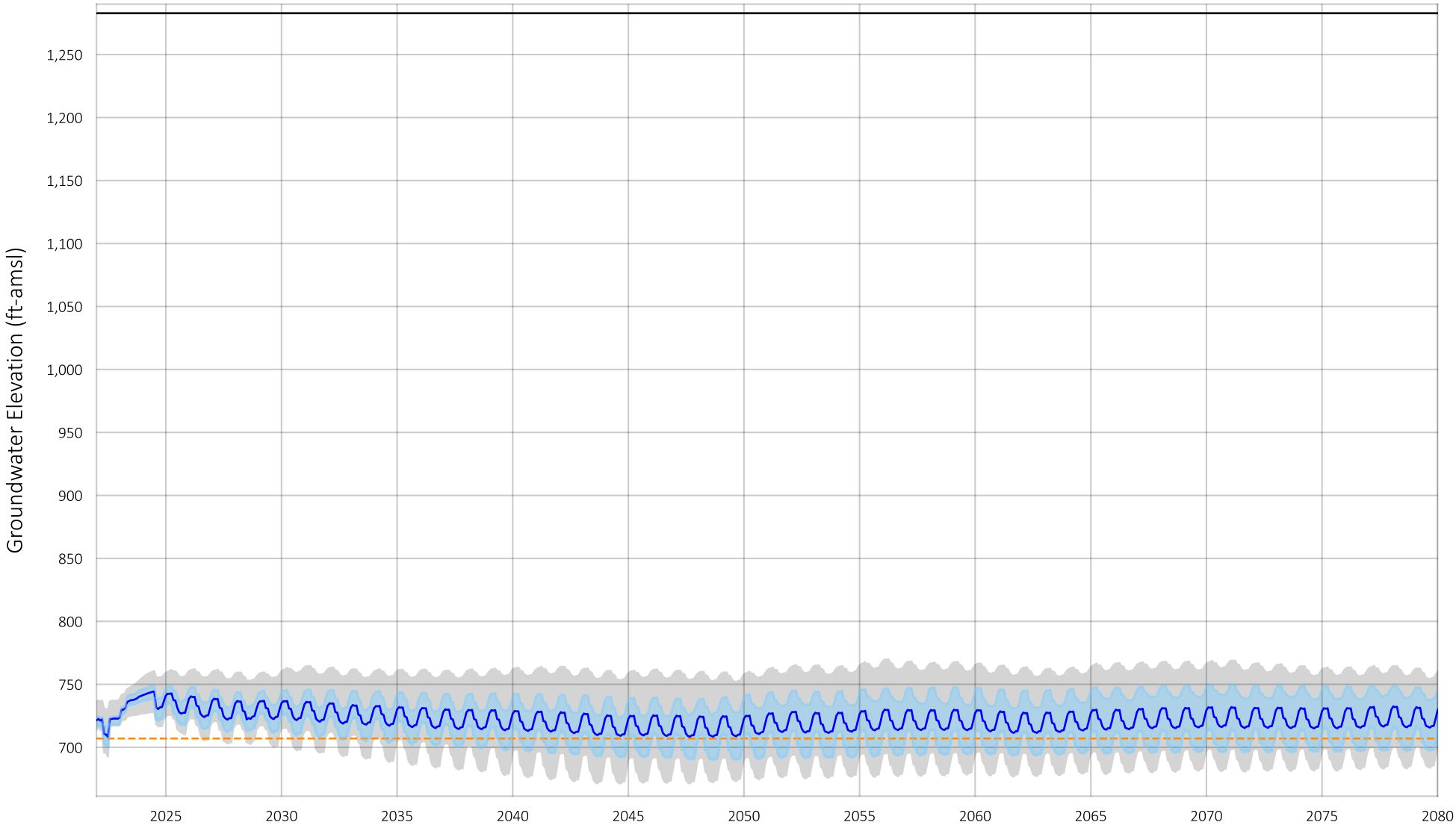
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

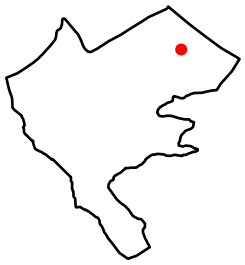
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F7B
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 600 - 990

Figure D-56



Well Location



Legend

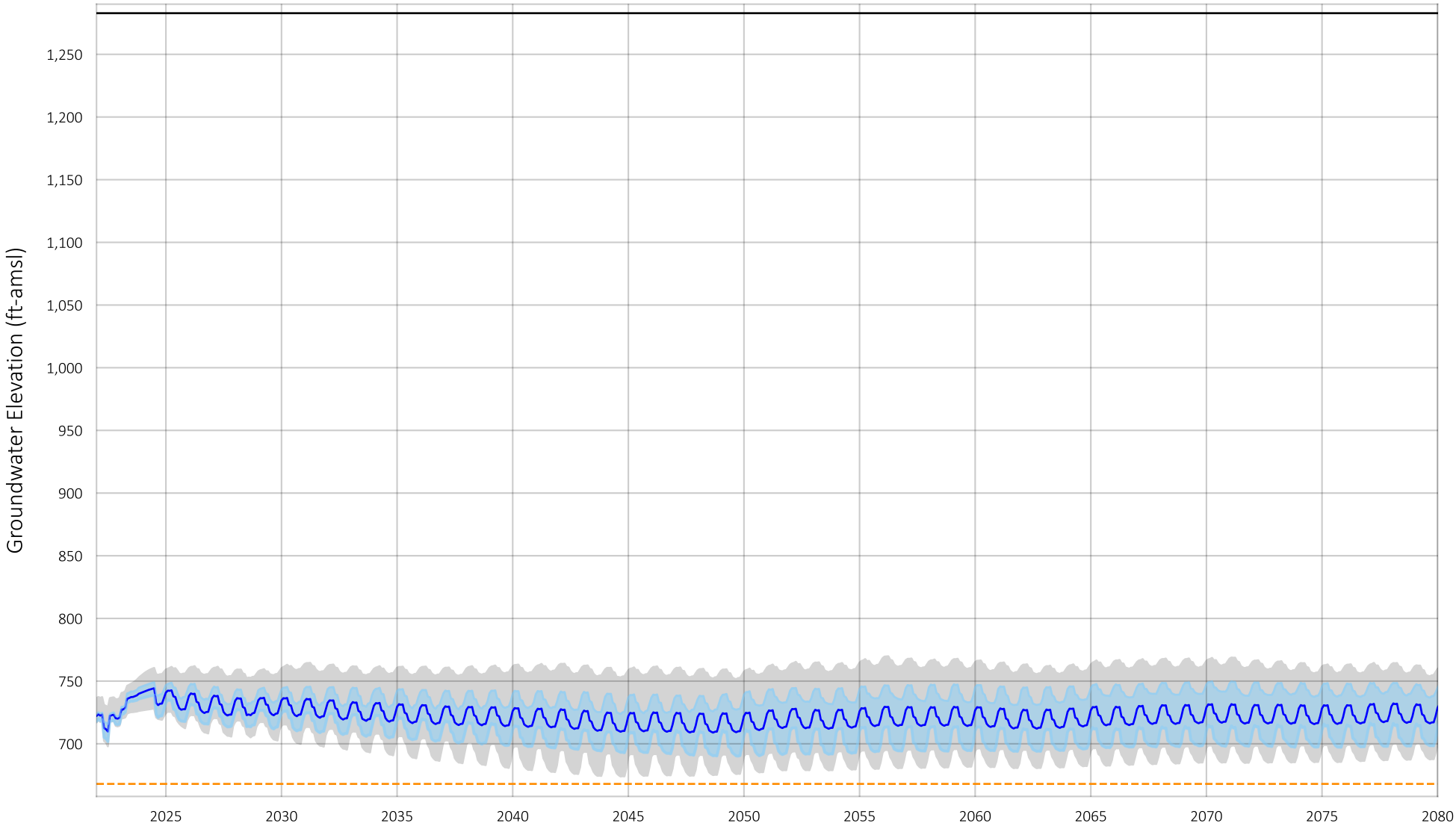
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

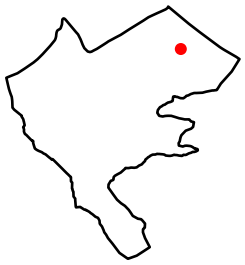
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F44B
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 650 - 990

Figure D-57



Well Location



Legend

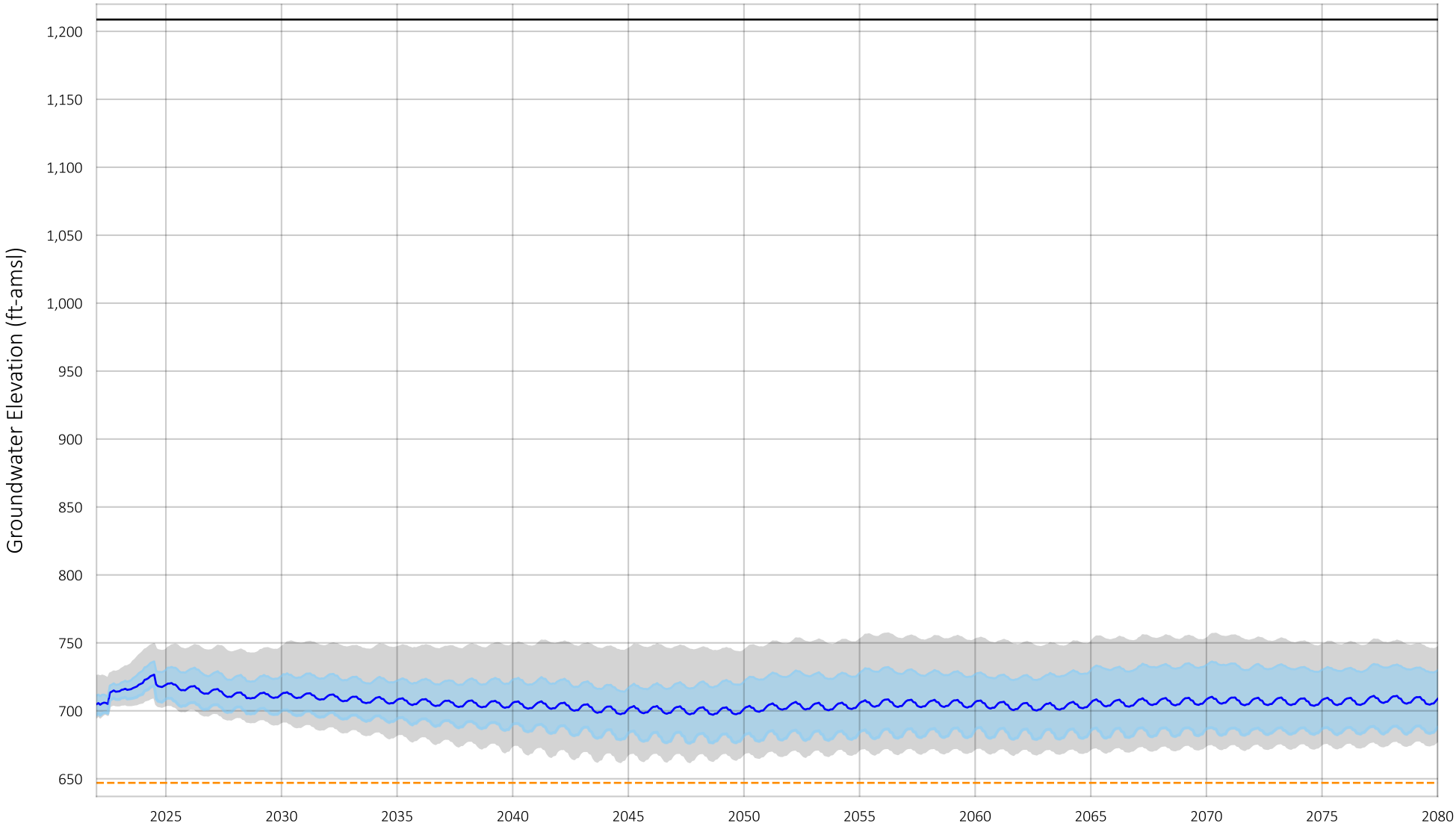
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

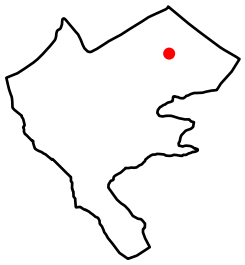
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F44C
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 650 - 990

Figure D-58



Well Location



Legend

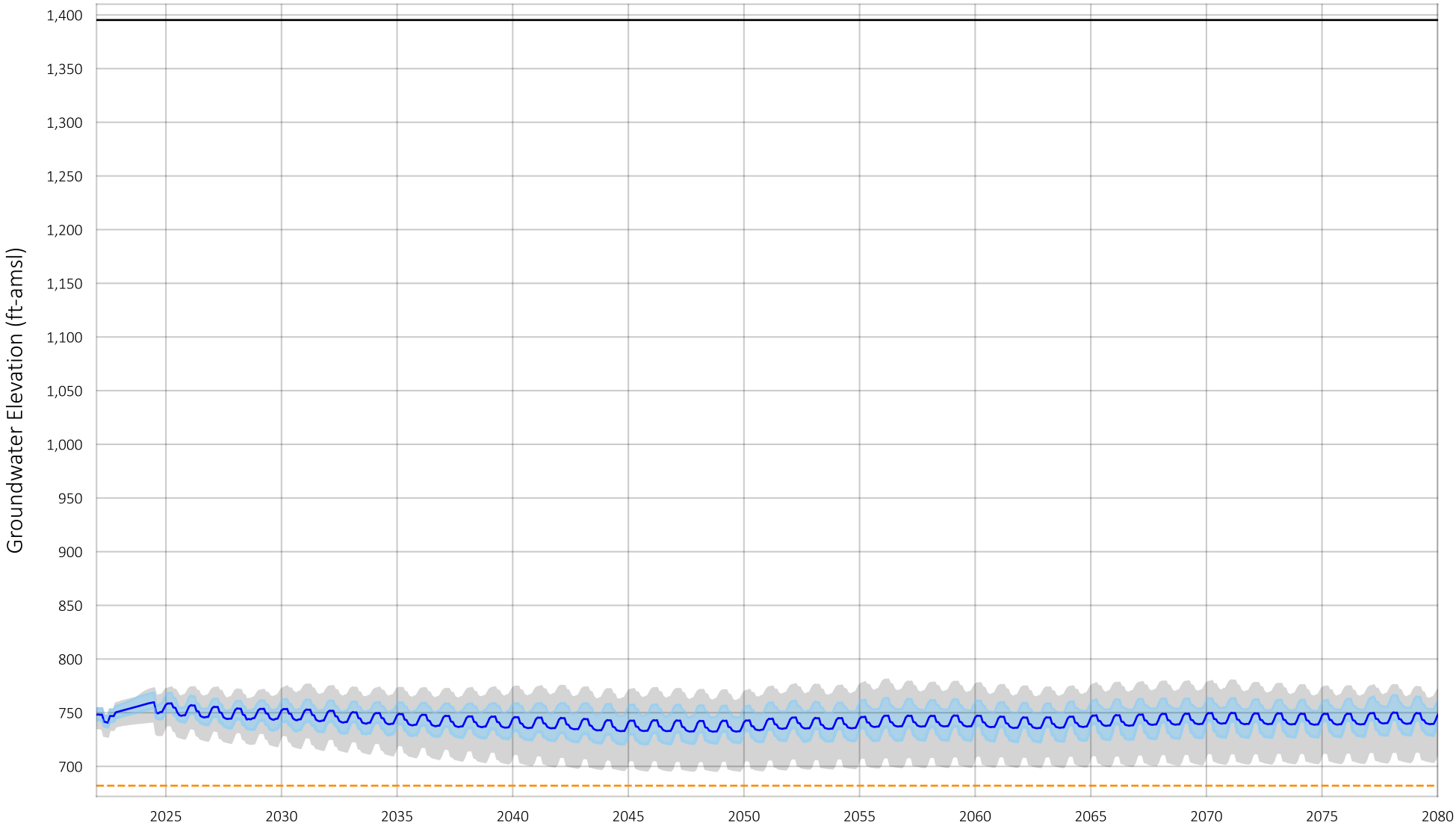
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

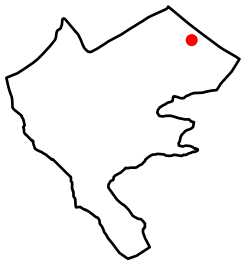
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F7A
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 590 - 1000

Figure D-59



Well Location



Legend

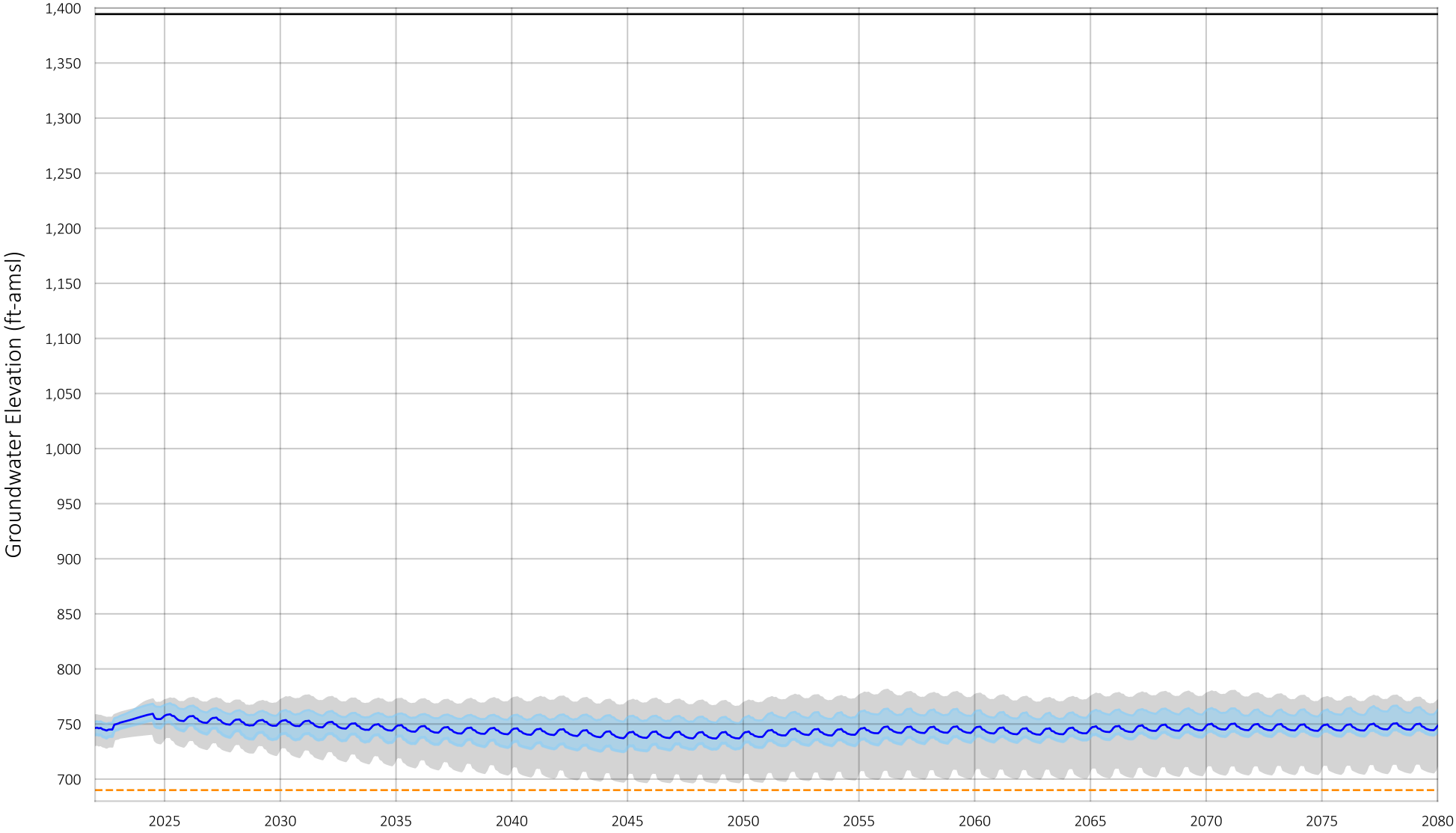
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

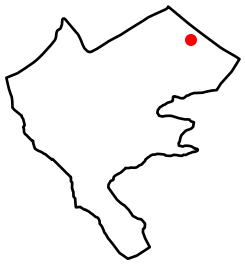
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F31B
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 735 - 1000

Figure D-60



Well Location



Legend

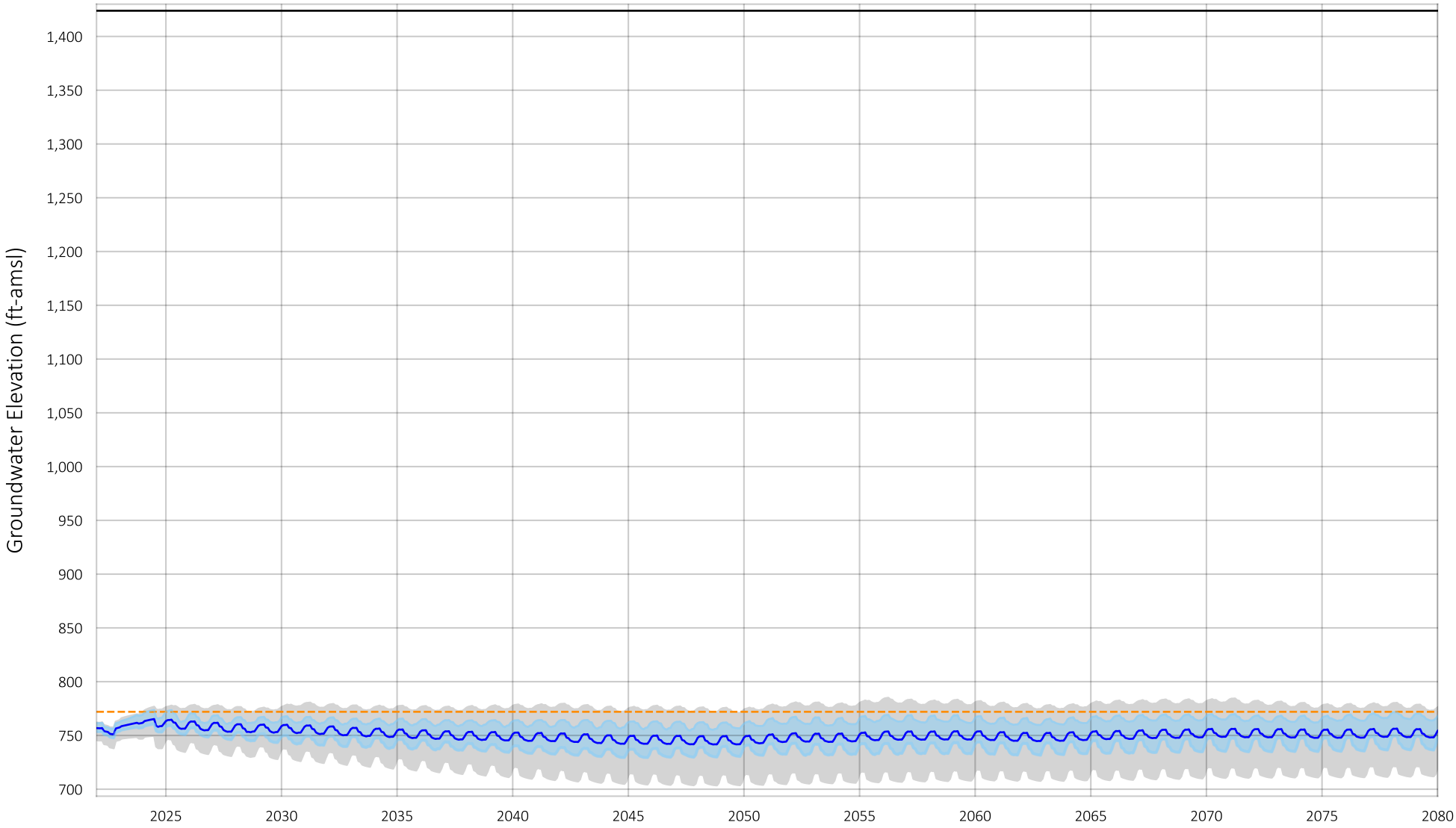
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

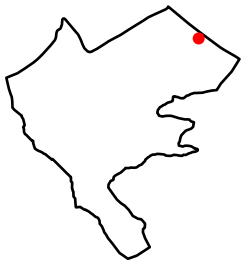
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F31A
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 700 - 1030

Figure D-61



Well Location



Legend

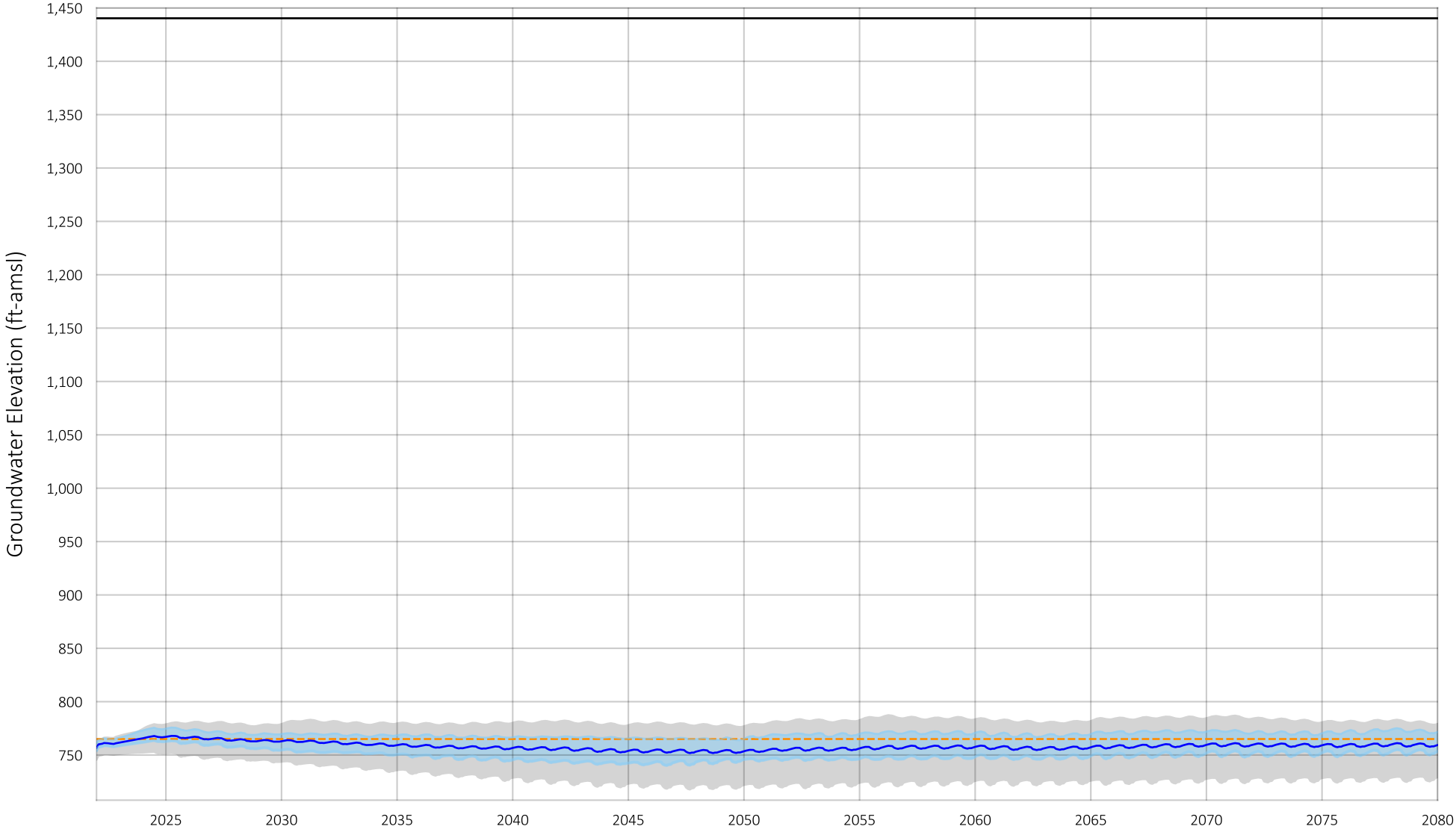
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

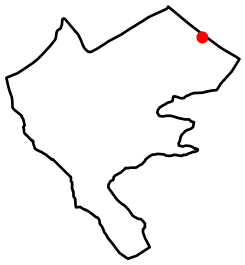
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F24A
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 680 - 1080

Figure D-62



Well Location



Legend

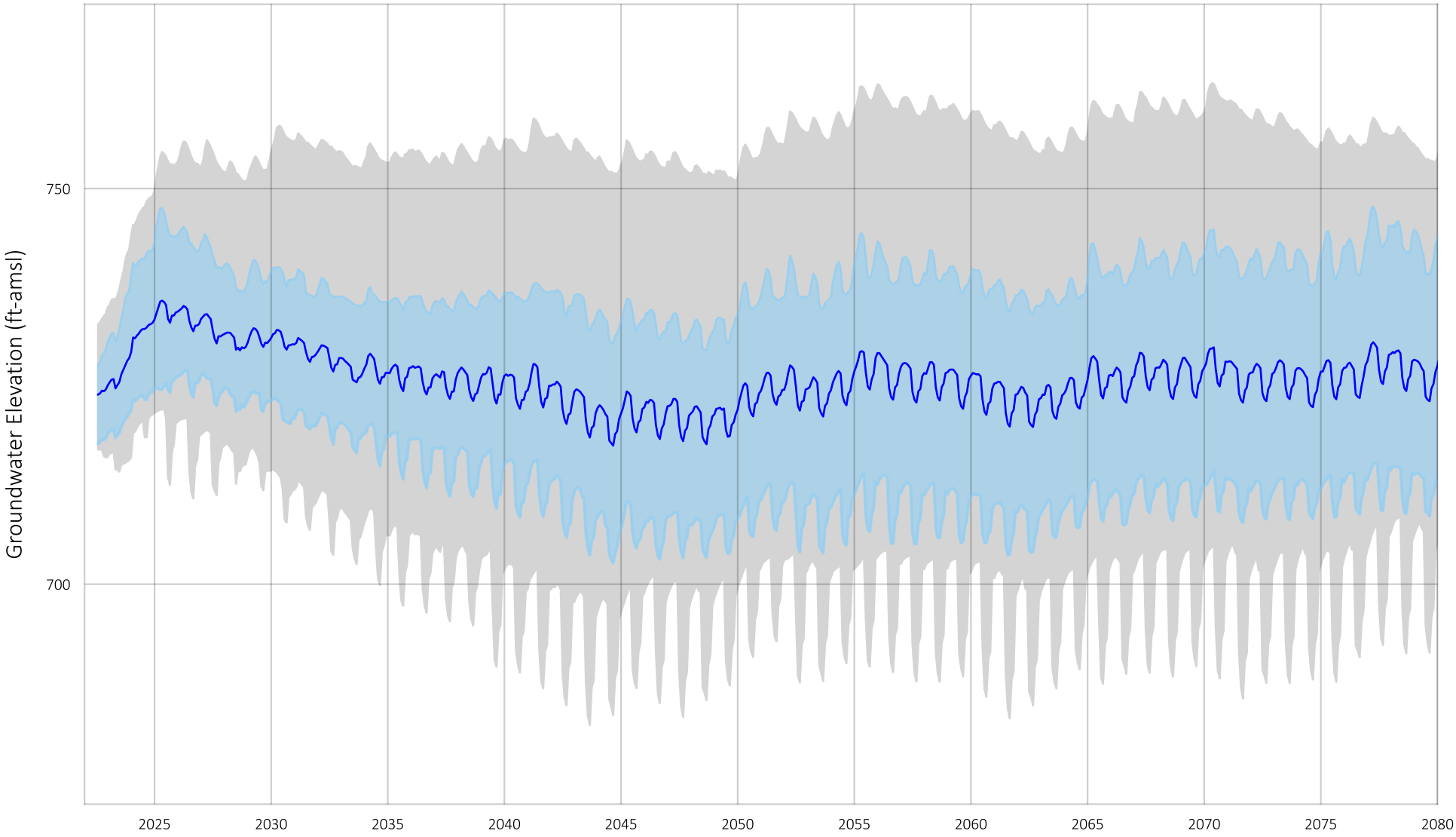
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

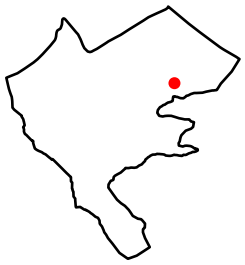
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: F26A
Well Owner: Fontana Water Company
Screen Interval (ft-bgs): 700 - 1120

Figure D-63



Well Location



Legend

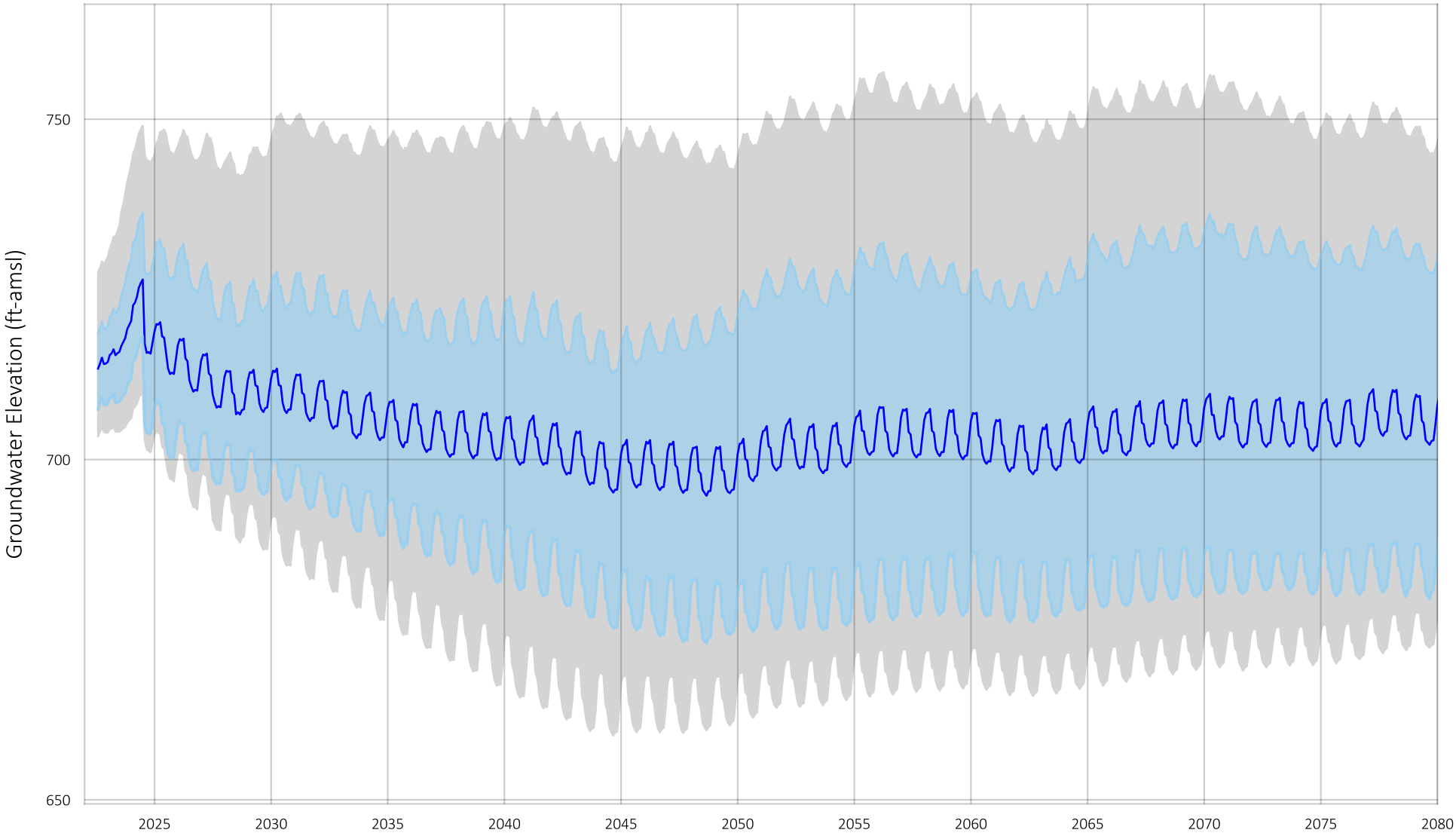
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

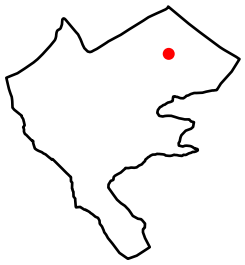
WEST YOST
Water. Engineered.

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

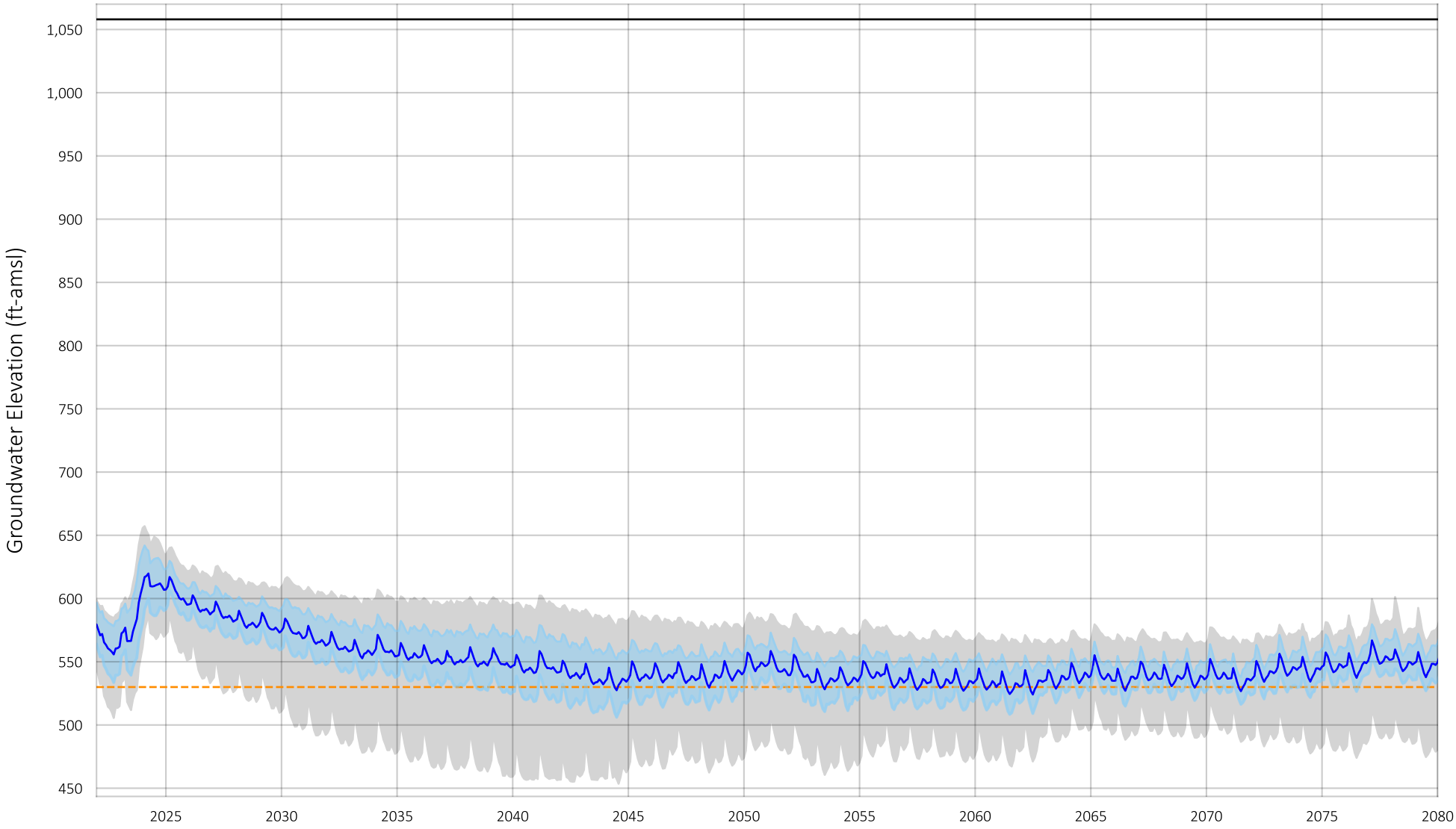
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

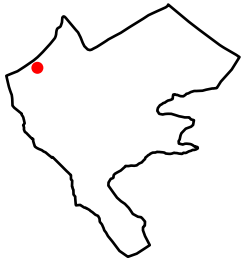
WEST YOST
Water. Engineered.

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

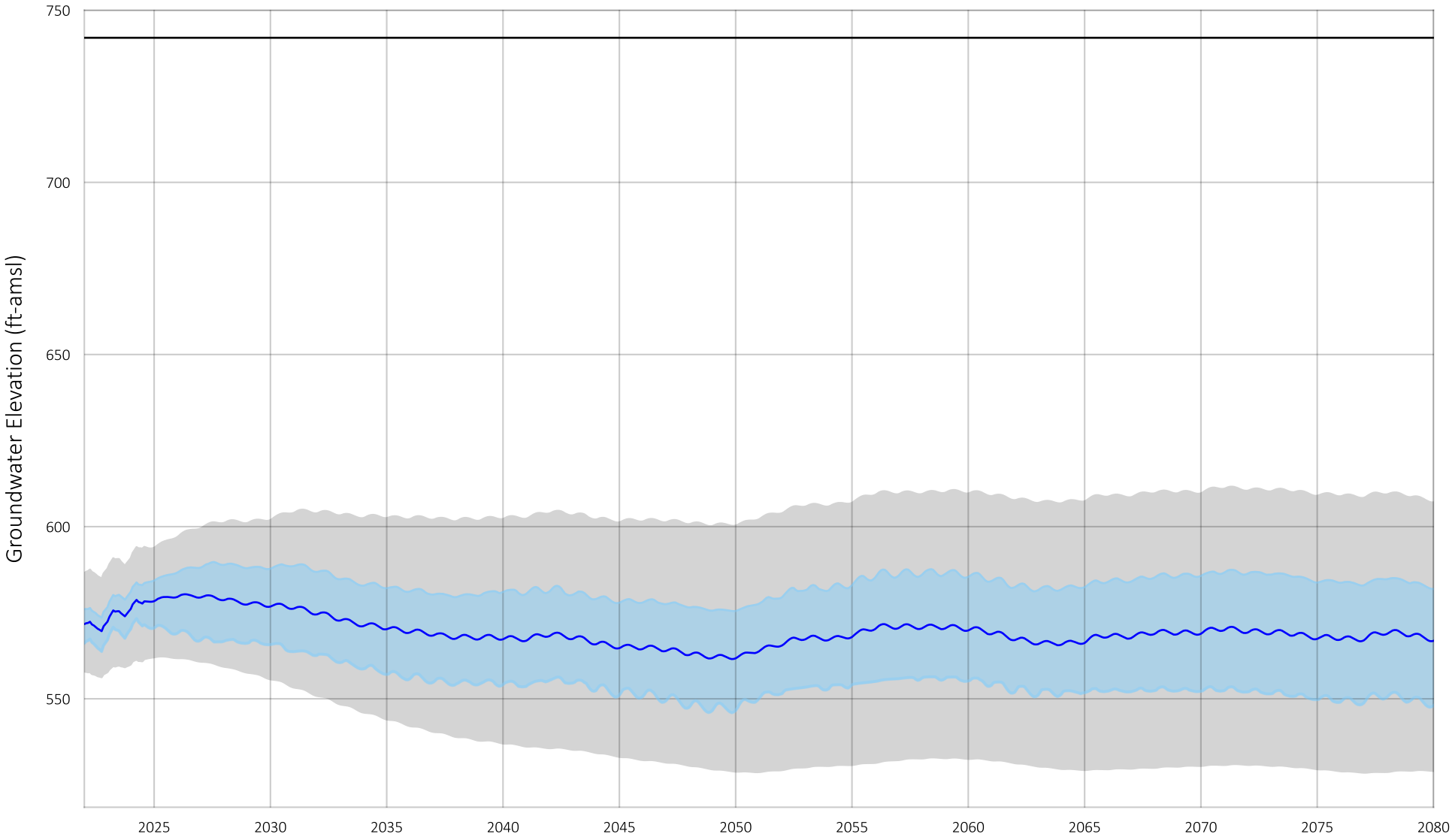
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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

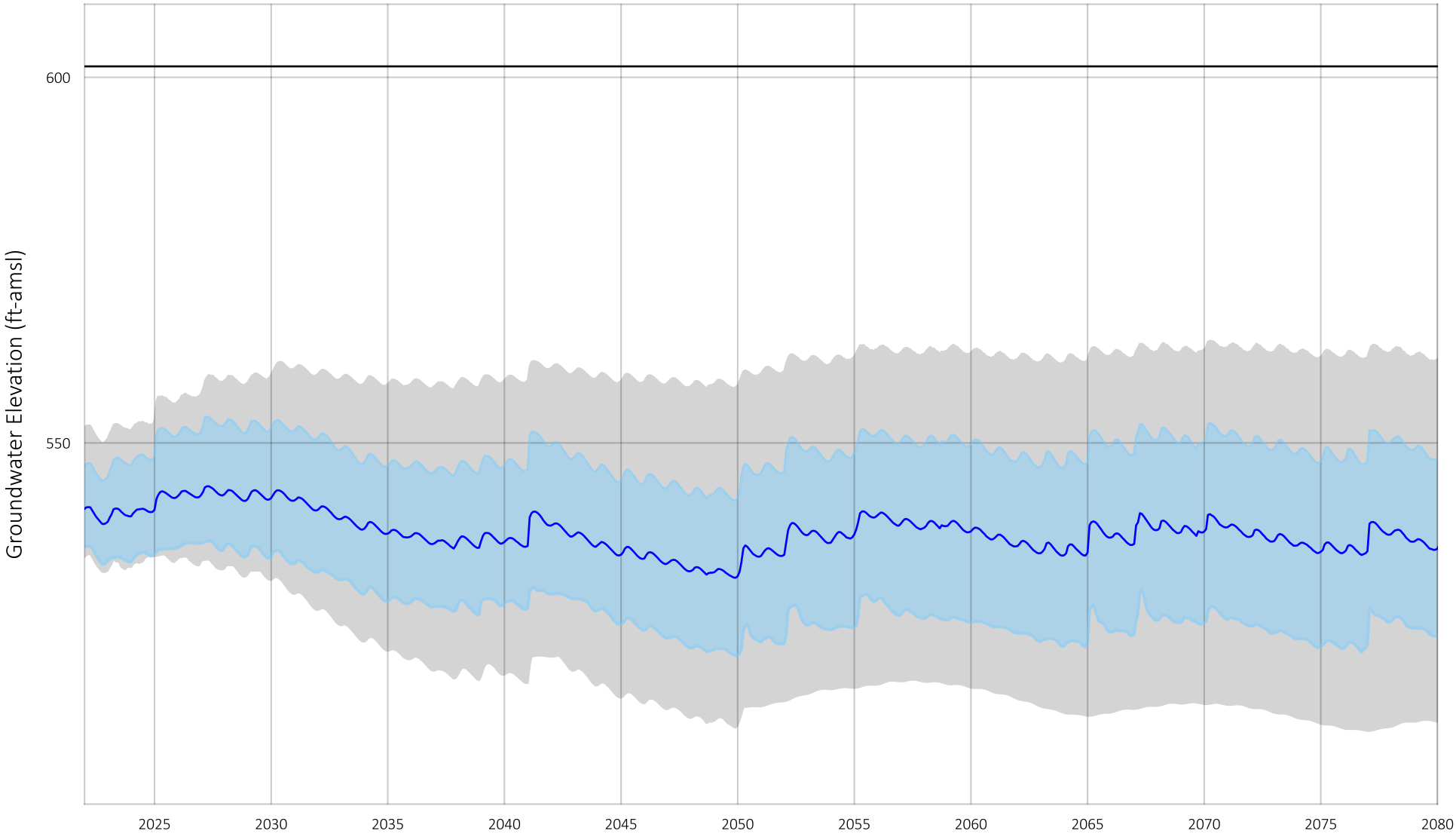
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Simulated Groundwater Levels
Well Name: High School Irrigation Well
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): no data - no data

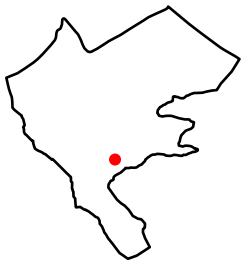
Figure D-67

Prepared by:

WEST YOST
Water. Engineered.



Well Location



Legend

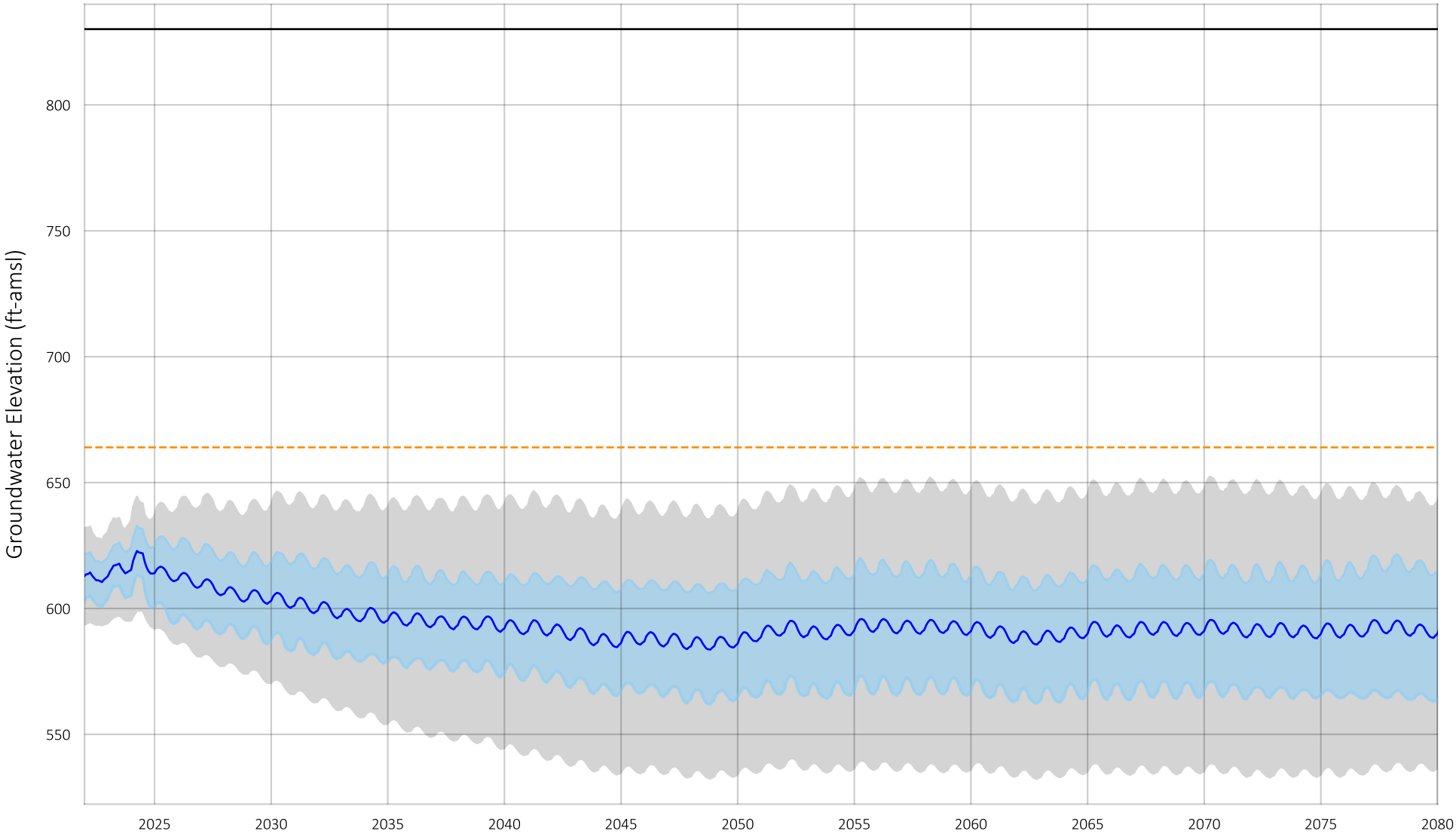
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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-68



Well Location

Legend

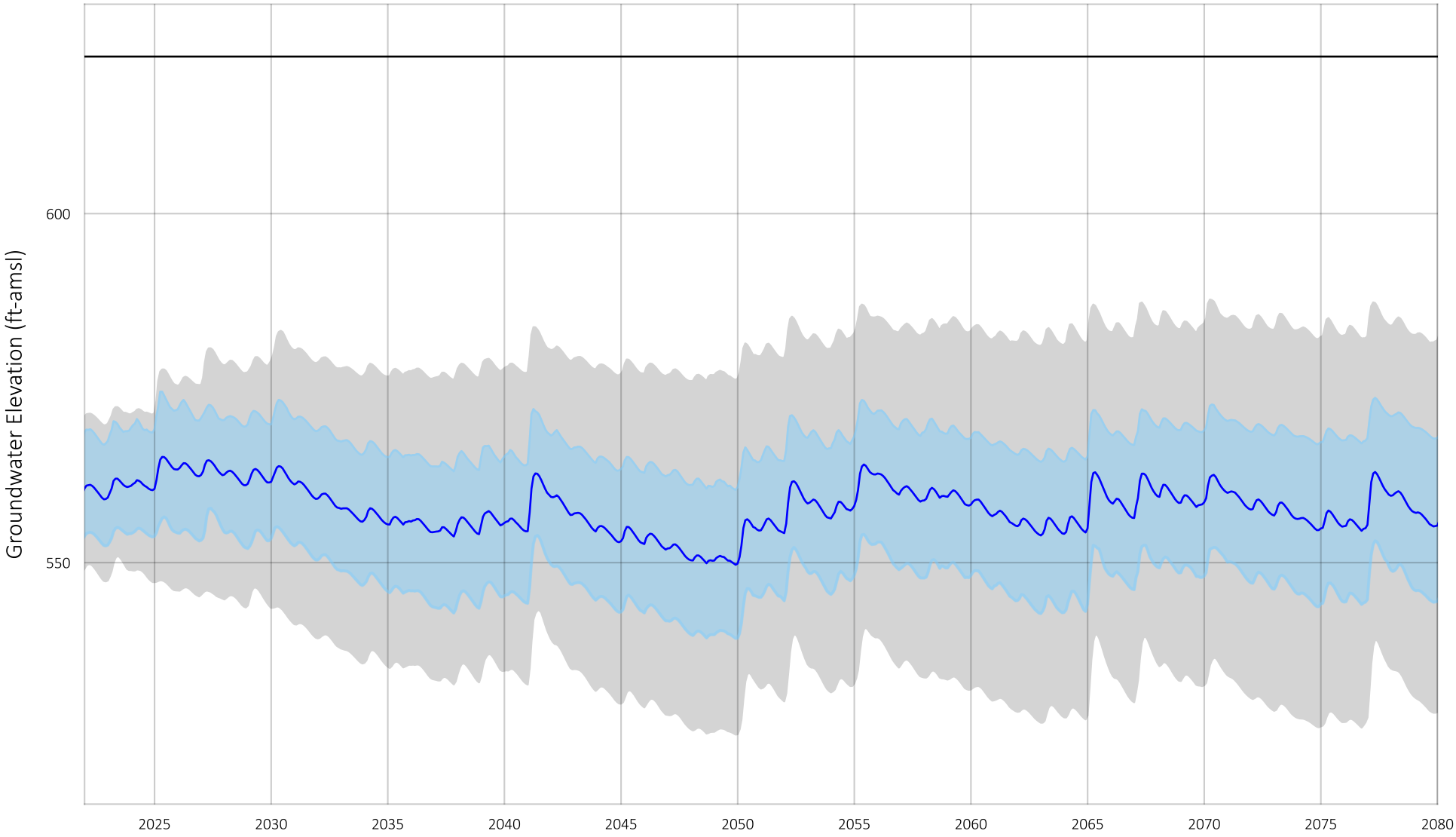
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

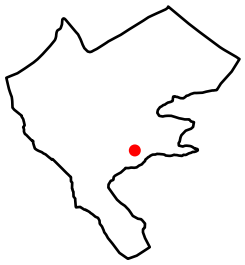
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 20
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 170 - 406

Figure D-69



Well Location



Legend

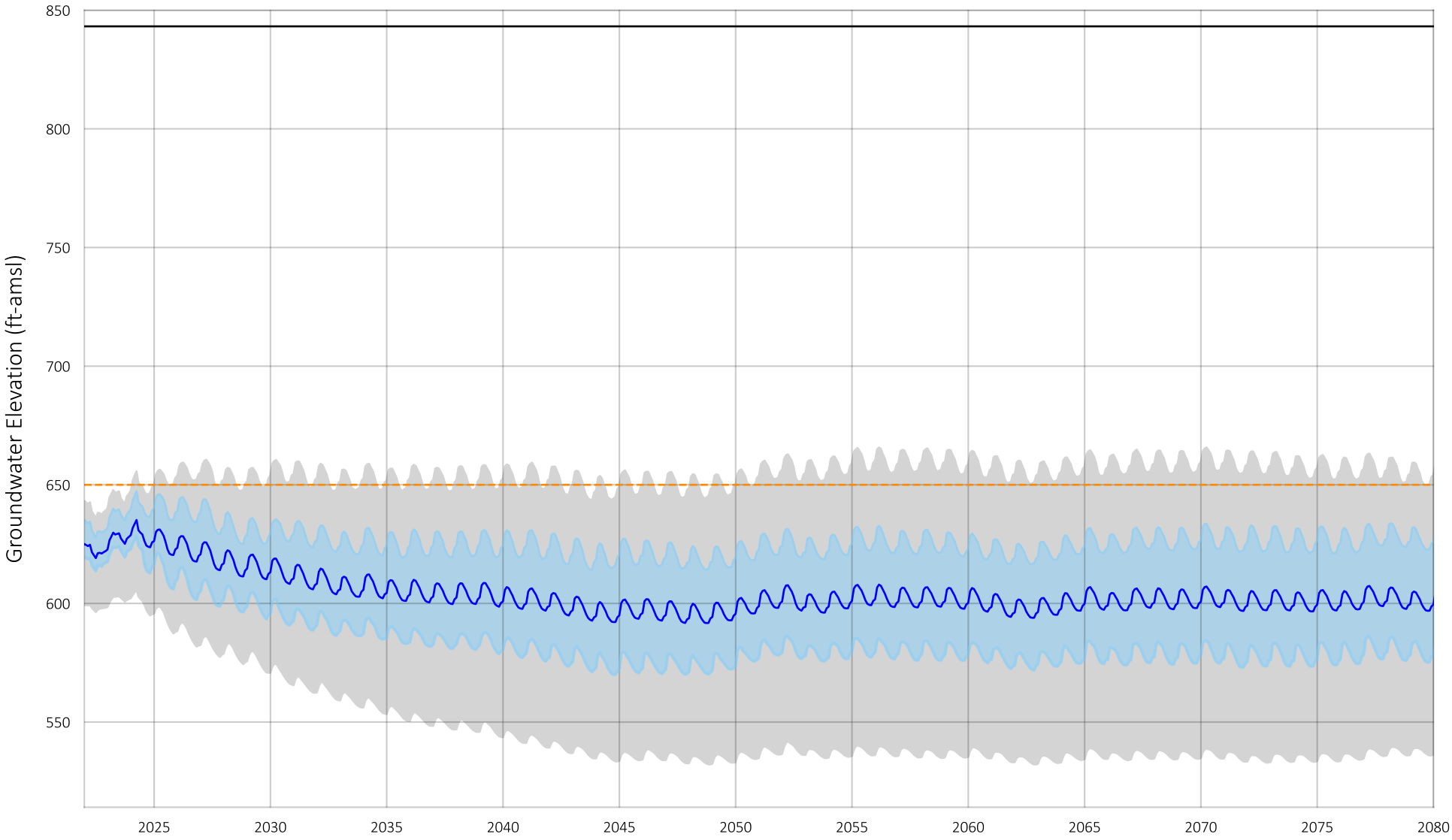
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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-70



Well Location

Legend

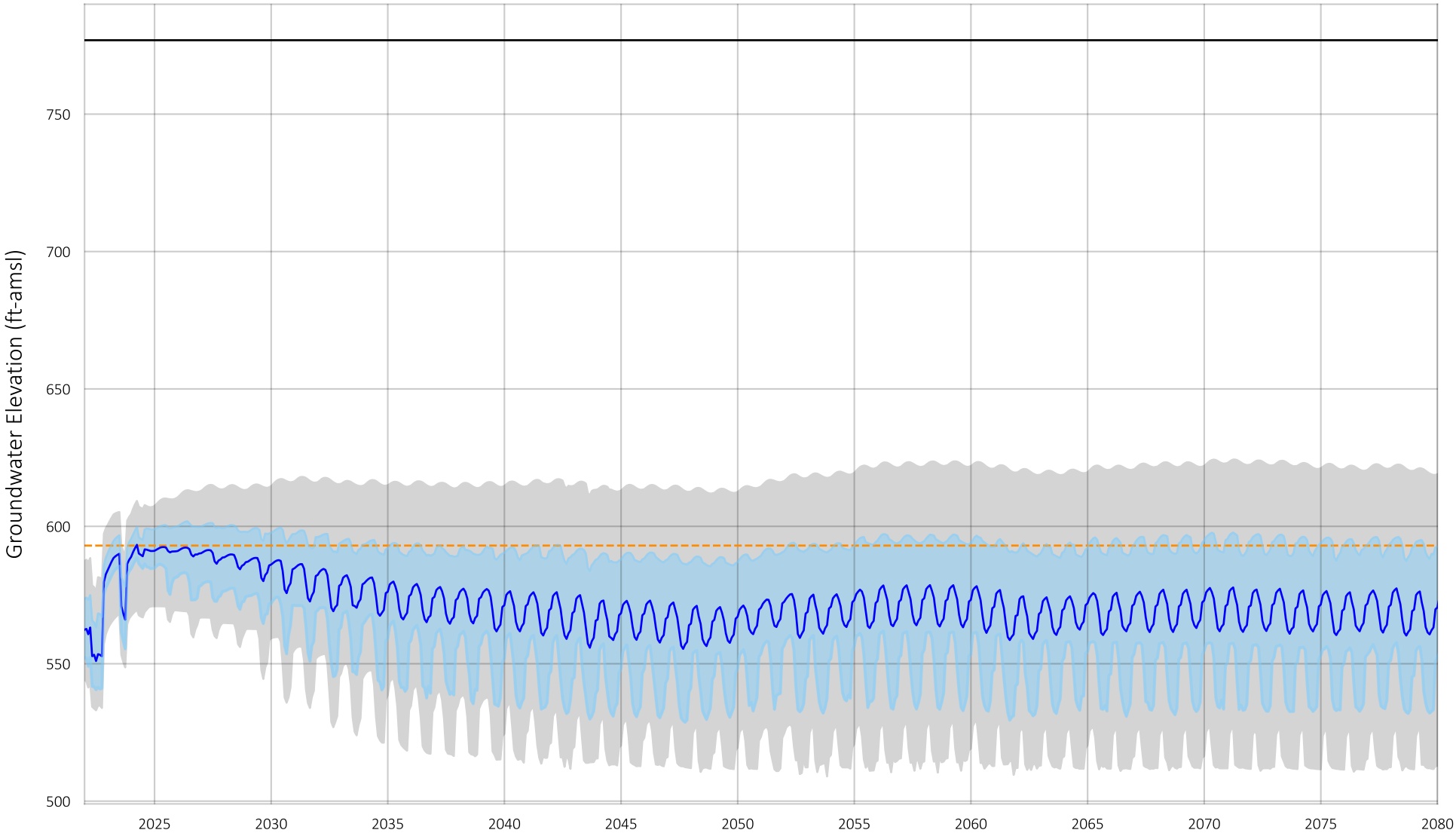
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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-71



Well Location

Legend

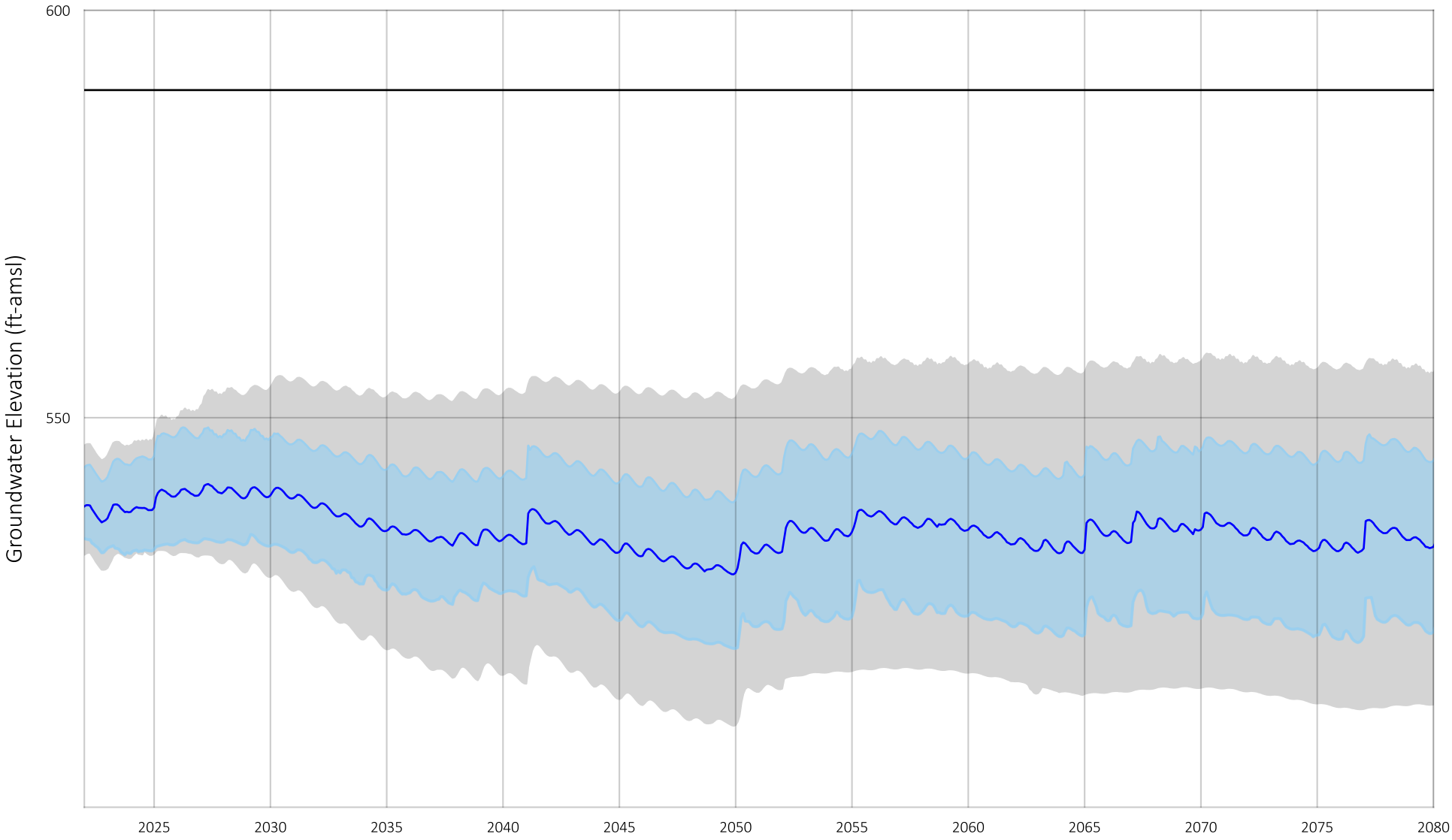
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

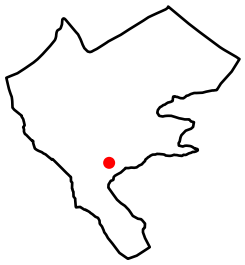
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 16
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 225 - 275

Figure D-72



Well Location



Legend

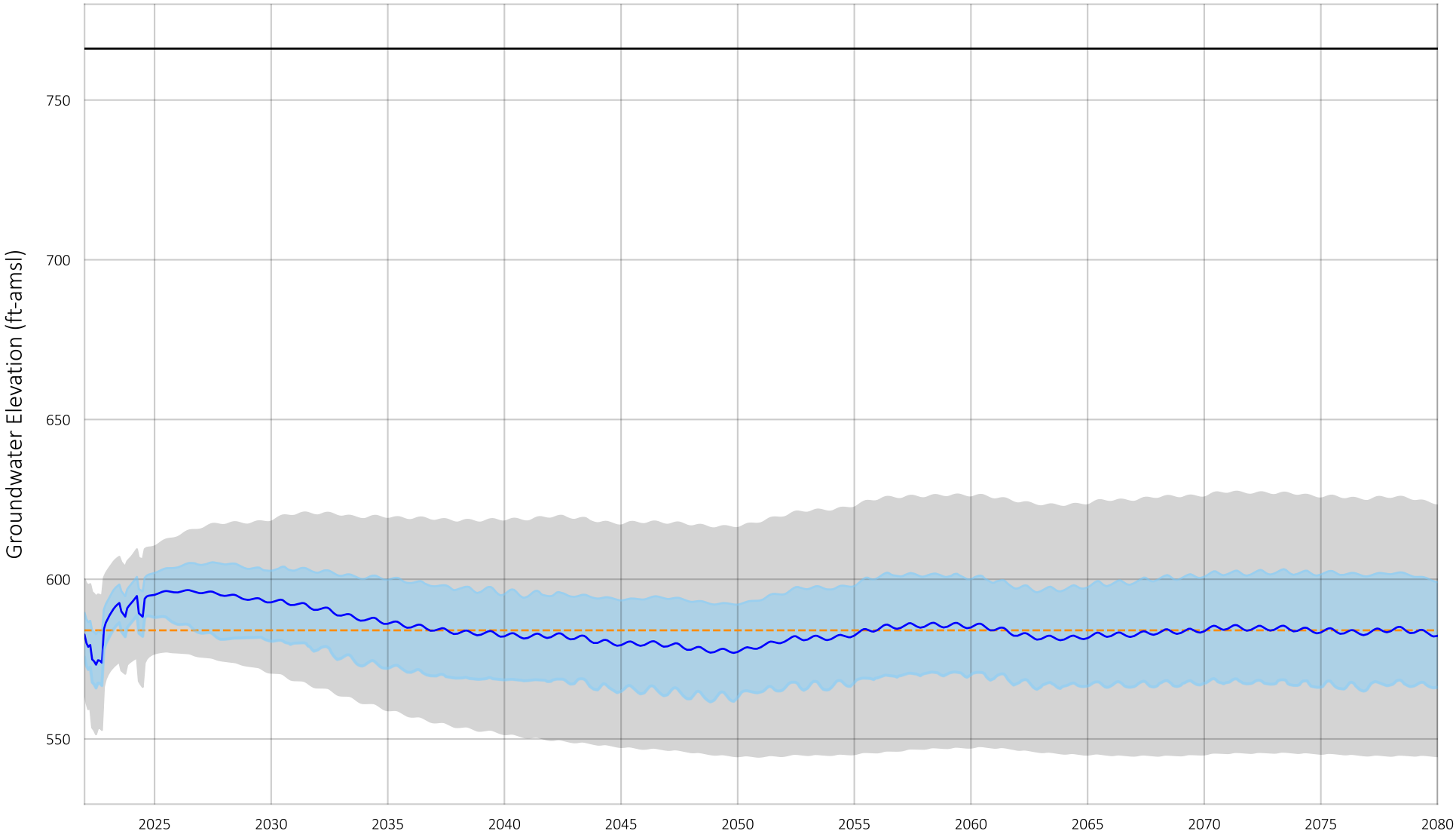
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

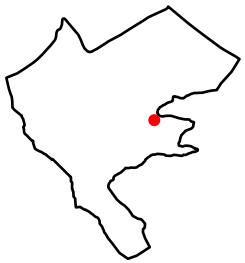
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 40
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 90 - 245.7

Figure D-73



Well Location



Legend

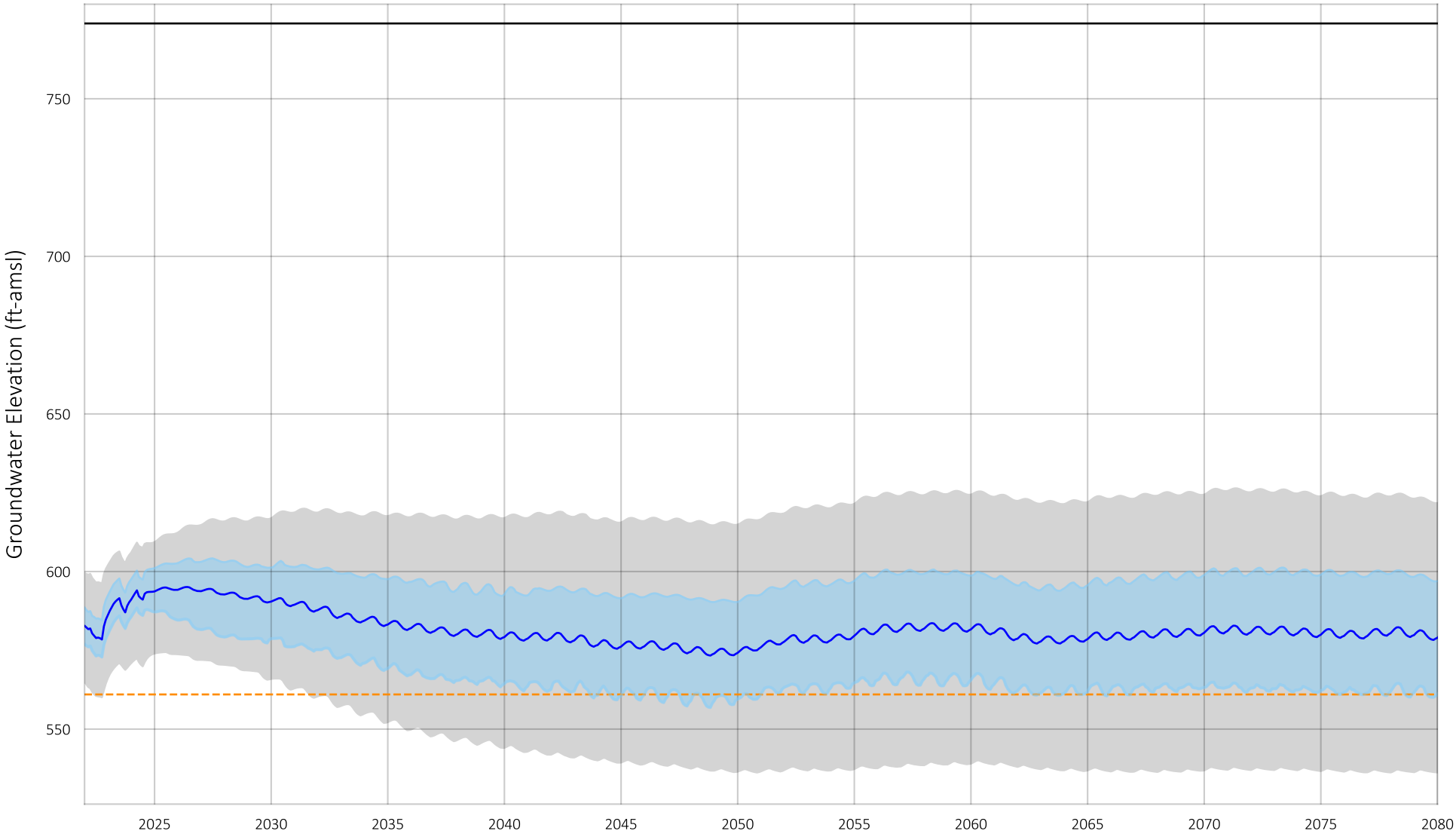
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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-74



Well Location

Legend

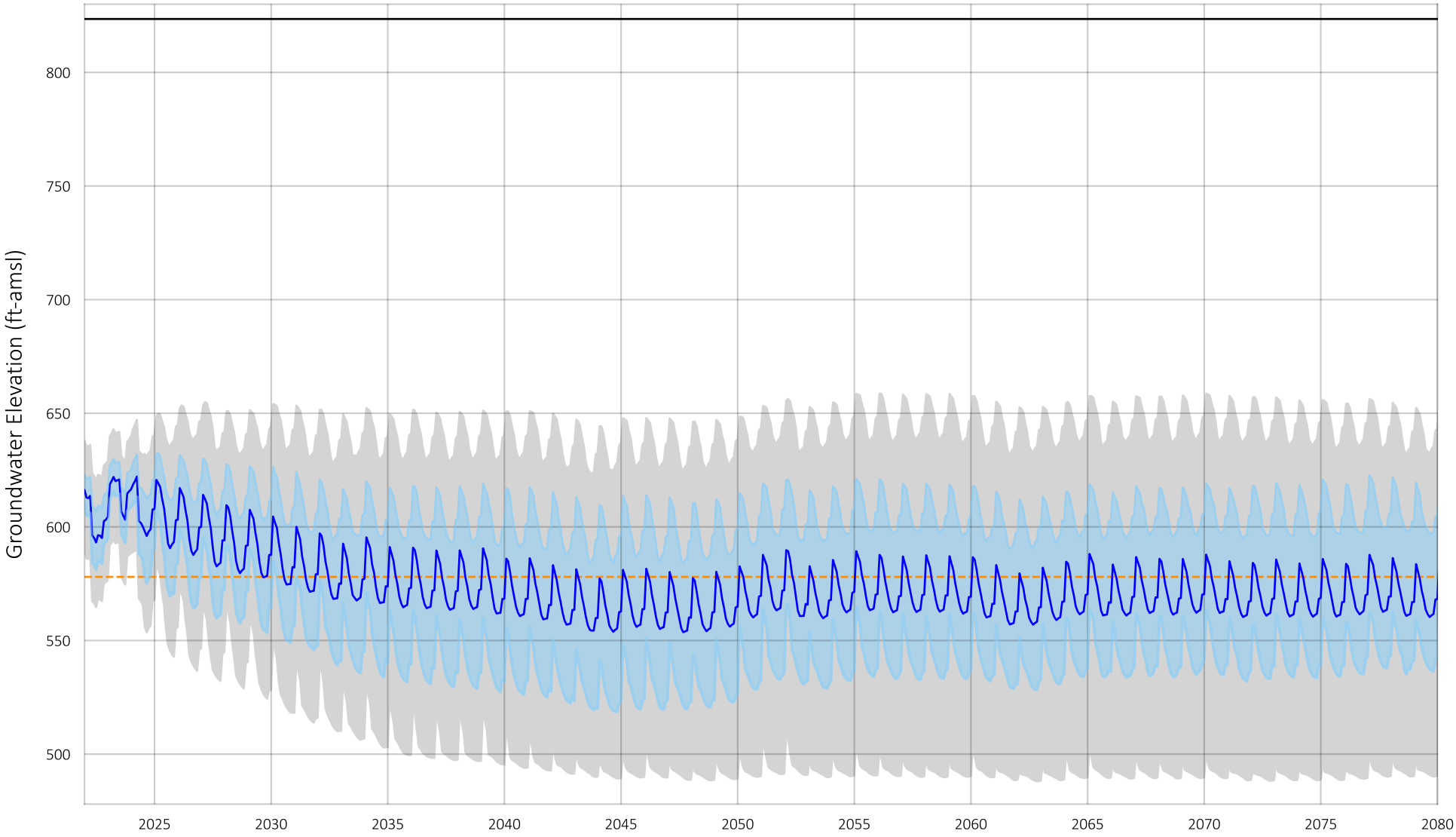
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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-75



Well Location

Legend

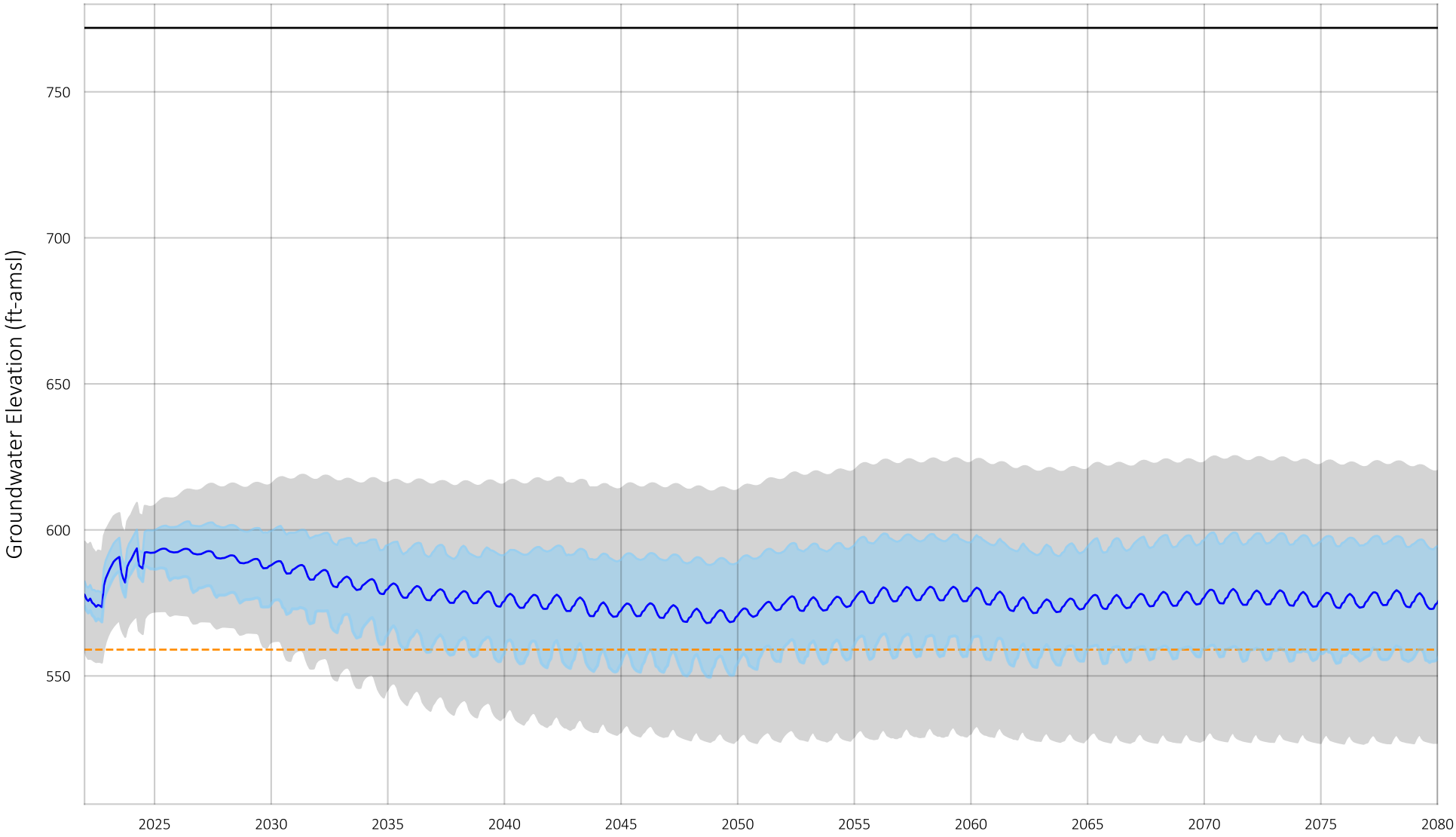
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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-76



Well Location

Legend

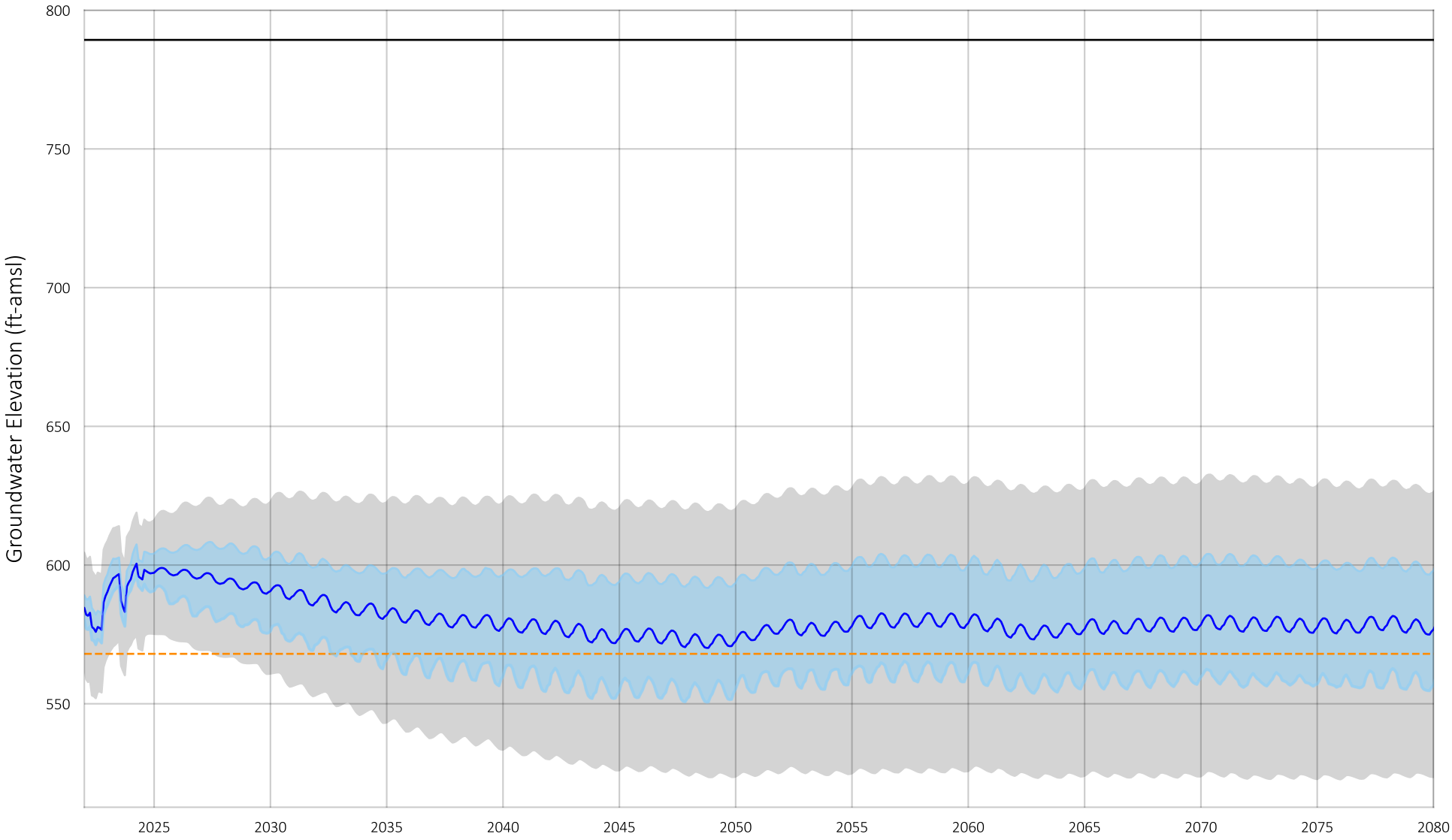
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

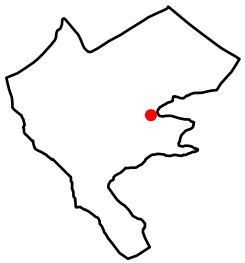
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 12
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 215 - 330

Figure D-77



Well Location



Legend

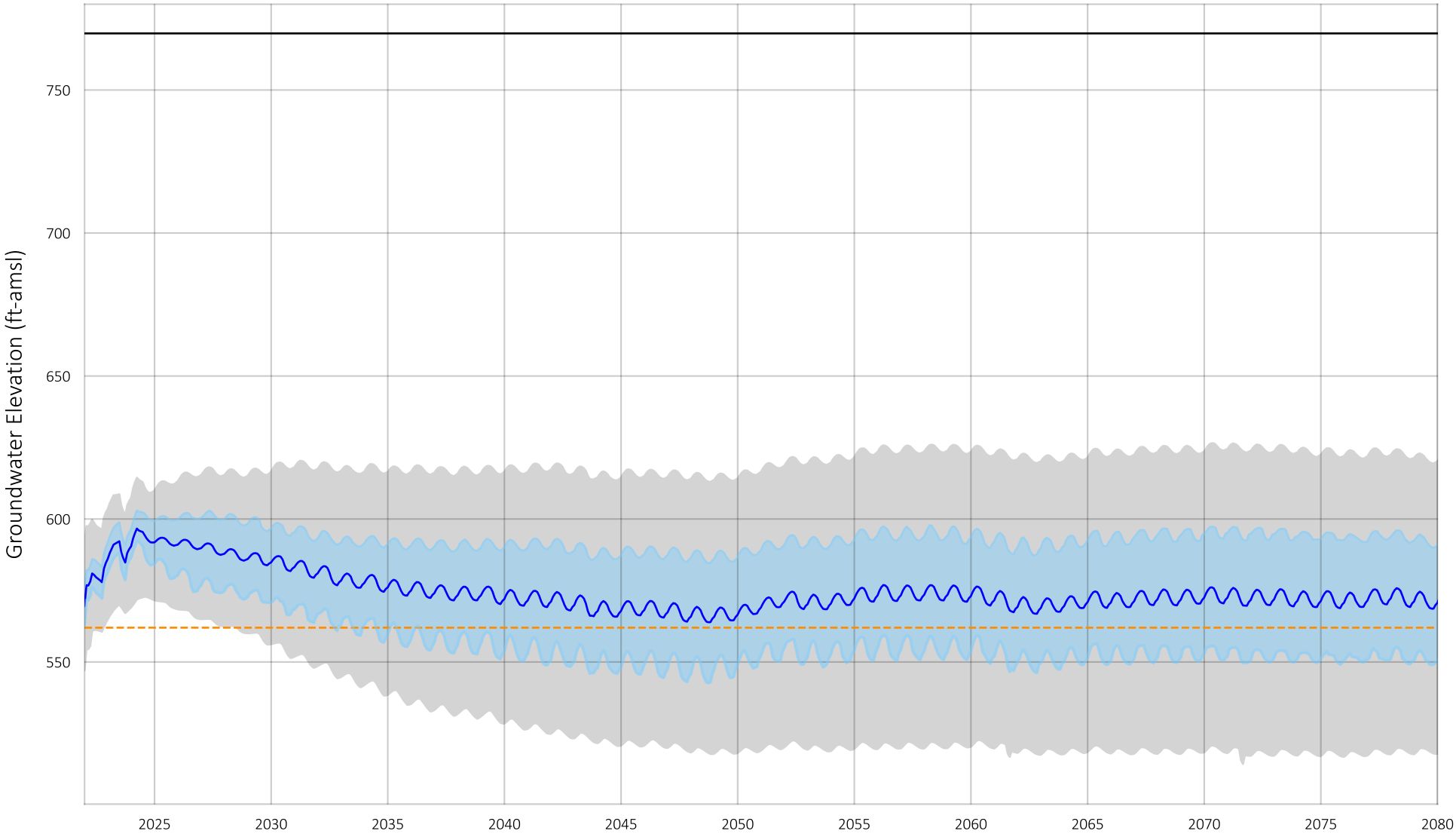
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

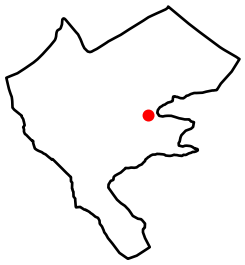
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 15
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 224 - 364

Figure D-78



Well Location



Legend

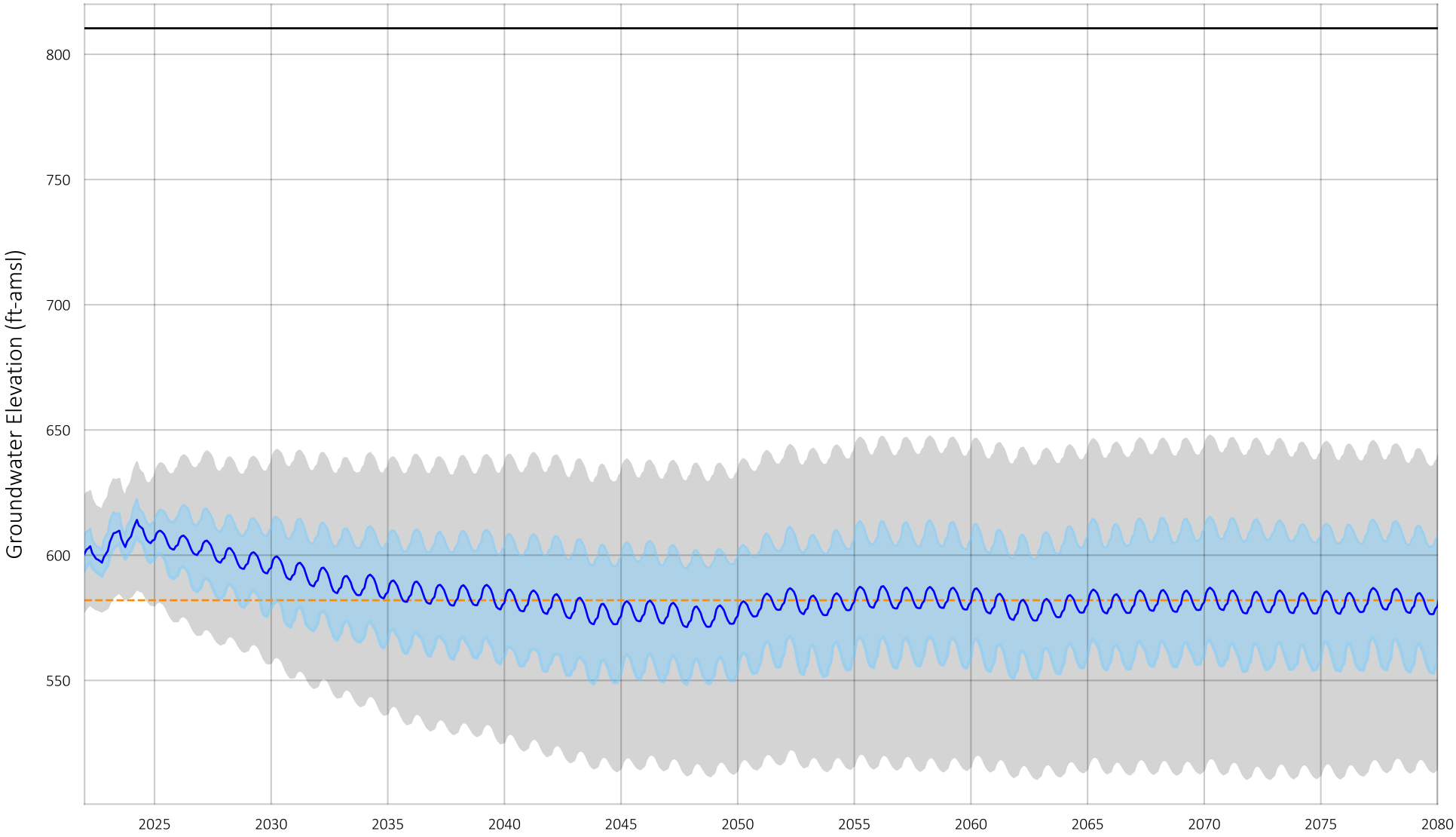
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

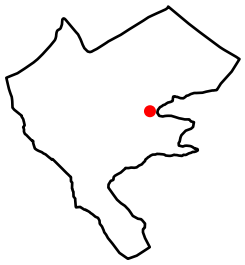
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 14
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 210 - 370

Figure D-79



Well Location



Legend

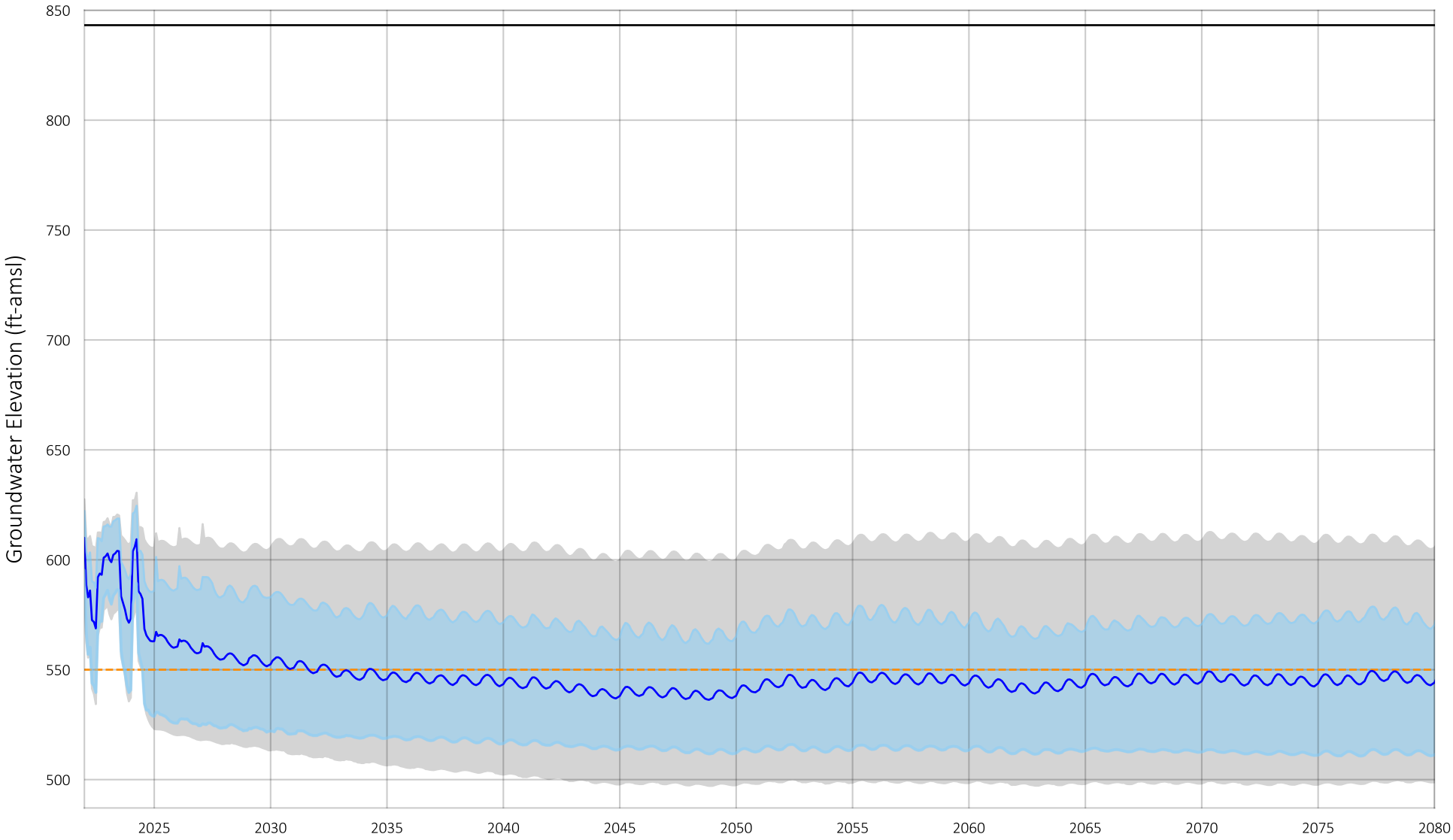
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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-80



Well Location

Legend

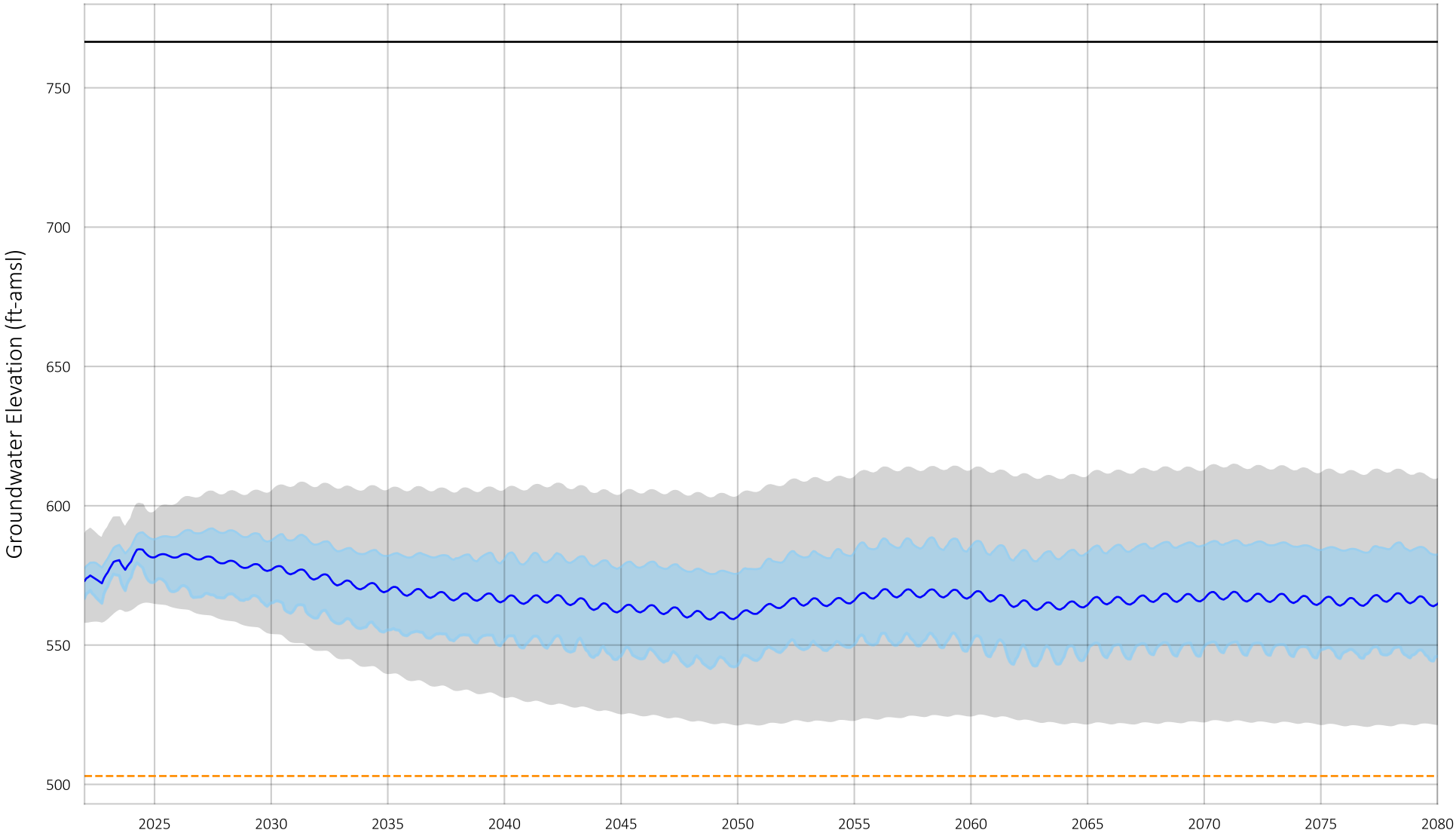
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

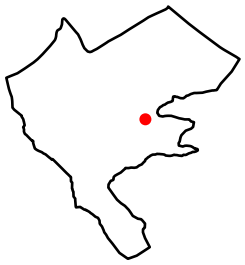
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 19
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 230 - 390

Figure D-81



Well Location



Legend

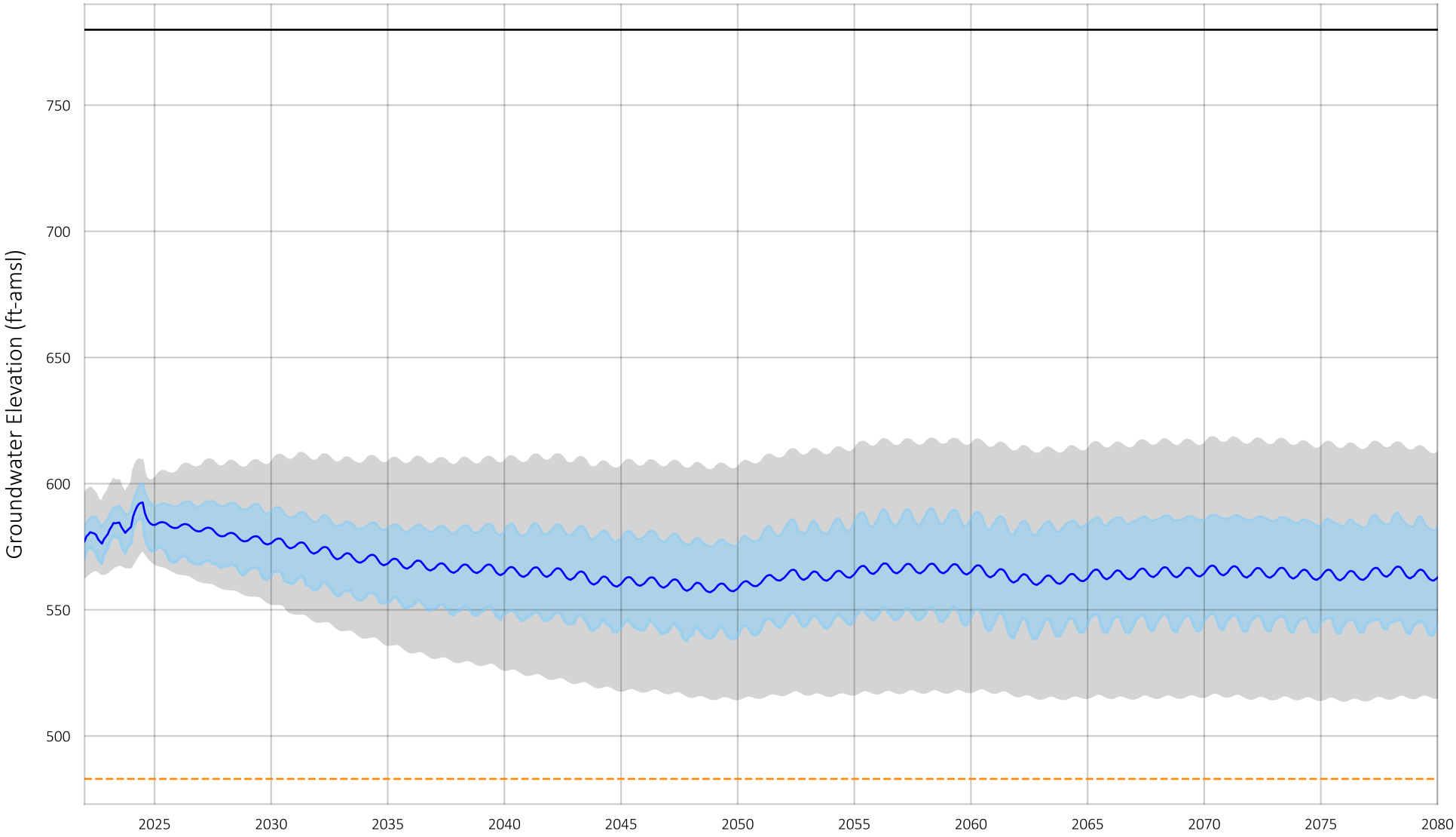
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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-82



Well Location

Legend

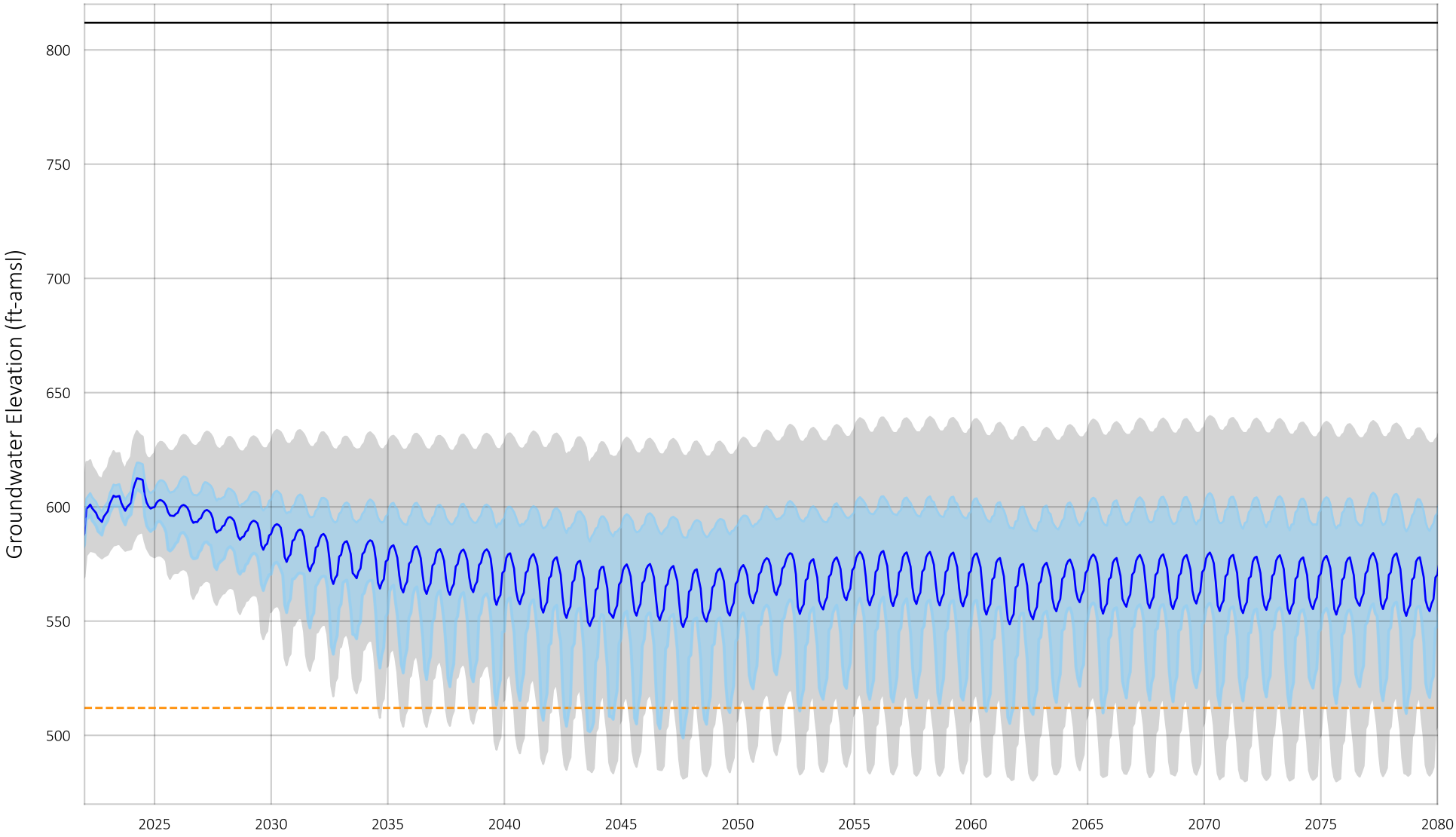
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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

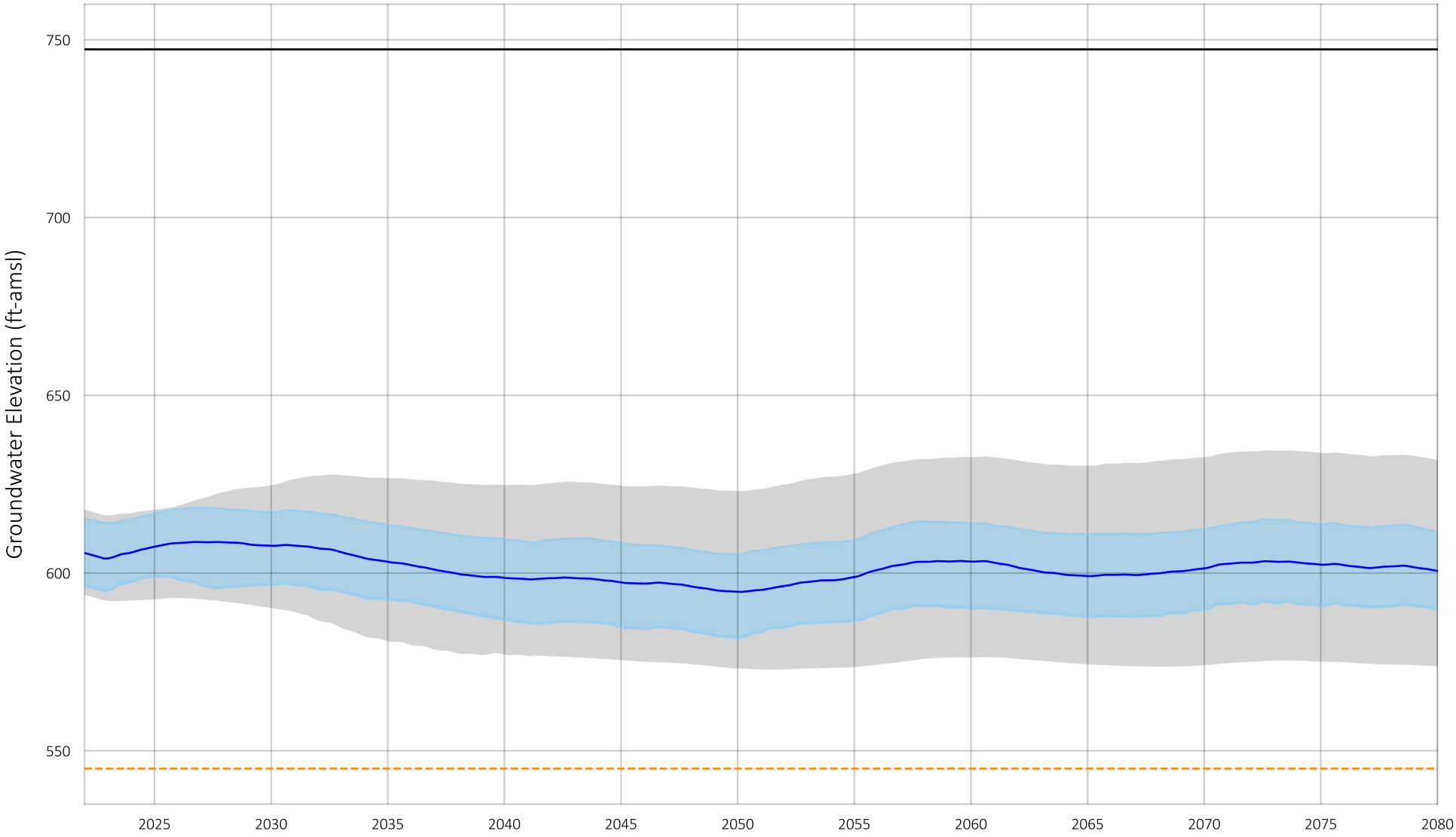
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

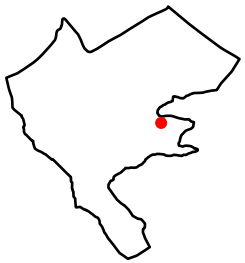
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 22
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 300 - 410

Figure D-84



Well Location



Legend

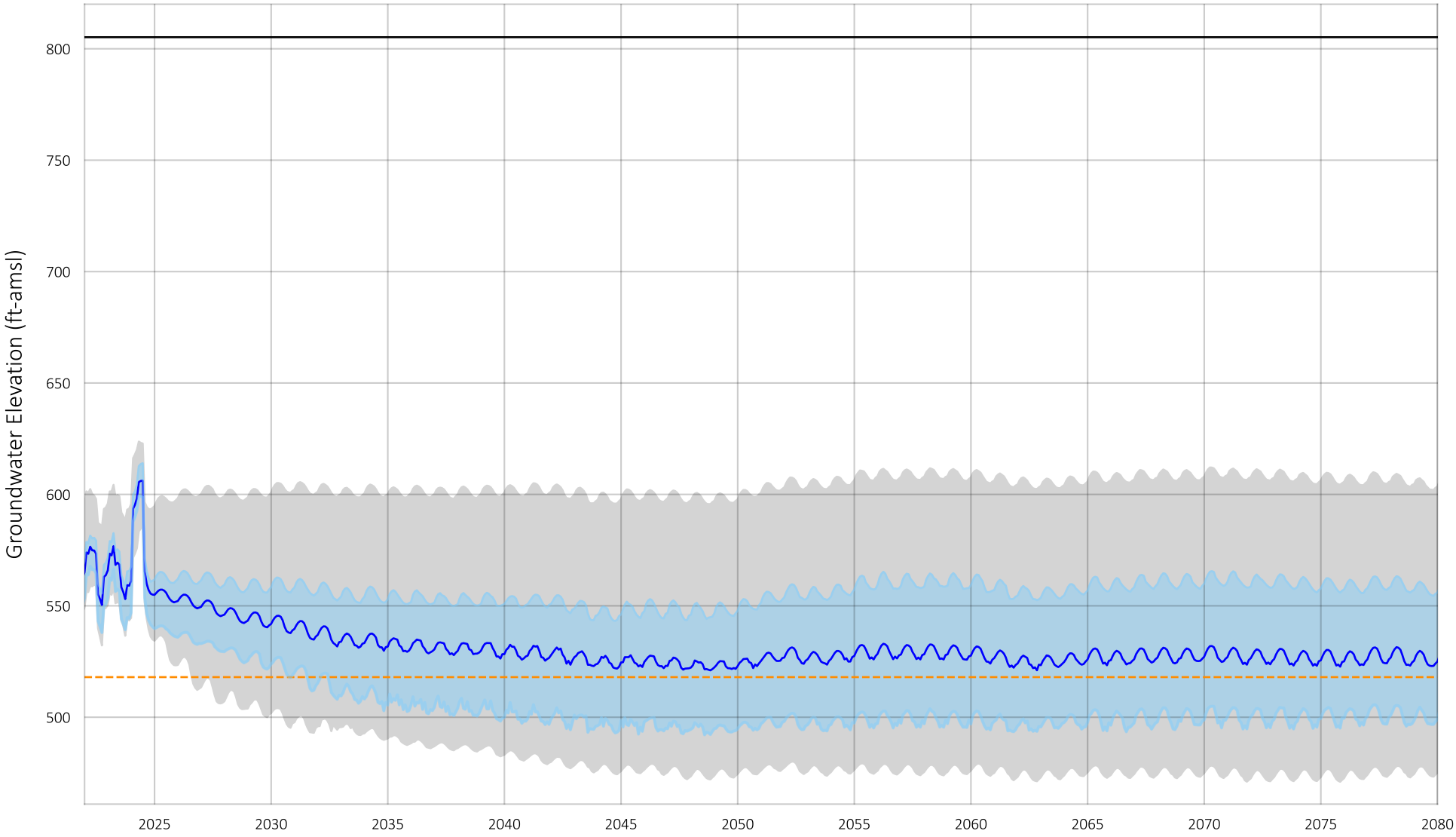
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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-85



Well Location

Legend

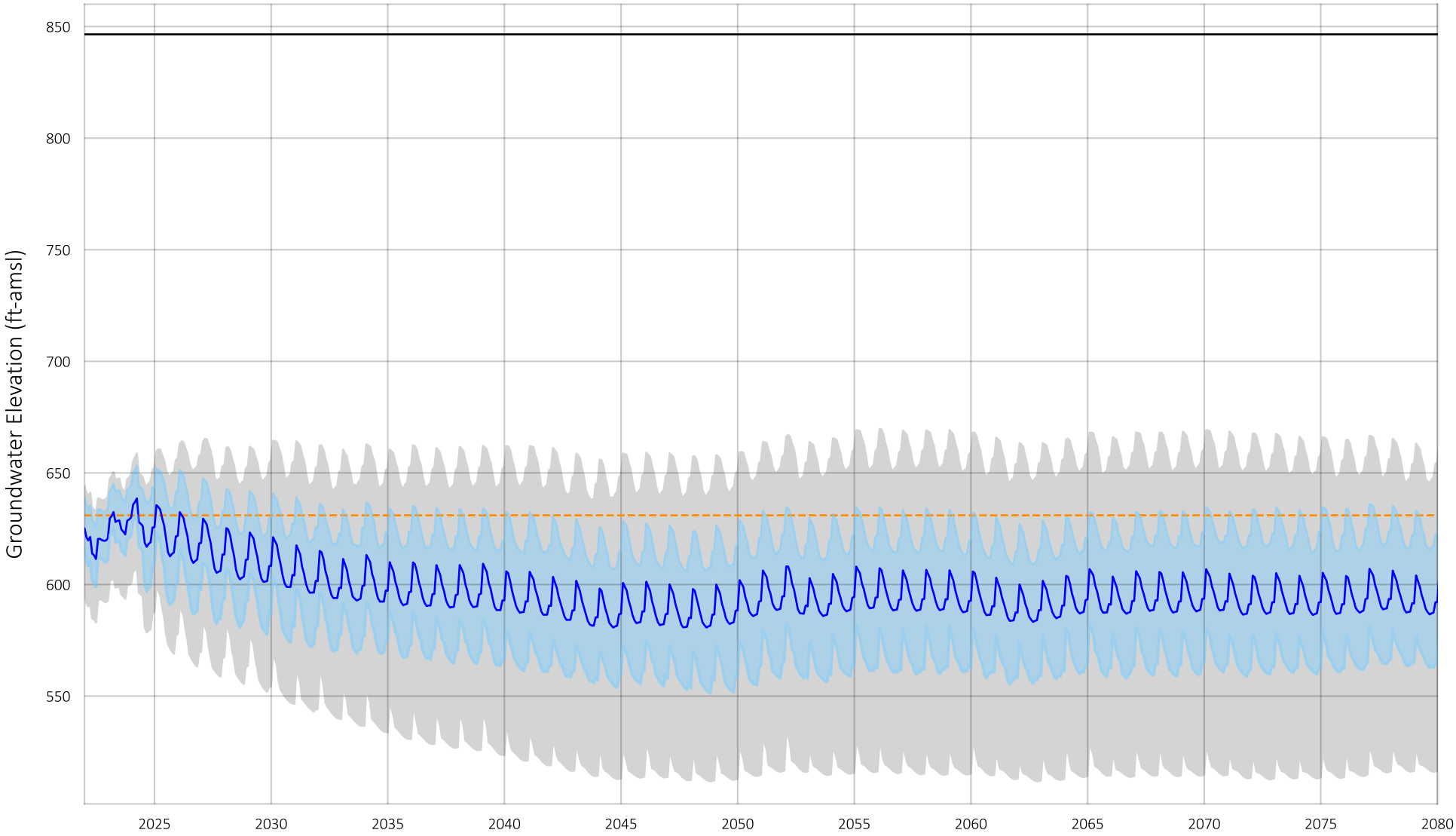
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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-86



Well Location

Legend

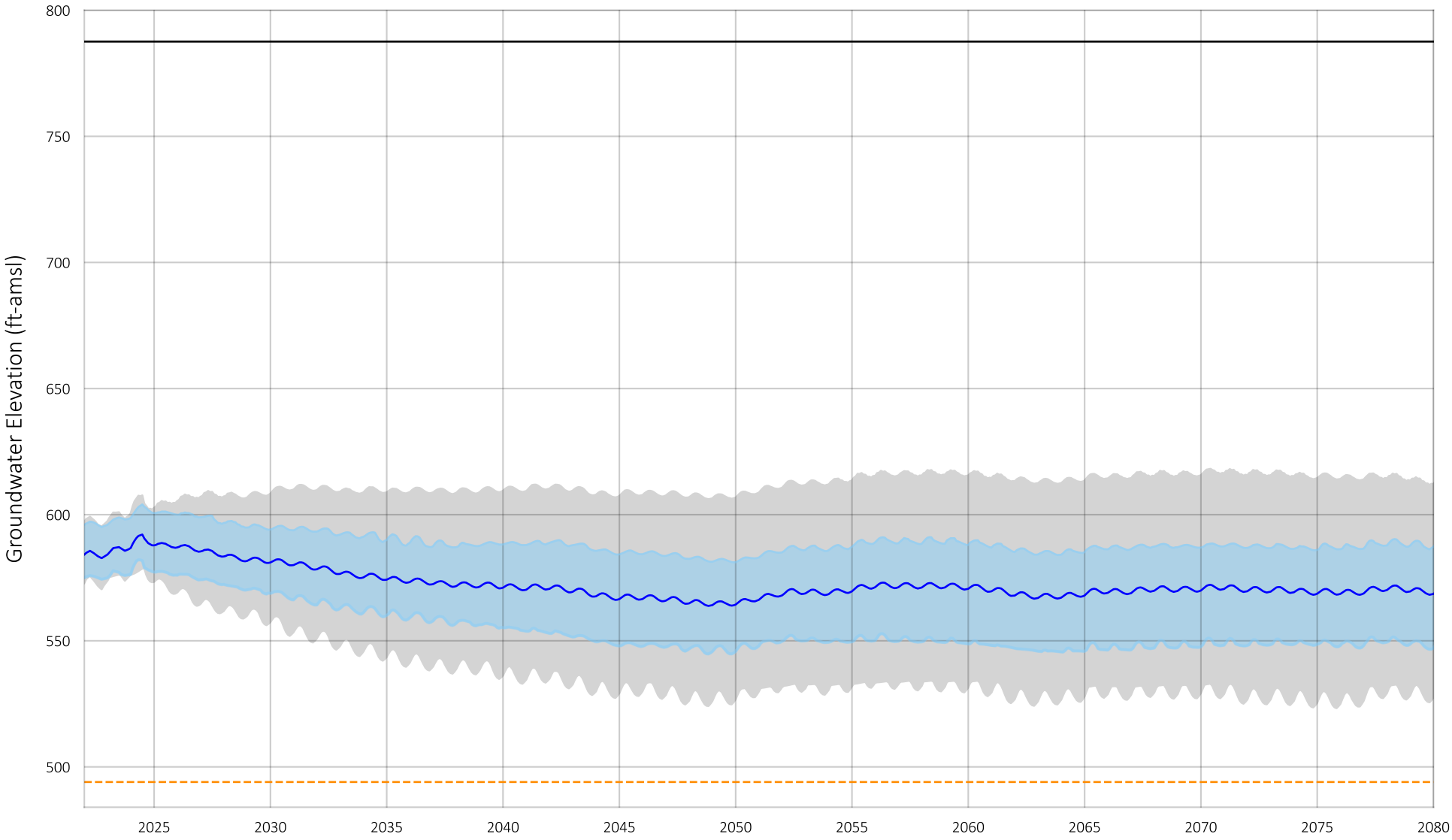
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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-87



Well Location

Legend

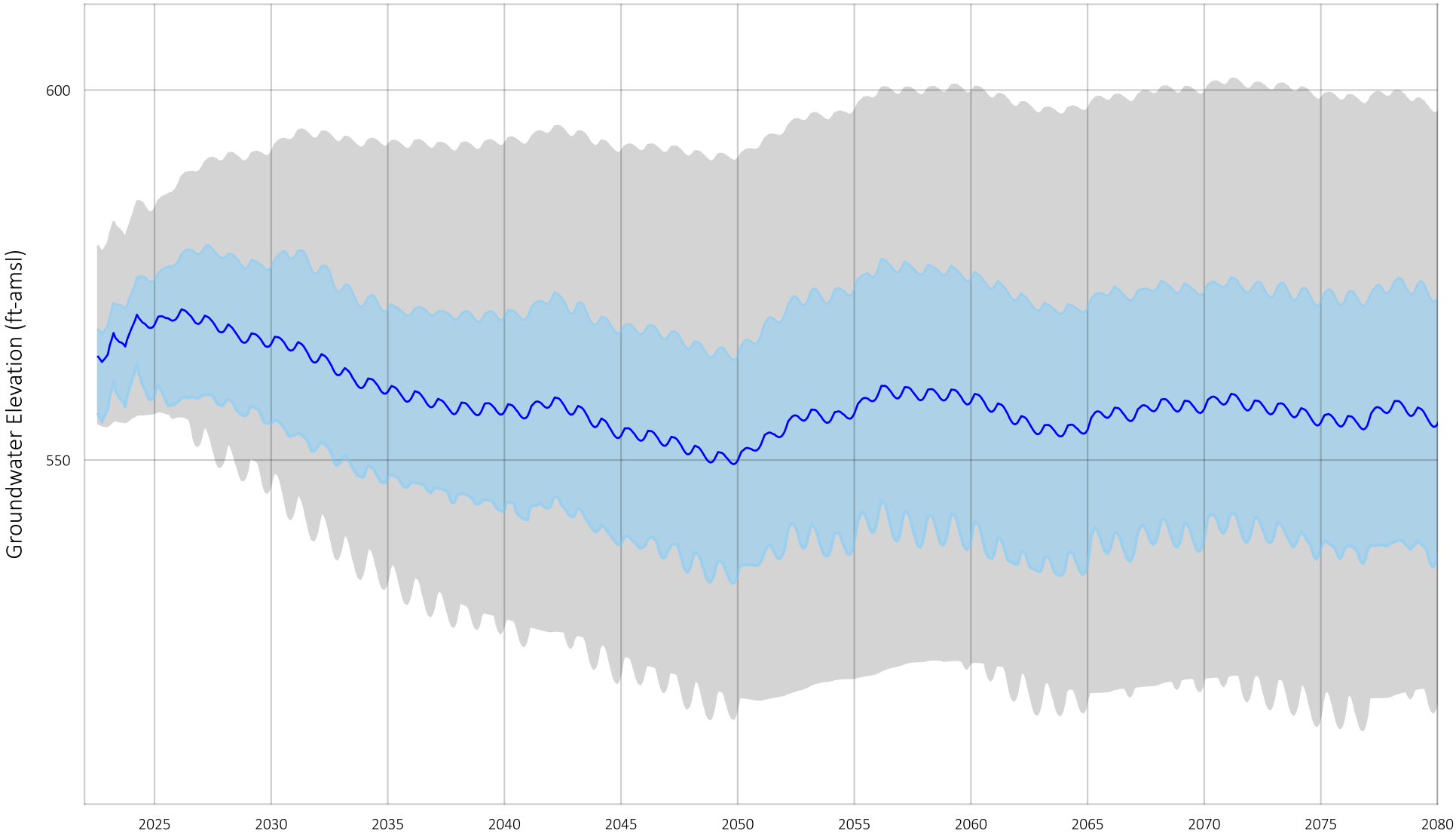
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

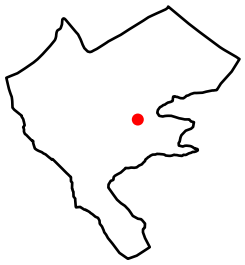
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: JCSD 28
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): 300 - 500

Figure D-88



Well Location



Legend

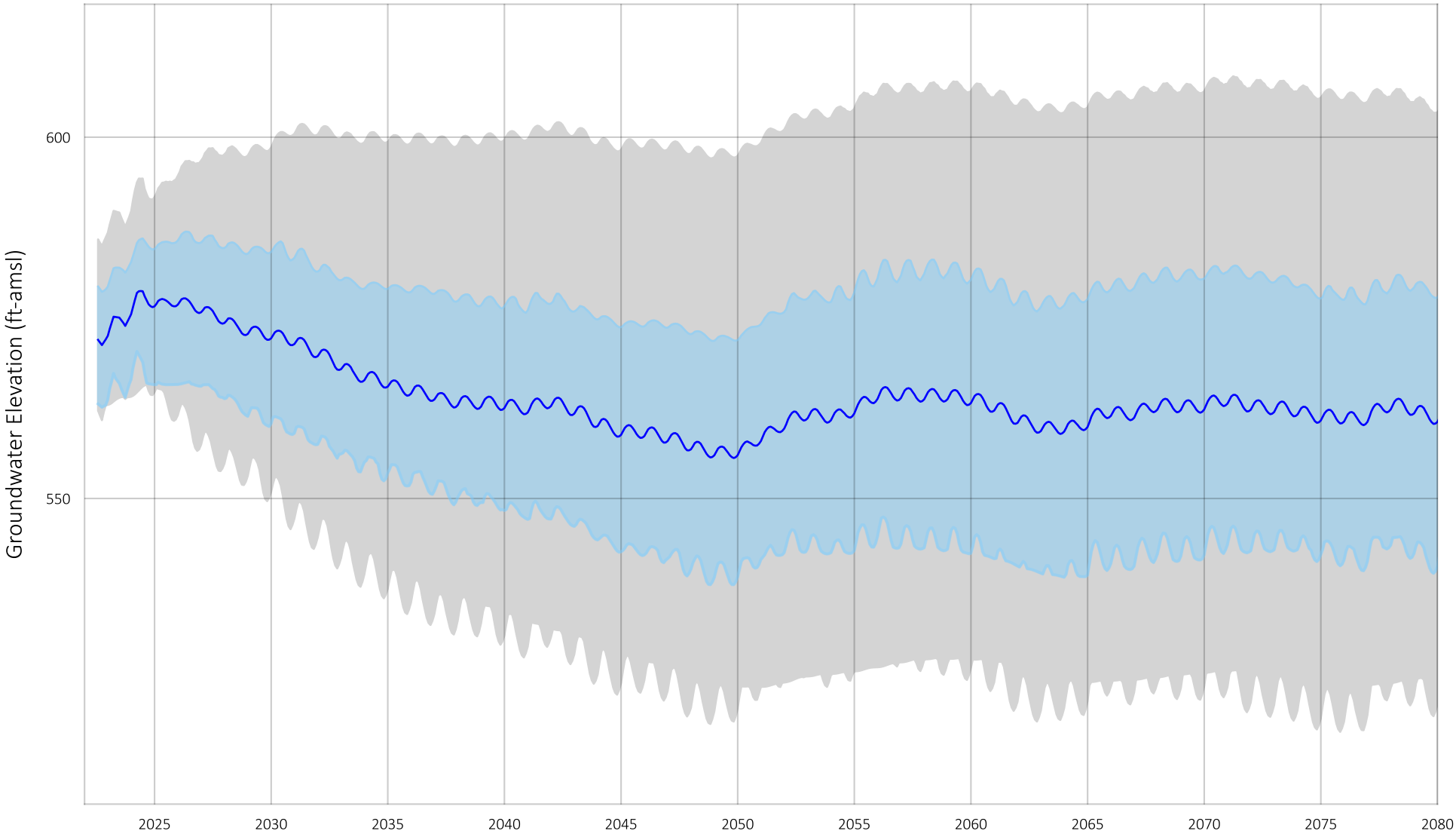
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

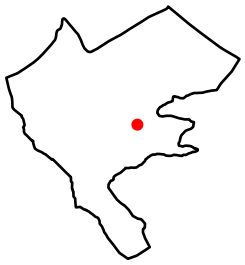
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: IDI-5A
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): no data - no data

Figure D-89



Well Location



Legend

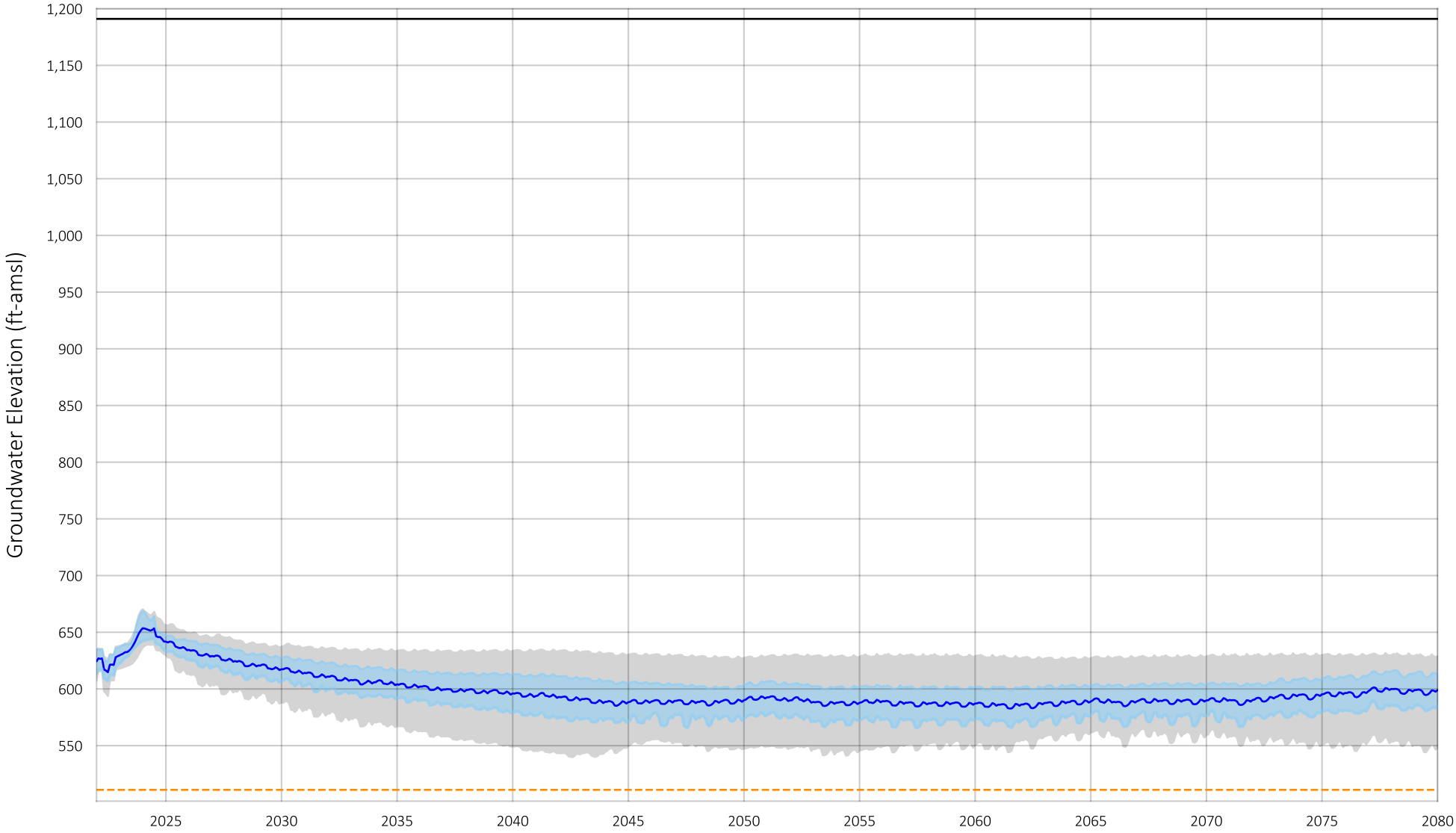
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

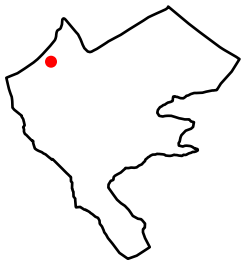
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: IDI-3A
Well Owner: Jurupa Community Services District
Screen Interval (ft-bgs): no data - no data

Figure D-90



Well Location



Legend

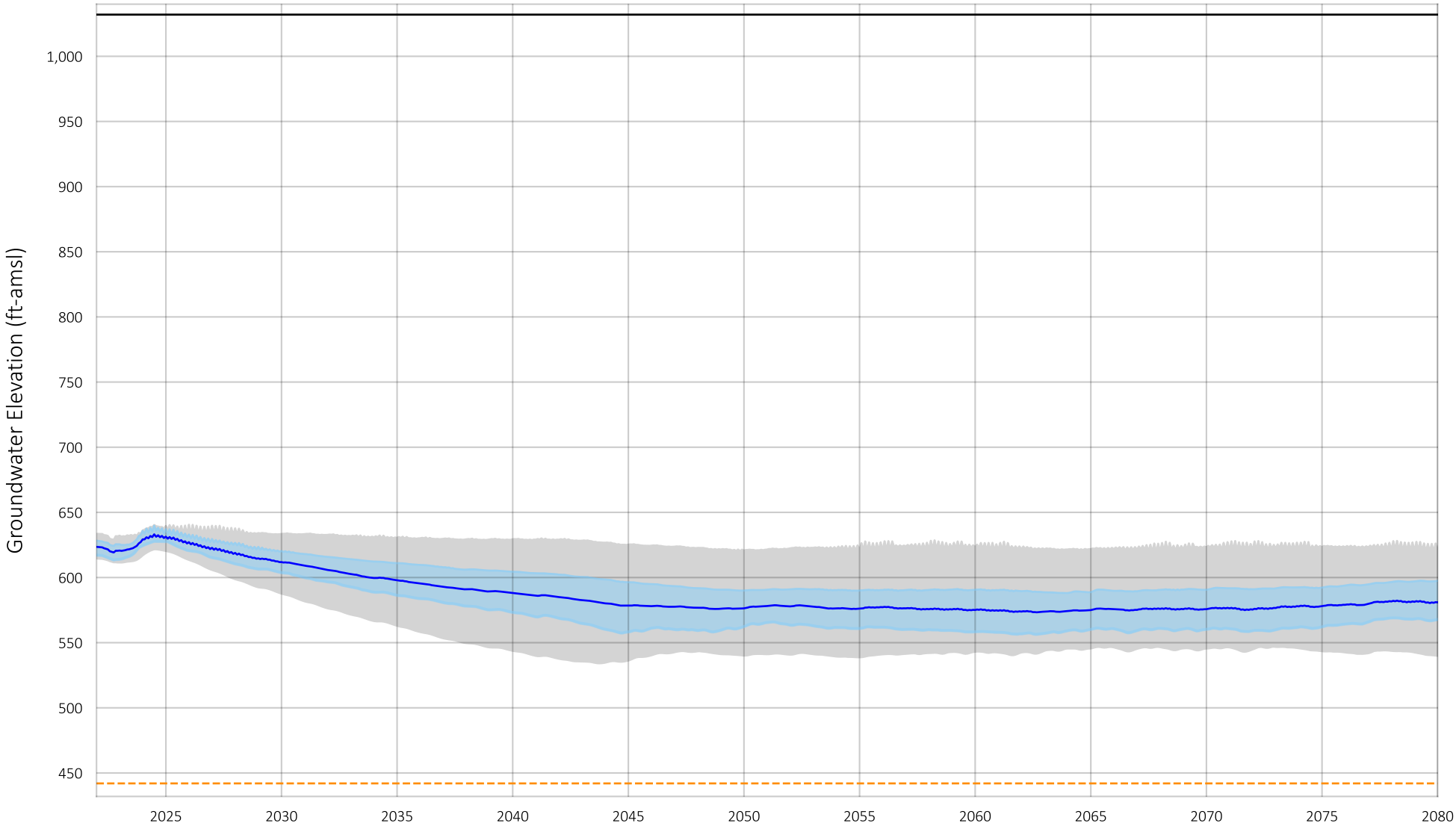
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

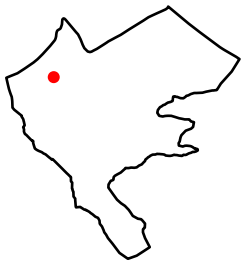
WEST YOST
Water. Engineered.

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

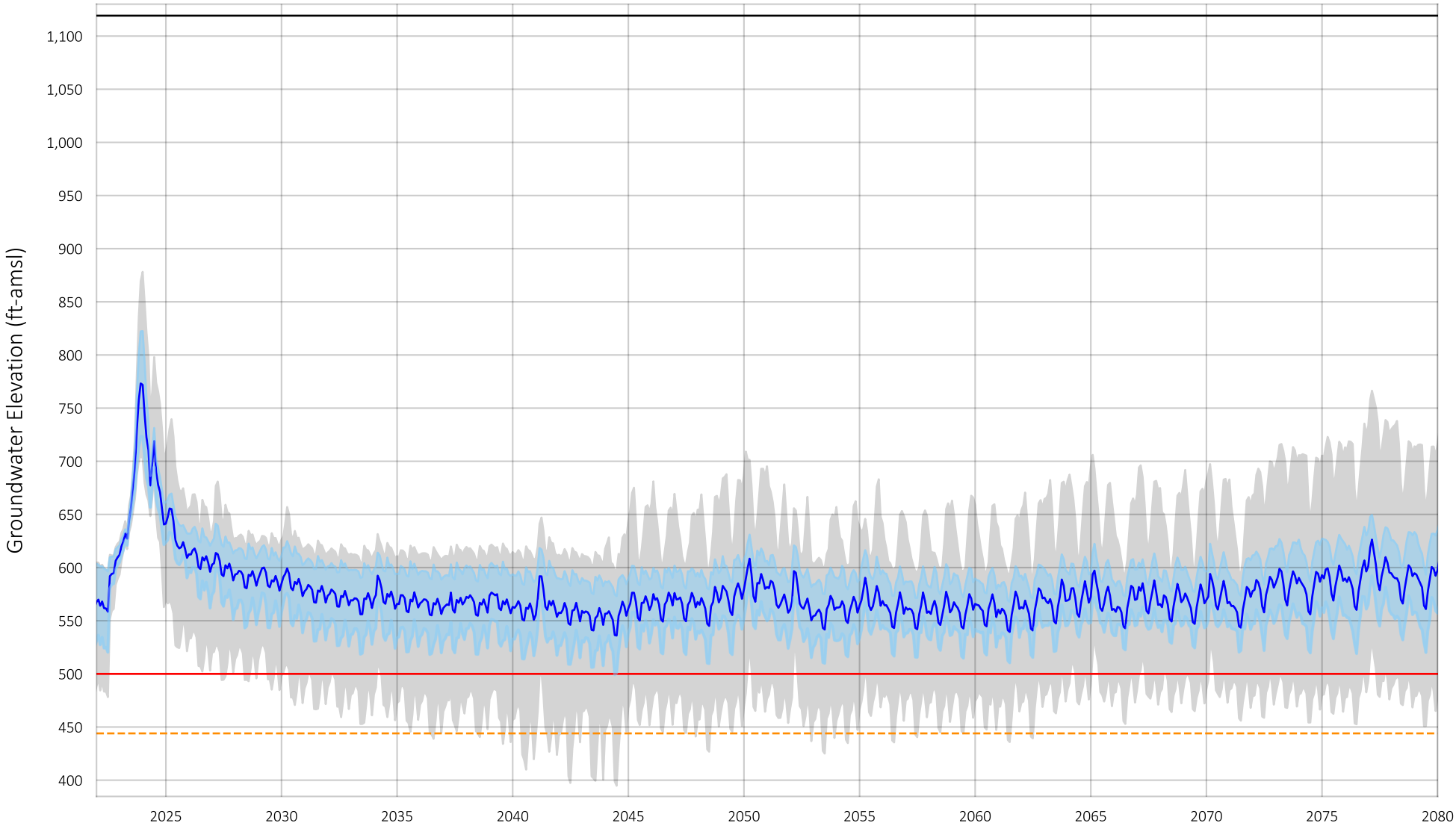
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

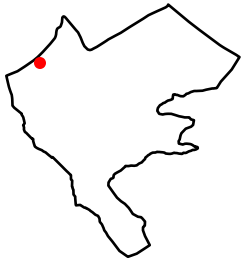
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 32
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 625 - 1107

Figure D-92



Well Location



Legend

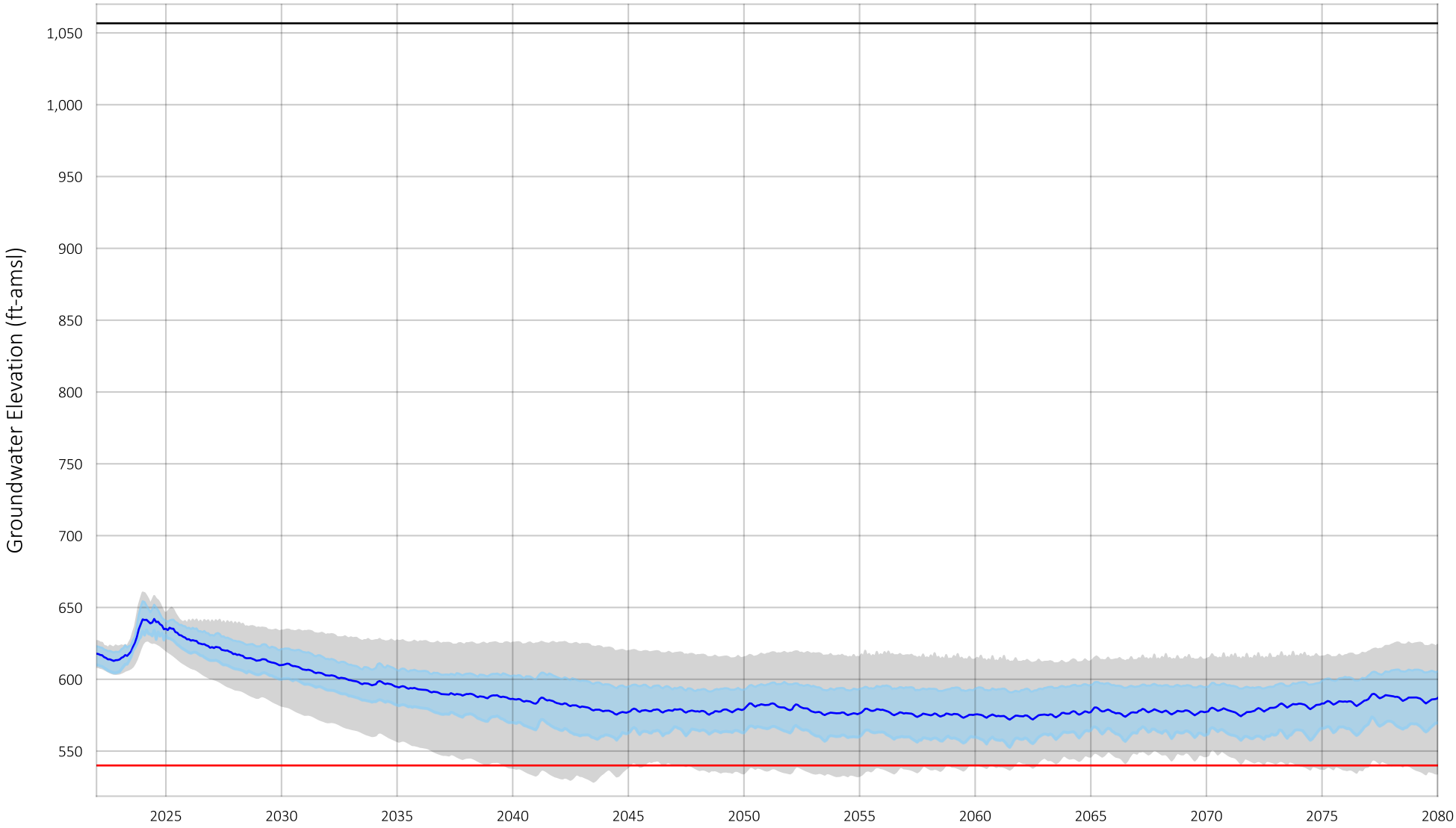
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

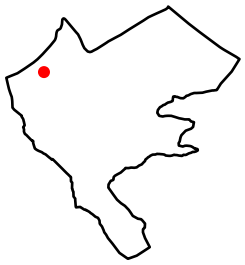
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 26
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 685 - 1240

Figure D-93



Well Location



Legend

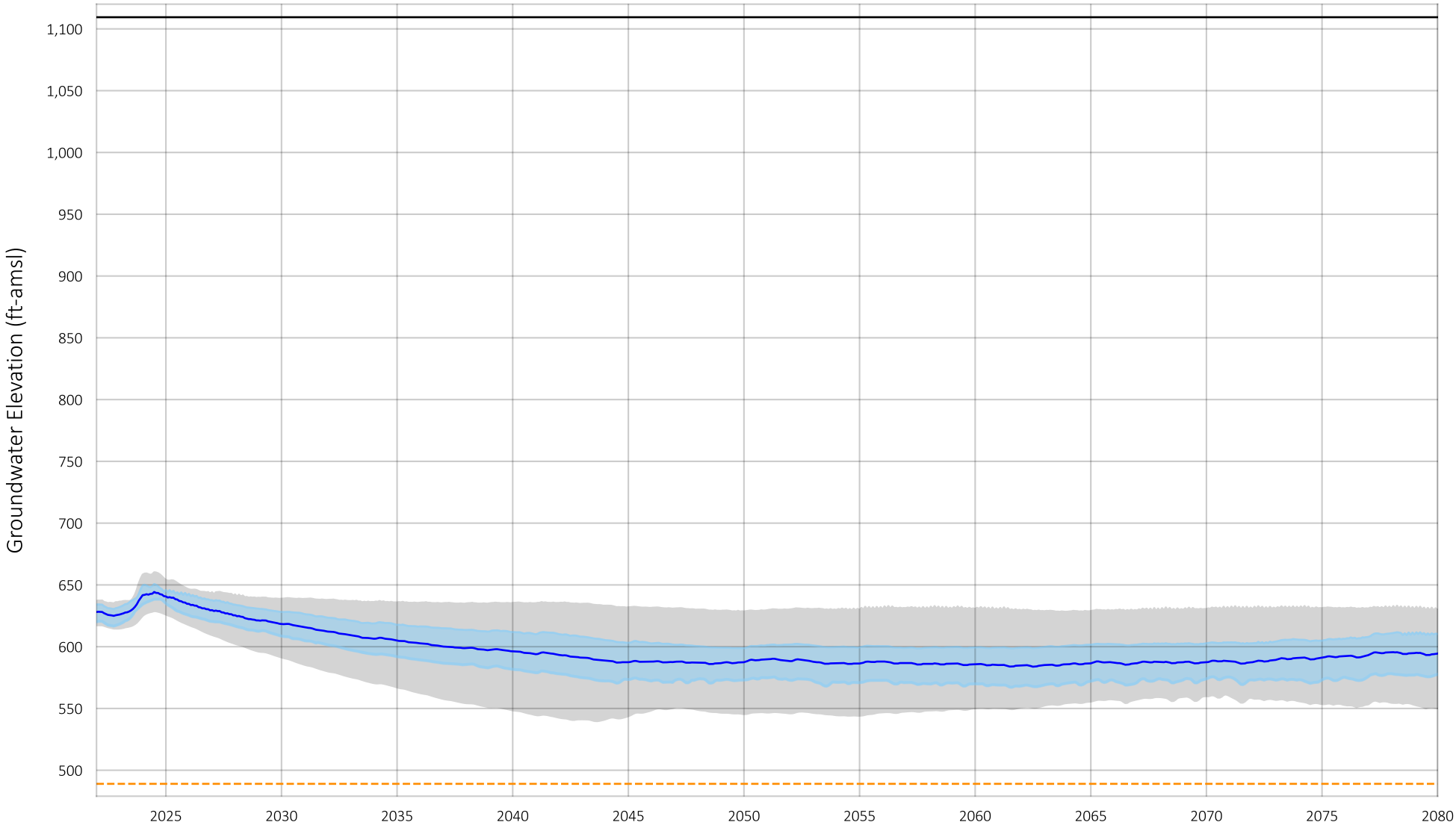
- Land Subsidence Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

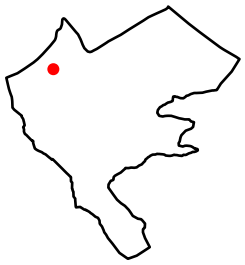
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 10
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 520 - 1084

Figure D-94



Well Location



Legend

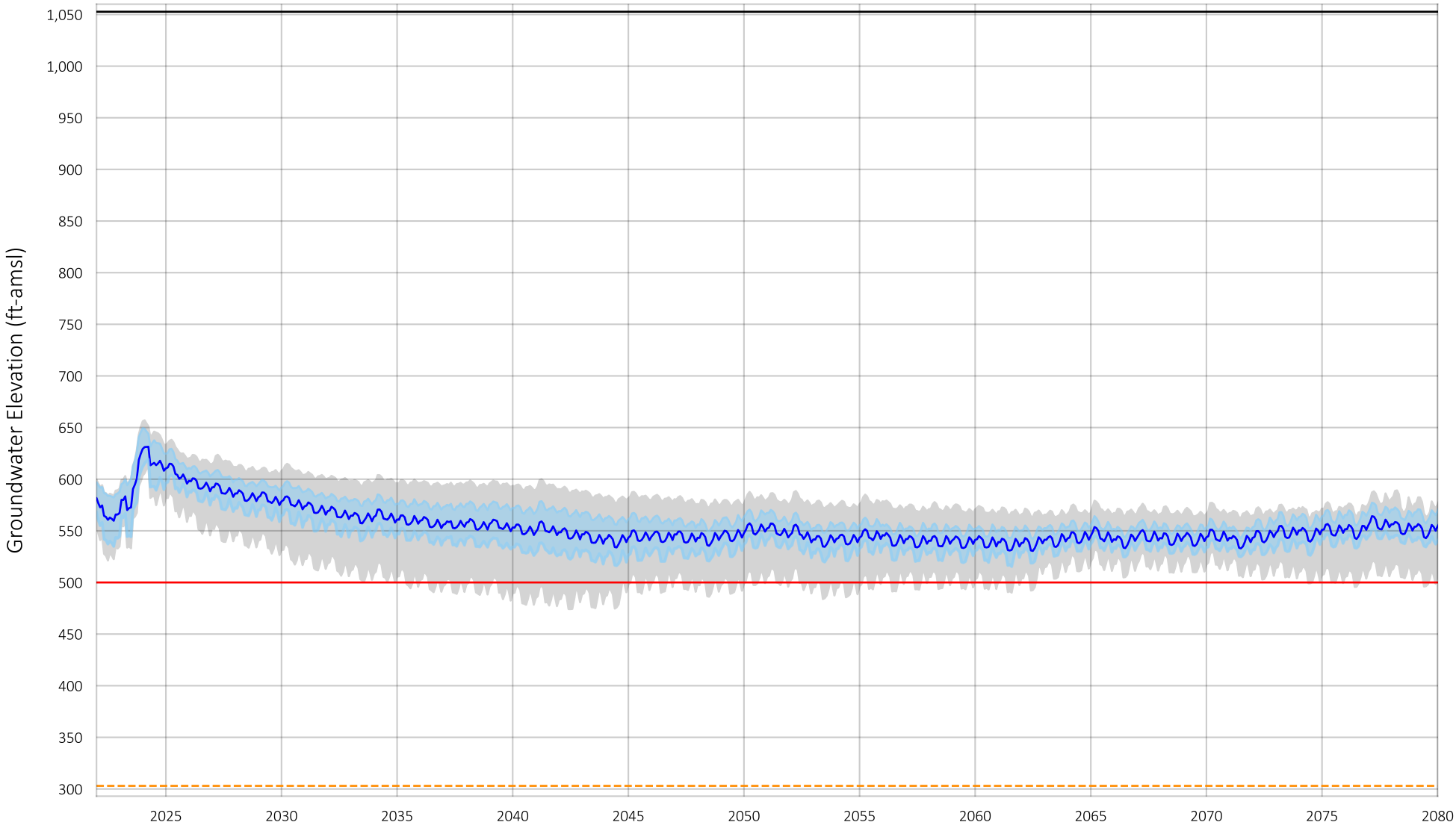
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

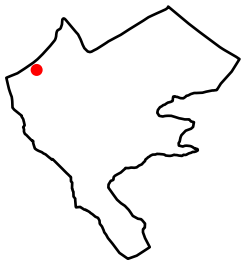
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 33
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 665 - 1200

Figure D-95



Well Location



Legend

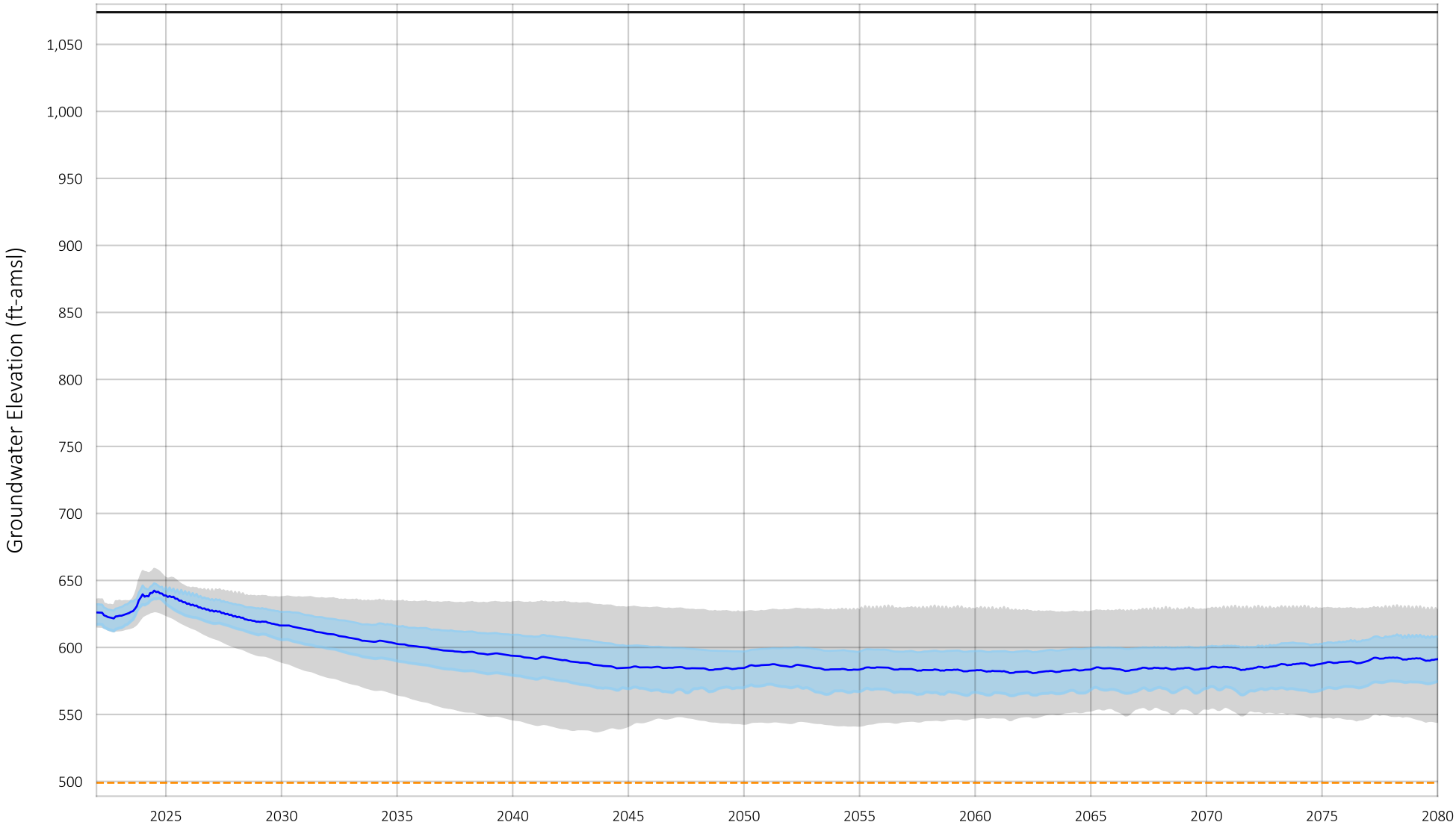
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

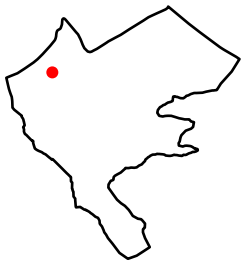
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 28
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 635 - 1225

Figure D-96



Well Location



Legend

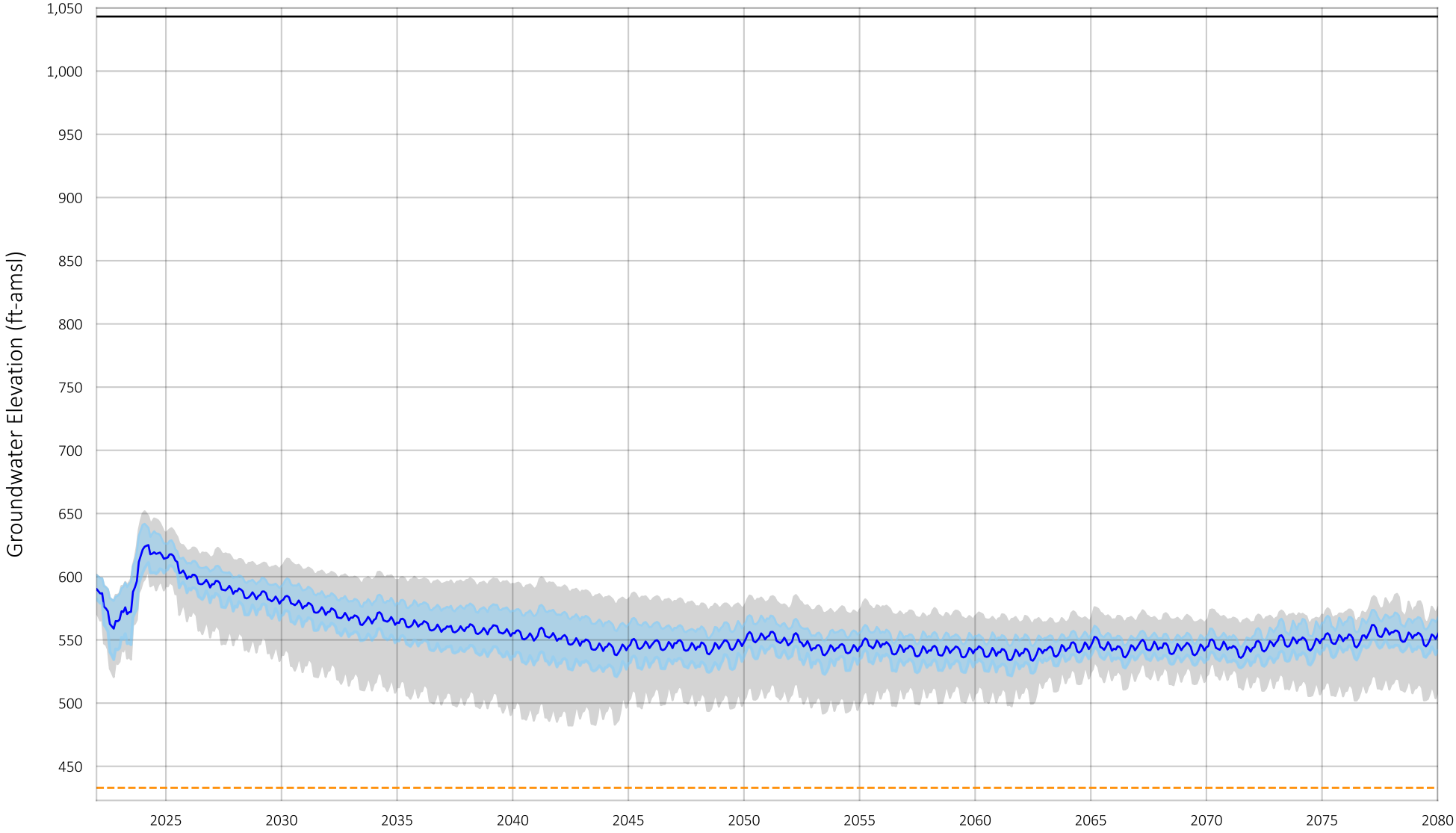
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

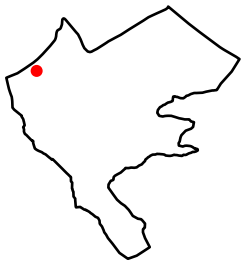
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 30
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 628 - 1161

Figure D-97



Well Location



Legend

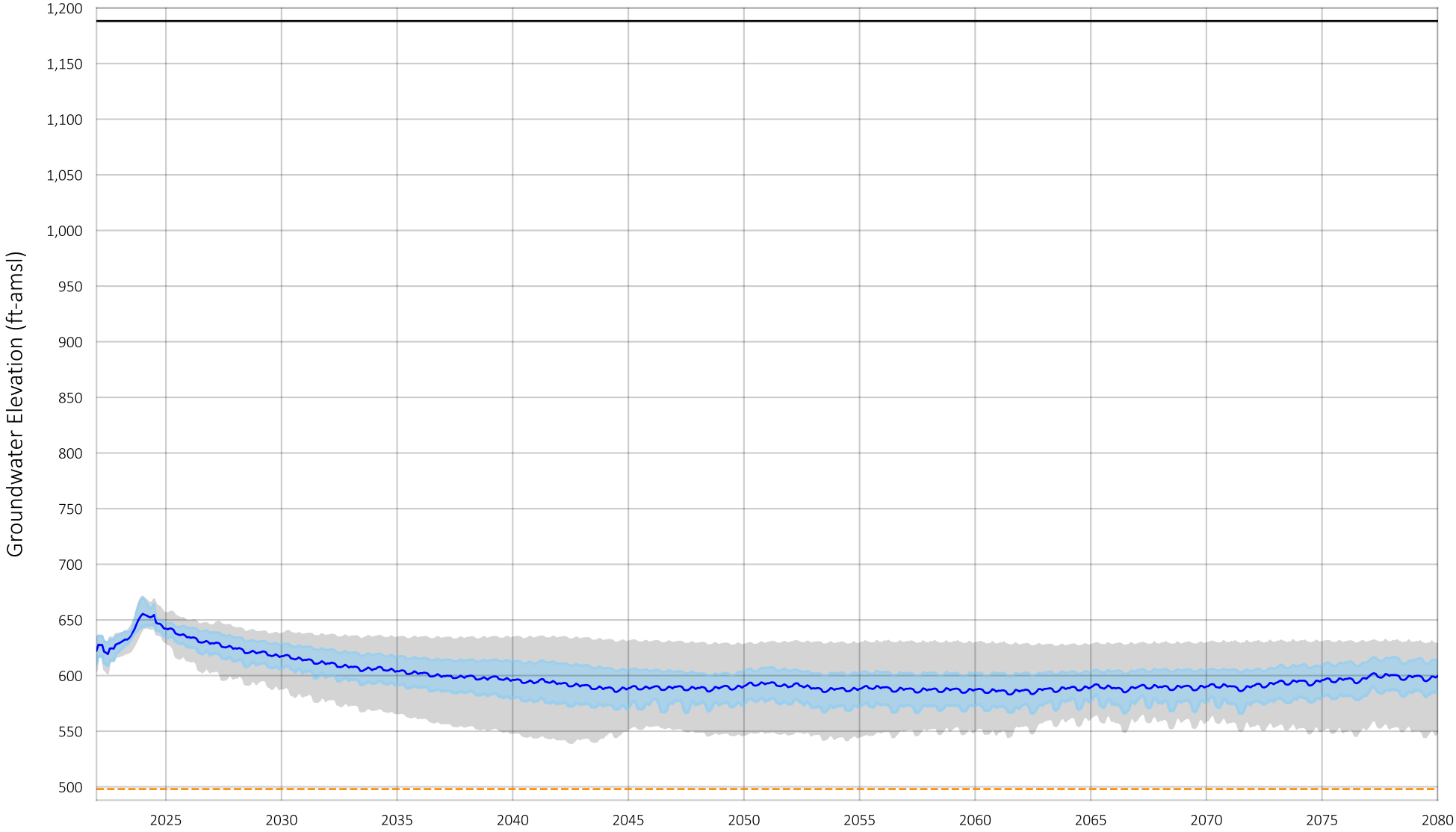
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

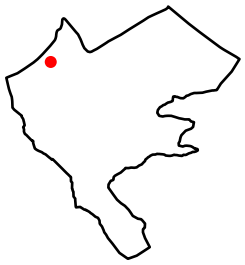
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 19
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 620 - 1230

Figure D-98



Well Location



Legend

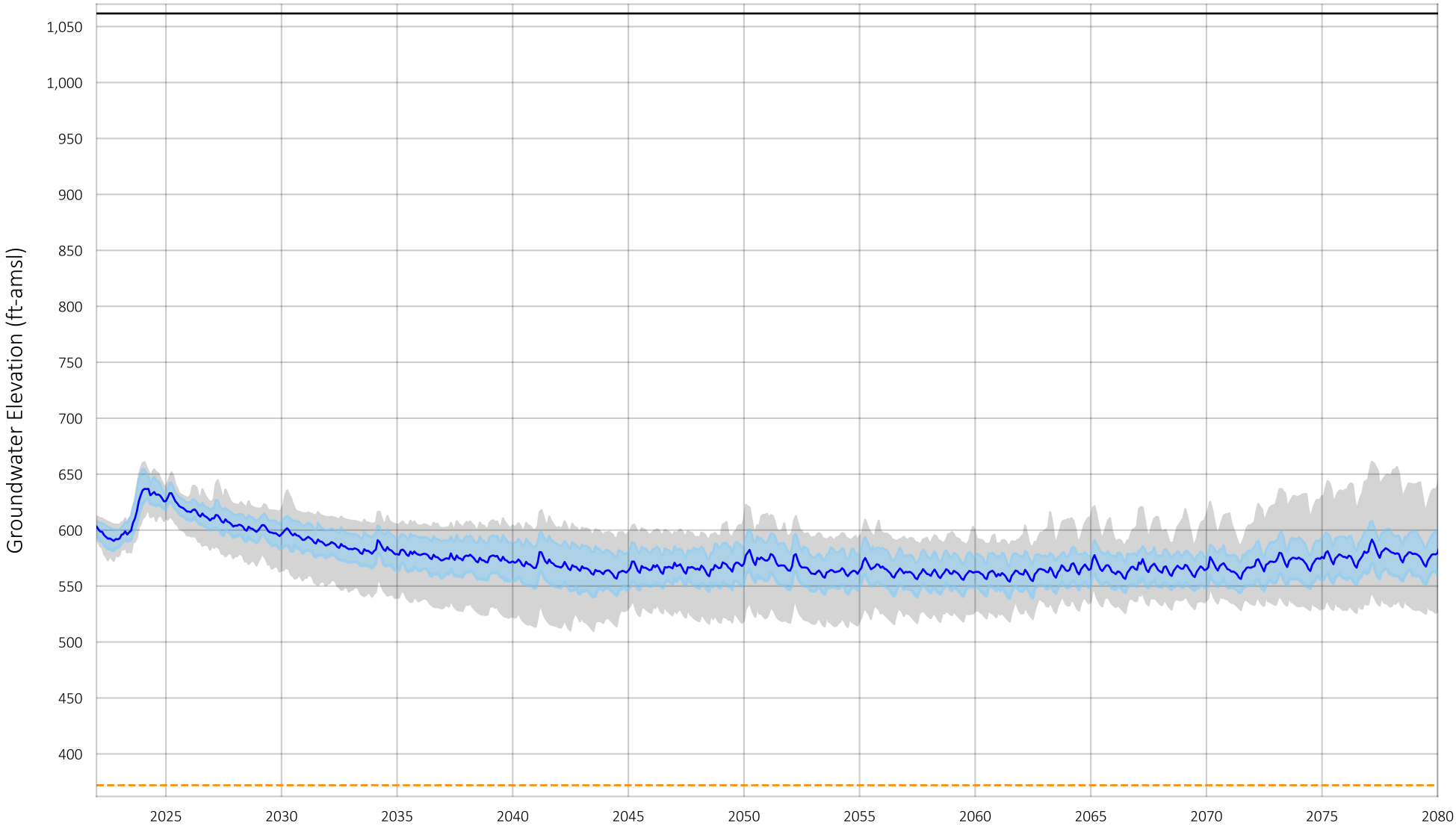
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

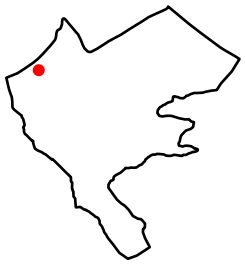
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 27
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 710 - 1180

Figure D-99



Well Location



Legend

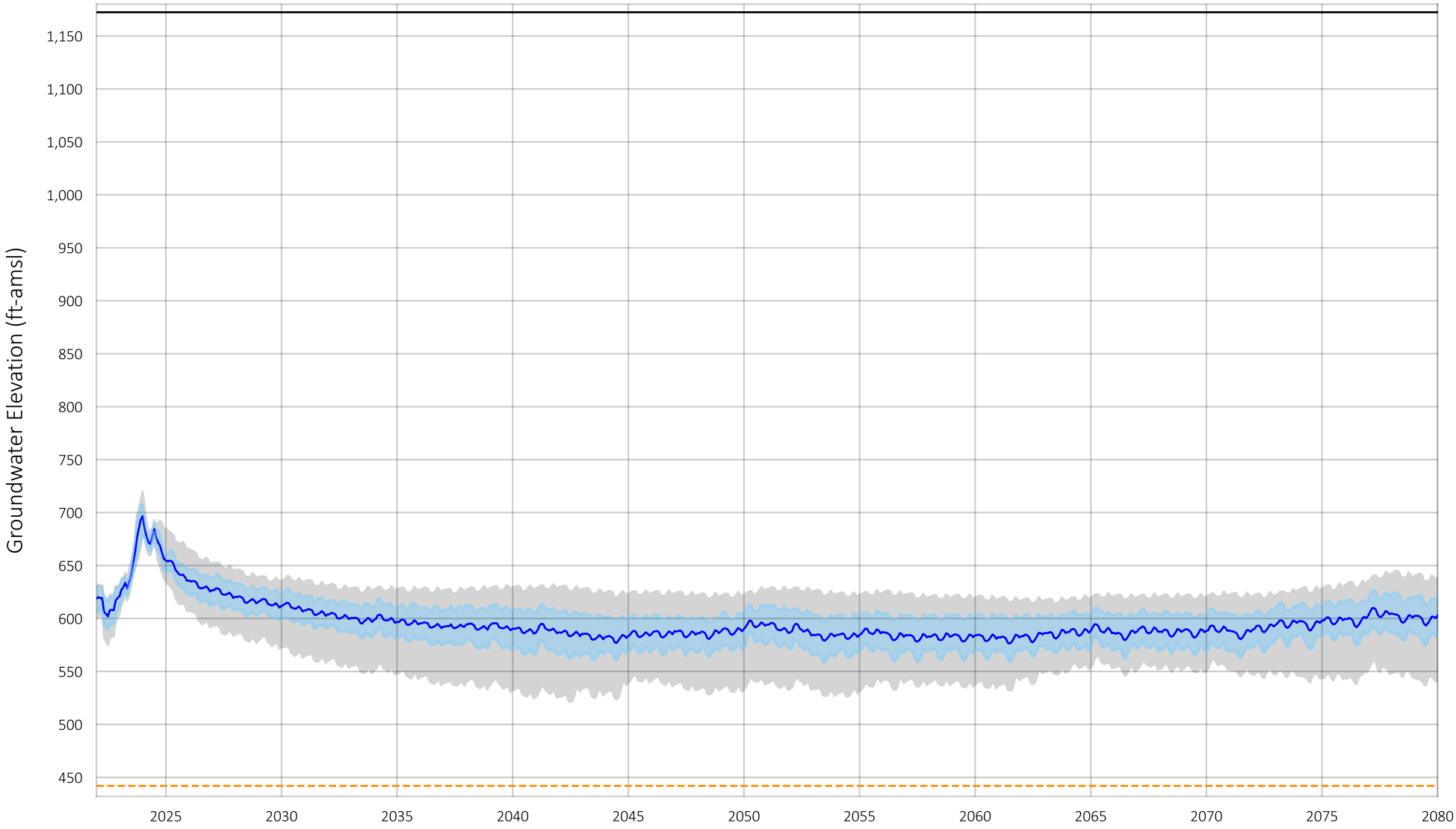
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

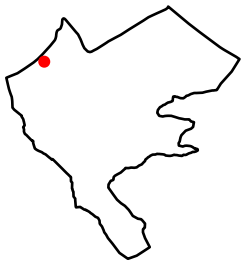
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 34
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 664 - 1224

Figure D-100



Well Location



Legend

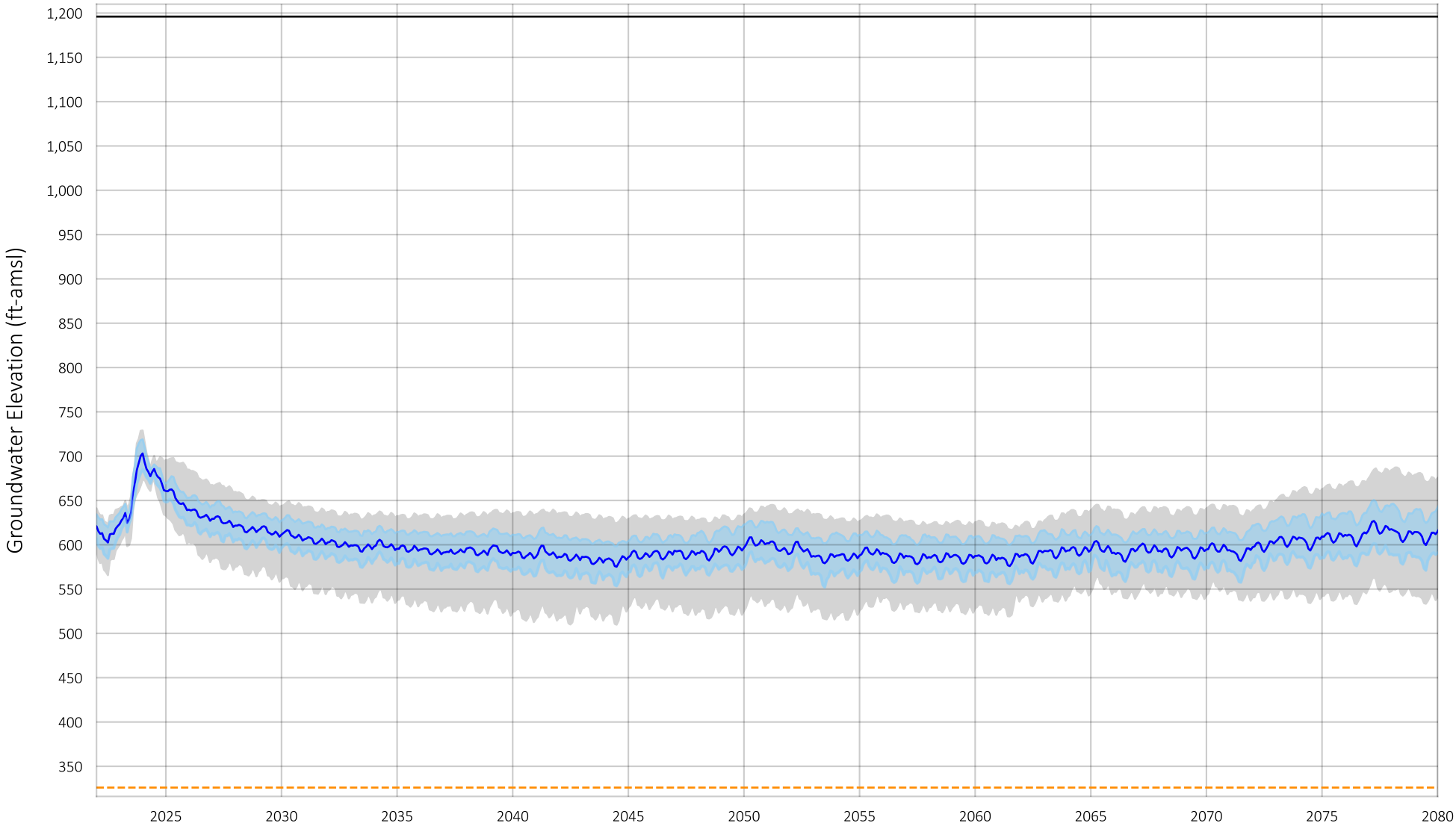
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

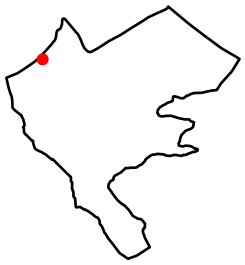
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 05
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 422 - 990

Figure D-101



Well Location



Legend

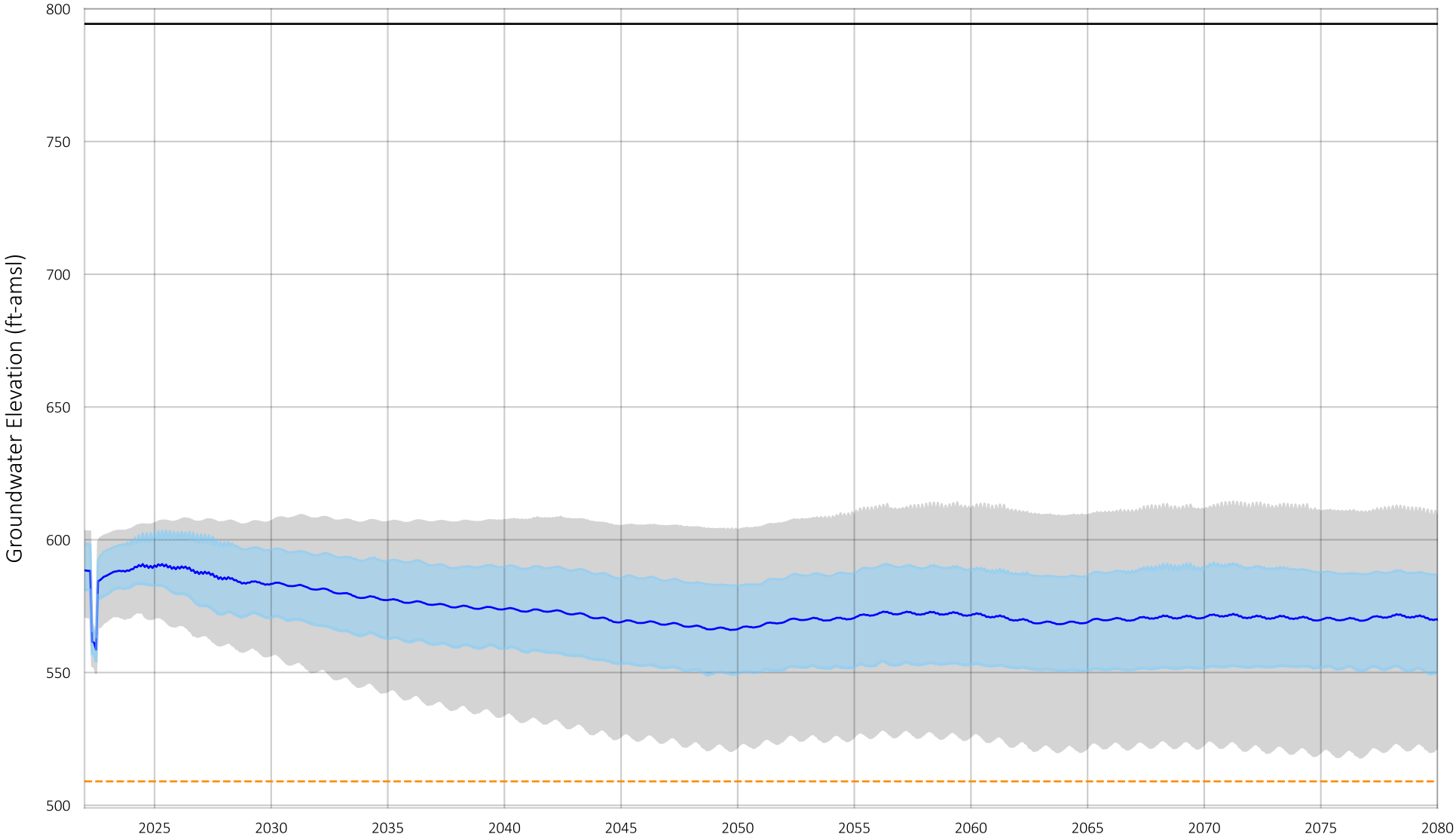
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

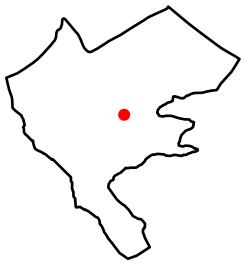
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: MVWD 31
Well Owner: Monte Vista Water District
Screen Interval (ft-bgs): 780 - 1410

Figure D-102



Well Location



Legend

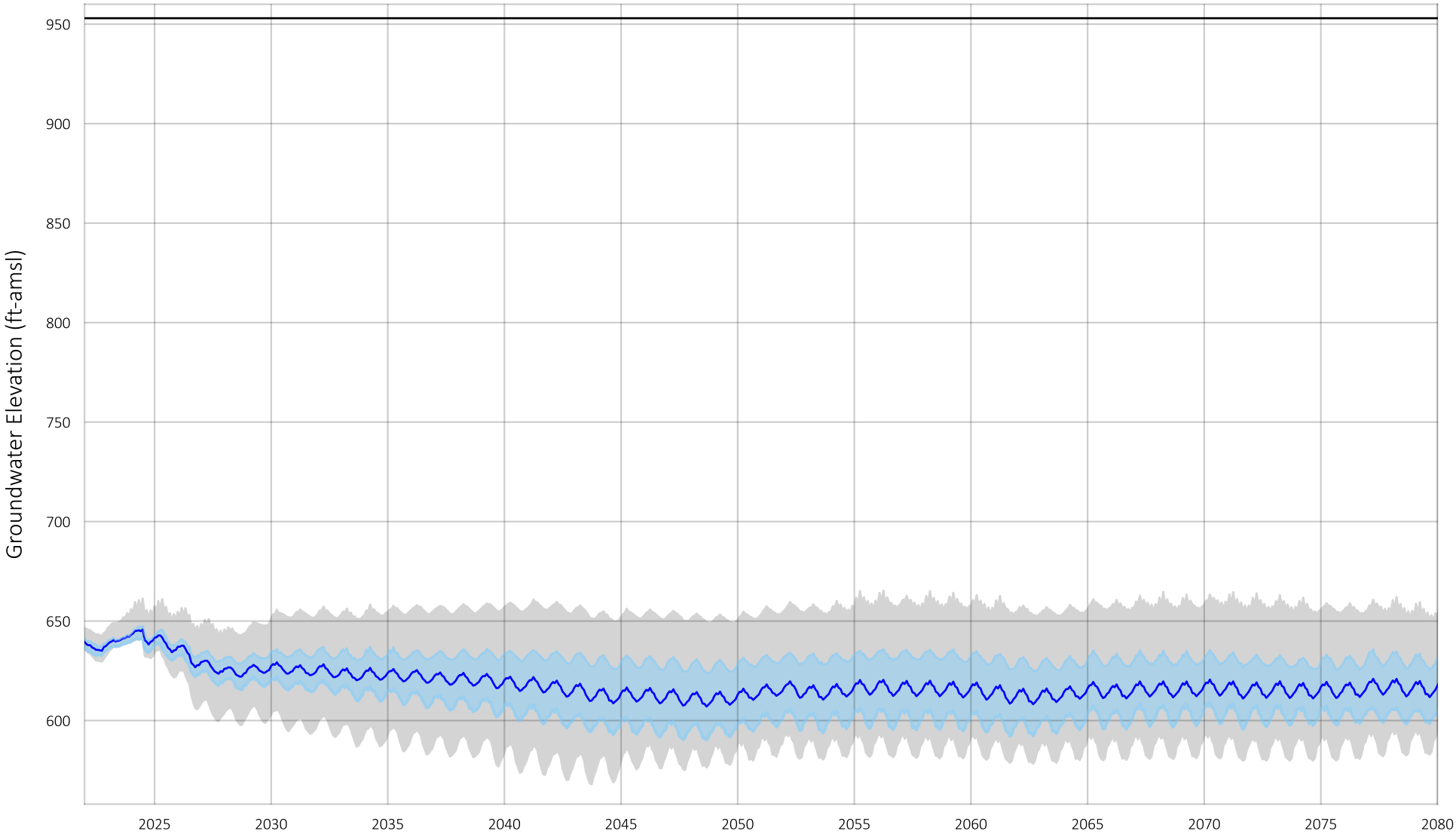
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

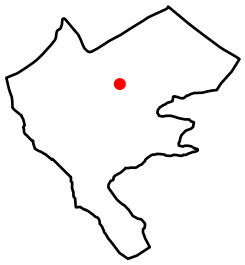
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 50
Well Owner: City of Ontario
Screen Interval (ft-bgs): 322 - 665

Figure D-103



Well Location



Legend

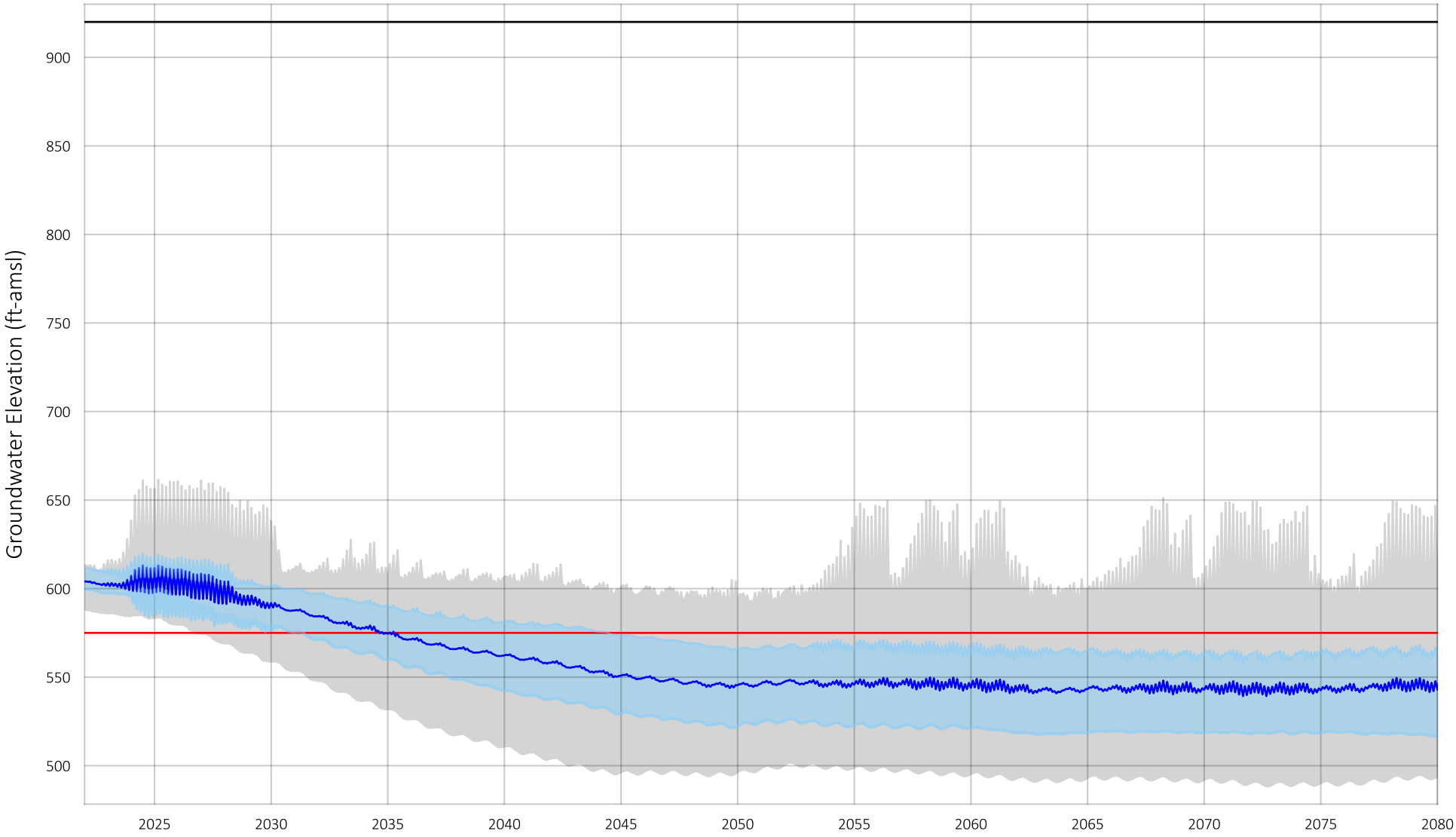
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

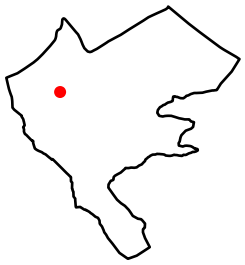
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 43
Well Owner: City of Ontario
Screen Interval (ft-bgs): 430 - 866

Figure D-104



Well Location



Legend

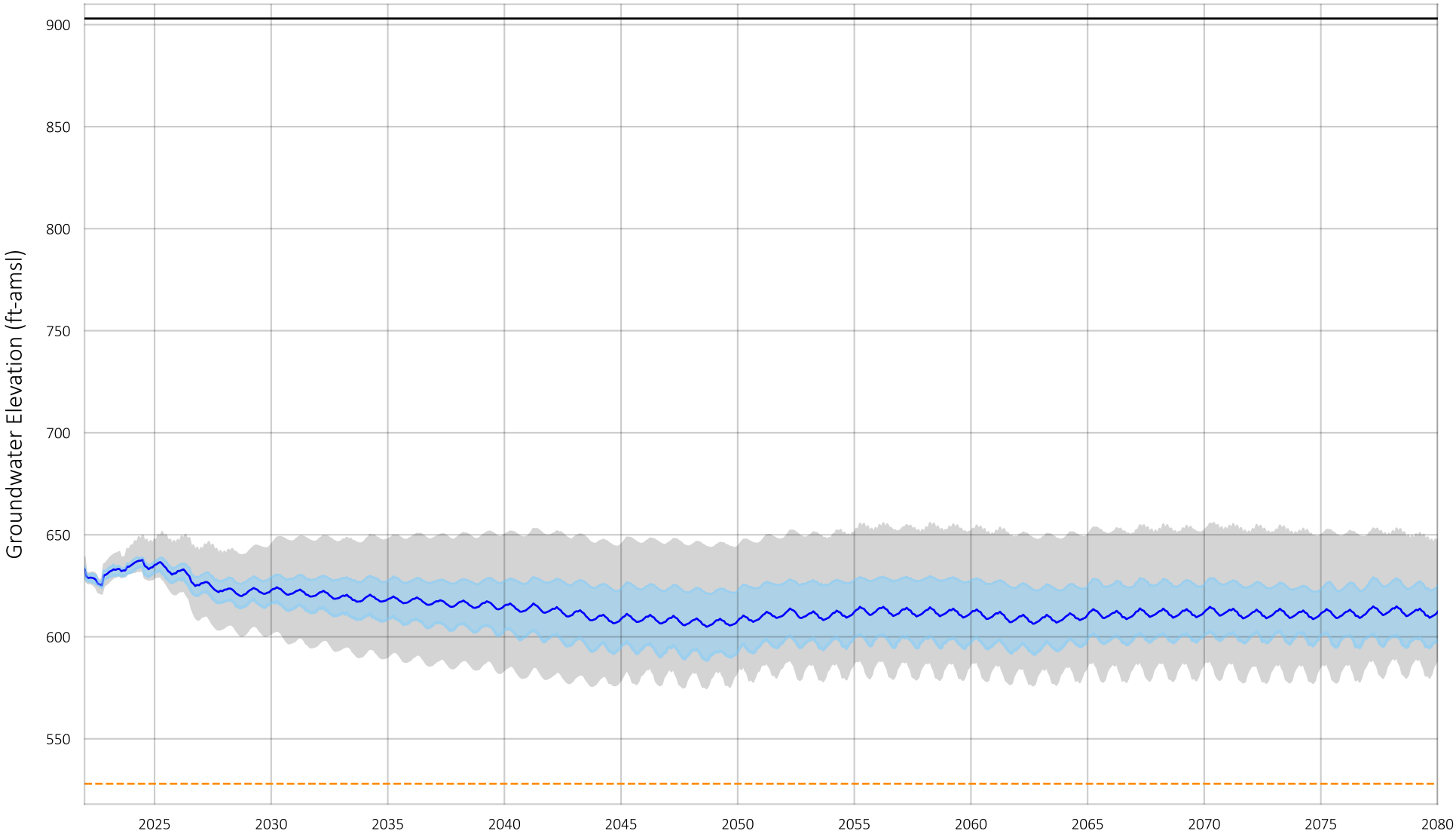
- Land Subsidence Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

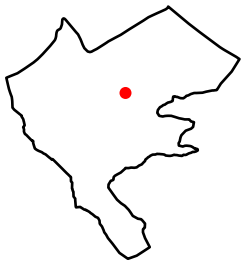
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 15
Well Owner: City of Ontario
Screen Interval (ft-bgs): 474 - 966

Figure D-105



Well Location



Legend

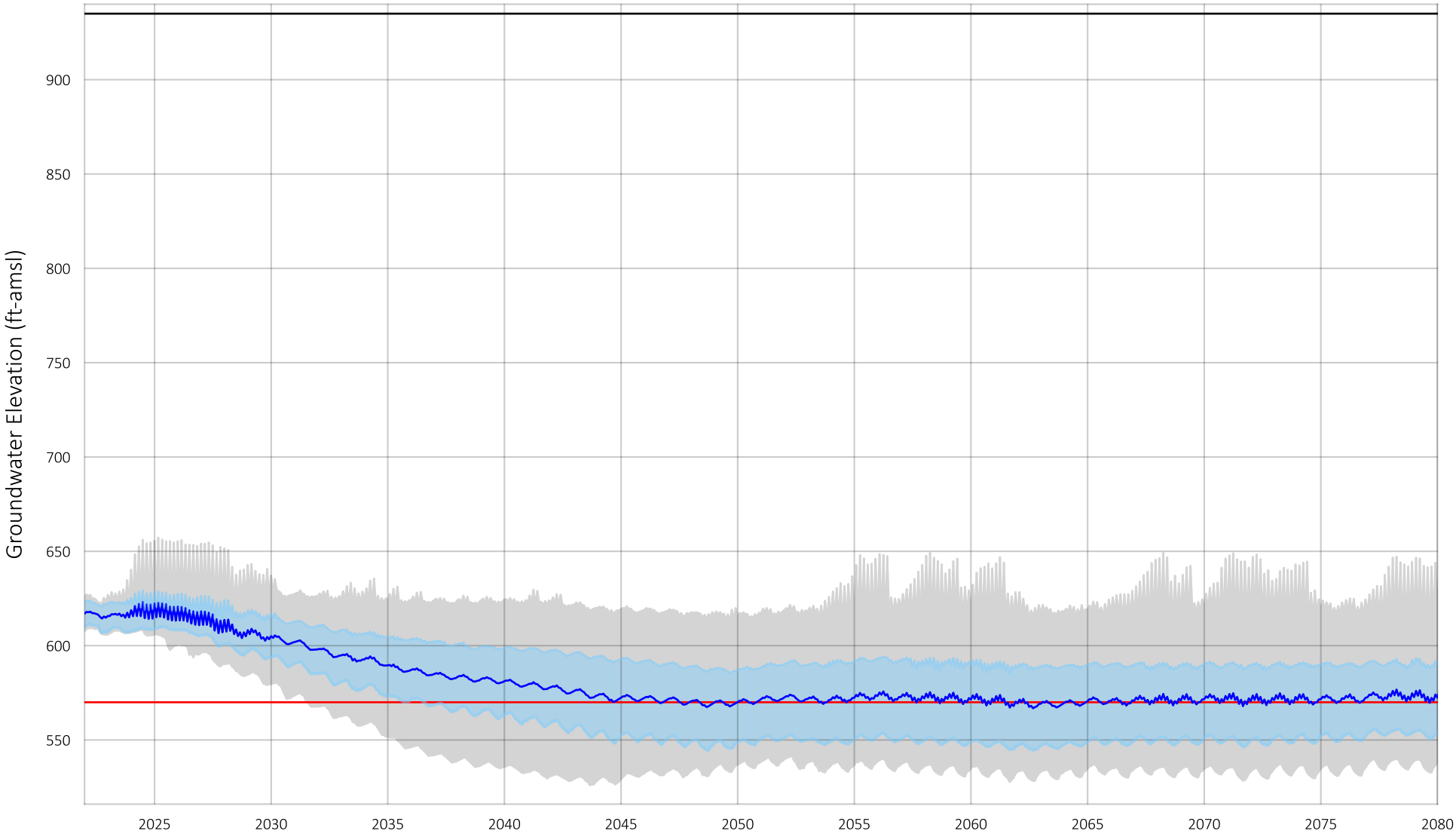
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

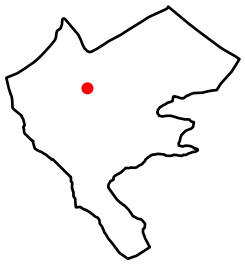
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 49
Well Owner: City of Ontario
Screen Interval (ft-bgs): 412 - 805

Figure D-106



Well Location



Legend

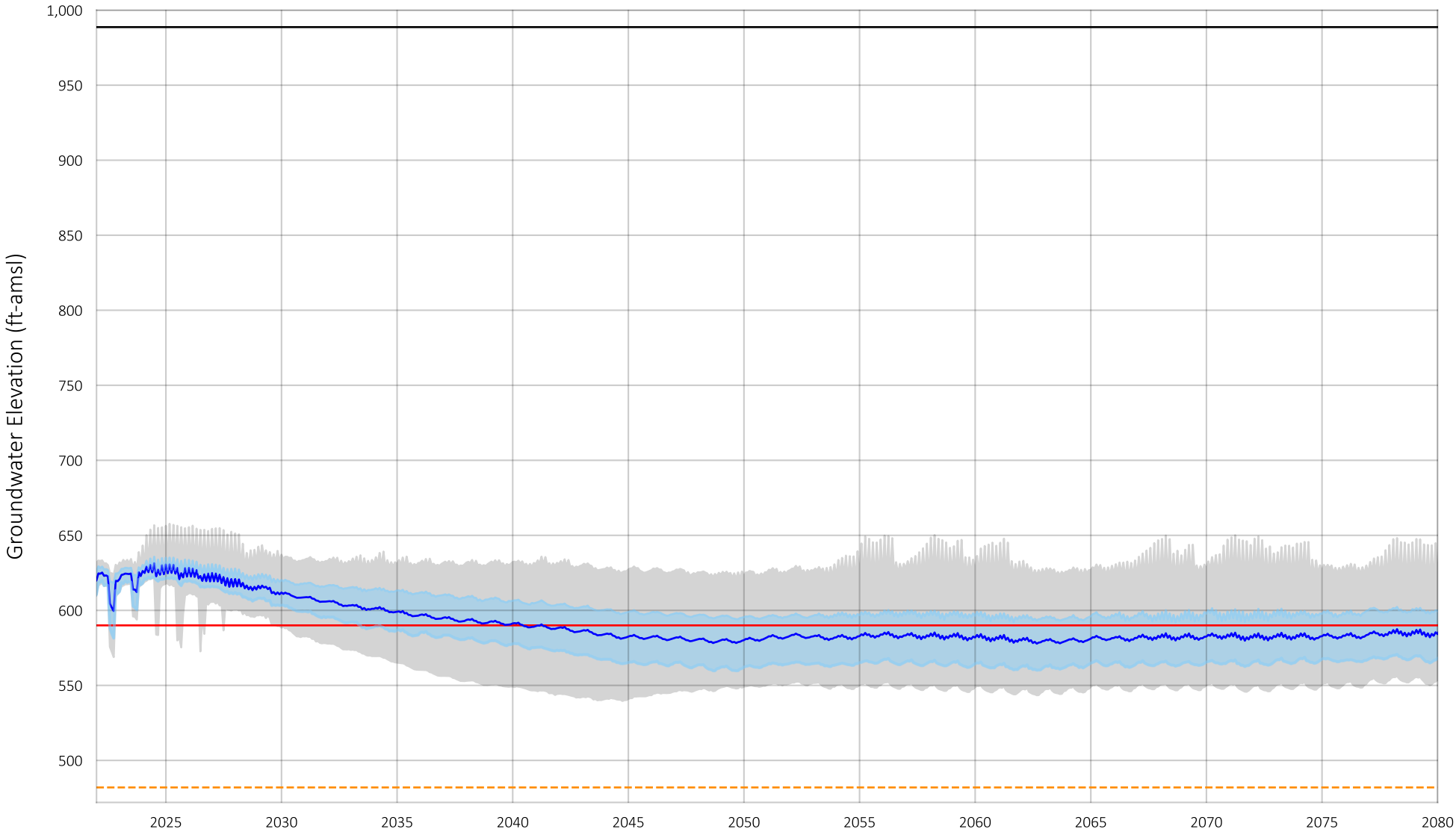
- Land Subsidence Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

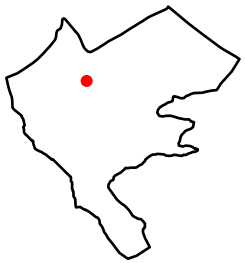
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 11
Well Owner: City of Ontario
Screen Interval (ft-bgs): 464 - 1080

Figure D-107



Well Location



Legend

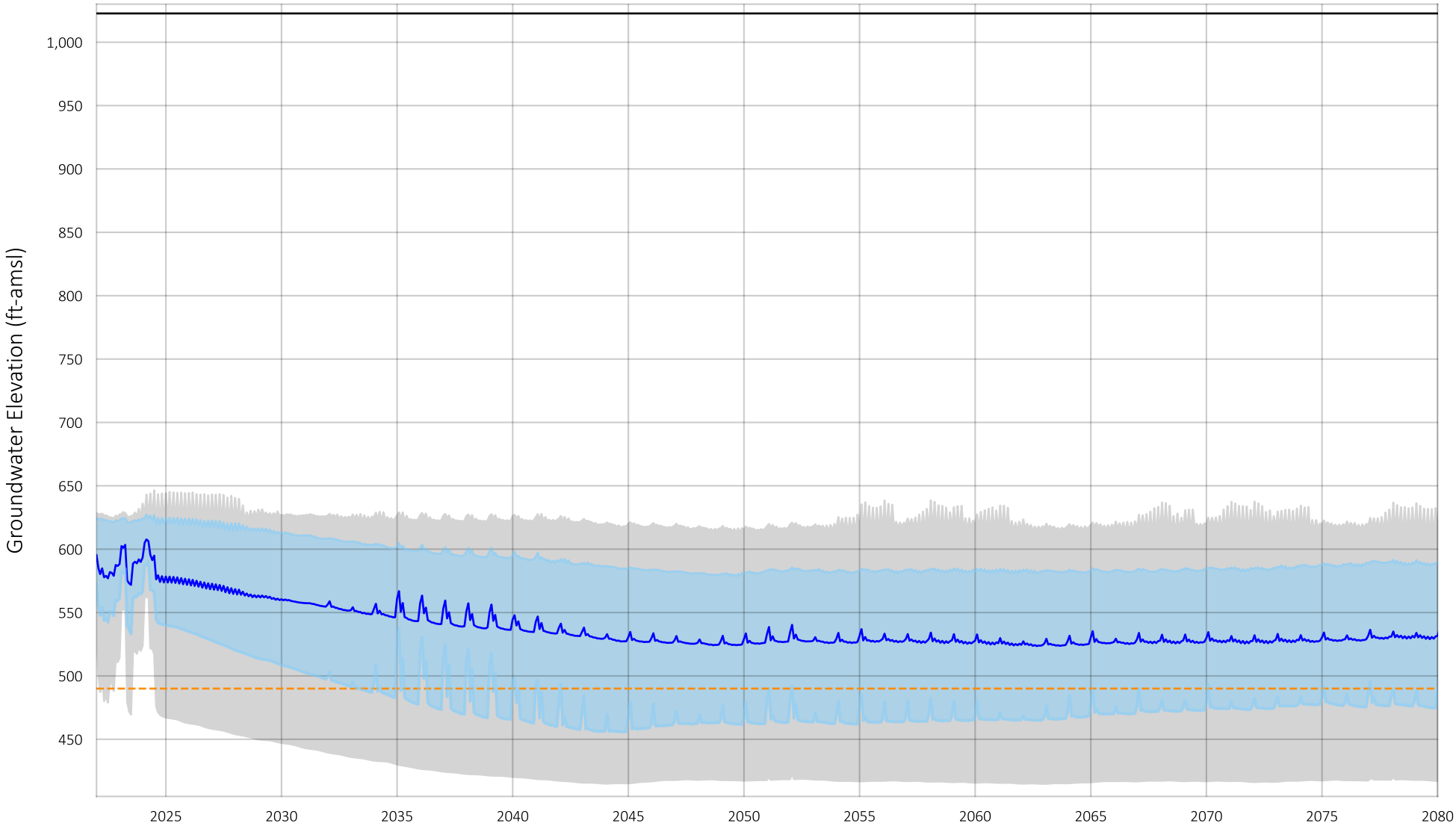
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

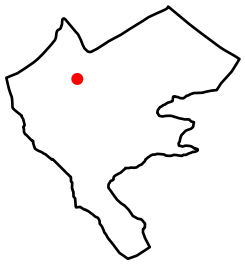
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 40
Well Owner: City of Ontario
Screen Interval (ft-bgs): 500 - 1005

Figure D-108



Well Location



Legend

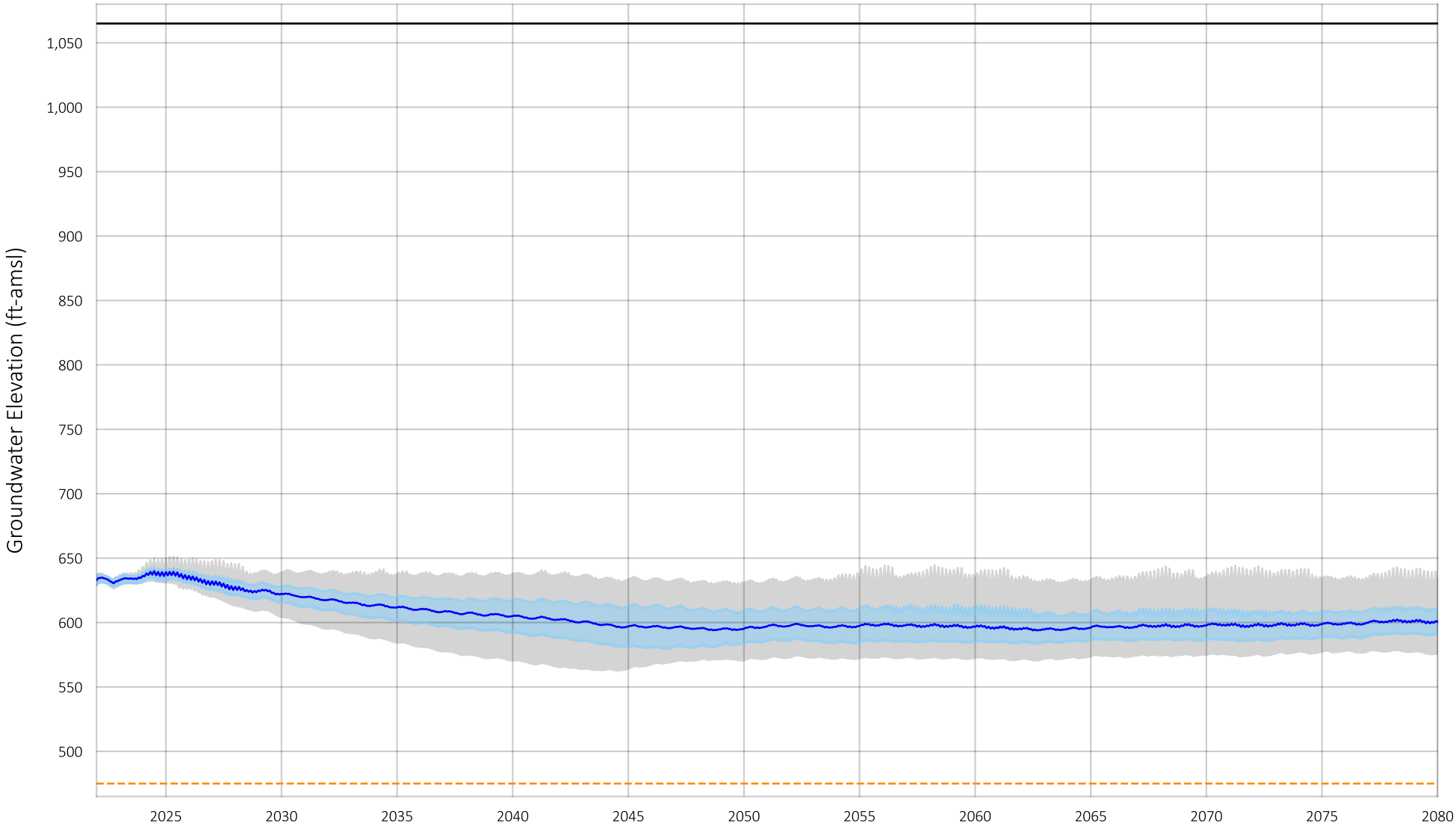
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

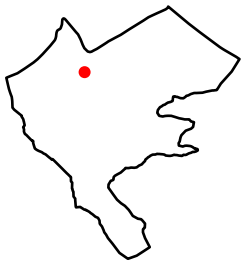
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 45
Well Owner: City of Ontario
Screen Interval (ft-bgs): 614 - 1040

Figure D-109



Well Location



Legend

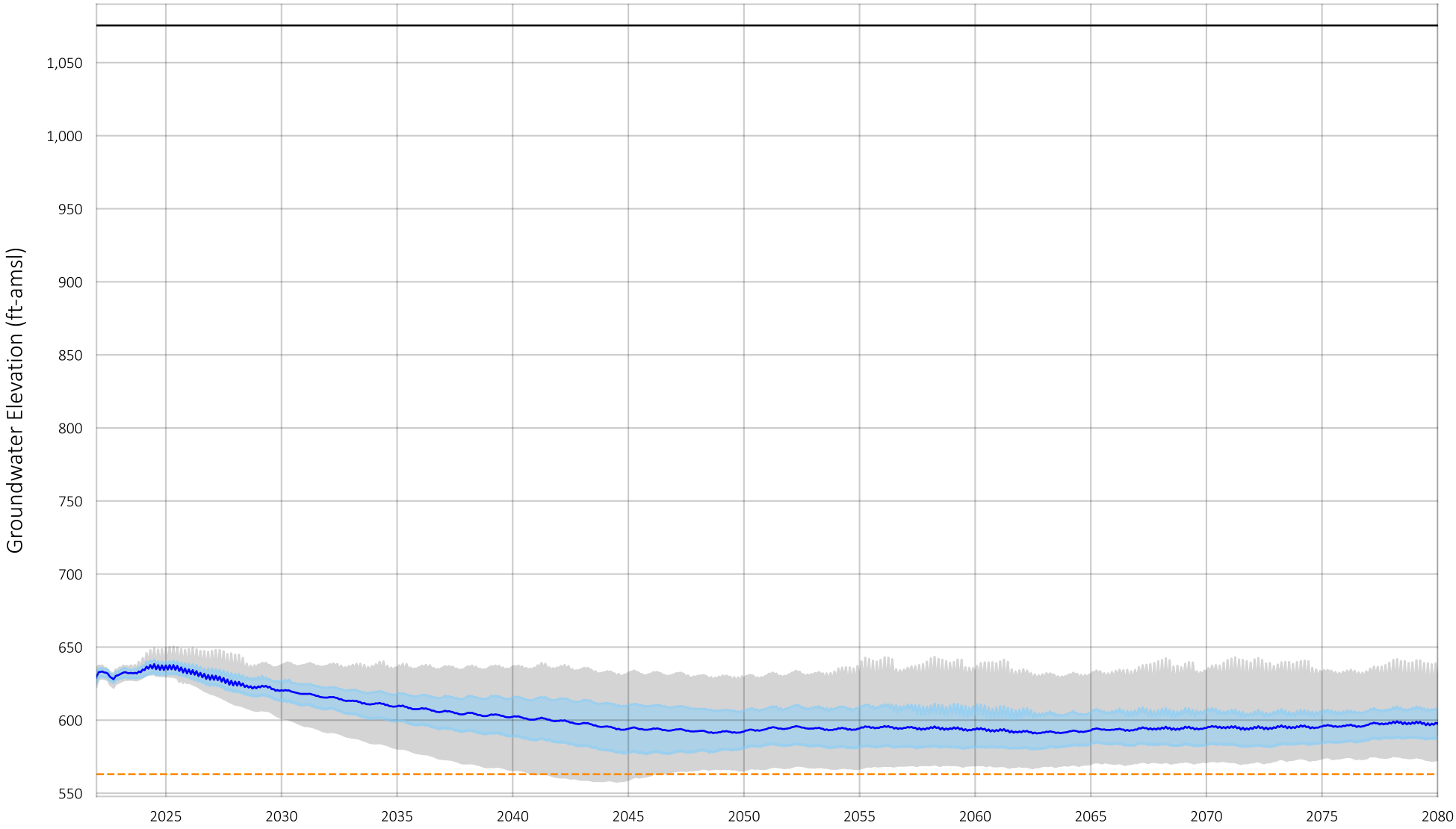
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

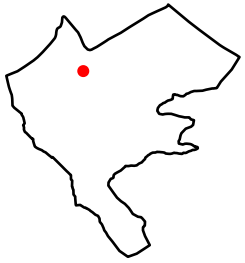
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 52
Well Owner: City of Ontario
Screen Interval (ft-bgs): 580 - 1135

Figure D-110



Well Location



Legend

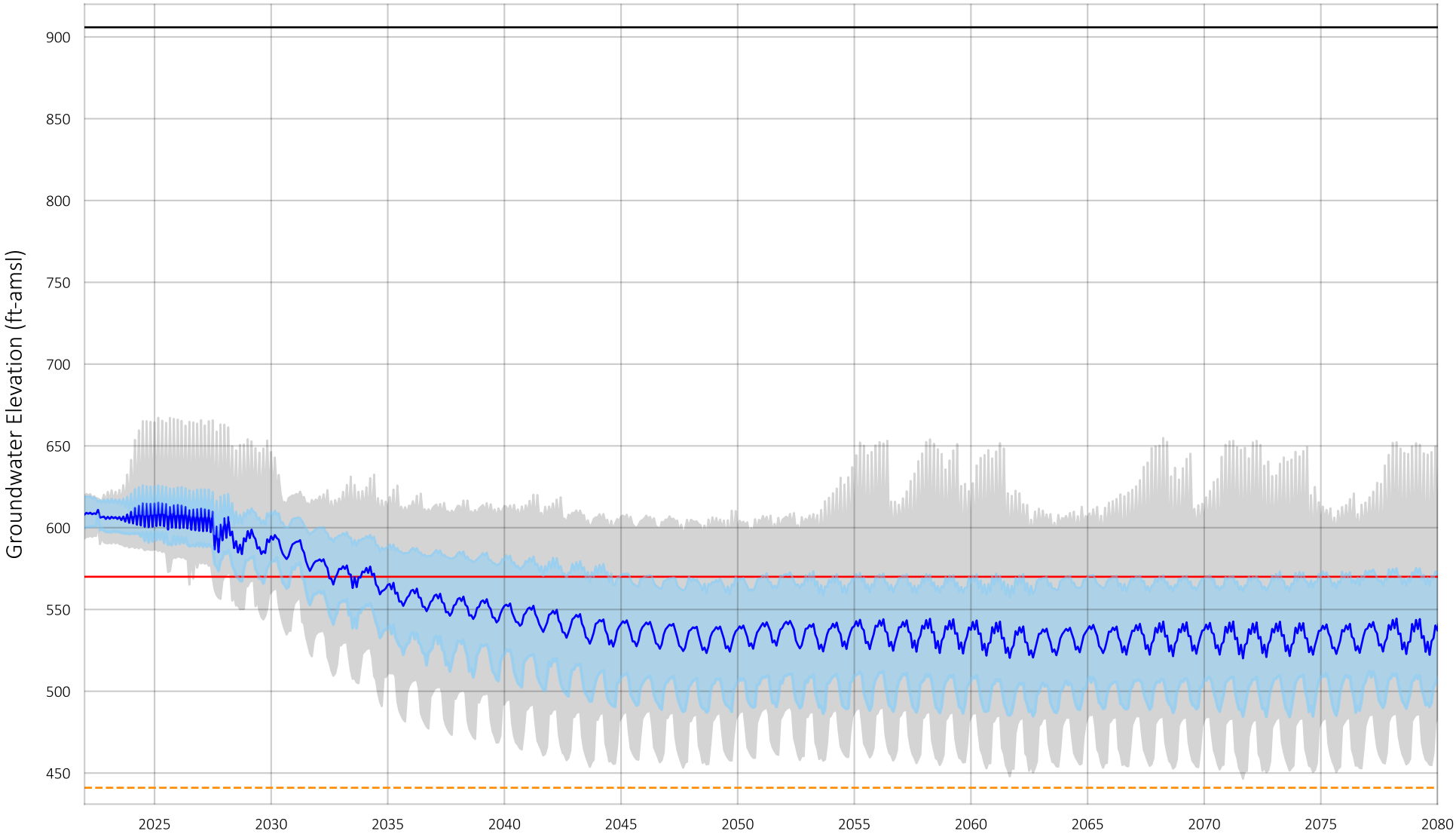
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

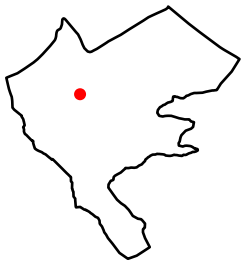
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 44
Well Owner: City of Ontario
Screen Interval (ft-bgs): 600 - 1250

Figure D-111



Well Location



Legend

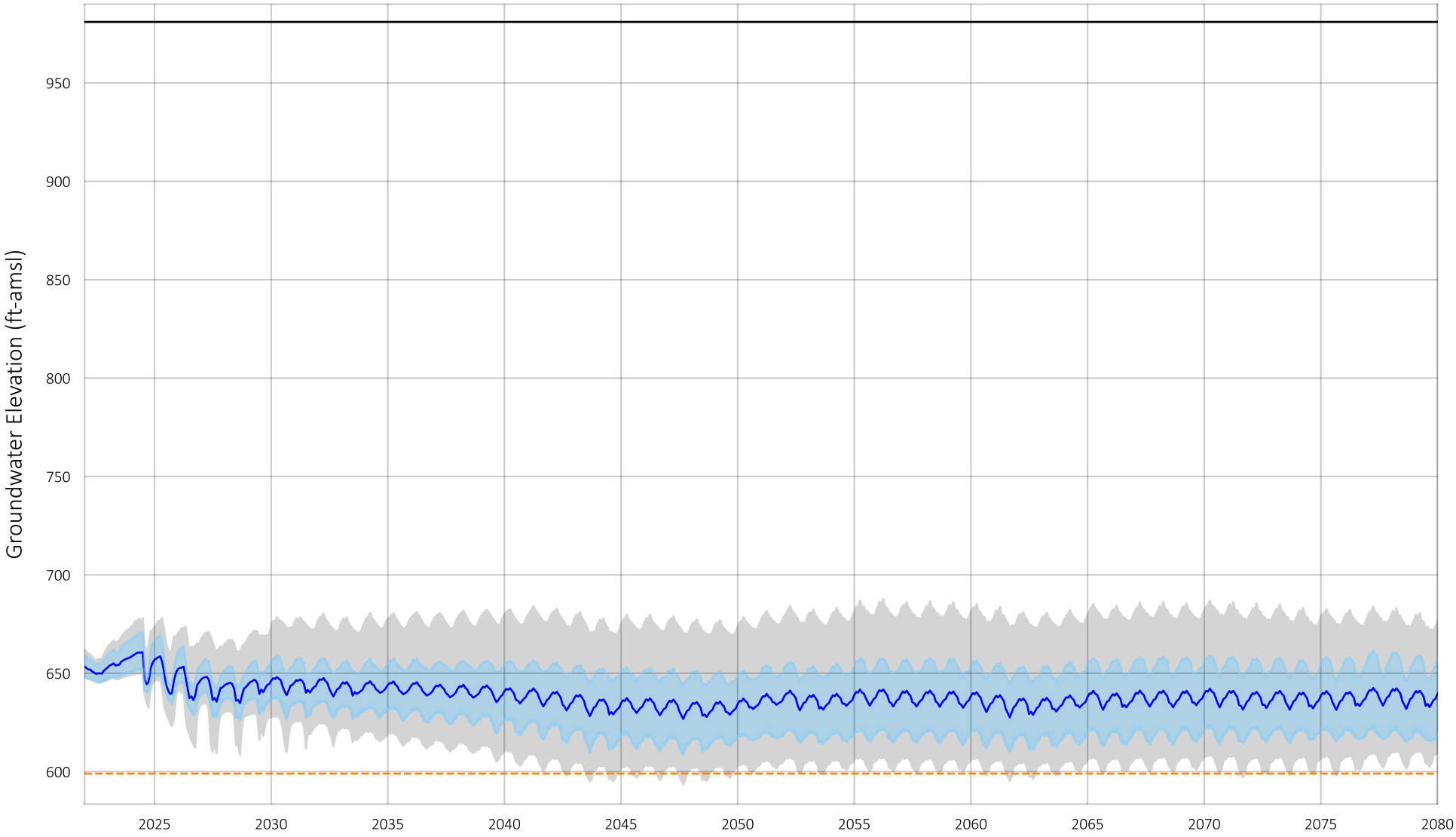
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

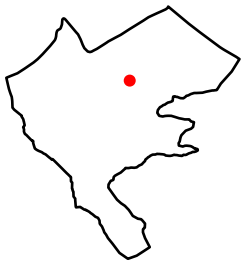
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 34
Well Owner: City of Ontario
Screen Interval (ft-bgs): 508 - 773

Figure D-112



Well Location



Legend

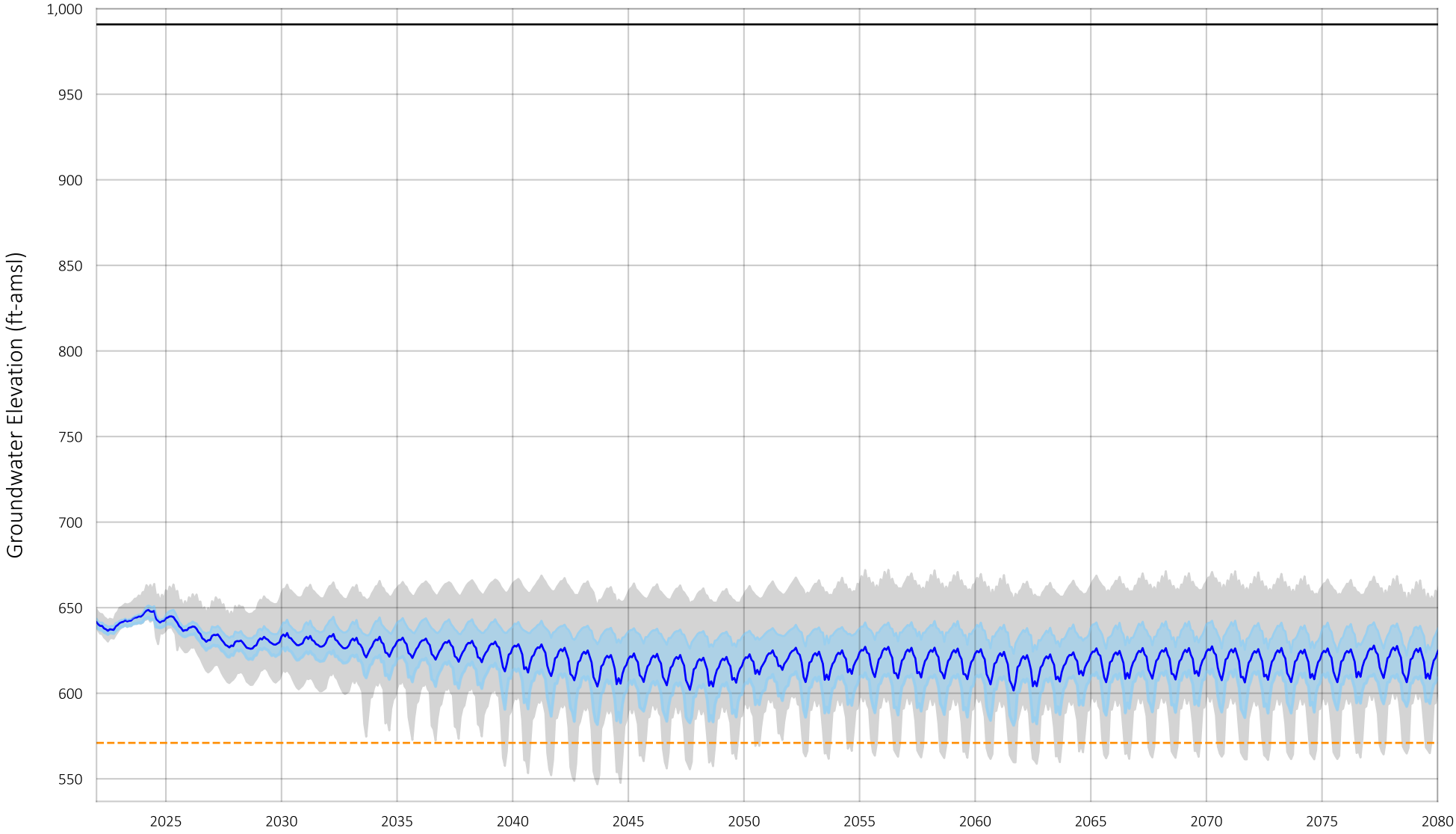
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

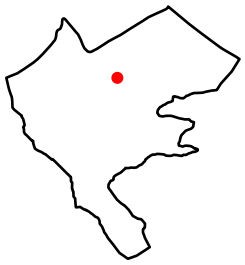
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 39
Well Owner: City of Ontario
Screen Interval (ft-bgs): 400 - 850

Figure D-113



Well Location



Legend

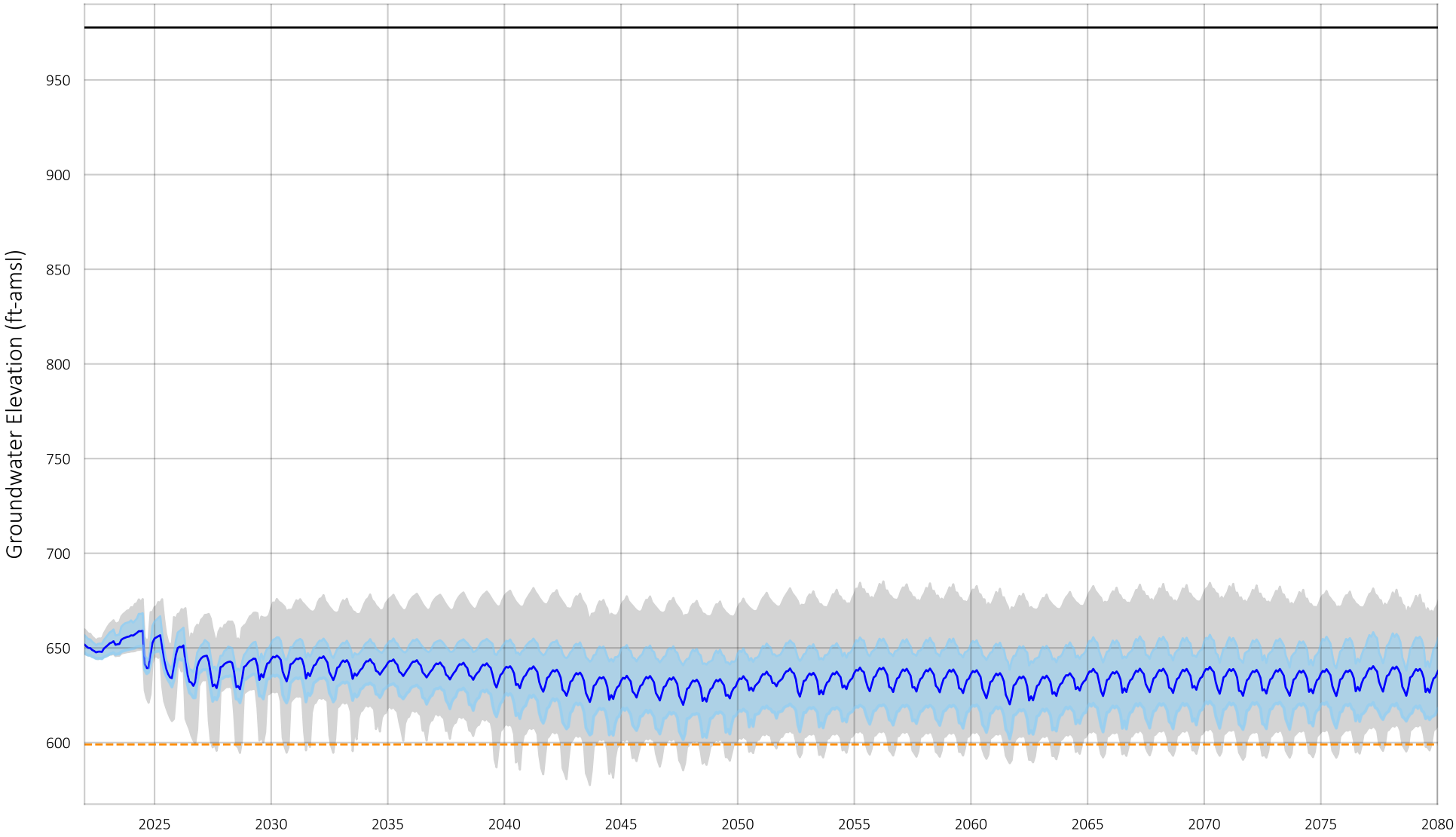
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

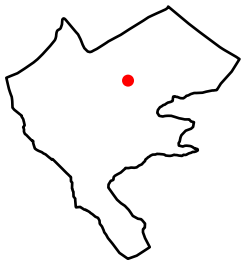
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 24
Well Owner: City of Ontario
Screen Interval (ft-bgs): 484 - 952

Figure D-114



Well Location



Legend

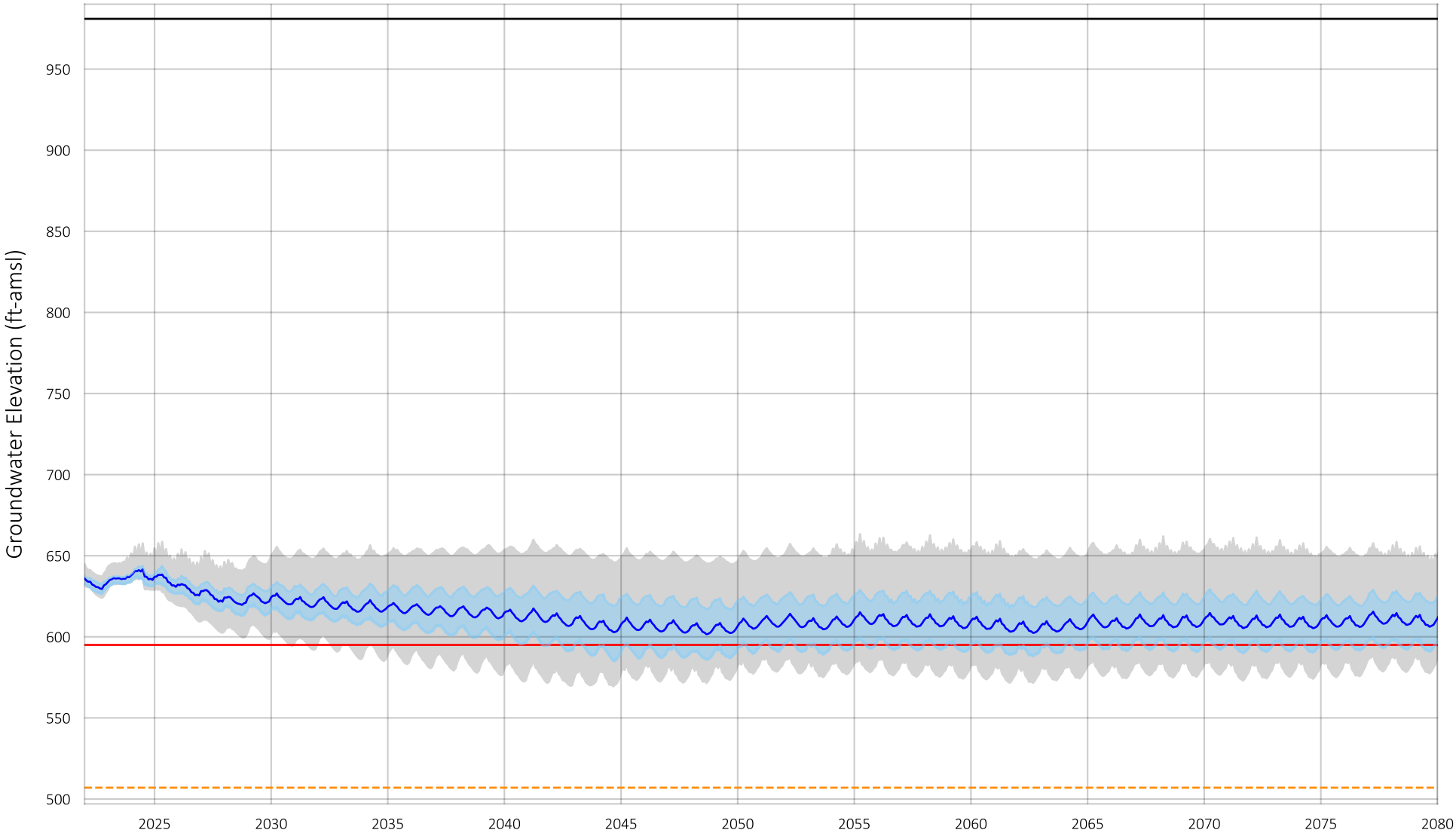
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

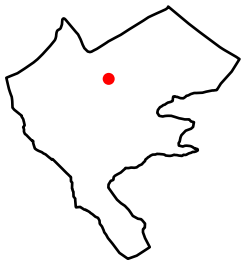
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 37
Well Owner: City of Ontario
Screen Interval (ft-bgs): 400 - 860

Figure D-115



Well Location



Legend

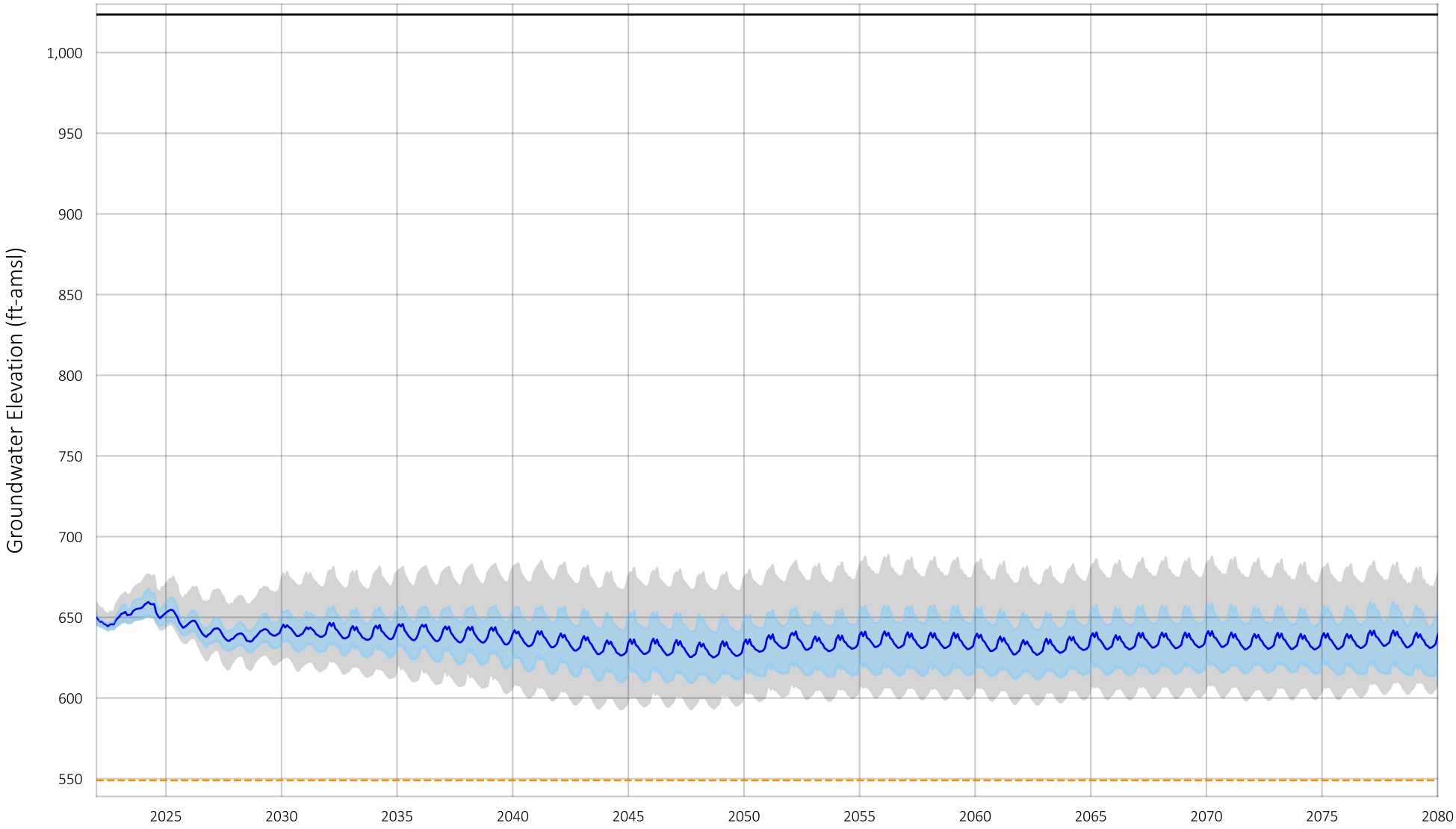
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

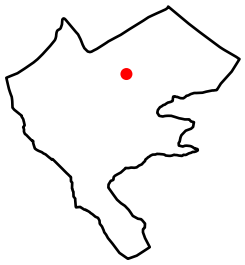
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 25
Well Owner: City of Ontario
Screen Interval (ft-bgs): 370 - 903

Figure D-116



Well Location



Legend

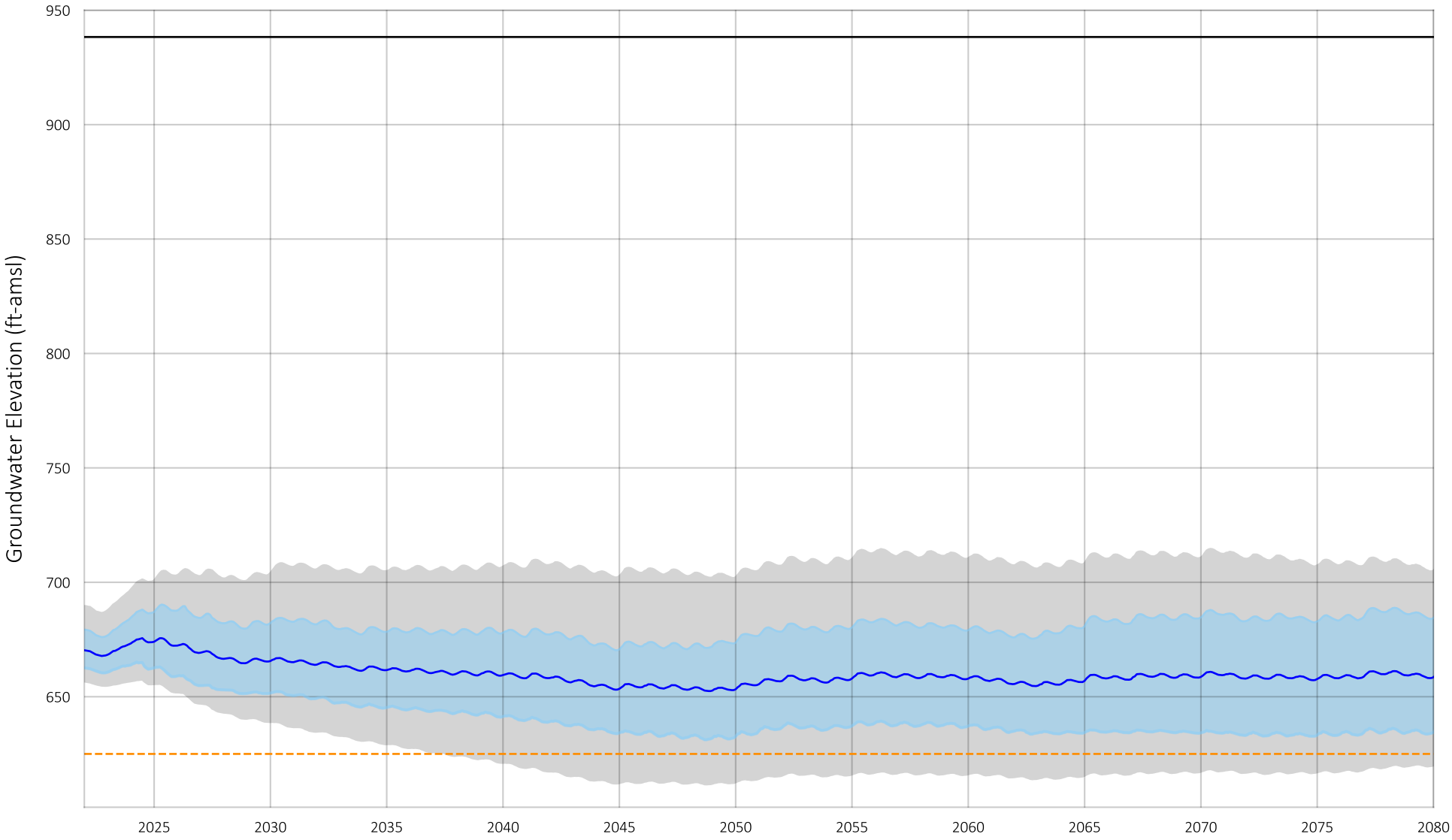
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

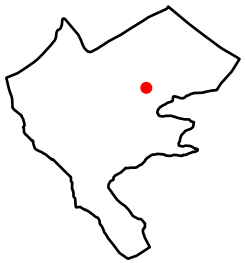
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 47
Well Owner: City of Ontario
Screen Interval (ft-bgs): 528 - 950

Figure D-117



Well Location



Legend

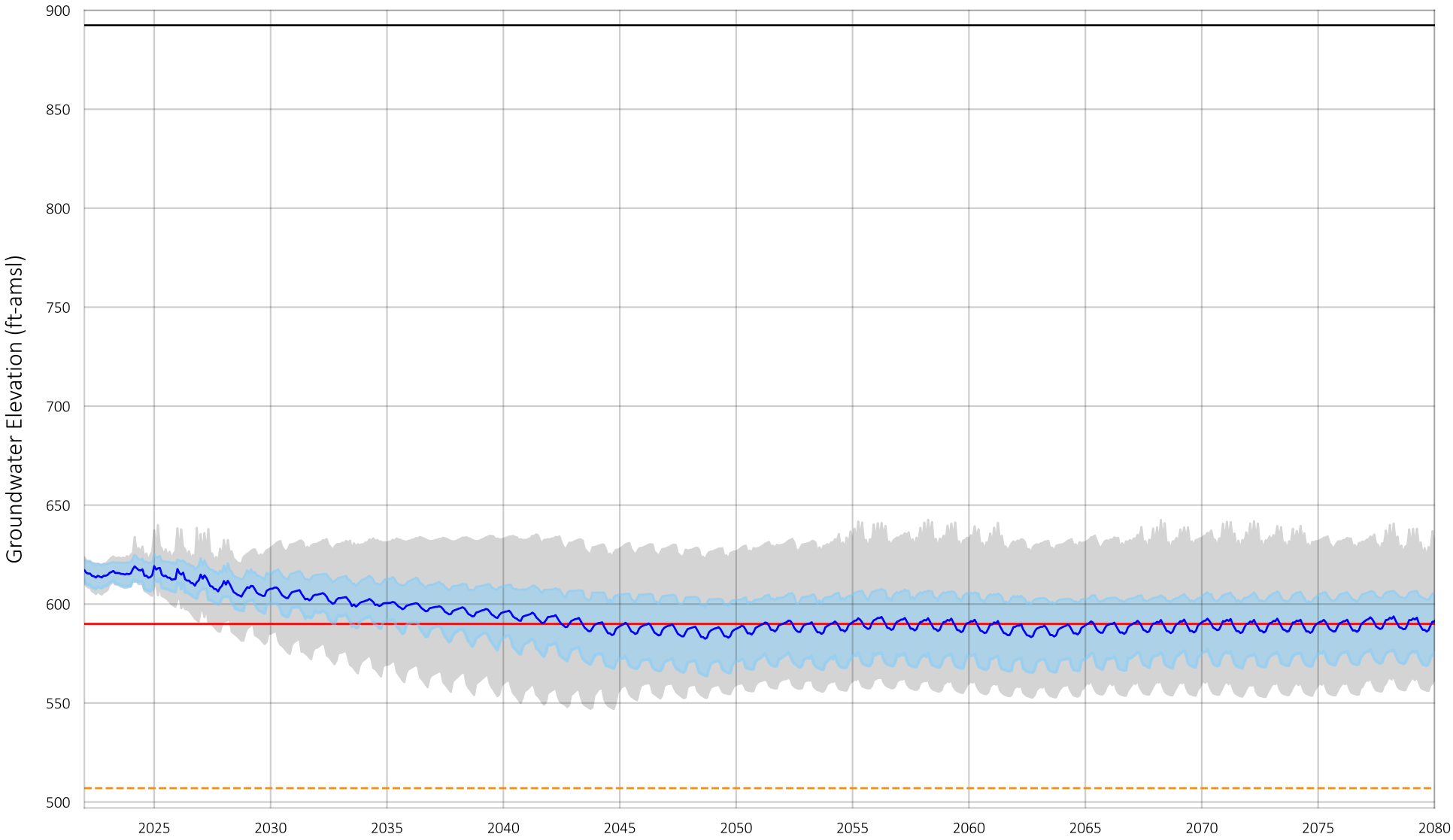
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

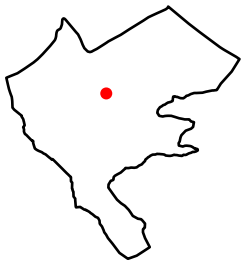
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 31
Well Owner: City of Ontario
Screen Interval (ft-bgs): 400 - 980

Figure D-118



Well Location



Legend

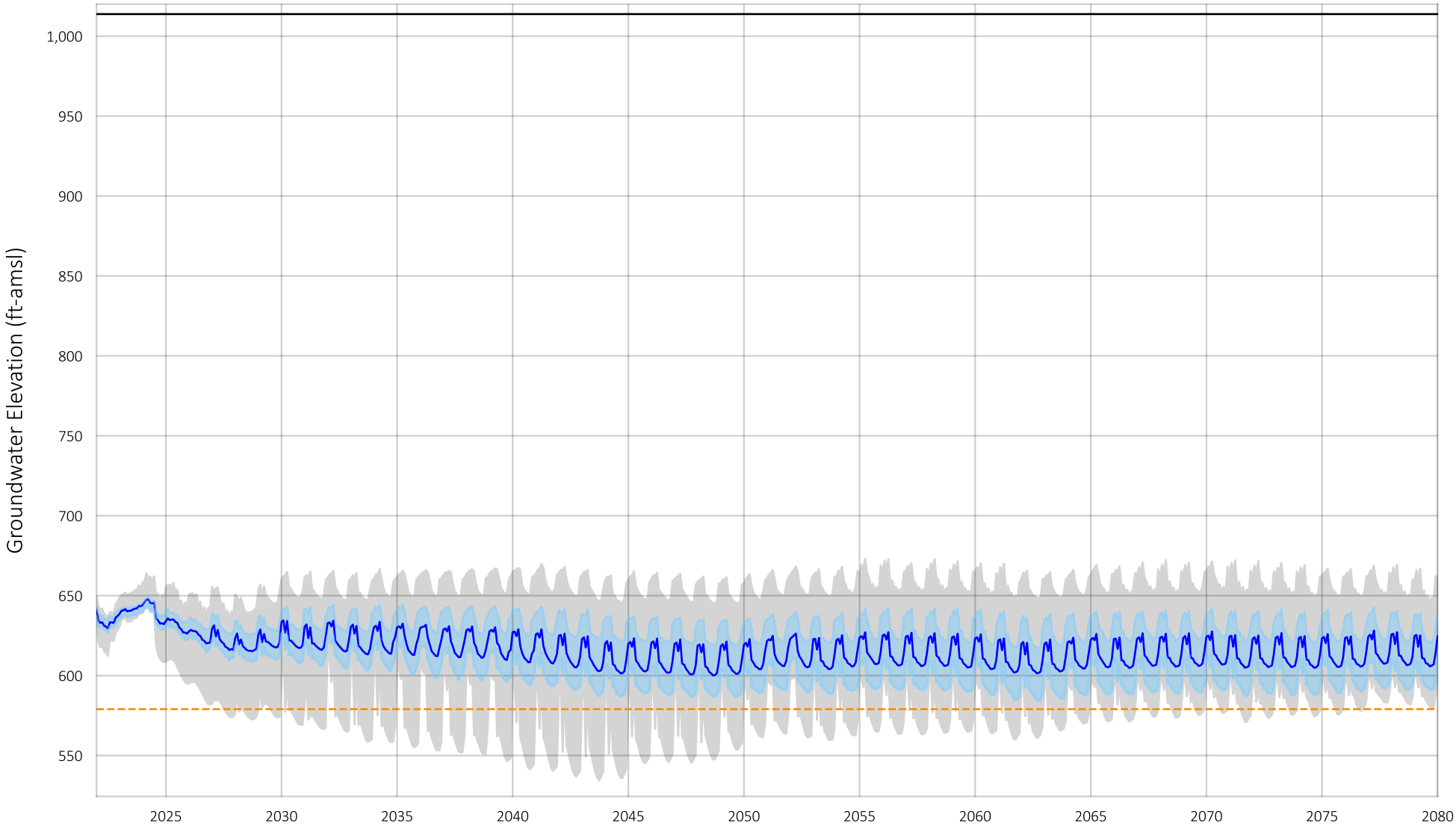
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

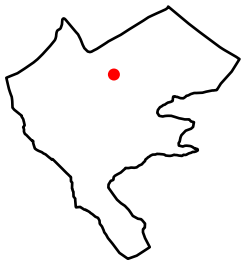
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 36
Well Owner: City of Ontario
Screen Interval (ft-bgs): 530 - 1000

Figure D-119



Well Location



Legend

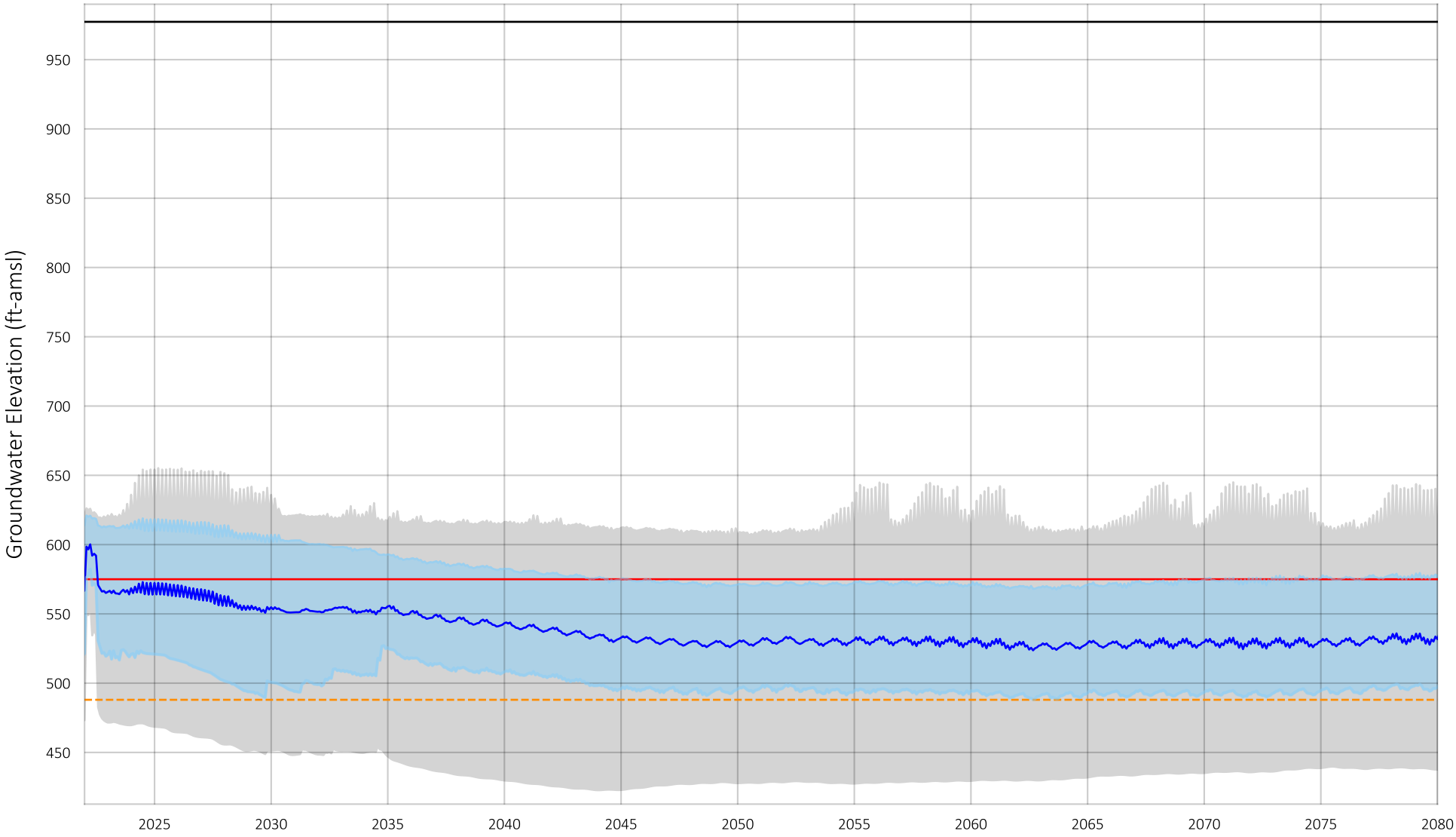
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

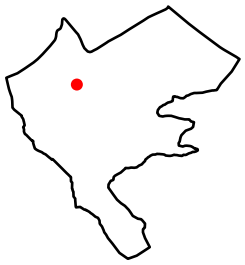
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 38
Well Owner: City of Ontario
Screen Interval (ft-bgs): 500 - 1010

Figure D-120



Well Location



Legend

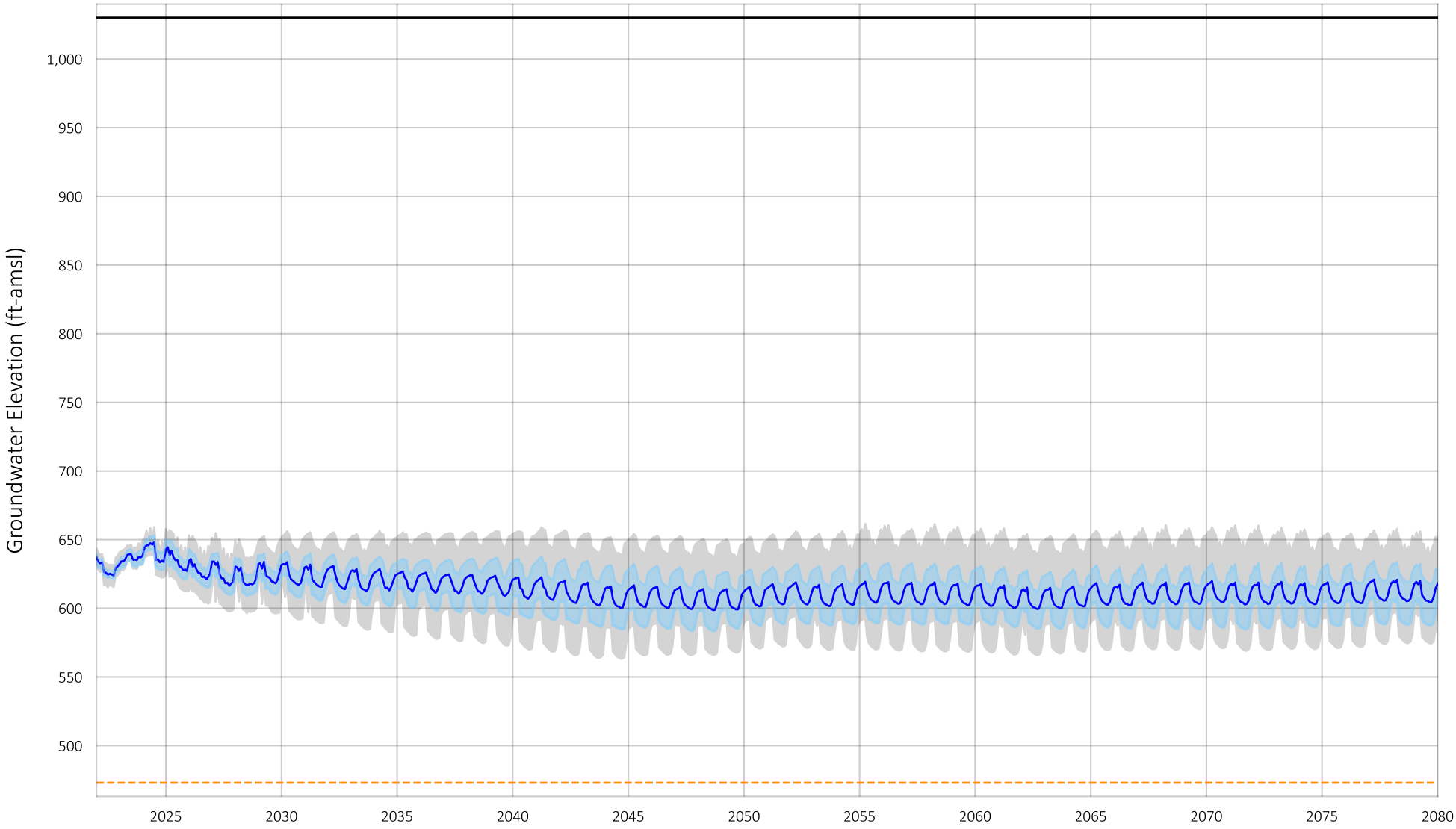
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

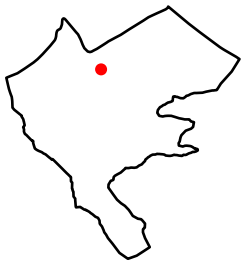
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 35
Well Owner: City of Ontario
Screen Interval (ft-bgs): 580 - 1020

Figure D-121



Well Location



Legend

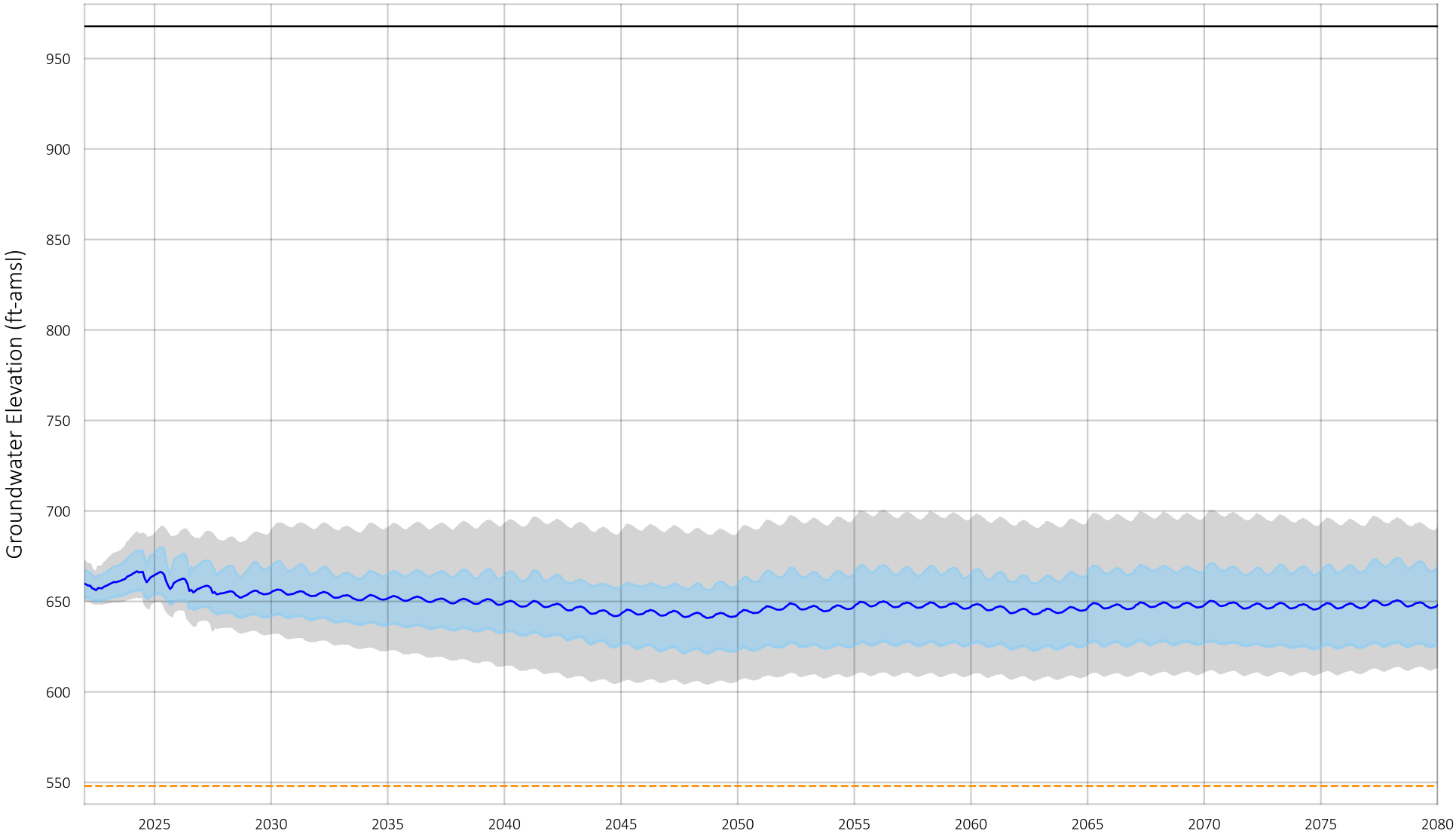
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

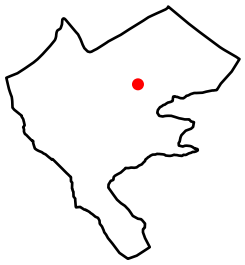
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 41
Well Owner: City of Ontario
Screen Interval (ft-bgs): 600 - 1020

Figure D-122



Well Location



Legend

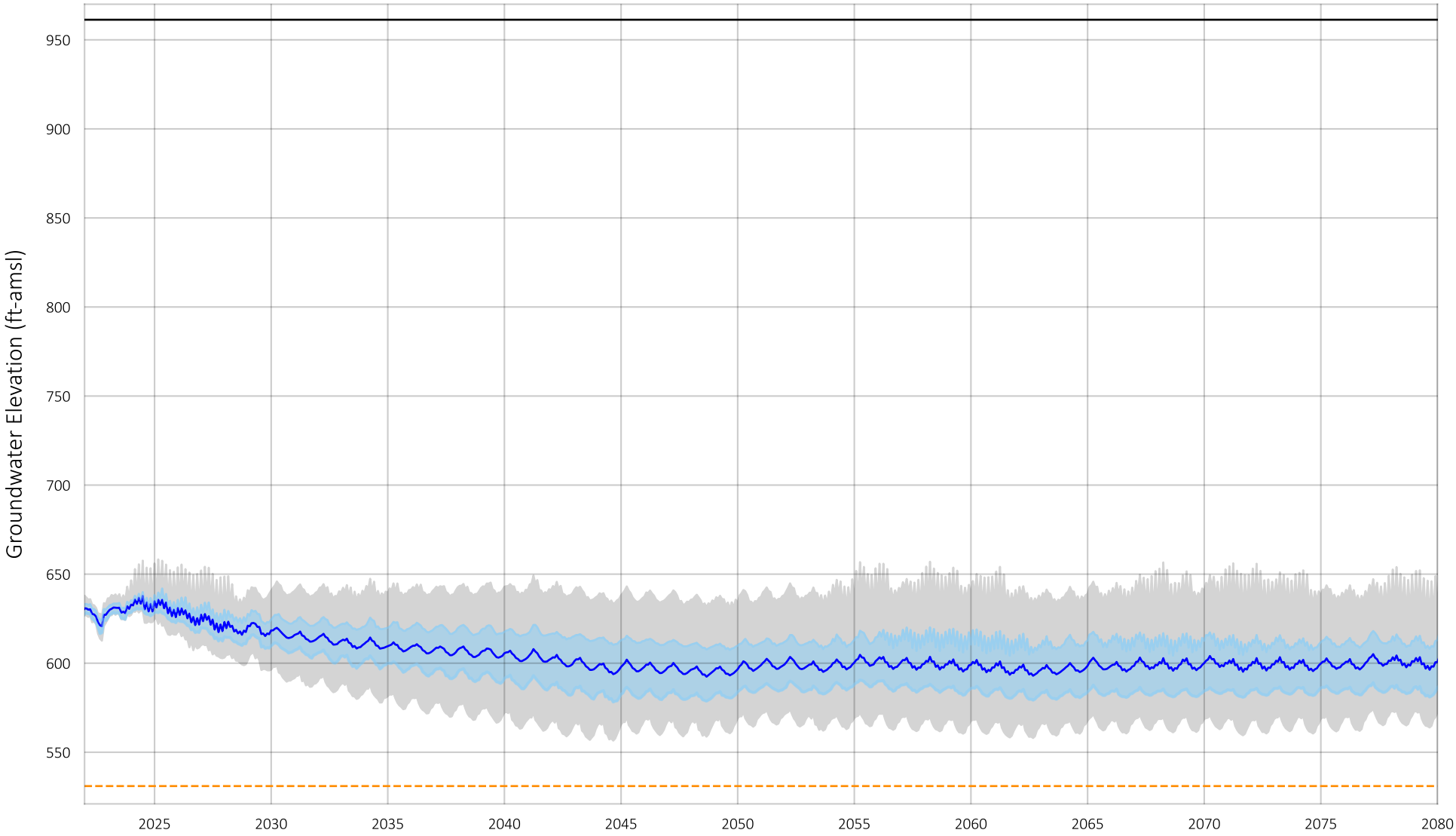
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

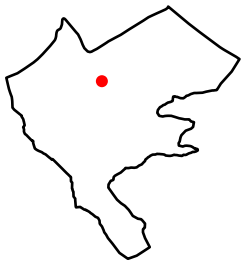
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 30
Well Owner: City of Ontario
Screen Interval (ft-bgs): 420 - 1040

Figure D-123



Well Location



Legend

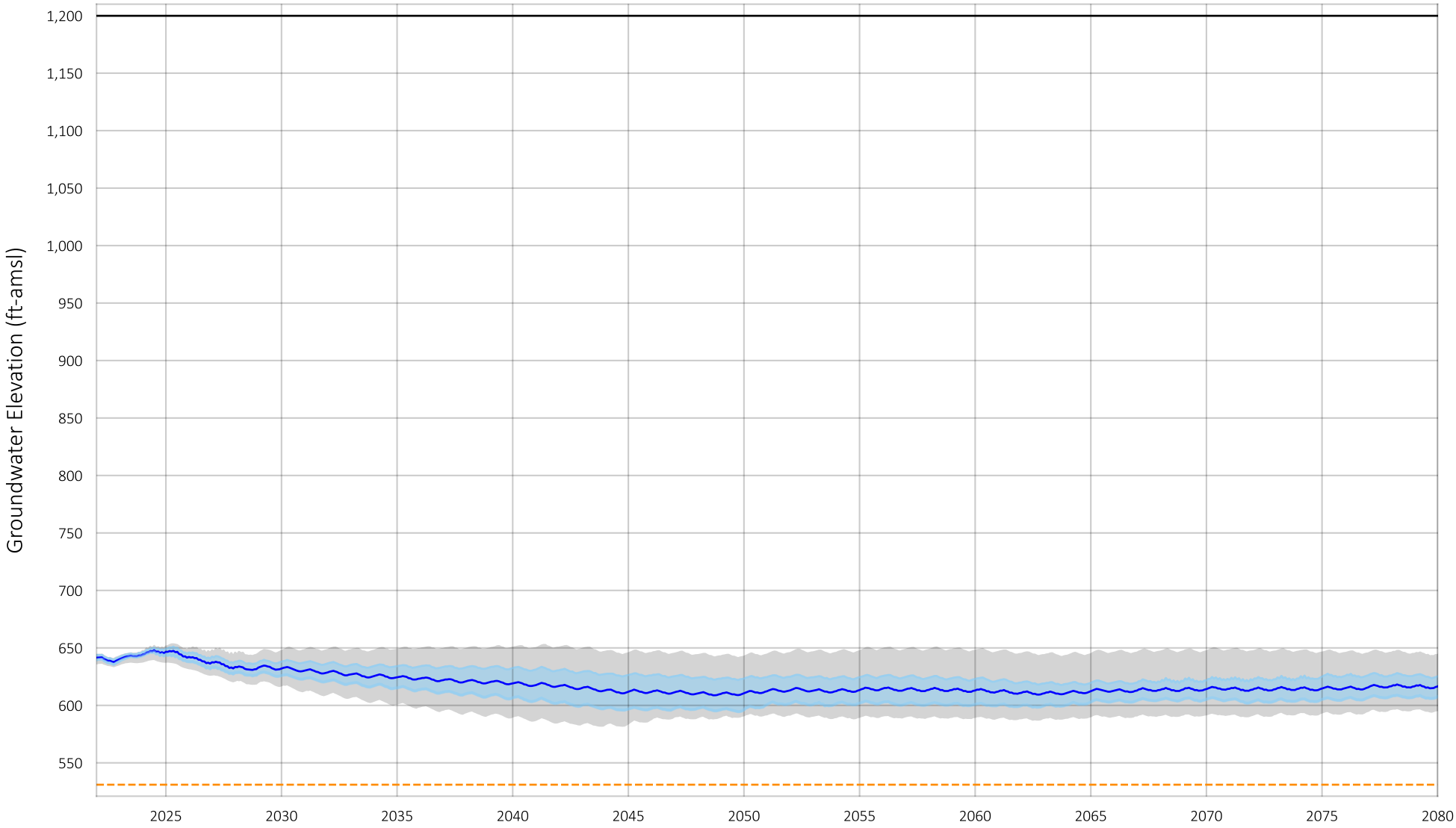
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

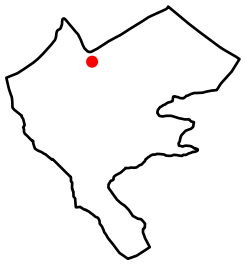
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 29
Well Owner: City of Ontario
Screen Interval (ft-bgs): 400 - 1095

Figure D-124



Well Location



Legend

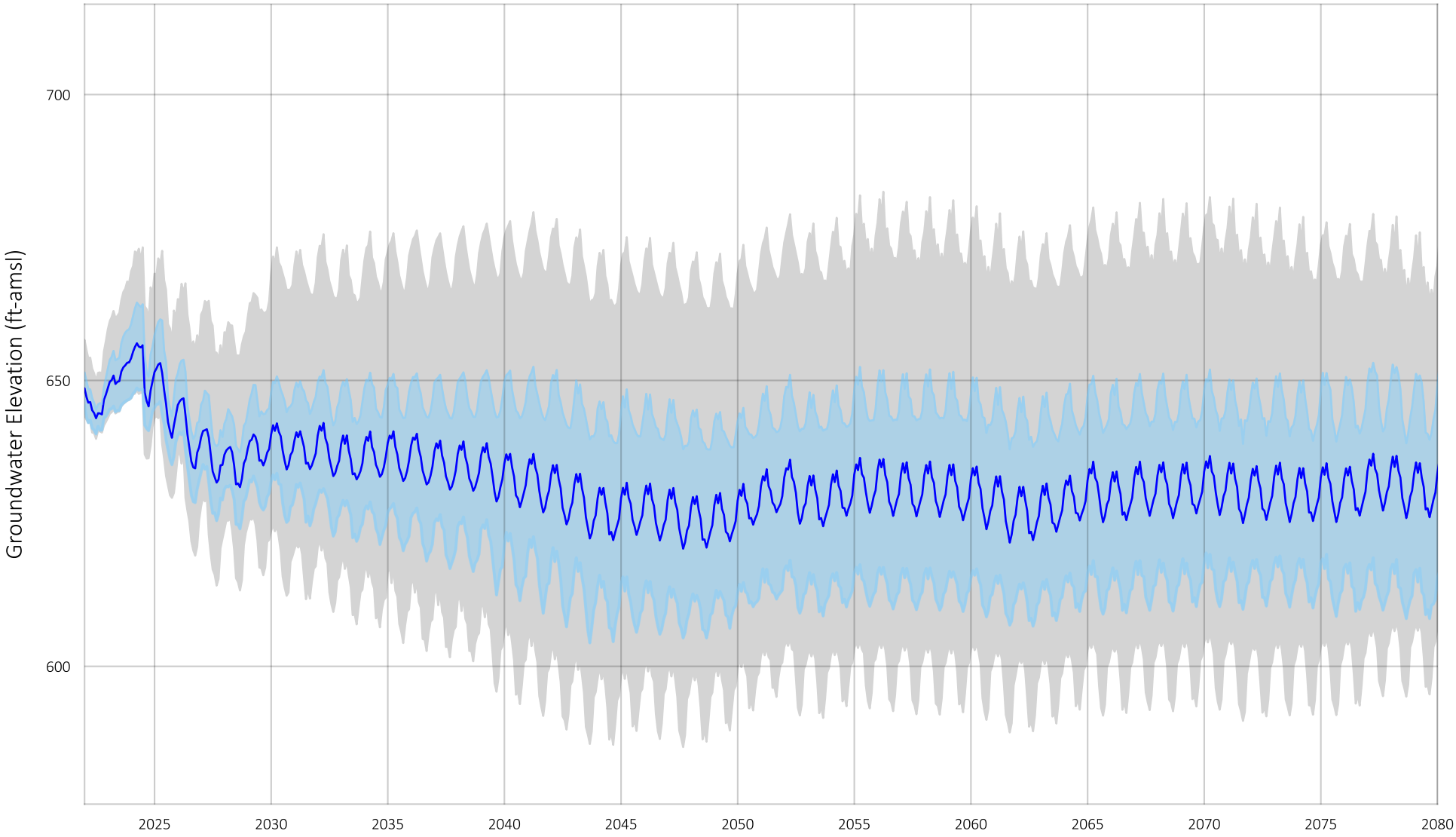
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

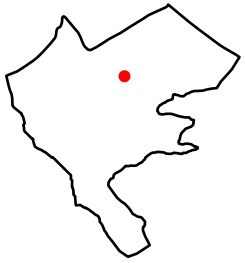
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: ONT 46
Well Owner: City of Ontario
Screen Interval (ft-bgs): 718 - 1137

Figure D-125



Well Location



Legend

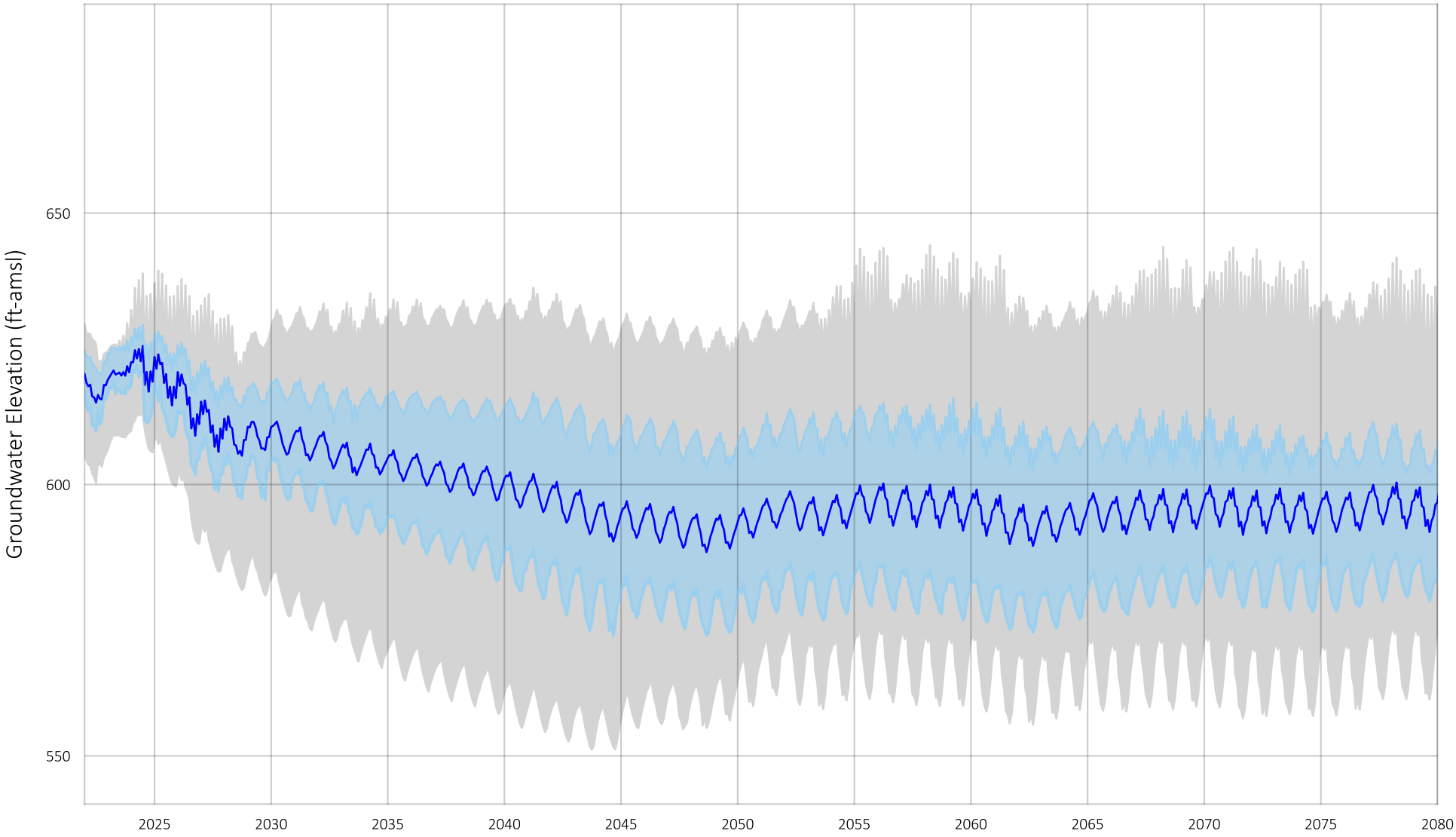
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

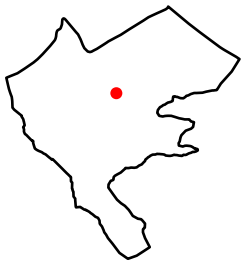
WEST YOST
Water. Engineered.

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

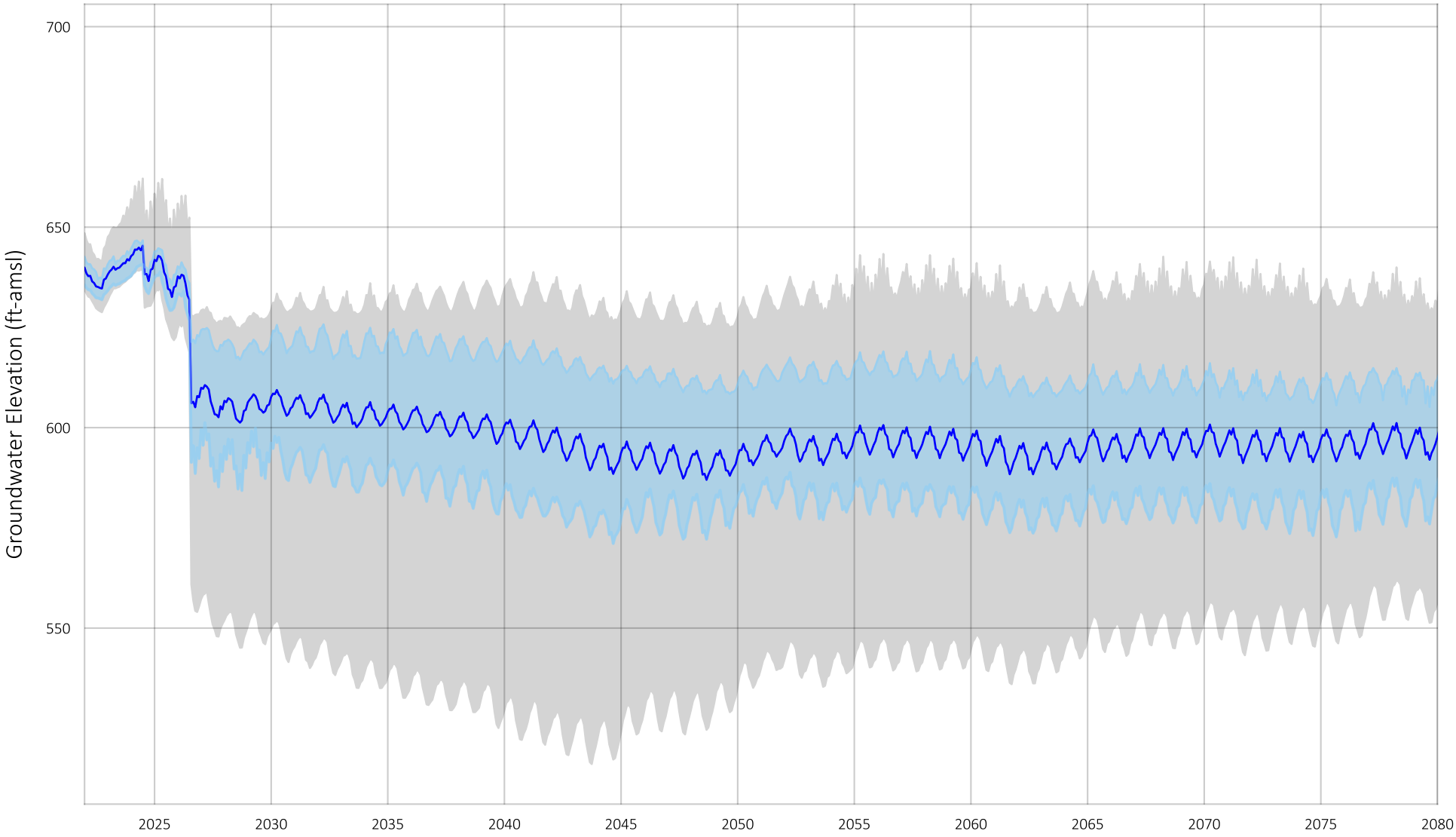
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

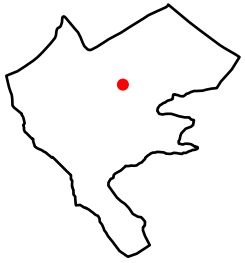
WEST YOST
Water. Engineered.

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

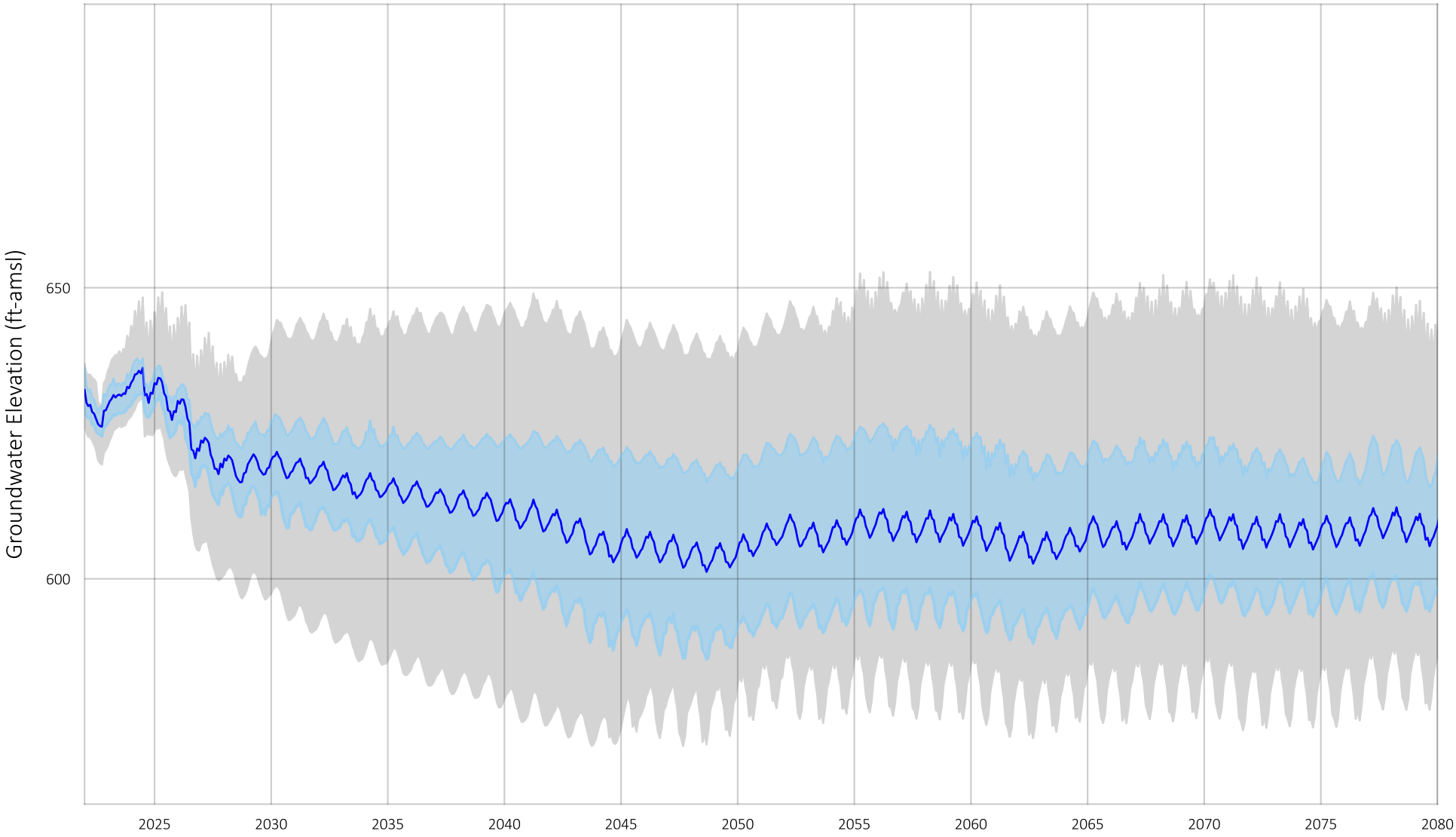
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

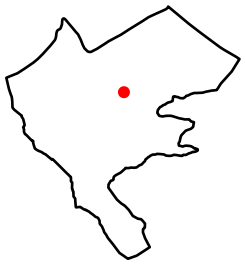
WEST YOST
Water. Engineered.

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

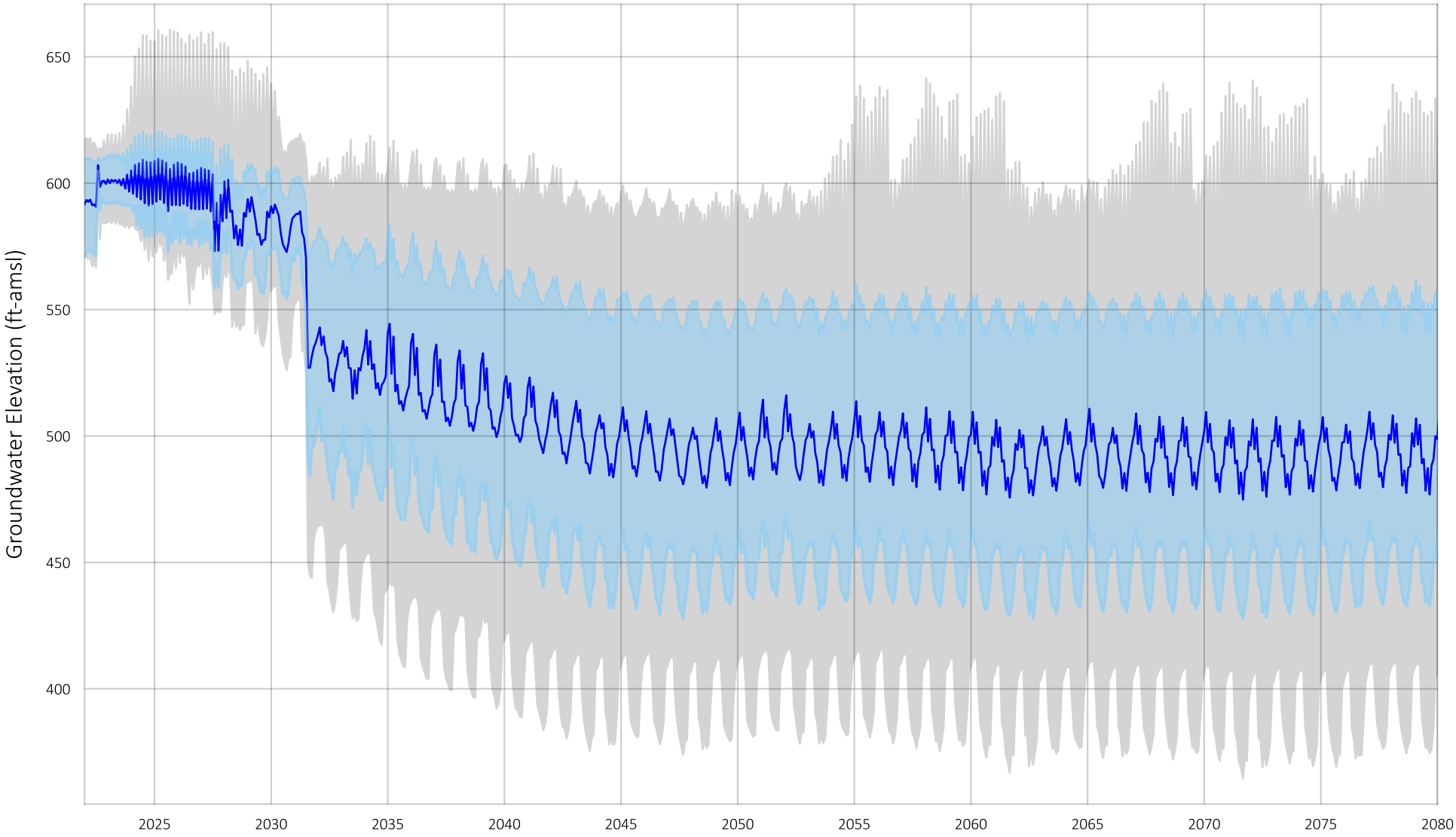
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

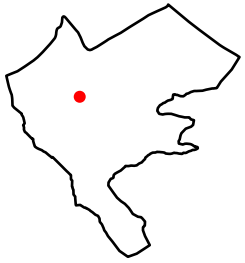
WEST YOST
Water. Engineered.

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

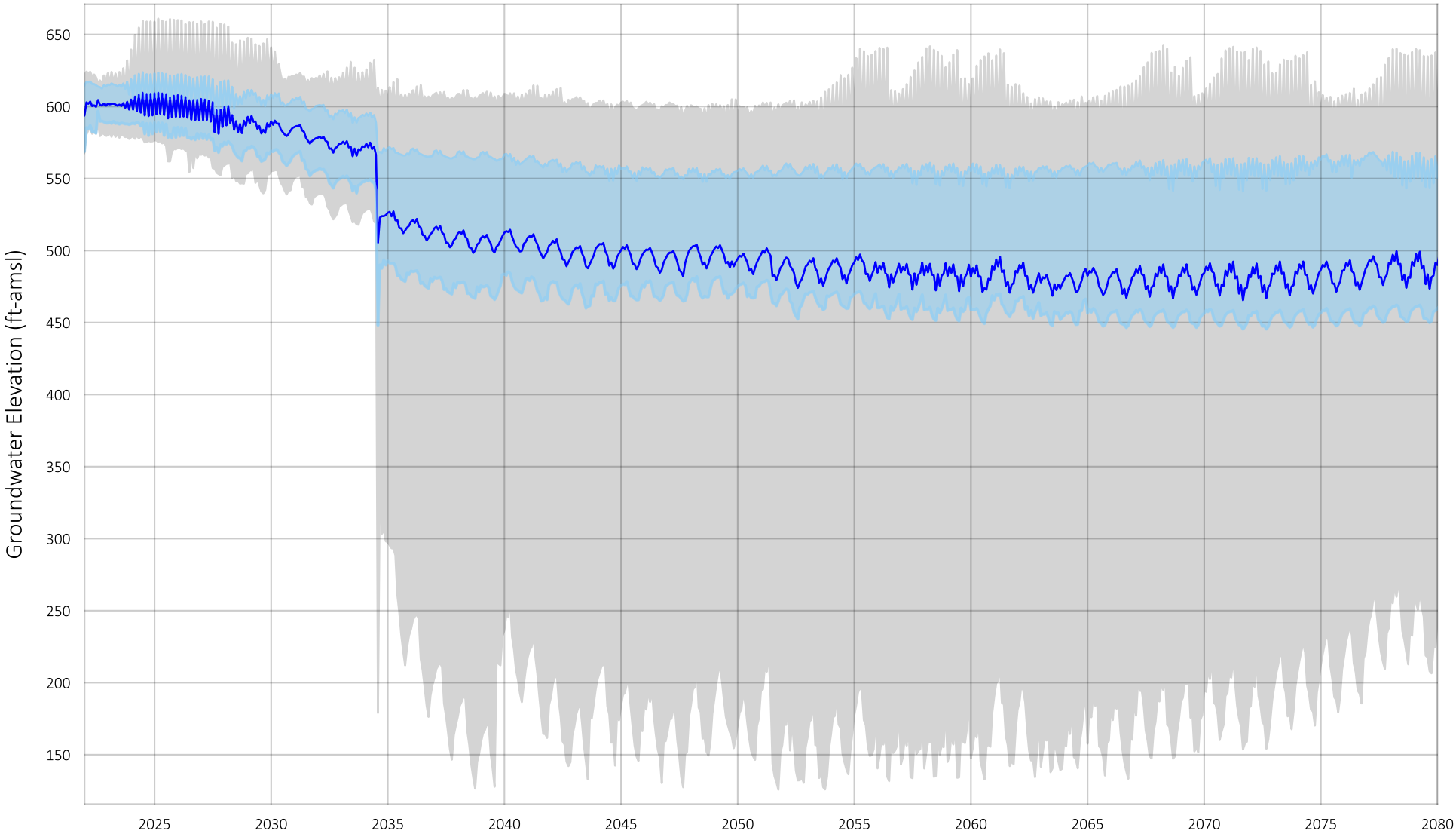
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

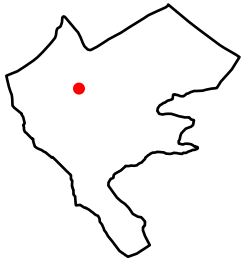
WEST YOST
Water. Engineered.

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

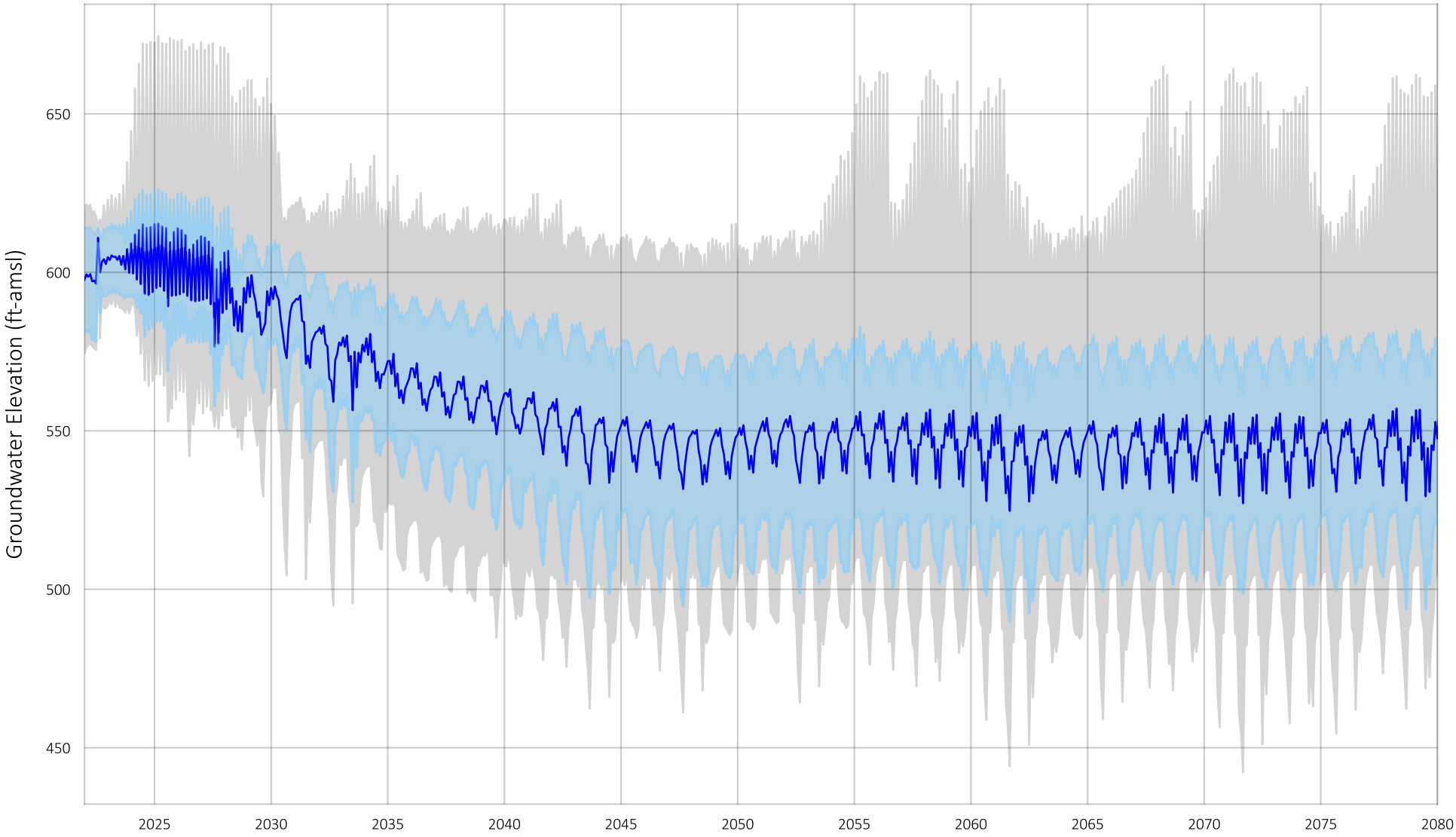
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

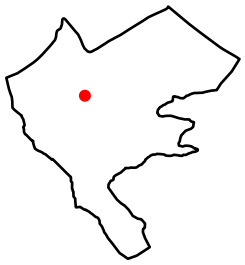
WEST YOST
Water. Engineered.

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

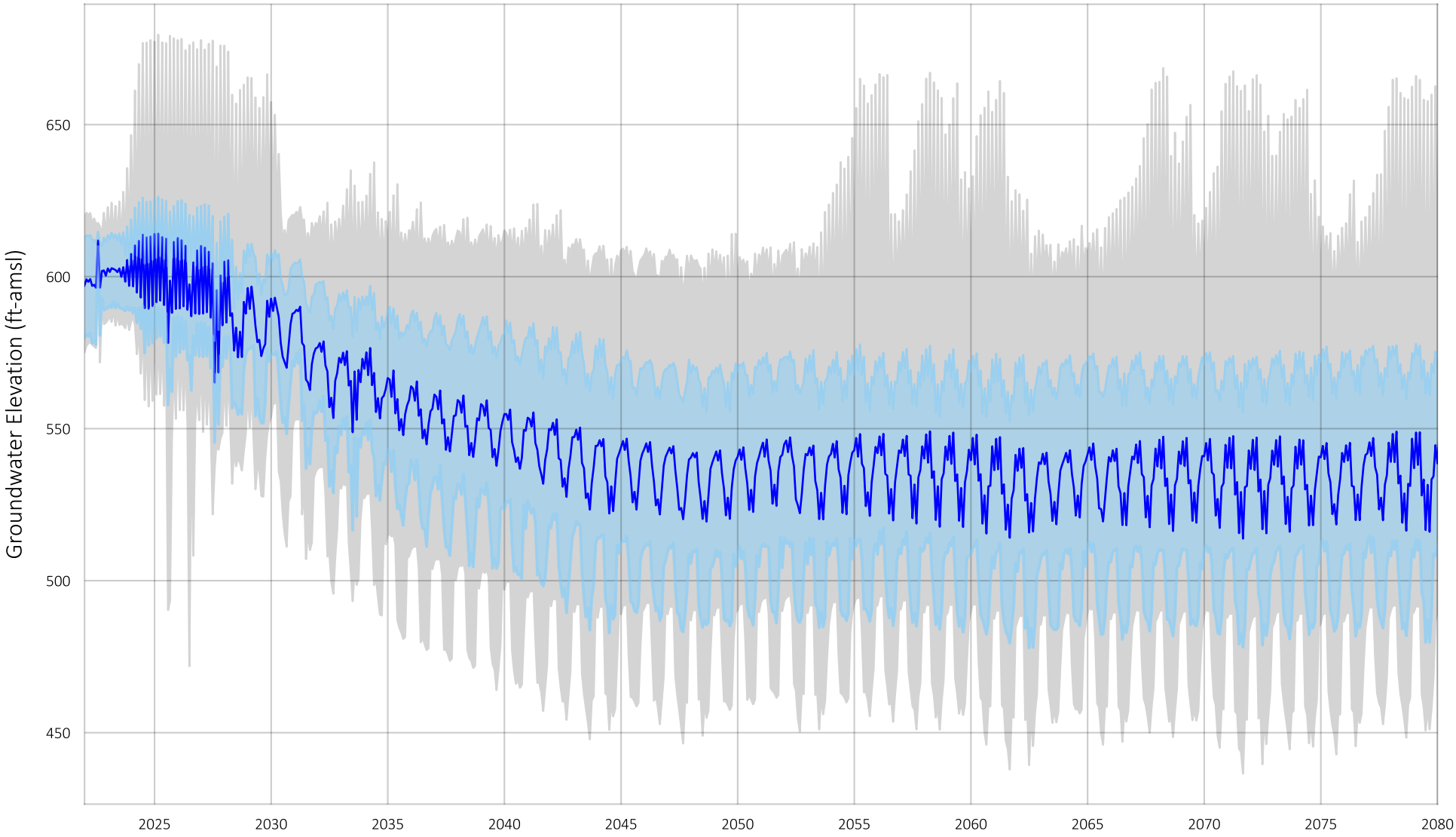
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

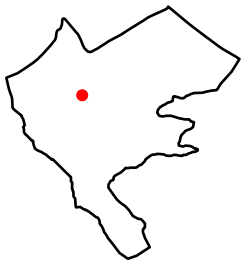
WEST YOST
Water. Engineered.

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

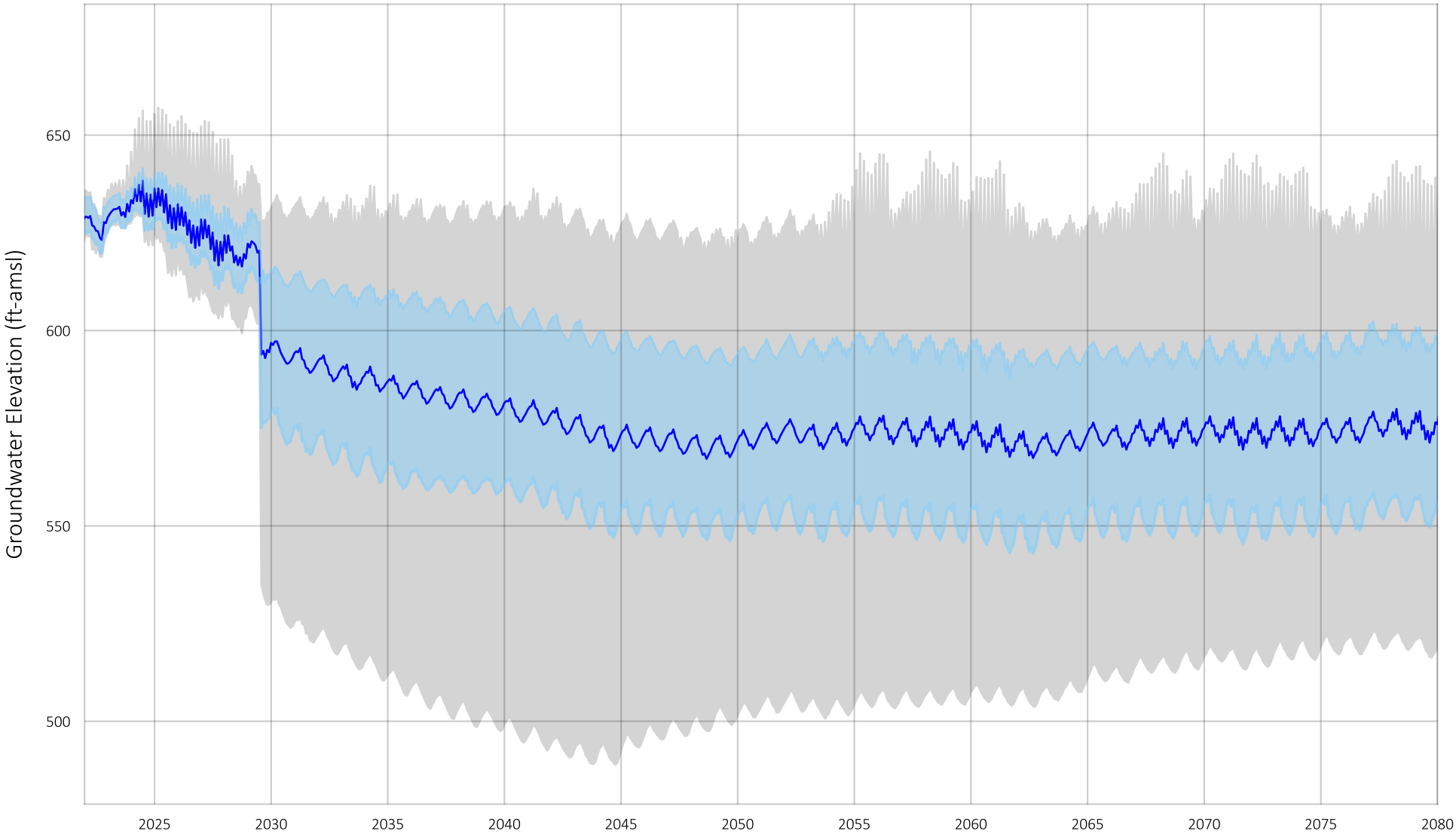
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

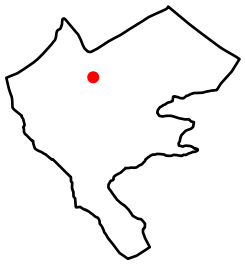
WEST YOST
Water. Engineered.

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

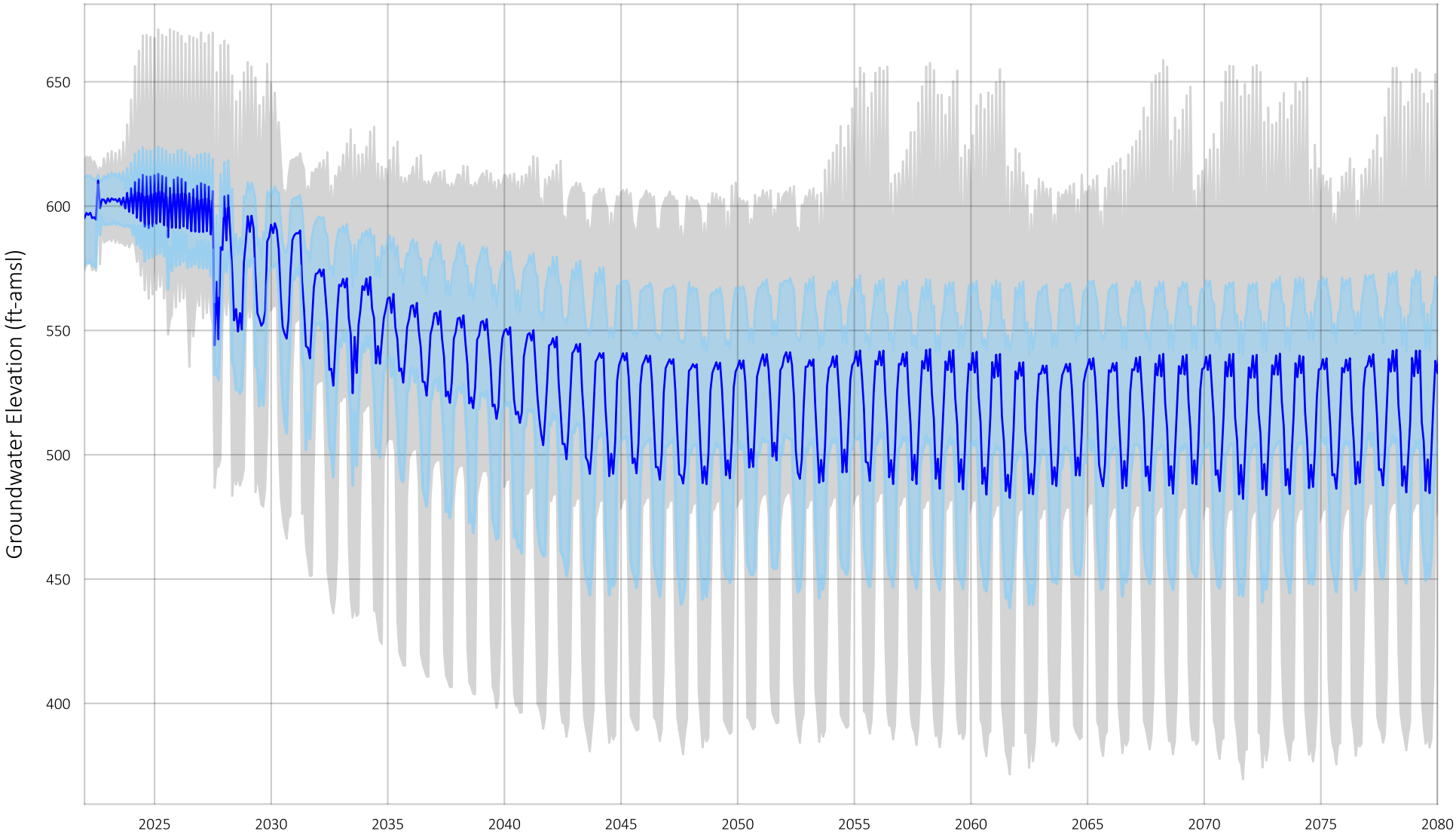
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

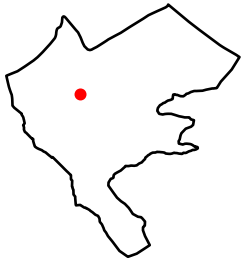
WEST YOST
Water. Engineered.

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

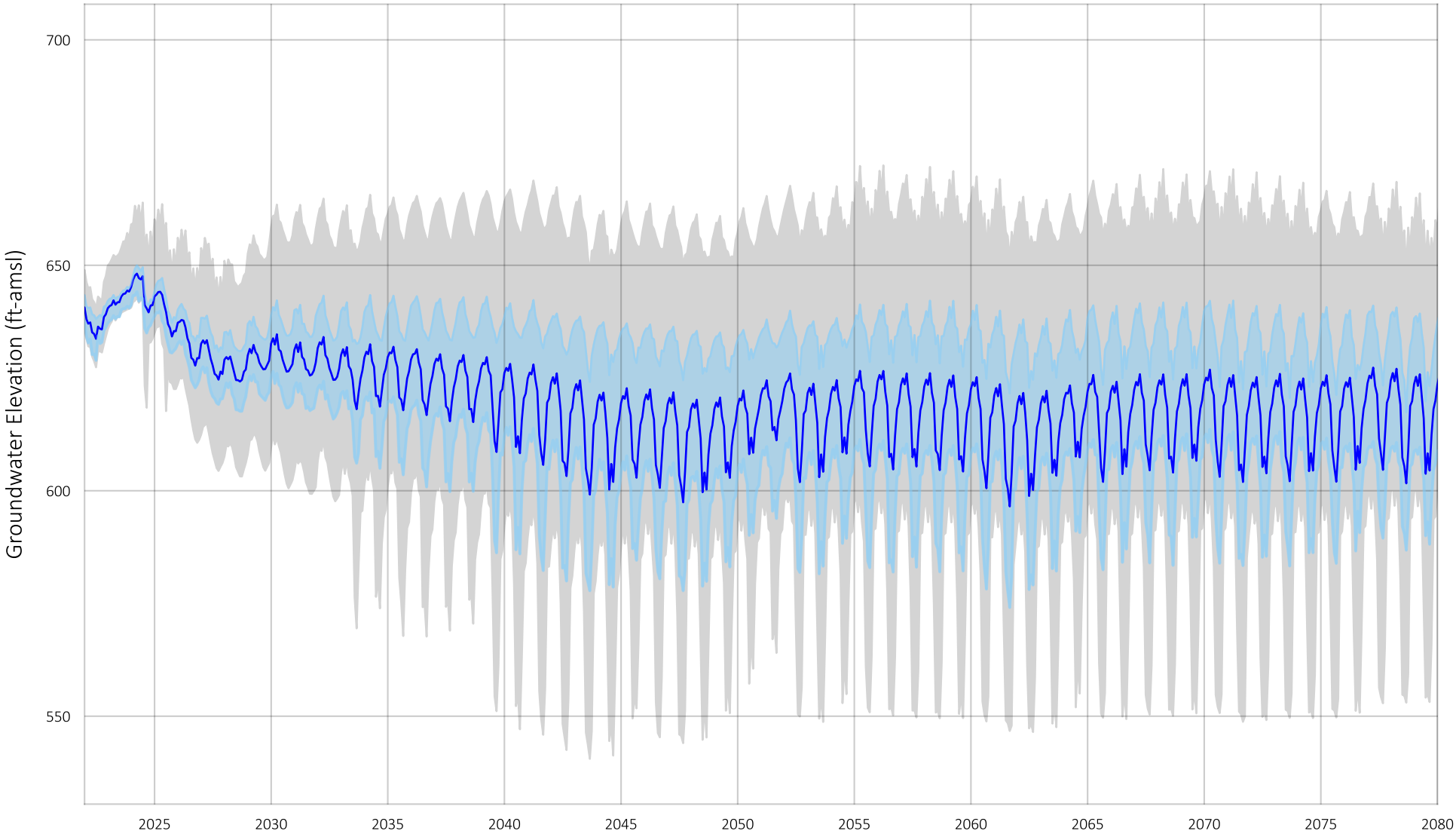
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

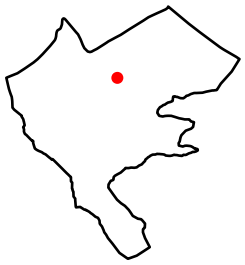
WEST YOST
Water. Engineered.

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

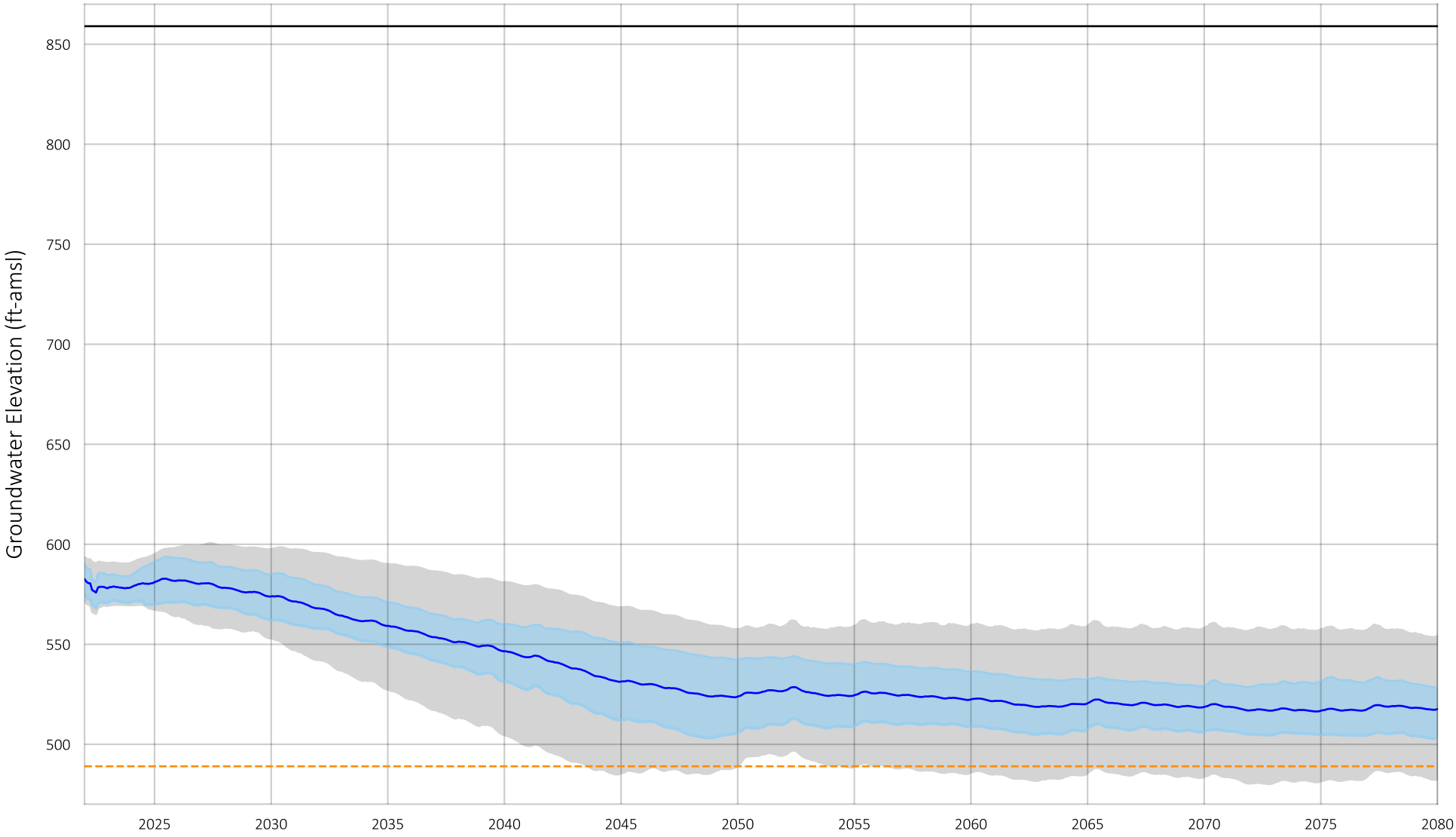
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

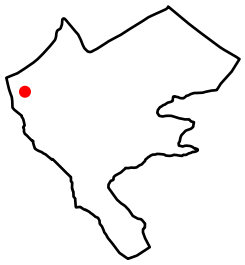
WEST YOST
Water. Engineered.

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

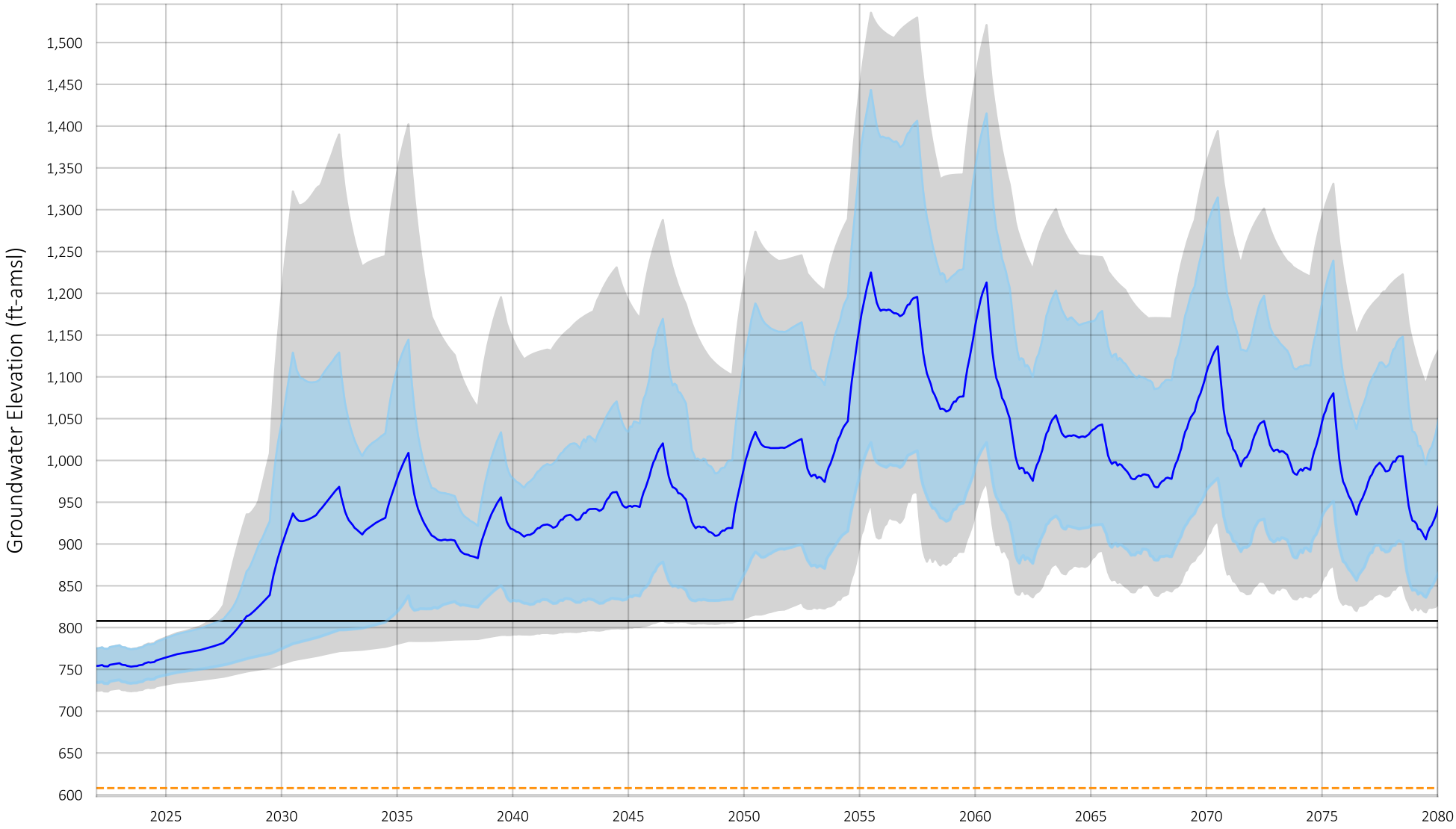
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

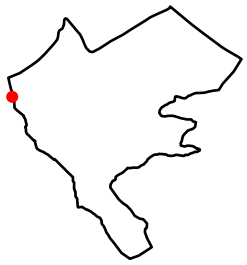
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-15
Well Owner: City of Pomona
Screen Interval (ft-bgs): 210 - 533

Figure D-137



Well Location



Legend

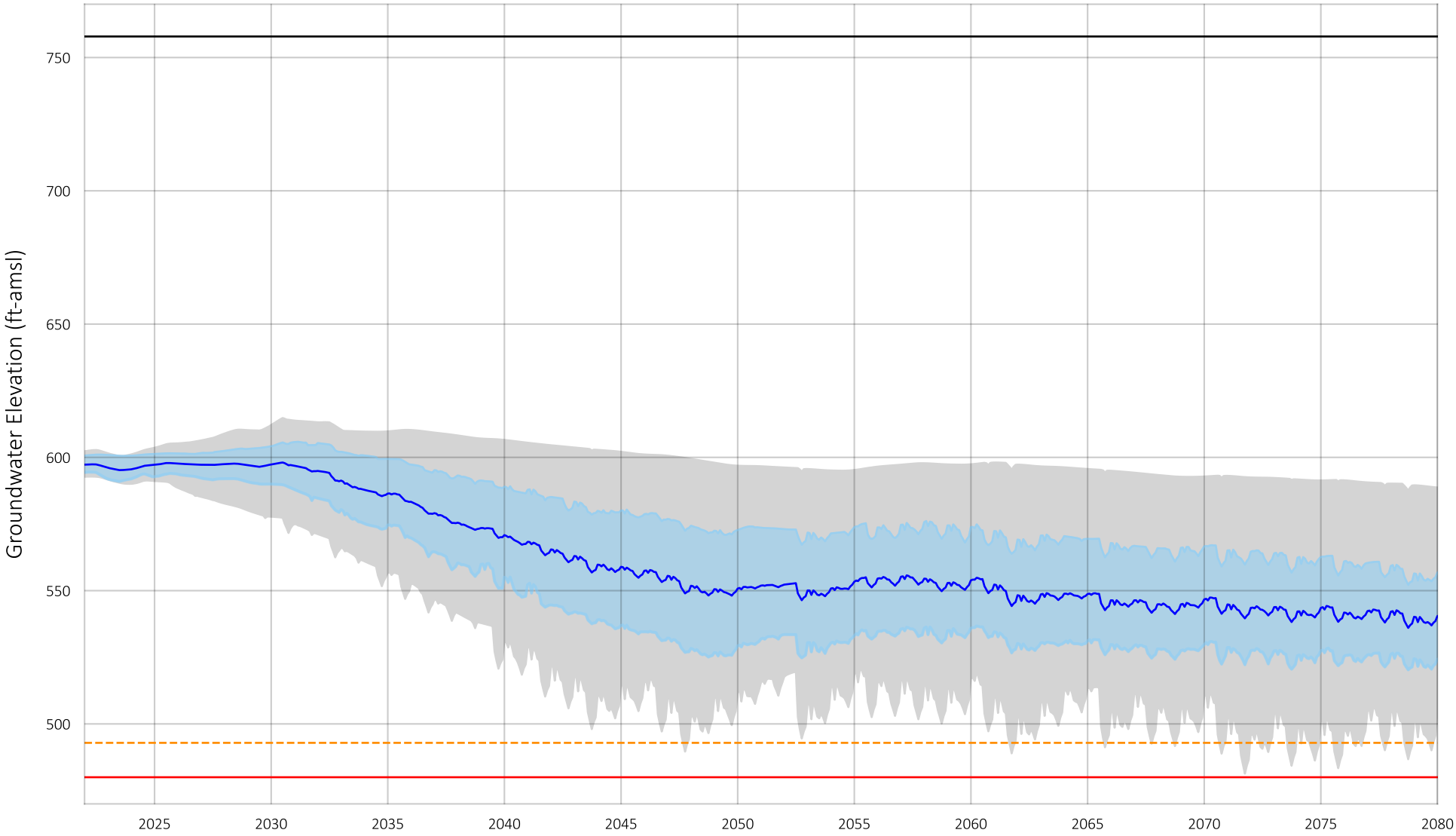
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

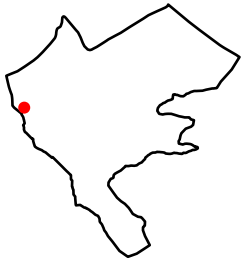
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-21
Well Owner: City of Pomona
Screen Interval (ft-bgs): 130 - 255

Figure D-138



Well Location



Legend

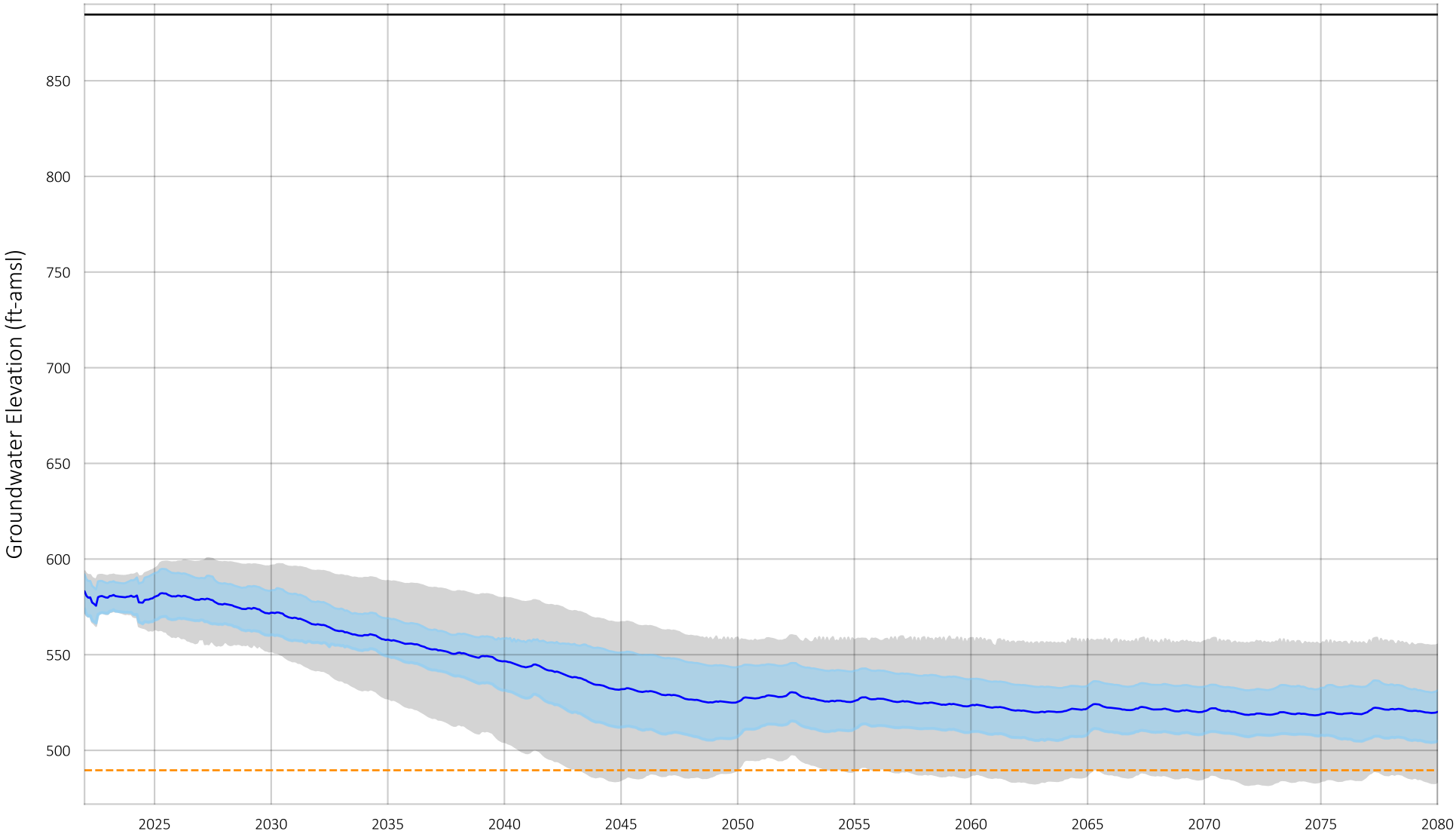
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

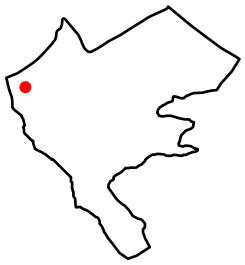
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-29
Well Owner: City of Pomona
Screen Interval (ft-bgs): 248 - 352

Figure D-139



Well Location



Legend

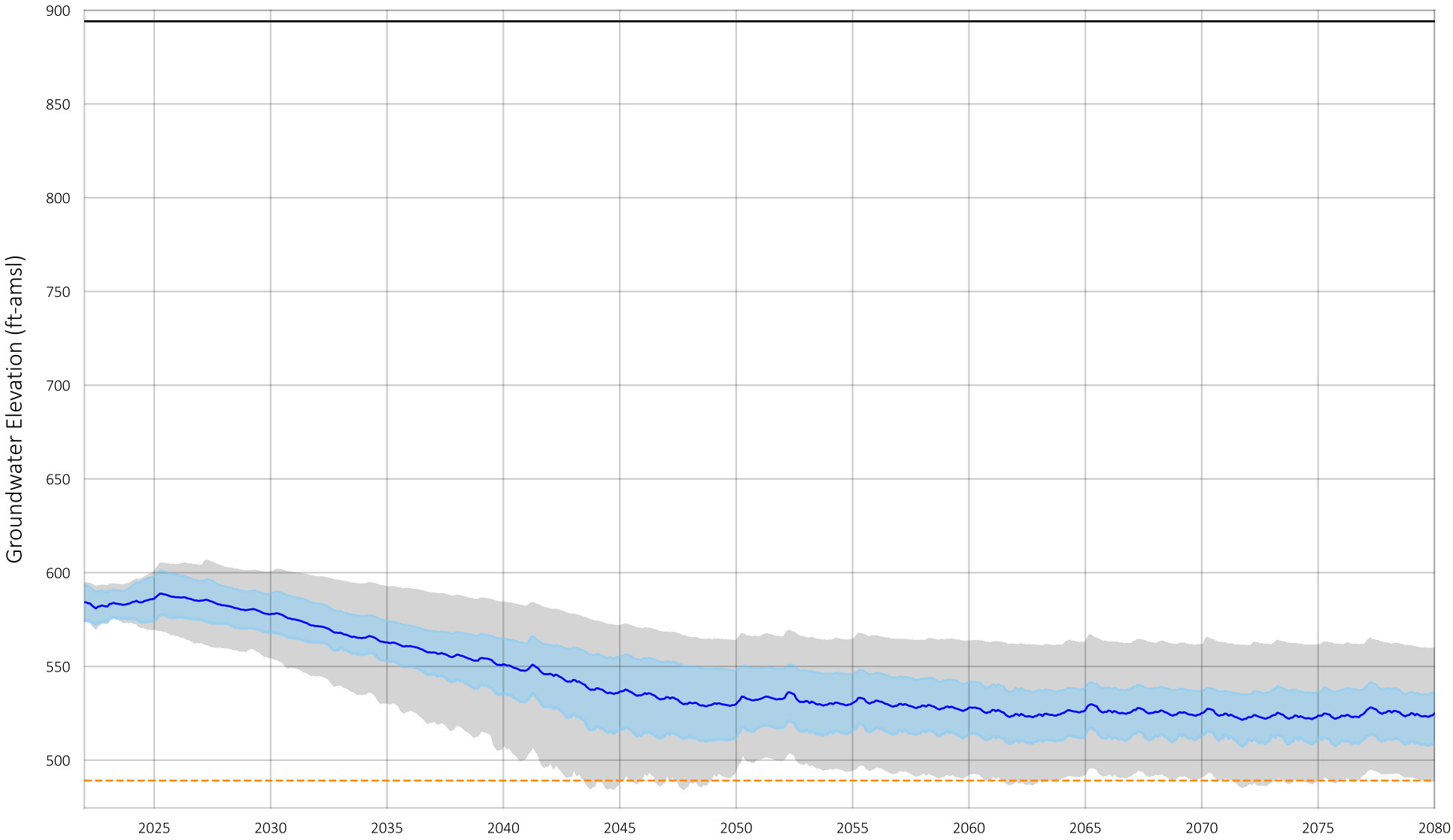
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

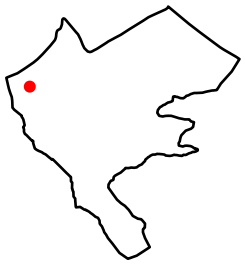
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-16
Well Owner: City of Pomona
Screen Interval (ft-bgs): 270 - 328

Figure D-140



Well Location



Legend

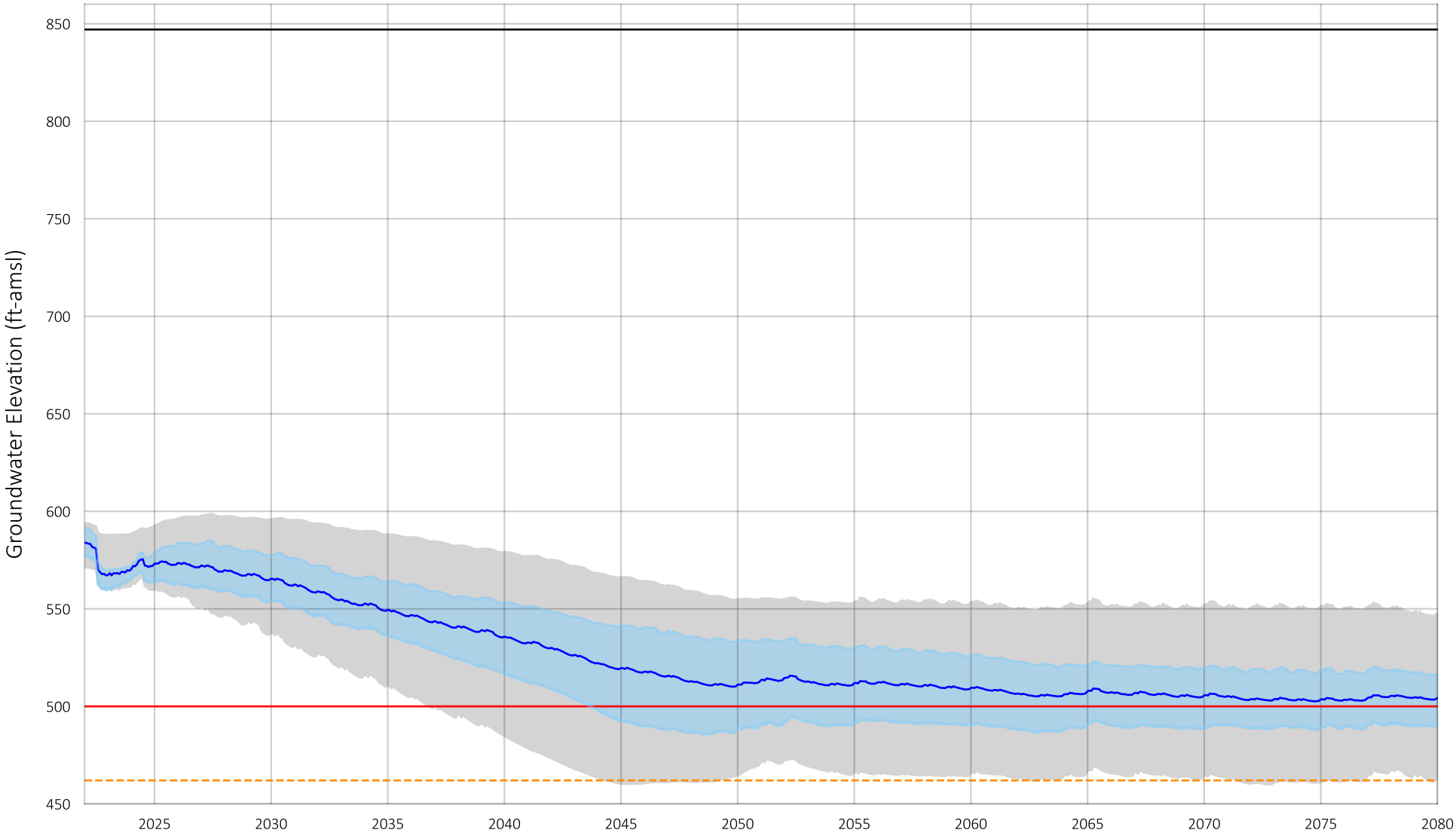
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

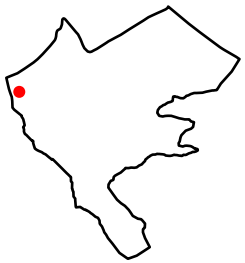
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-34
Well Owner: City of Pomona
Screen Interval (ft-bgs): 363 - 427

Figure D-141



Well Location



Legend

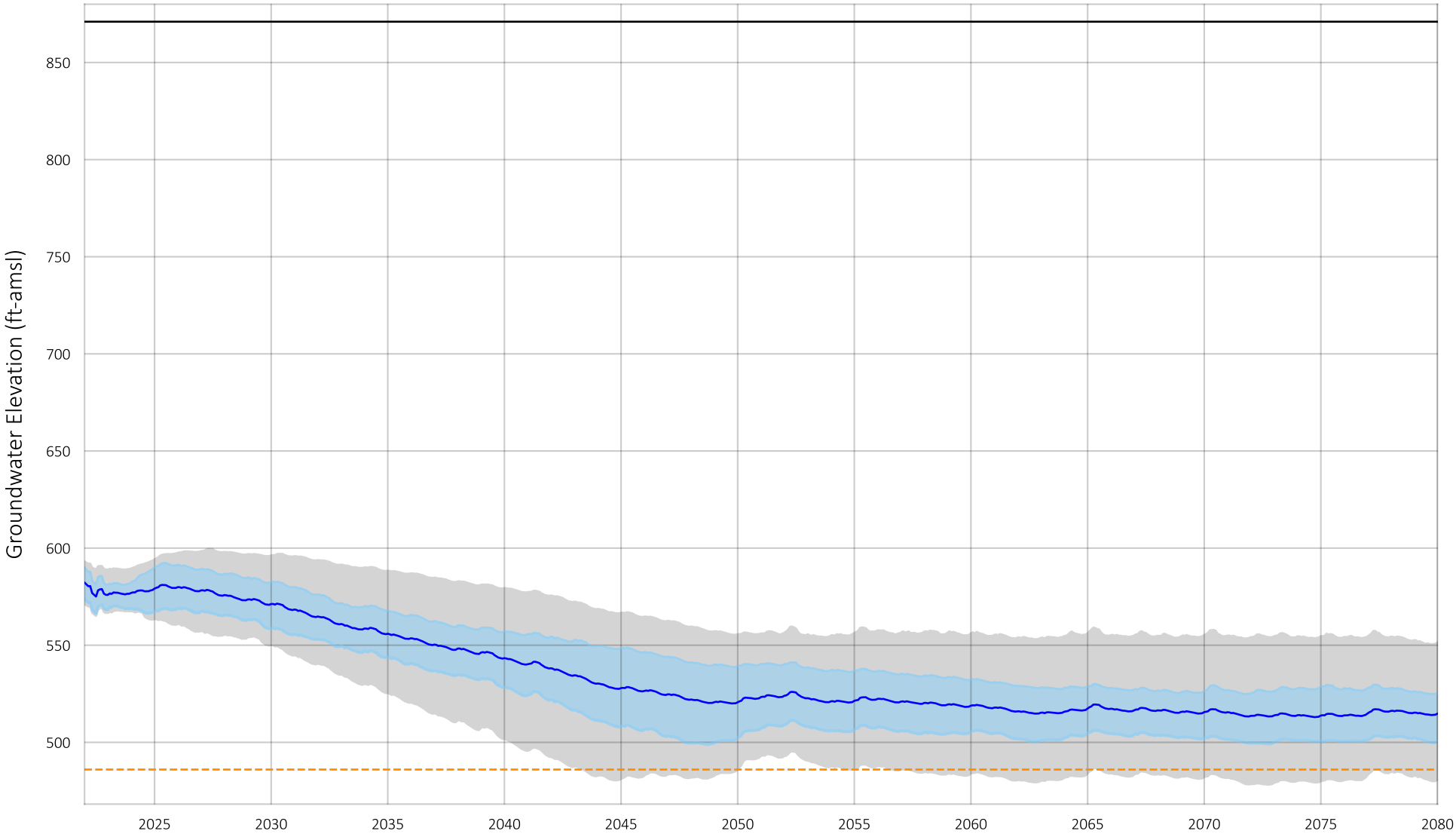
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

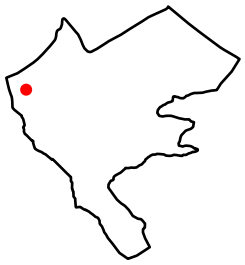
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-36
Well Owner: City of Pomona
Screen Interval (ft-bgs): 340 - 700

Figure D-142



Well Location



Legend

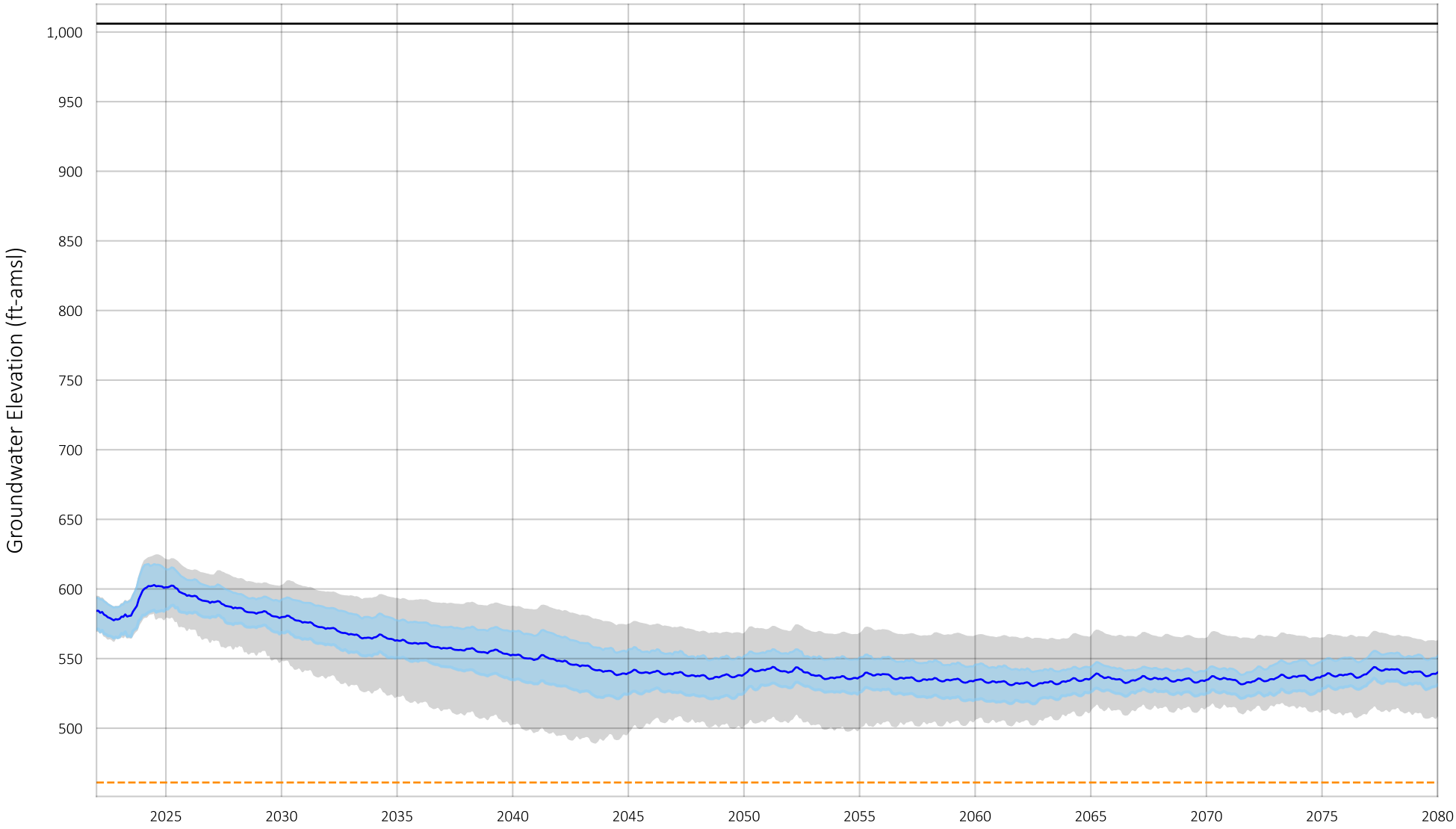
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

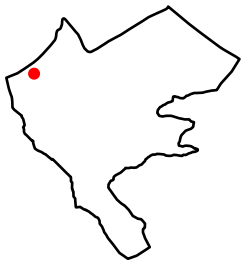
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-17
Well Owner: City of Pomona
Screen Interval (ft-bgs): 454 - 536

Figure D-143



Well Location



Legend

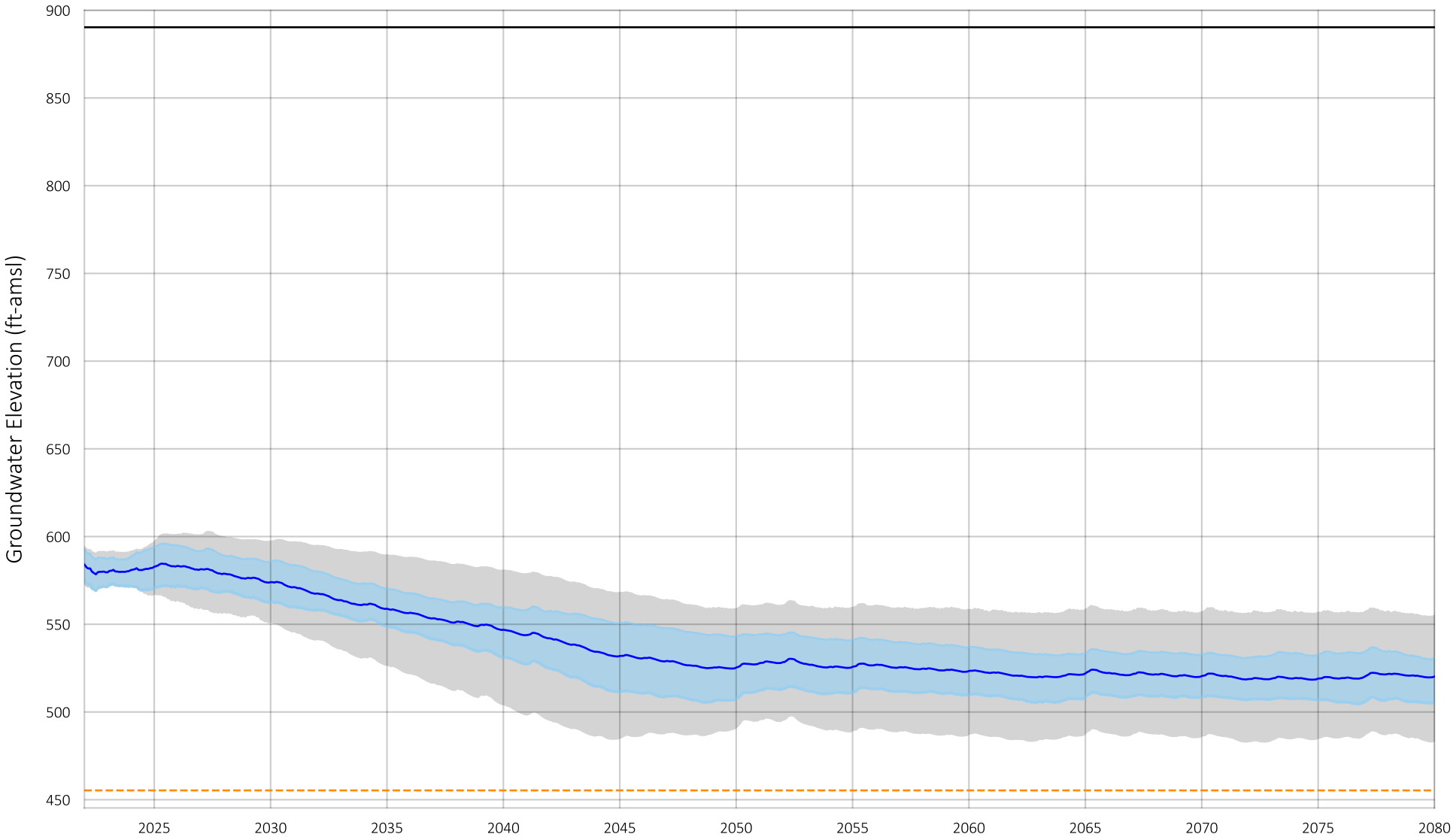
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

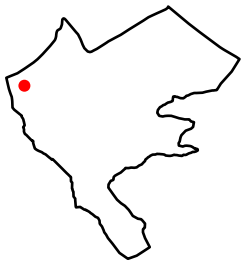
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-27
Well Owner: City of Pomona
Screen Interval (ft-bgs): 472 - 849

Figure D-144



Well Location



Legend

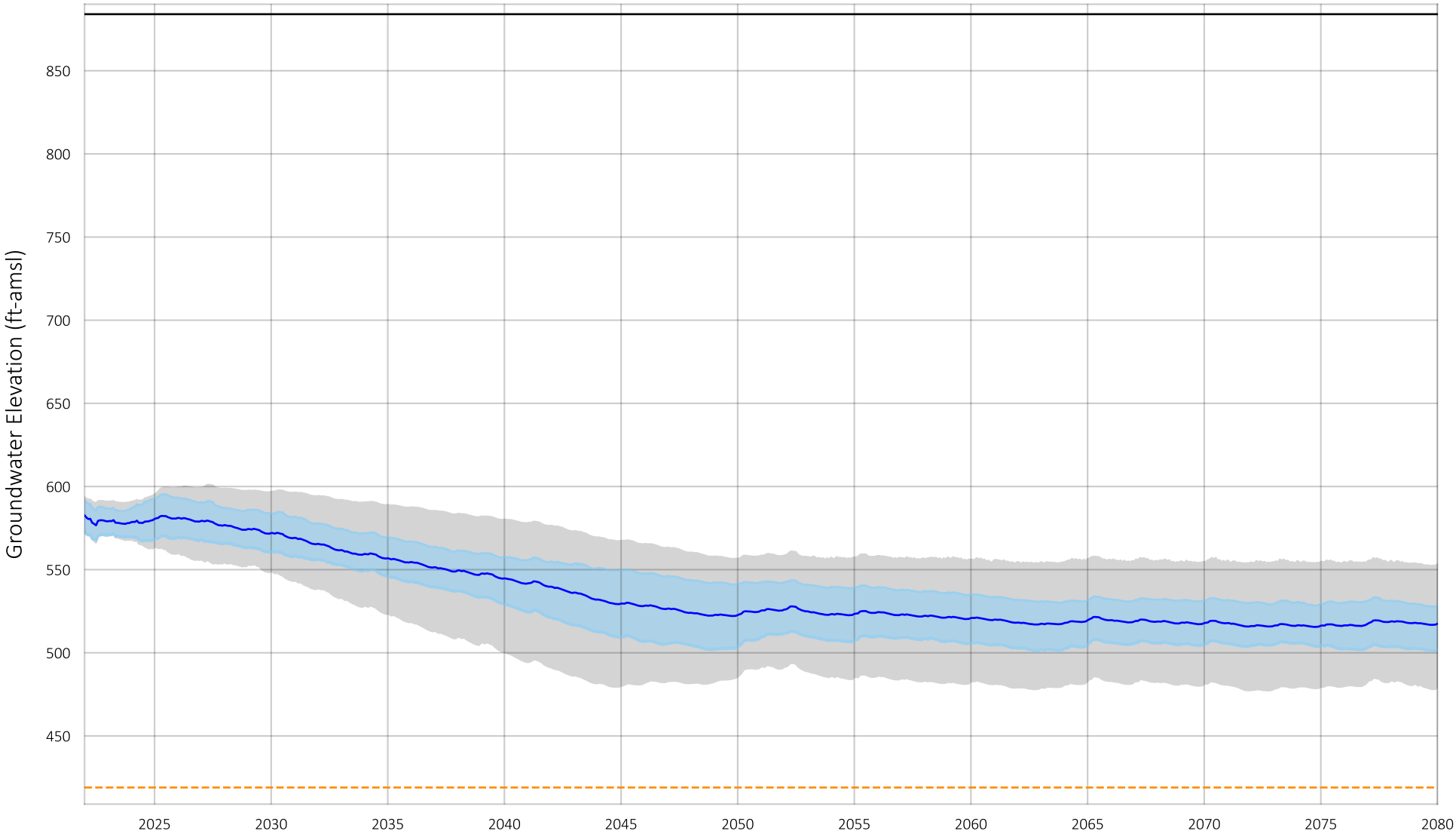
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

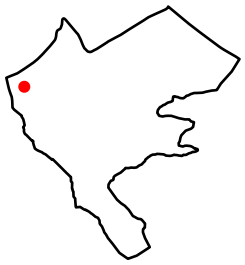
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-05B
Well Owner: City of Pomona
Screen Interval (ft-bgs): 457 - 615

Figure D-145



Well Location



Legend

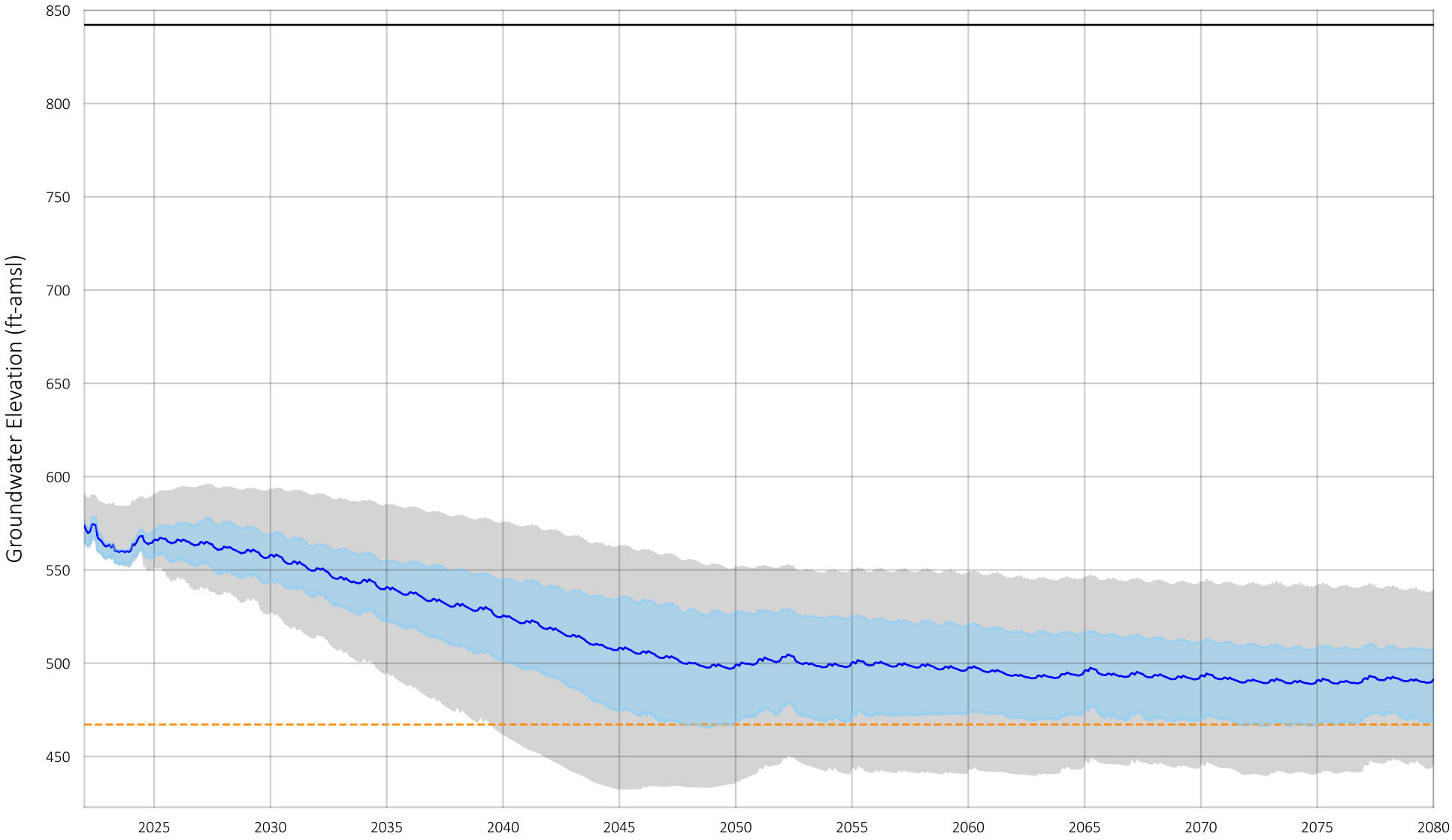
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

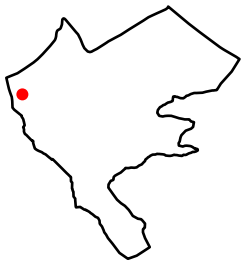
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-06
Well Owner: City of Pomona
Screen Interval (ft-bgs): 185 - 536

Figure D-146



Well Location



Legend

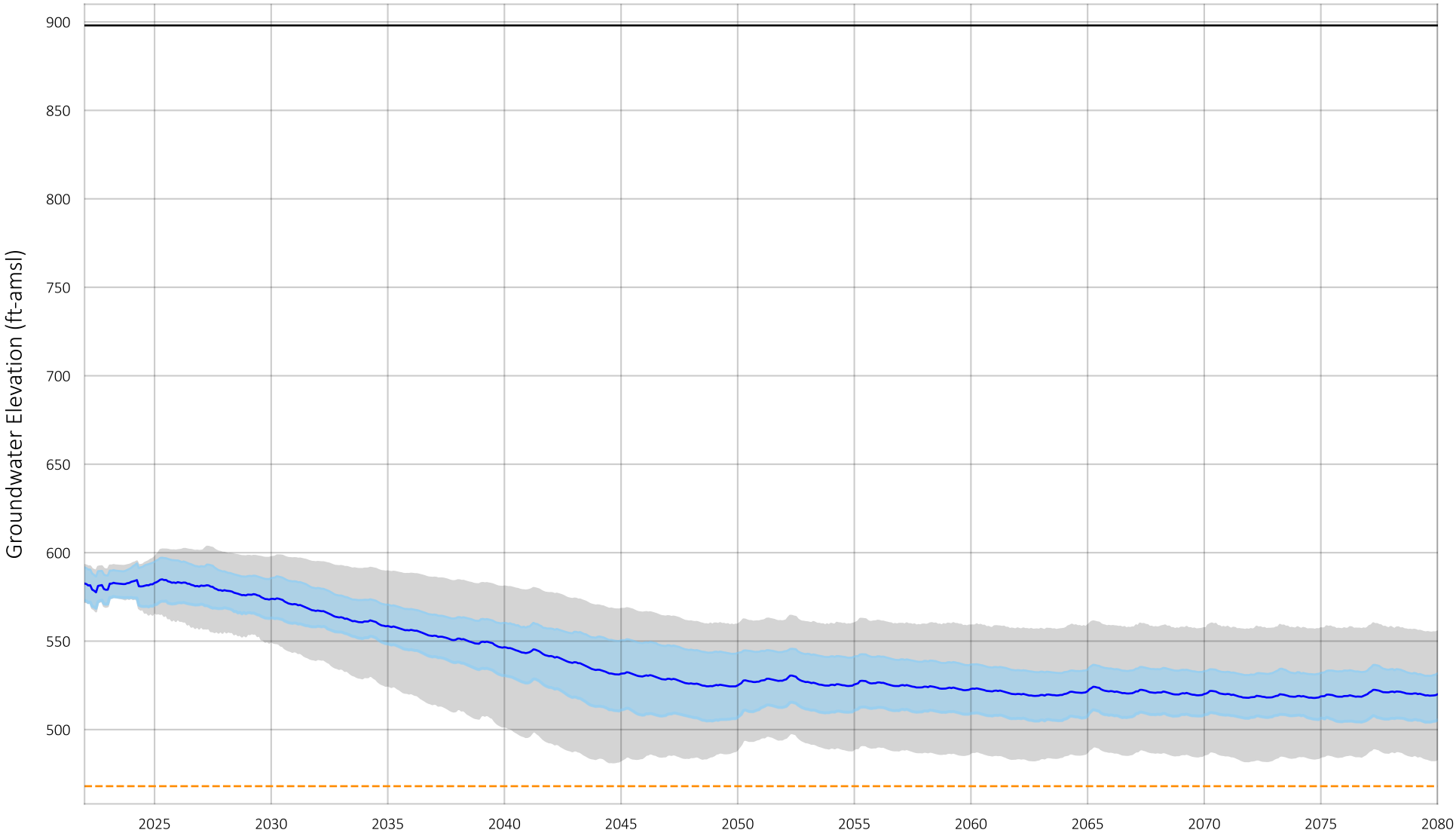
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

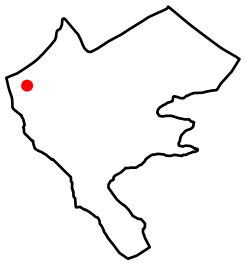
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-23
Well Owner: City of Pomona
Screen Interval (ft-bgs): 235 - 635

Figure D-147



Well Location



Legend

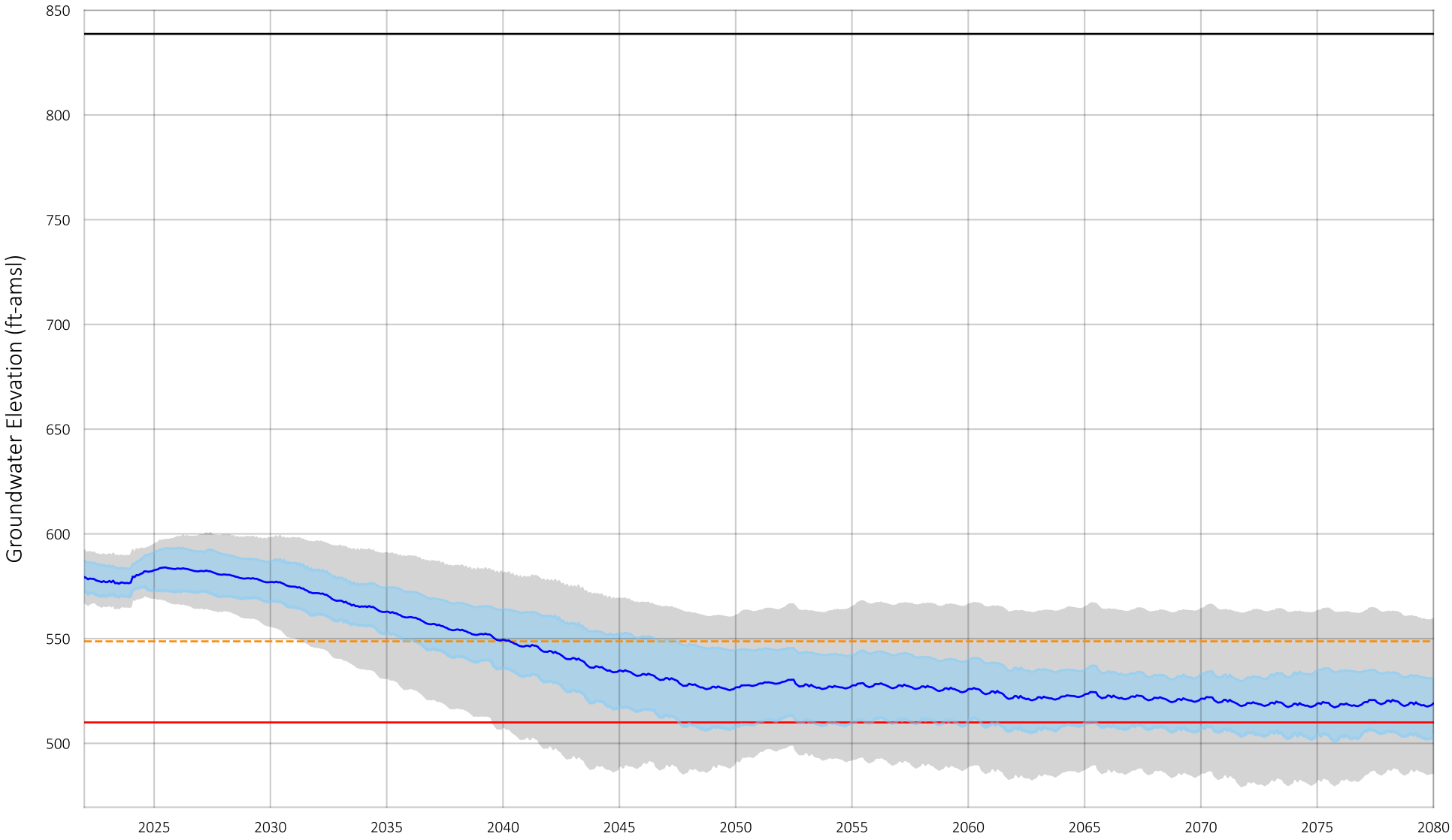
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

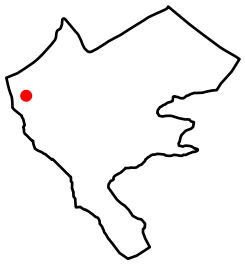
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-02
Well Owner: City of Pomona
Screen Interval (ft-bgs): 360 - 770

Figure D-148



Well Location



Legend

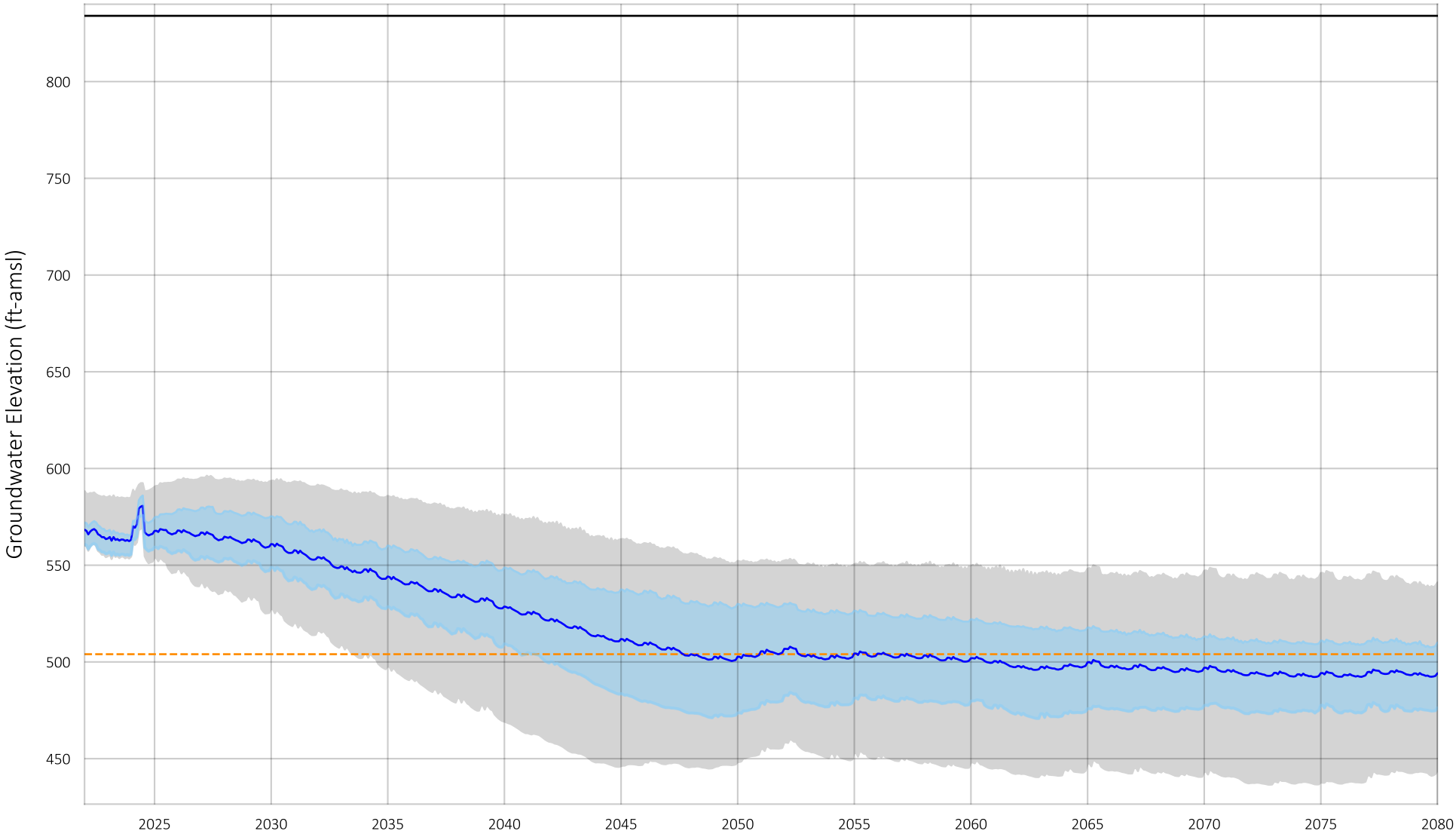
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

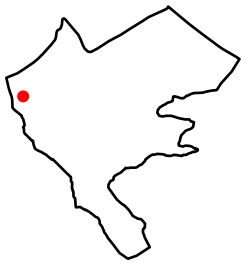
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-26
Well Owner: City of Pomona
Screen Interval (ft-bgs): 300 - 775

Figure D-149



Well Location



Legend

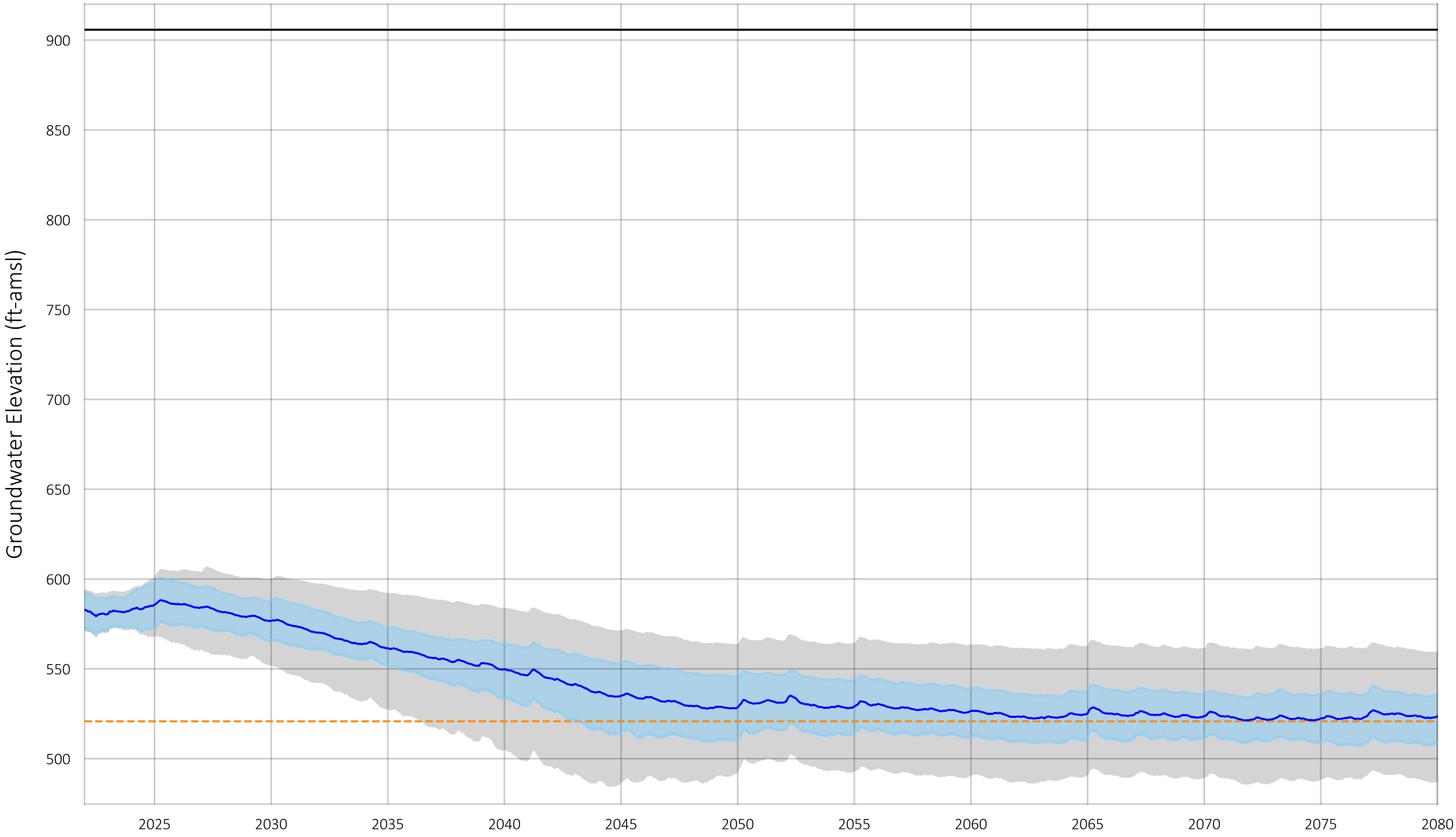
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

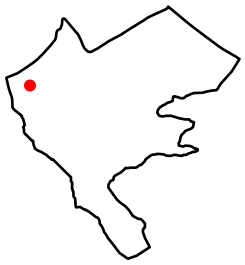
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-25
Well Owner: City of Pomona
Screen Interval (ft-bgs): 245 - 780

Figure D-150



Well Location



Legend

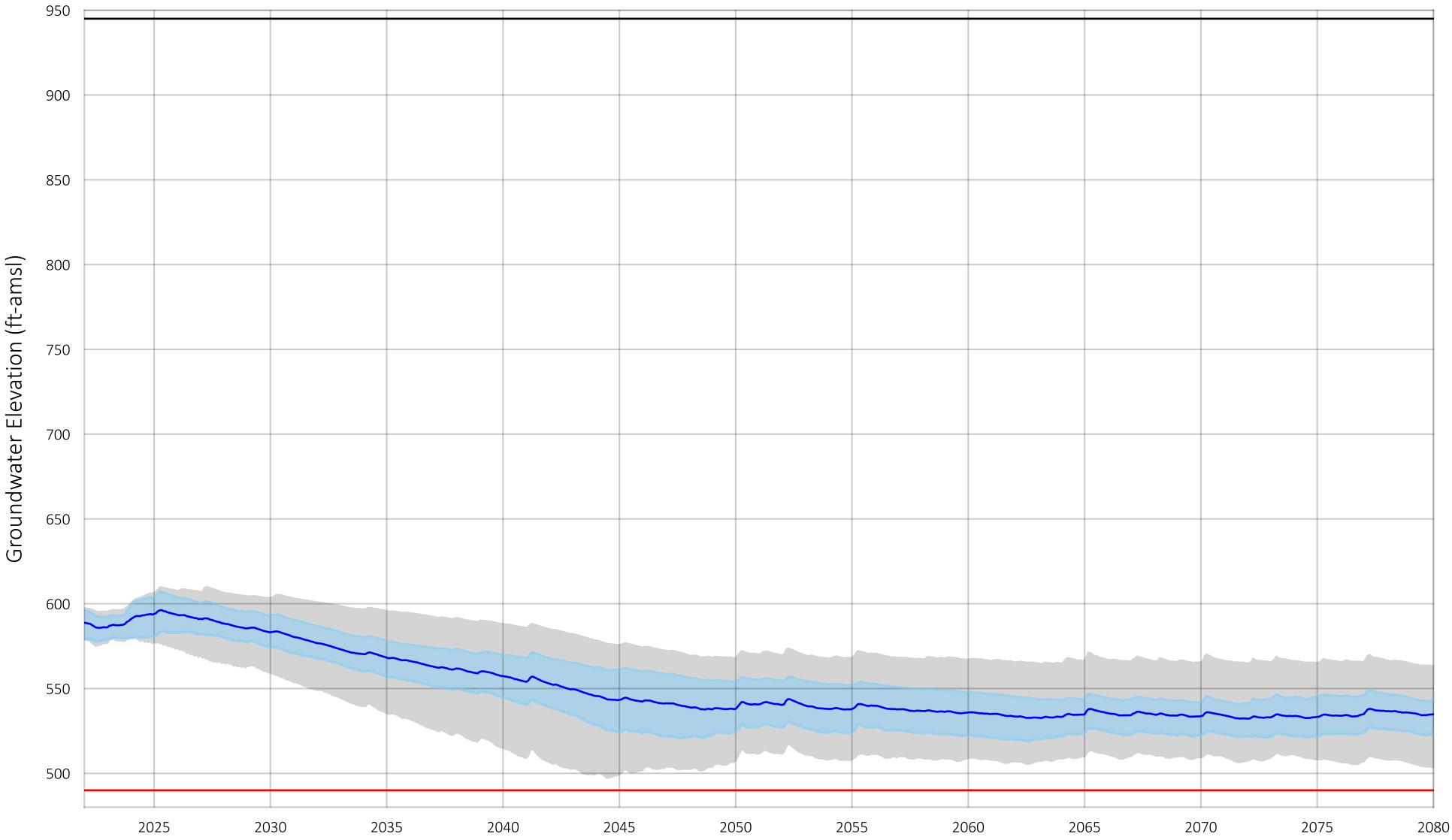
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

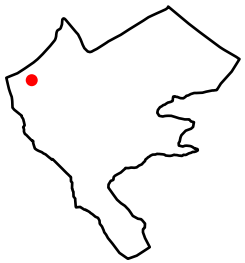
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-10B
Well Owner: City of Pomona
Screen Interval (ft-bgs): 295 - 784

Figure D-151



Well Location



Legend

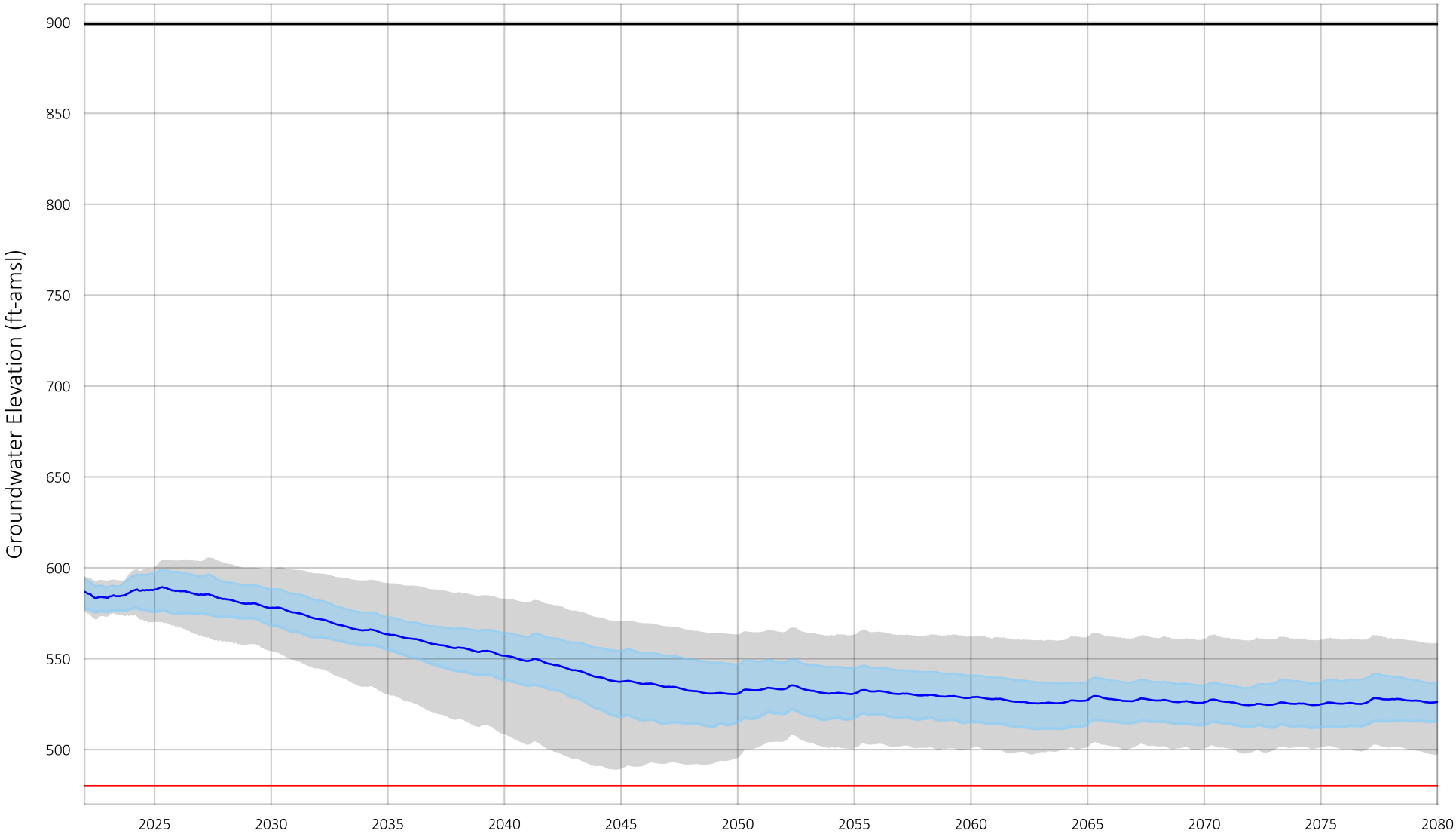
- Land Subsidence Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

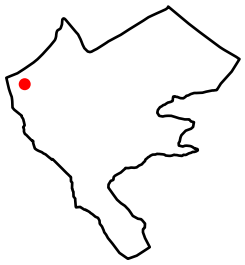
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-30
Well Owner: City of Pomona
Screen Interval (ft-bgs): 565 - 875

Figure D-152



Well Location



Legend

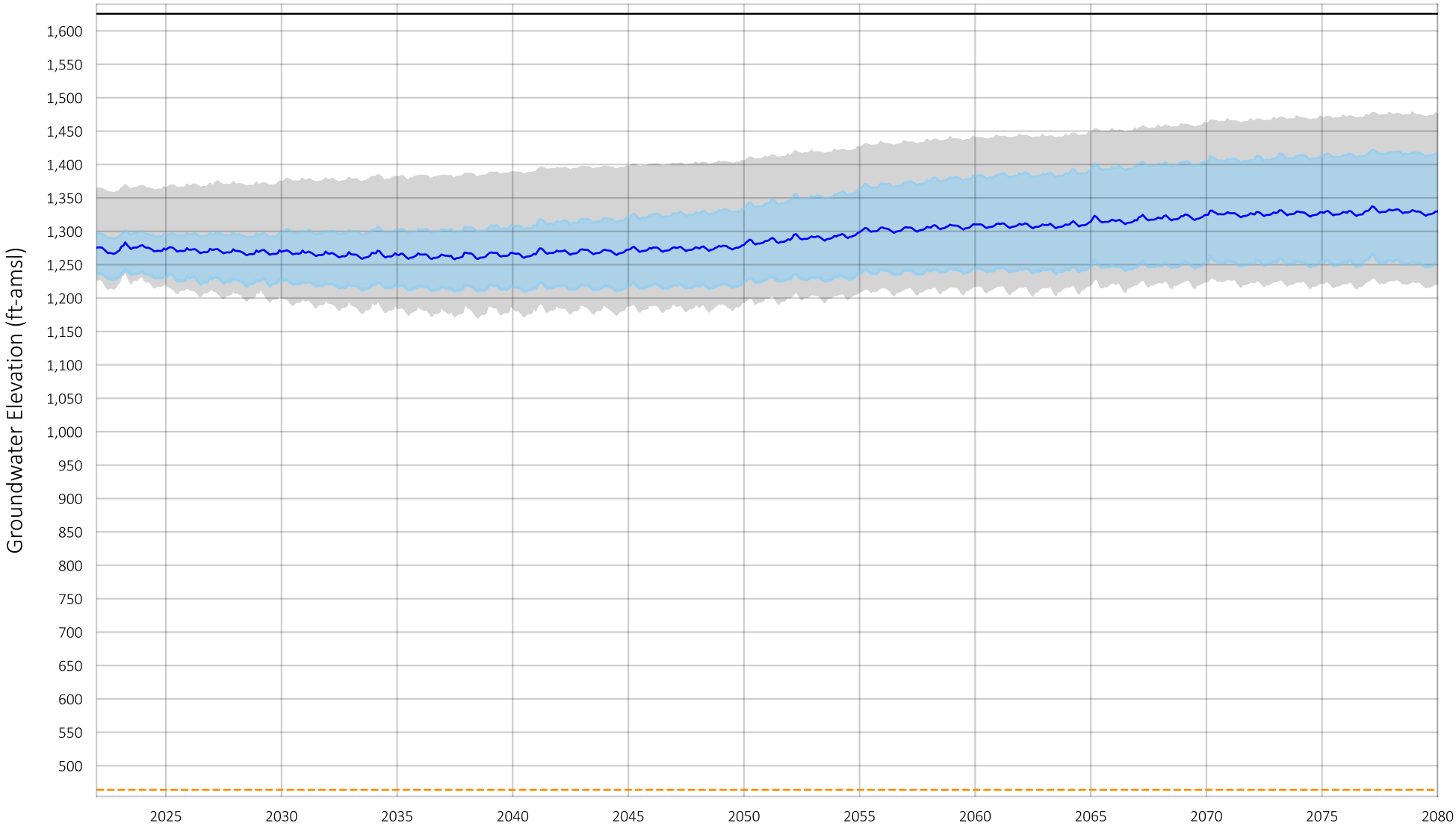
- Land Subsidence Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

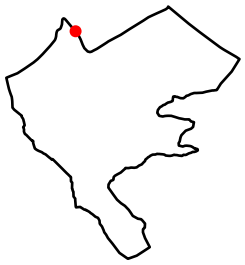
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: P-35
Well Owner: City of Pomona
Screen Interval (ft-bgs): 450 - 1085

Figure D-153



Well Location



Legend

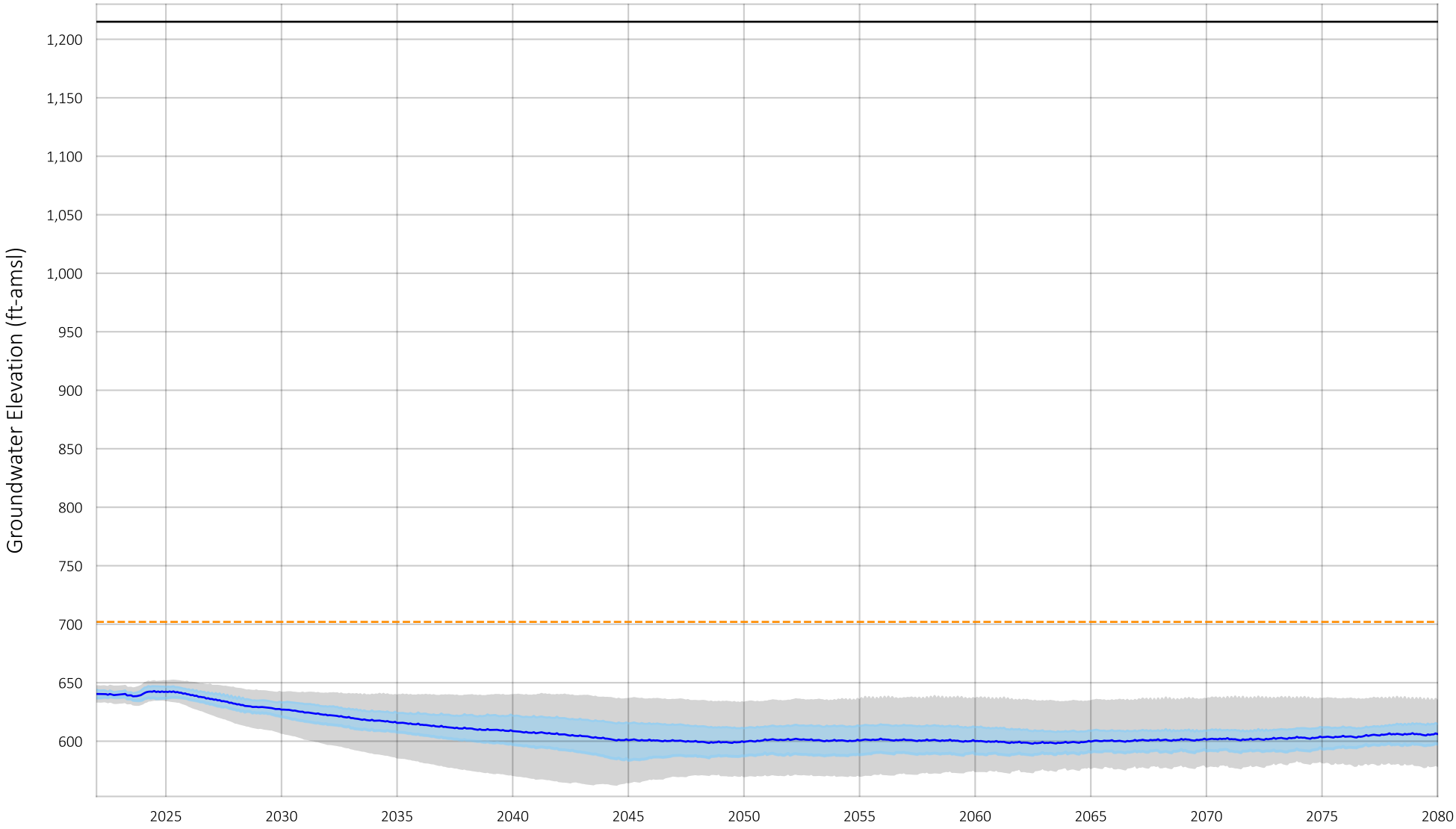
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

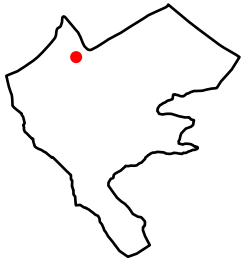
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: Upland 20
Well Owner: City of Upland
Screen Interval (ft-bgs): 300 - 860

Figure D-154



Well Location



Legend

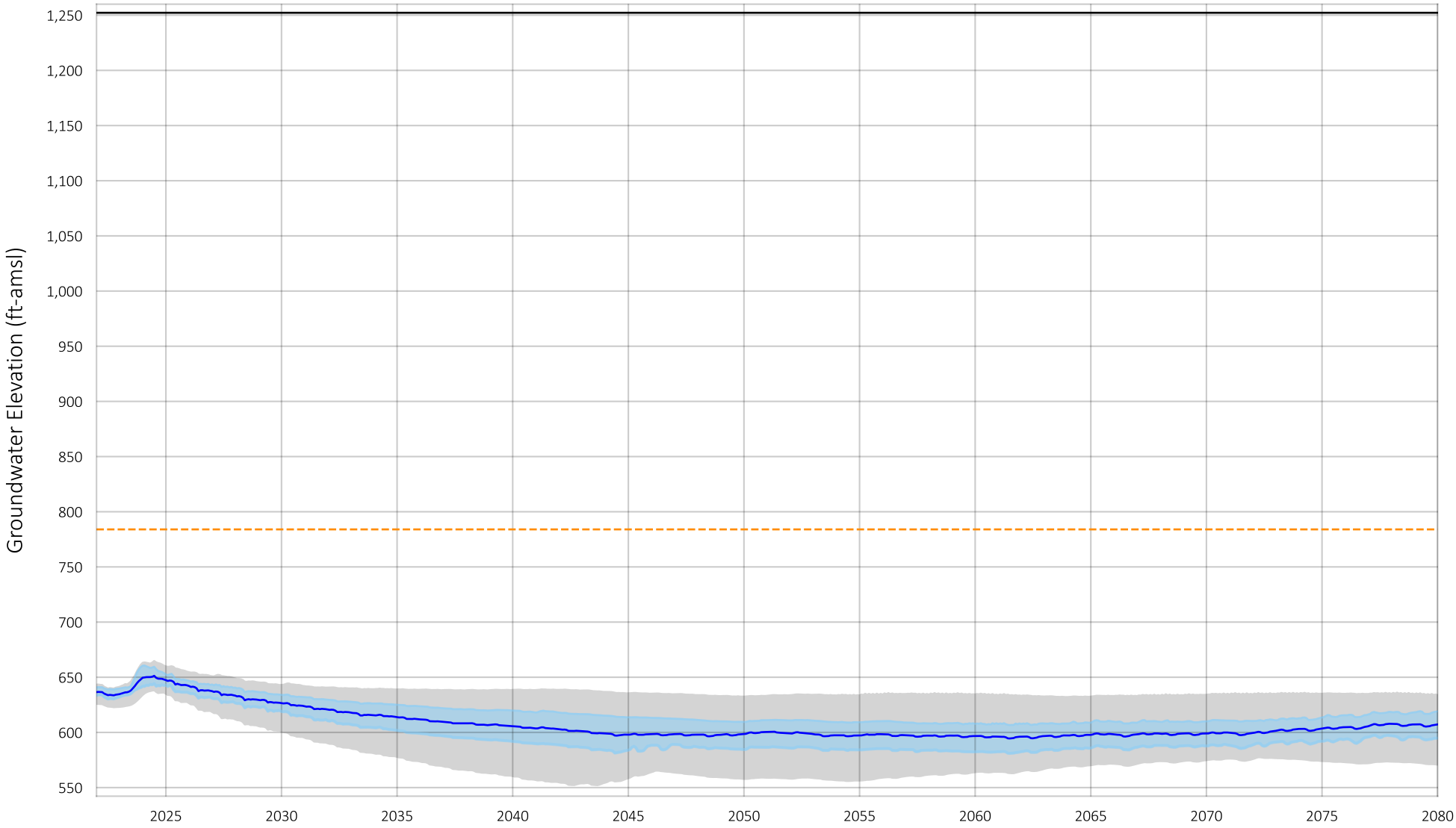
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

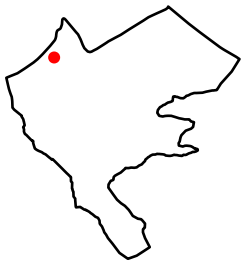
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: Upland 07A
Well Owner: City of Upland
Screen Interval (ft-bgs): 640 - 1020

Figure D-155



Well Location



Legend

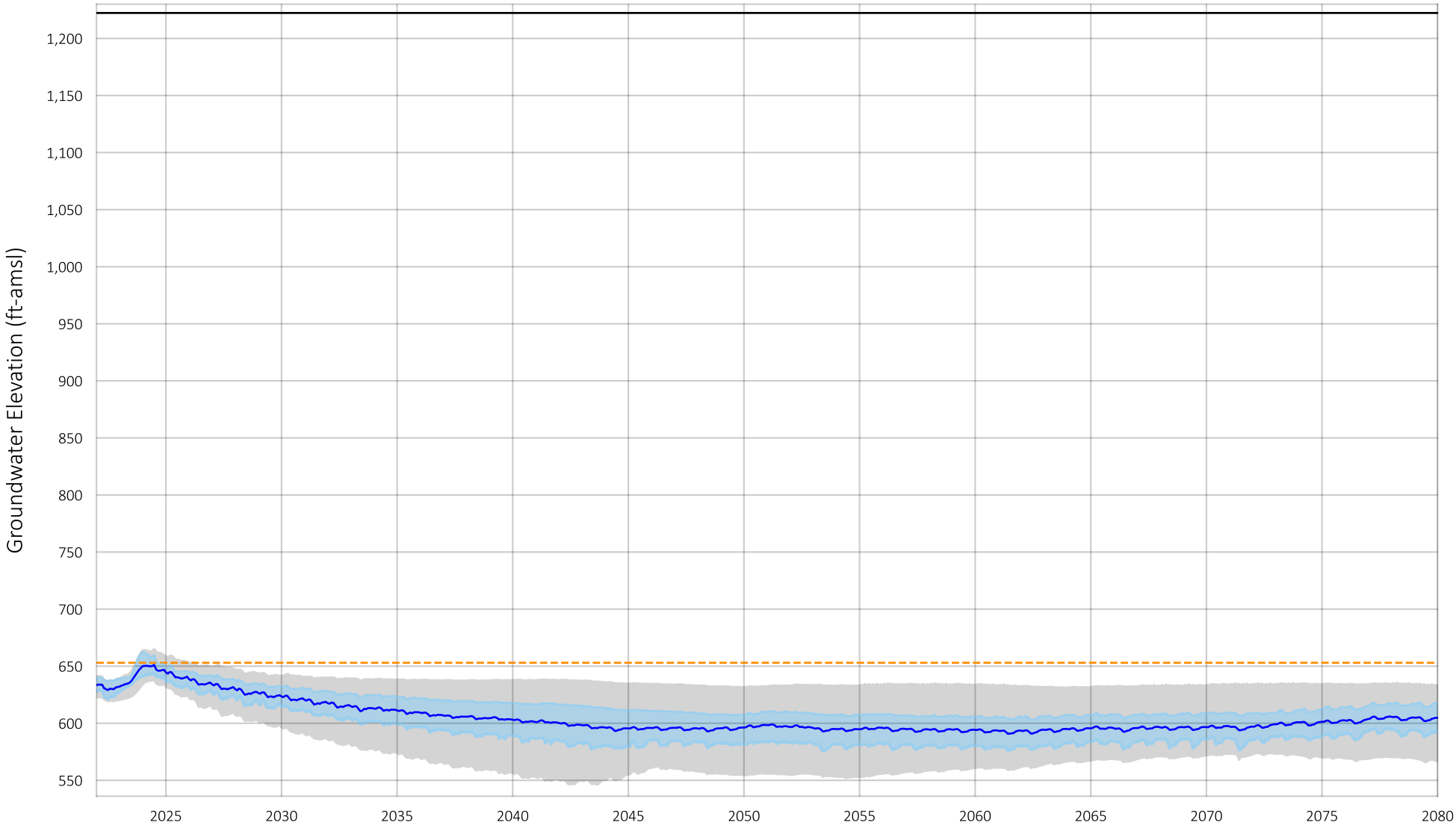
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

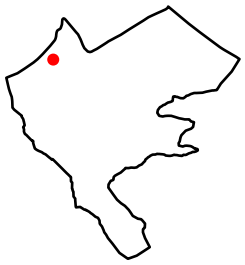
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: Upland 03
Well Owner: City of Upland
Screen Interval (ft-bgs): 492 - 904

Figure D-156



Well Location



Legend

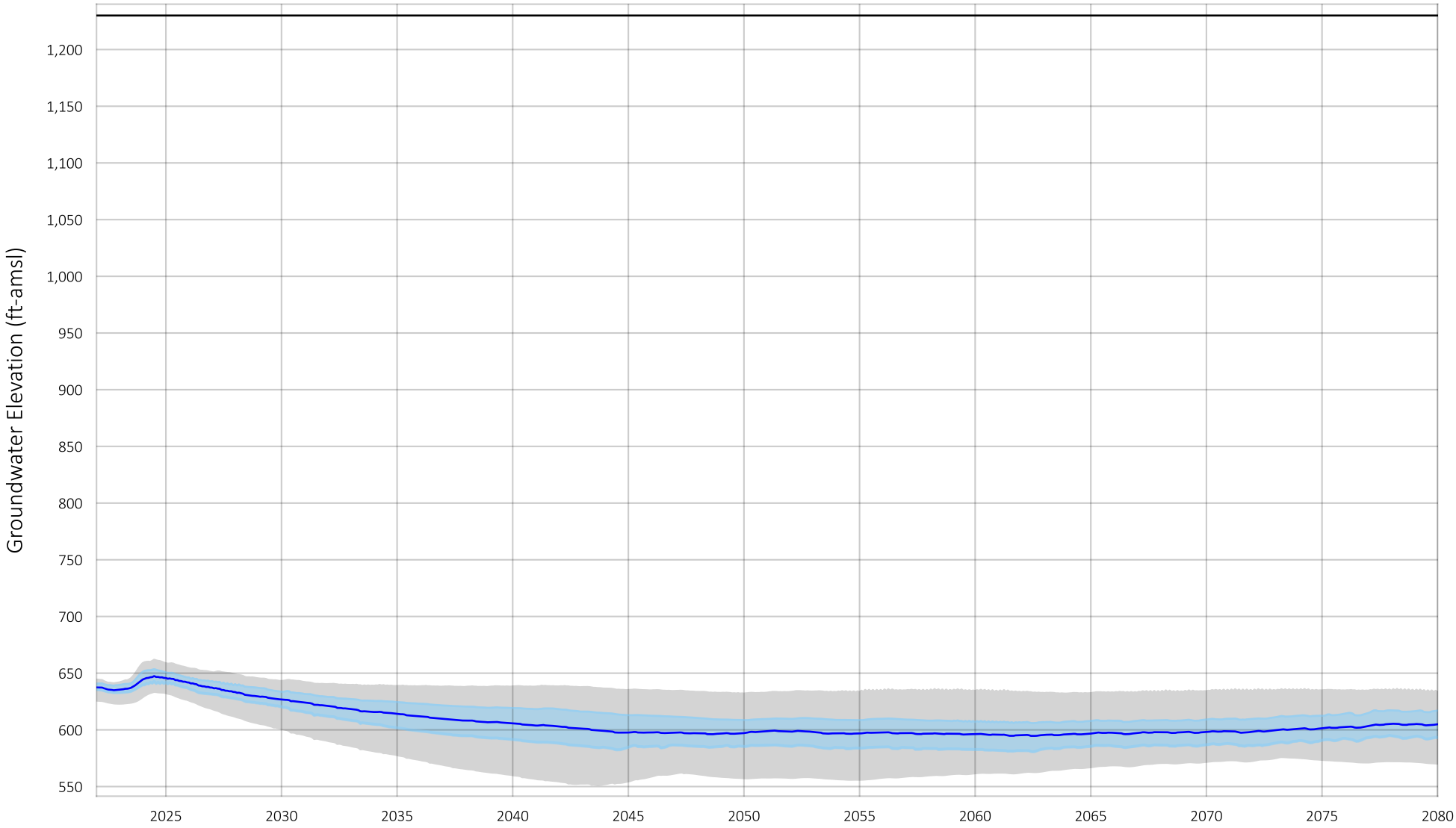
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

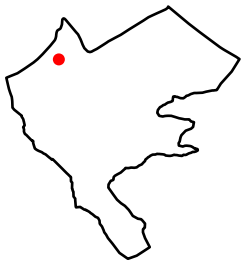
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: Upland 08
Well Owner: City of Upland
Screen Interval (ft-bgs): 522 - 985

Figure D-157



Well Location



Legend

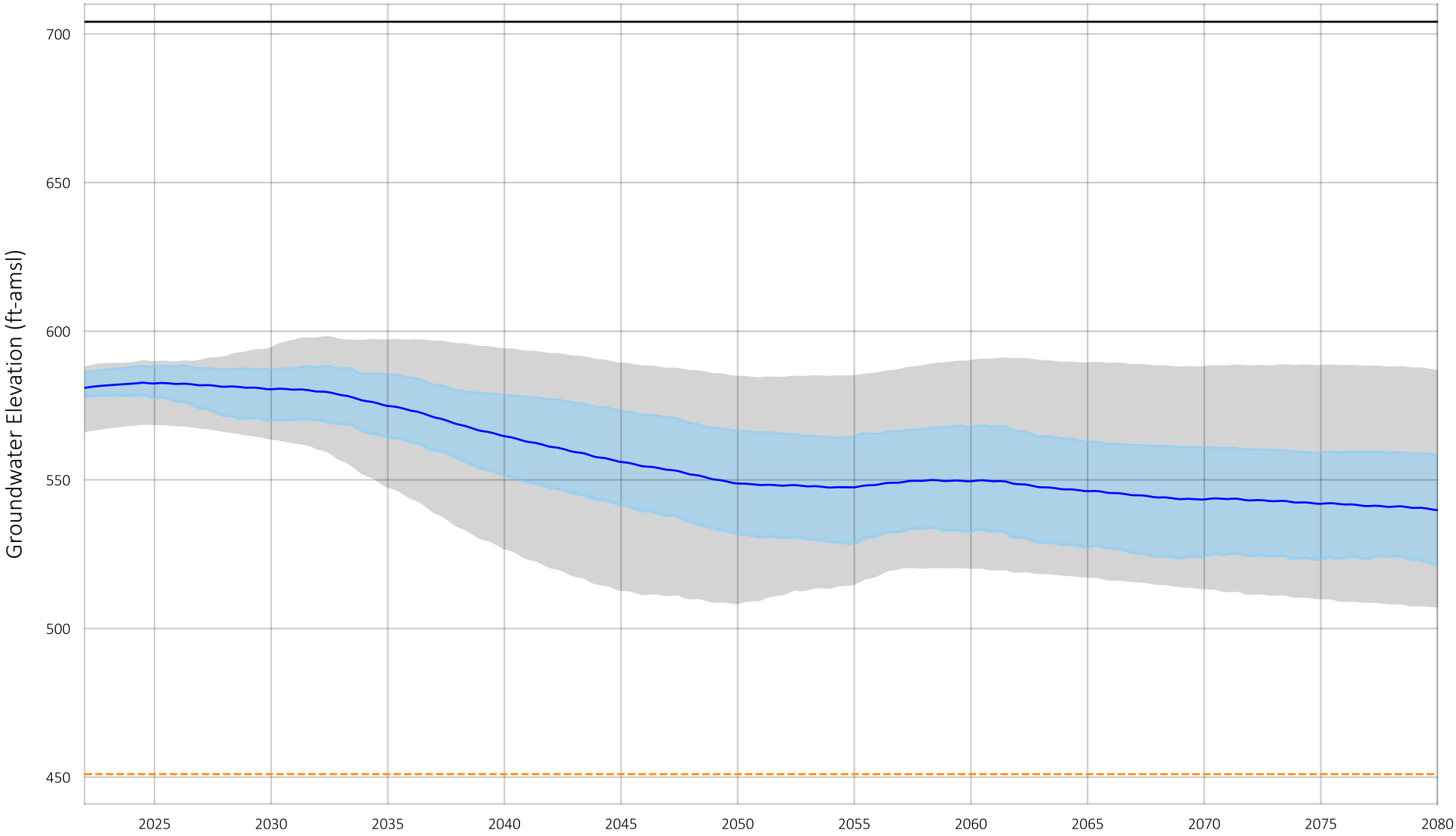
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

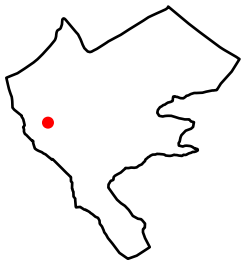
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: Upland 21A
Well Owner: City of Upland
Screen Interval (ft-bgs): 620 - 1000

Figure D-158



Well Location



Legend

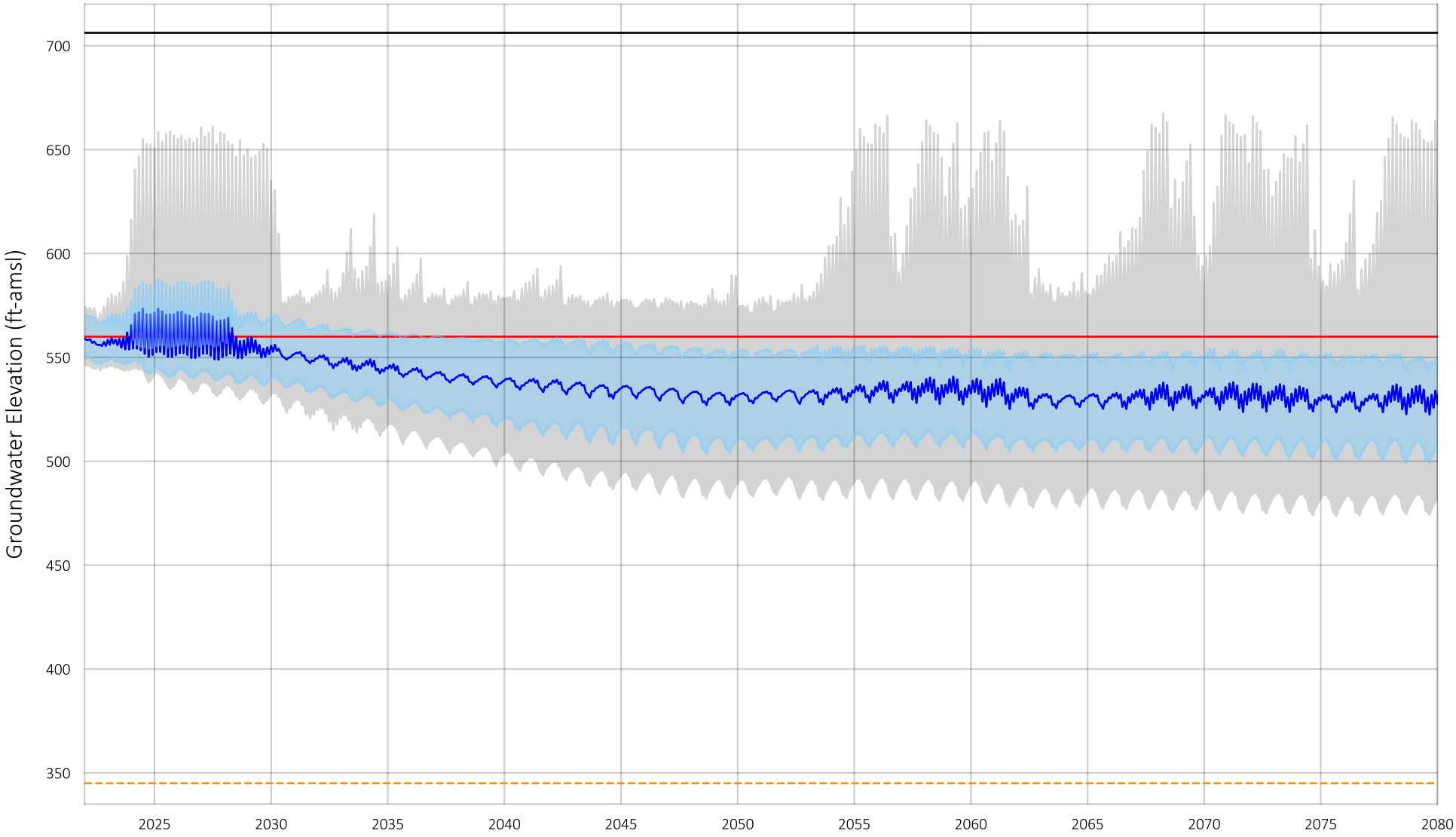
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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-159



Well Location

Legend

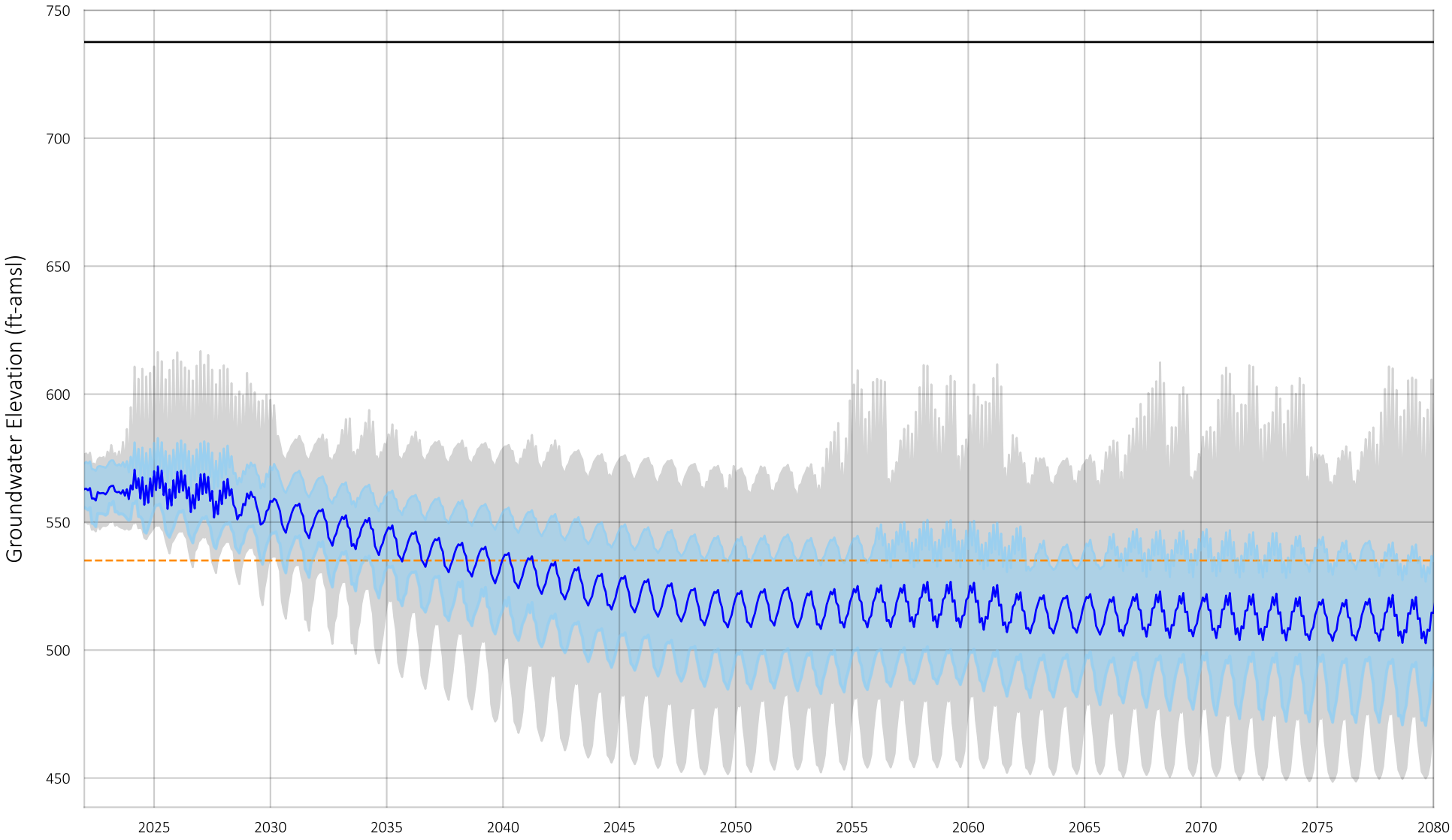
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

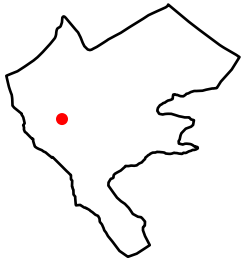
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CDF Well 16
Well Owner: City of Chino
Screen Interval (ft-bgs): 220 - 805

Figure D-160



Well Location



Legend

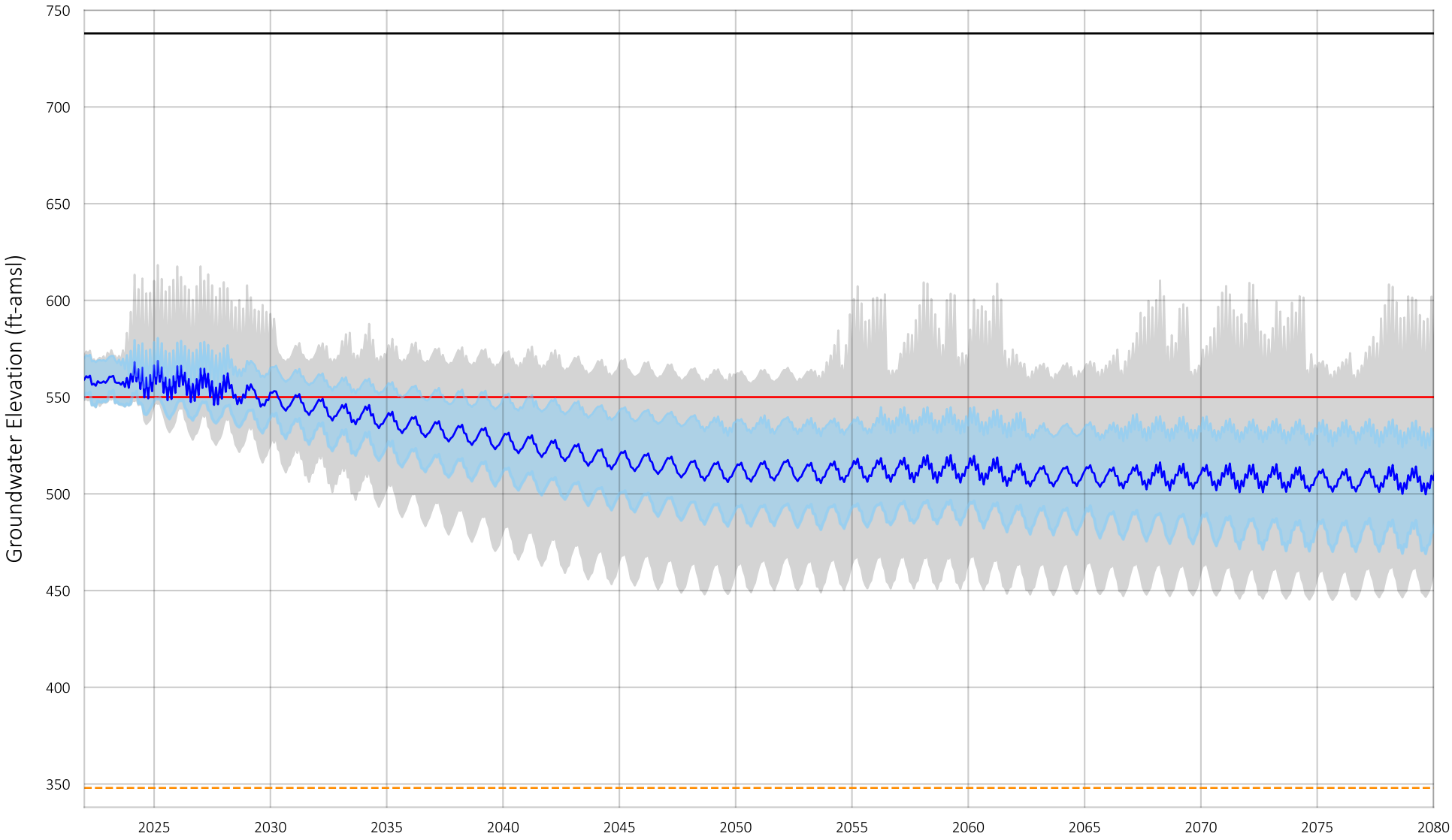
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

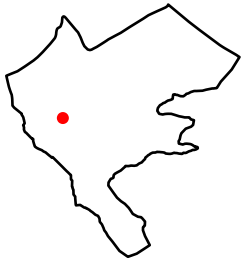
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: 19
Well Owner: City of Chino
Screen Interval (ft-bgs): 280 - 540

Figure D-161



Well Location



Legend

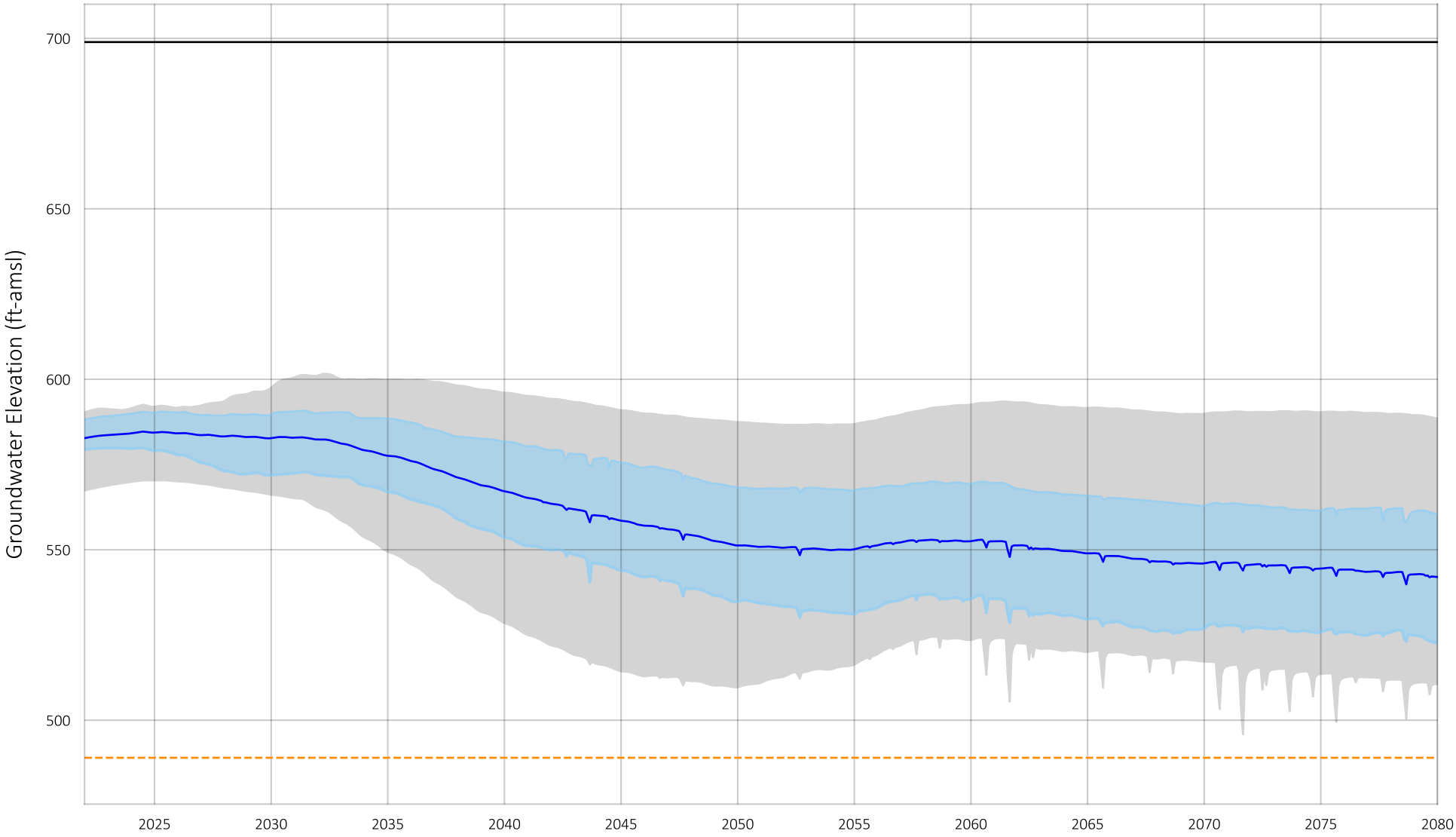
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

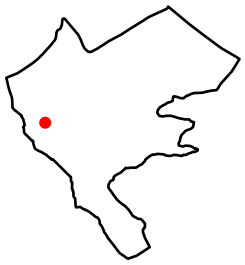
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: 13
Well Owner: City of Chino
Screen Interval (ft-bgs): 290 - 720

Figure D-162



Well Location



Legend

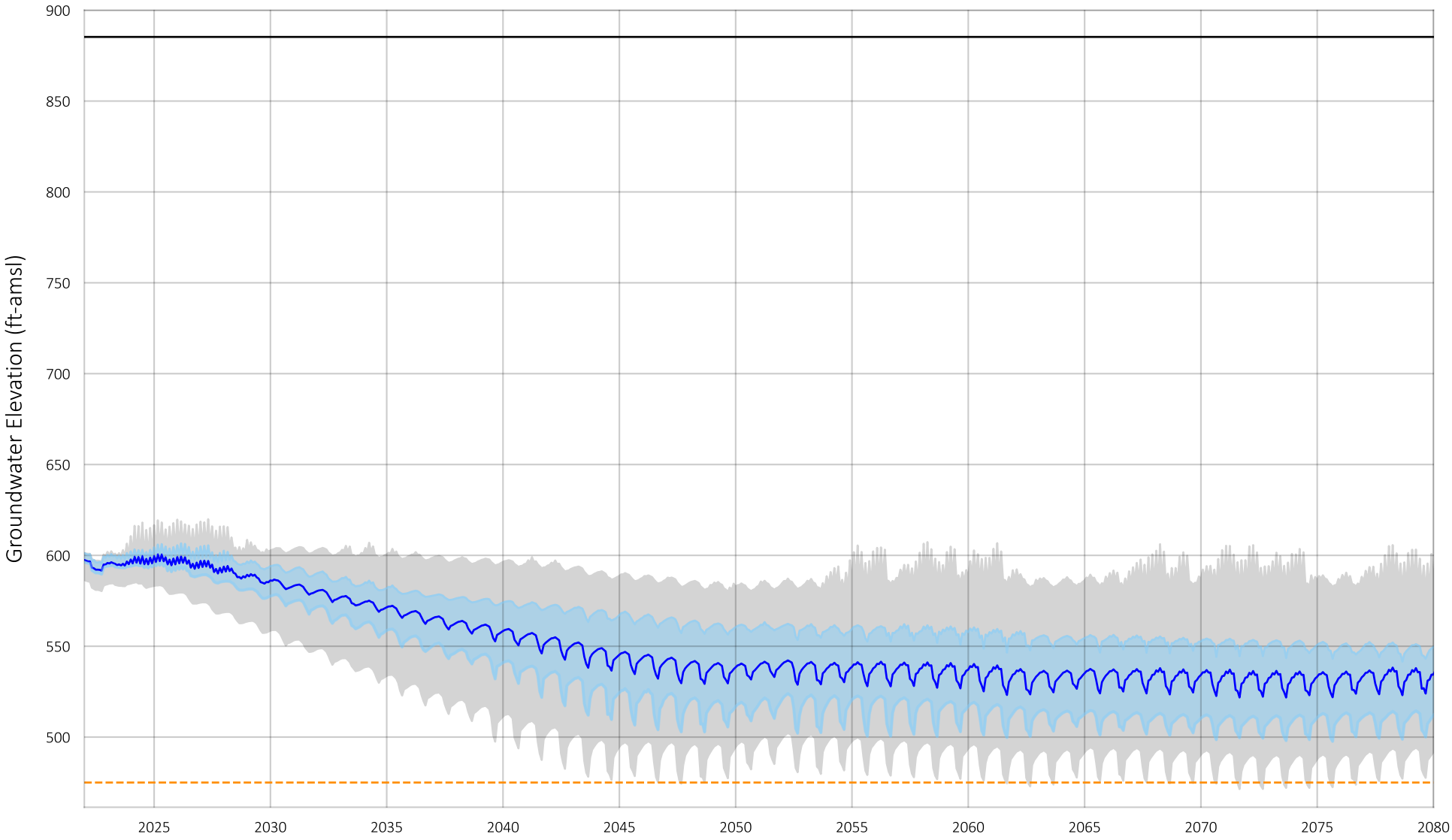
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

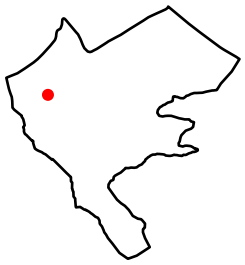
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: 06
Well Owner: City of Chino
Screen Interval (ft-bgs): 200 - 375

Figure D-163



Well Location



Legend

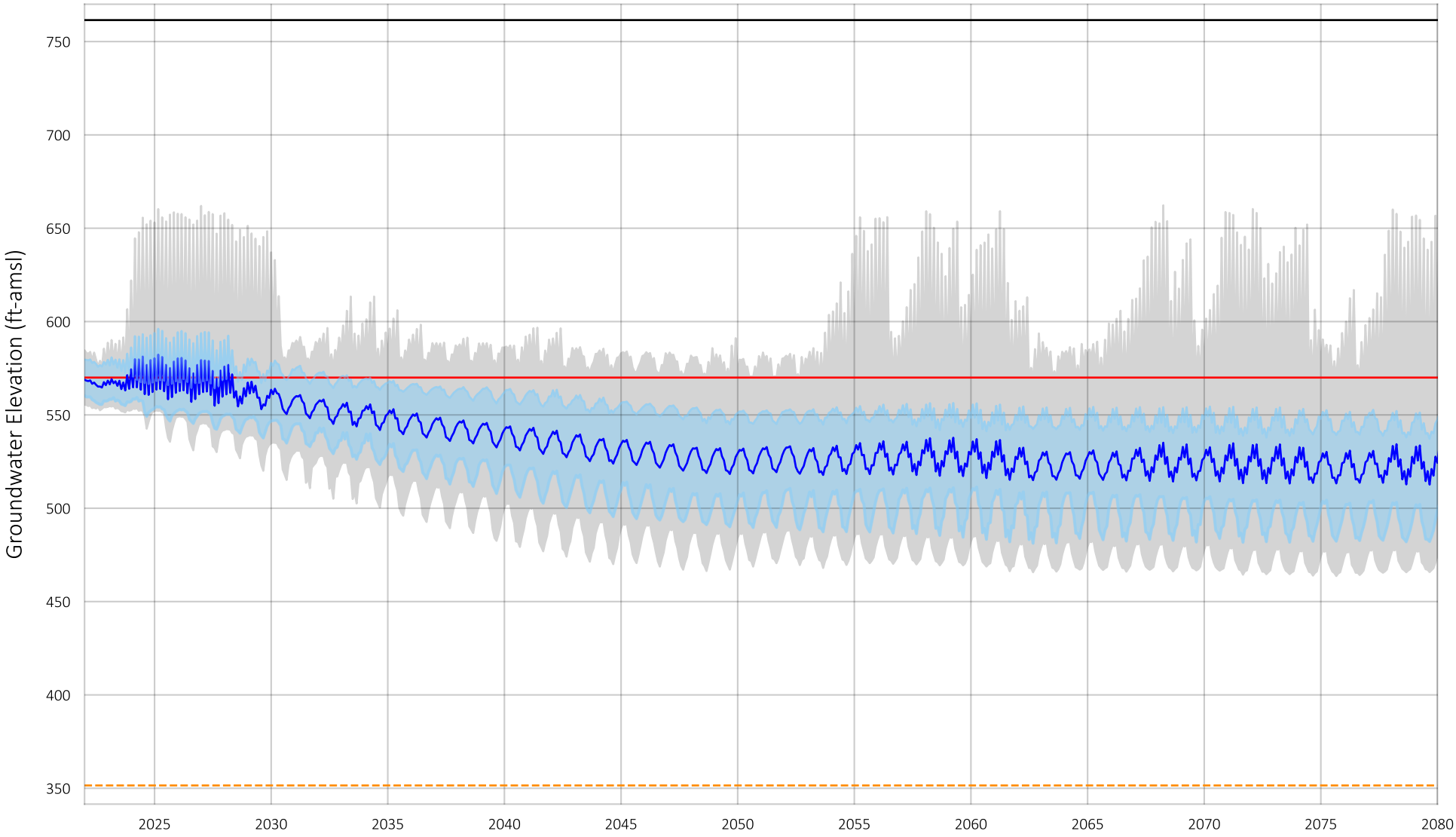
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

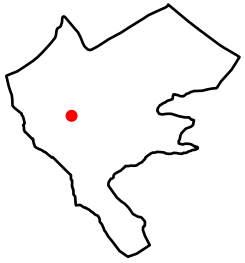
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: 10
Well Owner: City of Chino
Screen Interval (ft-bgs): 355 - 1090

Figure D-164



Well Location



Legend

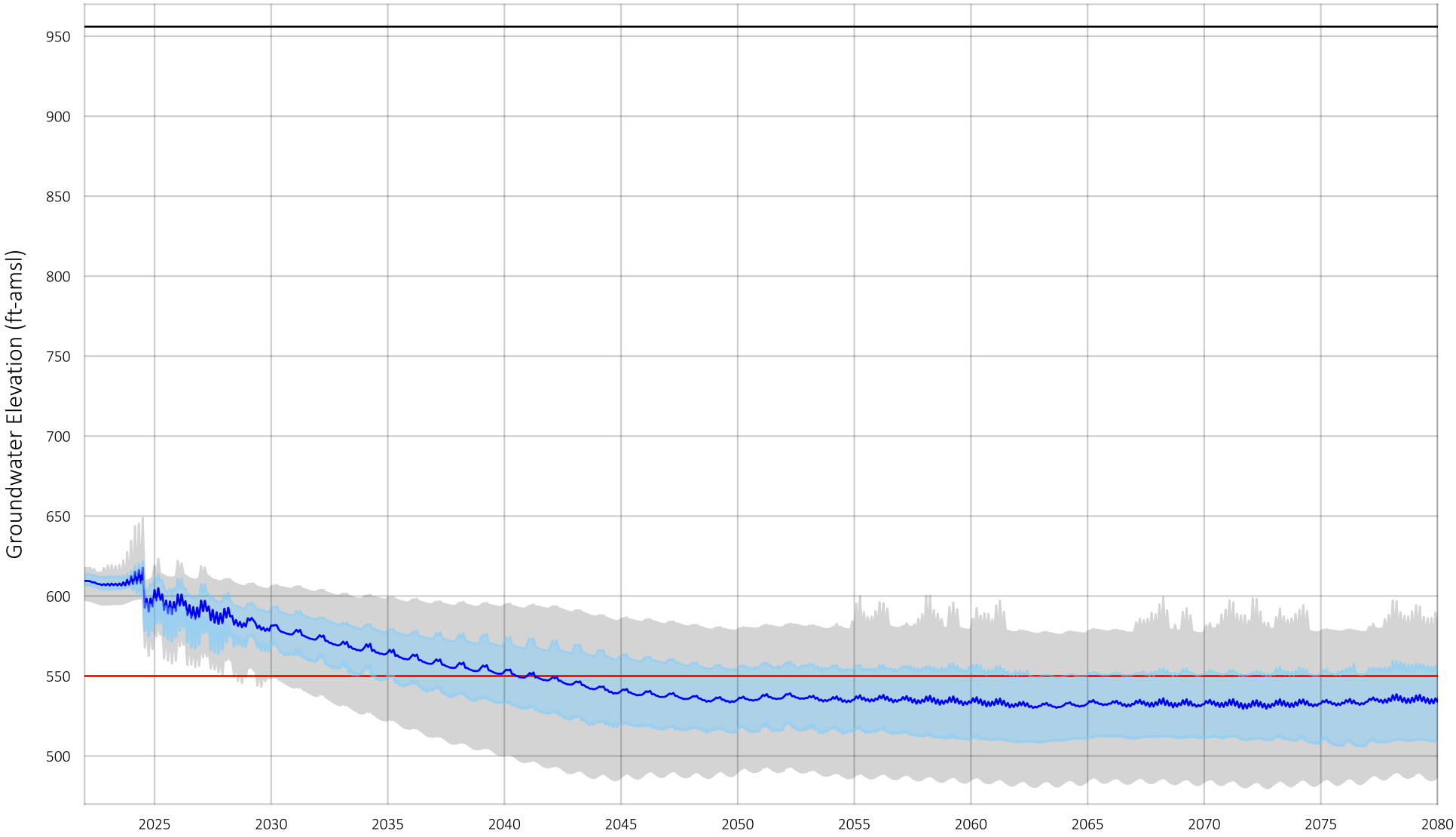
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

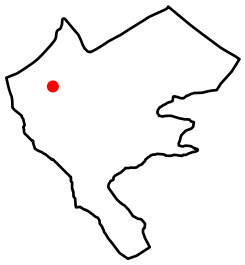
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: Chino 18
Well Owner: City of Chino
Screen Interval (ft-bgs): 250 - 830

Figure D-165



Well Location



Legend

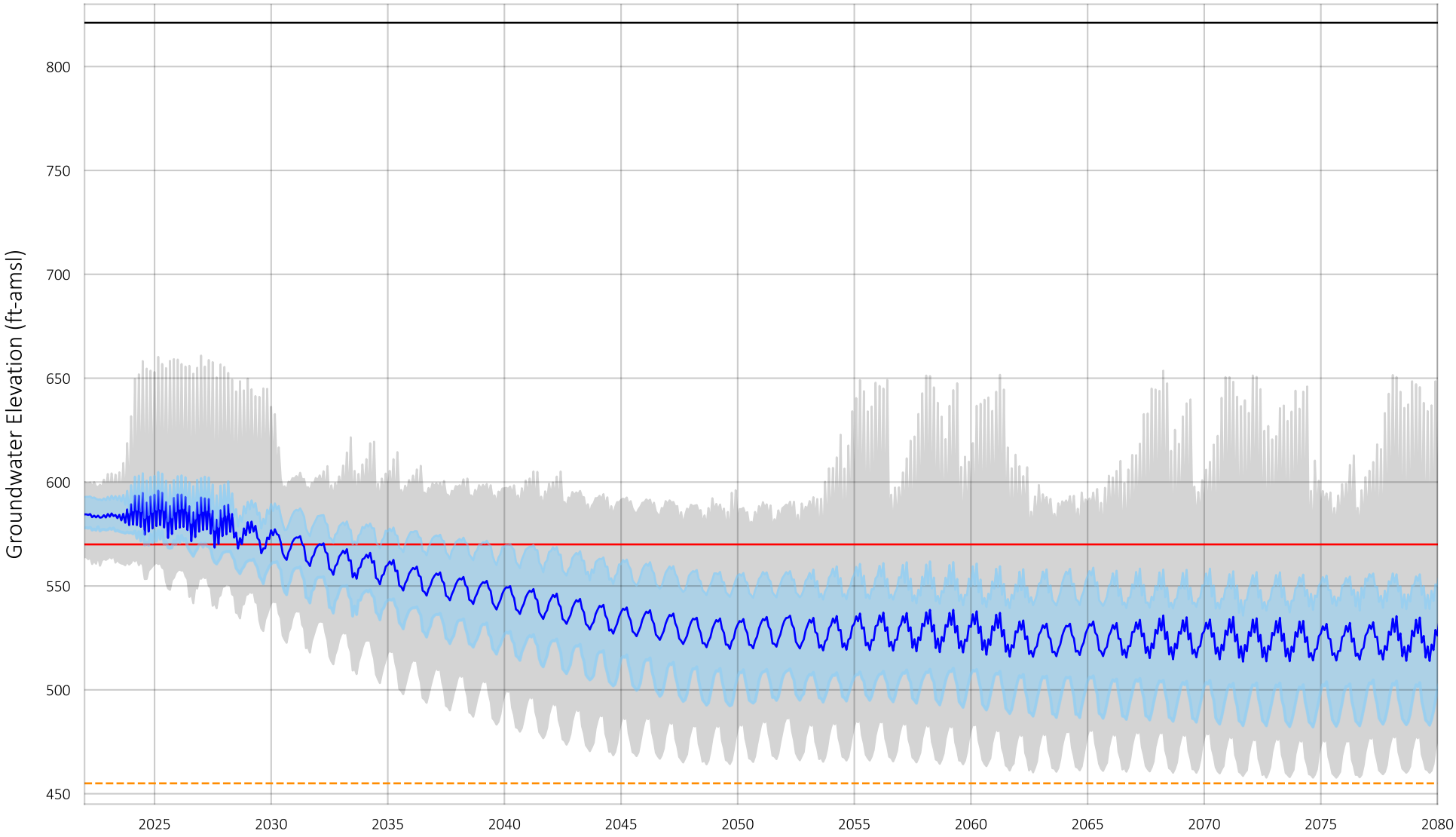
- Land Subsidence Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

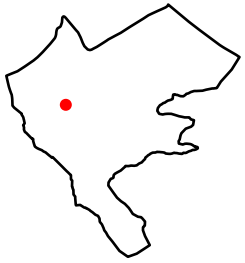
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: 14
Well Owner: City of Chino
Screen Interval (ft-bgs): 480 - 1200

Figure D-166



Well Location



Legend

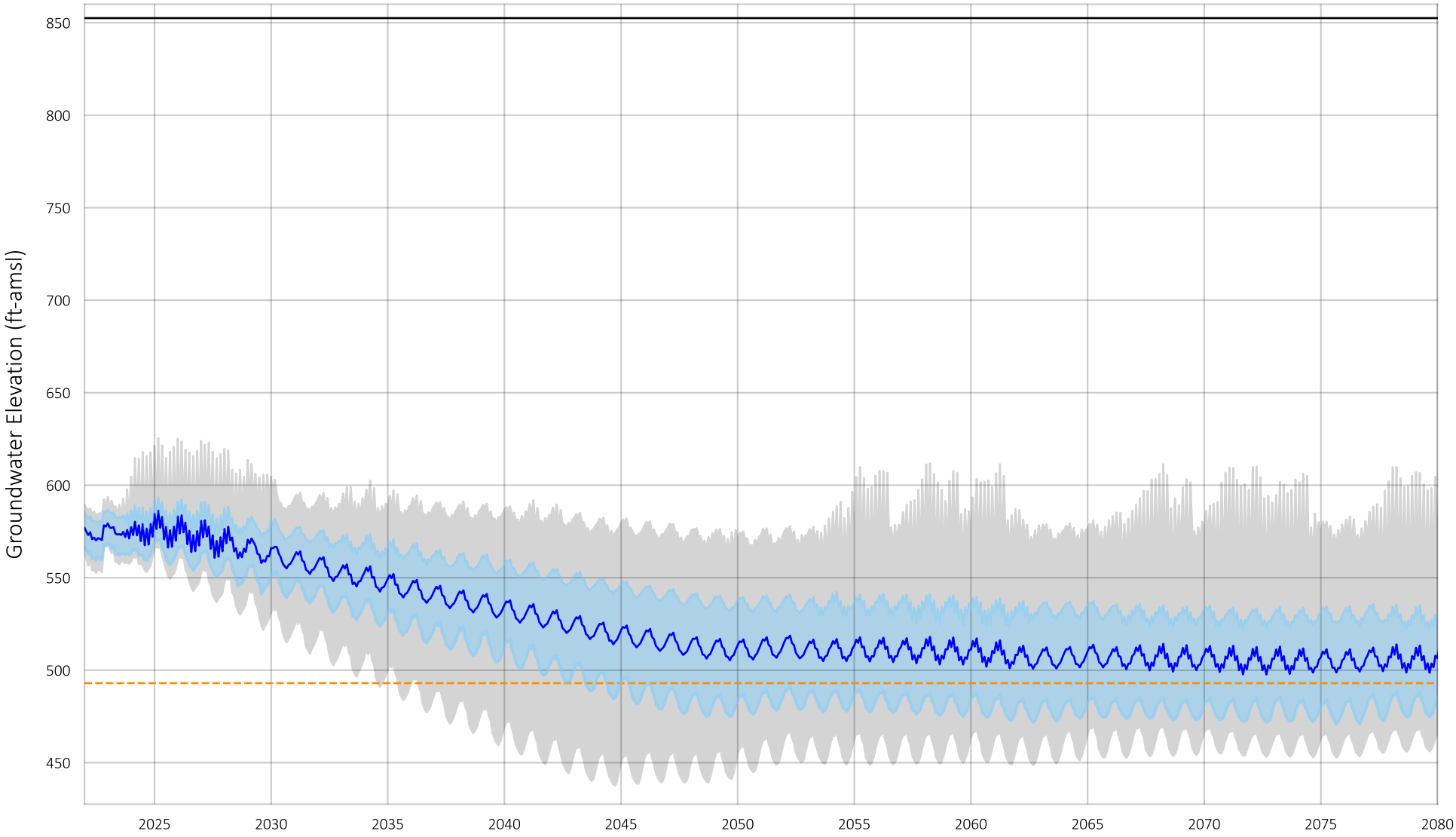
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

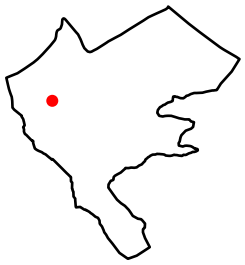
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: 11
Well Owner: City of Chino
Screen Interval (ft-bgs): 390 - 910

Figure D-167



Well Location



Legend

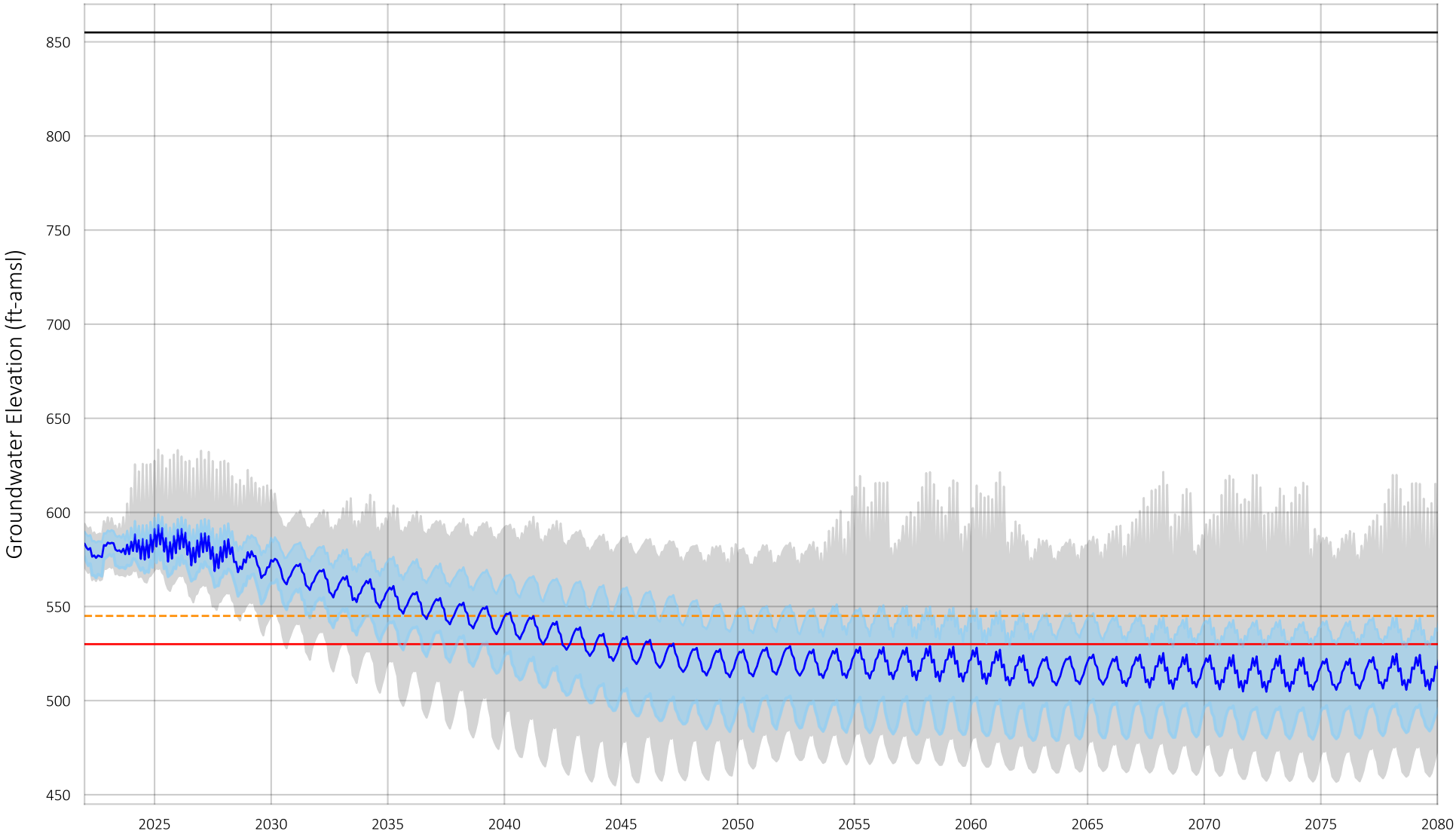
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

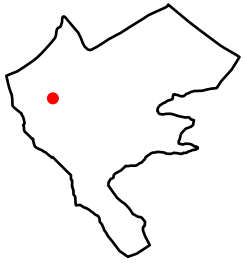
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: 09
Well Owner: City of Chino
Screen Interval (ft-bgs): 310 - 1030

Figure D-168



Well Location



Legend

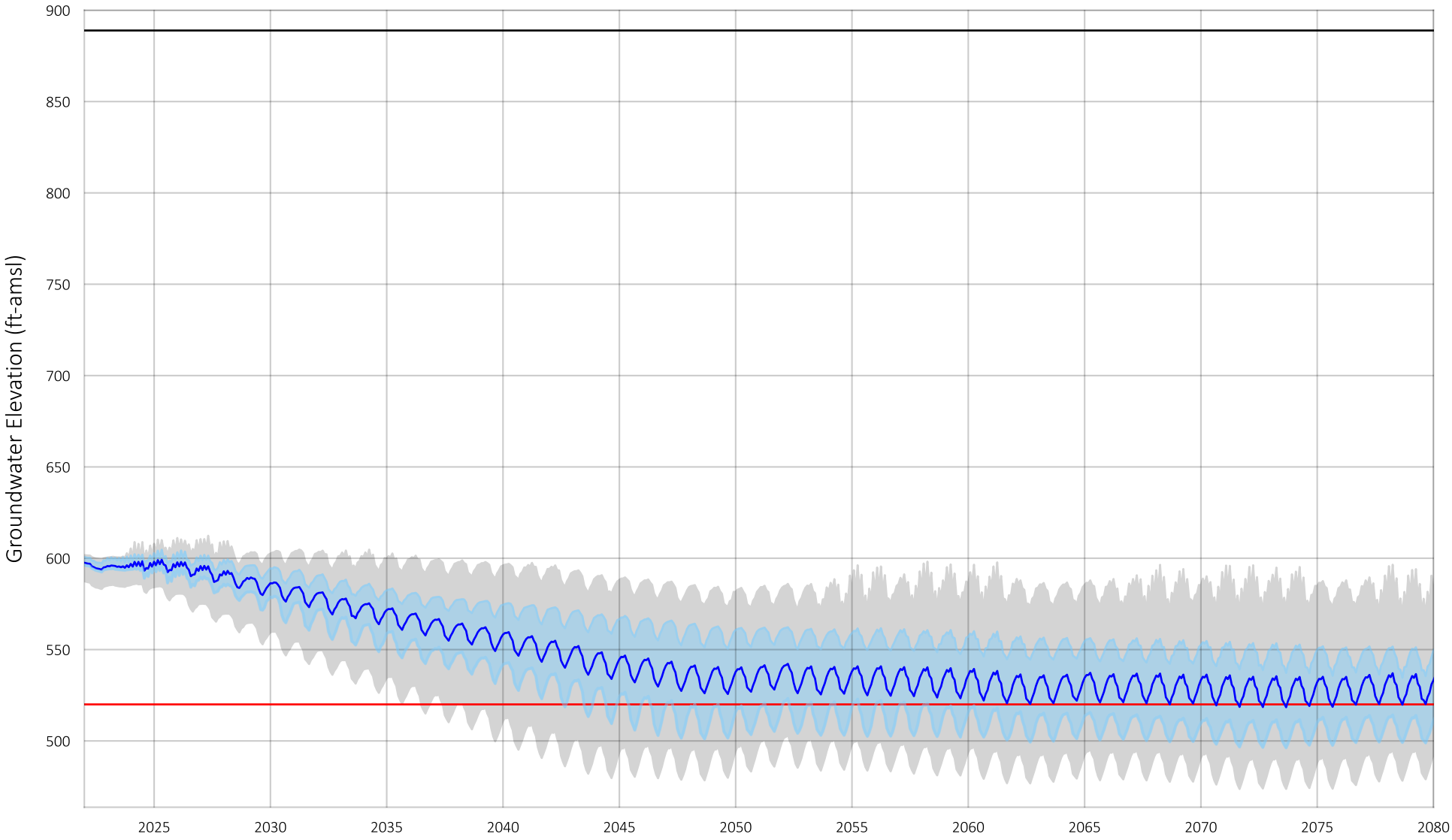
- Land Subsidence Threshold
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

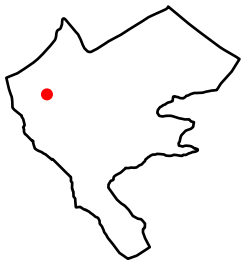
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: 05
Well Owner: City of Chino
Screen Interval (ft-bgs): 430 - 1078

Figure D-169



Well Location



Legend

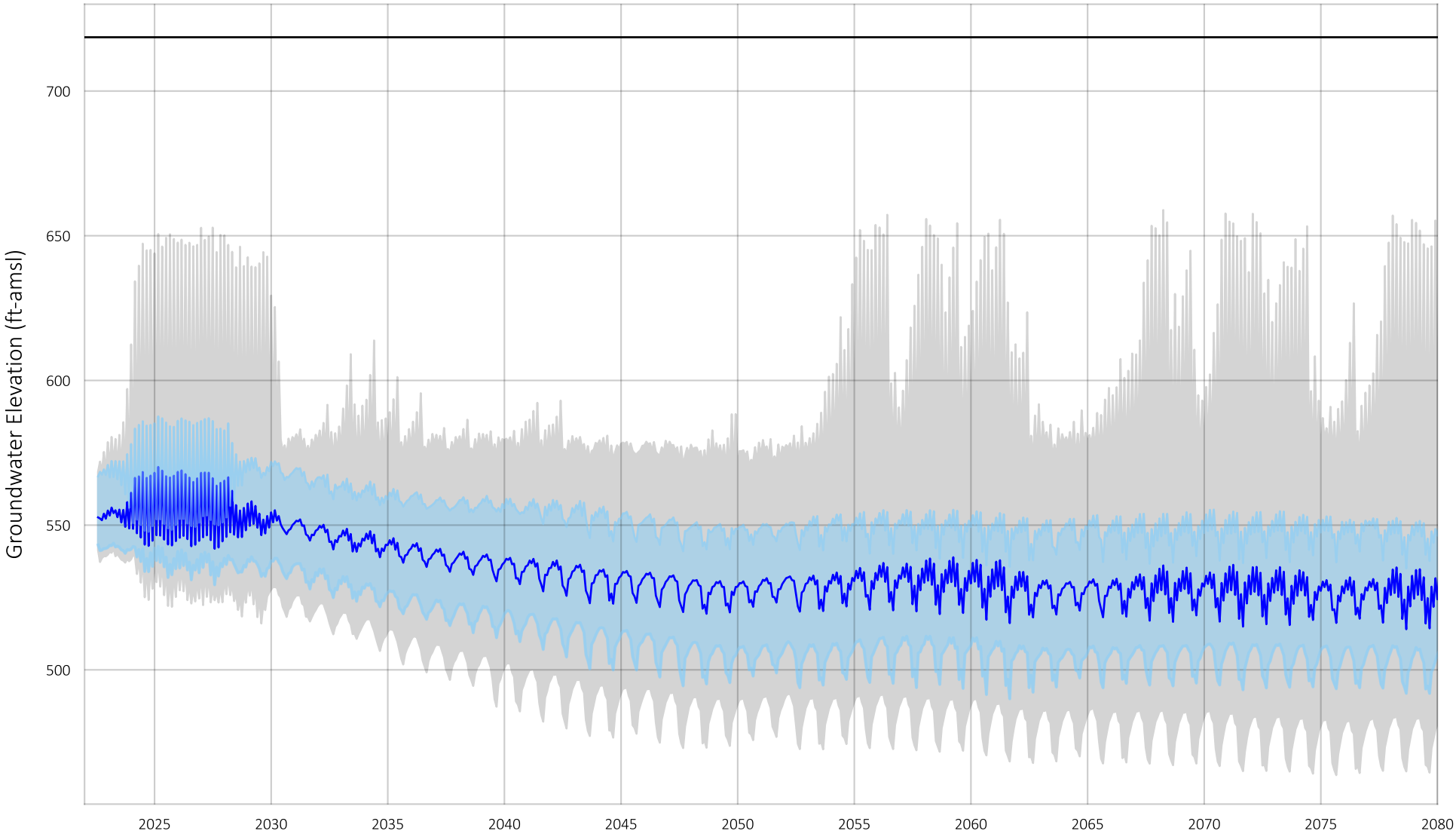
- Land Subsidence Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

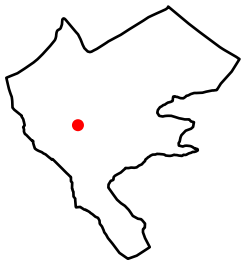
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: 12
Well Owner: City of Chino
Screen Interval (ft-bgs): 420 - 1150

Figure D-170



Well Location



Legend

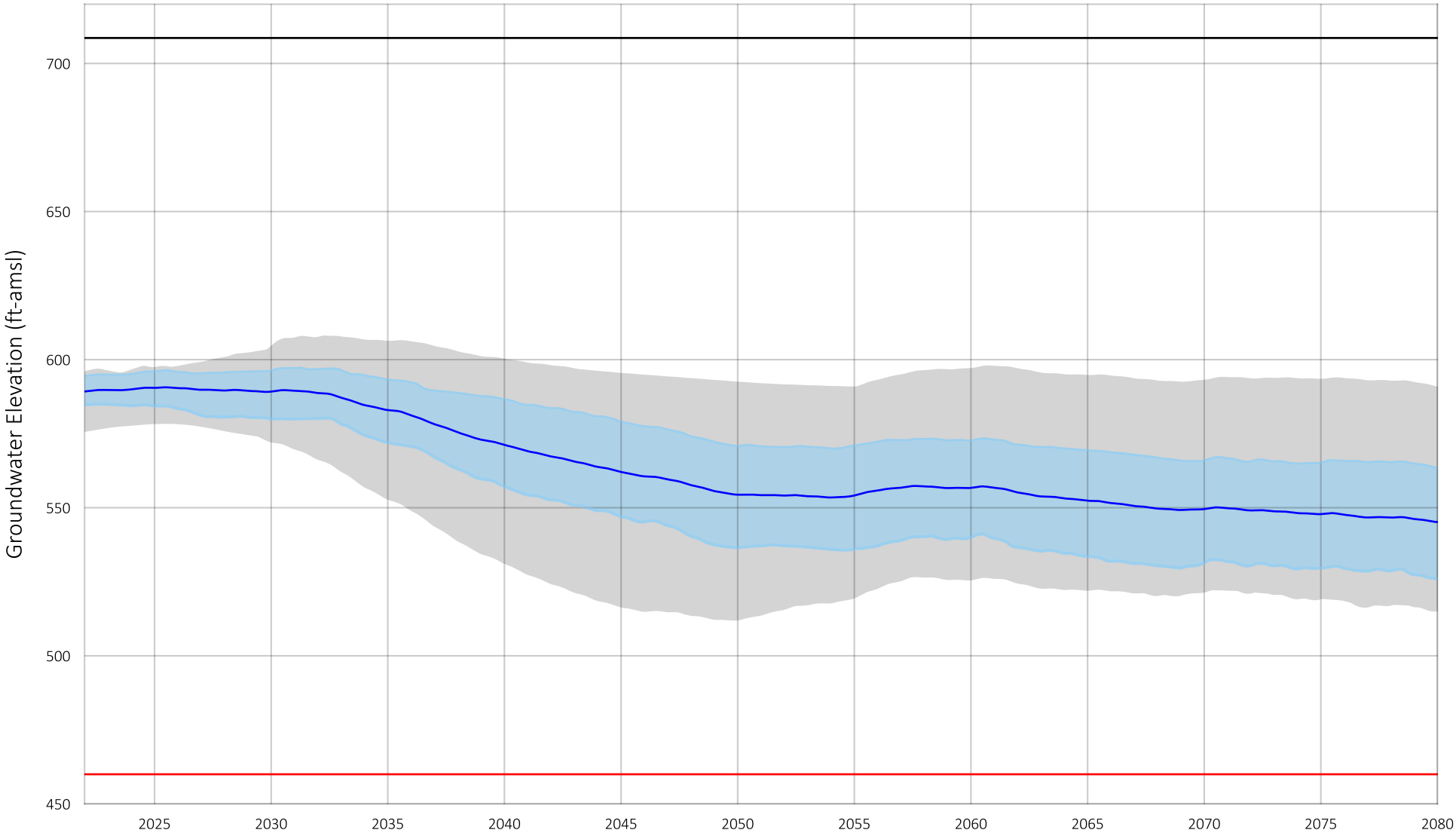
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

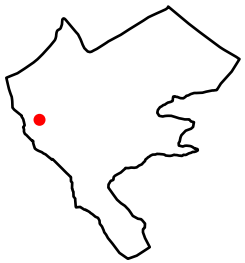
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CDF Well 17
Well Owner: City of Chino
Screen Interval (ft-bgs): 230 - 550

Figure D-171



Well Location



Legend

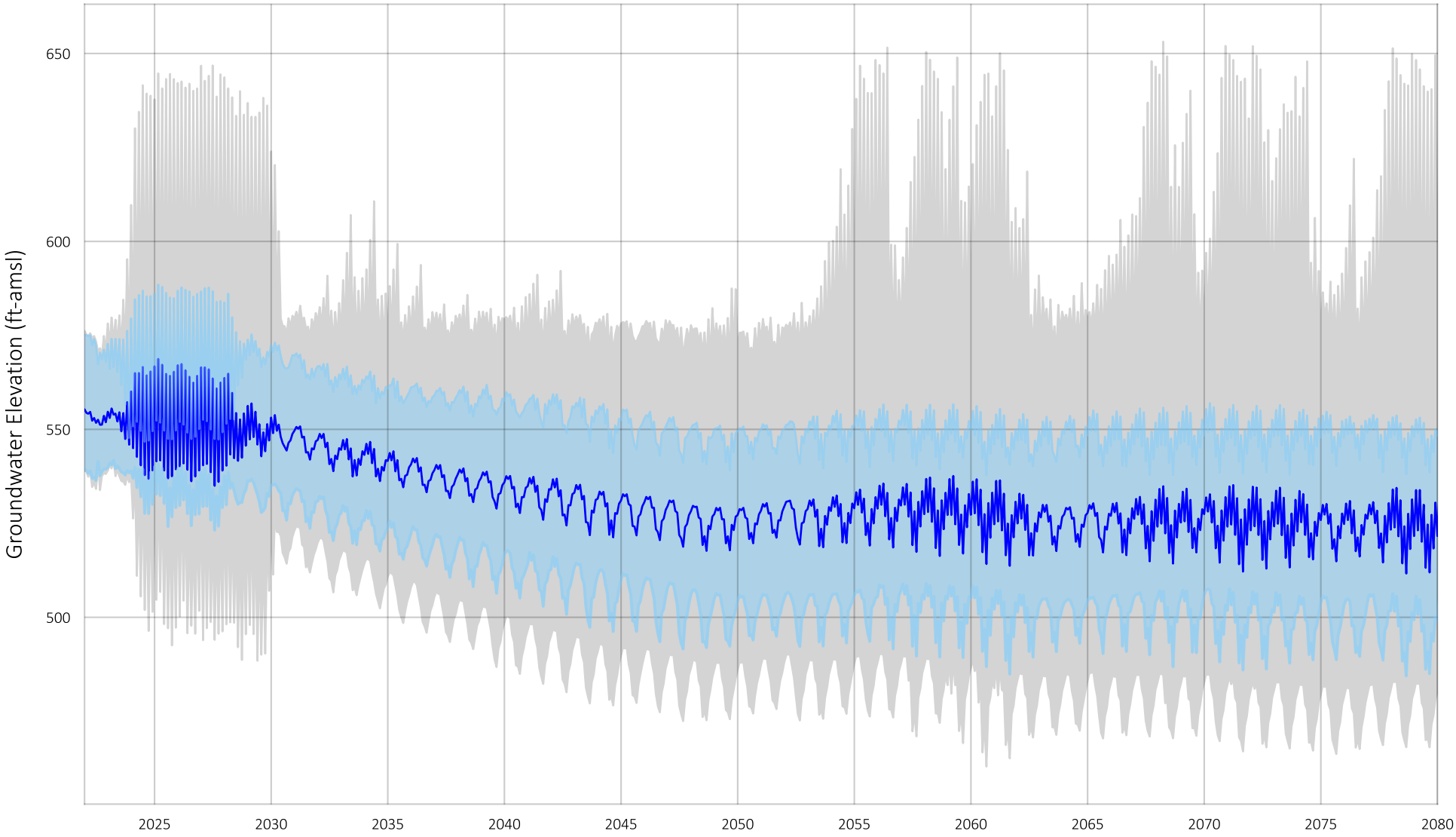
- Land Subsidence Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

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-172



Well Location

Legend

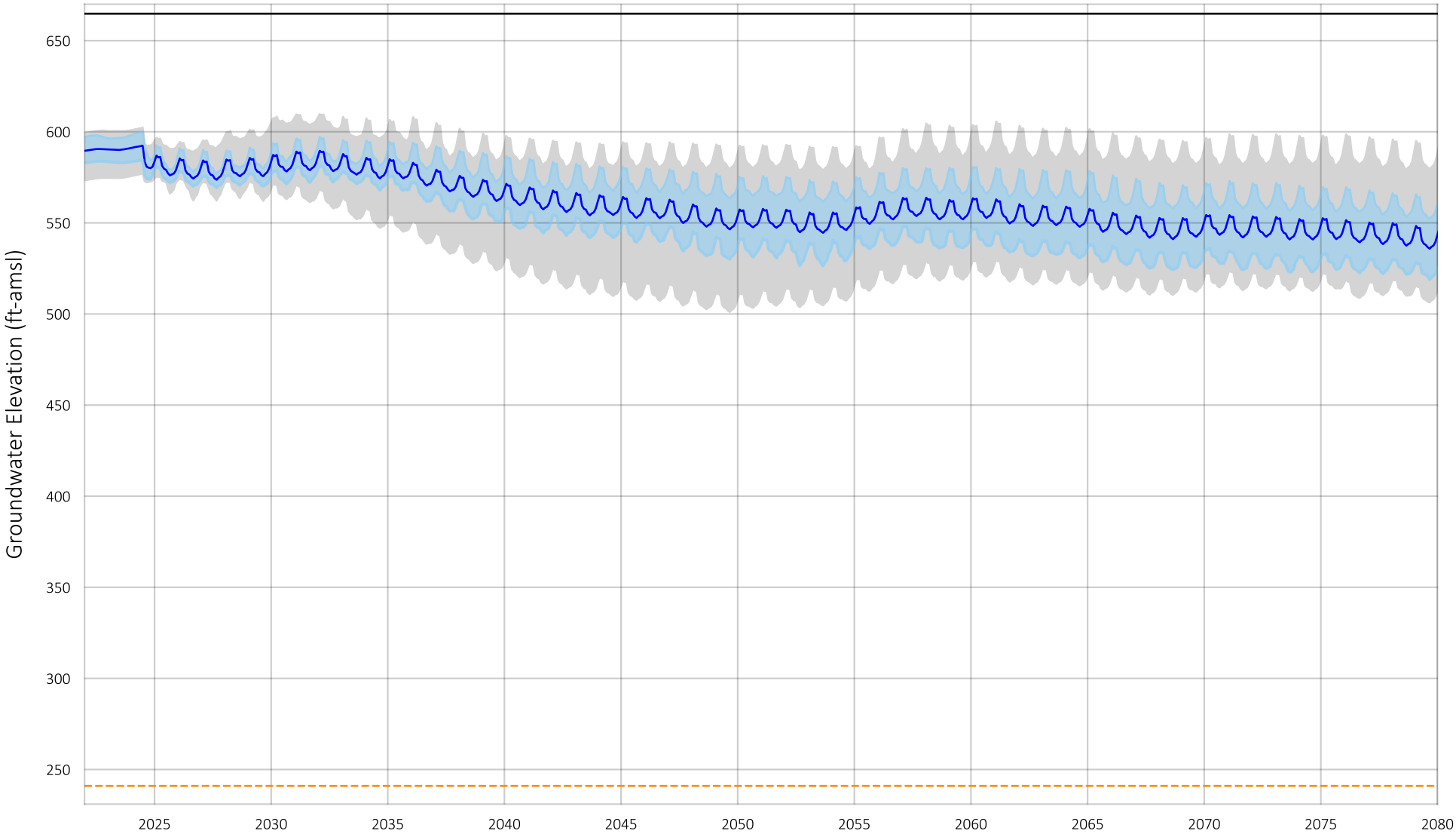
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

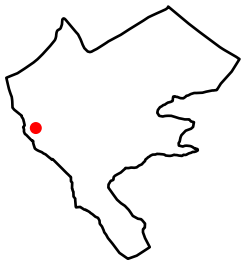
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: Future Well CH-20
Well Owner: City of Chino
Screen Interval (ft-bgs): no data - no data

Figure D-173



Well Location



Legend

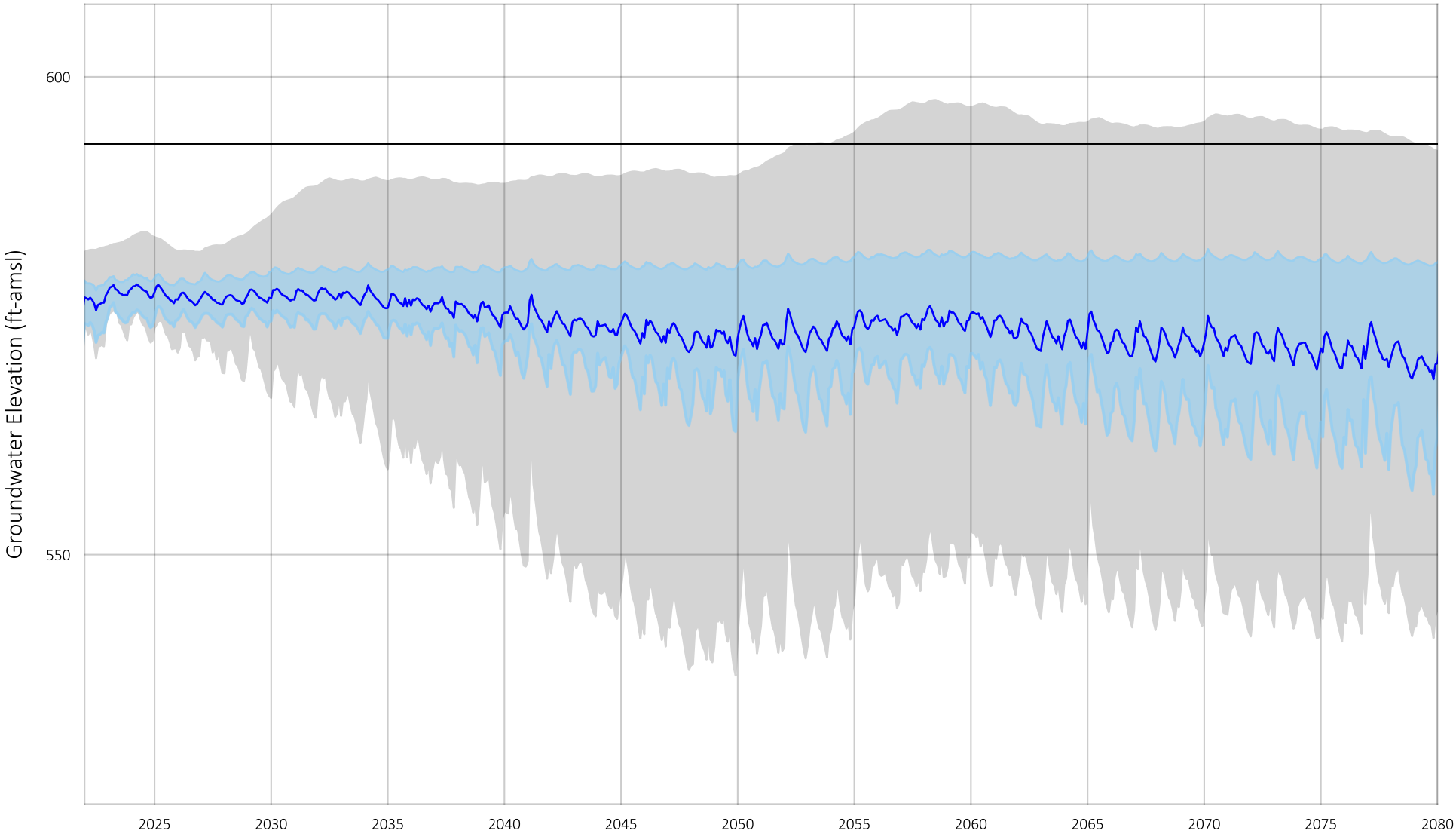
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

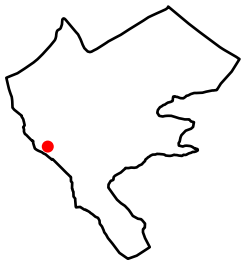
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CH HIL 07B
Well Owner: City of Chino Hills
Screen Interval (ft-bgs): 120 - 360

Figure D-174



Well Location



Legend

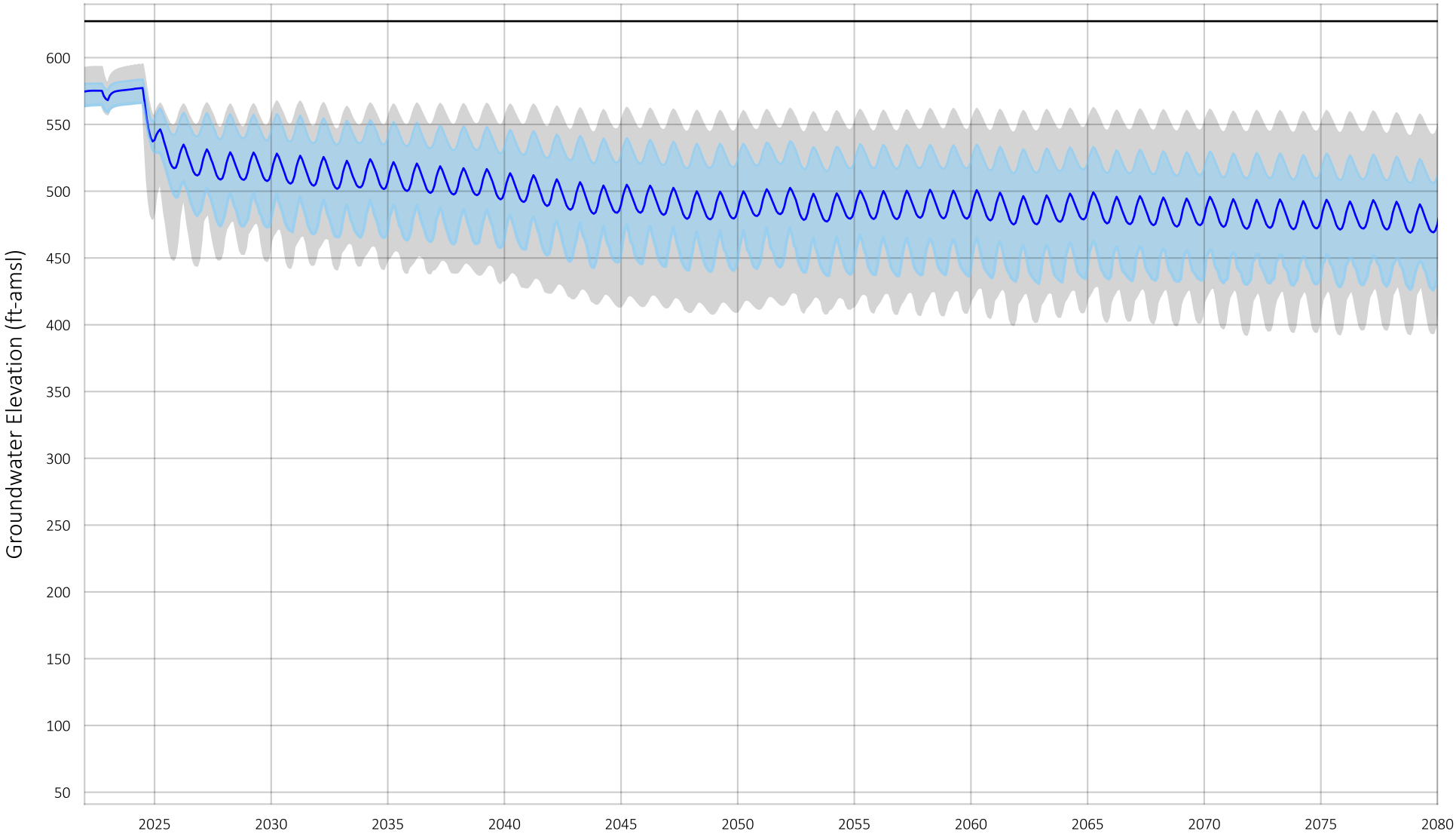
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

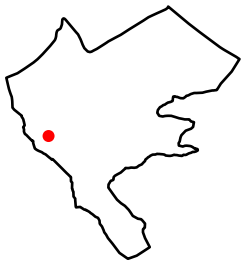
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CH HIL 05
Well Owner: City of Chino Hills
Screen Interval (ft-bgs): 160 - 570

Figure D-175



Well Location



Legend

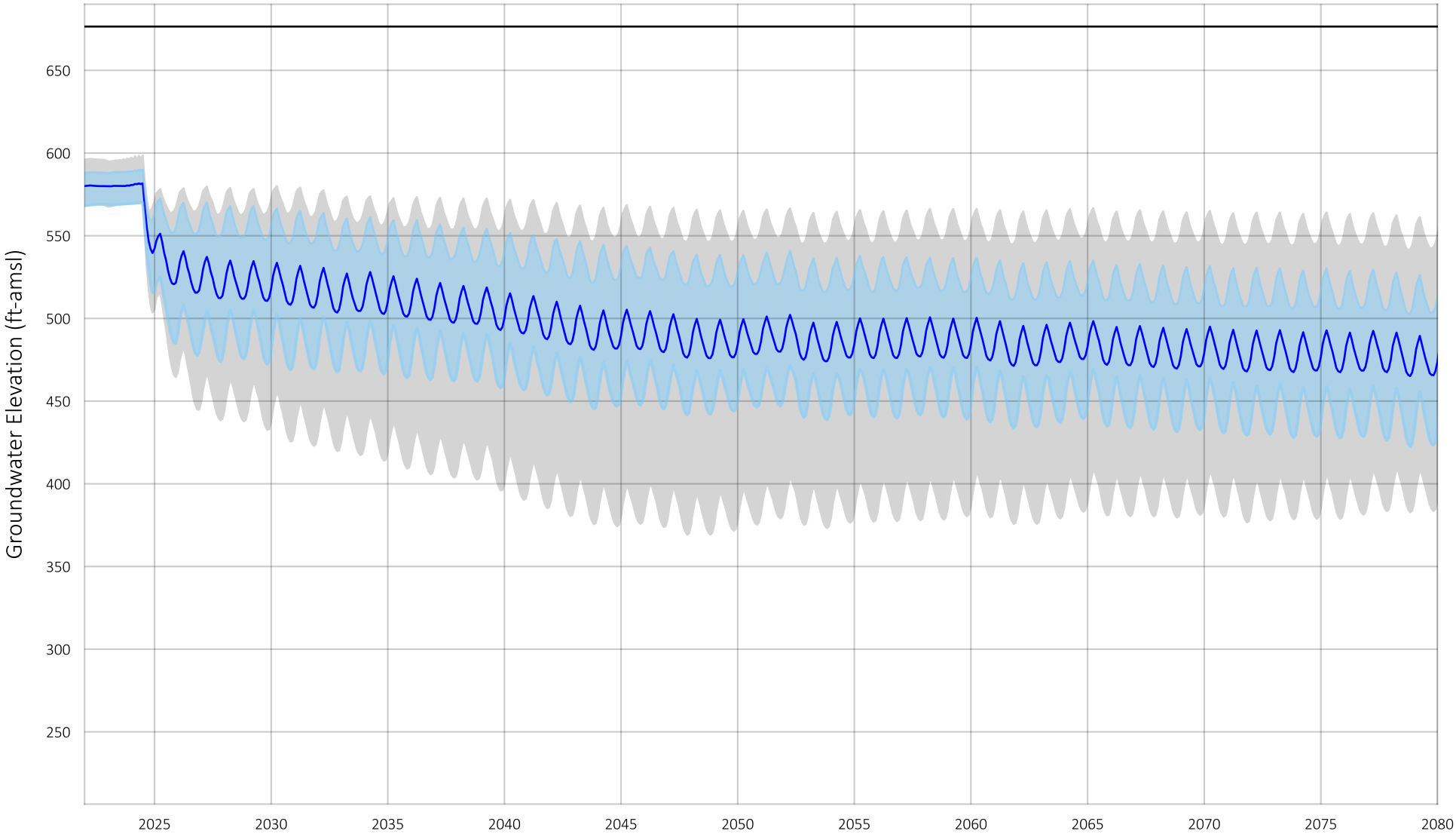
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

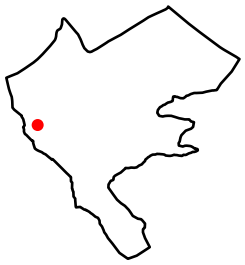
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CH HIL 01B
Well Owner: City of Chino Hills
Screen Interval (ft-bgs): 440 - 1180

Figure D-176



Well Location



Legend

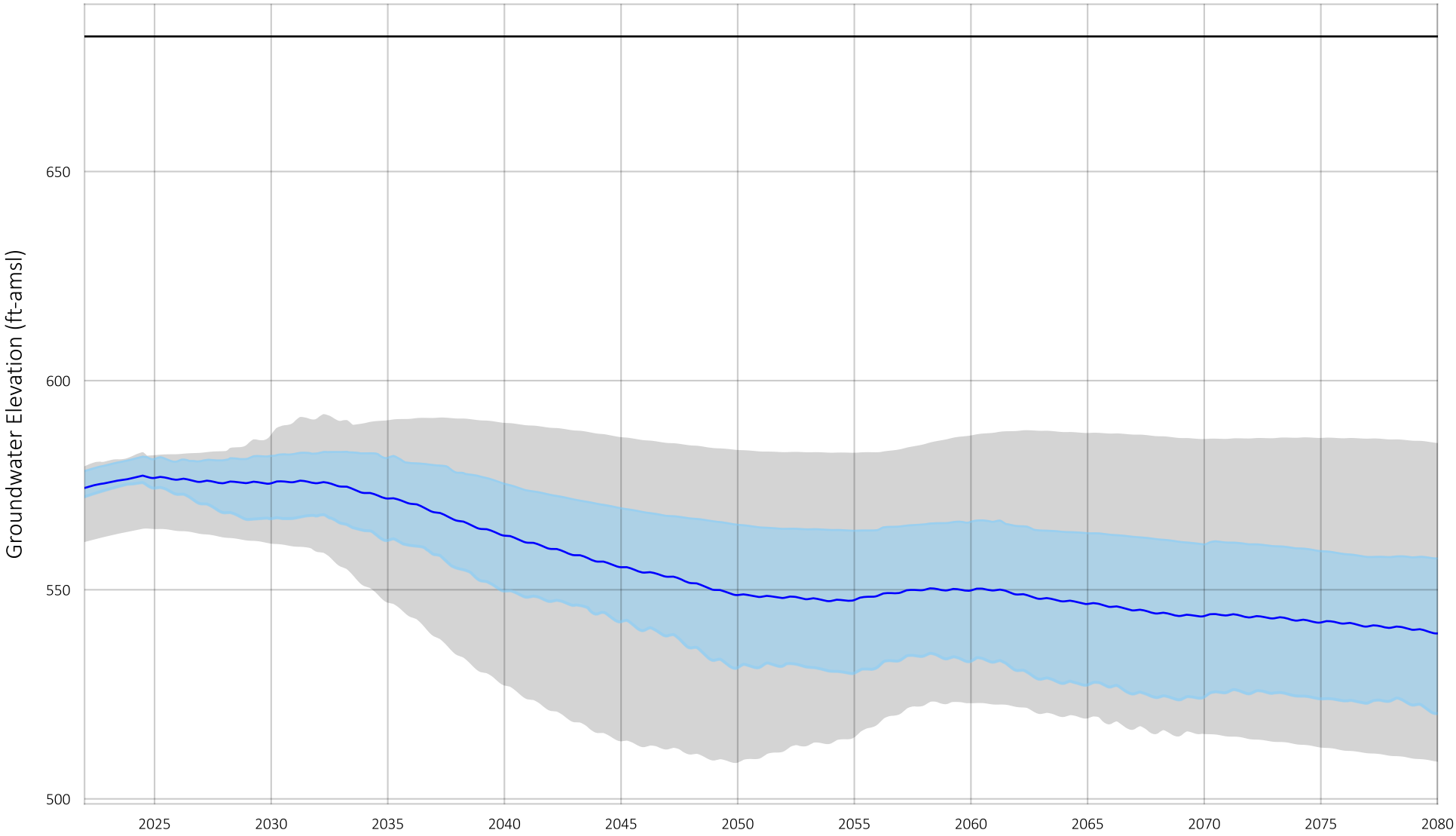
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

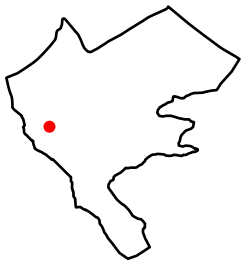
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CH HIL 16
Well Owner: City of Chino Hills
Screen Interval (ft-bgs): 430 - 940

Figure D-177



Well Location



Legend

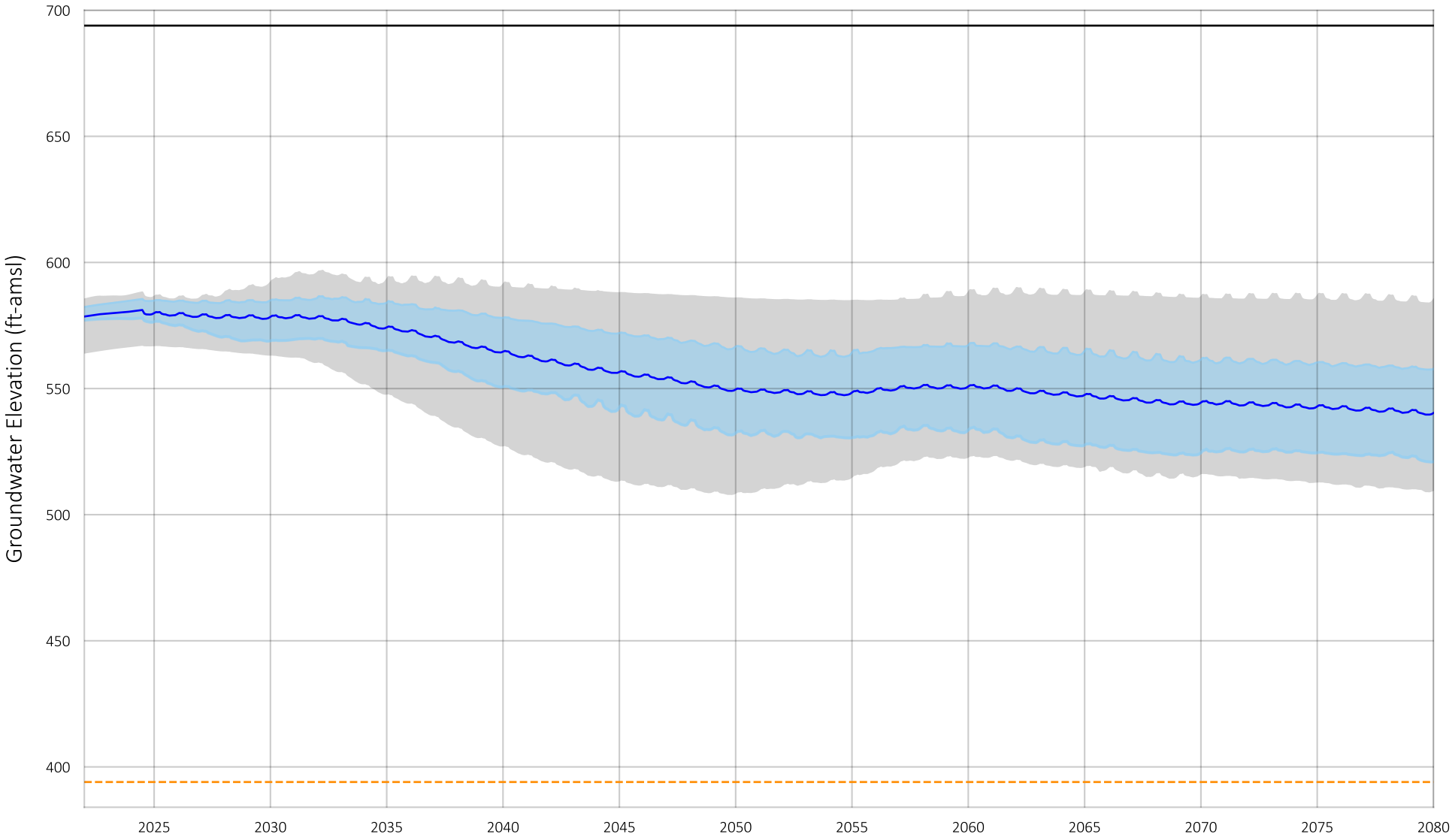
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

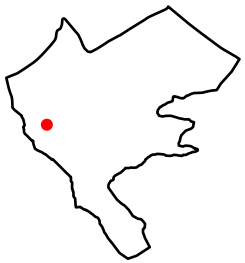
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CH HIL 19
Well Owner: City of Chino Hills
Screen Interval (ft-bgs): 340 - 1000

Figure D-178



Well Location



Legend

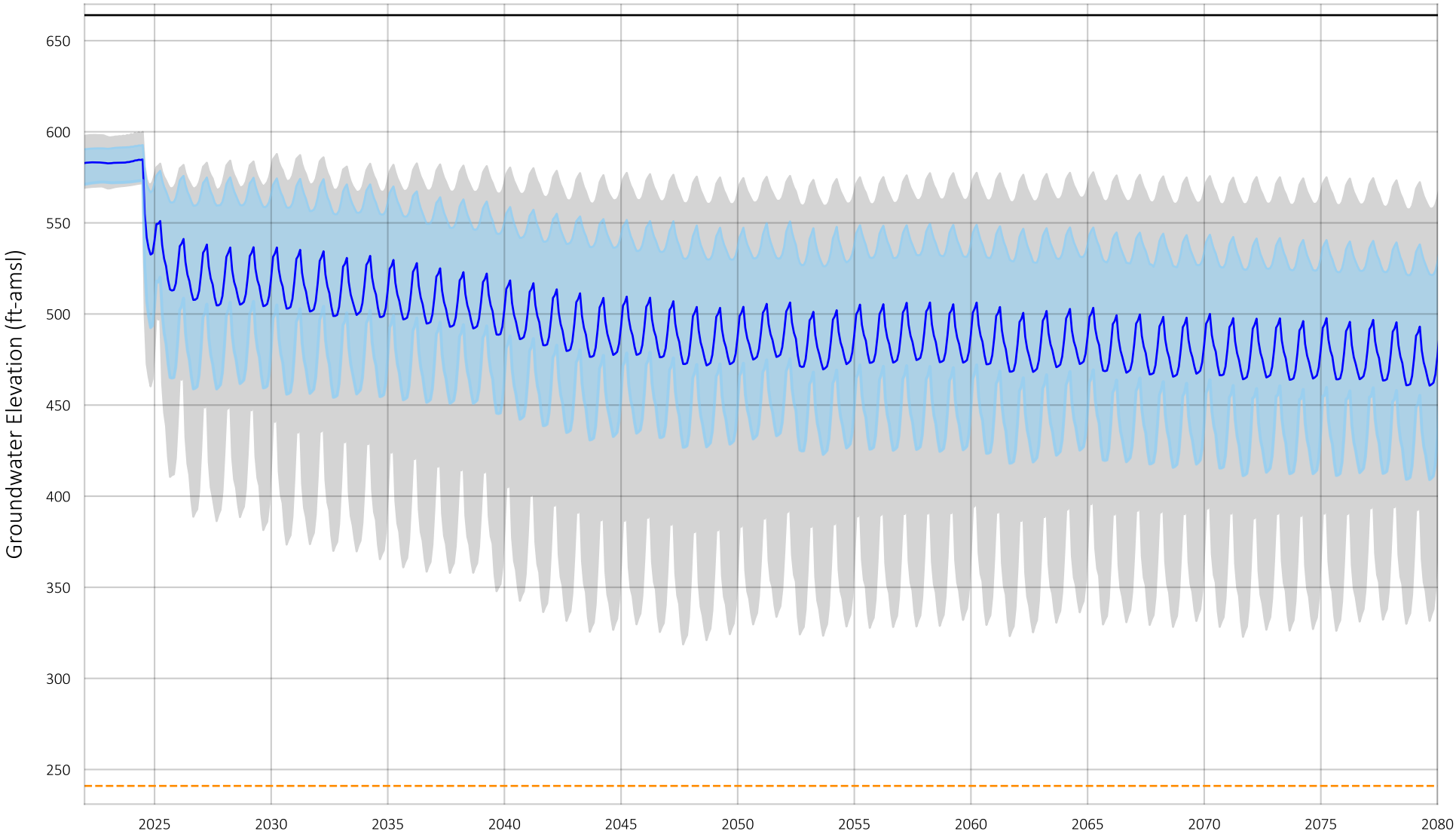
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

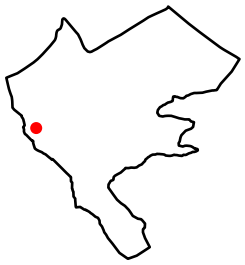
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CH HIL 17
Well Owner: City of Chino Hills
Screen Interval (ft-bgs): 300 - 980

Figure D-179



Well Location



Legend

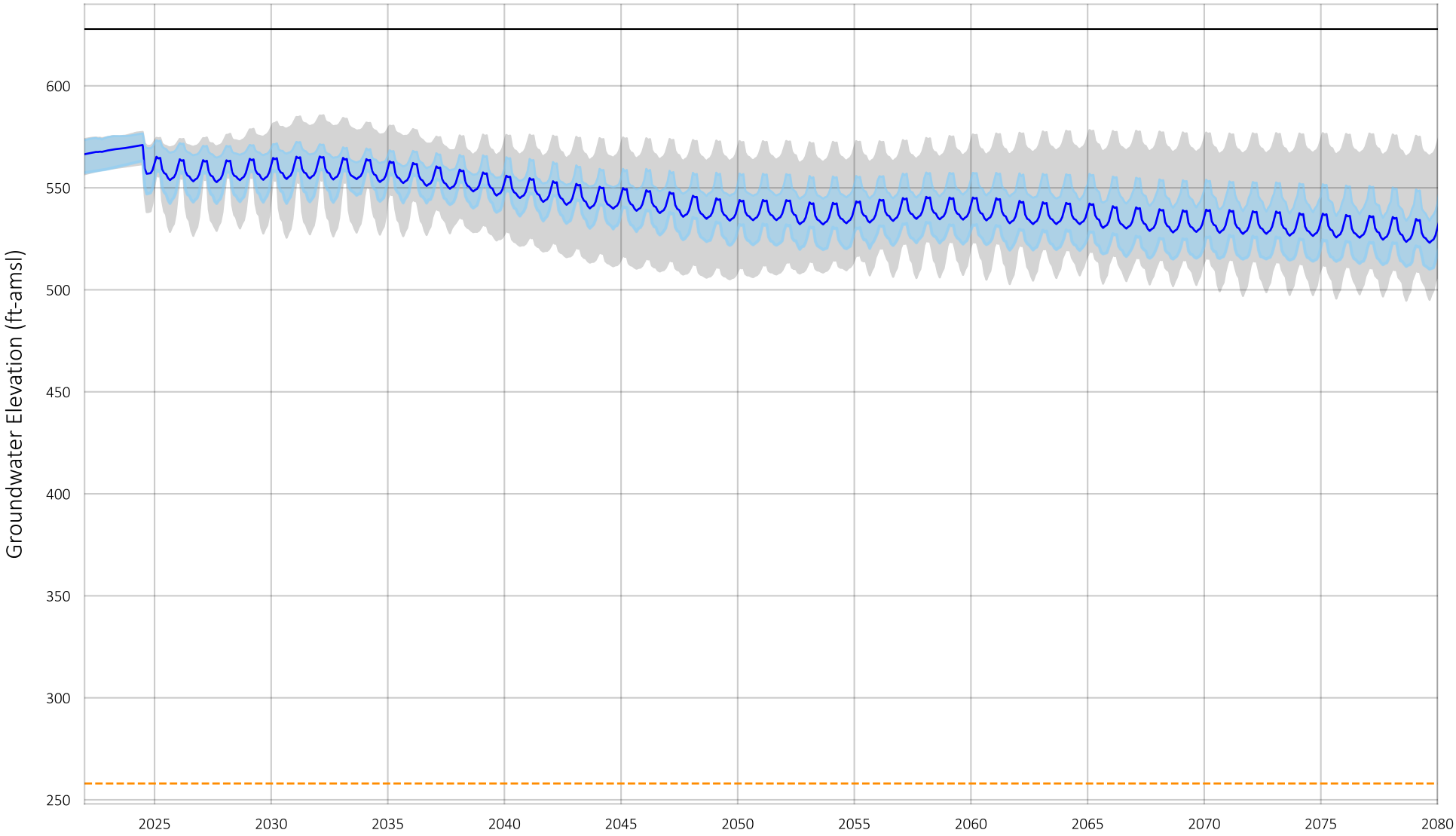
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

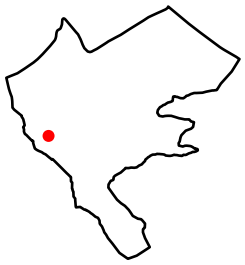
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CH HIL 07A
Well Owner: City of Chino Hills
Screen Interval (ft-bgs): 135 - 950

Figure D-180



Well Location



Legend

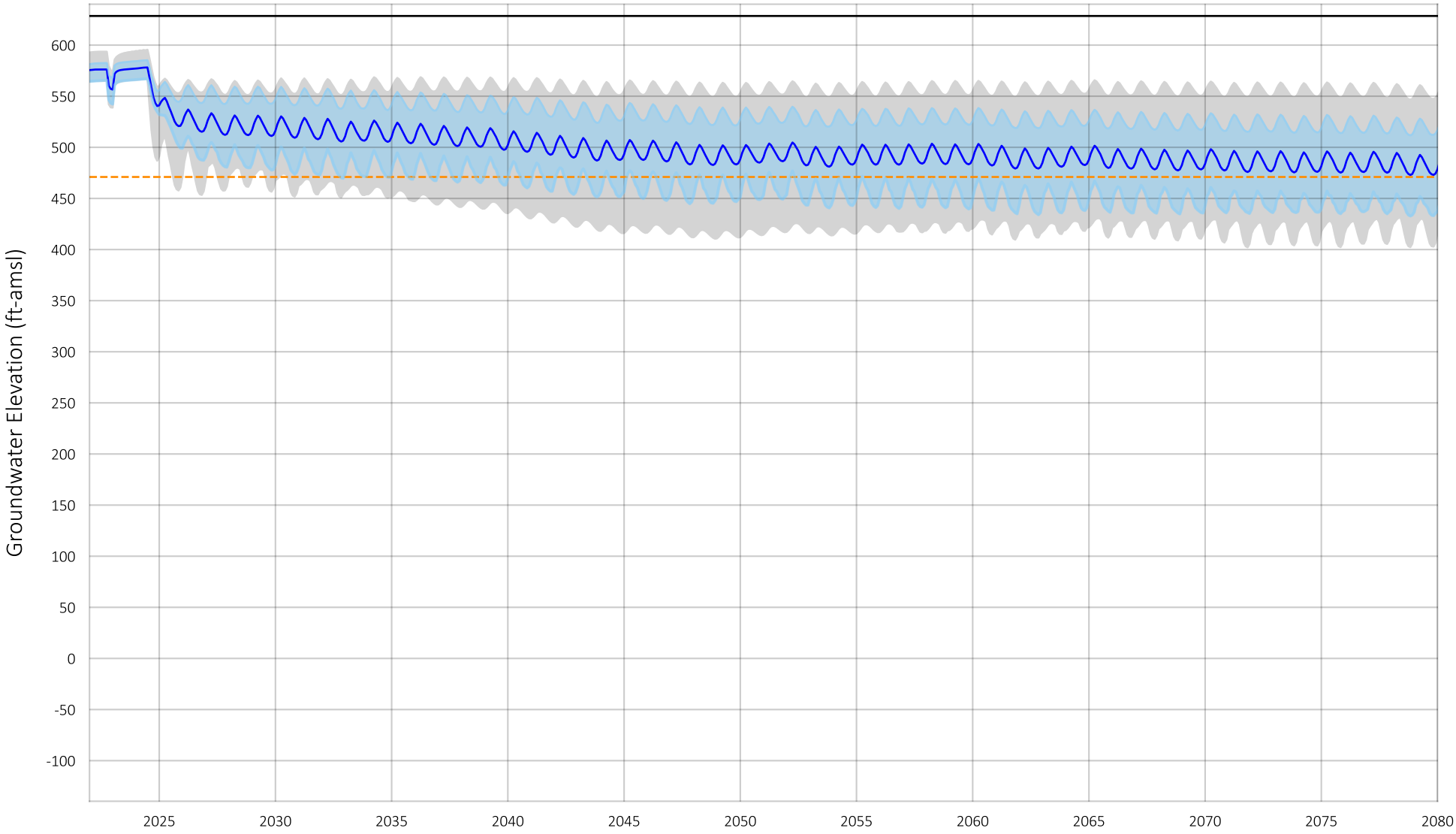
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

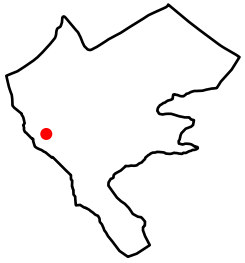
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CH HIL 01A
Well Owner: City of Chino Hills
Screen Interval (ft-bgs): 166 - 317

Figure D-181



Well Location



Legend

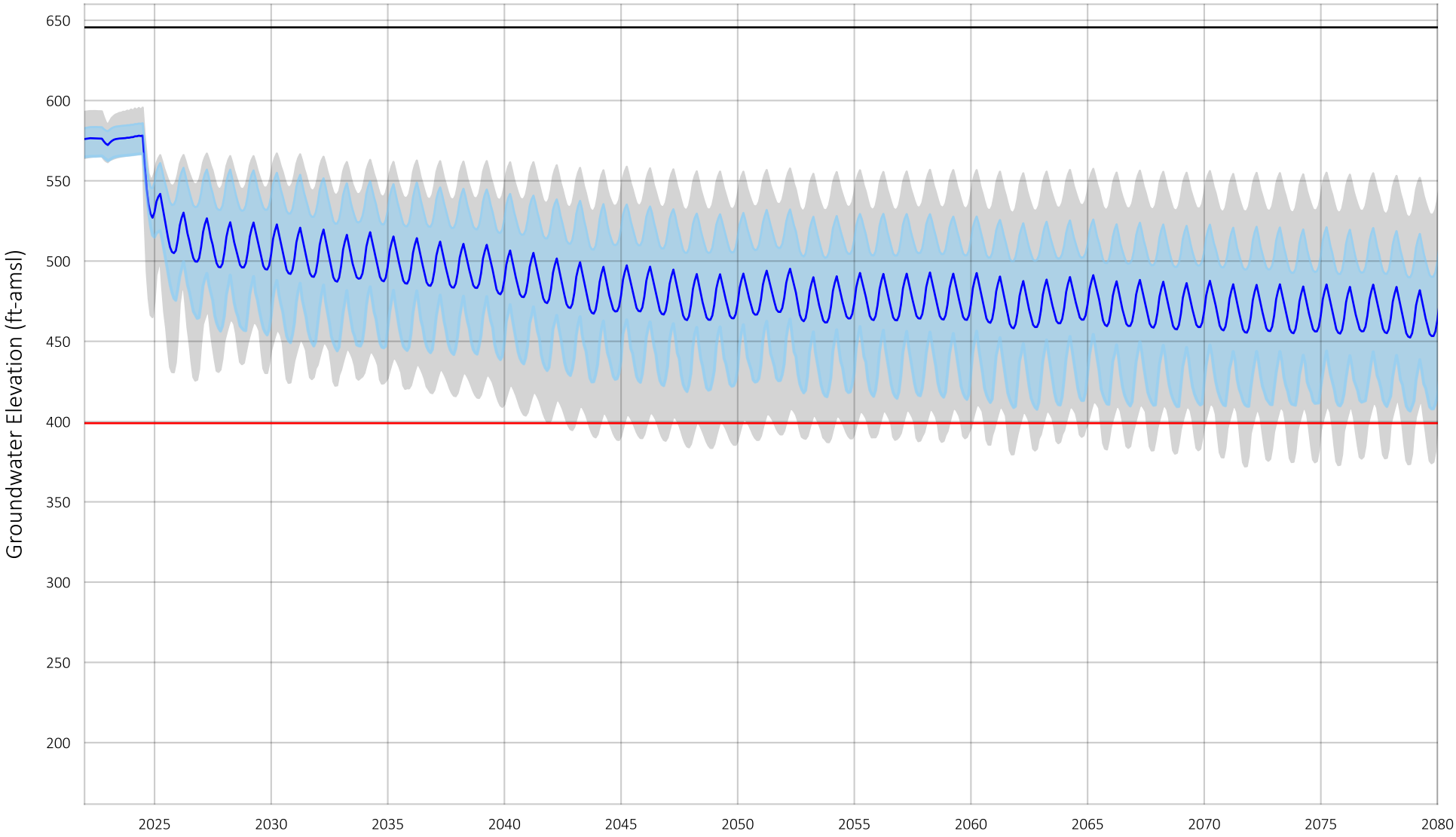
- Pumping Sustainability Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

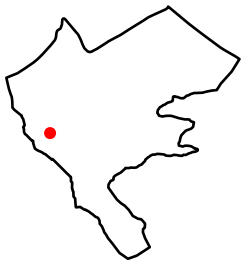
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CH HIL 15B
Well Owner: City of Chino Hills
Screen Interval (ft-bgs): 360 - 900

Figure D-182



Well Location



Legend

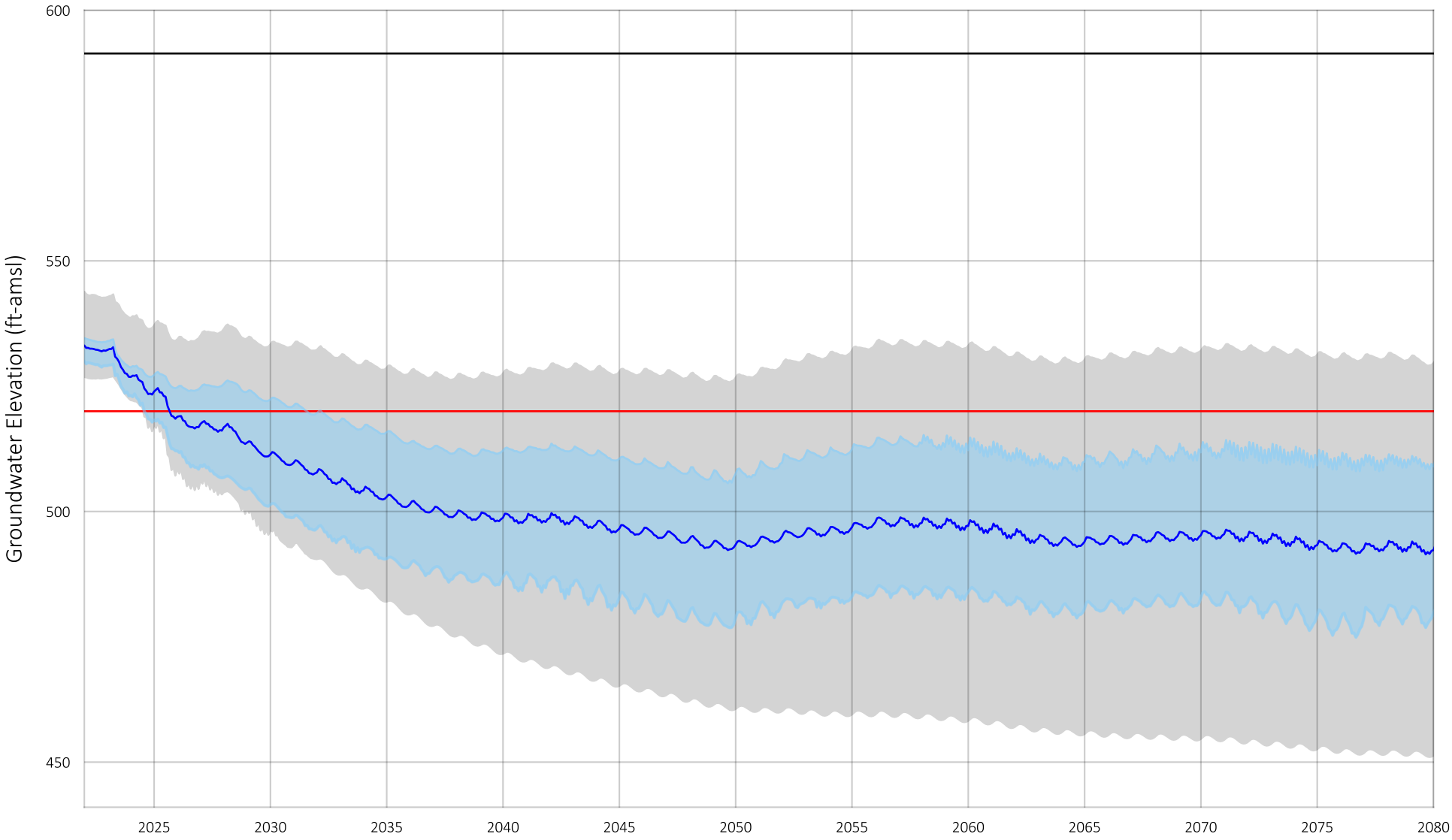
- Land Subsidence Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

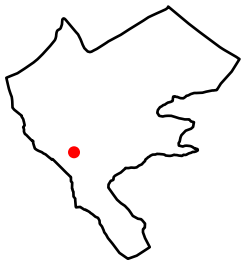
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: AP-PA 7
Well Owner: Chino Basin Watermaster
Screen Interval (ft-bgs): 438 - 448

Figure D-183



Well Location



Legend

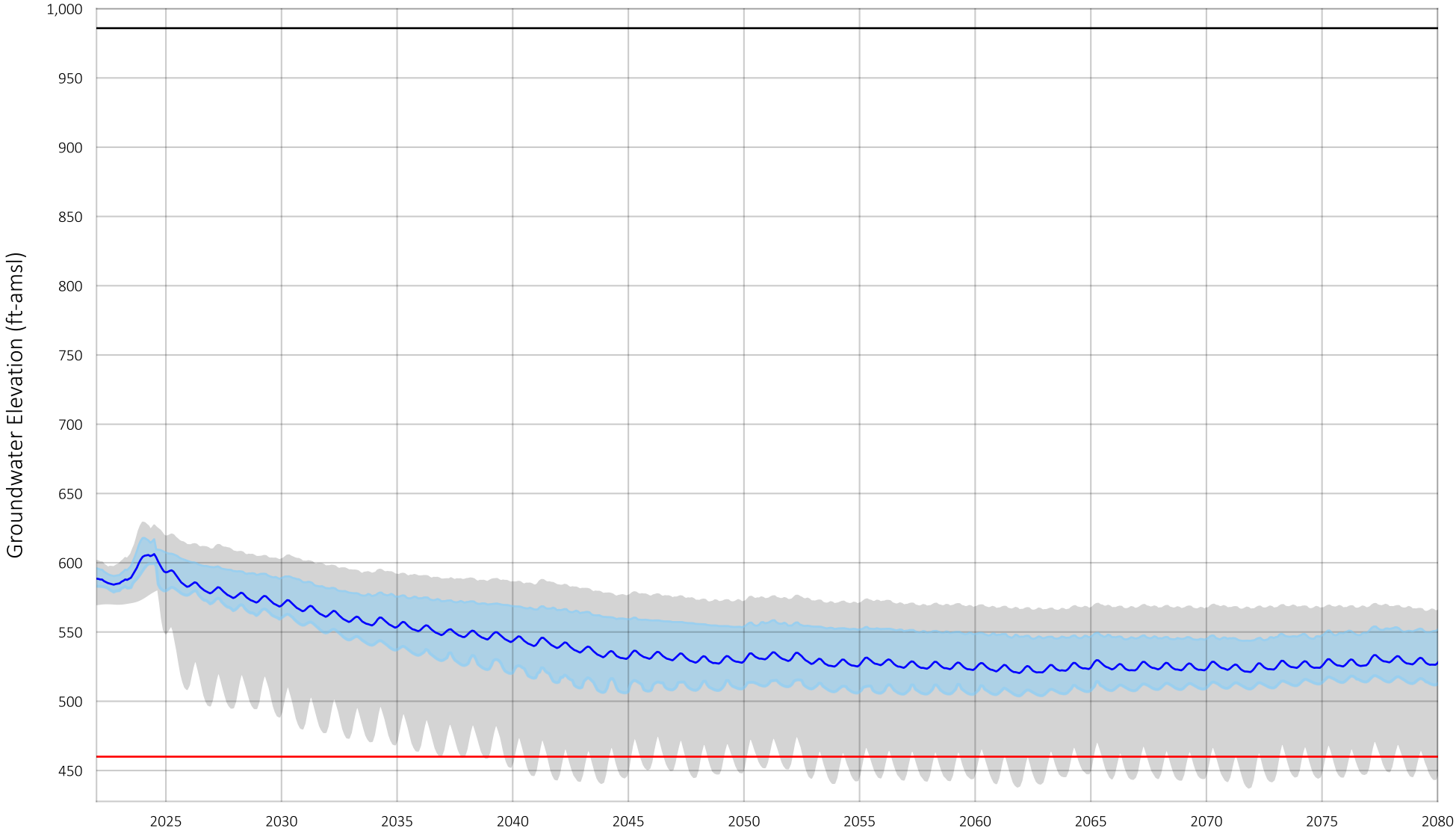
- Land Subsidence Threshold
- Ground Surface Elevation
- Liklihood Weighted Mean Groundwater Elevation
- Minimum/Maximum Range in Simulated Groundwater Levels
- 20th to 80th Percentile of Simulated Groundwater Levels

Prepared by:

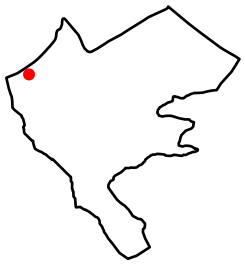
WEST YOST
Water. Engineered.

Simulated Groundwater Levels
Well Name: CCPA-2
Well Owner: Chino Basin Watermaster
Screen Interval (ft-bgs): 235 - 295

Figure D-184



Well Location



Legend

- Land Subsidence Threshold
- Ground Surface Elevation
- Liklihood 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-185

Appendix E

Peer Review and Stakeholder Comments and Responses

DRAFT

DRAFT

Peer Review of the Draft 2025 Safe Yield Reevaluation

Prepared for:

Chino Basin Watermaster

Prepared by:

Vivek Bedekar
Christian Langevin

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.

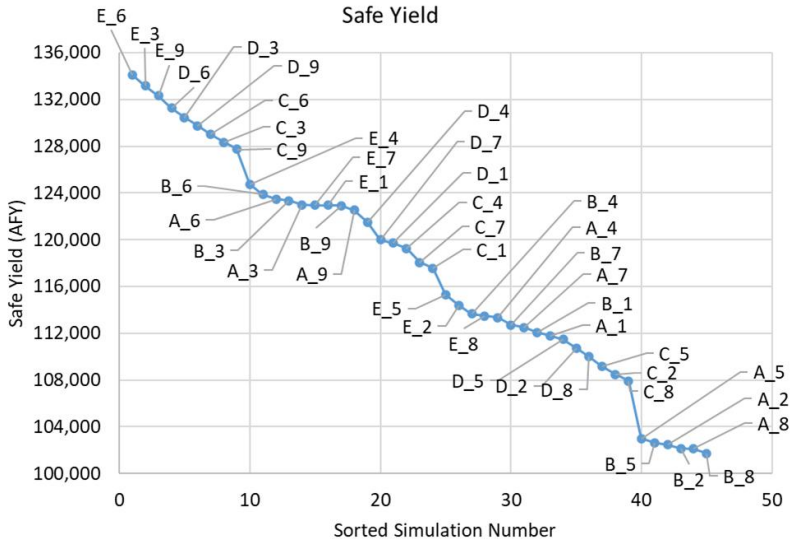


Figure 1. The range of estimated Safe Yield values for the 2021-2030 period within the Chino Basin. The letters A-E represent different model realizations and numbers 1-9 represent projection scenarios.

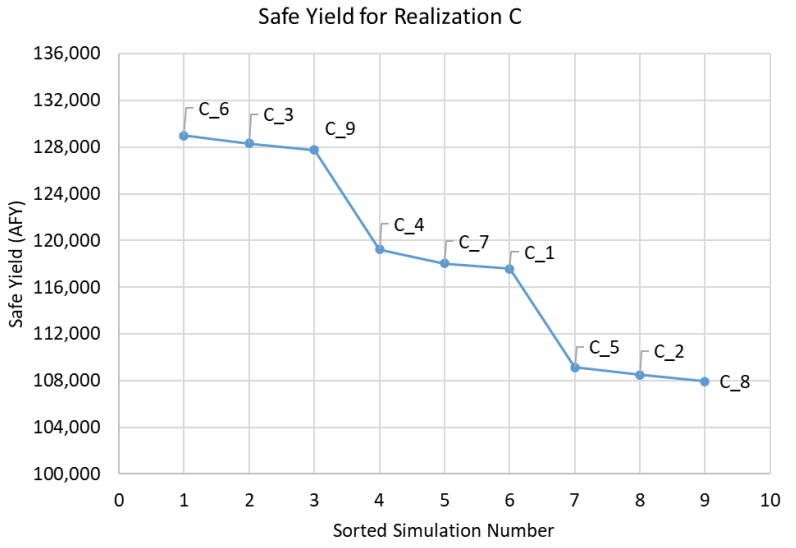


Figure 2. The range of estimated Safe Yield values for the 2021-2030 period within the Chino Basin only considering Realization C (mean net recharge/Safe Yield) with Projection Scenarios 1-9.

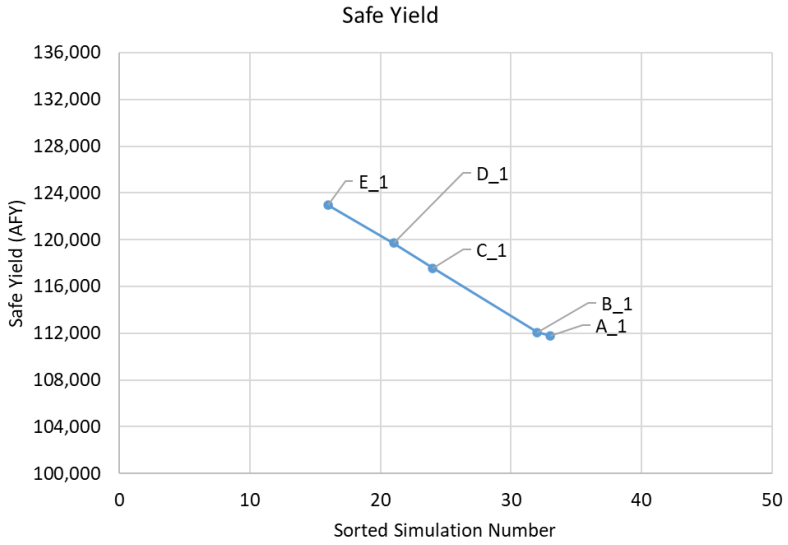


Figure 3. The range of estimated Safe Yield values for the 2021-2030 period within the Chino Basin only considering Projection Scenario 1 (expected water demand) with Realizations A-E.

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.

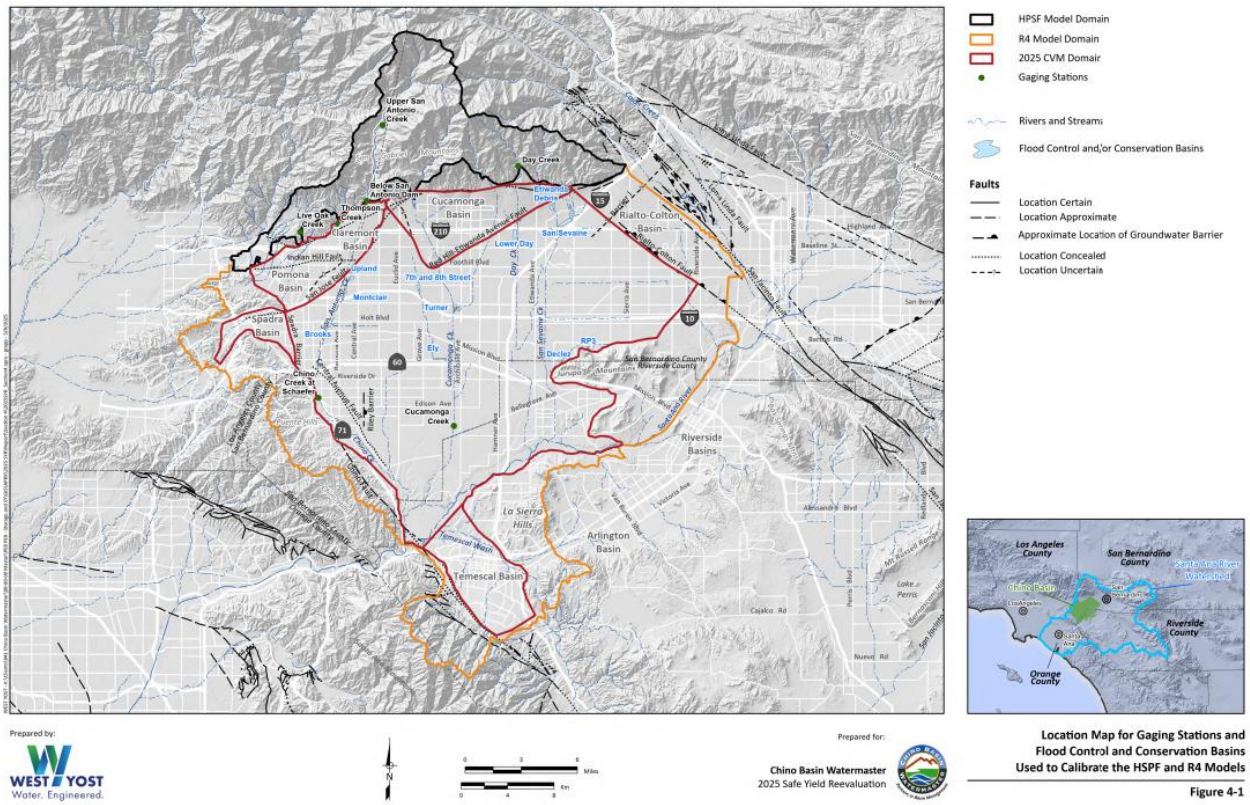
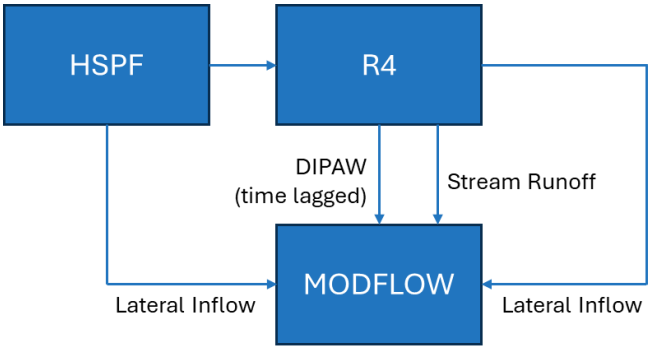


Figure 4. The spatial extent of the HSPF model, R4 Model, and the Chino Valley Model (*reproduced from West Yost (2025) Figure 4-1 of the Draft 2025 SYR*).



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.

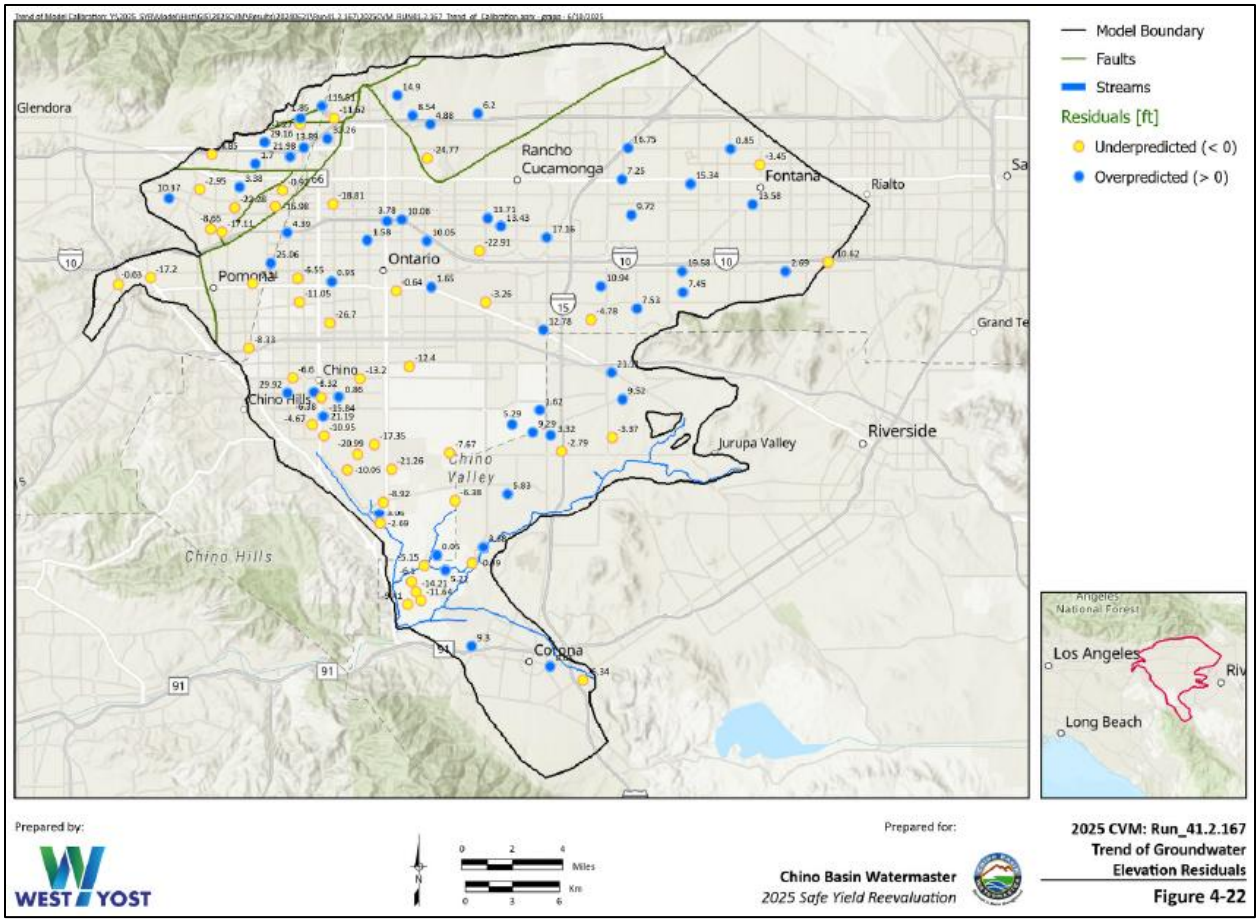
To examine the change in spatial bias with time, a residual map and scatterplots are shown in **Figures 7, 8, and 9** for the periods 1991-2001, 2001-2011, and 2011-2022, respectively. Spatial bias is more pronounced for later times during the simulation. A temporal bias is also highlighted with groundwater 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**.



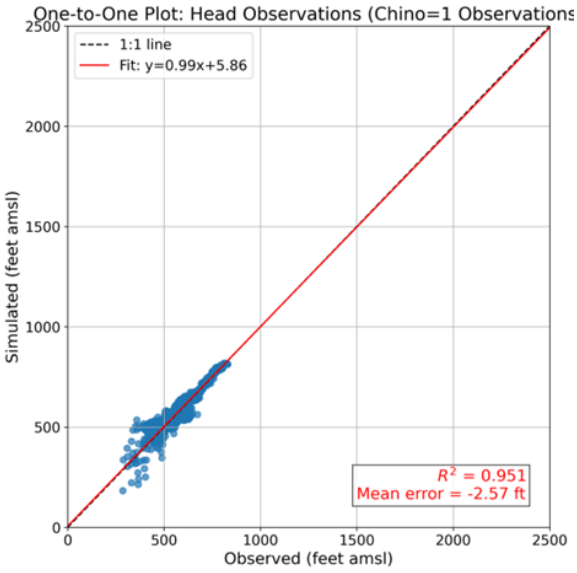
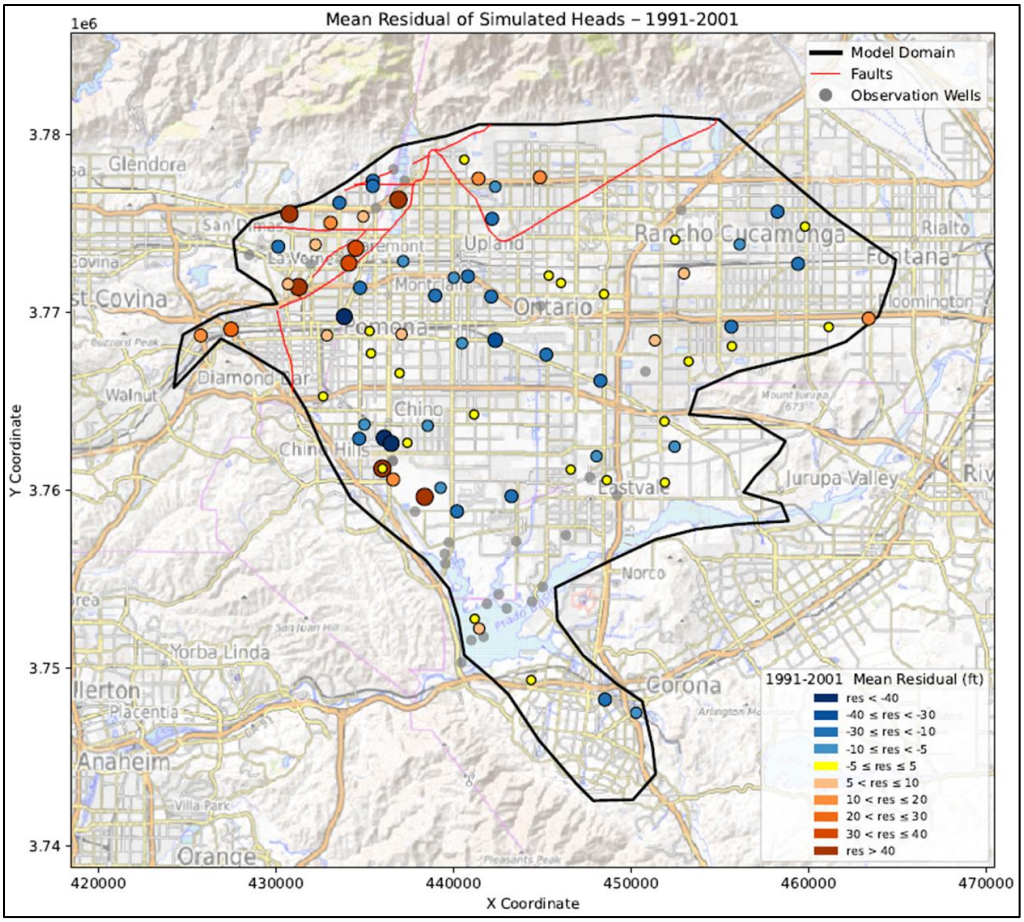


Figure 6. Map showing spatial distribution of groundwater level residuals and scatterplot comparing observed and simulated groundwater levels within the Chino Basin for the entire simulation period.



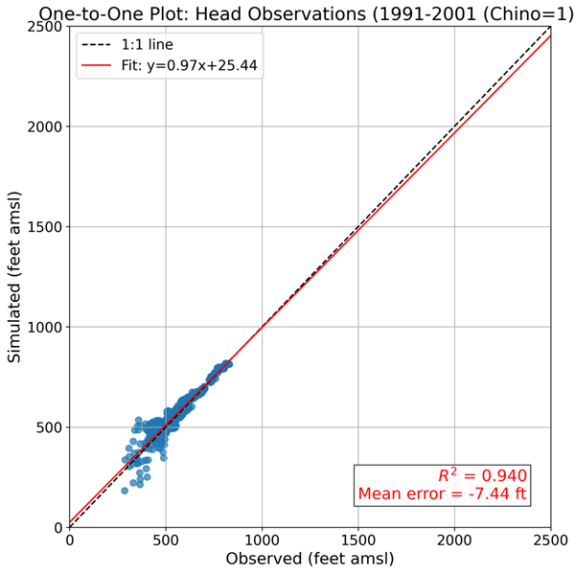
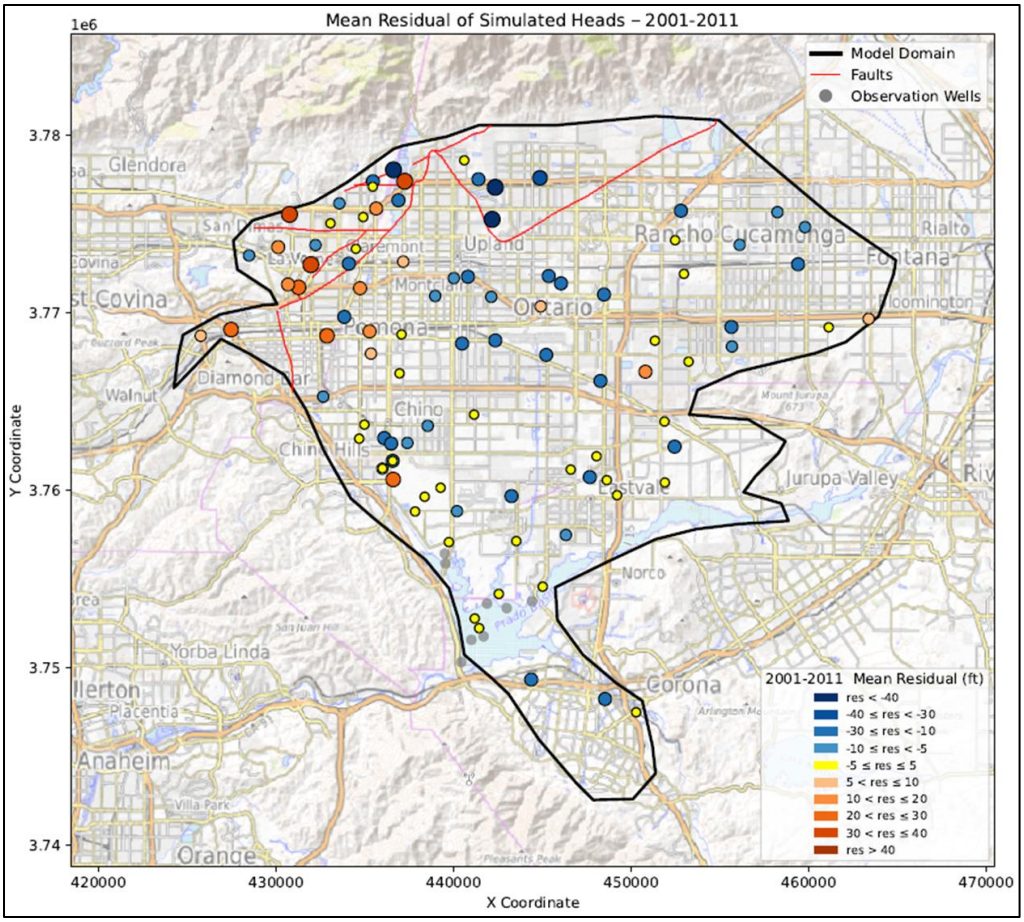


Figure 7. Map showing spatial distribution of groundwater level residuals and scatterplot comparing observed and simulated groundwater levels within the Chino Basin for FY 1991-2001.



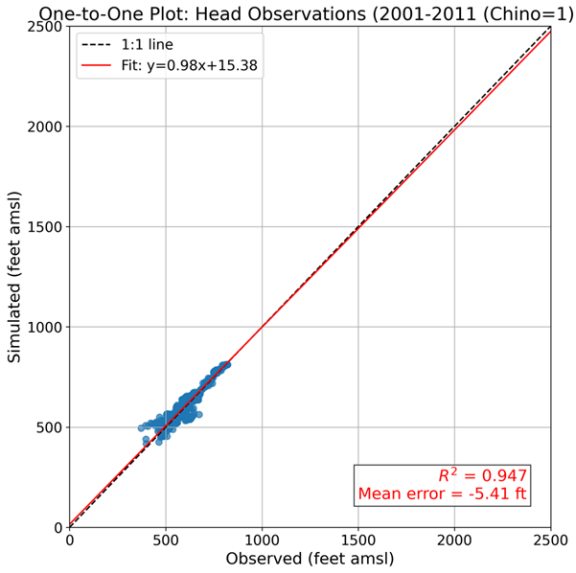
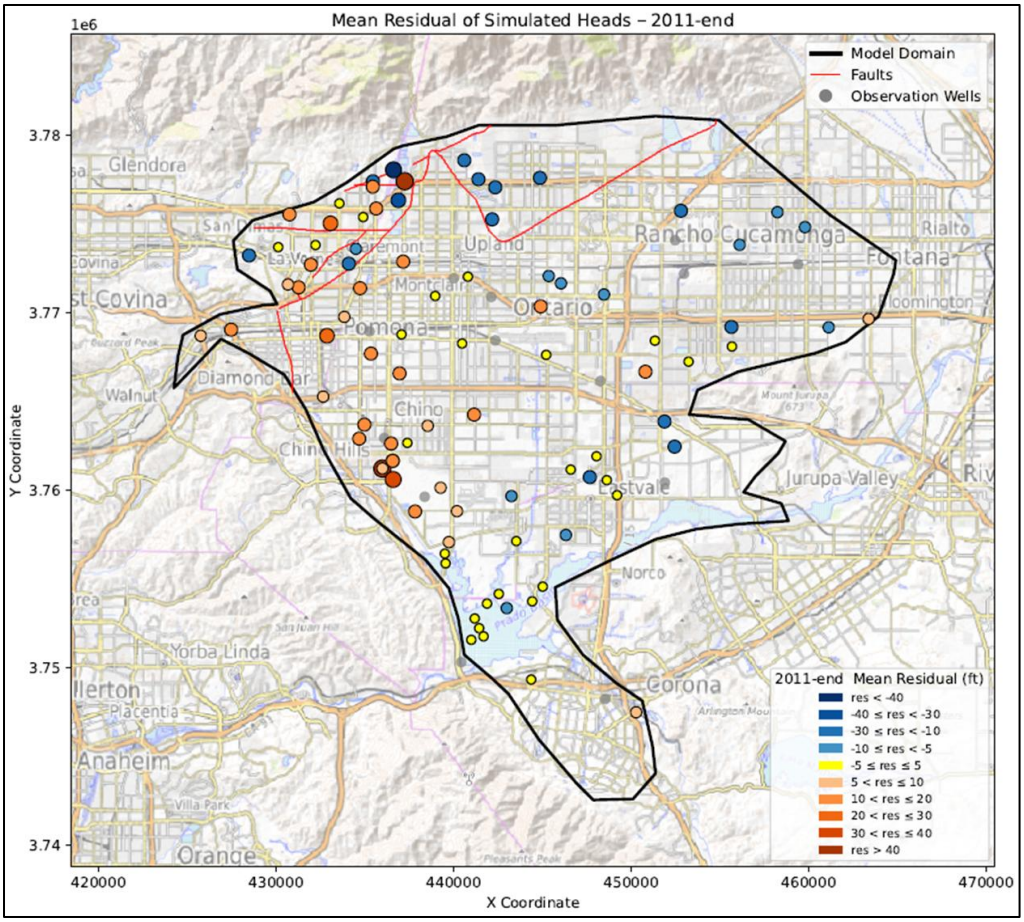


Figure 8. Map showing spatial distribution of groundwater level residuals and scatterplot comparing observed and simulated groundwater levels within the Chino Basin for FY 2001-2011.



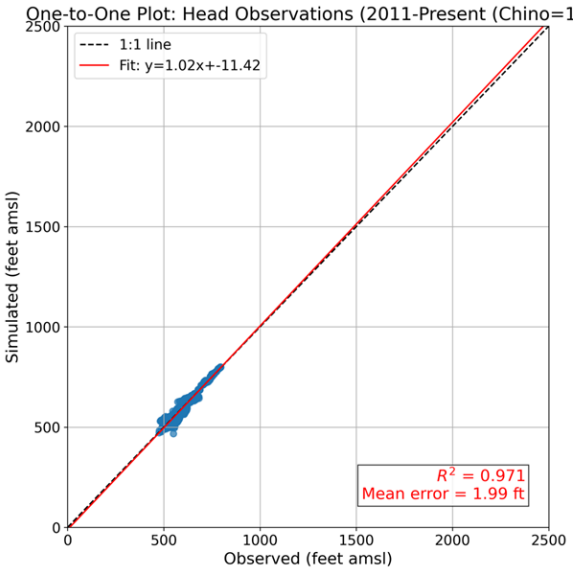


Figure 9. Map showing spatial distribution of groundwater level residuals and scatterplot comparing observed and simulated groundwater levels within the Chino Basin for FY 2011-2022.

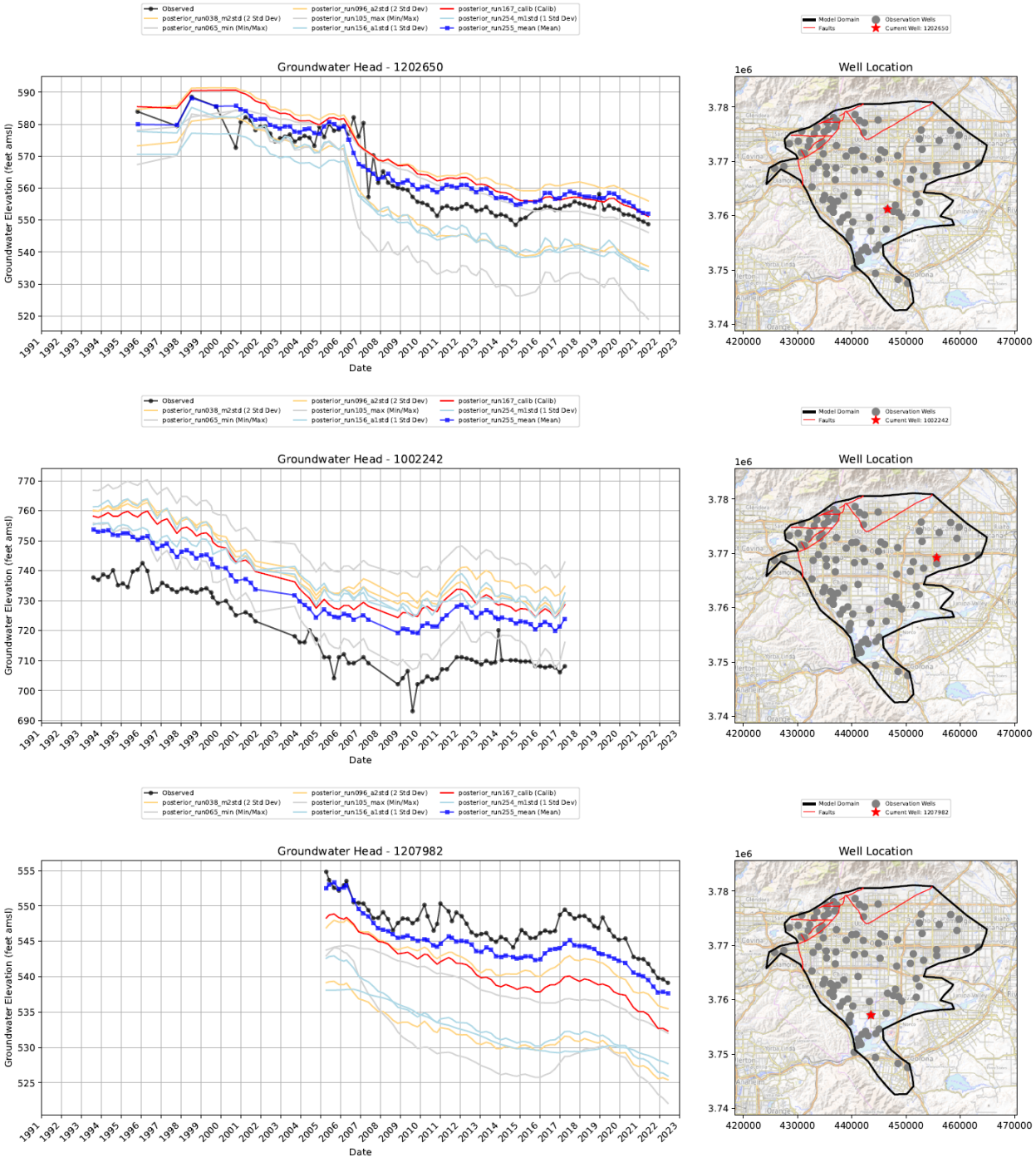


Figure 10. Time series plots comparing observed and simulated groundwater levels. Plots for all observations are provided in Appendix A.

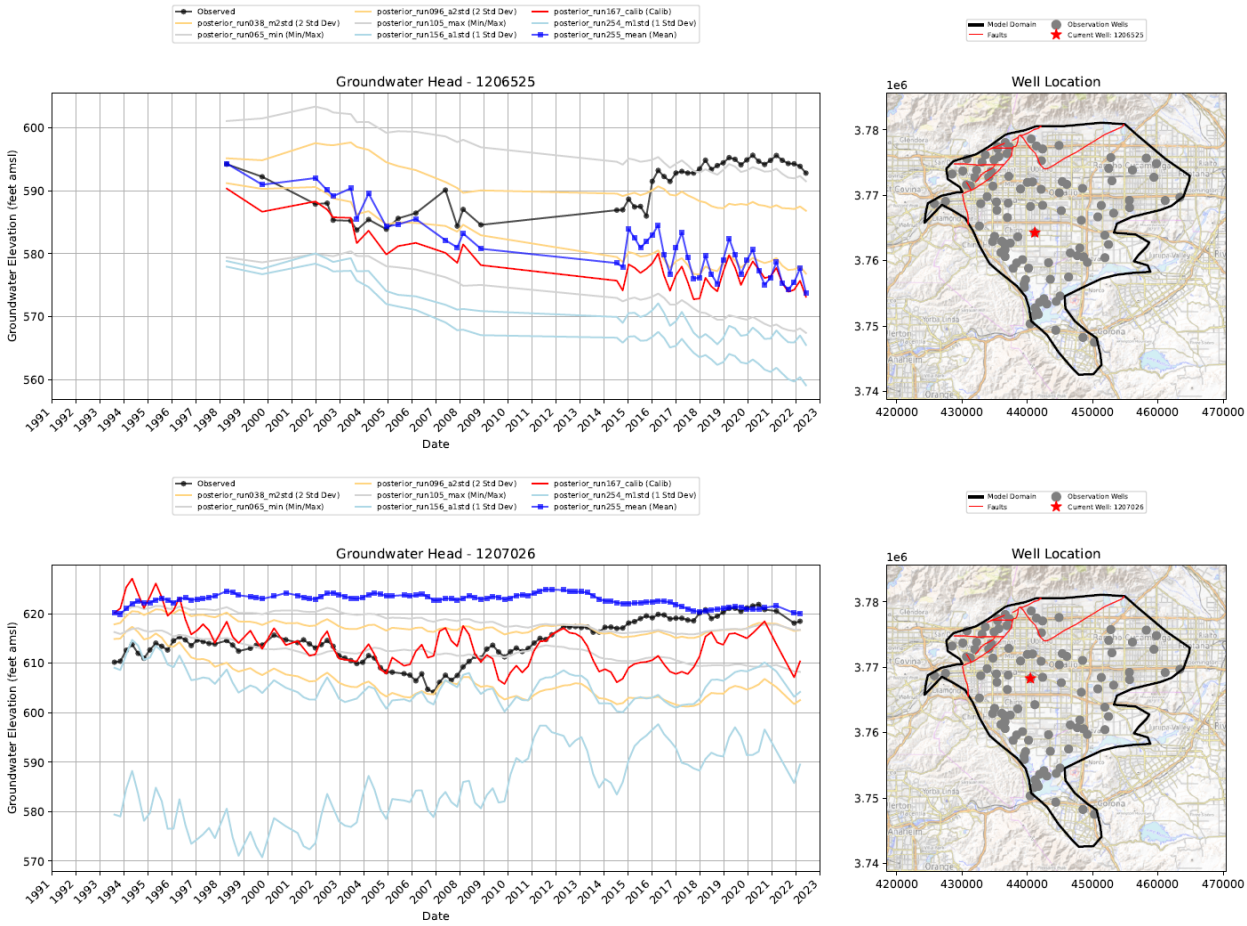


Figure 11. Time series plots comparing trends in observed and simulated groundwater levels.

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.

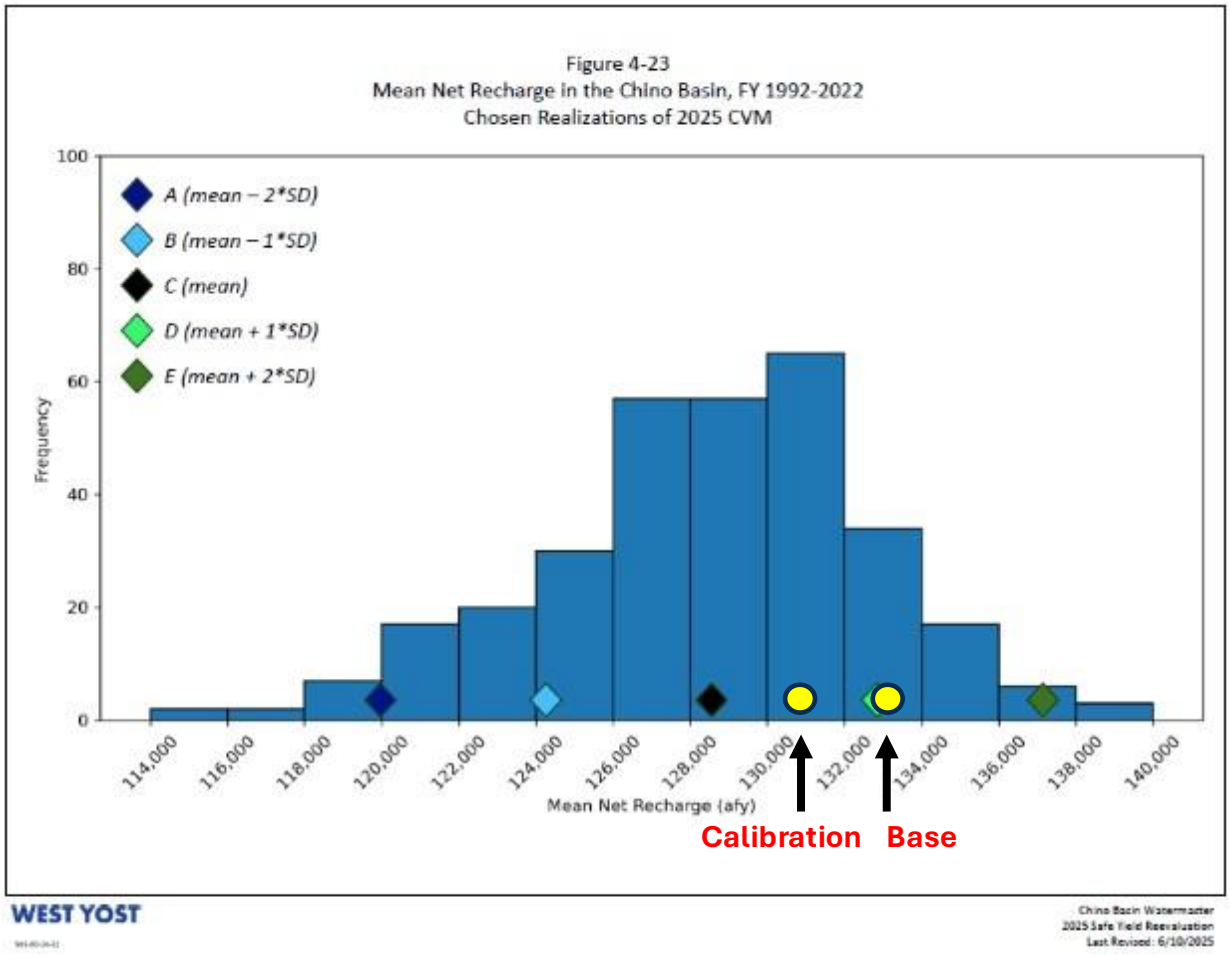
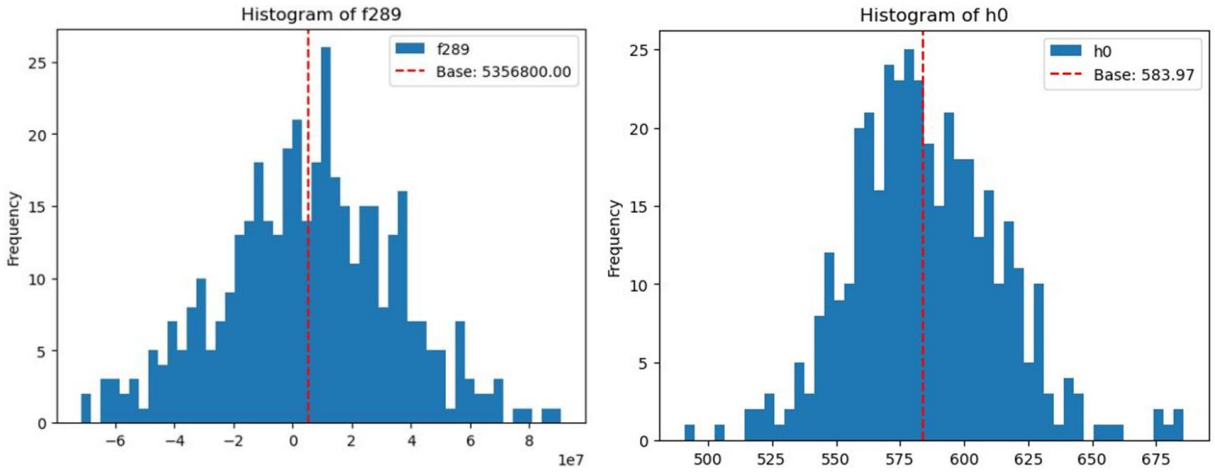


Figure 12. Comparison of net recharge estimates between selected realizations and calibrated simulations (*background image reproduced from West Yost (2025) Figure 4-23 of the Draft 2025 SYR*).



(a) (b)

Figure 13. Examples of observation noise used as part of model calibration for (a) streamflow; and (b) groundwater levels.

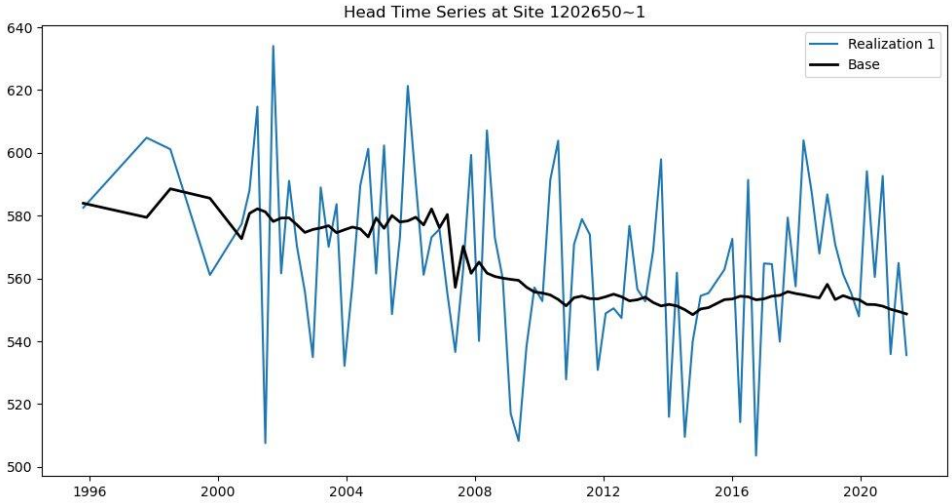


Figure 14. An example of randomized hydrograph observation noise used as part of model calibration for groundwater levels.

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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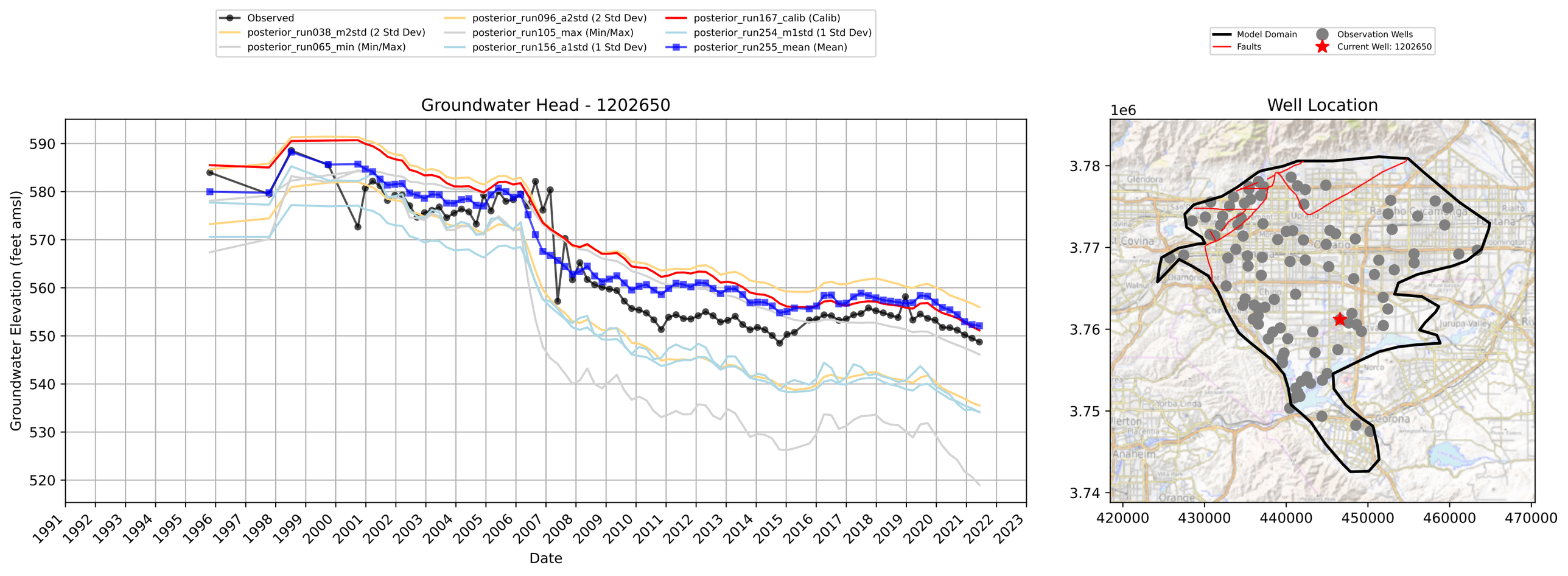
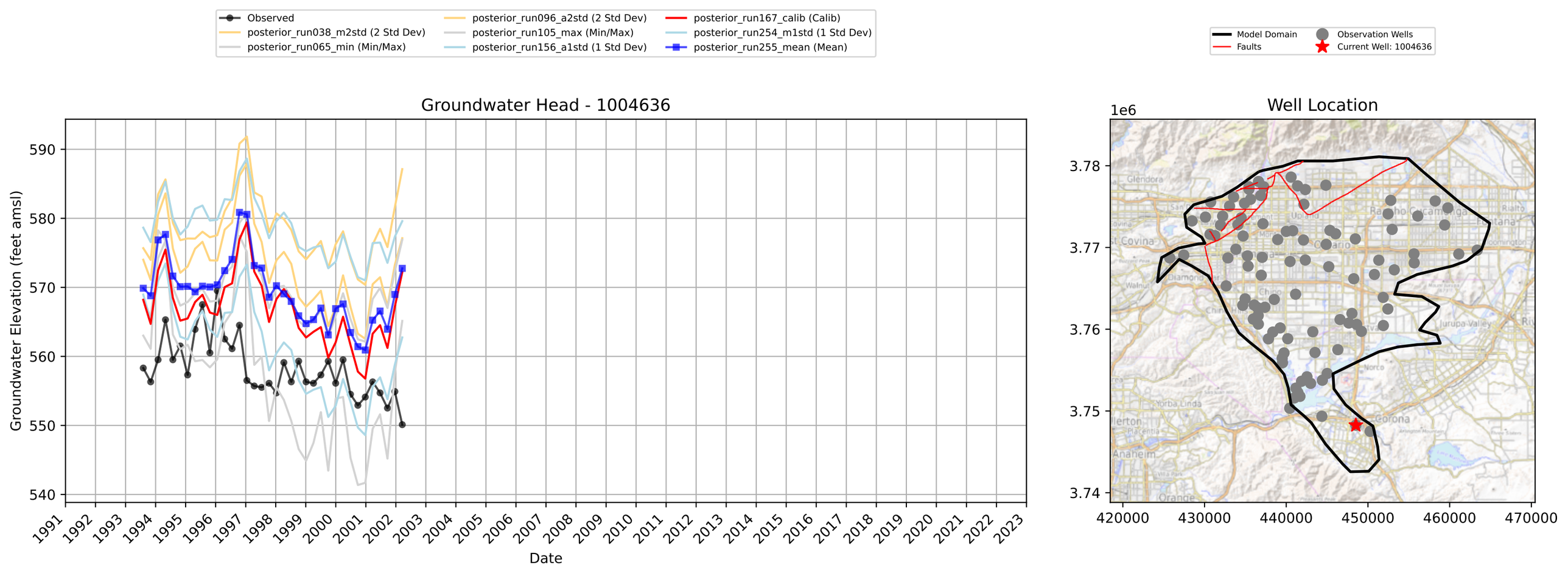
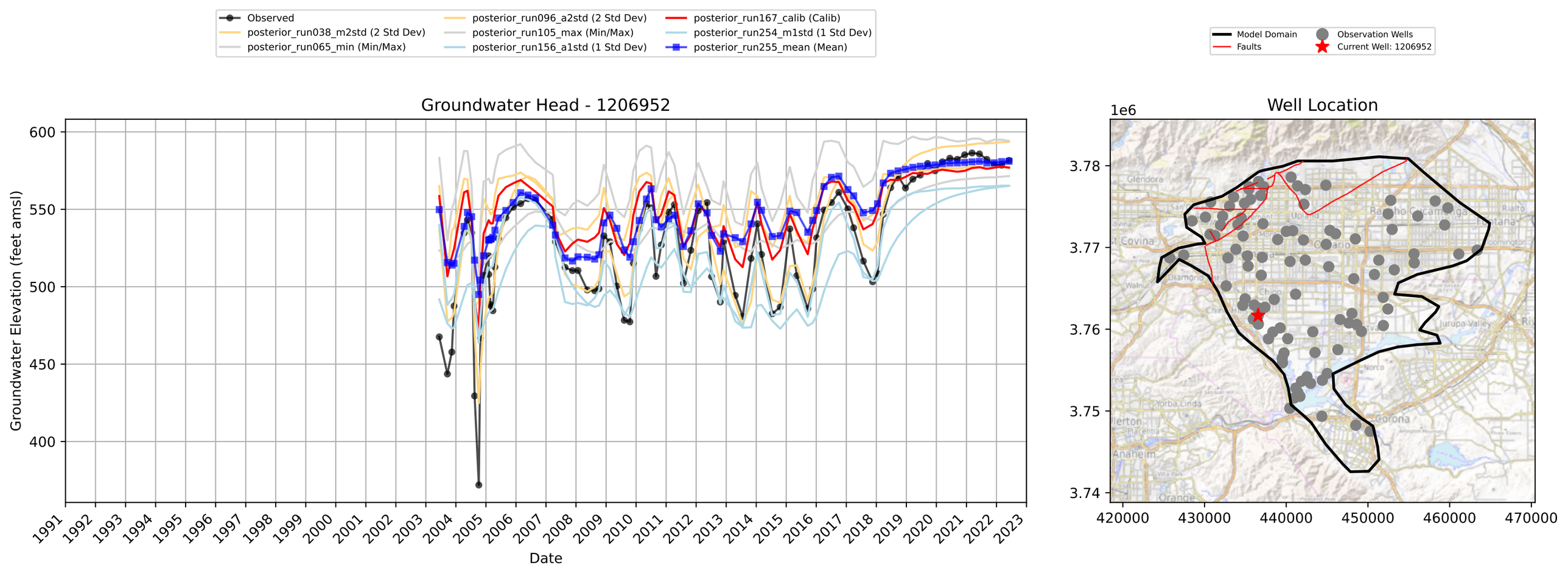
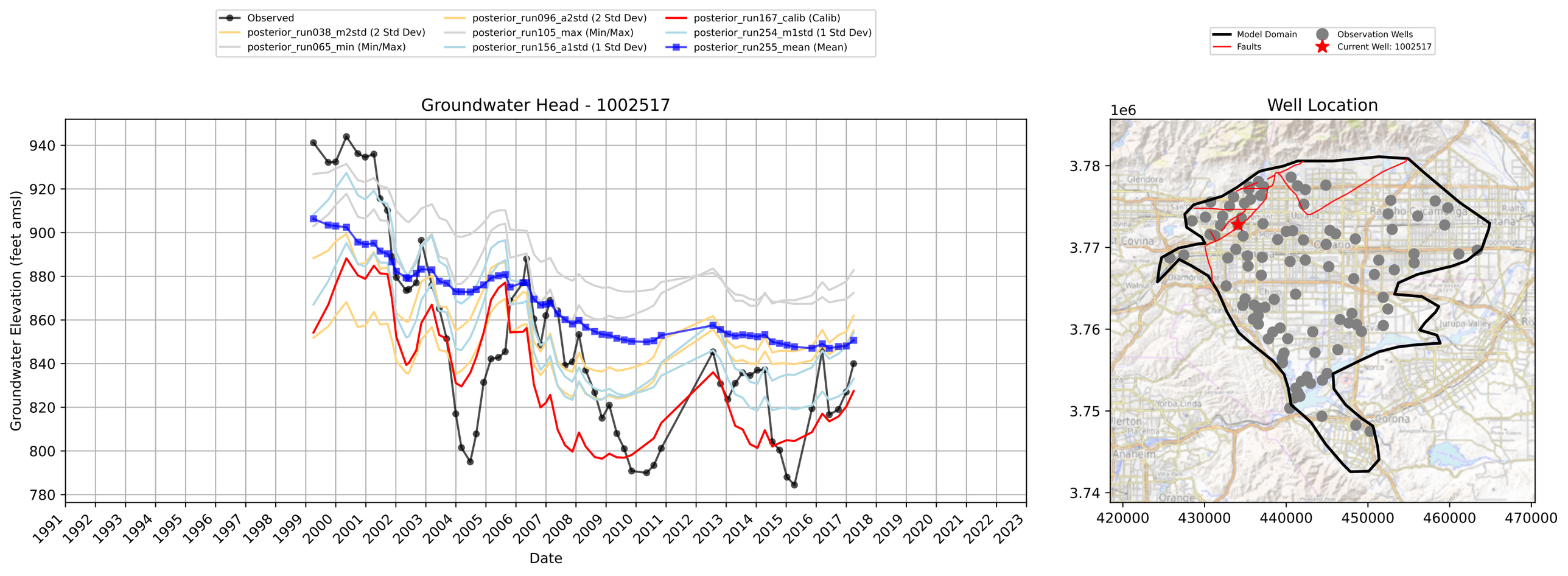
Appendix A

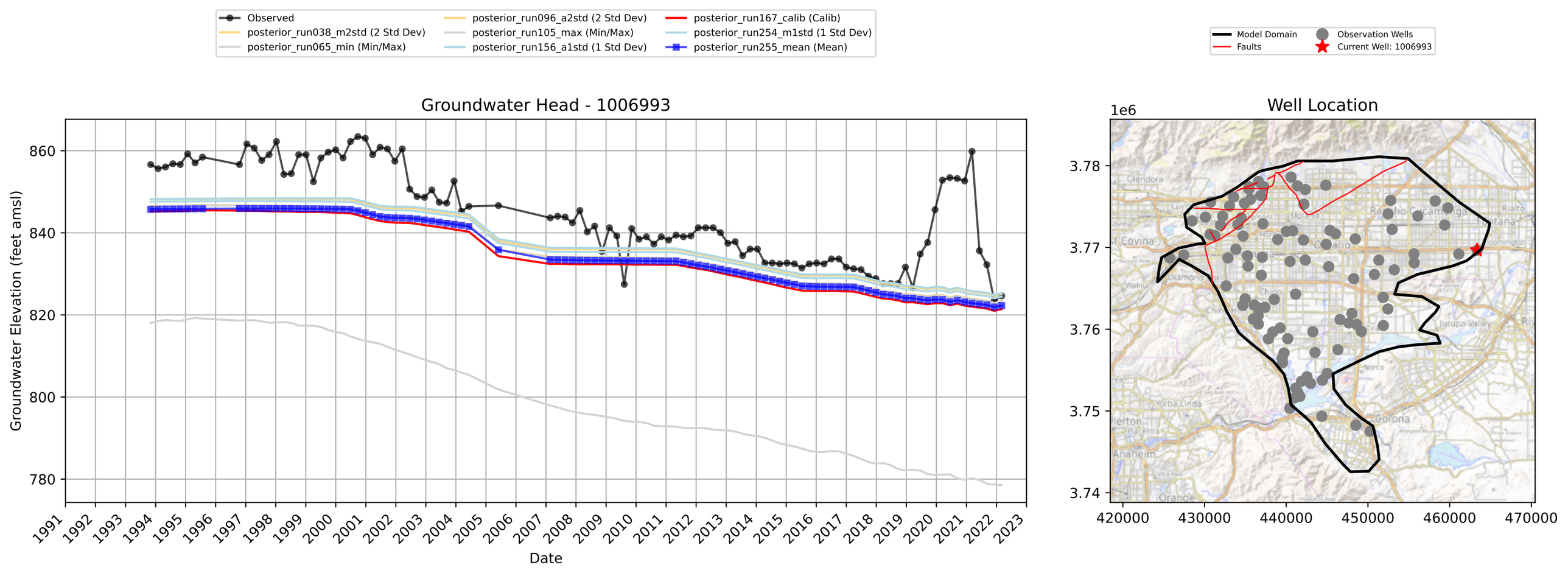
Time Series Plots Comparing Observed and Simulated Groundwater Levels

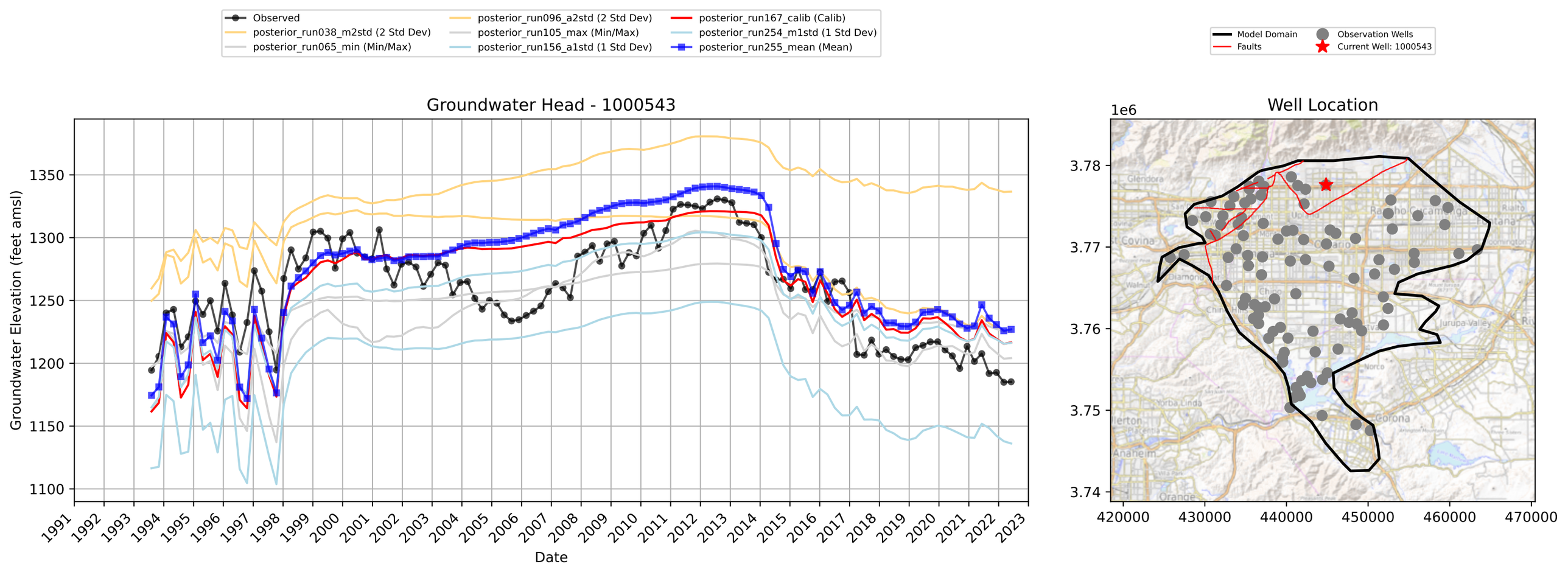

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1202650
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1202650
Well Location
1e6

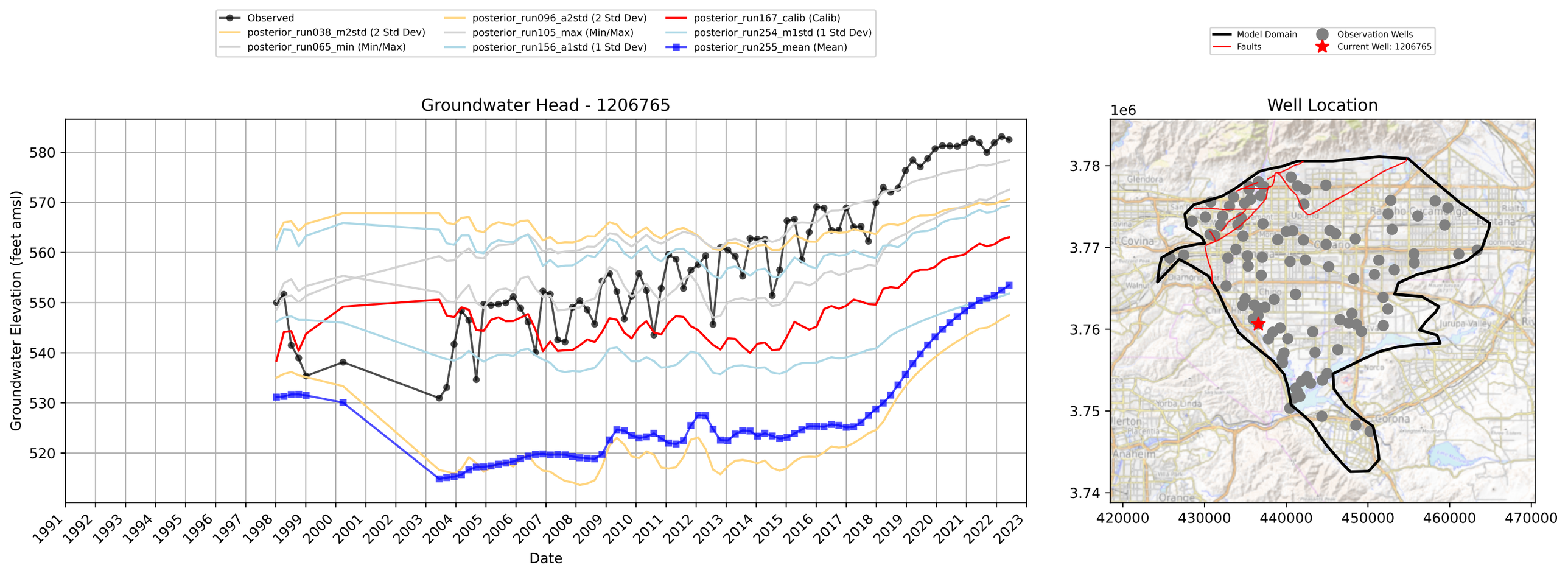

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1004636
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1004636
Well Location
1e6

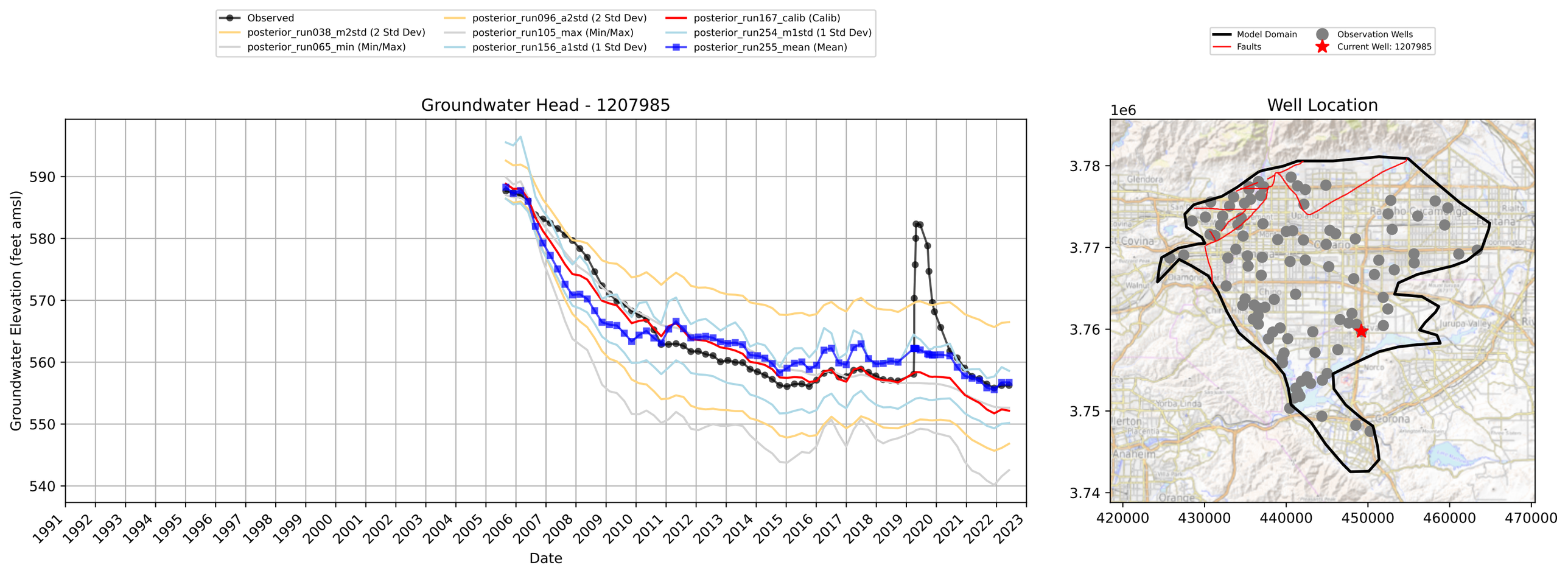

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1206952
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1206952
Well Location
1e6

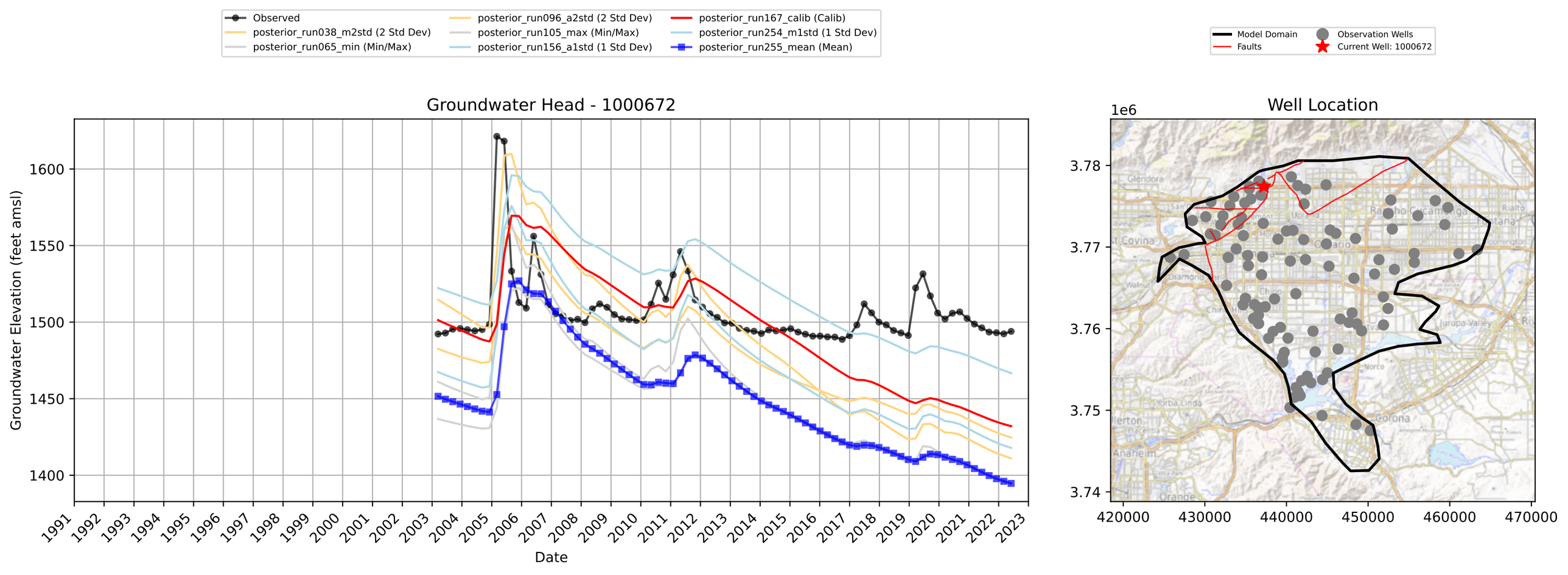

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002517
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002517
Well Location
1e6

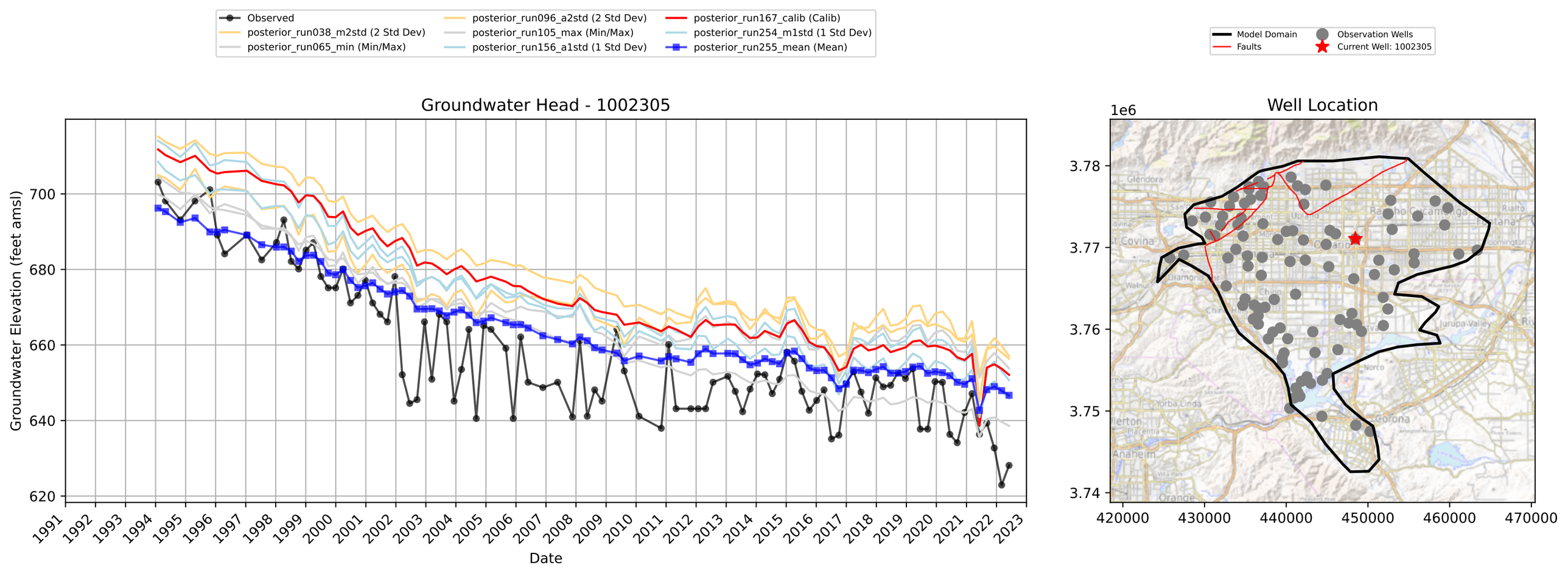

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1006993
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1006993
Well Location
1e6

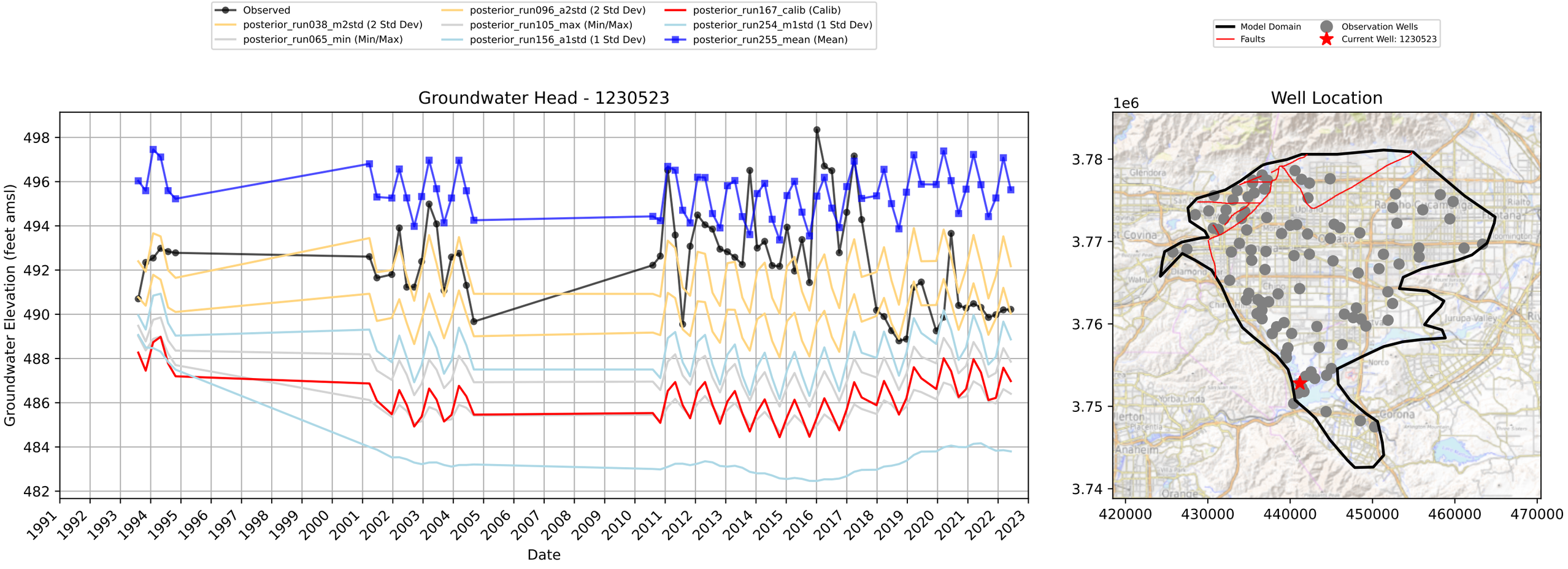

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1000543
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1000543
Well Location
1e6

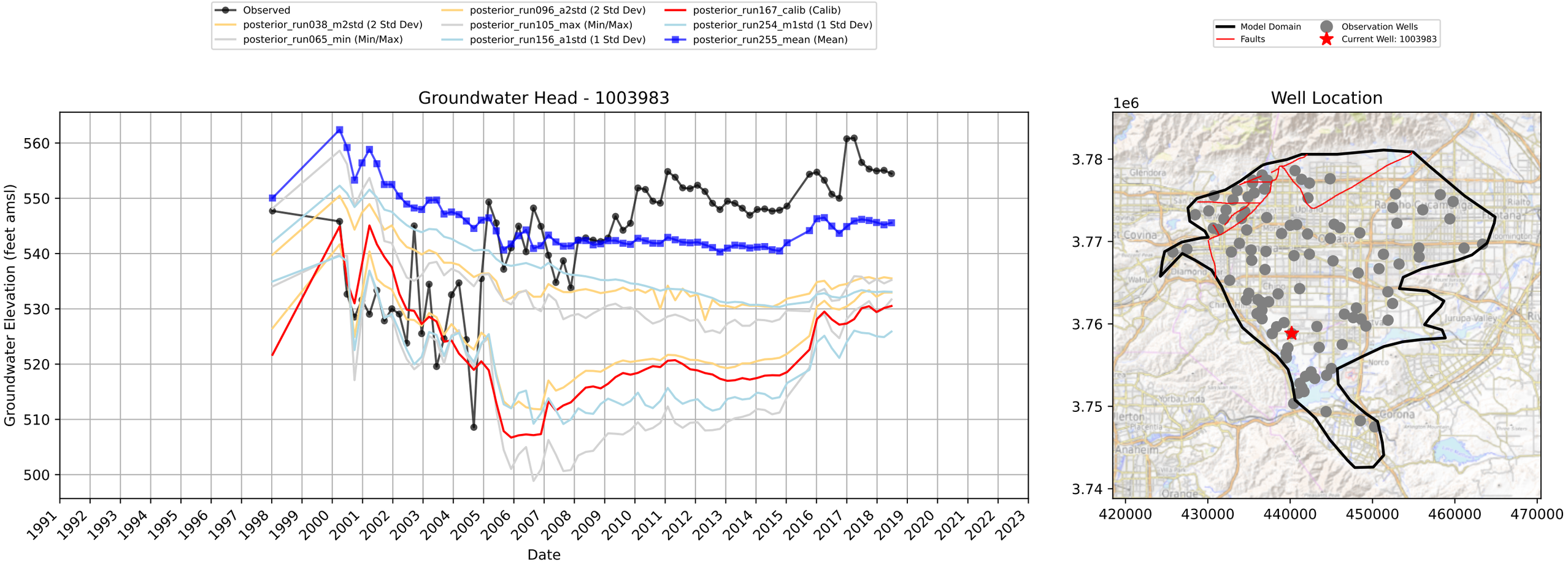

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1206765
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1206765
Well Location
1e6

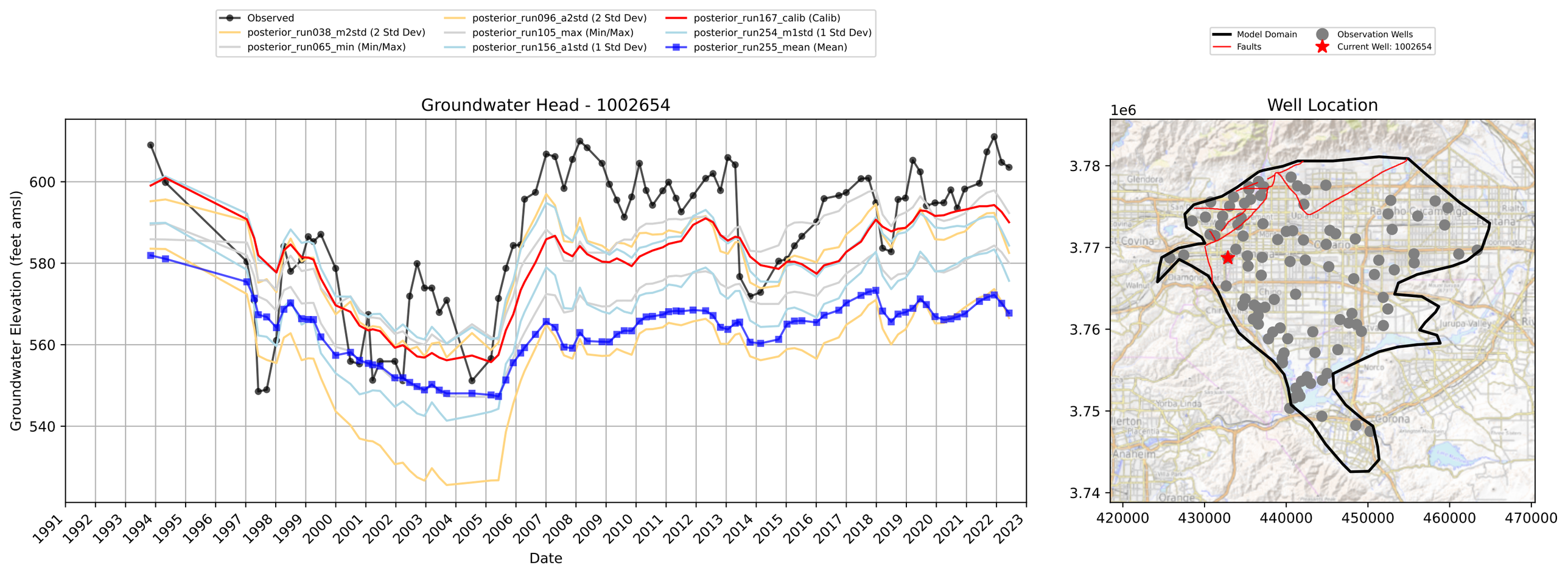

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1207985
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1207985
Well Location
1e6

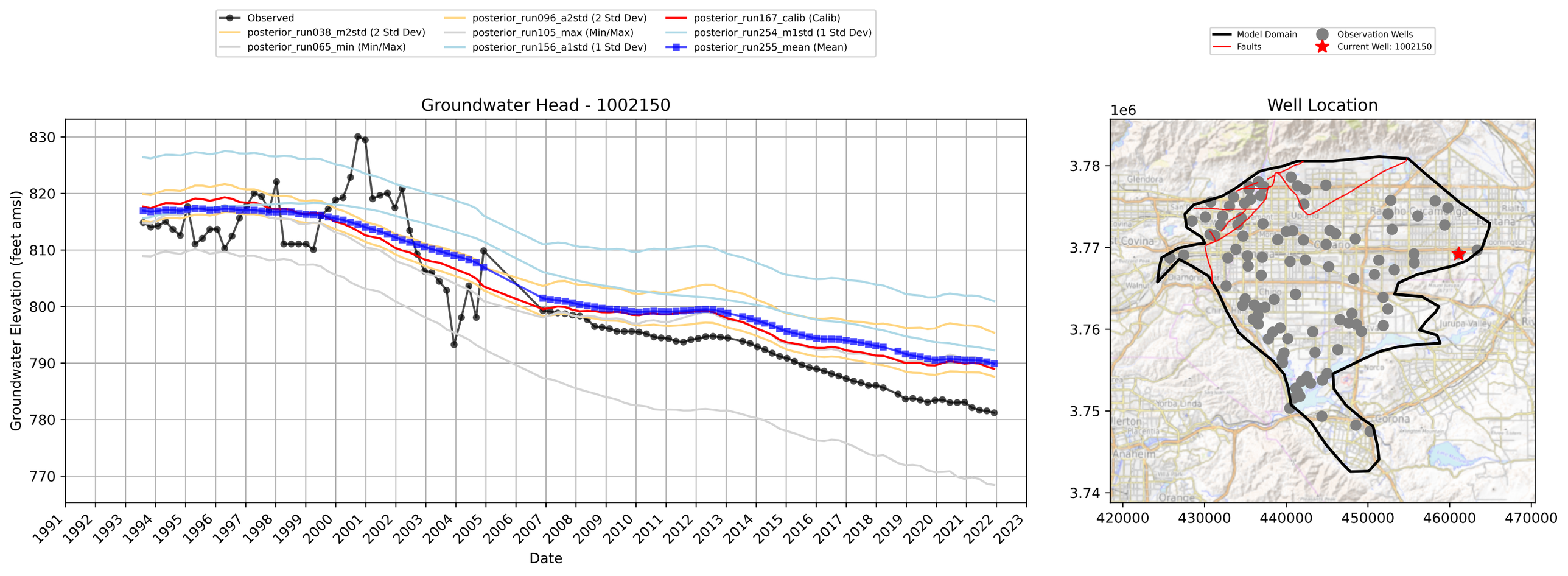

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1000672
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1000672
Well Location
1e6

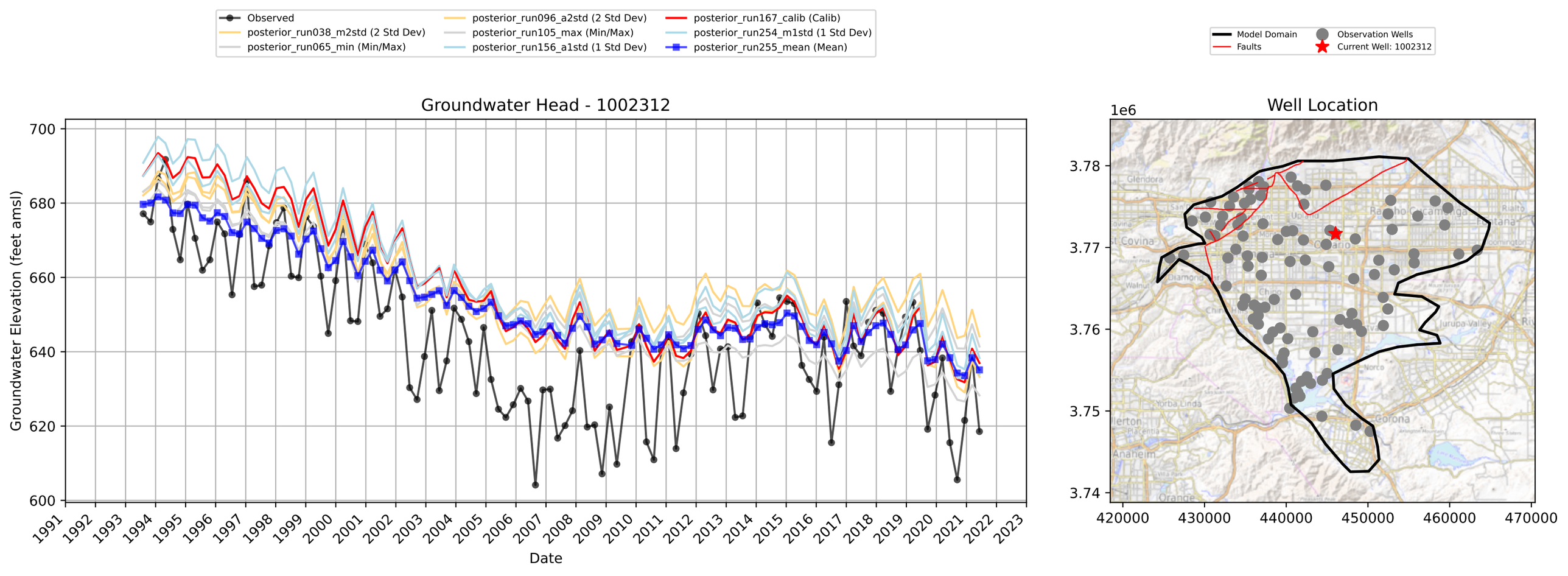

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002305
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002305
Well Location
1e6

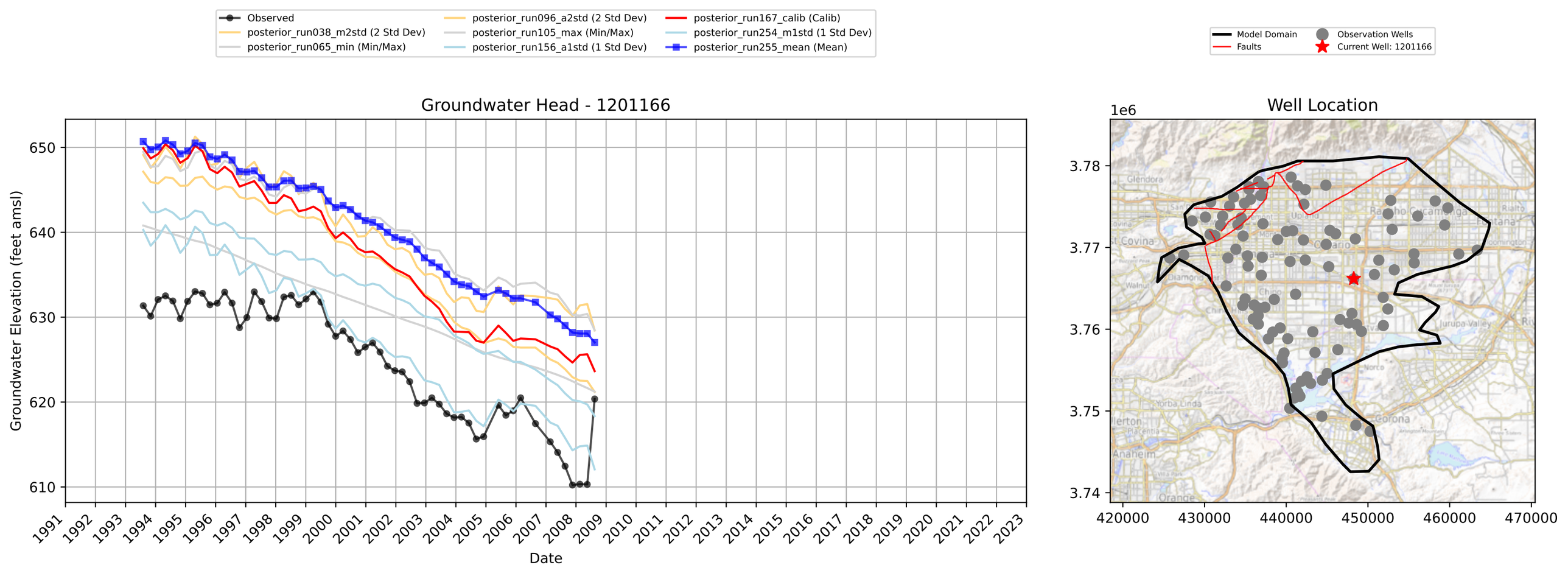

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1230523
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1230523
Well Location
1e6

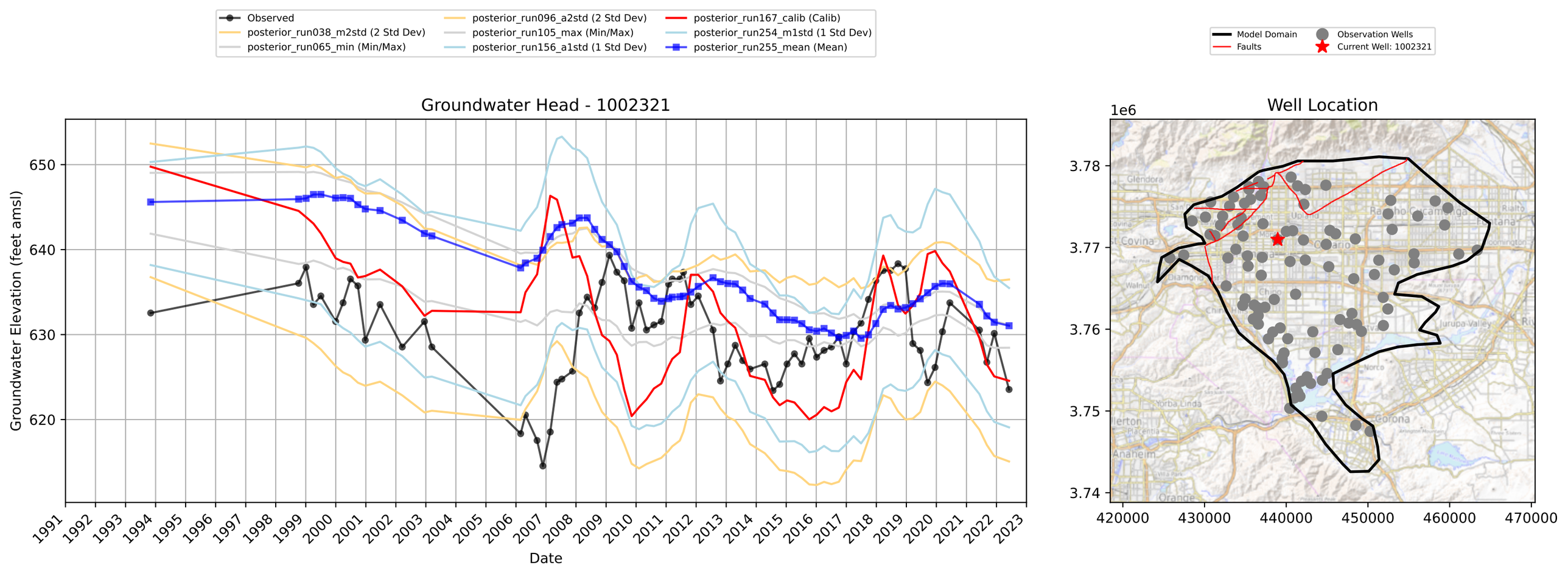

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1003983
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1003983
Well Location
1e6

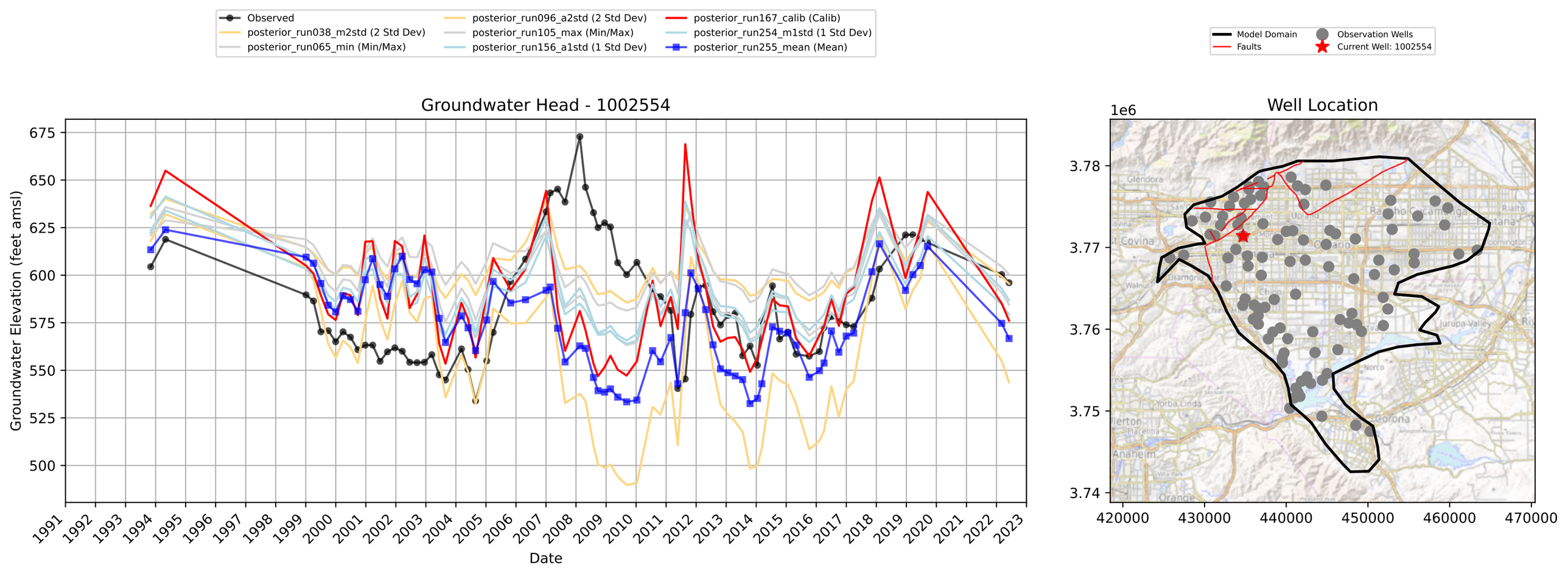

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002654
Groundwater 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

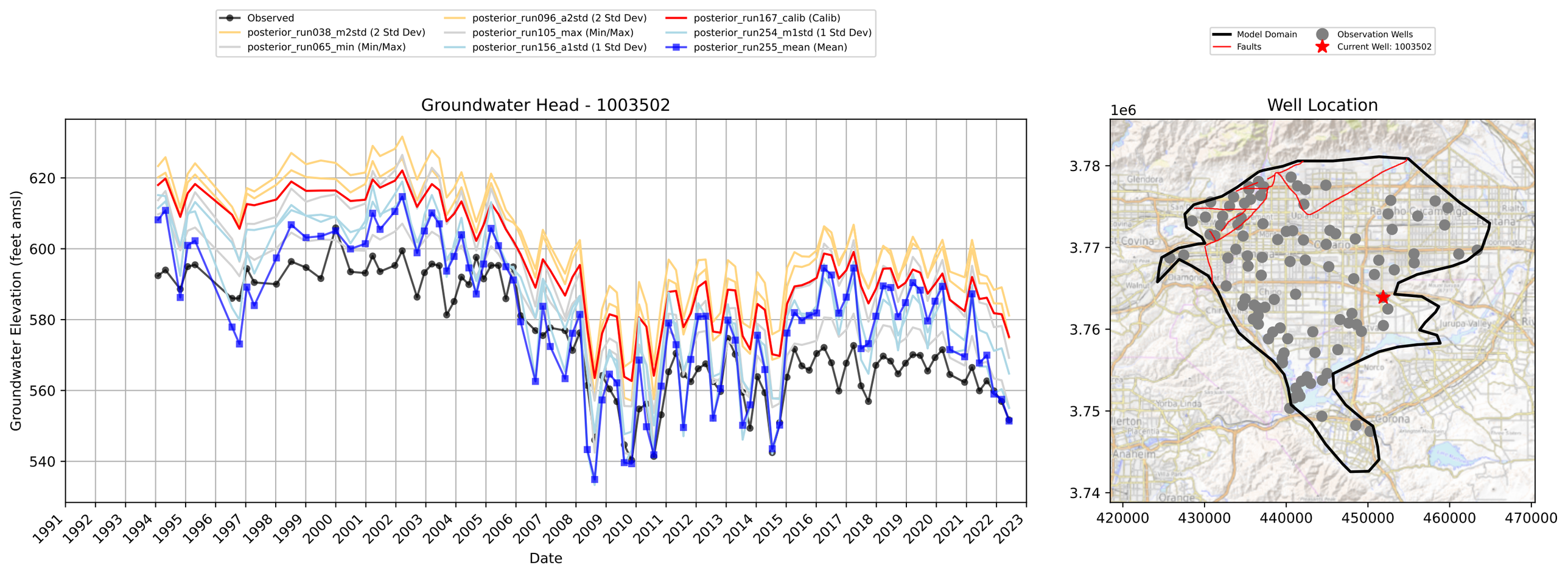

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002150
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002150
Well Location
1e6

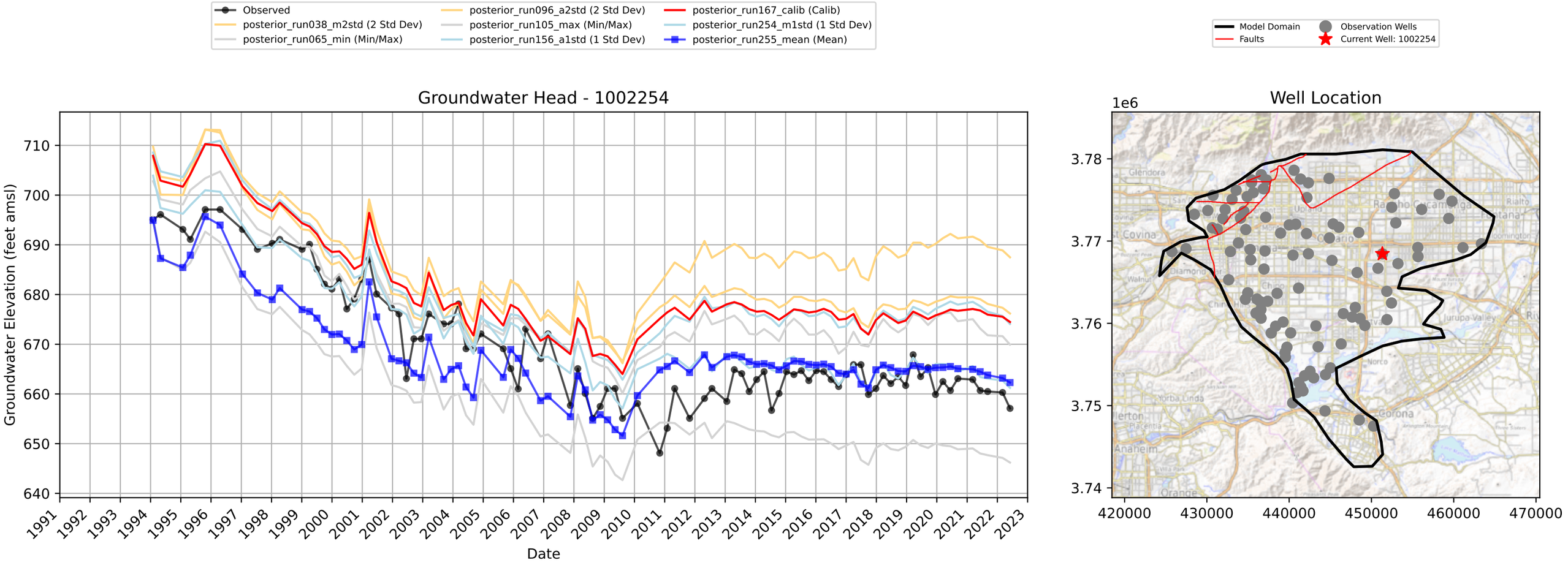

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002312
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002312
Well Location
1e6
Glendora
Covina
Diamond
Chino
Rancho Cucamonga
Ontario
Rialto
Fontana
Jurupa Valley
Norco
Yorba Linda
Corona
Anaheim
Orange

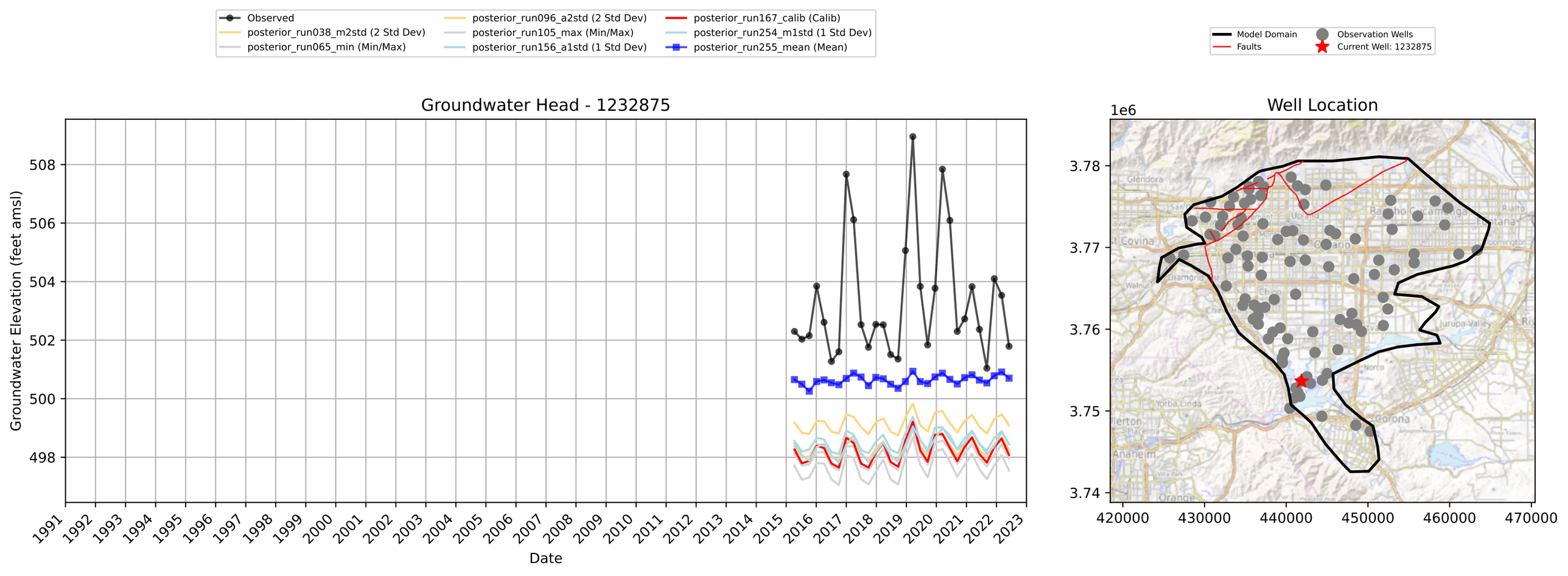

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1201166
Groundwater 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
Diamond
Chino
Jurupa Valley
Norco
Yorba Linda
Corona
Anaheim
Orange

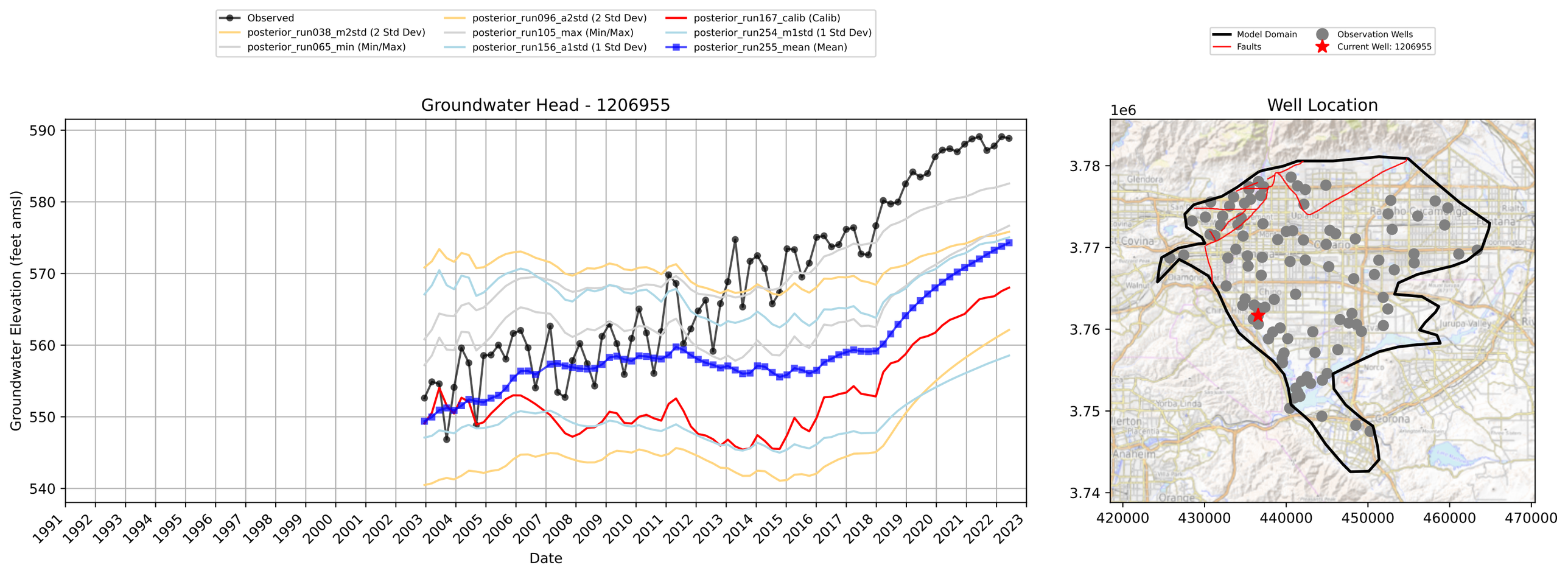

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002321
Groundwater 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
Rancho Cucamonga
Ontario
Rialto
Fontana
Jurupa Valley
Norco
Yorba Linda
Corona
Anaheim
Orange

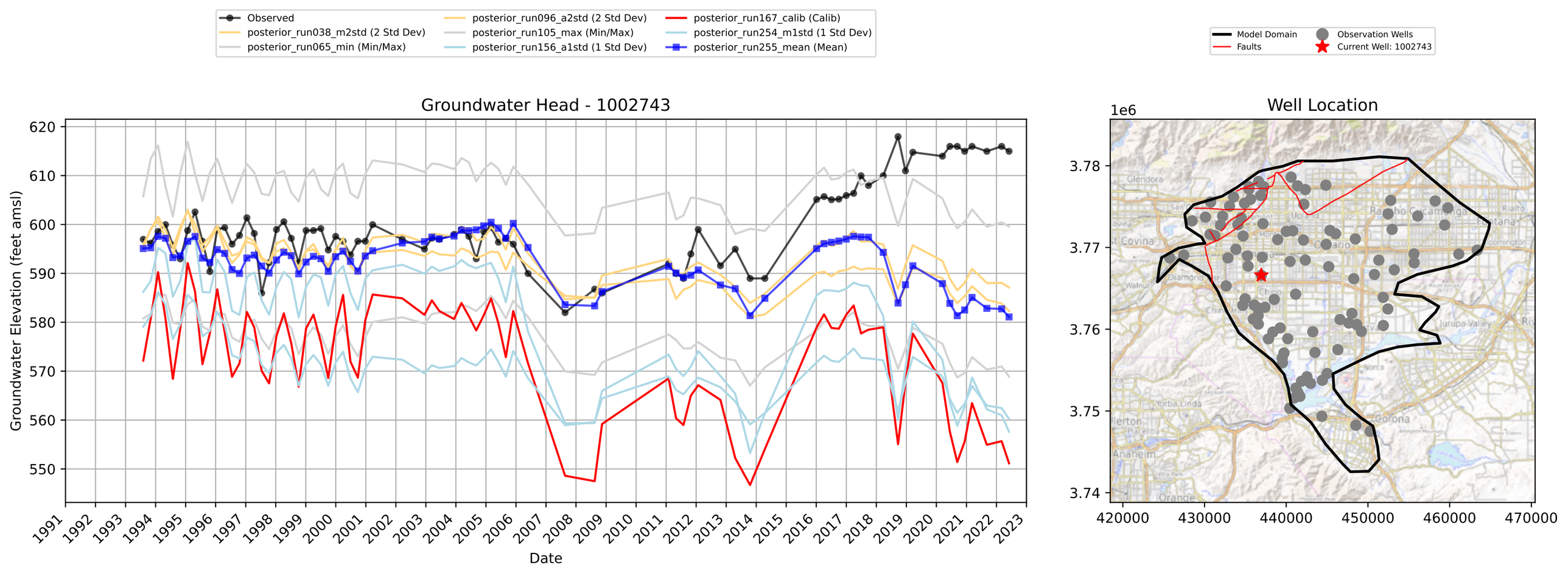

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002554
Groundwater Elevation (feet amsl)
675
650
625
600
575
550
525
500
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: 1002554
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

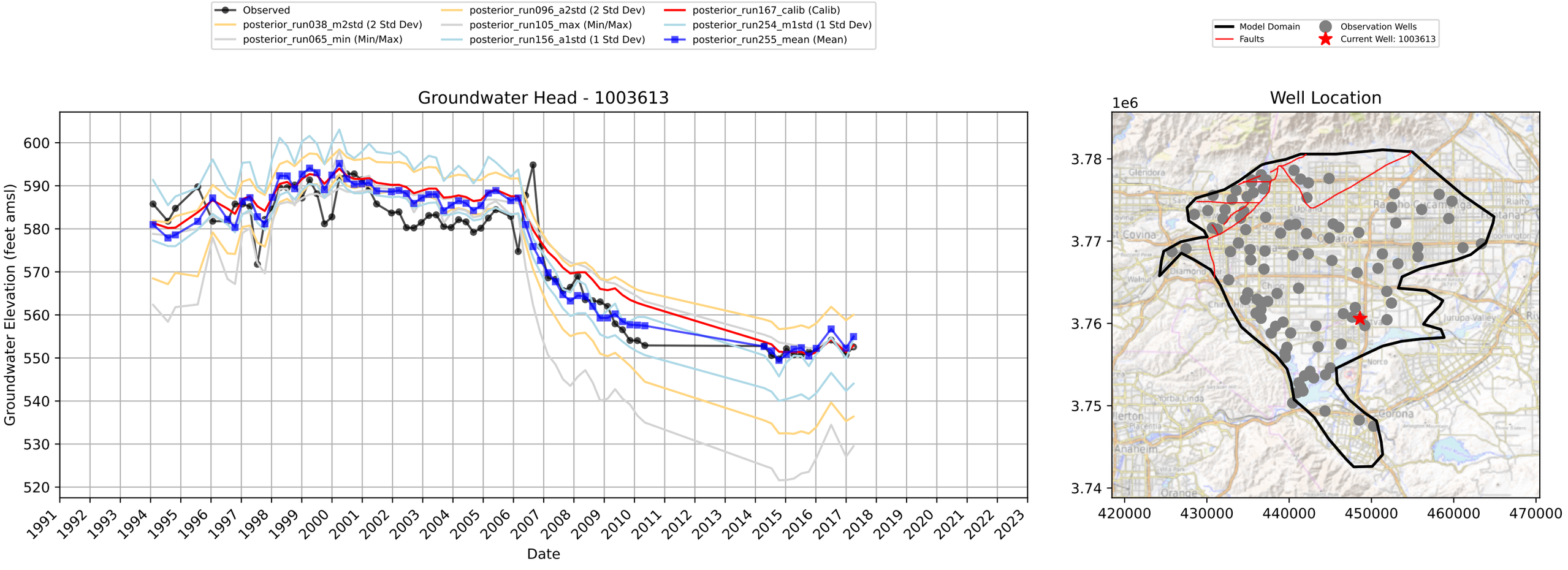

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1003502
Groundwater 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 Bar
Chino
Rancho Cucamonga
Ontario
Rialto
Fontana
Jurupa Valley
Norco
Yorba Linda
Corona
Anaheim
Orange

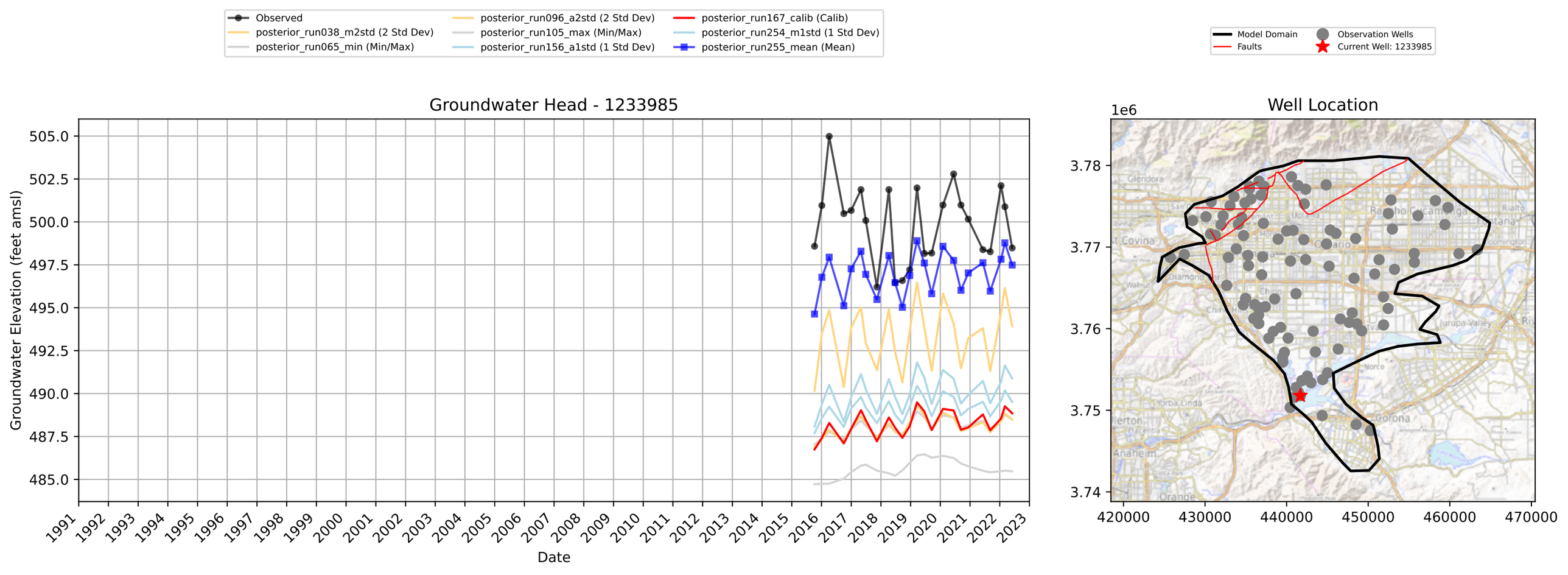

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002254
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002254
Well Location
1e6

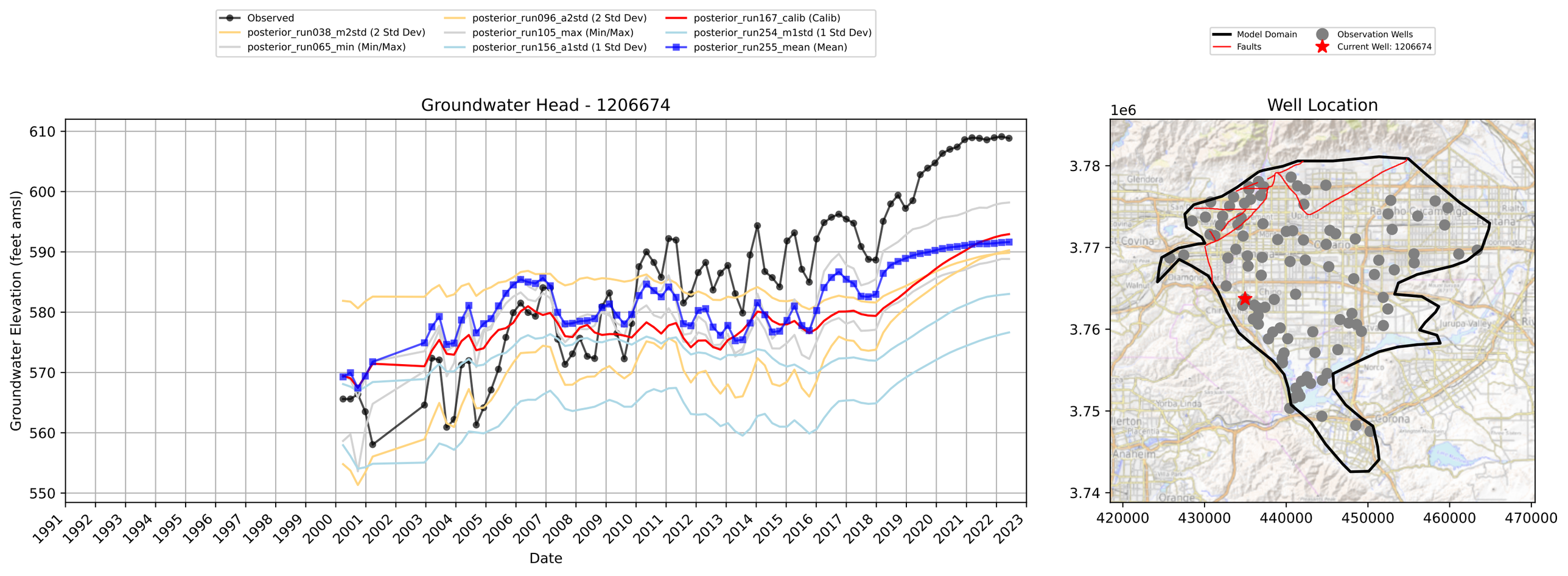

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1232875
Groundwater 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 Bar
Chino
Rancho Cucamonga
Ontario
Rialto
Fontana
Jurupa Valley
Norco
Yorba Linda
Corona
Anaheim
Orange

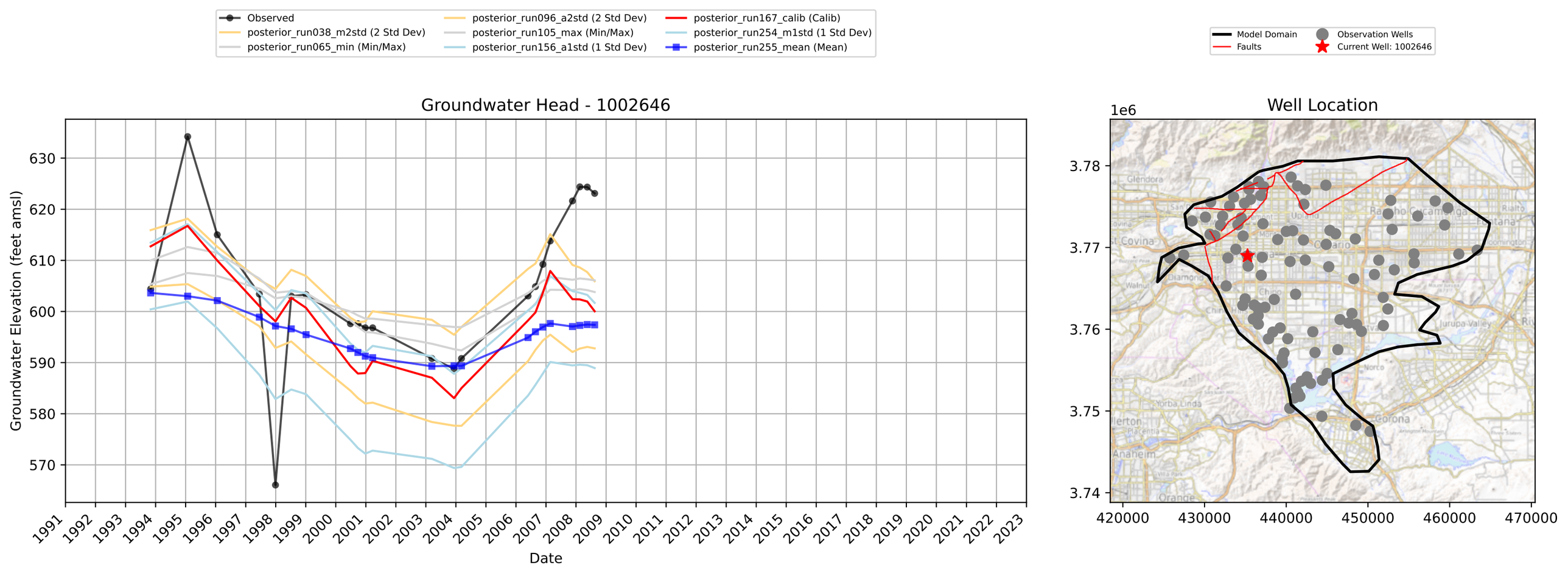

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1206955
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1206955
Well Location
1e6

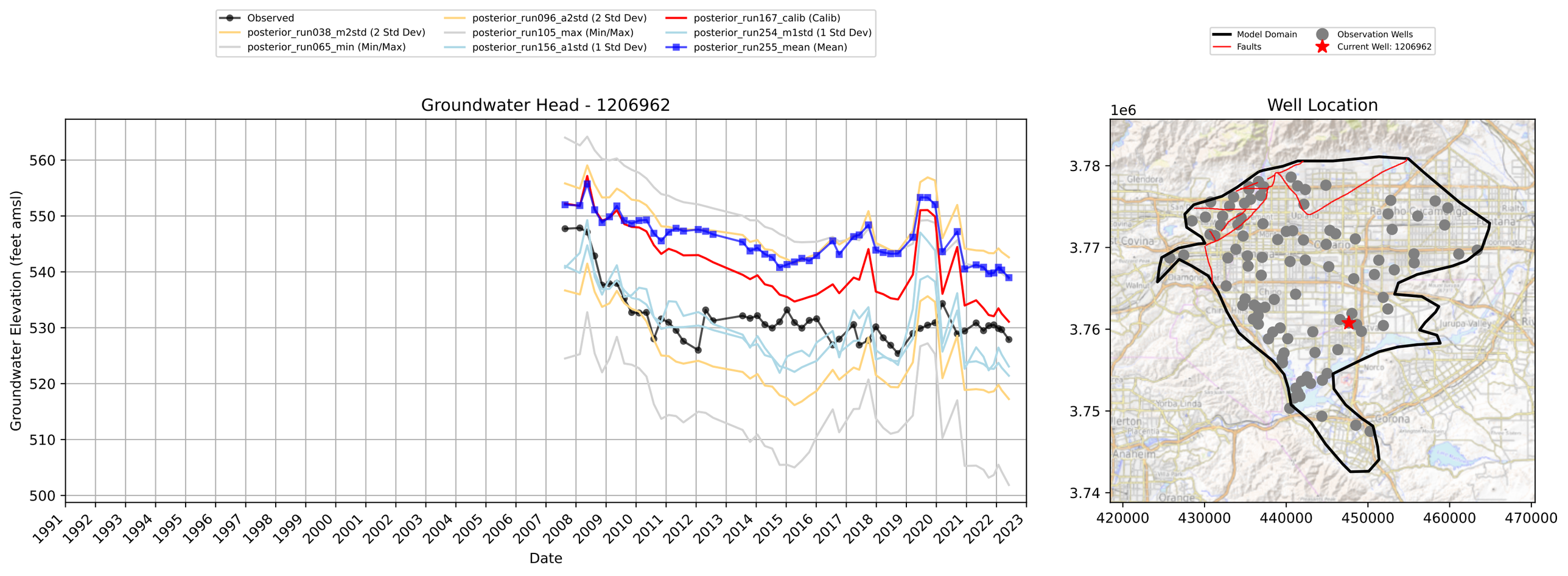

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002743
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002743
Well Location
1e6

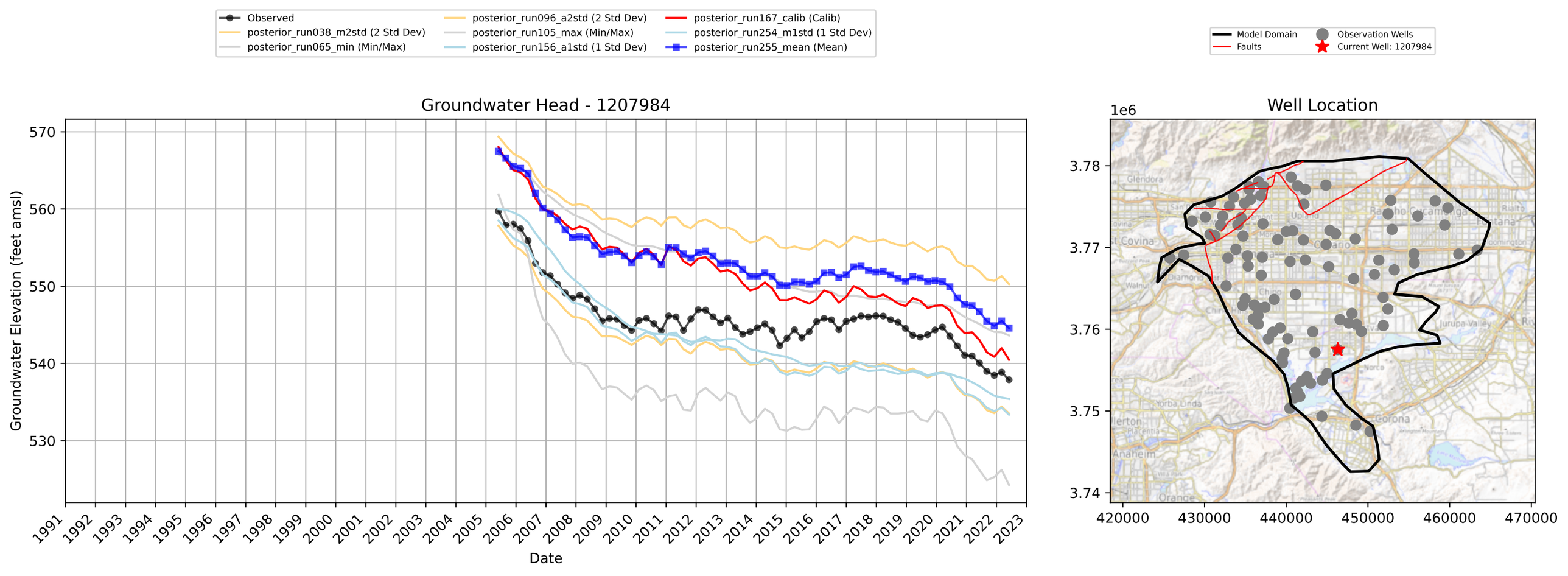

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1003613
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1003613
Well Location
1e6

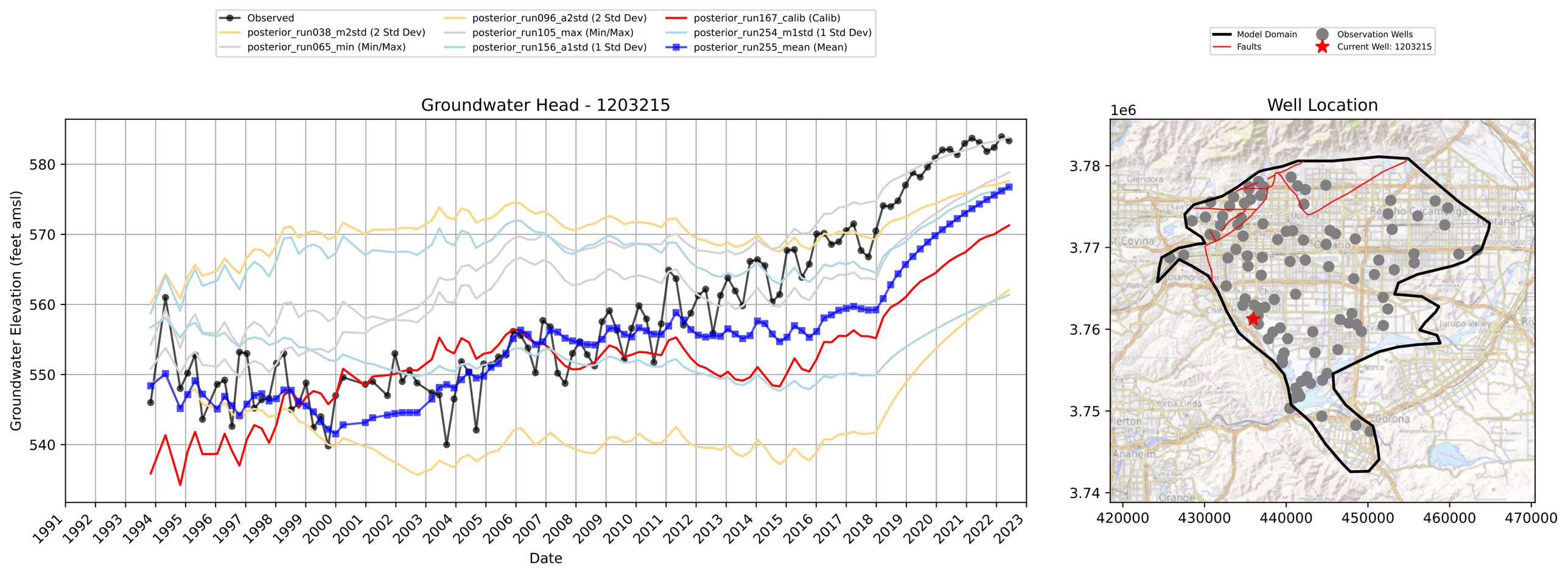

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1233985
Groundwater 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 Bar
Chino
Rancho Cucamonga
Rialto
Fontana
Jurupa Valley
Norco
Yorba Linda
Corona
Anaheim
Orange

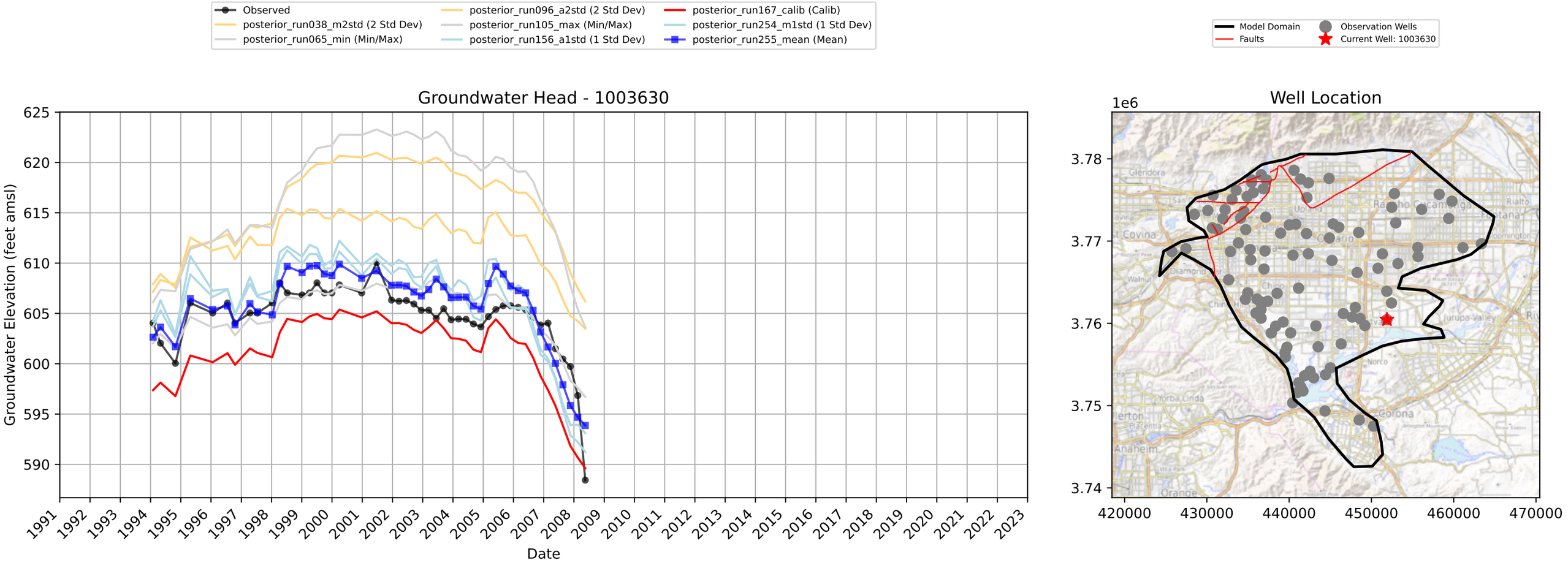

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1206674
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1206674
Well Location
1e6

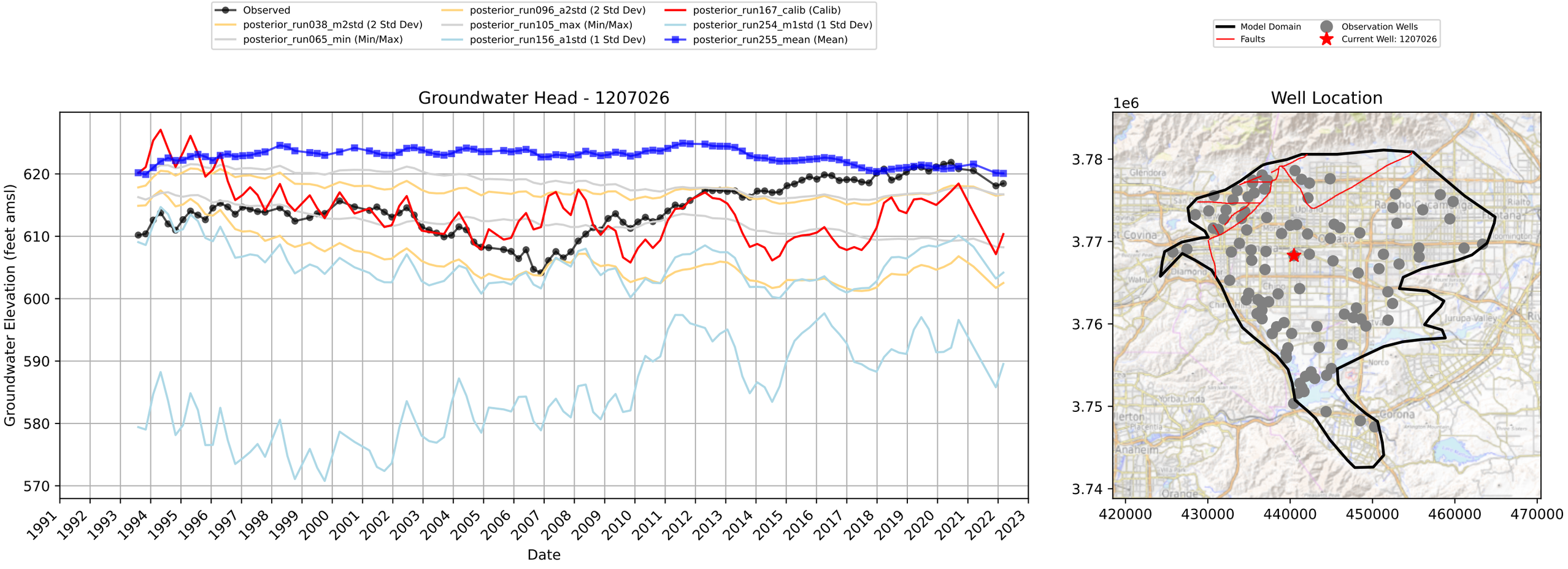

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002646
Groundwater 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
Corona
Norco
Anaheim
Orange

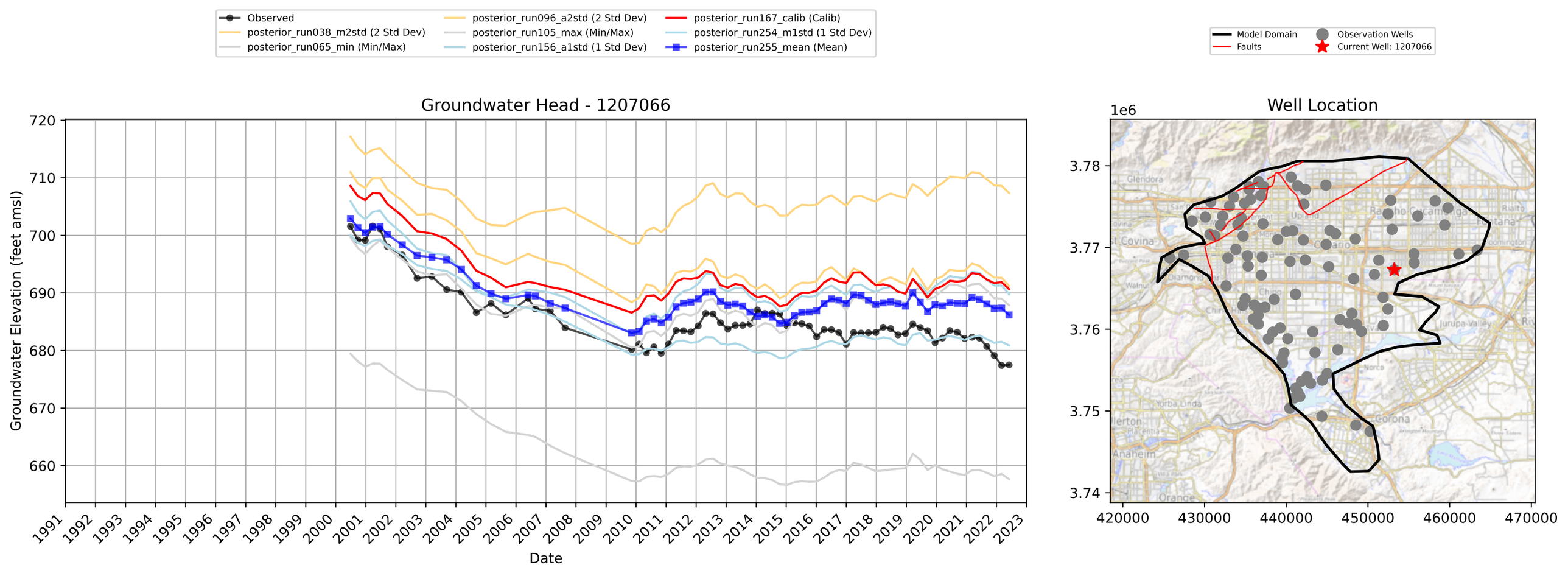

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1206962
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1206962
Well Location
1e6

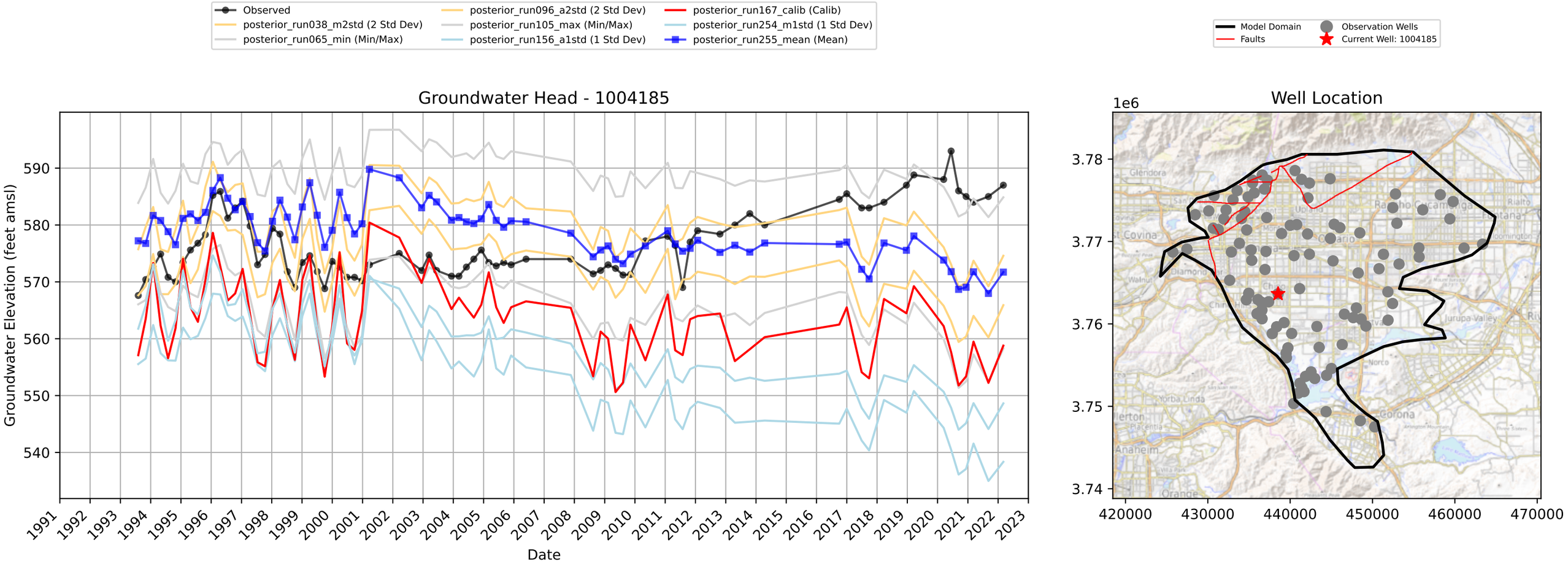

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1207984
Groundwater 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
Diamond
Chino
Rancho Cucamonga
Ontario
Rialto
Fontana
Jurupa Valley
Norco
Yorba Linda
Corona
Anaheim
Orange

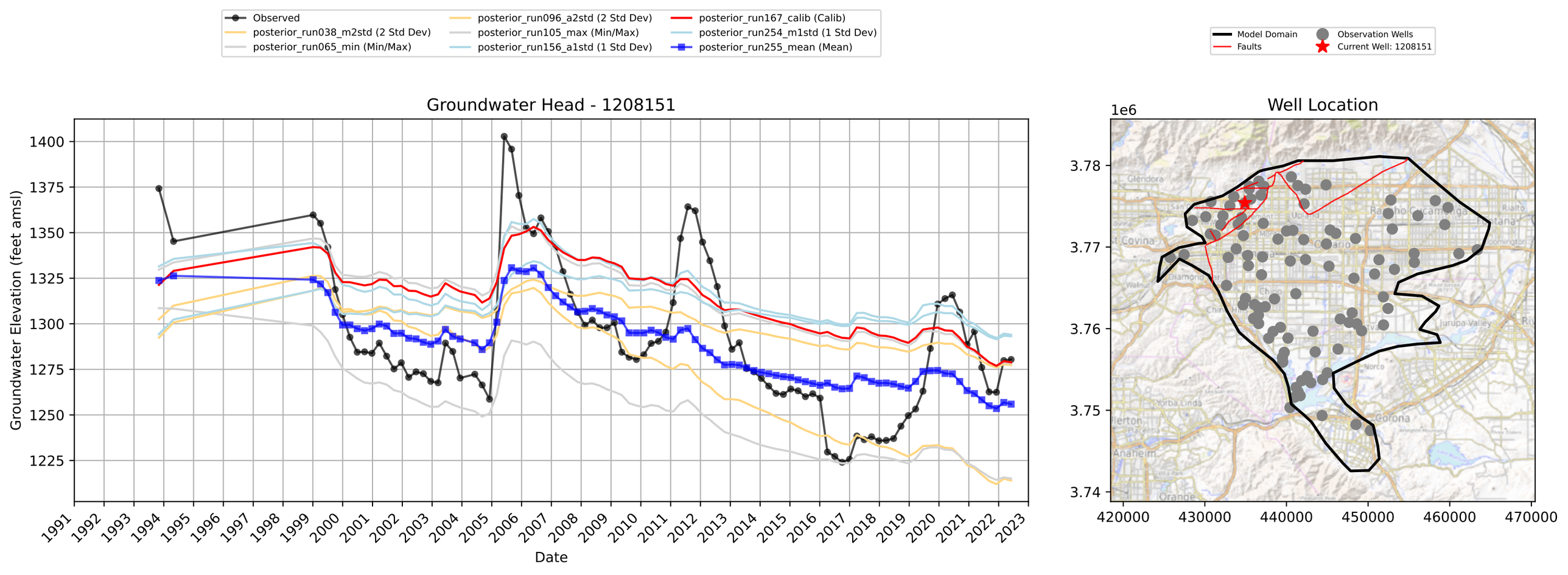

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1203215
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1203215
Well Location
1e6

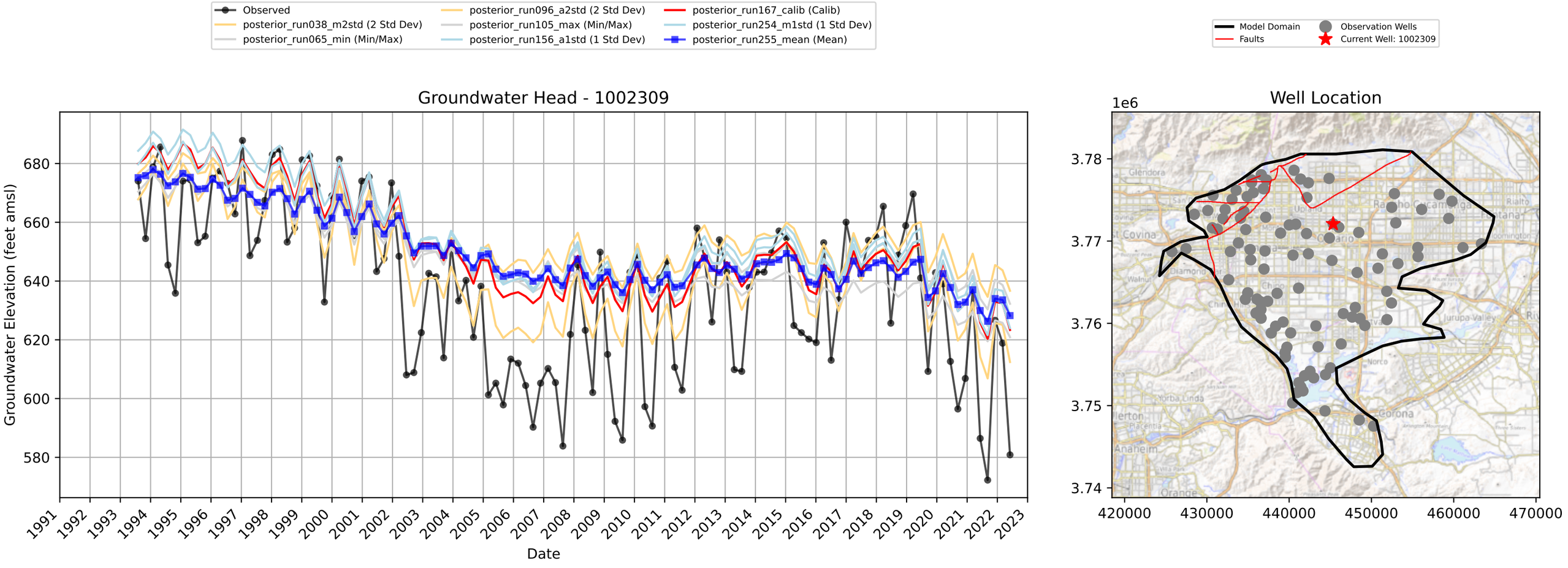

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1003630
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1003630
Well Location
1e6

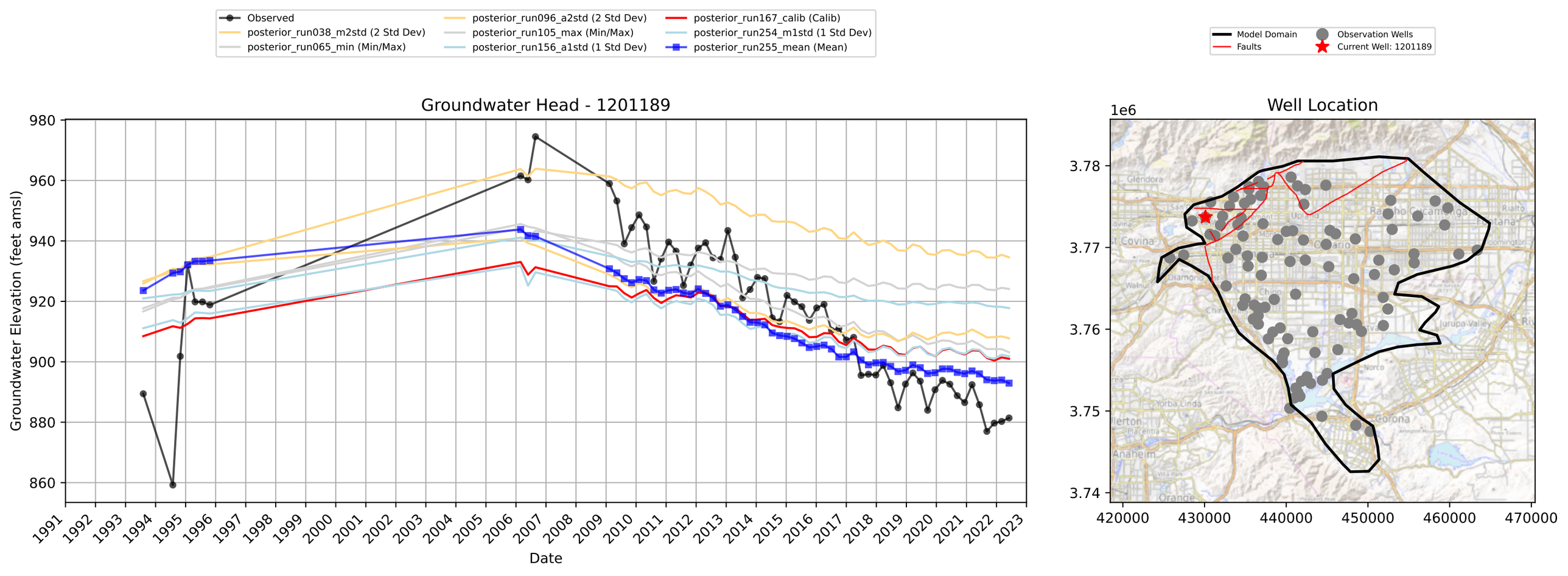

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1207026
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1207026
Well Location
1e6

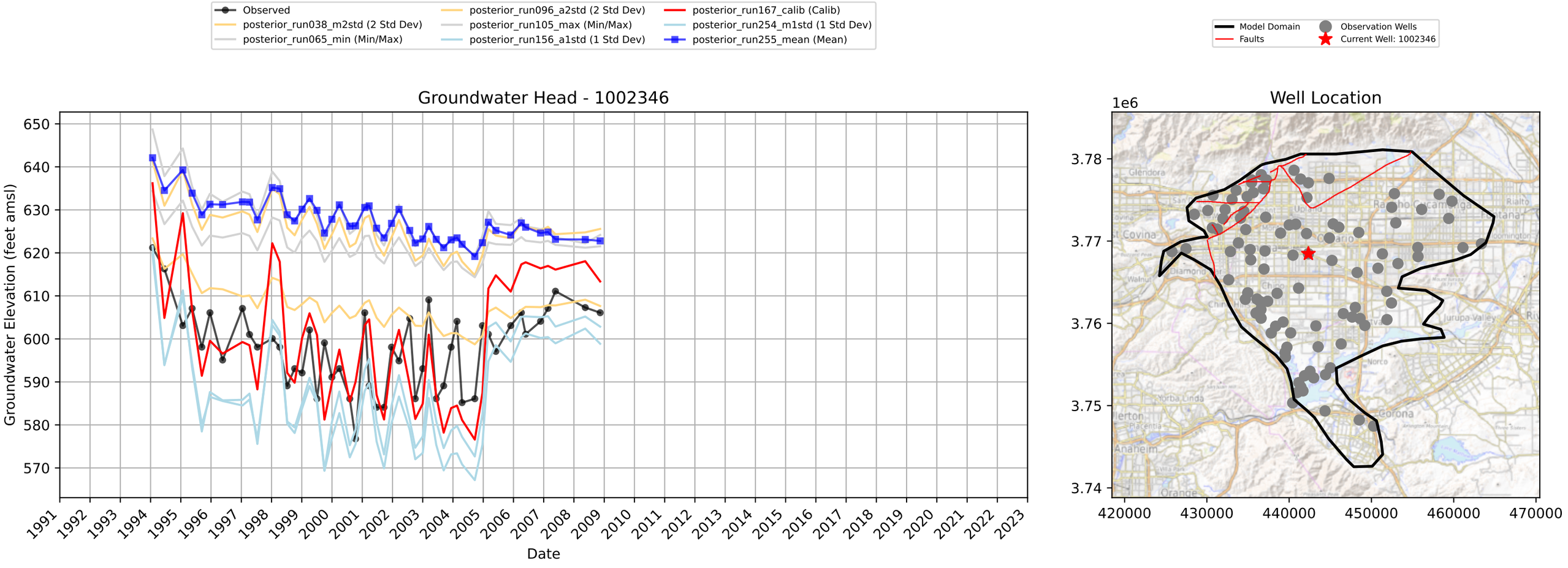

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1207066
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1207066
Well Location
1e6

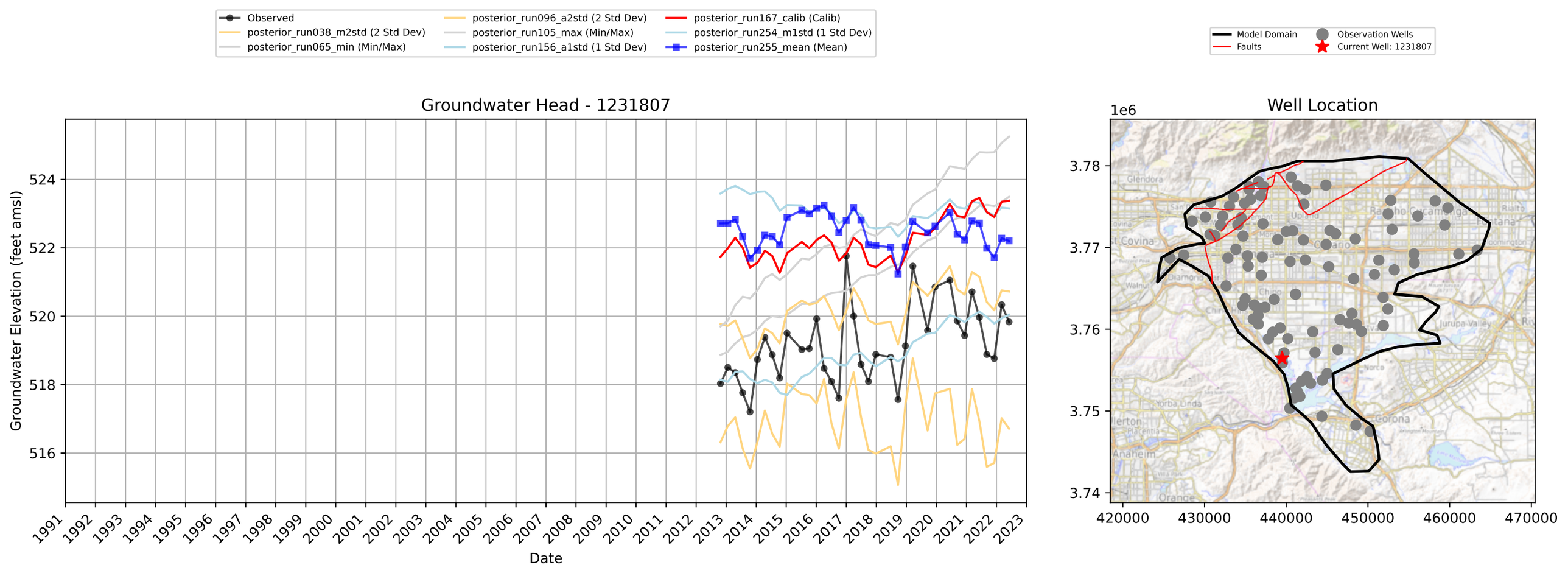

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1004185
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1004185
Well Location
1e6

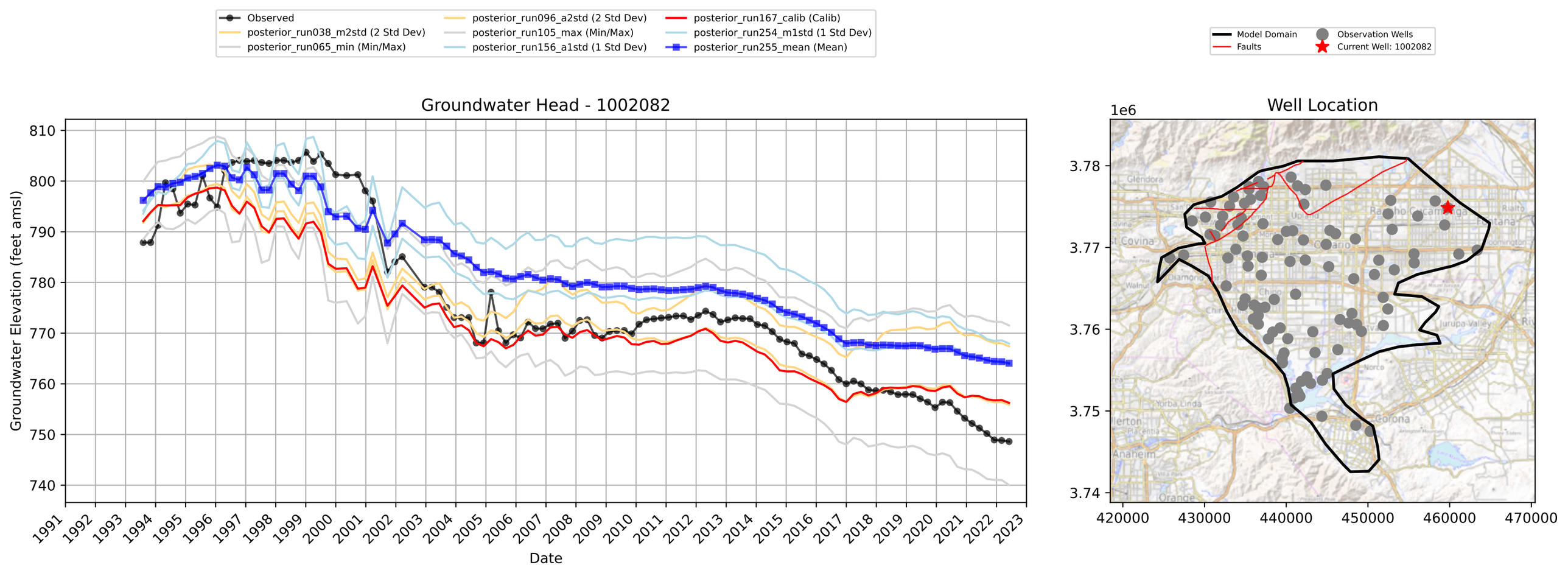

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1208151
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1208151
Well Location
1e6

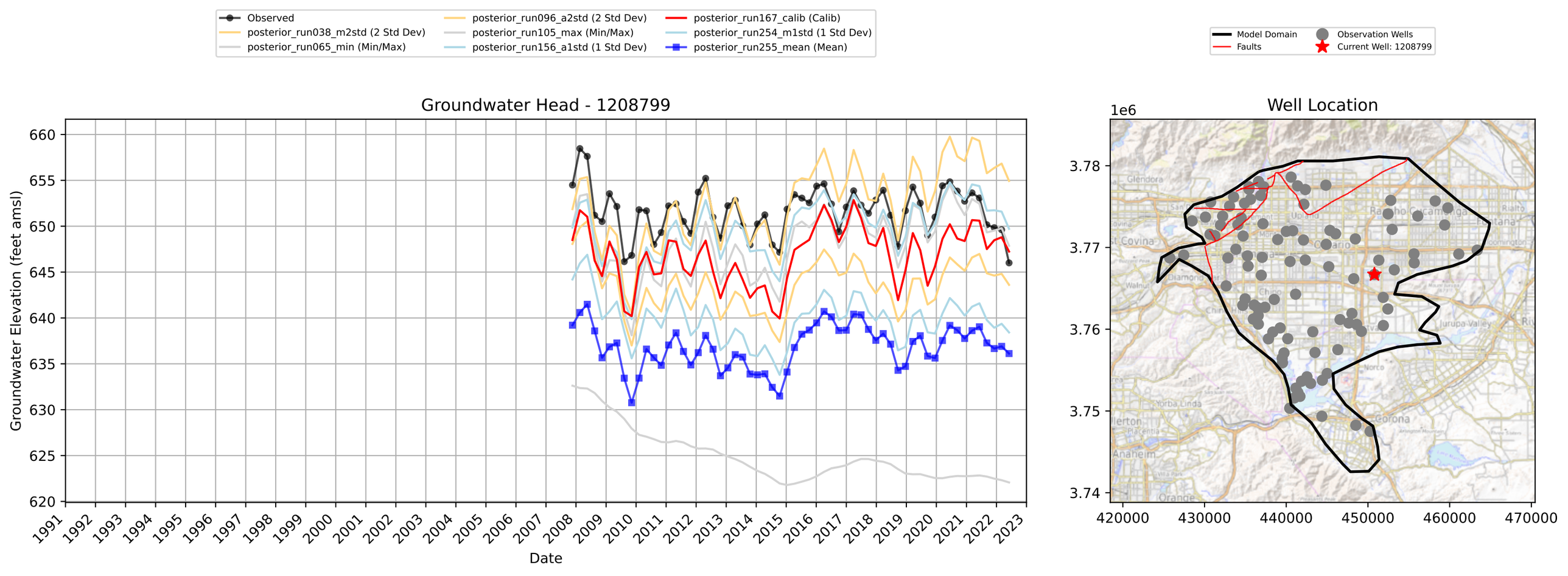

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002309
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002309
Well Location
1e6

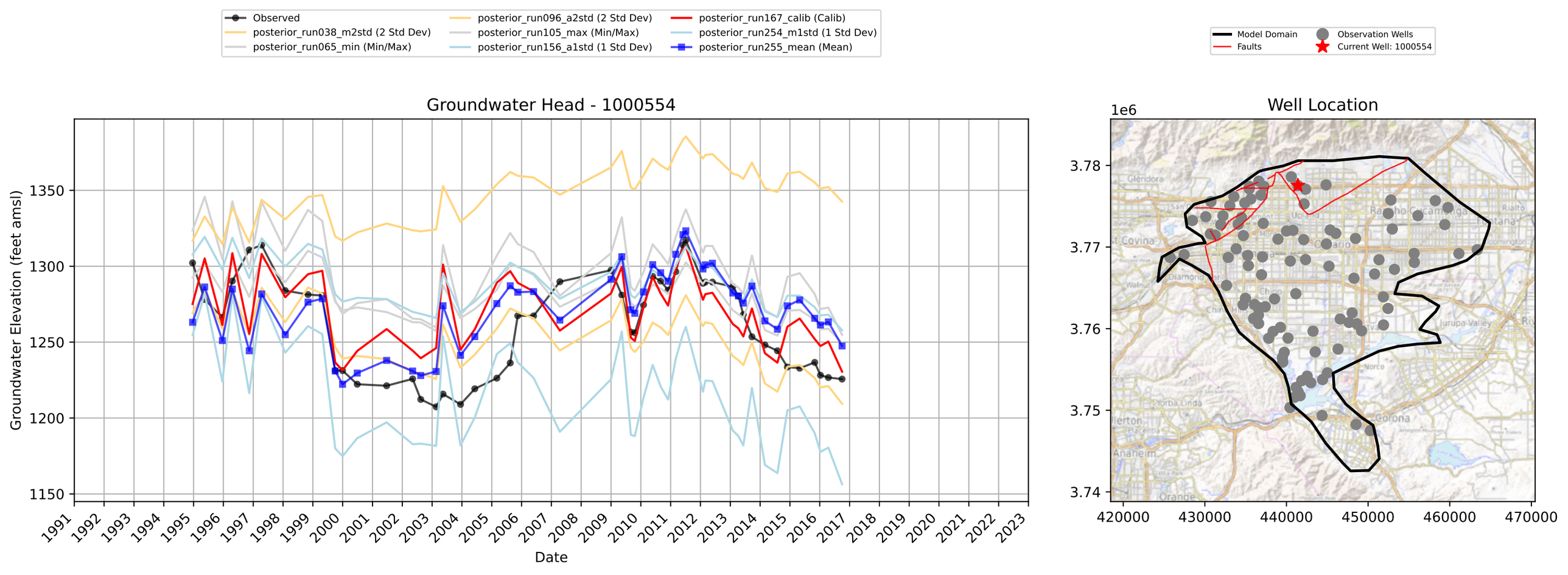

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1201189
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1201189
Well Location
1e6

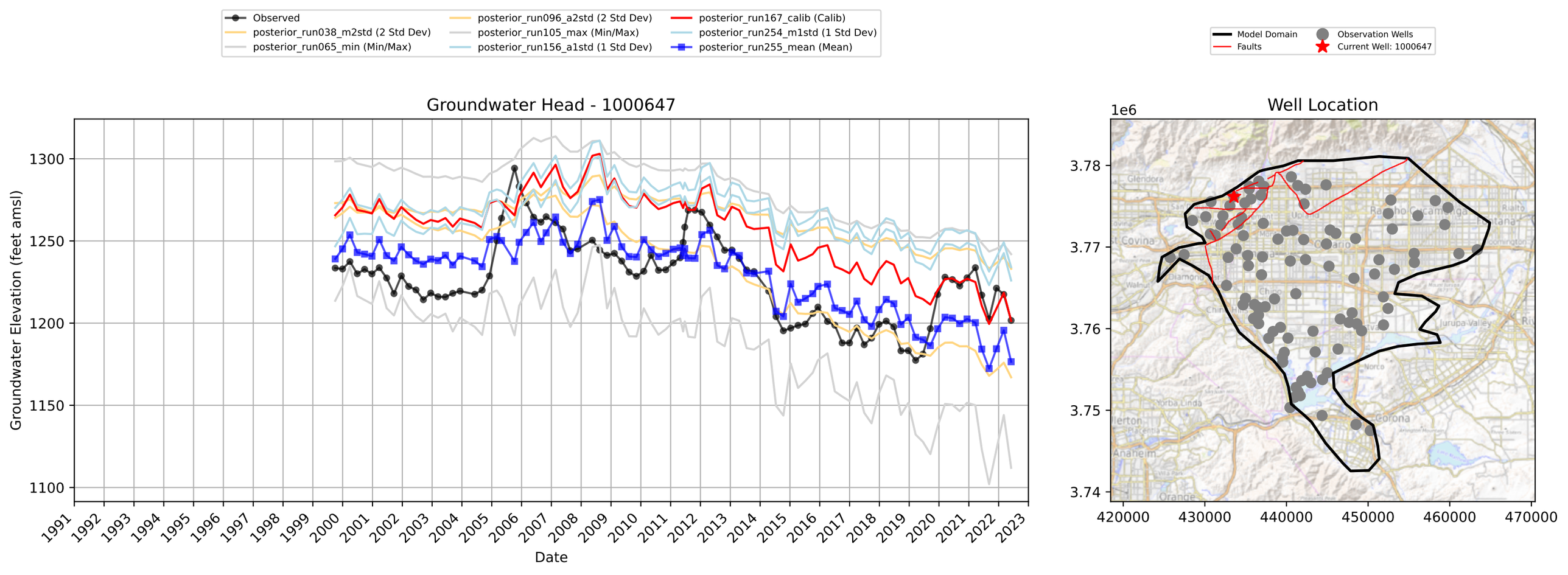

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002346
Groundwater 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
Chino
Rialto
Fontana
Jurupa Valley
Norco
Yorba Linda
Corona
Anaheim
Orange

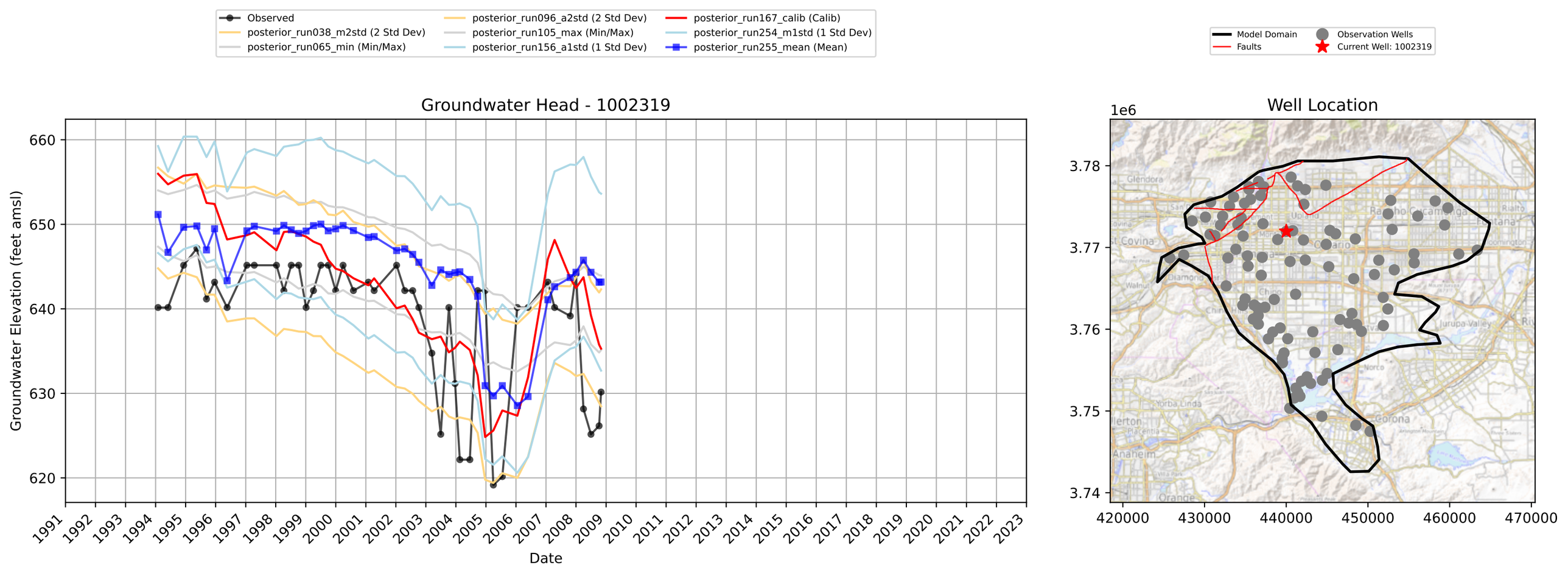

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1231807
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1231807
Well Location
1e6

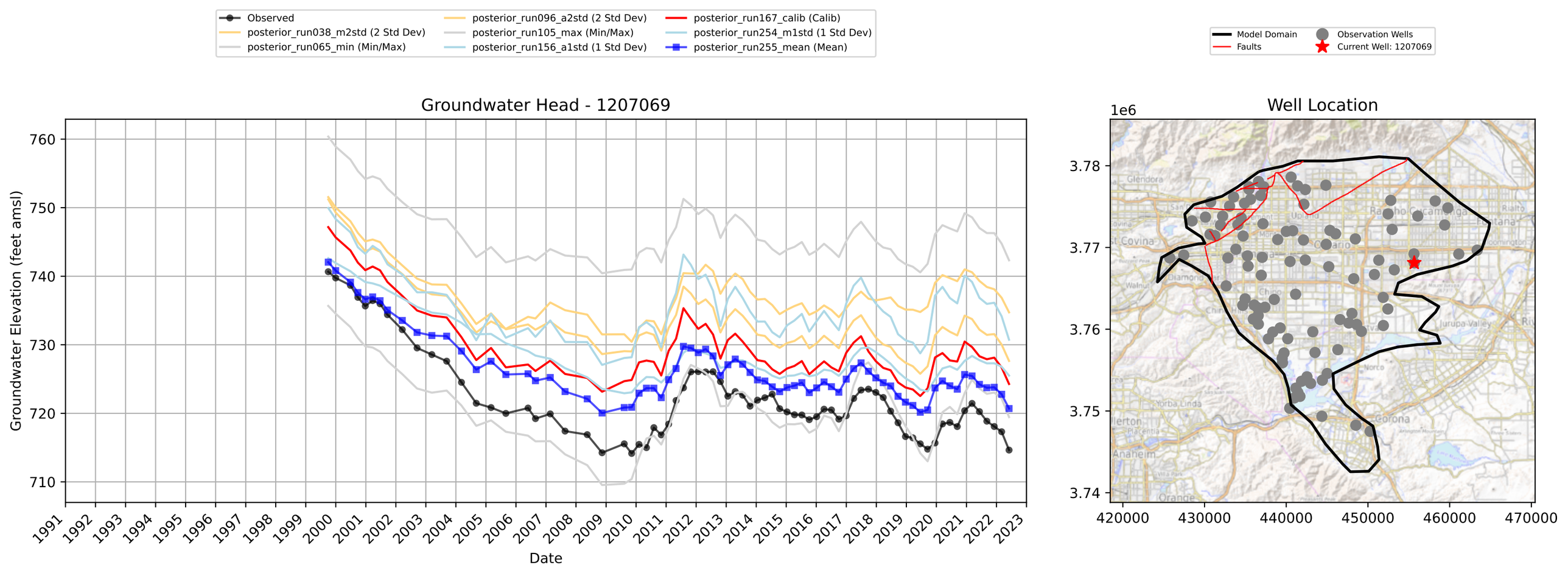

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002082
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002082
Well Location
1e6

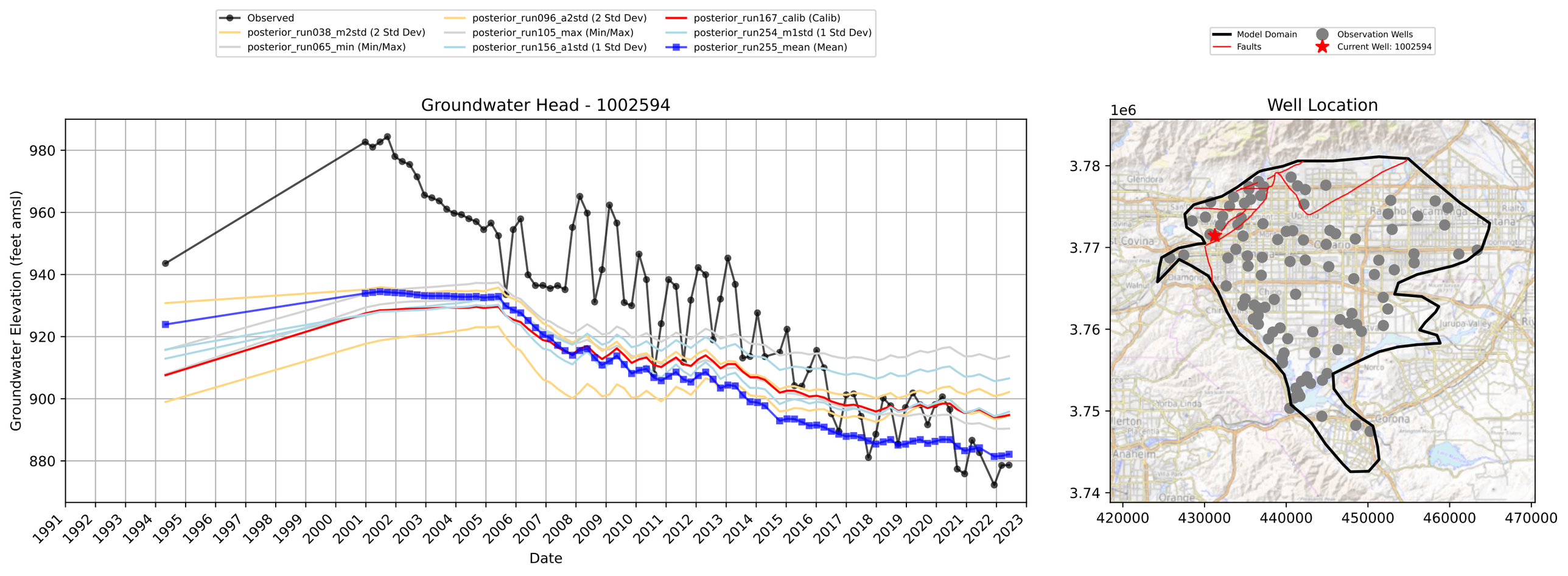

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1208799
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1208799
Well Location
1e6

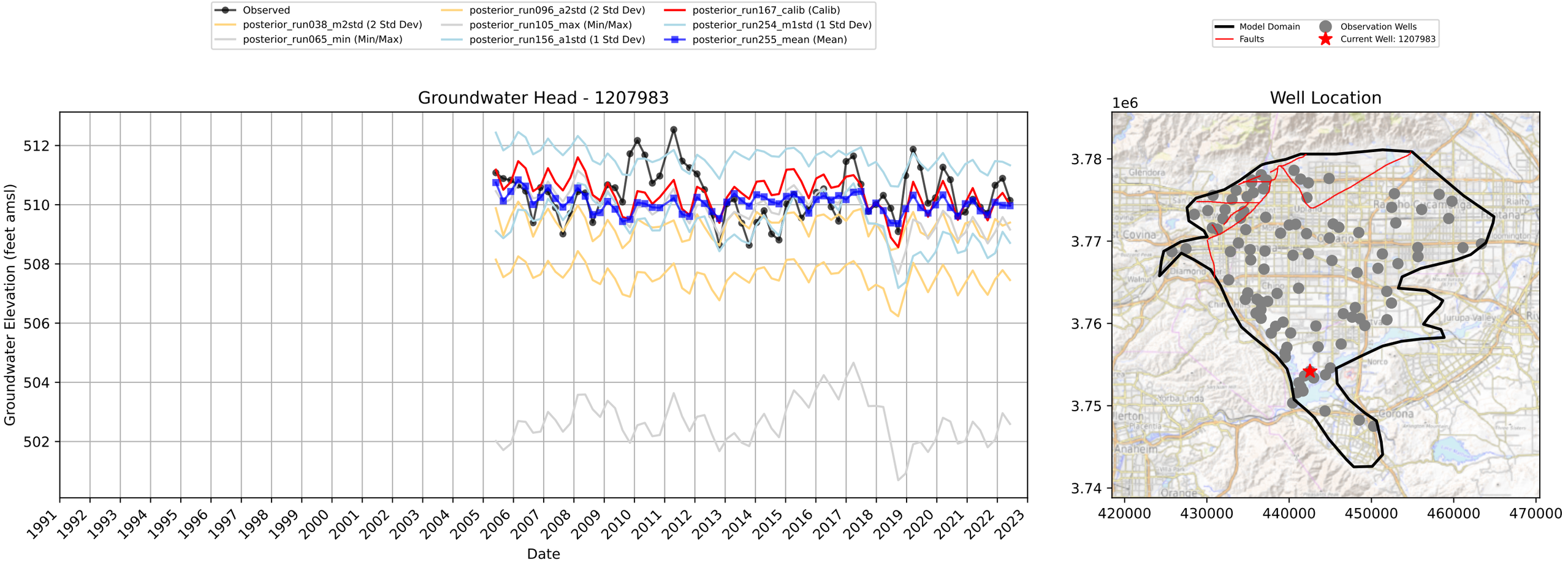

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1000554
Groundwater 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)
Date
Model Domain
Faults
Observation Wells
Current Well: 1000647
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 - 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
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 - 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
Chino
Rancho Cucamonga
Ontario
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
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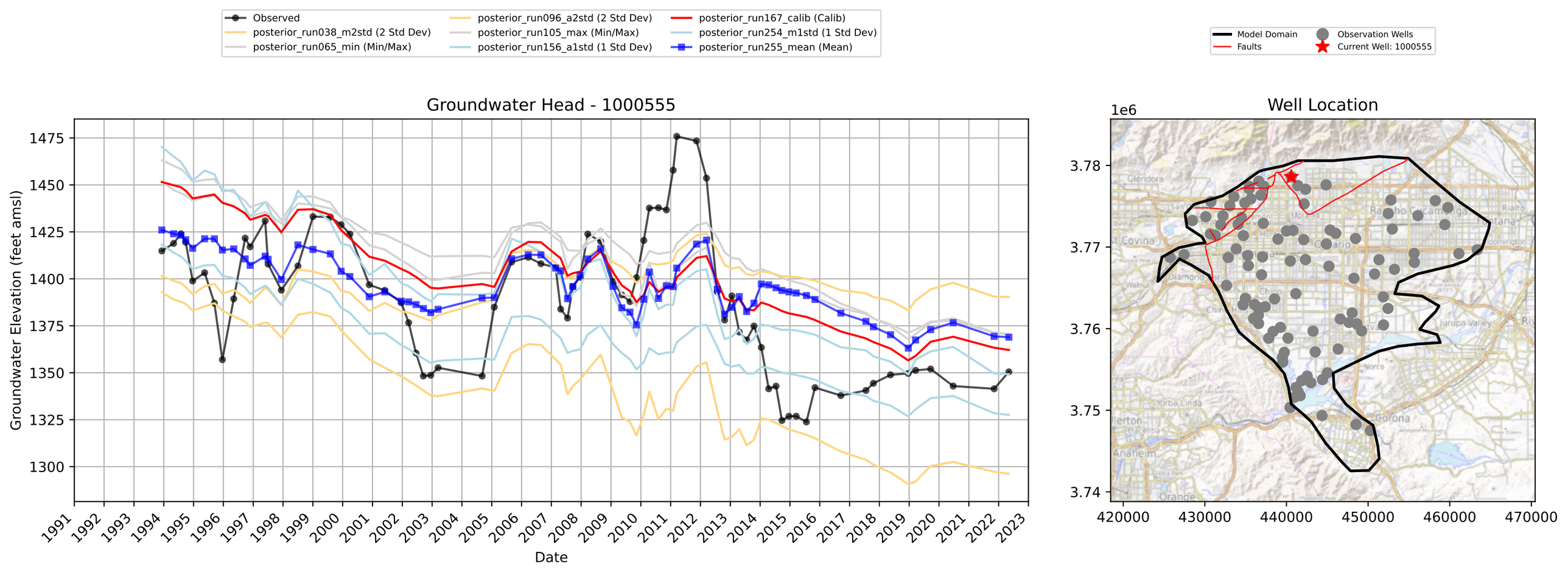
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1207983
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1207983
Well Location
1e6


Observed
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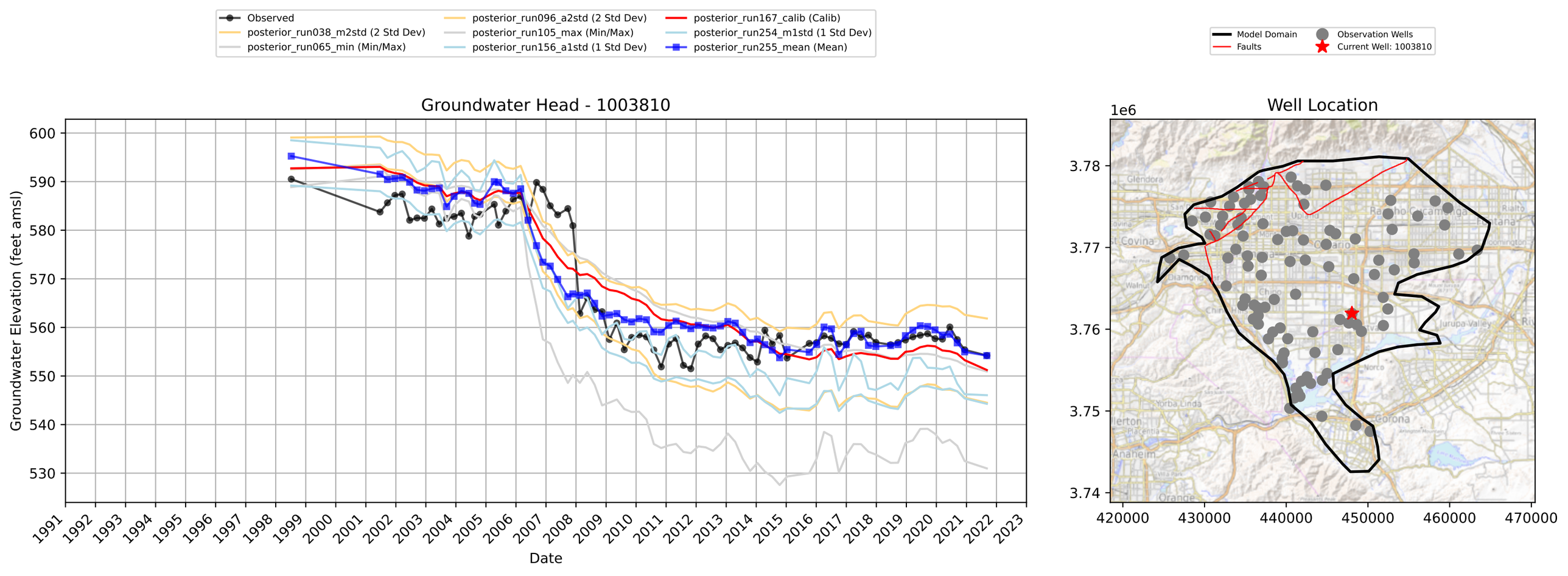
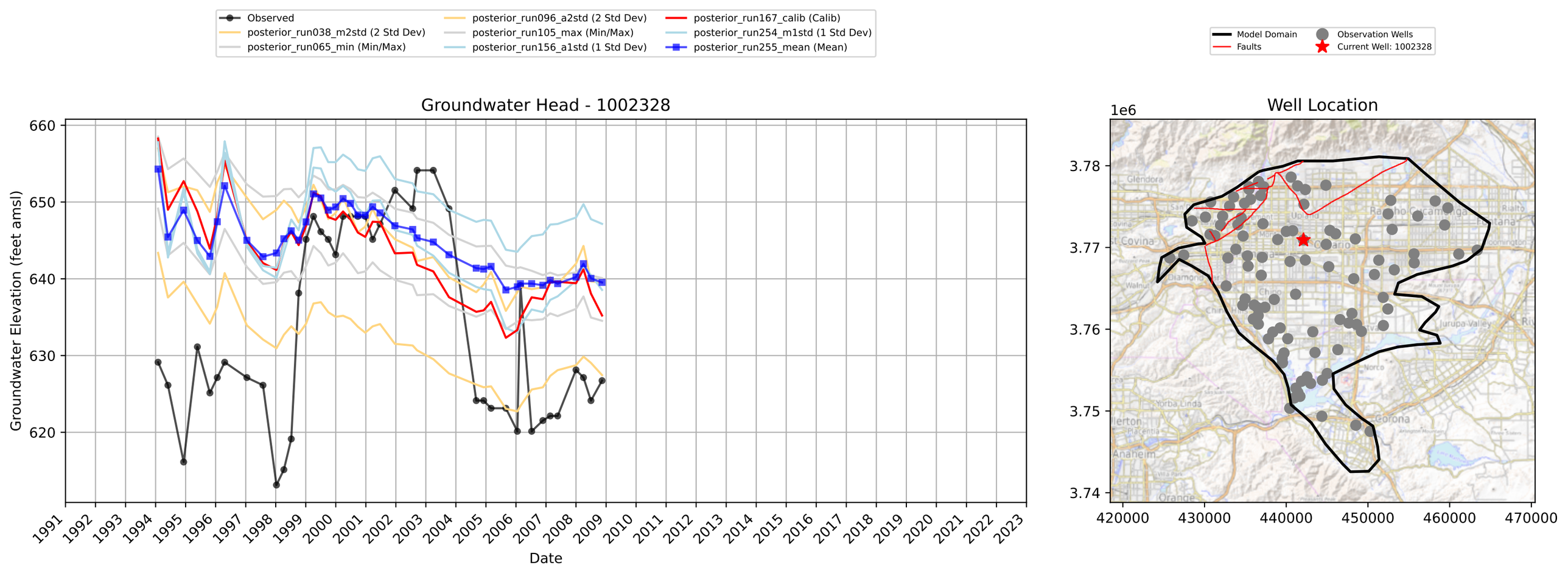
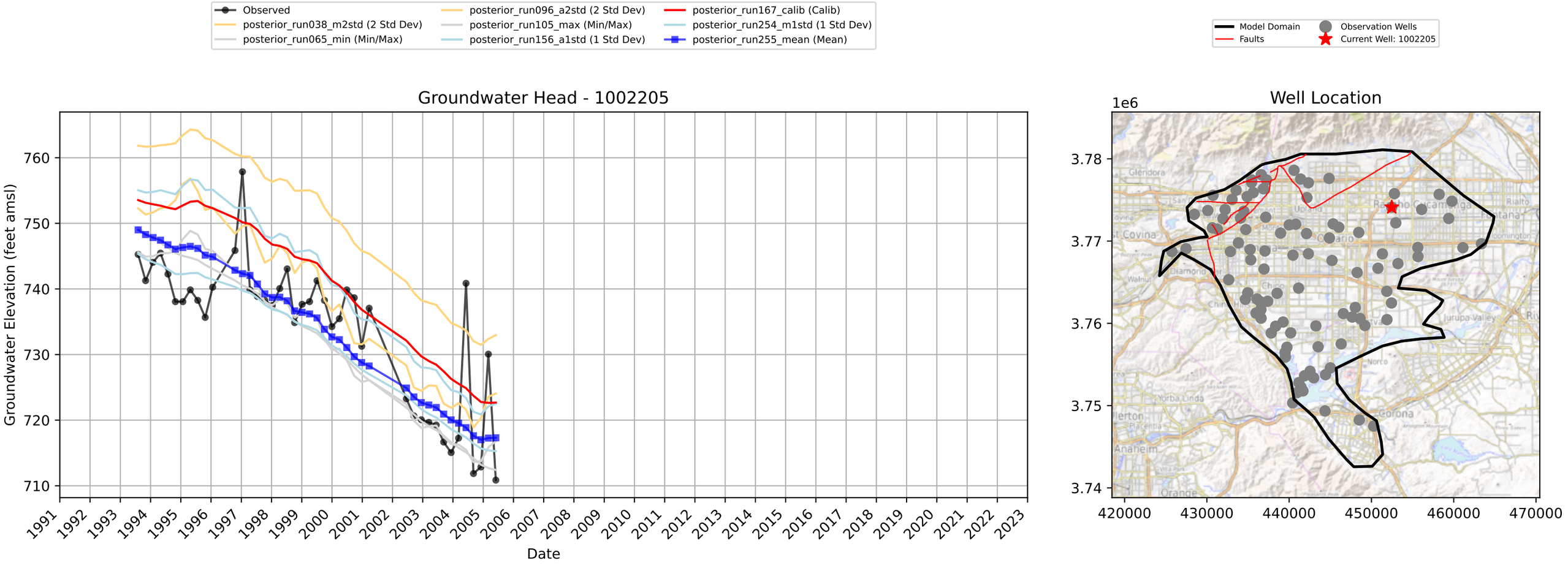
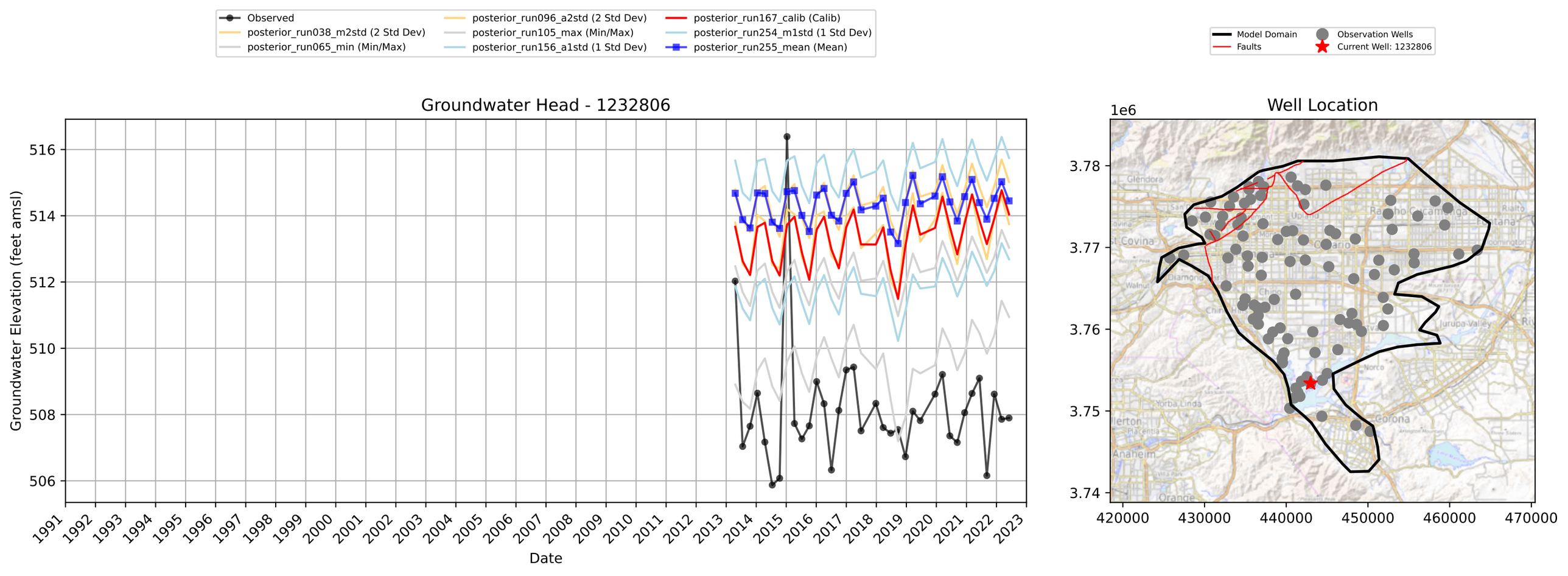
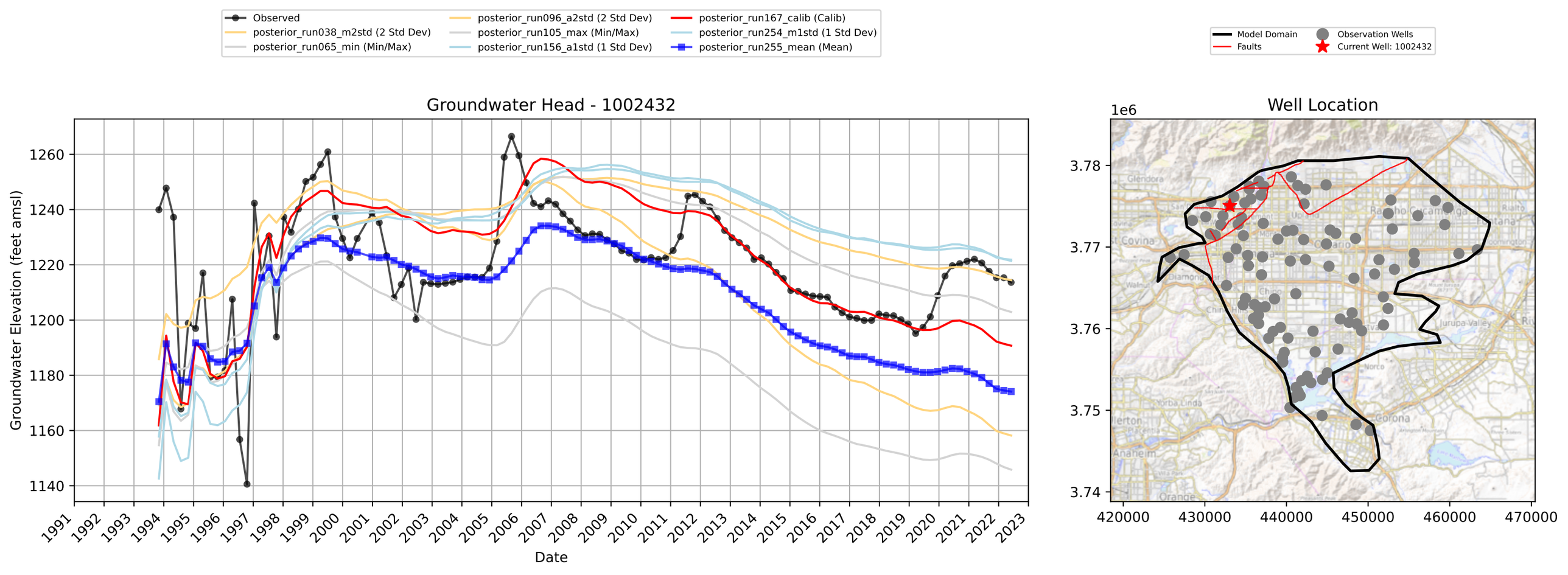
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1000555
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1000555
Well Location
1e6

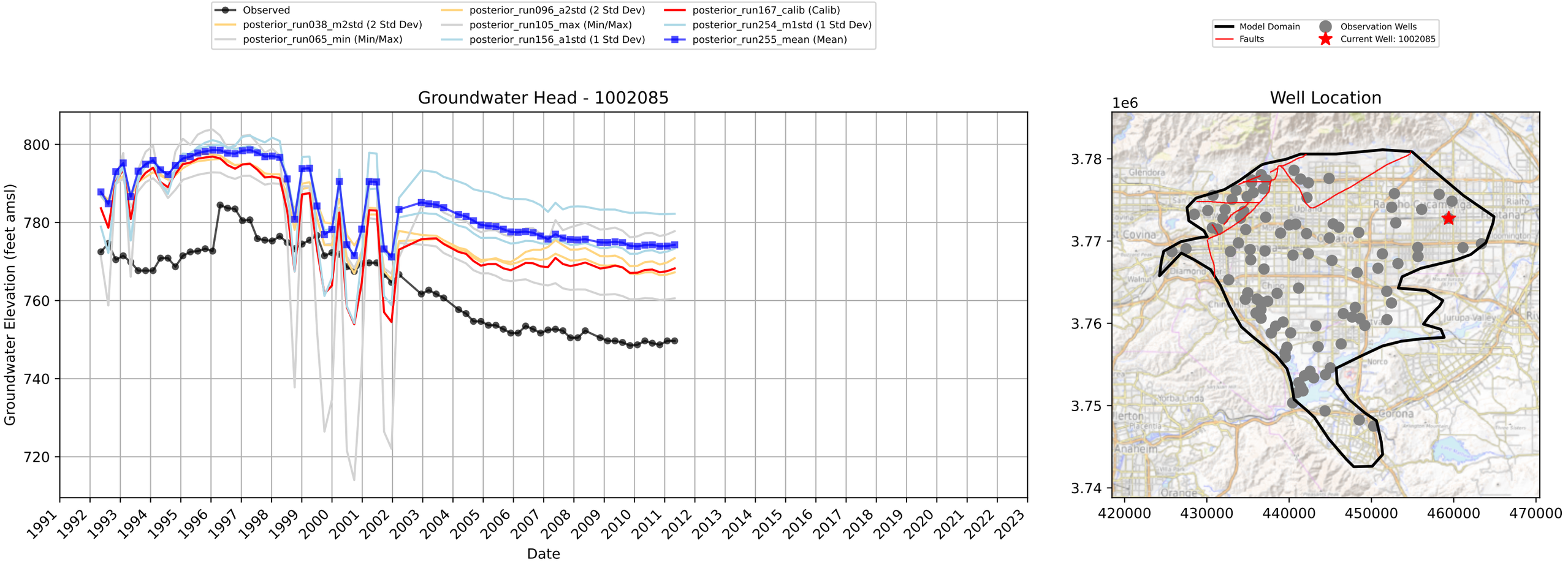

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1003810
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1003810
Well Location
1e6

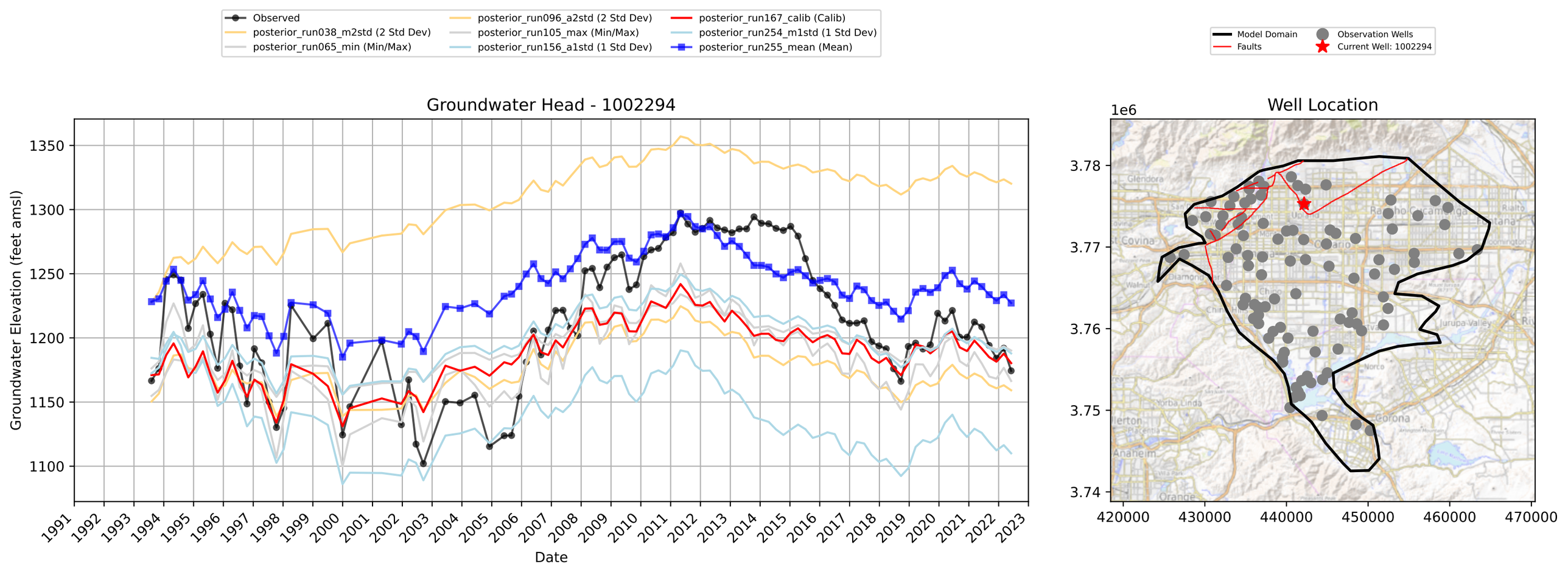

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002328
Groundwater 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
Chino
Jurupa Valley
Norco
Yorba Linda
Corona
Anaheim
Orange

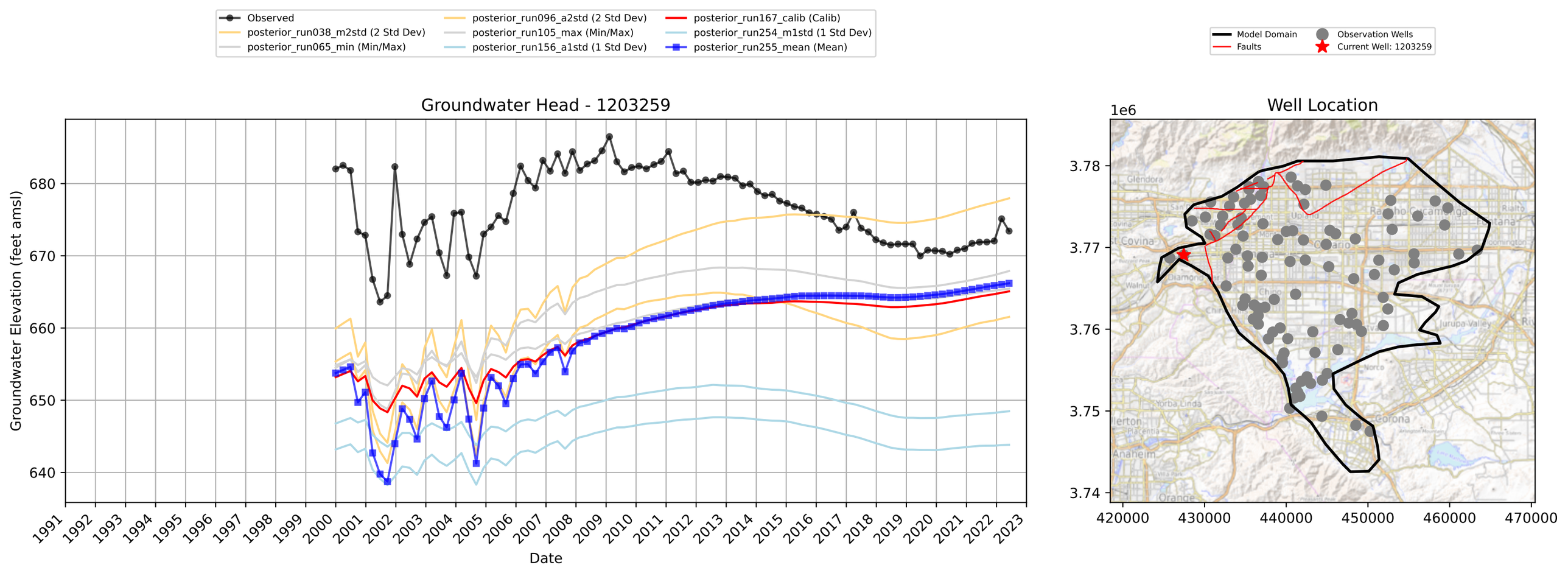

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002205
Groundwater 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: 1002205
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

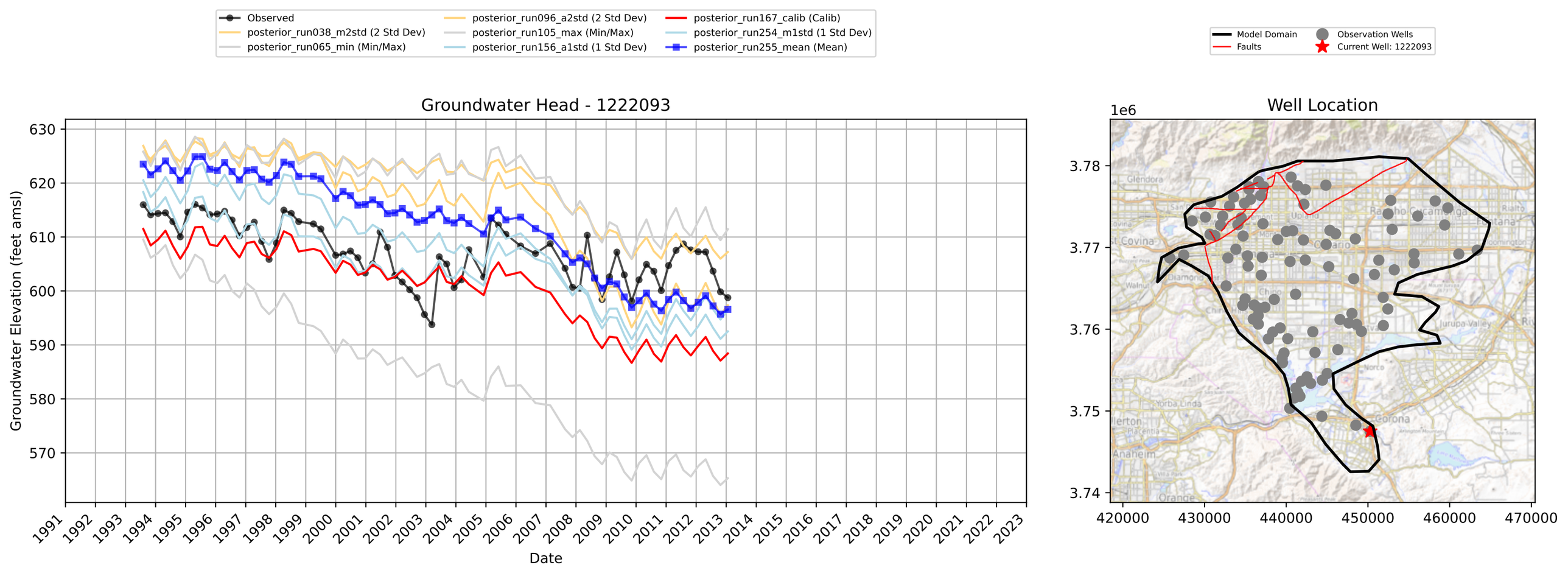

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1232806
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1232806
Well Location
1e6

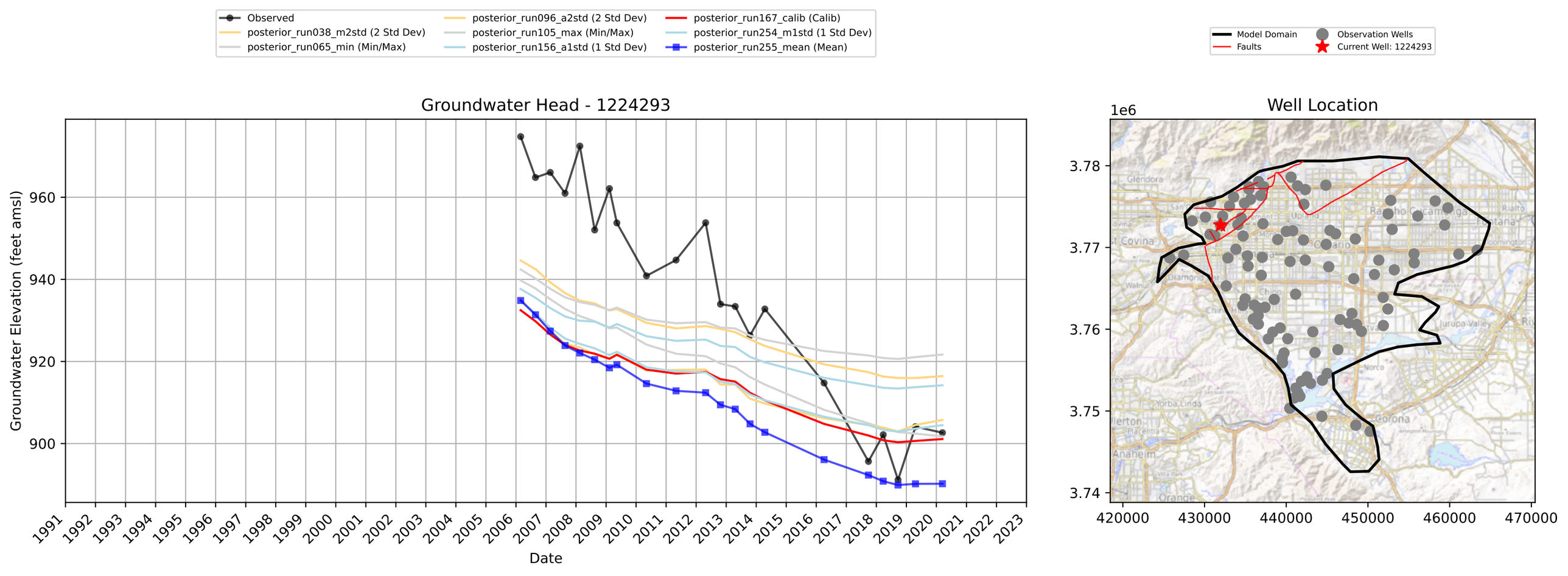

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002432
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002432
Well Location
1e6

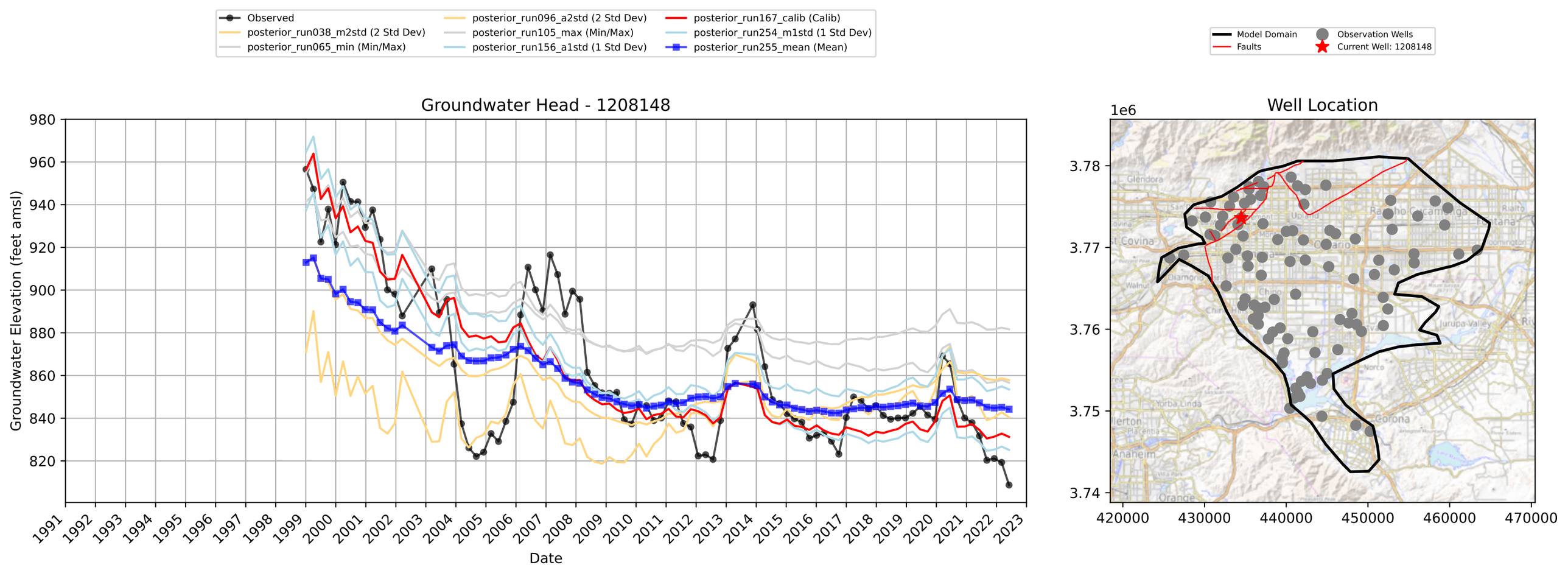

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002085
Groundwater 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
Chino
Norco
Yorba Linda
Corona
Anaheim
Orange
Jurupa Valley

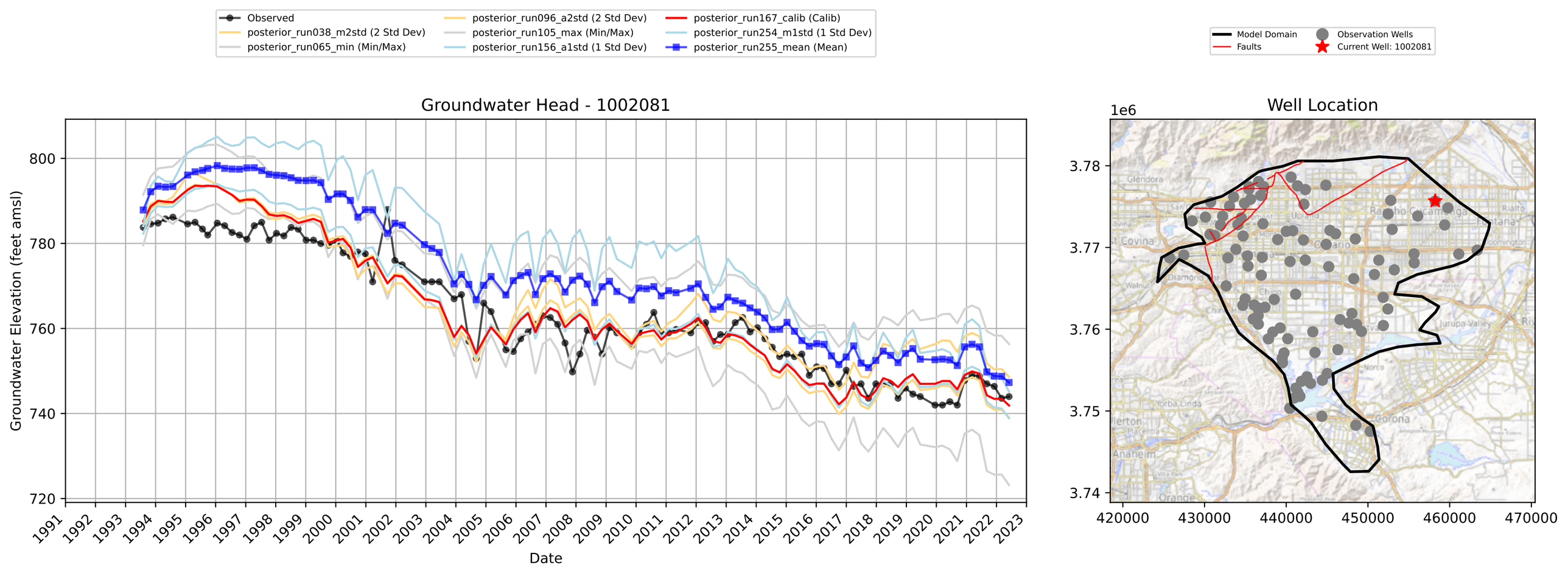

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002294
Groundwater 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
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 - 1208148
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1208148
Well Location
1e6


Observed
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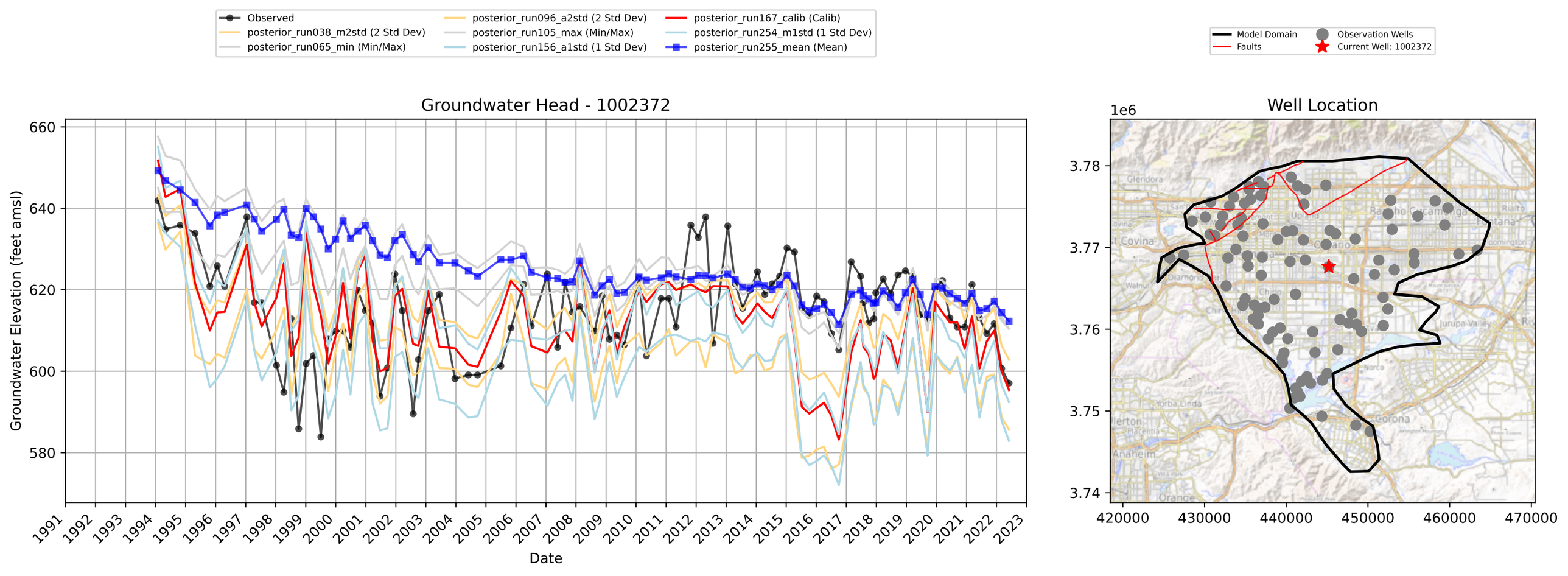
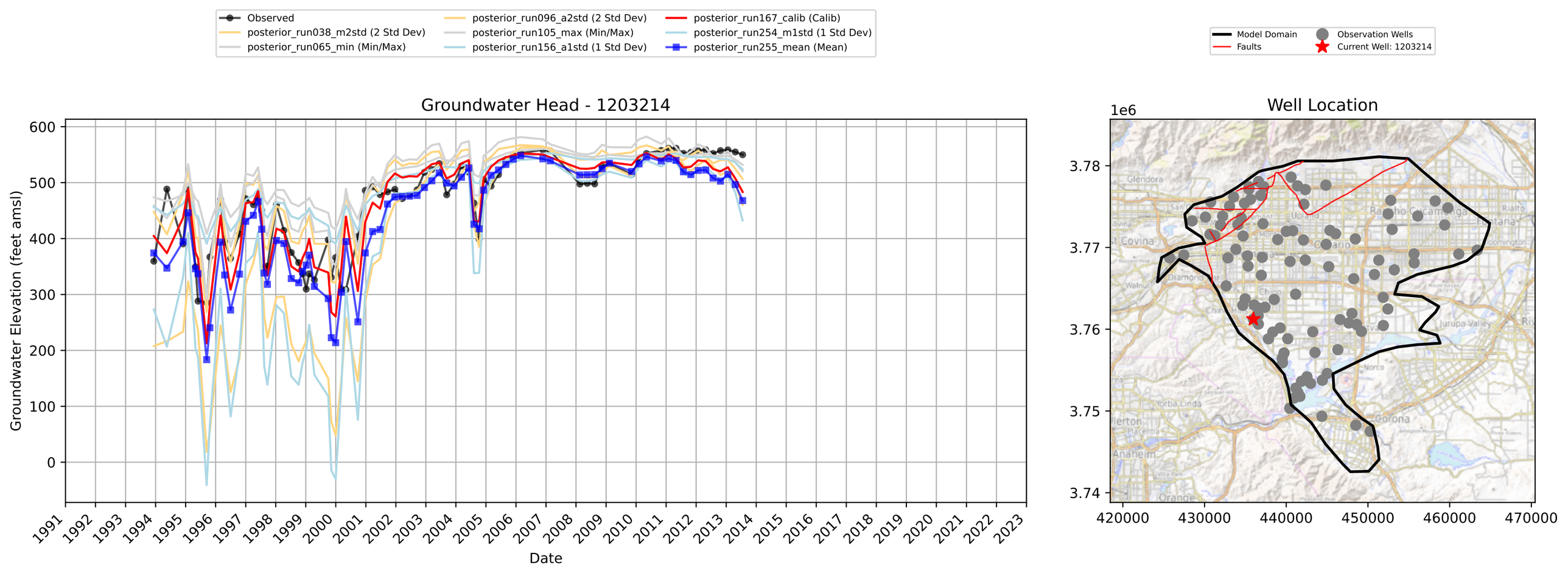
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002081
Groundwater Elevation (feet amsl)
Date
Model Domain
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
Ontario
Rancho Cucamonga
Rialto
Fontana
Jurupa Valley
Norco
Yorba Linda
Corona
Anaheim
Orange


Observed
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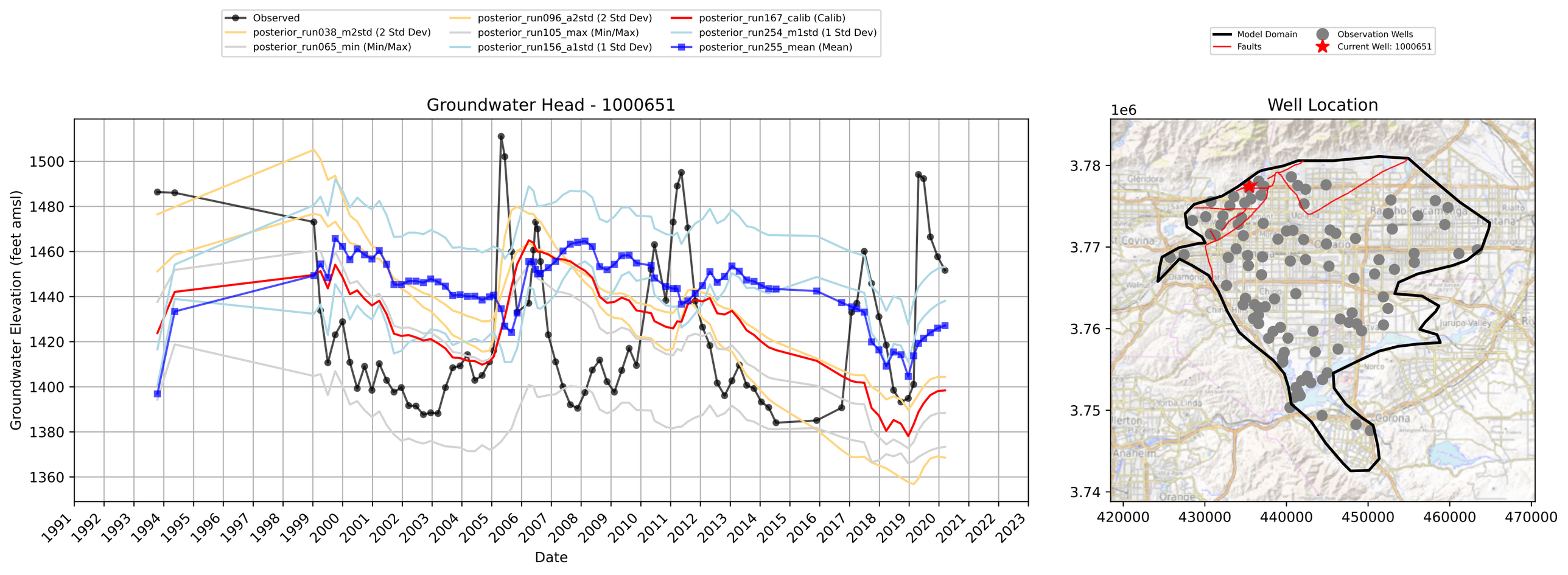
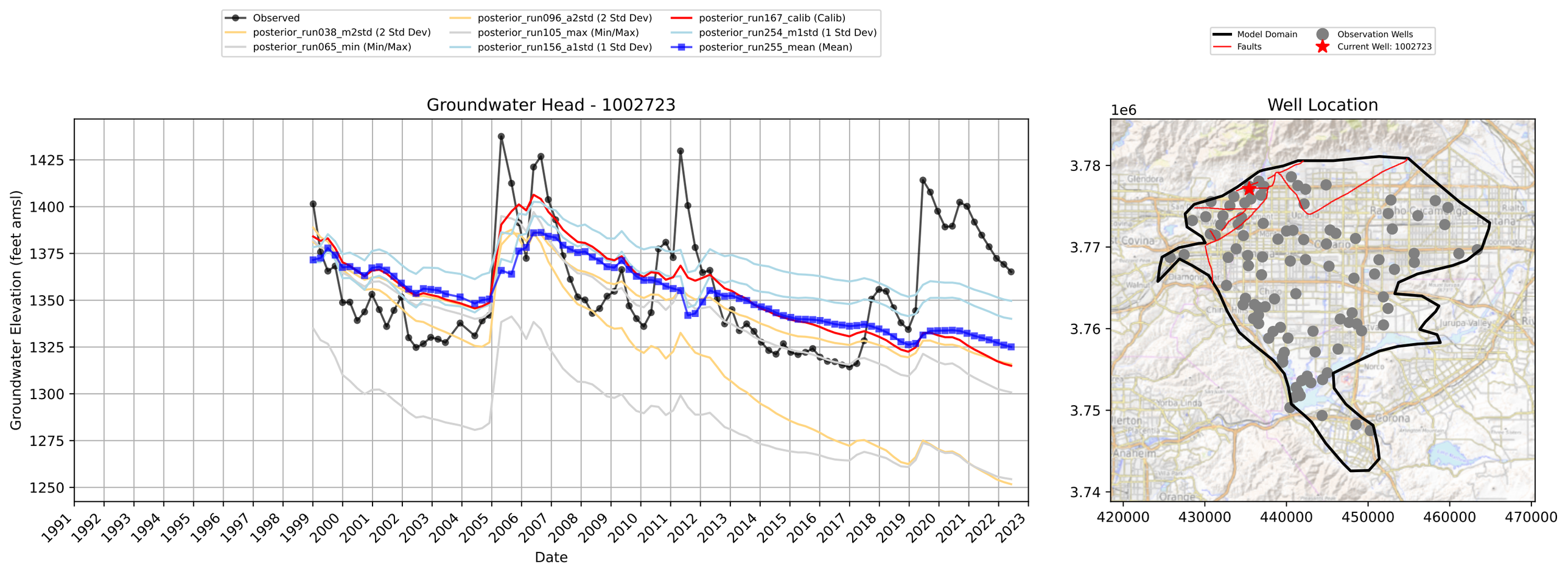
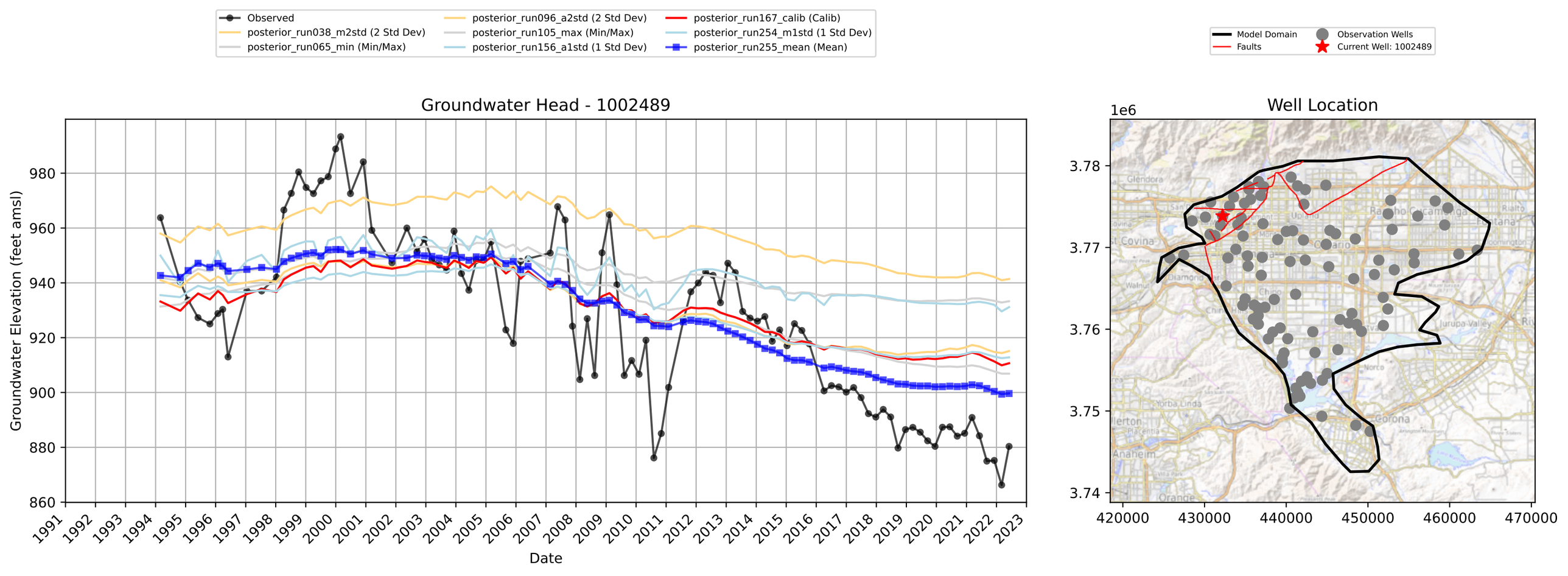
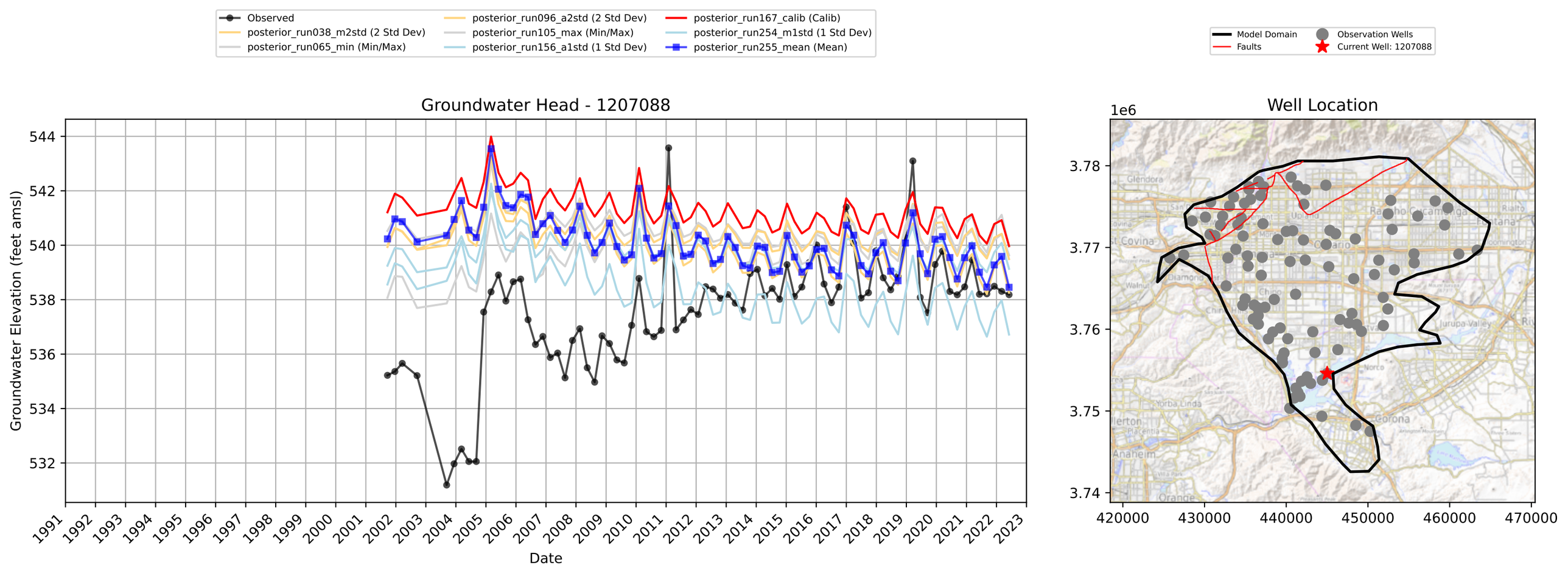
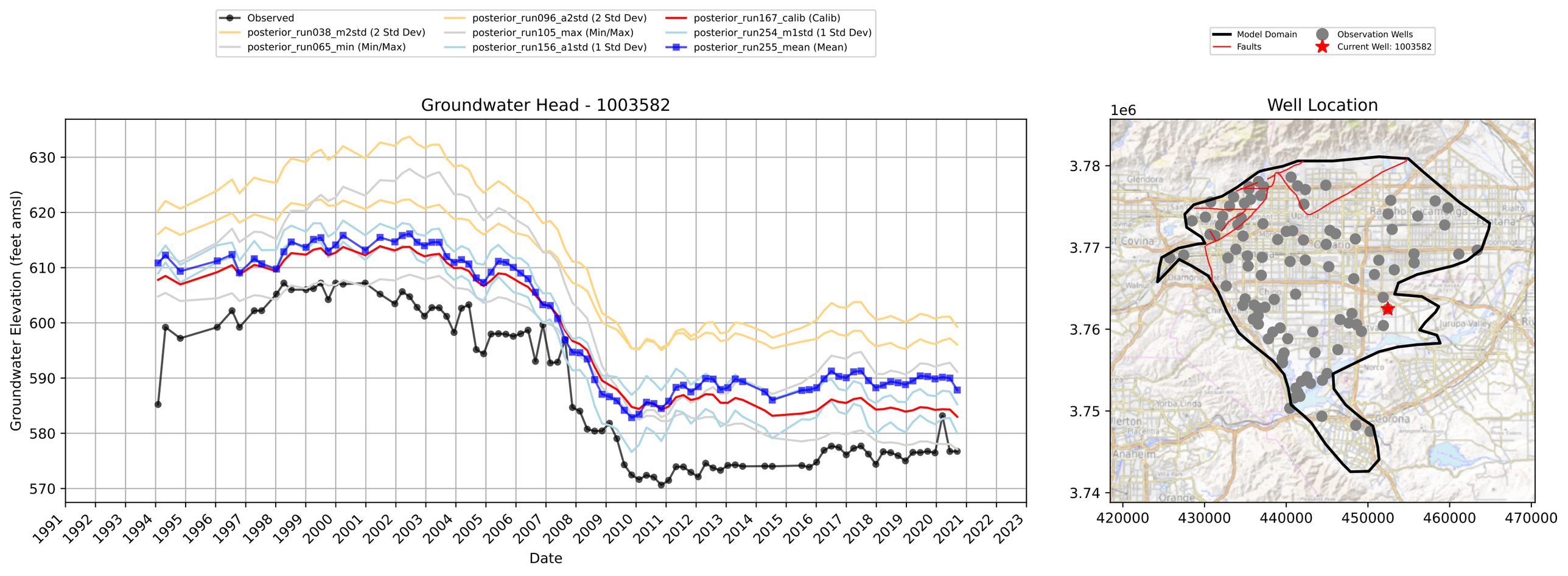
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1203214
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1203214
Well Location
1e6

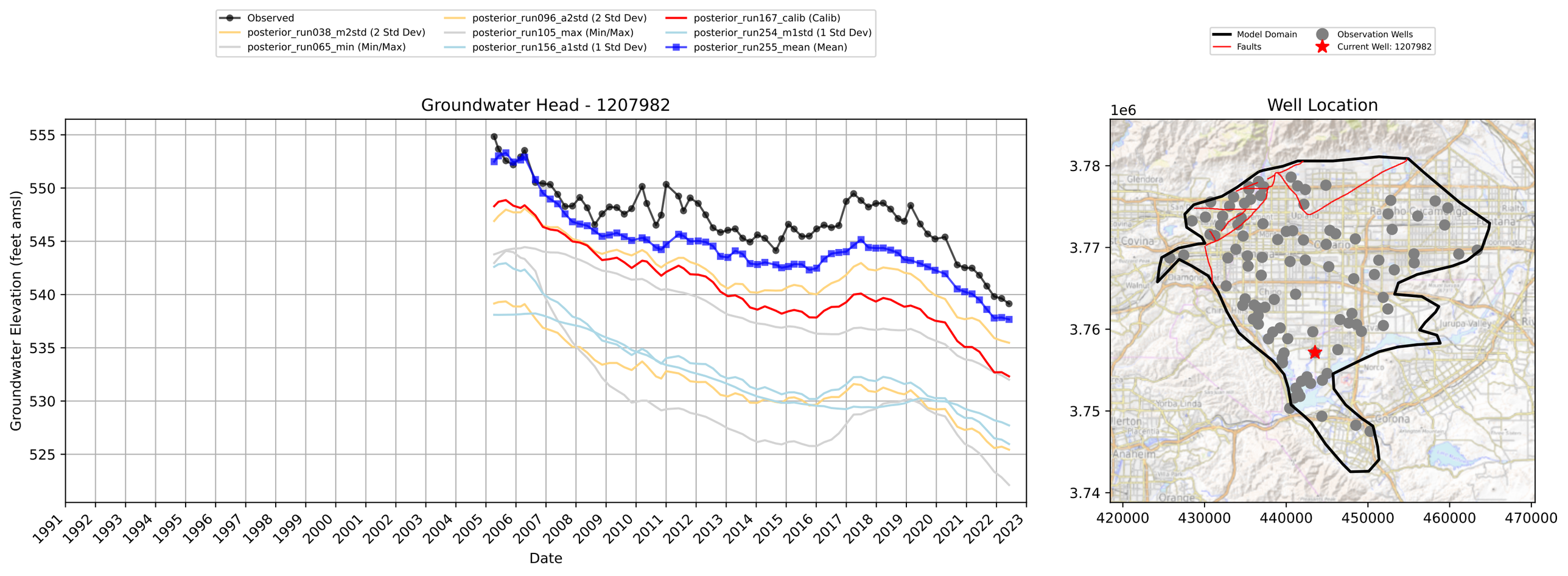

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1000651
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1000651
Well Location
1e6

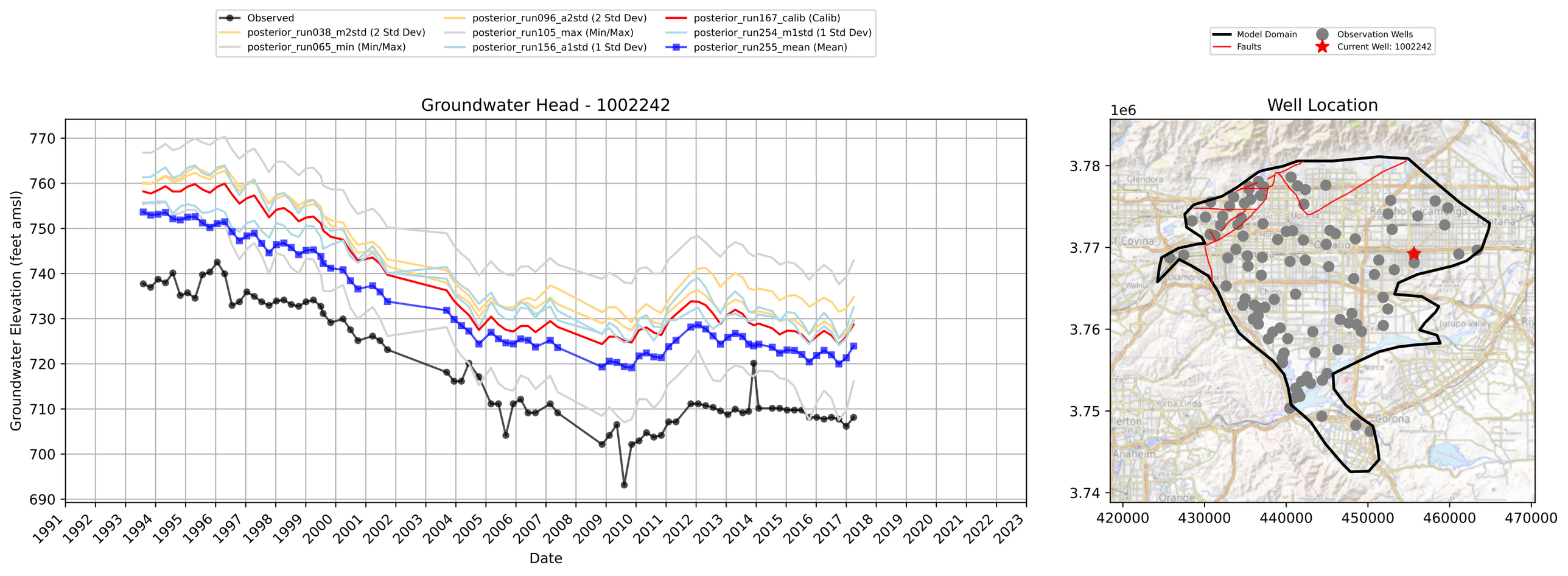

Observed
posterior_run038_m2std (2 Std Dev)
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002723
Groundwater 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
Yorba Linda
Corona
Anaheim
Orange


Observed
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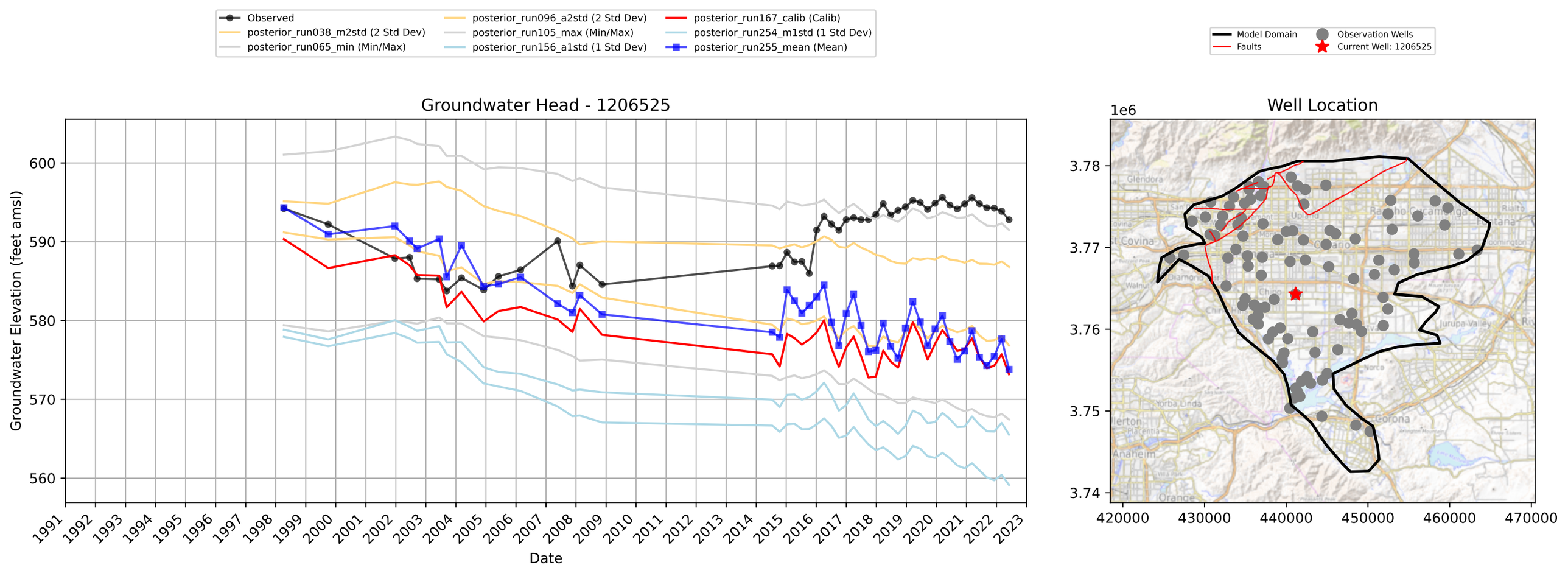
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002242
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002242
Well Location
1e6


Observed
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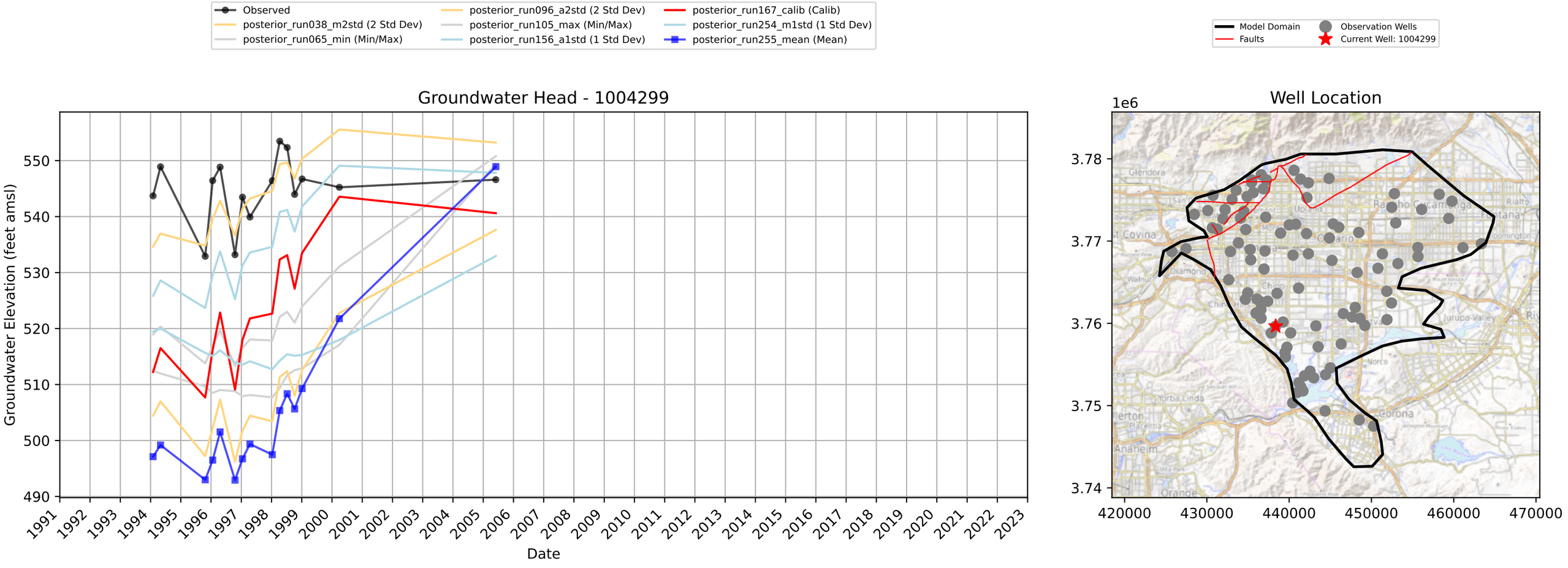
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1206525
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1206525
Well Location
1e6


Observed
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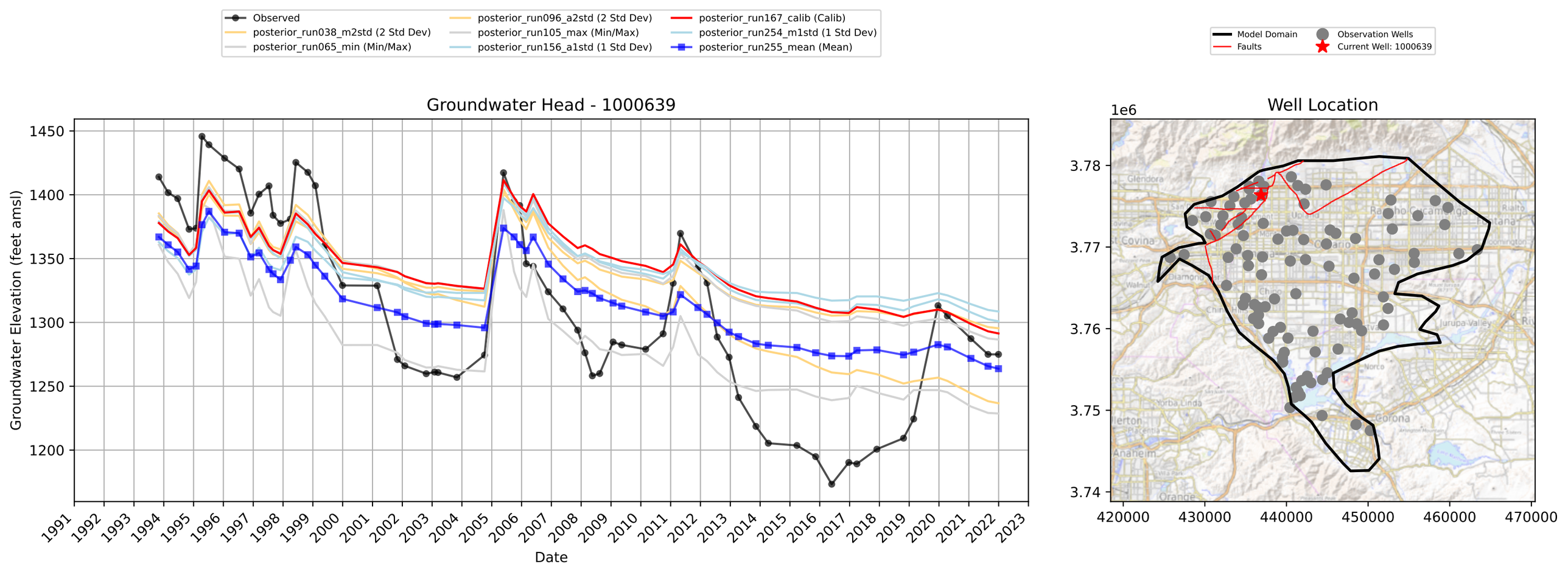
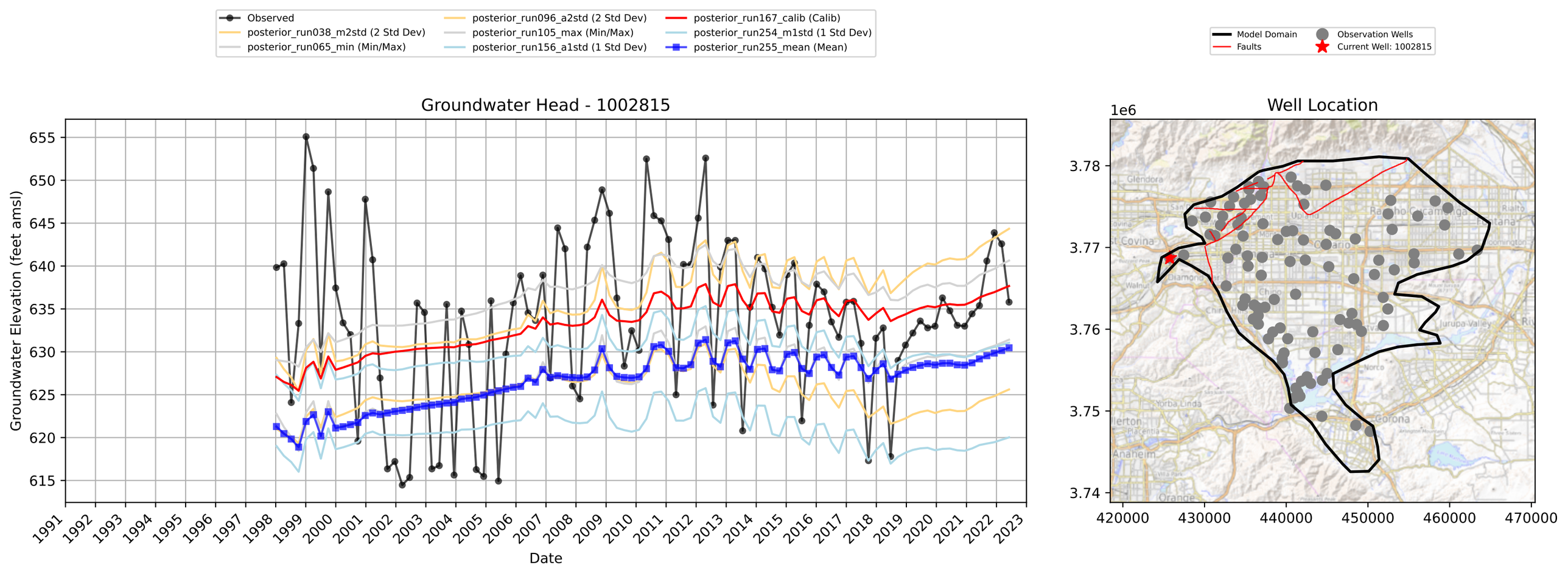
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1004299
Groundwater Elevation (feet amsl)
Date
Model Domain
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
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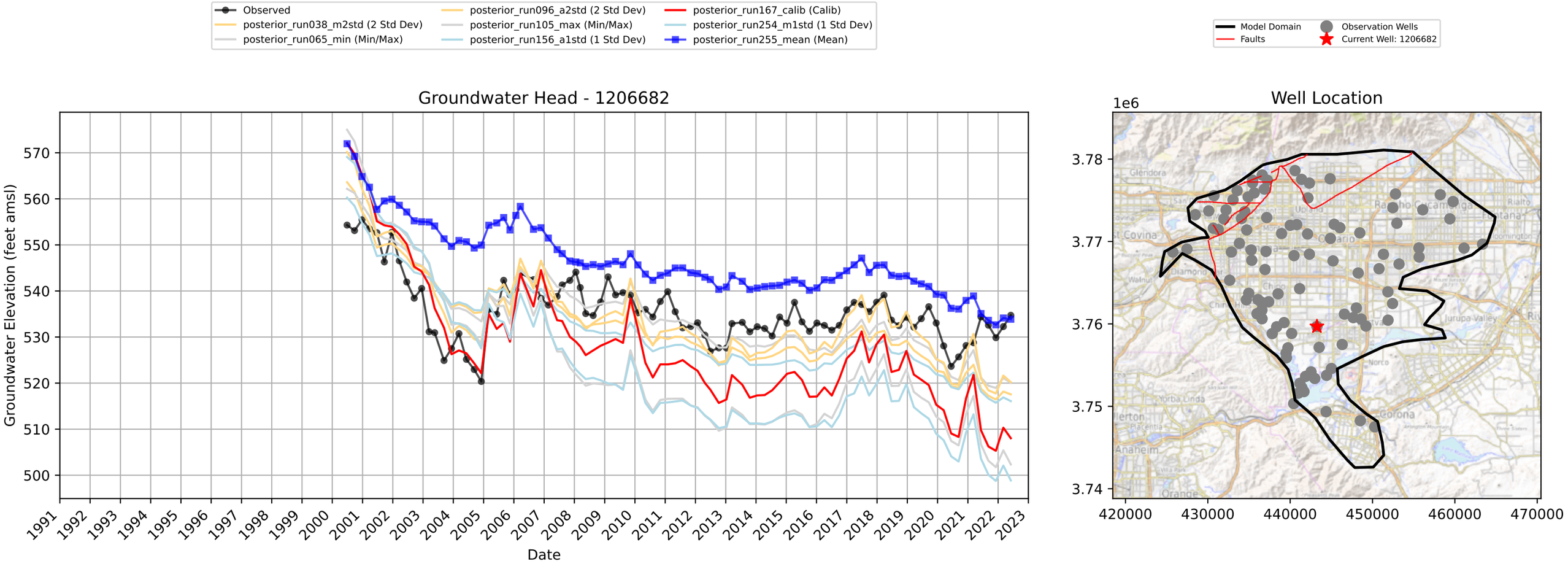
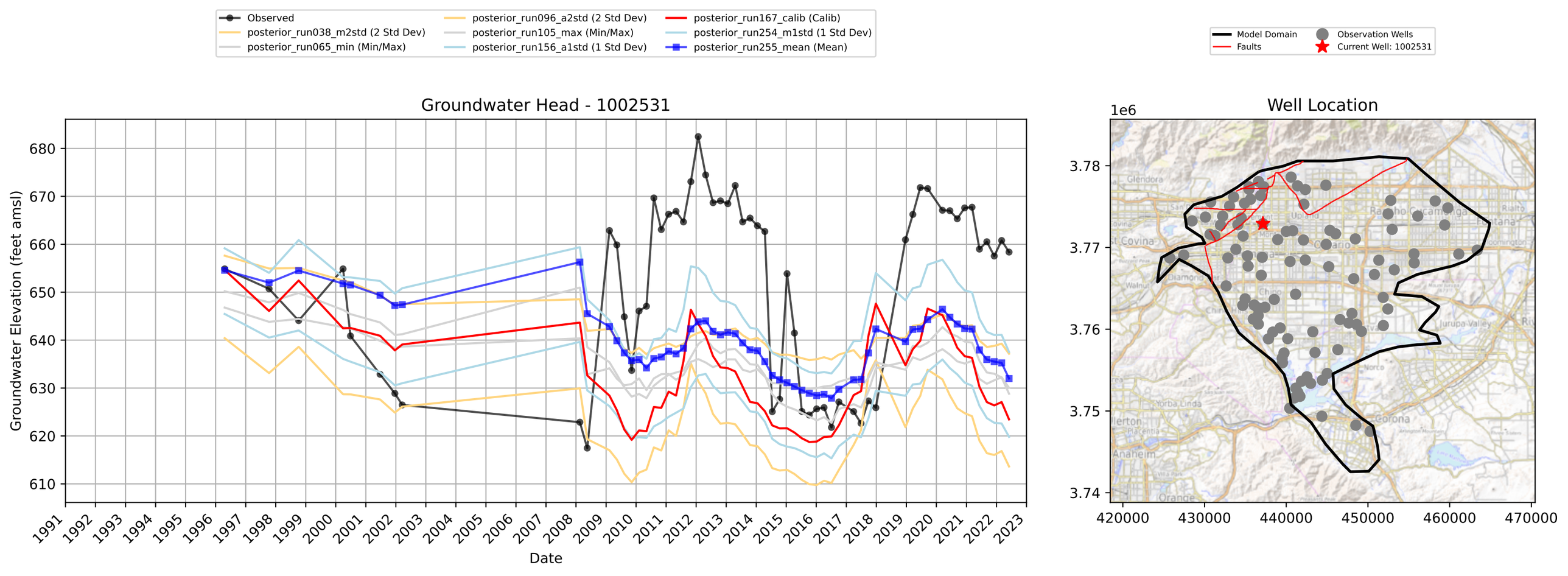
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002815
Groundwater Elevation (feet amsl)
Date
Model Domain
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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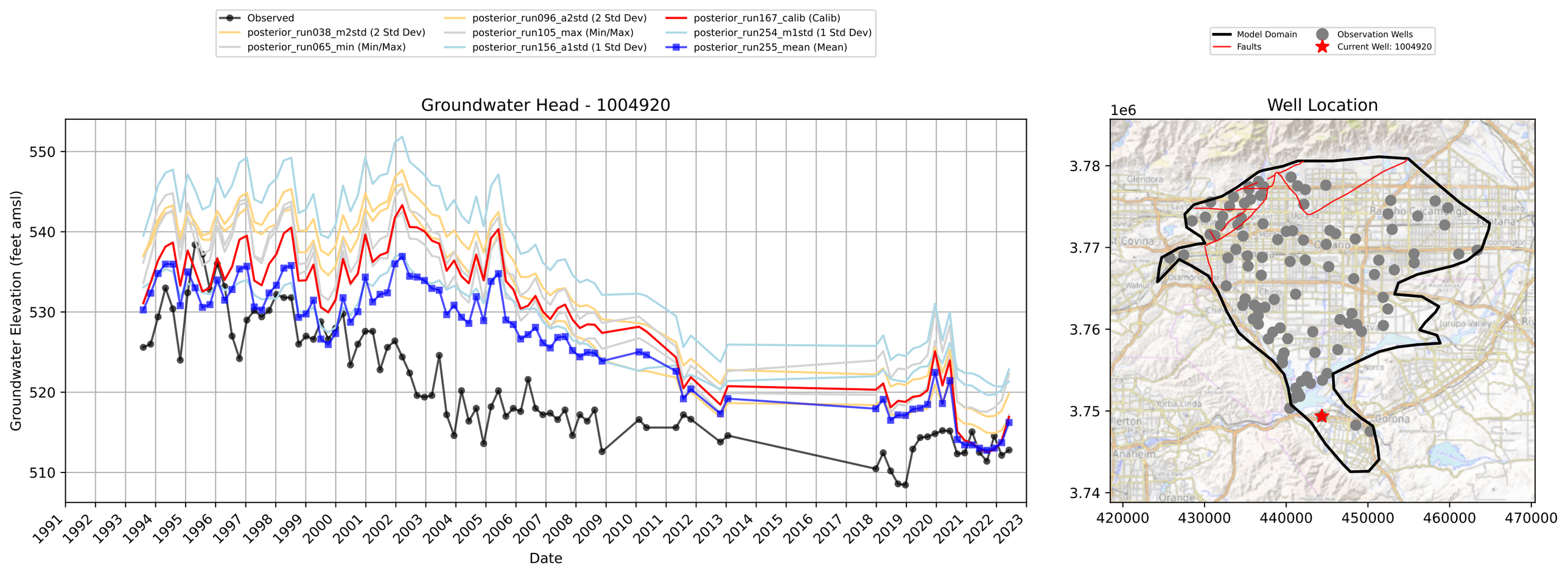
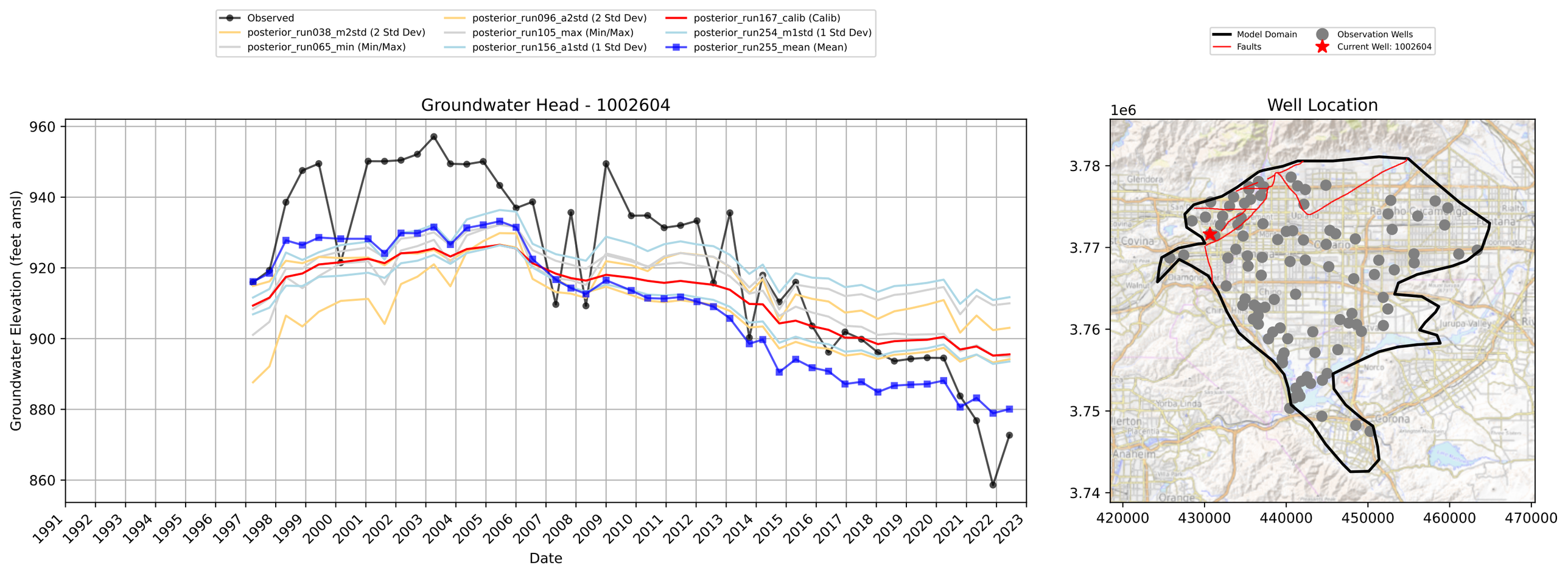
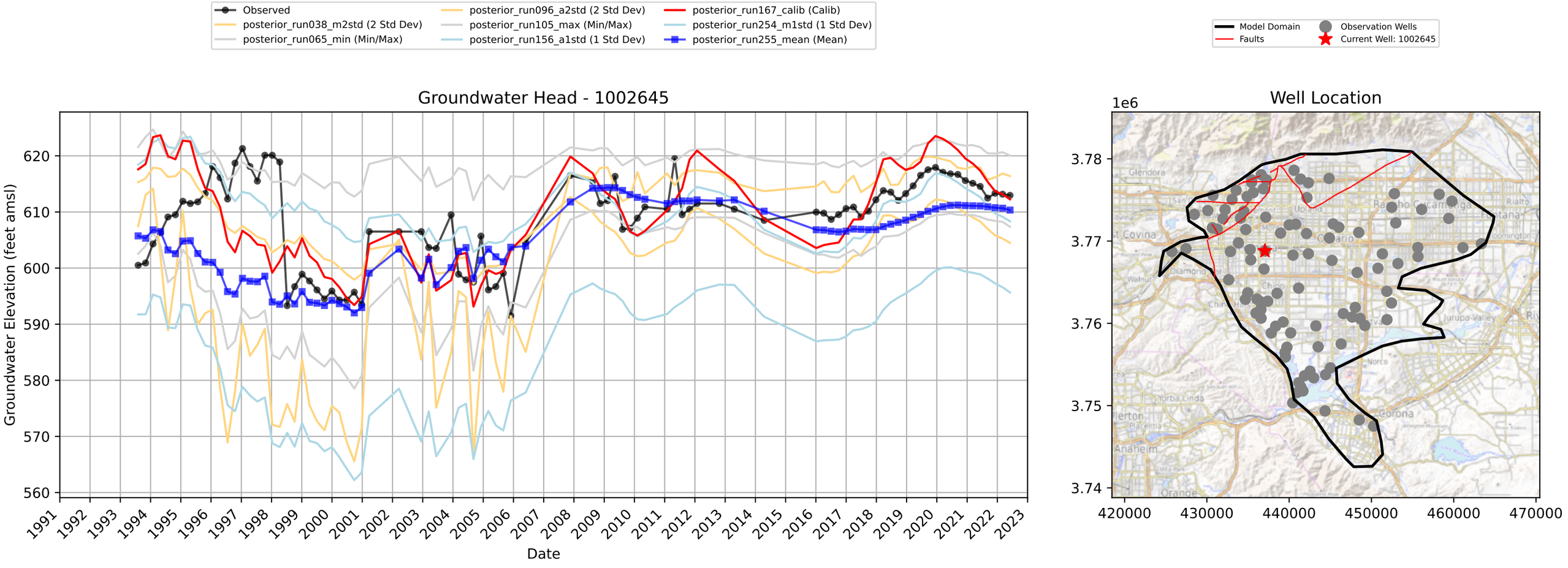
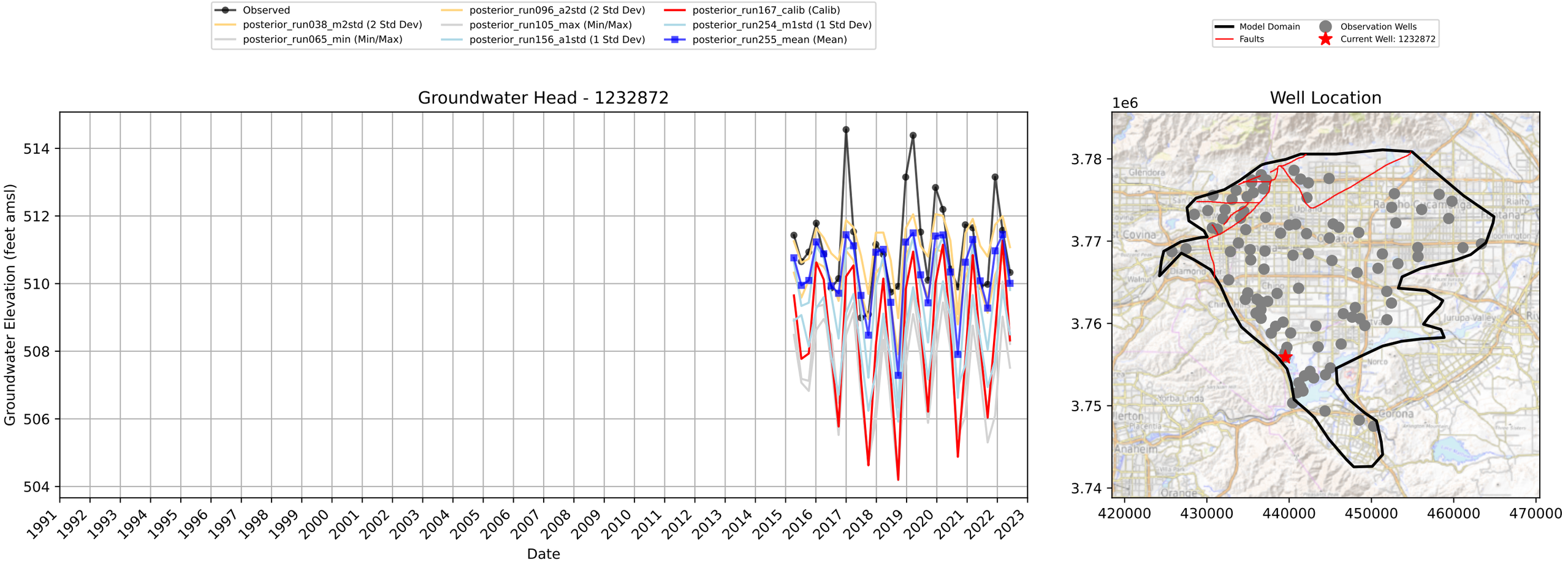
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002531
Groundwater Elevation (feet amsl)
Date
Model Domain
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)
Model Domain
Faults
Observation Wells
Current Well: 1004920
Groundwater Head - 1004920
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 - 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
Ontario
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 - 1002645
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002645
Well Location
1e6


Observed
posterior_run038_m2std (2 Std Dev)
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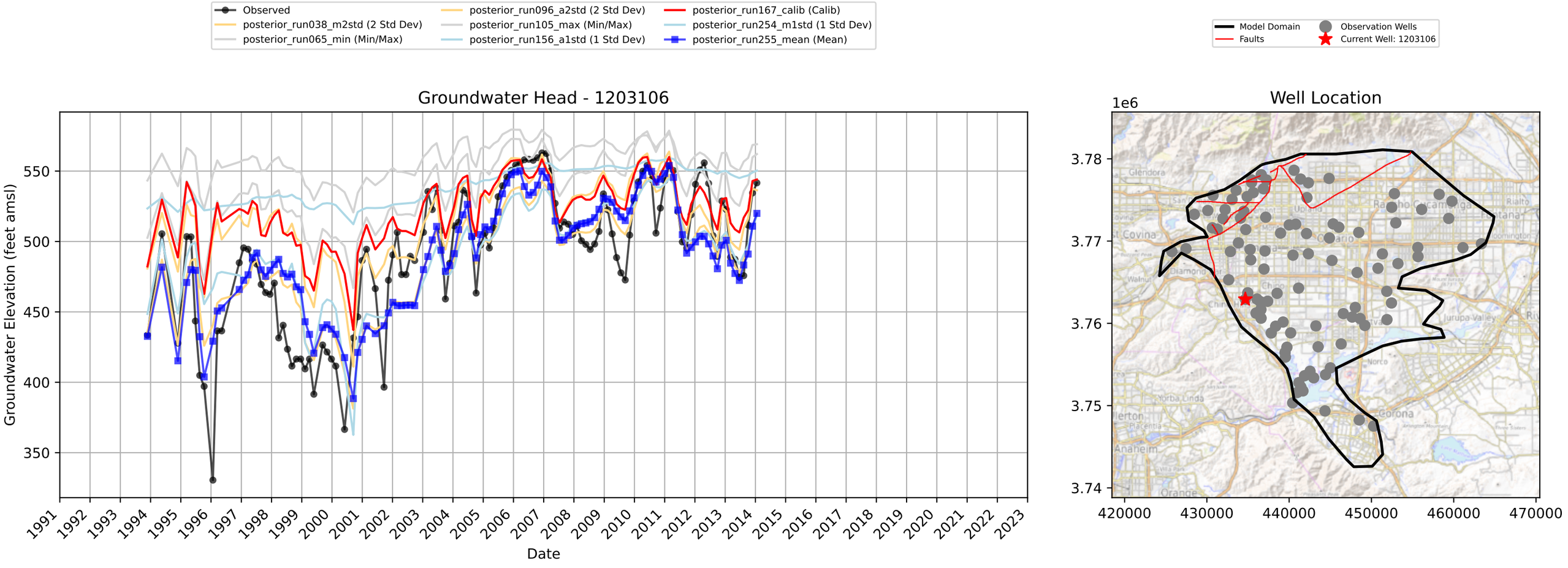
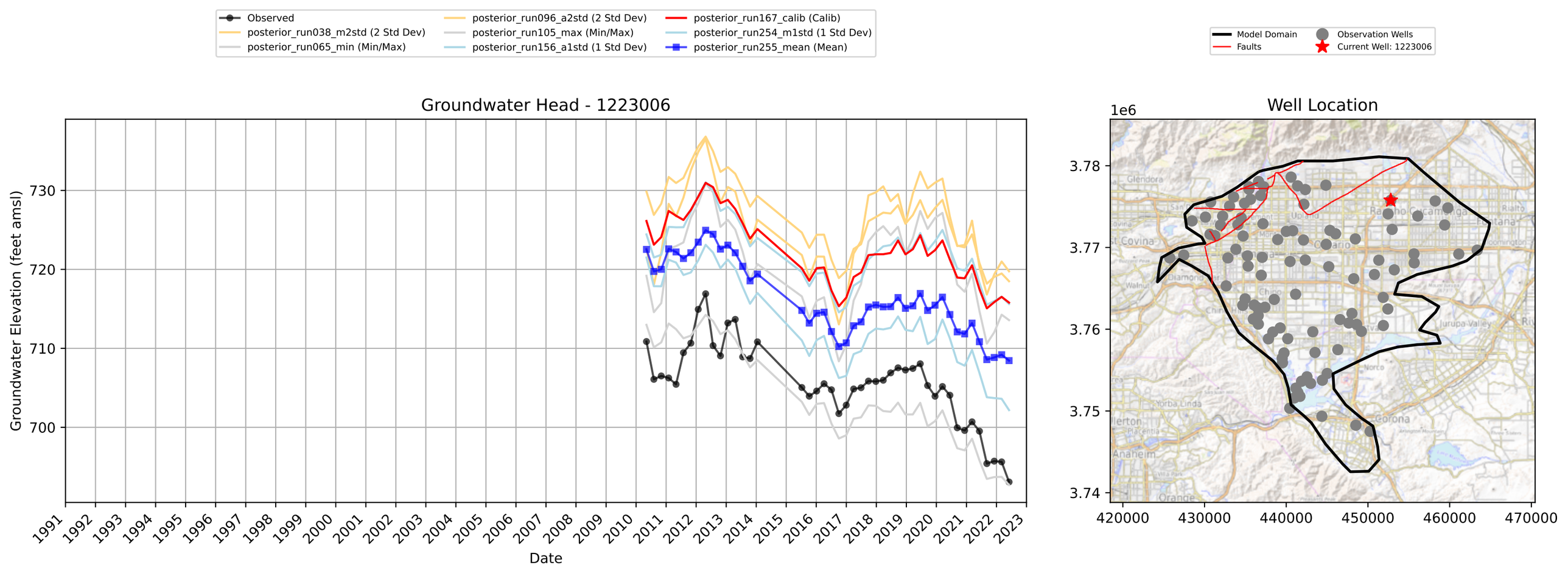
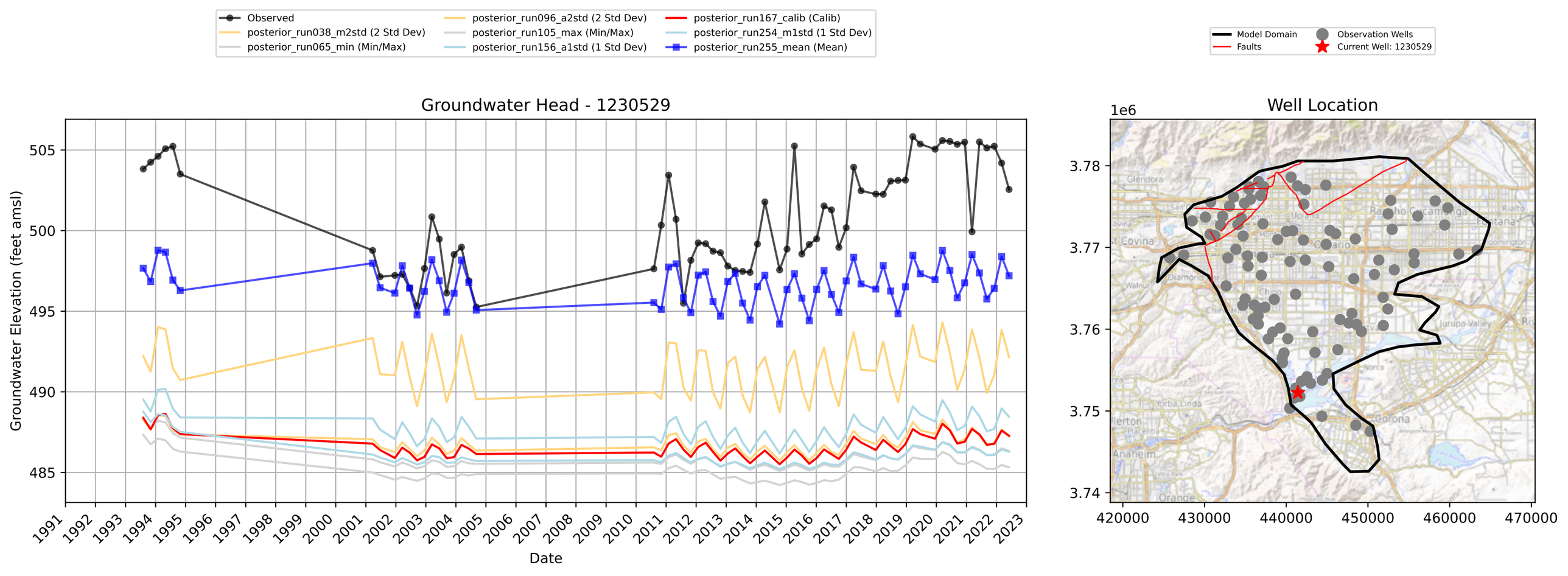
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1232872
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current 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
Chino
Jurupa Valley
Norco
Yorba Linda
Corona
Anaheim
Orange


Observed
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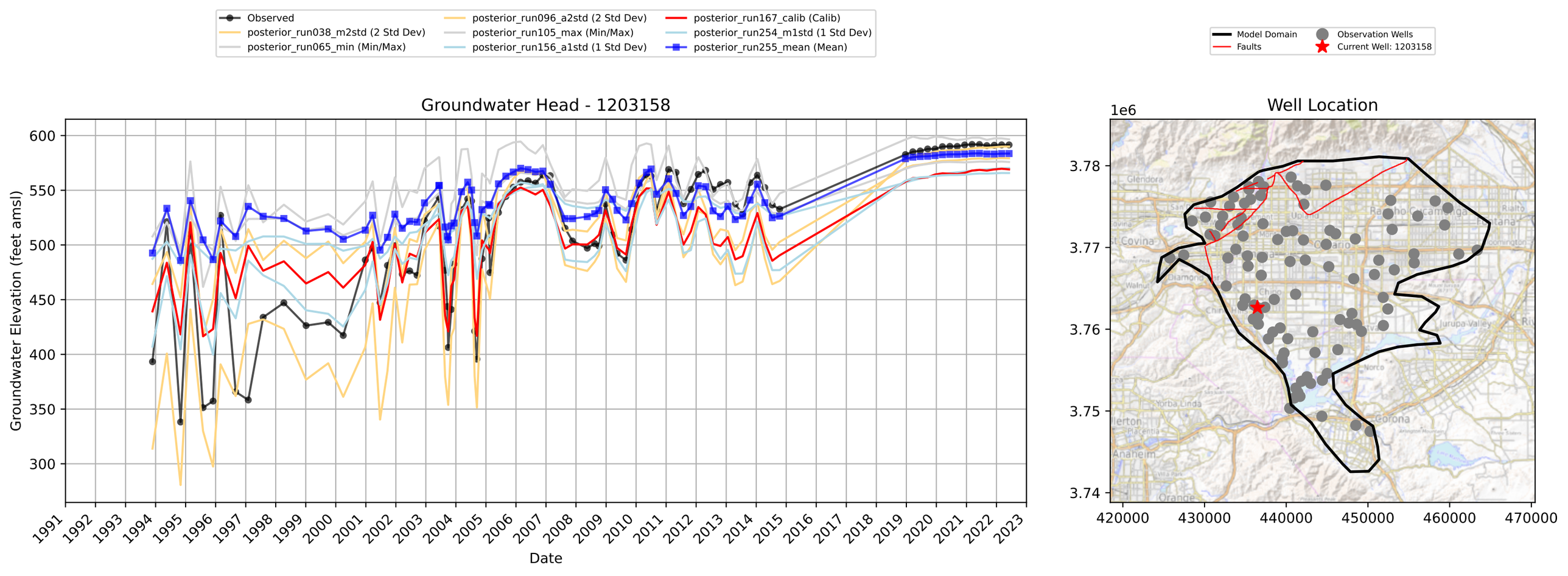
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1230529
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1230529
Well Location
1e6


Observed
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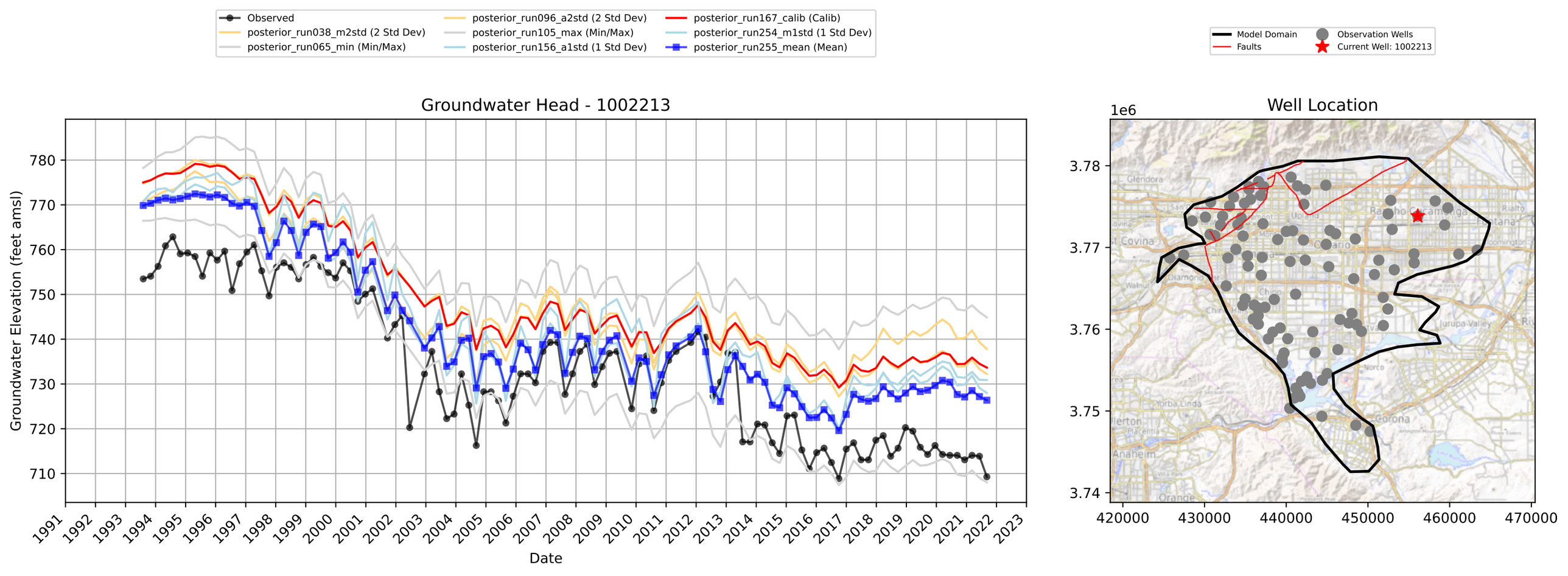
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1203158
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1203158
Well Location
1e6


Observed
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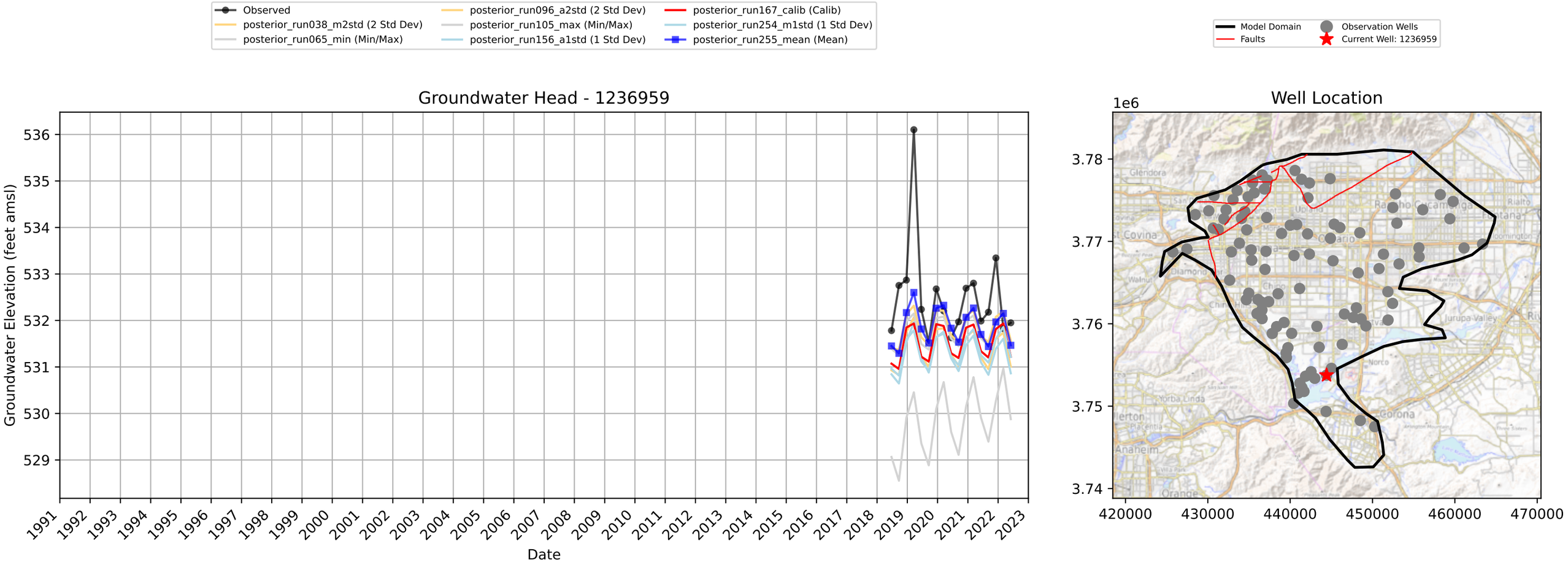
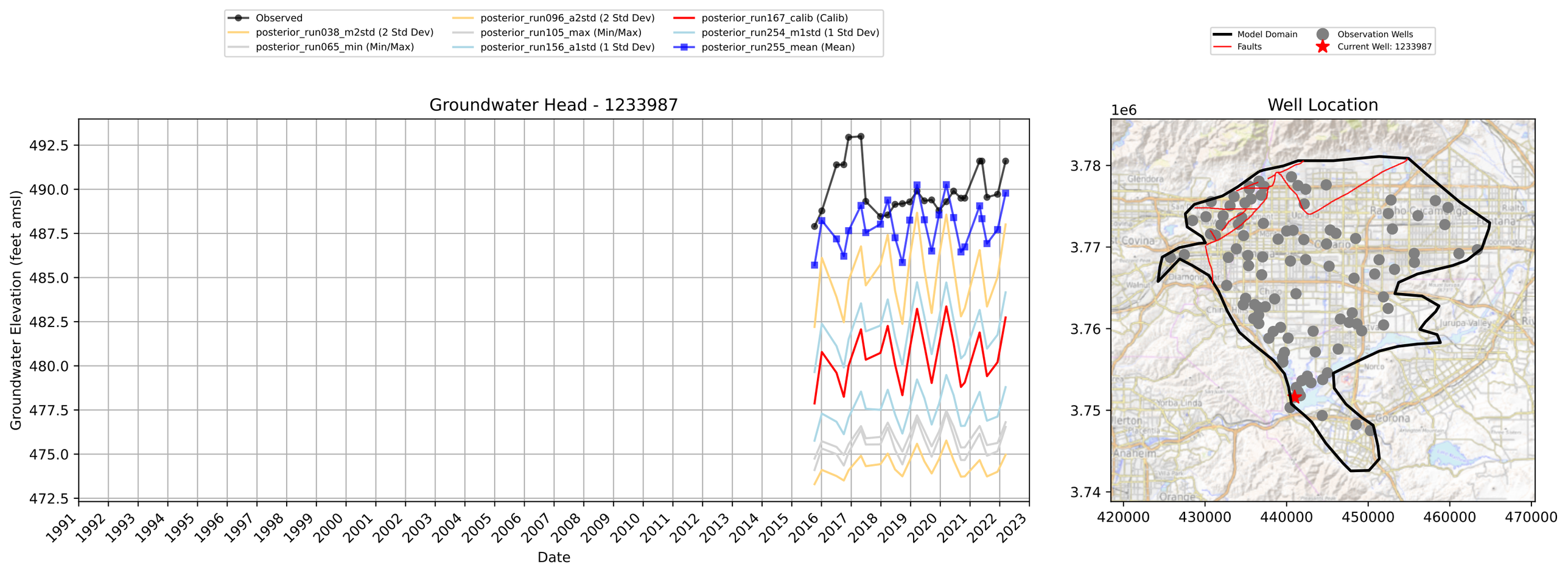
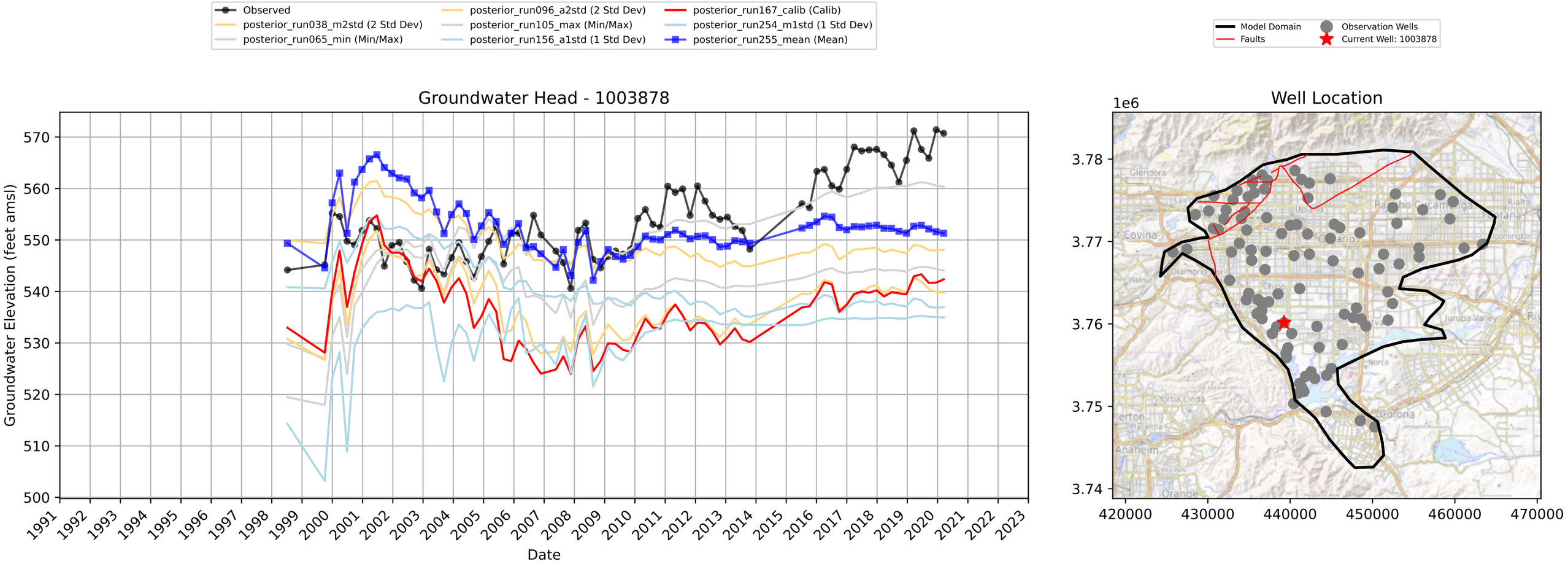
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002213
Groundwater Elevation (feet amsl)
Date
Model Domain
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)
Date
Model Domain
Faults
Observation Wells
Current Well: 1236959
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 - 1233987
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1233987
Well Location
1e6


Observed
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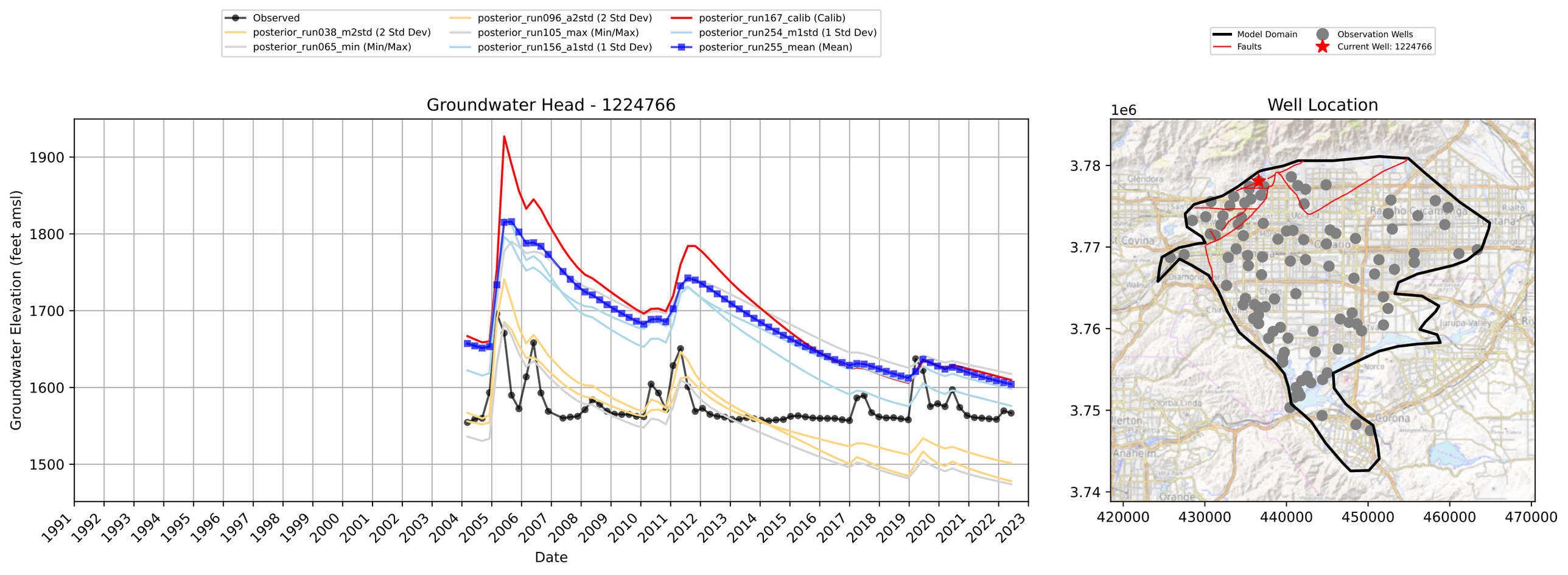
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1003878
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1003878
Well Location
1e6


Observed
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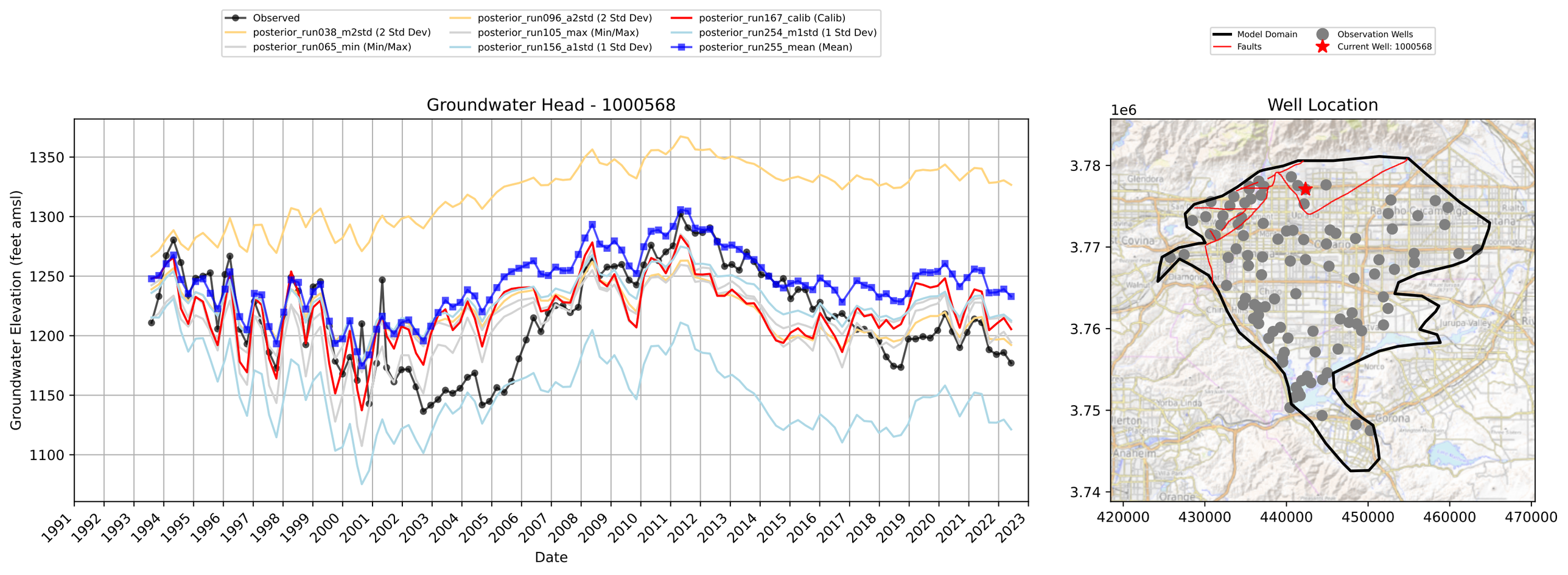
posterior_run065_min (Min/Max)
posterior_run096_a2std (2 Std Dev)
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1224766
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1224766
Well Location
1e6


Observed
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posterior_run065_min (Min/Max)
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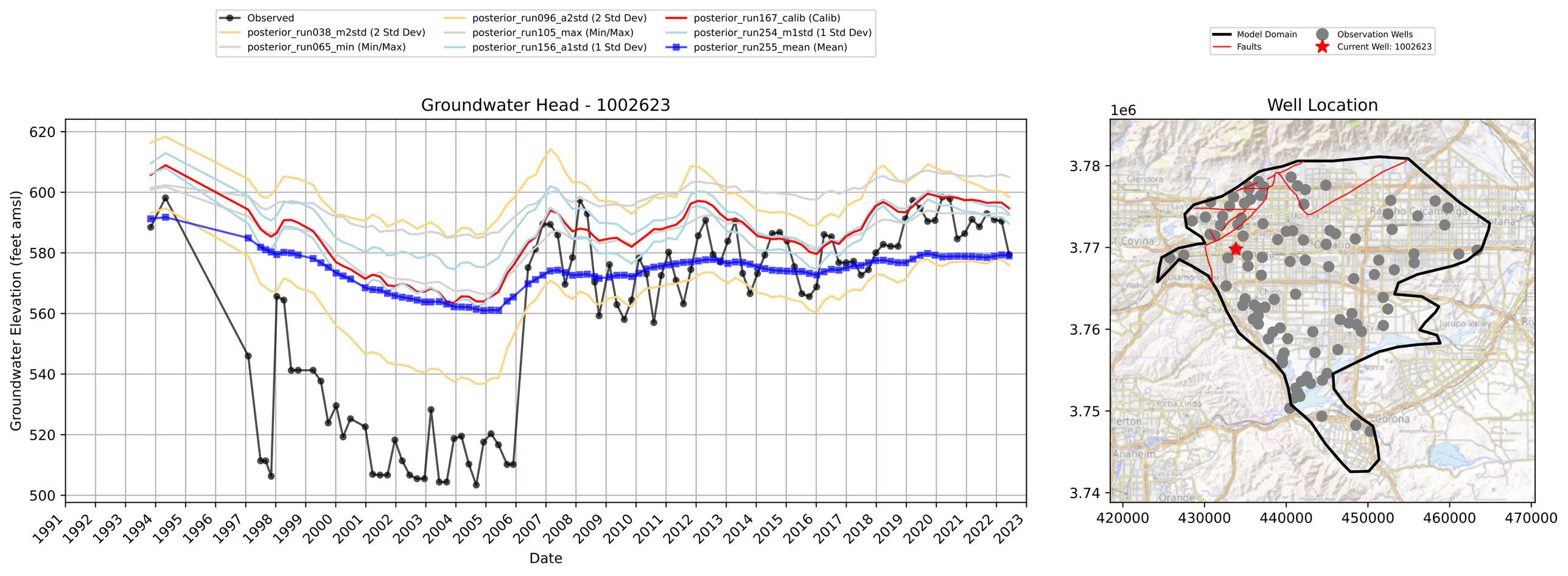
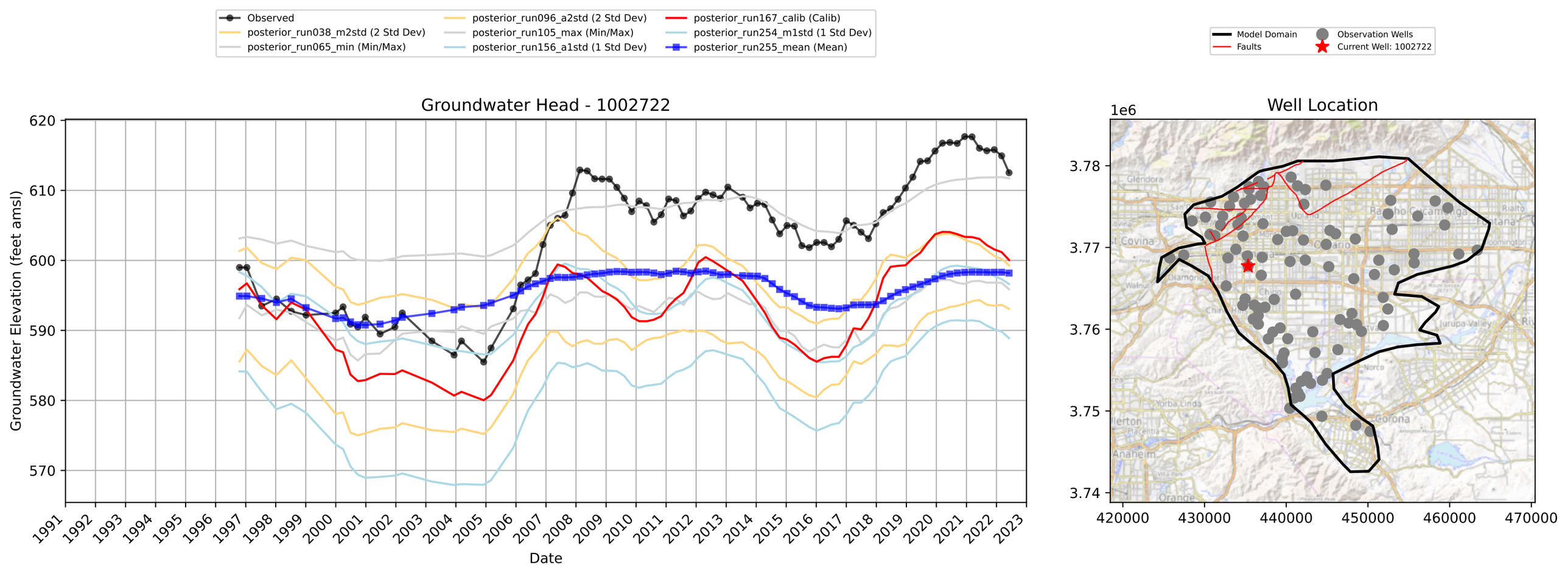
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1000568
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1000568
Well Location
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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posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002722
Groundwater Elevation (feet amsl)
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: 1002722
Well Location
1e6
3.78
3.77
3.76
3.75
3.74
420000
430000
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Glendora
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Diamond
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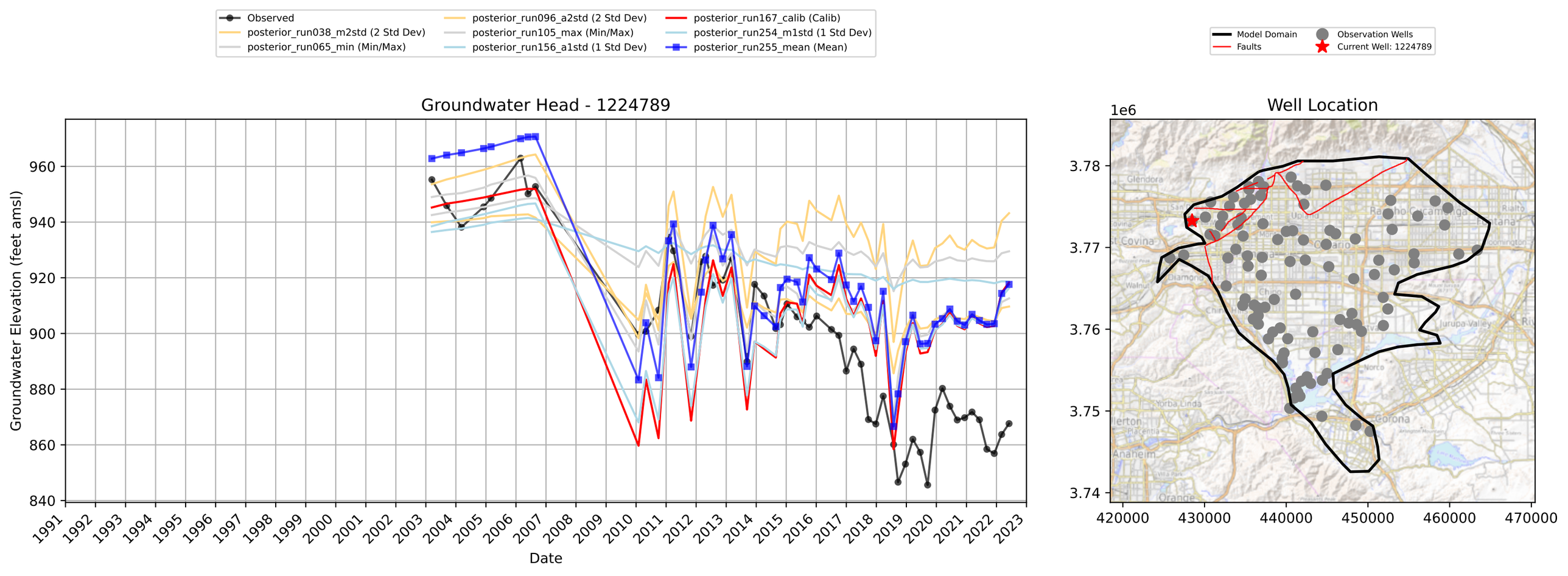
Norco
Yorba Linda
Corona
Anaheim
Orange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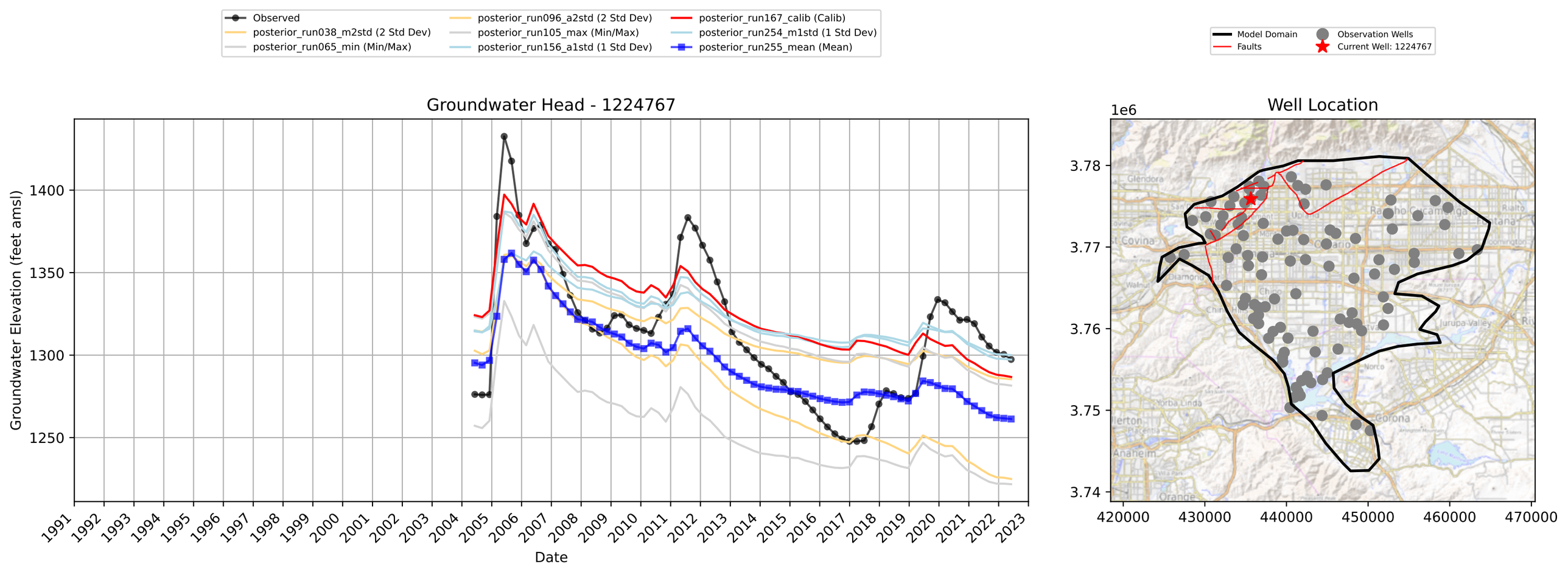
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1224789
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1224789
Well Location
1e6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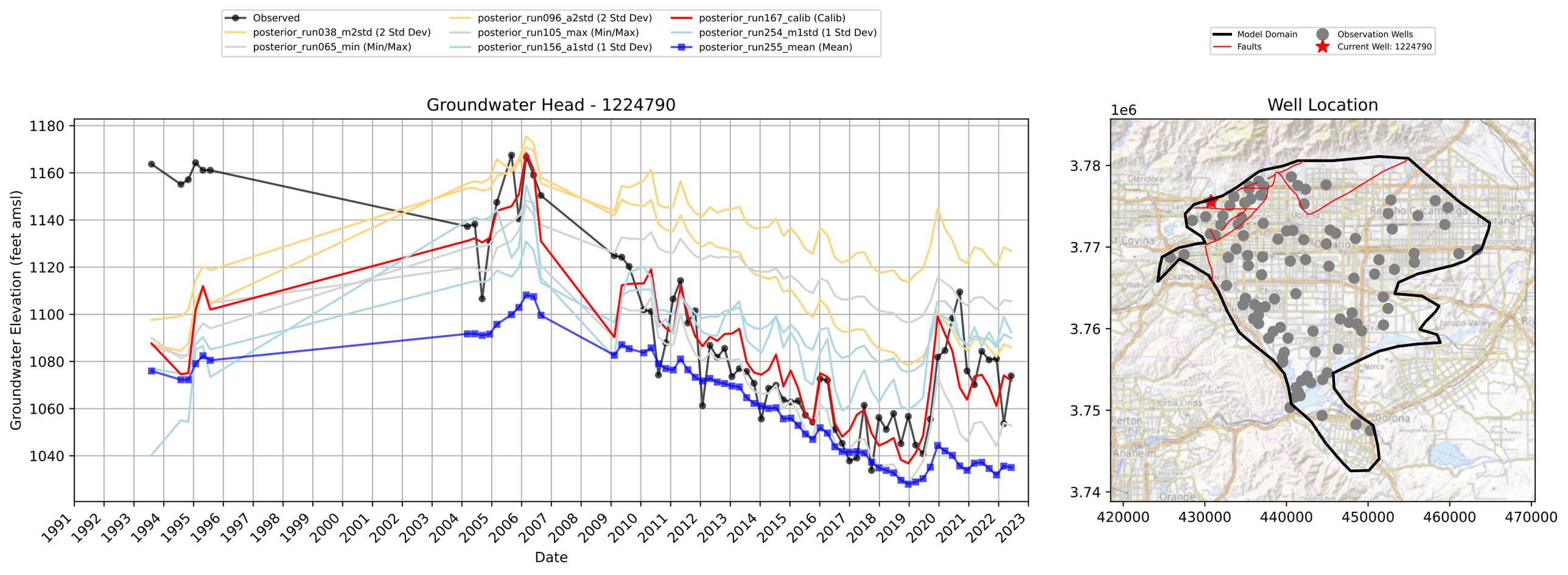
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1224767
Groundwater Elevation (feet amsl)
1400
1350
1300
1250
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Date
Model Domain
Faults
Observation Wells
Current Well: 1224767
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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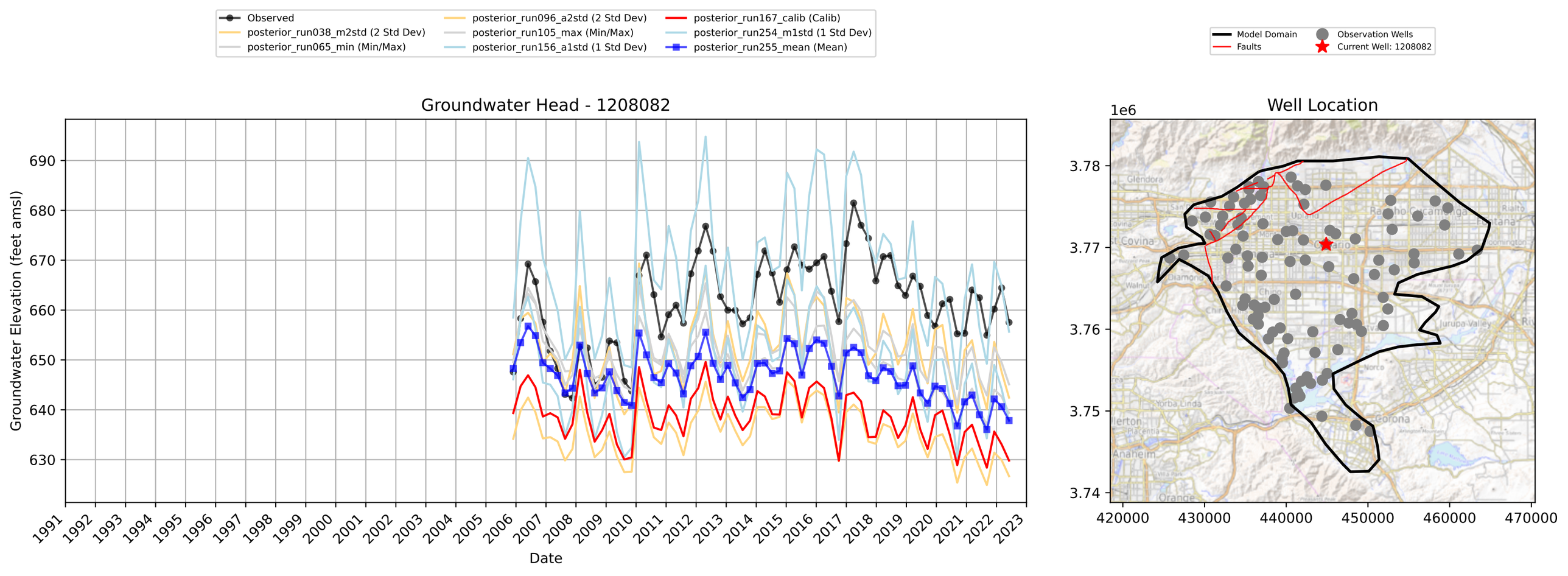
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1224790
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1224790
Well Location
1e6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posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 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
3.78
3.77
3.76
3.75
3.74
420000
430000
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Glendora
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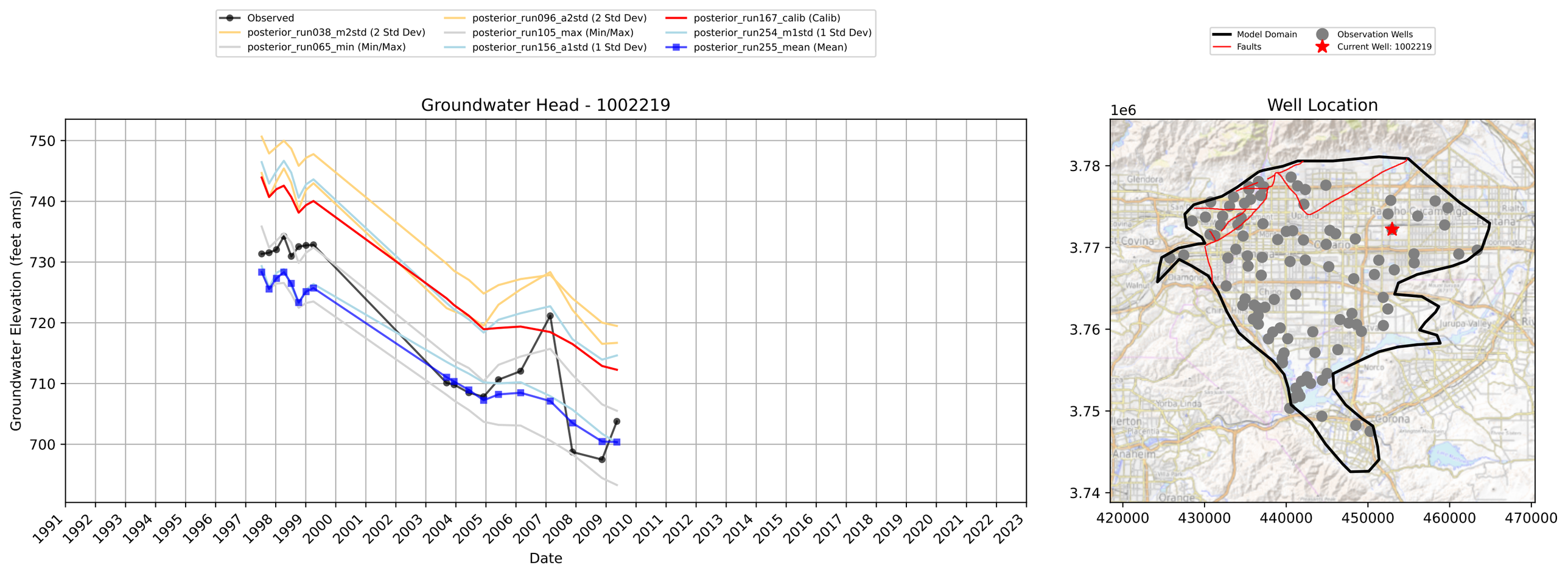
Jurupa Valley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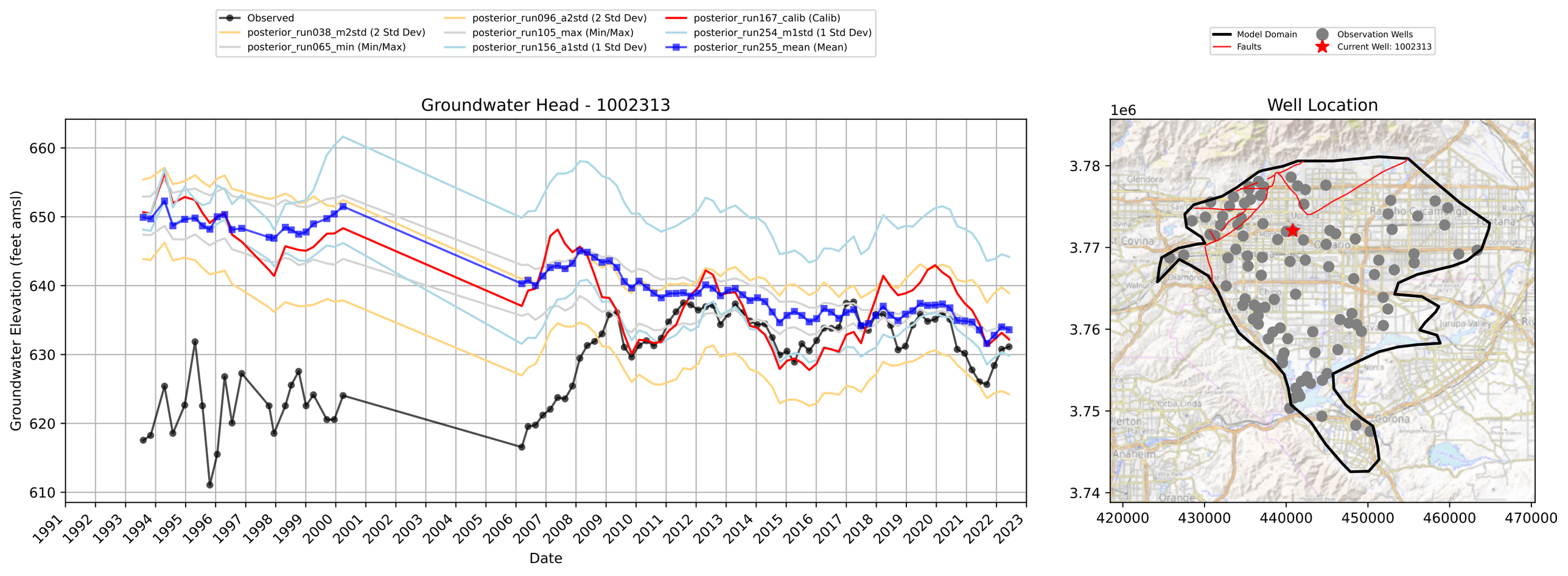
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002219
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002219
Well Location
1e6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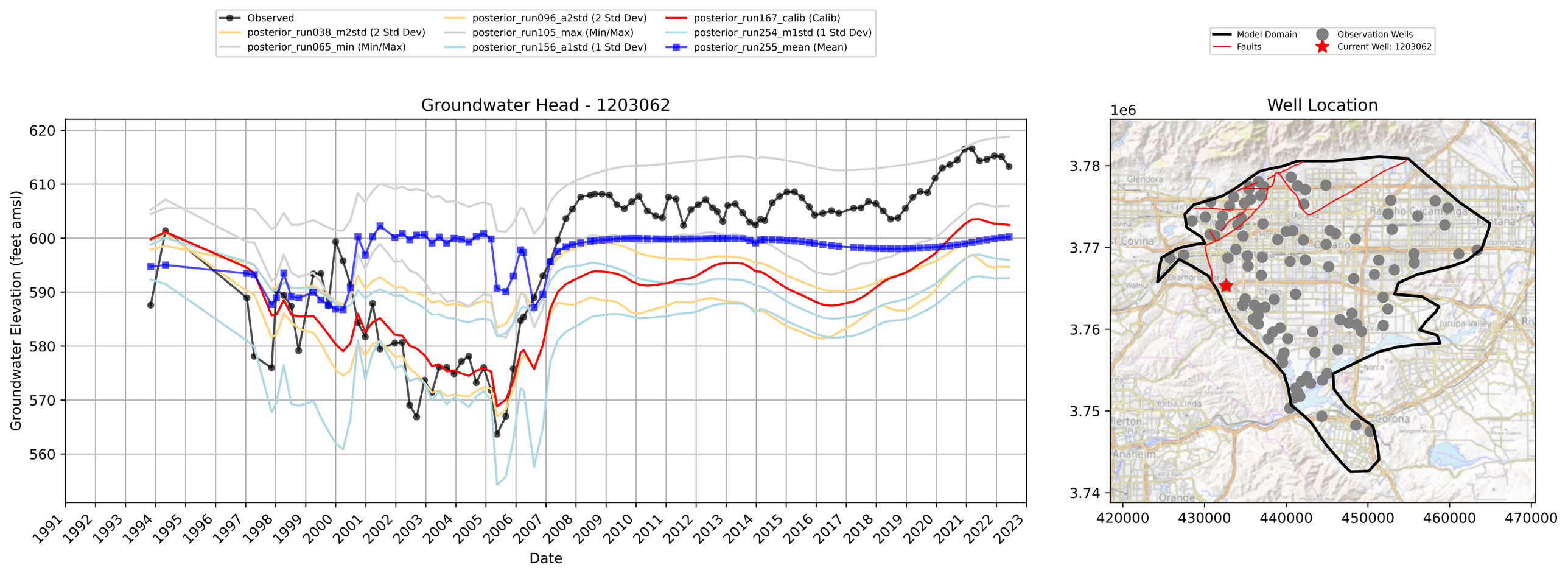
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1002313
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1002313
Well Location
1e6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posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
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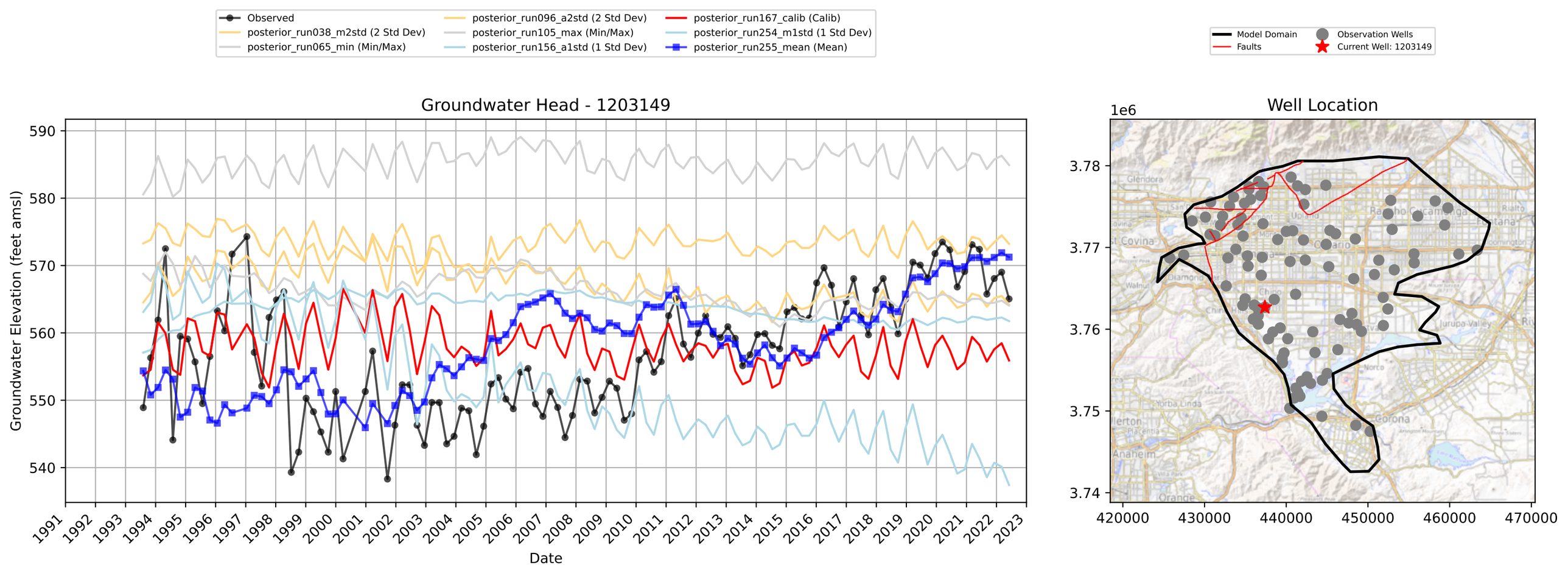
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1203062
Well Location
1e6


Observed
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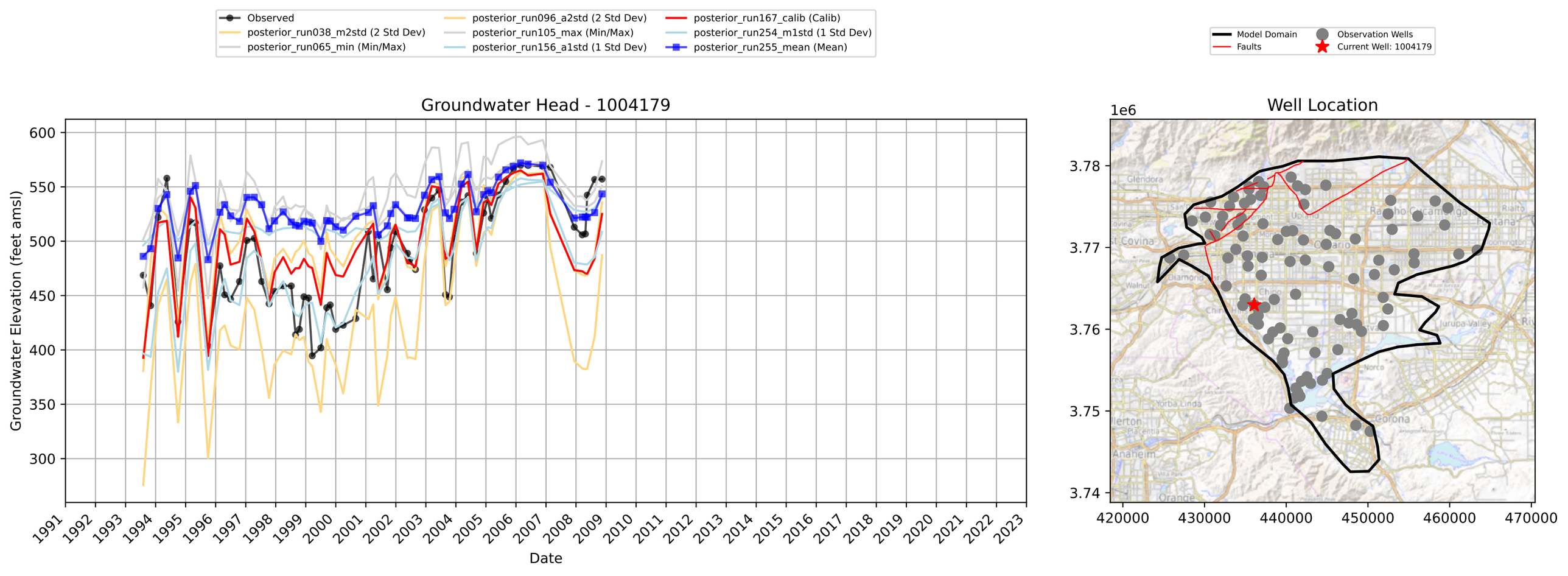
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1203149
Groundwater Elevation (feet amsl)
590
580
570
560
550
540
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
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
440000
450000
460000
470000
Glendora
Covina
Diamond
Chino
Rancho Cucamonga
Ontario
Rialto
Fontana
Jurupa Valley
Norco
Yorba Linda
Corona
Anaheim
Orange


Observed
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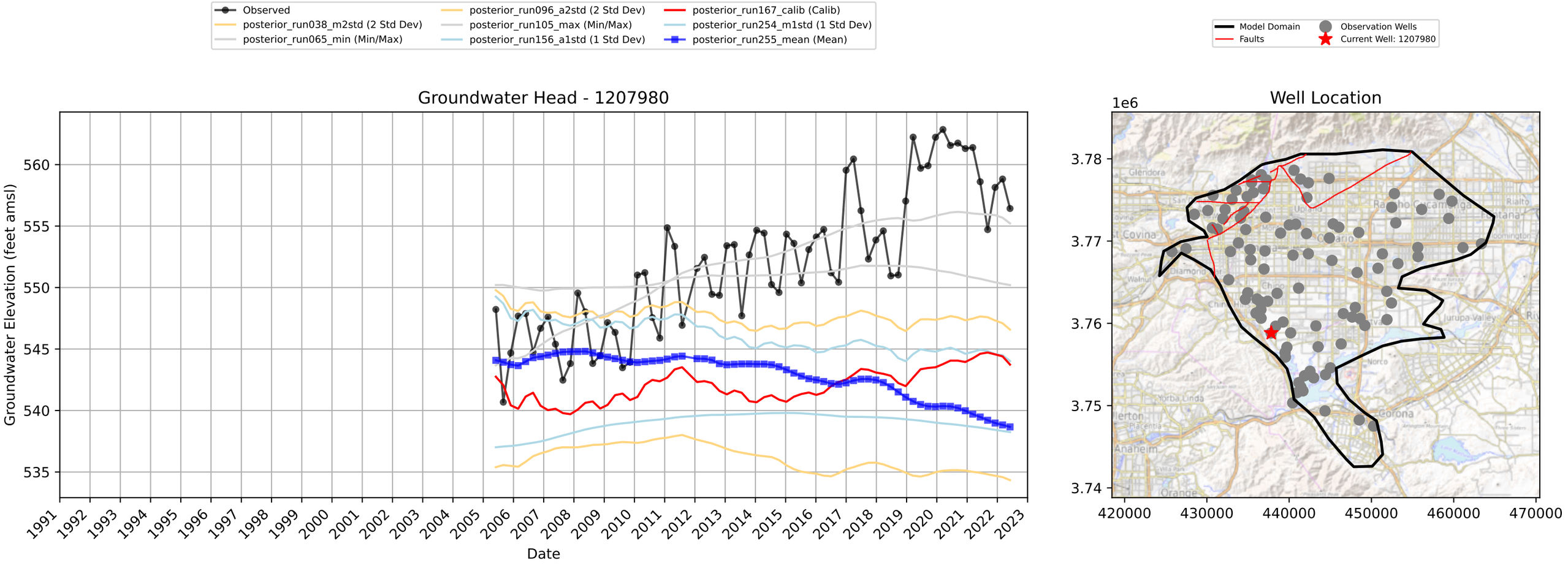
posterior_run105_max (Min/Max)
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1004179
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1004179
Well Location
1e6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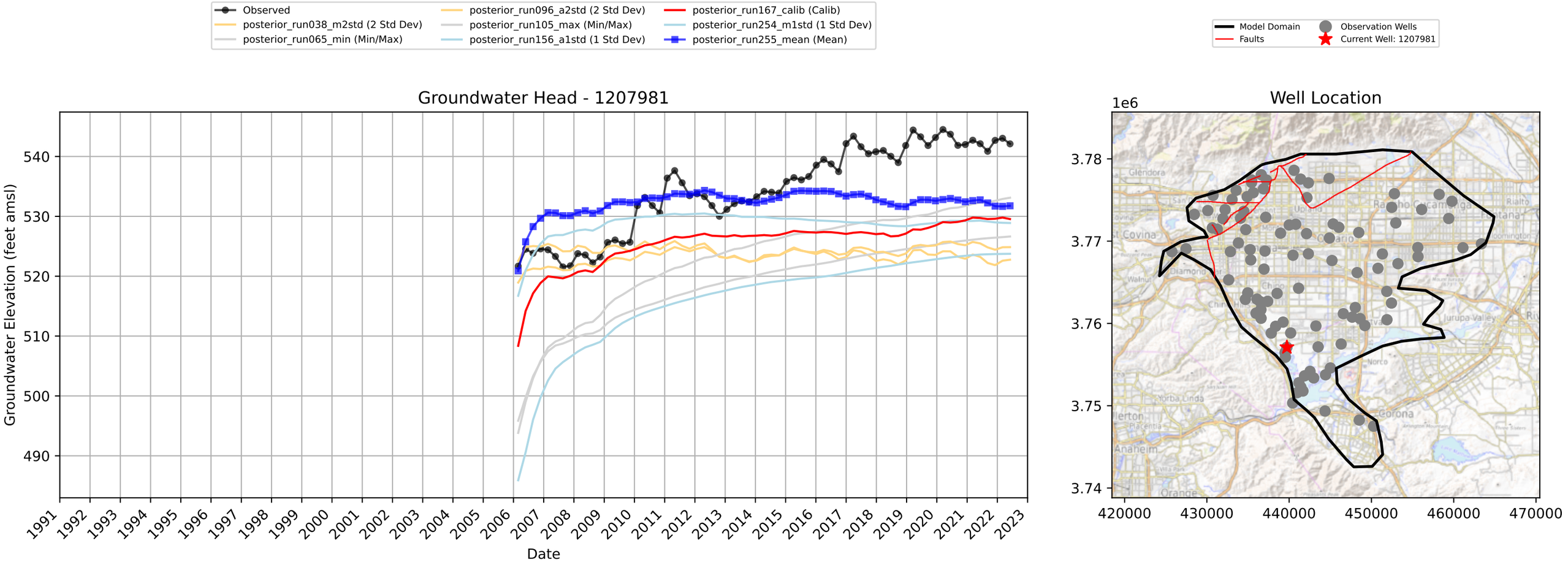
posterior_run156_a1std (1 Std Dev)
posterior_run167_calib (Calib)
posterior_run254_m1std (1 Std Dev)
posterior_run255_mean (Mean)
Groundwater Head - 1207980
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1207980
Well Location
1e6


Observed
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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 - 1207981
Groundwater Elevation (feet amsl)
Date
Model Domain
Faults
Observation Wells
Current Well: 1207981
Well Location
1e6

COMMENTS AND RESPONSES FROM S.S. PAPADOPULOS & ASSOCIATES PEER REVIEW DRAFT REPORT (OCTOBER 16, 2025)

Integrated Model Review Findings (Peer Review Report p. 10)

Recommendation 1 – Water Budgets

Develop comprehensive water budgets within and between the individual models (HSPF, R4, and MODFLOW) to ensure consistency and balance across the integrated system.

Response:

While this has been done for earlier versions of the Chino Valley Model, we concur that developing and documenting an integrated water budget combining the relevant components of the HSPF, R4, HYDRUS, and MODFLOW models would be beneficial. Beyond identifying discrepancies or ensuring that the water budget closes, this effort would further support stakeholder understanding of the groundwater modeling process. We recommend addressing this recommendation in the current 2025 SYR update to improve completeness and transparency of the report.

Recommendation 2 – R4 Calibration

Consider incorporating the R4 Model within the calibration process to better link surface-water and groundwater components and improve streamflow calibration.

Response:

While this may improve calibration, there are several practical challenges for implementing this recommendation. R4, as it is used in the CVM, comprises three modules (runoff, router, rootzone) with the results of the runoff module being required to simulate the router and rootzone processes. In addition, the R4 model does not simulate dynamic land use. To accommodate this, multiple R4 models are developed to simulate land use in discrete years, and the resulting water budget terms are interpolated between these years.

Integrating this workflow into the PEST framework would be time-consuming and have little benefit in our opinion, as the surface-water components in R4, like most other surface water models, are driven largely by empirical formulas and engineering estimates. In practice, PEST would spend cycles chasing poorly identifiable parameters, increasing run time and complexity, without measurable gains in skill. It would also impose a heavy maintenance load (wrapping pre/post-processing, enforcing consistent Jacobians, and managing large ensembles) and heighten the risk of overfitting to short or site-specific records. Given these characteristics, a full PEST calibration offers little marginal benefit over our current approach.

We believe that it is more cost-effective to allow the R4 outputs that are used in the MODFLOW model to be adjusted with PEST, as we have done with DIPAW and boundary inflows in the 2025 SYR. We recommend exploring the possibility of including R4 within the PEST framework during the development of the 2030 Safe Yield Recalculation.

Recommendation 3 – Recharge Lag Through Vadose Zone

Reassess the lag representation for both physical realism and numerical integrity, confirming its necessity through comparison with observed groundwater responses.

Response:

Through the extensive monitoring in the Chino Basin over time, there is not a strong response in groundwater levels to recharge events or years of greater-than-average rainfall, particularly in the northern portion of the basin where the vadose zone is several hundred feet thick. The 2020 Safe Yield Recalculation (2020 SYR) Report summarized the prior analysis as follows:

"A detailed investigation of vadose zone "travel (lag) time from the root zone to the water table was done for the evaluation of the Peace II Agreement and was reported in 2007 CBWM Groundwater Model Documentation and Evaluation of the Peace II Project Description. *(WEI, 2007). In that work, the lag time was estimated based on the time it took for a conservative tracer injected into the vadose zone at the root zone to travel to the water table. The HYDRUS-2D model was used to estimate lag time at several boreholes with detailed lithologic descriptions and located in the 2013 Model domain. For the boreholes that were investigated, the primary factor contributing to lag time was vadose zone thickness."*

The HYDRUS-2D modeling was reevaluated during the 2020 SYR study. We recommend that this be revisited and documented in the 2030 Safe Yield Recalculation process.

Model Calibration Findings (Peer Review Report p. 20)

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.

Recommendation 4 – Streamflow Observations

Incorporate streamflow observations within PEST and increase their weighting to ensure that streamflow observations meaningfully contribute to the overall calibration objective function.

Response:

Streamflow observations are already considered within PEST. We appreciate the suggestion of increased weighting and support testing this approach to evaluate its potential benefits. We recommend addressing this recommendation in the current 2025 SYR update to improve completeness and transparency of the report.

Recommendation 5 – Streamflow Observations

Evaluate the reasonableness of surface headwater inflows to streams to confirm that upstream boundary conditions are appropriately represented.

Response:

The inflows to the SFR package in the MODFLOW model are derived either from the R4 model (for the Chino Basin Watershed) or the measured streamflow in the Santa Ana River at Riverside Narrows (the upstream location of the Santa Ana River within the CVM boundary). The R4 model is calibrated to gages within the Chino Basin watershed along Cucamonga Creek and Chino Creek near where the SFR package begins. Some uncertainty inevitably exists in these estimates, and it may be advisable to account for this in the CVM. We recommend addressing this recommendation in the current 2025 SYR update to improve completeness and transparency of the report.

Recommendation 6 – Streamflow Observations

Consider integrating the R4 Model within the calibration framework to improve consistency between surface-water and groundwater systems and strengthen overall water-budget accounting.

Response:

See response to Recommendation 2.

Recommendation 7 – Streamflow Observations

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.

Response:

Good suggestion. Since the native model output provides average monthly streamflow rates, it is more appropriate to use these rates directly rather than volumes, which are simply the rates multiplied by the number of days in each month. That said, we remain open to substituting randomly selected streamflow observations with average monthly values if needed. We recommend addressing this recommendation in the current 2025 SYR update to improve completeness and transparency of the report.

Recommendation 8 – Groundwater Level Observations

Avoid calibrating multipliers for DIPAW and lateral inflow.

Response:

The use of calibrated multipliers for these components was endorsed by the technical peer reviewers during the model development, and we consider it a reasonable approach to account for uncertainties in the recharge and lateral inflow values estimated by R4.

However, since the multipliers result in measurable changes in the water budget components (which could cumulatively impact the net recharge and Safe Yield calculations), we support running alternative configurations of PESTPP-IES without multipliers and comparing the calibration results and water

budgets. We recommend addressing this recommendation in the current 2025 SYR update to improve completeness and transparency of the report.

Recommendation 9 – Groundwater Level Observations

Consider storage change as an additional calibration target in the form of "head change" targets or "type hydrographs" if cluster analysis is performed.

Response:

We agree that this may improve the calibration. We recommend addressing this recommendation in the current 2025 SYR update to improve completeness and transparency of the report.

Recommendation 10 – Groundwater Level Observations

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.

Response:

The spatial bias has demonstrably improved between the 2020 and 2025 CVM. However, we understand that the calibration can always be improved, possibly through implementation of the recommendations shown above. We recommend addressing this recommendation in the current 2025 SYR update to improve completeness and transparency of the report.

Recommendation 11 – Additional Model Calibration Recommendations

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.

Response:

We will review the model and address any pumping curtailment. We recommend addressing this recommendation in the current 2025 SYR update to improve completeness and transparency of the report.

Recommendation 12 – Additional Model Calibration Recommendations

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.

Response:

The head closure criteria were chosen to ensure that the model runs completed in a reasonable period of time. The simulated water budget was reviewed to ensure that the model run was stable and that mass-balance errors were within acceptable limits. While a smaller head closure value (e.g., 2 feet) could improve numerical precision, it would also increase computational time. Future model refinements may consider reducing the head closure criteria if additional computational efficiency can

be achieved. We recommend addressing this recommendation in the current 2025 SYR update to improve completeness and transparency of the report.

Recommendation 13 – Additional Model Calibration Recommendations

Check if any pumping wells are co-located with a constant head boundary.

Response:

As discussed previously, the wells in question are situated near the Spadra Basin and the Bloomington Divide within the central-eastern area of the Chino Basin. Although these wells are located within the constant-head boundary, they do not adversely affect the model simulation.

Recommendation 14 – Additional Model Calibration Recommendations

Include stream inflows for the last stress period that are currently missing.

Response:

After the final time entry in the TAB file that specifies stream inflows, MODFLOW continues to use the last tabulated value, which effectively maintains the final specified inflow through the end of the simulation. However, we acknowledge that explicit inclusion of stream inflows for the last stress period would improve clarity and completeness. Accordingly, we will explicitly include the flow rate at the end of the simulation in the TAB file in future updates. We recommend addressing this recommendation in the current 2025 SYR update to improve completeness and transparency of the report.

Uncertainty Quantification Findings (Peer Review Report p. 21-22)

Recommendation 15 – Observations and Uncertainty

Model uncertainty is not fully captured. Several observations are outside of the modeled range provided by selected realizations.

Response:

We acknowledge that several observations fall outside of the simulated range of the selected ensemble realizations. The objective of the uncertainty analysis was to capture a wide range of plausible model responses associated with the calibrated parameter sets, rather than to fully bound every observation. Therefore, it is expected that some local observations will lie outside the simulated range, reflecting local heterogeneity, measurement uncertainty, and the simulated groundwater-level responses during the uncertainty analysis process.

However, we appreciate the potential for improving the capture of a greater portion of the groundwater-level observations. For future model improvements, we recommend exploring expanding the ensemble size or refining the calibration/parameterization to improve the spatial coverage of uncertainty while balancing model stability. We recommend addressing this recommendation in the current 2025 SYR update to improve completeness and transparency of the report.

Recommendation 16 – Choosing Realizations

Enhance model uncertainty quantification by basing representative model realizations on both calibration quality and net recharge variability.

Response:

During the uncertainty analysis, we ran PESTPP-IES for four iterations and selected the models that successfully completed the second iteration as potential candidates for the representative realizations. The use of the second iteration was based on recommendations from the authors of PESTPP-IES, who noted that it provides an appropriate balance between calibration performance and ensemble diversity. The representative realizations ultimately selected were chosen based on their simulated net recharge, ensuring that the range of recharge conditions was adequately represented in the uncertainty analysis. This approach was reviewed and accepted by the peer review committee in 2024 during the calibration and uncertainty analysis process. However, we remain open to refining our selection criteria in future analyses to explicitly incorporate both calibration quality and net recharge variability. We recommend addressing this recommendation in the current 2025 SYR update to improve completeness and transparency of the report.

Recommendation 17 – Observation Noise

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.

Response:

Eliminating noise in streamflow observations may improve the calibration. We acknowledge that excessive noise was likely introduced to groundwater-level observations in many wells. However, some level of random, zero-mean perturbation is necessary in PESTPP-IES to maintain ensemble diversity and prevent collapse. The measured hydrographs preserve the temporal trends and changes in storage, while the perturbations simply allow the ensemble to represent uncertainty around those measurements. Correlated noise may be appropriate where there is clear evidence of correlated measurement errors, but applying it broadly risks distorting hydrograph signals as PESTPP-IES assumes that the observation noise is uncorrelated. Going forward, we will revisit the noise specification to ensure it better reflects realistic measurement uncertainty. We recommend addressing this recommendation in the current 2025 SYR update to improve completeness and transparency of the report.

Recommendation 18 – Report

Add uncertainty bands around groundwater level time-series plots in Appendix B.

Response:

We will update this in the final report.

Recommendation 19 – Report

Presenting calibration realization [i.e., the realization with the lowest phi] 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.

Response:
We will update this in the final report.

DRAFT