BASELINE MONITORING PROGRAM, FISCAL YEARS 2001 – 2003
(July 2000 through June 2003)

TRIENNIAL SUMMARY REPORT, 2003

FOR THE

ENVIRONMENTAL TECHNOLOGY DIVISION

OF THE

LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

PARTIAL FUNDING PROVIDED THROUGH CWA 106 GRANT

TRIENNIAL SUMMARY REPORT, 2003

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ACKNOWLEDGEMENTS

The Environmental Technology Division's (ETD) Baseline Monitoring Program (the Program or BMP) owes its success to many people and agencies for their continual support through the years. Without this support, the Program could not exist.

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

The Louisiana Department of Environmental Quality (LDEQ) Water Laboratory continues to provide excellent analytical service in addition to continued advice and assistance in data interpretation.

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

The United States Geological Survey (USGS) Water Resources Division frequently provides well schedule data that are used during the execution of the BMP. 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 the Baseline Monitoring Program.

This Program is funded in part by the U.S. Environmental Protection Agency through Section 106 of the Clean Water Act.

BACKGROUND

The Baseline Monitoring Program is conducted as a Clean Water Act, Section 106 activity. The Program was designed to determine and monitor the quality of ground water in the major freshwater aquifers across Louisiana. The data derived from this process is provided to the Ground Water Advisory Group for comments and to LDEQ to aid in formulating and implementing the Ground Water Protection Strategy for the State. It is also available to the public through LDEQ's website and through the mail upon request. Also, the laboratory results from the sampling of each well are mailed to the well owner.

For this reporting period, the BMP monitored 194 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 illustrates 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. 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 weeks before moving to the next aquifer. Aquifers of small areal extent may have been completed in a single week, whereas larger aquifers may have required several weeks 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 the BMP sampling that occurred from July 2000 through June 2003. One hundred ninety-four 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 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 begin on the next page. This 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 MCLs (if any) and the number of secondary MCLs that were exceeded are noted also. The most common secondary MCLs exceeded were iron, total dissolved solids, color and pH, in order of decreasing exceedances.

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. The general water quality is evaluated by comparing individual parameters to federal drinking water standards to assess the aquifer's use as a drinking water source, by taking into account whether or not volatile organic compounds, semi-volatile organic compounds, pesticides, or PCBs were detected, and by taking into account the findings for pH, total dissolved solids (TDS), hardness, chloride, iron, and nitrite-nitrate.

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

Soft	<50 parts per million (ppm)
Moderately hard	50-150 ppm
Hard	151-300 ppm
Very hard	>300 ppm

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

[1] Classification based on hardness scale from: *Peavey, H. S. et all. Environmental Engineering, 1985.*

AQUIFER SUMMATIONS

Sparta Aquifer
Laboratory and field data show that no assigned well that was sampled during this reporting period for the Sparta aquifer exceeded a primary MCL, while twenty-four Secondary MCLs (SMCLs) were exceeded. The data also show that the ground water 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
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 twelve exceedances of secondary standards. The data show that the ground water 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 of fair to good quality when considering taste, odor, or appearance guidelines.

Red River Alluvial 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 eleven SMCLs were exceeded. The data show that the ground water produced from this aquifer is very hard, but is of good quality when considering short-term or long-term health risk guidelines. Water produced from this aquifer is of poor quality when considering taste, odor, or appearance guidelines.

Evangeline 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 only four exceedances of secondary standards. The data show that the ground water 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 of good quality also when considering taste, odor, or appearance guidelines.

Catahoula 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, while only four SMCLs were exceeded. The data show that the ground water 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
Laboratory and field data show that no assigned well that was sampled during this reporting period for the North Louisiana Terrace aquifer exceeded a primary MCL. It should be noted however that two volatile organic compounds were detected in one assigned well. Trichloroethene (TCE) and methyl-t-butyl ether (MTBE) were detected at 3.9 ppb and 3.1 ppb respectively. The TCE concentration of 3.9 ppb does not exceed its MCL of 5 ppb, while no MCL for MTBE currently exists. The data show that the ground water produced from this aquifer is moderately hard and is of good quality when considering short-term or long-term health risk guidelines in that no primary MCLs were exceeded. Water produced from this aquifer is

of good quality when considering taste, odor, or appearance guidelines, with only seven SMCLs being exceeded.

Carnahan Bayou 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, while only four secondary standards were exceeded. The data show that the ground water produced from this aquifer is in the soft to moderately hard range, and is of good quality when considering short or long-term health risk guidelines. Water produced from this aquifer is also of good quality when considering taste, odor, or appearance guidelines.

Mississippi River Alluvial Aquifer

Laboratory and field data show that the ground water produced from the Mississippi River Alluvial aquifer is very hard, and that one primary MCL, arsenic, was exceeded in one well with a concentration of 61 ppb. The current MCL for arsenic is 50 ppb, however beginning in January, 2006, the MCL will be lowered to 10 ppb. Four additional wells reported levels of arsenic that will exceed the more stringent MCL with arsenic concentrations ranging from about 11 ppb to just over 40 ppb. Also, MTBE, which has no primary MCL, was found in one well at low ppb levels (3 – 4 ppb).

Review of this data shows that this aquifer is of poor quality when considering taste, odor, or appearance guidelines with 52 secondary standards being exceeded, the most of any aquifer monitored by the BMP. It is also shows that up to five exceedances of the 2006 arsenic MCL were found, making certain locations of this aquifer to be of questionable quality when considering short-term or long-term health risk guidelines. However, it is important to note that there are certain areas of this aquifer, particularly the northern part, that exhibit good water quality characteristics.

Cockfield Aquifer

Laboratory and field data show that no assigned well that was sampled during this reporting period for the Cockfield aquifer exceeded a primary MCL, with fourteen SMCLs being exceeded. The data show that the water produced from the Cockfield aquifer is moderately hard, and is of good quality when considering short or long-term health risk guidelines. Water produced from this aquifer is also of fair quality when considering taste, odor, or appearance guidelines.

Chicot Aquifer

Laboratory and field data show that no assigned well that was sampled during this reporting period for the Chicot aquifer exceeded a primary MCL, while thirty SMCLs were exceeded. Additionally, lead was detected in two wells with concentrations of about 14 ppb and close to 30 ppb. While there is no MCL for lead, there is an action level of 15 ppb, which would require some treatment technique to reduce the amount of lead in the water if it was from a public supply well.

Water produced from the Chicot aquifer is moderately hard, and is of good quality when considering short-term or long-term health risk guidelines. This aquifer is of fair quality when considering taste, odor, or appearance guidelines.

Williamson Creek

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. However, mercury was detected in one well at a concentration of 0.09 ppb, which is below mercury's primary MCL of 2 ppb. (The well was later re-sampled and analysis ran using the "Clean Metals" method and it was determined that the mercury concentration was approximately 0.5 parts per <u>trillion</u> in this well.) Review of the data shows that the Williamson Creek aquifer is of good quality when considering short-term or long-term health risk guidelines. Water produced from the Williamson Creek aquifer is soft and only three secondary standards were exceeded, which show this aquifer to also be of good quality when considering taste, odor, or appearance guidelines.

Chicot Equivalent Aquifer System

Laboratory data show that one assigned well of the Chicot Equivalent aquifer system exceeded the primary MCL for the volatile organic compound, 1,2-Dichloroethane (DCA). DCA, with a primary MCL of 5 ppb, was detected in an industrial well at a concentration of 29.1 ppb. Re-sampling efforts reported similar results. No other primary MCL was exceeded in any of this aquifer's assigned wells. Arsenic was detected in one well at a concentration of 12.6 ppb, which is below arsenic's current MCL of 50 ppb, but over the future arsenic MCL of 10 ppb. Additionally, mercury was detected in two separate wells, but with concentrations well below mercury's MCL of 2 ppb.

Further review shows that the Chicot Equivalent aquifer system is of questionable quality in localized areas when considering short-term or long-term health risk guidelines. The data also shows that the water produced from this aquifer is soft and is of fair quality when considering taste, odor, or appearance guidelines, with 35 SMCLs exceeded.

Evangeline Equivalent Aquifer System

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 fourteen secondary standards were exceeded. The data show that the water produced from the Evangeline Equivalent aquifer system is 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.

Jasper Equivalent Aquifer System

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 thirteen secondary standards were exceeded. The data show that the water produced from the Jasper Equivalent aquifer system is 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.

STATEWIDE SUMMARY OF FINDINGS

Combined Aquifer Data

Table 9 shows the minimum and maximum sample results, out of all the results from every aquifer and aquifer system that was sampled, for field parameters, water quality parameters, nutrients, and metals, as well as an average of all these sample results. The Table 1 below highlights the pH, TDS, hardness, chloride, iron, and nitrite-nitrate values shown in Table 9. It should be noted that the only average listed in Table 1 that does not meet a federal drinking water standard is the iron average of 1,524.4 ppb, which is a secondary, non-enforceable standard.

Table 1
Selected Statewide Values

PARAMETER	MINIMUM	MAXIMUM	AVERAGE
pH (SU)	5.13	9.45	7.48
TDS (ppm)	21.3	1,506.0	342.6
Hardness (ppm)	<5	653.0	95.4
Chloride (ppm)	<1.3	731.0	52.2
Iron (ppb)	<20	19,900	1,524.4
Nitrite-Nitrate (ppm)	<0.05	9.91	0.23

Federal Primary MCL and Action Level Exceedances

A review of the laboratory and field data from all the aquifers sampled shows that there were two exceedances of the primary MCL for arsenic and one exceedance of the primary MCL for 1,2-Dichloroethane. Also, three of the 194 wells sampled had detectable concentrations of mercury, but were still below mercury's MCL.

A review of the laboratory data from all the aquifers sampled shows that there was only one exceedance of the federal action level for lead.

The instances mentioned above are the only confirmed exceedances of primary MCLs and the only exceedance of a federal action level. Considering the fact that the BMP sampled 194 wells completed in fourteen different aquifers or aquifer systems, these numbers show that the overall quality of the ground water in the state of Louisiana is good, when considering short-term or long-term health risk guidelines.

SUMMARY STATEMENT

In conclusion, a few of the aquifers exhibited localized concentrations of certain analytes and some exhibited fair to poor water quality when considering taste, odor or appearance guidelines, while more than half exhibited overall good water quality. Considering this, and taking into account short-term or long-term health risk guidelines, the overall quality of the waters produced from Louisiana's principal aquifers is good.

Table 2
Aquifers and Aquifer Systems Monitored

AQUIFER OR SYSTEM	AREAL EXTENT (sq.mi.)	NUMBER OF WELLS	WELL DENSITY sq. mi./well
Sparta Aquifer	6,923	13	533
Carrizo-Wilcox Aquifer	4,795	12	400
Red River Alluvial Aquifer	1,387	5	277
Evangeline Aquifer	4,547	11	413
Catahoula Aquifer	2,590	6	432
North Louisiana Terrace Aquifer	2,152	11	235
Carnahan Bayou Aquifer	3,640	9	404
Mississippi River Alluvial Aquifer	9,947	25	398
Cockfield Aquifer	5,161	13	397
Chicot Aquifer	9,949	26	383
Williamson Creek Aquifer	3,243	7	463
Chicot Equivalent Aquifer System	6,800	26	262
Evangeline Equivalent Aquifer System	6,252	15	417
Jasper Equivalent Aquifer System	6,051	15	403
STATEWIDE	**73,437sq.mi.**	**194 wells**	**379sq.mi./well**

Table 3
Hydrogeologic Column of Aquifers

SYSTEM	SERIES	Stratigraphic Unit	Hydrogeologic Unit							
			Northern Louisiana	Central and southwestern Louisiana			Southeastern Louisiana			
			Aquifer or confining unit	Aquifer system or confining unit	Aquifer or confining unit		Aquifer system or confining unit	Aquifer[1] or confining unit		
					Lake Charles area	Rice growing area		Baton Rouge area	St. Tammany, Tangipahoa, and Washington Parishes	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	
		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			
		Fleming Formation: Lena Member		Lena confining unit			Unnamed confining unit			
	-----?----- Oligocene	Catahoula Formation		Catahoula aquifer			Catahoula equivalent aquifer system[2] or surficial confining unit			
		Vicksburg Group, undifferentiated	Vicksburg-Jackson confining unit							
	Eocene	Jackson Group, undifferentiated								
		Claiborne Group: Cockfield Formation	Cockfield aquifer or surficial confining unit							
		Claiborne Group: Cook Mountain Formation	Cook Mountain aquifer or confining unit							
		Claiborne Group: Sparta Sand	Sparta aquifer or surficial confining unit	No fresh water occurs in older aquifers						
		Claiborne Group: Cane River Fori ?	Cane River aquifer or confining unit							
		Claiborne Group: Carrizo Sand	Carrizo-Wilcox aquifer or surficial confining unit							
	Paleocene	Wilcox Group, undifferentiated								
		Midway Group, undifferentiated	Midway confining unit							

[1]Clay units separating aquifers in southeastern Louisiana are discontinuous and unnamed.
[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 2001 (July 2000 – June 2001)		
Sparta	July	6
Sparta	August	7
Carrizo-Wilcox	September	5
Carrizo-Wilcox / Red River Alluvial	October	(7 / 4) 11
Evangeline	January	11
Catahoula	February	6
North Louisiana Terrace	March	6
Red River Alluvial / North Louisiana Terrace	April	(1 / 5) 6
Carnahan Bayou	May	9
State Fiscal Year 2002 (July 2001 – June 2002)		
Mississippi River Alluvial	July	6
Mississippi River Alluvial	August	6
Mississippi River Alluvial	September	6
Mississippi River Alluvial / Cockfield	October	(6 / 4) 10
Mississippi River Alluvial	November	1
Cockfield	December	2
Cockfield	January	5
Cockfield / Chicot	February	(1 / 7) 8
Chicot	March	4
Cockfield / Chicot	April	(1 / 6) 7
Chicot	May	7
State Fiscal Year 2003 (July 2002 – June 2003)		
Chicot/Williamson Creek	July	(1 / 6) 7
Williamson Creek / Chicot Equivalent	August	(1 / 6) 7
Chicot Equivalent	September	6
Chicot / Chicot Equivalent	October	(1 / 5) 6
Chicot Equivalent	December	5
Evangeline Equivalent	January	7
Chicot Equivalent / Evangeline Equivalent	February	(4 / 7) 11
Jasper Equivalent	March	5
Evangeline Equivalent / Jasper Equivalent	April	(1 / 5) 6
Jasper Equivalent	May	5

Table 5
Parameter List

LIST OF ANALYTES		UNITS
FIELD PARAMETERS	pH	S.U.
	Temperature	Degrees C.
	Specific Conductivity	Mmhos/cm
	Salinity	ppt
WATER QUALITY PARAMETERS	Alkalinity	ppm
	Chloride	ppm
	Color	PCU
	Specific Conductivity	umhos/cm
	Sulfate	ppm
	Total Dissolved Solids	ppm
	Total Suspended Solids	ppm
	Turbidity	NTU
INORGANIC (TOTAL METALS) PARAMETERS	Antimony	ppb
	Arsenic	ppb
	Barium	ppb
	Beryllium	ppb
	Cadmium	ppb
	Chromium	ppb
	Copper	ppb
	Iron	ppb
	Lead	ppb
	Mercury	ppb
	Nickel	ppb
	Selenium	ppb
	Silver	ppb
	Thallium	ppb
	Zinc	ppb
NUTRIENT PARAMETERS	NH_3 – as N	ppm
	Hardness	ppm
	NO_2-NO_3 – as N	ppm
	TKN	ppm
	Total Phosphorus	ppm

Table 5 (Cont'd)

LIST OF ANALYTES		UNITS
VOLATILE ORGANIC COMPOUNDS (VOC's)	Dichlorofluoromethane	ppb
	Chlormethane	ppb
	Vinyl chloride	ppb
	Bromomethane	ppb
	Chloroethane	ppb
	Trichlorofluoromethane	ppb
	1,1-Dichloroethene	ppb
	Methylene chloride	ppb
	trans-1,2-Dichloroethene	ppb
	Methyl-t-butyl ether	ppb
	1,1-Dichloroethane	ppb
	2,2 Dichloropropane	ppb
	cis-1,2 Dichloroethene	ppb
	Bromochloromethane	ppb
	Chloroform	ppb
	1,1,1-Trichloroethane	ppb
	1,1 Dichloropropene	ppb
	Carbon tetrachloride	ppb
	Benzene	ppb
	1,2-Dichloroethane	ppb
	Trichloroethene	ppb
	1,2-Dichloropropane	ppb
	Bromodichloromethane	ppb
	Dibromomethane	ppb
	cis-1,3-Dichloropropene	ppb
	Toluene	ppb
	trans-1,3-Dichloropropene	ppb
	1,1,2-Trichloroethane	ppb
	1,3--Dichloropropane	ppb
	Tetrachloroethene	ppb
	1,2-Dibromoethane	ppb
	Dibromochloromethane	ppb
	Chlorobenzene	ppb
	Ethylbenzene	ppb
	1,1,1,2-Tetrachloroethane	ppb
	p&m Xylene	ppb
	o-Xylene	ppb
	Styrene	ppb
	Bromoform	ppb

Table 5 (Cont'd)

LIST OF ANALYTES		UNITS
VOC's (Cont'd)	Isopropylbenzene	ppb
	1,1,2,2-Tetrachloromethane	ppb
	1,2,3-Trichloropropane	ppb
	Bromobenzene	ppb
	n-Propylbenzene	ppb
	2-Chlorotoluene	ppb
	4-Chlorotoluene	ppb
	1,3,5-Trimethylbenzene	ppb
	tert-Butylbenzene	ppb
	1,2,4-Trimethylbenzene	ppb
	sec-Butylbenzene	ppb
	p-Isopropyltoluene	ppb
	1,3-Dichlorobenzene	ppb
	1,4-Dichlorobenzene	ppb
	n-Butylbenzene	ppb
	1,2-Dibromo-3-chloroproane	ppb
	Naphthalene	ppb
	1,2,4-Trichlorobenzene	ppb
	Hexachlorobutadiene	ppb
	1,2-Dichorobenzene	ppb
	1,2,3-Trichlorobenzene	ppb
SEMI VOLATILE ORGANIC COMPOUNDS (SVOC's)	Ethyl methanesulfonate	ppb
	Phenol	ppb
	Aniline	ppb
	Bis(2-chloroethyl)ether	ppb
	2-Chlorophenol	ppb
	1,3-Dichlorobenzene	ppb
	1,4-Dichlorobenzene	ppb
	Benzyl alcohol	ppb
	1,2-Dichlorobenzene	ppb
	2-Methylphenol	ppb
	Bis(2-chloroisopropyl)ether	ppb
	4-Methylphenol	ppb
	N-Nitroso-di-n-propylamine	ppb
	Hexachloroethane	ppb
	Acetophenone	ppb
	Nitrobenzene	ppb
	4-Nitrophenol	ppb
	2,4-Dinitrophenol	ppb
	Acenaphthene	ppb

Table 5 (Cont'd)

LIST OF ANALYTES		UNITS
SVOC's (Cont'd)	N-Nitrosopiperidine	ppb
	Isophorone	ppb
	2,4-Dimethylphenol	ppb
	2-Nitrophenol	ppb
	Benzoic acid	ppb
	Bis(2-chloroethoxy)methane	ppb
	2,4-Dichlorophenol	ppb
	a,a-Dimethylphenethylamine	ppb
	1,2,4-trichlorobenzene	ppb
	Benzidine	ppb
	Pyrene	ppb
	p-Dimethylaminoazobenzene	ppb
	Butylbenzylphthalate	ppb
	Bis(2-ethylhexyl)phthalate	ppb
	3,3'-Dichlorobenzidine	ppb
	Benzo(a)anthracene	ppb
	Chrysene	ppb
	Di-n-octylphthalate	ppb
	7,12-Dimetnylbenz(a)anthracine	ppb
	Benzo(b)fluoranthene	ppb
	Benzo(k)fluoranthene	ppb
	Benzo(a)pyrene	ppb
	3-Methylcholanthrene	ppb
	Dibenz(a,j)acridine	ppb
	Indeno(1,2,3-cd)pyrene	ppb
	Dibenz(a,h)anthracene	ppb
	Benzo(g,h,i)perylene	ppb
	Napthalene	ppb
	4-Chloroaniline	ppb
	2,6-Dichlorophenol	ppb
	Hexachlorobutadiene	ppb
	N-Nitrose-di-n-butylamine	ppb
	4-Chloro-3-methylphenol	ppb
	2-Methylnapthalene	ppb
	Hexachlorocyclopentadiene	ppb
	1,2,4,5-Tetrachlorobenzene	ppb
	2,4,6-Trichlorophenol	ppb
	2,4,5-Trichlorophenol	ppb
	2-Chloronapthalene	ppb

Table 5 (Cont'd)

LIST OF ANALYTES		UNITS
SVOC's (Cont'd)	1-Chloronapthalene	ppb
	2-Nitroaniline	ppb
	Dimethylphthalate	ppb
	2,6-Dinitrotoluene	ppb
	Acenaphthylene	ppb
	3-Nitroaniline	ppb
	2,4-Dinitrotoluene	ppb
	Pentachlorobenzene	ppb
	Dibenzofuran	ppb
	1-Naphthylamine	ppb
	Diethylphthalate	ppb
	2,3,4,6-Tetrachlorophenol	ppb
	2-Naphthylamine	ppb
	4-Chlorophenyl phenyl ether	ppb
	4-Nitroaniline	ppb
	Fluorene	ppb
	4,6-Dinitro-2-methylphenol	ppb
	4-Aminobiphenyl	ppb
	1,2-Diphenylhydrazine	ppb
	Phenacetin	ppb
	4-Bromophenyl phenyl ether	ppb
	Hexachlorobenzene	ppb
	Pronamide	ppb
	N-Nitrosodiphenylamine / Diphenylamine	ppb
	Pentachlorophenol	ppb
	Pentachloronitrobenzene	ppb
	Phenathrene	ppb
	Anthracene	ppb
	Di-n-butylphthalate	ppb
	Fluoranthene	ppb
PESTICIDES	Alpha BHC	ppb
	Beta BHC	ppb
	Gamma BHC	ppb
	Delta BHC	ppb
	Heptachlor	ppb
	Aldrin	ppb
	Heptachlor epoxide	ppb
	Chlordane	ppb

Table 5 (Cont'd)

LIST OF ANALYTES		**UNITS**
PESTICIDES (Cont'd)	Endosulfan I	ppb
	4,4'-DDE	ppb
	Dieldrin	ppb
	4,4'DDD	ppb
	Endrin	ppb
	Toxaphene	ppb
	Endosulfan II	ppb
	Endrin Aldehyde	ppb
	4,4'DDT	ppb
	Endosulfan Sulfate	ppb
	Methoxychlor	ppb
	Endrin Ketone	ppb
PCB's	PCB 1221/ PCB 1232	ppb
	PCB 1016/ PCB 1242	ppb
	PCB 1254	ppb
	PCB 1248	ppb
	PCB 1260	ppb

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	RIVERWOOD INTERNATIONAL	710	Industrial	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-275	VILLAGE WATER SYSTEM	308	Public Supply	Carrizo-Wilcox Aquifer
BO-467	CALUMET REFINERY	97	Industrial	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	BOX COMPANY	200	Industrial	Carrizo-Wilcox Aquifer
CD-642	LOUISIANA LIFT	210	Industrial	Carrizo-Wilcox Aquifer
DS-327	CITY OF MANSFIELD	243	Public Supply	Carrizo-Wilcox Aquifer
DS-363	CITY OF MANSFIELD	280	Public Supply	Carrizo-Wilcox Aquifer
RR-5070Z	PRIVATE OWNER	105	Domestic	Carrizo-Wilcox Aquifer
SA-502	PRIVATE OWNER	213	Irrigation	Carrizo-Wilcox Aquifer
SA-534	BOISE CASCADE	543	Public Supply	Carrizo-Wilcox Aquifer
CD-376	CERTAINTEED	80	Industrial	Red River Alluvial Aquifer
CD-586	PRIVATE OWNER	60	Irrigation	Red River Alluvial Aquifer
NA-47	PRIVATE OWNER	80	Irrigation	Red River Alluvial Aquifer
R-5756Z	PRIVATE OWNER	145	Domestic	Red River Alluvial Aquifer
RR-WILSON	PRIVATE OWNER	100	Domestic	Red River Alluvial Aquifer
AL-120	CITY OF OAKDALE	910	Public Supply	Evangeline Aquifer
AL-363	WEST ALLEN PARISH WATER DIST.	1715	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

WELL NUMBER	OWNER	DEPTH (FEET)	WELL USE	AQUIFER/SYSTEM
CT-119	CITY OF JONESVILLE	800	Public Supply	Catahoula Aquifer
G-295	POLLOCK AREA WATER SYSTEM	188	Public Supply	Catahoula Aquifer
G-5196Z	PRIVATE OWNER	125	Domestic	Catahoula Aquifer
LS-278	ROGERS WATER SYSTEM	352	Public Supply	Catahoula Aquifer
SA-429	PRIVATE OWNER	356	Domestic	Catahoula Aquifer
V-656	EAST CENTRAL VERNON WATER SYS.	1477	Public Supply	Catahoula Aquifer
BI-208	PRIVATE OWNER	100	Domestic	North Louisiana Terrace Aquifer
BO-340	VILLAGE WATER SYSTEM	91	Public Supply	North Louisiana Terrace Aquifer
BO-434	RED CHUTE UTILITIES	94	Public Supply	North Louisiana Terrace Aquifer
BO-5382Z	PRIVATE OWNER	95	Domestic	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	1016	Industrial	Carnahan Bayou Aquifer
CO-71	CONCORDIA W.W. DIST. NO.1	305	Public Supply	Carnahan Bayou Aquifer
G-5061Z	PRIVATE OWNER	275	Domestic	Carnahan Bayou Aquifer
R-1001	GARDENER WATER SYSTEM	1080	Public Supply	Carnahan Bayou Aquifer
R-1210	CITY OF ALEXANDRIA	2036	Public Supply	Carnahan Bayou Aquifer
R-FAIRCLOT	PRIVATE OWNER	270	Domestic	Carnahan Bayou Aquifer
V-496	U.S. ARMY/FORT POLK	1415	Public Supply	Carnahan Bayou Aquifer
V-566	ALCO-HUTTON VFD	143	Public Supply	Carnahan Bayou Aquifer
V-8102Z	PRIVATE OWNER	66	Domestic	Carnahan Bayou Aquifer
AV-5135Z	PRIVATE OWNER	110	Domestic	Mississippi River Alluvial Aquifer
AV-DELTA	PRIVATE OWNER	135	Irrigation	Mississippi River Alluvial Aquifer
AV-CHAT	PRIVATE OWNER	75	Irrigation	Mississippi River Alluvial Aquifer
CO-YAKEY	PRIVATE OWNER	150	Domestic	Mississippi River Alluvial Aquifer
CT-241	PRIVATE OWNER	134	Irrigation	Mississippi River Alluvial Aquifer
CO-47	CITY OF VIDALIA	310	Public Supply	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-368	CITY OF WINNSBORO	79	Public Supply	Mississippi River Alluvial Aquifer
IB-289	IBERVILLE WTR. DIST. #2	209	Public Supply	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-28	TALLULAH WATER SERVICE	128	Public Supply	Mississippi River Alluvial Aquifer
MO-871	PRIVATE OWNER	80	Irrigation	Mississippi River Alluvial Aquifer
OU-134	PRIVATE OWNER	74	Irrigation	Mississippi River Alluvial Aquifer
RI-469	LIDDIEVILLE WATER SYSTEM	90	Public Supply	Mississippi River Alluvial Aquifer

WELL NUMBER	OWNER	DEPTH (FEET)	WELL USE	AQUIFER/SYSTEM
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-91	N.E.W. CARROLL WTR. ASSN.	110	Public Supply	Mississippi River Alluvial Aquifer
WC-BRAN	PRIVATE OWNER	80	Irrigation	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 SYSTEM	258	Public Supply	Cockfield Aquifer
NA-5614Z	PRIVATE OWNER	176	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-5099Z	PRIVATE OWNER	138	Domestic	Cockfield Aquifer
WC-487	TOWN OF OAK GROVE	396	Public Supply	Cockfield Aquifer
AC-539	CITY OF RAYNE	251	Public Supply	Chicot Aquifer
AC-6919Z	PRIVATE OWNER	Unknown	Irrigation	Chicot Aquifer
AL-141	TOWN OF OBERLIN	155	Public Supply	Chicot Aquifer
BE-378	TRANSCONTINENTAL GAS PIPELINE	172	Industrial	Chicot Aquifer
BE-412	BOISE CASCADE	202	Industrial	Chicot Aquifer
BE-486	EAST BEAUREGARD HIGH SCHOOL	150	Public Supply	Chicot Aquifer
BE-488	SINGER WATER DISTRICT	262	Public Supply	Chicot Aquifer
CN-5589Z	PRIVATE OWNER	140	Domestic	Chicot Aquifer
CU-1023	PPG INDUSTRIES	701	Industrial	Chicot Aquifer
CU-1060	PPG INDUSTRIES	200	Industrial	Chicot Aquifer
CU-1125	LDOTD	570	Public Supply	Chicot Aquifer
CU-1436	PPG INDUSTRIES	530	Industrial	Chicot Aquifer
CU-699	CITGO PETROLEUM REFINING	530	Industrial	Chicot Aquifer
CU-771	USGS	241	Observation	Chicot Aquifer
EV-673	CITY OF MAMOU	247	Public Supply	Chicot Aquifer
I-5050Z	PRIVATE OWNER	188	Domestic	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

WELL NUMBER	OWNER	DEPTH (FEET)	WELL USE	AQUIFER/SYSTEM
VE-650	USGS	205	Observation	Chicot Aquifer
VE-6936Z	PRIVATE OWNER	125	Domestic	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	1657	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-296	UNIROYAL CHEMICAL CO.	300	Industrial	Chicot Equivalent Aquifer System
AN-316	GEISMAR VINYLS	478	Industrial	Chicot Equivalent Aquifer System
AN-321	RUBICON, INC.	523	Industrial	Chicot Equivalent Aquifer System
AN-338	BASF CORP.	466	Public Supply	Chicot Equivalent Aquifer System
AN-500	UNIROYAL CHEMICAL CO.	480	Industrial	Chicot Equivalent Aquifer System
AN-6297Z	VULCAN 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-991B	BATON ROUGE WATER WORKS	565	Public Supply	Chicot Equivalent Aquifer System
EF-5329Z	PRIVATE OWNER	97	Domestic	Chicot Equivalent Aquifer System
JF-28	ENTERGY	807	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
OR-61	ENTERGY (A.B. PATTERSON SUB-S)	653	Industrial	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	LA ROCHE CHEMICAL	248	Industrial	Chicot Equivalent Aquifer System
SJB-173	E.I. DUPONT	425	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-5304Z	PRIVATE OWNER	547	Domestic	Evangeline Equivalent Aquifer System
EB-1003	BATON ROUGE WATER WORKS	1430	Public Supply	Evangeline Equivalent Aquifer System
EF-5045Z	PRIVATE OWNER	160	Domestic	Evangeline Equivalent Aquifer System
LI-299	WARD 2 WATER DISTRICT	1417	Public Supply	Evangeline Equivalent Aquifer System
PC-325	ALMA PLANTATION LTD	1252	Industrial	Evangeline Equivalent Aquifer System
SL-679	VALERO ENERGY CORPORATION	1152	Industrial	Evangeline Equivalent Aquifer System

WELL NUMBER	OWNER	DEPTH (FEET)	WELL USE	AQUIFER/SYSTEM
ST-532	SE LOUISIANA STATE HOSPITAL	1520	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	1900	Industrial	Evangeline Equivalent Aquifer System
WF-DELEE	PRIVATE OWNER	240	Domestic	Evangeline Equivalent Aquifer System
EB-630	BATON ROUGE WATER CO.	2253	Public Supply	Jasper Equivalent Aquifer System
EB-770	CITY OF ZACHARY	2080	Public Supply	Jasper Equivalent Aquifer System
EF-272	LA. WAR VETS HOME	1325	Public Supply	Jasper Equivalent Aquifer System
LI-185	CITY OF DENHAM SPRINGS	2610	Public Supply	Jasper Equivalent Aquifer System
LI-229	WARD 2 WATER DISTRICT	1826	Public Supply	Jasper Equivalent Aquifer System
LI-257	VILLAGE OF ALBANY	1842	Public Supply	Jasper Equivalent Aquifer System
PC-275	PRIVATE OWNER	1912	Domestic	Jasper Equivalent Aquifer System
SH-104	CAL MAINE FOODS	1652	Industrial	Jasper Equivalent Aquifer System
ST-763	LDOTD	2230	Public Supply	Jasper Equivalent Aquifer System
ST-995	PRIVATE OWNER	2290	Irrigation	Jasper Equivalent Aquifer System
ST-FOLSOM	VILLAGE OF FOLSOM	2265	Public Supply	Jasper Equivalent Aquifer System
TA-560	TOWN OF ROSELAND	2032	Public Supply	Jasper Equivalent Aquifer System
TA-826	CITY OF PONCHATOULA	2015	Public Supply	Jasper Equivalent Aquifer System
WA-248	TOWN OF FRANKLINTON	2700	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	**Salinity**	**Field Sp. Cond.**	**Temp.**	**Alk.**	**Ammonia**	**Chloride**	**Color**	**Hardness**	**Nitrite - Nitrate**	**TKN**	**Phosphorous**	**Lab Sp. Cond**	**Sulfate**	**TDS**	**TSS**	**Turbidity**
Units:	**SU**	**ppt**	**mmhos/cm**	**Deg. C**	**ppm**	**ppm**	**ppm**	**PCU**	**ppm**	**ppm**	**ppm**	**ppm**	**umhos/cm**	**ppm**	**ppm**	**ppm**	**NTU**
Laboratory Detection Limits:					2	0.1	1.3	10	5	0.05	0.1	0.1	10	1.3	4	4	1
Sparta Aquifer																	
Min	6.34	0.01	0.025	20.04	5.2	<0.1	<1.3	<10	<10	<0.05	<0.1	<0.1	27.9	<1.3	27.0	<4	<1
Avg	7.65	0.29	0.593	23.58	163.7	0.32	80.8	15.9	14.8	0.27	0.44	0.29	604.6	9.14	366.6	<4	1.61
Max	8.84	1.00	1.965	26.65	535.0	0.80	389.0	55.0	34.5	1.57	1.32	0.77	2091.0	20.50	1164.0	<4	4.00
Carrizo-Wilcox Aquifer																	
Min	5.61	0.24	0.508	20.72	20.5	<0.1	18.2	<10	<10	<0.05	0.23	<0.1	322.7	<1.3	246.0	<4	<1
Avg	8.04	0.43	0.877	21.74	250.9	0.65	71.1	36.4	30.9	0.07	0.81	0.28	759.2	30.30	455.7	<4	2.47
Max	8.64	0.61	1.226	24.31	602.0	1.31	190.0	160.0	122.0	0.57	1.44	0.84	1239.0	147.00	694.0	<4	7.40
Red River Alluvial Aquifer																	
Min	7.08	0.31	0.644	19.82	337.0	0.18	6.1	<10	<10	<0.05	0.37	<0.1	663.0	<1.3	396.0	<4	1.10
Avg	7.59	0.68	1.339	20.39	456.7	0.78	148.3	34.2	402.7	<0.05	0.94	0.51	1399.2	71.36	834.0	13.1	47.27
Max	8.35	1.29	2.490	21.34	510.0	1.95	664.0	55.0	653.0	<0.05	2.11	0.85	2794.0	171.00	1506.0	33.3	100.00
Evangeline Aquifer																	
Min	5.49	0.02	0.035	15.69	14.9	<0.1	3.3	<10	<10	<0.05	<0.1	<0.1	35.6	<1.3	35.7	<4	<1
Avg	7.05	0.14	0.302	21.33	176.7	0.26	38.3	<10	32.6	<0.05	0.70	0.18	446.1	5.86	263.7	<4	1.11
Max	8.73	0.52	1.051	24.16	415.0	1.40	187.0	26.0	187.0	0.06	5.47	0.57	1014.0	25.80	602.0	<4	2.60
Catahoula Aquifer																	
Min	7.08	0.18	0.195	19.32	98.0	<0.1	3.7	<10	<10	<0.05	0.31	<0.1	210.0	<1.3	215.0	<4	<1
Avg	7.78	0.18	0.285	22.47	135.6	0.21	10.9	<10	<5	<0.05	0.38	0.37	302.3	4.86	257.8	4.1	2.13
Max	8.66	0.18	0.381	29.72	176.0	0.31	21.5	<10	<10	<0.05	0.41	0.67	386.0	13.90	292.0	4.5	7.80
North Louisiana Terrace Aquifer																	
Min	5.52	0.02	0.041	15.98	9.6	<0.1	3.7	<10	<10	<0.05	<0.1	<0.1	44.8	<1.3	56.0	<4	<1
Avg	6.81	0.15	0.317	18.97	97.7	0.21	25.0	<10	89.7	0.68	0.27	0.16	352.9	41.71	239.0	4.5	3.30
Max	7.72	0.67	1.345	20.40	238.0	0.81	64.2	20.0	551.0	3.48	1.18	0.26	1497.0	498.00	1074.0	11.2	9.80
Carnahan Bayou Aquifer																	
Min	5.90	0.01	0.027	17.35	6.5	<0.1	4.5	<10	<10	<0.05	0.27	<0.1	27.7	<1.3	39.3	<4	<1
Avg	7.55	0.23	0.497	23.50	203.9	0.41	29.2	<10	78.3	0.06	0.56	0.36	487.4	12.83	346.6	5.1	9.77
Max	8.55	0.60	1.229	36.06	362.0	0.72	211.0	25.0	270.0	0.14	0.93	0.81	1201.0	30.20	742.0	10.8	45.00

Table 7 (Cont'd)

	FIELD PARAMETERS				LABORATORY PARAMETERS												
	pH	**Salinity**	**Field Sp. Cond.**	**Temp.**	**Alk.**	**Ammonia**	**Chloride**	**Color**	**Hardness**	**Nitrite - Nitrate**	**TKN**	**Phosphorous**	**Lab Sp. Cond**	**Sulfate**	**TDS**	**TSS**	**Turbidity**
Units:	**SU**	**ppt**	**mmhos/cm**	**Deg. C**	**ppm**	**ppm**	**ppm**	**PCU**	**ppm**	**ppm**	**ppm**	**ppm**	**umhos/cm**	**ppm**	**ppm**	**ppm**	**NTU**
Laboratory Detection Limits:					2	0.1	1.3	10	5	0.05	0.1	0.1	10	1.3	4	4	1
Mississippi River Alluvial Aquifer																	
Min	6.76	0.10	0.203	19.03	58.7	<0.1	9.0	<10	62.0	<0.05	<0.1	<0.1	185.0	<1.3	159.0	<4	<1
Avg	6.91	0.41	0.817	20.13	316.2	0.93	57.6	47.1	308.0	0.71	1.24	0.53	776.8	24.60	484.5	12.7	56.19
Max	7.21	0.77	1.526	21.40	597.0	6.62	337.0	190.0	563.0	9.91	8.37	2.01	1581.0	271.00	1036.0	38.7	190.00
Cockfield Aquifer																	
Min	5.81	0.05	0.110	18.73	8.2	<0.1	3.2	<10	<10	<0.05	<0.1	<0.1	109.0	<1.3	90.0	<4	<1
Avg	7.37	0.33	0.663	20.35	272.0	0.61	38.2	14.5	83.6	0.27	0.94	0.29	655.4	88.94	405.3	5.2	4.86
Max	8.73	0.60	1.211	22.13	504.0	1.33	90.9	45.0	306.0	3.51	2.19	1.53	1209.0	886.00	754.0	12.5	20.00
Chicot Aquifer																	
Min	5.41	0.01	0.022	18.30	4.2	<0.1	3.1	<10	<10	<0.05	<0.1	<0.1	22.2	<1.3	21.3	<4	<1
Avg	7.00	0.25	0.520	21.87	196.5	0.40	54.0	12.9	128.8	0.06	0.56	0.14	513.7	1.98	311.2	5.2	12.08
Max	7.92	0.56	1.131	25.43	458.0	2.15	208.0	100.0	306.0	0.12	2.37	0.29	1134.0	9.20	686.0	23.3	120.00
Williamson Creek Aquifer																	
Min	6.50	0.15	0.325	21.80	61.0	<0.1	5.4	<10	<10	<0.05	<0.1	<0.1	146.0	<1.3	150.0	<4	<1
Avg	6.50	0.15	0.325	21.80	143.7	0.24	30.3	<10	31.8	0.07	0.35	0.15	371.6	5.03	233.9	<4	1.31
Max	6.50	0.15	0.325	21.80	213.0	0.49	94.6	<10	141.0	0.21	0.55	0.47	577.0	10.20	328.0	<4	2.30
Chicot Equivalent Aquifer System																	
Min	5.13	0.01	0.027	15.48	<2	<0.1	2.9	<10	<10	<0.05	0.12	<0.1	27.5	<1.3	23.3	<4	<1
Avg	7.14	0.34	0.684	21.98	163.4	0.70	118.0	25.5	40.8	0.16	0.81	0.22	653.9	2.06	370.1	4.7	2.86
Max	8.88	1.34	2.592	25.53	451.0	2.48	731.0	150.0	174.0	1.50	2.69	0.71	2510.0	8.80	1288.0	12.7	19.00
Evangeline Equivalent Aquifer System																	
Min	6.61	0.02	0.048	15.11	14.8	<0.1	2.7	<10	<10	<0.05	<0.1	<0.1	44.0	<1.3	42.0	<4	<1
Avg	8.41	0.12	0.270	22.74	117.7	0.15	7.3	<10	10.6	0.17	0.24	0.22	236.6	7.63	169.5	<4	1.31
Max	9.45	0.31	0.632	27.56	340.0	0.38	54.5	39.0	37.1	0.72	0.51	0.60	632.0	15.70	410.0	<4	6.00
Jasper Equivalent Aquifer System																	
Min	8.14	0.09	0.187	22.63	63.9	<0.1	2.3	<10	<10	<0.05	<0.1	<0.1	183.0	3.80	134.0	<4	<1
Avg	8.67	0.17	0.367	28.13	163.1	0.24	14.4	10.3	10.8	0.06	0.33	0.32	343.0	8.05	221.4	<4	1.08
Max	9.19	0.38	0.797	32.20	305.0	0.75	113.0	28.0	59.8	0.29	0.89	0.61	788.0	11.10	454.0	<4	1.70

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

	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Iron	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
Units:	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limits:	**5.0**	**5.0**	**1.0**	**1.0**	**1.0**	**5.0**	**5.0**	**20.0**	**10.0**	**0.05**	**5.0**	**5.0**	**1.0**	**5.0**	**10.0**
Sparta Aquifer															
Min	<5	<5	4.68	<1	<1	<5	<5	<20	<10	<0.05	<5	<5	<1	<5	<10
Avg	<5	<5	53.87	<1	1.21	<5	5.49	459.49	<10	<0.05	<5	<5	<1	<5	15.73
Max	<5	<5	120.00	<1	2.46	<5	9.89	2300.00	<10	<0.05	<5	<5	<1	<5	39.60
Carrizo-Wilcox Aquifer															
Min	<5	<5	9.19	<1	<1	<5	<5	<20	<10	<0.05	<5	<5	<1	<5	<10
Avg	<5	<5	68.11	<1	1.06	<5	9.18	2597.83	<10	0.05	15.82	<5	16.25	<5	77.85
Max	<5	<5	220.00	<1	1.71	<5	55.10	15400.00	<10	0.06	102.00	<5	184.00	<5	196.00
Red River Alluvial Aquifer															
Min	<5	<5	15.60	<1	<1	<5	<5	<20	<10	<0.05	<5	<5	<1	<5	<10
Avg	<5	<5	212.40	<1	1.29	<5	5.03	3786.17	<10	<0.05	<5	<5	1.32	<5	41.77
Max	<5	<5	459.00	<1	1.94	<5	5.17	10661.00	<10	<0.05	<5	<5	1.83	<5	111.00
Evangeline Aquifer															
Min	<5	<5	8.70	<1	<1	<5	<5	<20	<10	<0.05	<5	<5	<1	<5	<10
Avg	<5	5.63	127.03	<1	1.05	<5	9.83	164.90	<10	<0.05	<5	<5	<1	<5	17.28
Max	<5	12.60	344.00	<1	1.30	<5	32.40	921.00	<10	<0.05	<5	<5	<1	<5	31.00
Catahoula Aquifer															
Min	<5	<5	1.50	<1	<1	<5	<5	36.70	<10	<0.05	<5	<5	<1	<5	12.00
Avg	<5	<5	4.55	<1	1.20	<5	6.72	231.83	<10	<0.05	8.88	<5	<1	<5	64.87
Max	<5	<5	8.30	<1	1.60	<5	10.30	595.00	<10	<0.05	24.40	<5	<1	<5	267.00
North Louisiana Terrace Aquifer															
Min	<5	<5	27.20	<1	<1	<5	<5	<20	<10	<0.05	<5	<5	<1	<5	<10
Avg	8.94	6.98	93.86	<1	1.25	<5	12.66	525.80	15.36	<0.05	9.03	<5	<1	<5	120.24
Max	16.50	14.90	333.60	<1	2.70	<5	48.60	1605.00	26.40	<0.05	48.90	<5	<1	<5	373.00
Carnahan Bayou Aquifer															
Min	<5	<5	5.70	<1	<1	<5	<5	<20	<10	<0.05	<5	<5	<1	<5	<10
Avg	<5	<5	135.74	<1	<1	<5	6.65	914.45	<10	<0.05	<5	<5	<1	<5	72.95
Max	<5	<5	489.00	<1	<1	<5	20.50	4154.00	<10	<0.05	<5	<5	<1	<5	655.00

Table 8 (Cont'd)

	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Iron	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
Units:	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limits:	**5.0**	**5.0**	**1.0**	**1.0**	**1.0**	**5.0**	**5.0**	**20.0**	**10.0**	**0.05**	**5.0**	**5.0**	**1.0**	**5.0**	**10.0**
Mississippi River Alluvial Aquifer															
Min	<5	<5	26.70	<1	<1	<5	<5	<20	<10	<0.05	<5	<5	<1	<5	<10
Avg	<5	11.16	343.71	<1	<1	<5	8.03	5345.52	<10	<0.05	5.02	<5	<1	<5	62.80
Max	<5	61.00	985.00	<1	<1	<5	72.60	19900.00	<10	<0.05	5.50	<5	<1	<5	741.00
Cockfield Aquifer															
Min	<5	<5	5.20	<1	<1	<5	<5	<20	<10	<0.05	<5	<5	<1	<5	<10
Avg	5.03	<5	132.73	<1	<1	<5	51.95	1515.76	<10	<0.05	<5	<5	<1	<5	42.98
Max	5.50	<5	302.00	<1	<1	<5	400.00	5460.00	<10	<0.05	<5	<5	<1	<5	235.00
Chicot Aquifer															
Min	<5	<5	10.70	<1	<1	<5	<5	<20	<10	<0.05	<5	<5	<1	<5	<10
Avg	<5	5.06	296.91	<1	<1	5.25	23.69	1624.89	10.74	0.05	<5	<5	<1	<5	126.05
Max	<5	7.00	933.00	<1	<1	13.40	268.00	12600.00	29.80	0.06	<5	<5	<1	<5	1310.00
Williamson Creek Aquifer															
Min	<5	<5	36.50	<1	<1	<5	<5	<20	<10	<0.05	<5	<5	<1	<5	<10
Avg	<5	<5	86.63	<1	<1	<5	5.15	349.65	<10	0.05	<5	<5	<1	<5	93.18
Max	<5	<5	329.00	<1	<1	<5	6.10	1080.00	<10	0.09	<5	<5	<1	<5	925.00
Chicot Equivalent Aquifer System															
Min	<5	<5	14.90	<1	<1	<5	<5	<20	<10	<0.05	<5	<5	<1	<5	<10
Avg	<5	<5	127.51	<1	<1	<5	15.88	987.40	<10	0.07	<5	<5	<1	<5	16.16
Max	<5	<5	392.00	<1	<1	<5	201.00	9705.00	<10	0.39	<5	<5	<1	<5	71.20
Evangeline Equivalent Aquifer System															
Min	<5	<5	2.00	<1	<1	<5	<5	<20	<10	<0.05	<5	<5	<1	<5	<10
Avg	<5	<5	39.91	<1	<1	<5	6.73	204.06	<10	<0.05	<5	<5	<1	<5	11.82
Max	<5	<5	111.00	<1	<1	<5	20.10	1801.00	<10	<0.05	<5	<5	<1	<5	36.00
Jasper Equivalent Aquifer System															
Min	<5	<5	<1	<1	<1	<5	<5	<20	<10	<0.05	<5	<5	<1	<5	<10
Avg	5.02	<5	22.23	<1	<1	<5	5.10	92.19	<10	<0.05	<5	<5	<1	<5	59.90
Max	5.30	<5	127.00	<1	<1	<5	6.40	666.00	<10	<0.05	<5	<5	<1	<5	757.00

Table 9
Data Summary of All Aquifers/Aquifer Systems

Water Quality Parameters

	FIELD PARAMETERS				LABORATORY PARAMETERS												
	pH	**Salinity**	**Field Sp. Cond.**	**Temp.**	**Alk.**	**Ammonia**	**Chloride**	**Color**	**Hardness**	**Nitrite - Nitrates**	**TKN**	**Phosphorous**	**Lab Sp. Cond**	**Sulfate**	**TDS**	**TSS**	**Turbidity**
Units:	**SU**	**ppt**	**mmhos/cm**	**Deg. C**	**ppm**	**ppm**	**ppm**	**PCU**	**ppm**	**ppm**	**ppm**	**ppm**	**umhos/cm**	**ppm**	**ppm**	**ppm**	**NTU**
Laboratory Detection Limits:					2	0.1	1.3	10	5	0.05	0.1	0.1	10	1.3	4	4	1
Min	5.13	0.01	0.022	15.11	<2	<0.1	<1.3	<10	<5	<0.05	<0.1	<0.1	22.2	<1.3	21.3	<4	<1
Avg	7.48	0.27	0.552	22.29	201.2	0.47	52.2	18.9	95.4	0.23	0.65	0.28	551.5	19	342.6	5.7	12.15
Max	9.45	1.34	2.592	36.06	602.0	6.62	731.0	190.0	653.0	9.91	8.37	2.01	2794	886	1506	38.7	190.0

Inorganic (Total Metals) Parameters

	Antimony ppb	**Arsenic ppb**	**Barium ppb**	**Beryllium ppb**	**Cadmium ppb**	**Chromium ppb**	**Copper ppb**	**Iron ppb**	**Lead ppb**	**Mercury ppb**	**Nickel ppb**	**Selenium ppb**	**Silver ppb**	**Thallium ppb**	**Zinc ppb**
Detection Limits	5	5	1	1	1	5	5	20	10	0.05	5	5	1	5	10
Min	<5	<5	<1	<1	<1	<5	<5	<20	<10	<0.05	<5	<5	<1	<5	<10
Avg	5.24	5.95	150.4	<1	1.05	5.04	13.64	1,524.4	10.42	0.05	5.88	<5	1.79	<5	61.2
Max	16.5	61	985	<1	2.70	13.40	400	19,900	29.80	0.39	102	<5	184	<5	1310

REFERENCES

Hydrogeologic column of aquifers

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

Hardness scale

Peavy, H.S. et al. *Environmental Engineering, 1985.*

Geology and hydrogeology sections

Boniol, D. et al. *Recharge Potential of Louisiana Aquifers, A Supplement to the State Aquifer Recharge Map and Atlas Plates, 1989.* Louisiana Geological Survey.

Boydstun, J. et al. *State of Louisiana Water Quality Management Plan, Water Quality Inventory Section 305 (b), 1996.* Louisiana Department of Environmental Quality.

Smoot, C.W. *Louisiana Hydrologic Atlas Map No. 2: Areal Extent of Freshwater In Major Aquifers of Louisiana, 1986.* United States Geological Survey.

Smoot, C.W. *Louisiana Hydrologic Atlas Map No. 4: Geohydrologic Sections of Louisiana, 1989.* United States Geological Survey.

Buono, A. *The Southern Hills Regional Aquifer System of Southeastern Louisiana and Southwestern Mississippi, 1983.* United States Geological Survey.