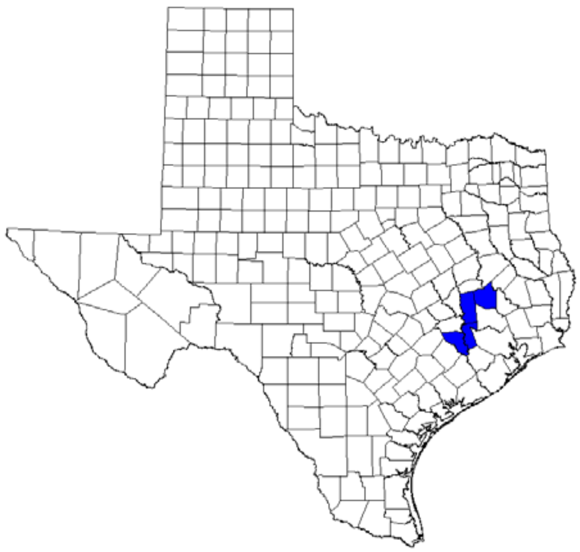
*Report*

# Technical Review of Electro Purification LLC Applications for:
# 1) Authorization to Drill, Operate, and Aggregate Ten New Wells for Production of Groundwater within the Bluebonnet Groundwater Conservation District, and
# 2) Out-of-District Transport of Groundwater for Beneficial Uses in Fort Bend County

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# 1.0 Executive Summary

This report summarizes the technical review of the Electro Purification LLC application for Authorization to Drill, Operate, and Aggregate Ten New Wells for Production of Groundwater within the Bluebonnet Groundwater Conservation District, and includes the application for Out-of-District Transport of Groundwater for Beneficial Uses in Fort Bend County.

The technical review covers four basic areas:

- Review the "needs" identified in the permit application in light of the Region H water plan, modeled available groundwater numbers that were developed by TWDB from the GMA 14 joint planning process, and the Fort Bend Subsidence District Groundwater Reduction Plan
- Review the impacts of proposed pumping on existing registered wells and permitted wells in the district
- Evaluate the impacts of the proposed pumping in the context of the adopted desired future conditions for Bluebonnet Groundwater Conservation District
- Evaluate the proposed pumping in the context of subsidence

In addition to these four basic areas of the technical review of the application, and in response to issues raised by several parties in the contested case hearing, Appendix F summarizes an analysis of the "salt-dome" issue.

## 1.1 Applicant's Identified Project Needs

Electro Purification proposes ten wells in Austin and Waller counties, producing 20 million gallons per day (MGD), or 22,500 acre-feet per year (AF/yr) of groundwater from the Gulf Coast Aquifer. Water produced from these wells would be transported to Fort Bend County for sale, distribution and beneficial use. The current identified customers for the water identified by the applicant are the Cities of Richmond and Rosenberg. Electro Purification provided a summary of the Groundwater Reduction Plans (GRP) for Richmond and Rosenberg. The proposed new wells and pumping are intended to replace the reduced groundwater pumping in Richmond, Rosenberg and entities partnered with each. However, the number of wells and the requested pumping rate (20 MGD or 22,500 AF/yr) would supply more than twice the required amount to meet the GRP requirements for Richmond and Rosenberg. The application provides no specific customers for the additional proposed pumping.

## 1.2 Groundwater Model Simulations

Analyses of impacts of the proposed wells in terms of drawdown to existing registered and permitted wells in the Bluebonnet Groundwater Conservation District, the impact of the proposed pumping in the context of the adopted desired future conditions of the Bluebonnet Groundwater Conservation District, and in the context of subsidence were completed with the use of two groundwater models developed by the US Geological Survey that have been used for groundwater planning in the recent past.

One model used was the Northern Gulf Coast Groundwater Availability Model (GAM) that was developed by the US Geological Survey for the Texas Water Development Board (TWDB) in 2004 (Kasmarek and Robinson, 2004). This model is the groundwater model used by the TWDB for calculation of modeled available groundwater, and was used by consultants for Groundwater Management Area 14 during development of desired future conditions for the Gulf Coast Aquifer in 2010.

Simulations were also completed using the Houston Area Groundwater Model (HAGM) that was developed by the US Geological Survey in 2012 (Kasmarek, 2012). This model was an update to the GAM, and was developed in cooperation with the Harris-Galveston Subsidence District, the Fort Bend Subsidence District, and the Lone Star Groundwater Conservation District. The primary area of interest in the development of the model was Fort Bend, Galveston, Harris, and Montgomery Counties. The primary objective of the model was to develop an updated tool to support the subsidence district's efforts to update their regulatory plan.

A more detailed review of these models in the context of the proposed pumping is provided in Appendix A of this report. In summary, neither model is likely reliable with respect to estimates of future drawdown, especially in the case of a proposed substantial increase in pumping. Subsidence estimates may be considered more reliable than the drawdown estimates. Overall, the accuracy of long-term subsidence estimates are within a foot of actual long-term subsidence measurements as documented by the US Geological Survey in areas of the model where subsidence has been measured. However, there is still a considerable degree of uncertainty in predicted subsidence estimates in an area where a large and concentrated increase in pumping is proposed with either model.

Overall, confidence in the results of the GAM and HAGM simulations is relatively low. The GAM and HAGM are regional scale models, and many of the issues are local scale that cannot be adequately simulated by these regional models. In an attempt to highlight and address some of the limitations of the GAM and HAGM with respect to the proposed project, an alternative simple local-scale MODFLOW model was developed. As developed in this report, this local-scale model simulated a postulated condition that the Evangeline Aquifer can be subdivided into an upper and lower aquifer zones that are separated by a confining unit. This postulated subdivision of the Evangeline Aquifer is not simulated with either the GAM or HAGM since these are regional models. However, if this localized condition exists, the simple model can be a useful tool to understand the relationships between pumping in the deeper portions of the Evangeline Aquifer (as proposed by Electro Purification), and

- The drawdown in the overlying upper portions of the Evangeline Aquifer (when vertically separated from the pumping zone by a confining layer by varying degrees)
- The drawdown in the Chicot Aquifer, which overlies the Evangeline and in which several wells are completed in the proposed project area
- The subsidence in the area under varying degrees of confinement within the Evangeline Aquifer

The simulations with the simple local-scale MODFLOW model are not to be construed as accurate or quantitative. They are only instructive to understand the relationship between parameters and the results (drawdown and subsidence in this case), and the importance of local subsurface data collection and analyses of tests in the project area to obtain accurate parameters from any future testing in the area, if a permit is issued.

## 1.3 Potential Subsidence

Based on an analysis of measured subsidence data and simulations over a wide range of alternative scenarios, the following findings were developed:

- Historic subsidence in the region has occurred in areas with high pumping and thick clay sequences. Subsidence has been measured in excess of nine feet in some areas of Harris County. Clay thickness in the proposed Electro Purification project area is less than the clay thickness in those portions of Harris County.
- Based on an analysis of mapped clay thickness at the proposed Electro Purification site and an evaluation of historic pumping in areas with measured subsidence in the region, subsidence impacts associated with the proposed project could be as high as three to seven foot range over several decades, depending on the amount of pumping.
- The proposed Electro Purification pumping at the full amount (20 million gallons per day for the project and as much as six million gallons per day in a one-square mile area) represents an intense amount of pumping over a fairly small area. Analysis of historic pumping estimates suggest that this amount of pumping in a small area, while not unprecedented for the area, is certainly not common. Thus, the use of historic analogs and models that are based on historic data cannot be considered highly accurate.
- The models that are available for use in this analysis (GAM and HAGM) were used to simulate a wide range of potential pumping scenarios to better understand the potential for subsidence in the area of the proposed pumping. Based on the calibration of the model, it appears that measureable subsidence will occur by 2060 if pumping exceeds about 6 million gallons per day. Based on the model simulations, this subsidence may not actually be measureable for 10 to 20 years.
- The models results suggest that spreading the pumping over a wide area will mitigate the subsidence impacts as compared to concentrating the pumping over a small area.

# 2.0 Review of Proposed Project Needs in Context of Existing Plans

Electro Purification proposes ten wells in Austin and Waller counties, producing 20 million gallons per day (MGD), or 22,500 acre-feet per year (AF/yr) of groundwater from the Evangeline Aquifer. Water produced from these wells would be transported to Fort Bend County for sale, distribution and beneficial use. The current identified customers for the water identified by the applicant are the Cities of Richmond and Rosenberg.

## 2.1 Regional Water Plan

Decadal estimates of future population and municipal water demand through 2070 were recently approved by the Texas Water Development Board. Data for Fort Bend County are presented in Tables 1 and 2 by Water User Group. For municipal use, this includes incorporated census places with a population greater than 500 and retail public utilities providing more than 280 acre-feet per year. Places that do not meet these criteria are grouped together in "County-Other", which for Fort Bend County is substantial.

From these estimates, it can be seen that the total expected municipal demand for Richmond and Rosenberg is expected to increase to 6,869 acre-feet per year in 2030, and 8,336 acre-feet per year in 2070. However, as outlined in Electro Purification's response of January 16, 2013, other entities in the area are partnered with Richmond and Rosenberg in the Groundwater Reduction Plan. Many of these entities listed in the January 16, 2013 letter do not appear as separate line items in Tables 1 and 2 due to their size and/or annual production, and are therefore lumped with others in the "County-Other" line. Further discussion of the partnering arrangements are discussed in Section 2.3.

## 2.2 Desired Future Condition and Modeled Available Groundwater Data

Desired future conditions are established by groundwater conservation districts in a groundwater management area, and are essentially quantified planning goals for a 50-year period. Modeled available groundwater is the amount of pumping, calculated by the Texas Water Development Board, which will achieve the desired future condition.

In 2010, the groundwater conservation districts in Groundwater Management Area 14 adopted desired future conditions for the Gulf Coast Aquifer. The desired future conditions for the Gulf Coast Aquifer were developed based on a simulation using the Northern Gulf Coast Groundwater Availability Model (GAM). Specifically, the desired future conditions were based on Scenario 3 of GAM Run 10-023 (Oliver, 2010). The results of the simulation provided estimates of drawdown for each of the subunits, or layers, of the Gulf Coast Aquifer (Chicot, Evangeline, Burkeville, and Jasper in increasing depth).

## Table 1. TWDB Decadal Population Projections Through 2070

| Water User Group | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
|---|---|---|---|---|---|---|
| ARCOLA | 1,874 | 2,848 | 3,748 | 4,605 | 5,302 | 5,999 |
| BEASLEY | 666 | 727 | 847 | 1,013 | 1,240 | 1,551 |
| COUNTY-OTHER | 184,306 | 235,839 | 269,995 | 340,568 | 440,233 | 568,474 |
| FAIRCHILDS | 783 | 915 | 1,026 | 1,186 | 1,422 | 1,778 |
| FORT BEND COUNTY MUD #116 | 2,505 | 2,843 | 3,340 | 3,729 | 4,118 | 4,506 |
| FORT BEND COUNTY MUD #121 | 3,188 | 3,461 | 4,094 | 4,741 | 5,389 | 6,037 |
| FORT BEND COUNTY MUD #129 | 2,680 | 3,848 | 4,933 | 5,838 | 6,471 | 6,475 |
| FORT BEND COUNTY MUD #23 | 11,693 | 12,464 | 12,884 | 13,305 | 13,725 | 14,145 |
| FORT BEND COUNTY MUD #25 | 9,412 | 9,502 | 9,649 | 9,822 | 10,000 | 10,181 |
| FULSHEAR | 12,106 | 13,755 | 14,932 | 15,925 | 16,784 | 17,543 |
| GREATWOOD | 12,140 | 12,601 | 12,669 | 12,736 | 12,803 | 12,870 |
| HOUSTON | 41,589 | 44,084 | 46,095 | 47,876 | 49,329 | 50,432 |
| KATY | 6,908 | 16,048 | 16,136 | 16,205 | 16,259 | 16,302 |
| MEADOWS PLACE | 4,669 | 4,761 | 4,856 | 4,953 | 5,052 | 5,153 |
| MISSOURI CITY | 75,849 | 93,347 | 110,720 | 125,923 | 135,484 | 141,294 |
| NEEDVILLE | 2,836 | 2,874 | 2,922 | 2,995 | 3,104 | 3,267 |
| NORTH FORT BEND WATER AUTHORITY | 279,197 | 386,813 | 471,003 | 519,828 | 545,853 | 559,135 |
| PEARLAND | 3,495 | 3,766 | 4,691 | 5,615 | 6,543 | 7,621 |
| PECAN GROVE MUD #1 | 11,510 | 11,535 | 11,581 | 11,620 | 11,653 | 11,683 |
| PLANTATION MUD | 3,948 | 3,948 | 3,948 | 3,948 | 3,948 | 3,948 |
| PLEAK | 1,350 | 1,580 | 1,691 | 1,797 | 1,907 | 2,034 |
| RICHMOND | 12,400 | 12,890 | 13,510 | 14,375 | 15,236 | 16,093 |
| ROSENBERG | 40,384 | 42,560 | 44,928 | 47,378 | 50,227 | 53,654 |
| SIENNA PLANTATION | 18,447 | 23,593 | 32,113 | 40,633 | 49,154 | 57,016 |
| SIMONTON | 884 | 1,047 | 1,369 | 1,623 | 1,826 | 1,992 |
| STAFFORD | 17,761 | 18,241 | 18,845 | 19,518 | 20,271 | 21,115 |
| SUGAR LAND | 105,510 | 114,908 | 122,172 | 129,275 | 135,224 | 139,312 |
| WESTON LAKES | 2,621 | 2,791 | 3,019 | 3,247 | 3,475 | 3,704 |
| WHCRWA | 11,255 | 11,534 | 11,591 | 11,656 | 11,750 | 11,850 |

**Table 2. TWDB Decadal Municipal Water Demand Projections in Acre-Feet Per Year Through 2070**

| Water User Group | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
|---|---|---|---|---|---|---|
| BEASLEY | 78 | 82 | 93 | 109 | 133 | 166 |
| COUNTY-OTHER | 25,842 | 32,512 | 36,976 | 46,469 | 59,999 | 77,413 |
| FAIRCHILDS | 94 | 106 | 116 | 132 | 157 | 196 |
| FORT BEND COUNTY MUD #116 | 580 | 654 | 767 | 854 | 942 | 1,031 |
| FORT BEND COUNTY MUD #121 | 394 | 423 | 498 | 575 | 652 | 730 |
| FORT BEND COUNTY MUD #129 | 664 | 947 | 1,211 | 1,432 | 1,586 | 1,587 |
| FORT BEND COUNTY MUD #23 | 1,318 | 1,387 | 1,428 | 1,469 | 1,511 | 1,556 |
| FORT BEND COUNTY MUD #25 | 1,212 | 1,199 | 1,200 | 1,210 | 1,228 | 1,250 |
| FULSHEAR | 1,378 | 1,549 | 1,679 | 1,788 | 1,884 | 1,967 |
| GREATWOOD | 1,469 | 1,491 | 1,477 | 1,471 | 1,475 | 1,482 |
| HOUSTON | 8,426 | 8,739 | 8,994 | 9,266 | 9,530 | 9,739 |
| KATY | 1,664 | 3,798 | 3,796 | 3,800 | 3,810 | 3,819 |
| MEADOWS PLACE | 773 | 765 | 761 | 767 | 780 | 796 |
| MISSOURI CITY | 11,858 | 14,199 | 16,577 | 18,715 | 20,104 | 20,959 |
| NEEDVILLE | 300 | 292 | 287 | 289 | 298 | 313 |
| NORTH FORT BEND WATER AUTHORITY | 62,302 | 85,549 | 103,873 | 114,477 | 120,129 | 123,021 |
| PEARLAND | 502 | 533 | 658 | 784 | 911 | 1,061 |
| PECAN GROVE MUD #1 | 2,016 | 1,963 | 1,922 | 1,922 | 1,923 | 1,928 |
| PLANTATION MUD | 417 | 399 | 385 | 377 | 376 | 376 |
| PLEAK | 158 | 179 | 187 | 197 | 208 | 222 |
| RICHMOND | 2,023 | 2,046 | 2,098 | 2,207 | 2,333 | 2,463 |
| ROSENBERG | 4,707 | 4,823 | 4,989 | 5,205 | 5,503 | 5,873 |
| SIENNA PLANTATION | 4,395 | 5,584 | 7,581 | 9,578 | 11,576 | 13,423 |
| SIMONTON | 105 | 119 | 151 | 176 | 198 | 216 |
| STAFFORD | 4,238 | 4,290 | 4,383 | 4,512 | 4,678 | 4,872 |
| SUGAR LAND | 28,173 | 30,347 | 32,045 | 33,780 | 35,292 | 36,352 |
| WESTON LAKES | 1,657 | 1,758 | 1,899 | 2,039 | 2,181 | 2,325 |
| WHCRWA | 1,441 | 1,449 | 1,438 | 1,436 | 1,445 | 1,457 |

The desired future conditions adopted by the groundwater conservation districts of Groundwater Management Area 14 adopted the simulated drawdown in groundwater elevations averaged by county and model layer for all counties not included in a subsidence district (Fort Bend, Galveston, and Harris). As part of the adoption of the desired future conditions, Groundwater Management Area 14 adopted a resolution (included in this report as Appendix B) explaining the unique role that the subsidence districts played in the development of the desired future conditions, and the unique circumstances associated with the subsidence districts in this planning process.

In summary, the Fort Bend Subsidence District (FBSD) and the Harris-Galveston Subsidence District (HGSD), which operate in Fort Bend, Galveston, and Harris counties, do not specifically regulate on the basis of groundwater drawdowns, nor do they regulate on the basis of specific pumping limitations. Rather, as explained in the resolution, the regulations in these three counties are based on limitations of groundwater pumping as a percentage of total water demand, and the percentage of groundwater pumping to total water demand is decreased over time, as total water demand increases. The resolution acknowledges that there is no "easily defined relationship" between groundwater elevation drawdown and subsidence. However, the resolution notes that high pumping can result in groundwater elevation drawdown that, in turn, can cause clay layers within the aquifer to compact. This compaction of clay layers within the aquifer results in subsidence. The resolution clearly stated that the desired future condition for Fort Bend, Galveston, and Harris counties is that future land subsidence be avoided.

The resolution provided a qualitative expression of a desired future condition for Fort Bend, Galveston, and Harris counties. The adopted desired future condition includes quantitative estimates of drawdown from 2009 to 2060 (52 years) based on Scenario 3 of GAM Run 10-023 for all other counties in Groundwater Management Area 14. The desired future conditions were then used by the Texas Water Development Board to develop modeled available groundwater estimates (the amount of pumping to achieve the desired future condition) for each county-model layer unit. The results of this effort are documented in GAM Run 10-038MAG (Hasan and Wade, 2011). Table 3 summarizes the pertinent drawdown estimates for Austin and Waller counties, as well as the model results for Fort Bend County from Oliver (2010), and the modeled available groundwater estimates from Hasan and Wade for all three counties of interest.

**Table 3. Summary of Gulf Coast Aquifer Desired Future Condition and Modeled Available Groundwater for Austin, Fort Bend and Waller Counties (data from Oliver, 2010, and Hasan and Wade, 2011)**

| County | Aquifer | Desired Future Condition (ft of drawdown from 2009 to 2060) [1] | Modeled Available Groundwater (AF/yr) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 2010 | 2020 | 2030 | 2040 | 2050 | 2060 |
| Austin | Chicot | 17 | 1,300 | 1,300 | 1,300 | 1,300 | 1,300 | 1,300 |
| Fort Bend | Chicot | 19 | 83,006 | 75,916 | 61,657 | 61,004 | 60,061 | 60,177 |
| Waller | Chicot | 7 | 300 | 300 | 300 | 300 | 300 | 300 |
| Austin | Evangeline | 10 | 20,013 | 20,013 | 20,013 | 20,013 | 20,013 | 20,013 |
| Fort Bend | Evangeline | 24 | 30,923 | 32,789 | 30,420 | 31,166 | 32,251 | 32,313 |
| Waller | Evangeline | 8 | 41,027 | 41,027 | 41,027 | 41,027 | 41,027 | 41,027 |
| Austin | Burkeville | 11 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fort Bend | Burkeville | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| Waller | Burkeville | 9 | 0 | 0 | 0 | 0 | 0 | 0 |
| Austin | Jasper | 20 | 1,001 | 1,001 | 1,001 | 1,001 | 1,001 | 1,001 |
| Fort Bend | Jasper | 40 | 0 | 0 | 0 | 0 | 0 | 0 |
| Waller | Jasper | 25 | 300 | 300 | 300 | 300 | 300 | 300 |

[1] Note that the drawdowns presented for Fort Bend County are not the adopted desired future condition (see text and Appendix B for explanation), but are the estimated drawdowns from Scenario 3 of GAM Run 10-034 (Oliver, 2010) in Fort Bend County that are consistent with the adopted desired future conditions in Groundwater Management Area 14.

## 2.3 Groundwater Reduction Program

Electro Purification provided a summary of the Groundwater Reduction Programs (GRP) for Richmond and Rosenberg in their response letter of January 16, 2013. The proposed new wells and pumping are intended to replace the reduced groundwater pumping in Richmond, Rosenberg and other entities partnered with each.

According to the applicant, the following entities are currently served by the City of Richmond water system, and are partnered with the City of Richmond in the Groundwater Reduction Program:

- Fort Bend County MUD No. 19 – Riverwood
- Fort Bend County MUD No. 121 – RiverPark West
- Fort Bend County MUD No. 140 – River’s Edge
- Fort Bend County MUD No. 145 – Rio Vista
- Fort Bend County MUD No. 187 – Del Webb

According to the applicant, the following entities are partnered with the City of Richmond in the Groundwater Reduction Program, but are not currently served by the City of Richmond water system

- Fort Bend County MUD No. 116 – Canyon Gate
- Fort Bend County WCID No. 3 – Texana
- Fort Bend County WCID No. 8 – Westcreek
- Lamar Consolidated ISD
- RiverPark West HOA
- Texana HOA
- Fort Bend Country Club

According to the application, the following entities are partnered with the City of Rosenberg in the Groundwater Reduction Program:

- Quadvest, L.P. (Bridlewood Estates)
- Fort Bend County MUD No. 5
- Fort Bend County MUD No. 155 (amenity well)
- Fort Bend County MUD No. 162
- Fort Bend County Fresh Water Supply District No. 2

Based on the analysis presented by the applicant in their January 16, 2013 letter, the applicant provided the data presented in Table 4 for total demands for Richmond, Rosenberg and their GRP partners, and required reductions expressed in terms of a percentage of total demand, and in terms of pumping in million gallons per day and acre-feet per year. Based on the information submitted, there are only identified customers for the proposed project for up to about 11,097 acre-feet per year of groundwater.

**Table 4. Summary of Applicant's Summary of Richmond and Rosenberg Demands and Required Conversions under the Groundwater Reduction Plan**

| Year | Total Demand (mgd) | Total Demand (AF/yr) | Required Conversion (%) | Required Conversion (mgd) | Required Conversion (AF/yr) |
|---|---|---|---|---|---|
| 2010 | 8.358 | 9,362 | 0 | 0 | 0 |
| 2015 | 11.294 | 12,651 | 30 | 3.388 | 3,795 |
| 2025 | 15.123 | 16,940 | 60 | 9.074 | 10,164 |
| 2030 | 16.511 | 18,494 | 60 | 9.907 | 11,097 |

Please recall from Table 2 that, based on Texas Water Development Board projections, the total demand in 2030 for Richmond and Rosenberg is 6,869 acre-feet per year (2,046 acre-feet per year for Richmond and 4,823 acre-feet per year for Rosenberg). A 60 percent reduction in this projected demand is 4,121 acre-feet per year, and would represent the conversion requirement of the cities of

Richmond and Rosenberg. These are the projected demand and conversion requirement for the cities themselves, and do not include their GRP partners. However, the applicant stated that 11,097 AF/yr is needed to meet reduction requirements of Richmond, Rosenberg, and their GRP partners in 2030.

Assuming that the TWDB water demand projections in Table 2 are consistent with those demand estimates that were basis for the Groundwater Reduction Program, the amount of water needed to meet the GRP partners in 2030 is 6,976 acre-feet per year (the difference between 11,097 acre-feet per year stated by the applicant and the 4,121 acre-feet per year conversion requirement for the cities of Richmond and Rosenberg calculated above).

In terms of million gallons per day, the total conversion requirement in 2030 stated by the applicant is 9.907 mgd, the conversion requirement for Richmond and Rosenberg in 2030 is 3.679 mgd, and the calculated conversion requirement of the GRP partners is 6.228 mgd.

Based on these calculations, the applicant appears to be stating that Richmond and Rosenberg account for 37 percent of the conversion requirement, and the GRP partners account for 63 percent of the conversion requirement in 2030. In addition, the remaining amount requested (11,403 acre-feet per year) has no identified customer.

In conclusion, the number of wells and the requested pumping rate (20 MGD or 22,500 AF/yr) would supply more than twice the required amount to meet the GRP requirements for Richmond and Rosenberg, and their reported GRP partners. The application provides no specific customers for the additional proposed pumping.

# 3.0 Groundwater Model Simulations

Analyses of impacts of the proposed wells in terms of drawdown to existing registered and permitted wells in the Bluebonnet Groundwater Conservation District, the impact of the proposed pumping in the context of the adopted desired future conditions of the Bluebonnet Groundwater Conservation District, and in the context of subsidence were completed with the use of two groundwater models developed by the US Geological Survey that have been used for groundwater planning in the recent past.

The first was the Northern Gulf Coast Groundwater Availability Model (GAM) that was developed by the US Geological Survey for the Texas Water Development Board (TWDB) in 2004 (Kasmarek and Robinson, 2004). This model is the currently approved groundwater model by the TWDB, and was used by consultants for Groundwater Management Area 14 during development of desired future conditions for the Gulf Coast Aquifer in 2010.

Simulations were also completed using the Houston Area Groundwater Model (HAGM) that was developed by the US Geological Survey in 2012 (Kasmarek, 2012). This model was an update to the GAM, and was developed in cooperation with the Harris-Galveston Subsidence District, the Fort Bend Subsidence District, and the Lone Star Groundwater Conservation District. The primary area of interest in the development of the model was Fort Bend, Galveston, Harris, and Montgomery Counties. The primary objective of the model was to develop an updated tool to support the subsidence district's efforts to update their regulatory plan.

A more detailed review of these models in the context of the proposed pumping is provided in Appendix A of this report. In summary, neither model is likely reliable with respect to estimates of future drawdown, especially in the case of a proposed substantial increase in pumping. Subsidence estimates may be considered more reliable than the drawdown estimates. Overall, the accuracy of long-term subsidence estimates are within a foot of actual long-term subsidence measurements as documented by the US Geological Survey in other areas of the model where subsidence has been measured. There is still a considerable degree of uncertainty in the subsidence estimates in an area where a large and concentrated increase in pumping is proposed.

A total of 33 scenarios were developed as part of this review, and 66 simulations were completed as part of this technical review: 33 scenarios simulated with the GAM, and 33 scenarios simulated with the HAGM. The scenarios simulated different numbers of wells, simulated alternate conditions where other pumping in Austin and Waller counties remained the same (representing an increase in modeled available groundwater), or were reduced to maintain the same modeled available groundwater for those counties, and simulated the effects of pumping from the underlying Jasper Aquifer rather than the Evangeline Aquifer at the same locations as proposed by the applicant. The 32 scenarios are summarized in Table 5.

**Table 5. Summary of Simulations (EP Wells = Proposed Electro Purification Wells, MAG = Modeled Available Groundwater)**

| Scenario Number | Description |
|---|---|
| Base | Desired Future Condition/Modeled Available Groundwater Conditions |
| 1 | 1 EP Well + MAG |
| 2 | 2 EP Wells + MAG |
| 3 | 3 EP Wells + MAG |
| 4 | 4 EP Wells + MAG |
| 5 | 5 EP Wells + MAG |
| 6 | 6 EP Wells + MAG |
| 7 | 7 EP Wells + MAG |
| 8 | 8 EP Wells + MAG |
| 9 | 9 EP Wells + MAG |
| 10 | 10 EP Wells + MAG |
| 11 | 1 EP Well, Reduce other pumping |
| 12 | 2 EP Wells, Reduce other pumping |
| 13 | 3 EP Wells, Reduce other pumping |
| 14 | 4 EP Wells, Reduce other pumping |
| 15 | 5 EP Wells, Reduce other pumping |
| 16 | 6 EP Wells, Reduce other pumping |
| 17 | 7 EP Wells, Reduce other pumping |
| 18 | 8 EP Wells, Reduce other pumping |
| 19 | 9 EP Wells, Reduce other pumping |
| 20 | 10 EP Wells, Reduce other pumping |
| 21 | 9 Evangeline, 1 Jasper + MAG |
| 22 | 8 Evangeline, 2 Jasper + MAG |
| 23 | 7 Evangeline, 3 Jasper + MAG |
| 24 | 6 Evangeline, 4 Jasper + MAG |
| 25 | 5 Evangeline, 5 Jasper + MAG |
| 26 | 4 Evangeline, 6 Jasper + MAG |
| 27 | 3 Evangeline, 7 Jasper + MAG |
| 28 | 2 Evangeline, 8 Jasper + MAG |
| 29 | 1 Evangeline, 9 Jasper + MAG |
| 30 | 0 Evangeline, 10 Jasper + MAG |
| 31 | Conversion schedule + MAG |
| 32 | Conversion schedule, reduce other pumping |

## 3.1 Base Scenario

The Base Scenario using the GAM was completed by simply running the model using the files used in Scenario 3 of GAM Run 10-023 (Oliver, 2010). This scenario included a simulation of 129 stress periods that covered the years 1891 to 2060. The Base Scenario using the HAGM was completed by using pumping file for the HAGM (1891 to 2009), and adding the pumping from Scenario 3 of GAM Run 10-023 for pumping from 2010 to 2060.

## 3.2 Proposed Project Pumping in Addition to the Modeled Available Groundwater

Scenarios 1 to 10 were completed by adding wells as noted in Table 5 (one in Scenario 1, two in Scenario 2, etc.) to the pumping file for the GAM or the HAGM as appropriate for the years 2014 to 2060. The simulation period was selected to be consistent with the applicant's analysis presented in the applicant's hydrogeological report. Locations of the wells are shown in Figure 1. Note that these simulations assumed that other pumping in Austin and Waller counties would not be reduced as a result of the proposed Electro Purification Project.

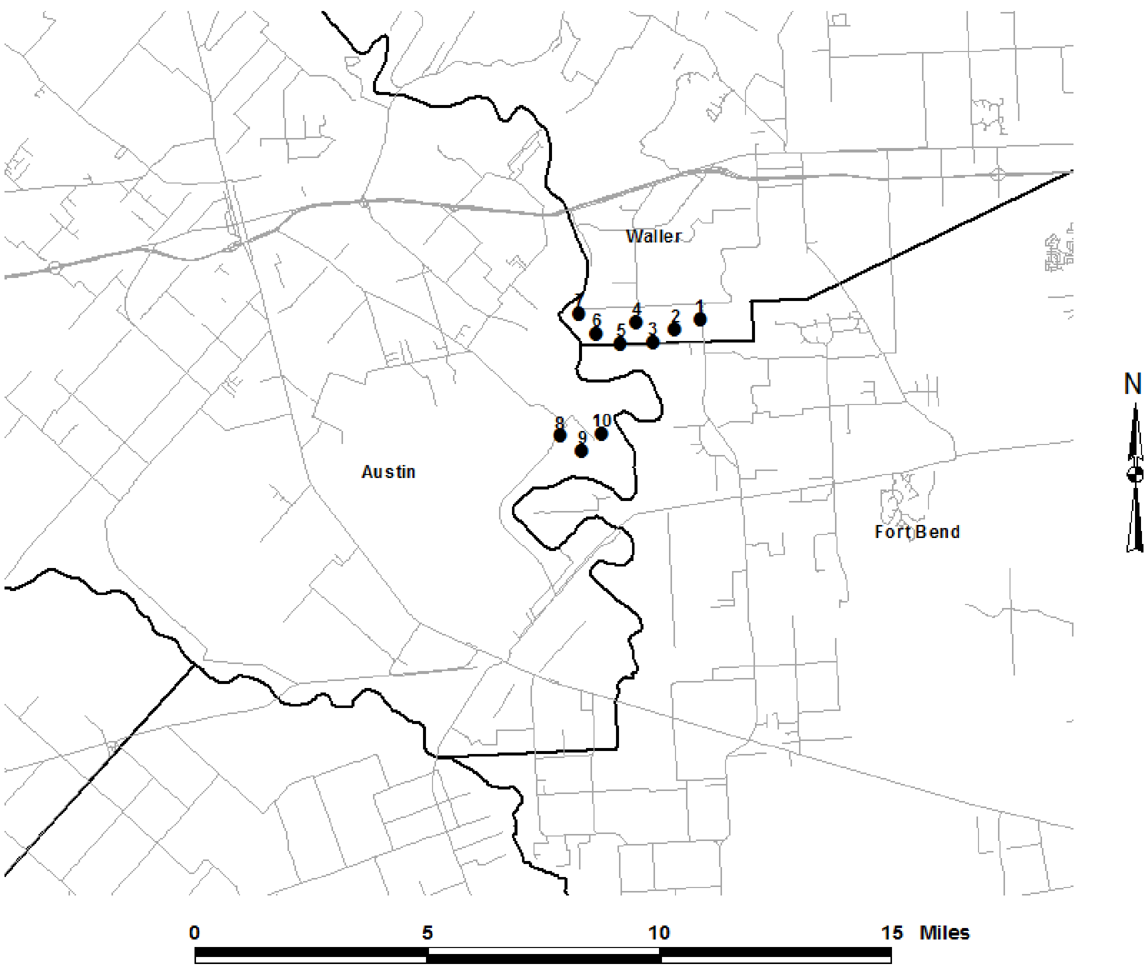


**Figure 1. Proposed Electro Purification Wells in Austin and Waller Counties**

As noted in the hydrogeologic report that was part of the application, the ten wells are located within five model cells. However, three wells are located in Model Row 53, Model Column 68 according to the applicant's hydrogeologic report.

The TWDB designated each model cell with a county code. These county codes are used to calculate average drawdown and pumping for each county of model layer. Because a model grid cell may cover more than one county, the TWDB assigned a county code to the cell based on the location of the center point of the cell. In this case, Model Row 53, Column 68 is designated as a Fort Bend County cell, even though part of the cell is in Waller County. Thus, in order to complete comparisons with the Base Case as described above and compare drawdown and pumping of proposed Electro Purification pumping with the base case in the context of previous planning efforts, the wells were moved to the adjacent Waller County Cell (Row 52, Column 68) to maintain consistency with the TWDB files that were used in the desired future condition development process and calculation of the modeled available groundwater for Groundwater Management Area 14.

Table 6 summarizes the model row and column assignments for the proposed Electro Purification wells for each of the scenarios.

**Table 6. Summary of Pumping Assignments in Model Grid for Scenarios 1 to 10**

| **Scenario** | **Waller County Wells** | | | **Austin County Wells** | | **Total Scenario Pumping (mgd)** |
|---|---|---|---|---|---|---|
| | Pumping in Row 52, Column 68 (mgd) | Pumping in Row 52, Column 67 (mgd) | Pumping in Row 53, Column 69 (mgd) | Pumping in Row 54, Column 66 (mgd) | Pumping in Row 53, Column 65 (mgd) | |
| 1 | 2 | 0 | 0 | 0 | 0 | 2 |
| 2 | 2 | 2 | 0 | 0 | 0 | 4 |
| 3 | 2 | 2 | 2 | 0 | 0 | 6 |
| 4 | 4 | 2 | 2 | 0 | 0 | 8 |
| 5 | 4 | 4 | 2 | 0 | 0 | 10 |
| 6 | 4 | 4 | 4 | 0 | 0 | 12 |
| 7 | 6 | 4 | 4 | 0 | 0 | 14 |
| 8 | 6 | 4 | 4 | 2 | 0 | 16 |
| 9 | 6 | 4 | 4 | 2 | 2 | 18 |
| 10 | 6 | 4 | 4 | 4 | 2 | 20 |

### 3.3 Proposed Project Pumping with Reductions in Other Pumping

The objective of Scenarios 11 to 20 was to simulate proposed project pumping while honoring the modeled available groundwater totals for each county. Thus, as proposed project pumping increased, other planned pumping in the simulation was decreased such that total pumping in each county equaled the modeled available groundwater.

Scenarios 11 to 20 were completed by adding pumping identical to those in Scenarios 1 to 10 (Table 6 presented shown above) to the pumping file for the GAM or the HAGM as appropriate for the years 2014 to 2060. The simulation period was selected to be consistent with the applicant's analysis presented in their hydrogeological report. These simulations, however, assumed that other Evangeline Aquifer pumping in Austin and Waller counties would be reduced as a result of the proposed Electro Purification Project in order to maintain the modeled available groundwater values shown in Table 3. Thus, these scenarios represent changing the location of pumping as compared to Scenario 3 of GAM Run 10-023 (the basis for the desired future condition), but not the total pumping.

Table 7 summarizes the reduction in other Evangeline Aquifer pumping for each scenario. Recall that the Modeled Available Groundwater for the Evangeline Aquifer in Waller County is 41,027 acre-feet per year, and is 20,013 acre-feet per year in Austin County.

**Table 7. Simulated Electro Purification (EP) Pumping, Other Pumping, and Total Pumping in Austin and Waller Counties for Scenarios 11 to 20**

| Scenario | Austin County | | | Waller County | | |
|---|---|---|---|---|---|---|
| | EP Pumping (AF/yr) | Other Pumping (AF/yr) | Total Pumping (AF/yr) | EP Pumping (AF/yr) | Other Pumping (AF/yr) | Total Pumping (AF/yr) |
| 11 | 0 | 20,013 | 20,013 | 2,240 | 38,787 | 41,027 |
| 12 | 0 | 20,013 | 20,013 | 4,481 | 36,546 | 41,027 |
| 13 | 0 | 20,013 | 20,013 | 6,721 | 34,306 | 41,027 |
| 14 | 0 | 20,013 | 20,013 | 8,961 | 32,066 | 41,027 |
| 15 | 0 | 20,013 | 20,013 | 11,201 | 29,826 | 41,027 |
| 16 | 0 | 20,013 | 20,013 | 13,442 | 27,585 | 41,027 |
| 17 | 0 | 20,013 | 20,013 | 15,682 | 25,345 | 41,027 |
| 18 | 2,240 | 17,773 | 20,013 | 15,682 | 25,345 | 41,027 |
| 19 | 4,481 | 15,532 | 20,000 | 15,682 | 25,345 | 41,027 |
| 20 | 6,721 | 13,292 | 20,000 | 15,682 | 25,345 | 41,027 |

## 3.4 Simulation of Jasper Aquifer Pumping

Scenarios 21 to 30 investigated the effect of completing the proposed Electro Purification Project wells into the deeper Jasper Aquifer, which is deeper than the Evangeline Aquifer and is separated from the Evangeline Aquifer by the Burkeville Confining Layer. In these scenarios, all ten proposed wells were assumed to be operational, but the number of Evangeline wells and the number of Jasper wells were varied. Recall from Scenario 10 that all ten proposed Electro Purification wells were assumed completed in the Evangeline Aquifer, and there is no reduction in other pumping in Austin and Waller counties. Using Scenario 10 as a starting point, Scenario 21 assumed that one well was completed in the Jasper and the other nine were completed in the Evangeline. Scenario 22 assumed two Jasper wells and eight Evangeline wells. Finally Scenario 30 assumed 10 Jasper wells and no Evangeline wells. For each scenario, pumping was added for each cell for the years 2014 to 2060 in addition to the pumping from Scenario 3 of GAM Run 10-023. The simulation period was selected to be consistent with the applicant's analysis presented in their hydrogeological report.

## 3.5 Simulation of Conversion Schedule

As discussed in Section 2.3 of this report, and summarized previously in Table 4 of this report, the applicant has outlined the conversion schedule for the cities of Richmond and Rosenberg, and their Groundwater Reduction Plan partners. In summary, the applicant stated that pumping will begin in 2015 (3.388 mgd, or 3,795 AF/yr), increase in 2025 to 9.074 mgd (or 10,164 AF/yr), and increase again in 2030 to 9.907 mgd (or 11,097 AF/yr).

This conversion schedule was simulated by locating wells in three cells that contain proposed project wells in Waller County and distributing the pumping amongst the cells evenly for each of the three periods as shown in Table 8. Austin County well locations were not included for these scenarios in order to avoid the need to construct a pipeline under the Brazos River.

In Scenario 31, the pumping was added to the pumping file for the GAM or the HAGM as appropriate for the years 2015 to 2060 as shown in Table 8. Thus, Scenario 31 represents pumping in addition to the modeled available groundwater similar to Scenarios 1 to 10.

**Table 8. Summary of Pumping Assignment for Scenarios 31 and 32**

| Period | Pumping in Row 52, Col 68 (mgd) | Pumping in Row 52, Col 67 (mgd) | Pumping in Row 53, Col 69 (mgd) | Total EP Pumping (mgd) |
|---|---|---|---|---|
| 2015 to 2024 | 1.70 | 1.70 | 0.00 | 3.40 |
| 2025 to 2029 | 3.02 | 3.02 | 3.02 | 9.06 |
| 2030 to 2060 | 3.30 | 3.30 | 3.30 | 9.90 |

In Scenario 32, other pumping in Waller County was reduced in order to simulate the effects of changing the location of pumping as compared to Scenario 3 of GAM Run 10-023 (the basis for the desired future condition), but maintaining total pumping equal to the modeled available groundwater similar to Scenarios 11 to 20. A summary of simulated Electro Purification pumping, other Waller County pumping, and total pumping for Scenarios 31 and 32 is presented in Table 9.

**Table 9. Summary of Pumping in Waller County for Scenarios 31 and 32**

| Scenario | Time Period | Waller County | | |
|---|---|---|---|---|
| | | EP Pumping (AF/yr) | Other Pumping (AF/yr) | Total Pumping (AF/yr) |
| 31 | 2015 to 2024 | 3,795 | 41,027 | 44,822 |
| 31 | 2024 to 2029 | 10,164 | 41,027 | 51,191 |
| 31 | 2030 to 2060 | 11,097 | 41,027 | 52,124 |
| 32 | 2015 to 2024 | 3,795 | 37,232 | 41,027 |
| 32 | 2024 to 2029 | 10,164 | 30,863 | 41,027 |
| 32 | 2030 to 2060 | 11,097 | 29,930 | 41,027 |

## 3.6 Simulations with Simple Local-Scale MODFLOW Model

### *3.6.1 Background*

In an attempt to highlight and address one of the limitations of the GAM and HAGM with respect to the proposed project, an alternative simple local-scale model using MODFLOW was developed. This local-scale model simulated a postulated condition that the Evangeline Aquifer can be subdivided into an upper and lower aquifer zones that are separated by a confining unit as shown in Figure 2.

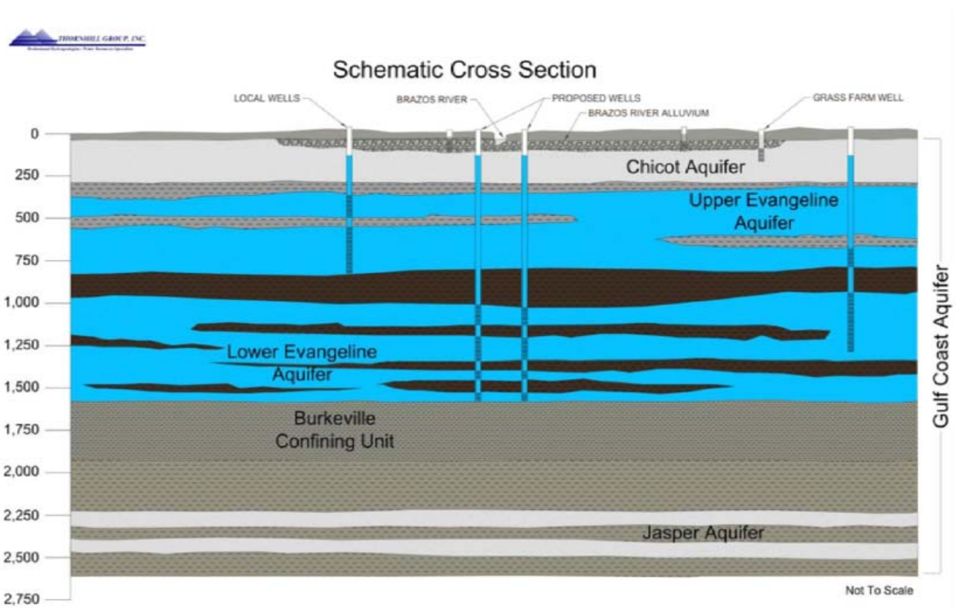


**Figure 2. Applicant's Postulated Conceptualization of an Upper Evangeline Aquifer and Lower Evangeline Aquifer**

This schematic cross-section was provided by the applicant's hydrogeology consultant. In essence, the applicant has stated that, if a confining unit exists between the Upper Evangeline Aquifer and the Lower Evangeline Aquifer, it is likely that pumping in the Lower Evangeline Aquifer will have less drawdown impact on wells completed in the Upper Evangeline Aquifer as compared to a situation where no such intermediate and extensive confining unit were present. However, it must be noted that if an extensive and continuous intermediate confining unit were present, the drawdown of groundwater elevations associated with the proposed project may result in additional subsidence as compared to a situation without extensive clay layers in the Evangeline Aquifer.

This postulated subdivision of the Evangeline Aquifer is not part of the hydrogeologic framework of the GAM or HAGM since these are regional models. However, if this localized condition exists at the proposed project site, the simple model can be a useful tool to understand the relationships between pumping in the deeper portions of the Evangeline Aquifer (as proposed by Electro Purification). Furthermore, the assumed sand and clay ratios in the immediate area of the proposed Electro Purification wells is not well known. The simple MODFLOW model was used to understand the relative effect of alternative sand and clay ratios in the aquifer units on drawdown and subsidence, and the effect of the postulated intermediate confining layer immediately above the proposed production unit of the Electro Purification wells.

As developed more fully below, if this project proceeds to a testing and drilling phase, it is recommended that the subsequent evaluation of the test data include expanding this type of numerical analysis. Specifically, hydrogeologic framework data collected during the drilling should be used to construct a numerical model that conforms better to local hydrogeologic conditions, and data from any aquifer test be evaluated with local numerical model to assess and update estimated impacts of the proposed pumping.

### *3.6.2 Simple MODFLOW Model Grid, Layering, and Boundary Conditions*

The simple MODFLOW model simulated an idealized flow system of about 50 miles by 50 miles. The flow system is discretized into a grid of cells defined by 100 rows by 100 columns, with each cell 3,000 ft by 3,000 ft, which corresponds to the proposed well spacing of the Electro Purification wells. Thus, there is only one well in each cell of this model.

The model contains four layers:

- Layer 1 represents the Chicot Aquifer, and is 200 feet thick
- Layer 2 represents the "upper" Evangeline Aquifer, and is 500 feet thick
- Layer 3 represents the confining unit between the "upper" and "lower" Evangeline Aquifer, and is 200 feet thick
- Layer 4 represents the "lower" Evangeline, is 700 feet thick.

Proposed Electro Purification wells were simulated to pump water from Layer 4, the "lower" Evangeline.

The model grid and boundary conditions are shown in Figure 3. The regional flow in the system is from top to bottom of Figure 3, with a constant head boundary difference of 30 feet between north and south boundaries (blue lines on Figure 3). In addition, recharge was assumed to be 0.05 inches per year. The red cells on Figure 3 represent the locations of the proposed Electro Purification wells (one per cell), and pumping was set to 20 million gallons per day for all simulations for 50 years.

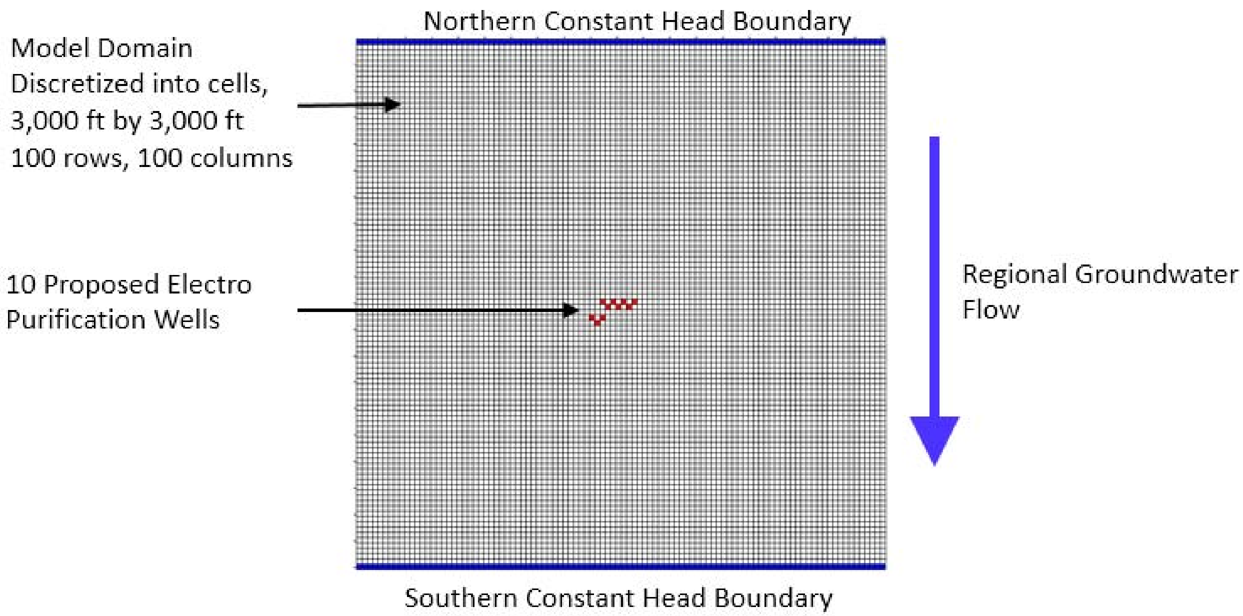


**Figure 3. Model Grid and Boundary Conditions of Simple MODFLOW model**

### *3.6.3 Model Parameters for the Simple MODFLOW model*

For the purposes of this evaluation, basic input parameters included horizontal hydraulic conductivity (sand and clay), specific storativity, and inelastic specific storativity. These basic input parameters were then used with model layer thickness and clay percentage assumptions to develop appropriate model input parameters.

Parameters from the GAM and HAGM were evaluated, as were parameters identified in the hydrogeology report associated with Electro Purification's application. Based on this review, Table 10 summarizes the starting parameters that were used in this analysis. The objectives of this analysis were to investigate the general relationship between the effects of clay content in the aquifer layers and the postulated intermediate confining layer within the Evangeline Aquifer on a local scale on drawdown and subsidence. As developed in the next section, these initial parameters were varied in a series of simulations as part of this analysis.

**Table 10. Initial Parameters for Simple MODFLOW Model**

| Model Layer | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Unit Designation | Chicot | Upper Evangeline | Evangeline Confining Unit | Lower Evangeline |
| Layer Thickness (ft) | 200 | 500 | 200 | 700 |
| Horizontal Sand Hydraulic Conductivity (ft/day) | 20 | 18 | 16 | 14 |
| Horizontal Clay Hydraulic Conductivity (ft/day) | 0.01 | 0.01 | 0.01 | 0.01 |
| Assumed Clay Percentage | 40 | 60 | 85 | 60 |
| Assumed Clay Thickness (ft) | 80 | 300 | 170 | 420 |
| Assumed Sand Thickness (ft) | 120 | 200 | 30 | 280 |
| Equivalent Layer Hydraulic Conductivity (ft/day) | 12.004 | 7.206 | 2.409 | 5.606 |
| Equivalent Layer Vertical Hydraulic Conductivity (ft/day) | 0.0250 | 0.0167 | 0.0118 | 0.0167 |
| Layer Transmissivity ($ft^2$/day) | 2,401 | 3,603 | 482 | 3,924 |
| Layer Transmissivity (gpd/ft) | 17,958 | 26,950 | 3,603 | 29,353 |
| Specific Storage ($ft^{-1}$) | 5.00E-06 | 6.00E-08 | 1.50E-08 | 4.30E-08 |
| Storativity (dimensionless) | 1.00E-03 | 3.00E-05 | 3.00E-06 | 3.01E-05 |
| Inelastic Specific Storativity ($ft^{-1}$) | 8.70E-05 | 1.50E-05 | 2.50E-05 | 2.00E-05 |
| Inelastic Storativity (dimensionless) | 6.96E-03 | 4.50E-03 | 4.25E-03 | 8.40E-03 |
| Elastic Storativity (dimensionless) | 6.96E-05 | 4.50E-05 | 4.25E-05 | 8.40E-05 |

The parameters presented above were based on the following:

- Layer thickness was assigned based on the model framework as suggested by the project applicant's hydrogeology report.
- Horizontal sand hydraulic conductivity was assumed to be 20 ft/day in the upper layer, and decreased 2 ft/day with each layer to simulate deeper burial and compaction of the sand units.
- Horizontal clay hydraulic conductivity was assumed to be 0.01 ft/day for all layers.
- Assumed clay percentage in layers 1, 2 and 4 were assumed after reviewing average clay content data used in the GAM and HAGM in the area of the proposed Electro Purification wells. Assumed clay content in layer 3 was assumed to represent a confining unit (low sand content)
- Assumed clay thickness was calculated using the clay percentage and total layer thickness.
- Assumed sand thickness was calculated as total layer thickness minus layer clay thickness.

- The equivalent layer horizontal conductivity was calculated using the layer-thickness weighted mean of the sand and clay horizontal hydraulic conductivity following a method documented by Fitts (2002, pg. 52).
- The equivalent layer vertical hydraulic conductivity was calculated using the layer-thickness weighted harmonic mean of the sand and clay horizontal hydraulic conductivity following a method documented by Fitts (2002, pg. 52).
- Layer transmissivity (expressed in $ft^2$/day and gpd/ft) is the product of the equivalent layer horizontal hydraulic conductivity and layer thickness.
- Specific storage was assumed based on a review of GAM and HAGM parameters.
- Storativity is the product of specific storage and model layer thickness
- Inelastic specific storage was assumed based on a review of GAM and HAGM documentation.
- Inelastic storativity is the product of inelastic specific storage and model clay layer thickness
- Elastic storativity is assumed to be equal to inelastic storativity divided by 100, as was assumed in the GAM and HAGM.

### *3.6.4 Simulations with the Simple MODFLOW model*

Two sets of 50-year simulations were completed:

- Simulations 1 to 11 varied the clay content of model layers 1, 2, and 4 between 25 and 75 percent, in 5 percent increments
- Simulations 12 to 20 varied the clay content of model layer 3 (the postulated intermediate confining layer) between 50 and 90 percent, in 5 percent increments

Details of assumed clay content in each layer are summarized in Table 11. All basic parameter values remained unchanged from the values in Table 10.

**Table 11. Summary of Layer Clay Percentages Assumptions for Each Simulation with Simple MODFLOW Model**

| Simulation | Percent Clay in Layer | | | |
|---|---|---|---|---|
| | Layer 1 | Layer 2 | Layer 3 | Layer 4 |
| 1 | 25 | 25 | 85 | 25 |
| 2 | 30 | 30 | 85 | 30 |
| 3 | 35 | 35 | 85 | 35 |
| 4 | 40 | 40 | 85 | 40 |
| 5 | 45 | 45 | 85 | 45 |
| 6 | 50 | 50 | 85 | 50 |
| 7 | 55 | 55 | 85 | 55 |
| 8 | 60 | 60 | 85 | 60 |
| 9 | 65 | 65 | 85 | 65 |
| 10 | 70 | 70 | 85 | 70 |
| 11 | 75 | 75 | 85 | 75 |
| 12 | 40 | 60 | 90 | 60 |
| 13 | 40 | 60 | 85 | 60 |
| 14 | 40 | 60 | 80 | 60 |
| 15 | 40 | 60 | 75 | 60 |
| 16 | 40 | 60 | 70 | 60 |
| 17 | 40 | 60 | 65 | 60 |
| 18 | 40 | 60 | 60 | 60 |
| 19 | 40 | 60 | 55 | 60 |
| 20 | 40 | 60 | 50 | 60 |

# 4.0 Simulated Effects of Proposed Pumping on Registered and Permitted Wells Using GAM and HAGM

## 4.1 Location of Registered and Permitted Wells

Figure 4 presents the locations of 379 wells completed in the Chicot Aquifer that are less than 10 miles from at least one proposed Electro Purification well. These wells include registered and permitted wells from the Bluebonnet GCD database in Austin and Waller counties (as of July 31, 2013), and wells in the TWDB database in Austin, Fort Bend and Waller counties. Figure 5 presents the locations of 115 wells from the same sources that are completed in the Evangeline Aquifer.

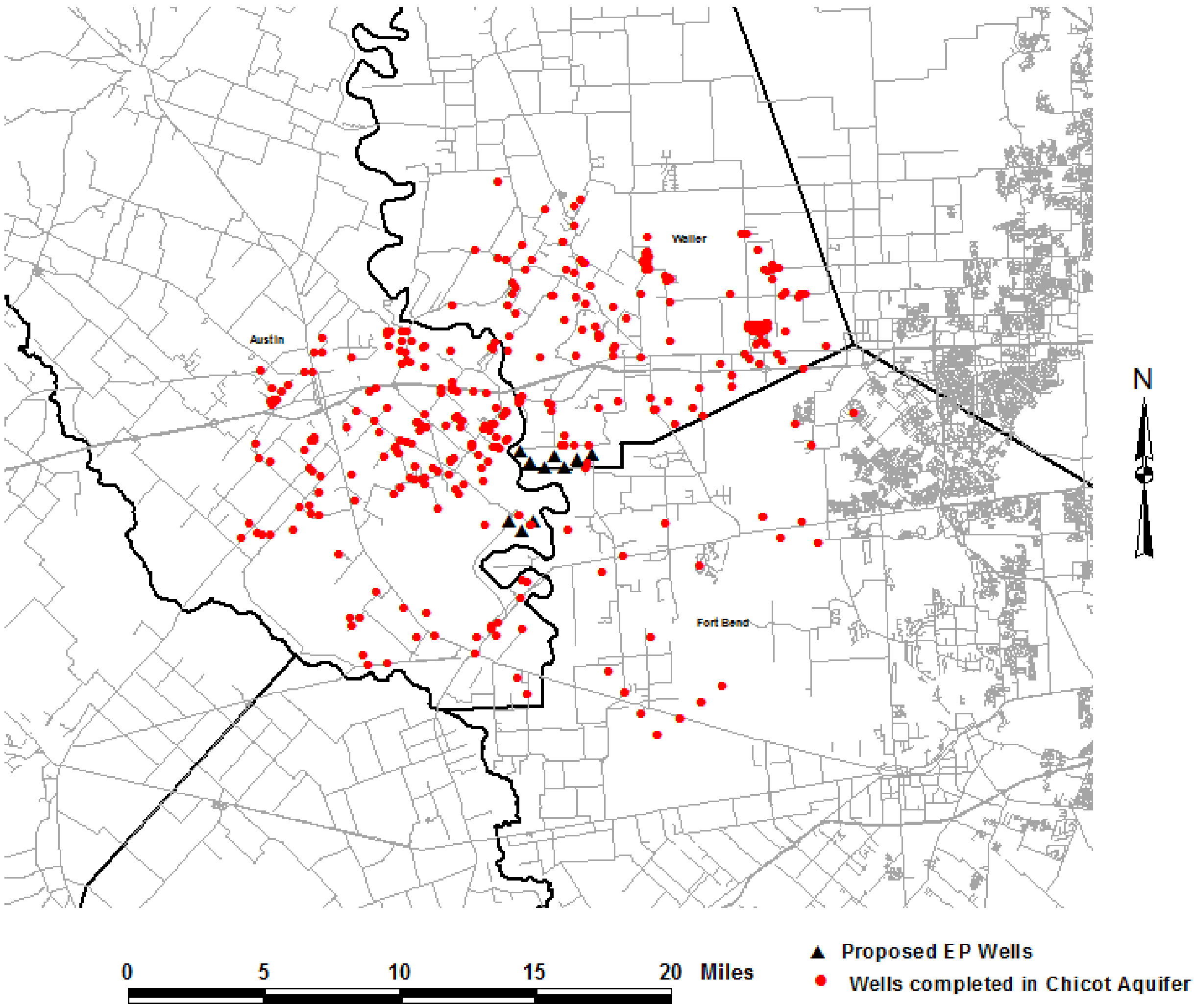


**Figure 4. Registered and Permitted Wells, and Wells from TWDB database within Ten Miles of at least one EP Well - Chicot Aquifer**

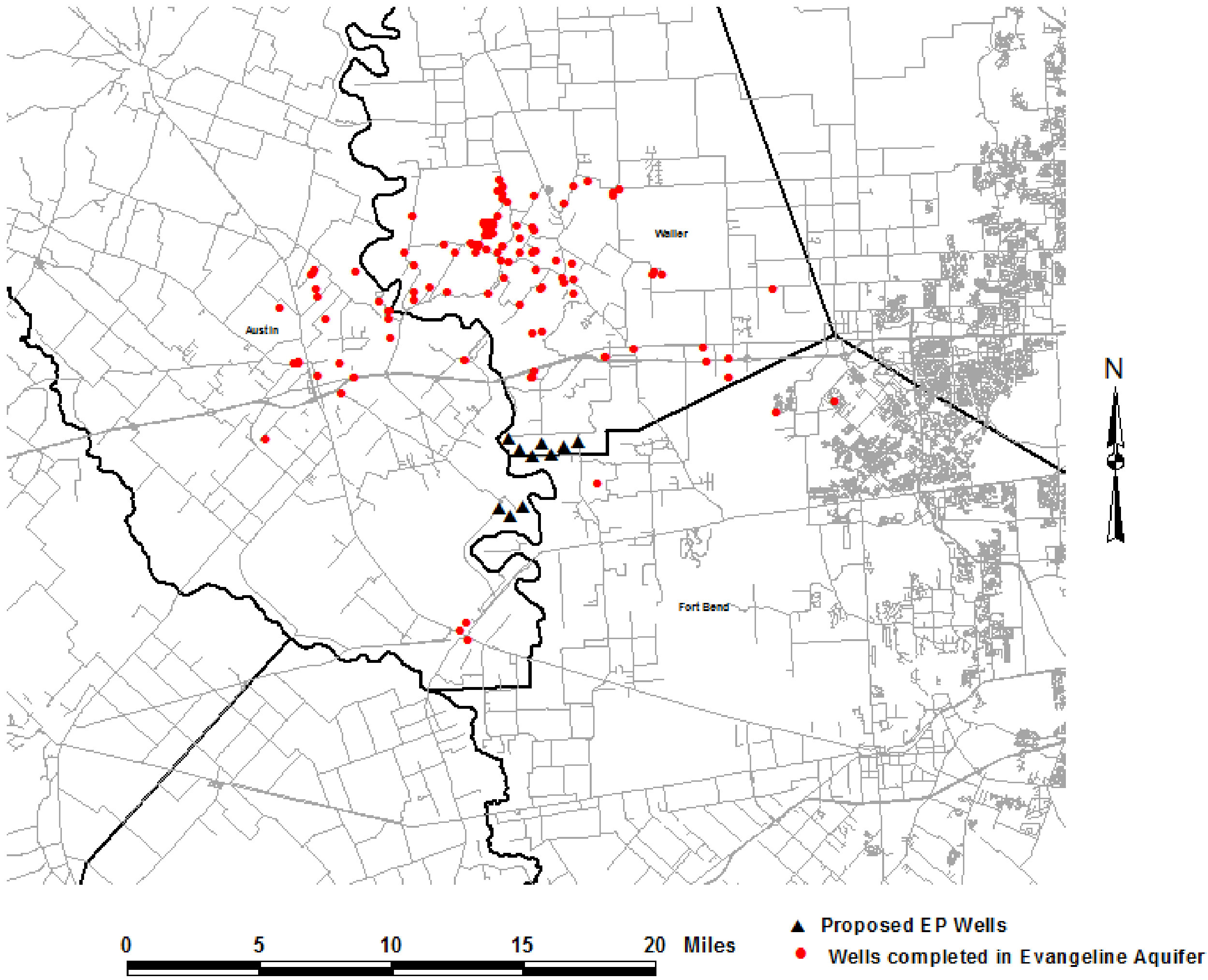


**Figure 5. Registered and Permitted Wells, and Wells from the TWDB Database within Ten Miles of at least one EP Well - Evangeline Aquifer**

Figure 6 presents a histogram of well distance to the closest Electro Purification well for wells completed in the Chicot Aquifer. Figure 7 presents a histogram of well distance to the closest Electro Purification well for wells completed in the Evangeline Aquifer.

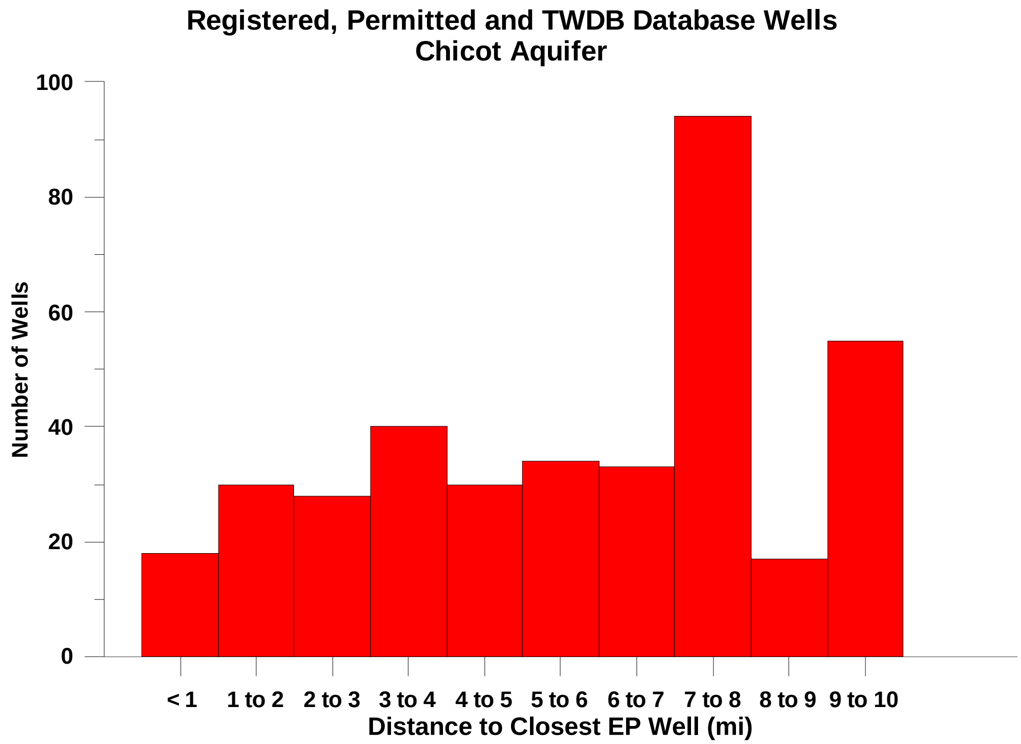


**Figure 6. Histogram of Distances to Wells - Chicot Aquifer**

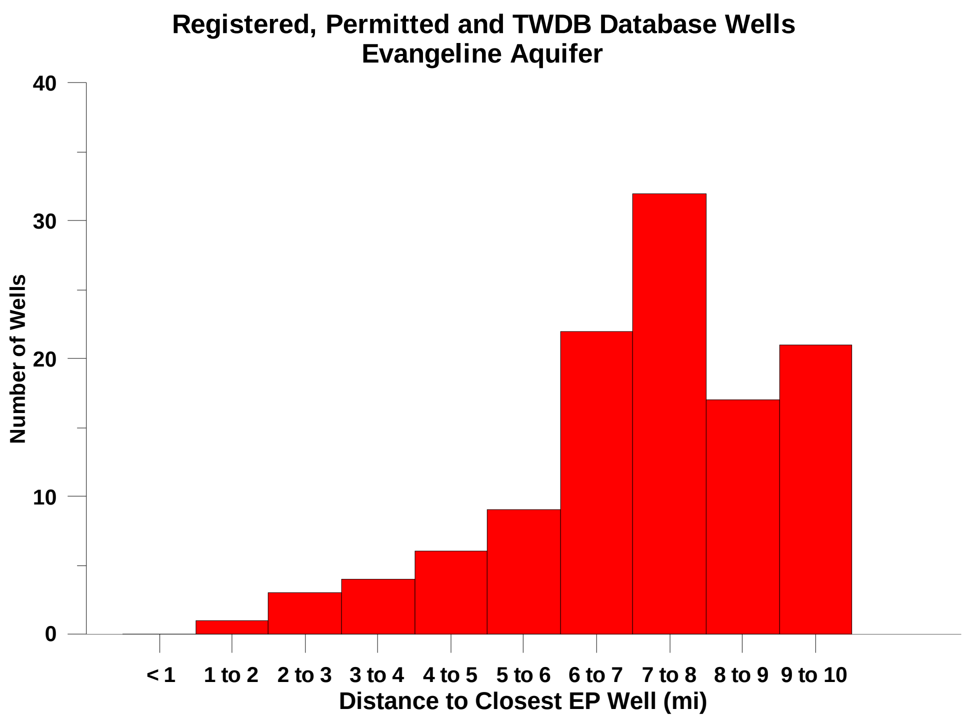


**Figure 7. Histogram of Distances to Wells - Evangeline Aquifer**

## 4.2 Simulations Results

Simulation results for each well location are presented in the form of tables and maps in Appendix C. Tables and maps include well-by-well estimates of drawdown from 2008 to 2060 for each well (379 Chicot Aquifer wells and 115 Evangeline Aquifer wells).

- The baseline scenario (DFC/MAG simulation)
- Scenario 3 (Electro Purification pumping = 6 million gallons per day or mgd)
- Scenario 10 (Electro Purification pumping = 20 mgd)
- Scenario 31 (Electro Purification pumping = 9.9 mgd)

### *4.2.1 Drawdown Tables*

Four tables are included as follows:

- Table C-1 (Chicot Aquifer – Estimated Drawdown from the GAM)
- Table C-2 (Chicot Aquifer – Estimated Drawdown from the HAGM)
- Table C-3 (Evangeline Aquifer – Estimated Drawdown from the GAM)
- Table C-4 (Evangeline Aquifer – Estimated Drawdown from the HAGM)

Wells are designated by the well number used by Bluebonnet GCD. Wells that use the State Well Number were obtained from the TWDB database.

Drawdown is calculated as the difference between estimated groundwater elevation in 2008 and the estimated groundwater elevation in 2060. This was the drawdown calculation time period used by Groundwater Management Area 14 in establishing the desired future conditions for the various components of the Gulf Coast Aquifer (Chicot, Evangeline, Burkeville, and Jasper).

The total estimated drawdown is included as well as the estimated drawdown that can be attributed to the proposed Electro Purification pumping for a specific scenario. For example, if the baseline scenario yields a drawdown estimate at a specific point of 5 feet, and the drawdown for a particular scenario of Electro Purification pumping at that same point is 12 feet, then the drawdown attributed to the Electro Purification pumping is 12 feet minus 5 feet, or 7 feet.

Table 12 summarizes the results of Tables C-1 and C-2 for the wells completed in model layer 1 (Chicot Aquifer). Note that ranges of drawdown are presented for three distance groups. The closest Chicot Aquifer well used in this analysis is 0.15 miles from a proposed Electro Purification well.

Table 13 summarizes the results of Tables C-3 and C-4 for the wells completed in model layer 2 (Evangeline Aquifer). Note that ranges of drawdown are presented for three distance groups. The closest Evangeline Aquifer well used in this analysis is 1.7 miles from a proposed Electro Purification well.

**Table 12. Summary of Drawdown Estimates (2008 to 2060) for Wells Completed in the Chicot Aquifer – Estimates from Tables C-1 and C-2**

| Distance to EP Wells | Scenario | Simulated Drawdown (ft) | | Drawdown Attributable to EP (ft) | |
|---|---|---|---|---|---|
| | | GAM | HAGM | GAM | HAGM |
| 0.15 to 0.5 mile | Base | 26 to 32 | 38 to 43 | 0 | 0 |
| | Scenario 3 (6 mgd) | 38 to 44 | 48 to 53 | 12 to 15 | 9 to 13 |
| | Scenario 10 (20 mgd) | 66 to 79 | 69 to 80 | 41 to 48 | 32 to 39 |
| | Scenario 31 (9.9 mgd) | 46 to 52 | 54 to 59 | 19 to 25 | 15 to 20 |
| 0.5 to 1 mile | Base | 26 to 28 | 39 to 44 | 0 | 0 |
| | Scenario 3 (6 mgd) | 41 to 44 | 51 to 53 | 12 to 16 | 10 to 13 |
| | Scenario 10 (20 mgd) | 74 to 78 | 75 to 81 | 43 to 50 | 35 to 41 |
| | Scenario 31 (9.9 mgd) | 51 to 53 | 57 to 60 | 18 to 25 | 15 to 20 |
| 1 to 2 miles | Base | 23 to 36 | 37 to 47 | 0 | 0 |
| | Scenario 3 (6 mgd) | 34 to 45 | 48 to 54 | 8 to 15 | 6 to 13 |
| | Scenario 10 (20 mgd) | 57 to 80 | 67 to 81 | 31 to 49 | 23 to 40 |
| | Scenario 31 (9.9 mgd) | 41 to 53 | 53 to 60 | 12 to 23 | 10 to 20 |

**Table 13. Summary of Drawdown Estimates (2008 to 2060) for Wells Completed in the Evangeline Aquifer - Estimates from Tables C-3 and C-4**

| Distance to EP Wells | Scenario | Simulated Drawdown (ft) | | Drawdown Attributable to EP (ft) | |
|---|---|---|---|---|---|
| | | GAM | HAGM | GAM | HAGM |
| 1.7 to 3 miles | Base | 25 to 28 | 41 to 51 | 0 | 0 |
| | Scenario 3 (6 mgd) | 50 to 57 | 66 to 79 | 25 to 32 | 25 to 31 |
| | Scenario 10 (20 mgd) | 96 to 116 | 112 to 136 | 72 to 90 | 71 to 89 |
| | Scenario 31 (9.9 mgd) | 65 to 76 | 81 to 96 | 40 to 51 | 40 to 51 |
| 3 to 5 miles | Base | 23 to 43 | 38 to 71 | 0 | 0 |
| | Scenario 3 (6 mgd) | 38 to 50 | 56 to 78 | 7 to 18 | 7 to 18 |
| | Scenario 10 (20 mgd) | 63 to 78 | 86 to 106 | 30 to 54 | 28 to 54 |
| | Scenario 31 (9.9 mgd) | 46 to 54 | 66 to 85 | 10 to 29 | 10 to 29 |
| 5 to 7 miles | Base | 15 to 26 | 31 to 88 | 0 | 0 |
| | Scenario 3 (6 mgd) | 21 to 34 | 39 to 95 | 6 to 13 | 6 to 13 |
| | Scenario 10 (20 mgd) | 33 to 58 | 54 to 110 | 18 to 36 | 19 to 37 |
| | Scenario 31 (9.9 mgd) | 24 to 42 | 43 to 93 | 9 to 20 | 9 to 20 |

### *4.2.2 Drawdown Maps*

Figures C-1 to C-16 are maps of estimated total drawdown for:

- The baseline scenario (DFC/MAG simulation)
- Scenario 3 (Electro Purification pumping = 6 mgd)
- Scenario 10 (Electro Purification pumping = 20 mgd)
- Scenario 31 (Electro Purification pumping = 9.9 mgd)

Each of these groups has four maps. Each map pairs a particular aquifer (Chicot and Evangeline) and a particular model (GAM and HAGM).

Figures C-17 to C-28 are maps of estimated drawdown attributed to a specific Electro Purification pumping scenario:

- Scenario 3 (Electro Purification pumping = 6 mgd)
- Scenario 10 (Electro Purification pumping = 20 mgd)
- Scenario 31 (Electro Purification pumping = 9.9 mgd)

As in Tables C-1 to C-4, these maps present the difference in drawdown (base case to the particular scenario) at each well location.

## 4.3 Limitations of the Simulation Results

As previously described above and more fully developed in Appendix A, estimates of drawdown using the GAM and HAGM are likely not reliable, especially for simulations with large increases in future pumping, such as the project proposed by Electro Purification. This limitation is directly related to the use of the General Head Boundary (GHB) package in MODFLOW to simulate the recharge and groundwater-surface water interactions in the outcrops of the model layers. As stated in Kasmarek and Robinson (2004, pg. 43) and Kasmarek (2012, pg. 15), the GHB package allows the simulated water table of an aquifer system to function as a head-dependent flux boundary. The rate of flow between the water table and the adjacent deeper zone of the system is controlled by the difference between that water table (a specified head) and the head in the adjacent deeper zone (which changes with model simulation time) and by the vertical hydraulic conductance between the water table and the immediately deeper zone.

As described in Appendix A, the net effect of using the GHB package in this manner is that GHB flows into the aquifer system represent a combined inflow of recharge from precipitation and inflow from streams in the outcrop areas of the model. There is a significant increase in inflow from the GHB boundary through time into the aquifer that essentially means that there is an increase in the sum of recharge from precipitation plus recharge from streamflow. This is coincident with increased pumping in the area. For example: in Austin County, simulated GHB inflows rise from less than 6,000 AF/yr in 1891 to slightly over 16,000 AF/yr by 2009, and then are simulated to increase to almost 24,000 AF/yr by 2060 under the DFC condition. In Waller County, HAGM simulated inflows are less than GHB inflows simulated by the GAM. In the GAM simulation, inflows are simulated to be slightly over 5,000 AF/yr in 1891 and increase to about 30,000 AF/yr in 2009, and then are simulated to increase to about 45,000 AF/yr in 2060.

The model was approved for publication by the US Geological Survey, and used by the Texas Water Development Board for calculation of the modeled available groundwater values that are associated with the desired future conditions. The calibration of the model was considered reasonable for a regional model. This would suggest that the impact of increasing GHB flows into the groundwater flow system is somehow integrated in other model parameters in order to achieve a reasonable calibration (matching simulated groundwater elevations and actual measured groundwater elevations). Historic pumping was one such estimate.

Generally, the pumping estimates from 1891 to 1997 are the same between the GAM and the HAGM. Although both models have the same estimates of pumping in Austin and Waller Counties from 1891 to 1997, neither model seemed to have fully incorporated previous estimates of pumping in Austin and Waller Counties from 1930 to 1965 (Wilson, 1967, pg. 39).

Wilson (1967) estimated the peak of pumping from 1945 to 1965 to be much higher than either the GAM or HAGM estimates. Wilson estimated that Austin County irrigation pumping peaked in about 1954 (about 11,000 AF/yr) while the USGS models estimated a peak in about 1960 of about 8,000 AF/yr (Figure 24). Wilson estimated that Waller County irrigation pumping peaked in about 1954 (about 51,000 AF/yr) while the USGS models estimated a peak in about 1960 of about 25,000 AF/yr (Figure 39). Although Wilson (1967) is listed as a reference by Kasmarek and Robinson (2004), there does not appear to be a specific citation where the information from that effort was used in Kasmarek and Robinson (2004). This observation has limited effect on the four counties of interest to the HAGM (Fort Bend, Galveston, Harris, and Montgomery). However, there are implications when evaluating the potential limitations of the models use in the Bluebonnet GCD area, and for the development of desired future conditions, especially in the instance where future pumping approaches and/or exceeds the estimates of historic pumping of Wilson (1967), as in the case of the proposed Electro Purification project. If the model had accurately incorporated these historic pumping estimates into the model, there would the ability to compare the impacts of historic high pumping with estimates of proposed pumping by Electro Purification.

It is also possible that calibration of hydraulic conductivity was impacted by the use of GHBs to simulate recharge and groundwater-surface water interaction. If the resulting hydraulic conductivity values are too low as a result, drawdown estimates under a scenario of large increases in pumping as compared to the historic pumping may result in an overestimation of drawdown.

As a result, future pumping increases are likely to result in less confidence in drawdown calculations since it is possible that an unreasonable amount of inflow is induced into the aquifer system, or the hydraulic conductivity values are unreasonably low to account for the unusual approach of using GHBs to simulate recharge and groundwater-surface water interaction. This would likely have an impact on drawdown estimates (i.e. underestimate drawdown if the increases in inflow are unreasonable or an overestimate if the hydraulic conductivities are too low).

In conclusion, the estimates presented in Appendix C, and discussed in Section 4.2 demonstrate the potential drawdown impacts on individual wells as estimated by the GAM and HAGM. However, these results are considered unreliable, and may likely represent over-estimates of drawdown. Local scale testing and developing a local scale model based on those results are recommended to overcome these limitations.

# 5.0 Simulated Effects of Proposed Pumping on Desired Future Conditions

As discussed earlier, the Northern Gulf Coast GAM was used by the groundwater conservation districts in Groundwater Management Area 14 in the development of desired future conditions for the Gulf Coast Aquifer in 2010. The Texas Water Development Board used the Northern Gulf Coast GAM to develop the modeled available groundwater values for the groundwater conservation districts and the regional planning groups. As part of the review of Electro Purification's application, the simulation results were processed to evaluate the effect of the proposed pumping on the desired future condition.

Subsequent to the establishment of desired future conditions, the USGS, in cooperation with the Harris-Galveston Subsidence District, the Fort Bend Subsidence District, and the Lone Star Groundwater Conservation District, developed the Houston Area Groundwater Model (HAGM). The primary area of interest in the development of the HAGM was Fort Bend, Galveston, Harris, and Montgomery Counties. The primary objective of the model was to develop an updated tool to support the subsidence district's efforts to update their regulatory plan. Since its release, the groundwater conservation districts in Groundwater Management Area 14 have expressed an interest to possibly using the HAGM to update the desired future conditions, which must be re-adopted by May 2016.

As described earlier, both models were used in this analysis. Appendix D contains tables and graphs of the results of the simulations in the context of potential impacts to desired future conditions.

Tables D-1 to D-3 present the estimated average drawdown by county and model layer for Austin County (Table D-1), Fort Bend County (Table D-2), and Waller County (Table D-3). Drawdowns are calculated from the period 2008 to 2060, as was done for the desired future condition calculation. Please note that estimates from the GAM and HAGM are included.

Tables D-4 to D-6 are in a format similar to Tables D-1 to D-3, but present the estimated average drawdown by county and model layer that is attributable to the proposed Electro Purification project. Table D-4 presents the results for Austin County, Table D-5 presents the results for Fort Bend County, and Table D-6 presents the results for Waller County. These drawdowns were calculated by subtracting the scenario-specific estimate from the baseline scenario estimate. For example, if the county estimate for drawdown in a specific layer for a specific Electro Purification scenario is 40 feet, and the estimated drawdown for that model layer in that county from the base case is 30 feet, the drawdown that is "attributable" to the Electro Purification pumping is 10 feet.

Tables D-4 to D-6 provide a means to quickly view the impact of the proposed pumping on the desired future conditions. Positive numbers mean that the scenario drawdown is more than the baseline scenario (the desired future condition scenario). Negative numbers mean that the scenario drawdown is less than the baseline scenario (the desired future condition scenario). Scenarios 1 to 10, and 31 all involved adding the proposed Electro Purification pumping to the pumping assumed in the baseline scenario. Thus, it is not surprising that the drawdown increases in these scenarios as compared to the baseline scenario. Scenarios 11 to 20, and 32 all involved reducing other pumping in each county such that the proposed Electro Purification pumping plus the other pumping equaled the modeled available groundwater (the pumping in the baseline scenario). In Austin County, scenario drawdown estimates attributable to the proposed Electro Purification pumping for Scenarios 11 to 20, and 32 are positive, meaning that the drawdown is more than the baseline drawdown despite the same amount of total pumping. This is due to the redistribution of the pumping, and highlights the importance of spatial distribution of pumping on the estimated average drawdown on a county-model layer scale. In contrast, in Waller County, scenario drawdown estimates attributable to the proposed Electro Purification pumping for Scenarios 11 to 20, and 32 are negative, meaning that the drawdown is less than the estimated baseline drawdown despite the same amount of pumping.

These tables provide a snapshot of the final drawdown in 2060 for all scenarios and for all relevant county-model layer groups. Figures D-1 to D-72 present the time-plots of drawdown from 2008 to 2060 for each county-model layer group, for each scenario, and for each model. The cover sheet summarizes the organization of the graphs.

## 5.1 Discussion of Results

As described previously, the limitations of the model suggest that the confidence in these drawdown estimates could be considered low. However, the GAM was used by the groundwater conservation districts in Groundwater Management Area 14 as part of the process to develop desired future conditions, and by the Texas Water Development Board to develop modeled available groundwater estimates. In addition, the HAGM was developed as a tool for the subsidence districts regulatory program, and is being considered for use in the next round of joint groundwater planning (desired future conditions and modeled available groundwater).

The value in this analysis is to understand differences in the results of the two models as they relate to scenario comparison. For example, it can be seen that the same pumping yields different results in the GAM and HAGM on a county-model layer scale. Table 14 summarizes the drawdown estimates of the GAM and HAGM for each of the three counties of interest (Austin, Fort Bend and Waller).

**Table 14. Summary of Baseline Scenario Drawdowns**

| Aquifer | Model | Austin County Drawdown in 2060 (ft) | Fort Bend County Drawdown in 2060 (ft) | Waller County Drawdown in 2060 (ft) |
|---|---|---|---|---|
| Chicot | GAM | 17.13 | 20.00 | 7.48 |
| Chicot | HAGM | 29.00 | 27.35 | 26.20 |
| Evangeline | GAM | 9.94 | 24.18 | 7.97 |
| Evangeline | HAGM | 18.51 | 15.37 | 32.10 |

Note that in Austin and Waller counties, HAGM estimates of drawdown in 2060 are higher than the estimates from the GAM for the same amount of pumping for both the Chicot and Evangeline. However, in Fort Bend County, while the HAGM estimates of drawdown is higher than the GAM for the Chicot, the estimated drawdown from the HAGM is lower than the GAM for the Evangeline.

The differences between the results of the two models suggests that there is considerable uncertainty in the model estimates of drawdown.

In general, the Electro Purification scenarios that involve increases in pumping cause increases in drawdown that may not be consistent with the desired future condition. However, the amount of the increased drawdown in many cases is relatively small given the uncertainty of the model results, the geographic scale of the averaging (county-wide), and the time period considered (2008 to 2060).

Please recall that the desired future condition was based on a specific spatial distribution of pumping. Several of the simulations completed for this analysis included maintaining the same amount of pumping as the modeled available groundwater by adding the proposed Electro Purification and reducing other pumping. Specifically these simulations include Scenarios 11 to 20 and 32. Table D-4 (Austin County) and Table D-5 (Fort Bend County) results suggest that this redistribution of pumping will still result in a small amount of additional drawdown on a county-model layer scale. However, Table D-6 (Waller County) results suggest that the redistribution will result in lower drawdowns for Waller County in the Chicot and Evangeline aquifers, apparently due to the recovery associated with reduced pumping in the Katy area. This recovery is greater than the drawdown associated with the Electro Purification pumping, and the net result is an overall average of less drawdown.

As described earlier, the model estimates of drawdown have a degree of uncertainty that makes specific findings or recommendations difficult. The GAM has gained acceptance as a tool to use for the development of desired future conditions and the development of modeled available groundwater estimates. The HAGM has gained acceptance as a tool for the regulatory programs of the subsidence districts, and is being considered for use in the next round of joint groundwater planning.

For purposes of this evaluation, the drawdown estimates are not particularly helpful in distinguishing between scenarios except in a general sense (increased pumping results in increased drawdown). Also, the analysis has demonstrated that the spatial distribution of pumping associated with a particular simulation is important, and provides some degree of understanding of the sensitivity of the resulting average drawdown estimates on a county-model layer scale.

Except for the scenarios that involved Jasper pumping (Scenarios 21 to 30), the drawdowns attributed to proposed Electro Purification pumping appears to be relatively minor on a county-model layer scale (generally within 20 feet) given the uncertainty of the models and the geographic and time scales.

The accuracy of the models, the imprecision of the estimates due to potential variations in spatial distribution of pumping, and the iterative nature of the joint planning process (updates every five years) suggests that slight differences in average drawdowns over a county-model layer scale are not necessarily significant with regard to assessing impacts to desired future conditions. In general, given the limitations of the models, most of the scenarios (especially those that incorporate the proposed Electro Purification pumping into the modeled available groundwater) are basically consistent with the desired future conditions.

If Electro Purification is issued a permit to pump groundwater, the locations and amounts would have to be incorporated into the joint groundwater planning process. There is a current and ongoing discussion as to which model to use as part of that process (GAM or HAGM). This analysis provides some insight as to what the model results would be under a wide range of conditions (i.e. different amounts of Electro Purification pumping) using either model. The results also provide insight as to what adjustments would need to be made to the desired future conditions, if the desired future conditions is expressed in a manner similar to the ones adopted in 2010.

# 6.0 Potential Effects of Proposed Pumping on Subsidence

When groundwater is pumped from an aquifer, stored water in confined aquifers enters the well due to expansion of water, the compression of the aquifer material, and the compression of clayey beds that are within and adjacent to the aquifer. The resulting compression is considered elastic (i.e. reversible) if there is no permanent rearrangement of the skeletal structure of the sediments. Conversely, the resulting compression is considered inelastic (irreversible) if the reduction in pressure caused by the removal of the water causes rearrangement of the skeletal structure of the sediments. Compaction of these sediments results in a loss of storage capacity of the aquifer, and also can result in land subsidence.

Unlike the previously described evaluations of drawdown on a well-by-well basis or in terms of impacts to the desired future condition, the analysis of subsidence has yielded results which are useful in distinguishing various scenarios. Please recall that the review of the GAM and HAGM presented in Appendix A yielded the conclusion that drawdown estimates contain considerable uncertainty, but that long-term subsidence estimates contain less uncertainty.

Data are also available, independent of model simulations, which are useful in the assessment of potential subsidence associated with the proposed project. These data include historic subsidence measurements, data and maps of clay thickness, and estimates of historic groundwater pumping.

## 6.1 Historic Subsidence in the Region

Figure 8 presents a map of actual subsidence measurements at 474 points used by the USGS to calibrate the GAM and HAGM. Note that subsidence greater than three feet has occurred in Harris, Fort Bend, and Galveston County, and has exceeded 9 feet in some areas. As described above and in Appendix A, subsidence is a function of clay thickness and pumping. Areas with high pumping and thin clays will not experience as much subsidence as areas with high pumping and thick clays. Also, areas with low pumping and thick clays will have less subsidence than areas with high pumping and thick clays.

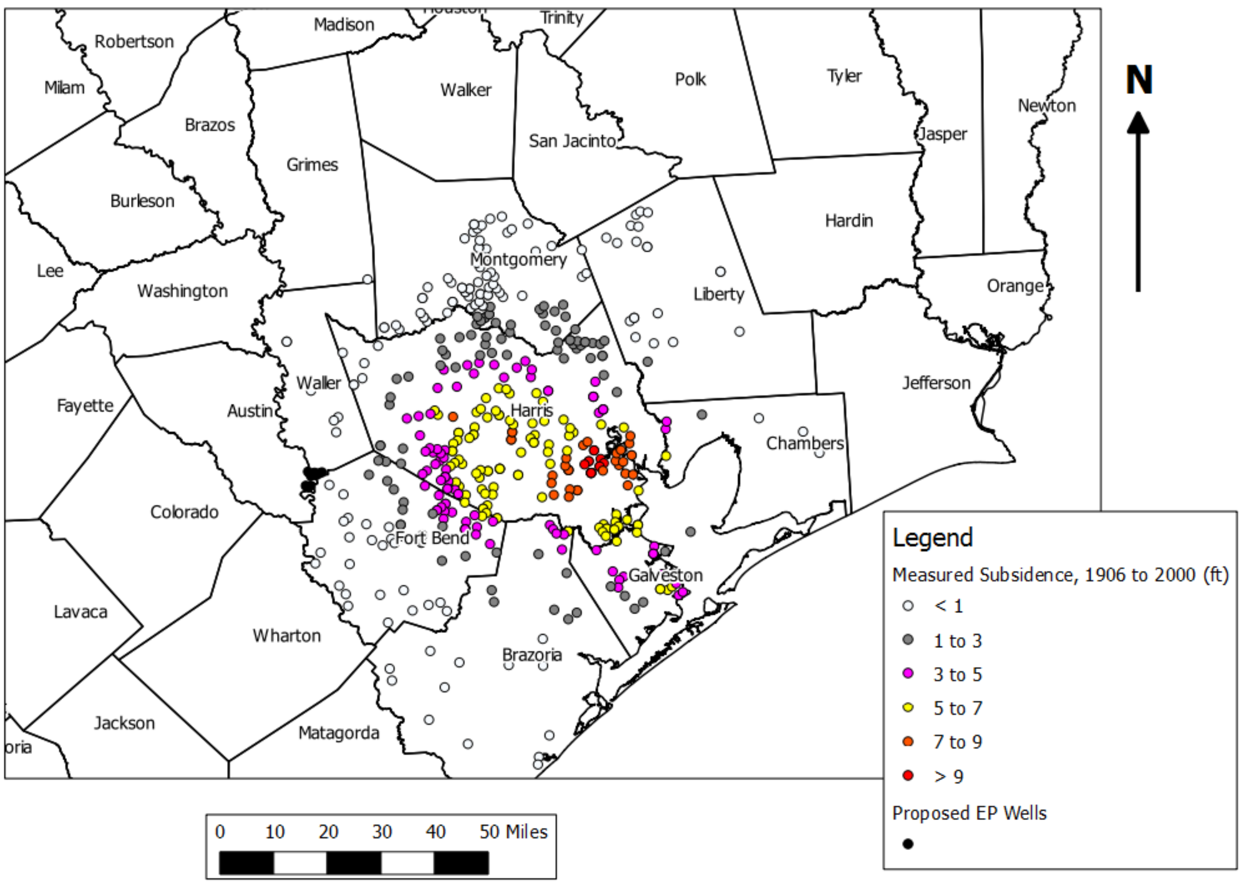


**Figure 8. Map of Subsidence Measurement Locations**

## 6.2 Clay Thickness

In order to evaluate the ***potential*** for subsidence in the Electro Purification project area (an area that has not experienced high levels of pumping in the past), comparisons of clay thickness in the area of interest with clay thickness in areas that have experienced high groundwater pumping was completed as part of this review.

The USGS provided mapped clay thickness data on a model cell basis that were used in the development of the GAM and HAGM (email from Mark Kasmarek of November 13, 2013). These clay thickness data were used as parameters in the initial assignment of elastic and inelastic storativity values in the GAM and HAGM. Maps of these data were presented in the GAM Report (Kasmarek and Robinson, 2004), and are not repeated here.

The clay thickness data and the actual subsidence data presented previously in Figure 8 were used in an analysis of comparing clay thickness in the areas that have experienced subsidence with clay thickness in the proposed Electro Purification project area. This comparison is presented in Figure 9. The plot includes the average clay thickness at points where subsidence measurements were reported. Thus, the two bars labeled “Sub >9” are the average clay thickness for the Chicot Aquifer and Evangeline Aquifer for all points where measured subsidence is greater than nine feet. The other groups of bars represent areas where measured subsidence is between seven and nine feet (Sub = 7 to 9), measured subsidence is between five and seven feet (Sub = 5 to 7), measured subsidence is between three and five feet (Sub = 3 to 5), measured subsidence is between one and three feet (Sub = 1 to 3), and measured subsidence is less than one foot (Sub < 1). The two bars on the right-hand side of the plot represents the average clay thickness in a 40 square mile area that surrounds the proposed Electro Purification wells.

From this plot it can be seen that the areas with the highest measured subsidence are in areas with the thickest clay. Given the thickness of the clay in the proposed Electro Purification project area, it would appear that subsidence greater than seven feet is unlikely. The next step in this analysis considers historic pumping in these areas, and comparing that pumping to the proposed pumping by Electro Purification.

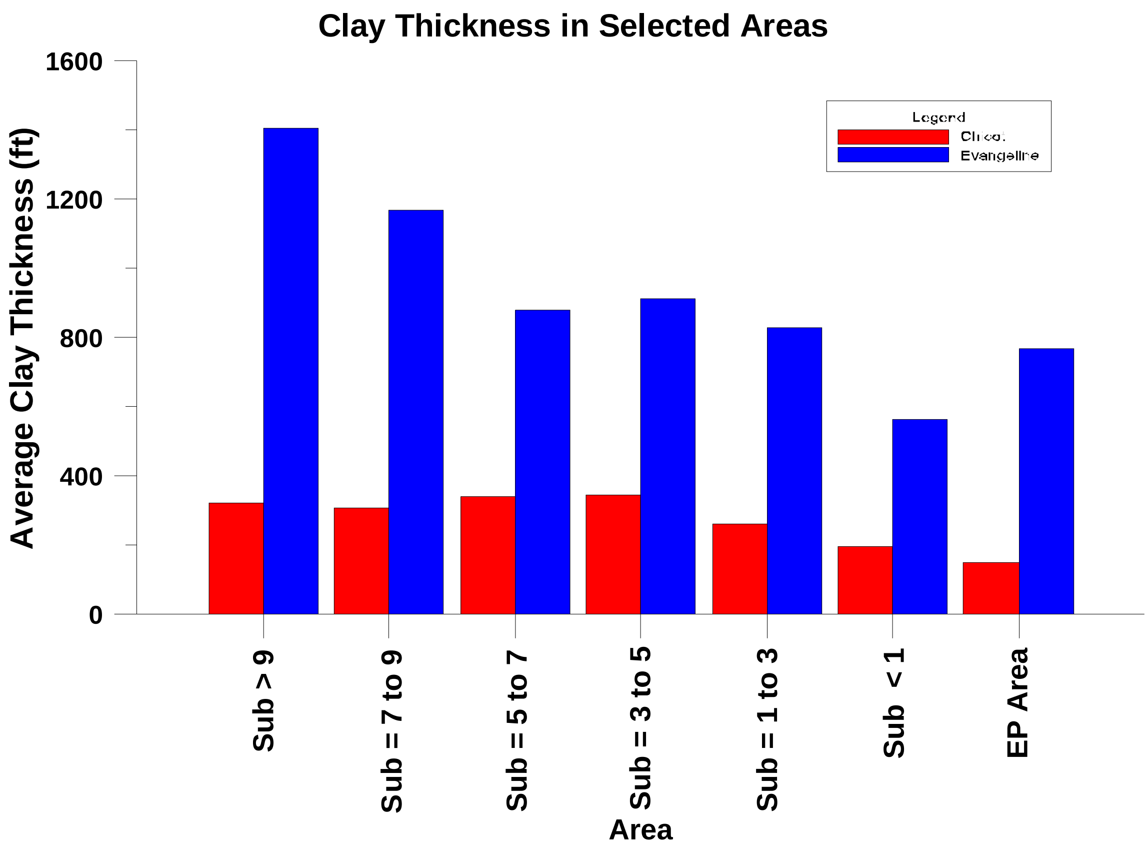


**Figure 9. Average Clay Thickness in Areas with Historic Subsidence**

## 6.2 Historic Pumping in Areas with Historic Subsidence

Subsidence is a function of clay thickness and pumping. The previous section included a comparative analysis of clay thickness in areas where subsidence has been measured and the proposed area of the Electro Purification wells. The proposed Electro Purification project contemplates pumping 20 million gallons per day in a relatively small area. Up to six million gallons of groundwater per day would be pumped within a one square mile area under the Electro Purification proposal.

This portion of the analysis presents estimates of historic pumping at the points where subsidence has been measured to evaluate the intensity of the pumping relative to the measured subsidence. For this analysis, the historic pumping estimates from the GAM and HAGM were used. Points with measured subsidence were identified with model row and column coordinates since these were used in model calibration by the USGS. Historic pumping from that same row and column were extracted from the model files. For this analysis, HAGM estimates of pumping from 1890 to 2009 were used. The pumping estimates were then categorized into pumping rates (in million gallons per day, or mgd) as follows:

- Pumping in a cell less than 0.1 million gallons per day, or mgd
- Pumping in a cell between 0.1 and 0.5 mgd
- Pumping in a cell between 0.5 and 1 mgd
- Pumping in a cell between 1 and 2 mgd
- Pumping in a cell between 2 and 4 mgd
- Pumping in a cell between 4 and 6 mgd
- Pumping in a cell between 6 and 8 mgd

Pumping amounts were extracted for each stress period and categorized as shown above. The results were then converted into frequency of occurrence (i.e. percentage of the wells in a particular subsidence area pumped between 1 and 2 mgd). The results are presented in Figures 10 to 16 as follows:

- Figure 10 presents the analysis for areas with measured subsidence less than one foot
- Figure 11 presents the analysis for areas with measured subsidence between 1 and 3 feet
- Figure 12 presents the analysis for areas with measured subsidence between 3 and 5 feet
- Figure 13 presents the analysis for areas with measured subsidence between 5 and 7 feet
- Figure 14 presents the analysis for areas with measured subsidence between 7 and 9 feet
- Figure 15 presents the analysis for areas with measured subsidence greater than 9 feet
- Figure 16 presents the analysis for the Electro Purification project area

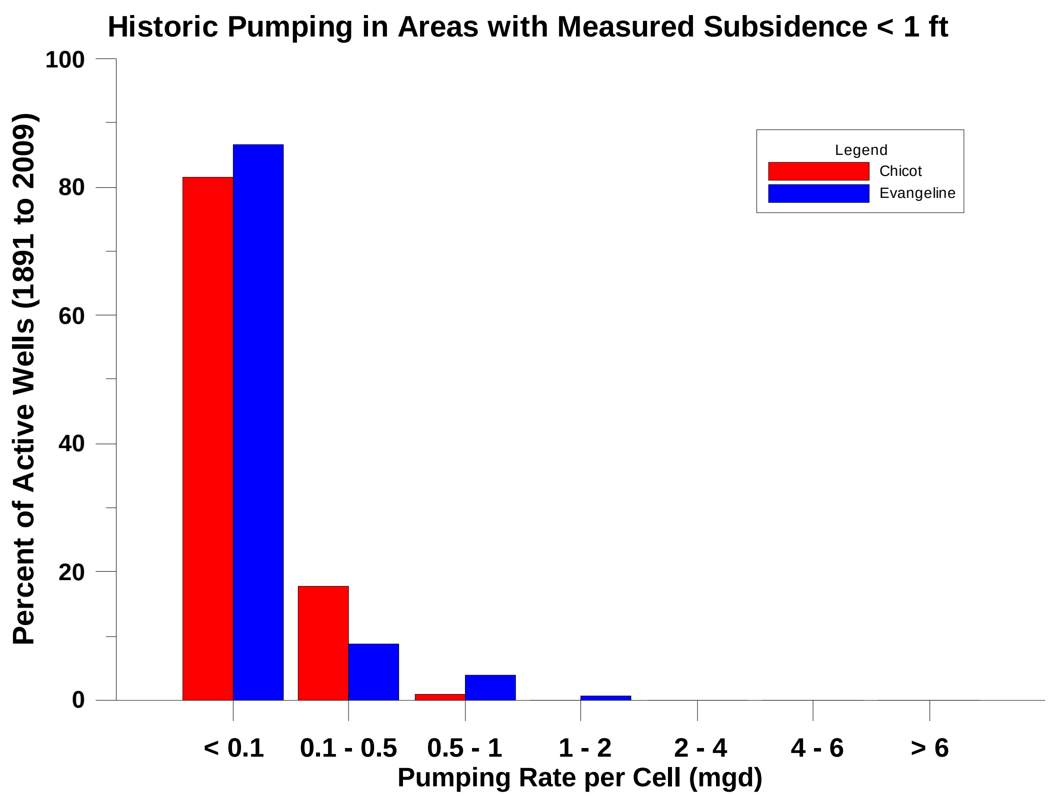


**Figure 10. Historic Pumping in Areas with Measured Subsidence Less than one foot**

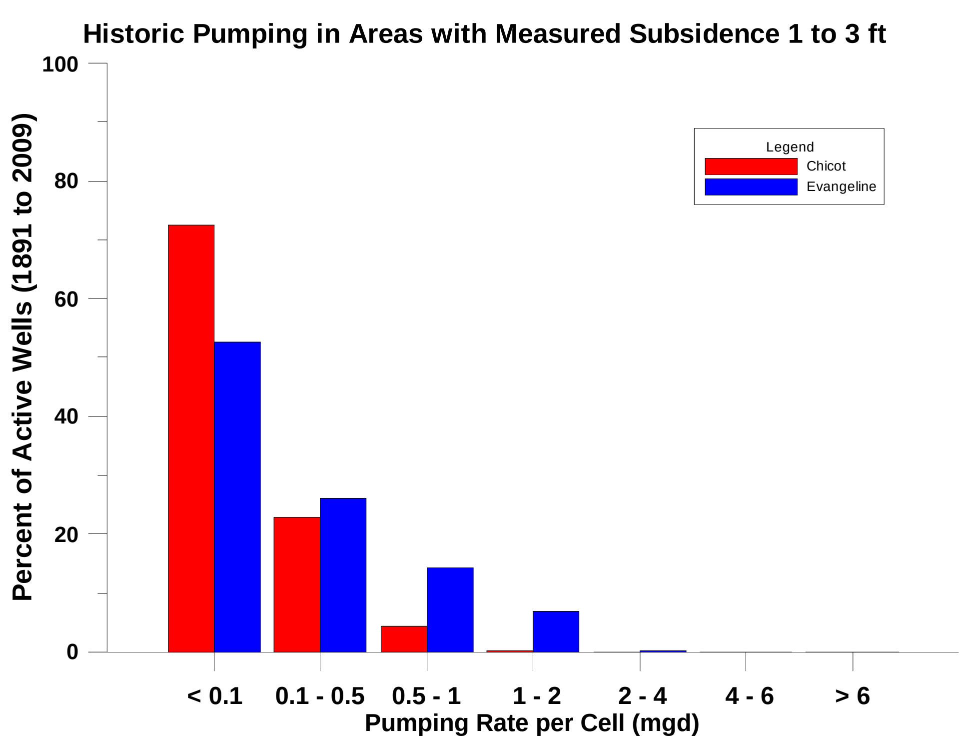


**Figure 11. Historic Pumping in Areas with Measured Subsidence between one and three feet**

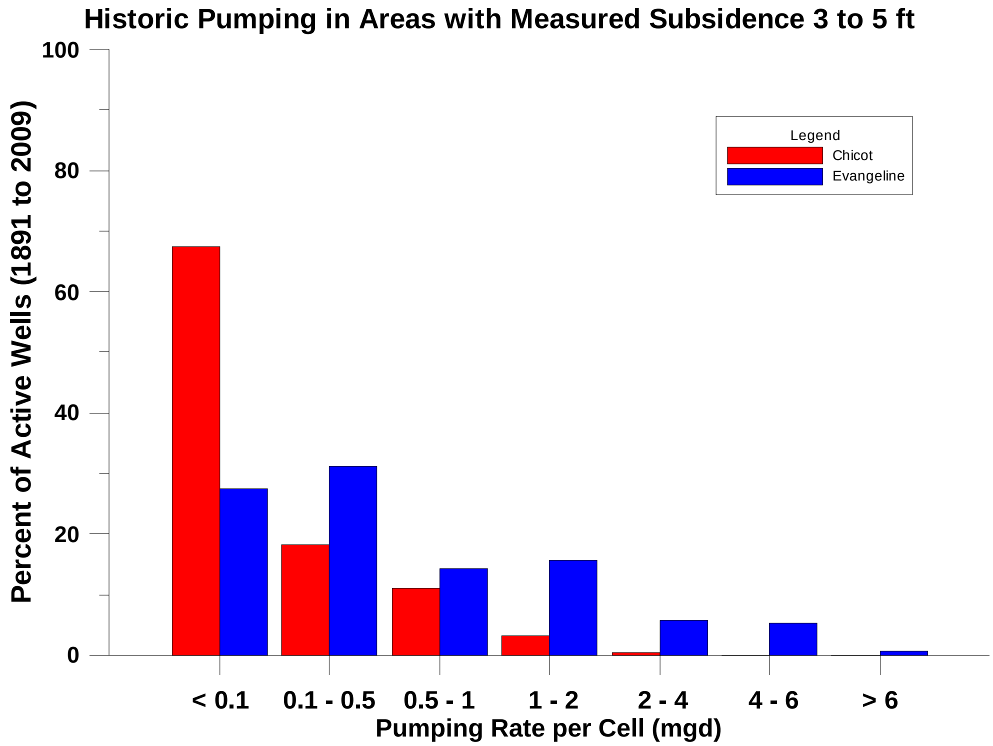


**Figure 12. Historic Pumping in Areas with Measured Subsidence between three and five feet**

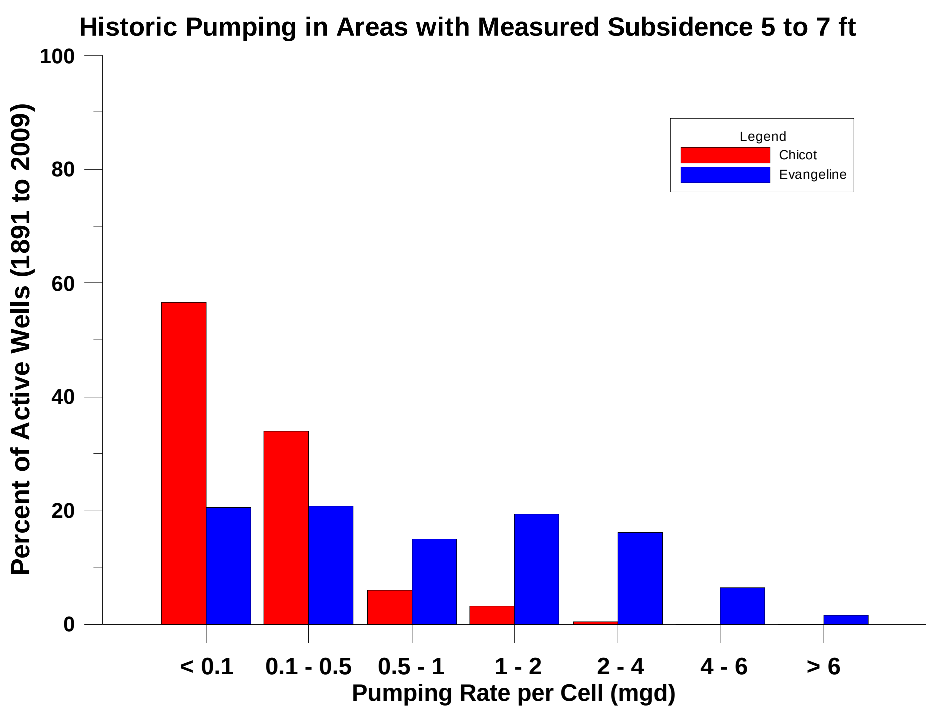


**Figure 13. Historic Pumping in Areas with Measured Subsidence between five and seven feet**

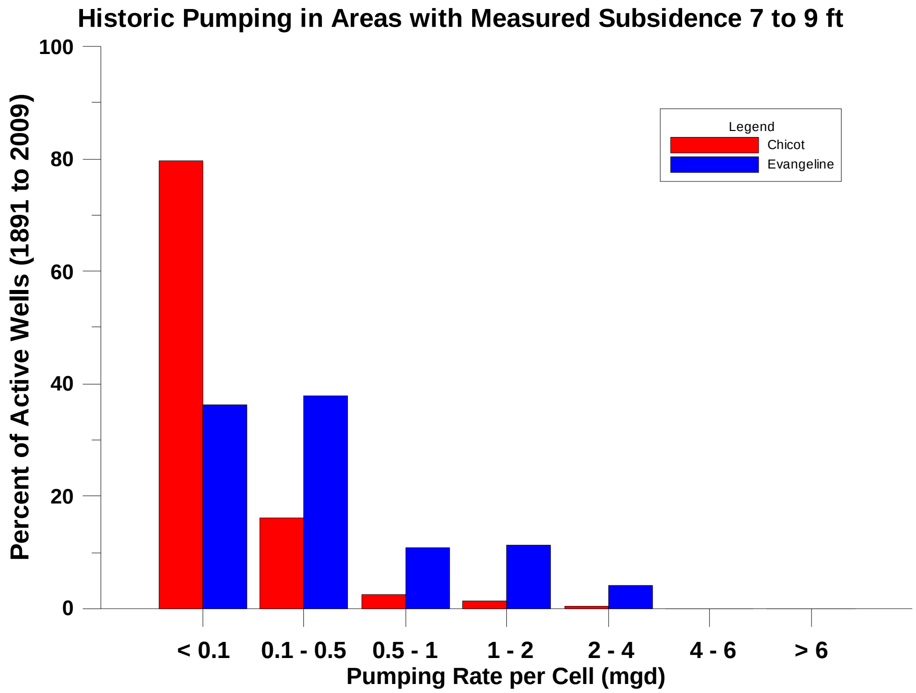


**Figure 14. Historic Pumping in Areas with Measured Subsidence between seven and nine feet**

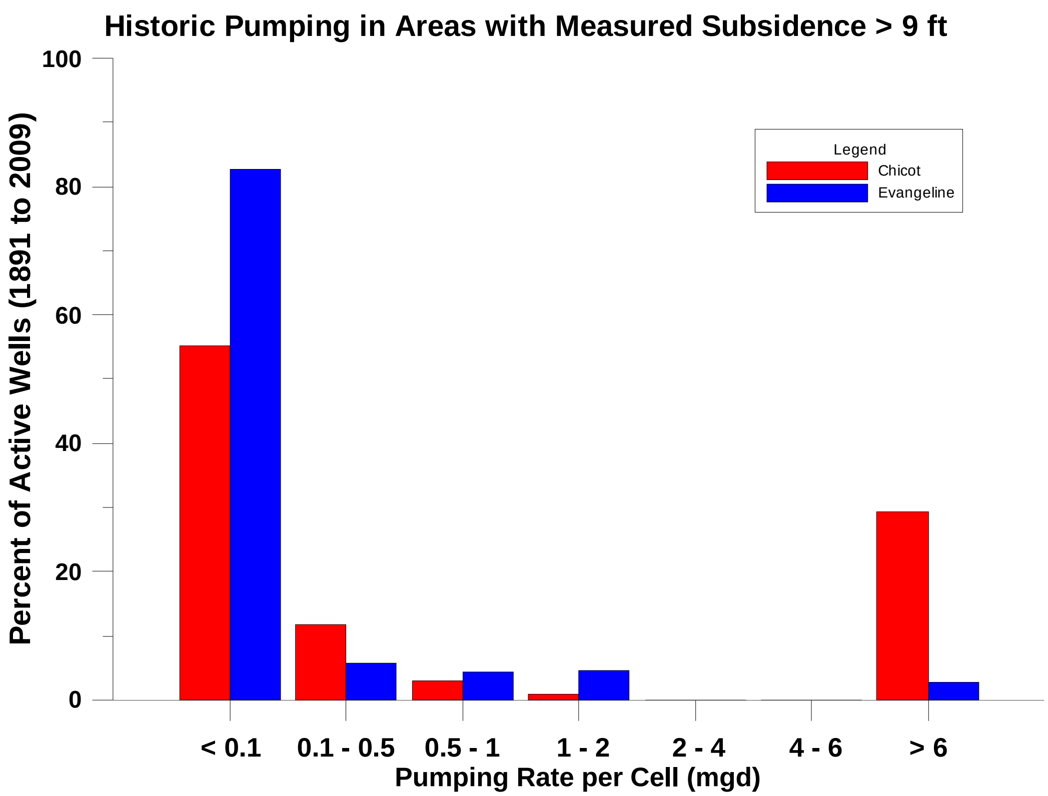


**Figure 15. Historic Pumping in Areas with Measured Subsidence greater than nine feet**

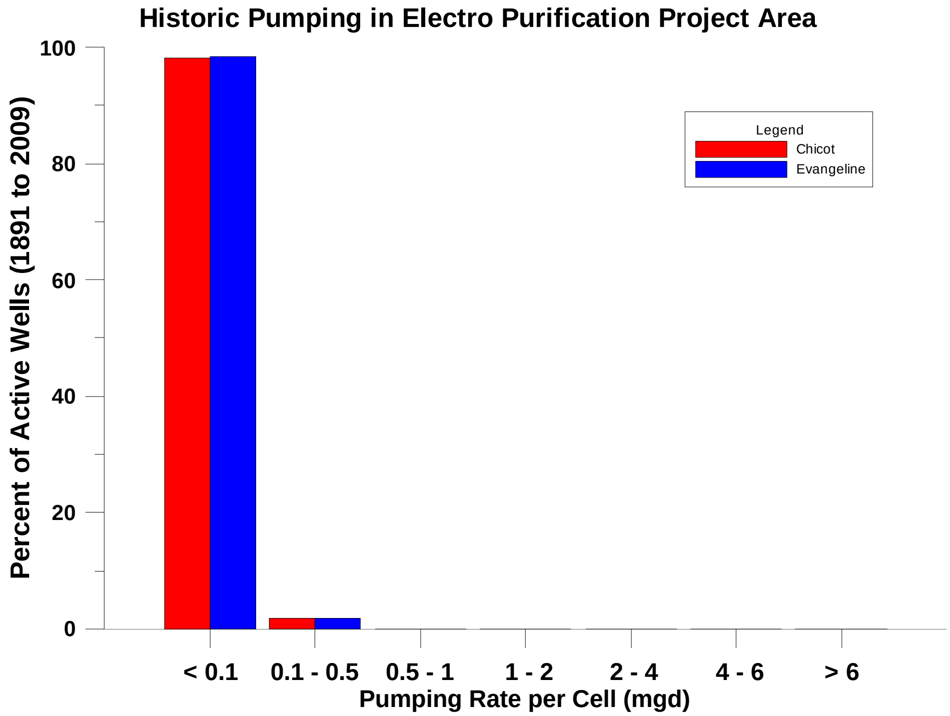


**Figure 16. Historic Pumping in the Electro Purification Project Area**

From these plots, the following can be concluded:

- Historic pumping in the proposed Electro Purification project area is essentially all less than 0.1 million gallons per day
- About 30 percent of the historic pumping from the Chicot Aquifer in areas where measured subsidence has exceeded nine feet has been from cells that pump more than six million gallons per day.
- Historic pumping from the Evangeline Aquifer in areas where measured subsidence is between three and seven feet from cells that pump more than 500,000 gallons per day is fairly common (generally greater than 30 percent of all Evangeline aquifer pumping). However, there are few cells that have historically pumped six million gallons per day, although they do exist.

Overall, this analysis and the clay thickness analysis suggests that potential subsidence associated with the proposed Electro Purification project at 20 million gallons per day over 7 feet is unlikely due to clay thickness differences between the Electro Purification site and the areas where this much subsidence has been measured, and due to the fact that most of the historic pumping in these high subsidence areas is from the Chicot Aquifer. Subsidence between three and seven feet, however, is possible given that the clay thickness in the Electro Purification area is somewhat similar to those areas that have subsidence measured between three and seven feet, and because the proposed pumping intensity (up to six million gallons per day in a one-square mile area) is at the upper end of historic pumping in areas that have subsidence measured between three and seven feet.

## 6.3 Subsidence Results from GAM and HAGM Simulations

Among the outputs from the simulations completed with the GAM and HAGM are estimates of subsidence. As noted in Appendix A, the calibration of the GAM and HAGM included comparing measured subsidence with model-estimated subsidence. Figure 17 presents a comparison of the measured subsidence measurements with estimates from the GAM and HAGM. Details of the data and the comparison is discussed in Section A-9.1 of Appendix A.

From this comparison, it can be seen that long-term subsidence measurements are accurate to about a foot, and that the HAGM appears to have fewer outliers than the GAM. Thus, model estimated subsidence of one foot could mean that there is no subsidence or that the subsidence is actually about two feet. In evaluating the results of the simulations completed in this analysis, this one foot threshold was used to distinguish between model "noise" and "measureable" subsidence.

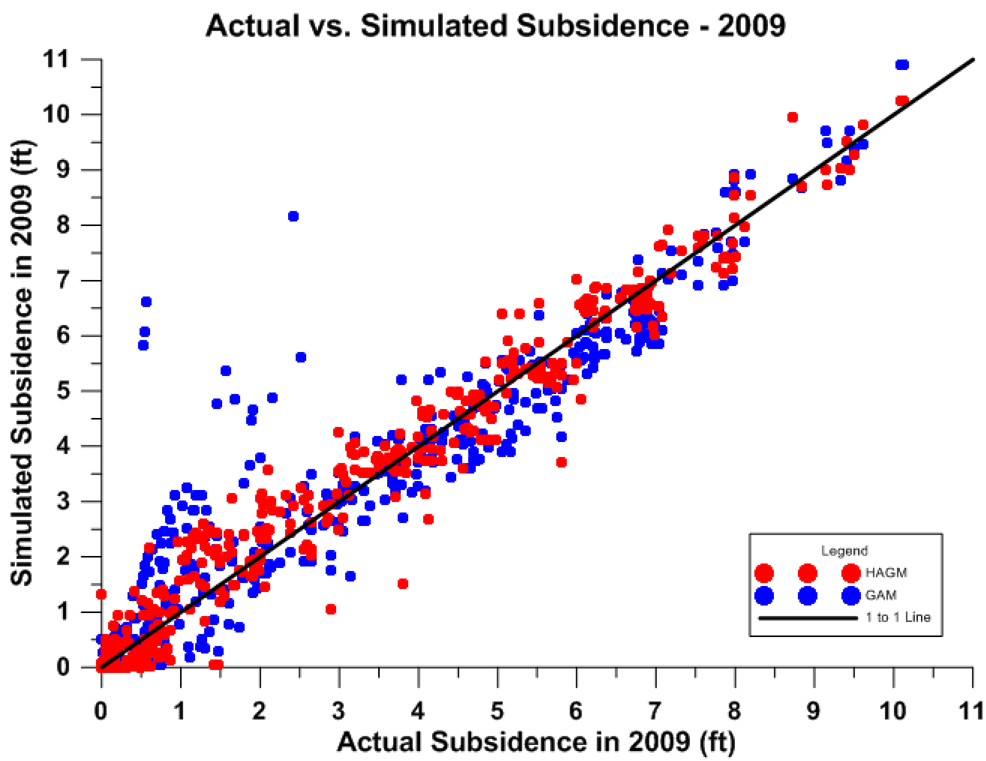


**Figure 17. Comparison of Actual Subsidence from 1906 to 2000 and Estimated Subsidence from 1891 to 2009 from the GAM and HAGM**

Appendix E contains summary tables, graphs, and maps of the subsidence estimates from all the simulations using the GAM and HAGM. Similar to the drawdown tables and graphs in Appendix D, the results are organized by county and include estimates of subsidence associated with the particular simulation and estimates of subsidence associated with the proposed Electro Purification project on a simulation-by-simulation basis. Also included are tables of well site by well site subsidence estimates similar drawdown tables presented in Appendix C.

### *6.3.1 Subsidence Estimates for Each Scenario*

Tables E-1 to E-3 present the estimated subsidence for each of the simulations (33 with GAM and 33 with HAGM), including the baseline scenario (DFC/MAG simulation), at the end of the simulation period (2060) for Austin County (Table E-1), Fort Bend County (Table E-2), and Waller County (Table E-3). Average subsidence across the county and maximum subsidence in the county are presented for each model. Table E-4 is the same format as Tables E-1 to E-3, but show the results from a 40 square mile area designated as the "project area" in Austin, Fort Bend and Waller counties. Estimated values greater than one foot are presented in red to designate these as measureable values based on the comparison shown in Figure 17 presented above.

Tables E-5 to E-8 present the simulated subsidence for each simulation that is attributable to the Electro Purification project for each scenario. These estimates were developed by subtracting the subsidence from the baseline scenario from the area of interest. These calculations were made on both the average and maximum subsidence. For example, if the maximum subsidence for the baseline scenario was 1 foot, and the maximum subsidence for the scenario of interest was 3 feet, then the subsidence attributed to the Electro Purification project is 2 feet. Table E-5 presents the results for Austin County, Table E-6 presents the results for Fort Bend County, Table E-7 presents the results for Waller County, and Table E-8 presents the results for the 40-square mile project area. Estimated values greater than one foot are presented in red to designate these as measureable values based on the comparison shown in Figure 17 presented above.

### *6.3.2 Subsidence Estimates for Individual Well Sites*

Tables E-9 to E-12 present simulated subsidence for the same set of well sites previously presented in Section 4.2 (379 Chicot Aquifer wells and 115 Evangeline Aquifer wells). There are two tables for the wells sites where wells are completed in the Chicot Aquifer to present the results of the GAM and HAGM, and two tables for the well sites where the wells are completed in the Evangeline Aquifer to present the results of the GAM and the HAGM.

Estimates of subsidence at these sites are presented for the baseline scenario (DFC/MAG simulation), Scenario 3 (proposed Electro Purification pumping = 6 million gallons per day), Scenario 10 (proposed Electro Purification pumping = 20 million gallons per day), and Scenario 31 (proposed Electro Purification pumping according to the conversion schedule up to 9.9 million gallons per day) are presented in terms of estimated subsidence for the scenario and in terms of subsidence attributable to Electro Purification pumping.

Subsidence estimates are the sum of individual model layer clay compaction estimates. The resulting subsidence estimates. The tables are organized by model layer based on well depth and completion for convenience and consistency with the drawdown tables in Appendix C. The fact that a well is completed in the Chicot Aquifer (layer 1) or Evangeline Aquifer (layer 2) has no bearing on the subsidence estimate, the well site was used as a location for the estimate.

Table 15 summarizes the results of Tables E-9 and E-10 for sites where wells are completed in model layer 1 (Chicot Aquifer). Note that ranges of subsidence are presented for three distance groups. The closest site where a well is completed in the Chicot Aquifer in this analysis is 0.15 miles from a proposed Electro Purification well.

**Table 15. Summary of Subsidence Estimates (1891 to 2060) at Well Sites (Wells Completed in the Chicot Aquifer) – Estimates from Tables E-9 and E-10**

| Distance to EP Wells | Scenario | Simulated Subsidence (ft) | | Subsidence Attributable to EP (ft) | |
|---|---|---|---|---|---|
| | | GAM | HAGM | GAM | HAGM |
| 0.15 to 0.5 mile | Base | 0.02 to 0.24 | 0.40 to 1.15 | 0 | 0 |
| | Scenario 3 (6 mgd) | 0.31 to 1.16 | 1.07 to 2.08 | 0.28 to 1.14 | 0.58 to 1.34 |
| | Scenario 10 (20 mgd) | 2.28 to 3.31 | 3.20 to 4.21 | 2.14 to 3.28 | 2.15 to 3.47 |
| | Scenario 31 (9.9 mgd) | 0.59 to 1.91 | 1.42 to 2.92 | 0.57 to 1.88 | 0.93 to 2.17 |
| 0.5 to 1 mile | Base | 0.02 | 0.35 to 0.74 | 0 | 0 |
| | Scenario 3 (6 mgd) | 0.22 to 1.16 | 0.88 to 2.08 | 0.19 to 1.14 | 0.53 to 1.34 |
| | Scenario 10 (20 mgd) | 2.18 to 3.31 | 2.95 to 4.21 | 2.16 to 3.28 | 2.60 to 3.47 |
| | Scenario 31 (9.9 mgd) | 0.47 to 1.91 | 1.20 to 2.92 | 0.45 to 1.88 | 0.85 to 2.17 |
| 1 to 2 miles | Base | 0.02 to 0.38 | 0.39 to 1.31 | 0 | 0 |
| | Scenario 3 (6 mgd) | 0.18 to 0.83 | 0.93 to 1.83 | 0.16 to 0.63 | 0.32 to 0.86 |
| | Scenario 10 (20 mgd) | 1.23 to 2.56 | 1.93 to 3.30 | 1.22 to 2.54 | 1.35 to 2.84 |
| | Scenario 31 (9.9 mgd) | 0.36 to 1.14 | 1.21 to 2.14 | 0.33 to 1.06 | 0.50 to 1.39 |

Table 16 summarizes the results of Tables E-11 and E-12 for sites where wells are completed in model layer 2 (Evangeline Aquifer). Note that ranges of subsidence are presented for three distance groups. The closest site where a well is completed in the Evangeline Aquifer used in this analysis is 1.7 miles from a proposed Electro Purification well.

**Table 16. Summary of Subsidence Estimates (1891 to 2060) at Well Sites (Wells Completed in the Evangeline Aquifer) - Estimates from Tables E-11 and E-12**

| Distance to EP Wells | Scenario | Simulated Subsidence (ft) | | Subsidence Attributable to EP (ft) | |
|---|---|---|---|---|---|
| | | GAM | HAGM | GAM | HAGM |
| 1.7 to 3 miles | Base | 0.02 to 0.21 | 0.39 to 1.14 | 0 | 0 |
| | Scenario 3 (6 mgd) | 0.30 to 0.64 | 0.93 to 1.69 | 0.28 to 0.43 | 0.45 to 0.55 |
| | Scenario 10 (20 mgd) | 1.03 to 1.89 | 1.82 to 2.84 | 1.01 to 1.68 | 1.29 to 1.70 |
| | Scenario 31 (9.9 mgd) | 0.51 to 0.98 | 1.24 to 2.02 | 0.50 to 0.77 | 0.72 to 0.88 |
| 3 to 5 miles | Base | 0.01 to 1.00 | 0.11 to 1.97 | 0 | 0 |
| | Scenario 3 (6 mgd) | 0.02 to 1.27 | 0.36 to 2.23 | 0 to 0.31 | 0.15 to 0.31 |
| | Scenario 10 (20 mgd) | 0.41 to 1.75 | 0.94 to 2.72 | 0.40 to 0.88 | 0.62 to 0.87 |
| | Scenario 31 (9.9 mgd) | 0.10 to 1.41 | 0.53 to 2.38 | 0.08 to 0.49 | 0.23 to 0.48 |
| 5 to 7 miles | Base | 0.01 to 4.22 | 0.01 to 1.85 | 0 | 0 |
| | Scenario 3 (6 mgd) | 0.01 to 4.67 | 0.01 to 1.96 | 0 to 0.45 | 0 to 0.22 |
| | Scenario 10 (20 mgd) | 0.01 to 5.52 | 0.08 to 2.18 | 0 to 1.30 | 0.07 to 0.64 |
| | Scenario 31 (9.9 mgd) | 0.01 to 4.87 | 0.01 to 2.02 | 0 to 0.65 | 0 to 0.34 |

### *6.3.3 Hydrographs of Estimated Subsidence*

Figures E-1 to E-64 present time-series graphs of subsidence for Austin County, Fort Bend County, Waller County, and the 40-square mile project area for each simulation and each model (GAM and HAGM). A cover sheet in front of the figures describes each figure and its page number. The tables of subsidence results are useful to quickly compare the end result of the simulations. These graphs are useful to put the estimated subsidence into perspective with regard to the baseline scenario and with time.

### *6.3.4 Maps of Subsidence at Individual Well Sites*

Figures E-65 to E-78 present maps of subsidence at specific well locations, and present the well sites from Tables E-9 to E-12 (Bluebonnet Groundwater Conservation District registered and permitted wells and wells in the Texas Water Development Board database). The well sites are color coded to the show the estimated subsidence.

The baseline scenario (DFC/MAG simulation), Scenario 3 (proposed Electro Purification pumping = 6 million gallons per day), Scenario 10 (proposed Electro Purification pumping = 20 million gallons per day), and Scenario 31 (proposed Electro Purification pumping according to the conversion schedule up to 9.9 million gallons per day) are presented in terms of estimated subsidence for the scenario and in terms of subsidence attributable to Electro Purification pumping.

## 6.4 Discussion of Subsidence Results

This evaluation has focused on evaluating measured subsidence data in the region, evaluating historic pumping in areas with measured subsidence, and estimating subsidence with the GAM and HAGM under a wide range of possible scenarios. Based on this analysis, the following can be concluded:

- Historic subsidence in the region has occurred in areas with high pumping and thick clay sequences. Subsidence has been measured in excess of nine feet in some areas of Harris County. Clay thickness in the proposed Electro Purification project area is less than the clay thickness in those portions of Harris County. Based on an analysis of mapped clay thickness at the proposed Electro Purification site and an evaluation of historic pumping in areas with measured subsidence in the region, subsidence impacts associated with the proposed project could be as high as three to seven foot range over several decades, depending on the amount of pumping.
- The proposed Electro Purification pumping at the full amount (20 million gallons per day for the project and as much as six million gallons per day in a one-square mile area) represents an intense amount of pumping over a fairly small area. Analysis of historic pumping estimates suggest that this amount of pumping in a small area, while not unprecedented for the area, is certainly not common. Thus, the use of historic analogs and models that are based on historic data cannot be considered highly accurate.
- The models that are available for use in this analysis (GAM and HAGM) were used to simulate a wide range of potential pumping scenarios to better understand the potential for subsidence in the area of the proposed pumping. Based on the calibration of the model, it

appears that measureable subsidence will occur by 2060 if pumping exceeds about 6 million gallons per day. Based on the model simulations, this subsidence may not actually be measureable for 10 to 20 years (Figures E-39 and E-40).

- The models results suggest that spreading the pumping over a wide area will mitigate the subsidence impacts as compared to concentrating the pumping over a small area.

# 7.0 Results of Simple Local-Scale MODFLOW Model Simulations

Simulations with the simple local-scale MODFLOW model that was described previously in Section 3.6 of this report were completed in an attempt to highlight and address limitations of the GAM and HAGM with respect to the proposed project. Specifically, applicant's hydrogeology consultant has stated that a confining unit may exist between the Upper Evangeline Aquifer and the Lower Evangeline Aquifer in the vicinity of the proposed wells. Because of the regional nature of the GAM and HAGM, it is not possible to simulate the effect of this postulated subdivision of the Evangeline Aquifer. Moreover, clay content data has been developed on a regional basis, and demonstrates a high degree of variation. Specific knowledge of clay content in the area of the proposed wells would improve the drawdown and subsidence estimates of the proposed project.

As developed more fully below, if this project proceeds to a testing and drilling phase, it is recommended that the subsequent evaluation of the test data include expanding this type of numerical analysis. Specifically, hydrogeologic framework data collected during the drilling should be used to construct a numerical model that conforms better to local hydrogeologic conditions, and data from any aquifer test be evaluated with local numerical model to assess and update estimated impacts of the proposed pumping.

The simulations included a set that varied the clay content in the aquifer units (layers 1, 2 and 4), and a set that varied the clay content of the postulated confining unit (layer 3). The parameters used for these simulations and the variation was previously presented in Section 3.6.3 and 3.6.4 of this report.

## 7.1 Variation of Aquifer Layer Clay Content

Based on a review of clay content data used in the GAM and HAGM, clay content in the area of the proposed Electro Purification wells ranges between about 32 percent to about 50 percent in the Chicot Aquifer, and between about 50 percent and 68 percent in the Evangeline Aquifer. For purposes of this preliminary level analysis, and in order to demonstrate the importance of obtaining accurate data, clay content for these aquifer units (layers 1, 2 and 4) were varied between 25 and 75 percent, in 5 percent increments. Layer 3 clay content was assumed to be 85 percent for these simulations.

Figure 18 summarizes the results. Please note plot shows the relationship between changes in clay content of layers 1, 2, and 4 (x-axis), the change in maximum drawdown after 50 years (y-axis on the left side of the graph), and the change in maximum subsidence after 50 years (y-axis on the right side of the graph). Estimated drawdown is shown for layer 1 (blue line), layer 2 (pink line), and layer 4 (green line). Estimated subsidence is shown as a red line.

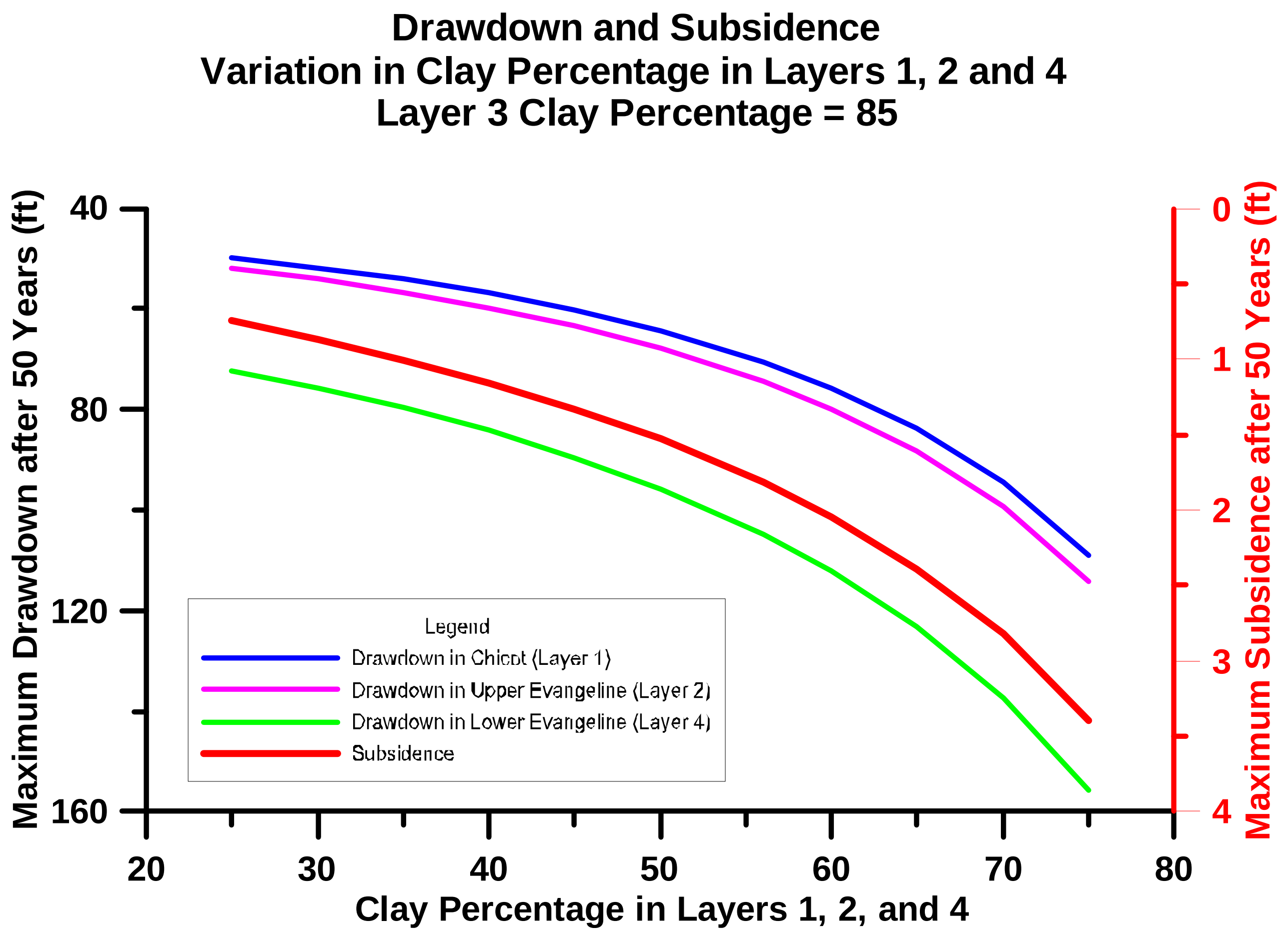


**Figure 18. Drawdown and Subsidence Estimates - Aquifer Unit Clay Content Variation**

Please note that as clay content in the aquifer layers increase, both drawdown and subsidence increase. Please recall that as clay content increases, equivalent layer hydraulic conductivity decreases. Lower equivalent hydraulic conductivity results in increased drawdown. In turn, increased drawdown results in increased subsidence. As drawdown in layer 4 increases, the vertical gradient across the confining unit (layer 3) increases, and results in drawdown in layers 1 and 2.

This plot cannot be used to accurately estimate drawdown or subsidence of the proposed project due to the simple nature of the model and the approach. Rather, it is offered to demonstrate the importance of accurately collecting clay content data in the area of the proposed Electro Purification wells.

## 7.2 Variation in Postulated Confining Layer Clay Content

The simulations discussed in Section 7.1 focused on varying the clay content of the aquifer units (layers 1, 2, and 4). The second set of simulations only varied the clay content of the postulated confining unit. For purposes of this preliminary level analysis, and in order to demonstrate the importance of obtaining accurate data, clay content for the postulated confining unit (layer 3) was varied between 50 and 90 percent. In the aquifer units (layers 1, 2 and 4) clay content was held constant at 40 percent for layer 1 and 60 percent in layers 2 and 4 to approximate the amounts of clay used in the GAM and HAGM for the proposed project area for these simulations.

Figure 19 summarizes the results. Please note plot shows the relationship between changes in clay content of layers 1, 2, and 4 (x-axis), the change in maximum drawdown after 50 years (y-axis on the left side of the graph), and the change in maximum subsidence after 50 years (y-axis on the right side of the graph). Estimated drawdown is shown for layer 1 (blue line), layer 2 (pink line), and layer 4 (green line). Estimated subsidence is shown as a red line.

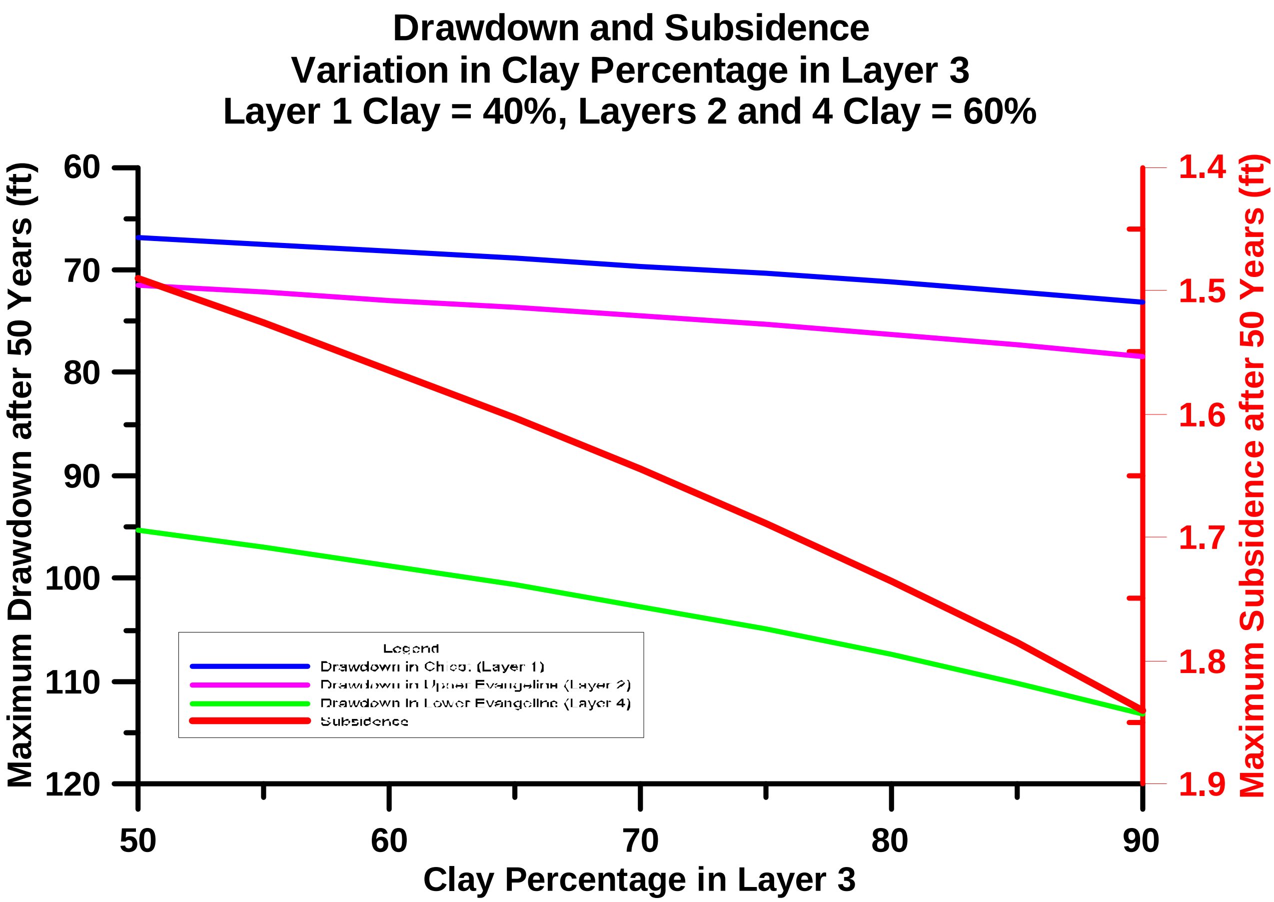


**Figure 19. Drawdown and Subsidence Estimates - Confining Unit Clay Content Variation**

Please note that as clay content in the confining unit (layer 3) increases, the degree of isolation between the upper and lower Evangeline aquifers increases. Where the clay percentage is about 50 or 60 percent, the "confining unit" has about the same hydraulic conductivity as the aquifer units. This simulates the condition that the confining unit is not truly present. As the degree of isolation increases (i.e. clay content in layer 3 increases), the drawdown in layer 4 increases more rapidly than the drawdown in layers 1 and 2. This is the result of low vertical hydraulic conductivity through the confining unit and the isolation of the production unit (layer 4). Less water can move vertically downward as the isolation increases. Please note that subsidence increases slightly as the clay content in layer 3 increases, but the change in subsidence is less dramatic than in the previous set of simulations where clay content in the aquifer units was varied

This plot cannot be used to accurately estimate drawdown or subsidence of the proposed project due to the simple nature of the model and the approach. Rather, it is offered to demonstrate the importance of accurately collecting clay content data in the area of the proposed Electro Purification wells.

## 7.3 Discussion of Results

These simulations with the simple local-scale MODFLOW model are not to be construed as accurate or quantitative. They are only instructive to understand the relationship between parameters and the results (drawdown and subsidence in this case), and the importance of local subsurface data collection and analyses of tests in the project area to obtain accurate parameters from any future testing in the area, if a permit is issued.

To a certain extent, the existing regional models in the area are useful to evaluate long-term subsidence. However, the identified issues with the drawdown estimates from those models suggest that the model parameters used in those models were adjusted in such a fashion to achieve a match with the measured subsidence in the area without much regard for independent knowledge of individual parameters. Moreover, the method used in the GAM and HAGM to simulate recharge and groundwater-surface water interactions suggests that model parameters in the GAM and HAGM should be used in other applications with caution.

The simulations demonstrated that accurate knowledge of the clay content in the aquifer units is important to the estimates of long term drawdown and subsidence. Further, if the lower Evangeline is isolated from the upper Evangeline and Chicot, drawdown in the overlying units could still be observed

Because subsidence would not be measureable for several years, any reasonable test of even several months would not be useful evaluate subsidence directly. Proper analysis of tests coupled with incorporation of subsurface data collected during drilling at the site would provide a means to improve on the simple local scale MODFLOW model to develop more accurate conclusions.

# 8.0 Discussion and Recommendations

As developed in this report, the overall conclusions of the technical review in the four topic areas are as follows:

***Review the "needs" identified in the permit application in light of the Region H water plan, modeled available groundwater numbers that were developed by TWDB from the GMA 14 joint planning process, and the Ft Bend Subsidence District Groundwater Reduction Plan***

- Electro Purification has identified customers for about 10 MGD of the 20 GMD of proposed pumping.
- Based on an analysis of TWDB demand projections, Richmond and Rosenberg would use about 37 percent of the water, and their Groundwater Reduction Program partners would use about 63 percent of the water.
- There is no identified customer for the remaining 10 MGD.

***Review the impacts of proposed pumping on existing registered wells and permitted wells in the district***

- Drawdown estimates for individual wells from the GAM and HAGM were developed as part of this review, but are unreliable.
- The estimates presented in Appendix C, and discussed in Section 4.2 demonstrate the potential drawdown impacts on individual wells as estimated by the GAM and HAGM. However, these results are considered unreliable, and may likely represent over-estimates of drawdown.
- Local scale testing and developing a local scale model based on those results are recommended to overcome these limitations.

***Evaluate the impacts of the proposed pumping in the context of the adopted desired future conditions for Bluebonnet Groundwater Conservation District***

- Drawdown estimates on a county scale for each of the aquifer units or model layers using the GAM and the HAGM were developed as part of this review in the context of evaluating the effects of the proposed project on the desired future condition that was adopted in 2010 by the groundwater conservation districts in Groundwater Management Area 14.
- In general, the Electro Purification scenarios that involve increases in pumping cause increases in drawdown that may not be consistent with the desired future condition. However, the amount of the increased drawdown in many cases is relatively small given the uncertainty of the model results, the geographic scale of the averaging (county-wide), and the time period considered (2008 to 2060).
- Except for the scenarios that involved Jasper pumping (Scenarios 21 to 30), the drawdowns attributed to proposed Electro Purification pumping appears to be relatively minor on a county-model layer scale (generally within 20 feet) given the uncertainty of the models and the geographic and time scales.

- If Electro Purification is issued a permit to pump groundwater, the locations and amounts would have to be incorporated into the joint groundwater planning process.
- There is a current and ongoing discussion as to which model to use as part of that process (GAM or HAGM). This analysis provides some insight as to what the model results would be under a wide range of conditions (i.e. different amounts of Electro Purification pumping) using either model.
- The results also provide insight as to what modifications would need to be made to the desired future conditions, if the desired future conditions is expressed in a manner similar to the ones adopted in 2010.

***Evaluate the proposed pumping in the context of subsidence***

- Historic subsidence in the region has occurred in areas with high pumping and thick clay sequences. Subsidence has been measured in excess of nine feet in some areas of Harris County. Clay thickness in the proposed Electro Purification project area is less than the clay thickness in those portions of Harris County.
- Based on an analysis of mapped clay thickness at the proposed Electro Purification site and an evaluation of historic pumping in areas with measured subsidence in the region, subsidence impacts associated with the proposed project could be as high as three to seven foot range over several decades, depending on the amount of pumping.
- The proposed Electro Purification pumping at the full amount (20 million gallons per day for the project and as much as six million gallons per day in a one-square mile area) represents an intense amount of pumping over a fairly small area. Analysis of historic pumping estimates suggest that this amount of pumping in a small area, while not unprecedented for the area, is certainly not common. Thus, the use of historic analogs and models that are based on historic data cannot be considered highly accurate.
- The models that are available for use in this analysis (GAM and HAGM) were used to simulate a wide range of potential pumping scenarios to better understand the potential for subsidence in the area of the proposed pumping. Based on the calibration of the model, it appears that measureable subsidence will occur by 2060 if pumping exceeds about 6 million gallons per day. Based on the model simulations, this subsidence may not actually be measureable for 10 to 20 years (Figures E-39 and E-40).
- The models results suggest that spreading the pumping over a wide area will mitigate the subsidence impacts as compared to concentrating the pumping over a small area.

## 8.1 Recommended Drilling and Testing Program

If a permit were to be issued, it is recommended that the following drilling and testing program be incorporated into the permit conditions:

- Drill three deep test holes (to the top of the Burkeville, about 1,500 feet deep). The test holes should be no less than 3,000 feet from each other, and should not be in a line. If space permits, the wells should form the vertices of an equilateral triangle.
- Run geophysical logs in each hole consisting of, at a minimum, spontaneous potential, single point resistivity, short and long normal resistivity (16, 32, and 64), and natural gamma.

- If the sites are suitable for well construction based on the test hole drilling and analysis of the geophysical logs, construct a shallow monitoring well (in the Chicot Aquifer, an intermediate monitoring well (in the upper Evangeline, if its existence is confirmed), and a production well at each site (total of three wells at each site).
- Once the wells are completed and fully developed, run three separate aquifer tests (one in each production well), each lasting 30 days, with 30 days of rest time between tests.
- During the test of each production well, the six monitoring wells and two non-operating production wells will be equipped with pressure transducers to record groundwater levels during the test. Data collection frequency will follow standard aquifer test guidelines.
- The well discharge piping and valves should include a means to accurately measure the discharge rate of the well and maintain a constant flow rate during the test. Actual pumping rate will be approved by Bluebonnet Groundwater Conservation District after review of well development data.
- Analysis of the data with analytical techniques can be completed, but needs to be supplemented with numerical analysis similar to the simple local-scale MODFLOW model discussed in this review. Hydrostratigraphy and model layers will be based on the data collected from the test hole drilling program. Analysis will include calibrating the model to all monitoring well data.

The testing and analyses recommendations are an extension of the BGCD guidelines for a Phase II report. The guideline document focuses on developing hydrogeologic parameters of the aquifer at the location of the test. These guidelines work well for a single well permit. Because the proposed Electro Purification project involves multiple wells and relatively high pumping rates, it is necessary to extend the recommended testing analysis as outlined above. Specifics of the enhancements to the guidelines include:

- The guidelines specifically require aquifer transmissivity, hydraulic conductivity, and storativity. The analyses of these tests should also include clay thickness, sand thickness, geologic interpretation of layering used in the numerical model, horizontal hydraulic conductivity of sand and clay units, equivalent horizontal and vertical hydraulic conductivity of identified layers of the formation, inelastic specific storage, inelastic storativity, and elastic storativity.
- The guidelines are somewhat vague on the analytical method to use. Historically, BGCD has approved Phase II reports using Theis analyses for single well tests. Given the limitations of the Theis method coupled with the scope of the proposed project, numerical analyses of the tests is recommended.
- The guidelines require a 24-hour test, which would be inadequate for evaluation of this project, and 30 day tests have been recommended.
- The guidelines state that existing private wells within ¼ mile may be used as monitoring wells. If any such wells exist and are available for monitoring during the test, they can be added. The recommended testing program includes new monitoring wells that should be adequate to characterize the aquifer in the area.
- The guideline provision for use of a published assumptive storativity value is not applicable to this proposed project.

Guideline requirements for the following report items should be followed and supplemented as appropriate:

- Table of water-level drawdown and recovery data for each test and for each well monitored
- Figures of water-level recovery for each test
- Narrative description of testing methods
- Discussion of conduct of the tests, including details of significant events of the test, any equipment failures and any contingency measures that may have been employed.
- Discussion of conclusions drawn for the analyses of the tests (aquifer parameters and the effects of boundary conditions)
- Maps of the production and monitoring wells giving the location and elevation of the wells and all surrounding wells that exist within a ½ mile radius of the wells. The map shall include streets, roads, and the bounds of the land tracts sufficient to determine the location of the wells within the tract of land on which they are located.

Data from the testing program will be used to update and refine the estimates of impacts of the proposed project. These data and results of the analyses will also be used to establish threshold or trigger groundwater elevations in the production wells and monitoring wells that would result in the reduction or cessation of pumping.

## 8.2 Recommended Monitoring Program

The recommended monitoring program (assuming that a permit is issued based on the results of the drilling and testing program) is as follows:

- Each production well should be equipped with a totalizing flow meter and a pressure transducer and a data logger.
- Each monitoring well should be equipped with a pressure transducer and data logger.
- Production data for each production well should be recorded and reported monthly.
- Groundwater elevation data for each production well and monitoring well should be collected hourly. These data should be downloaded from the data loggers monthly and reported monthly.
- Groundwater quality samples should be taken from each production well quarterly. Laboratory analyses of the samples should include general mineral (for cation/anion balance), total dissolved solids, and metals. Reports should be submitted annually.
- An extensometer should be installed near the production wells. Daily data should be recorded, and reported annually.

# 9.0 References

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Hasan, M. and Wade, S., 2011, GAM Run 10-038MAG, Texas Water Development Board, GAM Run Report, 19 p.

Kasmarek, M.C., and Robinson, J.L., 2004, Hydrogeology and Simulation of Groundwater Flow and Land-Surface Subsidence in the Northern Part of the Gulf Coast Aquifer System, Texas: United States Geological Survey Scientific investigations Report 2004-5102, 111 p.

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Oliver, W., 2010, GAM Run 10-023, Texas Water Development Board, GAM Run Report, 32 p.

Wilson, C., 1967, Ground-Water Resources of Austin and Waller Counties, Texas, Texas Water Development Board Report Number 68, 201 p.

# Appendix A – Review of the GAM and the HAGM in the Context of the Proposed Electro Purification Wells

# Appendix A – Review of the GAM and the HAGM in the Context of the Proposed Electro Purification Wells

## Table of Contents



### Figures A1 to A76 a presented at the end of the Appendix

# A-1 Introduction

In 2004, the US Geological Survey (USGS) published the groundwater flow model that is known as the Northern Gulf Coast Groundwater Availability Model (GAM). This model is documented in Kasmarek and Robinson (2004), and was implemented with the MODFLOW-96 code developed by the US Geological Survey. The model calibration period was 1891 to 2000.

This model was used by consultants for Groundwater Management Area 14 during development of desired future conditions for the Gulf Coast Aquifer in 2010. During review of these simulations, the Texas Water Development Board found that some trends in water levels between the end of the historical-calibration period (1997) of the model and the beginning of the predictive simulation (2008) did not adequately match water-level trends (Hasan and Wade, 2010). This was a significant issue because the groundwater conservation districts in Groundwater Management Area 14 sought to use the year 2008 as the basis of drawdown calculations in the desired future condition statement, and estimating reasonably accurate 2008 conditions was considered important. More details of this comparison and the adjustments to pumping during the period 1997 to 2008 were presented by Oliver (2010) in response to a request by Groundwater Management Area 14.

Scenario 3 GAM Run 10-023 (Oliver, 2010) was then used as the basis for the Desired Future Condition (DFC) adopted by Groundwater Management Area 14. The Modeled Available Groundwater for the Gulf Coast Aquifer in Groundwater Management Area 14 is documented in Hasan and Wade (2011), and used pumping values from Scenario 3 of GAM Run 10-023 (Oliver, 2010).

In 2012, Thornhill Group, Inc. used the GAM to simulate the impacts associated with the permit applications submitted to the Bluebonnet Groundwater Conservation District for an aggregate well system to produce 20 million gallons per day (22,500 acre-feet per year) from Austin and Waller counties (Thornhill Group, 2012). This simulation consisted of pumping 20 million gallons per day from 2014 to 2060 in addition to the pumping simulated in Scenario 3 of GAM Run 10-023 (Oliver, 2010). The key findings of Thornhill Group (2012) were as follows:

- The distribution of pumping in the model files used to define aquifer desired future conditions (DFCs) does not include the proposed Electro Purification wells
- The model results suggest that drawdown from the proposed Electro Purification wells will be focused around the well field, and the primary effects of production will be on the proposed wells with limited declines on other groundwater users
- Based on the model results, the cone of depression will extend out approximately 10 miles from the proposed well field in all directions

Thornhill Group (2012, pg. 26) stated that the GAM "does not consider the many sand layers in the Evangeline and water level declines associated with the proposed production will likely be limited to the deeper sand layers where the wells will be completed". Furthermore, Thornhill (2012) stated that the "GAM was designed to meet the purpose of estimating ground-water availability on a regional scale", and concluded that the proposed production "can be sustained though the end of the planning period".

Also in 2012, the USGS published an update to the groundwater flow model for the area, and is known as the Houston Area Groundwater Model (HAGM). The HAGM is documented in Kasmarek (2012), and used the MODFLOW-2000 code developed by the US Geological Survey. The calibration period for the model was 1891 to 2009. The framework of the HAGM (i.e. horizontal and vertical discretization) and basic modeling approach were the same as the earlier GAM. The significant updates include an extended period of calibration (to 2009), updated groundwater pumping estimates, and the ability to simulate clay compaction in the Burkeville and Jasper units (layers 3 and 4 of the model).

## A-2 Purpose

The purpose of this Appendix to the technical review report is to detail issues with the GAM and the HAGM relative to their use in the simulation of proposed pumping by Electro Purification. The proposed Electro Purification project represents a large increase in pumping in the area of the proposed wells, and many of the potential impacts will be local in nature. Both the GAM and the HAGM are regional models, and their results will have limited use in quantifying local impacts.

As described in the main review report, both models were used in the review of the permit application to develop conclusions on a regional basis for potential impacts of the proposed project. However, several technical issues and limitations of the models are present for this particular application. In order to provide the necessary detail to those issues and limitations, this Appendix provides more details than are contained in the main technical review report.

This information includes the following for Austin, Fort Bend, and Waller counties:

- Comparisons of aquifer parameters between the GAM and the HAGM (hydraulic conductivity, storativity, vertical conductance, elastic storativity, and inelastic storativity)
- Pumping estimates that were used in the GAM from 1891 to 1996 and the pumping estimates that were used in GAM Run 10-023 (Oliver, 2010) from 1997 to 2060 that formed the basis for desired future conditions and modeled available groundwater are compared with pumping estimates that were used in the HAGM from 1891 to 2009
- Comparisons of General Head Boundary head inputs in the GAM and HAGM with model estimates of land elevations
- Time-series graphs of General Head Boundary flows in the GAM and HAGM
- Comparisons of General Head Boundary flows and pumping
- Comparisons of actual historic groundwater elevation at selected wells and model estimated groundwater elevations at those points for both historic conditions (calibration period) and predicted conditions
- Comparisons of actual subsidence with measured subsidence

Repeating maps, figures and tables that were contained in Kasmarek and Robinson (2004) and Kasmarek (2012) in this Appendix was avoided. The information contained in this Appendix was derived from the model files of the GAM and HAGM, and from the groundwater database of the Texas Water Development Board.

# A-3 Aquifer Parameters

Kasmarek and Robinson (2004) documented the trial and error process used in calibrating the GAM for the period 1891 to 2000. Kasmarek (2012) documented the trial and error process used in calibrating the HAGM for the period 1891 to 2009. The processes for both models included adjustments to various aquifer parameters.

A comparison of aquifer parameters used in the GAM and HAGM are presented in Figures A1 to A19 (presented at the end of this appendix), and include hydraulic conductivity (Figures A1 to A4), storativity (Figures A5 to A8), vertical conductance (Figures A9 to A11), elastic storativity (Figures A12 to A15), and inelastic storativity (Figures A16 to A19) with one plot representing one parameter in one layer. On all plots, each of the three counties of interest to this review are designated by a different color. For each plot, the comparison consists of plotting the parameter value for each model cell from the GAM on the x-axis, and the parameter value for each model cell from the HAGM on the y-axis. For convenient reference, a one-to-one line is included on each plot. If the parameter values from each model are the same, the parameter values will plot on the one-to-one line.

## A-3.1 Hydraulic Conductivity

Hydraulic conductivity describes how easily groundwater moves through the aquifer system. While permeability describes the property of the aquifer material itself, hydraulic conductivity describes the rate of movement given the aquifer system and the fluid (in this case water). The definition of hydraulic conductivity is the rate of flow under a unit hydraulic gradient through a unit cross-sectional area of the aquifer, and in these models has units of feet per day.

Hydraulic conductivity values were estimated and used as inputs to both the GAM and the HAGM, but the use of this parameter in the two models is different. In the GAM, the hydraulic conductivity estimates for each cell were multiplied by the aquifer thickness at each stress period to calculate the aquifer transmissivity. This method, specified with LAYCON=3 specification in the BCF package, allows the variation in transmissivity based on the saturated thickness. In the HAGM, the transmissivity is calculated from the saturated thickness at the beginning of the simulation and held constant for the entire simulation, as specified with LAYCON=0.

Figures A1 to A4 present the comparisons of hydraulic conductivity estimates from the GAM and the HAGM by layer. Each of the three counties is color coded. It can be seen that, in general, changes were made to Fort Bend County in layers 1 and 2 more so than in Austin and in Waller counties. In some areas, hydraulic conductivity values in Fort Bend County in the more recent HAGM were nearly doubled as compared to the GAM, and in some areas they were reduced by a as much as one-half in layer 1. In layer 2, in some areas of Fort Bend County, the hydraulic conductivity is 5 to 6 times higher in the HAGM as compared to the GAM, and in other areas of Fort Bend County, the hydraulic conductivity was reduced by one-half. Note also, that in layer 2, estimates of hydraulic conductivity in Austin and Waller counties are significantly lower, and did not change between the GAM and the HAGM. Layer 3 estimates did not change in any of the three counties. Layer 4 estimates in Waller County were increased significantly, and increased somewhat in Fort Bend County.

## A-3.2 Storativity

Storativity is used to define the amount of water an aquifer yields to a wells due to the compression of the aquifer in a confined aquifer, or due to reduction in head in an unconfined aquifer. In confined aquifers, groundwater fills the aquifer and the aquifer is under pressure. When a well is pumped, pressure in the aquifer is reduced, and the aquifer compresses. In an unconfined aquifer, when a well is pumping, head is reduced and the aquifer begins to dewater. The specific storage of an aquifer is defined as the volume of water that a unit volume of aquifer releases from storage under a unit decline in head (either through pressure reduction or dewatering). Storativity is the specific storage multiplied by the aquifer thickness, and is dimensionless. In general, unconfined storativity (often referred to as specific yield) is several times higher than confined storativity.

Storativity values were estimated and used as inputs to both the GAM and the HAGM, but the use of this parameter in the two models is different. In the GAM, the storativity estimates can shift between the confined or unconfined storativity values depending on where the head is relative to the top elevation in the cell. In outcrop areas of the four layers, unconfined conditions always exist during the simulation period. However, as one moves downdip from these outcrop areas, the aquifer condition is confined since the head in the aquifer is above the top of the aquifer. If pumping causes the head to drop to below the top of the aquifer, through the specification of LAYCON as 3, the GAM provides for the conversion of the storativity value to an unconfined value that is specified. However, in the HAGM, LAYCON is specified as 0, and the ability to convert from confined storativity values to unconfined storativity values as heads decline is not available in the HAGM.

Figures A4 to A8 present the comparisons of storativity estimates from the GAM and the HAGM by layer. Each of the three counties is color coded. It can be seen that there were no changes in layers 1, 2 and 3 in the HAGM as compared to the GAM. In layer 4, there appears to be a consistent and small reduction in estimated storativity in the HAGM as compared to the GAM.

## A-3.3 Vertical Leakance

The GAM and the HAGM both use MODFLOW's BCF (Block Centered Flow) package, which requires the specification of a parameter known as Vcont, or vertical leakance to describe the ability of groundwater to move vertically between model layers. The parameter of vertical leakance is essentially vertical hydraulic conductivity divided by the thickness (or vertical distance between the midpoints of the two layers), and in these models has units of day$^{-1}$.

Figures A9 to A11 present the comparisons of vertical leakance estimates from the GAM and the HAGM. Each of the three counties is color coded. Because vertical leakance is a parameter related to the flow between layers, only three sets of parameters are required, and only three graphs are presented for the four layer model (i.e. vertical leakance between layers 1 and 2, vertical leakance between layers 2 and 3, and vertical leakance between layers 3 and 4). Note that vertical leakance between layers 1 and 2 and between layers 2 and 3 are the same in the HAGM and the GAM. However, in part of Waller County and in all of Austin and Fort Bend counties, vertical leakance in the HAGM is one order of magnitude lower than in the GAM.

### A-3.4 Elastic and Inelastic Storativity

When groundwater is pumped from an aquifer, stored water in confined aquifers enters the well due to expansion of water, the compression of the aquifer material, and the compression of clayey beds that are within and adjacent to the aquifer. The resulting compression is considered elastic (i.e. reversible) if there is no permanent rearrangement of the skeletal structure of the sediments. Conversely, the resulting compression is considered inelastic (irreversible) if the reduction in pressure caused by the removal of the water causes rearrangement of the skeletal structure of the sediments. Compaction of these sediments results in a loss of storage capacity of the aquifer, and also can result in land subsidence.

The dimensionless parameters elastic and inelastic storativity, and the estimates of preconsolidation head (the minimum head value in the aquifer prior to the simulation period) are used in MODFLOW to simulate compaction and subsidence. The GAM implemented MODFLOW's IBS (Interbed Storage) package (Leake and Prudic, 1991) to simulate subsidence. The HAGM used MODFLOW's SUB (Subsidence and Aquifer System Compaction) package (Hoffmann and others, 2003) to simulate subsidence. The SUB package was an update to the IBS package. Both packages simulate compaction and subsidence using the same underlying equations and parameters. However, the SUB packages provide the opportunity to simulate time-delay effects of subsidence. When the time-delay feature of the SUB package is not used, the simulation of subsidence in both packages is the same. The HAGM used the SUB package, but did not utilize the time-delay option. Thus, the GAM and HAGM used the same underlying approach to simulating subsidence.

Figures A12 to A15 present the comparisons of elastic storativity estimates from the GAM and the HAGM. Figures A16 to A19 present the comparisons of inelastic storativity estimates from the GAM and the HAGM. Each of the three counties is color coded. Note that the changes were made in the HAGM as compared to the GAM in layers 1 and 2 for parts of Fort Bend and Waller counties, but not in Austin County. Also note that the GAM had very low estimates of elastic and inelastic storativity in layers 3 and 4, effectively resulting in an assumption that there is no mechanism to cause subsidence in layers 3 and 4. The HAGM has corrected this, and estimates for these parameters are included. In layers 1 and 2, the inelastic storativity values are 2 orders of magnitude higher than elastic storativity values in both the GAM and the HAGM.

## A-4 Pumping

Kasmarek and Robinson (2004, pp. 106-107) documented the sources of data used to develop pumping from 1891 to 2000 for the GAM. These data were also used in the HAGM for this time period. Kasmarek (2012, pg. 17) documented the sources of data used to update pumping from 2001 to 2009 for the HAGM. Data from the Harris-Galveston Subsidence District, the Fort Bend Subsidence District, the San Jacinto River Authority, and the Lone Star Groundwater Conservation District were used to update pumping estimates in Fort Bend, Galveston, Harris, and Montgomery Counties. Water use data from 2001 to 2009 were compiled and combined with data from the original GAM, apparently for all other areas outside of the four main counties of interest.

Absent from the reported sources of data are the estimates of pumping used in Scenario 3 of GAM Run 10-023 (Oliver, 2010), which were developed to bridge the gap from 1997 to 2008 in development of the desired future condition for Groundwater Management Area 14, and provide a reasonable 2008 condition, which Groundwater Management 14 used as a starting point for drawdown estimates. Although not using this available dataset may have been consistent with the original intent and objective of the HAGM to the four counties of interest (Fort Bend, Galveston, Harris, and Montgomery), there are implications of not using the estimates used by TWDB in developing estimates of modeled available groundwater from 1997 to 2009 in the HAGM. Comparisons of pumping between the GAM estimates of pumping (including those used in Scenario 3 of GAM Run 10-023), and HAGM estimates of pumping for the three counties of interest (Austin, Fort Bend, and Waller) are presented in Figures A20 to A34 (presented at the end of this report).

The graphs are organized by county and model layer. Pumping estimates for each model layer are plotted with time using the hydrogeologic unit commonly associated with the layer (Layer 1 = Chicot, Layer 2 = Evangeline, Layer 3 = Burkeville, and Layer 4 = Jasper). The total pumping for all layers in each county is also presented. Within each plot, there are two pumping estimates: a blue line that represents the pumping estimates of the GAM from 1981 to 1996 and the estimates from Scenario 3 of GAM Run 10-023 from 1997 to 2060, and a red line that represents the pumping estimates in the HAGM from 1891 to 2009.

Generally, the pumping estimates from 1891 to 1997 are the same, and the red line overlies the blue line. Also, it should be noted that although both models have the same estimates of pumping in Austin and Waller Counties from 1891 to 1997, neither model seemed to have fully incorporated previous estimates of pumping in Austin and Waller Counties from 1930 to 1965 (Wilson, 1967, pg. 39).

Wilson (1967) estimated the peak of pumping from 1945 to 1965 to be much higher than either the GAM or HAGM estimates. Wilson estimated that Austin County irrigation pumping peaked in about 1954 (about 11,000 AF/yr) while the GAM and HAGM estimated a peak in about 1960 of about 8,000 AF/yr (Figure A24). Wilson estimated that Waller County irrigation pumping peaked in about 1954 (about 51,000 AF/yr) while the GAM and HAGM estimated a peak in about 1960 of about 25,000 AF/yr (Figure A34).

Although Wilson (1967) is listed as a reference by Kasmarek and Robinson (2004), there does not appear to be a specific citation where the information from that effort was used in Kasmarek and Robinson (2004). This observation will have limited effect on the four counties of interest to the HAGM (Fort Bend, Galveston, Harris, and Montgomery). However, there are implications when evaluating the potential limitations of the models use in the Bluebonnet GCD area, and in simulations instance where future pumping approaches and/or exceeds the estimates of historic pumping of Wilson (1967), such as the proposed Electro Purification wells.

## A-5 Model Layer Elevation versus General Head Boundary

An important feature of the GAM was that also included in the HAGM was the use of the General Head Boundary (GHB) package to simulate recharge and groundwater-surface water interactions in the outcrops of the model layers. As stated in Kasmarek and Robinson (2004, pg. 43) and Kasmarek (2012, pg. 15), the GHB package allows the simulated water table of an aquifer system to function as a head-dependent flux boundary. The rate of flow between the water table and the adjacent deeper zone of the system is controlled by the difference between that water table (a specified head) and the head in the adjacent deeper zone (which changes with model simulation time) and by the vertical hydraulic conductance between the water table and the immediately deeper zone. Although the GHB package includes the ability to vary the GHB head with time (by specifying a different GHB head for each stress period), the implementation of the GHB package in both the GAM and HAGM assumed that the specified head remained constant throughout the simulations (1891 to 2000 for the GAM and 1891 to 2009 for the HAGM).

Figures A35 to A37 present a comparison of model layer top elevations for the outcrop area in each cell within Bluebonnet GCD with GHB head specification. As noted in Kasmarek and Robinson (2004) and in Kasmarek (2012), the GHB head represents a boundary head that can result in recharge to the groundwater system if the boundary head is higher than the aquifer head, or in groundwater discharge to the boundary if the aquifer head is higher than the boundary head. For reference purposes, the model layer top elevation generally represents the land surface elevation in the outcrop area.

Generally, there appears to be only a few differences in GHB head specification in the GAM and the HAGM, thus the red dots (HAGM) are generally overlying the blue dots (GAM). The figures also include a one to one line. If the GHB heads and the model layer elevation are the same (i.e. a boundary condition head such as streams are equal to the land surface elevation), the dots will line up on that one to one line.

It is reasonable to expect that there would be some degree of offset from the one to one line. Generally, it would be expected that the boundary head (labeled GHB elevation on the plots) would lie below the one to one line. This would mean that the boundary head is below land surface (assuming that the layer top elevation represents land surface). In some areas with relatively high topographic variation, some boundary heads above the one to one line would be expected (boundary head is above the land surface). This would be represented by dots above and to the right of the one to one line.

Inspection of Figures A35 to A37 shows that there are several instances where the boundary heads are significantly above or below the one to one line:

- In Austin County, the deviations from the assumed and averaged land surface ranges from boundary heads 92 feet below model layer top elevations to 63 feet above model layer top elevations. 33 percent of the boundary heads are within 10 feet of the model layer top elevations. Figure A38 presents the distribution of the differences using the GAM. The HAGM results are nearly identical since there are only minor differences between GHB head specification in the GAM and HAGM.

- In Fort Bend County, the deviations from the assumed and averaged land surface ranges from boundary heads 53 feet below model layer top elevations to 20 feet above model layer top elevations. 55 percent of the boundary heads are within 10 feet of the model layer top elevations. Figure A39 presents the distribution of the differences using the GAM. The HAGM results are nearly identical since there are only minor differences between GHB head specification in the GAM and HAGM.
- In Waller County, the deviations from the assumed and averaged land surface ranges from boundary heads 67 feet below model layer top elevations to 34 feet above model layer top elevations. 36 percent of the boundary heads are within 10 feet of the model top elevations. Figure A40 presents the distribution of the differences using the GAM. The HAGM results are nearly identical since there are only minor differences between GHB head specification in the GAM and HAGM.

The implication of these differences is that groundwater elevations simulated by the model are somewhat constrained by these boundary heads, and, in turn impact the amount of inflow and outflow of water. As shown below, comparison of hydrographs between actual monitoring well data and model estimates demonstrate offsets by tens of feet in some areas, which may be partly a result of specification of the GHB head.

The original of the HAGM revolved around the four counties of interest (Fort Bend, Galveston, Harris, and Montgomery). The noted differences in GHB head and model layer top elevation in Austin and Waller Counties would likely have no significant impact on the HAGM counties of interest, nor on conclusions drawn in those counties. The differences, however, in Fort Bend County are smaller than in Austin and Waller counties.

Since the GAM and HAGM use the same boundary specification, there is likely no net effect of using the HAGM instead of the GAM. The analysis does, however, highlight an important limitation of the use of the results of either model in Austin and Waller counties due to the differences.

## A-6 Changes to General Head Boundary Flows with Time

As reported in Kasmarek and Robinson (2004, pg. 43) and in Kasmarek (2012, pg. 16), a key assumption in the simulating recharge and groundwater-surface water interaction with General Head Boundaries is that there are no long-term trends in the water table. Kasmarek and Robinson (2004, pg. 43) stated that the assumption “is believed reasonable over most of the GAM area, although the assumption might not be valid in some areas of intense withdrawals”. Kasmarek (2012, pg. 16) simply stated that the “assumption is believed reasonable over most of the HAGM study area”. As stated above, GHB heads in the GAM and the HAGM did not vary with time. Thus, the boundary head that controlled recharge to and discharge from the aquifer system was the same from 1891 to 2000 for the GAM, and from 1891 to 2009 for the HAGM despite large increases in pumping over that time period. Also, as previously noted, the GHB package provides for the user to specify the boundary heads for each stress period, thus providing a means to better simulate surface water groundwater interaction, although that feature was not implemented in the HAGM. The use of GHBs to simplify overlying flow processes was noted in Kasmarek and Robinson (2004, pg. 45):

*"The rationale for this decision is that the general-head boundary package, assuming the model is adequately calibrated, would account for stream discharge to the level of accuracy that such discharge is known. Few measured data are available on streamflow gains/losses for the major streams that flow across the outcrops of the Gulf Coast aquifers."*

When the issue updating the GAM was originally brought to the TWDB by the USGS and the subsidence districts, the issue of replacing the GHBs with recharge and streams in the update was discussed. As the project went forward and became the HAGM, however, it is apparent that decisions were made to continue to use the GHBs as noted in Kasmarek (2012, pg. 16):

*"Because aquifer discharge to streams is not well known, such data are not particularly helpful for comparison with simulated data for purposes of calibration; there was little incentive to add more complexity to an already complex model by explicitly computing flow between streams to the aquifers. Although some additional recharge rates have recently been determined (Tarver, 1968; Sandeen, 1972; Loskot and others, 1982; Baker, 1986; and Kasmarek and Robinson, 2004), the additional complexity of including that information specifically, by substituting the GHB package with the River or Stream package and the Recharge package, was determined to be beyond the scope of this report."*

For the stated objectives of the HAGM and the area of interest (Fort Bend, Galveston, Harris, and Montgomery Counties), the decision to continue to use GHBs to simulate recharge and groundwater-surface water interaction must be viewed in the context of future groundwater management in the area (i.e. decreased pumping). Under this expected condition in the four counties of interest associated with HAGM development, the GHB flow into the aquifer system will tend to decrease with time in the future as pumping decreases and groundwater elevations rise. Thus, for its intended purpose in the four counties of interest, the continued use of GHBs, while not ideal, is certainly not a fatal flaw.

The proposed Electro Purification wells represent a significant increase in the amount of pumping in a relatively small area. Simulating these proposed wells with either the GAM or the HAGM coupled with the use of GHBs heads that do not vary with time will result in simulated increases in GHB flow into the aquifer system that may or may not be accurate.

In order to place this limitation into context with the calibrated models (both GAM and HAGM) and the GAM's previous use as a tool to estimate modeled available groundwater for the desired future conditions adopted by the groundwater conservation districts of Groundwater Management Area 14, Figures A41 to A43 present the simulated GHB flows into the aquifer system for each of the three counties of interest. Note that the blue line represents the simulation associated with Scenario 3 of GAM Run 10-023 (covering the years 1891 to 2060), and the red line represents the simulation associated with the calibration of the HAGM (covering the years 1891 to 2009).

GHB flows into the aquifer system represent a combined inflow of recharge from precipitation and inflow from and outflow to streams in the outcrop areas of the model. Note that in all three counties, there is a significant increase in inflow from the GHB boundary into the aquifer that essentially means that there is an increase in the sum of recharge from precipitation plus recharge from streamflow.

The large increase in GHB inflow may have an impact on drawdown estimates (i.e. underestimate drawdown if the inflow increases are unreasonable). Also note the differences in estimates between the GAM and the HAGM.

- Austin County (Figure A41): Simulated GHB inflows rise from less than 6,000 AF/yr in 1891 to slightly over 16,000 AF/yr by 2009, and then are simulated to increase to almost 24,000 AF/yr by 2060 under the DFC condition. Differences between the GAM and the HAGM are relatively minor.
- Fort Bend County (Figure A42): Prior to 1930, there is a net discharge of groundwater to the GHB boundaries (i.e. streams) in Fort Bend County. After 1930, there is an increasing amount of net inflow that is estimated to be about 60,000 AF/yr with the HAGM and about 80,000 AF/yr in the GAM by 20009, and increases only to about 90,000 by 2060.
- Waller County (Figure A43): HAGM simulated inflows are less than GHB inflows simulated by the GAM. In the GAM simulation, inflows are simulated to be slightly over 5,000 AF/yr in 1891 and increase to about 30,000 AF/yr in 2009, and then are simulated to increase to about 45,000 AF/yr in 2060.

## A-7 Pumping versus GHB Flows

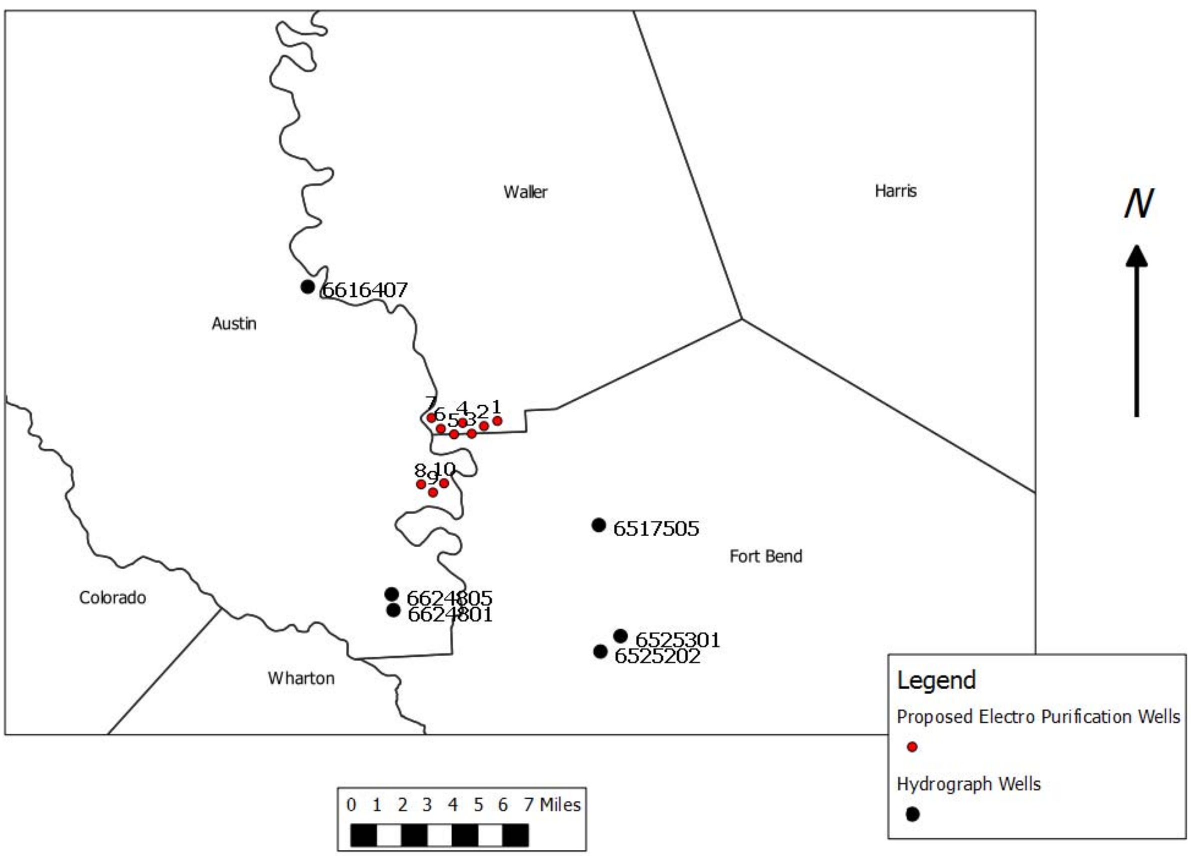
Time series of simulated GHB flows and pumping for both models were presented above. The close association of increases of simulated GHB flows with pumping was discussed. Figures A44 to A46 present plots of pumping versus GHB flows (one for each of the three counties of interest):

- Austin County (Figure A44): Note the strong correlation between pumping and GHB flow for pumping less than about 10,000 AF/yr for both the GAM and the HAGM. For pumping up to 10,000 AF/yr, both models simulate GHB inflows that are slightly higher than the pumping. For pumping between 10,000 AF/yr and about 15,000 AF/yr, GHB flows increase, and tend to be slightly higher than the pumping, but the estimates are spread out more than lower pumping amounts, likely due to transient effects of the increases. The DFC condition (pumping about 23,000 AF/yr) has a range of GHB inflows that are related to the transient effect of the simulated pumping increases after 2010.
- Fort Bend County (Figure A45): Note the correlation between pumping and GHB flows. Also, the condition of net discharge that was seen prior to 1930 is associated with pumping less than about 5,000 AF/yr. Essentially, only a small amount of pumping (according to this model) results in net recharge to the aquifer system in Fort Bend County. Under the DFC condition, pumping that is about 100,000 to 120,000 AF/yr results in an inflow from the GHB boundary of about 90,000 AF/yr.
- Waller County (Figure A46): As with the previous graphs, the correlation between pumping and GHB flows is evident, as is the transient response under predicted conditions after 2010 in GAM Run 10-023.

# A-8 Groundwater Elevations

## A-8.1 Comparisons in Area of Proposed Electro Purification Wells

As part of the review of the GAM and HAGM in the context of the proposed Electro Purification project, hydrographs of actual groundwater elevations were compared to hydrographs of simulated groundwater elevations. The Texas Water Development Board groundwater database was used to obtain data and information on wells in Austin, Fort Bend and Waller counties relative to well location, well construction details, and historic groundwater elevations. There were 181 wells that met the following criteria: 1) at least one historic groundwater elevation measurement, and 2) screen top and bottom elevation place the well in a single model layer (82 in Austin County, 78 in Fort Bend County, and 21 in Waller County). Of these 181 wells, six were located in the vicinity of the proposed Electro Purification wells and had more than 10 recent groundwater elevation measurements. The locations of these wells, and the locations of the proposed Electro Purification wells are shown below:




**Locations of Proposed Electro Purification Wells and Wells with Historic Groundwater Elevation Data for which Hydrographs were constructed**

Construction details and data on historic groundwater elevation measurements are shown in Table A1.

**Table A1. Summary of Well Construction Data for Selected Wells**

| **Well Number** | 6517505 | 6525202 | 6525301 | 6616407 | 6624801 | 6624805 |
|---|---|---|---|---|---|---|
| **County** | Fort Bend | Fort Bend | Fort Bend | Austin | Austin | Austin |
| **Land Surface Elevation (ft MSL)** | 104 | 115 | 111 | 121 | 125 | 131 |
| **Well Depth (ft)** | 450 | 292 | 438 | 165 | 610 | 725 |
| **Depth to Top of Screen (ft)** | 329 | 120 | 91 | 147 | 586 | 530 |
| **Depth to Bottom of Screen (ft)** | 450 | 279 | 432 | 165 | 606 | 702 |
| **Elevation of Screen Top (ft MSL)** | -225 | -5 | 20 | -26 | -461 | -399 |
| **Elevation of Screen Bottom (ft MSL)** | -346 | -164 | -321 | -44 | -481 | -571 |
| **Number of Historic Groundwater Elevation Measurements** | 22 | 22 | 80 | 38 | 35 | 28 |
| **Year of Earliest Groundwater Elevation Measurement** | 1985 | 1960 | 1945 | 1966 | 1957 | 1973 |
| **Year of Most Recent Groundwater Elevation Measurement** | 2011 | 2011 | 2011 | 2011 | 2011 | 2011 |
| **Model Layer** | 1 | 1 | 1 | 2 | 2 | 2 |
| **Model Row** | 59 | 63 | 63 | 45 | 57 | 56 |
| **Model Column** | 70 | 67 | 68 | 67 | 62 | 62 |
| **X-Coordinate (GAM)** | 6212777.5 | 6213116 | 6217299 | 6152008 | 6169900.5 | 6169529 |
| **Y-Coordinate (GAM)** | 19134288 | 19107890 | 19111112 | 19184036 | 19116538 | 19119842 |

Hydrographs of these six wells are presented as Figures A47 to A52 (comparison with GAM results), and Figures A53 to A58 (comparison with HAGM results). The GAM comparison used the simulation from Scenario 3 of GAM Run 10-023 (Oliver, 2010) which covered the time period 1891 to 2060 (1891 to 1997 represented pumping estimates from the calibrated model, 1998 to 2008 represented pumping estimates described in Oliver (2010), and 2009 to 2060 represented pumping estimates that were the basis of the desired future condition/modeled available groundwater). The HAGM comparison used the calibrated estimates of pumping from 1891 to 2009, and added the pumping estimates described in Oliver (2010) to represent the pumping associated with the desired future condition/modeled available groundwater scenario.

These hydrographs presented in Figures A47 to A58 include historic groundwater elevations data, simulated groundwater elevation data from the GAM or HAGM as appropriate, land surface elevation, elevations of the screened interval and historic and future pumping in three zones: Zone 1) pumping within the cell where the well is located, Zone 2) pumping in the eight cells immediately surrounding zone 1, and Zone 3) pumping in the 16 cells immediately surrounding zone 2. Thus, pumping (both historic and projected) in a 25 square mile area surrounding the well of interest is presented in aid interpretation of the groundwater elevation changes.

In order to facilitate comparison of actual groundwater elevations and the estimated groundwater elevations from the GAM and HAGM at these six wells, Figures A59 to A64 were constructed without additional data associated with land surface elevations, screened intervals, and pumping.

Note that in model layer 1 (Chicot Aquifer), the actual groundwater elevations are relatively constant, but that both models tend to simulate a significant drawdown starting in about 1940. Based on these hydrographs, it appears that, in the area of the proposed Electro Purification wells, simulations of future drawdown due to increased pumping in model layer 1 are likely overestimates (drawdown in the model is likely higher than actual drawdown).

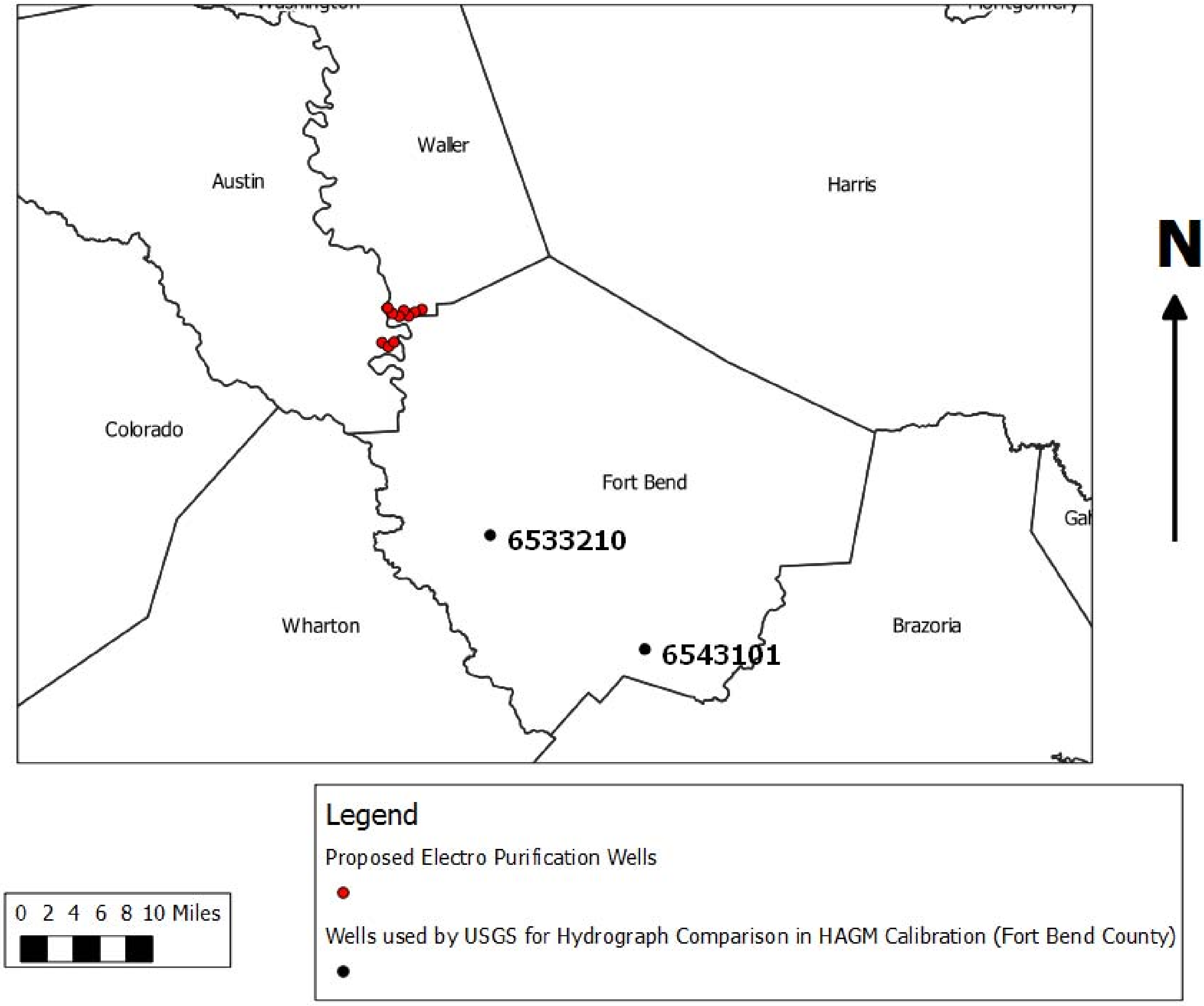
Note that in model layer 2 (Evangeline Aquifer), both models mimic the changes in historic and observed groundwater elevation better than in layer 1 in two of the three wells. However, it appears that the GAM matches the historic groundwater elevations from the 1960s to the 1990s than the HAGM in Well 66-24-801. In contrast, neither model tracks the historic record of Well 66-16-407 where no significant downward trend is present in the historic record, but the models estimate a significant drawdown that began in the 1940s and continues to present.

### A-8.2 Discussion of Use of Groundwater Elevation Data in Model Calibration

Kasmarek and Robinson (2004, p 64-88) summarized calibration statistics for the GAM for the years 1977 and 2000, presented comparison contour maps of each model layer and presented hydrographs of selected wells, none of which were located in Austin, Fort Bend, or Waller counties. Kasmarek and Robinson (2004, p. 48-49) describe these elements in model calibration.

Kasmarek (2012, p. 17 and 19) summarized calibration of the HAGM. Calibration statistics for the year 2009 were used reported (Kasmarek, 2012, p. 35 and 36), comparison contour maps of each model layer were presented (Kasmarek, 2012, p. 32-34 and 37-39), and hydrographs of selected wells were presented (Kasmarek, 2012, p. 40-42). None of the selected wells were located in Austin or Waller counties. Two of the selected hydrographs were located in Fort Bend County: one well reportedly completed in the Chicot Aquifer, and one well reportedly completed in the Evangeline Aquifer. The locations of these wells are shown below.

It can be seen that these wells are located in the southern portion of Fort Bend County, and are thus well removed from the area of interest for this review. In reviewing the hydrographs presented by the USGS, the well that the USGS used as a Chicot Aquifer well (65-43-101) may be an Evangeline Aquifer well. The Texas Water Development Board (TWDB) database lists the well depth as 1,195 feet, and it is coded as a “Chicot and Evangeline Aquifer” well. The companion “casing” database maintained by the TWDB does not have any data on this particular well. In contrast, the well the USGS used as an Evangeline Aquifer well in Fort Bend County (65-33-210) is coded by the TWDB as an “Evangeline Aquifer” well, and its depth is 965 feet. The companion casing database lists its screen depths between 852 and 965 feet.




**Location of Wells used by USGS for Hydrograph Comparison in HAGM Calibration in Fort Bend County**

In comparing these well construction data to the GAM and the HAGM model layer elevations, the well listed as an Evangeline Aquifer well (65-33-210) lies completely within model layer 2, and can be considered an Evangeline Aquifer well. The comparison hydrograph using the GAM for this well is presented as Figure A65 and Figure A66 presents the comparison hydrograph for this well using the HAGM. These figures present the same data as Figures A47 to A58 presented previously (land surface elevation, simulated groundwater elevations, actual groundwater elevations, screened interval elevations, and simulated pumping in three zones around the model cell in which the well is located). Note that the general match of the model estimated groundwater elevations and actual groundwater elevations are good, and there are slight differences between the GAM estimates and the HAGM estimates. Also note that the assumed pumping is relatively low and is somewhat different from 1997 to 2009 as explained earlier.

Well 65-43-101, which was listed by the USGS as a Chicot Aquifer well, but appears to be an Evangeline Aquifer well based on TWDB data was further evaluated by comparing its reported depth with model layer elevations. The depth of well 65-43-101 is reported as 1,195 feet, and the listed land surface elevation is 76 feet above mean sea level. That means that the depth of the well is at elevation -1,119 feet. In model row 70, column 63 (the reported model cell in which the well is located by the USGS), the bottom elevation of layer 1 (Chicot Aquifer) is -677 feet, and the bottom elevation of layer 2 (Evangeline Aquifer) is -2,339 feet. Thus, this well penetrates partially into the Evangeline Aquifer. Without data on well completion (i.e. screened interval), it is not possible to state with confidence its completion. Figure A67 presents the actual groundwater elevation data and compares it to groundwater elevation estimates from the GAM for both layers 1 and 2 (Chicot and Evangeline, respectively). Figure A68 presents a similar comparison using estimates from the HAGM. Note that the model estimated groundwater elevations for layers 1 and 2 in both the GAM and the HAGM track together and have exhibited a significant decline from pre-development times (i.e. prior to 1930).

These plots demonstrate that there is little significant difference in the choice of which model layer results to use in comparing the actual groundwater elevation data. It also highlights that the model simulates hydraulic connection between layers 1 and 2 (Chicot and Evangeline).

# A-9 Subsidence

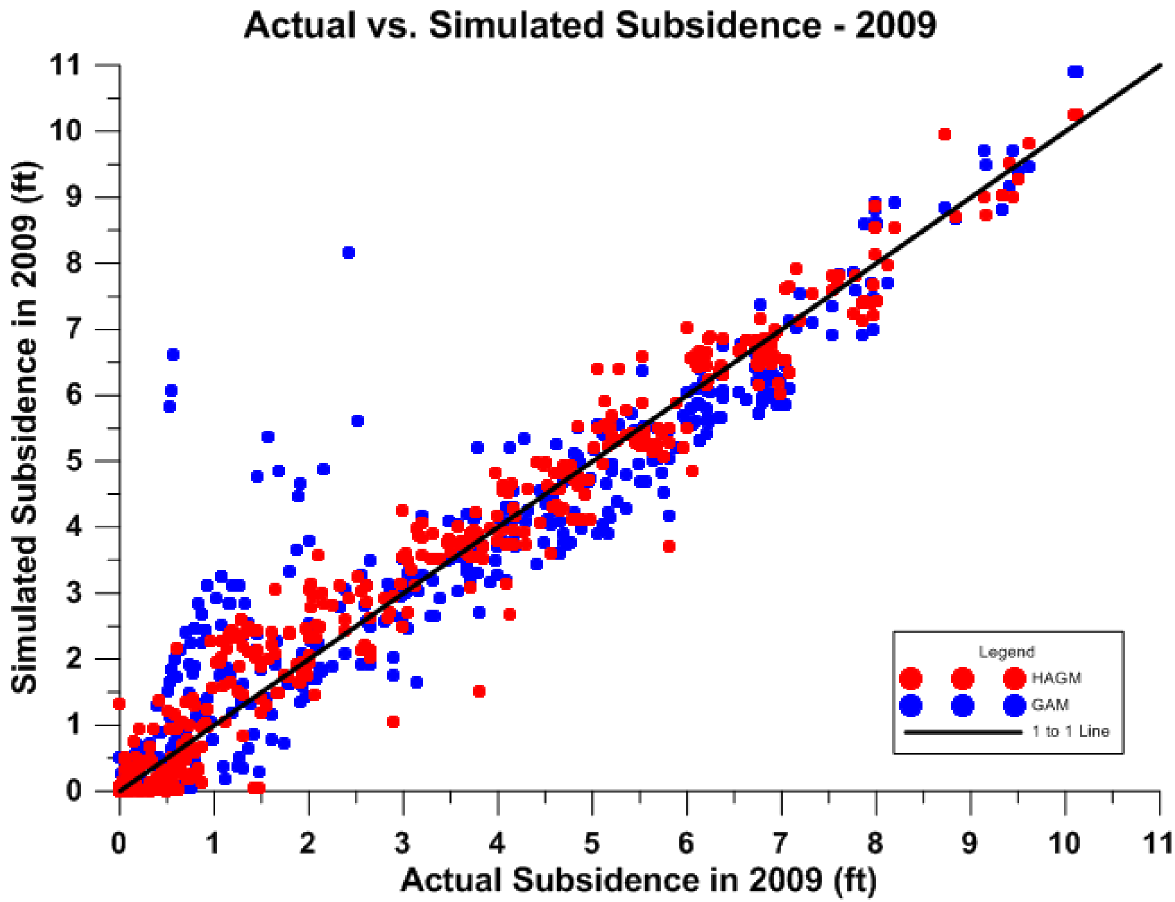
As noted previously, when groundwater is pumped from an aquifer, stored water in confined aquifers enters the well due to expansion of water, the compression of the aquifer material, and the compression of clayey beds that are within and adjacent to the aquifer. The resulting compression is considered elastic (i.e. reversible) if there is no permanent rearrangement of the skeletal structure of the sediments. Conversely, the resulting compression is considered inelastic (irreversible) if the reduction in pressure caused by the removal of the water causes rearrangement of the skeletal structure of the sediments. Compaction of these sediments results in a loss of storage capacity of the aquifer, and also can result in land subsidence.

## A-9.1 Comparison of Measured Subsidence and Model Estimated Subsidence

The GAM and HAGM provide estimates of compaction (on a layer-by-layer basis) and estimates of subsidence (essentially the sum of the compaction of the individual layers). Kasmarek and Robinson (2004) and Kasmarek used subsidence results as part of the calibration of the GAM and HAGM. However, the calibration appears to have been limited to end-of-simulation comparisons, and appears that intermediate time-period measurements were not used. This is in contrast to groundwater elevation calibration where hydrographs of groundwater elevations were used to calibrate the model to a certain extent using the trend in groundwater elevation changes.

Kasmarek and Robinson (2004, p. 90 and 93-95) discussed and presented subsidence results for the GAM based on a comparison of actual subsidence data and simulated subsidence data in the year 2000. Kasmarek (2012, p. 35-36 and 45-46) discussed and presented subsidence results for the HAGM based on comparisons of actual subsidence data and simulated subsidence data in the years 2000 and 2009. Accompanying the model files for the HAGM was a file named *subsidence.calibration.targets.csv* that provided actual subsidence measurements at 474 points in the model area, apparently from the year 2000. These data were apparently used by Kasmarek (2012) to construct the subsidence map that appeared on page 46 of the model documentation.

These actual subsidence data from 1906 to 2000 were used to construct a plot that compared actual subsidence as reported by the UGSG in the file provided with the HAGM model files with subsidence estimated by the GAM and the HAGM at those points from 1891 to 2009 as was done by Kasmarek (2012). The plot is presented below, and also includes a one-to-one line to facilitate the comparison:




**Comparison of Actual Subsidence from 1906 to 2000 and Estimated Subsidence from 1891 to 2009 from the GAM and the HAGM**

Recall that the GAM only simulated compaction in model layers 1 and 2 through the specification of elastic and inelastic storativity values. The HAGM included elastic and inelastic storativity values in all four model layers. Thus, from a subsidence perspective, the HAGM is a more comprehensive model. An inspection of the above plot suggests that the HAGM has fewer outliers than the GAM when comparing the model results to actual subsidence measurements. Based on this plot, it appears that the HAGM estimates subsidence over a near-century timeframe within about a foot of actual subsidence.

### A-9.2 Compaction Parameters versus Estimated Subsidence

In reviewing the use of the GAM and HAGM, it was recognized that historic subsidence had occurred mainly in eastern Brazoria County, eastern Fort Bend County, Galveston County, Harris County, and southeastern Waller County. Groundwater pumping in these areas has historically been higher than other parts of the model area where significant subsidence has not been observed. Because of the importance of this issue in the review of the proposed Electro Purification wells, an analysis was completed to further evaluate the relationship of model-estimated compaction parameters (elastic and inelastic storativity) and model-estimated subsidence. A key element of this analysis is to characterize the model-estimated compaction parameters used in the area of the proposed Electro Purification wells, and observe if they are different than model-estimated parameters used in areas where historic subsidence measurement have been taken.

The following figures present this analysis:

- Figure A69 – Elastic Storativity vs. Simulated Subsidence: Layer 1 (GAM and HAGM)
- Figure A70 – Elastic Storativity vs. Simulated Subsidence: Layer 2 (GAM and HAGM)
- Figure A71 – Elastic Storativity vs. Simulated Subsidence: Layer 3 (HAGM Only)
- Figure A72 – Elastic Storativity vs. Simulated Subsidence: Layer 4 (HAGM Only)
- Figure A73 – Inelastic Storativity vs. Simulated Subsidence: Layer 1 (GAM and HAGM)
- Figure A74 – Inelastic Storativity vs. Simulated Subsidence: Layer 2 (GAM and HAGM)
- Figure A75 – Inelastic Storativity vs. Simulated Subsidence: Layer 3 (HAGM Only)
- Figure A76 – Inelastic Storativity vs. Simulated Subsidence: Layer 4 (HAGM Only)

In each of these plots, the x-axis is the parameter of interest (elastic or inelastic storativity), and the y-axis is the estimated subsidence. Each point on the plot represents one of the locations in the USGS file that accompanied the HAGM files for which a measured subsidence value was reported. The model files were queried to obtain the elastic and inelastic storativity values at each of those points for each model layer. The plots, therefore, provide the ability to evaluate correlation between compaction parameters and estimated subsidence by observing the range of parameter values used, and the associated subsidence estimate.

The vertical lines in the plot represent the average parameter value in the five cells that represent the locations of the proposed Electro Purification wells. This provides the ability to evaluate if compaction parameter values in the area of the proposed Electro Purification wells are significantly different than in areas where subsidence has been observed.

The blue points and blue lines in the plots represent the parameter estimates and subsidence estimates from the GAM, and the red points and red lines represent the parameter estimates and subsidence estimates from the HAGM. Note that the blue dots only appear on plots for layers 1 and 2. As discussed earlier, the GAM did not simulate compaction in layers 3 and 4 (i.e. parameter estimates were 1E-10). Including compaction parameters in layers 3 and 4 was a key feature of the updated HAGM.

It can be seen that the GAM and HAGM did not bias the model with certain compaction parameters in areas with observed subsidence versus areas with little or no observed subsidence. It is also clear that the area of the proposed Electro Purification wells has compaction parameters that are consistent with parameters in areas where subsidence has occurred. There is nothing in this analysis to suggest that the GAM or the HAGM would yield unusual results (compared to areas where subsidence has occurred) with respect to compaction or subsidence when simulating pumping in the area of the proposed Electro Purification wells.

# A-10 Discussion of Results

The HAGM is an update of the GAM, and, it would be expected that there would be an advantage in using the HAGM for the review of the Electro Purification permit application. This is particularly true with respect to simulation of potential subsidence effects

Both models, as currently implemented, are limited by the use of the GHB package (particularly the assumption of static GHB heads) to simulate recharge and groundwater-surface water interactions. In areas where groundwater pumping is expected to decrease, the approach used in the GAM and HAGM, while not ideal, is not a fatal flaw. However, in areas where pumping is expected to increase in the future, the assumption of static GHB heads will result in increases in GHB flows into the aquifer system that may not be realistic.

The comparison of actual historic groundwater elevation data with model estimates of groundwater elevations during the historic period in six wells in the vicinity of the proposed Electro Purification wells suggests that predictions in layer 1 (the Chicot Aquifer) are not reliable.

Until a model of the area is developed that simulated recharge and groundwater-surface water interaction with more realistic constraints under increasing pumping scenarios (e.g. with the MODFLOW recharge and stream packages), the limitations of the model with respect to groundwater elevation estimates must be acknowledged. Neither model is likely reliable with respect to estimates of future drawdown, especially in the case of a proposed substantial increase in pumping. However, long-term subsidence estimates may be considered more reliable than the drawdown estimates given the evaluation that is presented in this Appendix.

Overall, the accuracy of long-term subsidence estimates are within a foot of actual long-term subsidence measurements as documented by the US Geological Survey in other areas of the model where subsidence has been measured. There is still a considerable degree of uncertainty in the subsidence estimates in an area where a large and concentrated increase in pumping is proposed.

## A-11 References

Hoffmann, J., Leake, S.A., Galloway, D.L., and Wilson, A.M., 2003. MODFLOW-2000 Groundwater Model – User Guide to the Subsidence and Aquifer Compaction (SUB) Package. U.S. Geological Survey Open File Report 03-233, 52 p.

Kasmarek, M.C., and Robinson, J.L., 2004, Hydrogeology and Simulation of Groundwater Flow and Land-Surface Subsidence in the Northern Part of the Gulf Coast Aquifer System, Texas: United States Geological Survey Scientific investigations Report 2004-5102, 111 p.

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Thornhill Group, Inc., 2012. Phase 1 Hydrogeologic Report – Non-Exempt Well Permit Application, Bluebonnet Groundwater Conservation District, Austin and Waller Counties, Texas. Report prepared for Mt. Tim Throckmorton, Electro Purification, LLC, 38 p.

Wilson, C., 1967, Ground-Water Resources of Austin and Waller Counties, Texas, Texas Water Development Board Report Number 68, 201 p.

# Appendix A Figures - Model Parameters

| Figure Number | Model Parameter | Model Layer | Plotting Approach | County | Page Number |
|---|---|---|---|---|---|
| A1 | Hydraulic Conductivity | 1 | GAM vs. HAGM | Austin, Fort Bend, Waller | 1 |
| A2 | Hydraulic Conductivity | 2 | GAM vs. HAGM | Austin, Fort Bend, Waller | 1 |
| A3 | Hydraulic Conductivity | 3 | GAM vs. HAGM | Austin, Fort Bend, Waller | 2 |
| A4 | Hydraulic Conductivity | 4 | GAM vs. HAGM | Austin, Fort Bend, Waller | 2 |
| A5 | Storativity | 1 | GAM vs. HAGM | Austin, Fort Bend, Waller | 3 |
| A6 | Storativity | 2 | GAM vs. HAGM | Austin, Fort Bend, Waller | 3 |
| A7 | Storativity | 3 | GAM vs. HAGM | Austin, Fort Bend, Waller | 4 |
| A8 | Storativity | 4 | GAM vs. HAGM | Austin, Fort Bend, Waller | 4 |
| A9 | Vertical Leakance | 1 & 2 | GAM vs. HAGM | Austin, Fort Bend, Waller | 5 |
| A10 | Vertical Leakance | 2 & 3 | GAM vs. HAGM | Austin, Fort Bend, Waller | 5 |
| A11 | Vertical Leakance | 3 & 4 | GAM vs. HAGM | Austin, Fort Bend, Waller | 6 |
| A12 | Elastic Storativity | 1 | GAM vs. HAGM | Austin, Fort Bend, Waller | 7 |
| A13 | Elastic Storativity | 2 | GAM vs. HAGM | Austin, Fort Bend, Waller | 7 |
| A14 | Elastic Storativity | 3 | GAM vs. HAGM | Austin, Fort Bend, Waller | 8 |
| A15 | Elastic Storativity | 4 | GAM vs. HAGM | Austin, Fort Bend, Waller | 8 |
| A16 | Inelastic Storativity | 1 | GAM vs. HAGM | Austin, Fort Bend, Waller | 9 |
| A17 | Inelastic Storativity | 2 | GAM vs. HAGM | Austin, Fort Bend, Waller | 9 |
| A18 | Inelastic Storativity | 3 | GAM vs. HAGM | Austin, Fort Bend, Waller | 10 |
| A19 | Inelastic Storativity | 4 | GAM vs. HAGM | Austin, Fort Bend, Waller | 10 |
| A20 | Pumping | Chicot | Time Series | Austin | 11 |
| A21 | Pumping | Evangeline | Time Series | Austin | 11 |
| A22 | Pumping | Burkeville | Time Series | Austin | 12 |
| A23 | Pumping | Jasper | Time Series | Austin | 12 |
| A24 | Pumping | Total | Time Series | Austin | 13 |
| A25 | Pumping | Chicot | Time Series | Fort Bend | 14 |
| A26 | Pumping | Evangeline | Time Series | Fort Bend | 14 |
| A27 | Pumping | Burkeville | Time Series | Fort Bend | 15 |
| A28 | Pumping | Jasper | Time Series | Fort Bend | 15 |
| A29 | Pumping | Total | Time Series | Fort Bend | 16 |
| A30 | Pumping | Chicot | Time Series | Waller | 17 |
| A31 | Pumping | Evangeline | Time Series | Waller | 17 |
| A32 | Pumping | Burkeville | Time Series | Waller | 18 |
| A33 | Pumping | Jasper | Time Series | Waller | 18 |
| A34 | Pumping | Total | Time Series | Waller | 19 |
| A35 | Layer Top vs. GHB | Top | Elevation Comaprison | Austin | 20 |
| A36 | Layer Top vs. GHB | Top | Elevation Comaprison | Fort Bend | 20 |
| A37 | Layer Top vs. GHB | Top | Elevation Comaprison | Waller | 21 |
| A38 | Layer Top and GHB | Top | Distribution of Differences | Austin | 21 |
| A39 | Layer Top and GHB | Top | Distribution of Differences | Fort Bend | 22 |
| A40 | Layer Top and GHB | Top | Distribution of Differences | Waller | 22 |
| A41 | GHB Flow | Top | Time Series | Austin | 23 |
| A42 | GHB Flow | Top | Time Series | Fort Bend | 23 |
| A43 | GHB Flow | Top | Time Series | Waller | 24 |
| A44 | Pumping vs. GHB | Top | Pumping vs. GHB | Austin | 24 |
| A45 | Pumping vs. GHB | Top | Pumping vs. GHB | Fort Bend | 25 |
| A46 | Pumping vs. GHB | Top | Pumping vs. GHB | Waller | 25 |
| A47 | Well 65-17-505 | 1 | Hydrograph (GAM) | Fort Bend | 26 |
| A48 | Well 65-25-202 | 1 | Hydrograph (GAM) | Fort Bend | 26 |
| A49 | Well 65-25-301 | 1 | Hydrograph (GAM) | Fort Bend | 27 |
| A50 | Well 66-16-407 | 2 | Hydrograph (GAM) | Austin | 27 |
| A51 | Well 66-24-801 | 2 | Hydrograph (GAM) | Austin | 28 |
| A52 | Well 66-24-805 | 2 | Hydrograph (GAM) | Austin | 28 |
| A53 | Well 65-17-505 | 1 | Hydrograph (HAGM) | Fort Bend | 29 |
| A54 | Well 65-25-202 | 1 | Hydrograph (HAGM) | Fort Bend | 29 |
| A55 | Well 65-25-301 | 1 | Hydrograph (HAGM) | Fort Bend | 30 |
| A56 | Well 66-16-407 | 2 | Hydrograph (HAGM) | Austin | 30 |
| A57 | Well 66-24-801 | 2 | Hydrograph (HAGM) | Austin | 31 |
| A58 | Well 66-24-805 | 2 | Hydrograph (HAGM) | Austin | 31 |
| A59 | Well 65-17-505 | 1 | Hydrograph (GAM and HAGM) | Fort Bend | 32 |
| A60 | Well 65-25-202 | 1 | Hydrograph (GAM and HAGM) | Fort Bend | 32 |
| A61 | Well 65-25-301 | 1 | Hydrograph (GAM and HAGM) | Fort Bend | 33 |
| A62 | Well 66-16-407 | 2 | Hydrograph (GAM and HAGM) | Austin | 33 |
| A63 | Well 66-24-801 | 2 | Hydrograph (GAM and HAGM) | Austin | 34 |
| A64 | Well 66-24-805 | 2 | Hydrograph (GAM and HAGM) | Austin | 34 |
| A65 | Well 65-33-210 | 2 | Hydrograph (GAM) | Fort Bend | 35 |
| A66 | Well 65-33-210 | 2 | Hydrograph (HAGM) | Fort Bend | 35 |
| A67 | Well 65-43-101 | 1 and 2 | Hydrograph (GAM) | Fort Bend | 36 |
| A68 | Well 65-43-101 | 1 and 2 | Hydrograph (HAGM) | Fort Bend | 36 |
| A69 | Elastic Storativity vs. Subsidence | 1 | Elastic Storativity vs. Subsidence | Entire Model Area | 37 |
| A70 | Elastic Storativity vs. Subsidence | 2 | Elastic Storativity vs. Subsidence | Entire Model Area | 37 |
| A71 | Elastic Storativity vs. Subsidence | 3 | Elastic Storativity vs. Subsidence | Entire Model Area | 38 |
| A72 | Elastic Storativity vs. Subsidence | 4 | Elastic Storativity vs. Subsidence | Entire Model Area | 38 |
| A73 | Inelastic Storativity vs. Subsidence | 1 | Inelastic Storativity vs. Subsidence | Entire Model Area | 39 |
| A74 | Inelastic Storativity vs. Subsidence | 2 | Inelastic Storativity vs. Subsidence | Entire Model Area | 39 |
| A75 | Inelastic Storativity vs. Subsidence | 3 | Inelastic Storativity vs. Subsidence | Entire Model Area | 40 |
| A76 | Inelastic Storativity vs. Subsidence | 4 | Inelastic Storativity vs. Subsidence | Entire Model Area | 40 |

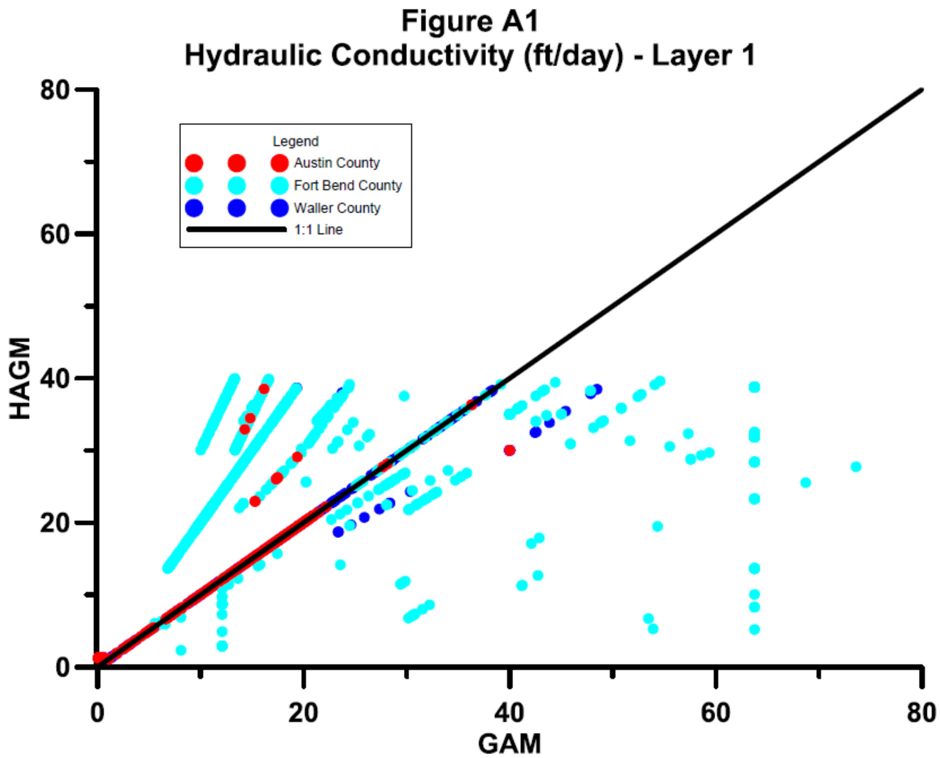


Figure A1
Hydraulic Conductivity (ft/day) - Layer 1
Legend
Austin County
Fort Bend County
Waller County
1:1 Line
HAGM
GAM
0
20
40
60
80

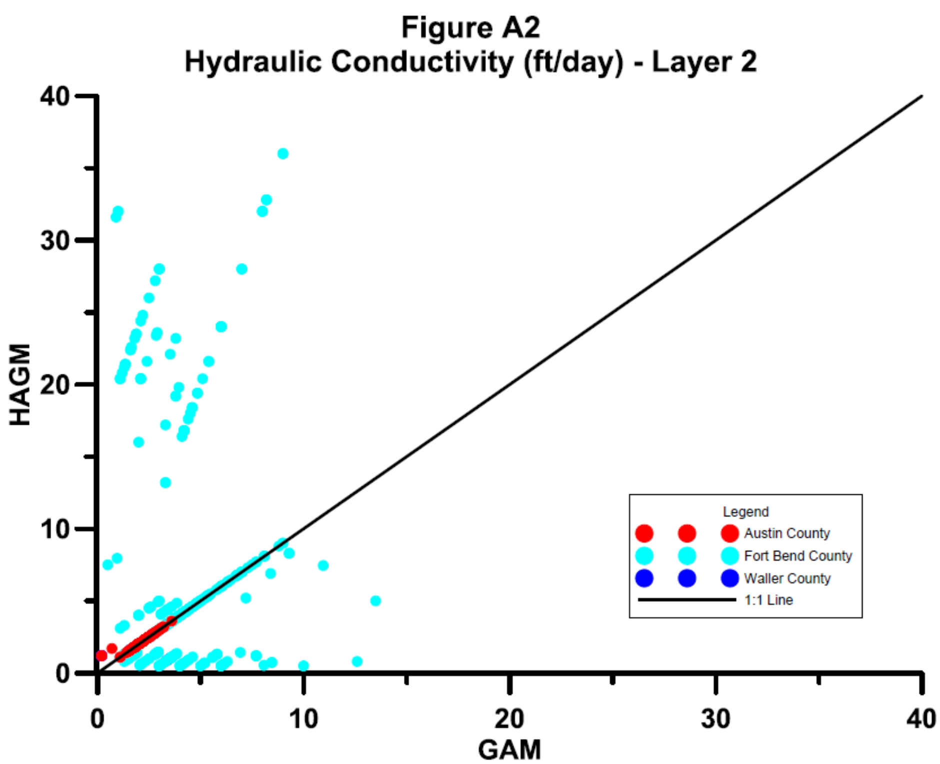


Figure A2
Hydraulic Conductivity (ft/day) - Layer 2
Legend
Austin County
Fort Bend County
Waller County
1:1 Line
HAGM
GAM
0
10
20
30
40

Figure A3
Hydraulic Conductivity (ft/day) - Layer 3

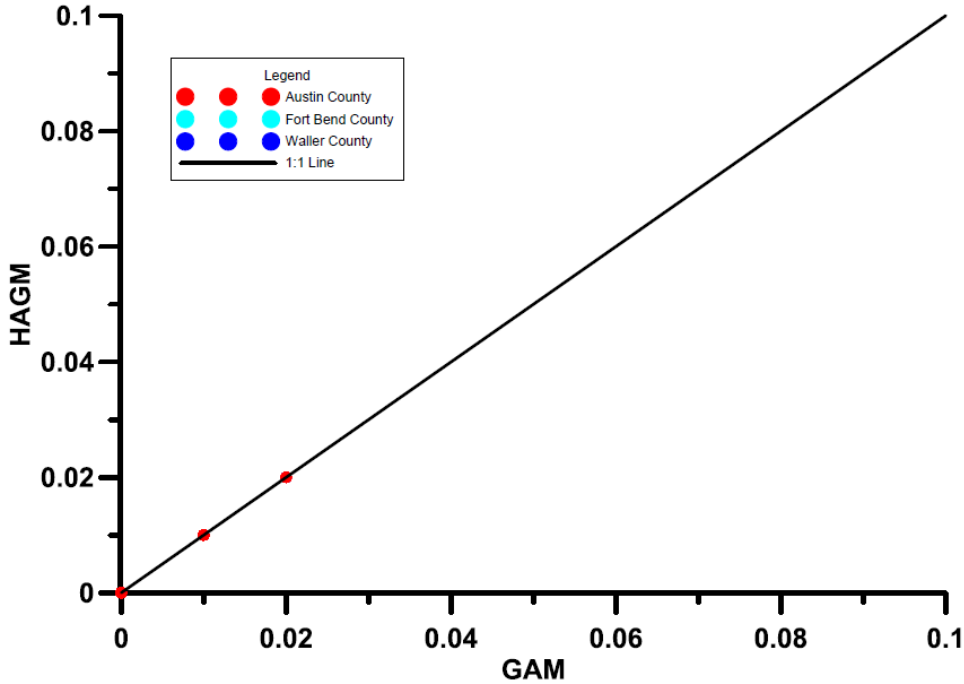
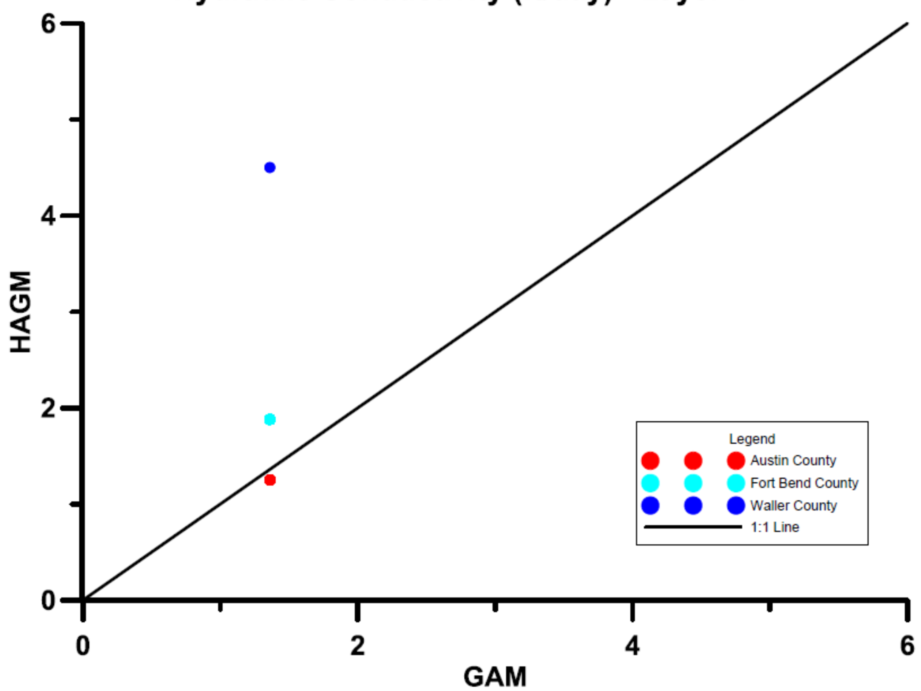



Figure A4
Hydraulic Conductivity (ft/day) - Layer 4



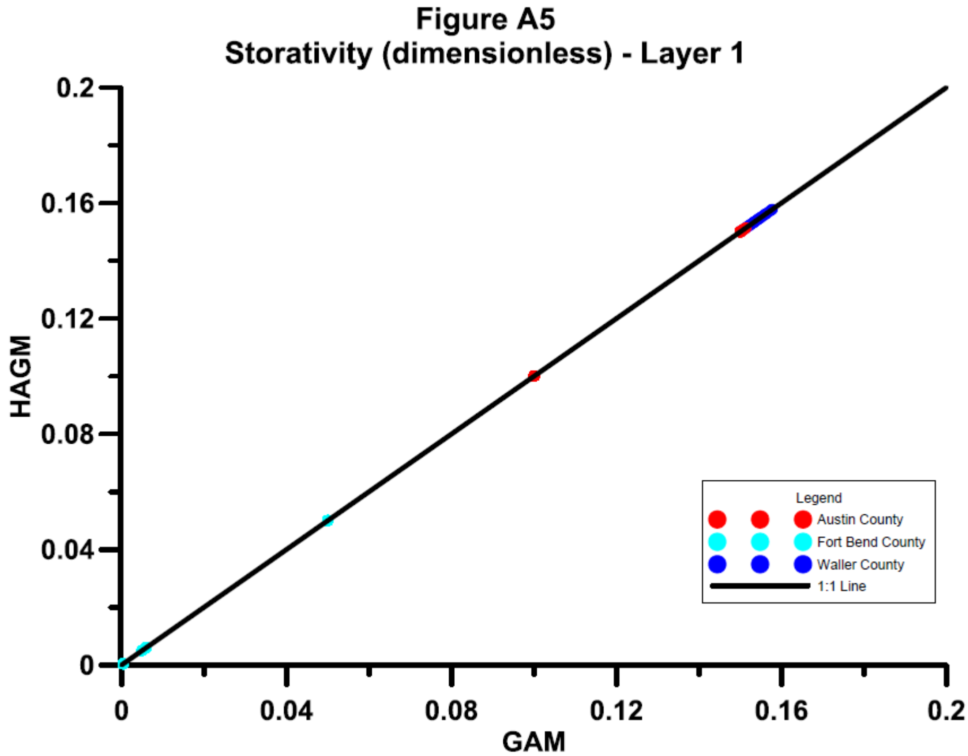


Figure A5
Storativity (dimensionless) - Layer 1
HAGM
GAM
0.2
0.16
0.12
0.08
0.04
0
0
0.04
0.08
0.12
0.16
0.2
Legend
Austin County
Fort Bend County
Waller County
1:1 Line

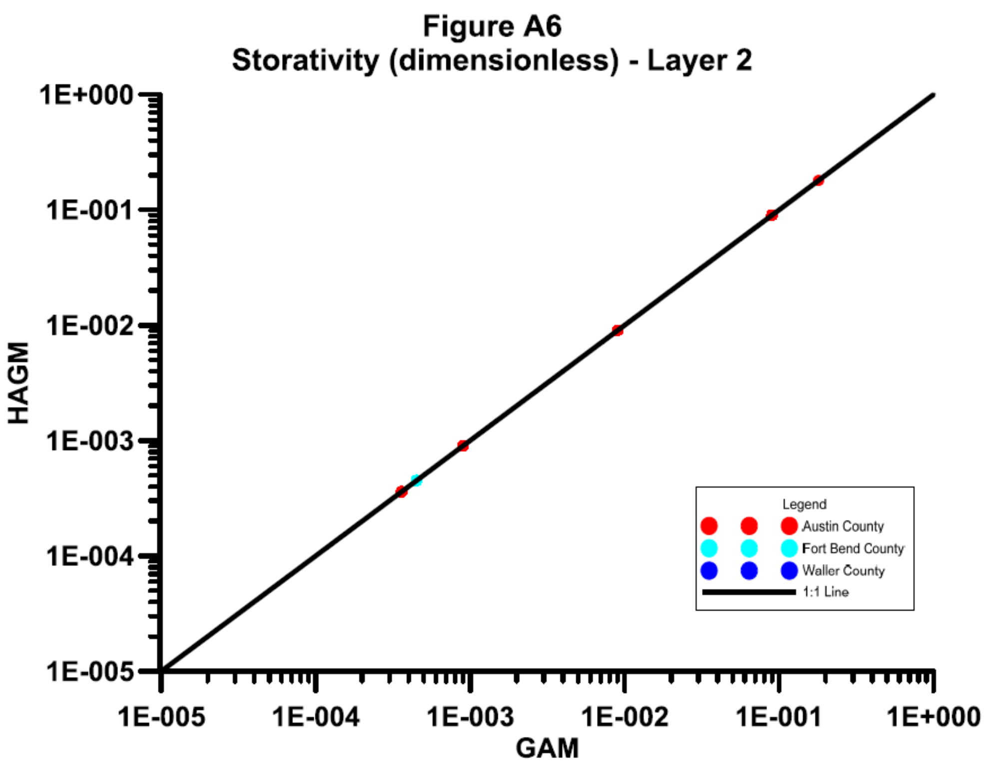
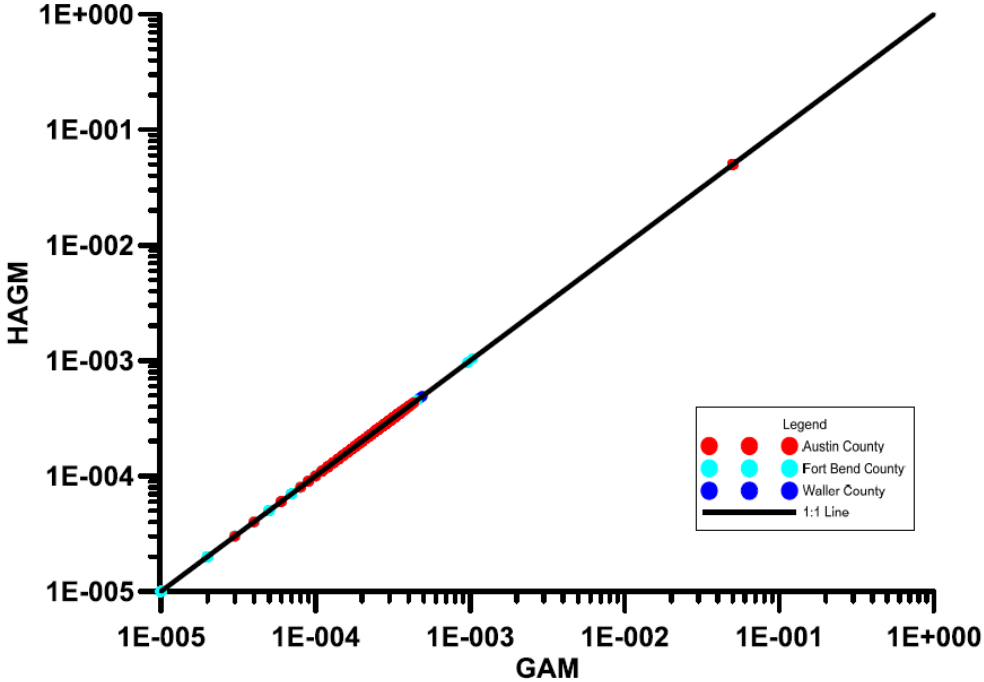


Figure A6
Storativity (dimensionless) - Layer 2
HAGM
GAM
1E+000
1E-001
1E-002
1E-003
1E-004
1E-005
1E-005
1E-004
1E-003
1E-002
1E-001
1E+000
Legend
Austin County
Fort Bend County
Waller County
1:1 Line

## Figure A7
## Storativity (dimensionless) - Layer 3




## Figure A8
## Storativity (dimensionless) - Layer 4

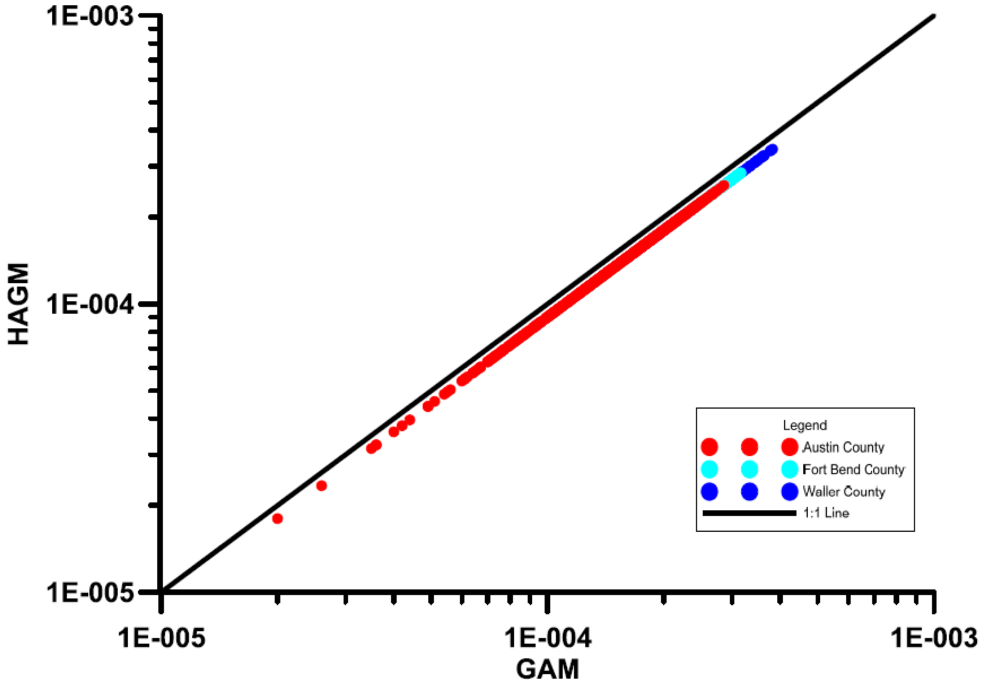


Figure A9
Vertical Leakance between Layers 1 and 2 ($day^{-1}$)

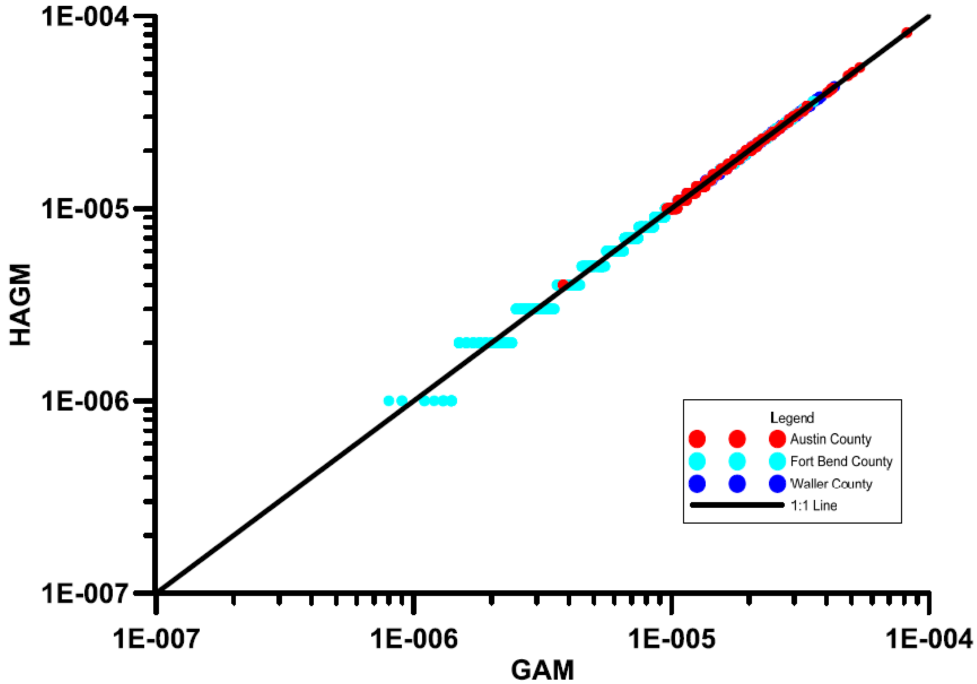
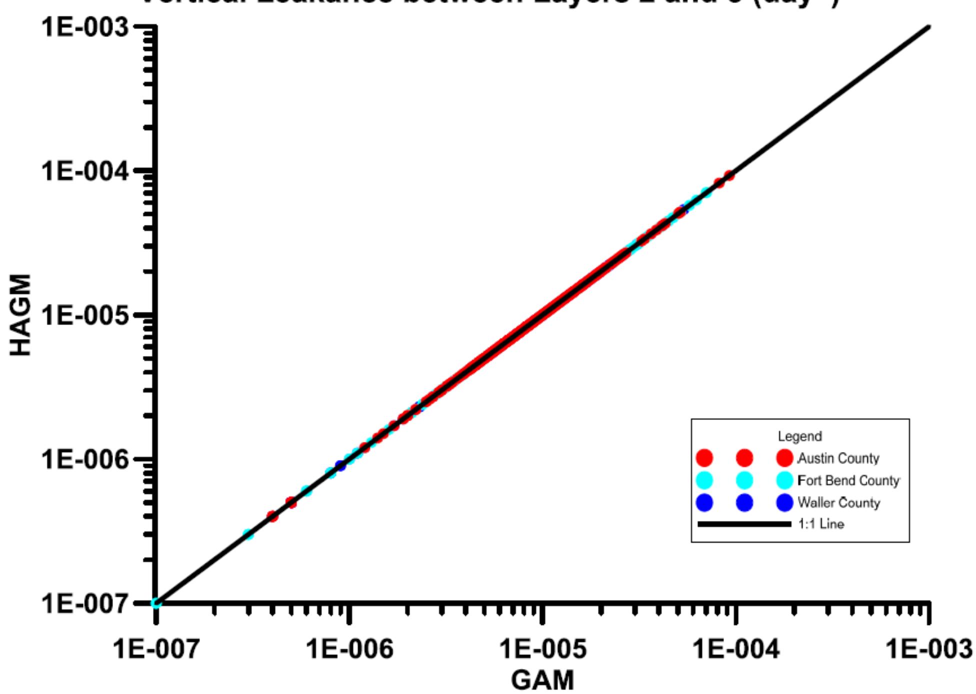
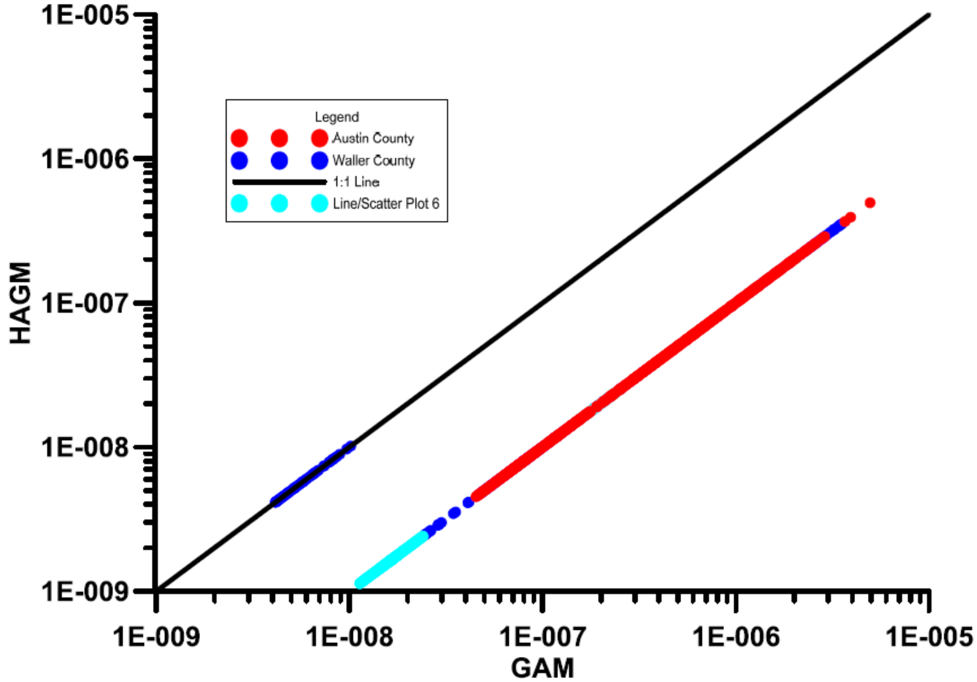


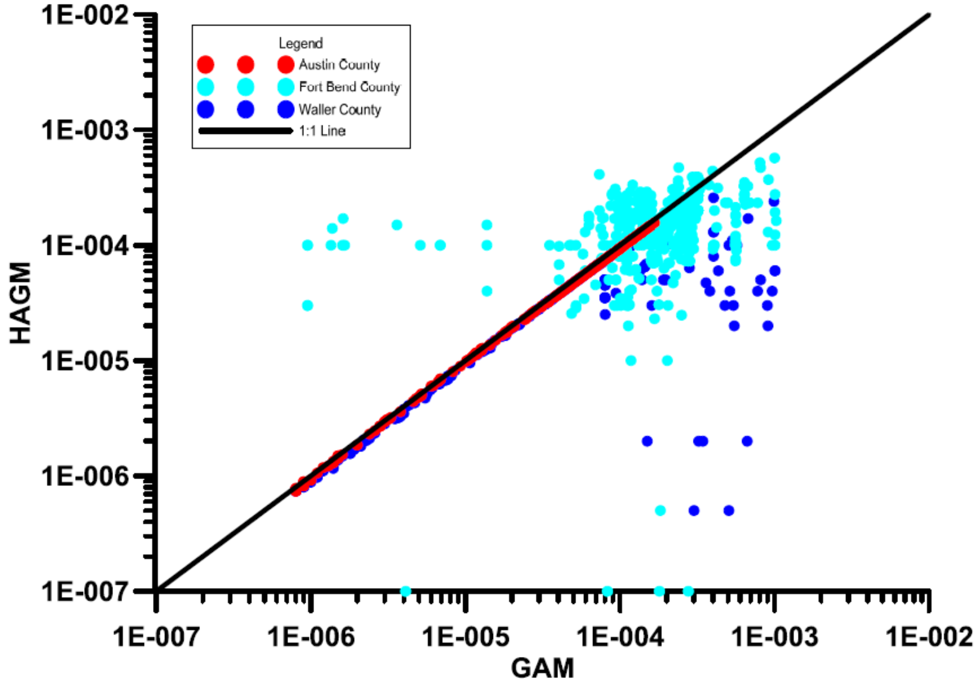

Figure A10
Vertical Leakance between Layers 2 and 3 ($day^{-1}$)



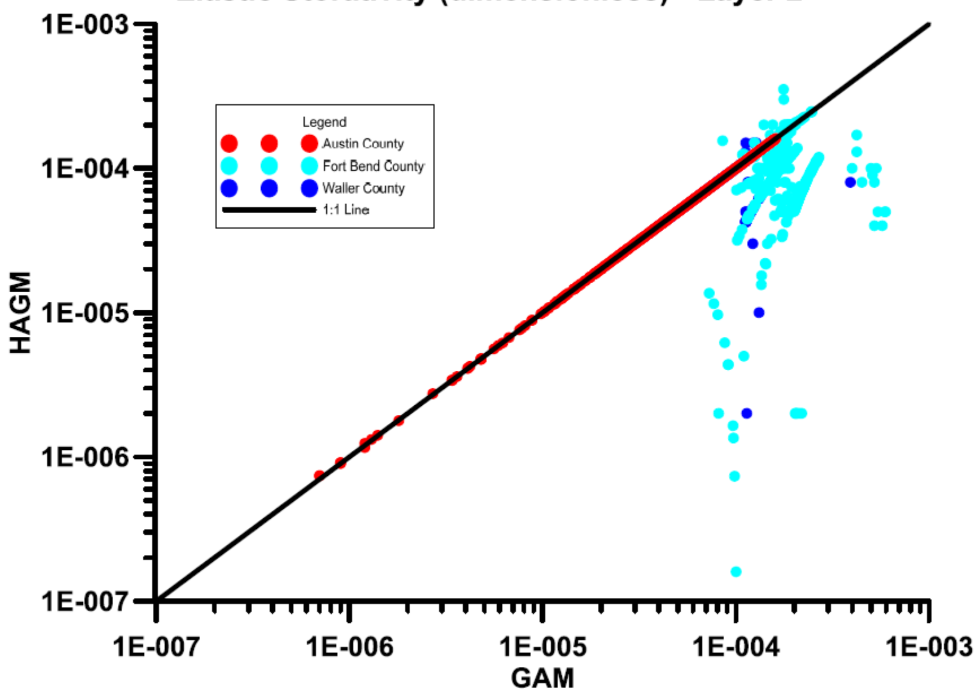
## Figure A11
## Vertical Leakance between Layers 3 and 4 (day$^{-1}$)



## Figure A12
## Elastic Storativity (dimensionless) - Layer 1




## Figure A13
## Elastic Storativity (dimensionless) - Layer 2



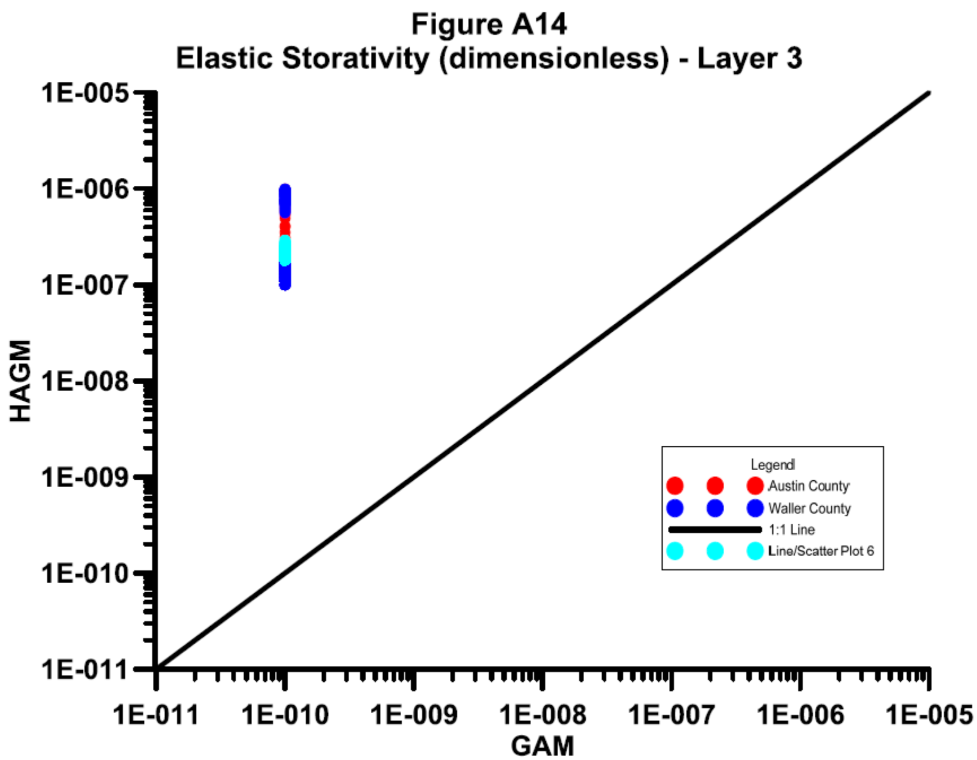


Figure A14
Elastic Storativity (dimensionless) - Layer 3
HAGM
GAM
1E-005
1E-006
1E-007
1E-008
1E-009
1E-010
1E-011
1E-011
1E-010
1E-009
1E-008
1E-007
1E-006
1E-005
Legend
Austin County
Waller County
1:1 Line
Line/Scatter Plot 6

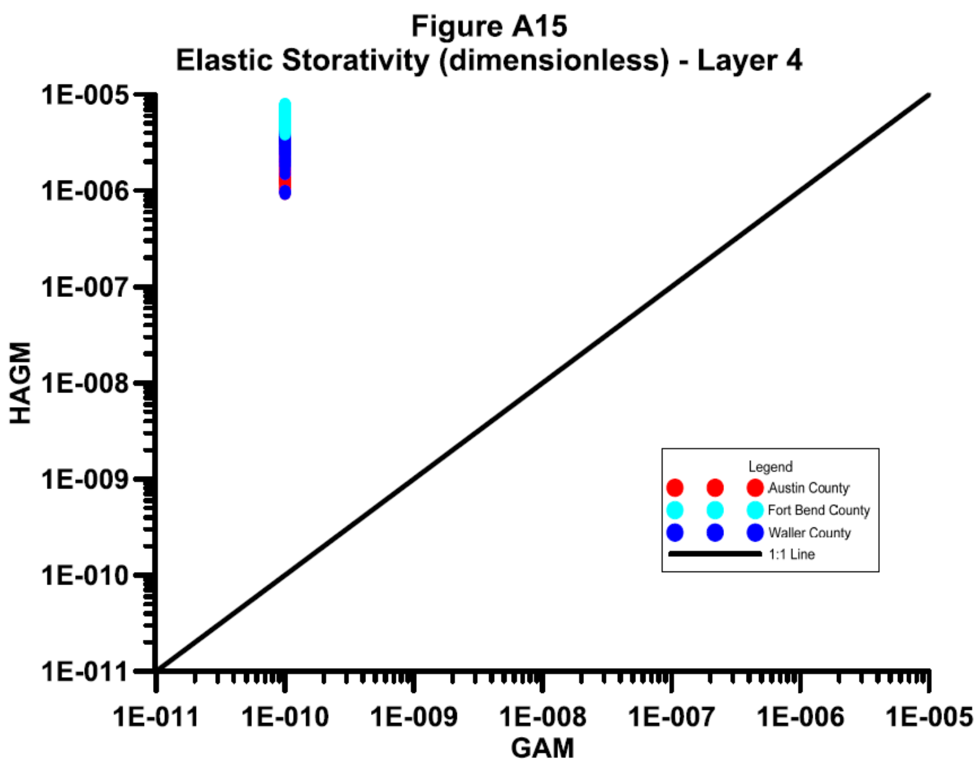


Figure A15
Elastic Storativity (dimensionless) - Layer 4
HAGM
GAM
1E-005
1E-006
1E-007
1E-008
1E-009
1E-010
1E-011
1E-011
1E-010
1E-009
1E-008
1E-007
1E-006
1E-005
Legend
Austin County
Fort Bend County
Waller County
1:1 Line

**Figure A16**
**Inelastic Storativity (dimensionless) - Layer 1**

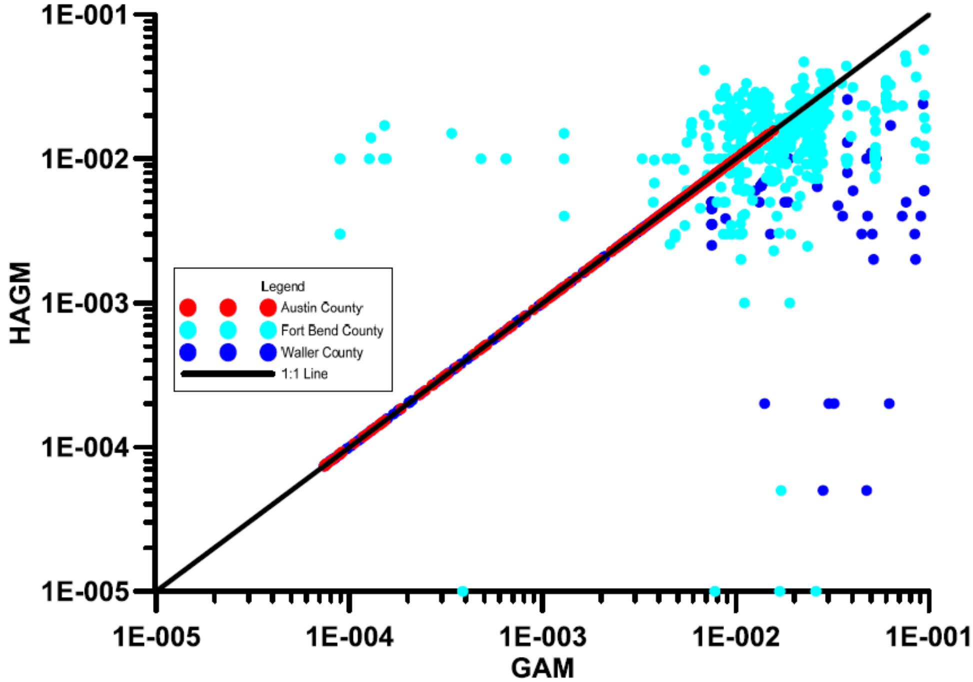
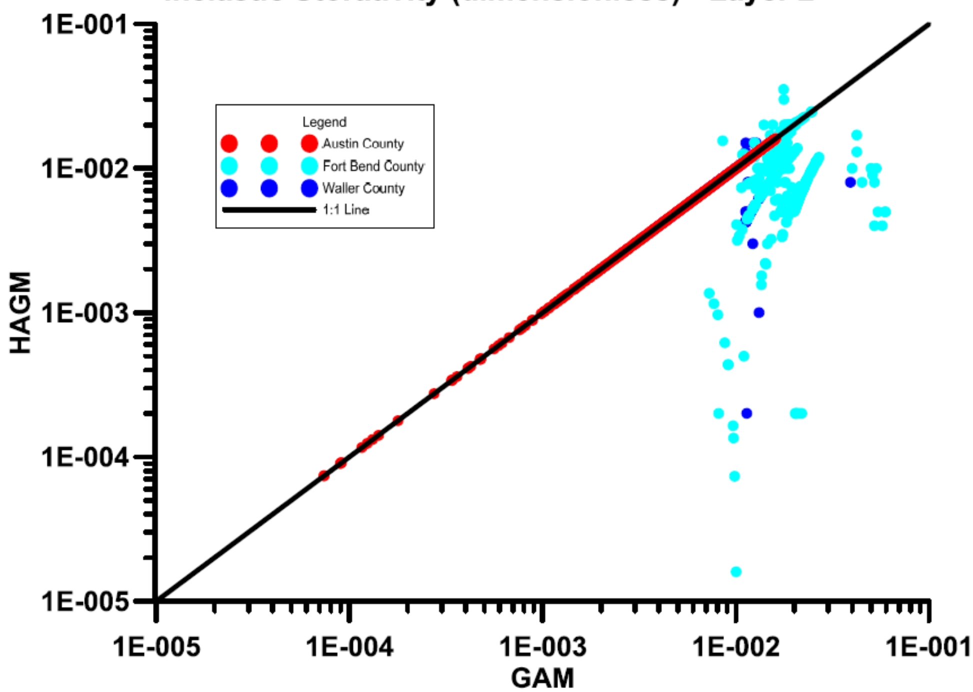



**Figure A17**
**Inelastic Storativity (dimensionless) - Layer 2**



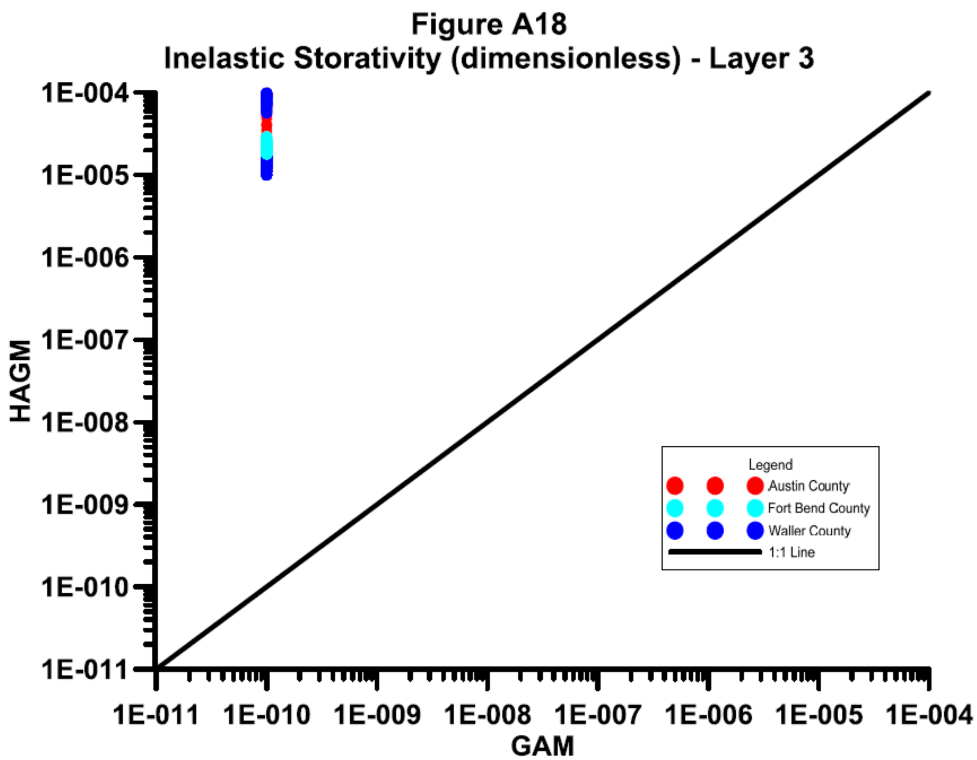


Figure A18
Inelastic Storativity (dimensionless) - Layer 3
1E-004
1E-005
1E-006
1E-007
1E-008
1E-009
1E-010
1E-011
HAGM
1E-011 1E-010 1E-009 1E-008 1E-007 1E-006 1E-005 1E-004
GAM
Legend
Austin County
Fort Bend County
Waller County
1:1 Line

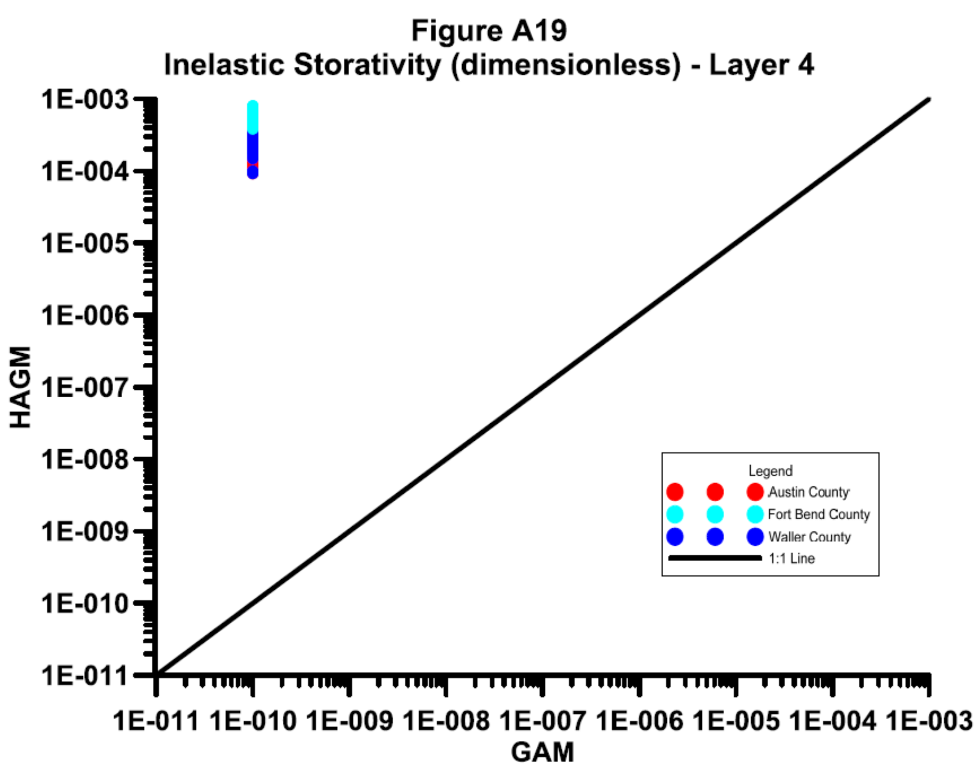
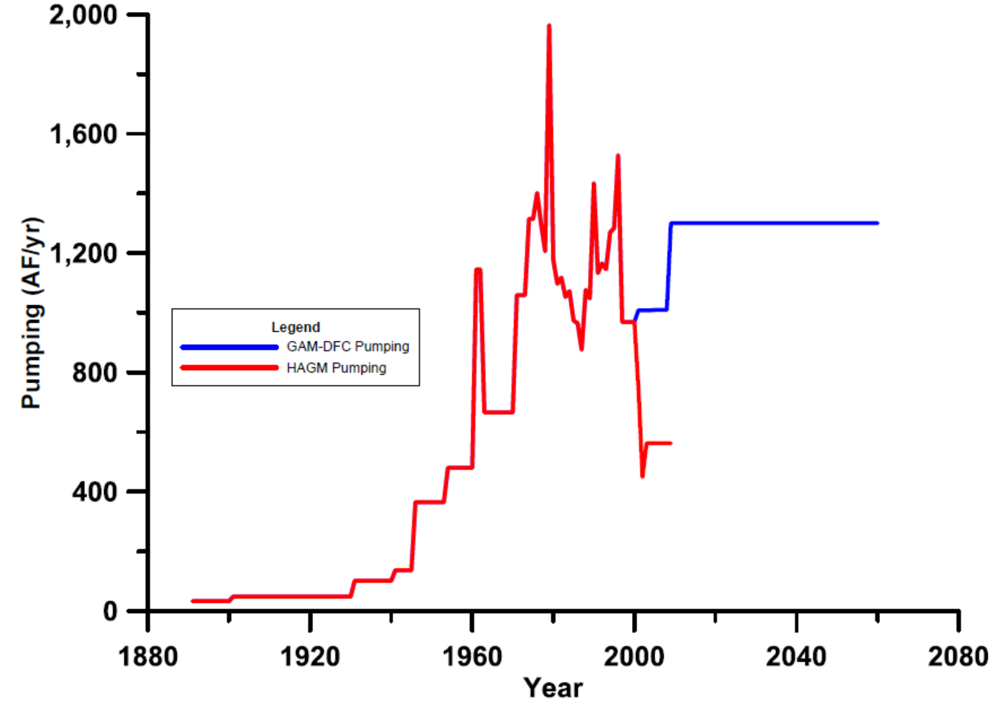


Figure A19
Inelastic Storativity (dimensionless) - Layer 4
1E-003
1E-004
1E-005
1E-006
1E-007
1E-008
1E-009
1E-010
1E-011
HAGM
1E-011 1E-010 1E-009 1E-008 1E-007 1E-006 1E-005 1E-004 1E-003
GAM
Legend
Austin County
Fort Bend County
Waller County
1:1 Line

## Figure A20
## Austin County Pumping - Chicot




## Figure A21
## Austin County Pumping - Evangeline

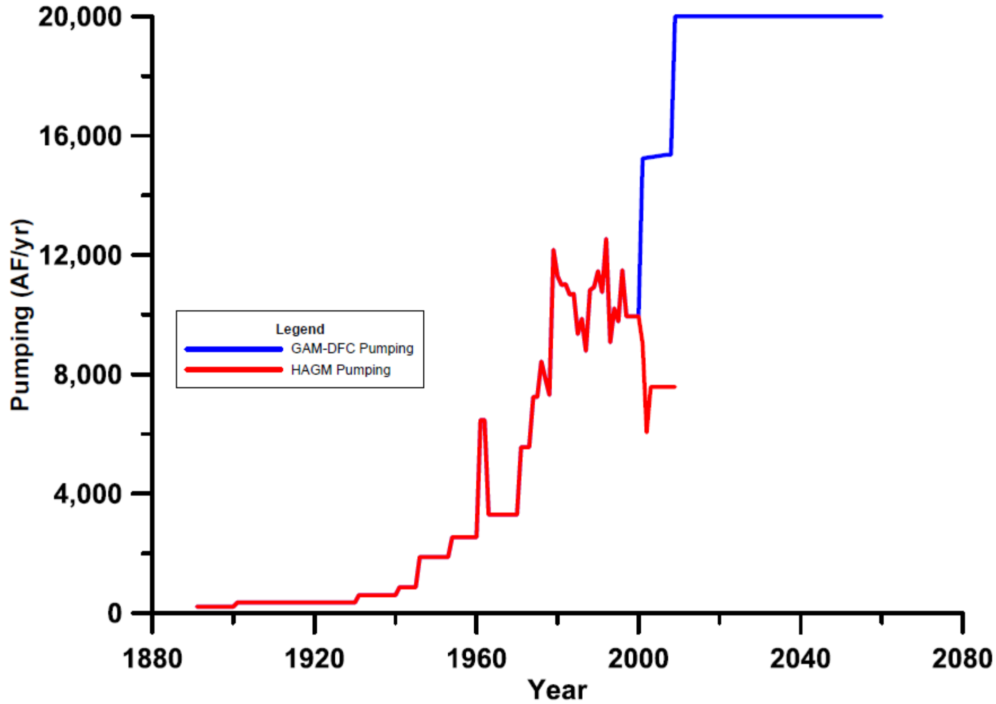


Figure A22
Austin County Pumping - Burkeville

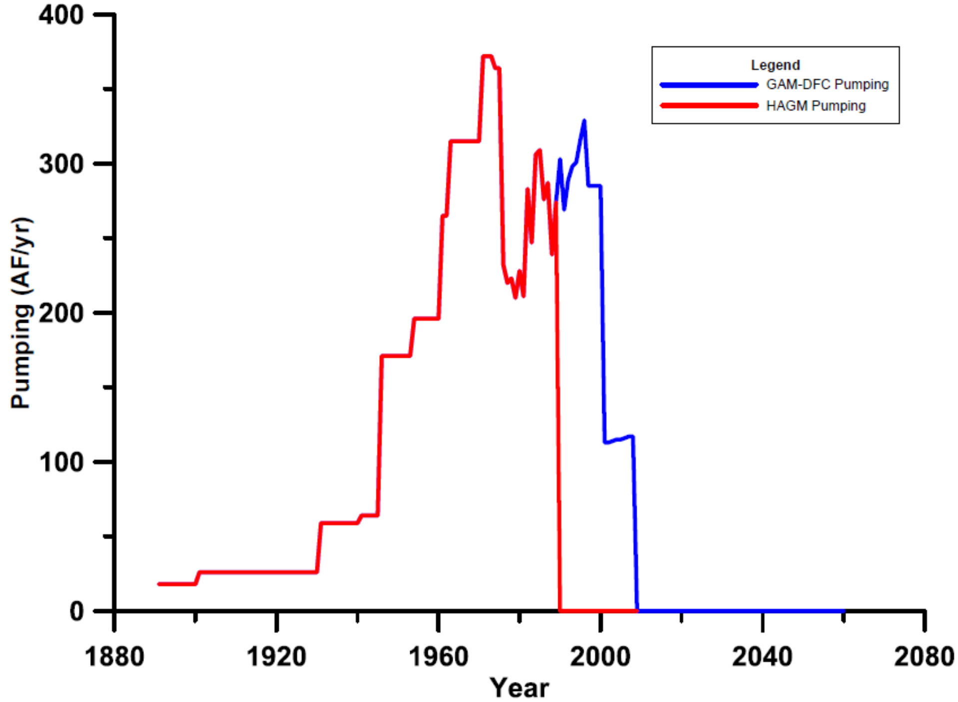
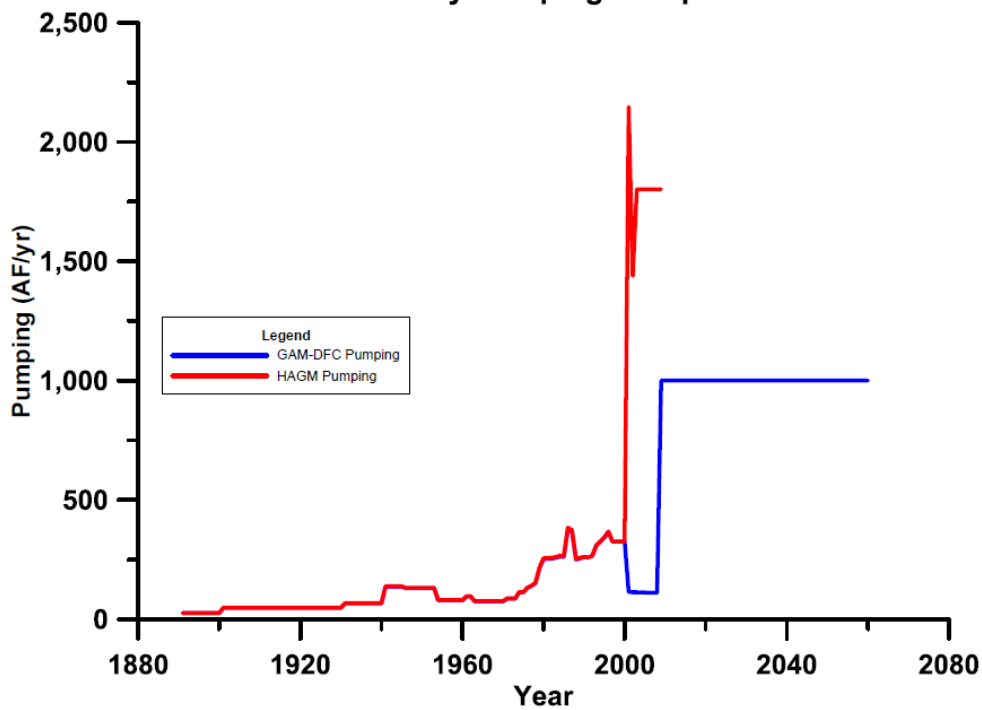



Figure A23
Austin County Pumping - Jasper



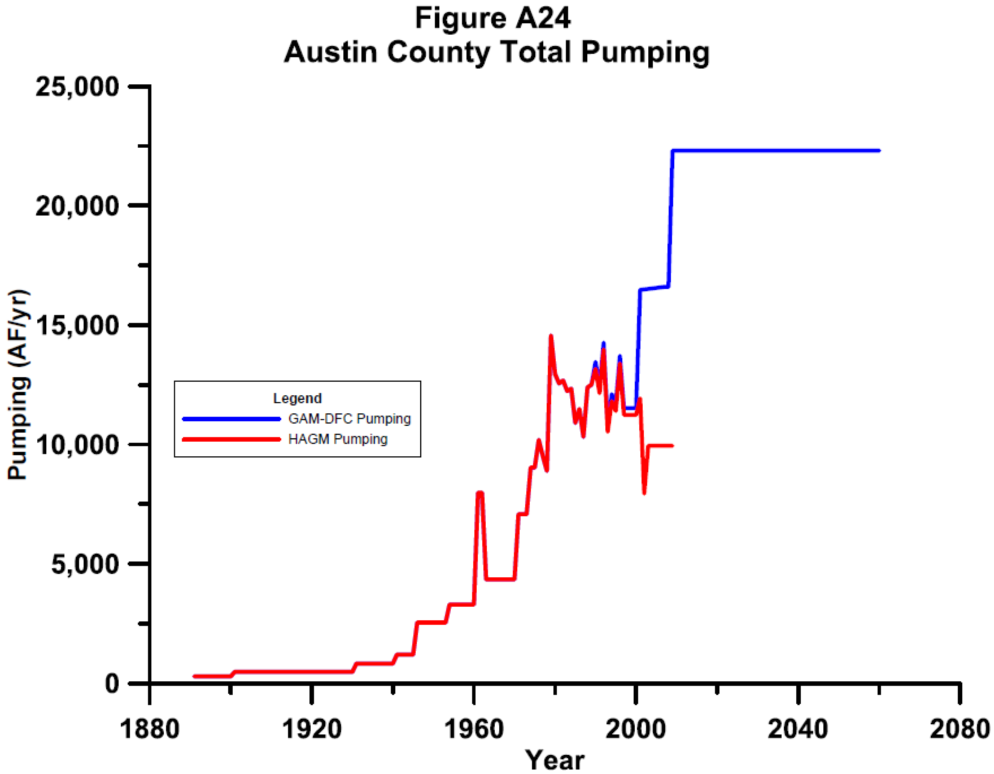


Figure A24
Austin County Total Pumping
25,000
20,000
15,000
10,000
5,000
0
Pumping (AF/yr)
1880
1920
1960
2000
2040
2080
Year
Legend
GAM-DFC Pumping
HAGM Pumping

**Figure A25**
**Fort Bend County Pumping - Chicot**

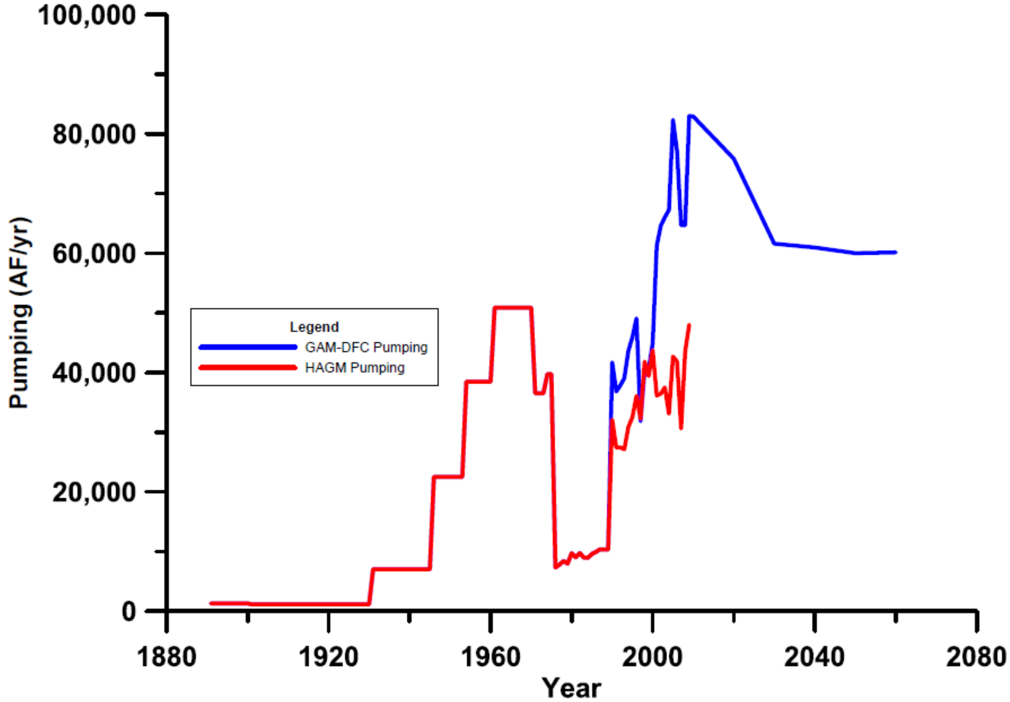



**Figure A26**
**Fort Bend County Pumping - Evangeline**

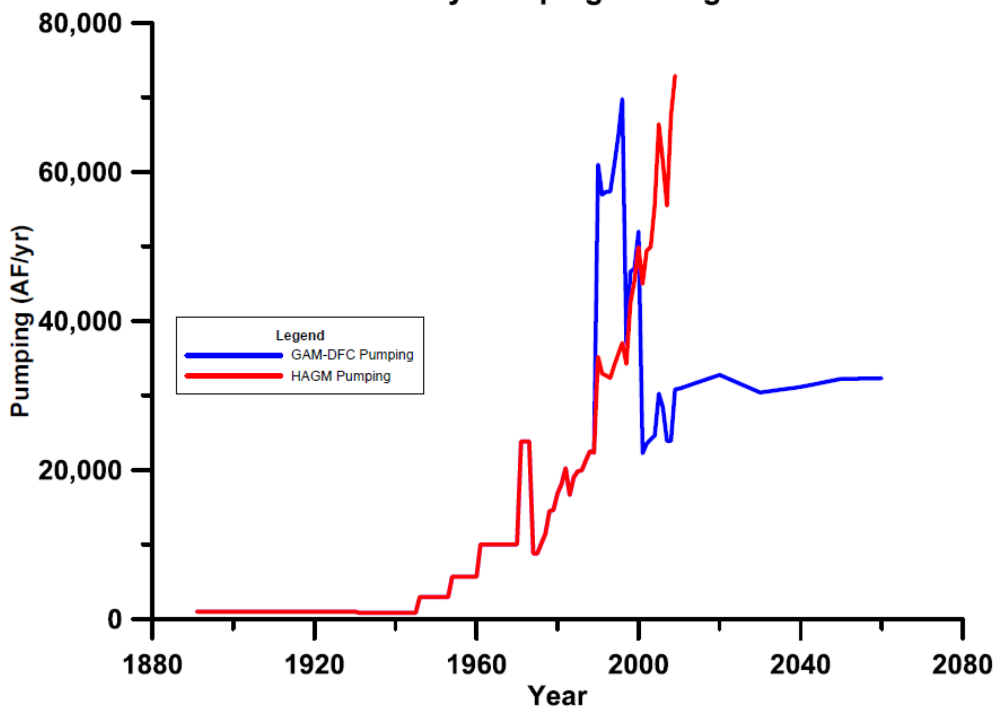


**Figure A27**
**Fort Bend County Pumping - Burkeville**

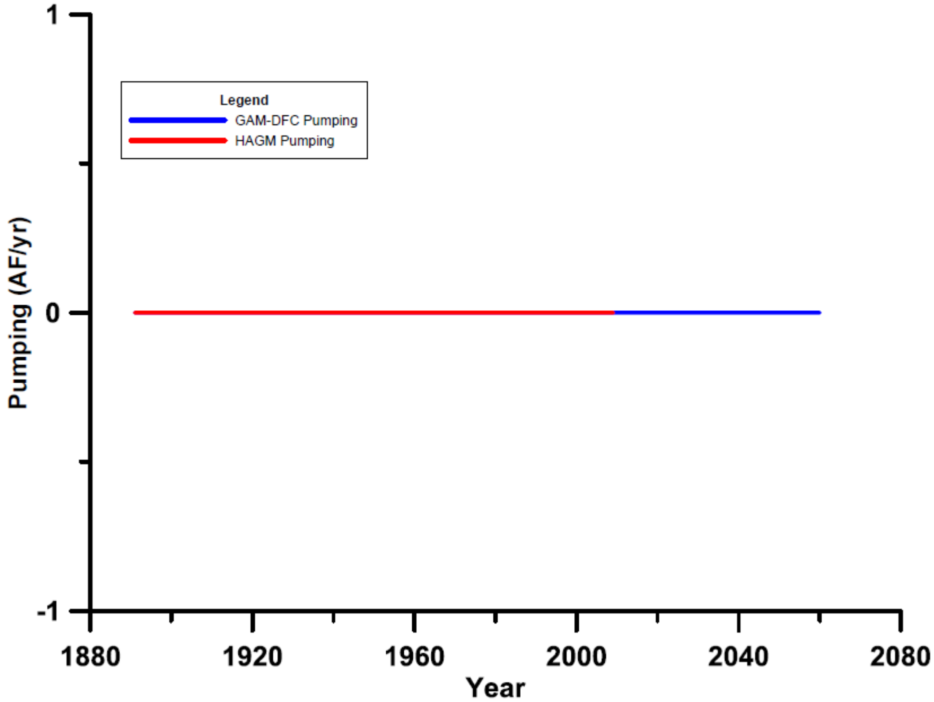
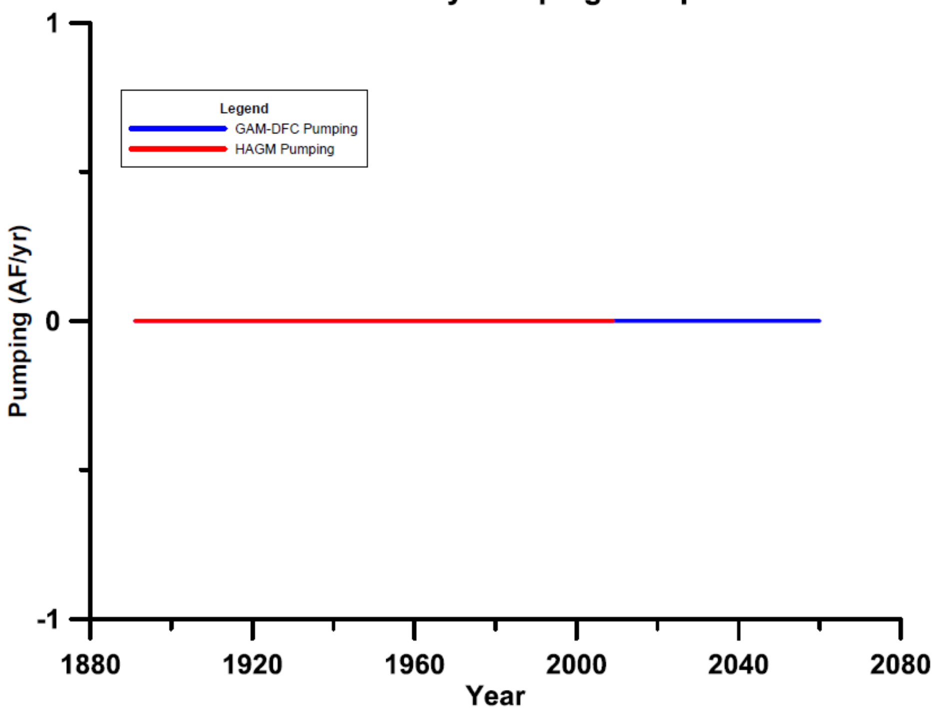



**Figure A28**
**Fort Bend County Pumping - Jasper**



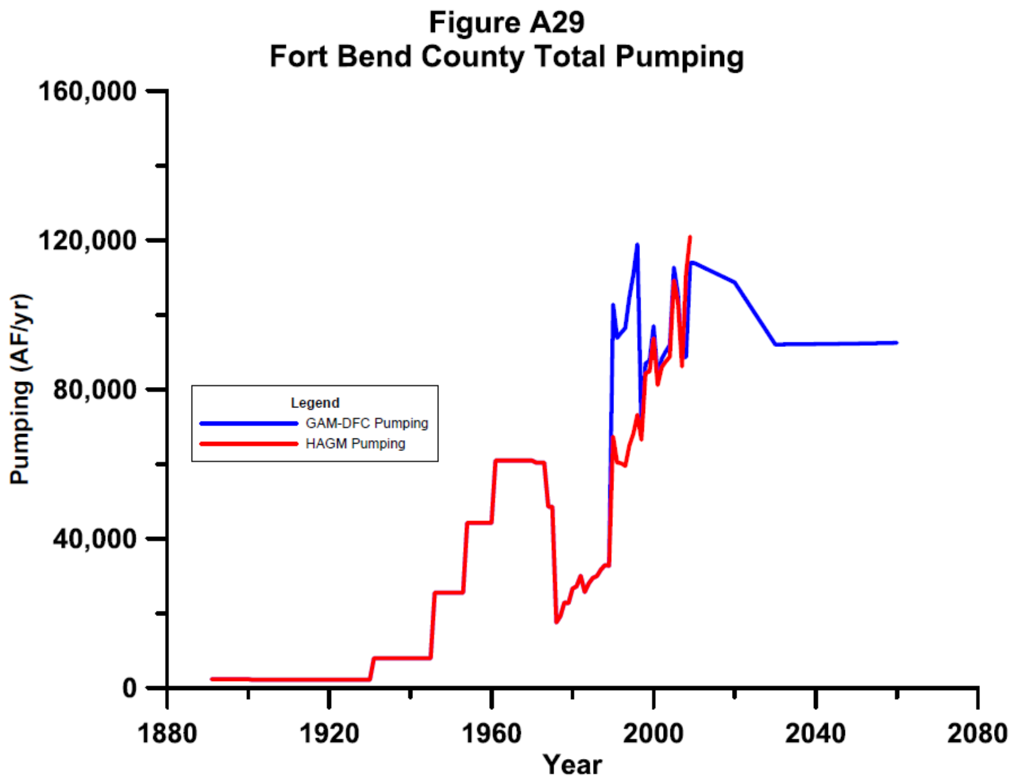


Figure A29
Fort Bend County Total Pumping
160,000
120,000
80,000
40,000
0
Pumping (AF/yr)
Legend
GAM-DFC Pumping
HAGM Pumping
1880
1920
1960
2000
2040
2080
Year

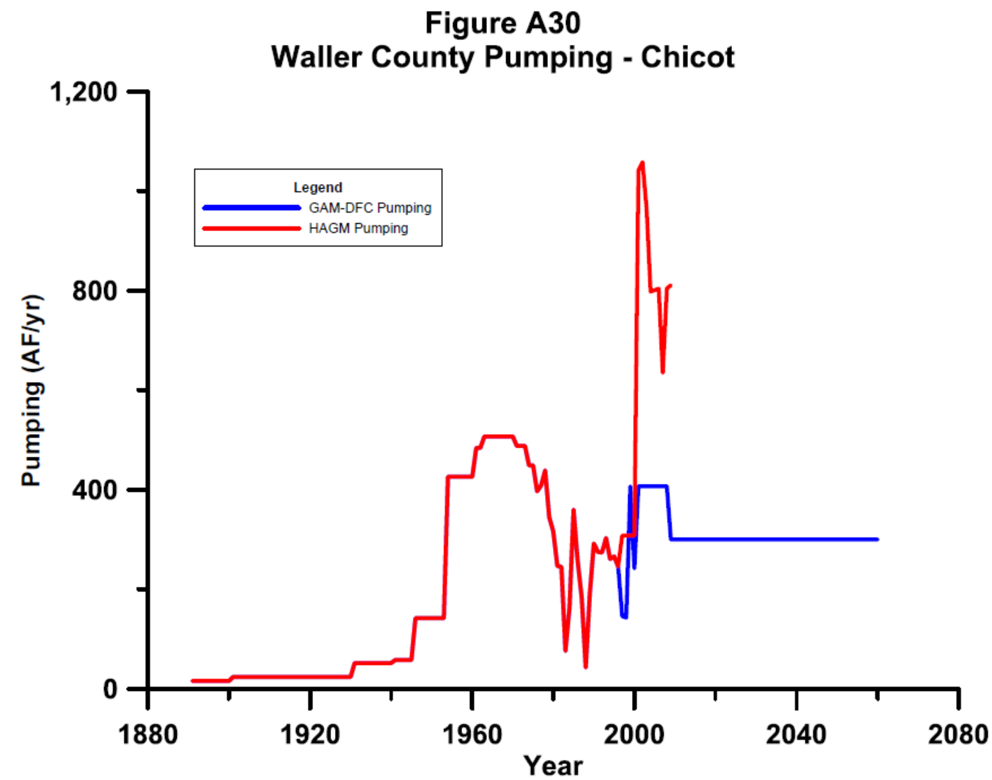


Figure A30
Waller County Pumping - Chicot
Legend
GAM-DFC Pumping
HAGM Pumping
Pumping (AF/yr)
1,200
800
400
0
1880
1920
1960
2000
2040
2080
Year

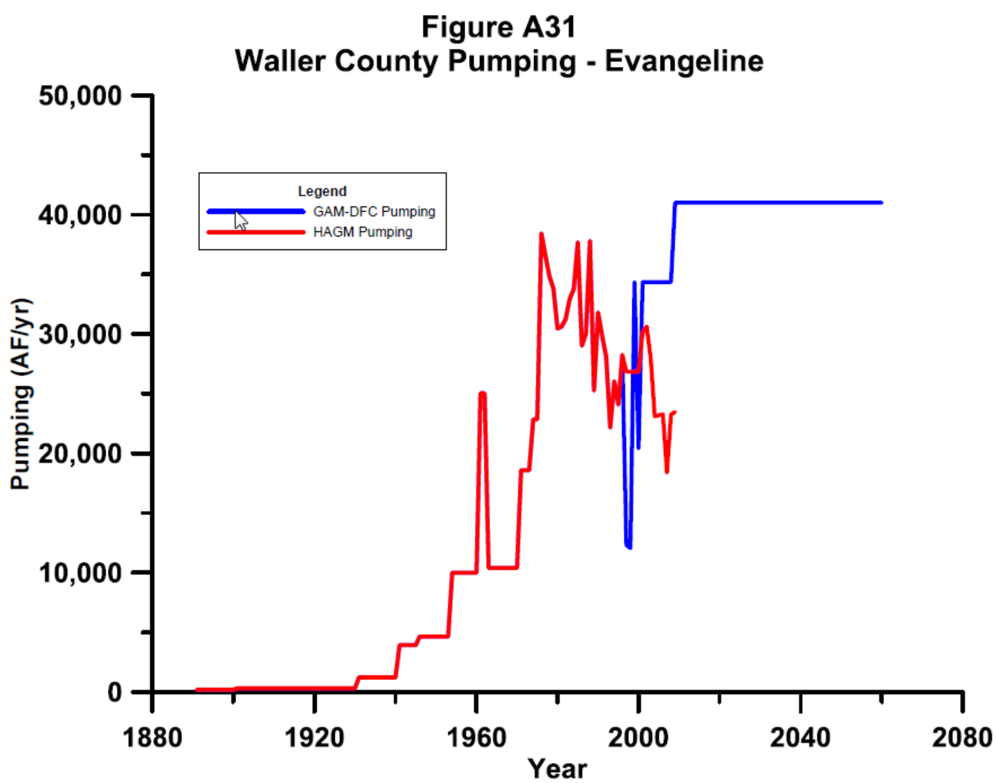
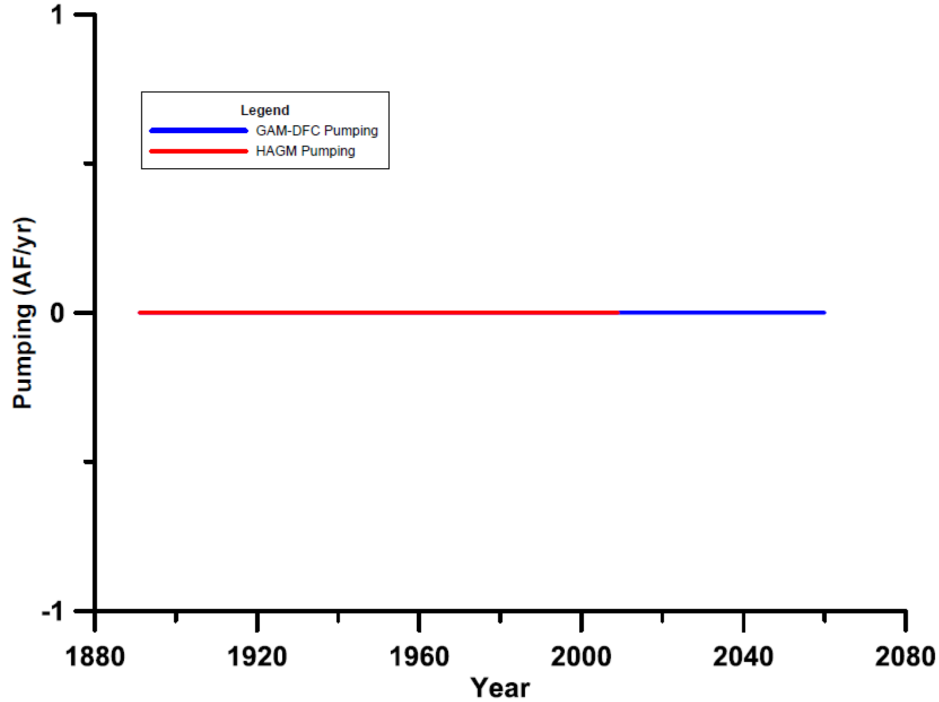
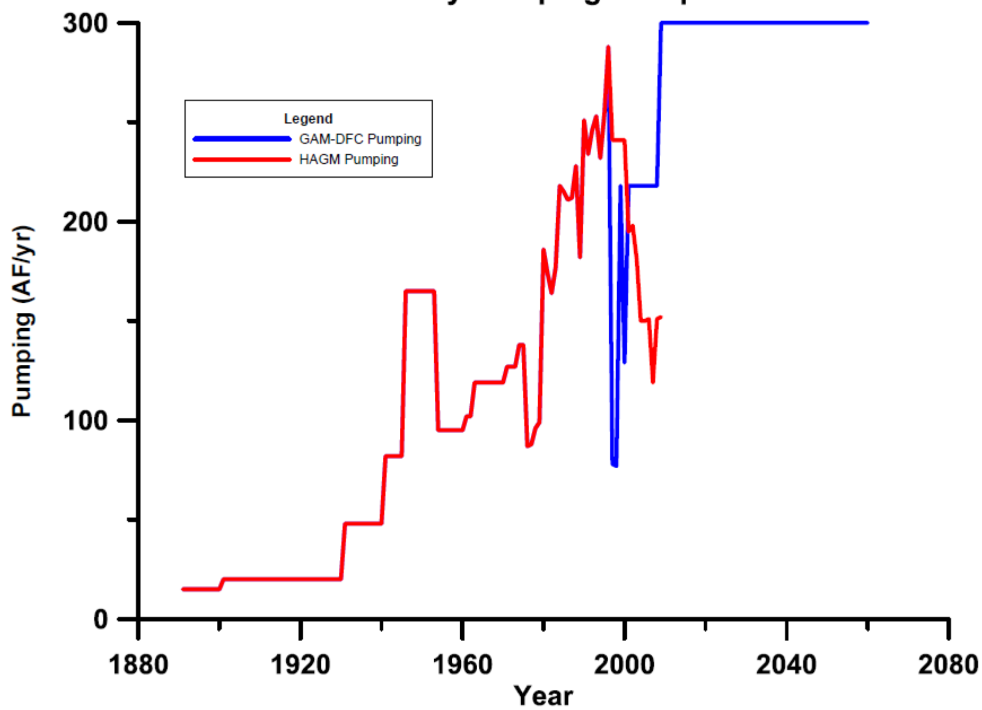


Figure A31
Waller County Pumping - Evangeline
Legend
GAM-DFC Pumping
HAGM Pumping
Pumping (AF/yr)
50,000
40,000
30,000
20,000
10,000
0
1880
1920
1960
2000
2040
2080
Year

## Figure A32
## Waller County Pumping - Burkeville




## Figure A33
## Waller County Pumping - Jasper



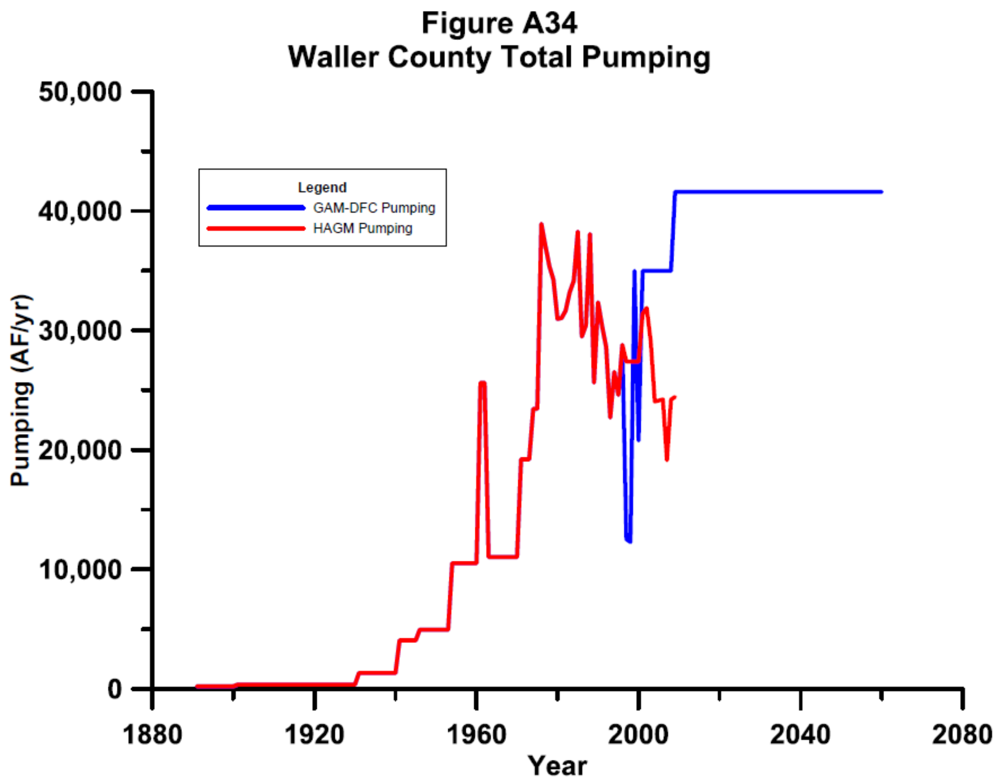


Figure A34
Waller County Total Pumping
Legend
GAM-DFC Pumping
HAGM Pumping
50,000
40,000
30,000
20,000
10,000
0
Pumping (AF/yr)
1880
1920
1960
2000
2040
2080
Year

**Figure A35**
**Layer Top Elevation vs. GHB Elevation**
**Austin County**

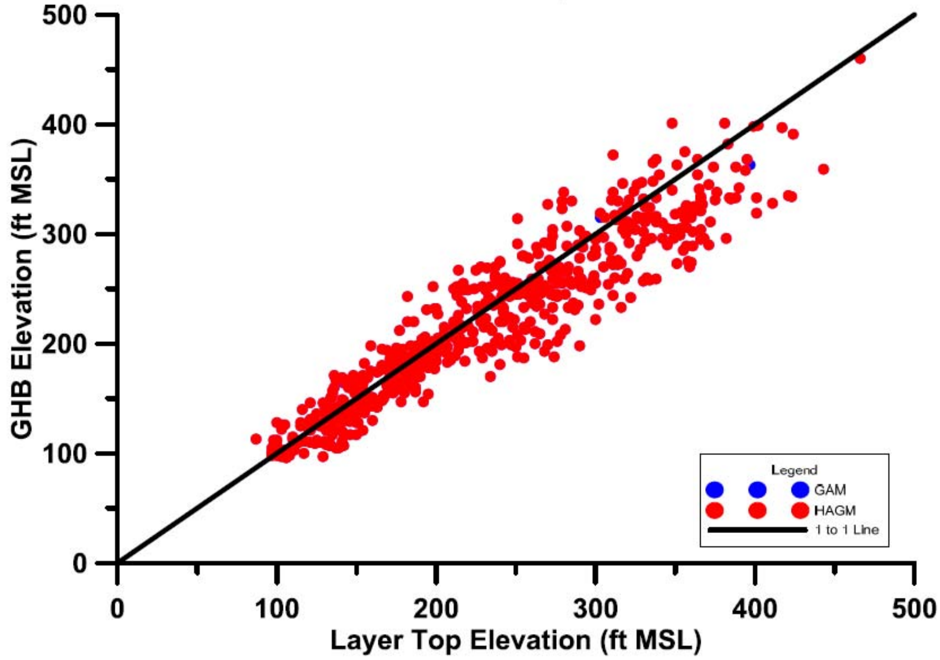



**Figure A36**
**Layer Top Elevation vs. GHB Elevation**
**Fort Bend County**

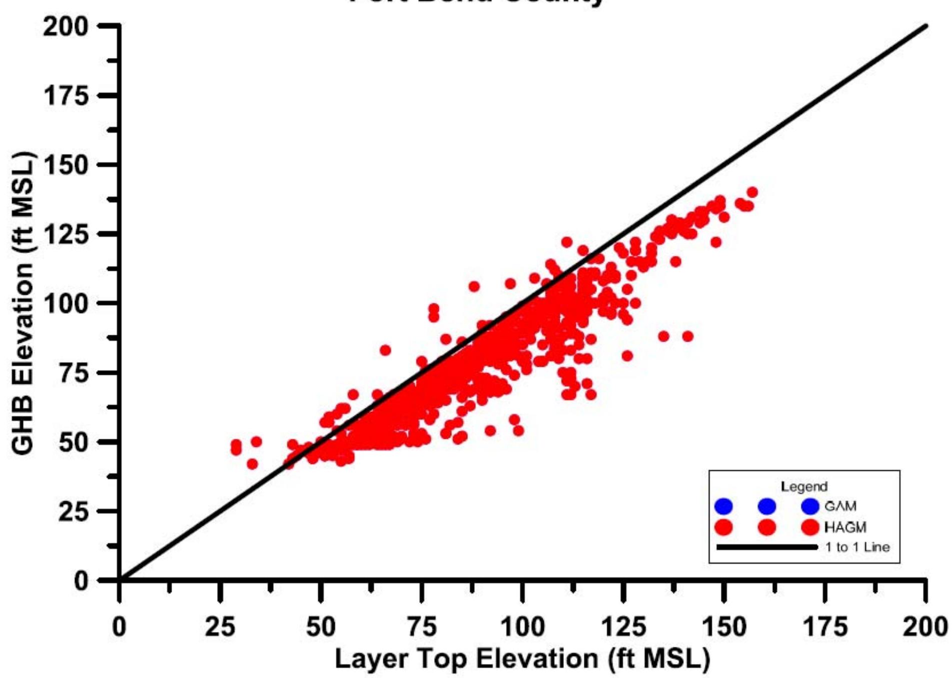


**Figure A37**
**Layer Top Elevation vs. GHB Elevation**
**Waller County**

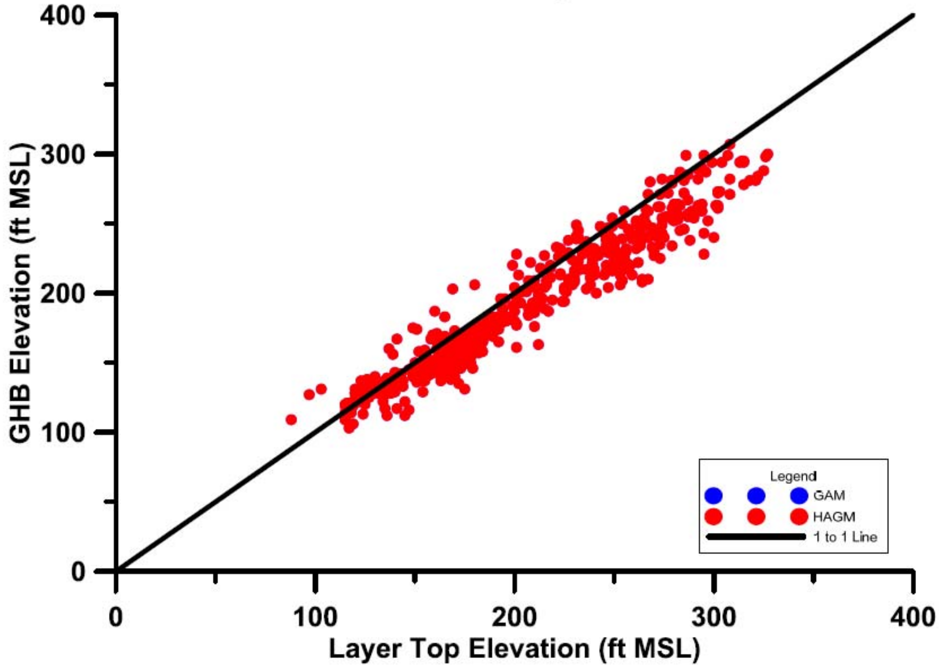
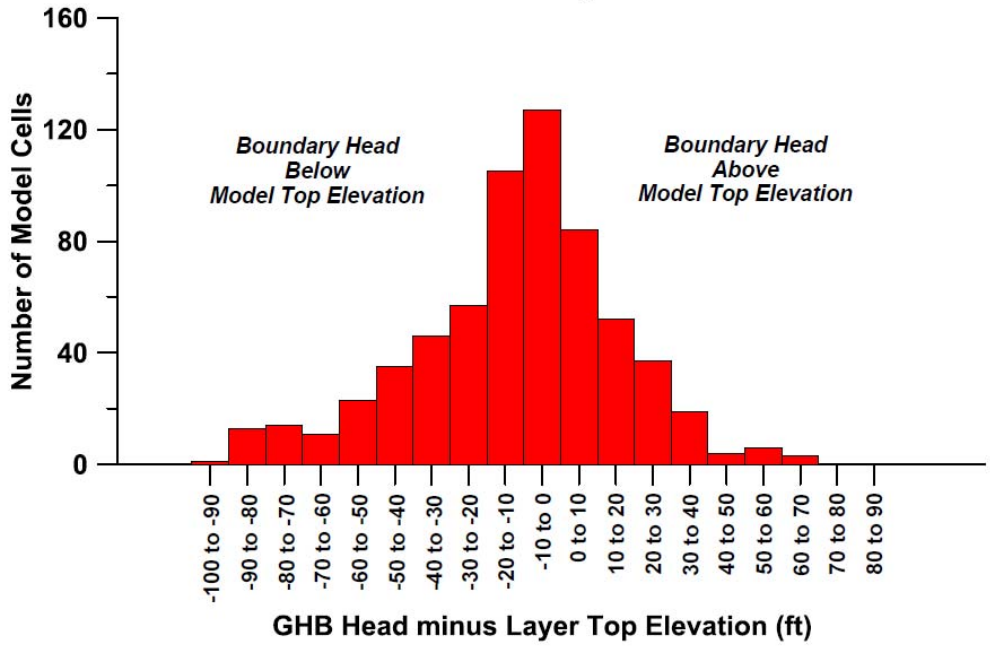



**Figure A38**
**Distribution of Differences in Elevation and GHB Head**
**Austin County**



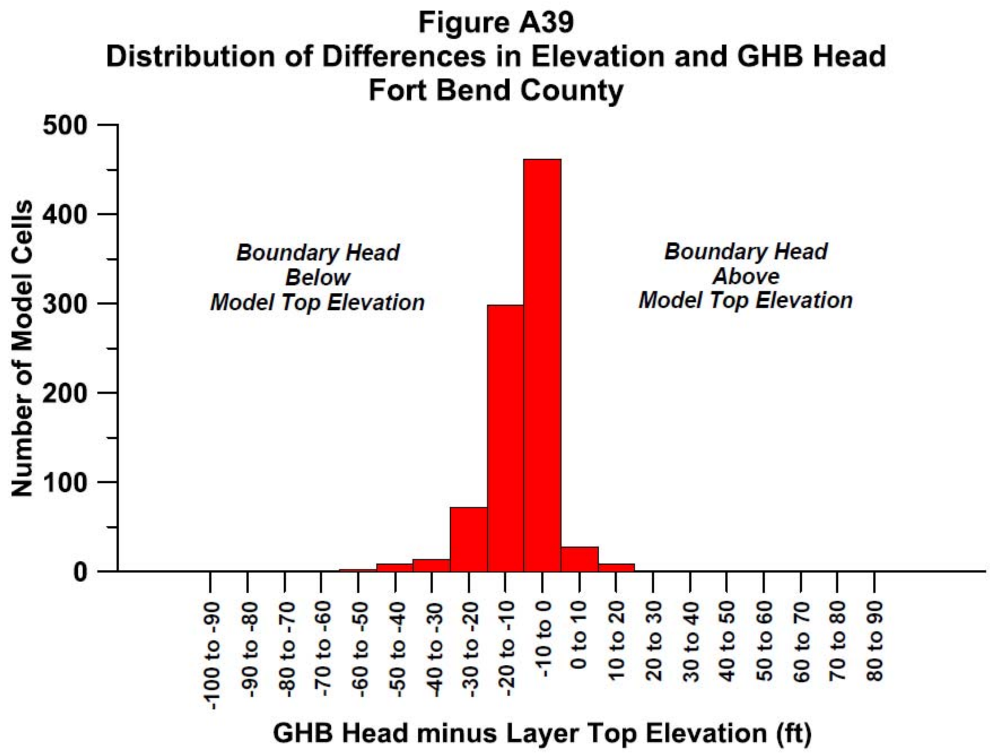


Figure A39
Distribution of Differences in Elevation and GHB Head
Fort Bend County
Number of Model Cells
500
400
300
200
100
0
Boundary Head
Below
Model Top Elevation
Boundary Head
Above
Model Top Elevation
-100 to -90
-90 to -80
-80 to -70
-70 to -60
-60 to -50
-50 to -40
-40 to -30
-30 to -20
-20 to -10
-10 to 0
0 to 10
10 to 20
20 to 30
30 to 40
40 to 50
50 to 60
60 to 70
70 to 80
80 to 90
GHB Head minus Layer Top Elevation (ft)

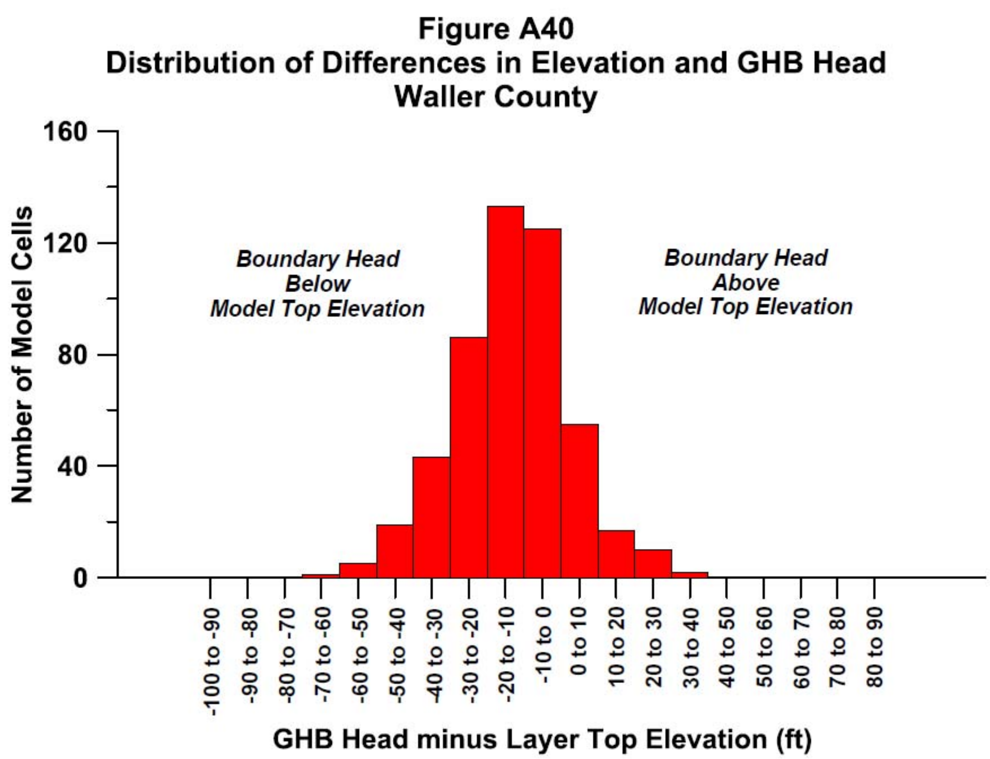


Figure A40
Distribution of Differences in Elevation and GHB Head
Waller County
Number of Model Cells
160
120
80
40
0
Boundary Head
Below
Model Top Elevation
Boundary Head
Above
Model Top Elevation
-100 to -90
-90 to -80
-80 to -70
-70 to -60
-60 to -50
-50 to -40
-40 to -30
-30 to -20
-20 to -10
-10 to 0
0 to 10
10 to 20
20 to 30
30 to 40
40 to 50
50 to 60
60 to 70
70 to 80
80 to 90
GHB Head minus Layer Top Elevation (ft)

**Figure A41**
**Austin County - GHB Flow (Recharge and Inflow from Streams)**

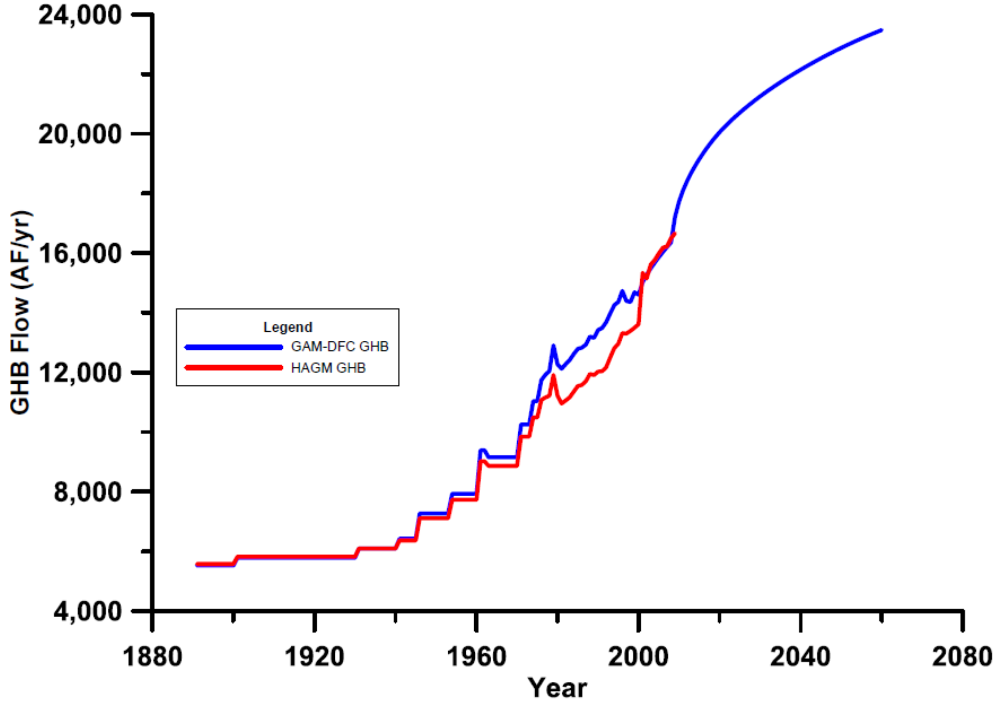



**Figure A42**
**Fort Bend County - GHB Flow**
**Recharge and Inflow from (+) or Outflow to (-) Streams**

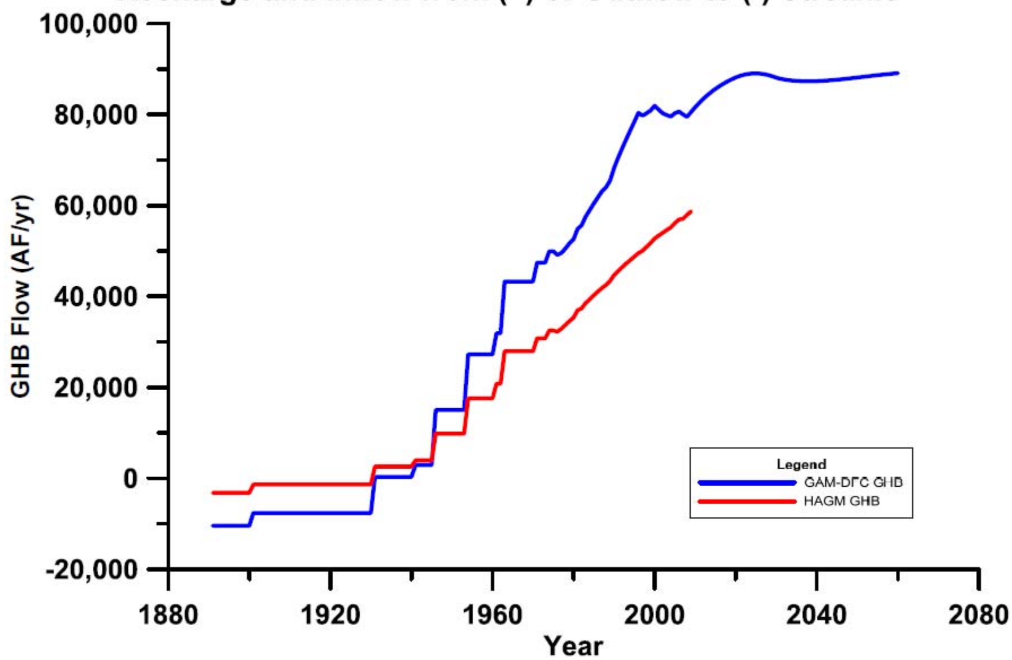


Figure A43
Waller County - GHB Flows (Recharge and Inflow from Streams)

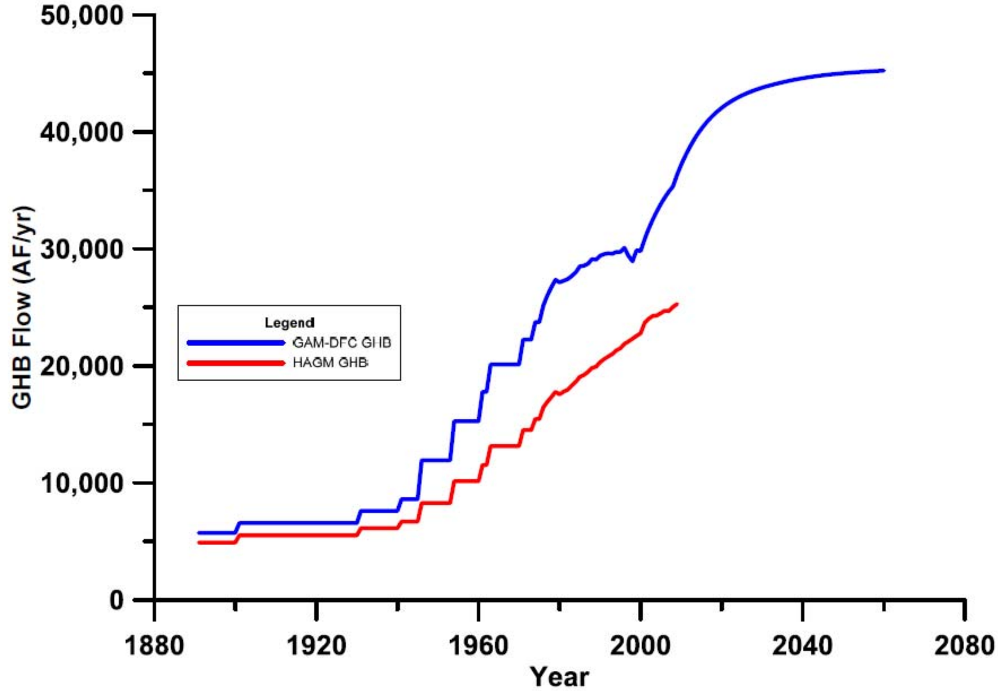



Figure A44
Austin County Pumping vs. GHB Flows

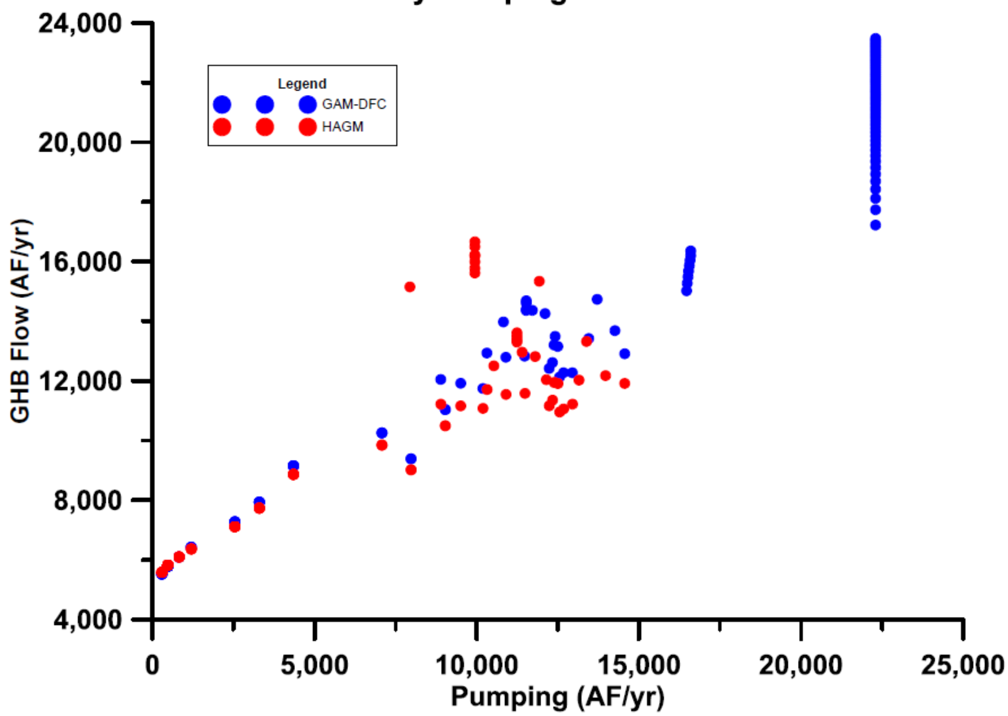


Figure A45
Fort Bend County Pumping vs. GHB Flows

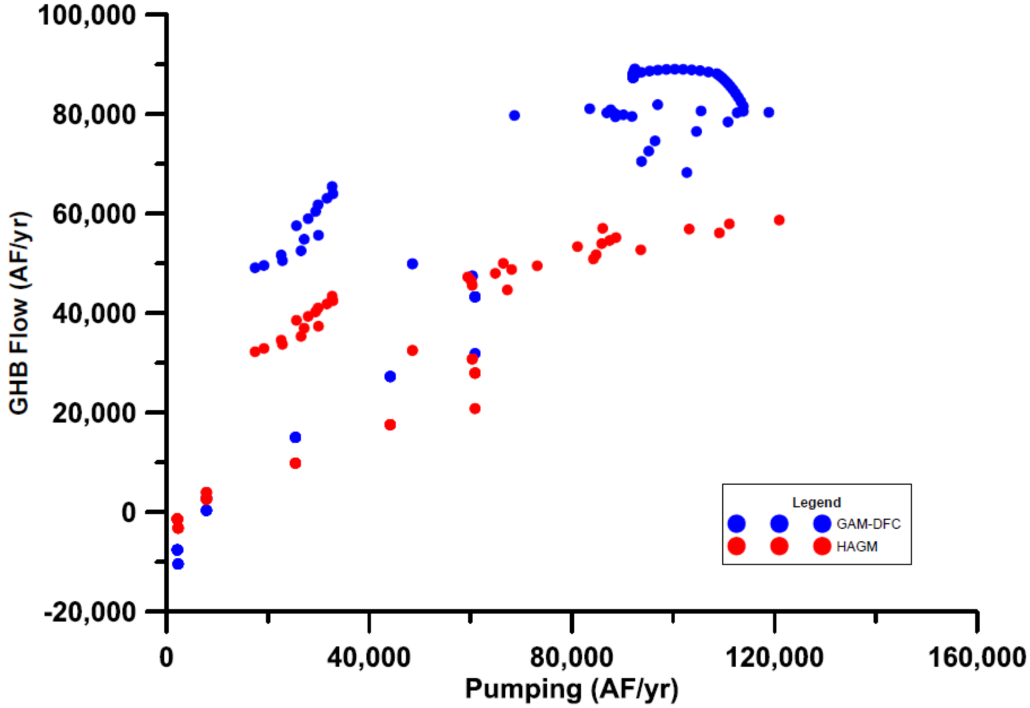



Figure A46
Waller County Pumping vs. GHB Flows

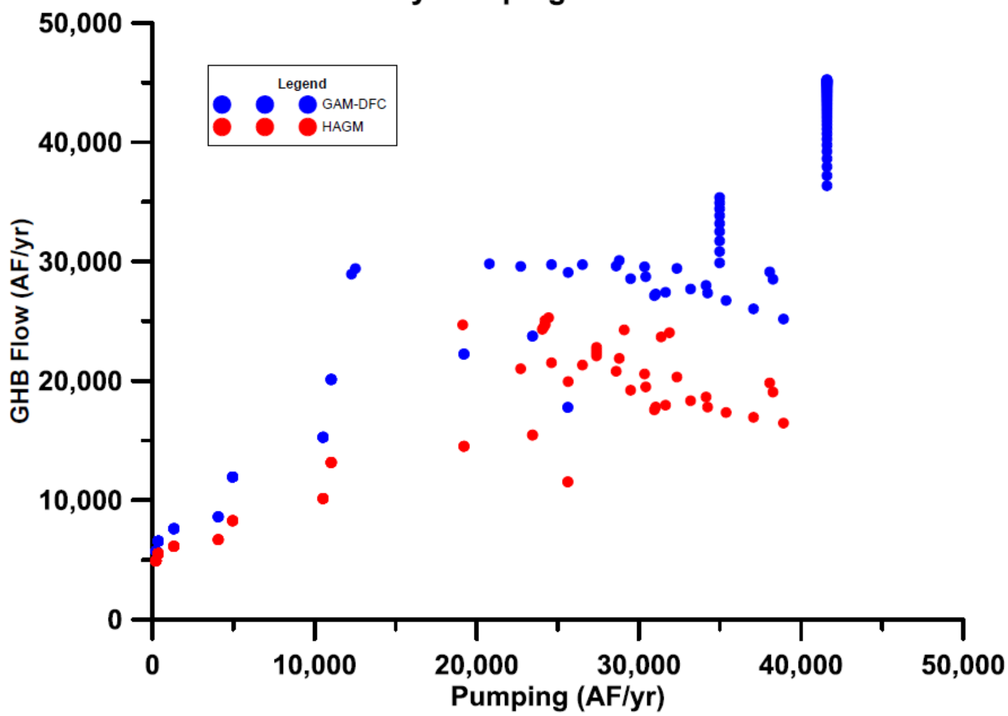


Figure A47 - Well 65-17-505
Fort Bend County - Layer 1 (GAM & DFC)

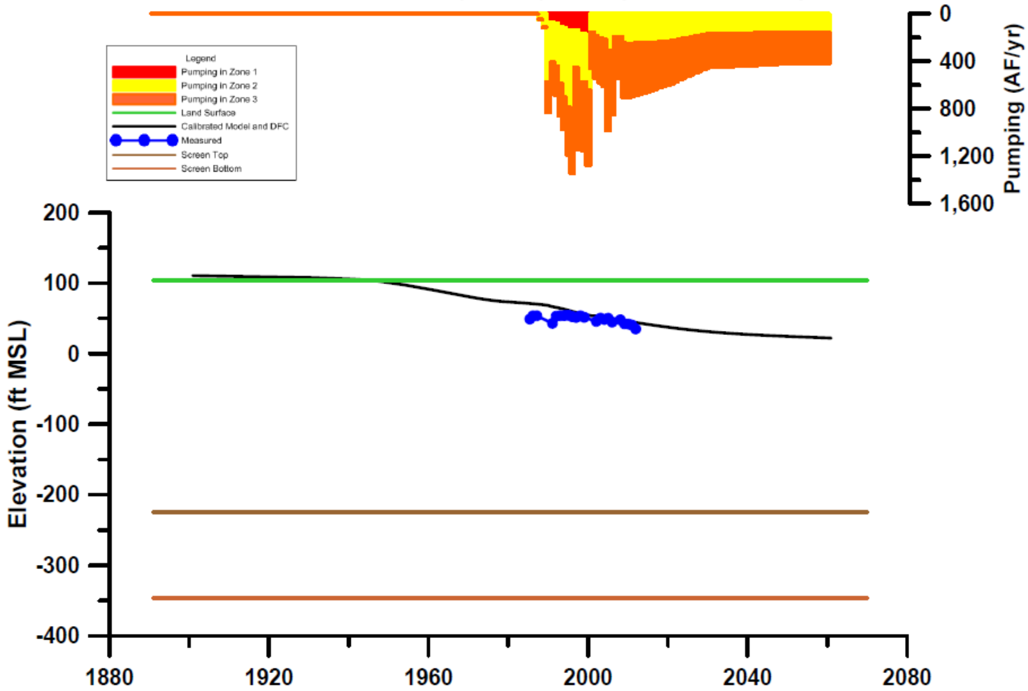



Figure A48 - Well 65-25-202
Fort Bend County - Layer 1 (GAM & DFC)

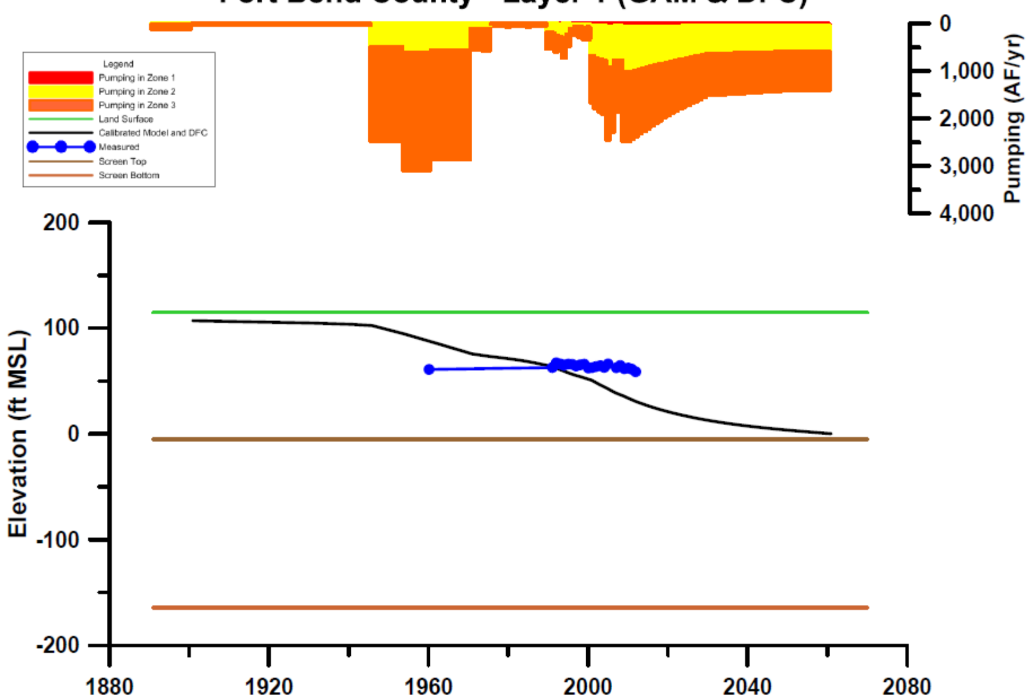


**Figure A49 - Well 65-25-301**
**Fort Bend County - Layer 1 (GAM & DFC)**

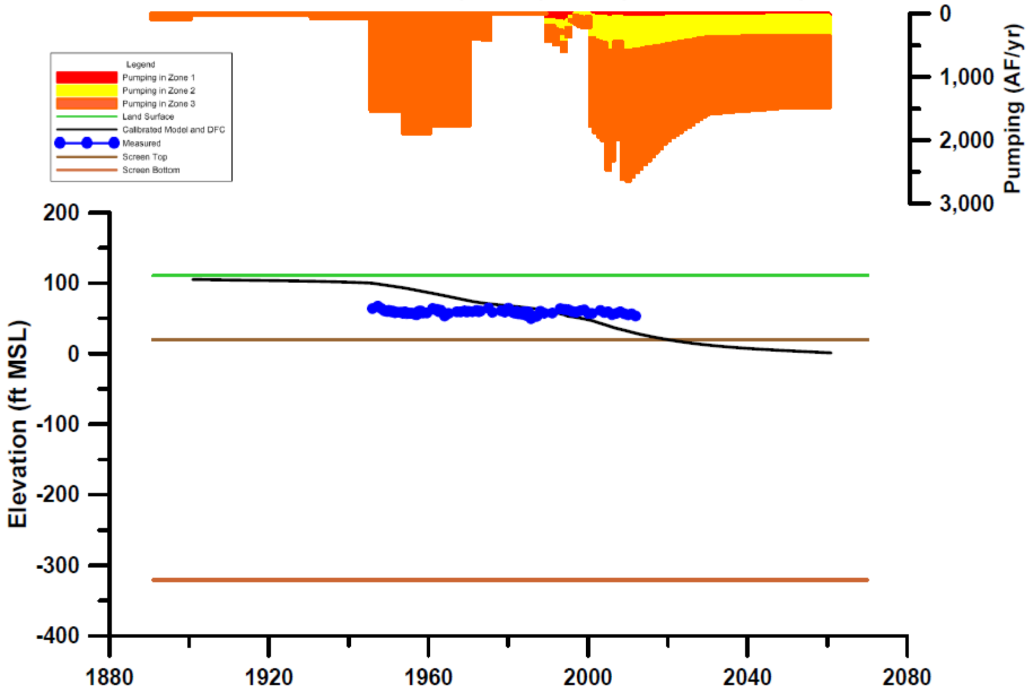



**Figure A50 - Well 66-16-407**
**Austin County - Layer 2 (GAM & DFC)**

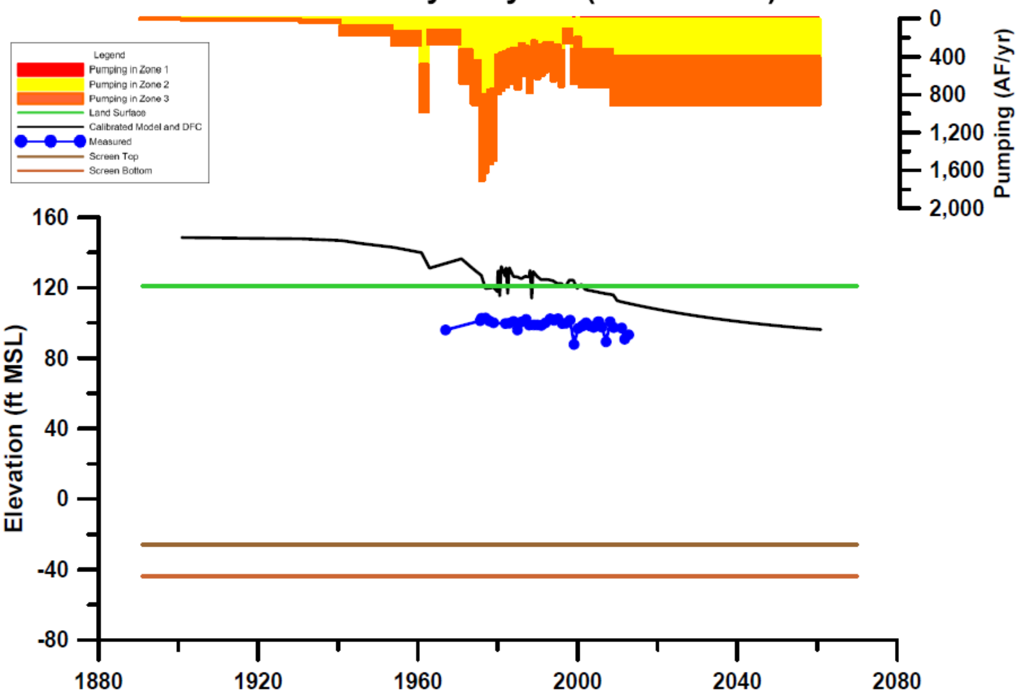


Figure A51 - Well 66-24-801
Austin County - Layer 2 (GAM & DFC)

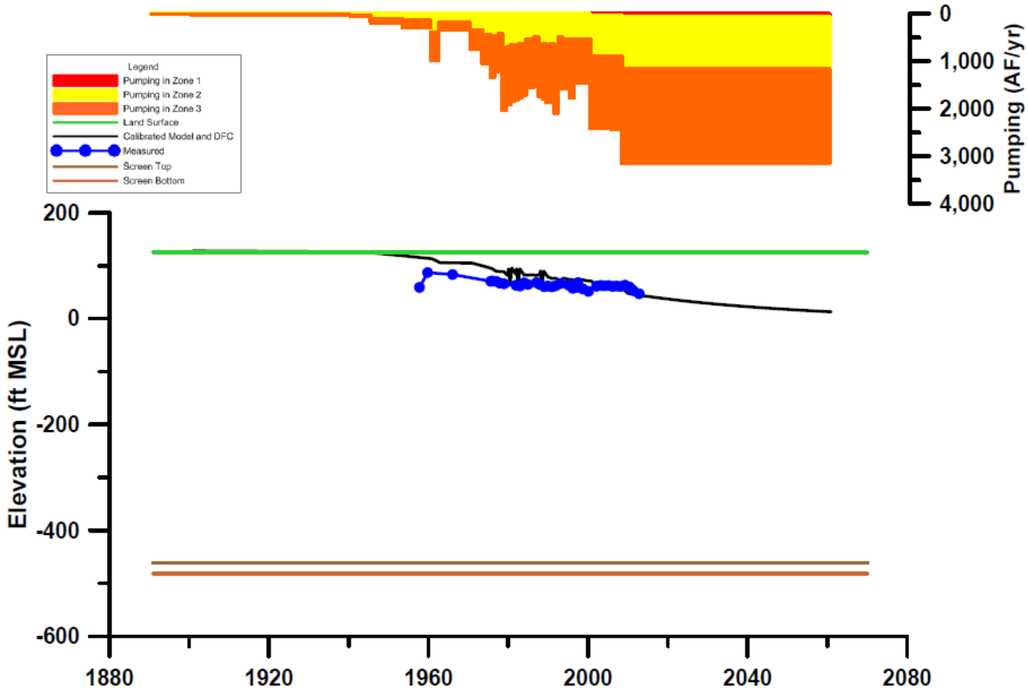
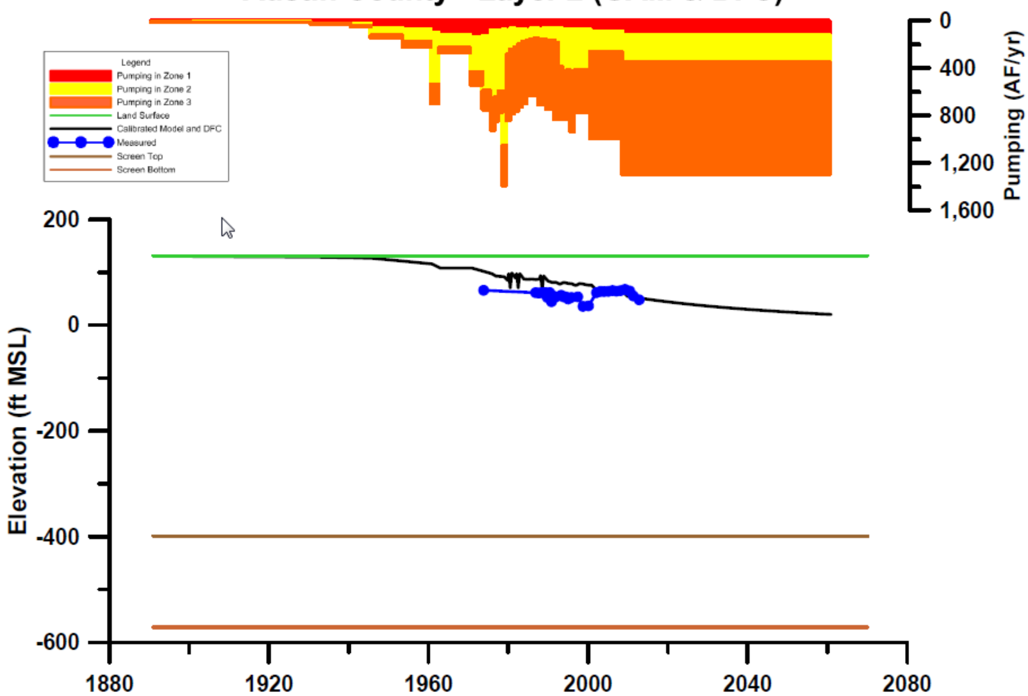
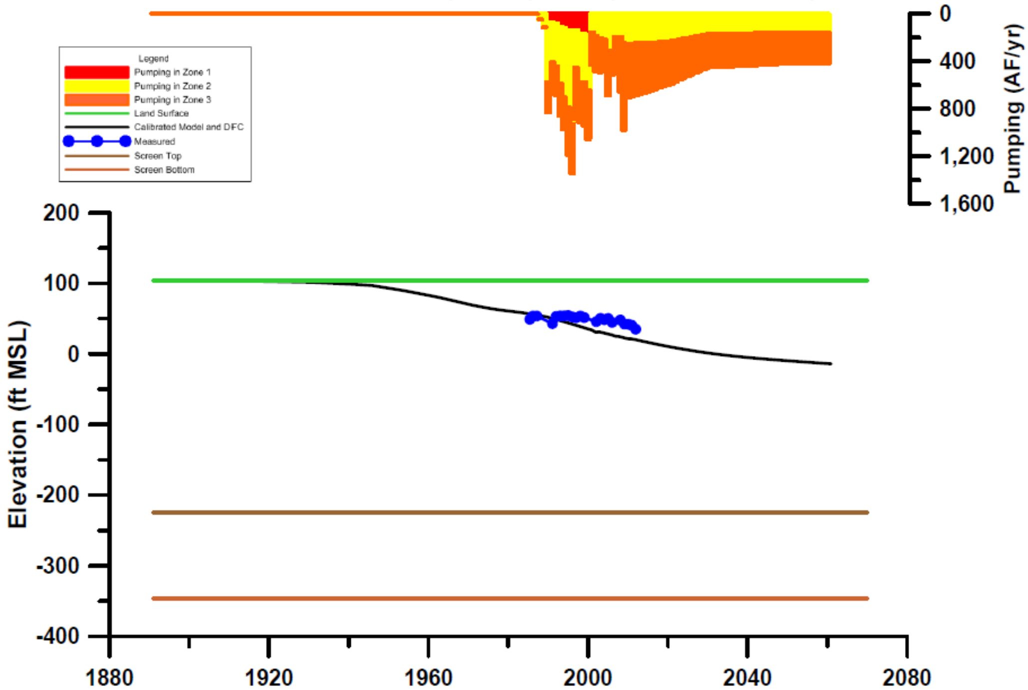



Figure A52 - Well 66-24-805
Austin County - Layer 2 (GAM & DFC)



## Figure A53 - Well 65-17-505
## Fort Bend County - Layer 1 (HAGM & DFC)




## Figure A54 - Well 65-25-202
## Fort Bend County - Layer 1 (HAGM & DFC)

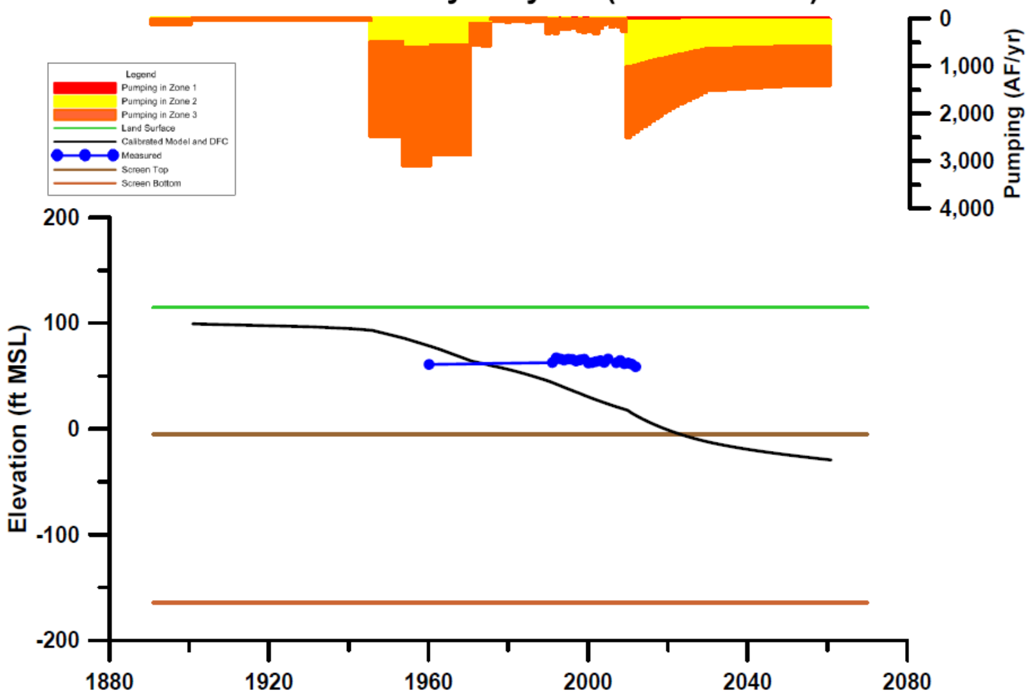


**Figure A55 - Well 65-25-301**
**Fort Bend County - Layer 1 (HAGM & DFC)**

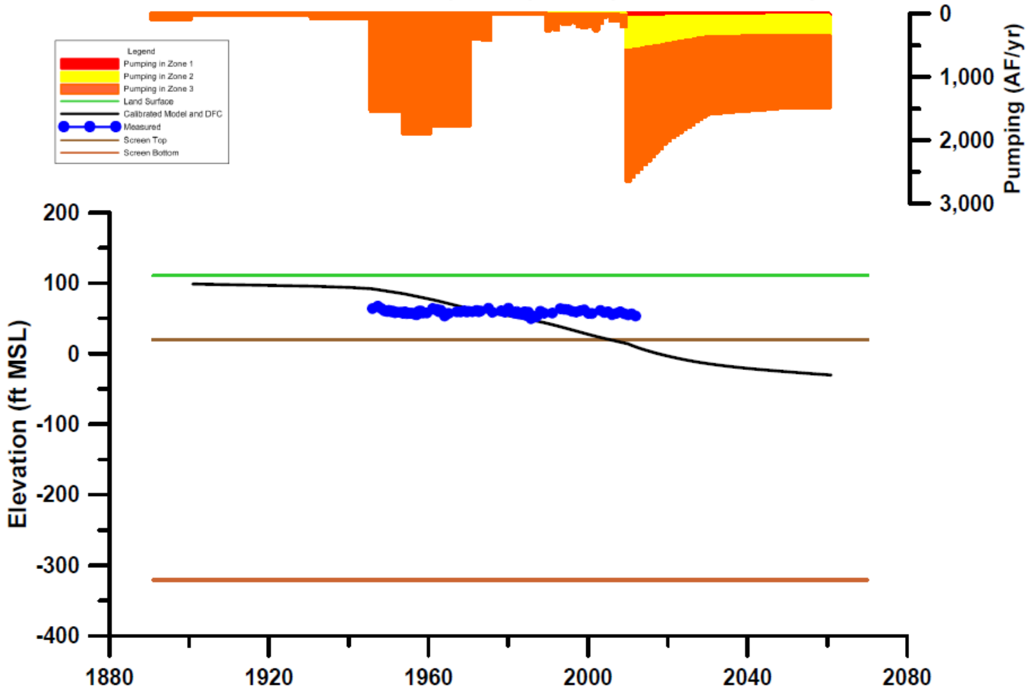
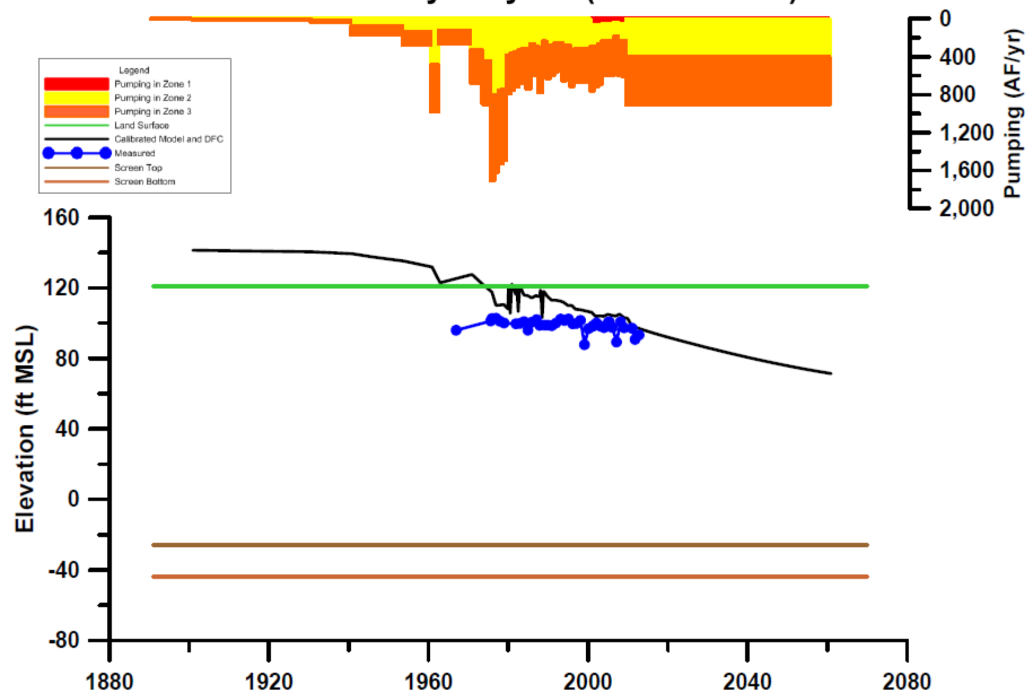



**Figure A56 - Well 66-16-407**
**Austin County - Layer 2 (HAGM & DFC)**



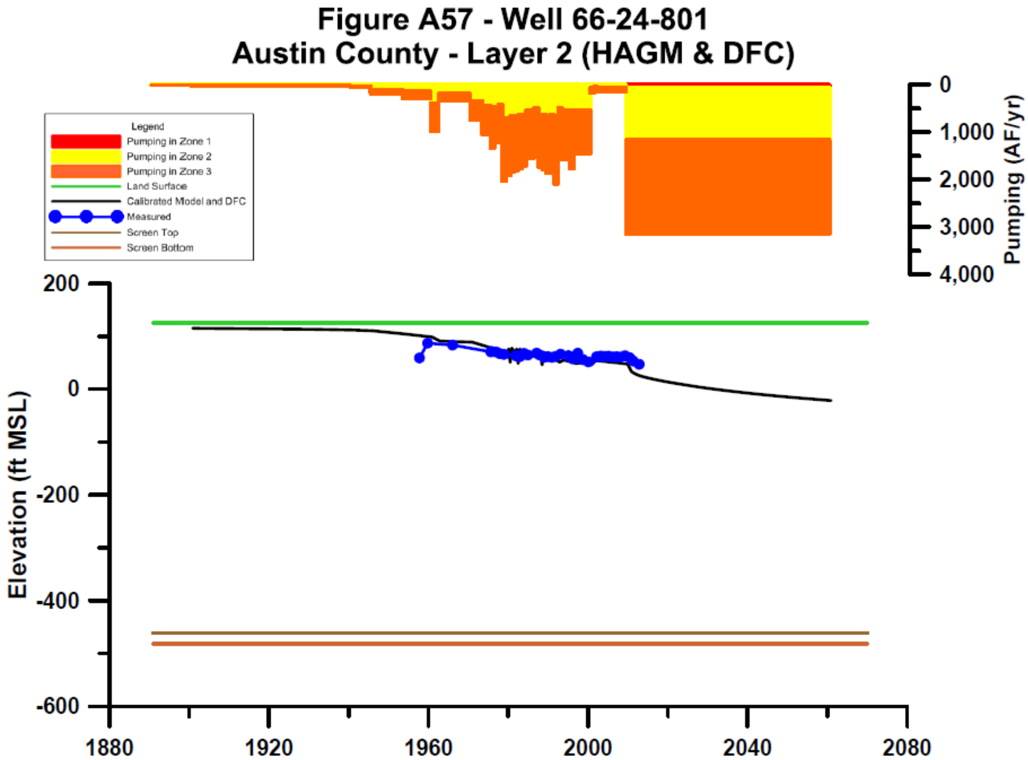


Figure A57 - Well 66-24-801
Austin County - Layer 2 (HAGM & DFC)
Legend
Pumping in Zone 1
Pumping in Zone 2
Pumping in Zone 3
Land Surface
Calibrated Model and DFC
Measured
Screen Top
Screen Bottom
Elevation (ft MSL)
200
0
-200
-400
-600
1880
1920
1960
2000
2040
2080
Pumping (AF/yr)
0
1,000
2,000
3,000
4,000

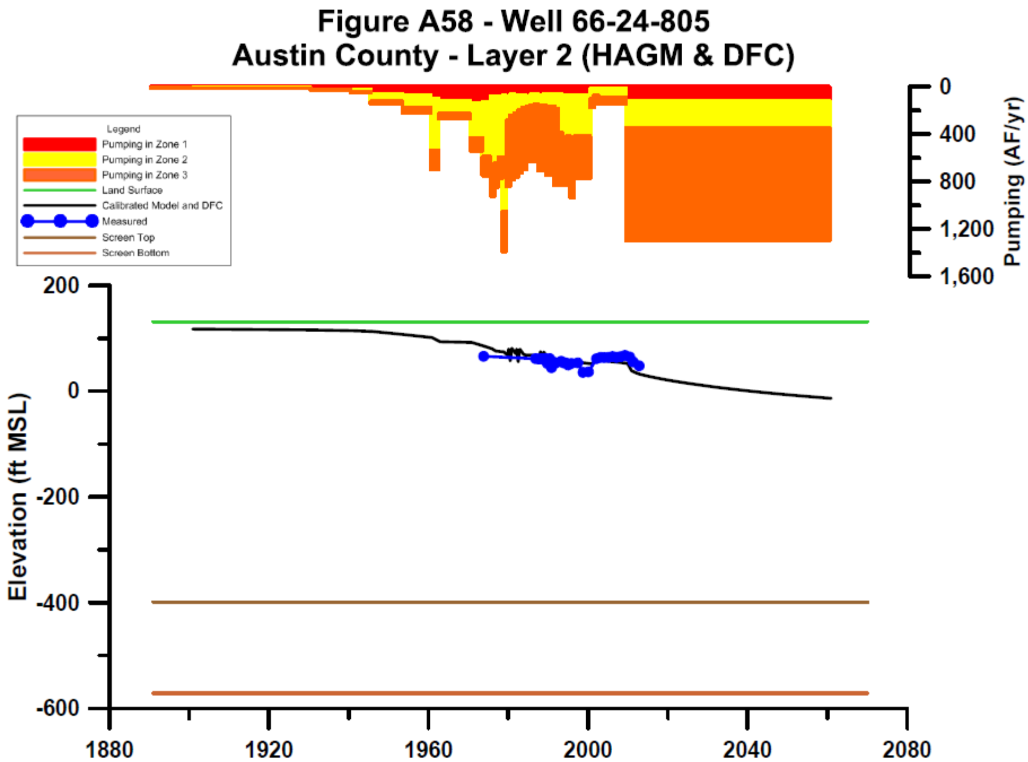


Figure A58 - Well 66-24-805
Austin County - Layer 2 (HAGM & DFC)
Legend
Pumping in Zone 1
Pumping in Zone 2
Pumping in Zone 3
Land Surface
Calibrated Model and DFC
Measured
Screen Top
Screen Bottom
Elevation (ft MSL)
200
0
-200
-400
-600
1880
1920
1960
2000
2040
2080
Pumping (AF/yr)
0
400
800
1,200
1,600

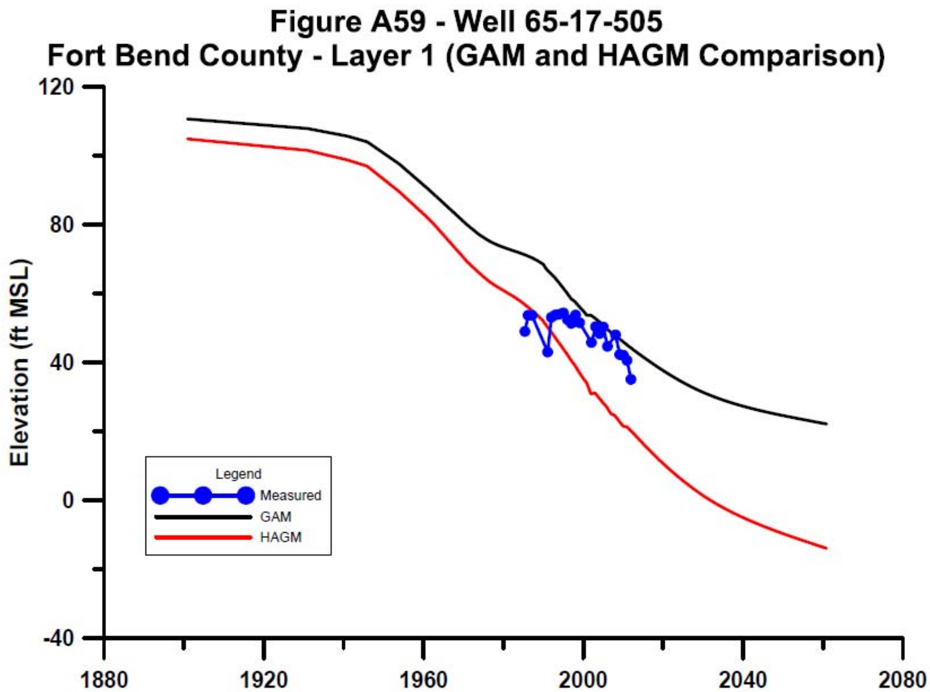


Figure A59 - Well 65-17-505
Fort Bend County - Layer 1 (GAM and HAGM Comparison)
Elevation (ft MSL)
120
80
40
0
-40
1880
1920
1960
2000
2040
2080
Legend
Measured
GAM
HAGM

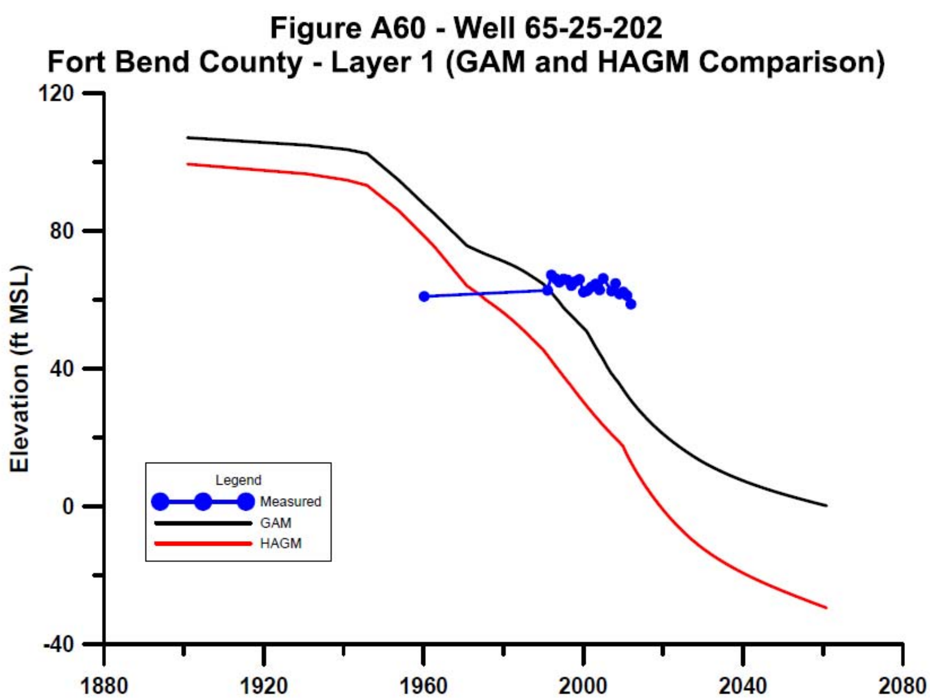


Figure A60 - Well 65-25-202
Fort Bend County - Layer 1 (GAM and HAGM Comparison)
Elevation (ft MSL)
120
80
40
0
-40
1880
1920
1960
2000
2040
2080
Legend
Measured
GAM
HAGM

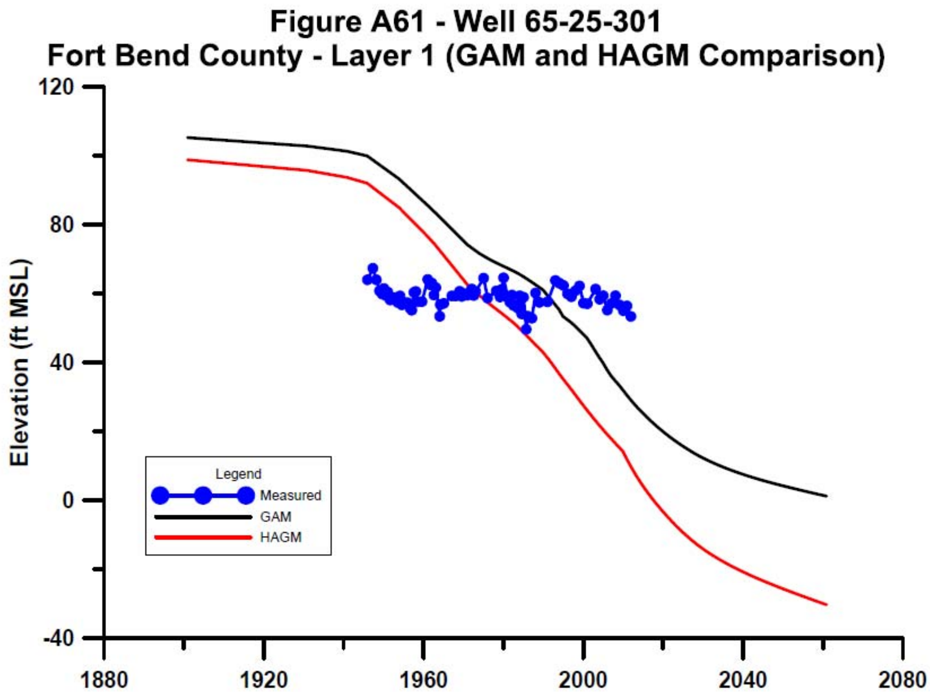


Figure A61 - Well 65-25-301
Fort Bend County - Layer 1 (GAM and HAGM Comparison)
Elevation (ft MSL)
120
80
40
0
-40
1880
1920
1960
2000
2040
2080
Legend
Measured
GAM
HAGM

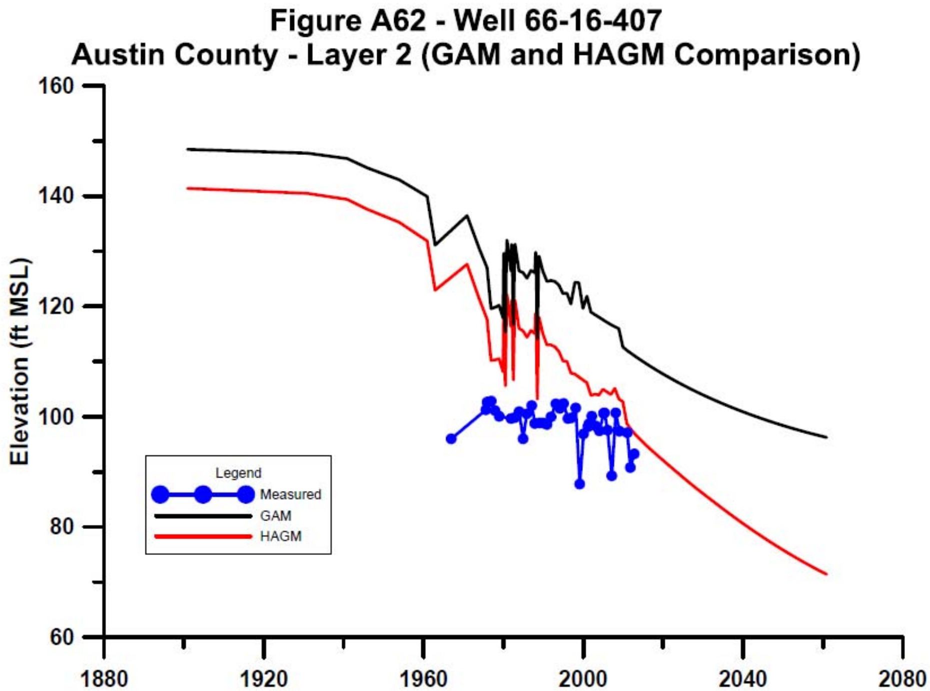


Figure A62 - Well 66-16-407
Austin County - Layer 2 (GAM and HAGM Comparison)
Elevation (ft MSL)
160
140
120
100
80
60
1880
1920
1960
2000
2040
2080
Legend
Measured
GAM
HAGM

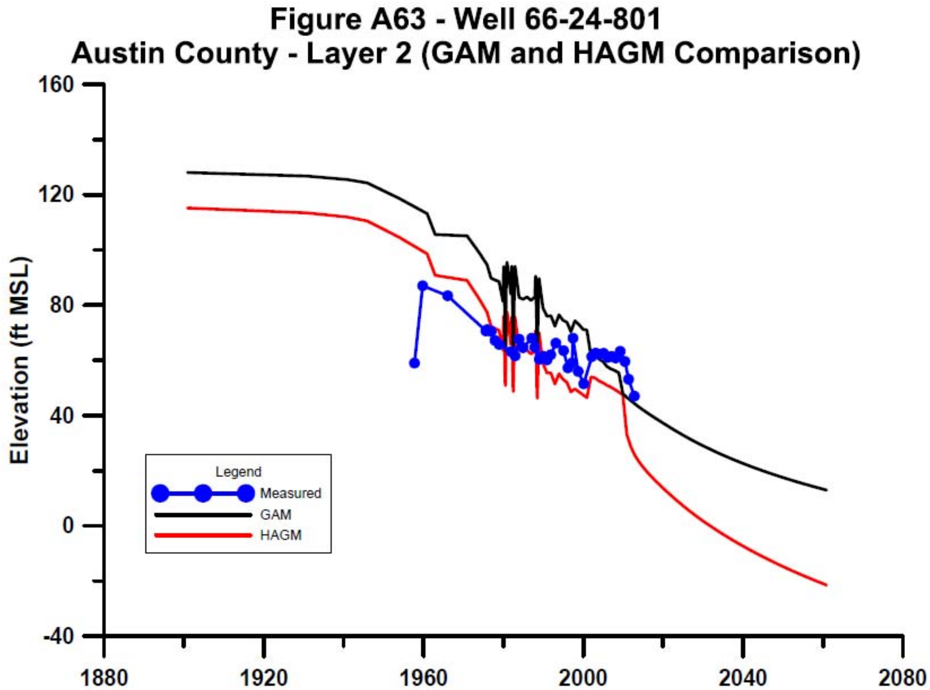


Figure A63 - Well 66-24-801
Austin County - Layer 2 (GAM and HAGM Comparison)
Elevation (ft MSL)
160
120
80
40
0
-40
1880
1920
1960
2000
2040
2080
Legend
Measured
GAM
HAGM

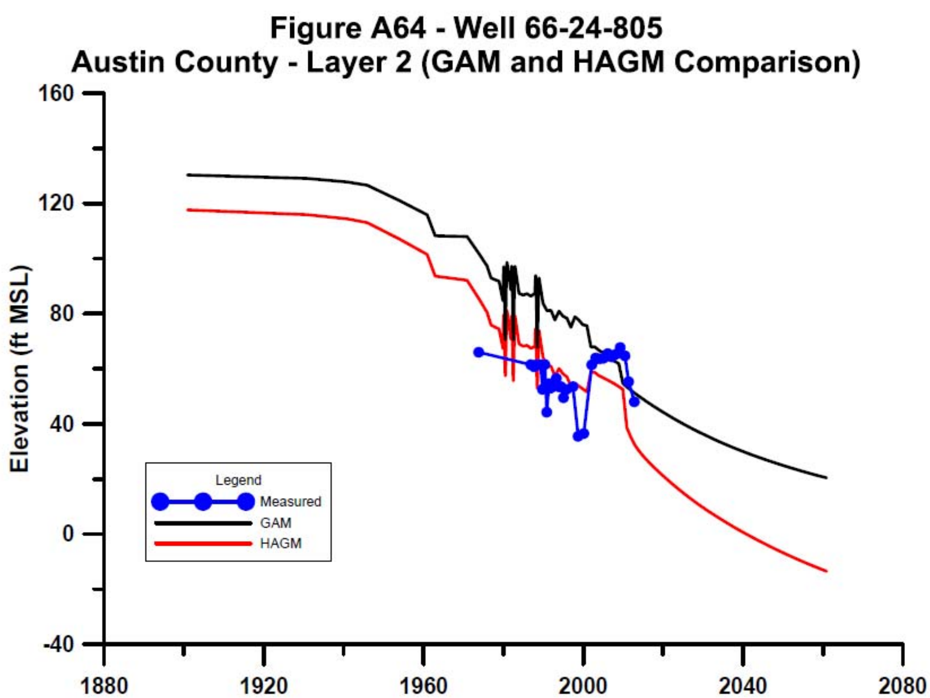


Figure A64 - Well 66-24-805
Austin County - Layer 2 (GAM and HAGM Comparison)
Elevation (ft MSL)
160
120
80
40
0
-40
1880
1920
1960
2000
2040
2080
Legend
Measured
GAM
HAGM

Figure A65 - Well 65-33-210
Fort Bend County - Layer 2 (GAM & DFC)

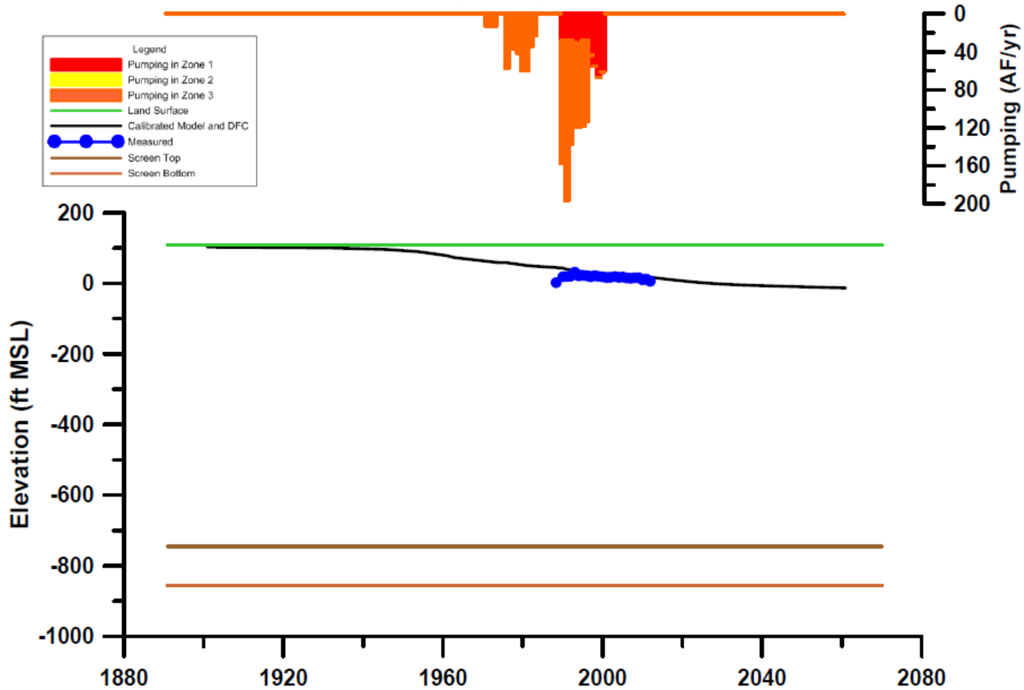
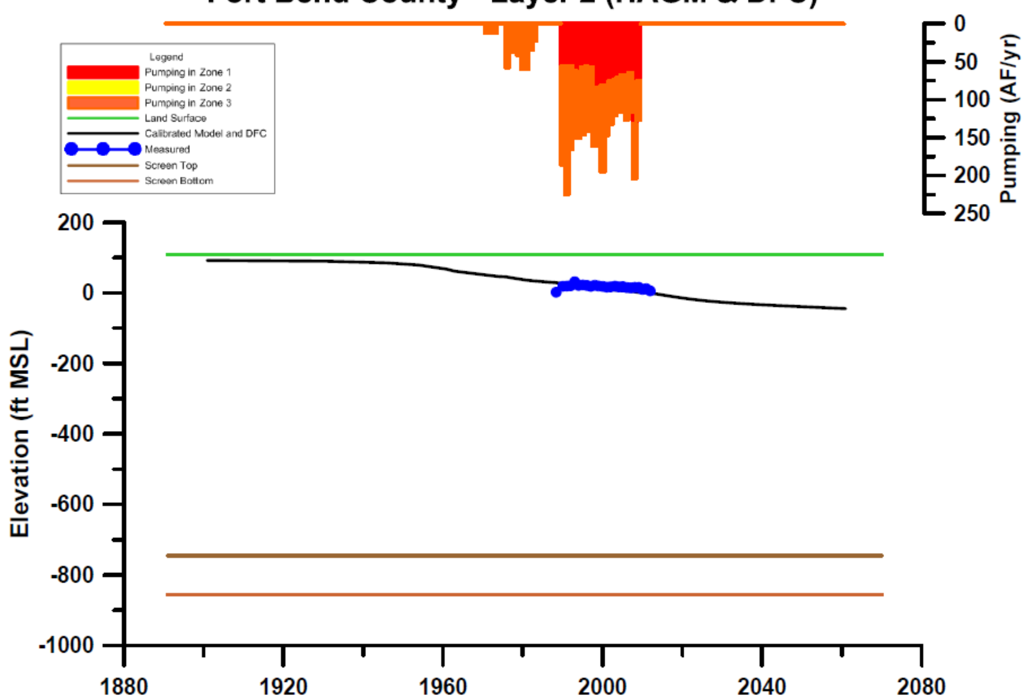
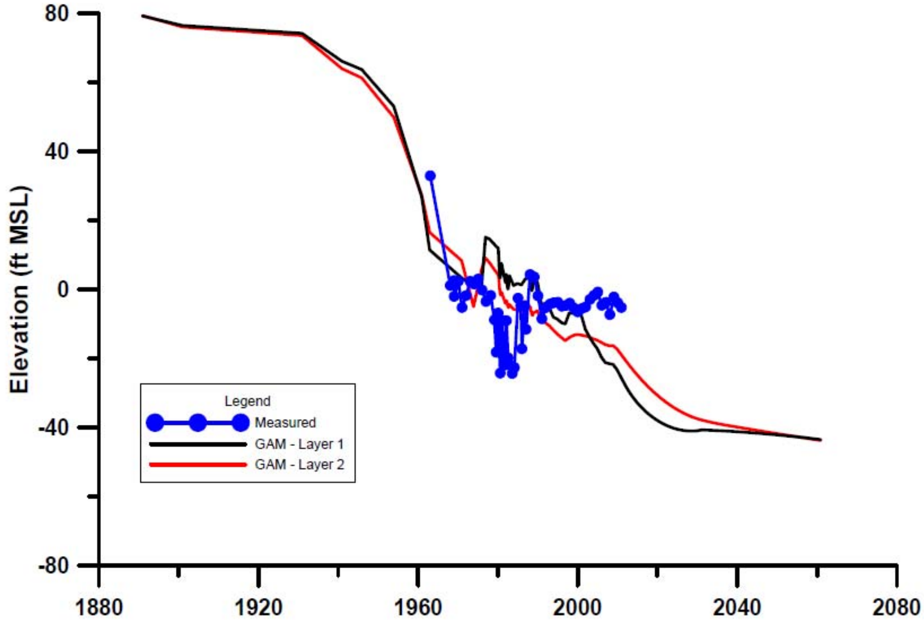



Figure A66 - Well 65-33-210
Fort Bend County - Layer 2 (HAGM & DFC)



## Figure A67 - Well 65-43-101
## Comparison of Actual with GAM (Layers 1 and 2)




## Figure A68 - Well 65-43-101
## Comparison of Actual with HAGM (Layers 1 and 2)

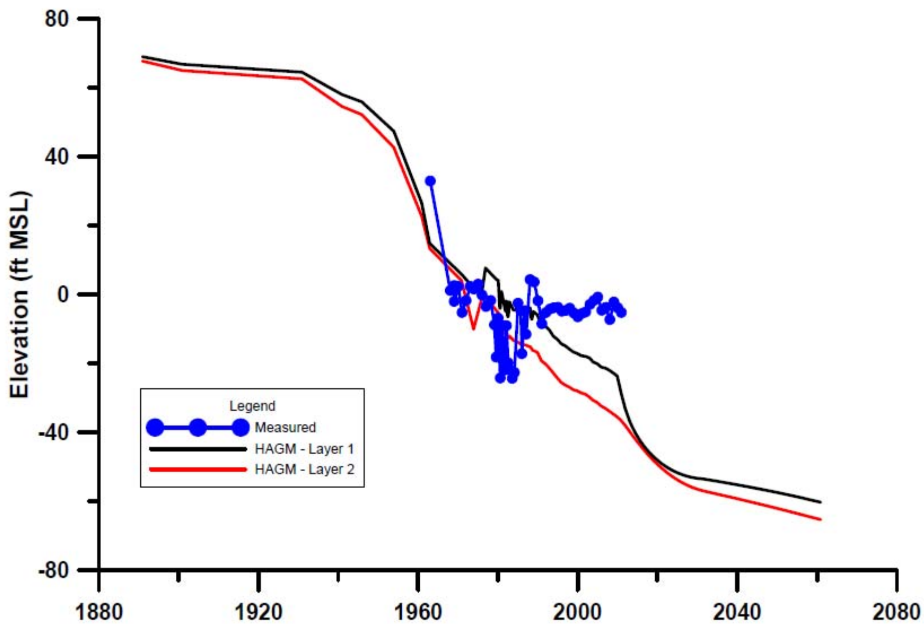


**Figure A69**
**Elastic Storativity vs. Simulated Subsidence**
**Layer 1**

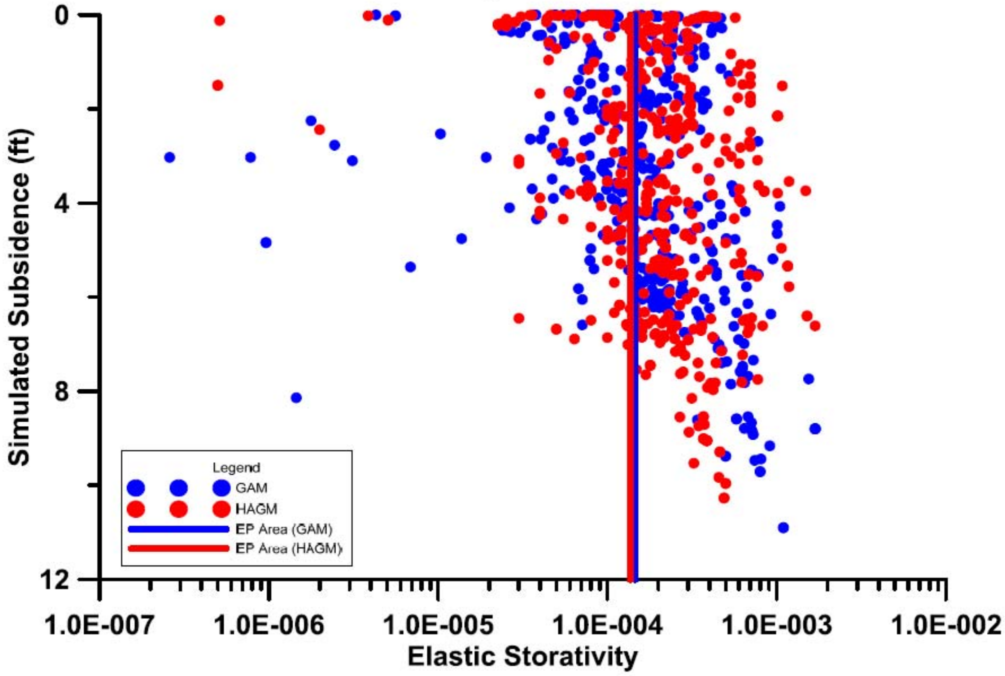



**Figure A70**
**Elastic Storativity vs. Simulated Subsidence**
**Layer 2**

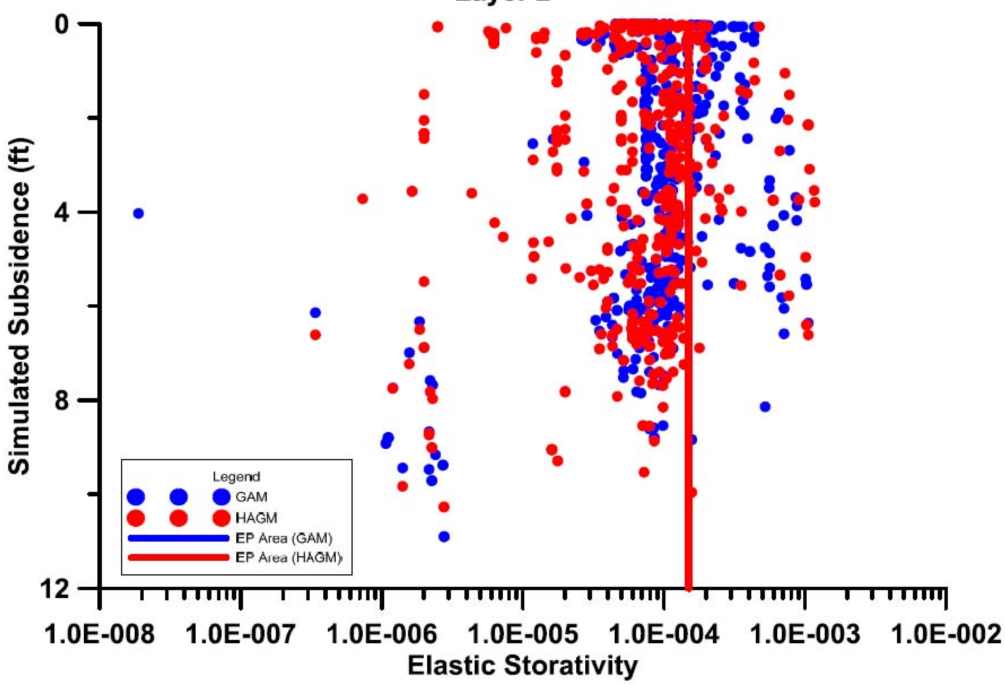


**Figure A71**
**Elastic Storativity vs. Simulated Subsidence**
**Layer 3**

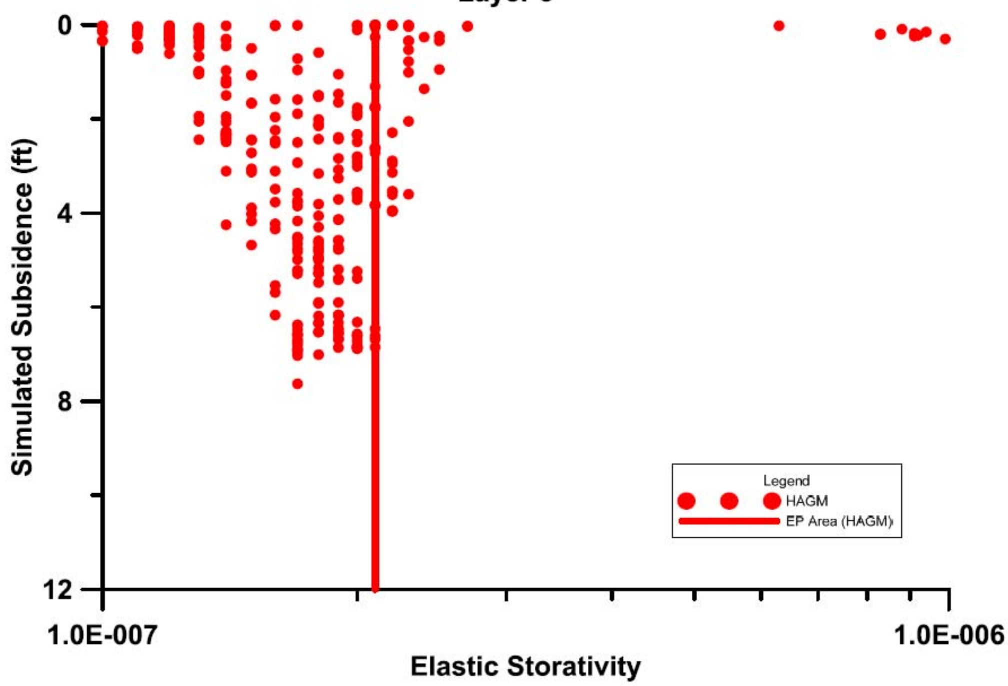
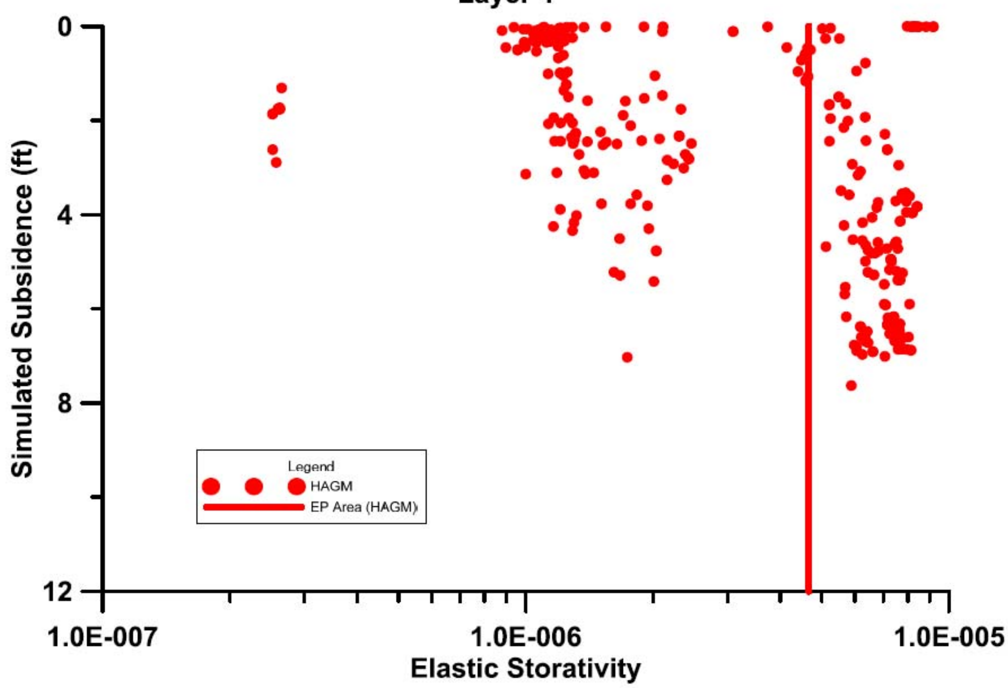
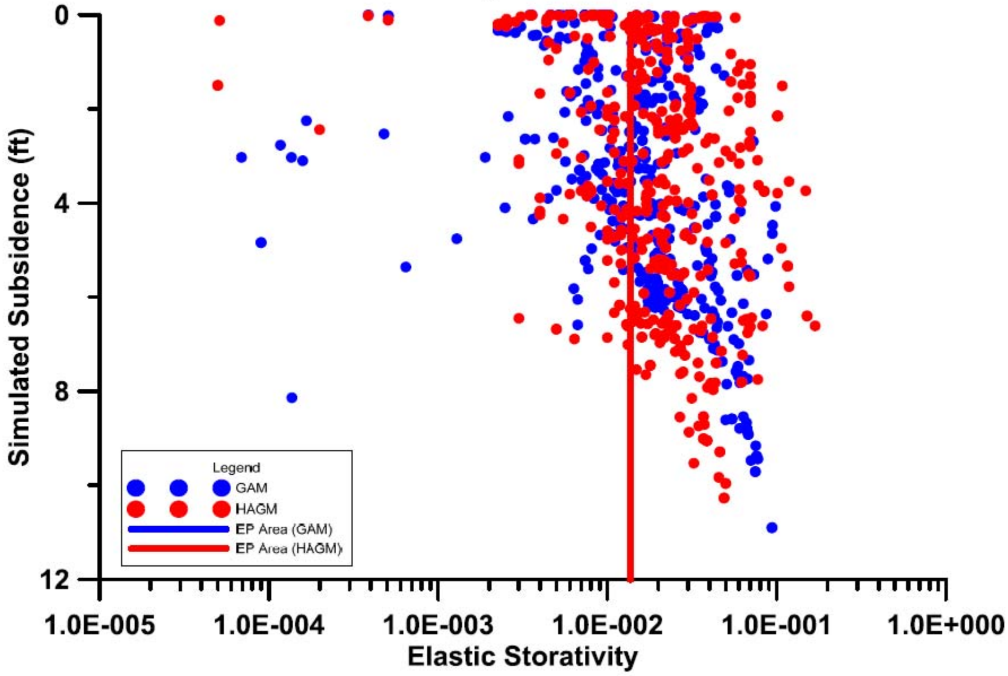


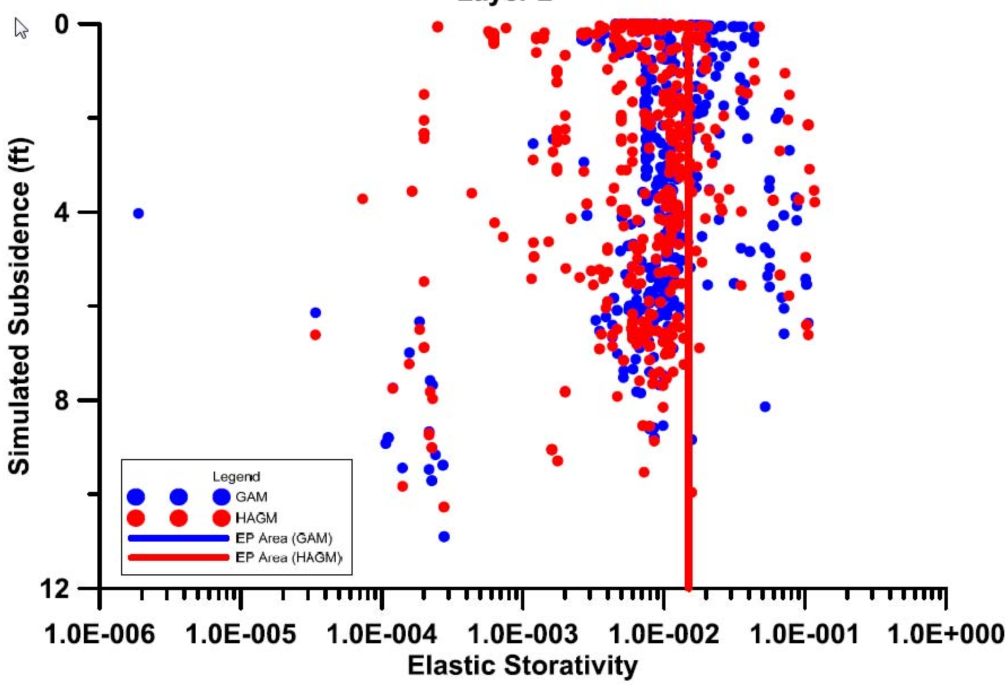

**Figure A72**
**Elastic Storativity vs. Simulated Subsidence**
**Layer 4**



## Figure A73
### Inelastic Storativity vs. Simulated Subsidence
### Layer 1




## Figure A74
### Inelastic Storativity vs. Simulated Subsidence
### Layer 2



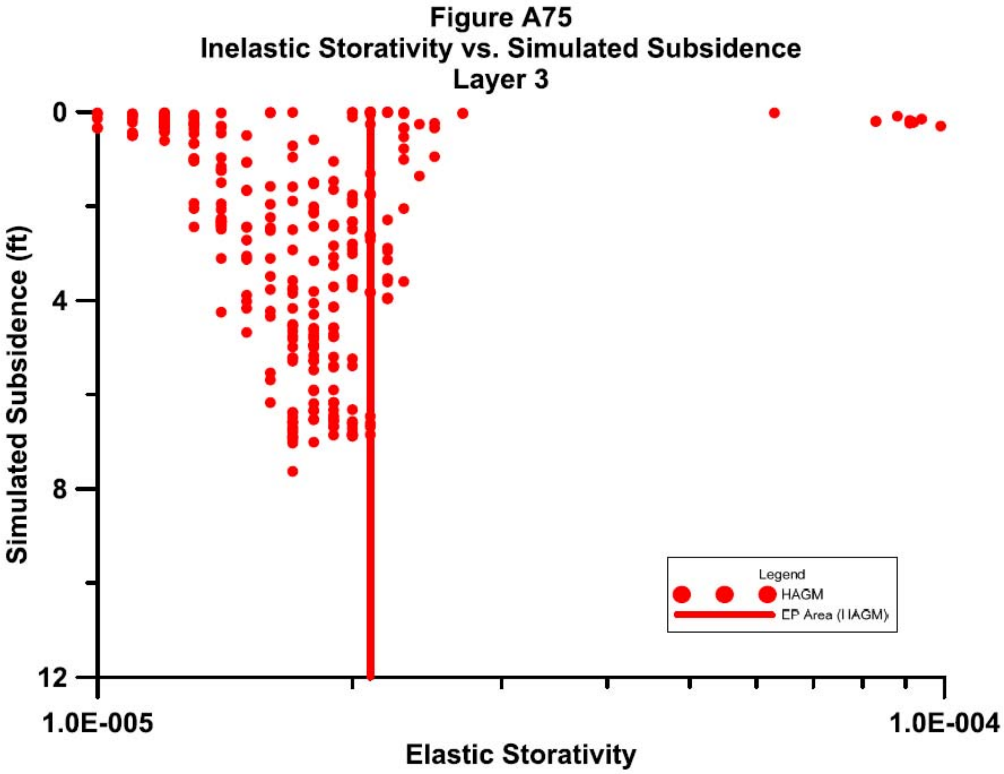


Figure A75
Inelastic Storativity vs. Simulated Subsidence
Layer 3
Simulated Subsidence (ft)
0
4
8
12
1.0E-005
1.0E-004
Elastic Storativity
Legend
HAGM
EP Area (HAGM)

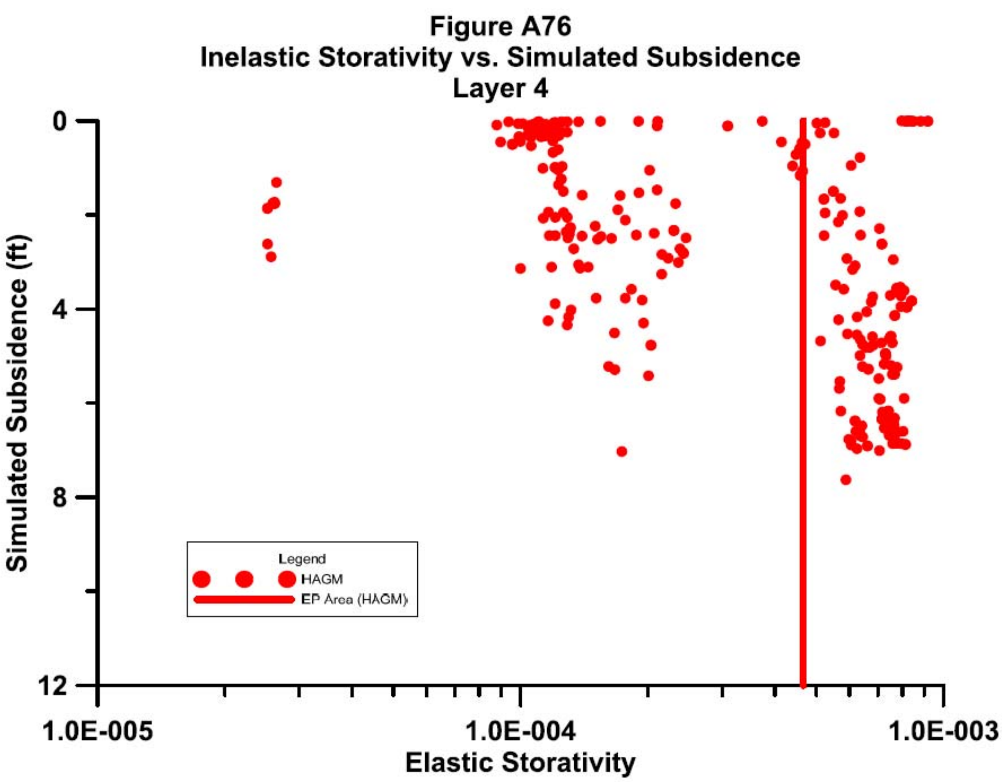


Figure A76
Inelastic Storativity vs. Simulated Subsidence
Layer 4
Simulated Subsidence (ft)
0
4
8
12
1.0E-005
1.0E-004
1.0E-003
Elastic Storativity
Legend
HAGM
EP Area (HAGM)

# Appendix B – GMA 14 Resolution Regarding Subsidence Districts

**Formations in Fort Bend, Galveston, and Harris Counties**

The Groundwater Management Area (GMA) efforts to determine Desired Future Conditions (DFCs) is primarily an aquifer water-level based approach to describe the regional and local desires for the aquifer beneath them. The GMA process only requires Groundwater Conservation Districts (GCDs) to determine the DFCs for the entire GMA, regardless of whether each county is included within a GCD. The Fort Bend Subsidence District (FBSD) and the Harris-Galveston Subsidence District (HGSD), operating in Fort Bend County and Harris and Galveston Counties, respectively, regulate groundwater for the purpose of ending land surface subsidence within their jurisdiction. They are not GCDs and operate considerably different from the typical GCD. Therefore, in an official context these three counties are "unrepresented" but the GCDs within GMA-14 must still determine the DFC for these counties.

Both FBSD and HGSD have participated in an unofficial role to aid the GCDs within GMA-14 with their evaluation of Fort Bend, Galveston and Harris County information. The groundwater pumpage within these three counties even though regulated is still greater than the sum of all other counties within GMA-14. FBSD and HGSD recognize that the projected groundwater pumpage from these three counties will impact the decisions of GMA-14 throughout a large portion of the area. FBSD and HGSD have provided considerable historical and projected groundwater pumpage data and details of regulations to assist GMA-14 in incorporating these counties in the overall GMA-14 DFC. FBSD and HGSD cannot however, present DFCs for these three counties in terms of aquifer water-level changes over time. The FBSD and HGSD regulations do not specifically address water-levels nor do they designate a specific pumping limit, rather the regulations are based on limitations of groundwater as a percentage of total water demand. The percentage of groundwater to total water demand is decreased over time, as total water demand increases.

The goal of both FBSD and HGSD is to end land surface subsidence that is caused by man's pumpage of groundwater. There is a clearly established link between the over-pumpage of groundwater and land surface subsidence. The DFC within the aquifer beneath Fort Bend, Galveston, and Harris Counties has no easily defined relationship to water-levels. The Desired Future Condition for FBSD and HGSD is the reduction and halting of the compaction of clay layers within the aquifer caused by the over-pumpage of groundwater. Stated more simply, the DFC for these three counties is that future land surface subsidence be avoided. That stated HGSD and FBSD have adopted regulations, most recently in 1999 and 2003 respectively that require the reduction of groundwater pumpage and the conversion to alternate water sources, while balancing with the realistic ability of the permittees to achieve compliance with these regulations.

Within HGSD, from central to southeastern Harris County and all of Galveston County (Regulatory Areas 1 and 2), virtually all permittees have achieved compliance with previous and current HGSD regulations. Subsidence has been halted and water-levels within the aquifer have risen dramatically in these areas. However, in northern and western areas of Harris County (Regulatory Area 3), the HGSD regulations have allowed groundwater pumpage to continue until the required reductions in 2010, 2020, and 2030. With these scheduled reductions in groundwater pumpage, subsidence will slow dramatically and even be halted with water-levels stabilizing and in later years rising.

Within FBSD, from central to northern and eastern Fort Bend County (Regulatory Area A), the regulations call for reductions of groundwater pumpage in 2013/2015, and 2025. Similar to HGSD's Regulatory Area 3, subsidence within FBSD Regulatory Area A will slow dramatically and even be halted with water-levels stabilizing and in later years rising.

In both HGSD and FBSD, because of the percentage based approach to regulations, groundwater pumpage will increase until scheduled reductions in milestone years (ex: 2010, 2013/2015, 2020, 2025, and 2030). In between milestone years, groundwater pumpage will increase with the assumed increase in total water demand from an assumed increase in population. In order to demonstrate the DFC of these three counties using water-level changes, the area of previous groundwater-to-alternative water conversions must be separated from future conversions AND each annual time step must be depicted. If a further separation in to layers of the aquifer is necessary, then it is quite apparent that describing the DFC in terms of water-levels is far too complicated and error prone.

The HGSD and FBSD have submitted to GMA-14 their current regulations and projected groundwater pumpages through the year 2030. This data has been divided into the grid cells/layers relative to the Northern Gulf Coast Groundwater Availability Model (NGCGAM) and utilized by the GCDs in development of their DFCs. For the years beyond 2030, assumptions were made to address groundwater pumping limits.

Groundwater pumpage within GMA-14 from Fort Bend, Galveston, and Harris Counties is regulated by FBSD and HGSD, non GCD governmental agencies (the only GMA with this occurrence) and the missions of HGSD and FBSD are vastly different from GCDs and do not fit well with a water-level designed DFC process). The groundwater pumpage projections developed in recognition of the HGSD and FBSD regulatory plans have been utilized without adjustment by GMA14 in the DFC process. Therefore, the DFCs adopted by GMA-14 are consistent with the HGSD and FBSD regulatory plans.

# Appendix C – Tables and Maps of Simulated Well Drawdown Estimates

# Table C-1
# Simulated Drawdown and Drawdown Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - GAM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Drawdown 2008 to 2060 (ft) | | | | Drawdown Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BAUS-5429 | 54 | 66 | 6180054.5 | 19142336 | 0.15 | 1 | 31.85 | 44.01 | 76.39 | 50.60 | 12.17 | 44.55 | 18.75 |
| BAUS-5430 | 54 | 66 | 6180054.5 | 19142336 | 0.15 | 1 | 31.85 | 44.01 | 76.39 | 50.60 | 12.17 | 44.55 | 18.75 |
| BWLL-5117 | 53 | 69 | 6191012.5 | 19154344 | 0.34 | 1 | 26.21 | 41.79 | 73.96 | 50.66 | 15.59 | 47.76 | 24.46 |
| BWLL-5481 | 53 | 70 | 6191500 | 19157906 | 0.36 | 1 | 24.63 | 38.23 | 65.42 | 45.80 | 13.60 | 40.79 | 21.17 |
| BWLL-5006 | 54 | 69 | 6190699 | 19153424 | 0.46 | 1 | 26.72 | 40.39 | 69.45 | 47.94 | 13.67 | 42.73 | 21.23 |
| BAUS-4159 | 53 | 66 | 6177818.5 | 19144046 | 0.47 | 1 | 31.10 | 44.63 | 78.96 | 52.11 | 13.53 | 47.86 | 21.00 |
| BAUS-4158 | 53 | 66 | 6177811.5 | 19144248 | 0.49 | 1 | 31.10 | 44.63 | 78.96 | 52.11 | 13.53 | 47.86 | 21.00 |
| BWLL-5541 | 52 | 69 | 6186065.5 | 19157628 | 0.50 | 1 | 25.63 | 41.48 | 73.87 | 50.53 | 15.86 | 48.25 | 24.90 |
| BWLL-5541 | 53 | 69 | 6188533 | 19157786 | 0.54 | 1 | 26.21 | 41.79 | 73.96 | 50.66 | 15.59 | 47.76 | 24.46 |
| BWLL-5543 | 52 | 69 | 6186496.5 | 19157650 | 0.56 | 1 | 25.63 | 41.48 | 73.87 | 50.53 | 15.86 | 48.25 | 24.90 |
| BAUS-4458 | 51 | 67 | 6175604 | 19159156 | 0.63 | 1 | 28.44 | 44.03 | 78.40 | 52.82 | 15.59 | 49.95 | 24.38 |
| BWLL-4133 | 51 | 67 | 6175182.5 | 19158636 | 0.63 | 1 | 28.44 | 44.03 | 78.40 | 52.82 | 15.59 | 49.95 | 24.38 |
| BAUS-5436 | 51 | 67 | 6174074 | 19157298 | 0.72 | 1 | 28.44 | 44.03 | 78.40 | 52.82 | 15.59 | 49.95 | 24.38 |
| BAUS-5447 | 51 | 67 | 6173795 | 19157412 | 0.78 | 1 | 28.44 | 44.03 | 78.40 | 52.82 | 15.59 | 49.95 | 24.38 |
| BAUS-4340 | 53 | 65 | 6171277.5 | 19142192 | 0.84 | 1 | 32.58 | 44.18 | 75.26 | 50.38 | 11.60 | 42.67 | 17.80 |
| BWLL-4363 | 52 | 69 | 6186773 | 19159558 | 0.88 | 1 | 25.63 | 41.48 | 73.87 | 50.53 | 15.86 | 48.25 | 24.90 |
| BAUS-5426 | 51 | 67 | 6173430.5 | 19159360 | 0.98 | 1 | 28.44 | 44.03 | 78.40 | 52.82 | 15.59 | 49.95 | 24.38 |
| BAUS-5401 | 51 | 67 | 6172709 | 19157480 | 0.99 | 1 | 28.44 | 44.03 | 78.40 | 52.82 | 15.59 | 49.95 | 24.38 |
| BAUS-5398 | 51 | 66 | 6171645 | 19154492 | 1.25 | 1 | 29.85 | 43.79 | 76.22 | 51.46 | 13.94 | 46.37 | 21.61 |
| BAUS-4236 | 50 | 67 | 6173220 | 19161806 | 1.31 | 1 | 27.61 | 41.55 | 71.77 | 49.18 | 13.94 | 44.16 | 21.57 |
| 6517415 | 55 | 67 | 6187339.5 | 19141354 | 1.34 | 1 | 30.89 | 42.40 | 70.98 | 48.53 | 11.51 | 40.10 | 17.64 |
| BAUS-4485 | 50 | 67 | 6172028.5 | 19160648 | 1.34 | 1 | 27.61 | 41.55 | 71.77 | 49.18 | 13.94 | 44.16 | 21.57 |
| BAUS-4325 | 50 | 67 | 6172780 | 19161790 | 1.36 | 1 | 27.61 | 41.55 | 71.77 | 49.18 | 13.94 | 44.16 | 21.57 |
| BAUS-4518 | 50 | 68 | 6174657 | 19163476 | 1.42 | 1 | 26.11 | 40.27 | 69.74 | 48.06 | 14.15 | 43.63 | 21.94 |
| BAUS-5298 | 50 | 67 | 6172278 | 19161868 | 1.44 | 1 | 27.61 | 41.55 | 71.77 | 49.18 | 13.94 | 44.16 | 21.57 |
| BAUS-4515 | 51 | 66 | 6170610 | 19153510 | 1.50 | 1 | 29.85 | 43.79 | 76.22 | 51.46 | 13.94 | 46.37 | 21.61 |
| BAUS-4519 | 50 | 68 | 6175159 | 19164204 | 1.52 | 1 | 26.11 | 40.27 | 69.74 | 48.06 | 14.15 | 43.63 | 21.94 |
| BAUS-5397 | 51 | 66 | 6169866.5 | 19155934 | 1.52 | 1 | 29.85 | 43.79 | 76.22 | 51.46 | 13.94 | 46.37 | 21.61 |
| BAUS-0002A | 50 | 68 | 6175328 | 19164412 | 1.54 | 1 | 26.11 | 40.27 | 69.74 | 48.06 | 14.15 | 43.63 | 21.94 |
| BAUS-0002B | 50 | 68 | 6175328 | 19164412 | 1.54 | 1 | 26.11 | 40.27 | 69.74 | 48.06 | 14.15 | 43.63 | 21.94 |
| BAUS-5400 | 50 | 67 | 6171322 | 19161498 | 1.54 | 1 | 27.61 | 41.55 | 71.77 | 49.18 | 13.94 | 44.16 | 21.57 |
| BAUS-5402 | 50 | 67 | 6170748.5 | 19160828 | 1.56 | 1 | 27.61 | 41.55 | 71.77 | 49.18 | 13.94 | 44.16 | 21.57 |
| BWLL-5690 | 51 | 69 | 6184161 | 19164328 | 1.65 | 1 | 25.03 | 39.85 | 69.88 | 48.20 | 14.82 | 44.85 | 23.17 |
| BAUS-4430 | 50 | 66 | 6168784 | 19157800 | 1.73 | 1 | 28.84 | 41.60 | 70.44 | 48.44 | 12.76 | 41.60 | 19.59 |
| BAUS-4185 | 52 | 66 | 6170700 | 19150982 | 1.73 | 1 | 30.53 | 44.91 | 79.51 | 52.93 | 14.38 | 48.98 | 22.40 |
| BAUS-5399 | 50 | 66 | 6168767 | 19157550 | 1.73 | 1 | 28.84 | 41.60 | 70.44 | 48.44 | 12.76 | 41.60 | 19.59 |
| BWLL-4303 | 50 | 68 | 6177915 | 19165922 | 1.75 | 1 | 26.11 | 40.27 | 69.74 | 48.06 | 14.15 | 43.63 | 21.94 |
| 6509702 | 52 | 71 | 6193335.5 | 19165170 | 1.76 | 1 | 22.85 | 34.44 | 56.81 | 40.70 | 11.58 | 33.96 | 17.84 |
| BAUS-4429 | 50 | 66 | 6168601 | 19157996 | 1.77 | 1 | 28.84 | 41.60 | 70.44 | 48.44 | 12.76 | 41.60 | 19.59 |
| BAUS-5297 | 50 | 68 | 6173472 | 19165068 | 1.79 | 1 | 26.11 | 40.27 | 69.74 | 48.06 | 14.15 | 43.63 | 21.94 |
| BAUS-4129 | 55 | 65 | 6178444 | 19131512 | 1.81 | 1 | 34.50 | 43.99 | 70.09 | 48.85 | 9.49 | 35.59 | 14.35 |
| BWLL-4992 | 50 | 68 | 6177988.5 | 19166330 | 1.83 | 1 | 26.11 | 40.27 | 69.74 | 48.06 | 14.15 | 43.63 | 21.94 |
| BWLL-4272 | 50 | 68 | 6177805.5 | 19166526 | 1.87 | 1 | 26.11 | 40.27 | 69.74 | 48.06 | 14.15 | 43.63 | 21.94 |
| BAUS-0024 | 56 | 65 | 6179473 | 19131326 | 1.87 | 1 | 35.56 | 43.85 | 66.41 | 47.95 | 8.29 | 30.86 | 12.39 |
| BWLL-5674 | 51 | 69 | 6184132.5 | 19165744 | 1.92 | 1 | 25.03 | 39.85 | 69.88 | 48.20 | 14.82 | 44.85 | 23.17 |
| BWLL-4161 | 50 | 69 | 6177699 | 19167028 | 1.96 | 1 | 24.33 | 37.51 | 63.98 | 44.74 | 13.18 | 39.65 | 20.41 |
| BAUS-4299 | 50 | 69 | 6178487 | 19167158 | 1.99 | 1 | 24.33 | 37.51 | 63.98 | 44.74 | 13.18 | 39.65 | 20.41 |
| BWLL-5082 | 51 | 69 | 6183630 | 19166128 | 1.99 | 1 | 25.03 | 39.85 | 69.88 | 48.20 | 14.82 | 44.85 | 23.17 |
| BAUS-4138 | 51 | 65 | 6166124 | 19148388 | 2.10 | 1 | 30.98 | 42.91 | 71.99 | 49.25 | 11.93 | 41.01 | 18.27 |
| 6624203 | 51 | 65 | 6166932 | 19150042 | 2.15 | 1 | 30.98 | 42.91 | 71.99 | 49.25 | 11.93 | 41.01 | 18.27 |
| BWLL-4134 | 52 | 71 | 6197009.5 | 19166208 | 2.19 | 1 | 22.85 | 34.44 | 56.81 | 40.70 | 11.58 | 33.96 | 17.84 |
| BAUS-4137 | 51 | 65 | 6165560.5 | 19149382 | 2.29 | 1 | 30.98 | 42.91 | 71.99 | 49.25 | 11.93 | 41.01 | 18.27 |
| BAUS-5120 | 50 | 66 | 6166456 | 19161362 | 2.33 | 1 | 28.84 | 41.60 | 70.44 | 48.44 | 12.76 | 41.60 | 19.59 |
| BAUS-4552 | 49 | 66 | 6166768 | 19162486 | 2.37 | 1 | 27.55 | 38.83 | 63.65 | 44.65 | 11.28 | 36.10 | 17.10 |
| BAUS-4235 | 49 | 66 | 6166764.5 | 19162588 | 2.38 | 1 | 27.55 | 38.83 | 63.65 | 44.65 | 11.28 | 36.10 | 17.10 |
| BAUS-4324 | 49 | 66 | 6166588.5 | 19162582 | 2.41 | 1 | 27.55 | 38.83 | 63.65 | 44.65 | 11.28 | 36.10 | 17.10 |
| BAUS-4067 | 50 | 65 | 6165176.5 | 19155240 | 2.42 | 1 | 29.82 | 40.95 | 67.12 | 46.74 | 11.13 | 37.30 | 16.92 |
| BAUS-5146 | 56 | 64 | 6177989 | 19128236 | 2.43 | 1 | 37.46 | 44.90 | 65.55 | 48.46 | 7.44 | 28.09 | 11.00 |
| BAUS-4288 | 49 | 66 | 6166412.5 | 19162576 | 2.44 | 1 | 27.55 | 38.83 | 63.65 | 44.65 | 11.28 | 36.10 | 17.10 |
| BAUS-5437 | 49 | 68 | 6171384 | 19168042 | 2.48 | 1 | 25.00 | 37.19 | 62.21 | 43.67 | 12.18 | 37.21 | 18.67 |
| BAUS-4309 | 49 | 66 | 6166229.5 | 19162772 | 2.49 | 1 | 27.55 | 38.83 | 63.65 | 44.65 | 11.28 | 36.10 | 17.10 |
| BAUS-4558 | 49 | 66 | 6166226 | 19162872 | 2.50 | 1 | 27.55 | 38.83 | 63.65 | 44.65 | 11.28 | 36.10 | 17.10 |

# Table C-1
# Simulated Drawdown and Drawdown Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - GAM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Drawdown 2008 to 2060 (ft) | | | | Drawdown Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BAUS-4140 | 50 | 65 | 6164582 | 19154612 | 2.54 | 1 | 29.82 | 40.95 | 67.12 | 46.74 | 11.13 | 37.30 | 16.92 |
| BAUS-5394 | 50 | 65 | 6164439 | 19155042 | 2.56 | 1 | 29.82 | 40.95 | 67.12 | 46.74 | 11.13 | 37.30 | 16.92 |
| BAUS-5395C | 50 | 65 | 6164439 | 19155042 | 2.56 | 1 | 29.82 | 40.95 | 67.12 | 46.74 | 11.13 | 37.30 | 16.92 |
| BAUS-4321 | 49 | 66 | 6165863.5 | 19163164 | 2.58 | 1 | 27.55 | 38.83 | 63.65 | 44.65 | 11.28 | 36.10 | 17.10 |
| BAUS-4314 | 49 | 66 | 6165765 | 19163464 | 2.63 | 1 | 27.55 | 38.83 | 63.65 | 44.65 | 11.28 | 36.10 | 17.10 |
| BAUS-4495 | 49 | 66 | 6165427.5 | 19163046 | 2.64 | 1 | 27.55 | 38.83 | 63.65 | 44.65 | 11.28 | 36.10 | 17.10 |
| BAUS-4541 | 49 | 66 | 6165427.5 | 19163046 | 2.64 | 1 | 27.55 | 38.83 | 63.65 | 44.65 | 11.28 | 36.10 | 17.10 |
| 6624102 | 51 | 64 | 6161925 | 19145490 | 2.65 | 1 | 31.83 | 41.81 | 66.89 | 46.91 | 9.98 | 35.06 | 15.07 |
| BAUS-5425 | 51 | 65 | 6164243.5 | 19152214 | 2.71 | 1 | 30.98 | 42.91 | 71.99 | 49.25 | 11.93 | 41.01 | 18.27 |
| BAUS-5344 | 49 | 67 | 6168874 | 19168294 | 2.78 | 1 | 26.38 | 38.48 | 64.18 | 44.85 | 12.10 | 37.80 | 18.47 |
| BWLL-4987 | 53 | 72 | 6203934.5 | 19164638 | 2.85 | 1 | 21.42 | 30.59 | 48.14 | 35.32 | 9.17 | 26.72 | 13.90 |
| BAUS-5251 | 49 | 66 | 6163571 | 19161666 | 2.86 | 1 | 27.55 | 38.83 | 63.65 | 44.65 | 11.28 | 36.10 | 17.10 |
| BWLL-5574 | 53 | 72 | 6204376 | 19164880 | 2.95 | 1 | 21.42 | 30.59 | 48.14 | 35.32 | 9.17 | 26.72 | 13.90 |
| BWLL-5666 | 53 | 72 | 6204376 | 19164880 | 2.95 | 1 | 21.42 | 30.59 | 48.14 | 35.32 | 9.17 | 26.72 | 13.90 |
| BWLL-5671 | 53 | 72 | 6203411.5 | 19166926 | 3.05 | 1 | 21.42 | 30.59 | 48.14 | 35.32 | 9.17 | 26.72 | 13.90 |
| BAUS-4315 | 50 | 65 | 6162008 | 19152698 | 3.09 | 1 | 29.82 | 40.95 | 67.12 | 46.74 | 11.13 | 37.30 | 16.92 |
| 6517418 | 57 | 67 | 6193783.5 | 19132988 | 3.16 | 1 | 32.38 | 40.43 | 60.43 | 44.33 | 8.06 | 28.05 | 11.95 |
| 6616810 | 48 | 67 | 6165870 | 19168340 | 3.17 | 1 | 24.82 | 35.05 | 56.41 | 40.24 | 10.23 | 31.59 | 15.42 |
| BAUS-4001 | 50 | 64 | 6161187.5 | 19153480 | 3.21 | 1 | 30.51 | 39.96 | 62.81 | 44.68 | 9.45 | 32.30 | 14.17 |
| BWLL-5144 | 54 | 72 | 6208083.5 | 19161954 | 3.32 | 1 | 21.16 | 29.61 | 46.03 | 33.87 | 8.44 | 24.86 | 12.71 |
| 6616808 | 48 | 67 | 6164696 | 19168372 | 3.33 | 1 | 24.82 | 35.05 | 56.41 | 40.24 | 10.23 | 31.59 | 15.42 |
| BAUS-5369 | 50 | 64 | 6159339.5 | 19150220 | 3.40 | 1 | 30.51 | 39.96 | 62.81 | 44.68 | 9.45 | 32.30 | 14.17 |
| 6616807 | 48 | 67 | 6164759 | 19169286 | 3.44 | 1 | 24.82 | 35.05 | 56.41 | 40.24 | 10.23 | 31.59 | 15.42 |
| BAUS-4165 | 50 | 64 | 6159584.5 | 19151498 | 3.47 | 1 | 30.51 | 39.96 | 62.81 | 44.68 | 9.45 | 32.30 | 14.17 |
| BAUS-4332 | 56 | 63 | 6173628.5 | 19123240 | 3.49 | 1 | 39.44 | 46.02 | 64.51 | 49.04 | 6.58 | 25.07 | 9.60 |
| BWLL-5283 | 54 | 73 | 6206956.5 | 19166268 | 3.50 | 1 | 19.14 | 25.70 | 38.22 | 28.83 | 6.56 | 19.08 | 9.69 |
| BAUS-4272 | 49 | 65 | 6159772.5 | 19161124 | 3.53 | 1 | 28.43 | 38.45 | 61.25 | 43.48 | 10.02 | 32.82 | 15.04 |
| BAUS-0025 | 48 | 67 | 6164912.5 | 19170116 | 3.53 | 1 | 24.82 | 35.05 | 56.41 | 40.24 | 10.23 | 31.59 | 15.42 |
| 6616905 | 49 | 70 | 6181892 | 19174892 | 3.54 | 1 | 21.68 | 31.75 | 51.19 | 37.02 | 10.08 | 29.52 | 15.34 |
| 6517416 | 57 | 68 | 6197967 | 19136210 | 3.56 | 1 | 30.17 | 38.33 | 57.64 | 42.30 | 8.16 | 27.47 | 12.13 |
| BAUS-4251 | 48 | 66 | 6162705.5 | 19167810 | 3.56 | 1 | 25.93 | 35.62 | 56.50 | 40.46 | 9.70 | 30.57 | 14.53 |
| BAUS-5354 | 50 | 64 | 6158858.5 | 19151168 | 3.56 | 1 | 30.51 | 39.96 | 62.81 | 44.68 | 9.45 | 32.30 | 14.17 |
| BAUS-5388 | 57 | 63 | 6178570 | 19121956 | 3.62 | 1 | 40.64 | 46.47 | 62.82 | 49.06 | 5.83 | 22.18 | 8.42 |
| BAUS-4446 | 56 | 63 | 6172414 | 19122690 | 3.65 | 1 | 39.44 | 46.02 | 64.51 | 49.04 | 6.58 | 25.07 | 9.60 |
| BWLL-5099 | 50 | 71 | 6188851 | 19175126 | 3.66 | 1 | 21.58 | 31.54 | 50.41 | 36.76 | 9.96 | 28.83 | 15.18 |
| BWLL-4914 | 48 | 69 | 6175618.5 | 19175966 | 3.68 | 1 | 21.98 | 31.59 | 50.57 | 36.51 | 9.62 | 28.59 | 14.54 |
| BAUS-4103 | 48 | 66 | 6162497.5 | 19168714 | 3.70 | 1 | 25.93 | 35.62 | 56.50 | 40.46 | 9.70 | 30.57 | 14.53 |
| BAUS-4482 | 48 | 65 | 6159595 | 19163650 | 3.70 | 1 | 26.74 | 35.49 | 54.89 | 39.74 | 8.75 | 28.15 | 13.00 |
| BWLL-5083 | 51 | 72 | 6196246 | 19175092 | 3.72 | 1 | 21.24 | 30.30 | 47.29 | 34.97 | 9.06 | 26.05 | 13.73 |
| BAUS-4046 | 49 | 65 | 6158552 | 19160778 | 3.74 | 1 | 28.43 | 38.45 | 61.25 | 43.48 | 10.02 | 32.82 | 15.04 |
| 6517506 | 57 | 70 | 6206333.5 | 19142652 | 3.77 | 1 | 24.81 | 32.16 | 48.23 | 35.72 | 7.35 | 23.42 | 10.91 |
| BAUS-4330 | 56 | 63 | 6172527 | 19121986 | 3.77 | 1 | 39.44 | 46.02 | 64.51 | 49.04 | 6.58 | 25.07 | 9.60 |
| BAUS-4499 | 50 | 64 | 6157484 | 19151120 | 3.79 | 1 | 30.51 | 39.96 | 62.81 | 44.68 | 9.45 | 32.30 | 14.17 |
| BAUS-5172 | 49 | 65 | 6158516.5 | 19161790 | 3.79 | 1 | 28.43 | 38.45 | 61.25 | 43.48 | 10.02 | 32.82 | 15.04 |
| BAUS-4197 | 48 | 69 | 6172692.5 | 19176572 | 3.89 | 1 | 21.98 | 31.59 | 50.57 | 36.51 | 9.62 | 28.59 | 14.54 |
| BAUS-5427 | 48 | 65 | 6158124.5 | 19162332 | 3.89 | 1 | 26.74 | 35.49 | 54.89 | 39.74 | 8.75 | 28.15 | 13.00 |
| BAUS-4554 | 50 | 64 | 6157482.5 | 19153652 | 3.90 | 1 | 30.51 | 39.96 | 62.81 | 44.68 | 9.45 | 32.30 | 14.17 |
| BAUS-4244 | 48 | 69 | 6172513 | 19176666 | 3.92 | 1 | 21.98 | 31.59 | 50.57 | 36.51 | 9.62 | 28.59 | 14.54 |
| BAUS-4245 | 48 | 69 | 6172513 | 19176666 | 3.92 | 1 | 21.98 | 31.59 | 50.57 | 36.51 | 9.62 | 28.59 | 14.54 |
| BAUS-4381 | 48 | 65 | 6157883 | 19162274 | 3.93 | 1 | 26.74 | 35.49 | 54.89 | 39.74 | 8.75 | 28.15 | 13.00 |
| BAUS-4161 | 56 | 63 | 6173447 | 19120904 | 3.93 | 1 | 39.44 | 46.02 | 64.51 | 49.04 | 6.58 | 25.07 | 9.60 |
| BAUS-4377 | 50 | 64 | 6156590 | 19151494 | 3.97 | 1 | 30.51 | 39.96 | 62.81 | 44.68 | 9.45 | 32.30 | 14.17 |
| BWLL-4902 | 51 | 72 | 6196194.5 | 19176508 | 3.98 | 1 | 21.24 | 30.30 | 47.29 | 34.97 | 9.06 | 26.05 | 13.73 |
| BAUS-4002 | 49 | 64 | 6156882.5 | 19158188 | 3.98 | 1 | 29.01 | 37.63 | 57.82 | 41.83 | 8.63 | 28.82 | 12.83 |
| BWLL-5712 | 52 | 73 | 6201356 | 19174950 | 4.03 | 1 | 19.91 | 27.38 | 41.31 | 31.07 | 7.46 | 21.39 | 11.15 |
| BWLL-4901 | 51 | 72 | 6196531.5 | 19176924 | 4.07 | 1 | 21.24 | 30.30 | 47.29 | 34.97 | 9.06 | 26.05 | 13.73 |
| BAUS-4106 | 48 | 69 | 6173004 | 19177696 | 4.09 | 1 | 21.98 | 31.59 | 50.57 | 36.51 | 9.62 | 28.59 | 14.54 |
| BAUS-4326 | 49 | 64 | 6156076.5 | 19158564 | 4.14 | 1 | 29.01 | 37.63 | 57.82 | 41.83 | 8.63 | 28.82 | 12.83 |
| 6624105 | 49 | 64 | 6156073.5 | 19158552 | 4.14 | 1 | 29.01 | 37.63 | 57.82 | 41.83 | 8.63 | 28.82 | 12.83 |
| BAUS-4130 | 50 | 63 | 6154803.5 | 19149710 | 4.17 | 1 | 30.94 | 38.85 | 58.38 | 42.65 | 7.90 | 27.44 | 11.71 |
| BWLL-4479 | 54 | 73 | 6211756.5 | 19165026 | 4.18 | 1 | 19.14 | 25.70 | 38.22 | 28.83 | 6.56 | 19.08 | 9.69 |
| BWLL-5046 | 48 | 70 | 6175780.5 | 19178808 | 4.21 | 1 | 20.45 | 28.99 | 45.38 | 33.30 | 8.54 | 24.93 | 12.85 |

# Table C-1
# Simulated Drawdown and Drawdown Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - GAM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Drawdown 2008 to 2060 (ft) | | | | Drawdown Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BAUS-4440 | 56 | 62 | 6169492.5 | 19120560 | 4.22 | 1 | 41.08 | 46.77 | 62.95 | 49.30 | 5.69 | 21.87 | 8.23 |
| BWLL-5107 | 50 | 72 | 6193152 | 19178698 | 4.31 | 1 | 20.62 | 28.91 | 44.31 | 33.11 | 8.29 | 23.69 | 12.49 |
| BAUS-4478 | 50 | 63 | 6153445.5 | 19148244 | 4.34 | 1 | 30.94 | 38.85 | 58.38 | 42.65 | 7.90 | 27.44 | 11.71 |
| 6509803 | 55 | 73 | 6213403 | 19163354 | 4.36 | 1 | 18.16 | 24.06 | 35.54 | 26.81 | 5.90 | 17.38 | 8.64 |
| BWLL-5036 | 50 | 72 | 6193462 | 19179040 | 4.37 | 1 | 20.62 | 28.91 | 44.31 | 33.11 | 8.29 | 23.69 | 12.49 |
| BAUS-5365 | 49 | 64 | 6154709.5 | 19158668 | 4.40 | 1 | 29.01 | 37.63 | 57.82 | 41.83 | 8.63 | 28.82 | 12.83 |
| BWLL-4586 | 50 | 72 | 6193187.5 | 19179334 | 4.43 | 1 | 20.62 | 28.91 | 44.31 | 33.11 | 8.29 | 23.69 | 12.49 |
| BWLL-4957 | 50 | 72 | 6193187.5 | 19179334 | 4.43 | 1 | 20.62 | 28.91 | 44.31 | 33.11 | 8.29 | 23.69 | 12.49 |
| BAUS-4231 | 49 | 64 | 6154315 | 19156072 | 4.46 | 1 | 29.01 | 37.63 | 57.82 | 41.83 | 8.63 | 28.82 | 12.83 |
| BAUS-5178 | 54 | 61 | 6159714 | 19125378 | 4.47 | 1 | 38.11 | 43.70 | 59.32 | 46.20 | 5.59 | 21.21 | 8.09 |
| BAUS-4433 | 47 | 68 | 6164433 | 19176176 | 4.48 | 1 | 21.72 | 30.14 | 47.04 | 34.27 | 8.42 | 25.32 | 12.55 |
| BAUS-4555 | 49 | 64 | 6154125 | 19156470 | 4.49 | 1 | 29.01 | 37.63 | 57.82 | 41.83 | 8.63 | 28.82 | 12.83 |
| BAUS-4323 | 49 | 64 | 6153822 | 19157574 | 4.55 | 1 | 29.01 | 37.63 | 57.82 | 41.83 | 8.63 | 28.82 | 12.83 |
| BAUS-4215 | 49 | 64 | 6153833 | 19157270 | 4.55 | 1 | 29.01 | 37.63 | 57.82 | 41.83 | 8.63 | 28.82 | 12.83 |
| BWLL-4273 | 49 | 72 | 6190162.5 | 19180238 | 4.60 | 1 | 19.67 | 26.96 | 40.42 | 30.57 | 7.29 | 20.75 | 10.90 |
| BAUS-4100 | 47 | 67 | 6159614.5 | 19173068 | 4.64 | 1 | 22.85 | 31.28 | 48.65 | 35.38 | 8.43 | 25.79 | 12.53 |
| BWLL-4020 | 50 | 72 | 6192689 | 19180938 | 4.72 | 1 | 20.62 | 28.91 | 44.31 | 33.11 | 8.29 | 23.69 | 12.49 |
| BWLL-4510 | 54 | 74 | 6212934 | 19168918 | 4.72 | 1 | 17.17 | 22.30 | 32.00 | 24.62 | 5.13 | 14.83 | 7.45 |
| BAUS-5408 | 57 | 62 | 6169281 | 19117216 | 4.82 | 1 | 42.21 | 47.32 | 61.80 | 49.51 | 5.11 | 19.60 | 7.30 |
| BAUS-4331 | 54 | 60 | 6155456.5 | 19126140 | 4.96 | 1 | 38.10 | 42.74 | 55.70 | 44.71 | 4.64 | 17.60 | 6.60 |
| BAUS-5307 | 55 | 61 | 6161433.5 | 19120750 | 4.97 | 1 | 40.14 | 45.44 | 60.36 | 47.75 | 5.29 | 20.21 | 7.60 |
| BAUS-4322 | 49 | 63 | 6151606.5 | 19155470 | 4.98 | 1 | 29.34 | 36.61 | 54.07 | 40.04 | 7.28 | 24.73 | 10.70 |
| BWLL-5404 | 49 | 72 | 6186798.5 | 19182242 | 5.05 | 1 | 19.67 | 26.96 | 40.42 | 30.57 | 7.29 | 20.75 | 10.90 |
| BWLL-5720 | 48 | 70 | 6177109.5 | 19183434 | 5.07 | 1 | 20.45 | 28.99 | 45.38 | 33.30 | 8.54 | 24.93 | 12.85 |
| BWLL-4968 | 52 | 74 | 6207057 | 19177918 | 5.08 | 1 | 18.79 | 24.47 | 34.96 | 27.12 | 5.68 | 16.16 | 8.32 |
| BAUS-4151 | 47 | 64 | 6152060.5 | 19165106 | 5.14 | 1 | 25.21 | 31.73 | 46.32 | 34.70 | 6.52 | 21.11 | 9.49 |
| BAUS-4240 | 47 | 66 | 6156685 | 19173776 | 5.15 | 1 | 23.91 | 32.00 | 49.12 | 35.87 | 8.09 | 25.21 | 11.96 |
| BWLL-0046 | 50 | 73 | 6198713 | 19182270 | 5.15 | 1 | 19.73 | 26.41 | 38.65 | 29.66 | 6.68 | 18.93 | 9.93 |
| BAUS-5332 | 46 | 67 | 6159231 | 19176600 | 5.17 | 1 | 20.52 | 27.28 | 41.00 | 30.42 | 6.76 | 20.48 | 9.90 |
| BAUS-4095 | 46 | 67 | 6159387 | 19177010 | 5.20 | 1 | 20.52 | 27.28 | 41.00 | 30.42 | 6.76 | 20.48 | 9.90 |
| BAUS-4361 | 48 | 64 | 6150553 | 19160396 | 5.22 | 1 | 27.25 | 34.87 | 52.26 | 38.47 | 7.62 | 25.01 | 11.22 |
| BAUS-4252 | 46 | 66 | 6155967.5 | 19174154 | 5.30 | 1 | 21.43 | 27.92 | 41.42 | 30.88 | 6.49 | 19.99 | 9.44 |
| BAUS-0023 | 58 | 62 | 6177353.5 | 19112740 | 5.37 | 1 | 43.03 | 47.54 | 60.25 | 49.39 | 4.50 | 17.22 | 6.35 |
| 6616701 | 46 | 66 | 6154947.5 | 19173422 | 5.37 | 1 | 21.43 | 27.92 | 41.42 | 30.88 | 6.49 | 19.99 | 9.44 |
| BWLL-4175 | 47 | 70 | 6175471.5 | 19184974 | 5.38 | 1 | 18.87 | 25.87 | 39.21 | 29.26 | 7.00 | 20.34 | 10.39 |
| BAUS-4157 | 55 | 60 | 6157945 | 19120556 | 5.39 | 1 | 40.00 | 44.40 | 56.83 | 46.21 | 4.40 | 16.83 | 6.22 |
| BAUS-4229 | 52 | 60 | 6150139 | 19129496 | 5.45 | 1 | 34.07 | 38.81 | 51.56 | 40.84 | 4.73 | 17.48 | 6.77 |
| BAUS-5374 | 47 | 64 | 6149640.5 | 19162492 | 5.46 | 1 | 25.21 | 31.73 | 46.32 | 34.70 | 6.52 | 21.11 | 9.49 |
| BWLL-4391 | 50 | 73 | 6195988 | 19184602 | 5.48 | 1 | 19.73 | 26.41 | 38.65 | 29.66 | 6.68 | 18.93 | 9.93 |
| BAUS-5320 | 46 | 66 | 6155757.5 | 19175638 | 5.51 | 1 | 21.43 | 27.92 | 41.42 | 30.88 | 6.49 | 19.99 | 9.44 |
| BWLL-5619 | 49 | 73 | 6190846.5 | 19185114 | 5.51 | 1 | 18.98 | 24.93 | 35.74 | 27.75 | 5.94 | 16.76 | 8.76 |
| 6616408 | 46 | 67 | 6156879.5 | 19177938 | 5.66 | 1 | 20.52 | 27.28 | 41.00 | 30.42 | 6.76 | 20.48 | 9.90 |
| BAUS-4533 | 49 | 61 | 6145912 | 19147068 | 5.70 | 1 | 28.78 | 33.72 | 46.02 | 35.87 | 4.94 | 17.24 | 7.09 |
| BAUS-4441 | 46 | 66 | 6154841 | 19176140 | 5.71 | 1 | 21.43 | 27.92 | 41.42 | 30.88 | 6.49 | 19.99 | 9.44 |
| 6517505 | 59 | 70 | 6212777.5 | 19134288 | 5.75 | 1 | 24.81 | 29.75 | 40.86 | 31.93 | 4.95 | 16.06 | 7.13 |
| BAUS-4312 | 47 | 65 | 6149991 | 19168882 | 5.76 | 1 | 24.67 | 32.05 | 48.08 | 35.49 | 7.37 | 23.41 | 10.82 |
| BWLL-4388 | 47 | 71 | 6176538 | 19187140 | 5.78 | 1 | 17.90 | 23.98 | 35.29 | 26.85 | 6.07 | 17.39 | 8.95 |
| BWLL-4841 | 55 | 75 | 6219268 | 19169050 | 5.79 | 1 | 13.90 | 17.70 | 24.93 | 19.29 | 3.80 | 11.02 | 5.39 |
| BWLL-4199 | 48 | 72 | 6184208.5 | 19186706 | 5.81 | 1 | 18.50 | 24.71 | 36.11 | 27.68 | 6.20 | 17.60 | 9.17 |
| BWLL-4019 | 48 | 72 | 6188877 | 19186572 | 5.81 | 1 | 18.50 | 24.71 | 36.11 | 27.68 | 6.20 | 17.60 | 9.17 |
| BWLL-4198 | 48 | 72 | 6184296.5 | 19186710 | 5.82 | 1 | 18.50 | 24.71 | 36.11 | 27.68 | 6.20 | 17.60 | 9.17 |
| BWLL-4271 | 54 | 75 | 6216897.5 | 19173622 | 5.84 | 1 | 15.54 | 19.68 | 27.45 | 21.45 | 4.15 | 11.91 | 5.91 |
| BWLL-4668 | 46 | 69 | 6164915.5 | 19184902 | 5.88 | 1 | 18.23 | 24.51 | 36.65 | 27.45 | 6.27 | 18.42 | 9.21 |
| BAUS-5321 | 46 | 66 | 6155203.5 | 19177898 | 5.88 | 1 | 21.43 | 27.92 | 41.42 | 30.88 | 6.49 | 19.99 | 9.44 |
| BAUS-4209 | 47 | 64 | 6148873 | 19168134 | 5.90 | 1 | 25.21 | 31.73 | 46.32 | 34.70 | 6.52 | 21.11 | 9.49 |
| BWLL-4844 | 54 | 75 | 6219097.5 | 19171272 | 5.96 | 1 | 15.54 | 19.68 | 27.45 | 21.45 | 4.15 | 11.91 | 5.91 |
| BAUS-5366 | 59 | 62 | 6179431 | 19109360 | 6.01 | 1 | 43.74 | 47.66 | 58.69 | 49.20 | 3.92 | 14.95 | 5.46 |
| BAUS-4284 | 46 | 67 | 6156156.5 | 19179906 | 6.02 | 1 | 20.52 | 27.28 | 41.00 | 30.42 | 6.76 | 20.48 | 9.90 |
| BWLL-4146 | 47 | 71 | 6177018 | 19188474 | 6.03 | 1 | 17.90 | 23.98 | 35.29 | 26.85 | 6.07 | 17.39 | 8.95 |
| 6525104 | 60 | 65 | 6195083.5 | 19113996 | 6.05 | 1 | 39.37 | 43.68 | 55.07 | 45.44 | 4.31 | 15.70 | 6.07 |
| BAUS-4111 | 49 | 62 | 6145119.5 | 19152104 | 6.05 | 1 | 29.16 | 35.19 | 49.96 | 37.92 | 6.03 | 20.79 | 8.76 |
| 6517806 | 60 | 67 | 6203449.5 | 19120438 | 6.10 | 1 | 34.33 | 38.91 | 50.27 | 40.84 | 4.58 | 15.94 | 6.51 |

# Table C-1
# Simulated Drawdown and Drawdown Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - GAM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Drawdown 2008 to 2060 (ft) | | | | Drawdown Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BAUS-4320 | 46 | 67 | 6155152.5 | 19179796 | 6.14 | 1 | 20.52 | 27.28 | 41.00 | 30.42 | 6.76 | 20.48 | 9.90 |
| BAUS-5210 | 46 | 66 | 6152520 | 19177072 | 6.16 | 1 | 21.43 | 27.92 | 41.42 | 30.88 | 6.49 | 19.99 | 9.44 |
| BWLL-5048 | 50 | 74 | 6201355 | 19187026 | 6.16 | 1 | 19.04 | 24.30 | 33.84 | 26.73 | 5.27 | 14.81 | 7.69 |
| BWLL-5244 | 47 | 71 | 6176659 | 19189290 | 6.18 | 1 | 17.90 | 23.98 | 35.29 | 26.85 | 6.07 | 17.39 | 8.95 |
| BAUS-4219 | 47 | 63 | 6146183.5 | 19164496 | 6.18 | 1 | 25.35 | 30.96 | 43.81 | 33.44 | 5.61 | 18.46 | 8.08 |
| BWLL-4997 | 48 | 73 | 6191791 | 19188702 | 6.19 | 1 | 17.93 | 23.02 | 32.22 | 25.36 | 5.09 | 14.29 | 7.43 |
| BAUS-4179 | 51 | 60 | 6142840 | 19136634 | 6.33 | 1 | 32.15 | 36.75 | 48.88 | 38.72 | 4.60 | 16.73 | 6.58 |
| BWLL-4481 | 51 | 75 | 6207214 | 19185620 | 6.34 | 1 | 18.40 | 22.79 | 30.75 | 24.71 | 4.39 | 12.36 | 6.31 |
| BAUS-4501 | 47 | 63 | 6144274 | 19161188 | 6.42 | 1 | 25.35 | 30.96 | 43.81 | 33.44 | 5.61 | 18.46 | 8.08 |
| BAUS-4546 | 45 | 66 | 6152776 | 19179814 | 6.46 | 1 | 19.71 | 24.98 | 35.84 | 27.25 | 5.27 | 16.14 | 7.55 |
| BAUS-4096 | 45 | 66 | 6152178.5 | 19179288 | 6.48 | 1 | 19.71 | 24.98 | 35.84 | 27.25 | 5.27 | 16.14 | 7.55 |
| BWLL-4362 | 53 | 59 | 6146703.5 | 19124416 | 6.50 | 1 | 35.64 | 39.51 | 50.15 | 41.09 | 3.87 | 14.52 | 5.45 |
| BAUS-4194 | 45 | 66 | 6152336.5 | 19179800 | 6.52 | 1 | 19.71 | 24.98 | 35.84 | 27.25 | 5.27 | 16.14 | 7.55 |
| BWLL-5633 | 46 | 72 | 6178922 | 19191884 | 6.67 | 1 | 15.67 | 19.77 | 27.22 | 21.58 | 4.10 | 11.55 | 5.91 |
| BWLL-5316 | 48 | 73 | 6188437.5 | 19191416 | 6.73 | 1 | 17.93 | 23.02 | 32.22 | 25.36 | 5.09 | 14.29 | 7.43 |
| BWLL-0050 | 54 | 76 | 6221764 | 19175320 | 6.78 | 1 | 13.42 | 16.73 | 22.88 | 18.06 | 3.31 | 9.46 | 4.64 |
| 6517615 | 59 | 73 | 6225327 | 19143954 | 6.79 | 1 | 13.12 | 16.30 | 22.93 | 17.61 | 3.18 | 9.81 | 4.49 |
| 6517612 | 59 | 73 | 6225327 | 19143954 | 6.79 | 1 | 13.12 | 16.30 | 22.93 | 17.61 | 3.18 | 9.81 | 4.49 |
| BAUS-4058 | 55 | 59 | 6152213 | 19115596 | 6.80 | 1 | 39.34 | 42.95 | 53.17 | 44.37 | 3.60 | 13.83 | 5.03 |
| BAUS-4317 | 53 | 59 | 6144949.5 | 19124152 | 6.81 | 1 | 35.64 | 39.51 | 50.15 | 41.09 | 3.87 | 14.52 | 5.45 |
| BWLL-5218 | 47 | 73 | 6186841.5 | 19191764 | 6.83 | 1 | 16.77 | 21.01 | 28.67 | 22.90 | 4.24 | 11.90 | 6.13 |
| BWLL-0014B | 54 | 76 | 6222610.5 | 19174580 | 6.85 | 1 | 13.42 | 16.73 | 22.88 | 18.06 | 3.31 | 9.46 | 4.64 |
| BAUS-4456 | 53 | 59 | 6145351.5 | 19122748 | 6.89 | 1 | 35.64 | 39.51 | 50.15 | 41.09 | 3.87 | 14.52 | 5.45 |
| BAUS-4329 | 53 | 59 | 6145263 | 19122744 | 6.90 | 1 | 35.64 | 39.51 | 50.15 | 41.09 | 3.87 | 14.52 | 5.45 |
| BWLL-4529 | 50 | 75 | 6206447 | 19189744 | 6.98 | 1 | 18.57 | 22.70 | 30.12 | 24.49 | 4.13 | 11.55 | 5.92 |
| BWLL-4524 | 50 | 75 | 6206447 | 19189744 | 6.98 | 1 | 18.57 | 22.70 | 30.12 | 24.49 | 4.13 | 11.55 | 5.92 |
| 6623602 | 49 | 60 | 6138788.5 | 19144204 | 6.99 | 1 | 28.52 | 32.56 | 42.76 | 34.24 | 4.04 | 14.24 | 5.73 |
| BWLL-5229 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 17.93 | 23.02 | 32.22 | 25.36 | 5.09 | 14.29 | 7.43 |
| BWLL-5228 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 17.93 | 23.02 | 32.22 | 25.36 | 5.09 | 14.29 | 7.43 |
| BWLL-5230 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 17.93 | 23.02 | 32.22 | 25.36 | 5.09 | 14.29 | 7.43 |
| BWLL-5231 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 17.93 | 23.02 | 32.22 | 25.36 | 5.09 | 14.29 | 7.43 |
| BWLL-5234 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 17.93 | 23.02 | 32.22 | 25.36 | 5.09 | 14.29 | 7.43 |
| BWLL-5235 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 17.93 | 23.02 | 32.22 | 25.36 | 5.09 | 14.29 | 7.43 |
| BWLL-5236 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 17.93 | 23.02 | 32.22 | 25.36 | 5.09 | 14.29 | 7.43 |
| BWLL-5278 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 17.93 | 23.02 | 32.22 | 25.36 | 5.09 | 14.29 | 7.43 |
| BWLL-0056 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 17.93 | 23.02 | 32.22 | 25.36 | 5.09 | 14.29 | 7.43 |
| BWLL-4098 | 46 | 72 | 6180351 | 19193656 | 7.02 | 1 | 15.67 | 19.77 | 27.22 | 21.58 | 4.10 | 11.55 | 5.91 |
| BAUS-4254 | 48 | 61 | 6139071 | 19148754 | 7.02 | 1 | 26.85 | 31.30 | 42.12 | 33.18 | 4.45 | 15.27 | 6.33 |
| BAUS-4202 | 45 | 65 | 6145386.5 | 19174694 | 7.03 | 1 | 19.79 | 24.57 | 34.63 | 26.59 | 4.78 | 14.84 | 6.81 |
| 6525106 | 61 | 65 | 6198306 | 19109812 | 7.05 | 1 | 40.03 | 43.65 | 53.18 | 45.04 | 3.62 | 13.15 | 5.01 |
| 6616305 | 46 | 71 | 6175255.5 | 19193866 | 7.06 | 1 | 16.24 | 21.09 | 30.04 | 23.28 | 4.84 | 13.80 | 7.04 |
| BWLL-0001D | 54 | 76 | 6224553 | 19173702 | 7.08 | 1 | 13.42 | 16.73 | 22.88 | 18.06 | 3.31 | 9.46 | 4.64 |
| BWLL-5560 | 50 | 76 | 6207148 | 19189986 | 7.08 | 1 | 18.11 | 21.31 | 27.01 | 22.59 | 3.20 | 8.91 | 4.49 |
| BWLL-5583 | 50 | 76 | 6207148 | 19189986 | 7.08 | 1 | 18.11 | 21.31 | 27.01 | 22.59 | 3.20 | 8.91 | 4.49 |
| BWLL-5705 | 50 | 76 | 6207148 | 19189986 | 7.08 | 1 | 18.11 | 21.31 | 27.01 | 22.59 | 3.20 | 8.91 | 4.49 |
| BAUS-4287 | 48 | 61 | 6139321 | 19151700 | 7.09 | 1 | 26.85 | 31.30 | 42.12 | 33.18 | 4.45 | 15.27 | 6.33 |
| BWLL-5093 | 50 | 76 | 6206153.5 | 19190542 | 7.10 | 1 | 18.11 | 21.31 | 27.01 | 22.59 | 3.20 | 8.91 | 4.49 |
| BWLL-4001 | 50 | 76 | 6206776 | 19190364 | 7.11 | 1 | 18.11 | 21.31 | 27.01 | 22.59 | 3.20 | 8.91 | 4.49 |
| BWLL-5523 | 49 | 75 | 6202579.5 | 19192032 | 7.13 | 1 | 18.27 | 21.99 | 28.61 | 23.56 | 3.71 | 10.34 | 5.29 |
| BWLL-4387 | 46 | 71 | 6173820.5 | 19194232 | 7.15 | 1 | 16.24 | 21.09 | 30.04 | 23.28 | 4.84 | 13.80 | 7.04 |
| BWLL-5260 | 49 | 75 | 6202931 | 19192046 | 7.15 | 1 | 18.27 | 21.99 | 28.61 | 23.56 | 3.71 | 10.34 | 5.29 |
| BWLL-4427 | 47 | 73 | 6189667.5 | 19193892 | 7.18 | 1 | 16.77 | 21.01 | 28.67 | 22.90 | 4.24 | 11.90 | 6.13 |
| BWLL-5047 | 49 | 75 | 6203183.5 | 19192358 | 7.22 | 1 | 18.27 | 21.99 | 28.61 | 23.56 | 3.71 | 10.34 | 5.29 |
| BAUS-4164 | 54 | 58 | 6147398 | 19117150 | 7.23 | 1 | 36.61 | 39.69 | 48.27 | 40.87 | 3.09 | 11.66 | 4.26 |
| BAUS-4369 | 49 | 60 | 6137283 | 19144440 | 7.28 | 1 | 28.52 | 32.56 | 42.76 | 34.24 | 4.04 | 14.24 | 5.73 |
| BWLL-4753 | 54 | 77 | 6223802.5 | 19177320 | 7.31 | 1 | 10.84 | 13.45 | 18.28 | 14.44 | 2.61 | 7.44 | 3.60 |
| BWLL-4655 | 49 | 75 | 6202275.5 | 19193136 | 7.32 | 1 | 18.27 | 21.99 | 28.61 | 23.56 | 3.71 | 10.34 | 5.29 |
| BAUS-4313 | 48 | 60 | 6137047.5 | 19146152 | 7.34 | 1 | 26.64 | 30.29 | 39.29 | 31.77 | 3.65 | 12.65 | 5.13 |
| BWLL-4599 | 49 | 75 | 6202890.5 | 19193158 | 7.35 | 1 | 18.27 | 21.99 | 28.61 | 23.56 | 3.71 | 10.34 | 5.29 |
| BWLL-4656 | 49 | 75 | 6201913 | 19193426 | 7.35 | 1 | 18.27 | 21.99 | 28.61 | 23.56 | 3.71 | 10.34 | 5.29 |
| BAUS-5288 | 54 | 58 | 6148317 | 19114972 | 7.39 | 1 | 36.61 | 39.69 | 48.27 | 40.87 | 3.09 | 11.66 | 4.26 |
| BAUS-4078 | 48 | 61 | 6137790.5 | 19152660 | 7.42 | 1 | 26.85 | 31.30 | 42.12 | 33.18 | 4.45 | 15.27 | 6.33 |

# Table C-1
# Simulated Drawdown and Drawdown Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - GAM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Drawdown 2008 to 2060 (ft) | | | | Drawdown Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BWLL-4660 | 49 | 75 | 6202868 | 19193764 | 7.46 | 1 | 18.27 | 21.99 | 28.61 | 23.56 | 3.71 | 10.34 | 5.29 |
| BWLL-4227 | 53 | 77 | 6222451.5 | 19180512 | 7.46 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-4113 | 53 | 77 | 6222902.5 | 19180224 | 7.50 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-4304 | 53 | 77 | 6222433 | 19181016 | 7.52 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-4181 | 53 | 77 | 6222891 | 19180528 | 7.53 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-5210 | 49 | 75 | 6202498.5 | 19194258 | 7.53 | 1 | 18.27 | 21.99 | 28.61 | 23.56 | 3.71 | 10.34 | 5.29 |
| BWLL-4297 | 45 | 71 | 6169373.5 | 19195592 | 7.54 | 1 | 14.50 | 18.23 | 25.03 | 19.83 | 3.73 | 10.54 | 5.34 |
| BWLL-4405 | 54 | 77 | 6224743 | 19178064 | 7.54 | 1 | 10.84 | 13.45 | 18.28 | 14.44 | 2.61 | 7.44 | 3.60 |
| BAUS-4066 | 47 | 62 | 6138023 | 19158642 | 7.55 | 1 | 25.14 | 29.86 | 40.89 | 31.87 | 4.71 | 15.75 | 6.73 |
| BWLL-4265 | 53 | 77 | 6222608.5 | 19181024 | 7.55 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-4570 | 53 | 77 | 6223437 | 19180042 | 7.55 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BAUS-4075 | 47 | 62 | 6138002 | 19159248 | 7.56 | 1 | 25.14 | 29.86 | 40.89 | 31.87 | 4.71 | 15.75 | 6.73 |
| BAUS-4297 | 46 | 72 | 6178346 | 19196654 | 7.57 | 1 | 15.67 | 19.77 | 27.22 | 21.58 | 4.10 | 11.55 | 5.91 |
| BWLL-4590 | 49 | 75 | 6202934 | 19194374 | 7.58 | 1 | 18.27 | 21.99 | 28.61 | 23.56 | 3.71 | 10.34 | 5.29 |
| BAUS-4230 | 47 | 61 | 6136978 | 19153238 | 7.59 | 1 | 24.76 | 28.63 | 37.88 | 30.23 | 3.88 | 13.12 | 5.47 |
| BWLL-4127 | 53 | 77 | 6223052 | 19180938 | 7.60 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-4299 | 54 | 77 | 6225373.5 | 19177684 | 7.60 | 1 | 10.84 | 13.45 | 18.28 | 14.44 | 2.61 | 7.44 | 3.60 |
| BWLL-4114 | 53 | 77 | 6222864.5 | 19181236 | 7.61 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-5339 | 53 | 77 | 6222956.5 | 19181138 | 7.61 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-4128 | 53 | 77 | 6223876.5 | 19180058 | 7.62 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-4017 | 53 | 77 | 6224063.5 | 19179760 | 7.62 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-4014 | 53 | 77 | 6223972 | 19179858 | 7.62 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| 6510715 | 57 | 76 | 6231432 | 19161984 | 7.63 | 1 | 7.27 | 9.73 | 14.53 | 10.69 | 2.46 | 7.26 | 3.42 |
| BWLL-4264 | 53 | 77 | 6223319 | 19180848 | 7.63 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-4262 | 54 | 77 | 6225736 | 19177392 | 7.63 | 1 | 10.84 | 13.45 | 18.28 | 14.44 | 2.61 | 7.44 | 3.60 |
| 6517614 | 60 | 73 | 6228549 | 19139770 | 7.65 | 1 | 11.95 | 14.58 | 20.14 | 15.62 | 2.63 | 8.19 | 3.68 |
| BWLL-4308 | 53 | 77 | 6224144 | 19179966 | 7.65 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BAUS-4472 | 48 | 60 | 6135298.5 | 19145788 | 7.67 | 1 | 26.64 | 30.29 | 39.29 | 31.77 | 3.65 | 12.65 | 5.13 |
| BWLL-4614 | 49 | 75 | 6202556.5 | 19195070 | 7.68 | 1 | 18.27 | 21.99 | 28.61 | 23.56 | 3.71 | 10.34 | 5.29 |
| BWLL-4180 | 53 | 77 | 6224041 | 19180368 | 7.68 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-4294 | 53 | 77 | 6223671 | 19180860 | 7.68 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BAUS-5154 | 47 | 62 | 6137316 | 19158718 | 7.69 | 1 | 25.14 | 29.86 | 40.89 | 31.87 | 4.71 | 15.75 | 6.73 |
| BWLL-4058 | 53 | 77 | 6224133 | 19180270 | 7.69 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-4266 | 54 | 77 | 6224686.5 | 19179582 | 7.69 | 1 | 10.84 | 13.45 | 18.28 | 14.44 | 2.61 | 7.44 | 3.60 |
| BWLL-4179 | 53 | 77 | 6224030 | 19180672 | 7.72 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-4034 | 54 | 77 | 6224862.5 | 19179588 | 7.72 | 1 | 10.84 | 13.45 | 18.28 | 14.44 | 2.61 | 7.44 | 3.60 |
| BWLL-5165 | 49 | 76 | 6202725 | 19195278 | 7.73 | 1 | 18.11 | 20.99 | 26.10 | 22.14 | 2.88 | 7.98 | 4.02 |
| BWLL-4225 | 54 | 77 | 6224847 | 19179992 | 7.76 | 1 | 10.84 | 13.45 | 18.28 | 14.44 | 2.61 | 7.44 | 3.60 |
| BWLL-4279 | 53 | 77 | 6224477 | 19180486 | 7.76 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-4380 | 53 | 77 | 6223831.5 | 19181272 | 7.76 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-4566 | 53 | 77 | 6223831.5 | 19181272 | 7.76 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-4797 | 55 | 77 | 6227917.5 | 19175550 | 7.81 | 1 | 8.53 | 10.95 | 15.51 | 11.87 | 2.42 | 6.98 | 3.34 |
| BWLL-4916 | 53 | 77 | 6224271 | 19181288 | 7.82 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-5324 | 47 | 73 | 6186384 | 19197114 | 7.83 | 1 | 16.77 | 21.01 | 28.67 | 22.90 | 4.24 | 11.90 | 6.13 |
| BWLL-4990 | 52 | 77 | 6218864.5 | 19187062 | 7.83 | 1 | 15.05 | 17.78 | 22.73 | 18.82 | 2.73 | 7.68 | 3.77 |
| BWLL-4018 | 54 | 77 | 6225195 | 19180106 | 7.83 | 1 | 10.84 | 13.45 | 18.28 | 14.44 | 2.61 | 7.44 | 3.60 |
| BWLL-4359 | 53 | 77 | 6224450.5 | 19181194 | 7.84 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-4226 | 54 | 77 | 6225096 | 19180408 | 7.85 | 1 | 10.84 | 13.45 | 18.28 | 14.44 | 2.61 | 7.44 | 3.60 |
| BWLL-4016 | 53 | 77 | 6224813.5 | 19180902 | 7.86 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-4059 | 54 | 77 | 6225271.5 | 19180414 | 7.88 | 1 | 10.84 | 13.45 | 18.28 | 14.44 | 2.61 | 7.44 | 3.60 |
| BWLL-4060 | 54 | 77 | 6225271.5 | 19180414 | 7.88 | 1 | 10.84 | 13.45 | 18.28 | 14.44 | 2.61 | 7.44 | 3.60 |
| BWLL-0014A | 55 | 77 | 6229109.5 | 19174278 | 7.90 | 1 | 8.53 | 10.95 | 15.51 | 11.87 | 2.42 | 6.98 | 3.34 |
| BAUS-5159 | 47 | 61 | 6136060 | 19156852 | 7.91 | 1 | 24.76 | 28.63 | 37.88 | 30.23 | 3.88 | 13.12 | 5.47 |
| BAUS-4356 | 49 | 59 | 6133777 | 19141382 | 7.94 | 1 | 28.31 | 31.62 | 40.05 | 32.93 | 3.31 | 11.74 | 4.62 |
| BWLL-4088 | 54 | 77 | 6225898 | 19180134 | 7.94 | 1 | 10.84 | 13.45 | 18.28 | 14.44 | 2.61 | 7.44 | 3.60 |
| BWLL-4447 | 53 | 77 | 6225241.5 | 19181222 | 7.96 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-4126 | 53 | 77 | 6225329.5 | 19181226 | 7.98 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-4407 | 53 | 77 | 6225604.5 | 19180932 | 7.98 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-4282 | 54 | 77 | 6226062.5 | 19180444 | 8.00 | 1 | 10.84 | 13.45 | 18.28 | 14.44 | 2.61 | 7.44 | 3.60 |
| 6525105 | 62 | 65 | 6201528 | 19105630 | 8.04 | 1 | 40.59 | 43.63 | 51.59 | 44.71 | 3.04 | 11.00 | 4.12 |
| BWLL-4228 | 53 | 77 | 6225853 | 19181346 | 8.07 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |
| BWLL-4012 | 53 | 77 | 6226028.5 | 19181354 | 8.10 | 1 | 13.18 | 15.92 | 20.92 | 16.96 | 2.73 | 7.73 | 3.78 |

# Table C-1
## Simulated Drawdown and Drawdown Due to Electro Purification Pumping
## Chicot Aquifer (Layer 1) - GAM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Drawdown 2008 to 2060 (ft) | | | | Drawdown Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BAUS-4394 | 44 | 64 | 6139451.5 | 19175804 | 8.13 | 1 | 17.14 | 20.40 | 27.33 | 21.69 | 3.27 | 10.20 | 4.56 |
| 6518103 | 58 | 76 | 6234654 | 19157800 | 8.16 | 1 | 5.40 | 7.54 | 11.79 | 8.37 | 2.14 | 6.39 | 2.96 |
| 6518406 | 60 | 74 | 6232732 | 19142992 | 8.17 | 1 | 8.76 | 11.00 | 15.65 | 11.86 | 2.23 | 6.88 | 3.10 |
| BAUS-5433 | 45 | 63 | 6137554 | 19171998 | 8.17 | 1 | 19.77 | 23.40 | 31.43 | 24.88 | 3.63 | 11.66 | 5.11 |
| BWLL-4482 | 48 | 76 | 6202617.5 | 19198212 | 8.26 | 1 | 17.58 | 20.08 | 24.46 | 21.04 | 2.49 | 6.88 | 3.45 |
| BAUS-5362 | 44 | 64 | 6139628 | 19178494 | 8.34 | 1 | 17.14 | 20.40 | 27.33 | 21.69 | 3.27 | 10.20 | 4.56 |
| BAUS-4308 | 44 | 64 | 6137869 | 19175750 | 8.39 | 1 | 17.14 | 20.40 | 27.33 | 21.69 | 3.27 | 10.20 | 4.56 |
| 6615902 | 45 | 63 | 6136149 | 19171854 | 8.40 | 1 | 19.77 | 23.40 | 31.43 | 24.88 | 3.63 | 11.66 | 5.11 |
| 6509106 | 46 | 74 | 6188481 | 19200322 | 8.41 | 1 | 15.18 | 17.91 | 22.77 | 19.03 | 2.74 | 7.60 | 3.85 |
| BWLL-5718 | 56 | 77 | 6233042.5 | 19172732 | 8.46 | 1 | 6.33 | 8.54 | 12.77 | 9.38 | 2.22 | 6.44 | 3.05 |
| BWLL-4263 | 54 | 78 | 6229601 | 19179968 | 8.51 | 1 | 7.87 | 9.91 | 13.68 | 10.65 | 2.04 | 5.80 | 2.77 |
| BAUS-4228 | 48 | 58 | 6129578 | 19140528 | 8.74 | 1 | 26.43 | 28.89 | 35.11 | 29.79 | 2.46 | 8.69 | 3.37 |
| BAUS-4544 | 45 | 62 | 6133072 | 19169406 | 8.82 | 1 | 19.76 | 22.87 | 29.91 | 24.10 | 3.11 | 10.15 | 4.34 |
| BWLL-4969 | 45 | 73 | 6182724.5 | 19203464 | 8.91 | 1 | 13.76 | 16.36 | 21.01 | 17.43 | 2.61 | 7.26 | 3.67 |
| 6518404 | 61 | 74 | 6235954 | 19138808 | 9.01 | 1 | 7.81 | 9.64 | 13.52 | 10.33 | 1.84 | 5.72 | 2.52 |
| BAUS-4319 | 46 | 60 | 6129618 | 19154706 | 9.01 | 1 | 22.40 | 25.11 | 31.57 | 26.14 | 2.71 | 9.17 | 3.74 |
| 6518403 | 61 | 74 | 6235954 | 19138808 | 9.01 | 1 | 7.81 | 9.64 | 13.52 | 10.33 | 1.84 | 5.72 | 2.52 |
| 6525209 | 63 | 66 | 6208933 | 19104668 | 9.03 | 1 | 38.58 | 41.17 | 47.82 | 42.05 | 2.60 | 9.24 | 3.48 |
| 6525218 | 63 | 66 | 6208933 | 19104668 | 9.03 | 1 | 38.58 | 41.17 | 47.82 | 42.05 | 2.60 | 9.24 | 3.48 |
| 6525219 | 63 | 66 | 6208933 | 19104668 | 9.03 | 1 | 38.58 | 41.17 | 47.82 | 42.05 | 2.60 | 9.24 | 3.48 |
| 6525220 | 63 | 65 | 6204749.5 | 19101448 | 9.04 | 1 | 41.00 | 43.54 | 50.16 | 44.38 | 2.53 | 9.16 | 3.37 |
| 6525221 | 63 | 65 | 6204749.5 | 19101448 | 9.04 | 1 | 41.00 | 43.54 | 50.16 | 44.38 | 2.53 | 9.16 | 3.37 |
| 6525210 | 63 | 65 | 6204749.5 | 19101448 | 9.04 | 1 | 41.00 | 43.54 | 50.16 | 44.38 | 2.53 | 9.16 | 3.37 |
| BAUS-4072 | 45 | 62 | 6131531.5 | 19168138 | 9.04 | 1 | 19.76 | 22.87 | 29.91 | 24.10 | 3.11 | 10.15 | 4.34 |
| BAUS-4131 | 48 | 58 | 6128001.5 | 19140272 | 9.04 | 1 | 26.43 | 28.89 | 35.11 | 29.79 | 2.46 | 8.69 | 3.37 |
| 6525202 | 63 | 67 | 6213116 | 19107890 | 9.08 | 1 | 35.63 | 38.23 | 44.74 | 39.13 | 2.60 | 9.11 | 3.50 |
| 6525203 | 63 | 67 | 6213116 | 19107890 | 9.08 | 1 | 35.63 | 38.23 | 44.74 | 39.13 | 2.60 | 9.11 | 3.50 |
| BAUS-4291 | 45 | 61 | 6130616.5 | 19166588 | 9.14 | 1 | 19.77 | 22.40 | 28.48 | 23.41 | 2.63 | 8.70 | 3.63 |
| BWLL-5331 | 46 | 74 | 6188675.5 | 19204286 | 9.16 | 1 | 15.18 | 17.91 | 22.77 | 19.03 | 2.74 | 7.60 | 3.85 |
| BAUS-4217 | 45 | 61 | 6130444.5 | 19166480 | 9.17 | 1 | 19.77 | 22.40 | 28.48 | 23.41 | 2.63 | 8.70 | 3.63 |
| BAUS-4305 | 45 | 61 | 6130444.5 | 19166480 | 9.17 | 1 | 19.77 | 22.40 | 28.48 | 23.41 | 2.63 | 8.70 | 3.63 |
| BAUS-4218 | 45 | 61 | 6130444.5 | 19166480 | 9.17 | 1 | 19.77 | 22.40 | 28.48 | 23.41 | 2.63 | 8.70 | 3.63 |
| BAUS-4195 | 45 | 61 | 6130275.5 | 19166272 | 9.19 | 1 | 19.77 | 22.40 | 28.48 | 23.41 | 2.63 | 8.70 | 3.63 |
| BWLL-4511 | 53 | 79 | 6228988.5 | 19186932 | 9.19 | 1 | 7.35 | 9.02 | 12.05 | 9.59 | 1.67 | 4.71 | 2.24 |
| BAUS-5306 | 45 | 61 | 6130250.5 | 19166582 | 9.21 | 1 | 19.77 | 22.40 | 28.48 | 23.41 | 2.63 | 8.70 | 3.63 |
| BAUS-5377 | 45 | 61 | 6130250.5 | 19166582 | 9.21 | 1 | 19.77 | 22.40 | 28.48 | 23.41 | 2.63 | 8.70 | 3.63 |
| BAUS-4532 | 48 | 58 | 6127012.5 | 19140844 | 9.22 | 1 | 26.43 | 28.89 | 35.11 | 29.79 | 2.46 | 8.69 | 3.37 |
| 6525301 | 63 | 68 | 6217299 | 19111112 | 9.23 | 1 | 32.28 | 34.81 | 41.02 | 35.71 | 2.53 | 8.74 | 3.43 |
| BAUS-5181 | 45 | 61 | 6130085.5 | 19166670 | 9.24 | 1 | 19.77 | 22.40 | 28.48 | 23.41 | 2.63 | 8.70 | 3.63 |
| BAUS-4463 | 45 | 61 | 6129853.5 | 19165750 | 9.25 | 1 | 19.77 | 22.40 | 28.48 | 23.41 | 2.63 | 8.70 | 3.63 |
| BWLL-5038 | 52 | 79 | 6226942.5 | 19189894 | 9.27 | 1 | 10.15 | 11.82 | 14.80 | 12.37 | 1.67 | 4.65 | 2.22 |
| BAUS-5371 | 45 | 61 | 6129745 | 19166062 | 9.28 | 1 | 19.77 | 22.40 | 28.48 | 23.41 | 2.63 | 8.70 | 3.63 |
| BWLL-4560 | 52 | 79 | 6225465 | 19191764 | 9.33 | 1 | 10.15 | 11.82 | 14.80 | 12.37 | 1.67 | 4.65 | 2.22 |
| BWLL-5368 | 53 | 79 | 6229497 | 19187458 | 9.33 | 1 | 7.35 | 9.02 | 12.05 | 9.59 | 1.67 | 4.71 | 2.24 |
| BAUS-5439 | 45 | 61 | 6129458.5 | 19166208 | 9.34 | 1 | 19.77 | 22.40 | 28.48 | 23.41 | 2.63 | 8.70 | 3.63 |
| BAUS-4166 | 44 | 62 | 6129924.5 | 19168790 | 9.36 | 1 | 16.71 | 19.08 | 24.37 | 19.98 | 2.37 | 7.67 | 3.27 |
| BWLL-5377 | 52 | 79 | 6225996 | 19191682 | 9.38 | 1 | 10.15 | 11.82 | 14.80 | 12.37 | 1.67 | 4.65 | 2.22 |
| BWLL-4212 | 46 | 75 | 6189681.5 | 19205640 | 9.41 | 1 | 15.19 | 17.33 | 21.12 | 18.17 | 2.15 | 5.93 | 2.98 |
| BAUS-4363 | 46 | 60 | 6127131 | 19155328 | 9.50 | 1 | 22.40 | 25.11 | 31.57 | 26.14 | 2.71 | 9.17 | 3.74 |
| BAUS-4037 | 48 | 58 | 6125454 | 19142614 | 9.51 | 1 | 26.43 | 28.89 | 35.11 | 29.79 | 2.46 | 8.69 | 3.37 |
| BWLL-4239 | 55 | 79 | 6237373 | 19176916 | 9.53 | 1 | 2.07 | 3.60 | 6.44 | 4.13 | 1.52 | 4.36 | 2.05 |
| BWLL-4562 | 52 | 79 | 6227130.5 | 19191926 | 9.57 | 1 | 10.15 | 11.82 | 14.80 | 12.37 | 1.67 | 4.65 | 2.22 |
| BWLL-4898 | 53 | 79 | 6232263 | 19186448 | 9.62 | 1 | 7.35 | 9.02 | 12.05 | 9.59 | 1.67 | 4.71 | 2.24 |
| BWLL-5566 | 52 | 79 | 6227068 | 19192974 | 9.70 | 1 | 10.15 | 11.82 | 14.80 | 12.37 | 1.67 | 4.65 | 2.22 |
| 6623205 | 45 | 60 | 6126611.5 | 19158036 | 9.71 | 1 | 19.96 | 22.18 | 27.41 | 23.00 | 2.22 | 7.45 | 3.04 |
| BWLL-5656 | 53 | 79 | 6232524.5 | 19187068 | 9.73 | 1 | 7.35 | 9.02 | 12.05 | 9.59 | 1.67 | 4.71 | 2.24 |
| BWLL-5063 | 51 | 79 | 6224348 | 19195772 | 9.76 | 1 | 12.53 | 14.14 | 16.97 | 14.65 | 1.60 | 4.44 | 2.12 |
| BWLL-5602 | 52 | 79 | 6228469 | 19192130 | 9.78 | 1 | 10.15 | 11.82 | 14.80 | 12.37 | 1.67 | 4.65 | 2.22 |
| BWLL-5148 | 50 | 79 | 6221156.5 | 19198794 | 9.85 | 1 | 14.45 | 15.92 | 18.50 | 16.38 | 1.47 | 4.05 | 1.93 |
| BAUS-5364 | 48 | 57 | 6123778 | 19139626 | 9.85 | 1 | 26.27 | 28.30 | 33.48 | 29.01 | 2.03 | 7.20 | 2.73 |
| BWLL-5655 | 53 | 79 | 6233317.5 | 19187106 | 9.85 | 1 | 7.35 | 9.02 | 12.05 | 9.59 | 1.67 | 4.71 | 2.24 |
| BWLL-5657 | 53 | 79 | 6233273 | 19187104 | 9.85 | 1 | 7.35 | 9.02 | 12.05 | 9.59 | 1.67 | 4.71 | 2.24 |

# Table C-1
# Simulated Drawdown and Drawdown Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - GAM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Drawdown 2008 to 2060 (ft) | | | | Drawdown Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BWLL-5658 | 53 | 79 | 6233273 | 19187104 | 9.85 | 1 | 7.35 | 9.02 | 12.05 | 9.59 | 1.67 | 4.71 | 2.24 |
| 6510813 | 58 | 78 | 6243020.5 | 19164244 | 9.86 | 1 | -0.19 | 1.22 | 3.97 | 1.73 | 1.41 | 4.16 | 1.91 |
| 6510814 | 58 | 78 | 6243020.5 | 19164244 | 9.86 | 1 | -0.19 | 1.22 | 3.97 | 1.73 | 1.41 | 4.16 | 1.91 |
| BWLL-4662 | 50 | 79 | 6221947 | 19198822 | 9.94 | 1 | 14.45 | 15.92 | 18.50 | 16.38 | 1.47 | 4.05 | 1.93 |
| BWLL-4276 | 50 | 79 | 6221947 | 19198822 | 9.94 | 1 | 14.45 | 15.92 | 18.50 | 16.38 | 1.47 | 4.05 | 1.93 |
| BWLL-5605 | 43 | 73 | 6173644.5 | 19209052 | 9.95 | 1 | 10.01 | 11.29 | 13.56 | 11.78 | 1.29 | 3.55 | 1.77 |
| BAUS-4189 | 43 | 62 | 6127509.5 | 19172454 | 9.99 | 1 | 13.27 | 14.96 | 18.67 | 15.57 | 1.68 | 5.40 | 2.30 |

# Table C-2
# Simulated Drawdown and Drawdown Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - HAGM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Drawdown 2008 to 2060 (ft) | | | | Drawdown Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BAUS-5429 | 54 | 66 | 6180054.5 | 19142336 | 0.15 | 1 | 43.19 | 52.65 | 77.22 | 57.74 | 9.46 | 34.04 | 14.55 |
| BAUS-5430 | 54 | 66 | 6180054.5 | 19142336 | 0.15 | 1 | 43.19 | 52.65 | 77.22 | 57.74 | 9.46 | 34.04 | 14.55 |
| BWLL-5117 | 53 | 69 | 6191012.5 | 19154344 | 0.34 | 1 | 38.92 | 50.75 | 74.91 | 57.34 | 11.83 | 35.99 | 18.41 |
| BWLL-5481 | 53 | 70 | 6191500 | 19157906 | 0.36 | 1 | 37.99 | 48.31 | 69.16 | 53.94 | 10.32 | 31.17 | 15.95 |
| BWLL-5006 | 54 | 69 | 6190699 | 19153424 | 0.46 | 1 | 39.23 | 49.27 | 70.69 | 54.75 | 10.04 | 31.46 | 15.51 |
| BAUS-4159 | 53 | 66 | 6177818.5 | 19144046 | 0.47 | 1 | 42.29 | 53.21 | 80.24 | 59.19 | 10.92 | 37.95 | 16.9 |
| BAUS-4158 | 53 | 66 | 6177811.5 | 19144248 | 0.49 | 1 | 42.29 | 53.21 | 80.24 | 59.19 | 10.92 | 37.95 | 16.9 |
| BWLL-5541 | 52 | 69 | 6186065.5 | 19157628 | 0.5 | 1 | 38.65 | 51.57 | 77.57 | 58.78 | 12.91 | 38.92 | 20.13 |
| BWLL-5541 | 53 | 69 | 6188533 | 19157786 | 0.54 | 1 | 38.92 | 50.75 | 74.91 | 57.34 | 11.83 | 35.99 | 18.41 |
| BWLL-5543 | 52 | 69 | 6186496.5 | 19157650 | 0.56 | 1 | 38.65 | 51.57 | 77.57 | 58.78 | 12.91 | 38.92 | 20.13 |
| BAUS-4458 | 51 | 67 | 6175604 | 19159156 | 0.63 | 1 | 39.87 | 53.04 | 81.27 | 60.33 | 13.17 | 41.4 | 20.45 |
| BWLL-4133 | 51 | 67 | 6175182.5 | 19158636 | 0.63 | 1 | 39.87 | 53.04 | 81.27 | 60.33 | 13.17 | 41.4 | 20.45 |
| BAUS-5436 | 51 | 67 | 6174074 | 19157298 | 0.72 | 1 | 39.87 | 53.04 | 81.27 | 60.33 | 13.17 | 41.4 | 20.45 |
| BAUS-5447 | 51 | 67 | 6173795 | 19157412 | 0.78 | 1 | 39.87 | 53.04 | 81.27 | 60.33 | 13.17 | 41.4 | 20.45 |
| BAUS-4340 | 53 | 65 | 6171277.5 | 19142192 | 0.84 | 1 | 43.58 | 53.13 | 78.3 | 58.23 | 9.55 | 34.72 | 14.65 |
| BWLL-4363 | 52 | 69 | 6186773 | 19159558 | 0.88 | 1 | 38.65 | 51.57 | 77.57 | 58.78 | 12.91 | 38.92 | 20.13 |
| BAUS-5426 | 51 | 67 | 6173430.5 | 19159360 | 0.98 | 1 | 39.87 | 53.04 | 81.27 | 60.33 | 13.17 | 41.4 | 20.45 |
| BAUS-5401 | 51 | 67 | 6172709 | 19157480 | 0.99 | 1 | 39.87 | 53.04 | 81.27 | 60.33 | 13.17 | 41.4 | 20.45 |
| BAUS-5398 | 51 | 66 | 6171645 | 19154492 | 1.25 | 1 | 40.91 | 52.79 | 79.78 | 59.27 | 11.89 | 38.87 | 18.36 |
| BAUS-4236 | 50 | 67 | 6173220 | 19161806 | 1.31 | 1 | 39.08 | 51.21 | 77.11 | 57.78 | 12.13 | 38.02 | 18.7 |
| 6517415 | 55 | 67 | 6187339.5 | 19141354 | 1.34 | 1 | 42.48 | 51.04 | 72.03 | 55.59 | 8.56 | 29.55 | 13.11 |
| BAUS-4485 | 50 | 67 | 6172028.5 | 19160648 | 1.34 | 1 | 39.08 | 51.21 | 77.11 | 57.78 | 12.13 | 38.02 | 18.7 |
| BAUS-4325 | 50 | 67 | 6172780 | 19161790 | 1.36 | 1 | 39.08 | 51.21 | 77.11 | 57.78 | 12.13 | 38.02 | 18.7 |
| BAUS-4518 | 50 | 68 | 6174657 | 19163476 | 1.42 | 1 | 38.04 | 50.4 | 75.87 | 57.11 | 12.36 | 37.83 | 19.07 |
| BAUS-5298 | 50 | 67 | 6172278 | 19161868 | 1.44 | 1 | 39.08 | 51.21 | 77.11 | 57.78 | 12.13 | 38.02 | 18.7 |
| BAUS-4515 | 51 | 66 | 6170610 | 19153510 | 1.5 | 1 | 40.91 | 52.79 | 79.78 | 59.27 | 11.89 | 38.87 | 18.36 |
| BAUS-4519 | 50 | 68 | 6175159 | 19164204 | 1.52 | 1 | 38.04 | 50.4 | 75.87 | 57.11 | 12.36 | 37.83 | 19.07 |
| BAUS-5397 | 51 | 66 | 6169866.5 | 19155934 | 1.52 | 1 | 40.91 | 52.79 | 79.78 | 59.27 | 11.89 | 38.87 | 18.36 |
| BAUS-0002A | 50 | 68 | 6175328 | 19164412 | 1.54 | 1 | 38.04 | 50.4 | 75.87 | 57.11 | 12.36 | 37.83 | 19.07 |
| BAUS-0002B | 50 | 68 | 6175328 | 19164412 | 1.54 | 1 | 38.04 | 50.4 | 75.87 | 57.11 | 12.36 | 37.83 | 19.07 |
| BAUS-5400 | 50 | 67 | 6171322 | 19161498 | 1.54 | 1 | 39.08 | 51.21 | 77.11 | 57.78 | 12.13 | 38.02 | 18.7 |
| BAUS-5402 | 50 | 67 | 6170748.5 | 19160828 | 1.56 | 1 | 39.08 | 51.21 | 77.11 | 57.78 | 12.13 | 38.02 | 18.7 |
| BWLL-5690 | 51 | 69 | 6184161 | 19164328 | 1.65 | 1 | 38.06 | 50.75 | 76.22 | 57.75 | 12.69 | 38.16 | 19.69 |
| BAUS-4430 | 50 | 66 | 6168784 | 19157800 | 1.73 | 1 | 39.94 | 51.1 | 76 | 57.07 | 11.16 | 36.06 | 17.13 |
| BAUS-4185 | 52 | 66 | 6170700 | 19150982 | 1.73 | 1 | 41.55 | 53.49 | 81.41 | 60.05 | 11.93 | 39.86 | 18.5 |
| BAUS-5399 | 50 | 66 | 6168767 | 19157550 | 1.73 | 1 | 39.94 | 51.1 | 76 | 57.07 | 11.16 | 36.06 | 17.13 |
| BWLL-4303 | 50 | 68 | 6177915 | 19165922 | 1.75 | 1 | 38.04 | 50.4 | 75.87 | 57.11 | 12.36 | 37.83 | 19.07 |
| 6509702 | 52 | 71 | 6193335.5 | 19165170 | 1.76 | 1 | 37.82 | 47.56 | 66.82 | 52.78 | 9.74 | 29 | 14.96 |
| BAUS-4429 | 50 | 66 | 6168601 | 19157996 | 1.77 | 1 | 39.94 | 51.1 | 76 | 57.07 | 11.16 | 36.06 | 17.13 |
| BAUS-5297 | 50 | 68 | 6173472 | 19165068 | 1.79 | 1 | 38.04 | 50.4 | 75.87 | 57.11 | 12.36 | 37.83 | 19.07 |
| BAUS-4129 | 55 | 65 | 6178444 | 19131512 | 1.81 | 1 | 45.79 | 53.16 | 73.11 | 56.96 | 7.37 | 27.32 | 11.17 |
| BWLL-4992 | 50 | 68 | 6177988.5 | 19166330 | 1.83 | 1 | 38.04 | 50.4 | 75.87 | 57.11 | 12.36 | 37.83 | 19.07 |
| BWLL-4272 | 50 | 68 | 6177805.5 | 19166526 | 1.87 | 1 | 38.04 | 50.4 | 75.87 | 57.11 | 12.36 | 37.83 | 19.07 |
| BAUS-0024 | 56 | 65 | 6179473 | 19131326 | 1.87 | 1 | 46.71 | 53.08 | 70.2 | 56.28 | 6.37 | 23.49 | 9.57 |
| BWLL-5674 | 51 | 69 | 6184132.5 | 19165744 | 1.92 | 1 | 38.06 | 50.75 | 76.22 | 57.75 | 12.69 | 38.16 | 19.69 |
| BWLL-4161 | 50 | 69 | 6177699 | 19167028 | 1.96 | 1 | 36.97 | 48.7 | 72.29 | 55.04 | 11.73 | 35.32 | 18.07 |
| BAUS-4299 | 50 | 69 | 6178487 | 19167158 | 1.99 | 1 | 36.97 | 48.7 | 72.29 | 55.04 | 11.73 | 35.32 | 18.07 |
| BWLL-5082 | 51 | 69 | 6183630 | 19166128 | 1.99 | 1 | 38.06 | 50.75 | 76.22 | 57.75 | 12.69 | 38.16 | 19.69 |
| BAUS-4138 | 51 | 65 | 6166124 | 19148388 | 2.1 | 1 | 41.84 | 52.15 | 76.88 | 57.64 | 10.31 | 35.05 | 15.8 |
| 6624203 | 51 | 65 | 6166932 | 19150042 | 2.15 | 1 | 41.84 | 52.15 | 76.88 | 57.64 | 10.31 | 35.05 | 15.8 |
| BWLL-4134 | 52 | 71 | 6197009.5 | 19166208 | 2.19 | 1 | 37.82 | 47.56 | 66.82 | 52.78 | 9.74 | 29 | 14.96 |
| BAUS-4137 | 51 | 65 | 6165560.5 | 19149382 | 2.29 | 1 | 41.84 | 52.15 | 76.88 | 57.64 | 10.31 | 35.05 | 15.8 |
| BAUS-5120 | 50 | 66 | 6166456 | 19161362 | 2.33 | 1 | 39.94 | 51.1 | 76 | 57.07 | 11.16 | 36.06 | 17.13 |
| BAUS-4552 | 49 | 66 | 6166768 | 19162486 | 2.37 | 1 | 38.74 | 48.85 | 71.15 | 54.11 | 10.1 | 32.41 | 15.36 |
| BAUS-4235 | 49 | 66 | 6166764.5 | 19162588 | 2.38 | 1 | 38.74 | 48.85 | 71.15 | 54.11 | 10.1 | 32.41 | 15.36 |
| BAUS-4324 | 49 | 66 | 6166588.5 | 19162582 | 2.41 | 1 | 38.74 | 48.85 | 71.15 | 54.11 | 10.1 | 32.41 | 15.36 |
| BAUS-4067 | 50 | 65 | 6165176.5 | 19155240 | 2.42 | 1 | 40.66 | 50.48 | 73.43 | 55.62 | 9.82 | 32.77 | 14.96 |
| BAUS-5146 | 56 | 64 | 6177989 | 19128236 | 2.43 | 1 | 48.85 | 54.68 | 70.71 | 57.54 | 5.83 | 21.86 | 8.69 |
| BAUS-4288 | 49 | 66 | 6166412.5 | 19162576 | 2.44 | 1 | 38.74 | 48.85 | 71.15 | 54.11 | 10.1 | 32.41 | 15.36 |
| BAUS-5437 | 49 | 68 | 6171384 | 19168042 | 2.48 | 1 | 37.05 | 48.05 | 70.74 | 53.86 | 11 | 33.69 | 16.81 |
| BAUS-4309 | 49 | 66 | 6166229.5 | 19162772 | 2.49 | 1 | 38.74 | 48.85 | 71.15 | 54.11 | 10.1 | 32.41 | 15.36 |
| BAUS-4558 | 49 | 66 | 6166226 | 19162872 | 2.5 | 1 | 38.74 | 48.85 | 71.15 | 54.11 | 10.1 | 32.41 | 15.36 |

# Table C-2
# Simulated Drawdown and Drawdown Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - HAGM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Drawdown 2008 to 2060 (ft) | | | | Drawdown Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BAUS-4140 | 50 | 65 | 6164582 | 19154612 | 2.54 | 1 | 40.66 | 50.48 | 73.43 | 55.62 | 9.82 | 32.77 | 14.96 |
| BAUS-5394 | 50 | 65 | 6164439 | 19155042 | 2.56 | 1 | 40.66 | 50.48 | 73.43 | 55.62 | 9.82 | 32.77 | 14.96 |
| BAUS-5395C | 50 | 65 | 6164439 | 19155042 | 2.56 | 1 | 40.66 | 50.48 | 73.43 | 55.62 | 9.82 | 32.77 | 14.96 |
| BAUS-4321 | 49 | 66 | 6165863.5 | 19163164 | 2.58 | 1 | 38.74 | 48.85 | 71.15 | 54.11 | 10.1 | 32.41 | 15.36 |
| BAUS-4314 | 49 | 66 | 6165765 | 19163464 | 2.63 | 1 | 38.74 | 48.85 | 71.15 | 54.11 | 10.1 | 32.41 | 15.36 |
| BAUS-4495 | 49 | 66 | 6165427.5 | 19163046 | 2.64 | 1 | 38.74 | 48.85 | 71.15 | 54.11 | 10.1 | 32.41 | 15.36 |
| BAUS-4541 | 49 | 66 | 6165427.5 | 19163046 | 2.64 | 1 | 38.74 | 48.85 | 71.15 | 54.11 | 10.1 | 32.41 | 15.36 |
| 6624102 | 51 | 64 | 6161925 | 19145490 | 2.65 | 1 | 42.7 | 51.41 | 73.26 | 55.92 | 8.71 | 30.57 | 13.23 |
| BAUS-5425 | 51 | 65 | 6164243.5 | 19152214 | 2.71 | 1 | 41.84 | 52.15 | 76.88 | 57.64 | 10.31 | 35.05 | 15.8 |
| BAUS-5344 | 49 | 67 | 6168874 | 19168294 | 2.78 | 1 | 37.96 | 48.82 | 71.89 | 54.53 | 10.85 | 33.93 | 16.57 |
| BWLL-4987 | 53 | 72 | 6203934.5 | 19164638 | 2.85 | 1 | 36.43 | 44.32 | 60.1 | 48.42 | 7.88 | 23.67 | 11.99 |
| BAUS-5251 | 49 | 66 | 6163571 | 19161666 | 2.86 | 1 | 38.74 | 48.85 | 71.15 | 54.11 | 10.1 | 32.41 | 15.36 |
| BWLL-5574 | 53 | 72 | 6204376 | 19164880 | 2.95 | 1 | 36.43 | 44.32 | 60.1 | 48.42 | 7.88 | 23.67 | 11.99 |
| BWLL-5666 | 53 | 72 | 6204376 | 19164880 | 2.95 | 1 | 36.43 | 44.32 | 60.1 | 48.42 | 7.88 | 23.67 | 11.99 |
| BWLL-5671 | 53 | 72 | 6203411.5 | 19166926 | 3.05 | 1 | 36.43 | 44.32 | 60.1 | 48.42 | 7.88 | 23.67 | 11.99 |
| BAUS-4315 | 50 | 65 | 6162008 | 19152698 | 3.09 | 1 | 40.66 | 50.48 | 73.43 | 55.62 | 9.82 | 32.77 | 14.96 |
| 6517418 | 57 | 67 | 6193783.5 | 19132988 | 3.16 | 1 | 42.22 | 48.31 | 63.49 | 51.35 | 6.09 | 21.27 | 9.13 |
| 6616810 | 48 | 67 | 6165870 | 19168340 | 3.17 | 1 | 36.53 | 46 | 66.06 | 50.81 | 9.46 | 29.53 | 14.27 |
| BAUS-4001 | 50 | 64 | 6161187.5 | 19153480 | 3.21 | 1 | 41.36 | 49.75 | 70.18 | 54.03 | 8.39 | 28.81 | 12.67 |
| BWLL-5144 | 54 | 72 | 6208083.5 | 19161954 | 3.32 | 1 | 34.88 | 41.97 | 56.46 | 45.61 | 7.08 | 21.57 | 10.73 |
| 6616808 | 48 | 67 | 6164696 | 19168372 | 3.33 | 1 | 36.53 | 46 | 66.06 | 50.81 | 9.46 | 29.53 | 14.27 |
| BAUS-5369 | 50 | 64 | 6159339.5 | 19150220 | 3.4 | 1 | 41.36 | 49.75 | 70.18 | 54.03 | 8.39 | 28.81 | 12.67 |
| 6616807 | 48 | 67 | 6164759 | 19169286 | 3.44 | 1 | 36.53 | 46 | 66.06 | 50.81 | 9.46 | 29.53 | 14.27 |
| BAUS-4165 | 50 | 64 | 6159584.5 | 19151498 | 3.47 | 1 | 41.36 | 49.75 | 70.18 | 54.03 | 8.39 | 28.81 | 12.67 |
| BAUS-4332 | 56 | 63 | 6173628.5 | 19123240 | 3.49 | 1 | 51.3 | 56.61 | 71.49 | 59.15 | 5.31 | 20.2 | 7.85 |
| BWLL-5283 | 54 | 73 | 6206956.5 | 19166268 | 3.5 | 1 | 32.99 | 39.08 | 51.48 | 42.12 | 6.09 | 18.5 | 9.13 |
| BAUS-4272 | 49 | 65 | 6159772.5 | 19161124 | 3.53 | 1 | 39.36 | 48.37 | 69.07 | 52.98 | 9.01 | 29.71 | 13.61 |
| BAUS-0025 | 48 | 67 | 6164912.5 | 19170116 | 3.53 | 1 | 36.53 | 46 | 66.06 | 50.81 | 9.46 | 29.53 | 14.27 |
| 6616905 | 49 | 70 | 6181892 | 19174892 | 3.54 | 1 | 35.7 | 45.36 | 64.48 | 50.36 | 9.66 | 28.78 | 14.66 |
| 6517416 | 57 | 68 | 6197967 | 19136210 | 3.56 | 1 | 41.19 | 47.4 | 62.32 | 50.53 | 6.22 | 21.13 | 9.35 |
| BAUS-4251 | 48 | 66 | 6162705.5 | 19167810 | 3.56 | 1 | 37.28 | 46.19 | 65.72 | 50.68 | 8.91 | 28.44 | 13.4 |
| BAUS-5354 | 50 | 64 | 6158858.5 | 19151168 | 3.56 | 1 | 41.36 | 49.75 | 70.18 | 54.03 | 8.39 | 28.81 | 12.67 |
| BAUS-5388 | 57 | 63 | 6178570 | 19121956 | 3.62 | 1 | 52.18 | 56.91 | 70.01 | 59.11 | 4.73 | 17.83 | 6.93 |
| BAUS-4446 | 56 | 63 | 6172414 | 19122690 | 3.65 | 1 | 51.3 | 56.61 | 71.49 | 59.15 | 5.31 | 20.2 | 7.85 |
| BWLL-5099 | 50 | 71 | 6188851 | 19175126 | 3.66 | 1 | 36.82 | 46.17 | 64.42 | 51.03 | 9.34 | 27.6 | 14.21 |
| BWLL-4914 | 48 | 69 | 6175618.5 | 19175966 | 3.68 | 1 | 34.9 | 44.1 | 62.7 | 48.78 | 9.2 | 27.8 | 13.88 |
| BAUS-4103 | 48 | 66 | 6162497.5 | 19168714 | 3.7 | 1 | 37.28 | 46.19 | 65.72 | 50.68 | 8.91 | 28.44 | 13.4 |
| BAUS-4482 | 48 | 65 | 6159595 | 19163650 | 3.7 | 1 | 37.87 | 45.91 | 64.15 | 49.9 | 8.04 | 26.29 | 12.03 |
| BWLL-5083 | 51 | 72 | 6196246 | 19175092 | 3.72 | 1 | 37.63 | 45.95 | 62.16 | 50.24 | 8.32 | 24.53 | 12.61 |
| BAUS-4046 | 49 | 65 | 6158552 | 19160778 | 3.74 | 1 | 39.36 | 48.37 | 69.07 | 52.98 | 9.01 | 29.71 | 13.61 |
| 6517506 | 57 | 70 | 6206333.5 | 19142652 | 3.77 | 1 | 38.35 | 44.27 | 57.63 | 47.22 | 5.92 | 19.28 | 8.87 |
| BAUS-4330 | 56 | 63 | 6172527 | 19121986 | 3.77 | 1 | 51.3 | 56.61 | 71.49 | 59.15 | 5.31 | 20.2 | 7.85 |
| BAUS-4499 | 50 | 64 | 6157484 | 19151120 | 3.79 | 1 | 41.36 | 49.75 | 70.18 | 54.03 | 8.39 | 28.81 | 12.67 |
| BAUS-5172 | 49 | 65 | 6158516.5 | 19161790 | 3.79 | 1 | 39.36 | 48.37 | 69.07 | 52.98 | 9.01 | 29.71 | 13.61 |
| BAUS-4197 | 48 | 69 | 6172692.5 | 19176572 | 3.89 | 1 | 34.9 | 44.1 | 62.7 | 48.78 | 9.2 | 27.8 | 13.88 |
| BAUS-5427 | 48 | 65 | 6158124.5 | 19162332 | 3.89 | 1 | 37.87 | 45.91 | 64.15 | 49.9 | 8.04 | 26.29 | 12.03 |
| BAUS-4554 | 50 | 64 | 6157482.5 | 19153652 | 3.9 | 1 | 41.36 | 49.75 | 70.18 | 54.03 | 8.39 | 28.81 | 12.67 |
| BAUS-4244 | 48 | 69 | 6172513 | 19176666 | 3.92 | 1 | 34.9 | 44.1 | 62.7 | 48.78 | 9.2 | 27.8 | 13.88 |
| BAUS-4245 | 48 | 69 | 6172513 | 19176666 | 3.92 | 1 | 34.9 | 44.1 | 62.7 | 48.78 | 9.2 | 27.8 | 13.88 |
| BAUS-4381 | 48 | 65 | 6157883 | 19162274 | 3.93 | 1 | 37.87 | 45.91 | 64.15 | 49.9 | 8.04 | 26.29 | 12.03 |
| BAUS-4161 | 56 | 63 | 6173447 | 19120904 | 3.93 | 1 | 51.3 | 56.61 | 71.49 | 59.15 | 5.31 | 20.2 | 7.85 |
| BAUS-4377 | 50 | 64 | 6156590 | 19151494 | 3.97 | 1 | 41.36 | 49.75 | 70.18 | 54.03 | 8.39 | 28.81 | 12.67 |
| BWLL-4902 | 51 | 72 | 6196194.5 | 19176508 | 3.98 | 1 | 37.63 | 45.95 | 62.16 | 50.24 | 8.32 | 24.53 | 12.61 |
| BAUS-4002 | 49 | 64 | 6156882.5 | 19158188 | 3.98 | 1 | 39.99 | 47.77 | 66.35 | 51.66 | 7.79 | 26.36 | 11.68 |
| BWLL-5712 | 52 | 73 | 6201356 | 19174950 | 4.03 | 1 | 38.3 | 45.19 | 58.7 | 48.64 | 6.88 | 20.39 | 10.34 |
| BWLL-4901 | 51 | 72 | 6196531.5 | 19176924 | 4.07 | 1 | 37.63 | 45.95 | 62.16 | 50.24 | 8.32 | 24.53 | 12.61 |
| BAUS-4106 | 48 | 69 | 6173004 | 19177696 | 4.09 | 1 | 34.9 | 44.1 | 62.7 | 48.78 | 9.2 | 27.8 | 13.88 |
| BAUS-4326 | 49 | 64 | 6156076.5 | 19158564 | 4.14 | 1 | 39.99 | 47.77 | 66.35 | 51.66 | 7.79 | 26.36 | 11.68 |
| 6624105 | 49 | 64 | 6156073.5 | 19158552 | 4.14 | 1 | 39.99 | 47.77 | 66.35 | 51.66 | 7.79 | 26.36 | 11.68 |
| BAUS-4130 | 50 | 63 | 6154803.5 | 19149710 | 4.17 | 1 | 41.86 | 48.88 | 66.58 | 52.35 | 7.02 | 24.73 | 10.5 |
| BWLL-4479 | 54 | 73 | 6211756.5 | 19165026 | 4.18 | 1 | 32.99 | 39.08 | 51.48 | 42.12 | 6.09 | 18.5 | 9.13 |
| BWLL-5046 | 48 | 70 | 6175780.5 | 19178808 | 4.21 | 1 | 34.36 | 42.87 | 59.75 | 47.14 | 8.51 | 25.39 | 12.77 |

# Table C-2
# Simulated Drawdown and Drawdown Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - HAGM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Drawdown 2008 to 2060 (ft) | | | | Drawdown Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BAUS-4440 | 56 | 62 | 6169492.5 | 19120560 | 4.22 | 1 | 53.94 | 58.66 | 72.06 | 60.84 | 4.72 | 18.12 | 6.9 |
| BWLL-5107 | 50 | 72 | 6193152 | 19178698 | 4.31 | 1 | 36.98 | 44.95 | 60.39 | 48.97 | 7.97 | 23.41 | 11.99 |
| BAUS-4478 | 50 | 63 | 6153445.5 | 19148244 | 4.34 | 1 | 41.86 | 48.88 | 66.58 | 52.35 | 7.02 | 24.73 | 10.5 |
| 6509803 | 55 | 73 | 6213403 | 19163354 | 4.36 | 1 | 28.89 | 34.5 | 46.12 | 37.26 | 5.61 | 17.23 | 8.37 |
| BWLL-5036 | 50 | 72 | 6193462 | 19179040 | 4.37 | 1 | 36.98 | 44.95 | 60.39 | 48.97 | 7.97 | 23.41 | 11.99 |
| BAUS-5365 | 49 | 64 | 6154709.5 | 19158668 | 4.4 | 1 | 39.99 | 47.77 | 66.35 | 51.66 | 7.79 | 26.36 | 11.68 |
| BWLL-4586 | 50 | 72 | 6193187.5 | 19179334 | 4.43 | 1 | 36.98 | 44.95 | 60.39 | 48.97 | 7.97 | 23.41 | 11.99 |
| BWLL-4957 | 50 | 72 | 6193187.5 | 19179334 | 4.43 | 1 | 36.98 | 44.95 | 60.39 | 48.97 | 7.97 | 23.41 | 11.99 |
| BAUS-4231 | 49 | 64 | 6154315 | 19156072 | 4.46 | 1 | 39.99 | 47.77 | 66.35 | 51.66 | 7.79 | 26.36 | 11.68 |
| BAUS-5178 | 54 | 61 | 6159714 | 19125378 | 4.47 | 1 | 50.4 | 55.12 | 68.62 | 57.3 | 4.72 | 18.22 | 6.9 |
| BAUS-4433 | 47 | 68 | 6164433 | 19176176 | 4.48 | 1 | 34.07 | 42.25 | 59.14 | 46.26 | 8.18 | 25.07 | 12.19 |
| BAUS-4555 | 49 | 64 | 6154125 | 19156470 | 4.49 | 1 | 39.99 | 47.77 | 66.35 | 51.66 | 7.79 | 26.36 | 11.68 |
| BAUS-4323 | 49 | 64 | 6153822 | 19157574 | 4.55 | 1 | 39.99 | 47.77 | 66.35 | 51.66 | 7.79 | 26.36 | 11.68 |
| BAUS-4215 | 49 | 64 | 6153833 | 19157270 | 4.55 | 1 | 39.99 | 47.77 | 66.35 | 51.66 | 7.79 | 26.36 | 11.68 |
| BWLL-4273 | 49 | 72 | 6190162.5 | 19180238 | 4.6 | 1 | 35.49 | 42.83 | 57.01 | 46.43 | 7.33 | 21.52 | 10.93 |
| BAUS-4100 | 47 | 67 | 6159614.5 | 19173068 | 4.64 | 1 | 34.7 | 42.78 | 59.84 | 46.7 | 8.08 | 25.13 | 12 |
| BWLL-4020 | 50 | 72 | 6192689 | 19180938 | 4.72 | 1 | 36.98 | 44.95 | 60.39 | 48.97 | 7.97 | 23.41 | 11.99 |
| BWLL-4510 | 54 | 74 | 6212934 | 19168918 | 4.72 | 1 | 32.69 | 37.91 | 48.48 | 40.42 | 5.21 | 15.78 | 7.73 |
| BAUS-5408 | 57 | 62 | 6169281 | 19117216 | 4.82 | 1 | 54.55 | 58.8 | 70.8 | 60.73 | 4.26 | 16.25 | 6.18 |
| BAUS-4331 | 54 | 60 | 6155456.5 | 19126140 | 4.96 | 1 | 50.33 | 54.32 | 65.8 | 56.09 | 3.99 | 15.47 | 5.76 |
| BAUS-5307 | 55 | 61 | 6161433.5 | 19120750 | 4.97 | 1 | 53.2 | 57.65 | 70.44 | 59.68 | 4.45 | 17.24 | 6.48 |
| BAUS-4322 | 49 | 63 | 6151606.5 | 19155470 | 4.98 | 1 | 40.48 | 47.05 | 63.27 | 50.24 | 6.57 | 22.79 | 9.76 |
| BWLL-5404 | 49 | 72 | 6186798.5 | 19182242 | 5.05 | 1 | 35.49 | 42.83 | 57.01 | 46.43 | 7.33 | 21.52 | 10.93 |
| BWLL-5720 | 48 | 70 | 6177109.5 | 19183434 | 5.07 | 1 | 34.36 | 42.87 | 59.75 | 47.14 | 8.51 | 25.39 | 12.77 |
| BWLL-4968 | 52 | 74 | 6207057 | 19177918 | 5.08 | 1 | 36.91 | 42.54 | 53.58 | 45.25 | 5.62 | 16.66 | 8.33 |
| BAUS-4151 | 47 | 64 | 6152060.5 | 19165106 | 5.14 | 1 | 36.62 | 42.77 | 57.05 | 45.65 | 6.15 | 20.43 | 9.02 |
| BAUS-4240 | 47 | 66 | 6156685 | 19173776 | 5.15 | 1 | 35.46 | 43.13 | 59.85 | 46.85 | 7.67 | 24.39 | 11.39 |
| BWLL-0046 | 50 | 73 | 6198713 | 19182270 | 5.15 | 1 | 37.43 | 44.09 | 56.95 | 47.34 | 6.66 | 19.52 | 9.91 |
| BAUS-5332 | 46 | 67 | 6159231 | 19176600 | 5.17 | 1 | 32.71 | 39.6 | 54.13 | 42.82 | 6.9 | 21.42 | 10.12 |
| BAUS-4095 | 46 | 67 | 6159387 | 19177010 | 5.2 | 1 | 32.71 | 39.6 | 54.13 | 42.82 | 6.9 | 21.42 | 10.12 |
| BAUS-4361 | 48 | 64 | 6150553 | 19160396 | 5.22 | 1 | 38.38 | 45.4 | 61.88 | 48.8 | 7.02 | 23.51 | 10.42 |
| BAUS-4252 | 46 | 66 | 6155967.5 | 19174154 | 5.3 | 1 | 33.32 | 39.83 | 53.88 | 42.84 | 6.51 | 20.56 | 9.52 |
| BAUS-0023 | 58 | 62 | 6177353.5 | 19112740 | 5.37 | 1 | 54.98 | 58.78 | 69.36 | 60.45 | 3.8 | 14.38 | 5.46 |
| 6616701 | 46 | 66 | 6154947.5 | 19173422 | 5.37 | 1 | 33.32 | 39.83 | 53.88 | 42.84 | 6.51 | 20.56 | 9.52 |
| BWLL-4175 | 47 | 70 | 6175471.5 | 19184974 | 5.38 | 1 | 32.72 | 40.01 | 54.46 | 43.51 | 7.29 | 21.74 | 10.79 |
| BAUS-4157 | 55 | 60 | 6157945 | 19120556 | 5.39 | 1 | 52.52 | 56.33 | 67.3 | 57.98 | 3.8 | 14.78 | 5.46 |
| BAUS-4229 | 52 | 60 | 6150139 | 19129496 | 5.45 | 1 | 45.9 | 50.03 | 61.58 | 51.87 | 4.12 | 15.67 | 5.97 |
| BAUS-5374 | 47 | 64 | 6149640.5 | 19162492 | 5.46 | 1 | 36.62 | 42.77 | 57.05 | 45.65 | 6.15 | 20.43 | 9.02 |
| BWLL-4391 | 50 | 73 | 6195988 | 19184602 | 5.48 | 1 | 37.43 | 44.09 | 56.95 | 47.34 | 6.66 | 19.52 | 9.91 |
| BAUS-5320 | 46 | 66 | 6155757.5 | 19175638 | 5.51 | 1 | 33.32 | 39.83 | 53.88 | 42.84 | 6.51 | 20.56 | 9.52 |
| BWLL-5619 | 49 | 73 | 6190846.5 | 19185114 | 5.51 | 1 | 36.4 | 42.59 | 54.5 | 45.53 | 6.19 | 18.1 | 9.13 |
| 6616408 | 46 | 67 | 6156879.5 | 19177938 | 5.66 | 1 | 32.71 | 39.6 | 54.13 | 42.82 | 6.9 | 21.42 | 10.12 |
| BAUS-4533 | 49 | 61 | 6145912 | 19147068 | 5.7 | 1 | 40.5 | 44.99 | 56.68 | 47.02 | 4.49 | 16.18 | 6.53 |
| BAUS-4441 | 46 | 66 | 6154841 | 19176140 | 5.71 | 1 | 33.32 | 39.83 | 53.88 | 42.84 | 6.51 | 20.56 | 9.52 |
| 6517505 | 59 | 70 | 6212777.5 | 19134288 | 5.75 | 1 | 37.04 | 41.48 | 51.81 | 43.56 | 4.44 | 14.77 | 6.52 |
| BAUS-4312 | 47 | 65 | 6149991 | 19168882 | 5.76 | 1 | 35.96 | 42.92 | 58.56 | 46.24 | 6.96 | 22.61 | 10.28 |
| BWLL-4388 | 47 | 71 | 6176538 | 19187140 | 5.78 | 1 | 32.5 | 39 | 51.7 | 42.05 | 6.5 | 19.2 | 9.55 |
| BWLL-4841 | 55 | 75 | 6219268 | 19169050 | 5.79 | 1 | 29.27 | 33.44 | 42.01 | 35.36 | 4.17 | 12.74 | 6.09 |
| BWLL-4199 | 48 | 72 | 6184208.5 | 19186706 | 5.81 | 1 | 33.94 | 40.48 | 53.11 | 43.58 | 6.54 | 19.17 | 9.63 |
| BWLL-4019 | 48 | 72 | 6188877 | 19186572 | 5.81 | 1 | 33.94 | 40.48 | 53.11 | 43.58 | 6.54 | 19.17 | 9.63 |
| BWLL-4198 | 48 | 72 | 6184296.5 | 19186710 | 5.82 | 1 | 33.94 | 40.48 | 53.11 | 43.58 | 6.54 | 19.17 | 9.63 |
| BWLL-4271 | 54 | 75 | 6216897.5 | 19173622 | 5.84 | 1 | 32.17 | 36.61 | 45.58 | 38.67 | 4.44 | 13.41 | 6.5 |
| BWLL-4668 | 46 | 69 | 6164915.5 | 19184902 | 5.88 | 1 | 31.31 | 37.98 | 51.37 | 41.08 | 6.67 | 20.05 | 9.76 |
| BAUS-5321 | 46 | 66 | 6155203.5 | 19177898 | 5.88 | 1 | 33.32 | 39.83 | 53.88 | 42.84 | 6.51 | 20.56 | 9.52 |
| BAUS-4209 | 47 | 64 | 6148873 | 19168134 | 5.9 | 1 | 36.62 | 42.77 | 57.05 | 45.65 | 6.15 | 20.43 | 9.02 |
| BWLL-4844 | 54 | 75 | 6219097.5 | 19171272 | 5.96 | 1 | 32.17 | 36.61 | 45.58 | 38.67 | 4.44 | 13.41 | 6.5 |
| BAUS-5366 | 59 | 62 | 6179431 | 19109360 | 6.01 | 1 | 55.96 | 59.33 | 68.64 | 60.75 | 3.37 | 12.68 | 4.8 |
| BAUS-4284 | 46 | 67 | 6156156.5 | 19179906 | 6.02 | 1 | 32.71 | 39.6 | 54.13 | 42.82 | 6.9 | 21.42 | 10.12 |
| BWLL-4146 | 47 | 71 | 6177018 | 19188474 | 6.03 | 1 | 32.5 | 39 | 51.7 | 42.05 | 6.5 | 19.2 | 9.55 |
| 6525104 | 60 | 65 | 6195083.5 | 19113996 | 6.05 | 1 | 50.38 | 54.07 | 63.77 | 55.7 | 3.69 | 13.39 | 5.32 |
| BAUS-4111 | 49 | 62 | 6145119.5 | 19152104 | 6.05 | 1 | 40.46 | 45.9 | 59.76 | 48.46 | 5.44 | 19.3 | 8 |
| 6517806 | 60 | 67 | 6203449.5 | 19120438 | 6.1 | 1 | 45.7 | 49.64 | 59.55 | 51.42 | 3.94 | 13.85 | 5.72 |

# Table C-2
## Simulated Drawdown and Drawdown Due to Electro Purification Pumping
## Chicot Aquifer (Layer 1) - HAGM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Drawdown 2008 to 2060 (ft) | | | | Drawdown Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BAUS-4320 | 46 | 67 | 6155152.5 | 19179796 | 6.14 | 1 | 32.71 | 39.6 | 54.13 | 42.82 | 6.9 | 21.42 | 10.12 |
| BAUS-5210 | 46 | 66 | 6152520 | 19177072 | 6.16 | 1 | 33.32 | 39.83 | 53.88 | 42.84 | 6.51 | 20.56 | 9.52 |
| BWLL-5048 | 50 | 74 | 6201355 | 19187026 | 6.16 | 1 | 37.59 | 43.11 | 53.75 | 45.7 | 5.53 | 16.16 | 8.11 |
| BWLL-5244 | 47 | 71 | 6176659 | 19189290 | 6.18 | 1 | 32.5 | 39 | 51.7 | 42.05 | 6.5 | 19.2 | 9.55 |
| BAUS-4219 | 47 | 63 | 6146183.5 | 19164496 | 6.18 | 1 | 36.9 | 42.19 | 54.85 | 44.6 | 5.29 | 17.95 | 7.7 |
| BWLL-4997 | 48 | 73 | 6191791 | 19188702 | 6.19 | 1 | 34.78 | 40.33 | 50.97 | 42.87 | 5.55 | 16.19 | 8.08 |
| BAUS-4179 | 51 | 60 | 6142840 | 19136634 | 6.33 | 1 | 44.11 | 48.18 | 59.38 | 50 | 4.07 | 15.27 | 5.89 |
| BWLL-4481 | 51 | 75 | 6207214 | 19185620 | 6.34 | 1 | 37.92 | 42.62 | 51.74 | 44.77 | 4.7 | 13.82 | 6.84 |
| BAUS-4501 | 47 | 63 | 6144274 | 19161188 | 6.42 | 1 | 36.9 | 42.19 | 54.85 | 44.6 | 5.29 | 17.95 | 7.7 |
| BAUS-4546 | 45 | 66 | 6152776 | 19179814 | 6.46 | 1 | 31.47 | 36.94 | 48.72 | 39.34 | 5.47 | 17.24 | 7.87 |
| BAUS-4096 | 45 | 66 | 6152178.5 | 19179288 | 6.48 | 1 | 31.47 | 36.94 | 48.72 | 39.34 | 5.47 | 17.24 | 7.87 |
| BWLL-4362 | 53 | 59 | 6146703.5 | 19124416 | 6.5 | 1 | 47.84 | 51.26 | 61.02 | 52.71 | 3.42 | 13.18 | 4.87 |
| BAUS-4194 | 45 | 66 | 6152336.5 | 19179800 | 6.52 | 1 | 31.47 | 36.94 | 48.72 | 39.34 | 5.47 | 17.24 | 7.87 |
| BWLL-5633 | 46 | 72 | 6178922 | 19191884 | 6.67 | 1 | 30.9 | 35.67 | 44.85 | 37.73 | 4.77 | 13.95 | 6.83 |
| BWLL-5316 | 48 | 73 | 6188437.5 | 19191416 | 6.73 | 1 | 34.78 | 40.33 | 50.97 | 42.87 | 5.55 | 16.19 | 8.08 |
| BWLL-0050 | 54 | 76 | 6221764 | 19175320 | 6.78 | 1 | 31.33 | 35.17 | 42.9 | 36.88 | 3.83 | 11.56 | 5.55 |
| 6517615 | 59 | 73 | 6225327 | 19143954 | 6.79 | 1 | 28.41 | 32.03 | 40.01 | 33.65 | 3.62 | 11.6 | 5.24 |
| 6517612 | 59 | 73 | 6225327 | 19143954 | 6.79 | 1 | 28.41 | 32.03 | 40.01 | 33.65 | 3.62 | 11.6 | 5.24 |
| BAUS-4058 | 55 | 59 | 6152213 | 19115596 | 6.8 | 1 | 51.31 | 54.52 | 63.81 | 55.85 | 3.21 | 12.5 | 4.54 |
| BAUS-4317 | 53 | 59 | 6144949.5 | 19124152 | 6.81 | 1 | 47.84 | 51.26 | 61.02 | 52.71 | 3.42 | 13.18 | 4.87 |
| BWLL-5218 | 47 | 73 | 6186841.5 | 19191764 | 6.83 | 1 | 33.62 | 38.45 | 47.7 | 40.56 | 4.83 | 14.08 | 6.94 |
| BWLL-0014B | 54 | 76 | 6222610.5 | 19174580 | 6.85 | 1 | 31.33 | 35.17 | 42.9 | 36.88 | 3.83 | 11.56 | 5.55 |
| BAUS-4456 | 53 | 59 | 6145351.5 | 19122748 | 6.89 | 1 | 47.84 | 51.26 | 61.02 | 52.71 | 3.42 | 13.18 | 4.87 |
| BAUS-4329 | 53 | 59 | 6145263 | 19122744 | 6.9 | 1 | 47.84 | 51.26 | 61.02 | 52.71 | 3.42 | 13.18 | 4.87 |
| BWLL-4529 | 50 | 75 | 6206447 | 19189744 | 6.98 | 1 | 38.3 | 42.86 | 51.63 | 44.9 | 4.56 | 13.33 | 6.6 |
| BWLL-4524 | 50 | 75 | 6206447 | 19189744 | 6.98 | 1 | 38.3 | 42.86 | 51.63 | 44.9 | 4.56 | 13.33 | 6.6 |
| 6623602 | 49 | 60 | 6138788.5 | 19144204 | 6.99 | 1 | 40.84 | 44.55 | 54.38 | 46.16 | 3.71 | 13.54 | 5.32 |
| BWLL-5229 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 34.78 | 40.33 | 50.97 | 42.87 | 5.55 | 16.19 | 8.08 |
| BWLL-5228 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 34.78 | 40.33 | 50.97 | 42.87 | 5.55 | 16.19 | 8.08 |
| BWLL-5230 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 34.78 | 40.33 | 50.97 | 42.87 | 5.55 | 16.19 | 8.08 |
| BWLL-5231 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 34.78 | 40.33 | 50.97 | 42.87 | 5.55 | 16.19 | 8.08 |
| BWLL-5234 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 34.78 | 40.33 | 50.97 | 42.87 | 5.55 | 16.19 | 8.08 |
| BWLL-5235 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 34.78 | 40.33 | 50.97 | 42.87 | 5.55 | 16.19 | 8.08 |
| BWLL-5236 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 34.78 | 40.33 | 50.97 | 42.87 | 5.55 | 16.19 | 8.08 |
| BWLL-5278 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 34.78 | 40.33 | 50.97 | 42.87 | 5.55 | 16.19 | 8.08 |
| BWLL-0056 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 34.78 | 40.33 | 50.97 | 42.87 | 5.55 | 16.19 | 8.08 |
| BWLL-4098 | 46 | 72 | 6180351 | 19193656 | 7.02 | 1 | 30.9 | 35.67 | 44.85 | 37.73 | 4.77 | 13.95 | 6.83 |
| BAUS-4254 | 48 | 61 | 6139071 | 19148754 | 7.02 | 1 | 38.78 | 42.91 | 53.46 | 44.73 | 4.13 | 14.69 | 5.95 |
| BAUS-4202 | 45 | 65 | 6145386.5 | 19174694 | 7.03 | 1 | 31.94 | 36.93 | 47.94 | 39.08 | 4.98 | 16 | 7.14 |
| 6525106 | 61 | 65 | 6198306 | 19109812 | 7.05 | 1 | 51.09 | 54.31 | 62.7 | 55.66 | 3.21 | 11.61 | 4.57 |
| 6616305 | 46 | 71 | 6175255.5 | 19193866 | 7.06 | 1 | 30.57 | 36.04 | 46.7 | 38.48 | 5.47 | 16.13 | 7.91 |
| BWLL-0001D | 54 | 76 | 6224553 | 19173702 | 7.08 | 1 | 31.33 | 35.17 | 42.9 | 36.88 | 3.83 | 11.56 | 5.55 |
| BWLL-5560 | 50 | 76 | 6207148 | 19189986 | 7.08 | 1 | 39.23 | 42.97 | 50.16 | 44.56 | 3.74 | 10.93 | 5.33 |
| BWLL-5583 | 50 | 76 | 6207148 | 19189986 | 7.08 | 1 | 39.23 | 42.97 | 50.16 | 44.56 | 3.74 | 10.93 | 5.33 |
| BWLL-5705 | 50 | 76 | 6207148 | 19189986 | 7.08 | 1 | 39.23 | 42.97 | 50.16 | 44.56 | 3.74 | 10.93 | 5.33 |
| BAUS-4287 | 48 | 61 | 6139321 | 19151700 | 7.09 | 1 | 38.78 | 42.91 | 53.46 | 44.73 | 4.13 | 14.69 | 5.95 |
| BWLL-5093 | 50 | 76 | 6206153.5 | 19190542 | 7.1 | 1 | 39.23 | 42.97 | 50.16 | 44.56 | 3.74 | 10.93 | 5.33 |
| BWLL-4001 | 50 | 76 | 6206776 | 19190364 | 7.11 | 1 | 39.23 | 42.97 | 50.16 | 44.56 | 3.74 | 10.93 | 5.33 |
| BWLL-5523 | 49 | 75 | 6202579.5 | 19192032 | 7.13 | 1 | 38.61 | 42.88 | 51.02 | 44.73 | 4.26 | 12.41 | 6.11 |
| BWLL-4387 | 46 | 71 | 6173820.5 | 19194232 | 7.15 | 1 | 30.57 | 36.04 | 46.7 | 38.48 | 5.47 | 16.13 | 7.91 |
| BWLL-5260 | 49 | 75 | 6202931 | 19192046 | 7.15 | 1 | 38.61 | 42.88 | 51.02 | 44.73 | 4.26 | 12.41 | 6.11 |
| BWLL-4427 | 47 | 73 | 6189667.5 | 19193892 | 7.18 | 1 | 33.62 | 38.45 | 47.7 | 40.56 | 4.83 | 14.08 | 6.94 |
| BWLL-5047 | 49 | 75 | 6203183.5 | 19192358 | 7.22 | 1 | 38.61 | 42.88 | 51.02 | 44.73 | 4.26 | 12.41 | 6.11 |
| BAUS-4164 | 54 | 58 | 6147398 | 19117150 | 7.23 | 1 | 48.51 | 51.3 | 59.34 | 52.41 | 2.78 | 10.82 | 3.89 |
| BAUS-4369 | 49 | 60 | 6137283 | 19144440 | 7.28 | 1 | 40.84 | 44.55 | 54.38 | 46.16 | 3.71 | 13.54 | 5.32 |
| BWLL-4753 | 54 | 77 | 6223802.5 | 19177320 | 7.31 | 1 | 29.95 | 33.23 | 39.82 | 34.63 | 3.28 | 9.87 | 4.68 |
| BWLL-4655 | 49 | 75 | 6202275.5 | 19193136 | 7.32 | 1 | 38.61 | 42.88 | 51.02 | 44.73 | 4.26 | 12.41 | 6.11 |
| BAUS-4313 | 48 | 60 | 6137047.5 | 19146152 | 7.34 | 1 | 39.26 | 42.69 | 51.62 | 44.14 | 3.43 | 12.36 | 4.88 |
| BWLL-4599 | 49 | 75 | 6202890.5 | 19193158 | 7.35 | 1 | 38.61 | 42.88 | 51.02 | 44.73 | 4.26 | 12.41 | 6.11 |
| BWLL-4656 | 49 | 75 | 6201913 | 19193426 | 7.35 | 1 | 38.61 | 42.88 | 51.02 | 44.73 | 4.26 | 12.41 | 6.11 |
| BAUS-5288 | 54 | 58 | 6148317 | 19114972 | 7.39 | 1 | 48.51 | 51.3 | 59.34 | 52.41 | 2.78 | 10.82 | 3.89 |
| BAUS-4078 | 48 | 61 | 6137790.5 | 19152660 | 7.42 | 1 | 38.78 | 42.91 | 53.46 | 44.73 | 4.13 | 14.69 | 5.95 |

# Table C-2
# Simulated Drawdown and Drawdown Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - HAGM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Drawdown 2008 to 2060 (ft) | | | | Drawdown Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BWLL-4660 | 49 | 75 | 6202868 | 19193764 | 7.46 | 1 | 38.61 | 42.88 | 51.02 | 44.73 | 4.26 | 12.41 | 6.11 |
| BWLL-4227 | 53 | 77 | 6222451.5 | 19180512 | 7.46 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-4113 | 53 | 77 | 6222902.5 | 19180224 | 7.5 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-4304 | 53 | 77 | 6222433 | 19181016 | 7.52 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-4181 | 53 | 77 | 6222891 | 19180528 | 7.53 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-5210 | 49 | 75 | 6202498.5 | 19194258 | 7.53 | 1 | 38.61 | 42.88 | 51.02 | 44.73 | 4.26 | 12.41 | 6.11 |
| BWLL-4297 | 45 | 71 | 6169373.5 | 19195592 | 7.54 | 1 | 28.5 | 33.04 | 41.83 | 34.96 | 4.54 | 13.33 | 6.45 |
| BWLL-4405 | 54 | 77 | 6224743 | 19178064 | 7.54 | 1 | 29.95 | 33.23 | 39.82 | 34.63 | 3.28 | 9.87 | 4.68 |
| BAUS-4066 | 47 | 62 | 6138023 | 19158642 | 7.55 | 1 | 36.97 | 41.43 | 52.41 | 43.4 | 4.46 | 15.44 | 6.44 |
| BWLL-4265 | 53 | 77 | 6222608.5 | 19181024 | 7.55 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-4570 | 53 | 77 | 6223437 | 19180042 | 7.55 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BAUS-4075 | 47 | 62 | 6138002 | 19159248 | 7.56 | 1 | 36.97 | 41.43 | 52.41 | 43.4 | 4.46 | 15.44 | 6.44 |
| BAUS-4297 | 46 | 72 | 6178346 | 19196654 | 7.57 | 1 | 30.9 | 35.67 | 44.85 | 37.73 | 4.77 | 13.95 | 6.83 |
| BWLL-4590 | 49 | 75 | 6202934 | 19194374 | 7.58 | 1 | 38.61 | 42.88 | 51.02 | 44.73 | 4.26 | 12.41 | 6.11 |
| BAUS-4230 | 47 | 61 | 6136978 | 19153238 | 7.59 | 1 | 37.08 | 40.8 | 50.15 | 42.39 | 3.72 | 13.07 | 5.3 |
| BWLL-4127 | 53 | 77 | 6223052 | 19180938 | 7.6 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-4299 | 54 | 77 | 6225373.5 | 19177684 | 7.6 | 1 | 29.95 | 33.23 | 39.82 | 34.63 | 3.28 | 9.87 | 4.68 |
| BWLL-4114 | 53 | 77 | 6222864.5 | 19181236 | 7.61 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-5339 | 53 | 77 | 6222956.5 | 19181138 | 7.61 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-4128 | 53 | 77 | 6223876.5 | 19180058 | 7.62 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-4017 | 53 | 77 | 6224063.5 | 19179760 | 7.62 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-4014 | 53 | 77 | 6223972 | 19179858 | 7.62 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| 6510715 | 57 | 76 | 6231432 | 19161984 | 7.63 | 1 | 22.15 | 25.4 | 32.21 | 26.82 | 3.25 | 10.06 | 4.66 |
| BWLL-4264 | 53 | 77 | 6223319 | 19180848 | 7.63 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-4262 | 54 | 77 | 6225736 | 19177392 | 7.63 | 1 | 29.95 | 33.23 | 39.82 | 34.63 | 3.28 | 9.87 | 4.68 |
| 6517614 | 60 | 73 | 6228549 | 19139770 | 7.65 | 1 | 27.78 | 31 | 38.2 | 32.4 | 3.23 | 10.42 | 4.62 |
| BWLL-4308 | 53 | 77 | 6224144 | 19179966 | 7.65 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BAUS-4472 | 48 | 60 | 6135298.5 | 19145788 | 7.67 | 1 | 39.26 | 42.69 | 51.62 | 44.14 | 3.43 | 12.36 | 4.88 |
| BWLL-4614 | 49 | 75 | 6202556.5 | 19195070 | 7.68 | 1 | 38.61 | 42.88 | 51.02 | 44.73 | 4.26 | 12.41 | 6.11 |
| BWLL-4180 | 53 | 77 | 6224041 | 19180368 | 7.68 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-4294 | 53 | 77 | 6223671 | 19180860 | 7.68 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BAUS-5154 | 47 | 62 | 6137316 | 19158718 | 7.69 | 1 | 36.97 | 41.43 | 52.41 | 43.4 | 4.46 | 15.44 | 6.44 |
| BWLL-4058 | 53 | 77 | 6224133 | 19180270 | 7.69 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-4266 | 54 | 77 | 6224686.5 | 19179582 | 7.69 | 1 | 29.95 | 33.23 | 39.82 | 34.63 | 3.28 | 9.87 | 4.68 |
| BWLL-4179 | 53 | 77 | 6224030 | 19180672 | 7.72 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-4034 | 54 | 77 | 6224862.5 | 19179588 | 7.72 | 1 | 29.95 | 33.23 | 39.82 | 34.63 | 3.28 | 9.87 | 4.68 |
| BWLL-5165 | 49 | 76 | 6202725 | 19195278 | 7.73 | 1 | 39.96 | 43.46 | 50.13 | 44.9 | 3.5 | 10.17 | 4.94 |
| BWLL-4225 | 54 | 77 | 6224847 | 19179992 | 7.76 | 1 | 29.95 | 33.23 | 39.82 | 34.63 | 3.28 | 9.87 | 4.68 |
| BWLL-4279 | 53 | 77 | 6224477 | 19180486 | 7.76 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-4380 | 53 | 77 | 6223831.5 | 19181272 | 7.76 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-4566 | 53 | 77 | 6223831.5 | 19181272 | 7.76 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-4797 | 55 | 77 | 6227917.5 | 19175550 | 7.81 | 1 | 26 | 29.2 | 35.73 | 30.57 | 3.2 | 9.72 | 4.57 |
| BWLL-4916 | 53 | 77 | 6224271 | 19181288 | 7.82 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-5324 | 47 | 73 | 6186384 | 19197114 | 7.83 | 1 | 33.62 | 38.45 | 47.7 | 40.56 | 4.83 | 14.08 | 6.94 |
| BWLL-4990 | 52 | 77 | 6218864.5 | 19187062 | 7.83 | 1 | 35.53 | 38.81 | 45.25 | 40.19 | 3.28 | 9.72 | 4.67 |
| BWLL-4018 | 54 | 77 | 6225195 | 19180106 | 7.83 | 1 | 29.95 | 33.23 | 39.82 | 34.63 | 3.28 | 9.87 | 4.68 |
| BWLL-4359 | 53 | 77 | 6224450.5 | 19181194 | 7.84 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-4226 | 54 | 77 | 6225096 | 19180408 | 7.85 | 1 | 29.95 | 33.23 | 39.82 | 34.63 | 3.28 | 9.87 | 4.68 |
| BWLL-4016 | 53 | 77 | 6224813.5 | 19180902 | 7.86 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-4059 | 54 | 77 | 6225271.5 | 19180414 | 7.88 | 1 | 29.95 | 33.23 | 39.82 | 34.63 | 3.28 | 9.87 | 4.68 |
| BWLL-4060 | 54 | 77 | 6225271.5 | 19180414 | 7.88 | 1 | 29.95 | 33.23 | 39.82 | 34.63 | 3.28 | 9.87 | 4.68 |
| BWLL-0014A | 55 | 77 | 6229109.5 | 19174278 | 7.9 | 1 | 26 | 29.2 | 35.73 | 30.57 | 3.2 | 9.72 | 4.57 |
| BAUS-5159 | 47 | 61 | 6136060 | 19156852 | 7.91 | 1 | 37.08 | 40.8 | 50.15 | 42.39 | 3.72 | 13.07 | 5.3 |
| BAUS-4356 | 49 | 59 | 6133777 | 19141382 | 7.94 | 1 | 41.4 | 44.47 | 52.72 | 45.74 | 3.07 | 11.32 | 4.34 |
| BWLL-4088 | 54 | 77 | 6225898 | 19180134 | 7.94 | 1 | 29.95 | 33.23 | 39.82 | 34.63 | 3.28 | 9.87 | 4.68 |
| BWLL-4447 | 53 | 77 | 6225241.5 | 19181222 | 7.96 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-4126 | 53 | 77 | 6225329.5 | 19181226 | 7.98 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-4407 | 53 | 77 | 6225604.5 | 19180932 | 7.98 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-4282 | 54 | 77 | 6226062.5 | 19180444 | 8 | 1 | 29.95 | 33.23 | 39.82 | 34.63 | 3.28 | 9.87 | 4.68 |
| 6525105 | 62 | 65 | 6201528 | 19105630 | 8.04 | 1 | 51.68 | 54.49 | 61.82 | 55.62 | 2.81 | 10.14 | 3.95 |
| BWLL-4228 | 53 | 77 | 6225853 | 19181346 | 8.07 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |
| BWLL-4012 | 53 | 77 | 6226028.5 | 19181354 | 8.1 | 1 | 33.09 | 36.39 | 42.94 | 37.8 | 3.3 | 9.85 | 4.71 |

# Table C-2
# Simulated Drawdown and Drawdown Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - HAGM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Drawdown 2008 to 2060 (ft) | | | | Drawdown Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BAUS-4394 | 44 | 64 | 6139451.5 | 19175804 | 8.13 | 1 | 30.28 | 33.93 | 42.2 | 35.39 | 3.65 | 11.92 | 5.11 |
| 6518103 | 58 | 76 | 6234654 | 19157800 | 8.16 | 1 | 19.45 | 22.46 | 28.83 | 23.74 | 3 | 9.37 | 4.29 |
| 6518406 | 60 | 74 | 6232732 | 19142992 | 8.17 | 1 | 24.02 | 27.05 | 33.71 | 28.33 | 3.02 | 9.69 | 4.31 |
| BAUS-5433 | 45 | 63 | 6137554 | 19171998 | 8.17 | 1 | 33.17 | 37.03 | 46.05 | 38.63 | 3.85 | 12.88 | 5.45 |
| BWLL-4482 | 48 | 76 | 6202617.5 | 19198212 | 8.26 | 1 | 39.84 | 43 | 49.01 | 44.25 | 3.17 | 9.17 | 4.42 |
| BAUS-5362 | 44 | 64 | 6139628 | 19178494 | 8.34 | 1 | 30.28 | 33.93 | 42.2 | 35.39 | 3.65 | 11.92 | 5.11 |
| BAUS-4308 | 44 | 64 | 6137869 | 19175750 | 8.39 | 1 | 30.28 | 33.93 | 42.2 | 35.39 | 3.65 | 11.92 | 5.11 |
| 6615902 | 45 | 63 | 6136149 | 19171854 | 8.4 | 1 | 33.17 | 37.03 | 46.05 | 38.63 | 3.85 | 12.88 | 5.45 |
| 6509106 | 46 | 74 | 6188481 | 19200322 | 8.41 | 1 | 33.24 | 36.69 | 43.24 | 38.06 | 3.45 | 9.99 | 4.82 |
| BWLL-5718 | 56 | 77 | 6233042.5 | 19172732 | 8.46 | 1 | 22.06 | 25.11 | 31.41 | 26.41 | 3.05 | 9.34 | 4.35 |
| BWLL-4263 | 54 | 78 | 6229601 | 19179968 | 8.51 | 1 | 27.34 | 30.06 | 35.51 | 31.17 | 2.72 | 8.17 | 3.83 |
| BAUS-4228 | 48 | 58 | 6129578 | 19140528 | 8.74 | 1 | 40.96 | 43.33 | 49.64 | 44.22 | 2.36 | 8.68 | 3.26 |
| BAUS-4544 | 45 | 62 | 6133072 | 19169406 | 8.82 | 1 | 33.05 | 36.35 | 44.25 | 37.67 | 3.3 | 11.2 | 4.62 |
| BWLL-4969 | 45 | 73 | 6182724.5 | 19203464 | 8.91 | 1 | 29.63 | 32.97 | 39.31 | 34.27 | 3.34 | 9.69 | 4.64 |
| 6518404 | 61 | 74 | 6235954 | 19138808 | 9.01 | 1 | 22.31 | 24.99 | 30.97 | 26.09 | 2.68 | 8.66 | 3.78 |
| BAUS-4319 | 46 | 60 | 6129618 | 19154706 | 9.01 | 1 | 35.85 | 38.6 | 45.52 | 39.67 | 2.74 | 9.67 | 3.82 |
| 6518403 | 61 | 74 | 6235954 | 19138808 | 9.01 | 1 | 22.31 | 24.99 | 30.97 | 26.09 | 2.68 | 8.66 | 3.78 |
| 6525209 | 63 | 66 | 6208933 | 19104668 | 9.03 | 1 | 50.22 | 52.78 | 59.32 | 53.78 | 2.56 | 9.1 | 3.56 |
| 6525218 | 63 | 66 | 6208933 | 19104668 | 9.03 | 1 | 50.22 | 52.78 | 59.32 | 53.78 | 2.56 | 9.1 | 3.56 |
| 6525219 | 63 | 66 | 6208933 | 19104668 | 9.03 | 1 | 50.22 | 52.78 | 59.32 | 53.78 | 2.56 | 9.1 | 3.56 |
| 6525220 | 63 | 65 | 6204749.5 | 19101448 | 9.04 | 1 | 51.94 | 54.42 | 60.87 | 55.38 | 2.48 | 8.92 | 3.44 |
| 6525221 | 63 | 65 | 6204749.5 | 19101448 | 9.04 | 1 | 51.94 | 54.42 | 60.87 | 55.38 | 2.48 | 8.92 | 3.44 |
| 6525210 | 63 | 65 | 6204749.5 | 19101448 | 9.04 | 1 | 51.94 | 54.42 | 60.87 | 55.38 | 2.48 | 8.92 | 3.44 |
| BAUS-4072 | 45 | 62 | 6131531.5 | 19168138 | 9.04 | 1 | 33.05 | 36.35 | 44.25 | 37.67 | 3.3 | 11.2 | 4.62 |
| BAUS-4131 | 48 | 58 | 6128001.5 | 19140272 | 9.04 | 1 | 40.96 | 43.33 | 49.64 | 44.22 | 2.36 | 8.68 | 3.26 |
| 6525202 | 63 | 67 | 6213116 | 19107890 | 9.08 | 1 | 48.25 | 50.85 | 57.4 | 51.87 | 2.6 | 9.14 | 3.62 |
| 6525203 | 63 | 67 | 6213116 | 19107890 | 9.08 | 1 | 48.25 | 50.85 | 57.4 | 51.87 | 2.6 | 9.14 | 3.62 |
| BAUS-4291 | 45 | 61 | 6130616.5 | 19166588 | 9.14 | 1 | 33.26 | 36.06 | 42.91 | 37.14 | 2.8 | 9.65 | 3.88 |
| BWLL-5331 | 46 | 74 | 6188675.5 | 19204286 | 9.16 | 1 | 33.24 | 36.69 | 43.24 | 38.06 | 3.45 | 9.99 | 4.82 |
| BAUS-4217 | 45 | 61 | 6130444.5 | 19166480 | 9.17 | 1 | 33.26 | 36.06 | 42.91 | 37.14 | 2.8 | 9.65 | 3.88 |
| BAUS-4305 | 45 | 61 | 6130444.5 | 19166480 | 9.17 | 1 | 33.26 | 36.06 | 42.91 | 37.14 | 2.8 | 9.65 | 3.88 |
| BAUS-4218 | 45 | 61 | 6130444.5 | 19166480 | 9.17 | 1 | 33.26 | 36.06 | 42.91 | 37.14 | 2.8 | 9.65 | 3.88 |
| BAUS-4195 | 45 | 61 | 6130275.5 | 19166272 | 9.19 | 1 | 33.26 | 36.06 | 42.91 | 37.14 | 2.8 | 9.65 | 3.88 |
| BWLL-4511 | 53 | 79 | 6228988.5 | 19186932 | 9.19 | 1 | 28.52 | 30.81 | 35.35 | 31.69 | 2.29 | 6.83 | 3.17 |
| BAUS-5306 | 45 | 61 | 6130250.5 | 19166582 | 9.21 | 1 | 33.26 | 36.06 | 42.91 | 37.14 | 2.8 | 9.65 | 3.88 |
| BAUS-5377 | 45 | 61 | 6130250.5 | 19166582 | 9.21 | 1 | 33.26 | 36.06 | 42.91 | 37.14 | 2.8 | 9.65 | 3.88 |
| BAUS-4532 | 48 | 58 | 6127012.5 | 19140844 | 9.22 | 1 | 40.96 | 43.33 | 49.64 | 44.22 | 2.36 | 8.68 | 3.26 |
| 6525301 | 63 | 68 | 6217299 | 19111112 | 9.23 | 1 | 45.77 | 48.37 | 54.82 | 49.39 | 2.6 | 9.05 | 3.63 |
| BAUS-5181 | 45 | 61 | 6130085.5 | 19166670 | 9.24 | 1 | 33.26 | 36.06 | 42.91 | 37.14 | 2.8 | 9.65 | 3.88 |
| BAUS-4463 | 45 | 61 | 6129853.5 | 19165750 | 9.25 | 1 | 33.26 | 36.06 | 42.91 | 37.14 | 2.8 | 9.65 | 3.88 |
| BWLL-5038 | 52 | 79 | 6226942.5 | 19189894 | 9.27 | 1 | 32.09 | 34.35 | 38.77 | 35.2 | 2.26 | 6.67 | 3.11 |
| BAUS-5371 | 45 | 61 | 6129745 | 19166062 | 9.28 | 1 | 33.26 | 36.06 | 42.91 | 37.14 | 2.8 | 9.65 | 3.88 |
| BWLL-4560 | 52 | 79 | 6225465 | 19191764 | 9.33 | 1 | 32.09 | 34.35 | 38.77 | 35.2 | 2.26 | 6.67 | 3.11 |
| BWLL-5368 | 53 | 79 | 6229497 | 19187458 | 9.33 | 1 | 28.52 | 30.81 | 35.35 | 31.69 | 2.29 | 6.83 | 3.17 |
| BAUS-5439 | 45 | 61 | 6129458.5 | 19166208 | 9.34 | 1 | 33.26 | 36.06 | 42.91 | 37.14 | 2.8 | 9.65 | 3.88 |
| BAUS-4166 | 44 | 62 | 6129924.5 | 19168790 | 9.36 | 1 | 30.83 | 33.57 | 40.09 | 34.61 | 2.74 | 9.26 | 3.78 |
| BWLL-5377 | 52 | 79 | 6225996 | 19191682 | 9.38 | 1 | 32.09 | 34.35 | 38.77 | 35.2 | 2.26 | 6.67 | 3.11 |
| BWLL-4212 | 46 | 75 | 6189681.5 | 19205640 | 9.41 | 1 | 35.05 | 37.93 | 43.37 | 39.02 | 2.88 | 8.31 | 3.96 |
| BAUS-4363 | 46 | 60 | 6127131 | 19155328 | 9.5 | 1 | 35.85 | 38.6 | 45.52 | 39.67 | 2.74 | 9.67 | 3.82 |
| BAUS-4037 | 48 | 58 | 6125454 | 19142614 | 9.51 | 1 | 40.96 | 43.33 | 49.64 | 44.22 | 2.36 | 8.68 | 3.26 |
| BWLL-4239 | 55 | 79 | 6237373 | 19176916 | 9.53 | 1 | 18.49 | 20.68 | 25.12 | 21.53 | 2.19 | 6.63 | 3.04 |
| BWLL-4562 | 52 | 79 | 6227130.5 | 19191926 | 9.57 | 1 | 32.09 | 34.35 | 38.77 | 35.2 | 2.26 | 6.67 | 3.11 |
| BWLL-4898 | 53 | 79 | 6232263 | 19186448 | 9.62 | 1 | 28.52 | 30.81 | 35.35 | 31.69 | 2.29 | 6.83 | 3.17 |
| BWLL-5566 | 52 | 79 | 6227068 | 19192974 | 9.7 | 1 | 32.09 | 34.35 | 38.77 | 35.2 | 2.26 | 6.67 | 3.11 |
| 6623205 | 45 | 60 | 6126611.5 | 19158036 | 9.71 | 1 | 33.94 | 36.32 | 42.24 | 37.2 | 2.38 | 8.31 | 3.26 |
| BWLL-5656 | 53 | 79 | 6232524.5 | 19187068 | 9.73 | 1 | 28.52 | 30.81 | 35.35 | 31.69 | 2.29 | 6.83 | 3.17 |
| BWLL-5063 | 51 | 79 | 6224348 | 19195772 | 9.76 | 1 | 35.09 | 37.27 | 41.5 | 38.08 | 2.18 | 6.41 | 2.99 |
| BWLL-5602 | 52 | 79 | 6228469 | 19192130 | 9.78 | 1 | 32.09 | 34.35 | 38.77 | 35.2 | 2.26 | 6.67 | 3.11 |
| BWLL-5148 | 50 | 79 | 6221156.5 | 19198794 | 9.85 | 1 | 37.61 | 39.66 | 43.59 | 40.39 | 2.04 | 5.97 | 2.77 |
| BAUS-5364 | 48 | 57 | 6123778 | 19139626 | 9.85 | 1 | 42.01 | 43.97 | 49.26 | 44.67 | 1.96 | 7.25 | 2.66 |
| BWLL-5655 | 53 | 79 | 6233317.5 | 19187106 | 9.85 | 1 | 28.52 | 30.81 | 35.35 | 31.69 | 2.29 | 6.83 | 3.17 |
| BWLL-5657 | 53 | 79 | 6233273 | 19187104 | 9.85 | 1 | 28.52 | 30.81 | 35.35 | 31.69 | 2.29 | 6.83 | 3.17 |

# Table C-2
# Simulated Drawdown and Drawdown Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - HAGM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Drawdown 2008 to 2060 (ft) | | | | Drawdown Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BWLL-5658 | 53 | 79 | 6233273 | 19187104 | 9.85 | 1 | 28.52 | 30.81 | 35.35 | 31.69 | 2.29 | 6.83 | 3.17 |
| 6510813 | 58 | 78 | 6243020.5 | 19164244 | 9.86 | 1 | 7.93 | 10.19 | 14.95 | 11.09 | 2.26 | 7.02 | 3.16 |
| 6510814 | 58 | 78 | 6243020.5 | 19164244 | 9.86 | 1 | 7.93 | 10.19 | 14.95 | 11.09 | 2.26 | 7.02 | 3.16 |
| BWLL-4662 | 50 | 79 | 6221947 | 19198822 | 9.94 | 1 | 37.61 | 39.66 | 43.59 | 40.39 | 2.04 | 5.97 | 2.77 |
| BWLL-4276 | 50 | 79 | 6221947 | 19198822 | 9.94 | 1 | 37.61 | 39.66 | 43.59 | 40.39 | 2.04 | 5.97 | 2.77 |
| BWLL-5605 | 43 | 73 | 6173644.5 | 19209052 | 9.95 | 1 | 24.74 | 26.76 | 30.57 | 27.44 | 2.02 | 5.82 | 2.7 |
| BAUS-4189 | 43 | 62 | 6127509.5 | 19172454 | 9.99 | 1 | 28.1 | 30.31 | 35.51 | 31.08 | 2.21 | 7.42 | 2.99 |

# Table C-3
# Simulated Drawdown and Drawdown Due to Electro Purification Pumping
# Evangeline Aquifer (Layer 2) - GAM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Drawdown 2008 to 2060 (ft) | | | | Drawdown Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| 6517417 | 55 | 69 | 6195706 | 19147798 | 1.74 | 2 | 27.59 | 55.95 | 114.5 | 73.38 | 28.36 | 86.91 | 45.79 |
| BWLL-5065 | 50 | 69 | 6182473 | 19168922 | 2.48 | 2 | 25.26 | 56.76 | 115.65 | 76.2 | 31.5 | 90.39 | 50.94 |
| BWLL-4269 | 50 | 69 | 6182649 | 19168928 | 2.49 | 2 | 25.26 | 56.76 | 115.65 | 76.2 | 31.5 | 90.39 | 50.94 |
| BWLL-5609 | 50 | 70 | 6183010 | 19170292 | 2.76 | 2 | 24.5 | 49.65 | 96.02 | 64.96 | 25.14 | 71.52 | 40.46 |
| BAUS-0022B | 48 | 68 | 6169273 | 19172252 | 3.37 | 2 | 24.18 | 42.39 | 78.23 | 53.07 | 18.2 | 54.04 | 28.88 |
| BAUS-0022A | 48 | 68 | 6169273 | 19172252 | 3.37 | 2 | 24.18 | 42.39 | 78.23 | 53.07 | 18.2 | 54.04 | 28.88 |
| BWLL-0001C | 51 | 72 | 6197378.5 | 19173006 | 3.4 | 2 | 25.79 | 43.17 | 74.61 | 53.46 | 17.38 | 48.82 | 27.67 |
| 6509704 | 51 | 72 | 6197392 | 19173010 | 3.4 | 2 | 25.79 | 43.17 | 74.61 | 53.46 | 17.38 | 48.82 | 27.67 |
| BWLL-4555 | 49 | 71 | 6182775.5 | 19177642 | 4.08 | 2 | 22.78 | 38.75 | 68.4 | 48.11 | 15.98 | 45.62 | 25.34 |
| BWLL-0001A | 52 | 73 | 6202960 | 19174426 | 4.1 | 2 | 24.05 | 37.8 | 62.82 | 45.77 | 13.74 | 38.76 | 21.71 |
| BWLL-5067 | 49 | 71 | 6184782.5 | 19178120 | 4.26 | 2 | 22.78 | 38.75 | 68.4 | 48.11 | 15.98 | 45.62 | 25.34 |
| 6624805 | 56 | 62 | 6169529 | 19119842 | 4.34 | 2 | 41.44 | 49.85 | 78.18 | 54.38 | 8.41 | 36.74 | 12.94 |
| BAUS-0005B | 56 | 61 | 6168258 | 19118458 | 4.68 | 2 | 43.41 | 50.31 | 72.98 | 53.89 | 6.9 | 29.57 | 10.48 |
| 6624801 | 57 | 62 | 6169900.5 | 19116538 | 4.91 | 2 | 42.47 | 49.81 | 73.86 | 53.67 | 7.35 | 31.39 | 11.2 |
| BWLL-5211 | 48 | 71 | 6180275.5 | 19183526 | 5.11 | 2 | 21.66 | 34.34 | 58.09 | 41.58 | 12.67 | 36.43 | 19.91 |
| BWLL-4682 | 47 | 70 | 6173949 | 19185730 | 5.55 | 2 | 21.5 | 32.99 | 54.84 | 39.42 | 11.5 | 33.35 | 17.92 |
| BWLL-5517 | 49 | 73 | 6190934.5 | 19185634 | 5.61 | 2 | 21.06 | 31.06 | 49.42 | 36.64 | 10 | 28.36 | 15.59 |
| BWLL-0043 | 54 | 75 | 6217397 | 19172020 | 5.75 | 2 | 17.41 | 25.23 | 40.06 | 29.53 | 7.83 | 22.66 | 12.12 |
| BWLL-4200 | 48 | 72 | 6184472 | 19186716 | 5.83 | 2 | 20.79 | 31.19 | 50.48 | 37 | 10.4 | 29.69 | 16.21 |
| BWLL-4201 | 48 | 72 | 6184556.5 | 19186820 | 5.85 | 2 | 20.79 | 31.19 | 50.48 | 37 | 10.4 | 29.69 | 16.21 |
| BAUS-5057 | 46 | 66 | 6154201 | 19176826 | 5.88 | 2 | 22.44 | 31.94 | 51.88 | 37.07 | 9.51 | 29.45 | 14.64 |
| BWLL-0007 | 53 | 75 | 6216934 | 19174876 | 5.98 | 2 | 17.74 | 25.72 | 40.63 | 30.1 | 7.98 | 22.89 | 12.36 |
| BWLL-4535 | 46 | 69 | 6165758 | 19185944 | 6 | 2 | 20.65 | 30.26 | 48.93 | 35.54 | 9.61 | 28.28 | 14.89 |
| 6509403 | 48 | 73 | 6189086 | 19187984 | 6.07 | 2 | 20.13 | 28.48 | 43.86 | 33.03 | 8.35 | 23.74 | 12.9 |
| BWLL-4649 | 47 | 71 | 6177179.5 | 19188884 | 6.1 | 2 | 20.47 | 30.41 | 49.05 | 35.88 | 9.94 | 28.58 | 15.4 |
| 6509404 | 48 | 73 | 6191004 | 19188382 | 6.13 | 2 | 20.13 | 28.48 | 43.86 | 33.03 | 8.35 | 23.74 | 12.9 |
| BWLL-5646 | 48 | 73 | 6188683.5 | 19188736 | 6.22 | 2 | 20.13 | 28.48 | 43.86 | 33.03 | 8.35 | 23.74 | 12.9 |
| BWLL-0049 | 55 | 75 | 6222004.5 | 19168848 | 6.25 | 2 | 14.83 | 22.28 | 36.65 | 26.35 | 7.45 | 21.82 | 11.52 |
| BAUS-0013A | 46 | 64 | 6147113 | 19169048 | 6.28 | 2 | 24.63 | 32.2 | 49.13 | 36.08 | 7.57 | 24.5 | 11.45 |
| BAUS-0013B | 46 | 64 | 6147113 | 19169048 | 6.28 | 2 | 24.63 | 32.2 | 49.13 | 36.08 | 7.57 | 24.5 | 11.45 |
| BWLL-4937 | 45 | 68 | 6158954 | 19184286 | 6.34 | 2 | 19.34 | 26.86 | 41.91 | 30.87 | 7.52 | 22.57 | 11.53 |
| BAUS-4034 | 45 | 67 | 6154157 | 19180572 | 6.37 | 2 | 19.71 | 27.22 | 42.57 | 31.2 | 7.51 | 22.86 | 11.49 |
| BWLL-4147 | 47 | 72 | 6183378 | 19190220 | 6.44 | 2 | 19.72 | 28.02 | 43.48 | 32.52 | 8.29 | 23.75 | 12.8 |
| BWLL-5314 | 45 | 68 | 6162103.5 | 19187042 | 6.48 | 2 | 19.34 | 26.86 | 41.91 | 30.87 | 7.52 | 22.57 | 11.53 |
| 6615906 | 46 | 63 | 6144477 | 19165654 | 6.55 | 2 | 26.33 | 32.78 | 47.69 | 36.02 | 6.45 | 21.36 | 9.69 |
| BWLL-4928 | 45 | 68 | 6159076 | 19185808 | 6.56 | 2 | 19.34 | 26.86 | 41.91 | 30.87 | 7.52 | 22.57 | 11.53 |
| BAUS-0007A | 45 | 67 | 6154188.5 | 19182116 | 6.58 | 2 | 19.71 | 27.22 | 42.57 | 31.2 | 7.51 | 22.86 | 11.49 |
| BAUS-0007C | 45 | 67 | 6154188.5 | 19182116 | 6.58 | 2 | 19.71 | 27.22 | 42.57 | 31.2 | 7.51 | 22.86 | 11.49 |
| BWLL-0012B | 54 | 76 | 6222034 | 19172800 | 6.58 | 2 | 14.85 | 21.07 | 32.87 | 24.38 | 6.21 | 18.02 | 9.52 |
| BWLL-5084 | 46 | 71 | 6178037 | 19191952 | 6.68 | 2 | 19.03 | 26.73 | 41.22 | 30.86 | 7.7 | 22.19 | 11.83 |
| BWLL-4891 | 46 | 71 | 6176356.5 | 19192196 | 6.73 | 2 | 19.03 | 26.73 | 41.22 | 30.86 | 7.7 | 22.19 | 11.83 |
| BWLL-4351 | 48 | 73 | 6190630.5 | 19191596 | 6.74 | 2 | 20.13 | 28.48 | 43.86 | 33.03 | 8.35 | 23.74 | 12.9 |
| BWLL-4166 | 47 | 73 | 6187526 | 19192294 | 6.91 | 2 | 19.16 | 25.95 | 38.49 | 29.55 | 6.78 | 19.33 | 10.39 |
| BWLL-0058 | 50 | 75 | 6206661 | 19189554 | 6.96 | 2 | 19.02 | 25.85 | 38.36 | 29.49 | 6.83 | 19.34 | 10.47 |
| BAUS-0003C | 45 | 64 | 6144379 | 19171800 | 6.96 | 2 | 22.95 | 28.87 | 41.89 | 31.82 | 5.92 | 18.93 | 8.87 |
| BWLL-4152 | 46 | 71 | 6175947.5 | 19193802 | 7.04 | 2 | 19.03 | 26.73 | 41.22 | 30.86 | 7.7 | 22.19 | 11.83 |
| BWLL-4302 | 46 | 72 | 6180256 | 19193856 | 7.06 | 2 | 18.44 | 24.98 | 37.16 | 28.41 | 6.54 | 18.71 | 9.96 |
| BWLL-5713 | 50 | 76 | 6207148 | 19189986 | 7.08 | 2 | 17.46 | 22.75 | 32.44 | 25.47 | 5.28 | 14.97 | 8 |
| BWLL-5382 | 50 | 76 | 6208567 | 19189518 | 7.11 | 2 | 17.46 | 22.75 | 32.44 | 25.47 | 5.28 | 14.97 | 8 |
| BWLL-5648 | 47 | 72 | 6182773 | 19193958 | 7.12 | 2 | 19.72 | 28.02 | 43.48 | 32.52 | 8.29 | 23.75 | 12.8 |
| BWLL-5649 | 47 | 72 | 6182773 | 19193958 | 7.12 | 2 | 19.72 | 28.02 | 43.48 | 32.52 | 8.29 | 23.75 | 12.8 |
| 6616407 | 45 | 67 | 6152008 | 19184036 | 7.13 | 2 | 19.71 | 27.22 | 42.57 | 31.2 | 7.51 | 22.86 | 11.49 |
| BWLL-4982 | 45 | 71 | 6171283.5 | 19193838 | 7.15 | 2 | 17.43 | 23.35 | 34.56 | 26.44 | 5.92 | 17.13 | 9.01 |
| BWLL-5004 | 47 | 72 | 6183327 | 19194068 | 7.16 | 2 | 19.72 | 28.02 | 43.48 | 32.52 | 8.29 | 23.75 | 12.8 |
| BWLL-4998 | 45 | 71 | 6173553.5 | 19194324 | 7.18 | 2 | 17.43 | 23.35 | 34.56 | 26.44 | 5.92 | 17.13 | 9.01 |
| BWLL-4485 | 47 | 72 | 6183144 | 19194264 | 7.19 | 2 | 19.72 | 28.02 | 43.48 | 32.52 | 8.29 | 23.75 | 12.8 |
| BWLL-5598 | 46 | 72 | 6176661.5 | 19194946 | 7.25 | 2 | 18.44 | 24.98 | 37.16 | 28.41 | 6.54 | 18.71 | 9.96 |
| BWLL-5066 | 46 | 72 | 6176694.5 | 19195044 | 7.27 | 2 | 18.44 | 24.98 | 37.16 | 28.41 | 6.54 | 18.71 | 9.96 |
| BWLL-5623 | 45 | 70 | 6167395 | 19193756 | 7.3 | 2 | 18.04 | 24.7 | 37.53 | 28.23 | 6.67 | 19.49 | 10.19 |
| BWLL-5706 | 45 | 71 | 6171943 | 19195126 | 7.37 | 2 | 17.43 | 23.35 | 34.56 | 26.44 | 5.92 | 17.13 | 9.01 |
| BWLL-4685 | 45 | 71 | 6171848 | 19195276 | 7.4 | 2 | 17.43 | 23.35 | 34.56 | 26.44 | 5.92 | 17.13 | 9.01 |
| BWLL-4940 | 45 | 71 | 6171936 | 19195278 | 7.4 | 2 | 17.43 | 23.35 | 34.56 | 26.44 | 5.92 | 17.13 | 9.01 |

# Table C-3
# Simulated Drawdown and Drawdown Due to Electro Purification Pumping
# Evangeline Aquifer (Layer 2) - GAM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Drawdown 2008 to 2060 (ft) | | | | Drawdown Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BWLL-4941 | 45 | 71 | 6171936 | 19195278 | 7.4 | 2 | 17.43 | 23.35 | 34.56 | 26.44 | 5.92 | 17.13 | 9.01 |
| BWLL-4164 | 45 | 71 | 6171936 | 19195278 | 7.4 | 2 | 17.43 | 23.35 | 34.56 | 26.44 | 5.92 | 17.13 | 9.01 |
| BAUS-4296 | 45 | 71 | 6170790 | 19195340 | 7.44 | 2 | 17.43 | 23.35 | 34.56 | 26.44 | 5.92 | 17.13 | 9.01 |
| BWLL-4096 | 44 | 69 | 6159234.5 | 19191282 | 7.44 | 2 | 16.82 | 22.2 | 32.99 | 25 | 5.39 | 16.18 | 8.18 |
| BWLL-4557 | 45 | 71 | 6170340 | 19195626 | 7.51 | 2 | 17.43 | 23.35 | 34.56 | 26.44 | 5.92 | 17.13 | 9.01 |
| BWLL-4188 | 46 | 72 | 6180329.5 | 19196694 | 7.59 | 2 | 18.44 | 24.98 | 37.16 | 28.41 | 6.54 | 18.71 | 9.96 |
| 6615905 | 45 | 63 | 6139754.5 | 19169318 | 7.6 | 2 | 25.86 | 30.97 | 42.55 | 33.46 | 5.11 | 16.69 | 7.6 |
| 6510714 | 57 | 76 | 6231432 | 19161984 | 7.63 | 2 | 10.34 | 15.71 | 26.4 | 18.53 | 5.37 | 16.06 | 8.19 |
| BWLL-5428 | 45 | 72 | 6174327 | 19197288 | 7.72 | 2 | 17 | 22.08 | 31.57 | 24.68 | 5.08 | 14.58 | 7.68 |
| BWLL-4842 | 44 | 70 | 6165153 | 19195544 | 7.75 | 2 | 16.26 | 21.3 | 31.07 | 23.89 | 5.04 | 14.81 | 7.64 |
| BWLL-5068 | 45 | 71 | 6173269 | 19197352 | 7.75 | 2 | 17.43 | 23.35 | 34.56 | 26.44 | 5.92 | 17.13 | 9.01 |
| BWLL-4404 | 45 | 72 | 6174839.5 | 19197712 | 7.79 | 2 | 17 | 22.08 | 31.57 | 24.68 | 5.08 | 14.58 | 7.68 |
| BWLL-4145 | 45 | 72 | 6173935.5 | 19198388 | 7.94 | 2 | 17 | 22.08 | 31.57 | 24.68 | 5.08 | 14.58 | 7.68 |
| BWLL-5045 | 46 | 73 | 6183174 | 19198316 | 7.95 | 2 | 18.05 | 23.45 | 33.45 | 26.24 | 5.4 | 15.4 | 8.18 |
| BWLL-4434 | 45 | 72 | 6173577 | 19198578 | 7.98 | 2 | 17 | 22.08 | 31.57 | 24.68 | 5.08 | 14.58 | 7.68 |
| BWLL-5248 | 44 | 69 | 6157248.5 | 19193780 | 8.04 | 2 | 16.82 | 22.2 | 32.99 | 25 | 5.39 | 16.18 | 8.18 |
| BWLL-4365 | 45 | 73 | 6179715.5 | 19199102 | 8.04 | 2 | 16.78 | 21.02 | 28.86 | 23.16 | 4.24 | 12.08 | 6.37 |
| BWLL-5255 | 46 | 73 | 6182713 | 19198906 | 8.05 | 2 | 18.05 | 23.45 | 33.45 | 26.24 | 5.4 | 15.4 | 8.18 |
| BWLL-5143 | 45 | 72 | 6174957.5 | 19199336 | 8.1 | 2 | 17 | 22.08 | 31.57 | 24.68 | 5.08 | 14.58 | 7.68 |
| BWLL-5217 | 45 | 72 | 6172929.5 | 19199466 | 8.16 | 2 | 17 | 22.08 | 31.57 | 24.68 | 5.08 | 14.58 | 7.68 |
| BWLL-5017 | 45 | 72 | 6174939 | 19199842 | 8.2 | 2 | 17 | 22.08 | 31.57 | 24.68 | 5.08 | 14.58 | 7.68 |
| BAUS-4483 | 44 | 65 | 6141571 | 19180638 | 8.23 | 2 | 18.97 | 24.03 | 34.81 | 26.53 | 5.06 | 15.84 | 7.56 |
| BWLL-4581 | 45 | 72 | 6174000 | 19199980 | 8.23 | 2 | 17 | 22.08 | 31.57 | 24.68 | 5.08 | 14.58 | 7.68 |
| BWLL-5225 | 45 | 72 | 6172915 | 19199870 | 8.23 | 2 | 17 | 22.08 | 31.57 | 24.68 | 5.08 | 14.58 | 7.68 |
| BAUS-0003A | 45 | 63 | 6136187.5 | 19171654 | 8.39 | 2 | 25.86 | 30.97 | 42.55 | 33.46 | 5.11 | 16.69 | 7.6 |
| BWLL-4908 | 45 | 72 | 6175953.5 | 19200992 | 8.4 | 2 | 17 | 22.08 | 31.57 | 24.68 | 5.08 | 14.58 | 7.68 |
| 6615904 | 44 | 63 | 6136146.5 | 19171926 | 8.41 | 2 | 22.45 | 26.42 | 35.33 | 28.31 | 3.97 | 12.88 | 5.85 |
| BAUS-4029 | 43 | 67 | 6147313 | 19190054 | 8.57 | 2 | 13.82 | 17.71 | 25.65 | 19.66 | 3.88 | 11.82 | 5.84 |
| 6615901 | 44 | 63 | 6135112 | 19171600 | 8.57 | 2 | 22.45 | 26.42 | 35.33 | 28.31 | 3.97 | 12.88 | 5.85 |
| BWLL-5026 | 45 | 73 | 6177685.5 | 19203824 | 8.93 | 2 | 16.78 | 21.02 | 28.86 | 23.16 | 4.24 | 12.08 | 6.37 |
| BAUS-4107 | 43 | 65 | 6139922 | 19185036 | 8.97 | 2 | 16.11 | 19.88 | 27.86 | 21.69 | 3.77 | 11.74 | 5.58 |
| 6509107 | 46 | 74 | 6189158 | 19203482 | 9 | 2 | 17.87 | 22.26 | 30.32 | 24.46 | 4.39 | 12.45 | 6.59 |
| BWLL-4522 | 44 | 73 | 6176617 | 19204560 | 9.07 | 2 | 15.44 | 18.73 | 24.82 | 20.34 | 3.29 | 9.38 | 4.9 |
| 6623201 | 46 | 60 | 6129544 | 19156642 | 9.12 | 2 | 25.63 | 29.39 | 38.69 | 31.12 | 3.76 | 13.06 | 5.49 |
| BWLL-5007 | 43 | 70 | 6158884 | 19201194 | 9.17 | 2 | 14.58 | 18.4 | 25.84 | 20.34 | 3.82 | 11.26 | 5.77 |
| BAUS-4557 | 43 | 65 | 6139605.5 | 19186544 | 9.19 | 2 | 16.11 | 19.88 | 27.86 | 21.69 | 3.77 | 11.74 | 5.58 |
| BWLL-4709 | 45 | 74 | 6183010.5 | 19205296 | 9.26 | 2 | 16.77 | 20.24 | 26.63 | 21.95 | 3.47 | 9.86 | 5.18 |
| BWLL-5112 | 44 | 73 | 6176844 | 19205582 | 9.27 | 2 | 15.44 | 18.73 | 24.82 | 20.34 | 3.29 | 9.38 | 4.9 |
| BWLL-4193 | 44 | 73 | 6175768.5 | 19206150 | 9.38 | 2 | 15.44 | 18.73 | 24.82 | 20.34 | 3.29 | 9.38 | 4.9 |
| BWLL-4531 | 47 | 76 | 6198845 | 19205162 | 9.41 | 2 | 18.26 | 21.69 | 27.91 | 23.34 | 3.42 | 9.65 | 5.07 |
| BWLL-4347 | 53 | 79 | 6230849 | 19186596 | 9.42 | 2 | 4.4 | 7.55 | 13.43 | 9.07 | 3.14 | 9.03 | 4.66 |
| BWLL-4320 | 44 | 73 | 6176800.5 | 19206796 | 9.5 | 2 | 15.44 | 18.73 | 24.82 | 20.34 | 3.29 | 9.38 | 4.9 |
| BWLL-4994 | 47 | 76 | 6198823 | 19205770 | 9.52 | 2 | 18.26 | 21.69 | 27.91 | 23.34 | 3.42 | 9.65 | 5.07 |
| BWLL-4439 | 44 | 73 | 6176617.5 | 19206992 | 9.53 | 2 | 15.44 | 18.73 | 24.82 | 20.34 | 3.29 | 9.38 | 4.9 |
| BWLL-5689 | 46 | 75 | 6190976.5 | 19207002 | 9.66 | 2 | 17.73 | 21.25 | 27.7 | 22.98 | 3.53 | 9.98 | 5.25 |
| BAUS-4170 | 42 | 65 | 6138874.5 | 19189860 | 9.7 | 2 | 13.11 | 15.86 | 21.64 | 17.16 | 2.75 | 8.53 | 4.05 |
| BAUS-4174 | 42 | 65 | 6138449 | 19189440 | 9.71 | 2 | 13.11 | 15.86 | 21.64 | 17.16 | 2.75 | 8.53 | 4.05 |
| 6509201 | 47 | 76 | 6200188.5 | 19206618 | 9.72 | 2 | 18.26 | 21.69 | 27.91 | 23.34 | 3.42 | 9.65 | 5.07 |
| BAUS-4177 | 42 | 65 | 6139117 | 19190476 | 9.74 | 2 | 13.11 | 15.86 | 21.64 | 17.16 | 2.75 | 8.53 | 4.05 |
| BWLL-5709 | 44 | 73 | 6176275.5 | 19208486 | 9.82 | 2 | 15.44 | 18.73 | 24.82 | 20.34 | 3.29 | 9.38 | 4.9 |
| BWLL-5329 | 46 | 76 | 6193732 | 19207914 | 9.84 | 2 | 17.18 | 20 | 25.13 | 21.33 | 2.82 | 7.94 | 4.15 |
| 6518209 | 58 | 78 | 6243020.5 | 19164244 | 9.86 | 2 | 3.15 | 6.1 | 11.94 | 7.53 | 2.95 | 8.79 | 4.39 |
| BAUS-4050 | 42 | 64 | 6132258.5 | 19182744 | 9.95 | 2 | 13.3 | 15.78 | 21.1 | 16.93 | 2.48 | 7.8 | 3.63 |

# Table C-4
# Simulated Drawdown and Drawdown Due to Electro Purification Pumping
# Evangeline Aquifer (Layer 2) - HAGM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Drawdown 2008 to 2060 (ft) | | | | Drawdown Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| 6517417 | 55 | 69 | 6195706 | 19147798 | 1.74 | 2 | 50.78 | 78.8 | 136.08 | 96.05 | 28.02 | 85.3 | 45.27 |
| BWLL-5065 | 50 | 69 | 6182473 | 19168922 | 2.48 | 2 | 40.57 | 71.98 | 129.91 | 91.25 | 31.4 | 89.34 | 50.67 |
| BWLL-4269 | 50 | 69 | 6182649 | 19168928 | 2.49 | 2 | 40.57 | 71.98 | 129.91 | 91.25 | 31.4 | 89.34 | 50.67 |
| BWLL-5609 | 50 | 70 | 6183010 | 19170292 | 2.76 | 2 | 41.03 | 66.14 | 111.99 | 81.34 | 25.11 | 70.97 | 40.32 |
| BAUS-0022B | 48 | 68 | 6169273 | 19172252 | 3.37 | 2 | 37.85 | 55.95 | 91.42 | 66.57 | 18.1 | 53.57 | 28.72 |
| BAUS-0022A | 48 | 68 | 6169273 | 19172252 | 3.37 | 2 | 37.85 | 55.95 | 91.42 | 66.57 | 18.1 | 53.57 | 28.72 |
| BWLL-0001C | 51 | 72 | 6197378.5 | 19173006 | 3.4 | 2 | 57.26 | 74.71 | 106.27 | 85.02 | 17.45 | 49.02 | 27.77 |
| 6509704 | 51 | 72 | 6197392 | 19173010 | 3.4 | 2 | 57.26 | 74.71 | 106.27 | 85.02 | 17.45 | 49.02 | 27.77 |
| BWLL-4555 | 49 | 71 | 6182775.5 | 19177642 | 4.08 | 2 | 40.35 | 56.43 | 86.24 | 65.79 | 16.08 | 45.88 | 25.44 |
| BWLL-0001A | 52 | 73 | 6202960 | 19174426 | 4.1 | 2 | 62.95 | 76.92 | 102.5 | 85.05 | 13.97 | 39.55 | 22.09 |
| BWLL-5067 | 49 | 71 | 6184782.5 | 19178120 | 4.26 | 2 | 40.35 | 56.43 | 86.24 | 65.79 | 16.08 | 45.88 | 25.44 |
| 6624805 | 56 | 62 | 6169529 | 19119842 | 4.34 | 2 | 67.01 | 75.08 | 102.09 | 79.47 | 8.07 | 35.09 | 12.46 |
| BAUS-0005B | 56 | 61 | 6168258 | 19118458 | 4.68 | 2 | 71.06 | 77.65 | 99.24 | 81.12 | 6.59 | 28.18 | 10.07 |
| 6624801 | 57 | 62 | 6169900.5 | 19116538 | 4.91 | 2 | 69.92 | 76.93 | 99.78 | 80.67 | 7.01 | 29.86 | 10.75 |
| BWLL-5211 | 48 | 71 | 6180275.5 | 19183526 | 5.11 | 2 | 37.18 | 50.04 | 74.22 | 57.33 | 12.87 | 37.04 | 20.16 |
| BWLL-4682 | 47 | 70 | 6173949 | 19185730 | 5.55 | 2 | 34.9 | 46.52 | 68.83 | 53 | 11.62 | 33.93 | 18.1 |
| BWLL-5517 | 49 | 73 | 6190934.5 | 19185634 | 5.61 | 2 | 47.51 | 57.8 | 76.9 | 63.5 | 10.29 | 29.39 | 15.99 |
| BWLL-0043 | 54 | 75 | 6217397 | 19172020 | 5.75 | 2 | 80.44 | 89.25 | 106.19 | 94.16 | 8.82 | 25.76 | 13.72 |
| BWLL-4200 | 48 | 72 | 6184472 | 19186716 | 5.83 | 2 | 39.96 | 50.62 | 70.57 | 56.52 | 10.66 | 30.61 | 16.56 |
| BWLL-4201 | 48 | 72 | 6184556.5 | 19186820 | 5.85 | 2 | 39.96 | 50.62 | 70.57 | 56.52 | 10.66 | 30.61 | 16.56 |
| BAUS-5057 | 46 | 66 | 6154201 | 19176826 | 5.88 | 2 | 36.39 | 45.87 | 65.89 | 50.99 | 9.48 | 29.49 | 14.6 |
| BWLL-0007 | 53 | 75 | 6216934 | 19174876 | 5.98 | 2 | 74.5 | 83.24 | 99.8 | 88.07 | 8.73 | 25.29 | 13.57 |
| BWLL-4535 | 46 | 69 | 6165758 | 19185944 | 6 | 2 | 32.77 | 42.44 | 61.5 | 47.72 | 9.67 | 28.73 | 14.95 |
| 6509403 | 48 | 73 | 6189086 | 19187984 | 6.07 | 2 | 43.59 | 52.27 | 68.51 | 56.95 | 8.69 | 24.93 | 13.37 |
| BWLL-4649 | 47 | 71 | 6177179.5 | 19188884 | 6.1 | 2 | 34.05 | 44.21 | 63.52 | 49.78 | 10.16 | 29.47 | 15.73 |
| 6509404 | 48 | 73 | 6191004 | 19188382 | 6.13 | 2 | 43.59 | 52.27 | 68.51 | 56.95 | 8.69 | 24.93 | 13.37 |
| BWLL-5646 | 48 | 73 | 6188683.5 | 19188736 | 6.22 | 2 | 43.59 | 52.27 | 68.51 | 56.95 | 8.69 | 24.93 | 13.37 |
| BWLL-0049 | 55 | 75 | 6222004.5 | 19168848 | 6.25 | 2 | 65.75 | 74.37 | 91.2 | 79.15 | 8.62 | 25.46 | 13.41 |
| BAUS-0013A | 46 | 64 | 6147113 | 19169048 | 6.28 | 2 | 43.69 | 51.27 | 68.43 | 55.24 | 7.57 | 24.74 | 11.55 |
| BAUS-0013B | 46 | 64 | 6147113 | 19169048 | 6.28 | 2 | 43.69 | 51.27 | 68.43 | 55.24 | 7.57 | 24.74 | 11.55 |
| BWLL-4937 | 45 | 68 | 6158954 | 19184286 | 6.34 | 2 | 31.31 | 38.89 | 54.1 | 42.89 | 7.58 | 22.79 | 11.58 |
| BAUS-4034 | 45 | 67 | 6154157 | 19180572 | 6.37 | 2 | 31.8 | 39.35 | 54.81 | 43.32 | 7.55 | 23.01 | 11.52 |
| BWLL-4147 | 47 | 72 | 6183378 | 19190220 | 6.44 | 2 | 35.85 | 44.47 | 60.76 | 49.09 | 8.62 | 24.9 | 13.24 |
| BWLL-5314 | 45 | 68 | 6162103.5 | 19187042 | 6.48 | 2 | 31.31 | 38.89 | 54.1 | 42.89 | 7.58 | 22.79 | 11.58 |
| 6615906 | 46 | 63 | 6144477 | 19165654 | 6.55 | 2 | 50.67 | 57.16 | 72.35 | 60.49 | 6.49 | 21.68 | 9.82 |
| BWLL-4928 | 45 | 68 | 6159076 | 19185808 | 6.56 | 2 | 31.31 | 38.89 | 54.1 | 42.89 | 7.58 | 22.79 | 11.58 |
| BAUS-0007A | 45 | 67 | 6154188.5 | 19182116 | 6.58 | 2 | 31.8 | 39.35 | 54.81 | 43.32 | 7.55 | 23.01 | 11.52 |
| BAUS-0007C | 45 | 67 | 6154188.5 | 19182116 | 6.58 | 2 | 31.8 | 39.35 | 54.81 | 43.32 | 7.55 | 23.01 | 11.52 |
| BWLL-0012B | 54 | 76 | 6222034 | 19172800 | 6.58 | 2 | 87.69 | 95.23 | 109.77 | 99.33 | 7.54 | 22.08 | 11.64 |
| BWLL-5084 | 46 | 71 | 6178037 | 19191952 | 6.68 | 2 | 30.72 | 38.67 | 53.93 | 42.87 | 7.95 | 23.22 | 12.16 |
| BWLL-4891 | 46 | 71 | 6176356.5 | 19192196 | 6.73 | 2 | 30.72 | 38.67 | 53.93 | 42.87 | 7.95 | 23.22 | 12.16 |
| BWLL-4351 | 48 | 73 | 6190630.5 | 19191596 | 6.74 | 2 | 43.59 | 52.27 | 68.51 | 56.95 | 8.69 | 24.93 | 13.37 |
| BWLL-4166 | 47 | 73 | 6187526 | 19192294 | 6.91 | 2 | 39.69 | 46.85 | 60.34 | 50.59 | 7.17 | 20.66 | 10.9 |
| BWLL-0058 | 50 | 75 | 6206661 | 19189554 | 6.96 | 2 | 59.71 | 66.98 | 80.58 | 70.85 | 7.27 | 20.87 | 11.14 |
| BAUS-0003C | 45 | 64 | 6144379 | 19171800 | 6.96 | 2 | 44.02 | 50.01 | 63.49 | 53.04 | 5.99 | 19.48 | 9.02 |
| BWLL-4152 | 46 | 71 | 6175947.5 | 19193802 | 7.04 | 2 | 30.72 | 38.67 | 53.93 | 42.87 | 7.95 | 23.22 | 12.16 |
| BWLL-4302 | 46 | 72 | 6180256 | 19193856 | 7.06 | 2 | 32.13 | 39 | 52.07 | 42.54 | 6.87 | 19.94 | 10.41 |
| BWLL-5713 | 50 | 76 | 6207148 | 19189986 | 7.08 | 2 | 65.73 | 71.51 | 82.37 | 74.48 | 5.78 | 16.64 | 8.75 |
| BWLL-5382 | 50 | 76 | 6208567 | 19189518 | 7.11 | 2 | 65.73 | 71.51 | 82.37 | 74.48 | 5.78 | 16.64 | 8.75 |
| BWLL-5648 | 47 | 72 | 6182773 | 19193958 | 7.12 | 2 | 35.85 | 44.47 | 60.76 | 49.09 | 8.62 | 24.9 | 13.24 |
| BWLL-5649 | 47 | 72 | 6182773 | 19193958 | 7.12 | 2 | 35.85 | 44.47 | 60.76 | 49.09 | 8.62 | 24.9 | 13.24 |
| 6616407 | 45 | 67 | 6152008 | 19184036 | 7.13 | 2 | 31.8 | 39.35 | 54.81 | 43.32 | 7.55 | 23.01 | 11.52 |
| BWLL-4982 | 45 | 71 | 6171283.5 | 19193838 | 7.15 | 2 | 27.66 | 33.83 | 45.75 | 36.96 | 6.17 | 18.09 | 9.3 |
| BWLL-5004 | 47 | 72 | 6183327 | 19194068 | 7.16 | 2 | 35.85 | 44.47 | 60.76 | 49.09 | 8.62 | 24.9 | 13.24 |
| BWLL-4998 | 45 | 71 | 6173553.5 | 19194324 | 7.18 | 2 | 27.66 | 33.83 | 45.75 | 36.96 | 6.17 | 18.09 | 9.3 |
| BWLL-4485 | 47 | 72 | 6183144 | 19194264 | 7.19 | 2 | 35.85 | 44.47 | 60.76 | 49.09 | 8.62 | 24.9 | 13.24 |
| BWLL-5598 | 46 | 72 | 6176661.5 | 19194946 | 7.25 | 2 | 32.13 | 39 | 52.07 | 42.54 | 6.87 | 19.94 | 10.41 |
| BWLL-5066 | 46 | 72 | 6176694.5 | 19195044 | 7.27 | 2 | 32.13 | 39 | 52.07 | 42.54 | 6.87 | 19.94 | 10.41 |
| BWLL-5623 | 45 | 70 | 6167395 | 19193756 | 7.3 | 2 | 28.02 | 34.87 | 48.25 | 38.41 | 6.85 | 20.23 | 10.39 |
| BWLL-5706 | 45 | 71 | 6171943 | 19195126 | 7.37 | 2 | 27.66 | 33.83 | 45.75 | 36.96 | 6.17 | 18.09 | 9.3 |
| BWLL-4685 | 45 | 71 | 6171848 | 19195276 | 7.4 | 2 | 27.66 | 33.83 | 45.75 | 36.96 | 6.17 | 18.09 | 9.3 |
| BWLL-4940 | 45 | 71 | 6171936 | 19195278 | 7.4 | 2 | 27.66 | 33.83 | 45.75 | 36.96 | 6.17 | 18.09 | 9.3 |

# Table C-4
# Simulated Drawdown and Drawdown Due to Electro Purification Pumping
# Evangeline Aquifer (Layer 2) - HAGM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Drawdown 2008 to 2060 (ft) | | | | Drawdown Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BWLL-4941 | 45 | 71 | 6171936 | 19195278 | 7.4 | 2 | 27.66 | 33.83 | 45.75 | 36.96 | 6.17 | 18.09 | 9.3 |
| BWLL-4164 | 45 | 71 | 6171936 | 19195278 | 7.4 | 2 | 27.66 | 33.83 | 45.75 | 36.96 | 6.17 | 18.09 | 9.3 |
| BAUS-4296 | 45 | 71 | 6170790 | 19195340 | 7.44 | 2 | 27.66 | 33.83 | 45.75 | 36.96 | 6.17 | 18.09 | 9.3 |
| BWLL-4096 | 44 | 69 | 6159234.5 | 19191282 | 7.44 | 2 | 28.2 | 33.72 | 44.62 | 36.51 | 5.52 | 16.42 | 8.31 |
| BWLL-4557 | 45 | 71 | 6170340 | 19195626 | 7.51 | 2 | 27.66 | 33.83 | 45.75 | 36.96 | 6.17 | 18.09 | 9.3 |
| BWLL-4188 | 46 | 72 | 6180329.5 | 19196694 | 7.59 | 2 | 32.13 | 39 | 52.07 | 42.54 | 6.87 | 19.94 | 10.41 |
| 6615905 | 45 | 63 | 6139754.5 | 19169318 | 7.6 | 2 | 56.24 | 61.46 | 73.55 | 64.03 | 5.22 | 17.31 | 7.79 |
| 6510714 | 57 | 76 | 6231432 | 19161984 | 7.63 | 2 | 37.63 | 44 | 56.88 | 47.38 | 6.37 | 19.25 | 9.76 |
| BWLL-5428 | 45 | 72 | 6174327 | 19197288 | 7.72 | 2 | 28.88 | 34.28 | 44.62 | 36.95 | 5.4 | 15.74 | 8.08 |
| BWLL-4842 | 44 | 70 | 6165153 | 19195544 | 7.75 | 2 | 25.97 | 31.17 | 41.33 | 33.73 | 5.2 | 15.36 | 7.76 |
| BWLL-5068 | 45 | 71 | 6173269 | 19197352 | 7.75 | 2 | 27.66 | 33.83 | 45.75 | 36.96 | 6.17 | 18.09 | 9.3 |
| BWLL-4404 | 45 | 72 | 6174839.5 | 19197712 | 7.79 | 2 | 28.88 | 34.28 | 44.62 | 36.95 | 5.4 | 15.74 | 8.08 |
| BWLL-4145 | 45 | 72 | 6173935.5 | 19198388 | 7.94 | 2 | 28.88 | 34.28 | 44.62 | 36.95 | 5.4 | 15.74 | 8.08 |
| BWLL-5045 | 46 | 73 | 6183174 | 19198316 | 7.95 | 2 | 35.26 | 41.06 | 52.05 | 43.97 | 5.8 | 16.79 | 8.71 |
| BWLL-4434 | 45 | 72 | 6173577 | 19198578 | 7.98 | 2 | 28.88 | 34.28 | 44.62 | 36.95 | 5.4 | 15.74 | 8.08 |
| BWLL-5248 | 44 | 69 | 6157248.5 | 19193780 | 8.04 | 2 | 28.2 | 33.72 | 44.62 | 36.51 | 5.52 | 16.42 | 8.31 |
| BWLL-4365 | 45 | 73 | 6179715.5 | 19199102 | 8.04 | 2 | 31.89 | 36.52 | 45.3 | 38.73 | 4.62 | 13.41 | 6.84 |
| BWLL-5255 | 46 | 73 | 6182713 | 19198906 | 8.05 | 2 | 35.26 | 41.06 | 52.05 | 43.97 | 5.8 | 16.79 | 8.71 |
| BWLL-5143 | 45 | 72 | 6174957.5 | 19199336 | 8.1 | 2 | 28.88 | 34.28 | 44.62 | 36.95 | 5.4 | 15.74 | 8.08 |
| BWLL-5217 | 45 | 72 | 6172929.5 | 19199466 | 8.16 | 2 | 28.88 | 34.28 | 44.62 | 36.95 | 5.4 | 15.74 | 8.08 |
| BWLL-5017 | 45 | 72 | 6174939 | 19199842 | 8.2 | 2 | 28.88 | 34.28 | 44.62 | 36.95 | 5.4 | 15.74 | 8.08 |
| BAUS-4483 | 44 | 65 | 6141571 | 19180638 | 8.23 | 2 | 34.58 | 39.71 | 50.94 | 42.26 | 5.13 | 16.35 | 7.67 |
| BWLL-4581 | 45 | 72 | 6174000 | 19199980 | 8.23 | 2 | 28.88 | 34.28 | 44.62 | 36.95 | 5.4 | 15.74 | 8.08 |
| BWLL-5225 | 45 | 72 | 6172915 | 19199870 | 8.23 | 2 | 28.88 | 34.28 | 44.62 | 36.95 | 5.4 | 15.74 | 8.08 |
| BAUS-0003A | 45 | 63 | 6136187.5 | 19171654 | 8.39 | 2 | 56.24 | 61.46 | 73.55 | 64.03 | 5.22 | 17.31 | 7.79 |
| BWLL-4908 | 45 | 72 | 6175953.5 | 19200992 | 8.4 | 2 | 28.88 | 34.28 | 44.62 | 36.95 | 5.4 | 15.74 | 8.08 |
| 6615904 | 44 | 63 | 6136146.5 | 19171926 | 8.41 | 2 | 49.62 | 53.79 | 63.39 | 55.76 | 4.17 | 13.77 | 6.14 |
| BAUS-4029 | 43 | 67 | 6147313 | 19190054 | 8.57 | 2 | 24.7 | 28.63 | 36.75 | 30.58 | 3.93 | 12.06 | 5.88 |
| 6615901 | 44 | 63 | 6135112 | 19171600 | 8.57 | 2 | 49.62 | 53.79 | 63.39 | 55.76 | 4.17 | 13.77 | 6.14 |
| BWLL-5026 | 45 | 73 | 6177685.5 | 19203824 | 8.93 | 2 | 31.89 | 36.52 | 45.3 | 38.73 | 4.62 | 13.41 | 6.84 |
| BAUS-4107 | 43 | 65 | 6139922 | 19185036 | 8.97 | 2 | 30.24 | 34.15 | 42.68 | 36 | 3.91 | 12.44 | 5.76 |
| 6509107 | 46 | 74 | 6189158 | 19203482 | 9 | 2 | 39.89 | 44.71 | 53.81 | 47.05 | 4.82 | 13.92 | 7.16 |
| BWLL-4522 | 44 | 73 | 6176617 | 19204560 | 9.07 | 2 | 29.25 | 32.88 | 39.79 | 34.54 | 3.63 | 10.54 | 5.29 |
| 6623201 | 46 | 60 | 6129544 | 19156642 | 9.12 | 2 | 48.41 | 52.22 | 61.83 | 53.99 | 3.81 | 13.42 | 5.58 |
| BWLL-5007 | 43 | 70 | 6158884 | 19201194 | 9.17 | 2 | 24.69 | 28.56 | 36.16 | 30.45 | 3.87 | 11.47 | 5.76 |
| BAUS-4557 | 43 | 65 | 6139605.5 | 19186544 | 9.19 | 2 | 30.24 | 34.15 | 42.68 | 36 | 3.91 | 12.44 | 5.76 |
| BWLL-4709 | 45 | 74 | 6183010.5 | 19205296 | 9.26 | 2 | 36.55 | 40.44 | 47.81 | 42.25 | 3.9 | 11.27 | 5.7 |
| BWLL-5112 | 44 | 73 | 6176844 | 19205582 | 9.27 | 2 | 29.25 | 32.88 | 39.79 | 34.54 | 3.63 | 10.54 | 5.29 |
| BWLL-4193 | 44 | 73 | 6175768.5 | 19206150 | 9.38 | 2 | 29.25 | 32.88 | 39.79 | 34.54 | 3.63 | 10.54 | 5.29 |
| BWLL-4531 | 47 | 76 | 6198845 | 19205162 | 9.41 | 2 | 58.4 | 62.29 | 69.59 | 64.1 | 3.89 | 11.19 | 5.7 |
| BWLL-4347 | 53 | 79 | 6230849 | 19186596 | 9.42 | 2 | 87.94 | 91.41 | 98.08 | 93.06 | 3.47 | 10.14 | 5.12 |
| BWLL-4320 | 44 | 73 | 6176800.5 | 19206796 | 9.5 | 2 | 29.25 | 32.88 | 39.79 | 34.54 | 3.63 | 10.54 | 5.29 |
| BWLL-4994 | 47 | 76 | 6198823 | 19205770 | 9.52 | 2 | 58.4 | 62.29 | 69.59 | 64.1 | 3.89 | 11.19 | 5.7 |
| BWLL-4439 | 44 | 73 | 6176617.5 | 19206992 | 9.53 | 2 | 29.25 | 32.88 | 39.79 | 34.54 | 3.63 | 10.54 | 5.29 |
| BWLL-5689 | 46 | 75 | 6190976.5 | 19207002 | 9.66 | 2 | 45.97 | 49.95 | 57.44 | 51.8 | 3.98 | 11.47 | 5.83 |
| BAUS-4170 | 42 | 65 | 6138874.5 | 19189860 | 9.7 | 2 | 25.24 | 28.16 | 34.53 | 29.49 | 2.92 | 9.29 | 4.25 |
| BAUS-4174 | 42 | 65 | 6138449 | 19189440 | 9.71 | 2 | 25.24 | 28.16 | 34.53 | 29.49 | 2.92 | 9.29 | 4.25 |
| 6509201 | 47 | 76 | 6200188.5 | 19206618 | 9.72 | 2 | 58.4 | 62.29 | 69.59 | 64.1 | 3.89 | 11.19 | 5.7 |
| BAUS-4177 | 42 | 65 | 6139117 | 19190476 | 9.74 | 2 | 25.24 | 28.16 | 34.53 | 29.49 | 2.92 | 9.29 | 4.25 |
| BWLL-5709 | 44 | 73 | 6176275.5 | 19208486 | 9.82 | 2 | 29.25 | 32.88 | 39.79 | 34.54 | 3.63 | 10.54 | 5.29 |
| BWLL-5329 | 46 | 76 | 6193732 | 19207914 | 9.84 | 2 | 52.15 | 55.42 | 61.57 | 56.89 | 3.27 | 9.42 | 4.73 |
| 6518209 | 58 | 78 | 6243020.5 | 19164244 | 9.86 | 2 | -13.2 | -9.64 | -2.33 | -7.94 | 3.55 | 10.87 | 5.26 |
| BAUS-4050 | 42 | 64 | 6132258.5 | 19182744 | 9.95 | 2 | 27.42 | 30.18 | 36.31 | 31.39 | 2.75 | 8.89 | 3.96 |

**Figure C-1**
**Simulated Drawdown 2008 to 2060 - GAM**
**Base Case (DFC/MAG Simulation) - Chicot Aquifer Wells (Layer 1)**

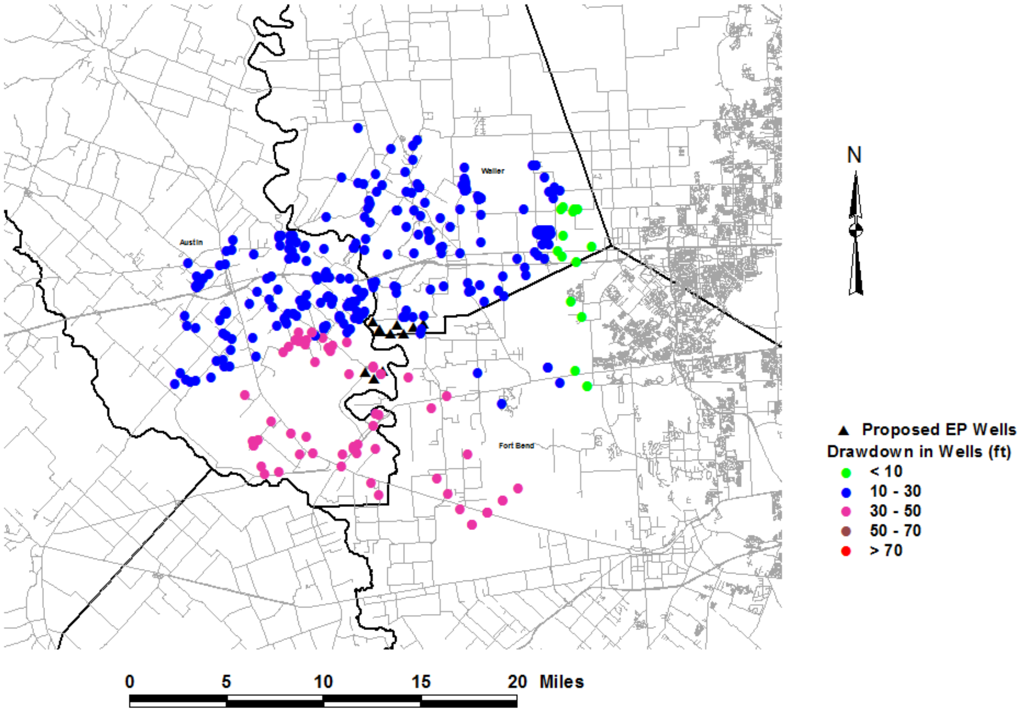



**Figure C-2**
**Simulated Drawdown 2008 to 2060 - HAGM**
**Base Case (DFC/MAG Simulation) - Chicot Aquifer Wells (Layer 1)**

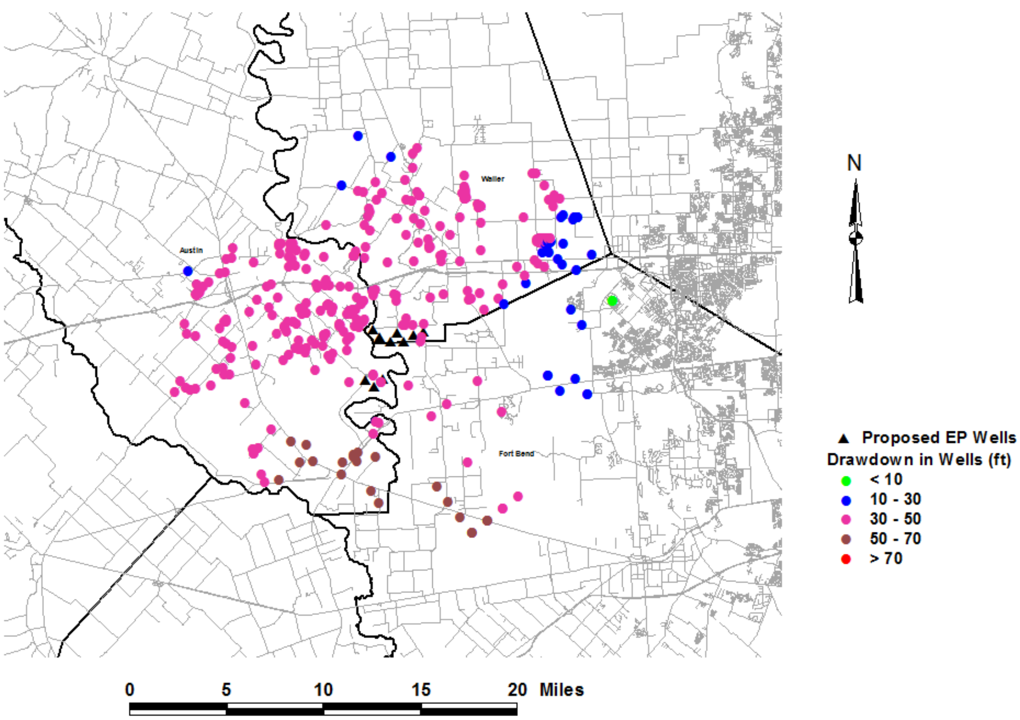


**Figure C-3**
**Simulated Drawdown 2008 to 2060 - GAM**
**Scenario 3 (EP Pumping = 6 MGD) - Chicot Aquifer Wells (Layer 1)**

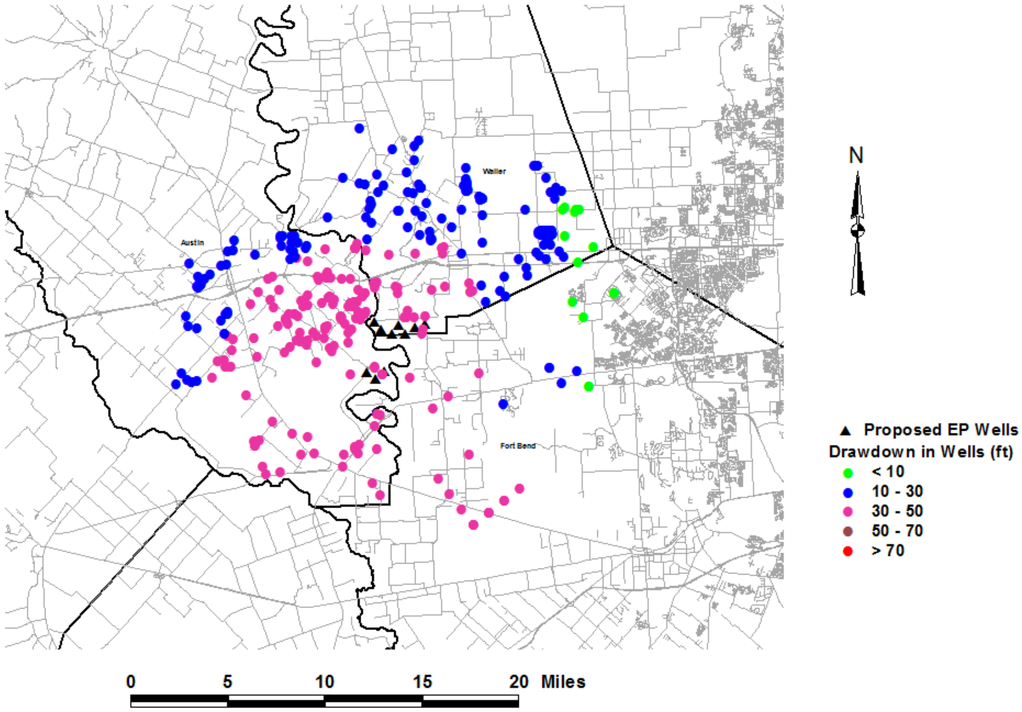



**Figure C-4**
**Simulated Drawdown 2008 to 2060 - HAGM**
**Scenario 3 (EP Pumping = 6 MGD) - Chicot Aquifer Wells (Layer 1)**

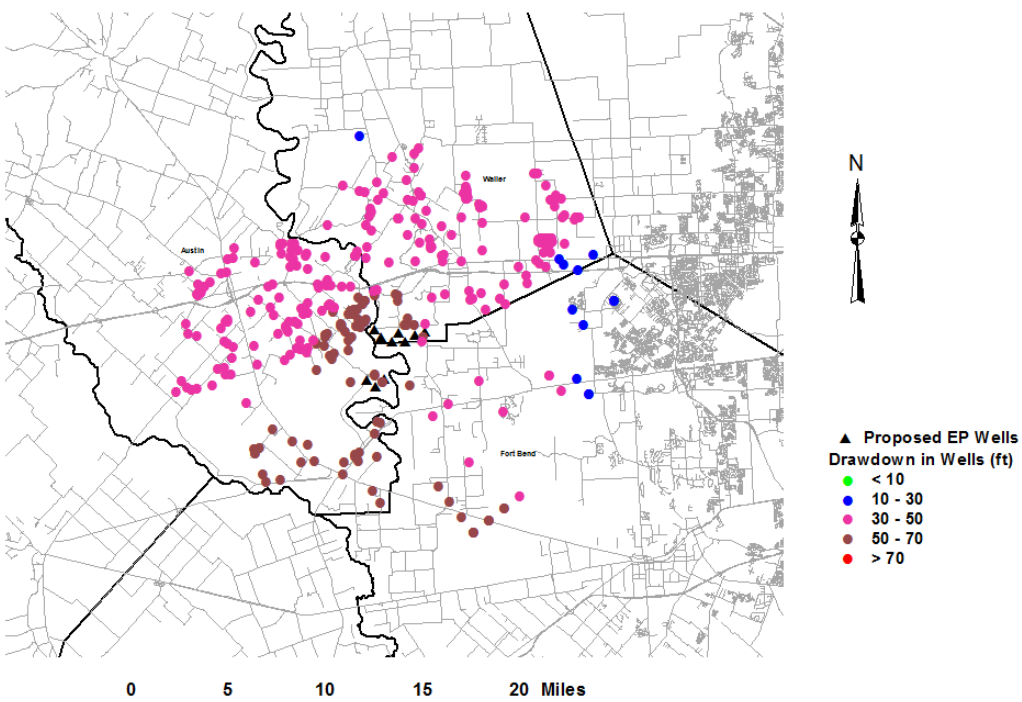


**Figure C-5**
**Simulated Drawdown 2008 to 2060 - GAM**
**Scenario 10 (EP Pumping = 20 MGD) - Chicot Aquifer Wells (Layer 1)**

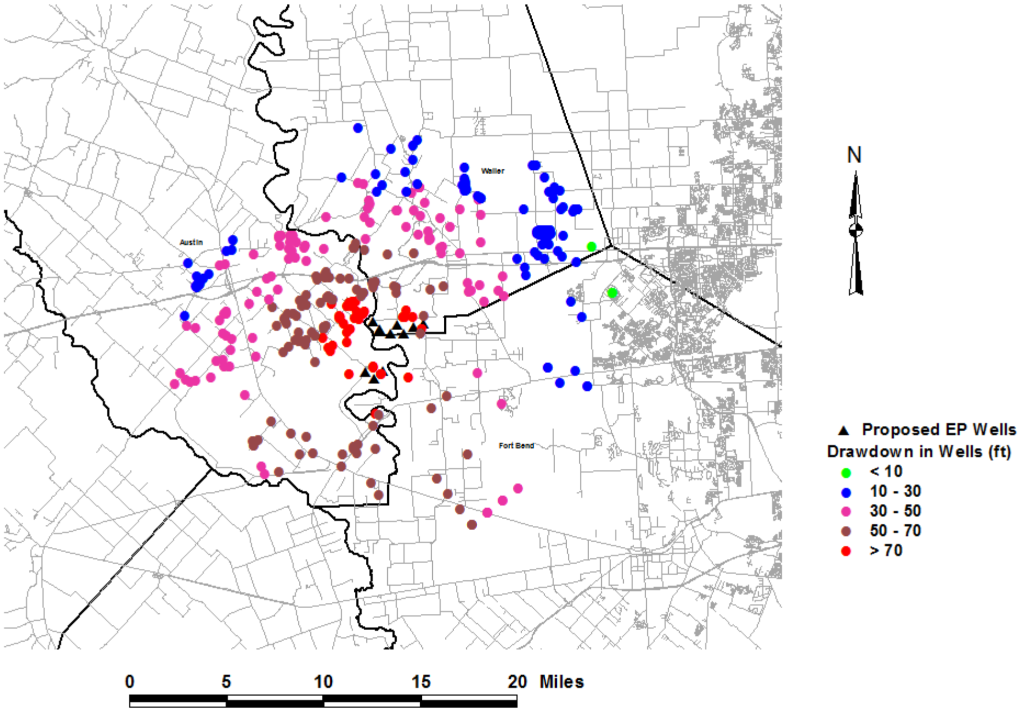



**Figure C-6**
**Simulated Drawdown 2008 to 2060 - HAGM**
**Scenario 10 (EP Pumping = 20 MGD) - Chicot Aquifer Wells (Layer 1)**

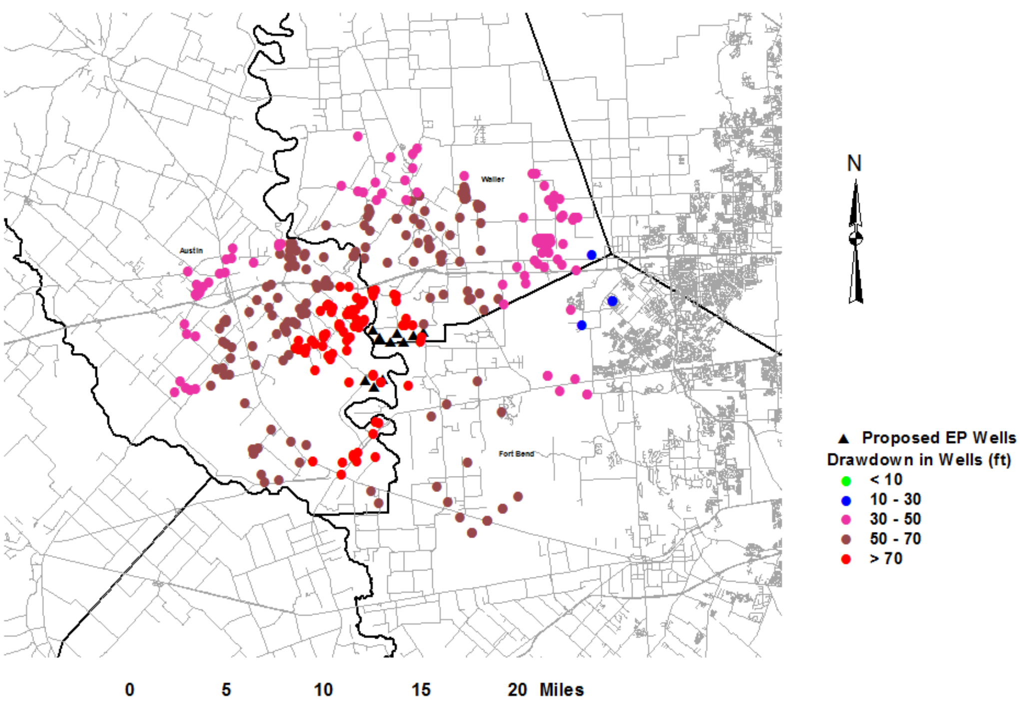


**Figure C-7**
**Simulated Drawdown 2008 to 2060 - GAM**
**Scenario 31 (EP Pumping = 9.9 MGD) - Chicot Aquifer Wells (Layer 1)**

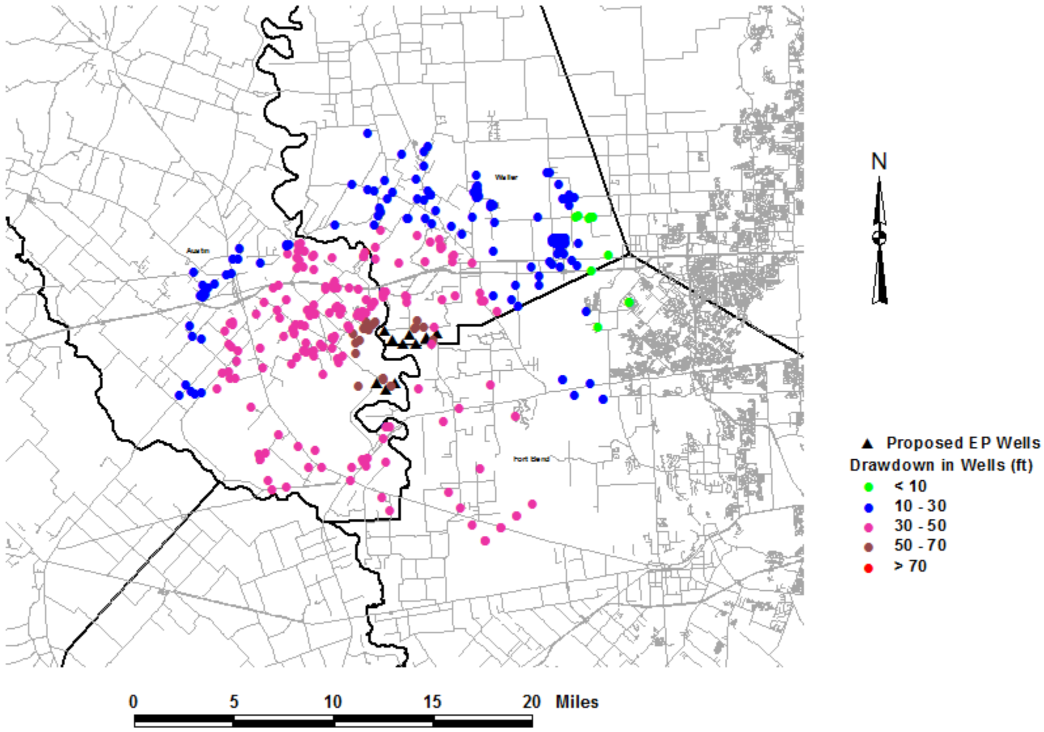



**Figure C-8**
**Simulated Drawdown 2008 to 2060 - HAGM**
**Scenario 31 (EP Pumping = 9.9 MGD) - Chicot Aquifer Wells (Layer 1)**

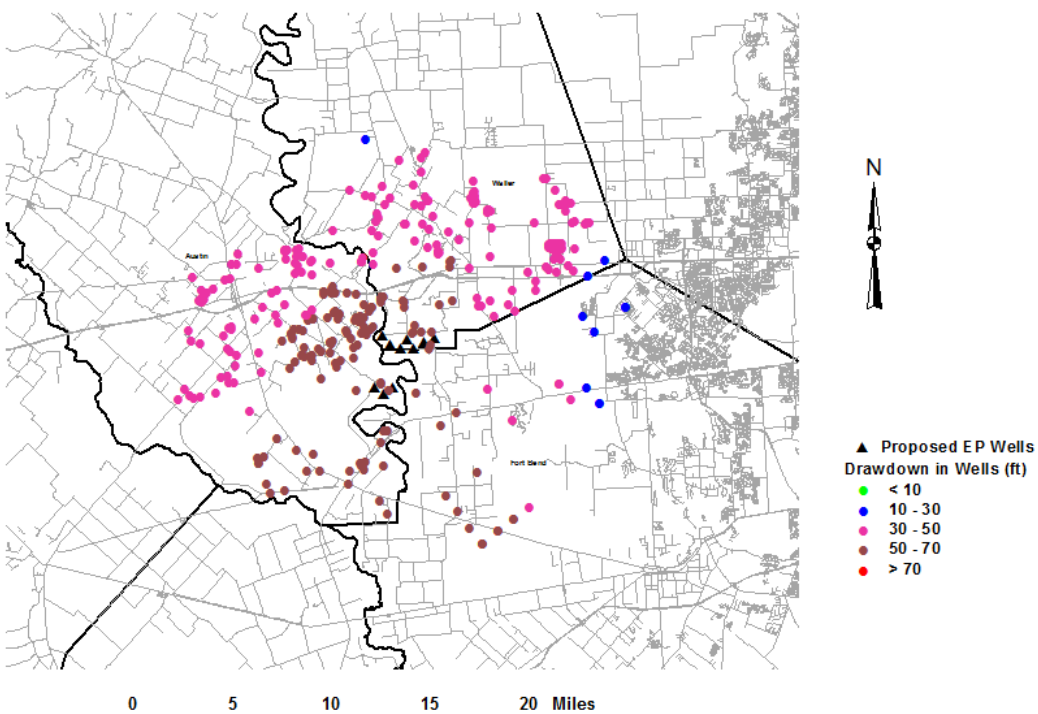


**Figure C-9**
**Simulated Drawdown 2008 to 2060 - GAM**
**Base Case (DFC/MAG Simulation) - Evangeline Aquifer Wells (Layer 2)**

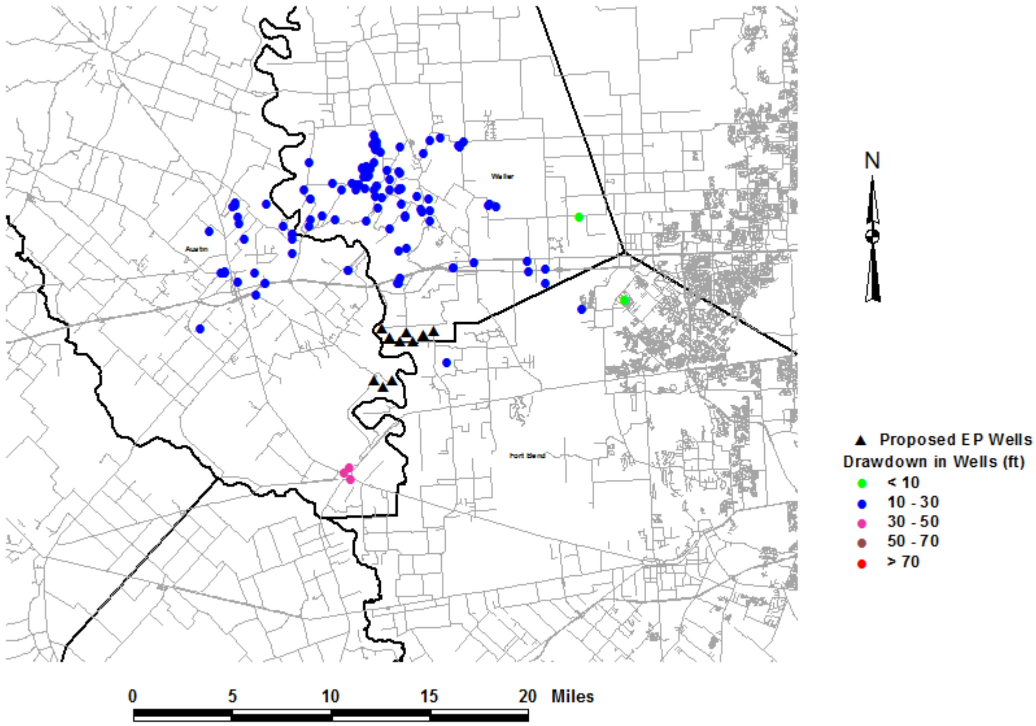



**Figure C-10**
**Simulated Drawdown 2008 to 2060 - HAGM**
**Base Case (DFC/MAG Simulation) - Evangeline Aquifer Wells (Layer 2)**

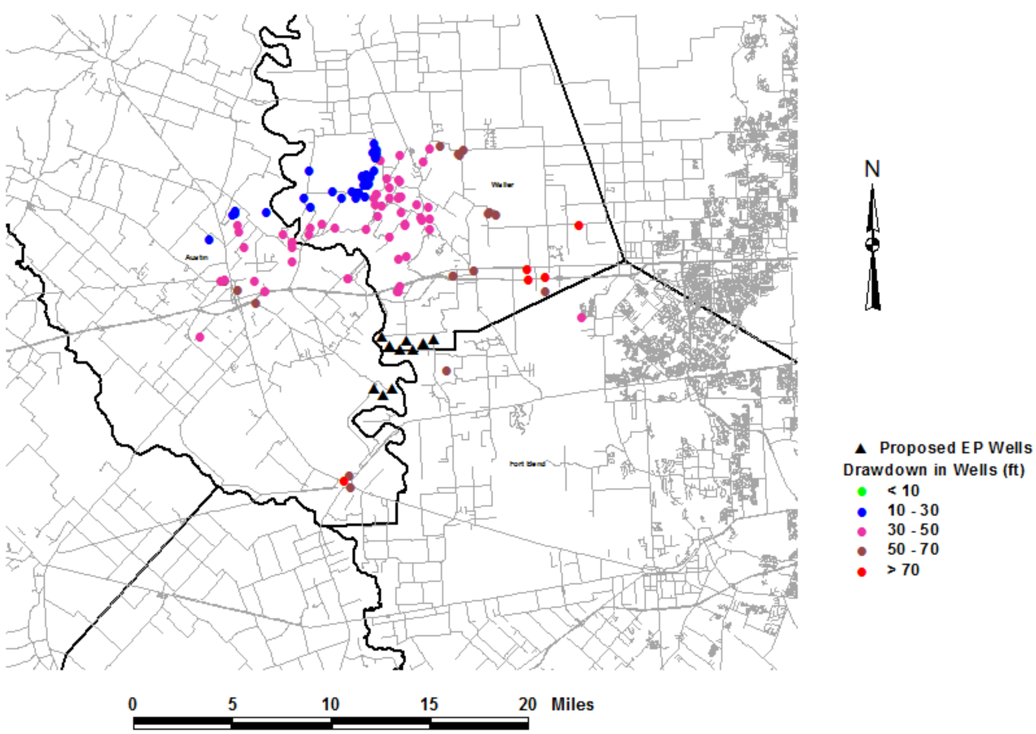


**Figure C-11**
**Simulated Drawdown 2008 to 2060 - GAM**
**Scenario 3 (EP Pumping = 6 MGD) - Evangeline Aquifer Wells (Layer 2)**

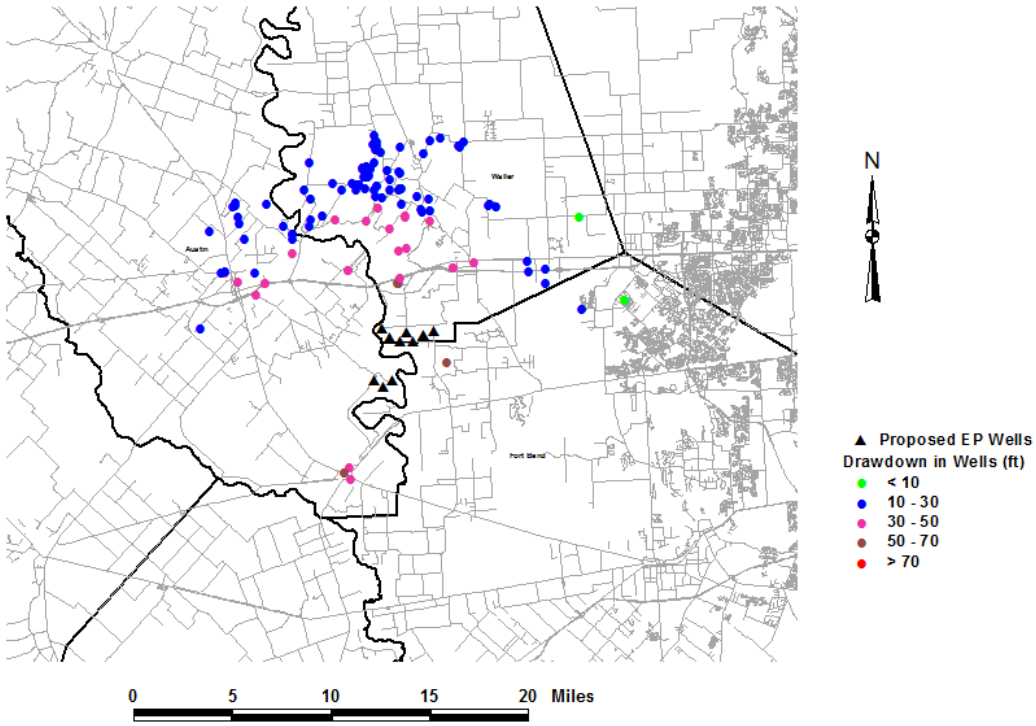



**Figure C-12**
**Simulated Drawdown 2008 to 2060 - HAGM**
**Scenario 3 (EP Pumping = 6 MGD) - Evangeline Aquifer Wells (Layer 2)**

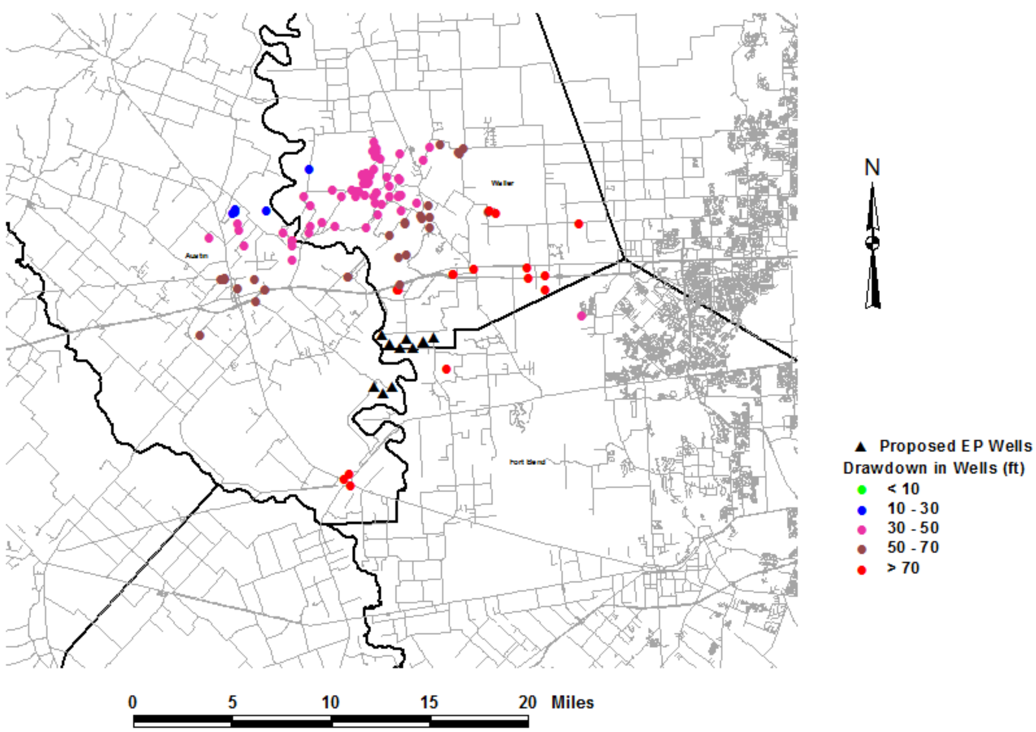


**Figure C-13**
**Simulated Drawdown 2008 to 2060 - GAM**
**Scenario 10 (EP Pumping = 20 MGD) - Evangeline Aquifer Wells (Layer 2)**

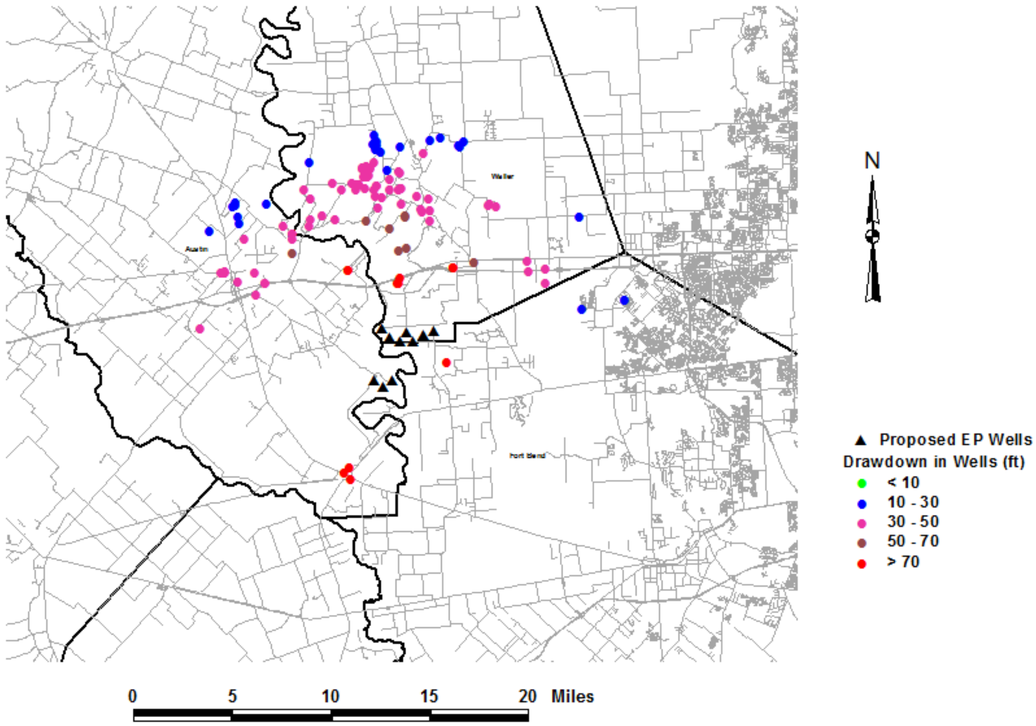



**Figure C-14**
**Simulated Drawdown 2008 to 2060 - HAGM**
**Scenario 10 (EP Pumping = 20 MGD) - Evangeline Aquifer Wells (Layer 2)**

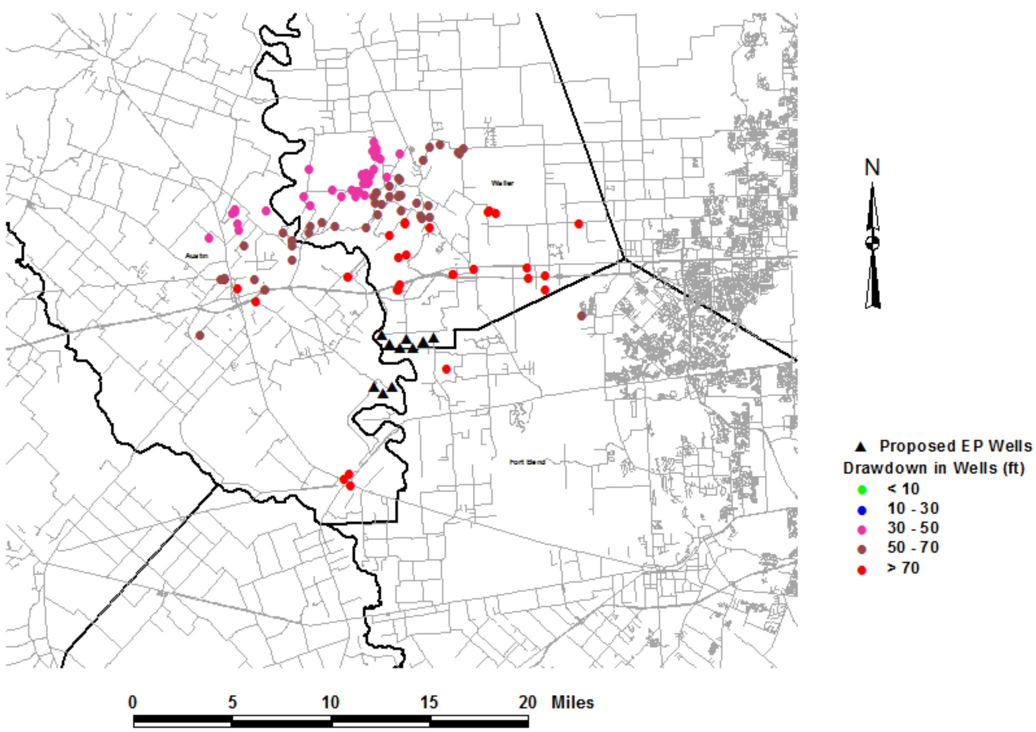


**Figure C-15**
**Simulated Drawdown 2008 to 2060 - GAM**
**Scenario 31 (EP Pumping = 9.9 MGD) - Evangeline Aquifer Wells (Layer 2)**

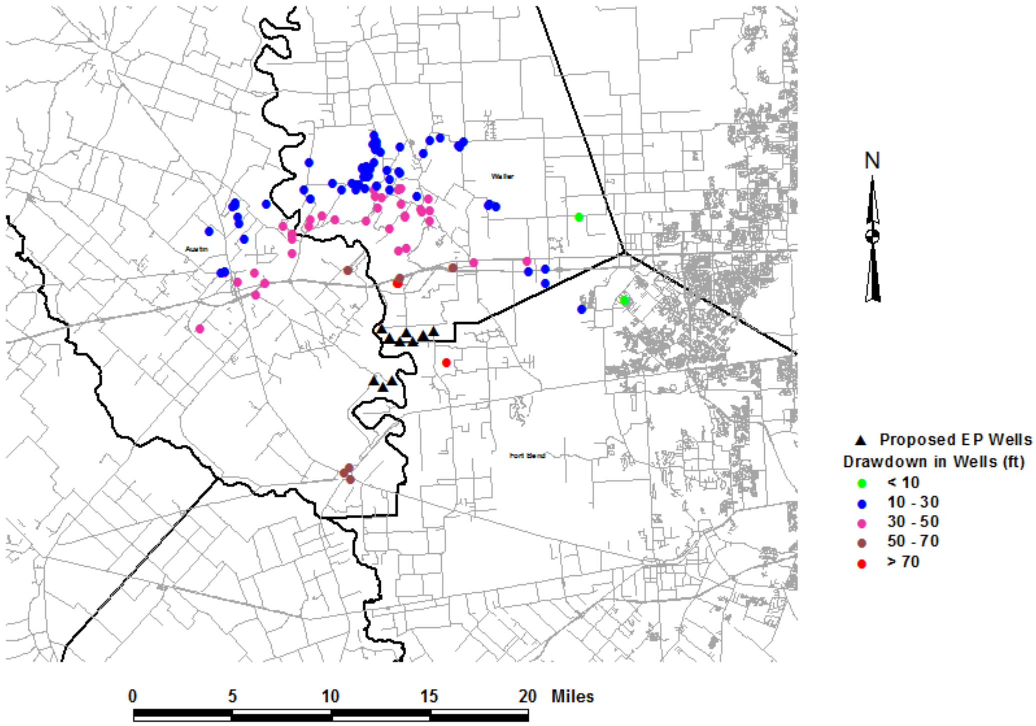



**Figure C-16**
**Simulated Drawdown 2008 to 2060 - HAGM**
**Scenario 31 (EP Pumping = 9.9 MGD) - Evangeline Aquifer Wells (Layer 2)**

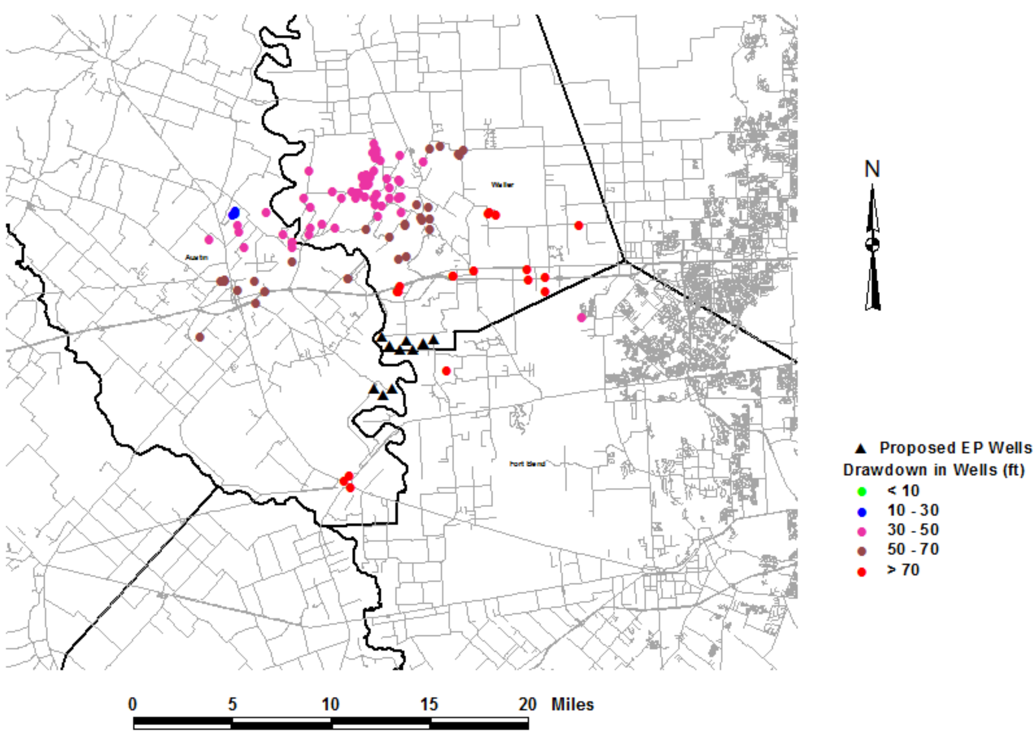


**Figure C-17**
**Simulated Drawdown Attributed to EP Pumping - GAM**
**Scenario 3 (EP Pumping = 6 MGD) - Chicot Aquifer Wells (Layer 1)**

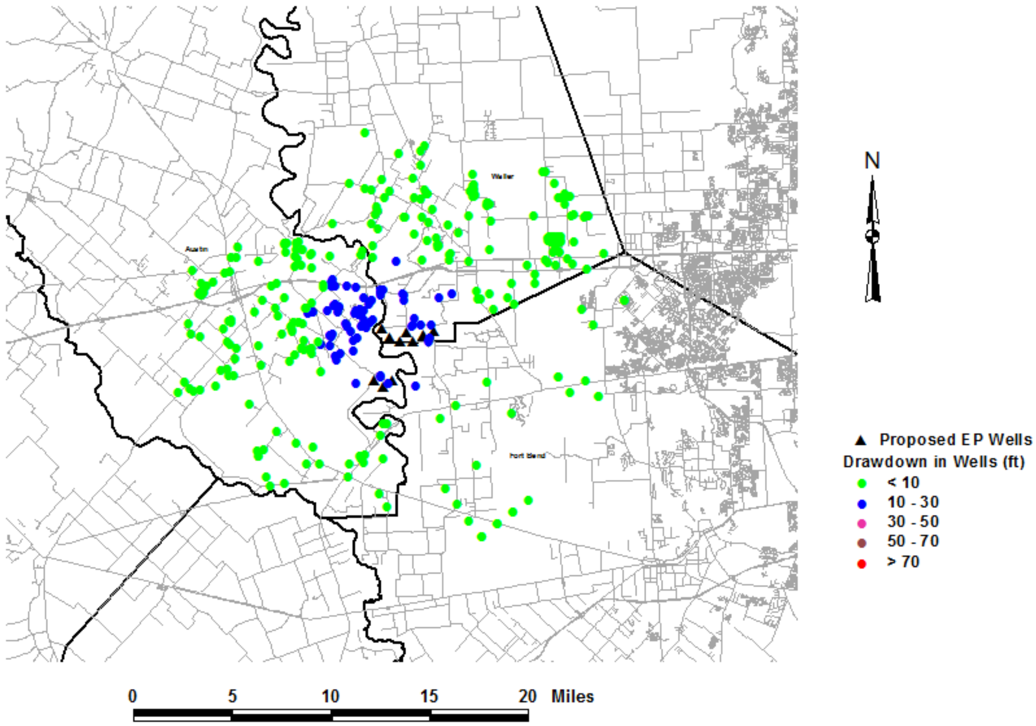



**Figure C-18**
**Simulated Drawdown Attributed to EP Pumping - HAGM**
**Scenario 3 (EP Pumping = 6 MGD) - Chicot Aquifer Wells (Layer 1)**

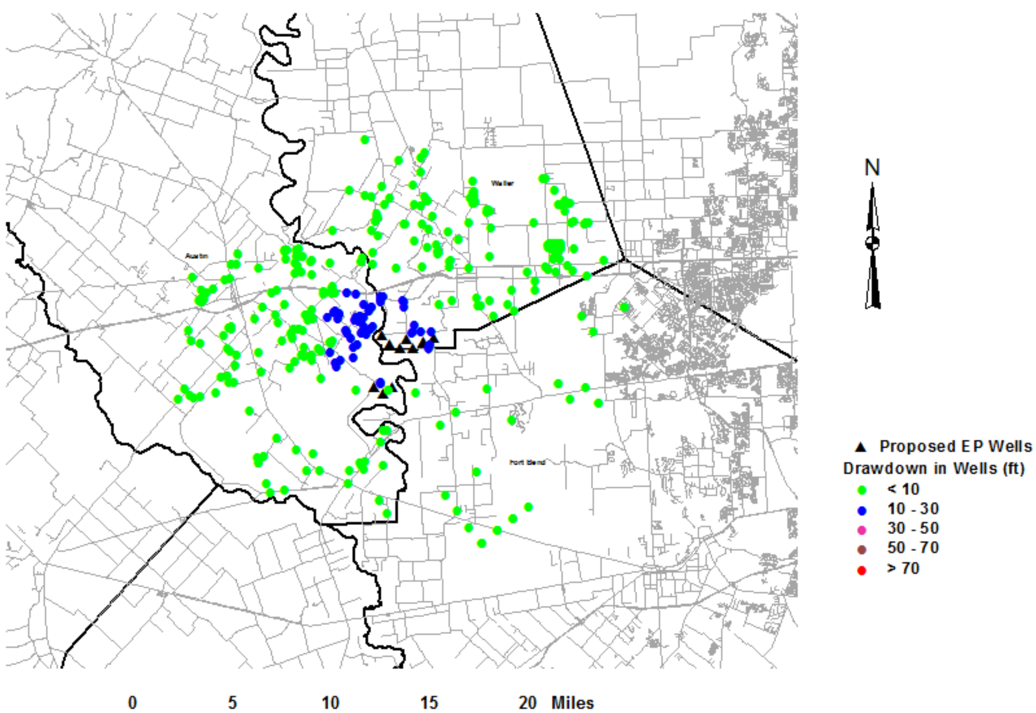


**Figure C-19**
**Simulated Drawdown Attributed to EP Pumping - GAM**
**Scenario 10 (EP Pumping = 20 MGD) - Chicot Aquifer Wells (Layer 1)**

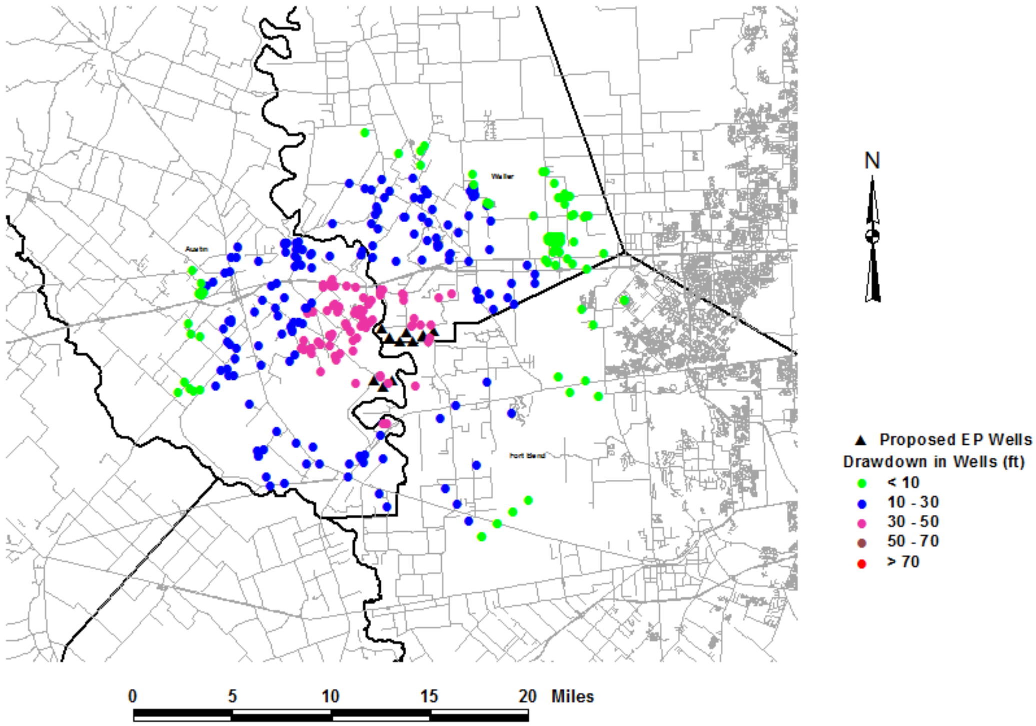



**Figure C-20**
**Simulated Drawdown Attributed to EP Pumping - HAGM**
**Scenario 10 (EP Pumping = 20 MGD) - Chicot Aquifer Wells (Layer 1)**

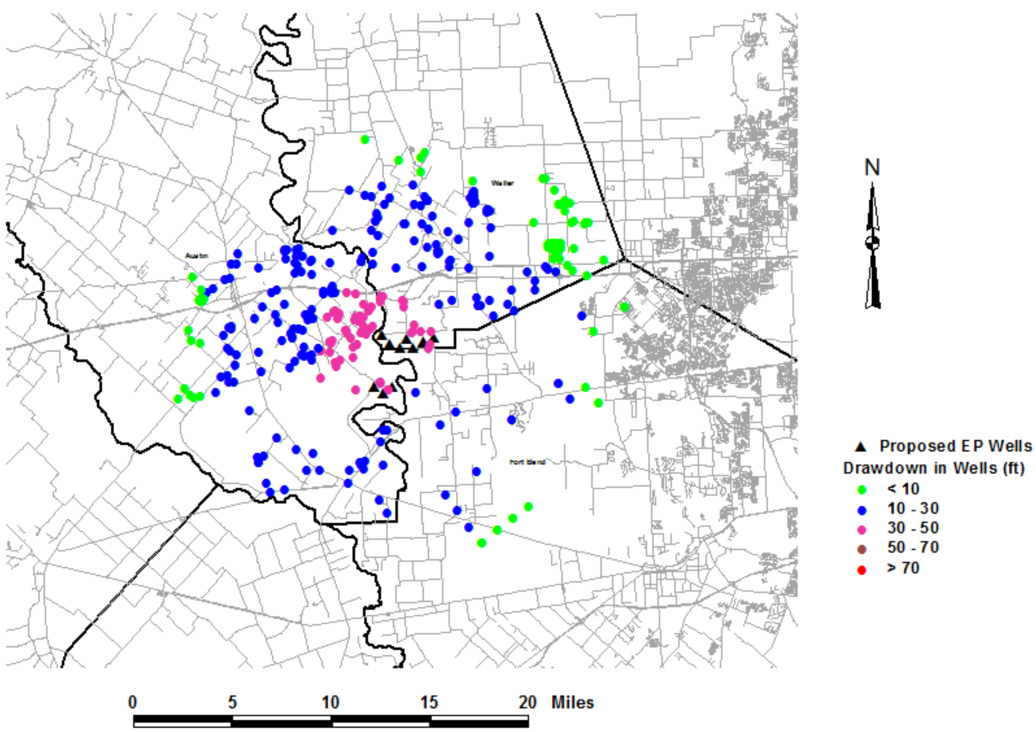


**Figure C-21**
**Simulated Drawdown Attributed to EP Pumping - GAM**
**Scenario 31 (EP Pumping = 9.9 MGD) - Chicot Aquifer Wells (Layer 1)**

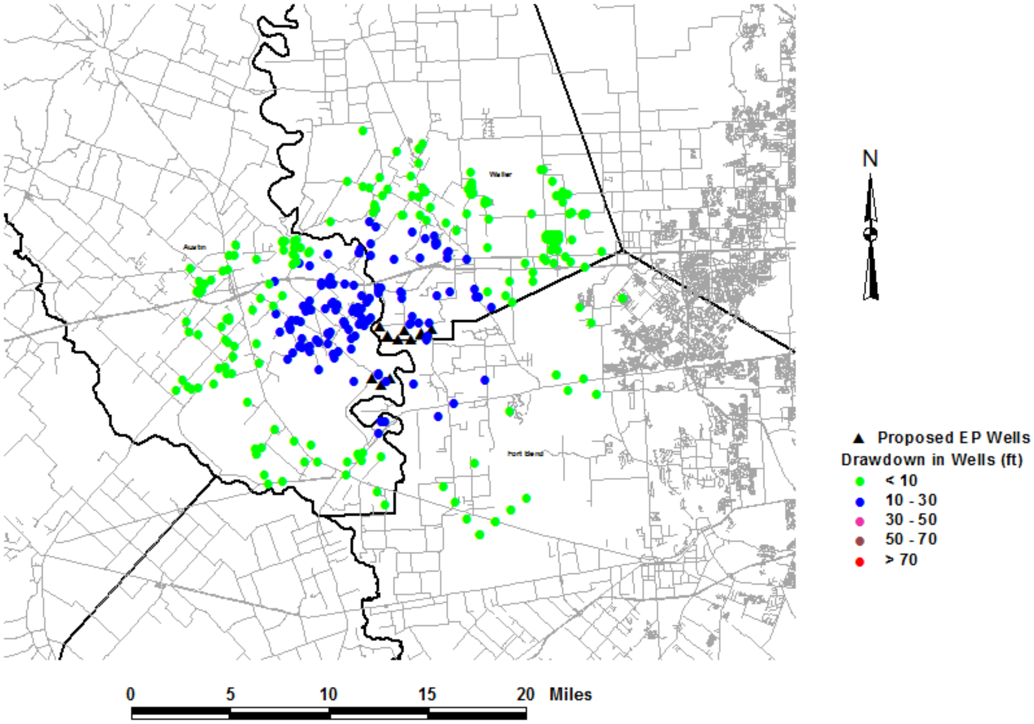



**Figure C-22**
**Simulated Drawdown Attributed to EP Pumping - HAGM**
**Scenario 31 (EP Pumping = 9.9 MGD) - Chicot Aquifer Wells (Layer 1)**

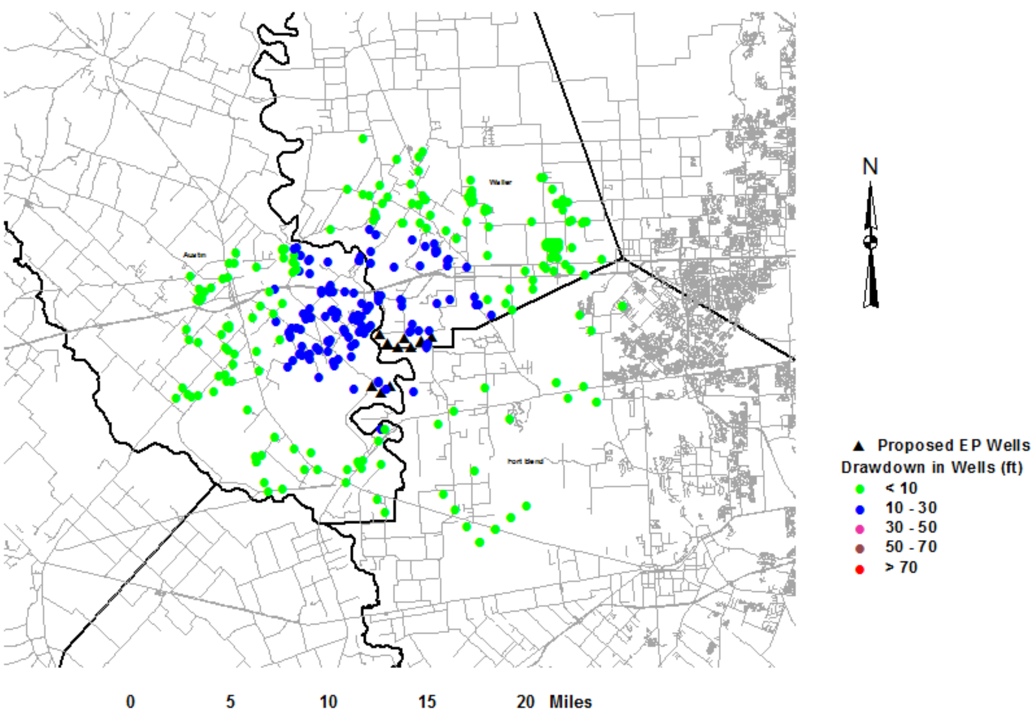


**Figure C-23**
**Simulated Drawdown Attributed to EP Pumping - GAM**
**Scenario 3 (EP Pumping = 6 MGD) - Evangeline Aquifer Wells (Layer 2)**

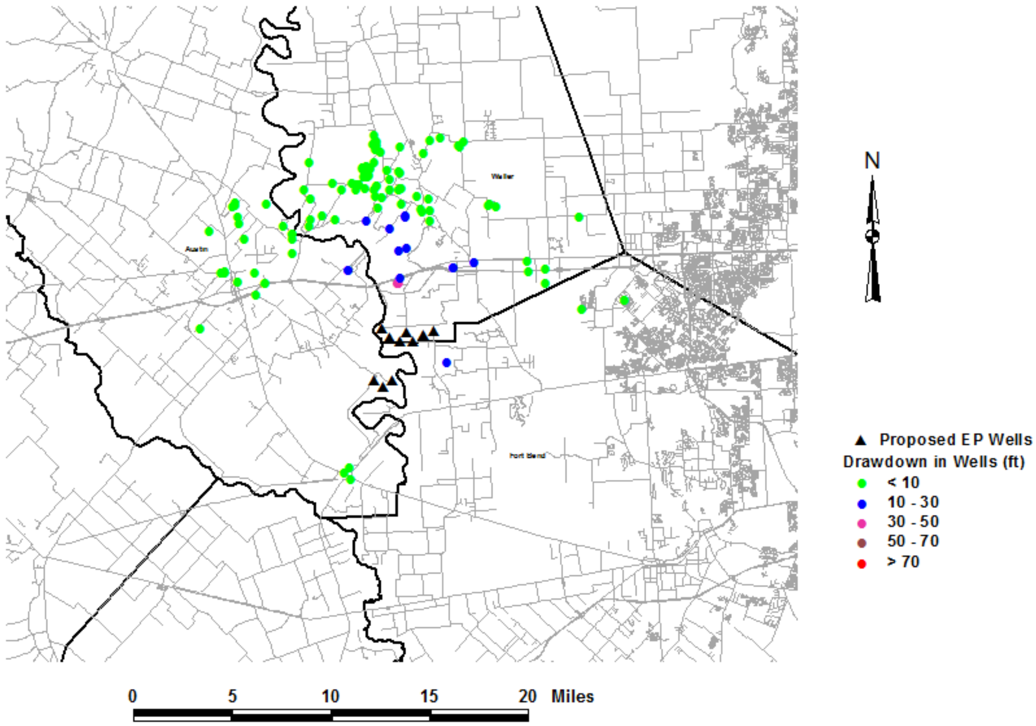



**Figure C-24**
**Simulated Drawdown Attributed to EP Pumping - HAGM**
**Scenario 3 (EP Pumping = 6 MGD) - Evangeline Aquifer Wells (Layer 2)**

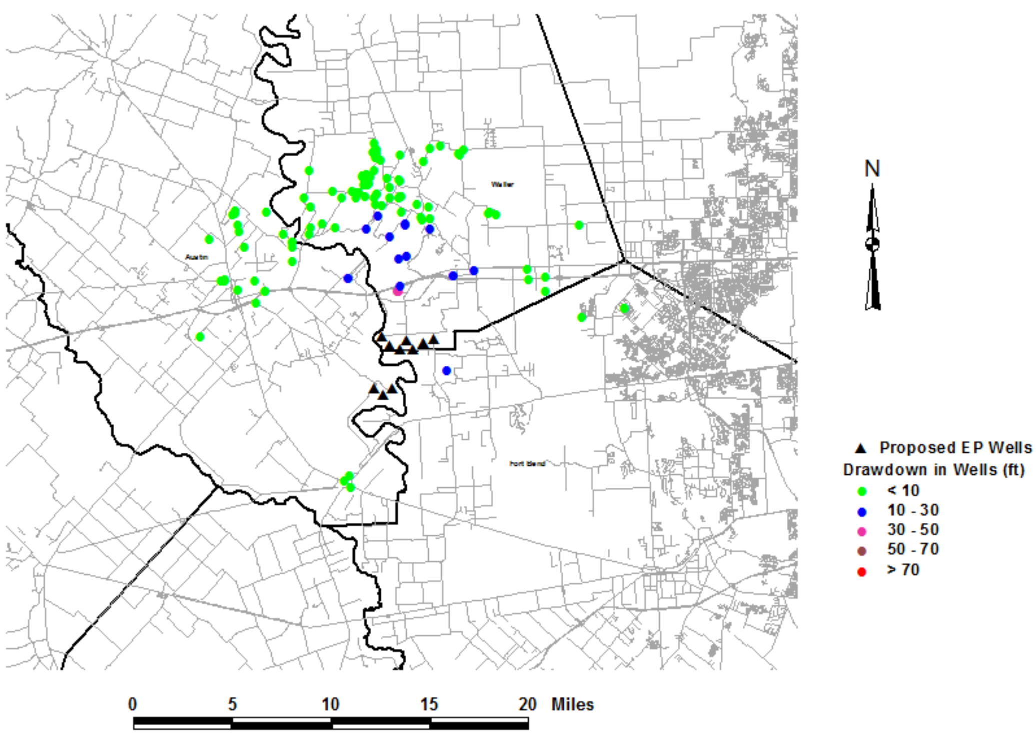


**Figure C-25**
**Simulated Drawdown Attributed to EP Pumping - GAM**
**Scenario 10 (EP Pumping = 20 MGD) - Evangeline Aquifer Wells (Layer 2)**

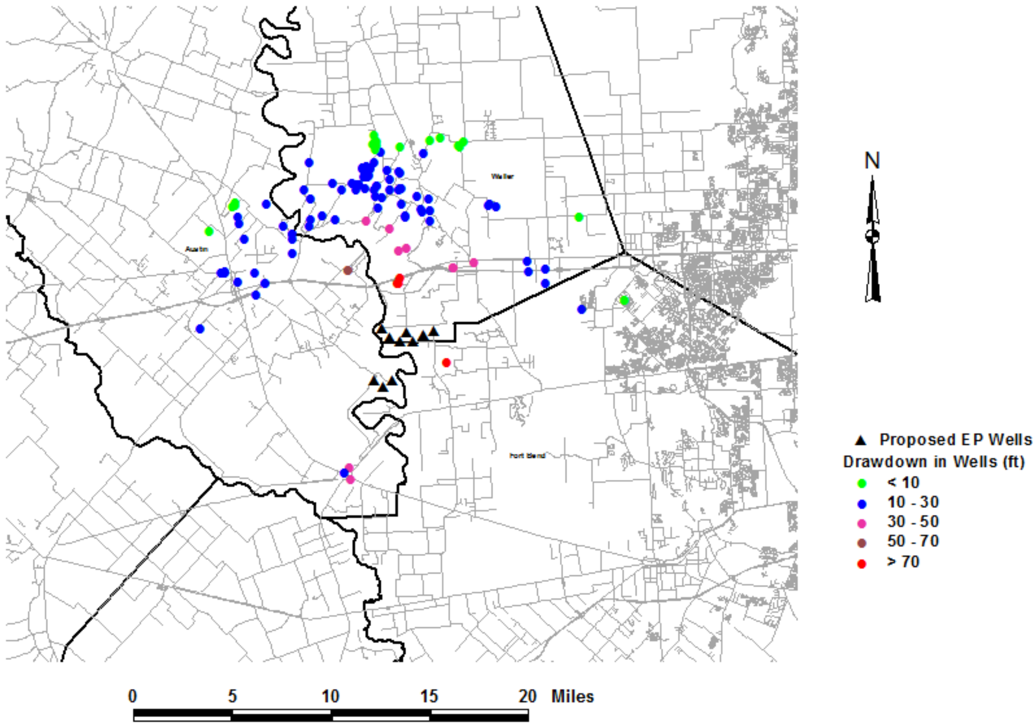



**Figure C-26**
**Simulated Drawdown Attributed to EP Pumping - HAGM**
**Scenario 10 (EP Pumping = 20 MGD) - Evangeline Aquifer Wells (Layer 2)**

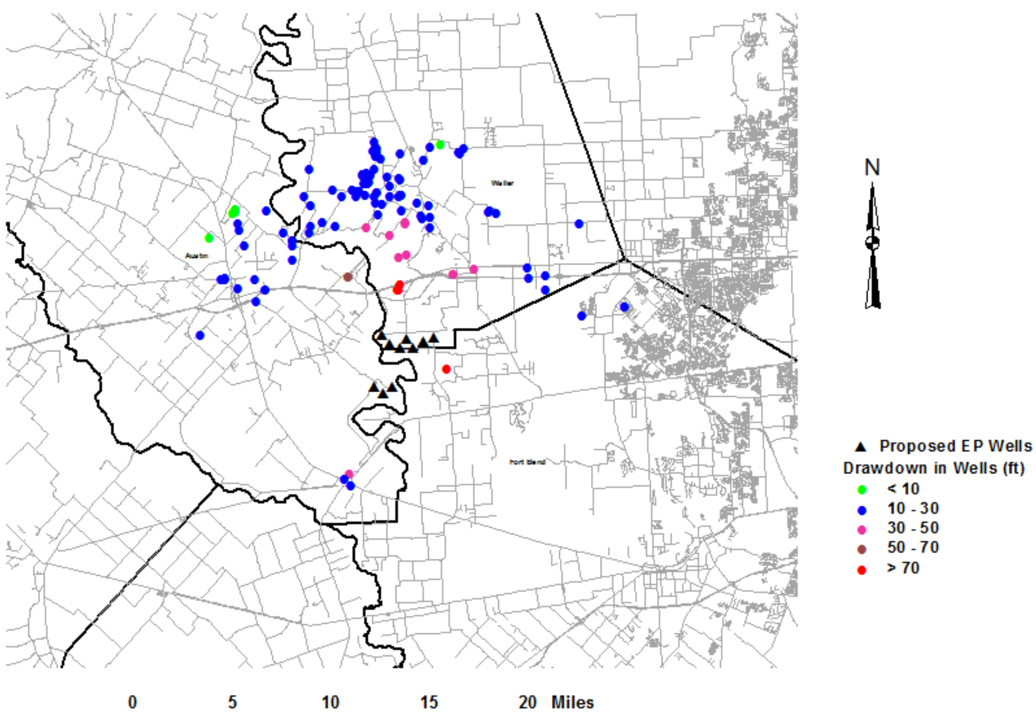


**Figure C-27**
**Simulated Drawdown Attributed to EP Pumping - GAM**
**Scenario 31 (EP Pumping = 9.9 MGD) - Evangeline Aquifer Wells (Layer 2)**

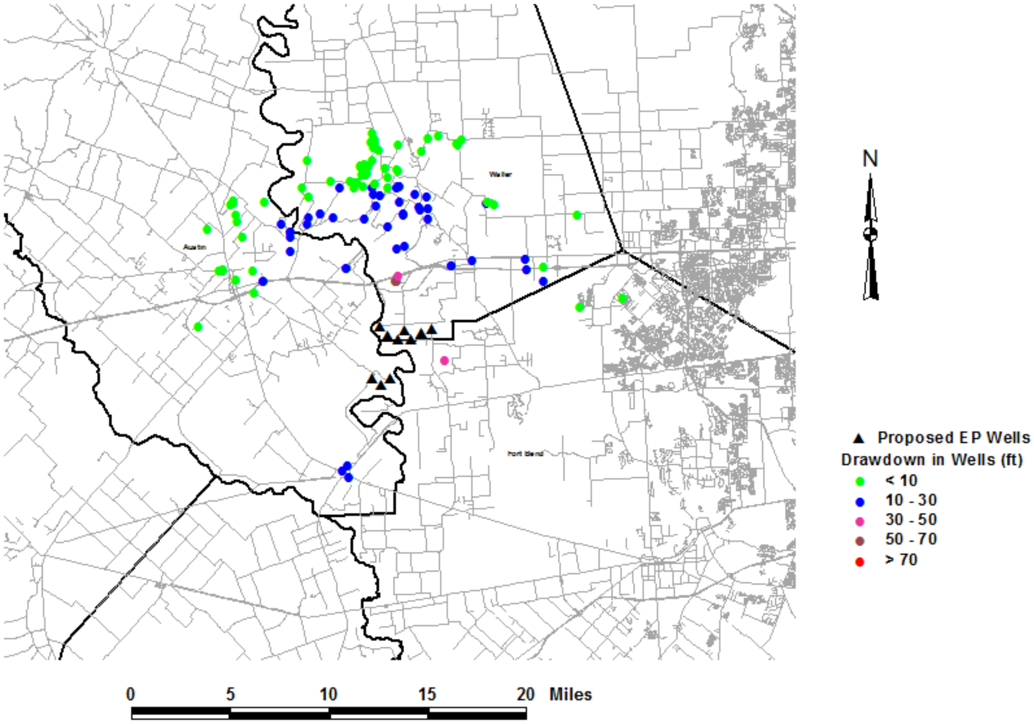
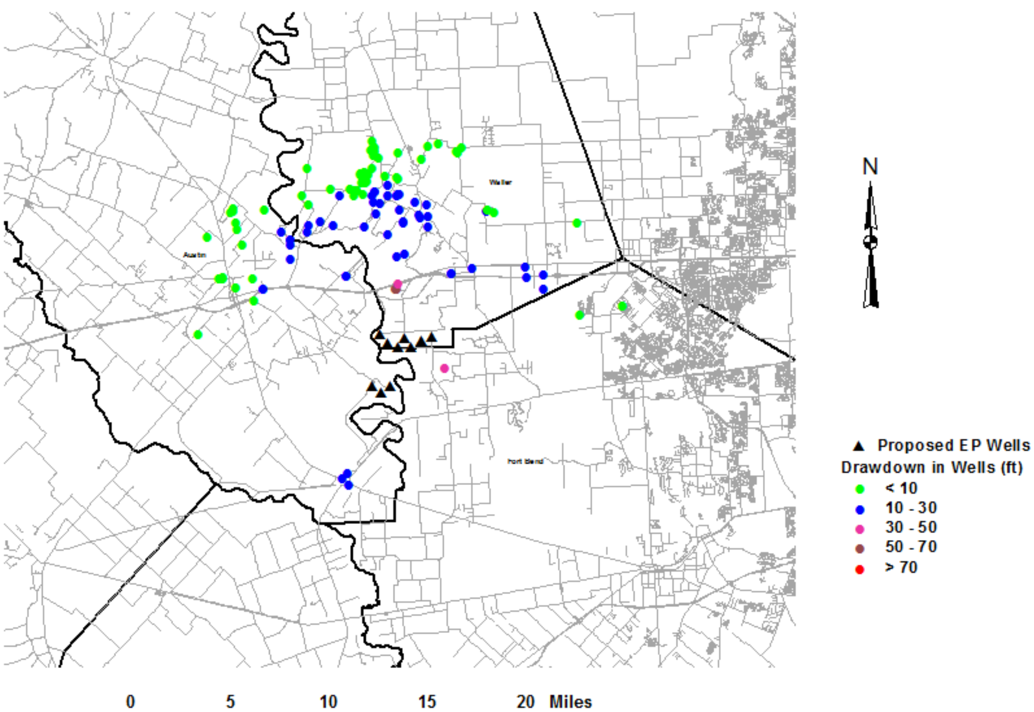



**Figure C-28**
**Simulated Drawdown Attributed to EP Pumping - HAGM**
**Scenario 31 (EP Pumping = 9.9 MGD) - Evangeline Aquifer Wells (Layer 2)**



# Appendix D – Tables and Hydrographs of County-Model Layer Drawdown Estimates

## Table D-1
## Austin County - Total Simulated Drawdown

| Scenario | Drawdown in 2060 from GAM (ft) | | | | Drawdown in 2060 from HAGM (ft) | | | |
|---|---|---|---|---|---|---|---|---|
| | Chicot | Evangeline | Burkeville | Jasper | Chicot | Evangeline | Burkeville | Jasper |
| Baseline | 17.13 | 9.94 | 10.69 | 20.29 | 29.00 | 18.51 | 18.57 | 34.79 |
| 1 | 18.20 | 10.86 | 11.59 | 20.71 | 29.98 | 19.43 | 19.47 | 34.88 |
| 2 | 19.41 | 11.98 | 12.69 | 21.13 | 31.11 | 20.54 | 20.56 | 34.98 |
| 3 | 20.20 | 12.61 | 13.31 | 21.53 | 31.86 | 21.17 | 21.19 | 35.07 |
| 4 | 21.24 | 13.52 | 14.21 | 21.94 | 32.85 | 22.09 | 22.09 | 35.16 |
| 5 | 22.42 | 14.63 | 15.30 | 22.36 | 33.98 | 23.20 | 23.19 | 35.25 |
| 6 | 23.20 | 15.27 | 15.93 | 22.76 | 34.74 | 23.84 | 23.81 | 35.34 |
| 7 | 24.22 | 16.19 | 16.83 | 23.17 | 35.73 | 24.76 | 24.72 | 35.43 |
| 8 | 25.30 | 17.27 | 17.89 | 23.60 | 36.73 | 25.82 | 25.76 | 35.53 |
| 9 | 26.61 | 18.62 | 19.21 | 24.03 | 37.95 | 27.16 | 27.08 | 35.62 |
| 10 | 27.69 | 19.71 | 20.28 | 24.46 | 38.95 | 28.22 | 28.13 | 35.72 |
| 11 | 18.09 | 10.75 | 11.48 | 20.51 | 29.85 | 19.30 | 19.35 | 34.82 |
| 12 | 19.19 | 11.76 | 12.46 | 20.73 | 30.85 | 20.29 | 20.32 | 34.84 |
| 13 | 19.88 | 12.29 | 12.98 | 20.93 | 31.47 | 20.81 | 20.83 | 34.87 |
| 14 | 20.82 | 13.09 | 13.77 | 21.15 | 32.33 | 21.60 | 21.61 | 34.89 |
| 15 | 21.90 | 14.09 | 14.74 | 21.37 | 33.33 | 22.59 | 22.58 | 34.92 |
| 16 | 22.58 | 14.62 | 15.26 | 21.58 | 33.96 | 23.11 | 23.09 | 34.94 |
| 17 | 23.50 | 15.43 | 16.05 | 21.79 | 34.82 | 23.90 | 23.87 | 34.96 |
| 18 | 23.55 | 15.32 | 15.94 | 21.77 | 34.52 | 23.66 | 23.63 | 34.92 |
| 19 | 23.82 | 15.47 | 16.10 | 21.77 | 34.44 | 23.68 | 23.65 | 34.88 |
| 20 | 23.87 | 15.36 | 15.99 | 21.75 | 34.14 | 23.43 | 23.41 | 34.84 |
| 21 | 26.98 | 19.19 | 20.41 | 47.51 | 38.03 | 27.42 | 27.59 | 85.83 |
| 22 | 26.12 | 18.50 | 20.41 | 72.20 | 36.98 | 26.42 | 26.87 | 138.53 |
| 23 | 25.64 | 18.24 | 20.74 | 92.82 | 36.28 | 25.89 | 26.57 | 184.05 |
| 24 | 24.89 | 17.58 | 20.75 | 117.06 | 35.36 | 24.93 | 25.88 | 236.05 |
| 25 | 24.22 | 17.10 | 20.99 | 143.70 | 34.44 | 24.13 | 25.36 | 292.17 |
| 26 | 23.50 | 16.59 | 21.13 | 166.75 | 33.52 | 23.32 | 24.81 | 341.99 |
| 27 | 22.63 | 15.90 | 21.13 | 191.44 | 32.47 | 22.32 | 24.09 | 394.63 |
| 28 | 22.14 | 15.64 | 21.46 | 212.07 | 31.77 | 21.79 | 23.79 | 440.16 |
| 29 | 21.39 | 14.98 | 21.48 | 236.30 | 30.85 | 20.83 | 23.10 | 492.15 |
| 30 | 20.39 | 14.06 | 21.23 | 259.34 | 29.71 | 19.61 | 22.15 | 541.94 |
| 31 | 21.62 | 14.10 | 14.78 | 22.21 | 33.17 | 22.65 | 22.64 | 35.20 |
| 32 | 21.19 | 13.61 | 14.27 | 21.27 | 32.65 | 22.11 | 22.11 | 34.91 |

## Table D-2
## Fort Bend County - Total Simulated Drawdown

| Scenario | Drawdown in 2060 from GAM (ft) | | | | Drawdown in 2060 from HAGM (ft) | | | |
|---|---|---|---|---|---|---|---|---|
| | Chicot | Evangeline | Burkeville | Jasper | Chicot | Evangeline | Burkeville | Jasper |
| Baseline | 20.00 | 24.18 | 19.97 | 39.96 | 27.35 | 15.37 | 3.93 | 56.53 |
| 1 | 20.34 | 24.80 | 21.37 | 40.96 | 27.74 | 16.04 | 5.43 | 56.67 |
| 2 | 20.67 | 25.39 | 22.70 | 41.93 | 28.13 | 16.69 | 6.84 | 56.81 |
| 3 | 21.07 | 26.18 | 24.49 | 43.04 | 28.60 | 17.55 | 8.75 | 56.97 |
| 4 | 21.40 | 26.80 | 25.89 | 44.04 | 28.99 | 18.23 | 10.24 | 57.11 |
| 5 | 21.72 | 27.39 | 27.22 | 45.01 | 29.37 | 18.87 | 11.66 | 57.25 |
| 6 | 22.10 | 28.17 | 29.00 | 46.12 | 29.84 | 19.73 | 13.57 | 57.40 |
| 7 | 22.43 | 28.78 | 30.39 | 47.12 | 30.24 | 20.41 | 15.07 | 57.54 |
| 8 | 22.83 | 29.58 | 32.17 | 48.17 | 30.71 | 21.28 | 16.94 | 57.69 |
| 9 | 23.17 | 30.20 | 33.52 | 49.13 | 31.12 | 21.95 | 18.36 | 57.83 |
| 10 | 23.57 | 31.00 | 35.30 | 50.18 | 31.59 | 22.81 | 20.24 | 57.98 |
| 11 | 20.21 | 24.56 | 20.85 | 40.38 | 27.58 | 15.79 | 4.89 | 56.58 |
| 12 | 20.41 | 24.92 | 21.67 | 40.77 | 27.80 | 16.19 | 5.76 | 56.62 |
| 13 | 20.68 | 25.47 | 22.95 | 41.31 | 28.10 | 16.80 | 7.13 | 56.68 |
| 14 | 20.88 | 25.85 | 23.84 | 41.74 | 28.34 | 17.22 | 8.09 | 56.72 |
| 15 | 21.08 | 26.21 | 24.66 | 42.13 | 28.55 | 17.61 | 8.95 | 56.77 |
| 16 | 21.34 | 26.76 | 25.93 | 42.67 | 28.86 | 18.22 | 10.32 | 56.82 |
| 17 | 21.53 | 27.13 | 26.81 | 43.10 | 29.09 | 18.65 | 11.27 | 56.87 |
| 18 | 21.81 | 27.71 | 28.17 | 43.68 | 29.41 | 19.28 | 12.72 | 56.92 |
| 19 | 22.02 | 28.11 | 29.10 | 44.16 | 29.66 | 19.71 | 13.71 | 56.97 |
| 20 | 22.29 | 28.69 | 30.46 | 44.74 | 29.99 | 20.34 | 15.15 | 57.02 |
| 21 | 23.39 | 30.66 | 35.00 | 102.03 | 31.23 | 22.19 | 18.91 | 131.91 |
| 22 | 23.22 | 30.35 | 34.76 | 152.89 | 30.87 | 21.59 | 17.67 | 205.98 |
| 23 | 22.98 | 29.87 | 34.17 | 209.96 | 30.43 | 20.78 | 15.93 | 285.16 |
| 24 | 22.73 | 29.37 | 33.62 | 268.14 | 29.97 | 19.96 | 14.24 | 367.93 |
| 25 | 22.55 | 29.04 | 33.35 | 320.20 | 29.60 | 19.32 | 12.91 | 444.87 |
| 26 | 22.37 | 28.70 | 33.05 | 372.06 | 29.23 | 18.69 | 11.58 | 519.41 |
| 27 | 22.19 | 28.39 | 32.80 | 422.93 | 28.86 | 18.08 | 10.33 | 593.58 |
| 28 | 21.95 | 27.90 | 32.20 | 479.99 | 28.42 | 17.26 | 8.59 | 672.78 |
| 29 | 21.69 | 27.39 | 31.65 | 538.18 | 27.96 | 16.44 | 6.90 | 755.51 |
| 30 | 21.49 | 27.05 | 31.39 | 590.11 | 27.58 | 15.81 | 5.64 | 830.03 |
| 31 | 21.47 | 27.19 | 26.93 | 44.72 | 29.06 | 18.62 | 11.33 | 57.18 |
| 32 | 20.93 | 26.12 | 24.56 | 42.02 | 28.38 | 17.52 | 8.89 | 56.76 |

## Table D-3
## Waller County - Total Simulated Drawdown

| Scenario | Drawdown in 2060 from GAM (ft) | | | | Drawdown in 2060 from HAGM (ft) | | | |
|---|---|---|---|---|---|---|---|---|
| | Chicot | Evangeline | Burkeville | Jasper | Chicot | Evangeline | Burkeville | Jasper |
| Baseline | 7.48 | 7.97 | 8.58 | 25.49 | 26.20 | 32.10 | 32.50 | 50.23 |
| 1 | 8.02 | 9.02 | 9.62 | 25.98 | 26.77 | 33.20 | 33.59 | 50.31 |
| 2 | 8.48 | 9.88 | 10.47 | 26.43 | 27.26 | 34.09 | 34.48 | 50.38 |
| 3 | 9.01 | 10.99 | 11.55 | 26.95 | 27.84 | 35.24 | 35.63 | 50.47 |
| 4 | 9.54 | 12.04 | 12.59 | 27.44 | 28.41 | 36.34 | 36.72 | 50.55 |
| 5 | 9.99 | 12.90 | 13.43 | 27.89 | 28.90 | 37.23 | 37.61 | 50.62 |
| 6 | 10.52 | 14.00 | 14.51 | 28.41 | 29.47 | 38.38 | 38.75 | 50.70 |
| 7 | 11.04 | 15.05 | 15.55 | 28.90 | 30.04 | 39.48 | 39.85 | 50.78 |
| 8 | 11.34 | 15.54 | 16.04 | 29.32 | 30.38 | 39.99 | 40.36 | 50.86 |
| 9 | 11.62 | 15.99 | 16.49 | 29.73 | 30.71 | 40.47 | 40.83 | 50.93 |
| 10 | 11.92 | 16.49 | 16.98 | 30.16 | 31.05 | 40.98 | 41.35 | 51.00 |
| 11 | 7.35 | 7.51 | 8.13 | 25.44 | 25.60 | 31.30 | 31.70 | 50.20 |
| 12 | 7.14 | 6.85 | 7.49 | 25.36 | 24.92 | 30.29 | 30.70 | 50.17 |
| 13 | 7.01 | 6.45 | 7.09 | 25.34 | 24.32 | 29.54 | 29.95 | 50.15 |
| 14 | 6.87 | 6.00 | 6.65 | 25.30 | 23.71 | 28.73 | 29.15 | 50.12 |
| 15 | 6.66 | 5.35 | 6.02 | 25.22 | 23.02 | 27.72 | 28.14 | 50.09 |
| 16 | 6.52 | 4.95 | 5.62 | 25.21 | 22.42 | 26.96 | 27.39 | 50.06 |
| 17 | 6.37 | 4.50 | 5.18 | 25.16 | 21.81 | 26.15 | 26.59 | 50.03 |
| 18 | 6.61 | 4.88 | 5.55 | 25.36 | 22.07 | 26.56 | 26.99 | 50.04 |
| 19 | 6.83 | 5.22 | 5.89 | 25.53 | 22.32 | 26.91 | 27.34 | 50.05 |
| 20 | 7.07 | 5.61 | 6.27 | 25.73 | 22.58 | 27.32 | 27.75 | 50.06 |
| 21 | 11.59 | 15.85 | 17.01 | 57.20 | 30.53 | 39.98 | 40.54 | 95.56 |
| 22 | 11.32 | 15.41 | 17.18 | 82.58 | 30.08 | 39.18 | 39.93 | 138.42 |
| 23 | 10.99 | 14.75 | 17.22 | 110.20 | 29.55 | 38.11 | 39.06 | 182.99 |
| 24 | 10.85 | 14.65 | 17.66 | 132.65 | 29.24 | 37.67 | 38.80 | 222.58 |
| 25 | 10.49 | 13.96 | 17.51 | 154.29 | 28.71 | 36.65 | 37.96 | 261.76 |
| 26 | 10.16 | 13.34 | 17.55 | 181.34 | 28.18 | 35.64 | 37.15 | 306.20 |
| 27 | 9.88 | 12.90 | 17.72 | 206.72 | 27.73 | 34.84 | 36.53 | 349.09 |
| 28 | 9.54 | 12.24 | 17.76 | 234.35 | 27.20 | 33.77 | 35.66 | 393.65 |
| 29 | 9.40 | 12.13 | 18.19 | 256.81 | 26.89 | 33.33 | 35.40 | 433.21 |
| 30 | 9.29 | 12.11 | 18.82 | 283.95 | 26.61 | 32.95 | 35.21 | 477.63 |
| 31 | 9.74 | 12.72 | 13.25 | 27.75 | 28.57 | 37.00 | 37.38 | 50.58 |
| 32 | 6.63 | 5.41 | 6.07 | 25.19 | 23.38 | 28.12 | 28.54 | 50.10 |

## Table D-4
## Austin County - Drawdown Attributable to EP Pumping

| Scenario | Drawdown in 2060 from GAM (ft) | | | | Drawdown in 2060 from HAGM (ft) | | | |
|---|---|---|---|---|---|---|---|---|
| | Chicot | Evangeline | Burkeville | Jasper | Chicot | Evangeline | Burkeville | Jasper |
| Baseline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1.07 | 0.92 | 0.90 | 0.42 | 0.98 | 0.92 | 0.90 | 0.09 |
| 2 | 2.28 | 2.04 | 2.00 | 0.84 | 2.11 | 2.03 | 1.99 | 0.19 |
| 3 | 3.07 | 2.67 | 2.62 | 1.24 | 2.86 | 2.66 | 2.62 | 0.28 |
| 4 | 4.11 | 3.58 | 3.52 | 1.65 | 3.85 | 3.58 | 3.52 | 0.37 |
| 5 | 5.29 | 4.69 | 4.61 | 2.07 | 4.98 | 4.69 | 4.62 | 0.46 |
| 6 | 6.07 | 5.33 | 5.24 | 2.47 | 5.74 | 5.33 | 5.24 | 0.55 |
| 7 | 7.09 | 6.25 | 6.14 | 2.88 | 6.73 | 6.25 | 6.15 | 0.64 |
| 8 | 8.17 | 7.33 | 7.20 | 3.31 | 7.73 | 7.31 | 7.19 | 0.74 |
| 9 | 9.48 | 8.68 | 8.52 | 3.74 | 8.95 | 8.65 | 8.51 | 0.83 |
| 10 | 10.56 | 9.77 | 9.59 | 4.17 | 9.95 | 9.71 | 9.56 | 0.93 |
| 11 | 0.96 | 0.81 | 0.79 | 0.22 | 0.85 | 0.79 | 0.78 | 0.03 |
| 12 | 2.06 | 1.82 | 1.77 | 0.44 | 1.85 | 1.78 | 1.75 | 0.05 |
| 13 | 2.75 | 2.35 | 2.29 | 0.64 | 2.47 | 2.30 | 2.26 | 0.08 |
| 14 | 3.69 | 3.15 | 3.08 | 0.86 | 3.33 | 3.09 | 3.04 | 0.10 |
| 15 | 4.77 | 4.15 | 4.05 | 1.08 | 4.33 | 4.08 | 4.01 | 0.13 |
| 16 | 5.45 | 4.68 | 4.57 | 1.29 | 4.96 | 4.60 | 4.52 | 0.15 |
| 17 | 6.37 | 5.49 | 5.36 | 1.50 | 5.82 | 5.39 | 5.30 | 0.17 |
| 18 | 6.42 | 5.38 | 5.25 | 1.48 | 5.52 | 5.15 | 5.06 | 0.13 |
| 19 | 6.69 | 5.53 | 5.41 | 1.48 | 5.44 | 5.17 | 5.08 | 0.09 |
| 20 | 6.74 | 5.42 | 5.30 | 1.46 | 5.14 | 4.92 | 4.84 | 0.05 |
| 21 | 9.85 | 9.25 | 9.72 | 27.22 | 9.03 | 8.91 | 9.02 | 51.04 |
| 22 | 8.99 | 8.56 | 9.72 | 51.91 | 7.98 | 7.91 | 8.30 | 103.74 |
| 23 | 8.51 | 8.30 | 10.05 | 72.53 | 7.28 | 7.38 | 8.00 | 149.26 |
| 24 | 7.76 | 7.64 | 10.06 | 96.77 | 6.36 | 6.42 | 7.31 | 201.26 |
| 25 | 7.09 | 7.16 | 10.30 | 123.41 | 5.44 | 5.62 | 6.79 | 257.38 |
| 26 | 6.37 | 6.65 | 10.44 | 146.46 | 4.52 | 4.81 | 6.24 | 307.20 |
| 27 | 5.50 | 5.96 | 10.44 | 171.15 | 3.47 | 3.81 | 5.52 | 359.84 |
| 28 | 5.01 | 5.70 | 10.77 | 191.78 | 2.77 | 3.28 | 5.22 | 405.37 |
| 29 | 4.26 | 5.04 | 10.79 | 216.01 | 1.85 | 2.32 | 4.53 | 457.36 |
| 30 | 3.26 | 4.12 | 10.54 | 239.05 | 0.71 | 1.10 | 3.58 | 507.15 |
| 31 | 4.49 | 4.16 | 4.09 | 1.92 | 4.17 | 4.14 | 4.07 | 0.41 |
| 32 | 4.06 | 3.67 | 3.58 | 0.98 | 3.65 | 3.60 | 3.54 | 0.12 |

## Table D-5
## Fort Bend County - Drawdown Attributable to EP Pumping

| Scenario | Drawdown in 2060 from GAM (ft) | | | | Drawdown in 2060 from HAGM (ft) | | | |
|---|---|---|---|---|---|---|---|---|
| | Chicot | Evangeline | Burkeville | Jasper | Chicot | Evangeline | Burkeville | Jasper |
| Baseline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0.34 | 0.62 | 1.40 | 1.00 | 0.39 | 0.67 | 1.50 | 0.14 |
| 2 | 0.67 | 1.21 | 2.73 | 1.97 | 0.78 | 1.32 | 2.91 | 0.28 |
| 3 | 1.07 | 2.00 | 4.52 | 3.08 | 1.25 | 2.18 | 4.82 | 0.44 |
| 4 | 1.40 | 2.62 | 5.92 | 4.08 | 1.64 | 2.86 | 6.31 | 0.58 |
| 5 | 1.72 | 3.21 | 7.25 | 5.05 | 2.02 | 3.50 | 7.73 | 0.72 |
| 6 | 2.10 | 3.99 | 9.03 | 6.16 | 2.49 | 4.36 | 9.64 | 0.87 |
| 7 | 2.43 | 4.60 | 10.42 | 7.16 | 2.89 | 5.04 | 11.14 | 1.01 |
| 8 | 2.83 | 5.40 | 12.20 | 8.21 | 3.36 | 5.91 | 13.01 | 1.16 |
| 9 | 3.17 | 6.02 | 13.55 | 9.17 | 3.77 | 6.58 | 14.43 | 1.30 |
| 10 | 3.57 | 6.82 | 15.33 | 10.22 | 4.24 | 7.44 | 16.31 | 1.45 |
| 11 | 0.21 | 0.38 | 0.88 | 0.42 | 0.23 | 0.42 | 0.96 | 0.05 |
| 12 | 0.41 | 0.74 | 1.70 | 0.81 | 0.45 | 0.82 | 1.83 | 0.09 |
| 13 | 0.68 | 1.29 | 2.98 | 1.35 | 0.75 | 1.43 | 3.20 | 0.15 |
| 14 | 0.88 | 1.67 | 3.87 | 1.78 | 0.99 | 1.85 | 4.16 | 0.19 |
| 15 | 1.08 | 2.03 | 4.69 | 2.17 | 1.20 | 2.24 | 5.02 | 0.24 |
| 16 | 1.34 | 2.58 | 5.96 | 2.71 | 1.51 | 2.85 | 6.39 | 0.29 |
| 17 | 1.53 | 2.95 | 6.84 | 3.14 | 1.74 | 3.28 | 7.34 | 0.34 |
| 18 | 1.81 | 3.53 | 8.20 | 3.72 | 2.06 | 3.91 | 8.79 | 0.39 |
| 19 | 2.02 | 3.93 | 9.13 | 4.20 | 2.31 | 4.34 | 9.78 | 0.44 |
| 20 | 2.29 | 4.51 | 10.49 | 4.78 | 2.64 | 4.97 | 11.22 | 0.49 |
| 21 | 3.39 | 6.48 | 15.03 | 62.07 | 3.88 | 6.82 | 14.98 | 75.38 |
| 22 | 3.22 | 6.17 | 14.79 | 112.93 | 3.52 | 6.22 | 13.74 | 149.45 |
| 23 | 2.98 | 5.69 | 14.20 | 170.00 | 3.08 | 5.41 | 12.00 | 228.63 |
| 24 | 2.73 | 5.19 | 13.65 | 228.18 | 2.62 | 4.59 | 10.31 | 311.40 |
| 25 | 2.55 | 4.86 | 13.38 | 280.24 | 2.25 | 3.95 | 8.98 | 388.34 |
| 26 | 2.37 | 4.52 | 13.08 | 332.10 | 1.88 | 3.32 | 7.65 | 462.88 |
| 27 | 2.19 | 4.21 | 12.83 | 382.97 | 1.51 | 2.71 | 6.40 | 537.05 |
| 28 | 1.95 | 3.72 | 12.23 | 440.03 | 1.07 | 1.89 | 4.66 | 616.25 |
| 29 | 1.69 | 3.21 | 11.68 | 498.22 | 0.61 | 1.07 | 2.97 | 698.98 |
| 30 | 1.49 | 2.87 | 11.42 | 550.15 | 0.23 | 0.44 | 1.71 | 773.50 |
| 31 | 1.47 | 3.01 | 6.96 | 4.76 | 1.71 | 3.25 | 7.40 | 0.65 |
| 32 | 0.93 | 1.94 | 4.59 | 2.06 | 1.03 | 2.15 | 4.96 | 0.23 |

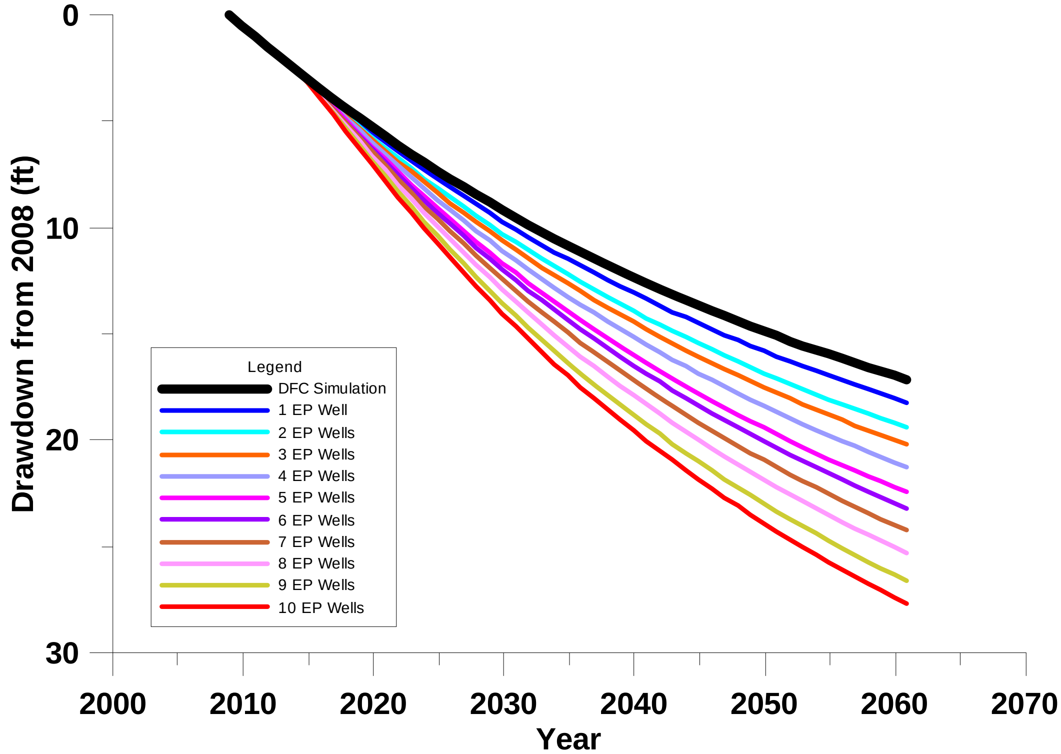
## Table D-6
## Waller County - Drawdown Attributable to EP Pumping

| Scenario | Drawdown in 2060 from GAM (ft) | | | | Drawdown in 2060 from HAGM (ft) | | | |
|---|---|---|---|---|---|---|---|---|
| | Chicot | Evangeline | Burkeville | Jasper | Chicot | Evangeline | Burkeville | Jasper |
| Baseline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0.54 | 1.05 | 1.04 | 0.49 | 0.57 | 1.10 | 1.09 | 0.08 |
| 2 | 1.00 | 1.91 | 1.89 | 0.94 | 1.06 | 1.99 | 1.98 | 0.15 |
| 3 | 1.53 | 3.02 | 2.97 | 1.46 | 1.64 | 3.14 | 3.13 | 0.24 |
| 4 | 2.06 | 4.07 | 4.01 | 1.95 | 2.21 | 4.24 | 4.22 | 0.32 |
| 5 | 2.51 | 4.93 | 4.85 | 2.40 | 2.70 | 5.13 | 5.11 | 0.39 |
| 6 | 3.04 | 6.03 | 5.93 | 2.92 | 3.27 | 6.28 | 6.25 | 0.47 |
| 7 | 3.56 | 7.08 | 6.97 | 3.41 | 3.84 | 7.38 | 7.35 | 0.55 |
| 8 | 3.86 | 7.57 | 7.46 | 3.83 | 4.18 | 7.89 | 7.86 | 0.63 |
| 9 | 4.14 | 8.02 | 7.91 | 4.24 | 4.51 | 8.37 | 8.33 | 0.70 |
| 10 | 4.44 | 8.52 | 8.40 | 4.67 | 4.85 | 8.88 | 8.85 | 0.77 |
| 11 | -0.13 | -0.46 | -0.45 | -0.05 | -0.60 | -0.80 | -0.80 | -0.03 |
| 12 | -0.34 | -1.12 | -1.09 | -0.13 | -1.28 | -1.81 | -1.80 | -0.06 |
| 13 | -0.47 | -1.52 | -1.49 | -0.15 | -1.88 | -2.56 | -2.55 | -0.08 |
| 14 | -0.61 | -1.97 | -1.93 | -0.19 | -2.49 | -3.37 | -3.35 | -0.11 |
| 15 | -0.82 | -2.62 | -2.56 | -0.27 | -3.18 | -4.38 | -4.36 | -0.14 |
| 16 | -0.96 | -3.02 | -2.96 | -0.28 | -3.78 | -5.14 | -5.11 | -0.17 |
| 17 | -1.11 | -3.47 | -3.40 | -0.33 | -4.39 | -5.95 | -5.91 | -0.20 |
| 18 | -0.87 | -3.09 | -3.03 | -0.13 | -4.13 | -5.54 | -5.51 | -0.19 |
| 19 | -0.65 | -2.75 | -2.69 | 0.04 | -3.88 | -5.19 | -5.16 | -0.18 |
| 20 | -0.41 | -2.36 | -2.31 | 0.24 | -3.62 | -4.78 | -4.75 | -0.17 |
| 21 | 4.11 | 7.88 | 8.43 | 31.71 | 4.33 | 7.88 | 8.04 | 45.33 |
| 22 | 3.84 | 7.44 | 8.60 | 57.09 | 3.88 | 7.08 | 7.43 | 88.19 |
| 23 | 3.51 | 6.78 | 8.64 | 84.71 | 3.35 | 6.01 | 6.56 | 132.76 |
| 24 | 3.37 | 6.68 | 9.08 | 107.16 | 3.04 | 5.57 | 6.30 | 172.35 |
| 25 | 3.01 | 5.99 | 8.93 | 128.80 | 2.51 | 4.55 | 5.46 | 211.53 |
| 26 | 2.68 | 5.37 | 8.97 | 155.85 | 1.98 | 3.54 | 4.65 | 255.97 |
| 27 | 2.40 | 4.93 | 9.14 | 181.23 | 1.53 | 2.74 | 4.03 | 298.86 |
| 28 | 2.06 | 4.27 | 9.18 | 208.86 | 1.00 | 1.67 | 3.16 | 343.42 |
| 29 | 1.92 | 4.16 | 9.61 | 231.32 | 0.69 | 1.23 | 2.90 | 382.98 |
| 30 | 1.81 | 4.14 | 10.24 | 258.46 | 0.41 | 0.85 | 2.71 | 427.40 |
| 31 | 2.26 | 4.75 | 4.67 | 2.26 | 2.37 | 4.90 | 4.88 | 0.35 |
| 32 | -0.85 | -2.56 | -2.51 | -0.30 | -2.82 | -3.98 | -3.96 | -0.13 |

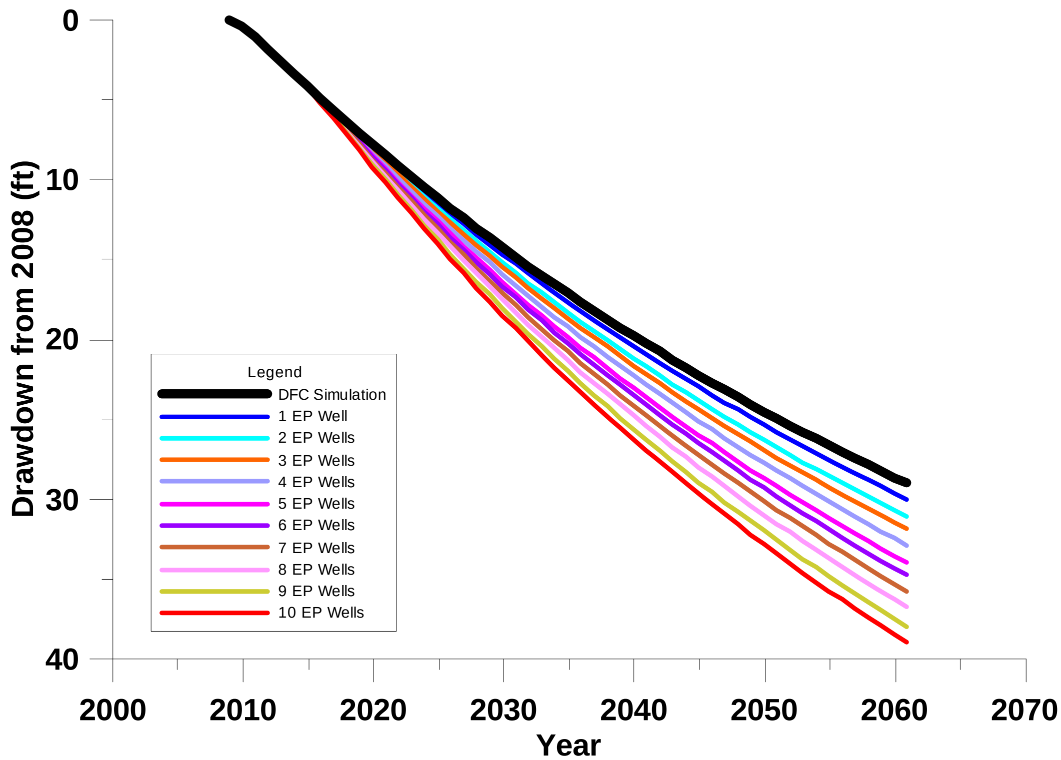
# Appendix D - Drawdown Graphs

| Figure Number | Aquifer | Location | Scenario | Model | Page Number |
|---|---|---|---|---|---|
| D1 | Chicot | Austin County | EP Pumping Plus MAG | GAM | 1 |
| D2 | Chicot | Austin County | EP Pumping Plus MAG | HAGM | 1 |
| D3 | Evangeline | Austin County | EP Pumping Plus MAG | GAM | 2 |
| D4 | Evangeline | Austin County | EP Pumping Plus MAG | HAGM | 2 |
| D5 | Jasper | Austin County | EP Pumping Plus MAG | GAM | 3 |
| D6 | Jasper | Austin County | EP Pumping Plus MAG | HAGM | 3 |
| D7 | Chicot | Fort Bend County | EP Pumping Plus MAG | GAM | 4 |
| D8 | Chicot | Fort Bend County | EP Pumping Plus MAG | HAGM | 4 |
| D9 | Evangeline | Fort Bend County | EP Pumping Plus MAG | GAM | 5 |
| D10 | Evangeline | Fort Bend County | EP Pumping Plus MAG | HAGM | 5 |
| D11 | Jasper | Fort Bend County | EP Pumping Plus MAG | GAM | 6 |
| D12 | Jasper | Fort Bend County | EP Pumping Plus MAG | HAGM | 6 |
| D13 | Chicot | Waller County | EP Pumping Plus MAG | GAM | 7 |
| D14 | Chicot | Waller County | EP Pumping Plus MAG | HAGM | 7 |
| D15 | Evangeline | Waller County | EP Pumping Plus MAG | GAM | 8 |
| D16 | Evangeline | Waller County | EP Pumping Plus MAG | HAGM | 8 |
| D17 | Jasper | Waller County | EP Pumping Plus MAG | GAM | 9 |
| D18 | Jasper | Waller County | EP Pumping Plus MAG | HAGM | 9 |
| D19 | Chicot | Austin County | EP Pumping Within MAG | GAM | 10 |
| D20 | Chicot | Austin County | EP Pumping Within MAG | HAGM | 10 |
| D21 | Evangeline | Austin County | EP Pumping Within MAG | GAM | 11 |
| D22 | Evangeline | Austin County | EP Pumping Within MAG | HAGM | 11 |
| D23 | Jasper | Austin County | EP Pumping Within MAG | GAM | 12 |
| D24 | Jasper | Austin County | EP Pumping Within MAG | HAGM | 12 |
| D25 | Chicot | Fort Bend County | EP Pumping Within MAG | GAM | 13 |
| D26 | Chicot | Fort Bend County | EP Pumping Within MAG | HAGM | 13 |
| D27 | Evangeline | Fort Bend County | EP Pumping Within MAG | GAM | 14 |
| D28 | Evangeline | Fort Bend County | EP Pumping Within MAG | HAGM | 14 |
| D29 | Jasper | Fort Bend County | EP Pumping Within MAG | GAM | 15 |
| D30 | Jasper | Fort Bend County | EP Pumping Within MAG | HAGM | 15 |
| D31 | Chicot | Waller County | EP Pumping Within MAG | GAM | 16 |
| D32 | Chicot | Waller County | EP Pumping Within MAG | HAGM | 16 |
| D33 | Evangeline | Waller County | EP Pumping Within MAG | GAM | 17 |
| D34 | Evangeline | Waller County | EP Pumping Within MAG | HAGM | 17 |
| D35 | Jasper | Waller County | EP Pumping Within MAG | GAM | 18 |
| D36 | Jasper | Waller County | EP Pumping Within MAG | HAGM | 18 |
| D37 | Chicot | Austin County | Evangeline/Jasper Scenarios | GAM | 19 |
| D38 | Chicot | Austin County | Evangeline/Jasper Scenarios | HAGM | 19 |
| D39 | Evangeline | Austin County | Evangeline/Jasper Scenarios | GAM | 20 |
| D40 | Evangeline | Austin County | Evangeline/Jasper Scenarios | HAGM | 20 |
| D41 | Jasper | Austin County | Evangeline/Jasper Scenarios | GAM | 21 |
| D42 | Jasper | Austin County | Evangeline/Jasper Scenarios | HAGM | 21 |
| D43 | Chicot | Fort Bend County | Evangeline/Jasper Scenarios | GAM | 22 |
| D44 | Chicot | Fort Bend County | Evangeline/Jasper Scenarios | HAGM | 22 |
| D45 | Evangeline | Fort Bend County | Evangeline/Jasper Scenarios | GAM | 23 |
| D46 | Evangeline | Fort Bend County | Evangeline/Jasper Scenarios | HAGM | 23 |
| D47 | Jasper | Fort Bend County | Evangeline/Jasper Scenarios | GAM | 24 |
| D48 | Jasper | Fort Bend County | Evangeline/Jasper Scenarios | HAGM | 24 |
| D49 | Chicot | Waller County | Evangeline/Jasper Scenarios | GAM | 25 |
| D50 | Chicot | Waller County | Evangeline/Jasper Scenarios | HAGM | 25 |
| D51 | Evangeline | Waller County | Evangeline/Jasper Scenarios | GAM | 26 |
| D52 | Evangeline | Waller County | Evangeline/Jasper Scenarios | HAGM | 26 |
| D53 | Jasper | Waller County | Evangeline/Jasper Scenarios | GAM | 27 |
| D54 | Jasper | Waller County | Evangeline/Jasper Scenarios | HAGM | 27 |
| D55 | Chicot | Austin County | Conversion Schedule | GAM | 28 |
| D56 | Chicot | Austin County | Conversion Schedule | HAGM | 28 |
| D57 | Evangeline | Austin County | Conversion Schedule | GAM | 29 |
| D58 | Evangeline | Austin County | Conversion Schedule | HAGM | 29 |
| D59 | Jasper | Austin County | Conversion Schedule | GAM | 30 |
| D60 | Jasper | Austin County | Conversion Schedule | HAGM | 30 |
| D61 | Chicot | Fort Bend County | Conversion Schedule | GAM | 31 |
| D62 | Chicot | Fort Bend County | Conversion Schedule | HAGM | 31 |
| D63 | Evangeline | Fort Bend County | Conversion Schedule | GAM | 32 |
| D64 | Evangeline | Fort Bend County | Conversion Schedule | HAGM | 32 |
| D65 | Jasper | Fort Bend County | Conversion Schedule | GAM | 33 |
| D66 | Jasper | Fort Bend County | Conversion Schedule | HAGM | 33 |
| D67 | Chicot | Waller County | Conversion Schedule | GAM | 34 |
| D68 | Chicot | Waller County | Conversion Schedule | HAGM | 34 |
| D69 | Evangeline | Waller County | Conversion Schedule | GAM | 35 |
| D70 | Evangeline | Waller County | Conversion Schedule | HAGM | 35 |
| D71 | Jasper | Waller County | Conversion Schedule | GAM | 36 |
| D72 | Jasper | Waller County | Conversion Schedule | HAGM | 36 |

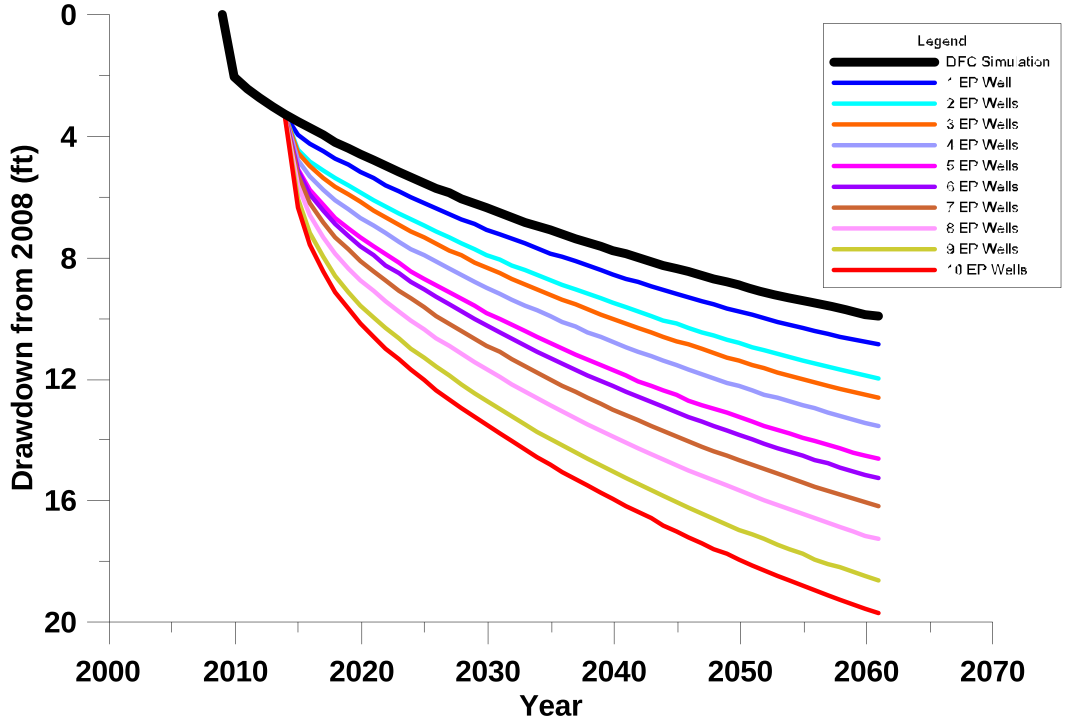
## Figure D-1
## Austin County - Chicot
## Electro Purification Pumping in Addition to MAG (GAM)



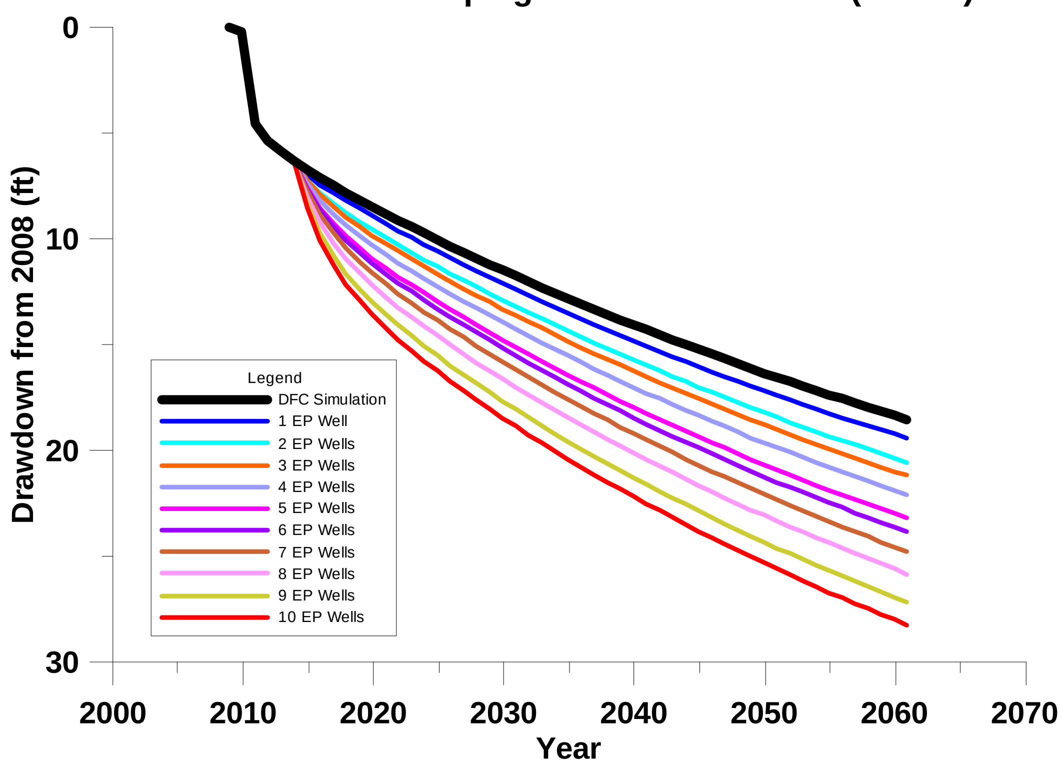

## Figure D-2
## Austin County - Chicot
## Electro Purification Pumping in Addition to MAG (HAGM)



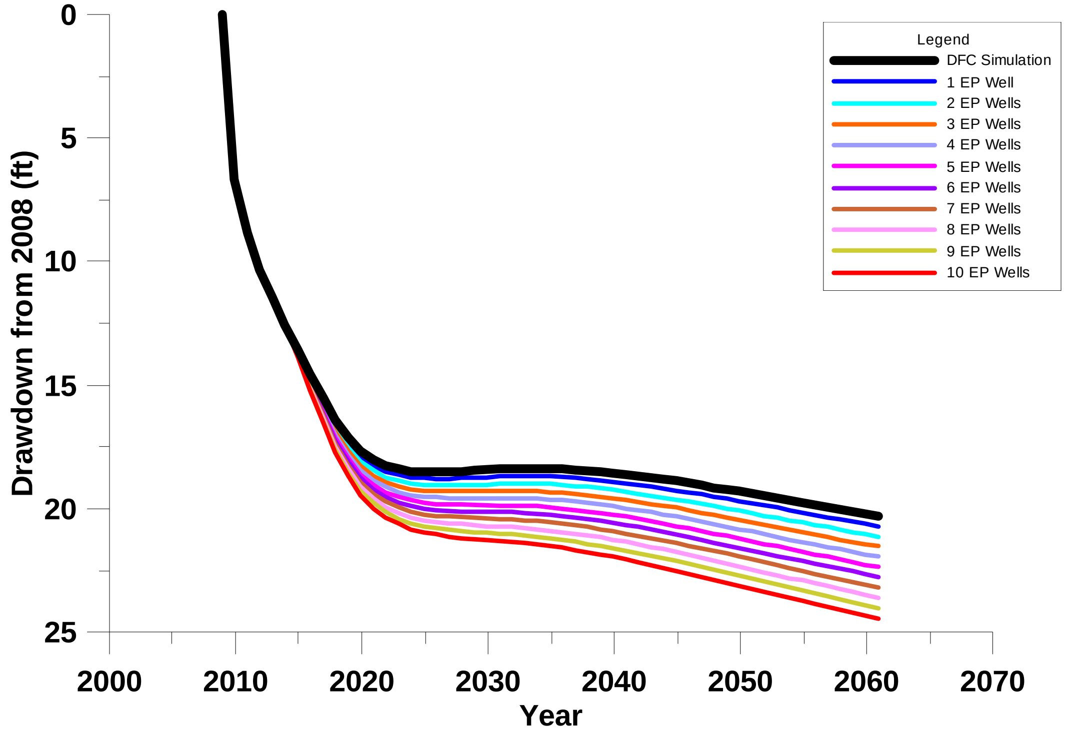
## Figure D-3
## Austin County - Evangeline
## Electro Purification Pumping in Addition to MAG (GAM)



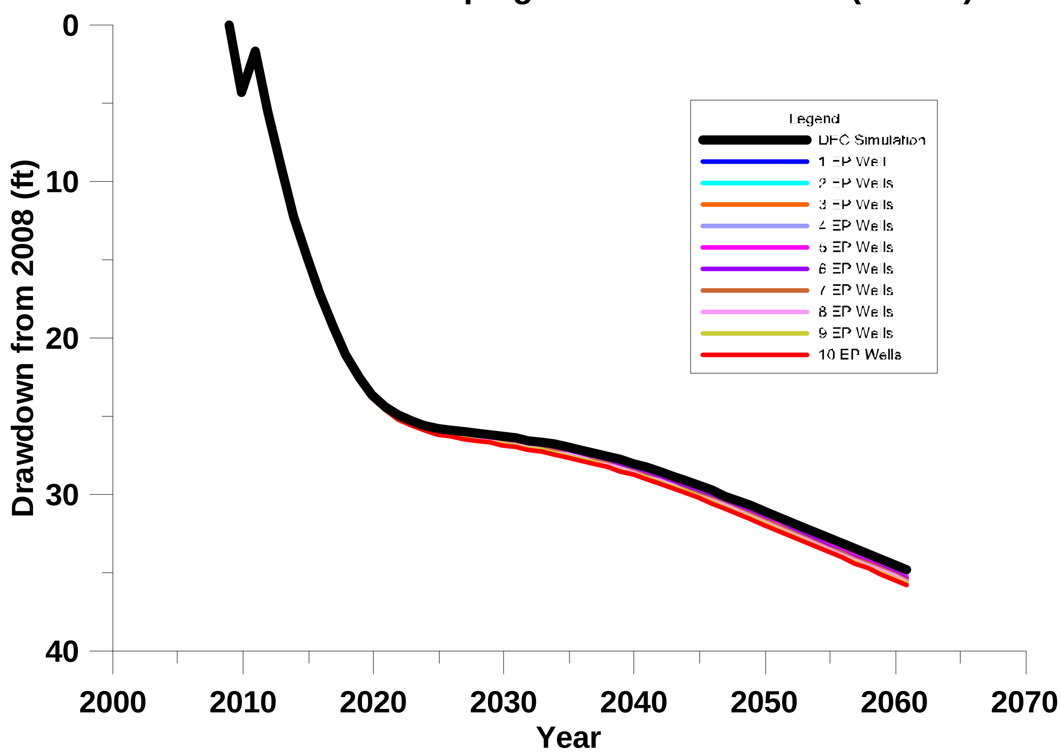

## Figure D-4
## Austin County - Evangeline
## Electro Purification Pumping in Addition to MAG (HAGM)



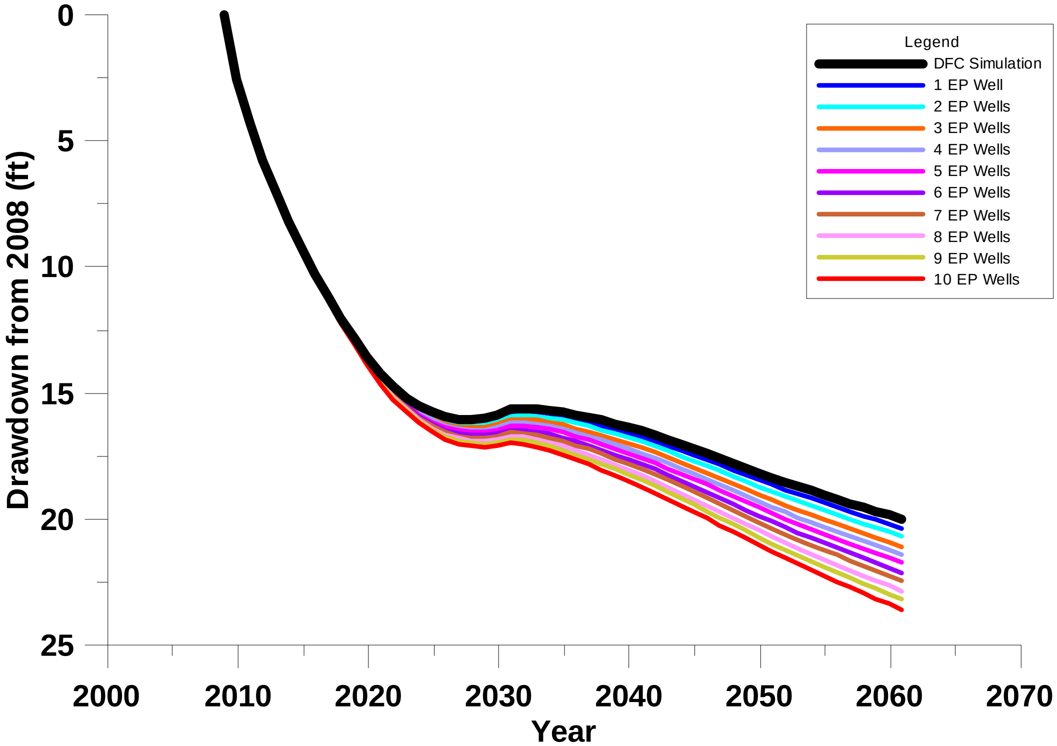
## Figure D-5
## Austin County - Jasper
## Electro Purification Pumping in Addition to MAG (GAM)




## Figure D-6
## Austin County - Japser
## Electro Purification Pumping in Addition to MAG (HAGM)



## Figure D-7
## Fort Bend County - Chicot
## Electro Purification Pumping in Addition to MAG (GAM)




## Figure D-8
## Fort Bend County - Chicot
## Electro Purification Pumping in Addition to MAG (HAGM)

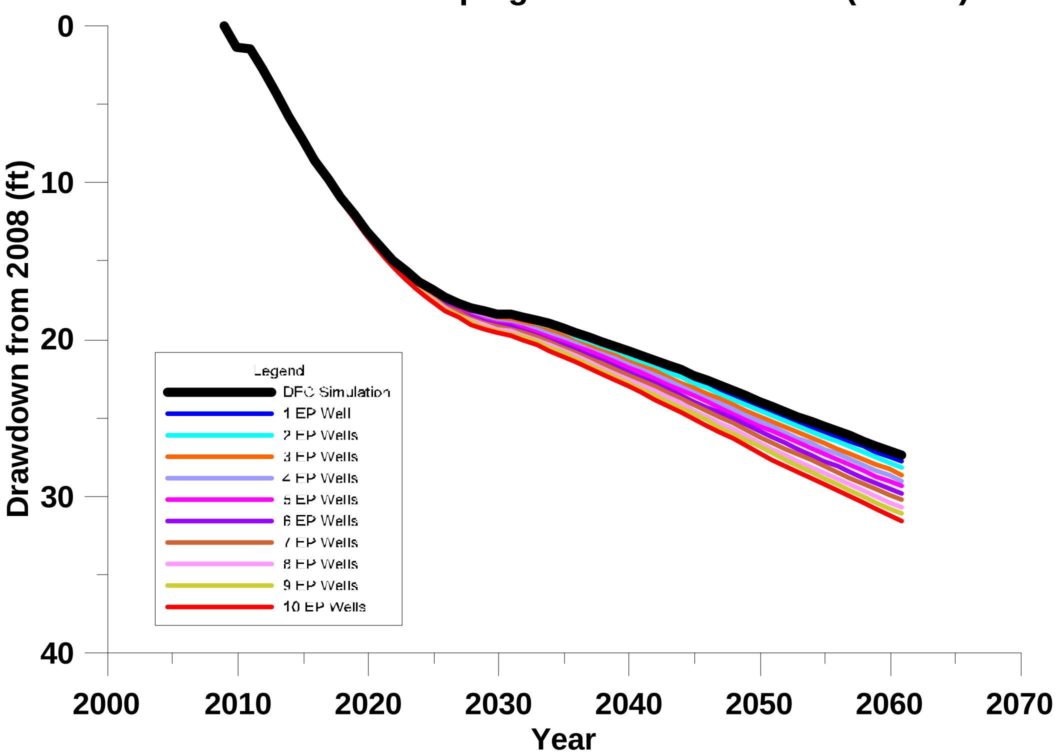


**Figure D-9**
**Fort Bend County - Evangeline**
**Electro Purification Pumping in Addition to MAG (GAM)**

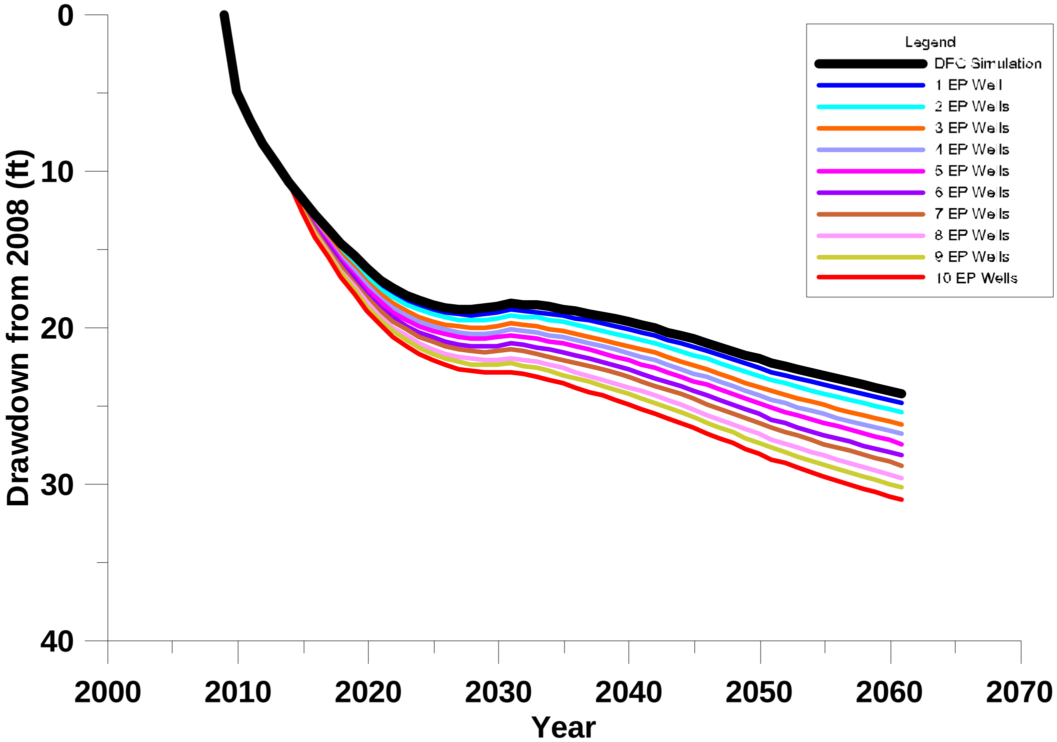
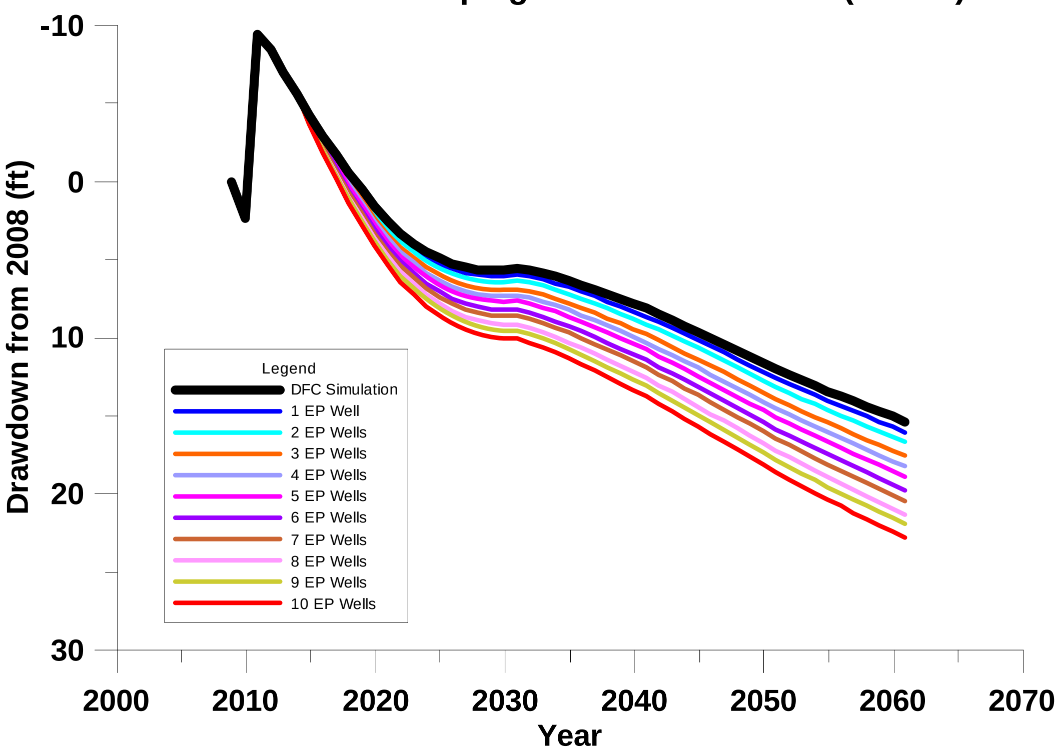
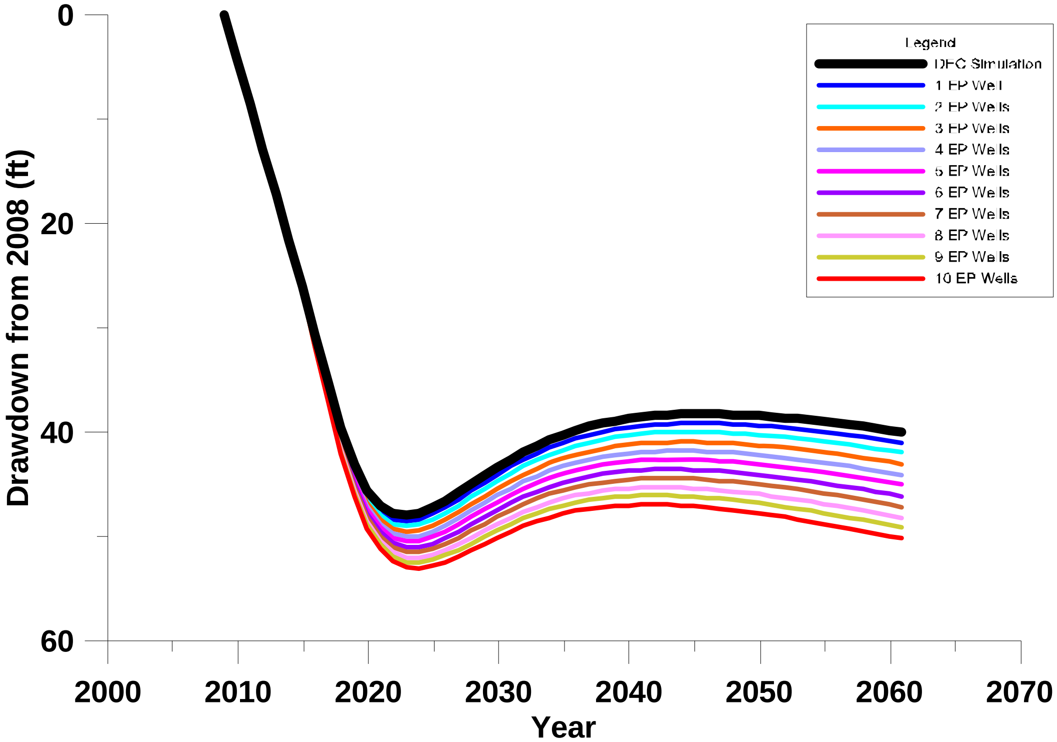


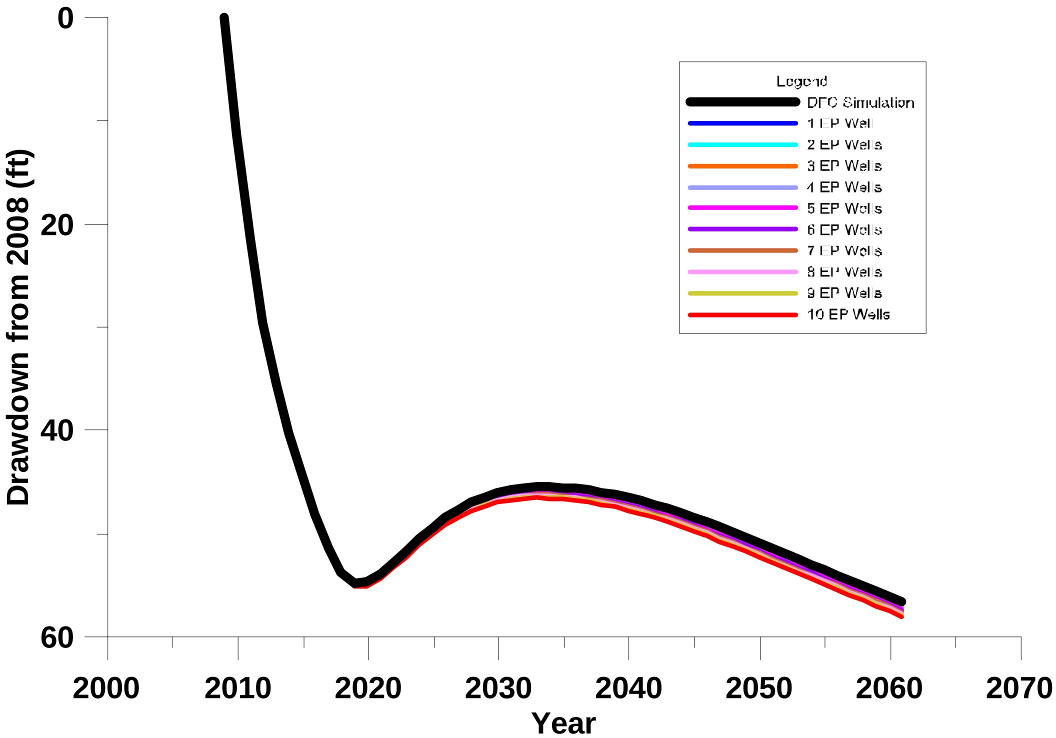

**Figure D-10**
**Fort Bend County - Evangeline**
**Electro Purification Pumping in Addition to MAG (HAGM)**



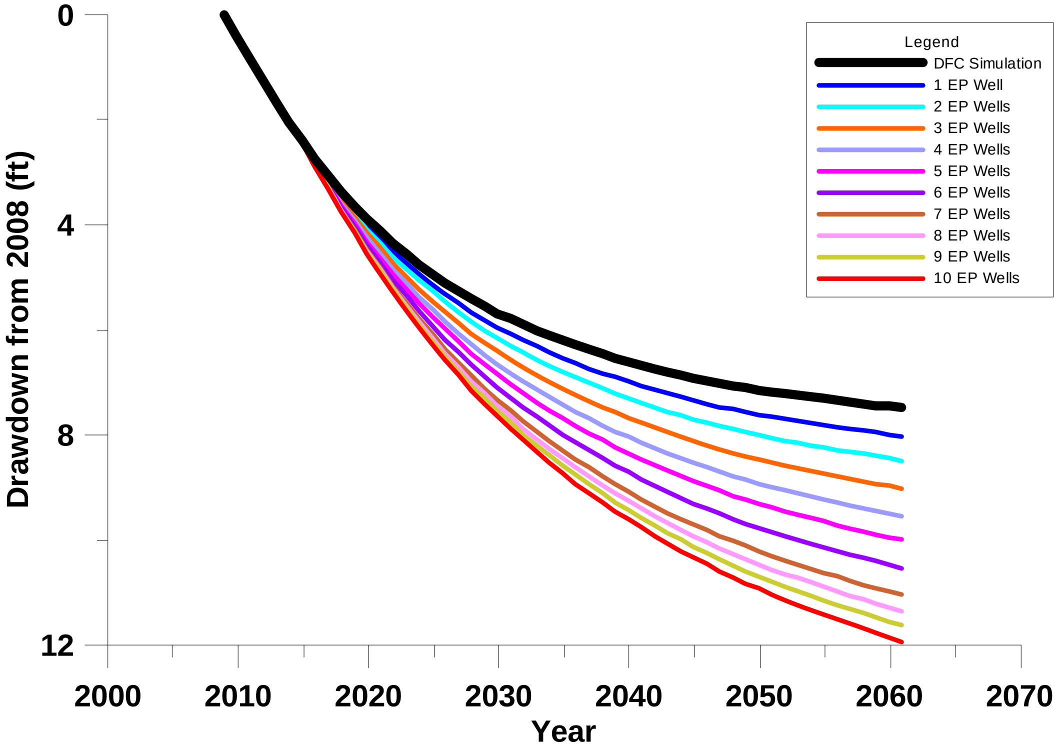
## Figure D-11
## Fort Bend County - Jasper
## Electro Purification Pumping in Addition to MAG (GAM)




## Figure D-12
## Fort Bend County - Jasper
## Electro Purification Pumping in Addition to MAG (HAGM)



## Figure D-13
## Waller County - Chicot
## Electro Purification Pumping in Addition to MAG (GAM)




## Figure D-14
## Waller County - Chicot
## Electro Purification Pumping in Addition to MAG (HAGM)

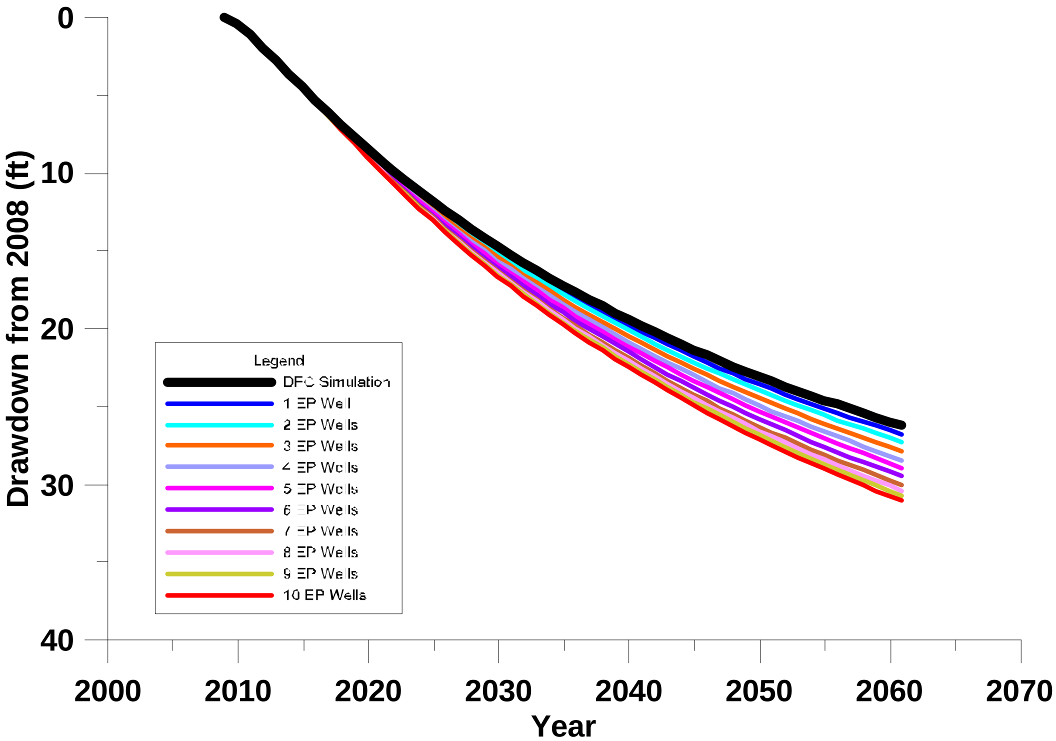


**Figure D-15**
**Waller County - Evangeline**
**Electro Purification Pumping in Addition to MAG (GAM)**

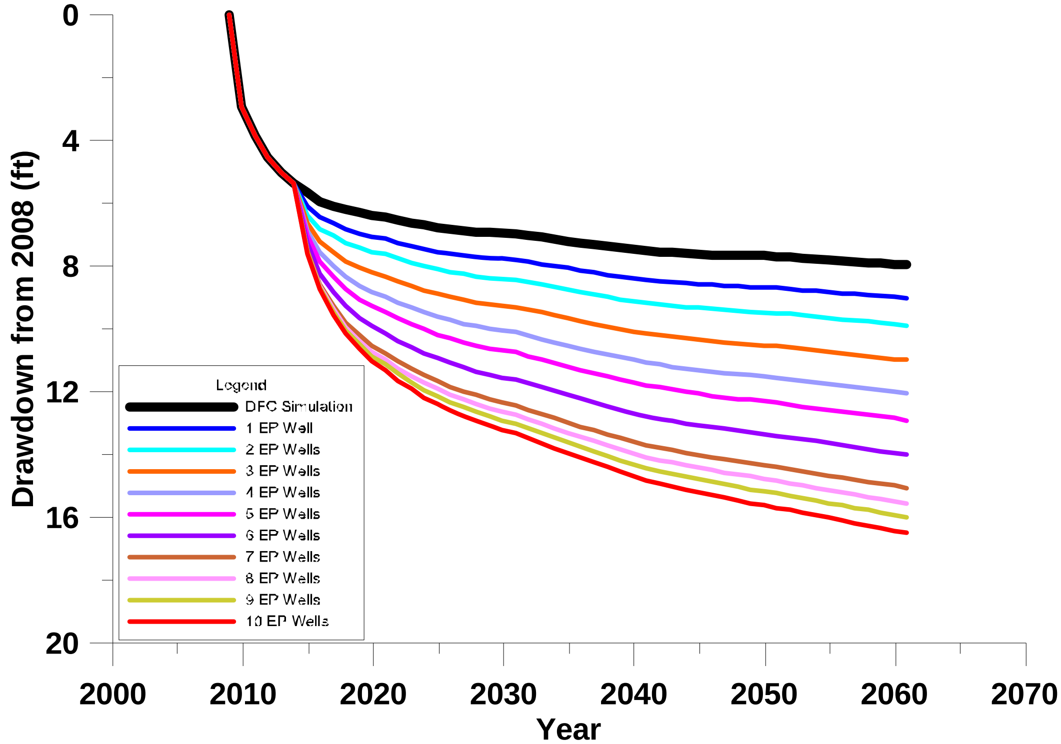



**Figure D-16**
**Waller County - Evangeline**
**Electro Purification Pumping in Addition to MAG (HAGM)**

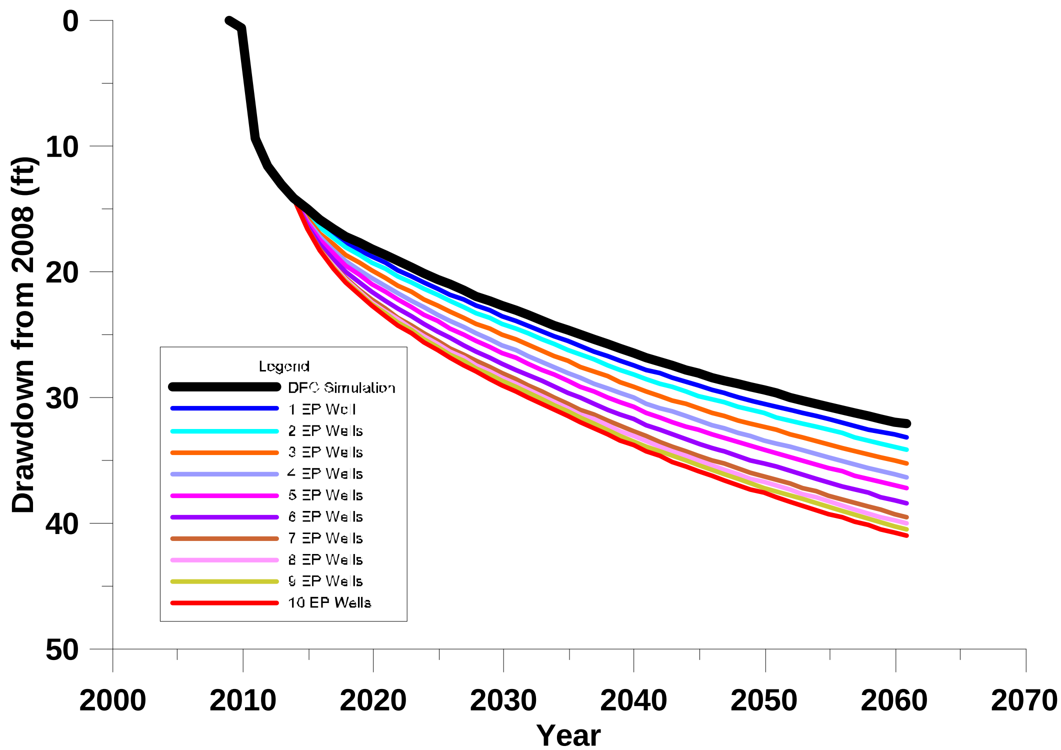


**Figure D-17**
**Waller County - Jasper**
**Electro Purification Pumping in Addition to MAG (GAM)**

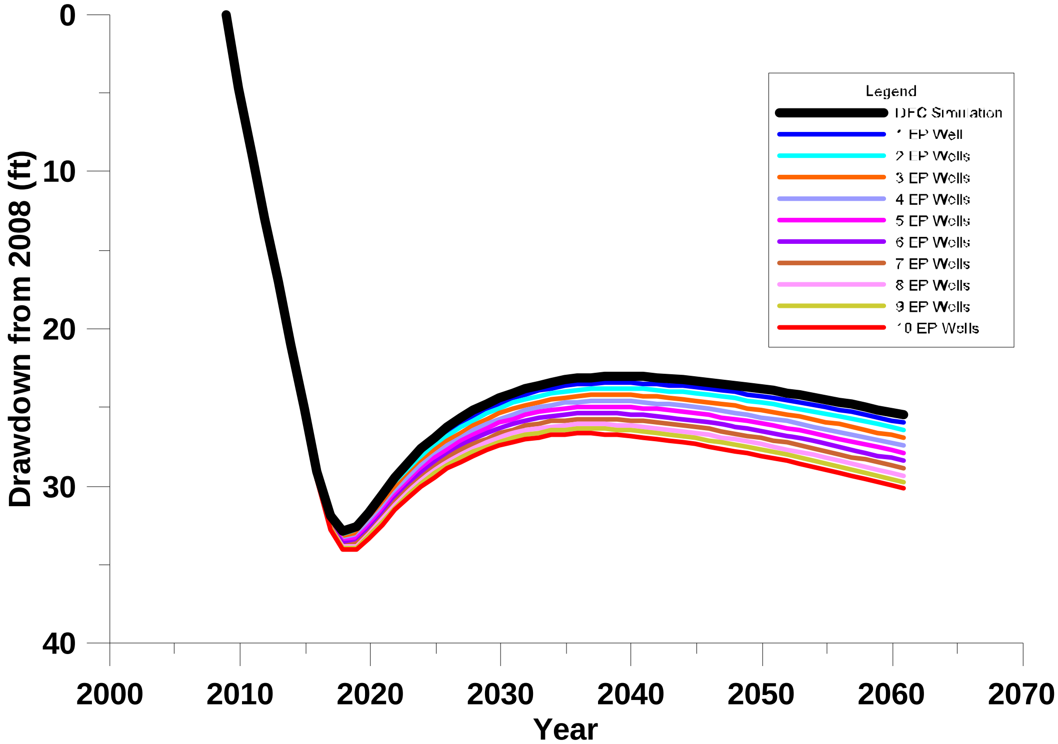



**Figure D-18**
**Waller County - Jasper**
**Electro Purification Pumping in Addition to MAG (HAGM)**

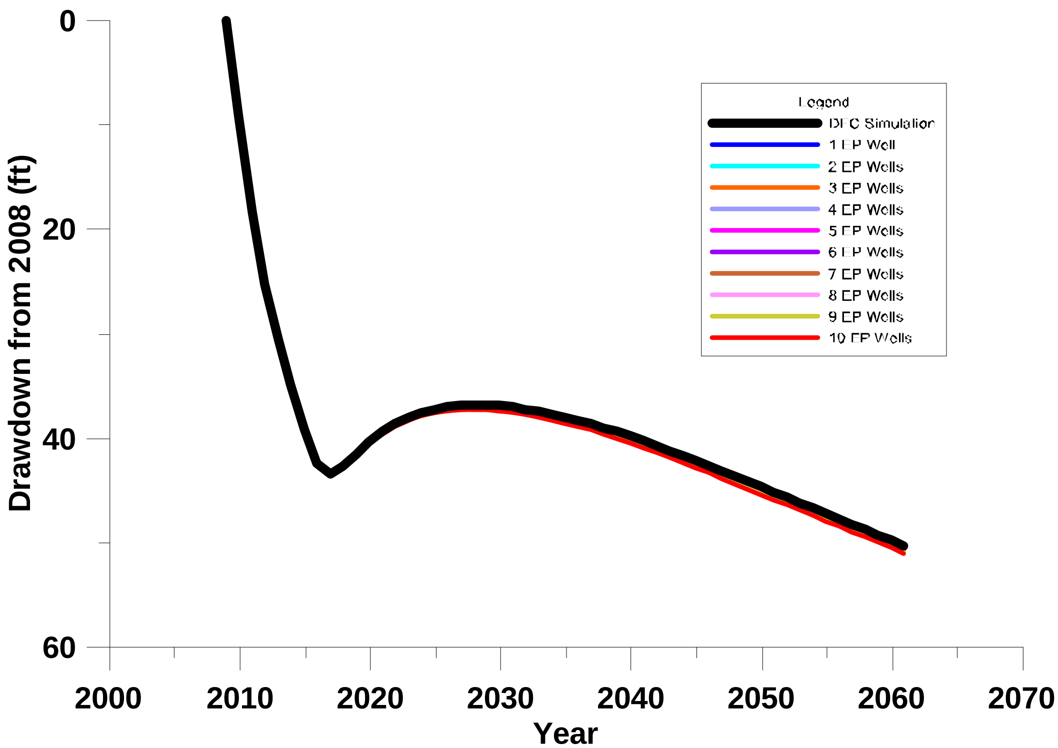


**Figure D-19**
**Austin County - Chicot**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**GAM**

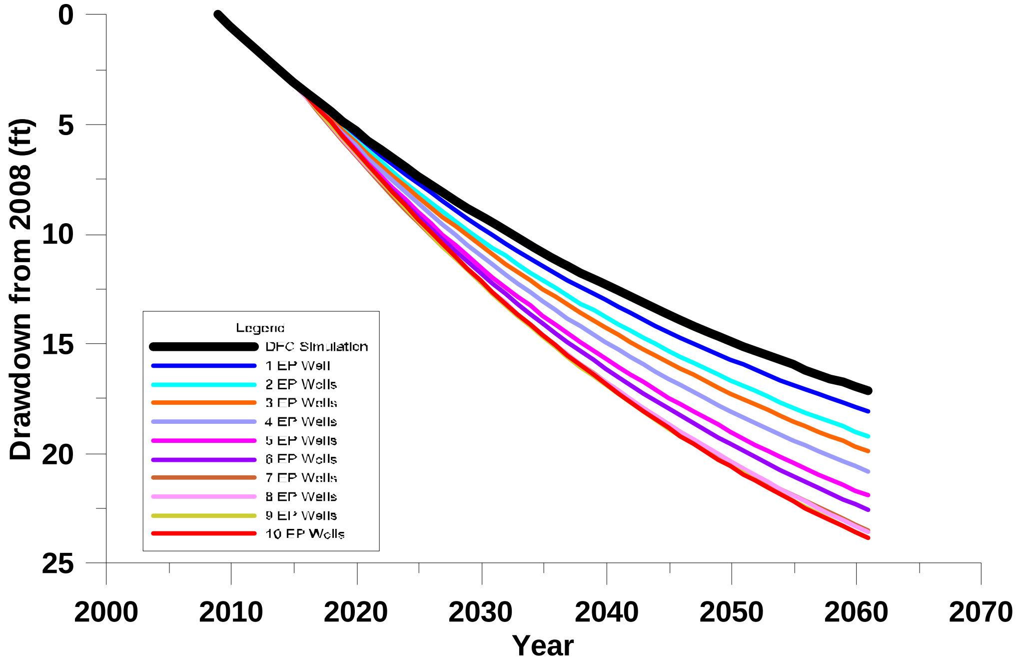



**Figure D-20**
**Austin County - Chicot**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**HAGM**

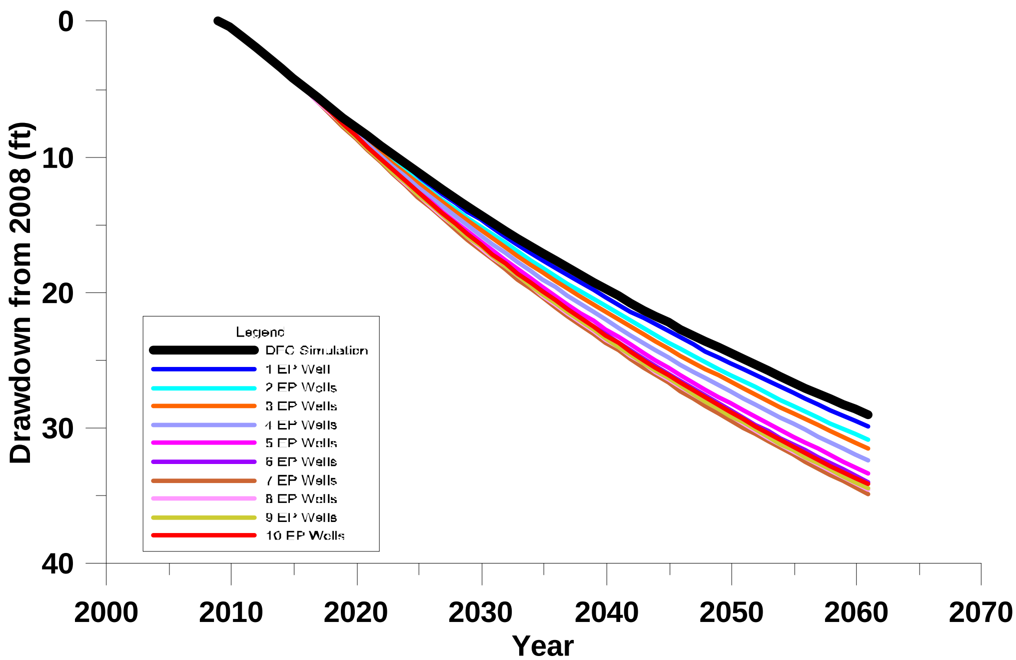


**Figure D-21**
**Austin County - Evangeline**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**GAM**

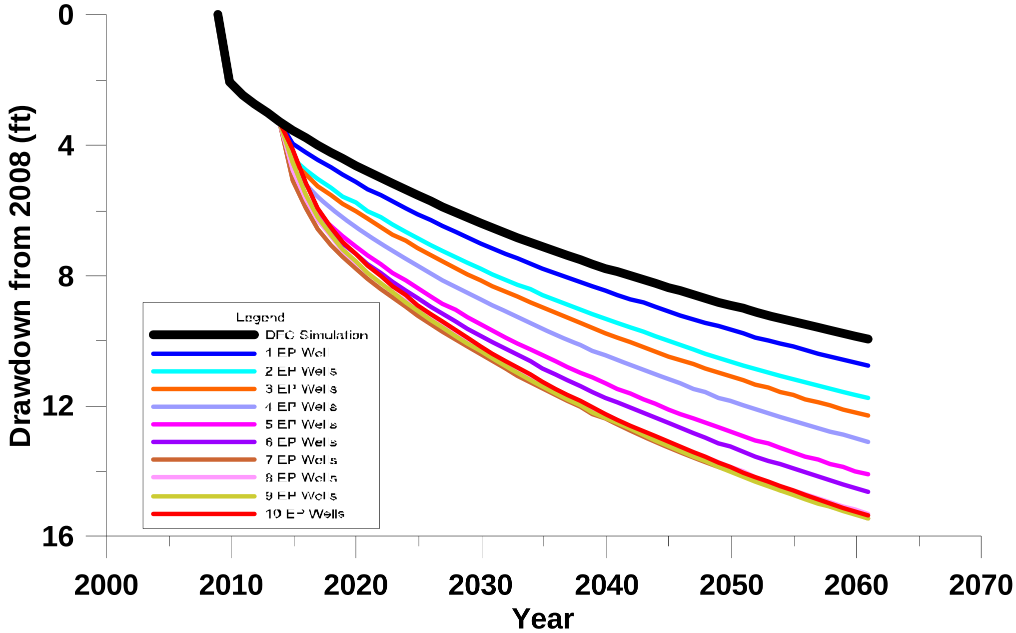



**Figure D-22**
**Austin County - Evangeline**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**HAGM**

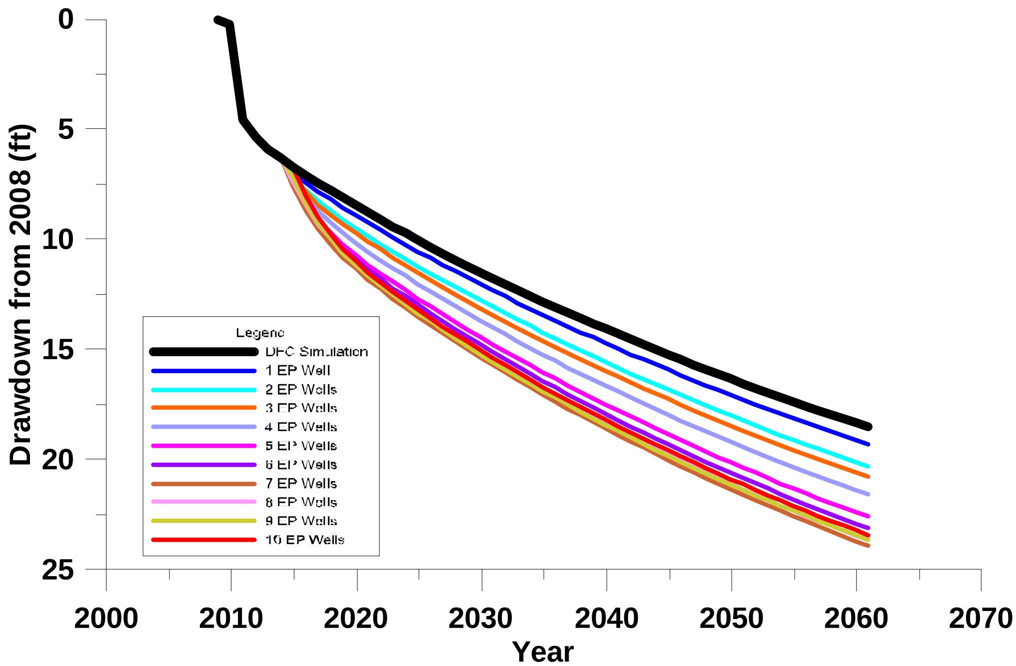


**Figure D-23**
**Austin County - Jasper**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**GAM**

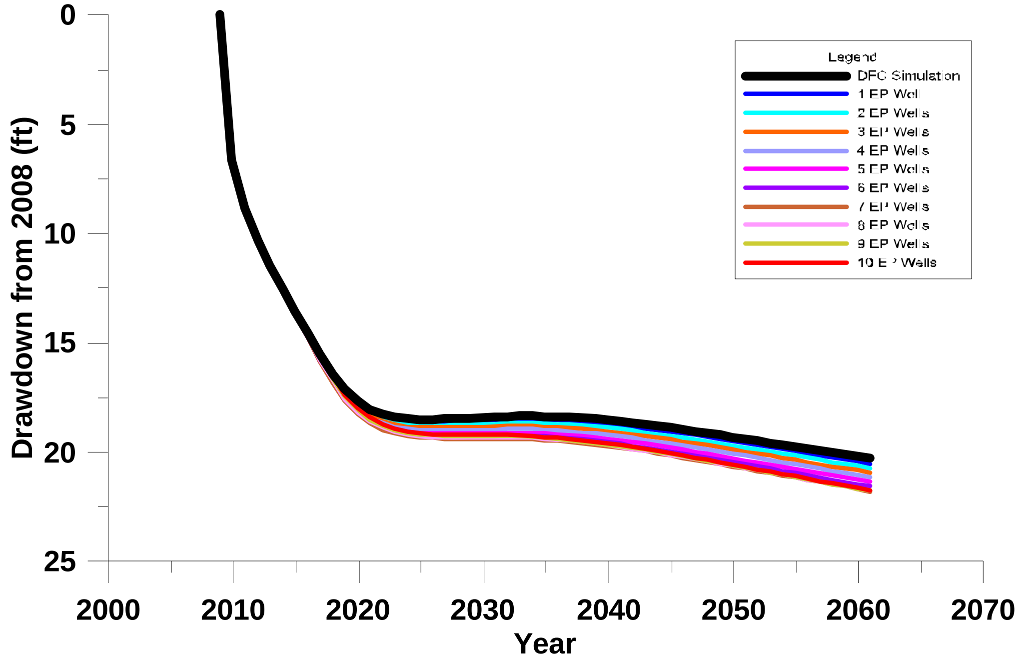



**Figure D-24**
**Austin County - Japser**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**HAGM**

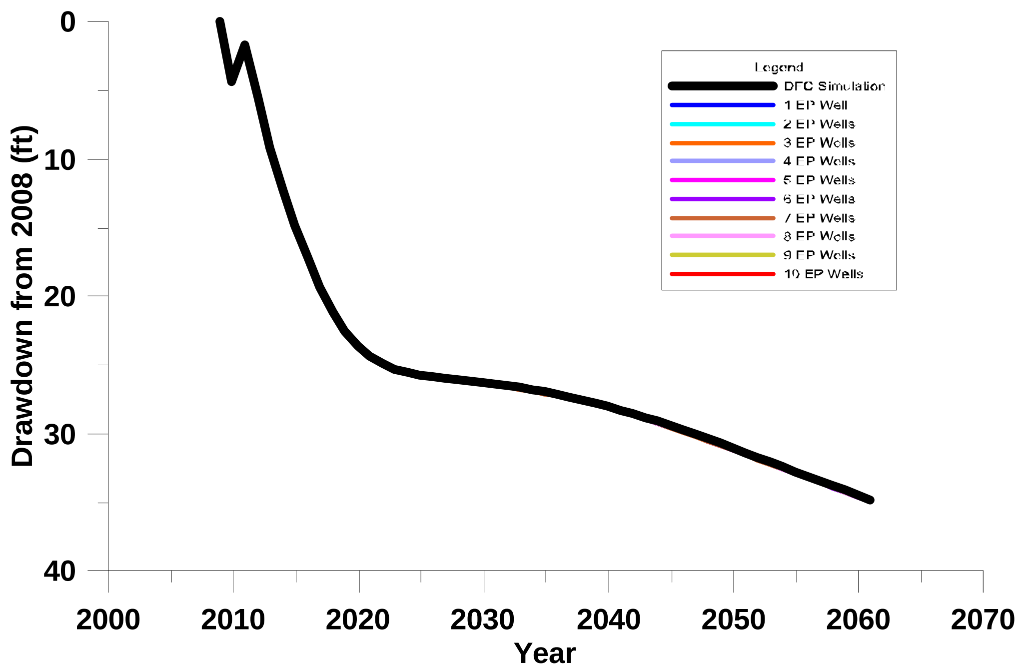


**Figure D-25**
**Fort Bend County - Chicot**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**GAM**

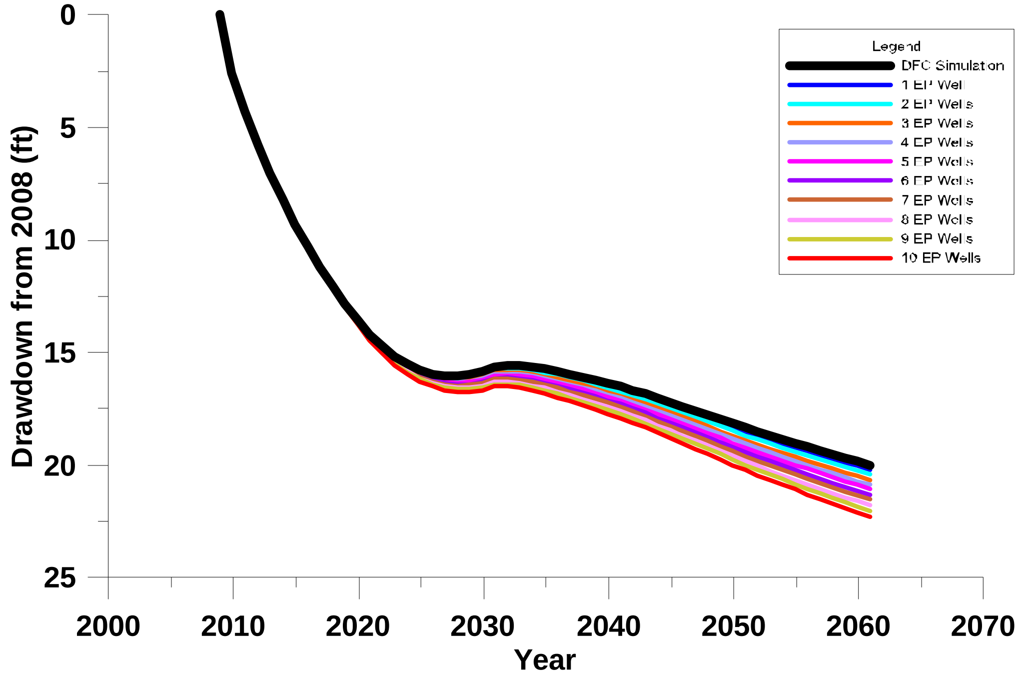
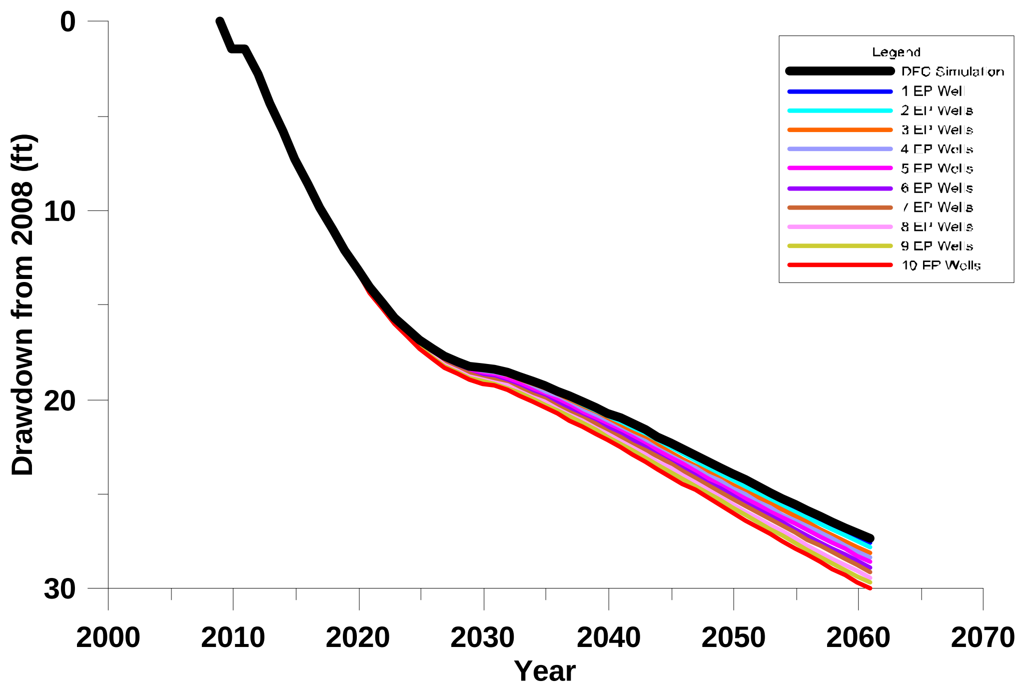
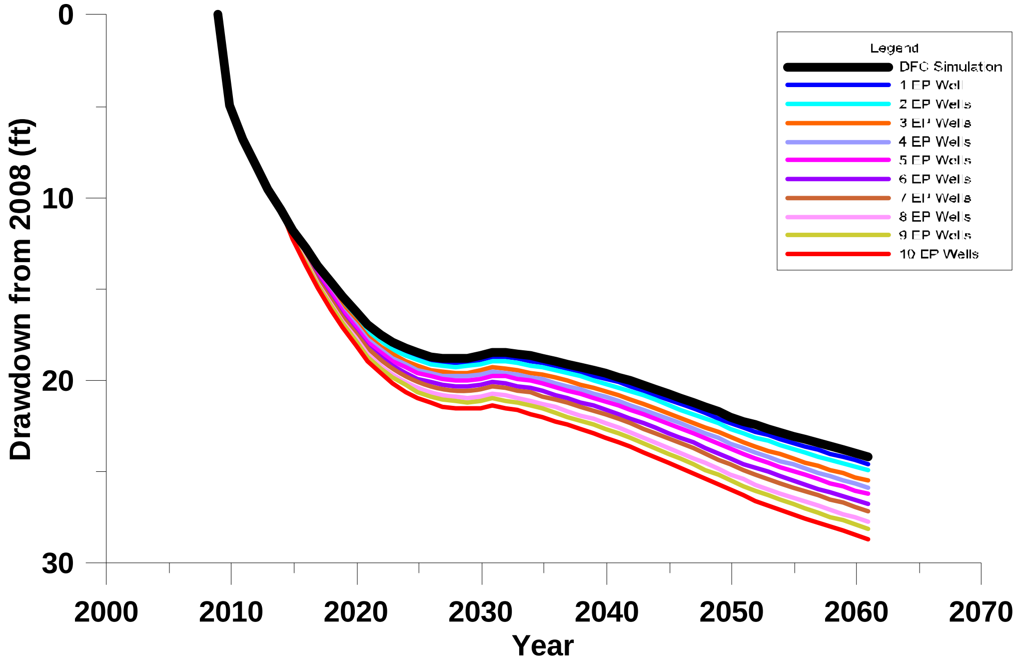



**Figure D-26**
**Fort Bend County - Chicot**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**HAGM**



## Figure D-27
## Fort Bend County - Evangeline
## Electro Purification Pumping Within MAG (Other Pumping Reduced)
## GAM




## Figure D-28
## Fort Bend County - Evangeline
## Electro Purification Pumping Within MAG (Other Pumping Reduced)
## HAGM

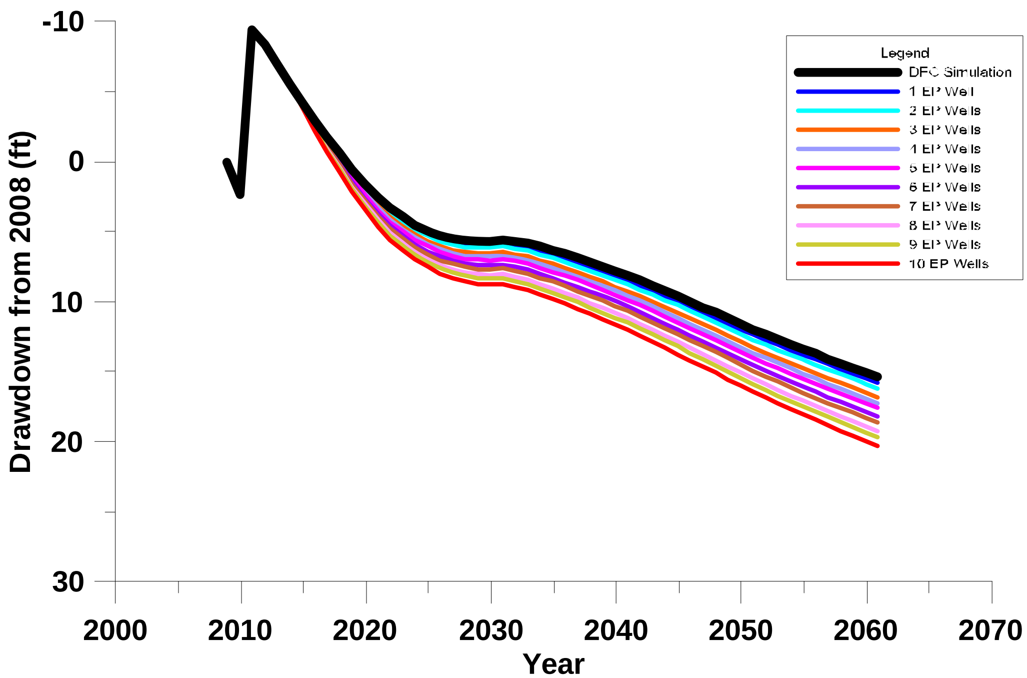


**Figure D-29**
**Fort Bend County - Jasper**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**GAM**

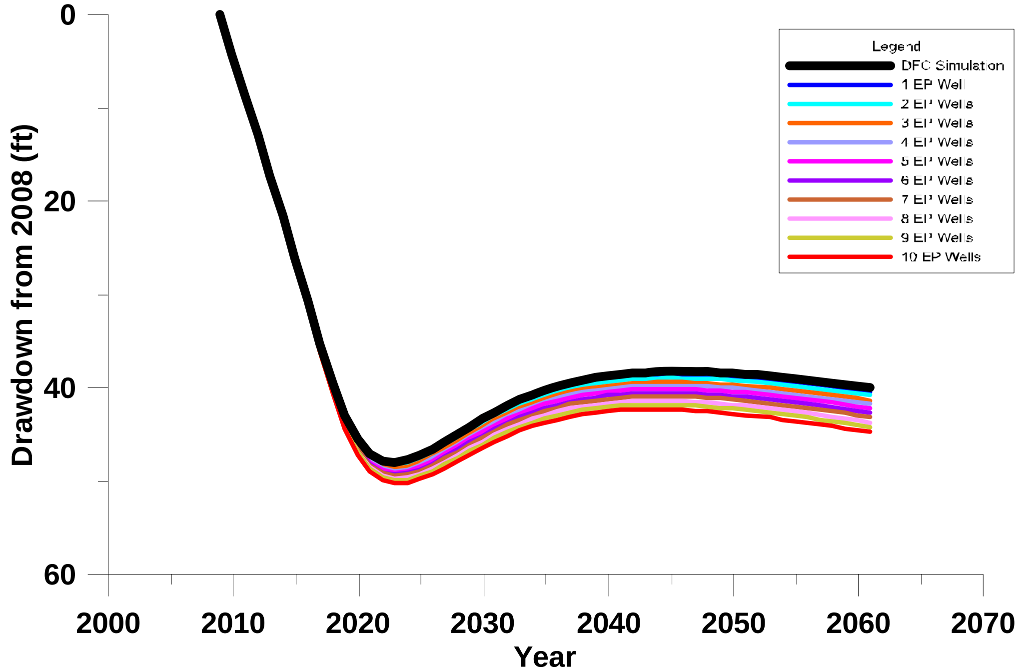
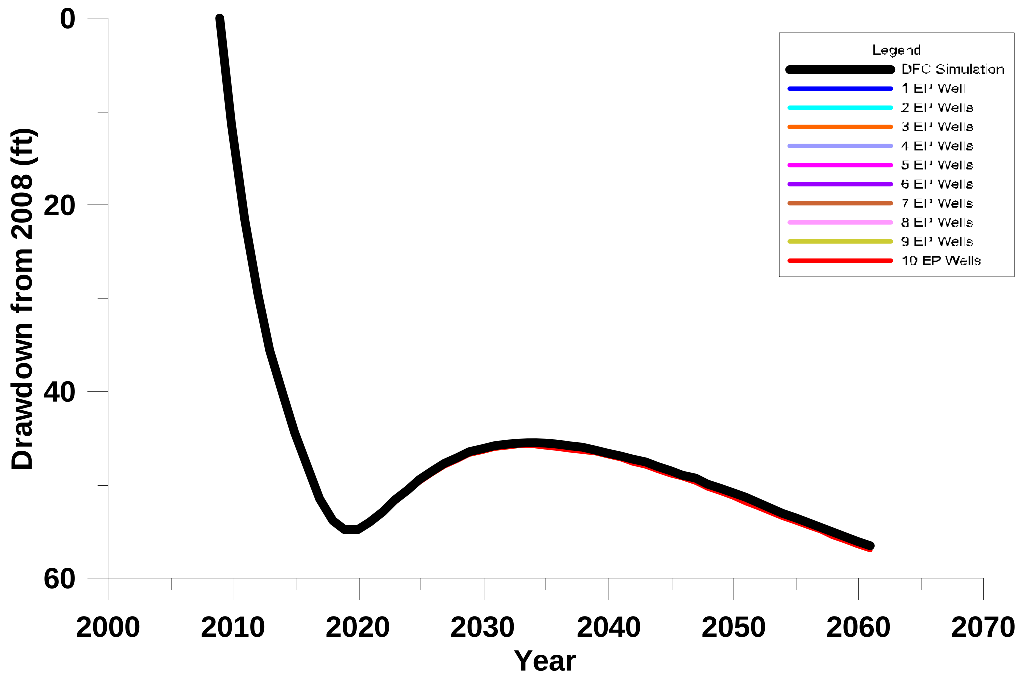
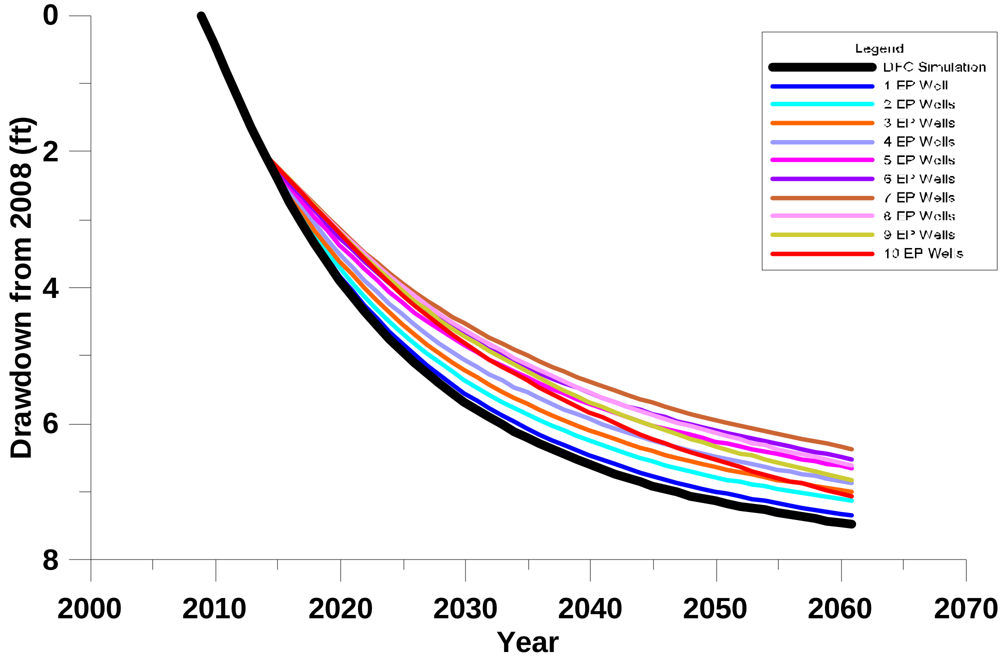


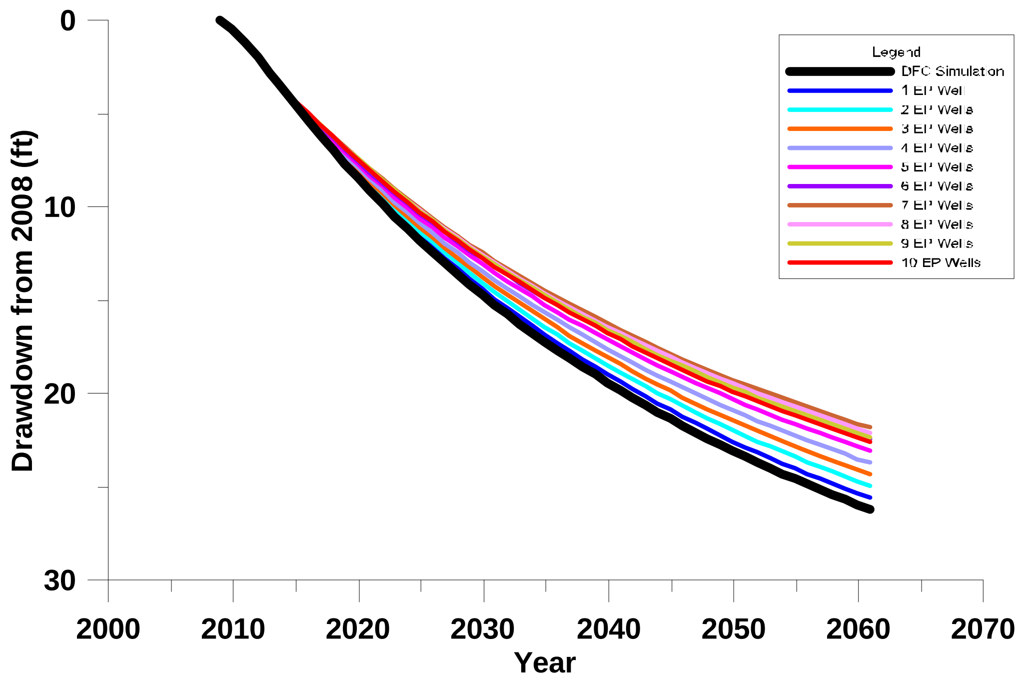

**Figure D-30**
**Fort Bend County - Jasper**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**HAGM**



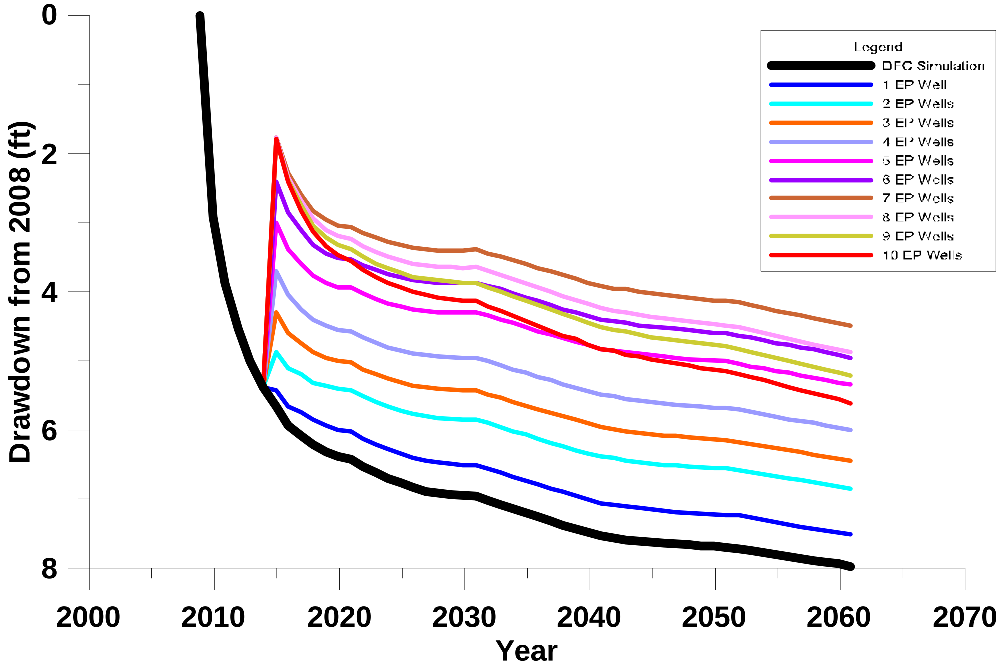
## Figure D-31
## Waller County - Chicot
## Electro Purification Pumping Within MAG (Other Pumping Reduced)
## GAM




## Figure D-32
## Waller County - Chicot
## Electro Purification Pumping Within MAG (Other Pumping Reduced)
## HAGM



## Figure D-33
## Waller County - Evangeline
## Electro Purification Pumping Within MAG (Other Pumping Reduced)
## GAM




## Figure D-34
## Waller County - Evangeline
## Electro Purification Pumping Within MAG (Other Pumping Reduced)
## HAGM

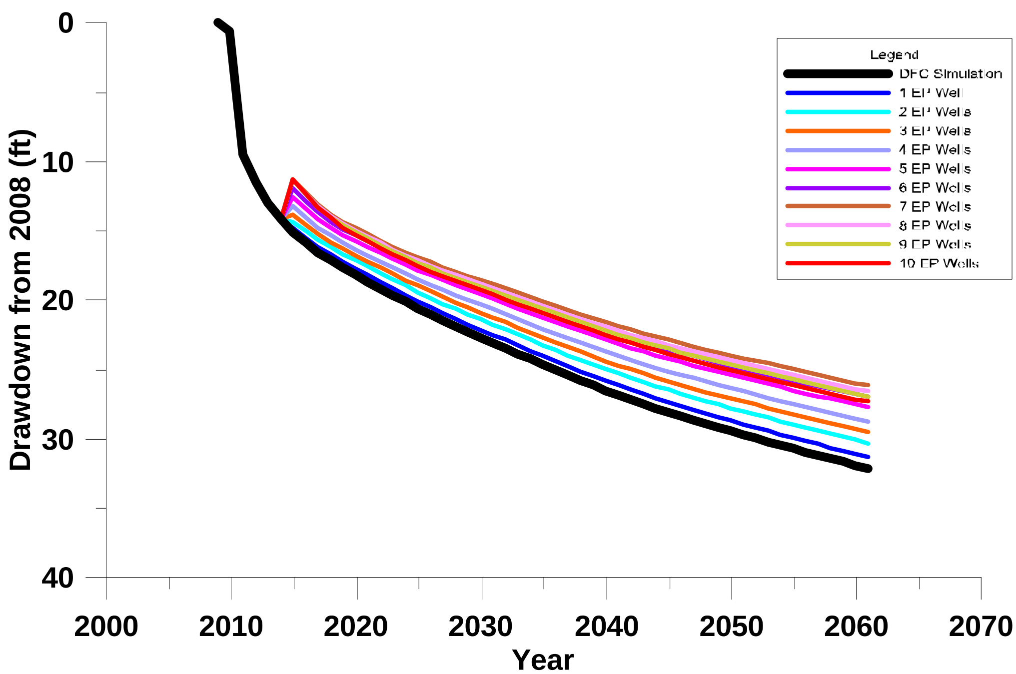


**Figure D-35**
**Waller County - Jasper**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**GAM**

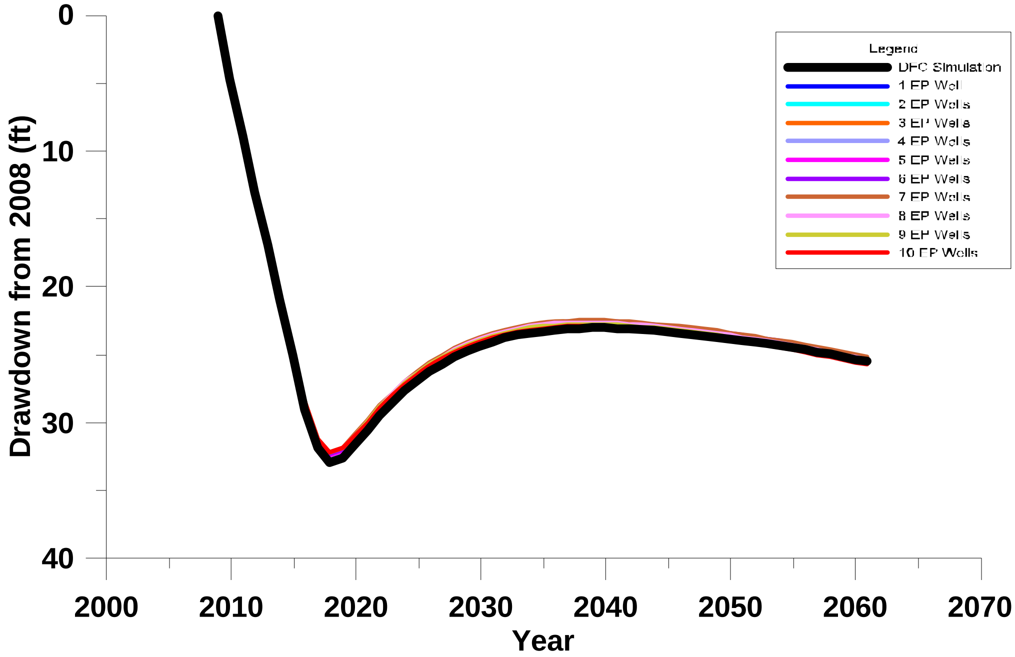



**Figure D-36**
**Waller County - Japser**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**HAGM**

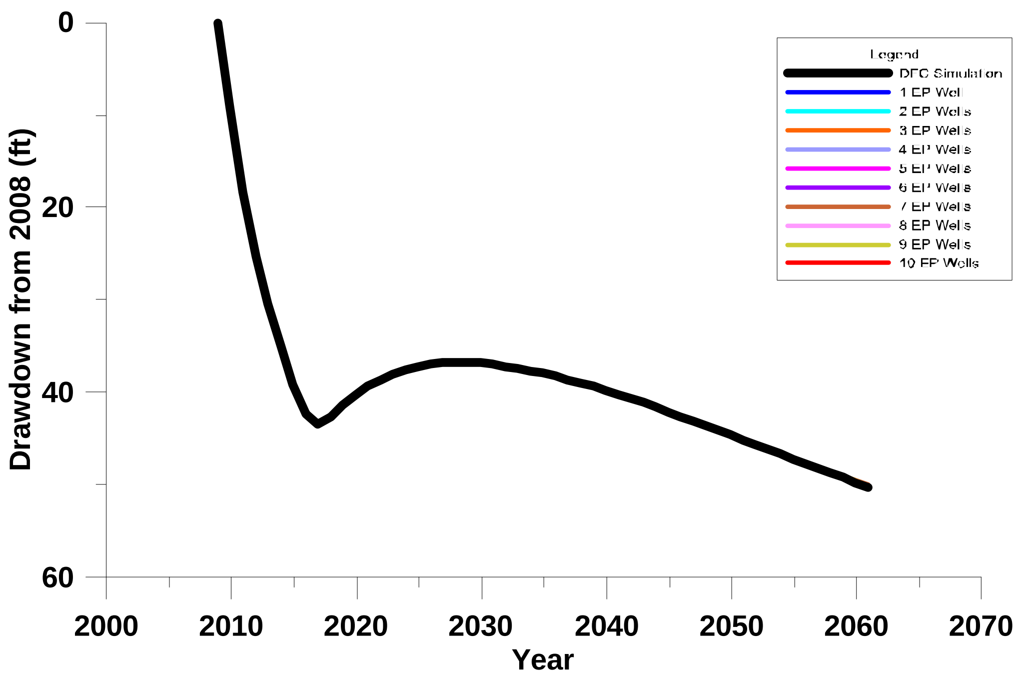


Figure D-37
Austin County - Chicot
Electro Purification Pumping - Evangeline/Jasper
GAM

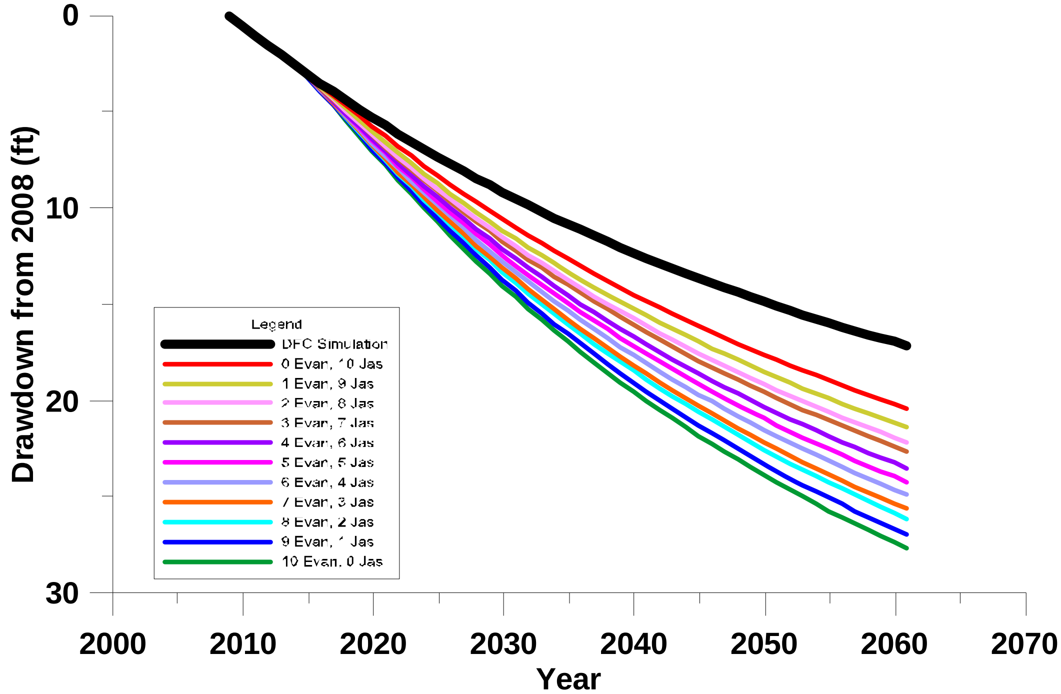



Figure D-38
Austin County - Chicot
Electro Purification Pumping - Evangeline/Jasper
HAGM

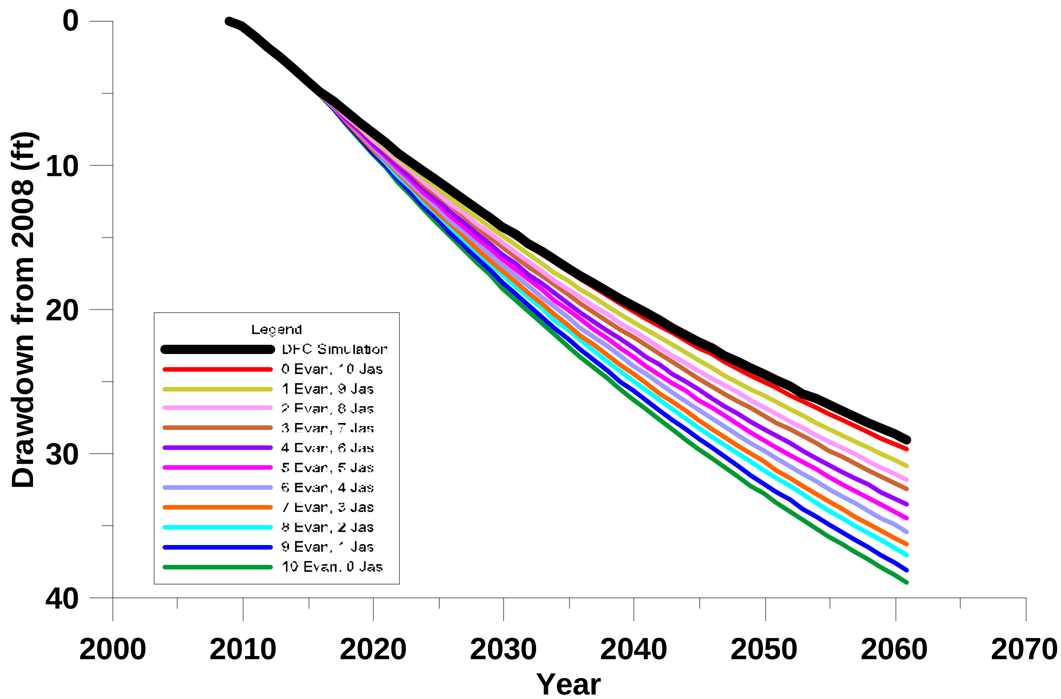


**Figure D-39**
**Austin County - Evangeline**
**Electro Purification Pumping - Evangeline/Jasper**
**GAM**

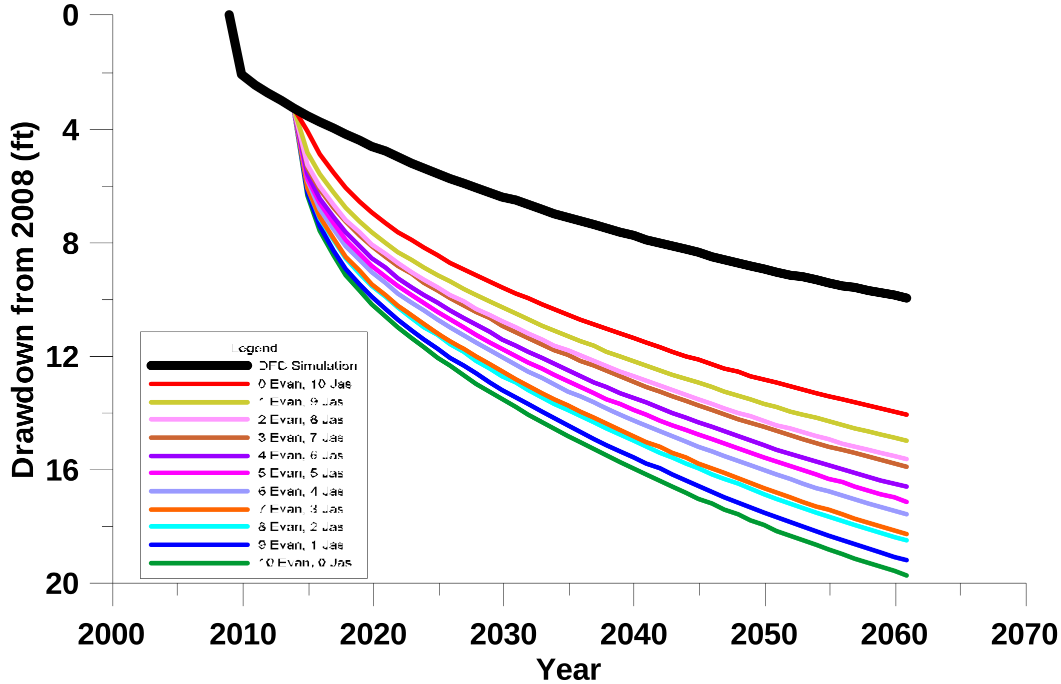
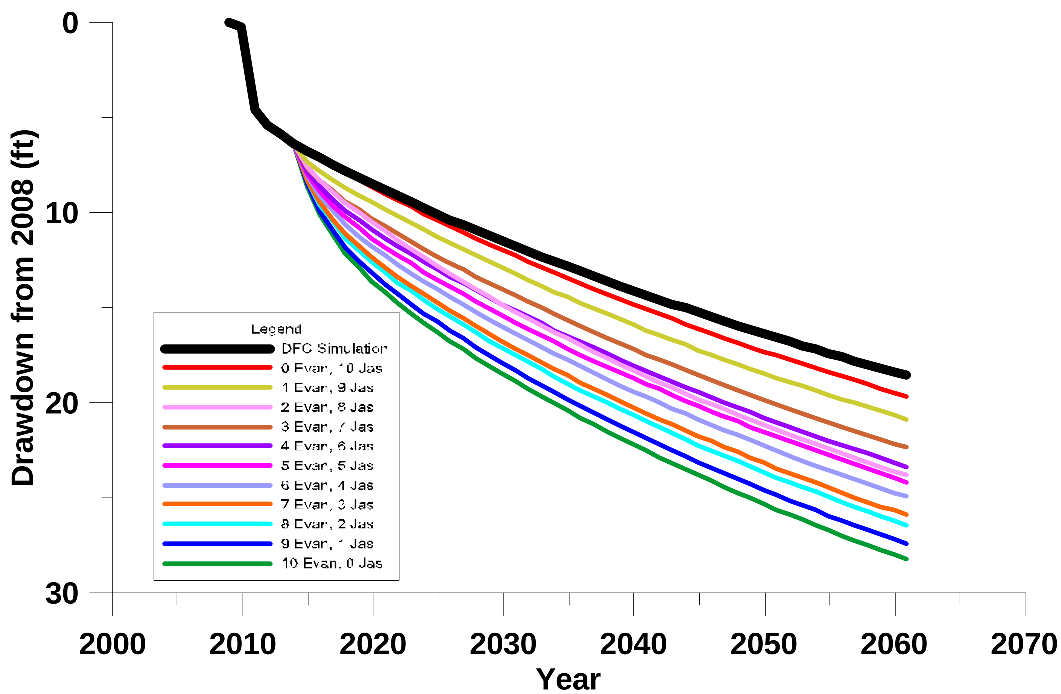
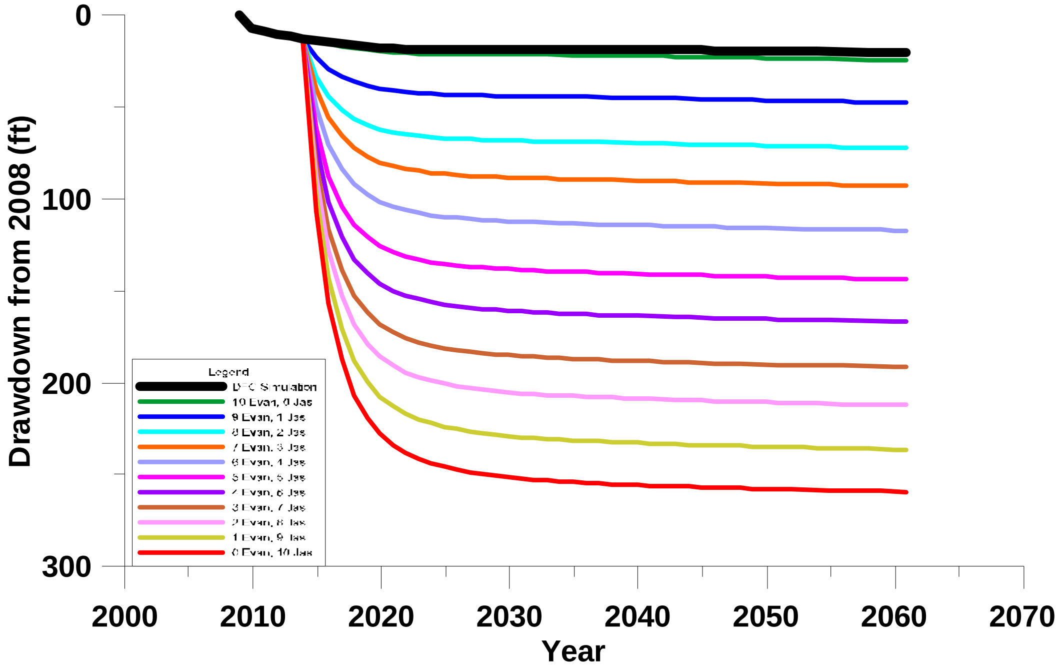



**Figure D-40**
**Austin County - Evangeline**
**Electro Purification Pumping - Evangeline/Jasper**
**HAGM**



## Figure D-41
## Austin County - Jasper
## Electro Purification Pumping - Evangeline/Jasper
## GAM




## Figure D-42
## Austin County - Jasper
## Electro Purification Pumping - Evangeline/Jasper
## HAGM

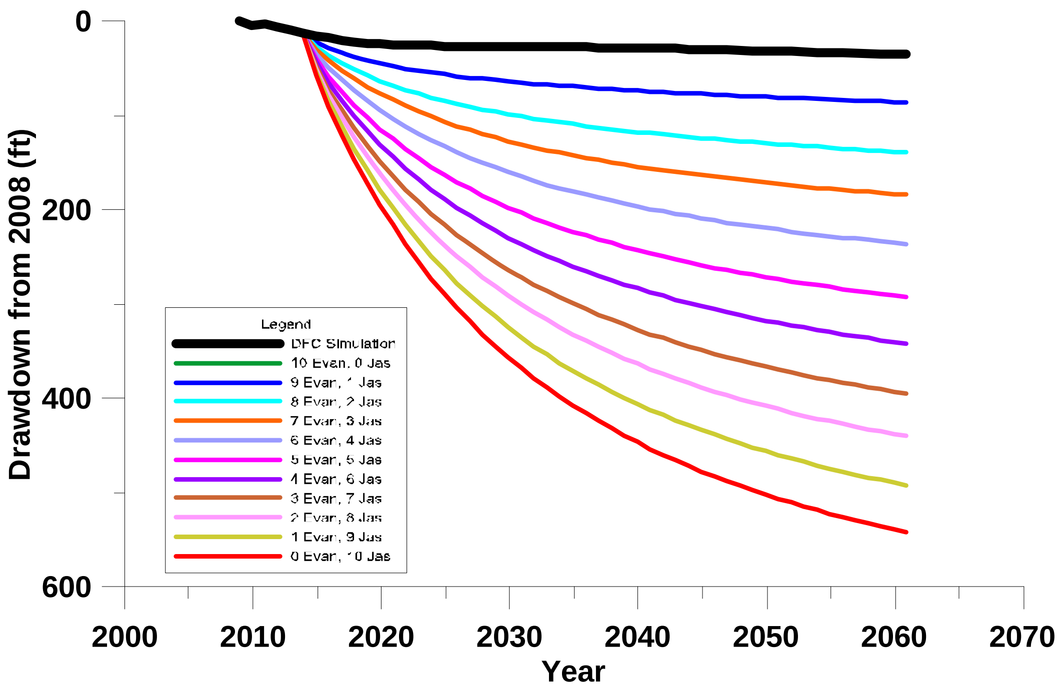


**Figure D-43**
**Fort Bend County - Chicot**
**Electro Purification Pumping - Evangeline/Jasper**
**GAM**

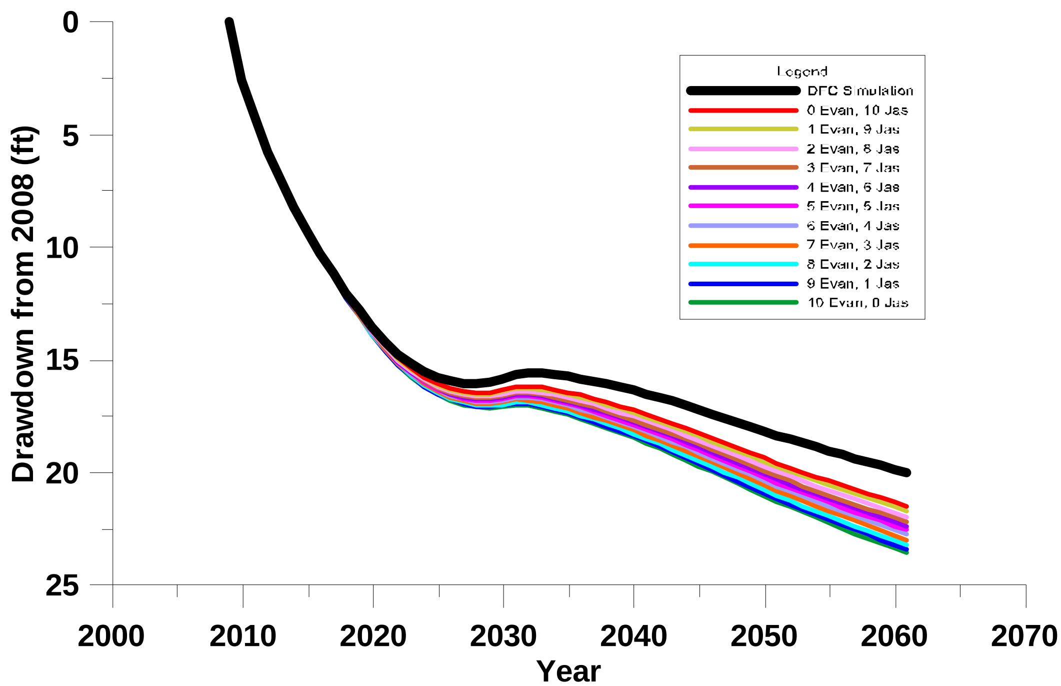



**Figure D-44**
**Fort Bend County - Chicot**
**Electro Purification Pumping - Evangeline/Jasper**
**HAGM**

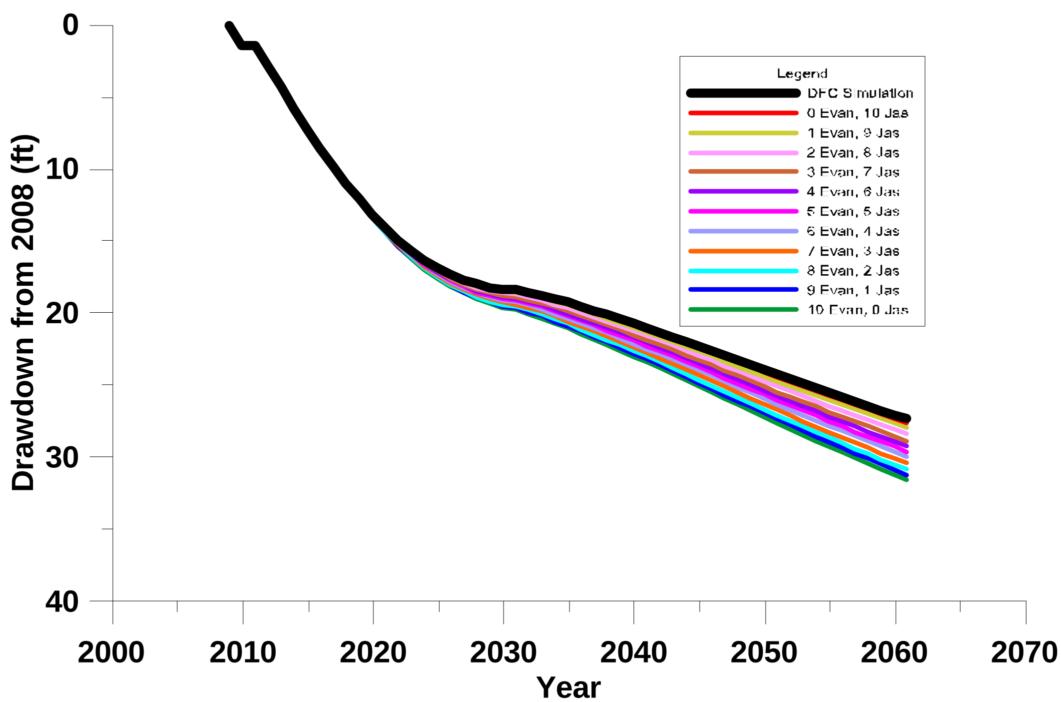


**Figure D-45**
**Fort Bend County - Evangeline**
**Electro Purification Pumping - Evangeline/Jasper**
**GAM**

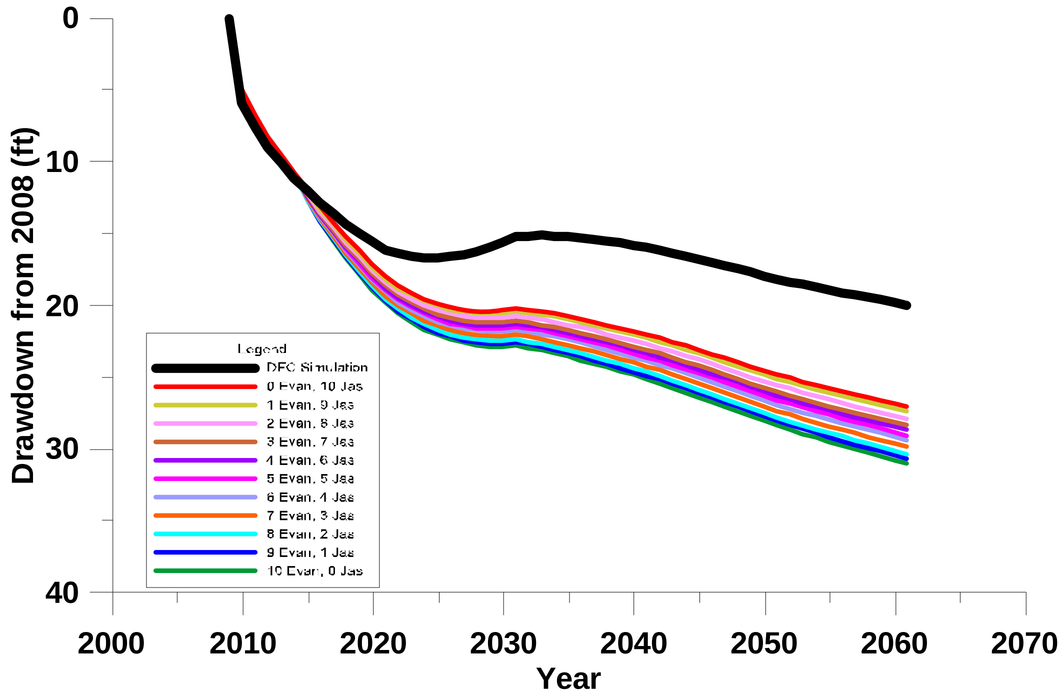



**Figure D-46**
**Fort Bend County - Evangeline**
**Electro Purification Pumping - Evangeline/Jasper**
**HAGM**

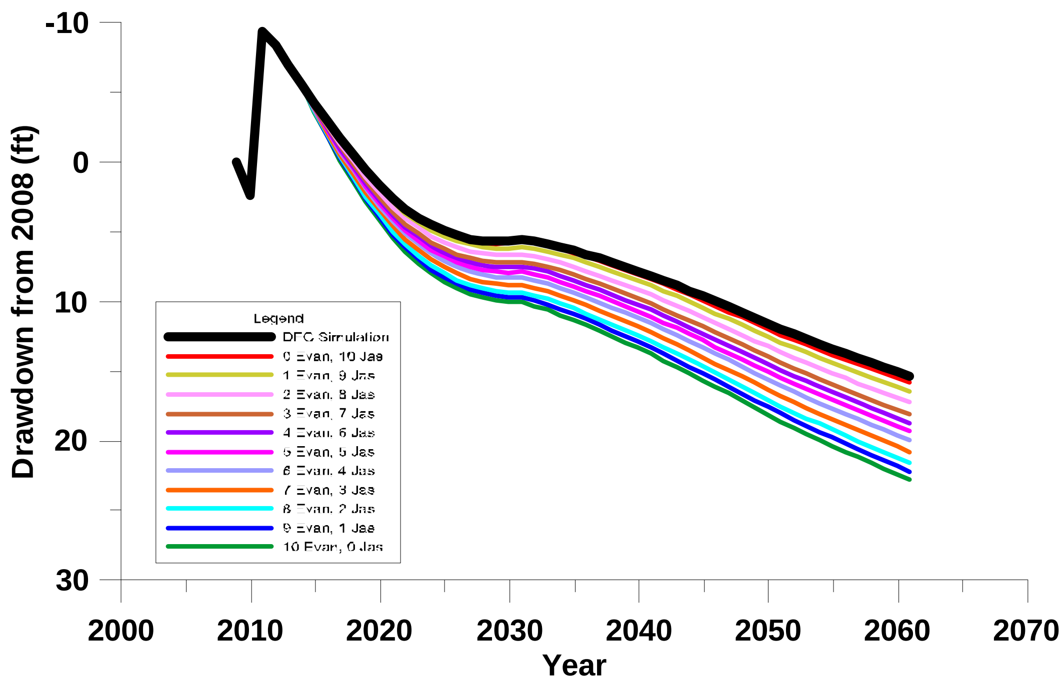


**Figure D-47**
**Fort Bend County - Jasper**
**Electro Purification Pumping - Evangeline/Jasper**
**GAM**

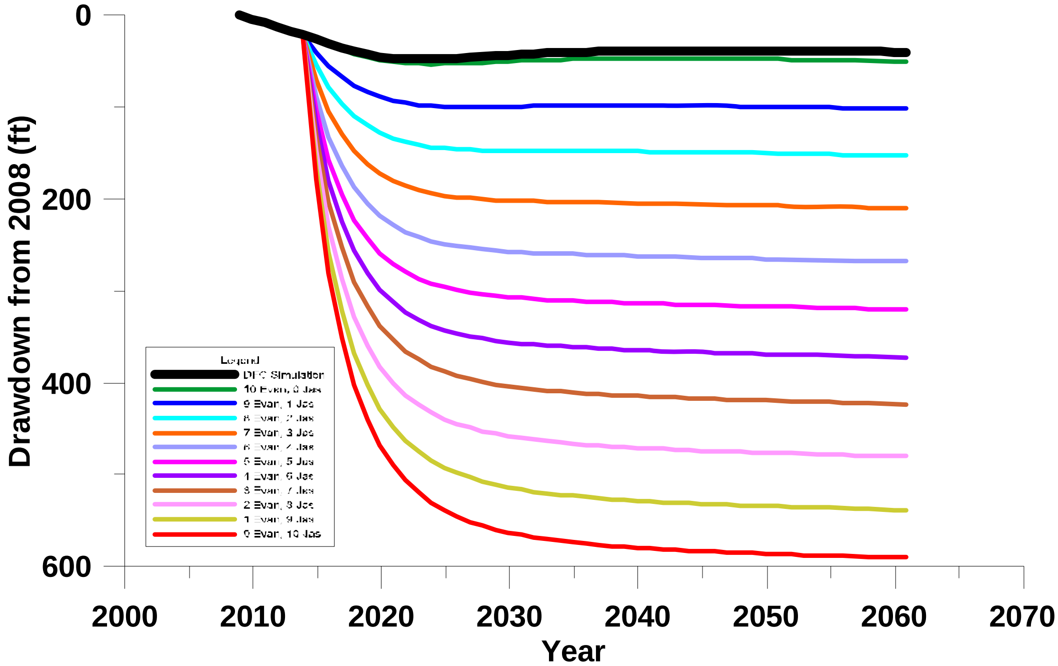



**Figure D-48**
**Fort Bend County - Jasper**
**Electro Purification Pumping - Evangeline/Jasper**
**HAGM**

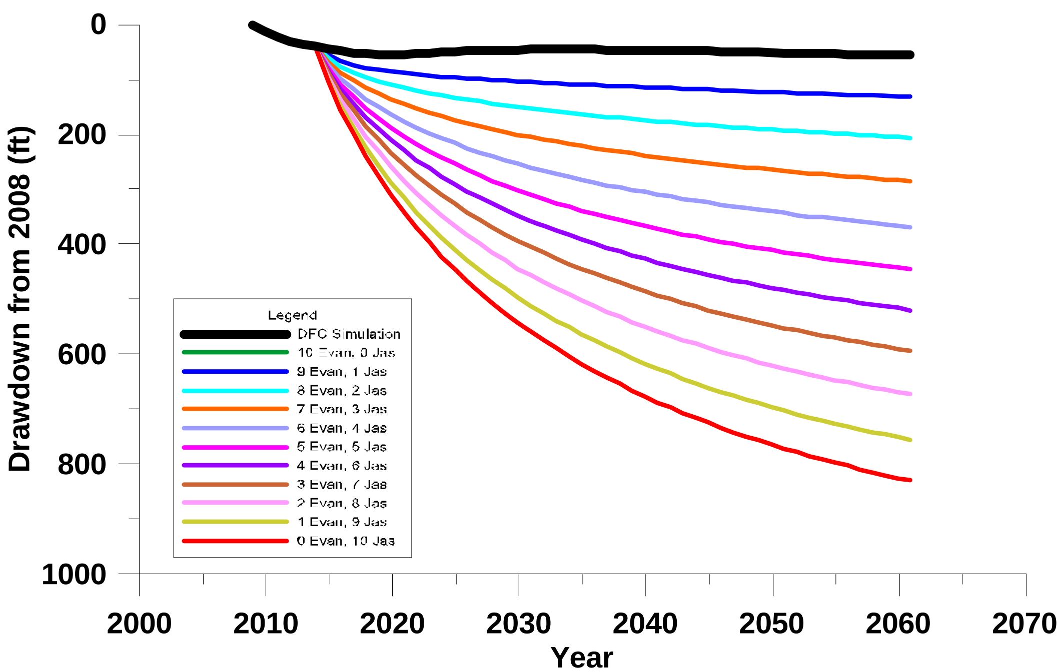


**Figure D-49**
**Waller County - Chicot**
**Electro Purification Pumping - Evangeline/Jasper**
**GAM**

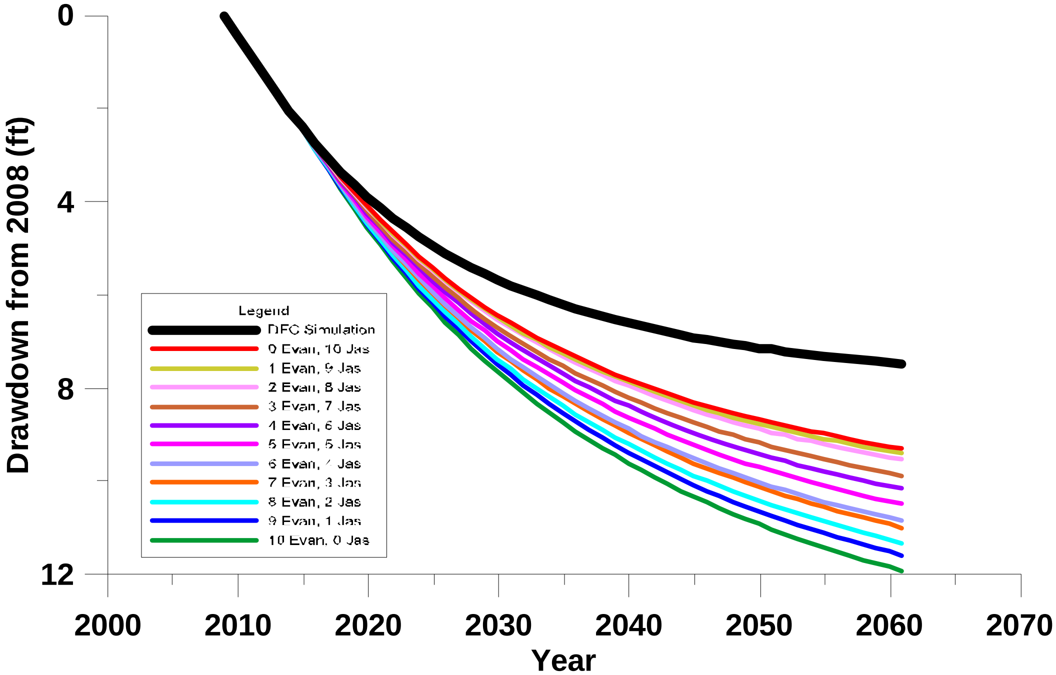



**Figure D-50**
**Waller County - Chicot**
**Electro Purification Pumping - Evangeline/Jasper**
**HAGM**

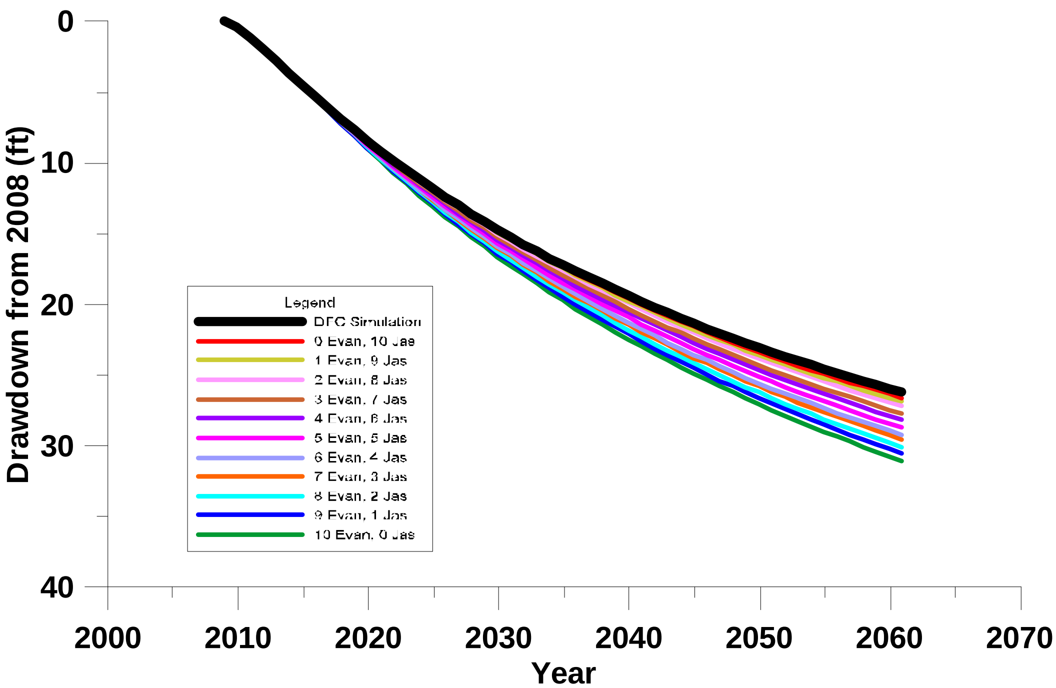


**Figure D-51**
**Waller County - Evangeline**
**Electro Purification Pumping - Evangeline/Jasper**
**GAM**

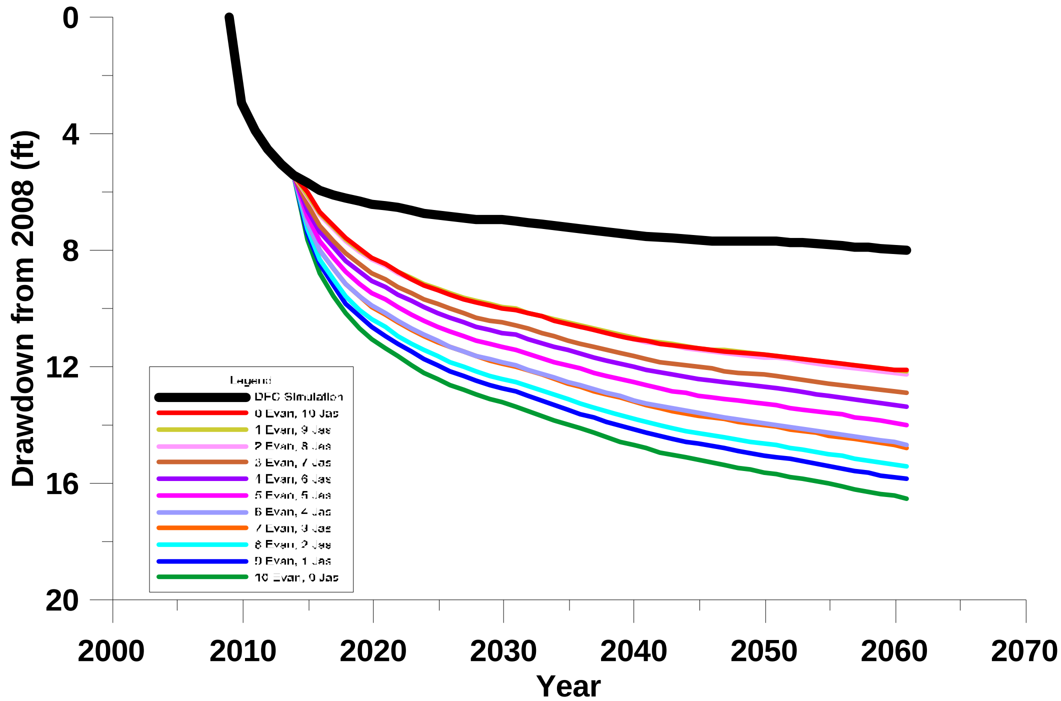



**Figure D-52**
**Waller County - Evangeline**
**Electro Purification Pumping - Evangeline/Jasper**
**HAGM**

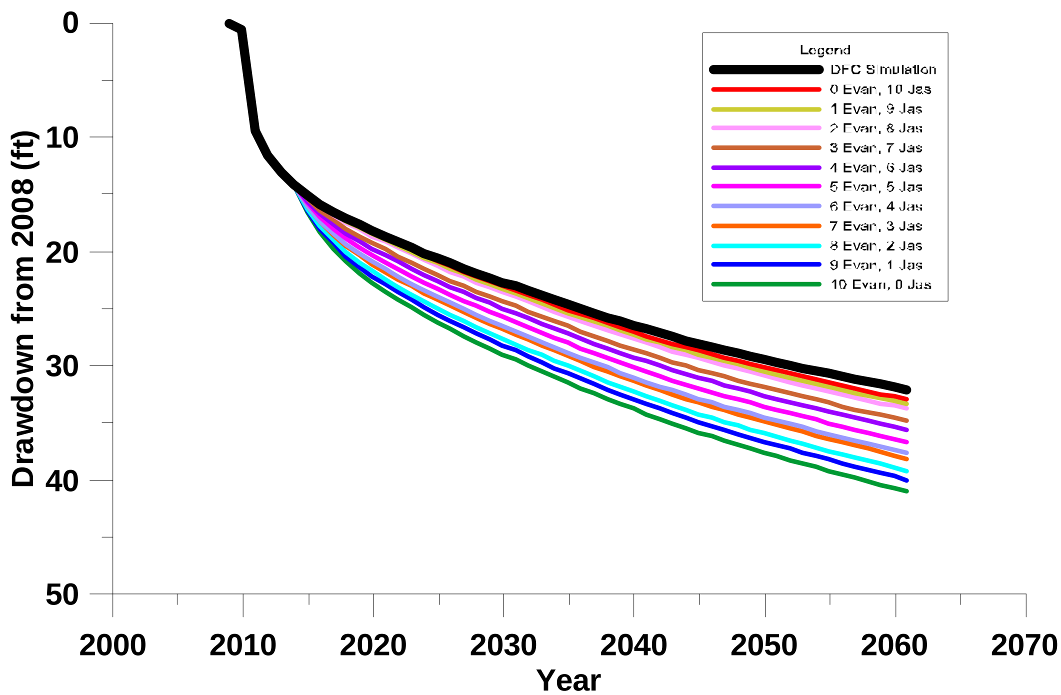


**Figure D-53**
**Waller County - Jasper**
**Electro Purification Pumping - Evangeline/Jasper**
**GAM**

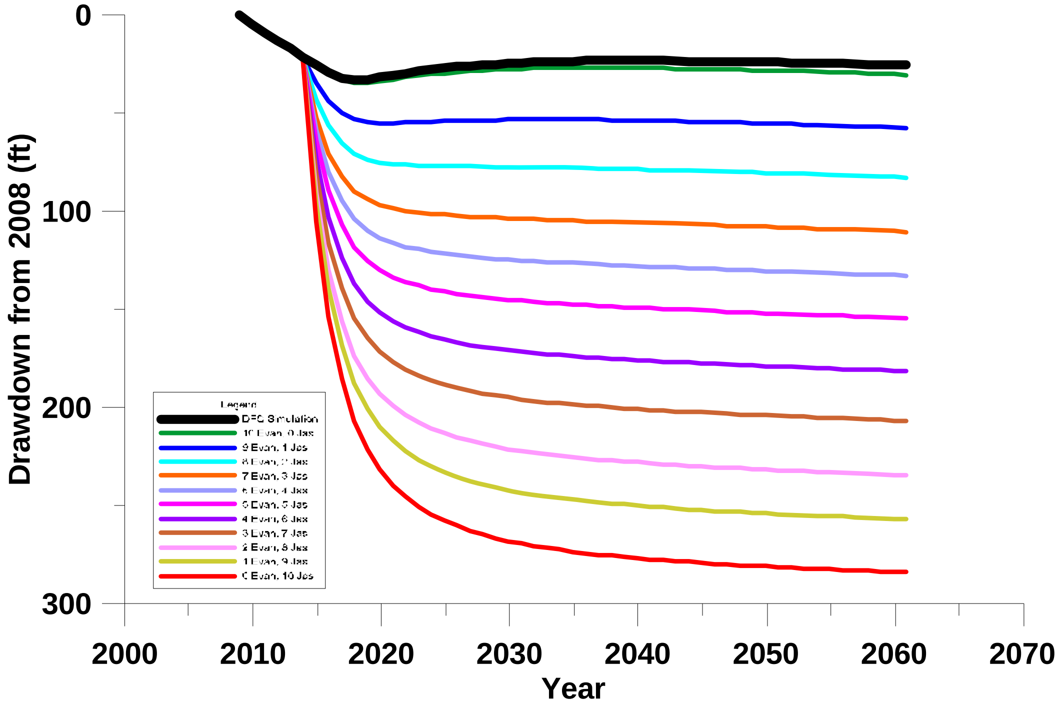
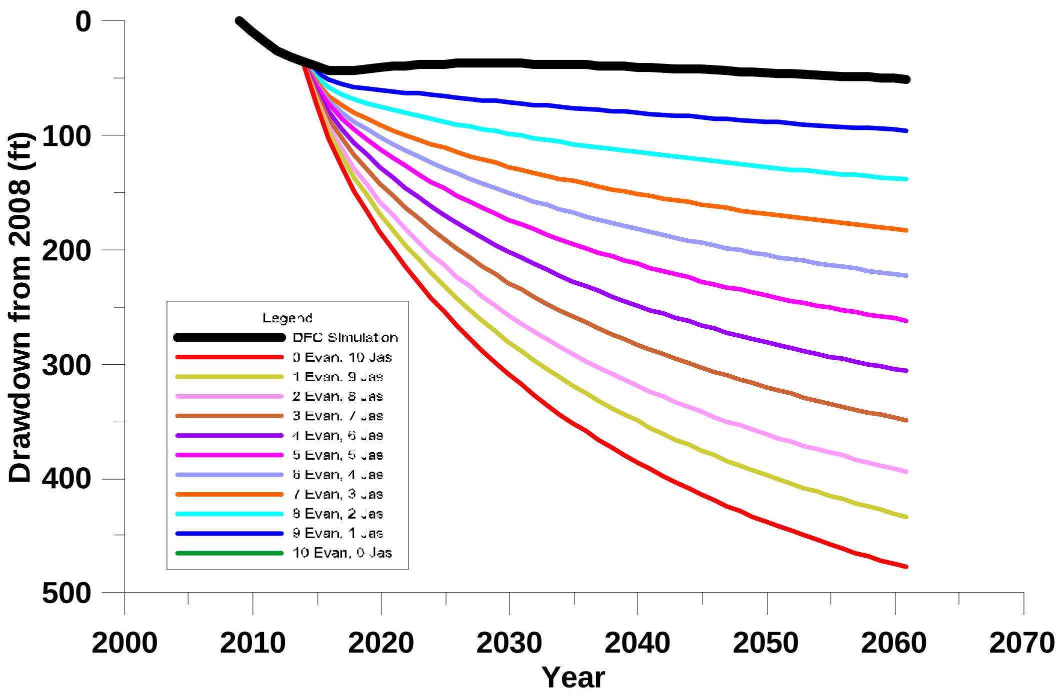
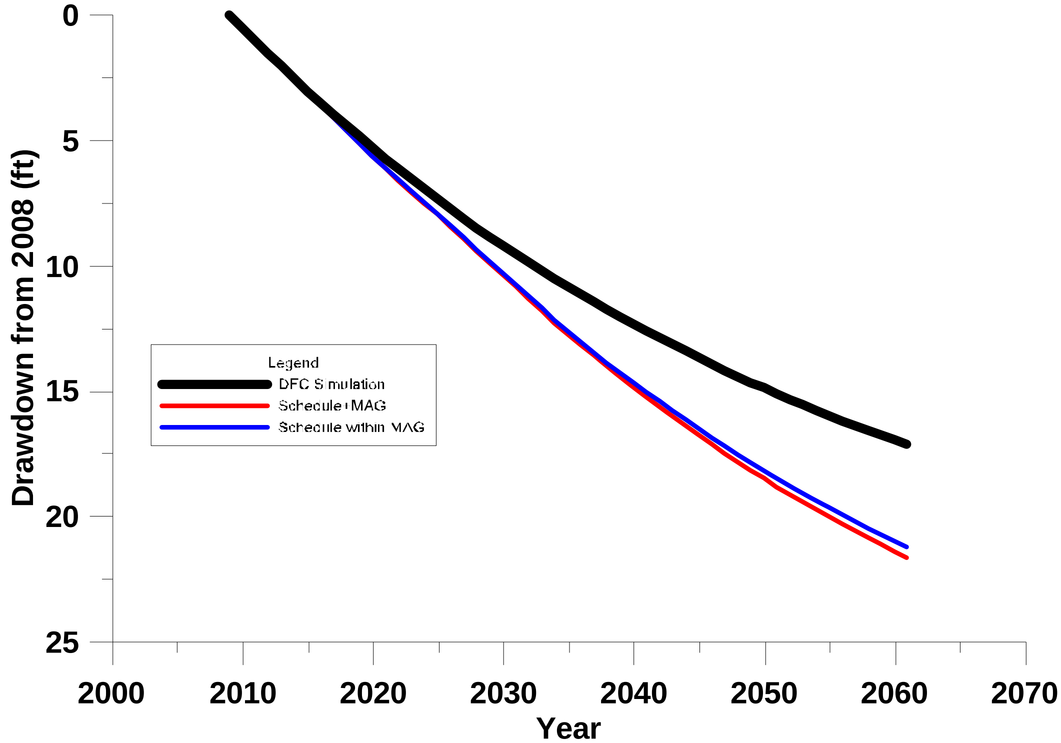


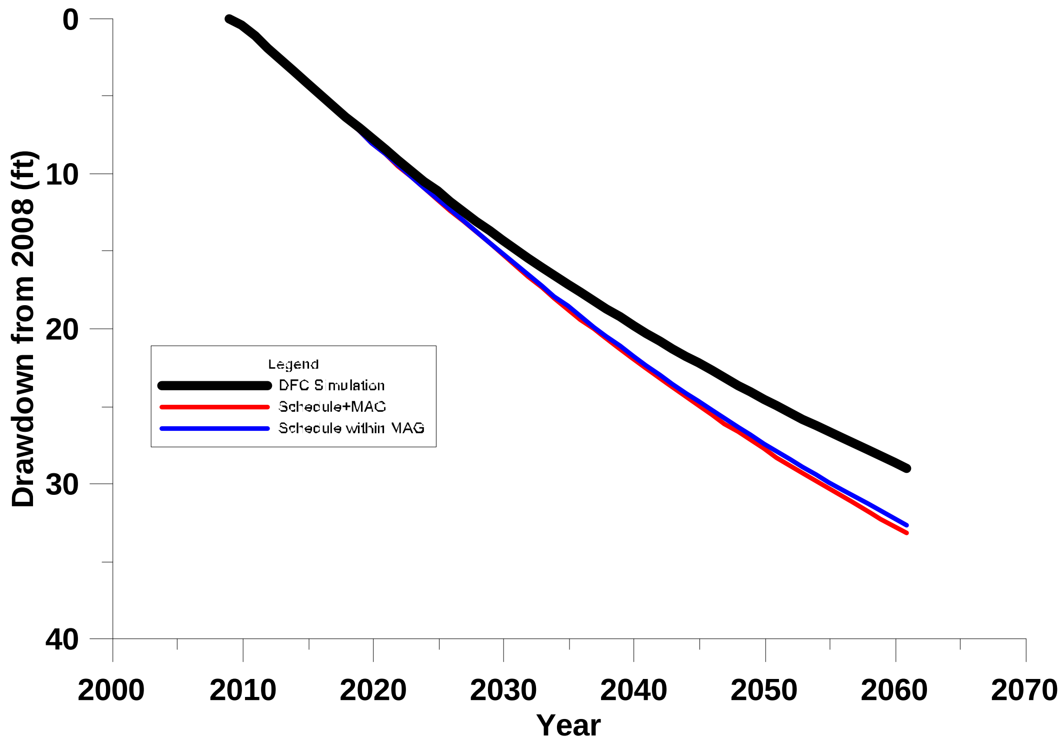

**Figure D-54**
**Waller County - Jasper**
**Electro Purification Pumping - Evangeline/Jasper**
**HAGM**



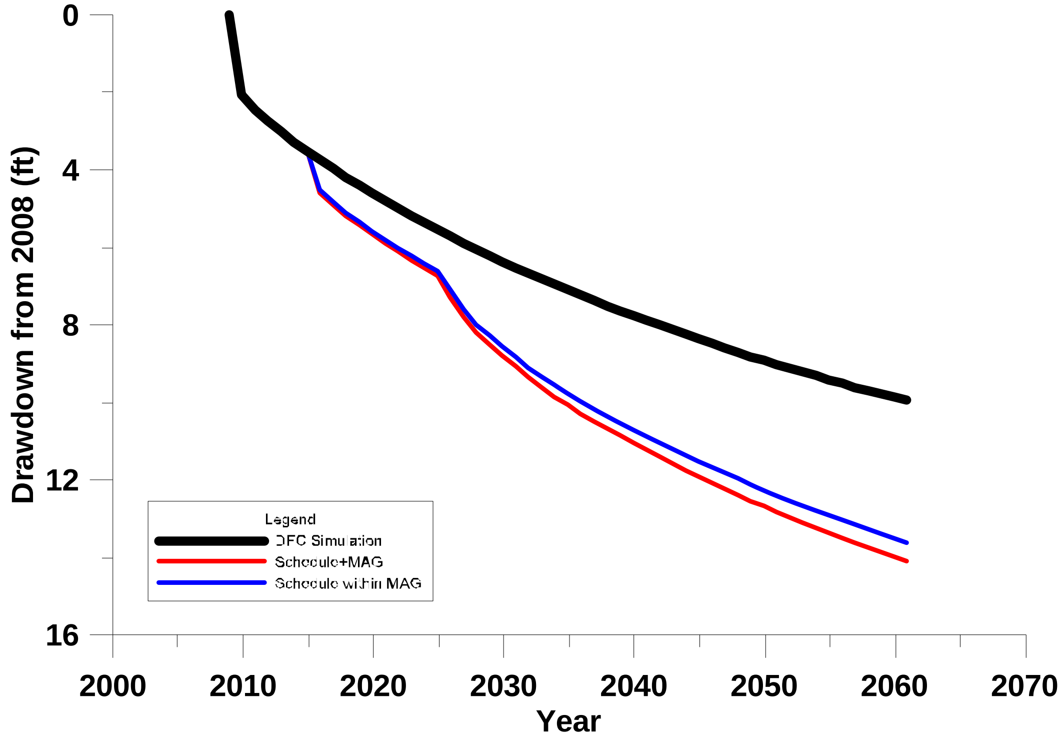
## Figure D-55
## Austin County - Chicot
## Electro Purification Pumping - Conversion Schedule (GAM)



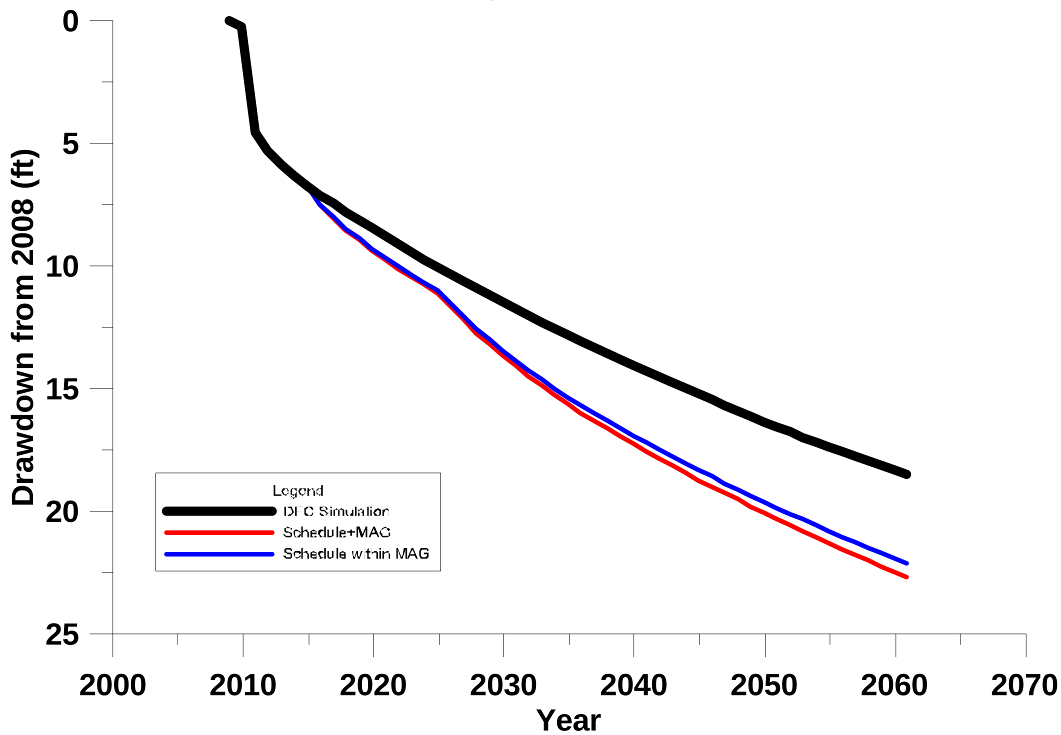

## Figure D-56
## Austin County - Chicot
## Electro Purification Pumping - Conversion Schedule (HAGM)



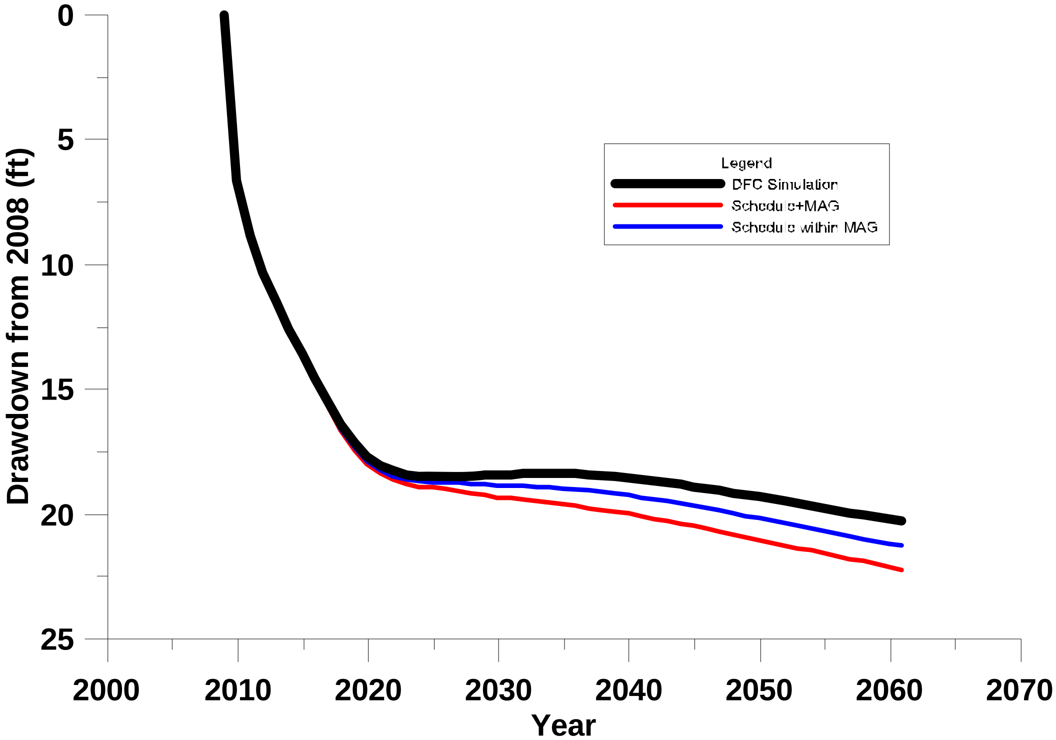
## Figure D-57
## Austin County - Evangeline
## Electro Purification Pumping - Conversion Schedule (GAM)




## Figure D-58
## Austin County - Evangeline
## Electro Purification Pumping - Conversion Schedule (HAGM)



## Figure D-59
## Austin County - Jasper
## Electro Purification Pumping - Conversion Schedule (GAM)




## Figure D-60
## Austin County - Jasper
## Electro Purification Pumping - Conversion Schedule (HAGM)

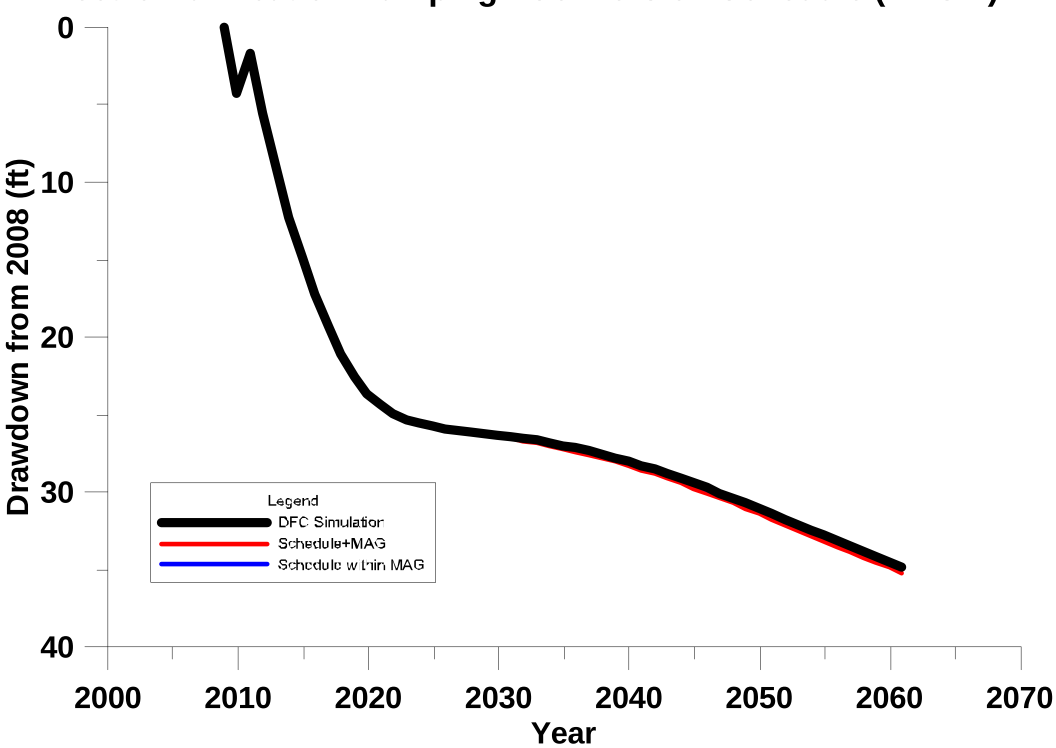


**Figure D-61**
**Fort Bend County - Chicot**
**Electro Purification Pumping - Conversion Schedule (GAM)**

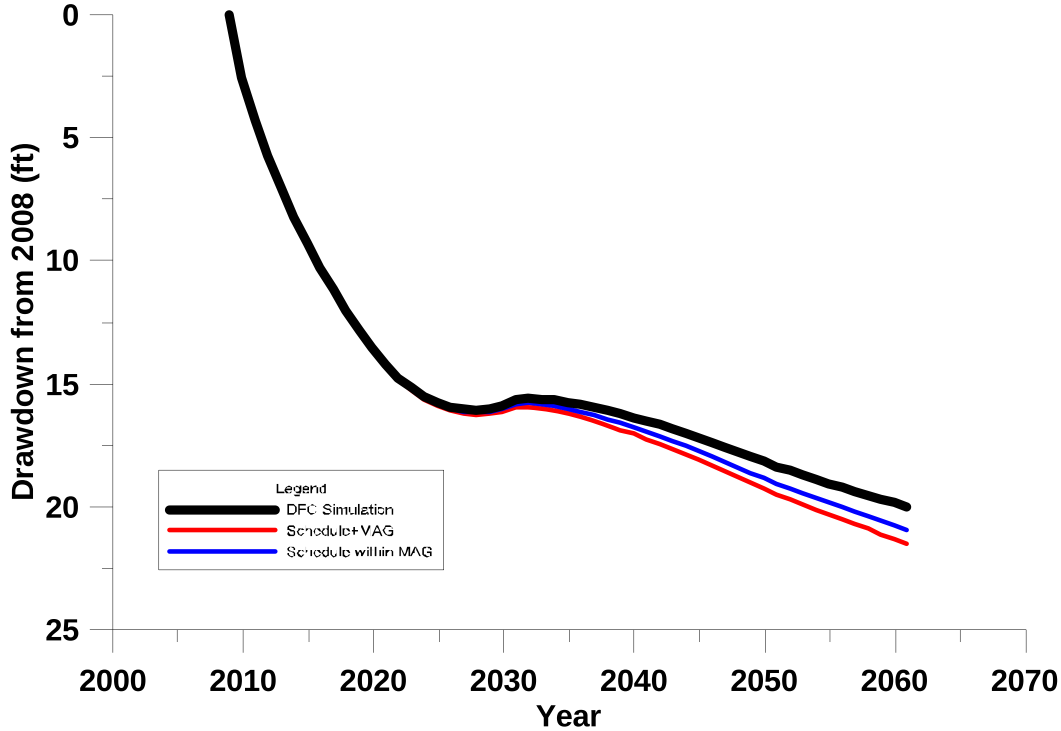



**Figure D-62**
**Fort Bend County - Chicot**
**Electro Purification Pumping - Conversion Schedule (HAGM)**

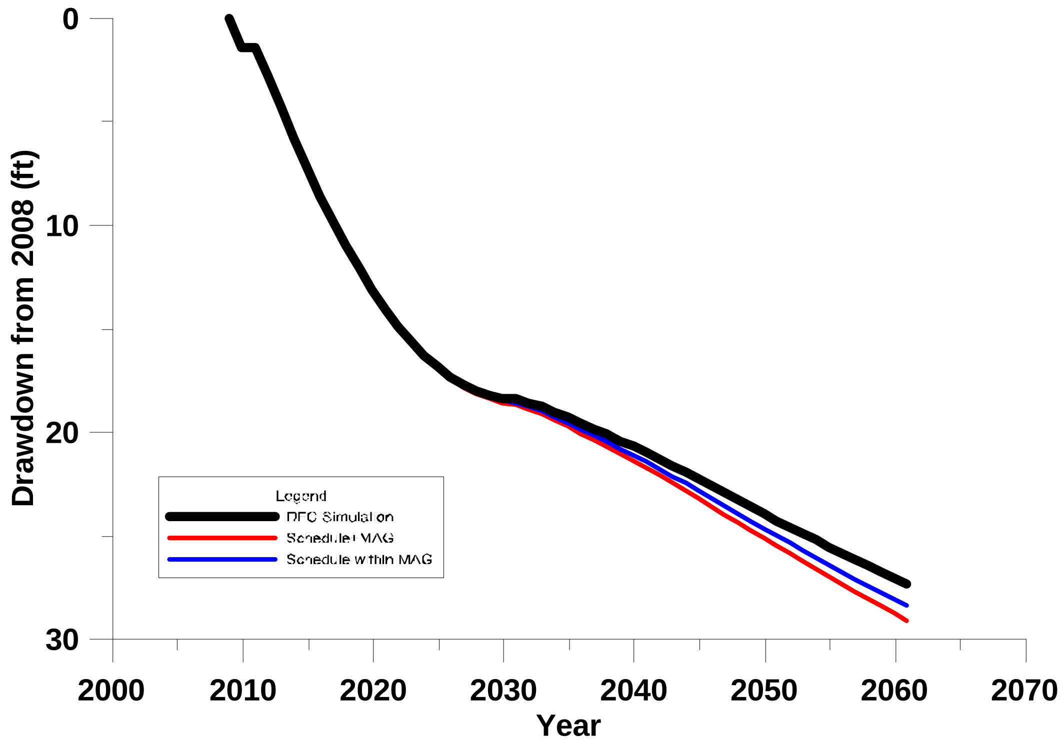


**Figure D-63**
**Fort Bend County - Evangeline**
**Electro Purification Pumping - Conversion Schedule (GAM)**

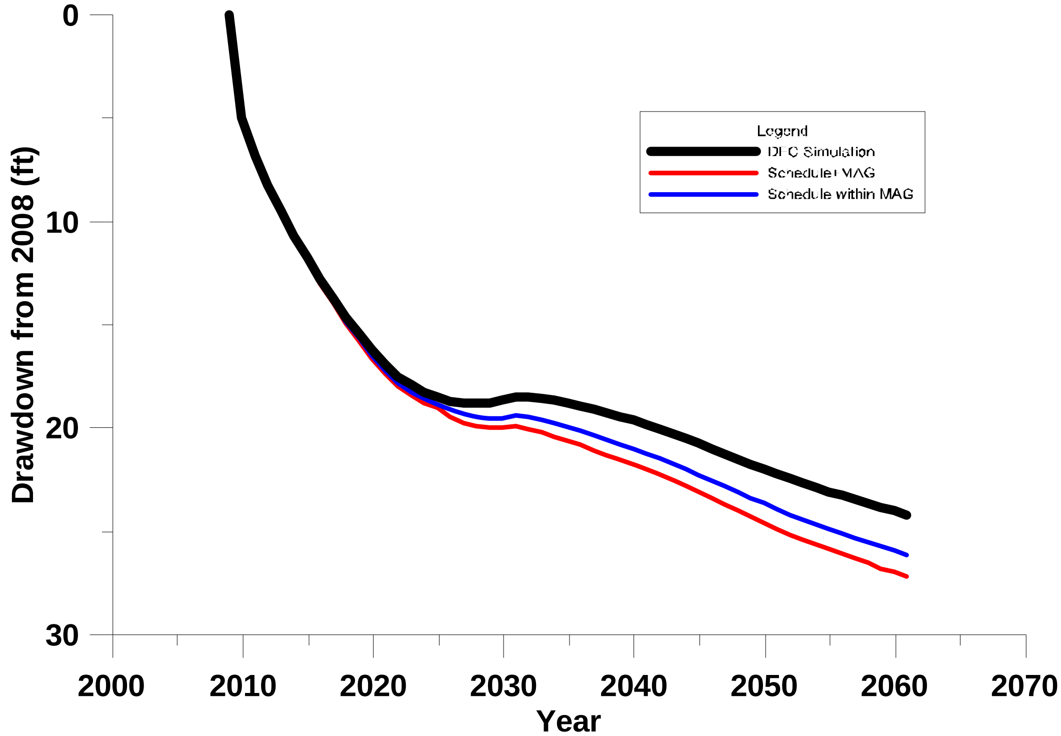
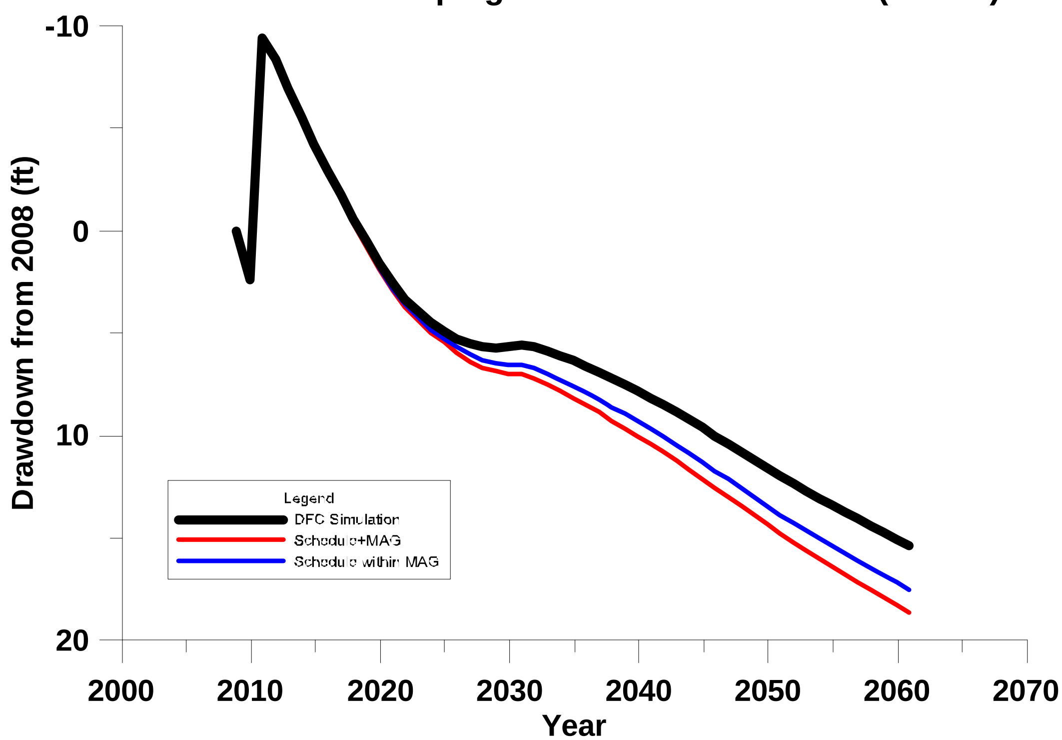
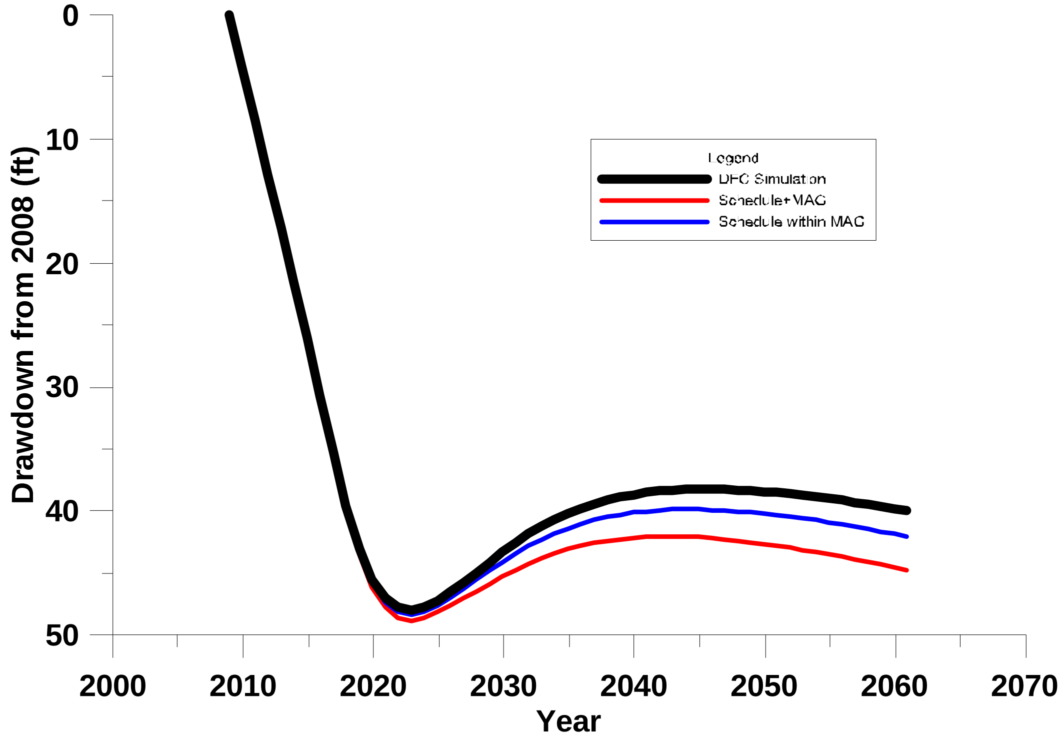



**Figure D-64**
**Fort Bend County - Evangeline**
**Electro Purification Pumping - Conversion Schedule (HAGM)**



## Figure D-65
## Fort Bend County - Jasper
## Electro Purification Pumping - Conversion Schedule (GAM)




## Figure D-66
## Fort Bend County - Jasper
## Electro Purification Pumping - Conversion Schedule (HAGM)

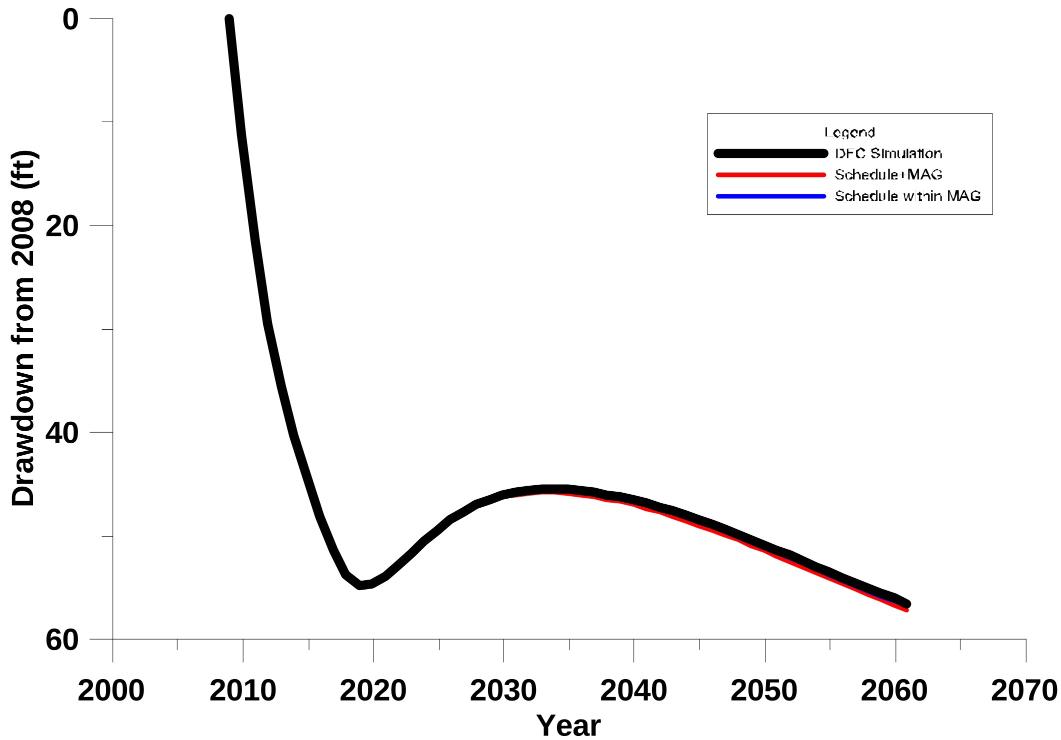


**Figure D-67**
**Waller County - Chicot**
**Electro Purification Pumping - Conversion Schedule (GAM)**

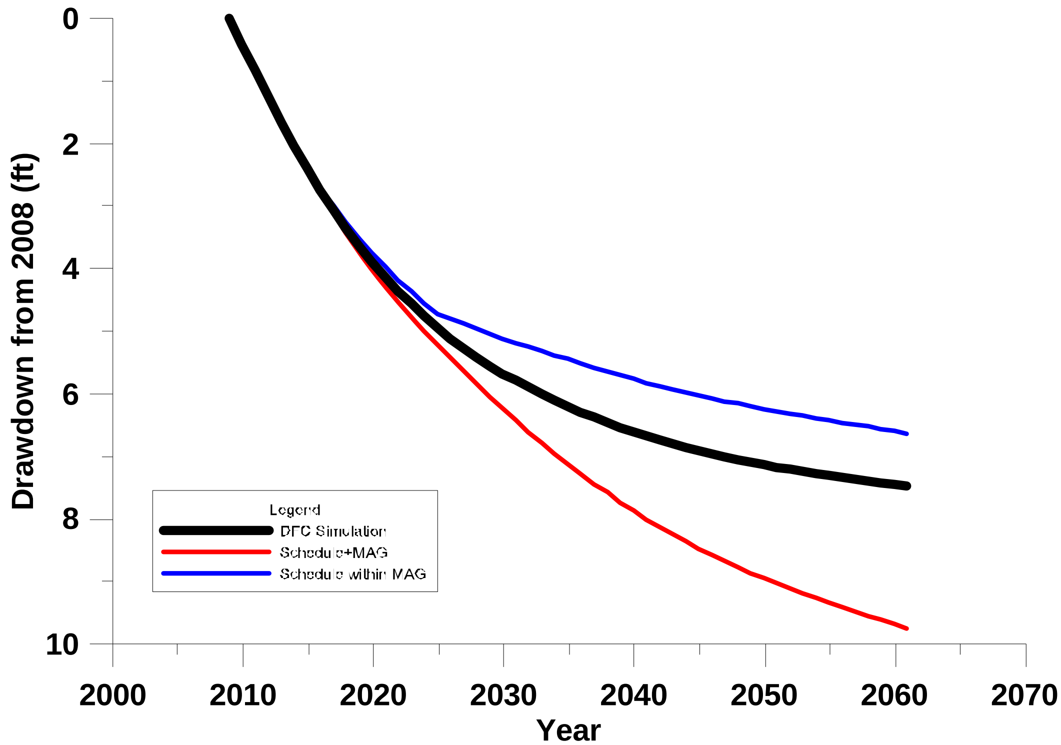



**Figure D-68**
**Waller County - Chicot**
**Electro Purification Pumping - Conversion Schedule (HAGM)**

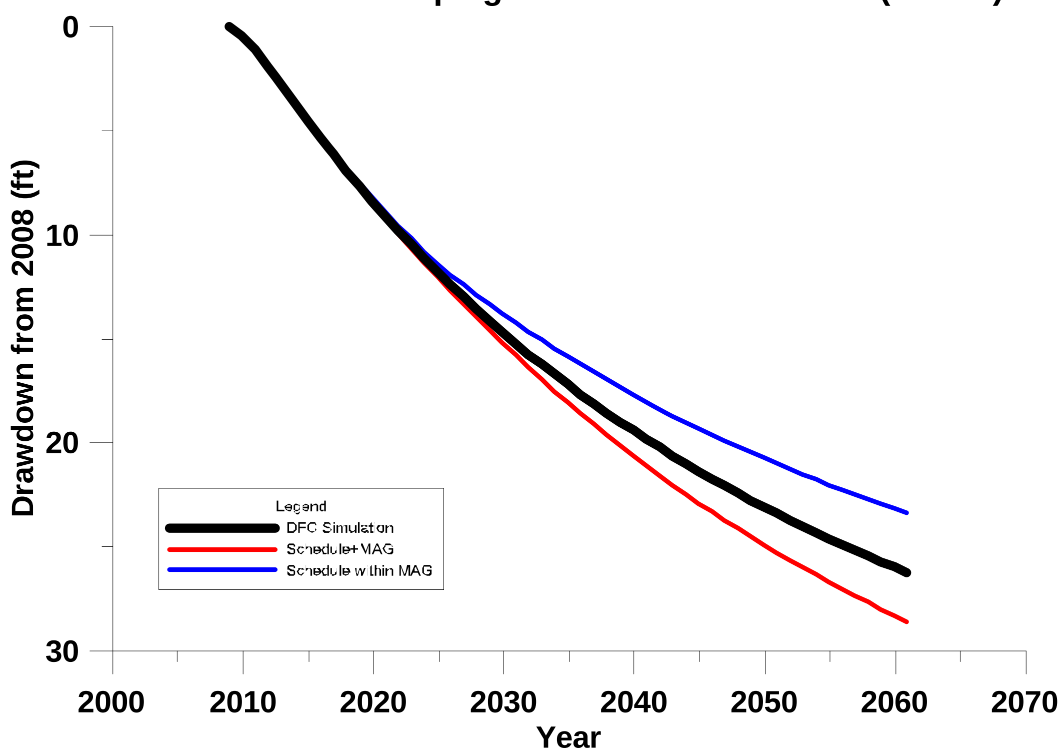


**Figure D-69**
**Waller County - Evangeline**
**Electro Purification Pumping - Conversion Schedule (GAM)**

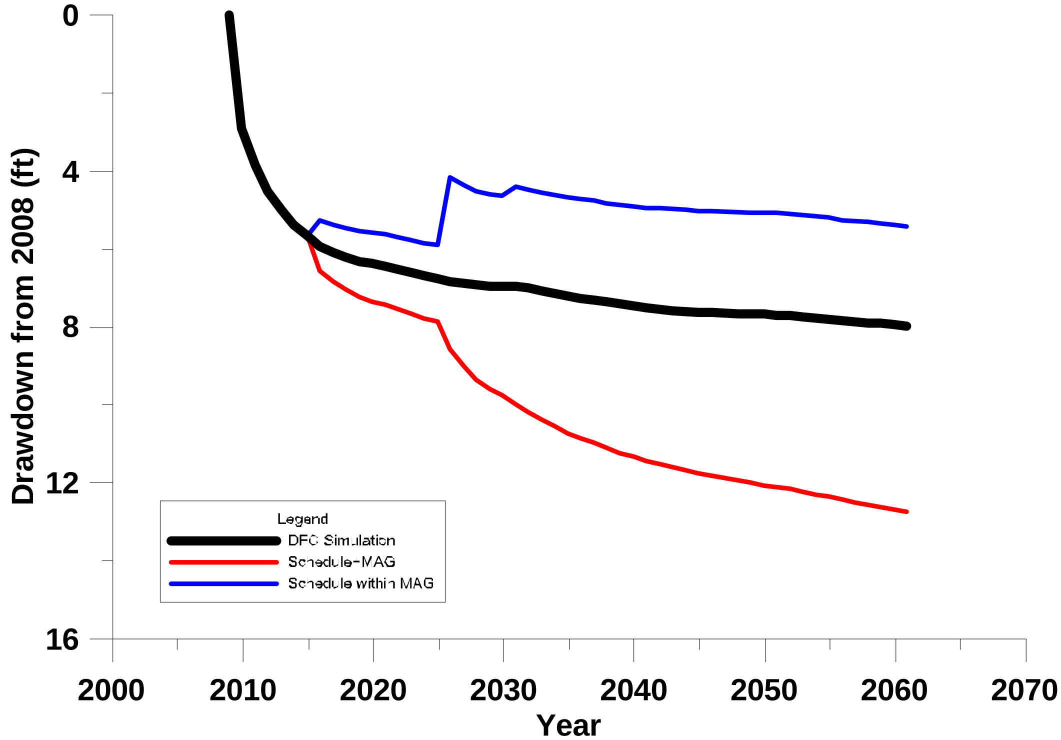
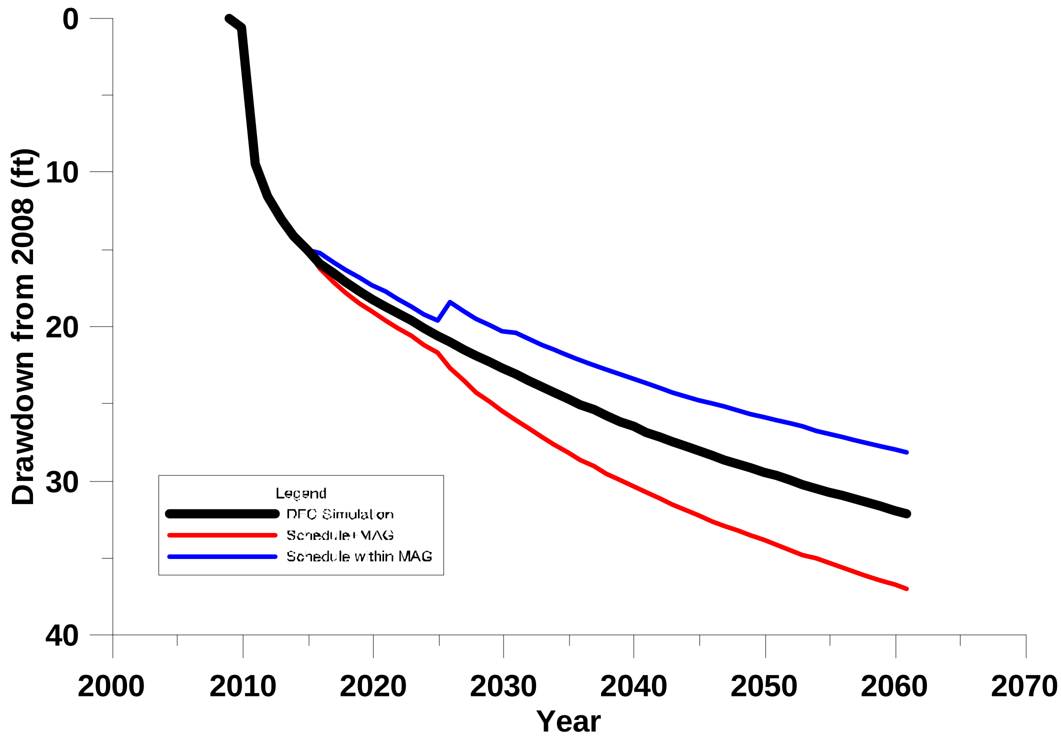
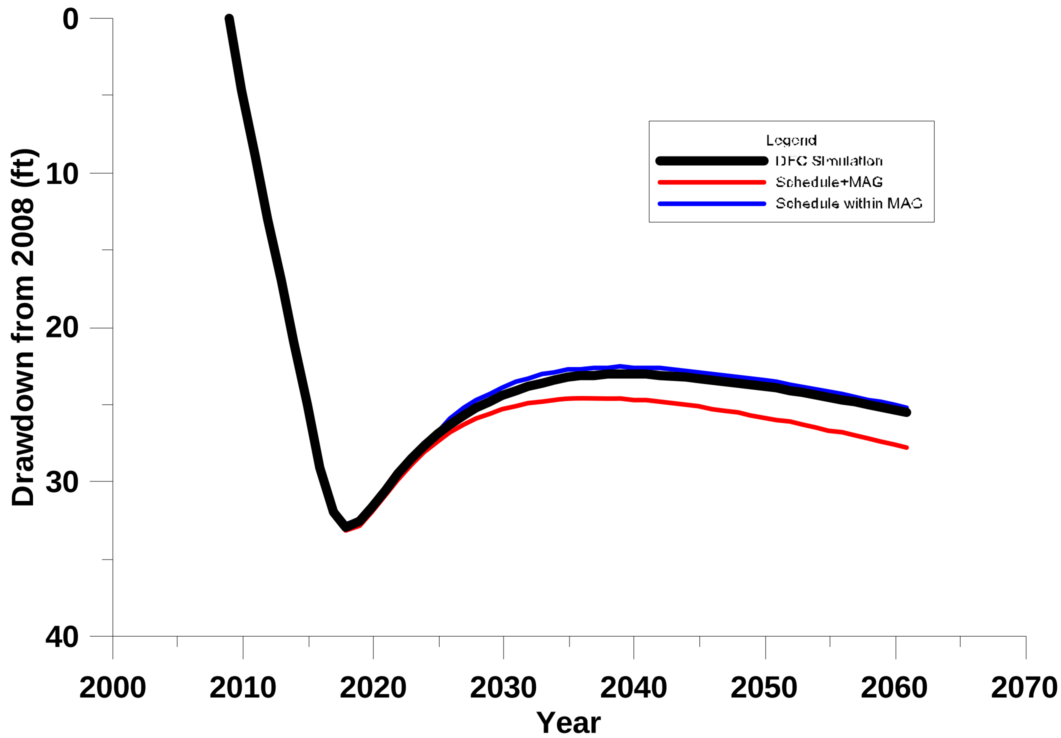


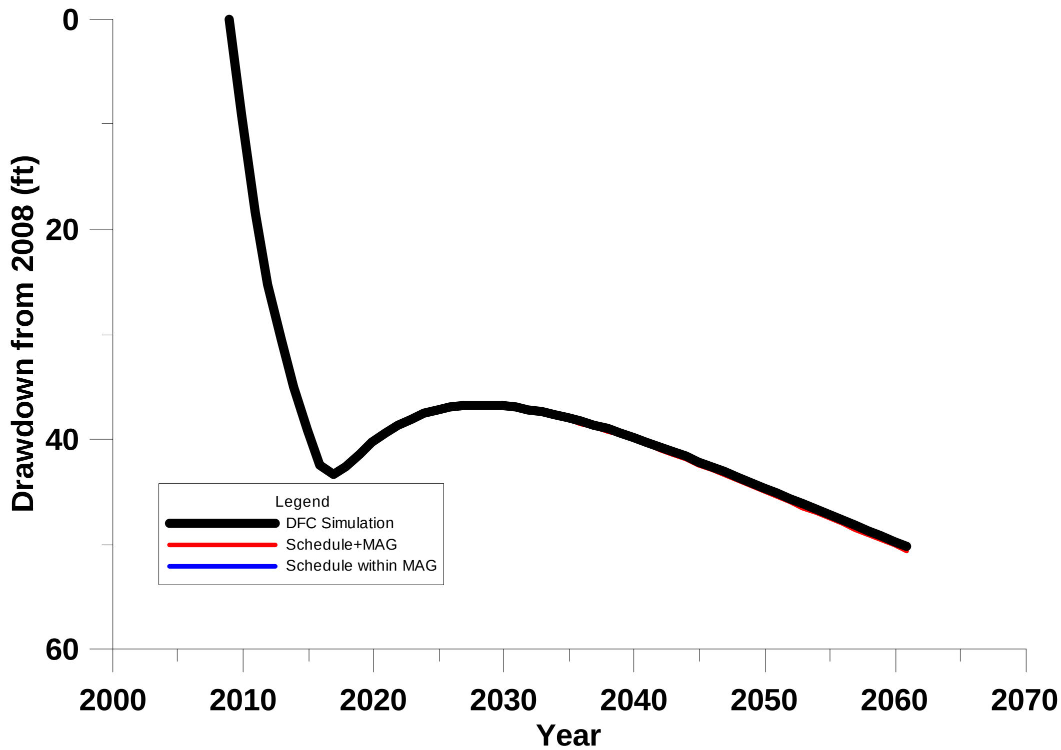

**Figure D-70**
**Waller County - Evangeline**
**Electro Purification Pumping - Conversion Schedule (HAGM)**



## Figure D-71
## Waller County - Jasper
## Electro Purification Pumping - Conversion Schedule (GAM)




## Figure D-72
## Waller County - Jasper
## Electro Purification Pumping - Conversion Schedule (HAGM)



# Appendix E – Tables, Hydrographs, and Maps of Subsidence Estimates

# Table E-1

## Austin County - Simulated Subsidence from 1890 to 2060

| Scenario | Subsidence (ft) from GAM | | Subsidence (ft) from HAGM | |
|---|---|---|---|---|
| | Average | Maximum | Average | Maximum |
| Baseline | 0.03 | 0.98 | 0.35 | 2.08 |
| 1 | 0.04 | 1.03 | 0.38 | 2.12 |
| 2 | 0.05 | 1.09 | 0.42 | 2.17 |
| 3 | 0.05 | 1.13 | 0.44 | 2.22 |
| 4 | 0.06 | 1.18 | 0.47 | 2.26 |
| 5 | 0.08 | 1.51 | 0.51 | 2.31 |
| 6 | 0.09 | 1.70 | 0.54 | 2.46 |
| 7 | 0.10 | 2.04 | 0.57 | 2.80 |
| 8 | 0.12 | 2.21 | 0.61 | 2.95 |
| 9 | 0.14 | 2.41 | 0.65 | 3.13 |
| 10 | 0.16 | 2.77 | 0.69 | 3.59 |
| 11 | 0.04 | 1.03 | 0.37 | 2.12 |
| 12 | 0.05 | 1.08 | 0.41 | 2.16 |
| 13 | 0.05 | 1.12 | 0.43 | 2.20 |
| 14 | 0.06 | 1.16 | 0.46 | 2.24 |
| 15 | 0.07 | 1.43 | 0.50 | 2.28 |
| 16 | 0.08 | 1.60 | 0.52 | 2.35 |
| 17 | 0.09 | 1.92 | 0.55 | 2.66 |
| 18 | 0.10 | 2.07 | 0.55 | 2.80 |
| 19 | 0.11 | 2.24 | 0.57 | 2.96 |
| 20 | 0.12 | 2.58 | 0.58 | 3.40 |
| 21 | 0.14 | 2.59 | 0.69 | 3.46 |
| 22 | 0.13 | 2.38 | 0.69 | 3.31 |
| 23 | 0.12 | 2.23 | 0.69 | 3.22 |
| 24 | 0.11 | 1.57 | 0.69 | 2.64 |
| 25 | 0.10 | 1.43 | 0.69 | 2.61 |
| 26 | 0.09 | 1.41 | 0.69 | 2.61 |
| 27 | 0.08 | 1.38 | 0.69 | 2.61 |
| 28 | 0.08 | 1.36 | 0.69 | 2.61 |
| 29 | 0.06 | 1.30 | 0.69 | 2.59 |
| 30 | 0.05 | 1.24 | 0.67 | 2.57 |
| 31 | 0.07 | 1.33 | 0.49 | 2.28 |
| 32 | 0.07 | 1.25 | 0.48 | 2.26 |

Note: Red Numbers represent maximum subsidence values greater than one foot. Simulated subsidence greater than one foot are considered measureable based on model calibration

# Table E-2
# Fort Bend County - Simulated Subsidence from 1890 to 2060

| Scenario | Subsidence (ft) from GAM | | Subsidence (ft) from HAGM | |
|---|---|---|---|---|
| | Average | Maximum | Average | Maximum |
| Baseline | 1.75 | 6.65 | 2.49 | 5.61 |
| 1 | 1.78 | 6.65 | 2.51 | 5.61 |
| 2 | 1.81 | 6.65 | 2.53 | 5.61 |
| 3 | 1.85 | 6.65 | 2.54 | 5.61 |
| 4 | 1.88 | 6.65 | 2.56 | 5.61 |
| 5 | 1.91 | 6.65 | 2.57 | 5.61 |
| 6 | 1.95 | 6.65 | 2.59 | 5.61 |
| 7 | 1.99 | 6.65 | 2.61 | 5.61 |
| 8 | 2.03 | 6.65 | 2.63 | 5.61 |
| 9 | 2.07 | 6.65 | 2.65 | 5.61 |
| 10 | 2.11 | 6.65 | 2.67 | 5.61 |
| 11 | 1.77 | 6.65 | 2.51 | 5.61 |
| 12 | 1.79 | 6.65 | 2.52 | 5.61 |
| 13 | 1.82 | 6.65 | 2.53 | 5.61 |
| 14 | 1.84 | 6.65 | 2.54 | 5.61 |
| 15 | 1.86 | 6.65 | 2.55 | 5.61 |
| 16 | 1.89 | 6.65 | 2.57 | 5.61 |
| 17 | 1.92 | 6.65 | 2.58 | 5.61 |
| 18 | 1.95 | 6.65 | 2.59 | 5.61 |
| 19 | 1.97 | 6.65 | 2.60 | 5.61 |
| 20 | 2.00 | 6.65 | 2.61 | 5.61 |
| 21 | 2.09 | 6.65 | 2.66 | 5.61 |
| 22 | 2.07 | 6.65 | 2.67 | 5.61 |
| 23 | 2.04 | 6.65 | 2.66 | 5.61 |
| 24 | 2.00 | 6.65 | 2.66 | 5.61 |
| 25 | 1.98 | 6.65 | 2.67 | 5.61 |
| 26 | 1.96 | 6.65 | 2.67 | 5.61 |
| 27 | 1.94 | 6.65 | 2.67 | 5.61 |
| 28 | 1.91 | 6.65 | 2.67 | 5.61 |
| 29 | 1.88 | 6.65 | 2.67 | 5.61 |
| 30 | 1.87 | 6.65 | 2.67 | 5.61 |
| 31 | 1.90 | 6.65 | 2.57 | 5.61 |
| 32 | 1.86 | 6.65 | 2.55 | 5.61 |

Note: Red Numbers represent maximum subsidence values greater than one foot. Simulated subsidence greater than one foot are considered measureable based on model calibration

# Table E-3

## Waller County - Simulated Subsidence from 1890 to 2060

| Scenario | Subsidence (ft) from GAM | | Subsidence (ft) from HAGM | |
|---|---|---|---|---|
| | Average | Maximum | Average | Maximum |
| Baseline | 0.38 | 5.49 | 0.61 | 3.52 |
| 1 | 0.40 | 5.56 | 0.63 | 3.58 |
| 2 | 0.41 | 5.61 | 0.65 | 3.62 |
| 3 | 0.43 | 5.71 | 0.67 | 3.68 |
| 4 | 0.44 | 5.79 | 0.68 | 3.74 |
| 5 | 0.46 | 5.84 | 0.70 | 3.78 |
| 6 | 0.48 | 5.94 | 0.72 | 3.85 |
| 7 | 0.49 | 6.01 | 0.74 | 4.46 |
| 8 | 0.50 | 6.06 | 0.75 | 4.65 |
| 9 | 0.51 | 6.09 | 0.76 | 4.82 |
| 10 | 0.52 | 6.13 | 0.77 | 5.01 |
| 11 | 0.39 | 5.47 | 0.61 | 3.49 |
| 12 | 0.39 | 5.46 | 0.60 | 3.45 |
| 13 | 0.39 | 5.46 | 0.61 | 3.43 |
| 14 | 0.40 | 5.45 | 0.61 | 3.41 |
| 15 | 0.40 | 5.44 | 0.60 | 3.37 |
| 16 | 0.41 | 5.44 | 0.61 | 3.51 |
| 17 | 0.42 | 5.43 | 0.61 | 4.31 |
| 18 | 0.42 | 5.43 | 0.62 | 4.47 |
| 19 | 0.43 | 5.43 | 0.62 | 4.62 |
| 20 | 0.44 | 5.43 | 0.63 | 4.78 |
| 21 | 0.51 | 6.11 | 0.77 | 4.32 |
| 22 | 0.50 | 6.10 | 0.77 | 3.99 |
| 23 | 0.48 | 6.06 | 0.77 | 3.95 |
| 24 | 0.48 | 6.06 | 0.78 | 3.95 |
| 25 | 0.46 | 6.03 | 0.78 | 3.93 |
| 26 | 0.45 | 6.00 | 0.78 | 3.92 |
| 27 | 0.44 | 5.99 | 0.79 | 3.91 |
| 28 | 0.43 | 5.95 | 0.79 | 3.89 |
| 29 | 0.43 | 5.95 | 0.80 | 3.89 |
| 30 | 0.43 | 5.96 | 0.81 | 3.90 |
| 31 | 0.45 | 5.80 | 0.70 | 3.76 |
| 32 | 0.41 | 5.47 | 0.61 | 3.37 |

Note: Red Numbers represent maximum subsidence values greater than one foot. Simulated subsidence greater than one foot are considered measureable based on model calibration

# Table E-4

## Project Area - Simulated Subsidence from 1890 to 2060

| Scenario | Subsidence (ft) from GAM | | Subsidence (ft) from HAGM | |
|---|---|---|---|---|
| | Average | Maximum | Average | Maximum |
| Baseline | 0.11 | 0.85 | 0.77 | 1.97 |
| 1 | 0.24 | 0.97 | 1.00 | 2.09 |
| 2 | 0.42 | 1.08 | 1.23 | 2.18 |
| 3 | 0.61 | 1.27 | 1.45 | 2.36 |
| 4 | 0.81 | 2.02 | 1.68 | 2.90 |
| 5 | 1.03 | 2.45 | 1.91 | 3.33 |
| 6 | 1.25 | 2.78 | 2.14 | 3.64 |
| 7 | 1.49 | 3.62 | 2.37 | 4.46 |
| 8 | 1.71 | 3.82 | 2.58 | 4.65 |
| 9 | 1.93 | 4.01 | 2.79 | 4.82 |
| 10 | 2.16 | 4.22 | 3.00 | 5.01 |
| 11 | 0.23 | 0.94 | 0.98 | 2.05 |
| 12 | 0.39 | 1.01 | 1.19 | 2.11 |
| 13 | 0.56 | 1.23 | 1.39 | 2.26 |
| 14 | 0.75 | 1.97 | 1.60 | 2.81 |
| 15 | 0.94 | 2.35 | 1.81 | 3.22 |
| 16 | 1.14 | 2.65 | 2.01 | 3.51 |
| 17 | 1.36 | 3.47 | 2.22 | 4.31 |
| 18 | 1.55 | 3.65 | 2.41 | 4.47 |
| 19 | 1.74 | 3.82 | 2.59 | 4.62 |
| 20 | 1.94 | 4.00 | 2.77 | 4.78 |
| 21 | 1.94 | 3.40 | 2.84 | 4.32 |
| 22 | 1.73 | 2.98 | 2.69 | 3.99 |
| 23 | 1.52 | 2.68 | 2.54 | 3.77 |
| 24 | 1.33 | 2.52 | 2.40 | 3.66 |
| 25 | 1.12 | 1.71 | 2.25 | 2.91 |
| 26 | 0.93 | 1.50 | 2.10 | 2.79 |
| 27 | 0.75 | 1.43 | 1.94 | 2.75 |
| 28 | 0.58 | 1.28 | 1.80 | 2.65 |
| 29 | 0.42 | 1.21 | 1.66 | 2.61 |
| 30 | 0.27 | 1.16 | 1.53 | 2.61 |
| 31 | 0.99 | 2.18 | 1.87 | 3.07 |
| 32 | 0.91 | 2.09 | 1.77 | 2.97 |

Note: Red Numbers represent maximum subsidence values greater than one foot. Simulated subsidence greater than one foot are considered measureable based on model calibration

# Table E-5
# Austin County - Simulated Subsidence from 1890 to 2060 Attributable to Electro Purification Pumping

| Scenario | Subsidence (ft) from GAM | | Subsidence (ft) from HAGM | |
|---|---|---|---|---|
| | Average | Maximum | Average | Maximum |
| Baseline | 0 | 0 | 0 | 0 |
| 1 | 0.01 | 0.05 | 0.03 | 0.04 |
| 2 | 0.02 | 0.11 | 0.07 | 0.09 |
| 3 | 0.02 | 0.15 | 0.09 | 0.14 |
| 4 | 0.03 | 0.20 | 0.12 | 0.18 |
| 5 | 0.05 | 0.53 | 0.16 | 0.23 |
| 6 | 0.06 | 0.72 | 0.19 | 0.38 |
| 7 | 0.07 | 1.06 | 0.22 | 0.72 |
| 8 | 0.09 | 1.23 | 0.26 | 0.87 |
| 9 | 0.11 | 1.43 | 0.30 | 1.05 |
| 10 | 0.13 | 1.79 | 0.34 | 1.51 |
| 11 | 0.01 | 0.05 | 0.02 | 0.04 |
| 12 | 0.02 | 0.10 | 0.06 | 0.08 |
| 13 | 0.02 | 0.14 | 0.08 | 0.12 |
| 14 | 0.03 | 0.18 | 0.11 | 0.16 |
| 15 | 0.04 | 0.45 | 0.15 | 0.20 |
| 16 | 0.05 | 0.62 | 0.17 | 0.27 |
| 17 | 0.06 | 0.94 | 0.20 | 0.58 |
| 18 | 0.07 | 1.09 | 0.20 | 0.72 |
| 19 | 0.08 | 1.26 | 0.22 | 0.88 |
| 20 | 0.09 | 1.60 | 0.23 | 1.32 |
| 21 | 0.11 | 1.61 | 0.34 | 1.38 |
| 22 | 0.10 | 1.40 | 0.34 | 1.23 |
| 23 | 0.09 | 1.25 | 0.34 | 1.14 |
| 24 | 0.08 | 0.59 | 0.34 | 0.56 |
| 25 | 0.07 | 0.45 | 0.34 | 0.53 |
| 26 | 0.06 | 0.43 | 0.34 | 0.53 |
| 27 | 0.05 | 0.40 | 0.34 | 0.53 |
| 28 | 0.05 | 0.38 | 0.34 | 0.53 |
| 29 | 0.03 | 0.32 | 0.34 | 0.51 |
| 30 | 0.02 | 0.26 | 0.32 | 0.49 |
| 31 | 0.04 | 0.35 | 0.14 | 0.20 |
| 32 | 0.04 | 0.27 | 0.13 | 0.18 |

Note: Red Numbers represent maximum subsidence values greater than one foot. Simulated subsidence greater than one foot are considered measureable based on model calibration

## Table E-6
## Fort Bend County - Simulated Subsidence from 1890 to 2060 Attributable to Electro Purification Pumping

| Scenario | Subsidence (ft) from GAM | | Subsidence (ft) from HAGM | |
|---|---|---|---|---|
| | Average | Maximum | Average | Maximum |
| Baseline | 0 | 0 | 0 | 0 |
| 1 | 0.03 | 0.00 | 0.02 | 0.00 |
| 2 | 0.06 | 0.00 | 0.04 | 0.00 |
| 3 | 0.10 | 0.00 | 0.05 | 0.00 |
| 4 | 0.13 | 0.00 | 0.07 | 0.00 |
| 5 | 0.16 | 0.00 | 0.08 | 0.00 |
| 6 | 0.20 | 0.00 | 0.10 | 0.00 |
| 7 | 0.24 | 0.00 | 0.12 | 0.00 |
| 8 | 0.28 | 0.00 | 0.14 | 0.00 |
| 9 | 0.32 | 0.00 | 0.16 | 0.00 |
| 10 | 0.36 | 0.00 | 0.18 | 0.00 |
| 11 | 0.02 | 0.00 | 0.02 | 0.00 |
| 12 | 0.04 | 0.00 | 0.03 | 0.00 |
| 13 | 0.07 | 0.00 | 0.04 | 0.00 |
| 14 | 0.09 | 0.00 | 0.05 | 0.00 |
| 15 | 0.11 | 0.00 | 0.06 | 0.00 |
| 16 | 0.14 | 0.00 | 0.08 | 0.00 |
| 17 | 0.17 | 0.00 | 0.09 | 0.00 |
| 18 | 0.20 | 0.00 | 0.10 | 0.00 |
| 19 | 0.22 | 0.00 | 0.11 | 0.00 |
| 20 | 0.25 | 0.00 | 0.12 | 0.00 |
| 21 | 0.34 | 0.00 | 0.17 | 0.00 |
| 22 | 0.32 | 0.00 | 0.18 | 0.00 |
| 23 | 0.29 | 0.00 | 0.17 | 0.00 |
| 24 | 0.25 | 0.00 | 0.17 | 0.00 |
| 25 | 0.23 | 0.00 | 0.18 | 0.00 |
| 26 | 0.21 | 0.00 | 0.18 | 0.00 |
| 27 | 0.19 | 0.00 | 0.18 | 0.00 |
| 28 | 0.16 | 0.00 | 0.18 | 0.00 |
| 29 | 0.13 | 0.00 | 0.18 | 0.00 |
| 30 | 0.12 | 0.00 | 0.18 | 0.00 |
| 31 | 0.15 | 0.00 | 0.08 | 0.00 |
| 32 | 0.11 | 0.00 | 0.06 | 0.00 |

Note: Red Numbers represent maximum subsidence values greater than one foot. Simulated subsidence greater than one foot are considered measureable based on model calibration

# Table E-7
# Waller County - Simulated Subsidence from 1890 to 2060 Attributable to Electro Purification Pumping

| Scenario | Subsidence (ft) from GAM | | Subsidence (ft) from HAGM | |
|---|---|---|---|---|
| | Average | Maximum | Average | Maximum |
| Baseline | 0 | 0 | 0 | 0 |
| 1 | 0.02 | 0.07 | 0.02 | 0.06 |
| 2 | 0.03 | 0.12 | 0.04 | 0.10 |
| 3 | 0.05 | 0.22 | 0.06 | 0.16 |
| 4 | 0.06 | 0.30 | 0.07 | 0.22 |
| 5 | 0.08 | 0.35 | 0.09 | 0.26 |
| 6 | 0.10 | 0.45 | 0.11 | 0.33 |
| 7 | 0.11 | 0.52 | 0.13 | 0.94 |
| 8 | 0.12 | 0.57 | 0.14 | 1.13 |
| 9 | 0.13 | 0.60 | 0.15 | 1.30 |
| 10 | 0.14 | 0.64 | 0.16 | 1.49 |
| 11 | 0.01 | -0.02 | 0.00 | -0.03 |
| 12 | 0.01 | -0.03 | -0.01 | -0.07 |
| 13 | 0.01 | -0.03 | 0.00 | -0.09 |
| 14 | 0.02 | -0.04 | 0.00 | -0.11 |
| 15 | 0.02 | -0.05 | -0.01 | -0.15 |
| 16 | 0.03 | -0.05 | 0.00 | -0.01 |
| 17 | 0.04 | -0.06 | 0.00 | 0.79 |
| 18 | 0.04 | -0.06 | 0.01 | 0.95 |
| 19 | 0.05 | -0.06 | 0.01 | 1.10 |
| 20 | 0.06 | -0.06 | 0.02 | 1.26 |
| 21 | 0.13 | 0.62 | 0.16 | 0.80 |
| 22 | 0.12 | 0.61 | 0.16 | 0.47 |
| 23 | 0.10 | 0.57 | 0.16 | 0.43 |
| 24 | 0.10 | 0.57 | 0.17 | 0.43 |
| 25 | 0.08 | 0.54 | 0.17 | 0.41 |
| 26 | 0.07 | 0.51 | 0.17 | 0.40 |
| 27 | 0.06 | 0.50 | 0.18 | 0.39 |
| 28 | 0.05 | 0.46 | 0.18 | 0.37 |
| 29 | 0.05 | 0.46 | 0.19 | 0.37 |
| 30 | 0.05 | 0.47 | 0.20 | 0.38 |
| 31 | 0.07 | 0.31 | 0.09 | 0.24 |
| 32 | 0.03 | -0.02 | 0.00 | -0.15 |

Note: Red Numbers represent maximum subsidence values greater than one foot. Simulated subsidence greater than one foot are considered measureable based on model calibration

## Table E-8
## Project Area - Simulated Subsidence from 1890 to 2060 Attributable to Electro Purification Pumping

| Scenario | Subsidence (ft) from GAM | | Subsidence (ft) from HAGM | |
|---|---|---|---|---|
| | Average | Maximum | Average | Maximum |
| Baseline | 0 | 0 | 0 | 0 |
| 1 | 0.13 | 0.12 | 0.23 | 0.12 |
| 2 | 0.31 | 0.23 | 0.46 | 0.21 |
| 3 | 0.50 | 0.42 | 0.68 | 0.39 |
| 4 | 0.70 | 1.17 | 0.91 | 0.93 |
| 5 | 0.92 | 1.60 | 1.14 | 1.36 |
| 6 | 1.14 | 1.93 | 1.37 | 1.67 |
| 7 | 1.38 | 2.77 | 1.60 | 2.49 |
| 8 | 1.60 | 2.97 | 1.81 | 2.68 |
| 9 | 1.82 | 3.16 | 2.02 | 2.85 |
| 10 | 2.05 | 3.37 | 2.23 | 3.04 |
| 11 | 0.12 | 0.09 | 0.21 | 0.08 |
| 12 | 0.28 | 0.16 | 0.42 | 0.14 |
| 13 | 0.45 | 0.38 | 0.62 | 0.29 |
| 14 | 0.64 | 1.12 | 0.83 | 0.84 |
| 15 | 0.83 | 1.50 | 1.04 | 1.25 |
| 16 | 1.03 | 1.80 | 1.24 | 1.54 |
| 17 | 1.25 | 2.62 | 1.45 | 2.34 |
| 18 | 1.44 | 2.80 | 1.64 | 2.50 |
| 19 | 1.63 | 2.97 | 1.82 | 2.65 |
| 20 | 1.83 | 3.15 | 2.00 | 2.81 |
| 21 | 1.83 | 2.55 | 2.07 | 2.35 |
| 22 | 1.62 | 2.13 | 1.92 | 2.02 |
| 23 | 1.41 | 1.83 | 1.77 | 1.80 |
| 24 | 1.22 | 1.67 | 1.63 | 1.69 |
| 25 | 1.01 | 0.86 | 1.48 | 0.94 |
| 26 | 0.82 | 0.65 | 1.33 | 0.82 |
| 27 | 0.64 | 0.58 | 1.17 | 0.78 |
| 28 | 0.47 | 0.43 | 1.03 | 0.68 |
| 29 | 0.31 | 0.36 | 0.89 | 0.64 |
| 30 | 0.16 | 0.31 | 0.76 | 0.64 |
| 31 | 0.88 | 1.33 | 1.10 | 1.10 |
| 32 | 0.80 | 1.24 | 1.00 | 1.00 |

Note: Red Numbers represent maximum subsidence values greater than one foot. Simulated subsidence greater than one foot are considered measureable based on model calibration

# Table E-9
# Simulated Subsidence and Subsidence Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - GAM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Subsidence 1891 to 2009 (ft) | | | | Subsidence Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BAUS-5429 | 54 | 66 | 6180054.5 | 19142336 | 0.15 | 1 | 0.02 | 0.31 | 2.77 | 0.59 | 0.28 | 2.74 | 0.57 |
| BAUS-5430 | 54 | 66 | 6180054.5 | 19142336 | 0.15 | 1 | 0.02 | 0.31 | 2.77 | 0.59 | 0.28 | 2.74 | 0.57 |
| BWLL-5117 | 53 | 69 | 6191012.5 | 19154344 | 0.34 | 1 | 0.02 | 1.16 | 3.31 | 1.91 | 1.14 | 3.28 | 1.88 |
| BWLL-5481 | 53 | 70 | 6191500 | 19157906 | 0.36 | 1 | 0.24 | 0.91 | 2.37 | 1.42 | 0.67 | 2.14 | 1.19 |
| BWLL-5006 | 54 | 69 | 6190699 | 19153424 | 0.46 | 1 | 0.07 | 0.73 | 2.28 | 1.16 | 0.66 | 2.21 | 1.09 |
| BAUS-4159 | 53 | 66 | 6177818.5 | 19144046 | 0.47 | 1 | 0.02 | 0.41 | 2.51 | 0.78 | 0.39 | 2.49 | 0.76 |
| BAUS-4158 | 53 | 66 | 6177811.5 | 19144248 | 0.49 | 1 | 0.02 | 0.41 | 2.51 | 0.78 | 0.39 | 2.49 | 0.76 |
| BWLL-5541 | 52 | 69 | 6186065.5 | 19157628 | 0.50 | 1 | 0.02 | 0.91 | 2.86 | 1.52 | 0.89 | 2.84 | 1.49 |
| BWLL-5541 | 53 | 69 | 6188533 | 19157786 | 0.54 | 1 | 0.02 | 1.16 | 3.31 | 1.91 | 1.14 | 3.28 | 1.88 |
| BWLL-5543 | 52 | 69 | 6186496.5 | 19157650 | 0.56 | 1 | 0.02 | 0.91 | 2.86 | 1.52 | 0.89 | 2.84 | 1.49 |
| BAUS-4458 | 51 | 67 | 6175604 | 19159156 | 0.63 | 1 | 0.02 | 0.74 | 2.59 | 1.33 | 0.72 | 2.57 | 1.31 |
| BWLL-4133 | 51 | 67 | 6175182.5 | 19158636 | 0.63 | 1 | 0.02 | 0.74 | 2.59 | 1.33 | 0.72 | 2.57 | 1.31 |
| BAUS-5436 | 51 | 67 | 6174074 | 19157298 | 0.72 | 1 | 0.02 | 0.74 | 2.59 | 1.33 | 0.72 | 2.57 | 1.31 |
| BAUS-5447 | 51 | 67 | 6173795 | 19157412 | 0.78 | 1 | 0.02 | 0.74 | 2.59 | 1.33 | 0.72 | 2.57 | 1.31 |
| BAUS-4340 | 53 | 65 | 6171277.5 | 19142192 | 0.84 | 1 | 0.02 | 0.22 | 2.18 | 0.47 | 0.19 | 2.16 | 0.45 |
| BWLL-4363 | 52 | 69 | 6186773 | 19159558 | 0.88 | 1 | 0.02 | 0.91 | 2.86 | 1.52 | 0.89 | 2.84 | 1.49 |
| BAUS-5426 | 51 | 67 | 6173430.5 | 19159360 | 0.98 | 1 | 0.02 | 0.74 | 2.59 | 1.33 | 0.72 | 2.57 | 1.31 |
| BAUS-5401 | 51 | 67 | 6172709 | 19157480 | 0.99 | 1 | 0.02 | 0.74 | 2.59 | 1.33 | 0.72 | 2.57 | 1.31 |
| BAUS-5398 | 51 | 66 | 6171645 | 19154492 | 1.25 | 1 | 0.08 | 0.71 | 2.27 | 1.14 | 0.63 | 2.19 | 1.06 |
| BAUS-4236 | 50 | 67 | 6173220 | 19161806 | 1.31 | 1 | 0.04 | 0.59 | 1.89 | 0.97 | 0.54 | 1.85 | 0.93 |
| 6517415 | 55 | 67 | 6187339.5 | 19141354 | 1.34 | 1 | 0.03 | 0.38 | 1.87 | 0.64 | 0.36 | 1.84 | 0.61 |
| BAUS-4485 | 50 | 67 | 6172028.5 | 19160648 | 1.34 | 1 | 0.04 | 0.59 | 1.89 | 0.97 | 0.54 | 1.85 | 0.93 |
| BAUS-4325 | 50 | 67 | 6172780 | 19161790 | 1.36 | 1 | 0.04 | 0.59 | 1.89 | 0.97 | 0.54 | 1.85 | 0.93 |
| BAUS-4518 | 50 | 68 | 6174657 | 19163476 | 1.42 | 1 | 0.02 | 0.42 | 1.65 | 0.76 | 0.41 | 1.64 | 0.74 |
| BAUS-5298 | 50 | 67 | 6172278 | 19161868 | 1.44 | 1 | 0.04 | 0.59 | 1.89 | 0.97 | 0.54 | 1.85 | 0.93 |
| BAUS-4515 | 51 | 66 | 6170610 | 19153510 | 1.50 | 1 | 0.08 | 0.71 | 2.27 | 1.14 | 0.63 | 2.19 | 1.06 |
| BAUS-4519 | 50 | 68 | 6175159 | 19164204 | 1.52 | 1 | 0.02 | 0.42 | 1.65 | 0.76 | 0.41 | 1.64 | 0.74 |
| BAUS-5397 | 51 | 66 | 6169866.5 | 19155934 | 1.52 | 1 | 0.08 | 0.71 | 2.27 | 1.14 | 0.63 | 2.19 | 1.06 |
| BAUS-0002A | 50 | 68 | 6175328 | 19164412 | 1.54 | 1 | 0.02 | 0.42 | 1.65 | 0.76 | 0.41 | 1.64 | 0.74 |
| BAUS-0002B | 50 | 68 | 6175328 | 19164412 | 1.54 | 1 | 0.02 | 0.42 | 1.65 | 0.76 | 0.41 | 1.64 | 0.74 |
| BAUS-5400 | 50 | 67 | 6171322 | 19161498 | 1.54 | 1 | 0.04 | 0.59 | 1.89 | 0.97 | 0.54 | 1.85 | 0.93 |
| BAUS-5402 | 50 | 67 | 6170748.5 | 19160828 | 1.56 | 1 | 0.04 | 0.59 | 1.89 | 0.97 | 0.54 | 1.85 | 0.93 |
| BWLL-5690 | 51 | 69 | 6184161 | 19164328 | 1.65 | 1 | 0.02 | 0.57 | 1.99 | 0.98 | 0.55 | 1.97 | 0.96 |
| BAUS-4430 | 50 | 66 | 6168784 | 19157800 | 1.73 | 1 | 0.02 | 0.45 | 1.64 | 0.77 | 0.43 | 1.62 | 0.75 |
| BAUS-4185 | 52 | 66 | 6170700 | 19150982 | 1.73 | 1 | 0.02 | 0.58 | 2.56 | 1.02 | 0.55 | 2.54 | 1.00 |
| BAUS-5399 | 50 | 66 | 6168767 | 19157550 | 1.73 | 1 | 0.02 | 0.45 | 1.64 | 0.77 | 0.43 | 1.62 | 0.75 |
| BWLL-4303 | 50 | 68 | 6177915 | 19165922 | 1.75 | 1 | 0.02 | 0.42 | 1.65 | 0.76 | 0.41 | 1.64 | 0.74 |
| 6509702 | 52 | 71 | 6193335.5 | 19165170 | 1.76 | 1 | 0.38 | 0.83 | 1.80 | 1.14 | 0.45 | 1.42 | 0.76 |
| BAUS-4429 | 50 | 66 | 6168601 | 19157996 | 1.77 | 1 | 0.02 | 0.45 | 1.64 | 0.77 | 0.43 | 1.62 | 0.75 |
| BAUS-5297 | 50 | 68 | 6173472 | 19165068 | 1.79 | 1 | 0.02 | 0.42 | 1.65 | 0.76 | 0.41 | 1.64 | 0.74 |
| BAUS-4129 | 55 | 65 | 6178444 | 19131512 | 1.81 | 1 | 0.03 | 0.18 | 1.47 | 0.36 | 0.16 | 1.44 | 0.33 |
| BWLL-4992 | 50 | 68 | 6177988.5 | 19166330 | 1.83 | 1 | 0.02 | 0.42 | 1.65 | 0.76 | 0.41 | 1.64 | 0.74 |
| BWLL-4272 | 50 | 68 | 6177805.5 | 19166526 | 1.87 | 1 | 0.02 | 0.42 | 1.65 | 0.76 | 0.41 | 1.64 | 0.74 |
| BAUS-0024 | 56 | 65 | 6179473 | 19131326 | 1.87 | 1 | 0.03 | 0.27 | 1.30 | 0.40 | 0.24 | 1.27 | 0.37 |
| BWLL-5674 | 51 | 69 | 6184132.5 | 19165744 | 1.92 | 1 | 0.02 | 0.57 | 1.99 | 0.98 | 0.55 | 1.97 | 0.96 |
| BWLL-4161 | 50 | 69 | 6177699 | 19167028 | 1.96 | 1 | 0.02 | 0.31 | 1.23 | 0.57 | 0.29 | 1.22 | 0.56 |
| BAUS-4299 | 50 | 69 | 6178487 | 19167158 | 1.99 | 1 | 0.02 | 0.31 | 1.23 | 0.57 | 0.29 | 1.22 | 0.56 |
| BWLL-5082 | 51 | 69 | 6183630 | 19166128 | 1.99 | 1 | 0.02 | 0.57 | 1.99 | 0.98 | 0.55 | 1.97 | 0.96 |
| BAUS-4138 | 51 | 65 | 6166124 | 19148388 | 2.10 | 1 | 0.06 | 0.48 | 1.73 | 0.77 | 0.42 | 1.67 | 0.71 |
| 6624203 | 51 | 65 | 6166932 | 19150042 | 2.15 | 1 | 0.06 | 0.48 | 1.73 | 0.77 | 0.42 | 1.67 | 0.71 |
| BWLL-4134 | 52 | 71 | 6197009.5 | 19166208 | 2.19 | 1 | 0.38 | 0.83 | 1.80 | 1.14 | 0.45 | 1.42 | 0.76 |
| BAUS-4137 | 51 | 65 | 6165560.5 | 19149382 | 2.29 | 1 | 0.06 | 0.48 | 1.73 | 0.77 | 0.42 | 1.67 | 0.71 |
| BAUS-5120 | 50 | 66 | 6166456 | 19161362 | 2.33 | 1 | 0.02 | 0.45 | 1.64 | 0.77 | 0.43 | 1.62 | 0.75 |
| BAUS-4552 | 49 | 66 | 6166768 | 19162486 | 2.37 | 1 | 0.01 | 0.26 | 1.07 | 0.47 | 0.25 | 1.05 | 0.45 |
| BAUS-4235 | 49 | 66 | 6166764.5 | 19162588 | 2.38 | 1 | 0.01 | 0.26 | 1.07 | 0.47 | 0.25 | 1.05 | 0.45 |
| BAUS-4324 | 49 | 66 | 6166588.5 | 19162582 | 2.41 | 1 | 0.01 | 0.26 | 1.07 | 0.47 | 0.25 | 1.05 | 0.45 |
| BAUS-4067 | 50 | 65 | 6165176.5 | 19155240 | 2.42 | 1 | 0.03 | 0.36 | 1.36 | 0.61 | 0.33 | 1.33 | 0.58 |
| BAUS-5146 | 56 | 64 | 6177989 | 19128236 | 2.43 | 1 | 0.04 | 0.24 | 1.10 | 0.35 | 0.20 | 1.06 | 0.31 |
| BAUS-4288 | 49 | 66 | 6166412.5 | 19162576 | 2.44 | 1 | 0.01 | 0.26 | 1.07 | 0.47 | 0.25 | 1.05 | 0.45 |
| BAUS-5437 | 49 | 68 | 6171384 | 19168042 | 2.48 | 1 | 0.01 | 0.12 | 0.84 | 0.32 | 0.10 | 0.83 | 0.31 |
| BAUS-4309 | 49 | 66 | 6166229.5 | 19162772 | 2.49 | 1 | 0.01 | 0.26 | 1.07 | 0.47 | 0.25 | 1.05 | 0.45 |
| BAUS-4558 | 49 | 66 | 6166226 | 19162872 | 2.50 | 1 | 0.01 | 0.26 | 1.07 | 0.47 | 0.25 | 1.05 | 0.45 |

# Table E-9
# Simulated Subsidence and Subsidence Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - GAM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Subsidence 1891 to 2009 (ft) | | | | Subsidence Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BAUS-4140 | 50 | 65 | 6164582 | 19154612 | 2.54 | 1 | 0.03 | 0.36 | 1.36 | 0.61 | 0.33 | 1.33 | 0.58 |
| BAUS-5394 | 50 | 65 | 6164439 | 19155042 | 2.56 | 1 | 0.03 | 0.36 | 1.36 | 0.61 | 0.33 | 1.33 | 0.58 |
| BAUS-5395C | 50 | 65 | 6164439 | 19155042 | 2.56 | 1 | 0.03 | 0.36 | 1.36 | 0.61 | 0.33 | 1.33 | 0.58 |
| BAUS-4321 | 49 | 66 | 6165863.5 | 19163164 | 2.58 | 1 | 0.01 | 0.26 | 1.07 | 0.47 | 0.25 | 1.05 | 0.45 |
| BAUS-4314 | 49 | 66 | 6165765 | 19163464 | 2.63 | 1 | 0.01 | 0.26 | 1.07 | 0.47 | 0.25 | 1.05 | 0.45 |
| BAUS-4495 | 49 | 66 | 6165427.5 | 19163046 | 2.64 | 1 | 0.01 | 0.26 | 1.07 | 0.47 | 0.25 | 1.05 | 0.45 |
| BAUS-4541 | 49 | 66 | 6165427.5 | 19163046 | 2.64 | 1 | 0.01 | 0.26 | 1.07 | 0.47 | 0.25 | 1.05 | 0.45 |
| 6624102 | 51 | 64 | 6161925 | 19145490 | 2.65 | 1 | 0.04 | 0.33 | 1.33 | 0.54 | 0.28 | 1.29 | 0.50 |
| BAUS-5425 | 51 | 65 | 6164243.5 | 19152214 | 2.71 | 1 | 0.06 | 0.48 | 1.73 | 0.77 | 0.42 | 1.67 | 0.71 |
| BAUS-5344 | 49 | 67 | 6168874 | 19168294 | 2.78 | 1 | 0.02 | 0.28 | 1.17 | 0.50 | 0.26 | 1.15 | 0.49 |
| BWLL-4987 | 53 | 72 | 6203934.5 | 19164638 | 2.85 | 1 | 0.81 | 1.20 | 1.90 | 1.42 | 0.38 | 1.09 | 0.60 |
| BAUS-5251 | 49 | 66 | 6163571 | 19161666 | 2.86 | 1 | 0.01 | 0.26 | 1.07 | 0.47 | 0.25 | 1.05 | 0.45 |
| BWLL-5574 | 53 | 72 | 6204376 | 19164880 | 2.95 | 1 | 0.81 | 1.20 | 1.90 | 1.42 | 0.38 | 1.09 | 0.60 |
| BWLL-5666 | 53 | 72 | 6204376 | 19164880 | 2.95 | 1 | 0.81 | 1.20 | 1.90 | 1.42 | 0.38 | 1.09 | 0.60 |
| BWLL-5671 | 53 | 72 | 6203411.5 | 19166926 | 3.05 | 1 | 0.81 | 1.20 | 1.90 | 1.42 | 0.38 | 1.09 | 0.60 |
| BAUS-4315 | 50 | 65 | 6162008 | 19152698 | 3.09 | 1 | 0.03 | 0.36 | 1.36 | 0.61 | 0.33 | 1.33 | 0.58 |
| 6517418 | 57 | 67 | 6193783.5 | 19132988 | 3.16 | 1 | 0.16 | 0.40 | 1.35 | 0.57 | 0.24 | 1.18 | 0.41 |
| 6616810 | 48 | 67 | 6165870 | 19168340 | 3.17 | 1 | 0.01 | 0.09 | 0.61 | 0.22 | 0.08 | 0.60 | 0.21 |
| BAUS-4001 | 50 | 64 | 6161187.5 | 19153480 | 3.21 | 1 | 0.02 | 0.23 | 0.99 | 0.40 | 0.22 | 0.97 | 0.38 |
| BWLL-5144 | 54 | 72 | 6208083.5 | 19161954 | 3.32 | 1 | 1.15 | 1.61 | 2.47 | 1.86 | 0.45 | 1.32 | 0.71 |
| 6616808 | 48 | 67 | 6164696 | 19168372 | 3.33 | 1 | 0.01 | 0.09 | 0.61 | 0.22 | 0.08 | 0.60 | 0.21 |
| BAUS-5369 | 50 | 64 | 6159339.5 | 19150220 | 3.40 | 1 | 0.02 | 0.23 | 0.99 | 0.40 | 0.22 | 0.97 | 0.38 |
| 6616807 | 48 | 67 | 6164759 | 19169286 | 3.44 | 1 | 0.01 | 0.09 | 0.61 | 0.22 | 0.08 | 0.60 | 0.21 |
| BAUS-4165 | 50 | 64 | 6159584.5 | 19151498 | 3.47 | 1 | 0.02 | 0.23 | 0.99 | 0.40 | 0.22 | 0.97 | 0.38 |
| BAUS-4332 | 56 | 63 | 6173628.5 | 19123240 | 3.49 | 1 | 0.20 | 0.36 | 1.16 | 0.48 | 0.16 | 0.96 | 0.29 |
| BWLL-5283 | 54 | 73 | 6206956.5 | 19166268 | 3.50 | 1 | 2.76 | 3.36 | 4.51 | 3.67 | 0.60 | 1.75 | 0.91 |
| BAUS-4272 | 49 | 65 | 6159772.5 | 19161124 | 3.53 | 1 | 0.01 | 0.19 | 0.87 | 0.33 | 0.17 | 0.85 | 0.31 |
| BAUS-0025 | 48 | 67 | 6164912.5 | 19170116 | 3.53 | 1 | 0.01 | 0.09 | 0.61 | 0.22 | 0.08 | 0.60 | 0.21 |
| 6616905 | 49 | 70 | 6181892 | 19174892 | 3.54 | 1 | 0.01 | 0.17 | 0.67 | 0.32 | 0.15 | 0.66 | 0.31 |
| 6517416 | 57 | 68 | 6197967 | 19136210 | 3.56 | 1 | 0.21 | 0.46 | 1.37 | 0.65 | 0.25 | 1.16 | 0.44 |
| BAUS-4251 | 48 | 66 | 6162705.5 | 19167810 | 3.56 | 1 | 0.01 | 0.13 | 0.66 | 0.25 | 0.12 | 0.65 | 0.23 |
| BAUS-5354 | 50 | 64 | 6158858.5 | 19151168 | 3.56 | 1 | 0.02 | 0.23 | 0.99 | 0.40 | 0.22 | 0.97 | 0.38 |
| BAUS-5388 | 57 | 63 | 6178570 | 19121956 | 3.62 | 1 | 0.45 | 0.67 | 1.35 | 0.78 | 0.22 | 0.90 | 0.33 |
| BAUS-4446 | 56 | 63 | 6172414 | 19122690 | 3.65 | 1 | 0.20 | 0.36 | 1.16 | 0.48 | 0.16 | 0.96 | 0.29 |
| BWLL-5099 | 50 | 71 | 6188851 | 19175126 | 3.66 | 1 | 0.15 | 0.43 | 1.03 | 0.59 | 0.27 | 0.87 | 0.44 |
| BWLL-4914 | 48 | 69 | 6175618.5 | 19175966 | 3.68 | 1 | 0.01 | 0.02 | 0.42 | 0.11 | 0.00 | 0.40 | 0.10 |
| BAUS-4103 | 48 | 66 | 6162497.5 | 19168714 | 3.70 | 1 | 0.01 | 0.13 | 0.66 | 0.25 | 0.12 | 0.65 | 0.23 |
| BAUS-4482 | 48 | 65 | 6159595 | 19163650 | 3.70 | 1 | 0.01 | 0.08 | 0.54 | 0.18 | 0.07 | 0.53 | 0.17 |
| BWLL-5083 | 51 | 72 | 6196246 | 19175092 | 3.72 | 1 | 0.62 | 0.93 | 1.50 | 1.11 | 0.31 | 0.88 | 0.49 |
| BAUS-4046 | 49 | 65 | 6158552 | 19160778 | 3.74 | 1 | 0.01 | 0.19 | 0.87 | 0.33 | 0.17 | 0.85 | 0.31 |
| 6517506 | 57 | 70 | 6206333.5 | 19142652 | 3.77 | 1 | 0.51 | 0.84 | 1.55 | 1.02 | 0.33 | 1.04 | 0.51 |
| BAUS-4330 | 56 | 63 | 6172527 | 19121986 | 3.77 | 1 | 0.20 | 0.36 | 1.16 | 0.48 | 0.16 | 0.96 | 0.29 |
| BAUS-4499 | 50 | 64 | 6157484 | 19151120 | 3.79 | 1 | 0.02 | 0.23 | 0.99 | 0.40 | 0.22 | 0.97 | 0.38 |
| BAUS-5172 | 49 | 65 | 6158516.5 | 19161790 | 3.79 | 1 | 0.01 | 0.19 | 0.87 | 0.33 | 0.17 | 0.85 | 0.31 |
| BAUS-4197 | 48 | 69 | 6172692.5 | 19176572 | 3.89 | 1 | 0.01 | 0.02 | 0.42 | 0.11 | 0.00 | 0.40 | 0.10 |
| BAUS-5427 | 48 | 65 | 6158124.5 | 19162332 | 3.89 | 1 | 0.01 | 0.08 | 0.54 | 0.18 | 0.07 | 0.53 | 0.17 |
| BAUS-4554 | 50 | 64 | 6157482.5 | 19153652 | 3.90 | 1 | 0.02 | 0.23 | 0.99 | 0.40 | 0.22 | 0.97 | 0.38 |
| BAUS-4244 | 48 | 69 | 6172513 | 19176666 | 3.92 | 1 | 0.01 | 0.02 | 0.42 | 0.11 | 0.00 | 0.40 | 0.10 |
| BAUS-4245 | 48 | 69 | 6172513 | 19176666 | 3.92 | 1 | 0.01 | 0.02 | 0.42 | 0.11 | 0.00 | 0.40 | 0.10 |
| BAUS-4381 | 48 | 65 | 6157883 | 19162274 | 3.93 | 1 | 0.01 | 0.08 | 0.54 | 0.18 | 0.07 | 0.53 | 0.17 |
| BAUS-4161 | 56 | 63 | 6173447 | 19120904 | 3.93 | 1 | 0.20 | 0.36 | 1.16 | 0.48 | 0.16 | 0.96 | 0.29 |
| BAUS-4377 | 50 | 64 | 6156590 | 19151494 | 3.97 | 1 | 0.02 | 0.23 | 0.99 | 0.40 | 0.22 | 0.97 | 0.38 |
| BWLL-4902 | 51 | 72 | 6196194.5 | 19176508 | 3.98 | 1 | 0.62 | 0.93 | 1.50 | 1.11 | 0.31 | 0.88 | 0.49 |
| BAUS-4002 | 49 | 64 | 6156882.5 | 19158188 | 3.98 | 1 | 0.01 | 0.08 | 0.58 | 0.18 | 0.07 | 0.56 | 0.16 |
| BWLL-5712 | 52 | 73 | 6201356 | 19174950 | 4.03 | 1 | 1.00 | 1.27 | 1.75 | 1.41 | 0.27 | 0.75 | 0.42 |
| BWLL-4901 | 51 | 72 | 6196531.5 | 19176924 | 4.07 | 1 | 0.62 | 0.93 | 1.50 | 1.11 | 0.31 | 0.88 | 0.49 |
| BAUS-4106 | 48 | 69 | 6173004 | 19177696 | 4.09 | 1 | 0.01 | 0.02 | 0.42 | 0.11 | 0.00 | 0.40 | 0.10 |
| BAUS-4326 | 49 | 64 | 6156076.5 | 19158564 | 4.14 | 1 | 0.01 | 0.08 | 0.58 | 0.18 | 0.07 | 0.56 | 0.16 |
| 6624105 | 49 | 64 | 6156073.5 | 19158552 | 4.14 | 1 | 0.01 | 0.08 | 0.58 | 0.18 | 0.07 | 0.56 | 0.16 |
| BAUS-4130 | 50 | 63 | 6154803.5 | 19149710 | 4.17 | 1 | 0.02 | 0.09 | 0.62 | 0.18 | 0.08 | 0.60 | 0.17 |
| BWLL-4479 | 54 | 73 | 6211756.5 | 19165026 | 4.18 | 1 | 2.76 | 3.36 | 4.51 | 3.67 | 0.60 | 1.75 | 0.91 |
| BWLL-5046 | 48 | 70 | 6175780.5 | 19178808 | 4.21 | 1 | 0.01 | 0.07 | 0.44 | 0.18 | 0.06 | 0.43 | 0.17 |

# Table E-9
# Simulated Subsidence and Subsidence Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - GAM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Subsidence 1891 to 2009 (ft) | | | | Subsidence Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BAUS-4440 | 56 | 62 | 6169492.5 | 19120560 | 4.22 | 1 | 0.29 | 0.46 | 1.11 | 0.56 | 0.17 | 0.82 | 0.27 |
| BWLL-5107 | 50 | 72 | 6193152 | 19178698 | 4.31 | 1 | 0.25 | 0.46 | 0.92 | 0.58 | 0.21 | 0.67 | 0.33 |
| BAUS-4478 | 50 | 63 | 6153445.5 | 19148244 | 4.34 | 1 | 0.02 | 0.09 | 0.62 | 0.18 | 0.08 | 0.60 | 0.17 |
| 6509803 | 55 | 73 | 6213403 | 19163354 | 4.36 | 1 | 1.35 | 1.59 | 2.04 | 1.72 | 0.23 | 0.69 | 0.36 |
| BWLL-5036 | 50 | 72 | 6193462 | 19179040 | 4.37 | 1 | 0.25 | 0.46 | 0.92 | 0.58 | 0.21 | 0.67 | 0.33 |
| BAUS-5365 | 49 | 64 | 6154709.5 | 19158668 | 4.40 | 1 | 0.01 | 0.08 | 0.58 | 0.18 | 0.07 | 0.56 | 0.16 |
| BWLL-4586 | 50 | 72 | 6193187.5 | 19179334 | 4.43 | 1 | 0.25 | 0.46 | 0.92 | 0.58 | 0.21 | 0.67 | 0.33 |
| BWLL-4957 | 50 | 72 | 6193187.5 | 19179334 | 4.43 | 1 | 0.25 | 0.46 | 0.92 | 0.58 | 0.21 | 0.67 | 0.33 |
| BAUS-4231 | 49 | 64 | 6154315 | 19156072 | 4.46 | 1 | 0.01 | 0.08 | 0.58 | 0.18 | 0.07 | 0.56 | 0.16 |
| BAUS-5178 | 54 | 61 | 6159714 | 19125378 | 4.47 | 1 | 0.02 | 0.06 | 0.43 | 0.12 | 0.04 | 0.41 | 0.10 |
| BAUS-4433 | 47 | 68 | 6164433 | 19176176 | 4.48 | 1 | 0.01 | 0.01 | 0.24 | 0.01 | 0.00 | 0.23 | 0.00 |
| BAUS-4555 | 49 | 64 | 6154125 | 19156470 | 4.49 | 1 | 0.01 | 0.08 | 0.58 | 0.18 | 0.07 | 0.56 | 0.16 |
| BAUS-4323 | 49 | 64 | 6153822 | 19157574 | 4.55 | 1 | 0.01 | 0.08 | 0.58 | 0.18 | 0.07 | 0.56 | 0.16 |
| BAUS-4215 | 49 | 64 | 6153833 | 19157270 | 4.55 | 1 | 0.01 | 0.08 | 0.58 | 0.18 | 0.07 | 0.56 | 0.16 |
| BWLL-4273 | 49 | 72 | 6190162.5 | 19180238 | 4.60 | 1 | 0.20 | 0.37 | 0.75 | 0.47 | 0.17 | 0.55 | 0.27 |
| BAUS-4100 | 47 | 67 | 6159614.5 | 19173068 | 4.64 | 1 | 0.01 | 0.01 | 0.20 | 0.01 | 0.00 | 0.19 | 0.00 |
| BWLL-4020 | 50 | 72 | 6192689 | 19180938 | 4.72 | 1 | 0.25 | 0.46 | 0.92 | 0.58 | 0.21 | 0.67 | 0.33 |
| BWLL-4510 | 54 | 74 | 6212934 | 19168918 | 4.72 | 1 | 1.90 | 2.13 | 2.58 | 2.26 | 0.24 | 0.69 | 0.36 |
| BAUS-5408 | 57 | 62 | 6169281 | 19117216 | 4.82 | 1 | 0.52 | 0.71 | 1.28 | 0.80 | 0.19 | 0.76 | 0.28 |
| BAUS-4331 | 54 | 60 | 6155456.5 | 19126140 | 4.96 | 1 | 0.17 | 0.25 | 0.53 | 0.30 | 0.09 | 0.36 | 0.13 |
| BAUS-5307 | 55 | 61 | 6161433.5 | 19120750 | 4.97 | 1 | 0.16 | 0.27 | 0.72 | 0.33 | 0.11 | 0.56 | 0.17 |
| BAUS-4322 | 49 | 63 | 6151606.5 | 19155470 | 4.98 | 1 | 0.01 | 0.02 | 0.40 | 0.10 | 0.01 | 0.38 | 0.09 |
| BWLL-5404 | 49 | 72 | 6186798.5 | 19182242 | 5.05 | 1 | 0.20 | 0.37 | 0.75 | 0.47 | 0.17 | 0.55 | 0.27 |
| BWLL-5720 | 48 | 70 | 6177109.5 | 19183434 | 5.07 | 1 | 0.01 | 0.07 | 0.44 | 0.18 | 0.06 | 0.43 | 0.17 |
| BWLL-4968 | 52 | 74 | 6207057 | 19177918 | 5.08 | 1 | 1.66 | 1.92 | 2.41 | 2.06 | 0.27 | 0.75 | 0.40 |
| BAUS-4151 | 47 | 64 | 6152060.5 | 19165106 | 5.14 | 1 | 0.01 | 0.02 | 0.25 | 0.07 | 0.01 | 0.24 | 0.06 |
| BAUS-4240 | 47 | 66 | 6156685 | 19173776 | 5.15 | 1 | 0.01 | 0.01 | 0.27 | 0.04 | 0.00 | 0.26 | 0.03 |
| BWLL-0046 | 50 | 73 | 6198713 | 19182270 | 5.15 | 1 | 0.55 | 0.76 | 1.14 | 0.87 | 0.21 | 0.59 | 0.32 |
| BAUS-5332 | 46 | 67 | 6159231 | 19176600 | 5.17 | 1 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BAUS-4095 | 46 | 67 | 6159387 | 19177010 | 5.20 | 1 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BAUS-4361 | 48 | 64 | 6150553 | 19160396 | 5.22 | 1 | 0.01 | 0.02 | 0.34 | 0.08 | 0.00 | 0.33 | 0.07 |
| BAUS-4252 | 46 | 66 | 6155967.5 | 19174154 | 5.30 | 1 | 0.01 | 0.01 | 0.05 | 0.01 | 0.00 | 0.04 | 0.00 |
| BAUS-0023 | 58 | 62 | 6177353.5 | 19112740 | 5.37 | 1 | 0.74 | 0.91 | 1.40 | 0.98 | 0.16 | 0.66 | 0.24 |
| 6616701 | 46 | 66 | 6154947.5 | 19173422 | 5.37 | 1 | 0.01 | 0.01 | 0.05 | 0.01 | 0.00 | 0.04 | 0.00 |
| BWLL-4175 | 47 | 70 | 6175471.5 | 19184974 | 5.38 | 1 | 0.01 | 0.01 | 0.24 | 0.05 | 0.00 | 0.23 | 0.04 |
| BAUS-4157 | 55 | 60 | 6157945 | 19120556 | 5.39 | 1 | 0.37 | 0.45 | 0.87 | 0.51 | 0.08 | 0.50 | 0.15 |
| BAUS-4229 | 52 | 60 | 6150139 | 19129496 | 5.45 | 1 | 0.02 | 0.03 | 0.29 | 0.08 | 0.02 | 0.27 | 0.06 |
| BAUS-5374 | 47 | 64 | 6149640.5 | 19162492 | 5.46 | 1 | 0.01 | 0.02 | 0.25 | 0.07 | 0.01 | 0.24 | 0.06 |
| BWLL-4391 | 50 | 73 | 6195988 | 19184602 | 5.48 | 1 | 0.55 | 0.76 | 1.14 | 0.87 | 0.21 | 0.59 | 0.32 |
| BAUS-5320 | 46 | 66 | 6155757.5 | 19175638 | 5.51 | 1 | 0.01 | 0.01 | 0.05 | 0.01 | 0.00 | 0.04 | 0.00 |
| BWLL-5619 | 49 | 73 | 6190846.5 | 19185114 | 5.51 | 1 | 0.44 | 0.61 | 0.94 | 0.71 | 0.18 | 0.50 | 0.27 |
| 6616408 | 46 | 67 | 6156879.5 | 19177938 | 5.66 | 1 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BAUS-4533 | 49 | 61 | 6145912 | 19147068 | 5.70 | 1 | 0.01 | 0.01 | 0.22 | 0.05 | 0.00 | 0.21 | 0.04 |
| BAUS-4441 | 46 | 66 | 6154841 | 19176140 | 5.71 | 1 | 0.01 | 0.01 | 0.05 | 0.01 | 0.00 | 0.04 | 0.00 |
| 6517505 | 59 | 70 | 6212777.5 | 19134288 | 5.75 | 1 | 0.36 | 0.58 | 1.12 | 0.70 | 0.21 | 0.75 | 0.34 |
| BAUS-4312 | 47 | 65 | 6149991 | 19168882 | 5.76 | 1 | 0.01 | 0.02 | 0.30 | 0.08 | 0.00 | 0.29 | 0.07 |
| BWLL-4388 | 47 | 71 | 6176538 | 19187140 | 5.78 | 1 | 0.01 | 0.01 | 0.23 | 0.06 | 0.00 | 0.22 | 0.05 |
| BWLL-4841 | 55 | 75 | 6219268 | 19169050 | 5.79 | 1 | 4.22 | 4.67 | 5.52 | 4.87 | 0.45 | 1.30 | 0.65 |
| BWLL-4199 | 48 | 72 | 6184208.5 | 19186706 | 5.81 | 1 | 0.05 | 0.19 | 0.44 | 0.27 | 0.14 | 0.39 | 0.21 |
| BWLL-4019 | 48 | 72 | 6188877 | 19186572 | 5.81 | 1 | 0.05 | 0.19 | 0.44 | 0.27 | 0.14 | 0.39 | 0.21 |
| BWLL-4198 | 48 | 72 | 6184296.5 | 19186710 | 5.82 | 1 | 0.05 | 0.19 | 0.44 | 0.27 | 0.14 | 0.39 | 0.21 |
| BWLL-4271 | 54 | 75 | 6216897.5 | 19173622 | 5.84 | 1 | 3.98 | 4.40 | 5.20 | 4.60 | 0.42 | 1.21 | 0.62 |
| BWLL-4668 | 46 | 69 | 6164915.5 | 19184902 | 5.88 | 1 | 0.01 | 0.01 | 0.05 | 0.01 | 0.00 | 0.04 | 0.00 |
| BAUS-5321 | 46 | 66 | 6155203.5 | 19177898 | 5.88 | 1 | 0.01 | 0.01 | 0.05 | 0.01 | 0.00 | 0.04 | 0.00 |
| BAUS-4209 | 47 | 64 | 6148873 | 19168134 | 5.90 | 1 | 0.01 | 0.02 | 0.25 | 0.07 | 0.01 | 0.24 | 0.06 |
| BWLL-4844 | 54 | 75 | 6219097.5 | 19171272 | 5.96 | 1 | 3.98 | 4.40 | 5.20 | 4.60 | 0.42 | 1.21 | 0.62 |
| BAUS-5366 | 59 | 62 | 6179431 | 19109360 | 6.01 | 1 | 0.98 | 1.13 | 1.58 | 1.20 | 0.15 | 0.59 | 0.22 |
| BAUS-4284 | 46 | 67 | 6156156.5 | 19179906 | 6.02 | 1 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4146 | 47 | 71 | 6177018 | 19188474 | 6.03 | 1 | 0.01 | 0.01 | 0.23 | 0.06 | 0.00 | 0.22 | 0.05 |
| 6525104 | 60 | 65 | 6195083.5 | 19113996 | 6.05 | 1 | 0.55 | 0.75 | 1.28 | 0.84 | 0.19 | 0.73 | 0.29 |
| BAUS-4111 | 49 | 62 | 6145119.5 | 19152104 | 6.05 | 1 | 0.01 | 0.02 | 0.24 | 0.02 | 0.00 | 0.23 | 0.01 |
| 6517806 | 60 | 67 | 6203449.5 | 19120438 | 6.10 | 1 | 0.30 | 0.52 | 1.09 | 0.63 | 0.22 | 0.78 | 0.33 |

# Table E-9
# Simulated Subsidence and Subsidence Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - GAM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Subsidence 1891 to 2009 (ft) | | | | Subsidence Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BAUS-4320 | 46 | 67 | 6155152.5 | 19179796 | 6.14 | 1 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BAUS-5210 | 46 | 66 | 6152520 | 19177072 | 6.16 | 1 | 0.01 | 0.01 | 0.05 | 0.01 | 0.00 | 0.04 | 0.00 |
| BWLL-5048 | 50 | 74 | 6201355 | 19187026 | 6.16 | 1 | 0.91 | 1.07 | 1.35 | 1.15 | 0.16 | 0.44 | 0.24 |
| BWLL-5244 | 47 | 71 | 6176659 | 19189290 | 6.18 | 1 | 0.01 | 0.01 | 0.23 | 0.06 | 0.00 | 0.22 | 0.05 |
| BAUS-4219 | 47 | 63 | 6146183.5 | 19164496 | 6.18 | 1 | 0.01 | 0.01 | 0.20 | 0.05 | 0.00 | 0.19 | 0.03 |
| BWLL-4997 | 48 | 73 | 6191791 | 19188702 | 6.19 | 1 | 0.25 | 0.36 | 0.59 | 0.41 | 0.11 | 0.34 | 0.17 |
| BAUS-4179 | 51 | 60 | 6142840 | 19136634 | 6.33 | 1 | 0.02 | 0.05 | 0.28 | 0.09 | 0.03 | 0.26 | 0.07 |
| BWLL-4481 | 51 | 75 | 6207214 | 19185620 | 6.34 | 1 | 1.67 | 1.85 | 2.19 | 1.94 | 0.18 | 0.52 | 0.27 |
| BAUS-4501 | 47 | 63 | 6144274 | 19161188 | 6.42 | 1 | 0.01 | 0.01 | 0.20 | 0.05 | 0.00 | 0.19 | 0.03 |
| BAUS-4546 | 45 | 66 | 6152776 | 19179814 | 6.46 | 1 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BAUS-4096 | 45 | 66 | 6152178.5 | 19179288 | 6.48 | 1 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4362 | 53 | 59 | 6146703.5 | 19124416 | 6.50 | 1 | 0.16 | 0.23 | 0.44 | 0.27 | 0.07 | 0.28 | 0.10 |
| BAUS-4194 | 45 | 66 | 6152336.5 | 19179800 | 6.52 | 1 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-5633 | 46 | 72 | 6178922 | 19191884 | 6.67 | 1 | 0.01 | 0.01 | 0.12 | 0.02 | 0.00 | 0.11 | 0.01 |
| BWLL-5316 | 48 | 73 | 6188437.5 | 19191416 | 6.73 | 1 | 0.25 | 0.36 | 0.59 | 0.41 | 0.11 | 0.34 | 0.17 |
| BWLL-0050 | 54 | 76 | 6221764 | 19175320 | 6.78 | 1 | 3.00 | 3.21 | 3.61 | 3.31 | 0.21 | 0.61 | 0.31 |
| 6517615 | 59 | 73 | 6225327 | 19143954 | 6.79 | 1 | 1.52 | 1.67 | 1.99 | 1.74 | 0.15 | 0.47 | 0.23 |
| 6517612 | 59 | 73 | 6225327 | 19143954 | 6.79 | 1 | 1.52 | 1.67 | 1.99 | 1.74 | 0.15 | 0.47 | 0.23 |
| BAUS-4058 | 55 | 59 | 6152213 | 19115596 | 6.80 | 1 | 0.54 | 0.61 | 0.94 | 0.66 | 0.08 | 0.40 | 0.12 |
| BAUS-4317 | 53 | 59 | 6144949.5 | 19124152 | 6.81 | 1 | 0.16 | 0.23 | 0.44 | 0.27 | 0.07 | 0.28 | 0.10 |
| BWLL-5218 | 47 | 73 | 6186841.5 | 19191764 | 6.83 | 1 | 0.04 | 0.13 | 0.29 | 0.17 | 0.09 | 0.25 | 0.13 |
| BWLL-0014B | 54 | 76 | 6222610.5 | 19174580 | 6.85 | 1 | 3.00 | 3.21 | 3.61 | 3.31 | 0.21 | 0.61 | 0.31 |
| BAUS-4456 | 53 | 59 | 6145351.5 | 19122748 | 6.89 | 1 | 0.16 | 0.23 | 0.44 | 0.27 | 0.07 | 0.28 | 0.10 |
| BAUS-4329 | 53 | 59 | 6145263 | 19122744 | 6.90 | 1 | 0.16 | 0.23 | 0.44 | 0.27 | 0.07 | 0.28 | 0.10 |
| BWLL-4529 | 50 | 75 | 6206447 | 19189744 | 6.98 | 1 | 1.13 | 1.25 | 1.47 | 1.31 | 0.12 | 0.34 | 0.18 |
| BWLL-4524 | 50 | 75 | 6206447 | 19189744 | 6.98 | 1 | 1.13 | 1.25 | 1.47 | 1.31 | 0.12 | 0.34 | 0.18 |
| 6623602 | 49 | 60 | 6138788.5 | 19144204 | 6.99 | 1 | 0.01 | 0.06 | 0.22 | 0.09 | 0.05 | 0.21 | 0.08 |
| BWLL-5229 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 0.25 | 0.36 | 0.59 | 0.41 | 0.11 | 0.34 | 0.17 |
| BWLL-5228 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 0.25 | 0.36 | 0.59 | 0.41 | 0.11 | 0.34 | 0.17 |
| BWLL-5230 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 0.25 | 0.36 | 0.59 | 0.41 | 0.11 | 0.34 | 0.17 |
| BWLL-5231 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 0.25 | 0.36 | 0.59 | 0.41 | 0.11 | 0.34 | 0.17 |
| BWLL-5234 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 0.25 | 0.36 | 0.59 | 0.41 | 0.11 | 0.34 | 0.17 |
| BWLL-5235 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 0.25 | 0.36 | 0.59 | 0.41 | 0.11 | 0.34 | 0.17 |
| BWLL-5236 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 0.25 | 0.36 | 0.59 | 0.41 | 0.11 | 0.34 | 0.17 |
| BWLL-5278 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 0.25 | 0.36 | 0.59 | 0.41 | 0.11 | 0.34 | 0.17 |
| BWLL-0056 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 0.25 | 0.36 | 0.59 | 0.41 | 0.11 | 0.34 | 0.17 |
| BWLL-4098 | 46 | 72 | 6180351 | 19193656 | 7.02 | 1 | 0.01 | 0.01 | 0.12 | 0.02 | 0.00 | 0.11 | 0.01 |
| BAUS-4254 | 48 | 61 | 6139071 | 19148754 | 7.02 | 1 | 0.01 | 0.07 | 0.24 | 0.10 | 0.06 | 0.23 | 0.09 |
| BAUS-4202 | 45 | 65 | 6145386.5 | 19174694 | 7.03 | 1 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| 6525106 | 61 | 65 | 6198306 | 19109812 | 7.05 | 1 | 0.93 | 1.10 | 1.57 | 1.18 | 0.17 | 0.64 | 0.25 |
| 6616305 | 46 | 71 | 6175255.5 | 19193866 | 7.06 | 1 | 0.01 | 0.01 | 0.07 | 0.01 | 0.00 | 0.06 | 0.00 |
| BWLL-0001D | 54 | 76 | 6224553 | 19173702 | 7.08 | 1 | 3.00 | 3.21 | 3.61 | 3.31 | 0.21 | 0.61 | 0.31 |
| BWLL-5560 | 50 | 76 | 6207148 | 19189986 | 7.08 | 1 | 1.51 | 1.62 | 1.82 | 1.67 | 0.11 | 0.31 | 0.16 |
| BWLL-5583 | 50 | 76 | 6207148 | 19189986 | 7.08 | 1 | 1.51 | 1.62 | 1.82 | 1.67 | 0.11 | 0.31 | 0.16 |
| BWLL-5705 | 50 | 76 | 6207148 | 19189986 | 7.08 | 1 | 1.51 | 1.62 | 1.82 | 1.67 | 0.11 | 0.31 | 0.16 |
| BAUS-4287 | 48 | 61 | 6139321 | 19151700 | 7.09 | 1 | 0.01 | 0.07 | 0.24 | 0.10 | 0.06 | 0.23 | 0.09 |
| BWLL-5093 | 50 | 76 | 6206153.5 | 19190542 | 7.10 | 1 | 1.51 | 1.62 | 1.82 | 1.67 | 0.11 | 0.31 | 0.16 |
| BWLL-4001 | 50 | 76 | 6206776 | 19190364 | 7.11 | 1 | 1.51 | 1.62 | 1.82 | 1.67 | 0.11 | 0.31 | 0.16 |
| BWLL-5523 | 49 | 75 | 6202579.5 | 19192032 | 7.13 | 1 | 0.86 | 0.96 | 1.15 | 1.01 | 0.10 | 0.29 | 0.16 |
| BWLL-4387 | 46 | 71 | 6173820.5 | 19194232 | 7.15 | 1 | 0.01 | 0.01 | 0.07 | 0.01 | 0.00 | 0.06 | 0.00 |
| BWLL-5260 | 49 | 75 | 6202931 | 19192046 | 7.15 | 1 | 0.86 | 0.96 | 1.15 | 1.01 | 0.10 | 0.29 | 0.16 |
| BWLL-4427 | 47 | 73 | 6189667.5 | 19193892 | 7.18 | 1 | 0.04 | 0.13 | 0.29 | 0.17 | 0.09 | 0.25 | 0.13 |
| BWLL-5047 | 49 | 75 | 6203183.5 | 19192358 | 7.22 | 1 | 0.86 | 0.96 | 1.15 | 1.01 | 0.10 | 0.29 | 0.16 |
| BAUS-4164 | 54 | 58 | 6147398 | 19117150 | 7.23 | 1 | 0.38 | 0.43 | 0.65 | 0.45 | 0.05 | 0.28 | 0.08 |
| BAUS-4369 | 49 | 60 | 6137283 | 19144440 | 7.28 | 1 | 0.01 | 0.06 | 0.22 | 0.09 | 0.05 | 0.21 | 0.08 |
| BWLL-4753 | 54 | 77 | 6223802.5 | 19177320 | 7.31 | 1 | 3.14 | 3.30 | 3.65 | 3.38 | 0.16 | 0.51 | 0.24 |
| BWLL-4655 | 49 | 75 | 6202275.5 | 19193136 | 7.32 | 1 | 0.86 | 0.96 | 1.15 | 1.01 | 0.10 | 0.29 | 0.16 |
| BAUS-4313 | 48 | 60 | 6137047.5 | 19146152 | 7.34 | 1 | 0.01 | 0.06 | 0.20 | 0.09 | 0.05 | 0.19 | 0.07 |
| BWLL-4599 | 49 | 75 | 6202890.5 | 19193158 | 7.35 | 1 | 0.86 | 0.96 | 1.15 | 1.01 | 0.10 | 0.29 | 0.16 |
| BWLL-4656 | 49 | 75 | 6201913 | 19193426 | 7.35 | 1 | 0.86 | 0.96 | 1.15 | 1.01 | 0.10 | 0.29 | 0.16 |
| BAUS-5288 | 54 | 58 | 6148317 | 19114972 | 7.39 | 1 | 0.38 | 0.43 | 0.65 | 0.45 | 0.05 | 0.28 | 0.08 |
| BAUS-4078 | 48 | 61 | 6137790.5 | 19152660 | 7.42 | 1 | 0.01 | 0.07 | 0.24 | 0.10 | 0.06 | 0.23 | 0.09 |

| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Subsidence 1891 to 2009 (ft) | | | | Subsidence Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BWLL-4660 | 49 | 75 | 6202868 | 19193764 | 7.46 | 1 | 0.86 | 0.96 | 1.15 | 1.01 | 0.10 | 0.29 | 0.16 |
| BWLL-4227 | 53 | 77 | 6222451.5 | 19180512 | 7.46 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-4113 | 53 | 77 | 6222902.5 | 19180224 | 7.50 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-4304 | 53 | 77 | 6222433 | 19181016 | 7.52 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-4181 | 53 | 77 | 6222891 | 19180528 | 7.53 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-5210 | 49 | 75 | 6202498.5 | 19194258 | 7.53 | 1 | 0.86 | 0.96 | 1.15 | 1.01 | 0.10 | 0.29 | 0.16 |
| BWLL-4297 | 45 | 71 | 6169373.5 | 19195592 | 7.54 | 1 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4405 | 54 | 77 | 6224743 | 19178064 | 7.54 | 1 | 3.14 | 3.30 | 3.65 | 3.38 | 0.16 | 0.51 | 0.24 |
| BAUS-4066 | 47 | 62 | 6138023 | 19158642 | 7.55 | 1 | 0.01 | 0.01 | 0.12 | 0.01 | 0.00 | 0.11 | 0.00 |
| BWLL-4265 | 53 | 77 | 6222608.5 | 19181024 | 7.55 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-4570 | 53 | 77 | 6223437 | 19180042 | 7.55 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BAUS-4075 | 47 | 62 | 6138002 | 19159248 | 7.56 | 1 | 0.01 | 0.01 | 0.12 | 0.01 | 0.00 | 0.11 | 0.00 |
| BAUS-4297 | 46 | 72 | 6178346 | 19196654 | 7.57 | 1 | 0.01 | 0.01 | 0.12 | 0.02 | 0.00 | 0.11 | 0.01 |
| BWLL-4590 | 49 | 75 | 6202934 | 19194374 | 7.58 | 1 | 0.86 | 0.96 | 1.15 | 1.01 | 0.10 | 0.29 | 0.16 |
| BAUS-4230 | 47 | 61 | 6136978 | 19153238 | 7.59 | 1 | 0.01 | 0.02 | 0.15 | 0.05 | 0.01 | 0.14 | 0.04 |
| BWLL-4127 | 53 | 77 | 6223052 | 19180938 | 7.60 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-4299 | 54 | 77 | 6225373.5 | 19177684 | 7.60 | 1 | 3.14 | 3.30 | 3.65 | 3.38 | 0.16 | 0.51 | 0.24 |
| BWLL-4114 | 53 | 77 | 6222864.5 | 19181236 | 7.61 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-5339 | 53 | 77 | 6222956.5 | 19181138 | 7.61 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-4128 | 53 | 77 | 6223876.5 | 19180058 | 7.62 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-4017 | 53 | 77 | 6224063.5 | 19179760 | 7.62 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-4014 | 53 | 77 | 6223972 | 19179858 | 7.62 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| 6510715 | 57 | 76 | 6231432 | 19161984 | 7.63 | 1 | 2.98 | 3.16 | 3.56 | 3.24 | 0.17 | 0.57 | 0.26 |
| BWLL-4264 | 53 | 77 | 6223319 | 19180848 | 7.63 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-4262 | 54 | 77 | 6225736 | 19177392 | 7.63 | 1 | 3.14 | 3.30 | 3.65 | 3.38 | 0.16 | 0.51 | 0.24 |
| 6517614 | 60 | 73 | 6228549 | 19139770 | 7.65 | 1 | 1.39 | 1.53 | 1.81 | 1.59 | 0.13 | 0.42 | 0.20 |
| BWLL-4308 | 53 | 77 | 6224144 | 19179966 | 7.65 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BAUS-4472 | 48 | 60 | 6135298.5 | 19145788 | 7.67 | 1 | 0.01 | 0.06 | 0.20 | 0.09 | 0.05 | 0.19 | 0.07 |
| BWLL-4614 | 49 | 75 | 6202556.5 | 19195070 | 7.68 | 1 | 0.86 | 0.96 | 1.15 | 1.01 | 0.10 | 0.29 | 0.16 |
| BWLL-4180 | 53 | 77 | 6224041 | 19180368 | 7.68 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-4294 | 53 | 77 | 6223671 | 19180860 | 7.68 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BAUS-5154 | 47 | 62 | 6137316 | 19158718 | 7.69 | 1 | 0.01 | 0.01 | 0.12 | 0.01 | 0.00 | 0.11 | 0.00 |
| BWLL-4058 | 53 | 77 | 6224133 | 19180270 | 7.69 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-4266 | 54 | 77 | 6224686.5 | 19179582 | 7.69 | 1 | 3.14 | 3.30 | 3.65 | 3.38 | 0.16 | 0.51 | 0.24 |
| BWLL-4179 | 53 | 77 | 6224030 | 19180672 | 7.72 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-4034 | 54 | 77 | 6224862.5 | 19179588 | 7.72 | 1 | 3.14 | 3.30 | 3.65 | 3.38 | 0.16 | 0.51 | 0.24 |
| BWLL-5165 | 49 | 76 | 6202725 | 19195278 | 7.73 | 1 | 1.16 | 1.24 | 1.38 | 1.27 | 0.08 | 0.22 | 0.11 |
| BWLL-4225 | 54 | 77 | 6224847 | 19179992 | 7.76 | 1 | 3.14 | 3.30 | 3.65 | 3.38 | 0.16 | 0.51 | 0.24 |
| BWLL-4279 | 53 | 77 | 6224477 | 19180486 | 7.76 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-4380 | 53 | 77 | 6223831.5 | 19181272 | 7.76 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-4566 | 53 | 77 | 6223831.5 | 19181272 | 7.76 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-4797 | 55 | 77 | 6227917.5 | 19175550 | 7.81 | 1 | 3.40 | 3.54 | 3.87 | 3.61 | 0.14 | 0.47 | 0.21 |
| BWLL-4916 | 53 | 77 | 6224271 | 19181288 | 7.82 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-5324 | 47 | 73 | 6186384 | 19197114 | 7.83 | 1 | 0.04 | 0.13 | 0.29 | 0.17 | 0.09 | 0.25 | 0.13 |
| BWLL-4990 | 52 | 77 | 6218864.5 | 19187062 | 7.83 | 1 | 4.36 | 4.61 | 5.08 | 4.72 | 0.26 | 0.72 | 0.36 |
| BWLL-4018 | 54 | 77 | 6225195 | 19180106 | 7.83 | 1 | 3.14 | 3.30 | 3.65 | 3.38 | 0.16 | 0.51 | 0.24 |
| BWLL-4359 | 53 | 77 | 6224450.5 | 19181194 | 7.84 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-4226 | 54 | 77 | 6225096 | 19180408 | 7.85 | 1 | 3.14 | 3.30 | 3.65 | 3.38 | 0.16 | 0.51 | 0.24 |
| BWLL-4016 | 53 | 77 | 6224813.5 | 19180902 | 7.86 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-4059 | 54 | 77 | 6225271.5 | 19180414 | 7.88 | 1 | 3.14 | 3.30 | 3.65 | 3.38 | 0.16 | 0.51 | 0.24 |
| BWLL-4060 | 54 | 77 | 6225271.5 | 19180414 | 7.88 | 1 | 3.14 | 3.30 | 3.65 | 3.38 | 0.16 | 0.51 | 0.24 |
| BWLL-0014A | 55 | 77 | 6229109.5 | 19174278 | 7.90 | 1 | 3.40 | 3.54 | 3.87 | 3.61 | 0.14 | 0.47 | 0.21 |
| BAUS-5159 | 47 | 61 | 6136060 | 19156852 | 7.91 | 1 | 0.01 | 0.02 | 0.15 | 0.05 | 0.01 | 0.14 | 0.04 |
| BAUS-4356 | 49 | 59 | 6133777 | 19141382 | 7.94 | 1 | 0.06 | 0.11 | 0.23 | 0.13 | 0.05 | 0.17 | 0.07 |
| BWLL-4088 | 54 | 77 | 6225898 | 19180134 | 7.94 | 1 | 3.14 | 3.30 | 3.65 | 3.38 | 0.16 | 0.51 | 0.24 |
| BWLL-4447 | 53 | 77 | 6225241.5 | 19181222 | 7.96 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-4126 | 53 | 77 | 6225329.5 | 19181226 | 7.98 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-4407 | 53 | 77 | 6225604.5 | 19180932 | 7.98 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-4282 | 54 | 77 | 6226062.5 | 19180444 | 8.00 | 1 | 3.14 | 3.30 | 3.65 | 3.38 | 0.16 | 0.51 | 0.24 |
| 6525105 | 62 | 65 | 6201528 | 19105630 | 8.04 | 1 | 1.08 | 1.23 | 1.62 | 1.29 | 0.14 | 0.53 | 0.21 |
| BWLL-4228 | 53 | 77 | 6225853 | 19181346 | 8.07 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |
| BWLL-4012 | 53 | 77 | 6226028.5 | 19181354 | 8.10 | 1 | 4.01 | 4.23 | 4.65 | 4.32 | 0.22 | 0.65 | 0.32 |

## Table E-9
## Simulated Subsidence and Subsidence Due to Electro Purification Pumping
## Chicot Aquifer (Layer 1) - GAM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Subsidence 1891 to 2009 (ft) | | | | Subsidence Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BAUS-4394 | 44 | 64 | 6139451.5 | 19175804 | 8.13 | 1 | 0.01 | 0.01 | 0.08 | 0.01 | 0.00 | 0.08 | 0.01 |
| 6518103 | 58 | 76 | 6234654 | 19157800 | 8.16 | 1 | 3.15 | 3.30 | 3.67 | 3.38 | 0.16 | 0.52 | 0.24 |
| 6518406 | 60 | 74 | 6232732 | 19142992 | 8.17 | 1 | 2.98 | 3.18 | 3.61 | 3.27 | 0.21 | 0.64 | 0.30 |
| BAUS-5433 | 45 | 63 | 6137554 | 19171998 | 8.17 | 1 | 0.14 | 0.19 | 0.30 | 0.21 | 0.05 | 0.16 | 0.07 |
| BWLL-4482 | 48 | 76 | 6202617.5 | 19198212 | 8.26 | 1 | 0.82 | 0.89 | 1.01 | 0.92 | 0.07 | 0.19 | 0.10 |
| BAUS-5362 | 44 | 64 | 6139628 | 19178494 | 8.34 | 1 | 0.01 | 0.01 | 0.08 | 0.01 | 0.00 | 0.08 | 0.01 |
| BAUS-4308 | 44 | 64 | 6137869 | 19175750 | 8.39 | 1 | 0.01 | 0.01 | 0.08 | 0.01 | 0.00 | 0.08 | 0.01 |
| 6615902 | 45 | 63 | 6136149 | 19171854 | 8.40 | 1 | 0.14 | 0.19 | 0.30 | 0.21 | 0.05 | 0.16 | 0.07 |
| 6509106 | 46 | 74 | 6188481 | 19200322 | 8.41 | 1 | 0.06 | 0.12 | 0.21 | 0.14 | 0.05 | 0.15 | 0.08 |
| BWLL-5718 | 56 | 77 | 6233042.5 | 19172732 | 8.46 | 1 | 3.01 | 3.15 | 3.47 | 3.21 | 0.14 | 0.46 | 0.19 |
| BWLL-4263 | 54 | 78 | 6229601 | 19179968 | 8.51 | 1 | 3.16 | 3.26 | 3.51 | 3.30 | 0.10 | 0.36 | 0.14 |
| BAUS-4228 | 48 | 58 | 6129578 | 19140528 | 8.74 | 1 | 0.13 | 0.16 | 0.25 | 0.18 | 0.03 | 0.12 | 0.05 |
| BAUS-4544 | 45 | 62 | 6133072 | 19169406 | 8.82 | 1 | 0.07 | 0.11 | 0.21 | 0.13 | 0.04 | 0.14 | 0.06 |
| BWLL-4969 | 45 | 73 | 6182724.5 | 19203464 | 8.91 | 1 | 0.01 | 0.01 | 0.02 | 0.01 | 0.00 | 0.01 | 0.00 |
| 6518404 | 61 | 74 | 6235954 | 19138808 | 9.01 | 1 | 2.88 | 3.13 | 3.66 | 3.23 | 0.25 | 0.78 | 0.35 |
| BAUS-4319 | 46 | 60 | 6129618 | 19154706 | 9.01 | 1 | 0.10 | 0.13 | 0.21 | 0.14 | 0.03 | 0.12 | 0.05 |
| 6518403 | 61 | 74 | 6235954 | 19138808 | 9.01 | 1 | 2.88 | 3.13 | 3.66 | 3.23 | 0.25 | 0.78 | 0.35 |
| 6525209 | 63 | 66 | 6208933 | 19104668 | 9.03 | 1 | 1.08 | 1.21 | 1.56 | 1.27 | 0.13 | 0.48 | 0.19 |
| 6525218 | 63 | 66 | 6208933 | 19104668 | 9.03 | 1 | 1.08 | 1.21 | 1.56 | 1.27 | 0.13 | 0.48 | 0.19 |
| 6525219 | 63 | 66 | 6208933 | 19104668 | 9.03 | 1 | 1.08 | 1.21 | 1.56 | 1.27 | 0.13 | 0.48 | 0.19 |
| 6525220 | 63 | 65 | 6204749.5 | 19101448 | 9.04 | 1 | 1.29 | 1.42 | 1.75 | 1.47 | 0.13 | 0.46 | 0.18 |
| 6525221 | 63 | 65 | 6204749.5 | 19101448 | 9.04 | 1 | 1.29 | 1.42 | 1.75 | 1.47 | 0.13 | 0.46 | 0.18 |
| 6525210 | 63 | 65 | 6204749.5 | 19101448 | 9.04 | 1 | 1.29 | 1.42 | 1.75 | 1.47 | 0.13 | 0.46 | 0.18 |
| BAUS-4072 | 45 | 62 | 6131531.5 | 19168138 | 9.04 | 1 | 0.07 | 0.11 | 0.21 | 0.13 | 0.04 | 0.14 | 0.06 |
| BAUS-4131 | 48 | 58 | 6128001.5 | 19140272 | 9.04 | 1 | 0.13 | 0.16 | 0.25 | 0.18 | 0.03 | 0.12 | 0.05 |
| 6525202 | 63 | 67 | 6213116 | 19107890 | 9.08 | 1 | 0.90 | 1.03 | 1.38 | 1.09 | 0.13 | 0.48 | 0.19 |
| 6525203 | 63 | 67 | 6213116 | 19107890 | 9.08 | 1 | 0.90 | 1.03 | 1.38 | 1.09 | 0.13 | 0.48 | 0.19 |
| BAUS-4291 | 45 | 61 | 6130616.5 | 19166588 | 9.14 | 1 | 0.02 | 0.05 | 0.13 | 0.07 | 0.03 | 0.12 | 0.05 |
| BWLL-5331 | 46 | 74 | 6188675.5 | 19204286 | 9.16 | 1 | 0.06 | 0.12 | 0.21 | 0.14 | 0.05 | 0.15 | 0.08 |
| BAUS-4217 | 45 | 61 | 6130444.5 | 19166480 | 9.17 | 1 | 0.02 | 0.05 | 0.13 | 0.07 | 0.03 | 0.12 | 0.05 |
| BAUS-4305 | 45 | 61 | 6130444.5 | 19166480 | 9.17 | 1 | 0.02 | 0.05 | 0.13 | 0.07 | 0.03 | 0.12 | 0.05 |
| BAUS-4218 | 45 | 61 | 6130444.5 | 19166480 | 9.17 | 1 | 0.02 | 0.05 | 0.13 | 0.07 | 0.03 | 0.12 | 0.05 |
| BAUS-4195 | 45 | 61 | 6130275.5 | 19166272 | 9.19 | 1 | 0.02 | 0.05 | 0.13 | 0.07 | 0.03 | 0.12 | 0.05 |
| BWLL-4511 | 53 | 79 | 6228988.5 | 19186932 | 9.19 | 1 | 2.27 | 2.29 | 2.34 | 2.30 | 0.02 | 0.08 | 0.03 |
| BAUS-5306 | 45 | 61 | 6130250.5 | 19166582 | 9.21 | 1 | 0.02 | 0.05 | 0.13 | 0.07 | 0.03 | 0.12 | 0.05 |
| BAUS-5377 | 45 | 61 | 6130250.5 | 19166582 | 9.21 | 1 | 0.02 | 0.05 | 0.13 | 0.07 | 0.03 | 0.12 | 0.05 |
| BAUS-4532 | 48 | 58 | 6127012.5 | 19140844 | 9.22 | 1 | 0.13 | 0.16 | 0.25 | 0.18 | 0.03 | 0.12 | 0.05 |
| 6525301 | 63 | 68 | 6217299 | 19111112 | 9.23 | 1 | 0.17 | 0.27 | 0.61 | 0.33 | 0.11 | 0.44 | 0.16 |
| BAUS-5181 | 45 | 61 | 6130085.5 | 19166670 | 9.24 | 1 | 0.02 | 0.05 | 0.13 | 0.07 | 0.03 | 0.12 | 0.05 |
| BAUS-4463 | 45 | 61 | 6129853.5 | 19165750 | 9.25 | 1 | 0.02 | 0.05 | 0.13 | 0.07 | 0.03 | 0.12 | 0.05 |
| BWLL-5038 | 52 | 79 | 6226942.5 | 19189894 | 9.27 | 1 | 3.14 | 3.18 | 3.29 | 3.20 | 0.04 | 0.16 | 0.06 |
| BAUS-5371 | 45 | 61 | 6129745 | 19166062 | 9.28 | 1 | 0.02 | 0.05 | 0.13 | 0.07 | 0.03 | 0.12 | 0.05 |
| BWLL-4560 | 52 | 79 | 6225465 | 19191764 | 9.33 | 1 | 3.14 | 3.18 | 3.29 | 3.20 | 0.04 | 0.16 | 0.06 |
| BWLL-5368 | 53 | 79 | 6229497 | 19187458 | 9.33 | 1 | 2.27 | 2.29 | 2.34 | 2.30 | 0.02 | 0.08 | 0.03 |
| BAUS-5439 | 45 | 61 | 6129458.5 | 19166208 | 9.34 | 1 | 0.02 | 0.05 | 0.13 | 0.07 | 0.03 | 0.12 | 0.05 |
| BAUS-4166 | 44 | 62 | 6129924.5 | 19168790 | 9.36 | 1 | 0.01 | 0.04 | 0.11 | 0.05 | 0.03 | 0.10 | 0.04 |
| BWLL-5377 | 52 | 79 | 6225996 | 19191682 | 9.38 | 1 | 3.14 | 3.18 | 3.29 | 3.20 | 0.04 | 0.16 | 0.06 |
| BWLL-4212 | 46 | 75 | 6189681.5 | 19205640 | 9.41 | 1 | 0.18 | 0.22 | 0.30 | 0.24 | 0.04 | 0.12 | 0.06 |
| BAUS-4363 | 46 | 60 | 6127131 | 19155328 | 9.50 | 1 | 0.10 | 0.13 | 0.21 | 0.14 | 0.03 | 0.12 | 0.05 |
| BAUS-4037 | 48 | 58 | 6125454 | 19142614 | 9.51 | 1 | 0.13 | 0.16 | 0.25 | 0.18 | 0.03 | 0.12 | 0.05 |
| BWLL-4239 | 55 | 79 | 6237373 | 19176916 | 9.53 | 1 | 5.48 | 5.49 | 5.52 | 5.49 | 0.01 | 0.04 | 0.00 |
| BWLL-4562 | 52 | 79 | 6227130.5 | 19191926 | 9.57 | 1 | 3.14 | 3.18 | 3.29 | 3.20 | 0.04 | 0.16 | 0.06 |
| BWLL-4898 | 53 | 79 | 6232263 | 19186448 | 9.62 | 1 | 2.27 | 2.29 | 2.34 | 2.30 | 0.02 | 0.08 | 0.03 |
| BWLL-5566 | 52 | 79 | 6227068 | 19192974 | 9.70 | 1 | 3.14 | 3.18 | 3.29 | 3.20 | 0.04 | 0.16 | 0.06 |
| 6623205 | 45 | 60 | 6126611.5 | 19158036 | 9.71 | 1 | 0.04 | 0.07 | 0.14 | 0.08 | 0.03 | 0.09 | 0.04 |
| BWLL-5656 | 53 | 79 | 6232524.5 | 19187068 | 9.73 | 1 | 2.27 | 2.29 | 2.34 | 2.30 | 0.02 | 0.08 | 0.03 |
| BWLL-5063 | 51 | 79 | 6224348 | 19195772 | 9.76 | 1 | 2.98 | 3.02 | 3.11 | 3.03 | 0.04 | 0.13 | 0.06 |
| BWLL-5602 | 52 | 79 | 6228469 | 19192130 | 9.78 | 1 | 3.14 | 3.18 | 3.29 | 3.20 | 0.04 | 0.16 | 0.06 |
| BWLL-5148 | 50 | 79 | 6221156.5 | 19198794 | 9.85 | 1 | 5.22 | 5.33 | 5.59 | 5.37 | 0.12 | 0.38 | 0.16 |
| BAUS-5364 | 48 | 57 | 6123778 | 19139626 | 9.85 | 1 | 0.28 | 0.31 | 0.37 | 0.32 | 0.02 | 0.09 | 0.03 |
| BWLL-5655 | 53 | 79 | 6233317.5 | 19187106 | 9.85 | 1 | 2.27 | 2.29 | 2.34 | 2.30 | 0.02 | 0.08 | 0.03 |
| BWLL-5657 | 53 | 79 | 6233273 | 19187104 | 9.85 | 1 | 2.27 | 2.29 | 2.34 | 2.30 | 0.02 | 0.08 | 0.03 |

# Table E-9
# Simulated Subsidence and Subsidence Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - GAM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Subsidence 1891 to 2009 (ft) | | | | Subsidence Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BWLL-5658 | 53 | 79 | 6233273 | 19187104 | 9.85 | 1 | 2.27 | 2.29 | 2.34 | 2.30 | 0.02 | 0.08 | 0.03 |
| 6510813 | 58 | 78 | 6243020.5 | 19164244 | 9.86 | 1 | 4.53 | 4.55 | 4.63 | 4.53 | 0.02 | 0.10 | 0.01 |
| 6510814 | 58 | 78 | 6243020.5 | 19164244 | 9.86 | 1 | 4.53 | 4.55 | 4.63 | 4.53 | 0.02 | 0.10 | 0.01 |
| BWLL-4662 | 50 | 79 | 6221947 | 19198822 | 9.94 | 1 | 5.22 | 5.33 | 5.59 | 5.37 | 0.12 | 0.38 | 0.16 |
| BWLL-4276 | 50 | 79 | 6221947 | 19198822 | 9.94 | 1 | 5.22 | 5.33 | 5.59 | 5.37 | 0.12 | 0.38 | 0.16 |
| BWLL-5605 | 43 | 73 | 6173644.5 | 19209052 | 9.95 | 1 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BAUS-4189 | 43 | 62 | 6127509.5 | 19172454 | 9.99 | 1 | 0.00 | 0.01 | 0.04 | 0.01 | 0.00 | 0.04 | 0.00 |

# Table E-10
# Simulated Subsidence and Subsidence Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - HAGM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Subsidence 1891 to 2009 (ft) | | | | Subsidence Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BAUS-5429 | 54 | 66 | 6180054.5 | 19142336 | 0.15 | 1 | 0.49 | 1.07 | 3.59 | 1.42 | 0.58 | 3.10 | 0.93 |
| BAUS-5430 | 54 | 66 | 6180054.5 | 19142336 | 0.15 | 1 | 0.49 | 1.07 | 3.59 | 1.42 | 0.58 | 3.10 | 0.93 |
| BWLL-5117 | 53 | 69 | 6191012.5 | 19154344 | 0.34 | 1 | 0.74 | 2.08 | 4.21 | 2.92 | 1.34 | 3.47 | 2.17 |
| BWLL-5481 | 53 | 70 | 6191500 | 19157906 | 0.36 | 1 | 1.15 | 1.95 | 3.31 | 2.43 | 0.79 | 2.15 | 1.28 |
| BWLL-5006 | 54 | 69 | 6190699 | 19153424 | 0.46 | 1 | 0.88 | 1.68 | 3.20 | 2.18 | 0.81 | 2.32 | 1.30 |
| BAUS-4159 | 53 | 66 | 6177818.5 | 19144046 | 0.47 | 1 | 0.40 | 1.13 | 3.28 | 1.57 | 0.73 | 2.88 | 1.17 |
| BAUS-4158 | 53 | 66 | 6177811.5 | 19144248 | 0.49 | 1 | 0.40 | 1.13 | 3.28 | 1.57 | 0.73 | 2.88 | 1.17 |
| BWLL-5541 | 52 | 69 | 6186065.5 | 19157628 | 0.5 | 1 | 0.65 | 1.76 | 3.71 | 2.45 | 1.11 | 3.06 | 1.80 |
| BWLL-5541 | 53 | 69 | 6188533 | 19157786 | 0.54 | 1 | 0.74 | 2.08 | 4.21 | 2.92 | 1.34 | 3.47 | 2.17 |
| BWLL-5543 | 52 | 69 | 6186496.5 | 19157650 | 0.56 | 1 | 0.65 | 1.76 | 3.71 | 2.45 | 1.11 | 3.06 | 1.80 |
| BAUS-4458 | 51 | 67 | 6175604 | 19159156 | 0.63 | 1 | 0.62 | 1.54 | 3.30 | 2.11 | 0.92 | 2.68 | 1.49 |
| BWLL-4133 | 51 | 67 | 6175182.5 | 19158636 | 0.63 | 1 | 0.62 | 1.54 | 3.30 | 2.11 | 0.92 | 2.68 | 1.49 |
| BAUS-5436 | 51 | 67 | 6174074 | 19157298 | 0.72 | 1 | 0.62 | 1.54 | 3.30 | 2.11 | 0.92 | 2.68 | 1.49 |
| BAUS-5447 | 51 | 67 | 6173795 | 19157412 | 0.78 | 1 | 0.62 | 1.54 | 3.30 | 2.11 | 0.92 | 2.68 | 1.49 |
| BAUS-4340 | 53 | 65 | 6171277.5 | 19142192 | 0.84 | 1 | 0.35 | 0.88 | 2.95 | 1.20 | 0.53 | 2.60 | 0.85 |
| BWLL-4363 | 52 | 69 | 6186773 | 19159558 | 0.88 | 1 | 0.65 | 1.76 | 3.71 | 2.45 | 1.11 | 3.06 | 1.80 |
| BAUS-5426 | 51 | 67 | 6173430.5 | 19159360 | 0.98 | 1 | 0.62 | 1.54 | 3.30 | 2.11 | 0.92 | 2.68 | 1.49 |
| BAUS-5401 | 51 | 67 | 6172709 | 19157480 | 0.99 | 1 | 0.62 | 1.54 | 3.30 | 2.11 | 0.92 | 2.68 | 1.49 |
| BAUS-5398 | 51 | 66 | 6171645 | 19154492 | 1.25 | 1 | 0.80 | 1.47 | 2.95 | 1.88 | 0.68 | 2.15 | 1.09 |
| BAUS-4236 | 50 | 67 | 6173220 | 19161806 | 1.31 | 1 | 0.71 | 1.33 | 2.57 | 1.71 | 0.62 | 1.86 | 1.00 |
| 6517415 | 55 | 67 | 6187339.5 | 19141354 | 1.34 | 1 | 0.74 | 1.28 | 2.77 | 1.60 | 0.54 | 2.03 | 0.85 |
| BAUS-4485 | 50 | 67 | 6172028.5 | 19160648 | 1.34 | 1 | 0.71 | 1.33 | 2.57 | 1.71 | 0.62 | 1.86 | 1.00 |
| BAUS-4325 | 50 | 67 | 6172780 | 19161790 | 1.36 | 1 | 0.71 | 1.33 | 2.57 | 1.71 | 0.62 | 1.86 | 1.00 |
| BAUS-4518 | 50 | 68 | 6174657 | 19163476 | 1.42 | 1 | 0.48 | 1.13 | 2.36 | 1.51 | 0.64 | 1.88 | 1.03 |
| BAUS-5298 | 50 | 67 | 6172278 | 19161868 | 1.44 | 1 | 0.71 | 1.33 | 2.57 | 1.71 | 0.62 | 1.86 | 1.00 |
| BAUS-4515 | 51 | 66 | 6170610 | 19153510 | 1.5 | 1 | 0.80 | 1.47 | 2.95 | 1.88 | 0.68 | 2.15 | 1.09 |
| BAUS-4519 | 50 | 68 | 6175159 | 19164204 | 1.52 | 1 | 0.48 | 1.13 | 2.36 | 1.51 | 0.64 | 1.88 | 1.03 |
| BAUS-5397 | 51 | 66 | 6169866.5 | 19155934 | 1.52 | 1 | 0.80 | 1.47 | 2.95 | 1.88 | 0.68 | 2.15 | 1.09 |
| BAUS-0002A | 50 | 68 | 6175328 | 19164412 | 1.54 | 1 | 0.48 | 1.13 | 2.36 | 1.51 | 0.64 | 1.88 | 1.03 |
| BAUS-0002B | 50 | 68 | 6175328 | 19164412 | 1.54 | 1 | 0.48 | 1.13 | 2.36 | 1.51 | 0.64 | 1.88 | 1.03 |
| BAUS-5400 | 50 | 67 | 6171322 | 19161498 | 1.54 | 1 | 0.71 | 1.33 | 2.57 | 1.71 | 0.62 | 1.86 | 1.00 |
| BAUS-5402 | 50 | 67 | 6170748.5 | 19160828 | 1.56 | 1 | 0.71 | 1.33 | 2.57 | 1.71 | 0.62 | 1.86 | 1.00 |
| BWLL-5690 | 51 | 69 | 6184161 | 19164328 | 1.65 | 1 | 0.52 | 1.33 | 2.79 | 1.82 | 0.80 | 2.27 | 1.29 |
| BAUS-4430 | 50 | 66 | 6168784 | 19157800 | 1.73 | 1 | 0.65 | 1.17 | 2.30 | 1.49 | 0.53 | 1.65 | 0.84 |
| BAUS-4185 | 52 | 66 | 6170700 | 19150982 | 1.73 | 1 | 0.46 | 1.33 | 3.30 | 1.86 | 0.86 | 2.84 | 1.39 |
| BAUS-5399 | 50 | 66 | 6168767 | 19157550 | 1.73 | 1 | 0.65 | 1.17 | 2.30 | 1.49 | 0.53 | 1.65 | 0.84 |
| BWLL-4303 | 50 | 68 | 6177915 | 19165922 | 1.75 | 1 | 0.48 | 1.13 | 2.36 | 1.51 | 0.64 | 1.88 | 1.03 |
| 6509702 | 52 | 71 | 6193335.5 | 19165170 | 1.76 | 1 | 1.31 | 1.83 | 2.76 | 2.14 | 0.51 | 1.44 | 0.82 |
| BAUS-4429 | 50 | 66 | 6168601 | 19157996 | 1.77 | 1 | 0.65 | 1.17 | 2.30 | 1.49 | 0.53 | 1.65 | 0.84 |
| BAUS-5297 | 50 | 68 | 6173472 | 19165068 | 1.79 | 1 | 0.48 | 1.13 | 2.36 | 1.51 | 0.64 | 1.88 | 1.03 |
| BAUS-4129 | 55 | 65 | 6178444 | 19131512 | 1.81 | 1 | 0.60 | 0.99 | 2.36 | 1.21 | 0.39 | 1.76 | 0.61 |
| BWLL-4992 | 50 | 68 | 6177988.5 | 19166330 | 1.83 | 1 | 0.48 | 1.13 | 2.36 | 1.51 | 0.64 | 1.88 | 1.03 |
| BWLL-4272 | 50 | 68 | 6177805.5 | 19166526 | 1.87 | 1 | 0.48 | 1.13 | 2.36 | 1.51 | 0.64 | 1.88 | 1.03 |
| BAUS-0024 | 56 | 65 | 6179473 | 19131326 | 1.87 | 1 | 0.88 | 1.20 | 2.24 | 1.38 | 0.32 | 1.35 | 0.50 |
| BWLL-5674 | 51 | 69 | 6184132.5 | 19165744 | 1.92 | 1 | 0.52 | 1.33 | 2.79 | 1.82 | 0.80 | 2.27 | 1.29 |
| BWLL-4161 | 50 | 69 | 6177699 | 19167028 | 1.96 | 1 | 0.39 | 0.93 | 1.93 | 1.25 | 0.53 | 1.53 | 0.85 |
| BAUS-4299 | 50 | 69 | 6178487 | 19167158 | 1.99 | 1 | 0.39 | 0.93 | 1.93 | 1.25 | 0.53 | 1.53 | 0.85 |
| BWLL-5082 | 51 | 69 | 6183630 | 19166128 | 1.99 | 1 | 0.52 | 1.33 | 2.79 | 1.82 | 0.80 | 2.27 | 1.29 |
| BAUS-4138 | 51 | 65 | 6166124 | 19148388 | 2.1 | 1 | 0.71 | 1.18 | 2.37 | 1.47 | 0.48 | 1.66 | 0.76 |
| 6624203 | 51 | 65 | 6166932 | 19150042 | 2.15 | 1 | 0.71 | 1.18 | 2.37 | 1.47 | 0.48 | 1.66 | 0.76 |
| BWLL-4134 | 52 | 71 | 6197009.5 | 19166208 | 2.19 | 1 | 1.31 | 1.83 | 2.76 | 2.14 | 0.51 | 1.44 | 0.82 |
| BAUS-4137 | 51 | 65 | 6165560.5 | 19149382 | 2.29 | 1 | 0.71 | 1.18 | 2.37 | 1.47 | 0.48 | 1.66 | 0.76 |
| BAUS-5120 | 50 | 66 | 6166456 | 19161362 | 2.33 | 1 | 0.65 | 1.17 | 2.30 | 1.49 | 0.53 | 1.65 | 0.84 |
| BAUS-4552 | 49 | 66 | 6166768 | 19162486 | 2.37 | 1 | 0.50 | 0.87 | 1.65 | 1.08 | 0.37 | 1.15 | 0.58 |
| BAUS-4235 | 49 | 66 | 6166764.5 | 19162588 | 2.38 | 1 | 0.50 | 0.87 | 1.65 | 1.08 | 0.37 | 1.15 | 0.58 |
| BAUS-4324 | 49 | 66 | 6166588.5 | 19162582 | 2.41 | 1 | 0.50 | 0.87 | 1.65 | 1.08 | 0.37 | 1.15 | 0.58 |
| BAUS-4067 | 50 | 65 | 6165176.5 | 19155240 | 2.42 | 1 | 0.64 | 1.05 | 2.00 | 1.29 | 0.41 | 1.36 | 0.64 |
| BAUS-5146 | 56 | 64 | 6177989 | 19128236 | 2.43 | 1 | 0.89 | 1.16 | 2.05 | 1.31 | 0.27 | 1.16 | 0.42 |
| BAUS-4288 | 49 | 66 | 6166412.5 | 19162576 | 2.44 | 1 | 0.50 | 0.87 | 1.65 | 1.08 | 0.37 | 1.15 | 0.58 |
| BAUS-5437 | 49 | 68 | 6171384 | 19168042 | 2.48 | 1 | 0.20 | 0.63 | 1.49 | 0.89 | 0.44 | 1.29 | 0.69 |
| BAUS-4309 | 49 | 66 | 6166229.5 | 19162772 | 2.49 | 1 | 0.50 | 0.87 | 1.65 | 1.08 | 0.37 | 1.15 | 0.58 |
| BAUS-4558 | 49 | 66 | 6166226 | 19162872 | 2.5 | 1 | 0.50 | 0.87 | 1.65 | 1.08 | 0.37 | 1.15 | 0.58 |

# Table E-10
# Simulated Subsidence and Subsidence Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - HAGM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Subsidence 1891 to 2009 (ft) | | | | Subsidence Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BAUS-4140 | 50 | 65 | 6164582 | 19154612 | 2.54 | 1 | 0.64 | 1.05 | 2.00 | 1.29 | 0.41 | 1.36 | 0.64 |
| BAUS-5394 | 50 | 65 | 6164439 | 19155042 | 2.56 | 1 | 0.64 | 1.05 | 2.00 | 1.29 | 0.41 | 1.36 | 0.64 |
| BAUS-5395C | 50 | 65 | 6164439 | 19155042 | 2.56 | 1 | 0.64 | 1.05 | 2.00 | 1.29 | 0.41 | 1.36 | 0.64 |
| BAUS-4321 | 49 | 66 | 6165863.5 | 19163164 | 2.58 | 1 | 0.50 | 0.87 | 1.65 | 1.08 | 0.37 | 1.15 | 0.58 |
| BAUS-4314 | 49 | 66 | 6165765 | 19163464 | 2.63 | 1 | 0.50 | 0.87 | 1.65 | 1.08 | 0.37 | 1.15 | 0.58 |
| BAUS-4495 | 49 | 66 | 6165427.5 | 19163046 | 2.64 | 1 | 0.50 | 0.87 | 1.65 | 1.08 | 0.37 | 1.15 | 0.58 |
| BAUS-4541 | 49 | 66 | 6165427.5 | 19163046 | 2.64 | 1 | 0.50 | 0.87 | 1.65 | 1.08 | 0.37 | 1.15 | 0.58 |
| 6624102 | 51 | 64 | 6161925 | 19145490 | 2.65 | 1 | 0.66 | 1.02 | 1.98 | 1.23 | 0.36 | 1.31 | 0.56 |
| BAUS-5425 | 51 | 65 | 6164243.5 | 19152214 | 2.71 | 1 | 0.71 | 1.18 | 2.37 | 1.47 | 0.48 | 1.66 | 0.76 |
| BAUS-5344 | 49 | 67 | 6168874 | 19168294 | 2.78 | 1 | 0.48 | 0.92 | 1.81 | 1.18 | 0.44 | 1.33 | 0.70 |
| BWLL-4987 | 53 | 72 | 6203934.5 | 19164638 | 2.85 | 1 | 1.86 | 2.23 | 2.92 | 2.45 | 0.37 | 1.06 | 0.58 |
| BAUS-5251 | 49 | 66 | 6163571 | 19161666 | 2.86 | 1 | 0.50 | 0.87 | 1.65 | 1.08 | 0.37 | 1.15 | 0.58 |
| BWLL-5574 | 53 | 72 | 6204376 | 19164880 | 2.95 | 1 | 1.86 | 2.23 | 2.92 | 2.45 | 0.37 | 1.06 | 0.58 |
| BWLL-5666 | 53 | 72 | 6204376 | 19164880 | 2.95 | 1 | 1.86 | 2.23 | 2.92 | 2.45 | 0.37 | 1.06 | 0.58 |
| BWLL-5671 | 53 | 72 | 6203411.5 | 19166926 | 3.05 | 1 | 1.86 | 2.23 | 2.92 | 2.45 | 0.37 | 1.06 | 0.58 |
| BAUS-4315 | 50 | 65 | 6162008 | 19152698 | 3.09 | 1 | 0.64 | 1.05 | 2.00 | 1.29 | 0.41 | 1.36 | 0.64 |
| 6517418 | 57 | 67 | 6193783.5 | 19132988 | 3.16 | 1 | 1.15 | 1.48 | 2.36 | 1.67 | 0.33 | 1.21 | 0.51 |
| 6616810 | 48 | 67 | 6165870 | 19168340 | 3.17 | 1 | 0.28 | 0.57 | 1.16 | 0.73 | 0.29 | 0.89 | 0.46 |
| BAUS-4001 | 50 | 64 | 6161187.5 | 19153480 | 3.21 | 1 | 0.55 | 0.84 | 1.57 | 1.01 | 0.29 | 1.02 | 0.46 |
| BWLL-5144 | 54 | 72 | 6208083.5 | 19161954 | 3.32 | 1 | 2.68 | 3.11 | 3.93 | 3.35 | 0.43 | 1.25 | 0.67 |
| 6616808 | 48 | 67 | 6164696 | 19168372 | 3.33 | 1 | 0.28 | 0.57 | 1.16 | 0.73 | 0.29 | 0.89 | 0.46 |
| BAUS-5369 | 50 | 64 | 6159339.5 | 19150220 | 3.4 | 1 | 0.55 | 0.84 | 1.57 | 1.01 | 0.29 | 1.02 | 0.46 |
| 6616807 | 48 | 67 | 6164759 | 19169286 | 3.44 | 1 | 0.28 | 0.57 | 1.16 | 0.73 | 0.29 | 0.89 | 0.46 |
| BAUS-4165 | 50 | 64 | 6159584.5 | 19151498 | 3.47 | 1 | 0.55 | 0.84 | 1.57 | 1.01 | 0.29 | 1.02 | 0.46 |
| BAUS-4332 | 56 | 63 | 6173628.5 | 19123240 | 3.49 | 1 | 1.13 | 1.35 | 2.09 | 1.48 | 0.23 | 0.96 | 0.35 |
| BWLL-5283 | 54 | 73 | 6206956.5 | 19166268 | 3.5 | 1 | 2.01 | 2.22 | 2.62 | 2.33 | 0.21 | 0.61 | 0.32 |
| BAUS-4272 | 49 | 65 | 6159772.5 | 19161124 | 3.53 | 1 | 0.45 | 0.75 | 1.43 | 0.92 | 0.30 | 0.99 | 0.47 |
| BAUS-0025 | 48 | 67 | 6164912.5 | 19170116 | 3.53 | 1 | 0.28 | 0.57 | 1.16 | 0.73 | 0.29 | 0.89 | 0.46 |
| 6616905 | 49 | 70 | 6181892 | 19174892 | 3.54 | 1 | 0.41 | 0.75 | 1.38 | 0.94 | 0.33 | 0.96 | 0.53 |
| 6517416 | 57 | 68 | 6197967 | 19136210 | 3.56 | 1 | 1.22 | 1.56 | 2.40 | 1.75 | 0.34 | 1.18 | 0.53 |
| BAUS-4251 | 48 | 66 | 6162705.5 | 19167810 | 3.56 | 1 | 0.36 | 0.63 | 1.21 | 0.78 | 0.27 | 0.85 | 0.43 |
| BAUS-5354 | 50 | 64 | 6158858.5 | 19151168 | 3.56 | 1 | 0.55 | 0.84 | 1.57 | 1.01 | 0.29 | 1.02 | 0.46 |
| BAUS-5388 | 57 | 63 | 6178570 | 19121956 | 3.62 | 1 | 1.50 | 1.69 | 2.31 | 1.80 | 0.20 | 0.81 | 0.30 |
| BAUS-4446 | 56 | 63 | 6172414 | 19122690 | 3.65 | 1 | 1.13 | 1.35 | 2.09 | 1.48 | 0.23 | 0.96 | 0.35 |
| BWLL-5099 | 50 | 71 | 6188851 | 19175126 | 3.66 | 1 | 0.84 | 1.19 | 1.83 | 1.39 | 0.35 | 0.99 | 0.55 |
| BWLL-4914 | 48 | 69 | 6175618.5 | 19175966 | 3.68 | 1 | 0.17 | 0.42 | 0.99 | 0.59 | 0.26 | 0.82 | 0.42 |
| BAUS-4103 | 48 | 66 | 6162497.5 | 19168714 | 3.7 | 1 | 0.36 | 0.63 | 1.21 | 0.78 | 0.27 | 0.85 | 0.43 |
| BAUS-4482 | 48 | 65 | 6159595 | 19163650 | 3.7 | 1 | 0.31 | 0.55 | 1.08 | 0.68 | 0.24 | 0.77 | 0.37 |
| BWLL-5083 | 51 | 72 | 6196246 | 19175092 | 3.72 | 1 | 1.48 | 1.78 | 2.35 | 1.96 | 0.31 | 0.87 | 0.48 |
| BAUS-4046 | 49 | 65 | 6158552 | 19160778 | 3.74 | 1 | 0.45 | 0.75 | 1.43 | 0.92 | 0.30 | 0.99 | 0.47 |
| 6517506 | 57 | 70 | 6206333.5 | 19142652 | 3.77 | 1 | 1.61 | 1.91 | 2.58 | 2.08 | 0.30 | 0.98 | 0.48 |
| BAUS-4330 | 56 | 63 | 6172527 | 19121986 | 3.77 | 1 | 1.13 | 1.35 | 2.09 | 1.48 | 0.23 | 0.96 | 0.35 |
| BAUS-4499 | 50 | 64 | 6157484 | 19151120 | 3.79 | 1 | 0.55 | 0.84 | 1.57 | 1.01 | 0.29 | 1.02 | 0.46 |
| BAUS-5172 | 49 | 65 | 6158516.5 | 19161790 | 3.79 | 1 | 0.45 | 0.75 | 1.43 | 0.92 | 0.30 | 0.99 | 0.47 |
| BAUS-4197 | 48 | 69 | 6172692.5 | 19176572 | 3.89 | 1 | 0.17 | 0.42 | 0.99 | 0.59 | 0.26 | 0.82 | 0.42 |
| BAUS-5427 | 48 | 65 | 6158124.5 | 19162332 | 3.89 | 1 | 0.31 | 0.55 | 1.08 | 0.68 | 0.24 | 0.77 | 0.37 |
| BAUS-4554 | 50 | 64 | 6157482.5 | 19153652 | 3.9 | 1 | 0.55 | 0.84 | 1.57 | 1.01 | 0.29 | 1.02 | 0.46 |
| BAUS-4244 | 48 | 69 | 6172513 | 19176666 | 3.92 | 1 | 0.17 | 0.42 | 0.99 | 0.59 | 0.26 | 0.82 | 0.42 |
| BAUS-4245 | 48 | 69 | 6172513 | 19176666 | 3.92 | 1 | 0.17 | 0.42 | 0.99 | 0.59 | 0.26 | 0.82 | 0.42 |
| BAUS-4381 | 48 | 65 | 6157883 | 19162274 | 3.93 | 1 | 0.31 | 0.55 | 1.08 | 0.68 | 0.24 | 0.77 | 0.37 |
| BAUS-4161 | 56 | 63 | 6173447 | 19120904 | 3.93 | 1 | 1.13 | 1.35 | 2.09 | 1.48 | 0.23 | 0.96 | 0.35 |
| BAUS-4377 | 50 | 64 | 6156590 | 19151494 | 3.97 | 1 | 0.55 | 0.84 | 1.57 | 1.01 | 0.29 | 1.02 | 0.46 |
| BWLL-4902 | 51 | 72 | 6196194.5 | 19176508 | 3.98 | 1 | 1.48 | 1.78 | 2.35 | 1.96 | 0.31 | 0.87 | 0.48 |
| BAUS-4002 | 49 | 64 | 6156882.5 | 19158188 | 3.98 | 1 | 0.31 | 0.55 | 1.12 | 0.68 | 0.24 | 0.81 | 0.37 |
| BWLL-5712 | 52 | 73 | 6201356 | 19174950 | 4.03 | 1 | 1.97 | 2.23 | 2.72 | 2.38 | 0.26 | 0.76 | 0.41 |
| BWLL-4901 | 51 | 72 | 6196531.5 | 19176924 | 4.07 | 1 | 1.48 | 1.78 | 2.35 | 1.96 | 0.31 | 0.87 | 0.48 |
| BAUS-4106 | 48 | 69 | 6173004 | 19177696 | 4.09 | 1 | 0.17 | 0.42 | 0.99 | 0.59 | 0.26 | 0.82 | 0.42 |
| BAUS-4326 | 49 | 64 | 6156076.5 | 19158564 | 4.14 | 1 | 0.31 | 0.55 | 1.12 | 0.68 | 0.24 | 0.81 | 0.37 |
| 6624105 | 49 | 64 | 6156073.5 | 19158552 | 4.14 | 1 | 0.31 | 0.55 | 1.12 | 0.68 | 0.24 | 0.81 | 0.37 |
| BAUS-4130 | 50 | 63 | 6154803.5 | 19149710 | 4.17 | 1 | 0.37 | 0.60 | 1.19 | 0.72 | 0.23 | 0.82 | 0.35 |
| BWLL-4479 | 54 | 73 | 6211756.5 | 19165026 | 4.18 | 1 | 2.01 | 2.22 | 2.62 | 2.33 | 0.21 | 0.61 | 0.32 |
| BWLL-5046 | 48 | 70 | 6175780.5 | 19178808 | 4.21 | 1 | 0.33 | 0.58 | 1.08 | 0.73 | 0.26 | 0.75 | 0.40 |

| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Subsidence 1891 to 2009 (ft) | | | | Subsidence Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BAUS-4440 | 56 | 62 | 6169492.5 | 19120560 | 4.22 | 1 | 1.23 | 1.42 | 2.01 | 1.52 | 0.19 | 0.78 | 0.28 |
| BWLL-5107 | 50 | 72 | 6193152 | 19178698 | 4.31 | 1 | 0.99 | 1.26 | 1.77 | 1.42 | 0.28 | 0.79 | 0.43 |
| BAUS-4478 | 50 | 63 | 6153445.5 | 19148244 | 4.34 | 1 | 0.37 | 0.60 | 1.19 | 0.72 | 0.23 | 0.82 | 0.35 |
| 6509803 | 55 | 73 | 6213403 | 19163354 | 4.36 | 1 | 1.29 | 1.43 | 1.68 | 1.50 | 0.13 | 0.39 | 0.20 |
| BWLL-5036 | 50 | 72 | 6193462 | 19179040 | 4.37 | 1 | 0.99 | 1.26 | 1.77 | 1.42 | 0.28 | 0.79 | 0.43 |
| BAUS-5365 | 49 | 64 | 6154709.5 | 19158668 | 4.4 | 1 | 0.31 | 0.55 | 1.12 | 0.68 | 0.24 | 0.81 | 0.37 |
| BWLL-4586 | 50 | 72 | 6193187.5 | 19179334 | 4.43 | 1 | 0.99 | 1.26 | 1.77 | 1.42 | 0.28 | 0.79 | 0.43 |
| BWLL-4957 | 50 | 72 | 6193187.5 | 19179334 | 4.43 | 1 | 0.99 | 1.26 | 1.77 | 1.42 | 0.28 | 0.79 | 0.43 |
| BAUS-4231 | 49 | 64 | 6154315 | 19156072 | 4.46 | 1 | 0.31 | 0.55 | 1.12 | 0.68 | 0.24 | 0.81 | 0.37 |
| BAUS-5178 | 54 | 61 | 6159714 | 19125378 | 4.47 | 1 | 0.43 | 0.59 | 1.10 | 0.68 | 0.16 | 0.66 | 0.24 |
| BAUS-4433 | 47 | 68 | 6164433 | 19176176 | 4.48 | 1 | 0.10 | 0.27 | 0.71 | 0.39 | 0.17 | 0.61 | 0.29 |
| BAUS-4555 | 49 | 64 | 6154125 | 19156470 | 4.49 | 1 | 0.31 | 0.55 | 1.12 | 0.68 | 0.24 | 0.81 | 0.37 |
| BAUS-4323 | 49 | 64 | 6153822 | 19157574 | 4.55 | 1 | 0.31 | 0.55 | 1.12 | 0.68 | 0.24 | 0.81 | 0.37 |
| BAUS-4215 | 49 | 64 | 6153833 | 19157270 | 4.55 | 1 | 0.31 | 0.55 | 1.12 | 0.68 | 0.24 | 0.81 | 0.37 |
| BWLL-4273 | 49 | 72 | 6190162.5 | 19180238 | 4.6 | 1 | 0.91 | 1.14 | 1.57 | 1.27 | 0.23 | 0.66 | 0.36 |
| BAUS-4100 | 47 | 67 | 6159614.5 | 19173068 | 4.64 | 1 | 0.04 | 0.20 | 0.64 | 0.31 | 0.16 | 0.59 | 0.27 |
| BWLL-4020 | 50 | 72 | 6192689 | 19180938 | 4.72 | 1 | 0.99 | 1.26 | 1.77 | 1.42 | 0.28 | 0.79 | 0.43 |
| BWLL-4510 | 54 | 74 | 6212934 | 19168918 | 4.72 | 1 | 1.69 | 1.81 | 2.06 | 1.88 | 0.13 | 0.38 | 0.20 |
| BAUS-5408 | 57 | 62 | 6169281 | 19117216 | 4.82 | 1 | 1.55 | 1.72 | 2.25 | 1.81 | 0.17 | 0.69 | 0.25 |
| BAUS-4331 | 54 | 60 | 6155456.5 | 19126140 | 4.96 | 1 | 0.74 | 0.87 | 1.26 | 0.93 | 0.13 | 0.52 | 0.19 |
| BAUS-5307 | 55 | 61 | 6161433.5 | 19120750 | 4.97 | 1 | 0.88 | 1.04 | 1.56 | 1.13 | 0.16 | 0.68 | 0.25 |
| BAUS-4322 | 49 | 63 | 6151606.5 | 19155470 | 4.98 | 1 | 0.27 | 0.46 | 0.95 | 0.57 | 0.19 | 0.68 | 0.30 |
| BWLL-5404 | 49 | 72 | 6186798.5 | 19182242 | 5.05 | 1 | 0.91 | 1.14 | 1.57 | 1.27 | 0.23 | 0.66 | 0.36 |
| BWLL-5720 | 48 | 70 | 6177109.5 | 19183434 | 5.07 | 1 | 0.33 | 0.58 | 1.08 | 0.73 | 0.26 | 0.75 | 0.40 |
| BWLL-4968 | 52 | 74 | 6207057 | 19177918 | 5.08 | 1 | 1.60 | 1.73 | 1.99 | 1.80 | 0.14 | 0.39 | 0.21 |
| BAUS-4151 | 47 | 64 | 6152060.5 | 19165106 | 5.14 | 1 | 0.25 | 0.39 | 0.73 | 0.47 | 0.15 | 0.48 | 0.22 |
| BAUS-4240 | 47 | 66 | 6156685 | 19173776 | 5.15 | 1 | 0.14 | 0.33 | 0.77 | 0.44 | 0.20 | 0.63 | 0.31 |
| BWLL-0046 | 50 | 73 | 6198713 | 19182270 | 5.15 | 1 | 1.43 | 1.64 | 2.04 | 1.76 | 0.21 | 0.61 | 0.33 |
| BAUS-5332 | 46 | 67 | 6159231 | 19176600 | 5.17 | 1 | 0.01 | 0.01 | 0.22 | 0.05 | 0.00 | 0.20 | 0.03 |
| BAUS-4095 | 46 | 67 | 6159387 | 19177010 | 5.2 | 1 | 0.01 | 0.01 | 0.22 | 0.05 | 0.00 | 0.20 | 0.03 |
| BAUS-4361 | 48 | 64 | 6150553 | 19160396 | 5.22 | 1 | 0.22 | 0.42 | 0.88 | 0.52 | 0.20 | 0.66 | 0.31 |
| BAUS-4252 | 46 | 66 | 6155967.5 | 19174154 | 5.3 | 1 | 0.02 | 0.12 | 0.41 | 0.18 | 0.11 | 0.39 | 0.16 |
| BAUS-0023 | 58 | 62 | 6177353.5 | 19112740 | 5.37 | 1 | 1.79 | 1.94 | 2.39 | 2.01 | 0.15 | 0.60 | 0.22 |
| 6616701 | 46 | 66 | 6154947.5 | 19173422 | 5.37 | 1 | 0.02 | 0.12 | 0.41 | 0.18 | 0.11 | 0.39 | 0.16 |
| BWLL-4175 | 47 | 70 | 6175471.5 | 19184974 | 5.38 | 1 | 0.22 | 0.40 | 0.76 | 0.50 | 0.18 | 0.54 | 0.28 |
| BAUS-4157 | 55 | 60 | 6157945 | 19120556 | 5.39 | 1 | 1.15 | 1.28 | 1.67 | 1.34 | 0.13 | 0.51 | 0.19 |
| BAUS-4229 | 52 | 60 | 6150139 | 19129496 | 5.45 | 1 | 0.35 | 0.47 | 0.83 | 0.53 | 0.12 | 0.49 | 0.18 |
| BAUS-5374 | 47 | 64 | 6149640.5 | 19162492 | 5.46 | 1 | 0.25 | 0.39 | 0.73 | 0.47 | 0.15 | 0.48 | 0.22 |
| BWLL-4391 | 50 | 73 | 6195988 | 19184602 | 5.48 | 1 | 1.43 | 1.64 | 2.04 | 1.76 | 0.21 | 0.61 | 0.33 |
| BAUS-5320 | 46 | 66 | 6155757.5 | 19175638 | 5.51 | 1 | 0.02 | 0.12 | 0.41 | 0.18 | 0.11 | 0.39 | 0.16 |
| BWLL-5619 | 49 | 73 | 6190846.5 | 19185114 | 5.51 | 1 | 1.29 | 1.47 | 1.82 | 1.57 | 0.18 | 0.53 | 0.28 |
| 6616408 | 46 | 67 | 6156879.5 | 19177938 | 5.66 | 1 | 0.01 | 0.01 | 0.22 | 0.05 | 0.00 | 0.20 | 0.03 |
| BAUS-4533 | 49 | 61 | 6145912 | 19147068 | 5.7 | 1 | 0.27 | 0.38 | 0.69 | 0.44 | 0.11 | 0.42 | 0.17 |
| BAUS-4441 | 46 | 66 | 6154841 | 19176140 | 5.71 | 1 | 0.02 | 0.12 | 0.41 | 0.18 | 0.11 | 0.39 | 0.16 |
| 6517505 | 59 | 70 | 6212777.5 | 19134288 | 5.75 | 1 | 1.58 | 1.81 | 2.34 | 1.93 | 0.23 | 0.76 | 0.35 |
| BAUS-4312 | 47 | 65 | 6149991 | 19168882 | 5.76 | 1 | 0.23 | 0.40 | 0.78 | 0.49 | 0.17 | 0.55 | 0.26 |
| BWLL-4388 | 47 | 71 | 6176538 | 19187140 | 5.78 | 1 | 0.30 | 0.48 | 0.81 | 0.57 | 0.17 | 0.51 | 0.27 |
| BWLL-4841 | 55 | 75 | 6219268 | 19169050 | 5.79 | 1 | 1.66 | 1.76 | 1.96 | 1.82 | 0.10 | 0.31 | 0.16 |
| BWLL-4199 | 48 | 72 | 6184208.5 | 19186706 | 5.81 | 1 | 0.67 | 0.86 | 1.21 | 0.96 | 0.19 | 0.55 | 0.29 |
| BWLL-4019 | 48 | 72 | 6188877 | 19186572 | 5.81 | 1 | 0.67 | 0.86 | 1.21 | 0.96 | 0.19 | 0.55 | 0.29 |
| BWLL-4198 | 48 | 72 | 6184296.5 | 19186710 | 5.82 | 1 | 0.67 | 0.86 | 1.21 | 0.96 | 0.19 | 0.55 | 0.29 |
| BWLL-4271 | 54 | 75 | 6216897.5 | 19173622 | 5.84 | 1 | 1.37 | 1.46 | 1.61 | 1.50 | 0.08 | 0.24 | 0.12 |
| BWLL-4668 | 46 | 69 | 6164915.5 | 19184902 | 5.88 | 1 | 0.05 | 0.16 | 0.43 | 0.22 | 0.11 | 0.38 | 0.18 |
| BAUS-5321 | 46 | 66 | 6155203.5 | 19177898 | 5.88 | 1 | 0.02 | 0.12 | 0.41 | 0.18 | 0.11 | 0.39 | 0.16 |
| BAUS-4209 | 47 | 64 | 6148873 | 19168134 | 5.9 | 1 | 0.25 | 0.39 | 0.73 | 0.47 | 0.15 | 0.48 | 0.22 |
| BWLL-4844 | 54 | 75 | 6219097.5 | 19171272 | 5.96 | 1 | 1.37 | 1.46 | 1.61 | 1.50 | 0.08 | 0.24 | 0.12 |
| BAUS-5366 | 59 | 62 | 6179431 | 19109360 | 6.01 | 1 | 2.08 | 2.22 | 2.62 | 2.28 | 0.14 | 0.54 | 0.20 |
| BAUS-4284 | 46 | 67 | 6156156.5 | 19179906 | 6.02 | 1 | 0.01 | 0.01 | 0.22 | 0.05 | 0.00 | 0.20 | 0.03 |
| BWLL-4146 | 47 | 71 | 6177018 | 19188474 | 6.03 | 1 | 0.30 | 0.48 | 0.81 | 0.57 | 0.17 | 0.51 | 0.27 |
| 6525104 | 60 | 65 | 6195083.5 | 19113996 | 6.05 | 1 | 1.76 | 1.94 | 2.43 | 2.02 | 0.18 | 0.67 | 0.27 |
| BAUS-4111 | 49 | 62 | 6145119.5 | 19152104 | 6.05 | 1 | 0.19 | 0.35 | 0.75 | 0.43 | 0.15 | 0.55 | 0.23 |
| 6517806 | 60 | 67 | 6203449.5 | 19120438 | 6.1 | 1 | 1.56 | 1.76 | 2.29 | 1.87 | 0.21 | 0.74 | 0.31 |

# Table E-10
# Simulated Subsidence and Subsidence Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - HAGM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Subsidence 1891 to 2009 (ft) | | | | Subsidence Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BAUS-4320 | 46 | 67 | 6155152.5 | 19179796 | 6.14 | 1 | 0.01 | 0.01 | 0.22 | 0.05 | 0.00 | 0.20 | 0.03 |
| BAUS-5210 | 46 | 66 | 6152520 | 19177072 | 6.16 | 1 | 0.02 | 0.12 | 0.41 | 0.18 | 0.11 | 0.39 | 0.16 |
| BWLL-5048 | 50 | 74 | 6201355 | 19187026 | 6.16 | 1 | 1.81 | 1.98 | 2.28 | 2.06 | 0.16 | 0.47 | 0.25 |
| BWLL-5244 | 47 | 71 | 6176659 | 19189290 | 6.18 | 1 | 0.30 | 0.48 | 0.81 | 0.57 | 0.17 | 0.51 | 0.27 |
| BAUS-4219 | 47 | 63 | 6146183.5 | 19164496 | 6.18 | 1 | 0.23 | 0.35 | 0.63 | 0.41 | 0.12 | 0.40 | 0.18 |
| BWLL-4997 | 48 | 73 | 6191791 | 19188702 | 6.19 | 1 | 0.99 | 1.14 | 1.43 | 1.22 | 0.15 | 0.44 | 0.23 |
| BAUS-4179 | 51 | 60 | 6142840 | 19136634 | 6.33 | 1 | 0.37 | 0.48 | 0.81 | 0.54 | 0.11 | 0.44 | 0.17 |
| BWLL-4481 | 51 | 75 | 6207214 | 19185620 | 6.34 | 1 | 1.73 | 1.84 | 2.04 | 1.89 | 0.11 | 0.31 | 0.16 |
| BAUS-4501 | 47 | 63 | 6144274 | 19161188 | 6.42 | 1 | 0.23 | 0.35 | 0.63 | 0.41 | 0.12 | 0.40 | 0.18 |
| BAUS-4546 | 45 | 66 | 6152776 | 19179814 | 6.46 | 1 | 0.01 | 0.01 | 0.09 | 0.01 | 0.00 | 0.08 | 0.00 |
| BAUS-4096 | 45 | 66 | 6152178.5 | 19179288 | 6.48 | 1 | 0.01 | 0.01 | 0.09 | 0.01 | 0.00 | 0.08 | 0.00 |
| BWLL-4362 | 53 | 59 | 6146703.5 | 19124416 | 6.5 | 1 | 0.69 | 0.79 | 1.10 | 0.84 | 0.10 | 0.41 | 0.15 |
| BAUS-4194 | 45 | 66 | 6152336.5 | 19179800 | 6.52 | 1 | 0.01 | 0.01 | 0.09 | 0.01 | 0.00 | 0.08 | 0.00 |
| BWLL-5633 | 46 | 72 | 6178922 | 19191884 | 6.67 | 1 | 0.34 | 0.45 | 0.67 | 0.51 | 0.11 | 0.33 | 0.17 |
| BWLL-5316 | 48 | 73 | 6188437.5 | 19191416 | 6.73 | 1 | 0.99 | 1.14 | 1.43 | 1.22 | 0.15 | 0.44 | 0.23 |
| BWLL-0050 | 54 | 76 | 6221764 | 19175320 | 6.78 | 1 | 1.78 | 1.86 | 2.03 | 1.91 | 0.08 | 0.25 | 0.13 |
| 6517615 | 59 | 73 | 6225327 | 19143954 | 6.79 | 1 | 1.90 | 2.01 | 2.25 | 2.06 | 0.11 | 0.35 | 0.17 |
| 6517612 | 59 | 73 | 6225327 | 19143954 | 6.79 | 1 | 1.90 | 2.01 | 2.25 | 2.06 | 0.11 | 0.35 | 0.17 |
| BAUS-4058 | 55 | 59 | 6152213 | 19115596 | 6.8 | 1 | 1.32 | 1.42 | 1.72 | 1.47 | 0.10 | 0.40 | 0.14 |
| BAUS-4317 | 53 | 59 | 6144949.5 | 19124152 | 6.81 | 1 | 0.69 | 0.79 | 1.10 | 0.84 | 0.10 | 0.41 | 0.15 |
| BWLL-5218 | 47 | 73 | 6186841.5 | 19191764 | 6.83 | 1 | 0.65 | 0.77 | 1.01 | 0.84 | 0.13 | 0.37 | 0.19 |
| BWLL-0014B | 54 | 76 | 6222610.5 | 19174580 | 6.85 | 1 | 1.78 | 1.86 | 2.03 | 1.91 | 0.08 | 0.25 | 0.13 |
| BAUS-4456 | 53 | 59 | 6145351.5 | 19122748 | 6.89 | 1 | 0.69 | 0.79 | 1.10 | 0.84 | 0.10 | 0.41 | 0.15 |
| BAUS-4329 | 53 | 59 | 6145263 | 19122744 | 6.9 | 1 | 0.69 | 0.79 | 1.10 | 0.84 | 0.10 | 0.41 | 0.15 |
| BWLL-4529 | 50 | 75 | 6206447 | 19189744 | 6.98 | 1 | 1.27 | 1.35 | 1.50 | 1.39 | 0.08 | 0.23 | 0.12 |
| BWLL-4524 | 50 | 75 | 6206447 | 19189744 | 6.98 | 1 | 1.27 | 1.35 | 1.50 | 1.39 | 0.08 | 0.23 | 0.12 |
| 6623602 | 49 | 60 | 6138788.5 | 19144204 | 6.99 | 1 | 0.37 | 0.45 | 0.69 | 0.50 | 0.09 | 0.32 | 0.13 |
| BWLL-5229 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 0.99 | 1.14 | 1.43 | 1.22 | 0.15 | 0.44 | 0.23 |
| BWLL-5228 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 0.99 | 1.14 | 1.43 | 1.22 | 0.15 | 0.44 | 0.23 |
| BWLL-5230 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 0.99 | 1.14 | 1.43 | 1.22 | 0.15 | 0.44 | 0.23 |
| BWLL-5231 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 0.99 | 1.14 | 1.43 | 1.22 | 0.15 | 0.44 | 0.23 |
| BWLL-5234 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 0.99 | 1.14 | 1.43 | 1.22 | 0.15 | 0.44 | 0.23 |
| BWLL-5235 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 0.99 | 1.14 | 1.43 | 1.22 | 0.15 | 0.44 | 0.23 |
| BWLL-5236 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 0.99 | 1.14 | 1.43 | 1.22 | 0.15 | 0.44 | 0.23 |
| BWLL-5278 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 0.99 | 1.14 | 1.43 | 1.22 | 0.15 | 0.44 | 0.23 |
| BWLL-0056 | 48 | 73 | 6190403.5 | 19193006 | 7.01 | 1 | 0.99 | 1.14 | 1.43 | 1.22 | 0.15 | 0.44 | 0.23 |
| BWLL-4098 | 46 | 72 | 6180351 | 19193656 | 7.02 | 1 | 0.34 | 0.45 | 0.67 | 0.51 | 0.11 | 0.33 | 0.17 |
| BAUS-4254 | 48 | 61 | 6139071 | 19148754 | 7.02 | 1 | 0.37 | 0.46 | 0.71 | 0.51 | 0.10 | 0.34 | 0.14 |
| BAUS-4202 | 45 | 65 | 6145386.5 | 19174694 | 7.03 | 1 | 0.03 | 0.10 | 0.28 | 0.14 | 0.07 | 0.25 | 0.11 |
| 6525106 | 61 | 65 | 6198306 | 19109812 | 7.05 | 1 | 2.18 | 2.34 | 2.78 | 2.42 | 0.16 | 0.60 | 0.24 |
| 6616305 | 46 | 71 | 6175255.5 | 19193866 | 7.06 | 1 | 0.18 | 0.29 | 0.53 | 0.35 | 0.11 | 0.35 | 0.17 |
| BWLL-0001D | 54 | 76 | 6224553 | 19173702 | 7.08 | 1 | 1.78 | 1.86 | 2.03 | 1.91 | 0.08 | 0.25 | 0.13 |
| BWLL-5560 | 50 | 76 | 6207148 | 19189986 | 7.08 | 1 | 1.26 | 1.32 | 1.43 | 1.35 | 0.06 | 0.16 | 0.08 |
| BWLL-5583 | 50 | 76 | 6207148 | 19189986 | 7.08 | 1 | 1.26 | 1.32 | 1.43 | 1.35 | 0.06 | 0.16 | 0.08 |
| BWLL-5705 | 50 | 76 | 6207148 | 19189986 | 7.08 | 1 | 1.26 | 1.32 | 1.43 | 1.35 | 0.06 | 0.16 | 0.08 |
| BAUS-4287 | 48 | 61 | 6139321 | 19151700 | 7.09 | 1 | 0.37 | 0.46 | 0.71 | 0.51 | 0.10 | 0.34 | 0.14 |
| BWLL-5093 | 50 | 76 | 6206153.5 | 19190542 | 7.1 | 1 | 1.26 | 1.32 | 1.43 | 1.35 | 0.06 | 0.16 | 0.08 |
| BWLL-4001 | 50 | 76 | 6206776 | 19190364 | 7.11 | 1 | 1.26 | 1.32 | 1.43 | 1.35 | 0.06 | 0.16 | 0.08 |
| BWLL-5523 | 49 | 75 | 6202579.5 | 19192032 | 7.13 | 1 | 1.77 | 1.88 | 2.10 | 1.94 | 0.11 | 0.33 | 0.17 |
| BWLL-4387 | 46 | 71 | 6173820.5 | 19194232 | 7.15 | 1 | 0.18 | 0.29 | 0.53 | 0.35 | 0.11 | 0.35 | 0.17 |
| BWLL-5260 | 49 | 75 | 6202931 | 19192046 | 7.15 | 1 | 1.77 | 1.88 | 2.10 | 1.94 | 0.11 | 0.33 | 0.17 |
| BWLL-4427 | 47 | 73 | 6189667.5 | 19193892 | 7.18 | 1 | 0.65 | 0.77 | 1.01 | 0.84 | 0.13 | 0.37 | 0.19 |
| BWLL-5047 | 49 | 75 | 6203183.5 | 19192358 | 7.22 | 1 | 1.77 | 1.88 | 2.10 | 1.94 | 0.11 | 0.33 | 0.17 |
| BAUS-4164 | 54 | 58 | 6147398 | 19117150 | 7.23 | 1 | 1.09 | 1.17 | 1.42 | 1.21 | 0.08 | 0.33 | 0.12 |
| BAUS-4369 | 49 | 60 | 6137283 | 19144440 | 7.28 | 1 | 0.37 | 0.45 | 0.69 | 0.50 | 0.09 | 0.32 | 0.13 |
| BWLL-4753 | 54 | 77 | 6223802.5 | 19177320 | 7.31 | 1 | 2.06 | 2.14 | 2.30 | 2.18 | 0.08 | 0.24 | 0.12 |
| BWLL-4655 | 49 | 75 | 6202275.5 | 19193136 | 7.32 | 1 | 1.77 | 1.88 | 2.10 | 1.94 | 0.11 | 0.33 | 0.17 |
| BAUS-4313 | 48 | 60 | 6137047.5 | 19146152 | 7.34 | 1 | 0.36 | 0.44 | 0.65 | 0.48 | 0.08 | 0.28 | 0.11 |
| BWLL-4599 | 49 | 75 | 6202890.5 | 19193158 | 7.35 | 1 | 1.77 | 1.88 | 2.10 | 1.94 | 0.11 | 0.33 | 0.17 |
| BWLL-4656 | 49 | 75 | 6201913 | 19193426 | 7.35 | 1 | 1.77 | 1.88 | 2.10 | 1.94 | 0.11 | 0.33 | 0.17 |
| BAUS-5288 | 54 | 58 | 6148317 | 19114972 | 7.39 | 1 | 1.09 | 1.17 | 1.42 | 1.21 | 0.08 | 0.33 | 0.12 |
| BAUS-4078 | 48 | 61 | 6137790.5 | 19152660 | 7.42 | 1 | 0.37 | 0.46 | 0.71 | 0.51 | 0.10 | 0.34 | 0.14 |

# Table E-10
# Simulated Subsidence and Subsidence Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - HAGM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Subsidence 1891 to 2009 (ft) | | | | Subsidence Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BWLL-4660 | 49 | 75 | 6202868 | 19193764 | 7.46 | 1 | 1.77 | 1.88 | 2.10 | 1.94 | 0.11 | 0.33 | 0.17 |
| BWLL-4227 | 53 | 77 | 6222451.5 | 19180512 | 7.46 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-4113 | 53 | 77 | 6222902.5 | 19180224 | 7.5 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-4304 | 53 | 77 | 6222433 | 19181016 | 7.52 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-4181 | 53 | 77 | 6222891 | 19180528 | 7.53 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-5210 | 49 | 75 | 6202498.5 | 19194258 | 7.53 | 1 | 1.77 | 1.88 | 2.10 | 1.94 | 0.11 | 0.33 | 0.17 |
| BWLL-4297 | 45 | 71 | 6169373.5 | 19195592 | 7.54 | 1 | 0.11 | 0.18 | 0.36 | 0.22 | 0.07 | 0.25 | 0.11 |
| BWLL-4405 | 54 | 77 | 6224743 | 19178064 | 7.54 | 1 | 2.06 | 2.14 | 2.30 | 2.18 | 0.08 | 0.24 | 0.12 |
| BAUS-4066 | 47 | 62 | 6138023 | 19158642 | 7.55 | 1 | 0.18 | 0.28 | 0.53 | 0.33 | 0.10 | 0.34 | 0.15 |
| BWLL-4265 | 53 | 77 | 6222608.5 | 19181024 | 7.55 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-4570 | 53 | 77 | 6223437 | 19180042 | 7.55 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BAUS-4075 | 47 | 62 | 6138002 | 19159248 | 7.56 | 1 | 0.18 | 0.28 | 0.53 | 0.33 | 0.10 | 0.34 | 0.15 |
| BAUS-4297 | 46 | 72 | 6178346 | 19196654 | 7.57 | 1 | 0.34 | 0.45 | 0.67 | 0.51 | 0.11 | 0.33 | 0.17 |
| BWLL-4590 | 49 | 75 | 6202934 | 19194374 | 7.58 | 1 | 1.77 | 1.88 | 2.10 | 1.94 | 0.11 | 0.33 | 0.17 |
| BAUS-4230 | 47 | 61 | 6136978 | 19153238 | 7.59 | 1 | 0.29 | 0.37 | 0.57 | 0.41 | 0.08 | 0.28 | 0.12 |
| BWLL-4127 | 53 | 77 | 6223052 | 19180938 | 7.6 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-4299 | 54 | 77 | 6225373.5 | 19177684 | 7.6 | 1 | 2.06 | 2.14 | 2.30 | 2.18 | 0.08 | 0.24 | 0.12 |
| BWLL-4114 | 53 | 77 | 6222864.5 | 19181236 | 7.61 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-5339 | 53 | 77 | 6222956.5 | 19181138 | 7.61 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-4128 | 53 | 77 | 6223876.5 | 19180058 | 7.62 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-4017 | 53 | 77 | 6224063.5 | 19179760 | 7.62 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-4014 | 53 | 77 | 6223972 | 19179858 | 7.62 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| 6510715 | 57 | 76 | 6231432 | 19161984 | 7.63 | 1 | 3.22 | 3.38 | 3.71 | 3.46 | 0.16 | 0.49 | 0.24 |
| BWLL-4264 | 53 | 77 | 6223319 | 19180848 | 7.63 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-4262 | 54 | 77 | 6225736 | 19177392 | 7.63 | 1 | 2.06 | 2.14 | 2.30 | 2.18 | 0.08 | 0.24 | 0.12 |
| 6517614 | 60 | 73 | 6228549 | 19139770 | 7.65 | 1 | 2.27 | 2.40 | 2.69 | 2.47 | 0.13 | 0.42 | 0.20 |
| BWLL-4308 | 53 | 77 | 6224144 | 19179966 | 7.65 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BAUS-4472 | 48 | 60 | 6135298.5 | 19145788 | 7.67 | 1 | 0.36 | 0.44 | 0.65 | 0.48 | 0.08 | 0.28 | 0.11 |
| BWLL-4614 | 49 | 75 | 6202556.5 | 19195070 | 7.68 | 1 | 1.77 | 1.88 | 2.10 | 1.94 | 0.11 | 0.33 | 0.17 |
| BWLL-4180 | 53 | 77 | 6224041 | 19180368 | 7.68 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-4294 | 53 | 77 | 6223671 | 19180860 | 7.68 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BAUS-5154 | 47 | 62 | 6137316 | 19158718 | 7.69 | 1 | 0.18 | 0.28 | 0.53 | 0.33 | 0.10 | 0.34 | 0.15 |
| BWLL-4058 | 53 | 77 | 6224133 | 19180270 | 7.69 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-4266 | 54 | 77 | 6224686.5 | 19179582 | 7.69 | 1 | 2.06 | 2.14 | 2.30 | 2.18 | 0.08 | 0.24 | 0.12 |
| BWLL-4179 | 53 | 77 | 6224030 | 19180672 | 7.72 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-4034 | 54 | 77 | 6224862.5 | 19179588 | 7.72 | 1 | 2.06 | 2.14 | 2.30 | 2.18 | 0.08 | 0.24 | 0.12 |
| BWLL-5165 | 49 | 76 | 6202725 | 19195278 | 7.73 | 1 | 0.98 | 1.03 | 1.11 | 1.05 | 0.04 | 0.12 | 0.06 |
| BWLL-4225 | 54 | 77 | 6224847 | 19179992 | 7.76 | 1 | 2.06 | 2.14 | 2.30 | 2.18 | 0.08 | 0.24 | 0.12 |
| BWLL-4279 | 53 | 77 | 6224477 | 19180486 | 7.76 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-4380 | 53 | 77 | 6223831.5 | 19181272 | 7.76 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-4566 | 53 | 77 | 6223831.5 | 19181272 | 7.76 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-4797 | 55 | 77 | 6227917.5 | 19175550 | 7.81 | 1 | 1.41 | 1.45 | 1.55 | 1.48 | 0.05 | 0.14 | 0.07 |
| BWLL-4916 | 53 | 77 | 6224271 | 19181288 | 7.82 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-5324 | 47 | 73 | 6186384 | 19197114 | 7.83 | 1 | 0.65 | 0.77 | 1.01 | 0.84 | 0.13 | 0.37 | 0.19 |
| BWLL-4990 | 52 | 77 | 6218864.5 | 19187062 | 7.83 | 1 | 2.65 | 2.74 | 2.92 | 2.79 | 0.09 | 0.27 | 0.14 |
| BWLL-4018 | 54 | 77 | 6225195 | 19180106 | 7.83 | 1 | 2.06 | 2.14 | 2.30 | 2.18 | 0.08 | 0.24 | 0.12 |
| BWLL-4359 | 53 | 77 | 6224450.5 | 19181194 | 7.84 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-4226 | 54 | 77 | 6225096 | 19180408 | 7.85 | 1 | 2.06 | 2.14 | 2.30 | 2.18 | 0.08 | 0.24 | 0.12 |
| BWLL-4016 | 53 | 77 | 6224813.5 | 19180902 | 7.86 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-4059 | 54 | 77 | 6225271.5 | 19180414 | 7.88 | 1 | 2.06 | 2.14 | 2.30 | 2.18 | 0.08 | 0.24 | 0.12 |
| BWLL-4060 | 54 | 77 | 6225271.5 | 19180414 | 7.88 | 1 | 2.06 | 2.14 | 2.30 | 2.18 | 0.08 | 0.24 | 0.12 |
| BWLL-0014A | 55 | 77 | 6229109.5 | 19174278 | 7.9 | 1 | 1.41 | 1.45 | 1.55 | 1.48 | 0.05 | 0.14 | 0.07 |
| BAUS-5159 | 47 | 61 | 6136060 | 19156852 | 7.91 | 1 | 0.29 | 0.37 | 0.57 | 0.41 | 0.08 | 0.28 | 0.12 |
| BAUS-4356 | 49 | 59 | 6133777 | 19141382 | 7.94 | 1 | 0.43 | 0.50 | 0.69 | 0.54 | 0.07 | 0.26 | 0.10 |
| BWLL-4088 | 54 | 77 | 6225898 | 19180134 | 7.94 | 1 | 2.06 | 2.14 | 2.30 | 2.18 | 0.08 | 0.24 | 0.12 |
| BWLL-4447 | 53 | 77 | 6225241.5 | 19181222 | 7.96 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-4126 | 53 | 77 | 6225329.5 | 19181226 | 7.98 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-4407 | 53 | 77 | 6225604.5 | 19180932 | 7.98 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-4282 | 54 | 77 | 6226062.5 | 19180444 | 8 | 1 | 2.06 | 2.14 | 2.30 | 2.18 | 0.08 | 0.24 | 0.12 |
| 6525105 | 62 | 65 | 6201528 | 19105630 | 8.04 | 1 | 2.30 | 2.44 | 2.82 | 2.51 | 0.14 | 0.52 | 0.20 |
| BWLL-4228 | 53 | 77 | 6225853 | 19181346 | 8.07 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |
| BWLL-4012 | 53 | 77 | 6226028.5 | 19181354 | 8.1 | 1 | 2.39 | 2.47 | 2.64 | 2.52 | 0.09 | 0.25 | 0.13 |

# Table E-10
## Simulated Subsidence and Subsidence Due to Electro Purification Pumping
## Chicot Aquifer (Layer 1) - HAGM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Subsidence 1891 to 2009 (ft) | | | | Subsidence Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BAUS-4394 | 44 | 64 | 6139451.5 | 19175804 | 8.13 | 1 | 0.23 | 0.29 | 0.42 | 0.32 | 0.06 | 0.20 | 0.09 |
| 6518103 | 58 | 76 | 6234654 | 19157800 | 8.16 | 1 | 2.65 | 2.76 | 2.99 | 2.81 | 0.11 | 0.34 | 0.16 |
| 6518406 | 60 | 74 | 6232732 | 19142992 | 8.17 | 1 | 2.36 | 2.48 | 2.75 | 2.54 | 0.12 | 0.39 | 0.19 |
| BAUS-5433 | 45 | 63 | 6137554 | 19171998 | 8.17 | 1 | 0.49 | 0.56 | 0.72 | 0.59 | 0.07 | 0.24 | 0.11 |
| BWLL-4482 | 48 | 76 | 6202617.5 | 19198212 | 8.26 | 1 | 1.57 | 1.64 | 1.77 | 1.67 | 0.07 | 0.20 | 0.10 |
| BAUS-5362 | 44 | 64 | 6139628 | 19178494 | 8.34 | 1 | 0.23 | 0.29 | 0.42 | 0.32 | 0.06 | 0.20 | 0.09 |
| BAUS-4308 | 44 | 64 | 6137869 | 19175750 | 8.39 | 1 | 0.23 | 0.29 | 0.42 | 0.32 | 0.06 | 0.20 | 0.09 |
| 6615902 | 45 | 63 | 6136149 | 19171854 | 8.4 | 1 | 0.49 | 0.56 | 0.72 | 0.59 | 0.07 | 0.24 | 0.11 |
| 6509106 | 46 | 74 | 6188481 | 19200322 | 8.41 | 1 | 0.65 | 0.73 | 0.89 | 0.77 | 0.08 | 0.23 | 0.12 |
| BWLL-5718 | 56 | 77 | 6233042.5 | 19172732 | 8.46 | 1 | 2.82 | 2.93 | 3.15 | 2.98 | 0.11 | 0.33 | 0.16 |
| BWLL-4263 | 54 | 78 | 6229601 | 19179968 | 8.51 | 1 | 2.15 | 2.21 | 2.34 | 2.24 | 0.07 | 0.19 | 0.10 |
| BAUS-4228 | 48 | 58 | 6129578 | 19140528 | 8.74 | 1 | 0.49 | 0.54 | 0.67 | 0.56 | 0.05 | 0.18 | 0.07 |
| BAUS-4544 | 45 | 62 | 6133072 | 19169406 | 8.82 | 1 | 0.44 | 0.51 | 0.65 | 0.53 | 0.06 | 0.21 | 0.09 |
| BWLL-4969 | 45 | 73 | 6182724.5 | 19203464 | 8.91 | 1 | 0.30 | 0.37 | 0.51 | 0.41 | 0.07 | 0.21 | 0.11 |
| 6518404 | 61 | 74 | 6235954 | 19138808 | 9.01 | 1 | 2.66 | 2.79 | 3.07 | 2.84 | 0.13 | 0.41 | 0.18 |
| BAUS-4319 | 46 | 60 | 6129618 | 19154706 | 9.01 | 1 | 0.49 | 0.54 | 0.67 | 0.56 | 0.05 | 0.18 | 0.07 |
| 6518403 | 61 | 74 | 6235954 | 19138808 | 9.01 | 1 | 2.66 | 2.79 | 3.07 | 2.84 | 0.13 | 0.41 | 0.18 |
| 6525209 | 63 | 66 | 6208933 | 19104668 | 9.03 | 1 | 2.31 | 2.45 | 2.80 | 2.51 | 0.14 | 0.49 | 0.20 |
| 6525218 | 63 | 66 | 6208933 | 19104668 | 9.03 | 1 | 2.31 | 2.45 | 2.80 | 2.51 | 0.14 | 0.49 | 0.20 |
| 6525219 | 63 | 66 | 6208933 | 19104668 | 9.03 | 1 | 2.31 | 2.45 | 2.80 | 2.51 | 0.14 | 0.49 | 0.20 |
| 6525220 | 63 | 65 | 6204749.5 | 19101448 | 9.04 | 1 | 2.50 | 2.63 | 2.97 | 2.69 | 0.13 | 0.46 | 0.18 |
| 6525221 | 63 | 65 | 6204749.5 | 19101448 | 9.04 | 1 | 2.50 | 2.63 | 2.97 | 2.69 | 0.13 | 0.46 | 0.18 |
| 6525210 | 63 | 65 | 6204749.5 | 19101448 | 9.04 | 1 | 2.50 | 2.63 | 2.97 | 2.69 | 0.13 | 0.46 | 0.18 |
| BAUS-4072 | 45 | 62 | 6131531.5 | 19168138 | 9.04 | 1 | 0.44 | 0.51 | 0.65 | 0.53 | 0.06 | 0.21 | 0.09 |
| BAUS-4131 | 48 | 58 | 6128001.5 | 19140272 | 9.04 | 1 | 0.49 | 0.54 | 0.67 | 0.56 | 0.05 | 0.18 | 0.07 |
| 6525202 | 63 | 67 | 6213116 | 19107890 | 9.08 | 1 | 2.15 | 2.29 | 2.64 | 2.35 | 0.14 | 0.49 | 0.20 |
| 6525203 | 63 | 67 | 6213116 | 19107890 | 9.08 | 1 | 2.15 | 2.29 | 2.64 | 2.35 | 0.14 | 0.49 | 0.20 |
| BAUS-4291 | 45 | 61 | 6130616.5 | 19166588 | 9.14 | 1 | 0.38 | 0.43 | 0.56 | 0.45 | 0.05 | 0.18 | 0.07 |
| BWLL-5331 | 46 | 74 | 6188675.5 | 19204286 | 9.16 | 1 | 0.65 | 0.73 | 0.89 | 0.77 | 0.08 | 0.23 | 0.12 |
| BAUS-4217 | 45 | 61 | 6130444.5 | 19166480 | 9.17 | 1 | 0.38 | 0.43 | 0.56 | 0.45 | 0.05 | 0.18 | 0.07 |
| BAUS-4305 | 45 | 61 | 6130444.5 | 19166480 | 9.17 | 1 | 0.38 | 0.43 | 0.56 | 0.45 | 0.05 | 0.18 | 0.07 |
| BAUS-4218 | 45 | 61 | 6130444.5 | 19166480 | 9.17 | 1 | 0.38 | 0.43 | 0.56 | 0.45 | 0.05 | 0.18 | 0.07 |
| BAUS-4195 | 45 | 61 | 6130275.5 | 19166272 | 9.19 | 1 | 0.38 | 0.43 | 0.56 | 0.45 | 0.05 | 0.18 | 0.07 |
| BWLL-4511 | 53 | 79 | 6228988.5 | 19186932 | 9.19 | 1 | 1.25 | 1.28 | 1.34 | 1.29 | 0.03 | 0.08 | 0.04 |
| BAUS-5306 | 45 | 61 | 6130250.5 | 19166582 | 9.21 | 1 | 0.38 | 0.43 | 0.56 | 0.45 | 0.05 | 0.18 | 0.07 |
| BAUS-5377 | 45 | 61 | 6130250.5 | 19166582 | 9.21 | 1 | 0.38 | 0.43 | 0.56 | 0.45 | 0.05 | 0.18 | 0.07 |
| BAUS-4532 | 48 | 58 | 6127012.5 | 19140844 | 9.22 | 1 | 0.49 | 0.54 | 0.67 | 0.56 | 0.05 | 0.18 | 0.07 |
| 6525301 | 63 | 68 | 6217299 | 19111112 | 9.23 | 1 | 1.44 | 1.59 | 1.94 | 1.65 | 0.14 | 0.50 | 0.21 |
| BAUS-5181 | 45 | 61 | 6130085.5 | 19166670 | 9.24 | 1 | 0.38 | 0.43 | 0.56 | 0.45 | 0.05 | 0.18 | 0.07 |
| BAUS-4463 | 45 | 61 | 6129853.5 | 19165750 | 9.25 | 1 | 0.38 | 0.43 | 0.56 | 0.45 | 0.05 | 0.18 | 0.07 |
| BWLL-5038 | 52 | 79 | 6226942.5 | 19189894 | 9.27 | 1 | 2.11 | 2.15 | 2.23 | 2.17 | 0.04 | 0.12 | 0.06 |
| BAUS-5371 | 45 | 61 | 6129745 | 19166062 | 9.28 | 1 | 0.38 | 0.43 | 0.56 | 0.45 | 0.05 | 0.18 | 0.07 |
| BWLL-4560 | 52 | 79 | 6225465 | 19191764 | 9.33 | 1 | 2.11 | 2.15 | 2.23 | 2.17 | 0.04 | 0.12 | 0.06 |
| BWLL-5368 | 53 | 79 | 6229497 | 19187458 | 9.33 | 1 | 1.25 | 1.28 | 1.34 | 1.29 | 0.03 | 0.08 | 0.04 |
| BAUS-5439 | 45 | 61 | 6129458.5 | 19166208 | 9.34 | 1 | 0.38 | 0.43 | 0.56 | 0.45 | 0.05 | 0.18 | 0.07 |
| BAUS-4166 | 44 | 62 | 6129924.5 | 19168790 | 9.36 | 1 | 0.36 | 0.41 | 0.52 | 0.43 | 0.05 | 0.16 | 0.07 |
| BWLL-5377 | 52 | 79 | 6225996 | 19191682 | 9.38 | 1 | 2.11 | 2.15 | 2.23 | 2.17 | 0.04 | 0.12 | 0.06 |
| BWLL-4212 | 46 | 75 | 6189681.5 | 19205640 | 9.41 | 1 | 0.85 | 0.92 | 1.05 | 0.95 | 0.07 | 0.19 | 0.10 |
| BAUS-4363 | 46 | 60 | 6127131 | 19155328 | 9.5 | 1 | 0.49 | 0.54 | 0.67 | 0.56 | 0.05 | 0.18 | 0.07 |
| BAUS-4037 | 48 | 58 | 6125454 | 19142614 | 9.51 | 1 | 0.49 | 0.54 | 0.67 | 0.56 | 0.05 | 0.18 | 0.07 |
| BWLL-4239 | 55 | 79 | 6237373 | 19176916 | 9.53 | 1 | 1.75 | 1.78 | 1.84 | 1.79 | 0.03 | 0.09 | 0.04 |
| BWLL-4562 | 52 | 79 | 6227130.5 | 19191926 | 9.57 | 1 | 2.11 | 2.15 | 2.23 | 2.17 | 0.04 | 0.12 | 0.06 |
| BWLL-4898 | 53 | 79 | 6232263 | 19186448 | 9.62 | 1 | 1.25 | 1.28 | 1.34 | 1.29 | 0.03 | 0.08 | 0.04 |
| BWLL-5566 | 52 | 79 | 6227068 | 19192974 | 9.7 | 1 | 2.11 | 2.15 | 2.23 | 2.17 | 0.04 | 0.12 | 0.06 |
| 6623205 | 45 | 60 | 6126611.5 | 19158036 | 9.71 | 1 | 0.42 | 0.46 | 0.57 | 0.48 | 0.04 | 0.15 | 0.06 |
| BWLL-5656 | 53 | 79 | 6232524.5 | 19187068 | 9.73 | 1 | 1.25 | 1.28 | 1.34 | 1.29 | 0.03 | 0.08 | 0.04 |
| BWLL-5063 | 51 | 79 | 6224348 | 19195772 | 9.76 | 1 | 2.06 | 2.10 | 2.17 | 2.11 | 0.04 | 0.11 | 0.06 |
| BWLL-5602 | 52 | 79 | 6228469 | 19192130 | 9.78 | 1 | 2.11 | 2.15 | 2.23 | 2.17 | 0.04 | 0.12 | 0.06 |
| BWLL-5148 | 50 | 79 | 6221156.5 | 19198794 | 9.85 | 1 | 2.18 | 2.22 | 2.29 | 2.24 | 0.04 | 0.12 | 0.06 |
| BAUS-5364 | 48 | 57 | 6123778 | 19139626 | 9.85 | 1 | 0.65 | 0.69 | 0.79 | 0.70 | 0.04 | 0.14 | 0.05 |
| BWLL-5655 | 53 | 79 | 6233317.5 | 19187106 | 9.85 | 1 | 1.25 | 1.28 | 1.34 | 1.29 | 0.03 | 0.08 | 0.04 |
| BWLL-5657 | 53 | 79 | 6233273 | 19187104 | 9.85 | 1 | 1.25 | 1.28 | 1.34 | 1.29 | 0.03 | 0.08 | 0.04 |

# Table E-10
# Simulated Subsidence and Subsidence Due to Electro Purification Pumping
# Chicot Aquifer (Layer 1) - HAGM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Subsidence 1891 to 2009 (ft) | | | | Subsidence Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BWLL-5658 | 53 | 79 | 6233273 | 19187104 | 9.85 | 1 | 1.25 | 1.28 | 1.34 | 1.29 | 0.03 | 0.08 | 0.04 |
| 6510813 | 58 | 78 | 6243020.5 | 19164244 | 9.86 | 1 | 2.22 | 2.25 | 2.29 | 2.25 | 0.02 | 0.07 | 0.03 |
| 6510814 | 58 | 78 | 6243020.5 | 19164244 | 9.86 | 1 | 2.22 | 2.25 | 2.29 | 2.25 | 0.02 | 0.07 | 0.03 |
| BWLL-4662 | 50 | 79 | 6221947 | 19198822 | 9.94 | 1 | 2.18 | 2.22 | 2.29 | 2.24 | 0.04 | 0.12 | 0.06 |
| BWLL-4276 | 50 | 79 | 6221947 | 19198822 | 9.94 | 1 | 2.18 | 2.22 | 2.29 | 2.24 | 0.04 | 0.12 | 0.06 |
| BWLL-5605 | 43 | 73 | 6173644.5 | 19209052 | 9.95 | 1 | 0.10 | 0.13 | 0.19 | 0.14 | 0.03 | 0.09 | 0.04 |
| BAUS-4189 | 43 | 62 | 6127509.5 | 19172454 | 9.99 | 1 | 0.30 | 0.34 | 0.41 | 0.35 | 0.03 | 0.11 | 0.05 |

# Table E-11
# Simulated Subsidence and Subsidence Due to Electro Purification Pumping
# Evangeline Aquifer (Layer 2) - GAM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Subsidence 1891 to 2009 (ft) | | | | Subsidence Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| 6517417 | 55 | 69 | 6195706 | 19147798 | 1.74 | 2 | 0.21 | 0.64 | 1.89 | 0.98 | 0.43 | 1.68 | 0.77 |
| BWLL-5065 | 50 | 69 | 6182473 | 19168922 | 2.48 | 2 | 0.02 | 0.31 | 1.23 | 0.57 | 0.29 | 1.22 | 0.56 |
| BWLL-4269 | 50 | 69 | 6182649 | 19168928 | 2.49 | 2 | 0.02 | 0.31 | 1.23 | 0.57 | 0.29 | 1.22 | 0.56 |
| BWLL-5609 | 50 | 70 | 6183010 | 19170292 | 2.76 | 2 | 0.02 | 0.30 | 1.03 | 0.51 | 0.28 | 1.01 | 0.50 |
| BAUS-0022B | 48 | 68 | 6169273 | 19172252 | 3.37 | 2 | 0.01 | 0.02 | 0.41 | 0.10 | 0.00 | 0.40 | 0.08 |
| BAUS-0022A | 48 | 68 | 6169273 | 19172252 | 3.37 | 2 | 0.01 | 0.02 | 0.41 | 0.10 | 0.00 | 0.40 | 0.08 |
| BWLL-0001C | 51 | 72 | 6197378.5 | 19173006 | 3.4 | 2 | 0.62 | 0.93 | 1.50 | 1.11 | 0.31 | 0.88 | 0.49 |
| 6509704 | 51 | 72 | 6197392 | 19173010 | 3.4 | 2 | 0.62 | 0.93 | 1.50 | 1.11 | 0.31 | 0.88 | 0.49 |
| BWLL-4555 | 49 | 71 | 6182775.5 | 19177642 | 4.08 | 2 | 0.05 | 0.27 | 0.70 | 0.39 | 0.21 | 0.64 | 0.34 |
| BWLL-0001A | 52 | 73 | 6202960 | 19174426 | 4.1 | 2 | 1.00 | 1.27 | 1.75 | 1.41 | 0.27 | 0.75 | 0.42 |
| BWLL-5067 | 49 | 71 | 6184782.5 | 19178120 | 4.26 | 2 | 0.05 | 0.27 | 0.70 | 0.39 | 0.21 | 0.64 | 0.34 |
| 6624805 | 56 | 62 | 6169529 | 19119842 | 4.34 | 2 | 0.29 | 0.46 | 1.11 | 0.56 | 0.17 | 0.82 | 0.27 |
| BAUS-0005B | 56 | 61 | 6168258 | 19118458 | 4.68 | 2 | 0.39 | 0.56 | 1.07 | 0.64 | 0.16 | 0.68 | 0.24 |
| 6624801 | 57 | 62 | 6169900.5 | 19116538 | 4.91 | 2 | 0.52 | 0.71 | 1.28 | 0.80 | 0.19 | 0.76 | 0.28 |
| BWLL-5211 | 48 | 71 | 6180275.5 | 19183526 | 5.11 | 2 | 0.01 | 0.07 | 0.38 | 0.17 | 0.06 | 0.37 | 0.15 |
| BWLL-4682 | 47 | 70 | 6173949 | 19185730 | 5.55 | 2 | 0.01 | 0.01 | 0.24 | 0.05 | 0.00 | 0.23 | 0.04 |
| BWLL-5517 | 49 | 73 | 6190934.5 | 19185634 | 5.61 | 2 | 0.44 | 0.61 | 0.94 | 0.71 | 0.18 | 0.50 | 0.27 |
| BWLL-0043 | 54 | 75 | 6217397 | 19172020 | 5.75 | 2 | 3.98 | 4.40 | 5.20 | 4.60 | 0.42 | 1.21 | 0.62 |
| BWLL-4200 | 48 | 72 | 6184472 | 19186716 | 5.83 | 2 | 0.05 | 0.19 | 0.44 | 0.27 | 0.14 | 0.39 | 0.21 |
| BWLL-4201 | 48 | 72 | 6184556.5 | 19186820 | 5.85 | 2 | 0.05 | 0.19 | 0.44 | 0.27 | 0.14 | 0.39 | 0.21 |
| BAUS-5057 | 46 | 66 | 6154201 | 19176826 | 5.88 | 2 | 0.01 | 0.01 | 0.05 | 0.01 | 0.00 | 0.04 | 0.00 |
| BWLL-0007 | 53 | 75 | 6216934 | 19174876 | 5.98 | 2 | 1.85 | 2.03 | 2.37 | 2.12 | 0.18 | 0.52 | 0.27 |
| BWLL-4535 | 46 | 69 | 6165758 | 19185944 | 6 | 2 | 0.01 | 0.01 | 0.05 | 0.01 | 0.00 | 0.04 | 0.00 |
| 6509403 | 48 | 73 | 6189086 | 19187984 | 6.07 | 2 | 0.25 | 0.36 | 0.59 | 0.41 | 0.11 | 0.34 | 0.17 |
| BWLL-4649 | 47 | 71 | 6177179.5 | 19188884 | 6.1 | 2 | 0.01 | 0.01 | 0.23 | 0.06 | 0.00 | 0.22 | 0.05 |
| 6509404 | 48 | 73 | 6191004 | 19188382 | 6.13 | 2 | 0.25 | 0.36 | 0.59 | 0.41 | 0.11 | 0.34 | 0.17 |
| BWLL-5646 | 48 | 73 | 6188683.5 | 19188736 | 6.22 | 2 | 0.25 | 0.36 | 0.59 | 0.41 | 0.11 | 0.34 | 0.17 |
| BWLL-0049 | 55 | 75 | 6222004.5 | 19168848 | 6.25 | 2 | 4.22 | 4.67 | 5.52 | 4.87 | 0.45 | 1.30 | 0.65 |
| BAUS-0013A | 46 | 64 | 6147113 | 19169048 | 6.28 | 2 | 0.01 | 0.01 | 0.17 | 0.03 | 0.00 | 0.16 | 0.02 |
| BAUS-0013B | 46 | 64 | 6147113 | 19169048 | 6.28 | 2 | 0.01 | 0.01 | 0.17 | 0.03 | 0.00 | 0.16 | 0.02 |
| BWLL-4937 | 45 | 68 | 6158954 | 19184286 | 6.34 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BAUS-4034 | 45 | 67 | 6154157 | 19180572 | 6.37 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4147 | 47 | 72 | 6183378 | 19190220 | 6.44 | 2 | 0.01 | 0.10 | 0.30 | 0.16 | 0.09 | 0.28 | 0.14 |
| BWLL-5314 | 45 | 68 | 6162103.5 | 19187042 | 6.48 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| 6615906 | 46 | 63 | 6144477 | 19165654 | 6.55 | 2 | 0.01 | 0.06 | 0.21 | 0.09 | 0.05 | 0.20 | 0.08 |
| BWLL-4928 | 45 | 68 | 6159076 | 19185808 | 6.56 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BAUS-0007A | 45 | 67 | 6154188.5 | 19182116 | 6.58 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BAUS-0007C | 45 | 67 | 6154188.5 | 19182116 | 6.58 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-0012B | 54 | 76 | 6222034 | 19172800 | 6.58 | 2 | 3.00 | 3.21 | 3.61 | 3.31 | 0.21 | 0.61 | 0.31 |
| BWLL-5084 | 46 | 71 | 6178037 | 19191952 | 6.68 | 2 | 0.01 | 0.01 | 0.07 | 0.01 | 0.00 | 0.06 | 0.00 |
| BWLL-4891 | 46 | 71 | 6176356.5 | 19192196 | 6.73 | 2 | 0.01 | 0.01 | 0.07 | 0.01 | 0.00 | 0.06 | 0.00 |
| BWLL-4351 | 48 | 73 | 6190630.5 | 19191596 | 6.74 | 2 | 0.25 | 0.36 | 0.59 | 0.41 | 0.11 | 0.34 | 0.17 |
| BWLL-4166 | 47 | 73 | 6187526 | 19192294 | 6.91 | 2 | 0.04 | 0.13 | 0.29 | 0.17 | 0.09 | 0.25 | 0.13 |
| BWLL-0058 | 50 | 75 | 6206661 | 19189554 | 6.96 | 2 | 1.13 | 1.25 | 1.47 | 1.31 | 0.12 | 0.34 | 0.18 |
| BAUS-0003C | 45 | 64 | 6144379 | 19171800 | 6.96 | 2 | 0.01 | 0.01 | 0.09 | 0.01 | 0.00 | 0.08 | 0.00 |
| BWLL-4152 | 46 | 71 | 6175947.5 | 19193802 | 7.04 | 2 | 0.01 | 0.01 | 0.07 | 0.01 | 0.00 | 0.06 | 0.00 |
| BWLL-4302 | 46 | 72 | 6180256 | 19193856 | 7.06 | 2 | 0.01 | 0.01 | 0.12 | 0.02 | 0.00 | 0.11 | 0.01 |
| BWLL-5713 | 50 | 76 | 6207148 | 19189986 | 7.08 | 2 | 1.51 | 1.62 | 1.82 | 1.67 | 0.11 | 0.31 | 0.16 |
| BWLL-5382 | 50 | 76 | 6208567 | 19189518 | 7.11 | 2 | 1.51 | 1.62 | 1.82 | 1.67 | 0.11 | 0.31 | 0.16 |
| BWLL-5648 | 47 | 72 | 6182773 | 19193958 | 7.12 | 2 | 0.01 | 0.10 | 0.30 | 0.16 | 0.09 | 0.28 | 0.14 |
| BWLL-5649 | 47 | 72 | 6182773 | 19193958 | 7.12 | 2 | 0.01 | 0.10 | 0.30 | 0.16 | 0.09 | 0.28 | 0.14 |
| 6616407 | 45 | 67 | 6152008 | 19184036 | 7.13 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4982 | 45 | 71 | 6171283.5 | 19193838 | 7.15 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-5004 | 47 | 72 | 6183327 | 19194068 | 7.16 | 2 | 0.01 | 0.10 | 0.30 | 0.16 | 0.09 | 0.28 | 0.14 |
| BWLL-4998 | 45 | 71 | 6173553.5 | 19194324 | 7.18 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4485 | 47 | 72 | 6183144 | 19194264 | 7.19 | 2 | 0.01 | 0.10 | 0.30 | 0.16 | 0.09 | 0.28 | 0.14 |
| BWLL-5598 | 46 | 72 | 6176661.5 | 19194946 | 7.25 | 2 | 0.01 | 0.01 | 0.12 | 0.02 | 0.00 | 0.11 | 0.01 |
| BWLL-5066 | 46 | 72 | 6176694.5 | 19195044 | 7.27 | 2 | 0.01 | 0.01 | 0.12 | 0.02 | 0.00 | 0.11 | 0.01 |
| BWLL-5623 | 45 | 70 | 6167395 | 19193756 | 7.3 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-5706 | 45 | 71 | 6171943 | 19195126 | 7.37 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4685 | 45 | 71 | 6171848 | 19195276 | 7.4 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4940 | 45 | 71 | 6171936 | 19195278 | 7.4 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |

# Table E-11
# Simulated Subsidence and Subsidence Due to Electro Purification Pumping
# Evangeline Aquifer (Layer 2) - GAM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Subsidence 1891 to 2009 (ft) | | | | Subsidence Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BWLL-4941 | 45 | 71 | 6171936 | 19195278 | 7.4 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4164 | 45 | 71 | 6171936 | 19195278 | 7.4 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BAUS-4296 | 45 | 71 | 6170790 | 19195340 | 7.44 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4096 | 44 | 69 | 6159234.5 | 19191282 | 7.44 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4557 | 45 | 71 | 6170340 | 19195626 | 7.51 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4188 | 46 | 72 | 6180329.5 | 19196694 | 7.59 | 2 | 0.01 | 0.01 | 0.12 | 0.02 | 0.00 | 0.11 | 0.01 |
| 6615905 | 45 | 63 | 6139754.5 | 19169318 | 7.6 | 2 | 0.14 | 0.19 | 0.30 | 0.21 | 0.05 | 0.16 | 0.07 |
| 6510714 | 57 | 76 | 6231432 | 19161984 | 7.63 | 2 | 2.98 | 3.16 | 3.56 | 3.24 | 0.17 | 0.57 | 0.26 |
| BWLL-5428 | 45 | 72 | 6174327 | 19197288 | 7.72 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4842 | 44 | 70 | 6165153 | 19195544 | 7.75 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-5068 | 45 | 71 | 6173269 | 19197352 | 7.75 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4404 | 45 | 72 | 6174839.5 | 19197712 | 7.79 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4145 | 45 | 72 | 6173935.5 | 19198388 | 7.94 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-5045 | 46 | 73 | 6183174 | 19198316 | 7.95 | 2 | 0.01 | 0.04 | 0.16 | 0.07 | 0.02 | 0.15 | 0.06 |
| BWLL-4434 | 45 | 72 | 6173577 | 19198578 | 7.98 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-5248 | 44 | 69 | 6157248.5 | 19193780 | 8.04 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4365 | 45 | 73 | 6179715.5 | 19199102 | 8.04 | 2 | 0.01 | 0.01 | 0.02 | 0.01 | 0.00 | 0.01 | 0.00 |
| BWLL-5255 | 46 | 73 | 6182713 | 19198906 | 8.05 | 2 | 0.01 | 0.04 | 0.16 | 0.07 | 0.02 | 0.15 | 0.06 |
| BWLL-5143 | 45 | 72 | 6174957.5 | 19199336 | 8.1 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-5217 | 45 | 72 | 6172929.5 | 19199466 | 8.16 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-5017 | 45 | 72 | 6174939 | 19199842 | 8.2 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BAUS-4483 | 44 | 65 | 6141571 | 19180638 | 8.23 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4581 | 45 | 72 | 6174000 | 19199980 | 8.23 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-5225 | 45 | 72 | 6172915 | 19199870 | 8.23 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BAUS-0003A | 45 | 63 | 6136187.5 | 19171654 | 8.39 | 2 | 0.14 | 0.19 | 0.30 | 0.21 | 0.05 | 0.16 | 0.07 |
| BWLL-4908 | 45 | 72 | 6175953.5 | 19200992 | 8.4 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| 6615904 | 44 | 63 | 6136146.5 | 19171926 | 8.41 | 2 | 0.01 | 0.02 | 0.10 | 0.04 | 0.01 | 0.10 | 0.03 |
| BAUS-4029 | 43 | 67 | 6147313 | 19190054 | 8.57 | 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6615901 | 44 | 63 | 6135112 | 19171600 | 8.57 | 2 | 0.01 | 0.02 | 0.10 | 0.04 | 0.01 | 0.10 | 0.03 |
| BWLL-5026 | 45 | 73 | 6177685.5 | 19203824 | 8.93 | 2 | 0.01 | 0.01 | 0.02 | 0.01 | 0.00 | 0.01 | 0.00 |
| BAUS-4107 | 43 | 65 | 6139922 | 19185036 | 8.97 | 2 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| 6509107 | 46 | 74 | 6189158 | 19203482 | 9 | 2 | 0.06 | 0.12 | 0.21 | 0.14 | 0.05 | 0.15 | 0.08 |
| BWLL-4522 | 44 | 73 | 6176617 | 19204560 | 9.07 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| 6623201 | 46 | 60 | 6129544 | 19156642 | 9.12 | 2 | 0.10 | 0.13 | 0.21 | 0.14 | 0.03 | 0.12 | 0.05 |
| BWLL-5007 | 43 | 70 | 6158884 | 19201194 | 9.17 | 2 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BAUS-4557 | 43 | 65 | 6139605.5 | 19186544 | 9.19 | 2 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4709 | 45 | 74 | 6183010.5 | 19205296 | 9.26 | 2 | 0.01 | 0.02 | 0.09 | 0.04 | 0.01 | 0.08 | 0.03 |
| BWLL-5112 | 44 | 73 | 6176844 | 19205582 | 9.27 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4193 | 44 | 73 | 6175768.5 | 19206150 | 9.38 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4531 | 47 | 76 | 6198845 | 19205162 | 9.41 | 2 | 0.66 | 0.71 | 0.82 | 0.74 | 0.06 | 0.16 | 0.08 |
| BWLL-4347 | 53 | 79 | 6230849 | 19186596 | 9.42 | 2 | 2.27 | 2.29 | 2.34 | 2.30 | 0.02 | 0.08 | 0.03 |
| BWLL-4320 | 44 | 73 | 6176800.5 | 19206796 | 9.5 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4994 | 47 | 76 | 6198823 | 19205770 | 9.52 | 2 | 0.66 | 0.71 | 0.82 | 0.74 | 0.06 | 0.16 | 0.08 |
| BWLL-4439 | 44 | 73 | 6176617.5 | 19206992 | 9.53 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-5689 | 46 | 75 | 6190976.5 | 19207002 | 9.66 | 2 | 0.18 | 0.22 | 0.30 | 0.24 | 0.04 | 0.12 | 0.06 |
| BAUS-4170 | 42 | 65 | 6138874.5 | 19189860 | 9.7 | 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| BAUS-4174 | 42 | 65 | 6138449 | 19189440 | 9.71 | 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6509201 | 47 | 76 | 6200188.5 | 19206618 | 9.72 | 2 | 0.66 | 0.71 | 0.82 | 0.74 | 0.06 | 0.16 | 0.08 |
| BAUS-4177 | 42 | 65 | 6139117 | 19190476 | 9.74 | 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| BWLL-5709 | 44 | 73 | 6176275.5 | 19208486 | 9.82 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-5329 | 46 | 76 | 6193732 | 19207914 | 9.84 | 2 | 0.38 | 0.41 | 0.47 | 0.42 | 0.03 | 0.09 | 0.05 |
| 6518209 | 58 | 78 | 6243020.5 | 19164244 | 9.86 | 2 | 4.53 | 4.55 | 4.63 | 4.53 | 0.02 | 0.10 | 0.01 |
| BAUS-4050 | 42 | 64 | 6132258.5 | 19182744 | 9.95 | 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# Table E-12
# Simulated Subsidence and Subsidence Due to Electro Purification Pumping
# Evangeline Aquifer (Layer 2) - HAGM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Subsidence 1891 to 2009 (ft) | | | | Subsidence Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| 6517417 | 55 | 69 | 6195706 | 19147798 | 1.74 | 2 | 1.14 | 1.69 | 2.84 | 2.02 | 0.55 | 1.70 | 0.88 |
| BWLL-5065 | 50 | 69 | 6182473 | 19168922 | 2.48 | 2 | 0.39 | 0.93 | 1.93 | 1.25 | 0.53 | 1.53 | 0.85 |
| BWLL-4269 | 50 | 69 | 6182649 | 19168928 | 2.49 | 2 | 0.39 | 0.93 | 1.93 | 1.25 | 0.53 | 1.53 | 0.85 |
| BWLL-5609 | 50 | 70 | 6183010 | 19170292 | 2.76 | 2 | 0.52 | 0.98 | 1.82 | 1.24 | 0.45 | 1.29 | 0.72 |
| BAUS-0022B | 48 | 68 | 6169273 | 19172252 | 3.37 | 2 | 0.11 | 0.36 | 0.94 | 0.53 | 0.25 | 0.84 | 0.42 |
| BAUS-0022A | 48 | 68 | 6169273 | 19172252 | 3.37 | 2 | 0.11 | 0.36 | 0.94 | 0.53 | 0.25 | 0.84 | 0.42 |
| BWLL-0001C | 51 | 72 | 6197378.5 | 19173006 | 3.4 | 2 | 1.48 | 1.78 | 2.35 | 1.96 | 0.31 | 0.87 | 0.48 |
| 6509704 | 51 | 72 | 6197392 | 19173010 | 3.4 | 2 | 1.48 | 1.78 | 2.35 | 1.96 | 0.31 | 0.87 | 0.48 |
| BWLL-4555 | 49 | 71 | 6182775.5 | 19177642 | 4.08 | 2 | 0.66 | 0.93 | 1.45 | 1.09 | 0.28 | 0.80 | 0.43 |
| BWLL-0001A | 52 | 73 | 6202960 | 19174426 | 4.1 | 2 | 1.97 | 2.23 | 2.72 | 2.38 | 0.26 | 0.76 | 0.41 |
| BWLL-5067 | 49 | 71 | 6184782.5 | 19178120 | 4.26 | 2 | 0.66 | 0.93 | 1.45 | 1.09 | 0.28 | 0.80 | 0.43 |
| 6624805 | 56 | 62 | 6169529 | 19119842 | 4.34 | 2 | 1.23 | 1.42 | 2.01 | 1.52 | 0.19 | 0.78 | 0.28 |
| BAUS-0005B | 56 | 61 | 6168258 | 19118458 | 4.68 | 2 | 1.32 | 1.47 | 1.94 | 1.54 | 0.15 | 0.62 | 0.23 |
| 6624801 | 57 | 62 | 6169900.5 | 19116538 | 4.91 | 2 | 1.55 | 1.72 | 2.25 | 1.81 | 0.17 | 0.69 | 0.25 |
| BWLL-5211 | 48 | 71 | 6180275.5 | 19183526 | 5.11 | 2 | 0.40 | 0.62 | 1.04 | 0.74 | 0.22 | 0.64 | 0.34 |
| BWLL-4682 | 47 | 70 | 6173949 | 19185730 | 5.55 | 2 | 0.22 | 0.40 | 0.76 | 0.50 | 0.18 | 0.54 | 0.28 |
| BWLL-5517 | 49 | 73 | 6190934.5 | 19185634 | 5.61 | 2 | 1.29 | 1.47 | 1.82 | 1.57 | 0.18 | 0.53 | 0.28 |
| BWLL-0043 | 54 | 75 | 6217397 | 19172020 | 5.75 | 2 | 1.37 | 1.46 | 1.61 | 1.50 | 0.08 | 0.24 | 0.12 |
| BWLL-4200 | 48 | 72 | 6184472 | 19186716 | 5.83 | 2 | 0.67 | 0.86 | 1.21 | 0.96 | 0.19 | 0.55 | 0.29 |
| BWLL-4201 | 48 | 72 | 6184556.5 | 19186820 | 5.85 | 2 | 0.67 | 0.86 | 1.21 | 0.96 | 0.19 | 0.55 | 0.29 |
| BAUS-5057 | 46 | 66 | 6154201 | 19176826 | 5.88 | 2 | 0.02 | 0.12 | 0.41 | 0.18 | 0.11 | 0.39 | 0.16 |
| BWLL-0007 | 53 | 75 | 6216934 | 19174876 | 5.98 | 2 | 1.85 | 1.96 | 2.18 | 2.02 | 0.11 | 0.33 | 0.17 |
| BWLL-4535 | 46 | 69 | 6165758 | 19185944 | 6 | 2 | 0.05 | 0.16 | 0.43 | 0.22 | 0.11 | 0.38 | 0.18 |
| 6509403 | 48 | 73 | 6189086 | 19187984 | 6.07 | 2 | 0.99 | 1.14 | 1.43 | 1.22 | 0.15 | 0.44 | 0.23 |
| BWLL-4649 | 47 | 71 | 6177179.5 | 19188884 | 6.1 | 2 | 0.30 | 0.48 | 0.81 | 0.57 | 0.17 | 0.51 | 0.27 |
| 6509404 | 48 | 73 | 6191004 | 19188382 | 6.13 | 2 | 0.99 | 1.14 | 1.43 | 1.22 | 0.15 | 0.44 | 0.23 |
| BWLL-5646 | 48 | 73 | 6188683.5 | 19188736 | 6.22 | 2 | 0.99 | 1.14 | 1.43 | 1.22 | 0.15 | 0.44 | 0.23 |
| BWLL-0049 | 55 | 75 | 6222004.5 | 19168848 | 6.25 | 2 | 1.66 | 1.76 | 1.96 | 1.82 | 0.10 | 0.31 | 0.16 |
| BAUS-0013A | 46 | 64 | 6147113 | 19169048 | 6.28 | 2 | 0.21 | 0.33 | 0.59 | 0.39 | 0.12 | 0.38 | 0.17 |
| BAUS-0013B | 46 | 64 | 6147113 | 19169048 | 6.28 | 2 | 0.21 | 0.33 | 0.59 | 0.39 | 0.12 | 0.38 | 0.17 |
| BWLL-4937 | 45 | 68 | 6158954 | 19184286 | 6.34 | 2 | 0.01 | 0.01 | 0.08 | 0.01 | 0.00 | 0.07 | 0.00 |
| BAUS-4034 | 45 | 67 | 6154157 | 19180572 | 6.37 | 2 | 0.01 | 0.01 | 0.13 | 0.01 | 0.00 | 0.11 | 0.00 |
| BWLL-4147 | 47 | 72 | 6183378 | 19190220 | 6.44 | 2 | 0.54 | 0.70 | 0.98 | 0.77 | 0.15 | 0.44 | 0.23 |
| BWLL-5314 | 45 | 68 | 6162103.5 | 19187042 | 6.48 | 2 | 0.01 | 0.01 | 0.08 | 0.01 | 0.00 | 0.07 | 0.00 |
| 6615906 | 46 | 63 | 6144477 | 19165654 | 6.55 | 2 | 0.31 | 0.40 | 0.63 | 0.45 | 0.10 | 0.32 | 0.14 |
| BWLL-4928 | 45 | 68 | 6159076 | 19185808 | 6.56 | 2 | 0.01 | 0.01 | 0.08 | 0.01 | 0.00 | 0.07 | 0.00 |
| BAUS-0007A | 45 | 67 | 6154188.5 | 19182116 | 6.58 | 2 | 0.01 | 0.01 | 0.13 | 0.01 | 0.00 | 0.11 | 0.00 |
| BAUS-0007C | 45 | 67 | 6154188.5 | 19182116 | 6.58 | 2 | 0.01 | 0.01 | 0.13 | 0.01 | 0.00 | 0.11 | 0.00 |
| BWLL-0012B | 54 | 76 | 6222034 | 19172800 | 6.58 | 2 | 1.78 | 1.86 | 2.03 | 1.91 | 0.08 | 0.25 | 0.13 |
| BWLL-5084 | 46 | 71 | 6178037 | 19191952 | 6.68 | 2 | 0.18 | 0.29 | 0.53 | 0.35 | 0.11 | 0.35 | 0.17 |
| BWLL-4891 | 46 | 71 | 6176356.5 | 19192196 | 6.73 | 2 | 0.18 | 0.29 | 0.53 | 0.35 | 0.11 | 0.35 | 0.17 |
| BWLL-4351 | 48 | 73 | 6190630.5 | 19191596 | 6.74 | 2 | 0.99 | 1.14 | 1.43 | 1.22 | 0.15 | 0.44 | 0.23 |
| BWLL-4166 | 47 | 73 | 6187526 | 19192294 | 6.91 | 2 | 0.65 | 0.77 | 1.01 | 0.84 | 0.13 | 0.37 | 0.19 |
| BWLL-0058 | 50 | 75 | 6206661 | 19189554 | 6.96 | 2 | 1.27 | 1.35 | 1.50 | 1.39 | 0.08 | 0.23 | 0.12 |
| BAUS-0003C | 45 | 64 | 6144379 | 19171800 | 6.96 | 2 | 0.18 | 0.25 | 0.44 | 0.29 | 0.07 | 0.26 | 0.11 |
| BWLL-4152 | 46 | 71 | 6175947.5 | 19193802 | 7.04 | 2 | 0.18 | 0.29 | 0.53 | 0.35 | 0.11 | 0.35 | 0.17 |
| BWLL-4302 | 46 | 72 | 6180256 | 19193856 | 7.06 | 2 | 0.34 | 0.45 | 0.67 | 0.51 | 0.11 | 0.33 | 0.17 |
| BWLL-5713 | 50 | 76 | 6207148 | 19189986 | 7.08 | 2 | 1.26 | 1.32 | 1.43 | 1.35 | 0.06 | 0.16 | 0.08 |
| BWLL-5382 | 50 | 76 | 6208567 | 19189518 | 7.11 | 2 | 1.26 | 1.32 | 1.43 | 1.35 | 0.06 | 0.16 | 0.08 |
| BWLL-5648 | 47 | 72 | 6182773 | 19193958 | 7.12 | 2 | 0.54 | 0.70 | 0.98 | 0.77 | 0.15 | 0.44 | 0.23 |
| BWLL-5649 | 47 | 72 | 6182773 | 19193958 | 7.12 | 2 | 0.54 | 0.70 | 0.98 | 0.77 | 0.15 | 0.44 | 0.23 |
| 6616407 | 45 | 67 | 6152008 | 19184036 | 7.13 | 2 | 0.01 | 0.01 | 0.13 | 0.01 | 0.00 | 0.11 | 0.00 |
| BWLL-4982 | 45 | 71 | 6171283.5 | 19193838 | 7.15 | 2 | 0.11 | 0.18 | 0.36 | 0.22 | 0.07 | 0.25 | 0.11 |
| BWLL-5004 | 47 | 72 | 6183327 | 19194068 | 7.16 | 2 | 0.54 | 0.70 | 0.98 | 0.77 | 0.15 | 0.44 | 0.23 |
| BWLL-4998 | 45 | 71 | 6173553.5 | 19194324 | 7.18 | 2 | 0.11 | 0.18 | 0.36 | 0.22 | 0.07 | 0.25 | 0.11 |
| BWLL-4485 | 47 | 72 | 6183144 | 19194264 | 7.19 | 2 | 0.54 | 0.70 | 0.98 | 0.77 | 0.15 | 0.44 | 0.23 |
| BWLL-5598 | 46 | 72 | 6176661.5 | 19194946 | 7.25 | 2 | 0.34 | 0.45 | 0.67 | 0.51 | 0.11 | 0.33 | 0.17 |
| BWLL-5066 | 46 | 72 | 6176694.5 | 19195044 | 7.27 | 2 | 0.34 | 0.45 | 0.67 | 0.51 | 0.11 | 0.33 | 0.17 |
| BWLL-5623 | 45 | 70 | 6167395 | 19193756 | 7.3 | 2 | 0.02 | 0.10 | 0.27 | 0.14 | 0.08 | 0.25 | 0.12 |
| BWLL-5706 | 45 | 71 | 6171943 | 19195126 | 7.37 | 2 | 0.11 | 0.18 | 0.36 | 0.22 | 0.07 | 0.25 | 0.11 |
| BWLL-4685 | 45 | 71 | 6171848 | 19195276 | 7.4 | 2 | 0.11 | 0.18 | 0.36 | 0.22 | 0.07 | 0.25 | 0.11 |
| BWLL-4940 | 45 | 71 | 6171936 | 19195278 | 7.4 | 2 | 0.11 | 0.18 | 0.36 | 0.22 | 0.07 | 0.25 | 0.11 |

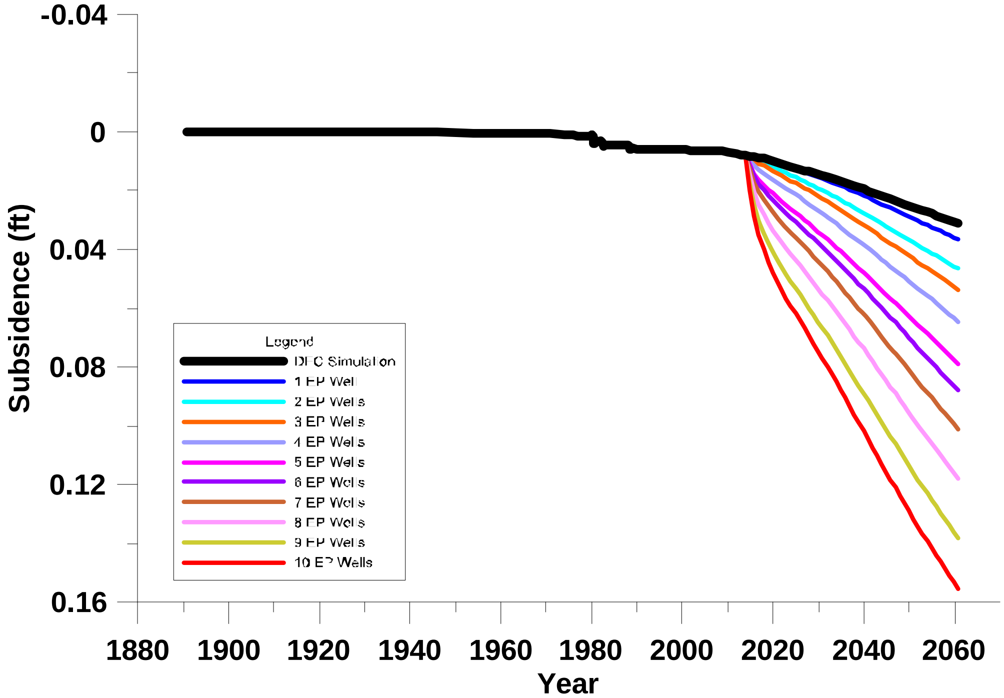
# Table E-12
## Simulated Subsidence and Subsidence Due to Electro Purification Pumping
## Evangeline Aquifer (Layer 2) - HAGM


| Well Number | Model Row | Model Column | X-Coordinate | Y-Coordinate | Distance to Closest EP Well (mi) | Layer | Simulated Subsidence 1891 to 2009 (ft) | | | | Subsidence Due to EP Pumping (ft) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Base | Scen 3 | Scen 10 | Scen 31 | Scen 3 | Scen 10 | Scen 31 |
| BWLL-4941 | 45 | 71 | 6171936 | 19195278 | 7.4 | 2 | 0.11 | 0.18 | 0.36 | 0.22 | 0.07 | 0.25 | 0.11 |
| BWLL-4164 | 45 | 71 | 6171936 | 19195278 | 7.4 | 2 | 0.11 | 0.18 | 0.36 | 0.22 | 0.07 | 0.25 | 0.11 |
| BAUS-4296 | 45 | 71 | 6170790 | 19195340 | 7.44 | 2 | 0.11 | 0.18 | 0.36 | 0.22 | 0.07 | 0.25 | 0.11 |
| BWLL-4096 | 44 | 69 | 6159234.5 | 19191282 | 7.44 | 2 | 0.01 | 0.01 | 0.02 | 0.01 | 0.00 | 0.01 | 0.00 |
| BWLL-4557 | 45 | 71 | 6170340 | 19195626 | 7.51 | 2 | 0.11 | 0.18 | 0.36 | 0.22 | 0.07 | 0.25 | 0.11 |
| BWLL-4188 | 46 | 72 | 6180329.5 | 19196694 | 7.59 | 2 | 0.34 | 0.45 | 0.67 | 0.51 | 0.11 | 0.33 | 0.17 |
| 6615905 | 45 | 63 | 6139754.5 | 19169318 | 7.6 | 2 | 0.49 | 0.56 | 0.72 | 0.59 | 0.07 | 0.24 | 0.11 |
| 6510714 | 57 | 76 | 6231432 | 19161984 | 7.63 | 2 | 3.22 | 3.38 | 3.71 | 3.46 | 0.16 | 0.49 | 0.24 |
| BWLL-5428 | 45 | 72 | 6174327 | 19197288 | 7.72 | 2 | 0.16 | 0.22 | 0.37 | 0.25 | 0.06 | 0.22 | 0.10 |
| BWLL-4842 | 44 | 70 | 6165153 | 19195544 | 7.75 | 2 | 0.01 | 0.01 | 0.10 | 0.02 | 0.00 | 0.09 | 0.01 |
| BWLL-5068 | 45 | 71 | 6173269 | 19197352 | 7.75 | 2 | 0.11 | 0.18 | 0.36 | 0.22 | 0.07 | 0.25 | 0.11 |
| BWLL-4404 | 45 | 72 | 6174839.5 | 19197712 | 7.79 | 2 | 0.16 | 0.22 | 0.37 | 0.25 | 0.06 | 0.22 | 0.10 |
| BWLL-4145 | 45 | 72 | 6173935.5 | 19198388 | 7.94 | 2 | 0.16 | 0.22 | 0.37 | 0.25 | 0.06 | 0.22 | 0.10 |
| BWLL-5045 | 46 | 73 | 6183174 | 19198316 | 7.95 | 2 | 0.50 | 0.60 | 0.79 | 0.65 | 0.10 | 0.29 | 0.15 |
| BWLL-4434 | 45 | 72 | 6173577 | 19198578 | 7.98 | 2 | 0.16 | 0.22 | 0.37 | 0.25 | 0.06 | 0.22 | 0.10 |
| BWLL-5248 | 44 | 69 | 6157248.5 | 19193780 | 8.04 | 2 | 0.01 | 0.01 | 0.02 | 0.01 | 0.00 | 0.01 | 0.00 |
| BWLL-4365 | 45 | 73 | 6179715.5 | 19199102 | 8.04 | 2 | 0.30 | 0.37 | 0.51 | 0.41 | 0.07 | 0.21 | 0.11 |
| BWLL-5255 | 46 | 73 | 6182713 | 19198906 | 8.05 | 2 | 0.50 | 0.60 | 0.79 | 0.65 | 0.10 | 0.29 | 0.15 |
| BWLL-5143 | 45 | 72 | 6174957.5 | 19199336 | 8.1 | 2 | 0.16 | 0.22 | 0.37 | 0.25 | 0.06 | 0.22 | 0.10 |
| BWLL-5217 | 45 | 72 | 6172929.5 | 19199466 | 8.16 | 2 | 0.16 | 0.22 | 0.37 | 0.25 | 0.06 | 0.22 | 0.10 |
| BWLL-5017 | 45 | 72 | 6174939 | 19199842 | 8.2 | 2 | 0.16 | 0.22 | 0.37 | 0.25 | 0.06 | 0.22 | 0.10 |
| BAUS-4483 | 44 | 65 | 6141571 | 19180638 | 8.23 | 2 | 0.01 | 0.06 | 0.17 | 0.08 | 0.05 | 0.17 | 0.07 |
| BWLL-4581 | 45 | 72 | 6174000 | 19199980 | 8.23 | 2 | 0.16 | 0.22 | 0.37 | 0.25 | 0.06 | 0.22 | 0.10 |
| BWLL-5225 | 45 | 72 | 6172915 | 19199870 | 8.23 | 2 | 0.16 | 0.22 | 0.37 | 0.25 | 0.06 | 0.22 | 0.10 |
| BAUS-0003A | 45 | 63 | 6136187.5 | 19171654 | 8.39 | 2 | 0.49 | 0.56 | 0.72 | 0.59 | 0.07 | 0.24 | 0.11 |
| BWLL-4908 | 45 | 72 | 6175953.5 | 19200992 | 8.4 | 2 | 0.16 | 0.22 | 0.37 | 0.25 | 0.06 | 0.22 | 0.10 |
| 6615904 | 44 | 63 | 6136146.5 | 19171926 | 8.41 | 2 | 0.26 | 0.32 | 0.44 | 0.34 | 0.05 | 0.18 | 0.08 |
| BAUS-4029 | 43 | 67 | 6147313 | 19190054 | 8.57 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| 6615901 | 44 | 63 | 6135112 | 19171600 | 8.57 | 2 | 0.26 | 0.32 | 0.44 | 0.34 | 0.05 | 0.18 | 0.08 |
| BWLL-5026 | 45 | 73 | 6177685.5 | 19203824 | 8.93 | 2 | 0.30 | 0.37 | 0.51 | 0.41 | 0.07 | 0.21 | 0.11 |
| BAUS-4107 | 43 | 65 | 6139922 | 19185036 | 8.97 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| 6509107 | 46 | 74 | 6189158 | 19203482 | 9 | 2 | 0.65 | 0.73 | 0.89 | 0.77 | 0.08 | 0.23 | 0.12 |
| BWLL-4522 | 44 | 73 | 6176617 | 19204560 | 9.07 | 2 | 0.16 | 0.20 | 0.28 | 0.22 | 0.04 | 0.12 | 0.06 |
| 6623201 | 46 | 60 | 6129544 | 19156642 | 9.12 | 2 | 0.49 | 0.54 | 0.67 | 0.56 | 0.05 | 0.18 | 0.07 |
| BWLL-5007 | 43 | 70 | 6158884 | 19201194 | 9.17 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BAUS-4557 | 43 | 65 | 6139605.5 | 19186544 | 9.19 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-4709 | 45 | 74 | 6183010.5 | 19205296 | 9.26 | 2 | 0.49 | 0.55 | 0.67 | 0.58 | 0.06 | 0.18 | 0.09 |
| BWLL-5112 | 44 | 73 | 6176844 | 19205582 | 9.27 | 2 | 0.16 | 0.20 | 0.28 | 0.22 | 0.04 | 0.12 | 0.06 |
| BWLL-4193 | 44 | 73 | 6175768.5 | 19206150 | 9.38 | 2 | 0.16 | 0.20 | 0.28 | 0.22 | 0.04 | 0.12 | 0.06 |
| BWLL-4531 | 47 | 76 | 6198845 | 19205162 | 9.41 | 2 | 1.57 | 1.64 | 1.76 | 1.67 | 0.07 | 0.19 | 0.10 |
| BWLL-4347 | 53 | 79 | 6230849 | 19186596 | 9.42 | 2 | 1.25 | 1.28 | 1.34 | 1.29 | 0.03 | 0.08 | 0.04 |
| BWLL-4320 | 44 | 73 | 6176800.5 | 19206796 | 9.5 | 2 | 0.16 | 0.20 | 0.28 | 0.22 | 0.04 | 0.12 | 0.06 |
| BWLL-4994 | 47 | 76 | 6198823 | 19205770 | 9.52 | 2 | 1.57 | 1.64 | 1.76 | 1.67 | 0.07 | 0.19 | 0.10 |
| BWLL-4439 | 44 | 73 | 6176617.5 | 19206992 | 9.53 | 2 | 0.16 | 0.20 | 0.28 | 0.22 | 0.04 | 0.12 | 0.06 |
| BWLL-5689 | 46 | 75 | 6190976.5 | 19207002 | 9.66 | 2 | 0.85 | 0.92 | 1.05 | 0.95 | 0.07 | 0.19 | 0.10 |
| BAUS-4170 | 42 | 65 | 6138874.5 | 19189860 | 9.7 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BAUS-4174 | 42 | 65 | 6138449 | 19189440 | 9.71 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| 6509201 | 47 | 76 | 6200188.5 | 19206618 | 9.72 | 2 | 1.57 | 1.64 | 1.76 | 1.67 | 0.07 | 0.19 | 0.10 |
| BAUS-4177 | 42 | 65 | 6139117 | 19190476 | 9.74 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| BWLL-5709 | 44 | 73 | 6176275.5 | 19208486 | 9.82 | 2 | 0.16 | 0.20 | 0.28 | 0.22 | 0.04 | 0.12 | 0.06 |
| BWLL-5329 | 46 | 76 | 6193732 | 19207914 | 9.84 | 2 | 1.19 | 1.25 | 1.35 | 1.27 | 0.06 | 0.16 | 0.08 |
| 6518209 | 58 | 78 | 6243020.5 | 19164244 | 9.86 | 2 | 2.22 | 2.25 | 2.29 | 2.25 | 0.02 | 0.07 | 0.03 |
| BAUS-4050 | 42 | 64 | 6132258.5 | 19182744 | 9.95 | 2 | 0.06 | 0.08 | 0.13 | 0.09 | 0.02 | 0.08 | 0.03 |

# Appendix E - Subsidence Graphs

| Figure Number | Average or Maximum Subsidence | Location | Scenario | Model | Page Number |
|---|---|---|---|---|---|
| E1 | Average | Austin County | EP Pumping Plus MAG | GAM | 1 |
| E2 | Average | Austin County | EP Pumping Plus MAG | HAGM | 1 |
| E3 | Average | Fort Bend County | EP Pumping Plus MAG | GAM | 2 |
| E4 | Average | Fort Bend County | EP Pumping Plus MAG | HAGM | 2 |
| E5 | Average | Waller County | EP Pumping Plus MAG | GAM | 3 |
| E6 | Average | Waller County | EP Pumping Plus MAG | HAGM | 3 |
| E7 | Average | Project Area | EP Pumping Plus MAG | GAM | 4 |
| E8 | Average | Project Area | EP Pumping Plus MAG | HAGM | 4 |
| E9 | Average | Austin County | EP Pumping Within MAG | GAM | 5 |
| E10 | Average | Austin County | EP Pumping Within MAG | HAGM | 5 |
| E11 | Average | Fort Bend County | EP Pumping Within MAG | GAM | 6 |
| E12 | Average | Fort Bend County | EP Pumping Within MAG | HAGM | 6 |
| E13 | Average | Waller County | EP Pumping Within MAG | GAM | 7 |
| E14 | Average | Waller County | EP Pumping Within MAG | HAGM | 7 |
| E15 | Average | Project Area | EP Pumping Within MAG | GAM | 8 |
| E16 | Average | Project Area | EP Pumping Within MAG | HAGM | 8 |
| E17 | Average | Austin County | Evangeline/Jasper Scenarios | GAM | 9 |
| E18 | Average | Austin County | Evangeline/Jasper Scenarios | HAGM | 9 |
| E19 | Average | Fort Bend County | Evangeline/Jasper Scenarios | GAM | 10 |
| E20 | Average | Fort Bend County | Evangeline/Jasper Scenarios | HAGM | 10 |
| E21 | Average | Waller County | Evangeline/Jasper Scenarios | GAM | 11 |
| E22 | Average | Waller County | Evangeline/Jasper Scenarios | HAGM | 11 |
| E23 | Average | Project Area | Evangeline/Jasper Scenarios | GAM | 12 |
| E24 | Average | Project Area | Evangeline/Jasper Scenarios | HAGM | 12 |
| E25 | Average | Austin County | Conversion Schedule | GAM | 13 |
| E26 | Average | Austin County | Conversion Schedule | HAGM | 13 |
| E27 | Average | Fort Bend County | Conversion Schedule | GAM | 14 |
| E28 | Average | Fort Bend County | Conversion Schedule | HAGM | 14 |
| E29 | Average | Waller County | Conversion Schedule | GAM | 15 |
| E30 | Average | Waller County | Conversion Schedule | HAGM | 15 |
| E31 | Average | Project Area | Conversion Schedule | GAM | 16 |
| E32 | Average | Project Area | Conversion Schedule | HAGM | 16 |
| E33 | Maximum | Austin County | EP Pumping Plus MAG | GAM | 17 |
| E34 | Maximum | Austin County | EP Pumping Plus MAG | HAGM | 17 |
| E35 | Maximum | Fort Bend County | EP Pumping Plus MAG | GAM | 18 |
| E36 | Maximum | Fort Bend County | EP Pumping Plus MAG | HAGM | 18 |
| E37 | Maximum | Waller County | EP Pumping Plus MAG | GAM | 19 |
| E38 | Maximum | Waller County | EP Pumping Plus MAG | HAGM | 19 |
| E39 | Maximum | Project Area | EP Pumping Plus MAG | GAM | 20 |
| E40 | Maximum | Project Area | EP Pumping Plus MAG | HAGM | 20 |
| E41 | Maximum | Austin County | EP Pumping Within MAG | GAM | 21 |
| E42 | Maximum | Austin County | EP Pumping Within MAG | HAGM | 21 |
| E43 | Maximum | Fort Bend County | EP Pumping Within MAG | GAM | 22 |
| E44 | Maximum | Fort Bend County | EP Pumping Within MAG | HAGM | 22 |
| E45 | Maximum | Waller County | EP Pumping Within MAG | GAM | 23 |
| E46 | Maximum | Waller County | EP Pumping Within MAG | HAGM | 23 |
| E47 | Maximum | Project Area | EP Pumping Within MAG | GAM | 24 |
| E48 | Maximum | Project Area | EP Pumping Within MAG | HAGM | 24 |
| E49 | Maximum | Austin County | Evangeline/Jasper Scenarios | GAM | 25 |
| E50 | Maximum | Austin County | Evangeline/Jasper Scenarios | HAGM | 25 |
| E51 | Maximum | Fort Bend County | Evangeline/Jasper Scenarios | GAM | 26 |
| E52 | Maximum | Fort Bend County | Evangeline/Jasper Scenarios | HAGM | 26 |
| E53 | Maximum | Waller County | Evangeline/Jasper Scenarios | GAM | 27 |
| E54 | Maximum | Waller County | Evangeline/Jasper Scenarios | HAGM | 27 |
| E55 | Maximum | Project Area | Evangeline/Jasper Scenarios | GAM | 28 |
| E56 | Maximum | Project Area | Evangeline/Jasper Scenarios | HAGM | 28 |
| E57 | Maximum | Austin County | Conversion Schedule | GAM | 29 |
| E58 | Maximum | Austin County | Conversion Schedule | HAGM | 29 |
| E59 | Maximum | Fort Bend County | Conversion Schedule | GAM | 30 |
| E60 | Maximum | Fort Bend County | Conversion Schedule | HAGM | 30 |
| E61 | Maximum | Waller County | Conversion Schedule | GAM | 31 |
| E62 | Maximum | Waller County | Conversion Schedule | HAGM | 31 |
| E63 | Maximum | Project Area | Conversion Schedule | GAM | 32 |
| E64 | Maximum | Project Area | Conversion Schedule | HAGM | 32 |

## Figure E-1
## Austin County - Average Subsidence
## Electro Purification Pumping in Addition to MAG (GAM)




## Figure E-2
## Austin County - Average Subsidence
## Electro Purification Pumping in Addition to MAG (HAGM)

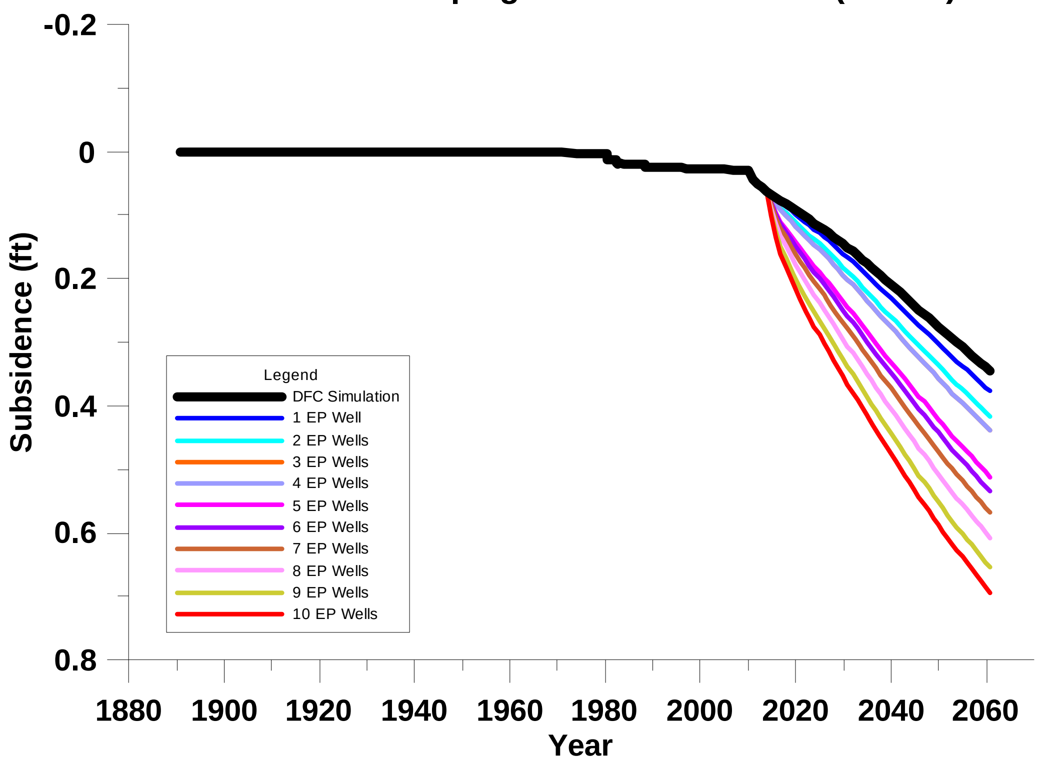


**Figure E-3**
**Fort Bend County - Average Subsidence**
**Electro Purification Pumping in Addition to MAG (GAM)**

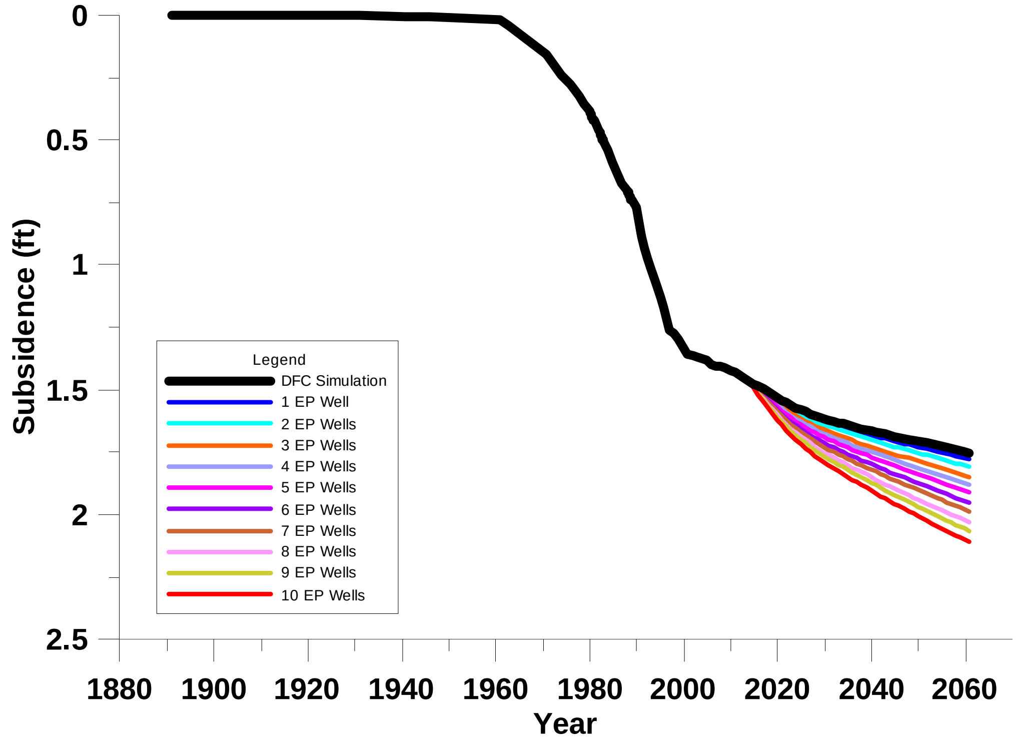



**Figure E-4**
**Fort Bend County - Average Subsidence**
**Electro Purification Pumping in Addition to MAG (HAGM)**

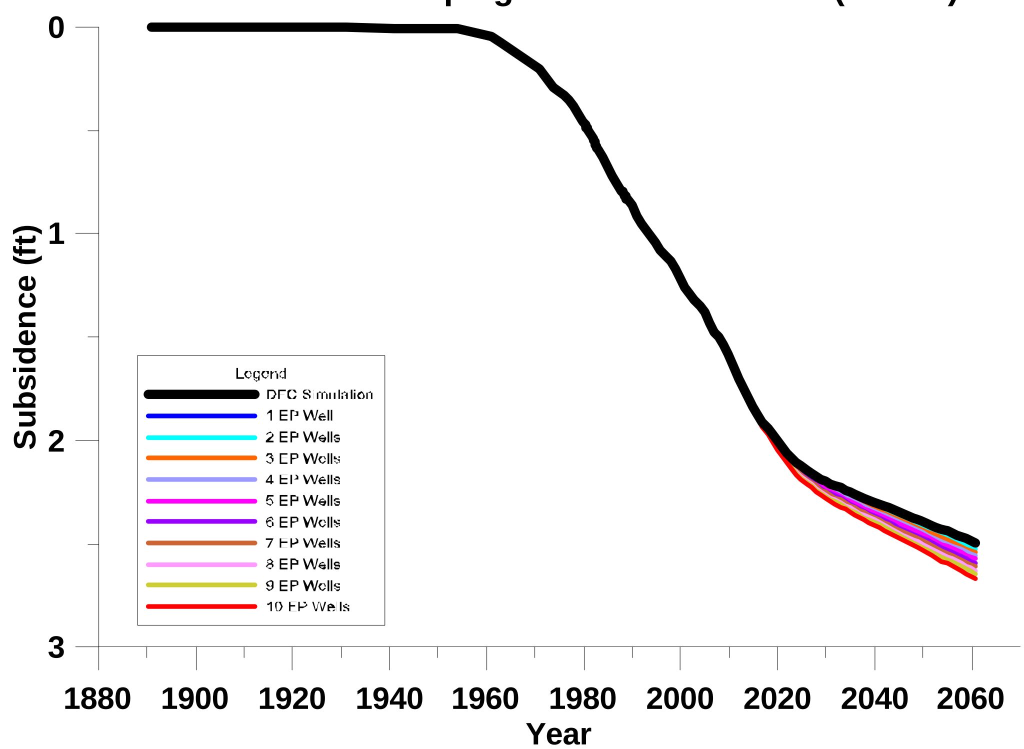


**Figure E-5**
**Waller County - Average Subsidence**
**Electro Purification Pumping in Addition to MAG (GAM)**

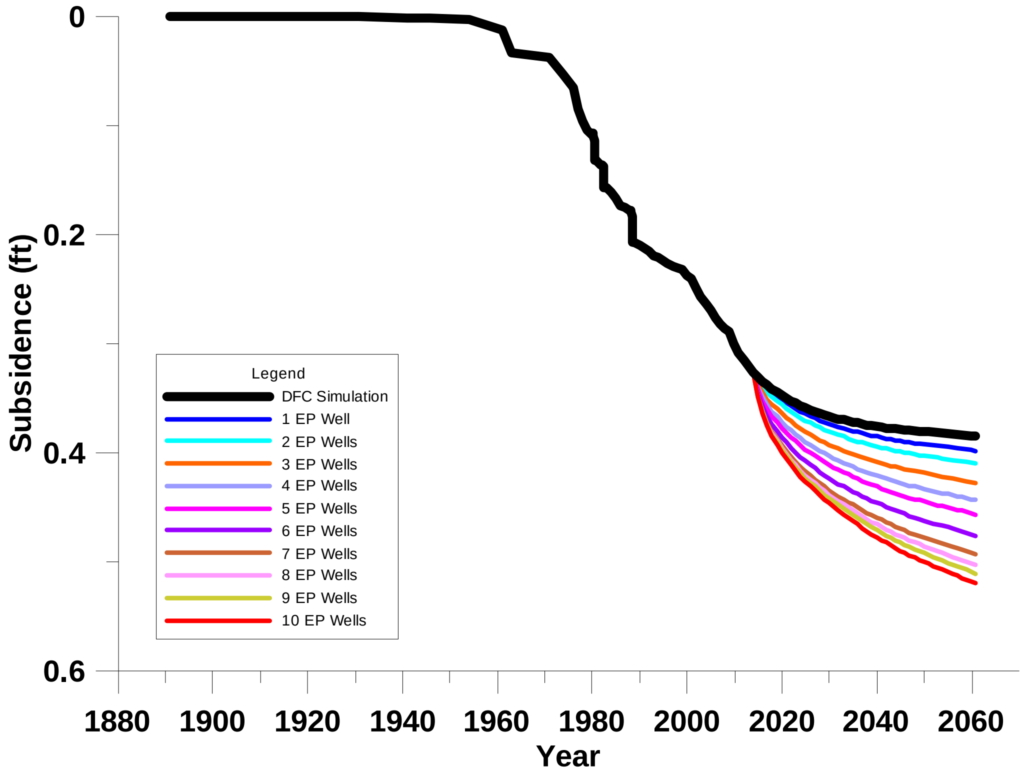
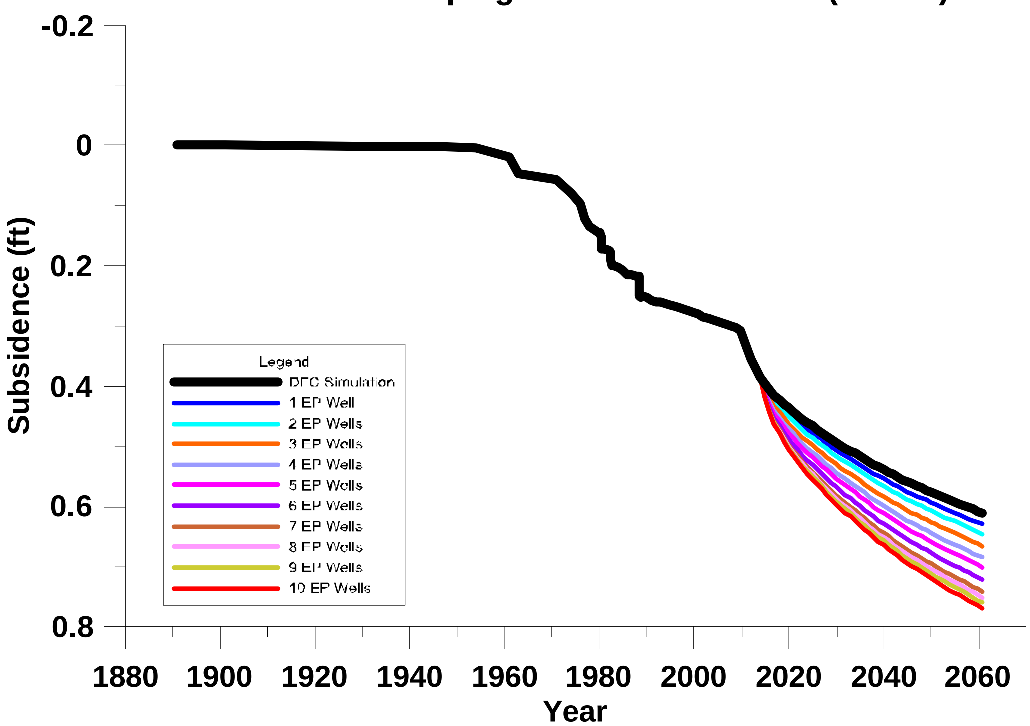
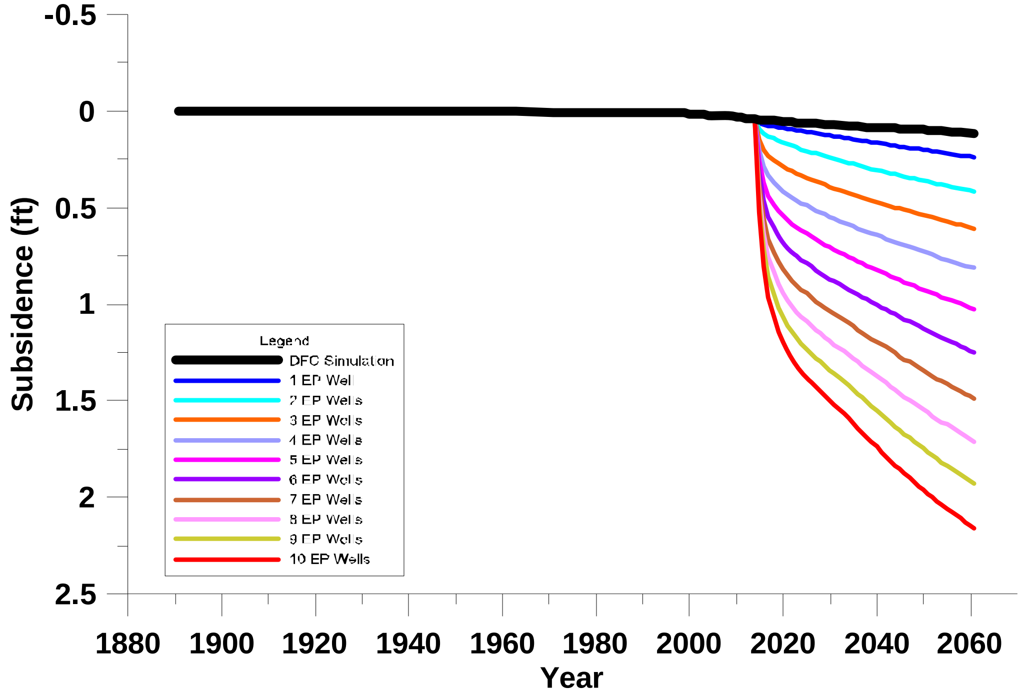



**Figure E-6**
**Waller County - Average Subsidence**
**Electro Purification Pumping in Addition to MAG (HAGM)**



## Figure E-7
## Project Area - Average Subsidence
## Electro Purification Pumping in Addition to MAG (GAM)




## Figure E-8
## Project Area - Average Subsidence
## Electro Purification Pumping in Addition to MAG (HAGM)

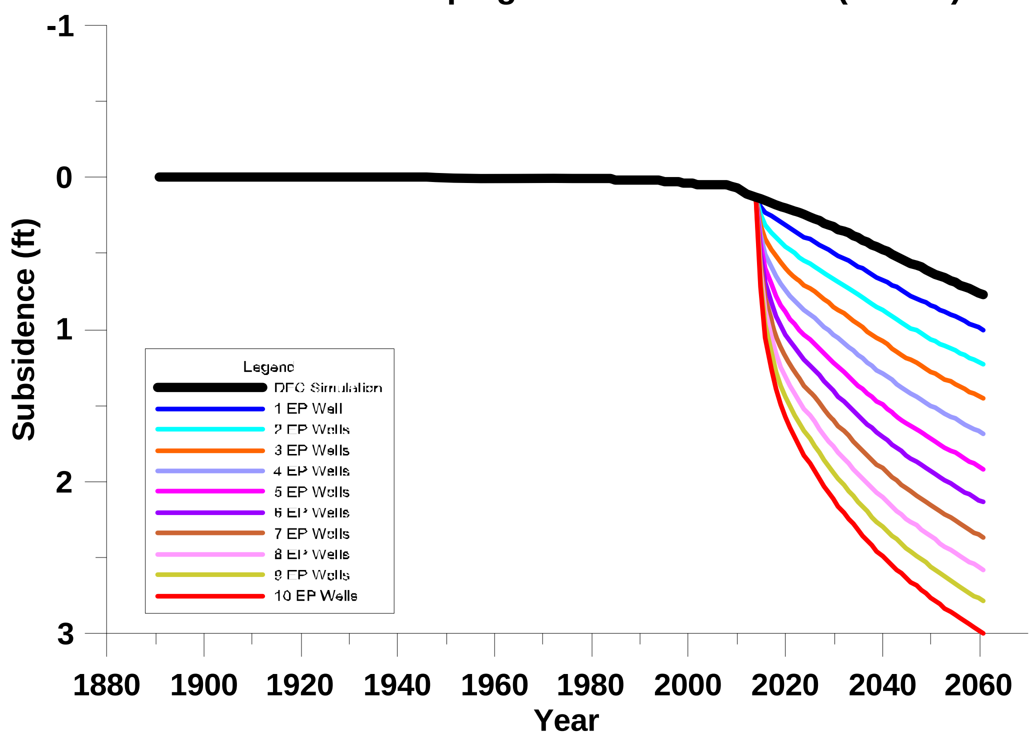


**Figure E-9**
**Austin County - Average Subsidence**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**GAM**

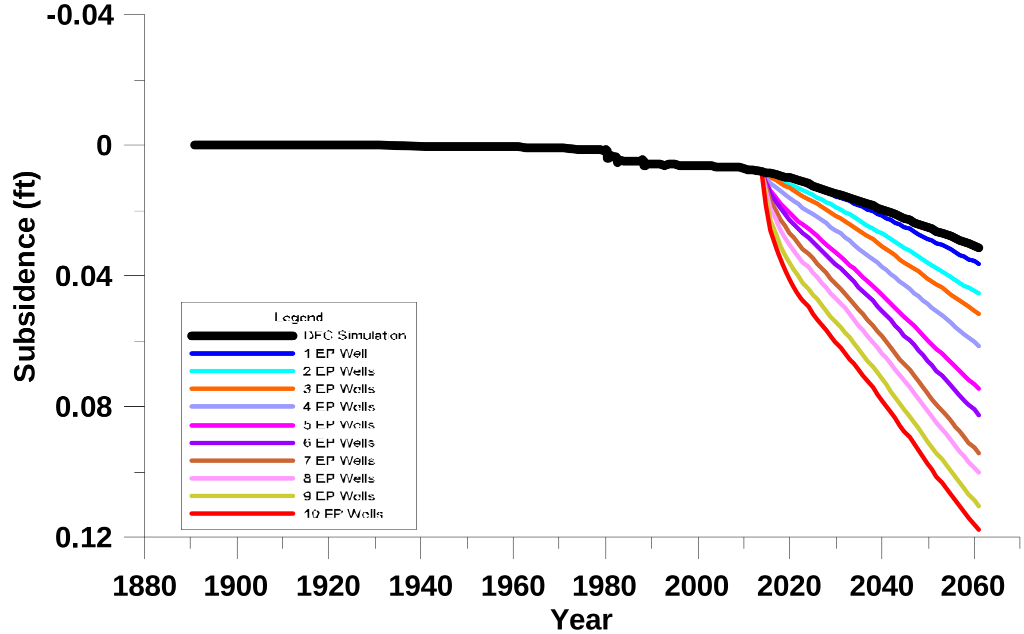
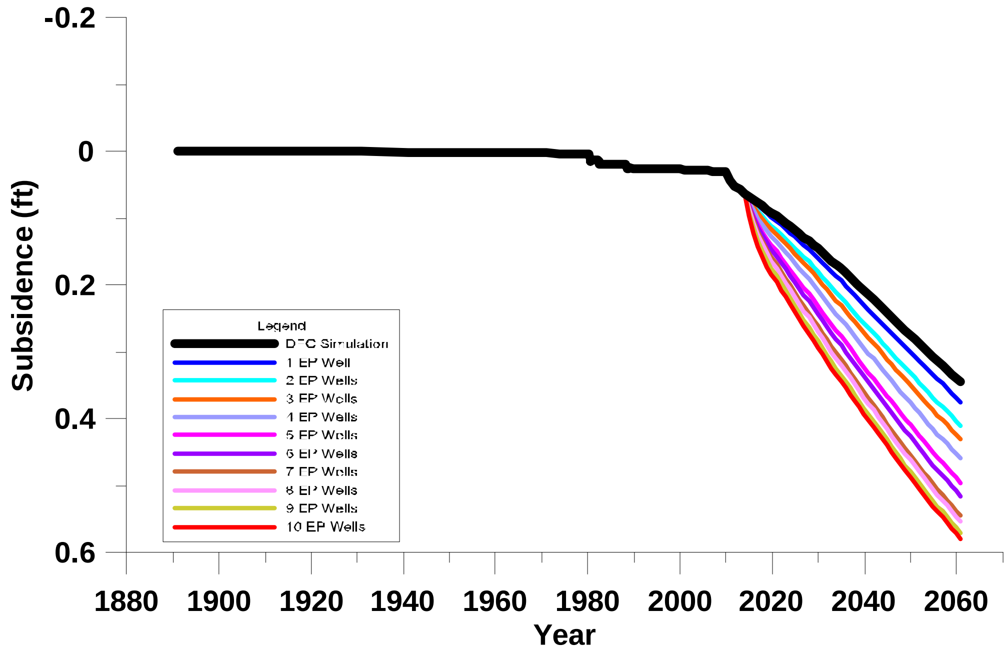
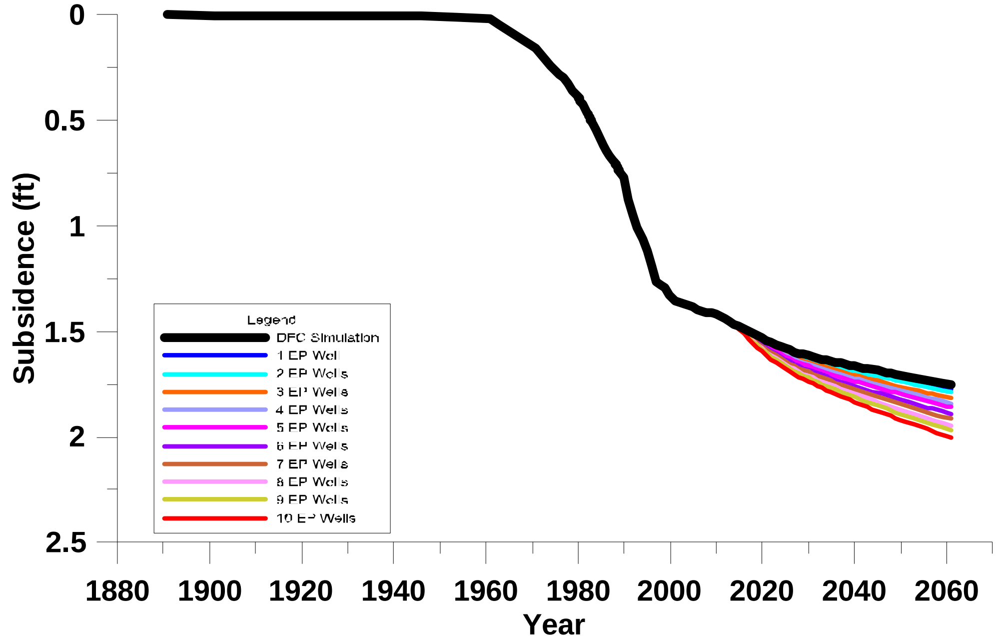



**Figure E-10**
**Austin County - Average Subsidence**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**HAGM**



## Figure E-11
## Fort Bend County - Average Subsidence
## Electro Purification Pumping Within MAG (Other Pumping Reduced)
## GAM




## Figure E-12
## Fort Bend County - Average Subsidence
## Electro Purification Pumping Within MAG (Other Pumping Reduced)
## HAGM

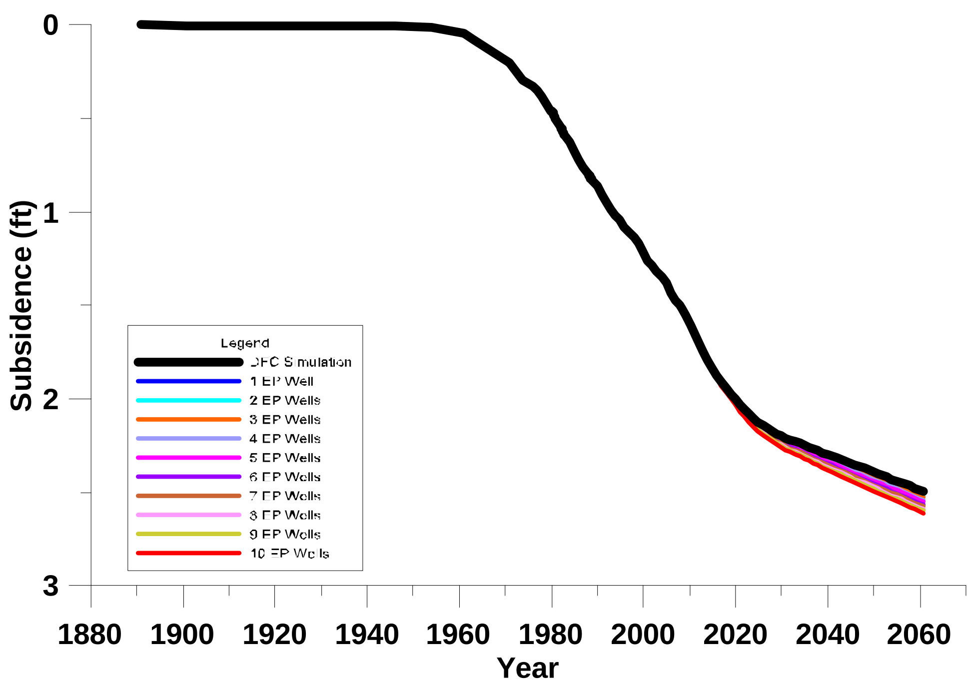


**Figure E-13**
**Waller County - Average Subsidence**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**GAM**

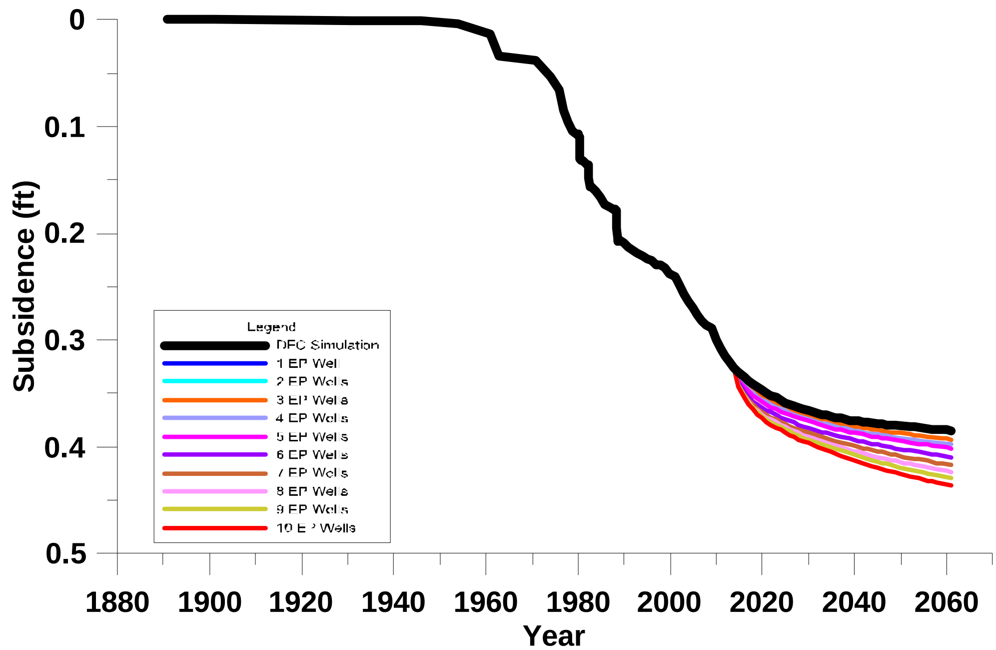



**Figure E-14**
**Waller County - Average Subsidence**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**HAGM**

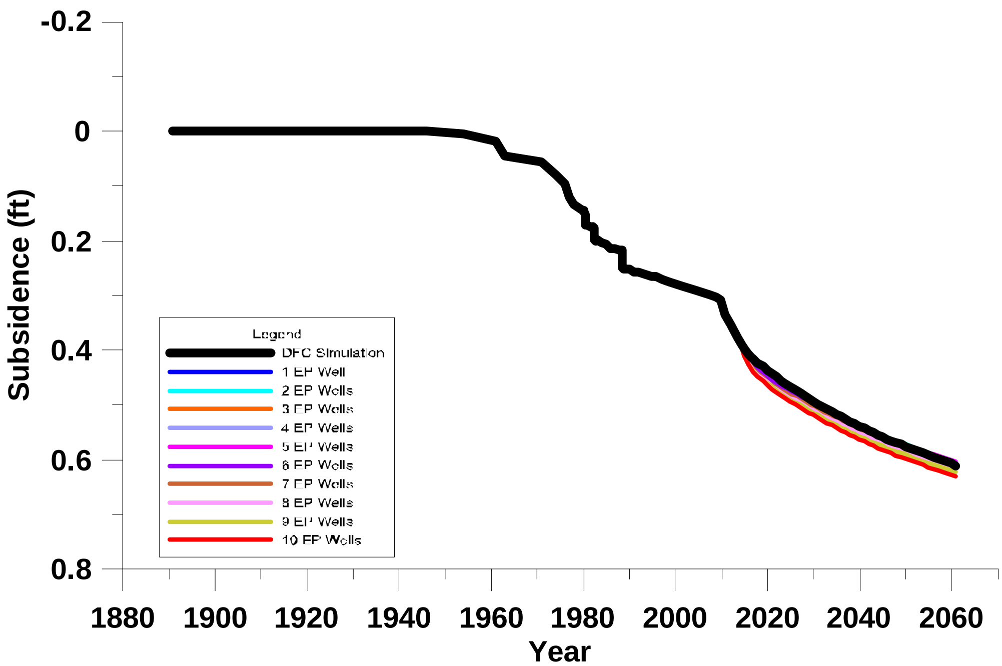


**Figure E-15**
**Project Area - Average Subsidence**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**GAM**

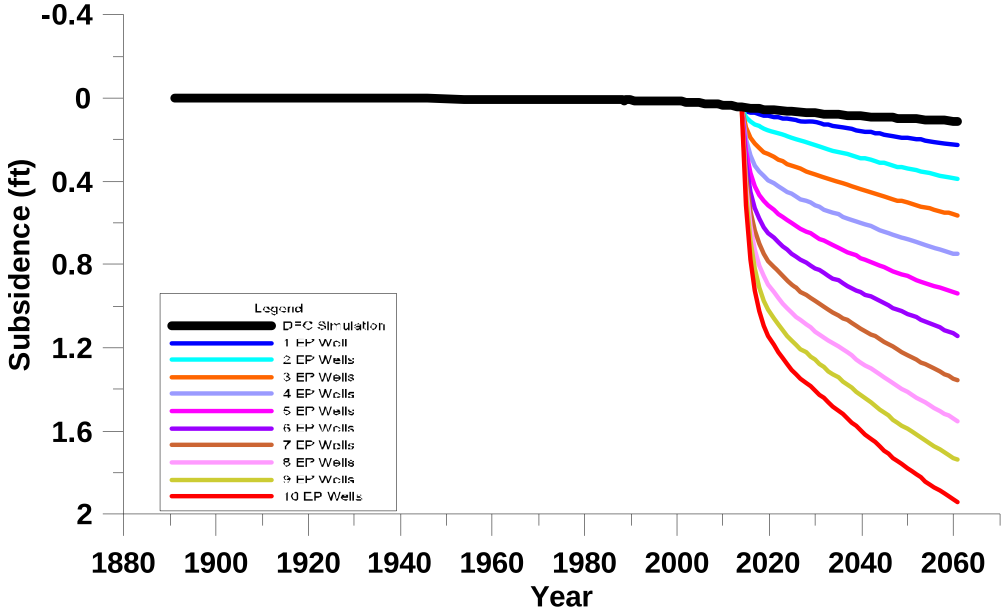



**Figure E-16**
**Project Area - Average Subsidence**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**HAGM**

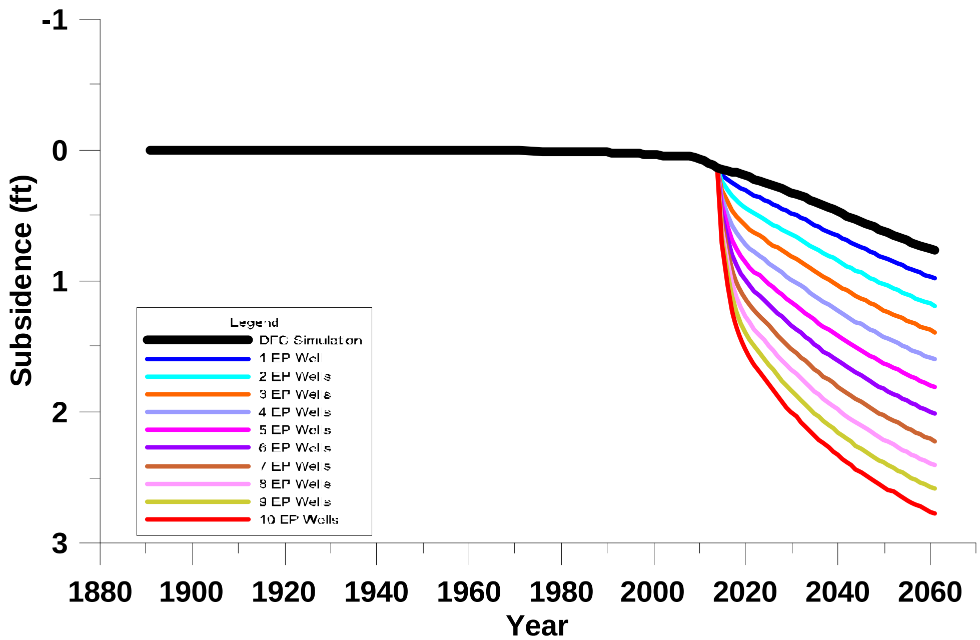


**Figure E-17**
**Austin County - Average Subsidence**
**Electro Purification Pumping - Evangeline/Jasper (GAM)**

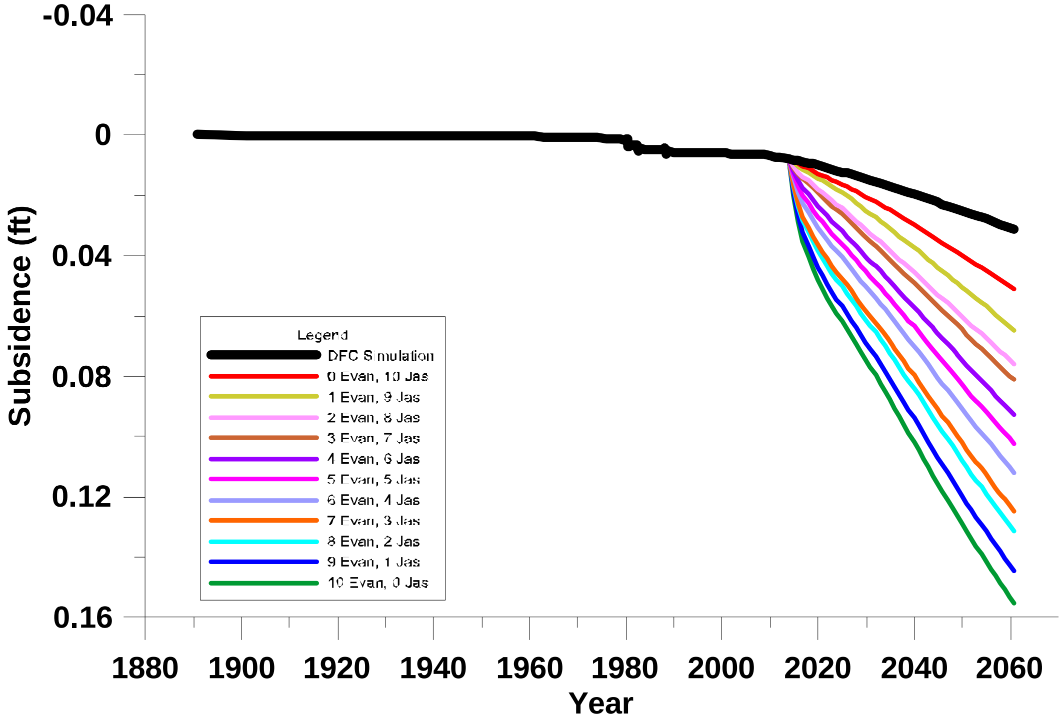
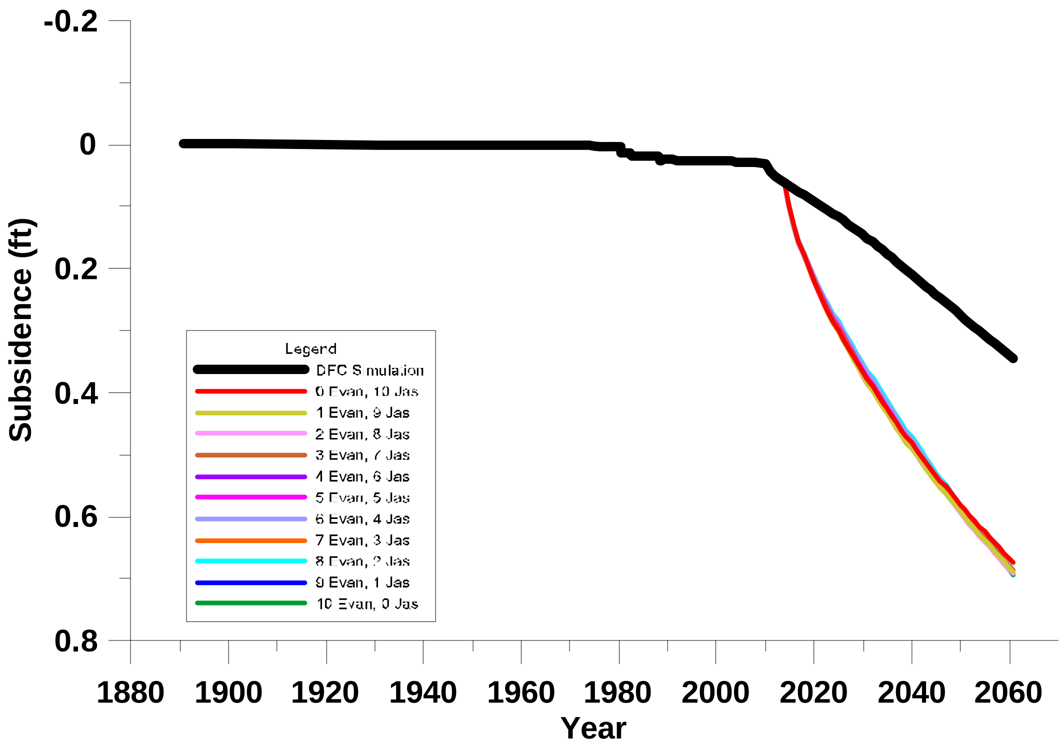
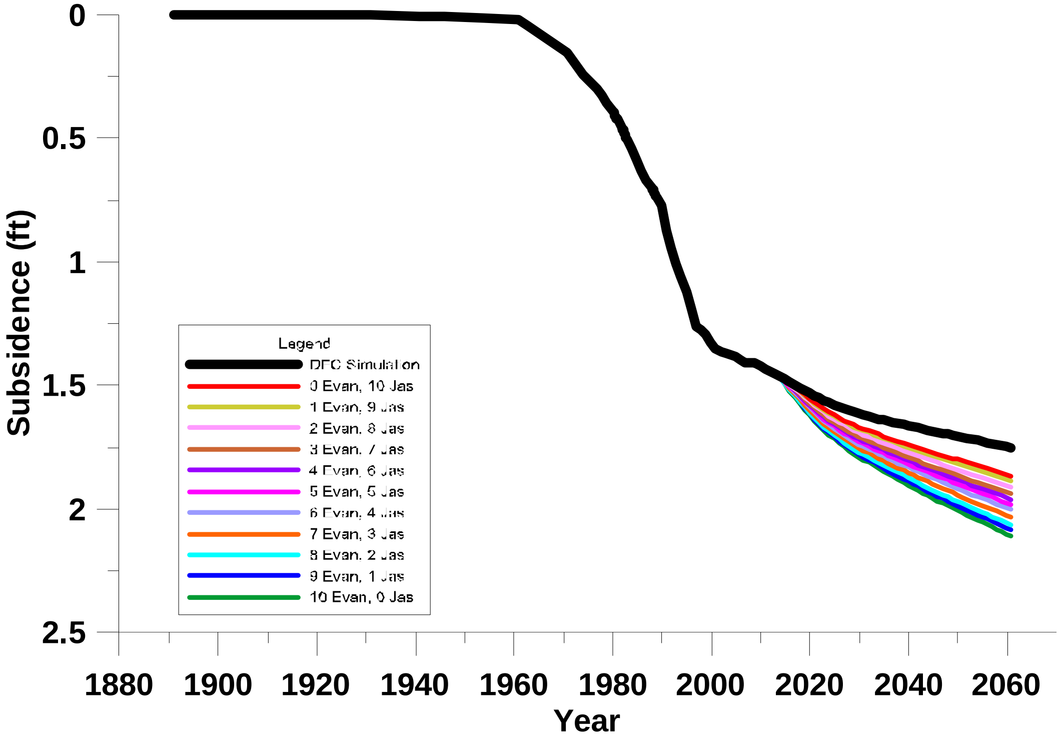



**Figure E-18**
**Austin County - Average Subsidence**
**Electro Purification Pumping - Evangeline/Jasper (HAGM)**



## Figure E-19
## Fort Bend County - Average Subsidence
## Electro Purification Pumping - Evangeline/Jasper (GAM)




## Figure E-20
## Fort Bend County - Average Subsidence
## Electro Purification Pumping - Evangeline/Jasper (HAGM)

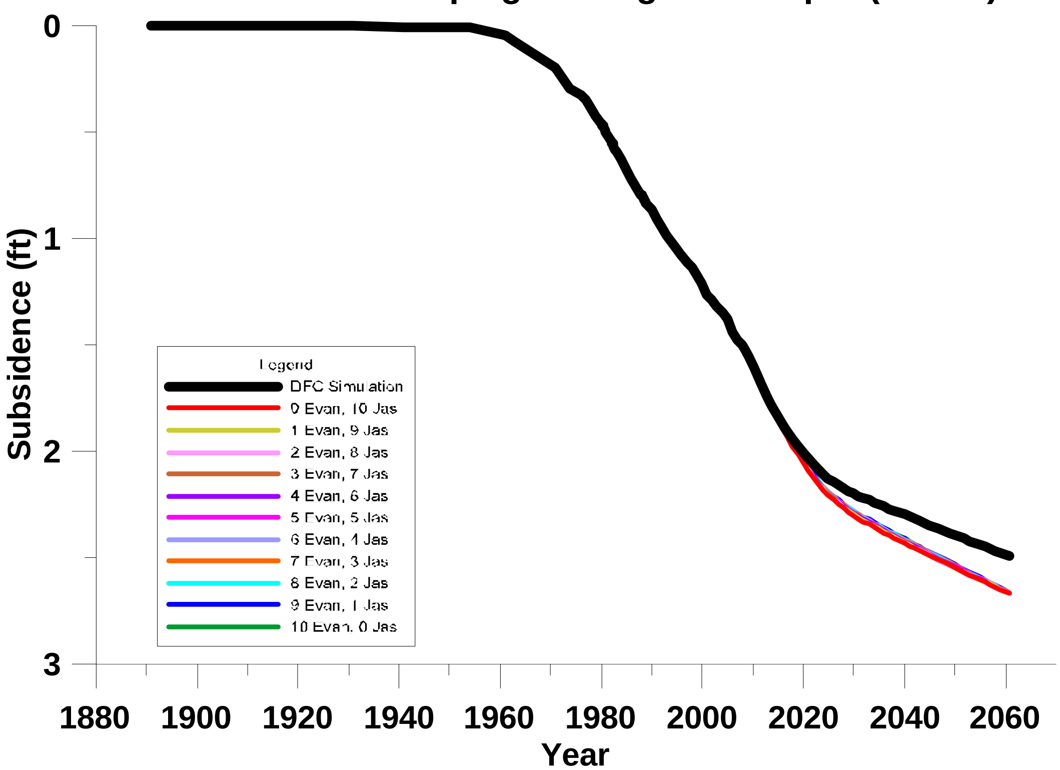


**Figure E-21**
**Waller County - Average Subsidence**
**Electro Purification Pumping - Evangeline/Jasper**
**GAM**

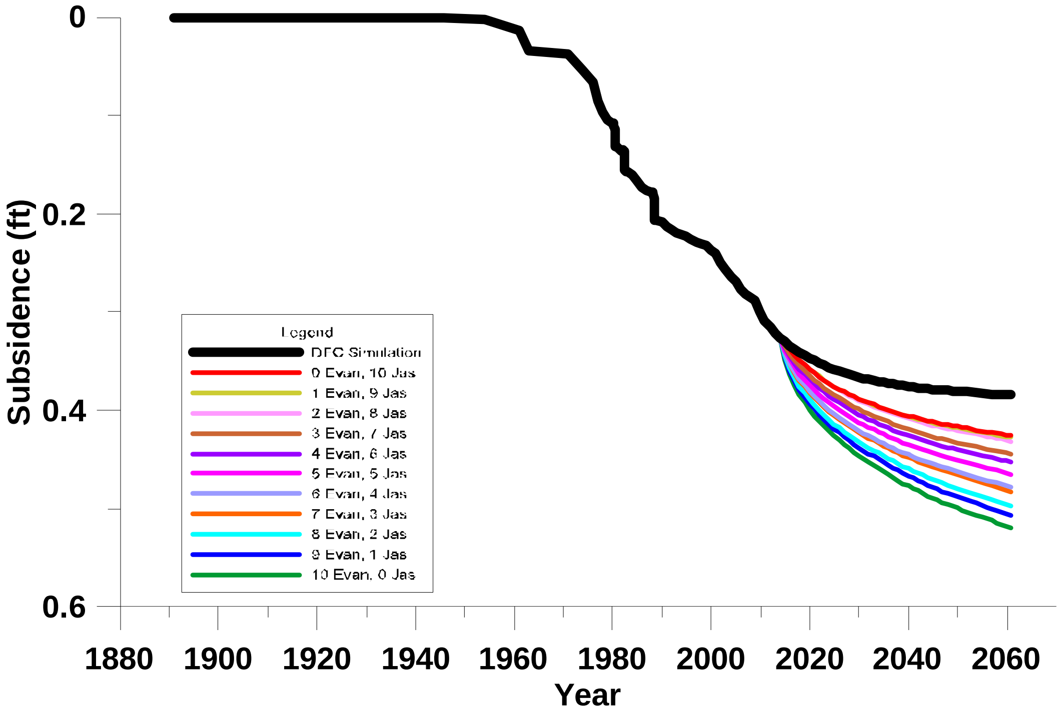



**Figure E-22**
**Waller County - Average Subsidence**
**Electro Purification Pumping - Evangeline/Jasper**
**HAGM**

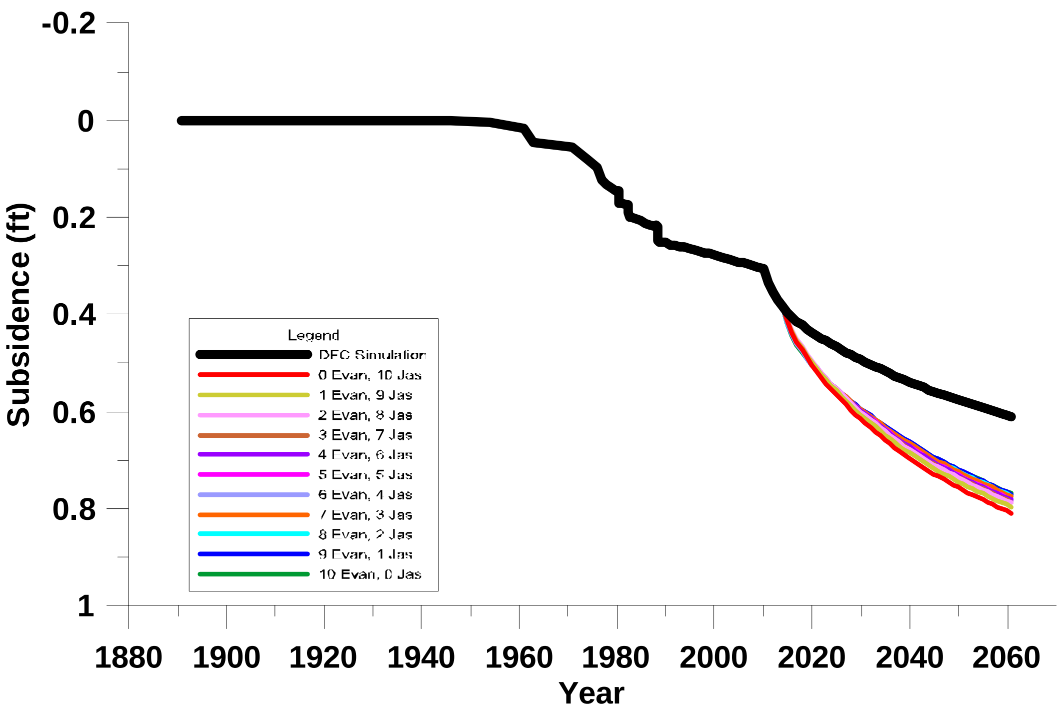


**Figure E-23**
**Project Area - Average Subsidence**
**Electro Purification Pumping - Evangeline/Jasper (GAM)**

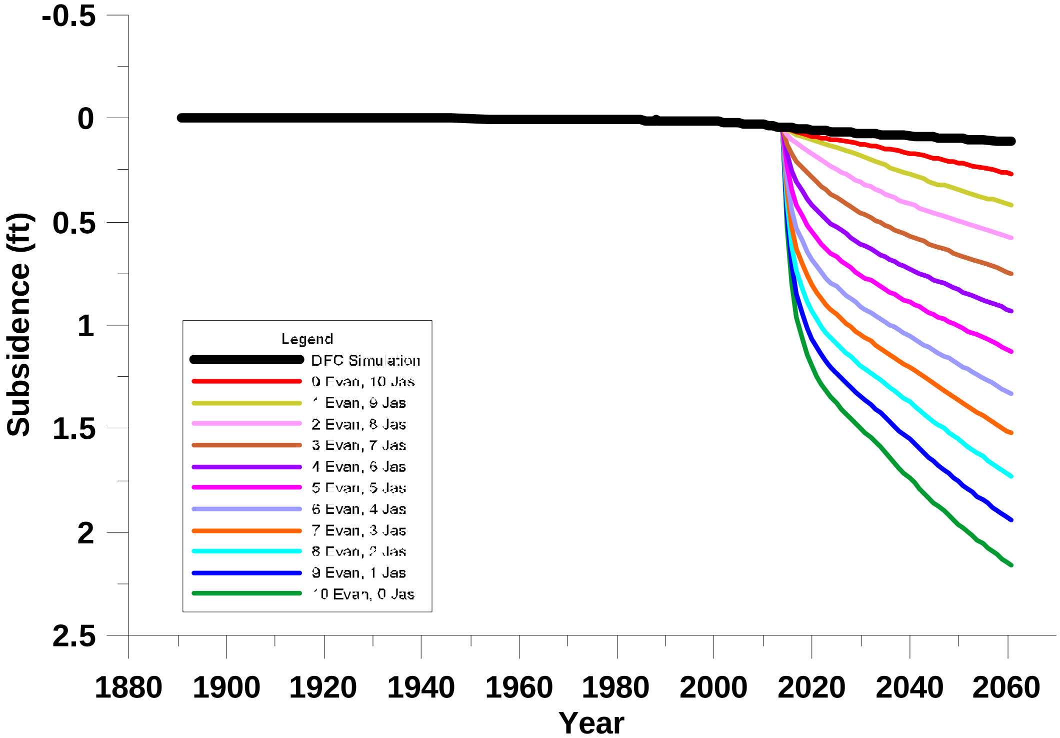



**Figure E-24**
**Project Area - Average Subsidence**
**Electro Purification Pumping - Evangeline/Jasper (HAGM)**

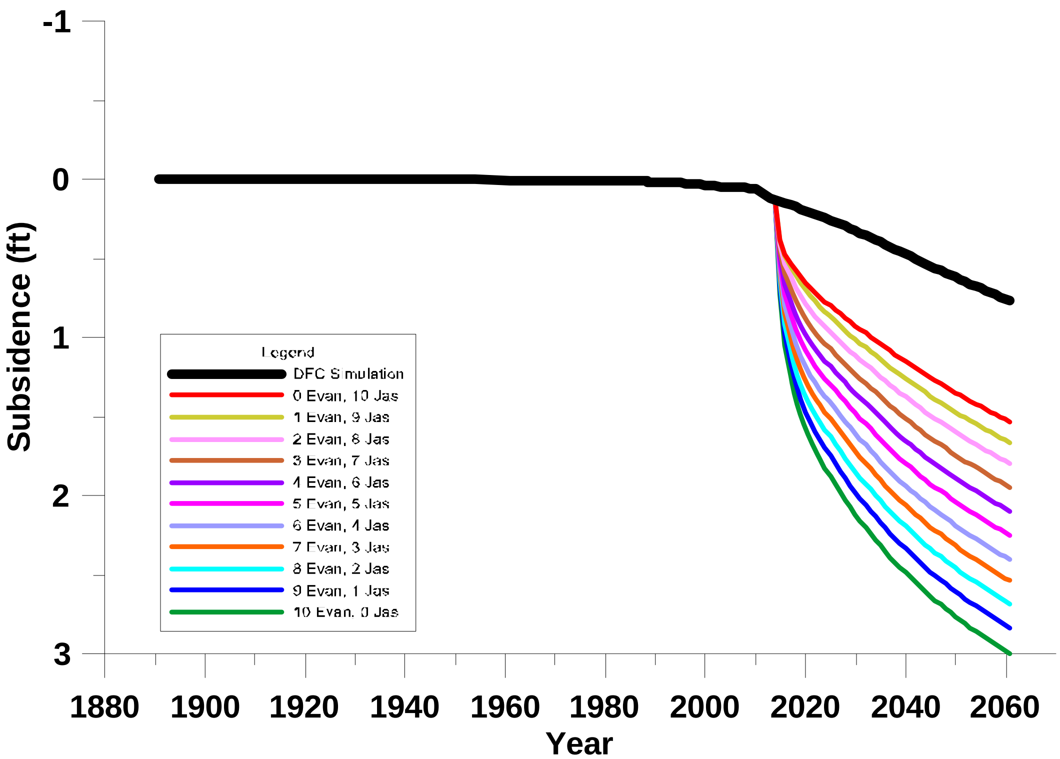


**Figure E-25**
**Austin County - Average Subsidence**
**Electro Purification Pumping - Conversion Schedule (GAM)**

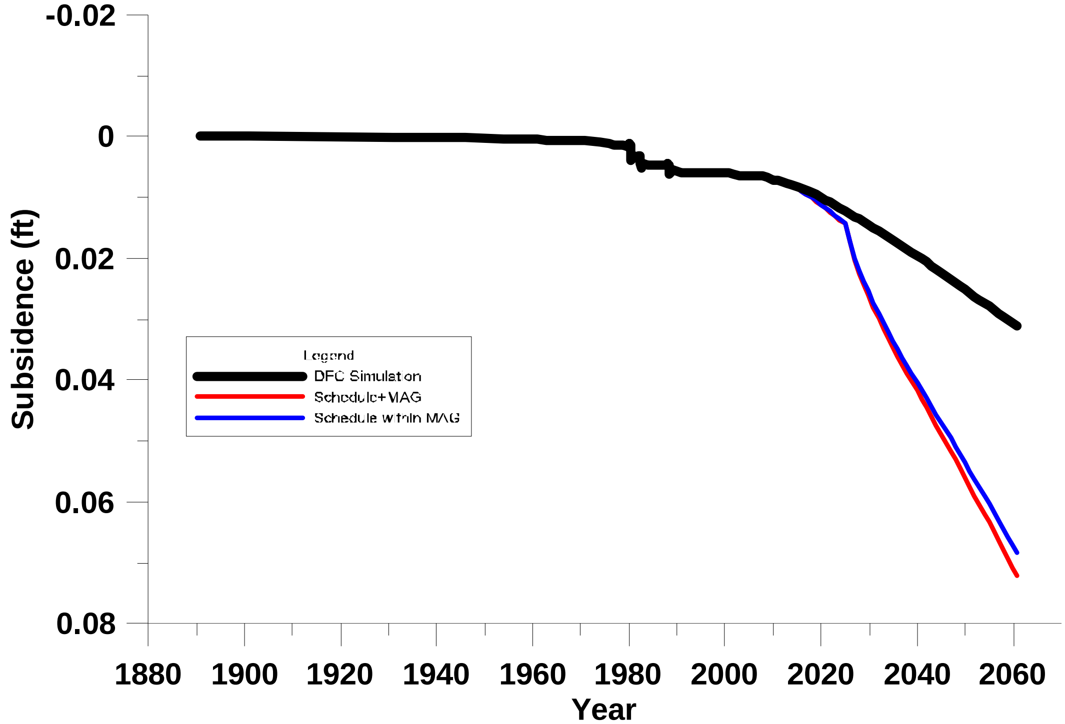



**Figure E-26**
**Austin County - Average Subsidence**
**Electro Purification Pumping - Conversion Schedule (HAGM)**

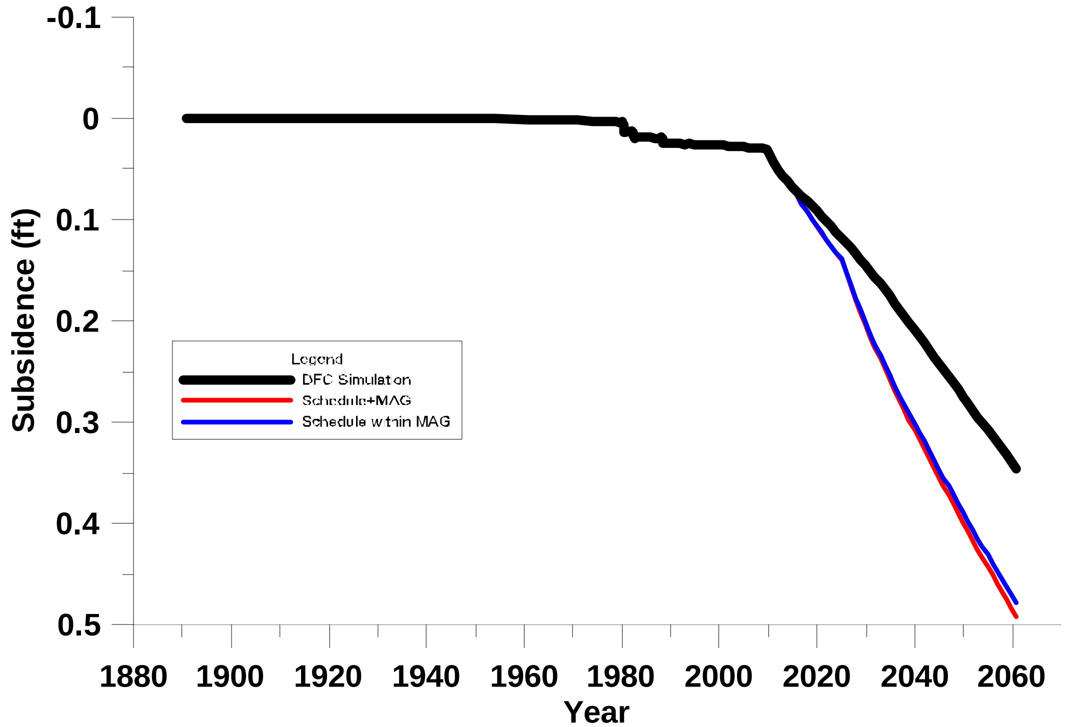


**Figure E-27**
**Fort Bend County - Average Subsidence**
**Electro Purification Pumping - Conversion Schedule (GAM)**

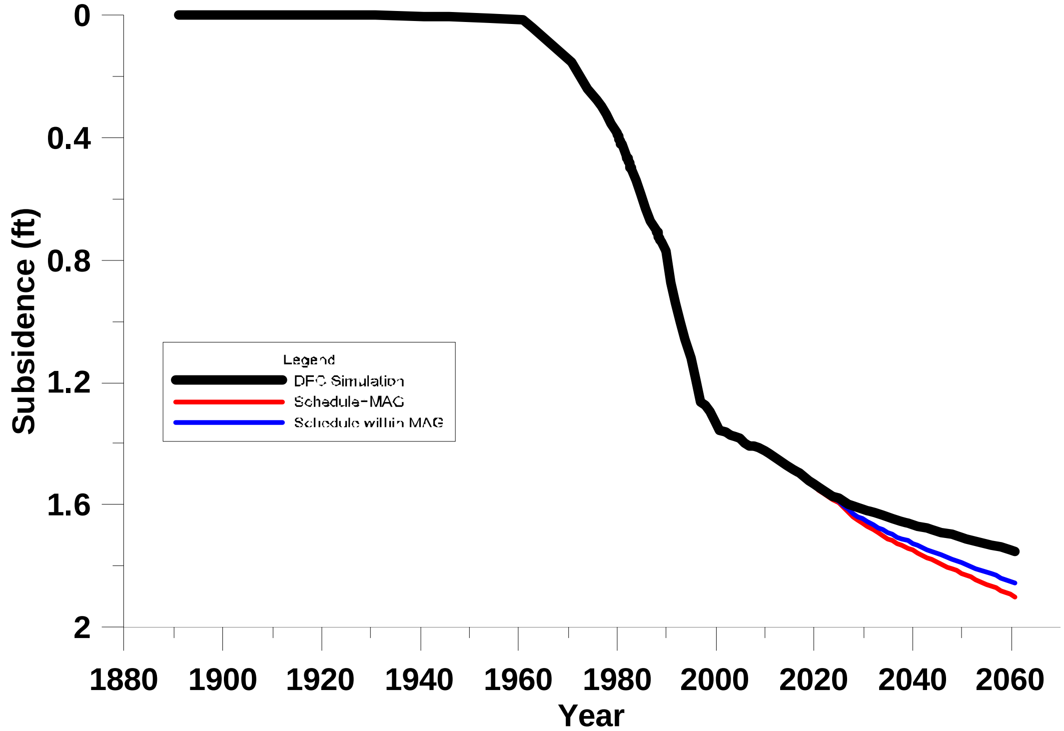
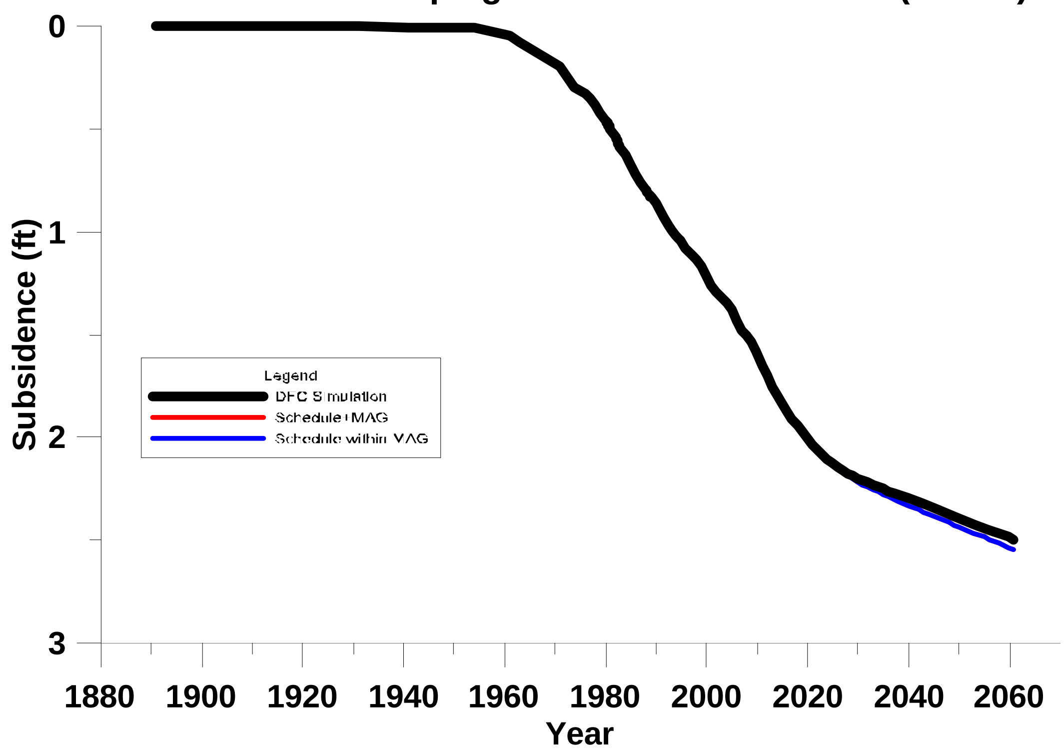
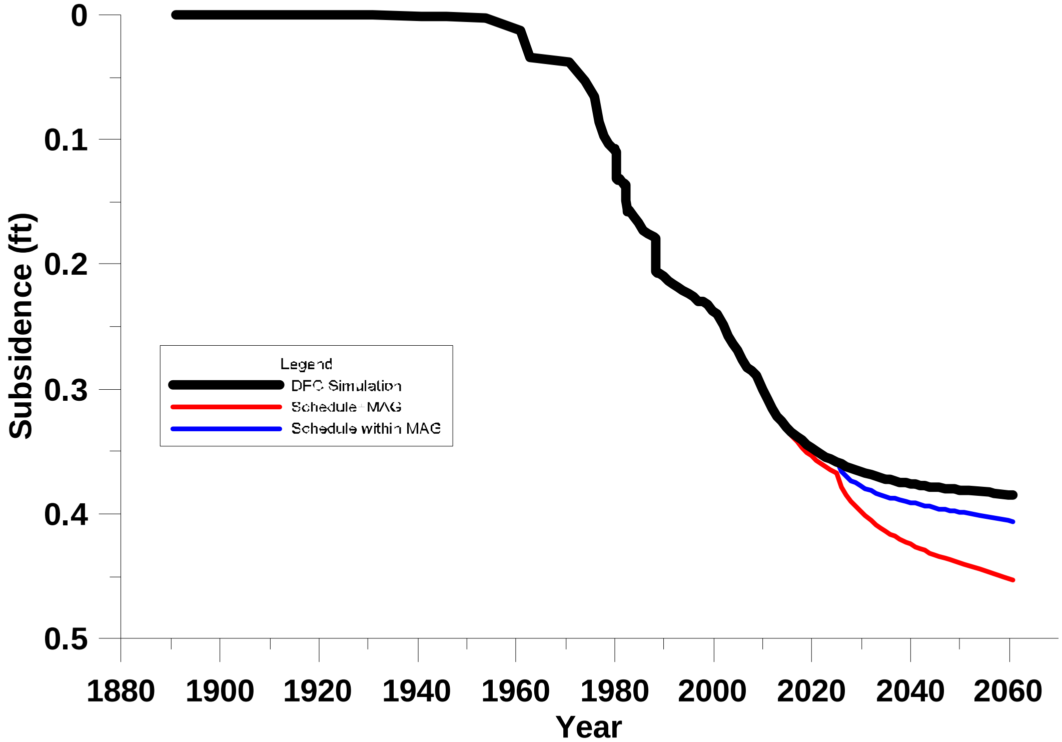


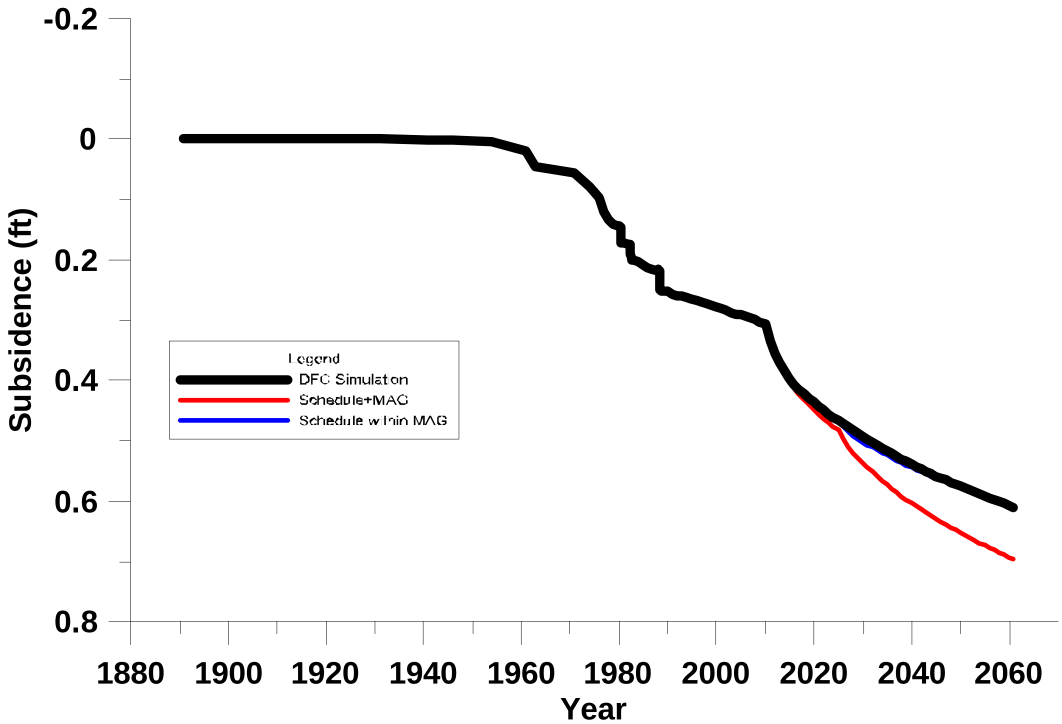

**Figure E-28**
**Fort Bend County - Average Subsidence**
**Electro Purification Pumping - Conversion Schedule (HAGM)**



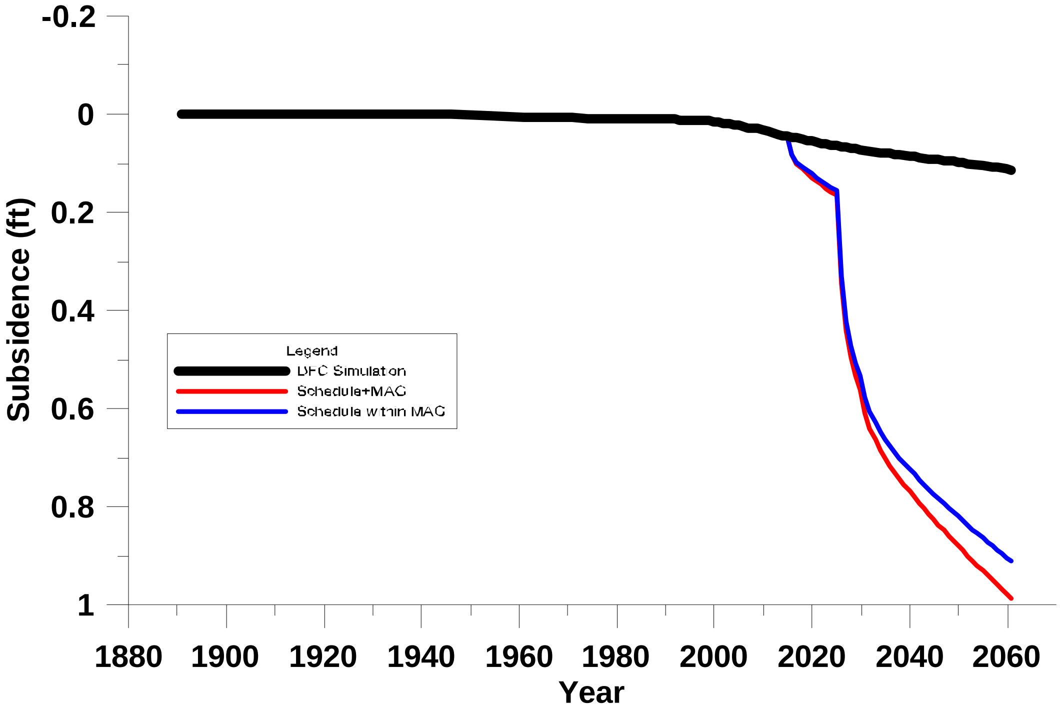
## Figure E-29
## Waller County - Average Subsidence
## Electro Purification Pumping - Conversion Schedule (GAM)




## Figure E-30
## Waller County - Average Subsidence
## Electro Purification Pumping - Conversion Schedule (HAGM)



## Figure E-31
## Project Area - Average Subsidence
## Electro Purification Pumping - Conversion Schedule (GAM)




## Figure E-32
## Project Area - Average Subsidence
## Electro Purification Pumping - Conversion Schedule (HAGM)

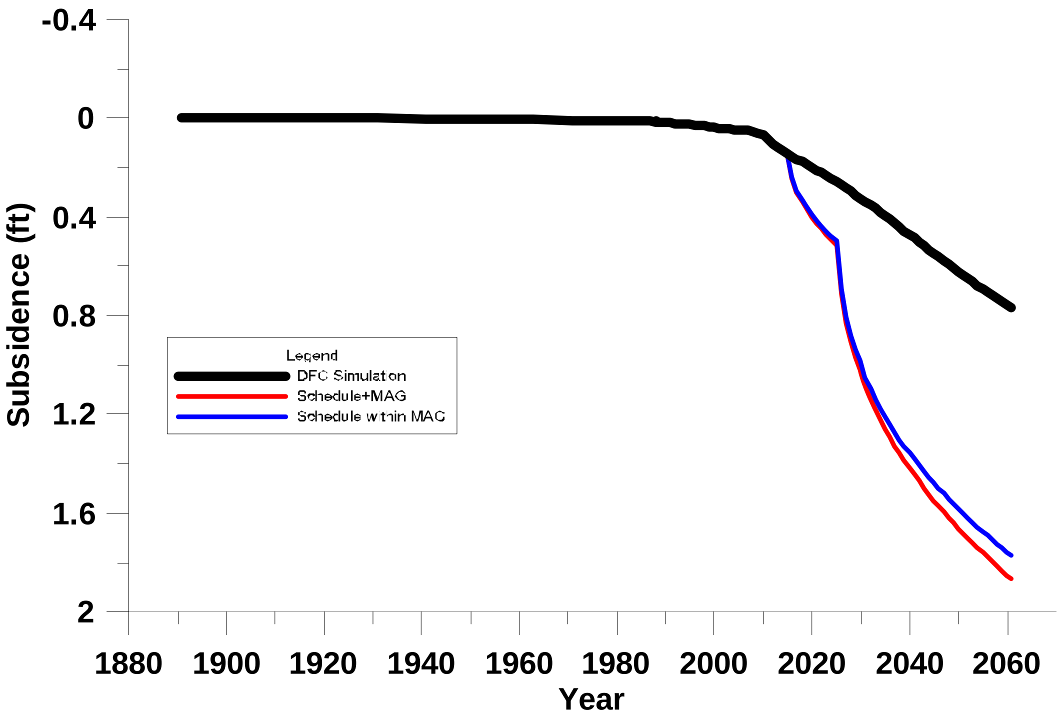


**Figure E-33**
**Austin County - Maximum Subsidence**
**Electro Purification Pumping in Addition to MAG (GAM)**

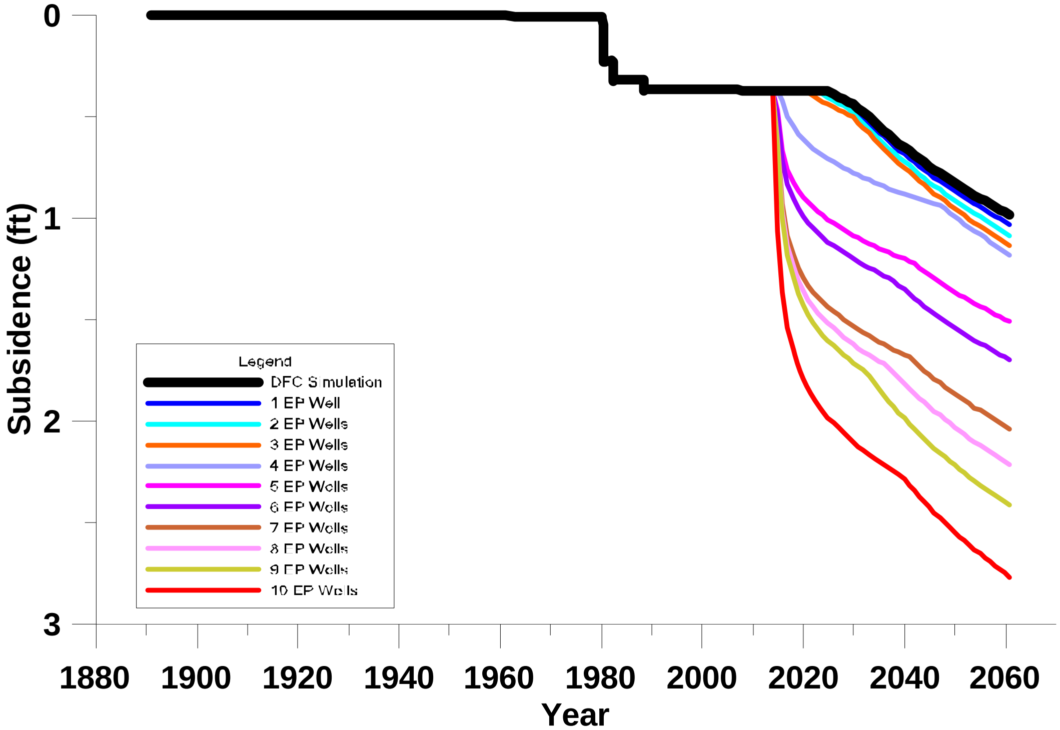
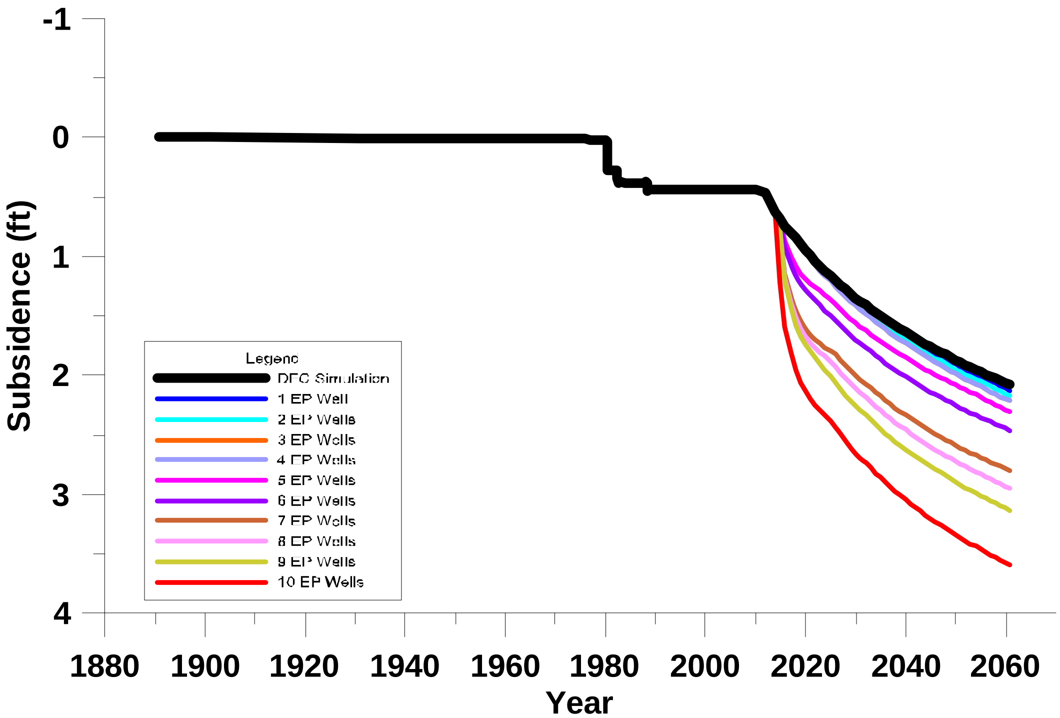
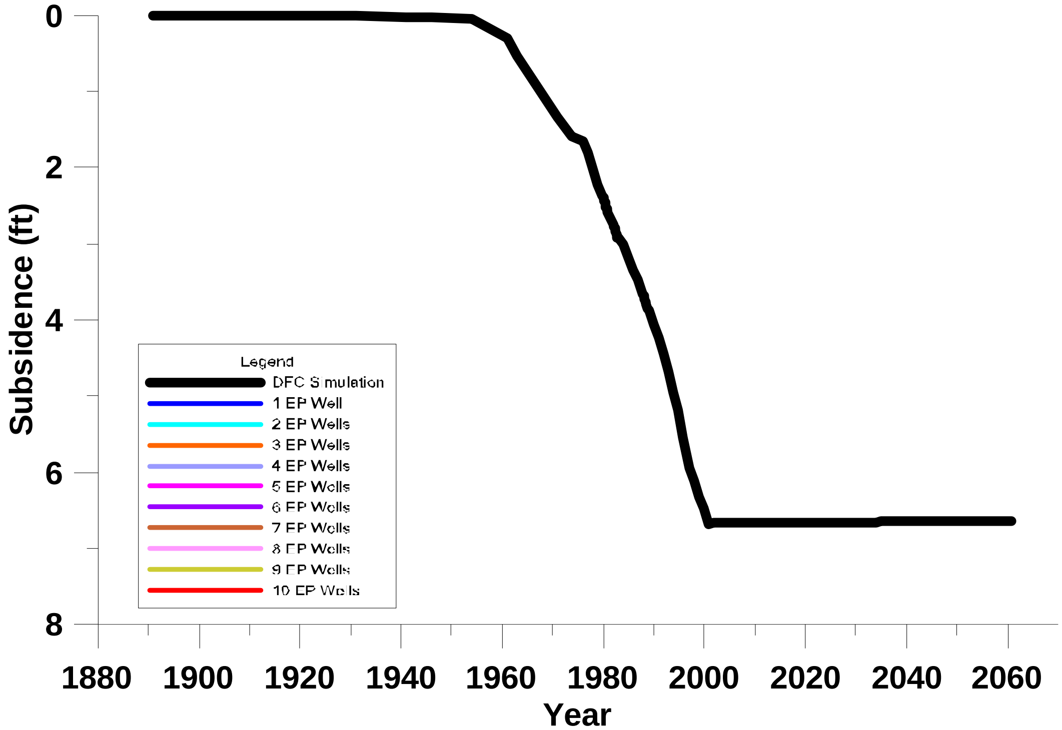



**Figure E-34**
**Austin County - Maximum Subsidence**
**Electro Purification Pumping in Addition to MAG (HAGM)**



## Figure E-35
## Fort Bend County - Maximum Subsidence
## Electro Purification Pumping in Addition to MAG (GAM)




## Figure E-36
## Fort Bend County - Maximum Subsidence
## Electro Purification Pumping in Addition to MAG (HAGM)

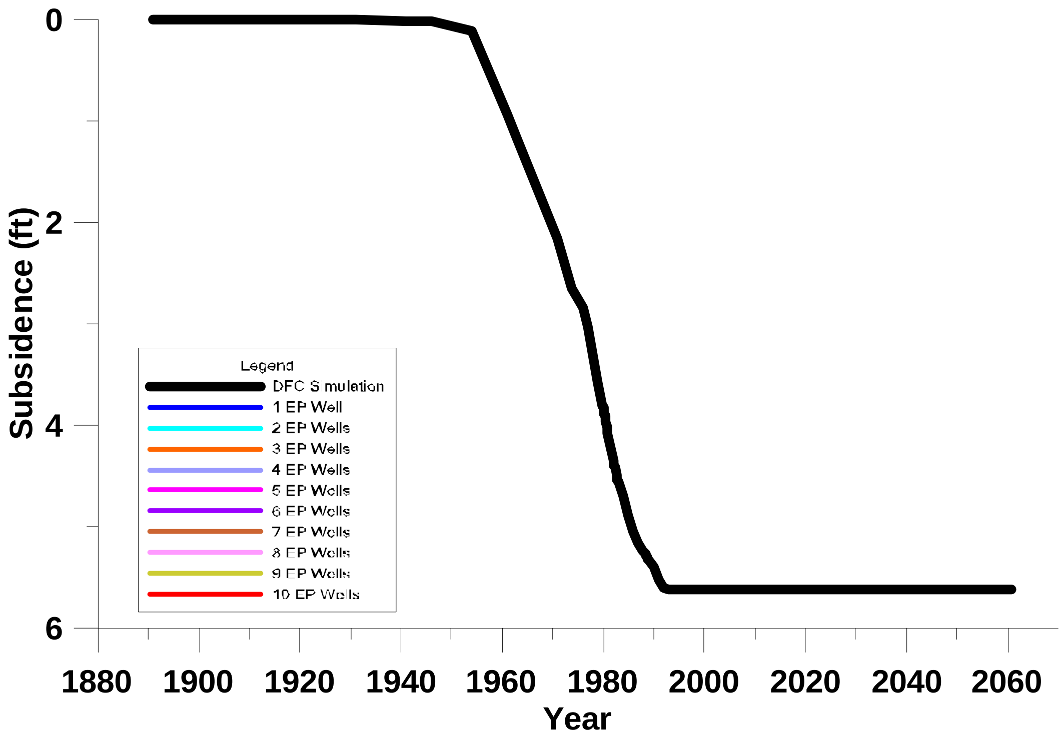


**Figure E-37**
**Waller County - Maximum Subsidence**
**Electro Purification Pumping in Addition to MAG (GAM)**

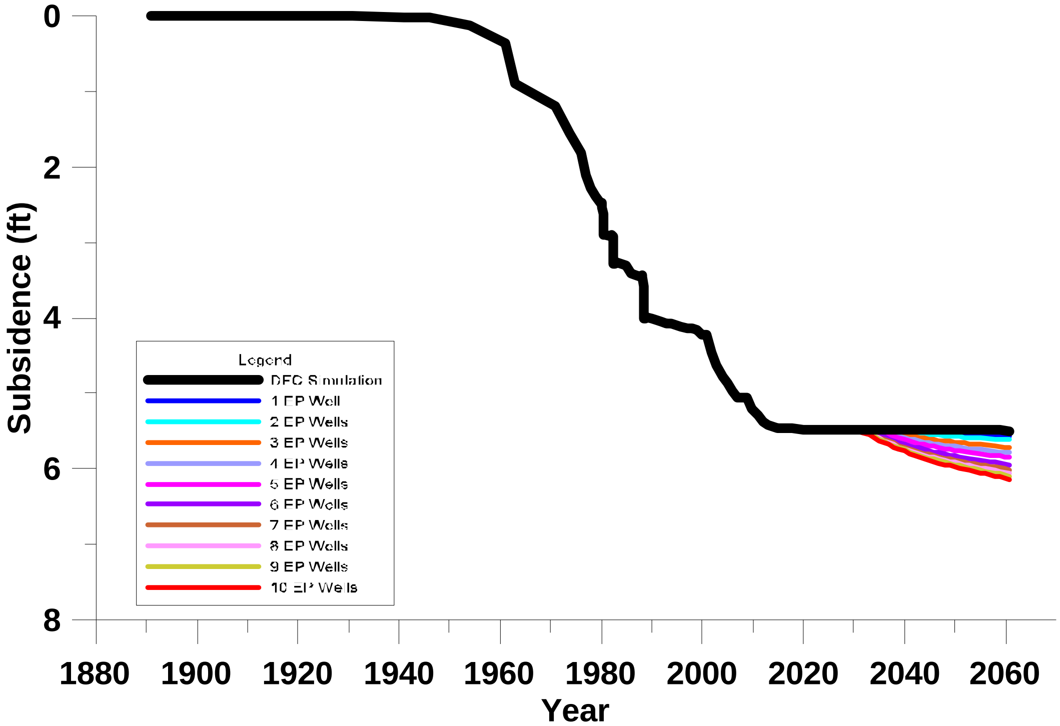
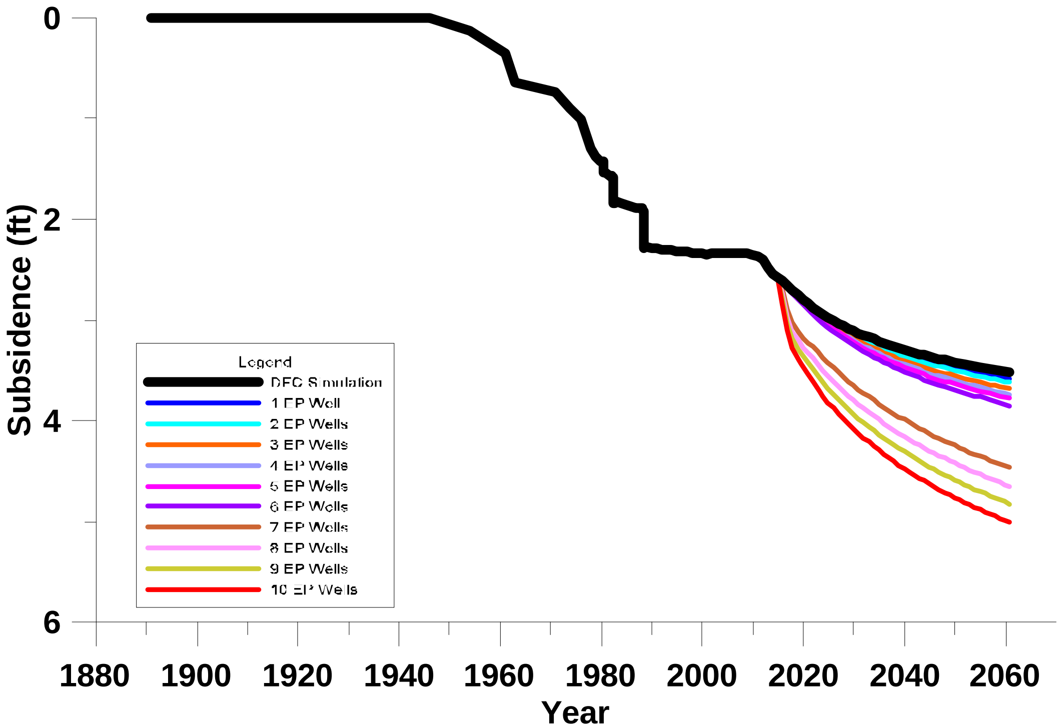
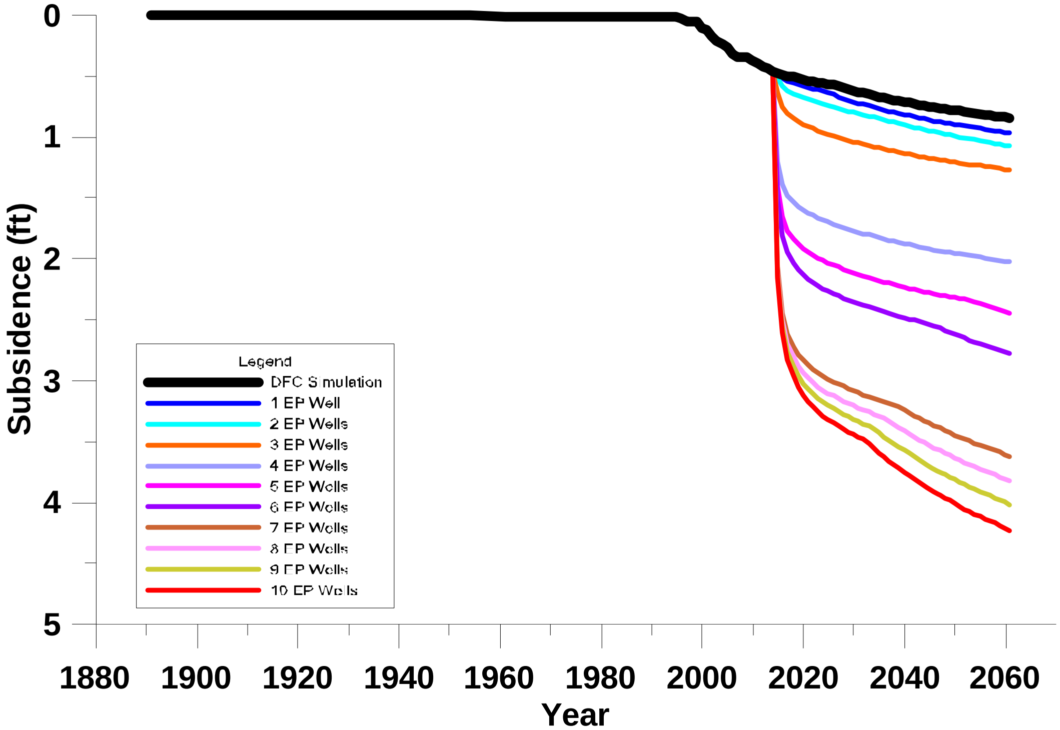



**Figure E-38**
**Waller County - Maximum Subsidence**
**Electro Purification Pumping in Addition to MAG (HAGM)**



## Figure E-39
### Project Area - Maximum Subsidence
### Electro Purification Pumping in Addition to MAG (GAM)




## Figure E-40
### Project Area - Maximum Subsidence
### Electro Purification Pumping in Addition to MAG (HAGM)

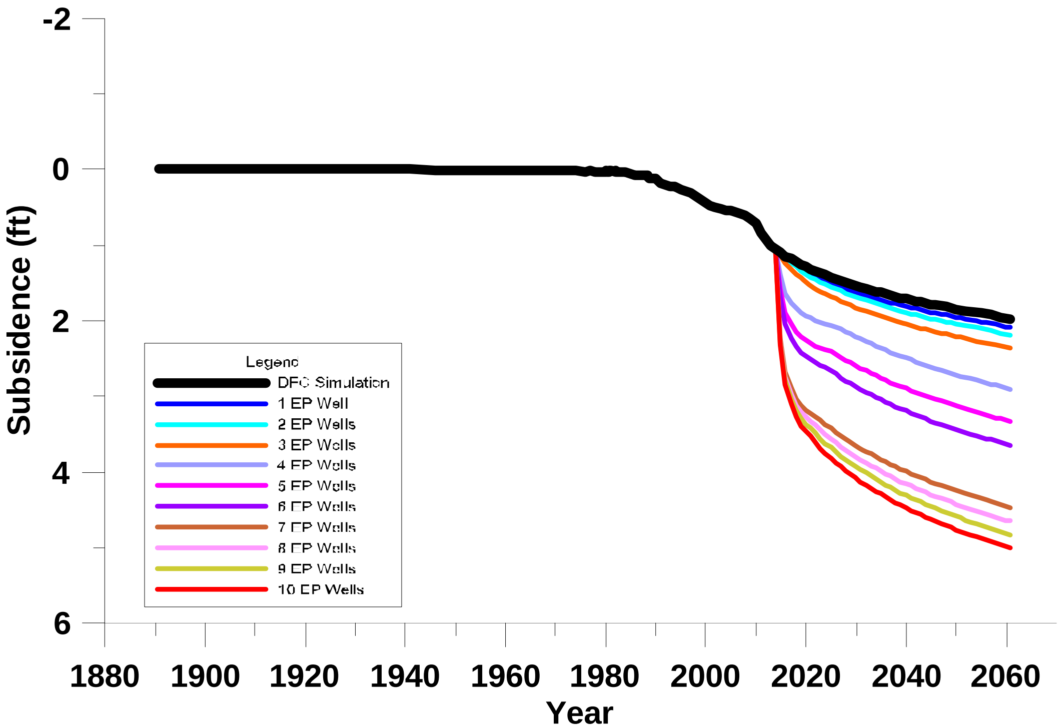


**Figure E-41**
**Austin County - Maximum Subsidence**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**GAM**

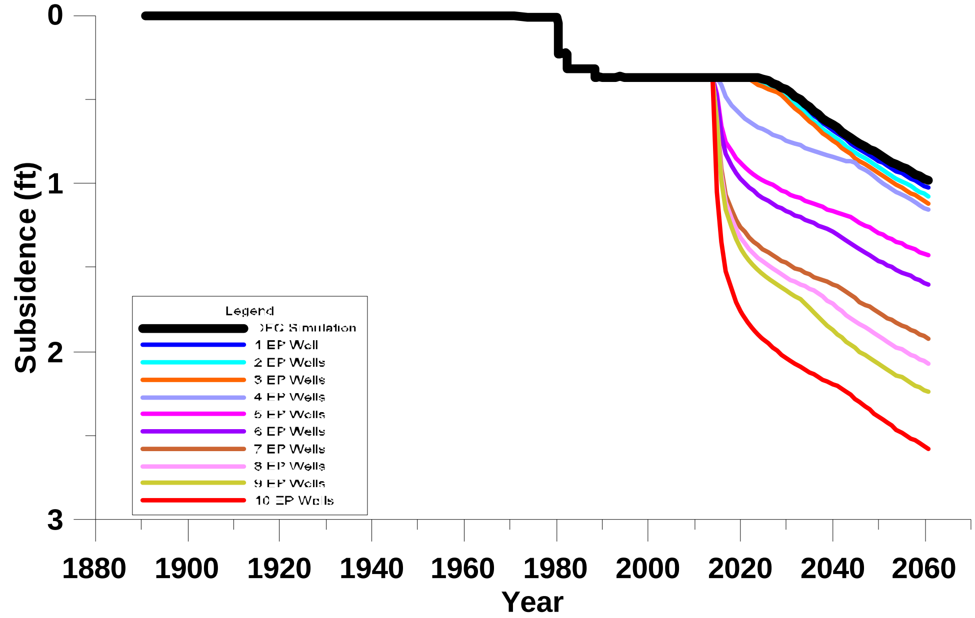



**Figure E-42**
**Austin County - Maximum Subsidence**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**HAGM**

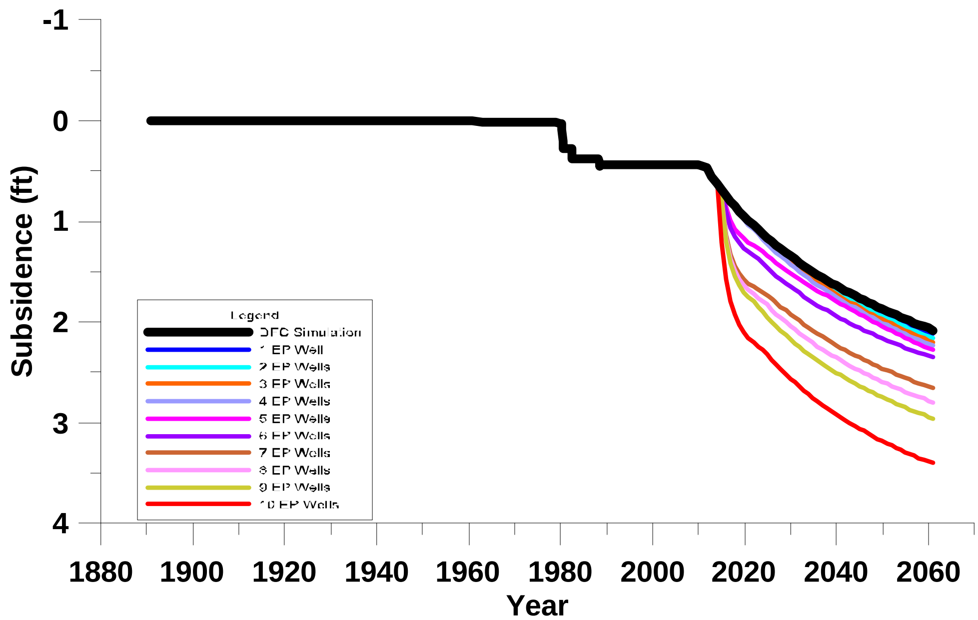


**Figure E-43**
**Fort Bend County - Maximum Subsidence**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**GAM**

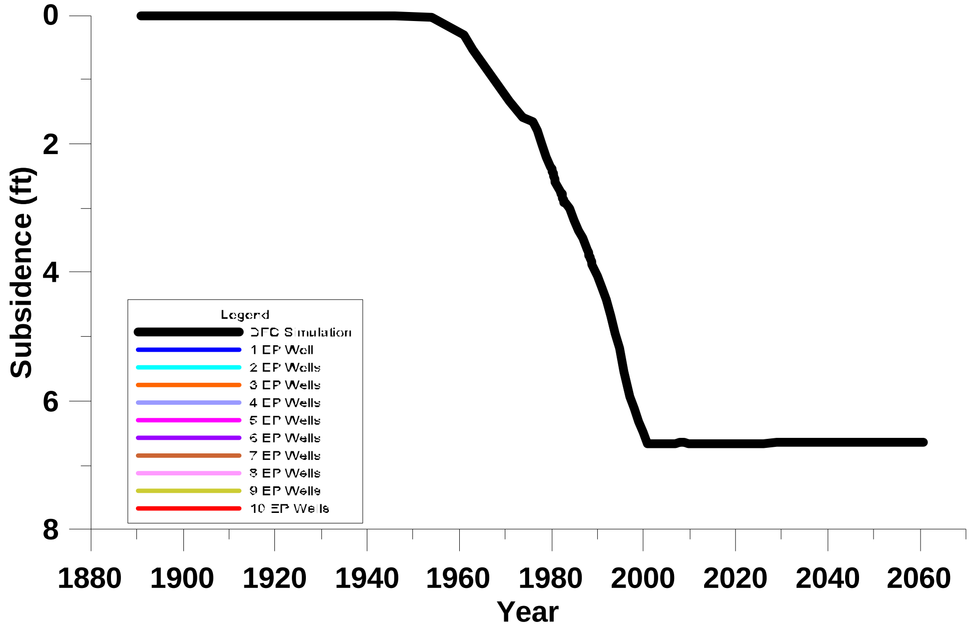



**Figure E-44**
**Fort Bend County - Maximum Subsidence**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**HAGM**

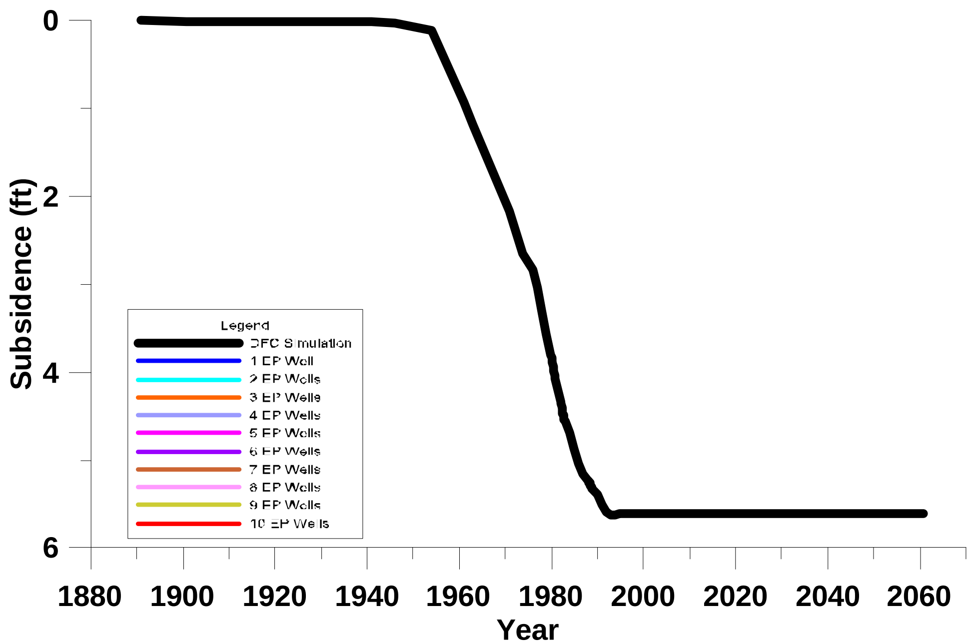


**Figure E-45**
**Waller County - Maximum Subsidence**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**GAM**

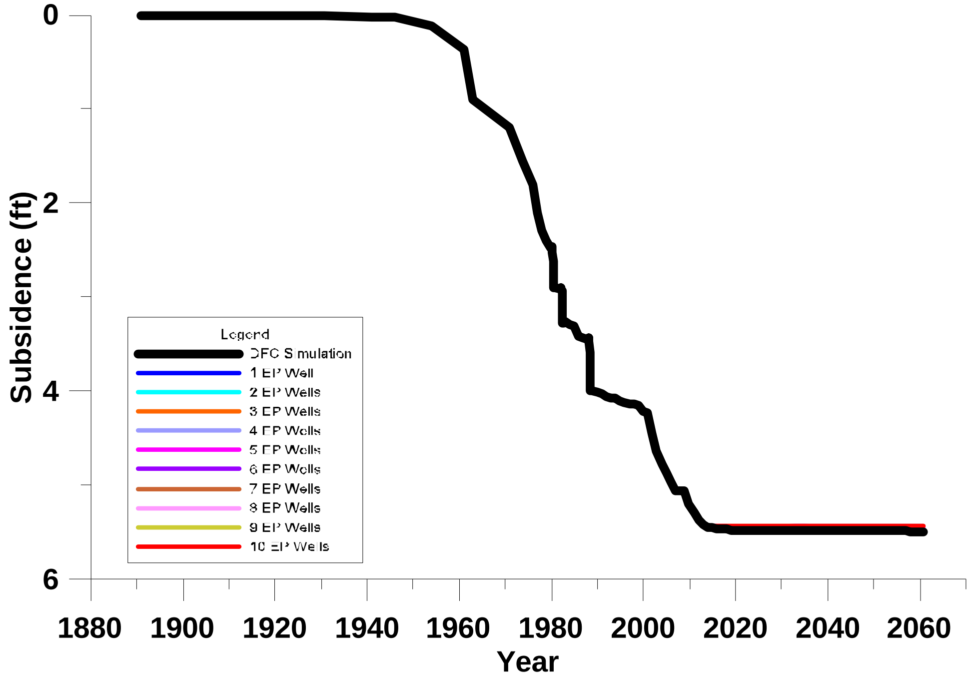



**Figure E-46**
**Waller County - Maximum Subsidence**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**HAGM**

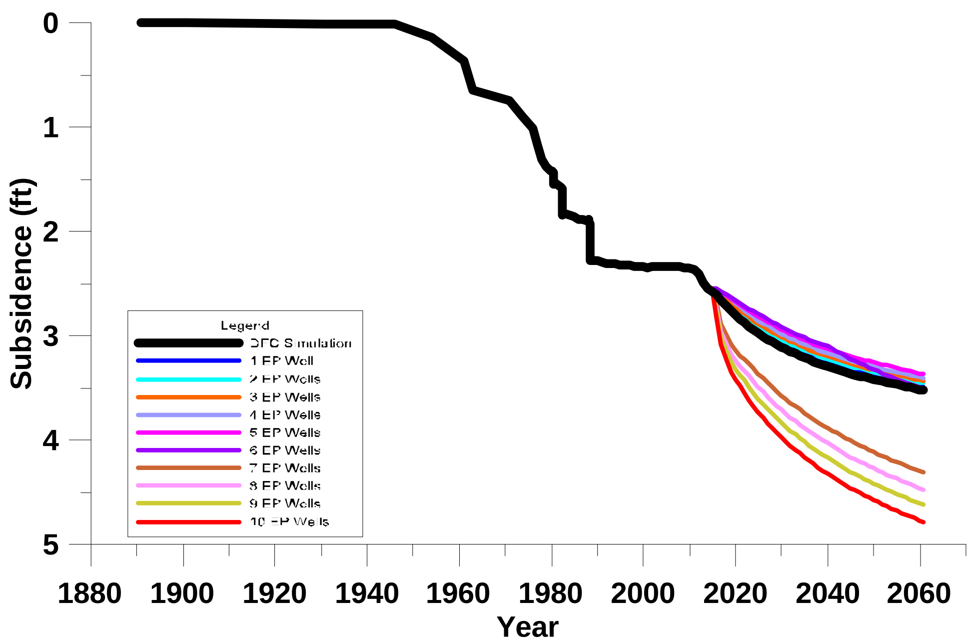


**Figure E-47**
**Project Area - Maximum Subsidence**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**GAM**

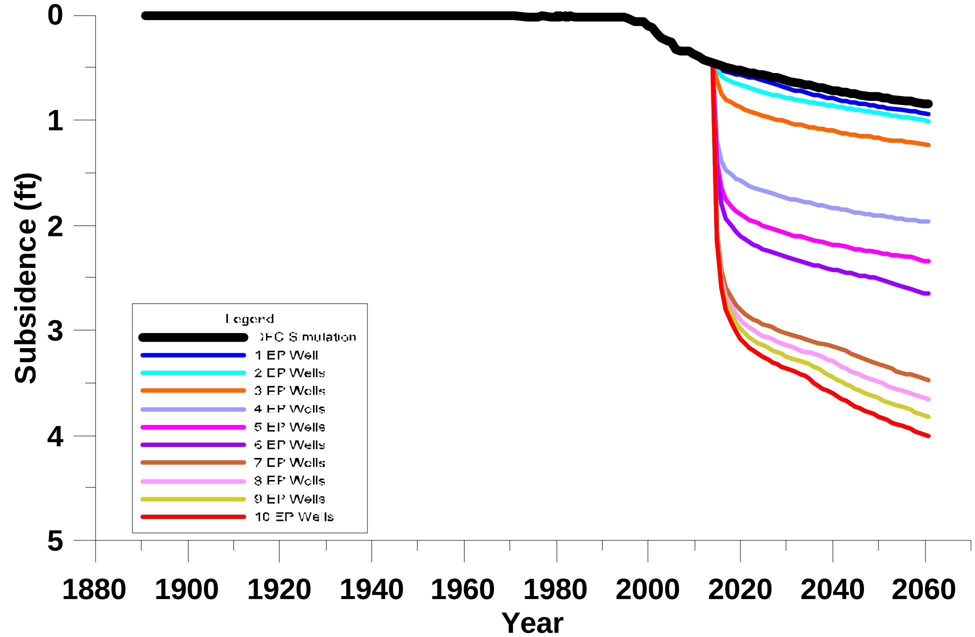
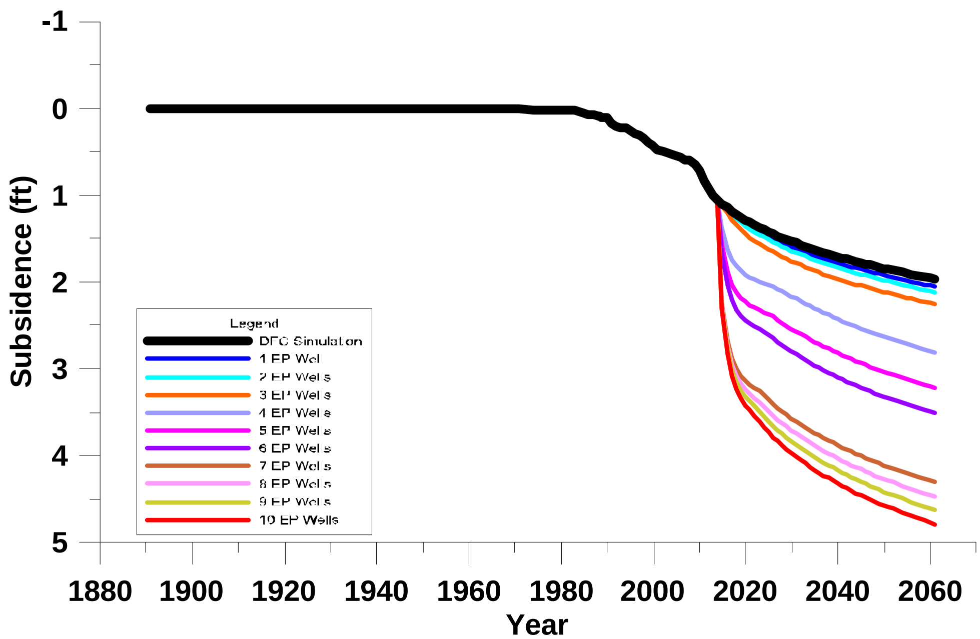
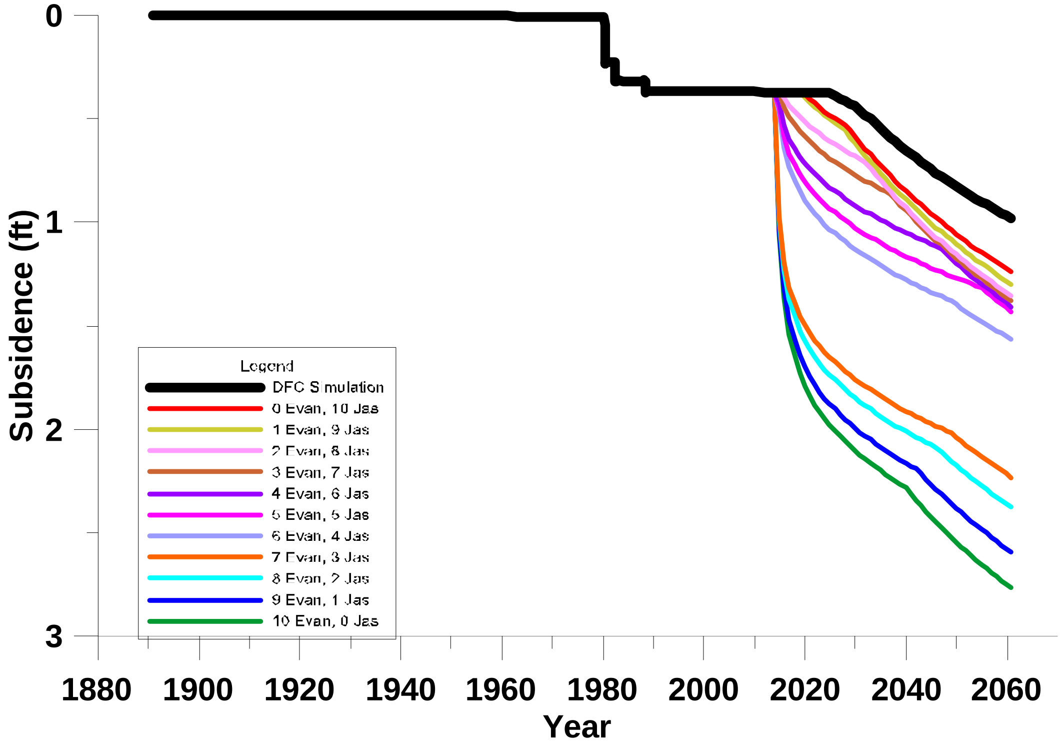



**Figure E-48**
**Project Area - Maximum Subsidence**
**Electro Purification Pumping Within MAG (Other Pumping Reduced)**
**HAGM**



## Figure E-49
## Austin County - Maximum Subsidence
## Electro Purification Pumping - Evangeline/Jasper (GAM)




## Figure E-50
## Austin County - Maximum Subsidence
## Electro Purification Pumping - Evangeline/Jasper (HAGM)

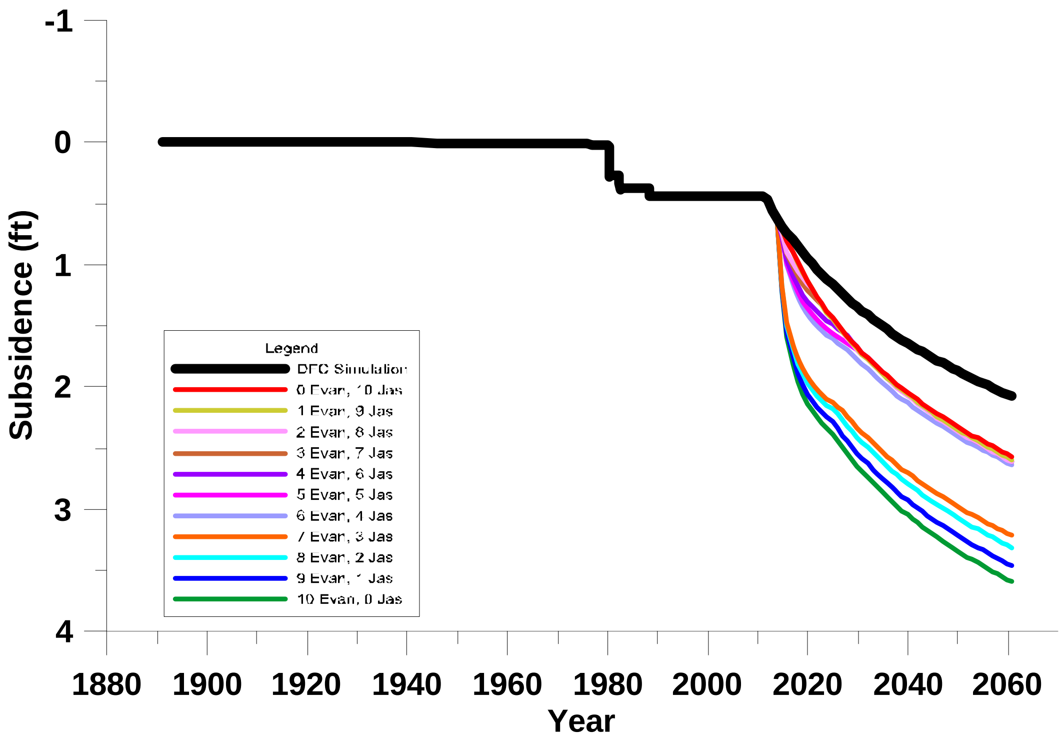


**Figure E-51**
**Fort Bend County - Maximum Subsidence**
**Electro Purification Pumping - Evangeline/Jasper (GAM)**

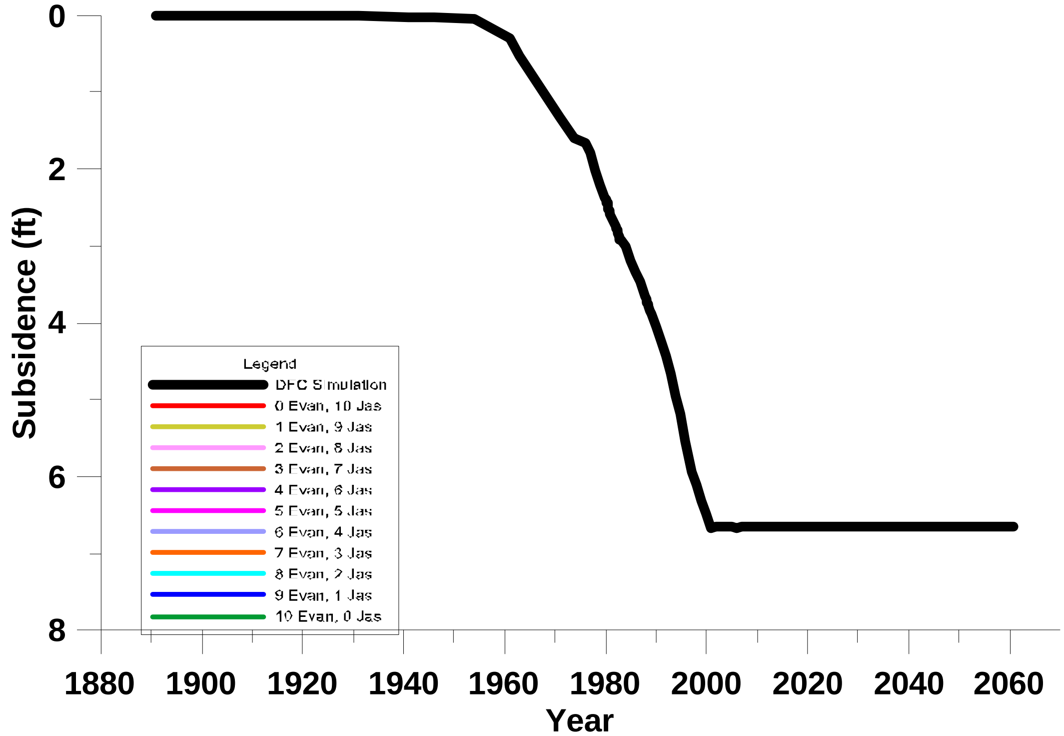



**Figure E-52**
**Fort Bend County - Maximum Subsidence**
**Electro Purification Pumping - Evangeline/Jasper (HAGM)**

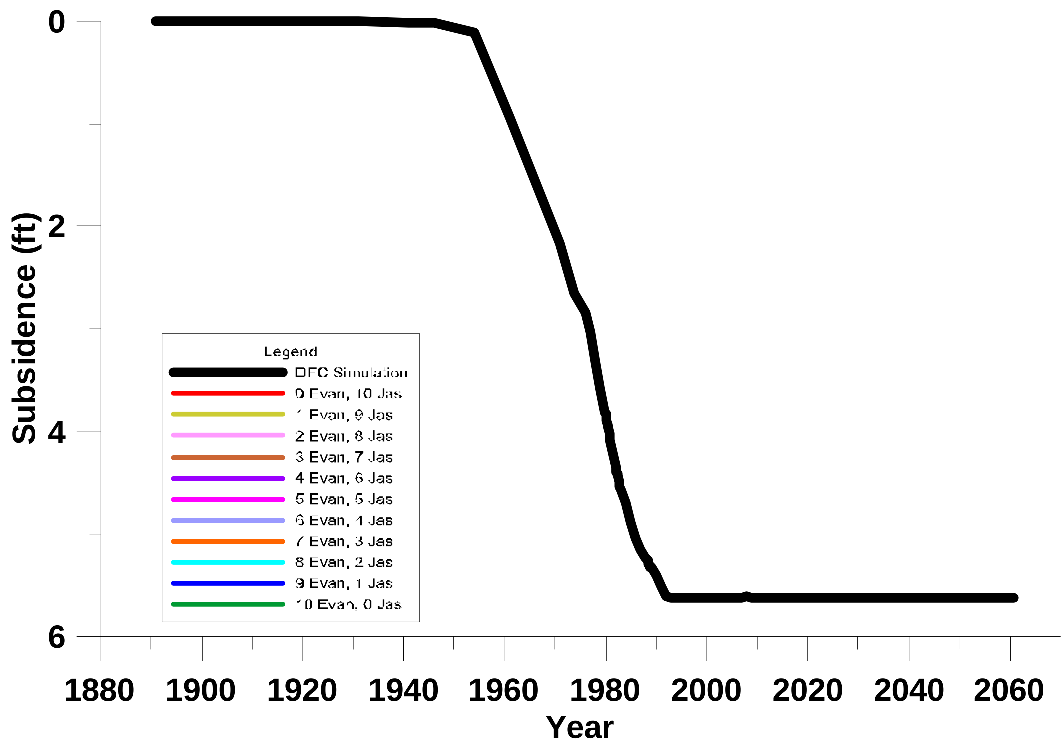


**Figure E-53**
**Waller County - Maximum Subsidence**
**Electro Purification Pumping - Evangeline/Jasper (GAM)**

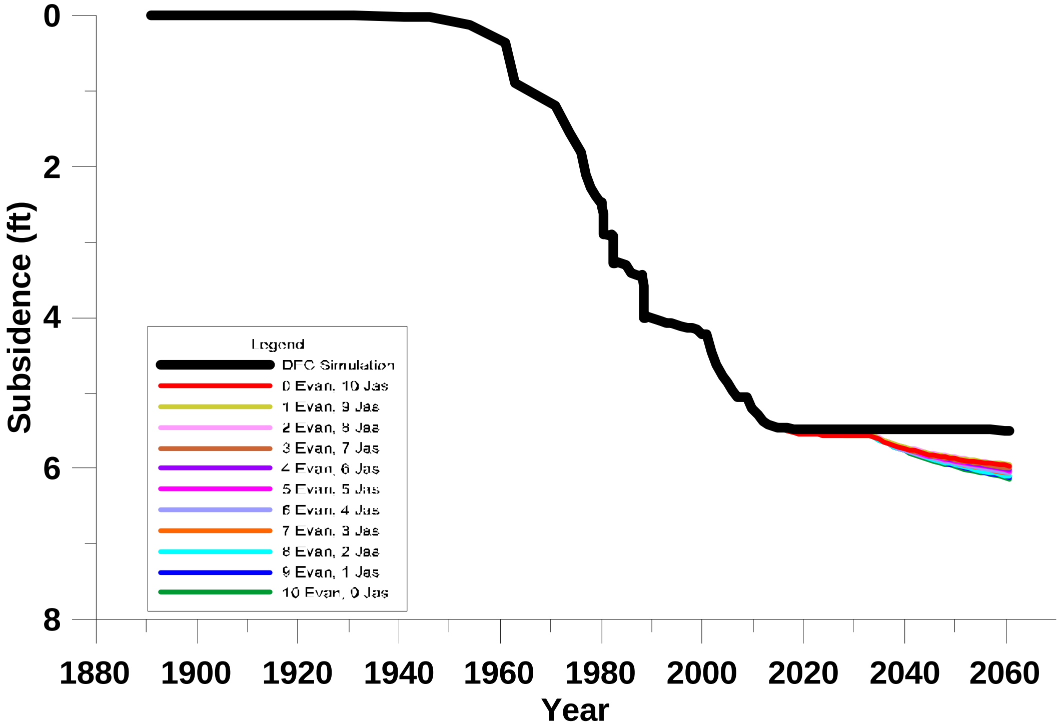
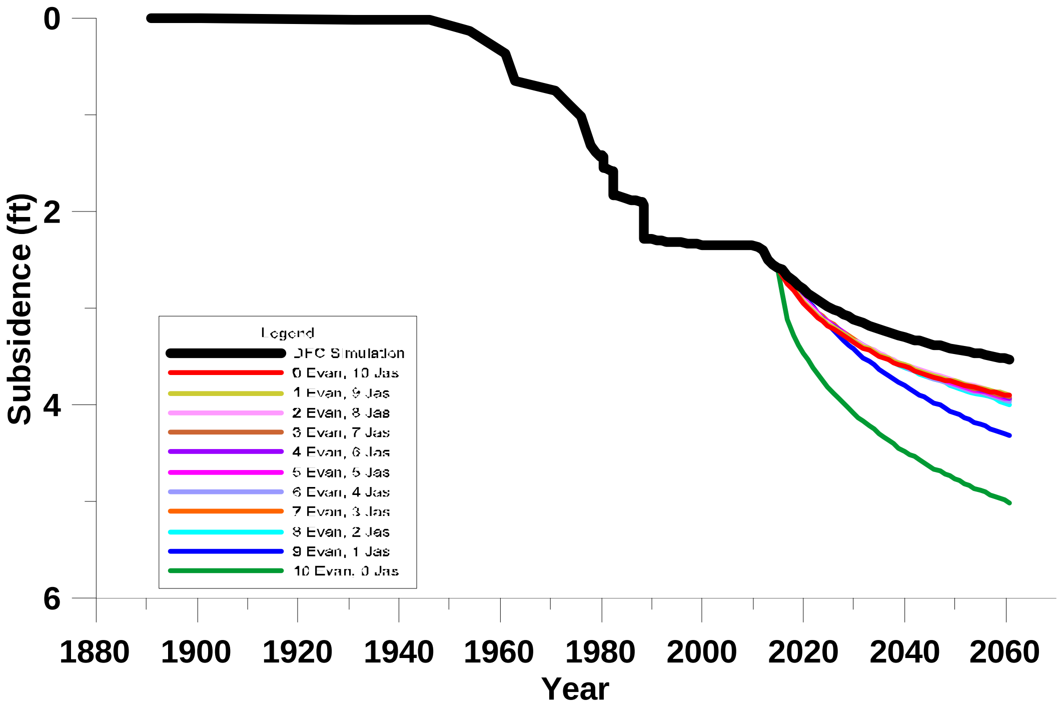
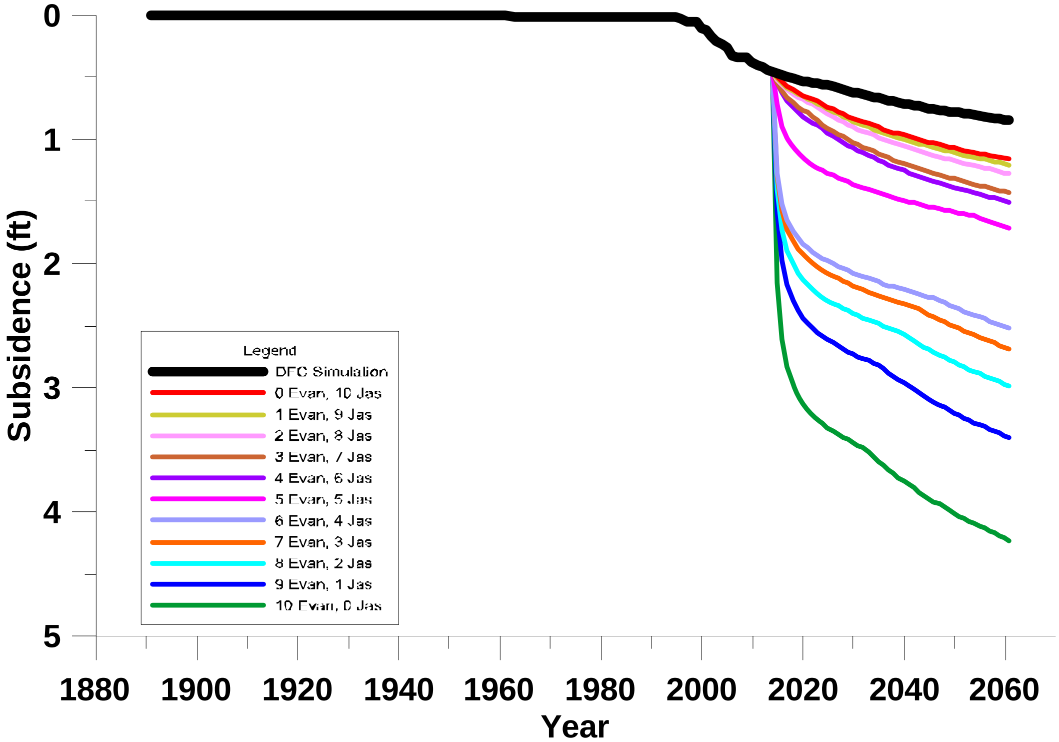



**Figure E-54**
**Waller County - Maximum Subsidence**
**Electro Purification Pumping - Evangeline/Jasper**
**HAGM**



## Figure E-55
## Project Area - Maximum Subsidence
## Electro Purification Pumping - Evangeline/Jasper (GAM)




## Figure E-56
## Project Area - Maximum Subsidence
## Electro Purification Pumping - Evangeline/Jasper (HAGM)

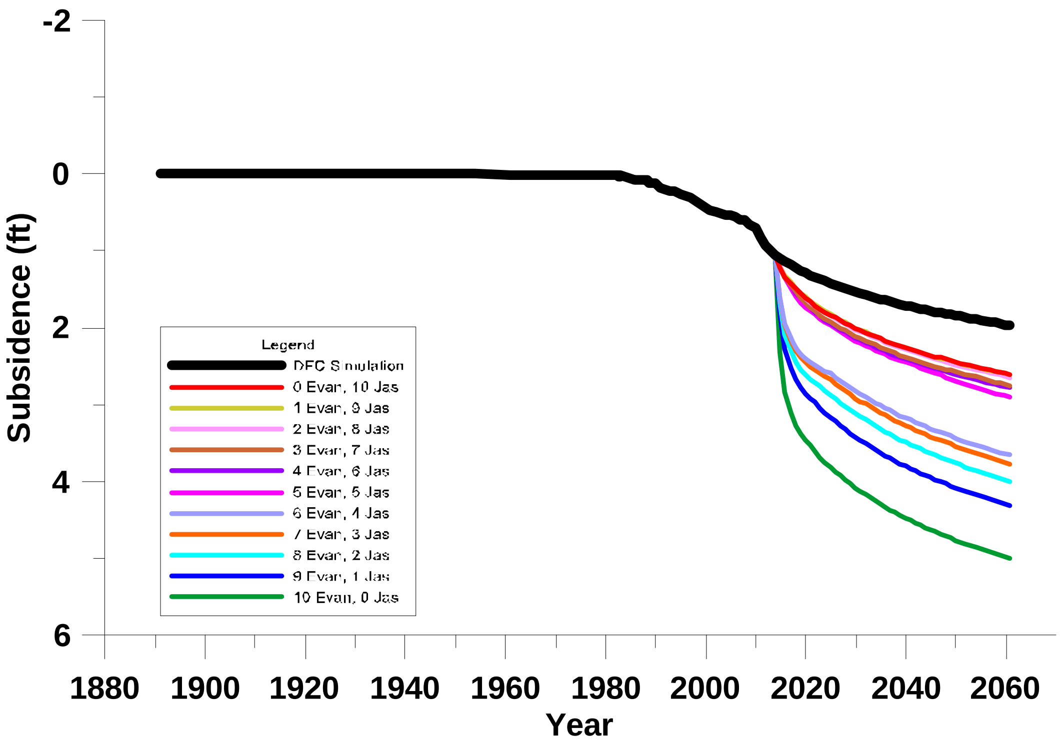


**Figure E-57**
**Austin County - Maximum Subsidence**
**Electro Purification Pumping - Conversion Schedule (GAM)**

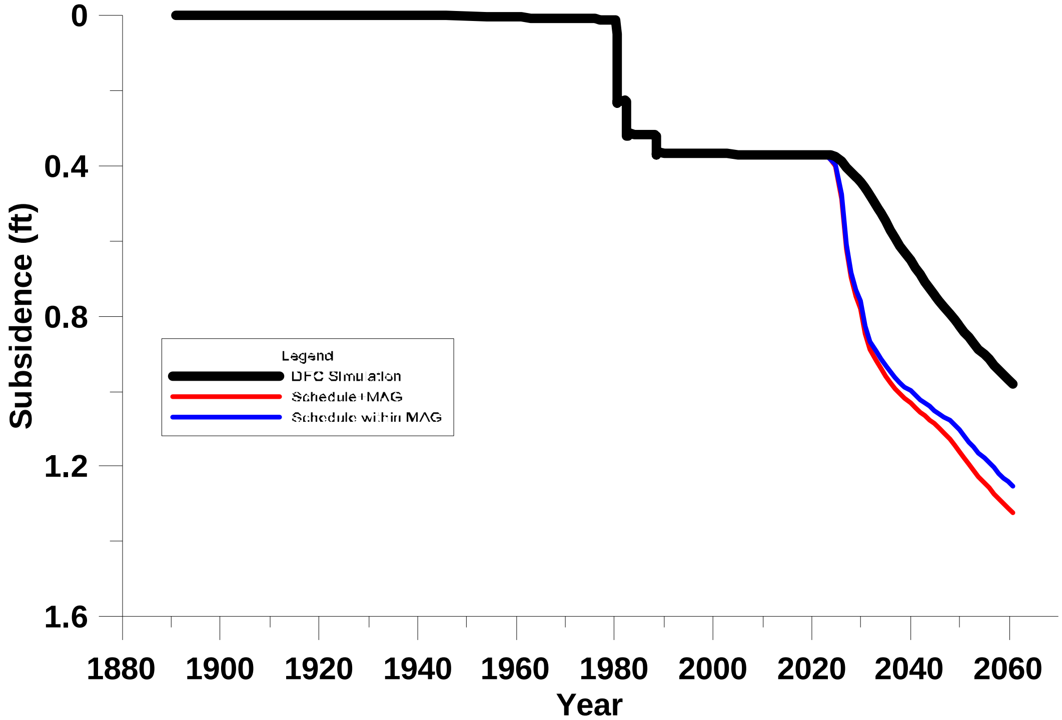



**Figure E-58**
**Austin County - Maximum Subsidence**
**Electro Purification Pumping - Conversion Schedule (HAGM)**

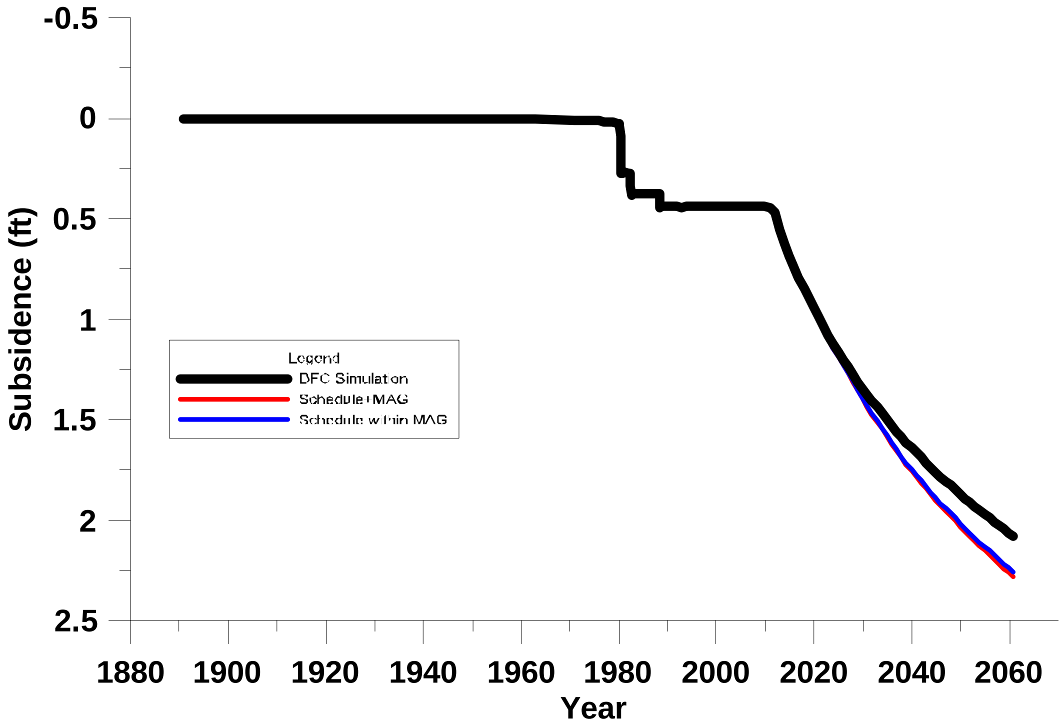


**Figure E-59**
**Fort Bend County - Maximum Subsidence**
**Electro Purification Pumping - Conversion Schedule (GAM)**

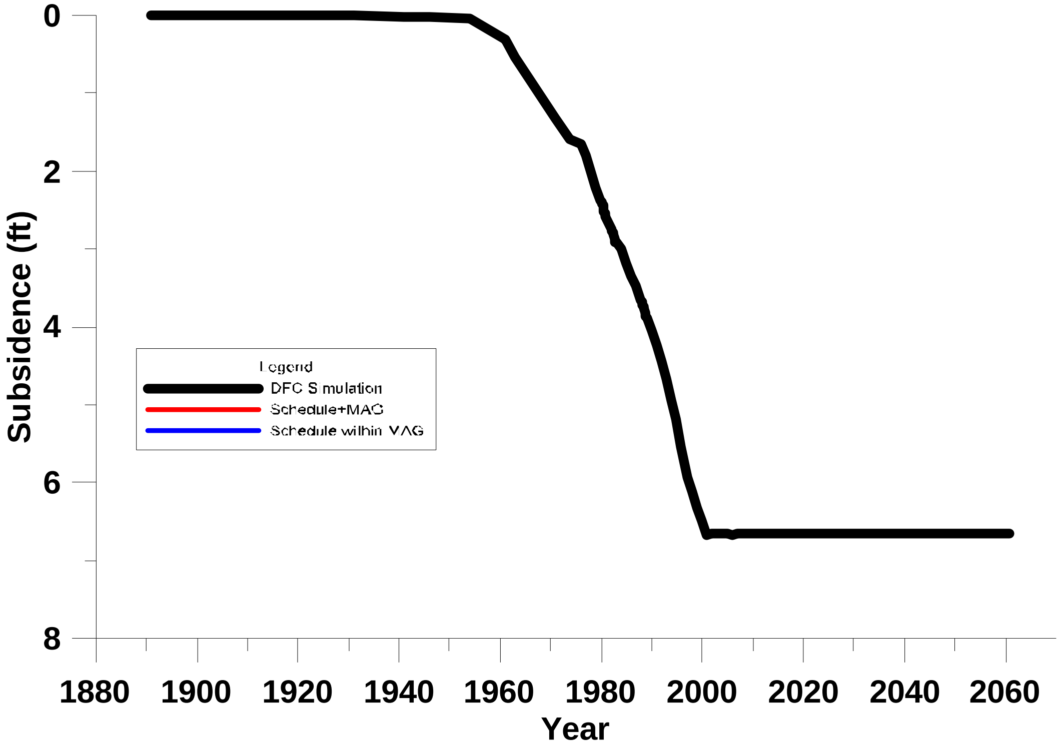



**Figure E-60**
**Fort Bend County - Maximum Subsidence**
**Electro Purification Pumping - Conversion Schedule (HAGM)**

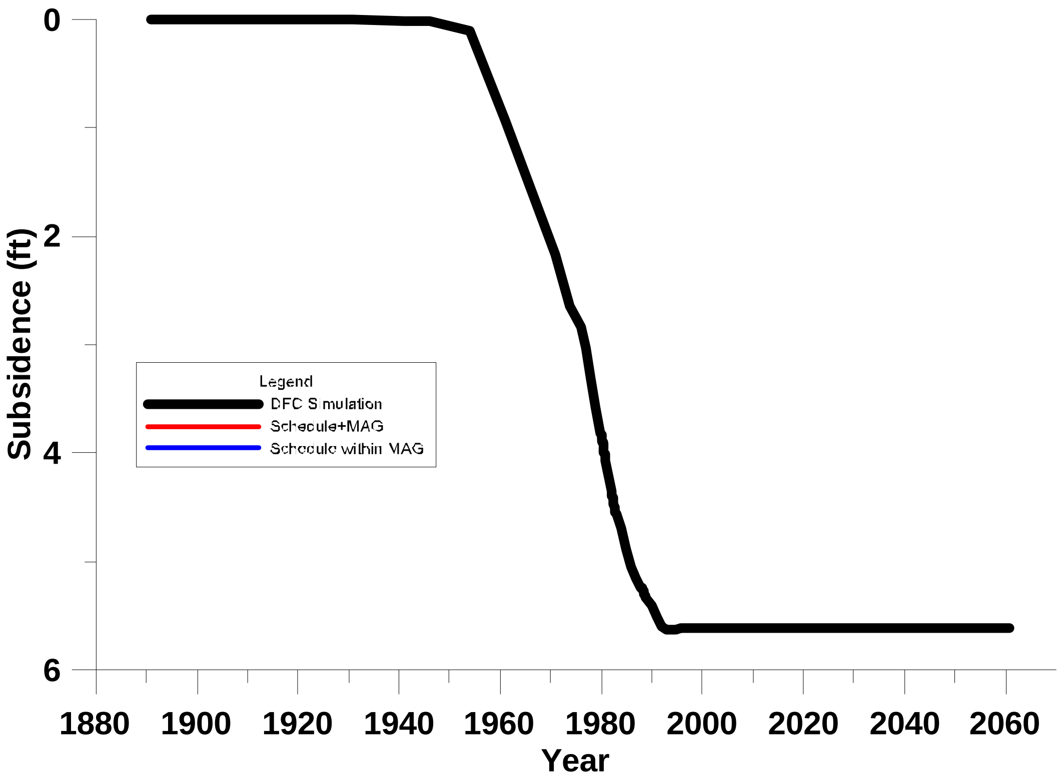


**Figure E-61**
**Waller County - Maximum Subsidence**
**Electro Purification Pumping - Conversion Schedule (GAM)**

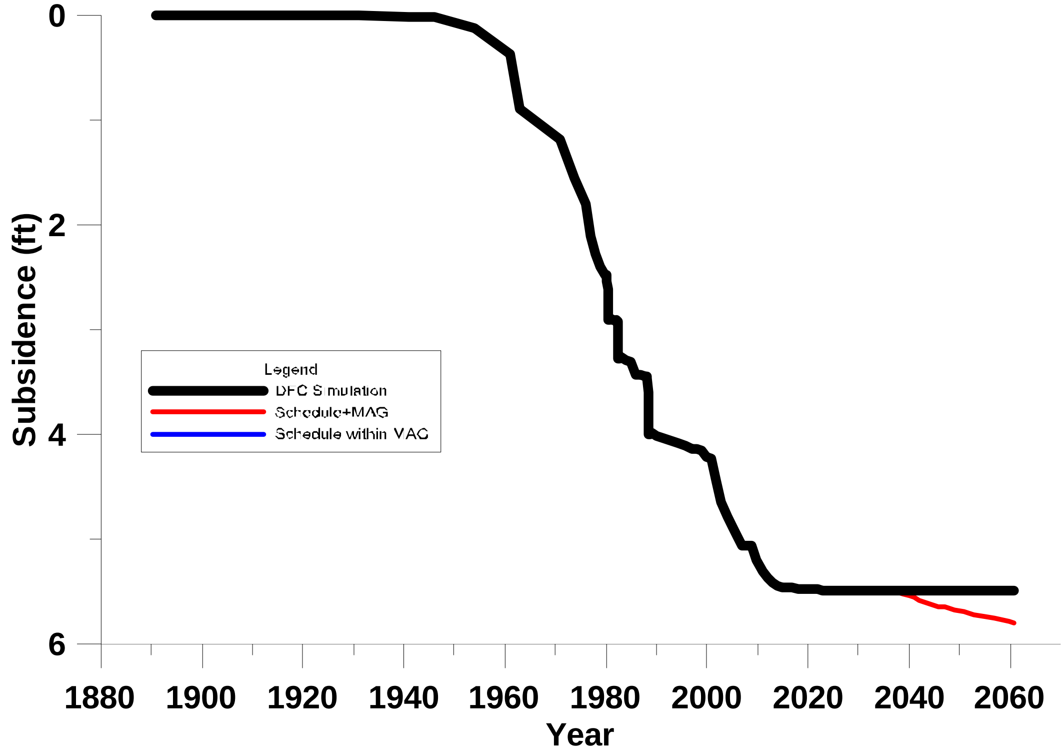
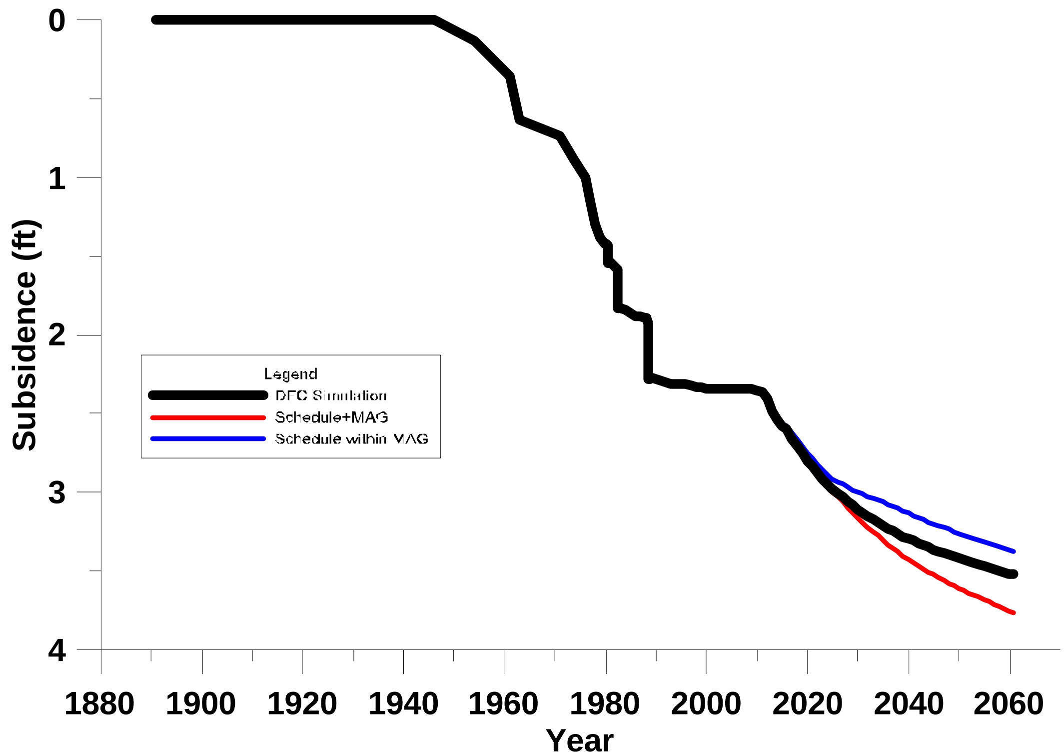
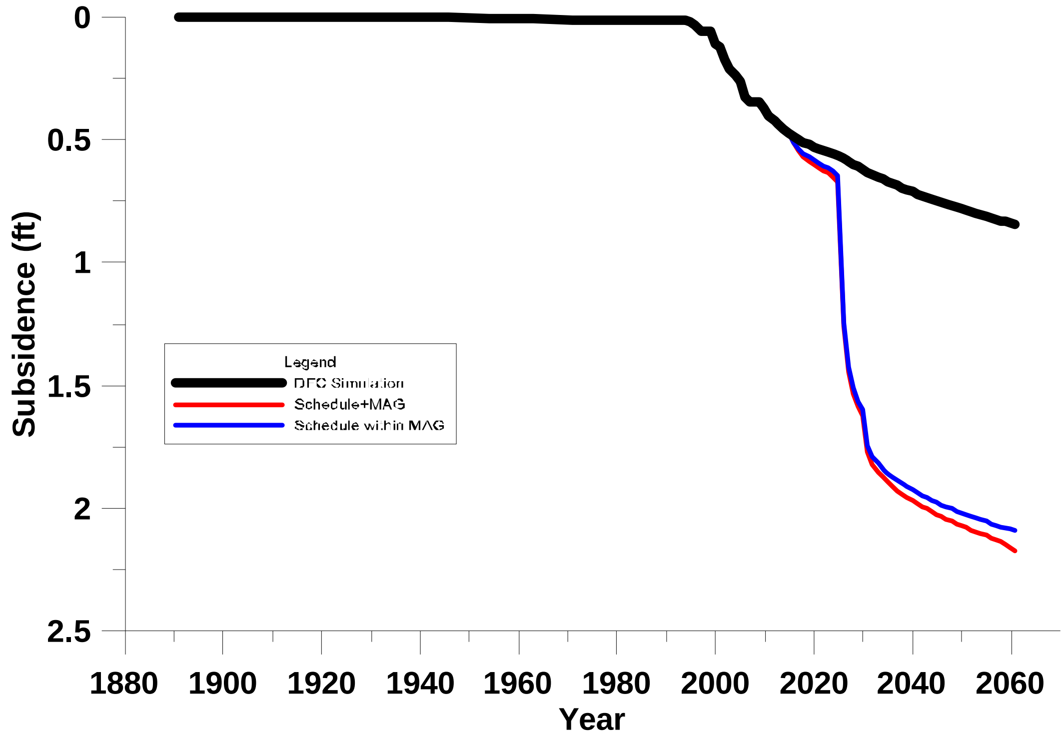



**Figure E-62**
**Waller County - Maximum Subsidence**
**Electro Purification Pumping - Conversion Schedule (HAGM)**



## Figure E-63
## Project Area - Maximum Subsidence
## Electro Purification Pumping - Conversion Schedule (GAM)




## Figure E-64
## Project Area - Maximum Subsidence
## Electro Purification Pumping - Conversion Schedule (HAGM)

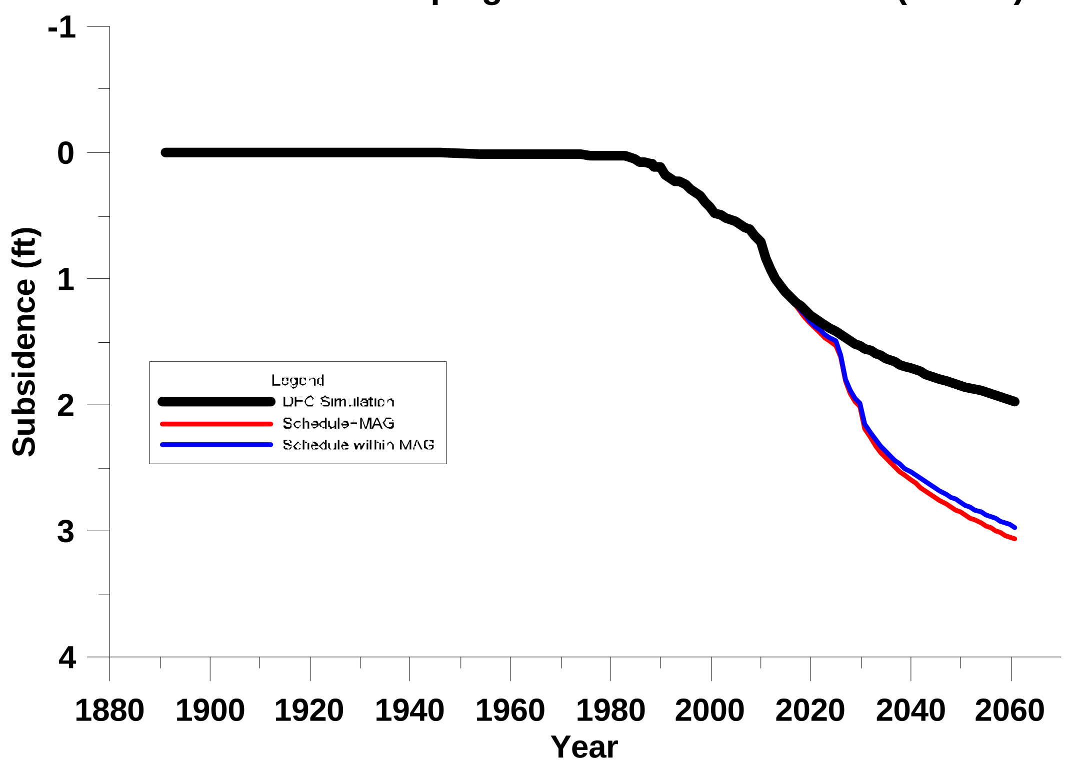


**Figure E-65**
**Simulated Subsidence 1890 to 2060 - GAM**
**Base Case (DFC/MAG Simulations)**

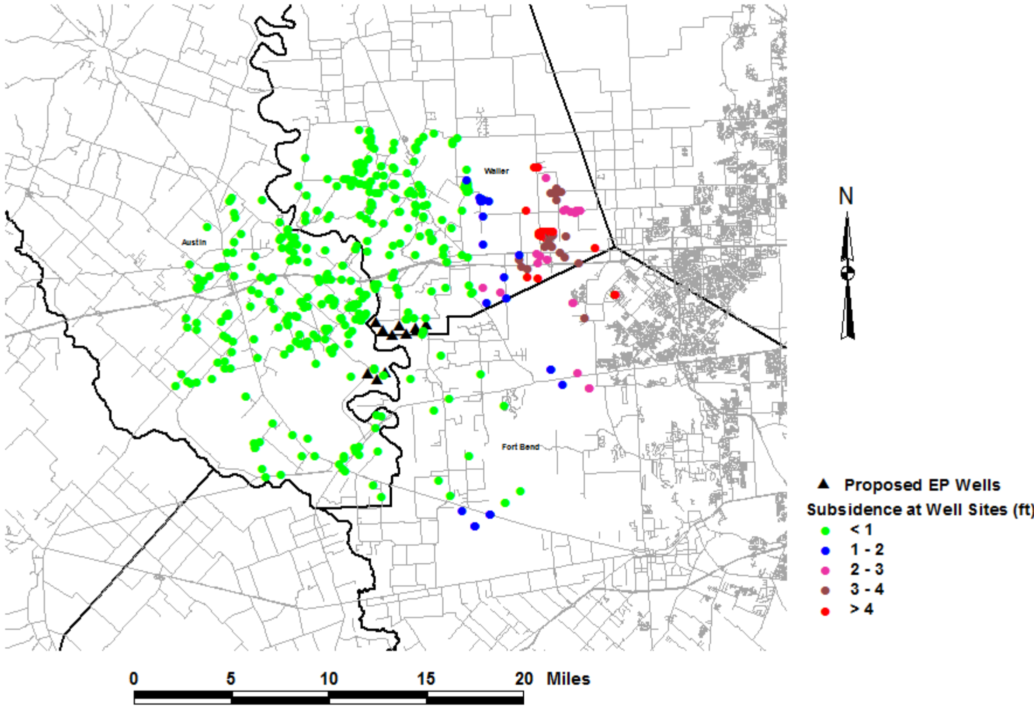



**Figure E-66**
**Simulated Subsidence 1890 to 2060 - HAGM**
**Base Case (DFC/MAG Simulations)**

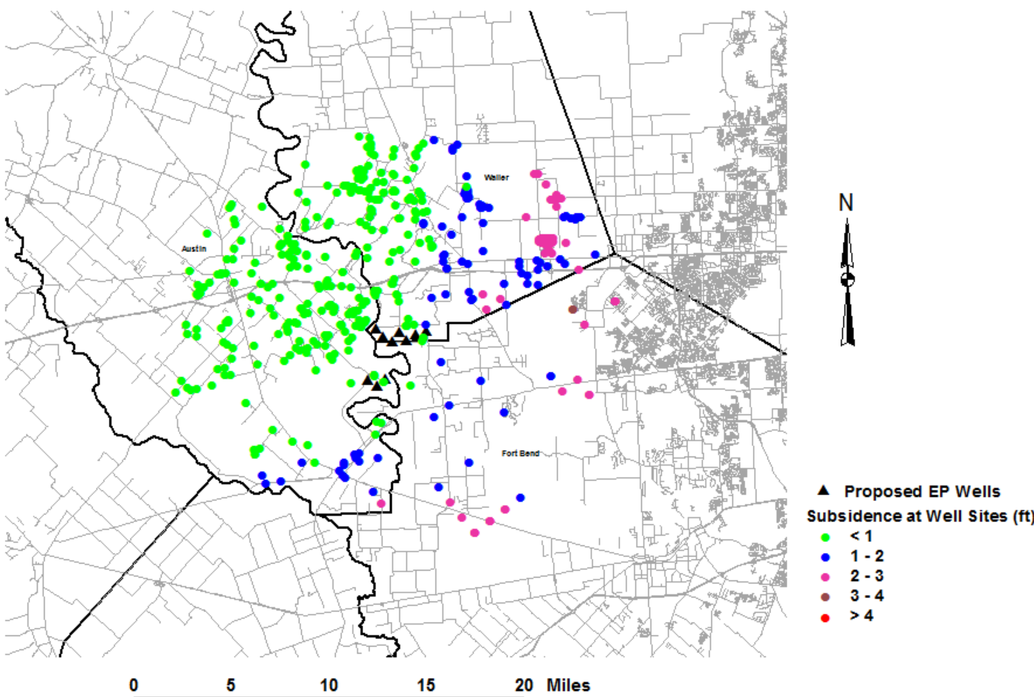


**Figure E-67**
**Simulated Subsidence 1890 to 2060 - GAM**
**Scenario 3 (EP Pumping = 6 MGD)**

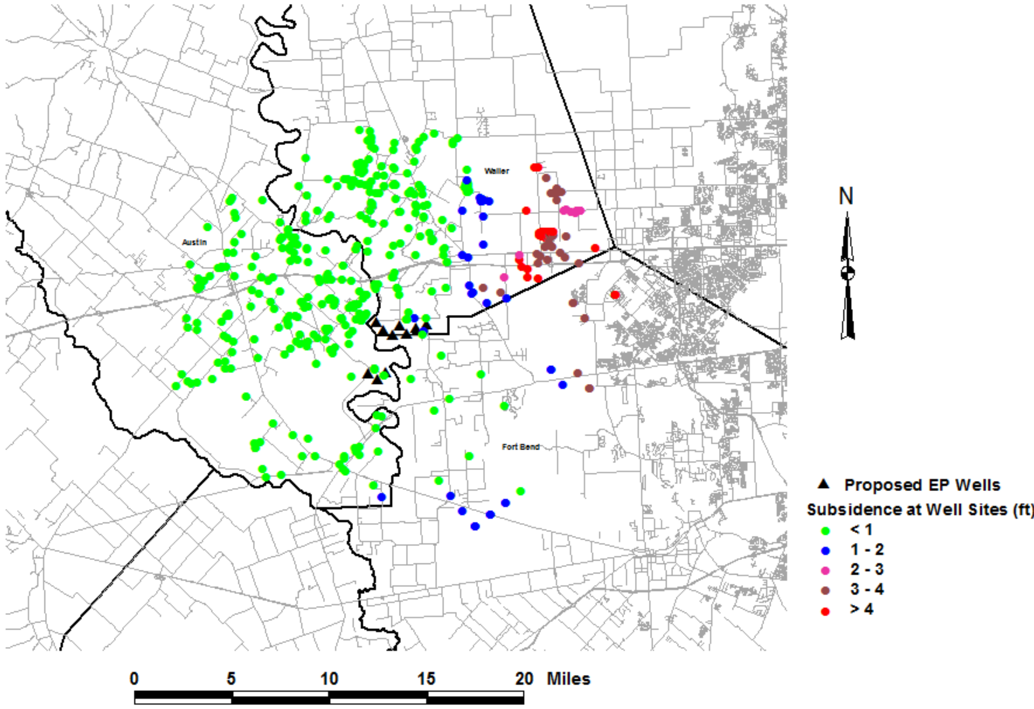



**Figure E-68**
**Simulated Subsidence 1890 to 2060 - HAGM**
**Scenario 3 (EP Pumping = 6 MGD)**

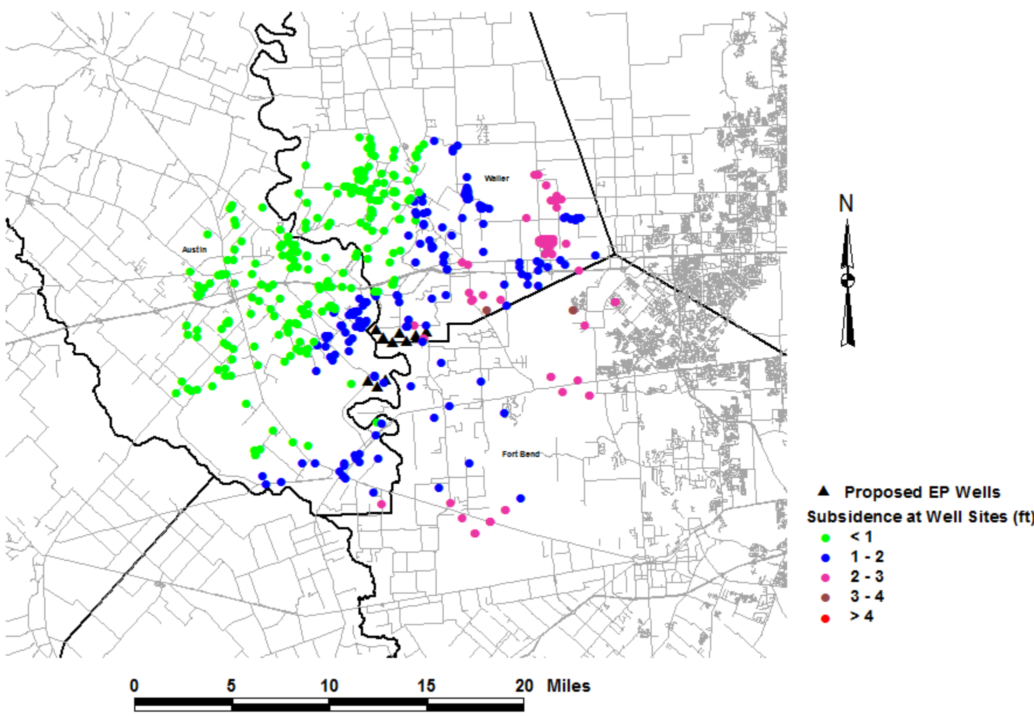


**Figure E-69**
**Simulated Subsidence 1890 to 2060 - GAM**
**Scenario 10 (EP Pumping = 20 MGD)**

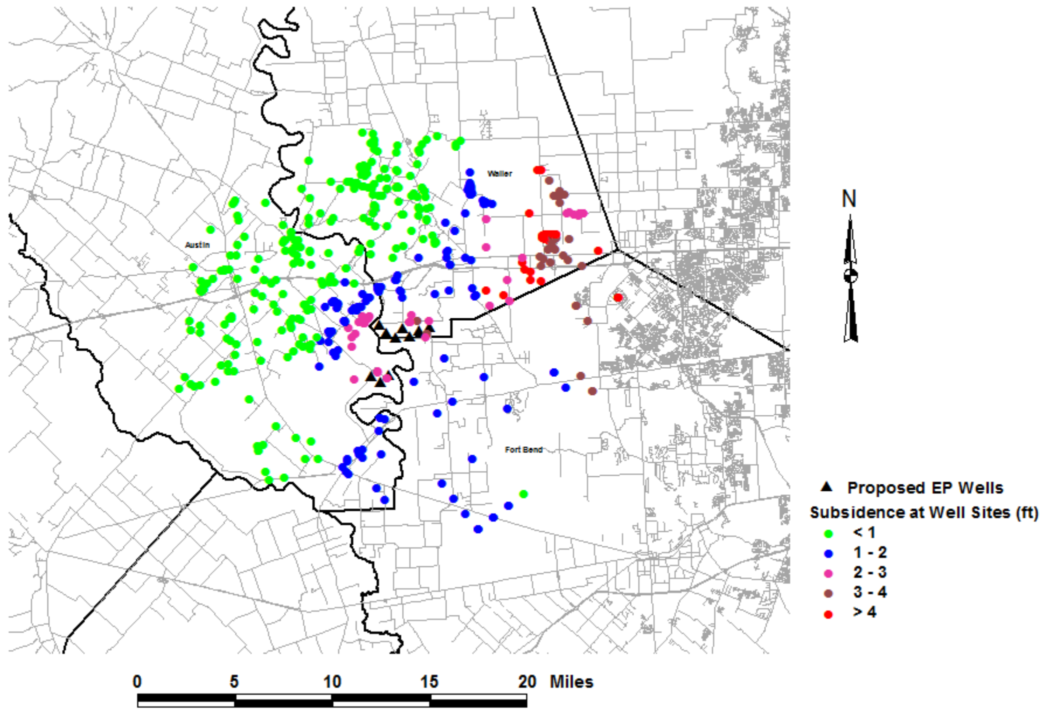



**Figure E-70**
**Simulated Subsidence 1890 to 2060 - HAGM**
**Scenario 10 (EP Pumping = 20 MGD)**

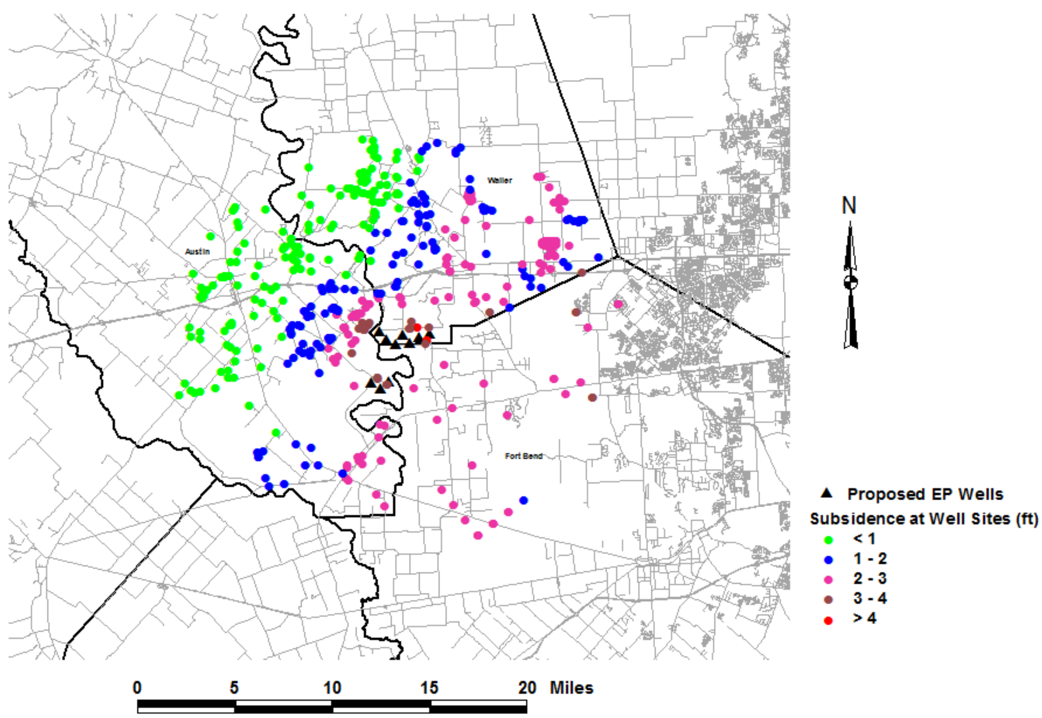


**Figure E-71**
**Simulated Subsidence 1890 to 2060 - GAM**
**Scenario 31 (EP Pumping = 9.9 MGD)**

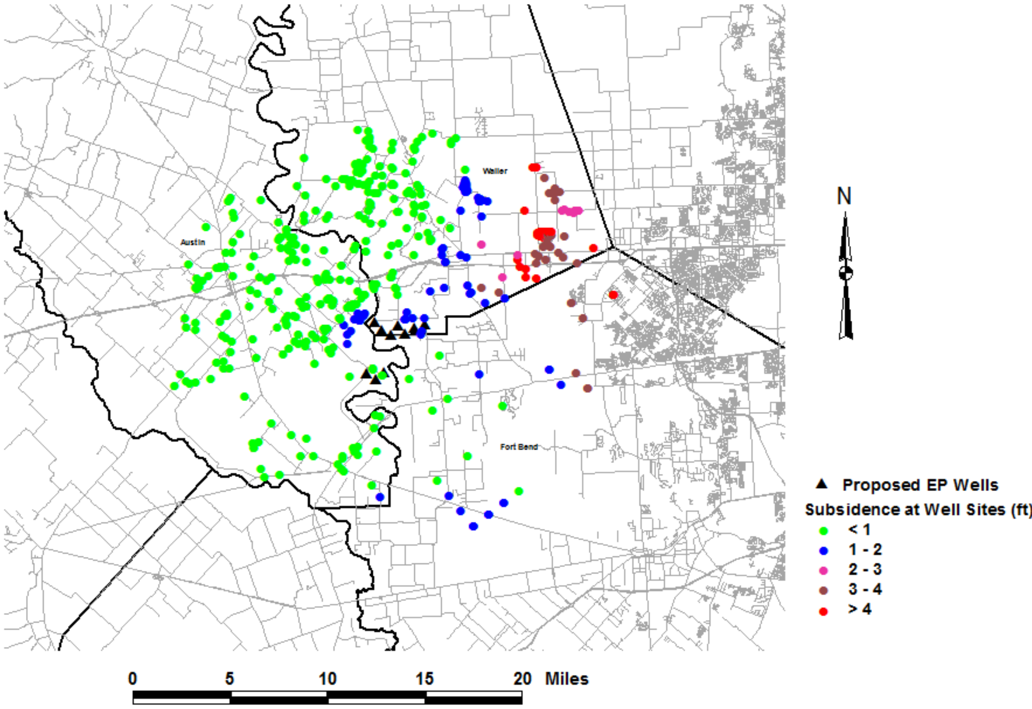



**Figure E-72**
**Simulated Subsidence 1890 to 2060 - HAGM**
**Scenario 31 (EP Pumping = 9.9 MGD)**

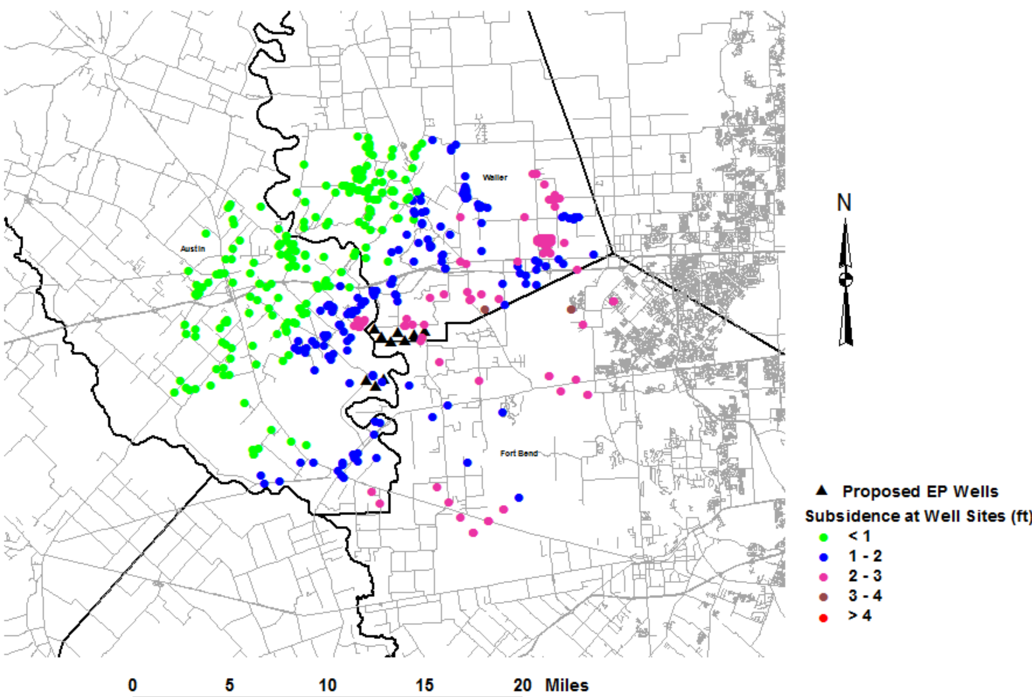


**Figure E-73**
**Simulated Subsidence Attributable to EP Pumping - GAM**
**Scenario 3 (EP Pumping = 6 MGD)**

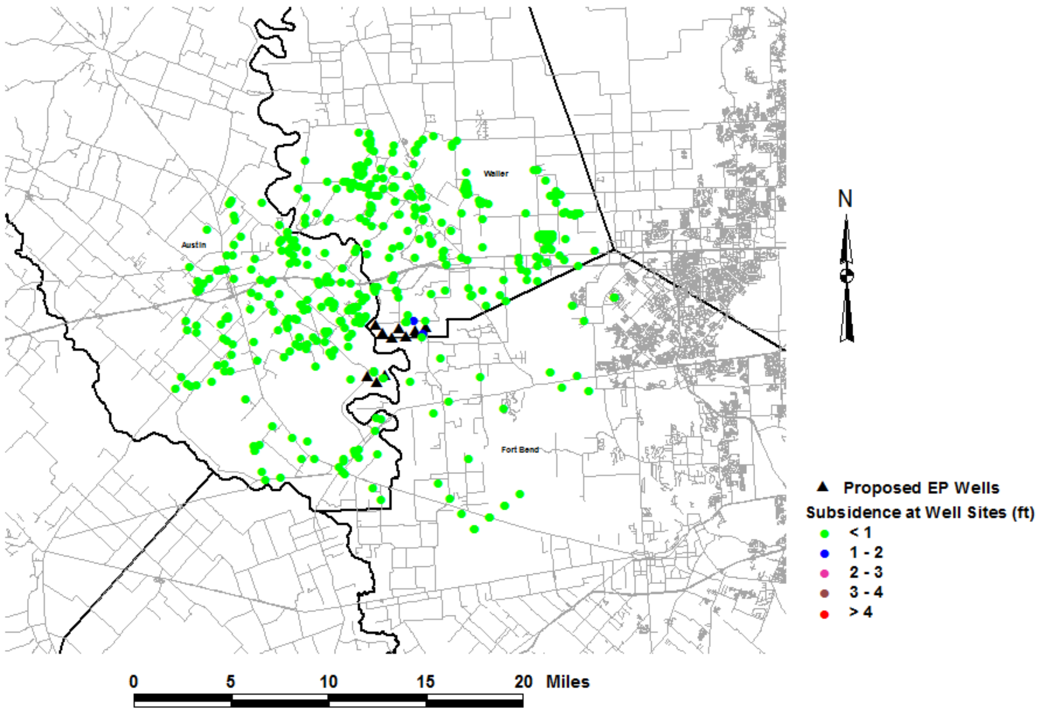



**Figure E-74**
**Simulated Subsidence Attributable to EP Pumping - HAGM**
**Scenario 3 (EP Pumping = 6 MGD)**

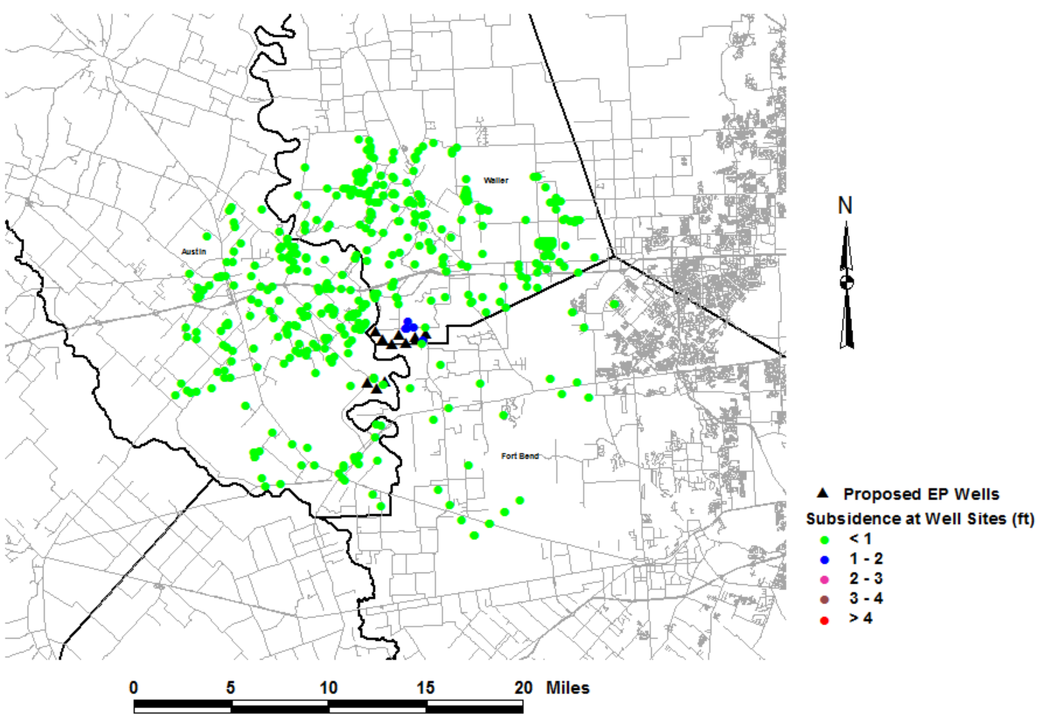


**Figure E-75**
**Simulated Subsidence Attributable to EP Pumping - GAM**
**Scenario 10 (EP Pumping = 20 MGD)**

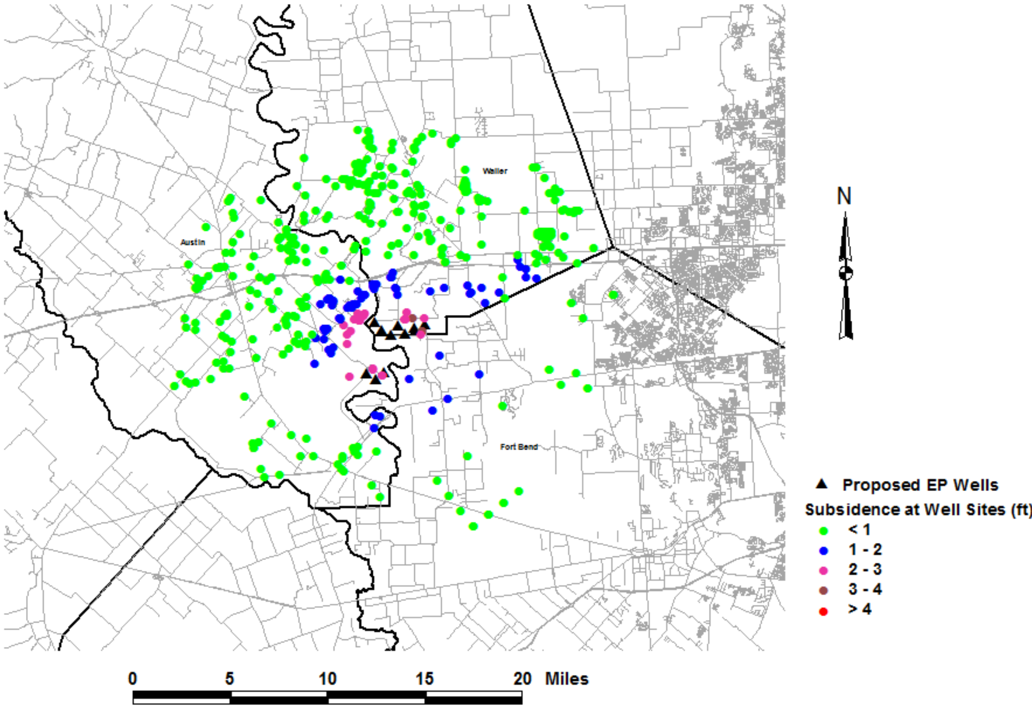



**Figure E-76**
**Simulated Subsidence Attributable to EP Pumping - HAGM**
**Scenario 10 (EP Pumping = 20 MGD)**

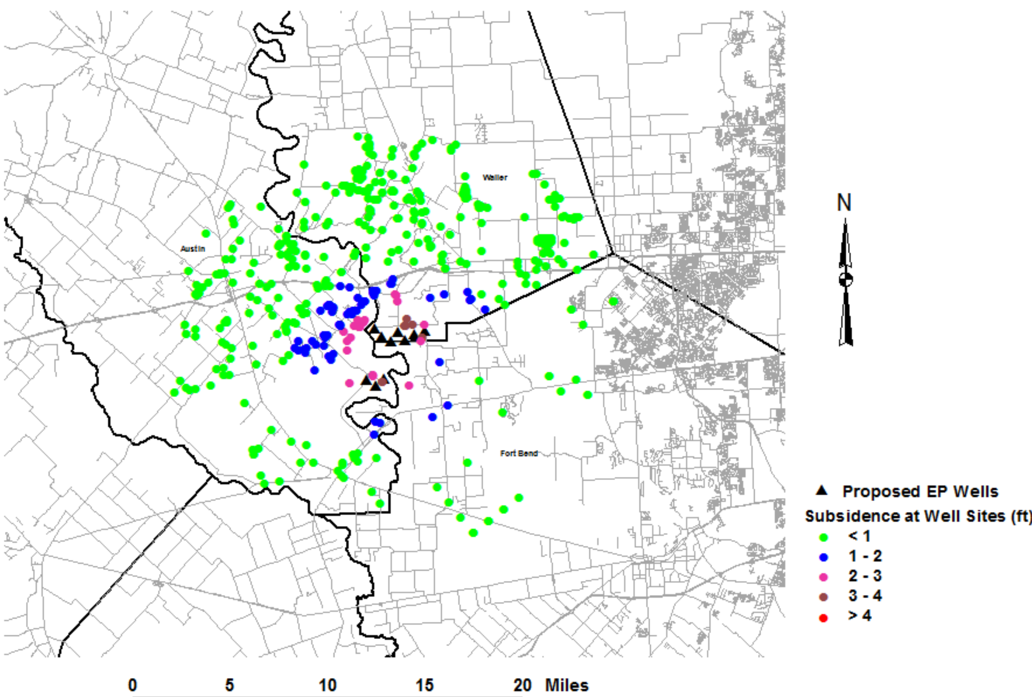


**Figure E-77**
**Simulated Subsidence Attributable to EP Pumping - GAM**
**Scenario 31 (EP Pumping = 9.9 MGD)**

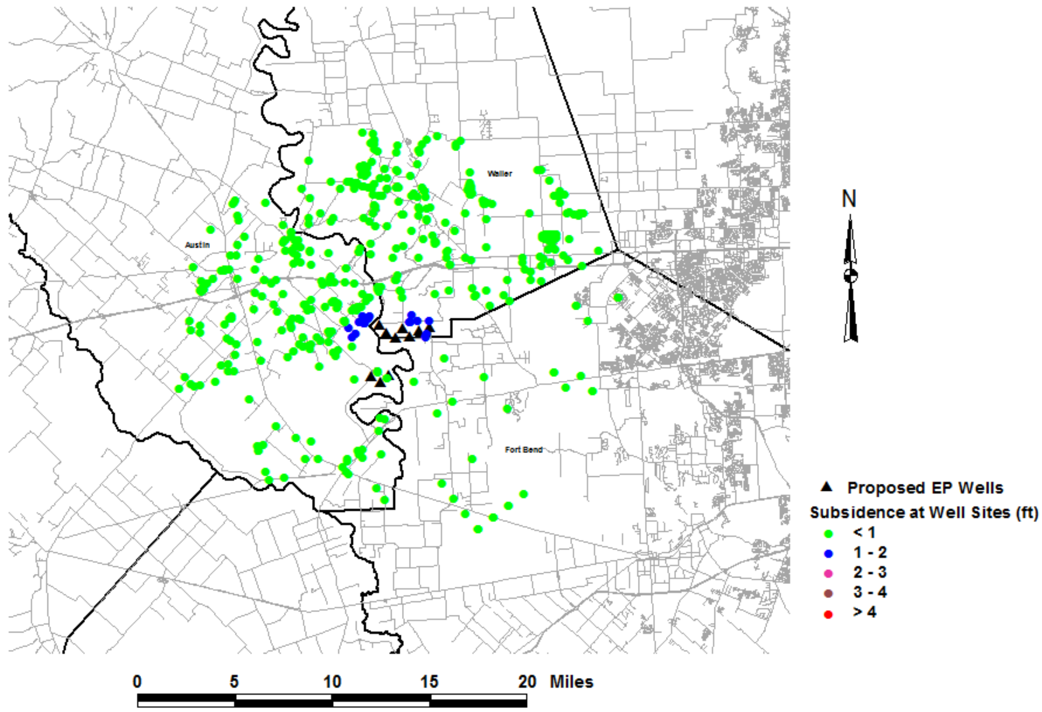
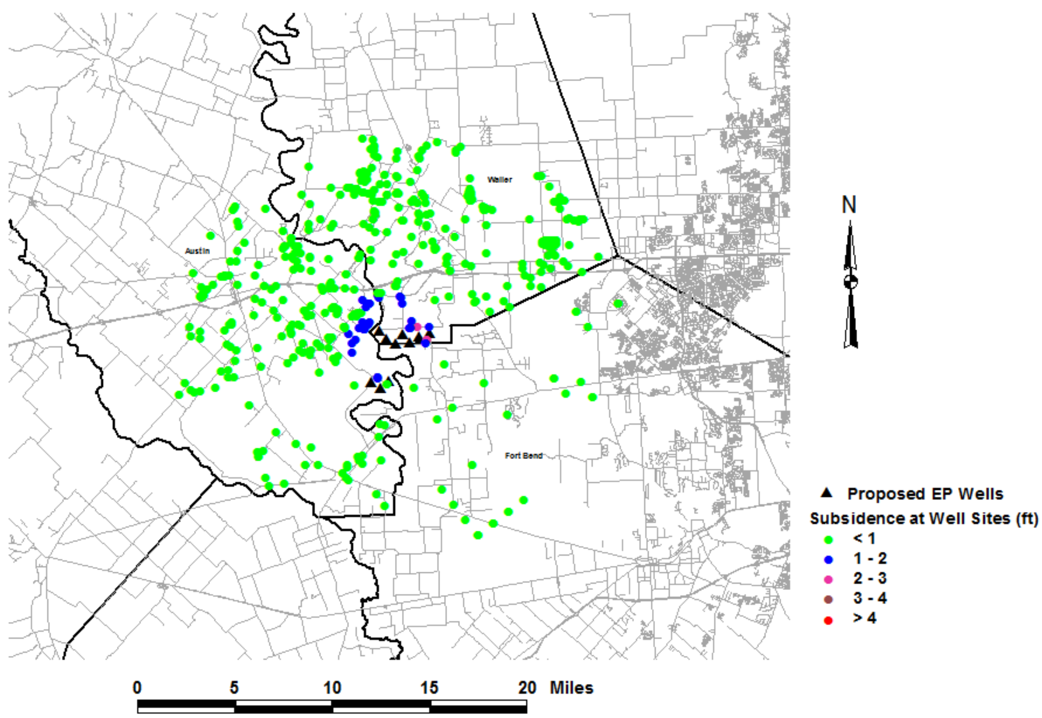



**Figure E-78**
**Simulated Subsidence Attributable to EP Pumping - HAGM**
**Scenario 31 (EP Pumping = 9.9 MGD)**



## Appendix F – Salt Domes

# Appendix F – Salt Domes

This appendix reviews information related to salt domes in the area of the proposed Electro Purification wells. Several of the parties in the contested case hearing have raised concerns regarding the salt domes that are located in the area of the proposed project, specifically the Brookshire Salt Dome (also known as the San Felipe Salt Dome in the literature).

Hamlin (2006) reviewed the available literature on salt domes in the Gulf Coast Aquifer, and summarized the current understanding of salt dome hydrogeology. As described by Hamlin (2006, pg. 217-218) the salt in salt domes originally formed as bedded evaporate deposits in the ancestral Gulf of Mexico during the Jurassic period. Subsequent deposition has buried the salt with over 20,000 feet of sediments. Due to the low density and ductile quality of the salt, the salt domes occur as a result of salt upwelling into the overlying sediments. This upwelling causes deformation of the overlying sediments, and is characterized by areas of subsidence and downwarping, and can affect surface topography if they rise close enough to the land surface.

Hamlin (2006) included a map (Hamlin, 2006, pg. 221) and cross-section (Hamlin, 2006, pg. 219) that covers the area of the proposed Electro Purification wells. The relevant portion of Hamlin's map (with additional annotations) is presented as Figure F-1, and Hamlin's the cross-section (with additional annotations) is presented as Figure F-2.

Please note that in Figure F-1, the Brookshire Salt Dome (or San Felipe Salt Dome) is not located with a dot on Hamlin's map of shallow salt domes. The depth to the cap rock of the Brookshire Salt Dome (or San Felipe Salt Dome) is reported to be 3,218 feet below ground surface by Beckman and Williamson (1990, pg. 42), and the depth to the salt dome itself is reported to be 4,755 by Beckman and Williamson (1990, pg. 42). For purposes of Hamlin's evaluation and map, this depth did not appear to qualify as a "shallow" salt dome. In contrast, the nearest salt dome that appears on Hamlin's map is the Orchard Salt Dome, with a reported depth to the cap rock of 285 feet and a reported depth to the salt of 369 feet (Beckman and Williamson, 1990, pg. 42).

The cross-section (Figure F-2) includes the Brookshire Salt Dome (or San Felipe Salt Dome) and shows its proximity to the location of the proposed Electro Purification wells. However, given that the proposed Electro Purification wells are expected to be about 1,500 feet deep, the proposed drilling would terminate at a depth about 1,700 feet above the reported depth top of the reported cap rock. Even if the salt dome was directly under one or more of the proposed well sites, there would be no issue with drilling to 1,500 feet.

The cross-section also shows the location of the Orchard Salt Dome. This shallow salt dome is located about 10 miles south of the proposed Electro Purification project area. There are no issues relative to drilling to 1,500 feet with a shallow salt dome located 10 miles away. As described by Hamlin (2006, pg. 228), long term and high pumping can cause migration of poor quality groundwater from salt domes into shallow fresh groundwater aquifers. Long term groundwater water quality monitoring is already anticipated to be a condition of the permit, if one is issued, and the issue of potential groundwater quality degradation can be assessed. Any such groundwater quality degradation from the Orchard Salt Dome, however, would affect Fort Bend County and the proposed project wells (and the immediate vicinity) due to the altered hydraulic gradient caused by the proposed project pumping. Other parts of Waller or Austin counties within the Bluebonnet Groundwater Conservation District would likely be unaffected by salty groundwater induced from the Orchard Salt Dome.

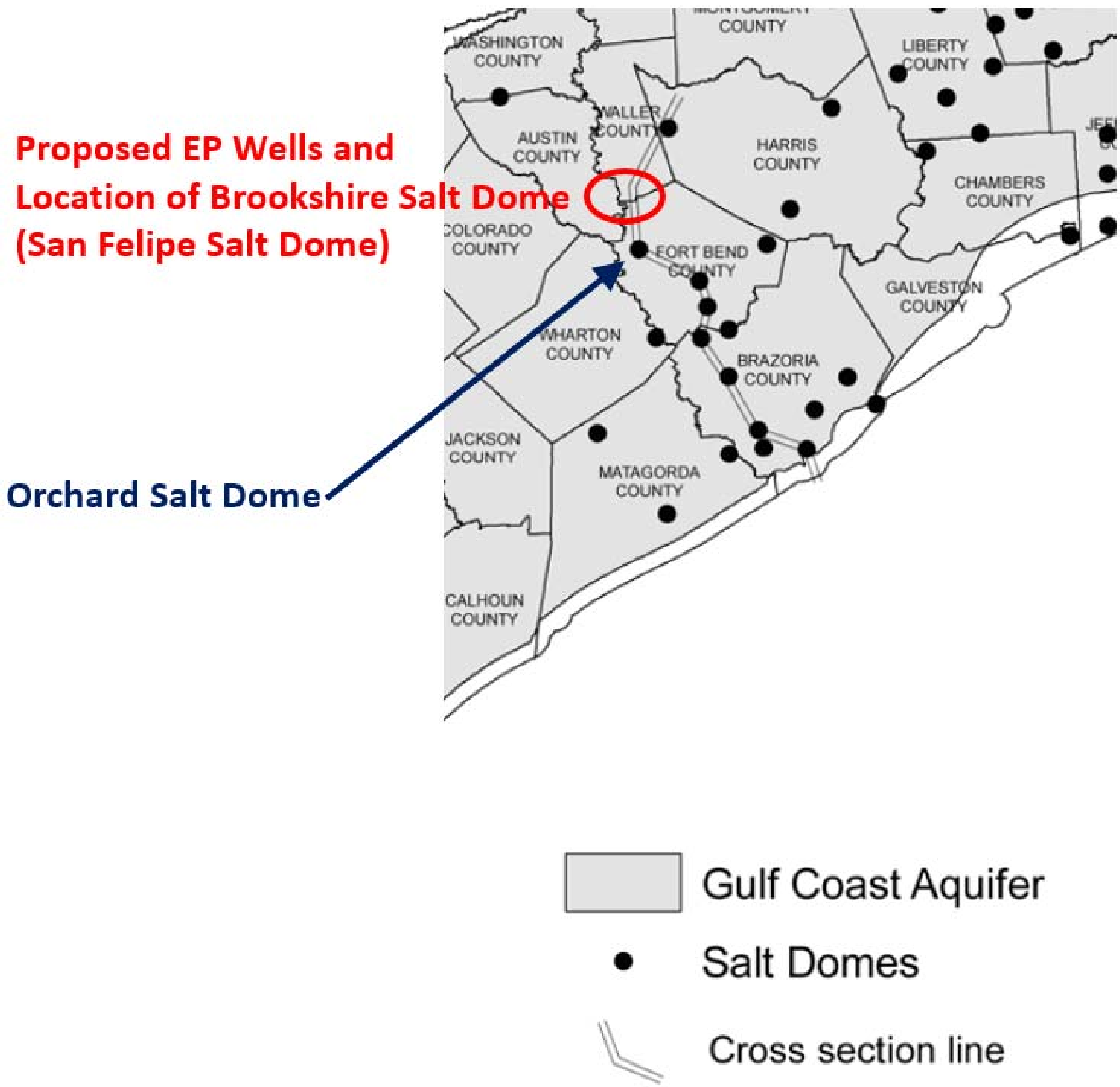



**Figure F-1. Map of Shallow Salt Domes in the Texas Gulf Coast Area and Location of Cross-Section Line (from Hamlin, 2006, pg. 221)**

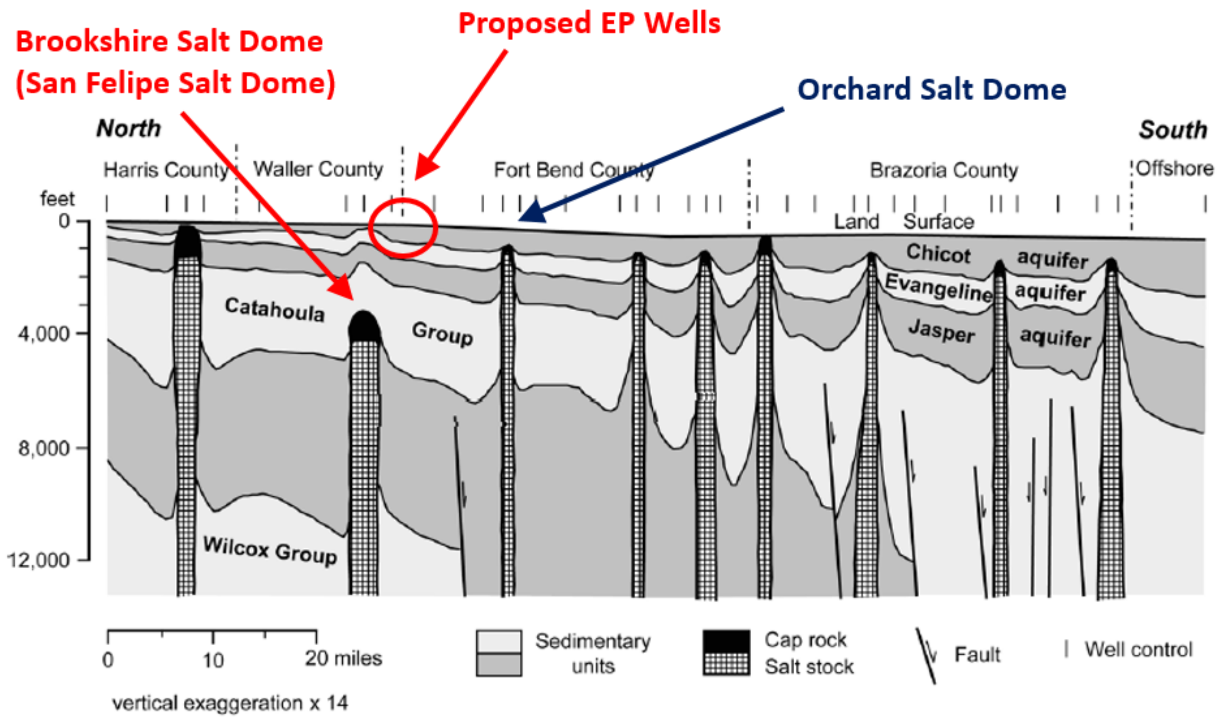



**Figure F-2. Cross-Section of Subsurface. Location of Cross Section shown on Figure F-1. (from Hamlin, pg. 219)**

# References


Beckman, J.D., and Williamson, A.K., 1990. Salt-Dome Locations in the Gulf Coastal Plain, South-Central United States. U.S. Geological Survey Water-Resources Investigation Report 90-4060., 47p.

Hamlin, H.S., Salt Domes in the Gulf Coast Aquifer. Chapter 12 of Mace, R.E., Davidson, S.C., Angle, E.S., and Mullican, W.F., Aquifers of the Gulf Coast of Texas. Texas Water Development Board Report 365, 303p.