

APPENDIX 1

SPARTA AQUIFER SUMMARY

BASELINE MONITORING PROJECT, EPA FY'98

(July 1997 Through June 1998)

PART I

OF

TRIENNIAL SUMMARY REPORT

FOR THE

WATER QUALITY MANAGEMENT DIVISION

OF

LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

PARTIAL FUNDING PROVIDED THROUGH CWA 106 GRANT

SPARTA AQUIFER SUMMARY

TABLE OF CONTENTS

BACKGROUND.....	1
PROJECT FIELD AND ANALYTICAL PARAMETERS.....	2
DISCUSSION OF WATER QUALITY DATA.....	2
SUMMARY AND RECOMMENDATIONS.....	4
TABLE I-1 List of Project Wells Sampled	5
TABLE I-2 Summary of Water Quality Data	6
TABLE I-3 Summary of Inorganic Data.....	7
TABLE I-4 List of VOC Analytical Parameters	8
TABLE I-5 List of Semi-volatile Analytical Parameters	10
TABLE I-6 List of Pesticide and PCB Analytical Parameters	13
Figure I-1 Location Plat, Sparta Aquifer	14
Figure I-2 Map of pH Data	15
Figure I-3 Map of TDS Data.....	16
Figure I-4 Map of Chloride Data	17
Figure I-5 Map of Iron Data	18

BACKGROUND

In order to better assess the water quality of a particular aquifer at a given point in time, an attempt was made during the project year to sample all project wells producing from a common aquifer in a narrow time frame. Also, to more conveniently and economically promulgate those data collected from a particular aquifer, a summary report on each aquifer sampled was prepared separately. Collectively, these aquifer summaries will make up the project Triennial Summary Report.

Figure I-1 shows the geographic locations of the Sparta Aquifer and the associated project wells, whereas Table I-1 lists the wells in the aquifer along with their total depths and the use made of produced waters and date sampled.

These data show that from July, 1997, through August, 1998, 13 wells were sampled which produce from the Sparta Aquifer. Nine of the 13 wells are classified as Public Supply, the remaining four are Industrial wells. The wells are located in nine separate parishes located in the north-central part of the state.

PROJECT FIELD AND ANALYTICAL PARAMETERS

The field parameters checked at each sampling site and the list of water quality analytical parameters are shown in Table I-2. Those project inorganic (total metals) parameters analyzed in the laboratory are listed in Table I-3. These tables also show the field and analytical results determined for each analyte.

In addition to the above mentioned Water Quality analytical parameters, a list of project analytical parameters include three other categories of compounds: Volatiles, Semi-volatiles, and Pesticides/PCBs. As only two volatile compounds of these three categories of compounds were reported in two of the 13 Sparta water wells sampled, tables were not prepared. However, in order for the reader to be aware of the total list of analytes, Tables I-4, I-5, and I-6 were included in this report. The tables list the project analytes along with their Practical Quantitation Limits (PQLs) used during processing.

DISCUSSION OF WATER QUALITY DATA

FEDERAL PRIMARY DRINKING WATER STANDARD: Laboratory data show that one Webster Parish public supply well exceeded the 5.0 ppb MCL for benzene. This well, WB-269, reported 6.0 ppb for benzene. The well owner has been aware of the benzene contamination in WB-269 and is utilizing an air-stripper to treat the water prior to distribution to lower benzene levels to below the MCL. No other project well producing from the Sparta exceeded the Primary MCL for any analyte.

As the MCL established for Turbidity applies to surface water systems only, the wells exceeding 1.0 NTU do not violate this federal primary standard.

FEDERAL SECONDARY DRINKING WATER STANDARDS: Secondary standards are defined as non-enforceable taste, odor, or appearance guidelines. Field and laboratory data contained in Tables I-2 and I-3 show that from two to ten wells sampled in the Sparta Aquifer exceeded the Secondary Maximum Contaminant Levels (SMCL) for four separate analytes in this category.

pH (SMCL= 6.5 SU to 8.5 SU) The following three wells fell below the lower limit of 6.5 SU: BI-192, BI-212, and WB-269; the following seven wells reported pH values above 8.5 SU: CA-105, CL-171, L-32, MO-253, OU-597, OU-506, and UN-205.

TDS (SMCL=500 ppm) Seven wells, CA-105, MO-253, OU-506, OU-597, UN-205, W-165, and WB-241 exceeded the secondary limit for TDS. Their values ranged from 510 ppm to 1142 ppm.

Color (SMCL = 15 PCU) Seven wells exceeded this secondary MCL. These wells, BI-212, CA-105, CL-171, MO-253, OU-506, OU-597, and W-165 reported color values that ranged from 20 PCU to 70 PCU.

Chloride (SMCL = 250 ppm) Two wells, MO-253 and OU-597 exceeded the chloride limit, reporting a value of 410 and 364 ppm respectively.

Iron (SMCL = 300 ppb) Three of the 13 Sparta aquifer wells sampled exceeded the secondary standard for iron. Their values ranged from 384 ppb to 2,057 ppb.

As stated earlier, two volatile organic compounds were detected in two of the Sparta Aquifer project wells. Benzene, a known contaminant in well WB-269 was detected at 6.0 ppb, and Chloroform was detected in well W-165 at 10.0 ppb. Well W-165 was re-sampled in September of 1997, which reported chloroform to be below the PQL of 5.0 ppb in both the original and duplicate samples taken at that time. After review of this data it was determined that the chloroform detected in the first sampling was due to field/laboratory contamination.

The inorganic contaminant Lead was detected above the 15 ppb action level in all seven of the wells sampled in August, 1997, whereas lead was not detected in any of the wells sampled in the previous month of July

(laboratory PQL for Lead = 10.0 ppb). Two wells (W-165 and BI-212) of the seven that reported lead were re-sampled on September 22, 1997. Analytical results of this re-sampling effort show that lead was not detected in either of these wells. Sample analysis of Sparta Aquifer project wells from prior Baseline sampling activities in 1994 and 1995 show that lead was not detected above 5.0 ppb. Taking these factors into consideration, it is believed that the lead reported in those samples collected in August of 1997 was due to field contamination via the grade of nitric acid used to preserve the samples and is not due to lead contamination of the Sparta Aquifer.

SELECTED WATER QUALITY MAPS: For the readers convenience, maps showing the contoured values for pH, TDS, chloride, and iron are included in this summary report in Figures I-2 through I-5.

SUMMARY AND RECOMMENDATIONS

In summary, the included data show the water produced from the Sparta Aquifer project wells to be of good quality with the exception of the one Webster Parish well which exceeded the MCL for benzene.

It is recommended that the project wells assigned to the Sparta Aquifer be re-sampled as planned, in approximately three years. In addition, several wells should be added to the 13 currently in place to increase the well density for this aquifer.

TABLE I-1 List of Project Wells Sampled

SPARTA AQUIFER PROJECT WELLS							
<i>PROJECT NUMBER</i>	<i>PARISH</i>	<i>PARISH WELL NO.</i>	<i>DATE SAMPLED</i>	<i>WELL OWNER</i>	<i>DEPTH (feet)</i>	<i>WELL USE</i>	<i>AQUIFER</i>
9411	BIENVILLE	BI-192	08/11/1997	LUCKY WATER SYSTEM	153	PUBLIC SUPPLY	SPARTA
9413	BIENVILLE	BI-212	08/11/1997	STONE CONTAINER CORP.	490	INDUSTRIAL	SPARTA
9414	CALDWELL	CA-105	07/14/1997	VIXEN WATER SYSTEM	525	PUBLIC SUPPLY	SPARTA
9303	CLAIBORNE	CL-171	08/12/1997	ARCADIA REFINING CO.	559	INDUSTRIAL	SPARTA
9408	LINCOLN	L-31	07/15/1997	CITY OF RUSTON	636	PUBLIC SUPPLY	SPARTA
8806	LINCOLN	L-32	07/15/1997	CITY OF RUSTON	652	PUBLIC SUPPLY	SPARTA
9308	MOREHOUSE	MO-253	07/14/1997	VILLAGE OF COLLINSTON	773	PUBLIC SUPPLY	SPARTA
9108	OUACHITA	OU-506	07/14/1997	IMC	506	INDUSTRIAL	SPARTA
9109	OUACHITA	OU-597	07/14/1997	MANVILLE FOREST PRODUCTS	710	INDUSTRIAL	SPARTA
9703	UNION	UN-205	08/12/1997	D'ARBONNE WATER SYSTEM	725	PUBLIC SUPPLY	SPARTA
8623	WINN	W-165	08/11/1997	TOWN OF WINNFIELD	456	PUBLIC SUPPLY	SPARTA
8822	WEBSTER	WB-241	08/12/1997	TOWN OF SPRINGHILL	408	PUBLIC SUPPLY	SPARTA
8823	WEBSTER	WB-269	08/12/1997	CITY OF MINDEN	280	PUBLIC SUPPLY	SPARTA

TABLE I-2 Summary of Water Quality Data

SPARTA AQUIFER WATER QUALITY PARAMETERS																		
FIELD PARAMETERS																		
WELL NUMBER	TEMP °C	pH SU	COND. mmhos/cm	SAL. ppt	TSS ppm	TDS ppm	ALK. ppm	HARD. ppm	TURB. NTU	COND. umhos/cm	COLOR PCU	Cl ppm	SO ₄ ppm	NITRITE-NITRATE (as N) ppm	TOT. P ppm	TKN ppm	TOC ppm	NH ₃ (as N) ppm
BI-192	20.56	5.24	0.031	0.01	<4.0	51.9	4.3	5.6	4.4	32.7	5.0	1.9	0.5	1.63	0.04	0.13	<4.0	<0.1
BI-192*	20.56	5.24	0.031	0.01	<4.0	71.9	4.5	5.6	4.9	31.3	5.0	2.0	0.4	1.64	0.04	0.23	<4.0	<0.1
BI-212	21.41	6.47	0.206	0.10	<4.0	242.0	82.8	23.2	1.1	216.0	30.0	7.7	9.4	0.07	0.13	0.33	24.0	0.2
CA-105	23.40	8.82	1.018	0.50	<2.0	678.0	566.0	8.0	2.4	1071.0	70.0	16.8	<0.0	0.04	0.98	0.87	12.2	0.8
CL-171	26.36	8.61	0.304	0.14	<4.0	252.0	225.0	2.5	1.8	320.0	20.0	3.6	10.2	0.02	0.30	0.49	<4.0	0.4
L-31	26.74	7.74	0.420	0.20	<2.0	288.0	162.0	8.0	3.5	441.0	10.0	35.6	10.0	0.07	0.65	0.11	<4.0	0.2
L-32	24.50	8.71	0.316	0.15	<2.0	222.0	143.0	8.0	1.0	333.0	5.0	9.7	14.7	0.04	0.22	0.20	<4.0	0.4
L-32*	24.50	8.71	0.316	0.15	<2.0	218.0	143.0	8.0	1.0	331.0	5.0	9.7	14.7	0.04	0.22	0.14	<4.0	0.3
MO-253	26.08	8.70	2.000	1.01	<2.0	1142.0	399.0	8.0	2.2	2096.0	30.0	410.0	0.0	0.04	0.39	0.95	7.3	0.9
OU-506	22.93	8.89	0.866	0.42	<2.0	510.0	284.0	8.0	3.2	911.0	30.0	117.0	<0.0	0.04	0.40	0.78	5.2	0.6
OU-597	25.73	8.70	1.732	0.87	<2.0	978.0	344.0	8.0	1.1	1829.0	40.0	364.0	0.4	0.04	0.37	0.90	7.8	0.9
UN-205	24.73	8.73	1.117	0.55	<4.0	720.0	155.0	10.1	2.6	1185.0	10.0	248.0	0.4	0.02	0.13	0.92	<4.0	0.8
W-165	25.31	8.44	0.649	0.31	<4.0	560.0	287.0	8.0	1.0	674.0	50.0	36.5	5.0	0.06	0.61	0.37	8.6	<0.1
WB-241	21.21	7.21	0.651	0.32	<4.0	516.0	215.0	48.7	2.2	691.0	10.0	64.6	28.9	0.02	0.13	1.14	<4.0	1.0
WB-269	20.73	6.21	0.147	0.07	<4.0	190.0	33.8	22.4	0.7	154.0	5.0	8.3	20.3	1.03	0.05	0.20	<4.0	0.2

* Denotes Duplicate Sample

TABLE I-3 Summary of Inorganic Data

SPARTA AQUIFER INORGANIC (TOTAL METALS) PARAMETERS															
<i>WELL NUMBER</i>	<i>ARSENIC ppb</i>	<i>SILVER ppb</i>	<i>BARIUM ppb</i>	<i>BERYLLIUM ppb</i>	<i>CADMIUM ppb</i>	<i>CHROMIUM ppb</i>	<i>COPPER ppb</i>	<i>IRON ppb</i>	<i>MERCURY ppb</i>	<i>NICKEL ppb</i>	<i>ANTIMONY ppb</i>	<i>SELENIUM ppb</i>	<i>LEAD ppb</i>	<i>THALLIUM ppb</i>	<i>ZINC ppb</i>
BI-192	<5.0	<2.0	28.9	<1.0	<2.0	<5.0	<5.0	493.0	<0.05	<5.0	<5.0	<5.0	35.1	<5.0	16.4
BI-192*	<5.0	<2.0	27.8	<1.0	<2.0	<5.0	8.7	384.0	<0.05	<5.0	<5.0	<5.0	35.0	<5.0	20.1
BI-212	<5.0	<2.0	67.1	<1.0	<2.0	<5.0	7.7	2057.0	<0.05	<5.0	<5.0	<5.0	18.4	<5.0	23.9
CA-105	<5.0	<2.0	18.0	<1.0	<2.0	<5.0	13.4	64.0	<0.05	<5.0	<5.0	<5.0	<10.0	<5.0	11.9
CL-171	<5.0	<1.0	<10.0	<1.0	<2.0	<5.0	<18.6	75.2	<0.05	7.0	<5.0	<5.0	33.1	<5.0	<10.0
L-31	<5.0	<2.0	<10.0	<1.0	<2.0	<5.0	6.9	255.2	<0.05	<5.0	<5.0	<5.0	<10.0	<5.0	26.2
L-32	<5.0	<2.0	<10.0	<1.0	<2.0	<5.0	<5.0	16.7	<0.50	<5.0	<5.0	<5.0	<10.0	<5.0	10.8
L-32*	<5.0	<2.0	<10.0	<1.0	<2.0	<5.0	<5.0	19.1	<0.05	<5.0	<5.0	<5.0	<10.0	<5.0	44.7
MO-253	<5.0	<2.0	26.0	<1.0	<2.0	<5.0	<5.0	21.6	<0.05	<5.0	<5.0	<5.0	<10.0	<5.0	6.9
OU-506	<5.0	<2.0	<10.0	<1.0	<2.0	<5.0	<5.0	21.6	<0.05	<5.0	<5.0	<5.0	<10.0	<5.0	6.9
OU-597	<5.0	<2.0	3.9	<1.0	<2.0	<5.0	10.5	99.8	<0.05	<5.0	<5.0	<5.0	<10.0	<5.0	<10.0
UN-205	<5.0	<5.0	28.9	<1.0	<2.0	<5.0	18.6	200.0	<0.05	10.9	<5.0	<5.0	28.5	<5.0	<10.0
W-165	<5.0	<2.0	14.0	<1.0	<2.0	<5.0	41.4	37.0	<0.05	5.1	<5.0	<5.0	18.6	<5.0	<10.0
WB-241	<5.0	<5.0	110.6	<1.0	<2.0	6.4	14.6	438.0	<0.05	9.6	<5.0	<5.0	43.3	<5.0	111.0
WB-269	<5.0	<2.0	110.0	<1.0	<2.0	<5.0	16.4	73.1	0.05	7.6	<5.0	<5.0	40.4	<5.0	13.1

* Denotes Duplicate Sample.

TABLE I-4 List of VOC Analytical Parameters
BASELINE MONITORING PROJECT

VOLATILE ORGANICS BY EPA METHOD 8260

COMPOUNDS	PQL (ppb)
DICHLOROFLUOROMETHANE	10
CHLOROMETHANE	10
VINYL CHLORIDE	10
BROMOMETHANE	10
CHLOROETHANE	10
TRICHLOROFLUOROMETHANE	10
1,1-DICHLOROETHENE	10
METHYLENE CHLORIDE	10
TRANS-1,2-DICHLOROETHENE	10
1,1-DICHLOROETHANE	10
2,2 DICHLOROPROPANE	10
CIS-1,2 DICHLOROETHENE	10
BROMOCHLOROMETHANE	10
CHLOROFORM	10
1,1,1-TRICHLOROETHANE	10
1,1 DICHLOROPROPENE	10
CARBON TETRACHLORIDE	10
BENZENE	10
1,2-DICHLOROETHANE	10
TRICHLOROETHENE	10
1,2-DICHLOROPROPANE	10
BROMODICHLOROMETHANE	10
DIBROMOMETHANE	10
CIS-1,3-DICHLOROPROPENE	10
TOLUENE	10
TRANS-1,3-DICHLOROPROPENE	10
1,1,2-TRICHLOROETHANE	10
1,3--DICHLOROPROPANE	10
TETRACHLOROETHENE	10
1,2-DIBROMOETHANE	10
DIBROMOCHLOROMETHANE	10
CHLOROBENZENE	10
ETHYLBENZENE	10
1,1,1,2-TETRACHLOROETHANE	10
P&M XYLENE	10
O-XYLENE	10
STYRENE	10
BROMOFORM	10
ISOPROPYLBENZENE	10
1,1,2,2-TETRACHLOROETHANE	10

TABLE I-4 (Cont=d)
Volatile Organic (VOC) Parameters

COMPOUNDS	PQL (ppb)
1,2,3,-TRICHLOROPROPANE	10
BROMOBENZENE	10
n-PROPYLBENZENE	10
2-CHLOROTOLUENE	10
4-CHLOROTOLUENE	10
1,3,5-TRIMETHYLBENZENE	10
TERT-BUTYLBENZENE	10
1,2,4-TRIMETHYLBENZENE	10
SEC-BUTYLBENZENE	10
P-ISOPRPLYLTOLUENE	10
1,3-DICHLOROBENZENE	10
1,4-DICHLOROBENZENE	10
n-BUTYLBENZENE	10
1,2-DIBROMO-3-CHLOROPROPANE	10
NAPHTHALENE	10
1,2,4-TRICHLOROBENZENE	10
HEXACHLOROBUTADIENE	10
1,2-DICHLOROBENZENE	10
1,2,3-TRICHLOROBENZENE	10

PQL = Practical Quantitation Limit
 ppb = parts per billion

TABLE I-5 List of Semi-volatile Analytical Parameters
BASELINE MONITORING PROJECT

SEMIVOLATILE ORGANICS BY EPA METHOD 8270

COMPOUNDS	PQL (ppb)
N-Nitrosodimethylamine	10
2-Picoline	10
Methyl methanasulfonate	10
Ethyl methanesulfonate	20
Phenol	10
Aniline	10
Bis(2-chloroethyl)ether	10
2-Chlorophenol	10
1,3-Dichlorobenzene	10
1,4-Dichlorobenzene	10
Benzyl alcohol	20
1,2-Dichlorobenzene	10
2-Methylphenol	10
Bis(2-chloroisopropyl)ether	10
4-Methylphenol	10
N-Nitroso-di-n-propylamine	10
Hexachloroethane	10
Acetophenone	10
Nitrobenzene	10
N-Nitrosopiperidine	20
Isophorone	10
2,4-Dimethylphenol	10
2-Nitrophenol	10
Benzoic acid	50
Bis(2-chloroethoxy)methane	10
2,4-Dichlorophenol	10
a,a-Dimethylphenethylamine	10
1,2,4-trichlorobenzene	10
Benzidine	50
Pyrene	10
p-Dimethylaminoazobenzene	10
Butylbenzylphthalate	10
Bis(2-ethylhexyl)phthalate	10

TABLE I-5 (Cont=d)
Semivolatile Parameters

COMPOUNDS	PQL (ppb)
3,3'-Dichlorobenzidine	20
Benzo(a)anthracene	10
Chrysene	10
Di-n-octylphthalate	10
7,12-Dimethylbenz(a)anthracene	10
Benzo(b)fluoranthene	20
Benzo(k)fluoranthene	10
Benzo(a)pyrene	10
3-Methylcholanthrene	10
Dibenz(a,j)acridine	10
Indeno(1,2,3-cd)pyrene	10
Dibenz(a,h)anthracene	10
Benzo(g,h,i)perylene	10
Napthalene	10
4-Chloroaniline	10
2,6-Dichlorophenol	10
Hexachlorobutadiene	10
N-Nitrose-di-n-butylamine	10
4-Chloro-3-methylphenol	20
2-Methylnapthalene	10
Hexachlorocyclopentadiene	10
1,2,4,5-Tetrachlorobenzene	10
2,4,6-Trichlorophenol	10
2,4,5-Trichlorophenol	10
2-Chloronapthalene	10
1-Chloronapthalene	10
2-Nitroaniline	50
Dimethylphthalate	10
2,6-Dinitrotoluene	10
Acenaphthylene	10
3-Nitroaniline	50
4-Nitrophenol	50
2,4-Dinitrophenol	50
Acenaphthene	10

TABLE I-5 (Cont=d)
Semivolatile Parameters

COMPOUNDS	PQL (ppb)
2,4-Dinitrotoluene	10
Pentachlorobenzene	10
Dibenzofuran	10
1-Naphthylamine	10
Diethylphthalate	10
2,3,4,6-Tetrachlorophenol	10
2-Naphthylamine	10
4-Chlorophenyl phenyl ether	10
4-Nitroaniline	50
Fluorene	10
4,6-Dinitro-2-methylphenol	50
4-Aminobiphenyl	20
1,2-Diphenylhydrazine	10
Phenacetin	20
4-Bromophenyl phenyl ether	10
Hexachlorobenzene	10
Pronamide	10
N-Nitrosodiphenylamine/Diphenylamine	10
Pentachlorophenol	50
Pentachloronitrobenzene	20
Phenathrene	10
Anthracene	10
Di-n-butylphthalate	10
Fluoranthene	10

TABLE I-6 List of Pesticide and PCB Analytical Parameters
BASELINE MONITORING PROJECT

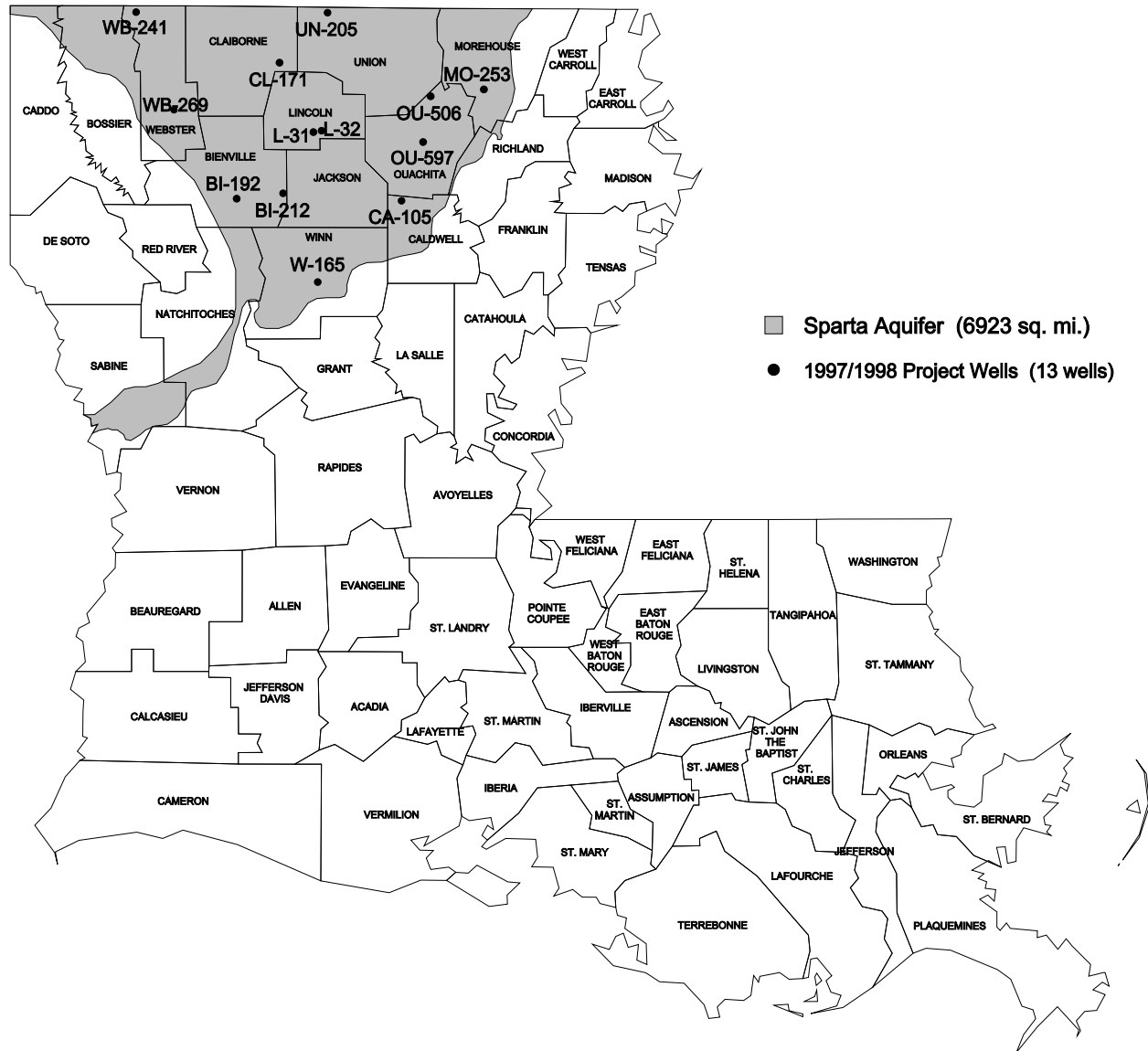
SEMIVOLATILE ORGANICS BY EPA METHOD 8270

COMPOUNDS	PQL (ppb)
Alpha BHC	2
Beta BHC	2
Gamma BHC	2
Delta BHC	2
Heptachlor	2
Aldrin	2
Heptachlor epoxide	2
Chlordane	2
Endosulfan I	2
4,4'-DDE	2
Dieldrin	2
4,4'DDD	2
Endrin	2
Toxaphene	75
Endosulfan II	2
Endrin Aldehyde	2
4,4'DDT	2
Endosulfan Sulfate	2
Methoxychlor	2
Endrin Ketone	2

SEMIVOLATILE ORGANICS BY EPA METHOD 8270

COMPOUNDS	PQL (ppb)
PCB 1221/ PCB 1232	10
PCB 1016/ PCB1242	10
PCB 1254	10
PCB 1248	10
PCB 1260	10

BASELINE MONITORING PROJECT WELLS OF THE SPARTA AQUIFER



Aquifer boundary digitized from Louisiana Hydrologic Map No. 2: Areal Extent of Freshwater in Major Aquifers of Louisiana, Smoot, 1986; USGS/LDOTD Report 86-4150.

03/30/1998

Figure I-1 Location Plat, Sparta Aquifer

SPARTA AQUIFER - pH (SU)

Baseline Monitoring Project FY97-98

- ◊ WB-241 Project Well Location and Designation
- 7.21 pH Value (in Standard Units)
- Contour Interval = 0.25 SU

Contour map generated using Surfer for Windows v6.04
03/27/1998

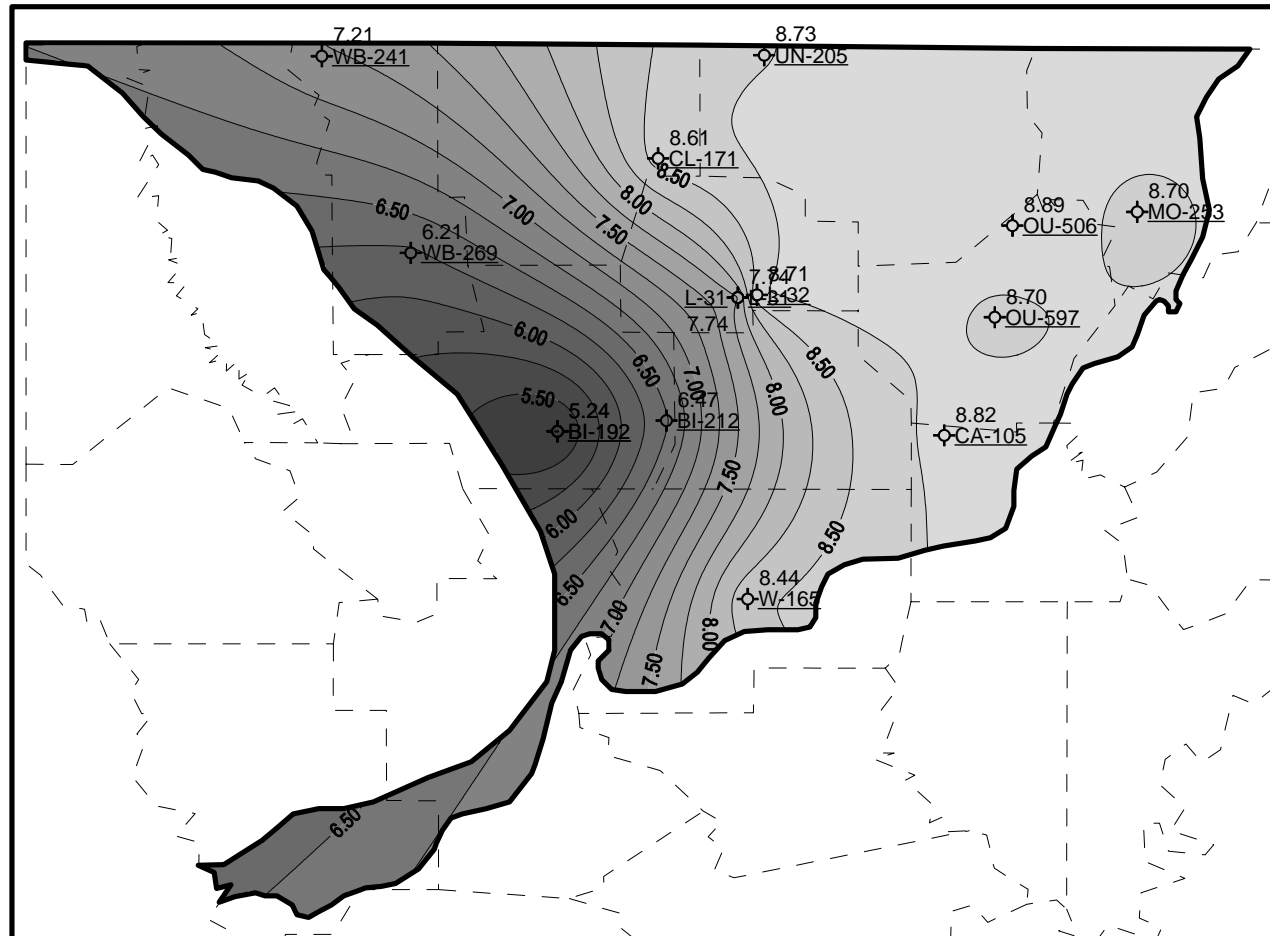
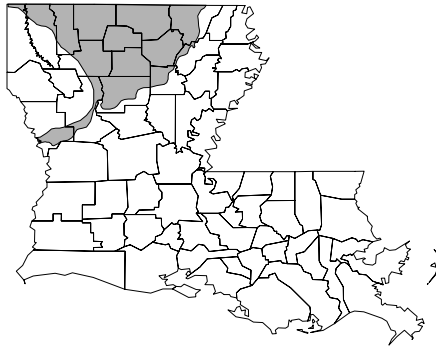



Figure I-2 Map of pH Data

SPARTA AQUIFER - TDS (PPM)

Baseline Monitoring Project FY97-98

-  **WB-241** Project Well Location and Designation
 516.0 TDS Value (in Parts Per Million)
 Contour Interval = 200 ppm

Contour map generated using Surfer for Windows v6.04
03/30/1998

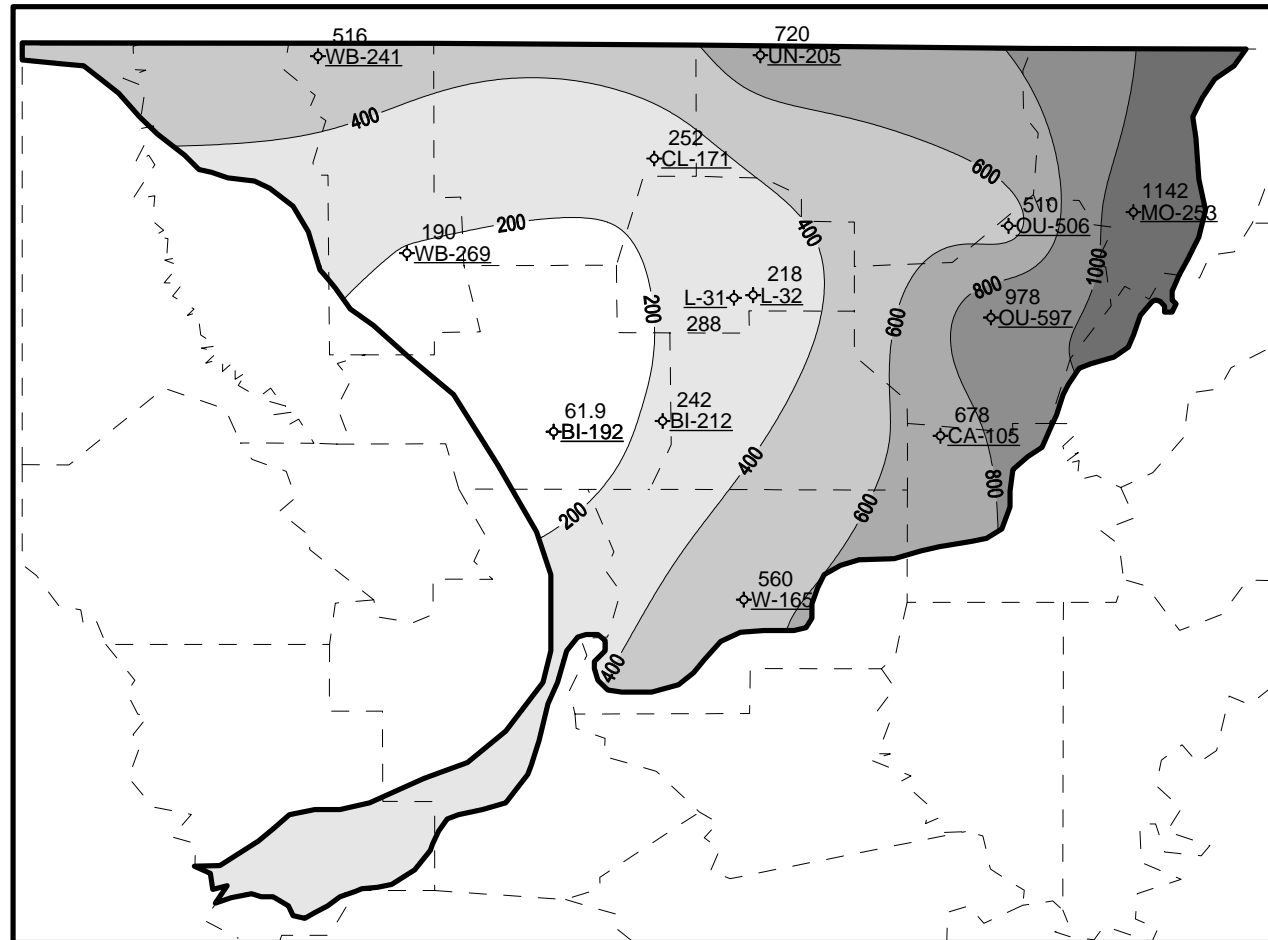
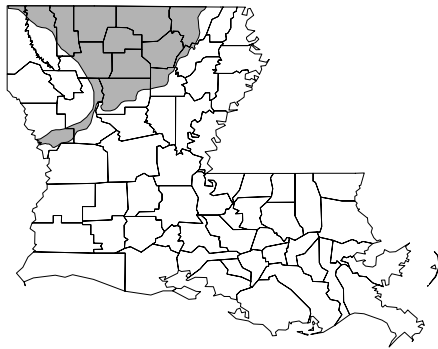


Figure I-3 Map of TDS Data

SPARTA AQUIFER - CHLORIDE (PPM)

Baseline Monitoring Project FY97-98

⊕ WB-241 Project Well Location
and Designation

64.6 Chloride Value (in Parts Per Million)
Contour Interval = 50 ppm

Contour map generated using Surfer for Windows v6.04
03/30/1998

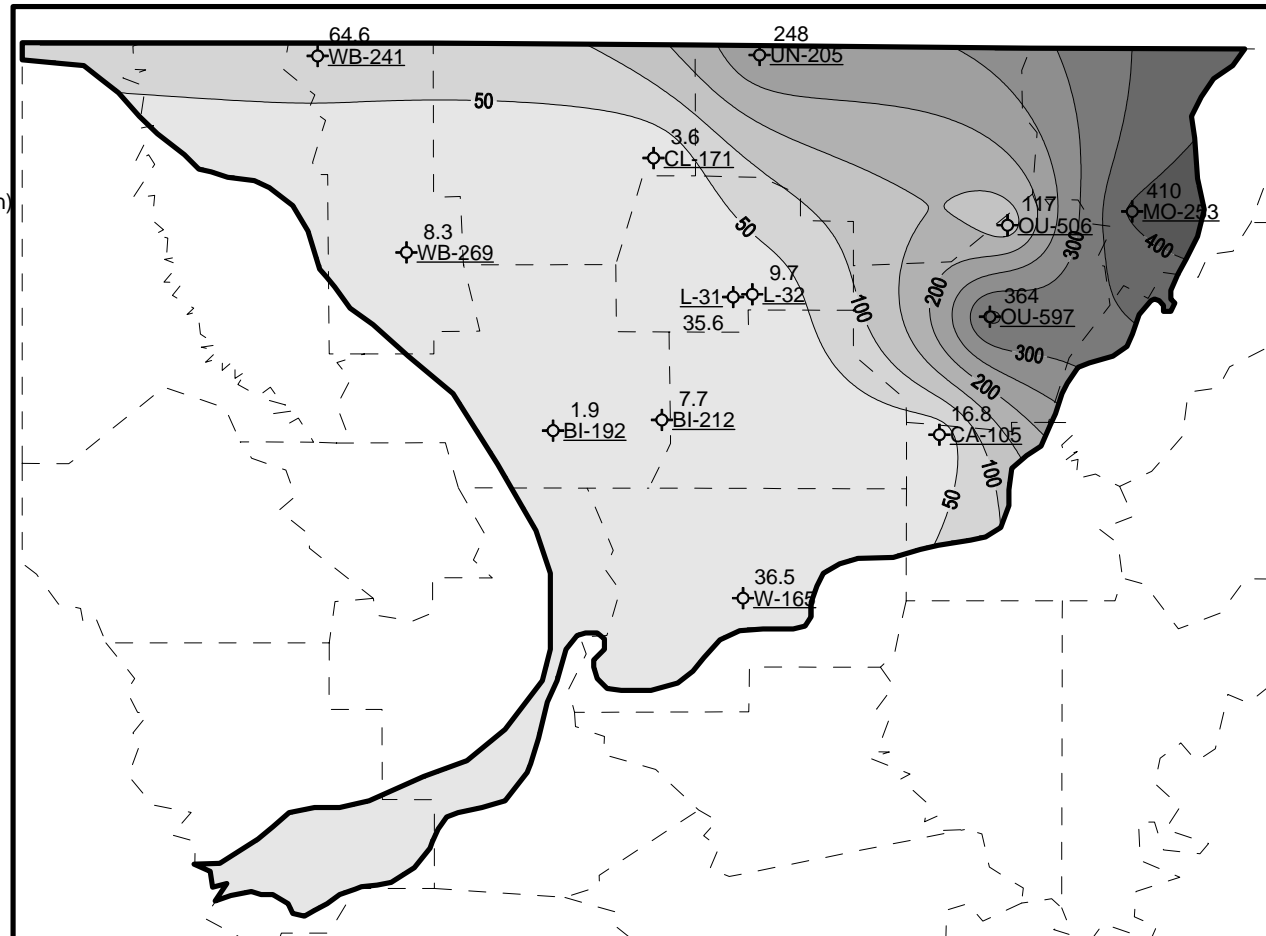
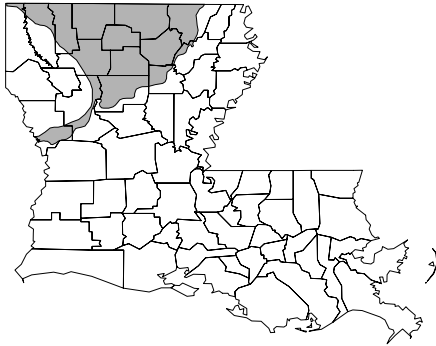



Figure I-4 Map of Chloride Data

SPARTA AQUIFER - IRON (PPB)

Baseline Monitoring Project FY97-98

-  **WB-241** Project Well Location and Designation
- 438.0 Iron Value (in Parts Per Billion)
- Contour Interval = 200 ppm

Contour map generated using Surfer for Windows v6.04
03/30/1998

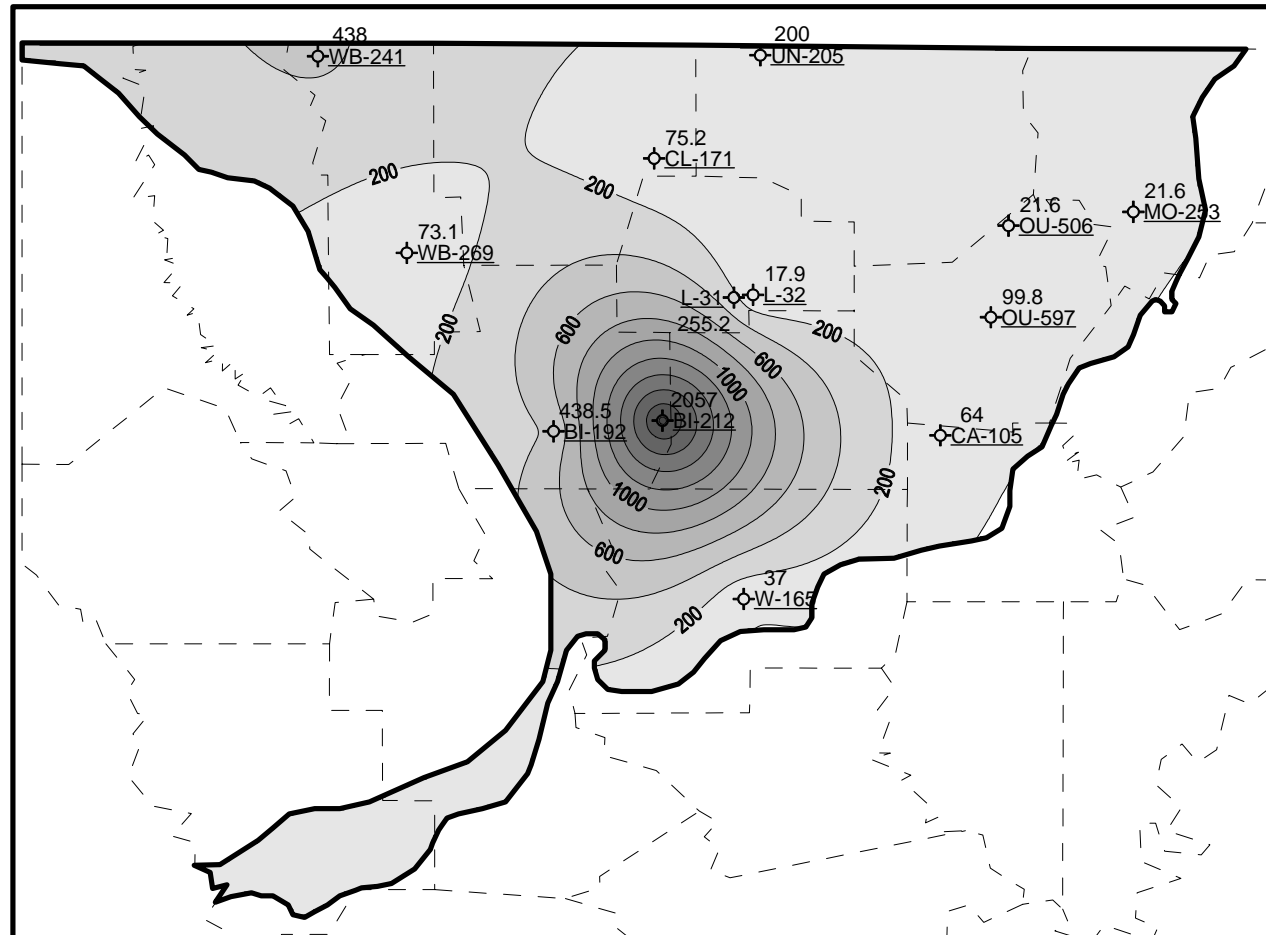
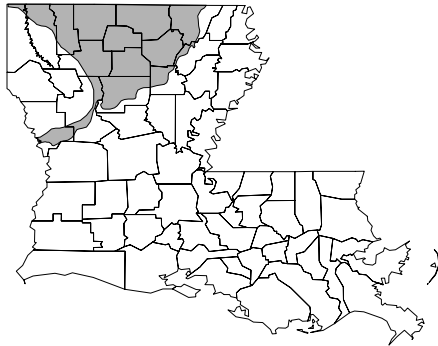


Figure I-5 Map of Iron Data