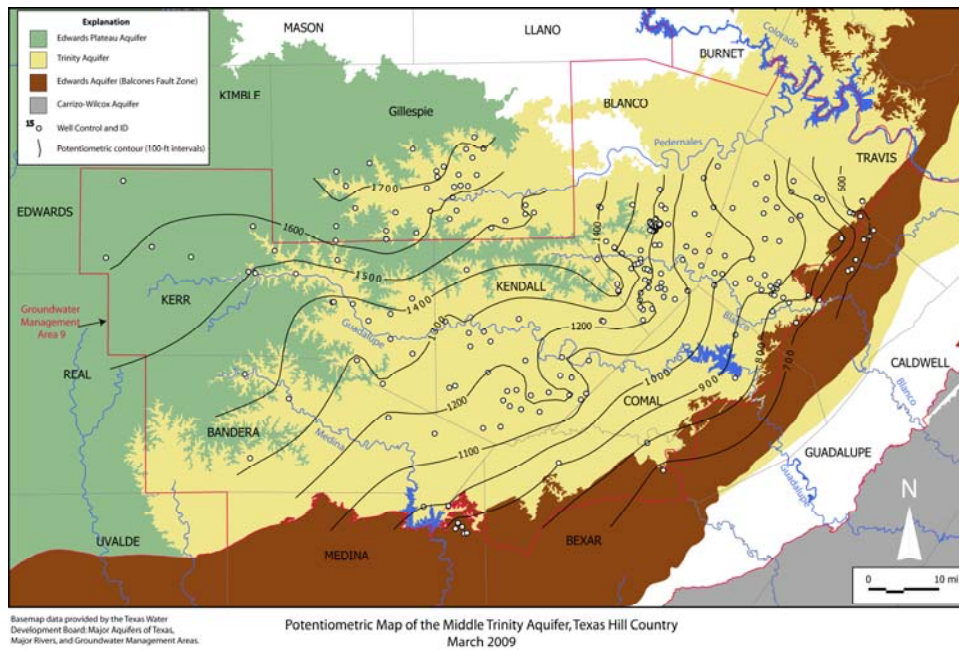




## **SPRING 2009 POTENTIOMETRIC MAP OF THE MIDDLE TRINITY AQUIFER IN GROUNDWATER MANAGEMENT AREA 9, CENTRAL TEXAS**



BSEACD Report of Investigations 2010-0501

**Barton Springs/Edwards Aquifer Conservation District**  
**1124 Regal Row**  
**Austin, Texas**

**Disclaimer**

All of the information provided in this report is believed to be accurate and reliable; however, the Barton Springs/Edwards Aquifer Conservation District and the report's authors assume no liability for any errors or for the use of the information provided.

**Cover.** Potentiometric Map of the Middle Trinity Aquifer (see Figure 7).

# **SPRING 2009 POTENTIOMETRIC MAP OF THE MIDDLE TRINITY AQUIFER IN GROUNDWATER MANAGEMENT AREA 9, CENTRAL TEXAS**

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# **SPRING 2009 POTENTIOMETRIC MAP OF THE MIDDLE TRINITY AQUIFER IN GROUNDWATER MANAGEMENT AREA 9, CENTRAL TEXAS**

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May 2010

**Barton Springs/Edwards Aquifer Conservation District**  
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**Austin, Texas**

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**Figure 7:** Potentiometric Map of the Middle Trinity Aquifer, Texas Hill Country, Spring 2009.

**Figure 8:** Hydrograph of Select Middle Trinity wells.

**Figure 9:** Combined Fall 1975 and Spring 2009 Potentiometric and Water - Level Decline Maps.

# **SPRING 2009 POTENTIOMETRIC MAP OF THE MIDDLE TRINITY AQUIFER IN GROUNDWATER MANAGEMENT AREA 9, CENTRAL TEXAS**

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## **INTRODUCTION**

The Trinity Aquifer is the primary groundwater source for a variety of needs throughout the Texas Hill Country. Groundwater Management Area 9 (GMA-9) is composed of nine Groundwater Conservation Districts (GCDs) within the Texas Hill Country that are tasked with managing groundwater resources. Recent State law requires Districts to periodically meet to discuss the future availability of groundwater within the aquifers of GMA-9. Increasing water-supply demands have raised concerns about the availability of groundwater in the Texas Hill Country. In particular, the Middle Trinity Aquifer is the primary aquifer for water-supply needs. At an early 2009 GMA-9 meeting, it was discussed that a potentiometric (water level) map of the Middle Trinity Aquifer constructed during the ongoing drought would provide useful information. All GCDs in the GMA agreed to participate and send the authors water-level data collected from the Middle Trinity Aquifer during the Spring of 2009.

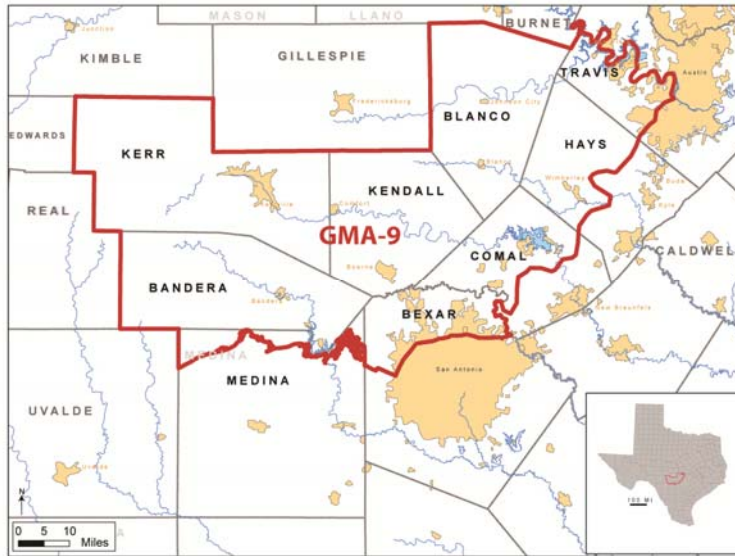
Groundwater levels and potentiometric surface maps provide critical information about the hydrologic relationships of recharge, discharge, and storage within an aquifer, and the direction of groundwater flow. This report contains historic potentiometric maps and a new Spring 2009 potentiometric map representing moderate drought conditions within the Middle Trinity Aquifer of the central Texas Hill Country. The purpose of this report is to provide a foundation of information and data for future hydrogeologic investigations and evaluations of water resources. These maps and data will be useful for computer modeling, sustainable yield determinations, and resource protection.

## **BACKGROUND**

### **Setting**

The study area is primarily GMA-9, which encompasses most of the central Texas Hill Country and includes portions or all of the following counties: Bexar, Kendall, Kerr, Medina, Bandera, Hays, Travis, Comal, and Blanco. Data were also compiled from outside of GMA-9 boundaries within Gillespie, Bexar, Hays, and Travis Counties (**Figure 1**).

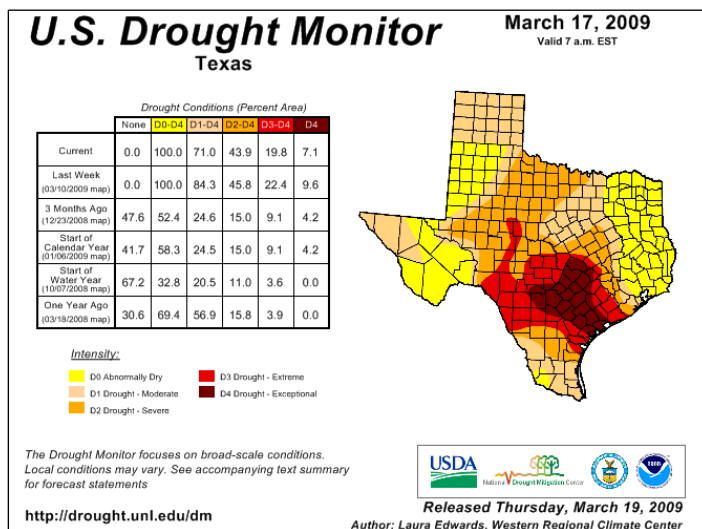
A description of the background hydrogeology is beyond the scope of this report. Barker *et al.* (1994) provides a summary of the hydrogeology of the area. Mace *et al.* (2000) is another good reference providing hydrogeologic background information.



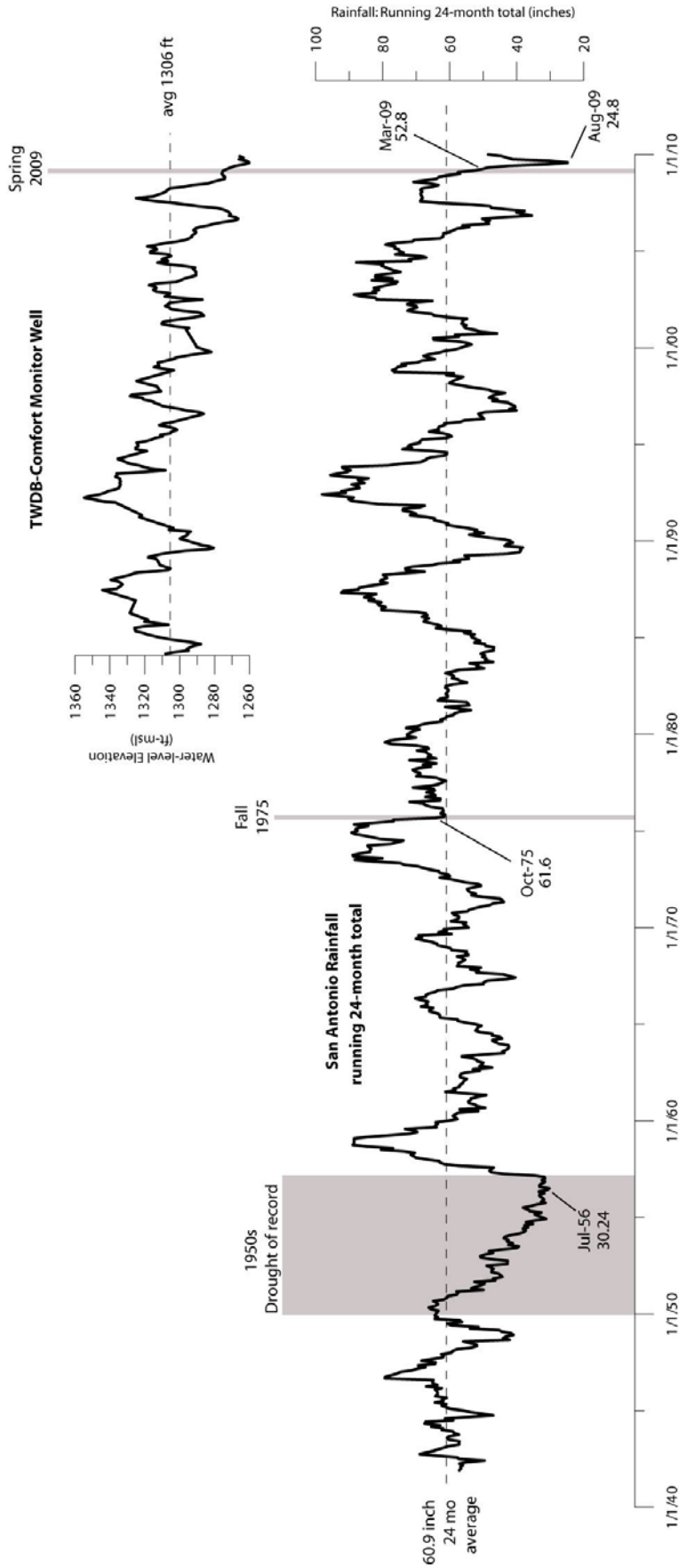
**Figure 1.** Location map showing study area.

**Hydrologic Conditions**

This investigation into water levels of the Middle Trinity Aquifer of the Texas Hill Country occurred as the region was experiencing an “extreme” to “exceptional” (meteorological) drought according to the U.S. Drought Monitor (**Figure 2**). Impacts to groundwater typically lag in time compared to meteorological impacts. Although the map reflects drought conditions, it does not reflect total impact of the drought that became more severe and ended in September 2009. Twenty four-month running rainfall totals in March and August 2009 were 53 and 25 inches, respectively (**Figure 3**).



**Figure 2.** Drought graphic showing the extent and severity of the 2009 drought during the time the data was collected for this report. Graphic from the U.S. Drought Monitor.



**Figure 3.** Hydrograph of rainfall and water levels. Rainfall is shown as a running 24-month total. Water-level elevation data is from the TWDB Comfort well (68-01-314) in Kendall County. For reference, the drought of record (DOR), Fall 1975, and Spring 2009 time periods are indicated with running 24-month rainfall totals of 30.2, 61.6 and 52.8 inches, respectively. Note that by the end of the 2009 drought (August) the rainfall total was lower than the DOR.

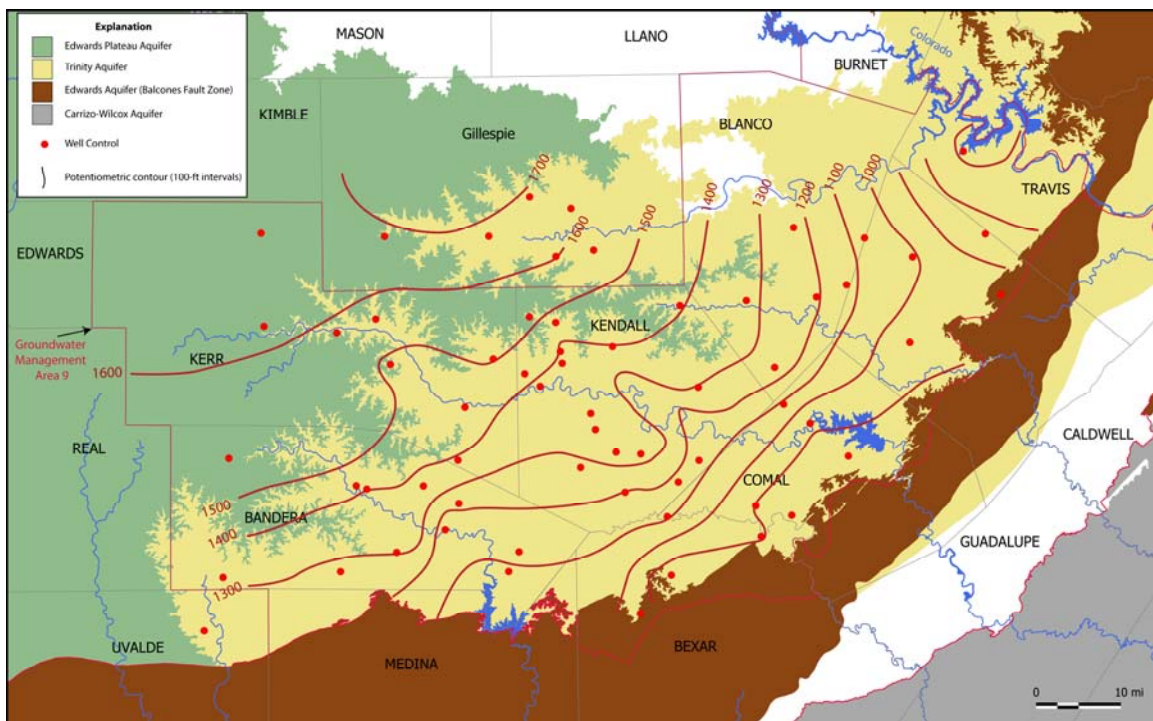


## Previous Work

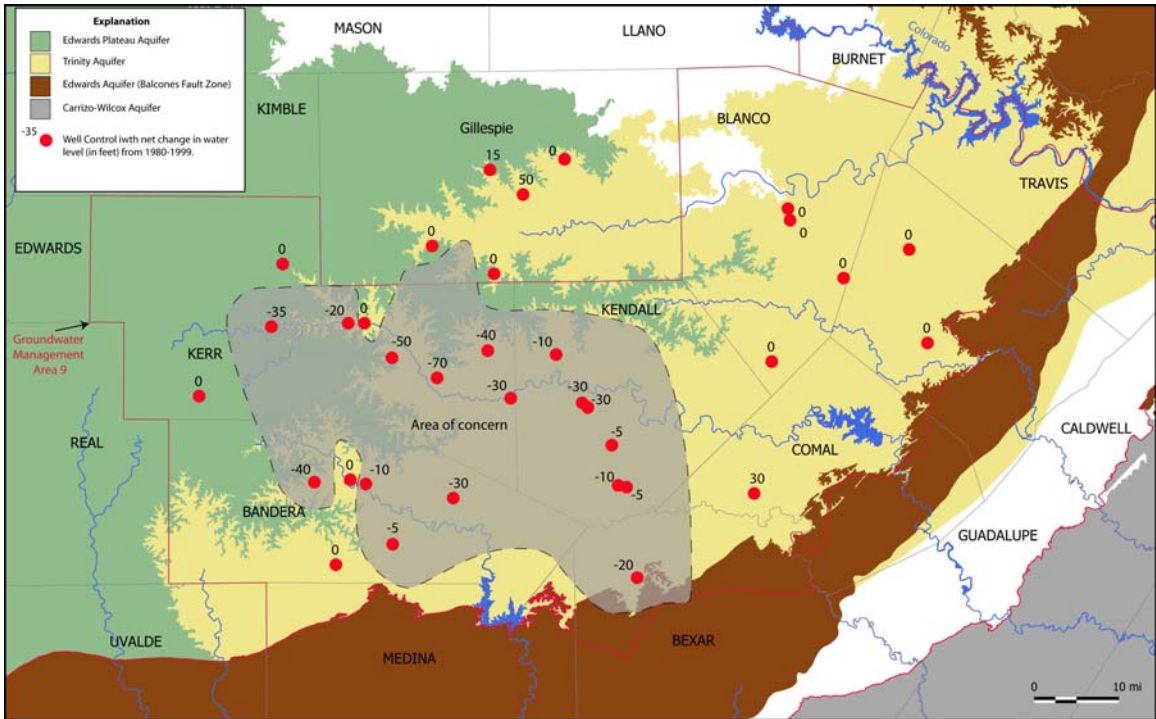
There are many investigations on the water resources of the Texas Hill Country. Some of the most relevant to this report include:

Mace *et al.* (2000) provide a historical (Fall 1975) Middle Trinity potentiometric map that was used for calibration of the model (**Figure 4**). In addition, Mace *et al.* (2000) map an area of net water-level decline from 1980 to 1999 (**Figure 5**).

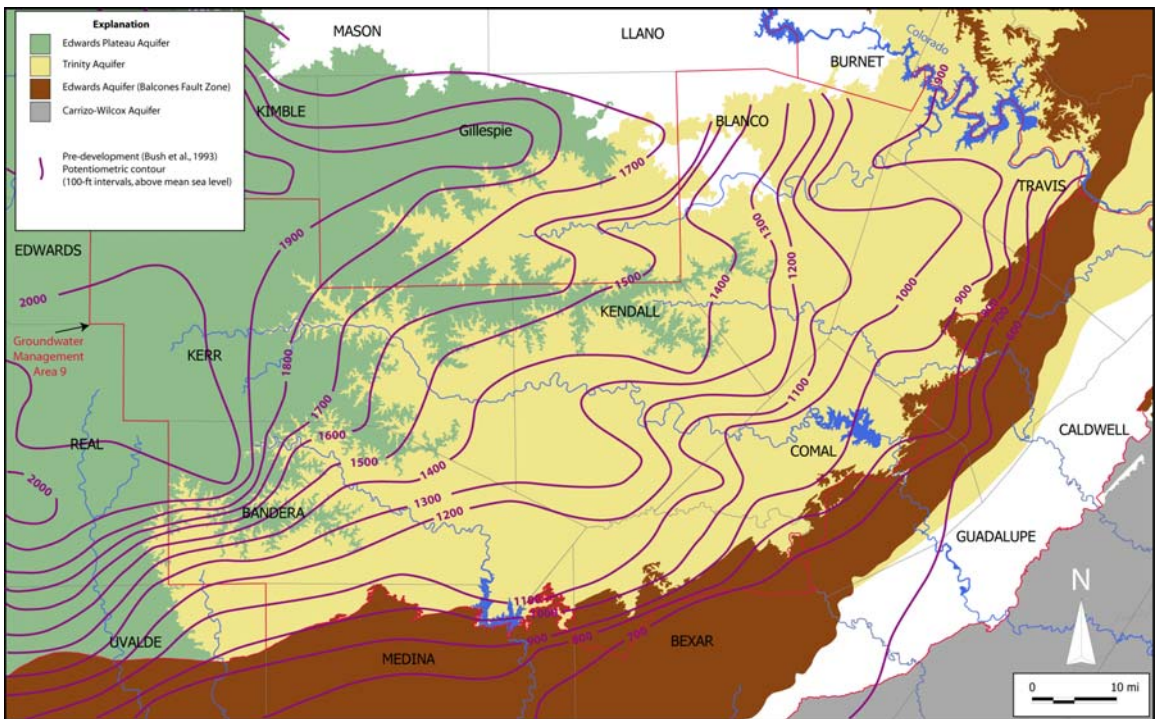
Bush *et al.* (1993) provide a pre-development, or historical potentiometric map for the Edwards-Trinity Aquifer System and contiguous hydraulically connected units (**Figure 6**). This map includes the Edwards-Trinity Plateau, Hill Country Trinity, and Edwards aquifers. Water levels in the Hill Country portion of the map reflect the Middle Trinity Aquifer. The Bush *et al.* (1993) map was generated from data spanning 6 decades, and hydrologic conditions representing wet to dry conditions. The authors report that data were collected during very wet conditions for Gillespie County; moderately wet conditions for Blanco and Comal Counties; average conditions for Kerr, Kendall, Bandera, and Medina Counties; and moderately dry conditions for Hays and Travis Counties. The authors discuss observations by Brune (2002) that suggest the map does not reflect water-level conditions completely unaffected by human activities such as poor range management (overgrazing) and pumping, which could have resulted in lower water levels. Nonetheless, the Bush *et al.* (1993) map represents “pre-development” conditions.



**Figure 4.** Potentiometric Map of the Middle Trinity Aquifer, Fall 1975. Figure modified from Mace *et al.* (2000).



**Figure 5.** Net water-level change map of the Middle Trinity Aquifer from 1980 to 1999. Figure modified from Mace *et al.* (2000). An “area of concern” that has overall declining levels over that time period is shaded in light grey.



**Figure 6.** Historical (Predevelopment) Potentiometric Contour Map of the Edwards-Trinity System and Hydraulically Connected Units, Central Texas. This map is modified after Bush *et al.* (1993).

Boghici (2008) shows water-level changes for a 10-year period (1990-2000) in the (undifferentiated) Trinity Aquifer. In summary, Boghici (2008) notes “the area of Bandera, Kerr, western Kendall, and northern Bexar experienced water-level declines of up to 100 feet.”

## METHODS AND DATA

Water-level measurements were collected using either manual measurements or with automated recorders. Manual measurements were most often made with a calibrated electric tape (e-line) or, less commonly, a steel tape. Automated instruments include pressure transducers with data loggers. Manual measurements are generally accurate to within  $\pm 0.01$  feet.

### Data Sources

Data were compiled from 13 sources, with most data provided by GCDs within and around GMA-9. **Table 1** is a summary of the source and number of data compiled for this report.

**Table 1.** Summary of data sources

| <i>Data Source/Agency</i>   | <i>County</i>          | <i>2009 month data collected</i> | <i>Number of data</i> |
|---|------------------------|----------------------------------|-----------------------|
| Blanco-Pedernales Groundwater Conservation District (BPGCD)   | Blanco                 | February-April                   | 85                    |
| Barton Springs/Edwards Aquifer Conservation District (BSEACD)   | Hays and Travis        | February-March                   | 9                     |
| Cow Creek Groundwater Conservation District (CCGCD)   | Kendall                | March                            | 30                    |
| City of Austin (COA)  | Travis                 | March                            | 3                     |
| Hill Country Underground Water Conservation District (HCUWCD)   | Gillespie              | April-May                        | 33                    |
| Headwaters Groundwater Conservation District HGCD   | Kerr                   | March                            | 20                    |
| Hays-Trinity Groundwater Conservation District (HTGCD)  | Hays                   | February                         | 37                    |
| Medina County Groundwater Conservation District (MCGCD)   | Medina                 | February-April                   | 7                     |
| Other   | Hays                   | March                            | 1                     |
| Texas Water Development Board (TWDB)  | Comal, Bexar, and Hays | February                         | 4                     |
| United States Geological Survey (USGS)  | Hays                   | March                            | 1                     |
| United States Geological Survey and San Antonio Water Systems (USGS/SAWS)                             | Bexar                  | April                            | 1                     |
| United States Geological Survey and Trinity-Glen Rose Groundwater Conservation District (USGS/TGRGCD) | Bexar                  | March                            | 1                     |
|   |                        | <i>Total</i>                     | <b>232</b>            |

### Data Compilation, Validation, and Quality Assurance

Data were compiled into a spreadsheet and mapped within proprietary Geographic Information System (GIS) software called Manifold®. Within the GIS software, the water elevations were contoured and compared to historic published potentiometric maps. All data were carefully reviewed, and were omitted from the compilation if suspected of

questionable well completion, significant influence from pumping, or other anomalous or non-representative conditions.

### **Contouring and Mapping**

All water-level data were gridded using a kriging interpolation (linear model) algorithm within Manifold®. Potentiometric contours were then generated from the grid. It should be noted that a grid using a linear interpolation algorithm generated essentially the same results as the kriging, but extended the interpolation beyond the boundaries of the data. To calculate water-level declines, data from Fall 1975 and Spring 2009 maps were gridded and then subtracted from each other using Goldenware's Surfer® software. Computer-generated contours were then manually reinterpreted to account for hydrogeologic boundaries, data gaps, and experience of the authors.

### **Datums and Coordinates**

Horizontal coordinates are in latitude and longitude. Many of the horizontal coordinates were collected with a Global Positioning System (GPS), or by locating the well on a U.S. Geological Survey (USGS) topographic map, and by survey. Horizontal datums are in World Geodetic System 1984 (WGS84) or North American Datum 1983 (NAD83) or North American Datum 1927 (NAD27). Accuracy of the locations is likely a few hundred feet, although most are probably better.

Water-level measurements are made in reference to a measurement point (MP) at the well head. Commonly, the MP corresponds to the top of casing (TOC). The MP or TOC measurement is subtracted from the depth-to-water measurement to reflect a depth from the land surface datum (LSD). LSD is generally defined as the top of the concrete slab around the casing, or from ground level if no slab exists. All depth to water measurements are referenced to LSD (in feet). Elevations for LSDs are in feet above mean sea level and were generally obtained from USGS topographic maps (10- to 20-ft contours) or from surveys. Vertical datums from those maps are either National Geodetic Vertical Datum 1929 (NAVD29) or National Geodetic Vertical Datum 1988 (NAVD88). The accuracy of the elevation of a well is the largest source of error for the data in this report, and is likely less than 10 feet. However, given the 100-ft contour interval used, this accuracy is considered sufficient for the regional scale of the map.

### **Timing of Synoptic Map**

Data were collected generally between late February and early March 2009. This time period reflected in the map will hereafter be referred to as Spring 2009. **Table 1** lists the range in dates of the data. Data provided by the Hill Country Underground Water Conservation District (Gillespie County) are from late April to early May 2009.

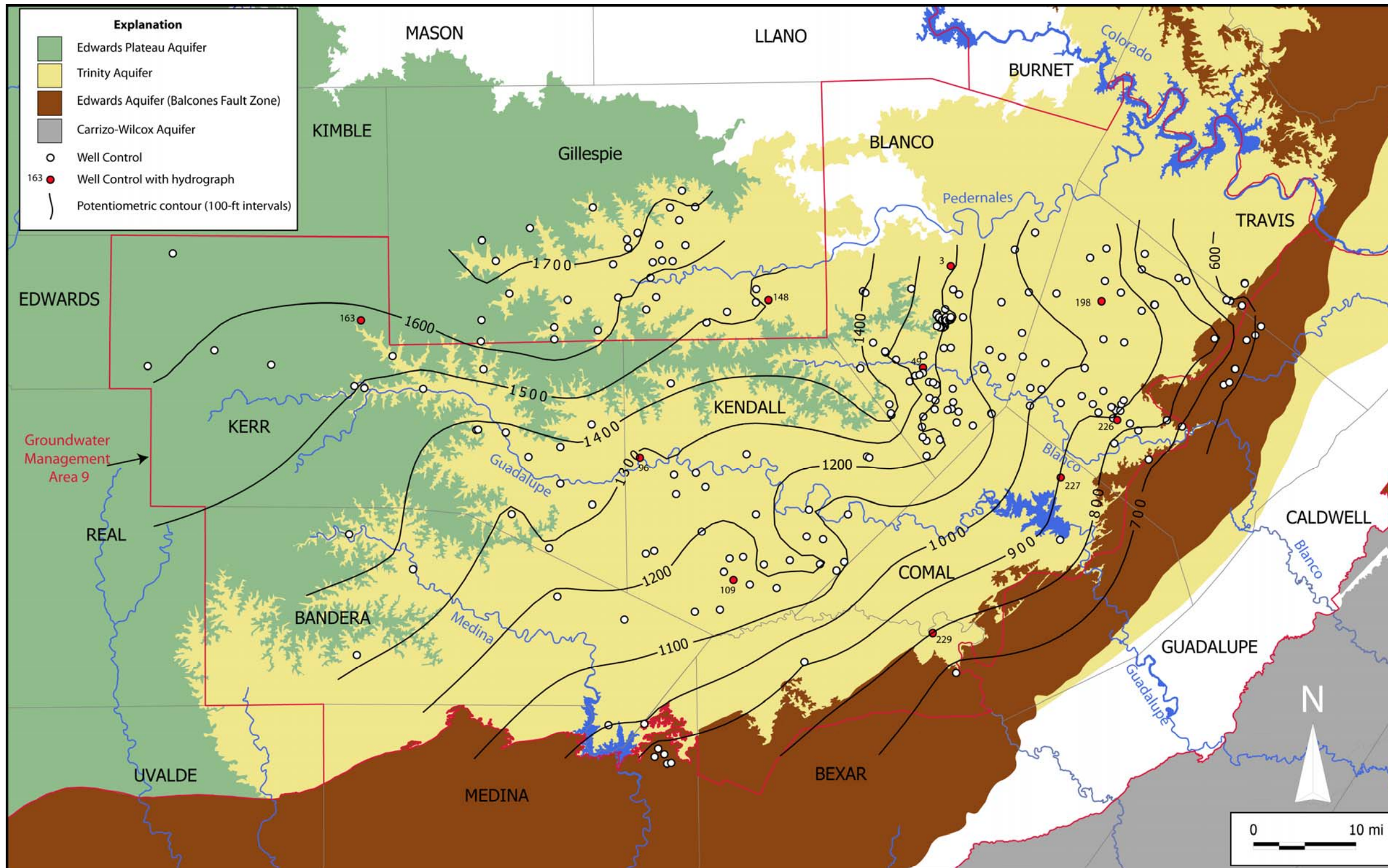
## RESULTS

**Figure 7** is a potentiometric map of the Middle Trinity Aquifer. Appendix A contains the well control data used to produce the contour map. Appendix A also contains the same Figure 7 map with well ID numbers. A few wells were selected to graph their water-level elevations over time (**Figure 8**). Most of these wells were selected for their geographic distribution and relatively long period of record. **Table 2** is a list of the wells graphed in Figure 8. **Figure 9** combines the Fall 1975 and the Spring 2009 potentiometric map of the Middle Trinity Aquifer for direct comparison.

**Table 2.** List of wells with hydrographs presented in Figure 5. Wells are denoted on Figure 4. Table excerpted from Appendix A.

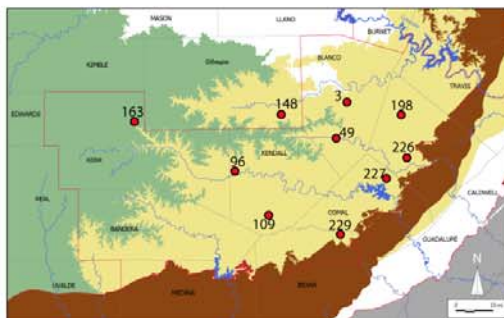
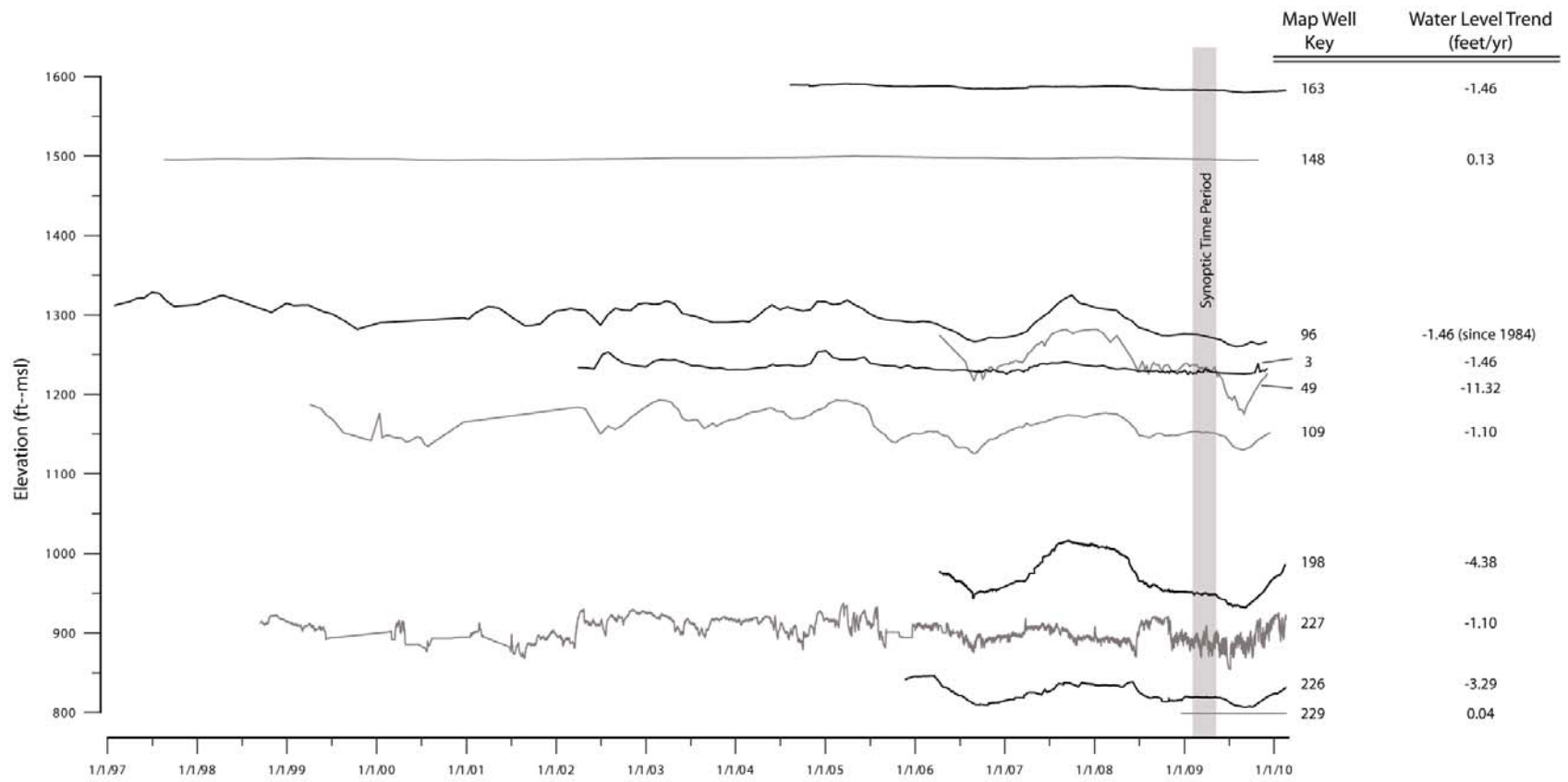
| Map ID | Well #   | Source | Owner/Name                        | Water Level elevation (ft-msl) | Date     | TD  | Comment  |
|--------|----------|--------|-----------------------------------|--------------------------------|----------|-----|--|
| 3      | 5753305  | BPGCD  | BPGCD Hensel Monitor Well         | 1226.50                        | 02/19/09 | 344 |  |
| 49     | 57612BR  | BPGCD  | BPGCD Middle Trinity Monitor Well | 1240.80                        | 02/19/09 | ?   |  |
| 96     | 6801314  | CCGCD  | Comfort TWDB                      | 1274.35                        | 03/17/09 | 280 | Hensel   |
| 109    | 6811417  | CCGCD  | Schwoppe TWDB                     | 1151.71                        | 03/17/09 | 500 | Kgrl, Kh, Kcc                                  |
| 148    | R -00648 | HCUGCD |                                   | 1495.49                        | 05/04/09 |     | Hensel   |
| 163    | 5654405  | HGCD   | HGCD MW #4                        | 1583.13                        | 03/30/09 |     |  |
| 198    | 5755607  | HTGCD  | Whit Hanks                        | 949.89                         | 02/13/09 | 381 | Middle Trinity                                 |
| 226    | 5764705  | TWDB   | Wimberley WSC                     | 819.29                         | 02/14/09 | 400 |  |
| 228    | 6815116  | TWDB   | Canyon Lake WSC (Comal Co.)       | 871.74                         | 02/14/09 | 655 | upper Glen Rose mistakenly reported as aquifer |
| 229    | 6821213  | TWDB   | Emory Hamilton (Bexar Co.)        | 799.00                         | 02/15/09 | 625 | 218GLRSL                                       |





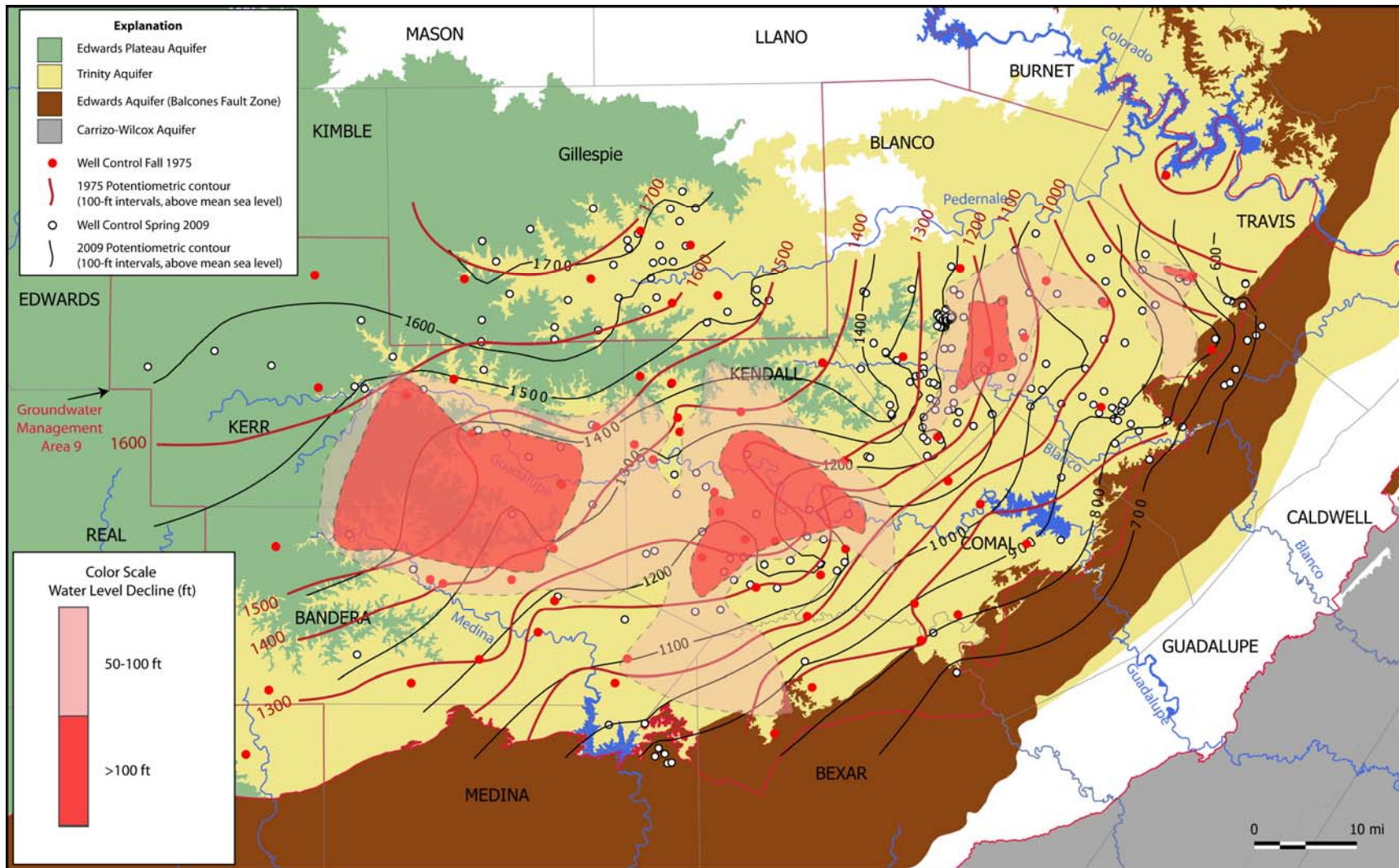
Basemap data provided by the Texas Water Development Board: Major Aquifers of Texas, Major Rivers, and Groundwater Management Areas.

**Figure 7. Potentiometric Map of the Middle Trinity Aquifer, Texas Hill Country, Spring 2009**



**Figure 8.** Hydrographs of select Middle Trinity wells. Spring 2009 time period is denoted as shaded box on hydrograph. Water-level trends (feet/yr) reflect the slope derived from a linear regression on the period of record for each well.





Basemap data provided by the Texas Water Development Board: Major Aquifers of Texas, Major Rivers, and Groundwater Management Areas.

**Figure 9.** Combined Fall 1975 and Spring 2009 potentiometric and water-level decline maps. Fall 1975 map from Mace *et al.* (2000). Note that categorized areas of water-level declines have dashed boundaries and are only an approximation of the geographic extent.



## DISCUSSION

On the basis of the Spring 2009 potentiometric map, flow within the Middle Trinity is generally from northwest to southeast. This is predominantly down-dip of the geologic units from outcrop into the confined subsurface. A prominent potentiometric ridge exists along the Blanco-Kendall County line and separates a more west to east flow system within Blanco, Hays, and Travis Counties. A portion of the flow appears to deviate to the northeast along the Balcones Fault Zone as it approaches Travis County. The Lower Glen Rose is exposed along the Colorado River west of the Balcones Fault Zone and could be the discharge point for the Middle Trinity in that area. Other features noted in the map include predominantly converging flow centered along the Guadalupe River west of Canyon Lake. A prominent ridge is defined by the 1,200-ft contour line in Kendall County south of the Guadalupe River. All of these features described above are consistent with **Figure 4**, the 1975 map produced by Mace *et al.* (2000), and **Figure 6**, the historic map produced by Bush *et al.* (1993).

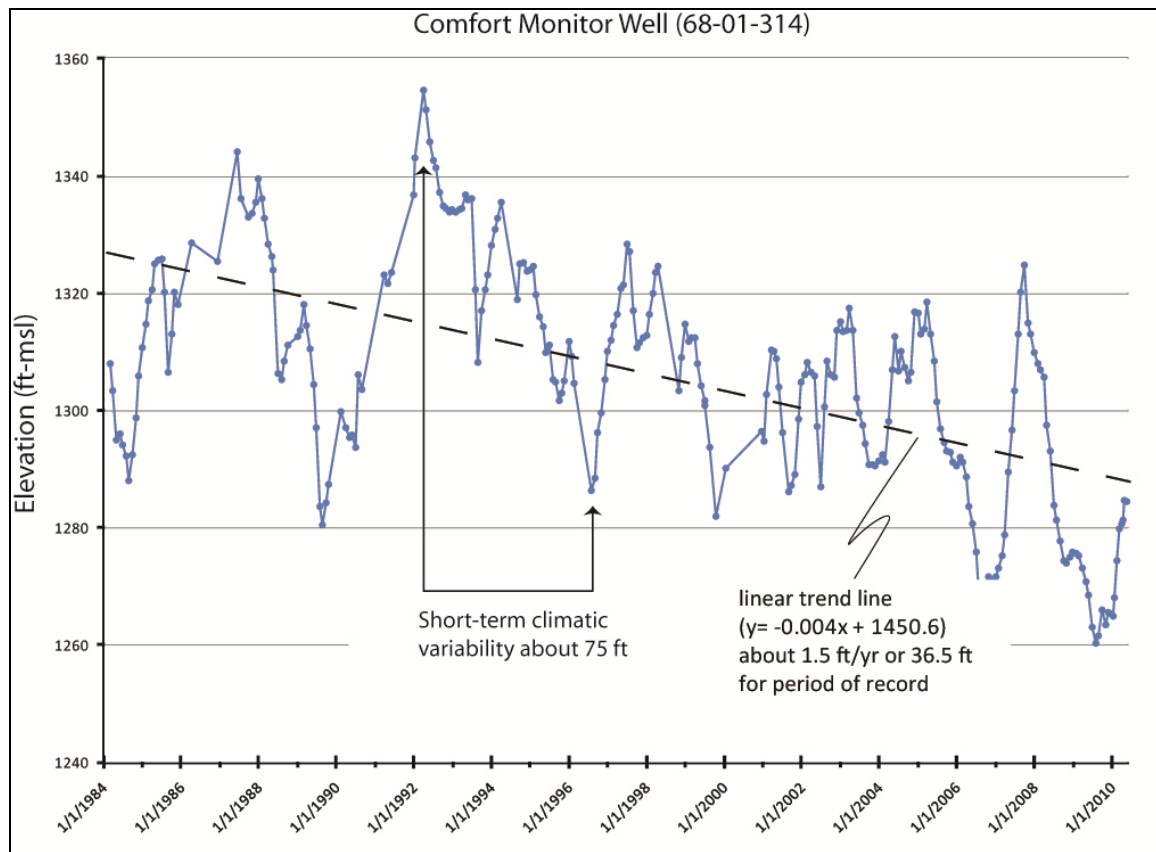
Comparison of the Spring 2009 map with the historical maps is problematic since the maps represent different hydrologic conditions. The Bush *et al.* (1993) map is particularly problematic since hydrologic conditions varied by county. For this paper, a comparison was made between the Fall 1975 and the Spring 2009 map. However, the precursor hydrologic conditions in the Fall 1975 and Spring 2009 are not the same. The running 24-month rainfall total for the Fall 1975 and the Spring 2009 were 62 and 53 inches, respectively (**Figure 3**). Nevertheless, a comparison of the change in water levels from the Fall 1975 to Spring 2009 may provide some insight to long-term water-level changes on a regional scale. Visual comparison of the change in water levels from Fall 1975 to Spring 2009 in **Figure 9** reveals heterogeneous water-level declines of up to 100 feet throughout the aquifer. Areas of greater decline greater than 100 feet are noted south of Kerrville, north of Boerne, east of Blanco, and a small area along the Hays-Travis County line. No measureable change in water levels occurred in most of Gillespie County, and along the potentiometric ridge straddling the Blanco-Kendall County line. The net water-level change map of **Figure 5** (from Mace *et al.* 2000) appears to underestimate the water-level declines shown in **Figure 9**. For example, no drawdown is noted on **Figure 5** for Blanco and Hays County. Possible explanations for this difference between **Figures 5** and **9** include increased water-level declines since 1999, or the geographic distribution of the data (in either map) does not accurately reflect representative conditions.

Although climatic variability must contribute to the majority of water-level declines from 1975 to 2009, it appears reasonable that increases in pumping may also contribute. To highlight this hypothesis, we focus on the area around the Comfort Well (well 96 in **Figure 7**), which shows about 100 feet of water-level decline from 1975 to 2009 in **Figure 9**. Over the period of record (since 1984) the Comfort Well has, on average, declined about 36 feet (-1.46 ft/yr) when a linear trend line is plotted on the data (**Figure 10**). The 24-month running rainfall total since 1940 does not show significant upward or downward trends (**Figure 3**), so we assume long-term regional climatic variability has negligible impact on water-level trends in the Comfort Well. However, short-term

climatic variability reflected in water-level changes in the Comfort Well is significant, and has a maximum range of about 75 feet from a dry period (Aug-1989), to a subsequent wet period (Mar-1992) (**Figure 10**). Therefore, if we assume that long-term climate variation had negligible effect on water-level trends, and there is about 100 feet of drawdown from 1975 to 2009, then perhaps a maximum of 75% of the drawdown in the Comfort Well could be explained by short-term climatic variability. That leaves a minimum of about 25% of the water-level decline since 1975 attributed to increasing pumping over the long-term. More data is needed to fully evaluate this hypothesis.

Mace *et al.*, (2000) report that pumping in 1975 was estimated to be about 6,932 acre-ft/yr for the Middle Trinity Aquifer (including Gillespie County). In 2008 GMA-9 estimated pumping to be 32,099 acre-ft/yr (not including Gillespie County), a 460% increase.

Recent groundwater model simulations (Hutchison, 2010) suggest that groundwater levels in GMA-9 would have long-term declines of about 40 ft, on average, after 50 years of pumping at current estimated levels. This is similar to the long-term trend discussed in the example above.



**Figure 10.** Hydrograph of the period of record for the Comfort Well (#96 this study) illustrating short-term climatic variability and long-term declining trends in water levels.

The Comfort well contains the longest period of record for wells in the study area. Other wells shown in the hydrograph (**Figure 8**) have shorter periods of record and some (e.g. wells 49 and 198) show a strong bias toward the last two recent droughts in 2006 and 2009, and are not likely representative of long-term trends. However, all the wells with greater than 10 years of data (wells 96, 109, and 227) show the same declining trend of more than 1 ft/yr. The exception is well 148 showing a slight increase in water levels of 0.13 ft/yr. This well, unlike the others, is located within an unconfined (recharge zone) setting.

## **CONCLUSIONS**

The Spring 2009 potentiometric map accurately illustrates the overall flow patterns of the Middle Trinity Aquifer, and those patterns conform with the historic Fall 1975 potentiometric map published by Mace *et. al* (2000). Short-term regional climatic variability likely contributes most of the water-level decline from 1975 to 2009. However, increased pumping also appears to contribute to long-term water-level decline.

## **Future Work**

To truly assess long-term water level trends and impacts, more synoptic potentiometric maps, utilizing many of the same wells in this report, should be attempted under a variety of hydrologic conditions. A series of maps representing a variety of hydrologic conditions would make direct comparison of maps more accurate, and possibly more meaningful with regard to long-term trends. Comparison of the Spring 2009 map to simulated potentiometric maps (with similar recharge conditions) could also be useful to test the validity of model results.

## **ACKNOWLEDGMENTS**

This report would not have been possible without the full cooperation and support of all the GCDs in GMA-9 and the Hill Country Underground Water Conservation District. Ronald G. Fieseler, P.G. (BPGCD) helped facilitate and motivate the data transfer. We would like to acknowledge and thank all the land owners and agencies that provided access to their wells for data collection.

Numerous people and agencies helped provide data beyond those acknowledged as contributors, and they include: John Dupnik (BSEACD), Guy Rials (BSEACD), Joe Beery (BSEACD), Rob Esquilin (EAA), Nico Hauwert (COA), Ken Davis (HTGCD), Ali Chowdhury (TWDB), U.S. Geological Survey (USGS), and San Antonio Water Systems (SAWS).

Kirk Holland, P.G., John Dupnik, P.G., Ronald G. Fieseler, P.G., and Doug A. Wierman, P.G. provided additional technical and editorial review of this report.

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Bush, Peter W., Ardis, Ann F.; Wynn, Kirby H., 1993, Historical potentiometric surface of the Edwards-Trinity aquifer system and contiguous hydraulically connected units, west-central Texas; U.S. Geological Survey Water-Resources Investigations Report, WRI no. 92-4055; 1 map + 2 data sheets

Hutchison, B., 2010, Draft GAM Task 10-005, Report by the Texas Water Development Board, May 28, 2010, 12 p.

Mace, R., Chowdhury, A., Anaya, R., and Way, S., 2000, Groundwater Availability of the Trinity Aquifer, Hill Country Area, Texas: Numerical Simulations through 2050: Texas Water Development Board, 172 p.

## Appendix A: Middle Trinity Potentiometric Data

| Map ID | Well Number | Data Source | Owner/Name                   | DDlat     | DDlong     | Land Surface Datum (ft-msl) | Depth Water (ft) | MP   | Water Level elevation (ft-msl) | Date Measured | Well Total Depth | Comment                                |
|--------|-------------|-------------|------------------------------|-----------|------------|-----------------------------|------------------|------|--------------------------------|---------------|------------------|--|
| 1      | 5747705     | BPGCD       | Texas Parks & Wildlife Dept. | 30.282528 | -98.245778 | 1170                        | 194.30           | 1.80 | 977.50                         | 02/19/09      | 283              | BPGCD Monitor Well                     |
| 2      | 5752609     | BPGCD       | James Sultemeier             | 30.203500 | -98.528083 | 1485                        | 61.20            | 2.30 | 1426.10                        | 02/24/09      | 183              |  |
| 3      | 5753305     | BPGCD       | Stanton Ranch                | 30.237444 | -98.384278 | 1445                        | 219.00           | 0.50 | 1226.50                        | 02/19/09      | 344              | BPGCD Monitor Well                     |
| 4      | 5753614     | BPGCD       | Amil Baker                   | 30.177000 | -98.394417 | 1510                        | 322.55           | 1.50 | 1188.95                        | 02/19/09      | 505              | BPGCD Monitor Well                     |
| 5      | 5753620     | BPGCD       | Miller Creek Lavender Farm   | 30.204222 | -98.381000 | 1293                        | 153.70           | 2.00 | 1141.30                        | 02/20/09      | 304              |  |
| 6      | 5761507     | BPGCD       | Joe & Jonelle Haas           | 30.083556 | -98.444611 | 1420                        | 96.43            | 1.00 | 1324.57                        | 02/19/09      | 120              | Old Rosa Winn well, BPGCD Monitor Well |
| 7      | 6805209     | BPGCD       | Alvis L. Smith               | 29.991278 | -98.427944 | 1390                        | 128.90           | 2.00 | 1263.10                        | 02/18/09      | 223              |  |
| 8      | 6817215     | BPGCD       | Bowie                        | 29.743556 | -98.922528 | 1365                        | 201.20           | 0.00 | 1163.80                        | 04/21/09      | 485              | R-1561                                 |
| 9      | 6825211     | BPGCD       | Lakehills Co. Yard           | 29.595361 | -98.950000 | 1154                        | 154.80           | 0.00 | 999.20                         | 04/21/09      | 403              |  |
| 10     | 6914104     | BPGCD       | Lautzenheiser                | 29.867694 | -99.368611 | 1693                        | 257.10           | 0.00 | 1435.90                        | 04/23/09      | 550              |  |
| 11     | 6914609     | BPGCD       | Medina Springs               | 29.817389 | -99.265194 | 1515                        | 129.12           | 0.00 | 1385.88                        | 04/23/09      | 465              |  |
| 12     | 6916906     | BPGCD       | Mason Creek Shallow          | 29.777250 | -99.031028 | 1380                        | 174.60           | 0.00 | 1205.40                        | 04/21/09      |                  |  |
| 13     | 6916907     | BPGCD       | Mason Creek Deep             | 29.777250 | -99.031028 | 1380                        | 200.50           | 0.00 | 1179.50                        | 04/21/09      | 480              |  |
| 14     | 6922402     | BPGCD       | Daughtry                     | 29.696861 | -99.357278 | 1592                        | 278.70           | 0.00 | 1313.30                        | 03/18/09      | 400              | R-3079                                 |
| 15     | 57469SH     | BPGCD       | Susan Hill                   | 30.259417 | -98.279361 | 1078                        | 82.14            | 1.50 | 997.36                         | 03/09/09      | ?                |  |
| 16     | 57526BJ     | BPGCD       | BJ Sultemeier                | 30.201139 | -98.524222 | 1545                        | 161.78           | 2.00 | 1385.22                        | 02/24/09      | 325              |  |
| 17     | 57529D1     | BPGCD       | Dos Canalles                 | 30.130861 | -98.512694 | 1518                        | 145.31           | 2.00 | 1374.69                        | 02/26/09      | ?                | Ronny & Sandra Irving                  |
| 18     | 57535BA     | BPGCD       | Bamberger Ranch              | 30.206083 | -98.449083 | 1605                        | 294.82           | 0.20 | 1310.38                        | 04/10/09      | 340              | Main Ranch House Well, unused          |
| 19     | 57539A1     | BPGCD       | Brushy Top Well 1-A Lot 3    | 30.152778 | -98.395417 | 1484                        | 280.55           | 1.70 | 1205.15                        | 02/24/09      | 465              | No Pump                                |
| 20     | 57539A2     | BPGCD       | Brushy Top Well 1-B Lot 119  | 30.154000 | -98.395750 | 1517                        | 314.50           | 2.80 | 1205.30                        | 02/24/09      | 510              | No Pump                                |
| 21     | 57539B2     | BPGCD       | Brushy Top Well 2-B Lot 4    | 30.151083 | -98.398250 | 1522                        | 325.15           | 2.00 | 1198.85                        | 02/24/09      | 490              | No Pump                                |
| 22     | 57539C1     | BPGCD       | Brushy Top Well 3-A Lot 6    | 30.151361 | -98.401472 | 1535                        | 319.90           | 1.80 | 1216.90                        | 02/24/09      | ?                | No Pump                                |
| 23     | 57539C2     | BPGCD       | Brushy Top Well 3-B Lot 7    | 30.151472 | -98.403639 | 1538                        | 324.80           | 1.10 | 1214.30                        | 02/24/09      | 490              | No Pump                                |
| 24     | 57539D1     | BPGCD       | Brushy Top Well 4-A Lot 9    | 30.153333 | -98.408444 | 1712                        | 490.62           | 2.60 | 1223.98                        | 02/24/09      | 670              | No Pump                                |

| Map ID | Well Number | Data Source | Owner/Name                  | DDlat     | DDlong     | Land Surface Datum (ft-msl) | Depth Water (ft) | MP   | Water Level elevation (ft-msl) | Date Measured | Well Total Depth | Comment                                  |
|--------|-------------|-------------|-----------------------------|-----------|------------|-----------------------------|------------------|------|--------------------------------|---------------|------------------|--|
| 25     | 57539L1     | BPGCD       | Brushy Top Well 12-A Lot 40 | 30.171550 | -98.407840 | 1718                        | 469.53           | 2.00 | 1250.47                        | 02/20/09      | 665              | No Pump                                  |
| 26     | 57539M1     | BPGCD       | Brushy Top Well 13-A Lot 47 | 30.169080 | -98.408580 | 1735                        | 481.18           | 2.30 | 1256.12                        | 02/20/09      | 680              | No Pump, Gamma Ray Log                   |
| 27     | 57539N1     | BPGCD       | Brushy Top Well 14-A Lot 85 | 30.164610 | -98.405340 | 1701                        | 418.03           | 2.00 | 1284.97                        | 02/20/09      | 650              | No Pump                                  |
| 28     | 57539N2     | BPGCD       | Brushy Top Well 14-B Lot 58 | 30.165680 | -98.404560 | 1700                        | 464.25           | 2.10 | 1237.85                        | 02/20/09      | 650              | No Pump                                  |
| 29     | 57539O1     | BPGCD       | Brushy Top Well 15-B Lot 81 | 30.162820 | -98.397870 | 1468                        | 255.90           | 2.00 | 1214.10                        | 02/20/09      | 430              | No Pump                                  |
| 30     | 57539O2     | BPGCD       | Brushy Top Well 15-A Lot 82 | 30.162290 | -98.399440 | 1480                        | 258.42           | 2.00 | 1223.58                        | 02/20/09      | 430              | No Pump                                  |
| 31     | 57539P1     | BPGCD       | Brushy Top Well 16-A Lot 79 | 30.164010 | -98.395070 | 1464                        | 252.31           | 2.00 | 1213.69                        | 02/20/09      | 450              | No Pump                                  |
| 32     | 57539P2     | BPGCD       | Brushy Top Well 16-B Lot 80 | 30.162170 | -98.395210 | 1441                        | 228.65           | 1.10 | 1213.45                        | 02/20/09      | ?                | No Pump                                  |
| 33     | 57539Q1     | BPGCD       | Brushy Top Well 17-A Lot 62 | 30.165220 | -98.392280 | 1492                        | 287.80           | 2.10 | 1206.30                        | 02/20/09      | 445              | No Pump                                  |
| 34     | 57539Q2     | BPGCD       | Brushy Top Well 17-B Lot 58 | 30.165750 | -98.393460 | 1527                        | 318.30           | 2.30 | 1211.00                        | 02/20/09      | 510              | No Pump                                  |
| 35     | 57539R2     | BPGCD       | Brushy Top Well 18-B Lot 77 | 30.161280 | -98.392770 | 1420                        | 214.97           | 1.90 | 1206.93                        | 02/20/09      | 410              | No Pump                                  |
| 36     | 57539S1     | BPGCD       | Brushy Top Well 19-A Lot 75 | 30.161660 | -98.387830 | 1420                        | 219.70           | 2.10 | 1202.40                        | 02/20/09      | 410              | No Pump                                  |
| 37     | 57539S2     | BPGCD       | Brushy Top Well 19-B Lot 74 | 30.162110 | -98.385560 | 1428                        | 229.90           | 1.60 | 1199.70                        | 02/20/09      | 410              | No Pump                                  |
| 38     | 57539T1     | BPGCD       | Brushy Top Well 20-A Lot 72 | 30.164580 | -98.385770 | 1451                        | 248.30           | 2.20 | 1204.90                        | 02/20/09      | 450              | No Pump                                  |
| 39     | 57539T2     | BPGCD       | Brushy Top Well 20-B Lot 71 | 30.165640 | -98.385540 | 1468                        | 186.33           | 2.90 | 1284.57                        | 02/20/09      | 470              | No Pump                                  |
| 40     | 57544SM     | BPGCD       | Sheri Moore                 | 30.197111 | -98.371444 | 1325                        | 197.65           | 2.00 | 1129.35                        | 02/18/09      | ?                |  |
| 41     | 57545EP     | BPGCD       | Franklin Ranch              | 30.185472 | -98.302500 | 1359                        | 317.53           | 1.60 | 1043.07                        | 03/04/09      | ?                | East Pasture well; water level very deep |
| 42     | 57546B3     | BPGCD       | Randy Barton                | 30.198667 | -98.257500 | 1342                        | 341.30           | 1.40 | 1002.10                        | 03/10/09      | 440              | Frank & Karen Dick-Armadillo Bar         |
| 43     | 57547TO     | BPGCD       | Todd & Erin Oyler           | 30.165278 | -98.365528 | 1310                        | 192.59           | 2.00 | 1119.41                        | 03/03/09      | 323              |  |
| 44     | 57549GG     | BPGCD       | Gene Guthrie                | 30.141806 | -98.269722 | 1548                        | 499.45           | 1.90 | 1050.45                        | 03/07/09      | 645              |  |
| 45     | 57603HH     | BPGCD       | Hal Hammond                 | 30.094806 | -98.534111 | 1512                        | 93.79            | 1.00 | 1419.21                        | 02/26/09      | ?                | 2019 RR1888 Blanco                       |
| 46     | 57611BM     | BPGCD       | Bonnie Markel               | 30.116528 | -98.492361 | 1443                        | 147.90           | 1.80 | 1296.90                        | 02/24/09      | ?                |  |
| 47     | 57611MC     | BPGCD       | Michael Cooley              | 30.118167 | -98.493389 | 1462                        | 140.06           | 2.00 | 1323.94                        | 02/24/09      | 385              |  |
| 48     | 57611TW     | BPGCD       | Trey Wyatt                  | 30.106222 | -98.475722 | 1385                        | 102.63           | 2.00 | 1284.37                        | 02/24/09      | 448              |  |
| 49     | 57612BR     | BPGCD       | City of Blanco River Well   | 30.094333 | -98.431917 | 1325                        | 91.20            | 7.00 | 1240.80                        | 02/19/09      | ?                | BPGCD Monitor Well                       |
| 50     | 57612L3     | BPGCD       | Cielo Springs Lot 123       | 30.087150 | -98.432670 | 1343                        | 105.07           | 2.00 | 1239.93                        | 02/17/09      | ?                | No Pump, CTD drilled well                |

| Map ID | Well Number | Data Source | Owner/Name                | DDlat     | DDlong     | Land Surface Datum (ft-msl) | Depth Water (ft) | MP   | Water Level elevation (ft-msl) | Date Measured | Well Total Depth | Comment   |
|--------|-------------|-------------|---------------------------|-----------|------------|-----------------------------|------------------|------|--------------------------------|---------------|------------------|---|
| 51     | 57612L4     | BPGCD       | Cielo Springs Lot 124     | 30.087170 | -98.432050 | 1330                        | 91.81            | 1.80 | 1239.99                        | 02/17/09      | ?                | No Pump, CTD drilled well                             |
| 52     | 57612LE     | BPGCD       | Ralph de Leon             | 30.111611 | -98.431306 | 1445                        | 217.80           | 1.80 | 1229.00                        | 03/04/09      | 505              |   |
| 53     | 57613KR     | BPGCD       | Kim Robertson             | 30.121778 | -98.397611 | 1386                        | 202.67           | 2.00 | 1185.33                        | 02/20/09      | 445              |   |
| 54     | 57613S1     | BPGCD       | Ann Wynn                  | 30.122083 | -98.386056 | 1340                        | 164.95           | 2.00 | 1177.05                        | 03/03/09      | 365              | Previous Owner CTS Ranch                              |
| 55     | 57614LC     | BPGCD       | Linda Cox                 | 30.043222 | -98.487500 | 1805                        | 344.24           | 2.00 | 1462.76                        | 02/19/09      | ?                |   |
| 56     | 57615CW     | BPGCD       | Cielo Springs Lot 65      | 30.084770 | -98.437720 | 1342                        | 41.88            | 0.09 | 1300.21                        | 02/17/09      | ?                | Creek Well, No Pump, 6" PVC                           |
| 57     | 57615DL     | BPGCD       | David Lageman             | 30.075556 | -98.453972 | 1465                        | 166.05           | 1.80 | 1300.75                        | 02/24/09      | 484              |   |
| 58     | 57615DW     | BPGCD       | Cielo Springs Lot 12      | 30.074110 | -98.422100 | 1387                        | 180.43           | 2.10 | 1208.67                        | 02/17/09      | ?                | Damaged Well, No Pump, Damaged PVC Casing             |
| 59     | 57615PH     | BPGCD       | Hawn Holt Ranch           | 30.051528 | -98.421861 | 1446                        | 134.60           | 0.40 | 1311.80                        | 02/26/09      | ?                | Old Phonish House Well                                |
| 60     | 57615TW     | BPGCD       | Cielo Springs Lot 14      | 30.074240 | -98.422470 | 1384                        | 180.71           | 5.40 | 1208.69                        | 02/17/09      | ?                | Tall Well, No Pump, Tall stub out in shallow drainage |
| 61     | 57616DA     | BPGCD       | Nelson Jonas              | 30.035111 | -98.413944 | 1454                        | 279.70           | 2.00 | 1176.30                        | 02/18/09      | 461              |   |
| 62     | 57616DS     | BPGCD       | David Seymour             | 30.064278 | -98.383944 | 1305                        | 165.08           | 1.60 | 1141.52                        | 02/18/09      | 300              |   |
| 63     | 57616EW     | BPGCD       | Cielo Springs Lot 24      | 30.070430 | -98.411080 | 1460                        | 237.13           | 1.70 | 1224.57                        | 02/17/09      | ?                | Entrance Well, Irrigation, Spring Branch Well Serv.   |
| 64     | 57616FW     | BPGCD       | Cielo Springs Lot 5       | 30.073470 | -98.415750 | 1398                        | 159.08           | 2.20 | 1241.12                        | 02/17/09      | 310              | Fence Line Well, No Pump, Gamma Ray Log               |
| 65     | 57616JE     | BPGCD       | Rockin J Ranch Subdivison | 30.045028 | -98.383556 | 1385                        | 224.73           | 1.40 | 1161.67                        | 02/24/09      | ?                | Permitted/Aggregate                                   |
| 66     | 57616MH     | BPGCD       | Hawn Holt Ranch           | 30.047694 | -98.412417 | 1480                        | 301.43           | 2.00 | 1180.57                        | 02/26/09      | ?                | Matt's House Well                                     |
| 67     | 57617RH     | BPGCD       | Renker House Well         | 30.027960 | -98.484570 | 1502                        | 72.30            | 1.00 | 1430.70                        | 02/22/09      | ?                | Domestic Well   |
| 68     | 57617RN     | BPGCD       | Renker New Well           | 30.030440 | -98.485270 | 1564                        | 127.61           | 1.70 | 1438.09                        | 02/22/09      | 263              | Domestic Well   |
| 69     | 57618GP     | BPGCD       | Hawn Holt Ranch           | 30.025028 | -98.432639 | 1452                        | 275.31           | 2.00 | 1178.69                        | 02/26/09      | ?                | New Well at Game Preserve                             |
| 70     | 57618RT     | BPGCD       | Hawn Holt Ranch           | 30.010611 | -98.435000 | 1350                        | 168.51           | 2.00 | 1183.49                        | 02/26/09      | ?                | Race Track Pasture                                    |
| 71     | 57619AB     | BPGCD       | Alex & Ann Broyles        | 30.035222 | -98.386167 | 1405                        | 234.08           | 1.90 | 1172.82                        | 02/19/09      | ?                | Site of 2006 Vandalism                                |
| 72     | 57619JG     | BPGCD       | Rockin J Ranch Subdivison | 30.031222 | -98.375111 | 1330                        | 153.93           | 1.90 | 1177.97                        | 02/24/09      | ?                | Permitted/Aggregate                                   |
| 73     | 57619RT     | BPGCD       | Richard & Tracy Cole Well | 30.033750 | -98.392750 | 1438                        | 261.13           | 1.00 | 1177.87                        | 02/25/09      | ?                | Domestic Well   |
| 74     | 57619SP     | BPGCD       | Sydonia Ponish            | 30.016167 | -98.378389 | 1320                        | 153.95           | 2.00 | 1168.05                        | 02/18/09      | 285              |   |
| 75     | 57622A2     | BPGCD       | Arnosky Farms             | 30.107778 | -98.303028 | 1305                        | 268.89           | 1.00 | 1037.11                        | 02/18/09      | 360              |   |
| 76     | 57622CV     | BPGCD       | Chimney Valley Ranch Well | 30.091270 | -98.332600 | 1210                        | 152.11           | 1.50 | 1059.39                        | 02/22/09      | ?                | Domestic/Livestock Well                               |

| Map ID | Well Number | Data Source | Owner/Name                      | DDlat     | DDlong     | Land Surface Datum (ft-msl) | Depth Water (ft) | MP    | Water Level elevation (ft-msl) | Date Measured | Well Total Depth | Comment                                       |
|--------|-------------|-------------|---------------------------------|-----------|------------|-----------------------------|------------------|-------|--------------------------------|---------------|------------------|---|
| 77     | 57622RP     | BPGCD       | Randy Parker                    | 30.118111 | -98.323222 | 1382                        | 334.75           | 1.30  | 1048.55                        | 02/20/09      | 425              |   |
| 78     | 57623AR     | BPGCD       | Arnosky Office Well             | 30.107917 | -98.269083 | 1281                        | 270.00           | 1.40  | 1012.40                        | 02/25/09      | ?                | Hays County Well                              |
| 79     | 57626ER     | BPGCD       | Eddy Rogers                     | 30.079250 | -98.288778 | 1253                        | 225.00           | 1.50  | 1029.50                        | 03/06/09      | 324              | Well slowly recovering                        |
| 80     | 57627WA     | BPGCD       | Roger Wallace                   | 30.011389 | -98.352139 | 1235                        | 70.00            | 0.30  | 1165.30                        | 02/18/09      | ?                |   |
| 81     | 57628HY     | BPGCD       | Sandra and Lea Hyman            | 30.028139 | -98.321944 | 1170                        | 67.47            | 1.20  | 1103.73                        | 03/06/09      | 200              |   |
| 82     | 57628JG     | BPGCD       | Dr. James Glenn                 | 30.027444 | -98.321111 | 1165                        | 60.00            | 1.70  | 1106.70                        | 03/06/09      | 204              |   |
| 83     | 68052JS     | BPGCD       | John Schuchert                  | 29.996472 | -98.434056 | 1435                        | 226.61           | 1.50  | 1209.89                        | 02/18/09      | 400              |   |
| 84     | 68052MW     | BPGCD       | Melissa Weisbrich               | 29.970083 | -98.428111 | 1455                        | 245.22           | 1.50  | 1211.28                        | 02/18/09      | 345              |   |
| 85     | 68053KB     | BPGCD       | Howard & Beverly Koch           | 29.992556 | -98.406056 | 1318                        | 103.36           | 2.00  | 1216.64                        | 02/18/09      | ?                | 106 Koch-Bass Lane                            |
| 86     | 5849913     | BSEACD      | Aqua Tx-Cardinal Plant          | 30.132778 | -97.889442 | 827                         | 224.41           | 0.00  | 602.59                         | 02/24/09      | 850              | Middle Trinity                                |
| 87     | 5849925     | BSEACD      | Borheim Trinity                 | 30.125940 | -97.903820 | 790                         | 170.85           | 3.63  | 622.64                         | 02/23/09      | 1000             | Middle Trinity                                |
| 88     | 5849928     | BSEACD      | AQUA TEXAS, INC.                | 30.145320 | -97.879840 | 745                         | 178.80           | 1.45  | 567.65                         | 02/24/09      | 820              | Middle Trinity                                |
| 89     | 5857211     | BSEACD      | KBDJ - Trinity Production Well  | 30.085583 | -97.924028 | 820                         | 206.15           | 2.05  | 615.90                         | 03/05/09      | 1100             | Middle Trinity                                |
| 90     | 5857507     | BSEACD      | City of Austin - Prop 2         | 30.063580 | -97.942520 | 837                         | 241.90           | 3.20  | 598.30                         | 02/23/09      | 1006             | Middle Trinity                                |
| 91     | 5857513     | BSEACD      | BSEACD Westbay Well             | 30.066729 | -97.933189 | 815                         | 184.60           | 2.00  | 632.40                         | 03/03/09      | n/a              | zone 3 Westbay Multiport Well-upper Cow Creek |
| 92     | 58495IH     | BSEACD      | Irene Hussey                    | 30.181800 | -97.929300 | 966                         | 371.25           | 1.45  | 596.56                         | 03/11/09      | 520              | Middle Trinity                                |
| 93     | 58496LD     | BSEACD      | Spillar Test Well               | 30.175000 | -97.910277 | 985                         | 312.10           | 2.15  | 675.05                         | 03/12/09      | 840              | Middle Trinity                                |
| 94     | 585720B     | BSEACD      | KBDJ - Trinity Observation Well | 30.085528 | -97.923333 | 820                         | 203.30           | 2.32  | 619.02                         | 03/05/09      | 1100             | Middle Trinity                                |
| 95     | 5758402     | CCGCD       | David Langford                  | 30.076896 | -98.843075 | 1585                        | 161.30           | -0.58 | 1424.28                        | 03/17/09      | 315              | Kh  |
| 96     | 6801314     | CCGCD       | Comfort TWDB                    | 29.972222 | -98.894722 | 1405                        | 130.65           | 0.00  | <b>1274.35</b>                 | 03/17/09      | 280              | Kh  |
| 97     | 6802508     | CCGCD       | Waring VFD                      | 29.950000 | -98.803889 | 1340                        | 91.70            | -1.67 | 1249.97                        | 03/17/09      | 280              | Kh Kcc  |
| 98     | 6802609     | CCGCD       | Waring TWDB                     | 29.930000 | -98.788611 | 1355                        | 121.25           | -1.25 | <b>1235.00</b>                 | 03/17/09      | 281              | Kgrl Kh                                       |
| 99     | 6803109     | CCGCD       | Sisterdale VFD                  | 29.975556 | -98.721111 | 1293                        | 59.60            | -1.58 | 1234.98                        | 03/17/09      | 200              | Kh Kcc  |
| 100    | 6803804     | CCGCD       | Bergenplatz                     | 29.890833 | -98.706944 | 1431                        | 200.10           | -1.50 | 1232.40                        | 03/17/09      | 396              | Kh Kcc  |
| 101    | 6804312     | CCGCD       | BKS Estate Trust                | 29.970278 | -98.525278 | 1371                        | 132.70           | -2.17 | 1240.47                        | 03/17/09      | 310              | Kh Kcc  |
| 102    | 6804313     | CCGCD       | Kendalia VFD                    | 29.968611 | -98.521389 | 1385                        | 156.20           | -1.42 | 1230.22                        | 03/17/09      | 350              | Kgrl Kh Kcc                                   |



| Map ID | Well Number | Data Source | Owner/Name             | DDlat     | DDlong     | Land Surface Datum (ft-msl) | Depth Water (ft) | MP    | Water Level elevation (ft-msl) | Date Measured | Well Total Depth | Comment   |
|--------|-------------|-------------|------------------------|-----------|------------|-----------------------------|------------------|-------|--------------------------------|---------------|------------------|---|
| 103    | 6804705     | CCGCD       | River Mountain Ranch   | 29.896389 | -98.620556 | 1280                        | 179.00           | -1.58 | 1102.58                        | 03/17/09      | 235              | Kh Kcc  |
| 104    | 6804809     | CCGCD       | Waterstone 3351        | 29.889167 | -98.557222 | 1121                        | 73.40            | -1.50 | 1049.10                        | 03/17/09      | 180              | Kcc   |
| 105    | 6809303     | CCGCD       | 1658 Turkey Knob       | 29.836667 | -98.886667 | 2001                        | 769.60           | -1.33 | 1232.73                        | 03/17/09      | 1018             | Kgrl Kh Kcc   |
| 106    | 6810101     | CCGCD       | 554 Turkey Knob        | 29.840556 | -98.873056 | 2007                        | 767.50           | 0.00  | 1239.50                        | 03/17/09      | 1035             | Kgrl Kh Kcc   |
| 107    | 6810616     | CCGCD       | KCUC at Mission        | 29.809964 | -98.760133 | 1527                        | <b>429.40</b>    | -2.00 | 1099.60                        | 03/17/09      | 560              | Kgrl Kh Kcc   |
| 108    | 6811302     | CCGCD       | Cordillera Trace       | 29.858611 | -98.625000 | 1308                        | 167.40           | -1.33 | 1141.93                        | 03/17/09      | 295              | Kgrl Kh Kcc   |
| 109    | 6811417     | CCGCD       | Schwope TWDB           | 29.798333 | -98.744722 | 1422                        | 271.89           | -1.60 | 1151.71                        | 03/17/09      | 500              | Kgrl Kh Kcc   |
| 110    | 6811418     | CCGCD       | Twin Canyon            | 29.830556 | -98.728611 | 1576                        | 433.80           | -2.92 | 1145.12                        | 03/17/09      | 585              | Kcc   |
| 111    | 6811509     | CCGCD       | Spring Creek           | 29.819444 | -98.695000 | 1540                        | 314.00           | -1.50 | 1227.50                        | 03/17/09      | 440              | Kgrl Kh   |
| 112    | 6811611     | CCGCD       | Micah                  | 29.825000 | -98.652778 | 1526                        | 314.50           | -2.00 | 1215.50                        | 03/17/09      | 560              | Kgrl Kh Kcc   |
| 113    | 6811708     | CCGCD       | City of Boerne         | 29.791575 | -98.718272 | 1395                        | <b>213.25</b>    | -3.42 | 1185.17                        | 03/17/09      | 357              | Kh  |
| 114    | 6812106     | CCGCD       | Rio Cordillera         | 29.854444 | -98.598333 | 1234                        | 102.20           | -0.83 | 1132.63                        | 03/17/09      | 255              | Kh Kcc  |
| 115    | 6812413     | CCGCD       | Coveney Ranch          | 29.818889 | -98.603889 | 1462                        | 228.00           | -1.25 | 1235.25                        | 03/17/09      | 500              | Kgrl Kh Kcc   |
| 116    | 6812507     | CCGCD       | Kendall Wood           | 29.809722 | -98.577222 | 1374                        | 270.80           | -2.00 | 1105.20                        | 03/17/09      | 410              | Kgrl Kh Kcc   |
| 117    | 6812509     | CCGCD       | Meadow Springs         | 29.821667 | -98.564444 | 1346                        | 234.60           | -2.25 | 1113.65                        | 03/17/09      | 385              | Kcc   |
| 118    | #29533      | CCGCD       | Woodridge              | 29.947778 | -98.839444 | 1560                        | 260.00           | -1.33 | 1300.00                        | 03/17/09      | 420              | Kgrl Kh   |
| 119    | #32659      | CCGCD       | Diamond Ridge          | 29.753611 | -98.808056 | 1705                        | 493.60           | -1.86 | 1148.26                        | 03/17/09      | 770              | Kgrl Kh Kcc   |
| 120    | #42759      | CCGCD       | Pfeiffer Ranch         | 29.828611 | -98.750556 | 1510                        | 380.30           | -2.25 | 1131.95                        | 03/17/09      | 500              | Kgrl Kh Kcc   |
| 121    | #56929      | CCGCD       | Ammann Ranch           | 29.786111 | -98.674722 | 1389                        | 231.60           | -1.33 | 1158.73                        | 03/17/09      | 420              | Kh Kcc  |
| 122    | #65068      | CCGCD       | Estancia               | 29.756111 | -98.767222 | 1598                        | 452.80           | -1.33 | 1146.53                        | 03/17/09      | 610              | Kgrl Kh Kcc   |
| 123    | #79167      | CCGCD       | Joshua Crossing        | 29.920278 | -98.836389 | 1606                        | 346.30           | -2.67 | 1262.37                        | 03/17/09      | 580              | Kh Kcc  |
| 124    | Vista       | CCGCD       | Vista Real             | 29.867306 | -98.795389 | 1600                        | <b>401.20</b>    | -2.00 | 1200.80                        | 03/17/09      | 575              | Kgrl Kh Kcc   |
| 125    | 5849604     | COA         | COA Hafif tennis court | 30.206496 | -97.905214 | 827                         | 335.30           | 0.28  | 492.05                         | 03/06/09      | 565              | Hafif tennis court well. Erratic beep at 102.3-101.5'. Lose weight at 375 on 3/6/09.                        |
| 126    | 58495WM     | COA         | Wes Maconi             | 30.183083 | -97.935454 | 900                         | 310.40           | 0.20  | 589.41                         | 03/04/09      | 495              | 8403 N.Madronne Tr. 78737 rmaconi@austin.rr.com. Owner reports drilled by Tom Arnold sept 1978 to 495' deep |
| 127    | 58496H4     | COA         | COA Hafif pipeline     | 30.205535 | -97.905037 | 823                         | 317.05           | 2.15  | 508.22                         | 03/06/09      | 458              |   |
| 128    | ER-00099    | HCUGCD      |                        | 30.268889 | -98.910278 |                             |                  |       | 1720.30                        | 04/30/09      |                  | Hensel  |

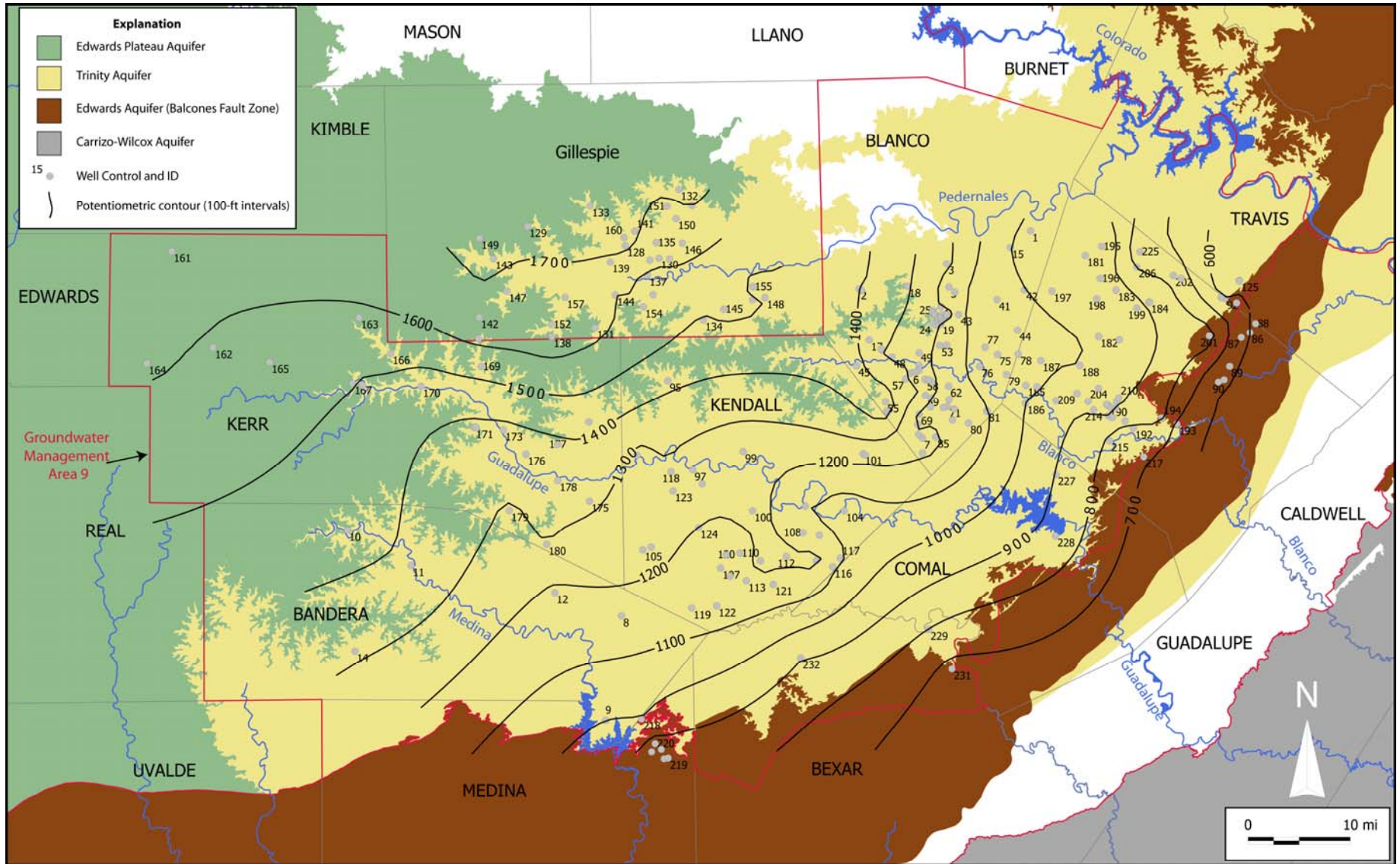
| Map ID | Well Number | Data Source | Owner/Name | DDlat     | DDlong     | Land Surface Datum (ft-msl) | Depth Water (ft) | MP | Water Level elevation (ft-msl) | Date Measured | Well Total Depth | Comment |
|--------|-------------|-------------|------------|-----------|------------|-----------------------------|------------------|----|--------------------------------|---------------|------------------|---------|
| 129    | ER-00643    | HCUGCD      |            | 30.297500 | -99.070556 |                             |                  |    | 1709.35                        | 04/30/09      |                  | Hensel  |
| 130    | ER-01740    | HCUGCD      |            | 30.250556 | -98.855278 |                             |                  |    | 1610.80                        | 05/01/09      |                  | Hensel  |
| 131    | ER-01777    | HCUGCD      |            | 30.153056 | -98.961111 |                             |                  |    | 1629.00                        | 05/01/09      |                  | Hensel  |
| 132    | ER-01851    | HCUGCD      |            | 30.348611 | -98.821667 |                             |                  |    | 1770.45                        | 05/01/09      |                  | Hensel  |
| 133    | ER-02077    | HCUGCD      |            | 30.325833 | -98.967500 |                             |                  |    | 1789.73                        | 05/01/09      |                  | Hensel  |
| 134    | ER-02608    | HCUGCD      |            | 30.162500 | -98.783889 |                             |                  |    | 1489.82                        | 05/04/09      |                  | Hensel  |
| 135    | KK-57427.   | HCUGCD      |            | 30.272778 | -98.859722 |                             |                  |    | 1641.95                        | 05/01/09      |                  | Hensel  |
| 136    | PL-00001    | HCUGCD      |            | 30.249444 | -98.838056 |                             |                  |    | 1615.51                        | 05/01/09      |                  | Hensel  |
| 137    | PL-00064    | HCUGCD      |            | 30.226111 | -98.874444 |                             |                  |    | 1571.12                        | 05/01/09      |                  | Hensel  |
| 138    | R -00035    | HCUGCD      |            | 30.140556 | -99.032222 |                             |                  |    | 1655.08                        | 04/30/09      |                  | Hensel  |
| 139    | R -00053    | HCUGCD      |            | 30.245833 | -98.935278 |                             |                  |    | 1681.76                        | 04/30/09      |                  | Hensel  |
| 140    | R -00094    | HCUGCD      |            | 30.138611 | -99.151944 |                             |                  |    | 1620.34                        | 04/30/09      |                  | Hensel  |
| 141    | R -00163    | HCUGCD      |            | 30.289444 | -98.894722 |                             |                  |    | 1714.01                        | 05/01/09      |                  | Hensel  |
| 142    | R -00173    | HCUGCD      |            | 30.168889 | -99.150833 |                             |                  |    | 1690.95                        | 04/30/09      |                  | Hensel  |
| 143    | R -00209    | HCUGCD      |            | 30.251944 | -99.126667 |                             |                  |    | 1707.00                        | 04/30/09      |                  | Hensel  |
| 144    | R -00238    | HCUGCD      |            | 30.198611 | -98.927500 |                             |                  |    | 1596.07                        | 05/01/09      |                  | Hensel  |
| 145    | R -00432    | HCUGCD      |            | 30.177222 | -98.750278 |                             |                  |    | 1524.85                        | 05/04/09      |                  | Hensel  |
| 146    | R -00511    | HCUGCD      |            | 30.271667 | -98.816944 |                             |                  |    | 1631.06                        | 05/01/09      |                  | Hensel  |
| 147    | R -00566    | HCUGCD      |            | 30.205556 | -99.105000 |                             |                  |    | 1685.45                        | 04/30/09      |                  | Hensel  |
| 148    | R -00648    | HCUGCD      |            | 30.192778 | -98.682500 |                             |                  |    | 1495.49                        | 05/04/09      |                  | Hensel  |
| 149    | R -00785    | HCUGCD      |            | 30.281111 | -99.149167 |                             |                  |    | 1716.08                        | 04/30/09      |                  | Hensel  |
| 150    | R -00876    | HCUGCD      |            | 30.306667 | -98.826667 |                             |                  |    | 1640.45                        | 05/01/09      |                  | Hensel  |
| 151    | R -00888    | HCUGCD      |            | 30.324444 | -98.841389 |                             |                  |    | 1651.84                        | 05/01/09      |                  | Hensel  |
| 152    | R -00895    | HCUGCD      |            | 30.158056 | -99.032222 |                             |                  |    | 1648.58                        | 04/30/09      |                  | Hensel  |
| 153    | R -00940    | HCUGCD      |            | 30.248056 | -98.870556 |                             |                  |    | 1645.84                        | 05/04/09      |                  | Hensel  |
| 154    | R -00968    | HCUGCD      |            | 30.181667 | -98.881944 |                             |                  |    | 1601.67                        | 05/04/09      |                  | Hensel  |

| Map ID | Well Number | Data Source | Owner/Name                      | DDlat     | DDlong     | Land Surface Datum (ft-msl) | Depth Water (ft) | MP   | Water Level elevation (ft-msl) | Date Measured | Well Total Depth | Comment |
|--------|-------------|-------------|---------------------------------|-----------|------------|-----------------------------|------------------|------|--------------------------------|---------------|------------------|---------|
| 155    | R -01006    | HCUGCD      |                                 | 30.208333 | -98.702222 |                             |                  |      | 1477.07                        | 05/04/09      |                  | Hensel  |
| 156    | R -01009    | HCUGCD      |                                 | 30.325000 | -98.800278 |                             |                  |      | 1698.97                        | 05/01/09      |                  | Hensel  |
| 157    | R -01147    | HCUGCD      |                                 | 30.196111 | -99.010000 |                             |                  |      | 1660.02                        | 04/30/09      |                  | Hensel  |
| 158    | R -01153    | HCUGCD      |                                 | 30.190000 | -98.702778 |                             |                  |      | 1518.84                        | 05/04/09      |                  | Hensel  |
| 159    | R -01168    | HCUGCD      |                                 | 30.198611 | -98.865556 |                             |                  |      | 1594.50                        | 05/04/09      |                  | Hensel  |
| 160    | R -01205    | HCUGCD      |                                 | 30.280556 | -98.912222 |                             |                  |      | 1729.73                        | 05/01/09      |                  | Hensel  |
| 161    | 5643901     | HGCD        | HGCD MW #8                      | 30.265080 | -99.653860 | 2042                        | 442.10           | 0.00 | 1599.90                        | 03/30/09      |                  |         |
| 162    | 5652704     | HGCD        | HGCD MW # 12                    | 30.127970 | -99.586580 | 2242                        | 646.60           | 0.00 | 1595.40                        | 03/30/09      |                  |         |
| 163    | 5654405     | HGCD        | HGCD MW #4                      | 30.169667 | -99.347389 | 2020                        | 436.87           | 0.00 | 1583.13                        | 03/30/09      |                  |         |
| 164    | 5659201     | HGCD        | HGCD MW #9                      | 30.105940 | -99.695290 | 2318                        | 706.50           | 0.00 | 1611.50                        | 03/30/09      |                  |         |
| 165    | 5661101     | HGCD        | HGCD MW #5                      | 30.107083 | -99.494056 | 2067                        | 498.22           | 0.00 | 1568.78                        | 03/30/09      |                  |         |
| 166    | 5662205     | HGCD        | Johnson Creek RV                | 30.118528 | -99.296167 | 1804                        | 263.30           | 0.00 | 1540.70                        | 03/27/09      |                  |         |
| 167    | 5662414     | HGCD        | Stonehenge                      | 30.076639 | -99.358639 | 1790                        | 281.60           | 0.00 | 1508.40                        | 03/27/09      |                  |         |
| 168    | 5662415     | HGCD        | La Hacienda                     | 30.073667 | -99.342417 | 1840                        | 354.50           | 0.00 | 1485.50                        | 03/27/09      |                  |         |
| 169    | 5663305     | HGCD        | James Avery                     | 30.099139 | -99.148222 | 1785                        | 250.05           | 0.00 | 1534.95                        | 03/30/09      |                  |         |
| 170    | 5663415     | HGCD        | HCAF/ Point Theater             | 30.072028 | -99.246694 | 1682                        | 232.00           | 0.00 | 1450.00                        | 03/27/09      |                  |         |
| 171    | 5663916     | HGCD        | Donna Drive                     | 30.013000 | -99.160556 | 1740                        | 362.00           | 0.00 | 1378.00                        | 03/26/09      |                  |         |
| 172    | 5663923     | HGCD        | HGCD MW #11 MT                  | 30.013556 | -99.157667 | 1700                        | 315.80           | 0.00 | 1384.20                        | 03/26/09      |                  |         |
| 173    | 5664711     | HGCD        | Ag Barn/ @ Kerr Co. Fairgrounds | 30.009333 | -99.112667 | 1576                        | 198.60           | 0.00 | 1377.40                        | 03/26/09      |                  |         |
| 174    | 5757703     | HGCD        | Cypress Ck                      | 30.019444 | -98.972778 | 1565                        | 124.90           | 0.00 | 1440.10                        | 03/30/09      |                  |         |
| 175    | 6801703     | HGCD        | HGCD MW #1 MT/ Lane Valley RD   | 29.906944 | -98.972917 | 1525                        | 209.30           | 0.00 | 1315.70                        | 03/27/09      |                  |         |
| 176    | 6908201     | HGCD        | Shady Grove                     | 29.974778 | -99.076083 | 1640                        | 293.30           | 0.00 | 1346.70                        | 03/26/09      |                  |         |
| 177    | 6908305     | HGCD        | HGCD MW #7 MT                   | 29.988389 | -99.024028 | 1662                        | 279.00           | 0.00 | 1383.00                        | 03/26/09      |                  |         |
| 178    | 6908624     | HGCD        | J. Hayes                        | 29.936778 | -99.024583 | 1525                        | 182.80           | 0.00 | 1342.20                        | 03/27/09      |                  |         |
| 179    | 6908705     | HGCD        | Camp Verde @ Camp Verde Store   | 29.894611 | -99.104083 | 1620                        | 327.80           | 0.00 | 1292.20                        | 03/27/09      |                  |         |
| 180    | 6916201     | HGCD        | Niblett                         | 29.845833 | -99.043611 | 1552                        | 251.80           | 0.00 | 1300.20                        | 03/27/09      |                  |         |

| Map ID | Well Number           | Data Source | Owner/Name                       | DDlat     | DDlong     | Land Surface Datum (ft-msl) | Depth Water (ft) | MP   | Water Level elevation (ft-msl) | Date Measured | Well Total Depth | Comment                          |
|--------|-----------------------|-------------|----------------------------------|-----------|------------|-----------------------------|------------------|------|--------------------------------|---------------|------------------|----------------------------------|
| 181    | 57553                 | HTGCD       | Godfey                           | 30.246228 | -98.156670 | 1296                        | 372.42           | 0.70 | 924.52                         | 02/13/09      | 460              | Middle Trinity                   |
| 182    | 57559                 | HTGCD       | Juneau                           | 30.130867 | -98.137199 | 1240                        | 255.25           | 1.08 | 985.34                         | 02/13/09      | 420              | Middle Trinity                   |
| 183    | 57564                 | HTGCD       | Roger Hanks Park                 | 30.196007 | -98.107437 | 1191                        | 251.50           | 1.19 | 940.56                         | 02/13/09      | 420              | Middle Trinity                   |
| 184    | 57565                 | HTGCD       | Al Broun                         | 30.178380 | -98.053441 | 1118                        | 234.50           | 1.00 | 884.22                         | 02/13/09      | 280              | Middle Trinity                   |
| 185    | 57626                 | HTGCD       | Still Well # 4 (First Windmill)  | 30.063666 | -98.257505 | 1203                        | 179.79           | 0.25 | 1023.43                        | 02/14/09      | ?                |                                  |
| 186    | 57629                 | HTGCD       | Still Well # 1 (Whitehouse)      | 30.038169 | -98.258734 | 1079                        | 82.58            | 0.16 | 996.80                         | 02/14/09      | ?                |                                  |
| 187    | 57631                 | HTGCD       | Cabler Windmill                  | 30.098188 | -98.232457 | 1407                        | 376.08           | 0.65 | 1031.32                        | 02/14/09      | 465              | Middle Trinity                   |
| 188    | 57632                 | HTGCD       | Storm Ranch Toenail              | 30.090497 | -98.168541 | 1297                        | 296.33           | 1.10 | 1001.30                        | 02/14/09      | ?                | Middle Trinity                   |
| 189    | 57634                 | HTGCD       | Still Well # 5 (Second Windmill) | 30.061540 | -98.239310 | 1125                        | 114.17           | 0.70 | 1012.02                        | 02/14/09      | ?                | Al Broun says probably Cow Creek |
| 190    | 57647                 | HTGCD       | Wanda Graham                     | 30.033323 | -98.123804 | 964                         | 35.63            | 0.75 | 929.42                         | 02/14/09      | 153              | Middle Trinity                   |
| 191    | 57647                 | HTGCD       | Gumbert Windmill                 | 30.010770 | -98.096230 | 885                         | 57.04            | 1.20 | 829.05                         | 02/13/09      | 220              | Middle Trinity                   |
| 192    | 57648                 | HTGCD       | Blue Hole Wimberley WSC          | 30.000663 | -98.082997 | 921                         | 139.33           | 1.50 | 783.07                         | 02/13/09      | 444              | Middle Trinity                   |
| 193    | 57649                 | HTGCD       | Hermosa Paloma                   | 30.005150 | -98.011559 | 1122                        | 444.54           | 1.75 | 678.80                         | 02/13/09      | 900              | Middle Trinity                   |
| 194    | 57649                 | HTGCD       | Cox                              | 30.014264 | -98.036130 | 1072                        | 247.58           | 0.75 | 825.59                         | 02/13/09      | 620              | Middle Trinity                   |
| 195    | 5747901               | HTGCD       | Curtis Johnson                   | 30.258816 | -98.129803 | 1230                        | 224.33           | 1.80 | 1007.36                        | 02/13/09      | 420              | Middle Trinity                   |
| 196    | 5755301               | HTGCD       | Jack Brown                       | 30.212821 | -98.133139 | 1309                        | 397.25           | 1.20 | 913.33                         | 02/13/09      | 510              | Middle Trinity                   |
| 197    | 5755401               | HTGCD       | Henly Church                     | 30.196291 | -98.212441 | 1326                        | 358.67           | 1.20 | 968.42                         | 02/13/09      | 460              | Middle Trinity                   |
| 198    | 5755607               | HTGCD       | Whit Hanks                       | 30.184465 | -98.139256 | 1128                        | 179.63           | 1.60 | 949.89                         | 02/13/09      | 381              | Middle Trinity                   |
| 199    | 5756513               | HTGCD       | Richard Schmidt                  | 30.170246 | -98.074056 | 1170                        | 244.42           | 1.00 | 926.69                         | 02/12/09      | 450              | Middle Trinity                   |
| 200    | 5756710               | HTGCD       | O'Neill Ranch Road               | 30.125851 | -98.103438 | 1193                        | 215.38           | 1.00 | 978.21                         | 02/13/09      | 420              | Middle Trinity                   |
| 201    | 5849840               | HTGCD       | Terry Tull                       | 30.128940 | -97.956086 | 990                         | 139.00           | 1.37 | 852.46                         | 02/11/09      | 460              | Middle Trinity                   |
| 202    | 57563BR               | HTGCD       | Bret Raymis                      | 30.215203 | -98.013044 | 1092                        | 310.00           | 1.15 | 783.16                         | 02/12/09      | 378              | Middle Trinity                   |
| 203    | 57563GR               | HTGCD       | Grolnic                          | 30.210847 | -98.000510 | 1178                        | 446.90           | 1.50 | 732.17                         | 02/12/09      | 450              | Middle Trinity                   |
| 204    | 5763903,<br>G1050039B | HTGCD       | Woodcreek well 22                | 30.039252 | -98.156196 | 1033                        | 121.00           | 2.57 | 914.53                         | 02/18/09      | 300              | Middle Trinity                   |
| 205    | 57647,<br>G1050060A   | HTGCD       | Camp Young Judaea                | 30.029481 | -98.118796 | 955                         | 40.83            | 1.92 | 916.35                         | 02/13/09      | 250              | Middle Trinity                   |

| Map ID | Well Number                                | Data Source | Owner/Name                                 | DDlat     | DDlong     | Land Surface Datum (ft-msl) | Depth Water (ft) | MP   | Water Level elevation (ft-msl) | Date Measured | Well Total Depth | Comment  |
|--------|--|-------------|--|-----------|------------|-----------------------------|------------------|------|--------------------------------|---------------|------------------|--|
| 206    | Double L Ranch Cow Creek well              | HTGCD       | Double L Ranch Cow Creek well              | 30.228340 | -98.072720 | 1152                        | <b>360.70</b>    | 1.33 | 792.63                         | 02/19/09      | ?                | e-line sticking; Middle Trinity (Cow Creek)  |
| 207    | Foreman                                    | HTGCD       | Foreman                                    | 30.178201 | -98.052486 | 1130                        | 247.21           | 1.63 | 884.62                         | 02/19/09      | 320              | Middle Trinity (Lower Glen Rose)   |
| 208    | G1050111A                                  | HTGCD       | Mountain Crest WSC                         | 30.038312 | -98.109760 | 1164                        | 247.00           | 1.45 | 918.18                         | 02/18/09      | 480              | Middle Trinity   |
| 209    | Hargrave                                   | HTGCD       | Hargrave                                   | 30.051063 | -98.174132 | 1157                        | <b>240.20</b>    | 1.32 | 917.86                         | 02/19/09      | 320              | e-line sticking; owner described several sediment spikes over the past 3-4 years not obviously correlated to rain events; Middle Trinity |
| 210    | Holbrook                                   | HTGCD       | Holbrook                                   | 30.043739 | -98.105892 | 1058                        | <b>149.90</b>    | 1.88 | 909.75                         | 02/19/09      | ?                | access hole too small for e-line   |
| 211    | Lederman                                   | HTGCD       | Lederman                                   | 30.041254 | -98.208569 | 1212                        | 274.79           | 1.90 | 939.16                         | 02/20/09      | 305              | Middle Trinity (Cow Creek)   |
| 212    | Warner                                     | HTGCD       | Warner                                     | 30.057818 | -98.138816 | 1136                        | 219.58           | 0.79 | 917.19                         | 02/18/09      | 340              | Glen Rose (driller)  |
| 213    | Woodcreek golf north (by maintenance shed) | HTGCD       | Woodcreek golf north (by maintenance shed) | 30.028910 | -98.111620 | 974                         | 49.50            | 1.50 | 926.00                         | 02/18/09      | ?                | out of use well with no pump   |
| 214    | Woodcreek Section 25 golf well             | HTGCD       | Woodcreek Section 25 golf well             | 30.027200 | -98.147320 | 1026                        | 120.10           | 3.00 | 908.90                         | 02/18/09      | 284              |  |
| 215    | WWSC5                                      | HTGCD       | WWSC5                                      | 29.983580 | -98.122380 | 983                         | 200.00           | 2.00 | 785.00                         | 02/19/09      | 550              |  |
| 216    | WWSC6                                      | HTGCD       | WWSC6                                      | 30.018420 | -98.123510 | 1054                        | 154.83           | 2.00 | 901.17                         | 02/19/09      | 380              |  |
| 217    | Wyatt                                      | HTGCD       | Wyatt                                      | 29.959890 | -98.066830 | 1072                        | <b>360.50</b>    | 1.50 | 713.00                         | 02/20/09      | 800              | e-line sticking  |
| 218    | Bear                                       | MCGCD       | Dancing Bear                               | 29.596690 | -98.891770 | 1523                        | 523.00           | 0.00 | 1000.00                        | 02/27/09      | 880              |  |
| 219    | Fothergill                                 | MCGCD       | Fothergill, Don                            | 29.540620 | -98.848930 | 1257                        | 404.40           | 0.00 | 852.60                         | 04/22/09      | 880              |  |
| 220    | Jenicek                                    | MCGCD       | Jenicek, Tony                              | 29.561080 | -98.869800 | 1365                        | 496.70           | 0.00 | 868.30                         | 04/22/09      | 820              |  |
| 221    | Moore                                      | MCGCD       | Moore, Jason                               | 29.539720 | -98.855560 | 1218                        | 335.00           | 0.00 | 883.00                         | 03/20/09      | 840              |  |
| 222    | Nino                                       | MCGCD       | Nino, Fernando                             | 29.549590 | -98.875680 | 1302                        | 438.40           | 0.00 | 863.60                         | 04/21/09      | 840              |  |
| 223    | Patterson                                  | MCGCD       | Patterson, Robert                          | 29.540620 | -98.848930 | 1266                        | 218.00           | 0.00 | 1048.00                        | 03/20/09      | 640              |  |
| 224    | Torres                                     | MCGCD       | Torres, Jesse                              | 29.553040 | -98.859920 | 1355                        | 475.90           | 0.00 | 879.10                         | 04/22/09      | 840              |  |
| 225    | Joe Vickers                                | Other       | Joe Vickers                                | 30.250333 | -98.067333 | 1130                        | 405.12           | 0.00 | 724.88                         | 03/06/09      | 500              |  |
| 226    | 5764705                                    | TWDB        | Wimberley WSC                              | 30.015833 | -98.116944 | 938                         | 118.71           | 0.00 | 819.29                         | 02/14/09      | 400              |  |
| 227    | 6807407                                    | TWDB        | Canyon Lake WSC (Comal Co.)                | 29.936388 | -98.210555 | 1185                        | 288.47           | 0.00 | 896.53                         | 02/14/09      | 575              |  |
| 228    | 6815116                                    | TWDB        | Canyon Lake WSC (Comal Co.)                | 29.848611 | -98.213056 | 1010                        | 138.26           | 0.00 | 871.74                         | 02/14/09      | 655              | upper Glen Rose mistakenly reported as aquifer   |

| Map ID | Well Number | Data Source | Owner/Name                 | DDlat     | DDlong     | Land Surface Datum (ft-msl) | Depth Water (ft) | MP   | Water Level elevation (ft-msl) | Date Measured | Well Total Depth | Comment   |
|--------|-------------|-------------|----------------------------|-----------|------------|-----------------------------|------------------|------|--------------------------------|---------------|------------------|---|
| 229    | 6821213     | TWDB        | Emory Hamilton (Bexar Co.) | 29.719443 | -98.422221 | 1100                        | 301.00           | 0.00 | 799.00                         | 02/15/09      | 625              | 218GLRSL  |
| 230    | 8170990     | USGS        | Jacob's Well Spring        | 30.034444 | -98.126111 | 923                         | 0.00             | 0.00 | 922.84                         | n/a           | n/a              | middle trinity spring                           |
| 231    | 6821902     | USGS/TGRGCD | WR-3                       | 29.662777 | -98.385277 | 968.00                      | 296.86           | 0    | 671.14                         | 3/15/2009     | 1130             | Glen Rose, Hensel, Cow Creek                    |
| 232    | 6819643     | USGS/SAWS   | MW8                        | 29.681388 | -98.631110 | 1201.55                     | 298.06           | 0    | 903.49                         | 4/23/2009     | 496              | Cow Creek, near Camp Stanley; geology confirmed |



Basemap data provided by the Texas Water Development Board: Major Aquifers of Texas, Major Rivers, and Groundwater Management Areas.

Potentiometric Map of the Middle Trinity Aquifer, Texas Hill Country  
March 2009