NORTH LOUISIANA TERRACE AQUIFER SUMMARY

BASELINE MONITORING PROJECT, FY 2001

APPENDIX 6

OF THE

TRIENNIAL SUMMARY REPORT, 2003

FOR THE

ENVIRONMENTAL EVALUATION DIVISION

OF

LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

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NORTH LOUISIANA TERRACE AQUIFER SUMMARY

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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 Baseline Monitoring Project (Project or BMP) 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 part of the Project Triennial Summary Report.

Figure 6-1 shows the geographic locations of the North Louisiana Terrace aquifer and the associated Project wells, whereas Table 6-2 lists the wells in the aquifer along with their total depths and the use made of produced waters and date sampled.

In March and April of 2001, eleven wells were sampled which produce from the North Louisiana Terrace aquifer. Six of the wells are classified as public supply wells, three are classified as domestic wells, and two are classified as industrial wells. The wells are located in seven parishes in the central, the northeast, and the northwest part of the state.

Well data for registered water wells were obtained from the Louisiana Department of Transportation and Development's Water Well Registration Data file.

GEOLOGY

The Pleistocene terrace aquifers that make up the North Louisiana Terrace aquifer occur as blanket terrace deposits in central Louisiana and as erosional remnants of dissected terraces northward. The Prairie, intermediate, and high terraces typically consist of unconsolidated, fining upward sequences of gravel, sand, silt, and clay and are overlain by Holocene alluvium in the valleys of the larger streams. The older terraces generally have a coarser texture and the fine-grained top stratum is often eroded. The aquifer deposits are typically poorly to well sorted and consist of coarse sand and gravel in the lower parts grading to fine sand toward the top. The North Louisiana Terrace is unconfined in most areas, but may be confined by silt and clay locally.

HYDROGEOLOGY

Recharge is primarily from the direct infiltration of rainfall in interstream, upland outcrop areas and can be relatively rapid where the overlying silts and clays are thin or missing. Water in the terrace aquifers moves downgradient and laterally and is discharged into streams that have eroded valleys into the aquifer units. Water levels typically reflect variations in precipitation and seasonal withdrawals by wells. The hydraulic conductivity of the North Louisiana Terrace varies between 150-270 feet/day.

The maximum depths of occurrence of freshwater in the North Louisiana Terrace range from 100 feet above sea level, to 100 feet below sea level. The range of thickness of the fresh water interval in the North Louisiana Terrace is 50 to 150 feet. The depths of the North Louisiana Terrace wells that were monitored in conjunction with the BMP range from 49 to 158 feet.

INTERPRETATION OF DATA

FIELD, WATER QUALITY, AND NUTRIENTS PARAMETERS

Table 6-3 lists the field parameters that are checked and the water quality and nutrients parameters that are sampled for at each well. It also shows the field results and the water quality and nutrients analytical results for each well. Table 6-5 provides an overview of field data, water quality data, and nutrients data for the North Louisiana Terrace aquifer, listing the minimum, maximum, and average results for these parameters.

Federal Primary Drinking Water Standards

Under the Federal Safe Drinking Water Act, EPA has established maximum contaminant levels (MCLs) for pollutants that may pose a health risk in public drinking water. An MCL is the highest level of a contaminant that EPA allows in public drinking water. MCLs ensure that drinking water does not pose either a short-term or long-term health risk. While not all wells sampled were public supply wells, this Office does use the MCLs as a benchmark for further evaluation.

A review of the analyses listed on Table 6-3 shows that no primary MCL was exceeded for field, water quality, or nutrients parameters.

Federal Secondary Drinking Water Standards

EPA has set secondary standards that are defined as non-enforceable taste, odor, or appearance guidelines.

Field and laboratory data contained in Table 6-3 show that the following secondary MCLs (SMCL)s were exceeded.

Color – SMCL = 15 PCU

MO-364 – 20 PCU

Sulfate – SMCL = 250 ppm

MO-364 – 498 ppm

Total Dissolved Solids (TDS) – SMCL = 500 ppm

MO-364 – 1,074 ppm

Comparison To Historical Data

Table 6-7 lists the current field, water quality, and nutrients data averages alongside those parameters' data averages for the two previous sampling rotations (three and six years prior). A comparison of these averages show that other than a consistent increase in hardness and sulfate, the water quality characteristics of ground water produced from the North Louisiana Terrace aquifer has not changed significantly since the 1995 fiscal year (FY) sampling.

INORGANIC PARAMETERS

Table 6-4 shows the inorganic (total metals) parameters that are sampled for and the analytical results for those parameters for each well. Table 6-6 provides an overview of inorganic data for the North Louisiana Terrace aquifer, listing the minimum, maximum, and average results for these parameters.

Federal Primary Drinking Water Standards

A review of the analyses listed on Table 6-4 shows levels of antimony, arsenic, and cadmium for every well that was sampled during the April 2-3, 2001 sampling event. In addition, the field blank that was taken during this sampling event exhibited antimony and arsenic. Since all the wells and the field blank from this sampling event revealed concentrations of antimony and arsenic, it is this office's opinion that these concentrations are due to field or laboratory contamination and are considered invalid.

Taking the above into account, a review of the analyses listed on Table 6-4 shows that no primary MCL was exceeded for total metals.

Federal Secondary Drinking Water Standards

Laboratory data contained in Table 6-4 show that the following secondary MCL (SMCL) was exceeded.

Iron – SMCL = 300 ppb

BO-340 – 818.5 ppb, duplicate – 825.3 ppb
MO-364 – 1,310 ppb
BO-5382Z – 611.5 ppb
RR-254 – 1,395 ppb, duplicate – 1,605 ppb

Federal Lead Action Level

A review of the analyses listed on Table 6-4 shows levels of lead over the action level of 15 ppb for every well that was sampled during the April 2-3, 2001 sampling event. In addition, the field blank that was taken during this sampling event exhibited lead over the action level. Since all the wells and the field blank from this sampling event revealed concentrations of lead, it is this office's opinion that these concentrations are due to field or laboratory contamination and are considered invalid.

Comparison To Historical Data

Table 6-8 lists the current inorganic data averages alongside the inorganic data averages for the two previous sampling rotations (three and six years prior). A comparison of these averages shows that the copper averages have fluctuated, while the iron averages have decreased and the zinc averages have increased. All other averages were consistent.

VOLATILE ORGANIC COMPOUNDS

Table 6-9 shows the volatile organic compound (VOC) parameters that are sampled for. Due to the large number of analytes in this category, a total list of the analytical results for each analyte is not provided, however any detection of a VOC would be discussed in this section.

Trichloroethene (TCE) and methyl-t-butyl ether (MTBE) were detected in the analysis of the samples taken from Project well MO-364. An initial sample exhibited a concentration of 3.9 ppb for TCE and 3.1 ppb for MTBE. A subsequent resampling of the well revealed a concentration of 3.4 ppb for TCE

and no concentration for MTBE. This particular well shows a history of these volatiles during monitoring. Please see the Summary and Recommendations for further discussion of this. It should also be noted that the TCE concentrations were below the primary MCL of 5 ppb, while MTBE has no primary MCL.

No other VOC was detected during the FY 2001 sampling of the North Louisiana Terrace Aquifer.

SEMIVOLATILE ORGANIC COMPOUNDS

Table 6-10 shows the semivolatile organic compound parameters that are sampled for. Due to the large number of analytes in this category, a total list of the analytical results for each analyte is not provided, however any detection of a semivolatile would be discussed in this section.

Laboratory data show that all but one of the North Louisiana Terrace wells that were sampled during FY 2001 exhibited values for bis(2-ethylhexyl)phthalate (BEHP). Additionally, all the field blanks and laboratory blanks also showed BEHP values. Therefore, it is this Office's opinion that the values exhibited for BEHP are due to laboratory or field contamination and are considered invalid.

Laboratory data show that all wells that were sampled during the March 5-6, 2001 sampling event exhibited values for isophorone. However, since every well sampled during this sampling event exhibited isophorone concentrations, it is this Office's opinion that these concentrations are due to laboratory or field contamination and are considered invalid.

Taking into consideration the invalid BEHP and isophorone concentrations, no semivolatile organic compounds were detected during the FY 2001 sampling of the North Louisiana Terrace aquifer.

PESTICIDES AND PCBS

Table 6-11 shows the pesticide and PCB parameters that are sampled for. Due to the large number of analytes in this category, a total list of the analytical results for each analyte is not provided, however any detection of a pesticide or PCB would be discussed in this section.

No pesticide or PCB was detected during the 2001 sampling of the North Louisiana Terrace aquifer.

COMMON WATER CHARACTERISTICS

Table 6-1 below highlights some of the more common water characteristics that are considered when studying ground water quality. The minimum, maximum, and average values that were found during the current sampling of the North Louisiana Terrace aquifer for pH, TDS, hardness, chloride, iron, and nitrite-nitrate are listed in the table. Figures 6-2, 6-3, 6-4, and 6-5 respectively, represent the contoured data for pH, TDS, chloride, and iron. The data average for hardness shows that the ground water produced from this aquifer is moderately hard[1].

Table 6-1 Common Water Characteristics

Fiscal Year 2001

PARAMETER	MINIMUM	MAXIMUM	AVERAGE
pH (SU)	5.52	7.72	6.67
TDS (ppm)	56.0	1074.0	249.3
Hardness (ppm)	6.3	551.0	97.4
Chloride (ppm)	3.7	64.2	24.5
Iron (ppb)	<20	1395.0	442.81
Nitrite-Nitrate, as N (ppm)	0.05	3.48	0.80

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

SUMMARY AND RECOMMENDATIONS

In summary, the data show that the ground water produced from this aquifer is moderately hard. It is of good quality when considering short-term or long-term health risk guidelines in that no project well that was sampled during the Fiscal Year 2001 monitoring exceeded a primary MCL. It should be noted however that project well MO-364 exhibited concentrations of trichloroethene (TCE) and methyl-t-butyl ether (MTBE). A discussion of this follows in the paragraph below. The data also show that this aquifer is of good quality when considering taste, odor, or appearance guidelines. A comparison to historical BMP data shows an increase in hardness, sulfate, and zinc, a decrease in iron, and a fluctuation of the copper averages. But for the most part the characteristics of the ground water produced from the North Louisiana Terrace aquifer has not changed significantly since the FY 1995 sampling.

Project well MO-364 is a public supply well owned by Peoples Water Service in Bastrop. It is 154 feet deep and is used as a backup well. The laboratory results from the regularly scheduled sampling of the well revealed TCE and MTBE at concentrations of 3.9 ppb and 3.1 ppb respectively. A subsequent resampling of the well revealed a concentration of 3.4 ppb for TCE and no concentration for MTBE. The TCE concentrations were below the primary MCL of 5 ppb, while MTBE has no primary MCL. MO-364 has a history of volatiles being exhibited in BMP laboratory analyses. Peoples Water Service only uses this well as a backup and has been treating all the water it provides to the public prior to distribution, although it is believed that only MO-364 is contaminated. Peoples Water Service and the Louisiana Department of Health and Hospitals were notified of the results that are discussed above. They were also notified of all previous instances of contamination when they occurred.

It is recommended that the Project wells assigned to the North Louisiana Terrace aquifer be re-sampled as planned in approximately three years. In addition, several wells should be added to those currently in place to increase the well density for this aquifer.

Table 6-2 List of Project Wells Sampled

PROJECT NUMBER	PARISH	WELL NUMBER	DATE SAMPLED	OWNER	DEPTH (FEET)	WELL USE
199512	BIENVILLE	BI-208	04/02/2001	PRIVATE OWNER	100	DOMESTIC
199213	BOSSIER	BO-340	04/03/2001	VILLAGE WATER SYSTEM	91	PUBLIC SUPPLY
199302	BOSSIER	BO-434	04/02/2001	RED CHUTE UTILITIES	94	PUBLIC SUPPLY
199513	BOSSIER	BO-5382Z	04/02/2001	PRIVATE OWNER	95	DOMESTIC
199112	GRANT	G-342	03/06/2001	FARMLAND IND., INC.	49	INDUSTRIAL
198611	GRANT	G-432	03/06/2001	CENTRAL GRANT WATER SYSTEM	158	PUBLIC SUPPLY
199510	LA SALLE	LS-264	03/06/2001	CITY OF JENA	105	PUBLIC SUPPLY
199511	MOREHOUSE	MO-124	03/05/2001	TEXAS GAS	133	INDUSTRIAL
198810	MOREHOUSE	MO-364	03/05/2001	PEOPLES WATER SERVICE	154	PUBLIC SUPPLY
200106	OUACHITA	OU-5524Z	03/05/2001	PRIVATE OWNER	95	DOMESTIC
199214	RED RIVER	RR-254	04/19/2001	EAST CROSS WATER SYSTEM	93	PUBLIC SUPPLY

Table 6-3 Summary of Field, Water Quality, and Nutrients Data

WELL NUMBER	COND. MMHOS/CM	PH SU	SAL. PPT	TEMP. OC	ALK. PPM	CL PPM	COLOR PCU	COND. UMHOS/CM	SO4 PPM	TDS PPM	TSS PPM	TURB. NTU	NH3 (AS N) PPM	HARD. PPM	NITRITE-NITRATE (AS N) PPM	TKN PPM	TOT. P PPM
BI-208	0.069	6.62	0.03	19.50	14.4	9.40	10.0	76.3	2.00	87.3	<4.0	1.4	<0.10	12.4	1.28	<0.10	<0.05
BO-340	0.52	7.72	0.25	19.39	238.0	43.10	15.0	579.0	<1.25	322.0	<4.0	5.5	0.51	140.0	0.06	0.52	0.22
BO-340*	0.52	7.72	0.25	19.39	236.0	42.70	15.0	581.0	<1.25	314.0	<4.0	5.9	0.55	140.0	<0.05	0.59	0.20
BO-434	0.241	6.89	0.11	19.37	112.0	12.70	5.0	269.0	5.06	175.0	<4.0	<1.0	0.12	101.0	0.43	0.32	0.22
BO-5382Z	0.531	7.22	0.26	19.55	208.0	36.10	10.0	598.0	42.00	338.0	11.2	6.3	0.81	87.4	0.05	1.18	0.06
G-342	0.105	5.52	0.05	19.40	9.6	15.60	<5.0	115.0	4.80	89.3	<4.0	<1.0	<0.10	16.5	3.48	<0.10	<0.05
G-432	0.041	5.72	0.02	18.94	12.9	3.70	<5.0	44.8	<1.25	56.0	<4.0	<1.0	<0.10	6.3	0.52	<0.10	0.06
LS-264	0.17	6.99	0.08	15.98	78.0	10.50	<5.0	194.0	2.60	143.0	<4.0	<1.0	<0.10	17.3	0.50	<0.10	0.24
LS-264*	0.17	6.99	0.08	15.98	77.0	11.20	<5.0	194.0	2.90	150.0	<4.0	<1.0	<0.10	18.5	0.54	<0.10	0.26
MO-124	0.229	6.8	0.11	19.86	81.6	25.00	<5.0	254.0	<1.25	186.0	<4.0	<1.0	<0.10	80.8	1.32	<0.10	0.15
MO-364	1.345	6.54	0.67	20.40	197.0	64.20	20.0	1497.0	498.0	1074.0	<4.0	3.7	<0.10	551.0	0.77	<0.10	0.14
OU-5524Z	0.133	6.12	0.06	18.62	29.5	23.20	5.0	142.0	2.20	132.0	<4.0	1.3	<0.10	32.5	0.20	<0.10	0.10
RR-254	0.179	7.22	0.08	19.58	36.7	26.50	15.0	200.0	9.70	140.0	<4.0	6.3	<0.10	25.7	0.19	<0.10	0.19
RR-254*	0.179	7.22	0.08	19.58	36.8	26.50	15.0	197.0	9.70	140.0	4.4	9.8	<0.10	25.7	0.19	0.32	0.24

* Denotes duplicate sample.

Table 6-4 Summary of Inorganic Data

WELL NUMBER	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
BI-208			52.9	<1.0		<5.0	12.4	104.1		<0.05	<5.0	<5.0	<1.0	<5.0	37.0
BO-340			329.2	<1.0		<5.0	7.1	818.5		<0.05	<5.0	<5.0	<1.0	<5.0	29.8
BO-340*			333.6	<1.0		<5.0	7.1	825.3		<0.05	<5.0	<5.0	<1.0	<5.0	43.6
BO-434			76.9	<1.0		<5.0	6.3	<20.0		<0.05	<5.0	<5.0	<1.0	<5.0	31.6
BO-5382Z			102.3	<1.0		<5.0	12.2	611.5		<0.05	<5.0	<5.0	<1.0	<5.0	34.0
G-342	<5.0	<5.0	114.0	<1.0	<1.0	<5.0	<5.0	<20.0	<10.0	<0.05	<5.0	<5.0	<1.0	<5.0	<10.0
G-432	<5.0	<5.0	43.0	<1.0	<1.0	<5.0	<5.0	<20.0	<10.0	<0.05	<5.0	<5.0	<1.0	<5.0	223.0
LS-264	<5.0	<5.0	27.2	<1.0	<1.0	<5.0	<5.0	<20.0	<10.0	0.05	<5.0	<5.0	<1.0	<5.0	368.0
LS-264*	<5.0	<5.0	27.8	<1.0	<1.0	<5.0	9.2	<20.0	<10.0	0.05	<5.0	<5.0	<1.0	<5.0	373.0
MO-124	<5.0	<5.0	42.2	<1.0	<1.0	<5.0	<5.0	67.8	<10.0	<0.05	<5.0	<5.0	<1.0	<5.0	<10.0
MO-364	<5.0	<5.0	51.4	<1.0	<1.0	<5.0	43.7	1,310.0	<10.0	<0.05	17.5	<5.0	<1.0	<5.0	192.0
OU-5524Z	<5.0	<5.0	51.6	<1.0	<1.0	<5.0	5.7	524.0	<10.0	<0.05	<5.0	<5.0	<1.0	<5.0	<10.0
RR-254	<5.0	<5.0	31.1	<1.0	<1.0	<5.0	48.6	1,395.0	<10.0	<0.05	48.9	<5.0	<1.0	<5.0	298.1
RR-254*	<5.0	<5.0	30.9	<1.0	<1.0	<5.0	<5.0	1,605.0	<10.0	<0.05	<5.0	<5.0	<1.0	<5.0	23.3

* Denotes duplicate sample.

Table 6-5 Field, Water Quality, and Nutrients Statistics
Fiscal Year 2001

PARAMETER	MINIMUM	MAXIMUM	AVERAGE
pH (SU)	5.52	7.72	6.67
Temperature ^{O}C	15.98	20.40	19.14
Sp. Conductivity (mmhos/cm) (Field)	0.041	1.345	0.324
Salinity (ppt)	0.02	0.67	0.16
TSS (ppm)	<4	11.2	<4
TDS (ppm)	56.0	1074.0	249.3
Alkalinity (ppm)	9.6	238.0	92.5
Hardness (ppm)	6.3	551.0	97.4
Turbidity (NTU)	<1	6.30	2.45
Sp. Conductivity (umhos/cm) (Lab)	44.8	1497.0	360.8
Color (PCU)	<5	20.0	8.2
Chloride (ppm)	3.7	64.2	24.5
Sulfate (ppm)	<1.25	498.0	51.66
Nitrite-Nitrate, as N (ppm)	0.05	3.48	0.80
Phosphorus (ppm)	<0.05	0.24	0.13
TKN (ppm)	<0.1	1.18	0.22
Ammonia (ppm)	<0.1	0.81	0.17

Table 6-6 Inorganic Statistics
Fiscal Year 2001

PARAMETER	MINIMUM	MAXIMUM	AVERAGE
Antimony (ppb)	<5	5.0	<5
Arsenic (ppb)	<5	<5	<5
Barium (ppb)	27.20	329.20	83.80
Beryllium (ppb)	<1	<1	<1
Cadmium (ppb)	<1	<1	<1
Chromium (ppb)	<5	<5	<5
Copper (ppb)	<5	48.60	13.28
Iron (ppb)	<20	1395.0	442.81
Lead (ppb)	<10	<10	<10
Mercury (ppb)	<0.05	0.05	<0.05
Nickel (ppb)	<5	48.90	8.08
Selenium (ppb)	<5	<5	<5
Silver (ppb)	<1	<1	<1
Thallium (ppb)	<5	<5	<5
Zinc (ppb)	<10	368.0	111.68

Table 6-7 Three-year Field, Water Quality, and Nutrients Statistics

PARAMETER	FY 1995 AVERAGE	FY 1998 AVERAGE	FY 2001 AVERAGE
pH (SU)	6.31	5.98	6.67
Temperature ^{O}C	21.04	19.91	19.14
Sp. Conductivity (mmhos/cm) (Field)	0.324	0.298	0.324
Salinity (ppt)	0.14	0.15	0.16
TSS (ppm)	6.0	<4	<4
TDS (ppm)	240.1	213.0	249.3
Alkalinity (ppm)	90.4	78.9	92.5
Hardness (ppm)	49.8	73.1	97.4
Turbidity (NTU)	9.64	11.0	2.45
Sp. Conductivity (umhos/cm) (Lab)	309.1	302.6	360.8
Color (PCU)	19.7	6.7	8.2
Chloride (ppm)	24.7	23.4	24.5
Sulfate (ppm)	27.35	37.86	51.66
Nitrite-Nitrate, as N (ppm)	0.79	1.32	0.80
Phosphorus (ppm)	0.21	0.15	0.13
TKN (ppm)	0.63	0.37	0.22
Ammonia (ppm)	0.19	0.27	0.17

Table 6-8 Three-year Inorganic Statistics

PARAMETER	FY 1995 AVERAGE	FY 1998 AVERAGE	FY 2001 AVERAGE
Antimony (ppb)	<5	<5	<5
Arsenic (ppb)	<5	<5	<5
Barium (ppb)	101.09	96.89	83.80
Beryllium (ppb)	<5	<5	<1
Cadmium (ppb)	<5	<5	<1
Chromium (ppb)	<5	<5	<5
Copper (ppb)	6.39	63.06	13.28
Iron (ppb)	1944.99	1222.38	442.81
Lead (ppb)	<10	<10	<10
Mercury (ppb)	0.07	<0.05	<0.05
Nickel (ppb)	6.21	<5	8.08
Selenium (ppb)	<5	<5	<5
Silver (ppb)	<5	<5	<1
Thallium (ppb)	<5	<5	<5
Zinc (ppb)	24.53	51.14	111.68

Table 6-9 List of VOC Analytical Parameters

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VOLATILE ORGANICS BY EPA METHOD 624

COMPOUND	PQL (ppb)
CHLOROMETHANE	2
VINYL CHLORIDE	2
BROMOMETHANE	2
CHLOROETHANE	2
TRICHLOROFLUOROMETHANE	5
1,1-DICHLOROETHENE	2
METHYLENE CHLORIDE	2
TRANS-1,2-DICHLOROETHENE	2
METHYL-t-BUTYL ETHER	2
1,1-DICHLOROETHANE	2
CHLOROFORM	2
1,1,1-TRICHLOROETHANE	2
CARBON TETRACHLORIDE	2
BENZENE	2
1,2-DICHLOROETHANE	2
TRICHLOROETHENE	2
1,2-DICHLOROPROPANE	2
BROMODICHLOROMETHANE	2
CIS-1,3-DICHLOROPROPENE	2
TOLUENE	2
TRANS-1,3-DICHLOROPROPENE	2
1,1,2-TRICHLOROETHANE	2
TETRACHLOROETHENE	2
DIBROMOCHLOROMETHANE	2
CHLOROBENZENE	2
ETHYLBENZENE	2
P&M XYLENE	4
O-XYLENE	2
STYRENE	2
BROMOFORM	2
1,1,2,2-TETRACHLOROETHANE	2
1,3-DICHLOROBENZENE	2
1,4-DICHLOROBENZENE	2
1,2-DICHLOROBENZENE	2

PQL = Practical Quantitation Limit
ppb = parts per billion

Table 6-10 List of Semi-volatile Analytical Parameters
BASELINE MONITORING PROJECT

SEMIVOLATILE ORGANICS BY EPA METHOD 625

COMPOUND	PQL (ppb)
N-Nitrosodimethylamine	2
Phenol	2
Bis(2-chloroethyl)ether	2
2-Chlorophenol	2
1,3-Dichlorobenzene	2
1,4-Dichlorobenzene	2
1,2-Dichlorobenzene	2
Bis(2-chloroisopropyl)ether	6
N-Nitroso-di-n-propylamine	4
Hexachloroethane	2
Nitrobenzene	2
Isophorone	2
2,4-Dimethylphenol	4
2-Nitrophenol	6
1,3,5-Trichlorobenzene	2
Bis(2-chloroethoxy)methane	2
1,2,4-Trichlorobenzene	2
Naphthalene	2
2,4-Dichlorophenol	4
Hexachlorobutadiene	2
1,2,3-Trichlorobenzene	2
4-Chloro-3-methylphenol	4
Hexachlorocyclopentadiene	6
1,2,4,5-Tetrachlorobenzene	2
2,4,6-Trichlorophenol	6
1,2,3,4-Tetrachlorobenzene	2
2-Chloronaphthalene	2
Dimethylphthalate	2
2,6-Dinitrotoluene	4
Acenaphthylene	2
4-Nitrophenol	6
2,4-Dinitrophenol	12
Acenaphthene	2
Pentachlorobenzene	2
2,4-Dinitrotoluene	6
Diethylphthalate	2
4-Chlorophenyl phenyl ether	2
Fluorene	2

Table 6-10 (Cont'd)
Semivolatile Parameters

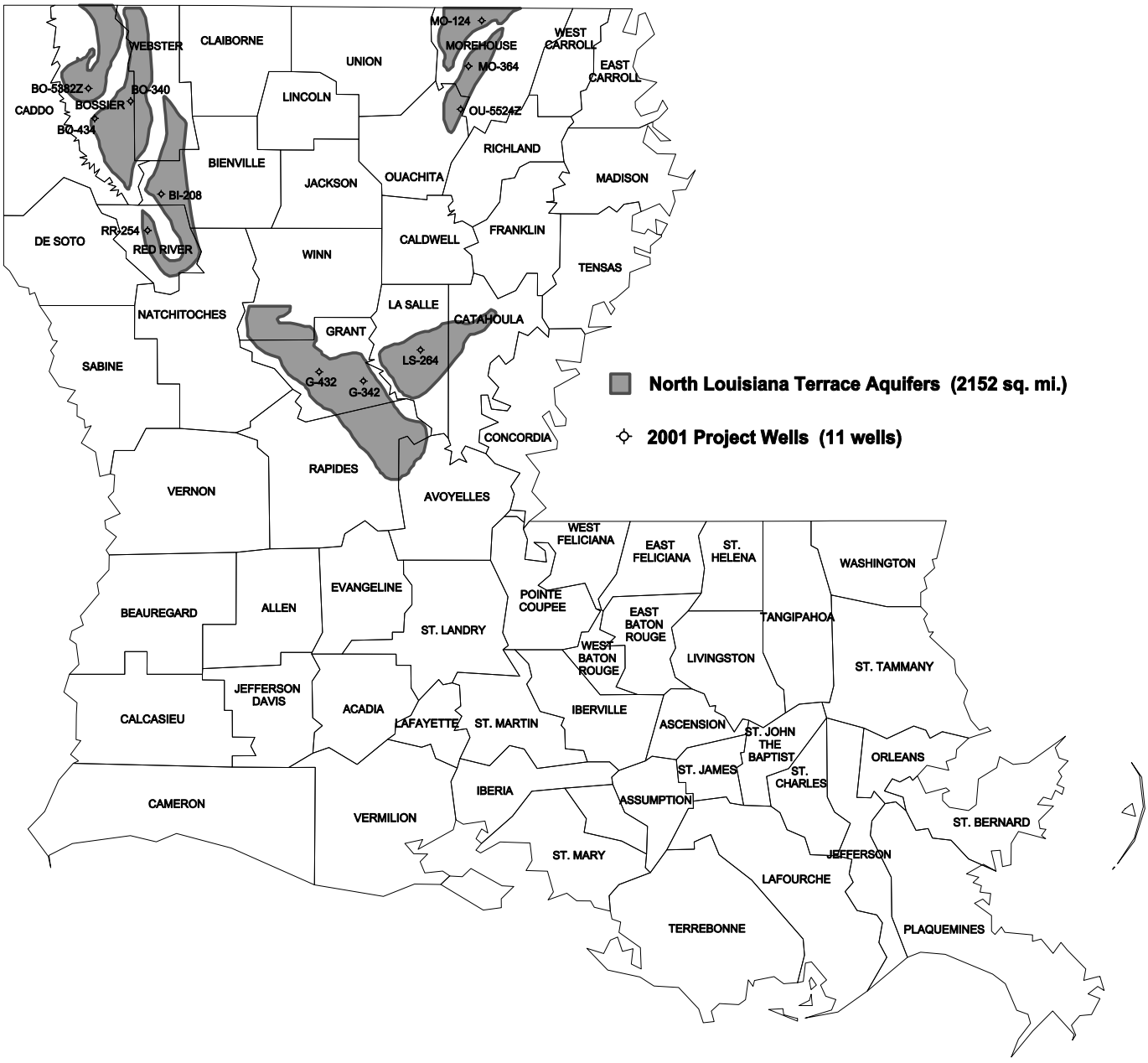
COMPOUND	PQL (ppb)
4,6-Dinitro-2-methylphenol	12
N-Nitrosodiphenylamine/Dipheny	2
4-Bromophenyl phenyl ether	2
Hexachlorobenzene	2
Pentachlorophenol	10
Phenathrene	2
Anthracene	2
Di-n-butylphthalate	2
Fluoranthene	2
Benzidine	20
Pyrene	2
Butylbenzylphthalate	2
Bis(2-ethylhexyl)phthalate	2
3,3'-Dichlorobenzidine	10
Benzo(a)anthracene	6
Chrysene	4
Di-n-octylphthalate	2
Benzo(b)fluoranthene	6
Benzo(k)fluoranthene	6
Benzo(a)Pyrene	6
Indeno(1,2,3-cd)pyrene	6
Dibenz(a,h)anthracene	6
Benzo(g,h,i)perylene	6

Table 6-11 List of Pesticide and PCB Analytical Parameters
BASELINE MONITORING PROJECT

SEMIVOLATILE ORGANICS BY EPA METHOD 625

COMPOUND	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	2
Endosulfan II	2
Endrin Aldehyde	2
4,4-DDT	2
Endosulfan Sulfate	2
Methoxychlor	2
Endrin Ketone	2
PCB 1221/ PCB 1232	10
PCB 1016/ PCB 1242	10
PCB 1254	10
PCB 1248	10
PCB 1260	10

BASELINE MONITORING PROJECT WELLS OF THE NORTH LOUISIANA TERRACE AQUIFERS



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.

Figure 6-1 Location Plat, North Louisiana Terrace Aquifer

NORTH LA. TERRACE AQUIFER - pH (SU)

Baseline Monitoring Project, FY 01

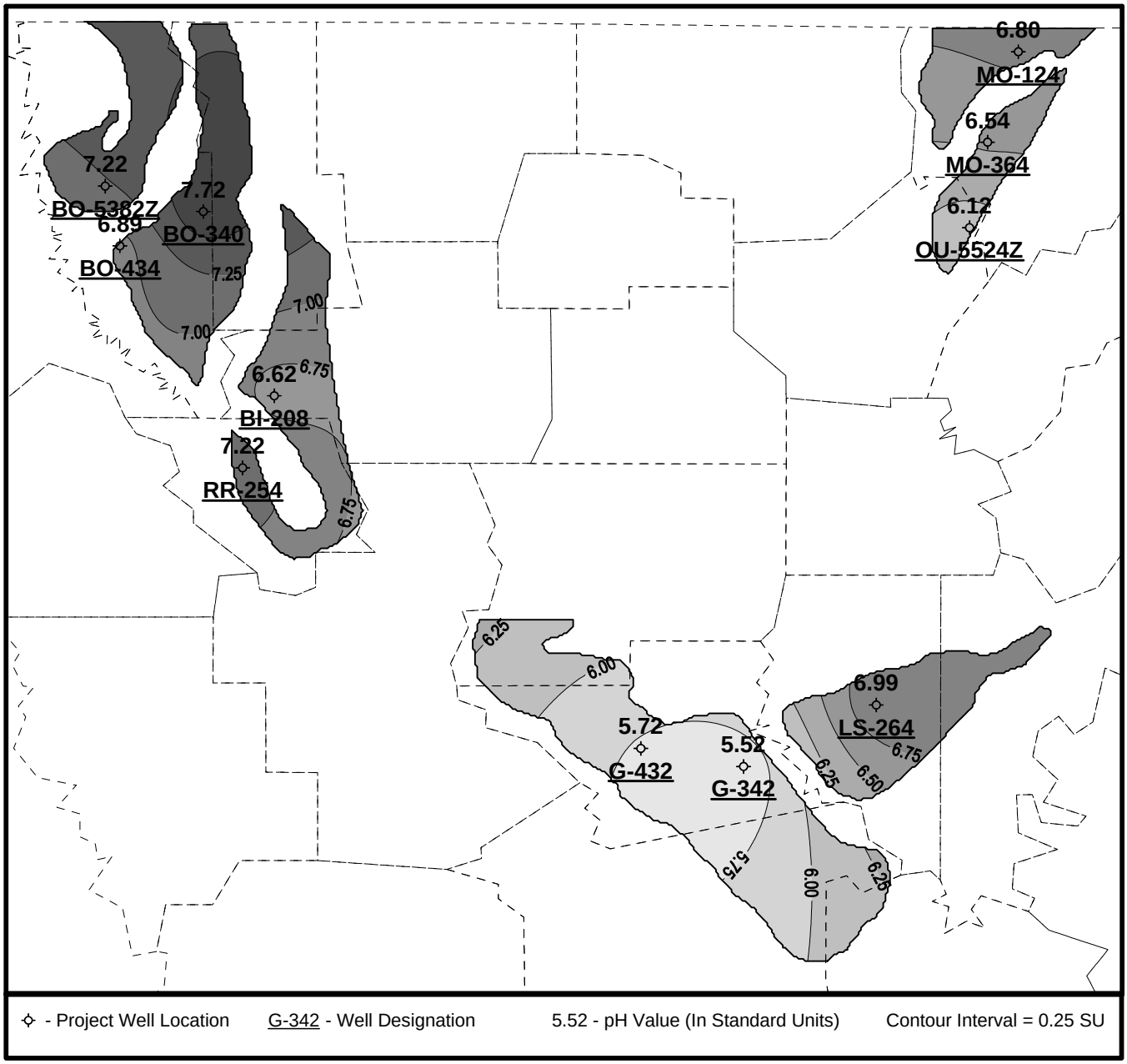


Figure 6-2 Map of pH Data

NORTH LA. TERRACE AQUIFER - TDS (ppm)

Baseline Monitoring Project, FY01

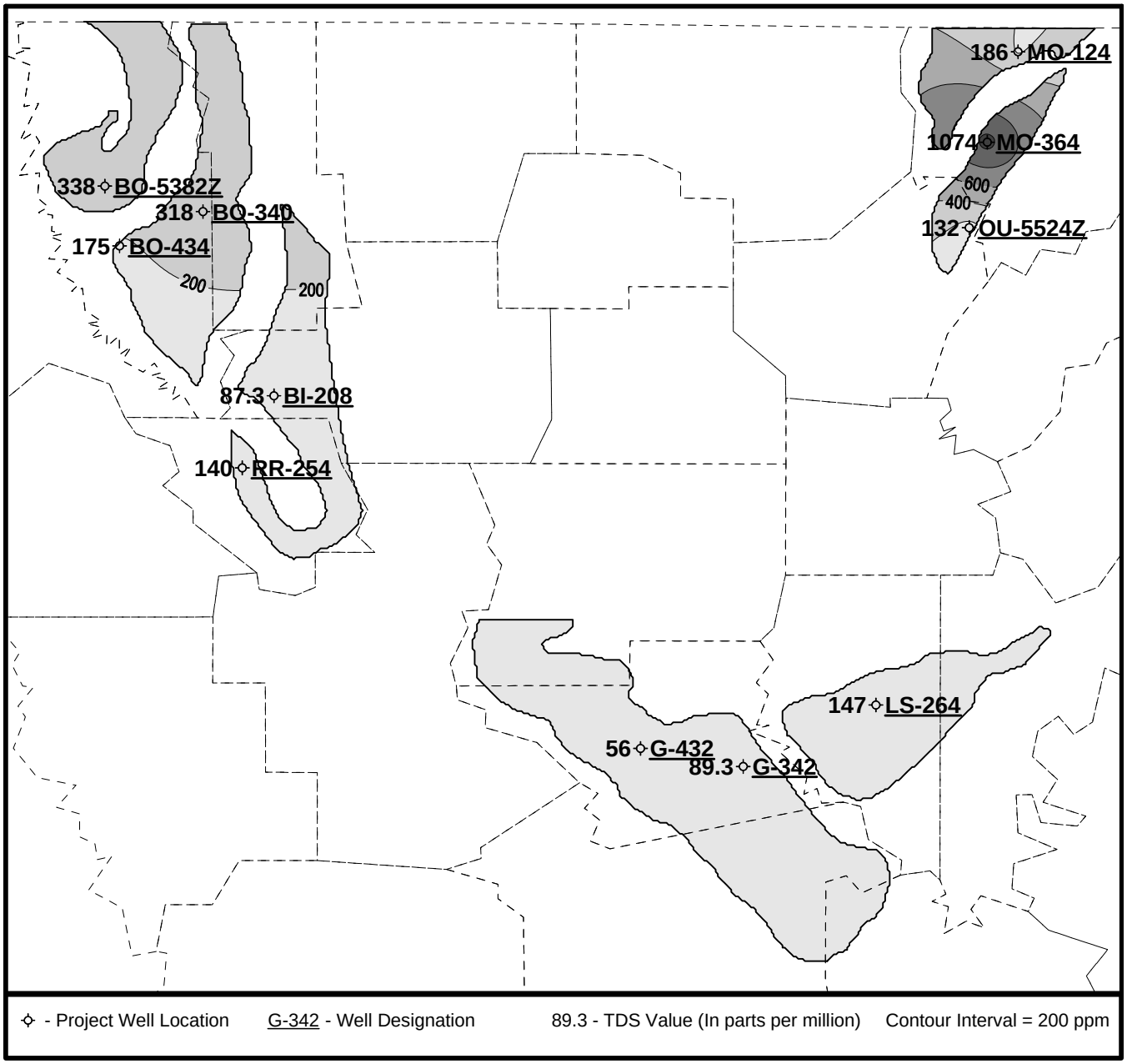


Figure 6-3 Map of TDS Data

NORTH LA. TERRACE AQUIFER - CHLORIDE (ppm)

Baseline Monitoring Project, FY01

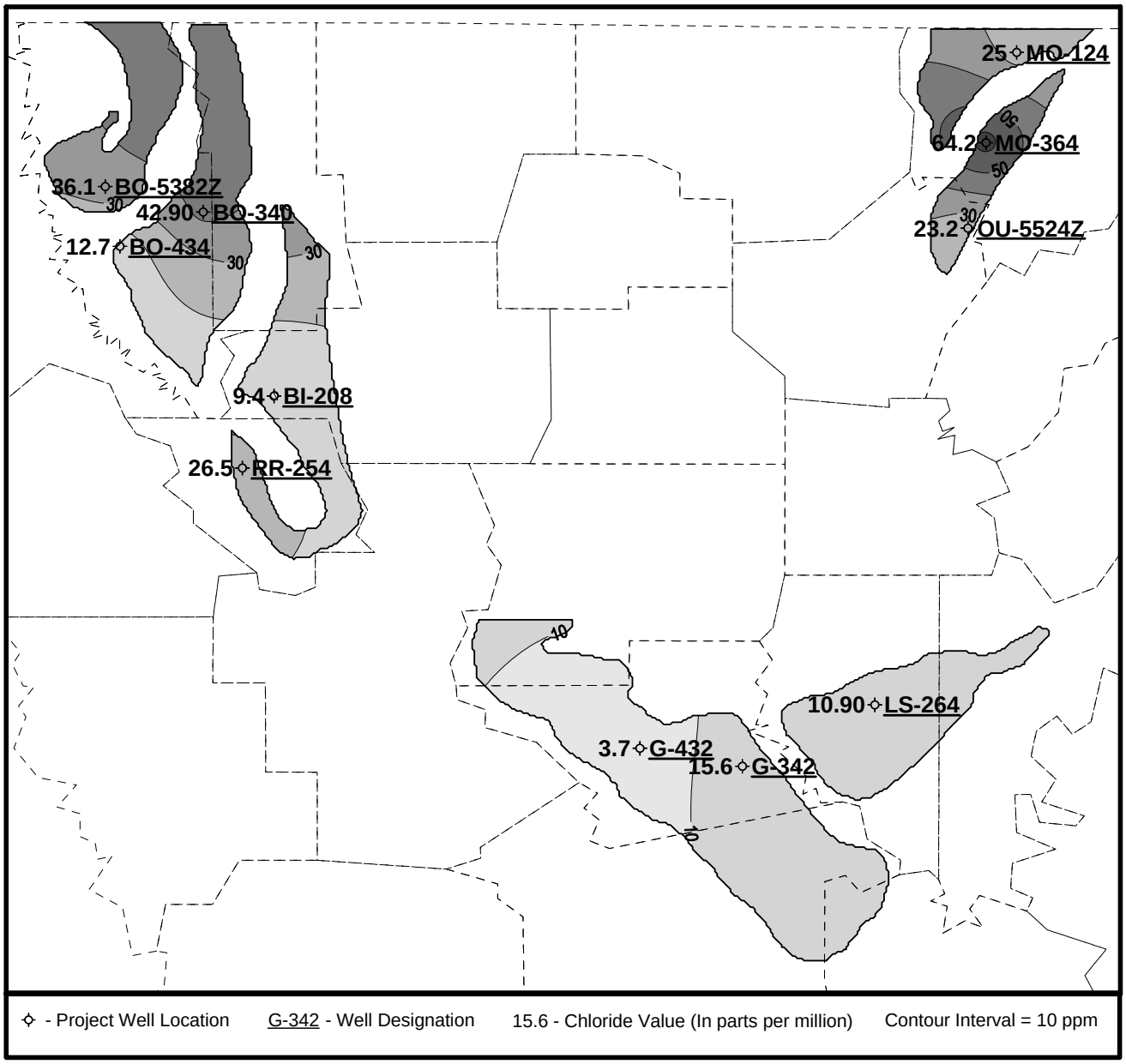


Figure 6-4 Map of Chloride Data

NORTH LA. TERRACE AQUIFER - IRON (ppm)

Baseline Monitoring Project, FY01

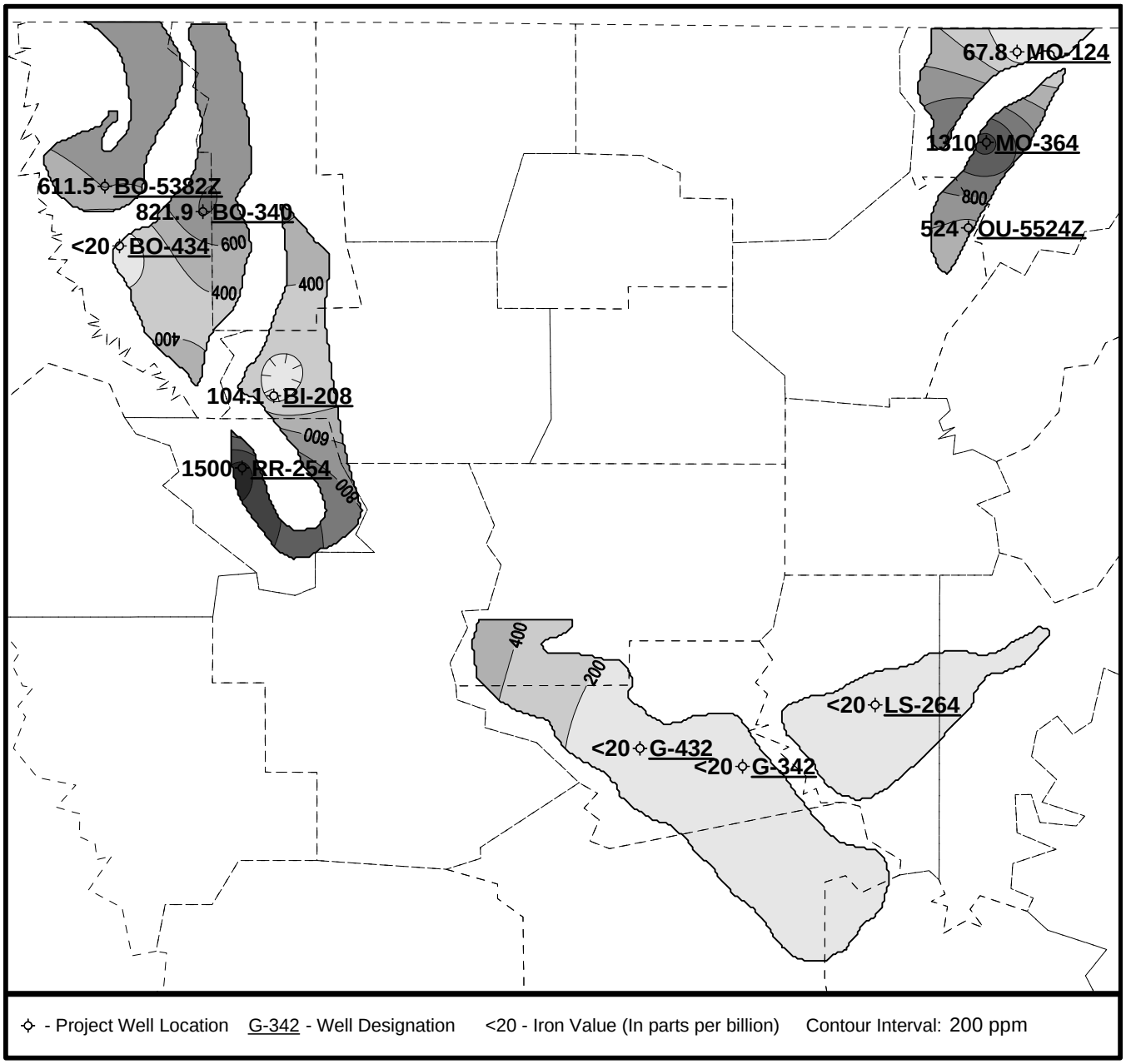


Figure 6-5 Map of Iron Data