TRIENNIAL SUMMARY REPORT, 2009

FOR THE BUSINESS COMMUNITY OUTREACH AND INCENTIVES DIVISION OF THE LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

DEQ
LOUISIANA

FISCAL YEARS 2007 – 2009 (July 2006 through June 2009)

ASSET

AQUIFER SAMPLING AND ASSESSMENT PROGRAM

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ACKNOWLEDGEMENTS

The Business Community Outreach and Incentives Division's (BCOID) Aquifer Sampling and Assessment Program (ASSET) owes its success to many people and agencies for their continual support through the years. Without this support, the ASSET Program could not exist.

The water well owners, who voluntarily participate in ASSET, are owed a debt of gratitude. Without access to private, corporate, and public property and wellheads, this program could not operate.

The Louisiana Department of Transportation and Development (LDOTD) Water Resources Section provides the Water Well Registration data set to LDEQ, and ultimately to the BCOID, which is used for multiple purposes in the execution of ASSET.

The United States Geological Survey (USGS) Water Resources Division frequently provides well schedule data that are used during the execution of ASSET. These data are made available to the Program through a USGS-LDOTD cooperative program. In addition, the USGS allows its observation wells to be sampled.

Gratitude is also owed to the staff at EPA Region 6, Water Quality Protection Division, Assistance Programs Branch and the Source Water Protection Branch, for their assistance and support for ASSET.

This Program is funded in part by the U.S. Environmental Protection Agency through the Clean Water Act.

BACKGROUND

The ASSET Program is conducted as a Clean Water Act activity. ASSET was designed to determine and monitor the quality of groundwater in the major freshwater aquifers across Louisiana. The data derived from this process is provided to LDEQ to aid in groundwater protection and remediation strategy for the State. It is also available to the public through LDEQ's website and through the mail upon request. Also, each well owner receives a copy of the laboratory analytical results from the sampling of their well.

For this reporting period, the ASSET Program monitored 189 wells in fourteen major freshwater aquifers and aquifer systems throughout the state. Table 2 lists these major aquifers and aquifer systems while Table 3 illustrates their stratigraphic occurrence. The number of wells assigned to each aquifer is based on the areal extent of each aquifer. Currently, the well density goal is approximately one well per 400 square miles. For example, an aquifer or aquifer system with an areal extent of 4,800 square miles would require a minimum of twelve wells to be assigned to it, 4,800/400 = 12. An effort is made to distribute sample locations (wells) evenly within the areal extent of each aquifer so that a representative sampling of the aquifer as a whole can be accomplished. Table 2 lists the square miles of each aquifer or aquifer system, the number of wells currently assigned to it and the well density for each aquifer or system. Figures 1 - 3 below, more readily illustrates this by graphing the data found in Table 2. Also, the last row of Table 2 lists the total areal extent of all monitored aquifers, total number of wells sampled and the overall well density for the Program.

The sampling process was designed so that each well is monitored every three years. Following this design allows for all fourteen aquifers and aquifer systems to be monitored within the three-year period. The process is then repeated once a three-year cycle has been completed. Typically, five or more wells, each producing from the same aquifer, are sampled each time sampling is performed. An effort is made to sample all assigned wells of the aquifer in question within a consecutive set of sampling events, before moving to the next aquifer. Aquifers of small areal extent may have been completed in a single event, whereas larger aquifers may have required several events to complete. Table 4 lists the aquifers and aquifer systems sample schedule by month along with the number of wells sampled.

Each well is sampled for water quality parameters, inorganics (total metals), nutrients, volatile organic compounds, semi-volatile organic compounds, pesticides, and PCBs; and field parameters are also collected at each well. Table 5 lists these field and laboratory parameters along with their reporting units. For specific lists of analytes, methods, and detection limits, please refer to the aquifer summaries appended to this document.

SUMMARY OF FINDINGS

INTRODUCTION

This report summarizes ASSET sampling that occurred from July 2006 through June 2009. One hundred eighty-nine wells completed in fourteen different aquifers or aquifer systems were monitored. Table 6 contains a listing of all the wells sampled, each well's owner, completed depth, use made of produced water, and the aquifers they produce from. In order to preserve privacy, "Private Owner" is listed for the well owner when a well is owned by a private citizen.

Table 7 lists the minimum, average and maximum sample results for the samples collected from each aquifer and aquifer system for field parameters, water quality parameters, and nutrients. Table 8 lists the minimum, average and maximum sample results for the samples collected from each aquifer and aquifer system for the inorganic parameters.

A brief summation of each aquifer's sample results and conclusions begins on the next page. Each summation includes the findings for hardness based on the scale below, and a statement on the general water quality of the aquifer based on the data derived from the wells sampled. The number of federal primary Maximum Contaminant Levels (MCLs), if any, and the number of secondary standards that were exceeded are noted also.

For a detailed discussion of each aquifer's findings, see the aquifer summaries appended to this document. Each summary consists of a discussion of the aquifer's geology and hydrogeology, and an interpretation of the laboratory analyses. The lab analysis interpretation is accomplished by evaluating the general water quality and by comparing the historical data averages with the current data averages to detect changes in water quality over time. Initial water quality is evaluated by comparing individual parameters to Federal Primary Drinking Water Standards (MCLs) to assess the aquifer's use as a drinking water source, and is rated as good (no MCL exceedances), fair (no MCL exceedances in a drinking water well) or poor (one or more MCL exceedance in a drinking water well). Additionally a second water quality evaluation is made by taking into account whether or not Action Levels were exceeded, whether or not volatile organic compounds, semi-volatile organic compounds, pesticides or PCBs were detected, the number of secondary standards exceeded in relation to the number of wells sampled, and the average hardness value. This rating uses values of good, fair and poor.

It should be noted that all statements about hardness in the aquifer sections and summary section are based on the following scale[1]:

Soft	< 50 milligrams per Liter (mg/L)
Moderately hard	50-150 mg/L
Hard	151-300 mg/L
Very hard	> 300 mg/L

A statewide summary of findings and summary statement can be found in the section following the Aquifer Summations section.

[1] Classification based on hardness scale from: Peavy, H. S. et al. *Environmental Engineering*. New York: McGraw-Hill, 1985.

AQUIFER SUMMATIONS

Sparta Aquifer

Fourteen wells ranging in depth from 153 feet to 773 feet, with an average depth of 523 feet were sampled for this aquifer. Laboratory and field data show that of these 14 wells sampled during this reporting period for the Sparta aquifer, no primary MCL was exceeded, while 20 secondary standards were exceeded. The data also show that the groundwater produced from this aquifer is soft, and is of good quality when considering short-term or long-term health risk guidelines. Water produced from this aquifer is of fair quality when considering taste, odor, or appearance guidelines.

Carrizo-Wilcox Aquifer

Eleven wells ranging in depth from 105 feet to 410 feet, with an average depth of 268 feet were sampled for this aquifer. Laboratory and field data show that no assigned well that was sampled during this reporting period for the Carrizo-Wilcox aquifer exceeded a primary MCL, with 13 exceedances of secondary standards. The data show that the groundwater produced from this aquifer is generally soft, and is of good quality when considering short-term or long-term health risk guidelines. Water produced from this aquifer is also of good quality when considering taste, odor, or appearance guidelines.

Red River Alluvial Aquifer

Five wells ranging in depth from 58 feet to 89 feet, with an average depth of 73 feet were sampled for this aquifer. Laboratory and field data show that no assigned well that was sampled during this reporting period for the Red River Alluvial aquifer exceeded a primary MCL, while eight secondary standards were exceeded. The data also show that the groundwater produced from this aquifer is very hard and is of poor to fair quality when considering taste, odor, or appearance guidelines, but is of good quality when considering short-term or long-term health risk guidelines.

Evangeline Aquifer

Twelve wells ranging in depth from 170 feet to 1,715 feet, with an average depth of 635 feet were sampled for this aquifer. Laboratory and field data show that no assigned well that was sampled during this reporting period for the Evangeline aquifer exceeded a primary MCL, while there were seven exceedances of secondary standards. The data show that the groundwater produced from this aquifer is generally soft, and is of good quality when considering short-term or long-term health risk guidelines. Water produced from this aquifer is also of good quality when considering taste, odor, or appearance guidelines.

Catahoula Aquifer

Four wells ranging in depth from 208 feet to 852 feet, with an average depth of 553 feet were sampled for this aquifer. Laboratory and field data show that no assigned well that was sampled during this reporting period for the Catahoula aquifer exceeded a primary MCL, and only one secondary standard was exceeded. The data show that the groundwater produced from this aquifer is soft, and is of good quality when considering short or long-term health risk guidelines. Also, the water produced from this aquifer is of good quality when considering taste, odor, or appearance guidelines.

North Louisiana Terrace Aquifer

Ten wells ranging in depth from 49 feet to 158 feet, with an average depth of 107 feet were sampled for this aquifer. Laboratory and field data show that the groundwater produced from this aquifer is moderately hard and is of good quality when considering taste, odor, or appearance guidelines, with 11 secondary standards exceeded. It is also of good quality when considering short-term or long-term health risk guidelines in that no well sampled for this time period exceeded a primary MCL.

Carnahan Bayou Aquifer

Twelve wells ranging in depth from 66 feet to 2,036 feet, with an average depth of 715 feet were sampled for this aquifer. Laboratory and field data show that no assigned well that was sampled during this reporting period for the Carnahan Bayou aquifer exceeded a primary MCL, and only nine secondary standards were exceeded. The data show that the groundwater produced from this aquifer is in the soft to moderately hard range, is of good quality when considering short or long-term health risk guidelines, and is also of good quality when considering taste, odor, or appearance guidelines.

Mississippi River Alluvial Aquifer

Twenty-three wells ranging in depth from 30 feet to 352 feet, with an average depth of 131 feet were sampled for this aquifer. Laboratory and field data show that the groundwater produced from the Mississippi River Alluvial aquifer is very hard, and that the primary MCL for arsenic was exceeded in six of the 23 wells sampled.

Review of this data shows that this aquifer is of poor quality when considering taste, odor, or appearance guidelines with 33 secondary standards being exceeded. It also shows that six wells exceeded the MCL for arsenic, making certain locations of this aquifer to be of poor quality when considering short-term or long-term health risk guidelines. It is important to note that there are certain localized areas of the Mississippi River Alluvial aquifer that exhibit good water quality characteristics, but it still exhibits the poorest overall water quality characteristics of any of the fourteen aquifers or aquifer systems sampled.

Cockfield Aquifer

Fourteen wells ranging in depth from 70 feet to 445 feet, with an average depth of 241 feet were sampled for this aquifer. Laboratory and field data show that the groundwater produced from this aquifer is of fair quality when considering short or long-term health risk guidelines, as it is moderately hard and one primary MCL was exceeded for the volatile organic compound methylene chloride. The data also show that this aquifer is of fair quality when considering taste, odor, or appearance guidelines, with 22 secondary standards exceeded in 12 of the 14 wells sampled.

Chicot Aquifer

Twenty-four wells ranging in depth from 66 feet to 697 feet, with an average depth of 323 feet were sampled for this aquifer. Laboratory and field data show that no assigned well sampled during this reporting period for the Chicot aquifer exceeded a primary MCL, while 37 SMCLs were exceeded. Additionally, the action level for lead was exceeded in an irrigation well. While there is no MCL for lead, exceeding the action level of 15 ug/L would require some treatment technique to reduce the amount of lead in the water if this exceedance had occurred in a public supply well. These findings show that the water produced from the Chicot aquifer is of good quality when considering short-term or long-term health risk guidelines. The data also show that the water produced from the Chicot aquifer is hard and is of fair quality when considering taste, odor, or appearance guidelines.

Williamson Creek Aquifer

Seven wells ranging in depth from 190 feet to 1,657 feet, with an average depth of 626 feet were sampled for this aquifer. Laboratory and field data show that no assigned well that was sampled during this reporting period for the Williamson Creek aquifer exceeded a primary MCL and only one secondary standard was exceeded. Review of the data shows that the water produced from the Williamson Creek aquifer is soft, is of good quality when considering short-term or long-term health risk guidelines, and is also of good quality when considering taste, odor, or appearance guidelines.

Chicot Equivalent Aquifer System

Twenty-four wells ranging in depth from 90 feet to 878 feet, with an average depth of 341 feet were sampled for this aquifer. Laboratory and field data show that the groundwater produced from this aquifer is soft and is of good quality when considering short-term or long-term health risk guidelines. However, the primary MCL for arsenic was exceeded in a non-drinking water industrial use well. The data also show that this aquifer is of fair quality when considering taste, odor, or appearance guidelines, with 20 secondary standards exceeded in 10 wells.

Evangeline Equivalent Aquifer System

Fifteen wells ranging in depth from 160 feet to 1,900 feet, with an average depth of 892 feet were sampled for this aquifer. Laboratory and field data show that no assigned well that was sampled during this reporting period for the Evangeline Equivalent Aquifer System exceeded a primary MCL, whereas 12 secondary standards were exceeded. The data show that the water produced from the Evangeline Equivalent Aquifer System is soft, is of good quality when considering short-term or long-term health risk guidelines, and is also of good quality when considering taste, odor, or appearance guidelines.

Jasper Equivalent Aquifer System

Fourteen wells ranging in depth from 960 feet to 2,700 feet, with an average depth of 1,965 feet were sampled for this aquifer. Laboratory and field data show that no assigned well that was sampled during this reporting period for the Jasper Equivalent Aquifer System exceeded a primary MCL, while 13 secondary standards were exceeded. The data also show that the water produced from the Jasper Equivalent aquifer system is soft, is of good quality when considering short-term or long-term health risk guidelines, and is of good quality when considering taste, odor, or appearance guidelines.

STATEWIDE SUMMARY OF FINDINGS

COMBINED AQUIFER DATA AND HISTORICAL COMPARISON

Table 9 shows the minimum and maximum sample results, of all the results from the fourteen aquifers and aquifer systems that were sampled, for field parameters, water quality parameters, nutrients, and metals, as well as an average of all these sample results. A comparison of the current average values of each parameter to the historical average values of the three previous reporting periods (2000, 2003, and 2006 Triennial Summary Reports) shows that there was little or no change for the majority of the parameters measured. Of the thirty-three parameters compared, only four exhibited notable changes in average values. The statewide average for hardness and pH exhibit a slight but consistent increase from 2000 to 2009, while the statewide average value for copper and nickel decreased during this time period.

Table 1 highlights the pH, TDS, hardness, chloride, iron, and nitrite-nitrate minimum, maximum and average statewide values found in Table 9. Figures 4 – 9 are the graphed representations of the average values for the parameters listed in Table 1 on an aquifer by aquifer basis. It should be noted that the only data average listed in Table 1 that did not meet federal drinking water standards is the average for iron, which is not a health-related primary standard, but is an aesthetic, non-enforceable, secondary standard.

Table 1 – Selected Statewide Values

PARAMETER	MINIMUM	AVERAGE	MAXIMUM	DRINKING WATER LIMITS (PRIMARY OR SECONDARY)
pH (SU)	4.93	7.60	9.23	>6.5, <8.5 Secondary
Chloride (mg/L))	<1.3	60	675	250 Secondary
TDS (mg/L)	24	356	1,314	500 Secondary
Hardness (mg/L)	<5	132	940	N/A
Iron (ug/L)	<20	1,582	22,700	300 Secondary
Nitrite-Nitrate (mg/L)	<0.05	0.17	7.70	10 Primary

FEDERAL PRIMARY MCL AND ACTION LEVEL EXCEEDANCES

A review of the laboratory and field data from all the aquifers and aquifer systems sampled show that there were seven exceedances of the primary MCL for arsenic, six in the Mississippi River Alluvial Aquifer and one in the Chicot Equivalent Aquifer System. One well in the Cockfield aquifer exceeded the MCL for methylene chloride. The data also show that there was one exceedance of the federal action level for lead in the Chicot aquifer.

QUALITY RANKINGS

As stated previously in this document, initial water quality is evaluated by comparing individual parameters to primary MCLs to assess the aquifer's use as a drinking water source, and is rated as good (no MCL exceedances), fair (no MCL exceedances in a drinking water well), or poor (one or more MCL exceedance in a drinking water well). Additionally a second water quality evaluation is made by taking into account whether or not Action Levels were exceeded, whether or not volatile organic compounds, semi-volatile organic compounds, pesticides or PCBs were detected, the number of secondary standards exceeded in relation to the number of wells sampled, and the average hardness value. This rating uses values of good, fair and poor.

Using the above stated criteria against the data derived from the FY07 – FY09 sampling time period it was determined, based on initial evaluation, that eleven of the fourteen aquifers and aquifer systems monitored exhibit good water quality characteristics while two exhibited poor and one fair water quality characteristics. Secondary evaluation shows that eight are in the good range; four are in the fair range while two are considered to be poor.

Those aquifers and aquifer systems considered by the ASSET Program to have Good water quality characteristics in both categories are: Carnahan Bayou, Carrizo-Wilcox, Catahoula, Evangeline, Evangeline Equivalent, Jasper Equivalent, North Louisiana Terrace and Williamson Creek. The Chicot and Sparta aquifers are considered to have Good water quality in the initial category and Fair water quality in the second category while the Red River Alluvial aquifer is considered to have Good initial and Poor secondary water quality characteristics. The Cockfield aquifer and Chicot Equivalent Aquifer System are considered to have Fair initial and secondary water quality characteristics while the Mississippi River Alluvial aquifer is considered to have Poor initial and secondary water quality characteristics by this Program.

SUMMARY STATEMENT

The majority of the major freshwater aquifers and aquifer systems of Louisiana that were sampled by the ASSET Program exhibited Good water quality characteristics when considering health based standards and Fair to Good water quality characteristics when considering non-health based standards. More than half exhibited Good water quality characteristics in both categories. Only two aquifers, the Red River Alluvial and the Mississippi River Alluvial, exhibited Poor water quality characteristics when considering non-health based standards, while only the Mississippi River Alluvial aquifer exhibited Poor water quality characteristics in both categories.

Those aquifers and aquifer systems with deeper average well depths typically exhibit the best water quality characteristics while those with shallower average well depths exhibit some of the poorest water quality characteristics. One notable exception to this is the North Louisiana Terrace aquifer that has an average well depth of just over 100 feet and exhibits similar water quality characteristics to those aquifers with much deeper average well depths.

Taking into account short-term and long-term health risk guidelines along with the findings of the Aquifer Sampling and Assessment Program for the Fiscal Years 2000 to 2009, it is determined that the overall quality of the waters produced from Louisiana's principal freshwater aquifers is good, and that there is very little change in the water quality characteristics of these aquifers.

TABLES AND FIGURES

Figure 1 – Number of Wells Sampled by Aquifer

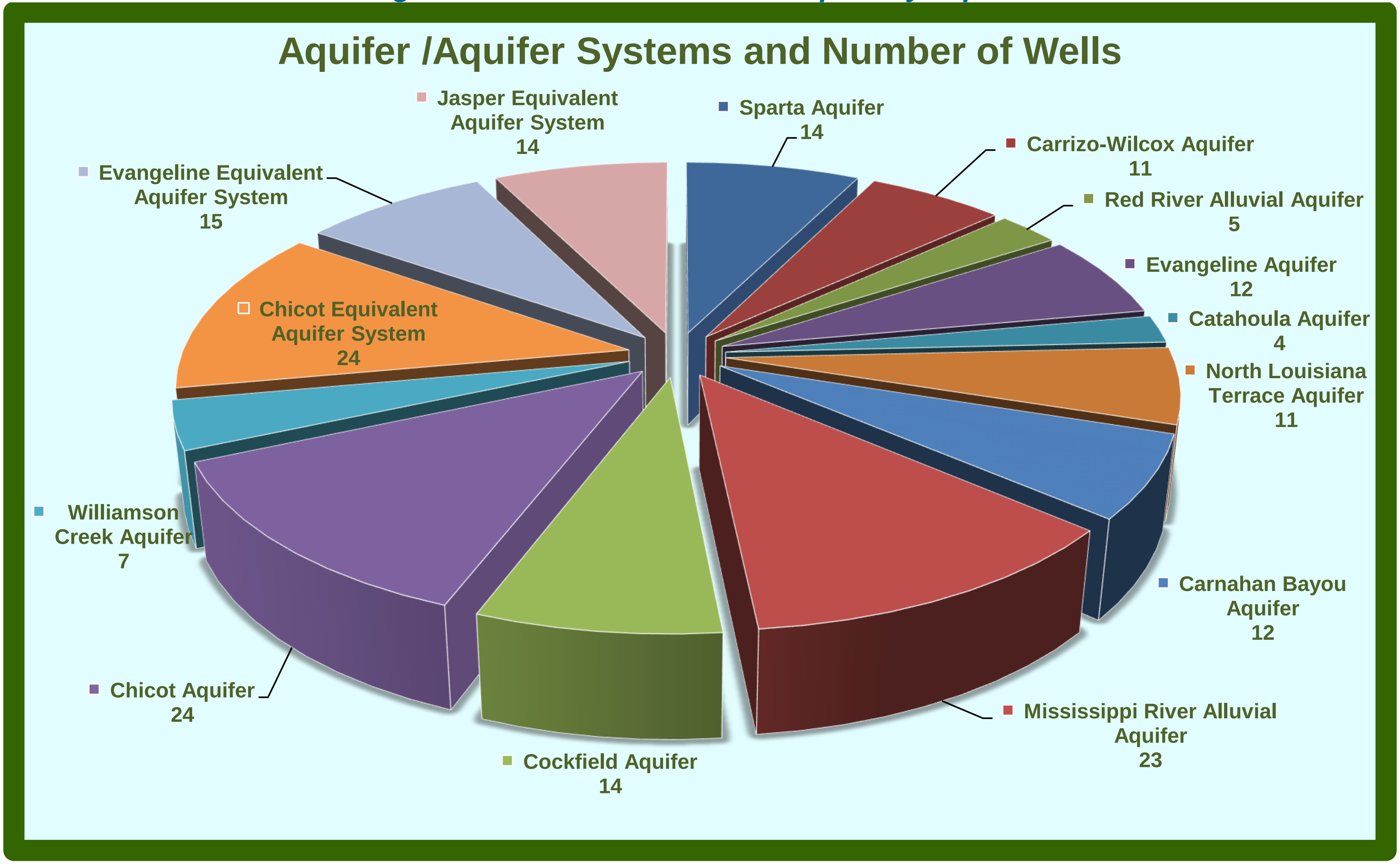

Figure 2 – Aquifer Areal Extent

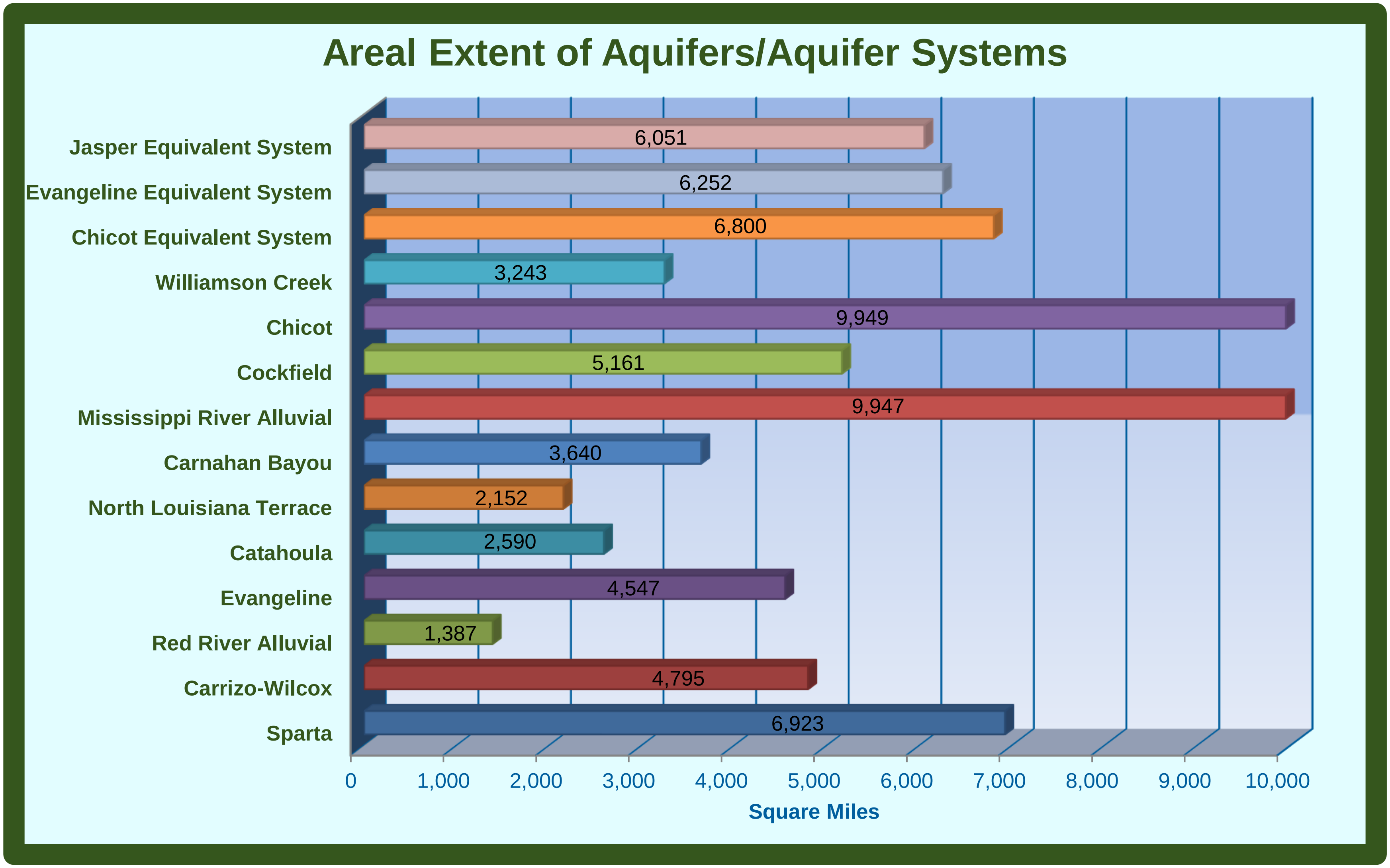

Figure 3 – Well Depth Statistics

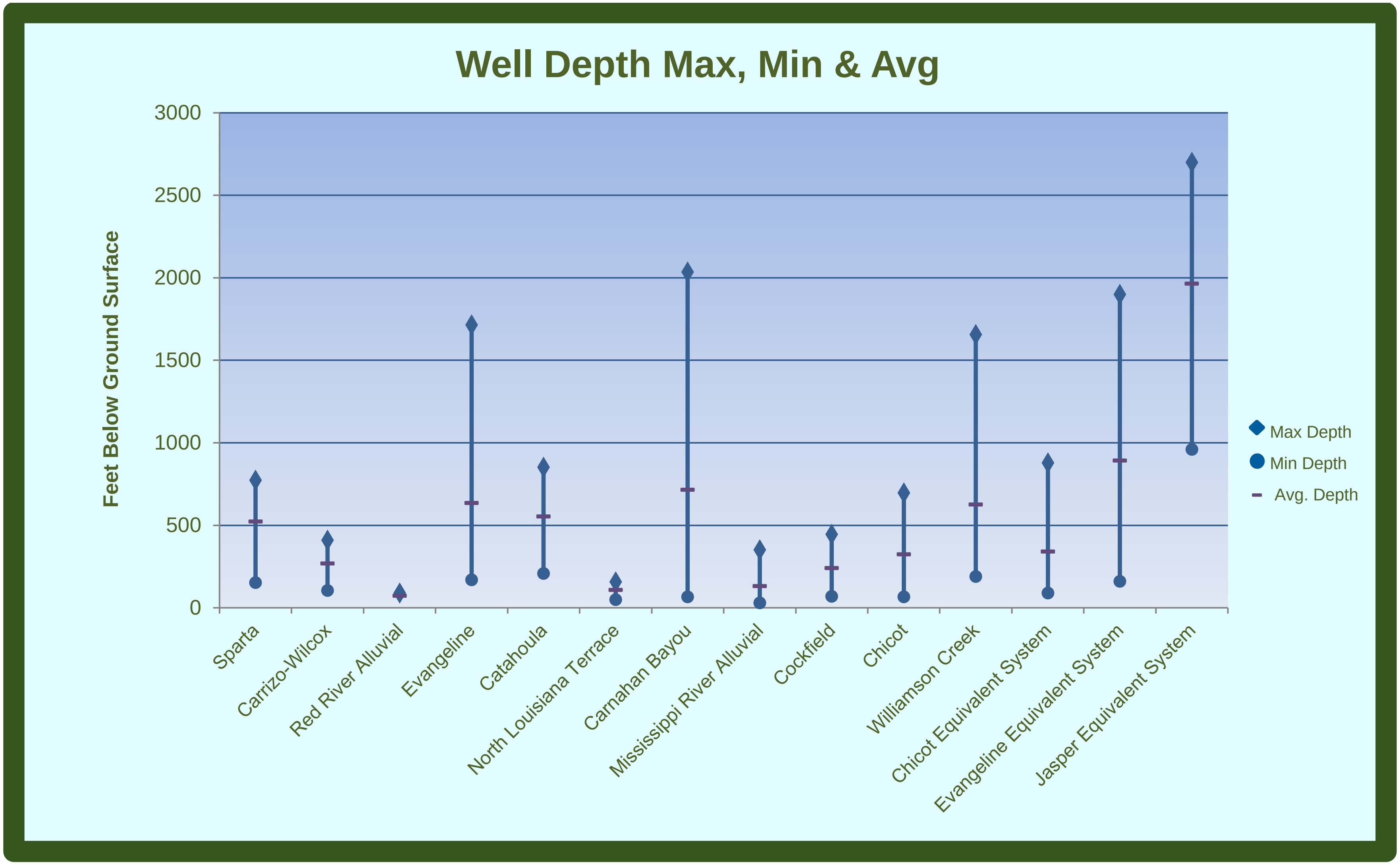

Figure 4 – Average pH Values

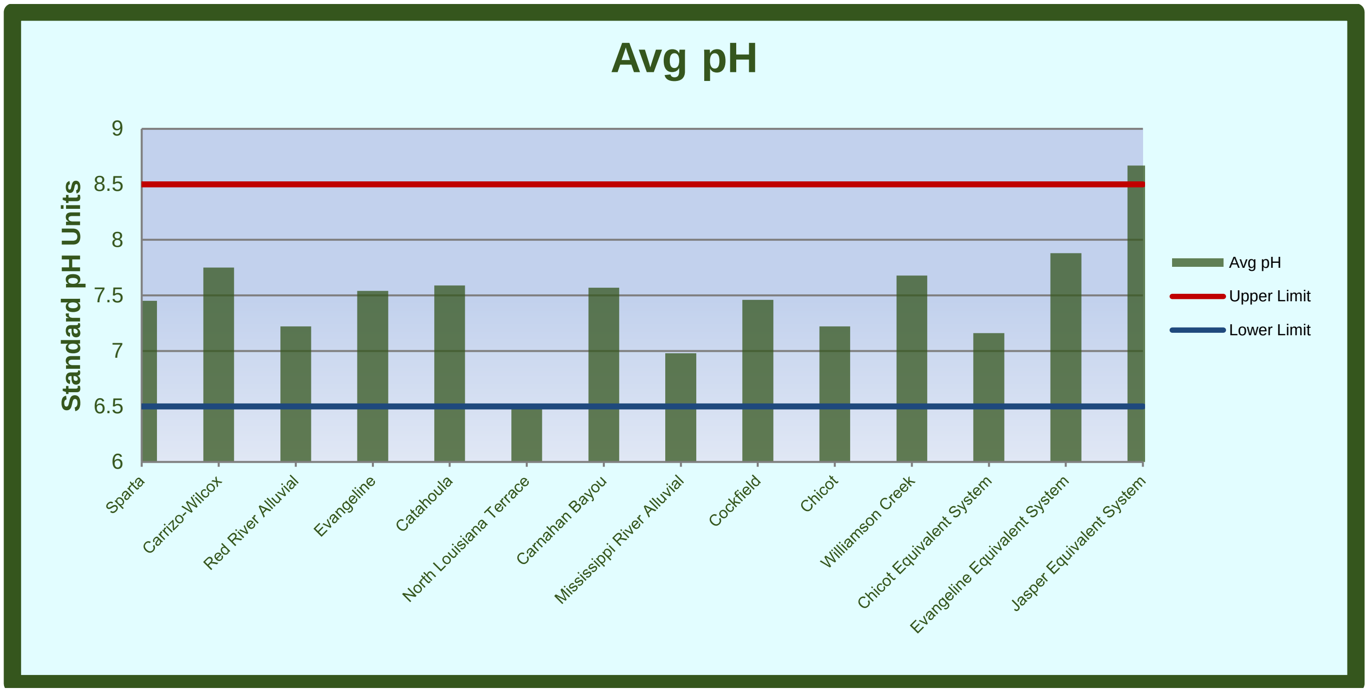

Figure 5 – Average Chloride Values

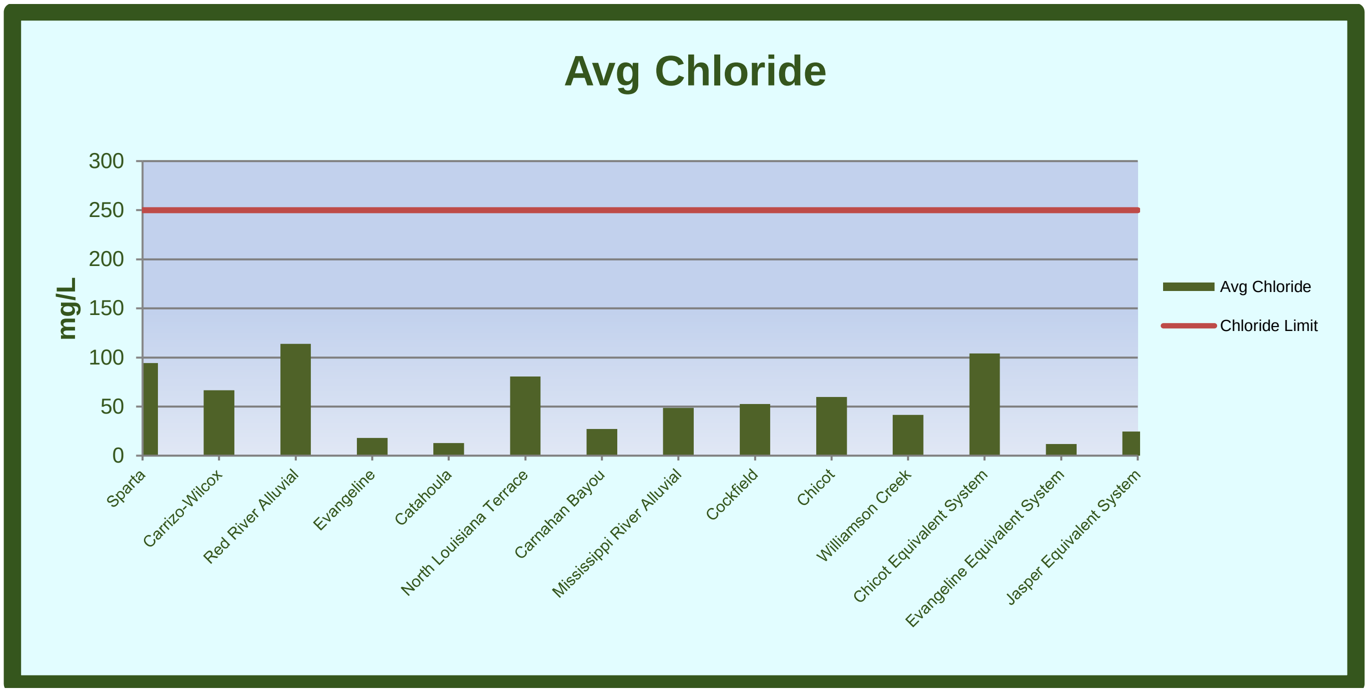

Figure 6 – Average TDS Values

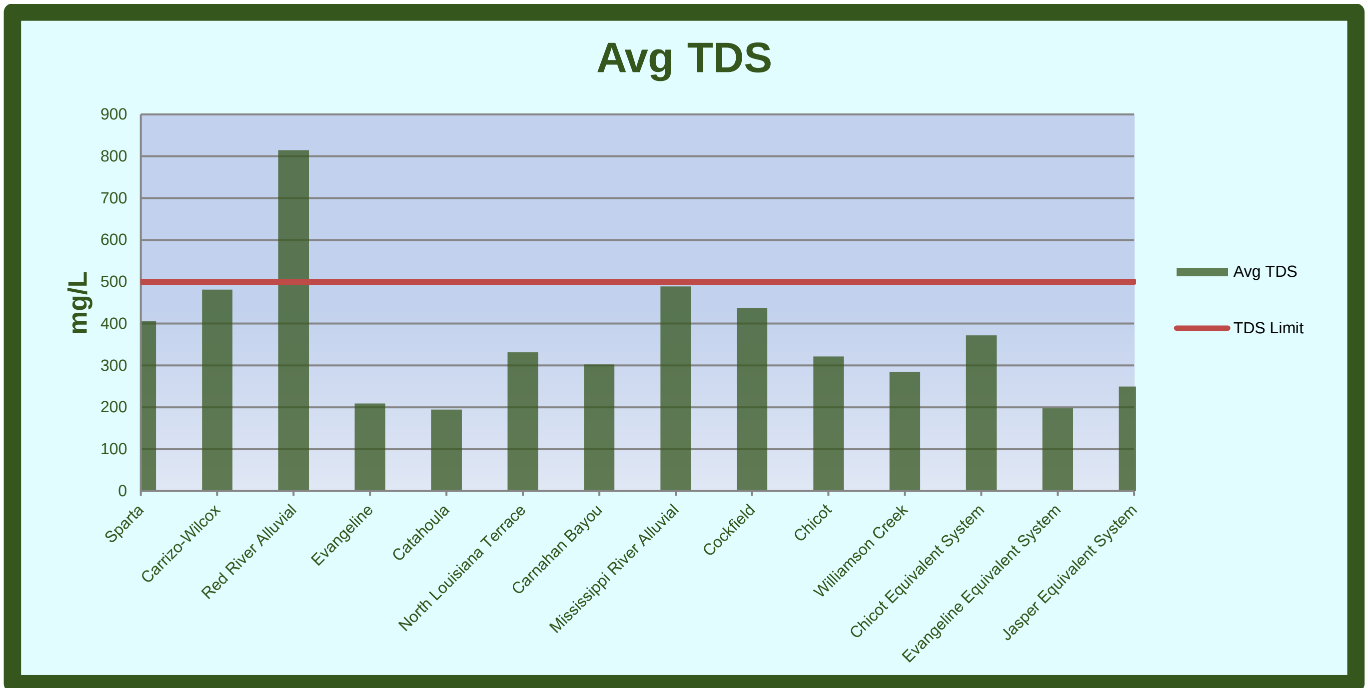

Figure 7 – Average Hardness Values

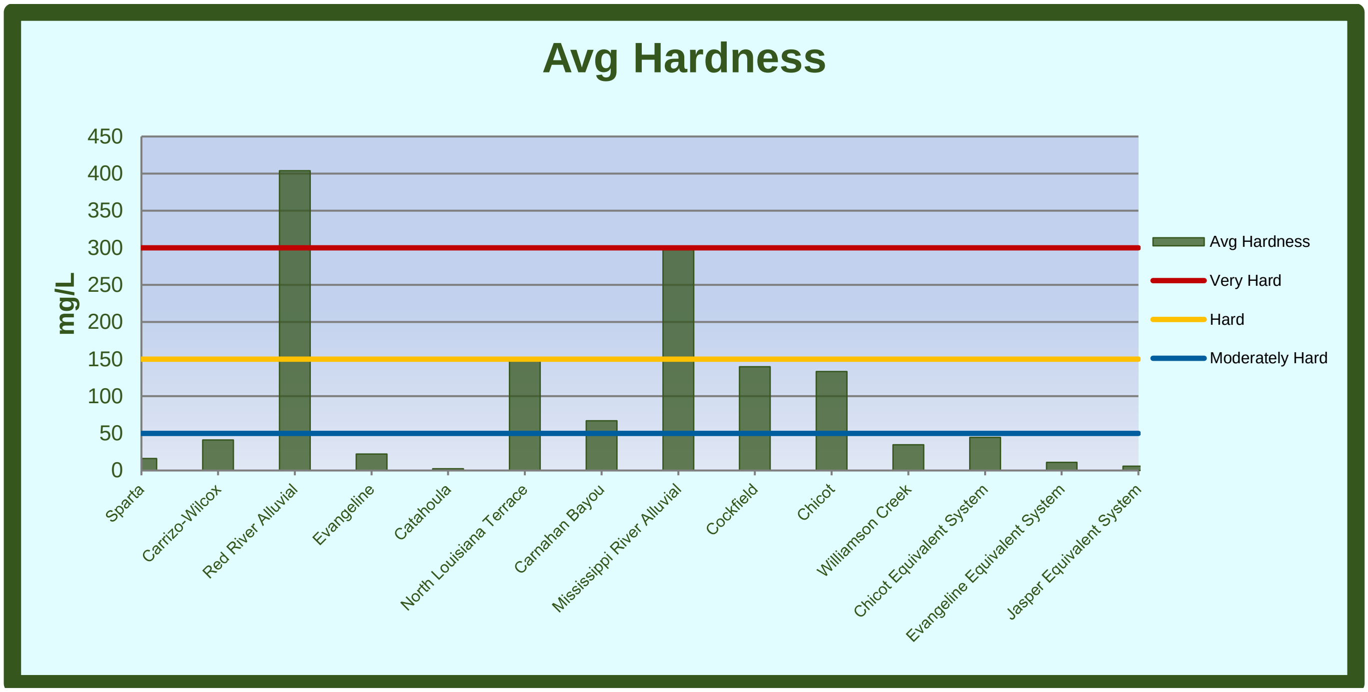

Figure 8 – Average Iron Values

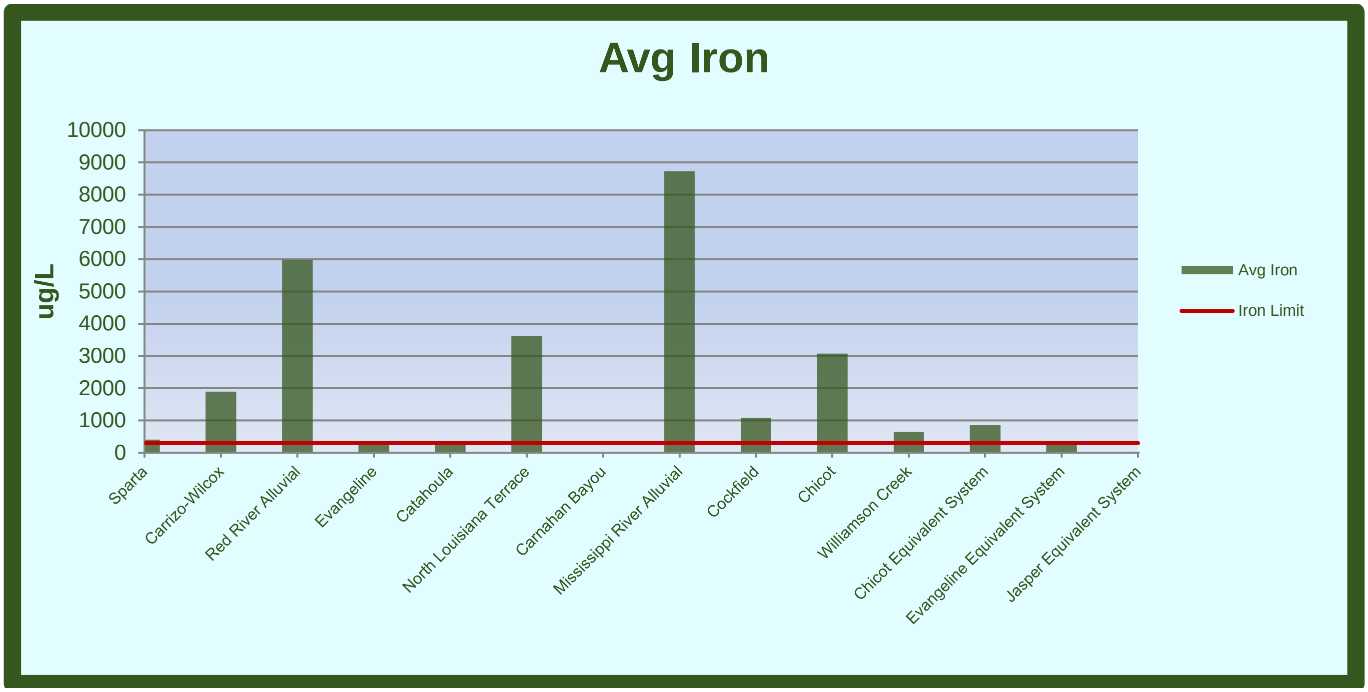

Figure 9 – Average Nitrite-Nitrate Values

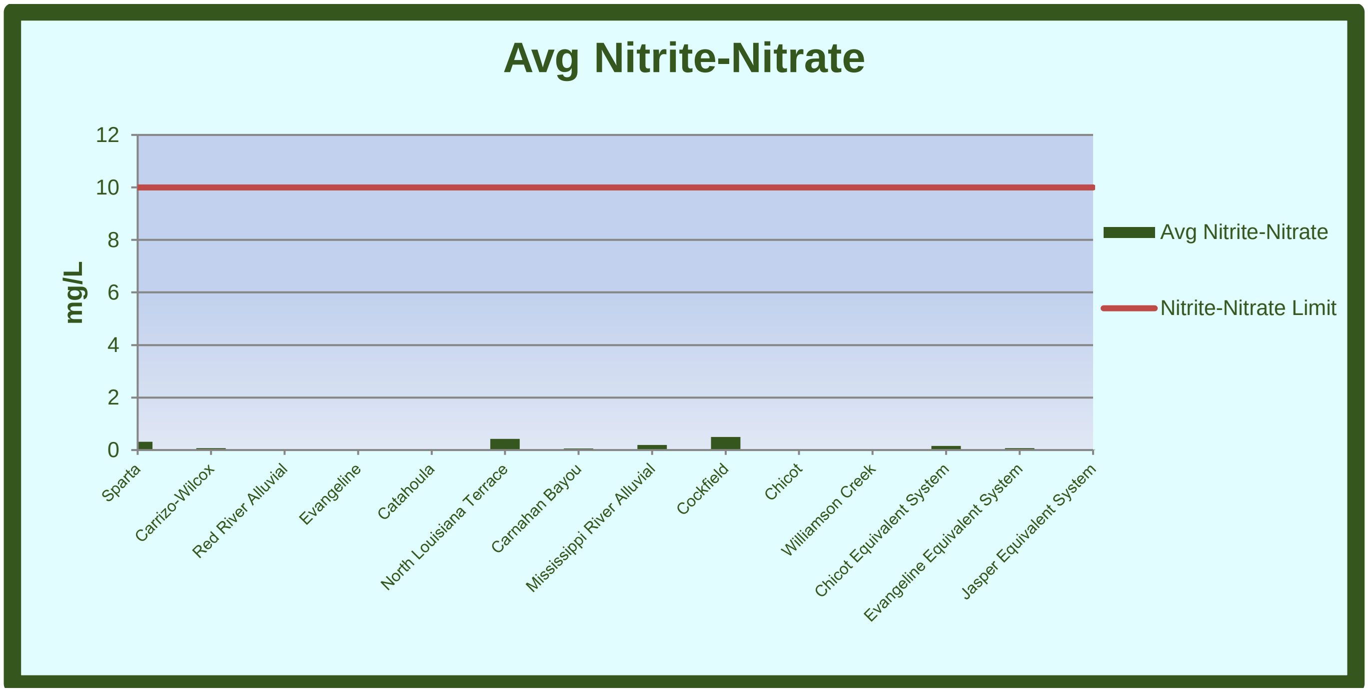

Table 2 - Aquifers and Aquifer Systems Monitored

AQUIFER OR SYSTEM	WELL DEPTH RANGE (feet)	AVERAGE WELL DEPTH (feet)	NUMBER OF WELLS	AREAL EXTENT (sq.mi.)	WELL DENSITY (sq. mi./well)
Sparta Aquifer	153 – 773	523	14	6,923	494
Carrizo-Wilcox Aquifer	105 – 410	258	11	4,795	436
Red River Alluvial Aquifer	58 – 89	73	5	1,387	277
Evangeline Aquifer	170 – 1,715	625	12	4,547	379
Catahoula Aquifer	208 – 852	553	4	2,590	648
North Louisiana Terrace Aquifer	49 – 158	107	10	2,152	215
Carnahan Bayou Aquifer	66 – 2,036	715	12	3,640	303
Mississippi River Alluvial Aquifer	30 – 352	131	23	9,947	432
Cockfield Aquifer	70 – 445	241	14	5,161	369
Chicot Aquifer	66 – 697	323	24	9,949	414
Williamson Creek Aquifer	190 – 1,657	626	7	3,243	463
Chicot Equivalent Aquifer System	90 – 878	341	24	6,800	283
Evangeline Equivalent Aquifer System	160 – 1,900	892	15	6,252	417
Jasper Equivalent Aquifer System	960 – 2,700	1,965	14	6,051	432
STATEWIDE	**30ft – 2,700ft**	**519ft**	**189 wells**	**73,437sq.mi.**	**389sq.mi./well**

Table 3 – Hydrogeologic Column of Aquifers

SYSTEM	SERIES	Stratigraphic Unit		Hydrogeologic Unit: Northern Louisiana – Aquifer or confining unit	Central and southwestern Louisiana – Aquifer system or confining unit	Central and southwestern Louisiana – Aquifer or confining unit: Lake Charles area	Central and southwestern Louisiana – Aquifer or confining unit: Rice growing area	Southeastern Louisiana – Aquifer system or confining unit	Southeastern Louisiana – Aquifer[1] or confining unit: Baton Rouge area	Southeastern Louisiana – Aquifer[1] or confining unit: St. Tammany, Tangipahoa, and Washington Parishes	Southeastern Louisiana – Aquifer[1] or confining unit: New Orleans area and lower Mississippi River parishes
Quaternary	Pleistocene	Red River alluvial deposits Miss. River alluvial deposits Northern La. Terrace deposits Unnamed Pleistocene deposits		Red River alluvial aquifer or surficial confining unit Mississippi River alluvial aquifer or surficial confining unit Upland terrace aquifer or surficial confining unit	Chicot aquifer system or surficial confining unit	"200-foot" sand	Upper sand unit	Chicot Equivalent aquifer system[2] or surficial confining unit	Mississippi River alluvial aquifer or surficial confining unit Shallow sand "400-foot" sand "600-foot" sand	Upland terrace aquifer Upper Ponchatoula aquifer	Gramercy aquifer[3] Norco aquifer[3] Gonzales-New Orleans Aquifer[3] "1,200-foot" sand[3]
						"500-foot" sand "700-foot" sand	Lower sand unit				
Tertiary	Pliocene -----?-----	Fleming Formation	Blounts Creek Member	Pliocene-Miocene aquifers are absent in this area	Evangeline aquifer or surficial confining unit			Evangeline equivalent aquifer system[2] or surficial confining unit	"800-foot" sand "1,000-foot" sand "1,200-foot" sand "1,500-foot" sand "1,700-foot" sand	Lower Ponchatoula Aquifer Big Branch aquifer Kentwood aquifer Abita aquifer Covington aquifer Slidell aquifer	
	Miocene	Fleming Formation	Castor Creek Member		Castor Creek confining unit			Unnamed confining unit	"2,000-foot" sand "2,400-foot" sand "2,800-foot" sand	Tchefuncte aquifer Hammond aquifer Amite aquifer Ramsay aquifer Franklinton aquifer	
	Miocene	Fleming Formation	Williamson Creek Member Dough Hills Member Carnahan Bayou Member		Jasper aquifer system or surficial confining unit	Williamson Creek aquifer Dough Hills confining unit Carnahan Bayou aquifer		Jasper equivalent aquifer system[2] or surficial confining unit			
	-----?----- Oligocene	Fleming Formation	Lena Member		Lena confining unit			Unnamed confining unit			
	Oligocene	Catahoula Formation			Catahoula aquifer			Catahoula equivalent aquifer system[2] or surficial confining unit			
	Oligocene	Vicksburg Group, undifferentiated		Vicksburg-Jackson confining unit	No fresh water occurs in older aquifers						
	Eocene	Jackson Group, undifferentiated									
	Eocene	Claiborne Group	Cockfield Formation	Cockfield aquifer or surficial confining unit							
	Eocene	Claiborne Group	Cook Mountain Formation	Cook Mountain aquifer or confining unit							
	Eocene	Claiborne Group	Sparta Sand	Sparta aquifer or surficial confining unit							
	Eocene	Claiborne Group	Cane River Formation	Cane River aquifer or confining unit							
	Eocene	Claiborne Group	Carrizo Sand	Carrizo-Wilcox aquifer or surficial confining unit							
	Paleocene	Wilcox Group, undifferentiated									
	Paleocene	Midway Group, undifferentiated		Midway confining unit							

[1]Clay units separating aquifers in southeastern Louisiana are discontinuous

[2]Four aquifer systems as a group are called the Southern Hills aquifer system.

[3]Four aquifers as a group are called the New Orleans aquifer system.

Source: DOTD/USGS Water Resources Special Report No. 9, 1995

Table 4 – Aquifers and Number of Wells Sampled by Month

AQUIFER/SYSTEM	MONTH	NUMBER OF WELLS SAMPLED
State Fiscal Year 2007 (July 2006 – June 2007)		
Sparta	July and August	(8 / 6) 14
Carrizo-Wilcox	September and November	(6 / 5) 11
Red River Alluvial	December	5
Evangeline	January and February (Also May 2008)	(10 / 1 / 1) 12
Catahoula	February	4
North Louisiana Terrace	April	10
Carnahan Bayou	February, May and June	(1 / 6 / 5) 12
State Fiscal Year 2008 (July 2007 – June 2008)		
Mississippi River Alluvial	July, August, September and January	(5 / 10 / 6 / 2) 23
Cockfield	February, March, April and May	(5 / 6 / 1 / 2) 14
Chicot	May and June	(14 / 10) 24
State Fiscal Year 2009 (July 2008 – June 2009)		
Williamson Creek	July	7
Chicot Equivalent	Aug, Oct, Nov, Dec and June	(8 / 7 / 3 / 5 / 1) 24
Evangeline Equivalent	January, March and April	(7 / 7 / 1) 15
Jasper Equivalent	March, April and June	(8 / 5 / 1) 14

Table 5 – Parameter List

PARAMETER GROUP	LIST OF ANALYTES	REPORTING UNITS
FIELD	pH	S.U.
	Temperature	Degrees C.
	Specific Conductivity	mmhos/cm
	Total Dissolved Solids	g/L
	Salinity	ppt
WATER QUALITY	Alkalinity	mg/L
	Chloride	mg/L
	Color	PCU
	Specific Conductivity	umhos/cm
	Sulfate	mg/L
	Total Dissolved Solids	mg/L
	Total Suspended Solids	mg/L
	Turbidity	NTU
INORGANIC (TOTAL METALS)	Antimony	ug/L
	Arsenic	ug/L
	Barium	ug/L
	Beryllium	ug/L
	Cadmium	ug/L
	Chromium	ug/L
	Copper	ug/L
	Iron	ug/L
	Lead	ug/L
	Mercury	ug/L
	Nickel	ug/L
	Selenium	ug/L
	Silver	ug/L
	Thallium	ug/L
	Zinc	ug/L
NUTRIENTS	NH_3 – as N	mg/L
	Hardness	mg/L
	NO_2-NO_3 – as N	mg/L
	TKN	mg/L
	Total Phosphorus	mg/L
VOLATILE ORGANIC COMPOUNDS	Dichlorofluoromethane	ug/L
	Chlormethane	ug/L
	Vinyl chloride	ug/L
	Bromomethane	ug/L
	Chloroethane	ug/L
	Trichlorofluoromethane	ug/L

PARAMETER GROUP	LIST OF ANALYTES	REPORTING UNITS
VOLATILE ORGANIC COMPOUNDS	1,1-Dichloroethene	ug/L
	Methylene chloride	ug/L
	trans-1,2-Dichloroethene	ug/L
	Methyl-t-butyl ether	ug/L
	1,1-Dichloroethane	ug/L
	2,2 Dichloropropane	ug/L
	cis-1,2 Dichloroethene	ug/L
	Bromochloromethane	ug/L
	Chloroform	ug/L
	1,1,1-Trichloroethane	ug/L
	1,1 Dichloropropene	ug/L
	Carbon tetrachloride	ug/L
	Benzene	ug/L
	1,2-Dichloroethane	ug/L
	Trichloroethene	ug/L
	1,2-Dichloropropane	ug/L
	Bromodichloromethane	ug/L
	Dibromomethane	ug/L
	cis-1,3-Dichloropropene	ug/L
	Toluene	ug/L
	trans-1,3-Dichloropropene	ug/L
	1,1,2-Trichloroethane	ug/L
	1,3—Dichloropropane	ug/L
	Tetrachloroethene	ug/L
	1,2-Dibromoethane	ug/L
	Dibromochloromethane	ug/L
	Chlorobenzene	ug/L
	Ethylbenzene	ug/L
	1,1,1,2-Tetrachloroethane	ug/L
	p&m Xylene	ug/L
	o-Xylene	ug/L
	Styrene	ug/L
	Bromoform	ug/L
	Isopropylbenzene	ug/L
	1,1,2,2-Tetrachloromethane	ug/L
	1,2,3-Trichloropropane	ug/L
	Bromobenzene	ug/L
	n-Propylbenzene	ug/L
	2-Chlorotoluene	ug/L
	4-Chlorotoluene	ug/L
	1,3,5-Trimethylbenzene	ug/L

PARAMETER GROUP	LIST OF ANALYTES	REPORTING UNITS
VOLATILE ORGANIC COMPOUNDS	tert-Butylbenzene	ug/L
	1,2,4-Trimethylbenzene	ug/L
	sec-Butylbenzene	ug/L
	p-Isopropyltoluene	ug/L
	1,3-Dichlorobenzene	ug/L
	1,4-Dichlorobenzene	ug/L
	n-Butylbenzene	ug/L
	1,2-Dibromo-3-chloroproane	ug/L
	Naphthalene	ug/L
	1,2,4-Trichlorobenzene	ug/L
	Hexachlorobutadiene	ug/L
	1,2-Dichorobenzene	ug/L
	1,2,3-Trichlorobenzene	ug/L
SEMI-VOLATILE ORGANIC COMPOUNDS	Ethyl methanesulfonate	ug/L
	Phenol	ug/L
	Aniline	ug/L
	Bis(2-chloroethyl)ether	ug/L
	2-Chlorophenol	ug/L
	1,3-Dichlorobenzene	ug/L
	1,4-Dichlorobenzene	ug/L
	Benzyl alcohol	ug/L
	1,2-Dichlorobenzene	ug/L
	2-Methylphenol	ug/L
	Bis(2-chloroisopropyl)ether	ug/L
	4-Methylphenol	ug/L
	N-Nitroso-di-n-propylamine	ug/L
	Hexachloroethane	ug/L
	Acetophenone	ug/L
	Nitrobenzene	ug/L
	4-Nitrophenol	ug/L
	2,4-Dinitrophenol	ug/L
	Acenaphthene	ug/L
	N-Nitrosopiperidine	ug/L
	Isophorone	ug/L
	2,4-Dimethylphenol	ug/L
	2-Nitrophenol	ug/L
	Benzoic acid	ug/L
	Bis(2-chloroethoxy)methane	ug/L
	2,4-Dichlorophenol	ug/L
	a,a-Dimethylphenethylamine	ug/L
	1,2,4-trichlorobenzene	ug/L

PARAMETER GROUP	LIST OF ANALYTES	REPORTING UNITS
SEMI-VOLATILE ORGANIC COMPOUNDS	Benzidine	ug/L
	Pyrene	ug/L
	p-Dimethylaminoazobenzene	ug/L
	Butylbenzylphthalate	ug/L
	Bis(2-ethylhexyl)phthalate	ug/L
	3,3'-Dichlorobenzidine	ug/L
	Benzo(a)anthracene	ug/L
	Chrysene	ug/L
	Di-n-octylphthalate	ug/L
	7,12-Dimetnylbenz(a)anthracine	ug/L
	Benzo(b)fluoranthene	ug/L
	Benzo(k)fluoranthene	ug/L
	Benzo(a)pyrene	ug/L
	3-Methylcholanthrene	ug/L
	Dibenz(a,j)acridine	ug/L
	Indeno(1,2,3-cd)pyrene	ug/L
	Dibenz(a,h)anthracene	ug/L
	Benzo(g,h,i)perylene	ug/L
	Napthalene	ug/L
	4-Chloroaniline	ug/L
	2,6-Dichlorophenol	ug/L
	Hexachlorobutadiene	ug/L
	N-Nitrose-di-n-butylamine	ug/L
	4-Chloro-3-methylphenol	ug/L
	2-Methylnapthalene	ug/L
	Hexachlorocyclopentadiene	ug/L
	1,2,4,5-Tetrachlorobenzene	ug/L
	2,4,6-Trichlorophenol	ug/L
	2,4,5-Trichlorophenol	ug/L
	2-Chloronapthalene	ug/L
	1-Chloronapthalene	ug/L
	2-Nitroaniline	ug/L
	Dimethylphthalate	ug/L
	2,6-Dinitrotoluene	ug/L
	Acenaphthylene	ug/L
	3-Nitroaniline	ug/L
	2,4-Dinitrotoluene	ug/L
	Pentachlorobenzene	ug/L
	Dibenzofuran	ug/L
	1-Naphthylamine	ug/L
	Diethylphthalate	ug/L

PARAMETER GROUP	LIST OF ANALYTES	REPORTING UNITS
SEMI-VOLATILE ORGANIC COMPOUNDS	2,3,4,6-Tetrachlorophenol	ug/L
	2-Naphthylamine	ug/L
	4-Chlorophenyl phenyl ether	ug/L
	4-Nitroaniline	ug/L
	Fluorene	ug/L
	4,6-Dinitro-2-methylphenol	ug/L
	4-Aminobiphenyl	ug/L
	1,2-Diphenylhydrazine	ug/L
	Phenacetin	ug/L
	4-Bromophenyl phenyl ether	ug/L
	Hexachlorobenzene	ug/L
	Pronamide	ug/L
	N-Nitrosodiphenylamine / Diphenylamine	ug/L
	Pentachlorophenol	ug/L
	Pentachloronitrobenzene	ug/L
	Phenathrene	ug/L
	Anthracene	ug/L
	Di-n-butylphthalate	ug/L
	Fluoranthene	ug/L
PESTICIDES	Alpha BHC	ug/L
	Beta BHC	ug/L
	Gamma BHC	ug/L
	Delta BHC	ug/L
	Heptachlor	ug/L
	Aldrin	ug/L
	Heptachlor epoxide	ug/L
	Chlordane	ug/L
	Endosulfan I	ug/L
	4,4'-DDE	ug/L
	Dieldrin	ug/L
	4,4'DDD	ug/L
	Endrin	ug/L
	Toxaphene	ug/L
	Endosulfan II	ug/L
	Endrin Aldehyde	ug/L
	4,4'DDT	ug/L
	Endosulfan Sulfate	ug/L
	Methoxychlor	ug/L
	Endrin Ketone	ug/L
PCBs	PCB 1221/ PCB 1232	ug/L
	PCB 1016/ PCB 1242	ug/L

PARAMETER GROUP	LIST OF ANALYTES	REPORTING UNITS
PCBs	PCB 1254	ug/L
	PCB 1248	ug/L
	PCB 1260	ug/L

Table 6 – Wells Sampled

WELL NUMBER	OWNER	DEPTH (FEET)	WELL USE	AQUIFER/SYSTEM
BI-192	LUCKY WATER SYSTEM	153	Public Supply	Sparta Aquifer
BI-212	STONE CONTAINER CORP.	490	Industrial	Sparta Aquifer
CA-105	VIXEN WATER SYSTEM	525	Public Supply	Sparta Aquifer
CL-203	TOWN OF HOMER	460	Public Supply	Sparta Aquifer
L-31	CITY OF RUSTON	636	Public Supply	Sparta Aquifer
L-32	CITY OF RUSTON	652	Public Supply	Sparta Aquifer
MO-253	VILLAGE OF COLLINSTON	773	Public Supply	Sparta Aquifer
OU-506	ANGUS CHEMICAL	506	Industrial	Sparta Aquifer
OU-597	GRAPHIC PACKAGING INT'L INC.	710	Industrial	Sparta Aquifer
SA-534	BOISE CASCADE	543	Public Supply	Sparta Aquifer
UN-205	D'ARBONNE WATER SYSTEM	725	Public Supply	Sparta Aquifer
W-165	TOWN OF WINNFIELD	456	Public Supply	Sparta Aquifer
WB-241	TOWN OF SPRINGHILL	408	Public Supply	Sparta Aquifer
WB-269	CITY OF MINDEN	280	Public Supply	Sparta Aquifer
BI-236	ALBERTA WATER SYSTEM	410	Public Supply	Carrizo-Wilcox Aquifer
BO-274	VILLAGE WATER SYSTEM	395	Public Supply	Carrizo-Wilcox Aquifer
BO-275	VILLAGE WATER SYSTEM	308	Public Supply	Carrizo-Wilcox Aquifer
CD-453	CITY OF VIVIAN	228	Public Supply	Carrizo-Wilcox Aquifer
CD-630	PRIVATE OWNER	240	Irrigation	Carrizo-Wilcox Aquifer
CD-639	SI PRECAST	200	Industrial	Carrizo-Wilcox Aquifer
CD-642	LOUISIANA LIFT	210	Industrial	Carrizo-Wilcox Aquifer
DS-363	CITY OF MANSFIELD	280	Public Supply	Carrizo-Wilcox Aquifer
DS-5996Z	PRIVATE OWNER	360	Domestic	Carrizo-Wilcox Aquifer
RR-5070Z	PRIVATE OWNER	105	Domestic	Carrizo-Wilcox Aquifer
SA-502	PRIVATE OWNER	213	Irrigation	Carrizo-Wilcox Aquifer
CD-431	CERTAINTEED	62	Industrial	Red River Alluvial Aquifer
CD-859	PRIVATE OWNER	58	Irrigation	Red River Alluvial Aquifer
G-5193Z	PRIVATE OWNER	75	Domestic	Red River Alluvial Aquifer
NA-SWANSON	PRIVATE OWNER	80	Irrigation	Red River Alluvial Aquifer

WELL NUMBER	OWNER	DEPTH (FEET)	WELL USE	AQUIFER/SYSTEM
RR-345	PRIVATE OWNER	89	Irrigation	Red River Alluvial Aquifer
AL-120	CITY OF OAKDALE	910	Public Supply	Evangeline Aquifer
AL-363	WEST ALLEN PARISH WATER DIST.	1,715	Public Supply	Evangeline Aquifer
AL-373	TOWN OF OBERLIN	747	Public Supply	Evangeline Aquifer
AL-391	FAIRVIEW WATER SYSTEM	800	Public Supply	Evangeline Aquifer
AV-441	TOWN OF EVERGREEN	319	Public Supply	Evangeline Aquifer
BE-410	BOISE CASCADE	474	Industrial	Evangeline Aquifer
BE-512	SINGER WATER DISTRICT	918	Public Supply	Evangeline Aquifer
CU-1362	LA WATER CO	635	Public Supply	Evangeline Aquifer
EV-858	SAVOY SWORDS WATER SYSTEM	472	Public Supply	Evangeline Aquifer
R-1350	PRIVATE OWNER	180	Irrigation	Evangeline Aquifer
V-5065Z	PRIVATE OWNER	170	Domestic	Evangeline Aquifer
V-668	LDWF/FORT POLK WMA HQ	280	Other	Evangeline Aquifer
CT-119	CITY OF JONESVILLE	800	Public Supply	Catahoula Aquifer
LS-278	ROGERS WATER SYSTEM	352	Public Supply	Catahoula Aquifer
R-1113	POLLOCK AREA WATER SYSTEM	852	Public Supply	Catahoula Aquifer
SA-287	SABINE	208	Public Supply	Catahoula Aquifer
BI-208	PRIVATE OWNER	100	Domestic	North Louisiana Terrace Aquifer
BO-434	RED CHUTE UTILITIES	94	Public Supply	North Louisiana Terrace Aquifer
BO-578	VILLAGE WATER SYSTEM	85	Public Supply	North Louisiana Terrace Aquifer
G-342	VANGAURD SYNFUELS, LLC	49	Industrial	North Louisiana Terrace Aquifer
G-432	CENTRAL GRANT WATER SYSTEM	158	Public Supply	North Louisiana Terrace Aquifer
LS-264	CITY OF JENA	105	Public Supply	North Louisiana Terrace Aquifer
MO-124	TEXAS GAS	133	Public Supply	North Louisiana Terrace Aquifer
MO-364	PEOPLES WATER SERVICE	154	Public Supply	North Louisiana Terrace Aquifer
OU-5524Z	PRIVATE OWNER	95	Domestic	North Louisiana Terrace Aquifer
RR-254	EAST CROSS WATER SYSTEM	93	Public Supply	North Louisiana Terrace Aquifer
BE-405	BOISE CASCADE	1,016	Industrial	Carnahan Bayou Aquifer
CO-47	CITY OF VIDALIA	310	Public Supply	Carnahan Bayou Aquifer
CO-71	CONCORDIA W.W. DIST. NO.1	305	Public Supply	Carnahan Bayou Aquifer
G-5178Z	PRIVATE OWNER	165	Domestic	Carnahan Bayou Aquifer
R-1001	GARDENER WATER SYSTEM	1,080	Public Supply	Carnahan Bayou Aquifer
R-1172	CLECO-RODEMACHER	298	Power Generation	Carnahan Bayou Aquifer
R-1210	CITY OF ALEXANDRIA	2,036	Public Supply	Carnahan Bayou Aquifer
R-FAIRCLOT	PRIVATE OWNER	270	Domestic	Carnahan Bayou Aquifer
V-496	U.S. ARMY/FORT POLK	1,415	Public Supply	Carnahan Bayou Aquifer
V-566	ALCO-HUTTON VFD	143	Public Supply	Carnahan Bayou Aquifer
V-656	EAST CENTRAL VERNON WATER SYS.	1,477	Public Supply	Carnahan Bayou Aquifer
V-8102Z	PRIVATE OWNER	66	Domestic	Carnahan Bayou Aquifer

WELL NUMBER	OWNER	DEPTH (FEET)	WELL USE	AQUIFER/SYSTEM
AV-126	PRIVATE OWNER	155	Domestic	Mississippi River Alluvial Aquifer
AV-462	PRIVATE OWNER	110	Irrigation	Mississippi River Alluvial Aquifer
AV-5135Z	PRIVATE OWNER	110	Domestic	Mississippi River Alluvial Aquifer
CO-YAKEY	PRIVATE OWNER	150	Domestic	Mississippi River Alluvial Aquifer
CT-241	PRIVATE OWNER	134	Irrigation	Mississippi River Alluvial Aquifer
CT-DENNIS	PRIVATE OWNER	30	Domestic	Mississippi River Alluvial Aquifer
EB-885	PRIVATE OWNER	352	Irrigation	Mississippi River Alluvial Aquifer
EC-370	PRIVATE OWNER	119	Irrigation	Mississippi River Alluvial Aquifer
FR-1358	PRIVATE OWNER	60	Domestic	Mississippi River Alluvial Aquifer
IB-363	SYNGENTA CROP PROTECTION, INC.	225	Industrial	Mississippi River Alluvial Aquifer
IB-5427Z	PRIVATE OWNER	160	Domestic	Mississippi River Alluvial Aquifer
IB-COM	PRIVATE OWNER	185	Domestic	Mississippi River Alluvial Aquifer
MA-206	TALLULAH WATER SERVICE	130	Public Supply	Mississippi River Alluvial Aquifer
MO-871	PRIVATE OWNER	80	Irrigation	Mississippi River Alluvial Aquifer
RI-469	LIDDIEVILLE WATER SYSTEM	90	Public Supply	Mississippi River Alluvial Aquifer
RI-48	RAYVILLE WATER DEPARTMENT	115	Public Supply	Mississippi River Alluvial Aquifer
RI-730	START WATER SYSTEM	101	Public Supply	Mississippi River Alluvial Aquifer
SL-5477Z	PRIVATE OWNER	110	Domestic	Mississippi River Alluvial Aquifer
SMN-33	LDOTD/LAFAYTTE DISTRICT	125	Public Supply	Mississippi River Alluvial Aquifer
TS-60	TOWN OF ST. JOSEPH	140	Public Supply	Mississippi River Alluvial Aquifer
TS-FORTENB	PRIVATE OWNER	Unknown	Domestic	Mississippi River Alluvial Aquifer
WC-527	PRIVATE OWNER	85	Irrigation	Mississippi River Alluvial Aquifer
WC-91	NEW CARROLL WTR. ASSN.	115	Public Supply	Mississippi River Alluvial Aquifer
CA-35	CITY OF COLUMBIA	298	Public Supply	Cockfield Aquifer
EC-233	TOWN OF LAKE PROVIDENCE	371	Public Supply	Cockfield Aquifer
MO-479	BAYOU BONNE IDEE WATER SYS.	258	Public Supply	Cockfield Aquifer
NA-5449Z	PRIVATE OWNER	170	Domestic	Cockfield Aquifer
OU-FRITH	PRIVATE OWNER	80	Domestic	Cockfield Aquifer
RI-127	DELHI WATER WORKS	416	Public Supply	Cockfield Aquifer
RI-450	RIVER ROAD WATERWORKS	283	Public Supply	Cockfield Aquifer
SA-BYRD	PRIVATE OWNER	150	Domestic	Cockfield Aquifer
UN-167	PRIVATE OWNER	110	Irrigation	Cockfield Aquifer
W-192	RED HILL WATER SYSTEM	210	Public Supply	Cockfield Aquifer
W-198	ATLANTA WATER SYSTEM	445	Public Supply	Cockfield Aquifer
W-5120Z	PRIVATE OWNER	70	Public Supply	Cockfield Aquifer
WC-187	NEW CARROLL WTR. ASSN.	110	Public Supply	Cockfield Aquifer
WC-487	TOWN OF OAK GROVE	396	Public Supply	Cockfield Aquifer
AC-539	CITY OF RAYNE	251	Public Supply	Chicot Aquifer
BE-378	TRANSCONTINENTAL GAS PIPELINE	172	Industrial	Chicot Aquifer

WELL NUMBER	OWNER	DEPTH (FEET)	WELL USE	AQUIFER/SYSTEM
BE-412	BOISE CASCADE	202	Industrial	Chicot Aquifer
BE-488	SINGER WATER DISTRICT	262	Public Supply	Chicot Aquifer
BE-6227Z	PRIVATE OWNER	90	Domestic	Chicot Aquifer
CN-5589Z	PRIVATE OWNER	140	Domestic	Chicot Aquifer
CN-92	USGS	443	Observation	Chicot Aquifer
CU-10192Z	PPG INDUSTRIES	230	Recovery	Chicot Aquifer
CU-1125	LDOTD	570	Public Supply	Chicot Aquifer
CU-1366	CITY OF LAKE CHARLES	685	Public Supply	Chicot Aquifer
CU-1471	PPG INDUSTRIES	525	Industrial	Chicot Aquifer
CU-770	USGS	490	Observation	Chicot Aquifer
CU-862	CITGO PETROLEUM CORPORATION	560	Industrial	Chicot Aquifer
EV-673	CITY OF MAMOU	247	Public Supply	Chicot Aquifer
I-7312Z	BREAUZ ELECTRIC	180	Public Supply	Chicot Aquifer
JD-862	CITY OF WELSH	697	Public Supply	Chicot Aquifer
LF-572	CITY OF LAFAYETTE	570	Public Supply	Chicot Aquifer
R-5428Z	PRIVATE OWNER	85	Domestic	Chicot Aquifer
SL-392	USGS	126	Observation	Chicot Aquifer
SMN-109	USGS	375	Observation	Chicot Aquifer
V-535	MARLOW FIRE STATION	66	Public Supply	Chicot Aquifer
VE-151	PRIVATE OWNER	250	Irrigation	Chicot Aquifer
VE-862	TOWN OF GUEYDAN	249	Public Supply	Chicot Aquifer
VE-882	CITY OF KAPLAN	279	Public Supply	Chicot Aquifer
BE-407	BOISE CASCADE	1,657	Industrial	Williamson Creek Aquifer
CO-163	U. S. ARMY CORPS OF ENG.	513	Public Supply	Williamson Creek Aquifer
R-867	INTERNATIONAL PAPER CO.	385	Industrial	Williamson Creek Aquifer
R-932	CITY OF ALEXANDRIA	466	Public Supply	Williamson Creek Aquifer
V-420	U.S. ARMY/FORT POLK	920	Public Supply	Williamson Creek Aquifer
V-5858Z	PRIVATE OWNER	248	Domestic	Williamson Creek Aquifer
V-8681Z	PRIVATE OWNER	190	Domestic	Williamson Creek Aquifer
AN-266	CITY OF GONZALES	548	Public Supply	Chicot Equivalent Aquifer System
AN-321	RUBICON, INC.	523	Industrial	Chicot Equivalent Aquifer System
AN-337	BASF CORP.	459	Public Supply	Chicot Equivalent Aquifer System
AN-500	UNIROYAL CHEMICAL CO.	480	Industrial	Chicot Equivalent Aquifer System
AN-6297Z	OXY CHEMICAL	294	Monitor	Chicot Equivalent Aquifer System
AN-9183Z	PRIVATE OWNER	630	Domestic	Chicot Equivalent Aquifer System
EB-1231	GEORGIA PACIFIC CORP.	280	Industrial	Chicot Equivalent Aquifer System
EB-34	EXXONMOBIL USA	453	Industrial	Chicot Equivalent Aquifer System
EB-8599Z	PRIVATE OWNER	180	Domestic	Chicot Equivalent Aquifer System
EB-991B	BATON ROUGE WATER WORKS	565	Public Supply	Chicot Equivalent Aquifer System

WELL NUMBER	OWNER	DEPTH (FEET)	WELL USE	AQUIFER/SYSTEM
EF-5329Z	PRIVATE OWNER	97	Domestic	Chicot Equivalent Aquifer System
JF-25	ENTERGY	878	Industrial	Chicot Equivalent Aquifer System
LI-5477Z	PRIVATE OWNER	106	Domestic	Chicot Equivalent Aquifer System
LI-85	FRENCH SETTLEMENT WATER SYS	405	Public Supply	Chicot Equivalent Aquifer System
SC-179	UNION CARBIDE	460	Industrial	Chicot Equivalent Aquifer System
SH-5333Z	PRIVATE OWNER	230	Domestic	Chicot Equivalent Aquifer System
SH-77	TRANSCO	170	Public Supply	Chicot Equivalent Aquifer System
SJ-226	GRAMERCY ALUMINA, LLC	248	Industrial	Chicot Equivalent Aquifer System
SJB-175	E.I. DUPONT	422	Industrial	Chicot Equivalent Aquifer System
ST-11516Z	PRIVATE OWNER	340	Domestic	Chicot Equivalent Aquifer System
ST-5245Z	PRIVATE OWNER	90	Domestic	Chicot Equivalent Aquifer System
TA-520	PRIVATE OWNER	135	Irrigation	Chicot Equivalent Aquifer System
WA-5295Z	PRIVATE OWNER	100	Domestic	Chicot Equivalent Aquifer System
WA-5311Z	PRIVATE OWNER	90	Domestic	Chicot Equivalent Aquifer System
AV-680	AVOYELLES WATER COMMISSION	553	Public Supply	Evangeline Equivalent Aquifer System
EB-1003	BATON ROUGE WATER WORKS	1,430	Public Supply	Evangeline Equivalent Aquifer System
EF-5045Z	PRIVATE OWNER	160	Domestic	Evangeline Equivalent Aquifer System
LI-299	WARD 2 WATER DISTRICT	1,417	Public Supply	Evangeline Equivalent Aquifer System
PC-325	ALMA PLANTATION LTD	1,252	Industrial	Evangeline Equivalent Aquifer System
SL-679	VALERO ENERGY CORPORATION	1,152	Industrial	Evangeline Equivalent Aquifer System
ST-532	SE LOUISIANA STATE HOSPITAL	1,520	Public Supply	Evangeline Equivalent Aquifer System
ST-6711Z	PRIVATE OWNER	860	Domestic	Evangeline Equivalent Aquifer System
TA-284	CITY OF PONCHATOULA	608	Public Supply	Evangeline Equivalent Aquifer System
TA-286	TOWN OF KENTWOOD	640	Public Supply	Evangeline Equivalent Aquifer System
TA-6677Z	PRIVATE OWNER	495	Domestic	Evangeline Equivalent Aquifer System
WA-241	PRIVATE OWNER	400	Irrigation	Evangeline Equivalent Aquifer System
WA-5210Z	PRIVATE OWNER	752	Domestic	Evangeline Equivalent Aquifer System
WBR-181	PORT OF GREATER BATON ROUGE	1,900	Industrial	Evangeline Equivalent Aquifer System
WF-DELEE	PRIVATE OWNER	240	Domestic	Evangeline Equivalent Aquifer System
EB-770	CITY OF ZACHARY	2,080	Public Supply	Jasper Equivalent Aquifer System
EF-272	LA. WAR VETS HOME	1,325	Public Supply	Jasper Equivalent Aquifer System
LI-185	CITY OF DENHAM SPRINGS	2,610	Public Supply	Jasper Equivalent Aquifer System
LI-229	WARD 2 WATER DISTRICT	1,826	Public Supply	Jasper Equivalent Aquifer System
LI-257	VILLAGE OF ALBANY	1,842	Public Supply	Jasper Equivalent Aquifer System
PC-275	PRIVATE OWNER	1,912	Domestic	Jasper Equivalent Aquifer System
SH-104	CAL MAINE FOODS	1,652	Industrial	Jasper Equivalent Aquifer System
ST-820	SOUTHERN MANOR MHP	2004	Public Supply	Jasper Equivalent Aquifer System
ST-995	PRIVATE OWNER	2,290	Irrigation	Jasper Equivalent Aquifer System
ST-FOLSOM	VILLAGE OF FOLSOM	2,265	Public Supply	Jasper Equivalent Aquifer System

WELL NUMBER	OWNER	DEPTH (FEET)	WELL USE	AQUIFER/SYSTEM
TA-560	TOWN OF ROSELAND	2,032	Public Supply	Jasper Equivalent Aquifer System
TA-826	CITY OF PONCHATOULA	2,015	Public Supply	Jasper Equivalent Aquifer System
WA-248	TOWN OF FRANKLINTON	2,700	Public Supply	Jasper Equivalent Aquifer System
WF-264	W. FELICIANA PARISH UTILITIES	960	Public Supply	Jasper Equivalent Aquifer System

Table 7 – Field, Water Quality, & Nutrients Data Summary by Aquifer/Aquifer System

	FIELD PARAMETERS					LABORATORY PARAMETERS												
	pH SU	Sal. ppt	Sp. Cond. mmhos/cm	TDS g/L	Temp. Deg. C	Alk. mg/L	NH3 mg/L	Cl mg/L	Color PCU	Hard mg/L	Nitrite-Nitrate (as N) mg/L	TKN mg/L	Tot. P mg/L	Sp. Cond. umhos/cm	SO4 mg/L	TDS mg/L	TSS mg/L	Turb NTU
	LABORATORY DETECTION LIMITS →					2	0.1	1.25/10	5	5	0.05/0.01/0.1	0.1	0.05	10	1.25/1.3	4	4	1
SPARTA AQUIFER																		
Min	6.48	0.07	0.145	0.094	20.20	3.2	<0.1	1.8	<5	<5	<0.05	<0.10	<0.05	26	<1.25	29	<4	<1
Avg	8.02	0.44	0.890	0.580	23.78	202.6	0.44	126.5	14.6	13.2	0.17	0.50	0.29	794	6.2	461	<4	<1
Max	9.03	1.04	2.034	1.322	25.75	582.0	0.95	419.0	60.0	32.4	1.21	1.16	0.78	2,040	19.9	1,112	<4	1.5
CARRIZO-WILCOX AQUIFER																		
Min	6.61	0.14	0.296	0.192	20.64	26.8	<0.1	17.7	<5	<5	<0.05	0.30	<0.05	199	<1.25	112	<4	<1
Avg	8.31	0.36	0.740	0.480	21.83	283.4	0.60	66.4	8.2	34.0	0.10	0.77	0.26	739	13.1	430	<4	1.9
Max	8.90	0.62	1.233	0.801	26.94	626.0	1.30	181.0	24.0	118.0	0.51	1.33	0.96	1,212	71.7	702	5.0	6.0
RED RIVER ALLUVIAL AQUIFER																		
Min	6.95	0.40	0.822	0.534	19.38	396	0.54	13.0	-	412.0	<0.05	0.61	0.44	782	3.4	460	6.0	25.7
Avg	7.02	0.46	0.930	0.610	20.23	457	0.77	25.5	-	462.0	<0.05	0.97	0.59	892	18.3	517	16.4	73.6
Max	7.21	0.55	1.104	0.718	22.94	542	1.46	44.2	-	572.0	<0.05	1.99	0.75	1,079	57.1	634	34.5	146.0
EVANGELINE AQUIFER																		
Min	6.87	0.04	0.089	0.058	19.87	10.5	<0.1	2.9	-	<5	<0.05	<0.1	<0.05	35	<1.3	50	<4	<1
Avg	8.06	0.22	0.460	0.300	22.44	175.8	0.20	37.3	-	27.9	<0.05	0.25	0.16	446	5.4	289	<4	<1
Max	9.20	0.59	1.176	0.764	26.85	428.0	0.74	181.0	-	83.3	0.06	0.83	0.33	1,260	39.8	738	<4	2.0
CATAHOULA AQUIFER																		
Min	7.68	0.12	0.255	0.166	21.36	101	<0.10	2.9	<5	<5	<0.05	<0.10	<0.05	203	<1.3	178	<4	<1
Avg	7.93	0.20	0.430	0.280	24.58	134	0.16	22.8	<5	<5	<0.05	0.22	0.33	334	9.5	240	<4	1.1
Max	8.36	0.35	0.726	0.472	28.06	183	0.22	38.4	10.0	11.2	<0.05	0.31	0.71	491	17.6	300	<4	3.5
NORTH LOUISIANA TERRACE AQUIFER																		
Min	5.32	0.02	0.043	0.028	18.61	8.4	<0.1	3.4	-	8.1	<0.05	<0.1	<0.05	43	<1.25	42	<4	<1
Avg	6.19	0.16	0.320	0.210	19.43	75.2	<0.1	44.3	-	75.2	0.88	0.11	0.12	315	13.0	202	<4	1.4
Max	7.47	0.82	1.620	1.053	21.29	250.0	0.36	307.0	-	368.0	3.43	0.53	0.35	1,627	102.0	948	<4	6.1
CARNAHAN BAYOU AQUIFER																		
Min	5.63	0.01	0.027	0.02	19.37	4.8	<0.1	3.4	-	<5	<0.05	<0.1	<0.05	28	<1.25	33.3	<4	<1
Avg	7.61	0.23	0.480	0.31	25.99	174.4	0.33	42.3	-	51.1	<0.05	0.40	0.32	478	11.8	312	5.3	9.1
Max	8.54	0.62	1.263	0.821	36.28	374	0.95	223.0	-	331.0	0.15	1.16	1.22	1,348	31.7	790	27.0	75.4
MISSISSIPPI RIVER ALLUVIAL AQUIFER																		
Min	6.66	0.09	0.198	0.129	18.66	56.7	<0.1	<10	<5	78.1	<0.05	<0.1	<0.05	199	<1.25	160	<4	<1
Avg	7.22	0.44	0.890	0.580	20.40	336.1	0.85	75.2	17.2	341.2	0.29	0.99	0.48	872	30.9	521	14.0	61.0
Max	8.52	1.14	2.228	1.448	23.91	607.0	5.98	602.0	110.0	511.0	4.94	6.11	1.89	2,370	263.0	1,314	56.0	235.0

	FIELD PARAMETERS					LABORATORY PARAMETERS												
	pH SU	Sal. ppt	Sp. Cond. mmhos/cm	TDS g/L	Temp. Deg. C	Alk. mg/L	NH3 mg/L	Cl mg/L	Color PCU	Hard mg/L	Nitrite-Nitrate (as N) mg/L	TKN mg/L	Tot. P mg/L	Sp. Cond. umhos/cm	SO4 mg/L	TDS mg/L	TSS mg/L	Turb NTU
	LABORATORY DETECTION LIMITS →					2	0.1	1.25/10	5	5	0.05/0.01/0.1	0.1	0.05	10	1.25/1.3	4	4	1
COCKFIELD AQUIFER																		
Min	4.93	0.02	0.035	0.023	18.52	3.8	<0.1	<1.25	<5	<5	<0.05	<0.1	<0.05	30	<1.25	28	<4	<1
Avg	7.38	0.32	0.650	0.430	19.90	257.4	0.40	48.6	14.7	111.9	0.44	0.53	0.38	641	22.0	402	<4	3.9
Max	8.95	0.61	1.221	0.793	22.05	435.0	1.09	189.0	42.0	474.0	7.70	1.40	1.79	1,204	147.0	748	6.0	27.4
CHICOT AQUIFER																		
Min	5.47	0.01	0.025	0.016	19.52	3.5	<0.1	2.3	<5	<5	<0.05	<0.1	<0.05	23	<1.25	24	<4	<1
Avg	7.33	0.31	0.63	0.40	22.47	216.2	0.36	85.9	24.3	161.6	<0.05	0.43	0.21	660	2.8	384	4.1	20.8
Max	8.87	0.89	1.753	1.139	27.34	471.0	2.11	399.0	170.0	329.0	0.58	2.26	0.44	1,768	10.7	940	23.0	149.0
WILLIAMSON CREEK																		
Min	6.84	0.06	0.137	0.089	21.70	59.7	0.17	5.8	<5	10.4	<0.05	<0.1	<0.05	142	<1.25	143	<4	<1
Avg	7.68	0.18	0.380	0.250	24.19	158.1	0.31	36.0	<5	38.6	<0.05	0.30	0.15	411	6.6	260	<4	<1
Max	8.51	0.28	0.568	0.370	31.30	237.0	0.48	99.7	6.0	157.0	0.14	0.50	0.44	604	26.2	352	<4	1.9
CHICOT EQUIVALENT AQUIFER SYSTEM																		
Min	5.18	0.01	0.028	0.018	19.33	<2	<0.1	2.6	<5	<5	<0.05	<0.1	<0.05	26	<1.25	24	<4	<1
Avg	7.28	0.29	0.59	0.380	21.69	151.3	0.50	99.0	17.4	46.7	0.12	0.56	0.21	582	2.5	334	<4	1.6
Max	9.18	1.26	2.441	1.587	24.77	460.0	2.10	675.0	160.0	186.0	1.15	2.35	0.66	2,390	23.0	1,170	<4	16.3
EVANGELINE EQUIVALENT AQUIFER SYSTEM																		
Min	6.49	0.02	0.048	0.030	17.20	15.0	<0.1	1.7	<5	<5	<0.01	<0.1	<0.05	43	3.3	43	<4	<1
Avg	8.12	0.12	0.260	0.170	22.88	125.9	<0.1	8.4	<5	7.4	0.06	0.35	0.27	248	6.3	185	<4	<1
Max	9.23	0.32	0.658	0.430	27.71	347.0	<0.1	33.1	35.0	37.6	0.77	1.54	0.77	652	11.9	404	8.0	1.5
JASPER EQUIVALENT AQUIFER SYSTEM																		
Min	7.61	0.09	0.188	0.12	19.99	90.0	0.50	2.9	<5	<5	<0.1	0.15	0.17	164	7.3	142	<4	<1
Avg	8.59	0.16	0.334	0.22	27.62	163.5	0.89	6.4	<5	5.1	<0.1	1.55	0.41	309	9.4	279	<4	<1
Max	9.08	0.32	0.652	0.42	33.24	300.0	3.36	29.1	8.0	10.0	<0.1	4.27	1.01	570	12.3	453	<4	<1

Table 8 – Inorganic (Total Metals) Data Summary by Aquifer/Aquifer System

ANALYTE	Antimony ug/L	Arsenic ug/L	Barium ug/L	Beryllium ug/L	Cadmium ug/L	Chromium ug/L	Copper ug/L	Iron ug/L	Lead ug/L	Mercury ug/L	Nickel ug/L	Selenium ug/L	Silver ug/L	Thallium ug/L	Zinc ug/L
Laboratory Detection Limits	1/5	3/4	2/5	1/2	0.5/2	3/4	2/3	20/100	1/3	0.2/0.05	3/5	4/5	0.5/1	1/2	5/10
SPARTA AQUIFER															
Min	<1	<3	31.0	<1	<0.5	<3	<3	<20	<3	<0.05	<3	<4	<0.5	<1	<10
Avg	<1	<3	47.0	<1	<0.5	<3	3.1	410	<3	<0.05	<3	<4	<0.5	<1	<10
Max	<1	<3	106.0	<1	<0.5	<3	8.6	2,170	3.9	0.10	5.8	<4	<0.5	<1	26
CARRIZO-WILCOX AQUIFER															
Min	<1	<3	6.5	<1	<0.5	<3	<3	<20.0	<3	<0.05	<3	<4	<0.5	<1	<10
Avg	<1	<3	70.2	<1	<0.5	<3	3.1	132	<3	<0.05	<3	<4	<0.5	<1	22
Max	<1	<3	285.0	<1	<0.5	<3	14.0	551	<3	<0.05	4.9	<4	<0.5	<1	107
RED RIVER ALLUVIAL AQUIFER															
Min	<1	<3	344.0	<1	<0.5	<3	<3	4,690	<3	<0.05	<3	<4	<0.5	<1	<10
Avg	<1	<3	461.0	<1	<0.5	<3	<3	7,717	<3	<0.05	<3	<4	<0.5	<1	490
Max	<1	4.8	553.0	<1	<0.5	<3	5.5	11,000	9.0	<0.05	<3	<4	<0.5	<1	2,907
EVANGELINE AQUIFER															
Min	<1	<3	9.1	<1	<0.5	<3	<3	<20	<3	<0.05	<3	<4	<0.5	<1	<10
Avg	<1	<3	128.0	<1	<0.5	<3	3.4	178	<3	<0.05	<3	<4	0.6	<1	16
Max	<1	3.5	455.0	<1	<0.5	<3	12.7	752	<3	<0.05	<3	<4	<0.5	<1	60
CATAHOULA AQUIFER															
Min	<1	<3	3.0	<1	<0.5	<3	<3	47	<3	<0.05	<3	<4	<0.5	<1	10
Avg	<1	<3	29.0	<1	<0.5	<3	3.3	327	<3	<0.05	<3	<4	<0.5	<1	330
Max	<1	3.3	123.0	<1	<0.5	<3	10.3	1,030	<3	<0.05	<3	<4	<0.5	<1	1,617
NORTH LOUISIANA TERRACE AQUIFER															
Min	<1	<3	31.0	<1	<0.5	<3	<3	<20	<3	<0.05	<3	<4	<0.5	<1	<10
Avg	<1	<3	167.0	<1	<0.5	<3	16.4	453	3.2	<0.05	<3	<4	<0.5	<1	11
Max	<1	<3	845.0	<1	<0.5	<3	121.0	1,960	14.3	<0.05	3.7	<4	<0.5	<1	32
CARNAHAN BAYOU AQUIFER															
Min	<1	<3	29.0	<1	<0.5	<3	<3	<20	<3	<0.05	<3	<4	<0.5	<1	<10
Avg	<1	<3	106.0	<1	<0.5	<3	6.0	959	<3	<0.05	<3	<4	<0.5	<1	79
Max	<1	<3	750.0	<1	<0.5	<3	16.0	10,100	<3	<0.05	<3	<4	<0.5	<1	996
MISSISSIPPI RIVER ALLUVIAL AQUIFER															
Min	<1	<3	33.6	<1	<0.5	<3	<3	<20	<3	<0.05	<3	<4	<0.5	<1	<10
Avg	<1	9.5	404.0	<1	<0.5	<3	<3	5,985	<3	<0.05	<3	<4	<0.5	<1	28
Max	<1	65.2	867.0	<1	<0.5	3.9	16.6	22,700	<3	0.14	<3	<4	<0.5	<1	260

ANALYTE	Antimony ug/L	Arsenic ug/L	Barium ug/L	Beryllium ug/L	Cadmium ug/L	Chromium ug/L	Copper ug/L	Iron ug/L	Lead ug/L	Mercury ug/L	Nickel ug/L	Selenium ug/L	Silver ug/L	Thallium ug/L	Zinc ug/L
Laboratory Detection Limits	1/5	3/4	2/5	1/2	0.5/2	3/4	2/3	20/100	1/3	0.2/0.05	3/5	4/5	0.5/1	1/2	5/10
COCKFIELD AQUIFER															
Min	<1	<3	3.8	<1	<0.5	<3	<3	<20	<3	<0.05	<3	<4	<0.5	<1	<10
Avg	<1	<3	112.0	<1	<0.5	<3	5.1	1,324	<3	0.08	<3	<4	<0.5	<1	26
Max	<1	5.1	336.0	<1	1.3	<3	21.2	6,420	8.0	0.26	7.6	<4	<0.5	<1	324
CHICOT AQUIFER															
Min	<1	<3	10.9	<1	<0.5	<3	<3	<20	<3	<0.05	<3	<4	<0.5	<1	<10
Avg	<1	<3	390.0	<1	<0.5	<3	7.2	2,238	<3	<0.05	<3	<4	<0.5	<1	105
Max	<1	<3	953.0	<1	<0.5	<3	80.5	12,300	22.8	0.08	<3	<4	<0.5	<1	649
WILLIAMSON CREEK AQUIFER															
Min	<1	<3	31	<1	<0.5	<3	<3	<20	<3	<0.05	<3	<4	<0.5	<1	<10
Avg	<1	<3	90.2	<1	<0.5	<3	<3	163	<3	<0.05	<3	<4	<0.5	<1	64
Max	<1	<3	326.0	<1	<0.5	<3	3.2	677	<3	<0.05	<3	<4	<0.5	<1	466
CHICOT EQUIVALENT AQUIFER SYSTEM															
Min	<1	<3	14.7	<1	<0.5	<3	<3	<20	<3	<0.05	<3	<4	<0.5	<1	<10
Avg	<1	<3	123.3	<1	<0.5	<3	7.9	888	<3	<0.05	3.8	<4	<0.5	<1	22
Max	<1	13.5	397.0	<1	<0.5	6.2	110.0	13,400	9.7	0.24	70.5	<4	<0.5	<1	145
EVANGELINE EQUIVALENT AQUIFER SYSTEM															
Min	<5	<4	<5	<2	<2	<4	<3	<100	<3	<0.05	<3	<5	<1	<2	<10
Avg	<5	<4	39.0	<2	<2	<4	<3	174	<3	<0.05	<3	<5	<1	<2	<10
Max	<5	<4	110.0	<2	<2	<4	7.7	1,780	<3	<0.05	19.3	<5	<1	<2	29
JASPER EQUIVALENT AQUIFER SYSTEM															
Min	<5	<4	<5	<2	<2	<4	<2	<100	<1	<0.2	<5	<5	<1	<2	<5
Avg	<5	<4	13.6	<2	<2	<4	<2	<100	<1	<0.2	7.8	<5	<1	<2	10
Max	<5	<4	41.9	<2	<2	13.2	5.8	<100	<1	<0.2	40.9	<5	<1	<2	39

Table 9 – Data Summary of All Aquifers/Aquifer Systems

WATER QUALITY PARAMETERS	FIELD PARAMETERS					LABORATORY PARAMETERS												
	pH SU	**Sal. ppt**	**Sp. Cond. mmhos/cm**	**TDS g/L**	**Temp. Deg. C**	**Alk. mg/L**	**NH3 mg/L**	**Cl mg/L**	**Color PCU**	**Hard mg/L**	**Nitrite-Nitrate (as N) mg/L**	**TKN mg/L**	**Tot. P mg/L**	**Sp. Cond. umhos/cm**	**SO4 mg/L**	**TDS mg/L**	**TSS mg/L**	**Turb NTU**
	LABORATORY DETECTION LIMITS* →					2	0.1	1.3	5	5	0.05	0.1	0.05	10	1.3/1.25	4	4	1
COMBINED AQUIFER AND AQUIFER SYSTEM DATA																		
Min	4.93	0.01	0.025	0.020	13.82	<2	<0.1	<1.3	<5	<5	<0.05	<0.1	<0.05	23	<1.3	24	<4	<1
Avg	7.60	0.29	0.591	0.385	22.44	207.0	0.48	59.7	12.9	132.0	0.17	0.60	0.29	574	11.3	356	4.4	13.2
Max	9.23	1.26	1.260	1.590	36.28	626.0	5.98	675.0	170.0	940.0	7.70	6.11	1.89	2,390	263.0	1,314	56.0	235.0

	INORGANIC (TOTAL METALS) PARAMETERS														
DETECTION LIMITS*	**Antimony ug/L**	**Arsenic ug/L**	**Barium ug/L**	**Beryllium ug/L**	**Cadmium ug/L**	**Chromium ug/L**	**Copper ug/L**	**Iron ug/L**	**Lead ug/L**	**Mercury ug/L**	**Nickel ug/L**	**Selenium ug/L**	**Silver ug/L**	**Thallium ug/L**	**Zinc ug/L**
→	5/10/50/60	5/10/20	1/2/200	1/5	1/5	5/10	5/10	20/100	3/10/20	0.05/0.2	5/40	3/5/10	1/2.5/10	5/10	10/20
COMBINED AQUIFER AND AQUIFER SYSTEM DATA															
Min	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
Avg	<DL	<DL	170	<DL	<DL	<DL	<DL	1,582	<DL	<DL	<DL	<DL	<DL	<DL	49
Max	<DL	65.2	953	<DL	1.3	13.2	121.0	22,700	22.8	0.26	70.5	<DL	<DL	<DL	2,907

*Detection limits vary due to different labs performing analyses over the three year period.

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