

Groundwater Availability Model: Northern Segment of the Edwards (Balcones Fault Zone) Aquifer of Texas: Version 2.10

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February 2026

Texas Water Development Board
Groundwater Modeling

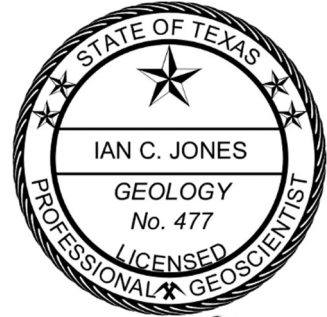


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12/17/2025

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EXECUTIVE SUMMARY

The Texas Water Development Board (TWDB) develops groundwater availability models to provide groundwater conservation districts and regional water planning groups scientific tools to assist in management and planning efforts (Texas Water Code § 16.012). Texas Water Code Chapter 36 requires groundwater conservation districts to use groundwater availability models for groundwater management plans and in joint groundwater planning, when available.

This updated report outlines updates made to Version 2.01 of the groundwater availability model for the northern segment of the Edwards (Balcones Fault Zone) Aquifer (Jones, 2023b). Updates were made in response to comments by the Clearwater Underground Water Conservation District requesting that the model better simulate groundwater discharge to Salado Creek in the northern part of the model. As a result of the request, changes were made to the hydraulic conductivity in the Upstream Weighting package and River Package as pertains to the Salado Creek watershed portion of the model and the model was recalibrated. These changes increased simulated groundwater discharge to the Salado Creek such that median simulated groundwater discharge approximated median baseflow in Salado Creek. Sections 2.4, 2.10, 3.0, and 4.0 document the updates made to Jones (2023b).

The TWDB Groundwater Modeling Program constructed a groundwater flow model for the northern segment of the Edwards (Balcones Fault Zone) Aquifer. This regional-scale model is intended to provide information to groundwater conservation districts for groundwater management plans and to determine how regional groundwater availability is affected on a large scale based on policy decisions made by groundwater conservation districts within groundwater management areas. The model is not intended for use to predict water-level changes at a particular well or spring but may be applicable at the scale of a large wellfield depending on the supporting data available in that area of the model. Even though this model includes part of the Trinity Aquifer and the Walnut Formation confining unit, it is not intended for use in evaluating hydrologic processes in either of these hydrostratigraphic units. The model is a groundwater management tool that can be used by Groundwater Management Area 8 member districts for joint groundwater planning, Clearwater Underground Water Conservation District and the Lower Colorado and Brazos G regional water planning groups, among other stakeholders.

This model was constructed using the U.S. Geological Survey code MODFLOW-NWT. The model includes three layers of quarter-mile grid cells representing three hydrostratigraphic units (from top to bottom): (1) Edwards (Balcones Fault Zone) Aquifer; (2) Walnut Formation; and (3) Trinity Aquifer (Jones, 2023a). Recharge to the

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aquifers is modeled using the MODFLOW Recharge package and is based on average precipitation across the model area. Interaction with the rivers and streams in the model area was modeled using the MODFLOW River package. Discharge to springs and the Lampasas and Colorado rivers were modeled using the MODFLOW Drain package, and the MODFLOW Well package was used to simulate groundwater pumping. Most of the model boundaries are assumed to be no-flow boundaries representing probable groundwater hydrologic divides. However, general-head boundaries were used to simulate groundwater flow into and out of the non-aquifer stratigraphic units overlying the study area.

The MODFLOW Well package contains groundwater withdrawal information for municipal, domestic, irrigation, livestock, and mining uses. During calibration, parameters for recharge, hydraulic properties, and boundary conditions were adjusted to match 2,631 water-level targets collected between 1980 and 2020. Calibration was assisted using parameter estimation software—PEST—a model-independent, industry-standard, parameter estimation code. The root mean squared error for the calibration of all layers is 56 feet or 6 percent of the range in water-level elevations. The root mean squared error for the calibration of the Edwards (Balcones Fault Zone) Aquifer is 53 feet or 10 percent of the range in water-level elevations. These calibration statistics meet Groundwater Modeling Department and industry calibration standards.

In the northern segment of the Edwards (Balcones Fault Zone) Aquifer model, groundwater enters the groundwater flow system from two primary sources: recharge due to infiltration of precipitation and interaction with rivers and streams. Groundwater leaves the flow system primarily through leakage to rivers and springs, especially the Lampasas and Colorado rivers, and pumping. Modeled groundwater flow directions in all model layers indicate that groundwater flows principally to the east, diverging north and south toward the Lampasas River and the Colorado River, respectively. Sensitivity analysis results indicate that the model is most sensitive to recharge and horizontal hydraulic conductivity, and it is moderately sensitive to pumping wells.

1.0 INTRODUCTION AND PURPOSE

This report documents the construction and calibration of the groundwater availability model for the northern segment of the Edwards (Balcones Fault Zone) Aquifer. This numerical model report is targeted primarily to those with experience constructing and/or using groundwater models. The associated conceptual model report for the northern segment of the Edwards (Balcones Fault Zone) Aquifer (Jones, 2023a) is written in a style that should be accessible to most interested stakeholders.

The Texas Water Development Board (TWDB) identifies the major and minor aquifers in Texas based on regional extent and amount of water produced. The major and minor aquifers in the study area are shown in Figures 1.0.1 and 1.0.2, respectively. George and others (2011) provide a general overview of these major and minor aquifers. Aquifers that supply large quantities of water over large areas of the state are defined as major aquifers while those that supply relatively small quantities of water over large areas of the state or supply large quantities of water over small areas of the state are defined as minor aquifers. The northern segment of the Edwards (Balcones Fault Zone) aquifer is a portion of a major aquifer in Texas.

Figure 1.0.3 shows the boundaries of the northern segment of the Edwards (Balcones Fault Zone) Aquifer model. The area extends from the Lampasas River in the north to the Colorado River in the south. In addition to the Edwards (Balcones Fault Zone) Aquifer, the model area includes part of the Trinity Aquifer. This additional aquifer, along with the Walnut Formation confining unit, are included as boundaries to simulate interaction between the northern segment of the Edwards (Balcones Fault Zone) Aquifer and surrounding stratigraphic units in the model area (Figure 1.0.4).

A groundwater flow model is a numerical representation of an aquifer system capable of simulating historical conditions and predicting future aquifer conditions. Inherent to the groundwater flow model is a set of equations that are developed and applied to describe the physical processes influencing groundwater flow in the system. Groundwater models are essential for performing complex analyses and making informed predictions and management decisions (Anderson and Woessner, 2002). Groundwater models are tools with many uses, including estimating effects of various hypothetical water use strategies and determining cumulative effects of increased water use or drought conditions.

Groundwater availability models for the major and minor aquifers in Texas are integral to the state water planning process. The TWDB develops and maintains groundwater availability models to provide groundwater conservation districts and regional water planning groups scientific tools to assist in management and planning efforts (Texas Water Code § 16.012). Texas Water Code Chapter 36 requires groundwater

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conservation districts to use groundwater availability models for groundwater management plans and in joint groundwater planning, when available.

The TWDB Groundwater Modeling Program provides tools that can be used to develop reliable information on groundwater availability for the citizens of Texas, and to either ensure adequate supplies or recognize inadequate supplies over a 50-year planning period. Groundwater availability models also serve as an integral part of the process for determining modeled available groundwater based on desired future conditions (Texas Water Code § 36.108). The northern segment of the Edwards (Balcones Fault Zone) Aquifer groundwater availability model will thus serve as a critical tool for groundwater planning in the state.

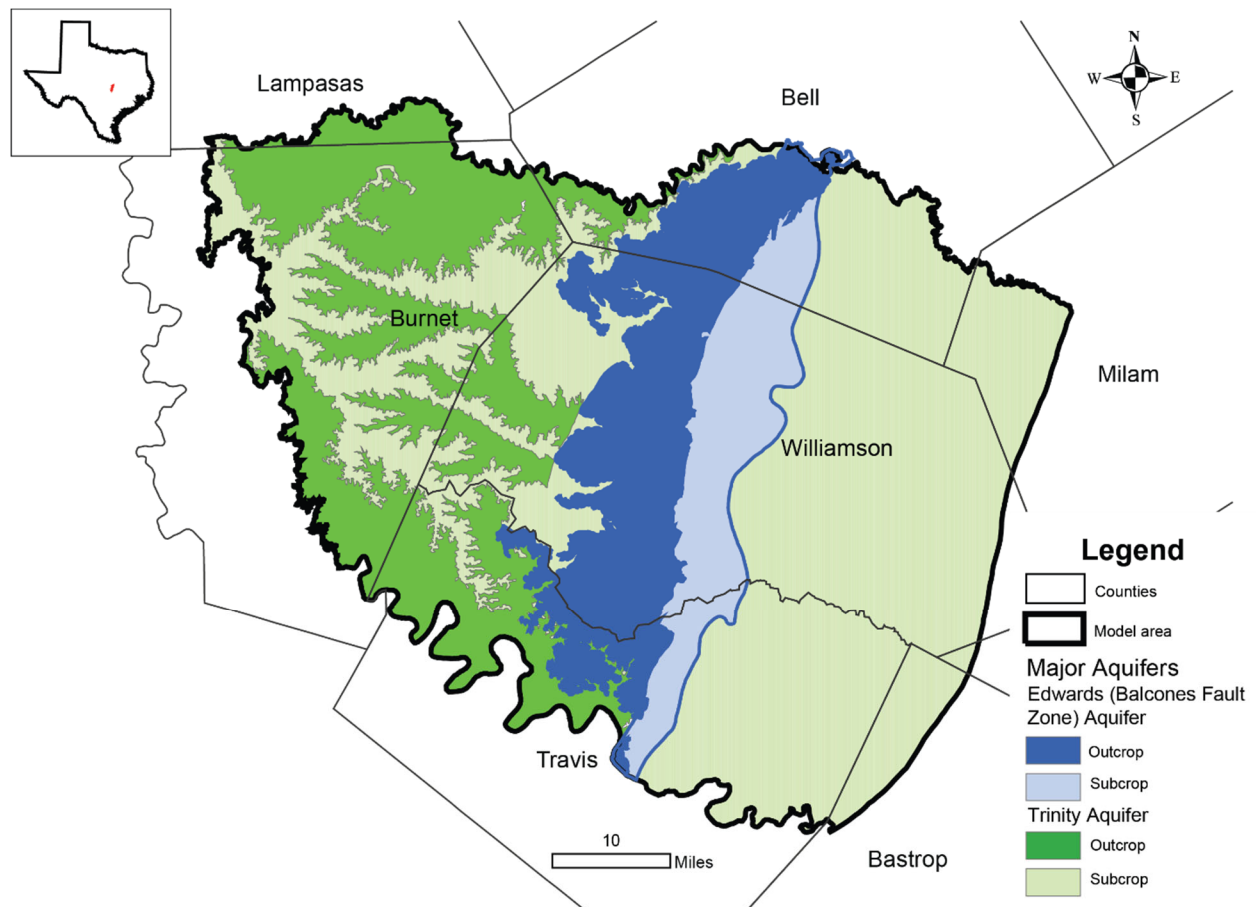


Figure 1.0.1. Locations of the major aquifers in the study area. The study area includes the northern segment of the Edwards (Balcones Fault Zone) Aquifer and adjacent and underlying portions of the Trinity Aquifer.

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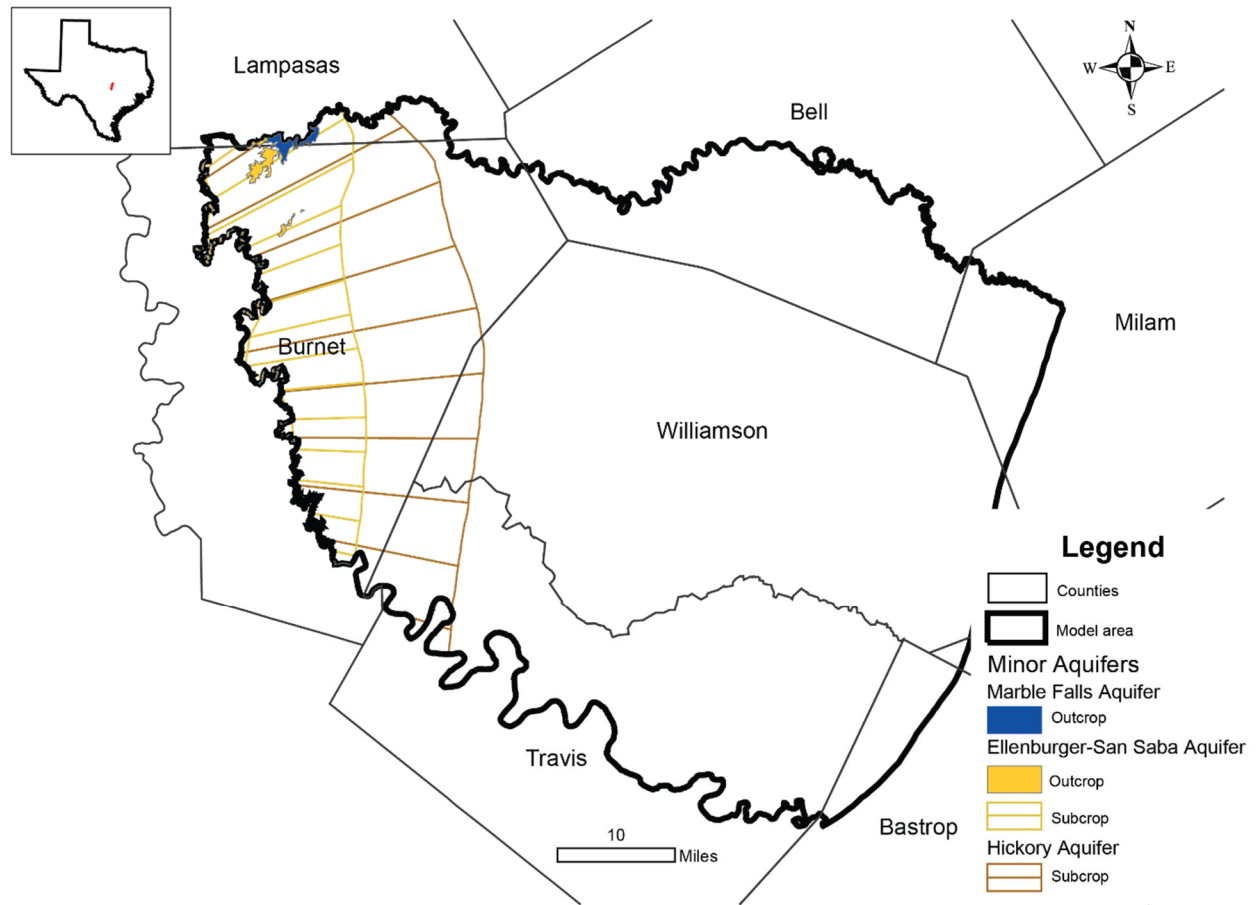


Figure 1.0.2. Locations of the minor aquifers in the study area.

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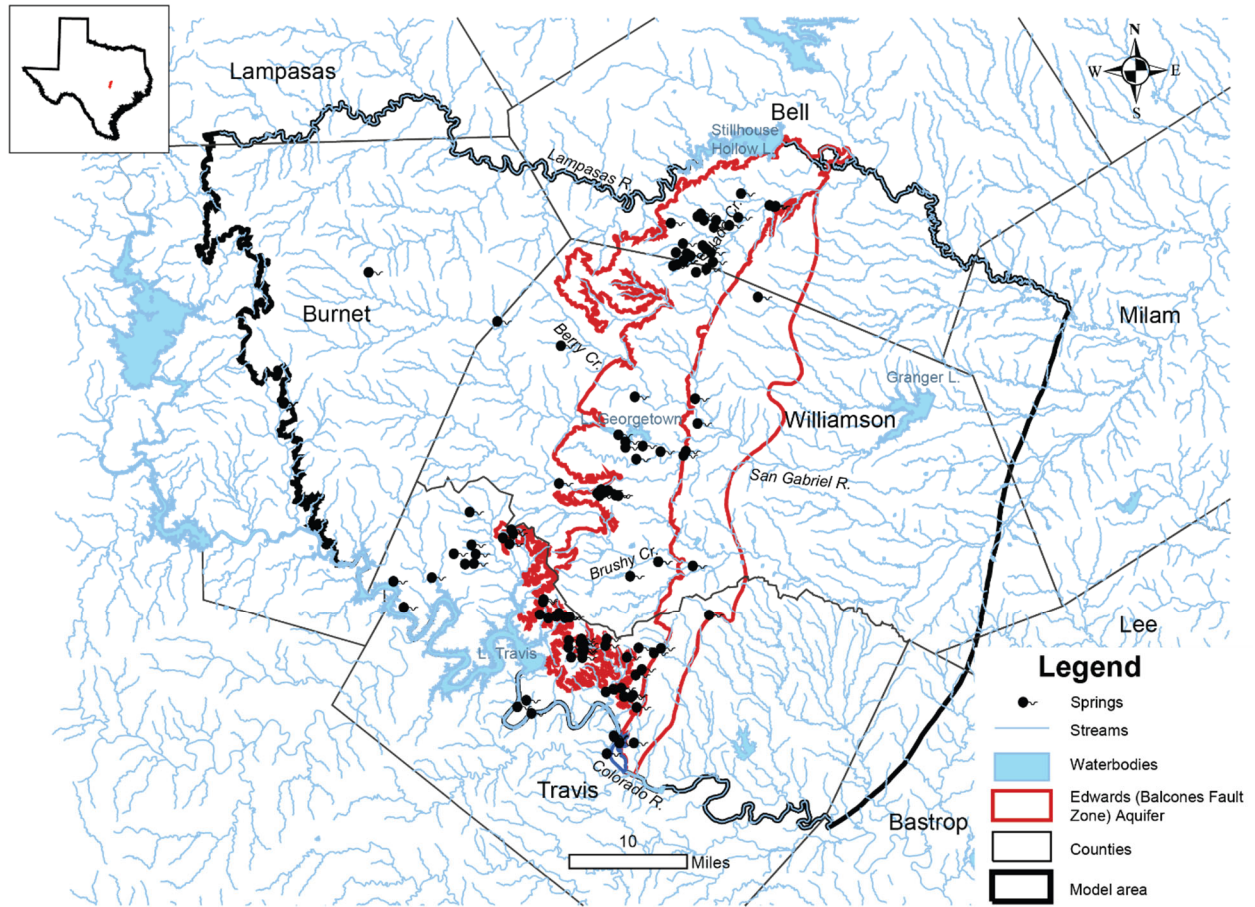


Figure 1.0.3. Surface waterbodies and streams located in the model study area.

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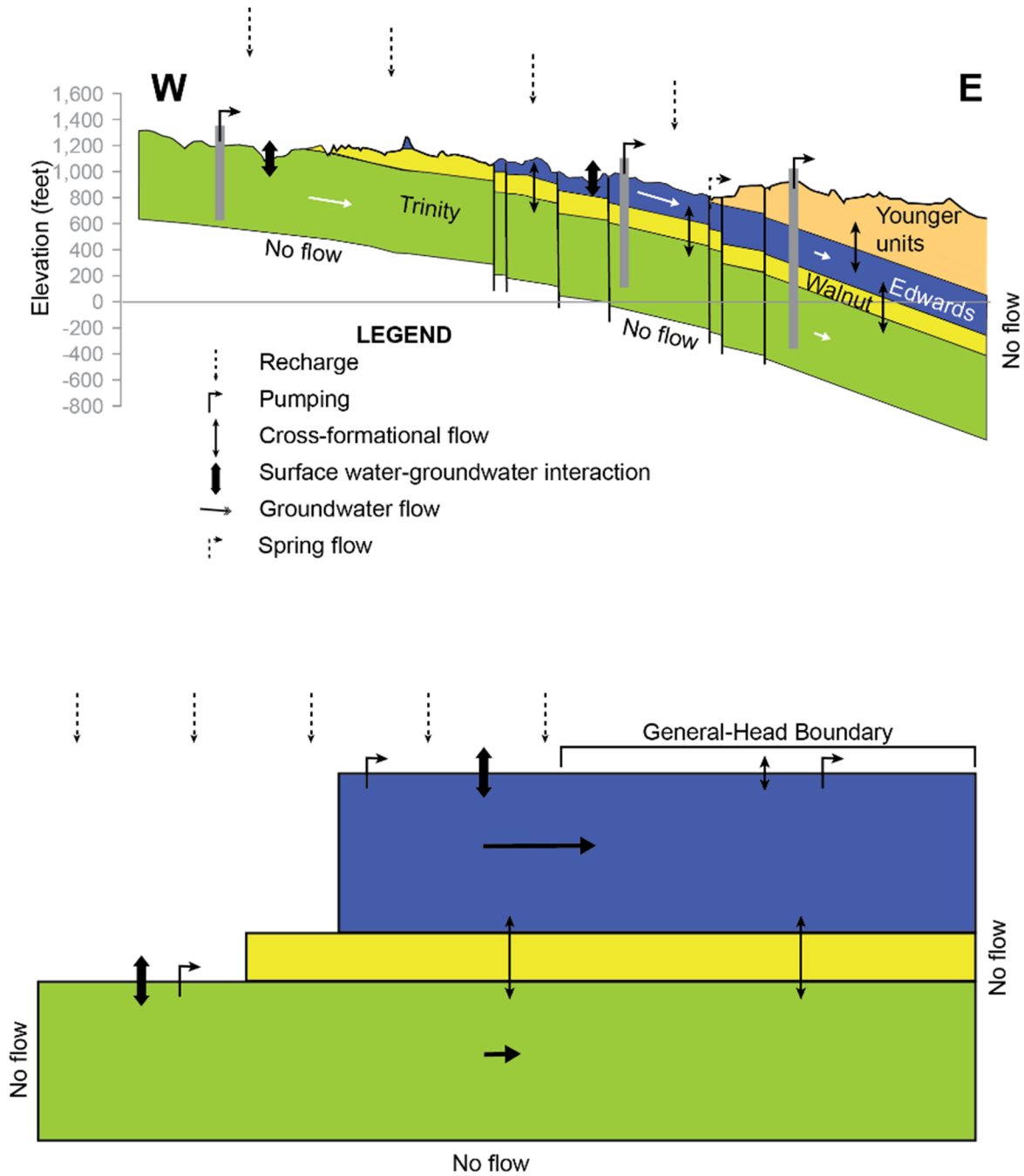


Figure 1.0.4. Schematic cross section and conceptual groundwater flow model for the northern segment of the Edwards (Balcones Fault Zone) Aquifer groundwater availability model.

2.0 MODEL OVERVIEW AND PACKAGES

The code selected for this groundwater model is MODFLOW-NWT (Niswonger, 2011). MODFLOW is a three-dimensional, finite-difference groundwater flow code, which is supported by boundary condition packages to handle recharge, rivers, springs, inter-aquifer flow, and pumping. The benefits of using MODFLOW include: 1) it incorporates the necessary physics of groundwater flow; 2) it is the most widely accepted groundwater flow code in use today; 3) it was written and is supported by the U.S. Geological Survey and is therefore in the public domain; 4) it is well documented (McDonald and Harbaugh, 1988; Harbaugh and McDonald, 1996; Harbaugh and others, 2000; Harbaugh, 2005; Niswonger, 2011); and 5) it has a large user group. Additionally, there are numerous graphical user interfaces that can be used to develop MODFLOW models and to process model results. Because of the significant differences between the original and updated groundwater availability models of the northern segment of the Edwards (Balcones Fault Zone) Aquifer, it was decided to continue using a uniform model grid and to update the version of MODFLOW from MODFLOW-96 to MODFLOW-NWT to expedite calibration of the updated model. In future updates of the model, it will be possible to make further changes by utilizing unstructured model grids using either MODFLOW USG or MODFLOW 6 (Panday and others, 2013; Langevin and others, 2017).

A MODFLOW model consists of a grouping of input text files—also called “packages”—that describe various components of the groundwater flow system. Table 2.0.1 shows input packages and their corresponding filenames. Table 2.0.2 shows the output files written by MODFLOW containing water levels (HDS), drawdown (DDN), water budget information (CBB), and a listing of the characteristics of the run (LST). A description of the contents and changes to each of the input packages shown in Table 2.0.1 are included in the sections that follow.

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Table 2.0.1. Summary of model input packages and filenames.

Packages	Input files
Basic (BAS6)	Nebfztr7nwt.bas
Name (NAM)	Nebfztr7nwt.nam
Discretization (DIS)	Nebfztr7nwt.dis
Newton Solver (NWT)	Nebfztr7nwt.nwt
Well (WEL)	Nebfztr7nwt.wel
Drain (DRN)	Nebfztr7nwt.drn
River (RIV)	Nebfztr7nwt.riv
General-Head Boundary (GHB)	Nebfztr7nwt.ghb
Recharge (RCH)	Nebfztr7nwt.rch
Upstream Weighting (UPW)	Nebfztr7nwt.upw
Output Control (OC)	Nebfztr7nwt.oc

Table 2.0.2. Summary of model output packages and filenames.

Packages	Output files
LIST (LST)	Nebfztr7nwt.lst
Cell-by-Cell Budgets (CBB)	Nebfztr7nwt.cbb
Heads (HDS)	Nebfztr7nwt.hds
Drawdown (DDN)	Nebfztr7nwt.ddn

2.1 Basic package

The MODFLOW Basic package is used to specify which cells in each model layer are active or inactive, and to specify the starting water levels for the simulation in the aquifers.

The groundwater availability model for the northern segment of the Edwards (Balcones Fault Zone) Aquifer represents the Edwards (Balcones Fault Zone) Aquifer and associated parts of the Trinity Aquifer. It also includes the Walnut Formation, a non-aquifer that forms a confining unit separating the two major aquifers. The model has three layers: Layer 1 (the Edwards [Balcones Fault Zone] Aquifer); Layer 2 (the Walnut Formation); and Layer 3 (the Trinity Aquifer) (Figure 1.0.4). Layers 2 and 3 are intended to act solely as boundary conditions facilitating groundwater inflow and outflow relative to the northern segment of the Edwards (Balcones Fault Zone) Aquifer (Layer 1). More

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accuracy for the underlying Trinity Aquifer may be obtained from the groundwater availability model for the Northern Trinity and Woodbine aquifers (Kelley and others, 2014).

Figures 2.1.1 through 2.1.3 show the active and inactive model cells for each of the three layers. Active model cells are indicated with a positive value of the variable IBOUND, an input to the Basic Package.

Grid cells were initially associated with each aquifer based on their assignment in existing TWDB groundwater flow models for the northern segment of the Edwards (Balcones Fault Zone) Aquifer (Layer 1), Walnut Formation (Layer 2), and Trinity Aquifer (Layer 3). Cells along the edges of the active model boundary that were isolated from the main part of the aquifer or unstable were removed to enhance model convergence and improve stability of the model. Initial water levels for the first stress period in the model were set to arbitrary elevations above the aquifer base to allow all model grid cells to start wet. The bottom of the model represents the base of the Trinity Aquifer and is a no-flow boundary.

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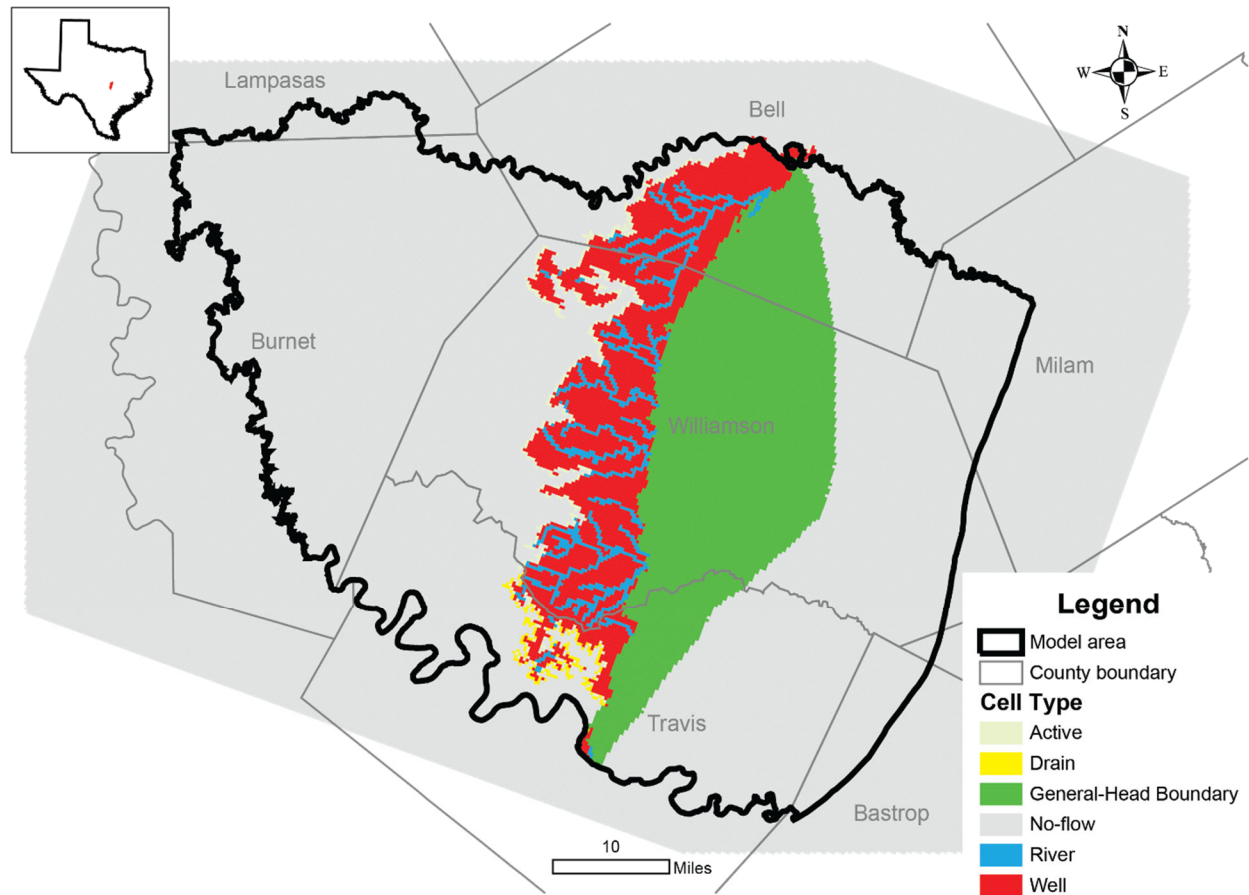


Figure 2.1.1. Location of the active model cells and boundary conditions in the northern segment of the Edwards (Balcones Fault Zone) Aquifer (Layer 1).

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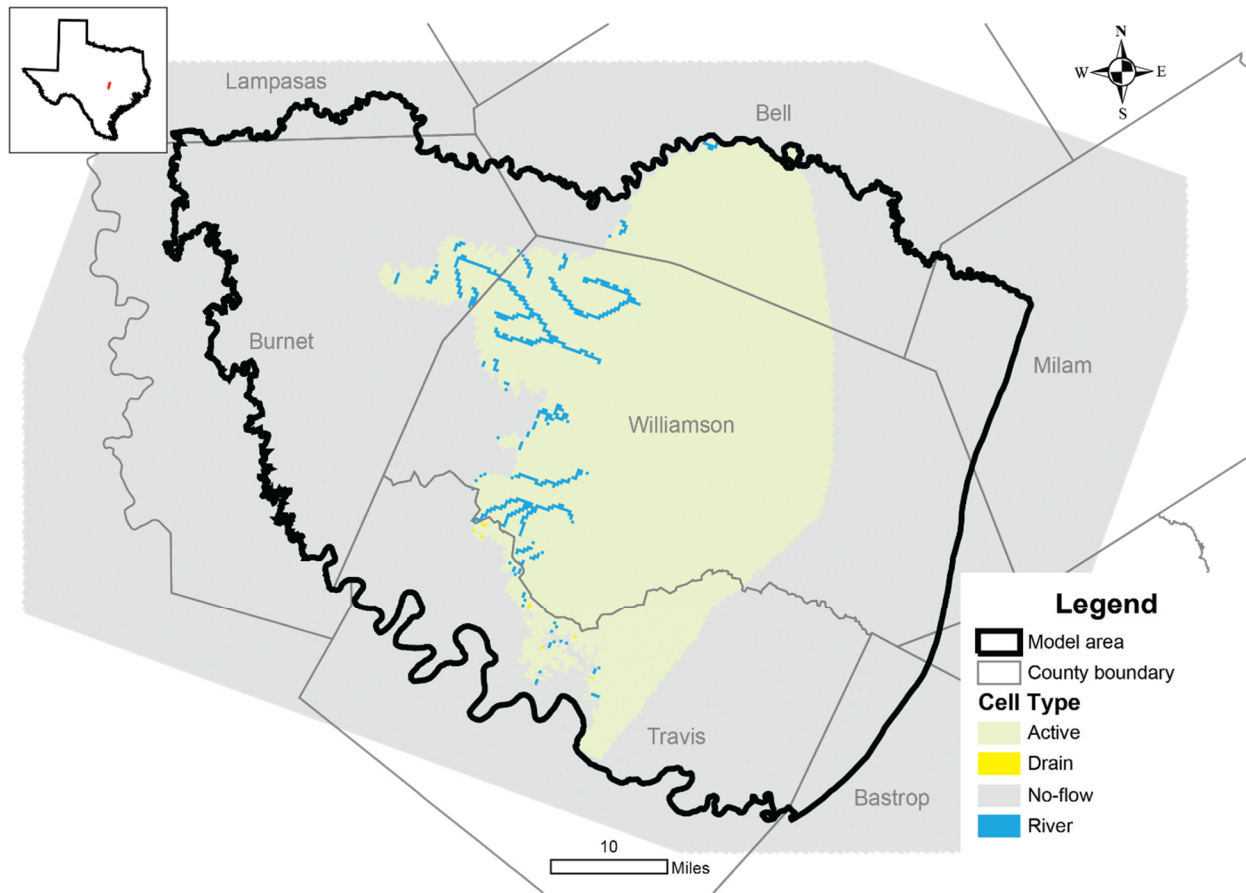


Figure 2.1.2. Location of the active model cells and boundary conditions in the Walnut Formation (Layer 2).

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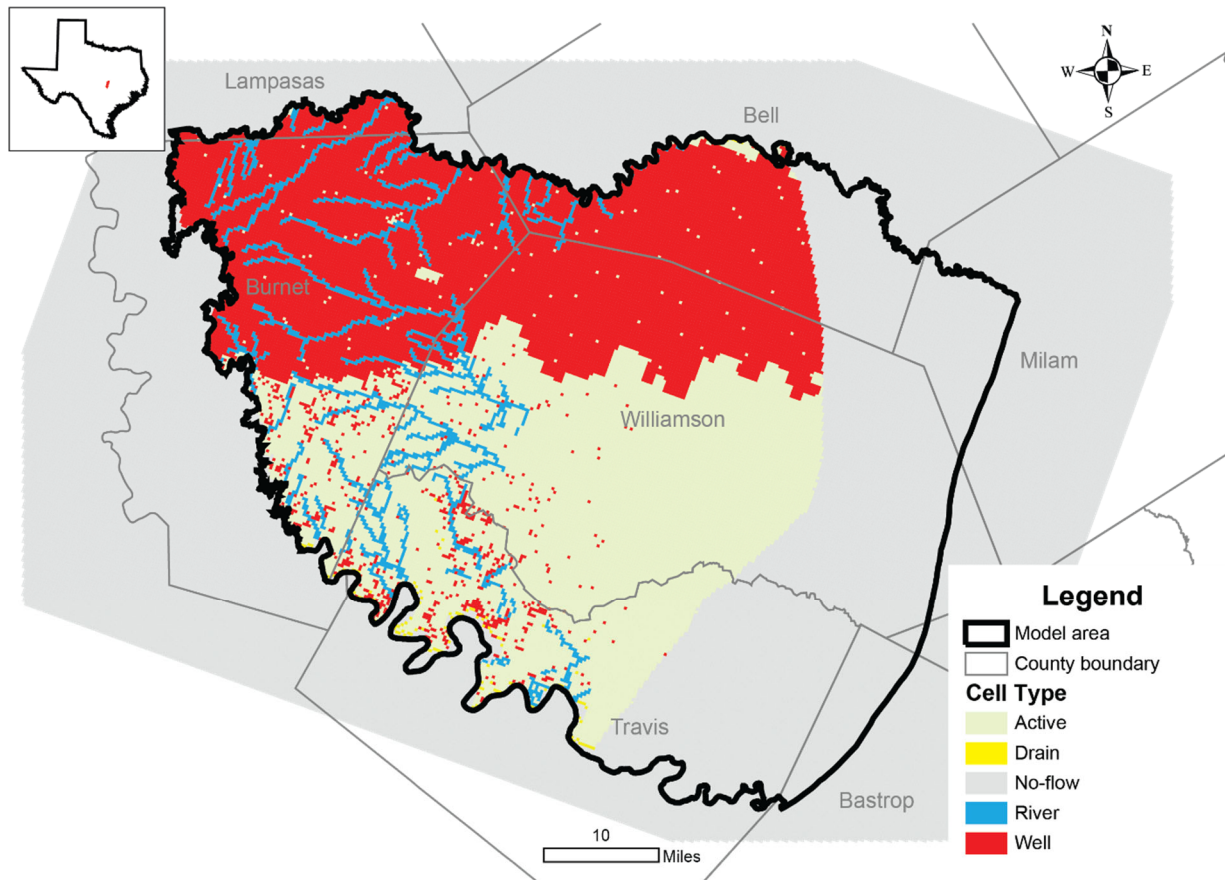


Figure 2.1.3. Location of the active model cells and boundary conditions in the Trinity Aquifer (Layer 3).

2.2 Name file

The name file contains the names and unit numbers of the input and output files that comprise the numerical model (Tables 2.0.1 and 2.0.2).

2.3 Discretization package

The MODFLOW Discretization package contains the model grid dimensions, the cell-by-cell elevations of the model layers, and a definition of the model stress periods.

The northern segment of the Edwards (Balcones Fault Zone) Aquifer groundwater availability model grid contains 3 layers, 270 rows, and 360 columns. There are a total of 291,600 model cells, of which 62,400 are active. The grid is uniform, with cells that are 1,320 feet square.

The model grid is oriented northeast to southwest, perpendicular to the principal groundwater flow direction, in the TWDB-designated coordinate system for groundwater availability models described in Anaya (2001). The lower left corner of the model grid is positioned at groundwater availability model coordinate system coordinates: 5,337,884

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easting, 19,414,575 northing, and has a 20-degree clockwise rotation. Figures 2.3.1 through 2.3.4 show the elevations of the top of Layer 1 and the bases of layers 1 through 3. The model has 432 monthly stress periods representing years 1980 through 2015. The first stress period is a steady-state stress period that represents January 1980 conditions. All subsequent monthly stress periods are transient. Appendix D shows the stress periods, types, times, and durations.

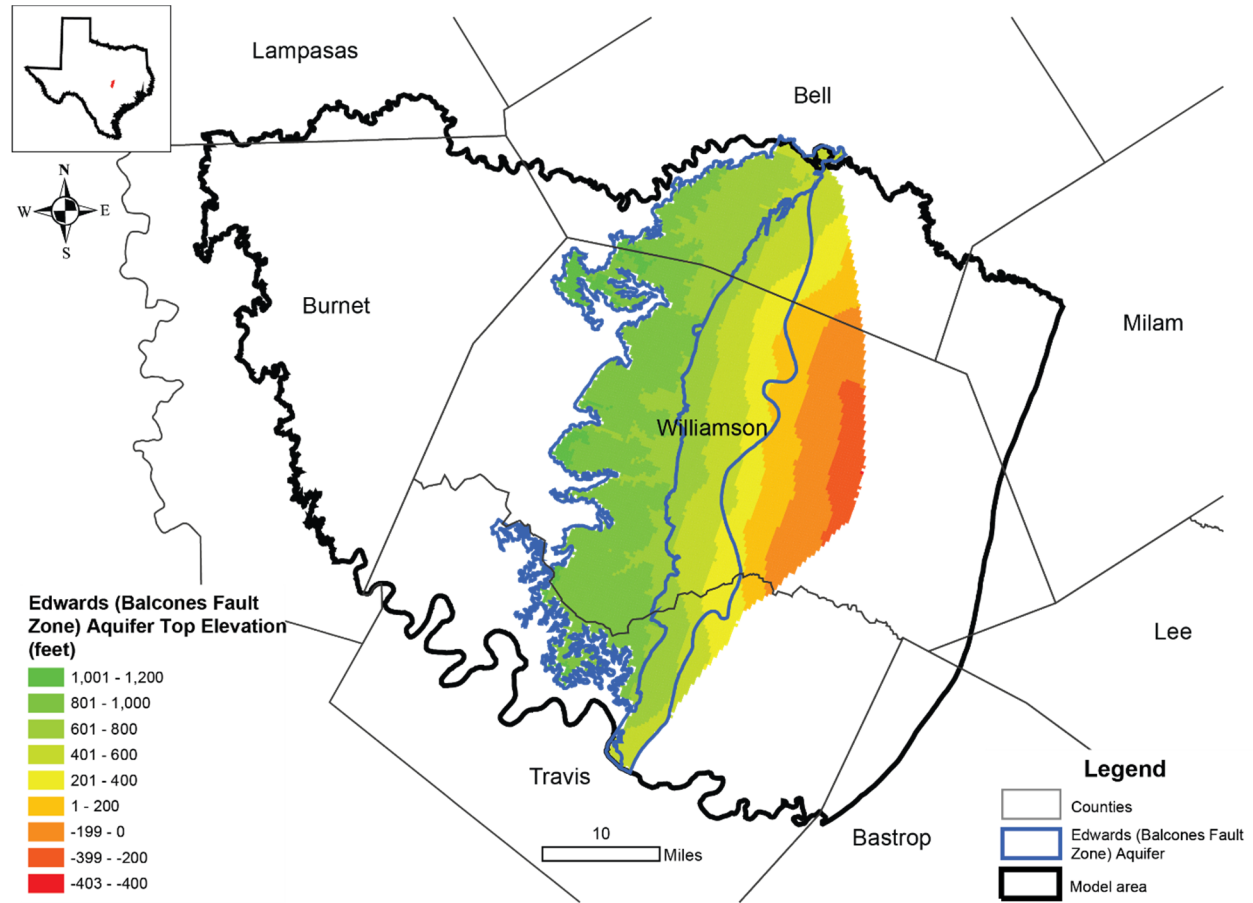


Figure 2.3.1. Top elevation (feet above mean sea level) in the northern segment of the Edwards (Balcones Fault Zone) Aquifer (Layer 1).

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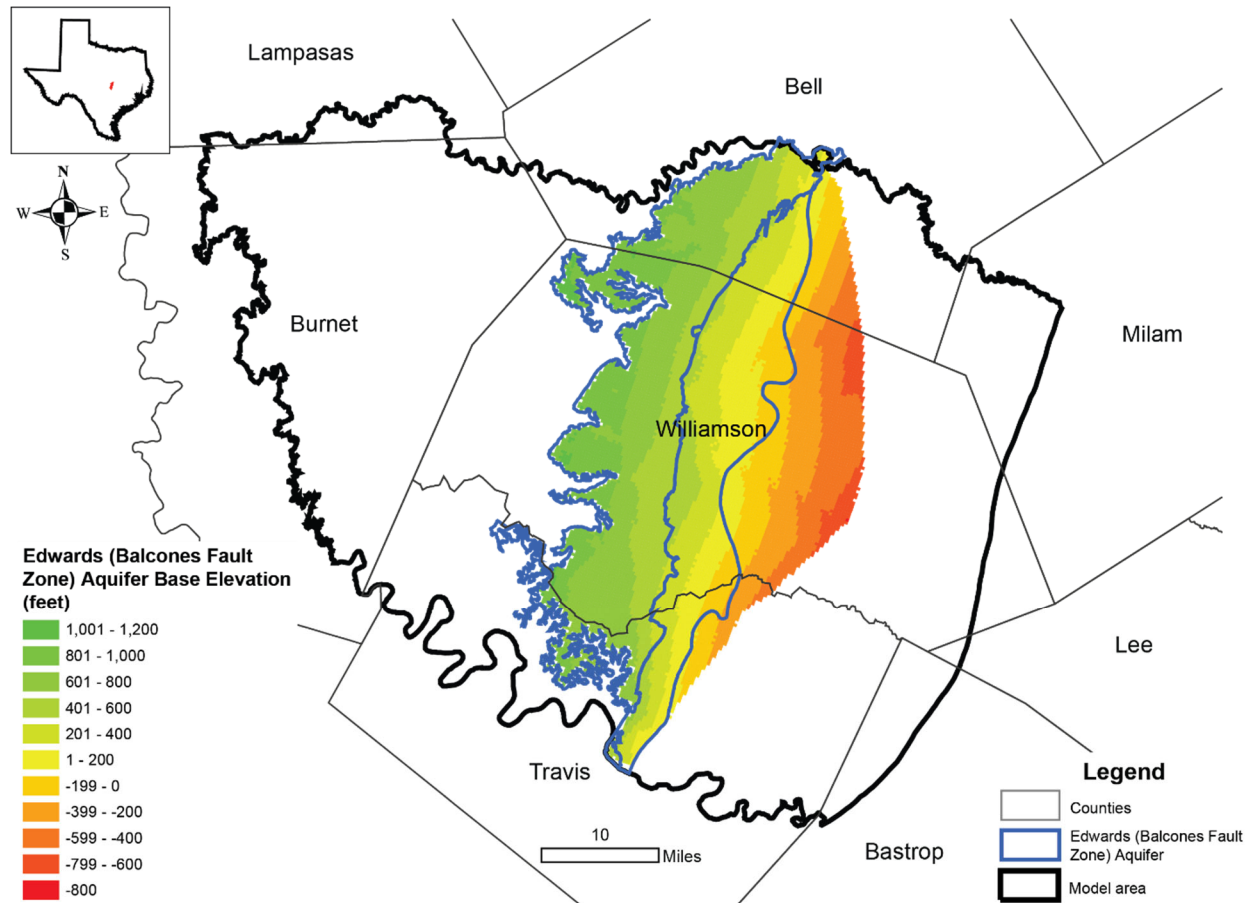


Figure 2.3.2. Base elevation (feet above mean sea level) in the northern segment of the Edwards (Balcones Fault Zone) Aquifer (Layer 1).

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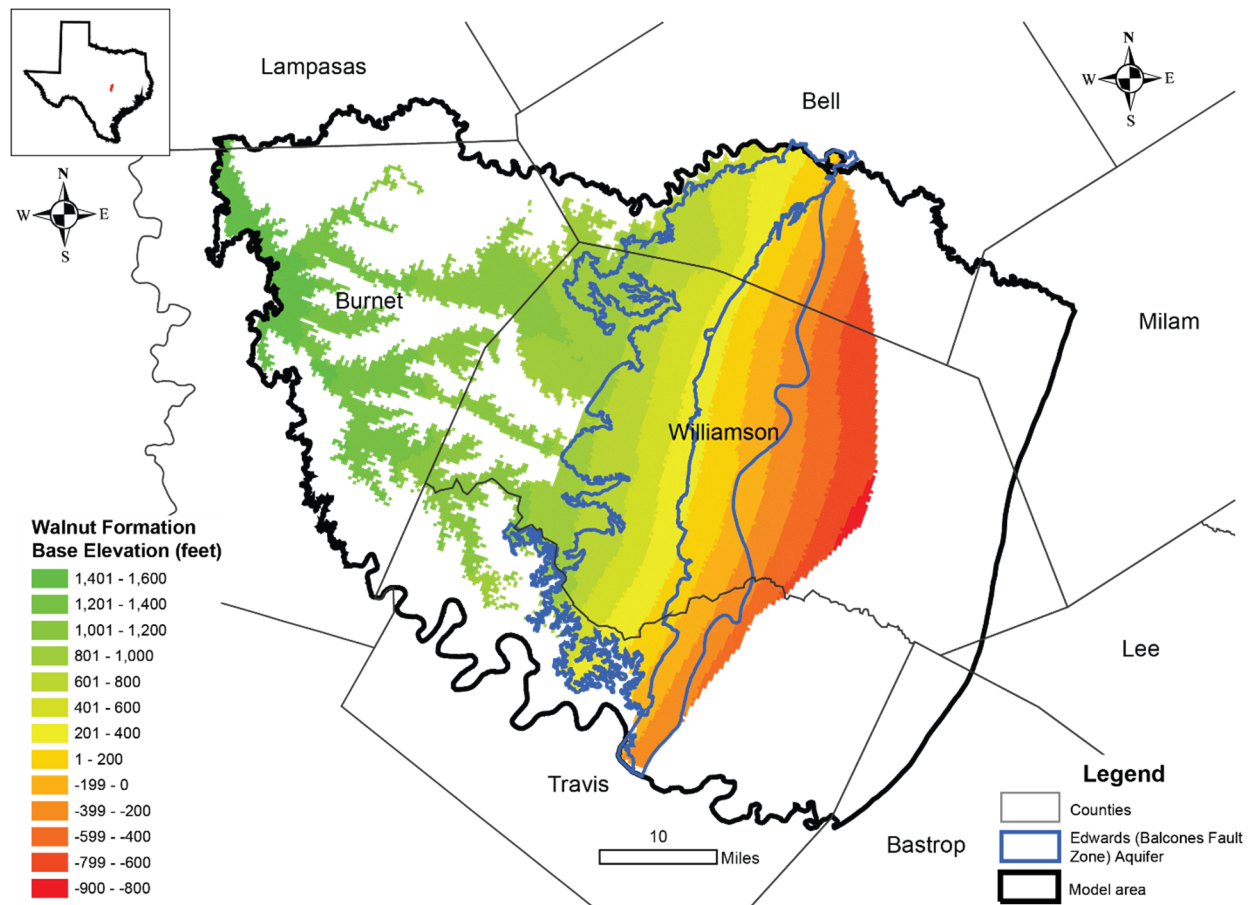


Figure 2.3.3. Base elevation (feet above mean sea level) in the Walnut Formation (Layer 2).

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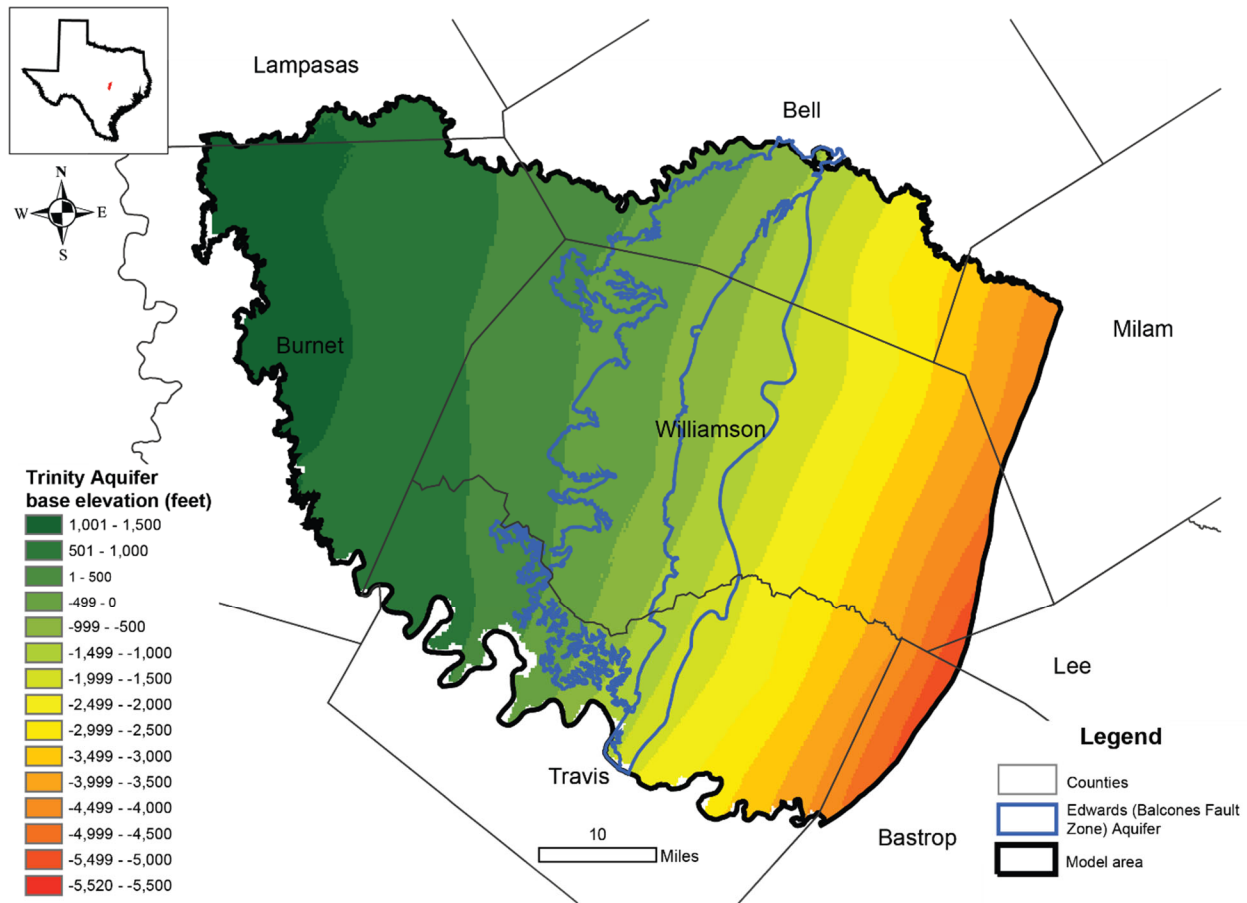


Figure 2.3.4. Base elevation (feet above mean sea level) in the Trinity Aquifer (Layer 3).

2.4 Upstream Weighting package

The Upstream Weighting package is used to specify properties controlling flow between cells in MODFLOW-NWT. This package contains the flags for layer type, method of calculating inter-block transmissivity, horizontal anisotropy, whether the model utilizes input vertical hydraulic conductivity or the ratio of horizontal to vertical hydraulic conductivity, and indication of whether wetting is active. In this model, the layer type was set to zero for all layers, which assumes a constant transmissivity throughout the simulation. This assumption is acceptable because water-level drawdowns are a small fraction of the total saturated thickness in the study area. As a result of this specification, the only storage value required is the specific storage (Ss). By assuming a constant transmissivity, no cells convert to dry during the simulation irrespective of whether the water level is above or below the aquifer base.

The northern segment of the Edwards (Balcones Fault Zone) Aquifer is highly heterogeneous at local-scale resolutions. However, it is impossible to develop a regional-scale groundwater flow model representing local-scale properties of a complex

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fractured, faulted, and hypogene karst aquifer when sufficient data does not exist at a regional scale. The northern segment of the Edwards (Balcones Fault Zone) Aquifer is assumed homogenous at a regional-scale resolution. The homogeneity assumption is justified because, at regional scales, the fine-scale heterogeneity of measured hydraulic properties is averaged out over the volumes of the model cells.

Horizontal and vertical hydraulic conductivity values were assigned based on calibration zones (Figures 2.4.1 through 2.4.3 and Table 2.4.1). These hydraulic zones represent hydrostratigraphic units within the model area characterized by similar hydraulic properties and thus, at the regional scale, can be simulated using the same hydraulic property value. Many of the hydraulic property values were taken or averaged from existing groundwater availability models and adjusted during the model calibration process (see Jones, 2023a). There are nine calibration zones for hydraulic conductivity in the model: three in Layer 1 representing the northern segment of the Edwards (Balcones Fault Zone) Aquifer; one in Layer 2 representing the Walnut Formation; and five in Layer 3 representing the Trinity Aquifer (Table 2.4.1). In the northern segment of the Edwards (Balcones Fault Zone) Aquifer Zone 2 represents the main parts of the aquifer, Zone 3 contains major faults, and Zone 4 represents the Salado Creek watershed (Figure 2.4.1). The Walnut Formation Zone 1 is a confining unit characterized by low permeability (Figure 2.4.2). Specific details about the calibration are provided in the “Model calibration and results” section below. Vertical hydraulic conductivity was assigned and calibrated using the same zones as horizontal hydraulic conductivity. Recharge and storage coefficients were assigned and calibrated according to the model layers (Tables 2.4.2 and 2.4.3).

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Table 2.4.1. Horizontal and vertical hydraulic conductivity for the respective calibration zones expressed in feet per day. The hydraulic conductivity zones are numbered as they appear in the model and are shown in Figures 2.4.1 through 2.4.3.

Zone	Zone number	Model layer	Horizontal hydraulic conductivity	Vertical hydraulic conductivity
Edwards (Balcones Fault Zone) Aquifer	2	1	106.0	1.67
	3	1	1,431.5	143.2
	4	1	1.0	0.1
Walnut Formation	1	2	0.003	0.14
Trinity Aquifer	1829	3	0.01	8.17
	1828	3	0.06	0.0001
	1827	3	9.35	0.102
	1615	3	0.59	0.0006
	1830	3	0.59	0.0006

Table 2.4.2. Specific storage for the respective calibration zones expressed in per foot.

Zone	Zone number	Model layer	Value
Edwards (Balcones Fault Zone) Aquifer	1	1	1.31×10^{-6}
Walnut Formation	2	2	2.62×10^{-8}
Trinity Aquifer	3	3	5.38×10^{-4}

Table 2.4.3. Recharge for January 1980 for the respective calibration zones expressed in feet per day and inches per year.

Zone	Zone number	Model layer	Recharge (feet per day)	Recharge (inches per year)
Edwards (Balcones Fault Zone) Aquifer	1	1	2.91×10^{-4}	1.28
Walnut Formation	2	2	4.00×10^{-5}	0.18
Trinity Aquifer	3	3	8.00×10^{-5}	0.35

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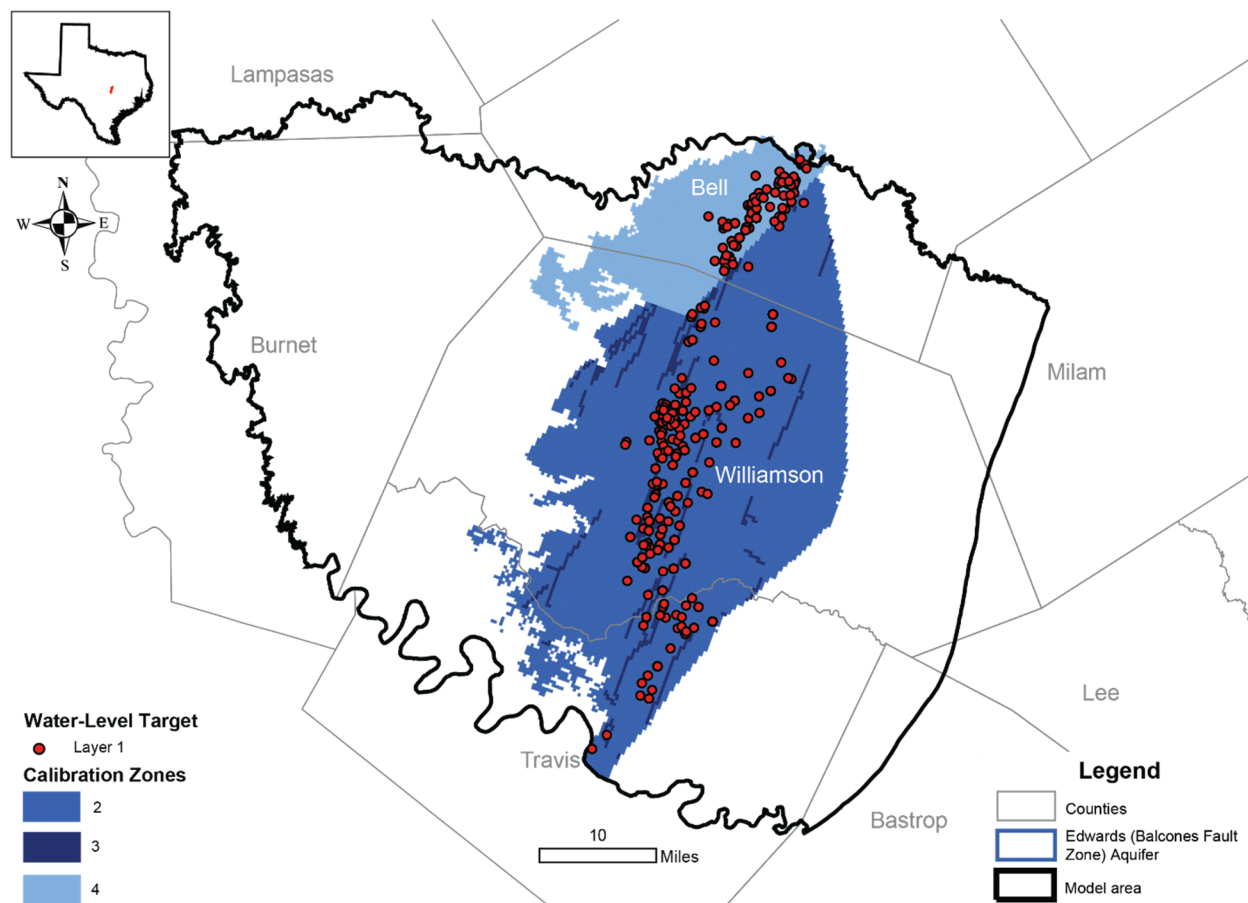


Figure 2.4.1. Horizontal and vertical hydraulic conductivity calibration zones and water-level targets in the northern segment of the Edwards (Balcones Fault Zone) Aquifer (Layer 1).

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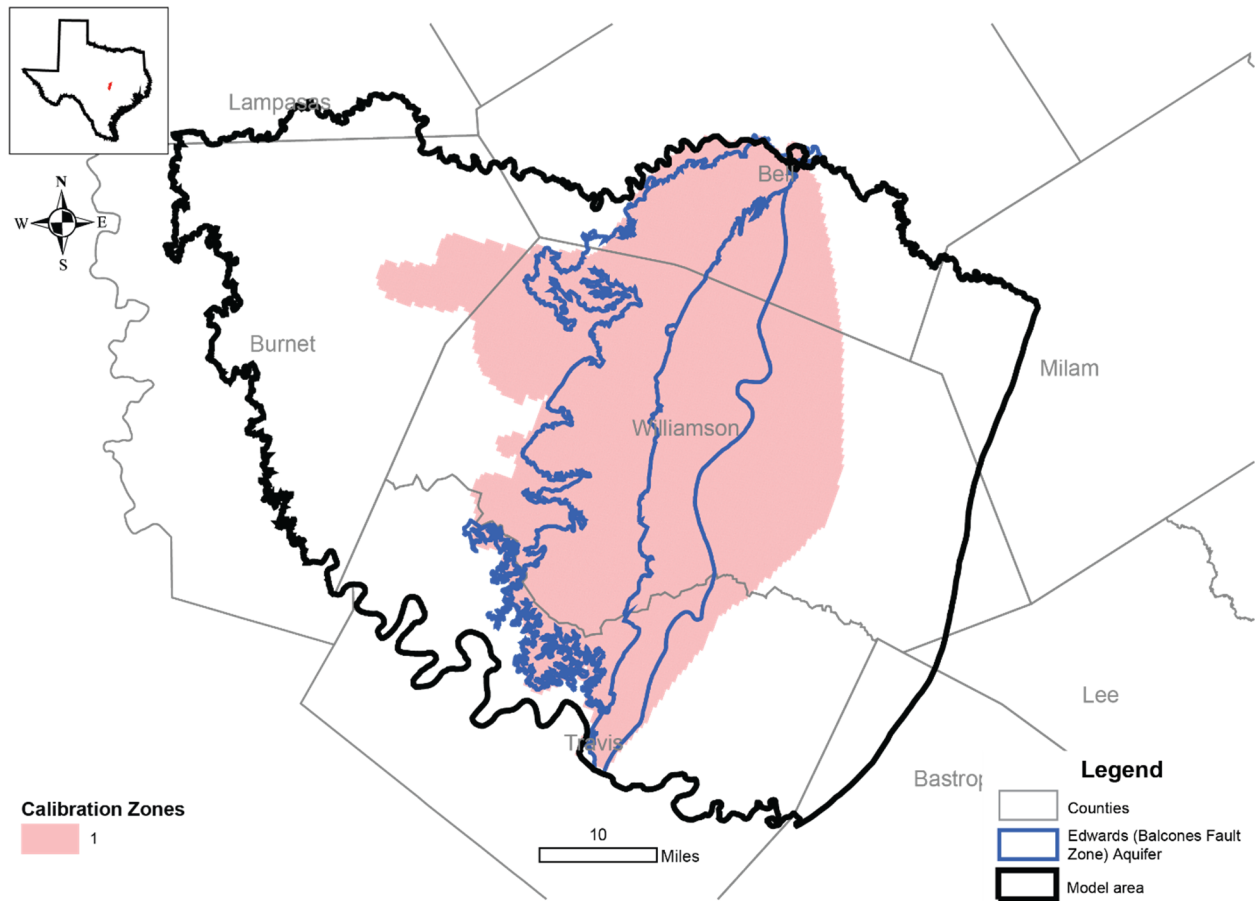


Figure 2.4.2. Horizontal and vertical hydraulic conductivity calibration zones and water-level targets in the Walnut Formation (Layer 2).

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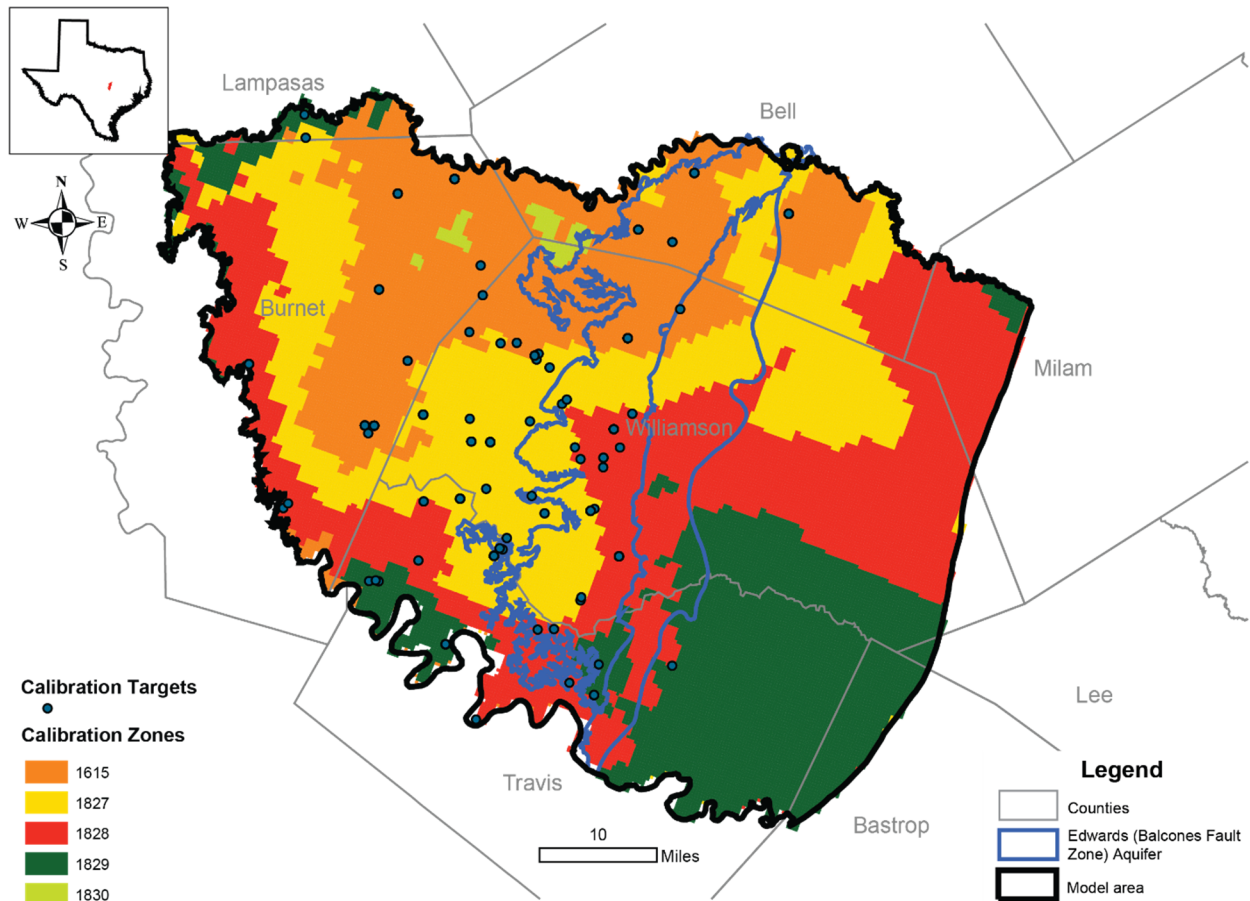


Figure 2.4.3. Horizontal and vertical hydraulic conductivity calibration zones and water-level targets in the Trinity Aquifer (Layer 3).

2.5 Well package

The MODFLOW Well package contains groundwater withdrawal information for municipal, manufacturing, domestic, livestock, irrigation, and mining uses (Figures 2.5.1 and 2.5.2; Appendix C). Most groundwater use estimates for the years 1980 through 2015 for the northern segment of the Edwards (Balcones Fault Zone) Aquifer were assigned based on data from the TWDB Water Use Survey. The domestic and livestock pumping from the northern segment of the Edwards (Balcones Fault Zone) Aquifer was distributed in zones based on population density and land use information, respectively. Manufacturing pumping from the northern segment of the Edwards (Balcones Fault Zone) Aquifer was distributed in time and space based on known well locations and pumping data from the TWDB Water Use Survey. Pumping from Layer 3 was based on pumping in the groundwater availability model for the Northern Trinity and Woodbine aquifers (Kelley and others, 2014). No pumping was assigned to the Walnut Formation confining unit.

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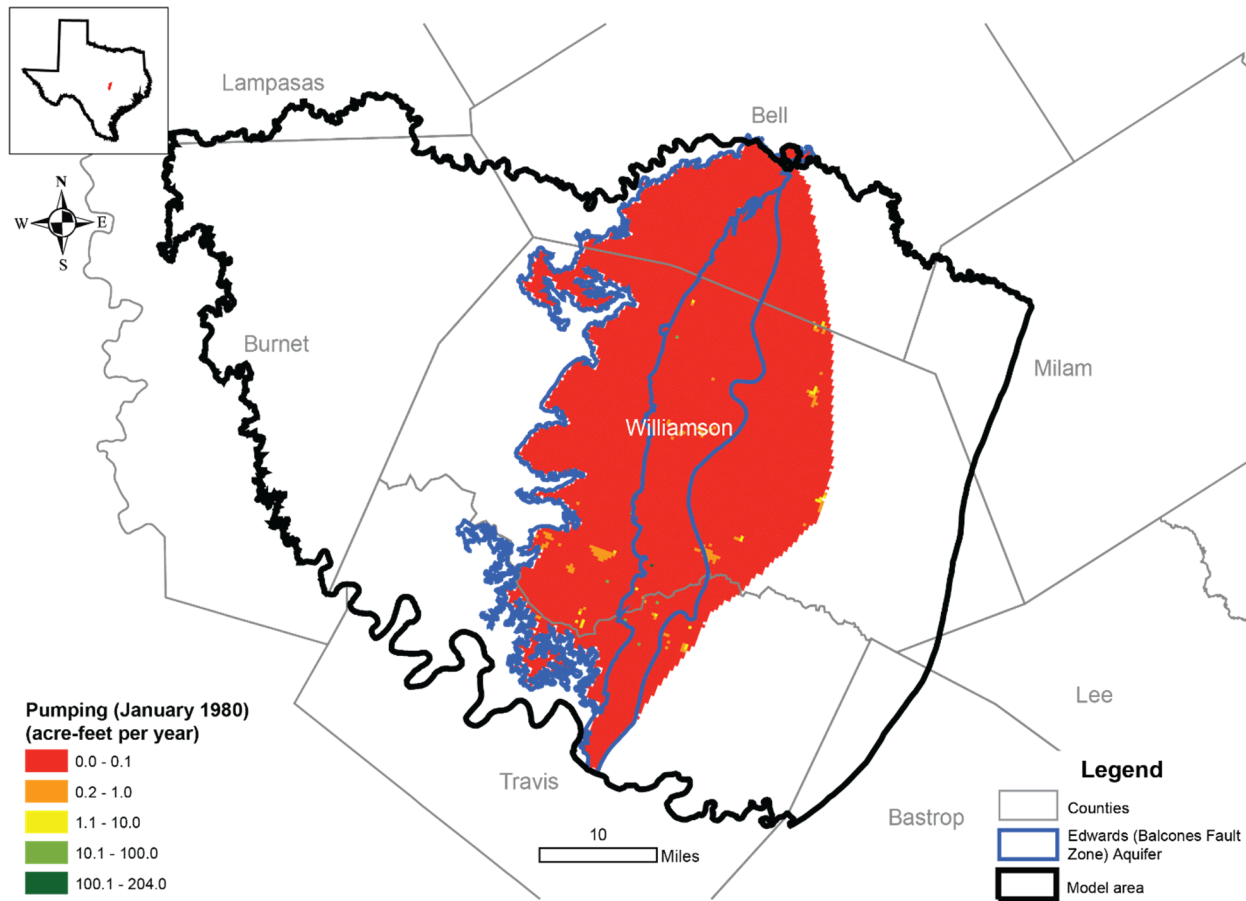


Figure 2.5.1. Pumping rates for January 1980 in the northern segment of the Edwards (Balcones Fault Zone) Aquifer (Layer 1).

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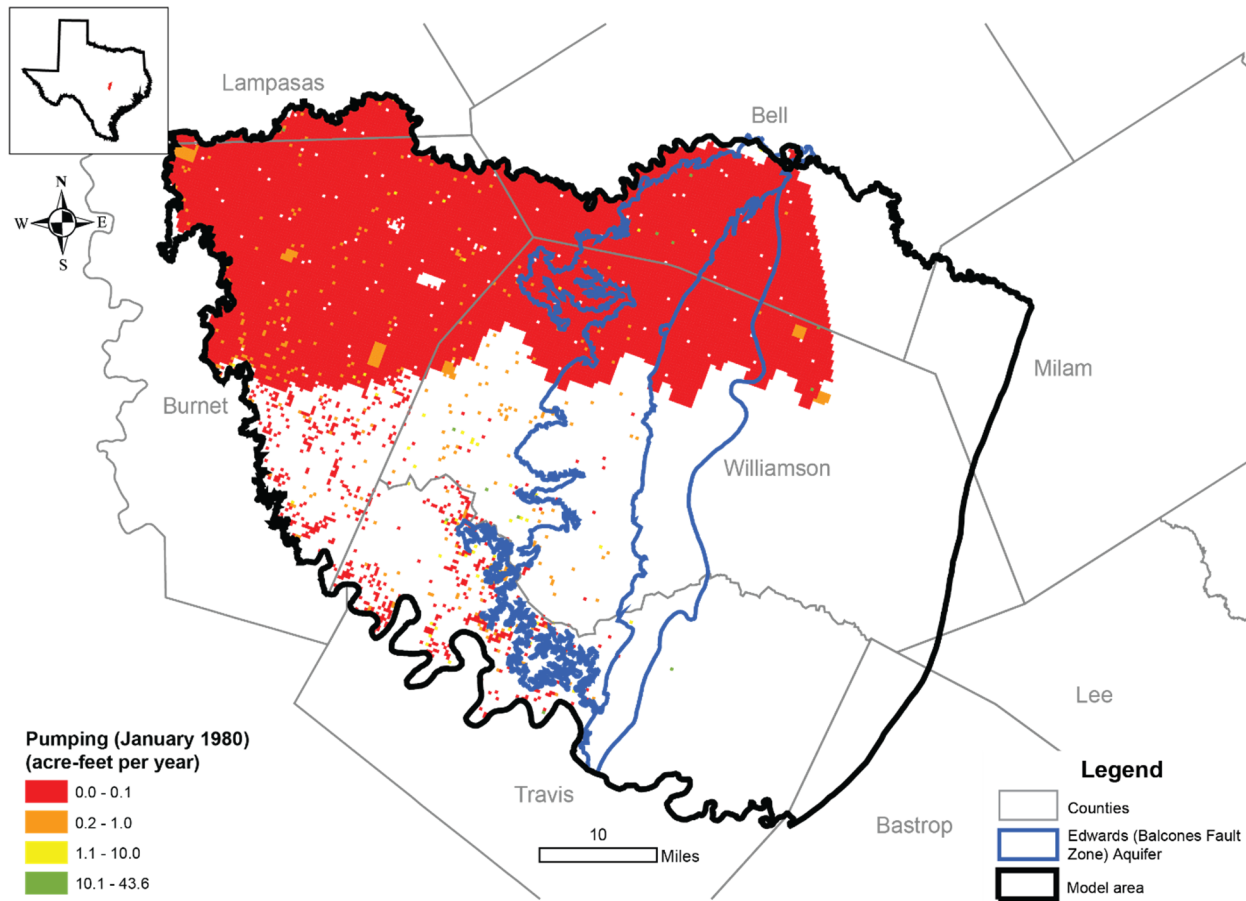


Figure 2.5.2. Pumping rates for January 1980 in the Trinity Aquifer (Layer 3).

2.6 Drain package

The MODFLOW Drain package was used to simulate groundwater outflow to springs and seeps and interactions with the Colorado and Lampasas rivers (Table E.1.1). Drain cells in the model occur in all three layers and are shown in Figures 2.1.1 through 2.1.3. Spring drain cells were based on known spring locations (Jones, 2023a), along the southern outcrop margins of the Edwards (Balcones Fault Zone) Aquifer in Layer 1, also in the south in Layer 2 and mostly along the Lampasas and Colorado rivers in Layer 3.

During model simulations, outflow to drains only occurs whenever the water-level elevation in the aquifer is higher than the elevation of the drain, which represents the stage of the spring. The resistance to the outflow to a drain is controlled by the drain conductance. The calibrated drain conductance values are 10,000 and 1,000,000 square feet per day for seeps and known springs, respectively, in layer 1 and 2. In Layer 3, drain conductance is set at 1,000,000 square feet per day. Drain location, elevation, and conductance remained constant for all stress periods.

2.7 Newton Solver package

MODFLOW Newton Solver package is used to solve the finite difference equations in each step of a MODFLOW-NWT stress period. This solver is only used when using MODFLOW-NWT.

2.8 General-Head Boundary package

The General-Head Boundary (GHB) package was used to represent groundwater flow between the Edwards (Balcones Fault Zone) Aquifer and overlying stratigraphic units (Figure 2.1.1). The General-Head Boundary package allows flow into or out of a model based on the difference between the water-level value in a cell and the specified general-head boundary water-level value, along with the conductance properties that determine how easily flow can occur. The water-level values along the respective boundaries are based on estimated potentiometric surfaces in the overlying stratigraphic units. The calibrated conductance used is 0.02 square feet per day.

2.9 Recharge package

The MODFLOW Recharge package was used to simulate recharge to the groundwater flow system in the model. Recharge was applied in the outcrops (uppermost active layer) of the northern segment of the Edwards (Balcones Fault Zone) and Trinity aquifers, and the Walnut Formation confining unit (Figure 2.9.1).

Calibrated recharge to the model area was roughly based on a fraction of monthly precipitation averaged over the model area. Recharge to the Edwards (Balcones Fault Zone) Aquifer, Walnut Formation, and Trinity Aquifer represent approximately 10 percent, 1 percent, and 3 percent of median annual precipitation in the study area (33 inches), respectively. The result was an estimated recharge of 2.8×10^{-4} to 2.0 inches per month over the modeling period. Table 2.9.1 shows total recharge for each stress period in the model simulation.

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Table 2.9.1. Total annual recharge for each stress period (acre-feet per year).

Year	Total recharge (acre-feet per year)	Year	Total recharge (acre-feet per year)
1980	117,213	1998	237,560
1981	57,762	1999	153,100
1982	149,370	2000	39,088
1983	58,300	2001	121,671
1984	63,646	2002	171,619
1985	59,637	2003	97,281
1986	98,879	2004	42,457
1987	139,174	2005	333,517
1988	85,832	2006	44,080
1989	34,902	2007	55,982
1990	53,230	2008	330,256
1991	82,436	2009	32,496
1992	287,299	2010	180,995
1993	222,331	2011	89,113
1994	82,886	2012	33,027
1995	82,276	2013	97,364
1996	61,588	2014	120,426
1997	63,901	2015	133,843

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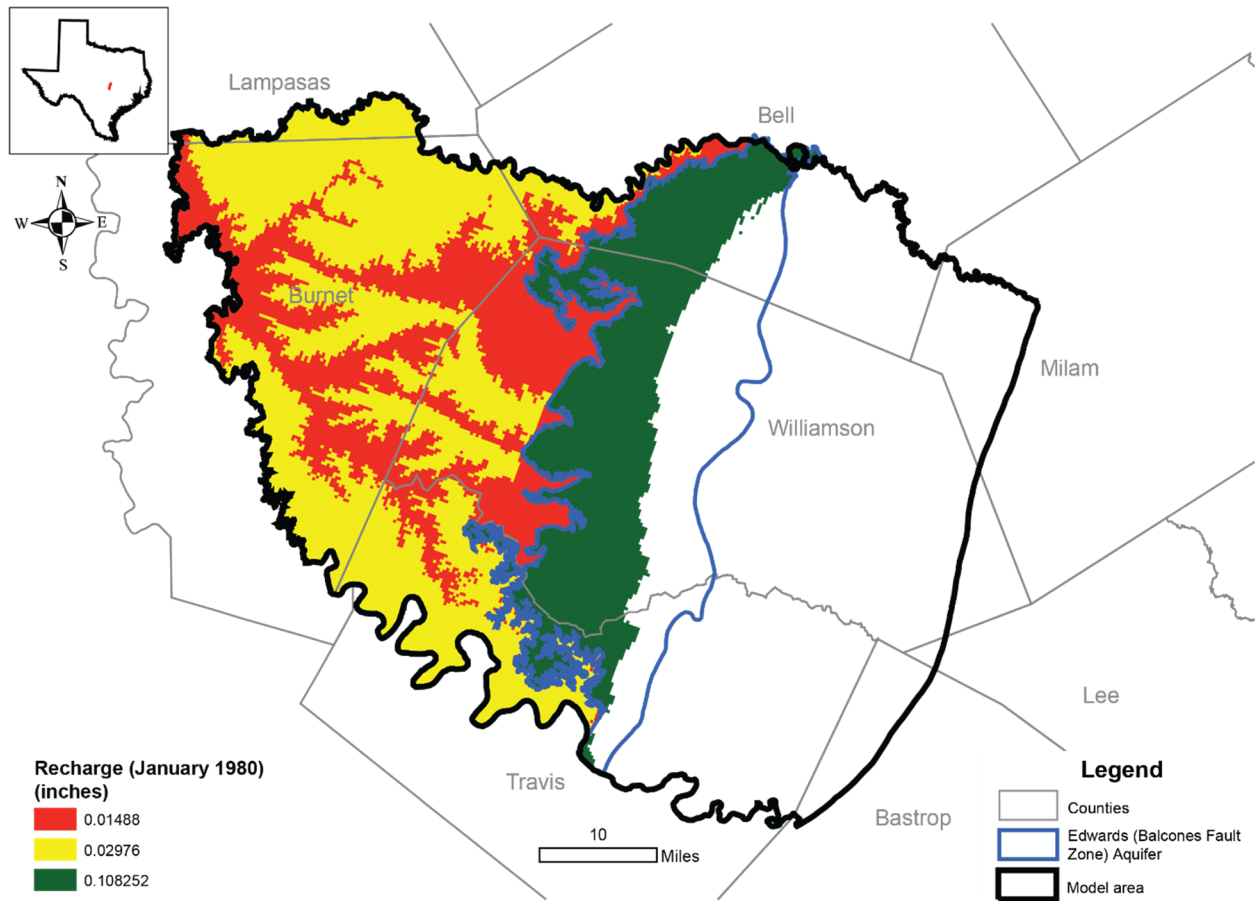


Figure 2.9.1. Recharge rates (inches) for January 1980 in model area.

2.10 River package

The River Package was used to simulate the interaction of groundwater with the rivers and streams that cross the model area (Figures 2.1.1 through 2.1.3). River package cells occur in all three model layers.

Recalibration of the Salado Creek watershed was achieved by adjusting the river bottom, stage elevations, and river conductance.

2.11 Output Control file

The MODFLOW Output Control file specifies when water level, drawdown, and water budget information are saved during the simulation. The Output Control file was set up to save these results at the end of each stress period.

3.0 MODEL CALIBRATION AND RESULTS

Calibrating a groundwater model involves adjusting various model parameters, such as hydraulic properties and boundary conditions—within a reasonable range—to match simulated water levels to measured water levels. A calibrated groundwater flow model is a tool that can be used to test or predict the effects of future pumping and recharge conditions. A model that is calibrated over a range of historical conditions can improve the reliability of these predictions.

The northern segment of the Edwards (Balcones Fault Zone) Aquifer groundwater availability model was calibrated to measured water levels at wells. Hydraulic conductivity, storativity, recharge values, the general-head boundary, and river conductance values were adjusted using parameter estimation software (PEST), an industry-standard inverse modeling software package (Watermark Numerical Computing, 2005), and by trial and error.

3.1 Calibration procedure

The steady-state stress period in this groundwater flow model represents the condition of the aquifer system in 1980. There are 273 well locations with 2,575 water-level measurements in the northern segment of the Edwards (Balcones Fault Zone) Aquifer (Layer 1) and 36 locations with 591 water-level measurements in the Trinity Aquifer (Layer 3) over the model period of 1980 through 2015. There are no water-level targets in the Walnut Formation confining unit (Layer 2). Consequently, the Walnut Formation is not calibrated in the model. The lack of water-level targets in Layer 2 provides a challenge to calibrating the model. However, this challenge is reduced by modest water-level fluctuations over the calibration period.

Traditional calibration measures (Anderson and Woessner, 2002) such as the mean error, the mean absolute error, and root mean square error quantify the average error in the calibration process (the average difference between measured and simulated water levels). The mean error is the mean of the differences between measured water levels and simulated water levels:

$$\text{mean error} = \frac{1}{n} \sum_{i=1}^n (h_m - h_s)_i \quad (3.1.1)$$

where:

h_m = measured water level (feet above mean sea level)

h_s = simulated water level (feet above mean sea level)

n = number of calibration measurements.

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The mean absolute error is the mean of the absolute value of the differences between simulated water levels and measured water levels:

$$\text{mean absolute error} = \frac{1}{n} \sum_{i=1}^n |(h_m - h_s)_i| \quad (3.1.2)$$

The root mean square error or the standard deviation is the square root of the mean of the squared differences between simulated water levels and measured water levels:

$$\text{root mean square error} = \left[\frac{1}{n} \sum_{i=1}^n |(h_m - h_s)_i|^2 \right]^{0.5} \quad (3.1.3)$$

The residual is the difference between a measured water level and a simulated water level:

$$\text{residual} = (h_m - h_s) \quad (3.1.4)$$

The mean absolute error was used as the basic calibration metric for water levels. It is a general indicator of whether simulated water levels are different from the measured water levels. A typical calibration criterion for water levels is a mean absolute error that is less than or equal to 10 percent of the measured water-level range in the simulated aquifer.

The mean absolute error and root mean square error are useful for describing model error on an average basis but do not provide insight into spatial trends in the distribution of residuals if used as single measures. Examining the distribution of residuals is necessary to determine whether they are randomly distributed over the model grid or spatially biased. Plots of water-level residuals for the calibration period provide insight for spatial bias. These plots indicate the magnitude and direction of the differences between measured and simulated water levels. Cross-plots of simulated versus measured water levels help determine if bias varies with the magnitude of the measured water levels. Residuals are also assessed spatially on a map to help determine any biases.

Section 2.4 includes a description of the zones used when adjusting hydraulic properties during calibration. Parameter estimation software (PEST) and trial-and-error adjustments were used to assist in the calibration of hydraulic properties. Table 3.1.1 shows a summary of the initial and calibrated vertical and horizontal hydraulic properties for each of the aquifers. Many of these initial values are simplified values that were averaged from more complex spatial distributions in the original groundwater flow models for the northern segment of the Edwards (Balcones Fault Zone) and Trinity aquifers (Jones, 2003; Harden and Associates and others, 2004; Kelley and others, 2014).

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The overall trend in hydraulic conductivity adjustments showed an increase from initial values in the northern segment of the Edwards (Balcones Fault Zone) Aquifer and a decrease from initial values in the Trinity Aquifer. Figures 3.1.1 through 3.1.3 show the calibrated horizontal hydraulic conductivities for the aquifers for the three model layers. Differences between the calibrated hydraulic conductivity values in this model and the calibrated values in previous groundwater availability models for the respective aquifers in the model area can be attributed to differences in model assumptions and boundary conditions (Jones, 2003; Harden and Associates and others, 2004; Kelley and others, 2014). For example, the spatial extent and vertical resolution of the Trinity Aquifer differ from previous models, and different model boundaries were used compared to previous models.

Additionally, the original model (Jones, 2003) for the northern segment of the Edwards (Balcones Fault Zone) Aquifer was a one-layer model assuming no interaction with underlying aquifers, simulated streams using the Drain package, and was modeled using MODFLOW-96 rather than MODFLOW-NWT.

Recalibration of Version 2.01 of the model to better simulate groundwater discharge to Salado Creek resulted in the addition of a zone in Layer 1 with hydraulic conductivity of 1 foot per day approximately coinciding with the Salado Creek watershed. The additional zone was justified based on the occurrence of very low hydraulic conductivity measurements in the northernmost parts of the Edwards (Balcones Fault Zone) Aquifer (Jones, 2023a).

Additionally, recalibration of the Salado Creek watershed was achieved by lowering the river bottom and stage elevations by 40 feet and increasing river conductance from 10,000 square feet per day to 1,000,000 square feet per day.

Figure 2.9.1 shows the calibrated recharge for the aquifers represented by the three model layers. Recharge is restricted to the outcrop portion of the model area for the Edwards (Balcones Fault Zone) Aquifer and the exposed portions of the Walnut Formation confining unit and Trinity Aquifer, with the highest recharge rates occurring in the Edwards (Balcones Fault Zone) Aquifer outcrop and lowest recharge rates associated with the Walnut Formation. In areas where the Walnut Formation is thin and unsaturated, it is excluded from Layer 2 and included in Layer 3 along with the Trinity Aquifer.

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Table 3.1.1. Initial and calibrated horizontal and vertical hydraulic conductivity and specific storage used in the model. The hydraulic conductivity zones are numbered as they appear in the model and are shown in Figures 2.4.1 through 2.4.3.

Parameter	Zones	Initial	Calibrated
Horizontal hydraulic conductivity (feet per day)	2 (Edwards [Balcones Fault Zone] Aquifer)	25	106.0
	3 (Edwards [Balcones Fault Zone] Aquifer, faults)	250	1,431.5
	4 (Edwards [Balcones Fault Zone] Aquifer)	--	1.0
	1 (Walnut Formation)	0.24	0.003
	1615 (Trinity Aquifer)	3.5	0.59
	1827 (Trinity Aquifer)	2.4	9.4
	1828 (Trinity Aquifer)	1.5	0.06
	1829 (Trinity Aquifer)	0.8	0.01
	1830 (Trinity Aquifer)	4.0	0.59
Vertical hydraulic conductivity (feet per day)	2 (Edwards [Balcones Fault Zone] Aquifer)	2.5	1.67
	3 (Edwards [Balcones Fault Zone] Aquifer, faults)	25.0	143.2
	4 (Edwards [Balcones Fault Zone] Aquifer)	--	0.1
	1 (Walnut Formation)	0.024	0.14
	1615 (Trinity Aquifer)	0.35	0.0006
	1827 (Trinity Aquifer)	0.24	0.01
	1828 (Trinity Aquifer)	0.15	0.0001
	1829 (Trinity Aquifer)	0.08	8.2
	1830 (Trinity Aquifer)	0.4	0.0006
Specific storage (per foot)	1 (Edwards [Balcones Fault Zone] Aquifer)	5.00×10^{-6}	1.31×10^{-6}
	2 (Walnut Formation)	1.00×10^{-6}	2.62×10^{-8}
	3 (Trinity Aquifer)	8.90×10^{-7}	5.38×10^{-4}

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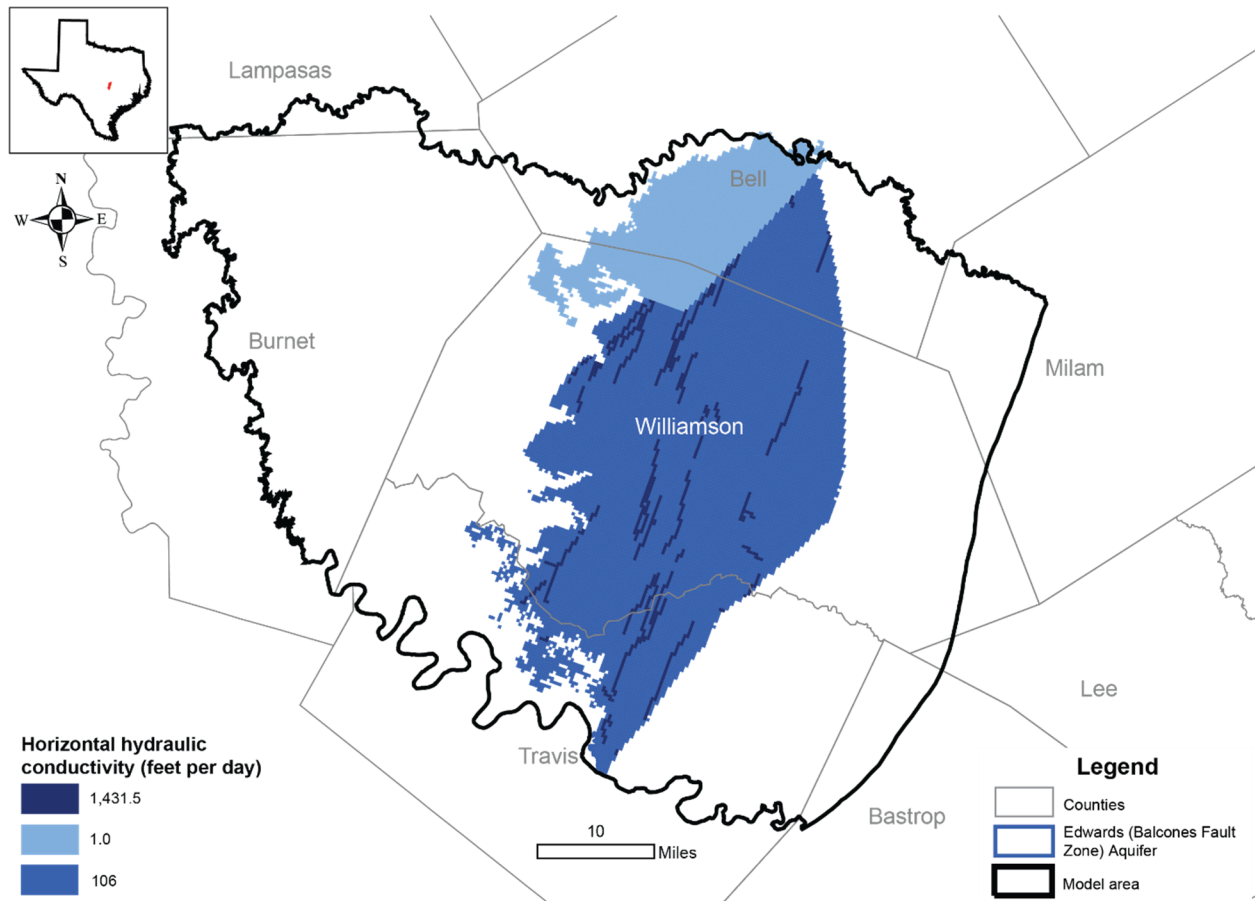


Figure 3.1.1. Distribution of calibrated horizontal hydraulic conductivity in the northern segment of the Edwards (Balcones Fault Zone) Aquifer (Layer 1).

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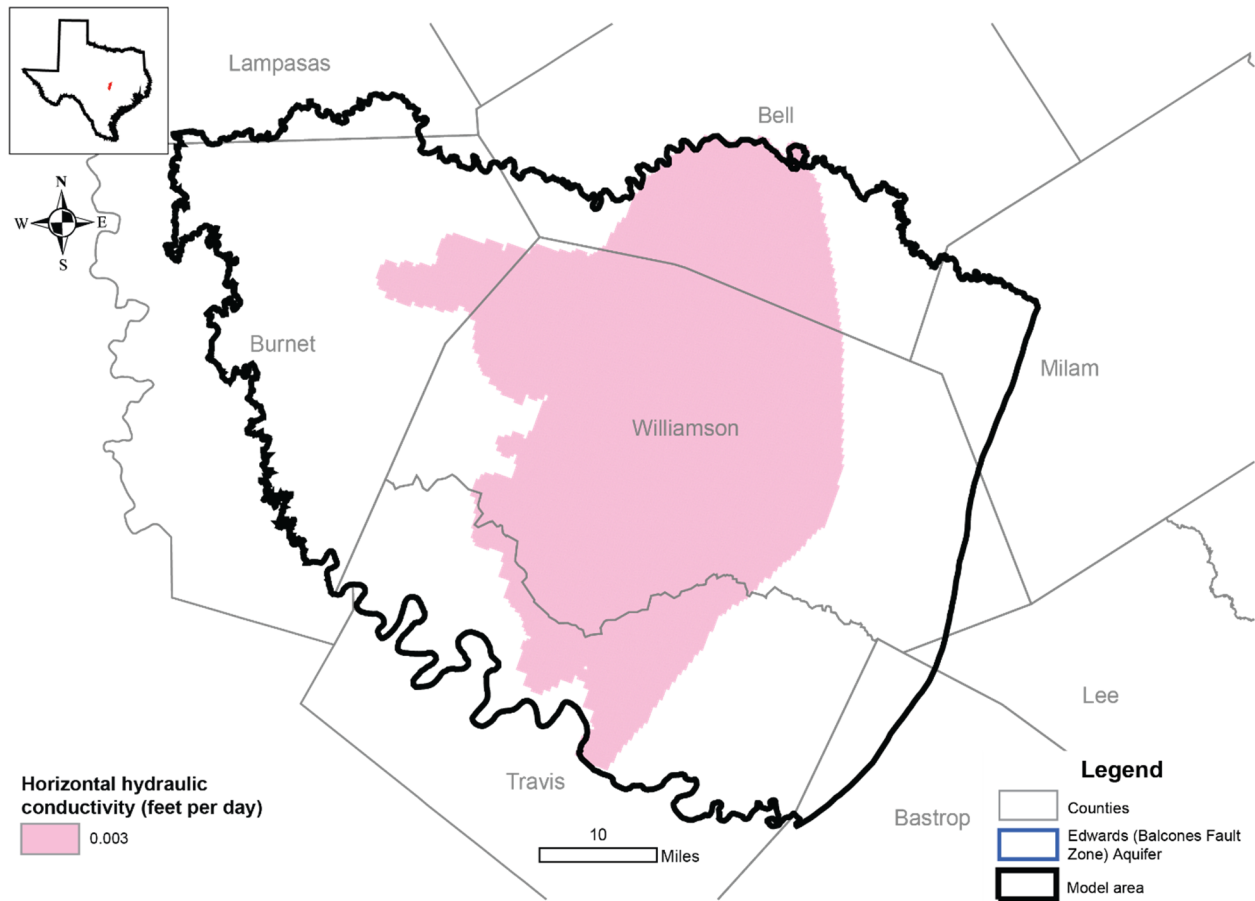


Figure 3.1.2. Distribution of calibrated horizontal hydraulic conductivity in the Walnut Formation confining unit (Layer 2).

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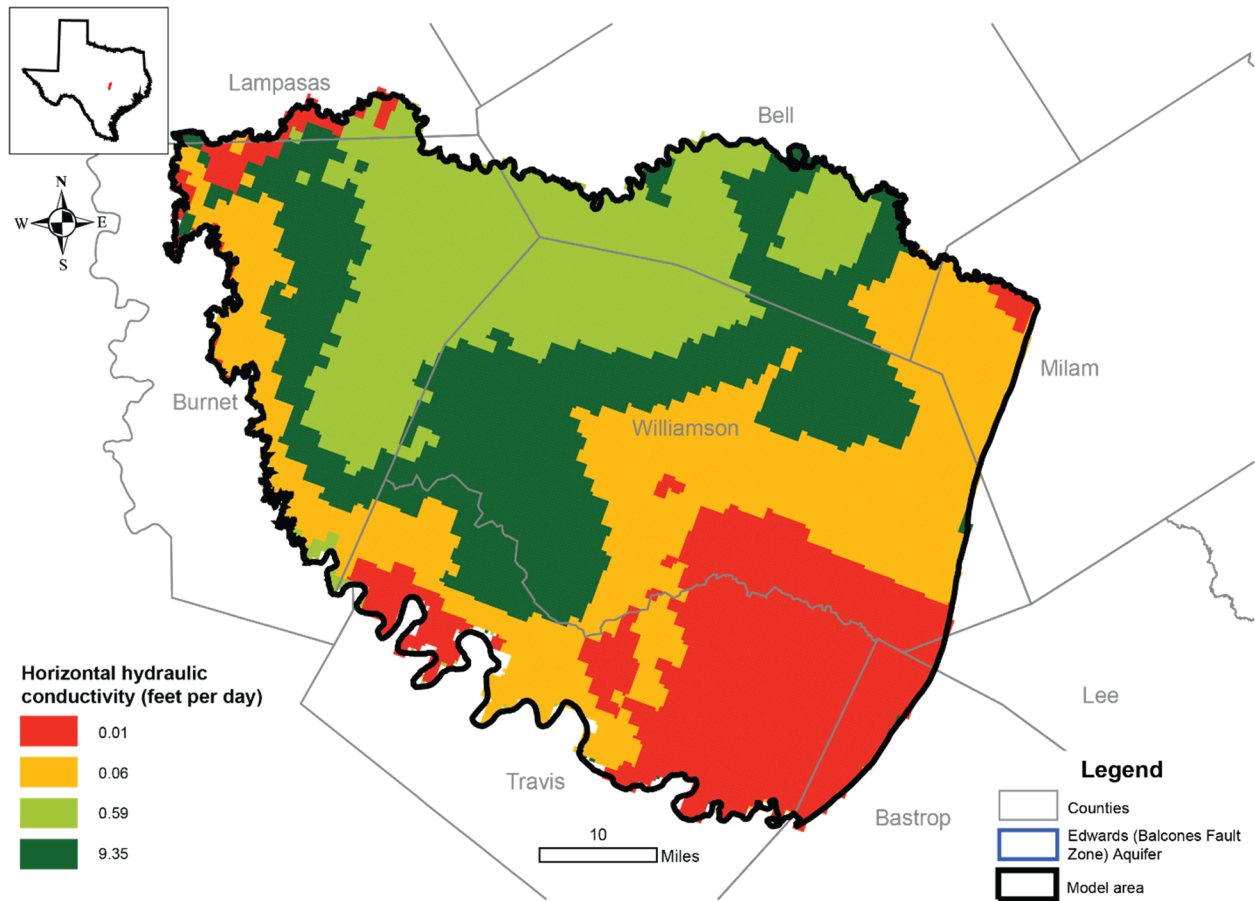


Figure 3.1.3. Distribution of calibrated horizontal hydraulic conductivity in the Trinity Aquifer (Layer 3).

3.2 Model-simulated versus measured water levels

This section describes the results of model calibration and provides a comparison with measured water levels, both spatially and temporally. Calibration is discussed in terms of calibration statistics, cross-plots, a discussion of trends in water-level residuals, and simulated potentiometric surfaces.

3.2.1 Calibration statistics and cross-plots

Table 3.2.1 shows the overall water-level calibration statistics for all model layers for the 1980 to 2015 model calibration period. Table 3.2.2 shows the calibration statistics specific to the northern segment of the Edwards (Balcones Fault Zone) and Trinity aquifers (Layers 1 and 3, respectively). The Walnut Formation (Layer 2) is not calibrated. The calibration statistics can be considered along with Figure 3.2.1 and 3.2.2, which show the locations of target wells and cross-plots for each calibrated model layer (Layers 1 and 3).

The result of recalibration of the model to better simulate groundwater discharge to Salado Creek produces a model that is not as well calibrated for the rest of the aquifer. The overall model has a mean error of -10 feet, indicating that the model-simulated water levels are generally slightly higher than measured water levels (Table 3.2.1). The term “overall” refers to calibration statistics based on all target water levels across the entire model. Please note that because there are no water-levels measurements in the Walnut Formation (Layer 2), that layer is not included in any calibration statistics. The mean absolute and root mean square errors are 46 feet and 56 feet, respectively. The relative error (root mean square error divided by the water-level elevation range) is 6 percent. This relative error meets the TWDB Groundwater Modeling Program calibration requirement of a relative error of less than 10 percent.

The northern segment of the Edwards (Balcones Fault Zone) Aquifer (Layer 1) has a mean error of -5 feet, indicating that simulated water levels were generally slightly higher than measured water levels (Table 3.2.2 and Figure 3.2.2). The mean absolute and root mean square errors are 44 feet and 53 feet, respectively, and the relative error is 10 percent.

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Table 3.2.1. Overall mean absolute error, mean error, and root mean squared error for the transient calibration.

Calibration statistic	Value
Mean Error (feet)	-10
Mean Absolute Error (feet)	46
Root Mean Square Error (feet)	56
Range (feet)	936
Root Mean Square Error/Range (percent)	6

Table 3.2.2. Mean absolute error, mean error, and root mean squared error for the transient calibration for the northern segment of the Edwards (Balcones Fault Zone) Aquifer (Layer 1) and the Trinity Aquifer (Layer 3).

Calibration statistic	Layer 1	Layer 3
Mean Error (feet)	-5	-53
Mean Absolute Error (feet)	44	69
Root Mean Square Error (feet)	53	73
Range (feet)	542	936
Root Mean Square Error/Range (percent)	10	8

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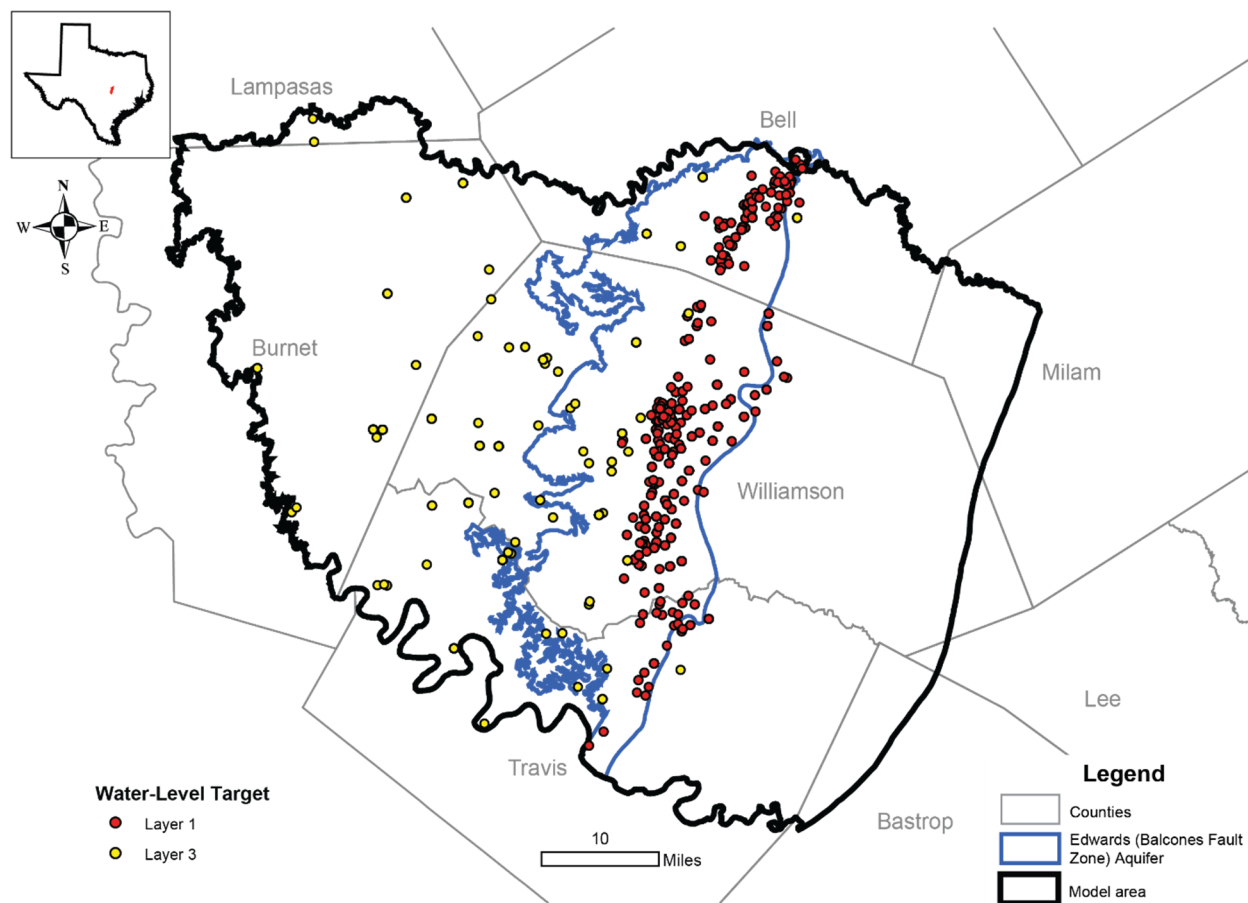


Figure 3.2.1. Well locations used to develop the cross plots (Figure 3.2.2).

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Figure 3.2.2. Cross plot of measured and simulated water levels for the northern segment of the Edwards (Balcones Fault Zone) Aquifer (Layer 1) and the Trinity Aquifer (Layer 3).

3.2.2 Residual distributions

Figures 3.2.3 through 3.2.5 show histograms of the water-level residuals for the 1980 through 2015 calibration period for the overall model and the respective calibrated model layers. Perfect normal distributed histograms will exhibit the classic symmetric bell shape centered on zero. Residual datasets with a non-zero mean error will be shifted away from zero by approximately the magnitude of the mean error. The water-level residual histograms behave as expected, showing good symmetry in most cases, and are shifted from zero by the amount of the mean error.

Figures 3.2.6 through 3.2.8 show the spatial distribution of residuals for the calibration period and simulated water levels for December 2015. Negative residuals indicate that the model is simulating high water levels compared to measured water levels, while positive residuals indicate that the model is simulating relatively low water levels. There are no water-level targets in Layer 2, and consequently, there are no residuals.

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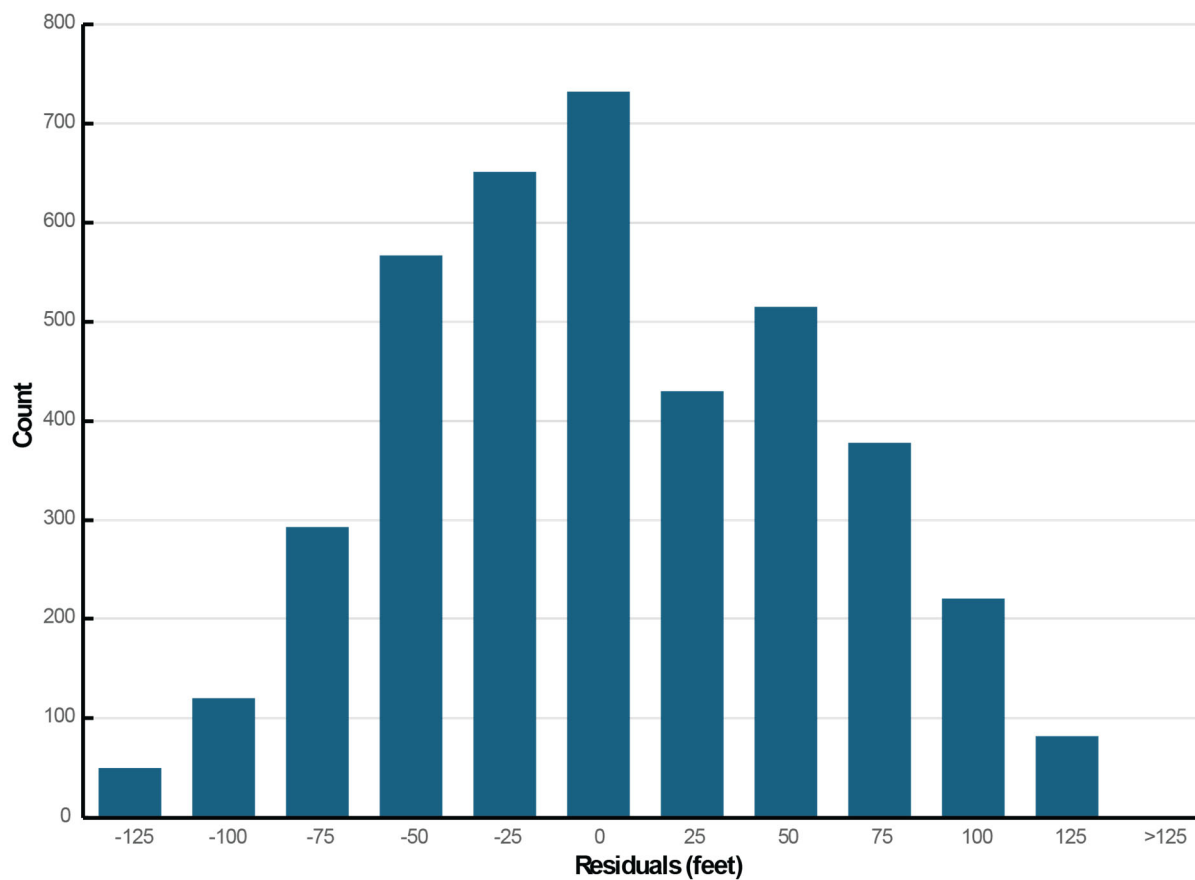


Figure 3.2.3. Histogram of the frequency of residuals in all model layers.

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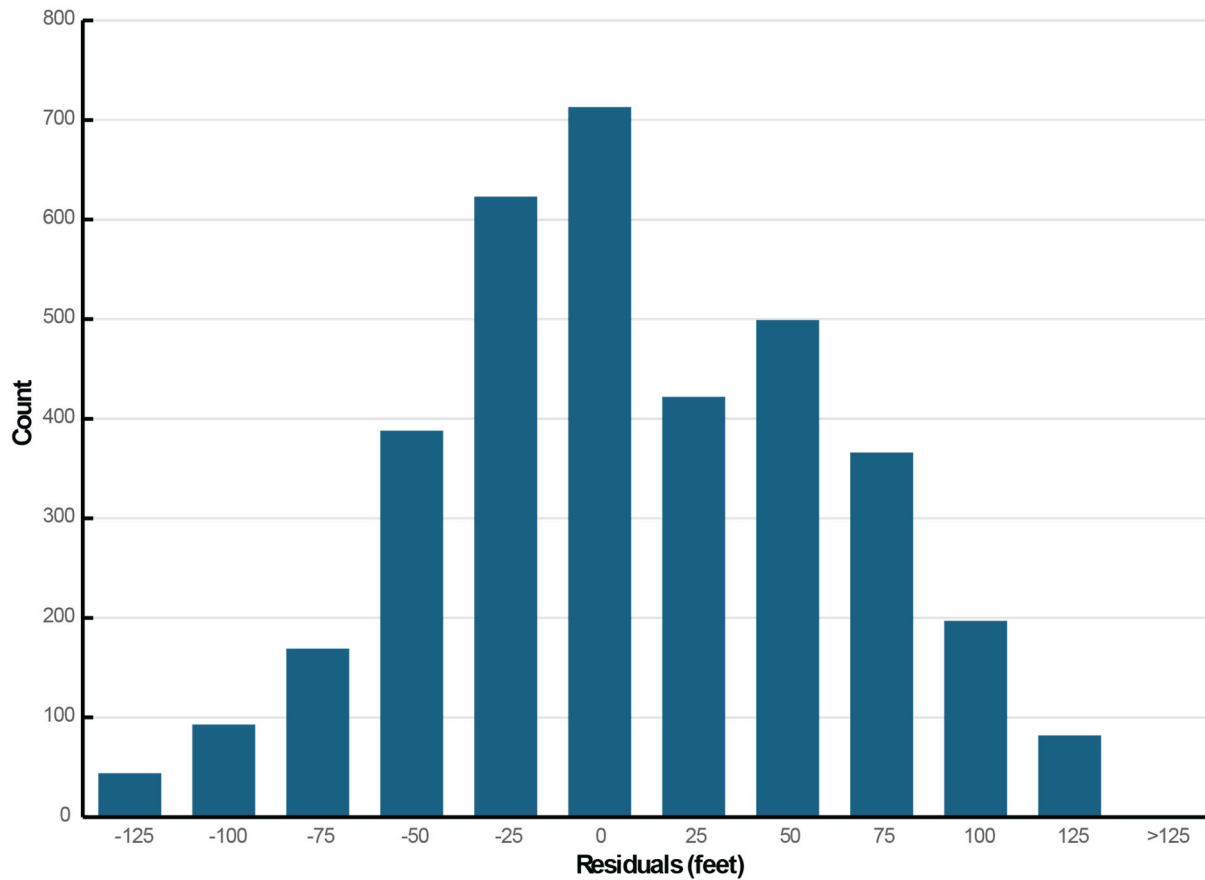


Figure 3.2.4. Histogram of the frequency of residuals in the northern segment of the Edwards (Balcones Fault Zone) Aquifer (Layer 1).

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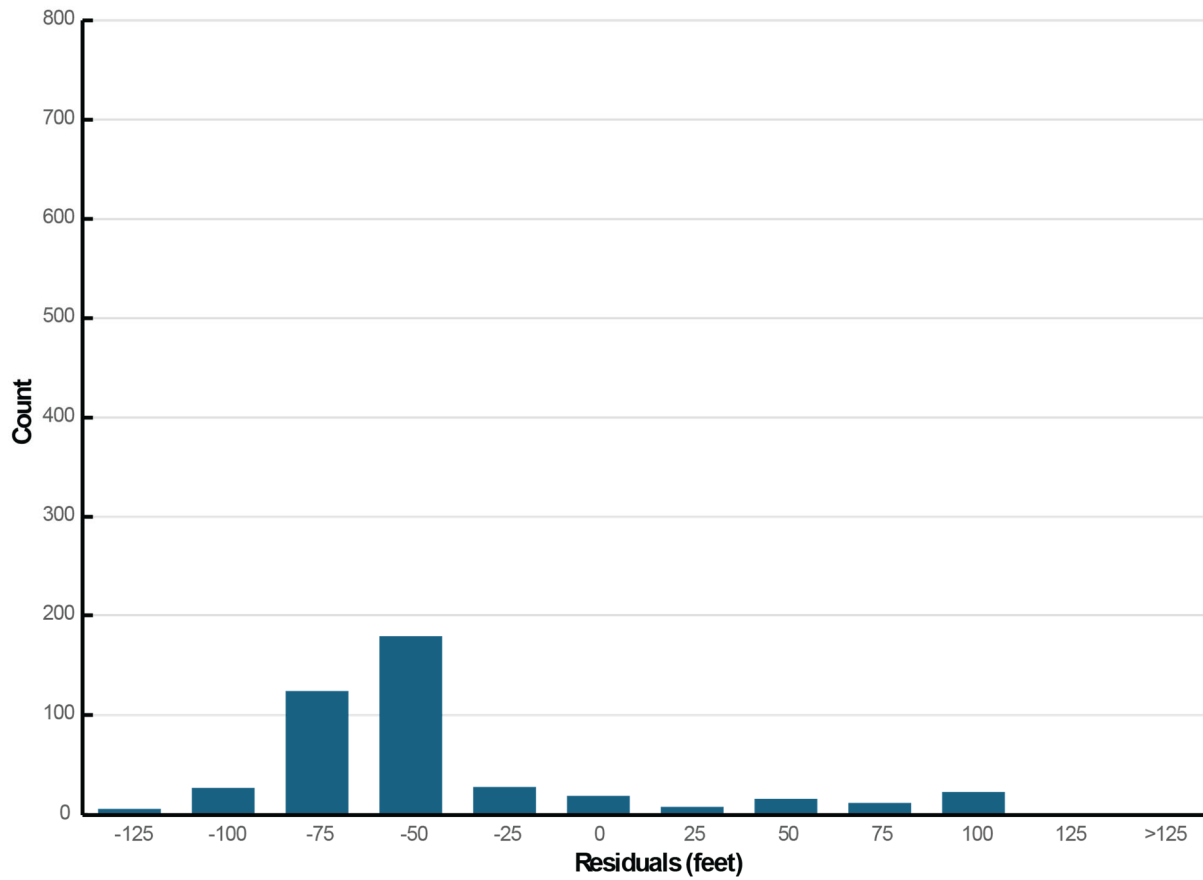


Figure 3.2.5. Histogram of the frequency of residuals in the Trinity Aquifer (Layer 3).

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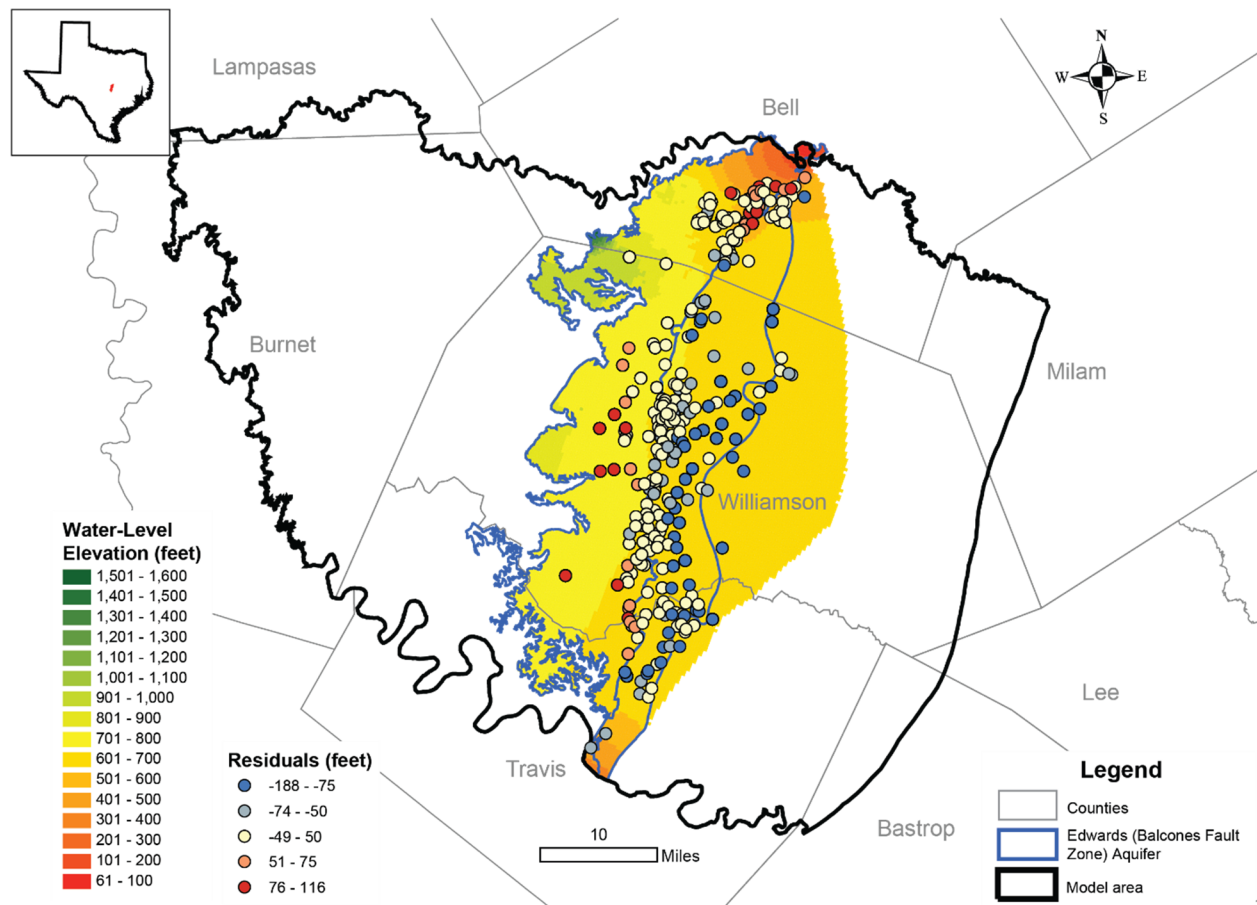


Figure 3.2.6. Residuals between simulated and measured water levels for the northern segment of the Edwards (Balcones Fault Zone) Aquifer (Layer 1).

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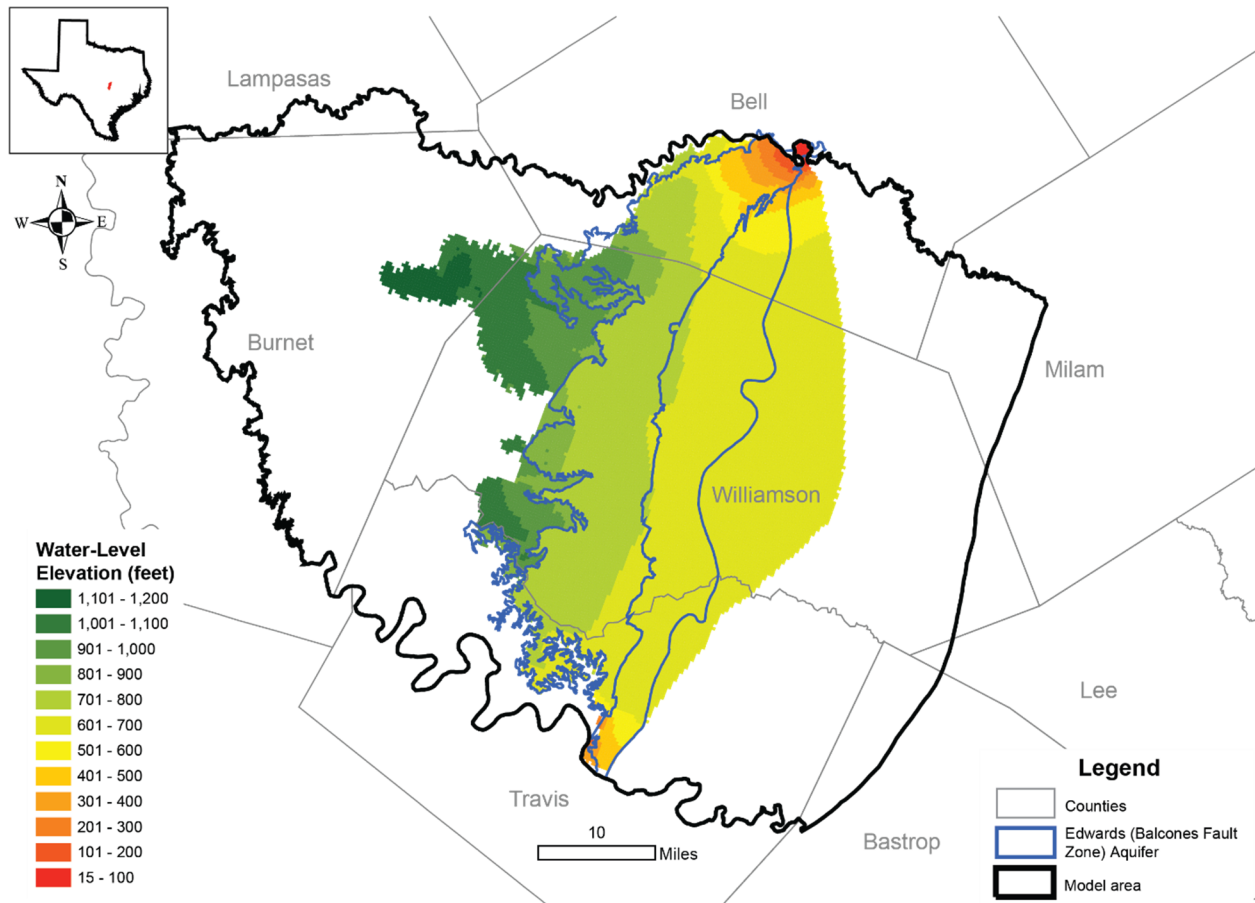


Figure 3.2.7. Simulated water levels for the Walnut Formation (Layer 2).

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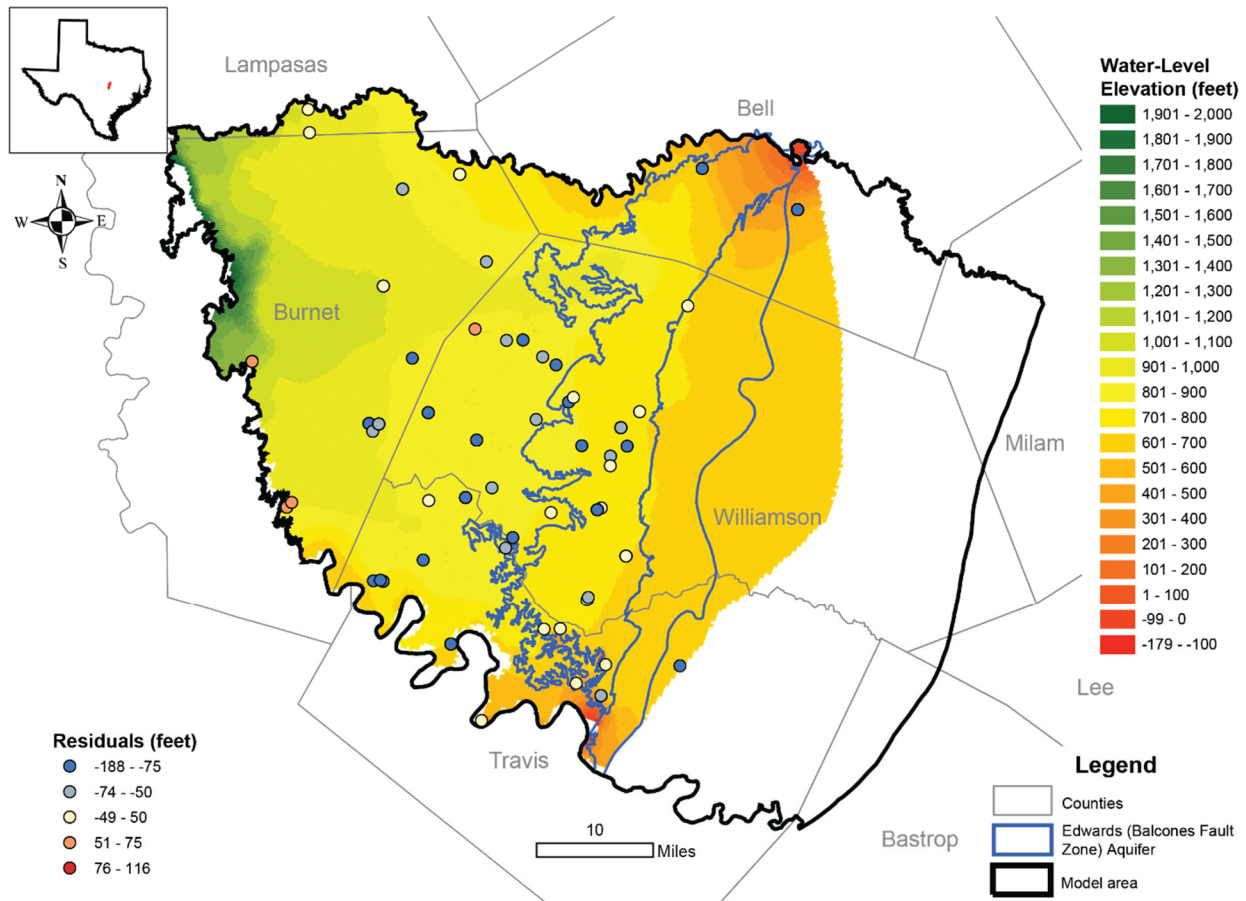


Figure 3.2.8. Residuals between simulated and measured water levels for the Trinity Aquifer (Layer 3).

3.2.3 Simulated water levels

This section presents the simulated water levels and drawdown over the model period. Figures 3.2.6 through 3.2.8 show the simulated water levels in each model layer for December 2015 (Stress Period 432). The overall trend in water levels for all model layers shows groundwater flow towards the east, diverging to the north and south (toward the Lampasas and Colorado rivers, respectively), generally following regional topographic trends. It should be noted that due to model uncertainty, water levels along some model boundaries lie at elevations below the base of the aquifer.

Figures 3.2.9 and 3.2.10 show selected simulated versus measured water-level hydrographs. These hydrographs are meant to demonstrate some of the basic trends in water levels through time, and how the simulated water levels follow these trends. Both measured and simulated water levels are relatively flat with minor short-term water-level fluctuations, with a few exceptions.

Groundwater Availability Model:
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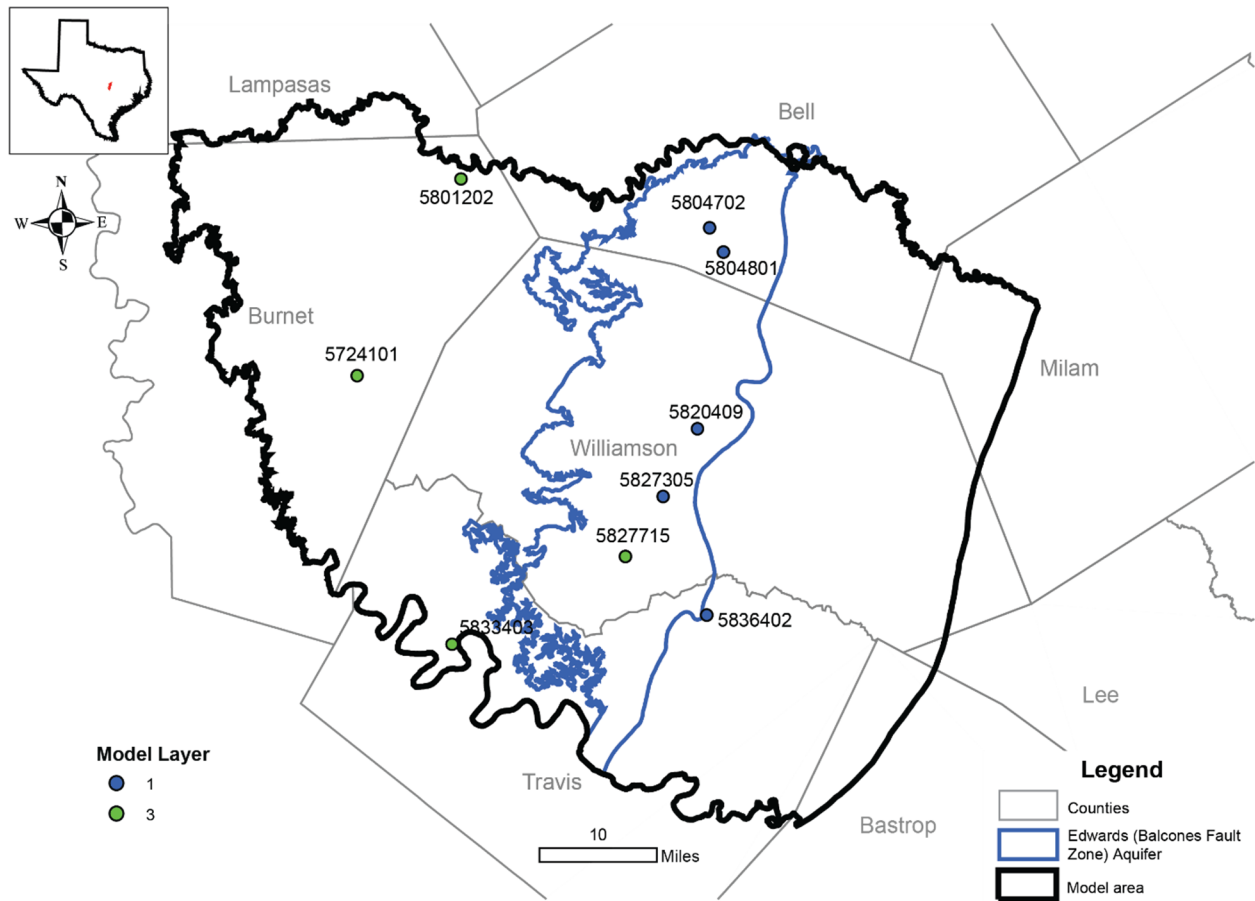


Figure 3.2.9. Well locations used to compare simulated water levels and measured water levels shown in Figure 3.2.10.

Groundwater Availability Model:
Northern Segment of the Edwards (Balcones Fault Zone) Aquifer of Texas

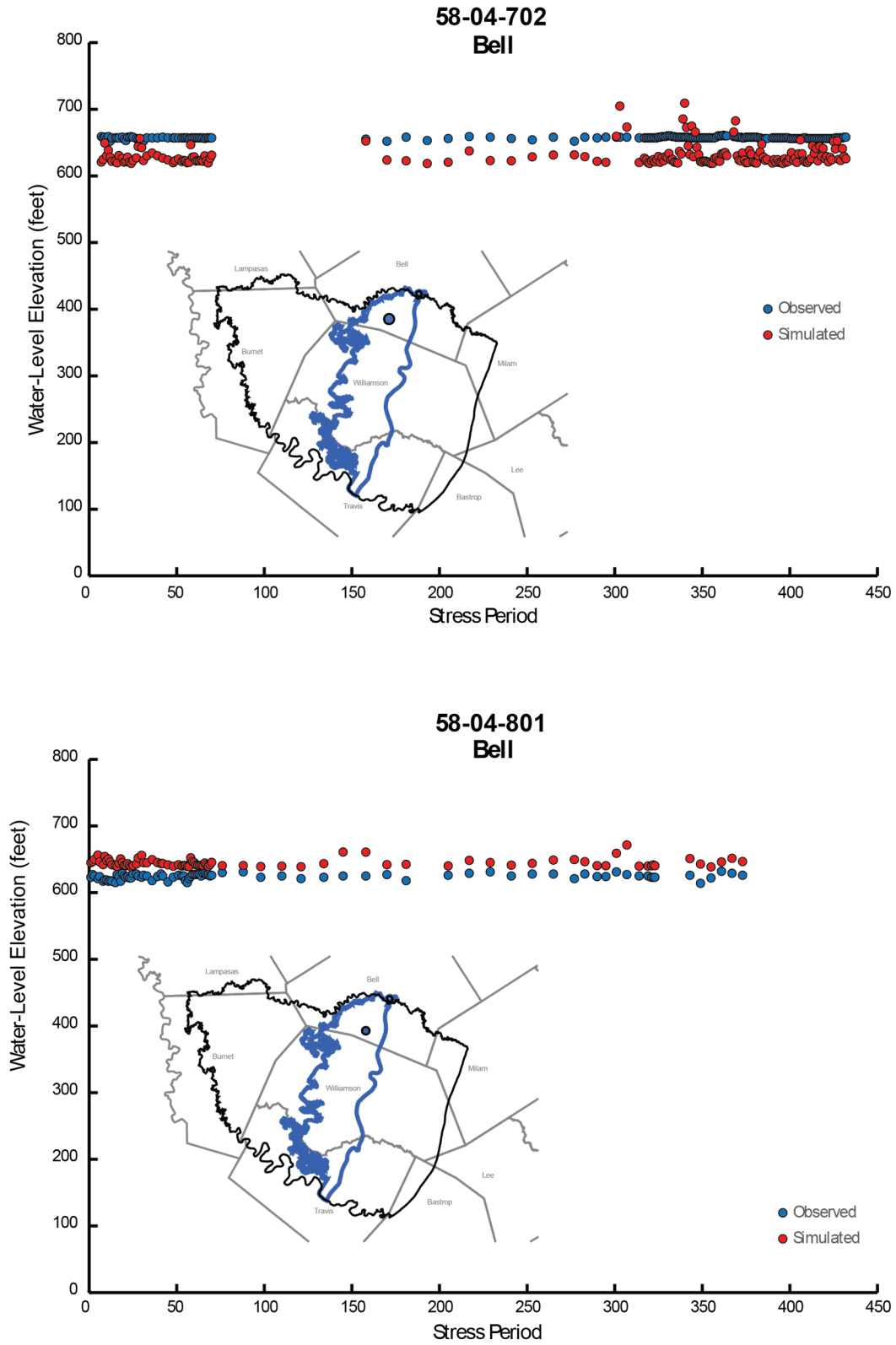


Figure 3.2.10. Comparison of simulated water levels and measured water levels.

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Northern Segment of the Edwards (Balcones Fault Zone) Aquifer of Texas

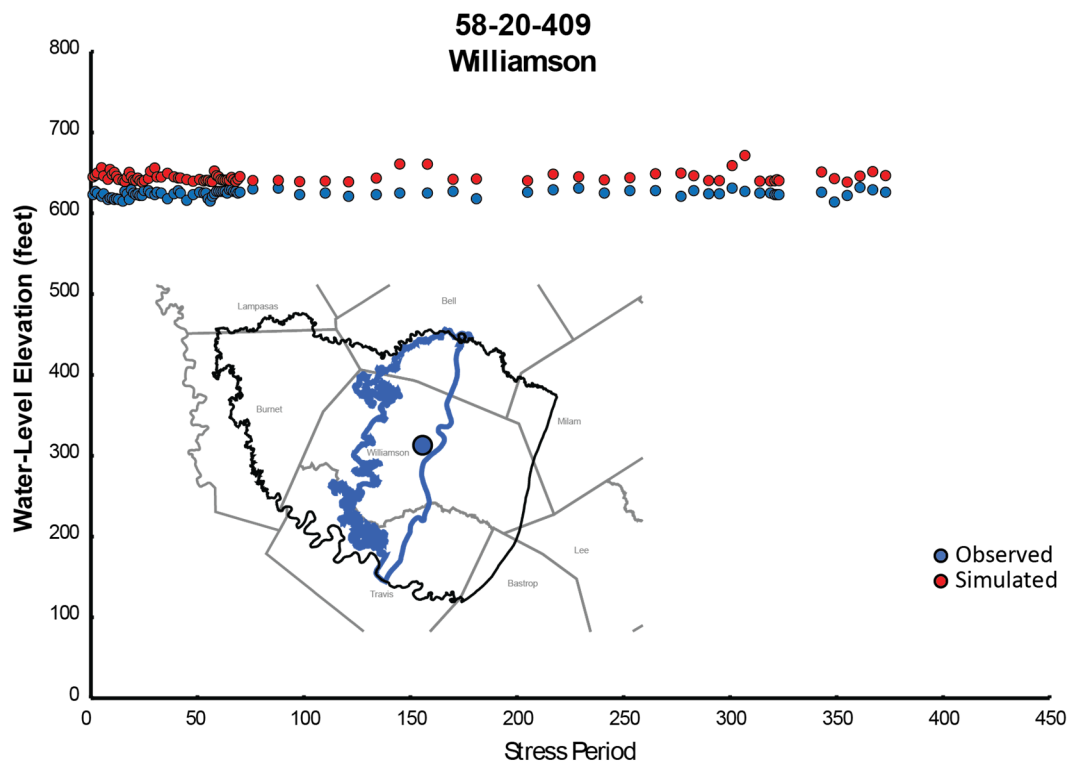
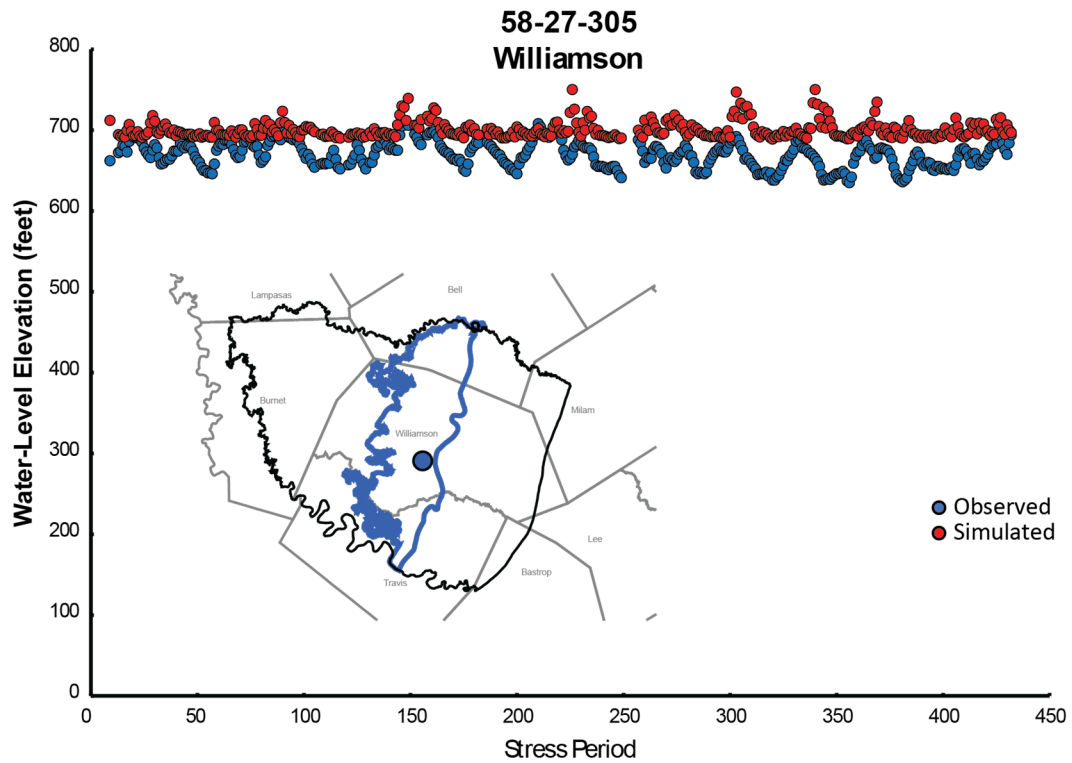


Figure 3.2.10. (continued)

Groundwater Availability Model:
Northern Segment of the Edwards (Balcones Fault Zone) Aquifer of Texas

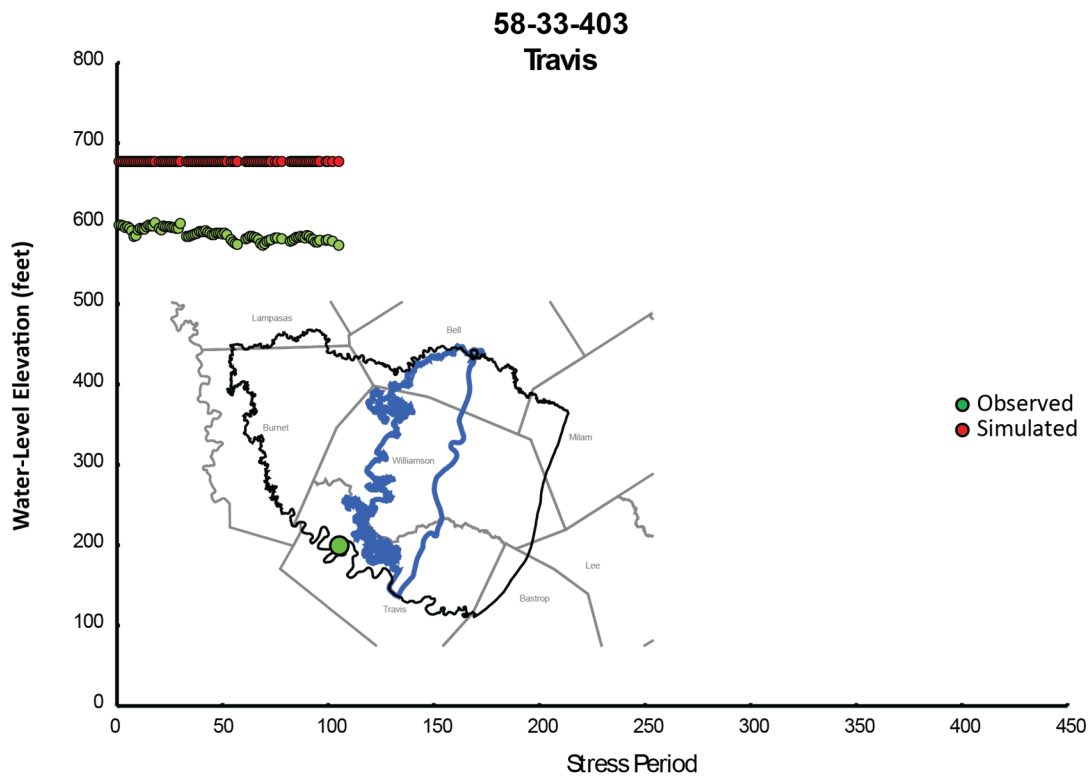
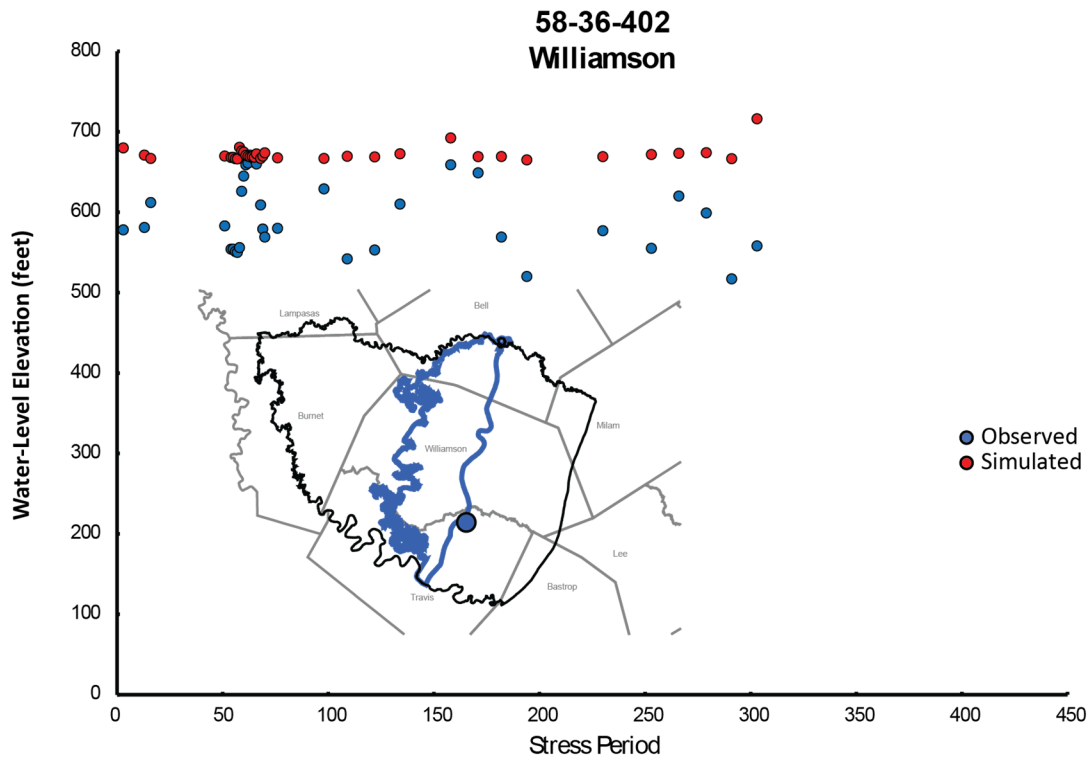


Figure 3.2.10. (continued)

Groundwater Availability Model:
Northern Segment of the Edwards (Balcones Fault Zone) Aquifer of Texas

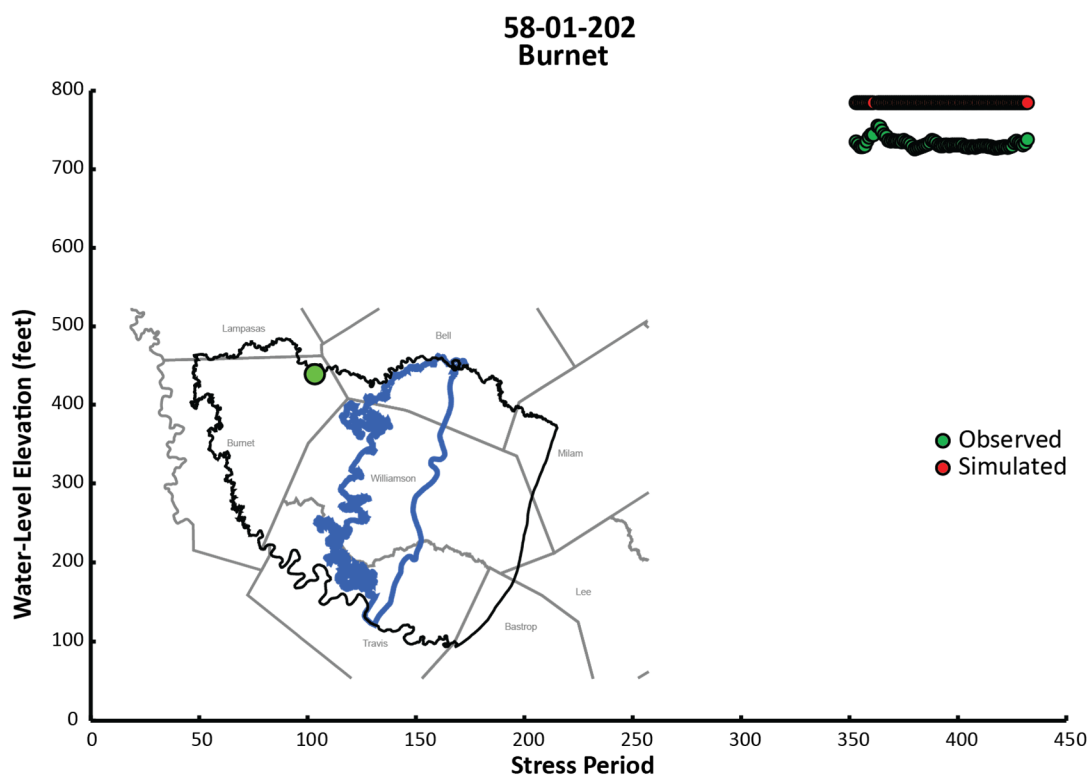
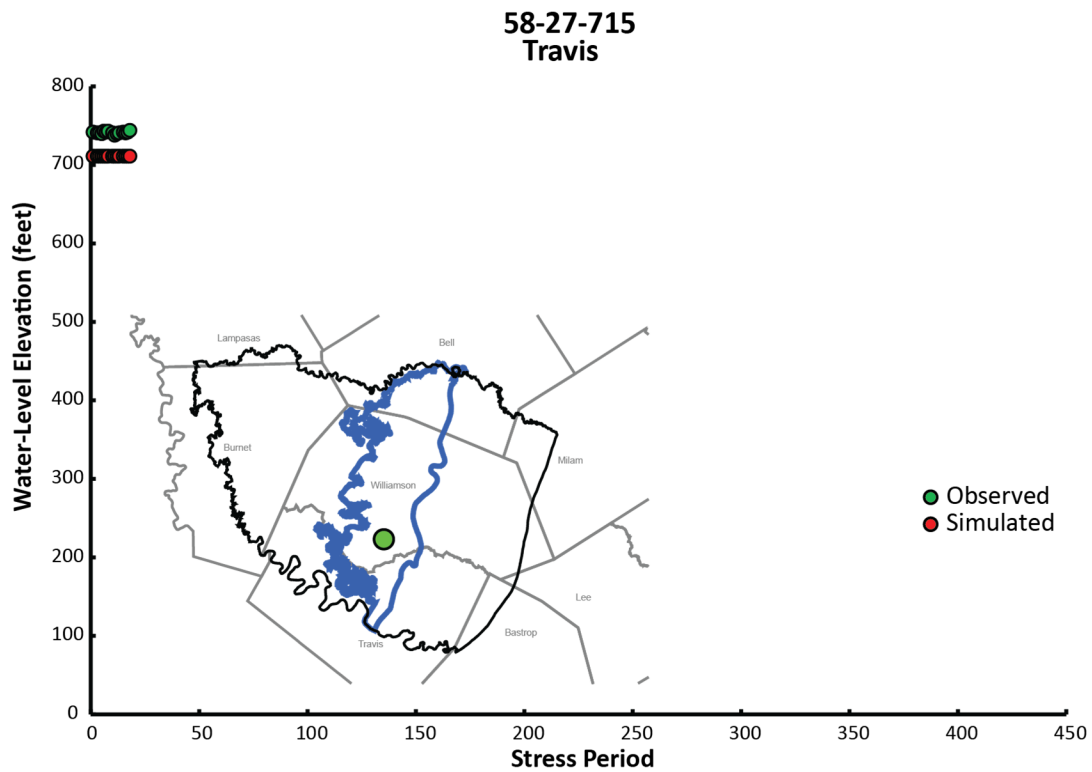


Figure 3.2.10. (continued)

Groundwater Availability Model:
Northern Segment of the Edwards (Balcones Fault Zone) Aquifer of Texas

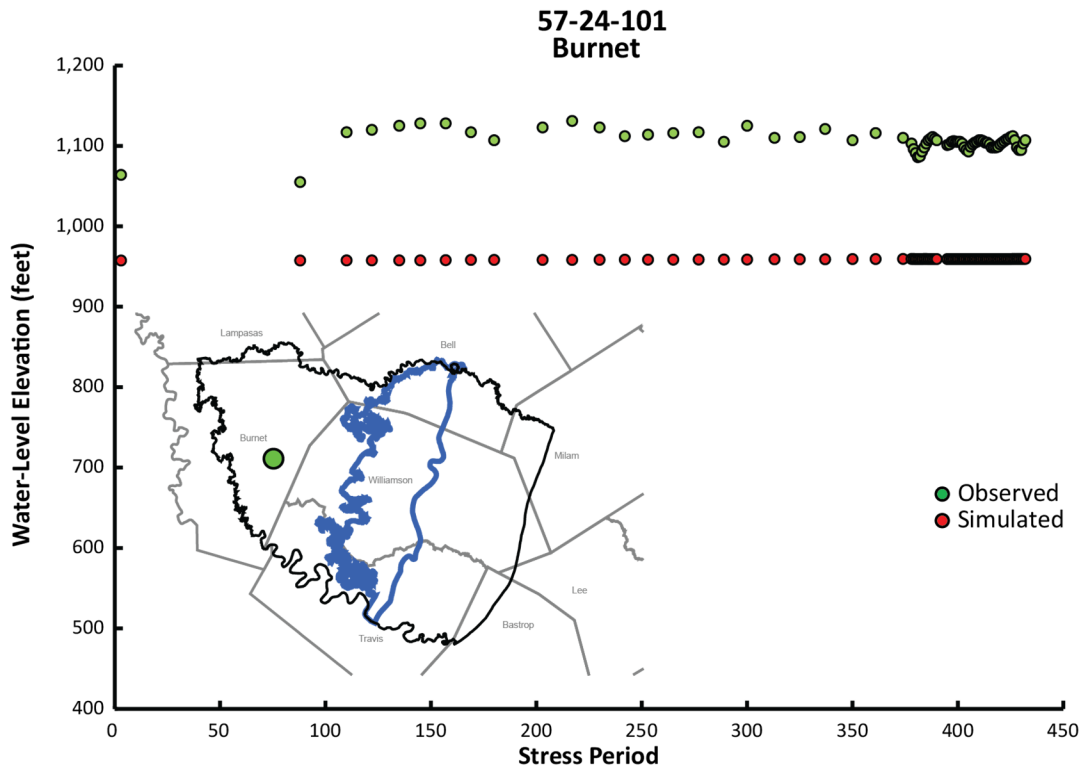


Figure 3.2.10. (continued)

3.3 Model-simulated water budgets

This section discusses the simulated water budgets both for the steady-state and transient stress periods. The water budgets are one of the more important aspects of the northern segment of the Edwards (Balcones Fault Zone) Aquifer groundwater availability model, because the model provides an opportunity to analyze groundwater flow between the Edwards (Balcones Fault Zone) Aquifer and underlying aquifers. Appendix A contains the water budget summarized by county, groundwater conservation district, and model layer for all years in the model calibration period.

3.3.1 Steady-state water budget

One aspect of the water budget involves checking that unacceptable errors do not occur in the net water balance for each stress period. The calibrated model had an overall budget error of 0 percent for any stress period. Please note that the overall water budget considers changes in the amount of groundwater stored within the aquifer as water levels rise or fall during each stress period.

Table 3.3.1 summarizes the steady-state model water budget (Stress Period 1) in acre-feet per year for each model layer. This water budget contains components of groundwater flow to and from each model layer. The vertical leakage (inter-aquifer flow)

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terms indicate interactions among the aquifers. Note that the inter-aquifer inflow to each layer from adjacent layers is the same number as the inter-aquifer outflow out from the adjacent layers.

Table 3.3.1. Steady-state calibration water budgets for model layers (values in acre-feet per year).

Flux	Layer 1	Layer 2	Layer 3	Overall
Inflow				
River Leakage	65,616	1,932	19,620	87,168
General-Head Boundary	72	0	0	72
Recharge	53,616	4,176	30,288	88,080
Vertical Leakage (Lower)	21,444	21,024	--	--
Vertical Leakage (Upper)	--	53,828	56,880	--
Outflow				
Wells	552	0	648	1,200
Drains	71,052	12	81,528	152,580
River Leakage	17,292	624	3,600	21,516
General-Head Boundary	24	0	0	24
Vertical Leakage (Lower)	51,828	56,880	--	--
Vertical Leakage (Upper)	--	21,444	21,024	--

3.3.2 Transient water budget

Figures 3.3.1 through 3.3.4 show the transient model water budget summaries for years 1980 through 2015. Please note that in Jones (2023b) water budgets are reported in acre-feet per year, while in this report the water budgets are expressed in acre-feet per month.

Figure 3.3.1 shows the transient model water budgets for the northern segment of the Edwards (Balcones Fault Zone) Aquifer (Layer 1). Spring discharge (Drains) and net inter-aquifer flow to the underlying Walnut Formation (Vertical Leakage) dominates outflow from the aquifer. Spring discharge and inter-aquifer flow fluctuations seem to be closely related to recharge fluctuation. This means that, in the northern segment of the Edwards (Balcones Fault Zone) Aquifer, there are no long-term trends of either water-level decline or rise. Recharge is the predominant inflow to Layer 1.

Figure 3.3.2 shows the transient model water budget for the Walnut Formation (Layer 2) in the transient model. Overall, the water budget in the Walnut Formation is static over

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the model calibration period, dominated by vertical groundwater flow (inter-aquifer inflows and outflows).

Figure 3.3.3 shows the transient model water budget for the Trinity Aquifer (Layer 3). In Layer 3, the water budget is dominated by recharge and inter-aquifer inflows from the Walnut Formation. These inflows are accompanied by increases in groundwater storage during periods of high recharge/vertical inter-aquifer inflow. This groundwater is released from storage during periods of low recharge. The direct relationship between recharge, inter-aquifer flow, and storage indicates the effects of direct recharge to the Trinity Aquifer outcrop, and indirect recharge to or through the Walnut Formation to the Trinity Aquifer, on Trinity Aquifer water levels that are reflected by changes in storage. Outflow from the Trinity Aquifer predominantly takes the form of relatively constant discharge from springs (drains).

Figure 3.3.4 shows the overall water budget for the transient model. This water budget shows the dominance of recharge and spring discharge as the primary inflow and outflow in the model area.

Figure 3.3.5 shows simulated groundwater discharge and estimated baseflow to Salado Creek. Simulated groundwater discharge is extracted from the River Package and reflects river discharge to the Salado Creek watershed as simulated in the model. The simulated groundwater discharge was calibrated such that it approximates median estimated baseflow to the creek. Baseflow estimates are based on measured streamflow discharge from two U.S. Geological Survey stream gauges (USGS, 2017). The two stream gauges numbered 8104310 and 8104300 have data covering the time periods 1984 through 1986 and 2013 through 2021, respectively. Baseflow is estimated by excluding peak flows associated with runoff and averaging on a monthly basis. Partially because of its regional scale, the model is unable to simulate peak baseflow.

Figure 3.3.5 also shows differences in simulated groundwater discharge to Salado Creek between model versions 2.01 and 2.1. In Version 2.01, the model simulates small amounts of groundwater discharge which only occurs in six years during the simulation period. Otherwise, Salado Creek is simulated as solely a losing stream. Due to the lower river stage and bottom elevations and lower hydraulic conductivity values in Salado Creek watershed, Version 2.1 of the model simulates continuous groundwater discharge to the creek at a median rate of 22 cubic feet per second compared to a measured median rate of 13 cubic feet per second.

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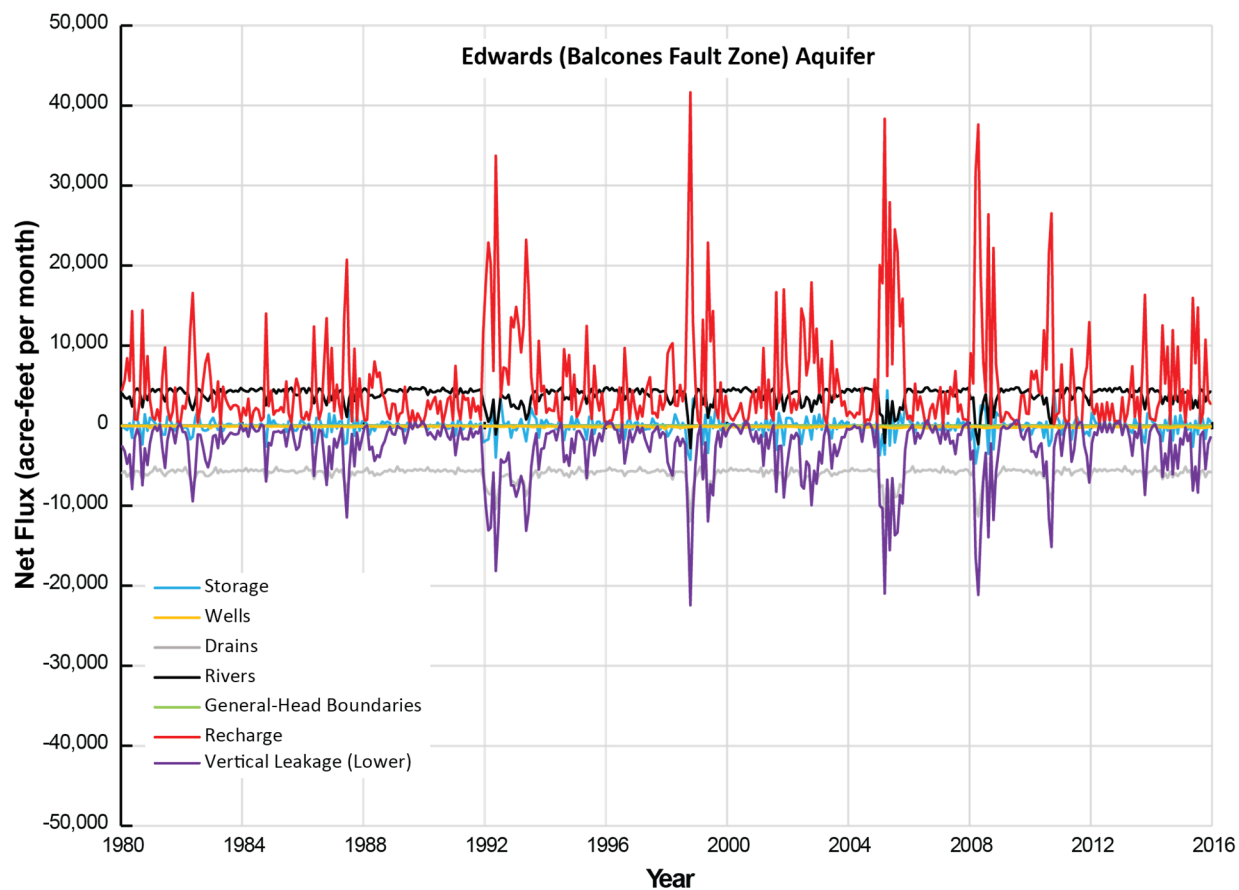


Figure 3.3.1. Overall transient net water budget by flow component for the northern segment of the Edwards (Balcones Fault Zone) Aquifer (Layer 1).

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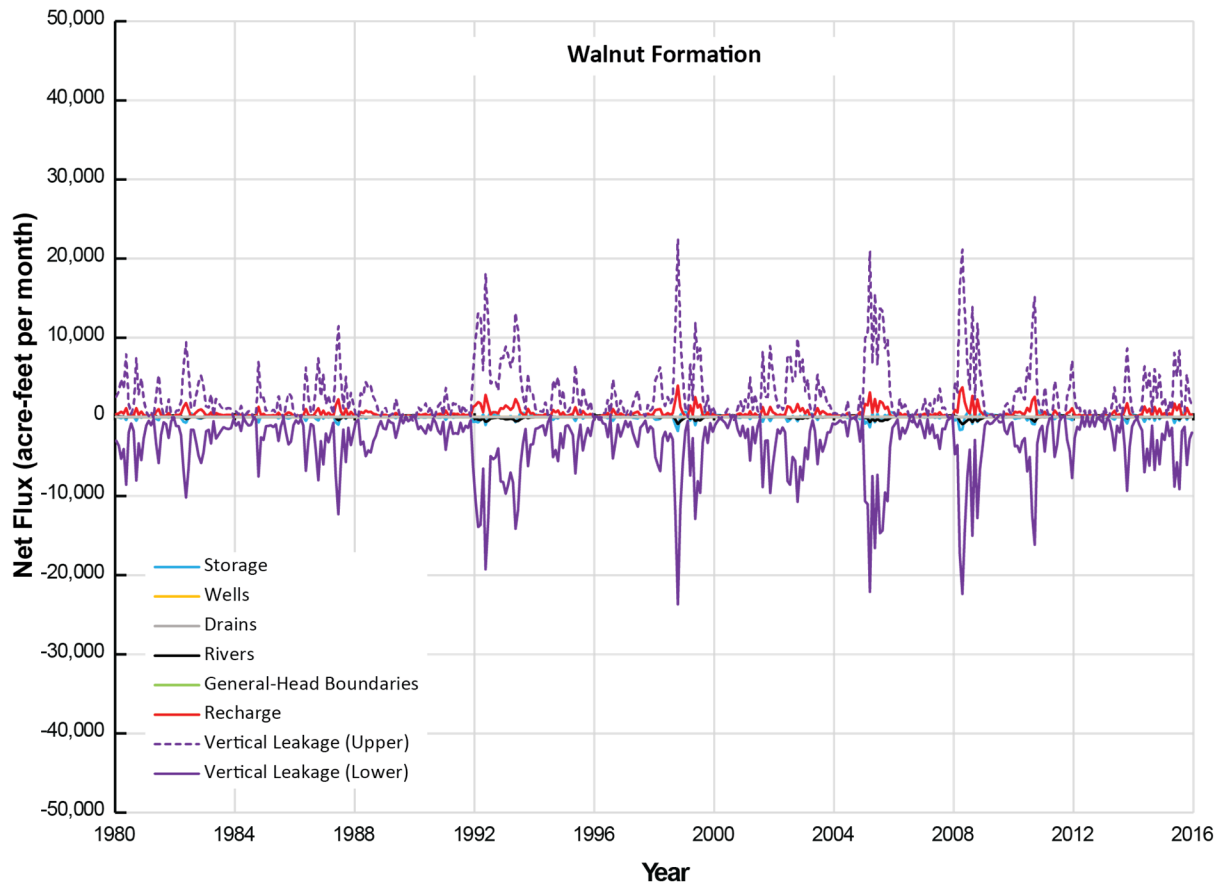


Figure 3.3.2. Overall transient net water budget by flow component for the Walnut Formation (Layer 2).

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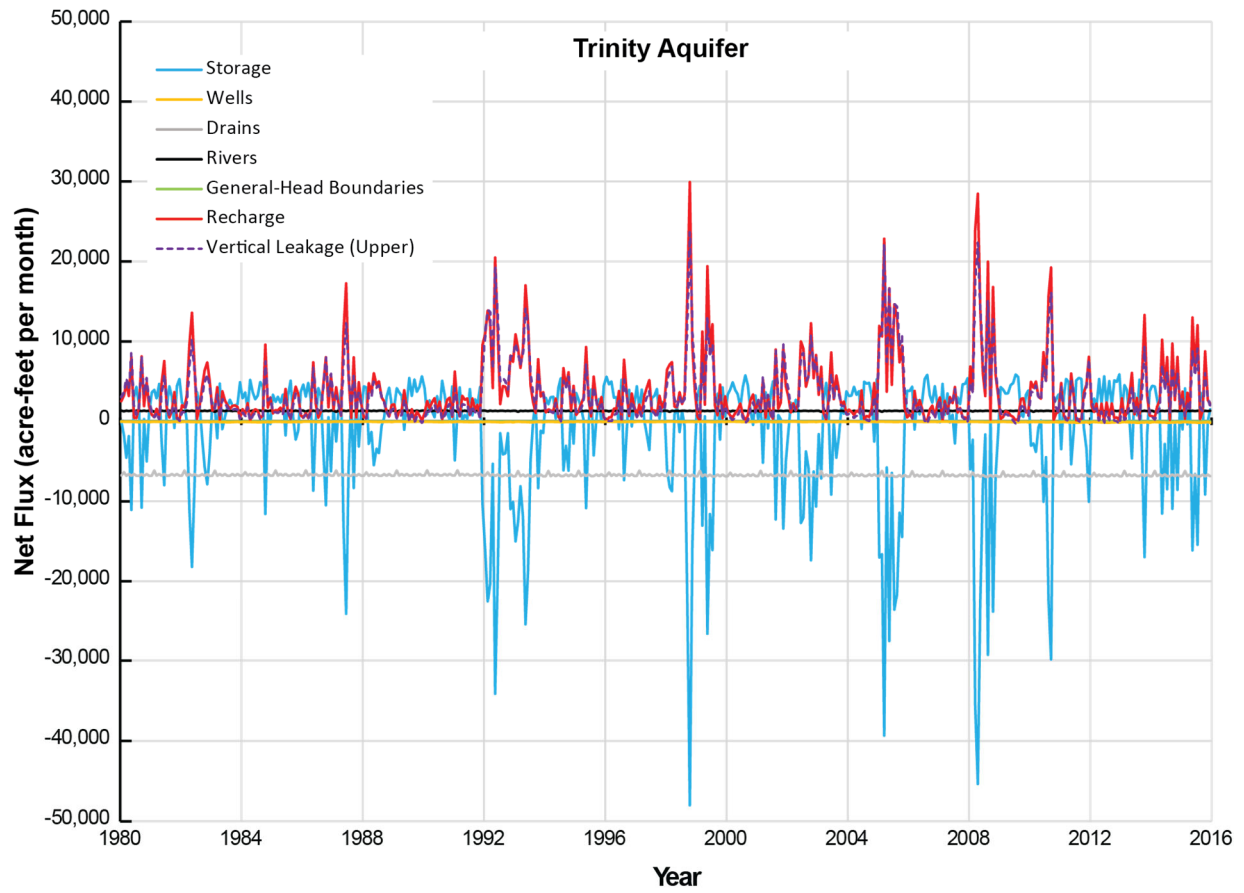


Figure 3.3.3. Overall transient net water budget by flow component for the Trinity Aquifer (Layer 3).

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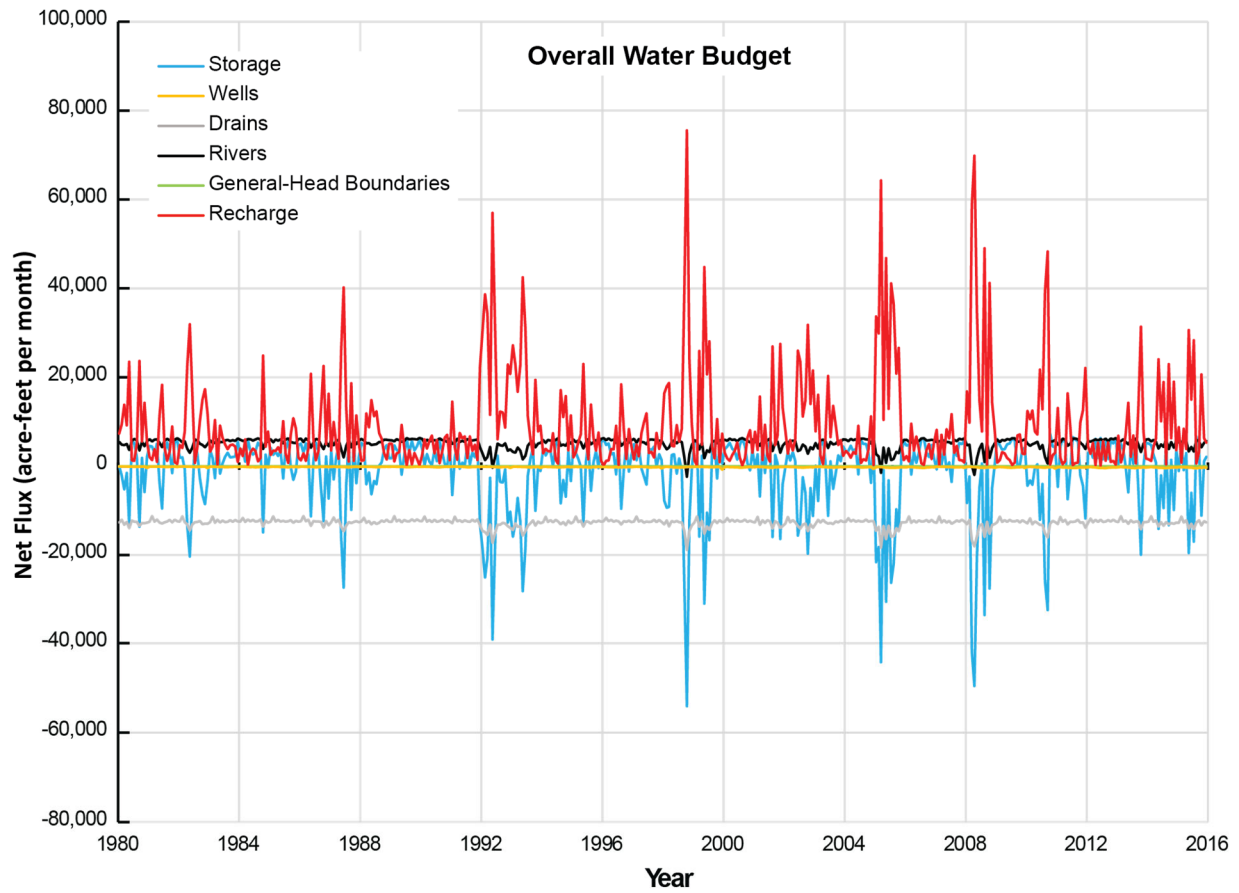


Figure 3.3.4. Overall transient net water budget by flow component for all model layers.

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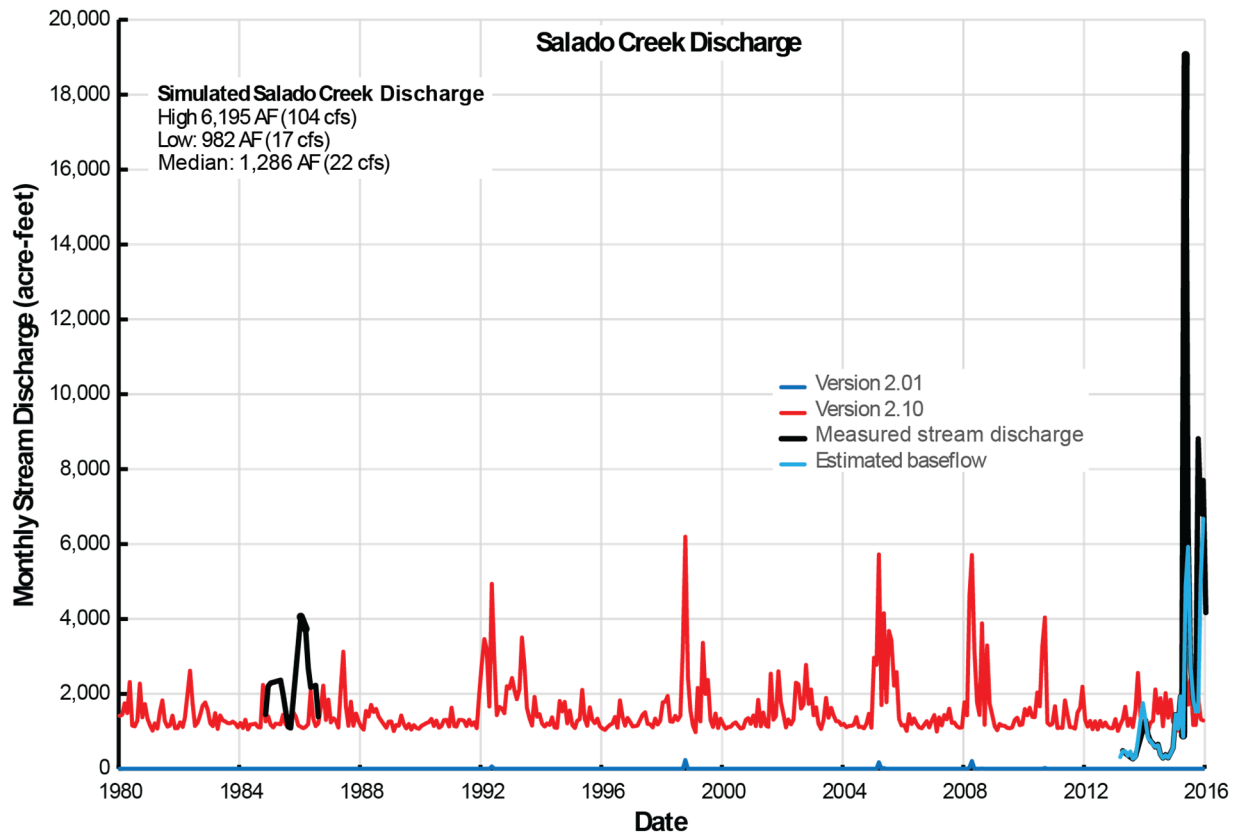


Figure 3.3.5. Simulated groundwater discharge and estimated baseflow to Salado Creek.

4.0 SENSITIVITY ANALYSIS

Sensitivity analysis provides a means of formally describing the impact of varying specific parameters or groups of parameters on model outputs. In this sensitivity analysis, input parameters were systematically increased and decreased from their calibrated values while noting associated changes in water levels. Hydraulic parameters were adjusted from calibrated “base case” values one at a time while all other hydraulic parameters in the model remained constant.

Section 4.1 describes the sensitivity analysis procedure. Section 4.2 discusses the results of the sensitivity analyses, using spider plots and evaluating responses to storage parameter changes using transient simulated hydrographs.

4.1 Sensitivity analysis procedure

This sensitivity analysis process used up to eight simulations for each parameter, where the input parameters were varied according to either of the following equations:

$$(\text{new parameter}) = (\text{calibrated parameter}) \times \text{factor} \quad (4.1.1)$$

or

$$(\text{new parameter}) = (\text{calibrated parameter}) \times 10^{(\text{factor} - 1)} \quad (4.1.2)$$

where the factors were 0.2, 0.5, 0.8, 1.2, 1.5, and 2.0. Parameters such as recharge were varied linearly using Equation 4.1.1. For parameters such as specific storage, which are typically thought of as log-varying, Equation 4.1.2 was used. For the output variable, the mean difference between the calibrated simulated water levels and the sensitivity simulated water levels was calculated:

$$MD = \frac{1}{n} \sum_{i=1}^n (h_{sens,i} - h_{cal,i}) \quad (4.1.3)$$

where:

MD = mean difference

$h_{sens,i}$ = sensitivity simulation water level at active grid cell i ,

$h_{cal,i}$ = calibrated simulation water level at active grid cell i ,

n = number of target locations.

For the sensitivity analysis, five input parameters were investigated: (1) horizontal hydraulic conductivity of the Edwards (Balcones Fault Zone) and Trinity aquifers, and the Walnut Formation; (2) vertical hydraulic conductivity of the Edwards (Balcones Fault Zone) and Trinity aquifers, and the Walnut Formation; (3) recharge; (4) specific storage; and (5) pumping in the Edwards (Balcones Fault Zone) and Trinity aquifers, and the Walnut Formation. Equation 4.1.1 was used for sensitivities based on horizontal and

vertical hydraulic conductivity, recharge, specific storage, and pumping based on water-level target data. Additionally, Equation 4.1.2 was used for the specific storage transient sensitivities based on water-level hydrographs.

4.2 Results of sensitivity analysis

In the discussion of sensitivity analysis results, water levels are considered as potential output metrics. In some cases, changing a particular parameter does not result in any significant change to simulated water levels. The lower bound of significant change is based on the head convergence criteria used in the MODFLOW Solver package. The head convergence criteria were 0.00001 feet, so any average changes in water level that are approximately 0.00001 feet or less are insignificant.

The sensitivity analysis results indicate that the model is most sensitive to recharge and horizontal hydraulic conductivity, especially in the Trinity Aquifer (Layer 3) (Figure 4.2.1). The model is moderately sensitive to river and drain conductance and specific storage, and least sensitive to vertical hydraulic conductivity, general-head boundary conductance, and pumping. Please note that the effects of vertical hydraulic conductivity are not included in Figure 4.2.1. Additionally, the model water levels are least sensitive to pumping on a study-area scale due to pumping rates that are low relative to other inflows and outflow. This insensitivity is because pumping, which averages 2,700 acre-feet per month, is small compared to most other parameters, such as recharge and spring discharge, that influence the water budget. However, water levels do vary due to pumping. Figure 4.2.2 shows changes to simulated water-level hydrographs over the calibration period in response to order of magnitude increases and decreases in specific storage in selected wells in the northern segment of the Edwards (Balcones Fault Zone) Aquifer. Responses to increased specific storage are far more muted than responses to decreased specific storage.

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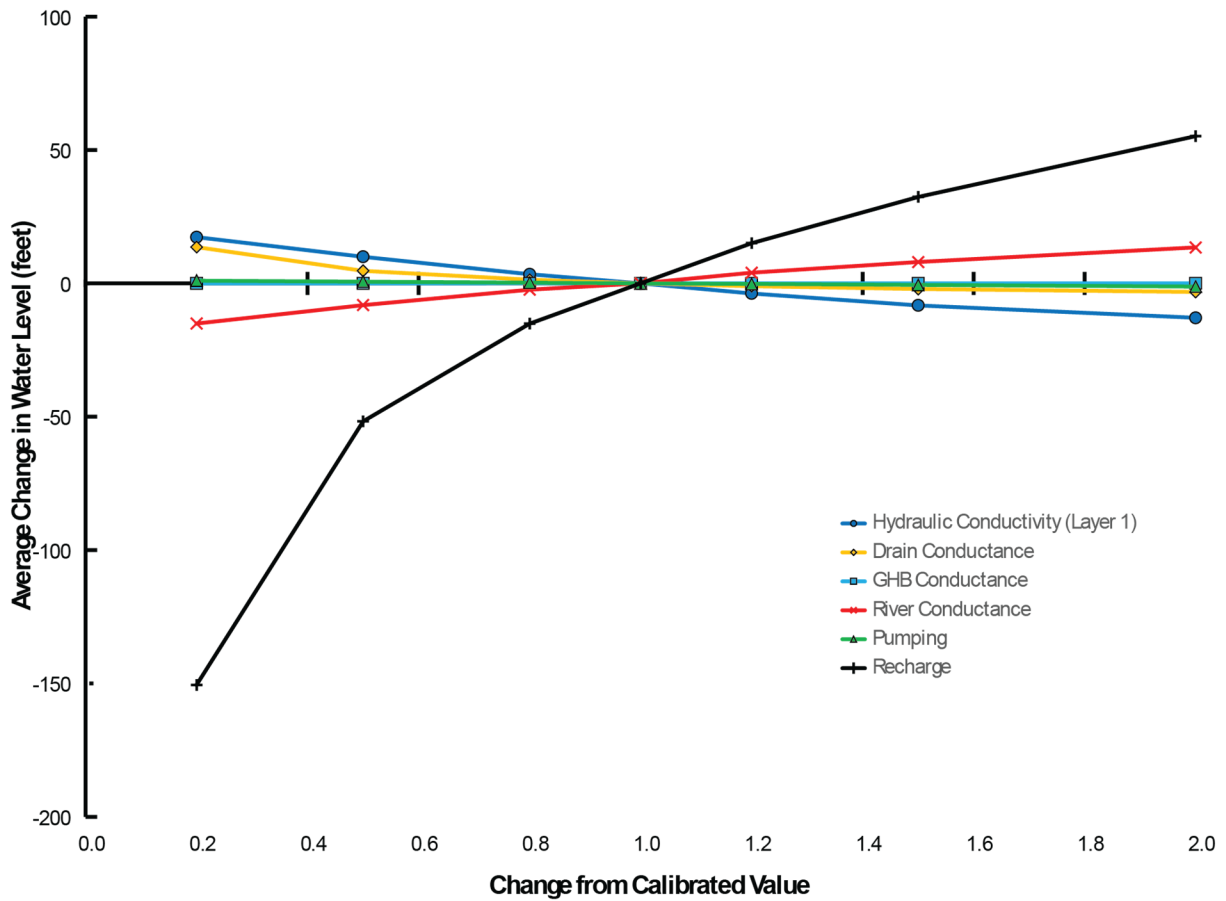


Figure 4.2.1. Average change in target water level as a function of parameter values variations.

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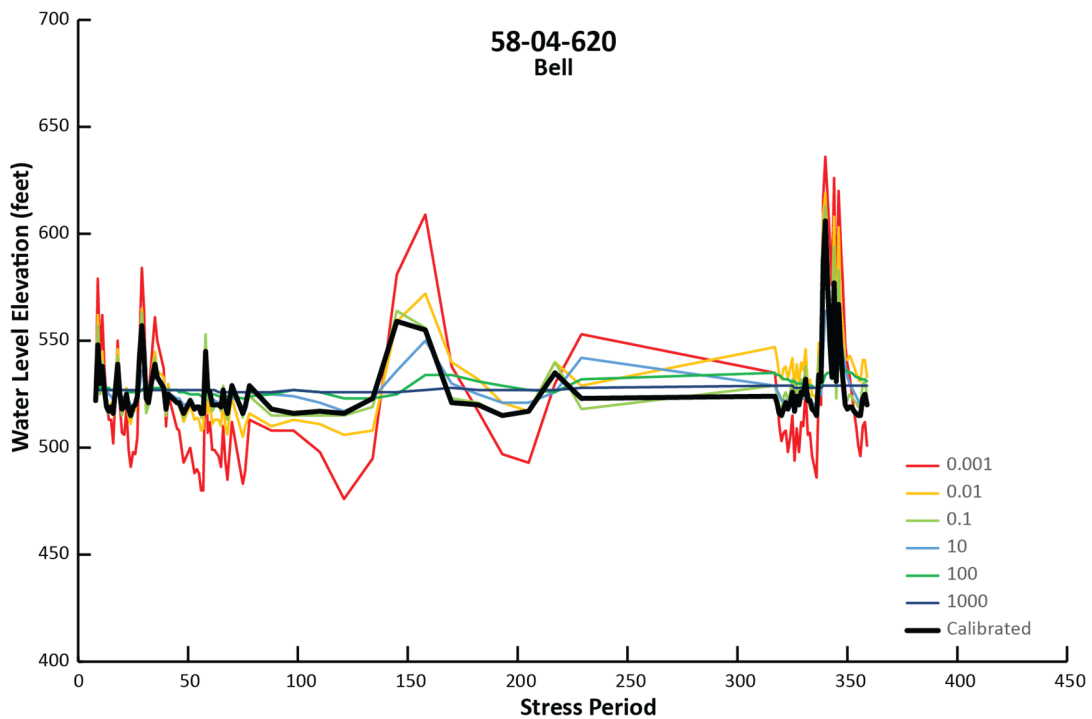
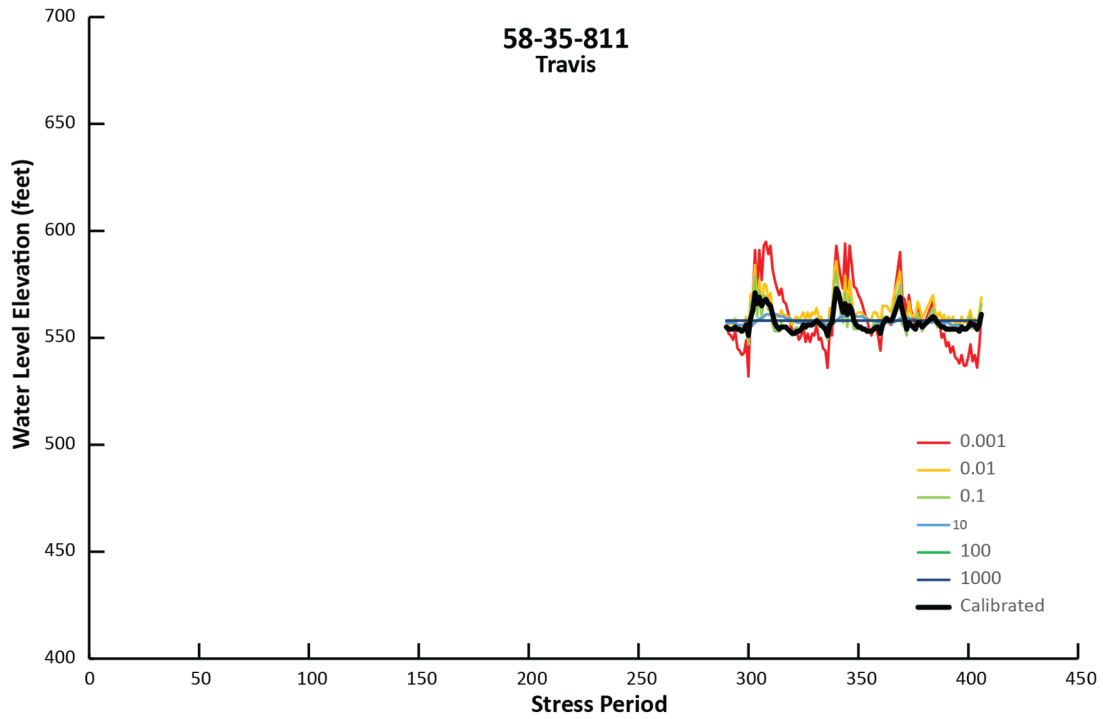


Figure 4.2.2. Hydrographs demonstrating the sensitivity of water-level fluctuations to changes in specific storage.

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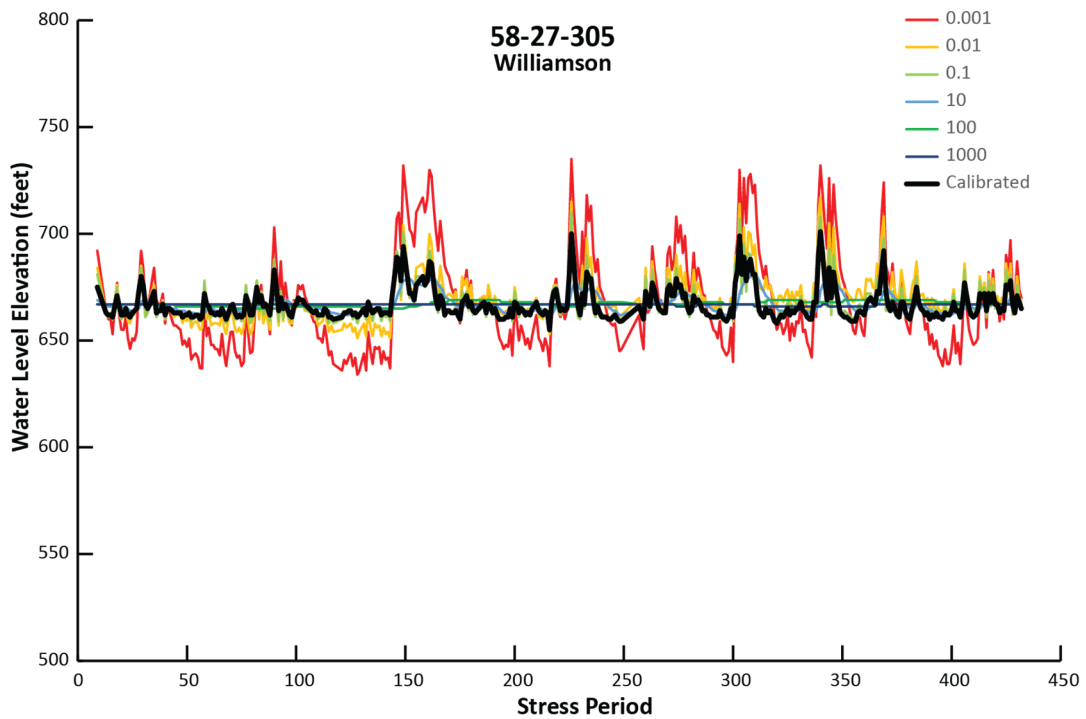
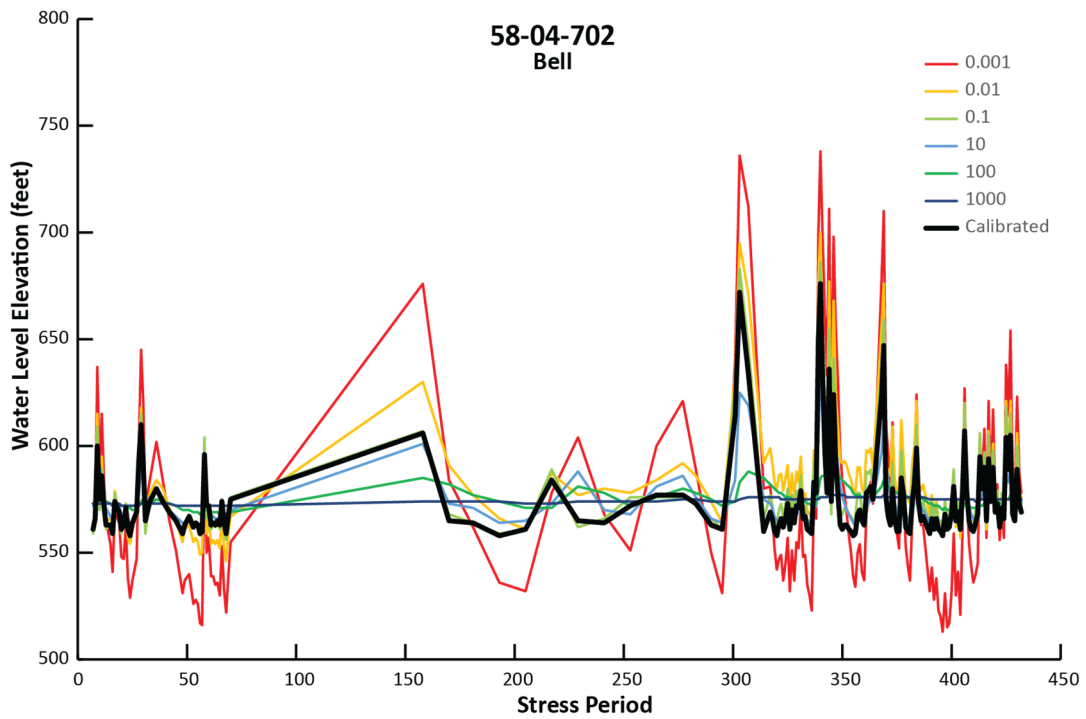


Figure 4.2.2. (continued).

5.0 MODEL LIMITATIONS

Numerical groundwater flow models are simplified representations of aquifer systems (Anderson and Woessner, 2002) and, as such, have limitations. These limitations are usually associated with (1) the purpose for the groundwater flow model, (2) the extent of the understanding of the aquifer(s), (3) the quantity and quality of data used to constrain parameters in the groundwater flow model, and (4) assumptions made during model development. Models are best viewed as tools to help form decisions rather than as machines to generate truth or make decisions. The National Research Council (2007) concluded that scientific advances will never make it possible to build a perfect model that accounts for every aspect of reality or be able to prove that a given model is correct in all respects for a particular application.

5.1 Limitations of supporting data

Developing supporting data is a challenge for a regional model with the complexity of the northern segment of the Edwards (Balcones Fault Zone) Aquifer groundwater availability model. The primary limitations in supporting data for the model are:

- spatially and temporally limited water-level targets in the Walnut Formation confining unit,
- limited applicability of stream gage and stream gain/loss estimates for the streams in the study area,
- limited hydraulic conductivity data for the aquifers and confining unit in the study area,
- limited data quantifying cross-formational flow between the aquifers, and
- uncertain estimates of pumping in all hydrostratigraphic units.

Water levels are the primary type of calibration target used in most models, including this groundwater availability model. Due to the spatial distribution of the pumping categories—municipal, irrigation, manufacturing, livestock, mining, and rural water use—there are few wells located in the up-gradient parts of the northern segment of the Edwards (Balcones Fault Zone) Aquifer and in the confined parts of the Trinity Aquifer. There are no wells representative of the hydrologic conditions in the Walnut Formation. Consequently, there is a lack of water-level data in these areas. Additionally, wells are sometimes screened in multiple aquifers, which may impact the applicability of water-level measurements in describing actual water levels in those aquifers. This may explain the wide ranges of water levels within relatively small areas.

The same challenge with water levels in the model area applies to estimates of hydraulic conductivity and other hydraulic properties. High quality aquifer-test information is sparse and consequently does not reflect assumed heterogeneity within the modeled aquifers and confining units.

5.2 Assumption assessment

Constructing and calibrating a groundwater model requires making assumptions about the groundwater flow system. These assumptions are related to the spatial distribution of hydraulic conductivity and other hydraulic properties, the occurrence of flow boundaries (no-flow, stream, drain, head-dependent, and recharge boundaries), and the spatial and temporal distribution of pumping from the northern segment of the Edwards (Balcones Fault Zone) Aquifer.

Hydraulic conductivity within the northern segment of the Edwards (Balcones Fault Zone) Aquifer and underlying Walnut Formation confining unit were assumed uniform values. In the case of the northern segment of the Edwards (Balcones Fault Zone) Aquifer, the assumption of uniform hydraulic conductivity is based on no apparent spatial trends with the high level of heterogeneity in the available hydraulic conductivity data. Uniform hydraulic conductivity is used in the Walnut Formation because of the absence of published hydraulic conductivity data. The hydraulic conductivity zones and assumptions used in the Trinity Aquifer are a simplification of the hydraulic conductivity data used in previous models of the aquifer (Harden and others, 2004; Kelley and others, 2014).

Lateral inflows and outflows to the model are assumed at the southern margin of the Edwards (Balcones Fault Zone) Aquifer outcrop where groundwater discharge to numerous small springs occurs. Lateral flow in the Trinity Aquifer occurs along the Lampasas and Colorado Rivers and is simulated using Drain or River cells.

5.3 Model application limitations

The purpose of the TWDB Groundwater Modeling Program is to develop models to provide information to groundwater conservation districts for groundwater management plans and to determine how regional groundwater availability is affected on a large scale based on policy decisions made by groundwater conservation districts within groundwater management areas. While the current model uses a quarter-mile square grid, its applicability is representative at a larger scale, such as tens of miles. The model should not be used to predict drawdown at a particular well. The model may be applicable at the scale of a large wellfield, depending on the data that was available in that area of the model.

The root mean square error for calibration of the model to measured water levels is 56 feet for the overall model and 53 feet for the northern segment of the Edwards (Balcones Fault Zone) Aquifer. These root mean square error values represent a relative error of 6 percent and 10 percent, respectively. This means that, on average, simulated water levels deviate from measured water levels by these amounts. However, the model performs better in some areas and worse in others, so care must be taken in using the model to estimate absolute water-level elevation. As a predictive tool, the

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model will be better at predicting changes in water levels due to changes in stresses (hydrograph trends) rather than absolute water-level values.

The northern segment of the Edwards (Balcones Fault Zone) Aquifer groundwater availability model should be used to estimate groundwater availability for the northern segment of the Edwards (Balcones Fault Zone) Aquifer only. This model should not be used for estimating groundwater availability in the associated Trinity Aquifer. The Trinity Aquifer in the study area is better represented in the groundwater availability model for the northern Trinity Aquifer (Kelley and others, 2014). Due to the lack of calibration data, this groundwater flow model is not recommended for use in the Walnut Formation confining unit. Finally, this model does not consider the effects of higher water density associated with high salinity in groundwater that occurs in downdip parts of the model area.

6.0 SUMMARY AND CONCLUSIONS

The groundwater availability model of the northern segment of the Edwards (Balcones Fault Zone) Aquifer is a groundwater management tool that can be used by the Clearwater Underground Water Conservation District, Groundwater Management Area 8, and the Lower Colorado and Region G regional water planning groups, among other stakeholders. This regional-scale model is not intended to address the effects of individual projects, nor is it intended to simulate groundwater flow through non-aquifer geologic units such as Walnut Formation. Evaluating the effects of individual projects would require a local-scale model calibrated with local scale data.

This model is composed of three layers of quarter-mile grid cells representing hydrostratigraphic units that make up a flow system that directly or indirectly interacts with the northern segment of the Edwards (Balcones Fault Zone) Aquifer. From top to bottom, the following are the layers in the model: the Edwards (Balcones Fault Zone) Aquifer (Layer 1), the Walnut Formation confining unit (Layer 2), and the Trinity Aquifer (Layer 3) (Jones, 2023a).

The available data used to construct both the conceptual and numerical groundwater availability models are adequate to describe the northern segment of the Edwards (Balcones Fault Zone) Aquifer at the regional scale. This model is not intended to address issues at local scale resolution. Groundwater geochemical and isotopic data for the northern segment of the Edwards (Balcones Fault Zone) Aquifer indicate that, at the regional scale, groundwater recharges in the aquifer outcrop and flows to the north or south toward the Lampasas or Colorado rivers, respectively. At the local scale, faults may act as barriers hindering groundwater down-gradient flow. That is not an indication that groundwater under the influence of down-dip hydraulic gradients does not eventually flow across or around these faults.

Most of the model boundaries are assumed to be no-flow boundaries representing possible groundwater divides or other barriers to groundwater flow along the margins of the model. General-head boundaries were used to simulate regional groundwater flow between the northern segment of the Edwards (Balcones Fault Zone) Aquifer and stratigraphic units overlying it within the model area. Recharge to the flow system occurs in the outcrops through infiltration of precipitation. The Colorado and Lampasas rivers are the primary discharge zones to the flow system, with lesser natural discharge through spring and stream discharge. Groundwater is pumped from the flow system for municipal, domestic, irrigation, and livestock uses.

Calibration of the version 2.01 of the model was by trial-and-error and assisted using PEST, a model-independent, industry-standard, parameter estimation code. The root mean squared error, a measure of how well simulated water levels match measured water levels, for the calibration is 42 feet for all model layers and 33 feet for the northern

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segment of the Edwards (Balcones Fault Zone) Aquifer. These root mean squared error values represent 5 and 6 percent of the range of measured water-level elevations, respectively, and thus meet the 10 percent calibration requirement of the TWDB Groundwater Modeling Program. Sensitivity analysis results indicate that the model is most sensitive to recharge and horizontal hydraulic conductivity and is moderately sensitive to river and drain conductance.

Model recalibration (version 2.10) was by trial-and-error adjustment of hydraulic conductivity and river parameters in Layer 1 (Edwards [Balcones Fault Zone] Aquifer) only. The root mean squared error, a measure of how well simulated water levels match measured water levels, for the recalibration is 56 feet for all model layers and 53 feet for the northern segment of the Edwards (Balcones Fault Zone) Aquifer. These root mean squared error values represent 6 and 10 percent of the range of measured water-level elevations, respectively. The intended result of the recalibration is increased simulated groundwater discharge to Salado Creek with median discharge approaching the median estimated baseflow of Salado Creek about 13 cubic feet per second.

In the calibrated model, groundwater enters the aquifer system from two main sources: recharge due to infiltration of precipitation and inflow from streams that cross the model area. Minor amounts of regional inflow occur through general-head boundaries. Groundwater leaves the system primarily through leakage to the Lampasas and Colorado rivers, as well as the other springs and streams in the study area, and by pumping. Modeled groundwater flow directions in all model layers indicate that groundwater flows principally to the north and south, toward the Colorado and Lampasas rivers (Figure 6.0.1), this is substantiated through analysis of measured water-level data in the conceptual model report (Jones, 2023a). The groundwater budget suggests that groundwater flow in the Walnut Formation confining unit is dominated by vertical inter-aquifer groundwater flow between the overlying Edwards (Balcones Fault Zone) and underlying Trinity aquifers (Table 3.3.1).

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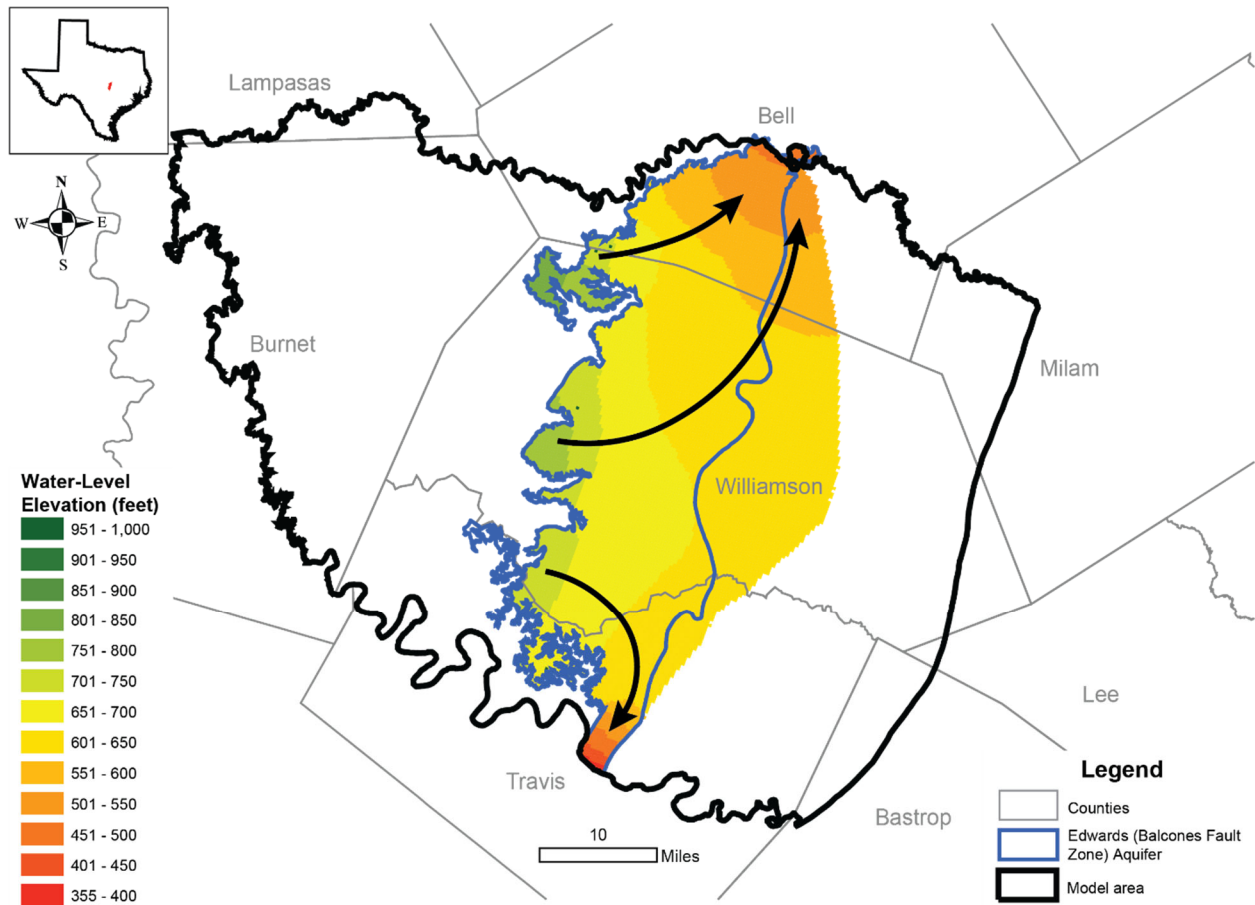


Figure 6.0.1. Map indicating groundwater flow directions in the northern segment of the Edwards (Balcones Fault Zone) Aquifer.

7.0 FUTURE IMPROVEMENTS

Groundwater availability models are considered 'living tools'. In other words, they are subject to periodic updates to improve model results and to make the models better groundwater management tools. This concept is especially applicable to the northern segment of the Edwards (Balcones Fault Zone) Aquifer groundwater availability model as additional hydrologic and geologic data continue to be developed, evaluated, and interpreted with respect to groundwater flow conditions, aquifer properties and relationships. Below is a discussion of possible model improvements that may be incorporated into future updates to this model.

As discussed in Section 5.0, Model Limitations, there is a scarcity of water-level data and hydraulic property information, especially in the Walnut Formation, in the model. As more data becomes available, it may be included in future updates of the model.

Additional streamflow data are required to better determine the seasonal and spatial distribution of stream discharge gain and loss. Better streamflow data would facilitate the use of the Streamflow package of MODFLOW as a potentially superior alternative to the River package and to provide additional data for model calibration. Additional streamflow data may facilitate more effective use of modeling strategies such as the use of unstructured grids as part of an update to newer versions of MODFLOW, such as MODFLOW 6 or MODFLOW USG.

Additional hydraulic head measurements and aquifer-test data are required for the northern segment of the Edwards (Balcones Fault Zone) Aquifer, especially in the unconfined part of the aquifer, overlying non-aquifer stratigraphic units and the Walnut Formation. This information can be used to improve calibration of the model by increasing the number and spatial distribution of sites for comparing measured and simulated water levels and provide improve constraints on cross-formational groundwater flow to and from the Edwards (Balcones Fault Zone) Aquifer. Water-level data are needed for the stratigraphic units overlying the northern segment of the Edwards (Balcones Fault Zone) Aquifer in order for the General-Head Boundary to be better constrained. Aquifer tests will facilitate determination of whether improving the model by spatially distributing hydraulic conductivity, specific storage, and specific yield can be justified.

This model can also be improved by an investigation of the spatial and temporal distribution of recharge. Determining the hydrologic conditions required for the occurrence of recharge to the northern segment of the Edwards (Balcones Fault Zone) Aquifer will facilitate better constraints on the seasonal distribution of recharge to the aquifer. Future improvements to the model will likely include extension of temporal data, such as recharge, pumping, and streamflow data to incorporate more recently collected data.

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Finally, this model may also be improved by an investigation of the spatial and temporal distribution of pumping. Reviewing pumpage data for the northern segment of the Edwards (Balcones Fault Zone) Aquifer will facilitate better constraints on the effects of pumpage on the aquifer. Future improvements to the model will likely include review, revision, and incorporating pumping data from different sources such as the TWDB Water Use Survey and pumpage estimates by the Clearwater Underground Water Conservation District.

8.0 ACKNOWLEDGMENTS

This project would not have been possible without the support of a number of individuals and organizations. I greatly appreciate the technical and editorial expertise of Daryn Hardwick, Natalie Ballew, Cindy Ridgeway, Kayla Shearhart, and Larry French. I am also grateful for the continuing interest of the Clearwater Underground Water Conservation District. I would also like to thank Dirk Aaron, Mike Keester, Joe Yelderman, among others, for their help providing data and insights into the northern segment of the Edwards (Balcones Fault Zone) Aquifer.

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APPENDICES

APPENDIX A WATER BUDGETS

A.1 Water budgets by county

Appendix A.1. can be found at the link below:

https://gw-models.s3.amazonaws.com/Download_GAMs/ebfz_n/Appendix%20A_1%20version%202.1.pdf

Monthly values in the table are expressed in acre-feet.

A.2 Water budgets by groundwater conservation district

Appendix A.2. can be found at the link below:

https://gw-models.s3.amazonaws.com/Download_GAMs/ebfz_n/Appendix%20A_2%20version%202.1.pdf

Monthly values in the table are expressed in acre-feet.

A.3 Water budgets by model layer

Appendix A.3. can be found at the link below:

https://gw-models.s3.amazonaws.com/Download_GAMs/ebfz_n/Appendix%20A_3%20version%202.1.pdf

Monthly values in the table are expressed in acre-feet.

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APPENDIX B TARGETS

B.1 Simulated and Measured Water Levels at Wells

Table B.1.1. Water-level targets, simulated values, and residuals in the northern segment of the Edwards (Balcones Fault Zone) Aquifer (Layer 1). Values in AMSL (above mean sea level).

Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5804307	1	52	211	305	May-2005	529	572	-43
5804308	1	54	209	2	Feb-1980	536	529	7
5804308	1	54	209	13	Jan-1981	540	518	22
5804312	1	49	214	291	Mar-2004	524	503	21
5804502	1	59	207	1	Jan-1980	573	541	32
5804502	1	59	207	2	Feb-1980	573	544	29
5804502	1	59	207	3	Mar-1980	573	551	22
5804502	1	59	207	5	May-1980	573	565	8
5804502	1	59	207	6	Jun-1980	572	538	34
5804502	1	59	207	8	Aug-1980	570	535	35
5804502	1	59	207	9	Sep-1980	568	563	5
5804502	1	59	207	10	Oct-1980	571	543	28
5804502	1	59	207	11	Nov-1980	571	552	19
5804502	1	59	207	12	Dec-1980	572	540	32
5804502	1	59	207	13	Jan-1981	571	533	38
5804502	1	59	207	15	Mar-1981	573	532	41
5804502	1	59	207	16	Apr-1981	572	529	43
5804502	1	59	207	17	May-1981	572	541	31
5804502	1	59	207	18	Jun-1981	572	553	19
5804502	1	59	207	19	Jul-1981	575	539	36
5804502	1	59	207	20	Aug-1981	573	531	42
5804502	1	59	207	21	Sep-1981	572	532	40
5804502	1	59	207	22	Oct-1981	573	539	34
5804502	1	59	207	23	Nov-1981	574	531	43
5804502	1	59	207	24	Dec-1981	573	528	45
5804502	1	59	207	25	Jan-1982	573	533	40
5804502	1	59	207	27	Mar-1982	572	538	34
5804502	1	59	207	28	Apr-1982	571	557	14
5804502	1	59	207	29	May-1982	572	572	0

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5804502	1	59	207	30	Jun-1982	571	558	13
5804502	1	59	207	31	Jul-1982	571	536	35
5804502	1	59	207	33	Sep-1982	570	541	29
5804502	1	59	207	36	Dec-1982	574	547	27
5804502	1	59	207	39	Mar-1983	573	542	31
5804502	1	59	207	42	Jun-1983	572	538	34
5804502	1	59	207	45	Sep-1983	570	534	36
5804502	1	59	207	48	Dec-1983	572	529	43
5804502	1	59	207	49	Jan-1984	572	533	39
5804502	1	59	207	53	May-1984	569	531	38
5804502	1	59	207	54	Jun-1984	570	533	37
5804502	1	59	207	55	Jul-1984	570	533	37
5804502	1	59	207	56	Aug-1984	569	529	40
5804502	1	59	207	57	Sep-1984	569	530	39
5804502	1	59	207	58	Oct-1984	570	560	10
5804502	1	59	207	59	Nov-1984	571	541	30
5804502	1	59	207	60	Dec-1984	572	540	32
5804502	1	59	207	61	Jan-1985	572	533	39
5804502	1	59	207	62	Feb-1985	573	533	40
5804502	1	59	207	63	Mar-1985	573	533	40
5804502	1	59	207	64	Apr-1985	573	534	39
5804502	1	59	207	65	May-1985	572	532	40
5804502	1	59	207	66	Jun-1985	571	541	30
5804502	1	59	207	67	Jul-1985	570	534	36
5804502	1	59	207	68	Aug-1985	570	529	41
5804502	1	59	207	69	Sep-1985	571	536	35
5804502	1	59	207	70	Oct-1985	571	542	29
5804502	1	59	207	277	Jan-2003	572	546	26
5804502	1	59	207	283	Jul-2003	565	541	24
5804502	1	59	207	289	Jan-2004	572	532	40
5804502	1	59	207	295	Jul-2004	572	531	41
5804502	1	59	207	301	Jan-2005	574	574	0
5804502	1	59	207	307	Jul-2005	569	592	-23
5804502	1	59	207	313	Jan-2006	569	532	37
5804502	1	59	207	319	Jul-2006	569	530	39
5804502	1	59	207	321	Sep-2006	568	532	36
5804502	1	59	207	322	Oct-2006	568	535	33

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5804502	1	59	207	323	Nov-2006	569	531	38
5804502	1	59	207	326	Feb-2007	572	531	41
5804502	1	59	207	337	Jan-2008	571	548	23
5804502	1	59	207	343	Jul-2008	569	547	22
5804502	1	59	207	349	Jan-2009	569	534	35
5804502	1	59	207	355	Jul-2009	567	528	39
5804502	1	59	207	361	Jan-2010	573	544	29
5804502	1	59	207	367	Jul-2010	570	551	19
5804502	1	59	207	373	Jan-2011	572	547	25
5804502	1	59	207	385	Jan-2012	571	541	30
5804502	1	59	207	389	May-2012	570	534	36
5804502	1	59	207	407	Nov-2013	571	547	24
5804502	1	59	207	410	Feb-2014	571	530	41
5804502	1	59	207	413	May-2014	569	558	11
5804502	1	59	207	416	Aug-2014	568	535	33
5804504	1	67	203	2	Feb-1980	618	578	40
5804504	1	67	203	13	Jan-1981	618	567	51
5804506	1	66	205	1	Jan-1980	584	568	16
5804506	1	66	205	2	Feb-1980	586	572	14
5804506	1	66	205	6	Jun-1980	585	566	19
5804506	1	66	205	8	Aug-1980	587	564	23
5804506	1	66	205	9	Sep-1980	605	590	15
5804506	1	66	205	13	Jan-1981	587	561	26
5804508	1	59	207	305	May-2005	557	597	-40
5804508	1	59	207	397	Jan-2013	555	536	19
5804508	1	59	207	400	Apr-2013	554	537	17
5804508	1	59	207	404	Aug-2013	543	530	13
5804508	1	59	207	408	Dec-2013	556	535	21
5804508	1	59	207	409	Jan-2014	555	531	24
5804508	1	59	207	412	Apr-2014	553	536	17
5804508	1	59	207	416	Aug-2014	543	535	8
5804508	1	59	207	420	Dec-2014	555	538	17
5804508	1	59	207	421	Jan-2015	555	541	14
5804508	1	59	207	422	Feb-2015	555	532	23
5804508	1	59	207	423	Mar-2015	555	539	16
5804508	1	59	207	424	Apr-2015	555	535	20
5804508	1	59	207	425	May-2015	546	566	-20

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5804508	1	59	207	426	Jun-2015	549	555	-6
5804508	1	59	207	427	Jul-2015	544	568	-24
5804508	1	59	207	428	Aug-2015	544	538	6
5804508	1	59	207	429	Sep-2015	545	534	11
5804508	1	59	207	430	Oct-2015	545	554	-9
5804508	1	59	207	431	Nov-2015	556	542	14
5804508	1	59	207	432	Dec-2015	556	537	19
5804510	1	66	210	213	Sep-1997	635	552	83
5804510	1	66	210	397	Jan-2013	586	555	31
5804510	1	66	210	400	Apr-2013	581	557	24
5804510	1	66	210	404	Aug-2013	579	551	28
5804510	1	66	210	408	Dec-2013	611	556	55
5804510	1	66	210	409	Jan-2014	593	552	41
5804510	1	66	210	412	Apr-2014	587	556	31
5804510	1	66	210	416	Aug-2014	580	556	24
5804510	1	66	210	420	Dec-2014	584	559	25
5804510	1	66	210	421	Jan-2015	605	560	45
5804510	1	66	210	422	Feb-2015	587	553	34
5804510	1	66	210	423	Mar-2015	589	558	31
5804510	1	66	210	424	Apr-2015	587	555	32
5804510	1	66	210	425	May-2015	585	580	5
5804510	1	66	210	426	Jun-2015	589	572	17
5804510	1	66	210	427	Jul-2015	612	582	30
5804510	1	66	210	428	Aug-2015	585	559	26
5804510	1	66	210	429	Sep-2015	582	555	27
5804510	1	66	210	430	Oct-2015	582	570	12
5804510	1	66	210	431	Nov-2015	604	561	43
5804510	1	66	210	432	Dec-2015	611	558	53
5804512	1	66	209	248	Aug-2000	611	551	60
5804512	1	66	209	397	Jan-2013	589	557	32
5804512	1	66	209	400	Apr-2013	586	559	27
5804512	1	66	209	404	Aug-2013	578	553	25
5804512	1	66	209	408	Dec-2013	590	557	33
5804512	1	66	209	409	Jan-2014	590	554	36
5804512	1	66	209	412	Apr-2014	589	558	31
5804512	1	66	209	416	Aug-2014	580	557	23
5804512	1	66	209	420	Dec-2014	587	560	27

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5804512	1	66	209	421	Jan-2015	588	562	26
5804512	1	66	209	422	Feb-2015	589	555	34
5804512	1	66	209	423	Mar-2015	589	560	29
5804512	1	66	209	424	Apr-2015	590	557	33
5804512	1	66	209	425	May-2015	589	582	7
5804512	1	66	209	426	Jun-2015	595	574	21
5804512	1	66	209	427	Jul-2015	593	585	8
5804512	1	66	209	428	Aug-2015	588	560	28
5804512	1	66	209	429	Sep-2015	587	556	31
5804512	1	66	209	430	Oct-2015	584	572	12
5804512	1	66	209	431	Nov-2015	593	563	30
5804512	1	66	209	432	Dec-2015	596	559	37
5804513	1	67	209	248	Aug-2000	584	554	30
5804513	1	67	209	397	Jan-2013	597	561	36
5804513	1	67	209	400	Apr-2013	596	562	34
5804513	1	67	209	404	Aug-2013	613	557	56
5804513	1	67	209	408	Dec-2013	605	561	44
5804513	1	67	209	409	Jan-2014	596	557	39
5804513	1	67	209	412	Apr-2014	596	561	35
5804513	1	67	209	416	Aug-2014	615	561	54
5804513	1	67	209	420	Dec-2014	596	564	32
5804513	1	67	209	421	Jan-2015	597	565	32
5804513	1	67	209	422	Feb-2015	596	558	38
5804513	1	67	209	423	Mar-2015	596	563	33
5804513	1	67	209	424	Apr-2015	596	560	36
5804513	1	67	209	425	May-2015	595	586	9
5804513	1	67	209	426	Jun-2015	622	578	44
5804513	1	67	209	427	Jul-2015	622	588	34
5804513	1	67	209	428	Aug-2015	621	564	57
5804513	1	67	209	429	Sep-2015	620	560	60
5804513	1	67	209	430	Oct-2015	619	576	43
5804513	1	67	209	431	Nov-2015	621	566	55
5804513	1	67	209	432	Dec-2015	596	563	33
5804602	1	60	209	13	Jan-1981	548	535	13
5804602	1	60	209	277	Jan-2003	504	547	-43
5804602	1	60	209	283	Jul-2003	539	543	-4
5804602	1	60	209	289	Jan-2004	548	535	13

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5804602	1	60	209	295	Jul-2004	545	533	12
5804602	1	60	209	301	Jan-2005	550	572	-22
5804602	1	60	209	307	Jul-2005	541	588	-47
5804602	1	60	209	313	Jan-2006	541	535	6
5804602	1	60	209	319	Jul-2006	526	532	-6
5804602	1	60	209	321	Sep-2006	543	534	9
5804602	1	60	209	322	Oct-2006	544	536	8
5804602	1	60	209	323	Nov-2006	547	533	14
5804602	1	60	209	325	Jan-2007	540	541	-1
5804602	1	60	209	326	Feb-2007	559	533	26
5804602	1	60	209	331	Jul-2007	536	547	-11
5804602	1	60	209	337	Jan-2008	545	549	-4
5804602	1	60	209	343	Jul-2008	537	549	-12
5804602	1	60	209	349	Jan-2009	538	536	2
5804602	1	60	209	355	Jul-2009	542	530	12
5804602	1	60	209	361	Jan-2010	550	545	5
5804602	1	60	209	367	Jul-2010	546	552	-6
5804602	1	60	209	373	Jan-2011	546	547	-1
5804602	1	60	209	379	Jul-2011	532	534	-2
5804602	1	60	209	381	Sep-2011	530	531	-1
5804602	1	60	209	383	Nov-2011	535	549	-14
5804602	1	60	209	385	Jan-2012	546	543	3
5804602	1	60	209	389	May-2012	546	536	10
5804602	1	60	209	397	Jan-2013	535	537	-2
5804602	1	60	209	401	May-2013	536	547	-11
5804602	1	60	209	404	Aug-2013	535	533	2
5804602	1	60	209	407	Nov-2013	548	549	-1
5804602	1	60	209	410	Feb-2014	547	532	15
5804602	1	60	209	413	May-2014	546	558	-12
5804602	1	60	209	416	Aug-2014	544	537	7
5804602	1	60	209	419	Nov-2014	536	555	-19
5804602	1	60	209	421	Jan-2015	537	542	-5
5804602	1	60	209	422	Feb-2015	538	534	4
5804602	1	60	209	423	Mar-2015	537	540	-3
5804602	1	60	209	424	Apr-2015	538	537	1
5804602	1	60	209	425	May-2015	538	565	-27
5804602	1	60	209	426	Jun-2015	543	556	-13

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5804602	1	60	209	427	Jul-2015	541	567	-26
5804602	1	60	209	428	Aug-2015	513	541	-28
5804602	1	60	209	429	Sep-2015	540	537	3
5804602	1	60	209	430	Oct-2015	539	554	-15
5804602	1	60	209	431	Nov-2015	543	543	0
5804602	1	60	209	432	Dec-2015	543	539	4
5804604	1	56	209	305	May-2005	564	585	-21
5804605	1	56	208	305	May-2005	588	588	0
5804606	1	56	209	305	May-2005	569	585	-16
5804607	1	56	209	2	Feb-1980	555	534	21
5804607	1	56	209	13	Jan-1981	555	523	32
5804608	1	57	209	2	Feb-1980	563	537	26
5804608	1	57	209	13	Jan-1981	562	526	36
5804609	1	57	209	305	May-2005	559	587	-28
5804611	1	59	208	2	Feb-1980	565	543	22
5804611	1	59	208	13	Jan-1981	566	532	34
5804612	1	59	209	2	Feb-1980	564	542	22
5804612	1	59	209	13	Jan-1981	566	532	34
5804615	1	60	210	2	Feb-1980	554	545	9
5804615	1	60	210	13	Jan-1981	555	535	20
5804620	1	63	209	8	Aug-1980	581	547	34
5804620	1	63	209	9	Sep-1980	579	571	8
5804620	1	63	209	10	Oct-1980	578	555	23
5804620	1	63	209	11	Nov-1980	577	562	15
5804620	1	63	209	12	Dec-1980	577	552	25
5804620	1	63	209	13	Jan-1981	577	545	32
5804620	1	63	209	14	Feb-1981	577	543	34
5804620	1	63	209	15	Mar-1981	578	545	33
5804620	1	63	209	16	Apr-1981	579	542	37
5804620	1	63	209	17	May-1981	580	552	28
5804620	1	63	209	18	Jun-1981	592	563	29
5804620	1	63	209	19	Jul-1981	585	551	34
5804620	1	63	209	20	Aug-1981	584	544	40
5804620	1	63	209	21	Sep-1981	583	544	39
5804620	1	63	209	22	Oct-1981	590	550	40
5804620	1	63	209	23	Nov-1981	584	544	40
5804620	1	63	209	24	Dec-1981	582	541	41

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5804620	1	63	209	25	Jan-1982	581	545	36
5804620	1	63	209	26	Feb-1982	581	546	35
5804620	1	63	209	27	Mar-1982	580	549	31
5804620	1	63	209	28	Apr-1982	579	566	13
5804620	1	63	209	29	May-1982	582	579	3
5804620	1	63	209	30	Jun-1982	581	568	13
5804620	1	63	209	31	Jul-1982	581	549	32
5804620	1	63	209	32	Aug-1982	578	547	31
5804620	1	63	209	33	Sep-1982	577	553	24
5804620	1	63	209	34	Oct-1982	576	559	17
5804620	1	63	209	35	Nov-1982	577	563	14
5804620	1	63	209	36	Dec-1982	577	558	19
5804620	1	63	209	39	Mar-1983	582	553	29
5804620	1	63	209	40	Apr-1983	582	544	38
5804620	1	63	209	41	May-1983	582	550	32
5804620	1	63	209	42	Jun-1983	581	550	31
5804620	1	63	209	45	Sep-1983	577	546	31
5804620	1	63	209	46	Oct-1983	577	547	30
5804620	1	63	209	48	Dec-1983	575	542	33
5804620	1	63	209	51	Mar-1984	574	547	27
5804620	1	63	209	53	May-1984	574	544	30
5804620	1	63	209	54	Jun-1984	574	545	29
5804620	1	63	209	55	Jul-1984	574	545	29
5804620	1	63	209	56	Aug-1984	574	542	32
5804620	1	63	209	57	Sep-1984	573	542	31
5804620	1	63	209	58	Oct-1984	578	568	10
5804620	1	63	209	59	Nov-1984	577	552	25
5804620	1	63	209	60	Dec-1984	578	551	27
5804620	1	63	209	61	Jan-1985	580	546	34
5804620	1	63	209	62	Feb-1985	580	546	34
5804620	1	63	209	64	Apr-1985	583	546	37
5804620	1	63	209	65	May-1985	582	544	38
5804620	1	63	209	66	Jun-1985	581	552	29
5804620	1	63	209	67	Jul-1985	580	546	34
5804620	1	63	209	68	Aug-1985	578	542	36
5804620	1	63	209	69	Sep-1985	576	548	28
5804620	1	63	209	70	Oct-1985	577	553	24

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5804620	1	63	209	75	Mar-1986	585	542	43
5804620	1	63	209	76	Apr-1986	583	545	38
5804620	1	63	209	78	Jun-1986	582	554	28
5804620	1	63	209	88	Apr-1987	581	544	37
5804620	1	63	209	98	Feb-1988	574	542	32
5804620	1	63	209	110	Feb-1989	573	543	30
5804620	1	63	209	121	Jan-1990	570	542	28
5804620	1	63	209	134	Feb-1991	580	549	31
5804620	1	63	209	145	Jan-1992	590	581	9
5804620	1	63	209	158	Feb-1993	591	578	13
5804620	1	63	209	170	Feb-1994	573	547	26
5804620	1	63	209	182	Feb-1995	579	545	34
5804620	1	63	209	193	Jan-1996	571	541	30
5804620	1	63	209	205	Jan-1997	589	543	46
5804620	1	63	209	217	Jan-1998	633	559	74
5804620	1	63	209	229	Jan-1999	585	549	36
5804620	1	63	209	317	May-2006	607	549	58
5804620	1	63	209	318	Jun-2006	607	547	60
5804620	1	63	209	319	Jul-2006	607	542	65
5804620	1	63	209	320	Aug-2006	607	541	66
5804620	1	63	209	321	Sep-2006	607	544	63
5804620	1	63	209	322	Oct-2006	607	546	61
5804620	1	63	209	323	Nov-2006	607	544	63
5804620	1	63	209	324	Dec-2006	607	547	60
5804620	1	63	209	325	Jan-2007	608	551	57
5804620	1	63	209	326	Feb-2007	608	544	64
5804620	1	63	209	327	Mar-2007	609	549	60
5804620	1	63	209	328	Apr-2007	609	546	63
5804620	1	63	209	329	May-2007	609	551	58
5804620	1	63	209	330	Jun-2007	610	550	60
5804620	1	63	209	331	Jul-2007	610	556	54
5804620	1	63	209	332	Aug-2007	610	548	62
5804620	1	63	209	333	Sep-2007	609	548	61
5804620	1	63	209	334	Oct-2007	609	544	65
5804620	1	63	209	335	Nov-2007	608	543	65
5804620	1	63	209	336	Dec-2007	608	542	66
5804620	1	63	209	337	Jan-2008	608	558	50

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5804620	1	63	209	338	Feb-2008	608	556	52
5804620	1	63	209	339	Mar-2008	608	602	6
5804620	1	63	209	340	Apr-2008	608	616	-8
5804620	1	63	209	341	May-2008	608	599	9
5804620	1	63	209	342	Jun-2008	608	574	34
5804620	1	63	209	343	Jul-2008	608	558	50
5804620	1	63	209	344	Aug-2008	607	597	10
5804620	1	63	209	345	Sep-2008	607	557	50
5804620	1	63	209	346	Oct-2008	607	589	18
5804620	1	63	209	347	Nov-2008	607	570	37
5804620	1	63	209	348	Dec-2008	607	558	49
5804620	1	63	209	349	Jan-2009	607	546	61
5804620	1	63	209	350	Feb-2009	607	544	63
5804620	1	63	209	351	Mar-2009	607	545	62
5804620	1	63	209	352	Apr-2009	607	545	62
5804620	1	63	209	353	May-2009	607	543	64
5804620	1	63	209	354	Jun-2009	607	542	65
5804620	1	63	209	355	Jul-2009	607	541	66
5804620	1	63	209	356	Aug-2009	607	541	66
5804620	1	63	209	357	Sep-2009	607	548	59
5804620	1	63	209	358	Oct-2009	608	550	58
5804620	1	63	209	359	Nov-2009	610	546	64
5804623	1	61	209	157	Jan-1993	500	572	-72
5804623	1	61	209	166	Oct-1993	500	557	-57
5804623	1	61	209	193	Jan-1996	497	534	-37
5804623	1	61	209	205	Jan-1997	508	537	-29
5804623	1	61	209	217	Jan-1998	512	553	-41
5804623	1	61	209	225	Sep-1998	512	582	-70
5804623	1	61	209	229	Jan-1999	511	542	-31
5804623	1	61	209	241	Jan-2000	506	539	-33
5804623	1	61	209	253	Jan-2001	505	544	-39
5804623	1	61	209	265	Jan-2002	500	550	-50
5804623	1	61	209	277	Jan-2003	500	551	-51
5804623	1	61	209	283	Jul-2003	496	546	-50
5804623	1	61	209	289	Jan-2004	496	538	-42
5804623	1	61	209	290	Feb-2004	495	538	-43
5804623	1	61	209	295	Jul-2004	502	537	-35

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5804623	1	61	209	301	Jan-2005	499	575	-76
5804623	1	61	209	303	Mar-2005	499	602	-103
5804623	1	61	209	307	Jul-2005	498	591	-93
5804623	1	61	209	313	Jan-2006	502	538	-36
5804623	1	61	209	314	Feb-2006	502	536	-34
5804623	1	61	209	319	Jul-2006	490	536	-46
5804623	1	61	209	321	Sep-2006	502	538	-36
5804623	1	61	209	322	Oct-2006	499	540	-41
5804623	1	61	209	323	Nov-2006	504	537	-33
5804623	1	61	209	325	Jan-2007	505	545	-40
5804623	1	61	209	331	Jul-2007	513	550	-37
5804623	1	61	209	337	Jan-2008	499	552	-53
5804623	1	61	209	343	Jul-2008	513	552	-39
5804623	1	61	209	349	Jan-2009	496	540	-44
5804623	1	61	209	355	Jul-2009	500	534	-34
5804623	1	61	209	361	Jan-2010	518	549	-31
5804623	1	61	209	367	Jul-2010	504	555	-51
5804623	1	61	209	373	Jan-2011	503	551	-48
5804623	1	61	209	379	Jul-2011	498	538	-40
5804623	1	61	209	381	Sep-2011	496	535	-39
5804623	1	61	209	383	Nov-2011	502	552	-50
5804623	1	61	209	385	Jan-2012	506	547	-41
5804623	1	61	209	389	May-2012	503	539	-36
5804623	1	61	209	397	Jan-2013	500	541	-41
5804623	1	61	209	401	May-2013	499	551	-52
5804623	1	61	209	404	Aug-2013	501	536	-35
5804623	1	61	209	407	Nov-2013	504	552	-48
5804623	1	61	209	410	Feb-2014	505	536	-31
5804623	1	61	209	413	May-2014	495	561	-66
5804623	1	61	209	416	Aug-2014	493	541	-48
5804623	1	61	209	419	Nov-2014	497	558	-61
5804623	1	61	209	421	Jan-2015	506	546	-40
5804623	1	61	209	426	Jun-2015	509	559	-50
5804623	1	61	209	429	Sep-2015	505	540	-35
5804623	1	61	209	431	Nov-2015	513	547	-34
5804627	1	58	208	277	Jan-2003	582	542	40
5804627	1	58	208	283	Jul-2003	579	537	42

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5804627	1	58	208	289	Jan-2004	580	529	51
5804627	1	58	208	295	Jul-2004	582	527	55
5804627	1	58	208	301	Jan-2005	583	569	14
5804627	1	58	208	307	Jul-2005	578	587	-9
5804627	1	58	208	313	Jan-2006	578	529	49
5804627	1	58	208	319	Jul-2006	578	526	52
5804627	1	58	208	321	Sep-2006	579	528	51
5804627	1	58	208	322	Oct-2006	577	531	46
5804627	1	58	208	323	Nov-2006	578	527	51
5804627	1	58	208	325	Jan-2007	591	536	55
5804627	1	58	208	326	Feb-2007	571	527	44
5804627	1	58	208	331	Jul-2007	595	542	53
5804627	1	58	208	337	Jan-2008	580	544	36
5804627	1	58	208	343	Jul-2008	578	543	35
5804627	1	58	208	349	Jan-2009	578	530	48
5804627	1	58	208	355	Jul-2009	570	524	46
5804627	1	58	208	361	Jan-2010	582	540	42
5804627	1	58	208	367	Jul-2010	580	547	33
5804627	1	58	208	373	Jan-2011	579	542	37
5804627	1	58	208	379	Jul-2011	587	528	59
5804627	1	58	208	381	Sep-2011	586	525	61
5804627	1	58	208	383	Nov-2011	587	544	43
5804627	1	58	208	385	Jan-2012	579	538	41
5804627	1	58	208	389	May-2012	580	530	50
5804627	1	58	208	397	Jan-2013	589	532	57
5804627	1	58	208	401	May-2013	589	542	47
5804627	1	58	208	404	Aug-2013	587	527	60
5804627	1	58	208	407	Nov-2013	578	543	35
5804627	1	58	208	410	Feb-2014	579	526	53
5804627	1	58	208	413	May-2014	575	554	21
5804627	1	58	208	416	Aug-2014	575	531	44
5804627	1	58	208	419	Nov-2014	579	550	29
5804627	1	58	208	421	Jan-2015	582	537	45
5804627	1	58	208	426	Jun-2015	584	551	33
5804627	1	58	208	429	Sep-2015	586	531	55
5804627	1	58	208	431	Nov-2015	591	538	53
5804628	1	62	211	349	Jan-2009	590	541	49

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5804628	1	62	211	350	Feb-2009	588	539	49
5804628	1	62	211	351	Mar-2009	588	539	49
5804628	1	62	211	352	Apr-2009	594	539	55
5804628	1	62	211	353	May-2009	596	538	58
5804628	1	62	211	354	Jun-2009	576	537	39
5804628	1	62	211	355	Jul-2009	574	536	38
5804628	1	62	211	356	Aug-2009	575	536	39
5804628	1	62	211	357	Sep-2009	591	542	49
5804628	1	62	211	358	Oct-2009	631	544	87
5804628	1	62	211	359	Nov-2009	625	541	84
5804628	1	62	211	360	Dec-2009	619	539	80
5804628	1	62	211	361	Jan-2010	610	549	61
5804628	1	62	211	362	Feb-2010	645	551	94
5804628	1	62	211	363	Mar-2010	634	552	82
5804628	1	62	211	364	Apr-2010	604	548	56
5804628	1	62	211	365	May-2010	592	546	46
5804628	1	62	211	366	Jun-2010	591	561	30
5804628	1	62	211	367	Jul-2010	587	556	31
5804628	1	62	211	368	Aug-2010	582	580	2
5804628	1	62	211	369	Sep-2010	600	594	6
5804628	1	62	211	370	Oct-2010	584	554	30
5804628	1	62	211	371	Nov-2010	585	544	41
5804628	1	62	211	372	Dec-2010	585	539	46
5804628	1	62	211	373	Jan-2011	591	551	40
5804628	1	62	211	374	Feb-2011	595	542	53
5804628	1	62	211	375	Mar-2011	590	538	52
5804628	1	62	211	376	Apr-2011	583	537	46
5804628	1	62	211	377	May-2011	585	553	32
5804628	1	62	211	378	Jun-2011	578	550	28
5804628	1	62	211	379	Jul-2011	575	539	36
5804628	1	62	211	380	Aug-2011	573	537	36
5804628	1	62	211	381	Sep-2011	573	536	37
5804628	1	62	211	382	Oct-2011	579	546	33
5804628	1	62	211	383	Nov-2011	584	552	32
5804628	1	62	211	384	Dec-2011	591	564	27
5804628	1	62	211	385	Jan-2012	600	548	52
5804628	1	62	211	386	Feb-2012	610	542	68

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5804628	1	62	211	389	May-2012	582	540	42
5804628	1	62	211	390	Jun-2012	582	537	45
5804628	1	62	211	391	Jul-2012	581	541	40
5804628	1	62	211	392	Aug-2012	579	538	41
5804628	1	62	211	393	Sep-2012	581	541	40
5804628	1	62	211	394	Oct-2012	582	538	44
5804628	1	62	211	395	Nov-2012	583	537	46
5804628	1	62	211	396	Dec-2012	582	536	46
5804628	1	62	211	397	Jan-2013	587	542	45
5804628	1	62	211	398	Feb-2013	588	538	50
5804628	1	62	211	399	Mar-2013	587	538	49
5804628	1	62	211	400	Apr-2013	584	543	41
5804628	1	62	211	401	May-2013	584	551	33
5804628	1	62	211	402	Jun-2013	580	542	38
5804628	1	62	211	403	Jul-2013	580	543	37
5804628	1	62	211	404	Aug-2013	576	538	38
5804628	1	62	211	405	Sep-2013	579	549	30
5804628	1	62	211	406	Oct-2013	590	569	21
5804628	1	62	211	407	Nov-2013	629	553	76
5804628	1	62	211	408	Dec-2013	620	542	78
5804628	1	62	211	409	Jan-2014	600	539	61
5804628	1	62	211	410	Feb-2014	594	537	57
5804628	1	62	211	411	Mar-2014	594	540	54
5804628	1	62	211	412	Apr-2014	595	542	53
5804628	1	62	211	413	May-2014	601	560	41
5804628	1	62	211	414	Jun-2014	595	552	43
5804628	1	62	211	415	Jul-2014	583	558	25
5804628	1	62	211	416	Aug-2014	578	542	36
5804628	1	62	211	417	Sep-2014	582	559	23
5804628	1	62	211	418	Oct-2014	586	548	38
5804628	1	62	211	419	Nov-2014	594	558	36
5804628	1	62	211	420	Dec-2014	593	545	48
5804628	1	62	211	421	Jan-2015	615	546	69
5804628	1	62	211	422	Feb-2015	607	540	67
5804628	1	62	211	423	Mar-2015	636	544	92
5804628	1	62	211	424	Apr-2015	597	542	55
5804628	1	62	211	425	May-2015	627	566	61

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5804628	1	62	211	426	Jun-2015	627	559	68
5804628	1	62	211	427	Jul-2015	587	569	18
5804628	1	62	211	428	Aug-2015	584	546	38
5804628	1	62	211	429	Sep-2015	585	541	44
5804628	1	62	211	430	Oct-2015	591	557	34
5804628	1	62	211	431	Nov-2015	641	548	93
5804628	1	62	211	432	Dec-2015	642	544	98
5804631	1	56	208	383	Nov-2011	560	538	22
5804631	1	56	208	404	Aug-2013	569	521	48
5804631	1	56	208	410	Feb-2014	563	521	42
5804631	1	56	208	413	May-2014	559	548	11
5804631	1	56	208	419	Nov-2014	558	545	13
5804631	1	56	208	421	Jan-2015	564	531	33
5804631	1	56	208	426	Jun-2015	566	546	20
5804631	1	56	208	429	Sep-2015	560	525	35
5804631	1	56	208	431	Nov-2015	563	532	31
5804801	1	77	207	1	Jan-1980	623	601	22
5804801	1	77	207	2	Feb-1980	627	604	23
5804801	1	77	207	3	Mar-1980	625	609	16
5804801	1	77	207	5	May-1980	621	620	1
5804801	1	77	207	6	Jun-1980	624	600	24
5804801	1	77	207	8	Aug-1980	617	597	20
5804801	1	77	207	9	Sep-1980	619	618	1
5804801	1	77	207	10	Oct-1980	619	604	15
5804801	1	77	207	11	Nov-1980	617	610	7
5804801	1	77	207	12	Dec-1980	618	601	17
5804801	1	77	207	13	Jan-1981	617	595	22
5804801	1	77	207	15	Mar-1981	615	595	20
5804801	1	77	207	16	Apr-1981	627	593	34
5804801	1	77	207	17	May-1981	624	602	22
5804801	1	77	207	18	Jun-1981	617	611	6
5804801	1	77	207	19	Jul-1981	629	600	29
5804801	1	77	207	20	Aug-1981	625	594	31
5804801	1	77	207	21	Sep-1981	623	595	28
5804801	1	77	207	22	Oct-1981	624	600	24
5804801	1	77	207	23	Nov-1981	622	594	28
5804801	1	77	207	24	Dec-1981	622	592	30

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5804801	1	77	207	25	Jan-1982	628	595	33
5804801	1	77	207	27	Mar-1982	628	599	29
5804801	1	77	207	28	Apr-1982	625	614	11
5804801	1	77	207	30	Jun-1982	623	615	8
5804801	1	77	207	31	Jul-1982	626	598	28
5804801	1	77	207	33	Sep-1982	625	602	23
5804801	1	77	207	36	Dec-1982	618	607	11
5804801	1	77	207	39	Mar-1983	624	602	22
5804801	1	77	207	41	May-1983	628	600	28
5804801	1	77	207	42	Jun-1983	625	599	26
5804801	1	77	207	45	Sep-1983	616	596	20
5804801	1	77	207	48	Dec-1983	623	593	30
5804801	1	77	207	51	Mar-1984	626	597	29
5804801	1	77	207	53	May-1984	625	594	31
5804801	1	77	207	54	Jun-1984	625	595	30
5804801	1	77	207	55	Jul-1984	618	595	23
5804801	1	77	207	56	Aug-1984	615	593	22
5804801	1	77	207	57	Sep-1984	621	593	28
5804801	1	77	207	58	Oct-1984	624	615	9
5804801	1	77	207	59	Nov-1984	627	602	25
5804801	1	77	207	60	Dec-1984	627	601	26
5804801	1	77	207	61	Jan-1985	627	596	31
5804801	1	77	207	62	Feb-1985	627	596	31
5804801	1	77	207	63	Mar-1985	627	595	32
5804801	1	77	207	64	Apr-1985	625	596	29
5804801	1	77	207	65	May-1985	629	595	34
5804801	1	77	207	66	Jun-1985	629	601	28
5804801	1	77	207	67	Jul-1985	627	596	31
5804801	1	77	207	68	Aug-1985	627	592	35
5804801	1	77	207	69	Sep-1985	625	598	27
5804801	1	77	207	70	Oct-1985	626	603	23
5804801	1	77	207	76	Apr-1986	630	595	35
5804801	1	77	207	88	Apr-1987	631	594	37
5804801	1	77	207	98	Feb-1988	623	593	30
5804801	1	77	207	110	Feb-1989	625	593	32
5804801	1	77	207	121	Jan-1990	621	593	28
5804801	1	77	207	134	Feb-1991	623	598	25

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5804801	1	77	207	145	Jan-1992	625	627	-2
5804801	1	77	207	158	Feb-1993	625	624	1
5804801	1	77	207	170	Feb-1994	627	597	30
5804801	1	77	207	181	Jan-1995	618	596	22
5804801	1	77	207	205	Jan-1997	626	594	32
5804801	1	77	207	217	Jan-1998	629	608	21
5804801	1	77	207	229	Jan-1999	631	598	33
5804801	1	77	207	241	Jan-2000	625	595	30
5804801	1	77	207	253	Jan-2001	628	600	28
5804801	1	77	207	265	Jan-2002	628	605	23
5804801	1	77	207	277	Jan-2003	621	606	15
5804801	1	77	207	283	Jul-2003	628	602	26
5804801	1	77	207	290	Feb-2004	624	595	29
5804801	1	77	207	295	Jul-2004	624	594	30
5804801	1	77	207	301	Jan-2005	631	626	5
5804801	1	77	207	307	Jul-2005	627	642	-15
5804801	1	77	207	314	Feb-2006	625	593	32
5804801	1	77	207	319	Jul-2006	625	593	32
5804801	1	77	207	321	Sep-2006	623	595	28
5804801	1	77	207	322	Oct-2006	623	597	26
5804801	1	77	207	323	Nov-2006	623	594	29
5804801	1	77	207	343	Jul-2008	626	607	19
5804801	1	77	207	349	Jan-2009	614	596	18
5804801	1	77	207	355	Jul-2009	622	592	30
5804801	1	77	207	361	Jan-2010	632	604	28
5804801	1	77	207	367	Jul-2010	629	610	19
5804801	1	77	207	373	Jan-2011	626	606	20
5804803	1	73	208	1	Jan-1980	620	588	32
5804803	1	73	208	2	Feb-1980	619	590	29
5804803	1	73	208	3	Mar-1980	621	595	26
5804803	1	73	208	5	May-1980	621	606	15
5804803	1	73	208	6	Jun-1980	620	586	34
5804803	1	73	208	10	Oct-1980	619	590	29
5804803	1	73	208	11	Nov-1980	619	596	23
5804803	1	73	208	12	Dec-1980	619	588	31
5804803	1	73	208	13	Jan-1981	619	582	37
5804803	1	73	208	15	Mar-1981	620	581	39

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5804803	1	73	208	16	Apr-1981	621	579	42
5804803	1	73	208	17	May-1981	621	588	33
5804803	1	73	208	19	Jul-1981	622	586	36
5804803	1	73	208	20	Aug-1981	623	580	43
5804803	1	73	208	21	Sep-1981	622	581	41
5804803	1	73	208	22	Oct-1981	621	586	35
5804803	1	73	208	23	Nov-1981	621	580	41
5804803	1	73	208	24	Dec-1981	621	578	43
5804803	1	73	208	25	Jan-1982	621	581	40
5804803	1	73	208	27	Mar-1982	618	585	33
5804803	1	73	208	28	Apr-1982	617	600	17
5804803	1	73	208	29	May-1982	620	612	8
5804803	1	73	208	30	Jun-1982	620	602	18
5804803	1	73	208	31	Jul-1982	621	584	37
5804803	1	73	208	36	Dec-1982	619	593	26
5804803	1	73	208	39	Mar-1983	621	588	33
5804803	1	73	208	42	Jun-1983	621	585	36
5804803	1	73	208	48	Dec-1983	623	579	44
5804803	1	73	208	49	Jan-1984	637	581	56
5804803	1	73	208	53	May-1984	617	580	37
5804803	1	73	208	54	Jun-1984	618	581	37
5804803	1	73	208	55	Jul-1984	617	581	36
5804803	1	73	208	56	Aug-1984	617	579	38
5804803	1	73	208	57	Sep-1984	616	579	37
5804803	1	73	208	58	Oct-1984	617	602	15
5804803	1	73	208	59	Nov-1984	619	588	31
5804803	1	73	208	61	Jan-1985	620	582	38
5804803	1	73	208	62	Feb-1985	621	582	39
5804803	1	73	208	63	Mar-1985	621	581	40
5804803	1	73	208	64	Apr-1985	619	582	37
5804803	1	73	208	65	May-1985	622	581	41
5804803	1	73	208	66	Jun-1985	621	588	33
5804803	1	73	208	67	Jul-1985	620	582	38
5804803	1	73	208	68	Aug-1985	620	579	41
5804803	1	73	208	69	Sep-1985	619	584	35
5804803	1	73	208	70	Oct-1985	620	589	31
5804805	1	72	206	2	Feb-1980	606	590	16

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5804805	1	72	206	13	Jan-1981	605	580	25
5804806	1	75	204	2	Feb-1980	620	600	20
5804806	1	75	204	13	Jan-1981	620	590	30
5804807	1	78	206	2	Feb-1980	625	605	20
5804807	1	78	206	13	Jan-1981	624	597	27
5804811	1	78	208	129	Sep-1990	627	594	33
5804811	1	78	208	305	May-2005	627	647	-20
5804812	1	79	209	305	May-2005	611	645	-34
5804812	1	79	209	306	Jun-2005	611	620	-9
5804813	1	78	206	305	May-2005	625	649	-24
5804813	1	78	206	306	Jun-2005	625	622	3
5804814	1	77	206	305	May-2005	627	648	-21
5804814	1	77	206	306	Jun-2005	627	620	7
5804815	1	73	207	305	May-2005	623	637	-14
5804815	1	73	207	306	Jun-2005	623	609	14
5804816	1	70	208	341	May-2008	612	622	-10
5804816	1	70	208	342	Jun-2008	611	597	14
5804816	1	70	208	343	Jul-2008	610	583	27
5804816	1	70	208	344	Aug-2008	610	620	-10
5804816	1	70	208	345	Sep-2008	610	581	29
5804816	1	70	208	346	Oct-2008	610	612	-2
5804816	1	70	208	347	Nov-2008	610	594	16
5804816	1	70	208	348	Dec-2008	610	582	28
5804816	1	70	208	349	Jan-2009	609	572	37
5804816	1	70	208	350	Feb-2009	609	569	40
5804816	1	70	208	351	Mar-2009	609	570	39
5804816	1	70	208	352	Apr-2009	609	570	39
5804816	1	70	208	353	May-2009	609	569	40
5804816	1	70	208	354	Jun-2009	607	568	39
5804816	1	70	208	355	Jul-2009	606	566	40
5804816	1	70	208	356	Aug-2009	605	567	38
5804816	1	70	208	357	Sep-2009	607	573	34
5804816	1	70	208	358	Oct-2009	613	575	38
5804816	1	70	208	359	Nov-2009	615	571	44
5804816	1	70	208	360	Dec-2009	617	570	47
5804816	1	70	208	361	Jan-2010	617	580	37
5804816	1	70	208	362	Feb-2010	618	582	36

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5804816	1	70	208	363	Mar-2010	619	583	36
5804816	1	70	208	364	Apr-2010	618	579	39
5804816	1	70	208	365	May-2010	616	577	39
5804816	1	70	208	366	Jun-2010	615	592	23
5804816	1	70	208	367	Jul-2010	614	586	28
5804816	1	70	208	368	Aug-2010	612	612	0
5804816	1	70	208	369	Sep-2010	613	627	-14
5804816	1	70	208	370	Oct-2010	614	583	31
5804816	1	70	208	371	Nov-2010	614	574	40
5804816	1	70	208	372	Dec-2010	613	570	43
5804816	1	70	208	373	Jan-2011	613	582	31
5804816	1	70	208	374	Feb-2011	613	573	40
5804816	1	70	208	375	Mar-2011	612	568	44
5804816	1	70	208	376	Apr-2011	612	568	44
5804816	1	70	208	377	May-2011	611	584	27
5804816	1	70	208	378	Jun-2011	610	581	29
5804816	1	70	208	379	Jul-2011	609	570	39
5804816	1	70	208	380	Aug-2011	609	568	41
5804816	1	70	208	381	Sep-2011	608	567	41
5804816	1	70	208	382	Oct-2011	609	577	32
5804816	1	70	208	383	Nov-2011	609	583	26
5804816	1	70	208	384	Dec-2011	610	595	15
5804816	1	70	208	385	Jan-2012	610	578	32
5804816	1	70	208	386	Feb-2012	610	573	37
5804816	1	70	208	387	Mar-2012	611	573	38
5804816	1	70	208	388	Apr-2012	612	568	44
5804816	1	70	208	389	May-2012	611	571	40
5804816	1	70	208	390	Jun-2012	611	567	44
5804816	1	70	208	391	Jul-2012	610	572	38
5804816	1	70	208	392	Aug-2012	609	568	41
5804816	1	70	208	393	Sep-2012	609	572	37
5804816	1	70	208	394	Oct-2012	610	568	42
5804816	1	70	208	395	Nov-2012	609	568	41
5804816	1	70	208	396	Dec-2012	609	567	42
5804816	1	70	208	397	Jan-2013	609	573	36
5804816	1	70	208	398	Feb-2013	610	569	41
5804816	1	70	208	399	Mar-2013	609	569	40

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5804816	1	70	208	400	Apr-2013	609	574	35
5804816	1	70	208	401	May-2013	608	582	26
5804816	1	70	208	402	Jun-2013	607	572	35
5804816	1	70	208	403	Jul-2013	606	574	32
5804816	1	70	208	404	Aug-2013	606	569	37
5804816	1	70	208	405	Sep-2013	606	580	26
5804816	1	70	208	406	Oct-2013	608	600	8
5804816	1	70	208	407	Nov-2013	610	583	27
5804816	1	70	208	408	Dec-2013	611	573	38
5804816	1	70	208	409	Jan-2014	611	569	42
5804816	1	70	208	410	Feb-2014	611	568	43
5804816	1	70	208	411	Mar-2014	610	571	39
5804816	1	70	208	412	Apr-2014	610	573	37
5804816	1	70	208	413	May-2014	609	591	18
5804816	1	70	208	414	Jun-2014	609	583	26
5804816	1	70	208	415	Jul-2014	608	589	19
5804816	1	70	208	416	Aug-2014	607	573	34
5804816	1	70	208	417	Sep-2014	606	591	15
5804816	1	70	208	418	Oct-2014	607	579	28
5804816	1	70	208	419	Nov-2014	608	589	19
5804816	1	70	208	420	Dec-2014	609	576	33
5804816	1	70	208	421	Jan-2015	610	577	33
5804816	1	70	208	422	Feb-2015	610	570	40
5804816	1	70	208	423	Mar-2015	611	575	36
5804816	1	70	208	424	Apr-2015	611	572	39
5804816	1	70	208	425	May-2015	612	598	14
5804816	1	70	208	426	Jun-2015	614	590	24
5804816	1	70	208	427	Jul-2015	615	600	15
5804816	1	70	208	428	Aug-2015	614	576	38
5804816	1	70	208	429	Sep-2015	613	572	41
5804816	1	70	208	430	Oct-2015	612	588	24
5804816	1	70	208	431	Nov-2015	613	578	35
5804816	1	70	208	432	Dec-2015	615	575	40
5805102	1	45	213	305	May-2005	534	559	-25
5805104	1	48	217	283	Jul-2003	499	513	-14
5805105	1	48	217	283	Jul-2003	497	513	-16
5811603	1	100	202	17	May-1981	631	632	-1

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5811603	1	100	202	18	Jun-1981	631	641	-10
5811603	1	100	202	20	Aug-1981	642	625	17
5811603	1	100	202	21	Sep-1981	639	625	14
5811603	1	100	202	22	Oct-1981	636	631	5
5811603	1	100	202	23	Nov-1981	637	624	13
5811603	1	100	202	24	Dec-1981	638	622	16
5811603	1	100	202	25	Jan-1982	636	626	10
5811603	1	100	202	27	Mar-1982	641	630	11
5811603	1	100	202	28	Apr-1982	632	644	-12
5811603	1	100	202	29	May-1982	633	656	-23
5811603	1	100	202	30	Jun-1982	637	645	-8
5811603	1	100	202	31	Jul-1982	634	628	6
5811603	1	100	202	33	Sep-1982	630	632	-2
5811603	1	100	202	36	Dec-1982	628	637	-9
5811603	1	100	202	39	Mar-1983	632	633	-1
5811603	1	100	202	42	Jun-1983	632	630	2
5811603	1	100	202	45	Sep-1983	634	627	7
5811603	1	100	202	48	Dec-1983	634	623	11
5811603	1	100	202	49	Jan-1984	723	626	97
5811603	1	100	202	51	Mar-1984	634	628	6
5811603	1	100	202	53	May-1984	631	625	6
5811603	1	100	202	54	Jun-1984	631	626	5
5811603	1	100	202	55	Jul-1984	633	626	7
5811603	1	100	202	56	Aug-1984	633	623	10
5811603	1	100	202	57	Sep-1984	633	623	10
5811603	1	100	202	58	Oct-1984	633	646	-13
5811603	1	100	202	59	Nov-1984	633	632	1
5811603	1	100	202	60	Dec-1984	633	631	2
5811603	1	100	202	61	Jan-1985	634	626	8
5811603	1	100	202	62	Feb-1985	635	626	9
5811603	1	100	202	63	Mar-1985	637	626	11
5811603	1	100	202	64	Apr-1985	639	626	13
5811603	1	100	202	65	May-1985	639	625	14
5811603	1	100	202	66	Jun-1985	638	632	6
5811603	1	100	202	67	Jul-1985	635	626	9
5811603	1	100	202	68	Aug-1985	634	623	11
5811603	1	100	202	69	Sep-1985	634	629	5

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5811603	1	100	202	70	Oct-1985	630	633	-3
5811605	1	99	202	234	Jun-1999	667	650	17
5811908	1	108	204	136	Apr-1991	644	635	9
5811908	1	108	204	305	May-2005	734	681	53
5811908	1	108	204	306	Jun-2005	734	655	79
5811909	1	107	205	229	Jan-1999	615	633	-18
5811909	1	107	205	305	May-2005	615	677	-62
5811909	1	107	205	306	Jun-2005	615	653	-38
5812404	1	95	205	1	Jan-1980	620	622	-2
5812404	1	95	205	2	Feb-1980	626	625	1
5812404	1	95	205	3	Mar-1980	635	629	6
5812404	1	95	205	5	May-1980	627	639	-12
5812404	1	95	205	6	Jun-1980	633	621	12
5812405	1	102	206	1	Jan-1980	631	630	1
5812405	1	102	206	2	Feb-1980	634	632	2
5812405	1	102	206	3	Mar-1980	632	637	-5
5812405	1	102	206	5	May-1980	638	646	-8
5812405	1	102	206	6	Jun-1980	635	629	6
5812405	1	102	206	9	Sep-1980	629	645	-16
5812405	1	102	206	10	Oct-1980	625	632	-7
5812405	1	102	206	12	Dec-1980	623	630	-7
5812405	1	102	206	13	Jan-1981	631	625	6
5812405	1	102	206	16	Apr-1981	629	622	7
5812405	1	102	206	17	May-1981	632	630	2
5812405	1	102	206	18	Jun-1981	632	638	-6
5812405	1	102	206	19	Jul-1981	642	629	13
5812405	1	102	206	20	Aug-1981	637	624	13
5812405	1	102	206	21	Sep-1981	633	624	9
5812405	1	102	206	22	Oct-1981	632	629	3
5812405	1	102	206	23	Nov-1981	632	623	9
5812405	1	102	206	24	Dec-1981	640	621	19
5812405	1	102	206	25	Jan-1982	635	624	11
5812405	1	102	206	27	Mar-1982	638	628	10
5812405	1	102	206	28	Apr-1982	634	641	-7
5812405	1	102	206	29	May-1982	634	651	-17
5812405	1	102	206	30	Jun-1982	634	642	-8
5812405	1	102	206	31	Jul-1982	633	627	6

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5812405	1	102	206	33	Sep-1982	632	630	2
5812405	1	102	206	36	Dec-1982	630	635	-5
5812405	1	102	206	39	Mar-1983	632	630	2
5812405	1	102	206	42	Jun-1983	632	628	4
5812405	1	102	206	45	Sep-1983	632	625	7
5812405	1	102	206	48	Dec-1983	631	622	9
5812405	1	102	206	54	Jun-1984	625	624	1
5812405	1	102	206	55	Jul-1984	622	624	-2
5812405	1	102	206	56	Aug-1984	621	622	-1
5812405	1	102	206	57	Sep-1984	622	622	0
5812405	1	102	206	58	Oct-1984	623	642	-19
5812405	1	102	206	59	Nov-1984	629	630	-1
5812405	1	102	206	60	Dec-1984	631	629	2
5812405	1	102	206	61	Jan-1985	633	625	8
5812405	1	102	206	62	Feb-1985	636	625	11
5812405	1	102	206	63	Mar-1985	637	624	13
5812405	1	102	206	64	Apr-1985	639	625	14
5812405	1	102	206	65	May-1985	639	624	15
5812405	1	102	206	66	Jun-1985	638	630	8
5812405	1	102	206	67	Jul-1985	637	625	12
5812405	1	102	206	68	Aug-1985	635	622	13
5812405	1	102	206	69	Sep-1985	629	627	2
5812405	1	102	206	70	Oct-1985	629	631	-2
5812405	1	102	206	77	May-1986	639	640	-1
5812405	1	102	206	81	Sep-1986	633	634	-1
5812405	1	102	206	88	Apr-1987	635	623	12
5812405	1	102	206	98	Feb-1988	635	622	13
5812405	1	102	206	110	Feb-1989	603	623	-20
5812405	1	102	206	122	Feb-1990	573	626	-53
5812405	1	102	206	134	Feb-1991	615	627	-12
5812405	1	102	206	146	Feb-1992	712	666	46
5812405	1	102	206	158	Feb-1993	631	650	-19
5812405	1	102	206	170	Feb-1994	703	626	77
5812405	1	102	206	217	Jan-1998	613	636	-23
5812405	1	102	206	253	Jan-2001	626	629	-3
5812405	1	102	206	270	Jun-2002	616	645	-29
5812407	1	96	205	305	May-2005	635	667	-32

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5812408	1	99	210	2	Feb-1980	631	624	7
5812410	1	96	204	65	May-1985	631	618	13
5812410	1	96	204	305	May-2005	631	669	-38
5812411	1	95	205	140	Aug-1991	650	618	32
5812411	1	95	205	271	Jul-2002	625	641	-16
5812412	1	101	206	307	Jul-2005	615	665	-50
5812601	1	90	227	3	Mar-1980	628	601	27
5812601	1	90	227	51	Mar-1984	620	595	25
5812601	1	90	227	77	May-1986	614	602	12
5812601	1	90	227	88	Apr-1987	615	594	21
5812601	1	90	227	98	Feb-1988	611	593	18
5812601	1	90	227	110	Feb-1989	600	593	7
5812601	1	90	227	122	Feb-1990	592	594	-2
5812601	1	90	227	134	Feb-1991	587	596	-9
5812601	1	90	227	146	Feb-1992	600	618	-18
5812601	1	90	227	158	Feb-1993	598	611	-13
5812601	1	90	227	170	Feb-1994	591	595	-4
5812601	1	90	227	179	Nov-1994	585	598	-13
5812601	1	90	227	193	Jan-1996	584	593	-9
5812601	1	90	227	203	Nov-1996	565	596	-31
5812601	1	90	227	217	Jan-1998	583	600	-17
5812601	1	90	227	229	Jan-1999	580	599	-19
5812601	1	90	227	241	Jan-2000	572	595	-23
5812601	1	90	227	253	Jan-2001	563	597	-34
5812601	1	90	227	265	Jan-2002	571	601	-30
5812601	1	90	227	277	Jan-2003	564	602	-38
5812601	1	90	227	290	Feb-2004	568	594	-26
5812601	1	90	227	301	Jan-2005	572	608	-36
5812601	1	90	227	313	Jan-2006	560	595	-35
5812601	1	90	227	325	Jan-2007	554	597	-43
5812601	1	90	227	337	Jan-2008	566	599	-33
5812601	1	90	227	345	Sep-2008	551	604	-53
5812601	1	90	227	349	Jan-2009	542	597	-55
5812601	1	90	227	363	Mar-2010	551	601	-50
5812601	1	90	227	374	Feb-2011	559	597	-38
5812601	1	90	227	382	Oct-2011	515	597	-82
5812601	1	90	227	394	Oct-2012	537	593	-56

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5812601	1	90	227	407	Nov-2013	536	603	-67
5812601	1	90	227	418	Oct-2014	539	600	-61
5812601	1	90	227	430	Oct-2015	539	602	-63
5812603	1	94	228	68	Aug-1985	624	599	25
5812603	1	94	228	82	Oct-1986	630	610	20
5812603	1	94	228	88	Apr-1987	618	600	18
5812603	1	94	228	98	Feb-1988	614	599	15
5812603	1	94	228	110	Feb-1989	606	599	7
5812603	1	94	228	122	Feb-1990	599	600	-1
5812603	1	94	228	134	Feb-1991	593	602	-9
5812603	1	94	228	146	Feb-1992	601	622	-21
5812603	1	94	228	158	Feb-1993	601	615	-14
5812603	1	94	228	170	Feb-1994	599	601	-2
5812603	1	94	228	179	Nov-1994	585	603	-18
5812603	1	94	228	193	Jan-1996	587	598	-11
5812603	1	94	228	217	Jan-1998	585	605	-20
5812603	1	94	228	229	Jan-1999	581	604	-23
5812603	1	94	228	241	Jan-2000	573	600	-27
5812603	1	94	228	253	Jan-2001	564	602	-38
5812603	1	94	228	265	Jan-2002	572	606	-34
5812603	1	94	228	277	Jan-2003	572	607	-35
5812603	1	94	228	290	Feb-2004	573	599	-26
5812603	1	94	228	301	Jan-2005	573	612	-39
5812603	1	94	228	313	Jan-2006	559	601	-42
5812603	1	94	228	325	Jan-2007	555	602	-47
5812603	1	94	228	337	Jan-2008	569	604	-35
5812603	1	94	228	349	Jan-2009	542	602	-60
5812603	1	94	228	363	Mar-2010	555	606	-51
5812603	1	94	228	374	Feb-2011	560	602	-42
5812603	1	94	228	382	Oct-2011	519	602	-83
5812603	1	94	228	394	Oct-2012	536	599	-63
5812603	1	94	228	407	Nov-2013	540	608	-68
5812603	1	94	228	418	Oct-2014	541	605	-64
5812603	1	94	228	430	Oct-2015	543	607	-64
5812705	1	111	214	62	Feb-1985	617	628	-11
5812901	1	104	235	96	Dec-1987	639	611	28
5819207	1	130	203	89	May-1987	685	664	21

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5819207	1	130	203	159	Mar-1993	692	664	28
5819207	1	130	203	165	Sep-1993	676	648	28
5819207	1	130	203	173	May-1994	673	650	23
5819207	1	130	203	177	Sep-1994	666	656	10
5819207	1	130	203	200	Aug-1996	663	658	5
5819301	1	125	207	1	Jan-1980	664	643	21
5819301	1	125	207	2	Feb-1980	663	645	18
5819301	1	125	207	3	Mar-1980	665	649	16
5819301	1	125	207	5	May-1980	666	657	9
5819301	1	125	207	6	Jun-1980	665	643	22
5819301	1	125	207	8	Aug-1980	652	640	12
5819301	1	125	207	9	Sep-1980	659	655	4
5819301	1	125	207	10	Oct-1980	654	645	9
5819301	1	125	207	11	Nov-1980	659	650	9
5819301	1	125	207	12	Dec-1980	659	643	16
5819301	1	125	207	13	Jan-1981	662	639	23
5819301	1	125	207	15	Mar-1981	660	638	22
5819301	1	125	207	16	Apr-1981	662	637	25
5819301	1	125	207	17	May-1981	659	643	16
5819301	1	125	207	20	Aug-1981	660	638	22
5819301	1	125	207	21	Sep-1981	664	638	26
5819301	1	125	207	23	Nov-1981	666	638	28
5819301	1	125	207	24	Dec-1981	668	636	32
5819301	1	125	207	25	Jan-1982	670	639	31
5819301	1	125	207	27	Mar-1982	661	641	20
5819301	1	125	207	28	Apr-1982	665	652	13
5819301	1	125	207	29	May-1982	664	661	3
5819301	1	125	207	31	Jul-1982	662	641	21
5819301	1	125	207	33	Sep-1982	657	644	13
5819301	1	125	207	36	Dec-1982	659	647	12
5819301	1	125	207	39	Mar-1983	668	644	24
5819301	1	125	207	42	Jun-1983	665	642	23
5819301	1	125	207	51	Mar-1984	658	640	18
5819301	1	125	207	53	May-1984	646	638	8
5819301	1	125	207	54	Jun-1984	647	639	8
5819301	1	125	207	55	Jul-1984	648	639	9
5819301	1	125	207	56	Aug-1984	645	637	8

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5819301	1	125	207	57	Sep-1984	647	637	10
5819301	1	125	207	58	Oct-1984	654	653	1
5819301	1	125	207	65	May-1985	671	638	33
5819301	1	125	207	66	Jun-1985	683	643	40
5819301	1	125	207	67	Jul-1985	664	639	25
5819301	1	125	207	68	Aug-1985	650	637	13
5819301	1	125	207	69	Sep-1985	592	640	-48
5819301	1	125	207	70	Oct-1985	645	644	1
5819302	1	127	210	13	Jan-1981	658	639	19
5819303	1	129	207	1	Jan-1980	673	646	27
5819303	1	129	207	2	Feb-1980	672	648	24
5819303	1	129	207	3	Mar-1980	676	651	25
5819303	1	129	207	5	May-1980	675	659	16
5819303	1	129	207	6	Jun-1980	670	645	25
5819303	1	129	207	8	Aug-1980	668	642	26
5819303	1	129	207	10	Oct-1980	676	648	28
5819303	1	129	207	11	Nov-1980	672	652	20
5819303	1	129	207	12	Dec-1980	669	645	24
5819303	1	129	207	13	Jan-1981	668	641	27
5819303	1	129	207	15	Mar-1981	671	641	30
5819303	1	129	207	16	Apr-1981	677	639	38
5819303	1	129	207	17	May-1981	676	646	30
5819303	1	129	207	18	Jun-1981	677	652	25
5819303	1	129	207	19	Jul-1981	684	645	39
5819303	1	129	207	20	Aug-1981	685	640	45
5819303	1	129	207	21	Sep-1981	678	641	37
5819303	1	129	207	22	Oct-1981	678	644	34
5819303	1	129	207	23	Nov-1981	676	640	36
5819303	1	129	207	24	Dec-1981	675	639	36
5819303	1	129	207	25	Jan-1982	674	641	33
5819303	1	129	207	27	Mar-1982	674	644	30
5819303	1	129	207	29	May-1982	676	663	13
5819303	1	129	207	30	Jun-1982	676	656	20
5819303	1	129	207	32	Aug-1982	674	642	32
5819303	1	129	207	36	Dec-1982	669	649	20
5819303	1	129	207	39	Mar-1983	677	646	31
5819303	1	129	207	42	Jun-1983	678	644	34

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5819303	1	129	207	48	Dec-1983	668	639	29
5819303	1	129	207	51	Mar-1984	668	642	26
5819303	1	129	207	53	May-1984	664	640	24
5819303	1	129	207	54	Jun-1984	664	641	23
5819303	1	129	207	55	Jul-1984	663	641	22
5819303	1	129	207	56	Aug-1984	659	639	20
5819303	1	129	207	57	Sep-1984	661	639	22
5819303	1	129	207	58	Oct-1984	666	655	11
5819303	1	129	207	59	Nov-1984	676	646	30
5819303	1	129	207	60	Dec-1984	677	645	32
5819303	1	129	207	61	Jan-1985	679	641	38
5819303	1	129	207	62	Feb-1985	679	641	38
5819303	1	129	207	63	Mar-1985	681	641	40
5819303	1	129	207	64	Apr-1985	681	641	40
5819303	1	129	207	65	May-1985	686	641	45
5819303	1	129	207	66	Jun-1985	682	645	37
5819303	1	129	207	67	Jul-1985	677	642	35
5819303	1	129	207	68	Aug-1985	664	639	25
5819303	1	129	207	69	Sep-1985	668	643	25
5819303	1	129	207	109	Jan-1989	672	642	30
5819303	1	129	207	159	Mar-1993	673	656	17
5819303	1	129	207	165	Sep-1993	671	642	29
5819303	1	129	207	173	May-1994	671	644	27
5819303	1	129	207	177	Sep-1994	663	649	14
5819303	1	129	207	193	Jan-1996	673	638	35
5819303	1	129	207	200	Aug-1996	621	650	-29
5819303	1	129	207	225	Sep-1998	663	668	-5
5819304	1	120	206	2	Feb-1980	687	645	42
5819307	1	124	209	159	Mar-1993	665	654	11
5819307	1	124	209	165	Sep-1993	632	640	-8
5819307	1	124	209	193	Jan-1996	652	636	16
5819308	1	130	204	52	Apr-1984	662	643	19
5819309	1	122	210	59	Nov-1984	638	642	-4
5819310	1	124	205	61	Jan-1985	650	640	10
5819316	1	130	204	304	Apr-2005	689	667	22
5819410	1	146	196	305	May-2005	753	741	12
5819411	1	147	196	305	May-2005	771	743	28

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5819502	1	134	203	304	Apr-2005	668	673	-5
5819503	1	136	204	1	Jan-1980	672	657	15
5819503	1	136	204	2	Feb-1980	671	659	12
5819503	1	136	204	3	Mar-1980	673	663	10
5819503	1	136	204	5	May-1980	674	673	1
5819503	1	136	204	7	Jul-1980	672	651	21
5819503	1	136	204	8	Aug-1980	669	653	16
5819503	1	136	204	9	Sep-1980	667	672	-5
5819503	1	136	204	10	Oct-1980	666	658	8
5819503	1	136	204	11	Nov-1980	669	664	5
5819503	1	136	204	12	Dec-1980	670	656	14
5819503	1	136	204	13	Jan-1981	671	651	20
5819503	1	136	204	15	Mar-1981	671	651	20
5819503	1	136	204	16	Apr-1981	673	649	24
5819503	1	136	204	17	May-1981	674	657	17
5819503	1	136	204	18	Jun-1981	674	665	9
5819503	1	136	204	19	Jul-1981	680	655	25
5819503	1	136	204	20	Aug-1981	682	650	32
5819503	1	136	204	21	Sep-1981	677	651	26
5819503	1	136	204	23	Nov-1981	675	650	25
5819503	1	136	204	24	Dec-1981	675	648	27
5819503	1	136	204	25	Jan-1982	673	651	22
5819503	1	136	204	27	Mar-1982	672	655	17
5819503	1	136	204	28	Apr-1982	671	668	3
5819503	1	136	204	29	May-1982	673	678	-5
5819503	1	136	204	30	Jun-1982	673	668	5
5819503	1	136	204	32	Aug-1982	671	653	18
5819503	1	136	204	33	Sep-1982	671	657	14
5819503	1	136	204	36	Dec-1982	669	660	9
5819503	1	136	204	39	Mar-1983	670	657	13
5819503	1	136	204	42	Jun-1983	670	655	15
5819505	1	135	204	1	Jan-1980	665	655	10
5819505	1	135	204	2	Feb-1980	665	658	7
5819505	1	135	204	3	Mar-1980	667	662	5
5819505	1	135	204	5	May-1980	668	671	-3
5819505	1	135	204	6	Jun-1980	668	654	14
5819505	1	135	204	7	Jul-1980	666	650	16

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5819505	1	135	204	8	Aug-1980	664	652	12
5819505	1	135	204	9	Sep-1980	663	670	-7
5819505	1	135	204	10	Oct-1980	663	657	6
5819505	1	135	204	11	Nov-1980	663	663	0
5819505	1	135	204	12	Dec-1980	664	655	9
5819505	1	135	204	13	Jan-1981	664	650	14
5819505	1	135	204	15	Mar-1981	666	650	16
5819505	1	135	204	16	Apr-1981	668	648	20
5819505	1	135	204	17	May-1981	668	656	12
5819505	1	135	204	18	Jun-1981	667	664	3
5819505	1	135	204	19	Jul-1981	674	654	20
5819505	1	135	204	20	Aug-1981	673	649	24
5819505	1	135	204	21	Sep-1981	670	650	20
5819505	1	135	204	22	Oct-1981	668	654	14
5819505	1	135	204	23	Nov-1981	669	649	20
5819505	1	135	204	24	Dec-1981	668	647	21
5819505	1	135	204	25	Jan-1982	667	650	17
5819505	1	135	204	27	Mar-1982	665	653	12
5819505	1	135	204	28	Apr-1982	665	666	-1
5819505	1	135	204	29	May-1982	667	676	-9
5819505	1	135	204	30	Jun-1982	668	667	1
5819505	1	135	204	31	Jul-1982	667	652	15
5819505	1	135	204	32	Aug-1982	665	651	14
5819505	1	135	204	33	Sep-1982	663	656	7
5819505	1	135	204	36	Dec-1982	663	659	4
5819505	1	135	204	39	Mar-1983	667	656	11
5819505	1	135	204	42	Jun-1983	671	653	18
5819505	1	135	204	45	Sep-1983	664	651	13
5819505	1	135	204	48	Dec-1983	664	648	16
5819505	1	135	204	51	Mar-1984	663	652	11
5819505	1	135	204	53	May-1984	662	649	13
5819505	1	135	204	54	Jun-1984	663	650	13
5819505	1	135	204	55	Jul-1984	662	650	12
5819505	1	135	204	56	Aug-1984	661	648	13
5819505	1	135	204	57	Sep-1984	661	648	13
5819505	1	135	204	58	Oct-1984	662	668	-6
5819505	1	135	204	59	Nov-1984	668	655	13

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5819505	1	135	204	60	Dec-1984	668	655	13
5819505	1	135	204	61	Jan-1985	669	650	19
5819505	1	135	204	62	Feb-1985	669	650	19
5819505	1	135	204	63	Mar-1985	673	650	23
5819505	1	135	204	64	Apr-1985	673	651	22
5819505	1	135	204	65	May-1985	673	650	23
5819505	1	135	204	66	Jun-1985	673	655	18
5819505	1	135	204	67	Jul-1985	670	651	19
5819505	1	135	204	68	Aug-1985	668	648	20
5819505	1	135	204	69	Sep-1985	665	652	13
5819505	1	135	204	70	Oct-1985	664	656	8
5819505	1	135	204	159	Mar-1993	677	667	10
5819505	1	135	204	165	Sep-1993	670	651	19
5819505	1	135	204	173	May-1994	666	653	13
5819505	1	135	204	177	Sep-1994	664	659	5
5819506	1	135	202	305	May-2005	695	702	-7
5819508	1	142	207	159	Mar-1993	687	674	13
5819508	1	142	207	165	Sep-1993	679	657	22
5819508	1	142	207	173	May-1994	673	658	15
5819508	1	142	207	177	Sep-1994	662	665	-3
5819508	1	142	207	193	Jan-1996	663	652	11
5819508	1	142	207	200	Aug-1996	634	666	-32
5819509	1	139	205	12	Dec-1980	659	658	1
5819510	1	139	205	12	Dec-1980	677	658	19
5819511	1	139	206	159	Mar-1993	674	669	5
5819511	1	139	206	165	Sep-1993	654	653	1
5819511	1	139	206	173	May-1994	611	655	-44
5819511	1	139	206	177	Sep-1994	601	661	-60
5819511	1	139	206	193	Jan-1996	607	649	-42
5819513	1	139	206	40	Apr-1983	667	651	16
5819514	1	139	206	40	Apr-1983	666	651	15
5819515	1	139	206	40	Apr-1983	667	651	16
5819516	1	132	203	91	Jul-1987	695	664	31
5819518	1	136	205	305	May-2005	680	691	-11
5819519	1	136	205	305	May-2005	678	691	-13
5819521	1	140	206	304	Apr-2005	656	676	-20
5819522	1	143	203	306	Jun-2005	699	686	13

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5819522	1	143	203	312	Dec-2005	696	662	34
5819522	1	143	203	316	Apr-2006	697	662	35
5819522	1	143	203	326	Feb-2007	697	659	38
5819522	1	143	203	337	Jan-2008	697	673	24
5819522	1	143	203	350	Feb-2009	696	659	37
5819522	1	143	203	374	Feb-2011	697	663	34
5819603	1	135	206	304	Apr-2005	646	666	-20
5819604	1	135	206	3	Mar-1980	690	657	33
5819604	1	135	206	77	May-1986	693	660	33
5819604	1	135	206	88	Apr-1987	693	646	47
5819604	1	135	206	98	Feb-1988	692	645	47
5819604	1	135	206	134	Feb-1991	693	649	44
5819604	1	135	206	146	Feb-1992	697	680	17
5819610	1	130	210	13	Jan-1981	673	640	33
5819610	1	130	210	54	Jun-1984	669	639	30
5819610	1	130	210	55	Jul-1984	669	639	30
5819610	1	130	210	56	Aug-1984	667	637	30
5819610	1	130	210	57	Sep-1984	668	638	30
5819610	1	130	210	58	Oct-1984	670	652	18
5819610	1	130	210	59	Nov-1984	678	644	34
5819610	1	130	210	60	Dec-1984	679	643	36
5819610	1	130	210	61	Jan-1985	680	640	40
5819610	1	130	210	62	Feb-1985	680	639	41
5819610	1	130	210	63	Mar-1985	681	639	42
5819610	1	130	210	64	Apr-1985	681	640	41
5819610	1	130	210	65	May-1985	681	639	42
5819610	1	130	210	66	Jun-1985	681	643	38
5819610	1	130	210	67	Jul-1985	679	640	39
5819610	1	130	210	68	Aug-1985	676	637	39
5819610	1	130	210	69	Sep-1985	672	641	31
5819610	1	130	210	70	Oct-1985	673	644	29
5819610	1	130	210	159	Mar-1993	681	653	28
5819610	1	130	210	165	Sep-1993	673	641	32
5819610	1	130	210	173	May-1994	672	642	30
5819610	1	130	210	177	Sep-1994	663	646	17
5819610	1	130	210	193	Jan-1996	672	637	35
5819610	1	130	210	200	Aug-1996	619	647	-28

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5819611	1	140	210	1	Jan-1980	677	651	26
5819611	1	140	210	2	Feb-1980	672	653	19
5819611	1	140	210	3	Mar-1980	673	656	17
5819611	1	140	210	5	May-1980	672	663	9
5819611	1	140	210	8	Aug-1980	668	648	20
5819611	1	140	210	16	Apr-1981	675	645	30
5819611	1	140	210	19	Jul-1981	679	650	29
5819611	1	140	210	21	Sep-1981	676	647	29
5819612	1	134	209	13	Jan-1981	674	640	34
5819612	1	134	209	54	Jun-1984	624	639	-15
5819612	1	134	209	55	Jul-1984	624	639	-15
5819612	1	134	209	56	Aug-1984	622	638	-16
5819612	1	134	209	57	Sep-1984	623	638	-15
5819612	1	134	209	58	Oct-1984	625	650	-25
5819612	1	134	209	59	Nov-1984	633	643	-10
5819612	1	134	209	60	Dec-1984	634	643	-9
5819612	1	134	209	61	Jan-1985	635	640	-5
5819612	1	134	209	62	Feb-1985	635	640	-5
5819612	1	134	209	63	Mar-1985	636	639	-3
5819612	1	134	209	65	May-1985	636	639	-3
5819612	1	134	209	66	Jun-1985	636	643	-7
5819612	1	134	209	67	Jul-1985	634	640	-6
5819612	1	134	209	68	Aug-1985	631	638	-7
5819615	1	133	208	1	Jan-1980	667	645	22
5819615	1	133	208	159	Mar-1993	678	655	23
5819615	1	133	208	165	Sep-1993	670	643	27
5819615	1	133	208	173	May-1994	669	644	25
5819615	1	133	208	177	Sep-1994	660	648	12
5819615	1	133	208	193	Jan-1996	668	639	29
5819615	1	133	208	200	Aug-1996	622	649	-27
5819619	1	135	211	63	Mar-1985	675	637	38
5819619	1	135	211	305	May-2005	669	656	13
5819620	1	134	212	63	Mar-1985	684	638	46
5819621	1	132	207	76	Apr-1986	658	643	15
5819621	1	132	207	159	Mar-1993	663	657	6
5819621	1	132	207	165	Sep-1993	653	644	9
5819621	1	132	207	173	May-1994	651	645	6

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5819621	1	132	207	177	Sep-1994	641	650	-9
5819621	1	132	207	193	Jan-1996	649	640	9
5819621	1	132	207	200	Aug-1996	606	652	-46
5819622	1	133	208	89	May-1987	674	653	21
5819622	1	133	208	159	Mar-1993	679	655	24
5819622	1	133	208	165	Sep-1993	672	643	29
5819622	1	133	208	173	May-1994	671	644	27
5819622	1	133	208	177	Sep-1994	662	648	14
5819622	1	133	208	193	Jan-1996	670	639	31
5819622	1	133	208	200	Aug-1996	623	649	-26
5819623	1	140	212	159	Mar-1993	677	659	18
5819623	1	140	212	165	Sep-1993	669	647	22
5819623	1	140	212	173	May-1994	665	647	18
5819623	1	140	212	177	Sep-1994	665	652	13
5819623	1	140	212	193	Jan-1996	662	643	19
5819623	1	140	212	200	Aug-1996	604	653	-49
5819624	1	131	213	89	May-1987	660	648	12
5819624	1	131	213	159	Mar-1993	655	651	4
5819624	1	131	213	165	Sep-1993	621	640	-19
5819624	1	131	213	173	May-1994	631	640	-9
5819625	1	131	204	52	Apr-1984	647	644	3
5819626	1	132	204	52	Apr-1984	662	645	17
5819626	1	132	204	201	Sep-1996	654	653	1
5819626	1	132	204	229	Jan-1999	682	649	33
5819626	1	132	204	240	Dec-1999	665	649	16
5819626	1	132	204	265	Jan-2002	680	655	25
5819626	1	132	204	301	Jan-2005	684	673	11
5819626	1	132	204	305	May-2005	683	690	-7
5819626	1	132	204	313	Jan-2006	668	647	21
5819626	1	132	204	339	Mar-2008	675	692	-17
5819626	1	132	204	349	Jan-2009	659	648	11
5819626	1	132	204	363	Mar-2010	688	657	31
5819626	1	132	204	374	Feb-2011	673	649	24
5819626	1	132	204	382	Oct-2011	645	652	-7
5819626	1	132	204	394	Oct-2012	671	645	26
5819626	1	132	204	408	Dec-2013	676	648	28
5819626	1	132	204	418	Oct-2014	664	653	11

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5819626	1	132	204	430	Oct-2015	676	661	15
5819627	1	132	207	63	Mar-1985	682	643	39
5819628	1	136	208	84	Dec-1986	653	651	2
5819628	1	136	208	305	May-2005	694	670	24
5819632	1	136	211	293	May-2004	643	635	8
5819632	1	136	211	305	May-2005	643	652	-9
5819633	1	135	209	305	May-2005	675	661	14
5819634	1	134	206	305	May-2005	684	683	1
5819635	1	134	207	305	May-2005	680	678	2
5819636	1	134	206	305	May-2005	684	683	1
5819637	1	138	212	304	Apr-2005	673	657	16
5819802	1	151	208	304	Apr-2005	675	690	-15
5819803	1	151	208	3	Mar-1980	658	677	-19
5819803	1	151	208	304	Apr-2005	676	690	-14
5819811	1	143	208	159	Mar-1993	683	674	9
5819811	1	143	208	165	Sep-1993	673	657	16
5819811	1	143	208	173	May-1994	662	658	4
5819811	1	143	208	177	Sep-1994	663	665	-2
5819811	1	143	208	193	Jan-1996	659	652	7
5819815	1	145	209	159	Mar-1993	666	676	-10
5819815	1	145	209	165	Sep-1993	664	658	6
5819815	1	145	209	173	May-1994	663	659	4
5819815	1	145	209	177	Sep-1994	661	666	-5
5819815	1	145	209	193	Jan-1996	662	652	10
5819815	1	145	209	200	Aug-1996	658	667	-9
5819817	1	151	208	159	Mar-1993	679	684	-5
5819817	1	151	208	165	Sep-1993	666	664	2
5819817	1	151	208	173	May-1994	656	665	-9
5819817	1	151	208	177	Sep-1994	656	673	-17
5819817	1	151	208	193	Jan-1996	674	657	17
5819817	1	151	208	200	Aug-1996	653	675	-22
5819820	1	147	208	12	Dec-1980	666	664	2
5819821	1	146	207	12	Dec-1980	656	663	-7
5819823	1	147	209	25	Jan-1982	674	658	16
5819901	1	144	213	1	Jan-1980	660	654	6
5819901	1	144	213	2	Feb-1980	659	656	3
5819901	1	144	213	3	Mar-1980	659	660	-1

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5819901	1	144	213	7	Jul-1980	653	650	3
5819901	1	144	213	8	Aug-1980	648	651	-3
5819901	1	144	213	9	Sep-1980	645	666	-21
5819901	1	144	213	10	Oct-1980	650	657	-7
5819901	1	144	213	11	Nov-1980	653	661	-8
5819901	1	144	213	12	Dec-1980	654	653	1
5819901	1	144	213	13	Jan-1981	655	650	5
5819901	1	144	213	15	Mar-1981	656	649	7
5819901	1	144	213	16	Apr-1981	658	647	11
5819901	1	144	213	17	May-1981	656	654	2
5819901	1	144	213	305	May-2005	644	685	-41
5819902	1	148	220	13	Jan-1981	631	648	-17
5819902	1	148	220	54	Jun-1984	603	646	-43
5819902	1	148	220	55	Jul-1984	605	646	-41
5819902	1	148	220	56	Aug-1984	601	645	-44
5819902	1	148	220	57	Sep-1984	601	645	-44
5819902	1	148	220	58	Oct-1984	609	659	-50
5819902	1	148	220	59	Nov-1984	621	652	-31
5819902	1	148	220	60	Dec-1984	629	651	-22
5819902	1	148	220	61	Jan-1985	632	648	-16
5819902	1	148	220	62	Feb-1985	631	647	-16
5819902	1	148	220	63	Mar-1985	636	647	-11
5819902	1	148	220	64	Apr-1985	634	647	-13
5819902	1	148	220	65	May-1985	628	646	-18
5819902	1	148	220	66	Jun-1985	626	650	-24
5819902	1	148	220	67	Jul-1985	619	647	-28
5819902	1	148	220	68	Aug-1985	616	645	-29
5819902	1	148	220	69	Sep-1985	607	648	-41
5819902	1	148	220	70	Oct-1985	611	651	-40
5819902	1	148	220	159	Mar-1993	633	663	-30
5819902	1	148	220	165	Sep-1993	610	649	-39
5819902	1	148	220	173	May-1994	582	649	-67
5819902	1	148	220	177	Sep-1994	583	654	-71
5819902	1	148	220	193	Jan-1996	589	644	-55
5819902	1	148	220	200	Aug-1996	530	654	-124
5819907	1	141	214	89	May-1987	660	657	3
5819907	1	141	214	159	Mar-1993	660	660	0

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5819907	1	141	214	165	Sep-1993	648	647	1
5819907	1	141	214	173	May-1994	650	647	3
5819907	1	141	214	177	Sep-1994	649	652	-3
5819907	1	141	214	193	Jan-1996	650	643	7
5819907	1	141	214	200	Aug-1996	589	653	-64
5819908	1	142	215	159	Mar-1993	638	660	-22
5819908	1	142	215	165	Sep-1993	620	648	-28
5819908	1	142	215	173	May-1994	618	648	-30
5819908	1	142	215	177	Sep-1994	618	653	-35
5819908	1	142	215	193	Jan-1996	615	643	-28
5819908	1	142	215	200	Aug-1996	560	653	-93
5819909	1	148	213	89	May-1987	656	668	-12
5819909	1	148	213	159	Mar-1993	663	672	-9
5819909	1	148	213	165	Sep-1993	649	655	-6
5819909	1	148	213	173	May-1994	650	656	-6
5819909	1	148	213	177	Sep-1994	648	662	-14
5819909	1	148	213	193	Jan-1996	649	650	-1
5819909	1	148	213	200	Aug-1996	630	663	-33
5819910	1	145	213	154	Oct-1992	646	658	-12
5819910	1	145	213	155	Nov-1992	648	668	-20
5819910	1	145	213	156	Dec-1992	650	668	-18
5819910	1	145	213	158	Feb-1993	653	673	-20
5819910	1	145	213	160	Apr-1993	647	670	-23
5819910	1	145	213	161	May-1993	649	684	-35
5819910	1	145	213	163	Jul-1993	646	666	-20
5819910	1	145	213	166	Oct-1993	643	662	-19
5819910	1	145	213	167	Nov-1993	649	658	-9
5819910	1	145	213	169	Jan-1994	648	652	-4
5819910	1	145	213	170	Feb-1994	648	651	-3
5819910	1	145	213	172	Apr-1994	642	650	-8
5819910	1	145	213	175	Jul-1994	635	648	-13
5819910	1	145	213	177	Sep-1994	642	659	-17
5819910	1	145	213	325	Jan-2007	647	654	-7
5819911	1	145	213	200	Aug-1996	641	659	-18
5819911	1	145	213	325	Jan-2007	644	654	-10
5819912	1	145	213	325	Jan-2007	633	654	-21
5819914	1	144	210	305	May-2005	654	694	-40

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5820102	1	118	219	1	Jan-1980	631	634	-3
5820102	1	118	219	2	Feb-1980	626	635	-9
5820102	1	118	219	3	Mar-1980	625	638	-13
5820102	1	118	219	6	Jun-1980	594	635	-41
5820102	1	118	219	8	Aug-1980	594	631	-37
5820102	1	118	219	10	Oct-1980	621	636	-15
5820102	1	118	219	11	Nov-1980	622	639	-17
5820102	1	118	219	12	Dec-1980	625	634	-9
5820102	1	118	219	13	Jan-1981	623	631	-8
5820102	1	118	219	16	Apr-1981	630	629	1
5820102	1	118	219	17	May-1981	620	633	-13
5820102	1	118	219	18	Jun-1981	627	639	-12
5820102	1	118	219	19	Jul-1981	631	634	-3
5820102	1	118	219	24	Dec-1981	632	629	3
5820102	1	118	219	25	Jan-1982	631	630	1
5820102	1	118	219	28	Apr-1982	629	640	-11
5820102	1	118	219	29	May-1982	630	647	-17
5820102	1	118	219	30	Jun-1982	620	643	-23
5820102	1	118	219	31	Jul-1982	614	634	-20
5820102	1	118	219	36	Dec-1982	621	637	-16
5820102	1	118	219	39	Mar-1983	627	634	-7
5820102	1	118	219	42	Jun-1983	628	633	-5
5820102	1	118	219	45	Sep-1983	622	631	-9
5820102	1	118	219	48	Dec-1983	621	629	-8
5820102	1	118	219	51	Mar-1984	626	631	-5
5820102	1	118	219	53	May-1984	612	629	-17
5820102	1	118	219	54	Jun-1984	611	630	-19
5820102	1	118	219	55	Jul-1984	606	630	-24
5820102	1	118	219	56	Aug-1984	605	629	-24
5820102	1	118	219	57	Sep-1984	603	629	-26
5820102	1	118	219	58	Oct-1984	614	640	-26
5820102	1	118	219	59	Nov-1984	614	635	-21
5820102	1	118	219	60	Dec-1984	619	634	-15
5820102	1	118	219	61	Jan-1985	623	631	-8
5820102	1	118	219	62	Feb-1985	622	631	-9
5820102	1	118	219	64	Apr-1985	626	631	-5
5820102	1	118	219	65	May-1985	622	630	-8

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5820102	1	118	219	66	Jun-1985	623	633	-10
5820102	1	118	219	68	Aug-1985	612	629	-17
5820102	1	118	219	70	Oct-1985	609	634	-25
5820102	1	118	219	77	May-1986	617	639	-22
5820102	1	118	219	98	Feb-1988	615	629	-14
5820102	1	118	219	109	Jan-1989	609	631	-22
5820102	1	118	219	122	Feb-1990	592	631	-39
5820102	1	118	219	134	Feb-1991	588	632	-44
5820102	1	118	219	170	Feb-1994	586	631	-45
5820102	1	118	219	179	Nov-1994	587	634	-47
5820102	1	118	219	203	Nov-1996	570	633	-63
5820102	1	118	219	217	Jan-1998	594	637	-43
5820102	1	118	219	229	Jan-1999	572	634	-62
5820102	1	118	219	253	Jan-2001	576	633	-57
5820102	1	118	219	277	Jan-2003	587	638	-51
5820102	1	118	219	290	Feb-2004	580	630	-50
5820102	1	118	219	310	Oct-2005	547	650	-103
5820102	1	118	219	339	Mar-2008	579	658	-79
5820102	1	118	219	374	Feb-2011	558	632	-74
5820102	1	118	219	386	Feb-2012	537	632	-95
5820102	1	118	219	394	Oct-2012	543	629	-86
5820102	1	118	219	407	Nov-2013	555	638	-83
5820102	1	118	219	418	Oct-2014	544	636	-92
5820102	1	118	219	430	Oct-2015	544	639	-95
5820201	1	121	225	13	Jan-1981	624	630	-6
5820201	1	121	225	54	Jun-1984	603	629	-26
5820201	1	121	225	55	Jul-1984	607	629	-22
5820201	1	121	225	56	Aug-1984	603	628	-25
5820201	1	121	225	57	Sep-1984	615	628	-13
5820201	1	121	225	58	Oct-1984	619	637	-18
5820201	1	121	225	59	Nov-1984	622	633	-11
5820201	1	121	225	60	Dec-1984	625	633	-8
5820201	1	121	225	61	Jan-1985	627	630	-3
5820201	1	121	225	62	Feb-1985	627	630	-3
5820201	1	121	225	63	Mar-1985	628	629	-1
5820201	1	121	225	64	Apr-1985	629	629	0
5820201	1	121	225	65	May-1985	630	629	1

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5820201	1	121	225	66	Jun-1985	629	632	-3
5820201	1	121	225	67	Jul-1985	627	630	-3
5820201	1	121	225	68	Aug-1985	623	628	-5
5820201	1	121	225	69	Sep-1985	617	630	-13
5820201	1	121	225	70	Oct-1985	617	632	-15
5820201	1	121	225	81	Sep-1986	617	633	-16
5820201	1	121	225	88	Apr-1987	623	629	-6
5820201	1	121	225	98	Feb-1988	619	628	-9
5820201	1	121	225	109	Jan-1989	609	630	-21
5820201	1	121	225	122	Feb-1990	593	629	-36
5820201	1	121	225	134	Feb-1991	588	631	-43
5820201	1	121	225	146	Feb-1992	615	651	-36
5820201	1	121	225	157	Jan-1993	585	644	-59
5820201	1	121	225	170	Feb-1994	590	630	-40
5820201	1	121	225	179	Nov-1994	586	633	-47
5820201	1	121	225	203	Nov-1996	571	631	-60
5820201	1	121	225	217	Jan-1998	586	634	-48
5820201	1	121	225	229	Jan-1999	578	633	-55
5820201	1	121	225	241	Jan-2000	577	629	-52
5820201	1	121	225	253	Jan-2001	572	631	-59
5820201	1	121	225	265	Jan-2002	583	636	-53
5820201	1	121	225	277	Jan-2003	582	636	-54
5820201	1	121	225	290	Feb-2004	586	629	-43
5820201	1	121	225	301	Jan-2005	580	642	-62
5820201	1	121	225	313	Jan-2006	560	630	-70
5820201	1	121	225	325	Jan-2007	558	632	-74
5820201	1	121	225	337	Jan-2008	560	634	-74
5820201	1	121	225	349	Jan-2009	536	631	-95
5820201	1	121	225	363	Mar-2010	567	635	-68
5820201	1	121	225	374	Feb-2011	561	631	-70
5820201	1	121	225	382	Oct-2011	492	631	-139
5820201	1	121	225	394	Oct-2012	542	628	-86
5820201	1	121	225	407	Nov-2013	551	637	-86
5820201	1	121	225	418	Oct-2014	547	634	-87
5820202	1	123	224	159	Mar-1993	608	643	-35
5820202	1	123	224	165	Sep-1993	582	633	-51
5820202	1	123	224	173	May-1994	593	633	-40

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5820202	1	123	224	177	Sep-1994	580	637	-57
5820203	1	111	226	55	Jul-1984	617	620	-3
5820301	1	117	232	61	Jan-1985	655	623	32
5820301	1	117	232	82	Oct-1986	669	631	38
5820302	1	114	235	82	Oct-1986	666	627	39
5820302	1	114	235	109	Jan-1989	608	619	-11
5820302	1	114	235	122	Feb-1990	600	619	-19
5820302	1	114	235	134	Feb-1991	597	621	-24
5820302	1	114	235	146	Feb-1992	614	636	-22
5820302	1	114	235	157	Jan-1993	606	631	-25
5820302	1	114	235	170	Feb-1994	598	620	-22
5820302	1	114	235	179	Nov-1994	587	622	-35
5820302	1	114	235	203	Nov-1996	565	621	-56
5820302	1	114	235	217	Jan-1998	590	623	-33
5820302	1	114	235	229	Jan-1999	583	623	-40
5820302	1	114	235	241	Jan-2000	574	619	-45
5820302	1	114	235	253	Jan-2001	564	621	-57
5820302	1	114	235	265	Jan-2002	577	625	-48
5820302	1	114	235	277	Jan-2003	575	625	-50
5820302	1	114	235	291	Mar-2004	571	618	-47
5820302	1	114	235	301	Jan-2005	575	628	-53
5820302	1	114	235	313	Jan-2006	556	620	-64
5820302	1	114	235	325	Jan-2007	556	621	-65
5820302	1	114	235	337	Jan-2008	571	622	-51
5820302	1	114	235	363	Mar-2010	557	624	-67
5820302	1	114	235	374	Feb-2011	563	621	-58
5820302	1	114	235	386	Feb-2012	541	621	-80
5820302	1	114	235	394	Oct-2012	533	618	-85
5820302	1	114	235	407	Nov-2013	542	625	-83
5820302	1	114	235	418	Oct-2014	543	623	-80
5820302	1	114	235	430	Oct-2015	546	624	-78
5820403	1	131	224	13	Jan-1981	625	637	-12
5820403	1	131	224	54	Jun-1984	612	635	-23
5820403	1	131	224	55	Jul-1984	619	635	-16
5820403	1	131	224	56	Aug-1984	611	634	-23
5820403	1	131	224	57	Sep-1984	616	634	-18
5820403	1	131	224	58	Oct-1984	618	644	-26

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5820403	1	131	224	59	Nov-1984	622	640	-18
5820403	1	131	224	60	Dec-1984	622	639	-17
5820403	1	131	224	61	Jan-1985	627	637	-10
5820403	1	131	224	62	Feb-1985	627	636	-9
5820403	1	131	224	63	Mar-1985	629	636	-7
5820403	1	131	224	64	Apr-1985	630	636	-6
5820403	1	131	224	66	Jun-1985	630	638	-8
5820403	1	131	224	67	Jul-1985	627	636	-9
5820403	1	131	224	68	Aug-1985	622	634	-12
5820403	1	131	224	69	Sep-1985	613	636	-23
5820403	1	131	224	70	Oct-1985	616	639	-23
5820403	1	131	224	81	Sep-1986	611	640	-29
5820403	1	131	224	88	Apr-1987	622	636	-14
5820403	1	131	224	98	Feb-1988	619	634	-15
5820403	1	131	224	110	Feb-1989	603	635	-32
5820403	1	131	224	122	Feb-1990	598	636	-38
5820403	1	131	224	134	Feb-1991	591	638	-47
5820403	1	131	224	146	Feb-1992	617	659	-42
5820403	1	131	224	158	Feb-1993	611	651	-40
5820403	1	131	224	170	Feb-1994	599	637	-38
5820403	1	131	224	179	Nov-1994	591	639	-48
5820403	1	131	224	203	Nov-1996	569	638	-69
5820403	1	131	224	217	Jan-1998	596	641	-45
5820403	1	131	224	229	Jan-1999	590	640	-50
5820403	1	131	224	241	Jan-2000	574	636	-62
5820403	1	131	224	253	Jan-2001	576	638	-62
5820403	1	131	224	265	Jan-2002	584	642	-58
5820403	1	131	224	277	Jan-2003	584	643	-59
5820403	1	131	224	290	Feb-2004	578	635	-57
5820403	1	131	224	301	Jan-2005	581	649	-68
5820403	1	131	224	313	Jan-2006	561	636	-75
5820403	1	131	224	325	Jan-2007	565	638	-73
5820403	1	131	224	337	Jan-2008	577	640	-63
5820403	1	131	224	349	Jan-2009	537	638	-101
5820403	1	131	224	363	Mar-2010	561	642	-81
5820403	1	131	224	374	Feb-2011	565	638	-73
5820403	1	131	224	394	Oct-2012	535	635	-100

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5820403	1	131	224	430	Oct-2015	547	643	-96
5820404	1	136	224	13	Jan-1981	641	640	1
5820404	1	136	224	159	Mar-1993	626	651	-25
5820404	1	136	224	173	May-1994	611	640	-29
5820404	1	136	224	177	Sep-1994	598	644	-46
5820404	1	136	224	193	Jan-1996	607	637	-30
5820404	1	136	224	199	Jul-1996	565	638	-73
5820407	1	129	214	62	Feb-1985	634	638	-4
5820408	1	125	220	63	Mar-1985	653	634	19
5820409	1	135	219	90	Jun-1987	652	659	-7
5820409	1	135	219	154	Oct-1992	637	645	-8
5820409	1	135	219	155	Nov-1992	641	652	-11
5820409	1	135	219	156	Dec-1992	644	653	-9
5820409	1	135	219	158	Feb-1993	648	656	-8
5820409	1	135	219	160	Apr-1993	649	654	-5
5820409	1	135	219	161	May-1993	648	663	-15
5820409	1	135	219	163	Jul-1993	640	652	-12
5820409	1	135	219	165	Sep-1993	622	641	-19
5820409	1	135	219	166	Oct-1993	628	647	-19
5820409	1	135	219	167	Nov-1993	635	645	-10
5820409	1	135	219	169	Jan-1994	633	641	-8
5820409	1	135	219	170	Feb-1994	633	640	-7
5820409	1	135	219	172	Apr-1994	629	639	-10
5820409	1	135	219	175	Jul-1994	615	637	-22
5820409	1	135	219	177	Sep-1994	623	645	-22
5820412	1	137	217	87	Mar-1987	633	643	-10
5820412	1	137	217	159	Mar-1993	631	654	-23
5820412	1	137	217	165	Sep-1993	610	643	-33
5820412	1	137	217	173	May-1994	617	643	-26
5820412	1	137	217	177	Sep-1994	604	647	-43
5820412	1	137	217	193	Jan-1996	596	639	-43
5820412	1	137	217	200	Aug-1996	561	647	-86
5820413	1	127	218	89	May-1987	638	645	-7
5820413	1	127	218	159	Mar-1993	631	649	-18
5820413	1	127	218	165	Sep-1993	607	638	-31
5820413	1	127	218	173	May-1994	619	638	-19
5820413	1	127	218	177	Sep-1994	599	642	-43

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5820413	1	127	218	193	Jan-1996	619	634	-15
5820413	1	127	218	200	Aug-1996	560	642	-82
5820501	1	134	230	81	Sep-1986	628	639	-11
5820501	1	134	230	98	Feb-1988	596	634	-38
5820502	1	125	231	81	Sep-1986	632	632	0
5820502	1	125	231	98	Feb-1988	612	628	-16
5820502	1	125	231	109	Jan-1989	600	629	-29
5820502	1	125	231	122	Feb-1990	588	629	-41
5820601	1	122	234	14	Feb-1981	598	625	-27
5820704	1	143	224	13	Jan-1981	637	643	-6
5821101	1	108	240	82	Oct-1986	596	620	-24
5821102	1	108	239	82	Oct-1986	595	620	-25
5821102	1	108	239	98	Feb-1988	598	612	-14
5827204	1	156	211	159	Mar-1993	695	687	8
5827204	1	156	211	165	Sep-1993	680	665	15
5827204	1	156	211	177	Sep-1994	666	675	-9
5827204	1	156	211	193	Jan-1996	679	658	21
5827204	1	156	211	200	Aug-1996	662	677	-15
5827210	1	159	211	159	Mar-1993	730	689	41
5827210	1	159	211	165	Sep-1993	702	666	36
5827213	1	155	212	304	Apr-2005	662	690	-28
5827218	1	156	210	35	Nov-1982	671	683	-12
5827219	1	156	209	35	Nov-1982	671	683	-12
5827221	1	155	210	304	Apr-2005	684	694	-10
5827224	1	160	211	89	May-1987	697	686	11
5827224	1	160	211	159	Mar-1993	708	690	18
5827224	1	160	211	165	Sep-1993	692	667	25
5827224	1	160	211	173	May-1994	681	668	13
5827224	1	160	211	177	Sep-1994	673	677	-4
5827224	1	160	211	193	Jan-1996	691	660	31
5827224	1	160	211	200	Aug-1996	659	679	-20
5827227	1	164	210	201	Sep-1996	665	674	-9
5827227	1	164	210	217	Jan-1998	692	680	12
5827227	1	164	210	229	Jan-1999	691	670	21
5827303	1	152	219	159	Mar-1993	671	668	3
5827303	1	152	219	165	Sep-1993	634	652	-18
5827303	1	152	219	173	May-1994	615	652	-37

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5827303	1	152	219	177	Sep-1994	633	658	-25
5827303	1	152	219	193	Jan-1996	634	647	-13
5827303	1	152	219	200	Aug-1996	585	658	-73
5827304	1	162	219	159	Mar-1993	681	675	6
5827304	1	162	219	165	Sep-1993	649	657	-8
5827304	1	162	219	173	May-1994	663	657	6
5827304	1	162	219	177	Sep-1994	634	664	-30
5827304	1	162	219	193	Jan-1996	651	651	0
5827304	1	162	219	200	Aug-1996	612	664	-52
5827305	1	160	216	9	Sep-1980	662	680	-18
5827305	1	160	216	13	Jan-1981	672	659	13
5827305	1	160	216	14	Feb-1981	674	656	18
5827305	1	160	216	15	Mar-1981	681	658	23
5827305	1	160	216	16	Apr-1981	680	655	25
5827305	1	160	216	17	May-1981	673	664	9
5827305	1	160	216	18	Jun-1981	686	673	13
5827305	1	160	216	19	Jul-1981	695	664	31
5827305	1	160	216	20	Aug-1981	691	657	34
5827305	1	160	216	21	Sep-1981	691	657	34
5827305	1	160	216	22	Oct-1981	690	662	28
5827305	1	160	216	23	Nov-1981	689	657	32
5827305	1	160	216	24	Dec-1981	685	655	30
5827305	1	160	216	25	Jan-1982	678	658	20
5827305	1	160	216	26	Feb-1982	673	658	15
5827305	1	160	216	27	Mar-1982	669	662	7
5827305	1	160	216	28	Apr-1982	666	676	-10
5827305	1	160	216	29	May-1982	675	688	-13
5827305	1	160	216	30	Jun-1982	682	680	2
5827305	1	160	216	31	Jul-1982	678	663	15
5827305	1	160	216	32	Aug-1982	666	660	6
5827305	1	160	216	33	Sep-1982	658	665	-7
5827305	1	160	216	34	Oct-1982	659	670	-11
5827305	1	160	216	35	Nov-1982	662	675	-13
5827305	1	160	216	36	Dec-1982	664	669	-5
5827305	1	160	216	37	Jan-1983	664	662	2
5827305	1	160	216	38	Feb-1983	668	660	8
5827305	1	160	216	39	Mar-1983	674	665	9

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5827305	1	160	216	40	Apr-1983	674	657	17
5827305	1	160	216	41	May-1983	674	662	12
5827305	1	160	216	42	Jun-1983	684	662	22
5827305	1	160	216	43	Jul-1983	680	660	20
5827305	1	160	216	44	Aug-1983	678	658	20
5827305	1	160	216	45	Sep-1983	681	659	22
5827305	1	160	216	46	Oct-1983	680	659	21
5827305	1	160	216	47	Nov-1983	679	659	20
5827305	1	160	216	48	Dec-1983	674	656	18
5827305	1	160	216	49	Jan-1984	667	657	10
5827305	1	160	216	50	Feb-1984	663	657	6
5827305	1	160	216	51	Mar-1984	660	660	0
5827305	1	160	216	52	Apr-1984	654	655	-1
5827305	1	160	216	53	May-1984	650	656	-6
5827305	1	160	216	54	Jun-1984	650	657	-7
5827305	1	160	216	55	Jul-1984	647	657	-10
5827305	1	160	216	56	Aug-1984	647	655	-8
5827305	1	160	216	57	Sep-1984	646	655	-9
5827305	1	160	216	58	Oct-1984	658	677	-19
5827305	1	160	216	59	Nov-1984	675	665	10
5827305	1	160	216	60	Dec-1984	680	664	16
5827305	1	160	216	61	Jan-1985	683	659	24
5827305	1	160	216	62	Feb-1985	682	658	24
5827305	1	160	216	63	Mar-1985	687	658	29
5827305	1	160	216	64	Apr-1985	687	658	29
5827305	1	160	216	65	May-1985	686	657	29
5827305	1	160	216	66	Jun-1985	682	663	19
5827305	1	160	216	67	Jul-1985	676	659	17
5827305	1	160	216	68	Aug-1985	669	655	14
5827305	1	160	216	69	Sep-1985	666	660	6
5827305	1	160	216	70	Oct-1985	667	665	2
5827305	1	160	216	71	Nov-1985	675	665	10
5827305	1	160	216	72	Dec-1985	685	659	26
5827305	1	160	216	73	Jan-1986	686	656	30
5827305	1	160	216	74	Feb-1986	690	657	33
5827305	1	160	216	75	Mar-1986	687	655	32
5827305	1	160	216	76	Apr-1986	681	657	24

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5827305	1	160	216	77	May-1986	679	675	4
5827305	1	160	216	78	Jun-1986	680	666	14
5827305	1	160	216	79	Jul-1986	669	658	11
5827305	1	160	216	80	Aug-1986	660	658	2
5827305	1	160	216	81	Sep-1986	663	668	-5
5827305	1	160	216	82	Oct-1986	667	680	-13
5827305	1	160	216	83	Nov-1986	681	667	14
5827305	1	160	216	84	Dec-1986	686	674	12
5827305	1	160	216	85	Jan-1987	692	663	29
5827305	1	160	216	86	Feb-1987	693	666	27
5827305	1	160	216	87	Mar-1987	696	662	34
5827305	1	160	216	88	Apr-1987	692	657	35
5827305	1	160	216	89	May-1987	688	676	12
5827305	1	160	216	90	Jun-1987	703	695	8
5827305	1	160	216	91	Jul-1987	701	679	22
5827305	1	160	216	92	Aug-1987	696	662	34
5827305	1	160	216	93	Sep-1987	691	673	18
5827305	1	160	216	94	Oct-1987	690	661	29
5827305	1	160	216	95	Nov-1987	688	666	22
5827305	1	160	216	96	Dec-1987	689	662	27
5827305	1	160	216	97	Jan-1988	687	657	30
5827305	1	160	216	98	Feb-1988	683	655	28
5827305	1	160	216	99	Mar-1988	677	664	13
5827305	1	160	216	100	Apr-1988	671	665	6
5827305	1	160	216	101	May-1988	665	670	-5
5827305	1	160	216	102	Jun-1988	670	669	1
5827305	1	160	216	103	Jul-1988	665	669	-4
5827305	1	160	216	104	Aug-1988	658	665	-7
5827305	1	160	216	105	Sep-1988	654	663	-9
5827305	1	160	216	108	Dec-1988	658	659	-1
5827305	1	160	216	109	Jan-1989	659	659	0
5827305	1	160	216	110	Feb-1989	658	656	2
5827305	1	160	216	111	Mar-1989	659	656	3
5827305	1	160	216	112	Apr-1989	659	657	2
5827305	1	160	216	113	May-1989	668	662	6
5827305	1	160	216	114	Jun-1989	675	659	16
5827305	1	160	216	115	Jul-1989	664	655	9

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5827305	1	160	216	116	Aug-1989	654	656	-2
5827305	1	160	216	117	Sep-1989	652	654	-2
5827305	1	160	216	121	Jan-1990	657	655	2
5827305	1	160	216	122	Feb-1990	658	659	-1
5827305	1	160	216	123	Mar-1990	664	658	6
5827305	1	160	216	124	Apr-1990	669	659	10
5827305	1	160	216	125	May-1990	682	661	21
5827305	1	160	216	126	Jun-1990	675	658	17
5827305	1	160	216	127	Jul-1990	664	659	5
5827305	1	160	216	128	Aug-1990	658	655	3
5827305	1	160	216	129	Sep-1990	652	656	-4
5827305	1	160	216	131	Nov-1990	660	661	-1
5827305	1	160	216	132	Dec-1990	660	657	3
5827305	1	160	216	133	Jan-1991	669	667	2
5827305	1	160	216	134	Feb-1991	678	662	16
5827305	1	160	216	135	Mar-1991	680	657	23
5827305	1	160	216	136	Apr-1991	684	661	23
5827305	1	160	216	137	May-1991	690	661	29
5827305	1	160	216	138	Jun-1991	687	661	26
5827305	1	160	216	139	Jul-1991	681	657	24
5827305	1	160	216	140	Aug-1991	676	660	16
5827305	1	160	216	141	Sep-1991	679	658	21
5827305	1	160	216	142	Oct-1991	677	658	19
5827305	1	160	216	143	Nov-1991	675	656	19
5827305	1	160	216	144	Dec-1991	675	673	2
5827305	1	160	216	145	Jan-1992	694	689	5
5827305	1	160	216	146	Feb-1992	705	704	1
5827305	1	160	216	147	Mar-1992	710	703	7
5827305	1	160	216	148	Apr-1992	709	682	27
5827305	1	160	216	149	May-1992	706	715	-9
5827305	1	160	216	152	Aug-1992	695	674	21
5827305	1	160	216	153	Sep-1992	691	673	18
5827305	1	160	216	154	Oct-1992	685	668	17
5827305	1	160	216	155	Nov-1992	682	682	0
5827305	1	160	216	158	Feb-1993	694	688	6
5827305	1	160	216	159	Mar-1993	697	681	16
5827305	1	160	216	160	Apr-1993	697	684	13

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5827305	1	160	216	161	May-1993	698	702	-4
5827305	1	160	216	162	Jun-1993	695	698	-3
5827305	1	160	216	163	Jul-1993	691	679	12
5827305	1	160	216	164	Aug-1993	681	668	13
5827305	1	160	216	165	Sep-1993	677	661	16
5827305	1	160	216	166	Oct-1993	674	674	0
5827305	1	160	216	167	Nov-1993	672	668	4
5827305	1	160	216	168	Dec-1993	671	665	6
5827305	1	160	216	169	Jan-1994	667	660	7
5827305	1	160	216	170	Feb-1994	664	659	5
5827305	1	160	216	171	Mar-1994	664	658	6
5827305	1	160	216	172	Apr-1994	662	658	4
5827305	1	160	216	173	May-1994	664	661	3
5827305	1	160	216	174	Jun-1994	660	657	3
5827305	1	160	216	175	Jul-1994	651	654	-3
5827305	1	160	216	176	Aug-1994	649	669	-20
5827305	1	160	216	177	Sep-1994	658	669	-11
5827305	1	160	216	178	Oct-1994	673	673	0
5827305	1	160	216	179	Nov-1994	678	663	15
5827305	1	160	216	180	Dec-1994	681	667	14
5827305	1	160	216	181	Jan-1995	685	659	26
5827305	1	160	216	182	Feb-1995	684	658	26
5827305	1	160	216	186	Jun-1995	685	667	18
5827305	1	160	216	187	Jul-1995	682	659	23
5827305	1	160	216	188	Aug-1995	680	667	13
5827305	1	160	216	189	Sep-1995	676	664	12
5827305	1	160	216	190	Oct-1995	673	659	14
5827305	1	160	216	191	Nov-1995	670	662	8
5827305	1	160	216	192	Dec-1995	669	657	12
5827305	1	160	216	193	Jan-1996	664	654	10
5827305	1	160	216	194	Feb-1996	660	654	6
5827305	1	160	216	195	Mar-1996	658	654	4
5827305	1	160	216	196	Apr-1996	656	656	0
5827305	1	160	216	197	May-1996	651	657	-6
5827305	1	160	216	198	Jun-1996	652	662	-10
5827305	1	160	216	199	Jul-1996	649	656	-7
5827305	1	160	216	200	Aug-1996	646	670	-24

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5827305	1	160	216	201	Sep-1996	658	666	-8
5827305	1	160	216	202	Oct-1996	666	659	7
5827305	1	160	216	203	Nov-1996	666	662	4
5827305	1	160	216	204	Dec-1996	669	660	9
5827305	1	160	216	205	Jan-1997	675	656	19
5827305	1	160	216	206	Feb-1997	679	659	20
5827305	1	160	216	207	Mar-1997	685	657	28
5827305	1	160	216	208	Apr-1997	692	661	31
5827305	1	160	216	209	May-1997	699	664	35
5827305	1	160	216	210	Jun-1997	708	667	41
5827305	1	160	216	211	Jul-1997	704	660	44
5827305	1	160	216	212	Aug-1997	698	658	40
5827305	1	160	216	213	Sep-1997	693	656	37
5827305	1	160	216	214	Oct-1997	692	660	32
5827305	1	160	216	215	Nov-1997	691	658	33
5827305	1	160	216	216	Dec-1997	693	657	36
5827305	1	160	216	217	Jan-1998	699	670	29
5827305	1	160	216	218	Feb-1998	700	677	23
5827305	1	160	216	219	Mar-1998	701	678	23
5827305	1	160	216	220	Apr-1998	698	666	32
5827305	1	160	216	221	May-1998	688	661	27
5827305	1	160	216	222	Jun-1998	675	664	11
5827305	1	160	216	223	Jul-1998	668	661	7
5827305	1	160	216	224	Aug-1998	663	663	0
5827305	1	160	216	225	Sep-1998	665	693	-28
5827305	1	160	216	226	Oct-1998	670	726	-56
5827305	1	160	216	227	Nov-1998	679	701	-22
5827305	1	160	216	228	Dec-1998	682	679	3
5827305	1	160	216	229	Jan-1999	687	663	24
5827305	1	160	216	230	Feb-1999	684	657	27
5827305	1	160	216	231	Mar-1999	680	677	3
5827305	1	160	216	232	Apr-1999	678	666	12
5827305	1	160	216	233	May-1999	678	695	-17
5827305	1	160	216	234	Jun-1999	678	686	-8
5827305	1	160	216	235	Jul-1999	675	688	-13
5827305	1	160	216	236	Aug-1999	667	669	-2
5827305	1	160	216	237	Sep-1999	657	660	-3

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5827305	1	160	216	238	Oct-1999	655	665	-10
5827305	1	160	216	239	Nov-1999	655	658	-3
5827305	1	160	216	240	Dec-1999	655	658	-3
5827305	1	160	216	241	Jan-2000	654	657	-3
5827305	1	160	216	242	Feb-2000	652	656	-4
5827305	1	160	216	243	Mar-2000	651	655	-4
5827305	1	160	216	244	Apr-2000	654	655	-1
5827305	1	160	216	245	May-2000	655	656	-1
5827305	1	160	216	246	Jun-2000	655	658	-3
5827305	1	160	216	247	Jul-2000	650	656	-6
5827305	1	160	216	248	Aug-2000	644	653	-9
5827305	1	160	216	249	Sep-2000	641	654	-13
5827305	1	160	216	257	May-2001	688	665	23
5827305	1	160	216	258	Jun-2001	684	659	25
5827305	1	160	216	259	Jul-2001	674	655	19
5827305	1	160	216	260	Aug-2001	660	681	-21
5827305	1	160	216	261	Sep-2001	666	667	-1
5827305	1	160	216	262	Oct-2001	665	665	0
5827305	1	160	216	263	Nov-2001	665	686	-21
5827305	1	160	216	264	Dec-2001	676	678	-2
5827305	1	160	216	265	Jan-2002	680	669	11
5827305	1	160	216	266	Feb-2002	679	662	17
5827305	1	160	216	267	Mar-2002	676	662	14
5827305	1	160	216	268	Apr-2002	671	659	12
5827305	1	160	216	269	May-2002	660	660	0
5827305	1	160	216	270	Jun-2002	653	680	-27
5827305	1	160	216	271	Jul-2002	664	684	-20
5827305	1	160	216	272	Aug-2002	666	674	-8
5827305	1	160	216	273	Sep-2002	663	674	-11
5827305	1	160	216	274	Oct-2002	661	690	-29
5827305	1	160	216	275	Nov-2002	664	679	-15
5827305	1	160	216	276	Dec-2002	670	682	-12
5827305	1	160	216	277	Jan-2003	673	670	3
5827305	1	160	216	278	Feb-2003	674	675	-1
5827305	1	160	216	279	Mar-2003	681	663	18
5827305	1	160	216	280	Apr-2003	677	657	20
5827305	1	160	216	281	May-2003	669	660	9

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5827305	1	160	216	282	Jun-2003	668	673	-5
5827305	1	160	216	283	Jul-2003	660	665	-5
5827305	1	160	216	284	Aug-2003	648	669	-21
5827305	1	160	216	285	Sep-2003	646	666	-20
5827305	1	160	216	286	Oct-2003	648	661	-13
5827305	1	160	216	287	Nov-2003	647	661	-14
5827305	1	160	216	288	Dec-2003	646	657	-11
5827305	1	160	216	289	Jan-2004	648	657	-9
5827305	1	160	216	290	Feb-2004	659	657	2
5827305	1	160	216	291	Mar-2004	664	656	8
5827305	1	160	216	292	Apr-2004	669	656	13
5827305	1	160	216	293	May-2004	673	656	17
5827305	1	160	216	294	Jun-2004	675	662	13
5827305	1	160	216	295	Jul-2004	678	656	22
5827305	1	160	216	296	Aug-2004	674	655	19
5827305	1	160	216	297	Sep-2004	673	654	19
5827305	1	160	216	298	Oct-2004	673	656	17
5827305	1	160	216	299	Nov-2004	677	664	13
5827305	1	160	216	300	Dec-2004	684	656	28
5827305	1	160	216	301	Jan-2005	687	687	0
5827305	1	160	216	302	Feb-2005	688	696	-8
5827305	1	160	216	303	Mar-2005	692	723	-31
5827305	1	160	216	304	Apr-2005	688	688	0
5827305	1	160	216	305	May-2005	681	709	-28
5827305	1	160	216	306	Jun-2005	675	685	-10
5827305	1	160	216	307	Jul-2005	664	703	-39
5827305	1	160	216	308	Aug-2005	666	705	-39
5827305	1	160	216	309	Sep-2005	663	692	-29
5827305	1	160	216	310	Oct-2005	659	693	-34
5827305	1	160	216	311	Nov-2005	655	672	-17
5827305	1	160	216	312	Dec-2005	652	661	-9
5827305	1	160	216	313	Jan-2006	645	658	-13
5827305	1	160	216	314	Feb-2006	646	656	-10
5827305	1	160	216	315	Mar-2006	646	663	-17
5827305	1	160	216	316	Apr-2006	646	659	-13
5827305	1	160	216	317	May-2006	648	661	-13
5827305	1	160	216	318	Jun-2006	643	659	-16

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5827305	1	160	216	319	Jul-2006	647	655	-8
5827305	1	160	216	320	Aug-2006	638	653	-15
5827305	1	160	216	321	Sep-2006	638	656	-18
5827305	1	160	216	322	Oct-2006	642	658	-16
5827305	1	160	216	323	Nov-2006	644	656	-12
5827305	1	160	216	324	Dec-2006	650	659	-9
5827305	1	160	216	325	Jan-2007	656	663	-7
5827305	1	160	216	326	Feb-2007	663	657	6
5827305	1	160	216	327	Mar-2007	662	661	1
5827305	1	160	216	328	Apr-2007	668	658	10
5827305	1	160	216	329	May-2007	671	663	8
5827305	1	160	216	330	Jun-2007	676	663	13
5827305	1	160	216	331	Jul-2007	686	668	18
5827305	1	160	216	332	Aug-2007	689	661	28
5827305	1	160	216	333	Sep-2007	686	660	26
5827305	1	160	216	334	Oct-2007	678	656	22
5827305	1	160	216	335	Nov-2007	677	655	22
5827305	1	160	216	336	Dec-2007	676	654	22
5827305	1	160	216	337	Jan-2008	672	668	4
5827305	1	160	216	338	Feb-2008	671	667	4
5827305	1	160	216	339	Mar-2008	668	707	-39
5827305	1	160	216	340	Apr-2008	665	727	-62
5827305	1	160	216	341	May-2008	661	708	-47
5827305	1	160	216	342	Jun-2008	655	686	-31
5827305	1	160	216	343	Jul-2008	645	671	-26
5827305	1	160	216	344	Aug-2008	638	702	-64
5827305	1	160	216	345	Sep-2008	639	670	-31
5827305	1	160	216	346	Oct-2008	640	696	-56
5827305	1	160	216	347	Nov-2008	639	681	-42
5827305	1	160	216	348	Dec-2008	642	670	-28
5827305	1	160	216	349	Jan-2009	644	660	-16
5827305	1	160	216	350	Feb-2009	646	657	-11
5827305	1	160	216	351	Mar-2009	646	657	-11
5827305	1	160	216	352	Apr-2009	647	657	-10
5827305	1	160	216	353	May-2009	649	656	-7
5827305	1	160	216	354	Jun-2009	646	655	-9
5827305	1	160	216	355	Jul-2009	637	653	-16

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5827305	1	160	216	356	Aug-2009	635	653	-18
5827305	1	160	216	357	Sep-2009	642	659	-17
5827305	1	160	216	358	Oct-2009	659	662	-3
5827305	1	160	216	359	Nov-2009	668	659	9
5827305	1	160	216	360	Dec-2009	673	657	16
5827305	1	160	216	361	Jan-2010	674	666	8
5827305	1	160	216	362	Feb-2010	681	668	13
5827305	1	160	216	363	Mar-2010	686	670	16
5827305	1	160	216	364	Apr-2010	687	666	21
5827305	1	160	216	365	May-2010	681	664	17
5827305	1	160	216	366	Jun-2010	677	677	0
5827305	1	160	216	367	Jul-2010	674	673	1
5827305	1	160	216	368	Aug-2010	665	695	-30
5827305	1	160	216	369	Sep-2010	667	710	-43
5827305	1	160	216	370	Oct-2010	677	673	4
5827305	1	160	216	371	Nov-2010	678	663	15
5827305	1	160	216	372	Dec-2010	677	659	18
5827305	1	160	216	373	Jan-2011	676	668	8
5827305	1	160	216	374	Feb-2011	675	661	14
5827305	1	160	216	375	Mar-2011	671	656	15
5827305	1	160	216	376	Apr-2011	664	655	9
5827305	1	160	216	377	May-2011	654	669	-15
5827305	1	160	216	378	Jun-2011	645	667	-22
5827305	1	160	216	379	Jul-2011	640	658	-18
5827305	1	160	216	380	Aug-2011	638	655	-17
5827305	1	160	216	381	Sep-2011	636	654	-18
5827305	1	160	216	382	Oct-2011	638	663	-25
5827305	1	160	216	383	Nov-2011	641	669	-28
5827305	1	160	216	384	Dec-2011	650	680	-30
5827305	1	160	216	385	Jan-2012	656	666	-10
5827305	1	160	216	386	Feb-2012	662	661	1
5827305	1	160	216	387	Mar-2012	670	660	10
5827305	1	160	216	388	Apr-2012	673	656	17
5827305	1	160	216	389	May-2012	668	658	10
5827305	1	160	216	390	Jun-2012	660	654	6
5827305	1	160	216	391	Jul-2012	656	658	-2
5827305	1	160	216	392	Aug-2012	659	655	4

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5827305	1	160	216	393	Sep-2012	660	658	2
5827305	1	160	216	394	Oct-2012	659	655	4
5827305	1	160	216	395	Nov-2012	651	655	-4
5827305	1	160	216	396	Dec-2012	650	654	-4
5827305	1	160	216	397	Jan-2013	655	659	-4
5827305	1	160	216	398	Feb-2013	655	656	-1
5827305	1	160	216	399	Mar-2013	652	656	-4
5827305	1	160	216	400	Apr-2013	653	661	-8
5827305	1	160	216	401	May-2013	652	668	-16
5827305	1	160	216	402	Jun-2013	651	660	-9
5827305	1	160	216	403	Jul-2013	652	661	-9
5827305	1	160	216	404	Aug-2013	654	656	-2
5827305	1	160	216	405	Sep-2013	650	666	-16
5827305	1	160	216	406	Oct-2013	657	684	-27
5827305	1	160	216	407	Nov-2013	667	671	-4
5827305	1	160	216	408	Dec-2013	675	661	14
5827305	1	160	216	409	Jan-2014	677	657	20
5827305	1	160	216	410	Feb-2014	677	656	21
5827305	1	160	216	411	Mar-2014	674	658	16
5827305	1	160	216	412	Apr-2014	667	660	7
5827305	1	160	216	413	May-2014	659	676	-17
5827305	1	160	216	414	Jun-2014	671	670	1
5827305	1	160	216	415	Jul-2014	671	675	-4
5827305	1	160	216	416	Aug-2014	664	661	3
5827305	1	160	216	417	Sep-2014	657	676	-19
5827305	1	160	216	418	Oct-2014	661	666	-5
5827305	1	160	216	419	Nov-2014	662	675	-13
5827305	1	160	216	420	Dec-2014	666	664	2
5827305	1	160	216	421	Jan-2015	670	664	6
5827305	1	160	216	422	Feb-2015	677	658	19
5827305	1	160	216	423	Mar-2015	680	662	18
5827305	1	160	216	424	Apr-2015	682	660	22
5827305	1	160	216	425	May-2015	683	682	1
5827305	1	160	216	426	Jun-2015	691	676	15
5827305	1	160	216	427	Jul-2015	693	685	8
5827305	1	160	216	428	Aug-2015	683	664	19
5827305	1	160	216	429	Sep-2015	676	660	16

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5827305	1	160	216	430	Oct-2015	670	673	-3
5827305	1	160	216	431	Nov-2015	684	666	18
5827305	1	160	216	432	Dec-2015	694	662	32
5827306	1	158	222	10	Oct-1980	628	659	-31
5827307	1	157	218	89	May-1987	635	669	-34
5827307	1	157	218	159	Mar-1993	660	673	-13
5827307	1	157	218	165	Sep-1993	625	656	-31
5827307	1	157	218	173	May-1994	636	656	-20
5827307	1	157	218	177	Sep-1994	611	663	-52
5827307	1	157	218	193	Jan-1996	622	650	-28
5827307	1	157	218	200	Aug-1996	579	663	-84
5827308	1	161	217	89	May-1987	677	675	2
5827308	1	161	217	159	Mar-1993	680	679	1
5827308	1	161	217	165	Sep-1993	684	660	24
5827308	1	161	217	173	May-1994	653	660	-7
5827308	1	161	217	177	Sep-1994	658	668	-10
5827308	1	161	217	193	Jan-1996	674	653	21
5827308	1	161	217	200	Aug-1996	635	668	-33
5827402	1	175	208	89	May-1987	732	694	38
5827402	1	175	208	159	Mar-1993	727	697	30
5827402	1	175	208	165	Sep-1993	646	671	-25
5827504	1	176	214	1	Jan-1980	692	671	21
5827504	1	176	214	2	Feb-1980	688	674	14
5827504	1	176	214	3	Mar-1980	685	680	5
5827504	1	176	214	4	Apr-1980	683	676	7
5827504	1	176	214	5	May-1980	687	693	-6
5827504	1	176	214	9	Sep-1980	682	690	-8
5827504	1	176	214	10	Oct-1980	680	675	5
5827504	1	176	214	12	Dec-1980	676	670	6
5827504	1	176	214	13	Jan-1981	675	664	11
5827504	1	176	214	15	Mar-1981	681	662	19
5827504	1	176	214	16	Apr-1981	688	659	29
5827504	1	176	214	17	May-1981	689	670	19
5827504	1	176	214	18	Jun-1981	688	682	6
5827504	1	176	214	19	Jul-1981	711	669	42
5827504	1	176	214	20	Aug-1981	698	662	36
5827504	1	176	214	21	Sep-1981	706	662	44

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5827504	1	176	214	22	Oct-1981	704	668	36
5827504	1	176	214	23	Nov-1981	701	661	40
5827504	1	176	214	24	Dec-1981	696	658	38
5827504	1	176	214	25	Jan-1982	694	662	32
5827504	1	176	214	27	Mar-1982	688	667	21
5827504	1	176	214	31	Jul-1982	699	668	31
5827504	1	176	214	32	Aug-1982	698	665	33
5827504	1	176	214	33	Sep-1982	697	671	26
5827504	1	176	214	39	Mar-1983	690	671	19
5827504	1	176	214	42	Jun-1983	690	667	23
5827504	1	176	214	45	Sep-1983	690	664	26
5827504	1	176	214	53	May-1984	679	660	19
5827504	1	176	214	54	Jun-1984	679	662	17
5827504	1	176	214	55	Jul-1984	679	662	17
5827504	1	176	214	56	Aug-1984	679	659	20
5827504	1	176	214	57	Sep-1984	679	659	20
5827504	1	176	214	58	Oct-1984	680	687	-7
5827504	1	176	214	59	Nov-1984	697	671	26
5827505	1	175	214	363	Mar-2010	711	677	34
5827505	1	175	214	374	Feb-2011	701	666	35
5827506	1	175	214	159	Mar-1993	705	690	15
5827506	1	175	214	165	Sep-1993	706	666	40
5827517	1	171	217	54	Jun-1984	671	659	12
5827517	1	171	217	55	Jul-1984	665	659	6
5827517	1	171	217	56	Aug-1984	663	656	7
5827517	1	171	217	57	Sep-1984	666	656	10
5827517	1	171	217	58	Oct-1984	673	680	-7
5827517	1	171	217	59	Nov-1984	704	668	36
5827517	1	171	217	60	Dec-1984	709	667	42
5827517	1	171	217	61	Jan-1985	711	661	50
5827517	1	171	217	62	Feb-1985	710	660	50
5827517	1	171	217	63	Mar-1985	715	659	56
5827517	1	171	217	64	Apr-1985	714	660	54
5827517	1	171	217	65	May-1985	711	659	52
5827517	1	171	217	66	Jun-1985	713	666	47
5827517	1	171	217	67	Jul-1985	705	660	45
5827517	1	171	217	68	Aug-1985	697	656	41

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5827517	1	171	217	69	Sep-1985	688	662	26
5827517	1	171	217	70	Oct-1985	682	667	15
5827518	1	167	211	24	Dec-1981	691	661	30
5827519	1	167	211	1	Jan-1980	696	673	23
5827519	1	167	211	2	Feb-1980	691	677	14
5827519	1	167	211	3	Mar-1980	690	682	8
5827519	1	167	211	4	Apr-1980	688	679	9
5827519	1	167	211	10	Oct-1980	685	677	8
5827519	1	167	211	12	Dec-1980	682	672	10
5827519	1	167	211	13	Jan-1981	686	666	20
5827519	1	167	211	15	Mar-1981	691	665	26
5827520	1	176	214	1	Jan-1980	706	671	35
5827520	1	176	214	4	Apr-1980	690	676	14
5827520	1	176	214	6	Jun-1980	708	670	38
5827520	1	176	214	8	Aug-1980	690	665	25
5827521	1	176	214	1	Jan-1980	704	671	33
5827521	1	176	214	2	Feb-1980	701	674	27
5827521	1	176	214	3	Mar-1980	704	680	24
5827521	1	176	214	4	Apr-1980	703	676	27
5827522	1	176	215	1	Jan-1980	694	670	24
5827523	1	176	214	1	Jan-1980	703	671	32
5827525	1	176	213	89	May-1987	695	687	8
5827525	1	176	213	159	Mar-1993	700	691	9
5827525	1	176	213	165	Sep-1993	697	666	31
5827525	1	176	213	173	May-1994	671	667	4
5827525	1	176	213	177	Sep-1994	670	677	-7
5827525	1	176	213	193	Jan-1996	698	658	40
5827525	1	176	213	200	Aug-1996	664	678	-14
5827527	1	169	208	89	May-1987	719	692	27
5827528	1	171	211	89	May-1987	716	689	27
5827528	1	171	211	159	Mar-1993	716	692	24
5827528	1	171	211	165	Sep-1993	721	668	53
5827530	1	171	213	89	May-1987	703	687	16
5827530	1	171	213	159	Mar-1993	710	690	20
5827530	1	171	213	165	Sep-1993	710	667	43
5827530	1	171	213	173	May-1994	680	668	12
5827530	1	171	213	177	Sep-1994	681	677	4

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5827530	1	171	213	193	Jan-1996	682	659	23
5827530	1	171	213	200	Aug-1996	676	679	-3
5827531	1	166	215	89	May-1987	700	683	17
5827531	1	166	215	159	Mar-1993	711	687	24
5827531	1	166	215	165	Sep-1993	693	665	28
5827531	1	166	215	173	May-1994	680	666	14
5827531	1	166	215	177	Sep-1994	673	674	-1
5827531	1	166	215	200	Aug-1996	669	675	-6
5827532	1	168	212	89	May-1987	720	688	32
5827532	1	168	212	159	Mar-1993	726	691	35
5827532	1	168	212	165	Sep-1993	715	668	47
5827532	1	168	212	173	May-1994	702	669	33
5827532	1	168	212	177	Sep-1994	699	678	21
5827532	1	168	212	193	Jan-1996	711	660	51
5827532	1	168	212	200	Aug-1996	693	680	13
5827533	1	169	217	89	May-1987	696	680	16
5827533	1	169	217	159	Mar-1993	703	684	19
5827533	1	169	217	165	Sep-1993	683	663	20
5827533	1	169	217	173	May-1994	672	663	9
5827533	1	169	217	177	Sep-1994	662	672	-10
5827533	1	169	217	193	Jan-1996	690	655	35
5827533	1	169	217	200	Aug-1996	665	673	-8
5827536	1	174	218	312	Dec-2005	672	661	11
5827536	1	174	218	316	Apr-2006	669	659	10
5827536	1	174	218	326	Feb-2007	688	656	32
5827536	1	174	218	327	Mar-2007	687	661	26
5827536	1	174	218	337	Jan-2008	695	668	27
5827605	1	166	218	89	May-1987	662	675	-13
5827605	1	166	218	159	Mar-1993	669	680	-11
5827605	1	166	218	165	Sep-1993	667	660	7
5827605	1	166	218	173	May-1994	639	660	-21
5827605	1	166	218	177	Sep-1994	641	668	-27
5827605	1	166	218	193	Jan-1996	644	653	-9
5827605	1	166	218	200	Aug-1996	619	669	-50
5827606	1	171	222	89	May-1987	666	668	-2
5827606	1	171	222	159	Mar-1993	677	675	2
5827606	1	171	222	165	Sep-1993	640	656	-16

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5827606	1	171	222	173	May-1994	638	655	-17
5827606	1	171	222	177	Sep-1994	624	663	-39
5827606	1	171	222	193	Jan-1996	638	649	-11
5827606	1	171	222	200	Aug-1996	603	662	-59
5827607	1	166	222	87	Mar-1987	677	655	22
5827607	1	166	222	159	Mar-1993	678	673	5
5827607	1	166	222	165	Sep-1993	643	655	-12
5827607	1	166	222	173	May-1994	638	654	-16
5827607	1	166	222	177	Sep-1994	626	661	-35
5827607	1	166	222	193	Jan-1996	643	649	-6
5827607	1	166	222	200	Aug-1996	620	661	-41
5827610	1	174	221	312	Dec-2005	649	657	-8
5827610	1	174	221	316	Apr-2006	650	654	-4
5827610	1	174	221	326	Feb-2007	668	652	16
5827610	1	174	221	337	Jan-2008	678	662	16
5827610	1	174	221	350	Feb-2009	644	652	-8
5827610	1	174	221	363	Mar-2010	688	664	24
5827610	1	174	221	374	Feb-2011	676	656	20
5827718	1	189	212	26	Feb-1982	710	661	49
5827814	1	183	216	13	Jan-1981	682	659	23
5827814	1	183	216	63	Mar-1985	688	657	31
5827814	1	183	216	77	May-1986	697	678	19
5827814	1	183	216	88	Apr-1987	684	656	28
5827814	1	183	216	109	Jan-1989	673	658	15
5827814	1	183	216	122	Feb-1990	664	658	6
5827814	1	183	216	134	Feb-1991	664	662	2
5827814	1	183	216	145	Jan-1992	677	696	-19
5827814	1	183	216	170	Feb-1994	666	659	7
5827814	1	183	216	265	Jan-2002	716	671	45
5827814	1	183	216	278	Feb-2003	718	678	40
5827814	1	183	216	290	Feb-2004	720	656	64
5827814	1	183	216	301	Jan-2005	716	692	24
5827814	1	183	216	304	Apr-2005	722	694	28
5827814	1	183	216	313	Jan-2006	709	657	52
5827814	1	183	216	326	Feb-2007	712	656	56
5827814	1	183	216	339	Mar-2008	711	718	-7
5827814	1	183	216	349	Jan-2009	707	659	48

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5827814	1	183	216	363	Mar-2010	711	672	39
5827814	1	183	216	374	Feb-2011	711	660	51
5827814	1	183	216	382	Oct-2011	704	663	41
5827814	1	183	216	394	Oct-2012	707	654	53
5827814	1	183	216	408	Dec-2013	714	661	53
5827814	1	183	216	418	Oct-2014	709	667	42
5827814	1	183	216	430	Oct-2015	712	676	36
5827819	1	183	215	304	Apr-2005	712	696	16
5827824	1	182	213	1	Jan-1980	709	670	39
5827824	1	182	213	304	Apr-2005	728	699	29
5827828	1	178	216	1	Jan-1980	701	668	33
5827829	1	182	213	1	Jan-1980	713	670	43
5827829	1	182	213	2	Feb-1980	712	674	38
5827829	1	182	213	3	Mar-1980	712	680	32
5827829	1	182	213	4	Apr-1980	712	676	36
5827829	1	182	213	5	May-1980	715	694	21
5827829	1	182	213	6	Jun-1980	713	670	43
5827829	1	182	213	7	Jul-1980	704	662	42
5827829	1	182	213	8	Aug-1980	704	665	39
5827829	1	182	213	9	Sep-1980	708	691	17
5827829	1	182	213	10	Oct-1980	708	674	34
5827829	1	182	213	11	Nov-1980	710	682	28
5827829	1	182	213	12	Dec-1980	711	670	41
5827829	1	182	213	13	Jan-1981	712	663	49
5827829	1	182	213	15	Mar-1981	713	661	52
5827829	1	182	213	16	Apr-1981	713	658	55
5827829	1	182	213	17	May-1981	711	670	41
5827829	1	182	213	18	Jun-1981	710	682	28
5827829	1	182	213	19	Jul-1981	725	669	56
5827829	1	182	213	20	Aug-1981	725	661	64
5827829	1	182	213	21	Sep-1981	724	661	63
5827829	1	182	213	22	Oct-1981	723	668	55
5827829	1	182	213	29	May-1982	711	701	10
5827829	1	182	213	30	Jun-1982	717	689	28
5827829	1	182	213	31	Jul-1982	709	668	41
5827829	1	182	213	33	Sep-1982	703	671	32
5827829	1	182	213	36	Dec-1982	707	677	30

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5827829	1	182	213	39	Mar-1983	711	671	40
5827829	1	182	213	54	Jun-1984	711	661	50
5827829	1	182	213	55	Jul-1984	711	661	50
5827829	1	182	213	56	Aug-1984	711	658	53
5827829	1	182	213	57	Sep-1984	709	658	51
5827829	1	182	213	58	Oct-1984	712	687	25
5827829	1	182	213	59	Nov-1984	715	671	44
5827829	1	182	213	60	Dec-1984	718	670	48
5827829	1	182	213	61	Jan-1985	718	663	55
5827829	1	182	213	62	Feb-1985	719	662	57
5827829	1	182	213	63	Mar-1985	724	661	63
5827829	1	182	213	64	Apr-1985	724	662	62
5827829	1	182	213	65	May-1985	722	661	61
5827829	1	182	213	66	Jun-1985	724	669	55
5827829	1	182	213	67	Jul-1985	718	663	55
5827829	1	182	213	68	Aug-1985	711	658	53
5827829	1	182	213	69	Sep-1985	707	665	42
5827829	1	182	213	70	Oct-1985	710	671	39
5827829	1	182	213	304	Apr-2005	727	699	28
5827833	1	176	218	90	Jun-1987	728	697	31
5827833	1	176	218	154	Oct-1992	711	668	43
5827833	1	176	218	155	Nov-1992	704	683	21
5827833	1	176	218	156	Dec-1992	712	684	28
5827833	1	176	218	158	Feb-1993	721	690	31
5827833	1	176	218	160	Apr-1993	721	686	35
5827833	1	176	218	161	May-1993	721	704	17
5827833	1	176	218	163	Jul-1993	717	681	36
5827833	1	176	218	165	Sep-1993	704	660	44
5827833	1	176	218	166	Oct-1993	700	674	26
5827833	1	176	218	167	Nov-1993	696	667	29
5827833	1	176	218	169	Jan-1994	688	659	29
5827833	1	176	218	170	Feb-1994	685	659	26
5827833	1	176	218	172	Apr-1994	682	657	25
5827833	1	176	218	175	Jul-1994	676	653	23
5827833	1	176	218	177	Sep-1994	682	669	13
5827834	1	176	218	90	Jun-1987	683	697	-14
5827835	1	176	218	90	Jun-1987	730	697	33

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5827838	1	180	214	306	Jun-2005	718	695	23
5827838	1	180	214	312	Dec-2005	704	665	39
5827838	1	180	214	316	Apr-2006	697	663	34
5827838	1	180	214	326	Feb-2007	709	660	49
5827838	1	180	214	337	Jan-2008	715	675	40
5827838	1	180	214	350	Feb-2009	694	660	34
5827838	1	180	214	363	Mar-2010	721	677	44
5827838	1	180	214	374	Feb-2011	714	665	49
5827839	1	182	222	304	Apr-2005	683	684	-1
5827902	1	177	228	1	Jan-1980	604	653	-49
5827902	1	177	228	2	Feb-1980	617	656	-39
5827902	1	177	228	3	Mar-1980	619	660	-41
5827902	1	177	228	4	Apr-1980	617	658	-41
5827902	1	177	228	6	Jun-1980	608	656	-48
5827902	1	177	228	7	Jul-1980	608	649	-41
5827902	1	177	228	8	Aug-1980	606	649	-43
5827902	1	177	228	12	Dec-1980	599	655	-56
5827902	1	177	228	16	Apr-1981	624	645	-21
5827902	1	177	228	17	May-1981	621	652	-31
5827902	1	177	228	19	Jul-1981	635	653	-18
5827902	1	177	228	20	Aug-1981	632	647	-15
5827902	1	177	228	21	Sep-1981	628	647	-19
5827902	1	177	228	23	Nov-1981	642	647	-5
5827902	1	177	228	24	Dec-1981	647	644	3
5827902	1	177	228	25	Jan-1982	641	646	-5
5827902	1	177	228	27	Mar-1982	637	650	-13
5827902	1	177	228	28	Apr-1982	631	662	-31
5827902	1	177	228	29	May-1982	625	674	-49
5827902	1	177	228	30	Jun-1982	623	669	-46
5827902	1	177	228	31	Jul-1982	617	654	-37
5827902	1	177	228	32	Aug-1982	598	650	-52
5827902	1	177	228	33	Sep-1982	598	653	-55
5827902	1	177	228	36	Dec-1982	593	659	-66
5827902	1	177	228	39	Mar-1983	593	653	-60
5827902	1	177	228	45	Sep-1983	593	648	-55
5827902	1	177	228	51	Mar-1984	617	648	-31
5827902	1	177	228	53	May-1984	584	645	-61

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5827902	1	177	228	54	Jun-1984	584	646	-62
5827902	1	177	228	55	Jul-1984	545	646	-101
5827902	1	177	228	56	Aug-1984	537	644	-107
5827902	1	177	228	57	Sep-1984	540	644	-104
5827902	1	177	228	59	Nov-1984	590	655	-65
5827902	1	177	228	62	Feb-1985	626	648	-22
5827902	1	177	228	63	Mar-1985	635	647	-12
5827902	1	177	228	64	Apr-1985	636	647	-11
5827902	1	177	228	65	May-1985	633	646	-13
5827902	1	177	228	66	Jun-1985	628	651	-23
5827902	1	177	228	67	Jul-1985	615	648	-33
5827902	1	177	228	68	Aug-1985	601	645	-44
5827902	1	177	228	69	Sep-1985	580	648	-68
5827902	1	177	228	77	May-1986	616	661	-45
5827902	1	177	228	88	Apr-1987	625	647	-22
5827902	1	177	228	98	Feb-1988	635	645	-10
5827902	1	177	228	109	Jan-1989	573	648	-75
5827902	1	177	228	122	Feb-1990	573	647	-74
5827902	1	177	228	134	Feb-1991	598	651	-53
5827902	1	177	228	146	Feb-1992	631	688	-57
5827902	1	177	228	158	Feb-1993	629	676	-47
5827902	1	177	228	203	Nov-1996	549	650	-101
5827902	1	177	228	241	Jan-2000	533	646	-113
5827916	1	180	225	3	Mar-1980	630	661	-31
5827916	1	180	225	13	Jan-1981	623	650	-27
5827916	1	180	225	53	May-1984	553	645	-92
5827916	1	180	225	54	Jun-1984	557	647	-90
5827916	1	180	225	55	Jul-1984	543	647	-104
5827916	1	180	225	56	Aug-1984	542	645	-103
5827916	1	180	225	57	Sep-1984	548	645	-97
5827916	1	180	225	58	Oct-1984	555	664	-109
5827916	1	180	225	59	Nov-1984	615	656	-41
5827916	1	180	225	60	Dec-1984	641	654	-13
5827916	1	180	225	61	Jan-1985	639	649	-10
5827916	1	180	225	62	Feb-1985	644	648	-4
5827916	1	180	225	63	Mar-1985	651	647	4
5827916	1	180	225	64	Apr-1985	644	648	-4

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5827916	1	180	225	65	May-1985	646	647	-1
5827916	1	180	225	66	Jun-1985	637	652	-15
5827916	1	180	225	67	Jul-1985	635	648	-13
5827916	1	180	225	68	Aug-1985	609	645	-36
5827916	1	180	225	69	Sep-1985	594	649	-55
5827916	1	180	225	70	Oct-1985	575	654	-79
5828101	1	153	225	3	Mar-1980	652	656	-4
5828103	1	153	227	77	May-1986	620	655	-35
5835201	1	198	222	16	Apr-1981	727	640	87
5835201	1	198	222	41	May-1983	675	648	27
5835201	1	198	222	51	Mar-1984	673	644	29
5835201	1	198	222	63	Mar-1985	691	642	49
5835201	1	198	222	76	Apr-1986	683	641	42
5835201	1	198	222	98	Feb-1988	684	640	44
5835201	1	198	222	109	Jan-1989	664	644	20
5835201	1	198	222	158	Feb-1993	692	678	14
5835201	1	198	222	197	May-1996	675	641	34
5835204	1	188	224	3	Mar-1980	665	660	5
5835204	1	188	224	51	Mar-1984	675	646	29
5835204	1	188	224	54	Jun-1984	626	644	-18
5835204	1	188	224	55	Jul-1984	568	644	-76
5835204	1	188	224	56	Aug-1984	558	642	-84
5835204	1	188	224	57	Sep-1984	563	641	-78
5835204	1	188	224	58	Oct-1984	575	664	-89
5835204	1	188	224	60	Dec-1984	671	652	19
5835204	1	188	224	61	Jan-1985	670	647	23
5835204	1	188	224	62	Feb-1985	674	645	29
5835204	1	188	224	63	Mar-1985	677	644	33
5835204	1	188	224	64	Apr-1985	674	645	29
5835204	1	188	224	65	May-1985	667	644	23
5835204	1	188	224	66	Jun-1985	672	650	22
5835204	1	188	224	67	Jul-1985	669	646	23
5835204	1	188	224	68	Aug-1985	647	642	5
5835204	1	188	224	69	Sep-1985	620	646	-26
5835204	1	188	224	70	Oct-1985	604	652	-48
5835204	1	188	224	77	May-1986	663	662	1
5835204	1	188	224	88	Apr-1987	671	644	27

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5835204	1	188	224	98	Feb-1988	665	642	23
5835204	1	188	224	109	Jan-1989	635	646	-11
5835204	1	188	224	122	Feb-1990	656	645	11
5835204	1	188	224	134	Feb-1991	689	649	40
5835204	1	188	224	145	Jan-1992	687	678	9
5835204	1	188	224	157	Jan-1993	677	678	-1
5835204	1	188	224	170	Feb-1994	660	647	13
5835204	1	188	224	179	Nov-1994	656	652	4
5835204	1	188	224	193	Jan-1996	649	640	9
5835204	1	188	224	203	Nov-1996	632	649	-17
5835204	1	188	224	217	Jan-1998	671	657	14
5835204	1	188	224	229	Jan-1999	665	653	12
5835204	1	188	224	241	Jan-2000	657	643	14
5835204	1	188	224	253	Jan-2001	661	649	12
5835204	1	188	224	265	Jan-2002	685	659	26
5835206	1	193	226	13	Jan-1981	610	644	-34
5835218	1	191	220	13	Jan-1981	676	648	28
5835219	1	196	228	72	Dec-1985	600	642	-42
5835219	1	196	228	73	Jan-1986	606	638	-32
5835220	1	196	226	53	May-1984	663	639	24
5835221	1	192	226	29	May-1982	665	675	-10
5835311	1	187	234	64	Apr-1985	658	641	17
5835314	1	190	233	75	Mar-1986	623	637	-14
5835320	1	194	231	61	Jan-1985	670	641	29
5835323	1	194	233	64	Apr-1985	640	638	2
5835511	1	201	222	13	Jan-1981	673	643	30
5835607	1	196	238	3	Mar-1980	567	647	-80
5835607	1	196	238	13	Jan-1981	573	636	-63
5835607	1	196	238	51	Mar-1984	572	634	-62
5835607	1	196	238	63	Mar-1985	647	633	14
5835611	1	205	233	13	Jan-1981	601	633	-32
5835613	1	198	233	66	Jun-1985	674	640	34
5835617	1	197	234	5	May-1980	640	659	-19
5835618	1	199	236	67	Jul-1985	627	634	-7
5835619	1	198	236	67	Jul-1985	672	635	37
5835803	1	212	231	3	Mar-1980	650	639	11
5835803	1	212	231	16	Apr-1981	651	622	29

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5835803	1	212	231	41	May-1983	648	629	19
5835803	1	212	231	51	Mar-1984	649	626	23
5835803	1	212	231	76	Apr-1986	648	623	25
5835803	1	212	231	109	Jan-1989	644	626	18
5835803	1	212	231	122	Feb-1990	650	625	25
5835803	1	212	231	134	Feb-1991	650	629	21
5835803	1	212	231	146	Feb-1992	653	670	-17
5835804	1	219	228	13	Jan-1981	574	620	-46
5835808	1	216	229	13	Jan-1981	576	623	-47
5836107	1	189	237	64	Apr-1985	662	639	23
5836107	1	189	237	65	May-1985	651	638	13
5836402	1	192	243	3	Mar-1980	578	649	-71
5836402	1	192	243	13	Jan-1981	581	639	-58
5836402	1	192	243	16	Apr-1981	612	634	-22
5836402	1	192	243	51	Mar-1984	583	637	-54
5836402	1	192	243	54	Jun-1984	554	636	-82
5836402	1	192	243	55	Jul-1984	554	636	-82
5836402	1	192	243	56	Aug-1984	551	634	-83
5836402	1	192	243	57	Sep-1984	550	634	-84
5836402	1	192	243	58	Oct-1984	556	650	-94
5836402	1	192	243	59	Nov-1984	626	645	-19
5836402	1	192	243	60	Dec-1984	645	643	2
5836402	1	192	243	61	Jan-1985	659	639	20
5836402	1	192	243	62	Feb-1985	661	637	24
5836402	1	192	243	63	Mar-1985	671	636	35
5836402	1	192	243	64	Apr-1985	669	637	32
5836402	1	192	243	65	May-1985	666	636	30
5836402	1	192	243	66	Jun-1985	660	640	20
5836402	1	192	243	68	Aug-1985	609	634	-25
5836402	1	192	243	69	Sep-1985	579	637	-58
5836402	1	192	243	70	Oct-1985	569	642	-73
5836402	1	192	243	76	Apr-1986	580	635	-55
5836402	1	192	243	98	Feb-1988	629	634	-5
5836402	1	192	243	109	Jan-1989	542	637	-95
5836402	1	192	243	122	Feb-1990	553	636	-83
5836402	1	192	243	134	Feb-1991	610	641	-31
5836402	1	192	243	158	Feb-1993	659	665	-6

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
5836402	1	192	243	171	Mar-1994	649	637	12
5836402	1	192	243	182	Feb-1995	569	637	-68
5836402	1	192	243	194	Feb-1996	520	632	-112
5836402	1	192	243	230	Feb-1999	577	638	-61
5836402	1	192	243	253	Jan-2001	555	640	-85
5836402	1	192	243	266	Feb-2002	620	642	-22
5836402	1	192	243	279	Mar-2003	599	643	-44
5836402	1	192	243	291	Mar-2004	517	634	-117
5836402	1	192	243	303	Mar-2005	558	692	-134
5842608	1	245	220	13	Jan-1981	408	453	-45
5842622	1	239	223	274	Oct-2002	473	518	-45
5843206	1	223	229	13	Jan-1981	582	612	-30
5843207	1	223	232	30	Jun-1982	616	632	-16
5843208	1	220	232	30	Jun-1982	616	638	-22
E-02-1176G	1	40	220	253	Jan-2001	462	498	-36
E-02-753G	1	52	214	160	Apr-1993	582	539	43
E-07-014P	1	79	206	314	Feb-2006	604	596	8
E-07-060P	1	69	202	335	Nov-2007	614	571	43
E-08-014P	1	62	219	339	Mar-2008	614	580	34
E-08-016P	1	59	218	339	Mar-2008	604	575	29
E-09-045P	1	53	220	358	Oct-2009	528	519	9
E-09-051P	1	47	219	358	Oct-2009	488	509	-21
E-10-009P	1	47	217	363	Mar-2010	520	516	4
E-10-010P	1	48	218	364	Apr-2010	506	514	-8
E-10-011P	1	47	217	363	Mar-2010	502	516	-14
E-10-034P	1	79	206	366	Jun-2010	608	618	-10
E-10-043P	1	62	219	368	Aug-2010	610	570	40
E-10-048P	1	47	218	370	Oct-2010	499	519	-20
E-10-052P	1	68	202	370	Oct-2010	621	583	38
E-10-083P	1	81	207	323	Nov-2006	628	598	30
E-11-035P	1	56	219	378	Jun-2011	546	530	16
E-11-078P	1	47	218	383	Nov-2011	472	516	-44
E-12-013P	1	48	219	388	Apr-2012	532	504	28
E-12-015P	1	46	219	388	Apr-2012	480	501	-21
E-12-021P	1	39	218	390	Jun-2012	442	488	-46
E-12-042P	1	48	214	393	Sep-2012	514	505	9
E-12-048G	1	52	217	260	Aug-2001	504	537	-33

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Well Number	Layer	Row	Column	Stress Period	Date	Measure d Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residua l (feet)
E-13-007P	1	59	210	399	Mar-2013	540	530	10
E-13-009P	1	47	219	399	Mar-2013	513	503	10
E-13-012GU	1	57	209	248	Aug-2000	570	521	49
E-13-013P	1	46	215	399	Mar-2013	504	499	5
E-13-019P	1	67	196	402	Jun-2013	599	577	22
E-13-042P	1	47	219	406	Oct-2013	511	532	-21
E-13-044P	1	56	218	405	Sep-2013	517	529	-12
E-13-051P	1	77	206	327	Mar-2007	618	599	19
E-13-053P	1	61	217	407	Nov-2013	589	547	42
E-14-003P	1	45	218	409	Jan-2014	494	500	-6
E-14-012P	1	48	218	410	Feb-2014	509	503	6
E-14-017P	1	80	203	412	Apr-2014	613	603	10
E-14-029P	1	67	201	413	May-2014	606	597	9
E-14-045P	1	50	220	416	Aug-2014	469	515	-46
E-14-047P	1	51	219	416	Aug-2014	508	515	-7
E-14-050P	1	47	217	417	Sep-2014	493	523	-30
E-14-051P	1	46	215	417	Sep-2014	513	521	-8
E-14-071G	1	41	221	176	Aug-1994	461	507	-46
E-14-072P	1	52	224	420	Dec-2014	495	522	-27
E-15-015P	1	55	210	424	Apr-2015	542	522	20
E-15-016P	1	82	207	424	Apr-2015	578	603	-25
E-15-017P	1	46	215	424	Apr-2015	516	503	13
E-15-019P	1	78	214	425	May-2015	622	606	16
E-15-021P	1	55	211	425	May-2015	519	548	-29
E-15-023P	1	49	206	427	Jul-2015	585	546	39
E-15-030P	1	48	215	428	Aug-2015	522	510	12
E-15-034P	1	57	214	429	Sep-2015	567	526	41
E-15-038P	1	47	217	428	Aug-2015	510	510	0
E-15-039P	1	68	203	425	May-2015	608	603	5
N1-14-001P	1	59	219	431	Nov-2015	584	536	48

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Table B.1.2. Water-level targets, simulated values, and residuals in the Trinity Aquifer (Layer 3). Values in feet AMSL (above mean sea level).

Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
4163609	3	81	63	67	Jul-1985	981	978	3
4163904	3	88	66	67	Jul-1985	1027	988	39
5708301	3	95	101	3	Mar-1980	842	898	-56
5708301	3	95	101	27	Mar-1982	841	898	-57
5708301	3	95	101	51	Mar-1984	848	898	-50
5708301	3	95	101	63	Mar-1985	847	898	-51
5708301	3	95	101	76	Apr-1986	849	898	-49
5715702	3	165	74	3	Mar-1980	1252	1176	76
5715702	3	165	74	27	Mar-1982	1250	1176	74
5715702	3	165	74	41	May-1983	1261	1176	85
5715702	3	165	74	51	Mar-1984	1251	1176	75
5715702	3	165	74	63	Mar-1985	1245	1176	69
5715702	3	165	74	76	Apr-1986	1246	1176	70
5715702	3	165	74	88	Apr-1987	1268	1176	92
5715702	3	165	74	98	Feb-1988	1267	1176	91
5715702	3	165	74	110	Feb-1989	1265	1176	89
5715702	3	165	74	135	Mar-1991	1266	1176	90
5715702	3	165	74	145	Jan-1992	1272	1176	96
5715702	3	165	74	169	Jan-1994	1276	1176	100
5715702	3	165	74	180	Dec-1994	1274	1176	98
5715702	3	165	74	217	Jan-1998	1276	1176	100
5715702	3	165	74	230	Feb-1999	1275	1176	99
5715702	3	165	74	242	Feb-2000	1275	1176	99
5715702	3	165	74	253	Jan-2001	1274	1176	98
5715702	3	165	74	265	Jan-2002	1277	1176	101
5715702	3	165	74	277	Jan-2003	1280	1176	104

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5715702	3	165	74	300	Dec-2004	1281	1176	105
5715702	3	165	74	313	Jan-2006	1272	1176	96
5715702	3	165	74	325	Jan-2007	1273	1176	97
5715702	3	165	74	337	Jan-2008	1278	1176	102
5715702	3	165	74	350	Feb-2009	1272	1176	96
5715702	3	165	74	361	Jan-2010	1277	1176	101
5715702	3	165	74	374	Feb-2011	1275	1176	99
5715702	3	165	74	386	Feb-2012	1267	1176	91
5715702	3	165	74	399	Mar-2013	1266	1176	90
5715702	3	165	74	413	May-2014	1257	1176	81
5715702	3	165	74	426	Jun-2015	1256	1176	80
5716201	3	127	106	391	Jul-2012	986	992	-6
5716201	3	127	106	426	Jun-2015	994	992	2
5716201	3	127	106	427	Jul-2015	996	992	4
5716201	3	127	106	428	Aug-2015	991	992	-1
5716201	3	127	106	430	Oct-2015	990	992	-2
5716201	3	127	106	432	Dec-2015	996	992	4
5716903	3	146	123	235	Jul-1999	784	858	-74
5716904	3	146	123	198	Jun-1996	801	858	-57
5724501	3	171	117	27	Mar-1982	836	893	-57
5724501	3	171	117	63	Mar-1985	843	893	-50
5724501	3	171	117	76	Apr-1986	850	893	-43
5724501	3	171	117	135	Mar-1991	837	893	-56
5724501	3	171	117	203	Nov-1996	833	893	-60
5724501	3	171	117	217	Jan-1998	838	893	-55
5724501	3	171	117	230	Feb-1999	826	893	-67
5724501	3	171	117	277	Jan-2003	834	893	-59

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5724501	3	171	117	350	Feb-2009	833	893	-60
5724502	3	173	119	105	Sep-1988	851	887	-36
5724503	3	170	120	359	Nov-2009	849	884	-35
5724503	3	170	120	360	Dec-2009	849	884	-35
5724503	3	170	120	361	Jan-2010	849	884	-35
5724503	3	170	120	363	Mar-2010	849	884	-35
5724503	3	170	120	364	Apr-2010	849	884	-35
5724503	3	170	120	365	May-2010	849	884	-35
5724503	3	170	120	366	Jun-2010	849	884	-35
5724503	3	170	120	367	Jul-2010	849	884	-35
5724503	3	170	120	368	Aug-2010	848	884	-36
5724503	3	170	120	369	Sep-2010	847	884	-37
5724503	3	170	120	370	Oct-2010	847	884	-37
5724503	3	170	120	371	Nov-2010	847	884	-37
5724503	3	170	120	372	Dec-2010	847	884	-37
5724503	3	170	120	373	Jan-2011	847	884	-37
5724503	3	170	120	374	Feb-2011	846	884	-38
5724503	3	170	120	375	Mar-2011	849	884	-35
5724503	3	170	120	376	Apr-2011	848	884	-36
5724503	3	170	120	377	May-2011	848	884	-36
5724503	3	170	120	378	Jun-2011	848	884	-36
5724503	3	170	120	379	Jul-2011	848	884	-36
5724503	3	170	120	380	Aug-2011	846	884	-38
5724503	3	170	120	381	Sep-2011	847	884	-37
5724503	3	170	120	382	Oct-2011	847	884	-37
5724503	3	170	120	383	Nov-2011	848	884	-36
5724503	3	170	120	384	Dec-2011	848	884	-36

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5724503	3	170	120	385	Jan-2012	848	884	-36
5724503	3	170	120	386	Feb-2012	848	884	-36
5724503	3	170	120	387	Mar-2012	848	884	-36
5724503	3	170	120	388	Apr-2012	847	884	-37
5724503	3	170	120	389	May-2012	847	884	-37
5724503	3	170	120	390	Jun-2012	847	884	-37
5724503	3	170	120	391	Jul-2012	847	884	-37
5724503	3	170	120	392	Aug-2012	847	884	-37
5724503	3	170	120	393	Sep-2012	847	884	-37
5724503	3	170	120	394	Oct-2012	847	884	-37
5724503	3	170	120	395	Nov-2012	847	884	-37
5724503	3	170	120	396	Dec-2012	847	884	-37
5724503	3	170	120	397	Jan-2013	847	884	-37
5724503	3	170	120	398	Feb-2013	847	884	-37
5724503	3	170	120	399	Mar-2013	847	884	-37
5724503	3	170	120	400	Apr-2013	847	884	-37
5724503	3	170	120	401	May-2013	847	884	-37
5724503	3	170	120	402	Jun-2013	847	884	-37
5724503	3	170	120	403	Jul-2013	847	884	-37
5724503	3	170	120	405	Sep-2013	847	884	-37
5724503	3	170	120	406	Oct-2013	847	884	-37
5724503	3	170	120	407	Nov-2013	847	884	-37
5724503	3	170	120	408	Dec-2013	847	884	-37
5724503	3	170	120	409	Jan-2014	847	884	-37
5724503	3	170	120	411	Mar-2014	847	884	-37
5724503	3	170	120	412	Apr-2014	847	884	-37
5724503	3	170	120	413	May-2014	847	884	-37

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5724503	3	170	120	414	Jun-2014	847	884	-37
5724503	3	170	120	415	Jul-2014	847	884	-37
5724503	3	170	120	416	Aug-2014	847	884	-37
5724503	3	170	120	417	Sep-2014	847	884	-37
5724503	3	170	120	418	Oct-2014	847	884	-37
5724503	3	170	120	419	Nov-2014	847	884	-37
5724503	3	170	120	420	Dec-2014	847	884	-37
5724503	3	170	120	421	Jan-2015	847	884	-37
5724503	3	170	120	423	Mar-2015	847	884	-37
5724503	3	170	120	424	Apr-2015	847	884	-37
5731201	3	206	101	3	Mar-1980	959	898	61
5731201	3	206	101	27	Mar-1982	958	898	60
5731202	3	204	102	71	Nov-1985	969	903	66
5732806	3	218	139	243	Mar-2000	739	788	-49
5732806	3	218	139	403	Jul-2013	649	789	-140
5740204	3	219	136	49	Jan-1984	685	773	-88
5740206	3	218	138	75	Mar-1986	710	794	-84
5801202	3	84	117	353	May-2009	735	785	-50
5801202	3	84	117	354	Jun-2009	732	785	-53
5801202	3	84	117	355	Jul-2009	729	785	-56
5801202	3	84	117	356	Aug-2009	729	785	-56
5801202	3	84	117	357	Sep-2009	730	785	-55
5801202	3	84	117	358	Oct-2009	736	785	-49
5801202	3	84	117	359	Nov-2009	741	785	-44
5801202	3	84	117	360	Dec-2009	744	785	-41
5801202	3	84	117	361	Jan-2010	744	785	-41
5801202	3	84	117	363	Mar-2010	755	785	-30

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5801202	3	84	117	364	Apr-2010	754	785	-31
5801202	3	84	117	365	May-2010	749	785	-36
5801202	3	84	117	366	Jun-2010	744	785	-41
5801202	3	84	117	367	Jul-2010	742	785	-43
5801202	3	84	117	368	Aug-2010	737	785	-48
5801202	3	84	117	369	Sep-2010	736	785	-49
5801202	3	84	117	370	Oct-2010	737	785	-48
5801202	3	84	117	371	Nov-2010	736	785	-49
5801202	3	84	117	372	Dec-2010	736	785	-49
5801202	3	84	117	373	Jan-2011	736	785	-49
5801202	3	84	117	374	Feb-2011	735	785	-50
5801202	3	84	117	375	Mar-2011	737	785	-48
5801202	3	84	117	376	Apr-2011	735	785	-50
5801202	3	84	117	377	May-2011	734	785	-51
5801202	3	84	117	378	Jun-2011	732	785	-53
5801202	3	84	117	379	Jul-2011	729	785	-56
5801202	3	84	117	380	Aug-2011	726	785	-59
5801202	3	84	117	381	Sep-2011	727	785	-58
5801202	3	84	117	382	Oct-2011	728	785	-57
5801202	3	84	117	383	Nov-2011	729	785	-56
5801202	3	84	117	384	Dec-2011	730	785	-55
5801202	3	84	117	385	Jan-2012	731	785	-54
5801202	3	84	117	386	Feb-2012	732	785	-53
5801202	3	84	117	387	Mar-2012	734	785	-51
5801202	3	84	117	388	Apr-2012	737	785	-48
5801202	3	84	117	389	May-2012	736	785	-49
5801202	3	84	117	390	Jun-2012	734	785	-51

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5801202	3	84	117	391	Jul-2012	731	785	-54
5801202	3	84	117	392	Aug-2012	730	785	-55
5801202	3	84	117	393	Sep-2012	730	785	-55
5801202	3	84	117	394	Oct-2012	731	785	-54
5801202	3	84	117	395	Nov-2012	731	785	-54
5801202	3	84	117	396	Dec-2012	730	785	-55
5801202	3	84	117	397	Jan-2013	731	785	-54
5801202	3	84	117	398	Feb-2013	731	785	-54
5801202	3	84	117	399	Mar-2013	731	785	-54
5801202	3	84	117	400	Apr-2013	731	785	-54
5801202	3	84	117	401	May-2013	731	785	-54
5801202	3	84	117	402	Jun-2013	731	785	-54
5801202	3	84	117	403	Jul-2013	729	785	-56
5801202	3	84	117	404	Aug-2013	729	785	-56
5801202	3	84	117	405	Sep-2013	728	785	-57
5801202	3	84	117	406	Oct-2013	729	785	-56
5801202	3	84	117	407	Nov-2013	729	785	-56
5801202	3	84	117	408	Dec-2013	728	785	-57
5801202	3	84	117	409	Jan-2014	729	785	-56
5801202	3	84	117	410	Feb-2014	730	785	-55
5801202	3	84	117	411	Mar-2014	730	785	-55
5801202	3	84	117	412	Apr-2014	730	785	-55
5801202	3	84	117	413	May-2014	730	785	-55
5801202	3	84	117	414	Jun-2014	729	785	-56
5801202	3	84	117	415	Jul-2014	729	785	-56
5801202	3	84	117	416	Aug-2014	728	785	-57
5801202	3	84	117	417	Sep-2014	727	785	-58

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5801202	3	84	117	418	Oct-2014	727	785	-58
5801202	3	84	117	419	Nov-2014	728	785	-57
5801202	3	84	117	420	Dec-2014	728	785	-57
5801202	3	84	117	421	Jan-2015	729	785	-56
5801202	3	84	117	422	Feb-2015	729	785	-56
5801202	3	84	117	423	Mar-2015	728	785	-57
5801202	3	84	117	424	Apr-2015	729	785	-56
5801202	3	84	117	425	May-2015	730	785	-55
5801202	3	84	117	426	Jun-2015	734	785	-51
5801202	3	84	117	427	Jul-2015	736	785	-49
5801202	3	84	117	428	Aug-2015	734	785	-51
5801202	3	84	117	429	Sep-2015	733	785	-52
5801202	3	84	117	430	Oct-2015	731	785	-54
5801202	3	84	117	431	Nov-2015	733	785	-52
5801202	3	84	117	432	Dec-2015	738	785	-47
5801902	3	108	135	9	Sep-1980	830	863	-33
5803801	3	79	180	158	Feb-1993	654	658	-4
5803801	3	79	180	170	Feb-1994	642	658	-16
5803801	3	79	180	181	Jan-1995	630	658	-28
5803804	3	79	180	170	Feb-1994	592	658	-66
5803804	3	79	180	181	Jan-1995	594	658	-64
5803901	3	79	192	3	Mar-1980	582	629	-47
5803901	3	79	192	27	Mar-1982	579	629	-50
5804103	3	55	191	158	Feb-1993	503	548	-45
5804103	3	55	191	170	Feb-1994	497	548	-51
5804103	3	55	191	181	Jan-1995	525	548	-23
5804103	3	55	191	217	Jan-1998	503	548	-45

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5804103	3	55	191	229	Jan-1999	508	548	-40
5804103	3	55	191	290	Feb-2004	500	548	-48
5804103	3	55	191	374	Feb-2011	479	549	-70
5804103	3	55	191	394	Oct-2012	473	549	-76
5805403	3	57	225	63	Mar-1985	489	457	32
5805403	3	57	225	76	Apr-1986	494	457	37
5805403	3	57	225	88	Apr-1987	488	457	31
5805403	3	57	225	98	Feb-1988	484	457	27
5805403	3	57	225	110	Feb-1989	483	457	26
5805403	3	57	225	121	Jan-1990	477	457	20
5805403	3	57	225	134	Feb-1991	472	457	15
5805403	3	57	225	145	Jan-1992	472	457	15
5805403	3	57	225	170	Feb-1994	465	457	8
5805403	3	57	225	181	Jan-1995	469	457	12
5805403	3	57	225	217	Jan-1998	456	457	-1
5805403	3	57	225	229	Jan-1999	453	457	-4
5805403	3	57	225	253	Jan-2001	436	457	-21
5805403	3	57	225	265	Jan-2002	437	457	-20
5805403	3	57	225	290	Feb-2004	425	457	-32
5805403	3	57	225	301	Jan-2005	419	457	-38
5805403	3	57	225	325	Jan-2007	416	457	-41
5805403	3	57	225	337	Jan-2008	398	457	-59
5805403	3	57	225	350	Feb-2009	381	457	-76
5805403	3	57	225	363	Mar-2010	390	457	-67
5805403	3	57	225	374	Feb-2011	374	458	-84
5805403	3	57	225	394	Oct-2012	355	457	-102
5805403	3	57	225	408	Dec-2013	346	457	-111

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5805403	3	57	225	418	Oct-2014	346	457	-111
5805403	3	57	225	431	Nov-2015	345	457	-112
5809302	3	117	139	19	Jul-1981	812	883	-71
5809502	3	130	139	16	Apr-1981	953	856	97
5809903	3	130	150	23	Nov-1981	804	831	-27
5810702	3	128	155	3	Mar-1980	798	824	-26
5810702	3	128	155	41	May-1983	777	824	-47
5810802	3	131	163	3	Mar-1980	762	786	-24
5810803	3	132	168	28	Apr-1982	735	775	-40
5810804	3	129	163	30	Jun-1982	723	782	-59
5810805	3	130	162	187	Jul-1995	722	791	-69
5810805	3	130	162	203	Nov-1996	775	791	-16
5810805	3	130	162	205	Jan-1997	662	791	-129
5810805	3	130	162	211	Jul-1997	676	791	-115
5810805	3	130	162	229	Jan-1999	739	791	-52
5811604	3	99	202	234	Jun-1999	667	632	35
5811801	3	114	189	3	Mar-1980	658	668	-10
5811801	3	114	189	51	Mar-1984	652	668	-16
5811801	3	114	189	63	Mar-1985	631	668	-37
5811801	3	114	189	77	May-1986	635	668	-33
5811801	3	114	189	88	Apr-1987	640	668	-28
5811801	3	114	189	98	Feb-1988	636	668	-32
5811801	3	114	189	122	Feb-1990	623	668	-45
5811801	3	114	189	146	Feb-1992	646	668	-22
5811801	3	114	189	229	Jan-1999	605	669	-64
5811801	3	114	189	240	Dec-1999	589	669	-80
5811801	3	114	189	277	Jan-2003	556	669	-113

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5817401	3	161	134	3	Mar-1980	818	837	-19
5817401	3	161	134	41	May-1983	804	837	-33
5817401	3	161	134	51	Mar-1984	798	837	-39
5817401	3	161	134	63	Mar-1985	788	837	-49
5817401	3	161	134	77	May-1986	790	837	-47
5817401	3	161	134	109	Jan-1989	771	837	-66
5817401	3	161	134	122	Feb-1990	753	837	-84
5817401	3	161	134	134	Feb-1991	768	837	-69
5817401	3	161	134	145	Jan-1992	779	837	-58
5817401	3	161	134	179	Nov-1994	761	837	-76
5817401	3	161	134	211	Jul-1997	759	837	-78
5817401	3	161	134	217	Jan-1998	766	837	-71
5817401	3	161	134	265	Jan-2002	758	837	-79
5817401	3	161	134	277	Jan-2003	754	837	-83
5817504	3	157	149	394	Oct-2012	733	826	-93
5817802	3	164	152	3	Mar-1980	773	826	-53
5817802	3	164	152	41	May-1983	778	826	-48
5817802	3	164	152	51	Mar-1984	771	826	-55
5817802	3	164	152	63	Mar-1985	744	826	-82
5817902	3	162	158	3	Mar-1980	776	822	-46
5817902	3	162	158	16	Apr-1981	763	822	-59
5817902	3	162	158	41	May-1983	756	822	-66
5817902	3	162	158	51	Mar-1984	747	822	-75
5817902	3	162	158	63	Mar-1985	739	822	-83
5817902	3	162	158	77	May-1986	737	822	-85
5817902	3	162	158	88	Apr-1987	737	822	-85
5817902	3	162	158	109	Jan-1989	724	822	-98

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5817902	3	162	158	145	Jan-1992	754	822	-68
5817902	3	162	158	157	Jan-1993	739	822	-83
5817902	3	162	158	170	Feb-1994	733	822	-89
5817902	3	162	158	179	Nov-1994	730	822	-92
5817902	3	162	158	193	Jan-1996	734	822	-88
5817902	3	162	158	200	Aug-1996	710	822	-112
5817902	3	162	158	203	Nov-1996	720	822	-102
5817902	3	162	158	205	Jan-1997	737	822	-85
5817902	3	162	158	207	Mar-1997	769	822	-53
5817902	3	162	158	208	Apr-1997	765	822	-57
5817902	3	162	158	210	Jun-1997	779	822	-43
5817902	3	162	158	211	Jul-1997	731	822	-91
5817902	3	162	158	217	Jan-1998	728	822	-94
5817902	3	162	158	229	Jan-1999	737	822	-85
5817902	3	162	158	240	Dec-1999	717	822	-105
5817902	3	162	158	253	Jan-2001	728	822	-94
5817902	3	162	158	265	Jan-2002	729	822	-93
5817902	3	162	158	277	Jan-2003	724	822	-98
5817902	3	162	158	290	Feb-2004	726	822	-96
5817902	3	162	158	301	Jan-2005	745	822	-77
5817902	3	162	158	313	Jan-2006	734	822	-88
5817902	3	162	158	325	Jan-2007	693	822	-129
5817902	3	162	158	337	Jan-2008	720	822	-102
5817902	3	162	158	374	Feb-2011	715	822	-107
5817902	3	162	158	394	Oct-2012	687	822	-135
5817902	3	162	158	408	Dec-2013	696	822	-126
5817902	3	162	158	430	Oct-2015	708	822	-114

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5818206	3	142	176	35	Nov-1982	729	771	-42
5818303	3	140	177	21	Sep-1981	816	759	57
5818403	3	151	168	52	Apr-1984	774	812	-38
5818904	3	154	185	33	Sep-1982	723	775	-52
5818905	3	157	188	39	Mar-1983	648	734	-86
5819405	3	144	195	42	Jun-1983	722	682	40
5819405	3	144	195	77	May-1986	689	682	7
5819405	3	144	195	98	Feb-1988	685	682	3
5819405	3	144	195	110	Feb-1989	675	682	-7
5819405	3	144	195	122	Feb-1990	671	682	-11
5819405	3	144	195	134	Feb-1991	678	682	-4
5819405	3	144	195	146	Feb-1992	680	682	-2
5819405	3	144	195	158	Feb-1993	677	682	-5
5819405	3	144	195	179	Nov-1994	668	682	-14
5819405	3	144	195	193	Jan-1996	671	682	-11
5819405	3	144	195	200	Aug-1996	667	682	-15
5819405	3	144	195	203	Nov-1996	666	682	-16
5819405	3	144	195	205	Jan-1997	666	682	-16
5819405	3	144	195	207	Mar-1997	667	682	-15
5819405	3	144	195	208	Apr-1997	668	682	-14
5819405	3	144	195	209	May-1997	667	682	-15
5819405	3	144	195	211	Jul-1997	661	682	-21
5819405	3	144	195	217	Jan-1998	666	682	-16
5819405	3	144	195	229	Jan-1999	662	682	-20
5819405	3	144	195	240	Dec-1999	654	683	-29
5819512	3	137	199	31	Jul-1982	712	670	42
5819704	3	154	195	20	Aug-1981	682	693	-11

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5819705	3	154	195	16	Apr-1981	657	693	-36
5819706	3	157	196	16	Apr-1981	717	692	25
5819707	3	149	199	82	Oct-1986	643	680	-37
5825104	3	188	144	47	Nov-1983	748	841	-93
5825105	3	188	144	55	Jul-1984	829	841	-12
5825201	3	183	155	3	Mar-1980	787	812	-25
5825201	3	183	155	16	Apr-1981	782	812	-30
5825201	3	183	155	41	May-1983	793	812	-19
5825201	3	183	155	51	Mar-1984	784	812	-28
5825201	3	183	155	53	May-1984	738	812	-74
5825201	3	183	155	54	Jun-1984	733	812	-79
5825201	3	183	155	55	Jul-1984	728	812	-84
5825201	3	183	155	56	Aug-1984	721	812	-91
5825201	3	183	155	69	Sep-1985	720	812	-92
5825204	3	183	155	57	Sep-1984	720	812	-92
5825204	3	183	155	76	Apr-1986	734	812	-78
5825204	3	183	155	109	Jan-1989	701	812	-111
5825204	3	183	155	158	Feb-1993	728	812	-84
5825303	3	177	162	3	Mar-1980	780	812	-32
5825705	3	207	149	81	Sep-1986	753	837	-84
5825907	3	197	172	179	Nov-1994	768	784	-16
5825907	3	197	172	194	Feb-1996	725	784	-59
5825907	3	197	172	200	Aug-1996	709	784	-75
5825907	3	197	172	204	Dec-1996	703	784	-81
5825907	3	197	172	207	Mar-1997	709	784	-75
5825907	3	197	172	208	Apr-1997	713	784	-71
5825907	3	197	172	209	May-1997	715	784	-69

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5825907	3	197	172	210	Jun-1997	715	784	-69
5825907	3	197	172	211	Jul-1997	714	784	-70
5825907	3	197	172	219	Mar-1998	720	784	-64
5825907	3	197	172	230	Feb-1999	705	784	-79
5825907	3	197	172	250	Oct-2000	666	784	-118
5825907	3	197	172	251	Nov-2000	669	784	-115
5825907	3	197	172	252	Dec-2000	681	784	-103
5825907	3	197	172	253	Jan-2001	691	784	-93
5825907	3	197	172	254	Feb-2001	698	784	-86
5825907	3	197	172	255	Mar-2001	703	784	-81
5825907	3	197	172	256	Apr-2001	715	784	-69
5825907	3	197	172	257	May-2001	722	784	-62
5825907	3	197	172	258	Jun-2001	722	784	-62
5825907	3	197	172	259	Jul-2001	717	784	-67
5825907	3	197	172	260	Aug-2001	708	784	-76
5825907	3	197	172	261	Sep-2001	701	784	-83
5825907	3	197	172	262	Oct-2001	692	784	-92
5825907	3	197	172	263	Nov-2001	696	784	-88
5825907	3	197	172	264	Dec-2001	704	784	-80
5825907	3	197	172	265	Jan-2002	711	784	-73
5825907	3	197	172	266	Feb-2002	711	784	-73
5825907	3	197	172	267	Mar-2002	708	784	-76
5825907	3	197	172	268	Apr-2002	702	784	-82
5825907	3	197	172	269	May-2002	699	784	-85
5825907	3	197	172	270	Jun-2002	694	784	-90
5825907	3	197	172	271	Jul-2002	689	784	-95
5825907	3	197	172	272	Aug-2002	698	784	-86

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5825907	3	197	172	276	Dec-2002	707	784	-77
5825907	3	197	172	277	Jan-2003	710	784	-74
5825907	3	197	172	278	Feb-2003	714	784	-70
5825907	3	197	172	279	Mar-2003	719	784	-65
5825907	3	197	172	280	Apr-2003	721	784	-63
5825907	3	197	172	281	May-2003	720	784	-64
5825907	3	197	172	282	Jun-2003	714	784	-70
5825907	3	197	172	283	Jul-2003	706	784	-78
5825907	3	197	172	284	Aug-2003	703	784	-81
5825907	3	197	172	285	Sep-2003	701	784	-83
5825907	3	197	172	286	Oct-2003	701	784	-83
5825907	3	197	172	287	Nov-2003	701	784	-83
5825907	3	197	172	288	Dec-2003	700	784	-84
5825907	3	197	172	289	Jan-2004	698	784	-86
5825907	3	197	172	290	Feb-2004	698	784	-86
5825907	3	197	172	291	Mar-2004	705	784	-79
5825907	3	197	172	292	Apr-2004	710	784	-74
5825907	3	197	172	293	May-2004	712	784	-72
5825907	3	197	172	294	Jun-2004	714	784	-70
5825907	3	197	172	295	Jul-2004	711	784	-73
5825907	3	197	172	296	Aug-2004	707	784	-77
5825907	3	197	172	297	Sep-2004	703	784	-81
5825907	3	197	172	298	Oct-2004	700	784	-84
5825907	3	197	172	300	Dec-2004	711	784	-73
5825907	3	197	172	301	Jan-2005	713	784	-71
5825907	3	197	172	302	Feb-2005	715	784	-69
5825907	3	197	172	303	Mar-2005	718	784	-66

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5825907	3	197	172	304	Apr-2005	721	784	-63
5825907	3	197	172	305	May-2005	720	784	-64
5825907	3	197	172	306	Jun-2005	714	784	-70
5825907	3	197	172	307	Jul-2005	699	784	-85
5825907	3	197	172	308	Aug-2005	700	784	-84
5825907	3	197	172	309	Sep-2005	696	784	-88
5825907	3	197	172	310	Oct-2005	696	784	-88
5825907	3	197	172	311	Nov-2005	694	784	-90
5825907	3	197	172	312	Dec-2005	693	784	-91
5825907	3	197	172	313	Jan-2006	691	784	-93
5825907	3	197	172	314	Feb-2006	693	784	-91
5825907	3	197	172	315	Mar-2006	694	784	-90
5825907	3	197	172	316	Apr-2006	692	784	-92
5825907	3	197	172	317	May-2006	690	784	-94
5825907	3	197	172	318	Jun-2006	687	784	-97
5825907	3	197	172	319	Jul-2006	678	784	-106
5825907	3	197	172	320	Aug-2006	672	784	-112
5825907	3	197	172	321	Sep-2006	670	784	-114
5825915	3	194	174	110	Feb-1989	685	782	-97
5825917	3	194	173	115	Jul-1989	737	783	-46
5826107	3	174	177	75	Mar-1986	705	780	-75
5826402	3	190	174	39	Mar-1983	726	781	-55
5826505	3	178	183	16	Apr-1981	793	763	30
5826603	3	171	198	35	Nov-1982	728	735	-7
5826604	3	172	197	54	Jun-1984	681	735	-54
5826604	3	172	197	55	Jul-1984	680	735	-55
5826604	3	172	197	56	Aug-1984	670	735	-65
5826604	3	172	197	57	Sep-1984	671	735	-64

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5826604	3	172	197	58	Oct-1984	674	735	-61
5826604	3	172	197	59	Nov-1984	689	735	-46
5826604	3	172	197	60	Dec-1984	690	735	-45
5826604	3	172	197	61	Jan-1985	695	735	-40
5826604	3	172	197	62	Feb-1985	696	735	-39
5826604	3	172	197	63	Mar-1985	701	735	-34
5826604	3	172	197	65	May-1985	701	735	-34
5826604	3	172	197	66	Jun-1985	705	735	-30
5826604	3	172	197	67	Jul-1985	681	735	-54
5826604	3	172	197	68	Aug-1985	668	735	-67
5826604	3	172	197	69	Sep-1985	670	735	-65
5826604	3	172	197	70	Oct-1985	675	735	-60
5826604	3	172	197	293	May-2004	666	736	-70
5826604	3	172	197	313	Jan-2006	626	736	-110
5827715	3	183	211	1	Jan-1980	742	674	68
5827715	3	183	211	3	Mar-1980	741	674	67
5827715	3	183	211	4	Apr-1980	741	674	67
5827715	3	183	211	5	May-1980	740	674	66
5827715	3	183	211	6	Jun-1980	743	674	69
5827715	3	183	211	7	Jul-1980	742	674	68
5827715	3	183	211	8	Aug-1980	743	674	69
5827715	3	183	211	10	Oct-1980	741	674	67
5827715	3	183	211	11	Nov-1980	738	674	64
5827715	3	183	211	12	Dec-1980	740	674	66
5827715	3	183	211	13	Jan-1981	741	674	67
5827715	3	183	211	15	Mar-1981	742	674	68
5827715	3	183	211	16	Apr-1981	741	674	67

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5827715	3	183	211	17	May-1981	742	674	68
5827715	3	183	211	18	Jun-1981	744	674	70
5833403	3	230	167	1	Jan-1980	598	677	-79
5833403	3	230	167	2	Feb-1980	598	677	-79
5833403	3	230	167	3	Mar-1980	597	677	-80
5833403	3	230	167	4	Apr-1980	595	677	-82
5833403	3	230	167	5	May-1980	596	677	-81
5833403	3	230	167	6	Jun-1980	594	677	-83
5833403	3	230	167	7	Jul-1980	591	677	-86
5833403	3	230	167	8	Aug-1980	584	677	-93
5833403	3	230	167	9	Sep-1980	585	677	-92
5833403	3	230	167	10	Oct-1980	592	677	-85
5833403	3	230	167	11	Nov-1980	594	677	-83
5833403	3	230	167	12	Dec-1980	593	677	-84
5833403	3	230	167	13	Jan-1981	593	677	-84
5833403	3	230	167	14	Feb-1981	596	677	-81
5833403	3	230	167	15	Mar-1981	598	677	-79
5833403	3	230	167	16	Apr-1981	597	677	-80
5833403	3	230	167	17	May-1981	597	677	-80
5833403	3	230	167	18	Jun-1981	601	677	-76
5833403	3	230	167	20	Aug-1981	594	677	-83
5833403	3	230	167	21	Sep-1981	592	677	-85
5833403	3	230	167	22	Oct-1981	597	677	-80
5833403	3	230	167	23	Nov-1981	596	677	-81
5833403	3	230	167	24	Dec-1981	596	677	-81
5833403	3	230	167	25	Jan-1982	596	677	-81
5833403	3	230	167	26	Feb-1982	595	677	-82

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5833403	3	230	167	27	Mar-1982	595	677	-82
5833403	3	230	167	28	Apr-1982	594	677	-83
5833403	3	230	167	29	May-1982	594	677	-83
5833403	3	230	167	30	Jun-1982	600	677	-77
5833403	3	230	167	33	Sep-1982	584	677	-93
5833403	3	230	167	34	Oct-1982	584	677	-93
5833403	3	230	167	35	Nov-1982	585	677	-92
5833403	3	230	167	36	Dec-1982	586	677	-91
5833403	3	230	167	37	Jan-1983	587	677	-90
5833403	3	230	167	38	Feb-1983	588	677	-89
5833403	3	230	167	39	Mar-1983	590	677	-87
5833403	3	230	167	40	Apr-1983	590	677	-87
5833403	3	230	167	41	May-1983	590	677	-87
5833403	3	230	167	42	Jun-1983	591	677	-86
5833403	3	230	167	43	Jul-1983	589	677	-88
5833403	3	230	167	44	Aug-1983	588	677	-89
5833403	3	230	167	45	Sep-1983	586	677	-91
5833403	3	230	167	46	Oct-1983	586	677	-91
5833403	3	230	167	47	Nov-1983	588	677	-89
5833403	3	230	167	48	Dec-1983	588	677	-89
5833403	3	230	167	49	Jan-1984	588	677	-89
5833403	3	230	167	50	Feb-1984	587	677	-90
5833403	3	230	167	51	Mar-1984	588	677	-89
5833403	3	230	167	52	Apr-1984	586	677	-91
5833403	3	230	167	54	Jun-1984	580	677	-97
5833403	3	230	167	55	Jul-1984	577	677	-100
5833403	3	230	167	56	Aug-1984	575	677	-102

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Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5833403	3	230	167	57	Sep-1984	574	677	-103
5833403	3	230	167	61	Jan-1985	581	677	-96
5833403	3	230	167	62	Feb-1985	582	677	-95
5833403	3	230	167	63	Mar-1985	584	677	-93
5833403	3	230	167	64	Apr-1985	584	677	-93
5833403	3	230	167	65	May-1985	583	677	-94
5833403	3	230	167	66	Jun-1985	582	677	-95
5833403	3	230	167	67	Jul-1985	580	677	-97
5833403	3	230	167	68	Aug-1985	575	677	-102
5833403	3	230	167	69	Sep-1985	573	677	-104
5833403	3	230	167	70	Oct-1985	575	677	-102
5833403	3	230	167	71	Nov-1985	578	677	-99
5833403	3	230	167	72	Dec-1985	579	677	-98
5833403	3	230	167	73	Jan-1986	580	677	-97
5833403	3	230	167	75	Mar-1986	582	677	-95
5833403	3	230	167	76	Apr-1986	582	677	-95
5833403	3	230	167	78	Jun-1986	581	677	-96
5833403	3	230	167	82	Oct-1986	578	677	-99
5833403	3	230	167	83	Nov-1986	579	677	-98
5833403	3	230	167	84	Dec-1986	581	677	-96
5833403	3	230	167	85	Jan-1987	583	677	-94
5833403	3	230	167	86	Feb-1987	583	677	-94
5833403	3	230	167	87	Mar-1987	584	677	-93
5833403	3	230	167	88	Apr-1987	583	677	-94
5833403	3	230	167	89	May-1987	582	677	-95
5833403	3	230	167	90	Jun-1987	585	677	-92
5833403	3	230	167	91	Jul-1987	584	677	-93

Groundwater Availability Model:
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APPENDIX B

Well Number	Layer	Row	Column	Stress Period	Date	Measured Water Level (feet AMSL)	Simulated Water Level (feet AMSL)	Residual (feet)
5833403	3	230	167	92	Aug-1987	581	677	-96
5833403	3	230	167	93	Sep-1987	580	677	-97
5833403	3	230	167	94	Oct-1987	577	677	-100
5833403	3	230	167	95	Nov-1987	577	677	-100
5833403	3	230	167	96	Dec-1987	579	677	-98
5833403	3	230	167	99	Mar-1988	579	677	-98
5833403	3	230	167	100	Apr-1988	580	677	-97
5833403	3	230	167	102	Jun-1988	578	677	-99
5833403	3	230	167	105	Sep-1988	573	677	-104
5834306	3	201	204	26	Feb-1982	821	729	92
5834307	3	201	204	26	Feb-1982	766	729	37
5834308	3	200	204	32	Aug-1982	706	729	-23
5834508	3	215	194	139	Jul-1991	702	679	23
5834509	3	213	199	123	Mar-1990	680	645	35
5835720	3	219	217	61	Jan-1985	665	615	50
5835907	3	211	240	38	Feb-1983	558	627	-69
5841515	3	250	185	76	Apr-1986	480	487	-7
5842302	3	229	219	3	Mar-1980	491	531	-40
5842302	3	229	219	41	May-1983	490	531	-41
5842302	3	229	219	51	Mar-1984	495	531	-36
5842302	3	229	219	63	Mar-1985	491	531	-40
5842302	3	229	219	76	Apr-1986	492	531	-39
5842302	3	229	219	109	Jan-1989	495	531	-36
5842306	3	228	210	1	Jan-1980	505	483	22

Groundwater Availability Model:
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APPENDIX C PUMPING

C.1 Total Monthly Pumping from Each County in the Model

Table C.1.1. Total pumping (in acre-feet) of the modeled area by county per stress period for each layer.

Date	Bell		Burnet	Lampasas	Travis		Williamson	
	Layer 1	Layer 3	Layer 3	Layer 3	Layer 1	Layer 3	Layer 1	Layer 3
Jan-1980	-16.7	-75.8	-116.8	-25.4	-79.6	-176.5	-442.7	-240.2
Feb-1980	-16.8	-68.8	-106.1	-23.0	-67.8	-160.4	-407.7	-218.2
Mar-1980	-18.2	-78.4	-120.8	-26.2	-76.2	-182.6	-539.9	-248.5
Apr-1980	-20.2	-87.3	-134.6	-29.2	-83.1	-203.4	-543.2	-276.8
May-1980	-22.4	-99.5	-153.3	-33.3	-83.4	-231.8	-543.6	-315.3
Jun-1980	-26.0	-109.2	-168.3	-36.6	-126.7	-254.4	-682.8	-346.1
Jul-1980	-29.1	-125.5	-193.4	-42.0	-144.2	-292.3	-814.9	-397.8
Aug-1980	-27.2	-126.6	-195.2	-42.4	-120.8	-294.9	-661.9	-401.3
Sep-1980	-22.2	-106.4	-164.1	-35.6	-97.2	-247.9	-534.6	-337.4
Oct-1980	-21.2	-97.3	-150.0	-32.6	-95.1	-226.6	-468.6	-308.4
Nov-1980	-18.7	-81.6	-125.8	-27.3	-92.4	-190.1	-407.9	-258.6
Dec-1980	-160.5	-126.0	-194.2	-42.2	-99.2	-293.5	-3,485.6	-399.4
Jan-1981	-17.0	-67.0	-106.9	-25.6	-68.5	-191.6	-648.6	-263.1
Feb-1981	-15.1	-60.9	-97.1	-23.3	-70.9	-174.0	-580.0	-239.0
Mar-1981	-17.1	-69.3	-110.6	-26.5	-68.6	-198.1	-690.3	-272.1
Apr-1981	-18.4	-77.2	-123.2	-29.5	-81.4	-220.7	-736.5	-303.2
May-1981	-21.9	-88.0	-140.4	-33.6	-75.0	-251.5	-700.0	-345.4
Jun-1981	-24.8	-96.6	-154.1	-36.9	-80.5	-276.0	-722.2	-379.1
Jul-1981	-28.2	-111.0	-177.1	-42.4	-107.1	-317.2	-1,006.5	-435.7
Aug-1981	-28.9	-112.0	-178.7	-42.8	-111.5	-320.0	-1,204.2	-439.6
Sep-1981	-23.2	-94.1	-150.2	-36.0	-84.2	-269.0	-941.1	-369.5
Oct-1981	-22.1	-86.0	-137.3	-32.9	-58.1	-245.9	-806.8	-337.8
Nov-1981	-17.5	-72.2	-115.1	-27.6	-72.1	-206.2	-664.7	-283.3
Dec-1981	-180.0	-111.4	-177.8	-42.6	-251.7	-318.5	-634.1	-437.4
Jan-1982	-17.2	-57.8	-120.2	-26.8	-103.2	-213.2	-473.8	-304.6
Feb-1982	-15.9	-52.5	-109.2	-24.4	-85.9	-193.6	-421.8	-276.7
Mar-1982	-18.1	-59.8	-124.3	-27.8	-100.4	-220.5	-504.4	-315.0
Apr-1982	-19.7	-66.7	-138.5	-30.9	-99.4	-245.7	-574.9	-351.0
May-1982	-22.0	-75.9	-157.8	-35.2	-94.9	-279.9	-553.6	-399.8
Jun-1982	-23.6	-83.3	-173.2	-38.7	-123.5	-307.2	-625.6	-438.9
Jul-1982	-28.3	-95.8	-199.0	-44.4	-157.8	-353.0	-851.2	-504.4

Groundwater Availability Model:
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Date	Bell		Burnet	Lampasas	Travis		Williamson	
	Layer 1	Layer 3	Layer 3	Layer 3	Layer 1	Layer 3	Layer 1	Layer 3
Aug-1982	-26.6	-96.6	-200.8	-44.8	-160.1	-356.2	-870.2	-508.8
Sep-1982	-22.0	-81.2	-168.8	-37.7	-129.6	-299.4	-665.7	-427.7
Oct-1982	-21.0	-74.2	-154.3	-34.5	-108.5	-273.7	-600.2	-391.0
Nov-1982	-17.8	-62.3	-129.4	-28.9	-95.4	-229.5	-523.4	-327.9
Dec-1982	-200.1	-96.2	-199.8	-44.6	-98.8	-354.4	-3,761.0	-506.4
Jan-1983	-18.1	-47.5	-137.9	-28.5	-103.2	-233.9	-802.7	-358.4
Feb-1983	-15.8	-43.1	-125.2	-25.9	-96.3	-212.5	-716.7	-325.5
Mar-1983	-18.3	-49.1	-142.6	-29.4	-102.9	-242.0	-800.6	-370.7
Apr-1983	-21.6	-54.7	-158.9	-32.8	-127.6	-269.6	-983.9	-413.0
May-1983	-23.7	-62.3	-181.0	-37.4	-127.1	-307.1	-1,013.2	-470.5
Jun-1983	-23.3	-68.4	-198.7	-41.0	-134.7	-337.1	-1,112.9	-516.4
Jul-1983	-29.0	-78.6	-228.3	-47.1	-141.9	-387.4	-1,299.2	-593.5
Aug-1983	-27.5	-79.3	-230.3	-47.6	-146.6	-390.8	-1,270.6	-598.8
Sep-1983	-23.3	-66.6	-193.6	-40.0	-132.4	-328.5	-1,195.1	-503.3
Oct-1983	-21.6	-60.9	-177.0	-36.5	-120.4	-300.3	-1,046.9	-460.1
Nov-1983	-18.8	-51.1	-148.4	-30.6	-106.2	-251.9	-789.8	-385.9
Dec-1983	-221.4	-78.9	-229.2	-47.3	-108.7	-388.9	-888.9	-595.9
Jan-1984	-15.6	-38.2	-137.2	-28.3	-126.0	-255.8	-877.5	-391.8
Feb-1984	-15.2	-34.7	-124.6	-25.7	-127.0	-232.3	-780.6	-355.9
Mar-1984	-16.8	-39.5	-141.9	-29.3	-141.5	-264.5	-912.1	-405.3
Apr-1984	-17.7	-44.1	-158.1	-32.6	-161.9	-294.7	-1,145.7	-451.5
May-1984	-22.3	-50.2	-180.1	-37.1	-180.9	-335.8	-1,255.6	-514.4
Jun-1984	-23.0	-55.1	-197.7	-40.8	-182.4	-368.6	-1,109.8	-564.6
Jul-1984	-26.2	-63.3	-227.2	-46.8	-231.9	-423.5	-1,209.5	-648.8
Aug-1984	-26.5	-63.9	-229.2	-47.3	-197.1	-427.3	-1,195.9	-654.6
Sep-1984	-22.3	-53.7	-192.7	-39.7	-171.6	-359.2	-945.1	-550.3
Oct-1984	-19.8	-49.1	-176.1	-36.3	-132.5	-328.3	-941.7	-503.0
Nov-1984	-18.0	-41.2	-147.7	-30.5	-126.6	-275.4	-857.4	-421.9
Dec-1984	-276.9	-63.6	-228.1	-47.0	-125.8	-425.2	-1,198.7	-651.4
Jan-1985	-16.9	-39.2	-181.4	-29.1	-149.1	-182.6	-952.3	-265.6
Feb-1985	-14.7	-35.6	-164.7	-26.5	-144.2	-165.8	-902.3	-241.3
Mar-1985	-17.2	-40.6	-187.6	-30.1	-145.0	-188.8	-995.2	-274.7
Apr-1985	-18.0	-45.2	-209.0	-33.6	-147.4	-210.4	-1,027.4	-306.1
May-1985	-20.1	-51.5	-238.1	-38.3	-172.7	-239.6	-1,195.0	-348.7
Jun-1985	-22.5	-56.5	-261.3	-42.0	-198.0	-263.0	-1,256.9	-382.8
Jul-1985	-25.8	-65.0	-300.3	-48.3	-234.0	-302.3	-1,423.6	-439.9
Aug-1985	-27.8	-65.5	-303.0	-48.7	-299.3	-305.0	-1,482.6	-443.8
Sep-1985	-22.4	-55.1	-254.7	-40.9	-233.8	-256.4	-1,267.9	-373.0

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Date	Bell		Burnet	Lampasas	Travis		Williamson	
	Layer 1	Layer 3	Layer 3	Layer 3	Layer 1	Layer 3	Layer 1	Layer 3
Oct-1985	-19.6	-50.4	-232.8	-37.4	-178.5	-234.3	-1,150.0	-341.0
Nov-1985	-17.0	-42.2	-195.3	-31.4	-148.7	-196.5	-946.2	-286.0
Dec-1985	-265.9	-65.2	-301.5	-48.5	-151.6	-303.5	-941.9	-441.6
Jan-1986	-16.2	-39.8	-131.3	-30.5	-157.7	-92.8	-1,029.3	-246.6
Feb-1986	-14.7	-36.2	-119.2	-27.7	-170.5	-84.3	-978.7	-224.0
Mar-1986	-17.0	-41.2	-135.8	-31.5	-211.0	-96.0	-1,300.8	-255.0
Apr-1986	-18.6	-45.9	-151.3	-35.1	-241.2	-106.9	-1,411.9	-284.1
May-1986	-21.8	-52.3	-172.3	-40.0	-177.4	-121.8	-1,166.1	-323.7
Jun-1986	-21.9	-57.4	-189.2	-43.9	-196.8	-133.7	-1,255.7	-355.3
Jul-1986	-27.7	-65.9	-217.4	-50.4	-381.2	-153.6	-1,831.2	-408.3
Aug-1986	-27.0	-66.5	-219.3	-50.9	-303.0	-155.0	-1,496.3	-411.9
Sep-1986	-21.8	-55.9	-184.4	-42.8	-183.0	-130.3	-1,183.5	-346.3
Oct-1986	-20.0	-51.1	-168.5	-39.1	-208.8	-119.1	-1,172.2	-316.5
Nov-1986	-17.0	-42.9	-141.3	-32.8	-212.2	-99.9	-1,031.3	-265.5
Dec-1986	-266.1	-66.2	-218.2	-50.6	-210.4	-154.2	-1,017.6	-409.9
Jan-1987	-17.1	-36.3	-138.5	-19.4	-211.5	-103.4	-1,111.8	-205.5
Feb-1987	-15.1	-33.0	-125.8	-17.6	-201.1	-93.9	-993.1	-186.7
Mar-1987	-17.0	-37.5	-143.3	-20.1	-234.9	-107.0	-1,103.5	-212.6
Apr-1987	-19.2	-41.8	-159.6	-22.4	-298.5	-119.2	-1,414.1	-236.8
May-1987	-20.8	-47.6	-181.8	-25.5	-281.4	-135.7	-1,369.1	-269.8
Jun-1987	-22.6	-52.3	-199.6	-28.0	-285.3	-149.0	-1,236.9	-296.2
Jul-1987	-27.4	-60.1	-229.4	-32.1	-313.4	-171.2	-1,560.6	-340.3
Aug-1987	-28.3	-60.6	-231.4	-32.4	-440.1	-172.8	-1,986.6	-343.4
Sep-1987	-21.4	-51.0	-194.5	-27.3	-283.4	-145.2	-1,223.5	-288.6
Oct-1987	-21.8	-46.6	-177.8	-24.9	-284.4	-132.7	-1,118.9	-263.8
Nov-1987	-18.9	-39.1	-149.1	-20.9	-227.6	-111.3	-922.9	-221.3
Dec-1987	-280.5	-60.3	-230.3	-32.3	-219.4	-171.9	-921.4	-341.7
Jan-1988	-17.9	-35.8	-134.0	-18.7	-235.6	-104.6	-999.7	-218.1
Feb-1988	-16.4	-32.5	-121.7	-17.0	-232.3	-95.0	-894.4	-198.1
Mar-1988	-18.0	-37.0	-138.6	-19.4	-241.0	-108.2	-1,035.5	-225.6
Apr-1988	-20.2	-41.2	-154.4	-21.6	-270.8	-120.5	-1,111.2	-251.3
May-1988	-24.9	-47.0	-175.9	-24.6	-298.9	-137.3	-1,127.5	-286.3
Jun-1988	-25.5	-51.6	-193.0	-27.0	-321.3	-150.7	-1,206.6	-314.3
Jul-1988	-31.4	-59.3	-221.8	-31.0	-396.6	-173.2	-1,358.7	-361.2
Aug-1988	-32.4	-59.8	-223.8	-31.3	-436.6	-174.7	-1,307.0	-364.4
Sep-1988	-22.7	-50.3	-188.1	-26.3	-366.0	-146.9	-1,080.9	-306.3
Oct-1988	-21.0	-45.9	-172.0	-24.0	-303.0	-134.3	-958.1	-280.0
Nov-1988	-17.8	-38.5	-144.2	-20.2	-253.7	-112.6	-818.0	-234.8

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Date	Bell		Burnet	Lampasas	Travis		Williamson	
	Layer 1	Layer 3	Layer 3	Layer 3	Layer 1	Layer 3	Layer 1	Layer 3
Dec-1988	-312.9	-59.5	-222.7	-31.1	-254.9	-173.9	-702.1	-362.6
Jan-1989	-44.8	-35.4	-117.5	-20.6	-236.5	-92.4	-791.9	-230.3
Feb-1989	-35.1	-32.1	-106.7	-18.8	-230.7	-83.9	-769.3	-209.2
Mar-1989	-43.3	-36.6	-121.6	-21.4	-256.6	-95.6	-946.2	-238.2
Apr-1989	-48.6	-40.8	-135.4	-23.8	-275.0	-106.5	-958.4	-265.4
May-1989	-60.7	-46.5	-154.3	-27.1	-274.2	-121.3	-992.3	-302.3
Jun-1989	-63.2	-51.0	-169.3	-29.8	-340.8	-133.1	-1,183.2	-331.9
Jul-1989	-75.8	-58.6	-194.6	-34.2	-418.3	-153.0	-1,520.3	-381.4
Aug-1989	-94.3	-59.1	-196.3	-34.5	-358.1	-154.3	-1,377.7	-384.8
Sep-1989	-89.6	-49.7	-165.0	-29.0	-358.6	-129.7	-1,215.4	-323.5
Oct-1989	-66.6	-45.4	-150.9	-26.5	-309.8	-118.6	-996.3	-295.7
Nov-1989	-50.0	-38.1	-126.5	-22.2	-241.4	-99.5	-738.3	-248.0
Dec-1989	-44.4	-58.8	-195.4	-34.3	-274.2	-153.6	-709.8	-382.9
Jan-1990	-45.0	-42.4	-114.3	-26.4	-228.6	-224.5	-863.0	-302.7
Feb-1990	-35.8	-38.5	-103.8	-24.0	-219.3	-203.9	-785.0	-274.9
Mar-1990	-38.3	-43.9	-118.2	-27.3	-242.0	-232.2	-909.0	-313.1
Apr-1990	-43.1	-48.9	-131.7	-30.5	-246.5	-258.7	-964.3	-348.8
May-1990	-58.9	-55.7	-150.0	-34.7	-281.9	-294.7	-1,148.4	-397.3
Jun-1990	-86.0	-61.1	-164.7	-38.1	-380.5	-323.5	-1,455.1	-436.2
Jul-1990	-86.2	-70.2	-189.3	-43.8	-375.9	-371.7	-1,417.1	-501.2
Aug-1990	-92.4	-70.8	-190.9	-44.2	-395.7	-375.0	-1,354.3	-505.7
Sep-1990	-68.9	-59.5	-160.5	-37.1	-342.2	-315.3	-1,086.8	-425.1
Oct-1990	-60.7	-54.4	-146.7	-33.9	-300.9	-288.2	-833.4	-388.5
Nov-1990	-47.8	-45.6	-123.1	-28.5	-248.7	-241.7	-679.7	-325.9
Dec-1990	-52.8	-70.5	-190.0	-44.0	-264.4	-373.2	-619.1	-503.2
Jan-1991	-48.1	-33.9	-110.9	-28.2	-272.3	-232.9	-649.7	-311.7
Feb-1991	-43.6	-30.8	-100.8	-25.6	-219.0	-211.5	-571.4	-283.2
Mar-1991	-53.9	-35.0	-114.7	-29.1	-250.7	-240.9	-655.6	-322.4
Apr-1991	-54.5	-39.0	-127.8	-32.4	-265.0	-268.4	-666.4	-359.2
May-1991	-56.2	-44.5	-145.6	-37.0	-322.6	-305.7	-793.5	-409.2
Jun-1991	-63.8	-48.8	-159.8	-40.6	-306.7	-335.6	-1,088.8	-449.2
Jul-1991	-91.0	-56.1	-183.7	-46.6	-387.6	-385.7	-1,396.1	-516.2
Aug-1991	-87.0	-56.6	-185.3	-47.0	-358.1	-389.1	-1,325.2	-520.8
Sep-1991	-64.1	-47.6	-155.8	-39.5	-277.1	-327.1	-1,059.6	-437.8
Oct-1991	-74.0	-43.5	-142.4	-36.1	-300.4	-299.0	-1,073.1	-400.2
Nov-1991	-55.3	-36.5	-119.4	-30.3	-250.7	-250.8	-839.2	-335.6
Dec-1991	-50.3	-56.3	-184.4	-46.8	-262.6	-387.2	-885.2	-518.3
Jan-1992	-48.9	-42.0	-107.9	-30.8	-226.1	-255.7	-792.9	-332.0

Groundwater Availability Model:
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Date	Bell		Burnet	Lampasas	Travis		Williamson	
	Layer 1	Layer 3	Layer 3	Layer 3	Layer 1	Layer 3	Layer 1	Layer 3
Feb-1992	-46.6	-38.1	-98.0	-28.0	-210.0	-232.3	-710.1	-301.5
Mar-1992	-58.8	-43.4	-111.6	-31.8	-236.4	-264.5	-832.3	-343.4
Apr-1992	-63.6	-48.4	-124.3	-35.5	-245.8	-294.7	-865.4	-382.5
May-1992	-66.9	-55.1	-141.6	-40.4	-253.7	-335.7	-906.6	-435.8
Jun-1992	-69.5	-60.5	-155.4	-44.3	-276.5	-368.5	-967.5	-478.4
Jul-1992	-93.6	-69.5	-178.6	-51.0	-369.6	-423.5	-1,276.8	-549.7
Aug-1992	-93.1	-70.1	-180.2	-51.4	-383.7	-427.2	-1,178.3	-554.6
Sep-1992	-83.7	-59.0	-151.5	-43.2	-327.0	-359.1	-1,038.2	-466.2
Oct-1992	-81.9	-53.9	-138.5	-39.5	-358.1	-328.3	-1,007.3	-426.1
Nov-1992	-57.1	-45.2	-116.1	-33.1	-264.4	-275.3	-738.0	-357.4
Dec-1992	-54.6	-69.8	-179.3	-51.2	-359.8	-425.1	-2,892.5	-551.9
Jan-1993	-51.3	-45.8	-108.8	-31.2	-267.2	-240.0	-734.7	-338.9
Feb-1993	-48.4	-41.6	-98.8	-28.3	-252.0	-218.0	-535.2	-307.8
Mar-1993	-57.4	-47.3	-112.6	-32.3	-293.5	-248.3	-653.1	-350.5
Apr-1993	-61.3	-52.7	-125.4	-35.9	-325.3	-276.6	-720.6	-390.5
May-1993	-66.4	-60.1	-142.9	-40.9	-344.6	-315.1	-819.4	-444.9
Jun-1993	-73.5	-66.0	-156.8	-44.9	-345.4	-345.9	-872.5	-488.4
Jul-1993	-108.0	-75.8	-180.2	-51.6	-523.9	-397.5	-1,075.6	-561.2
Aug-1993	-117.5	-76.5	-181.8	-52.1	-656.7	-401.0	-1,266.8	-566.2
Sep-1993	-85.3	-64.3	-152.8	-43.8	-510.4	-337.1	-961.0	-476.0
Oct-1993	-68.2	-58.8	-139.7	-40.0	-430.9	-308.1	-1,041.3	-435.0
Nov-1993	-57.4	-49.3	-117.2	-33.6	-319.6	-258.4	-756.5	-364.9
Dec-1993	-55.7	-76.1	-180.9	-51.8	-332.3	-399.1	-3,306.6	-563.5
Jan-1994	-56.3	-44.0	-118.1	-31.9	-327.9	-205.6	-834.2	-278.1
Feb-1994	-50.2	-40.0	-107.3	-29.0	-307.9	-186.8	-812.4	-252.6
Mar-1994	-61.9	-45.5	-122.2	-33.0	-346.4	-212.7	-1,030.1	-287.6
Apr-1994	-71.3	-50.7	-136.1	-36.7	-365.9	-236.9	-1,059.5	-320.4
May-1994	-72.2	-57.8	-155.1	-41.8	-397.4	-269.9	-1,222.4	-365.0
Jun-1994	-87.5	-63.4	-170.2	-45.9	-494.4	-296.3	-1,339.3	-400.7
Jul-1994	-121.1	-72.9	-195.6	-52.8	-702.5	-340.5	-1,623.4	-460.5
Aug-1994	-103.8	-73.5	-197.3	-53.3	-468.9	-343.5	-1,382.3	-464.6
Sep-1994	-87.7	-61.8	-165.9	-44.8	-404.3	-288.8	-1,268.1	-390.5
Oct-1994	-72.0	-56.5	-151.6	-40.9	-329.2	-264.0	-1,134.6	-357.0
Nov-1994	-60.0	-47.4	-127.2	-34.3	-376.3	-221.4	-957.2	-299.4
Dec-1994	-57.0	-73.2	-196.4	-53.0	-377.5	-341.9	-1,374.1	-462.3
Jan-1995	-58.9	-46.1	-120.4	-31.9	-377.0	-214.6	-1,155.9	-211.8
Feb-1995	-57.9	-41.9	-109.3	-29.0	-348.7	-194.9	-1,046.0	-192.3
Mar-1995	-66.0	-47.7	-124.5	-33.0	-371.1	-222.0	-1,154.8	-219.0

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Date	Bell		Burnet	Lampasas	Travis		Williamson	
	Layer 1	Layer 3	Layer 3	Layer 3	Layer 1	Layer 3	Layer 1	Layer 3
Apr-1995	-70.6	-53.1	-138.7	-36.7	-388.3	-247.3	-1,228.2	-244.0
May-1995	-78.9	-60.5	-158.0	-41.8	-455.3	-281.7	-1,182.6	-278.0
Jun-1995	-91.8	-66.4	-173.4	-45.9	-505.7	-309.2	-1,334.5	-305.1
Jul-1995	-122.9	-76.3	-199.3	-52.8	-661.3	-355.4	-1,608.9	-350.7
Aug-1995	-116.5	-77.0	-201.1	-53.3	-623.1	-358.5	-1,504.7	-353.8
Sep-1995	-88.4	-64.7	-169.0	-44.8	-499.0	-301.4	-1,378.2	-297.4
Oct-1995	-90.5	-59.2	-154.5	-40.9	-489.1	-275.5	-1,388.5	-271.8
Nov-1995	-68.0	-49.6	-129.6	-34.3	-397.3	-231.0	-981.6	-228.0
Dec-1995	-68.4	-76.6	-200.1	-53.0	-377.7	-356.8	-1,074.0	-352.1
Jan-1996	-69.2	-45.7	-155.5	-32.4	-453.6	-155.5	-1,168.3	-212.7
Feb-1996	-74.5	-41.5	-141.2	-29.4	-465.7	-141.3	-1,206.4	-193.2
Mar-1996	-79.4	-47.3	-160.8	-33.5	-487.6	-160.8	-1,322.4	-220.0
Apr-1996	-90.5	-52.7	-179.1	-37.3	-521.1	-179.2	-1,404.8	-245.1
May-1996	-109.5	-60.0	-204.1	-42.5	-605.4	-204.1	-1,586.6	-279.3
Jun-1996	-105.9	-65.9	-224.0	-46.7	-556.3	-224.1	-1,332.5	-306.5
Jul-1996	-142.5	-75.7	-257.4	-53.6	-674.3	-257.5	-1,726.5	-352.3
Aug-1996	-118.5	-76.4	-259.7	-54.1	-527.2	-259.8	-1,530.6	-355.4
Sep-1996	-81.7	-64.2	-218.3	-45.5	-453.0	-218.4	-1,226.2	-298.8
Oct-1996	-81.3	-58.7	-199.6	-41.6	-470.0	-199.6	-1,370.1	-273.1
Nov-1996	-68.7	-49.2	-167.4	-34.9	-433.9	-167.4	-1,243.0	-229.0
Dec-1996	-68.8	-76.0	-258.5	-53.8	-424.0	-258.5	-1,220.6	-353.7
Jan-1997	-74.3	-55.4	-125.5	-34.2	-413.3	-138.3	-1,020.5	-189.8
Feb-1997	-61.1	-50.3	-114.0	-31.0	-345.5	-125.6	-708.6	-172.4
Mar-1997	-62.6	-57.3	-129.8	-35.3	-404.1	-143.0	-898.3	-196.3
Apr-1997	-73.5	-63.8	-144.6	-39.4	-410.5	-159.3	-915.9	-218.7
May-1997	-95.5	-72.7	-164.8	-44.9	-421.6	-181.5	-1,036.1	-249.1
Jun-1997	-113.7	-79.8	-180.9	-49.2	-439.2	-199.2	-1,055.3	-273.5
Jul-1997	-134.2	-91.7	-207.9	-56.6	-733.8	-229.0	-1,858.2	-314.3
Aug-1997	-133.9	-92.5	-209.7	-57.1	-662.1	-231.0	-1,739.9	-317.1
Sep-1997	-97.9	-77.7	-176.3	-48.0	-672.7	-194.2	-1,450.9	-266.5
Oct-1997	-83.4	-71.1	-161.1	-43.9	-536.5	-177.5	-1,699.1	-243.6
Nov-1997	-76.9	-59.6	-135.2	-36.8	-409.4	-148.9	-1,312.3	-204.3
Dec-1997	-54.3	-92.0	-208.7	-56.8	-563.1	-229.9	-4,668.5	-315.5
Jan-1998	-65.2	-50.9	-150.1	-32.8	-389.0	-151.4	-1,150.7	-175.3
Feb-1998	-57.4	-46.2	-136.3	-29.8	-338.9	-137.5	-967.5	-159.2
Mar-1998	-72.4	-52.6	-155.2	-33.9	-408.9	-156.6	-1,132.3	-181.3
Apr-1998	-88.9	-58.6	-172.9	-37.8	-501.5	-174.4	-1,465.8	-202.0
May-1998	-124.8	-66.8	-197.0	-43.0	-732.9	-198.7	-1,792.4	-230.1

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Date	Bell		Burnet	Lampasas	Travis		Williamson	
	Layer 1	Layer 3	Layer 3	Layer 3	Layer 1	Layer 3	Layer 1	Layer 3
Jun-1998	-146.2	-73.3	-216.2	-47.2	-909.4	-218.1	-1,932.3	-252.6
Jul-1998	-167.9	-84.2	-248.5	-54.3	-917.2	-250.7	-1,768.5	-290.3
Aug-1998	-134.4	-85.0	-250.7	-54.7	-788.1	-252.9	-1,522.6	-292.9
Sep-1998	-104.4	-71.4	-210.7	-46.0	-623.6	-212.6	-1,492.3	-246.2
Oct-1998	-84.7	-65.3	-192.6	-42.1	-574.5	-194.3	-1,378.7	-225.1
Nov-1998	-67.5	-54.8	-161.6	-35.3	-495.9	-163.0	-956.2	-188.8
Dec-1998	-68.3	-84.6	-249.5	-54.5	-629.4	-251.7	-1,141.5	-291.5
Jan-1999	-70.4	-63.9	-157.0	-38.1	-529.2	-148.3	-620.0	-190.5
Feb-1999	-72.9	-58.0	-142.6	-34.6	-507.0	-134.7	-582.6	-173.1
Mar-1999	-80.1	-66.1	-162.4	-39.4	-541.3	-153.4	-662.8	-197.1
Apr-1999	-95.2	-73.6	-180.9	-43.9	-584.9	-170.9	-723.6	-219.6
May-1999	-95.3	-83.9	-206.1	-50.0	-634.1	-194.6	-742.3	-250.1
Jun-1999	-108.8	-92.1	-226.2	-54.9	-638.1	-213.7	-770.7	-274.6
Jul-1999	-134.1	-105.8	-259.9	-63.1	-682.4	-245.5	-837.9	-315.5
Aug-1999	-184.0	-106.7	-262.2	-63.7	-965.9	-247.7	-1,097.2	-318.3
Sep-1999	-149.1	-89.7	-220.4	-53.5	-861.7	-208.2	-1,016.3	-267.6
Oct-1999	-120.8	-82.0	-201.5	-48.9	-647.3	-190.3	-899.8	-244.6
Nov-1999	-94.3	-68.8	-169.0	-41.0	-558.6	-159.6	-744.9	-205.1
Dec-1999	-78.9	-106.2	-261.0	-63.3	-656.2	-246.5	-7,592.3	-316.8
Jan-2000	-79.7	-49.8	-144.7	-48.2	-573.4	-145.9	-1,362.9	-185.5
Feb-2000	-76.1	-45.2	-131.5	-43.8	-492.9	-132.5	-1,085.7	-168.5
Mar-2000	-82.5	-51.5	-149.7	-49.9	-556.2	-150.9	-1,329.2	-191.9
Apr-2000	-88.4	-57.3	-166.8	-55.6	-625.4	-168.1	-1,496.1	-213.8
May-2000	-108.0	-65.3	-190.0	-63.3	-714.0	-191.5	-1,649.3	-243.5
Jun-2000	-107.4	-71.7	-208.5	-69.5	-689.1	-210.2	-1,584.7	-267.3
Jul-2000	-190.7	-82.4	-239.6	-79.8	-864.0	-241.5	-2,056.0	-307.2
Aug-2000	-179.8	-83.1	-241.8	-80.6	-655.3	-243.7	-1,934.7	-309.9
Sep-2000	-140.1	-69.9	-203.2	-67.7	-532.2	-204.9	-1,505.1	-260.5
Oct-2000	-98.2	-63.9	-185.8	-61.9	-521.2	-187.2	-1,263.3	-238.1
Nov-2000	-74.3	-53.6	-155.8	-51.9	-472.9	-157.1	-1,058.4	-199.7
Dec-2000	-80.0	-82.7	-240.6	-80.2	-716.8	-242.5	-1,131.7	-308.4
Jan-2001	-78.7	-45.5	-149.1	-28.1	-608.8	-132.9	-1,220.7	-193.6
Feb-2001	-66.8	-41.4	-135.4	-25.5	-525.0	-120.7	-1,016.8	-175.9
Mar-2001	-74.7	-47.1	-154.2	-29.0	-593.2	-137.5	-1,199.4	-200.3
Apr-2001	-86.4	-52.5	-171.8	-32.4	-688.8	-153.2	-908.1	-223.1
May-2001	-106.0	-59.8	-195.7	-36.9	-786.3	-174.5	-1,476.7	-254.2
Jun-2001	-139.3	-65.6	-214.8	-40.5	-850.1	-191.5	-1,620.4	-279.0
Jul-2001	-176.9	-75.4	-246.8	-46.5	-1,082.7	-220.1	-1,982.3	-320.6

Groundwater Availability Model:
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Date	Bell		Burnet	Lampasas	Travis		Williamson	
	Layer 1	Layer 3	Layer 3	Layer 3	Layer 1	Layer 3	Layer 1	Layer 3
Aug-2001	-165.7	-76.1	-249.0	-46.9	-1,080.5	-222.1	-1,981.3	-323.5
Sep-2001	-106.2	-63.9	-209.3	-39.4	-750.1	-186.7	-1,432.4	-271.9
Oct-2001	-110.9	-58.5	-191.3	-36.0	-750.6	-170.6	-1,381.9	-248.6
Nov-2001	-84.2	-49.0	-160.5	-30.2	-597.0	-143.1	-1,208.9	-208.5
Dec-2001	-80.1	-75.7	-247.8	-46.7	-633.8	-221.0	-847.8	-321.9
Jan-2002	-79.1	-51.4	-153.9	-32.4	-415.9	-135.8	-1,017.3	-150.8
Feb-2002	-70.6	-46.7	-139.8	-29.5	-431.9	-123.3	-970.3	-136.9
Mar-2002	-89.1	-53.2	-159.2	-33.6	-502.1	-140.4	-1,097.9	-155.9
Apr-2002	-105.8	-59.3	-177.4	-37.4	-547.2	-156.4	-1,085.2	-173.7
May-2002	-152.4	-67.5	-202.1	-42.6	-682.6	-178.2	-1,274.4	-197.9
Jun-2002	-139.9	-74.1	-221.8	-46.7	-942.8	-195.6	-1,728.3	-217.3
Jul-2002	-130.5	-85.2	-254.9	-53.7	-804.3	-224.8	-1,730.5	-249.7
Aug-2002	-183.6	-85.9	-257.2	-54.2	-1,140.3	-226.8	-2,100.8	-251.9
Sep-2002	-137.6	-72.2	-216.2	-45.6	-887.8	-190.7	-1,738.9	-211.7
Oct-2002	-104.6	-66.0	-197.6	-41.6	-756.0	-174.3	-1,515.7	-193.5
Nov-2002	-88.5	-55.4	-165.7	-34.9	-667.3	-146.2	-1,437.4	-162.3
Dec-2002	-80.4	-85.5	-255.9	-53.9	-683.4	-225.7	-1,270.9	-250.7
Jan-2003	-78.3	-42.0	-152.2	-25.9	-465.9	-139.1	-1,028.2	-169.1
Feb-2003	-69.3	-38.1	-138.3	-23.6	-554.5	-126.3	-907.3	-153.6
Mar-2003	-82.4	-43.4	-157.4	-26.8	-678.3	-143.8	-678.2	-174.9
Apr-2003	-120.0	-48.4	-175.4	-29.9	-883.5	-160.3	-770.5	-194.8
May-2003	-145.8	-55.1	-199.8	-34.1	-931.5	-182.6	-1,047.8	-221.9
Jun-2003	-133.6	-60.5	-219.4	-37.4	-944.1	-200.4	-1,301.2	-243.6
Jul-2003	-188.2	-69.5	-252.1	-43.0	-1,098.4	-230.3	-1,450.4	-279.9
Aug-2003	-178.7	-70.1	-254.3	-43.3	-1,056.6	-232.4	-1,649.4	-282.4
Sep-2003	-131.8	-58.9	-213.8	-36.4	-875.7	-195.3	-1,748.1	-237.4
Oct-2003	-108.5	-53.9	-195.4	-33.3	-854.3	-178.5	-1,340.9	-217.0
Nov-2003	-90.0	-45.2	-163.9	-27.9	-736.2	-149.7	-1,091.9	-182.0
Dec-2003	-90.1	-69.8	-253.1	-43.1	-756.5	-231.2	-1,184.5	-281.1
Jan-2004	-81.6	-35.4	-124.3	-23.4	-403.6	-232.2	-1,172.9	-104.2
Feb-2004	-68.0	-32.2	-112.9	-21.3	-415.5	-210.9	-1,262.1	-94.6
Mar-2004	-86.3	-36.6	-128.5	-24.2	-423.0	-240.1	-1,079.9	-107.8
Apr-2004	-91.3	-40.8	-143.2	-27.0	-461.1	-267.5	-1,171.9	-120.1
May-2004	-118.3	-46.5	-163.1	-30.7	-551.0	-304.8	-1,392.8	-136.8
Jun-2004	-108.1	-51.0	-179.1	-33.7	-529.0	-334.5	-1,431.1	-150.1
Jul-2004	-151.3	-58.6	-205.8	-38.8	-659.2	-384.5	-1,757.3	-172.5
Aug-2004	-156.9	-59.1	-207.6	-39.1	-690.8	-387.9	-1,751.5	-174.1
Sep-2004	-135.1	-49.7	-174.5	-32.9	-656.0	-326.0	-1,519.0	-146.3

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Date	Bell		Burnet	Lampasas	Travis		Williamson	
	Layer 1	Layer 3	Layer 3	Layer 3	Layer 1	Layer 3	Layer 1	Layer 3
Oct-2004	-95.7	-45.4	-159.5	-30.1	-515.4	-298.0	-1,298.3	-133.8
Nov-2004	-74.9	-38.1	-133.8	-25.2	-770.7	-250.0	-1,052.3	-112.2
Dec-2004	-105.1	-58.9	-206.6	-38.9	-3,814.3	-386.0	-2,738.0	-173.2
Jan-2005	-82.0	-34.2	-145.5	-25.2	-623.5	-264.7	-1,411.4	-112.2
Feb-2005	-73.7	-31.1	-132.1	-22.9	-575.6	-240.4	-1,237.8	-101.9
Mar-2005	-91.2	-35.4	-150.4	-26.0	-682.8	-273.7	-1,422.0	-116.1
Apr-2005	-122.0	-39.4	-167.6	-29.0	-870.4	-305.0	-1,639.4	-129.3
May-2005	-132.9	-44.9	-190.9	-33.0	-969.9	-347.4	-2,068.6	-147.3
Jun-2005	-162.0	-49.3	-209.6	-36.3	-1,232.1	-381.4	-2,107.0	-161.7
Jul-2005	-172.5	-56.7	-240.9	-41.7	-1,148.8	-438.3	-2,228.6	-185.8
Aug-2005	-152.3	-57.2	-243.0	-42.1	-1,053.2	-442.2	-1,983.4	-187.5
Sep-2005	-166.3	-48.1	-204.3	-35.4	-1,276.1	-371.7	-2,145.6	-157.6
Oct-2005	-139.7	-43.9	-186.7	-32.3	-1,052.6	-339.7	-1,844.9	-144.1
Nov-2005	-113.0	-36.8	-156.6	-27.1	-927.0	-285.0	-1,427.7	-120.8
Dec-2005	-30.3	-56.9	-241.8	-41.9	-900.9	-440.0	-1,301.7	-186.6
Jan-2006	-111.1	-35.4	-145.6	-26.4	-1,059.3	-271.7	-1,258.9	-116.5
Feb-2006	-81.3	-32.1	-132.3	-24.0	-751.9	-246.8	-934.8	-105.8
Mar-2006	-105.0	-36.6	-150.6	-27.3	-826.5	-281.1	-1,236.2	-120.5
Apr-2006	-129.2	-40.8	-167.8	-30.4	-888.4	-313.1	-1,536.8	-134.2
May-2006	-143.3	-46.4	-191.2	-34.6	-988.4	-356.7	-1,841.5	-152.9
Jun-2006	-169.4	-51.0	-209.9	-38.0	-1,063.3	-391.6	-2,192.9	-167.8
Jul-2006	-188.5	-58.6	-241.2	-43.7	-1,082.0	-450.0	-2,449.5	-192.9
Aug-2006	-218.9	-59.1	-243.3	-44.1	-1,289.9	-454.0	-2,338.5	-194.6
Sep-2006	-142.5	-49.7	-204.5	-37.0	-1,042.4	-381.6	-1,780.4	-163.6
Oct-2006	-122.9	-45.4	-186.9	-33.9	-954.9	-348.8	-1,622.5	-149.5
Nov-2006	-112.3	-38.1	-156.8	-28.4	-802.9	-292.6	-1,376.5	-125.4
Dec-2006	-98.0	-58.8	-242.1	-43.9	-727.3	-451.8	-1,303.3	-193.6
Jan-2007	-88.3	-42.1	-123.8	-24.4	-232.8	-220.8	-1,134.9	-93.6
Feb-2007	-81.8	-38.3	-112.5	-22.2	-263.6	-200.5	-1,055.7	-85.0
Mar-2007	-102.9	-43.6	-128.1	-25.3	-251.5	-228.3	-1,068.6	-96.8
Apr-2007	-101.3	-48.6	-142.7	-28.1	-278.8	-254.4	-1,213.8	-107.9
May-2007	-113.2	-55.3	-162.5	-32.1	-304.7	-289.8	-1,293.4	-122.9
Jun-2007	-112.0	-60.7	-178.4	-35.2	-274.9	-318.1	-1,364.4	-134.9
Jul-2007	-115.8	-69.8	-205.0	-40.4	-311.3	-365.6	-1,333.2	-155.0
Aug-2007	-176.4	-70.4	-206.9	-40.8	-448.0	-368.8	-1,970.9	-156.4
Sep-2007	-137.0	-59.2	-173.9	-34.3	-402.0	-310.0	-1,791.5	-131.5
Oct-2007	-142.4	-54.1	-158.9	-31.3	-416.6	-283.4	-1,815.7	-120.2
Nov-2007	-113.4	-45.4	-133.3	-26.3	-361.5	-237.7	-1,599.7	-100.8

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Date	Bell		Burnet	Lampasas	Travis		Williamson	
	Layer 1	Layer 3	Layer 3	Layer 3	Layer 1	Layer 3	Layer 1	Layer 3
Dec-2007	-101.3	-70.1	-205.9	-40.6	-2,241.9	-367.0	-1,299.4	-155.6
Jan-2008	-96.8	-61.2	-178.5	-25.1	-467.6	-278.6	-1,135.2	-160.5
Feb-2008	-97.2	-55.6	-162.1	-22.8	-429.0	-253.1	-1,085.6	-145.8
Mar-2008	-99.3	-63.3	-184.6	-26.0	-452.7	-288.2	-1,158.7	-166.0
Apr-2008	-113.0	-70.5	-205.7	-28.9	-534.8	-321.1	-1,274.9	-184.9
May-2008	-127.5	-80.3	-234.3	-32.9	-564.1	-365.8	-1,536.8	-210.7
Jun-2008	-200.5	-88.1	-257.2	-36.2	-788.8	-401.5	-2,271.4	-231.2
Jul-2008	-214.6	-101.3	-295.6	-41.6	-833.5	-461.4	-2,494.0	-265.7
Aug-2008	-187.7	-102.2	-298.2	-41.9	-796.1	-465.5	-2,118.4	-268.1
Sep-2008	-168.3	-85.9	-250.7	-35.2	-736.8	-391.3	-1,944.8	-225.4
Oct-2008	-145.1	-78.5	-229.1	-32.2	-601.5	-357.7	-1,573.5	-206.0
Nov-2008	-112.2	-65.8	-192.2	-27.0	-498.9	-300.0	-1,543.8	-172.8
Dec-2008	-100.4	-101.7	-296.7	-41.7	-2,353.8	-463.3	-1,350.9	-266.8
Jan-2009	-101.5	-76.3	-183.3	-24.1	-397.7	-273.4	-1,312.1	-210.0
Feb-2009	-95.2	-69.3	-166.5	-21.9	-363.1	-248.3	-1,233.8	-190.8
Mar-2009	-119.6	-78.9	-189.6	-25.0	-469.8	-282.7	-1,450.5	-217.2
Apr-2009	-136.6	-87.9	-211.3	-27.8	-467.3	-315.0	-1,778.5	-242.0
May-2009	-167.4	-100.1	-240.7	-31.7	-554.5	-358.8	-2,190.4	-275.7
Jun-2009	-215.9	-109.9	-264.2	-34.8	-688.9	-393.9	-2,241.5	-302.6
Jul-2009	-234.8	-126.3	-303.6	-40.0	-793.1	-452.7	-2,036.0	-347.8
Aug-2009	-220.7	-127.4	-306.3	-40.3	-717.4	-456.7	-1,677.6	-350.9
Sep-2009	-144.9	-107.1	-257.5	-33.9	-519.4	-383.9	-1,429.2	-295.0
Oct-2009	-107.1	-97.9	-235.4	-31.0	-446.9	-350.9	-1,356.3	-269.6
Nov-2009	-93.0	-82.1	-197.4	-26.0	-338.5	-294.3	-1,125.8	-226.1
Dec-2009	-93.6	-126.8	-304.8	-40.1	-2,261.1	-454.5	-1,232.1	-349.2
Jan-2010	-34.7	-89.7	-227.0	-25.0	-190.2	-319.4	-1,186.8	-183.0
Feb-2010	-31.0	-81.5	-206.2	-22.7	-187.3	-290.1	-1,099.8	-166.2
Mar-2010	-35.6	-92.8	-234.8	-25.9	-211.0	-330.3	-1,243.8	-189.3
Apr-2010	-39.8	-103.4	-261.5	-28.8	-236.8	-368.0	-1,527.5	-210.8
May-2010	-46.4	-117.8	-297.9	-32.9	-270.6	-419.2	-1,873.5	-240.2
Jun-2010	-52.0	-129.3	-327.1	-36.1	-254.5	-460.2	-1,795.5	-263.7
Jul-2010	-60.3	-148.6	-375.8	-41.5	-280.9	-528.8	-1,879.3	-303.0
Aug-2010	-59.9	-149.9	-379.2	-41.8	-281.4	-533.5	-2,241.3	-305.7
Sep-2010	-49.6	-126.0	-318.7	-35.2	-264.2	-448.5	-1,510.8	-257.0
Oct-2010	-45.3	-115.2	-291.4	-32.1	-285.6	-409.9	-1,739.5	-234.9
Nov-2010	-37.2	-96.6	-244.4	-27.0	-235.0	-343.8	-1,553.3	-197.0
Dec-2010	-1,279.0	-149.2	-377.3	-41.6	-2,152.7	-530.9	-1,502.5	-304.2
Jan-2011	-113.6	-62.7	-259.4	-11.4	-320.7	-644.7	-1,441.2	-214.8

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Date	Bell		Burnet	Lampasas	Travis		Williamson	
	Layer 1	Layer 3	Layer 3	Layer 3	Layer 1	Layer 3	Layer 1	Layer 3
Feb-2011	-111.9	-57.0	-235.6	-10.4	-300.6	-585.6	-1,393.2	-195.1
Mar-2011	-157.6	-64.9	-268.3	-11.8	-370.4	-666.8	-1,613.1	-222.2
Apr-2011	-190.1	-72.3	-298.9	-13.2	-450.6	-742.9	-1,892.5	-247.5
May-2011	-199.2	-82.4	-340.5	-15.0	-562.1	-846.3	-2,206.4	-282.0
Jun-2011	-256.5	-90.4	-373.8	-16.5	-650.4	-929.0	-2,184.5	-309.6
Jul-2011	-301.1	-103.9	-429.5	-18.9	-645.2	-1,067.6	-2,171.6	-355.7
Aug-2011	-313.2	-104.8	-433.3	-19.1	-604.0	-1,077.1	-2,189.5	-358.9
Sep-2011	-259.8	-88.1	-364.3	-16.0	-555.5	-905.4	-1,801.7	-301.7
Oct-2011	-190.9	-80.5	-333.0	-14.7	-495.5	-827.6	-1,608.4	-275.8
Nov-2011	-143.8	-67.6	-279.3	-12.3	-422.4	-694.1	-1,686.7	-231.3
Dec-2011	-115.1	-104.3	-431.2	-19.0	-326.2	-1,071.9	-1,507.7	-357.2
Jan-2012	-89.5	-66.5	-252.1	-10.7	-330.1	-639.0	-1,314.5	-187.5
Feb-2012	-92.9	-60.4	-229.0	-9.7	-334.4	-580.4	-1,185.5	-170.3
Mar-2012	-108.0	-68.8	-260.7	-11.1	-320.9	-660.9	-1,297.4	-193.9
Apr-2012	-111.5	-76.7	-290.5	-12.4	-394.6	-736.3	-1,659.9	-216.0
May-2012	-357.4	-87.3	-330.9	-14.1	-463.0	-838.8	-2,098.4	-246.1
Jun-2012	-194.1	-95.9	-363.3	-15.5	-570.4	-920.7	-2,569.7	-270.2
Jul-2012	-216.1	-110.2	-417.5	-17.8	-609.7	-1,058.1	-2,302.4	-310.5
Aug-2012	-245.9	-111.1	-421.2	-17.9	-607.7	-1,067.5	-2,407.4	-313.2
Sep-2012	-205.3	-93.4	-354.0	-15.1	-487.0	-897.3	-1,994.3	-263.3
Oct-2012	-95.3	-85.4	-323.6	-13.8	-438.3	-820.2	-1,734.6	-240.7
Nov-2012	-128.5	-71.6	-271.4	-11.6	-419.0	-687.9	-1,570.7	-201.9
Dec-2012	-135.1	-110.6	-419.1	-17.8	-392.3	-1,062.3	-1,492.5	-311.7
Jan-2013	-100.2	-66.5	-252.1	-10.7	-401.6	-639.0	-1,283.4	-187.5
Feb-2013	-93.9	-60.4	-229.0	-9.7	-361.7	-580.4	-1,137.1	-170.3
Mar-2013	-107.0	-68.8	-260.7	-11.1	-429.3	-660.9	-1,327.3	-193.9
Apr-2013	-128.5	-76.7	-290.5	-12.4	-418.4	-736.3	-1,388.7	-216.0
May-2013	-143.8	-87.3	-330.9	-14.1	-421.0	-838.8	-1,733.1	-246.1
Jun-2013	-158.9	-95.9	-363.3	-15.5	-536.5	-920.7	-2,177.8	-270.2
Jul-2013	-217.4	-110.2	-417.5	-17.8	-623.0	-1,058.1	-2,187.8	-310.5
Aug-2013	-215.0	-111.1	-421.2	-17.9	-667.0	-1,067.5	-2,340.2	-313.2
Sep-2013	-187.2	-93.4	-354.0	-15.1	-550.2	-897.3	-2,016.6	-263.3
Oct-2013	-145.8	-85.4	-323.6	-13.8	-481.3	-820.2	-1,809.4	-240.7
Nov-2013	-97.1	-71.6	-271.4	-11.6	-453.4	-687.9	-1,581.7	-201.9
Dec-2013	-90.4	-110.6	-419.1	-17.8	-452.0	-1,062.3	-1,470.3	-311.7
Jan-2014	-92.1	-66.5	-252.1	-10.7	-441.2	-639.0	-1,340.0	-187.5
Feb-2014	-88.3	-60.4	-229.0	-9.7	-379.7	-580.4	-1,176.3	-170.3
Mar-2014	-103.7	-68.8	-260.7	-11.1	-504.8	-660.9	-1,419.1	-193.9

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Date	Bell		Burnet	Lampasas	Travis		Williamson	
	Layer 1	Layer 3	Layer 3	Layer 3	Layer 1	Layer 3	Layer 1	Layer 3
Apr-2014	-122.8	-76.7	-290.5	-12.4	-505.8	-736.3	-1,645.3	-216.0
May-2014	-141.8	-87.3	-330.9	-14.1	-640.1	-838.8	-1,788.9	-246.1
Jun-2014	-144.7	-95.9	-363.3	-15.5	-593.4	-920.7	-1,840.0	-270.2
Jul-2014	-191.3	-110.2	-417.5	-17.8	-644.7	-1,058.1	-2,066.0	-310.5
Aug-2014	-236.2	-111.1	-421.2	-17.9	-747.1	-1,067.5	-2,235.9	-313.2
Sep-2014	-166.3	-93.4	-354.0	-15.1	-665.4	-897.3	-2,011.3	-263.3
Oct-2014	-138.0	-85.4	-323.6	-13.8	-580.4	-820.2	-1,916.9	-240.7
Nov-2014	-102.6	-71.6	-271.4	-11.6	-404.8	-687.9	-1,423.8	-201.9
Dec-2014	-93.9	-110.6	-419.1	-17.8	-391.5	-1,062.3	-1,369.3	-311.7
Jan-2015	-92.9	-66.5	-252.1	-10.7	-360.6	-639.0	-1,339.2	-187.5
Feb-2015	-83.4	-60.4	-229.0	-9.7	-363.0	-580.4	-1,278.8	-170.3
Mar-2015	-94.5	-68.8	-260.7	-11.1	-439.7	-660.9	-1,459.8	-193.9
Apr-2015	-118.5	-76.7	-290.5	-12.4	-462.3	-736.3	-1,550.1	-216.0
May-2015	-110.7	-87.3	-330.9	-14.1	-484.1	-838.8	-1,583.4	-246.1
Jun-2015	-141.0	-95.9	-363.3	-15.5	-527.6	-920.7	-1,650.9	-270.2
Jul-2015	-215.1	-110.2	-417.5	-17.8	-833.3	-1,058.1	-2,255.8	-310.5
Aug-2015	-245.3	-111.1	-421.2	-17.9	-849.6	-1,067.5	-2,609.0	-313.2
Sep-2015	-191.6	-93.4	-354.0	-15.1	-694.0	-897.3	-2,291.6	-263.3
Oct-2015	-169.7	-85.4	-323.6	-13.8	-656.6	-820.2	-2,158.4	-240.7
Nov-2015	-93.8	-71.6	-271.4	-11.6	-520.0	-687.9	-1,522.3	-201.9
Dec-2015	-90.4	-110.6	-419.1	-17.8	-485.1	-1,062.3	-1,658.1	-311.7

APPENDIX D STRESS PERIODS

D.1 Monthly stress periods in the Model

Table D.1.1. Stress period data for the model.

Stress Period	Type	Time Period	Length (days)
1	Steady-state	January 1980	31
2	Transient	February 1980	29
3	Transient	March 1980	31
4	Transient	April 1980	30
5	Transient	May 1980	31
6	Transient	June 1980	30
7	Transient	July 1980	31
8	Transient	August 1980	31
9	Transient	September 1980	30
10	Transient	October 1980	31
11	Transient	November 1980	30
12	Transient	December 1980	31
13	Transient	January 1981	31
14	Transient	February 1981	28
15	Transient	March 1981	31
16	Transient	April 1981	30
17	Transient	May 1981	31
18	Transient	June 1981	30
19	Transient	July 1981	31
20	Transient	August 1981	31
21	Transient	September 1981	30
22	Transient	October 1981	31
23	Transient	November 1981	30
24	Transient	December 1981	31
25	Transient	January 1982	31
26	Transient	February 1982	28
27	Transient	March 1982	31
28	Transient	April 1982	30
29	Transient	May 1982	31

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Stress Period	Type	Time Period	Length (days)
30	Transient	June 1982	30
31	Transient	July 1982	31
32	Transient	August 1982	31
33	Transient	September 1982	30
34	Transient	October 1982	31
35	Transient	November 1982	30
36	Transient	December 1982	31
37	Transient	January 1983	31
38	Transient	February 1983	28
39	Transient	March 1983	31
40	Transient	April 1983	30
41	Transient	May 1983	31
42	Transient	June 1983	30
43	Transient	July 1983	31
44	Transient	August 1983	31
45	Transient	September 1983	30
46	Transient	October 1983	31
47	Transient	November 1983	30
48	Transient	December 1983	31
49	Transient	January 1984	31
50	Transient	February 1984	29
51	Transient	March 1984	31
52	Transient	April 1984	30
53	Transient	May 1984	31
54	Transient	June 1984	30
55	Transient	July 1984	31
56	Transient	August 1984	31
57	Transient	September 1984	30
58	Transient	October 1984	31
59	Transient	November 1984	30
60	Transient	December 1984	31
61	Transient	January 1985	31
62	Transient	February 1985	28
63	Transient	March 1985	31
64	Transient	April 1985	30
65	Transient	May 1985	31

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Stress Period	Type	Time Period	Length (days)
66	Transient	June 1985	30
67	Transient	July 1985	31
68	Transient	August 1985	31
69	Transient	September 1985	30
70	Transient	October 1985	31
71	Transient	November 1985	30
72	Transient	December 1985	31
73	Transient	January 1986	31
74	Transient	February 1986	28
75	Transient	March 1986	31
76	Transient	April 1986	30
77	Transient	May 1986	31
78	Transient	June 1986	30
79	Transient	July 1986	31
80	Transient	August 1986	31
81	Transient	September 1986	30
82	Transient	October 1986	31
83	Transient	November 1986	30
84	Transient	December 1986	31
85	Transient	January 1987	31
86	Transient	February 1987	28
87	Transient	March 1987	31
88	Transient	April 1987	30
89	Transient	May 1987	31
90	Transient	June 1987	30
91	Transient	July 1987	31
92	Transient	August 1987	31
93	Transient	September 1987	30
94	Transient	October 1987	31
95	Transient	November 1987	30
96	Transient	December 1987	31
97	Transient	January 1988	31
98	Transient	February 1988	29
99	Transient	March 1988	31
100	Transient	April 1988	30
101	Transient	May 1988	31

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Stress Period	Type	Time Period	Length (days)
102	Transient	June 1988	30
103	Transient	July 1988	31
104	Transient	August 1988	31
105	Transient	September 1988	30
106	Transient	October 1988	31
107	Transient	November 1988	30
108	Transient	December 1988	31
109	Transient	January 1989	31
110	Transient	February 1989	28
111	Transient	March 1989	31
112	Transient	April 1989	30
113	Transient	May 1989	31
114	Transient	June 1989	30
115	Transient	July 1989	31
116	Transient	August 1989	31
117	Transient	September 1989	30
118	Transient	October 1989	31
119	Transient	November 1989	30
120	Transient	December 1989	31
121	Transient	January 1990	31
122	Transient	February 1990	28
123	Transient	March 1990	31
124	Transient	April 1990	30
125	Transient	May 1990	31
126	Transient	June 1990	30
127	Transient	July 1990	31
128	Transient	August 1990	31
129	Transient	September 1990	30
130	Transient	October 1990	31
131	Transient	November 1990	30
132	Transient	December 1990	31
133	Transient	January 1991	31
134	Transient	February 1991	28
135	Transient	March 1991	31
136	Transient	April 1991	30
137	Transient	May 1991	31

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Stress Period	Type	Time Period	Length (days)
138	Transient	June 1991	30
139	Transient	July 1991	31
140	Transient	August 1991	31
141	Transient	September 1991	30
142	Transient	October 1991	31
143	Transient	November 1991	30
144	Transient	December 1991	31
145	Transient	January 1992	31
146	Transient	February 1992	29
147	Transient	March 1992	31
148	Transient	April 1992	30
149	Transient	May 1992	31
150	Transient	June 1992	30
151	Transient	July 1992	31
152	Transient	August 1992	31
153	Transient	September 1992	30
154	Transient	October 1992	31
155	Transient	November 1992	30
156	Transient	December 1992	31
157	Transient	January 1993	31
158	Transient	February 1993	28
159	Transient	March 1993	31
160	Transient	April 1993	30
161	Transient	May 1993	31
162	Transient	June 1993	30
163	Transient	July 1993	31
164	Transient	August 1993	31
165	Transient	September 1993	30
166	Transient	October 1993	31
167	Transient	November 1993	30
168	Transient	December 1993	31
169	Transient	January 1994	31
170	Transient	February 1994	28
171	Transient	March 1994	31
172	Transient	April 1994	30
173	Transient	May 1994	31

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Stress Period	Type	Time Period	Length (days)
174	Transient	June 1994	30
175	Transient	July 1994	31
176	Transient	August 1994	31
177	Transient	September 1994	30
178	Transient	October 1994	31
179	Transient	November 1994	30
180	Transient	December 1994	31
181	Transient	January 1995	31
182	Transient	February 1995	28
183	Transient	March 1995	31
184	Transient	April 1995	30
185	Transient	May 1995	31
186	Transient	June 1995	30
187	Transient	July 1995	31
188	Transient	August 1995	31
189	Transient	September 1995	30
190	Transient	October 1995	31
191	Transient	November 1995	30
192	Transient	December 1995	31
193	Transient	January 1996	31
194	Transient	February 1996	29
195	Transient	March 1996	31
196	Transient	April 1996	30
197	Transient	May 1996	31
198	Transient	June 1996	30
199	Transient	July 1996	31
200	Transient	August 1996	31
201	Transient	September 1996	30
202	Transient	October 1996	31
203	Transient	November 1996	30
204	Transient	December 1996	31
205	Transient	January 1997	31
206	Transient	February 1997	28
207	Transient	March 1997	31
208	Transient	April 1997	30
209	Transient	May 1997	31

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Stress Period	Type	Time Period	Length (days)
210	Transient	June 1997	30
211	Transient	July 1997	31
212	Transient	August 1997	31
213	Transient	September 1997	30
214	Transient	October 1997	31
215	Transient	November 1997	30
216	Transient	December 1997	31
217	Transient	January 1998	31
218	Transient	February 1998	28
219	Transient	March 1998	31
220	Transient	April 1998	30
221	Transient	May 1998	31
222	Transient	June 1998	30
223	Transient	July 1998	31
224	Transient	August 1998	31
225	Transient	September 1998	30
226	Transient	October 1998	31
227	Transient	November 1998	30
228	Transient	December 1998	31
229	Transient	January 1999	31
230	Transient	February 1999	28
231	Transient	March 1999	31
232	Transient	April 1999	30
233	Transient	May 1999	31
234	Transient	June 1999	30
235	Transient	July 1999	31
236	Transient	August 1999	31
237	Transient	September 1999	30
238	Transient	October 1999	31
239	Transient	November 1999	30
240	Transient	December 1999	31
241	Transient	January 2000	31
242	Transient	February 2000	29
243	Transient	March 2000	31
244	Transient	April 2000	30
245	Transient	May 2000	31

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Stress Period	Type	Time Period	Length (days)
246	Transient	June 2000	30
247	Transient	July 2000	31
248	Transient	August 2000	31
249	Transient	September 2000	30
250	Transient	October 2000	31
251	Transient	November 2000	30
252	Transient	December 2000	31
253	Transient	January 2001	31
254	Transient	February 2001	28
255	Transient	March 2001	31
256	Transient	April 2001	30
257	Transient	May 2001	31
258	Transient	June 2001	30
259	Transient	July 2001	31
260	Transient	August 2001	31
261	Transient	September 2001	30
262	Transient	October 2001	31
263	Transient	November 2001	30
264	Transient	December 2001	31
265	Transient	January 2002	31
266	Transient	February 2002	28
267	Transient	March 2002	31
268	Transient	April 2002	30
269	Transient	May 2002	31
270	Transient	June 2002	30
271	Transient	July 2002	31
272	Transient	August 2002	31
273	Transient	September 2002	30
274	Transient	October 2002	31
275	Transient	November 2002	30
276	Transient	December 2002	31
277	Transient	January 2003	31
278	Transient	February 2003	28
279	Transient	March 2003	31
280	Transient	April 2003	30
281	Transient	May 2003	31

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Stress Period	Type	Time Period	Length (days)
282	Transient	June 2003	30
283	Transient	July 2003	31
284	Transient	August 2003	31
285	Transient	September 2003	30
286	Transient	October 2003	31
287	Transient	November 2003	30
288	Transient	December 2003	31
289	Transient	January 2004	31
290	Transient	February 2004	29
291	Transient	March 2004	31
292	Transient	April 2004	30
293	Transient	May 2004	31
294	Transient	June 2004	30
295	Transient	July 2004	31
296	Transient	August 2004	31
297	Transient	September 2004	30
298	Transient	October 2004	31
299	Transient	November 2004	30
300	Transient	December 2004	31
301	Transient	January 2005	31
302	Transient	February 2005	28
303	Transient	March 2005	31
304	Transient	April 2005	30
305	Transient	May 2005	31
306	Transient	June 2005	30
307	Transient	July 2005	31
308	Transient	August 2005	31
309	Transient	September 2005	30
310	Transient	October 2005	31
311	Transient	November 2005	30
312	Transient	December 2005	31
313	Transient	January 2006	31
314	Transient	February 2006	28
315	Transient	March 2006	31
316	Transient	April 2006	30
317	Transient	May 2006	31

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Stress Period	Type	Time Period	Length (days)
318	Transient	June 2006	30
319	Transient	July 2006	31
320	Transient	August 2006	31
321	Transient	September 2006	30
322	Transient	October 2006	31
323	Transient	November 2006	30
324	Transient	December 2006	31
325	Transient	January 2007	31
326	Transient	February 2007	28
327	Transient	March 2007	31
328	Transient	April 2007	30
329	Transient	May 2007	31
330	Transient	June 2007	30
331	Transient	July 2007	31
332	Transient	August 2007	31
333	Transient	September 2007	30
334	Transient	October 2007	31
335	Transient	November 2007	30
336	Transient	December 2007	31
337	Transient	January 2008	31
338	Transient	February 2008	29
339	Transient	March 2008	31
340	Transient	April 2008	30
341	Transient	May 2008	31
342	Transient	June 2008	30
343	Transient	July 2008	31
344	Transient	August 2008	31
345	Transient	September 2008	30
346	Transient	October 2008	31
347	Transient	November 2008	30
348	Transient	December 2008	31
349	Transient	January 2009	31
350	Transient	February 2009	28
351	Transient	March 2009	31
352	Transient	April 2009	30
353	Transient	May 2009	31

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Stress Period	Type	Time Period	Length (days)
354	Transient	June 2009	30
355	Transient	July 2009	31
356	Transient	August 2009	31
357	Transient	September 2009	30
358	Transient	October 2009	31
359	Transient	November 2009	30
360	Transient	December 2009	31
361	Transient	January 2010	31
362	Transient	February 2010	28
363	Transient	March 2010	31
364	Transient	April 2010	30
365	Transient	May 2010	31
366	Transient	June 2010	30
367	Transient	July 2010	31
368	Transient	August 2010	31
369	Transient	September 2010	30
370	Transient	October 2010	31
371	Transient	November 2010	30
372	Transient	December 2010	31
373	Transient	January 2011	31
374	Transient	February 2011	28
375	Transient	March 2011	31
376	Transient	April 2011	30
377	Transient	May 2011	31
378	Transient	June 2011	30
379	Transient	July 2011	31
380	Transient	August 2011	31
381	Transient	September 2011	30
382	Transient	October 2011	31
383	Transient	November 2011	30
384	Transient	December 2011	31
385	Transient	January 2012	31
386	Transient	February 2012	29
387	Transient	March 2012	31
388	Transient	April 2012	30
389	Transient	May 2012	31

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Stress Period	Type	Time Period	Length (days)
390	Transient	June 2012	30
391	Transient	July 2012	31
392	Transient	August 2012	31
393	Transient	September 2012	30
394	Transient	October 2012	31
395	Transient	November 2012	30
396	Transient	December 2012	31
397	Transient	January 2013	31
398	Transient	February 2013	28
399	Transient	March 2013	31
400	Transient	April 2013	30
401	Transient	May 2013	31
402	Transient	June 2013	30
403	Transient	July 2013	31
404	Transient	August 2013	31
405	Transient	September 2013	30
406	Transient	October 2013	31
407	Transient	November 2013	30
408	Transient	December 2013	31
409	Transient	January 2014	31
410	Transient	February 2014	28
411	Transient	March 2014	31
412	Transient	April 2014	30
413	Transient	May 2014	31
414	Transient	June 2014	30
415	Transient	July 2014	31
416	Transient	August 2014	31
417	Transient	September 2014	30
418	Transient	October 2014	31
419	Transient	November 2014	30
420	Transient	December 2014	31
421	Transient	January 2015	31
422	Transient	February 2015	28
423	Transient	March 2015	31
424	Transient	April 2015	30
425	Transient	May 2015	31

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Stress Period	Type	Time Period	Length (days)
426	Transient	June 2015	30
427	Transient	July 2015	31
428	Transient	August 2015	31
429	Transient	September 2015	30
430	Transient	October 2015	31
431	Transient	November 2015	30
432	Transient	December 2015	31

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APPENDIX E

APPENDIX E DRAINS

E.1 Drains (springs) in the Model

Table E.1.1. Summary of drain location, head, conductance, and elevation values.

Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
1	59	197	714	1.00E+06
1	59	209	591	1.00E+06
1	60	207	612	1.00E+06
1	60	209	588	1.00E+06
1	84	188	843	1.00E+06
1	87	187	810	1.00E+06
1	88	186	845	1.00E+06
1	89	184	894	1.00E+06
1	134	187	828	1.00E+06
1	136	210	628	1.00E+06
1	147	209	701	1.00E+06
1	149	189	849	1.00E+06
1	200	182	1018	1.00E+04
1	201	182	1013	1.00E+04
1	202	181	987	1.00E+04
1	203	181	987	1.00E+04
1	204	179	885	1.00E+04
1	204	182	1000	1.00E+04
1	205	179	987	1.00E+04
1	205	180	936	1.00E+04
1	205	182	1033	1.00E+04
1	206	178	965	1.00E+04
1	206	181	937	1.00E+04
1	207	177	917	1.00E+04
1	207	178	987	1.00E+04

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Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
1	207	179	992	1.00E+04
1	208	180	1023	1.00E+04
1	209	181	1049	1.00E+04
1	210	181	1014	1.00E+04
1	210	182	908	1.00E+04
1	210	188	892	1.00E+04
1	211	183	935	1.00E+04
1	211	185	850	1.00E+04
1	211	187	889	1.00E+04
1	211	189	889	1.00E+04
1	211	190	799	1.00E+04
1	212	184	902	1.00E+04
1	212	186	823	1.00E+04
1	212	187	869	1.00E+04
1	212	189	889	1.00E+04
1	212	191	876	1.00E+04
1	213	187	840	1.00E+04
1	213	192	899	1.00E+04
1	213	199	912	1.00E+04
1	213	205	817	1.00E+04
1	214	193	935	1.00E+04
1	214	198	756	1.00E+04
1	214	200	928	1.00E+04
1	214	202	889	1.00E+04
1	214	204	853	1.00E+04
1	214	206	787	1.00E+04
1	215	188	741	1.00E+04
1	215	189	789	1.00E+04
1	215	191	782	1.00E+04
1	215	192	779	1.00E+04

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Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
1	215	197	760	1.00E+04
1	215	198	797	1.00E+04
1	215	200	889	1.00E+04
1	215	201	733	1.00E+04
1	215	203	840	1.00E+04
1	215	206	807	1.00E+04
1	215	214	814	1.00E+04
1	216	188	771	1.00E+04
1	216	189	889	1.00E+04
1	216	190	879	1.00E+04
1	216	191	889	1.00E+04
1	216	196	889	1.00E+04
1	216	201	869	1.00E+04
1	216	206	810	1.00E+04
1	216	210	856	1.00E+04
1	216	213	754	1.00E+04
1	216	215	774	1.00E+04
1	217	188	787	1.00E+04
1	217	190	889	1.00E+04
1	217	192	902	1.00E+04
1	217	195	771	1.00E+04
1	217	207	842	1.00E+04
1	217	208	889	1.00E+04
1	217	209	697	1.00E+04
1	217	211	826	1.00E+04
1	217	212	685	1.00E+04
1	217	215	725	1.00E+04
1	218	192	853	1.00E+04
1	218	196	780	1.00E+04
1	218	197	776	1.00E+04

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Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
1	218	198	830	1.00E+04
1	218	204	689	1.00E+04
1	218	209	836	1.00E+04
1	218	211	780	1.00E+04
1	218	212	805	1.00E+04
1	218	215	744	1.00E+04
1	219	192	876	1.00E+04
1	219	198	830	1.00E+04
1	219	200	738	1.00E+04
1	219	201	750	1.00E+04
1	219	203	725	1.00E+04
1	219	204	738	1.00E+04
1	219	212	787	1.00E+04
1	219	215	750	1.00E+04
1	220	190	840	1.00E+04
1	220	193	938	1.00E+04
1	220	199	774	1.00E+04
1	220	201	757	1.00E+04
1	220	203	743	1.00E+04
1	220	204	840	1.00E+04
1	220	215	787	1.00E+04
1	221	189	843	1.00E+04
1	221	191	843	1.00E+04
1	221	192	853	1.00E+04
1	221	199	790	1.00E+04
1	221	202	753	1.00E+04
1	221	205	715	1.00E+04
1	221	215	787	1.00E+04
1	221	216	786	1.00E+04
1	222	189	938	1.00E+04

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Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
1	222	206	794	1.00E+04
1	222	207	747	1.00E+04
1	222	208	767	1.00E+04
1	222	209	689	1.00E+04
1	222	217	738	1.00E+04
1	223	189	879	1.00E+04
1	223	190	938	1.00E+04
1	223	202	938	1.00E+04
1	223	203	752	1.00E+04
1	223	204	743	1.00E+04
1	223	209	780	1.00E+04
1	223	217	777	1.00E+04
1	224	191	941	1.00E+04
1	224	201	775	1.00E+04
1	224	205	938	1.00E+04
1	224	208	830	1.00E+04
1	224	209	826	1.00E+04
1	224	210	758	1.00E+04
1	224	211	751	1.00E+04
1	224	212	720	1.00E+04
1	224	216	787	1.00E+04
1	225	191	941	1.00E+04
1	225	202	767	1.00E+04
1	225	203	754	1.00E+04
1	225	204	744	1.00E+04
1	225	206	932	1.00E+04
1	225	207	741	1.00E+04
1	225	211	767	1.00E+04
1	225	217	672	1.00E+04
1	226	189	803	1.00E+04

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Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
1	226	192	961	1.00E+04
1	226	201	925	1.00E+04
1	226	204	748	1.00E+04
1	226	206	809	1.00E+04
1	226	207	912	1.00E+04
1	226	216	797	1.00E+04
1	227	188	892	1.00E+04
1	227	190	843	1.00E+04
1	227	192	944	1.00E+04
1	227	194	853	1.00E+04
1	227	200	938	1.00E+04
1	227	202	902	1.00E+04
1	227	203	899	1.00E+04
1	227	204	750	1.00E+04
1	227	205	751	1.00E+04
1	227	207	876	1.00E+04
1	227	213	695	1.00E+04
1	227	214	766	1.00E+04
1	227	215	717	1.00E+04
1	228	189	957	1.00E+04
1	228	191	864	1.00E+04
1	228	193	848	1.00E+04
1	228	195	1046	1.00E+04
1	228	199	809	1.00E+04
1	228	207	765	1.00E+04
1	228	208	925	1.00E+04
1	228	209	853	1.00E+04
1	228	214	862	1.00E+04
1	228	215	830	1.00E+04
1	229	189	1000	1.00E+04

Groundwater Availability Model:
Northern Segment of the Edwards (Balcones Fault Zone) Aquifer of Texas
APPENDIX E

Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
1	229	190	1036	1.00E+04
1	229	192	839	1.00E+04
1	229	193	952	1.00E+04
1	229	196	1079	1.00E+04
1	229	200	872	1.00E+04
1	229	201	826	1.00E+04
1	229	208	807	1.00E+04
1	229	213	820	1.00E+04
1	229	214	753	1.00E+04
1	229	216	889	1.00E+04
1	230	191	1014	1.00E+04
1	230	195	1013	1.00E+04
1	230	198	828	1.00E+04
1	230	199	869	1.00E+04
1	230	201	958	1.00E+04
1	230	202	872	1.00E+04
1	230	203	897	1.00E+04
1	230	204	853	1.00E+04
1	230	215	738	1.00E+04
1	230	216	882	1.00E+04
1	231	196	1010	1.00E+04
1	231	197	825	1.00E+04
1	231	217	883	1.00E+04
1	231	220	812	1.00E+04
1	232	195	967	1.00E+04
1	232	198	848	1.00E+04
1	232	199	911	1.00E+04
1	232	200	872	1.00E+04
1	232	201	862	1.00E+04
1	232	218	789	1.00E+04

Groundwater Availability Model:
Northern Segment of the Edwards (Balcones Fault Zone) Aquifer of Texas
APPENDIX E

Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
1	232	219	733	1.00E+04
1	232	221	760	1.00E+04
1	233	195	935	1.00E+04
1	233	196	1017	1.00E+04
1	233	197	1040	1.00E+04
1	233	199	987	1.00E+04
1	233	221	733	1.00E+04
1	233	222	657	1.00E+04
1	234	198	948	1.00E+04
1	234	199	847	1.00E+04
1	242	226	551	1.00E+06
1	243	220	484	1.00E+04
1	244	220	495	1.00E+04
1	245	219	452	1.00E+04
1	246	219	465	1.00E+04
1	247	219	443	1.00E+04
1	248	219	467	1.00E+04
1	249	219	446	1.00E+04
1	250	220	352	1.00E+04
1	251	221	338	1.00E+04
1	251	222	361	1.00E+04
1	251	223	442	1.00E+04
1	252	224	345	1.00E+04
1	252	225	352	1.00E+04
1	252	226	306	1.00E+04
1	252	227	361	1.00E+04
1	253	228	302	1.00E+04
2	248	219	457	1.00E+06
2	226	216	787	1.00E+06
2	222	197	784	1.00E+06

Groundwater Availability Model:
Northern Segment of the Edwards (Balcones Fault Zone) Aquifer of Texas
APPENDIX E

Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
2	219	200	728	1.00E+06
2	216	198	859	1.00E+06
2	215	206	797	1.00E+06
2	211	188	931	1.00E+06
2	210	188	882	1.00E+06
2	194	165	1004	1.00E+06
2	193	162	997	1.00E+06
2	190	164	1030	1.00E+06
2	190	165	980	1.00E+06
2	170	173	879	1.00E+06
2	127	159	964	1.00E+06
3	244	186	693	1.00E+06
3	241	188	678	1.00E+06
3	229	212	593	1.00E+06
3	228	214	852	1.00E+06
3	226	139	775	1.00E+06
3	219	133	802	1.00E+06
3	217	198	380	1.00E+06
3	217	199	355	1.00E+06
3	216	214	101	1.00E+06
3	213	145	717	1.00E+06
3	213	182	875	1.00E+06
3	213	185	831	1.00E+06
3	204	156	997	1.00E+06
3	201	156	935	1.00E+06
3	199	153	1023	1.00E+06
3	189	149	982	1.00E+06
3	176	79	1221	1.00E+06
3	127	136	1004	1.00E+06
3	251	185	556	1.00E+04

Groundwater Availability Model:
Northern Segment of the Edwards (Balcones Fault Zone) Aquifer of Texas
APPENDIX E

Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
3	250	186	523	1.00E+04
3	250	187	473	1.00E+04
3	250	221	532	1.00E+04
3	250	223	526	1.00E+04
3	250	224	526	1.00E+04
3	250	225	526	1.00E+04
3	250	226	525	1.00E+04
3	250	227	522	1.00E+04
3	250	228	522	1.00E+04
3	249	188	473	1.00E+04
3	249	220	540	1.00E+04
3	249	222	533	1.00E+04
3	245	189	539	1.00E+04
3	245	219	-162	1.00E+04
3	244	185	772	1.00E+04
3	244	203	493	1.00E+04
3	244	204	484	1.00E+04
3	243	190	720	1.00E+04
3	243	191	634	1.00E+04
3	243	192	538	1.00E+04
3	243	193	546	1.00E+04
3	243	202	618	1.00E+04
3	243	205	580	1.00E+04
3	243	219	-152	1.00E+04
3	243	221	-182	1.00E+04
3	242	184	735	1.00E+04
3	242	185	786	1.00E+04
3	242	220	-153	1.00E+04
3	240	200	498	1.00E+04
3	240	201	605	1.00E+04

Groundwater Availability Model:
Northern Segment of the Edwards (Balcones Fault Zone) Aquifer of Texas
APPENDIX E

Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
3	239	182	494	1.00E+04
3	239	183	600	1.00E+04
3	239	194	694	1.00E+04
3	239	195	488	1.00E+04
3	239	196	685	1.00E+04
3	239	199	762	1.00E+04
3	238	164	787	1.00E+04
3	238	165	789	1.00E+04
3	238	197	768	1.00E+04
3	238	198	834	1.00E+04
3	238	221	-141	1.00E+04
3	237	166	755	1.00E+04
3	237	167	686	1.00E+04
3	237	168	784	1.00E+04
3	237	169	633	1.00E+04
3	237	206	644	1.00E+04
3	237	215	537	1.00E+04
3	237	216	-59	1.00E+04
3	237	217	-70	1.00E+04
3	237	218	-90	1.00E+04
3	237	219	-101	1.00E+04
3	237	220	-132	1.00E+04
3	236	152	743	1.00E+04
3	236	153	740	1.00E+04
3	236	155	727	1.00E+04
3	236	182	547	1.00E+04
3	236	185	713	1.00E+04
3	236	207	490	1.00E+04
3	236	208	476	1.00E+04
3	236	214	603	1.00E+04

Groundwater Availability Model:
Northern Segment of the Edwards (Balcones Fault Zone) Aquifer of Texas
APPENDIX E

Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
3	235	143	710	1.00E+04
3	235	144	723	1.00E+04
3	235	145	687	1.00E+04
3	235	150	684	1.00E+04
3	235	151	708	1.00E+04
3	235	154	754	1.00E+04
3	235	156	725	1.00E+04
3	235	157	721	1.00E+04
3	235	162	634	1.00E+04
3	235	163	633	1.00E+04
3	235	170	730	1.00E+04
3	235	183	563	1.00E+04
3	235	184	667	1.00E+04
3	235	209	524	1.00E+04
3	235	212	483	1.00E+04
3	235	213	508	1.00E+04
3	234	151	705	1.00E+04
3	234	152	760	1.00E+04
3	234	162	671	1.00E+04
3	234	186	730	1.00E+04
3	234	210	722	1.00E+04
3	234	211	618	1.00E+04
3	233	146	643	1.00E+04
3	233	153	775	1.00E+04
3	233	158	838	1.00E+04
3	233	170	702	1.00E+04
3	232	154	916	1.00E+04
3	232	159	798	1.00E+04
3	232	160	886	1.00E+04
3	232	161	708	1.00E+04

Groundwater Availability Model:
Northern Segment of the Edwards (Balcones Fault Zone) Aquifer of Texas
APPENDIX E

Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
3	232	162	816	1.00E+04
3	232	186	773	1.00E+04
3	232	187	798	1.00E+04
3	231	169	634	1.00E+04
3	230	155	729	1.00E+04
3	230	168	634	1.00E+04
3	229	135	734	1.00E+04
3	229	136	698	1.00E+04
3	229	137	730	1.00E+04
3	229	138	649	1.00E+04
3	229	139	639	1.00E+04
3	229	167	690	1.00E+04
3	228	133	634	1.00E+04
3	228	134	698	1.00E+04
3	228	140	704	1.00E+04
3	228	141	836	1.00E+04
3	228	142	828	1.00E+04
3	228	187	633	1.00E+04
3	226	123	676	1.00E+04
3	226	124	686	1.00E+04
3	226	133	634	1.00E+04
3	226	183	909	1.00E+04
3	226	184	725	1.00E+04
3	226	185	854	1.00E+04
3	226	186	704	1.00E+04
3	225	122	634	1.00E+04
3	225	125	730	1.00E+04
3	225	126	713	1.00E+04
3	225	147	634	1.00E+04
3	225	168	637	1.00E+04

Groundwater Availability Model:
Northern Segment of the Edwards (Balcones Fault Zone) Aquifer of Texas
APPENDIX E

Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
3	225	182	780	1.00E+04
3	224	121	720	1.00E+04
3	224	156	915	1.00E+04
3	224	167	775	1.00E+04
3	224	179	634	1.00E+04
3	224	180	710	1.00E+04
3	224	181	634	1.00E+04
3	223	127	668	1.00E+04
3	223	169	811	1.00E+04
3	223	170	752	1.00E+04
3	223	171	710	1.00E+04
3	223	179	724	1.00E+04
3	222	128	633	1.00E+04
3	222	129	635	1.00E+04
3	222	130	634	1.00E+04
3	222	156	718	1.00E+04
3	222	176	712	1.00E+04
3	222	178	684	1.00E+04
3	221	120	688	1.00E+04
3	221	131	635	1.00E+04
3	221	132	634	1.00E+04
3	221	133	745	1.00E+04
3	221	148	638	1.00E+04
3	221	154	715	1.00E+04
3	221	171	702	1.00E+04
3	221	172	652	1.00E+04
3	221	177	857	1.00E+04
3	221	179	863	1.00E+04
3	220	155	738	1.00E+04
3	220	173	666	1.00E+04

Groundwater Availability Model:
Northern Segment of the Edwards (Balcones Fault Zone) Aquifer of Texas
APPENDIX E

Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
3	220	174	730	1.00E+04
3	220	175	724	1.00E+04
3	219	112	780	1.00E+04
3	219	113	691	1.00E+04
3	219	121	634	1.00E+04
3	219	149	680	1.00E+04
3	219	150	657	1.00E+04
3	219	151	690	1.00E+04
3	219	153	742	1.00E+04
3	218	114	734	1.00E+04
3	218	115	722	1.00E+04
3	218	152	758	1.00E+04
3	217	121	633	1.00E+04
3	215	116	716	1.00E+04
3	215	117	714	1.00E+04
3	215	118	634	1.00E+04
3	215	120	635	1.00E+04
3	214	119	738	1.00E+04
3	102	24	1427	1.00E+04
3	101	25	1415	1.00E+04
3	101	26	1412	1.00E+04
3	101	33	1289	1.00E+04
3	101	35	1281	1.00E+04
3	100	27	1406	1.00E+04
3	100	28	1393	1.00E+04
3	100	29	1382	1.00E+04
3	100	30	1357	1.00E+04
3	100	32	1314	1.00E+04
3	99	31	1341	1.00E+04
3	99	38	1238	1.00E+04

Groundwater Availability Model:
Northern Segment of the Edwards (Balcones Fault Zone) Aquifer of Texas
APPENDIX E

Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
3	98	39	1203	1.00E+04
3	98	40	1170	1.00E+04
3	97	41	1151	1.00E+04
3	96	42	1184	1.00E+04
3	95	43	1116	1.00E+04
3	95	44	1105	1.00E+04
3	95	47	1078	1.00E+04
3	95	48	1063	1.00E+04
3	95	49	1086	1.00E+04
3	94	45	1146	1.00E+04
3	94	46	1090	1.00E+04
3	94	50	1096	1.00E+04
3	93	51	1068	1.00E+04
3	93	52	1040	1.00E+04
3	93	53	1038	1.00E+04
3	93	54	1098	1.00E+04
3	91	55	1057	1.00E+04
3	89	55	1023	1.00E+04
3	89	56	1020	1.00E+04
3	87	55	1002	1.00E+04
3	85	56	999	1.00E+04
3	81	57	986	1.00E+04
3	81	59	997	1.00E+04
3	81	66	951	1.00E+04
3	81	110	782	1.00E+04
3	81	117	769	1.00E+04
3	80	58	984	1.00E+04
3	80	60	977	1.00E+04
3	80	65	940	1.00E+04
3	80	67	941	1.00E+04

Groundwater Availability Model:
Northern Segment of the Edwards (Balcones Fault Zone) Aquifer of Texas
APPENDIX E

Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
3	80	70	924	1.00E+04
3	80	71	906	1.00E+04
3	80	72	904	1.00E+04
3	80	73	903	1.00E+04
3	80	74	900	1.00E+04
3	80	102	784	1.00E+04
3	80	103	801	1.00E+04
3	80	104	808	1.00E+04
3	80	108	779	1.00E+04
3	80	109	781	1.00E+04
3	80	115	754	1.00E+04
3	80	116	737	1.00E+04
3	80	118	737	1.00E+04
3	80	123	833	1.00E+04
3	80	124	768	1.00E+04
3	79	61	960	1.00E+04
3	79	69	919	1.00E+04
3	79	101	792	1.00E+04
3	79	105	786	1.00E+04
3	79	111	782	1.00E+04
3	79	113	760	1.00E+04
3	79	114	762	1.00E+04
3	79	119	793	1.00E+04
3	79	121	824	1.00E+04
3	79	122	832	1.00E+04
3	79	162	786	1.00E+04
3	78	62	941	1.00E+04
3	78	63	957	1.00E+04
3	78	64	949	1.00E+04
3	78	68	966	1.00E+04

Groundwater Availability Model:
Northern Segment of the Edwards (Balcones Fault Zone) Aquifer of Texas
APPENDIX E

Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
3	78	106	784	1.00E+04
3	78	107	771	1.00E+04
3	78	112	764	1.00E+04
3	78	161	651	1.00E+04
3	77	74	897	1.00E+04
3	77	101	797	1.00E+04
3	77	119	766	1.00E+04
3	77	120	739	1.00E+04
3	77	133	723	1.00E+04
3	77	134	712	1.00E+04
3	77	135	706	1.00E+04
3	76	75	886	1.00E+04
3	76	99	808	1.00E+04
3	76	100	783	1.00E+04
3	76	119	739	1.00E+04
3	76	128	721	1.00E+04
3	76	132	708	1.00E+04
3	76	157	691	1.00E+04
3	76	158	674	1.00E+04
3	76	159	674	1.00E+04
3	76	161	648	1.00E+04
3	75	98	831	1.00E+04
3	75	125	739	1.00E+04
3	75	126	722	1.00E+04
3	75	127	721	1.00E+04
3	75	129	727	1.00E+04
3	75	143	702	1.00E+04
3	75	144	685	1.00E+04
3	75	151	701	1.00E+04
3	75	152	743	1.00E+04

Groundwater Availability Model:
Northern Segment of the Edwards (Balcones Fault Zone) Aquifer of Texas
APPENDIX E

Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
3	75	155	681	1.00E+04
3	75	156	673	1.00E+04
3	75	160	665	1.00E+04
3	74	76	896	1.00E+04
3	74	77	882	1.00E+04
3	74	78	920	1.00E+04
3	74	132	711	1.00E+04
3	74	136	698	1.00E+04
3	74	137	706	1.00E+04
3	74	138	737	1.00E+04
3	74	140	717	1.00E+04
3	74	141	708	1.00E+04
3	74	142	689	1.00E+04
3	74	145	723	1.00E+04
3	74	146	710	1.00E+04
3	74	147	773	1.00E+04
3	74	148	702	1.00E+04
3	74	149	686	1.00E+04
3	74	153	687	1.00E+04
3	74	167	643	1.00E+04
3	73	98	780	1.00E+04
3	73	130	739	1.00E+04
3	73	131	721	1.00E+04
3	73	132	797	1.00E+04
3	73	139	707	1.00E+04
3	73	150	670	1.00E+04
3	73	154	651	1.00E+04
3	73	162	645	1.00E+04
3	73	166	619	1.00E+04
3	73	168	630	1.00E+04

Groundwater Availability Model:
Northern Segment of the Edwards (Balcones Fault Zone) Aquifer of Texas
APPENDIX E

Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
3	72	79	907	1.00E+04
3	72	163	652	1.00E+04
3	72	165	652	1.00E+04
3	72	169	620	1.00E+04
3	72	170	649	1.00E+04
3	71	78	886	1.00E+04
3	71	164	724	1.00E+04
3	71	171	635	1.00E+04
3	71	172	700	1.00E+04
3	70	96	824	1.00E+04
3	70	97	809	1.00E+04
3	70	98	818	1.00E+04
3	69	79	877	1.00E+04
3	69	99	799	1.00E+04
3	69	172	686	1.00E+04
3	68	80	866	1.00E+04
3	68	81	871	1.00E+04
3	68	84	894	1.00E+04
3	68	92	854	1.00E+04
3	68	94	826	1.00E+04
3	68	95	823	1.00E+04
3	68	171	632	1.00E+04
3	67	82	864	1.00E+04
3	67	83	840	1.00E+04
3	67	85	820	1.00E+04
3	67	90	856	1.00E+04
3	67	91	835	1.00E+04
3	67	93	823	1.00E+04
3	66	86	837	1.00E+04
3	66	87	850	1.00E+04

Groundwater Availability Model:
Northern Segment of the Edwards (Balcones Fault Zone) Aquifer of Texas
APPENDIX E

Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
3	66	88	850	1.00E+04
3	66	89	840	1.00E+04
3	66	170	643	1.00E+04
3	66	172	623	1.00E+04
3	66	173	623	1.00E+04
3	65	170	621	1.00E+04
3	65	171	626	1.00E+04
3	62	173	635	1.00E+04
3	61	171	616	1.00E+04
3	61	172	636	1.00E+04
3	60	171	605	1.00E+04
3	60	172	614	1.00E+04
3	60	174	602	1.00E+04
3	60	175	604	1.00E+04
3	60	176	603	1.00E+04
3	59	173	604	1.00E+04
3	56	177	604	1.00E+04
3	56	178	603	1.00E+04
3	56	179	602	1.00E+04
3	53	178	602	1.00E+04
3	53	179	627	1.00E+04
3	51	178	602	1.00E+04
3	51	179	604	1.00E+04
3	51	180	602	1.00E+04
3	51	181	602	1.00E+04
3	50	182	595	1.00E+04
3	49	186	550	1.00E+04
3	49	187	541	1.00E+04
3	48	181	597	1.00E+04
3	48	182	590	1.00E+04

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Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
3	48	184	567	1.00E+04
3	48	185	560	1.00E+04
3	47	182	593	1.00E+04
3	47	183	587	1.00E+04
3	45	188	503	1.00E+04
3	44	189	496	1.00E+04
3	44	196	376	1.00E+04
3	44	218	0	1.00E+04
3	43	190	451	1.00E+04
3	43	194	411	1.00E+04
3	43	195	396	1.00E+04
3	43	197	366	1.00E+04
3	43	198	355	1.00E+04
3	43	219	-32	1.00E+04
3	42	191	448	1.00E+04
3	42	192	438	1.00E+04
3	42	193	425	1.00E+04
3	42	199	338	1.00E+04
3	42	214	92	1.00E+04
3	42	215	71	1.00E+04
3	42	216	40	1.00E+04
3	42	217	18	1.00E+04
3	41	200	327	1.00E+04
3	41	212	138	1.00E+04
3	41	213	124	1.00E+04
3	41	221	-60	1.00E+04
3	41	222	-104	1.00E+04
3	40	201	320	1.00E+04
3	40	202	309	1.00E+04
3	40	203	303	1.00E+04

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Layer	Row	Column	Elevation (feet)	Conductance (square feet per day)
3	40	204	287	1.00E+04
3	40	205	270	1.00E+04
3	40	209	202	1.00E+04
3	40	210	181	1.00E+04
3	40	211	169	1.00E+04
3	40	217	30	1.00E+04
3	40	218	14	1.00E+04
3	40	219	-11	1.00E+04
3	39	208	223	1.00E+04
3	39	221	-58	1.00E+04
3	38	206	259	1.00E+04
3	38	207	247	1.00E+04
3	37	216	68	1.00E+04
3	37	221	-43	1.00E+04
3	36	217	50	1.00E+04
3	36	218	25	1.00E+04
3	36	219	9	1.00E+04
3	36	220	-6	1.00E+04
3	249	219	466	1.00E+04

APPENDIX F MODEL REPORT COMMENTS AND RESPONSES

General Comments (TWDB response to comments indicated by the italicized blocks of text)

My biggest concern for this model is the simplicity of a 3-layer model for such a complex anisotropic and heterogeneous aquifer.

All models require some degree of simplification. The degree of simplification increases as model design transitions from fine or local scale to more coarse or regional scale. This groundwater flow model is a regional-scale model of the northern segment of the Edwards (Balcones Fault Zone) Aquifer. Regional scale models are designed to address large (regional) scale issues. Complex anisotropy and heterogeneity are highly localized and require huge amounts of data that are not currently available and collection of which is not within the budget or scope of this project. As outlined in the associated conceptual model report (Section 2.2.1), the northern segment of the Edwards (Balcones Fault Zone) Aquifer is made up of highly fractured rock with numerous northeast-southwest oriented major and minor faults and numerous joints that are often perpendicular to the faults. On a regional scale, the effects of anisotropy and heterogeneity are reduced in this fracture network. As discussed in Section 5.2, hydraulic property data is highly heterogeneous showing no apparent spatial trends.

One concern I have is the recharge estimates based on median rain fall evenly distributed by formation which seems quite unusual for a karst aquifer within a fault zone. I was also concerned that I did not find any specific reference to losing stream segments contributing to recharge.

In the model, the spatial distribution of recharge is based on median monthly precipitation for the month simulated and a recharge factor determined by the outcropping hydrostratigraphic unit. The total area of the hydrostratigraphic units, along with the areas of the respective hydrostratigraphic unit outcrops, are relatively small. Consequently, variation of monthly precipitation over the respective outcrops is small. The effects of variations of lithology will have a greater effect on recharge than small spatial variations of precipitation. At regional scales, it is unlikely that recharge is restricted to a relatively few mapped major faults instead of a fracture network of faults and joints. In the model, groundwater inflows to the aquifer from streams are simulated using the river package, separate from infiltration inflows in the recharge package.

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I was also concerned about the assumed simple 10:1 ratio of horizontal to vertical hydraulic conductivity and the implied homogeneity of the vertical hydraulic conductivity without any figures showing the more fractured and faulted zones. The extremely low value of specific storage for the Edwards (Balcones Fault Zone) Aquifer which is primarily an unconfined aquifer also surprised me.

The assumption of a 10:1 ratio of horizontal to vertical hydraulic conductivity was only applied to the initial values input into the model. This regional-scale model does not consider the effects of individual fractures or faults but is based on assumptions of the regional effect of the network of perpendicularly oriented fractures (see conceptual model report). The paucity of measured hydraulic properties, especially vertical hydraulic conductivity, and storage makes constraining the model challenging. Despite localized high storage associated with caves, conduits, and other karst features, at regional scales, hydraulic properties such as hydraulic conductivity and storage can be much lower than expected reflecting hydraulic properties of the aquifer matrix rather than the exceptionally high hydraulic properties of karst features that might be represented in a single-well aquifer test.

Residuals did not look too bad on the entire model by combining all the layers (Figure 3.2.3), but this was largely the result of combining all the layers because the Edwards was highly skewed positively and the Trinity was skewed negatively.

In this model, root mean squared error normalized to the range of water level elevations for both Layer 1 (Edwards [Balcones Fault Zone] Aquifer) and Layer 3 (Trinity Aquifer), are six percent and seven percent, respectively. These calibration statistics fall within the TWDB calibration requirements of less than ten percent for groundwater availability models.

The comparison of simulated to measured water levels was especially poor in parts of Bell and Burnet counties.

The calibration statistics for Bell and Burnet counties are mostly equal to or better than for the overall calibration statistics for the respective aquifers (Tables F1 and F2). Models are typically not calibrated to individual wells, so residuals will vary across the model.

Table F1. Calibration statistics for the Edwards (Balcones Fault Zone) Aquifer of Bell County compared to calibration statistics for the entire northern segment of the Edwards (Balcones Fault Zone) Aquifer. Values are in feet.

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County	Mean Error	Mean Absolute Error	Root Mean Square Error
Bell County	11	26	31
Layer 1	6	27	33

Table F2. Calibration statistics for the Trinity Aquifer of Bell and Burnet counties compared to calibration statistics for the entire northern segment of the Trinity Aquifer. Values are in feet.

County	Mean Error	Mean Absolute Error	Root Mean Square Error
Bell	-13	41	47
Burnet	-2	30	33
Aquifer	-46	63	69

I did not find much information on how the model dealt with flow downdip to the east within the Edwards (Balcones Fault Zone) aquifer.

In Figure 2.1.1 the downdip of the Edwards (Balcones Fault Zone) Aquifer is characterized by a general-head boundary simulating groundwater flow to and from the overlying stratigraphic units.

Although some wells are screened in more than one aquifer (limitations of supporting data P. 59) this is not the case throughout the entire study area and no information or references were given to support this practice in the Edwards (Balcones Fault Zone) Aquifer.

Wells that were screened in multiple aquifers or had anomalous water levels, which is often due to perching, were excluded as water-levels targets.

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I was extremely disappointed that hydraulic conductivity data from recent aquifer tests performed in this area were not included in this model. It is not helpful when new data are collected but not used to improve decisions and models. And I would disagree that the available data used to construct both the conceptual and numerical groundwater availability models were adequate to describe the Northern Segment of the Edwards (Balcones Fault Zone) Aquifer at the regional scale (see first sentence paragraph 3 on page 62).

During the model construction phase of this project, we used the hydraulic property data that was available to use at the time as the basis to constrain the hydraulic properties in the model. We had previously requested from stakeholders any aquifer data that they may have. During the next model update, we will once again reach out to stakeholders and request up-to-date data.

I agree with all the suggested future improvements, and especially agree that better streamflow data along with spatial and temporal recharge data would be helpful.

No comment.