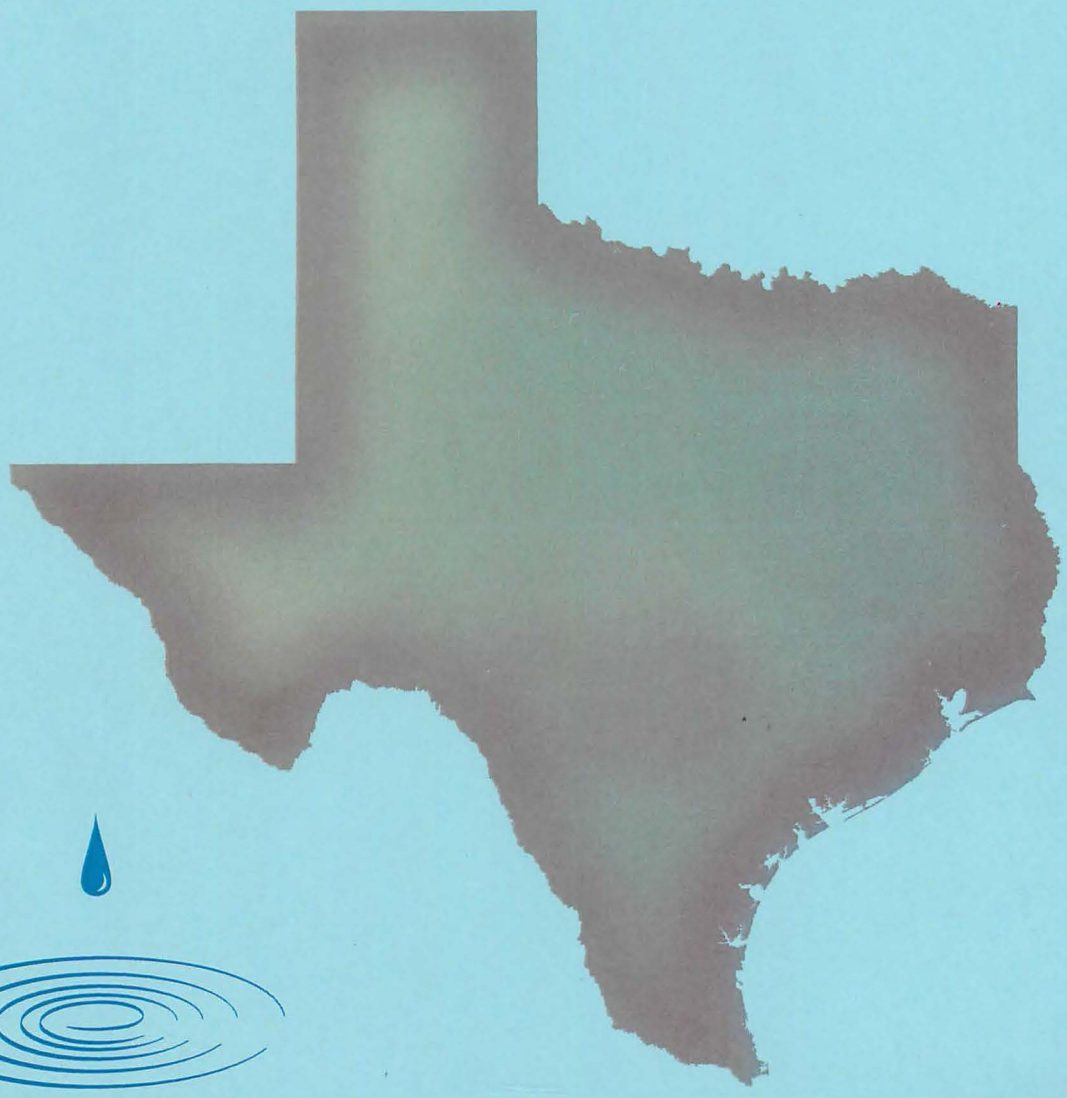
EDWARDS AQUIFER AUTHORITY

HYDROLOGIC DATA REPORT FOR 2004



EDWARDS AQUIFER
AUTHORITY

REPORT 05-02

EDWARDS AQUIFER AUTHORITY HYDROLOGIC DATA REPORT FOR 2004

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1.0 INTRODUCTION

The Balcones Fault Zone Edwards Aquifer in south central Texas is one of the most permeable and productive aquifers in the United States. The San Antonio segment of the aquifer, which is the subject of this report, extends from the groundwater divide near Brackettville in Kinney County, east to the city of San Antonio in Bexar County, then northeast to the groundwater divide near Kyle in Hays County—a distance of approximately 180 miles **(Figure 1.1)**. The aquifer is the primary source of water for approximately 1.7 million people in the region and provides most of the water for agriculture and industry. In addition, the aquifer discharges through a series of large springs that provide aquatic habitat for a number of threatened and endangered species. Springflow also provides a significant portion of water for downstream interests in the Guadalupe River basin.

The Edwards Aquifer Authority (the Authority) was created by the Texas Legislature in 1993 to replace the Edwards Underground Water District (EUWD) as a special regional water management district in charge of the San Antonio segment of the Edwards Aquifer. The Authority's jurisdictional area encompasses all or parts of eight counties including Uvalde, Medina, Atascosa, Bexar, Comal, Guadalupe, Hays, and Caldwell counties **(Figure 1.1)**. The Authority is governed by a 17-member board of directors, with voting members elected to represent 15 districts across the Authority's region and two non-voting members appointed by other entities. Directors represent agricultural, industrial, domestic, municipal, spring, and downstream user groups. The Legislature also created the South Central Texas Water Advisory Committee (SCTWAC) to interact with the Authority when issues related to downstream water rights are being addressed.

The Legislature mandated that the Authority take all necessary measures to effectively manage the resource to ensure domestic and municipal water supplies, to promote the operation of existing agriculture and industry, to protect terrestrial and aquatic habitat, and to sustain the economic development of the region. To accomplish these goals, the Authority is vested with all of the "powers, rights, and privileges necessary to manage, conserve, preserve, and protect the aquifer, and to increase the recharge of, and prevent the waste or pollution of water in, the aquifer."

This report presents the results of the Authority's Edwards Aquifer data collection program for calendar year 2004. The Authority and cooperating agencies collected a wide variety of data regarding the Edwards Aquifer including water levels, water quality samples, precipitation measurements, and stream and spring discharges. In addition, the report contains historical annual data for the period of record (1934-2004). Chapters 2 through 7 describe each type of data that were collected, and Chapter 8 contains a summary of the 2004 data. Chapters 9 and 10 contain definitions and references, respectively.

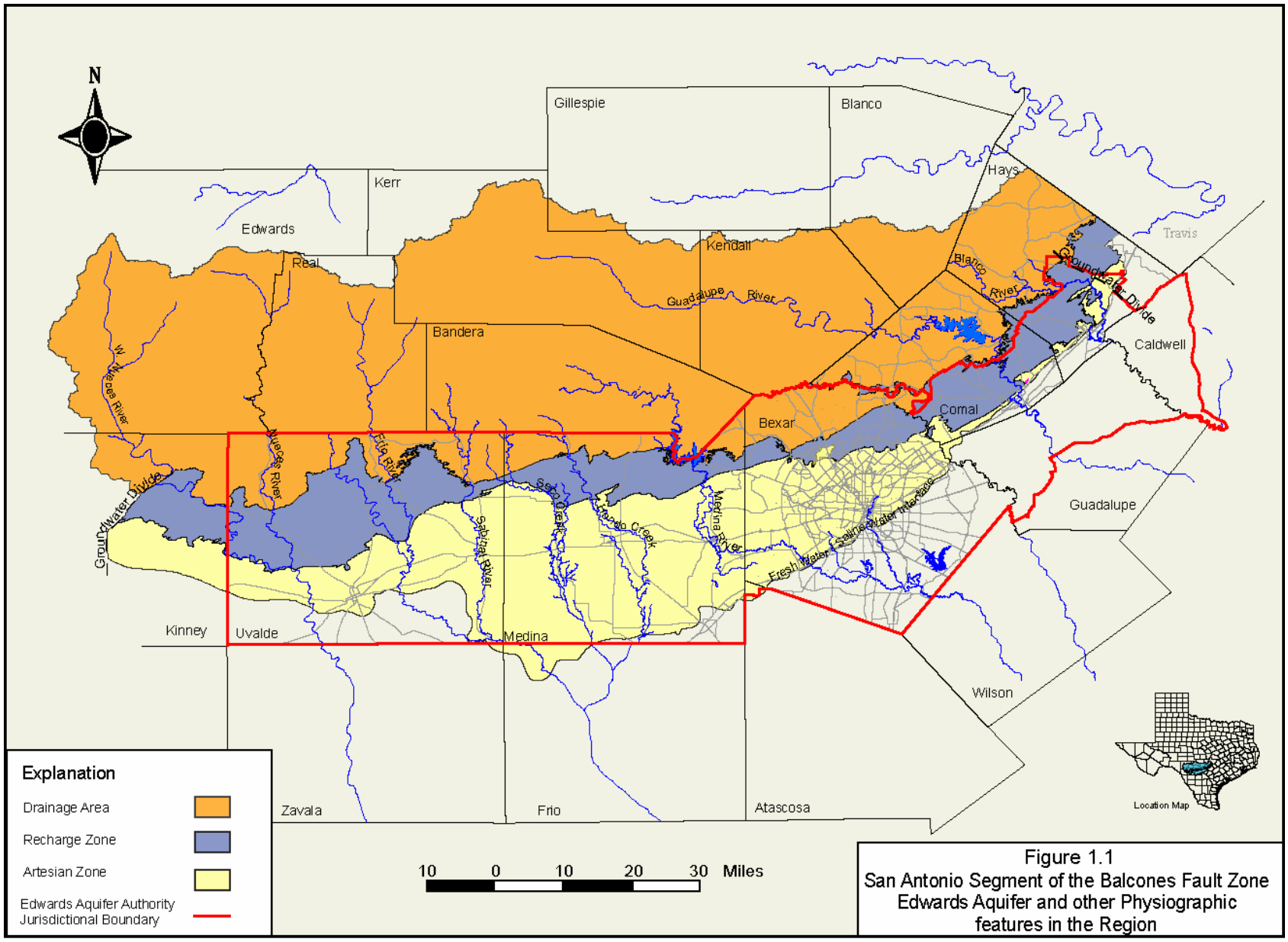


Figure 1.1
San Antonio Segment of the Balcones Fault Zone
Edwards Aquifer and other Physiographic features in the Region

2.0 HYDROGEOLOGY OF THE EDWARDS AQUIFER

The San Antonio Segement of the Balcones Fault Zone Edwards Aquifer in south central Texas is one of the largest and most important karst aquifer systems in the United States. Generally, the water quality in the aquifer is high. The aquifer extends through parts of Kinney, Uvalde, Medina, Frio, Atascosa, Bexar, Comal, Guadalupe, and Hays counties and covers an area approximately 180 miles long and 5 to 40 miles wide. The aquifer is the primary water source for much of this area including the City of San Antonio. Historically, the cities of Uvalde, San Antonio, New Braunfels, and San Marcos were founded around large springs that flow from the aquifer. As the region grew, wells were drilled into the aquifer to supplement the water supplied by the springs. In addition, the Edwards Aquifer is the principal source of water for agriculture and industry in the region and provides springflow required for endangered species habitat, as well as recreational purposes and downstream uses in the Nueces, Medina, Guadalupe and San Marcos River basins.

The Edwards Aquifer is contained within the Cretaceous age Edwards Group limestone (Edwards Limestone) and associated units. The aquifer is generally capped by the Del Rio Clay and overlays the Glen Rose Formation (upper unit of the Trinity Aquifer). The Edwards Limestone and associated units range from 450 to over 600 feet thick in the region. A series of faults in the Balcones Fault Zone has exposed the Edwards Limestone at the surface along the southern boundary of the Texas Hill Country. Down faulting has dropped the Edwards Limestone to great depths below the surface along the aquifer's southern boundary. In some areas, fresh water can be found in the Edwards Limestone as much as 4,000 feet below the surface.

Water circulates through the Edwards Aquifer as part of the hydrologic cycle from recharge areas to discharge points (springs and wells). There are approximately 1,250 square miles of Edwards Limestone exposed at the ground surface, which comprises the recharge zone of the aquifer. Streams flow south from the drainage area (the Texas Hill Country) and lose all or most of their baseflow as they cross the recharge zone. In addition, a portion of the rainfall that falls directly on the recharge zone also enters the aquifer. Groundwater moves through the aquifer and ultimately discharges from a number of locations such as Leona Springs in Uvalde County; San Pedro and San Antonio springs in Bexar County; Hueco and Comal springs in Comal County; and San Marcos Springs in Hays County. In addition, domestic, municipal, agricultural, and industrial wells throughout the region withdraw water from the aquifer. The residence time of water in the aquifer ranges from a few hours or days to many years depending upon depth of circulation, location, and other aquifer parameters.

The Edwards Aquifer is a karst aquifer, characterized by the presence of sinkholes, sinking streams, caves, large springs, and a well-integrated subsurface drainage system. It is one of the most productive groundwater systems in the United States, characterized by extremely high capacity water wells and high spring discharges. The aquifer exhibits extremely high (cavernous) porosity and permeability which is characteristic of many karst aquifers. In contrast, aquifers that occur in sand and gravel or in other rock types, such as sandstone, have a much lower permeability. The Edwards Aquifer transmits very large volumes of water, enabling groundwater levels to respond quickly to rainfall (recharge) events.

Historically, water quality in the Edwards Aquifer has been protected by its great depth below population centers and undeveloped land in the recharge zone and drainage area. However, there are potential threats to the quality of water in the aquifer from various sources including the transport and use of hazardous materials and other chemicals on the recharge zone, abandoned or poorly completed water wells, and urban non-point runoff. The high porosity and permeability of the Edwards Aquifer allows inflow of contaminants from the ground surface with little or no filtration.

3.0 GROUNDWATER LEVELS

The Authority currently maintains a groundwater level monitoring network from eastern Kinney County to central Hays County. **Figures 3.1 and 3.1a** indicate the locations of the Authority's observation well network within the Edwards Aquifer region. The water level observation network includes both the water table (unconfined) and the artesian (confined) zones of the Edwards Aquifer. Water levels are monitored through manual measurements, and continuous recorders. All water level measurements are recorded in feet above mean sea level (msl). Many of the wells have at least partial historical records dating back to the 1930s. Water levels were measured manually until the United States Geological Survey (USGS) introduced continuous water level recorders in some of the observation wells in the 1930s. In more recent years, electronic data loggers installed and maintained by the Authority are replacing the old drum-type recorders.

In 2004, the Authority's Water Level Data Collection Program consisted of 45 continuous recorder-equipped observation wells and 16 periodic manually measured observation wells. The continuous recorders measure water levels at 15-minute intervals using a float device or a pressure transducer. The data are recorded by the equipment at the site and then downloaded during a periodic site inspection or by modem. To augment the water level observation network, Authority staff measures water levels at 16 observation wells on a monthly basis and approximately 150-170 additional wells under a synoptic water level monitoring program each year. These periodic measurements are made manually with steel tape and electric line measuring devices. Water level data collected by the Authority are forwarded to interested federal, state, and regional agencies.

The Authority and its predecessor, the EUWD, have also collected water level data from the Trinity Aquifer in northern Bexar County since 1991 and the Leona Aquifer in southern Uvalde County since 1966. Water level monitoring of the Edwards Aquifer and associated hydrogeologic units add to the base of scientific knowledge and helps in the management of this regional water resource.

Historical water level trends, precipitation measurements, and discharges from springs and wells are used as a basis for projections of future aquifer level and spring discharge trends. Rising water levels generally indicate that the amount of water recharging the aquifer is greater than the amount being discharged through springs and wells. During droughts or when there is a high demand for water, aquifer water levels and springflows generally decline which indicates greater groundwater discharge than groundwater recharge. **Table 3.1** lists the annual records of high and low water levels measured in five selected Edwards Aquifer observation wells across the region. **Table 3.1** also lists the numerical mean of water levels for the period of record. The term "mean" is used in place of the term "average" throughout this report.

For the period of record, water levels are typically highest in the spring and then decline during the summer before rebounding in the fall and winter. During 2004, water levels across the region were generally above the historical mean value. As indicated on **Figure 3.2**, for calendar year 2004, the Bexar County index well J-17 (AY-68-37-203) remained above the period of record mean water level. The minimum and maximum water levels at J-17 for 2004 were 677.56 and 702.09 feet above msl respectively. The minimum value occurred in June, while the annual maximum for 2004 occurred in November. The maximum value for J-17 in 2004 is the second highest water level on record since 1934. The highest water level on record is 703.3 feet above msl and occurred in 1992. Other observation wells across the region exhibited behavior similar to J-17, with water levels remaining above mean values for the year and setting new record highs in Comal and Hays counties. Comal County well DX-68-23-302 reached

623.6 feet above msl in November. Hays County well LR-67-01-304 also set a new record high of 609.5 feet above msl in November. **Tables A-1** through **A-6** in **Appendix A** provide a summary of 2004 water levels for selected observation wells.

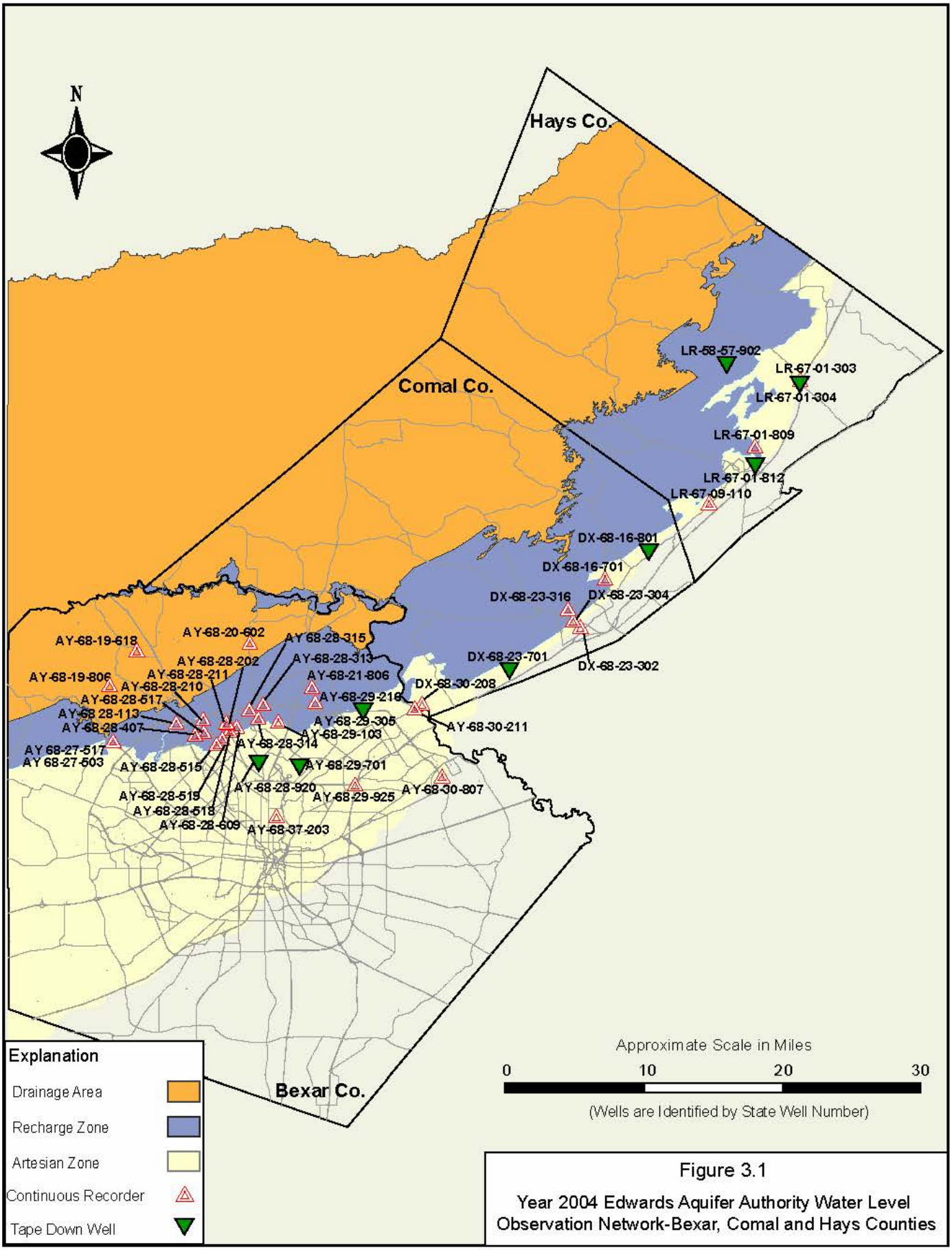


Figure 3.1

Year 2004 Edwards Aquifer Authority Water Level Observation Network-Bexar, Comal and Hays Counties

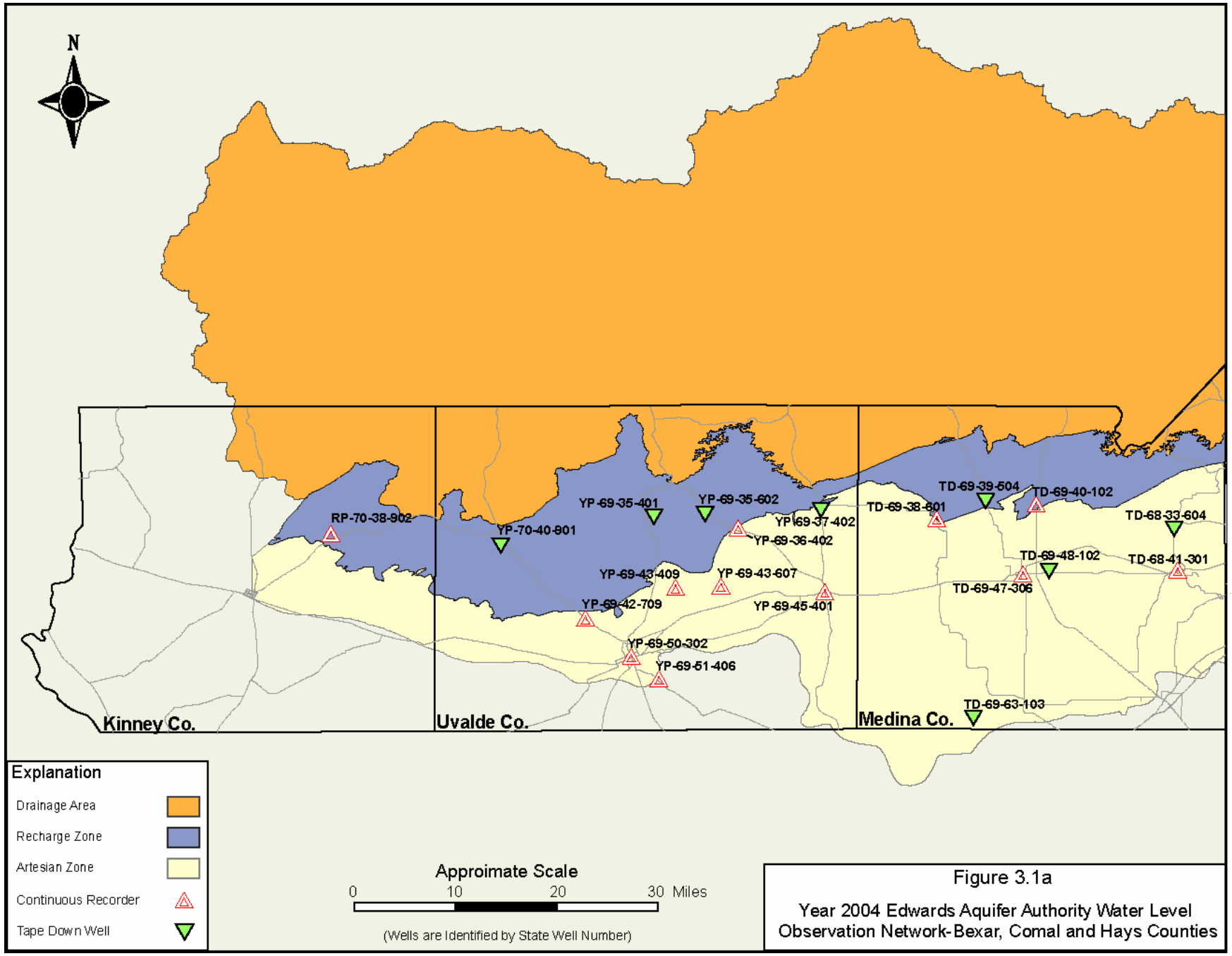


Figure 3.1a

Year 2004 Edwards Aquifer Authority Water Level Observation Network-Bexar, Comal and Hays Counties

Table 3.1 Highest and lowest recorded water levels for selected observation wells in the San Antonio Segment of the Edwards Aquifer, 1934-2004 (measured in feet above Mean Sea Level).

	City of Uvalde Uvalde County YP-69-50-302[a] (J-27)		Castroville Medina County TD-68-41-301[b]		San Antonio Bexar County AY-68-37-203[c] (J-17)		New Braunfels Comal County DX-68-23-302[d]		Kyle Well Hays County LR-67-01-304[e]	
Year	**High**	**Low**	**High**	**Low**	**High**	**Low**	**High**	**Low**	**High**	**Low**
1934	----	----	----	----	675.2	666.8	----	----	----	----
1935	----	----	----	----	681.3	666.8	----	----	----	----
1936	876.6	876.5	----	----	683.0	676.6	----	----	----	----
1937	878.1	877.1	----	----	682.1	674.9	----	----	583.4	581.6
1938	875.8	874.0	----	----	681.4	673.6	----	----	590.6	581.5
1939	873.4	869.6	----	----	674.1	665.7	----	----	580.6	569.6
1940	872.3	868.5	----	----	671.4	661.0	----	----	572.2	568.7
1941	875.7	867.7	----	----	682.5	668.3	----	----	587.7	578.6
1942	875.8	871.9	----	----	685.4	669.7	----	----	580.8	573.7
1943	874.5	868.0	----	----	679.6	668.5	----	----	578.2	574.6
1944	869.3	866.8	----	----	677.6	667.1	----	----	580.5	579.3
1945	870.1	865.2	----	----	681.9	668.8	----	----	----	----
1946	867.1	862.9	----	----	681.2	663.6	----	----	----	----
1947	870.7	867.1	----	----	680.7	665.8	----	----	577.3	577.0
1948	868.4	860.5	----	----	667.7	653.7	624.4	624.3	560.5	559.4
1949	871.2	859.1	----	----	671.6	655.6	626.7	624.1	562.3	561.8
1950	871.2	861.8	687.0	674.9	665.4	653.8	625.2	624.0	575.8	575.2
1951	861.8	846.8	675.2	659.9	656.0	640.6	624.2	622.5	575.3	569.4
1952	846.8	834.9	663.8	649.9	650.5	633.4	623.0	621.5	573.0	569.1
1953	835.2	817.8	665.1	647.7	651.5	630.5	623.6	621.1	584.5	573.2
1954	836.7	823.1	660.3	642.4	646.3	628.9	623.1	620.5	581.8	562.8
1955	834.3	824.1	649.1	635.6	638.5	624.2	621.9	619.8	575.7	558.4
1956	834.2	814.2	641.6	622.3	632.2	612.5	621.0	613.3	569.8	542.2
1957	840.9	811.0	666.1	633.0	653.8	624.4	624.7	620.1	584.9	568.3
1958	866.1	840.8	704.4	665.7	679.6	653.3	626.6	624.6	593.6	580.8
1959	876.1	866.2	703.8	689.0	677.7	661.5	627.1	625.1	591.4	580.5
1960	876.9	873.1	706.3	686.0	679.4	657.9	627.1	624.9	589.4	584.3
1961	878.5	875.6	710.3	693.4	681.2	663.9	627.3	625.7	591.6	573.2
1962	878.3	867.7	703.6	676.3	675.5	646.9	626.3	623.2	584.1	565.0
1963	869.7	860.9	689.1	659.2	665.8	635.0	625.0	621.7	581.6	560.0
1964	860.9	849.0	676.3	654.8	657.1	632.8	624.1	621.6	578.2	562.8
1965	865.8	860.3	689.6	666.8	675.0	645.6	626.6	623.5	590.1	573.4
1966	867.2	860.2	686.1	665.0	668.8	642.7	625.9	623.1	589.0	566.6
1967	867.4	856.4	679.4	645.2	659.7	624.9	624.6	620.0	582.8	556.6
1968	873.3	864.8	702.0	679.2	678.3	655.9	627.2	624.6	593.8	574.4
1969	875.0	866.5	694.8	670.5	676.1	642.8	626.3	623.4	588.7	567.7
1970	876.1	871.3	700.7	678.8	677.1	650.4	627.2	624.3	593.2	575.0
1971	877.7	864.0	701.3	646.4	674.6	627.9	626.2	621.0	577.1	551.3
1972	877.8	874.6	704.6	676.7	679.0	651.2	626.7	624.1	579.7	576.3
1973	881.6	874.5	731.2	690.1	696.5	665.9	629.8	626.1	589.9	572.3
1974	881.4	876.0	723.8	696.0	689.2	660.9	629.1	625.8	593.6	558.5
1975	882.1	879.4	721.0	708.2	686.9	672.0	629.3	626.5	589.8	571.4
1976	884.9	876.0	732.4	694.9	693.1	663.8	629.4	625.8	584.6	571.2
1977	886.2	881.3	737.8	715.3	696.0	675.6	630.2	627.6	587.4	562.1
1978	882.6	875.6	722.4	681.7	684.1	650.1	628.1	624.5	572.0	540.4
1979	882.0	876.1	728.2	710.3	690.5	676.4	629.0	627.3	584.9	572.0
1980	879.1	868.0	716.1	666.8	680.3	640.8	627.5	623.0	572.0	551.8
1981	881.8	867.9	723.2	698.8	686.0	668.6	628.0	625.5	586.2	565.5
1982	881.8	876.4	717.1	682.8	680.5	645.3	627.3	623.6	584.7	544.7
1983	877.1	871.3	698.2	667.7	670.0	642.1	625.6	623.0	588.7	560.4
1984	873.3	856.9	684.5	642.0	657.0	623.3	624.4	619.6	582.5	544.3
1985	876.9	862.2	699.0	670.7	674.5	644.1	626.8	623.3	591.4	561.8
1986	877.8	872.2	704.6	674.2	685.6	649.8	627.7	624.1	595.0	576.3
1987	889.1	877.9	743.5	711.1	699.2	676.9	630.4	627.2	595.9	583.5
1988	887.0	878.0	725.3	679.9	684.9	647.7	627.9	623.9	593.2	585.9
1989	879.0	866.6	695.3	650.5	663.9	626.4	624.9	620.5	571.7	571.5

(Table 3.1 continued)

	City of Uvalde Uvalde County YP-69-50-302[a] (J-27)		Castroville Medina County TD-68-41-301[b]		San Antonio Bexar County AY-68-37-203[c] (J-17)		New Braunfels Comal County DX-68-23-302[d]		Kyle Well Hays County LR-67-01-304[e]	
Year	**High**	**Low**	**High**	**Low**	**High**	**Low**	**High**	**Low**	**High**	**Low**
1990	872.9	861.6	679.5	640.8	658.1	622.7	624.3	620.3	577.6	561.2
1991	873.8	865.4	703.8	666.1	680.3	640.5	627.0	623.3	593.8	575.1
1992	885.2	872.9	743.6	704.3	703.3	680.7	630.9	627.0	595.4	586.2
1993	884.9	877.3	730.2	706.6	692.8	672.0	629.4	626.9	593.7	575.9
1994	----	----	718.6	684.1	679.2	652.1	627.2	624.7	575.0	545.3
1995	877.2	871.1	703.0	681.8	676.5	651.1	626.8	624.5	575.4	552.4
1996	874.2	859.0	693.0	650.2	664.9	627.5	625.3	621.2	573.2	551.3
1997	882.3	868.2	700.5	672.7	677.9	648.7	626.4	623.6	575.8	559.0
1998	880.6	868.7	717.1	669.1	688.9	640.0	629.6	622.9	575.6	552.4
1999	880.7	876.8	716.4	682.9	686.4	656.9	628.7	624.9	588.6	537.9
2000	878.3	868.0	700.4	662.5	676.7	635.5	626.8	622.2	549.2	544.6
2001	877.2	872.7	713.4	685.9	682.8	652.8	628.3	624.5	563.9	544.6
2002	883.2	876.3	732.7	685.8	697.9	650.0	630.2	624.6	589.3	554.4
2003	883.3	877.9	729.5	696.7	694.8	671.6	629.9	627.5	604.2	537.6
2004	884.9	879.2	740.9	706.3	702.1	677.6	632.6	627.4	609.5	542.6
Mean	High	Low	High	Low	High	Low	High	Low	High	Low
	873.1	864.3	703.4	673.7	676.6	652.4	626.9	623.6	583.1	564.9
Record	High	Low	High	Low	High	Low	High	Low	High	Low
Level	889.1	811.0	743.6	622.3	703.3	612.5	632.6	613.3	609.5	537.6
Month	June	April	June	Aug.	June	Aug.	Nov.	Aug.	Nov.	Aug.
Year	1987	1957	1992	1956	1992	1956	2004	1956	2004	2003

Data source: Edwards Aquifer Authority, 2005.

[a] = Continuous monitoring equipment established on October 24, 1940.

[b] = Continuous monitoring equipment established on May 25, 1950.

[c] = Continuous monitoring equipment established on January 1, 1963.

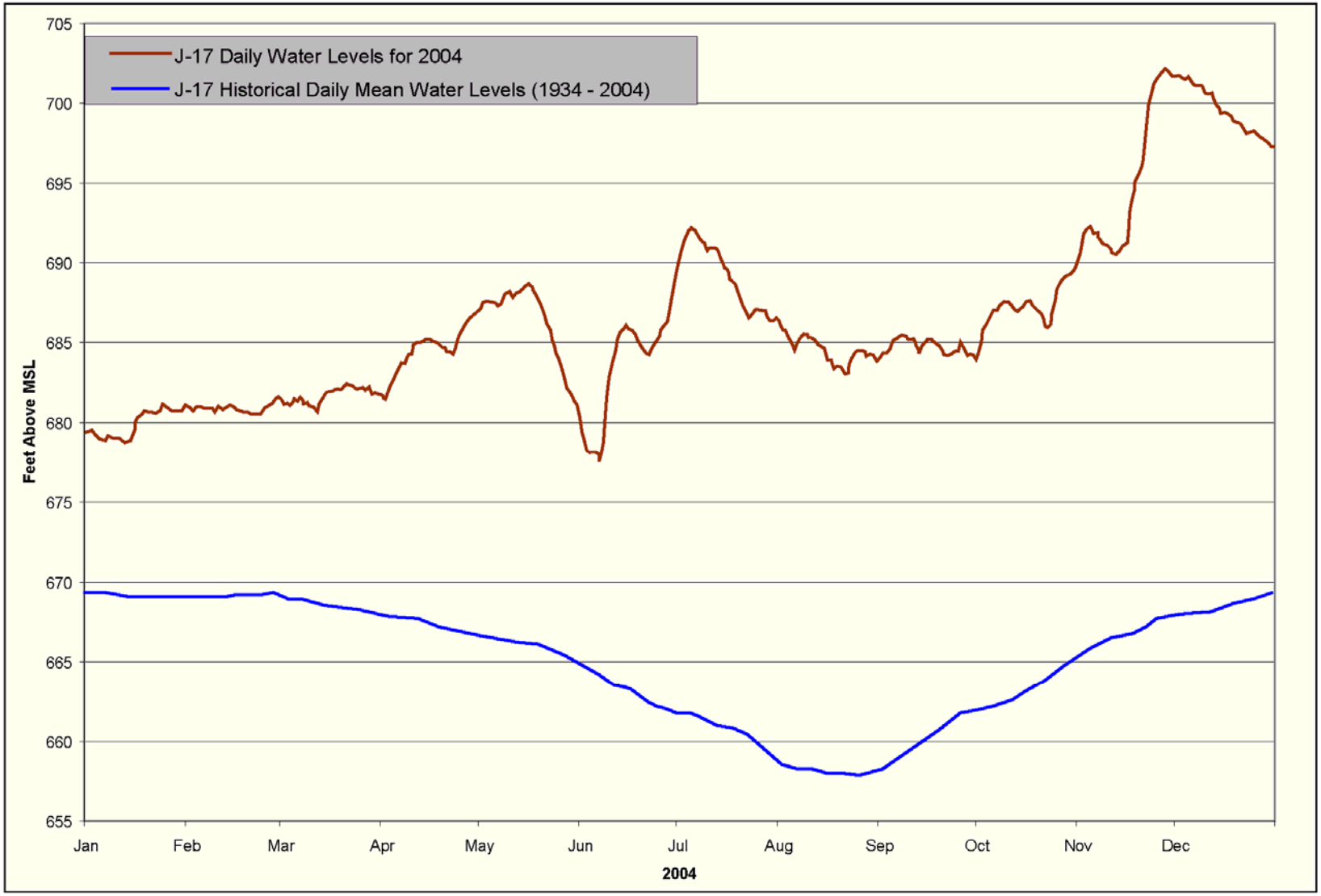
[d] = Continuous monitoring equipment established on November 4, 1948.

[e] = Values based on monthly tape down measurements (No continuous monitoring equipment installed in this well).

Appendix B contains the 2004 hydrographs, with precipitation measurements, for the index wells in Bexar, Medina, and Uvalde counties. **Appendix B** also contains the 2004 hydrographs, with precipitation measurements, for Comal and San Marcos springs in Comal and Hays counties, respectively. The hydrographs indicate the periods of relatively lower and relatively higher water levels and show that water levels in the Edwards Aquifer respond rapidly to rainfall events.

Springflow also provides a measure of water levels within the aquifer. When aquifer levels are high, springflow volumes remain high, while low aquifer water levels are reflected at the springs by lower springflow volumes. For 2004, springflow across the region remained high, totaling the second highest springflow volumes recorded for the period of record. Springflow is further discussed in **Section 6** of this document.

Figure 3.2 Comparison of the historical daily mean water level for the period of record 1934-2004 and the daily high water level at the Bexar County index well, J-17 (AY-68-37-203)



4.0 PRECIPITATION

4.1 Precipitation in the Edwards Aquifer Region

The San Antonio region is situated between the arid Chihuahuan Desert area to the west and a wetter more humid Coastal Plain to the east. Consequently, the mean annual precipitation ranges from approximately 24 inches in the western part of the region to approximately 35 inches in the eastern part of the region. The mean annual precipitation for San Antonio is approximately 31 inches, although annual precipitation has ranged from 13.70 to 52.28 inches since 1934 (United States Department of Commerce, 2004). Aquifer water levels and springflow respond quickly to precipitation, decreasing during periods of low precipitation, and increasing during periods of high precipitation.

Precipitation data are used to calculate recharge to the Edwards Aquifer, to monitor any precipitation trends that may affect recharge to the aquifer, to help evaluate the effectiveness of the Authority's Precipitation Enhancement Program (see Section 4.2), and to investigate groundwater flowpaths by correlating rainfall and water-level responses in wells. Precipitation data are gathered from the Authority's real-time network rain gauge stations, the National Oceanic and Atmospheric Administration (NOAA) weather stations, and the USGS rain gauge stations located throughout the region. **Figure 4.1** shows the locations of precipitation gauging stations used by the Authority to monitor precipitation in 2004.

Table 4.1 lists annual precipitation for selected rain gauges in the region since 1934. **Table 4.2** shows monthly measurements for 2004 at selected rain gauge stations across the region. **Table 4.3** lists monthly totals for rainfall at each of the real-time network rain gauge stations. In 2004, the Authority's real-time network included the 56 rain gauge sites indicated on **Figure 4.1**. Most, but not all of the rain gauge stations are on the recharge zone and drainage area.

The amount of rainfall received at the San Antonio International Airport in 2004 was approximately 48 percent above the mean. Mean precipitation in San Antonio for the period between 1934 and 2004 is 30.62 inches. In 2004, the total precipitation measured at the San Antonio International Airport was 45.32 inches, 14.70 inches above mean. **Figure 4.2** is a graph showing annual and mean precipitation data for San Antonio from 1934 to 2004.

Regional rainfall in 2004 was above the mean across the region. Hays and Comal counties recorded the highest rainfall amounts across the region at 52.68 and 50.55 inches of rainfall respectively. Mean rainfall for these counties is 34.74 inches for Hays and 33.32 inches for Comal County. These totals are approximately 52 percent above mean for each of these counties. Medina County recorded 44.76 inches of rainfall in the city of Hondo, approximately 54 percent above the annual mean of 28.91 inches. Uvalde County recorded only 27.76 inches of rainfall, or approximately 15 percent above the annual mean precipitation of 23.95 inches.

Weather patterns in 2004 resulted in a wet year across the region with the months of June, October, and November generally representing the highest monthly rainfall totals in the area. For example San Antonio International Airport received over nine inches of rain in each of these months. Some of the Authority's real time rainfall network gauges recorded rainfall volumes as high as 17.03 inches during the month of June.

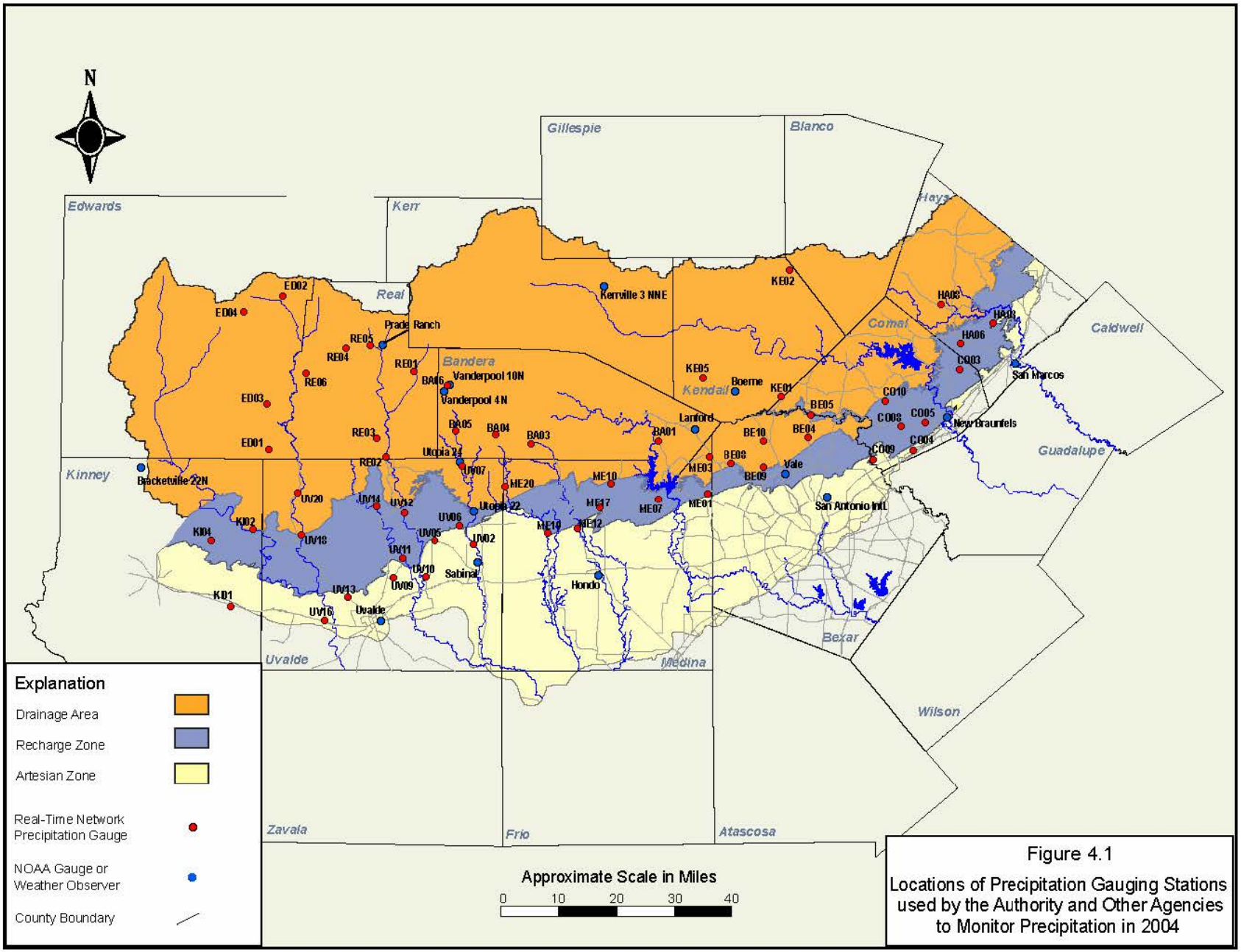


Figure 4.1

Locations of Precipitation Gauging Stations used by the Authority and Other Agencies to Monitor Precipitation in 2004

Figure 4.2 Annual precipitation and mean precipitation for San Antonio, 1934-2004.

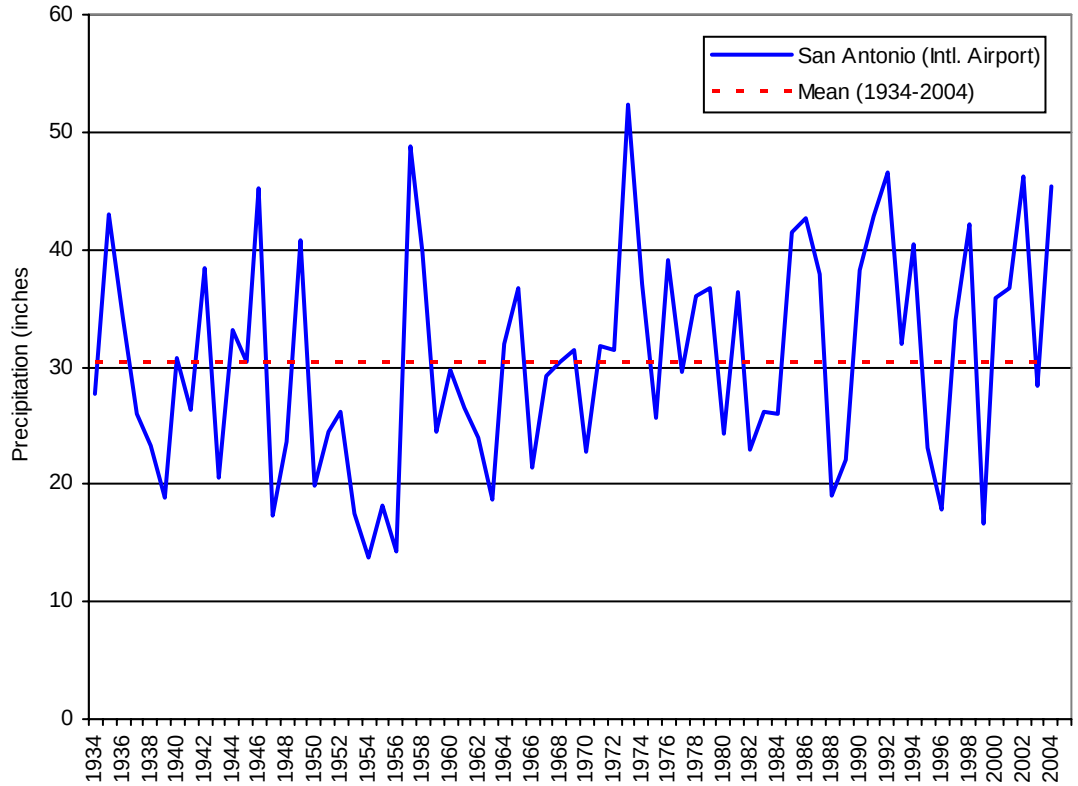


Table 4.1 Annual precipitation for selected rain gauges in the Edwards Aquifer region, 1934-2004 (measured in inches).

Year	Brackettville	Uvalde	Sabinal	Hondo	San Antonio	Boerne	New Braunfels	San Marcos
1934	---	16.70	18.07	23.97	27.65	26.78	30.80	35.67
1935	---	41.17	48.21	58.73	42.93	52.93	41.67	41.09
1936	22.34	24.53	26.53	35.27	34.11	47.59	30.41	33.48
1937	16.85	17.88	9.57a	22.93	26.07	32.81	29.19	26.03a
1938	19.97	13.12	15.39	27.56	23.26	24.14	28.32	28.17
1939	18.38	25.30	13.98b	23.14	18.83	26.20	13.35	18.59
1940	22.43	27.66	27.51	28.13	30.79	32.29	38.11	43.57
1941	21.52	31.79	33.74a	44.07	26.34	41.60	42.99	48.41
1942	21.01	19.01	11.37a	34.83	38.46	31.12	42.08	44.65
1943	23.39b	20.63	17.21	31.43	20.51	26.33	29.93	25.45
1944	24.76	32.76	27.62a	32.46	33.19	42.98	43.14	47.42
1945	15.69	22.37	26.60	29.57	30.46	33.50	39.38	31.74b
1946	19.10	26.41	14.16a	29.65	45.17	45.62	61.60	52.24
1947	22.92b	22.67	---	18.98	17.32	21.89	27.52	27.53
1948	20.02a	18.31	---	28.82	23.64	23.77	19.88b	21.27a
1949	31.32	34.41	---	39.90	40.81	41.15	43.21	36.22
1950	17.70	18.27	15.28a	24.91	19.86	24.94	21.13	21.10
1951	14.71	16.07	15.63	24.05a	24.44	18.76	24.84	30.88
1952	12.26	18.24	23.16	25.56	26.24	37.54	33.87	39.91
1953	10.12	18.34	21.44	20.61	17.56	21.42	30.06	33.39
1954	19.38	15.60	14.72	11.92	13.70	10.29	10.12	13.42
1955	26.55	18.36	20.87	21.21	18.18	19.27	23.12	26.44
1956	7.58	9.29	11.29	15.54	14.31	12.05	18.41	18.37
1957	34.21	39.30	40.03	35.09	48.83	52.55	51.88	46.51
1958	45.37	39.03	41.18	41.60	39.69	40.94	36.40	39.08
1959	27.51	31.51	27.02	30.68	24.50	35.64	40.45	43.47
1960	19.12	23.98	26.24	32.37	29.76	32.55	34.28	45.48
1961	17.91	26.26	27.24	27.36	26.47	25.45	15.70a	30.02
1962	10.87	14.12	13.58	17.85	23.90	25.26	27.40	28.47
1963	15.07	16.70	18.99	18.90	18.65	20.66	23.41	19.90
1964	20.75	22.30	23.78	28.29	31.88	27.36	30.65	30.27
1965	21.48	26.21	29.41	30.80	36.65	42.41	45.16	45.00
1966	21.63	20.87	21.54	29.46	21.44	29.05	25.98	27.12
1967	21.95	20.10	23.89	30.33	29.26	26.75	31.74	26.41
1968	17.26	25.20	29.88b	31.91	30.40	35.14	35.97	37.13
1969	28.53	33.38	33.05	32.30	31.42	38.07	33.01	36.59
1970	16.50	13.59	22.13	30.96	22.74	27.79	35.23	32.30
1971	29.46	31.01	31.00	32.96	31.80	45.24	29.43	31.10
1972	21.21	15.49	21.10	25.43	31.49	35.09	42.02	31.90
1973	30.61	30.85	35.14b	47.82	52.28	50.93	51.66	47.91
1974	18.25	30.94	20.93b	36.41b	37.00	41.80	42.85	37.28a
1975	26.62	24.92	23.65	25.84a	25.67	33.49	35.82	48.64
1976	34.40	46.04	40.82	45.21	39.13	45.24	49.06	47.46
1977	15.06	19.90	17.06	19.40	29.64	32.43	24.83	29.69
1978	19.04	18.48	21.28	24.64	35.99	35.17	36.35b	33.08
1979	16.34	32.35	31.44	28.83	36.64	39.97	36.72	38.74
1980	18.33	23.05	22.67	21.27	24.23	39.02	33.69	29.56
1981	28.73	26.24	30.19	27.40	36.37	41.05	43.23	49.62
1982	19.10	23.35	18.44	21.99	22.96	27.64	21.04	22.47b
1983	19.35	24.45a	23.33	20.92b	26.11	34.60	34.13	36.95
1984	16.24	15.33b	20.67	21.19a	25.95	26.97	20.90	8.26b
1985	18.93	5.76a	23.67	21.94	41.43	37.77	37.26	33.54
1986	27.44	29.86b	29.62b	36.01b	42.73	43.52	47.14	42.20
1987	39.45	36.39	38.36	40.09	37.96	39.86	37.33a	37.94
1988	12.08	15.20	13.52	9.81b	19.01	19.49	16.27b	21.50
1989	16.98	18.65	17.26	16.10	22.14	25.14	20.99	25.46
1990	38.24b	24.73	30.06	27.01	38.31	42.51	24.58a	35.14b
1991	23.11	21.77	31.12	34.55	42.76	48.22	56.55	51.07
1992	22.22	27.85a	37.73	45.34	46.49	64.17	38.84b	40.33b
1993	15.18	9.32c	13.20	16.60	32.00	24.02	19.54b	24.01b
1994	22.85a	39.61	29.32	22.38b	40.42	40.98	35.76a	40.85

(**Table 4.1** continued)

Year	Brackettville	Uvalde	Sabinal	Hondo	San Antonio	Boerne	New Braunfels	San Marcos
1995	25.87	19.47	27.55	24.55	23.20	30.29	23.29	32.57
1996	20.32b	16.20	14.20	15.50	17.80	24.57	19.00	28.20
1997	---	27.77	35.74	37.54	33.94	---	41.65	43.56
1998	24.15	27.40b	20.66b	30.44a	42.10	45.74	52.98	58.51
1999	19.88	19.08	2.55b	16.94	16.63	18.67	21.07	19.38
2000	18.11b	23.84	22.87	32.49	35.86	46.30a	36.34b	40.56
2001	18.40	26.02	25.87	30.59	36.72	53.91	37.91	42.41
2002	---	36.79	35.75	44.70	46.27	63.2	43.60	46.16
2003	25.19[c]	23.39	24.86	34.70	28.45	28.55	23.42	25.74
2004	40.23	27.76	37.99	44.76	45.32	60.50	50.55	52.68
Years of Record (shown)	2	71	71	71	71	71	71	71
Annual Mean	21.90	23.95	24.24	28.91	30.62	34.46	33.32	34.74

Data source: US Department of Commerce (2005), NOAA (1934-2004).
a = Indicates partial record not included in long-term average; missing one month.
b = Indicates partial record not included in long-term mean; missing more than one month.
c = Indicates a change in gauge location from previous years. Only two years of record available, annual mean shown reflects mean value of all data listed, and is intended for comparison purposes only.
--- = Indicates no data available.
(NOAA records may exceed the period of record shown in Table 4.1 for some locations)

Table 4.2 Monthly precipitation data from selected Edwards Aquifer Authority and National Oceanic and Atmospheric Administration precipitation gauging stations, 2004 (measured in inches).

Gauge	County	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Total
San Antonio Intl. Airport	Bexar	2.31	1.73	2.35	5.02	1.80	9.47	0.61	1.10	1.92	9.47	9.46	0.08	45.32
Vale	Bexar	2.05	2.40	2.25	5.30	1.45	9.15	1.65	2.15	1.30	8.60	13.25	0.40	49.95
Vanderpool 10N	Bandera	2.36	1.59	5.31	5.93	1.15	11.4	0	4.20	3.75	3.65	4.28	0.32	43.94
Vanderpool 4N	Bandera	2.64	2.18	7.21	5.83	1.82	11.65	0.25	4.14	4.21	3.96	4.68	0.26	48.83
Landford	Bandera	3.35	2.4	2.20	7.60	1.20	10.60	1.45	7.40	1.55	6.15	8.25	0.10	52.25
New Braunfels	Comal	2.27	2.06	1.74	4.06	1.92	12.44	3.28	2.93	2.32	6.56	10.79	0.18	50.55
San Marcos	Hays	2.86	2.83	1.88	2.82	2.76	10.39	1.36	1.99	3.63	7.74	14.32	0.10	52.68
Kerrville 3 NNE	Kerr	3.04	2.00	2.99	8.08	1.16	12.16	0.79	2.89	3.66	3.44	5.10	0.28	45.59
Hondo	Medina	3.02	1.74	4.79	10.73	1.69	7.51	0.48	1.72	4.58	1.90	6.52	0.08	44.76
Brackettville 22N	Kinney	1.03	0.91	4.69	4.99	1.45	7.63	0.34	2.33	5.59	3.15	7.57	0.55	40.23
Prade Ranch	Real	1.49	2.32	4.16	8.36	1.05	12.66	0.3	1.74	2.86	2.48	7.25	1.15	45.82
Sabinal	Uvalde	1.67	1.58	4.78	6.41	0.32	10.15	2.74	1.76	2.18	3.38	3.02	0.00	37.99
Uvalde	Uvalde	1.38	1.48	3.18	5.64	0.41	3.72	0.51	2.52	2.25	1.68	4.88	0.11	27.76
Utopia 22	Uvalde	1.65	1.80	4.05	5.65	1.30	16.50	1.75	3.65	3.30	4.00	2.60	0.20	46.50
Boerne	Kendall	3.23	3.23	2.48	9.50	2.08	8.65	1.56	7.53	2.81	6.71	12.52	0.20	60.50

Gauge	County	Mean	Total	Deviation from Mean
San Antonio Intl. Airport	Bexar	30.62	45.32	+14.70
New Braunfels	Comal	33.32	50.55	+17.23
San Marcos	Hays	34.74	52.68	+17.94
Hondo	Medina	28.91	44.76	+15.85
Uvalde	Uvalde	23.95	27.76	+3.81

(Rainfall amounts shown in inches)

Table 4.3 2004 Monthly Precipitation Totals for the Real-time Network Rain Gauges

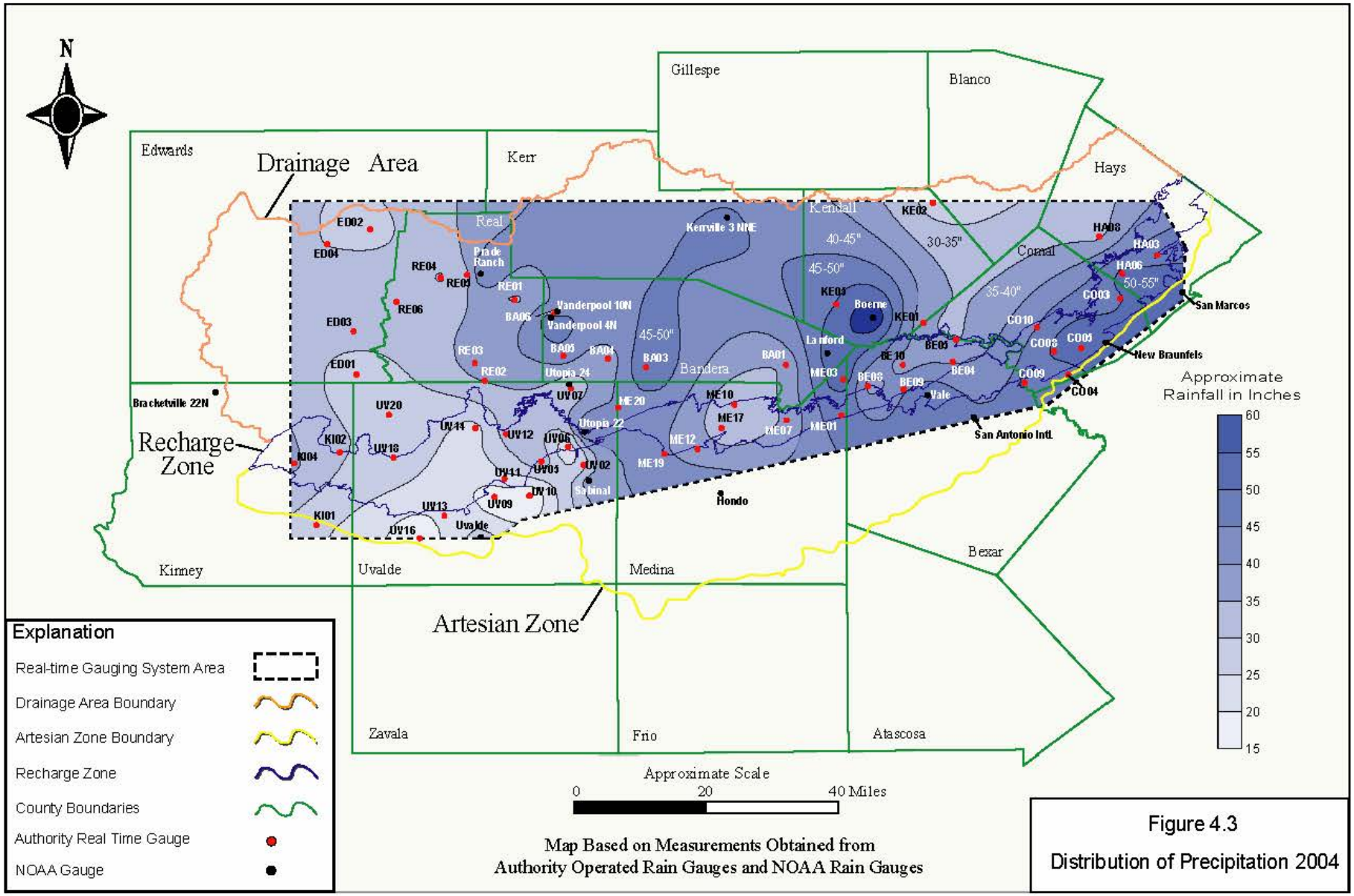
	BA01	BA03	BA04	BA05	BA06	BE04	BE05	BE08	BE09	BE10	CO03	CO04	CO05	CO08	CO09	CO10	ED01	ED02	ED03
January	1.82	1.82	1.78	2.41	1.74	2.43	2.04	2.57	2.73	2.32	3.15	1.44	2.18	1.94	2.05	2.72	0.74	0.84	1.39
February	2.06	1.7	1.83	2.13	1.5	1.71	2.02	1.81	1.3	0.93	0.74	1.72	2.43	2.01	1.65	2.17	1.28	0.72	0.89
March	1.95	5.0	2.84	4.06	5.41	1.97	1.8	2.75	2.52	1.89	2.75	1.49	1.51	1.3	2.42	1.37	3.05	2.67	3.84
April	3.96	9.29	5.04	4.93	4.85	3.69	3.74	ND	5.56	2.67	ND	3.74	4.35	3.98	5.23	4.38	2.4	5.34	5.1
May	2.12	1.65	1.1	1.16	1.08	1.48	0.37	0.00	1.97	1.39	1.88	0.8	2.3	1.79	1.52	0.94	0.7	3.09	0.84
June	6.91	17.03	11.53	11.67	9.66	9.97	7.21	6.01	7.11	8.6	14.01	13.52	12.37	13.27	7.52	7.8	9.76	4.15	6.55
July	1.46	1.62	0.86	0.8	0.11	0.24	0.53	4.6	1.26	0.69	0.00	2.26	2.02	1.9	0.33	1.7	1.12	0.8	0.07
August	4.71	1.43	1.57	4.57	3.79	1.16	1.88	4.88	4.7	3.54	1.93	2.18	3.18	2.64	0.91	1.9	1.6	3.14	3.58
September	0.44	3.04	1.9	4.52	3.08	2.63	1.32	1.29	2.9	3.03	3.19	2.94	3.24	4.15	4.23	4.44	0.96	0.52	2.3
October	2.97	5.55	3.89	2.36	2.63	6.73	5.69	3.24	5.15	3.73	8.62	6.71	8.48	6.12	8.83	7.35	2.95	3.09	2.28
November	6.76	2.41	3.91	4.69	3.54	7.56	7.62	10.18	9.06	8.71	13.14	9.54	13.37	12.12	11.87	10.18	ND	3.58	6.32
December	0.2	0.07	0.07	0.16	0.18	0.16	0.23	0.00	0.2	0.07	0.11	0.00	0.07	0.00	0.00	0.00	0.46	0.81	0.57
Mo. Totals	35.36	50.61	36.32	43.46	37.57	39.73	34.45	37.33	44.46	37.57	49.52	46.34	55.5	51.22	46.56	44.95	25.02	28.75	33.73

	ED04	HA03	HA06	HA08	KE01	KE02	KE05	KI01	KI02	KI04	ME01	ME03	ME07	ME10	ME12	ME17	ME19	ME20	RE01
January	0.78	2.55	2.48	2.56	2.67	2.36	3.12	0.98	1.35	0.6	2.66	3.72	2.77	2.41	2.98	2.5	3.36	2.11	1.27
February	0.83	2.89	2.68	3.39	2.91	1.49	2.7	1.17	1.54	0.68	1.16	2.2	1.44	2.06	1.4	1.87	1.75	1.35	1.19
March	2.18	2.12	2.32	1.77	1.96	1.0	3.41	3.16	3.22	3.56	2.53	1.72	2.2	2.67	2.54	3.58	3.03	2.93	3.6
April	3.06	3.64	4.67	3.33	5.71	5.07	7.05	3.33	4.76	3.98	6.02	6.94	4.58	4.06	6.83	5.29	6.64	5.41	5.03
May	1.13	2.18	2.92	1.57	1.16	2.74	1.3	1.01	1.45	0.48	3.09	2.16	1.71	1.11	1.32	2.55	0.86	1.01	1.19
June	3.92	9.48	12.05	6.89	9.33	7.95	8.75	4.74	4.45	ND	9.46	11.74	8.09	6.53	8.45	4.2	11.07	14.04	11.82
July	1.31	0.47	1.45	1.28	0.00	1.65	0.81	0.03	0.00	0.00	2.61	3.72	0.32	2.9	4.77	2.87	2.62	1.7	0.00
August	3.84	3.16	1.4	0.85	0.00	1.73	8.2	2.19	0.8	1.94	5.16	8.31	2.98	0.75	0.78	0.52	1.1	2.67	2.79
September	3.04	2.08	1.24	0.64	ND	1.09	0.53	3.47	4.14	6.56	1.95	1.91	0.24	0.79	2.38	1.12	3.03	1.87	1.2
October	3.42	8.16	9.23	4.65	5.98	2.61	6.37	1.87	3.34	4.8	3.95	3.64	3.73	2.32	3.47	3.45	3.67	4.56	1.89
November	5.95	11.8	11.69	6.44	6.33	ND	7.43	4.31	5.15	13.29	9.85	8.2	7.66	5.77	2.97	3.82	3.14	2.85	3.04
December	0.39	0.00	0.00	0.11	0.04	0.00	0.19	0.11	0.19	0.12	0.00	0.00	0.00	0.07	0.11	0.00	0.07	0.11	0.35
Mo. Totals	29.85	48.53	52.13	33.48	36.09	27.69	49.86	26.37	30.39	36.01	48.44	54.26	35.72	31.44	38.00	31.77	40.34	40.61	33.37

	RE02	RE03	RE04	RE05	RE06	UV02	UV05	UV06	UV07	UV09	UV10	UV11	UV12	UV13	UV14	UV16	UV18	UV20
January	1.15	1.32	1.04	0.84	1.52	1.55	0.29	1.28	1.68	0.2	0.72	1.16	1.44	0.61	0.58	0.96	1.56	1.39
February	1.2	1.48	1.08	1.36	ND	1.65	1.29	0.92	1.55	0.48	0.89	0.96	1.45	0.73	1.18	0.72	1.4	0.84
March	5.14	4.91	3.15	3.42	4.38	2.91	3.08	0.08	2.91	0.98	1.13	2.42	3.32	2.32	1.76	1.69	2.92	2.44
April	3.34	4.57	4.52	5.62	4.41	3.69	3	3.89	4.65	2.69	2.14	4.27	3.93	4.33	3.47	2.36	4.02	6.49
May	0.93	1.64	0.36	0.52	0.57	0.62	0.98	0.56	0.84	0.62	0.62	0.72	1.47	0.9	1.47	0.00	0.99	1.54
June	8.79	9.62	9.23	9.64	8.36	6.62	10.05	4.33	6.98	3.73	3.08	2.73	6.72	2.85	8.18	ND	6.91	4.57
July	1.5	1.88	0.16	0.08	0.66	2.21	2.6	0.00	1.15	0.35	0.35	0.81	2.38	0.51	2.64	0.16	0.58	0.15
August	3.06	2.53	1.2	1.72	2.93	2.6	5.48	0.00	2.3	0.55	1.07	1.65	2.58	1.48	0.15	3.76	1.76	2.6
September	2.75	1.65	1.2	1.64	3.2	1.33	3.0	1.61	2.11	1.68	0.48	2.74	3.0	1.88	1.32	3.6	2.16	0.36
October	2.18	2.25	2.96	1.9	2.21	1.62	1.6	3.4	2.72	0.97	1.13	2.01	1.52	1.57	0.00	0.84	1.13	2.41
November	5.13	5.48	4.08	4.96	5.81	1.83	3.59	2.42	3.41	3.88	2.91	4.4	4.25	4.28	2.32	1.81	6.53	5.99
December	0.11	0.16	0.56	0.56	0.55	0.11	0.00	0.04	0.07	0.00	0.00	0.04	0.08	0.00	0.00	0.00	0.18	0.15
Mo. Totals	35.28	37.49	29.54	32.26	34.6	26.74	34.96	18.53	30.37	16.13	14.52	23.91	32.14	21.46	23.07	15.9	30.14	28.93

ND Indicates no data collected for period shown (due to equipment problems)
Rain gauge locations are shown on **Figure 4.1**.

Regional rainfall is summarized in **Figure 4.3** by compiling the regional data into a shaded contour-type map showing the variations in recorded rainfall across the region. Essentially, the darker shades on the map represent areas of higher rainfall, while the lighter shades represent lower rainfall volumes. The figure shows the distribution of precipitation in the Edwards Aquifer region for 2004 based on measurements from the Authority's real-time network and NOAA stations. The 2004 total rainfall amounts recorded ranged from approximately 15 inches in southern Uvalde County to more than 55 inches in southern Kendall County.



Map Based on Measurements Obtained from
Authority Operated Rain Gauges and NOAA Rain Gauges

Figure 4.3
Distribution of Precipitation 2004

4.2 Precipitation Enhancement Program (PEP)

Previous research performed by weather scientists indicates that precipitation enhancement can increase rainfall by as much as 21 percent (Woodley 2002) from clouds that have been seeded, which may significantly increase recharge to the aquifer. In addition to increasing direct recharge, the increased rainfall also decreases demand for lawn watering and crop irrigation.

In the fall of 1997, the Authority's board of directors voted to pursue a permit from the Texas Commission on Environmental Quality (TCEQ) to conduct a precipitation enhancement program (PEP). The goals of the PEP are:

- To enhance rainfall in a targeted area by using state-of-the-art cloudseeding technology and procedures to seed suitable convective clouds;
- To increase the annual mean quantity of water that may be withdrawn from the aquifer;
- To reduce demands from the aquifer by the increase in precipitation; and
- To reduce the periods of low water levels and resulting threatened springflows.

In October 1998 the Authority's PEP contractor, Weather Modification, Inc., (WMI) received a four-year permit (January 1999 to December 2002) from TCEQ. The Authority's original PEP project area consisted of 6.37 million acres across south Texas, covering all or parts of 12 counties including Real (east of US Highway 83), Kerr, Kendall, Blanco, Bandera, Uvalde, Medina, Bexar, Comal, Hays, Guadalupe, and Caldwell. From 1999 through 2001, the Authority utilized WMI to perform weather modification services in the 12 county area.

In June 2001, the Authority, the Texas Water Development Board (TWDB), and TCEQ initiated a study to evaluate the effectiveness of the Authority's PEP for 1999 through 2001. Woodley Weather Consultants conducted the study and concluded in the final report completed in June 2002 that the Authority's PEP had produced an additional 179,000 acre-feet of rainfall due to seeding (approximately 60,000 acre-feet per year). A finding in the report was that typical radar-predicted rainfall in south central Texas is generally under reported. The under reporting is a function of equations used by the National Weather Service that do not take into account the tropical nature of much of the rainfall in the San Antonio area. This factor was revealed by the correlation of radar-predicted rainfall to actual rainfall recorded by the Authority's real-time network. A recommendation of the report was to allow more seeding through the use of additional aircraft or downsizing the target area to concentrate seeding.

In 2002 and 2003, the Authority contracted with South Texas Weather Modification Association to perform cloudseeding in Bandera, Bexar & Medina counties, of approximately 2,171,000 acres. During the same time period, the Authority contracted with Southwest Texas Rain Enhancement Association to perform cloudseeding in Uvalde County, an area of approximately 949,000 acres. An independent assessment performed by Arquimedes Ruiz (2003), indicated that an additional 85,745 acre-feet of rainfall was created for Bexar, Bandera and Medina counties and 36,733 acre-feet of rainfall was created for Uvalde County as a result of the 2003 cloudseeding work.

During the 2004 season, cloudseeding activities were conducted on twenty-six separate days in Bandera, Bexar, and Medina counties and on fifteen separate days in Uvalde County. In 2004, an estimated total of 12,360 grams (27.0 pounds) of silver iodide cloudseeding agent was

dispersed in the four counties where cloudseeding is funded by the Authority. An independent assessment performed by Arquimedes Ruiz (2004), indicated that an additional 287,000 acre-feet of rainfall was created for Bexar, Bandera and Medina counties and 70,500 acre-feet of rainfall was created for Uvalde County as a result of the 2004 cloud seeding work. The results for 2004 were notably higher than those reported for 2003. Meteorologists with the PEP and Mr. Ruiz explain the difference is due to use of more precise National Weather Service Doppler radar for the rainfall analyses in 2004.

5.0 GROUNDWATER RECHARGE

Recharge to the Edwards Aquifer originates as precipitation on the drainage area and recharge zone. The area consists of nine drainage basins that extend across the recharge zone as indicated in **Figure 5.1**. These basins are also listed below in **Table 5.1**.

Table 5.1 Drainage basins that cross the Edwards Aquifer Recharge Zone.

Nueces/West Nueces River basin
Frio/Dry Frio River basin
Sabinal River basin
Area between Sabinal River and Medina River basins
Medina River basin
Area between Medina River and Cibolo/Dry Comal Creek basins
Cibolo Creek and Dry Comal Creek basin
Guadalupe River basin
Blanco River basin

Recent modeling studies using the Hydrologic Simulation Program Fortran (HSPF) indicate that up to 50 percent of recharge in some basins likely occurrs upon land segments (direct infiltration), while the other 50 percent occurs in stream channels, as channel loss (LBG Guyton 2005). In addition, some recharge also flows into the Edwards Aquifer from adjacent aquifers such as the Trinity Aquifer. Estimates of the contribution from adjacent hydraulically connected aquifers range from 5,000 to 60,000 acre-feet per year.

The historical method of estimating recharge to the Edwards Aquifer utilizes a water balance method that relies on precipitation and streamflow measurements across the nine basin area. The USGS has calculated groundwater recharge to the Edwards Aquifer since 1934. **Table 5.2** lists estimated annual recharge by river basin from 1934 through 2004, based on USGS calculations. The USGS estimates that annual recharge for the period of record (1934 to 2004) ranged from 43,700 acre-feet at the height of the drought of record in 1956, to 2,486,000 acre-feet in 1992. In 2004, estimated recharge was 2,176,100 acre-feet. The median annual recharge for 1934 through 2004 is 560,900 acre-feet, and the median annual recharge for the last 10 years is 865,400 acre-feet. **Figure 5.2** is a graph of annual total recharge compared to the ten-year floating median recharge estimate, and historical median value for recharge to the San Antonio segment of the Balcones Fault Zone Edwards Aquifer from 1934 to 2004.

Table 5.2 does not include the Guadalupe River basin because the historical method of estimating recharge is based on the interpretation that the basin does not recharge the aquifer. The Authority is currently revising the methodology utilized for estimating recharge to the aquifer using the HSPF model previously mentioned. Edwards Aquifer recharge data derived from HSPF for the period 1950 – 2000 are currently under review. HSPF Recharge data for the period 2001-2004 have not been developed at the time of publication of this report. Revised recharge data utilizing output from the HSPF model will be published in the future.

Recharge directly increases groundwater levels in the aquifer. Water levels rise during periods of higher-than-normal recharge and generally decline during periods of below-normal recharge. The 2004 estimated recharge was the second highest on record, and approximately 388 percent above the historical (1934-2004) median value of 560,900 acre feet. Calendar year 2004

exhibited above mean rainfall amounts across most of the area. In addition, several rainfall events produced sufficient volumes of runoff to contribute significant amounts of recharge. For example; rainfall at San Antonio International Airport exceeded nine-inches per month in June, October, and November of 2004.

The Authority operates four recharge structures located on the Edwards Aquifer Recharge Zone as indicated in **Figure 5.1**. Total recharge for each site is calculated using data from stage recorders located near these structures. **Table 5.3** shows the annual recharge (total recharge) for each site since construction. A total combined recharge volume of 21,993 acre-feet occurred at the structures in 2004. This amount is the second highest combined recharge volume on record for the structures and may be attributed to high rainfall amounts in 2004.

The historical median and mean annual recharge attributed to the recharge structures is based on a period of record that reflects the date of construction through 2004. The historical median annual recharge contributed by the combined structures is 1,274 acre-feet while the historical mean annual recharge contributed by the combined structures is 4,932 acre-feet. Calendar year 2004 combined recharge volume for all four structures exceeded the historical median value by approximately 1,726 percent.

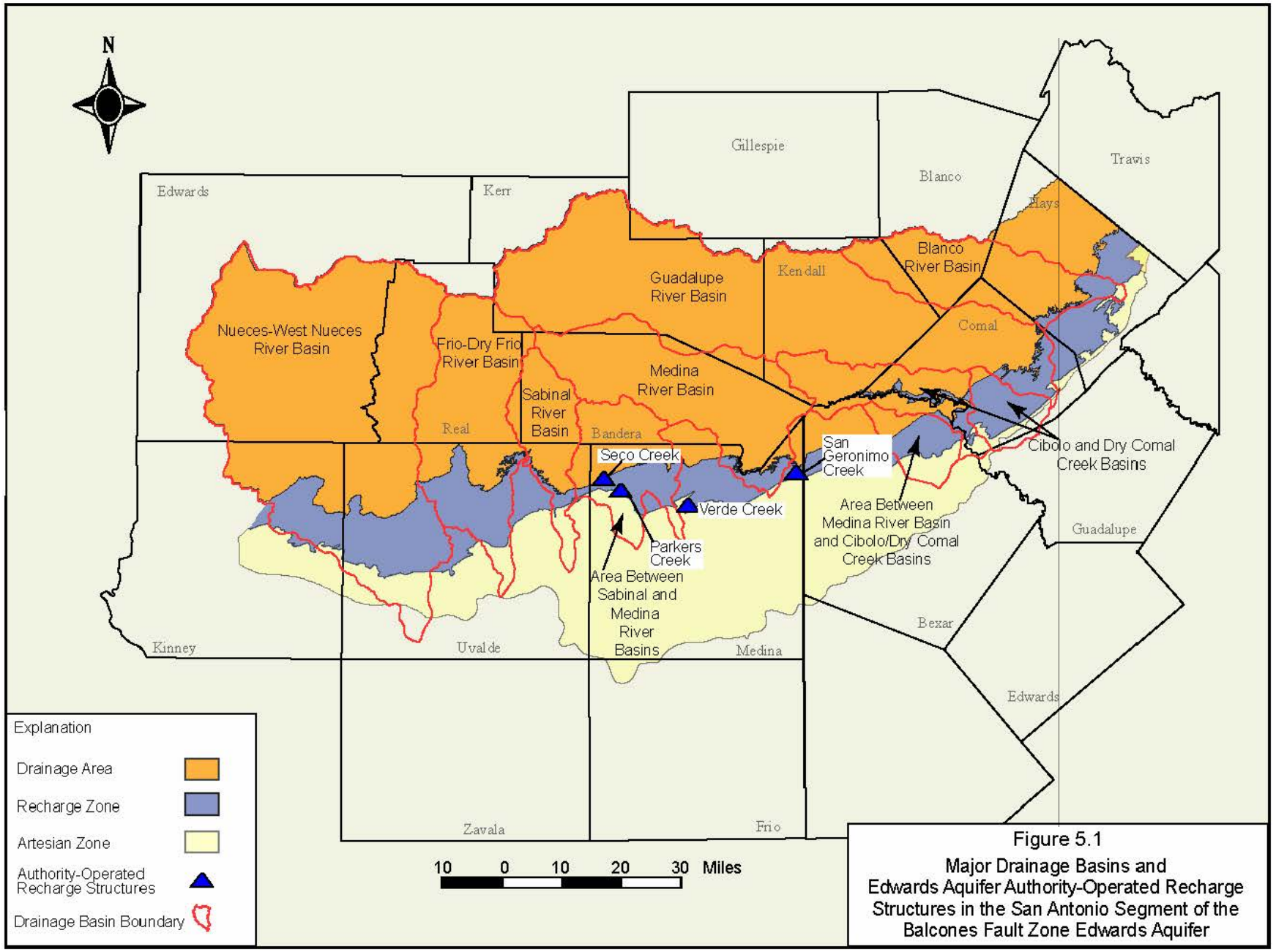


Figure 5.1
Major Drainage Basins and Edwards Aquifer Authority-Operated Recharge Structures in the San Antonio Segment of the Balcones Fault Zone Edwards Aquifer

Table 5.2 Estimated annual groundwater recharge to the Edwards Aquifer by drainage basin, 1934-2004 (measured in thousands of acre-feet).

Year	Nueces River/ West Nueces River basin	Frio River/ Dry Frio River basin	Sabinal River basin	Area between Sabinal River and Medina River basin	Medina River basin	Area between Medina River and Cibolo Creek/ Dry Comal Creek basin	Cibolo Creek/Dry Comal Creek basin	Blanco River basin	Total*
1934	8.6	27.9	7.5	19.9	46.5	21	28.4	19.8	179.6
1935	411.3	192.3	56.6	166.2	71.1	138.2	182.7	39.8	1,258.2
1936	176.5	157.4	43.5	142.9	91.6	108.9	146.1	42.7	909.6
1937	28.8	75.7	21.5	61.3	80.5	47.8	63.9	21.2	400.7
1938	63.5	69.3	20.9	54.1	65.5	46.2	76.8	36.4	432.7
1939	227	49.5	17.0	33.1	42.4	9.3	9.6	11.1	399.0
1940	50.4	60.3	23.8	56.6	38.8	29.3	30.8	18.8	308.8
1941	89.9	151.8	50.6	139.0	54.1	116.3	191.2	57.8	850.7
1942	103.5	95.1	34.0	84.4	51.7	66.9	93.6	28.6	557.8
1943	36.5	42.3	11.1	33.8	41.5	29.5	58.3	20.1	273.1
1944	64.1	76.0	24.8	74.3	50.5	72.5	152.5	46.2	560.9
1945	47.3	71.1	30.8	78.6	54.8	79.6	129.9	35.7	527.8
1946	80.9	54.2	16.5	52.0	51.4	105.1	155.3	40.7	556.1
1947	72.4	77.7	16.7	45.2	44.0	55.5	79.5	31.6	422.6
1948	41.1	25.6	26.0	20.2	14.8	17.5	19.9	13.2	178.3
1949	166.0	86.1	31.5	70.3	33.0	41.8	55.9	23.5	508.1
1950	41.5	35.5	13.3	27.0	23.6	17.3	24.6	17.4	200.2
1951	18.3	28.4	7.3	26.4	21.1	15.3	12.5	10.6	139.9
1952	27.9	15.7	3.2	30.2	25.4	50.1	102.3	20.7	275.5
1953	21.4	15.1	3.2	4.4	36.2	20.1	42.3	24.9	167.6
1954	61.3	31.6	7.1	11.9	25.3	4.2	10.0	10.7	162.1
1955	128.0	22.1	0.6	7.7	16.5	4.3	3.3	9.5	192.0
1956	15.6	4.2	1.6	3.6	6.3	2.0	2.2	8.2	43.7
1957	108.6	133.6	65.4	129.5	55.6	175.6	397.9	76.4	1,142.6
1958	266.7	300.0	223.8	294.9	95.5	190.9	268.7	70.7	1,711.2
1959	109.6	158.9	61.6	96.7	94.7	57.4	77.9	33.6	690.4
1960	88.7	128.1	64.9	127.0	104.0	89.7	160.0	62.4	824.8
1961	85.2	151.3	57.4	105.4	88.3	69.3	110.8	49.4	717.1
1962	47.4	46.6	4.3	23.5	57.3	16.7	24.7	18.9	239.4
1963	39.7	27.0	5.0	10.3	41.9	9.3	21.3	16.2	170.7
1964	126.1	57.1	16.3	61.3	43.3	35.8	51.1	22.2	413.2
1965	97.9	83.0	23.2	104.0	54.6	78.8	115.3	66.7	623.5
1966	169.2	134.0	37.7	78.2	50.5	44.5	66.5	34.6	615.2
1967	82.2	137.9	30.4	64.8	44.7	30.2	57.3	19.0	466.5
1968	130.8	176.0	66.4	198.7	59.9	83.1	120.5	49.3	884.7
1969	119.7	113.8	30.7	84.2	55.4	60.2	99.9	46.6	610.5
1970	112.6	141.9	35.4	81.6	68.0	68.8	113.8	39.5	661.6
1971	263.4	212.4	39.2	155.6	68.7	81.4	82.4	22.2	925.3
1972	108.4	144.6	49.0	154.6	87.9	74.3	104.2	33.4	756.4
1973	190.6	256.9	123.9	286.4	97.6	237.2	211.7	82.2	1,486.5

(**Table 5.2** continued)

Year	Nueces River/ West Nueces River basin	Frio River/ Dry Frio River basin	Sabinal River basin	Area between Sabinal River and Medina River basin	Medina River basin	Area between Medina River and Cibolo Creek/ Dry Comal Creek basin	Cibolo Creek/Dry Comal Creek basin	Blanco River basin	Total*
1974	91.1	135.7	36.1	115.3	96.2	68.1	76.9	39.1	658.5
1975	71.8	143.6	47.9	195.9	93.4	138.8	195.7	85.9	973.0
1976	150.7	238.6	68.2	182.0	94.5	47.9	54.3	57.9	894.1
1977	102.9	193.0	62.7	159.5	77.7	97.9	191.6	66.7	952.0
1978	69.8	73.1	30.9	103.7	76.7	49.6	72.4	26.3	502.5
1979	128.4	201.4	68.6	203.1	89.4	85.4	266.3	75.2	1,117.8
1980	58.6	85.6	42.6	25.3	88.3	18.8	55.4	31.8	406.4
1981	205.0	365.2	105.6	252.1	91.3	165.0	196.8	67.3	1,448.3
1982	19.4	123.4	21.0	90.9	76.8	22.6	44.8	23.5	422.4
1983	79.2	85.9	20.1	42.9	74.4	31.9	62.5	23.2	420.1
1984	32.4	40.4	8.8	18.1	43.9	11.3	16.9	25.9	197.7
1985	105.9	186.9	50.7	148.5	64.7	136.7	259.2	50.7	1,003.3
1986	188.4	192.8	42.2	173.6	74.7	170.2	267.4	44.5	1,153.8
1987	308.5	473.3	110.7	405.5	90.4	229.3	270.9	114.9	2,003.5
1988	59.2	117.9	17.0	24.9	69.9	12.6	28.5	25.5	355.5
1989	52.6	52.6	8.4	13.5	46.9	4.6	12.3	23.6	214.4
1990	479.3	255.0	54.6	131.2	54.0	35.9	71.8	41.3	1,123.1
1991	325.2	421.0	103.1	315.2	52.8	84.5	109.7	96.9	1,508.4
1992	234.1	586.9	201.1	566.1	91.4	290.6	286.6	226.9	2,486.0
1993	32.6	78.5	29.6	60.8	78.5	38.9	90.9	37.8	447.6
1994	124.6	151.5	29.5	45.1	61.1	34.1	55.6	36.6	538.1
1995	107.1	147.6	34.7	62.4	61.7	36.2	51.1	30.6	531.3
1996	130.0	92.0	11.4	9.4	42.3	10.6	14.7	13.9	324.3
1997	176.9	209.1	57.0	208.4	63.3	193.4	144.2	82.3	1,134.6
1998	141.5	214.8	72.5	201.4	80.3	86.2	240.9	104.7	1,142.3
1999	101.4	136.8	30.8	57.2	77.1	21.2	27.9	21.0	473.4
2000	238.4	123.0	33.1	55.2	53.4	28.6	48.6	34.1	614.5
2001	297.5	126.7	66.2	124.1	90.0	101.5	173.7	89.7	1,069.4
2002	83.6	207.3	70.6	345.2	93.7	175.5	539.3	150.0	1,665.2
2003	146.0**	115.5**	31.0**	59.0**	86.8**	107.4**	58.1**	57.6**	661.4**
2004	481.9	424.5	116.0	343.9	95.5	213.4	315.0	185.8	2,176.1
Recharge for the period of record 1934-2004:									
Median	102.9	123.4	31.5	78.6	61.7	55.5	77.9	35.7	560.9
Mean	126.1	139.0	43.5	113.2	63.2	74.0	113.5	46.8	719.2
Recharge for the period of record 1995-2004 (last 10 years):									
Median	143.8	142.2	45.9	93.3	78.7	93.9	101.2	70.0	865.4
Mean	190.4	179.7	52.3	146.6	74.4	97.4	161.4	77.0	979.2

Data source: USGS, 2005.
*Total may not be equal to sum of basin values due to rounding.
**Reflects an updated estimate derived by using revised rainfall data set for 2003.

Figure 5.2 Estimated annual recharge and ten-year floating median recharge for the San Antonio segment of the Balcones Fault Zone Edwards Aquifer 1934-2004

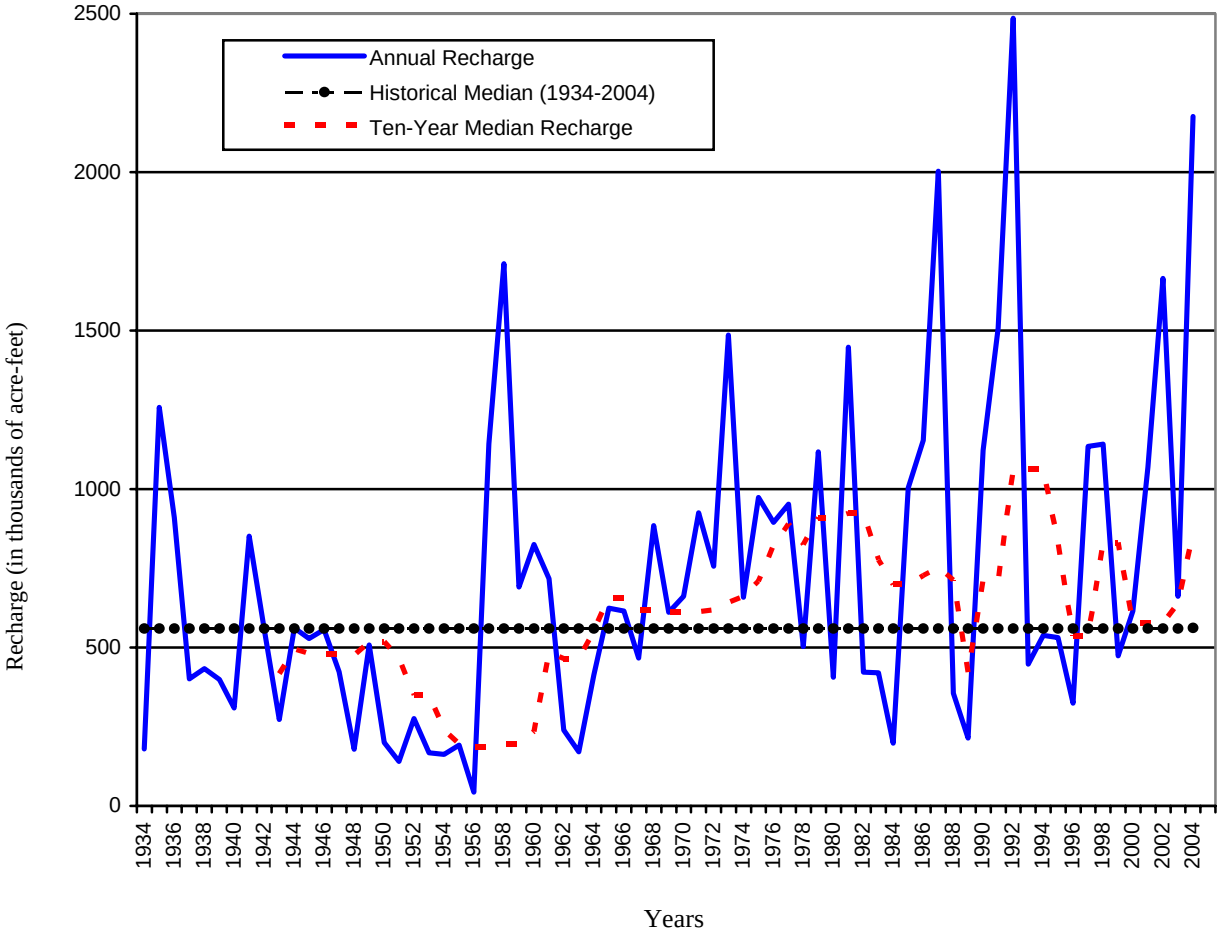


Table 5.3 Estimated annual Edwards Aquifer recharge from Edwards Aquifer Authority-operated recharge structures (measured in acre-feet).

Year	Parker (April 1974)	Verde (April 1978)	San Geronimo (November 1979)	Seco (October 1982)	Annual Total
1974	160	---	---	---	160
1975	620	---	---	---	620
1976	2,018	---	---	---	2,018
1977	6	---	---	---	6
1978	98	150	---	---	248
1979	2,315	1,725	0	---	4,040
1980	0	371	903	---	1,274
1981	772	1,923	1,407	---	4,102
1982	3	112	91	0	206
1983	0	254	0	0	254
1984	251	246	0	143	640
1985	232	440	1,097	643	2,412
1986	217	889	963	1,580	3,649
1987	2,104	4,141	1,176	12,915	20,336
1988	0	0	0	0	0
1989	0	0	0	0	0
1990	49	176	41	479	745
1991	647	966	1,647	2,160	5,420
1992	723	2,775	2,874	14,631	21,003
1993	0	0	334	508	842
1994	159	0	0	5	164
1995	18	79	51	880	1,028
1996	0	0	0	0	0
1997	2,941a	2,154b	1,579b	7,515b	14,189b
1998	1,469a/b	1,160b	872b	3,796b	7,297b
1999	0b	0b	0b	50c	50b/c
2000	901b	1,371b	1,023b	4,606b	7,901b
2001	526b	657b/d	1,085b/d	2,154b/d	4,422b/d
2002	1,811	1,511	4,350	18,872	26,544
2003	665	184	0	465	1,314
2004	2,363	170	4,778	14,682	21,993
Total	21,068	21,454	24,271	86,084	152,877
Mean	680	795	934	3,743	4,932
Median	232	254	603	643	1,274

Data source: USGS and Edwards Aquifer Authority, 2004.

a = Written communication from USGS - San Antonio Subdistrict Office.

b = Determined by a linear regression analysis using rainfall data and historical recharge data.

c = Linear regression analysis indicates zero recharge; however, one recharge event was observed that was estimated to have recharged 50 acre-feet.

d = A portion of the 2001 recharge estimate was provided by HDR Engineering, Inc., August 2002.

--- = indicates years prior to construction of the recharge structure.

6.0 GROUNDWATER DISCHARGE AND USAGE

Groundwater discharges from the Edwards Aquifer as springflow or as water pumped from wells. Springflow is the primary basis of recreational economies in New Braunfels and San Marcos, and the springs provide habitat for threatened and endangered animal and plant species. **Figure 6.1** shows the locations of the major springs in the San Antonio segment of the aquifer. Wells provide water for many diverse uses in south central Texas, including irrigation, municipal water supplies, industrial applications, and domestic/livestock consumption. The amount of groundwater discharged as springflow has historically been greater than the amount discharged through wells for any of the above-mentioned uses.

Estimates of annual total groundwater discharge from springflow and pumping for the Edwards Aquifer are available from 1934 to 2004 (**Table 6.1**). Annual total groundwater discharge estimates range from a low of 388,800 acre-feet in 1955 to a high of 1,130,000 acre-feet in 1992. In 2004, the total groundwater discharge from the Edwards Aquifer from wells and springs was estimated at 937,324 acre-feet.

Springflow was calculated by measuring streamflow downstream of the springs and converting the streamflow measurements to spring discharge. Continuous recording equipment is located at Leona, Hueco, Comal and San Marcos springs. Periodic measurements were performed at San Pedro and San Antonio springs.

Springflow from 1934 to 2004 has varied from a low of 69,800 acre-feet in 1956 to a high of 802,800 acre-feet in 1992 (**Table 6.1**). **Table 6.2** lists the monthly estimated discharge in 2004 for the six primary Edwards Aquifer springs. Spring discharge from the Edwards Aquifer for 2004 was calculated at 622,900 acre-feet. This represents the second highest spring discharge for the period of record and accounts for approximately 66 percent of total discharge from the Edwards Aquifer in 2004 (**Tables 6.1 and 6.2**). Springflow volumes for the past three calendar years have been extremely high. Calendar year 2004 is the second highest volume on record at 622,900 acre-feet. Calendar years 2003, and 2002 represent the third and fourth highest springflow volumes on record, at 621,500, and 609,900 acre-feet, respectively. Calendar year 1992 remains the record year for springflow at 802,800 acre-feet. In 2004, high aquifer levels combined with rainfall volumes above the annual mean value resulted in the high springflow volumes recorded in 2004. Springflow at Comal Springs ranged from a low of 335 cubic feet per second (cfs), to a high of 505 cfs for the year. Mean flow for the period of record at Comal Springs is approximately 287 cfs, while the calendar year 2004 mean was 381 cfs at Comal Springs. Springflow at San Marcos Springs ranged from a low of 146 cfs, to a high of 376 cfs for the year. Mean springflow at San Marcos Springs for the period of record is approximately 172 cfs, while the calendar year 2004 mean was 212 cfs.

Figure 6.2 is a graph comparing Edwards Aquifer well discharge to springflow. The figure shows the variability in springflow and the general trend of increasing well discharge over the period of record. The lowest estimated annual aquifer pumping level was 101,900 acre-feet recorded in 1934. In 2004, total estimated well production was 314,424 acre-feet of water from the Edwards Aquifer, an increase of just under 309 percent since 1934. Total well production for 2004 was less than 2003 (approximately 13 percent) at 314,424 acre-feet versus 361,300 acre-feet. Well production totals for 2003 and 2002 listed in this report reflect updated values from their respective reports due to pumping reports received after publication of the 2002 and 2003 Hydrogeologic Data Reports. The reduction is likely due to the timing and duration of rainfall in

2004 which appears to have averted a significant portion of the outdoor water use typical of high demand months. Median annual well production was estimated to be 314,400 acre-feet per year for the period of record from 1934 to 2004, while the estimated 10-year median for pumping from 1995 through 2004 was 407,200 acre-feet (**Table 6.1**). Reported groundwater pumping accounted for 295,567 acre-feet of water discharged from the Edwards Aquifer in 2004. Unreported pumping (domestic, livestock, Kinney County and non-reporting federal facilities pumping) is estimated to be 18,857 acre-feet, or approximately 6 percent of total pumpage.

Table 6.3 shows the 2004 discharge data by use for the counties in the region. The discharge estimates were compiled from pumpage data reported by municipal, industrial, and agricultural users to the Authority. The Authority estimated pumpage for domestic supply, stock, and miscellaneous use. **Table 6.4** shows annual Edwards Aquifer groundwater discharge by use from 1955 to 2004, and the estimated 10-year mean and median for pumping by use from 1995 through 2004 are also included in this table.

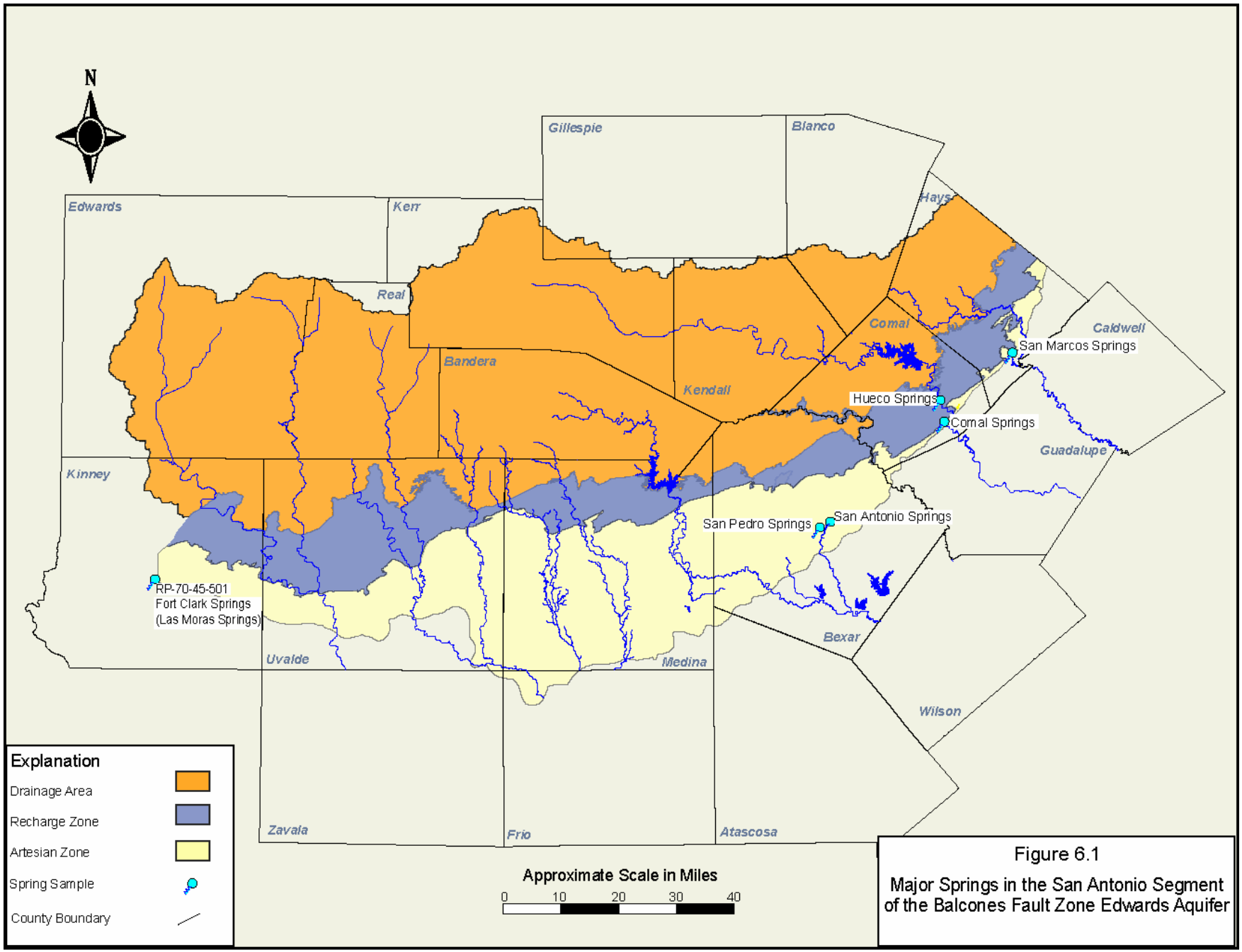


Figure 6.1

Major Springs in the San Antonio Segment of the Balcones Fault Zone Edwards Aquifer

Table 6.1 Annual estimated groundwater discharge data by county for the Edwards Aquifer, 1934-2004 (measured in thousands of acre-feet).

Year	Kinney Uvalde	Medina	Bexar	Comal	Hays	Total	Total Wells	Total Springs
1934	12.6	1.3	109.3	229.1	85.6	437.9	101.9	336.0
1935	12.2	1.5	171.8	237.2	96.9	519.6	103.7	415.9
1936	26.6	1.5	215.2	261.7	93.2	598.2	112.7	485.5
1937	28.3	1.5	201.8	252.5	87.1	571.2	120.2	451.0
1938	25.2	1.6	187.6	250.0	93.4	557.8	120.1	437.7
1939	18.2	1.6	122.5	219.4	71.1	432.8	118.9	313.9
1940	16.1	1.6	116.7	203.8	78.4	416.6	120.1	296.5
1941	17.9	1.6	197.4	250.0	134.3	601.2	136.8	464.4
1942	22.5	1.7	203.2	255.1	112.2	594.7	144.6	450.1
1943	19.2	1.7	172.0	249.2	97.2	539.3	149.1	390.2
1944	11.6	1.7	166.3	252.5	135.3	567.4	147.3	420.1
1945	12.4	1.7	199.8	263.1	137.8	614.8	153.3	461.5
1946	6.2	1.7	180.1	261.9	134.0	583.9	155.0	428.9
1947	13.8	2.0	193.3	256.8	127.6	593.5	167.0	426.5
1948	9.2	1.9	159.2	203.0	77.3	450.6	168.7	281.9
1949	13.2	2.0	165.3	209.5	89.8	479.8	179.4	300.4
1950	17.8	2.2	177.3	191.1	78.3	466.7	193.8	272.9
1951	16.9	2.2	186.9	150.5	69.1	425.6	209.7	215.9
1952	22.7	3.1	187.1	133.2	78.8	424.9	215.4	209.5
1953	27.5	4.0	193.7	141.7	101.4	468.3	229.8	238.5
1954	26.6	6.3	208.9	101.0	81.5	424.3	246.2	178.1
1955	28.3	11.1	215.2	70.1	64.1	388.8	261.0	127.8
1956	59.6	17.7	229.6	33.6	50.4	390.9	321.1	69.8
1957	29.0	11.9	189.4	113.2	113.0	456.5	237.3	219.2
1958	23.7	6.6	199.5	231.8	155.9	617.5	219.3	398.2
1959	43.0	8.3	217.5	231.7	118.5	619.0	234.5	384.5
1960	53.7	7.6	215.4	235.2	143.5	655.4	227.1	428.3
1961	56.5	6.4	230.3	249.5	140.8	683.5	228.2	455.3
1962	64.6	8.1	220.0	197.5	98.8	589.0	267.9	321.1
1963	51.4	9.7	217.3	155.7	81.9	516.0	276.4	239.6
1964	49.3	8.6	201.0	141.8	73.3	474.0	260.2	213.8
1965	46.8	10.0	201.1	194.7	126.3	578.9	256.1	322.8
1966	48.5	10.4	198.0	198.9	115.4	571.2	255.9	315.3
1967	81.1	15.2	239.7	139.1	82.3	557.4	341.3	216.1
1968	58.0	9.9	207.1	238.2	146.8	660.0	251.7	408.3
1969	88.5	13.6	216.3	218.2	122.1	658.7	307.5	351.2
1970	100.9	16.5	230.6	229.2	149.9	727.1	329.4	397.7
1971	117.0	32.4	262.8	168.2	99.1	679.5	406.8	272.7
1972	112.6	28.8	247.7	234.3	123.7	747.1	371.3	375.8
1973	96.5	14.9	273.0	289.3	164.3	838.0	310.4	527.6
1974	133.3	28.6	272.1	286.1	141.1	861.2	377.4	483.8
1975	112.0	22.6	259.0	296.0	178.6	868.2	327.8	540.4
1976	136.4	19.4	253.2	279.7	164.7	853.4	349.5	503.9
1977	156.5	19.9	317.5	295.0	172.0	960.9	380.6	580.3
1978	154.3	38.7	269.5	245.7	99.1	807.3	431.8	375.5
1979	130.1	32.9	294.5	300.0	157.0	914.5	391.5	523.0
1980	151.0	39.9	300.3	220.3	107.9	819.4	491.1	328.3
1981	104.2	26.1	280.7	241.8	141.6	794.4	387.1	407.3
1982	129.2	33.4	305.1	213.2	105.5	786.4	453.1	333.3
1983	107.7	29.7	277.6	186.6	118.5	720.1	418.5	301.6
1984	156.9	46.9	309.7	108.9	85.7	708.1	529.8	178.3
1985	156.9	59.2	295.5	200.0	144.9	856.5	522.5	334.0
1986	91.7	41.9	294.0	229.3	160.4	817.3	429.3	388.0
1987	94.9	15.9	326.6	286.2	198.4	922.0	364.1	557.9
1988	156.7	82.2	317.4	236.5	116.9	909.7	540.0	369.7

(Table 6.1 continued)

Year	Kinney Uvalde	Medina	Bexar	Comal	Hays	Total	Total Wells	Total Springs
1989	156.9	70.5	305.6	147.9	85.6	766.5	542.4	224.1
1990	118.1	69.7	276.8	171.3	94.1	730.0	489.4	240.6
1991	76.6	25.6	315.5	221.9	151.0	790.6	436.0	354.6
1992	76.5	9.3	370.5	412.4	261.3	1130.0	327.2	802.8
1993	107.5	17.8	371.0	349.5	151.0	996.7	407.3	589.4
1994	95.5	41.1	297.7	269.8	110.6	814.8	424.6	390.2
1995	90.8	35.2	272.1	235.0	127.8	761.0	399.6	361.3
1996	117.6	66.3	286.8	150.2	84.7	705.6	493.6	212.0
1997	77.0	31.4	260.2	243.3	149.2	761.1	377.1	383.9
1998	113.1	51.3	312.4b	271.8c	168.8	917.6	453.5	464.1
1999	104.0	49.2	307.1b	295.5c	143.0	898.8	442.7	456.1
2000	89.1	45.1	283.6b	226.1c	108.4	752.3	414.8	337.5
2001	68.6	33.9	291.6b	327.7c	175.4	890.0	367.7	529.6
2002*	76.2	40.6	312.0b	350.4c	202.1	981.2	423.3	609.9
2003*	89.4	34.8	337.6b	344.7c	176.3	982.8	361.3	621.5
2004	91.4	22.6	328.9b	341.5c	153.1	937.8	314.4	622.9
For period of record 1934-2004:								
Mean	71.9[a]	20.8	242.7	227.1	122.0	684.4	306.0	379.2
Median	76.2	14.9	230.6	234.3	118.5	679.5	314.4	383.9
For period of record 1995-2004 (last 10 years):								
Mean	91.7[a]	41.0	299.2	278.6	148.9	858.8	404.8	459.9
Median	90.1	37.9	299.4	283.7	151.1	894.4	407.2	460.1

Data source: United States Geological Survey and Edwards Aquifer Authority, 2005.
* Totals for calendar years 2002 and 2003 updated from previous reports (2002 and 2003) using corrected data obtained in calendar year 2005.
a = Kinney County well discharge is estimated.
b = Includes reports of Edwards Aquifer irrigators in Atascosa County.
c = Includes reports of Edwards Aquifer industrial and municipal users in Guadalupe County.
Differences in totals may occur due to rounding.

Table 6.2 Estimated spring discharge from the Edwards Aquifer, 2004 (measured in acre-feet).

Month	Leona Springs and Leona River Underflow	San Pedro Springs	San Antonio Springs	Comal Springs	Hueco Springs	San Marcos Springs	Total Monthly Discharge From Springs
January	3,340	690	4,166	21,720	1,340	9,660	40,900
February	3,104	679	4,309	20,540	1,660	8,890	39,200
March	3,525	736	4,790	21,820	2,750	9,240	42,900
April	3,947	812	6,182	21,620	4,230	9,340	46,100
May	4,153	992	6,953	21,540	4,880	10,860	49,400
June	3,506	801	5,098	22,940	5,010	13,030	50,400
July	3,822	1,082	8,265	23,680	5,650	16,100	58,600
August	3,891	884	6,052	23,070	4,900	13,960	52,800
September	4,318	899	6,184	21,400	4,340	11,740	48,900
October	4,864	1,019	7,359	23,930	5,170	11,920	54,300
November	4,930	1,289	11,081	26,120	6,830	10,160	60,400
December	5,314	1,529	15,131	28,240	6,440	22,450	79,100
Total	48,700	11,400	85,600	276,600	53,200	147,400	622,900

Data source: United States Geological Survey, 2005.
Differences in totals may occur due to rounding.

Figure 6.2 Groundwater pumping compared to springflow from the Edwards Aquifer, 1934-2004 (measured in thousands of acre-feet).

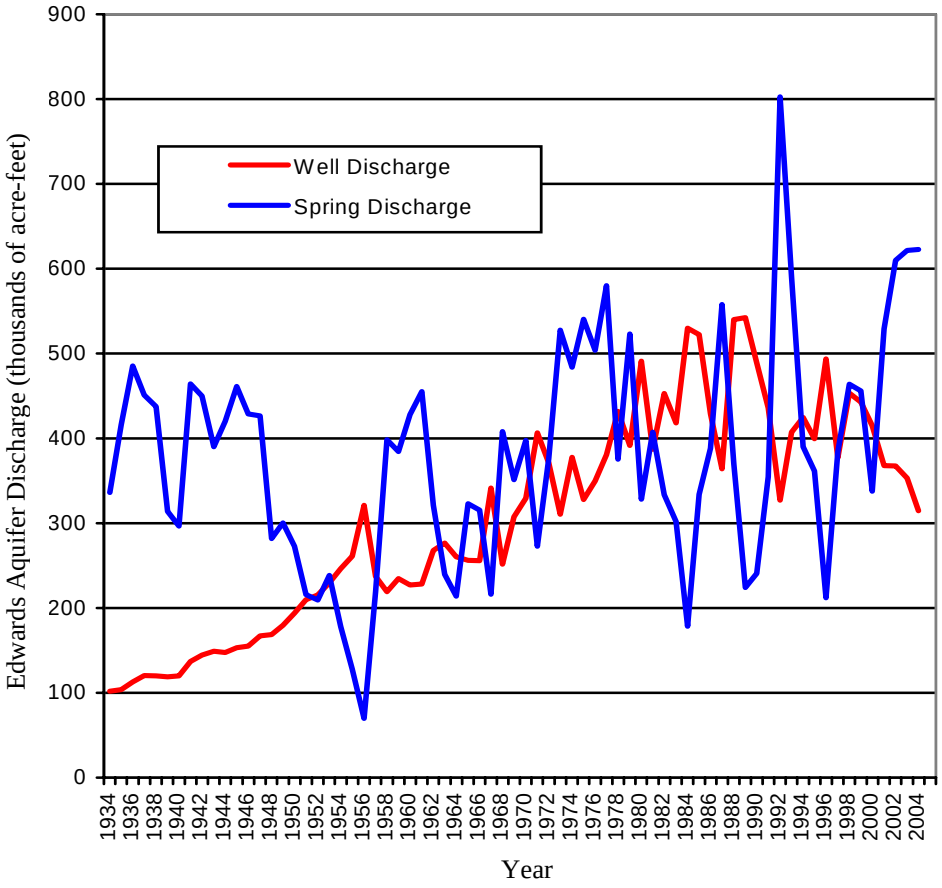


Table 6.3 Total groundwater discharge from the Edwards Aquifer, 2004 (measured in thousands of acre-feet).

County	Irrigation	Municipal/ Military	Domestic /Stock	Industrial	Total Wells	Springs	Total Wells & Springs
Bexar	5.19a/b	198.95	9.04	18.68	232.86	97.00e	328.86
Comal	0.04b	3.70d	0.32	7.61d	11.66	329.80e	341.46
Hays	0.05b	3.90	0.82	0.91	5.68	147.40e	153.08
Medina	15.15b	5.74	0.94	0.73	22.56	0.00	22.56
Uvalde	34.36b	3.83	2.34	0.22	40.76	48.70e	89.46
Kinney	0.60	1.00	0.30	0.00	1.90	0.00	1.90
Total	55.39	217.12	13.76	28.14	314.42	622.90	937.32

Differences in totals may occur due to rounding.
Data source: Edwards Aquifer Authority, and United States Geological Survey 2005.
a = Includes Atascosa County.
b = Estimated from reports by Edwards Aquifer irrigators.
c =Estimated by Edwards Aquifer Authority.
d = Includes Guadalupe County.
e =Estimated by the United States Geological Survey.

Table 6.4 Annual estimated Edwards Aquifer groundwater discharge by use, 1955-2004 (measured in thousands of acre-feet).

Year	Irrigation	Municipal	Domestic/ Stock	Industrial/ Commercial	Springs
1955	85.2	120.5	30.1	25.1	127.8
1956	127.2	138.3	28.9	22.4	69.8
1957	68.8	116.1	29.8	22.6	219.2
1958	47.2	113.7	33.4	25.1	398.2
1959	60.0	118.9	31.5	24.2	384.5
1960	54.9	121.1	29.1	23.3	428.3
1961	52.1	124.5	29.6	22.2	455.3
1962	72.7	143.7	28.8	22.8	321.1
1963	75.4	151.8	27.8	21.8	239.6
1964	72.6	140.2	26.3	21.7	213.8
1965	68.0	138.8	27.0	22.3	322.8
1966	68.2	141.8	23.3	22.6	315.3
1967	119.4	171.0	25.1	25.8	216.1
1968	59.3	146.9	25.5	20.0	408.3
1969	95.2	162.0	29.2	21.1	351.2
1970	110.1	167.5	29.3	22.5	397.7
1971	159.4	196.2	28.6	22.6	272.7
1972	128.8	190.5	30.8	21.1	375.8
1973	82.2	177.1	32.3	18.8	527.6
1974	140.4	174.6	33.5	15.1	483.3
1975	96.4	182.5	33.6	15.3	540.4
1976	118.2	182.1	34.6	14.7	503.9
1977	124.2	205.3	38.1	13.0	580.3
1978	165.8	214.2	40.3	11.5	375.5
1979	126.8	208.9	40.7	15.2	523.0
1980	177.9	256.2	43.3	13.7	328.3
1981	101.8	231.8	40.9	12.6	407.3
1982	130.0	268.6	39.5	15.0	333.3
1983	115.9	249.2	38.8	14.7	301.5
1984	191.2	287.2	36.2	15.2	178.3
1985	203.1	263.7	39.2	16.5	334.0
1986	104.2	266.3	42.0	16.8	388.0
1987	40.9	260.9	43.5	18.7	557.9
1988	193.1	286.2	41.9	18.8	369.7
1989	196.2	285.2	38.2	22.9	224.1
1990	172.9	254.9	37.9	23.7	240.6
1991	88.5	240.5	39.5	67.5	354.6
1992	27.1	236.5	34.8	29.0	802.8
1993	69.3	252.0	49.9	36.1	589.4
1994	104.5	247.0	33.9	39.3	390.2
1995	95.6	255.0	11.6*	37.3	361.3
1996	181.3	261.3	12.3*	38.8	212.0
1997	77.4	253.0	12.3*	34.4	383.9
1998	131.9	266.5	13.4*	41.7b	464.1
1999	113.6	273.3	13.4*	42.4	456.1
2000	106.3	261.3	13.4*	33.8	337.5
2001	79.0	245.9	13.4*	29.4	529.4
2002	97.0	228.5	13.6**	32.3	609.9
2003	79.7	236.5	13.7**	31.5	621.5
2004	55.4	217.7	13.8**	28.1	622.9
			For period of record 1955-2004:		
Mean	106.2	206.7	30.0	24.5	389.0
Median	99.4	216.0	30.5	22.6	379.9
			For period of record 1995-2004 (last 10 years):		
Mean	101.7	249.9	13.1	35.0	459.9
Median	96.3	254.0	13.4	34.1	460.1

Data source: United States Geological Survey and Edwards Aquifer Authority, 2005.

* = In 1995 the United States Geological Survey revised the method of calculating domestic/livestock pumpage, which significantly decreased the estimate for subsequent years.

** = Revision based on number of new wells permitted between 2001-2004. (Differences in totals may occur due to rounding)

In 2004, the Authority and USGS estimated discharge from the Edwards Aquifer. Prior to 1997, the USGS determined the total amount of irrigated acreage from county tax rolls, which have remained relatively constant over recent years. County soil and water conservation districts provided estimates of irrigation "duties" for selected crop types. The USGS multiplied these duties by amounts of irrigated acreage by crop type as provided by the U.S. Department of Agriculture (USDA), thereby determining an estimate of irrigation uses from the Edwards Aquifer.

In 1997, the Authority initiated the Edwards Aquifer Well Metering Program, which requires meters for all municipal, industrial, and irrigation wells in the Edwards Aquifer. Since 1998, the Authority has utilized well pumpage data from the Well Metering Program to estimate well discharge. The availability of direct pumpage data has significantly improved the discharge estimating process. Pumpage data for calendar years 2002 and 2003 in this report reflect corrected totals obtained from updated pumpage information not available previously. Specifically, the updates are based on information that was either reported or posted after completion of the 2002 and 2003 versions of this report. The updated pumpage total for 2002 is 4,133 acre-feet higher, while the 2003 total is 8,110 acre-feet higher than the respective amounts published in 2002 and 2003.

In 2001, a well permitting system was introduced, requiring all new wells drilled in the Edwards Aquifer to have a well construction permit. Permitting data were used to develop updated estimates for the domestic/livestock use category in **Tables 6.3** and **6.4**. Based on the addition of 119 wells in the category of domestic/livestock in 2004, the domestic/livestock use was increased by approximately 75 acre-feet for 2004 compared to 2003. The estimated mean per well domestic/livestock usage of 564 gallons per day is based on the methodology outlined by Guyton and Associates 1992.

7.0 WATER QUALITY

The Authority, in cooperation with the USGS and TWDB, has conducted a systematic program of water quality data collection since 1968. Through this cooperative effort, the Authority has maintained a network of groundwater and surface water monitoring sites, including major springs, for gathering water quality data across the Edwards Aquifer area. Analyses of these data have been used by the Authority to assess aquifer water quality.

Each year the Authority monitors the quality of water in the aquifer by sampling approximately 80 wells, eight surface water sites, and the major spring groups across the region. Due to the aerial extent of the aquifer and the large number of wells within it, the annual data set provides only limited resolution with regard to aquifer-wide conditions. The sampling program provides a representative "snapshot" of water quality conditions relative to the location, time, and date the sample was collected. As such, annual water quality data often provides further insight for identification of areas that may be problematic with regard to the presence of compounds that are not indigenous to the system. Therefore, these areas may subsequently be sampled with higher frequency, or greater density if warranted.

In 2004, the Authority collected water quality samples from 78 wells, six spring groups, and eight streams. Water quality samples collected by the Authority are summarized in this report. The locations of these monitoring sites are shown on **Figures 7.1, 7.1a, 7.1b, and 7.1c**. These samples were analyzed in the field for selected water quality parameters and in the laboratory for inorganic and organic chemical constituents. The field analyses included temperature, pH, conductivity, and alkalinity. In general, most water samples were analyzed in the laboratory for common major ions, minor elements (metals), total dissolved solids (TDS), hardness, and nutrients. Water samples collected from 29 wells and five spring groups were also analyzed for volatile organic compounds (VOCs). Semivolatile organic compounds (SVOCs) were included in the analyses of water samples from 20 wells and five spring groups. While water samples collected from 23 wells, five spring groups, and eight stream locations were analyzed for pesticides, herbicides, and polychlorinated biphenyls (PCBs).

A general listing of the parameters analyzed, their drinking water standards, and typical concentrations in the Edwards Aquifer are listed in **Table 7.1**. The water quality data collected in 2004 are included in **Appendix C**. Water quality data collected from wells in 2004 are compiled in **Appendix C**, tables C-1 through C-7. Water quality data collected from streams and springs in 2004 are compiled in **Appendix C**, tables C-8 through C-14. These water analyses are subsequently compared to the following federal and state water quality standards to determine if any concentrations exceed health-based levels:

Primary Drinking Water Standards – These standards are enforceable and are often referred to as the maximum contaminant levels (MCL) or primary drinking water standards. The MCL for a contaminant is the maximum permissible level in water that is delivered to any user of a public water system. MCLs protect drinking water quality by limiting the levels of specific contaminants that can adversely affect public health and are known or anticipated to occur in public water systems. The primary standards are indicated on **Table 7.1**. For compounds that do not have an established MCL, the protective concentration level (PCL), is provided. The PCL is based on the Texas Risk Reduction Program (TRRP), Tier 1, residential value as referenced in Title 30, Texas Administrative Code, Chapter 350. This concentration is the value estimated to be protective of human health, and the environment.

Secondary Drinking Water Standards – These standards are non-enforceable and are set for contaminants that may affect the aesthetic qualities of drinking water, such as odor or appearance. **Table 7.2** is a list of the current secondary standards. Concentrations of the secondary standards listed on **Table 7.2** are generally not exceeded in the freshwater portion of the Edwards Aquifer, although concentrations of total dissolved solids (TDS), fluoride, chloride, and iron typically exceed secondary standards in samples from the saline water zone.

7.1 Water Quality Data from Edwards Aquifer Wells

Summary of Analytical Results – Groundwater samples for calendar year 2004 were analyzed by contract laboratories [Severn Trent Services (STL), Kemron Environmental Services, Inc., Anacon, Inc., and Lower Colorado River Authority (pursuant to an analytical services contract with the TWDB)] for the following metals: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, lithium, magnesium, manganese, mercury, molybdenum, nickel, potassium, selenium, silicon, silver, sodium, strontium, thallium, vanadium, and zinc.

Of the 76 well samples analyzed for metals, laboratory analyses indicated the presence of three metals (antimony, thallium, and arsenic), regulated under the primary drinking water standards in well water samples during 2004 at concentrations exceeding their respective MCL. In addition, one metal (strontium), regulated under the Texas Risk Reduction Program, was detected above the TRRP limit or PCL of 15 mg/L. Antimony has an MCL of 0.006 mg/L, Thallium has an MCL of 0.002 mg/L, and the MCL for arsenic is 0.05 mg/L. These metals were detected as outlined below:

Antimony

- Bexar County AY-68-28-517 (0.0205 mg/L)
- Bexar County AY-68-28-519 (0.0155 mg/L)
- Bexar County AY-68-28-608 (0.0064 mg/L)
- Hays County LR-67-09-113 (0.0084 mg/L)

Thallium

- Hays County LR-67-09-1HB (0.000267 mg/L)

Arsenic

- Bexar County AY-68-29-216 (0.0567 mg/L)

Well locations are shown in detail in Figures 7.1, and 7.1a – 7.1c. Detail well locations for Bexar County are shown in Figure 7.1a. Detail well locations for Hays County are shown in Figure 7.1c.

Sample results obtained during 2003 indicated 5 antimony and 5 thallium detections that were suspected of being false positives, as detections of metals such as these are rare in the freshwater portion of the aquifer. As such, confirmation analyses were pursued in April of 2004, in order to establish the validity of several of the 2003 detections of antimony and thallium. These confirmation analyses indicated the presence of these metals to be highly doubtful. The April 2004 confirmation analyses utilized a more sensitive method for these metals, with the results that no antimony detections could be duplicated, and only one thallium detection was

encountered (at LR-67-09-1HB as listed above). This thallium detection is very close to the laboratory reporting limit of 0.0002 mg/L. At this concentration (0.000067 mg/L over the MCL), it is doubtful that further testing would be conclusive. However, the Authority will re-sample this well in the future in an effort to clarify possible issues with thallium at this location. Based upon the confirmation sampling efforts performed to clarify antimony issues with the 2003 sample group, it is unlikely that the antimony results listed above indicate the presence of this metal above the MCL. The wells listed above showing detections of metals above the MCL will be re-sampled for metals in 2005.

Additional antimony detections above the MCL occurred during 2004; however, review of the laboratory quality assurance data indicates these results as false positives. Specifically, these results are flagged as follows:

MB Method blank contamination, indicating the analyte was detected in the method blank during the analytical run.
Y Indicates the spike sample was outside control limits during the analytical run.
B Indicates the result is below the "reporting limit" but above the "method detection limit".
UB Indicates the analyte was not detected in the sample above the method detection limit; however, the analyte was present in the method blank during the analytical run.

Wells for which this condition is true are listed below:

- Bexar County AY-68-21-806 0.0374 (MB) mg/L
- Bexar County AY-68-28-407 0.0281 (MB) mg/L
- Bexar County AY-68-29-217 0.0239 (Y) mg/L
- Bexar County AY-68-29-215 0.0098 (B) mg/L
- Comal County DX-68-23-304 0.0081 (UB) mg/L

Two metals (iron and strontium) were detected that are not listed under the primary drinking water MCLs. Iron is listed under the secondary drinking water standards, with a maximum recommended concentration of 0.3 mg/L. While not a health risk, iron may cause an odor in the water as well as cause rust colored stains in places exposed to water with elevated iron concentrations. Medina County well TD 69-63-103 tested positive for iron at 1.03 mg/L. Medina County well TD-69-63-103 tested positive for strontium at a concentration of 25.5 mg/L. Strontium does not have a drinking water MCL or a secondary standard. However, strontium is regulated under the TRRP (see Table 7.1). Under the TRRP the recommended maximum strontium level is 15 mg/L.

Seventy-five wells were sampled in Kinney, Uvalde, Medina, Bexar, Atascosa, Comal, and Hays counties for the presence of nitrate-nitrite as nitrogen concentrations in 2004. Nitrate-nitrate as nitrogen (nitrate for this report) is a highly soluble, naturally occurring compound in both surface water and groundwater. The largest amounts of naturally occurring nitrate in surface water and groundwater is derived from direct absorption from the air and from the soil during rainfall events. Generally, concentrations of nitrate below 1 mg/L are considered background from natural sources. Concentrations above 2 mg/L are considered elevated. Potential sources of elevated nitrate include runoff from agricultural and urban sources (fertilizer from farm fields and yards); from septic systems, leaking sewer lines, and from animal waste;

and from nitrogen compounds used as blasting agents in quarrying operations. Concentrations of nitrate above the MCL of 10 mg/L pose an increased risk for methemoglobinemia or "Blue Baby Syndrome" which results from nitrates interfering with the ability of blood to carry oxygen in infants usually younger than six months old. High nitrate levels do not appear to have an acute health affect on older people.

None of the nitrate-nitrite as nitrogen concentrations exceeded the MCL of 10 mg/L. Of the 75 wells sampled for nitrate, 28 wells contained concentrations at or above 2.0 mg/L including 11 of 15 wells in Uvalde County; 7 of 16 wells in Medina County; 6 of 24 wells in Bexar County, 1 of 5 wells in Kinney County, 2 of 7 wells in Comal County and the only well sampled in Atascosa County. Of the 7 wells sampled in Hays County, none exceeded 2.0 mg/L. Five wells indicated concentrations above 5 mg/L including three wells in Uvalde County (well YP-69-50-501 at 8.78 mg/L, well UV00570-5 at 5.54 mg/L, and well YP-69-51-114 at 5.31 mg/L), Bexar County (well AY-68-50-305, at 6.53 mg/L) and in Comal County (well DX-68-30-221, at 5.24 mg/L). The Authority is studying historical nitrate concentrations to identify trends that may indicate contamination sources.

In 2004, water samples collected from 26 wells were analyzed for volatile organic compounds (VOCs). The VOC tetrachloroethene (PCE) was detected at 20 µg/L in Bexar County well AY-68-36-1RS, and at 5 µg/L in Uvalde County well YP-69-51-114. The MCL for PCE is 5 µg/L. The source of the PCE in Uvalde is an industrial dry cleaning operation destroyed by fire in 1979. Tetrachloroethene has been detected in well YP-69-51-114 in the past. The TCEQ is addressing the Uvalde area contamination in the Edwards Aquifer with the responsible party. The Authority and TCEQ are investigating the source of the tetrachloroethene in Bexar County. PCE was also detected in the following five Bexar County wells:

- Bexar County AY-68-28-516 (0.02 (J, TB) µg/L)
- Bexar County AY-68-36-107 (0.3 (J) µg/L)
- Bexar County AY-68-28-806 (0.8 (J) µg/L)
- Bexar County AY-68-28-702 (0.2 (J) µg/L)
- Bexar County AY-68-36-131 (0.2 (J) µg/L)

The data flag "TB" indicates that the analyte was detected in the samples associated trip blank (a quality control sample that should not test positive for any contaminants). The "J" flag indicates the concentration detected is an estimated value above the method detection limit, and the laboratory reporting limit.

Well AY-68-36-1RS also tested positive for two additional VOCs: trichloroethene (TCE) and toluene at 1 µg/L and 2 µg/L, respectively. The MCL for TCE is 5 µg/L, and 1,000 µg/L for toluene. Analytical results also indicated the presence of toluene in Hays County well LR-67-09-113 at a concentration of 2 µg/L.

Trace amounts of several other VOCs were contained in the laboratory reports for 2004. Based on the nature of the contaminants and/or their associated data flags, it is likely that these analytes are a consequence of either laboratory contamination or some other post sample collection contamination and do not reflect aquifer water quality. For the 29 wells sampled for VOCs, trace amounts of the following analytes were reported:

- 1,2,4-Trichlorobenzene (concentration of 0.3 (J, TB) µg/L)
- Acetone (concentration range of 0.8 – 200 (J, TB) µg/L)
- Bromodichloromethane (concentration of 0.6 (J) µg/L)

- Bromoform (concentration of 0.6 (J) µg/L)
- Chloromethane (concentration of 0.2 (J) µg/L)
- Dibromochloromethane (concentration of 1 (J) µg/L)
- Chloroform (concentration range of 0.2 (J) – 0.8 (J) µg/L)

Four of the compounds above are frequently found in water samples exposed to chlorine. Bromodichloromethane, bromoform, chloroform, and dibromochloromethane are common chlorination by-products that may be detected if water samples are collected downstream of a chlorination device, or exposed to chlorinated water. Chloromethane is a common solvent with many uses, but also can be a pervasive laboratory contaminant.

Most of the VOC compounds listed above are "J" flagged. In addition, most of the acetone detections and the 1,2,4-trichlorobenzene detection are flagged "TB". The data flags combined with the other issues relative to these compounds indicates a low probability of contamination issues related to the listed compounds. The Authority will continue monitoring the aquifer to establish possible trends, or rule out false positive detections that may be reported for these and other compounds.

In 2004, 17 wells were sampled for semi-volatile organic compounds (SVOCs). The only SVOC detected in well samples in 2004 was bis (2-ethylhexyl) phthalate, at a concentration range of 0.5 (J) to 4.0 (J) µg/L. The MCL for bis (2-ethylhexyl) phthalate is of 6.0 µg/L. None of the detections were at or above the MCL, and all of the detections were "J" flagged, or estimated values between the detection limit and reporting limit for the method. As such, all of the 8 detections of bis (2-ethylhexyl) phthalate are suspect as potential false positives. Bis (2-ethylhexyl) phthalate is a byproduct of plastics production and is commonly seen in wells with PVC casing; however, it is also a frequent ingredient in insect repellents, soaps, cosmetics, and other commonly used items. As such, its presence in groundwater samples is frequently due to post sample collection contamination, either during the sample collection process or in the laboratory. Samples exposed to sampling and analytical equipment that may contain bis (2-ethylhexl) phthalate are frequently contaminated. For example, a trace amount of cosmetics, or insect repellent on a sample handlers gloves can easily cause a false positive result in the 10 to 20 part per billion (µg/L) range. As such, the bis (2-ethylhexyl) phthalate detections summarized herein are believed to represent post collection contaminants, and not contamination in the aquifer. The Authority will continue its aquifer-wide well sampling program to monitor for any indication of water quality impacts from this compound.

Well water samples collected from 23 wells were analyzed for pesticides, herbicides and PCBs in 2004. No positive results indicating the presence of these compounds in wells were noted for 2004.

In summary, with the exception of PCE, most of the compounds detected during the 2004 groundwater quality samples collected from wells do not appear to be indicative of widespread contamination in the aquifer. However, it should be noted that some of the detections are confirmed and provide an indicator of the vulnerability of the aquifer to potential contamination. For example, the PCE detections in Uvalde and Bexar counties are confirmed contaminant detections and are areas that will be monitored in the future to further evaluate potential impacts to the Aquifer. In addition, elevated nitrate-nitrite as nitrogen concentrations will be monitored in the future in order to further assess any potential impacts to the aquifer. The Authority will continue its aquifer-wide well sampling efforts to monitor for potential trends of contaminants.

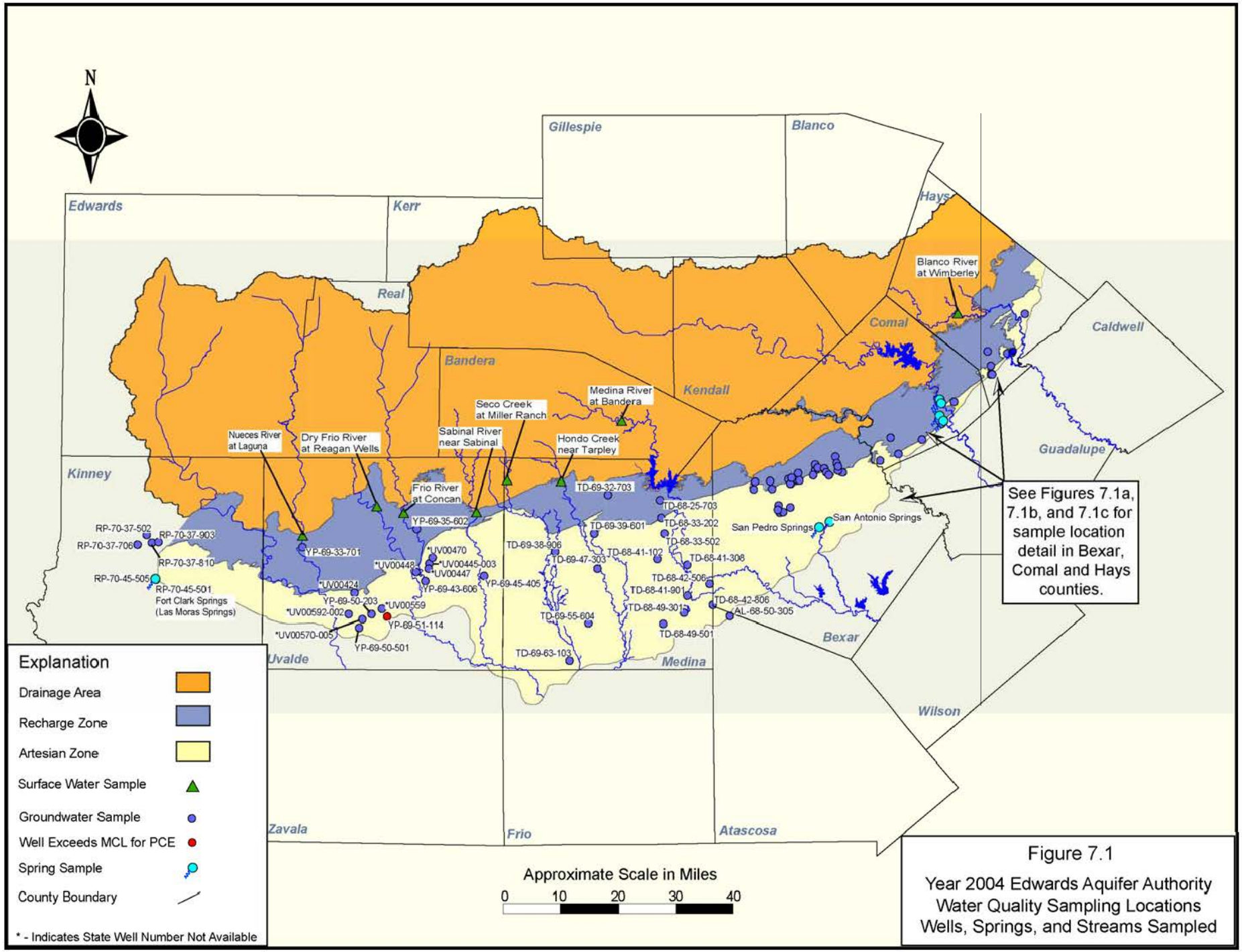


Figure 7.1

Year 2004 Edwards Aquifer Authority Water Quality Sampling Locations Wells, Springs, and Streams Sampled

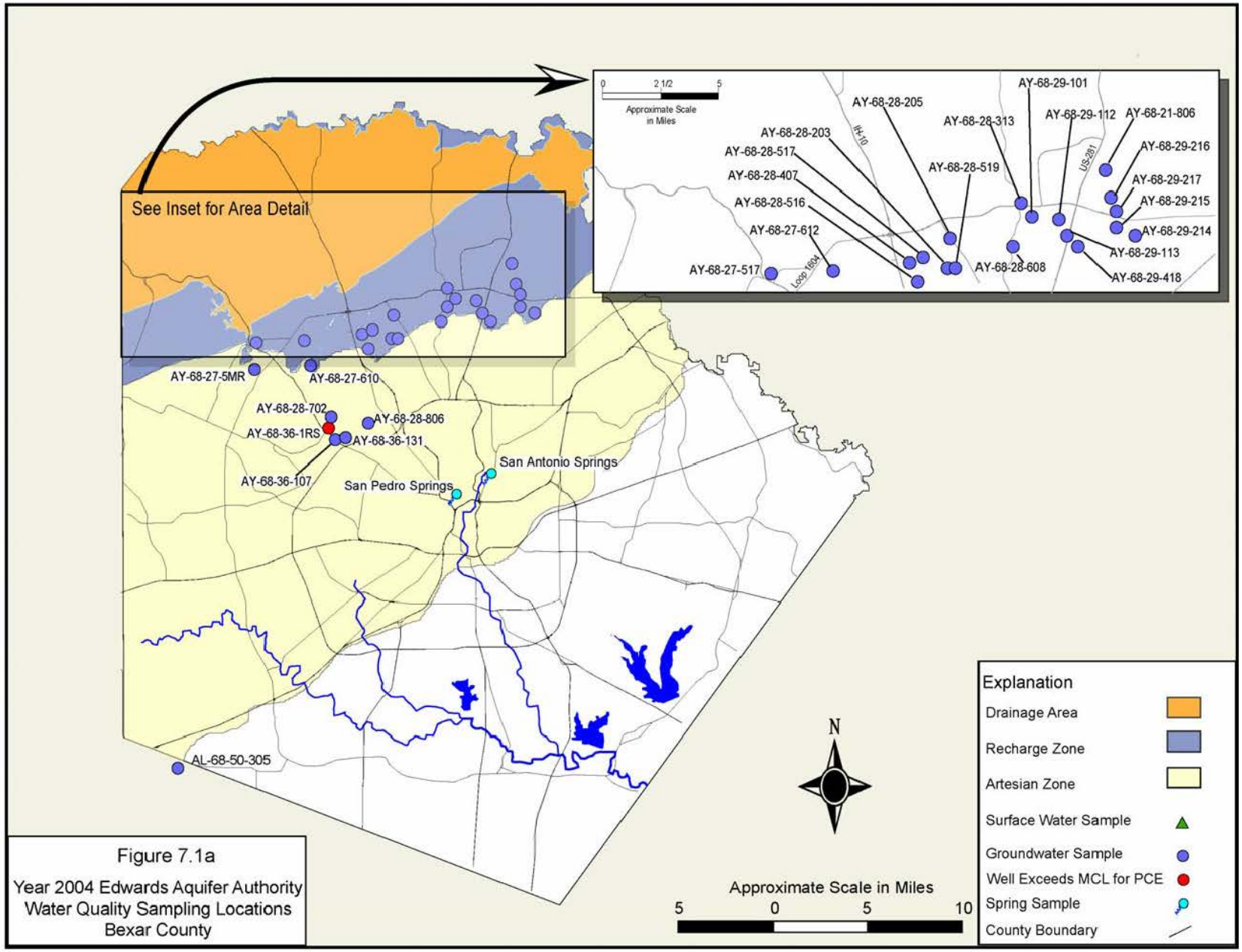


Figure 7.1a

Year 2004 Edwards Aquifer Authority Water Quality Sampling Locations Bexar County

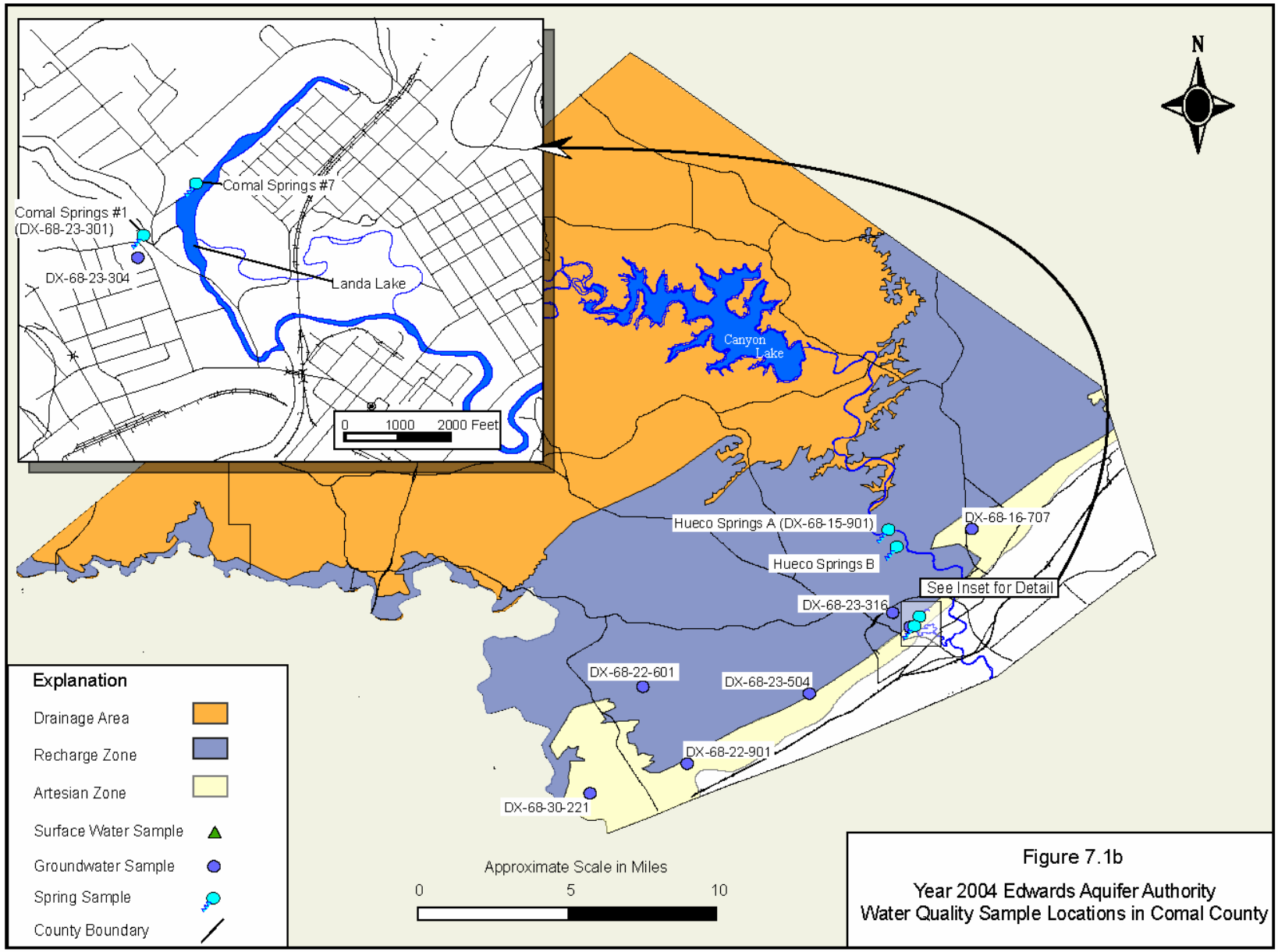


Figure 7.1b

Year 2004 Edwards Aquifer Authority
Water Quality Sample Locations in Comal County

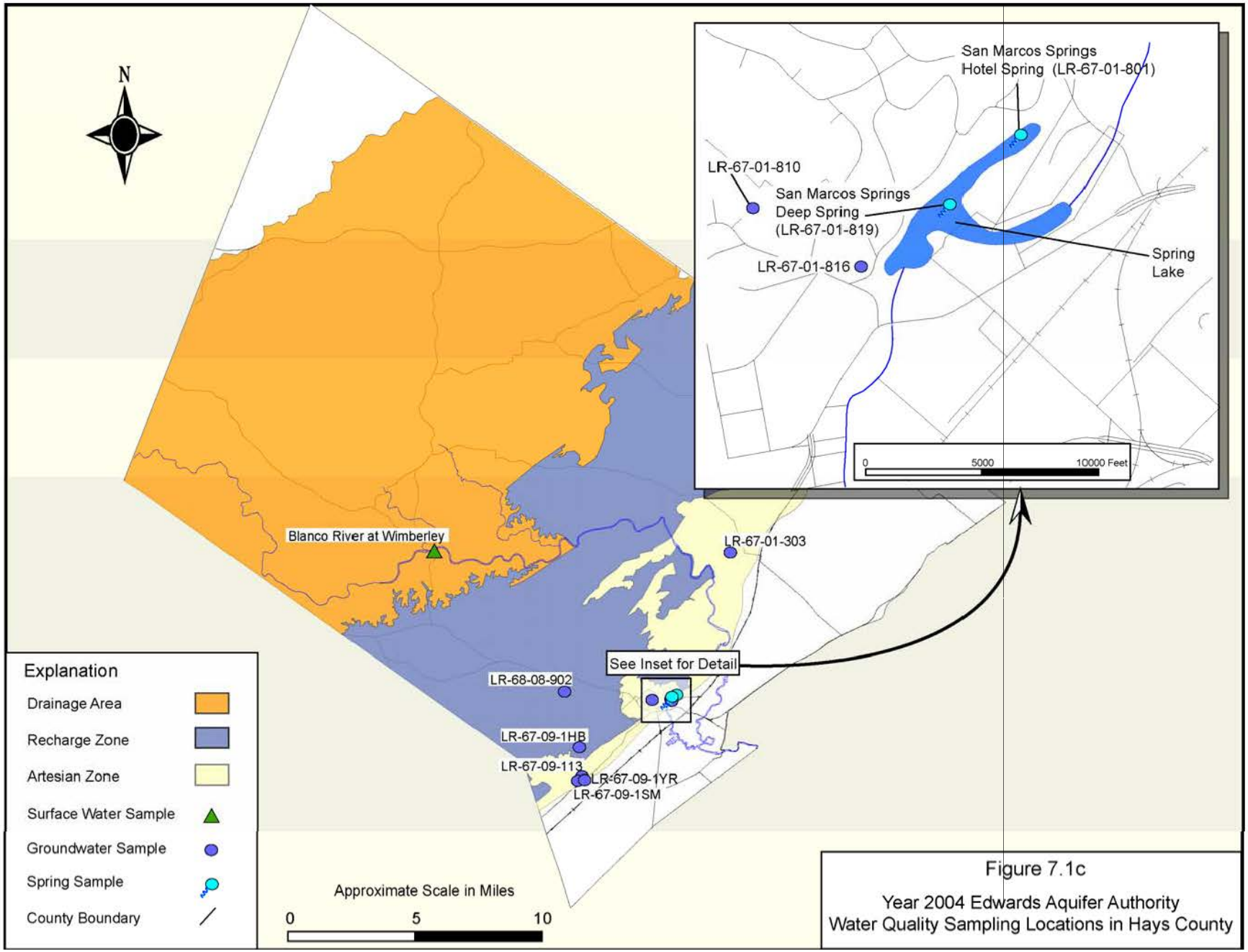


Figure 7.1c

Year 2004 Edwards Aquifer Authority
Water Quality Sampling Locations in Hays County

Table 7.1 Comparison of drinking water quality standards to range of concentrations from water quality results, 2004.

Parameter and Method	Maximum Contaminant Levels or Secondary Standards	Range of Concentrations Detected in 2004	Typical Range of Concentrations for the Freshwater Edwards Aquifer
Field			
Temperature **(˚C)** EPA 170.1	**NE**	**17.8 – 43.5**	**20-23**
pH measured at 25 ˚C EPA 150.1	**6.5 – 8.5 ***	**6.12 – 8.08**	**6.5-8.0**
Turbidity **(NTU)**	**NE**	**0.02 – 78.00**	**0.05-2**
Dissolved Oxygen (DO) **(mg/L)**	**NE**	**0.25 – 9.73**	**2-4**
Alkalinity total as $CACO_3$ SM 2320 B	**NE**	**175 - 361**	**200-400**
Specific Conductance uS/cm	**NE**	**375 - 1128**	
Fecal Coliform (colonies / 100 mL)	**0 MCLG[1]**	**0 – 3082**	**0-3**
Fecal Strep (colonies / 100 mL)	**0 MCLG[1]**	**0 – 585**	**0-9**
Nutrients (mg/L)			
Nitrate-nitrite as N EPA354.1/300.0	**10**	**0 – 38.87**	**ND-2.5**
Nitrogen nitrate as N (NO_3-N) EPA 300.0	**10**	**0 – 2.85**	**ND-2.5**
Nitrogen nitrite as N (NO_2-N) EPA 354.1	**1**	**0 – 0.0086**	**ND-0.02**
Orthophosphate EPA 365.3	**NE**	**0- 0.105**	**ND-0.03**
Biochemical Oxygen Demand EPA 5210B	**NE**	**<2**	**ND**
Major Ions (mg/L)			
Sulfate (SO_4) EPA 300.0	**250***	**5.52 - 242**	**30-60**
Solids total dissolved (TDS) EPA 160.1	**NE**	**210 - 734**	**200-400**
Solids total suspended (TSS) EPA 160.2	**NE**	**0 - 82**	**ND-2**
Bromide (Br) EPA 300.0	**NE**	**0.047 – 0.530**	**ND-0.2**
Chloride (CI) EPA 300.0	**250***	**4.13 - 147**	**15-50**
Fluoride (F) EPA 340.2	**4.0**	**0.02 – 2.77**	**0.02-0.4**
Bicarbonate (HCO_3) SM 2320 B	**NE**	**218.44 – 331.93**	**200-400**
Carbonate (CO_3) SM 2320 B	**NE**	**0 – 9.7**	**0**
Metals by EPA 200.7 and 200.8 (µg/L)			
Aluminum	**24,000****	**ND – 3.84**	**ND-40**
Antimony	**6.0**	**ND – 1.15**	**ND–1**
Arsenic	**50.0**	**<2- 3.46**	**ND-1**
Barium	**2,000**	**25.5 - 351**	**10-100**
Beryllium	**4.0**	**<106**	**ND-1**
Boron	**2,200****	**52.5 - 254**	**ND-60**
Cadmium	**5.0**	**<1**	**ND-0.6**
Chromium	**100.0**	**<1 – 3.80**	**ND-3**
Cobalt	**1,500****	**<1**	**ND-1**
Copper	**1,000***	**<1 – 31.0**	**ND-4**
Iron	**300***	**<50 – 927**	**ND-6**
Lead	**15.0**	**<1 – 3.32**	**ND–3**
Lithium	**490****	**<2 – 92.3**	**ND-5**
Manganese	**50.0***	**<1 – 12.7**	**ND-4**
Molybdenum	**120****	**<1 – 32.3**	**ND-10**
Nickel	**490****	**1.96 – 4.67**	**ND-3**
Selenium	**50.0**	**<4-34.7**	**ND-30**
Strontium	**15,000****	**114 - 25500**	**200-500**
Thallium	**2.0**	**<1**	**ND-1**
Vanadium	**170****	**<1- 22.1**	**ND-4**
Zinc	**5,000***	**4.34 - 383**	**ND-20**
Metals by SW-6010B (mg/L)			
Arsenic	**0.05**	**ND - 0.0099 (B)**	**ND-0.001**
Barium	**2.0**	**ND – 0.0396 (B)**	**0.010-0.10**
Beryllium	**0.004**	**ND – 0.0023 (B)**	**ND-0.001**
Cadmium	**0.005**	**ND – 0.0046 (B)**	**ND-0.0006**
Calcium	**NE**	**28 - 173**	**0.05-0.10**
Chromium	**0.1**	**ND – 0.0018 (B)**	**ND-0.003**
Copper	**1***	**ND – 0.0089 (B)**	**ND-0.004**
Iron	**0.3***	**ND – 0.249 (B)**	**ND-0.006**
Lead	**0.015****	**ND – 0.0056 (B)**	**ND–0.003**
Magnesium	**NE**	**ND – 18.4**	**ND-0.004**
Manganese	**0.05*/1.1****	**ND – 0.0023 (B)**	**ND-0.004**

Table 7.1 (Continued)

Parameter and Method	Maximum Contaminant Levels or Secondary Standards	Range of Concentrations Detected in 2004	Typical Range of Concentrations for the Freshwater Edwards Aquifer
Nickel	.49**	<0.0007-0.0082	ND-0.003
Phosphorus	NE	ND – 0.0531 (B)	ND-0.02
Potassium	NE	ND – 2.29 (B)	5-15
Selenium	0.05	<0.0045–0.01 (B)	ND-0.03
Silicon	NE	<3.5-5.83 (B)	0.005-0.008
Silver	0.1*	<0.0009	ND-0.001
Sodium	NE	<3.8–30.6	0.005-0.015
Strontium	15**	<0.0001-0.802	0.2-0.5
Thallium	0.002	<0.0043	ND-0.001
Zinc	5.0*	<0.001-0.0097 (B)	ND-0.02
Metals by SW-7041 (mg/L)			
Antimony	0.006	ND – 0.0374	ND–0.001
Metals by SW-7470A (mg/L)			
Mercury	.002	<0.0001–0.00018	ND-0.0001
Herbicides by SW-8141 (µg/L)			
Atrazine	3.0	<0.13	ND
Azinphos methyl	37**	<0.023	ND
Bolstar (Sulprofos)	NE	<0.012	ND
Carbophenothion	320**	<0.23	ND
Chlorpyrifos	73**	<0.022	ND
Chlorpyrifos Methyl	NE	<0.17	ND
Coumaphos	170**	<0.023	ND
Demeton	0.98**	<0.030	ND
Diazinon	22**	<0.010	ND
Dichlofenthion	NE	<0.11	ND
Dichlorvos	3.1**	<0.047	ND
Dimethoate	4.9**	<0.088	ND
Disulfoton	0.98**	<0.026	ND
EPN	0.24**	<0.19	ND
Ethion	12**	<0.12	ND
Ethoprop	2.4**	<0.019	ND
Ethyl Parathion	150**	<0.083	ND
Famphur	0.73**	<0.25	ND
Fensulfothion	24**	<0.03	ND
Fenthion	1.7**	<0.014	ND
Malathion	490**	<0.071	ND
Merphos	0.73**	<0.024	ND
Methyl parathion	6.1**	<0.022	ND
Mevinphos	NE	<0.022	ND
Mononcrotophos	NE	<2.9	ND
Naled	49**	<0.022	ND
Phorate	4.9**	<0.027	ND
Ronnel	1,200**	<0.021	ND
Simazine	4.0	<0.19	ND
Stirophos (Tetrachlorvinphos)	NE	<0.014	ND
Sulfotepp (Tetraethyl dithiopyrophosphate)	12**	<0.17	ND
Terbufos	0.61**	<0.16	ND
Thionazin	1.7**	<0.21	ND
Tokuthion (Prothiofos)	NE	<0.22	ND
Trichloronate	73**	<0.12	ND
Herbicides by SW-8151 (µg/L)			
2,4,5-T	NE	ND	ND
2,4,5-TP (Silvex)	50.0	ND	ND
2,4-D	70.0	ND	ND
Bentazon	NE	ND	ND
Dinoseb	7.0	ND	ND
Pentachlorophenol	1.0	<1	ND
Picloram	500	ND	ND

Table 7.1 (Continued)

Parameter and Method	Maximum Contaminant Levels or Secondary Standards	Range of Concentrations Detected in 2004	Typical Range of Concentrations for the Freshwater Edwards Aquifer
Pesticides by SW-8081 (µg/L)			
4, 4'-DDD	**3.8****	**<0.009**	**ND**
4, 4'-DDE	**2.7****	**<0.004**	**ND**
4, 4'-DDT	**2.7****	**<0.006**	**ND**
Aldrin	**0.054****	**<0.02**	**ND**
Alpha-bhc (alpha-hexachlorocyclohexane)	**0.14****	**<0.006-0.02(J)**	**ND**
Alpha-chlordane	**2.6****	**<0.009**	**ND**
Beta-bhc (beta-hexachlorocyclohexane)	**0.51****	**<0.005**	**ND**
Delta-bhc (delta-hexachlorocyclohexane)	**0.51****	**<0.005 – 0.006 (J)**	**ND**
Dieldrin	**0.057****	**<0.004**	**ND**
Endosulfan I	**49****	**<0.005**	**ND**
Endosulfan II	**150****	**<0.03**	**ND**
Endosulfan sulfate	**150****	**<0.02**	**ND**
Endrin	**2.0****	**<0.009**	**ND**
Endrin aldehyde	**7.3****	**<0.03**	**ND**
Endrin ketone	**7.3****	**<0.02**	**ND**
Gamma-bhc (Lindane)	**0.2**	**<0.01 – 0.03 (J)**	**ND**
Gamma-chlordane	**2.6****	**<0.004 – 0.005 (J)**	**ND**
Heptachlor	**0.4**	**<0.004 – 0.006 (J)**	**ND**
Heptachlor epoxide	**0.2**	**<0.003**	**ND**
Methoxychlor	**40.0**	**<0.05**	**ND**
Toxaphene	**3.0**	**<0.5**	**ND**
PCBs by SW-8082 (µg/L)			
Aroclor 1016	**0.5**	**<0.5**	**ND**
Aroclor 1221	**0.5**	**<0.5**	**ND**
Aroclor 1232	**0.5**	**<0.5**	**ND**
Aroclor 1242	**0.5**	**<0.5**	**ND**
Aroclor 1248	**0.5**	**<0.5**	**ND**
Aroclor 1254	**0.5**	**<0.5**	**ND**
Aroclor 1260	**0.5**	**<0.5**	**ND**
SVOCs by SW-8270C (µg/L)			
2, 4, 5-trichlorophenol	**2,400****	**<0.9**	**ND**
2, 4, 6-trichlorophenol	**83****	**<0.9**	**ND**
2, 4-dichlorophenol	**73****	**<0.8**	**ND**
2, 4-dimethylphenol	**490****	**<0.5**	**ND**
2, 4-dinitrophenol	**49****	**<4**	**ND**
2-chlorophenol	**120****	**<1**	**ND**
2-methyl-4 6-dinitrophenol	**490****	**<4**	**ND**
2-methylphenol (o-cresol)	**1,200****	**<0.5**	**ND**
2-nitrophenol	**49****	**<2**	**ND**
3 & 4 methylphenol (m&p cresol)	**NE**	**<1**	**ND**
4-chloro-3-methylphenol	**NE**	**<0.5**	**ND**
4-nitrophenol	**49****	**<4**	**ND**
Naphthalene	**490****	**<0.3 – 1 (J)**	**ND**
Nitrobenzene	**12****	**<0.5**	**ND**
O o o-triethyl phosphorothioate	**0.2****	**<0.5**	**ND**
Pentachlorophenol	**1.0**	**<4**	**ND**
Phenanthrene	**730****	**<0.3**	**ND**
Phenol	**7,300****	**<0 .3**	**ND**
Pronamide	**1,800****	**<0.5**	**ND**
Pyrene	**730****	**<0.3**	**ND**
M-nitroaniline	**NE**	**<2**	**ND**
N-nitrosodi-n-propylamine	**0.13****	**<0.5**	**ND**
N-nitrosodiphenylamine	**190****	**<1**	**ND**
O-nitroaniline	**NE**	**<0.7**	**ND**
P-nitroaniline	**NE**	**<2**	**ND**
Acenaphthene	**1,500****	**<0.5**	**ND**
Acenaphthylene	**1,500****	**<0.5**	**ND**
Acetophenone	**2,400****	**<0.5**	**ND**
Anthracene	**7,300****	**<1**	**ND**
Benzo(a)anthracene (1 2-benzanthracene)	**1.3****	**<0.6**	**ND**
Benzo(b)fluoranthene	**1.3****	**<2**	**ND**

Table 7.1 (Continued)

Parameter and Method	Maximum Contaminant Levels or Secondary Standards	Range of Concentrations Detected in 2004	Typical Range of Concentrations for the Freshwater Edwards Aquifer
Benzo(k)fluoranthene	**13****	**<0.9**	**ND**
Benzo(ghi)perylene	**730****	**<0.5**	**ND**
Benzo(a)pyrene	**0.2**	**<2**	**ND**
Butyl benzyl phthalate	**4,900****	**<1**	**ND**
Bis(2-chloroethoxy)methane	**0.83****	**<0.5**	**ND**
Bis(2-chloroethyl)ether	**0.83****	**<0.5**	**ND**
Bis(2-ethylhexyl)phthalate	**6.0**	**<0.5 – 8**	**ND**
4-bromophenyl phenyl ether	**0.061****	**<0.5**	**ND**
Carbazole	**46****	**<0.5**	**ND**
4-chloroaniline	**NE**	**<0.5**	**ND**
2-chloronaphthalene	**2,000****	**<0.5**	**ND**
4-chlorophenyl phenyl ether	**0.061****	**<0.5**	**ND**
Chrysene	**130****	**<0.3**	**ND**
Dibenzo(ah)anthracene	**0.2****	**<1**	**ND**
Dibenzofuran	**98****	**<0.5**	**ND**
3 3-dichlorobenzidine	**2****	**<4**	**ND**
Diethyl phthalate	**20,000****	**<0.5**	**ND**
Dimethyl phthalate	**20,000****	**<1**	**ND**
Di-n-butyl phthalate	**2,400****	**<1**	**ND**
Di-n-octyl phthalate	**490****	**<1**	**ND**
2 4-dinitrotoluene	**1.3****	**<2**	**ND**
2 6-dinitrotoluene	**1.3****	**<0.5**	**ND**
Diphenyl (1 1-biphenyl)	**1,200****	**<0.2**	**ND**
Fluoranthene	**980****	**<0.5**	**ND**
Fluorene	**980****	**<0.5**	**ND**
Hexachlorobenzene	**1****	**<0.5**	**ND**
Hexachlorocyclopentaiene	**NE**	**<10**	**ND**
Hexachloroethane	**NE**	**<10**	**ND**
Indeno(1,2,3-cd)pyrene	**NE**	**<10**	**ND**
Isophorone	**NE**	**<10**	**ND**
VOCs SW-8260b (µg/L)			
1, 1, 1-trichloroethane	**200.0**	**<0.08**	**ND**
1, 1, 2, 2-tetrachloroethane	**4.6****	**<0.09**	**ND**
1, 1, 2-trichloro-1 2 2-trifluoroethane	**73****	**<0.07**	**ND**
1, 1, 2-trichloroethane	**5.0**	**<0.09**	**ND**
1, 1-dichloroethane	**2,400****	**<0.06**	**ND**
1, 1-dichloroethene (vinylidene chloride)	**7.0**	**<0.07-0.4 (J)**	**ND**
1, 2, 4-trichlorobenzene	**70.0**	**<0.08 – 0.3 (J)**	**ND**
1, 2-dibromo-3-chloropropane	**0.2**	**<1**	**ND**
1, 2-dibromoethane (EDB)	**NE**	**<0.07**	**ND**
1, 2-dichlorobenzene	**600****	**<0.06**	**ND**
1, 2-dichloroethane (EDC)	**5.0**	**<0.09**	**ND**
1, 2-dichloropropane	**5.0**	**<0.06**	**ND**
1, 3-dichlorobenzene	**730****	**<0.09**	**ND**
1, 4-dichlorobenzene	**75****	**<0.06**	**ND**
2-hexanone	**1,500****	**<0.09**	**ND**
4-methyl-2-pentanone (MIBK)	**NE**	**<0.1**	**ND**
Acetone	**22,000****	**<1 – 4 (J)**	**ND**
Benzene	**5.0**	**<0 .05**	**ND**
Bromochloromethane (chlorobromomethane)	**980****	**<0.09**	**ND**
Bromodichloromethane	**15****	**<0.09 – 0.6 (J)**	**ND**
Bromoform (tribromomethane)	**120****	**<0.2**	**ND**
Bromomethane (methyl bromide)	**34****	**<0.4**	**ND**
Carbon disulfide	**2400****	**<0.05 - 19**	**ND**
Carbon tetrachloride	**5.0**	**<0.07**	**ND**
Chlorobenzene	**100.0**	**<0.06**	**ND**
Chloroethane (ethyl chloride)	**9,800****	**<0.2**	**ND**
Chloroform	**240****	**<0.06 – 0.08(J)**	**ND**
Chloromethane (methyl chloride)	**70****	**<0.1– 0.2(J)**	**ND**

Table 7.1 (Continued)

Parameter and Method	Maximum Contaminant Levels or Secondary Standards	Range of Concentrations Detected in 2004	Typical Range of Concentrations for the Freshwater Edwards Aquifer
Cis-1 2-dichloroethene	**70.0**	**<0.08-0.4(J)**	**ND**
Cis-1 3-dichloropropene	**1.7****	**<0.08**	**ND**
Cyclohexane	**120,000***	**<0.1**	**ND**
Dibromochloromethane	**11****	**<0.08 - 1 (J)**	**ND**
Dichlorodifluoromethane	**4,900****	**<0.09**	**ND**
Ethylbenzene	**700****	**<0.03**	**ND**
Isopropylbenzene (cumene)	**700 / 2400****	**<0.04**	**ND**
Methyl ethyl ketone (2-butanone)	**15,000****	**<0.2**	**ND**
Methylene chloride (dichloromethane)	**5****	**<0.4**	**ND**
Styrene	**100.0**	**<0.05**	**ND**
Tert-butyl methyl ether (mtbe)	**240****	**<0.04**	**ND**
Tetrachloroethene	**5.0**	**<0 – 20.0**	**ND**
Toluene	**1,000**	**<0 – 2.0**	**ND**
Trans-1, 2-dichloroethene	**100**	**<0.2**	**ND**
Trans-1, 3-dichloropropene	**9.1****	**<0.07**	**ND**
Trichloroethene	**5.0**	**<0.08-1.0**	**ND**
Trichlorofluoromethane	**7,300****	**<0.06**	**ND**
Vinyl chloride (chloroethene)	**2.0**	**<0.07**	**ND**
Xylenes (total)	**10,000**	**<0.1**	**ND**

Data source: EPA maximum contaminant levels, 40 CFR, Part 141, 2005 (www.epa.gov).
NE indicates no established maximum contaminant level, secondary standard, or groundwater protective concentration levels (PCLs).
* Secondary drinking water standards (40 CFR, Part 143, 2005).
**Texas Risk Reduction Program (TRRP) rules, Tier 1, residential PCLs, 30 TAC Chapter 350, updated March, 2005.
(see: http://www.tnrcc.state.tx.us/permitting/trrp.htm)
1= MCLG-Maximum Contaminant Level Goal
ND = indicates not detectable
NA = not analyzed
Note: Reader is encouraged to check 40 CFR, 141, and Tier 1 PCL value updates.
<=Indicates the detection limit and not necessarily the concentration of the compound in water.

Table 7.2 Secondary drinking-water standards.

Parameter	Secondary Drinking Water Standard (mg/L)
Aluminum	0.05-0.2
Chloride	250
Color	15 color units
Copper	1.0
Corrosivity	Non-corrosive
Fluoride	2.0
Iron	0.3
Manganese	0.05
pH	6.5-8.5
Silver	0.10
Sulfate	250
Total Dissolved Solids (TDS)	500
Zinc	5

Data source: EPA, 40 CFR, Part 143, 2005 (www.epa.gov).
The range of concentrations detected for these parameters in the Edwards Aquifer is included on **Table 7.1**. Color and corrosivity parameters were not included in the 2004 analytical program.

7.2 Freshwater/Saline Water Interface Studies

The freshwater/saline-water interface of the Edwards Aquifer is a regional boundary between the fresh and saline portion of the aquifer and is defined by a mapped iso-concentration line representing 1,000 mg/L of total dissolved solids (TDS). Groundwater is commonly classified according to TDS concentrations, as shown in **Table 7.3**.

Table 7.3 Classification of groundwater quality based on total dissolved solids.

Description	TDS Concentration (mg/L)
Fresh	Less than 1,000
Slightly saline	1,000 to 3,000
Moderately saline	3,000 to 10,000
Very saline	10,000 to 35,000
Brine	More than 35,000

Source: Winslow and Kister, 1956.

The interface varies both laterally and vertically in portions of the aquifer. Locally this line is referred to as the freshwater/saline-water interface, or "bad-water line," which defines the farthest downdip extent of potable water (Pavilicek and others, 1987). The approximate location of the freshwater/saline-water interface is shown in **Figures 1.1 and 7.1**. Water quality concerns related to the position and stability of the freshwater/saline-water interface have been expressed by some researchers. The limited water quality data collected during and since the drought of record in the 1950s is inconclusive as to whether encroachment of saline water is likely during a recurrence of extreme drought conditions. However, encroachment of saline water has not been identified as a problem in the region when aquifer conditions are above the lowest levels recorded in the aquifer.

South and southeast of the interface, water from the aquifer is slightly to moderately saline and contains moderate to large concentrations of dissolved chloride and sulfate. The interface varies both laterally and vertically, as determined in several wells near the boundary. Water from some wells north of the interface, and from all wells south of the interface contains dissolved hydrogen sulfide gas. In most wells along the interface, freshwater has been encountered in the upper portion and saline water in the lower portion of the Edwards Aquifer (Groschen, 1993; Reeves, 1971). Other wells along the interface have encountered the opposite vertical distribution, with saline-water zones overlying freshwater zones, particularly in the southern area of Medina County.

In 1985, the former Edwards Underground Water District (EUWD) in cooperation with the USGS, TWDB and San Antonio Water System (SAWS) initiated a research study of the freshwater/saline-water interface. A series of seven wells were drilled in the San Antonio area that transects the freshwater/saline-water interface to detect changes in water quality as the hydraulic head in the aquifer changes. This program was implemented in response to the concern that increased aquifer withdrawals might result in encroachment of saline-water into the aquifer's freshwater zone. As part of the Authority's ongoing water quality program, periodic samples are collected and analyzed. Other samples are collected when certain spring-discharge criteria are met.

The possibility of saline-water encroachment and subsequent deterioration of water quality in the aquifer led to the construction of additional water quality monitor well transects across the freshwater/saline-water interface. Two monitor wells were drilled and tested by the

Authority with the cooperation of local entities. These transects are located in the New Braunfels and San Marcos areas (Poteet and others, 1992). Water quality in these transect wells has been relatively uniform with no significant changes since the program began. Since 1997, SAWS, working with the USGS, TWDB, and the Authority, has continued to install transects of freshwater/saline-water interface monitoring wells. These transects include:

- Kyle Transect (installed in 1998)
- East Uvalde "Knippa Gap" Transect (installed in 1999)
- "Tri-County" (Bexar-Comal- Guadalupe) Transect (installed 2000)
- Hays – Fish Hatchery Transect (2001)
- Mission Road Transect (2002)
- Pitluk Transect (Bexar County) Installation of Wells in Progress (2004-2005).

During the studies conducted to date (1986 to present), the data indicate that changes in the aquifer water levels have little effect on the water quality in wells that are directly adjacent to the freshwater/saline-water interface. The Authority, USGS, and SAWS will continue to monitor water quality in the freshwater/saline water interface monitoring wells.

7.3 Water Quality Data from Streams and Springs in the Edwards Aquifer Area

Surface water quality data are collected within the drainage area of the aquifer (see **Figure 7.1**) at USGS gauging stations located upstream of the Edwards Aquifer Recharge Zone. The surface water data collection sites are located within eight major stream basins that flow across the recharge zone and contribute significant groundwater recharge to the Edwards Aquifer. The streams monitored, from west to east, are the Nueces River, Dry Frio River, Frio River, Sabinal River, Seco Creek, Hondo Creek, Medina River, and Blanco River. In 2004, surface water samples were collected two times from each of the listed rivers and creeks. Data from these sites can be used as a base-line to evaluate the quality of water recharging the aquifer and the sensitivity of water quality to land use changes in various areas of the Edwards Aquifer region.

Water quality data are also collected from five major spring groups discharging from the aquifer because they provide composite samples of the vast underground drainage network that makes up the aquifer. Multiple spring orifices were sampled at Comal, Hueco, and San Marcos springs, while single spring orifices were sampled at San Antonio and San Pedro springs. Additionally in 2004, a sample was collected from Las Moras (Fort Clark) Springs located in Kinney County and analyzed by the TWDB. With the exception of Las Moras Springs, each spring group was sampled four times during calendar year 2004.

Summary of Analytical Results – Water samples from the eight stream locations and six spring groups were analyzed for the following metals: aluminum, antimony, arsenic, barium, beryllium, boron, bromide, cadmium, chromium, cobalt, copper, iron, lead, lithium, manganese, mercury, molybdenum, nickel, selenium, silver, strontium, thallium, vanadium, and zinc. Detectable metal concentrations in surface water are common at trace amounts.

Analytical results for metals with a primary standard or MCL indicate the presence of antimony at San Marcos Springs, Deep Spring orifice (LR-67-01-819) at a concentration of 0.0223 mg/L. The MCL for antimony is 0.006 mg/L. Antimony was also detected at San Pedro springs at 0.021 mg/L; however, this sample also showed antimony contamination in the associated method blank which indicates a probable false positive result. Based on previously discussed issues with false positive detections for antimony during 2003 (see Section 7.1), it appears doubtful that antimony concentrations are an issue in the aquifer. However, the Authority will continue to collect samples for antimony and other metals in order to ascertain the probability of any trends for regulated metals in the aquifer.

Laboratory analyses indicated trace amounts of nitrate-nitrite as nitrogen in surface water and slightly higher concentrations in spring water samples. Of the 16 total surface water samples collected in 2004, nitrate-nitrite as nitrogen concentrations ranged from 0.165 mg/L to 0.33 mg/L. Of the 33 spring water samples collected in 2004, nitrate-nitrite as nitrogen concentrations ranged between 0.734 mg/L and 2.13 mg/L. None of the nitrate concentrations detected exceeds the MCL of 10 mg/L (nitrate as nitrogen) for drinking water.

Stream samples were not tested for SVOCs or VOCs. Stream water samples are not tested for VOCs due to the inherent volatility of VOCs making their presence in surface waters rare. Stream samples were tested for organic compounds related to herbicides and pesticides in 2004 with no positive results noted for these compounds.

Water samples from San Pedro, San Antonio, Comal, Hueco and San Marcos springs were analyzed for VOCs in 2004. Three different VOC analytes were detected at very low concentrations. Detected compounds are discussed by spring group as applicable. All of the

analytes are "J" flagged indicating the detected concentration is between the laboratory reporting limit and method detection limit, and therefore may not be representative of actual concentrations. In addition, most of the acetone detections are also "TB" flagged, indicating detection of acetone in the associated trip blank sample. Analytes with a TB flag are believed to be false positive detections and not representative of the aquifer. Of the three compounds listed below, 1 2 4-trichlorobenzene is the only compound directly regulated under the primary drinking water standards with an MCL of 70 µg/L. The other two compounds are regulated under the TRRP program (see Table 7.1 footnotes).

San Antonio Springs:

- Acetone was detected at 1 (J, TB) µg/L.

San Pedro Springs:

- Acetone was detected twice at 1.0 (J,TB) µg/L and 4 (J) µg/L, (No MCL)
- Chloromethane was detected at 0.2 (J) µg/L (No MCL)

Comal Springs:

- Acetone was detected three times at Spring #7, at 1 (J,TB) µg/L, 2 (J,TB) µg/L, and 1 (J) µg/L (no MCL established).

Hueco Springs:

- Acetone was detected three times at Hueco A Spring (DX-68-15-901) at 2 (J) µg/L, 1 (J, TB) µg/L and 1 (J, TB) µg/L (no MCL established).
- 1 2 4-Trichlorobenzene was detected at Hueco A Spring at 0.2 (J) µg/L (MCL=70 µg/L)
- Acetone was detected twice at Hueco B Spring at 1 (J) µg/L and 0.8 (J,TB) µg/L (no MCL established).

San Marcos Springs:

- Acetone was detected at three times Deep Spring Orifice (LR-67-01-819) at 2 (J) µg/L, 2 (J, TB) µg/L, and 0.6 (J, TB) µg/L, (no MCL established).
- Acetone was detected at Aquarena Spring Orifice (LR-67-01-801) at 1 (J, TB) µg/L, (no MCL established).

As discussed in Section 7.1, many of the listed compounds are not believed to be representative of actual concentrations in the aquifer. Specifically, detections summarized for the springs related to acetone are suspect due to their characteristics as pervasive post collection contaminants, their associated data flags, or their detection over a widespread geographic area.

The five major spring groups were analyzed for SVOCs in 2004; however, Fort Clark Springs was not. Two SVOC analytes were detected in the spring samples, bis (2-ethylhexyl) phthalate and naphthalene. The semi-volatile organic compound bis (2-ethylhexyl) phthalate was detected at all five spring complexes during 2004. Bis (2-ethylhexyl) phthalate was detected above the MCL of 6 µg/L, at San Marcos and San Antonio springs. Naphthalene was detected at San Marcos Springs. No MCL has been established for naphthalene. SVOC detections for the springs are summarized below:

San Pedro Springs:

- Bis (2-ethylhexyl) phthalate was detected at 1 (J) µg/L.

San Antonio Springs:

- Bis (2-ethylhexyl) phthalate was detected at 8 (J) µg/L.

Comal Springs:

- Bis (2-ethylhexyl) phthalate was detected at Spring #1 at 0.7 (J) µg/L, and Spring #7 at 1 (J) µg/L.

Hueco Springs:

- Bis (2-ethylhexyl) phthalate was detected at A-Spring at 0.5 (J) µg/L, and at B-Spring at 3 (J) µg/L, and 0.5 (J) µg/L.

San Marcos Springs:

- Bis (2-ethylhexyl) phthalate was detected at Deep Spring at 5 (J) µg/L, 1 (J) µg/L, and 0.9 (J) µg/L and at Hotel Spring at 7 (J) µg/L.
- Naphthalene was detected at Deep Spring at 1 (J) µg/L, no MCL has been established for this compound.

Phthalates (especially bis (2-ethylhexyl) phthalate) are common post sample collection contaminants as discussed in Section 7.1 of this report. These phthalate detections are not believed to be representative of contamination in the aquifer. They are believed to be representative of post sample collection contamination from sampling or analytical equipment. The Authority will continue monitoring for the presence of contaminants at these stream and spring sites.

Surface water samples and spring water samples from the five major spring groups were tested for herbicides, pesticides and PCBs in 2004. Results for surface water samples were negative with regard to these analyses. However, a portion of the surface water samples analyzed for herbicides required a second analysis by the laboratory. This second run was performed outside the recommended hold times. As such, although all analytes were listed as non-detects, these samples are "H" flagged for hold time violation. Spring sample results indicated the presence of five different pesticide compounds at concentrations between the laboratory reporting limit and the method detection limit ("J" flag notation). As such, the results may not be representative of actual concentrations. Of the compounds listed below, only gamma BHC (lindane) and heptachlor have an MCL under the primary drinking water standards, the remaining compounds are regulated in the TRRP (See Table 7.1 footnotes). The MCL for gamma BHC is 0.2 µg/L, and 0.4 µg/L for heptachlor. Pesticide detections in spring samples are summarized below:

San Pedro Springs:

- Gamma Chlordane 0.005 (J) µg/L.

Huceo Springs (B Spring):

- Alpha BHC 0.02 (J) µg/L.

San Marcos Springs:

- Gamma BHC at Deep Spring Orifice 0.03 (J) µg/L.
- Gamma BHC at Hotel Spring Orifice 0.02 (J) µg/L.

Comal Springs:

- Heptachlor at Comal Springs #7 Orifice 0.006 (J) µg/L.
- Heptachlor at Comal Springs #1 Orifice (DX-68-23-301) 0.005 (J) µg/L.
- Delta BHC at Comal Springs #7 Orifice 0.006 (J) µg/L.

8.0 SUMMARY

This report presents the results of the Authority's Edwards Aquifer Data Collection Program for calendar year 2004. During 2004, the Authority collected a wide variety of data regarding the Edwards Aquifer including:

- Groundwater level data
- Precipitation measurement data
- Groundwater recharge data
- Groundwater discharge and usage data
- Water quality data from groundwater, surface water, and springs

Groundwater level data

Water levels remained above the historical mean value at the Bexar County (J-17) index well throughout 2004. Other wells in the region exhibited similar behavior. Aquifer (groundwater) levels started the year above mean values, and with the exception of a drop in levels in the early summer, trended higher throughout the year. Bexar County index well (J-17) reached the second highest water level on record, while monitoring wells in Comal and Hays counties achieved new record highs in 2004.

Precipitation measurement data

Precipitation in the Edwards Aquifer region was above mean in 2004, with rainfall amounts ranging from approximately 15 percent above mean in Uvalde County to over 50 percent above mean in Medina, Comal, and Hays counties. Rainfall amounts varied from just over 16-inches to more than 55-inches across the region. Uvalde, Edwards and Real counties, and portions of southern Blanco County received the least rainfall. The highest rainfall volumes were recorded in central Bandera, northern Bexar, southern Kendall, and southern Comal and Hays counties.

Groundwater recharge data

Total recharge to the Edwards Aquifer was 2,176,100 acre-feet in 2004, approximately 388 percent above the median of 560,900 acre-feet for the period of record (1934-2004). Calendar year 2004 is the second highest annual recharge on record. The lowest annual recharge to the aquifer was 43,700 acre-feet in 1956, and the highest annual recharge to the aquifer was 2,486,000 acre-feet in 1992. Compared with the period of record, recharge in 2004 was above the median value for all eight basins for which the USGS estimates recharge is contributed to the Edwards Aquifer.

Groundwater discharge and usage data

In calendar year 2004, groundwater discharge from the Edwards Aquifer through wells and springs totaled 937,324 acre-feet. This amount is approximately 38 percent above the median of 679,500 acre-feet for the period of record (1934-2004). The lowest total annual discharge through wells and springs was 388,800 acre-feet in 1955, and the highest annual discharge was 1,130,000 acre-feet in 1992.

Discharge from wells in 2004 was estimated to be 314,424 acre-feet, approximately 77 percent of the 407,200 acre-foot ten-year median (1995-2004). The lowest annual discharge from wells for the period of record (1934-2004) was 101,900 acre-feet in 1934 and the highest was 542,400 acre-feet in 1989. The abundance and timing of precipitation during 2004 appears to have reduced a significant amount of the annual demand for the year.

Discharge from springs in 2004 was estimated to be 622,900 acre-feet, approximately 35 percent more than the ten-year mean of 459,900. The lowest annual discharge from springs for the period of record (1934-2004) was 69,800 acre-feet in 1956 and the highest was 802,800 acre-feet in 1992. For the period of record, 2004 experienced the second highest annual discharge from springs, exceeded only by the 1992 discharge value. The high aquifer levels at the beginning of the year, combined with above mean regional rainfall for the year contributed to spring discharge estimates that were greater than mean values.

Water quality data from groundwater, surface water, and springs

In 2004, the Authority collected water quality samples from 78 wells, eight streams, and six spring groups. In 2004, wells were generally sampled once, streams were generally sampled twice, and spring groups were generally sampled four times (Fort Clark Springs was sampled only once). Not all parameter groups were analyzed during each sampling event. Water samples from most sampling events were analyzed for major ions, metals, TDS, hardness, and nutrients. Water samples from 26 wells and the five spring groups were also analyzed for VOCs. Water samples from 17 wells and the five spring groups were also analyzed for SVOCs. Water samples collected from 23 wells, eight stream locations, and the five spring groups were also analyzed for pesticides and herbicides.

Concentrations of major ions are relatively uniform throughout the freshwater parts of the Edwards Aquifer. The freshwater portion of the aquifer consistently yields very hard, calcium bicarbonate water with low TDS and few detectable metals. The saline water portion of the aquifer (saline zone) contains water with more than 1,000 mg/L of TDS, which is largely made up of major anions and cations. In addition, samples from the saline zone occasionally contain detectable levels of regulated metals such as antimony, strontium, thallium, copper, and lead at concentrations less than their MCLs. Like groundwater from the freshwater portion of the aquifer, water from streams and springs also contain low concentrations of TDS and few detectable metals.

For the samples collected in 2004, three regulated metals, antimony, thallium, and arsenic were detected at concentrations above their respective MCLs. The MCL for antimony is 0.006 mg/L, the MCL for thallium is 0.002 mg/L and the MCL for arsenic is 0.05 mg/L.

Antimony was detected above the MCL in four wells ranging from 0.0064 mg/L, to 0.0205 mg/L. Antimony was also detected at concentrations slightly above the MCL in two spring water samples ranging at 0.021(MB) mg/L and 0.0223 mg/L. Thallium was detected above the MCL in one in Hays County well at 0.00267 mg/L. Arsenic was detected in one well in Bexar County at 0.0567 mg/L. As discussed in Section 7.1 of this document, these detections of antimony are believed to be false positives based on confirmation sampling directed at antimony and thallium.

For samples collected in 2004, nitrate-nitrite as nitrogen concentrations ranged from below the laboratory reporting limit to 8.78 mg/L in samples from wells, streams, and springs in the Edwards Aquifer region. Well water samples showed the greatest variation ranging from below the laboratory reporting limit to 8.78 mg/L. Surface water samples ranged from below the reporting limit to 1.33 mg/L while spring water samples ranged from 0.734 mg/L to 2.13 mg/L (nitrate as nitrogen). None of the samples collected exceeded the MCL of 10 mg/L of nitrate as nitrogen.

In 2004, 26 wells and five spring groups (8 sample points for springs) were analyzed for VOCs. One VOC was detected at or above its associated MCL in two wells. The compound tetrachloroethene (PCE) was detected at 20 µg/L in Bexar County well AY-68-36-

1RS, and at 5 µg/L in Uvalde County well YP-69-51-114. The MCL for PCE is 5 µg/L. Additional detections of PCE occurred in five well samples from Bexar County ranging in concentration from 0.02(J, TB) µg/L to 0.8(J) µg/L. Well AY-68-36-1RS also tested positive for two additional VOCs; trichloroethene (TCE) and toluene at 1 µg/L and 2 µg/L respectively. The MCL for TCE is 5 µg/L, and 1000 µg/L for toluene. Analytical results also indicated the presence of toluene in Hays County well LR-67-09-113 at a concentration of 2 µg/L. Additional VOC detections occurred in well and spring samples during 2004 at trace quantities, and below any associated MCLs. Based on the data flags associated with the compounds below, it is possible that these analytes are a consequence of either laboratory contamination or some other post sample collection contamination and do not reflect aquifer water quality. Additional VOC detections for 2004 are:

Well Samples

- 1,2,4-Trichlorobenzene concentration of 0.3(J,TB) µg/L
- Acetone concentration range of 0.8 (J,TB) – 200 (TB) µg/L
- Bromodichloromethane concentration of 0.6 (J) µg/L
- Bromoform concentration of 0.6 (J) µg/L
- Chloromethane concentration of 0.2 (J) µg/L
- Dibromochloromethane concentration of 1 (J) µg/L
- Chloroform concentration range of 0.2 (J) – 0.8 (J) µg/L

Spring Samples

- Acetone concentration range of 0.6 (J, TB) - 4.0 (J) µg/L.
- Chloromethane was detected at 0.2 (J) µg/L
- 1 2 4-Trichlorobenzene was detected at 0.2 (J) µg/L,

Most of the VOC compounds listed above are flagged as being detected, but in concentrations below the laboratory reporting limit. In addition, many of the compounds are flagged "TB" indicating detection of the same analyte in the associated trip blank. The data flag (J) combined with the other issues relative to these compounds indicates a low probability of contamination issues related to the listed compounds.

In 2004, 17 wells and five spring groups were sampled for SVOCs. The SVOC bis (2-ethylhexyl) phthalate was detected in eight well samples, and at all spring groups. However, all detections of bis 2 (ethylhexyl) phthalate were "J" flagged for both wells and springs. This compound is a common contaminant and not believed to be indicative of aquifer contamination. One additional SVOC, naphthalene, was detected in a spring sample at 1(J) µg/L. Bis (2-ethylhexyl) phthalate detections for wells and springs are summarized below:

Wells

- Bis (2-ethylhexyl) phthalate concentration range 0.5 (J) – 4 (J) µg/L

Springs

- Bis (2-ethylhexyl) phthalate concentration range 0.5 (J) – 8 (J) µg/L

The detection of phthalates, especially bis (2-ethylhexyl) phthalate is frequently related to post sample collection contamination. The phthalate compounds detected in 2004 are not believed to be representative of conditions in the aquifer, but are believed to represent post sample collection contamination.

In 2004, samples from 23 wells and five spring groups were analyzed for herbicides, pesticides, and PCBs. None of the well samples tested positive for these compounds. Spring samples indicated the presence of five different pesticide compounds in 2004. All of the compounds were detected at concentrations between the method detection limit and the laboratory reporting limit ("J" flag notation). No herbicides or PCBs were detected in the spring samples. Pesticide detections in spring samples are summarized below:

Spring Samples

- Gamma Chlordane 0.005(J) µg/L
- Alpha BHC 0.02(J) µg/L
- Gamma BHC 0.02(J) – 0.03 (J) µg/L
- Delta BHC 0.006(J) µg/L
- Heptachlor 0.005(J) – 0.006(J) µg/L

Edwards Aquifer water is generally of such high quality that it normally requires only chlorination to meet public drinking water standards. However, the detection of nitrates and trace quantities of metals and organic compounds in the aquifer is a concern and the Authority will continue to monitor for these compounds to determine possible sources and trends. Nitrate as nitrogen was detected frequently with the highest concentrations detected in well water samples. Quantification of many of the metals and organic compounds at the low concentrations indicated in the report can be problematic and continued monitoring will be required to confirm their presence or absence. However, the confirmed detections of organic compounds such as PCE in Uvalde and Bexar counties is a concern, and warrants additional monitoring in the future. The Authority's aquifer-wide water quality sampling program will continue to monitor wells, streams, and springs for indications of water quality impacts. Authority staff and cooperating agencies will continue to analyze any anomalous data and investigate possible sources of contamination.

9.0 DEFINITIONS

Technical terms and abbreviations used in this report are defined as follows:

Acre-foot (ac-ft) — The quantity of water required to cover one acre to a depth of one foot, equivalent to 43,560 ft^3 (cubic feet), about 325,851 gal (gallons), or 1,233 m^3(cubic meters).

Aquifer — A body of rock that contains sufficient saturated permeable material to conduct groundwater and to yield economically significant quantities of groundwater to wells and springs.

Artesian well — A well tapping confined groundwater. Water in the well rises above the level of the confined water-bearing strata under artesian pressure but does not necessarily reach the land surface.

Artesian Zone — An area where the water level from a confined aquifer stands above the top of the strata in which the aquifer is located.

Average — A number representing the sum of a group of added figures divided by the number of figures.

Bacteria — Microscopic unicellular organisms, typically spherical, rod-like, or spiral and threadlike in shape, often clumped in colonies. Some bacteria are pathogenic (causing disease), while others perform an essential role in nature in the recycling of materials (measured in colonies/100 ml).

Conductivity — A measure of the ease with which an electrical current can be caused to flow through an aqueous solution under the influence of an applied electric field. Expressed as the algebraic reciprocal of electrical resistance (measured in microSiemens per centimeter (µS/cm) at ambient temperature). Generally, in water, the greater the total dissolved solids content, the greater the value of conductivity. See also Specific conductance.

Confined aquifer — An artesian aquifer or an aquifer bound above and below by impermeable strata, or by strata with lower permeability than the aquifer itself.

Discharge — The volume of water that passes a given point within a given period of time.

Drainage Area — The area or watershed where runoff from precipitation flows downgradient to the recharge zone of the Edwards Aquifer. Also known as the "Texas Hill Country."

Drainage basin — An area bounded by a divide and occupied by a drainage system. It consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Edwards Underground Water District (EUWD) — The regional governmental entity that preceded the Edwards Aquifer Authority.

Edwards Aquifer Authority (EAA or Authority) — The regional governmental entity established by the Texas Legislature in 1993 to "manage, enhance, and protect the Edwards Aquifer system."

Freshwater/saline-water interface — The interface or boundary that separates total dissolved solids (TDS) values less than 1,000 mg/L (freshwater) from TDS values greater than 1,000 mg/L (saline-water). Commonly referred to as the "bad water line."

Gauging station — A particular site that systematically collects hydrologic data such as streamflow, springflow or precipitation.

Groundwater divide — A ridge or mound in the water table or potentiometric surface from which the groundwater moves in opposite directions.

Mean — The arithmetic average of a population of numbers. Described mathematically as: $\mathbf{Mean = X_1{}^{+}X_2{}^{+}X_3{}^{+\cdots+}X_n / n}$

Median — The numerical value at the "center" or "middle" of a data set, where one-half of the sample population is less than, and one-half is greater than the median value.

Method Blank — Laboratory grade water taken through the entire sample preparation and analytical procedure as part of the batch of samples to determine the presence or absence of target constituents or interferents. The blank is used to assess possible background contamination from the analytical process. This blank may also be referred to as a laboratory blank.

Micrograms per liter (µg/L) — A unit for expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. 1,000 micrograms per liter are equal to 1 milligram per liter.

Milligrams per liter (mg/L) — A unit for expressing the concentration of chemical constituents in solution as mass (milligrams) of solute per unit volume (liter) of water. 1,000 milligrams per liter are equal to 1 gram per liter.

Potentiometric surface — An imaginary surface representing the total head of groundwater and defined by the level to which water will rise in a well. Under confined conditions, the water level will rise above the producing aquifer.

Real Time Data — Instantaneous or near-instantaneous information used to monitor a current condition such as precipitation, stream flow, spring discharge, etc.

Recharge — The process involved in absorption and addition of water to the zone of saturation.

Recharge Zone — The area in which water infiltrates into the ground and eventually reaches the zone of saturation in one or more aquifers.

Semivolatile organic compounds (SVOC) — Class of naturally occurring and synthetic organic compounds such as polynuclear aromatic hydrocarbons and chlorinated hydrocarbons and pesticides; typically analyzed with gas chromatograph/mass spectrometers.

Specific conductance — A measure of the ability of an aqueous solution to conduct an electrical current. Specific conductance is the given value of conductivity adjusted to a standard temperature of 25^{o}C. Expressed in microsiemens per centimeter (µS/cm). See also Conductivity.

Ten-year floating average — The calculated mean of the current year plus the previous nine years in a graph.

Total Dissolved Solids (TDS) — The concentration of dissolved minerals in water, usually expressed in units of milligrams per liter (mg/L).

Transect wells — A group of Edwards Aquifer monitoring wells positioned in a linear transect to monitor for changes in water quality along the freshwater/saline-water interface.

Trip Blank — Laboratory grade water taken from the laboratory to the sampling site and returned to the laboratory unopened whenever samples are collected for analyses of volatile organic compounds. This blank is used to measure cross-contamination from the container and preservative during transport, field handling, and storage. It is analyzed for volatile organic compounds.

Unconfined aquifer — An aquifer, or a portion of an aquifer, with a water table and containing groundwater that is not under pressure beneath relatively impermeable rocks.

Underflow — The movement of water flowing beneath the land surface within the bed or alluvial plain of a surface stream.

Volatile organic compounds VOC)	Class of naturally occurring and synthetic organic compounds with boiling points below 200˚C, typically analyzed with gas chromatograph/mass spectrometers; includes solvents such as trichloroethene, or benzene.
Water table	The interface between the zone of saturation and the zone of aeration, where the surface pressure of unconfined groundwater is equal to the atmospheric pressure. The water table is also known as the piezometric surface.
Water level observation well	A water well used to measure the water level or potentiometric surface of water-bearing strata such as the Edwards Aquifer, Leona Gravel Aquifer, and Lower Glen Rose (Trinity) Aquifer.
Zone of aeration	The subsurface zone where the voids and pore spaces may contain water under less pressure than that of the atmosphere. Also known as the vadose zone.
Zone of saturation	The subsurface zone in which all voids and pore spaces are filled with water under pressure greater than that of the atmosphere. Also known as the phreatic zone.

10.0 REFERENCES

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APPENDIX A – Year 2004 Water Level Data for Selected Wells

Table A-1 City of Uvalde Index Well J-27 (YP-69-50-302) daily high water levels (in feet above msl), 2004.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	880.1	880.1	879.3	880.0	881.6	881.2	880.8	881.8	882.6	883.1	883.3	884.2
2	880.1	880.1	879.3	880.1	881.6	881.0	880.9	881.8	882.6	883.1	883.2	884.2
3	880.1	880.1	879.3	880.1	881.7	880.9	881.0	881.6	882.6	883.1	883.3	884.3
4	880.1	880.1	879.3	880.3	881.7	880.7	881.1	881.7	882.6	883.1	883.3	884.3
5	880.1	880.1	879.3	880.3	881.9	880.6	881.1	881.6	882.7	883.2	883.3	884.4
6	880.0	880.1	879.3	880.4	881.9	880.5	881.2	881.6	882.7	883.2	883.3	884.4
7	880.1	880.0	879.3	880.4	881.9	880.5	881.3	881.6	882.7	883.2	883.3	884.4
8	880.1	880.1	879.3	880.4	881.9	880.5	881.4	881.6	882.8	883.2	883.3	884.5
9	880.0	880.1	879.2	880.5	882.0	880.5	881.4	881.6	882.8	883.2	883.3	884.5
10	880.0	880.0	879.3	880.5	882.0	880.5	881.5	881.7	882.8	883.2	883.3	884.5
11	879.9	880.0	879.3	880.7	882.0	880.4	881.5	881.7	882.8	883.2	883.2	884.5
12	880.0	879.9	879.3	880.7	882.0	880.5	881.6	881.7	882.9	883.2	883.2	884.6
13	880.0	879.8	879.4	880.8	882.0	880.5	881.6	881.7	882.9	883.2	883.2	884.5
14	880.0	879.8	879.5	880.8	882.0	880.5	881.6	881.8	882.9	883.2	883.3	884.5
15	880.0	879.7	879.5	880.9	882.0	880.4	881.6	881.8	883.0	883.2	883.5	884.6
16	880.1	879.7	879.5	880.9	882.0	880.4	881.6	881.9	883.0	883.2	883.8	884.7
17	880.1	879.6	879.6	880.9	882.0	880.4	881.6	882.0	883.0	883.2	883.8	884.7
18	880.1	879.5	879.6	881.0	882.0	880.3	881.6	882.0	883.0	883.2	883.8	884.7
19	880.1	879.5	879.6	881.0	881.9	880.2	881.6	882.0	883.0	883.2	883.8	884.7
20	880.1	879.5	879.6	881.1	881.8	880.1	881.6	882.0	883.0	883.2	883.8	884.8
21	880.1	879.4	879.6	881.1	881.8	880.1	881.5	882.0	883.0	883.2	883.8	884.8
22	880.0	879.3	879.6	881.1	881.7	880.1	881.5	882.1	883.0	883.2	883.9	884.8
23	880.1	879.3	879.7	881.2	881.6	880.1	881.5	882.2	883.0	883.2	884.0	884.8
24	880.1	879.4	879.7	881.2	881.6	880.1	881.6	882.2	883.0	883.2	883.9	884.8
25	880.2	879.4	879.8	881.3	881.6	880.2	881.6	882.2	883.0	883.2	884.0	884.8
26	880.1	879.3	879.8	881.3	881.5	880.3	881.6	882.2	883.1	883.2	884.0	884.8
27	880.1	879.3	879.8	881.4	881.5	880.4	881.6	882.1	883.1	883.2	884.0	884.8
28	880.1	879.3	879.8	881.5	881.4	880.5	881.6	882.2	883.1	883.2	884.1	884.8
29	880.1	879.3	879.9	881.5	881.4	880.7	881.6	882.2	883.1	883.2	884.1	884.9
30	880.1		879.9	881.6	881.3	880.7	881.7	882.2	883.1	883.2	884.1	884.9
31	880.1		880.0		881.3		881.7	882.4		883.2		884.9

Table A-2 City of Hondo Index Well (TD-69-47-306) daily high water levels (in feet above msl), 2004.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	737.3	739.4	738.5	741.9	753.3	737.7	759.1	757.4	757.8	756.5	761.4	774.6
2	737.3	739.1	738.4	742.5	753.8	735.7	760.6	757.6	757.9	756.6	761.7	774.7
3	736.9	739.0	738.5	742.4	754.1	734.2	761.5	757.7	758.0	757.4	762.2	774.6
4	736.9	739.1	738.6	743.0	754.5	733.1	762.1	757.7	758.2	757.9	762.5	774.8
5	736.8	738.9	738.5	744.1	754.7	733.0	762.4	757.4	758.6	758.4	762.7	775.0
6	736.8	738.5	738.4	744.7	754.6	732.1	762.5	757.3	758.7	758.9	762.8	775.1
7	737.1	738.3	738.4	745.3	754.6	732.1	762.6	757.5	758.9	759.2	762.9	774.9
8	737.3	738.3	738.3	745.7	754.9	737.2	762.6	757.5	759.1	759.4	762.8	774.8
9	737.2	738.3	738.2	746.1	755.3	739.9	762.5	757.8	759.0	759.7	762.7	774.9
10	736.9	738.2	738.3	746.4	755.5	740.7	762.3	757.7	758.9	759.7	762.7	774.8
11	736.9	738.4	738.1	746.6	755.7	744.0	762.2	757.6	758.6	759.6	762.4	774.6
12	736.9	738.2	737.9	746.8	755.9	745.4	762.3	757.6	758.2	759.3	762.1	774.7
13	736.8	738.3	738.2	747.1	756.0	746.6	761.8	757.0	758.1	758.9	761.9	774.4
14	737.0	738.5	738.4	747.4	755.9	747.1	760.9	757.1	758.2	758.9	761.9	773.9
15	737.4	738.4	739.0	747.6	755.8	748.2	760.0	756.6	758.2	758.9	762.3	774.0
16	737.9	738.4	739.6	747.7	755.8	748.6	759.3	755.8	758.0	759.0	762.9	774.0
17	738.3	738.1	740.2	747.8	755.7	748.6	757.8	755.3	758.0	758.8	764.8	773.7
18	738.3	737.8	740.4	747.5	755.1	748.2	757.6	754.8	757.6	758.5	766.7	773.6
19	738.5	737.8	740.6	747.7	754.5	747.3	757.5	754.5	757.6	758.3	767.6	773.7
20	738.7	737.8	740.8	747.9	754.0	746.4	756.4	754.2	757.1	758.1	768.4	773.9
21	738.8	737.4	741.0	747.9	752.9	745.8	755.4	753.5	756.9	758.0	768.9	773.8
22	738.8	737.3	741.2	747.8	750.5	746.8	755.5	753.9	756.8	757.8	770.0	773.7
23	738.9	737.5	741.4	747.8	748.1	748.2	755.8	755.6	756.5	757.8	771.4	773.4
24	739.3	737.6	741.5	749.5	746.5	749.1	756.3	756.6	756.9	758.0	772.1	773.4
25	739.3	737.7	741.6	750.5	745.2	749.6	756.1	757.3	757.1	758.8	773.0	773.5
26	739.3	737.9	741.6	751.1	742.9	750.4	756.2	757.6	757.2	759.4	773.8	773.4
27	738.9	738.1	741.8	751.6	741.5	750.9	756.0	757.8	757.1	759.9	774.0	773.3
28	739.0	738.3	741.8	752.0	739.6	752.5	755.5	757.8	757.0	760.5	774.4	773.2
29	739.2	738.5	741.6	752.5	739.5	754.4	755.2	757.9	757.0	760.8	774.6	773.1
30	739.2		741.6	753.0	739.5	756.8	756.5	757.8	756.7	761.0	774.4	772.7
31	739.3		741.7		739.8		757.0	757.6		761.2		772.3

"N/D" indicates no data available.

Table A-3 City of Castroville Well (TD-68-41-301) daily high water levels (in feet above msl), 2004.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	710.2	712.7	712.0	713.9	N/D	710.6	725.6	723.4	723.6	722.8	728.1	740.7
2	710.3	712.6	712.0	714.1	722.1	709.1	726.8	723.7	723.7	722.8	728.2	740.7
3	710.3	712.4	712.1	714.3	722.3	707.9	727.5	723.7	723.7	723.6	728.8	740.7
4	710.4	712.7	713.9	N/D	722.5	707.2	728.2	723.0	724.4	723.9	729.1	740.8
5	710.0	712.6	712.1	N/D	722.6	707.0	728.4	725.1	724.2	724.4	729.3	740.9
6	709.9	712.4	712.1	716.4	N/D	706.6	728.5	725.0	724.4	724.8	729.4	740.9
7	710.1	712.2	712.4	717.0	722.7	706.3	728.8	725.3	724.4	725.1	729.6	740.8
8	710.4	712.2	712.2	717.1	723.0	708.3	728.8	725.5	724.7	725.4	729.4	740.6
9	710.3	712.2	712.2	717.5	723.3	710.2	728.7	725.6	724.7	725.4	729.4	740.6
10	710.2	712.2	712.2	718.0	723.7	712.4	728.4	725.8	724.5	725.7	729.4	740.6
11	710.1	712.3	712.2	718.0	723.9	713.2	728.3	723.6	724.4	725.7	729.2	740.4
12	710.0	712.2	712.5	718.1	724.0	715.2	728.3	723.5	724.2	725.4	728.9	740.5
13	710.0	712.1	712.9	718.1	724.4	715.8	728.2	723.3	723.9	725.3	728.8	740.1
14	710.2	712.3	713.5	718.4	724.3	717.1	727.6	723.3	724.0	725.7	729.2	739.6
15	710.5	712.2	712.6	718.5	724.3	717.8	727.2	723.1	724.0	725.3	729.0	739.7
16	711.8	712.2	712.9	718.6	724.3	718.1	726.8	722.6	724.0	725.4	N/D	739.7
17	711.4	712.1	713.1	718.7	724.2	718.2	726.1	721.9	723.9	725.2	N/D	739.5
18	711.5	711.8	713.3	718.5	724.1	718.1	725.5	721.4	723.8	725.1	N/D	739.4
19	711.7	711.9	713.3	718.5	723.8	717.8	725.2	721.3	723.5	724.9	N/D	739.3
20	711.8	711.9	713.4	718.6	723.2	717.3	724.5	721.1	723.3	724.8	N/D	N/D
21	711.8	711.7	713.4	718.6	722.4	716.9	723.7	720.6	723.2	724.7	N/D	N/D
22	711.9	711.5	713.5	718.6	721.4	717.1	723.5	N/D	723.0	724.6	N/D	N/D
23	712.0	711.7	713.7	718.5	720.3	717.8	723.4	721.8	722.9	724.0	737.5	N/D
24	712.7	712.4	713.9	719.3	718.8	718.5	723.5	722.6	722.9	725.2	738.3	738.2
25	712.6	711.8	713.9	720.1	717.1	719.0	723.6	723.2	723.1	725.2	739.2	738.2
26	712.4	711.5	713.9	720.6	715.7	719.5	723.5	723.5	723.2	725.8	740.0	738.1
27	712.2	711.6	714.0	721.0	714.3	719.9	723.5	723.7	723.2	726.3	740.3	738.1
28	712.2	711.9	714.0	721.7	712.8	720.8	723.5	723.7	723.1	726.8	740.1	738.1
29	712.5	711.9	714.0	721.9	711.8	722.4	723.2	723.8	723.1	727.1	740.9	738.0
30	712.6		713.9	722.2	711.3	724.0	723.2	723.8	722.9	727.2	740.8	738.0
31	712.7		713.9		711.2		723.5	723.6		727.8		737.8

Table A-4 Bexar County Index Well J-17 (AY-68-37-203) daily high water levels (in feet above msl), 2004.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	679.4	681.2	681.4	681.6	687.1	680.0	690.0	686.4	684.0	683.9	690.0	701.6
2	679.4	681.0	681.2	681.5	687.4	679.2	690.7	685.9	684.3	684.9	691.0	701.7
3	679.4	680.8	681.2	682.0	687.6	678.2	691.4	685.8	684.3	685.8	691.7	701.5
4	679.3	681.0	681.1	682.4	687.5	678.2	691.8	685.3	684.5	686.3	692.1	701.6
5	679.0	681.1	681.5	683.0	687.5	678.2	692.1	685.0	685.1	686.6	692.2	701.6
6	678.9	680.8	681.4	683.4	687.4	678.1	691.9	684.6	685.2	686.9	691.7	701.3
7	678.9	680.8	681.6	683.7	687.3	677.6	691.7	685.1	685.4	687.1	691.8	701.1
8	679.1	680.9	681.2	683.8	687.6	678.8	691.4	685.4	685.5	687.3	691.4	701.1
9	679.0	680.8	681.3	684.2	688.0	681.3	691.2	685.5	685.4	687.5	691.1	701.0
10	679.0	680.6	681.0	684.3	688.1	682.9	690.8	685.3	685.2	687.5	691.1	700.7
11	679.0	681.0	681.0	684.8	687.9	683.9	690.9	685.3	685.2	687.4	690.8	700.6
12	678.8	680.9	680.8	685.0	688.1	684.6	690.9	685.1	685.0	687.1	690.5	700.6
13	678.7	680.8	681.3	685.0	688.2	685.5	690.8	684.9	684.4	687.0	690.5	700.0
14	678.8	681.0	681.6	685.1	688.2	685.8	690.2	684.7	684.7	687.0	690.8	699.8
15	679.0	681.1	681.9	685.2	688.6	686.0	689.7	684.6	685.0	687.3	691.0	699.4
16	679.5	680.9	682.0	685.2	688.6	685.8	689.5	683.9	685.2	687.5	691.2	699.4
17	680.3	680.8	682.1	685.0	688.3	685.6	689.0	683.8	685.1	687.6	693.1	699.3
18	680.6	680.6	682.2	684.9	688.1	685.5	688.8	683.4	685.0	687.2	694.2	699.2
19	680.7	680.6	682.1	684.7	687.7	684.9	688.3	683.5	684.9	687.1	695.2	698.8
20	680.6	680.6	682.2	684.7	687.2	684.6	687.7	683.4	684.5	686.9	695.7	698.8
21	680.7	680.5	682.4	684.4	686.6	684.4	687.1	683.1	684.2	686.7	696.3	698.7
22	680.6	680.5	682.4	684.4	686.1	684.2	686.8	683.1	684.2	686.0	698.6	698.4
23	680.5	680.5	682.2	684.3	685.7	684.7	686.5	683.8	684.2	685.9	700.2	698.1
24	680.8	680.5	682.2	685.0	684.8	685.1	686.9	684.1	684.5	686.8	701.0	698.2
25	681.2	681.0	682.1	685.5	684.3	685.3	687.1	684.5	684.5	687.8	701.4	698.3
26	680.9	681.1	682.2	686.0	683.6	685.9	687.0	684.5	685.0	688.6	701.7	698.1
27	680.8	681.2	682.1	686.2	682.9	686.2	687.0	684.6	684.6	688.8	702.0	697.9
28	680.6	681.5	682.1	686.4	682.2	686.6	686.9	684.2	684.2	689.2	702.1	697.8
29	680.7	681.6	681.8	686.7	681.8	687.5	686.4	684.2	684.3	689.2	701.9	697.6
30	680.8		681.9	686.8	681.4	689.1	686.3	684.2	684.1	689.3	701.6	697.4
31	681.0		681.8		681.1		686.5	683.9		689.6		697.3

"N/D" indicates no data available.

Table A-5 Landa Park Well (DX-68-23-302) daily high water levels (in feet above msl), 2004.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	627.5	627.5	627.5	627.6	628.2	627.9	629.2	628.8	628.4	628.3	629.6	632.1
2	627.5	627.5	627.5	627.6	628.2	627.8	629.1	628.8	628.4	628.9	629.4	632.1
3	627.5	627.5	627.5	627.6	628.1	627.8	629.2	628.8	628.4	628.6	629.5	632.1
4	627.5	627.5	627.5	627.7	628.1	627.7	629.2	628.7	628.4	628.6	629.5	632.1
5	627.5	627.5	627.5	627.7	628.1	628.1	629.2	628.7	628.4	628.6	629.5	632.1
6	627.4	627.5	627.5	627.7	628.1	627.7	629.2	628.7	628.4	628.7	629.5	632.1
7	627.4	627.5	627.6	627.7	628.1	627.7	629.2	628.7	628.4	628.7	629.5	632.0
8	627.4	627.5	627.6	627.7	628.1	628.0	629.2	628.7	628.4	628.7	629.5	632.0
9	627.4	627.5	627.5	627.7	628.1	629.0	629.2	628.7	628.4	628.7	629.5	632.0
10	627.5	627.5	627.5	627.8	628.1	628.6	629.2	628.7	628.4	628.7	629.5	631.9
11	627.5	627.5	627.5	627.8	628.1	628.4	629.2	628.7	628.4	628.7	629.5	632.0
12	627.5	627.5	627.5	627.8	628.2	628.4	629.2	628.6	628.4	628.7	629.5	632.0
13	627.4	627.5	627.5	627.8	628.2	628.5	629.2	628.6	628.4	628.7	629.5	631.9
14	627.4	627.5	627.6	627.8	628.4	628.5	629.2	628.6	628.8	629.0	629.5	631.8
15	627.4	627.5	627.6	627.8	628.2	628.5	629.1	628.6	628.5	628.8	629.7	631.8
16	627.4	627.5	627.6	627.8	628.2	628.5	629.1	628.6	628.4	628.8	630.3	631.7
17	627.5	627.5	627.6	627.9	628.2	628.5	629.1	628.5	628.4	628.8	630.4	631.6
18	627.5	627.5	627.6	627.9	628.2	628.5	629.1	628.5	628.4	628.8	630.2	631.6
19	627.5	627.5	627.6	627.9	628.2	628.5	629.0	628.5	628.4	628.7	630.3	631.6
20	627.5	627.5	627.6	627.9	628.2	628.5	629.0	628.5	628.4	628.7	630.6	631.5
21	627.5	627.5	627.6	627.9	628.2	628.5	628.9	628.4	628.4	628.7	630.5	631.5
22	627.5	627.5	627.6	627.9	628.2	628.5	628.9	628.4	628.4	628.7	632.6	631.5
23	627.4	627.5	627.6	627.8	628.1	628.4	628.9	628.4	628.4	629.2	632.0	631.4
24	627.5	627.5	627.6	628.3	628.1	628.4	628.9	628.4	628.3	629.2	631.9	631.4
25	627.5	627.5	627.6	628.3	628.1	628.5	629.3	628.4	628.3	629.2	632.0	631.4
26	627.5	627.5	627.6	628.3	628.1	628.5	629.1	628.4	628.4	629.1	632.1	631.4
27	627.5	627.5	627.6	628.3	628.0	628.8	628.9	628.4	628.3	629.2	632.1	631.4
28	627.5	627.5	627.6	628.3	628.0	628.9	628.9	628.4	628.3	629.2	632.2	631.3
29	627.5	627.5	627.6	628.3	628.0	629.0	628.9	628.4	628.3	629.2	632.2	631.3
30	627.5		627.6	628.2	627.9	629.3	628.9	628.4	628.3	629.2	632.2	631.3
31	627.5		627.6		627.9		628.8	628.4		629.2		631.3

Table A-6 Knispel Well (LR 67-01-809) daily high water levels (in feet above msl), 2004.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	575.8	575.5	575.6	575.7	576.2	577.2	580.3	580.0	578.7	577.8	579.6	585.5
2	575.8	575.5	575.6	575.8	576.3	577.2	580.4	580.0	578.6	577.6	579.7	585.5
3	575.8	575.5	575.5	575.7	576.3	577.2	580.5	579.9	578.6	577.7	579.7	585.52
4	575.8	575.5	575.5	575.8	576.7	577.2	580.5	579.8	578.6	578.0	579.8	585.51
5	575.8	575.5	575.5	575.8	576.7	577.2	580.5	579.8	578.6	578.0	579.8	N/D
6	575.8	575.4	575.6	575.8	576.7	577.1	580.5	579.7	578.5	578.0	579.8	585.57
7	575.7	575.4	575.6	575.8	576.7	577.1	580.5	579.7	578.5	578.0	579.8	585.3
8	575.7	575.4	575.6	575.9	576.7	577.2	580.5	579.7	578.6	578.0	579.8	585.3
9	575.7	575.5	575.6	575.9	576.7	577.6	580.5	579.6	578.5	577.9	579.8	585.3
10	575.7	575.5	575.6	575.9	576.7	578.7	580.5	579.6	578.5	577.9	579.8	585.2
11	575.6	575.5	575.6	576.0	576.7	578.9	580.5	579.6	578.4	577.9	579.8	585.2
12	575.6	575.6	575.6	576.0	576.7	579.1	580.5	579.5	578.4	577.9	579.8	585.2
13	575.6	575.6	575.6	576.1	576.7	579.2	580.5	579.5	578.4	577.9	579.7	585.1
14	575.6	575.6	575.6	576.1	576.8	579.3	580.5	579.4	578.4	577.8	579.7	585.1
15	575.5	575.6	575.6	576.2	577.0	579.3	580.5	579.4	578.3	577.8	579.7	585.1
16	575.5	575.6	575.6	576.2	577.0	579.3	580.5	579.3	578.3	577.8	580.2	585.1
17	575.6	575.6	575.6	576.2	577.1	579.3	580.5	579.3	578.2	577.8	582.4	585.1
18	575.6	575.6	575.6	576.3	577.1	579.4	580.4	579.2	578.2	577.8	582.7	585.1
19	575.6	575.6	575.6	576.3	577.1	579.4	580.4	579.2	578.2	577.8	582.8	585.0
20	575.6	575.6	575.6	576.3	577.1	579.4	580.4	579.2	578.1	577.7	582.8	585.1
21	575.6	575.6	575.6	576.1	577.2	579.4	580.3	579.1	578.1	577.7	583.1	585.1
22	575.5	575.6	575.7	576.1	577.2	579.4	580.3	579.1	578.0	577.7	584.5	585.0
23	575.5	575.6	575.7	576.1	577.2	579.4	580.3	579.0	578.0	578.5	585.3	584.9
24	575.5	575.6	575.7	576.1	577.2	579.4	580.2	579.0	577.9	579.1	585.5	584.9
25	575.5	575.6	575.7	576.1	577.2	579.6	580.2	578.9	577.9	579.4	585.5	584.9
26	575.5	575.6	575.7	576.1	577.2	579.6	580.2	578.9	577.9	579.4	585.6	584.9
27	575.5	575.6	575.7	576.2	577.2	579.6	580.2	578.9	577.9	579.4	585.6	584.8
28	575.5	575.6	575.7	576.2	577.2	579.6	580.1	578.8	577.8	579.4	585.6	584.8
29	575.5	575.6	575.7	576.2	577.2	579.6	580.1	578.8	577.8	579.4	585.6	584.8
30	575.5		575.7	576.2	577.2	579.9	580.1	578.8	577.8	579.4	585.5	584.7
31	575.5		575.7		577.2		580.0	578.7		579.4		584.7

"N/D" indicates no data available.

APPENDIX B – Year 2004 Hydrographs for Index Wells and Springs

Figure B-1. Bexar County Index Well J-17 (AY-68-37-203)
Hydrograph of Groundwater Elevation vs. Precipitation at San Antonio International Airport

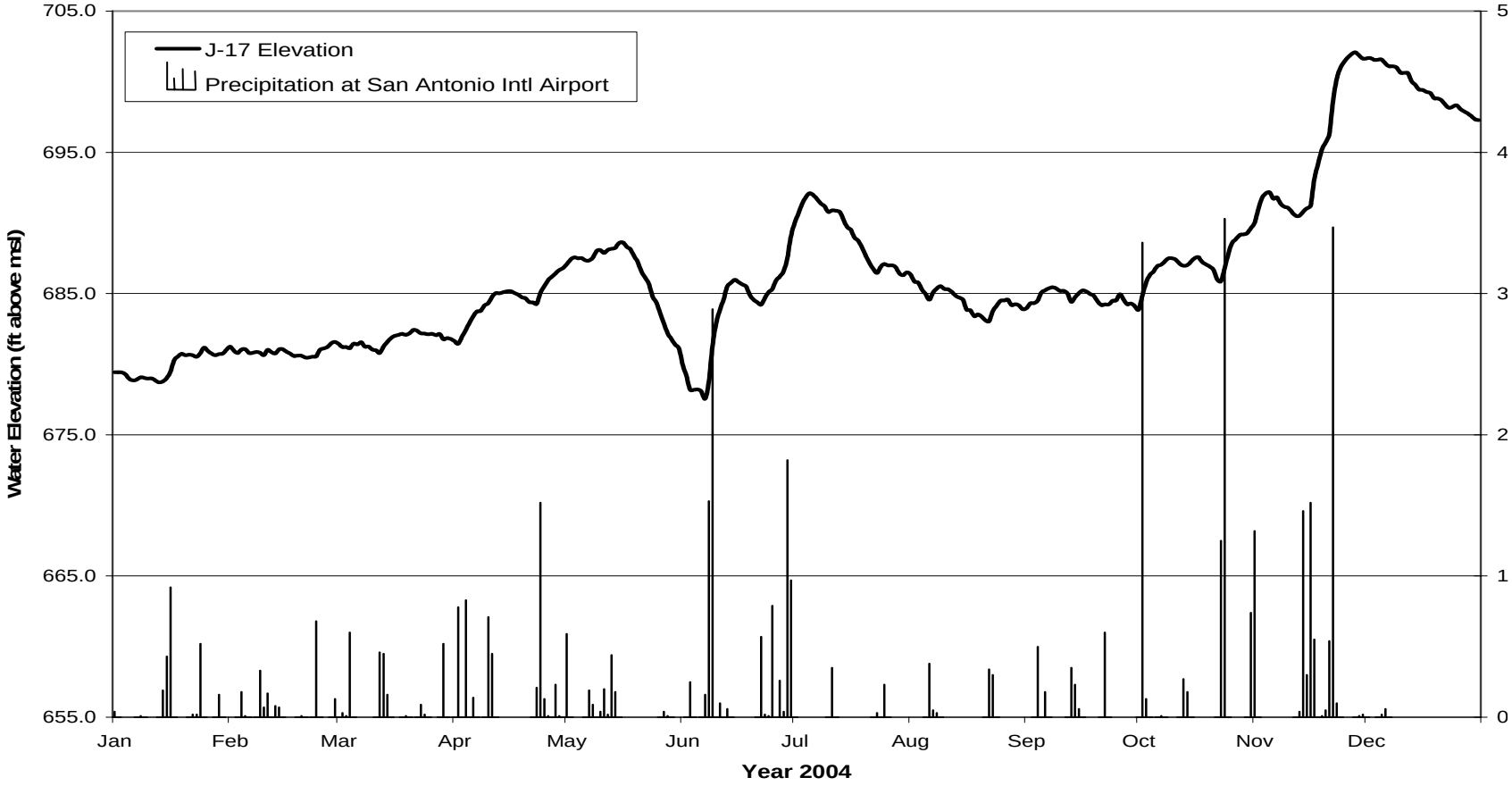


Figure B-2. City of Hondo Index Well (TD-69-47-306)
Hydrograph of Groundwater Elevation vs. Precipitation at Hondo

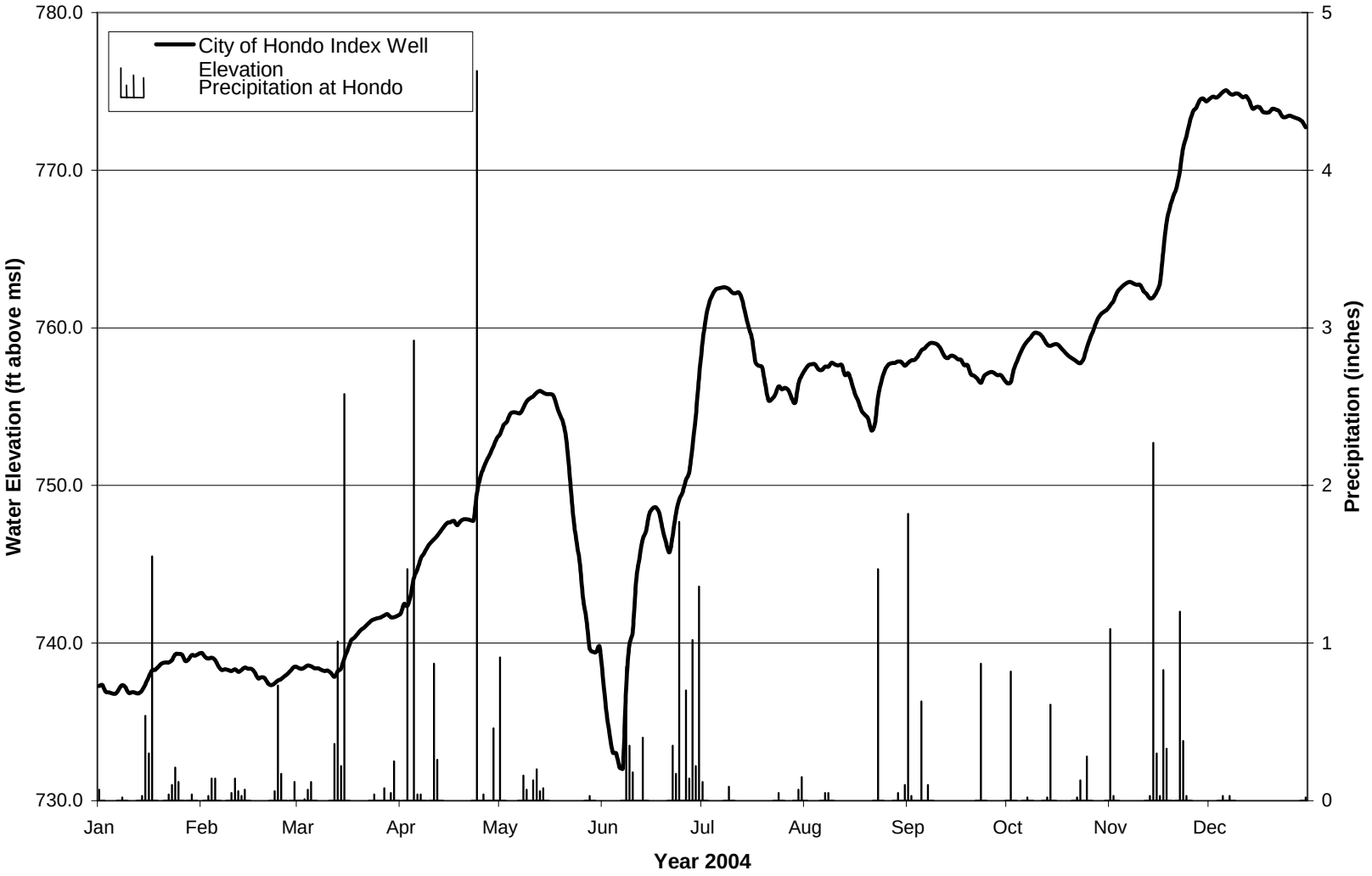


Figure B-3. City of Uvalde Index Well J-27 (YP-69-50-302)
Hydrograph of Groundwater Elevation vs. Precipitation at Uvalde

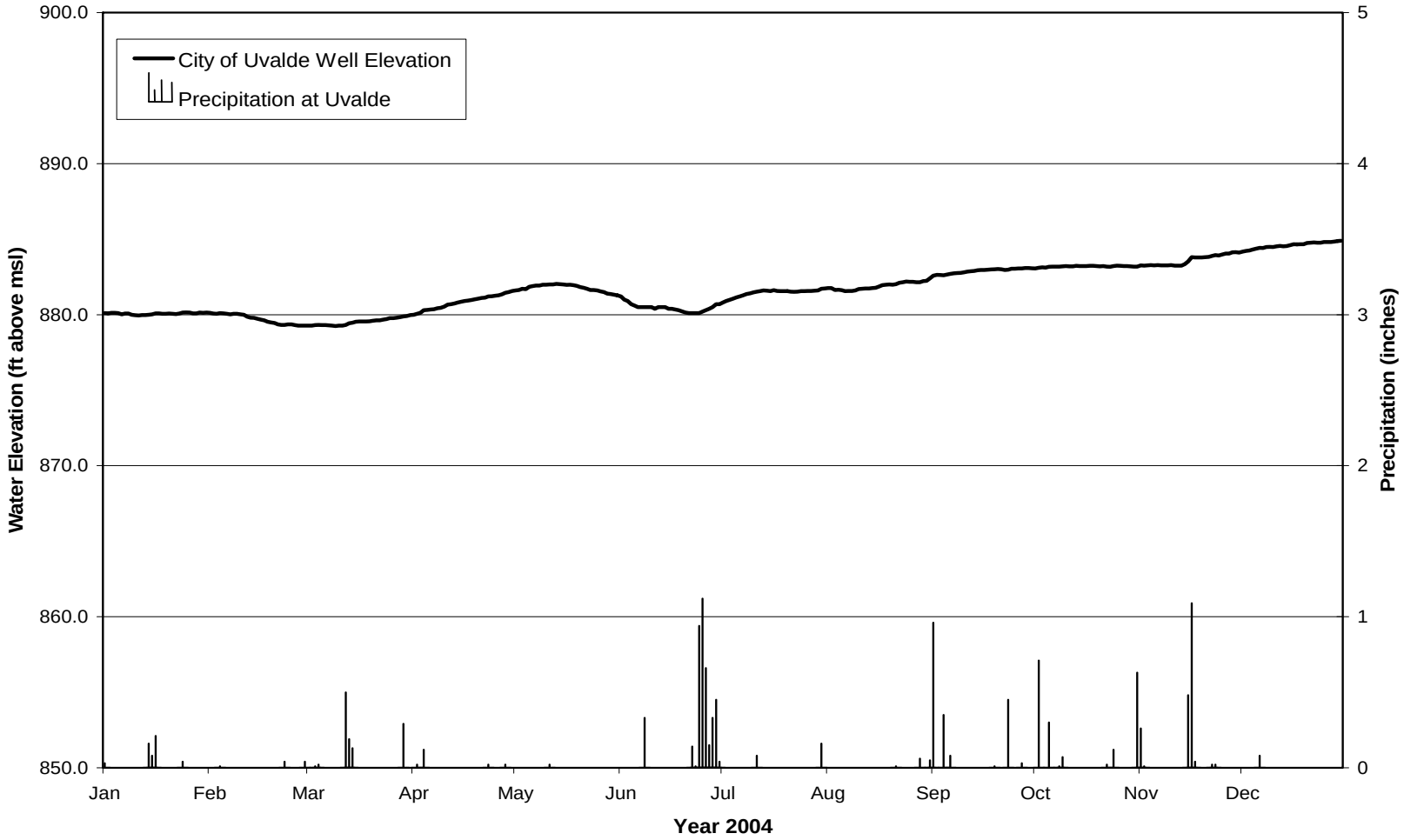


Figure B-4. Comal Springflow
Hydrograph of Springflow vs. Precipitation at San Antonio International Airport

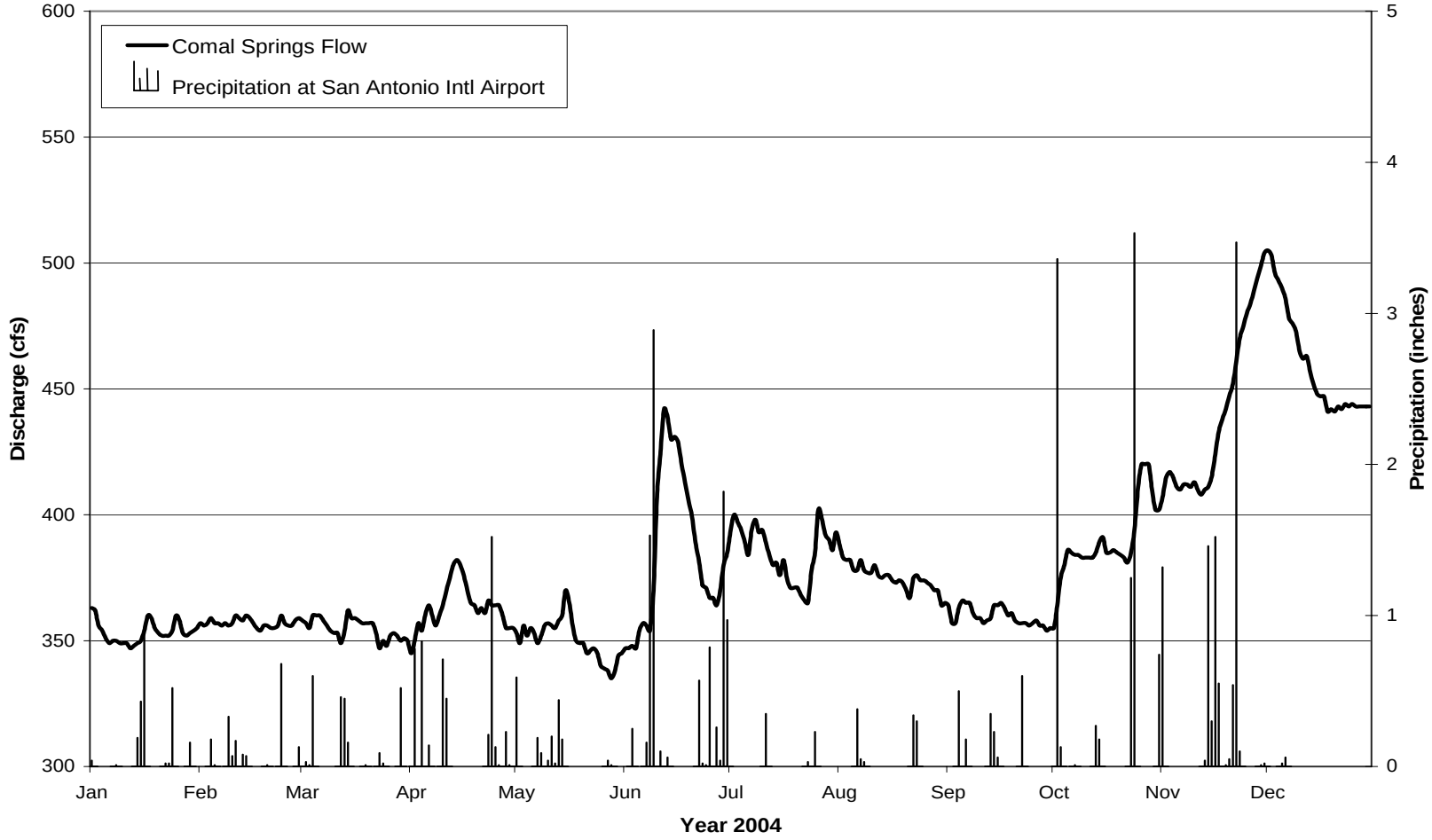
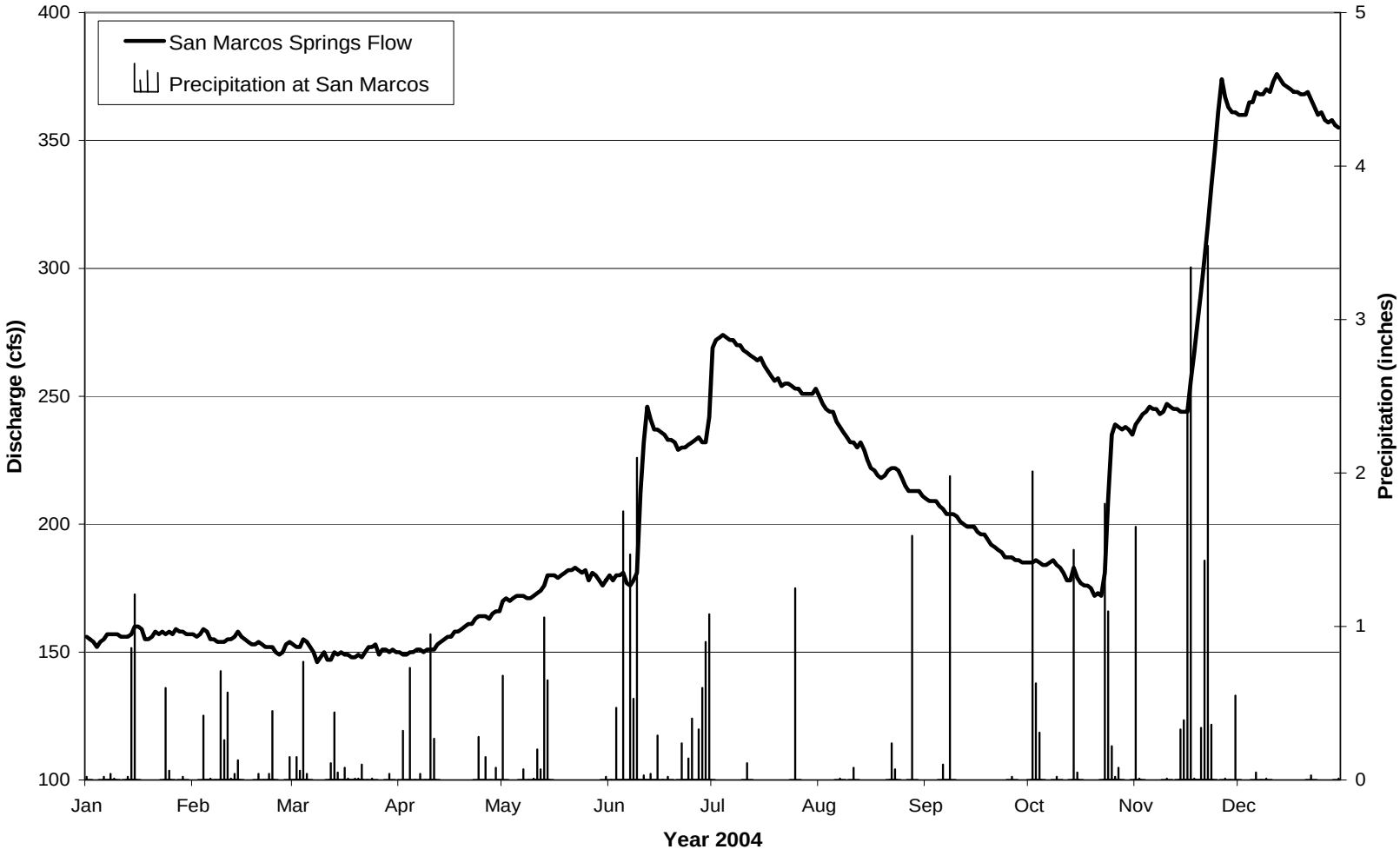


Figure B-5. San Marcos Springflow
Hydrograph of Springflow vs. Precipitation at San Marcos



APPENDIX C – Year 2004 Water Quality Data

Table C-1 Field measurements and bacteria counts in water samples from wells completed in the Edwards Aquifer, 2004

County	State Well Number	Date Sampled	Time Sampled	Well Depth (ft)	Water Level (ft above msl)	Pump or Flow Period (min)	Flow Rate (gpm)	Water Temp (deg C)	Field Conductivity (µS/cm)	Field pH (std units)
Atascosa	AL-68-50-305	08/19/04	11:35	2605	NR	POA	NR	34.4	1128	6.99
Bexar	AY-68-21-806	03/17/04	12:50	290	229.66	90	3.5	23.5	510	6.74
Bexar	AY-68-27-517	01/14/04	12:35	302	237.85	80	3.5	22.6	556	6.65
Bexar	AY-68-27-5MR	11/2/04	9:40	NR	NR	45	5	20.9	528	7.16
Bexar	AY-68-27-610	12/20/04	12:40	240	118.95	90	3.5	23.1	574	7.04
Bexar	AY-68-27-612	12/3/04	15:00	260	160.36	65	3	22.4	623	6.98
Bexar	AY-68-28-203	06/15/04	9:00	435	NR	20	NR	22.7	736	6.51
Bexar	AY-68-28-205	06/15/04	9:30	485	NR	20	NR	23.3	647	6.20
Bexar	AY-68-28-313	01/6/04	13:30	300	NR	15	13	22.7	648	6.71
Bexar	AY-68-28-407	03/22/04	11:50	310	244	75	3.5	24.0	512	6.94
Bexar	AY-68-28-516	04/7/04	12:00	302	218.59	80	3.5	23.6	649	6.78
Bexar	AY-68-28-517	01/30/04	10:20	261	196.2	75	3.5	22.6	561	6.55
Bexar	AY-68-28-519	04/5/04	11:20	280	208.3	95	3.5	23.5	622	6.81
Bexar	AY-68-28-608	11/22/04	10:35	500	53.52	600	3.5	20.6	529	7.15
Bexar	AY-68-28-702	04/16/04	11:20	450	NR	35	NR	21.6	596	7.02
Bexar	AY-68-29-101	08/19/04	9:15	400	NR	POA	NR	22.2	672	7.31
Bexar	AY-68-29-112	02/3/04	11:25	260	176.39	75	3.5	23.0	864	6.83
Bexar	AY-68-29-113	12/17/04	11:30	241	123.99	95	3.5	22.7	664	6.98
Bexar	AY-68-29-214	11/17/04	13:00	222	91.6	90	3.5	23.4	591	6.90
Bexar	AY-68-29-215	03/9/04	11:30	181	124.92	90	3.5	23.7	567	6.99
Bexar	AY-68-29-216	02/18/04	12:45	261	204.8	95	3.5	24.3	601	6.82
Bexar	AY-68-29-217	02/27/04	11:30	260	203.92	95	3.5	23.6	585	7.16
Bexar	AY-68-29-418	12/15/04	14:45	181	88.82	95	3.5	23.2	737	7.06
Bexar	AY-68-36-107	04/16/04	10:25	550	NR	35	NR	21.9	603	6.97
Bexar	AY-68-36-1RS	04/12/04	15:35	NR	NR	75	5	21.8	611	6.81

NA = Not analyzed
NR = Not Recorded
POA = Pump operating upon arrival

Table C-1 Field measurements and bacteria counts in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

County	State Well Number	Date Sampled	Time Sampled	Well Depth (ft)	Water Level (ft above msl)	Pump or Flow Period (min)	Flow Rate (gpm)	Water Temp (deg C)	Field Conductivity (µS/cm)	Field pH (std units)
Bexar	AY-68-28-806	05/3/04	9:55	860	NR	POA	NR	21.9	589	6.84
Bexar	AY-68-36-131	05/3/04	9:10	824	NR	135	NR	22.1	596	6.80
Comal	DX-68-16-707	5/21/04	9:25	400	NR	20	NR	21.8	583	6.57
Comal	DX-68-22-601	10/25/04	11:50	288	NR	30	18	22.4	733	6.51
Comal	DX-68-22-901	08/9/04	11:40	255	NR	20	1450	22.4	553	7.03
Comal	DX-68-23-304	03/3/04	13:15	965	artesian	125	315	23.6	560	7.02
Comal	DX-68-23-316	07/29/04	12:00	350	173.97	110	3.5	23.7	565	7.15
Comal	DX-68-23-504	06/2/04	10:20	215	NR	POA	NR	23.1	575	6.75
Comal	DX-68-30-221	06/4/04	9:25	330	NR	55	NR	22.4	621	6.62
Hays	LR-67-01-303	08/2/04	14:05	595	NR	20	350	24.6	643	7.20
Hays	LR-67-01-810	04/30/04	10:30	NR	NR	POA	NR	22.4	621	6.72
Hays	LR-67-01-816	04/30/04	11:30	NR	NR	POA	NR	22.8	637	6.72
Hays	LR-67-09-113	05/18/04	10:45	280	124.82	90	15	23.4	696	7.15
Hays	LR-67-09-1HB	04/29/04	15:15	NR	NR	60	NR	22.0	565	6.76
Hays	LR-67-09-1SM	04/30/04	12:00	NR	NR	POA	NR	22.6	684	6.71
Hays	LR-67-09-1SM A (Duplicate)	04/30/04	12:00	NR	NR	POA	NR	22.6	684	6.71
Hays	LR-67-09-1YR	04/29/04	10:50	NR	NR	60	NR	22.8	692	6.64
Hays	LR-68-08-902	04/29/04	13:25	335	NR	POA	NR	22.3	594	6.73
Kinney	RP-70-37-502	08/25/04	18:15	NR	NR	POA	5	24.3	519	6.88
Kinney	RP-70-37-706	08/26/04	11:35	NR	artesian	POA	700	28.0	430	7.12
Kinney	RP-70-37-810	08/25/04	16:30	NR	NR	POA	5	24.5	520	7.13
Kinney	RP-70-37-903	08/25/04	15:55	NR	46	20	600	25.7	446	7.21
Kinney	RP-70-45-505	08/26/04	10:25	NR	artesian	POA	500	24.6	468	7.03
Medina	TD-68-25-703	08/4/04	11:50	425	NR	110	5	21.9	457	7.21
Medina	TD-68-33-202	08/4/04	14:20	279	NR	110	5	22.5	465	7.21
Medina	TD-68-33-502	08/10/04	9:30	1475	NR	20	650	23.2	490	7.31

NA = Not analyzed
NR = Not Recorded
POA = Pump operating upon arrival

Table C-1 Field measurements and bacteria counts in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

County	State Well Number	Date Sampled	Time Sampled	Well Depth (ft)	Water Level (ft above msl)	Pump or Flow Period (min)	Flow Rate (gpm)	Water Temp (deg C)	Field Conductivity (µS/cm)	Field pH (std units)
Medina	TD-68-41-102	05/26/04	9:45	1431	NR	20	NR	24.3	495	6.85
Medina	TD-68-41-308	05/26/04	11:40	715	NR	20	NR	23.7	502	6.92
Medina	TD-68-41-901	08/10/04	10:55	1855	NR	20	450	26.5	495	7.30
Medina	TD-68-42-506	06/1/04	13:40	1445	NR	20	NR	25.6	497	6.94
Medina	TD-68-42-806	08/5/04	9:35	2044	NR	20	750	31.7	491	7.19
Medina	TD-68-49-301	06/1/04	12:05	2550	NR	POA	NR	32.7	481	6.92
Medina	TD-68-49-501	08/5/04	12:05	2716	NR	20	850	28.4	515	7.23
Medina	TD-69-32-703	08/18/04	10:45	290	NR	55	3.5	24.7	480	7.07
Medina	TD-69-38-906	08/12/04	9:00	940	NR	20	585	24.6	524	7.10
Medina	TD-69-39-601	07/27/04	12:15	360	NR	85	5.5	23.7	465	7.13
Medina	TD-69-47-303	05/20/04	12:20	1803	NR	20	NR	24.1	477	6.88
Medina	TD-69-55-604	05/20/04	10:35	2350	NR	20	NR	23.6	526	6.93
Medina	TD-69-63-103	07/28/04	13:40	3406	NR	155	15	43.5	561	7.19
Uvalde	UV00424	05/25/04	12:25	NR	NR	POA	NR	24.1	475	7.05
Uvalde	UV00445-3	02/23/04	11:55	NR	NR	POA	NR	22.7	508	7.07
Uvalde	UV00447	02/23/04	11:25	NR	NR	POA	NR	22.9	571	7.10
Uvalde	UV00448	05/25/04	10:25	670	NR	POA	NR	23.7	535	6.81
Uvalde	UV00470	05/25/04	14:45	1100	NR	POA	NR	22.2	570	6.97
Uvalde	UV00559	05/25/04	13:50	440	NR	POA	NR	23.5	589	6.92
Uvalde	UV00570-5	02/23/04	13:35	NR	NR	POA	NR	23.0	729	6.98
Uvalde	UV00592-2	02/23/04	14:20	NR	NR	POA	NR	23.4	924	7.15
Uvalde	YP-69-33-701	06/3/04	11:55	NR	NR	75	NR	21.4	427	6.97
Uvalde	YP-69-35-602	05/27/04	11:35	237	52.65	75	3.5	23.3	427	6.88
Uvalde	YP-69-43-606	07/13/04	10:20	698	NR	20	NR	23.1	505	7.19
Uvalde	YP-69-45-405	08/6/04	10:10	1211	NR	25	770	22.9	485	7.31
Uvalde	YP-69-50-203	05/19/04	10:50	525	NR	POA	NR	23.0	555	6.80
Uvalde	YP-69-50-501	05/19/04	13:15	600	NR	POA	NR	22.4	1112	6.74
Uvalde	YP-69-51-114	05/19/04	11:50	565	NR	POA	NR	26.9	928	6.61

NA = Not analyzed
NR = Not Recorded
POA = Pump operating upon arrival

Table C-1 Field measurements and bacteria counts in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	Field Alkalinity (mg/L)	Field Turbidity (NTU)	Dissolved Oxygen (mg/L)	Fecal Coliform (colonies/100ml)	Fecal Strep (colonies/100ml)	Total Coliform (colonies/100ml)	E-coli (colonies/100ml)
AL-68-50-305	08/19/04	194	1.16	NR	NA	NA	NA	NA
AY-68-21-806	03/17/04	252	8.36	2	<2	NA	NA	NA
AY-68-27-517	01/14/04	252	0.68	<2	<2	NA	NA	NA
AY-68-27-5MR	11/2/04	232	0.06	<2	2	NA	NA	NA
AY-68-27-610	12/20/04	280	2.97	<2	<2	NA	NA	NA
AY-68-27-612	12/3/04	311	0.24	NR	NA	NA	NA	NA
AY-68-28-203	06/15/04	281	1.67	NR	NA	NA	NA	NA
AY-68-28-205	06/15/04	284	0.36	NR	NA	NA	NA	NA
AY-68-28-313	01/6/04	282	NR	<4	4	NA	NA	NA
AY-68-28-407	03/22/04	241	0.33	<2	<2	NA	NA	NA
AY-68-28-516	04/7/04	302	3.66	<2	<2	NA	NA	NA
AY-68-28-517	01/30/04	259	0.72	<2	<2	NA	NA	NA
AY-68-28-519	04/5/04	324	3.03	<2	<2	NA	NA	NA
AY-68-28-608	11/22/04	260	1.73	150	90	NA	NA	NA
AY-68-28-702	04/16/04	271	0.05	NR	NA	NA	NA	NA
AY-68-29-101	08/19/04	254	0.61	NR	NA	NA	NA	NA
AY-68-29-112	02/3/04	361	33.80	<3	3	NA	NA	NA
AY-68-29-113	12/17/04	303	1.14	<2	<2	NA	NA	NA
AY-68-29-214	11/17/04	276	0.77	108	235	NA	NA	NA
AY-68-29-215	03/9/04	278	1.00	<2	<2	NA	NA	NA
AY-68-29-216	02/18/04	293	0.70	<2	<2	NA	NA	NA
AY-68-29-217	02/27/04	280	1.68	<2	<2	NA	NA	NA
AY-68-29-418	12/15/04	330	0.31	<2	<2	NA	NA	NA
AY-68-36-107	04/16/04	259	1.22	NR	NA	NA	NA	NA
AY-68-36-1RS	04/12/04	276	8.06	NR	NA	NA	NA	NA
AY-68-28-806	05/3/04	260	0.40	NR	NA	NA	NA	NA
AY-68-36-131	05/3/04	260	0.40	NR	NA	NA	NA	NA
DX-68-16-707	05/21/04	278	0.18	NR	NA	NA	NA	NA
DX-68-22-601	10/25/04	298	1.82	<2	<2	NA	NA	NA

NA = Not analyzed
NR = Not Recorded
POA = Pump operating upon arrival

Table C-1 Field measurements and bacteria counts in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	Field Alkalinity (mg/L)	Field Turbidity (NTU)	Dissolved Oxygen (mg/L)	Fecal Coliform (colonies/100ml)	Fecal Strep (colonies/100ml)	Total Coliform (colonies/100ml)	E-coli (colonies/100ml)
DX-68-22-601	10/25/04	298	1.82	<2	<2	NA	NA	NA
DX-68-22-901	08/9/04	256	0.12	<2	<2	NA	NA	NA
DX-68-23-304	03/3/04	233	1.20	<2	12	NA	NA	NA
DX-68-23-316	07/29/04	264	0.91	<2	<2	NA	NA	NA
DX-68-23-504	06/2/04	244	0.06	NR	NA	NA	NA	NA
DX-68-30-221	06/4/04	268	3.30	<2	<2	NA	NA	NA
LR-67-01-303	08/2/04	241	0.37	<2	<2	NA	NA	NA
LR-67-01-810	04/30/04	280	0.02	NR	NA	NA	NA	NA
LR-67-01-816	04/30/04	272	0.44	NR	NA	NA	NA	NA
LR-67-09-113	05/18/04	260	4.83	<2	<2	NA	NA	NA
LR-67-09-1HB	04/29/04	262	0.16	NR	NA	NA	NA	NA
LR-67-09-1SM	04/30/04	275	0.25	NR	NA	NA	NA	NA
LR-67-09-1YR	04/29/04	276	0.39	NR	NA	NA	NA	NA
LR-68-08-902	04/29/04	200	0.38	NR	NA	NA	NA	NA
RP-70-37-502	08/25/04	220	0.72	NR	NA	NA	NA	NA
RP-70-37-706	08/26/04	182	0.05	NR	NA	NA	NA	NA
RP-70-37-810	08/25/04	226	0.18	NR	NA	NA	NA	NA
RP-70-37-903	08/25/04	202	3.91	NR	NA	NA	NA	NA
RP-70-45-505	08/26/04	196	0.23	NR	NA	NA	NA	NA
TD-68-25-703	08/04/04	188	0.46	<2	<2	NA	NA	NA
TD-68-33-202	08/04/04	196	0.17	<2	<2	NA	NA	NA
TD-68-33-502	08/10/04	192	0.21	<2	<2	NA	NA	NA
TD-68-41-102	05/26/04	202	0.21	NR	NA	NA	NA	NA
TD-68-41-308	05/26/04	200	0.57	NR	NA	NA	NA	NA
TD-68-41-901	08/10/04	200	0.32	<2	<2	NA	NA	NA

NA = Not analyzed
NR = Not Recorded
POA = Pump operating upon arrival

Table C-1 Field measurements and bacteria counts in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	Field Alkalinity (mg/L)	Field Turbidity (NTU)	Dissolved Oxygen (mg/L)	Fecal Coliform (colonies/100ml)	Fecal Strep (colonies/100ml)	Total Coliform (colonies/100ml)	E-coli (colonies/100ml)
TD-68-42-506	06/1/04	198	0.39	NR	NA	NA	NA	NA
TD-68-42-806	08/5/04	196	0.19	<2	<2	NA	NA	NA
TD-68-49-301	06/1/04	186	0.05	NR	NA	NA	NA	NA
TD-68-49-501	08/5/04	198	0.41	<2	<2	NA	NA	NA
TD-69-32-703	08/18/04	232	78.00	<2	<2	NA	NA	NA
TD-69-38-906	08/12/04	234	0.31	<2	<2	NA	NA	NA
TD-69-39-601	07/27/04	216	0.70	<2	<2	NA	NA	NA
TD-69-47-303	05/20/04	200	0.42	NR	NA	NA	NA	NA
TD-69-55-604	05/20/04	200	0.95	NR	NA	NA	NA	NA
TD-69-63-103	07/28/04	178	0.12	<2	<2	NA	NA	NA
UV00424	05/25/04	197	0.41	NR	NA	NA	NA	NA
UV00445-3	02/23/04	201	0.47	NR	NA	NA	NA	NA
UV00447	02/23/04	200	0.17	NR	NA	NA	NA	NA
UV00448	05/25/04	209	1.81	NR	NA	NA	NA	NA
UV00470	05/25/04	211	0.09	NR	NA	NA	NA	NA
UV00559	05/25/04	223	0.18	NR	NA	NA	NA	NA
UV00570-5	02/23/04	221	0.20	NR	NA	NA	NA	NA
UV00592-2	02/23/04	198	1.05	NR	NA	NA	NA	NA
YP-69-33-701	06/3/04	186	0.06	NR	NA	NA	NA	NA
YP-69-35-602	05/27/04	188	0.19	NR	NA	NA	NA	NA
YP-69-43-606	07/13/04	200	0.29	<2	<2	NA	NA	NA
YP-69-45-405	08/6/04	210	0.29	<2	9	NA	NA	NA
YP-69-50-203	05/19/04	212	0.14	NR	NA	NA	NA	NA
YP-69-50-501	05/19/04	220	0.15	NR	NA	NA	NA	NA
YP-69-51-114	05/19/04	258	0.51	NR	NA	NA	NA	NA

NA = Not analyzed
NR = Not Recorded
POA = Pump operating upon arrival

Table C-2 Analytical data for major ions in water samples from wells completed in the Edwards Aquifer, 2004

County	State Well Number	Date Sampled	Calcium dissolved (mg/L)	Chloride dissolved (mg/L)	Fluoride dissolved (mg/L)	Magnesium dissolved (mg/L)	Potassium dissolved (mg/L)	Sodium dissolved (mg/L)	Sulfate dissolved (mg/L)	Total Dissolved Solids (mg/L)
Atascosa	AL-68-50-305	08/19/04	*123	*113	*1.07	*35.3	*3.15	*51.7	*242	*734
Bexar	AY-68-21-806	03/17/04	108	6.75	0.02B	1.84	1.62	3.03	6.13	280
Bexar	AY-68-27-517	01/14/04	82.4	17.3	0.18	16	0.705	8.81	18.8	290
Bexar	AY-68-27-610	12/20/04	93.2	13.5	<0.50	12.8	1.45	7.39	13.6	308
Bexar	AY-68-27-612	12/03/04	112	12.1	0.12	8.28	1.01B	7.31	13.2	350
Bexar	AY-68-28-203	06/15/04	121	53	0.12	7.34	0.881	21	13.3	440
Bexar	AY-68-28-205	06/15/04	102	25.9	0.17	13.7	1.1	9.81	9.77	360
Bexar	AY-68-28-313	01/06/04	119	17.3	0.1	3.32	1.49	7.83	9.89	400*
Bexar	AY-68-28-407	03/22/04	89.9	11.6	0.12	8.63	0.804	5.52	8.99	270
Bexar	AY-68-28-516	04/07/04	54.2	13.3	0.12	3.15	0.414	3.2	19.5	370
Bexar	AY-68-28-517	01/30/04	111	14.3	0.09B	4.73	0.874	5.53	11	310
Bexar	AY-68-28-519	04/05/04	125	13.1	0.08B	3.87	1.32	4.28	7.17	340
Bexar	AY-68-28-608	11/22/04	90.6	9.24	0.16	8.65	1.35B	5.72	14.9	360
Bexar	AY-68-28-702	04/16/04	89.8	16.3	0.26	15.1	1.18	8.9	24.1	330
Bexar	AY-68-29-101	08/19/04	*114	*17.7	*0.09	*4.79	*1.2	*7.08	*31.3	*353
Bexar	AY-68-29-112	02/03/04	56.9	40.2	0.14	6.24	0.443	6.83	12.7	500
Bexar	AY-68-29-113	12/17/04	115	19.5	<0.50	14.4	1.32	6.89	11.9	380
Bexar	AY-68-29-214	11/17/04	105	10.3	0.14	8.87	0.568B	5.45	11.6	330
Bexar	AY-68-29-215	03/09/04	87.8	9.35	0.13	17.2	<0.625B	4.89	13	310
Bexar	AY-68-29-216	02/18/04	96.9	7.78	0.1	9.3	0.484B	4.34	6.25	340
Bexar	AY-68-29-217	02/27/04	91.7	8.98	0.12	9.58	0.654	4.58	8.53	430
Bexar	AY-68-29-418	12/15/04	135	28.7	<0.50	9.82	0.916	10.8	14.8	395

* Sample collected by the Authority and analyzed by TWDB
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NA = Not Analyzed

Table C-2 Analytical data for major ions in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

County	State Well Number	Date Sampled	Calcium dissolved (mg/L)	Chloride dissolved (mg/L)	Fluoride dissolved (mg/L)	Magnesium dissolved (mg/L)	Potassium dissolved (mg/L)	Sodium dissolved (mg/L)	Sulfate dissolved (mg/L)	Total Dissolved Solids (mg/L)
Bexar	AY-68-36-107	04/16/04	95.4	16.5	0.23	14.4	1.55	10.7	27.7	340
Bexar	AY-68-27-5MR	11/02/04	72.8	12.7	0.17	11.2	0.863B	7.07	24.7	290
Comal	DX-68-16-707	05/21/04	*91.2	*11.9	*0.15	*16	*1.06	*7.0	*14.4	*325
Comal	DX-68-22-601	10/25/04	173	12.9	0.12	3.48	1.49B	9.19	57.6	450
Comal	DX-68-22-901	08/09/04	*92.9	*11.2	*0.13	*12.2	*0.97	*6.56	*10.6	*306
Comal	DX-68-23-304	03/03/04	84.4	18.6	0.25	17.8	1.4	12.3	25.3	320
Comal	DX-68-23-316	07/29/04	*93	*9.45	*0.22	*12.8	*0.89	*5.66	*11.8	*313
Comal	DX-68-23-504	06/02/04	*85.8	*16.1	*0.19	*16.4	*1.37	*9.88	*25.2	*323
Comal	DX-68-30-221	06/04/04	*105	*13.4	*0.13	*9.84	*1.56	*11.3	*15.3	*355
Hays	LR-67-01-303	08/02/04	28	9.66	2.77	17	0.528	3.51	73.7	400
Hays	LR-67-01-810	04/30/04	88.5	19.5	0.22	16.2	1.54	10.9	25.6	340
Hays	LR-67-09-113	05/18/04	85.8	36.5	0.25	16.6	1.59	18	44.7	400
Hays	LR-67-09-1HB	04/29/04	81	22.9	0.19	14.8	0.991	6.09	31.4	310
Hays	LR-67-09-1SM	04/30/04	94.5	29.2	0.3	15.9	1.78	16.8	40.3	400
Hays	LR-67-09-816	04/30/04	88.1	23.7	0.23	16	1.62	13.8	32.5	360
Hays	LR-68-08-902	04/29/04	86.3	39.2	0.1B	10.1	0.763	11.5	7.77	340
Kinney	RP-70-37-502	08/25/04	*97.6	*19.4	*0.27	*2.6	*0.52	*9.03	*10.1	*NA
Kinney	RP-70-37-706	08/26/04	*71.7	*9.02	*0.61	*5.44	*<0.2	*5.59	*13	*238
Kinney	RP-70-37-810	08/25/04	*91.3	*13.7	*0.24	*4.28	*0.81	*8.55	*12	*292
Kinney	RP-70-37-903	08/25/04	*80.7	*8.79	*0.16	*3.32	*0.67	*5.73	*5.52	*247

* Sample collected by the Authority and analyzed by TWDB
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NA = Not Analyzed

Table C-2 Analytical data for major ions in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

County	State Well Number	Date Sampled	Calcium dissolved (mg/L)	Chloride dissolved (mg/L)	Fluoride dissolved (mg/L)	Magnesium dissolved (mg/L)	Potassium dissolved (mg/L)	Sodium dissolved (mg/L)	Sulfate dissolved (mg/L)	Total Dissolved Solids (mg/L)
Kinney	RP-70-45-505	08/26/04	*81.4	*8.52	*0.52	*6.05	*0.29	*4.96	*26.6	*263
Bexar	AY-68-36-1RS	04/12/04	108	16.5	0.31	13.1	1.15	12.8	19.9	350
Medina	TD-68-25-703	08/04/04	*76.2	*9.14	*0.1	*9.4	*1.03	*6.18	*31.8	*260
Medina	TD-68-33-202	08/04/04	*75.5	*9.7	*0.12	*10.1	*1.06	*6.26	*26.3	*261
Medina	TD-68-33-502	08/10/04	*69.7	*11.2	*0.19	*16.8	*1.29	*7.22	*43.7	*281
Medina	TD-68-41-102	05/26/04	*68.6	*19.6	*0.18	*15.6	*1.1	*9.35	*16.5	*274
Medina	TD-68-41-308	05/26/04	*69.6	*21.6	*0.18	*15.4	*1.13	*10.5	*16.6	*279
Medina	TD-68-41-901	08/10/04	*66.5	*23.3	*0.22	*16.8	*1.09	*10	*14.8	*273
Medina	TD-68-42-506	06/01/04	*66.5	*23.7	*0.2	*16	*1.03	*9.7	*14.4	*275
Medina	TD-68-42-806	08/05/04	*65.4	*21.3	*1.52	*16.6	*1.05	*9.62	*17.9	*270
Medina	TD-68-49-301	06/01/04	*56.6	*18.1	*0.62	*19.8	*1.0	*8.71	*23.6	*269
Medina	TD-68-49-501	08/05/04	*68.9	*25.7	*0.26	*16.3	*1.15	*11.5	*19.6	*286
Medina	TD-69-32-703	08/18/04	*96.5	*4.13	*0.07	*1.42	*<0.2	*4.16	*7.31	*270
Medina	TD-69-38-906	08/12/04	*80.6	*11.9	*0.18	*14	*1.29	*9.67	*11.7	*298
Medina	TD-69-39-601	07/27/04	*79.5	*10.6	*0.14	*10.2	*0.63	*6.59	*10.8	*269
Medina	TD-69-47-303	05/20/04	*65.4	*13.8	*0.18	*16.4	*1.09	*7.53	*16.7	*259
Medina	TD-69-55-604	05/20/04	*72.8	*26.6	*0.15	*14.8	*1.08	*11.3	*16	*287
Medina	TD-69-63-103	07/28/04	*58.7	*14.3	*1.34	*22.9	*0.98	*9.8	*83.1	*346
Uvalde	UV00424	05/25/04	73.1	21	0.12	8.08	0.692	10.7B	10.4	280
Uvalde	UV00445-3	02/23/04	66.8	21.8	0.15	11.2	0.834	10.9	12.4	280
Uvalde	UV00447	02/23/04	73.8	40.5	0.14	11.6	1.1	13.2	13.2	330
Uvalde	UV00448	05/25/04	72.1	21.2	0.14	10.8	0.901	17.7B	14.1	300

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NA = Not Analyzed

Table C-2 Analytical data for major ions in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

County	State Well Number	Date Sampled	Calcium dissolved (mg/L)	Chloride dissolved (mg/L)	Fluoride dissolved (mg/L)	Magnesium dissolved (mg/L)	Potassium dissolved (mg/L)	Sodium dissolved (mg/L)	Sulfate dissolved (mg/L)	Total Dissolved Solids (mg/L)
Uvalde	UV00470	05/25/04	79.1	48.8	0.14	15.5	1.18	15.4 (B)	17.9	340
Uvalde	UV00559	05/25/04	91.4	33.6	0.14	9.23	0.946	17.3 (B)	15.2	350
Uvalde	UV00570-5	02/23/04	92.3	54.9	0.17	10	0.923	30.6	36.8	410
Uvalde	UV00592-2	02/23/04	122	126	0.19	14.5	1.52	26.3	49.8	630
Uvalde	YP-69-33-701	06/03/04	*60.9	*10.1	*0.12	*13.9	*0.86	*6.68	*12.8	*236
Uvalde	YP-69-35-602	05/27/04	*53.3	*10.4	*0.14	*18	*0.99	*5.94	*11.8	*235
Uvalde	YP-69-43-606	07/13/04	*70.4	*17.6	*0.12	*11.7	*1.04	*10.4	*17.2	*280
Uvalde	YP-69-45-405	08/06/04	*73	*12.1	*0.17	*14.2	*1.04	*7.64	*19.1	*273
Uvalde	YP-69-50-203	05/19/04	*82.9	*30	*0.1	*10	*1.03	*14.5	*16.7	*295
Uvalde	YP-69-50-501	05/19/04	*139	*147	*0.18	*15	*1.2	*56.2	*66	*617
Uvalde	YP-69-51-114	05/19/04	*125	*87.8	*0.56	*14.5	*1.29	*36.6	*49.1	*513

* Sample collected by the Authority and analyzed by TWDB
B = Estimated result. Result is less than reporting limit (RL)
NA = Not Analyzed

Table C-3 Analytical data for metals in water samples from wells completed in the Edwards Aquifer, 202004

County	State Well Number	Date Sampled	Aluminum dissolved (mg/L)	Antimony dissolved (mg/L)	Arsenic dissolved (mg/L)	Barium dissolved (mg/L)	Beryllium dissolved (mg/L)	Boron dissolved (mg/L)	Bromide dissolved (mg/L)	Cadmium dissolved (mg/L)
Atascosa	AL-68-50-305	08/19/04	*<0.0041	*<0.001	*0.0035	*0.0579	*<0.001	*0.254	*0.515	*<0.001
Bexar	AY-68-21-806	03/17/04	NA	0.0374B	<0.01	0.0338	<0.005	NA	NA	<0.01
Bexar	AY-68-27-517	01/14/04	NA	<0.01	<0.01	0.0276	<0.005	NA	NA	<0.01
Bexar	AY-68-27-610	12/20/04	0.0038	†<0.0008	†<0.0007	0.0309	†<0.0008	NA	NA	†<0.0007
Bexar	AY-68-27-612	12/03/04	NA	†<0.006	<0.01	0.0523	†<0.005	NA	NA	<0.01
Bexar	AY-68-28-203	06/15/04	NA	<0.001	<0.01	0.0496	<0.005	NA	NA	<0.01
Bexar	AY-68-28-205	06/15/04	NA	<0.001	<0.01	0.0372	<0.005	NA	NA	<0.01
Bexar	AY-68-28-309	12/20/04	†0.0012	†0.0012	†<0.0007	0.023	†<0.0008	NA	NA	†<0.0007
Bexar	AY-68-28-313	01/06/04	NA	<0.01	0.0099B	0.0637	<0.005	NA	NA	<0.01
Bexar	AY-68-28-407	03/22/04	NA	0.0281	<0.01	0.0364	<0.005	NA	NA	<0.01
Bexar	AY-68-28-516	04/07/04	NA	<0.01	<0.01	0.0346	<0.005	NA	NA	<0.01
Bexar	AY-68-28-517	01/30/04	NA	0.0205	<0.01	0.0327	<0.005	NA	NA	<0.01
Bexar	AY-68-28-519	04/05/04	NA	0.0155	<0.01	0.0382	<0.005	NA	NA	<0.01
Bexar	AY-68-28-608	11/22/04	NA	0.0064	<0.01	0.0332	<0.005	NA	NA	0.0004B
Bexar	AY-68-28-702	04/16/04	NA	0.0035B	<0.01	0.0312	<0.005	NA	NA	<0.01
Bexar	AY-68-29-101	08/19/04	*<0.0041	*<0.001	*<0.002	*0.0342	*<0.001	*<0.051	*0.077	*<0.001
Bexar	AY-68-29-112	02/03/04	NA	<0.01	<0.01	0.0553	<0.005	NA	NA	<0.01
Bexar	AY-68-29-113	12/17/04	NA	0.0012	†<0.0007	0.0442	†<0.0008	NA	NA	†<0.0007
Bexar	AY-68-29-214	11/17/04	NA	0.0049B	<0.01	0.0338	<0.005	NA	NA	<0.01
Bexar	AY-68-29-215	03/09/04	NA	0.0098B	<0.01	0.0303	<0.005	NA	NA	<0.01
Bexar	AY-68-29-216	02/18/04	NA	<0.01	0.0567	0.0304	<0.005	NA	NA	<0.01
Bexar	AY-68-29-217	02/27/04	NA	0.0239	<0.01	0.0323	<0.005	NA	NA	<0.01
Bexar	AY-68-29-418	12/15/04	†<0.0002	†<0.0008	†<0.0007	0.0535	†<0.0008	NA	NA	†<0.0007
Bexar	AY-68-36-107	04/16/04	NA	0.0024B	<0.01	0.0386	<0.005	NA	NA	<0.01
Bexar	AY-68-36-IRS	04/12/04	NA	0.0023B	<0.01	0/0729	<0.005	NA	NA	<0.01

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Table C-3 Analytical data for metals in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

County	State Well Number	Date Sampled	Aluminum dissolved (mg/L)	Antimony dissolved (mg/L)	Arsenic dissolved (mg/L)	Barium dissolved (mg/L)	Beryllium dissolved (mg/L)	Boron dissolved (mg/L)	Bromide dissolved (mg/L)	Cadmium dissolved (mg/L)
Comal	DX-68-16-707	05/21/04	*<0.004	*<0.001	*<0.002	*0.0346	*<0.001	*0.0589	*0.077	*<0.001
Comal	DX-68-22-601	10/25/04	NA	<0.006	<0.01	0.0514	<0.005	NA	NA	<0.01
Comal	DX-68-22-901	08/09/04	*<0.0041	*<0.001	*<0.002	*0.03	*<0.001	*0.057	*0.063	*<0.001
Comal	DX-68-23-304	03/03/04	NA	<0.01B	<0.01	0.0549	<0.005	NA	NA	<0.01
Comal	DX-68-23-316	07/29/04	*<0.0041	*<0.001	*<0.002	*0.0309	*<0.001	*<0.051	*0.098	*<0.001
Comal	DX-68-23-504	06/02/04	*<0.004	*<0.001	*<0.002	*0.0441	*<0.001	*0.0704	*0.089	*<0.001
Comal	DX-68-30-221	06/04/04	*<0.004	*<0.001	*<0.002	*0.0453	*<0.001	*0.09	*0.132	*<0.001
Hays	LR-67-01-303	08/02/04	NA	0.0011B	<0.01	0.0871	<0.005	NA	NA	<0.01
Hays	LR-67-01-810	04/30/04	NA	<0.001	<0.004	0.0365	<0.0005	NA	NA	<0.0005
Hays	LR-67-09-113	05/18/04	NA	0.0084	<0.01	0.0402	<0.005	NA	NA	<0.01
Hays	LR-67-09-1HB	04/29/04	NA	<0.001	<0.004	0.0314	<0.0005	NA	NA	<0.0005
Hays	LR-67-09-1SM	04/30/04	NA	<0.001	<0.004	0.0407	<0.0005	NA	NA	<0.0005
Hays	LR-67-09-816	04/30/04	NA	<0.001	<0.004	0.0406	<0.005	NA	NA	<0.0005
Hays	LR-68-08-902	04/29/04	NA	<0.001	<0.004	0.0295	<0.0005	NA	NA	<0.0005
Kinney	RP-70-37-502	08/25/04	*<0.0041	*<0.001	*<0.002	*0.0693	*<0.001	*0.0622	*0.083	*<0.001
Kinney	RP-70-37-706	08/26/04	*<0.0041	*<0.001	*<0.002	*0.351	*<0.001	*0.057	*0.069	*<0.001
Kinney	RP-70-37-810	08/25/04	*<0.0041	*<0.001	*<0.002	*0.0604	*<0.001	*0.0728	*0.08	*<0.001
Kinney	RP-70-37-903	08/25/04	*<0.0041	*<0.001	*<0.002	*0.0537	*<0.001	*0.0525	*0.052	*<0.001
Kinney	RP-70-45-505	08/26/04	*<0.0041	*<0.001	*<0.002	*0.0467	*<0.001	*0.062	*0.061	*<0.001
Medina	TD-68-25-703	08/04/04	*<0.0041	*<0.001	*<0.002	*0.0299	*<0.001	*0.0666	*0.072	*<0.001
Medina	TD-68-33-202	08/04/04	*<0.0041	*<0.001	*<0.002	*0.0315	*<0.001	*0.0609	*0.072	*<0.001
Medina	TD-68-33-502	08/10/04	*<0.0041	*<0.001	*<0.002	*0.0302	*<0.001	*0.0669	*0.083	*<0.001

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Table C-3 Analytical data for metals in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

County	State Well Number	Date Sampled	Aluminum dissolved (mg/L)	Antimony dissolved (mg/L)	Arsenic dissolved (mg/L)	Barium dissolved (mg/L)	Beryllium dissolved (mg/L)	Boron dissolved (mg/L)	Bromide dissolved (mg/L)	Cadmium dissolved (mg/L)
Medina	TD-68-41-102	05/26/04	*<0.004	*<0.001	*<0.002	*0.0484	*<0.001	*0.074	*0.093	*<0.001
Medina	TD-68-41-308	05/26/04	*<0.004	*<0.001	*<0.002	*0.048	*<0.001	*0.087	*0.108	*<0.001
Medina	TD-68-41-901	08/10/04	*<0.0041	*<0.001	*<0.002	*0.0826	*<0.001	*0.08	*0.097	*<0.001
Medina	TD-68-42-506	06/01/04	*<0.004	*<0.001	*<0.002	*0.0699	*<0.001	*0.0618	*0.103	*<0.001
Medina	TD-68-42-806	08/05/04	*<0.0041	*<0.001	*<0.002	*0.0885	*<0.001	*0.0622	*0.089	*<0.001
Medina	TD-68-49-301	06/01/04	*<0.004	*<0.001	*<0.002	*0.168	*<0.001	*0.0596	*0.088	*<0.001
Medina	TD-68-49-501	08/05/04	*<0.0041	*<0.001	*<0.002	*0.114	*<0.001	*0.0685	*0.108	*<0.001
Medina	TD-69-32-703	08/18/04	*<0.0041	*<0.001	*<0.002	*0.0264	*<0.001	*<0.051	*0.047	*<0.001
Medina	TD-69-38-906	08/12/04	*<0.0041	*<0.001	*<0.002	*0.043	*<0.001	*0.0866	*0.07	*<0.001
Medina	TD-69-39-601	07/27/04	*<0.0041	*<0.001	*<0.002	*0.0309	*<0.001	*<0.051	*0.0562	*<0.001
Medina	TD-69-47-303	05/20/04	*<0.004	*<0.001	*<0.002	*0.044	*<0.001	*0.0703	*0.071	*<0.001
Medina	TD-69-55-604	05/20/04	*<0.004	*<0.001	*<0.002	*0.0547	*<0.001	*0.0707	*0.116	*<0.001
Medina	TD-69-63-103	07/28/04	*<0.0041	*<0.001	*<0.002	*0.12	*<0.001	*0.0555	*0.144	*<0.001
Uvalde	UV00424	05/25/04	NA	0.0013B	<0.01	0.0414	<0.005	NA	NA	<0.01
Uvalde	UV00445-3	02/23/04	NA	<0.01	<0.01	0.0426	<0.005	NA	NA	<0.01
Uvalde	UV00447	02/23/04	NA	<0.01	<0.01	0.0533	<0.005	NA	NA	<0.01
Uvalde	UV00448	05/25/04	NA	0.0016B	<0.01	0.0424	<0.005	NA	NA	<0.01
Uvalde	UV00470	05/25/04	NA	0.0015B	0.0043B	0.043	<0.005	NA	NA	<0.01
Uvalde	UV00559	05/25/04	NA	<0.006	<0.01	0.0531	<0.005	NA	NA	<0.01
Uvalde	UV00570-5	02/23/04	NA	<0.01	<0.01	0.0715	<0.005	NA	NA	<0.01
Uvalde	UV00592-2	02/23/04	NA	<0.01	<0.01	0.116	<0.005	NA	NA	<0.01
Uvalde	YP-69-33-701	06/03/04	*<0.004	*<0.001	*<0.002	*0.0418	*<0.001	*0.0608	*0.057	*<0.001
Uvalde	YP-69-35-602	05/27/04	*<0.004	*<0.001	*<0.002	*0.0343	*<0.001	*0.056	*0.071	*<0.001
Uvalde	YP-69-43-606	07/13/04	*<0.004	*<0.001	*<0.002	*0.0533	*<0.001	*0.0762	*0.081	*<0.001

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NA = Not analyzed

Table C-3 Analytical data for metals in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

County	State Well Number	Date Sampled	Aluminum dissolved (mg/L)	Antimony dissolved (mg/L)	Arsenic dissolved (mg/L)	Barium dissolved (mg/L)	Beryllium dissolved (mg/L)	Boron dissolved (mg/L)	Bromide dissolved (mg/L)	Cadmium dissolved (mg/L)
Uvalde	YP-69-45-405	08/06/04	*<0.0041	*<0.001	*<0.002	*0.0347	*<0.001	*0.072	*0.066	*<0.001
Uvalde	YP-69-50-203	05/19/04	*<0.004	*<0.001	*<0.002	*0.0492	*<0.001	*0.0803	*0.125	*<0.001
Uvalde	YP-69-50-501	05/19/04	*<0.004	*<0.001	*<0.002	*0.0883	*<0.001	*0.208	*0.53	*<0.001
Uvalde	YP-69-51-114	05/19/04	*<0.004	*<0.001	*<0.002	*0.103	*<0.001	*0.15	*0.32	*<0.001

State Well Number	Date Sampled	Chromium dissolved (mg/L)	Cobalt dissolved (mg/L)	Copper dissolved (mg/L)	Iron dissolved (mg/L)	Lead dissolved (mg/L)	Lithium dissolved (mg/L)	Manganese dissolved (mg/L)	Mercury dissolved (mg/L)
AY-68-50-305	08/19/04	*0.0013	*<0.001	*<0.001	*<0.051	*<0.001	*0.0923	*0.002	NA
AY-68-21-806	03/17/04	<0.01	NA	0.006B	<0.25	<0.01	NA	<0.01	0.00011B
AY-68-27-517	01/14/04	<0.01	NA	<0.01	<0.25	0.0016B	NA	<0.01	<0.0002
AY-68-27-610	12/20/04	†<0.0012	NA	†<0.0009	†0.0053	†<0.0008	NA	†0.0002	†<0.0011
AY-68-27-612	12/03/04	<0.01	NA	<0.01	<0.4	<0.01	NA	<0.01	<0.0002
AY-68-28-203	06/15/04	<0.01	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002
AY-68-28-205	06/15/04	<0.01	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002
AY-68-28-309	12/20/04	†<0.0012	NA	†<0.0009	0.211	†<0.0008	NA	†0.0003	†0.0001
AY-68-28-313	01/06/04	<0.01	NA	<0.01	<0.25	<0.01	NA	0.0007B	<0.0002
AY-68-28-407	03/22/04	<0.01	NA	<0.01	<0.25	0.004B	NA	<0.01	<0.0002B
AY-68-28-516	04/07/04	<0.01	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002
AY-68-28-517	01/30/04	<0.01	NA	<0.01	0.0225B	<0.01	NA	<0.01	<0.0002
AY-68-28-519	04/05/04	<0.01	NA	<0.01	<0.25	0.003B	NA	<0.01	<0.0002
AY-68-28-608	11/22/04	<0.01	NA	<0.01	0.0588B	<0.01	NA	<0.01	<0.0002

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Table C-3 Analytical data for metals in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	Chromium dissolved (mg/L)	Cobalt dissolved (mg/L)	Copper dissolved (mg/L)	Iron dissolved (mg/L)	Lead dissolved (mg/L)	Lithium dissolved (mg/L)	Manganese dissolved (mg/L)	Mercury dissolved (mg/L)
AY-68-28-702	04/16/04	<0.01	NA	<0.01	0.0267B	<0.01	NA	<0.01	<0.0002
AY-68-29-101	08/19/04	*<0.001	*<0.001	*<0.001	*<0.051	*<0.001	*<0.002	*<0.001	NA
AY-68-29-112	02/03/04	<0.01	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002
AY-68-29-113	12/17/04	†<0.0012	NA	†<0.0009	†<0.0007	†<0.0008	NA	†0.0001	†<0.0011
AY-68-29-214	11/17/04	<0.01	NA	<0.01	<0.4	<0.01	NA	<0.01	<0.0002
AY-68-29-215	03/09/04	0.0018B	NA	<0.01	0.0514B	<0.01	NA	<0.01	<0.0002
AY-68-29-216	02/18/04	<0.01	NA	<0.01	0.0213B	<0.01	NA	<0.01	<0.0002
AY-68-29-217	02/27/04	<0.01	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002
AY-68-29-418	12/15/04	†<0.0012	NA	†<0.0009	†<0.0007	†<0.0008	NA	†<0.0001	†<0.0011
AY-68-36-107	04/16/04	<0.01	NA	<0.01	0.202B	<0.01	NA	<0.01	<0.0002
DX-68-16-707	05/21/04	*<0.001	*<0.001	*0.0051	*<0.05	*<0.001	*0.0035	*<0.001	NA
DX-68-22-601	10/25/04	<0.01	NA	0.0089B	<0.4	<0.01	NA	<0.01	<0.0002
DX-68-22-901	08/09/04	*0.0025	*<0.001	*0.0025	*<0.051	*<0.001	*0.003	*<0.001	NA
DX-68-23-304	03/03/04	<0.01	NA	<0.01	0.255	<0.01	NA	<0.01	<0.0002
DX-68-23-316	07/29/04	*<0.001	*<0.001	*<0.001	*<0.051	*<0.001	*<0.002	*<0.001	NA
DX-68-23-504	06/02/04	*0.0034	*<0.001	*0.0041	*<0.05	*0.0015	*0.0054	*<0.001	NA
DX-68-30-221	06/04/04	*0.0038	*<0.001	*0.0025	*<0.05	*<0.001	*0.004	*<0.001	NA
LR-67-01-303	08/02/04	<0.01	NA	<0.01	0.0406B	<0.01	NA	<0.01	<0.0002
LR-67-01-810	04/30/04	<0.005	NA	<0.01	0.0434B	<0.005	NA	<0.01	<0.0002
LR-67-09-113	05/18/04	0.0013B	NA	0.0048B	0.0601B	<0.01	NA	<0.01	<0.0002
LR-67-09-1HB	04/29/04	<0.005	NA	<0.02	<0.25	<0.005	NA	<0.01	<0.0002
LR-67-09-1SM	04/30/04	<0.005	NA	<0.02	<0.25	<0.005	NA	<0.01	<0.0002
LR-67-09-816	04/30/04	<0.005	NA	<0.02	<0.25	<0.005	NA	<0.01	<0.0002
LR-68-08-902	04/29/04	<0.005	NA	0.0447	<0.25	<0.005	NA	<0.01	<0.0002

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Table C-3 Analytical data for metals in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	Chromium dissolved (mg/L)	Cobalt dissolved (mg/L)	Copper dissolved (mg/L)	Iron dissolved (mg/L)	Lead dissolved (mg/L)	Lithium dissolved (mg/L)	Manganese dissolved (mg/L)	Mercury dissolved (mg/L)
RP-70-37-502	08/25/04	*<0.001	*<0.001	*0.0098	*0.0578	*<0.001	*0.003	*0.0011	NA
RP-70-37-706	08/26/04	*<0.001	*<0.001	*<0.001	*<0.051	*<0.001	*0.0037	*<0.001	NA
RP-70-37-810	08/25/04	*0.0011	*<0.001	*0.031	*<0.051	*<0.001	*0.0054	*<0.001	NA
RP-70-37-903	08/25/04	*<0.001	*<0.001	*0.0018	*<0.051	*0.0023	*0.0023	*<0.001	NA
RP-70-45-505	08/26/04	*0.0013	*<0.001	*0.0046	*<0.051	*<0.001	*0.0027	*<0.001	NA
AY-68-36-1RS	04/12/04	<0.01	NA	0.0052B	<0.25	<0.01	NA	<0.01	0.0002
TD-68-25-703	08/04/04	*0.0018	*<0.001	*0.0015	*<0.051	*<0.001	*<0.002	*<0.001	NA
TD-68-33-202	08/04/04	*0.0018	*<0.001	*0.0015	*<0.051	*<0.001	*0.0024	*<0.001	NA
TD-68-33-502	08/10/04	*0.0022	*<0.001	*0.002	*<0.051	*<0.001	*0.0048	*<0.001	NA
TD-68-41-102	05/26/04	*0.0027	*<0.001	*0.0034	*<0.05	*<0.001	*0.0034	*<0.001	NA
TD-68-41-308	05/26/04	*0.0025	*<0.001	*<0.001	*<0.05	*<0.001	*0.0047	*<0.001	NA
TD-68-41-901	08/10/04	*0.0025	*<0.001	*0.0012	*<0.051	*<0.001	*0.0039	*<0.001	NA
TD-68-42-506	06/01/04	*0.0025	*<0.001	*0.0022	*<0.05	*<0.001	*0.0034	*<0.001	NA
TD-68-42-806	08/05/04	*0.0026	*<0.001	*0.0067	*<0.051	*0.0017	*0.0044	*<0.001	NA
TD-68-49-301	06/01/04	*0.0027	*<0.001	*0.0062	*<0.05	*<0.001	*0.0042	*<0.001	NA
TD-68-49-501	08/05/04	*0.0022	*<0.001	*0.0028	*<0.051	*0.0014	*0.0052	*<0.001	NA
TD-69-32-703	08/18/04	*<0.001	*<0.001	*<0.001	*<0.051	*<0.001	*<0.002	*<0.001	NA
TD-69-38-906	08/12/04	*0.0027	*<0.001	*0.003	*<0.051	*0.0017	*0.0038	*<0.001	NA
TD-69-39-601	07/27/04	*<0.001	*<0.001	*0.0014	*<0.051	*<0.001	*<0.002	*<0.001	NA,
TD-69-47-303	05/20/04	*<0.001	*<0.001	*0.0032	*<0.05	*0.0033	*0.003	*<0.001	NA
TD-69-55-604	05/20/04	*0.0011	*<0.001	*0.0019	*<0.05	*0.003	*0.0034	*<0.001	NA
TD-69-63-103	07/28/04	*<0.001	*<0.001	*<0.001	*0.927	*<0.001	*0.007	*0.0127	NA

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Table C-3 Analytical data for metals in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	Chromium dissolved (mg/L)	Cobalt dissolved (mg/L)	Copper dissolved (mg/L)	Iron dissolved (mg/L)	Lead dissolved (mg/L)	Lithium dissolved (mg/L)	Manganese dissolved (mg/L)	Mercury dissolved (mg/L)
UV00424	05/25/04	<0.01	NA	<0.01	0.0208B	<0.01	NA	<0.01	<0.0002
UV00445-3	02/23/04	<0.01	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002B
UV00447	02/23/04	<0.01	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002B
UV00448	05/25/04	<0.01	NA	<0.01	0.249B	<0.01	NA	<0.01	<0.0002
UV00470	05/25/04	<0.01	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002
UV00559	05/25/04	<0.01	NA	<0.01	0.0393B	<0.01	NA	<0.01	<0.0002
UV00570-5	02/23/04	<0.01	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002B
UV00592-2	02/23/04	<0.01	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002B
YP-69-33-701	06/03/04	*0.0024	*<0.001	*<0.001	*<0.05	*<0.001	*0.0022	*<0.001	NA
YP-69-35-602	05/27/04	*0.0028	*<0.001	*<0.001	*<0.05	*<0.001	*0.0024	*<0.001	NA
YP-69-43-606	07/13/04	*0.0022	*<0.001	*0.0018	*<0.05	*<0.001	*0.0027	*<0.001	NA
YP-69-45-405	08/06/04	*0.0017	*<0.001	*0.0021	*<0.051	*<0.001	*0.0032	*<0.001	NA
YP-69-50-203	05/19/04	*0.0013	*<0.001	*0.0038	*<0.05	*0.0019	*0.0029	*<0.001	NA
YP-69-50-501	05/19/04	*0.0011	*<0.001	*0.0018	*<0.05	*<0.001	*0.0065	*<0.001	NA
YP-69-51-114	05/19/04	*0.0015	*<0.001	*0.0108	*<0.05	*<0.001	*0.0091	*0.0023	NA

* Sample collected by the Authority and analyzed by TWDB
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J = Method blank contamination (The associated method blank contains the target analyte at a reportable level)
†= Detection limit rounded to nearest 0.001 mg/L
NA = Not analyzed

Table C-3 Analytical data for metals in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	Molybdenum dissolved (mg/L)	Nickel dissolved (mg/L)	Selenium dissolved (mg/L)	Silver dissolved (mg/L)	Strontium dissolved (mg/L)	Thallium dissolved (mg/L)	Vanadium dissolved (mg/L)	Zinc dissolved (mg/L)
AY-68-50-305	08/19/04	*0.012	*0.0047	*0.0347	NA	*6.15	*<0.001	*0.0221	*<0.0041
AY-68-21-806	03/17/04	NA	<0.01	0.0097B	<0.005	0.0424B	<0.01	NA	0.002B
AY-68-27-517	01/14/04	NA	0.0022B	<0.01	<0.005	0.395	<0.01	NA	0.0039B
AY-68-27-610	12/20/04	NA	†<0.0006	†<0.001	†<0.0009	0.262	†<0.0004	NA	†0.0036
AY-68-27-612	12/03/04	NA	0.0041B	<0.01	<0.005	0.176	<0.002	NA	<0.01
AY-68-28-203	06/15/04	NA	<0.01	0.019	<0.005	0.224	<0.002	NA	0.0125
AY-68-28-205	06/15/04	NA	<0.01	0.0113	<0.005	0.503	<0.002	NA	0.0633
AY-68-28-309	12/20/04	NA	†<0.0006	†<0.001	†<0.0009	18.4	†<0.0004	NA	†<0.0007
AY-68-28-313	01/06/04	NA	0.0039B	<0.01	<0.005	0.101	<0.01	NA	0.0033B
AY-68-28-407	03/22/04	NA	<0.01	0.0095B	<0.005	0.201	<0.01	NA	0.0065B
AY-68-28-516	04/07/04	NA	<0.01	<0.01	<0.005	0.159	<0.01	NA	<0.01
AY-68-28-517	01/30/04	NA	0.0026B	<0.01	<0.005	0.238	<0.01	NA	0.0031B
AY-68-28-519	04/05/04	NA	<0.01	0.0069B	<0.005	0.087	<0.01	NA	0.0028B
AY-68-28-608	11/22/04	NA	<0.01	<0.01	<0.005	0.142	<0.002	NA	0.0156
AY-68-28-702	04/16/04	NA	<0.01	0.009B	<0.005	0.454	<0.01	NA	0.0091B
AY-68-29-101	08/19/04	*<0.001	*0.0039	*<0.0041	NA	*0.187	*<0.001	*0.0017	*0.0043
AY-68-29-112	02/03/04	NA	0.0025B	<0.01	<0.005	0.334	<0.01	NA	0.0024B
AY-68-29-113	12/17/04	NA	†<0.0006	<0.001	†<0.0009	0.101	†<0.0004	NA	†0.0039
AY-68-29-214	11/17/04	NA	0.0034B	<0.01	<0.005	0.13	<0.002	NA	<0.01
AY-68-29-215	03/09/04	NA	<0.01	<0.01	<0.005	0.293	<0.01	NA	0.0034B
AY-68-29-216	02/18/04	NA	0.0026B	<0.01	<0.005	0.112	<0.01	NA	0.0069B
AY-68-29-217	02/27/04	NA	<0.01	0.0077B	<0.005	0.0996	<0.01	NA	0.003B
AY-68-29-418	12/15/04	NA	†<0.0006	†0.0012	†<0.0009	0.132	†<0.0004	NA	0.0008
AY-68-36-107	04/16/04	NA	<0.01	0.0125	<0.005	<0.01	<0.01	NA	0.0124

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J = Method blank contamination (The associated method blank contains the target analyte at a reportable level)
†= Detection limit rounded to nearest 0.001 mg/L
NA = Not analyzed

Table C-3 Analytical data for metals in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	Molybdenum dissolved (mg/L)	Nickel dissolved (mg/L)	Selenium dissolved (mg/L)	Silver dissolved (mg/L)	Strontium dissolved (mg/L)	Thallium dissolved (mg/L)	Vanadium dissolved (mg/L)	Zinc dissolved (mg/L)
DX-68-16-707	05/21/04	*<0.001	*0.0027	*<0.004	NA	*0.38	*<0.001	*0.002	*0.0124
DX-68-22-601	10/25/04	NA	0.005B	<0.01	<0.005	0.146	<0.002	NA	0.0196
DX-68-22-901	08/09/04	*<0.001	*0.0037	*<0.0041	NA	*0.17	*<0.001	*0.003	*0.0168
DX-68-23-304	03/03/04	NA	<0.01	<0.01	<0.005	0.802	<0.01	NA	0.0239
DX-68-23-316	07/29/04	*<0.001	*0.0037	*<0.0041	NA	*0.175	*<0.001	*0.0023	*0.0098
DX-68-23-504	06/02/04	*<0.001	*0.0031	*<0.004	NA	*0.507	*<0.001	*0.0031	*0.0125
DX-68-30-221	06/04/04	*<0.001	*0.0037	*<0.004	NA	*0.205	*<0.001	*0.0036	*0.0106
LR-67-01-303	08/02/04	NA	<0.01	0.0082B	<0.005	<0.05	<0.002	NA	0.0088B
LR-67-01-810	04/30/04	NA	<0.01	<0.001	<0.005	0.495	<0.0002	NA	<0.02
LR-67-09-113	05/18/04	NA	<0.01	<0.01	<0.005	0.649	<0.002	NA	0.0236
LR-67-09-1HB	04/29/04	NA	<0.01	<0.001	<0.005	0.362	†0.0003	NA	<0.02
LR-67-09-1SM	04/30/04	NA	<0.01	<0.001	<0.005	0.628	<0.0002	NA	<0.02
LR-67-09-816	04/30/04	NA	<0.01	<0.001	<0.005	0.58	<0.0002	NA	<0.02
LR-68-08-902	04/29/04	NA	<0.01	<0.001	<0.005	0.141	<0.0002	NA	0.0208
RP-70-37-502	08/25/04	*<0.001	*0.004	*<0.0041	NA	*0.23	*<0.001	*0.0048	*0.014
RP-70-37-706	08/26/04	*0.0135	*0.0035	*<0.0041	NA	*3.57	*<0.001	*0.0165	*<0.0041
RP-70-37-810	08/25/04	*<0.001	*0.0036	*<0.0041	NA	*0.72	*<0.001	*0.004	*0.0448
RP-70-37-903	08/25/04	*<0.001	*0.0032	*<0.0041	NA	*0.52	*<0.001	*0.0049	*<0.0041
RP-70-45-505	08/26/04	*<0.001	*0.004	*<0.0041	NA	*1.68	*<0.001	*0.0114	*0.0078
AY-68-36-1RS	04/12/04	NA	<0.01	<0.01	<0.005	0.406	<0.01	NA	0.0799
TD-68-25-703	08/04/04	*<0.001	*0.0028	*<0.0041	NA	*0.26	*<0.001	*0.0029	*0.0171
TD-68-33-202	08/04/04	*<0.001	*0.0029	*<0.0041	NA	*0.387	*<0.001	*0.0025	*0.0875
TD-68-33-502	08/10/04	*<0.001	*0.0026	*<0.0041	NA	*0.57	*<0.001	*0.0028	*0.0128

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†= Detection limit rounded to nearest 0.001 mg/L
NA = Not analyzed

Table C-3 Analytical data for metals in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	Molybdenum dissolved (mg/L)	Nickel dissolved (mg/L)	Selenium dissolved (mg/L)	Silver dissolved (mg/L)	Strontium dissolved (mg/L)	Thallium dissolved (mg/L)	Vanadium dissolved (mg/L)	Zinc dissolved (mg/L)
TD-68-41-102	05/26/04	*<0.001	*0.0023	*<0.004	NA	*0.63	*<0.001	*0.0036	*0.0154
TD-68-41-308	05/26/04	*<0.001	*0.0022	*<0.004	NA	*0.52	*<0.001	*0.0036	*0.0098
TD-68-41-901	08/10/04	*<0.001	*0.0025	*<0.0041	NA	*1.5	*<0.001	*0.0044	*0.0191
TD-68-42-506	06/01/04	*<0.001	*0.0023	*<0.004	NA	*1.22	*<0.001	*0.004	*0.0115
TD-68-42-806	08/05/04	*0.0323	*0.0046	*<0.0041	NA	*2.13	*<0.001	*0.0115	*0.0219
TD-68-49-301	06/01/04	*0.0077	*0.0025	*<0.004	NA	*6.74	*<0.001	*0.0077	*0.0191
TD-68-49-501	08/05/04	*<0.001	*0.0027	*<0.0041	NA	*2.72	*<0.001	*0.0041	*0.0143
TD-69-32-703	08/18/04	*<0.001	*0.0045	*<0.0041	NA	*0.11	*<0.001	*0.004	*<0.0041
TD-69-38-906	08/12/04	*<0.001	*0.003	*<0.0041	NA	*0.27	*<0.001	*0.0036	*0.015
TD-69-39-601	07/27/04	*<0.001	*0.0035	*<0.0041	NA	*0.22	*<0.001	*0.0021	*0.383
TD-69-47-303	05/20/04	*<0.001	*0.002	*<0.004	NA	*0.356	*<0.001	*0.003	*0.0125
TD-69-55-604	05/20/04	*<0.001	*0.0021	*<0.004	NA	*0.895	*<0.001	*0.0036	*0.007
TD-69-63-103	07/28/04	*0.004	*0.0026	*<0.0041	NA	*25.5	*<0.001	*<0.001	*0.0135
UV00424	05/25/04	NA	<0.01	<0.01	<0.005	0.182	<0.002	NA	0.0137
UV00445-3	02/23/04	NA	<0.01	0.0055B	<0.005	0.268	<0.01	NA	0.0082B
UV00447	02/23/04	NA	<0.01	0.0081B	<0.005	0.298	<0.01	NA	0.0058B
UV00448	05/25/04	NA	<0.01	<0.01	<0.005	0.263	<0.002	NA	0.0172
UV00470	05/25/04	NA	<0.01	<0.01	<0.005	0.332	<0.002	NA	0.007B
UV00559	05/25/04	NA	<0.01	0.0076B	<0.005	0.293	<0.002	NA	0.0206
UV00570-5	02/23/04	NA	<0.01	0.0053B	<0.005	0.393	<0.01	NA	0.0026B
UV00592-2	02/23/04	NA	<0.01	0.0108	<0.005	0.634	<0.01	NA	0.0028B
YP-69-33-701	06/03/04	*<0.001	*0.0021	*<0.004	NA	*0.229	*<0.001	*0.0038	*0.0387
YP-69-35-602	05/27/04	*0.001	*0.002	*<0.004	NA	*0.62	*<0.001	*0.0033	*0.0087

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†= Detection limit rounded to nearest 0.001 mg/L
NA = Not analyzed

Table C-3 Analytical data for metals in water samples from wells completed in the Edwards Aquifer, 2004

State Well Number	Date Sampled	Molybdenum dissolved (mg/L)	Nickel dissolved (mg/L)	Selenium dissolved (mg/L)	Silver dissolved (mg/L)	Strontium dissolved (mg/L)	Thallium dissolved (mg/L)	Vanadium dissolved (mg/L)	Zinc dissolved (mg/L)
YP-69-43-606	07/13/04	*<0.001	*0.0028	*<0.004	NA	*0.33	*<0.001	*0.0052	*0.0121
YP-69-45-405	08/06/04	*<0.001	*0.0027	*<0.0041	NA	*0.327	*<0.001	*0.0029	*0.0136
YP-69-50-203	05/19/04	*<0.001	*0.0024	*<0.004	NA	*0.24	*<0.001	*0.0053	*0.0123
YP-69-50-501	05/19/04	*<0.001	*0.0039	*<0.004	NA	*0.54	*<0.001	*0.0051	*0.0105
YP-69-51-114	05/19/04	*0.0021	*0.0042	*<0.004	NA	*3.37	*<0.001	*0.006	*0.0734

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†= Detection limit rounded to nearest 0.001 mg/L
NA = Not analyzed

Table C-4 Analytical data for nutrients in water samples from wells completed in the Edwards Aquifer, 2004

County	State Well Number	Date Sampled	Nitrate-Nitrite as N (mg/L)	Nitrite as N (mg/L)	Orthophosphate (as P) (mg/L)	Phosphorus (mg/L)
Atascosa	AL-68-50-305	08/19/04	*6.53	NA	NA	NA
Bexar	AY-68-21-806	03/17/04	0.832	NA	NA	<0.1
Bexar	AY-68-27-517	01/14/04	1.65	NA	NA	<0.1
Bexar	AY-68-27-610	12/20/04	1.89	NA	NA	NA
Bexar	AY-68-27-612	12/03/04	2.59	NA	NA	<1
Bexar	AY-68-28-203	06/15/04	2.28	NA	NA	<0.1
Bexar	AY-68-28-205	06/15/04	1.16	NA	NA	<0.1
Bexar	AY-68-28-313	01/06/04	3.45	NA	NA	0.0531B
Bexar	AY-68-28-407	03/22/04	0.904	NA	NA	<0.1
Bexar	AY-68-28-516	04/07/04	0.945	NA	NA	<0.05
Bexar	AY-68-28-517	01/30/04	1.90	NA	NA	0.0217B
Bexar	AY-68-28-519	04/05/04	0.812	NA	NA	<0.1
Bexar	AY-68-28-608	11/22/04	0.807	NA	NA	<1
Bexar	AY-68-28-702	04/16/04	1.56	NA	NA	<0.1
Bexar	AY-68-29-101	08/19/04	*1.85	NA	NA	NA
Bexar	AY-68-29-112	02/03/04	1.46	NA	NA	0.0099B
Bexar	AY-68-29-113	12/17/04	<0.15	NA	NA	NA
Bexar	AY-68-29-214	11/17/04	1.56	NA	NA	<1
Bexar	AY-68-29-215	03/09/04	1.26	NA	NA	<0.1
Bexar	AY-68-29-216	02/18/04	1.48	0.0026B	NA	0.0123B
Bexar	AY-68-29-217	02/27/04	3.35	NA	NA	<0.1
Bexar	AY-68-29-418	12/15/04	<0.15	NA	NA	NA
Bexar	AY-68-36-107	04/16/04	2.14	NA	NA	<0.1
Bexar	AY-68-27-5MR	11/02/04	1.27	NA	NA	<1
Bexar	AY-68-36-1RS	04/12/04	2.85	0.0041B	NA	<0.1
Comal	DX-68-16-707	05/21/04	*1.72	NA	NA	NA
Comal	DX-68-22-601	10/25/04	2.12	NA	NA	<1
Comal	DX-68-22-901	08/09/04	*1.85	NA	NA	NA
Comal	DX-68-23-304	03/03/04	1.46	NA	<0.03	<0.1
Comal	DX-68-23-316	07/29/04	*1.39	NA	NA	NA
Comal	DX-68-23-504	06/02/04	*1.83	NA	NA	NA
Comal	DX-68-30-221	06/04/04	*5.24	NA	NA	NA

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NA = Not analyzed

Table C-4 Analytical data for nutrients in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

County	State Well Number	Date Sampled	Nitrate-Nitrite as N (mg/L)	Nitrite as N (mg/L)	Orthophosphate (as P) (mg/L)	Phosphorus (mg/L)
Hays	LR-67-01-303	08/02/04	0.184B	NA	NA	<0.1
Hays	LR-67-01-810	04/30/04	1.48	NA	NA	<0.1
Hays	LR-67-09-113	05/18/04	1.19	NA	NA	<0.1
Hays	LR-67-09-1HB	04/29/04	1.20	NA	NA	<0.1
Hays	LR-67-09-1SM	04/30/04	1.95	NA	NA	<0.1
Hays	LR-67-09-816	04/30/04	1.57	NA	NA	<0.1
Hays	LR-68-08-902	04/29/04	1.55	NA	NA	<0.1
Kinney	RP-70-37-502	08/25/04	*3.16	NA	NA	NA,
Kinney	RP-70-37-706	08/26/04	*1.36	NA	NA	NA
Kinney	RP-70-37-810	08/25/04	*1.37	NA	NA	NA
Kinney	RP-70-37-903	08/25/04	*1.41	NA	NA	NA
Kinney	RP-70-45-505	08/26/04	*0.962	NA	NA	NA,
Medina	TD-68-25-703	08/04/04	*0.486	NA	NA	NA
Medina	TD-68-33-202	08/04/04	*0.797	NA	NA	NA
Medina	TD-68-33-502	08/10/04	*0.752	NA	NA	NA
Medina	TD-68-41-102	05/26/04	*2.00	NA	NA	NA
Medina	TD-68-41-308	05/26/04	*2.09	NA	NA	NA
Medina	TD-68-41-901	08/10/04	*2.08	NA	NA	NA
Medina	TD-68-42-506	06/01/04	*2.14	NA	NA	NA
Medina	TD-68-42-806	08/05/04	*1.22	NA	NA	NA
Medina	TD-68-49-301	06/01/04	*1.28	NA	NA	NA,
Medina	TD-68-49-501	08/05/04	*2.15	NA	NA	NA
Medina	TD-69-32-703	08/18/04	*1.30	NA	NA	NA
Medina	TD-69-38-906	08/12/04	*3.98	NA	NA	NA
Medina	TD-69-39-601	07/27/04	*1.37	NA	NA	NA
Medina	TD-69-47-303	05/20/04	*1.51	NA	NA	NA
Medina	TD-69-55-604	05/20/04	*2.37	NA	NA	NA
Medina	TD-69-63-103	07/28/04	*0.0468	NA	NA	NA
Uvalde	UV00424	05/25/04	2.42	NA	NA	<0.1
Uvalde	UV00445-3	02/23/04	2.16	NA	NA	<0.1
Uvalde	UV00447	02/23/04	2.91	NA	NA	<0.1

* Sample collected by the Authority and analyzed by TWDB
B = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed

Table C-4 Analytical data for nutrients in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

County	State Well Number	Date Sampled	Nitrate-Nitrite as N (mg/L)	Nitrite as N (mg/L)	Orthophosphate (as P) (mg/L)	Phosphorus (mg/L)
Uvalde	UV00448	05/25/04	5.00	NA	NA	<0.1
Uvalde	UV00470	05/25/04	3.03	NA	NA	<0.1
Uvalde	UV00559	05/25/04	4.40	NA	NA	<0.1
Uvalde	UV00570-5	02/23/04	5.54	NA	NA	<0.1
Uvalde	UV00592-2	02/23/04	4.34	NA	NA	<0.1
Uvalde	YP-69-33-701	06/03/04	*1.49	NA	NA	NA
Uvalde	YP-69-35-602	05/27/04	*1.37	NA	NA	NA
Uvalde	YP-69-43-606	07/13/04	*3.53	NA	NA	NA
Uvalde	YP-69-45-405	08/06/04	*1.48	NA	NA	NA
Uvalde	YP-69-50-203	05/19/04	*0.278	NA	NA	NA
Uvalde	YP-69-50-501	05/19/04	*8.78	NA	NA	NA
Uvalde	YP-69-51-114	05/19/04	*5.31	NA	NA	NA

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NA = Not analyzed

Table C-5 Analytical data for pesticides, herbicides and PCB (Aroclors) in water samples from wells completed in the Edwards Aquifer, 2004

County	State Well Number	Date Sampled	Alachlor (µg/L)	Aldrin (µg/L)	Alpha BHC (µg/L)	alpha-Chlordane (µg/L)	Aroclor 1016 (µg/L)	Aroclor 1221 (µg/L)	Aroclor 1232 (µg/L)	Aroclor 1242 (µg/L)
Atascosa	AY-68-21-806	03/17/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Bexar	AY-68-27-517	01/14/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Bexar	AY-68-27-610	12/20/04	<0.1	<0.016	<0.035	<0.016	<1.00	<1.00	<1.00	<1.00
Bexar	AY-68-27-612	12/03/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Bexar	AY-68-28-313	01/06/04	NA	NA	NA	NA	NA	NA	NA	NA
Bexar	AY-68-28-407	03/22/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Bexar	AY-68-28-516	04/07/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Bexar	AY-68-28-517	01/30/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Bexar	AY-68-28-519	04/05/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Bexar	AY-68-28-608	11/22/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Bexar	AY-68-29-112	02/03/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Bexar	AY-68-29-113	12/17/04	<0.1	<0.016	<0.035	<0.016	<1.00	<1.00	<1.00	<1.00
Bexar	AY-68-29-214	11/17/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Bexar	AY-68-29-215	03/09/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Bexar	AY-68-29-216	02/18/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Bexar	AY-68-29-217	02/27/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Bexar	AY-68-29-418	12/15/04	<0.1	<0.016	<0.035	<0.016	<1.00	<1.00	<1.00	<1.00
Comal	DX-68-22-601	10/25/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Comal	DX-68-23-304	03/03/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Hays	LR-67-09-113	05/18/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Medina	TD-68-25-703	08/04/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Uvalde	YP-69-50-203	05/19/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Uvalde	YP-69-51-114	05/19/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5

J= Estimated result between the method detection limit and the reporting limit
NA= Not analyzed

Table C-5 Analytical data for pesticides, herbicides and PCB (Aroclors) in water samples from wells completed in the Edwards Aquifer, 2004 (cont.)

State Well Number	Date Sampled	Aroclor 1248 (µg/L)	Aroclor 1254 (µg/L)	Aroclor 1260 (µg/L)	Atrazine (µg/L)	Azinphos-methyl (µg/L)	Bentazon (µg/L)	beta BHC (µg/L)	Bolstar (Sulprofos) (µg/L)
AY-68-21-806	03/17/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
AY-68-27-517	01/14/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
AY-68-27-610	12/20/04	<1.00	<1.00	<1.00	<2.4	<0.1	NA	<0.013	NA
AY-68-27-612	12/03/04	<0.5	<0.5	<0.5	<2	<1	<2	<0.05	<1
AY-68-28-313	01/06/04	NA	NA	NA	<2.0	<1.0	<2.0	NA	<1.0
AY-68-28-407	03/22/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
AY-68-28-516	04/07/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
AY-68-28-517	01/30/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
AY-68-28-519	04/05/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
AY-68-28-608	11/22/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
AY-68-29-112	02/03/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
AY-68-29-113	12/17/04	<1.00	<1.00	<1.00	<2.4	<0.1	NA	<0.013	NA
AY-68-29-214	11/17/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
AY-68-29-215	03/09/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
AY-68-29-216	02/18/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
AY-68-29-217	02/27/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
AY-68-29-418	12/15/04	<1.00	<1.00	<1.00	<2.4	<0.1	NA	<0.013	NA
DX-68-22-601	10/25/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
DX-68-23-304	03/03/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
LR-67-09-113	05/18/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
TD-68-25-703	08/04/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
YP-69-50-203	05/19/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
YP-69-51-114	05/19/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0

J= Estimated result between the method detection limit and the reporting limit
NA= Not analyzed

Table C-5 Analytical data for pesticides, herbicides and PCB (Aroclors) in water samples from wells completed in the Edwards Aquifer, 2004 (cont.)

State Well Number	Date Sampled	Carbo-phenothion (µg/L)	Chlor-pyrifos (µg/L)	Chlorpyri-fos Methyl (µg/L)	Coumaphos (µg/L)	2,4-D (µg/L)	Dalapon (µg/L)	2,4-DB (µg/L)	4,4' - DDD (µg/L)
AY-68-21-806	03/17/04	<1.0	<1.0	<1.0	<1.0	<0.5	NA	NA	<0.1
AY-68-27-517	01/14/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
AY-68-27-610	12/20/04	NA	<0.05	NA	NA	<0.1	NA	NA	<0.02
AY-68-27-612	12/03/04	<1	<1	<1	<1	<0.5	NA	NA	<0.1
AY-68-28-313	01/06/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	NA
AY-68-28-407	03/22/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
AY-68-28-516	04/07/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
AY-68-28-517	01/30/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
AY-68-28-519	04/05/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
AY-68-28-608	11/22/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
AY-68-29-112	02/03/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
AY-68-29-113	12/17/04	NA	<0.05	NA	NA	<0.1	NA	NA	<0.02
AY-68-29-214	11/17/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
AY-68-29-215	03/09/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
AY-68-29-216	02/18/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
AY-68-29-217	02/27/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
AY-68-29-418	12/15/04	NA	<0.05	NA	NA	<0.1	NA	NA	<0.02
DX-68-22-601	10/25/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
DX-68-23-304	03/03/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
LR-67-09-113	05/18/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
TD-68-25-703	08/04/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
YP-69-50-203	05/19/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
YP-69-51-114	05/19/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1

J= Estimated result between the method detection limit and the reporting limit
NA= Not analyzed

Table C-5 Analytical data for pesticides, herbicides and PCB (Aroclors) in water samples from wells completed in the Edwards Aquifer, 2004 (cont.)

State Well Number	Date Sampled	4,4' - DDE (µg/L)	4,4' - DDT (µg/L)	delta BHC (µg/L)	Demeton (µg/L)	Diazinon (µg/L)	Dicamba (µg/L)	Dichlo-fenthion (µg/L)	Dichlor-prop (µg/L)
AY-68-21-806	03/17/04	<0.1	<0.1	<0.05	NA	<1.0	NA	<1.0	NA
AY-68-27-517	01/14/04	<0.1	<0.1	<0.05	NA	<1.0	NA	<1.0	NA
AY-68-27-610	12/20/04	<0.007	<0.022	<0.011	<0.4	<0.5	NA	NA	NA
AY-68-27-612	12/03/04	<0.1	<0.1	<0.05	NA	<1	NA	<1	NA
AY-68-28-313	01/06/04	NA	NA	NA	<2.5	<1.0	NA	<1.0	NA
AY-68-28-407	03/22/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
AY-68-28-516	04/07/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
AY-68-28-517	01/30/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
AY-68-28-519	04/05/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
AY-68-28-608	11/22/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
AY-68-29-112	02/03/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
AY-68-29-113	12/17/04	<0.007	<0.022	<0.011	<0.4	<0.5	NA	NA	NA
AY-68-29-214	11/17/04	<0.1	<0.1	<0.05	NA	<1.0	NA	<1.0	NA
AY-68-29-215	03/09/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
AY-68-29-216	02/18/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
AY-68-29-217	02/27/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
AY-68-29-418	12/15/04	<0.007	<0.022	<0.011	<0.4	<0.5	NA	NA	NA
DX-68-22-601	10/25/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
DX-68-23-304	03/03/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
LR-67-09-113	05/18/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
TD-68-25-703	08/04/04	<0.1	<0.1	<0.05	NA	<1.0	NA	<1.0	NA
YP-69-50-203	05/19/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
YP-69-51-114	05/19/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA

J= Estimated result between the method detection limit and the reporting limit
NA= Not analyzed

Table C-5 Analytical data for pesticides, herbicides and PCB (Aroclors) in water samples from wells completed in the Edwards Aquifer, 2004 (cont.)

State Well Number	Date Sampled	Dichlorvos (µg/L)	Dieldrin (µg/L)	Dimethoate (µg/L)	Dinoseb (µg/L)	Disulfoton (µg/L)	Endosulfan I (µg/L)	Endosulfan II (µg/L)	Endosulfan sulfate (µg/L)
AY-68-21-806	03/17/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
AY-68-27-517	01/14/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
AY-68-27-610	12/20/04	NA	<0.025	NA	NA	NA	<0.011	<0.015	<0.018
AY-68-27-612	12/03/04	<2	<0.1	<2	<6	<2	<0.05	<0.1	<0.1
AY-68-28-313	01/06/04	<2.0	NA	<2.0	<6.0	<2.0	NA	NA	NA
AY-68-28-407	03/22/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
AY-68-28-516	04/07/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
AY-68-28-517	01/30/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
AY-68-28-519	04/05/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
AY-68-28-608	11/22/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
AY-68-29-112	02/03/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
AY-68-29-113	12/17/04	NA	<0.025	NA	NA	NA	<0.011	<0.015	<0.018
AY-68-29-214	11/17/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
AY-68-29-215	03/09/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
AY-68-29-216	02/18/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
AY-68-29-217	02/27/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
AY-68-29-418	12/15/04	NA	<0.025	NA	NA	NA	<0.011	<0.015	<0.018
DX-68-22-601	10/25/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
DX-68-23-304	03/03/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
LR-67-09-113	05/18/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
TD-68-25-703	08/04/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
YP-69-50-203	05/19/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
YP-69-51-114	05/19/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1

J= Estimated result between the method detection limit and the reporting limit
NA= Not analyzed

Table C-5 Analytical data for pesticides, herbicides and PCB (Aroclors) in water samples from wells completed in the Edwards Aquifer, 2004 (cont.)

State Well Number	Date Sampled	Endrin (µg/L)	Endrin-aldehyde (µg/L)	Endrin-ketone (µg/L)	EPN (µg/L)	Ethion (µg/L)	Ethoprop (µg/L)	Ethyl-parathion (µg/L)	Famphur (µg/L)
AY-68-21-806	03/17/04	<0.1	<0.1	<0.1	<1.0	<0.5	<0.5	<1.0	<2.0
AY-68-27-517	01/14/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<1.0	<2.0
AY-68-27-610	12/20/04	<0.02	<0.084	<0.129	NA	NA	NA	<0.1	NA
AY-68-27-612	12/03/04	<0.1	<0.1	<0.1	<1	<0.5	<0.5	<1	<2
AY-68-28-313	01/06/04	NA	NA	NA	<1.0	<0.50	<0.50	<0.50	<2.0
AY-68-28-407	03/22/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
AY-68-28-516	04/07/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<1.0	<2.0
AY-68-28-517	01/30/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
AY-68-28-519	04/05/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
AY-68-28-608	11/22/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
AY-68-29-112	02/03/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
AY-68-29-113	12/17/04	<0.02	<0.084	<0.129	NA	NA	NA	<0.1	NA
AY-68-29-214	11/17/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<1.0	<2.0
AY-68-29-215	03/09/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
AY-68-29-216	02/18/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
AY-68-29-217	02/27/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
AY-68-29-418	12/15/04	<0.02	<0.084	<0.129	NA	NA	NA	<0.1	NA
DX-68-22-601	10/25/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
DX-68-23-304	03/03/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
LR-67-09-113	05/18/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
TD-68-25-703	08/04/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<1.0	<2.0
YP-69-50-203	05/19/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
YP-69-51-114	05/19/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0

J= Estimated result between the method detection limit and the reporting limit
NA= Not analyzed

Table C-5 Analytical data for pesticides, herbicides and PCB (Aroclors) in water samples from wells completed in the Edwards Aquifer, 2004 (cont.)

State Well Number	Date Sampled	Fensulfo-thion (µg/L)	Fenthion (µg/L)	gamma BHC (Lindane) (µg/L)	gamma-Chlordane (µg/L)	Hepta-chlor (µg/L)	Heptachlor-epoxide (µg/L)	Malathion (µg/L)	MCPA (µg/L)
AY-68-21-806	03/17/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
AY-68-27-517	01/14/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
AY-68-27-610	12/20/04	NA	NA	<0.012	NA	<0.01	<0.03	<0.1	NA
AY-68-27-612	12/03/04	<5	<1	<0.05	<0.05	<0.05	<0.05	<1	NA
AY-68-28-313	01/06/04	<5.0	<1.0	NA	NA	NA	NA	<1.0	NA
AY-68-28-407	03/22/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
AY-68-28-516	04/07/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
AY-68-28-517	01/30/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
AY-68-28-519	04/05/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
AY-68-28-608	11/22/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
AY-68-29-112	02/03/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
AY-68-29-113	12/17/04	NA	NA	<0.012	NA	<0.01	<0.03	<0.1	NA
AY-68-29-214	11/17/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
AY-68-29-215	03/09/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
AY-68-29-216	02/18/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
AY-68-29-217	02/27/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
AY-68-29-418	12/15/04	NA	NA	<0.012	NA	<0.01	<0.015	<0.1	NA
DX-68-22-601	10/25/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
DX-68-23-304	03/03/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
LR-67-09-113	05/18/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
TD-68-25-703	08/04/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
YP-69-50-203	05/19/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
YP-69-51-114	05/19/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA

J= Estimated result between the method detection limit and the reporting limit
NA= Not analyzed

Table C-5 Analytical data for pesticides, herbicides and PCB (Aroclors) in water samples from wells completed in the Edwards Aquifer, 2004 (cont.)

State Well Number	Date Sampled	MCPP (µg/L)	Merphos (µg/L)	Methoxy-chlor (µg/L)	Methyl-parathion (µg/L)	Mevinphos (µg/L)	Mirex (µg/L)	Monon-crotophos (µg/L)	Naled (µg/L)
AY-68-21-806	03/17/04	NA	<1.0	<0.5	<0.5	<2.0	NA	<10.0	<5.0
AY-68-27-517	01/14/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
AY-68-27-610	12/20/04	NA	NA	<0.016	<0.5	NA	<0.06	NA	NA
AY-68-27-612	12/03/04	NA	<1	<0.5	<0.5	<2	NA	<10	<5
AY-68-28-313	01/06/04	NA	<1.0	NA	<0.50	<2.0	NA	<10	<5.0
AY-68-28-407	03/22/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
AY-68-28-516	04/07/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
AY-68-28-517	01/30/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
AY-68-28-519	04/05/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
AY-68-28-608	11/22/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
AY-68-29-112	02/03/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
AY-68-29-113	12/17/04	NA	NA	<0.016	<0.5	NA	<0.06	NA	NA
AY-68-29-214	11/17/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
AY-68-29-215	03/09/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
AY-68-29-216	02/18/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
AY-68-29-217	02/27/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
AY-68-29-418	12/15/04	NA	NA	<0.008	<0.5	NA	<0.03	NA	NA
DX-68-22-601	10/25/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
DX-68-23-304	03/03/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
LR-67-09-113	05/18/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
TD-68-25-703	08/04/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
YP-69-50-203	05/19/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
YP-69-51-114	05/19/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0

J= Estimated result between the method detection limit and the reporting limit
NA= Not analyzed

Table C-5 Analytical data for pesticides, herbicides and PCB (Aroclors) in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	Pentachloro-phenol (µg/L)	Phorate (µg/L)	Picloram (µg/L)	Ronnel (µg/L)	Simazine (µg/L)	Stirophos (µg/L)	Sulfotepp (µg/L)	2,4,5 - T (µg/L)
AY-68-21-806	03/17/04	<1.0	<1.0	<0.5	<1.0	<2.0	NA	<0.5	<0.5
AY-68-27-517	01/14/04	<1.0	<1.0	<0.50	<1.0	<2.0	NA	<0.50	<0.50
AY-68-27-610	12/20/04	NA	NA	NA	NA	NA	NA	NA	NA
AY-68-27-612	12/03/04	<1	<1	<0.5	<1	<2	NA	<0.5	<0.5
AY-68-28-313	01/06/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
AY-68-28-407	03/22/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
AY-68-28-516	04/07/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
AY-68-28-517	01/30/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
AY-68-28-519	04/05/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
AY-68-28-608	11/22/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
AY-68-29-112	02/03/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
AY-68-29-113	12/17/04	NA	NA	NA	NA	NA	NA	NA	NA
AY-68-29-214	11/17/04	<1.0	<1.0	<0.50	<1.0	<2.0	NA	<0.50	<0.50
AY-68-29-215	03/09/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
AY-68-29-216	02/18/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
AY-68-29-217	02/27/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
AY-68-29-418	12/15/04	NA	NA	NA	NA	NA	NA	NA	NA
DX-68-22-601	10/25/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
DX-68-23-304	03/03/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
LR-67-09-113	05/18/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
TD-68-25-703	08/04/04	<1.0	<1.0	<0.50	<1.0	<2.0	NA	<0.50	<0.50
YP-69-50-203	05/19/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
YP-69-51-114	05/19/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50

J= Estimated result between the method detection limit and the reporting limit
NA= Not analyzed

Table C-5 Analytical data for pesticides, herbicides and PCB (Aroclors) in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	Terbufos (µg/L)	Thionazin (µg/L)	Tokuthion (µg/L)	Toxaphene (µg/L)	2,4,5 - TP (Silvex) (µg/L)	Trichloronate (µg/L)
AY-68-21-806	03/17/04	<1.0	<1.0	<1.0	<0.6	<0.5	<1.0
AY-68-27-517	01/14/04	<0.50	<1.0	<1.0	<0.6	<0.50	<1.0
AY-68-27-610	12/20/04	NA	NA	NA	NA	<0.1	NA
AY-68-27-612	12/03/04	<1	<1	<1	<0.6	<0.5	<1
AY-68-28-313	01/06/04	<1.0	<1.0	<1.0	NA	<0.50	<1.0
AY-68-28-407	03/22/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
AY-68-28-516	04/07/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
AY-68-28-517	01/30/04	<0.50	<1.0	<1.0	<0.6	<0.50	<1.0
AY-68-28-519	04/05/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
AY-68-28-608	11/22/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
AY-68-29-112	02/03/04	<0.50	<1.0	<1.0	<0.6	<0.50	<1.0
AY-68-29-113	12/17/04	NA	NA	NA	NA	<0.1	NA
AY-68-29-214	11/17/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
AY-68-29-215	03/09/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
AY-68-29-216	02/18/04	<0.50	<1.0	<1.0	<0.6	<0.50	<1.0
AY-68-29-217	02/27/04	<0.50	<1.0	<1.0	<0.6	<0.50	<1.0
AY-68-29-418	12/15/04	NA	NA	NA	NA	<0.1	NA
DX-68-22-601	10/25/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
DX-68-23-304	03/03/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
LR-67-09-113	05/18/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
TD-68-25-703	08/04/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
YP-69-50-203	05/19/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
YP-69-51-114	05/19/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed

Table C-6 Analytical data for volatile organic compounds (VOC) in water samples from wells completed in the Edwards Aquifer, 2004

County	State Well Number	Date Sampled	Acetone (µg/L)	Benzene (µg/L)	Bromo-chloro-methane (µg/L)	Bromo-dichloro-methane (µg/L)	Bromo-form (µg/L)	Bromo-methane (µg/L)	2-Butanone (µg/L)	Carbon disulfide (µg/L)	Carbon-tetrachlo-ride (µg/L)
Bexar	AY-68-21-806	03/17/04	<20	<1	<1	<1	<1	<2	<5	<1	<1
Bexar	AY-68-27-517	01/14/04	1J	<1	<1	<1	<1	<2	<5	<1	<1
Bexar	AY-68-27-612	12/03/04	1J	<1	<1	<1	<1	<2	<5	<1	<1
Bexar	AY-68-28-313	01/06/04	5J	<1	<1	<1	<1	<2	<5	<1	<1
Bexar	AY-68-28-407	03/22/04	<20	<1	<1	<1	<1	<2	<5	<1	<1
Bexar	AY-68-28-516	04/07/04	<20	<1	<1	<1	<1	<2	<5	<1	<1
Bexar	AY-68-28-517	01/30/04	<20	<1	<1	<1	<1	<2	<5	<1	<1
Bexar	AY-68-28-519	04/05/04	0.9J	<1	<1	<1	<1	<2	<5	<1	<1
Bexar	AY-68-28-608	11/22/04	0.9J	<1	<1	<1	<1	<2	<5	<1	<1
Bexar	AY-68-28-702	04/16/04	<20	<1	<1	<1	<1	<2	<5	<1	<1
Bexar	AY-68-28-806	05/03/04	<20	<1	<1	<1	<1	<2	<5	<1	<1
Bexar	AY-68-29-112	02/03/04	<20	<1	<1	<1	<1	<2	<5	<1	<1
Bexar	AY-68-29-214	11/17/04	1J	<1	<1	0.6J	0.6J	<2	<5	<1	<1
Bexar	AY-68-29-215	03/09/04	<20	<1	<1	<1	<1	<2	<5	<1	<1
Bexar	AY-68-29-216	02/18/04	0.8J	<1	<1	<1	<1	<2	<5	<1	<1
Bexar	AY-68-29-217	02/27/04	<20	<1	<1	<1	<1	<2	<5	<1	<1
Bexar	AY-68-36-107	04/16/04	<20	<1	<1	<1	<1	<2	<5	<1	<1
Bexar	AY-68-36-131	05/03/04	0.8J	<1	<1	<1	<1	<2	<5	<1	<1
Bexar	AY-68-36-1RS	04/12/04	<20	<1	<1	<1	<1	<2	<5	<1	<1
Comal	DX-68-22-601	10/25/04	1J	<1	<1	<1	<1	<2	<5	<1	<1
Comal	DX-68-23-304	03/03/04	<20	<1	<1	<1	<1	<2	<5	<1	<1
Hays	LR-67-09-113	05/18/04	200	<1	<1	<1	<1	<2	6	<1	<1
Hays	LR-67-09-1YR	04/29/04	1J	<1	<1	<1	<1	<2	<5	<1	<1

J = Estimated result between the method detection limit and the reporting limit
NA = Not Analyzed
TB = Analyte detected in associated trip blank

Table C-6 Analytical data for volatile organic compounds (VOC) in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

County	State Well Number	Date Sampled	Acetone (µg/L)	Benzene (µg/L)	Bromo-chloro-methane (µg/L)	Bromo-dichloro-methane (µg/L)	Bromo-form (µg/L)	Bromo-methane (µg/L)	2-Butanone (µg/L)	Carbon-disulfide (µg/L)	Carbon-tetra-chloride (µg/L)
Uvalde	YP-69-45-405	08/06/04	<20	<1	<1	<1	<1	<2	<5	<1	<1
Uvalde	YP-69-50-203	05/19/04	<20	<1	<1	<1	<1	<2	<5	<1	<1,
Uvalde	YP-69-51-114	05/19/04	<20	<1	<1	<1	<1	<2	<5	<1	<1

State Well Number	Date Sampled	Chloro-benzene (µg/L)	Chloro-ethane (µg/L)	Chloro-form (µg/L)	Chloro-methane (µg/L)	cis-1,2-Dichloro-ethene (µg/L)	cis-1,3-Dichloro-propene (µg/L)	Cyclo-hexane (µg/L)	1,2-Dibromo-3-chloro-propane (µg/L)	Dibromo-chloro-methane (µg/L)
AY-68-21-806	03/17/04	<1	<2	<1	<2	<1	<1	<10	<1	<1
AY-68-27-517	01/14/04	<1	<2	<1	<2	<1	<1	<10	<1	<1
AY-68-27-612	12/03/04	<1	<2	<1	<2	<1	<1	<10	<1	<1
AY-68-28-313	01/06/04	<1	<2	0.8J	<2	<1	<1	<10	<1	<1
AY-68-28-407	03/22/04	<1	<2	<1	<2	<1	<1	<10	<1	<1
AY-68-28-516	04/07/04	<1	<2	<1	<2	<1	<1	<10	<1	<1
AY-68-28-517	01/30/04	<1	<2	<1	<2	<1	<1	<10	<1	<1
AY-68-28-519	04/05/04	<1	<2	<1	<2	<1	<1	<10	<1	<1
AY-68-28-608	11/22/04	<1	<2	<1	<2	<1	<1	<10	<1	<1
AY-68-28-702	04/16/04	<1	<2	<1	<2	<1	<1	<10	<1	<1
AY-68-28-806	05/03/04	<1	<2	<1	<2	<1	<1	<10	<1	<1
AY-68-29-112	02/03/04	<1	<2	<1	<2	<1	<1	<10	<1	<1
AY-68-29-214	11/17/04	<1	<2	0.3J	<2	<1	<1	<10	<1	1J
AY-68-29-215	03/09/04	<1	<2	<1	<2	<1	<1	<10	<1	<1
AY-68-29-216	02/18/04	<1	<2	<1	<2	<1	<1	<10	<1	<1
AY-68-29-217	02/27/04	<1	<2	<1	<2	<1	<1	<10	<1	<1
AY-68-36-107	04/16/04	<1	<2	<1	<2	<1	<1	<10	<1	<1

J = Estimated result between the method detection limit and the reporting limit
TB = Analyte detected in associated trip blank
NA = Not Analyzed

Table C-6 Analytical data for volatile organic compounds (VOC) in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled (µg/L)	Chloro-Benzene (µg/L)	Chloro-Ethane (µg/L)	Chloro-Form (µg/L)	Chloro-Methane (µg/L)	cis-1,2-Dichloro-ethene (µg/L)	cis-1,3-Dichloro-propene (µg/L)	Cyclo-hexane (µg/L)	1,2-Dibromo-3-chloro-propane (µg/L)	Dibromo-chloro-methane (µg/L)
AY-68-36-131	05/03/04	<1	<2	<1	<2	<1	<1	<10	<1	<1
AY-68-36-1RS	04/12/04	<1	<2	0.2J	<2	0.4J	<1	<10	<1	<1
DX-68-22-601	10/25/04	<1	<2	<1	<2	<1	<1	<10	<1	<1
DX-68-23-304	03/03/04	<1	<2	<1	<2	<1	<1	<10	<1	<1
LR-67-09-113	05/18/04	<1	<2	<1	0.2J	<1	<1	<10	<1	<1
LR-67-09-1YR	04/29/04	<1	<2	<1	<2	<1	<1	<10	<1	<1
YP-69-45-405	08/06/04	<1	<2	<1	<2	<1	<1	<10	<1	<1
YP-69-50-203	05/19/04	<1	<2	<1	<2	<1	<1	<10	<1	<1
YP-69-51-114	05/19/04	<1	<2	<1	<2	<1	<1	<10	<1	<1

State Well Number	Date Sampled	1,2-Dibromo-ethane (µg/L)	1,2-Dichloro-benzene (µg/L)	1,3-Dichloro-benzene (µg/L)	1,4-Dichloro-benzene (µg/L)	Dichloro-difluoro-methane (µg/L)	1,1-Dichloro-ethane (µg/L)	1,2-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	1,2-Dichloro-propane (µg/L)
AY-68-21-806	03/17/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
AY-68-27-517	01/14/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
AY-68-27-612	12/03/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
AY-68-28-313	01/06/04	<1	<1	<1	<1	<2	<1	<1	0.4J	<1
AY-68-28-407	03/22/04	<1	<1	<1	<1	<2	<1	<1	<1	<1,
AY-68-28-516	04/07/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
AY-68-28-517	01/30/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
AY-68-28-519	04/05/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
AY-68-28-608	11/22/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
AY-68-28-702	04/16/04	<1	<1	<1	<1	<2	<1	<1	<1	<1

J = Estimated result between the method detection limit and the reporting limit
NA = Not Analyzed
TB = Analyte detected in associated trip blank

Table C-6 Analytical data for volatile organic compounds (VOC) in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	1,2-Dibromo-ethane (µg/L)	1,2-Dichloro-benzene (µg/L)	1,3-Dichloro-benzene (µg/L)	1,4-Dichloro-benzene (µg/L)	Dichloro-difluoro-methane (µg/L)	1,1-Dichloro-ethane (µg/L)	1,2-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	1,2-Dichloro-propane (µg/L)
AY-68-28-806	05/03/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
AY-68-29-112	02/03/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
AY-68-29-214	11/17/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
AY-68-29-215	03/09/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
AY-68-29-216	02/18/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
AY-68-29-217	02/27/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
AY-68-36-107	04/16/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
AY-68-36-131	05/03/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
AY-68-36-1RS	04/12/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
DX-68-22-601	10/25/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
DX-68-23-304	03/03/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
LR-67-09-113	05/18/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
LR-67-09-1YR	04/29/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
YP-69-45-405	08/06/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
YP-69-50-203	05/19/04	<1	<1	<1	<1	<2	<1	<1	<1	<1
YP-69-51-114	05/19/04	<1	<1	<1	<1	<2	<1	<1	0.3J	<1

J = Estimated result between the method detection limit and the reporting limit
NA = Not Analyzed
TB = Analyte detected in associated trip blank

Table C-6 Analytical data for volatile organic compounds (VOC) in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	Ethyl-benzene (µg/L)	2-Hexanone (µg/L)	Isopropyl-benzene (µg/L)	Methyl tert-butylether (µg/L)	4-Methyl-2-penta-none (µg/L)	Methylene-chloride (µg/L)	Styrene (µg/L)	1,1,2,2-Tetrachloro-ethane (µg/L)	Tetra-chloro-ethene (µg/L)
AY-68-21-806	03/17/04	<1	<5	<10	<5	<5	<2	<1	<1	<1
AY-68-27-517	01/14/04	<1	<5	<10	<5	<5	<2	<1	<1	<1
AY-68-27-612	12/03/04	<1	<5	<10	<5	<5	<2	<1	<1	<1
AY-68-28-313	01/06/04	<1	<5	<10	<5	<5	<2	<1	<1	<1
AY-68-28-407	03/22/04	<1	<5	<10	<5	<5	<2	<1	<1	<1
AY-68-28-516	04/07/04	<1	<5	<10	<5	<5	<2	<1	<1	0.2J
AY-68-28-517	01/30/04	<1	<5	<10	<5	<5	<2	<1	<1	<1
AY-68-28-519	04/05/04	<1	<5	<10	<5	<5	<2	<1	<1	<1
AY-68-28-608	11/22/04	<1	<5	<10	<5	<5	<2	<1	<1	<1
AY-68-28-702	04/16/04	<1	<5	<10	<5	<5	<2	<1	<1	0.2J
AY-68-28-806	05/03/04	<1	<5	<10	<5	<5	<2	<1	<1	0.8J
AY-68-29-112	02/03/04	<1	<5	<10	<5	<5	<2	<1	<1	<1
AY-68-29-214	11/17/04	<1	<5	<10	<5	<5	<2	<1	<1	<1
AY-68-29-215	03/09/04	<1	<5	<10	<5	<5	<2	<1	<1	<1
AY-68-29-216	02/18/04	<1	<5	<10	<5	<5	<2	<1	<1	<1
AY-68-29-217	02/27/04	<1	<5	<10	<5	<5	<2	<1	<1	<1
AY-68-36-107	04/16/04	<1	<5	<10	<5	<5	<2	<1	<1	0.3J
AY-68-36-131	05/03/04	<1	<5	<10	<5	<5	<2	<1	<1	0.2J
AY-68-36-1RS	04/12/04	<1	<5	<10	<5	<5	<2	<1	<1	20
DX-68-22-601	10/25/04	<1	<5	<10	<5	<5	<2	<1	<1	<1
DX-68-23-304	03/03/04	<1	<5	<10	<5	<5	<2	<1	<1	<1
LR-67-09-113	05/18/04	<1	<5	<10	<5	<5	<2	<1	<1	<1

J = Estimated result between the method detection limit and the reporting limit
NA = Not Analyzed
TB = Analyte detected in associated trip blank

Table C-6 Analytical data for volatile organic compounds (VOC) in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	Ethyl-benzene (µg/L)	2-Hexanone (µg/L)	Isopropyl-benzene (µg/L)	Methyltert-butylether (µg/L)	4-Methyl-2-pentanone (µg/L)	Methylene-chloride (µg/L)	Styrene (µg/L)	1,1,2,2-Tetrachloro-ethane (µg/L)	Tetrachloro-ethene (µg/L)
LR-67-09-1YR	04/29/04	<1	<5	<10	<5	<5	<2	<1	<1	<1
YP-69-45-405	08/06/04	<1	<5	<10	<5	<5	<2	<1	<1	<1
YP-69-50-203	05/19/04	<1	<5	<10	<5	<5	<2	<1	<1	<1
YP-69-51-114	05/19/04	<1	<5	<10	<5	<5	<2	<1	<1	5

State Well Number	Date Sampled	Toluene (µg/L)	trans-1,2-Dichloro-ethene (µg/L)	trans-1,3-Dichloro-propene (µg/L)	1,1,2-Trichloro-1,2,2-trifluoroe-thane (µg/L)	1,2,4-Trichloro-benzene (µg/L)	1,1,1-Trichloro-ethane (µg/L)	1,1,2-Trichloro-ethane (µg/L)	Trichloro-ethene (µg/L)	Trichloro-fluoro-methane (µg/L)
AY-68-21-806	03/17/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
AY-68-27-517	01/14/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
AY-68-27-612	12/03/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
AY-68-28-313	01/06/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
AY-68-28-407	03/22/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
AY-68-28-516	04/07/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
AY-68-28-517	01/30/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
AY-68-28-519	04/05/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
AY-68-28-608	11/22/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
AY-68-28-702	04/16/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
AY-68-28-806	05/03/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
AY-68-29-112	02/03/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
AY-68-29-214	11/17/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
AY-68-29-215	03/09/04	<1	<1	<1	<50	0.3J	<1	<1	<1	<10

J = Estimated result between the method detection limit and the reporting limit
NA = Not Analyzed
TB = Analyte detected in associated trip blank

Table C-6 Analytical data for volatile organic compounds (VOC) in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	Toluene (µg/L)	trans-1,2-Dichloro-ethene (µg/L)	trans-1,3-Dichloro-propene (µg/L)	1,1,2-Trichloro-1,2,2-trifluoro-ethane (µg/L)	1,2,4-Trichloro-benzene (µg/L)	1,1,1-Trichloro-ethane (µg/L)	1,1,2-Trichloro-ethane (µg/L)	Trichloro-ethene (µg/L)	Trichloro-fluoro-methane (µg/L)
AY-68-29-216	02/18/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
AY-68-29-217	02/27/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
AY-68-36-107	04/16/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
AY-68-36-131	05/03/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
AY-68-36-1RS	04/12/04	0.8J	<1	<1	<50	<1	<1	<1	1	<10
DX-68-22-601	10/25/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
DX-68-23-304	03/03/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
LR-67-09-113	05/18/04	2	<1	<1	<50	<1	<1	<1	<1	<10
LR-67-09-1YR	04/29/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
YP-69-45-405	08/06/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
YP-69-50-203	05/19/04	<1	<1	<1	<50	<1	<1	<1	<1	<10
YP-69-51-114	05/19/04	<1	<1	<1	<50	<1	<1	<1	<1	<10

J = Estimated result between the method detection limit and the reporting limit
NA = Not Analyzed
TB = Analyte detected in associated trip blank

Table C-6 Analytical data for volatile organic compounds (VOC) in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	Vinyl chloride (µg/L)	Xylenes (total) (µg/L)
AY-68-21-806	03/17/04	<1	<1
AY-68-27-517	01/14/04	<1	<1
AY-68-27-612	12/03/04	<1	<1
AY-68-28-313	01/06/04	<1	<1
AY-68-28-407	03/22/04	<1	<1
AY-68-28-516	04/07/04	<1	<1
AY-68-28-517	01/30/04	<1	<1
AY-68-28-519	04/05/04	<1	<1
AY-68-28-608	11/22/04	<1	<1
AY-68-28-702	04/16/04	<1	<1
AY-68-28-806	05/03/04	<1	<1
AY-68-29-112	02/03/04	<1	<1
AY-68-29-214	11/17/04	<1	<1
AY-68-29-215	03/09/04	<1	<1
AY-68-29-216	02/18/04	<1	<1
AY-68-29-217	02/27/04	<1	<1
AY-68-36-107	04/16/04	<1	<1
AY-68-36-131	05/03/04	<1	<1
AY-68-36-1RS	04/12/04	<1	<1
DX-68-22-601	10/25/04	<1	<1
DX-68-23-304	03/03/04	<1	<1
LR-67-09-113	05/18/04	<1	<1
LR-67-09-1YR	04/29/04	<1	<1
YP-69-45-405	08/06/04	<1	<1
YP-69-50-203	05/19/04	<1	<1
YP-69-51-114	05/19/04	<1	<1

J = Estimated result between the method detection limit and the reporting limit

NA = Not Analyzed TB = Analyte detected in associated trip blank

Table C-7 Analytical data for semivolatile organic compounds (SVOC) in water samples from wells completed in the Edwards Aquifer, 2004

County	State Well Number	Date Sampled	3&4 Methyl-phenol (µg/L)	Acena-phthene (µg/L)	Acena-phthylene (µg/L)	Aceto-phenone (µg/L)	Anthra-cene (µg/L)	Benzo(a)-anthracene (µg/L)	Benzo(a)-pyrene (µg/L)	Benzo(b)-fluoran-thene (µg/L)	Benzo-(ghi)-perylene (µg/L)
Bexar	AY-68-21-806	03/17/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bexar	AY-68-27-517	01/14/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bexar	AY-68-27-612	12/03/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bexar	AY-68-28-407	03/22/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bexar	AY-68-28-516	04/07/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bexar	AY-68-28-517	01/30/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bexar	AY-68-28-519	04/05/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bexar	AY-68-28-608	11/22/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bexar	AY-68-29-112	02/03/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bexar	AY-68-29-214	11/17/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bexar	AY-68-29-215	03/09/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bexar	AY-68-29-216	02/18/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bexar	AY-68-29-217	02/27/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
Comal	DX-68-22-601	10/25/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
Comal	DX-68-23-304	03/03/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
Uvalde	YP-69-50-203	05/19/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
Uvalde	YP-69-51-114	05/19/04	<11	<11	<11	<11	<11	<11	<11	<11	<11

J = Estimated result between the method detection limit and the reporting limit
NA = Not Analyzed

Table C-7 Analytical data for semivolatile organic compounds (SVOC) in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	Benzo(k)-fluoran-thene (µg/L)	bis (2-Chloro-ethoxy)-methane (µg/L)	bis (2-Chloro-ethyl)-ether (µg/L)	bis (2-Ethyl-hexyl)-phthalate (µg/L)	4-Bromo-phenyl-phenyl-ether (µg/L)	Butyl-Benzyl-phthalate (µg/L)	Carba-zole (µg/L)	4-Chloro-3-methyl-phenol (µg/L)	4-Chloro-aniline (µg/L)
AY-68-21-806	03/17/04	<10	<10	<10	4J	<10	<10	<10	<10	<10
AY-68-27-517	01/14/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
AY-68-27-612	12/03/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
AY-68-28-407	03/22/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
AY-68-28-516	04/07/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
AY-68-28-517	01/30/04	<10	<10	<10	2J	<10	<10	<10	<10	<10
AY-68-28-519	04/05/04	<10	<10	<10	0.6J	<10	<10	<10	<10	<10
AY-68-28-608	11/22/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
AY-68-29-112	02/03/04	<10	<10	<10	3J	<10	<10	<10	<10	<10
AY-68-29-214	11/17/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
AY-68-29-215	03/09/04	<10	<10	<10	0.6J	<10	<10	<10	<10	<10
AY-68-29-216	02/18/04	<10	<10	<10	0.5J	<10	<10	<10	<10	<10
AY-68-29-217	02/27/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
DX-68-22-601	10/25/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
DX-68-23-304	03/03/04	<10	<10	<10	<10	<10	<10	<10	<10	<10
YP-69-50-203	05/19/04	<10	<10	<10	0.7J	<10	<10	<10	<10	<10
YP-69-51-114	05/19/04	<11	<11	<11	4J	<11	<11	<11	<11	<11

J = Estimated result between the method detection limit and the reporting limit
NA = Not Analyzed

Table C-7 Analytical data for semivolatile organic compounds (SVOC) in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	2-Chloro-naph-thalene (µg/L)	2-Chloro-phenol (µg/L)	4-Chloro-phenyl-phenyl-ether (µg/L)	Chrysene (µg/L)	Dibenzo-(a,h)-anthraxcene (µg/L)	Dibenzo-furan (µg/L)	3,3'-Dichloro-benzidine (µg/L)	2,4-Dichloro-phenol (µg/L)	Diethyl phthalate (µg/L)
AY-68-21-806	03/17/04	<10	<10	<10	<10	<10	<10	<20	<10	<10
AY-68-27-517	01/14/04	<10	<10	<10	<10	<10	<10	<20	<10	<10
AY-68-27-612	12/03/04	<10	<10	<10	<10	<10	<10	<20	<10	<10
AY-68-28-407	03/22/04	<10	<10	<10	<10	<10	<10	<20	<10	<10
AY-68-28-516	04/07/04	<10	<10	<10	<10	<10	<10	<20	<10	<10
AY-68-28-517	01/30/04	<10	<10	<10	<10	<10	<10	<20	<10	<10
AY-68-28-519	04/05/04	<10	<10	<10	<10	<10	<10	<20	<10	<10
AY-68-28-608	11/22/04	<10	<10	<10	<10	<10	<10	<20	<10	<10
AY-68-29-112	02/03/04	<10	<10	<10	<10	<10	<10	<20	<10	<10
AY-68-29-214	11/17/04	<10	<10	<10	<10	<10	<10	<20	<10	<10
AY-68-29-215	03/09/04	<10	<10	<10	<10	<10	<10	<20	<10	<10
AY-68-29-216	02/18/04	<10	<10	<10	<10	<10	<10	<20	<10	<10
AY-68-29-217	02/27/04	<10	<10	<10	<10	<10	<10	<20	<10	<10
DX-68-22-601	10/25/04	<10	<10	<10	<10	<10	<10	<20	<10	<10
DX-68-23-304	03/03/04	<10	<10	<10	<10	<10	<10	<20	<10	<10
YP-69-50-203	05/19/04	<10	<10	<10	<10	<10	<10	<20	<10	<10
YP-69-51-114	05/19/04	<11	<11	<11	<11	<11	<11	<21	<11	<11

State Well Number	Date Sampled	Dimethyl-phthalate (µg/L)	2,4-Dimethyl-phenol (µg/L)	Di-n-butyl-phthalate (µg/L)	2,4-Dinitro-phenol (µg/L)	2,4-Dinitro-toluene (µg/L)	2,6-Dinitro-toluene (µg/L)	Di-n-octyl-phthalate (µg/L)	Diphenyl (µg/L)	Fluoran-thene (µg/L)
AY-68-21-806	03/17/04	<10	<10	<10	<50	<10	<10	<10	<10	<10
AY-68-27-517	01/14/04	<10	<10	<10	<50	<10	<10	<10	NA	<10
AY-68-27-612	12/03/04	<10	<10	<10	<50	<10	<10	<10	NA	<10

J = Estimated result between the method detection limit and the reporting limit

NA = Not Analyzed

Table C-7 Analytical data for semivolatile organic compounds (SVOC) in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	Dimethyl phthalate (µg/L)	2,4-Dimethyl-phenol (µg/L)	Di-n-butyl-phthalate (µg/L)	2,4-Dinitro-phenol (µg/L)	2,4-Dinitro-toluene (µg/L)	2,6-Dinitro-toluene (µg/L)	Di-n-octyl-phthalate (µg/L)	Diphenyl (µg/L)	Fluoran-thene (µg/L)
AY-68-28-407	03/22/04	<10	<10	<10	<50	<10	<10	<10	<10	<10
AY-68-28-516	04/07/04	<10	<10	<10	<50	<10	<10	<10	NA	<10
AY-68-28-517	01/30/04	<10	<10	<10	<50	<10	<10	<10	<10	<10
AY-68-28-519	04/05/04	<10	<10	<10	<50	<10	<10	<10	<10	<10
AY-68-28-608	11/22/04	<10	<10	<10	<50	<10	<10	<10	NA	<10
AY-68-29-112	02/03/04	<10	<10	<10	<50	<10	<10	<10	<10	<10
AY-68-29-214	11/17/04	<10	<10	<10	<50	<10	<10	<10	NA	<10
AY-68-29-215	03/09/04	<10	<10	<10	<50	<10	<10	<10	<10	<10
AY-68-29-216	02/18/04	<10	<10	<10	<50	<10	<10	<10	<10	<10
AY-68-29-217	02/27/04	<10	<10	<10	<50	<10	<10	<10	<10	<10
DX-68-22-601	10/25/04	<10	<10	<10	<50	<10	<10	<10	NA	<10
DX-68-23-304	03/03/04	<10	<10	<10	<50	<10	<10	<10	<10	<10
YP-69-50-203	05/19/04	<10	<10	<10	<50	<10	<10	<10	<10	<10
YP-69-51-114	05/19/04	<11	<11	<11	<53	<11	<11	<11	<11	<11

J = Estimated result between the method detection limit and the reporting limit
NA = Not Analyzed

Table C-7 Analytical data for semivolatile organic compounds (SVOC) in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	Fluorene (µg/L)	Hexa-chloro-benzene (µg/L)	Hexa-chloro-butadiene (µg/L)	Hexachloro-cyclo-pentadiene (µg/L)	Hexa-chloro-ethane (µg/L)	Indeno-(1,2,3-cd)-pyrene (µg/L)	Isopho-rone (µg/L)
AY-68-21-806	03/17/04	<10	<10	<10	<10	<10	<10	<10
AY-68-27-517	01/14/04	<10	<10	<10	<10	<10	<10	<10
AY-68-27-612	12/03/04	<10	<10	<10	<20	<10	<10	<10
AY-68-28-407	03/22/04	<10	<10	<10	<10	<10	<10	<10
AY-68-28-516	04/07/04	<10	<10	<10	<10	<10	<10	<10
AY-68-28-517	01/30/04	<10	<10	<10	<10	<10	<10	<10
AY-68-28-519	04/05/04	<10	<10	<10	<10	<10	<10	<10
AY-68-28-608	11/22/04	<10	<10	<10	<20	<10	<10	<10
AY-68-29-112	02/03/04	<10	<10	<10	<10	<10	<10	<10
AY-68-29-214	11/17/04	<10	<10	<10	<20	<10	<10	<10
AY-68-29-215	03/09/04	<10	<10	<10	<10	<10	<10	<10
AY-68-29-216	02/18/04	<10	<10	<10	<10	<10	<10	<10
AY-68-29-217	02/27/04	<10	<10	<10	<10	<10	<10	<10
DX-68-22-601	10/25/04	<10	<10	<10	<10	<10	<10	<10
DX-68-23-304	03/03/04	<10	<10	<10	<10	<10	<10	<10
YP-69-50-203	05/19/04	<10	<10	<10	<10	<10	<10	<10
YP-69-51-114	05/19/04	<11	<11	<11	<11	<11	<11	<11

State Well Number	Date Sampled	2-Methyl-4,6-dinitro-phenol (µg/L)	2-Methyl-naphtha-lene (µg/L)	2-Methyl-phenol (µg/L)	m-Nitro-aniline (µg/L)	Naph-thalene (µg/L)	Nitro-benzene (µg/L)	2-Nitro-phenol (µg/L)	4-Nitro-phenol (µg/L)	N-Nitroso-di-n-propyl-amine (µg/L)
AY-68-21-806	03/17/04	<50	<10	<10	<50	<10	<10	<10	<50	<10
AY-68-27-517	01/14/04	<50	<10	<10	<50	<10	<10	<10	<50	<10
AY-68-27-612	12/03/04	<50	<10	<10	<50	<10	<10	<10	<50	<10

J = Estimated result between the method detection limit and the reporting limit
NA = Not Analyzed

Table C-7 Analytical data for semivolatile organic compounds (SVOC) in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	2-Methyl-4,6-dinitro-phenol (µg/L)	2-Methyl-naph-thalene (µg/L)	2-Methyl-phenol (µg/L)	m-Nitro-aniline (µg/L)	Naph-thalene (µg/L)	Nitro-benzene (µg/L)	2-Nitro-phenol (µg/L)	2-Nitro-phenol (µg/L)	n-Nitroso-di-n-propyl-amine (µg/L)
AY-68-28-407	03/22/04	<50	<10	<10	<50	<10	<10	<10	<50	<10
AY-68-28-516	04/07/04	<50	<10	<10	<50	<10	<10	<10	<50	<10
AY-68-28-517	01/30/04	<50	<10	<10	<50	<10	<10	<10	<50	<10
AY-68-28-519	04/05/04	<50	<10	<10	<50	<10	<10	<10	<50	<10
AY-68-28-608	11/22/04	<50	<10	<10	<50	<10	<10	<10	<50	<10
AY-68-29-112	02/03/04	<50	<10	<10	<50	<10	<10	<10	<50	<10
AY-68-29-214	11/17/04	<50	<10	<10	<50	<10	<10	<10	<50	<10
AY-68-29-215	03/09/04	<50	<10	<10	<50	<10	<10	<10	<50	<10
AY-68-29-216	02/18/04	<50	<10	<10	<50	<10	<10	<10	<50	<10
AY-68-29-217	02/27/04	<50	<10	<10	<50	<10	<10	<10	<50	<10
DX-68-22-601	10/25/04	<50	<10	<10	<50	<10	<10	<10	<50	<10
DX-68-23-304	03/03/04	<50	<10	<10	<50	<10	<10	<10	<50	<10
YP-69-50-203	05/19/04	<50	<10	<10	<50	<10	<10	<10	<50	<10
YP-69-51-114	05/19/04	<53	<11	<11	<53	<11	<11	<11	<53	<11

State Well Number	Date Sampled	n-Nitroso-diphenyl-amine (µg/L)	o,o,o-Triethyl-phosphoro-thioate (µg/L)	o-Nitro-aniline (µg/L)	Penta-chloro-phenol (µg/L)	Phenan-threne (µg/L)	Phenol (µg/L)	p-Nitro-aniline (µg/L)	Pronamide (µg/L)
AY-68-21-806	03/17/04	<10	<10	<50	<50	<10	<10	<50	<10
AY-68-27-517	01/14/04	<10	<10	<50	<50	<10	<10	<50	<10
AY-68-27-612	12/03/04	<10	<10	<50	<50	<10	<10	<50	<10
AY-68-28-407	03/22/04	<10	<10	<50	<50	<10	<10	<50	<10
AY-68-28-516	04/07/04	<10	<10	<50	<50	<10	<10	<50	<10

J = Estimated result between the method detection limit and the reporting limit
NA = Not Analyzed

Table C-7 Analytical data for semivolatile organic compounds (SVOC) in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	n-Nitroso-diphenyl-amine (µg/L)	o,o,o-Triethyl-phosphoro-thioate (µg/L)	o-Nitro-aniline (µg/L)	Penta-chloro-phenol (µg/L)	Phenan-threne (µg/L)	Phenol (µg/L)	p-Nitro-aniline (µg/L)	Pronamide (µg/L)
AY-68-28-517	01/30/04	<10	<10	<50	<50	<10	<10	<50	<10
AY-68-28-519	04/05/04	<10	<10	<50	<50	<10	<10	<50	<10
AY-68-28-608	11/22/04	<10	<10	<50	<50	<10	<10	<50	<10
AY-68-29-112	02/03/04	<10	<10	<50	<50	<10	<10	<50	<10
AY-68-29-214	11/17/04	<10	<10	<50	<50	<10	<10	<50	<10
AY-68-29-215	03/09/04	<10	<10	<50	<50	<10	<10	<50	<10
AY-68-29-216	02/18/04	<10	<10	<50	<50	<10	<10	<50	<10
AY-68-29-217	02/27/04	<10	<10	<50	<50	<10	<10	<50	<10
DX-68-22-601	10/25/04	<10	<10	<50	<50	<10	<10	<50	<10
DX-68-23-304	03/03/04	<10	<10	<50	<50	<10	<10	<50	<10
YP-69-50-203	05/19/04	<10	<10	<50	<50	<10	<10	<50	<10
YP-69-51-114	05/19/04	<11	<11	<53	<53	<11	<11	<53	<11

J = Estimated result between the method detection limit and the reporting limit
NA = Not Analyzed

Table C-7 Analytical data for semivolatile organic compounds (SVOC) in water samples from wells completed in the Edwards Aquifer, 2004 (cont'd)

State Well Number	Date Sampled	Pyrene (µg/L)	2,4,5-Trichloro-phenol (µg/L)	2,4,6-Trichloro-phenol (µg/L)
AY-68-21-806	03/17/04	<10	<10	<10
AY-68-27-517	01/14/04	<10	<10	<10
AY-68-27-612	12/03/04	<10	<10	<10
AY-68-28-407	03/22/04	<10	<10	<10
AY-68-28-516	04/07/04	<10	<10	<10
AY-68-28-517	01/30/04	<10	<10	<10
AY-68-28-519	04/05/04	<10	<10	<10
AY-68-28-608	11/22/04	<10	<10	<10
AY-68-29-112	02/03/04	<10	<10	<10
AY-68-29-214	11/17/04	<10	<10	<10
AY-68-29-215	03/09/04	<10	<10	<10
AY-68-29-216	02/18/04	<10	<10	<10
AY-68-29-217	02/27/04	<10	<10	<10
DX-68-22-601	10/25/04	<10	<10	<10
DX-68-23-304	03/03/04	<10	<10	<10
YP-69-50-203	05/19/04	<10	<10	<10
YP-69-51-114	05/19/04	<11	<11	<11

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed

Table C-8 Field measurements, bacterial counts and biochemical oxygen demand in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004

County	Station Name	Date Sampled	Time Sampled	Water Temp (° C)	Field Conductivity (µS/cm)	Field pH (std units)	Field Alkalinity (mg/L)	Turbidity (NTU)	Dissolved Oxygen (mg/L)
Hays	Blanco River at Wimberley [8171000]	05/07/04	10:30	21.4	465	7.78	222	1.64	NR
Hays	Blanco River at Wimberley [8171000]	11/03/04	9:40	17.8	464	8.08	218	18.00	NR
Medina	Hondo Creek near Tarpley [8200000]	05/06/04	11:15	20.1	488	7.25	231	0.77	NR
Medina	Hondo Creek near Tarpley [8200000]	10/28/04	9:50	23.2	408	8.01	333	0.94	NR
Medina	Medina River at Bandera [8178880]	05/10/04	10:30	21.3	569	7.64	234	3.61	NR
Medina	Medina River at Bandera [8178880]	10/29/04	10:00	23.0	508	7.95	NA	3.37	NR
Medina	Seco Creek at Miller Ranch [8201500]	05/05/04	15:15	21.3	464	8.03	225	1.87	NR
Medina	Seco Creek at Miller Ranch [8201500]	10/27/04	15:45	26.2	388	7.68	175	0.88	NR
Uvalde	Dry Frio River at Reagan Wells [8196000]	10/27/04	8:20	22.8	375	6.84	177	2.21	NR
Uvalde	Dry Frio River at Reagan Wells [8196000]	05/05/04	8:50	20.3	446	7.74	207	0.66	NR
Uvalde	Frio River at Concan [8195000]	05/05/04	10:20	20.0	443	7.85	201	0.64	NR
Uvalde	Frio River at Concan [8195000]	10/27/04	9:15	23.1	415	7.39	184	0.70	NR
Uvalde	Nueces River at Laguna [8190000]	05/04/04	13:00	21.3	432	7.66	200	1.05	NR
Uvalde	Nueces River at Laguna [8190000]	10/26/04	11:40	23.5	420	7.48	185	0.29	NR
Uvalde	Sabinal River near Sabinal [8198000]	05/05/04	11:00	20.2	474	7.88	214	0.64	NR
Uvalde	Sabinal River near Sabinal [8198000]	10/27/04	10:30	23.6	383	7.47	204	0.13	NR

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[ ] = USGS Gauge Number

Table C-8 Field measurements, bacterial counts and biochemical oxygen demand in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

County	Station Name	Date Sampled	Time Sampled	Fecal Coliform (colonies/ 100ml)	Fecal Strep (colonies/ 100ml)	Biochemical Oxygen Demand (mg/L)
Hays	Blanco River at Wimberley [8171000]	05/07/04	10:30	34	42	<2
Hays	Blanco River at Wimberley [8171000]	11/03/04	9:40	850	585	<2
Medina	Hondo Creek near Tarpley [8200000]	05/06/04	11:15	55	83	<2
Medina	Hondo Creek near Tarpley [8200000]	10/28/04	9:50	66	114	<2
Medina	Medina River at Bandera [8178880]	05/10/04	10:30	97	92	<2
Medina	Medina River at Bandera [8178880]	10/29/04	10:00	182	357	<2
Medina	Seco Creek at Miller Ranch [8201500]	05/05/04	15:15	7	17	<2
Medina	Seco Creek at Miller Ranch [8201500]	10/27/04	15:45	95	32	<2
Uvalde	Dry Frio River at Reagan Wells [8196000]	10/27/04	8:20	101	108	<2
Uvalde	Dry Frio River at Reagan Wells [8196000]	05/05/04	8:50	43	46	<2
Uvalde	Frio River at Concan [8195000]	05/05/04	10:20	23	48	<2
Uvalde	Frio River at Concan [8195000]	10/27/04	9:15	94	150	<2
Uvalde	Nueces River at Laguna [8190000]	05/04/04	13:00	0	1	<2
Uvalde	Nueces River at Laguna [8190000]	10/26/04	11:40	11	20	<2
Uvalde	Sabinal River near Sabinal [8198000]	05/05/04	11:00	116	64	<2
Uvalde	Sabinal River near Sabinal [8198000]	10/27/04	10:30	102	178	<2

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Table C-8 Field measurements, bacterial counts and biochemical oxygen demand in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

County	Station Name	Date Sampled	Time Sampled	Water Temp (° C)	Field Conductivity (µS/cm)	Field pH (std units)	Field Alkalinity (mg/L)	Turbidity (NTU)	Dissolved Oxygen (mg/L)
Bexar	San Antonio Springs	3/4/2004	10:20	24.0	494	6.85	210	0.88	NR
Bexar	San Antonio Springs	6/17/2004	10:05	23.3	499	7.32	215	0.47	NR
Bexar	San Antonio Springs	9/2/2004	10:10	24.1	496	6.52	216	0.22	NR
Bexar	San Antonio Springs	12/2/2004	8:50	24.2	494	7.23	224	1.57	NR
Bexar	San Pedro Springs	3/4/2004	8:40	23.5	518	6.74	211	2.81	NR
Bexar	San Pedro Springs	6/17/2004	9:00	23.0	521	7.27	227	0.97	NR
Bexar	San Pedro Springs	9/2/2004	8:55	23.8	517	6.69	227	0.50	NR
Bexar	San Pedro Springs	12/2/2004	9:35	23.8	527	7.20	226	0.76	NR
Comal	Comal Springs #1 (DX-68-23-301)	3/1/2004	11:45	23.1	560	6.81	243	0.10	NR
Comal	Comal Springs #1 (DX-68-23-301)	6/16/2004	9:45	22.4	559	6.47	250	0.04	NR
Comal	Comal Springs #1 (DX-68-23-301)	9/1/2004	10:05	23.2	561	6.51	241	0.62	NR
Comal	Comal Springs #1 (DX-68-23-301)	12/1/2004	9:40	23.1	562	7.08	250	0.27	NR
Comal	Comal Springs #7	3/2/2004	10:05	23.5	560	6.91	225	0.17	NR
Comal	Comal Springs #7	6/16/2004	10:30	22.8	558	6.78	248	0.73	NR
Comal	Comal Springs #7	9/1/2004	11:35	23.6	566	6.59	256	0.14	NR
Comal	Comal Springs #7	12/1/2004	10:55	23.4	558	7.18	265	0.16	NR
Comal	Hueco Springs A (DX-68-15-901)	3/2/2004	12:30	20.8	636	6.66	270	3.49	NR
Comal	Hueco Springs A (DX-68-15-901)	6/15/2004	11:10	21.5	573	6.19	284	5.79	NR
Comal	Hueco Springs A (DX-68-15-901)	8/31/2004	9:05	22.9	470	6.45	206	6.22	NR

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Table C-8 Field measurements, bacterial counts and biochemical oxygen demand in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

County	Station Name	Date Sampled	Time Sampled	Water Temp (° C)	Field Conductivity (µS/cm)	Field pH (std units)	Field Alkalinity (mg/L)	Turbidity (NTU)	Dissolved Oxygen (mg/L)
Comal	Hueco Springs A (DX-68-15-901)	11/30/2004	10:20	21.2	600	6.95	262	6.14	NR
Comal	Hueco Springs B	3/2/2004	13:05	20.7	635	6.67	275	3.15	NR
Comal	Hueco Springs B	6/15/2004	11:45	21.4	573	6.12	281	5.31	NR
Comal	Hueco Springs B	8/31/2004	9:45	22.9	471	6.84	199	6.47	NR
Comal	Hueco Springs B	11/30/2004	10:55	21.2	601	6.97	269	6.49	NR
Hays	San Marcos Springs-Deep (LR-67-01-819)	3/1/2004	10:20	21.8	622	6.95	269	0.12	NR
Hays	San Marcos Springs-Deep (LR-67-01-819)	6/14/2004	10:15	23.3	624	7.07	263	1.02	NR
Hays	San Marcos Springs-Deep (LR-67-01-819)	8/30/2004	12:40	24.0	618	6.57	259	0.26	NR
Hays	San Marcos Springs-Deep (LR-67-01-819)	11/29/2004	10:35	22.4	615	7.06	276	0.04	NR
Hays	San Marcos Springs-Hotel (LR-67-01-801)	3/1/2004	9:15	21.2	599	6.79	259	0.37	NR
Hays	San Marcos Springs-Hotel (LR-67-01-801)	6/14/2004	11:25	21.4	599	6.88	258	0.16	NR
Hays	San Marcos Springs-Hotel (LR-67-01-801)	8/30/2004	10:50	21.5	601	6.51	245	0.19	NR
Hays	San Marcos Springs-Hotel (LR-67-01-801)	11/29/2004	11:25	21.7	616	7.03	261	0.03	NR
Kinney	Las Moras Springs (RP-70-45-501)	8/26/2004	9:50	23.7	416	7.05	188	0.51	NR

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( ) = State Well Number
[ ] = USGS Gauge Number

Table C-8 Field measurements, bacterial counts and biochemical oxygen demand in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

County	Station Name	Date Sampled	Time Sampled	Fecal Coliform (colonies/ 100ml)	Fecal Strep (colonies/ 100ml)	Biochemical Oxygen Demand (mg/L)
Bexar	San Antonio Springs	3/4/2004	10:20	<2	8	NA
Bexar	San Antonio Springs	6/17/2004	10:05	<2	<2	NA
Bexar	San Antonio Springs	9/2/2004	10:10	<2	<2	NA
Bexar	San Antonio Springs	12/2/2004	8:50	<2	2	NA
Bexar	San Pedro Springs	3/4/2004	8:40	112	50	NA
Bexar	San Pedro Springs	6/17/2004	9:00	960	43	NA
Bexar	San Pedro Springs	9/2/2004	8:55	49	6	NA
Bexar	San Pedro Springs	12/2/2004	9:35	3082	106	NA
Comal	Comal Springs #1 (DX-68-23-301)	3/1/2004	11:45	<1	<1	NA
Comal	Comal Springs #1 (DX-68-23-301)	6/16/2004	9:45	<2	<2	NA
Comal	Comal Springs #1 (DX-68-23-301)	9/1/2004	10:05	<2	<2	NA
Comal	Comal Springs #1 (DX-68-23-301)	12/1/2004	9:40	2	2	NA
Comal	Comal Springs #7	3/2/2004	10:05	<1	9	NA
Comal	Comal Springs #7	6/16/2004	10:30	4	9	NA
Comal	Comal Springs #7	9/1/2004	11:35	<2	<2	NA
Comal	Comal Springs #7	12/1/2004	10:55	3	3	NA
Comal	Hueco Springs A (DX-68-15-901)	3/2/2004	12:30	79	109	NA
Comal	Hueco Springs A (DX-68-15-901)	6/15/2004	11:10	1032	170	NA
Comal	Hueco Springs A (DX-68-15-901)	8/31/2004	9:05	53	85	NA

NR = Not Recorded
NA = Not Analyzed
( ) = State Well Number
[ ] = USGS Gauge Number

Table C-8 Field measurements, bacterial counts and biochemical oxygen demand in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

County	Station Name	Date Sampled	Time Sampled	Fecal Coliform (colonies/ 100ml)	Fecal Strep (colonies/ 100ml)	Biochemical Oxygen Demand (mg/L)
Comal	Hueco Springs A (DX-68-15-901)	11/30/2004	10:20	56	36	NA
Comal	Hueco Springs B	3/2/2004	13:05	110	125	NA
Comal	Hueco Springs B	6/15/2004	11:45	418	133	NA
Comal	Hueco Springs B	8/31/2004	9:45	43	74	NA
Comal	Hueco Springs B	11/30/2004	10:55	46	58	NA
Hays	San Marcos Springs-Deep (LR-67-01-819)	3/1/2004	10:20	<2	<2	NA
Hays	San Marcos Springs-Deep (LR-67-01-819)	6/14/2004	10:15	<2	4	NA
Hays	San Marcos Springs-Deep (LR-67-01-819)	8/30/2004	12:40	8	28	NA
Hays	San Marcos Springs-Deep (LR-67-01-819)	11/29/2004	10:35	5	522	NA
Hays	San Marcos Springs-Hotel (LR-67-01-801)	3/1/2004	9:15	<1	<1	NA
Hays	San Marcos Springs-Hotel (LR-67-01-801)	6/14/2004	11:25	2	14	NA
Hays	San Marcos Springs-Hotel (LR-67-01-801)	8/30/2004	10:50	<2	<2	NA
Hays	San Marcos Springs-Hotel (LR-67-01-801)	11/29/2004	11:25	9	23	NA
Kinney	Las Moras Springs (RP-70-45-501)	8/26/2004	9:50	NA	NA	NA

NR = Not Recorded
NA = Not Analyzed
( ) = State Well Number
[ ] = USGS Gauge Number

Table C-9 Analytical data for major ions in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004

Station Name	Date Sampled	Calcium dissolved (mg/L)	Chloride dissolved (mg/L)	Fluoride dissolved (mg/L)	Magnesium dissolved (mg/L)	Potassium dissolved (mg/L)	Sodium dissolved (mg/L)	Sulfate dissolved (mg/L)	Total Dissolved Solids (mg/L)
Blanco River @ Wimberley	05/07/04	73.9	10.2	0.26	16.4	1.1	6.43	17.9	280
Blanco River @ Wimberley	11/03/04	81.5	7.09	0.17	13.1	1.12B	5.73	13.5	260
Dry Frio River @ Reagan Wells	05/05/04	66.6	9.46	0.1	12.1	0.608B	5.43	13	270
Dry Frio River @ Reagan Wells	10/27/04	57.9	7.92	0.14	12.4	0.487B	5.66	11.5	210
Frio River @ Concan	05/05/04	64.1	9.86	0.13	12.9	0.949	5.67	15.4	240
Frio River @ Concan	10/27/04	62.4	9.61	0.19	13.7	0.724B	6.69	14.3	230
Hondo Creek @ Tarpley	05/06/04	82.4	9.01	0.2	9.4	0.798	5.71	22.7	290
Hondo Creek @ Tarpley	10/28/04	68.9	8.13	0.26	10	1.41B	6.66	24.3	230
Hueco Springs A (DX-68-15-901)	03/02/04	101	15.8	0.23	13.6	0.988	9.69	28.6	340
Hueco Springs A (DX-68-15-901)	06/15/04	90.6	9.78	0.15	8.55	1.22	6.12	14	320
Hueco Springs A (DX-68-15-901)	08/31/04	37.4	10.7	0.2	4.77	1.06	3.48	14.9	270
Hueco Springs A (DX-68-15-901)	11/30/04	98.5	9.57	0.16	10.3	0.965B	6.32	13.7	360
Hueco Springs B	03/02/04	101	15.8	0.23	13.9	0.712	10.1	28.7	360
Hueco Springs B	06/15/04	97.5	9.77	0.15	9.22	1.15	6.29	13.9	320
Hueco Springs B	08/31/04	85.2	10.5	0.19	10.2	1.98	7.61	14.7	260
Hueco Springs B	11/30/04	101	9.53	0.16	10.6	0.818B	6.51	13.7	350
Medina River @ Bandera	05/10/04	86.9	10	0.3	16.3	1.03	6.21	63.8	360
Medina River @ Bandera	10/29/04	81.6	7.5	0.28	17.5	1.52B	5.69	53.7	300
Nueces River @ Laguna	05/04/04	59.2	11	0.14	13	0.781	5.81	13.4	250
Nueces River @ Laguna	10/26/04	59	11.4	0.18	13.6	0.707B	7.2	12.8	230
Sabinal River @ Sabinal	05/05/04	72.7	9.84	0.18	11.5	0.704	6.32	21.2	260
Sabinal River @ Sabinal	10/27/04	71.6	7.68	0.21	12.2	1.01B	6.39	17.7	230

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Table C-9 Analytical data for major ions in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Calcium dissolved (mg/L)	Chloride dissolved (mg/L)	Fluoride dissolved (mg/L)	Magnesium dissolved (mg/L)	Potassium dissolved (mg/L)	Sodium dissolved (mg/L)	Sulfate dissolved (mg/L)	Total Dissolved Solids (mg/L)
San Antonio Springs	03/04/04	63.6	18.4	0.21	14.6	0.643	9.46	16.9	270
San Antonio Springs	06/17/04	65.4	17.3	0.23	14.7	0.978	8.3	16.2	260
San Antonio Springs	09/02/04	68.4	17.7	0.21	14.9	1.32	9.18	16.7	270
San Antonio Springs	12/02/04	68.8	17.9	0.21	16.4	1.1B	10.1	17	270
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	97.9	21.4	0.22	17	1.52	12.3	26.8	360
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	99.1	19.6	0.3	15.9	1.14	10.5	26.4	370
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	44.4	19.1	0.23	8.15	0.744	5.69	25.5	360
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	93.2	18.6	0.25	16.4	1.18B	11.6	25.3	360
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	82.6	20.2	0.25	17.5	1.52	10.3	27.3	340
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	86.2	18.5	0.32	17.3	1.29	9.69	26.1	340
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	42.3	18.5	0.25	9.44	0.715	5.34	25.1	360
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	89.1	19.3	0.29	18.4	2.29B	11.7	26.5	360
San Pedro Springs	03/04/04	69.3	19.6	0.22	14.8	0.93	10.2	19.2	280
San Pedro Springs	06/17/04	66.5	19.3	0.23	14.1	0.976	9.36	19.6	280
San Pedro Springs	09/02/04	66.2	18.9	0.22	14.5	1.06	10.4	19.3	260
San Pedro Springs	12/02/04	68.3	19.4	0.23	15.3	1.73B	10.4	24.6	290
Seco Creek @ Miller Ranch	05/05/04	73.9	8.89	0.18	9.47	0.59B	5.36	23.2	260
Seco Creek @ Miller Ranch	10/27/04	62.4	7.46	0.24	10.7	1.56B	5.78	32.5	220
Comal Springs #1 (DX-68-23-301)	03/01/04	78	17.1	0.25	15.2	1.54	9.24	23.1	310
Comal Springs #1 (DX-68-23-301)	06/16/04	78.2	16	0.37	15.3	1.08	8.9	23.5	300
Comal Springs #1 (DX-68-23-301)	09/01/04	79.4	16.3	0.23	16.2	1.41	9.95	23.5	330
Comal Springs #1 (DX-68-23-301)	12/01/04	82.7	16.6	0.29	17.2	1.65B	11.2	23.5	290

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Table C-9 Analytical data for major ions in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Calcium dissolved (mg/L)	Chloride dissolved (mg/L)	Fluoride dissolved (mg/L)	Magnesium dissolved (mg/L)	Potassium dissolved (mg/L)	Sodium dissolved (mg/L)	Sulfate dissolved (mg/L)	Total Dissolved Solids (mg/L)
Comal Springs #7	03/02/04	76.1	18.4	0.26	16	1.04	10.8	25.2	300
Comal Springs #7	06/16/04	73.7	17.3	0.4	15.7	1.12	9.37	25.2	310
Comal Springs #7	09/01/04	77.6	17.7	0.27	16.8	1.76	10.7	25.1	320
Comal Springs #7	12/01/04	75.3	17.9	0.3	16.7	1.65B	11.1	25.3	300
Las Moras (RP-70-45-501)	08/26/04	*72.5	*8.53	*0.09	*5.79	*0.71	*4.92	*6.28	*229

B = Estimated result between the method detection limit and the reporting limit
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Table C-10 Analytical data for metals in water samples from streams crossing the Edwards Aquifer Recharge Zone and Springs discharging from the Edwards Aquifer, 2004

Station Name	Date Sampled	Aluminum dissolved (mg/L)	Antimony dissolved (mg/L)	Arsenic dissolved (mg/L)	Barium dissolved (mg/L)	Beryl-lium dissolved (mg/L)	Boron dissolved (mg/L)	Bromide dissolved (mg/L)	Cadmium dissolved (mg/L)
Blanco River @ Wimberley	05/07/04	NA	0.0022B	<0.01	0.0283	<0.005	NA	NA	<0.01
Blanco River @ Wimberley	11/03/04	NA	0.0043B	<0.01	0.0278	<0.005	NA	NA	<0.01B
Comal Springs #1 (DX-68-23-301)	03/01/04	NA	<0.01	<0.01	0.0479	<0.005	NA	NA	<0.01
Comal Springs #1 (DX-68-23-301)	06/16/04	NA	0.00105B	<0.01	0.0483	<0.005	NA	NA	<0.01
Comal Springs #1 (DX-68-23-301)	09/01/04	NA	0.0037B	<0.01	0.0241	<0.005	NA	NA	<0.01
Comal Springs #1 (DX-68-23-301)	12/01/04	NA	<0.006	<0.01	0.0542	<0.005	NA	NA	0.0004B
Comal Springs #7	03/02/04	NA	<0.01	<0.01	0.0547	<0.005	NA	NA	<0.01
Comal Springs #7	06/16/04	NA	0.00195B	<0.01	0.0545	<0.005	NA	NA	<0.01
Comal Springs #7	09/01/04	NA	0.0033B	<0.01	0.0517	<0.005	NA	NA	<0.01
Comal Springs #7	12/01/04	NA	<0.006	<0.01	0.0554	<0.005	NA	NA	0.001B
Dry Frio River @ Reagan Wells	05/05/04	NA	0.0013B	<0.01	0.0405	<0.005	NA	NA	<0.01
Dry Frio River @ Reagan Wells	10/27/04	NA	<0.006	<0.01	0.0432	<0.005	NA	NA	<0.01
Frio River @ Concan	05/05/04	NA	0.0008B	<0.01	0.0327	<0.005	NA	NA	<0.01
Frio River @ Concan	10/27/04	NA	<0.006	<0.01	0.033	<0.005	NA	NA	<0.01
Hondo Creek @ Tarpley	05/06/04	NA	0.0029B	<0.01	0.0345	<0.005	NA	NA	<0.01
Hondo Creek @ Tarpley	10/28/04	NA	<0.006	<0.01	0.0288	0.0023B	NA	NA	0.0046B
Hueco Springs A (DX-68-15-901)	03/02/04	NA	<0.01	<0.01	0.0364	<0.005	NA	NA	<0.01
Hueco Springs A (DX-68-15-901)	06/15/04	NA	0.00095B	<0.01	0.0279	<0.005	NA	NA	<0.01
Hueco Springs A (DX-68-15-901)	08/31/04	NA	<0.006	<0.01	0.0258	<0.005	NA	NA	<0.01
Hueco Springs A (DX-68-15-901)	11/30/04	NA	<0.006	<0.01	0.033	<0.005	NA	NA	<0.01
Hueco Springs B	03/02/04	NA	<0.01	<0.01	0.0351	<0.005	NA	NA	<0.01

B = Estimated Result between the method detectionlimit and the reporting limit
NA = Not analyzed
* = Sample collected by the Authority and analyzed by TWDB

Table C-10 Analytical data for metals in water samples from streams crossing the Edwards Aquifer Recharge Zone and Springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Aluminum dissolved (mg/L)	Antimony dissolved (mg/L)	Arsenic dissolved (mg/L)	Barium dissolved (mg/L)	Beryllium dissolved (mg/L)	Boron dissolved (mg/L)	Bromide dissolved (mg/L)	Cadmium dissolved (mg/L)
Hueco Springs B	06/15/04	NA	0.0011B	<0.01	0.0312	<0.005	NA	NA	<0.01
Hueco Springs B	08/31/04	NA	<0.006	<0.01	0.027	<0.005	NA	NA	<0.01
Hueco Springs B	11/30/04	NA	<0.006	<0.01	0.033	<0.005	NA	NA	<0.01
Medina River @ Bandera	05/10/04	NA	0.0026B	<0.01	0.0341	<0.005	NA	NA	<0.01
Medina River @ Bandera	10/29/04	NA	<0.006	<0.01	0.0315	<0.005	NA	NA	<0.01
Nueces River @ Laguna	05/04/04	NA	0.00185B	<0.01	0.0379	<0.005	NA	NA	<0.01
Nueces River @ Laguna	10/26/04	NA	<0.006	<0.01	0.0459	0.001B	NA	NA	0.0013B
Sabinal River @ Sabinal	05/05/04	NA	0.00075B	<0.01	0.0341	<0.005	NA	NA	<0.01
Sabinal River @ Sabinal	10/27/04	NA	<0.006	<0.01	0.032	<0.005	NA	NA	<0.01
San Antonio Springs	03/04/04	NA	<0.01 (B)	<0.01	0.0477	<0.005	NA	NA	<0.01
San Antonio Springs	06/17/04	NA	<0.006	<0.01	0.0472	<0.005	NA	NA	<0.01
San Antonio Springs	09/02/04	NA	<0.006	<0.01	0.0443	<0.005	NA	NA	<0.01
San Antonio Springs	12/02/04	NA	<0.006	<0.01	0.0511	<0.005	NA	NA	0.0005B
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	NA	0.0223	<0.01	0.0435	<0.005	NA	NA	<0.01
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	NA	<0.006	<0.01	0.0396B	<0.005	NA	NA	<0.01
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	NA	0.0036B	<0.01	0.037	<0.005	NA	NA	<0.01
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	NA	<0.006	<0.01	0.0375	<0.005	NA	NA	<0.01
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	NA	<0.01	<0.01	0.0348	<0.005	NA	NA	<0.01
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	NA	0.0017B	<0.01	0.0342B	<0.005	NA	NA	<0.01
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	NA	<0.006	<0.01	0.0322	<0.005	NA	NA	<0.01
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	NA	<0.006	<0.01	0.0354	<0.005	NA	NA	<0.01
San Pedro Springs	03/04/04	NA	0.021 (B)	<0.01	0.0516	<0.005	NA	NA	<0.01

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Table C-10 Analytical data for metals in water samples from streams crossing the Edwards Aquifer Recharge Zone and Springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Aluminum dissolved (mg/L)	Antimony dissolved (mg/L)	Arsenic dissolved (mg/L)	Barium dissolved (mg/L)	Beryllium dissolved (mg/L)	Boron dissolved (mg/L)	Bromide dissolved (mg/L)	Cadmium dissolved (mg/L)
San Pedro Springs	06/17/04	NA	<0.006	<0.01	0.0469	<0.005	NA	NA	<0.01
San Pedro Springs	09/02/04	NA	0.0022B	0.0064B	0.0474	<0.005	NA	NA	<0.01
San Pedro Springs	12/02/04	NA	<0.006	<0.01	0.0535	<0.005	NA	NA	0.0005B
Seco Creek @ Miller Ranch	05/05/04	NA	0.0016B	<0.01	0.0308	<0.005	NA	NA	<0.01
Seco Creek @ Miller Ranch	10/27/04	NA	<0.006	<0.01	0.0301	0.0005B	NA	NA	0.0029B
Las Moras (RP-70-45-501)	08/26/04	*<0/0041	*<0.001	*<0.002	*<0.036	*<0.001	*<0.051	*0.062	*<0.001

Station Name	Date Sampled	Chromium dissolved (mg/L)	Cobalt dissolved (mg/L)	Copper dissolved (mg/L)	Iron dissolved (mg/L)	Lead dissolved (mg/L)	Lithium dissolved (mg/L)	Manganese dissolved (mg/L)	Mercury dissolved (mg/L)
Blanco River @ Wimberley	05/07/04	<0.01	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002
Blanco River @ Wimberley	11/03/04	<0.01	NA	<0.01	<0.4	<0.01	NA	<0.01	<0.0002
Comal Springs #1 (DX-68-23-301)	03/01/04	0.001B	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002
Comal Springs #1 (DX-68-23-301)	06/16/04	<0.01	NA	<0.01	0.0709B	<0.01	NA	<0.01	<0.0002
Comal Springs #1 (DX-68-23-301)	09/01/04	<0.01	NA	<0.01	<0.25	0.0024B	NA	<0.01	0.00012B
Comal Springs #1 (DX-68-23-301)	12/01/04	<0.01	NA	<0.01	<0.4	0.0038B	NA	<0.01	<0.0002
Comal Springs #7	03/02/04	0.0011B	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002
Comal Springs #7	06/16/04	<0.01	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002
Comal Springs #7	09/01/04	0.0015B	NA	<0.01	<0.25	0.003B	NA	<0.01	0.00046
Comal Springs #7	12/01/04	<0.01	NA	<0.01	<0.4	0.0161	NA	<0.01	<0.0002
Dry Frio River @ Reagan Wells	05/05/04	<0.01	NA	0.006B	<0.25	<0.01	NA	<0.01	<0.0002
Dry Frio River @ Reagan Wells	10/27/04	<0.01	NA	<0.01	<0.4	<0.01	NA	<0.01	<0.0002
Frio River @ Concan	05/05/04	<0.01	NA	0.0058B	0.0496B	<0.01	NA	<0.01	<0.0002
Frio River @ Concan	10/27/04	<0.01	NA	<0.01	<0.4	<0.01	NA	<0.01	0.00013B

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Table C-10 Analytical data for metals in water samples from streams crossing the Edwards Aquifer Recharge Zone and Springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Chromium dissolved (mg/L)	Cobalt dissolved (mg/L)	Copper dissolved (mg/L)	Iron dissolved (mg/L)	Lead dissolved (mg/L)	Lithium dissolved (mg/L)	Manganese dissolved (mg/L)	Mercury dissolved (mg/L)
Hondo Creek @ Tarpley	05/06/04	<0.01	NA	0.0033B	<0.25	<0.01	NA	<0.01	<0.0002
Hondo Creek @ Tarpley	10/28/04	<0.01	NA	<0.01	<0.4	<0.01	NA	0.0023B	<0.0002
Hueco Springs A (DX-68-15-901)	03/02/04	<0.01	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002
Hueco Springs A (DX-68-15-901)	06/15/04	<0.01	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002
Hueco Springs A (DX-68-15-901)	08/31/04	<0.01	NA	<0.01	<0.25	0.0025B	NA	<0.01	<0.0002
Hueco Springs A (DX-68-15-901)	11/30/04	<0.01	NA	<0.01	<0.4	<0.01	NA	<0.01	<0.0002
Hueco Springs B	03/02/04	<0.01	NA	<0.01	0.0286B	<0.01	NA	<0.01	<0.0002
Hueco Springs B	06/15/04	<0.01	NA	<0.01	0.15B	<0.01	NA	<0.01	<0.0002
Hueco Springs B	08/31/04	<0.01	NA	<0.01	<0.25	<0.01	NA	<0.01	0.00038
Hueco Springs B	11/30/04	<0.01	NA	<0.01	<0.4	<0.01	NA	<0.01	<0.0002
Medina River @ Bandera	05/10/04	<0.01	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002
Medina River @ Bandera	10/29/04	<0.01	NA	<0.01	0.0433B	<0.01	NA	0.0016B	<0.0002
Nueces River @ Laguna	05/04/04	<0.01	NA	0.0041B	<0.25	<0.01	NA	<0.01	<0.0002
Nueces River @ Laguna	10/26/04	<0.01	NA	<0.01	0.0761B	<0.01	NA	0.0018B	0.00031
Sabinal River @ Sabinal	05/05/04	<0.01	NA	0.0046B	0.0513B	0.003B	NA	<0.01	0.00017B
Sabinal River @ Sabinal	10/27/04	<0.01	NA	<0.01	<0.4	<0.01	NA	<0.01	<0.0002
San Antonio Springs	03/04/04	<0.01	NA	<0.01	0.463	0.0033B	NA	<0.01	<0.0002,
San Antonio Springs	06/17/04	<0.01	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002
San Antonio Springs	09/02/04	0.001B	NA	<0.01	<0.25	0.0031B	NA	<0.01	0.00036
San Antonio Springs	12/02/04	<0.01	NA	<0.01	<0.4	<0.01	NA	<0.01	<0.0002
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	0.001B	NA	0.0034B	<0.25	<0.01	NA	<0.01	<0.0002
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	0.001B	NA	<0.01	1.03	<0.01	NA	<0.01	<0.0002
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	0.0012B	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002

B = Estimated Result between the method detection limit and the reporting limit
NA = Not analyzed
* = Sample collected by the Authority and analyzed by TWDB

Table C-10 Analytical data for metals in water samples from streams crossing the Edwards Aquifer Recharge Zone and Springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Chromium dissolved (mg/L)	Cobalt dissolved (mg/L)	Copper dissolved (mg/L)	Iron dissolved (mg/L)	Lead dissolved (mg/L)	Lithium dissolved (mg/L)	Manganese dissolved (mg/L)	Mercury dissolved (mg/L)
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<0.01	NA	<0.01	<0.4	<0.01	NA	<0.01	<0.0002
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<0.01	NA	<0.01	0.022B	<0.01	NA	<0.01	<0.0002
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<0.01	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	0.0016B	NA	<0.01	<0.25	0.003B	NA	<0.01	<0.0002
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<0.01	NA	<0.01	<0.4	<0.01	NA	<0.01	<0.0002
San Pedro Springs	03/04/04	<0.01	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002
San Pedro Springs	06/17/04	<0.01	NA	<0.01	<0.25	<0.01	NA	<0.01	0.00032
San Pedro Springs	09/02/04	0.0011B	NA	<0.01	<0.25	0.0033B	NA	<0.01	0.00018B
San Pedro Springs	12/02/04	<0.01	NA	<0.01	<0.4	<0.01	NA	<0.01	<0.0002
Seco Creek @ Miller Ranch	05/05/04	<0.01	NA	<0.01	<0.25	<0.01	NA	<0.01	<0.0002
Seco Creek @ Miller Ranch	10/27/04	<0.01	NA	0.0075B	<0.4	<0.01	NA	<0.01	<0.0002
Las Moras (RP-70-45-501)	08/26/04	*<0.001	*<0.001	*<0.001	*<0.051	*0.0023	*<0.002	*0.0011	NA

Station Name	Date Sampled	Molybdenum dissolved (mg/L)	Nickel dissolved (mg/L)	Selenium dissolved (mg/L)	Silver dissolved (mg/L)	Strontium dissolved (mg/L)	Thallium dissolved (mg/L)	Vanadium dissolved (mg/L)	Zinc dissolved (mg/L)
Blanco River @ Wimberley	05/07/04	NA	<0.01	<0.01	<0.005	0.299	<0.002	NA	0.0058B
Blanco River @ Wimberley	11/03/04	NA	0.0042B	<0.01B	<0.005	0.222	<0.002	NA	0.0085B
Comal Springs #1 (DX-68-23-301)	03/01/04	NA	<0.01	<0.01	<0.005	0.586	<0.01	NA	0.0033B
Comal Springs #1 (DX-68-23-301)	06/16/04	NA	<0.01	0.0108	<0.005	0.594	<0.002	NA	0.0047B
Comal Springs #1 (DX-68-23-301)	09/01/04	NA	<0.01	<0.01	<0.005	0.284	<0.002	NA	0.0044B
Comal Springs #1 (DX-68-23-301)	12/01/04	NA	0.005B	<0.01	<0.005	0.67	<0.002	NA	0.0043B
Comal Springs #7	03/02/04	NA	<0.01	0.0102	<0.005	<0.05	<0.01	NA	0.0033B
Comal Springs #7	06/16/04	NA	<0.01	0.008B	<0.005	0.693	<0.002	NA	0.0044B
Comal Springs #7	09/01/04	NA	<0.01	0.0231	<0.005	0.664	<0.002	NA	<0.01

B = Estimated Result between the method detection limit and the reporting limit
NA = Not analyzed
* = Sample collected by the Authority and analyzed by TWDB

Table C-10 Analytical data for metals in water samples from streams crossing the Edwards Aquifer Recharge Zone and Springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Molyb-denum dissolved (mg/L)	Nickel dissolved (mg/L)	Selenium dissolved (mg/L)	Silver dissolved (mg/L)	Stron-tium dissolved (mg/L)	Thallium dissolved (mg/L)	Vanadium dissolved (mg/L)	Zinc dissolved (mg/L)
Comal Springs #7	12/01/04	NA	0.0035B	<0.01	<0.005	0.697	<0.002	NA	0.008B
Dry Frio River @ Reagan Wells	05/05/04	NA	<0.01	<0.01	<0.005	0.357	<0.002	NA	0.0033B
Dry Frio River @ Reagan Wells	10/27/04	NA	0.003B	<0.01	<0.005	0.35	<0.002	NA	0.0126
Frio River @ Concan	05/05/04	NA	<0.01	<0.01	<0.005	0.272	<0.002	NA	0.0167
Frio River @ Concan	10/27/04	NA	0.0048B	<0.01	<0.005	0.271	<0.002	NA	<0.01
Hondo Creek @ Tarpley	05/06/04	NA	<0.01	0.0113	<0.005	0.328	<0.002	NA	0.0036B
Hondo Creek @ Tarpley	10/28/04	NA	0.006B	<0.01	<0.005	0.327	<0.002	NA	<0.01
Hueco Springs A (DX-68-15-901)	03/02/04	NA	0.0039B	0.0093B	<0.005	0.349	<0.01	NA	0.0045B
Hueco Springs A (DX-68-15-901)	06/15/04	NA	<0.01	0.0155	<0.005	0.135	<0.002	NA	0.0046B
Hueco Springs A (DX-68-15-901)	08/31/04	NA	0.005B	<0.01	<0.005	0.212	<0.002	NA	0.0452
Hueco Springs A (DX-68-15-901)	11/30/04	NA	<0.01	<0.01	<0.005	0.122	<0.002	NA	0.0104
Hueco Springs B	03/02/04	NA	0.0039B	0.01B	<0.005	0.35	<0.01	NA	0.0076B
Hueco Springs B	06/15/04	NA	<0.01	<0.01	<0.005	0.146	<0.002	NA	0.0058B
Hueco Springs B	08/31/04	NA	<0.01	0.0059B	<0.005	0.219	<0.002	NA	<0.01
Hueco Springs B	11/30/04	NA	0.0022B	<0.01	<0.005	0.125	<0.002	NA	0.0073B
Medina River @ Bandera	05/10/04	NA	<0.01	<0.01	<0.005	<0.05	<0.002	NA	0.0039B
Medina River @ Bandera	10/29/04	NA	0.0041B	<0.01	<0.005	0.727	<0.002	NA	0.0057B
Nueces River @ Laguna	05/04/04	NA	<0.01	0.005B	<0.005	0.229	<0.002	NA	0.0025B
Nueces River @ Laguna	10/26/04	NA	0.0023B	<0.01	<0.005	0.22	<0.002	NA	0.0041B
Sabinal River @ Sabinal	05/05/04	NA	<0.01	0.007B	<0.005	0.309	<0.002	NA	0.0048B
Sabinal River @ Sabinal	10/27/04	NA	0.0033B	<0.01	<0.005	0.281	<0.002	NA	<0.01
San Antonio Springs	03/04/04	NA	<0.01	0.0082B	<0.005	0.538	<0.01	NA	0.0148

B = Estimated Result between the method detection limit and the reporting limit
NA = Not analyzed
* = Sample collected by the Authority and analyzed by TWDB

Table C-10 Analytical data for metals in water samples from streams crossing the Edwards Aquifer Recharge Zone and Springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Molyb-denum dissolved (mg/L)	Nickel dissolved (mg/L)	Selenium dissolved (mg/L)	Silver dissolved (mg/L)	Stron-tium dissolved (mg/L)	Thallium dissolved (mg/L)	Vanadium dissolved (mg/L)	Zinc dissolved (mg/L)
San Antonio Springs	06/17/04	NA	<0.01	0.0095B	<0.005	0.553	<0.002	NA	<0.01
San Antonio Springs	09/02/04	NA	<0.01	0.0119	<0.005	0.527	<0.002	NA	0.0019B
San Antonio Springs	12/02/04	NA	0.0054B	<0.01	<0.005	0.537	<0.002	NA	<0.01B
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	NA	<0.01	0.0072B	<0.005	0.583	<0.01	NA	0.0038B
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	NA	<0.01	<0.01	<0.005	0.55	<0.002	NA	0.0065B
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	NA	<0.01	<0.01	<0.005	0.514	<0.002	NA	0.0029B
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	NA	0.0039B	<0.01	<0.005	0.55	<0.002	NA	0.0063B
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	NA	<0.01	0.0076B	<0.005	0.537	<0.01	NA	0.0041B
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	NA	<0.01	<0.01	<0.005	0.554	<0.002	NA	0.004B
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	NA	<0.01	0.0051B	<0.005	0.54	<0.002	NA	0.0018B
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	NA	0.0032B	<0.01	<0.005	0.585	<0.002	NA	0.004B
San Pedro Springs	03/04/04	NA	0.0047B	<0.01	<0.005	0.55	<0.01	NA	0.0227
San Pedro Springs	06/17/04	NA	<0.01	0.0092B	<0.005	0.553	<0.002	NA	<0.01
San Pedro Springs	09/02/04	NA	<0.01	0.0118	<0.005	0.519	<0.002	NA	0.0097B
San Pedro Springs	12/02/04	NA	0.0082B	<0.01	<0.005	0.532	<0.002	NA	<0.01
Seco Creek @ Miller Ranch	05/05/04	NA	<0.01	0.0056B	<0.005	0.351	<0.002	NA	0.0061B
Seco Creek @ Miller Ranch	10/27/04	NA	0.0055B	<0.01	<0.005	0.427	<0.002	NA	<0.01
Las Moras (RP-70-45-501)	08/26/04	*<0.001	*0.0029	*<0.0041	NA	*0.135	*<0.001	*0.0037	*<0.0041

B = Estimated Result between the method detection limit and the reporting limit
NA = Not analyzed
* = Sample collected by the Authority and analyzed by TWDB

Table C-11 Analytical data for nutrients in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004

Station Name	Date Sampled	Nitrate-Nitrite as N (mg/L)	Nitrite as N (mg/L)	Ortho-phosphate (as P) (mg/L)	Phosphorus (mg/L)
Blanco River @ Wimberley	05/07/04	0.248B	NA	NA	<0.1
Blanco River @ Wimberley	11/03/04	0.323B	NA	NA	<1
Comal Springs #1 (DX-68-23-301)	03/01/04	1.75	0.0036B	0.0138B	<0.1
Comal Springs #1 (DX-68-23-301)	06/16/04	1.60	NA	<0.03	<0.1
Comal Springs #1 (DX-68-23-301)	09/01/04	1.64	NA	NA	<0.1
Comal Springs #1 (DX-68-23-301)	12/01/04	1.76	NA	NA	<1
Comal Springs #7	03/02/04	1.85	0.0026B	<0.03	<0.1
Comal Springs #7	06/16/04	1.73	NA	<0.03	<0.1
Comal Springs #7	09/01/04	1.60	NA	NA	<0.1
Comal Springs #7	12/01/04	1.72	NA	NA	<1
Dry Frio River @ Reagan Wells	05/05/04	0.762	NA	NA	<0.1
Dry Frio River @ Reagan Wells	10/27/04	0.539	NA	NA	<1
Frio River @ Concan	05/05/04	1.04	NA	NA	<0.1
Frio River @ Concan	10/27/04	0.528	NA	NA	<1
Hondo Creek @ Tarpley	05/06/04	0.595	NA	NA	<0.1
Hondo Creek @ Tarpley	10/28/04	0.165B	NA	NA	<1
Hueco Springs A (DX-68-15-901)	03/02/04	1.40	0.0063B	0.0164B	<0.1
Hueco Springs A (DX-68-15-901)	06/15/04	0.878	NA	0.0152B	<0.1
Hueco Springs A (DX-68-15-901)	08/31/04	0.763	NA	NA	<0.1
Hueco Springs A (DX-68-15-901)	11/30/04	0.734	NA	NA	<1
Hueco Springs B	03/02/04	1.43	0.0086B	0.0138B	<0.1
Hueco Springs B	06/15/04	0.858	NA	0.0126B	<0.1
Hueco Springs B	08/31/04	0.763	NA	NA	0.0358B
Hueco Springs B	11/30/04	0.752	NA	NA	<1
Medina River @ Bandera	05/10/04	0.623	NA	NA	<0.1
Medina River @ Bandera	10/29/04	0.446	NA	NA	<1
Nueces River @ Laguna	05/04/04	1.33	NA	NA	<0.1
Nueces River @ Laguna	10/26/04	0.831	NA	NA	<1
Sabinal River @ Sabinal	05/05/04	0.550	NA	NA	<0.1
Sabinal River @ Sabinal	10/27/04	0.423	NA	NA	<1
San Antonio Springs	03/04/04	1.78	NA	<0.03	<0.1
San Antonio Springs	06/17/04	1.79	NA	<0.03	<0.1
San Antonio Springs	09/02/04	1.65	NA	0.0234B	<0.1

B = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed

Table C-11 Analytical data for nutrients in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Nitrate-Nitrite as N (mg/L)	Nitrite as N (mg/L)	Orthophos-phate (as P) (mg/L)	Phosphorus (mg/L)
San Antonio Springs	12/02/04	1.96	NA	0.0186B	<1
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	1.45	0.0023B	0.0164B	<0.1
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	1.30	NA	<0.03	<0.1
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	1.34	NA	NA	<0.1
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	1.42	NA	NA	<1
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	0.955	0.0020B	0.0111B	<0.1
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	0.777	NA	<0.03	<0.1
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	0.833	NA	NA	<0.1
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	0.979	NA	NA	<1
San Pedro Springs	03/04/04	1.43	NA	<0.03	<0.1
San Pedro Springs	06/17/04	1.87	NA	<0.03	<0.1
San Pedro Springs	09/02/04	1.73	NA	0.0260B	<0.1
San Pedro Springs	12/02/04	2.13	NA	0.0186B	<1
Seco Creek @ Miller Ranch	05/05/04	0.451	NA	NA	<0.1
Seco Creek @ Miller Ranch	10/27/04	0.317B	NA	NA	<1
Las Moras (RP-70-45-501)	08/26/04	*1.06	NA	NA	NA

B = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed

Table C-12 Analytical data for pesticides, herbicides, and PCB (Aroclors) in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004

Station Name	Date Sampled	Alachlor	Aldrin	alpha BHC	alpha-Chlordane	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242
Blanco River @ Wimberley	05/07/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Blanco River @ Wimberley	11/03/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Comal Springs #1 (DX-68-23-301)	03/01/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Comal Springs #1 (DX-68-23-301)	06/16/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Comal Springs #1 (DX-68-23-301)	09/01/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Comal Springs #1 (DX-68-23-301)	12/01/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Comal Springs #7	03/02/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Comal Springs #7	06/16/04	NA	<0.5	<0.5	<0.5	<5	<5	<5	<5
Comal Springs #7	09/01/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Comal Springs #7	12/01/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Dry Frio River @ Reagan Wells	05/05/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Dry Frio River @ Reagan Wells	10/27/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Frio River @ Concan	05/05/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Frio River @ Concan	10/27/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Hondo Creek @ Tarpley	05/06/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Hondo Creek @ Tarpley	10/28/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Hueco Springs A (DX-68-15-901)	03/02/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Hueco Springs A (DX-68-15-901)	06/15/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Hueco Springs A (DX-68-15-901)	08/31/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Hueco Springs A (DX-68-15-901)	11/30/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Hueco Springs B	03/02/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Hueco Springs B	06/15/04	NA	<0.05	0.02J	<0.05	<0.5	<0.5	<0.5	<0.5
Hueco Springs B	08/31/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Hueco Springs B	11/30/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Medina River @ Bandera	05/10/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5

NA = Not analyzed
J = Estimated result between the method detection limit and the reporting limit
H = Holding time exceeded

Table C-12 Analytical data for pesticides, herbicides, and PCB (Aroclors) in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Alachlor	Aldrin	alpha BHC	alpha-Chlordane	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242
Medina River @ Bandera	10/29/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Nueces River @ Laguna	05/04/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Nueces River @ Laguna	10/26/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Sabinal River @ Sabinal	05/05/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Sabinal River @ Sabinal	10/27/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
San Antonio Springs	03/04/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
San Antonio Springs	06/17/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
San Antonio Springs	09/02/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
San Antonio Springs	12/02/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
San Pedro Springs	03/04/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
San Pedro Springs	06/17/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
San Pedro Springs	09/02/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
San Pedro Springs	12/02/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Seco Creek @ Miller Ranch	05/05/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
Seco Creek @ Miller Ranch	10/27/04	NA	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5

NA = Not analyzed
J = Estimated result between the method detection limit and the reporting limit
H = Holding time exceeded

Table C-12 Analytical data for pesticides, herbicides, and PCB (Aroclors) in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Aroclor 1248	Aroclor 1254	Aroclor 1260	Atrazine	Azinphos methyl	Bentazon	beta BHC	Bolstar (Sulprofos)
Blanco River @ Wimberley	05/07/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Blanco River @ Wimberley	11/03/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Comal Springs #1 (DX-68-23-301)	03/01/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Comal Springs #1 (DX-68-23-301)	06/16/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Comal Springs #1 (DX-68-23-301)	09/01/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Comal Springs #1 (DX-68-23-301)	12/01/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Comal Springs #7	03/02/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Comal Springs #7	06/16/04	<5	<5	<5	<2.0	<1.0	<2.0	<0.5	<1.0
Comal Springs #7	09/01/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Comal Springs #7	12/01/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Dry Frio River @ Reagan Wells	05/05/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0H	<0.05	<1.0
Dry Frio River @ Reagan Wells	10/27/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Frio River @ Concan	05/05/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0H	<0.05	<1.0
Frio River @ Concan	10/27/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Hondo Creek @ Tarpley	05/06/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0H	<0.05	<1.0
Hondo Creek @ Tarpley	10/28/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Hueco Springs A (DX-68-15-901)	03/02/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Hueco Springs A (DX-68-15-901)	06/15/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Hueco Springs A (DX-68-15-901)	08/31/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Hueco Springs A (DX-68-15-901)	11/30/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Hueco Springs B	03/02/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Hueco Springs B	06/15/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Hueco Springs B	08/31/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Hueco Springs B	11/30/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Medina River @ Bandera	05/10/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0

NA = Not analyzed
J = Estimated result between the method detection limit and the reporting limit
H = Holding time exceeded

Table C-12 Analytical data for pesticides, herbicides, and PCB (Aroclors) in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Aroclor 1248	Aroclor 1254	Aroclor 1260	Atrazine	Azinphos-methyl	Bentazon	beta BHC	Bolstar (Sulprofos)
Medina River @ Bandera	10/29/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Nueces River @ Laguna	05/04/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0H	<0.05	<1.0
Nueces River @ Laguna	10/26/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Sabinal River @ Sabinal	05/05/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Sabinal River @ Sabinal	10/27/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0H	<0.05	<1.0
San Antonio Springs	03/04/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
San Antonio Springs	06/17/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
San Antonio Springs	09/02/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
San Antonio Springs	12/02/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
San Pedro Springs	03/04/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
San Pedro Springs	06/17/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
San Pedro Springs	09/02/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
San Pedro Springs	12/02/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Seco Creek @ Miller Ranch	05/05/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0
Seco Creek @ Miller Ranch	10/27/04	<0.5	<0.5	<0.5	<2.0	<1.0	<2.0	<0.05	<1.0

NA = Not analyzed
J = Estimated result between the method detection limit and the reporting limit
H = Holding time exceeded

Table C-12 Analytical data for pesticides, herbicides, and PCB (Aroclors) in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Carbo-pheno-thion	Chlor-pyrifos	Chlorpyrifos Methyl	Coumaphos	2,4-D	Dalapon	2,4-DB	4,4'-DDD
Blanco River @ Wimberley	05/07/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Blanco River @ Wimberley	11/03/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Comal Springs #1 (DX-68-23-301)	03/01/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Comal Springs #1 (DX-68-23-301)	06/16/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Comal Springs #1 (DX-68-23-301)	09/01/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Comal Springs #1 (DX-68-23-301)	12/01/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Comal Springs #7	03/02/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Comal Springs #7	06/16/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<1
Comal Springs #7	09/01/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Comal Springs #7	12/01/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Dry Frio River @ Reagan Wells	05/05/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Dry Frio River @ Reagan Wells	10/27/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Frio River @ Concan	05/05/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Frio River @ Concan	10/27/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Hondo Creek @ Tarpley	05/06/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Hondo Creek @ Tarpley	10/28/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Hueco Springs A (DX-68-15-901)	03/02/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Hueco Springs A (DX-68-15-901)	06/15/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Hueco Springs A (DX-68-15-901)	08/31/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Hueco Springs A (DX-68-15-901)	11/30/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Hueco Springs B	03/02/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Hueco Springs B	06/15/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Hueco Springs B	08/31/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Hueco Springs B	11/30/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1

NA = Not analyzed
J = Estimated result between the method detection limit and the reporting limit
H = Holding time exceeded

Table C-12 Analytical data for pesticides, herbicides, and PCB (Aroclors) in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Carbo-pheno-thion	Chlor-pyrifos	Chlorpyrifos Methyl	Coumaphos	2,4-D	Dalapon	2,4-DB	4,4'-DDD
Medina River @ Bandera	05/10/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Medina River @ Bandera	10/29/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Nueces River @ Laguna	05/04/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Nueces River @ Laguna	10/26/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Sabinal River @ Sabinal	05/05/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Sabinal River @ Sabinal	10/27/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
San Antonio Springs	03/04/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
San Antonio Springs	06/17/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
San Antonio Springs	09/02/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
San Antonio Springs	12/02/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
San Pedro Springs	03/04/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
San Pedro Springs	06/17/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
San Pedro Springs	09/02/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
San Pedro Springs	12/02/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Seco Creek @ Miller Ranch	05/05/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1
Seco Creek @ Miller Ranch	10/27/04	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	<0.1

NA = Not analyzed
J = Estimated result between the method detection limit and the reporting limit
H = Holding time exceeded

Table C-12 Analytical data for pesticides, herbicides, and PCB (Aroclors) in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	4,4'-DDE	4,4'-DDT	delta BHC	Demeton	Diazinon	Dicamba	Dichlofen-thion	Dichlorprop
Blanco River @ Wimberley	05/07/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Blanco River @ Wimberley	11/03/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Comal Springs #1 (DX-68-23-301)	03/01/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Comal Springs #1 (DX-68-23-301)	06/16/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Comal Springs #1 (DX-68-23-301)	09/01/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Comal Springs #1 (DX-68-23-301)	12/01/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Comal Springs #7	03/02/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Comal Springs #7	06/16/04	<1	<1	<0.5	<2.5	<1.0	NA	<1.0	NA
Comal Springs #7	09/01/04	<0.1	<0.1	0.006J	<2.5	<1.0	NA	<1.0	NA
Comal Springs #7	12/01/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Dry Frio River @ Reagan Wells	05/05/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Dry Frio River @ Reagan Wells	10/27/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Frio River @ Concan	05/05/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Frio River @ Concan	10/27/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Hondo Creek @ Tarpley	05/06/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Hondo Creek @ Tarpley	10/28/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Hueco Springs A (DX-68-15-901)	03/02/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Hueco Springs A (DX-68-15-901)	06/15/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Hueco Springs A (DX-68-15-901)	08/31/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Hueco Springs A (DX-68-15-901)	11/30/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Hueco Springs B	03/02/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Hueco Springs B	06/15/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Hueco Springs B	08/31/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Hueco Springs B	11/30/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Medina River @ Bandera	05/10/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA

NA = Not analyzed
J = Estimated result between the method detection limit and the reporting limit
H = Holding time exceeded

Table C-12 Analytical data for pesticides, herbicides, and PCB (Aroclors) in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	4,4'-DDE	4,4'-DDT	delta BHC	Demeton	Diazinon	Dicamba	Dichlofen-thion	Dichlorprop
Medina River @ Bandera	10/29/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Nueces River @ Laguna	05/04/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Nueces River @ Laguna	10/26/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Sabinal River @ Sabinal	05/05/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Sabinal River @ Sabinal	10/27/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
San Antonio Springs	03/04/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
San Antonio Springs	06/17/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
San Antonio Springs	09/02/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
San Antonio Springs	12/02/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
San Pedro Springs	03/04/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
San Pedro Springs	06/17/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
San Pedro Springs	09/02/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
San Pedro Springs	12/02/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Seco Creek @ Miller Ranch	05/05/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA
Seco Creek @ Miller Ranch	10/27/04	<0.1	<0.1	<0.05	<2.5	<1.0	NA	<1.0	NA

NA = Not analyzed
J = Estimated result between the method detection limit and the reporting limit
H = Holding time exceeded

Table C-12 Analytical data for pesticides, herbicides, and PCB (Aroclors) in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Dichlorvos	Dieldrin	Dime-thoate	Dinoseb	Disulfoton	Endosulfan I	Endosulfan II	Endosulfan sulfate
Blanco River @ Wimberley	05/07/04	<2.0	<0.1	<2.0	<6.0H	<2.0	<0.05	<0.1	<0.1
Blanco River @ Wimberley	11/03/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Comal Springs #1 (DX-68-23-301)	03/01/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Comal Springs #1 (DX-68-23-301)	06/16/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Comal Springs #1 (DX-68-23-301)	09/01/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Comal Springs #1 (DX-68-23-301)	12/01/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Comal Springs #7	03/02/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Comal Springs #7	06/16/04	<2.0	<1	<2.0	<6.0	<2.0	<0.5	<1	<1
Comal Springs #7	09/01/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Comal Springs #7	12/01/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Dry Frio River @ Reagan Wells	05/05/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Dry Frio River @ Reagan Wells	10/27/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Frio River @ Concan	05/05/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Frio River @ Concan	10/27/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Hondo Creek @ Tarpley	05/06/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Hondo Creek @ Tarpley	10/28/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Hueco Springs A (DX-68-15-901)	03/02/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Hueco Springs A (DX-68-15-901)	06/15/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Hueco Springs A (DX-68-15-901)	08/31/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Hueco Springs A (DX-68-15-901)	11/30/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Hueco Springs B	03/02/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Hueco Springs B	06/15/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Hueco Springs B	08/31/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Hueco Springs B	11/30/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Medina River @ Bandera	05/10/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1

NA = Not analyzed
J = Estimated result between the method detection limit and the reporting limit
H = Holding time exceeded

Table C-12 Analytical data for pesticides, herbicides, and PCB (Aroclors) in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Dichlorvos	Dieldrin	Dimethoate	Dinoseb	Disulfoton	Endosulfan I	Endosulfan II	Endosulfan sulfate
Medina River @ Bandera	10/29/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Nueces River @ Laguna	05/04/04	<2.0	<0.1	<2.0	<6.0H	<2.0	<0.05	<0.1	<0.1
Nueces River @ Laguna	10/26/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Sabinal River @ Sabinal	05/05/04	<2.0	<0.1	<2.0	<6.0H	<2.0	<0.05	<0.1	<0.1
Sabinal River @ Sabinal	10/27/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
San Antonio Springs	03/04/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
San Antonio Springs	06/17/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
San Antonio Springs	09/02/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
San Antonio Springs	12/02/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
San Pedro Springs	03/04/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
San Pedro Springs	06/17/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
San Pedro Springs	09/02/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
San Pedro Springs	12/02/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Seco Creek @ Miller Ranch	05/05/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1
Seco Creek @ Miller Ranch	10/27/04	<2.0	<0.1	<2.0	<6.0	<2.0	<0.05	<0.1	<0.1

NA = Not analyzed
J = Estimated result between the method detection limit and the reporting limit
H = Holding time exceeded

Table C-12 Analytical data for pesticides, herbicides, and PCB (Aroclors) in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Endrin	Endrin aldehyde	Endrin-ketone	EPN	Ethion	Ethoprop	Ethylpara-thion	Famphur
Blanco River @ Wimberley	05/07/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Blanco River @ Wimberley	11/03/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Comal Springs #1 (DX-68-23-301)	03/01/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Comal Springs #1 (DX-68-23-301)	06/16/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Comal Springs #1 (DX-68-23-301)	09/01/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Comal Springs #1 (DX-68-23-301)	12/01/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Comal Springs #7	03/02/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Comal Springs #7	06/16/04	<1	<1	<1	<1.0	<0.50	<0.50	<0.50	<2.0
Comal Springs #7	09/01/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Comal Springs #7	12/01/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Dry Frio River @ Reagan Wells	05/05/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Dry Frio River @ Reagan Wells	10/27/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Frio River @ Concan	05/05/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Frio River @ Concan	10/27/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Hondo Creek @ Tarpley	05/06/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Hondo Creek @ Tarpley	10/28/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Hueco Springs A (DX-68-15-901)	03/02/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Hueco Springs A (DX-68-15-901)	06/15/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Hueco Springs A (DX-68-15-901)	08/31/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Hueco Springs A (DX-68-15-901)	11/30/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Hueco Springs B	03/02/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Hueco Springs B	06/15/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Hueco Springs B	08/31/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Hueco Springs B	11/30/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0

NA = Not analyzed
J = Estimated result between the method detection limit and the reporting limit
H = Holding time exceeded

Table C-12 Analytical data for pesticides, herbicides, and PCB (Aroclors) in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Endrin	Endrin-aldehyde	Endrin-ketone	EPN	Ethion	Ethoprop	Ethylpara-thion	Famphur
Medina River @ Bandera	05/10/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Medina River @ Bandera	10/29/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Nueces River @ Laguna	05/04/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Nueces River @ Laguna	10/26/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Sabinal River @ Sabinal	05/05/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Sabinal River @ Sabinal	10/27/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
San Antonio Springs	03/04/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
San Antonio Springs	06/17/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
San Antonio Springs	09/02/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
San Antonio Springs	12/02/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
San Pedro Springs	03/04/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
San Pedro Springs	06/17/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
San Pedro Springs	09/02/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
San Pedro Springs	12/02/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Seco Creek @ Miller Ranch	05/05/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0

NA = Not analyzed
J = Estimated result between the method detection limit and the reporting limit
H = Holding time exceeded

Table C-12 Analytical data for pesticides, herbicides, and PCB (Aroclors) in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Fensulfo-thion	Fenthion	gamma BHC (Lindane)	gamma-Chlordane	Hepta-chlor	Heptachlor-epoxide	Malathion	MCPA
Seco Creek @ Miller Ranch	10/27/04	<0.1	<0.1	<0.1	<1.0	<0.50	<0.50	<0.50	<2.0
Blanco River @ Wimberley	05/07/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Blanco River @ Wimberley	11/03/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Comal Springs #1 (DX-68-23-301)	03/01/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Comal Springs #1 (DX-68-23-301)	06/16/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Comal Springs #1 (DX-68-23-301)	09/01/04	<5.0	<1.0	<0.05	<0.05	0.005J	<0.05	<1.0	NA
Comal Springs #1 (DX-68-23-301)	12/01/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Comal Springs #7	03/02/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Comal Springs #7	06/16/04	<5.0	<1.0	<0.5	<0.5	<0.5	<0.5	<1.0	NA
Comal Springs #7	09/01/04	<5.0	<1.0	<0.05	<0.05	0.006J	<0.05	<1.0	NA
Comal Springs #7	12/01/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Dry Frio River @ Reagan Wells	05/05/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Dry Frio River @ Reagan Wells	10/27/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Frio River @ Concan	05/05/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Frio River @ Concan	10/27/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Hondo Creek @ Tarpley	05/06/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Hondo Creek @ Tarpley	10/28/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Hueco Springs A (DX-68-15-901)	03/02/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Hueco Springs A (DX-68-15-901)	06/15/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Hueco Springs A (DX-68-15-901)	08/31/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Hueco Springs A (DX-68-15-901)	11/30/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Hueco Springs B	03/02/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Hueco Springs B	06/15/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Hueco Springs B	08/31/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA

NA = Not analyzed
J = Estimated result between the method detection limit and the reporting limit
H = Holding time exceeded

Table C-12 Analytical data for pesticides, herbicides, and PCB (Aroclors) in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Fensul-fothion	Fen-thion	gamma BHC (Lindane)	gamma-Chlordane	Hepta-chlor	Heptachlor-epoxide	Malathion	MCPA
Hueco Springs B	11/30/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Medina River @ Bandera	05/10/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Medina River @ Bandera	10/29/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Nueces River @ Laguna	05/04/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Nueces River @ Laguna	10/26/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Sabinal River @ Sabinal	05/05/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Sabinal River @ Sabinal	10/27/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
San Antonio Springs	03/04/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
San Antonio Springs	06/17/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
San Antonio Springs	09/02/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
San Antonio Springs	12/02/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<5.0	<1.0	0.03J	<0.05	<0.05	<0.05	<1.0	NA
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<5.0	<1.0	0.02J	<0.05	<0.05	<0.05	<1.0	NA
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
San Pedro Springs	03/04/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
San Pedro Springs	06/17/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
San Pedro Springs	09/02/04	<5.0	<1.0	<0.05	0.005J	<0.05	<0.05	<1.0	NA
San Pedro Springs	12/02/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Seco Creek @ Miller Ranch	05/05/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA
Seco Creek @ Miller Ranch	10/27/04	<5.0	<1.0	<0.05	<0.05	<0.05	<0.05	<1.0	NA

NA = Not analyzed
J = Estimated result between the method detection limit and the reporting limit
H = Holding time exceeded

Table C-12 Analytical data for pesticides, herbicides, and PCB (Aroclors) in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	MCPP	Mer-phos	Methoxy-chlor	Methyl parathion	Mevin-phos	Mirex	Monon-crotophos	Naled
Blanco River @ Wimberley	05/07/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Blanco River @ Wimberley	11/03/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Comal Springs #1 (DX-68-23-301)	03/01/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Comal Springs #1 (DX-68-23-301)	06/16/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Comal Springs #1 (DX-68-23-301)	09/01/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Comal Springs #1 (DX-68-23-301)	12/01/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Comal Springs #7	03/02/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Comal Springs #7	06/16/04	NA	<1.0	<5	<0.50	<2.0	NA	<10	<5.0
Comal Springs #7	09/01/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Comal Springs #7	12/01/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Dry Frio River @ Reagan Wells	05/05/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Dry Frio River @ Reagan Wells	10/27/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Frio River @ Concan	05/05/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Frio River @ Concan	10/27/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Hondo Creek @ Tarpley	05/06/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Hondo Creek @ Tarpley	10/28/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Hueco Springs A (DX-68-15-901)	03/02/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Hueco Springs A (DX-68-15-901)	06/15/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Hueco Springs A (DX-68-15-901)	08/31/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Hueco Springs A (DX-68-15-901)	11/30/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Hueco Springs B	03/02/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Hueco Springs B	06/15/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Hueco Springs B	08/31/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Hueco Springs B	11/30/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Medina River @ Bandera	05/10/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0

NA = Not analyzed
J = Estimated result between the method detection limit and the reporting limit
H = Holding time exceeded

Table C-12 Analytical data for pesticides, herbicides, and PCB (Aroclors) in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	MCPP	Mer-phos	Methoxy-chlor	Methyl-parathion	Mevin-phos	Mirex	Monon-crotophos	Naled
Medina River @ Bandera	10/29/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Nueces River @ Laguna	05/04/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Nueces River @ Laguna	10/26/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Sabinal River @ Sabinal	05/05/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Sabinal River @ Sabinal	10/27/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
San Antonio Springs	03/04/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
San Antonio Springs	06/17/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
San Antonio Springs	09/02/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
San Antonio Springs	12/02/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
San Pedro Springs	03/04/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
San Pedro Springs	06/17/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
San Pedro Springs	09/02/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
San Pedro Springs	12/02/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Seco Creek @ Miller Ranch	05/05/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0
Seco Creek @ Miller Ranch	10/27/04	NA	<1.0	<0.5	<0.50	<2.0	NA	<10	<5.0

NA = Not analyzed
J = Estimated result between the method detection limit and the reporting limit
H = Holding time exceeded

Table C-12 Analytical data for pesticides, herbicides, and PCB (Aroclors) in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Penta-chloro-phenol	Phorate	Picloram	Ronnel	Simazine	Stirophos	Sulfotepp	2,4,5-T
Blanco River @ Wimberley	05/07/04	<1.0	<1.0	<0.50H	<1.0	<2.0	<1.0	<0.50	<0.50
Blanco River @ Wimberley	11/03/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Comal Springs #1 (DX-68-23-301)	03/01/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Comal Springs #1 (DX-68-23-301)	06/16/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Comal Springs #1 (DX-68-23-301)	09/01/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Comal Springs #1 (DX-68-23-301)	12/01/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Comal Springs #7	03/02/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Comal Springs #7	06/16/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Comal Springs #7	09/01/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Comal Springs #7	12/01/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Dry Frio River @ Reagan Wells	05/05/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Dry Frio River @ Reagan Wells	10/27/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Frio River @ Concan	05/05/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Frio River @ Concan	10/27/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Hondo Creek @ Tarpley	05/06/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Hondo Creek @ Tarpley	10/28/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Hueco Springs A (DX-68-15-901)	03/02/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Hueco Springs A (DX-68-15-901)	06/15/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Hueco Springs A (DX-68-15-901)	08/31/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Hueco Springs A (DX-68-15-901)	11/30/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Hueco Springs B	03/02/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Hueco Springs B	06/15/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Hueco Springs B	08/31/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Hueco Springs B	11/30/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50

NA = Not analyzed
J = Estimated result between the method detection limit and the reporting limit
H = Holding time exceeded

Table C-12 Analytical data for pesticides, herbicides, and PCB (Aroclors) in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Penta-chloro-phenol	Phorate	Picloram	Ronnel	Simazine	Stirophos	Sulfotepp	2,4,5-T
Medina River @ Bandera	05/10/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Medina River @ Bandera	10/29/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Nueces River @ Laguna	05/04/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Nueces River @ Laguna	10/26/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Sabinal River @ Sabinal	05/05/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Sabinal River @ Sabinal	10/27/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
San Antonio Springs	03/04/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
San Antonio Springs	06/17/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
San Antonio Springs	09/02/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
San Antonio Springs	12/02/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
San Pedro Springs	03/04/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
San Pedro Springs	06/17/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
San Pedro Springs	09/02/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
San Pedro Springs	12/02/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Seco Creek @ Miller Ranch	05/05/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50
Seco Creek @ Miller Ranch	10/27/04	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<0.50	<0.50

NA = Not analyzed
J = Estimated result between the method detection limit and the reporting limit
H = Holding time exceeded

Table C-12 Analytical data for pesticides, herbicides, and PCB (Aroclors) in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Terbufos	Thionazin	Tokuthion	Toxaphene	2,4,5-TP (Silvex)	Trichloronate
Blanco River @ Wimberley	05/07/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Blanco River @ Wimberley	11/03/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Comal Springs #1 (DX-68-23-301)	03/01/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Comal Springs #1 (DX-68-23-301)	06/16/04	<0.50	<1.0	<1.0	<0.6	<0.50	<1.0
Comal Springs #1 (DX-68-23-301)	09/01/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Comal Springs #1 (DX-68-23-301)	12/01/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Comal Springs #7	03/02/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Comal Springs #7	06/16/04	<0.50	<1.0	<1.0	<6	<0.50	<1.0
Comal Springs #7	09/01/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Comal Springs #7	12/01/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Dry Frio River @ Reagan Wells	05/05/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Dry Frio River @ Reagan Wells	10/27/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Frio River @ Concan	05/05/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Frio River @ Concan	10/27/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Hondo Creek @ Tarpley	05/06/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Hondo Creek @ Tarpley	10/28/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Hueco Springs A (DX-68-15-901)	03/02/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Hueco Springs A (DX-68-15-901)	06/15/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Hueco Springs A (DX-68-15-901)	08/31/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Hueco Springs A (DX-68-15-901)	11/30/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Hueco Springs B	03/02/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Hueco Springs B	06/15/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Hueco Springs B	08/31/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Hueco Springs B	11/30/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Medina River @ Bandera	05/10/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0

NA = Not analyzed
J = Estimated result between the method detection limit and the reporting limit
H = Holding time exceeded

Table C-12 Analytical data for pesticides, herbicides, and PCB (Aroclors) in water samples from streams crossing the Edwards Aquifer Recharge Zone and springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Terbufos	Thionazin	Tokuthion	Toxaphene	2,4,5-TP (Silvex)	Trichloro-nate
Medina River @ Bandera	10/29/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Nueces River @ Laguna	05/04/04	<1.0	<1.0	<1.0	<0.6	<0.50H	<1.0
Nueces River @ Laguna	10/26/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Sabinal River @ Sabinal	05/05/04	<1.0	<1.0	<1.0	<0.6	<0.50H	<1.0
Sabinal River @ Sabinal	10/27/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
San Antonio Springs	03/04/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
San Antonio Springs	06/17/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
San Antonio Springs	09/02/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
San Antonio Springs	12/02/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<0.50	<1.0	<1.0	<0.6	<0.50	<1.0
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<0.50	<1.0	<1.0	<0.6	<0.50	<1.0
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
San Pedro Springs	03/04/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
San Pedro Springs	06/17/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
San Pedro Springs	09/02/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
San Pedro Springs	12/02/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0
Seco Creek @ Miller Ranch	05/05/04	<1.0	<1.0	<1.0	<0.6	<0.50H	<1.0
Seco Creek @ Miller Ranch	10/27/04	<1.0	<1.0	<1.0	<0.6	<0.50	<1.0

NA = Not analyzed
J = Estimated result between the method detection limit and the reporting limit
H = Holding time exceeded

Table C-13 Analytical data for volatile compounds (VOC) in water samples from springs discharging from the Edwards Aquifer, 2004

Station Name	Date Sampled	Acetone	Benzene	Bromo-chloro-methane	Bromo-dichloro-methane	Bromo-form	Bromo-methane	2-Butanone	Carbon disulfide
Comal Springs #1 (DX-68-23-301)	03/01/04	<20	<1	<1	<1	<1	<2	<5	<1
Comal Springs #1 (DX-68-23-301)	06/16/04	<20	<1	<1	<1	<1	<2	<5	<1
Comal Springs #1 (DX-68-23-301)	09/01/04	2J	<1	<1	<1	<1	<2	<5	<1
Comal Springs #1 (DX-68-23-301)	12/01/04	<20	<1	<1	<1	<1	<2	<5	<1
Comal Springs #7	03/02/04	<20	<1	<1	<1	<1	<2	<5	<1
Comal Springs #7	06/16/04	1J	<1	<1	<1	<1	<2	<5	<1
Comal Springs #7	09/01/04	2J	<1	<1	<1	<1	<2	<5	<1
Comal Springs #7	12/01/04	1J	<1	<1	<1	<1	<2	<5	<1
Hueco Springs A (DX-68-15-901)	03/02/04	2J	<1	<1	<1	<1	<2	<5	<1
Hueco Springs A (DX-68-15-901)	06/15/04	1J	<1	<1	<1	<1	<2	<5	<1
Hueco Springs A (DX-68-15-901)	08/31/04	<20	<1	<1	<1	<1	<2	<5	<1
Hueco Springs A (DX-68-15-901)	11/30/04	1J	<1	<1	<1	<1	<2	<5	<1
Hueco Springs B	03/02/04	<20	<1	<1	<1	<1	<2	<5	<1
Hueco Springs B	06/15/04	<20	<1	<1	<1	<1	<2	<5	<1
Hueco Springs B	08/31/04	1J	<1	<1	<1	<1	<2	<5	<1
Hueco Springs B	11/30/04	0.8J	<1	<1	<1	<1	<2	<5	<1
San Antonio Springs	03/04/04	<20	<1	<1	<1	<1	<2	<5	<1
San Antonio Springs	06/17/04	1J	<1	<1	<1	<1	<2	<5	<1
San Antonio Springs	09/02/04	<20	<1	<1	<1	<1	<2	<5	<1
San Antonio Springs	12/02/04	<20	<1	<1	<1	<1	<2	<5	<1
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	2J	<1	<1	<1	<1	<2	<5	<1
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<20	<1	<1	<1	<1	<2	<5	<1
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	2J	<1	<1	<1	<1	<2	<5	<1
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	0.6J	<1	<1	<1	<1	<2	<5	<1

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed
TB = Analyte detected in associated trip blank

Table C-13 Analytical data for volatile compounds (VOC) in water samples from springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Acetone	Benzene	Bromo-chloro-methane	Bromo-dichloro-methane	Bromo-form	Bromo-methane	2-Butanone	Carbon-disulfide
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<20	<1	<1	<1	<1	<2	<5	<1
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<20	<1	<1	<1	<1	<2	<5	<1
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<20	<1	<1	<1	<1	<2	<5	<1
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	1J	<1	<1	<1	<1	<2	<5	<1
San Pedro Springs	03/04/04	<20	<1	<1	<1	<1	<2	<5	<1
San Pedro Springs	06/17/04	1J	<1	<1	<1	<1	<2	<5	<1
San Pedro Springs	09/02/04	4J	<1	<1	<1	<1	<2	<5	<1
San Pedro Springs	12/02/04	<20	<1	<1	<1	<1	<2	<5	<1

Station Name	Date Sampled	Carbon tetra-chloride	Chloro-benzene	Chloro-ethane	Chloro-form	Chloro-methane	cis-1,2-Dichloro-ethene	cis-1,3-Dichloro-propene	Cyclo-hexane
Comal Springs #1 (DX-68-23-301)	03/01/04	<1	<1	<2	<1	<2	<1	<1	<10
Comal Springs #1 (DX-68-23-301)	06/16/04	<1	<1	<2	<1	<2	<1	<1	<10
Comal Springs #1 (DX-68-23-301)	09/01/04	<1	<1	<2	<1	<2	<1	<1	<10
Comal Springs #1 (DX-68-23-301)	12/01/04	<1	<1	<2	<1	<2	<1	<1	<10
Comal Springs #7	03/02/04	<1	<1	<2	<1	<2	<1	<1	<10
Comal Springs #7	06/16/04	<1	<1	<2	<1	<2	<1	<1	<10
Comal Springs #7	09/01/04	<1	<1	<2	<1	<2	<1	<1	<10
Comal Springs #7	12/01/04	<1	<1	<2	<1	<2	<1	<1	<10
Hueco Springs A (DX-68-15-901)	03/02/04	<1	<1	<2	<1	<2	<1	<1	<10
Hueco Springs A (DX-68-15-901)	06/15/04	<1	<1	<2	<1	<2	<1	<1	<10
Hueco Springs A (DX-68-15-901)	08/31/04	<1	<1	<2	<1	<2	<1	<1	<10
Hueco Springs A (DX-68-15-901)	11/30/04	<1	<1	<2	<1	<2	<1	<1	<10
Hueco Springs B	03/02/04	<1	<1	<2	<1	<2	<1	<1	<10

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed
TB = Analyte detected in associated trip blank

Table C-13 Analytical data for volatile compounds (VOC) in water samples from springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Carbon-tetra-chloride	Chloro-benzene	Chloro-ethane	Chloro-form	Chloro-methane	cis-1,2-Dichloro-ethene	cis-1,3-Dichloro-propene	Cyclo-hexane
Hueco Springs B	06/15/04	<1	<1	<2	<1	<2	<1	<1	<10
Hueco Springs B	08/31/04	<1	<1	<2	<1	<2	<1	<1	<10
Hueco Springs B	11/30/04	<1	<1	<2	<1	<2	<1	<1	<10
San Antonio Springs	03/04/04	<1	<1	<2	<1	<2	<1	<1	<10
San Antonio Springs	06/17/04	<1	<1	<2	<1	<2	<1	<1	<10
San Antonio Springs	09/02/04	<1	<1	<2	<1	<2	<1	<1	<10
San Antonio Springs	12/02/04	<1	<1	<2	<1	<2	<1	<1	<10
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<1	<1	<2	<1	<2	<1	<1	<10
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<1	<1	<2	<1	<2	<1	<1	<10
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<1	<1	<2	<1	<2	<1	<1	<10
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<1	<1	<2	<1	<2	<1	<1	<10
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<1	<1	<2	<1	<2	<1	<1	<10
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<1	<1	<2	<1	<2	<1	<1	<10
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<1	<1	<2	<1	<2	<1	<1	<10
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<1	<1	<2	<1	<2	<1	<1	<10
San Pedro Springs	03/04/04	<1	<1	<2	<1	<2	<1	<1	<10
San Pedro Springs	06/17/04	<1	<1	<2	<1	<2	<1	<1	<10
San Pedro Springs	09/02/04	<1	<1	<2	<1	0.2J	<1	<1	<10
San Pedro Springs	12/02/04	<1	<1	<2	<1	<2	<1	<1	<10

Station Name	Date Sampled	1,2-Dibromo-3-chloro-propane	Dibromo-chloro-methane	1,2-Dibromo-ethane	1,2-Dichloro-benzene	1,3-Dichloro-benzene	1,4-Dichloro-benzene	Dichloro-difluoro-methane	1,1-Dichloro-ethane
Comal Springs #1 (DX-68-23-301)	03/01/04	<1	<1	<1	<1	<1	<1	<2	<1
Comal Springs #1 (DX-68-23-301)	06/16/04	<1	<1	<1	<1	<1	<1	<2	<1

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed
TB = Analyte detected in associated trip blank

Table C-13 Analytical data for volatile compounds (VOC) in water samples from springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	1,2-Dibromo-3-chloro-propane	Dibromo-chloro-methane	1,2-Dibromo-ethane	1,2-Dichloro-benzene	1,3-Dichloro-benzene	1,4-Dichloro-benzene	Dichloro-difluoro-methane	1,1-Dichloro-ethane
Comal Springs #1 (DX-68-23-301)	09/01/04	<1	<1	<1	<1	<1	<1	<2	<1
Comal Springs #1 (DX-68-23-301)	12/01/04	<1	<1	<1	<1	<1	<1	<2	<1
Comal Springs #7	03/02/04	<1	<1	<1	<1	<1	<1	<2	<1
Comal Springs #7	06/16/04	<1	<1	<1	<1	<1	<1	<2	<1
Comal Springs #7	09/01/04	<1	<1	<1	<1	<1	<1	<2	<1
Comal Springs #7	12/01/04	<1	<1	<1	<1	<1	<1	<2	<1
Hueco Springs A (DX-68-15-901)	03/02/04	<1	<1	<1	<1	<1	<1	<2	<1
Hueco Springs A (DX-68-15-901)	06/15/04	<1	<1	<1	<1	<1	<1	<2	<1
Hueco Springs A (DX-68-15-901)	08/31/04	<1	<1	<1	<1	<1	<1	<2	<1
Hueco Springs A (DX-68-15-901)	11/30/04	<1	<1	<1	<1	<1	<1	<2	<1
Hueco Springs B	03/02/04	<1	<1	<1	<1	<1	<1	<2	<1
Hueco Springs B	06/15/04	<1	<1	<1	<1	<1	<1	<2	<1
Hueco Springs B	08/31/04	<1	<1	<1	<1	<1	<1	<2	<1
Hueco Springs B	11/30/04	<1	<1	<1	<1	<1	<1	<2	<1
San Antonio Springs	03/04/04	<1	<1	<1	<1	<1	<1	<2	<1
San Antonio Springs	06/17/04	<1	<1	<1	<1	<1	<1	<2	<1
San Antonio Springs	09/02/04	<1	<1	<1	<1	<1	<1	<2	<1
San Antonio Springs	12/02/04	<1	<1	<1	<1	<1	<1	<2	<1
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<1	<1	<1	<1	<1	<1	<2	<1
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<1	<1	<1	<1	<1	<1	<2	<1
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<1	<1	<1	<1	<1	<1	<2	<1
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<1	<1	<1	<1	<1	<1	<2	<1
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<1	<1	<1	<1	<1	<1	<2	<1
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<1	<1	<1	<1	<1	<1	<2	<1

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed
TB = Analyte detected in associated trip blank

Table C-13 Analytical data for volatile compounds (VOC) in water samples from springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	1,2-Dibromo-3-chloro-propane	Dibromo-chloro-methane	1,2-Dibromo-ethane	1,2-Dichloro-benzene	1,3-Dichloro-benzene	1,4-Dichloro-benzene	Dichloro-difluoro-methane	1,1-Dichloro-ethane
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<1	<1	<1	<1	<1	<1	<2	<1
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<1	<1	<1	<1	<1	<1	<2	<1
San Pedro Springs	03/04/04	<1	<1	<1	<1	<1	<1	<2	<1
San Pedro Springs	06/17/04	<1	<1	<1	<1	<1	<1	<2	<1
San Pedro Springs	09/02/04	<1	<1	<1	<1	<1	<1	<2	<1
San Pedro Springs	12/02/04	<1	<1	<1	<1	<1	<1	<2	<1

Station Name	Date Sampled	1,2-Dichloro-ethane	1,1-Dichloro-ethene	1,2-Dichloro-propane	Ethylben-zene	2-Hexanone	Isopropyl-benzene	Methyl-tertbutyl-ether	4-Methyl-2-pentanone
Comal Springs #1 (DX-68-23-301)	03/01/04	<1	<1	<1	<1	<5	<10	<5	<5
Comal Springs #1 (DX-68-23-301)	06/16/04	<1	<1	<1	<1	<5	<10	<5	<5
Comal Springs #1 (DX-68-23-301)	09/01/04	<1	<1	<1	<1	<5	<10	<5	<5
Comal Springs #1 (DX-68-23-301)	12/01/04	<1	<1	<1	<1	<5	<10	<5	<5
Comal Springs #7	03/02/04	<1	<1	<1	<1	<5	<10	<5	<5
Comal Springs #7	06/16/04	<1	<1	<1	<1	<5	<10	<5	<5
Comal Springs #7	09/01/04	<1	<1	<1	<1	<5	<10	<5	<5
Comal Springs #7	12/01/04	<1	<1	<1	<1	<5	<10	<5	<5
Hueco Springs A (DX-68-15-901)	03/02/04	<1	<1	<1	<1	<5	<10	<5	<5
Hueco Springs A (DX-68-15-901)	06/15/04	<1	<1	<1	<1	<5	<10	<5	<5
Hueco Springs A (DX-68-15-901)	08/31/04	<1	<1	<1	<1	<5	<10	<5	<5
Hueco Springs A (DX-68-15-901)	11/30/04	<1	<1	<1	<1	<5	<10	<5	<5
Hueco Springs B	03/02/04	<1	<1	<1	<1	<5	<10	<5	<5
Hueco Springs B	06/15/04	<1	<1	<1	<1	<5	<10	<5	<5
Hueco Springs B	08/31/04	<1	0.2J	<1	<1	<5	<10	<5	<5

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed
TB = Analyte detected in associated trip blank

Table C-13 Analytical data for volatile compounds (VOC) in water samples from springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	1,2-Dichloro-ethane	1,1-Dichloro-ethene	1,2-Dichloro-propane	Ethylben-zene	2-Hexanone	Isopropyl-benzene	Methyl-tertbutyl-ether	4-Methyl-2-pentanone
Hueco Springs B	11/30/04	<1	<1	<1	<1	<5	<10	<5	<5
San Antonio Springs	03/04/04	<1	<1	<1	<1	<5	<10	<5	<5
San Antonio Springs	06/17/04	<1	<1	<1	<1	<5	<10	<5	<5
San Antonio Springs	09/02/04	<1	<1	<1	<1	<5	<10	<5	<5
San Antonio Springs	12/02/04	<1	<1	<1	<1	<5	<10	<5	<5
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<1	<1	<1	<1	<5	<10	<5	<5
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<1	<1	<1	<1	<5	<10	<5	<5
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<1	<1	<1	<1	<5	<10	<5	<5
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<1	<1	<1	<1	<5	<10	<5	<5
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<1	<1	<1	<1	<5	<10	<5	<5
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<1	<1	<1	<1	<5	<10	<5	<5
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<1	<1	<1	<1	<5	<10	<5	<5
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<1	<1	<1	<1	<5	<10	<5	<5
San Pedro Springs	03/04/04	<1	<1	<1	<1	<5	<10	<5	<5
San Pedro Springs	06/17/04	<1	0.3J	<1	<1	<5	<10	<5	<5
San Pedro Springs	09/02/04	<1	<1	<1	<1	<5	<10	<5	<5
San Pedro Springs	12/02/04	<1	<1	<1	<1	<5	<10	<5	<5

Station Name	Date Sampled	Methylene-chloride	Styrene	1,1,2,2-Tetra-chloro-ethane	Tetra-chloro-ethene	Toluene	trans-1,2-Dichloro-ethene	trans-1,3-Dichloro-propene	1,1,2-Trichloro-1,2,2-trifluoro-ethane
Comal Springs #1 (DX-68-23-301)	03/01/04	<2	<1	<1	<1	<1	<1	<1	<50
Comal Springs #1 (DX-68-23-301)	06/16/04	<2	<1	<1	<1	<1	<1	<1	<50
Comal Springs #1 (DX-68-23-301)	09/01/04	<2	<1	<1	<1	<1	<1	<1	<50

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed
TB = Analyte detected in associated trip blank

Table C-13 Analytical data for volatile compounds (VOC) in water samples from springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Methylene-chloride	Styrene	1,1,2,2-Tetra-chloro-ethane	Tetra-chloro-ethene	Toluene	trans-1,2-Dichloro-ethene	trans-1,3-Dichloro-propene	1,1,2-Trichloro-1,2,2-trifluoro-ethane
Comal Springs #1 (DX-68-23-301)	12/01/04	<2	<1	<1	<1	<1	<1	<1	<50
Comal Springs #7	03/02/04	<2	<1	<1	<1	<1	<1	<1	<50
Comal Springs #7	06/16/04	<2	<1	<1	<1	<1	<1	<1	<50
Comal Springs #7	09/01/04	<2	<1	<1	<1	<1	<1	<1	<50
Comal Springs #7	12/01/04	<2	<1	<1	<1	<1	<1	<1	<50
Hueco Springs A (DX-68-15-901)	03/02/04	<2	<1	<1	<1	<1	<1	<1	<50
Hueco Springs A (DX-68-15-901)	06/15/04	<2	<1	<1	<1	<1	<1	<1	<50
Hueco Springs A (DX-68-15-901)	08/31/04	<2	<1	<1	<1	<1	<1	<1	<50
Hueco Springs A (DX-68-15-901)	11/30/04	<2	<1	<1	<1	<1	<1	<1	<50
Hueco Springs B	03/02/04	<2	<1	<1	<1	<1	<1	<1	<50
Hueco Springs B	06/15/04	<2	<1	<1	<1	<1	<1	<1	<50
Hueco Springs B	08/31/04	<2	<1	<1	<1	<1	<1	<1	<50
Hueco Springs B	11/30/04	<2	<1	<1	<1	<1	<1	<1	<50
San Antonio Springs	03/04/04	<2	<1	<1	<1	<1	<1	<1	<50
San Antonio Springs	06/17/04	<2	<1	<1	<1	<1	<1	<1	<50
San Antonio Springs	09/02/04	<2	<1	<1	<1	<1	<1	<1	<50
San Antonio Springs	12/02/04	<2	<1	<1	<1	<1	<1	<1	<50
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<2	<1	<1	<1	<1	<1	<1	<50
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<2	<1	<1	<1	<1	<1	<1	<50
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<2	<1	<1	<1	<1	<1	<1	<50
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<2	<1	<1	<1	<1	<1	<1	<50
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<2	<1	<1	<1	<1	<1	<1	<50
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<2	<1	<1	<1	<1	<1	<1	<50

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed
TB = Analyte detected in associated trip blank

Table C-13 Analytical data for volatile compounds (VOC) in water samples from springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Methylene-chloride	Styrene	1,1,2,2-Tetra-chloro-ethane	Tetra-chloro-ethene	Toluene	trans-1,2-Dichloro-ethene	trans-1,3-Dichloro-propene	1,1,2-Trichloro-1,2,2-trifluoro-ethane
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<2	<1	<1	<1	<1	<1	<1	<50
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<2	<1	<1	<1	<1	<1	<1	<50
San Pedro Springs	03/04/04	<2	<1	<1	<1	<1	<1	<1	<50
San Pedro Springs	06/17/04	<2	<1	<1	<1	<1	<1	<1	<50
San Pedro Springs	09/02/04	<2	<1	<1	<1	<1	<1	<1	<50
San Pedro Springs	12/02/04	<2	<1	<1	<1	<1	<1	<1	<50

Station Name	Date Sampled	1,2,4-Trichloro-benzene	1,1,1-Trichloro-ethane	1,1,2-Trichloro-ethane	Trichloro-ethene	Trichloro-fluoro-methane	Vinyl chloride	Xylenes (total)
Comal Springs #1 (DX-68-23-301)	03/01/04	<1	<1	<1	<1	<10	<1	<1
Comal Springs #1 (DX-68-23-301)	06/16/04	<1	<1	<1	<1	<10	<1	<1
Comal Springs #1 (DX-68-23-301)	09/01/04	<1	<1	<1	<1	<10	<1	<1
Comal Springs #1 (DX-68-23-301)	12/01/04	<1	<1	<1	<1	<10	<1	<1
Comal Springs #7	03/02/04	<1	<1	<1	<1	<10	<1	<1
Comal Springs #7	06/16/04	<1	<1	<1	<1	<10	<1	<1
Comal Springs #7	09/01/04	<1	<1	<1	<1	<10	<1	<1
Comal Springs #7	12/01/04	<1	<1	<1	<1	<10	<1	<1
Hueco Springs A (DX-68-15-901)	03/02/04	0.2J	<1	<1	<1	<10	<1	<1
Hueco Springs A (DX-68-15-901)	06/15/04	<1	<1	<1	<1	<10	<1	<1
Hueco Springs A (DX-68-15-901)	08/31/04	<1	<1	<1	<1	<10	<1	<1
Hueco Springs A (DX-68-15-901)	11/30/04	<1	<1	<1	<1	<10	<1	<1
Hueco Springs B	03/02/04	<1	<1	<1	<1	<10	<1	<1
Hueco Springs B	06/15/04	<1	<1	<1	<1	<10	<1	<1

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed
TB = Analyte detected in associated trip blank

Table C-13 Analytical data for volatile compounds (VOC) in water samples from springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	1,2,4-Trichloro-benzene	1,1,1-Trichloro-ethane	1,1,2-Trichloro-ethane	Trichloro-ethene	Trichloro-fluoro-methane	Vinyl chloride	Xylenes (total)
Hueco Springs B	08/31/04	<1	<1	<1	<1	<10	<1	<1
Hueco Springs B	11/30/04	<1	<1	<1	<1	<10	<1	<1
San Antonio Springs	03/04/04	<1	<1	<1	<1	<10	<1	<1
San Antonio Springs	06/17/04	<1	<1	<1	<1	<10	<1	<1
San Antonio Springs	09/02/04	<1	<1	<1	<1	<10	<1	<1
San Antonio Springs	12/02/04	<1	<1	<1	<1	<10	<1	<1
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<1	<1	<1	<1	<10	<1	<1
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<1	<1	<1	<1	<10	<1	<1
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<1	<1	<1	<1	<10	<1	<1
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<1	<1	<1	<1	<10	<1	<1
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<1	<1	<1	<1	<10	<1	<1
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<1	<1	<1	<1	<10	<1	<1
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<1	<1	<1	<1	<10	<1	<1
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<1	<1	<1	<1	<10	<1	<1
San Pedro Springs	03/04/04	<1	<1	<1	<1	<10	<1	<1
San Pedro Springs	06/17/04	<1	<1	<1	<1	<10	<1	<1
San Pedro Springs	09/02/04	<1	<1	<1	<1	<10	<1	<1
San Pedro Springs	12/02/04	<1	<1	<1	<1	<10	<1	<1

J = Estimated result between the method detection limit and the reporting limit
TB = Analyte detected in associated trip blank
NA = Not analyzed

Table C-14 Analytical data for semivolatile organic compounds (SVOC) in water samples from springs discharging from the Edwards Aquifer, 2004

Station Name	Date Sampled	3&4 Methyl-phenol	Acena-phthene	Acena-phthylene	Aceto-phenone	Anthra-cene	Benzo(a)-anthra-cene	Benzo(a)-pyrene	Benzo(b)-fluoran-thene
Comal Springs #1 (DX-68-23-301)	03/01/04	<10	<10	<10	<10	<10	<10	<10	<10
Comal Springs #1 (DX-68-23-301)	06/16/04	<10	<10	<10	<10	<10	<10	<10	<10
Comal Springs #1 (DX-68-23-301)	09/01/04	<10	<10	<10	<10	<10	<10	<10	<10
Comal Springs #1 (DX-68-23-301)	12/01/04	<10	<10	<10	<10	<10	<10	<10	<10
Comal Springs #7	03/02/04	<10	<10	<10	<10	<10	<10	<10	<10
Comal Springs #7	06/16/04	<10	<10	<10	<10	<10	<10	<10	<10
Comal Springs #7	09/01/04	<10	<10	<10	<10	<10	<10	<10	<10
Comal Springs #7	12/01/04	<10	<10	<10	<10	<10	<10	<10	<10
Hueco Springs A (DX-68-15-901)	03/02/04	<10	<10	<10	<10	<10	<10	<10	<10
Hueco Springs A (DX-68-15-901)	06/15/04	<10	<10	<10	<10	<10	<10	<10	<10
Hueco Springs A (DX-68-15-901)	08/31/04	<10	<10	<10	<10	<10	<10	<10	<10
Hueco Springs A (DX-68-15-901)	11/30/04	<10	<10	<10	<10	<10	<10	<10	<10
Hueco Springs B	03/02/04	<10	<10	<10	<10	<10	<10	<10	<10
Hueco Springs B	06/15/04	<10	<10	<10	<10	<10	<10	<10	<10
Hueco Springs B	08/31/04	<10	<10	<10	<10	<10	<10	<10	<10
Hueco Springs B	11/30/04	<10	<10	<10	<10	<10	<10	<10	<10
San Antonio Springs	03/04/04	<10	<10	<10	<10	<10	<10	<10	<10
San Antonio Springs	06/17/04	<10	<10	<10	<10	<10	<10	<10	<10
San Antonio Springs	09/02/04	<10	<10	<10	<10	<10	<10	<10	<10
San Antonio Springs	12/02/04	<10	<10	<10	<10	<10	<10	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<10	<10	<10	<10	<10	<10	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<10	<10	<10	<10	<10	<10	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<10	<10	<10	<10	<10	<10	<10	<10

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed

Table C-14 Analytical data for semivolatile organic compounds (SVOC) in water samples from springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	3&4 Methyl-phenol	Acena-phthene	Acena-phthylene	Aceto-phenone	Anthra-cene	Benzo(a)-anthra-cene	Benzo(a)-pyrene	Benzo(b)-fluoran-thene
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<10	<10	<10	<10	<10	<10	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<10	<10	<10	<10	<10	<10	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<10	<10	<10	<10	<10	<10	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<10	<10	<10	<10	<10	<10	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<10	<10	<10	<10	<10	<10	<10	<10
San Pedro Springs	03/04/04	<10	<10	<10	<10	<10	<10	<10	<10
San Pedro Springs	06/17/04	<10	<10	<10	<10	<10	<10	<10	<10
San Pedro Springs	09/02/04	<10	<10	<10	<10	<10	<10	<10	<10
San Pedro Springs	12/02/04	<10	<10	<10	<10	<10	<10	<10	<10

Station Name	Date Sampled	Benzo(ghi)-perylene	Benzo(k)-fluor-anthene	bis (2-Chloro-ethoxy)-methane	bis (2-Chloro-ethyl)-ether	bis (2-Ethyl-hexyl)-phthalate	4-Bromo-phenyl-phenyl-ether	Butyl-benzyl-phthalate	Carbazole
Comal Springs #1 (DX-68-23-301)	03/01/04	<10	<10	<10	<10	0.7J	<10	<10	<10
Comal Springs #1 (DX-68-23-301)	06/16/04	<10	<10	<10	<10	<10	<10	<10	<10
Comal Springs #1 (DX-68-23-301)	09/01/04	<10	<10	<10	<10	<10	<10	<10	<10
Comal Springs #1 (DX-68-23-301)	12/01/04	<10	<10	<10	<10	<10	<10	<10	<10
Comal Springs #7	03/02/04	<10	<10	<10	<10	1J	<10	<10	<10
Comal Springs #7	06/16/04	<10	<10	<10	<10	<10	<10	<10	<10
Comal Springs #7	09/01/04	<10	<10	<10	<10	<10	<10	<10	<10
Comal Springs #7	12/01/04	<10	<10	<10	<10	<10	<10	<10	<10
Hueco Springs A (DX-68-15-901)	03/02/04	<10	<10	<10	<10	0.5J	<10	<10	<10
Hueco Springs A (DX-68-15-901)	06/15/04	<10	<10	<10	<10	<10	<10	<10	<10
Hueco Springs A (DX-68-15-901)	08/31/04	<10	<10	<10	<10	<10	<10	<10	<10

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed

Table C-14 Analytical data for semivolatile organic compounds (SVOC) in water samples from springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Benzo(ghi)-perylene	Benzo(k)-fluoran-thene	bis (2-Chloro-ethoxy)-methane	bis (2-Chloro-ethyl)-ether	bis (2-Ethyl-hexyl)-phthalate	4-Bromo-phenyl-phenyl-ether	Butyl-benzyl-phthalate	Carbazole
Hueco Springs A (DX-68-15-901)	11/30/04	<10	<10	<10	<10	<10	<10	<10	<10
Hueco Springs B	03/02/04	<10	<10	<10	<10	3J	<10	<10	<10
Hueco Springs B	06/15/04	<10	<10	<10	<10	<10	<10	<10	<10
Hueco Springs B	08/31/04	<10	<10	<10	<10	0.5J	<10	<10	<10
Hueco Springs B	11/30/04	<10	<10	<10	<10	<10	<10	<10	<10
San Antonio Springs	03/04/04	<10	<10	<10	<10	8J	<10	<10	<10
San Antonio Springs	06/17/04	<10	<10	<10	<10	<10	<10	<10	<10
San Antonio Springs	09/02/04	<10	<10	<10	<10	<10	<10	<10	<10
San Antonio Springs	12/02/04	<10	<10	<10	<10	<10	<10	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<10	<10	<10	<10	5J	<10	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<10	<10	<10	<10	<10	<10	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<10	<10	<10	<10	1J	<10	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<10	<10	<10	<10	0.9J	<10	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<10	<10	<10	<10	7J	<10	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<10	<10	<10	<10	<10	<10	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<10	<10	<10	<10	<10	<10	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<10	<10	<10	<10	<10	<10	<10	<10
San Pedro Springs	03/04/04	<10	<10	<10	<10	1J	<10	<10	<10
San Pedro Springs	06/17/04	<10	<10	<10	<10	<10	<10	<10	<10
San Pedro Springs	09/02/04	<10	<10	<10	<10	<10	<10	<10	<10
San Pedro Springs	12/02/04	<10	<10	<10	<10	<10	<10	<10	<10

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed

Table C-14 Analytical data for semivolatile organic compounds (SVOC) in water samples from springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	4-Chloro-3-methyl-phenol	4-Chloro-aniline	2-Chloro-naphtha-lene	2-Chloro-phenol	4-Chloro-phenyl-phenyl-ether	Chrysene	Dibenzo-(a,h)anth-racene	Dibenzo-furan
Comal Springs #1 (DX-68-23-301)	03/01/04	<10	<10	<10	<10	<10	<10	<10	<10
Comal Springs #1 (DX-68-23-301)	06/16/04	<10	<10	<10	<10	<10	<10	<10	<10
Comal Springs #1 (DX-68-23-301)	09/01/04	<10	<10	<10	<10	<10	<10	<10	<10
Comal Springs #1 (DX-68-23-301)	12/01/04	<10	<10	<10	<10	<10	<10	<10	<10
Comal Springs #7	03/02/04	<10	<10	<10	<10	<10	<10	<10	<10
Comal Springs #7	06/16/04	<10	<10	<10	<10	<10	<10	<10	<10
Comal Springs #7	09/01/04	<10	<10	<10	<10	<10	<10	<10	<10
Comal Springs #7	12/01/04	<10	<10	<10	<10	<10	<10	<10	<10
Hueco Springs A (DX-68-15-901)	03/02/04	<10	<10	<10	<10	<10	<10	<10	<10
Hueco Springs A (DX-68-15-901)	06/15/04	<10	<10	<10	<10	<10	<10	<10	<10
Hueco Springs A (DX-68-15-901)	08/31/04	<10	<10	<10	<10	<10	<10	<10	<10
Hueco Springs A (DX-68-15-901)	11/30/04	<10	<10	<10	<10	<10	<10	<10	<10
Hueco Springs B	03/02/04	<10	<10	<10	<10	<10	<10	<10	<10
Hueco Springs B	06/15/04	<10	<10	<10	<10	<10	<10	<10	<10
Hueco Springs B	08/31/04	<10	<10	<10	<10	<10	<10	<10	<10
Hueco Springs B	11/30/04	<10	<10	<10	<10	<10	<10	<10	<10
San Antonio Springs	03/04/04	<10	<10	<10	<10	<10	<10	<10	<10
San Antonio Springs	06/17/04	<10	<10	<10	<10	<10	<10	<10	<10
San Antonio Springs	09/02/04	<10	<10	<10	<10	<10	<10	<10	<10
San Antonio Springs	12/02/04	<10	<10	<10	<10	<10	<10	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<10	<10	<10	<10	<10	<10	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<10	<10	<10	<10	<10	<10	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<10	<10	<10	<10	<10	<10	<10	<10

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed

Table C-14 Analytical data for semivolatile organic compounds (SVOC) in water samples from springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	4-Chloro-3-methyl-phenol	4-Chloro-aniline	2-Chloro-naph-thalene	2-Chloro-phenol	4-Chloro-phenyl-phenyl-ether	Chrysene	Dibenzo-(a,h)anth-racene	Dibenzo-furan
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<10	<10	<10	<10	<10	<10	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<10	<10	<10	<10	<10	<10	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<10	<10	<10	<10	<10	<10	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<10	<10	<10	<10	<10	<10	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<10	<10	<10	<10	<10	<10	<10	<10
San Pedro Springs	03/04/04	<10	<10	<10	<10	<10	<10	<10	<10
San Pedro Springs	06/17/04	<10	<10	<10	<10	<10	<10	<10	<10
San Pedro Springs	09/02/04	<10	<10	<10	<10	<10	<10	<10	<10
San Pedro Springs	12/02/04	<10	<10	<10	<10	<10	<10	<10	<10

Station Name	Date Sampled	3,3'-Dichloro-benzidine	2,4-Dichloro-phenol	Diethyl-phthalate	Dimethyl-phthalate	2,4-Dimethyl-phenol	Di-n-butyl-phthalate	2,4-Dinitro-phenol	2,4-Dinitro-toluene
Comal Springs #1 (DX-68-23-301)	03/01/04	<20	<10	<10	<10	<10	<10	<50	<10
Comal Springs #1 (DX-68-23-301)	06/16/04	<20	<10	<10	<10	<10	<10	<50	<10
Comal Springs #1 (DX-68-23-301)	09/01/04	<20	<10	<10	<10	<10	<10	<50	<10
Comal Springs #1 (DX-68-23-301)	12/01/04	<20	<10	<10	<10	<10	<10	<50	<10
Comal Springs #7	03/02/04	<20	<10	<10	<10	<10	<10	<50	<10
Comal Springs #7	06/16/04	<20	<10	<10	<10	<10	<10	<50	<10
Comal Springs #7	09/01/04	<20	<10	<10	<10	<10	<10	<50	<10
Comal Springs #7	12/01/04	<20	<10	<10	<10	<10	<10	<50	<10
Hueco Springs A (DX-68-15-901)	03/02/04	<20	<10	<10	<10	<10	<10	<50	<10,
Hueco Springs A (DX-68-15-901)	06/15/04	<20	<10	<10	<10	<10	<10	<50	<10
Hueco Springs A (DX-68-15-901)	08/31/04	<20	<10	<10	<10	<10	<10	<50	<10

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed

Table C-14 Analytical data for semivolatile organic compounds (SVOC) in water samples from springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	3,3'-Dichloro-benzidine	2,4-Dichloro-phenol	Diethyl-phthalate	Dimethyl-phthalate	2,4-Dimethyl-phenol	Di-n-butyl-phthalate	2,4-Dinitro-phenol	2,4-Dinitro-toluene
Hueco Springs A (DX-68-15-901)	11/30/04	<20	<10	<10	<10	<10	<10	<50	<10
Hueco Springs B	03/02/04	<20	<10	<10	<10	<10	<10	<50	<10
Hueco Springs B	06/15/04	<20	<10	<10	<10	<10	<10	<50	<10
Hueco Springs B	08/31/04	<20	<10	<10	<10	<10	<10	<50	<10
Hueco Springs B	11/30/04	<20	<10	<10	<10	<10	<10	<50	<10
San Antonio Springs	03/04/04	<20	<10	<10	<10	<10	<10	<50	<10
San Antonio Springs	06/17/04	<20	<10	<10	<10	<10	<10	<50	<10
San Antonio Springs	09/02/04	<20	<10	<10	<10	<10	<10	<50	<10
San Antonio Springs	12/02/04	<20	<10	<10	<10	<10	<10	<50	<10
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<20	<10	<10	<10	<10	<10	<50	<10
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<20	<10	<10	<10	<10	<10	<50	<10
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<20	<10	<10	<10	<10	<10	<50	<10
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<20	<10	<10	<10	<10	<10	<50	<10
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<20	<10	<10	<10	<10	<10	<50	<10
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<20	<10	<10	<10	<10	<10	<50	<10
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<20	<10	<10	<10	<10	<10	<50	<10
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<20	<10	<10	<10	<10	<10	<50	<10
San Pedro Springs	03/04/04	<20	<10	<10	<10	<10	<10	<50	<10
San Pedro Springs	06/17/04	<20	<10	<10	<10	<10	<10	<50	<10
San Pedro Springs	09/02/04	<20	<10	<10	<10	<10	<10	<50	<10
San Pedro Springs	12/02/04	<20	<10	<10	<10	<10	<10	<50	<10

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed

Table C-14 Analytical data for semivolatile organic compounds (SVOC) in water samples from springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	2,6-Dinitro-toluene	Di-n-octyl-phthalate	Diphenyl	Fluoran-thene	Fluorene	Hexachloro-benzene
Comal Springs #1 (DX-68-23-301)	03/01/04	<10	<10	<10	<10	<10	<10
Comal Springs #1 (DX-68-23-301)	06/16/04	<10	<10	<10	<10	<10	<10
Comal Springs #1 (DX-68-23-301)	09/01/04	<10	<10	NA	<10	<10	<10
Comal Springs #1 (DX-68-23-301)	12/01/04	<10	<10	NA	<10	<10	<10
Comal Springs #7	03/02/04	<10	<10	<10	<10	<10	<10
Comal Springs #7	06/16/04	<10	<10	<10	<10	<10	<10
Comal Springs #7	09/01/04	<10	<10	NA	<10	<10	<10
Comal Springs #7	12/01/04	<10	<10	NA	<10	<10	<10
Hueco Springs A (DX-68-15-901)	03/02/04	<10	<10	<10	<10	<10	<10
Hueco Springs A (DX-68-15-901)	06/15/04	<10	<10	<10	<10	<10	<10
Hueco Springs A (DX-68-15-901)	08/31/04	<10	<10	NA	<10	<10	<10
Hueco Springs A (DX-68-15-901)	11/30/04	<10	<10	NA	<10	<10	<10
Hueco Springs B	03/02/04	<10	<10	<10	<10	<10	<10
Hueco Springs B	06/15/04	<10	<10	<10	<10	<10	<10
Hueco Springs B	08/31/04	<10	<10	NA	<10	<10	<10
Hueco Springs B	11/30/04	<10	<10	NA	<10	<10	<10
San Antonio Springs	03/04/04	<10	<10	<10	<10	<10	<10
San Antonio Springs	06/17/04	<10	<10	NA	<10	<10	<10
San Antonio Springs	09/02/04	<10	<10	NA	<10	<10	<10
San Antonio Springs	12/02/04	<10	<10	NA	<10	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<10	<10	<10	<10	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<10	<10	<10	<10	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<10	<10	NA	<10	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<10	<10	NA	<10	<10	<10

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed

Table C-14 Analytical data for semivolatile organic compounds (SVOC) in water samples from springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	2,6-Dinitro-toluene	Di-n-octyl-phthalate	Diphenyl	Fluoran-thene	Fluorene	Hexachloro-benzene
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<10	<10	<10	<10	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<10	<10	<10	<10	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<10	<10	NA	<10	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<10	<10	NA	<10	<10	<10
San Pedro Springs	03/04/04	<10	<10	<10	<10	<10	<10
San Pedro Springs	06/17/04	<10	<10	<10	<10	<10	<10
San Pedro Springs	09/02/04	<10	<10	<10	<10	<10	<10
San Pedro Springs	12/02/04	<10	<10	<10	<10	<10	<10

Station Name	Date Sampled	Hexa-chloro-butadiene	Hexa-chloro-cyclopen-tadiene	Hexa-chloro-ethane	Indeno-(1,2,3-cd)pyrene	Isopho-rone	2-Methyl-4,6-dinitro-phenol	2-Methyl-naph-thalene	2-Methyl-phenol
Comal Springs #1 (DX-68-23-301)	03/01/04	<10	<10	<10	<10	<10	<50	<10	<10
Comal Springs #1 (DX-68-23-301)	06/16/04	<10	<10	<10	<10	<10	<50	<10	<10
Comal Springs #1 (DX-68-23-301)	09/01/04	<10	<10	<10	<10	<10	<50	<10	<10
Comal Springs #1 (DX-68-23-301)	12/01/04	<10	<20	<10	<10	<10	<50	<10	<10
Comal Springs #7	03/02/04	<10	<10	<10	<10	<10	<50	<10	<10
Comal Springs #7	06/16/04	<10	<10	<10	<10	<10	<50	<10	<10
Comal Springs #7	09/01/04	<10	<10	<10	<10	<10	<50	<10	<10
Comal Springs #7	12/01/04	<10	<20	<10	<10	<10	<50	<10	<10
Hueco Springs A (DX-68-15-901)	03/02/04	<10	<10	<10	<10	<10	<50	<10	<10
Hueco Springs A (DX-68-15-901)	06/15/04	<10	<10	<10	<10	<10	<50	<10	<10
Hueco Springs A (DX-68-15-901)	08/31/04	<10	<10	<10	<10	<10	<50	<10	<10
Hueco Springs A (DX-68-15-901)	11/30/04	<10	<20	<10	<10	<10	<50	<10	<10

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed

Table C-14 Analytical data for semivolatile organic compounds (SVOC) in water samples from springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	Hexa-chloro-butadiene	Hexa-chloro-cyclopen-tadiene	Hexa-chloro-ethane	Indeno-(1,2,3-cd)pyrene	Isopho-rone	2-Methyl-4,6-dinitro-phenol	2-Methyl-naph-thalene	2-Methyl-phenol
Hueco Springs B	03/02/04	<10	<10	<10	<10	<10	<50	<10	<10
Hueco Springs B	06/15/04	<10	<10	<10	<10	<10	<50	<10	<10
Hueco Springs B	08/31/04	<10	<10	<10	<10	<10	<50	<10	<10
Hueco Springs B	11/30/04	<10	<20	<10	<10	<10	<50	<10	<10
San Antonio Springs	03/04/04	<10	<10	<10	<10	<10	<50	<10	<10
San Antonio Springs	06/17/04	<10	<10	<10	<10	<10	<50	<10	<10
San Antonio Springs	09/02/04	<10	<10	<10	<10	<10	<50	<10	<10
San Antonio Springs	12/02/04	<10	<20	<10	<10	<10	<50	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<10	<10	<10	<10	<10	<50	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<10	<10	<10	<10	<10	<50	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<10	<10	<10	<10	<10	<50	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<10	<20	<10	<10	<10	<50	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<10	<10	<10	<10	<10	<50	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<10	<10	<10	<10	<10	<50	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<10	<10	<10	<10	<10	<50	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<10	<20	<10	<10	<10	<50	<10	<10
San Pedro Springs	03/04/04	<10	<10	<10	<10	<10	<50	<10	<10
San Pedro Springs	06/17/04	<10	<10	<10	<10	<10	<50	<10	<10
San Pedro Springs	09/02/04	<10	<10	<10	<10	<10	<50	<10	<10
San Pedro Springs	12/02/04	<10	<20	<10	<10	<10	<50	<10	<10

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed

Table C-14 Analytical data for semivolatile organic compounds (SVOC) in water samples from springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	m-Nitro-aniline	Naph-thalene	Nitro-benzene	2-Nitro-phenol	4-Nitro-phenol	n-Nitroso-di-n-propyl-amine	n-Nitroso-diphenyl-amine	o,o,o-Triethyl-phos-phoro-thioate
Comal Springs #1 (DX-68-23-301)	03/01/04	<50	<10	<10	<10	<50	<10	<10	<10
Comal Springs #1 (DX-68-23-301)	06/16/04	<50	<10	<10	<10	<50	<10	<10	<10
Comal Springs #1 (DX-68-23-301)	09/01/04	<50	<10	<10	<10	<50	<10	<10	<10
Comal Springs #1 (DX-68-23-301)	12/01/04	<50	<10	<10	<10	<50	<10	<10	<10
Comal Springs #7	03/02/04	<50	<10	<10	<10	<50	<10	<10	<10
Comal Springs #7	06/16/04	<50	<10	<10	<10	<50	<10	<10	<10
Comal Springs #7	09/01/04	<50	<10	<10	<10	<50	<10	<10	<10
Comal Springs #7	12/01/04	<50	<10	<10	<10	<50	<10	<10	<10
Hueco Springs A (DX-68-15-901)	03/02/04	<50	<10	<10	<10	<50	<10	<10	<10
Hueco Springs A (DX-68-15-901)	06/15/04	<50	<10	<10	<10	<50	<10	<10	<10
Hueco Springs A (DX-68-15-901)	08/31/04	<50	<10	<10	<10	<50	<10	<10	<10
Hueco Springs A (DX-68-15-901)	11/30/04	<50	<10	<10	<10	<50	<10	<10	<10
Hueco Springs B	03/02/04	<50	<10	<10	<10	<50	<10	<10	<10
Hueco Springs B	06/15/04	<50	<10	<10	<10	<50	<10	<10	<10
Hueco Springs B	08/31/04	<50	<10	<10	<10	<50	<10	<10	<10
Hueco Springs B	11/30/04	<50	<10	<10	<10	<50	<10	<10	<10
San Antonio Springs	03/04/04	<50	<10	<10	<10	<50	<10	<10	<10
San Antonio Springs	06/17/04	<50	<10	<10	<10	<50	<10	<10	<10
San Antonio Springs	09/02/04	<50	<10	<10	<10	<50	<10	<10	<10
San Antonio Springs	12/02/04	<50	<10	<10	<10	<50	<10	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<50	<10	<10	<10	<50	<10	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<50	1J	<10	<10	<50	<10	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<50	<10	<10	<10	<50	<10	<10	<10

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed

Table C-14 Analytical data for semivolatile organic compounds (SVOC) in water samples from springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	m-Nitro-aniline	Naph-thalene	Nitro-benzene	2-Nitro-phenol	4-Nitro-phenol	N-Nitro-sodi-n-propyl-amine	N-Nitro-sodi-phenyl-amine	o,o,o-Triethyl-phosphoro-thioate
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<50	<10	<10	<10	<50	<10	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<50	<10	<10	<10	<50	<10	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<50	<10	<10	<10	<50	<10	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<50	<10	<10	<10	<50	<10	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<50	<10	<10	<10	<50	<10	<10	<10
San Pedro Springs	03/04/04	<50	<10	<10	<10	<50	<10	<10	<10
San Pedro Springs	06/17/04	<50	<10	<10	<10	<50	<10	<10	<10
San Pedro Springs	09/02/04	<50	<10	<10	<10	<50	<10	<10	<10
San Pedro Springs	12/02/04	<50	<10	<10	<10	<50	<10	<10	<10

Station Name	Date Sampled	o-Nitro-aniline	Penta-chloro-phenol	Phenan-threne	Phenol	p-Nitro-aniline	Prona-mide	Pyrene
Comal Springs #1 (DX-68-23-301)	03/01/04	<50	<50	<10	<10	<50	<10	<10
Comal Springs #1 (DX-68-23-301)	06/16/04	<50	<50	<10	<10	<50	<10	<10
Comal Springs #1 (DX-68-23-301)	09/01/04	<50	<50	<10	<10	<50	<10	<10
Comal Springs #1 (DX-68-23-301)	12/01/04	<50	<50	<10	<10	<50	<10	<10
Comal Springs #7	03/02/04	<50	<50	<10	<10	<50	<10	<10
Comal Springs #7	06/16/04	<50	<50	<10	<10	<50	<10	<10
Comal Springs #7	09/01/04	<50	<50	<10	<10	<50	<10	<10
Comal Springs #7	12/01/04	<50	<50	<10	<10	<50	<10	<10
Hueco Springs A (DX-68-15-901)	03/02/04	<50	<50	<10	<10	<50	<10	<10
Hueco Springs A (DX-68-15-901)	06/15/04	<50	<50	<10	<10	<50	<10	<10

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed

Table C-14 Analytical data for semivolatile organic compounds (SVOC) in water samples from springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	o-Nitro-aniline	Penta-chloro-phenol	Phenan-threne	Phenol	p-Nitro-aniline	Prona-mide	Pyrene
Hueco Springs A (DX-68-15-901)	08/31/04	<50	<50	<10	<10	<50	<10	<10
Hueco Springs A (DX-68-15-901)	11/30/04	<50	<50	<10	<10	<50	<10	<10
Hueco Springs B	03/02/04	<50	<50	<10	<10	<50	<10	<10
Hueco Springs B	06/15/04	<50	<50	<10	<10	<50	<10	<10
Hueco Springs B	08/31/04	<50	<50	<10	<10	<50	<10	<10
Hueco Springs B	11/30/04	<50	<50	<10	<10	<50	<10	<10
San Antonio Springs	03/04/04	<50	<50	<10	<10	<50	<10	<10
San Antonio Springs	06/17/04	<50	<50	<10	<10	<50	<10	<10
San Antonio Springs	09/02/04	<50	<50	<10	<10	<50	<10	<10
San Antonio Springs	12/02/04	<50	<50	<10	<10	<50	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<50	<50	<10	<10	<50	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<50	<50	<10	<10	<50	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<50	<50	<10	<10	<50	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<50	<50	<10	<10	<50	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<50	<50	<10	<10	<50	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<50	<50	<10	<10	<50	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<50	<50	<10	<10	<50	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<50	<50	<10	<10	<50	<10	<10
San Pedro Springs	03/04/04	<50	<50	<10	<10	<50	<10	<10
San Pedro Springs	06/17/04	<50	<50	<10	<10	<50	<10	<10
San Pedro Springs	09/02/04	<50	<50	<10	<10	<50	<10	<10
San Pedro Springs	12/02/04	<50	<50	<10	<10	<50	<10	<10

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed

Table C-14 Analytical data for semivolatile organic compounds (SVOC) in water samples from springs discharging from the Edwards Aquifer, 2004 (cont'd)

Station Name	Date Sampled	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol
Comal Springs #1 (DX-68-23-301)	03/01/04	<10	<10
Comal Springs #1 (DX-68-23-301)	06/16/04	<10	<10
Comal Springs #1 (DX-68-23-301)	09/01/04	<10	<10
Comal Springs #1 (DX-68-23-301)	12/01/04	<10	<10
Comal Springs #7	03/02/04	<10	<10
Comal Springs #7	06/16/04	<10	<10
Comal Springs #7	09/01/04	<10	<10
Comal Springs #7	12/01/04	<10	<10
Hueco Springs A (DX-68-15-901)	03/02/04	<10	<10
Hueco Springs A (DX-68-15-901)	06/15/04	<10	<10
Hueco Springs A (DX-68-15-901)	08/31/04	<10	<10
Hueco Springs A (DX-68-15-901)	11/30/04	<10	<10
Hueco Springs B	03/02/04	<10	<10
Hueco Springs B	06/15/04	<10	<10
Hueco Springs B	08/31/04	<10	<10
Hueco Springs B	11/30/04	<10	<10
San Antonio Springs	03/04/04	<10	<10
San Antonio Springs	06/17/04	<10	<10
San Antonio Springs	09/02/04	<10	<10
San Antonio Springs	12/02/04	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	03/01/04	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	06/14/04	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	08/30/04	<10	<10
San Marcos Springs-Deep (LR-67-01-819)	11/29/04	<10	<10

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed

Table C-14 Analytical data for semivolatile organic compounds (SVOC) in water samples from springs discharging from the Edwards Aquifer, 2004

Station Name	Date Sampled	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol
San Marcos Springs-Hotel (LR-67-01-801)	03/01/04	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	06/14/04	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	08/30/04	<10	<10
San Marcos Springs-Hotel (LR-67-01-801)	11/29/04	<10	<10
San Pedro Springs	03/04/04	<10	<10
San Pedro Springs	06/17/04	<10	<10
San Pedro Springs	09/02/04	<10	<10
San Pedro Springs	12/02/04	<10	<10

J = Estimated result between the method detection limit and the reporting limit
NA = Not analyzed

APPENDIX D – Conversion Factors

Volume	Equivalent Units
1 cubic foot	7.48 gallons
	62.41 lbs. of water
1 acre-foot	43,560 cubic feet
	325,851 gallons
	Covers one acre of land (209 feet by 209 feet) one foot deep
1 million gallons	3.07 acre-feet

Flow Rate	
1 cubic foot per second (cfs)	448.80 gallons per minute
	646,272 gallons per day
	1.98 acre-feet per day
	19.4 million gallons per day
	59.50 acre-feet per month
	236 million gallons per year
	723 acre-feet per year
1 million gallons per day (mgd)	3.07 acre-feet per day
	1,120.55 acre-feet per year
1,000 gallons per minute (gpm)	2.23 cfs
	4.42 acre-feet per day

Cost	
10 cents per 1,000 gallons	$100.00 per 1 million gallons
	$32.59 per acre foot
0.61 cents per 1,000 gallons	$2.00 per acre foot
7.7 cents per 1,000 gallons	$25.00 per acre foot

Metric conversions	
1 acre	0.4 hectares
1 gallon	3.8 liters
1 cubic foot	0.028 cubic meters
1 cubic meter per second	15,852 gallons per minute
	951,120 gallons per hour