
SABINE RIVER AUTHORITY OF TEXAS

TO: INTERESTED PARTIES
FROM: WATER RESOURCES BRANCH
RE: JULY 2004 MONTHLY WATER QUALITY REPORT

This is the Sabine River Authority Water Quality Report for July 2004. Water quality sampling was performed July 12th through July 15th. Recent weather (previous seven days) in the Sabine River Basin was warm, with daytime high air temperatures from the upper 80s to the mid 90s at Lake Tawakoni and at Lake Fork. Toledo Bend Reservoir and Orange had daytime highs from the mid 80s to the mid 90s. Lows ranged from the low 70s to the mid 70s at Lake Tawakoni and at Lake Fork. Toledo Bend and Orange had lows ranging from the upper 60s to the mid 70s. Lake Tawakoni, Lake Fork, and Toledo Bend were thermally stratified. During the 28 days prior to the July sample run, the Upper Basin received 2.53 and 2.76 inches of rainfall as recorded at Lake Tawakoni and Lake Fork, respectively. During the same time period, Toledo Bend and Orange received 10.30 and 10.35 inches, respectively. The week prior to the sample run, Lake Tawakoni and Lake Fork received no rain. The Lower Basin received a trace.

UPPER SABINE BASIN ABOVE TOLEDO BEND INCLUDING LAKE FORK AND LAKE TAWAKONI

For the July sample run, most water quality parameter measurements at Upper Basin sites were consistent with water of high quality. LT23A and LT23C did not meet the Texas Surface Water Quality Stream Standards (stream standards) numeric criteria for pH. These two sites along with LT23D, LF2, LF3, LF4, SR19 and SR10 also had high levels of dissolved oxygen with greater than 100 percent dissolved oxygen saturation. Chlorophyll *a* values at LT23A, LT23D and LT23C were above reservoir screening levels. Elevated chlorophyll *a* levels and high dissolved oxygen with greater than 100 percent dissolved oxygen saturation indicates algal bloom conditions. These conditions may also lead to elevated pH levels. Orthophosphate values at LT23D were above screening levels. No sites exceeded the numeric criteria for the stream standards for *E. coli*.

LOWER SABINE BASIN INCLUDING TOLEDO BEND TO MORGAN BLUFF

The July monthly sampling results were indicative of water of high quality at most sites. The area received trace amounts of rainfall during the week prior to sampling. The level of Toledo Bend Reservoir was recorded at 172.14 feet with no discharge from the spillway or the generators at the time of sampling. Stratification was found at all of the lake stations, with pH and dissolved oxygen differences throughout the water column. Anoxic conditions were found at the deepest depths at several stations. Several Toledo Bend sites had greater than 100% saturation of dissolved oxygen and related elevated pH. These factors together usually indicate an algal bloom. The pH at TB6K exceeded stream standards. Dissolved oxygen at station SR2 was below the stream standard.

TIDAL SECTION OF THE SABINE BASIN BELOW MORGAN BLUFF

Most sites sampled in the tidal portion of the Sabine Basin had values that are consistent with water of high quality. The tidal stations received trace amounts of rainfall during the week prior to the sample run. Most sites in this section of the Basin were slightly stratified, but no anoxic conditions were found at any tidal station. None of the stations recorded salinity values that were greater than 1 ppt. All the parameters measured in the tidal section of the Basin were within the stream standard criteria.

This Report and additional data for these monitoring stations are available on our World Wide Web site (www.sra.dst.tx.us). If you have any questions or comments concerning this report, please contact:

- *Upper Sabine Basin*
Terry Wilson, Upper Basin Field Office Coordinator
903-878-2420 (twilson@sra.dst.tx.us)
- *Lower and Tidal Sabine Basin*
Jerry Wiegrefe, Lower Basin Field Office Coordinator
409-746-3284 (jwiegrefe@sra.dst.tx.us)
- If above are unavailable
John Payne, Special Projects Administrator
409-746-2192 (jpayne@sra.dst.tx.us)
or
Miles Hall, Resource Management/ Project Development Division Manager
409-746-2192 (mhall@sra.dst.tx.us)

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Monthly Water Quality Report

July 2004

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FY 2004 Fixed Monitoring Stations

Upper Sabine Basin

SW	Segment	Station	Location
7.00	0507	10440 (LT23C)	LAKE TAWAKONI NEAR WIND POINT PARK
7.00	0507	10435 (LT23D)	LAKE TAWAKONI IN KITSEE INLET NEAR WHITE POINT CAUSEWAY
7.00	0507	10434 (LT23A)	LAKE TAWAKONI IN THE MAIN LAKE NEAR THE DAM
6.12	0512	10461 (LF3)	LAKE FORK RESERVOIR MID-ARM IN CANEY CREEK ARM AT FM 515
6.12	0512	10462 (LF4)	LAKE FORK RESERVOIR MID-COVE IN LAKE FORK CREEK ARM AT FM 515
6.12	0512	10458 (LF2)	LAKE FORK RESERVOIR NEAR DAM IN CREEK CHANNEL
6.10	0515	10469 (LF20)	LAKE FORK CREEK AT US 80
6.02	0514	16011 (BS9)	BIG SANDY CREEK AT WHITE OAK ROAD
6.00	0506	17065 (SR22)	SABINE RIVER AT FM 17
6.00	0506	10430 (SR21)	SABINE RIVER AT US 69
6.00	0506	10429 (SR19)	SABINE RIVER AT SH 14 S. OF HAWKINS
5.00	0506	10428 (SR17)	SABINE RIVER AT US 271
5.00	0505	10427 (SR16)	SABINE RIVER AT SH 42
5.00	0505	10426 (SR15)	SABINE RIVER AT US 259
5.00	0505	10423 (SR14)	SABINE RIVER AT SH 149
5.00	0505	13628 (SR11)	SABINE RIVER AT US 59
5.00	0505	10415 (SR10)	SABINE RIVER AT FM 2517

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Upper Sabine Basin Report

July 2004

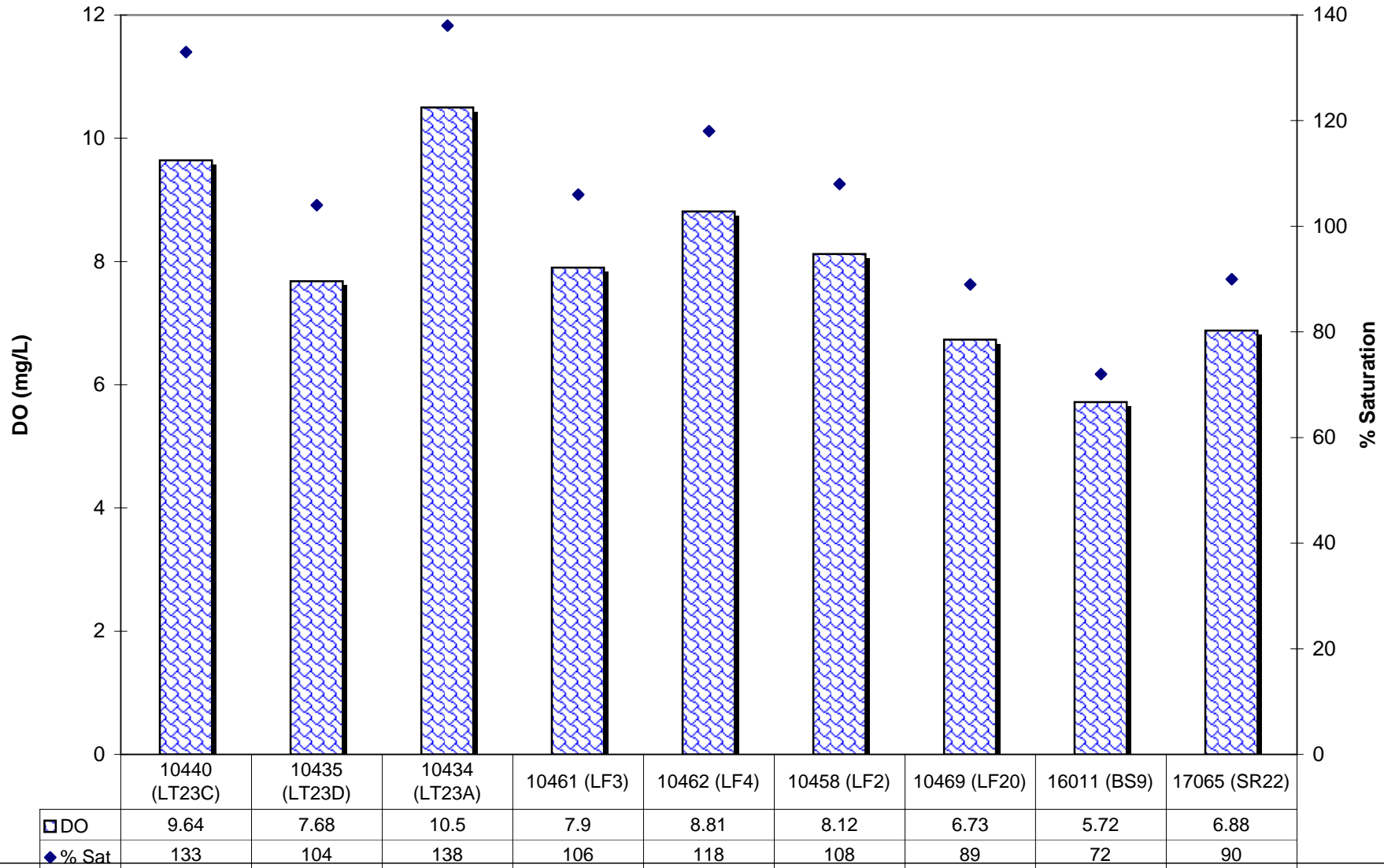
Date	SW ID	Station	Temperature °C 00010	pH Units 00400	DO mg/L 00300	% Saturation 00301	Conductivity µS/cm 00094	Salinity ppt 00480	Secchi Meters 00078	Turbidity NTU 82079	E. coli mpn/100ml 31699	Chlorophyll a µg/L 32211	Nitrite mg/L 00615	Nitrate mg/L 00620	Ortho- Phosphate 00671	TOC mg/L 00680	Total Alkalinity 00410	Total Hardness 00900	Chloride mg/L 00940	Sulfate mg/L 00945
7/13/04 12:21 PM	7.00	10440 (LT23C)	31.6	9.09	9.64	133	176	*	0.47	10.1	< 1	35	< 0.02	< 0.02	< 0.04	7	70	68	< 10	10.3
7/13/04 11:15 AM	7.00	10435 (LT23D)	30.6	8.73	7.68	104	196	*	0.37	13.8	1	51	< 0.02	0.06	0.2	8	80	68	< 10	10.3
7/13/04 9:55 AM	7.00	10434 (LT23A)	29.1	9.02	10.5	138	173	*	0.9	3.4	< 1	36	< 0.02	< 0.02	< 0.04	7	70	60	< 10	10.4
7/13/04 8:29 AM	6.12	10461 (LF3)	29.9	8.58	7.9	106	154	*	1.17	2.51	< 1	17	< 0.02	< 0.02	< 0.04	7	30	40	14.7	18.6
7/13/04 8:54 AM	6.12	10462 (LF4)	29.9	8.93	8.81	118	153	*	*	2.11	1	18	< 0.02	< 0.02	< 0.04	6	30	40	13.9	19.8
7/13/04 7:48 AM	6.12	10458 (LF2)	29.4	8.25	8.12	108	154	*	1.51	1.93	< 1	11	< 0.02	< 0.02	< 0.04	9	30	44	14	19.6
7/13/04 2:55 PM	6.10	10469 (LF20)	29	7.08	6.73	89	186	*	0.36	26.3	18	*	< 0.02	0.11	< 0.04	6	30	52	20.7	22.7
7/14/04 6:29 AM	6.02	16011 (BS9)	26.6	6.74	5.72	72	129	*	0.77	9.86	23	*	< 0.02	0.26	< 0.04	7	30	36	17.7	< 10
7/13/04 1:32 PM	6.00	17065 (SR22)	28.7	7.54	6.88	90	209	*	0.37	21.7	21	*	< 0.02	0.03	0.07	6	80	72	< 10	14.4
7/13/04 2:23 PM	6.00	10430 (SR21)	29.1	7.55	7.26	96	228	*	0.31	26.8	14	*	< 0.02	< 0.02	0.06	6	70	76	13.9	17.3
7/13/04 3:20 PM	6.00	10429 (SR19)	30.5	7.76	8.31	113	213	*	0.33	23.8	24	*	< 0.02	< 0.02	< 0.04	7	60	64	16.5	17.8
7/14/04 7:02 AM	5.00	10428 (SR17)	29.5	7.33	6.53	87	203	*	0.52	22.6	13	*	< 0.02	< 0.02	< 0.04	7	60	60	17	16.6
7/14/04 7:44 AM	5.00	10427 (SR16)	29.6	7.25	6.2	83	210	*	0.35	22	35	*	< 0.02	< 0.02	< 0.04	7	60	60	19.7	16.5
7/14/04 8:32 AM	5.00	10426 (SR15)	29.8	7.24	6.37	85	213	*	0.5	24.2	6	*	< 0.02	< 0.02	< 0.04	8	60	64	19.8	16.5
7/14/04 9:12 AM	5.00	10423 (SR14)	29.8	7.2	6.32	84	229	*	0.35	20.3	12	*	< 0.02	0.4	0.08	8	60	64	22.4	18.2
7/14/04 10:34 AM	5.00	13628 (SR11)	30.5	7.35	7.13	96	297	*	0.36	24.1	9	*	< 0.02	0.16	0.04	8	60	68	32.5	27
7/14/04 11:35 AM	5.00	10415 (SR10)	30.9	7.26	7.85	107	289	*	0.35	28.4	2	*	< 0.02	0.1	< 0.04	8	60	68	34.2	26.1

*: Not sampled on this run

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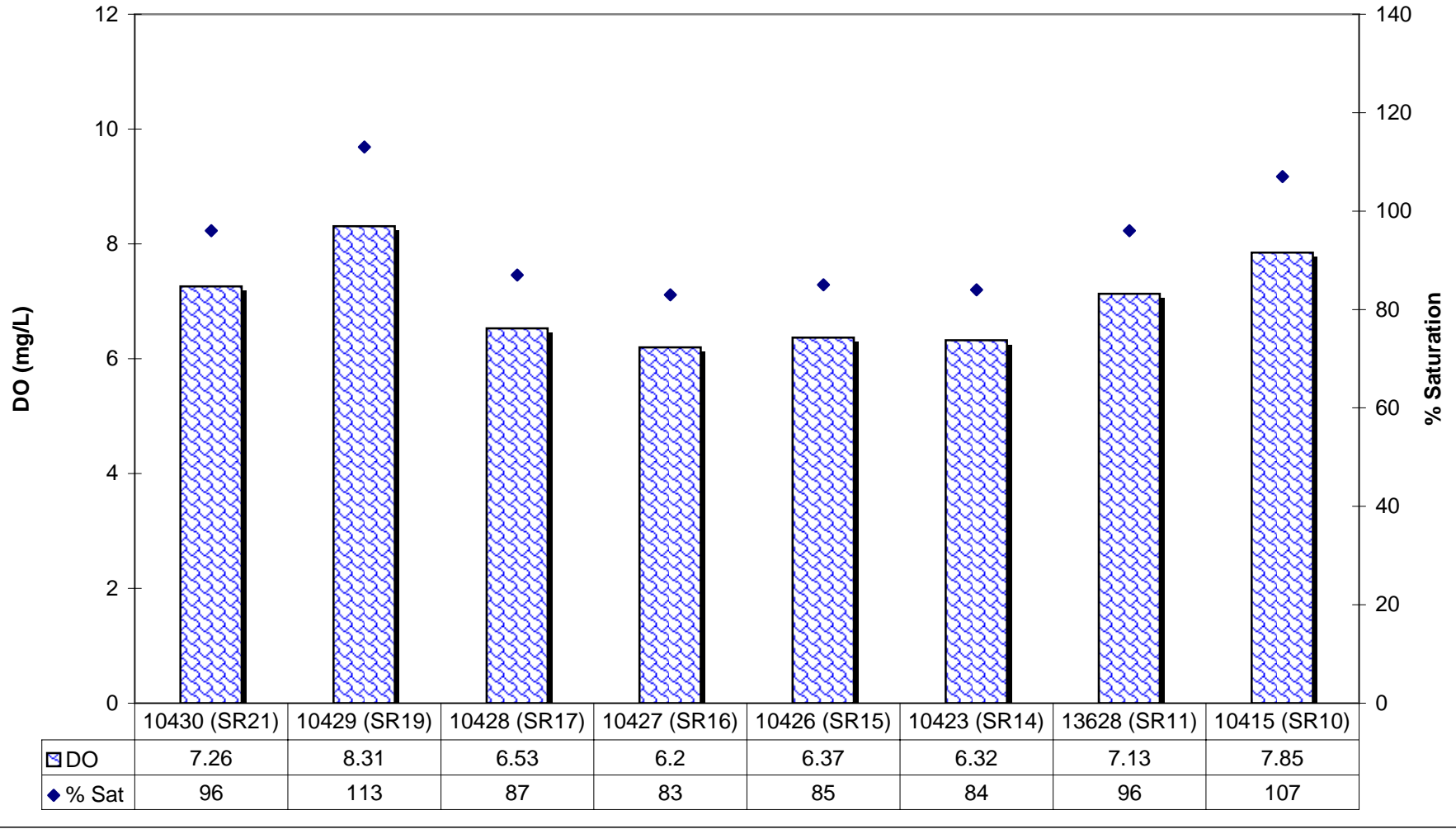
Upper Sabine Basin DO / % Saturation (1 of 2)



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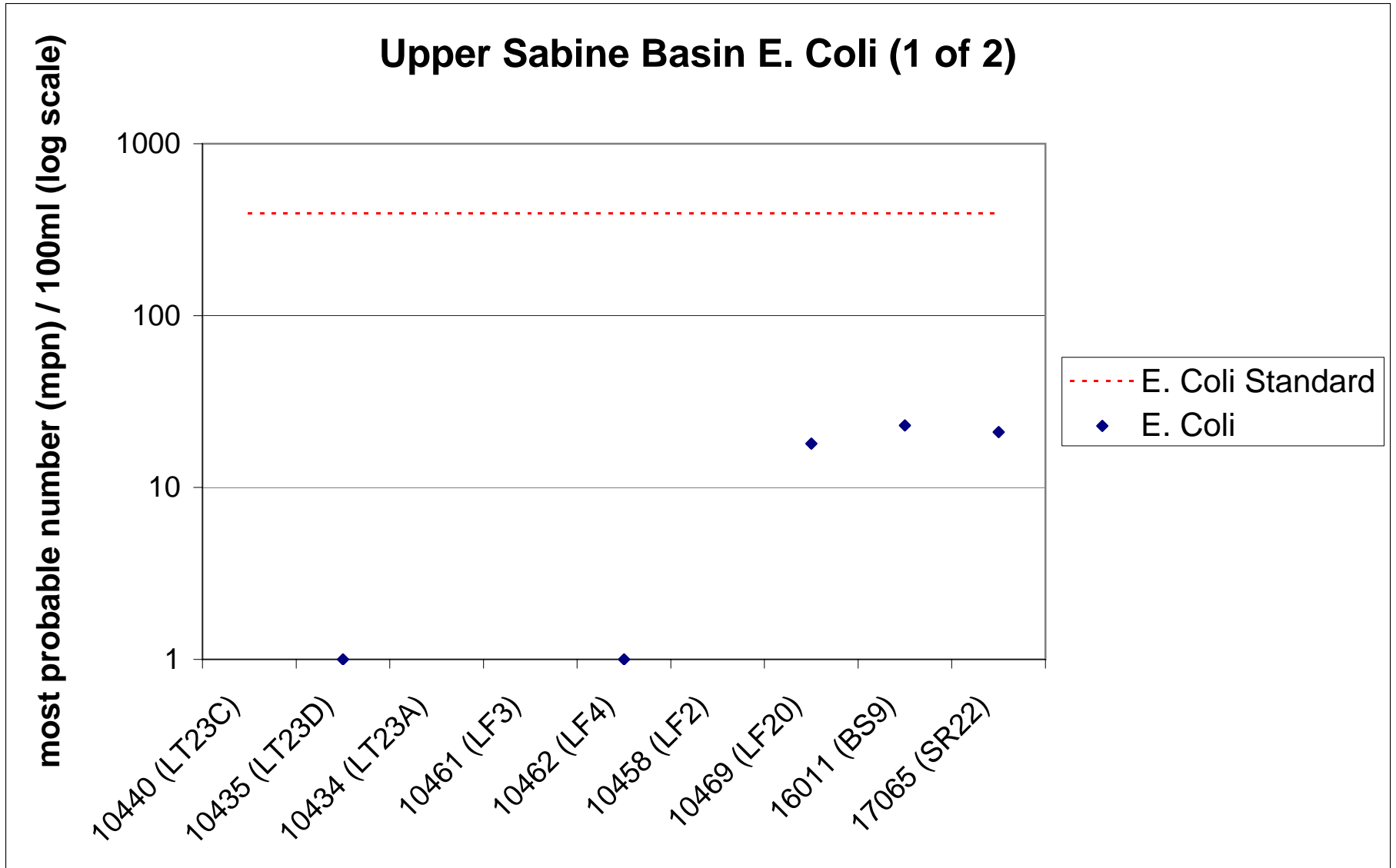
July 2004

Upper Sabine Basin DO / % Saturation (2 of 2)



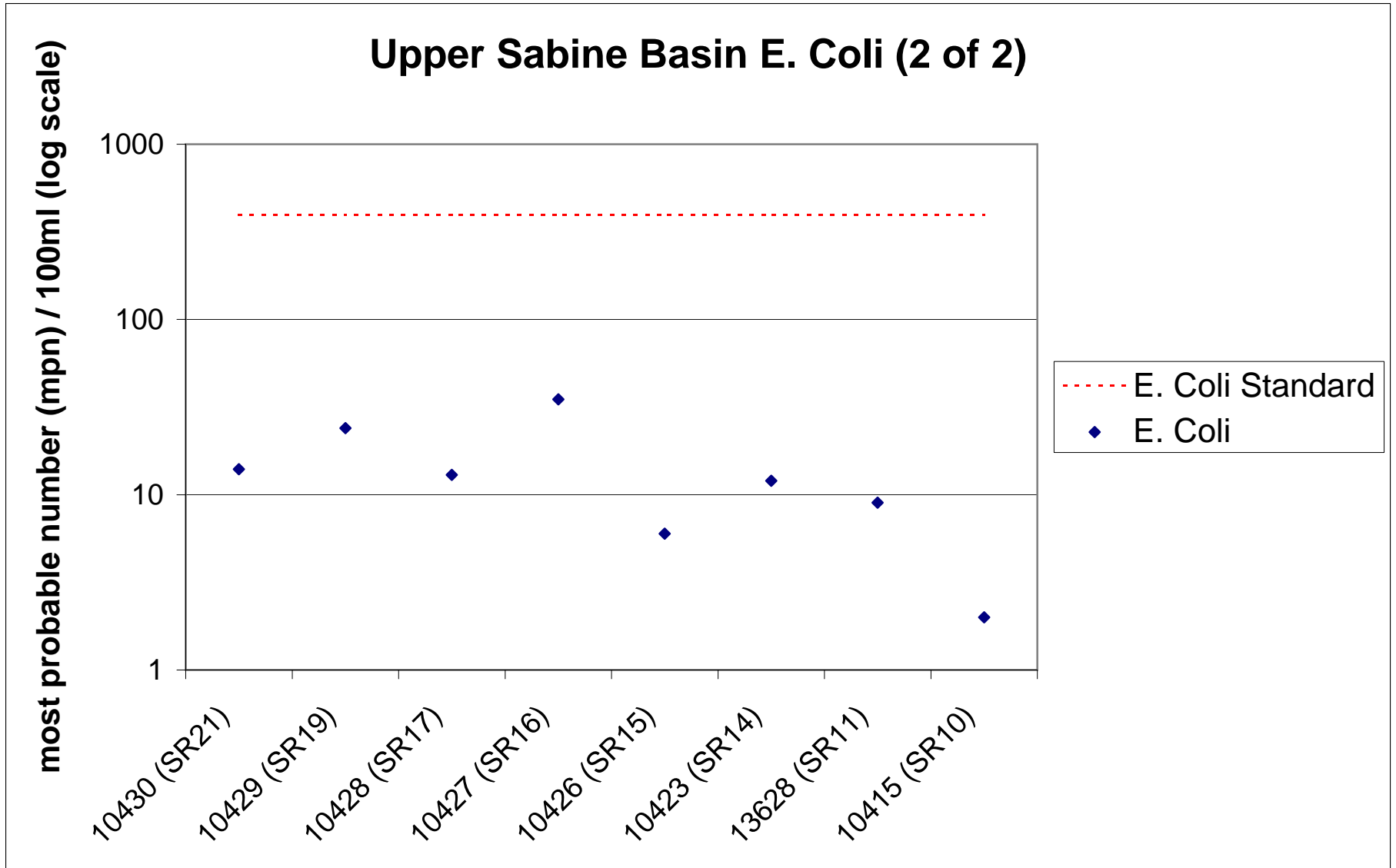
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July 2004



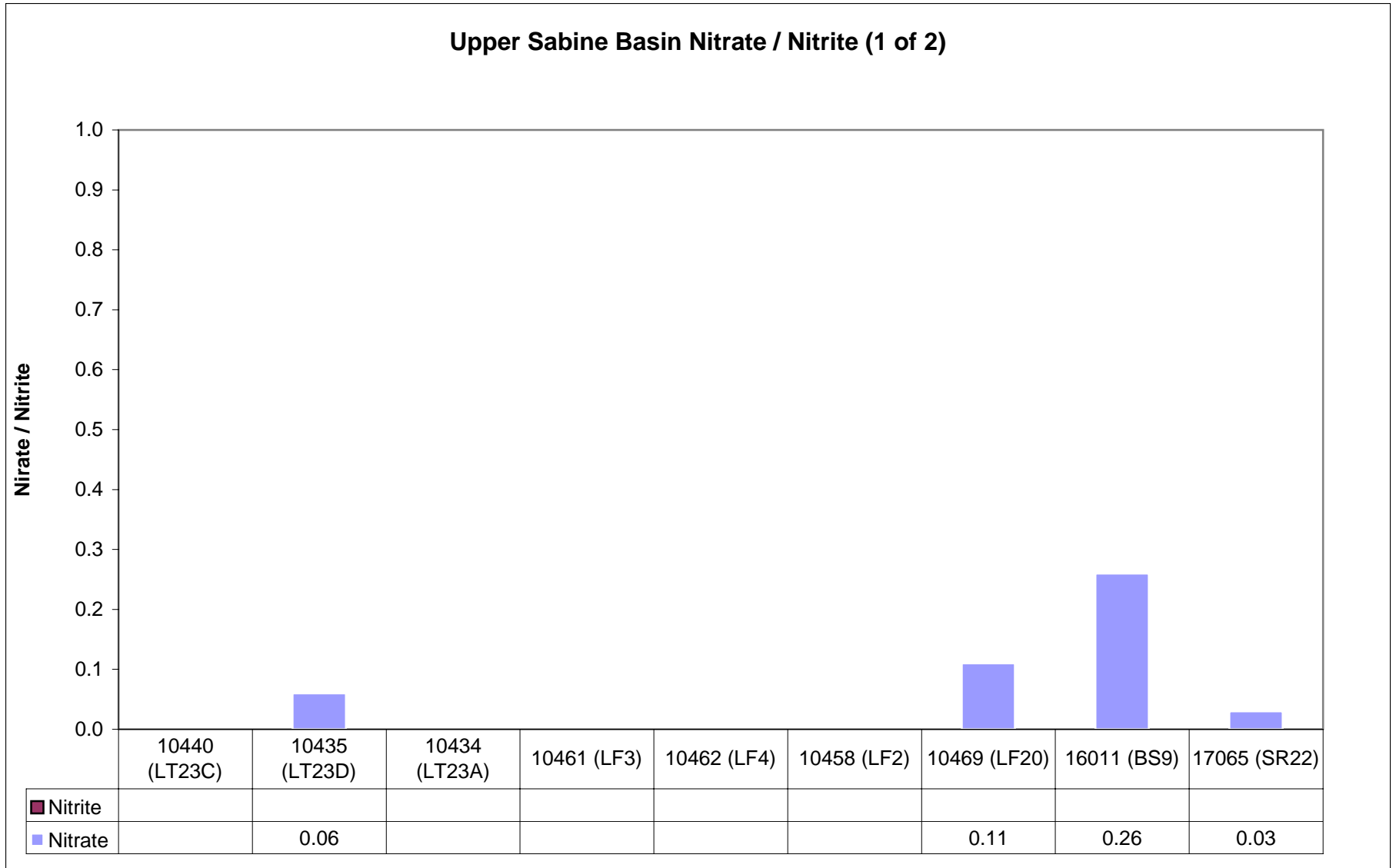
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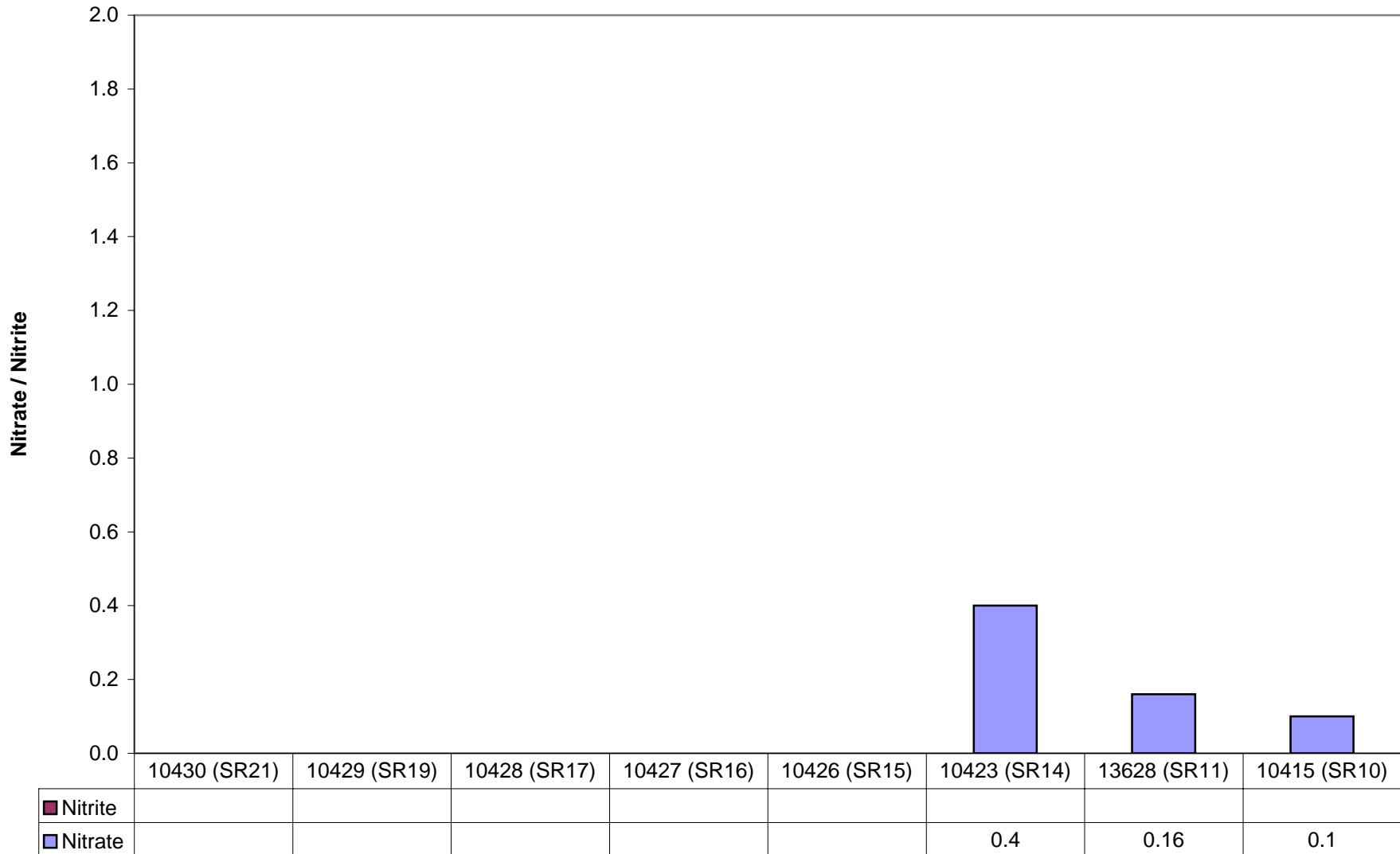


Stations without values were below detection limit (< 0.02 mg/L) on this run (see page 2)

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Lower Sabine Basin Nitrate / Nitrite (2 of 2)



Stations without values were below detection limit (< 0.02 mg/L) on this run (see page 2)

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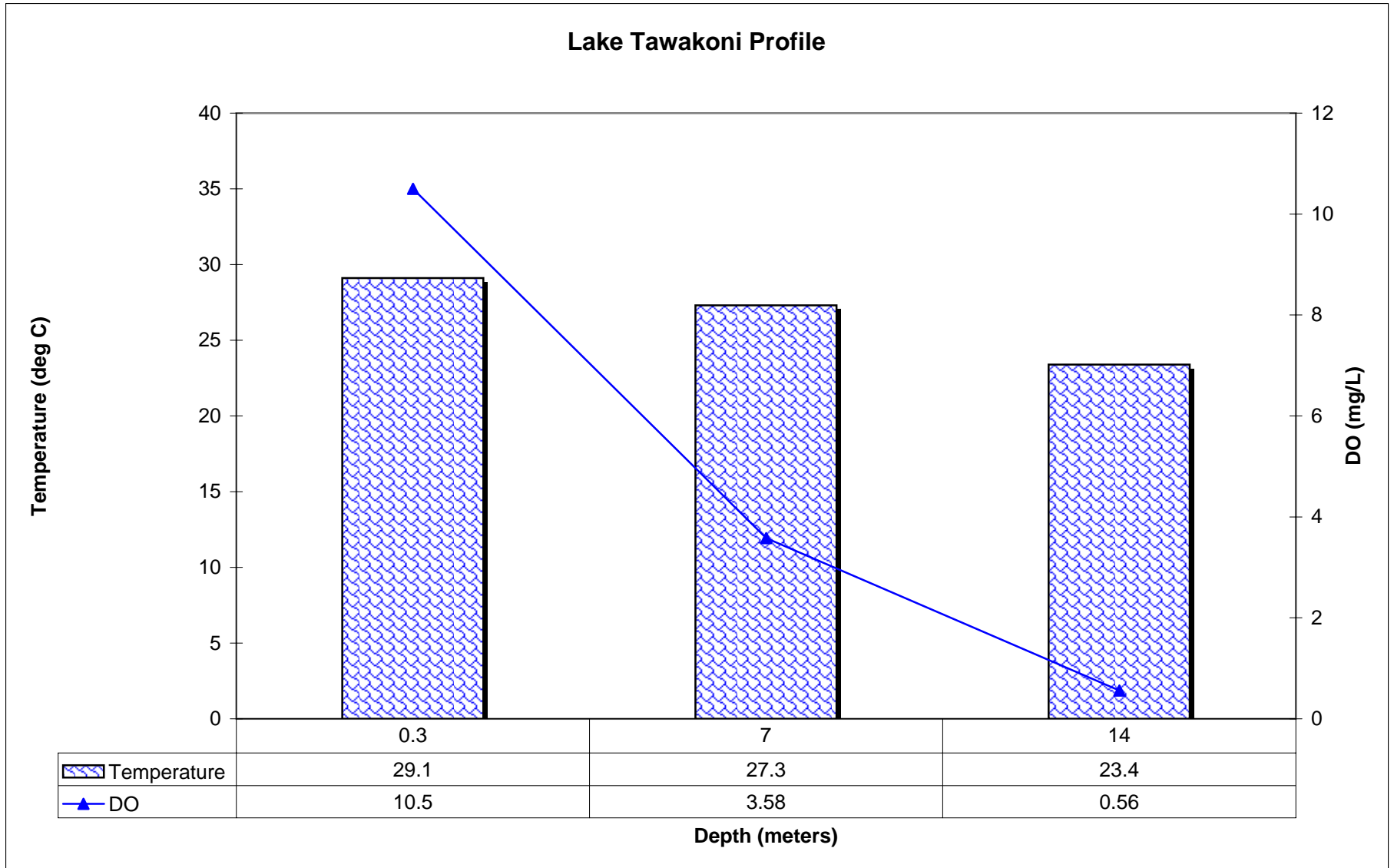
Upper Basin Profiles

July 2004

Date	SW ID	Station	Depth Meters	Temperature	pH	DO	%	Conductivity
				°C 00010	Units 00400	mg/L 00300	Saturation 00301	µS/cm 00094
7/13/04 12:21 PM	7.00	10440 (LT23C)	0.3	31.6	9.09	9.64	133	176
			1.7	30.4	8.92	7.07	96	176
			3.4	30.2	8.62	5.95	80	175
7/13/04 11:15 AM	7.00	10435 (LT23D)	0.3	30.6	8.73	7.68	104	196
			1.3	29.3	8.31	5	66	189
			2.6	28.1	7.39	1.27	16	184
7/13/04 9:55 AM	7.00	10434 (LT23A)	0.3	29.1	9.02	10.5	138	173
			7	27.3	7.54	3.58	46	179
			14	23.4	7	0.56	7	210
7/13/04 8:29 AM	6.12	10461 (LF3)	0.3	29.9	8.58	7.9	106	154
			5	29.7	7.17	5.06	68	156
			8.2	26.4	6.94	0.66	8	178
7/13/04 8:54 AM	6.12	10462 (LF4)	0.3	29.9	8.93	8.81	118	153
			5	29	7.33	5.83	77	151
			10.4	21.6	6.94	0.65	8	178
7/13/04 7:48 AM	6.12	10458 (LF2)	0.3	29.4	8.25	8.12	108	154
			6	27.4	6.66	1.82	23	154
			15.8	15.8	6.9	0.81	8	183

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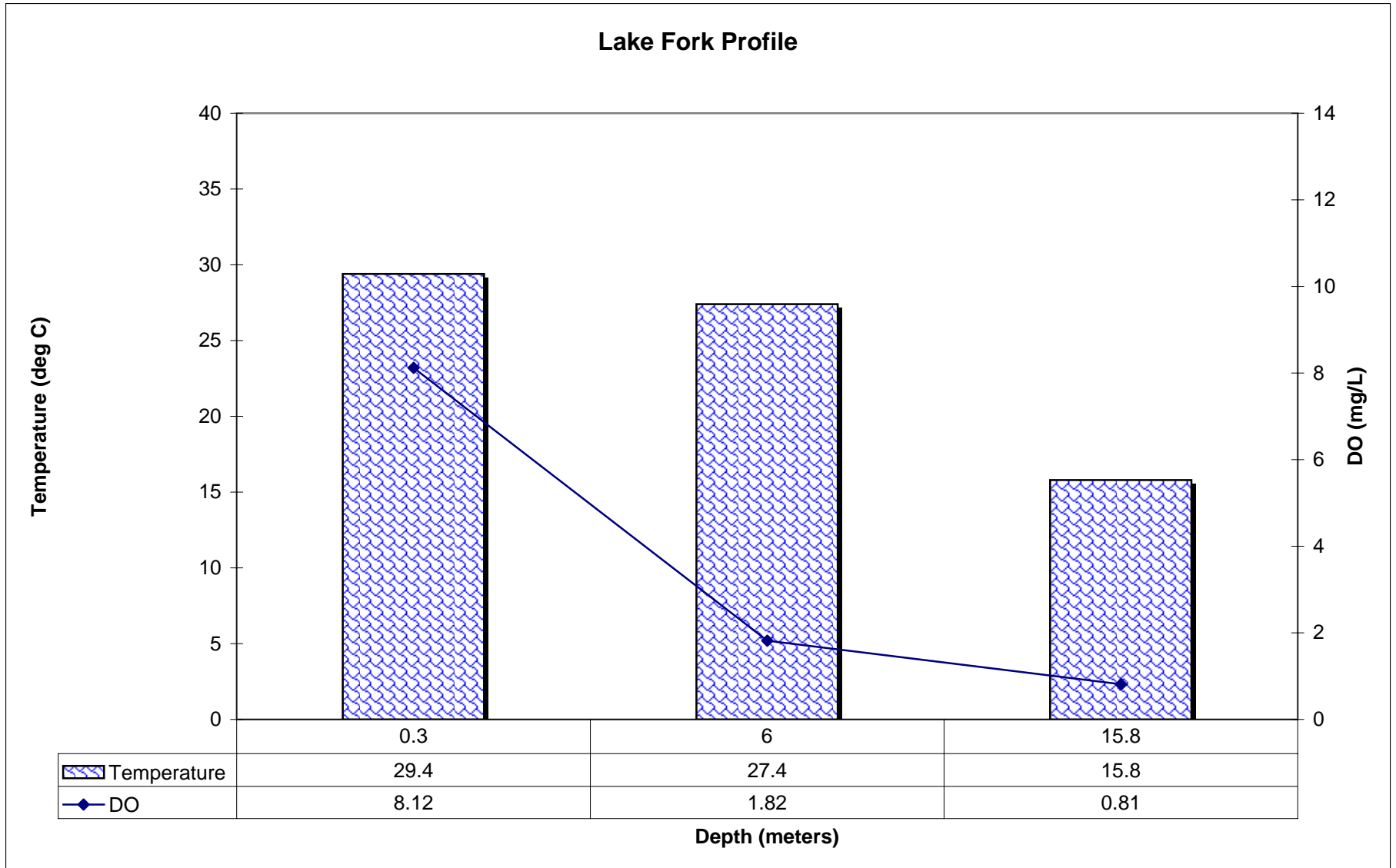
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For Station 10434 (LT23A): LAKE TAWAKONI IN THE MAIN LAKE NEAR THE DAM IN THE OLD RIVER CHANNEL

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Lake Tawakoni Weather and Reservoir Data

July 2004

Date	Lake Elev	LE - TOP	Releases inst	Max Temp	Min Temp	Rainfall	Evap
7/1/2004	437.84	0.34	235	76	71	0.13	0.16
7/2/2004	437.88	0.38	355	86	74	0.00	0.35
7/3/2004	437.82	0.32	235	88	70	0.21	0.09
7/4/2004	437.84	0.34	235	88	70	0.00	0.16
7/5/2004	437.79	0.29	235	90	74	0.00	0.36
7/6/2004	437.76	0.26	235	87	76	0.00	0.14
7/7/2004	437.72	0.22	125	87	77	0.00	0.19
7/8/2004	437.68	0.18	125	89	77	0.00	0.19
7/9/2004	437.64	0.14	45	88	74	0.00	0.34
7/10/2004	437.61	0.11	45	90	70	0.00	0.32
7/11/2004	437.58	0.08	45	90	74	0.00	0.29
7/12/2004	437.53	0.03	5	90	72	0.00	0.28
7/13/2004	437.50	0.00	5	90	74	0.00	0.30
7/14/2004	437.46	(0.04)	5	94	77	0.00	0.30
7/15/2004	437.42	(0.08)	5	94	79	0.00	0.14
7/16/2004	437.39	(0.11)	5	96	78	0.00	0.40
7/17/2004	437.35	(0.15)	5	94	80	0.00	0.34
7/18/2004	437.34	(0.16)	5	92	70	0.00	0.34
7/19/2004	433.26	(4.24)	5	88	69	0.00	0.30
7/20/2004	437.21	(0.29)	5	89	69	0.00	0.34
7/21/2004	437.18	(0.32)	5	92	71	0.00	0.33
7/22/2004	437.14	(0.36)	5	88	72	0.00	0.32
7/23/2004	437.12	(0.38)	5	93	74	0.00	0.36
7/24/2004	437.08	(0.42)	5	94	73	0.00	0.40
7/25/2004	437.11	(0.39)	5	96	73	0.10	0.32
7/26/2004	437.06	(0.44)	5	80	69	0.00	0.32
7/27/2004	437.01	(0.49)	5	77	65	0.00	0.18
7/28/2004	436.98	(0.52)	5	84	65	0.00	0.30
7/29/2004	437.10	(0.40)	5	85	72	0.97	0.28
7/30/2004	437.27	(0.23)	5	80	74	1.79	0.00
7/31/2004	437.31	(0.19)	5	86	72	0.00	0.15
Avg or Tot	437.29	(0.21)	65	88	73	3.20	8.29

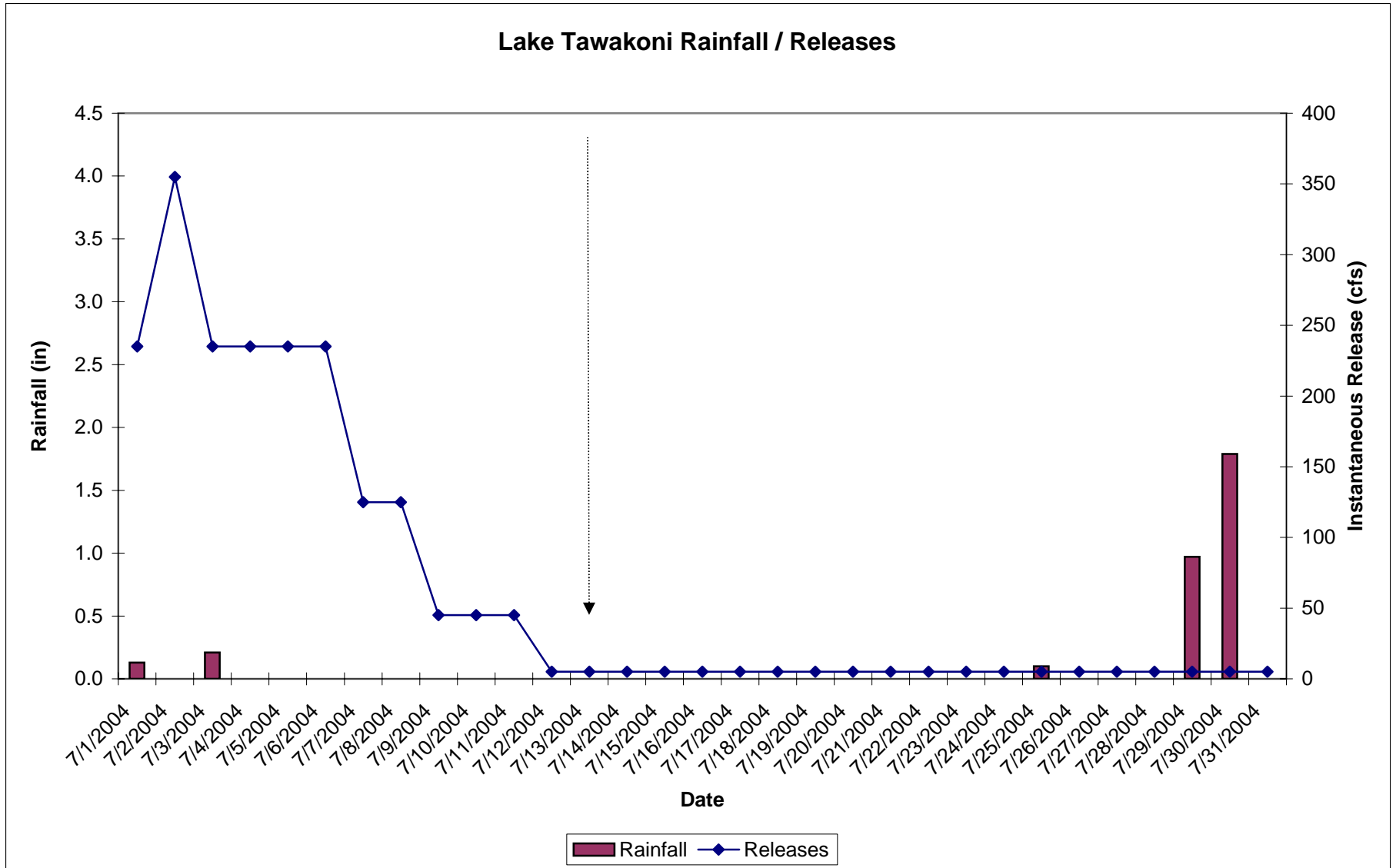
	Avg	Avg	Avg	Avg	Avg	Tot	Tot
Units	Feet M.S.L.	Feet	cfs	Deg F	Deg F	Inches	Inches
			Instantaneous				
			appx. 8 a.m.				

TOP: Top of Pool = 437.5 Feet M.S.L.

Lake Tawakoni Sampled on 7/13/2004

SABINE RIVER AUTHORITY OF TEXAS

July 2004



Please Note : Lake Tawakoni has an uncontrolled spillway.

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Lake Fork Weather and Reservoir Data

July 2004

Date	Lake Elev	LE - TOP	Releases avg	Releases cur	Max Temp	Min Temp	Rainfall	Evap
7/1/2004	402.81	(0.19)	64	64	82	72	0.00	0.09
7/2/2004	402.80	(0.20)	64	64	90	74	0.00	0.25
7/3/2004	402.84	(0.16)	64	64	92	74	0.00	0.30
7/4/2004	402.77	(0.23)	64	64	91	75	0.03	0.23
7/5/2004	402.75	(0.25)	64	64	93	74	0.00	0.37
7/6/2004	402.74	(0.26)	64	64	92	76	0.00	0.21
7/7/2004	402.72	(0.28)	64	64	92	75	0.00	0.29
7/8/2004	402.70	(0.30)	64	64	93	77	0.00	0.16
7/9/2004	402.67	(0.33)	64	64	94	71	0.00	0.44
7/10/2004	402.66	(0.34)	64	64	94	72	0.00	0.38
7/11/2004	402.63	(0.37)	64	64	94	72	0.00	0.32
7/12/2004	402.61	(0.39)	64	64	94	71	0.00	0.35
7/13/2004	402.60	(0.40)	64	64	94	74	0.00	0.33
7/14/2004	402.61	(0.39)	64	64	96	75	0.00	0.34
7/15/2004	402.60	(0.40)	64	64	95	74	0.00	0.31
7/16/2004	402.57	(0.43)	64	64	99	75	0.00	0.24
7/17/2004	402.54	(0.46)	64	64	96	79	0.00	0.34
7/18/2004	402.53	(0.47)	64	64	96	72	0.00	0.34
7/19/2004	402.48	(0.52)	64	64	92	72	0.00	0.30
7/20/2004	402.43	(0.57)	64	64	94	70	0.00	0.26
7/21/2004	402.41	(0.59)	64	64	96	72	0.00	0.46
7/22/2004	402.39	(0.61)	64	64	93	72	0.00	0.16
7/23/2004	402.36	(0.64)	64	64	96	72	0.00	0.42
7/24/2004	402.33	(0.67)	64	64	97	72	0.00	0.34
7/25/2004	402.33	(0.67)	64	64	98	73	0.00	0.36
7/26/2004	402.29	(0.71)	64	64	86	66	0.00	0.33
7/27/2004	402.24	(0.76)	64	64	80	63	0.00	0.15
7/28/2004	402.21	(0.79)	64	64	88	66	0.00	0.24
7/29/2004	402.24	(0.76)	64	64	90	70	0.37	0.39
7/30/2004	402.56	(0.44)	64	64	86	70	4.35	0.00
7/31/2004	402.59	(0.41)	64	64	91	73	0.00	0.34
Avg or Tot	402.55	(0.45)	64	64	92	72	4.75	9.04

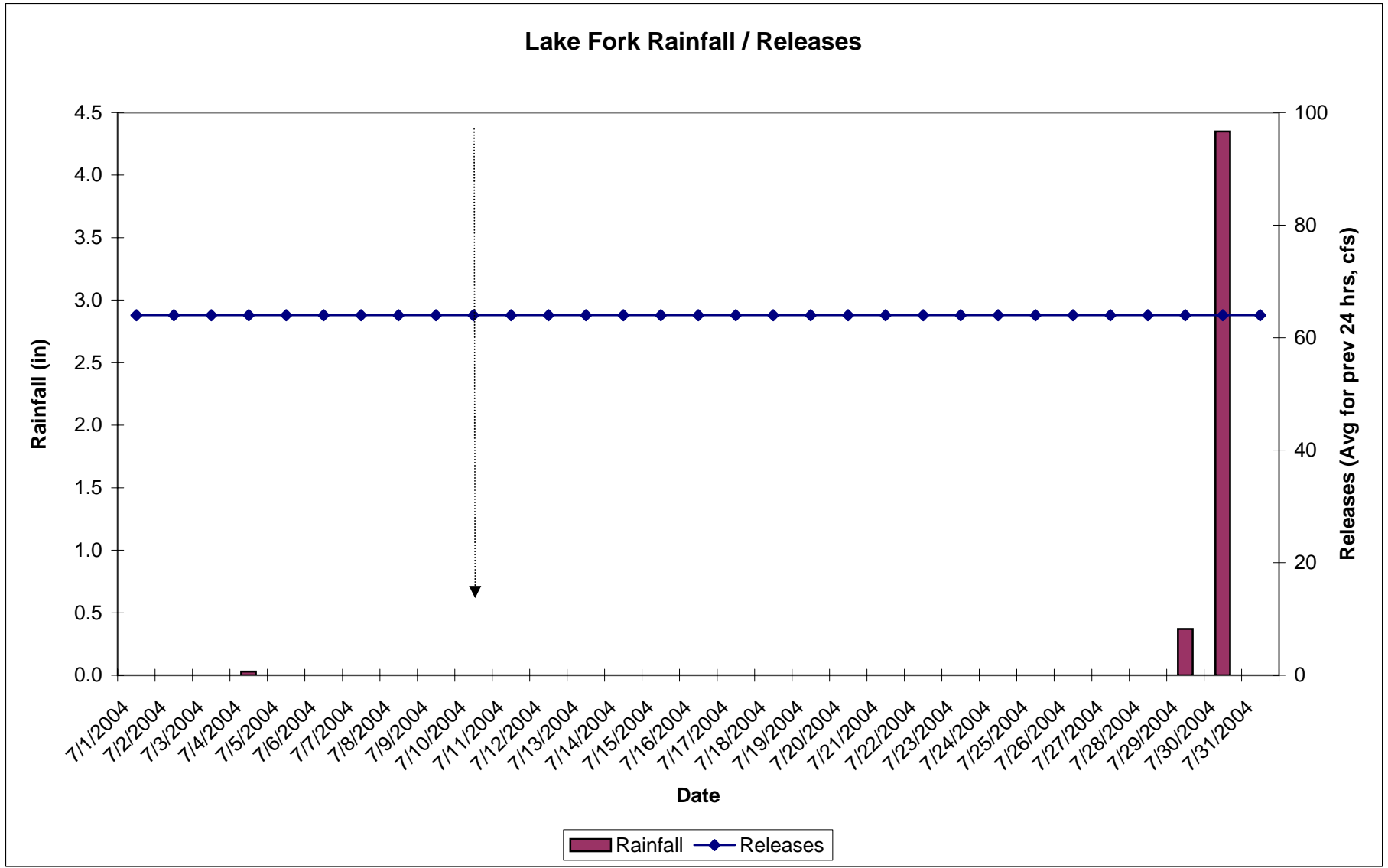
	Avg	Avg	Avg		Avg	Avg	Tot	Tot
Units	Feet M.S.L.	Feet	cfs	cfs	Deg F	Deg F	Inches	Inches
			Previous 24 hrs					

TOP: Top of Pool = 403 Feet M.S.L.

Lake Fork Sampled on 7/13/2004

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July 2004



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FY 2004 Fixed Monitoring Stations

Lower Sabine Basin

SW	Segment	Station	Location
4.00	0504	10403 (TB8)	TOLEDO BEND RESERVOIR AT US 84 NEAR LOGANSPO RT LA
4.00	0504	18051 (TB7A)	TOLEDO BEND RESERVOIR AT RECREATION SITE 1
4.00	0504	18052 (TB6R)	TOLEDO BEND RAGTOWN
4.00	0504	18053 (TB6LN)	TOLEDO BEND RESERVOIR SAN MIGUEL ARM BOAT LANE
4.00	0504	15655 (TB6J)	TOLEDO BEND RESERVOIR PATROON BAYOU BRANCH AT FM 276
4.00	0504	15659 (TB6K)	TOLEDO BEND RESERVOIR IN LANANA BAYOU AT LOUISIANA SH 191 IN SABINE PARISH LOUISIANA WEST OF MANY
4.00	0504	10402 (TB6H)	TOLEDO BEND RESERVOIR AT SH 21 NORTHEAST OF MILAM
4.00	0504	18054 (TB6Q)	TOLEDO BEND RESERVOIR IN NEGREET BAYOU
4.00	0504	10411 (TB6F)	TOLEDO BEND RESERVOIR IN SUNSHINE BAY NEAR FM 3121 BRIDGE
4.00	0504	10407 (TB6CN)	TOLEDO BEND RESERVOIR IN SIX MILE BOAT LANE AT SH 87
4.00	0504	10404 (TB6A)	TOLEDO BEND RESERVOIR MAIN LAKE ABOVE THE DAM AT THE OLD RIVER CHANNEL
3.03	0503	10340 (BA4)	ANACOCO BAYOU AT LOUISIANA HWY 111 CROSSING SOUTHWEST OF KNIGHT LA
3.00	0503	10401 (TB6S)	SABINE RIVER BELOW TOLEDO BEND RESERVOIR AT RIGHT ABUTMENT OF SPILLWAY FOR DAM
3.00	0503	10399 (SR5)	SABINE RIVER AT SH 63 EAST OF BURKEVILLE TX.
3.00	0503	10398 (SR3)	SABINE RIVER AT US 190 EAST OF BON WIER TX.
2.05	0513	10465 (BCC1)	BIG COW CREEK AT FM 1416 SOUTH OF BON WIER
2.00	0502	10397 (SR2)	SABINE RIVER AT SH 12 NORTH OF DEWEYVILLE TX.

SABINE RIVER AUTHORITY OF TEXAS

Lower Basin Report

July 2004

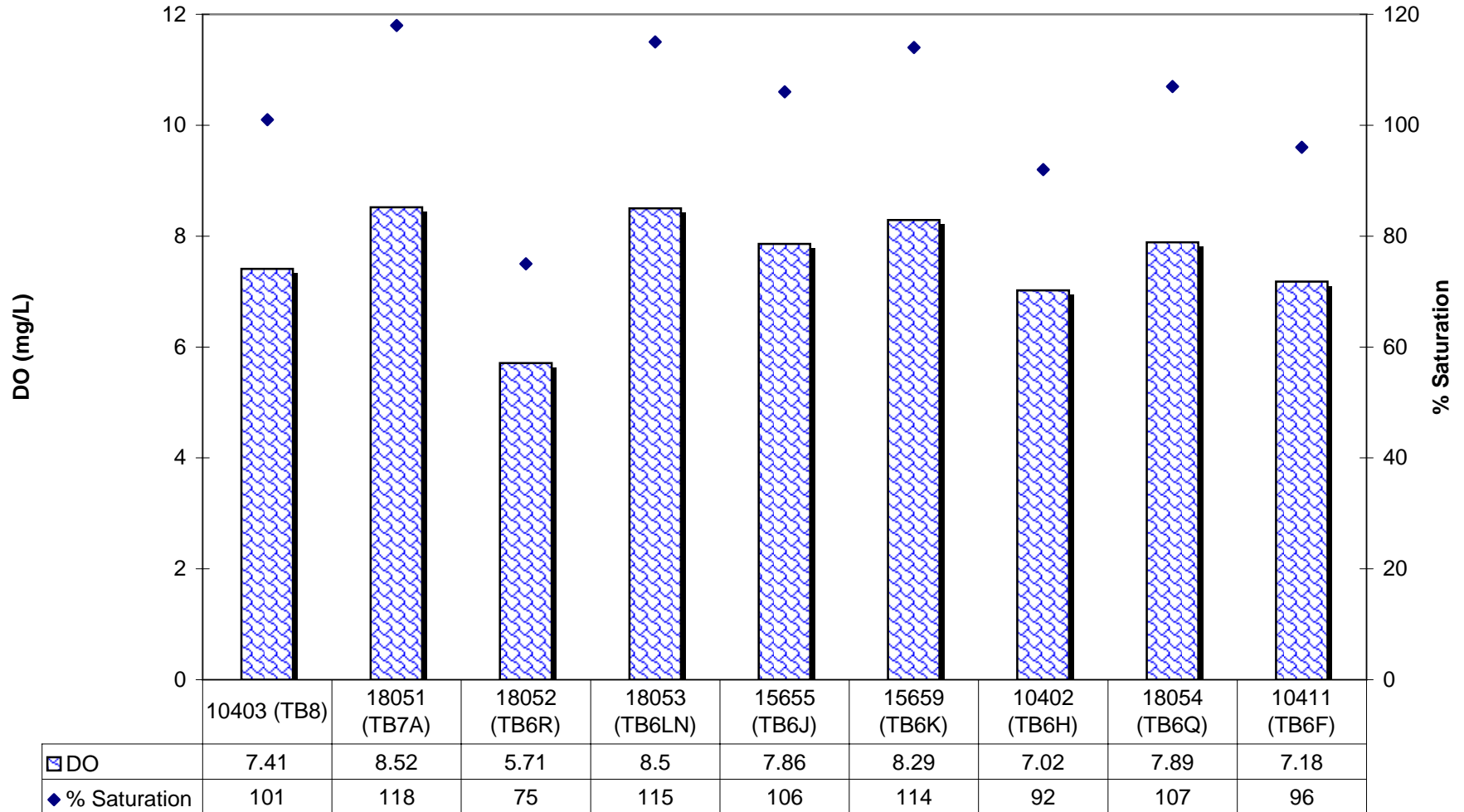
Date	SW ID	Station	Temperature °C 00010	pH Units 00400	DO mg/L 00300	% Saturation 00301	Conductivity µS/cm 00094	Salinity ppt 00480	Secchi Meters 00078	Turbidity NTU 82079	<i>E. coli</i> mpn/100ml 31699	Chlorophyll a µg/L 32211	Nitrite mg/L 00615	Nitrate mg/L 00620	Ortho- Phosphate 00671	TOC mg/L 00680	Total Alkalinity 00410	Total Hardness 00900	Chloride mg/L 00940	Sulfate mg/L 00945
7/14/04 12:19 PM	4.00	10403 (TB8)	31.1	7.03	7.41	101	224	*	0.34	21.9	6	*	< 0.02	0.1	< 0.04	10	50	56	24.4	22.1
7/14/04 1:00 PM	4.00	18051 (TB7A)	32.1	7.23	8.52	118	216	*	0.38	19.3	20	*	< 0.02	0.1	< 0.04	10	40	56	24.1	21.3
7/12/04 10:10 AM	4.00	18052 (TB6R)	29.2	7.04	5.71	75	145	*	0.74	3.93	< 1	*	< 0.02	0.05	< 0.04	11	30	40	16.6	14.4
7/12/04 1:05 PM	4.00	18053 (TB6LN)	31.5	8.45	8.5	115	131	*	1.02	3.22	1	*	< 0.02	0.04	< 0.04	10	20	28	15.5	14.9
7/13/04 10:40 AM	4.00	15655 (TB6J)	31	8.46	7.86	106	134	*	0.86	4.36	19	*	< 0.02	0.03	< 0.04	10	30	36	14.4	17.3
7/13/04 12:20 PM	4.00	15659 (TB6K)	32.3	8.82	8.29	114	137	*	0.98	2.77	< 1	*	< 0.02	< 0.02	< 0.04	9	20	32	16.1	16.1
7/12/04 11:40 AM	4.00	10402 (TB6H)	29.2	7.34	7.02	92	144	*	1.32	2.37	1	11	< 0.02	0.03	< 0.04	10	30	32	16.8	16.6
7/12/04 2:00 PM	4.00	18054 (TB6Q)	31.3	8.36	7.89	107	137	*	1.56	1.98	2	*	< 0.02	< 0.02	< 0.04	7	20	36	15.9	16.6
7/13/04 11:20 AM	4.00	10411 (TB6F)	30.6	8.22	7.18	96	106	*	1.24	2.8	< 1	10	< 0.02	0.03	< 0.04	8	20	28	11.2	12.8
7/13/04 9:47 AM	4.00	10407 (TB6CN)	29.6	6.89	6.35	84	111	*	1.32	3.01	5	*	< 0.02	0.02	< 0.04	10	20	28	11.2	13
7/12/04 3:00 PM	4.00	10404 (TB6A)	31.1	7.67	7.3	97	132	*	3	0.94	< 1	< 3	< 0.02	< 0.02	< 0.04	7	20	28	15.4	16.6
7/14/04 12:52 PM	3.03	10340 (BA4)	29.4	6.8	6.08	80	202	*	0.36	16.8	2	*	< 0.02	0.16	< 0.04	10	40	28	< 10	42
7/14/04 10:55 AM	3.00	10401 (TB6S)	17.8	6.67	8.88	93	140	*	> 1.22	4.42	3	*	< 0.02	< 0.02	< 0.04	6	30	36	15.1	15
7/14/04 12:25 PM	3.00	10399 (SR5)	29.8	6.88	6.63	87	130	*	0.69	4.05	18	*	< 0.02	0.12	< 0.04	7	20	28	14.4	15.2
7/14/04 1:20 PM	3.00	10398 (SR3)	30.1	6.89	6.51	86	131	*	0.36	9.56	16	*	< 0.02	0.04	< 0.04	6	20	28	14	16.7
7/14/04 9:33 AM	2.05	10465 (BCC1)	25.3	6.09	6.8	83	36	*	0.43	15.4	35	*	< 0.02	0.13	< 0.04	6	10	12	< 10	< 10
7/14/04 8:37 AM	2.00	10397 (SR2)	28.2	6.36	4.83	62	110	*	0.46	17.3	4	*	< 0.02	0.05	< 0.04	9	20	24	11.4	12.7

*: Not sampled on this run

SABINE RIVER AUTHORITY OF TEXAS

July 2004

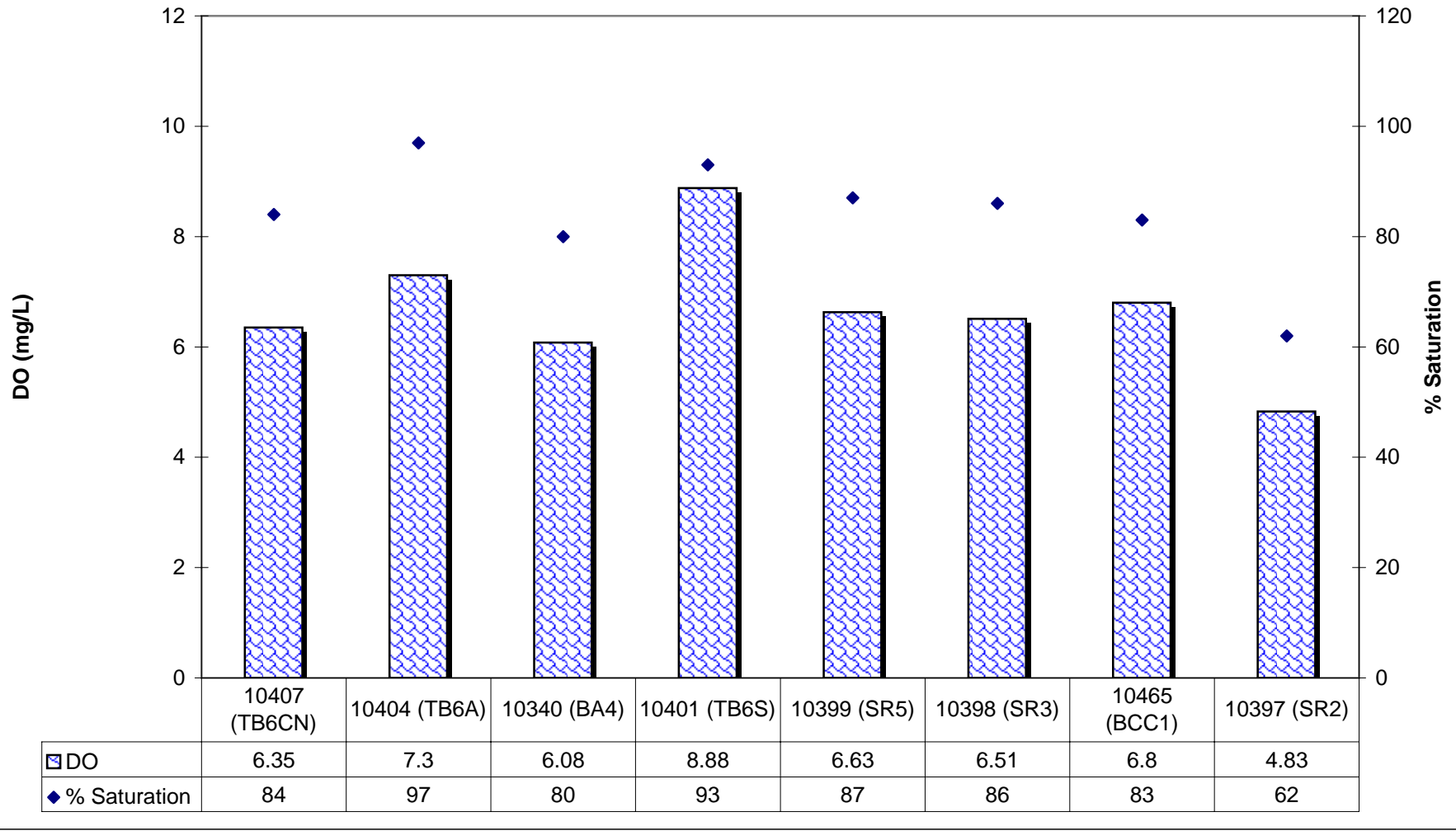
Lower Sabine Basin DO / % Saturation (1 of 2)



SABINE RIVER AUTHORITY OF TEXAS

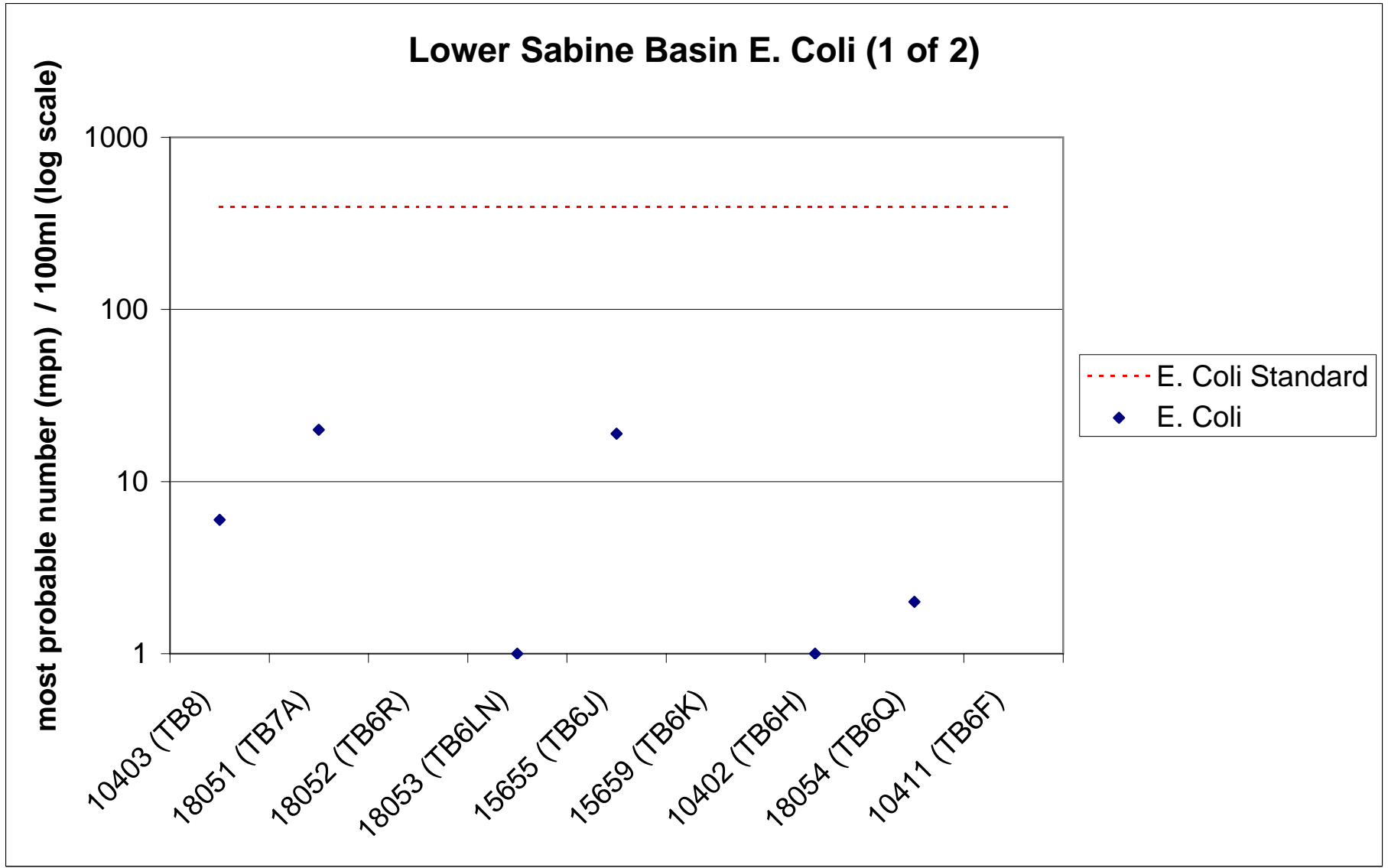
July 2004

Lower Sabine Basin DO / % Saturation (2 of 2)



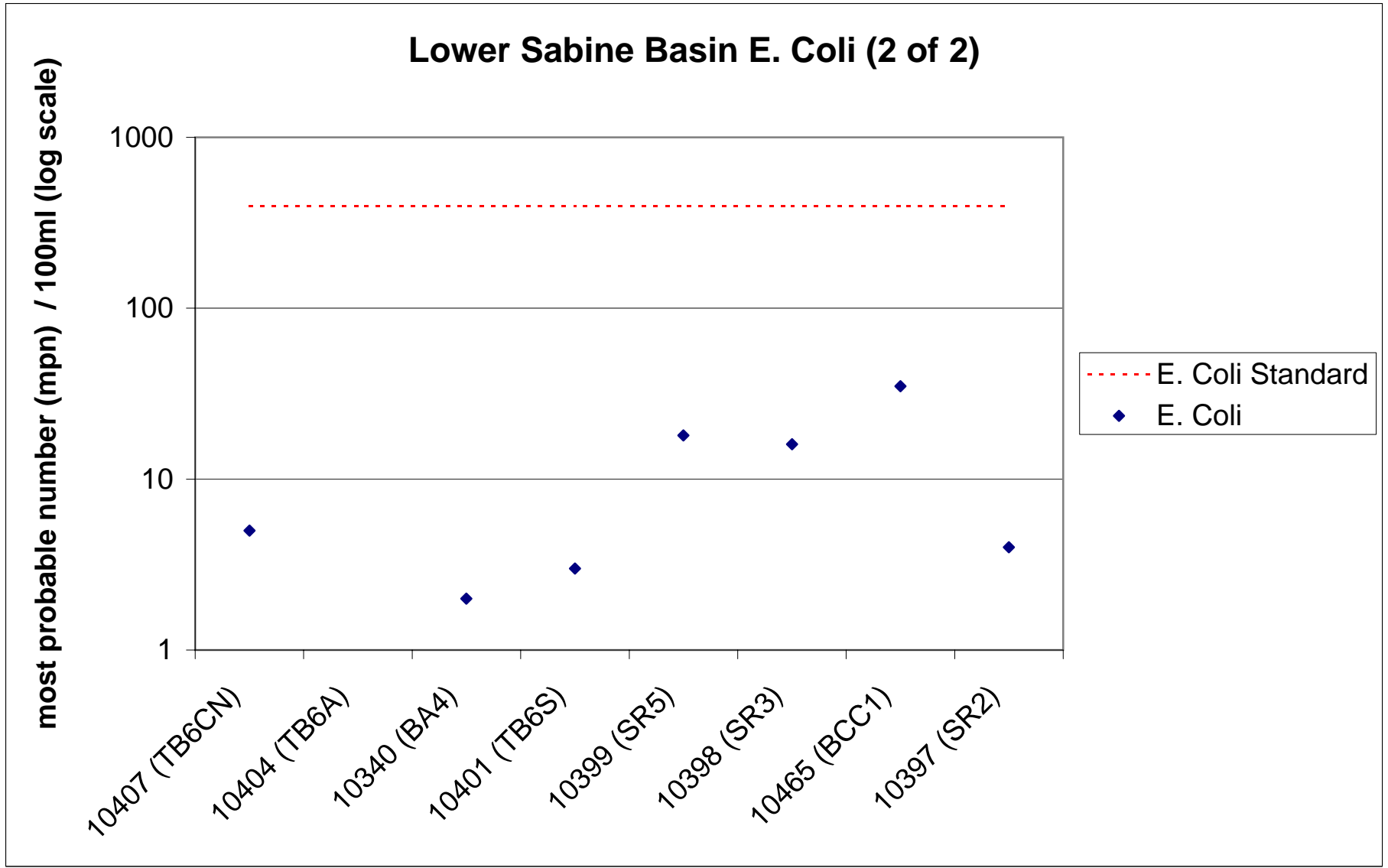
SABINE RIVER AUTHORITY OF TEXAS

July 2004



SABINE RIVER AUTHORITY OF TEXAS

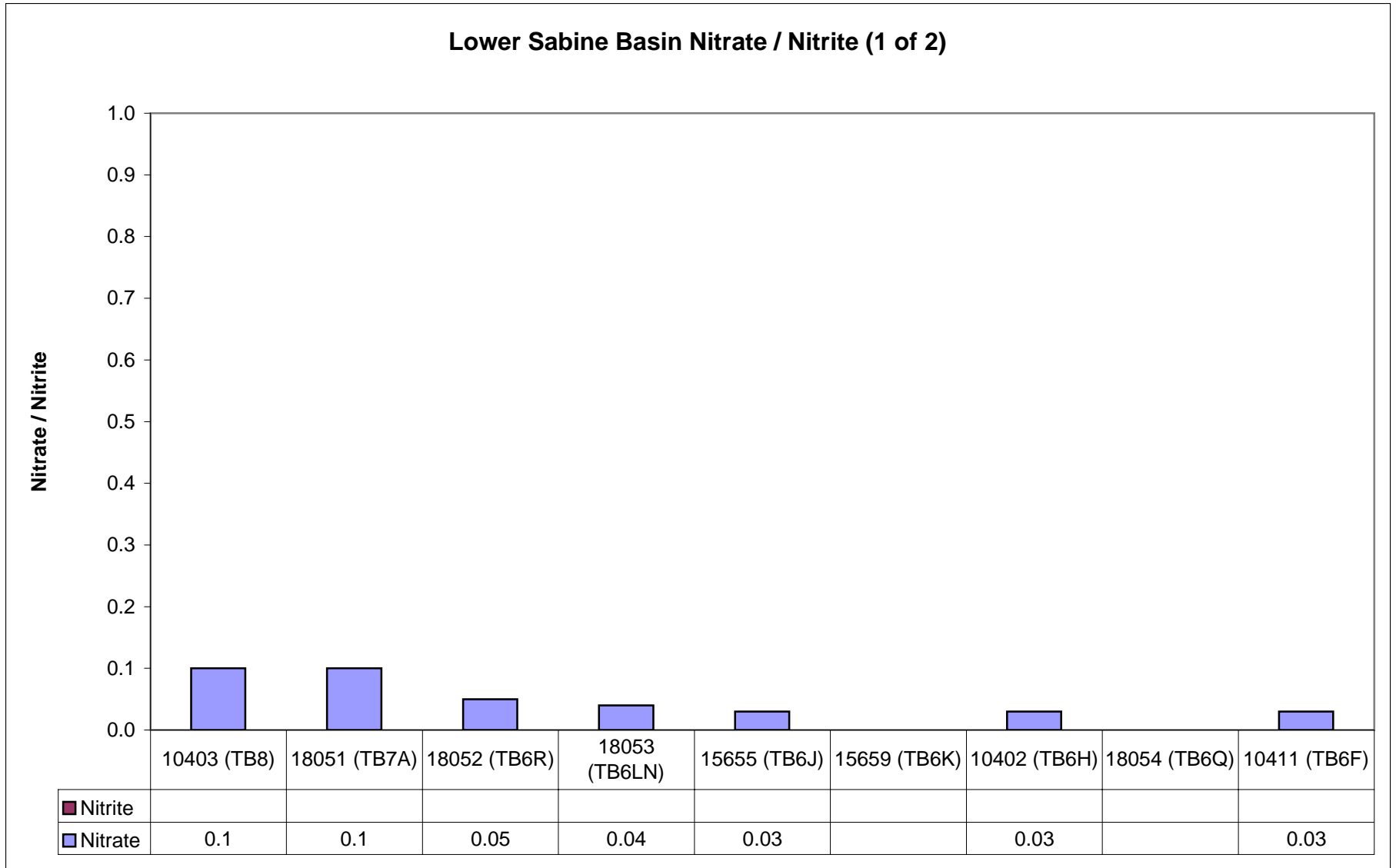
July 2004



Stations without values were below detection limit on this run (see page 18)

SABINE RIVER AUTHORITY OF TEXAS

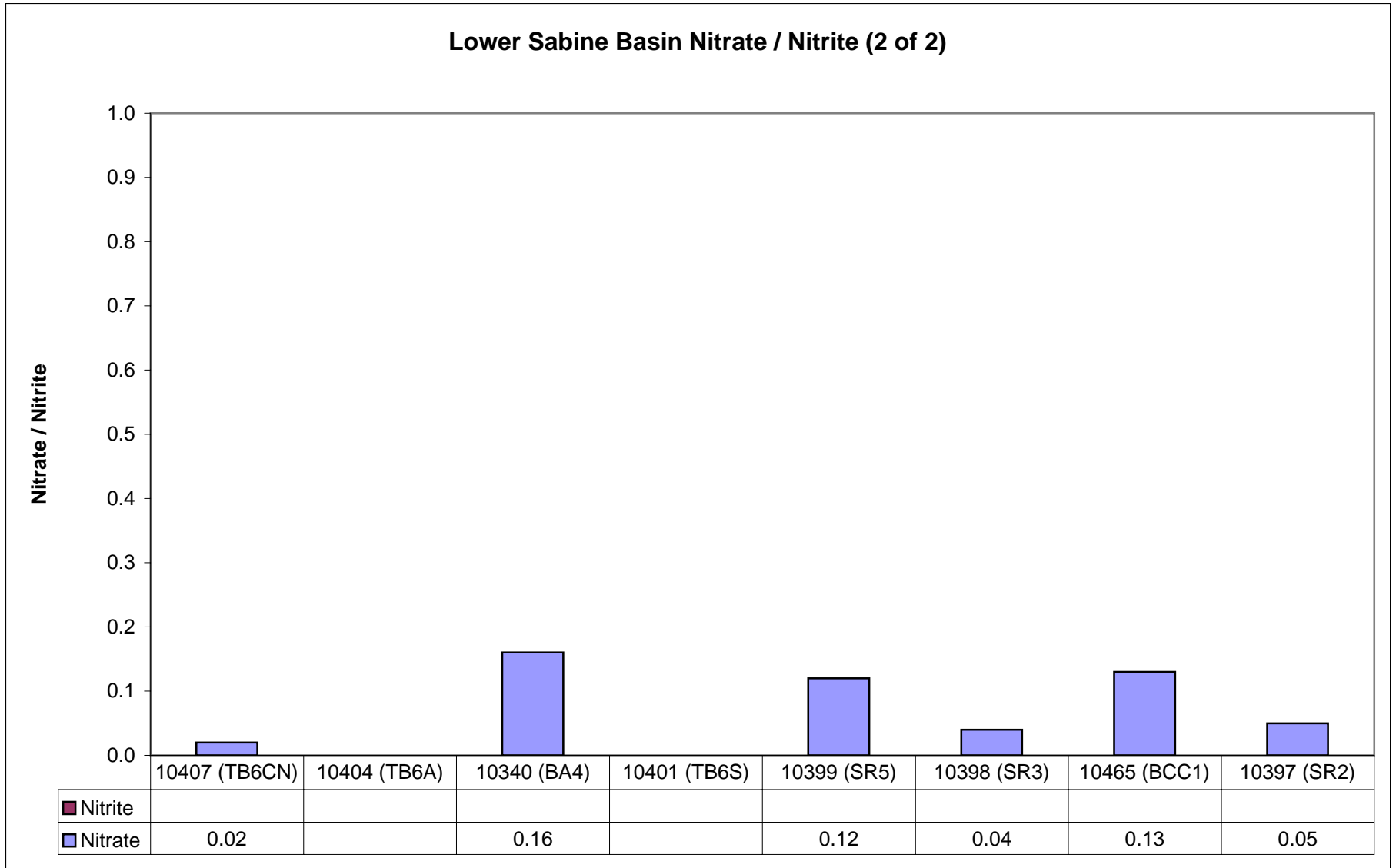
July 2004



Stations without values were below detection limit (< 0.02 mg/L) on this run (see page 18)

SABINE RIVER AUTHORITY OF TEXAS

July 2004



Stations without values were below detection limit (< 0.02 mg/L) on this run (see page 18)

SABINE RIVER AUTHORITY OF TEXAS

Lower Basin Profiles

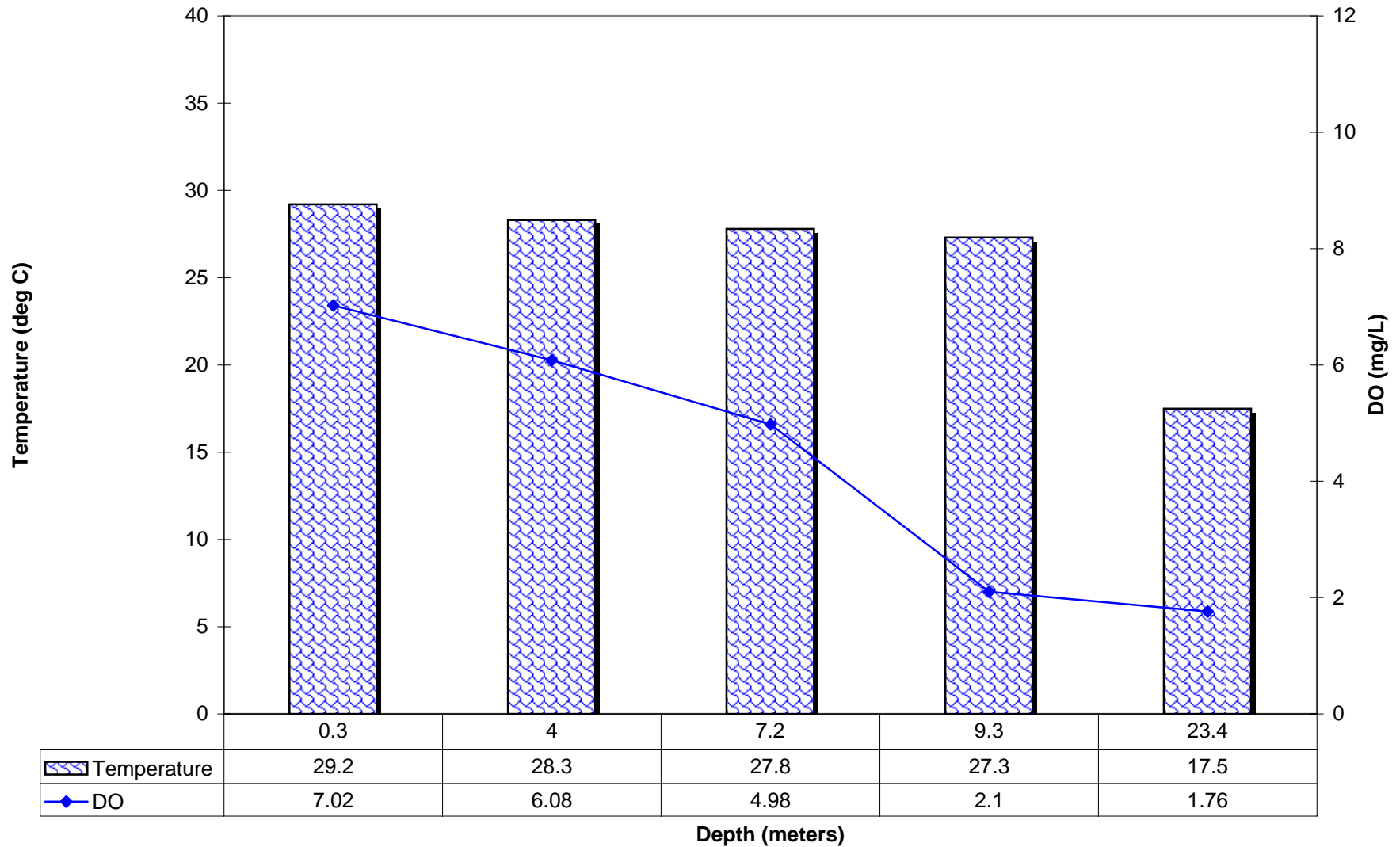
July 2004

Date	SW ID	Station	Depth Meters	Temperature	pH	DO	%	Conductivity
				°C 00010	Units 00400	mg/L 00300	Saturation 00301	µS/cm 00094
7/14/04 12:19 PM	4.00	10403 (TB8)	0.3	31.1	7.03	7.41	101	224
			6	29.6	6.73	4.15	55	217
			11	29.2	6.65	2.84	38	215
7/14/04 1:00 PM	4.00	18051 (TB7A)	0.3	32.1	7.23	8.52	118	216
			4	29.6	6.69	3.61	48	213
			9	27.2	6.47	0.95	12	177
7/12/04 10:10 AM	4.00	18052 (TB6R)	0.3	29.2	7.04	5.71	75	145
			2.5	28.8	6.91	4.63	58	146
			5	28.8	6.81	4.27	54	144
			9	28.4	6.58	2.3	30	142
			10	28.2	6.47	0.67	9	141
7/12/04 1:05 PM	4.00	18053 (TB6LN)	12.6	28	6.77	0.36	4	202
			0.3	31.5	8.45	8.5	115	131
			1.5	31	8.4	8.37	114	131
			2.5	30.6	6.77	5.41	74	126
			4.8	29.8	6.37	1.54	20	118
7/13/04 10:40 AM	4.00	15655 (TB6J)	6.8	29	6.31	0.41	5	127
			0.3	31	8.46	7.86	106	134
			2.5	29.8	6.86	4.88	64	134
			4.9	27.4	6.48	1.87	23	148
			7/12/04 12:20 PM	4.00	15659 (TB6K)	0.3	32.3	8.82
2.5	31.7	8.59	7.51			103	135	
5	29.2	6.52	2.9			38	113	
9.9	26.4	6.4	1.08			13	133	
7/12/04 11:40 AM	4.00	10402 (TB6H)	0.3	29.2	7.34	7.02	92	144
			4	28.3	7.04	6.08	78	144
			7.2	27.8	6.78	4.98	64	144
			9.3	27.3	6.52	2.1	26	142
			23.4	17.5	6.84	1.76	18	191
7/12/04 2:00 PM	4.00	18054 (TB6Q)	0.3	31.3	8.36	7.89	107	137
			4	30.2	6.84	6.89	92	136
			6	29	6.53	0.9	12	132
			9.9	27.8	6.8	0.77	10	243
7/13/04 11:20 AM	4.00	10411 (TB6F)	0.3	30.6	8.22	7.18	96	106
			2.5	28.8	6.88	5.22	68	127
			3.6	28.1	6.52	2.03	25	106
			5.7	25.8	6.48	0.47	6	105
7/13/04 9:47 AM	4.00	10407 (TB6CN)	0.3	29.6	6.89	6.35	84	111
			2.5	28.7	6.59	4.89	63	122
			7.4	24.6	6.05	1.56	18	61
7/12/04 3:00 PM	4.00	10404 (TB6A)	0.3	31.1	7.67	7.3	97	132
			2.5	30.1	7.7	6.93	92	134
			5	28.2	7.03	6.4	82	131
			8.2	26.8	6.5	3.32	42	130
			14.4	18.4	6.29	0.46	5	133

SABINE RIVER AUTHORITY OF TEXAS

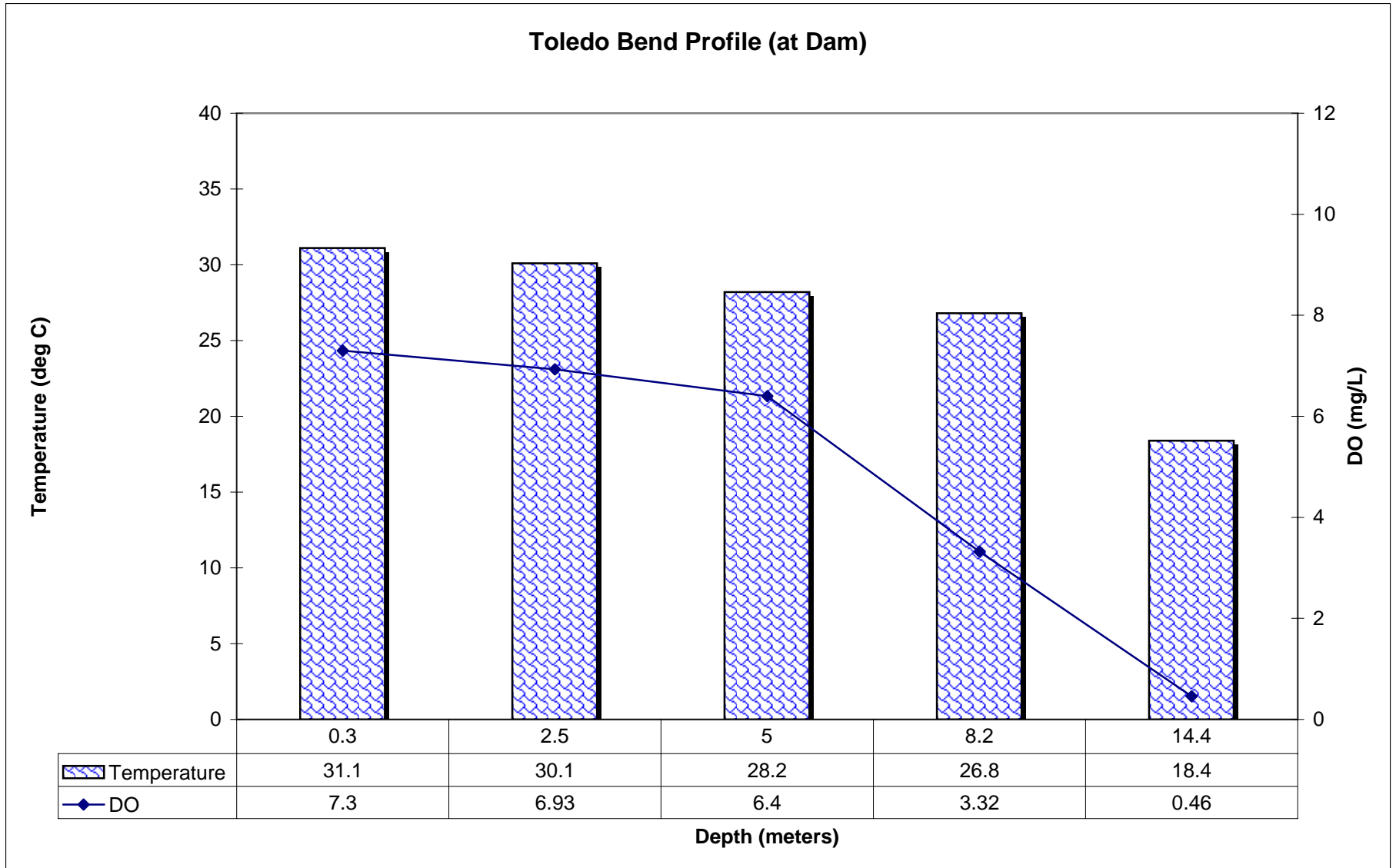
July 2004

Toledo Bend Profile (at Pendleton Bridge)



SABINE RIVER AUTHORITY OF TEXAS

July 2004



SABINE RIVER AUTHORITY OF TEXAS

Toledo Bend Weather and Reservoir Data

July 2004

Date	Lake Elev	LE - TOP	Max Temp	Min Temp	Rainfall	Evaporation	Daily Releases cfs	Daily Releases ac ft	Current Release
7/1/2004	172.53	0.53	88	71	0.65	0.27	14,344	28,451	14,394
7/2/2004	172.58	0.58	88	71	0.03	0.16	14,357	28,477	14,294
7/3/2004	172.58	0.58	90	74	0.00	0.21	14,353	28,468	14,344
7/4/2004	172.50	0.50	91	74	0.00	0.28	14,351	28,465	14,369
7/5/2004	172.46	0.46	93	72	0.00	0.30	14,309	28,381	14,458
7/6/2004	172.40	0.40	93	73	0.07	0.24	14,338	28,439	14,304
7/7/2004	172.30	0.30	94	72	0.00	0.28	14,304	28,372	14,319
7/8/2004	172.20	0.20	94	73	0.00	0.28	11,873	23,550	14,289
7/9/2004	172.13	0.13	93	68	0.00	0.24	4,812	9,544	204
7/10/2004	172.16	0.16	90	68	0.02	0.24	3,100	6,149	204
7/11/2004	172.11	0.11	90	67	0.00	0.23	204	405	204
7/12/2004	172.14	0.14	95	70	0.00	0.22	5,045	10,007	204
7/13/2004	172.08	0.08	96	70	0.00	0.24	4,766	9,453	204
7/14/2004	172.05	0.05	94	73	0.00	NR	4,784	9,489	204
7/15/2004	171.99	(0.01)	95	73	0.00	NR	4,886	9,691	204
7/16/2004	171.92	(0.08)	98	73	0.00	0.21	4,721	9,363	204
7/17/2004	171.89	(0.11)	98	76	0.00	0.29	3,100	6,148	204
7/18/2004	171.87	(0.13)	91	78	0.00	0.22	204	405	204
7/19/2004	171.81	(0.19)	93	69	0.00	0.32	4,826	9,572	204
7/20/2004	171.75	(0.25)	95	65	0.00	0.27	4,862	9,644	204
7/21/2004	171.69	(0.31)	91	65	0.00	0.32	4,837	9,594	204
7/22/2004	171.61	(0.39)	95	65	0.00	0.27	4,440	8,807	204
7/23/2004	171.57	(0.43)	97	71	0.02	NR	4,882	9,683	204
7/24/2004	171.52	(0.48)	97	71	0.00	0.32	3,198	6,343	204
7/25/2004	171.47	(0.53)	98	75	0.00	0.33	204	405	204
7/26/2004	171.55	(0.45)	93	70	0.13	0.22	5,083	10,082	204
7/27/2004	171.42	(0.58)	88	67	0.00	0.15	4,970	9,857	204
7/28/2004	171.32	(0.68)	86	65	0.00	0.17	4,849	9,617	204
7/29/2004	171.22	(0.78)	91	65	0.00	0.31	4,909	9,737	204
7/30/2004	171.19	(0.81)	92	72	0.49	0.19	4,817	9,554	204
7/31/2004	171.13	(0.87)	94	74	0.53	0.30	3,059	6,067	204
Avg or Tot	171.91	(0.09)	93	71	1.94	7.08	6,542	402,219	

Units	Avg Feet M.S.L.	Avg Feet	Avg Deg. F	Avg Deg. F	Tot Inches	Tot Inches	Avg cfs	Tot Ac. Ft.	cfs approx. 8:00 a.m.
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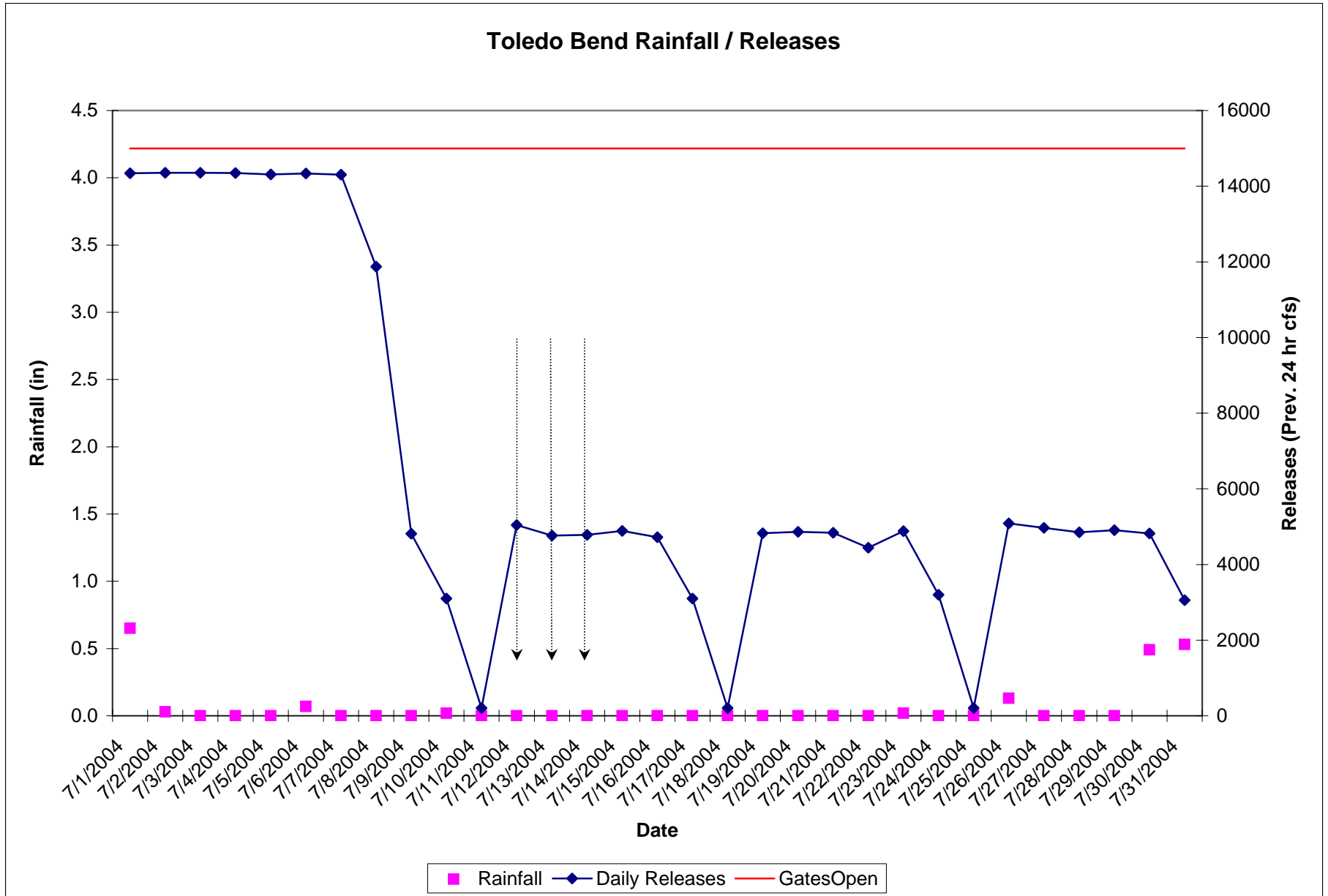
TOP: Top of Pool = 172 Feet M.S.L.

NR: No Reading

Toledo Bend Sampled on 7/12-14/2004

SABINE RIVER AUTHORITY OF TEXAS

July 2004



Toledo Bend sampled on 7/12-14/2004

Flood gates open when flow greater than approximately 15,000 cfs

SABINE RIVER AUTHORITY OF TEXAS

Burkeville Weather and River Data

July 2004

Date	Rainfall	Gauge Height	GH - FS	Flow
7/1/2004	2.02	27.18	(10.82)	17,300
7/2/2004	0.00	27.00	(11.00)	17,000
7/3/2004	0.56	26.59	(11.41)	16,100
7/4/2004	0.00	25.89	(12.11)	14,800
7/5/2004	0.00	25.69	(12.31)	14,500
7/6/2004	0.36	25.64	(12.36)	14,400
7/7/2004	0.01	25.69	(12.31)	14,500
7/8/2004	0.10	25.62	(12.38)	14,300
7/9/2004	0.02	20.07	(17.93)	5,860
7/10/2004	0.04	20.07	(17.93)	5,860
7/11/2004	0.00	20.07	(17.93)	5,860
7/12/2004	0.01	OUT	OUT	OUT
7/13/2004	0.00	18.16	(19.84)	3,760
7/14/2004	0.00	22.11	(15.89)	8,560
7/15/2004	0.00	22.11	(15.89)	8,560
7/16/2004	0.00	18.30	(19.70)	3,900
7/17/2004	0.00	17.64	(20.36)	3,260
7/18/2004	0.00	16.48	(21.52)	2,270
7/19/2004	0.00	12.93	(25.07)	319
7/20/2004	0.00	17.56	(20.44)	3,190
7/21/2004	0.00	17.84	(20.16)	4,460
7/22/2004	0.00	17.97	(20.03)	3,570
7/23/2004	0.00	17.89	(20.11)	3,500
7/24/2004	0.18	18.01	(19.99)	3,610
7/25/2004	0.00	16.64	(21.36)	2,400
7/26/2004	0.02	12.90	(25.10)	310
7/27/2004	0.00	18.20	(19.80)	3,800
7/28/2004	0.00	18.65	(19.35)	4,260
7/29/2004	0.00	17.64	(20.36)	3,260
7/30/2004	0.72	17.68	(20.32)	3,300
7/31/2004	0.01	17.72	(20.28)	3,340
Avg or Tot	4.05	20.20	(17.80)	7,004

	Tot	Avg	Avg	Avg
Units	Inches	Feet	Feet	cfs

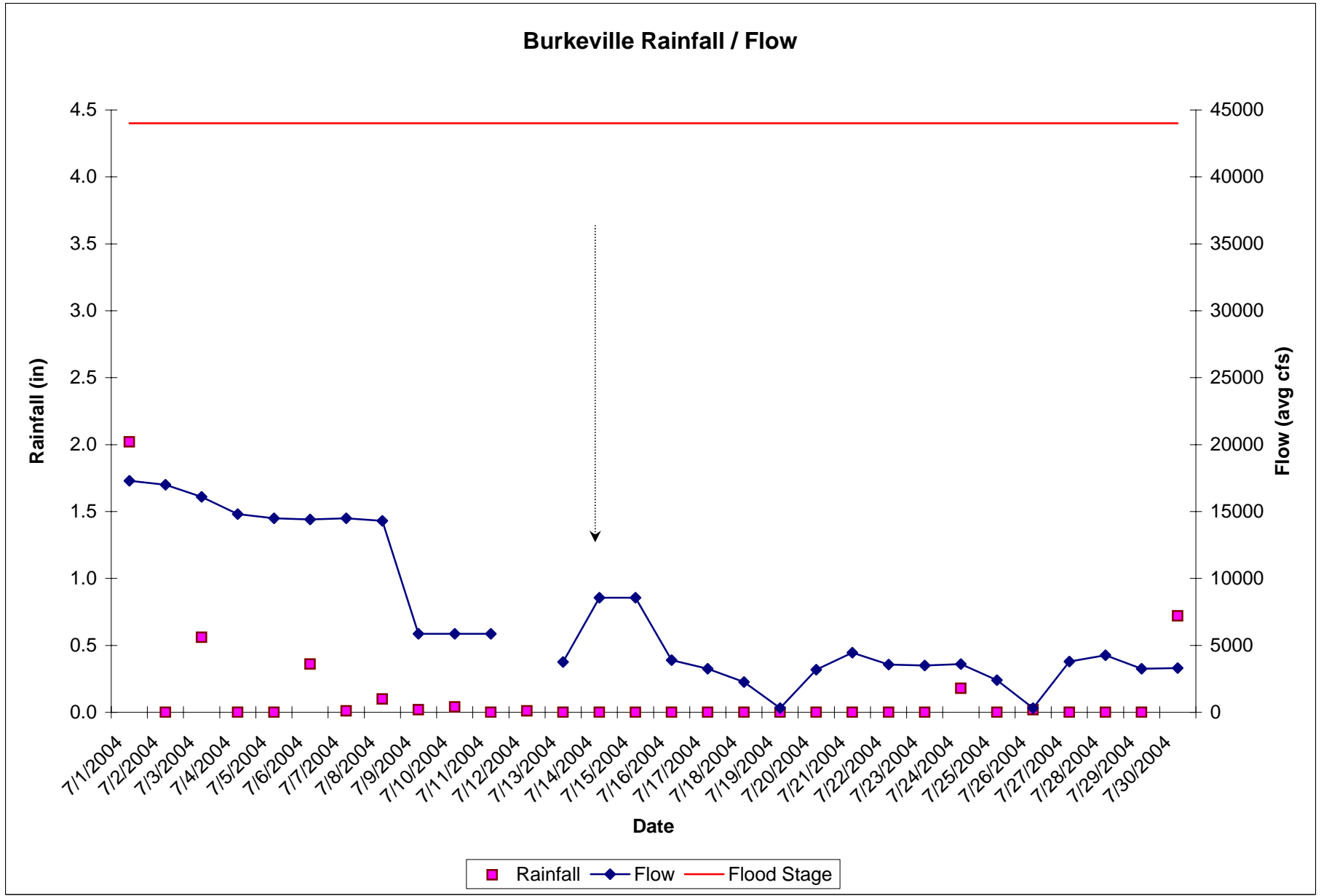
FS: Flood Stage = 38 feet

OUT: Gage Out

Lower Sabine Basin Sampled on 7/14/2004

SABINE RIVER AUTHORITY OF TEXAS

July 2004



Flood stage flow of 44,000 cfs calculated from flood stage gage height, 38 ft msl.

SABINE RIVER AUTHORITY OF TEXAS

Bon Wier Weather and River Data

July 2004

Date	<i>Gauge Height</i>	<i>GH - FS</i>	<i>Flow Avg</i>	<i>308 Rainfall</i>
7/1/2004	28.28	(1.72)	23,200	0.03
7/2/2004	29.76	(0.24)	27,300	0.04
7/3/2004	28.86	(1.14)	24,800	0.03
7/4/2004	27.97	(2.03)	22,400	0.03
7/5/2004	26.96	(3.04)	19,900	0.03
7/6/2004	26.35	(3.65)	18,600	0.03
7/7/2004	26.26	(3.74)	18,400	0.02
7/8/2004	26.00	(4.00)	17,900	0.02
7/9/2004	25.70	(4.30)	17,300	0.00
7/10/2004	20.80	(9.20)	8,690	0.01
7/11/2004	18.63	(11.37)	5,670	0.02
7/12/2004	18.29	(11.71)	5,250	0.01
7/13/2004	16.24	(13.76)	3,050	0.01
7/14/2004	18.74	(11.26)	5,800	0.00
7/15/2004	18.48	(11.52)	5,480	0.00
7/16/2004	18.41	(11.59)	5,390	0.00
7/17/2004	18.56	(11.44)	5,580	0.00
7/18/2004	17.66	(12.34)	4,510	0.00
7/19/2004	16.31	(13.69)	3,120	0.00
7/20/2004	15.01	(14.99)	2,010	0.00
7/21/2004	18.16	(11.84)	5,090	0.00
7/22/2004	18.23	(11.77)	5,170	0.00
7/23/2004	17.92	(12.08)	4,810	0.00
7/24/2004	18.08	(11.92)	5,000	0.00
7/25/2004	17.50	(12.50)	4,330	0.00
7/26/2004	16.68	(13.32)	3,480	0.91
7/27/2004	15.17	(14.83)	2,130	0.00
7/28/2004	18.43	(11.57)	5,420	0.00
7/29/2004	18.54	(11.46)	5,550	0.00
7/30/2004	18.45	(11.55)	5,440	0.00
7/31/2004	18.39	(11.61)	5,370	0.00
Avg or Tot	20.61	(9.39)	9,553	1.19

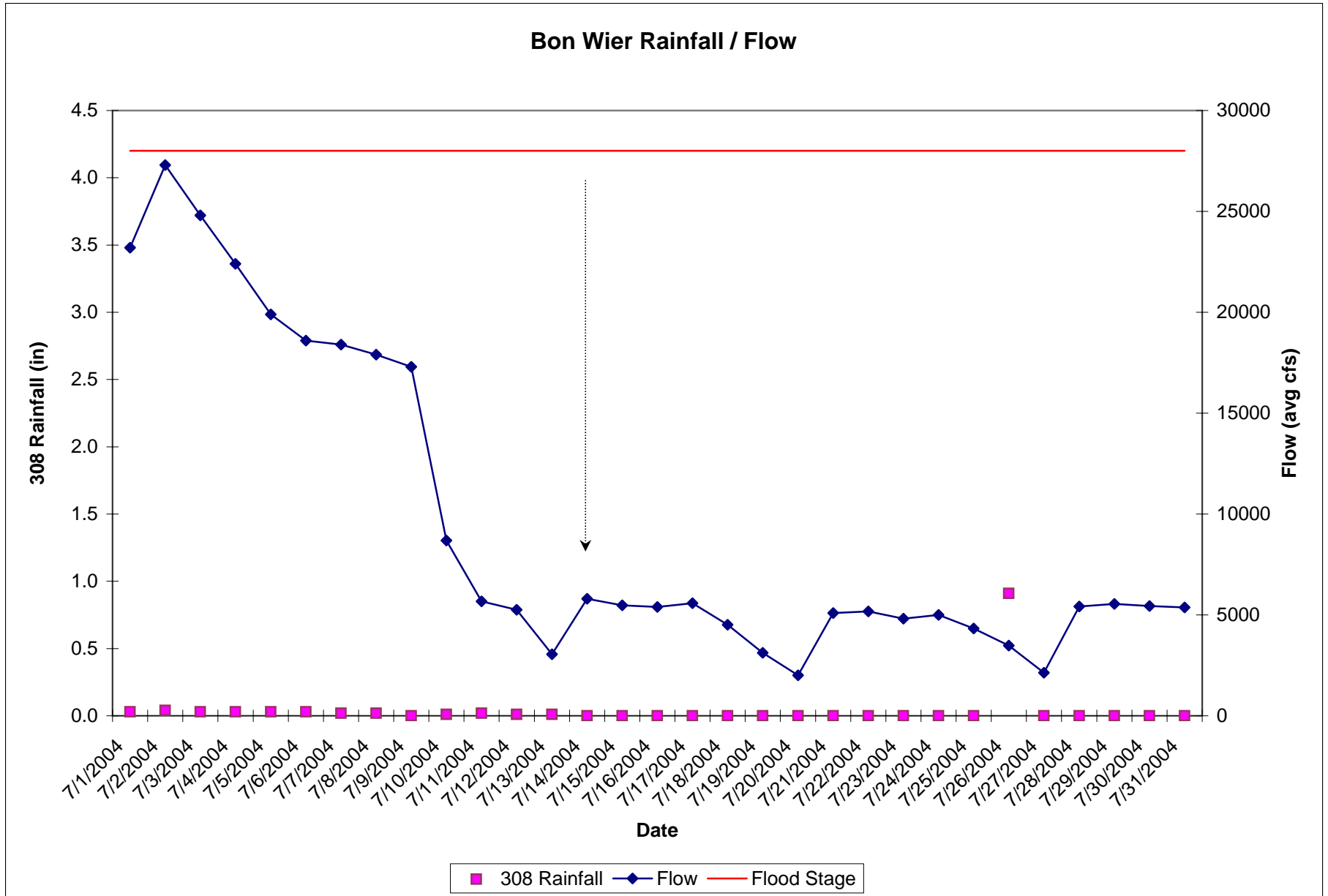
Units	Avg Feet	Avg Feet	Avg	Tot Inches
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FS: Flood Stage = 30 feet

Lower Sabine Basin Sampled on 7/14/2004

SABINE RIVER AUTHORITY OF TEXAS

July 2004



Lower Sabine Basin sampled on 7/14/2004

Flood stage flow of 28,000 cfs calculated from flood stage gage height, 30 ft msl.

SABINE RIVER AUTHORITY OF TEXAS

Ruliff Weather and River Data

July 2004

Date	Gauge Height	GH - FS	Flow cfs	Flow acft	Flow avg	309 Rainfall
7/1/2004	24.52	0.52	24,700	48,992	24,700	0.00
7/2/2004	24.54	0.54	24,900	49,388	24,800	0.02
7/3/2004	24.45	0.45	23,700	47,005	24,433	0.00
7/4/2004	24.52	0.52	24,700	48,992	24,500	0.01
7/5/2004	24.53	0.53	24,800	49,190	24,560	0.01
7/6/2004	24.35	0.35	22,200	44,033	24,167	0.01
7/7/2004	24.12	0.12	19,200	38,083	23,457	0.00
7/8/2004	23.95	(0.05)	17,300	34,314	22,688	0.01
7/9/2004	23.93	(0.07)	17,100	33,917	22,067	0.00
7/10/2004	23.78	(0.22)	15,700	31,140	21,430	0.01
7/11/2004	23.70	(0.30)	15,000	29,752	20,845	0.00
7/12/2004	23.55	(0.45)	13,700	27,174	20,250	0.00
7/13/2004	23.08	(0.92)	11,000	21,818	19,538	0.00
7/14/2004	22.18	(1.82)	8,030	15,927	18,716	0.00
7/15/2004	21.53	(2.47)	6,750	13,388	17,919	0.00
7/16/2004	21.45	(2.55)	6,620	13,131	17,213	0.00
7/17/2004	21.55	(2.45)	6,790	13,467	16,599	0.00
7/18/2004	21.48	(2.52)	6,670	13,229	16,048	0.00
7/19/2004	21.42	(2.58)	6,570	13,031	15,549	0.00
7/20/2004	20.93	(3.07)	5,850	11,603	11,700	0.00
7/21/2004	19.51	(4.49)	4,090	8,112	14,733	0.00
7/22/2004	19.99	(4.01)	4,590	9,104	14,272	0.00
7/23/2004	20.71	(3.29)	5,560	11,028	13,893	0.00
7/24/2004	20.97	(3.03)	5,900	11,702	13,677	0.00
7/25/2004	21.00	(3.00)	5,940	11,782	13,367	0.00
7/26/2004	21.23	(2.77)	6,280	12,456	13,095	2.81
7/27/2004	20.74	(3.26)	5,600	11,107	12,817	0.37
7/28/2004	19.42	(4.58)	4,000	7,934	12,502	0.01
7/29/2004	20.18	(3.82)	4,840	9,599	12,238	0.00
7/30/2004	20.93	(3.07)	5,850	11,603	12,025	0.15
7/31/2004	21.17	(2.83)	6,190	12,278	11,837	0.03
Avg or Tot	22.24	(1.76)	11,617	714,279		3.44

Units	Avg Feet	Avg Feet	Avg cfs	Tot ac ft	Tot Inches
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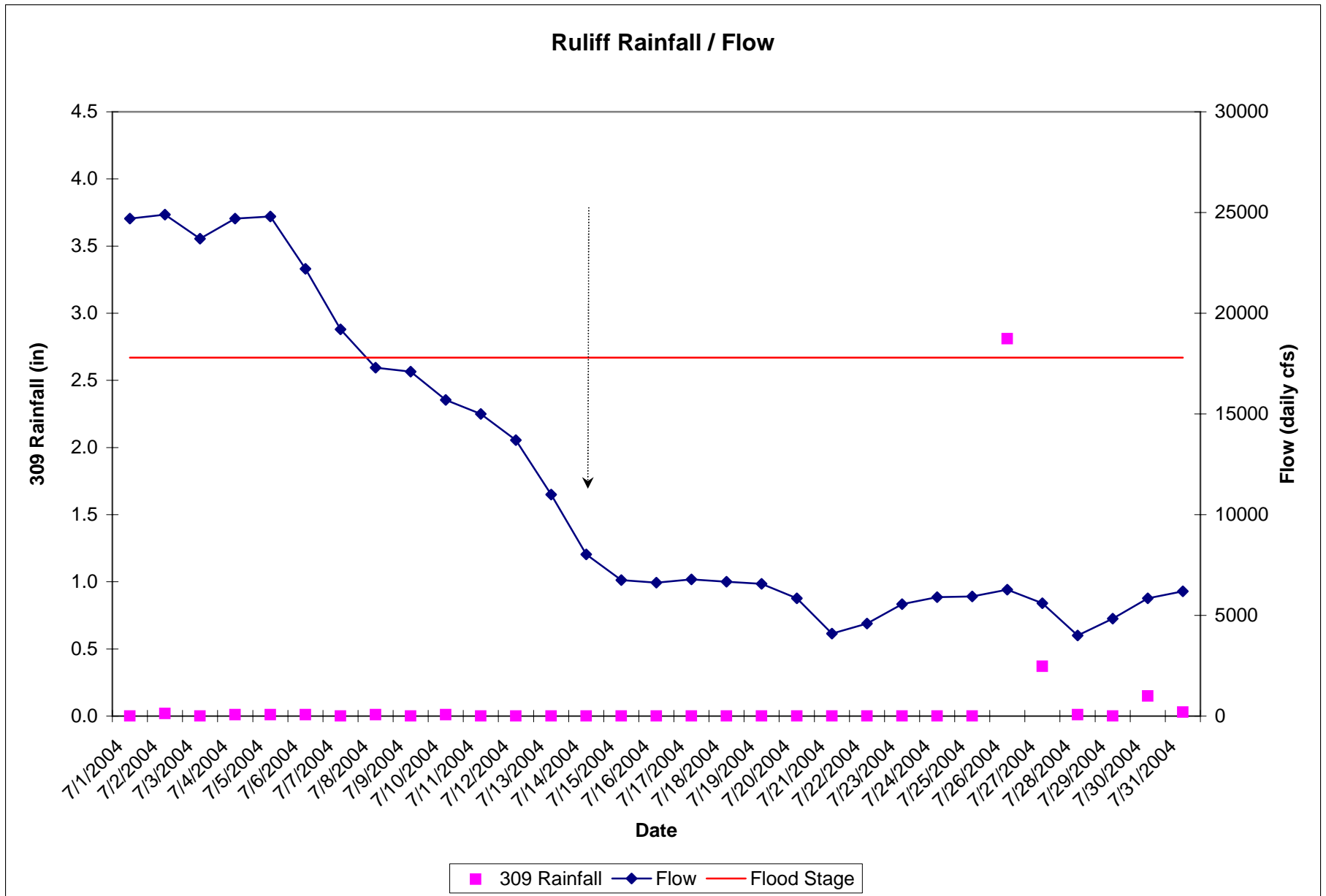
FS: Flood Stage 24 feet with 10 foot datum

OUT: Gage Out

Lower Sabine Basin Sampled on 7/14/2004

SABINE RIVER AUTHORITY OF TEXAS

July 2004



Lower Sabine Basin sampled on 7/14/2004

Flood stage flow of 17,800 cfs calculated from flood stage gage height, 24 ft msl.

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FY 2004 Fixed Monitoring Stations

Tidal Sabine Basin

SW	Segment	Station	Location
1.05	0501	15653 (ICW1)	INTERCOASTAL WATERWAY AT PERRY RIDGE
1.01	0501	15654 (BB1)	BLACK BAYOU IN CAMERON PARISH
1.00	0501	10395 (SR1)	SABINE RIVER 12.00 KM UPSTREAM OF IH 10
1.00	0501	10394 (SRT2)	SABINE RIVER AT IH 10
1.00	0501	18056 (SRT1C)	OLD HWY 90
1.00	0501	18055 (SRT1B)	SABINE RIVER AT CHANNEL LIGHT 20
1.00	0501	10393 (SRT1A)	SABINE RIVER AT CHANNEL LIGHT 13
1.00	0501	10391 (SRT1)	SABINE RIVER AT CHANNEL CAN 3

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Tidal Report

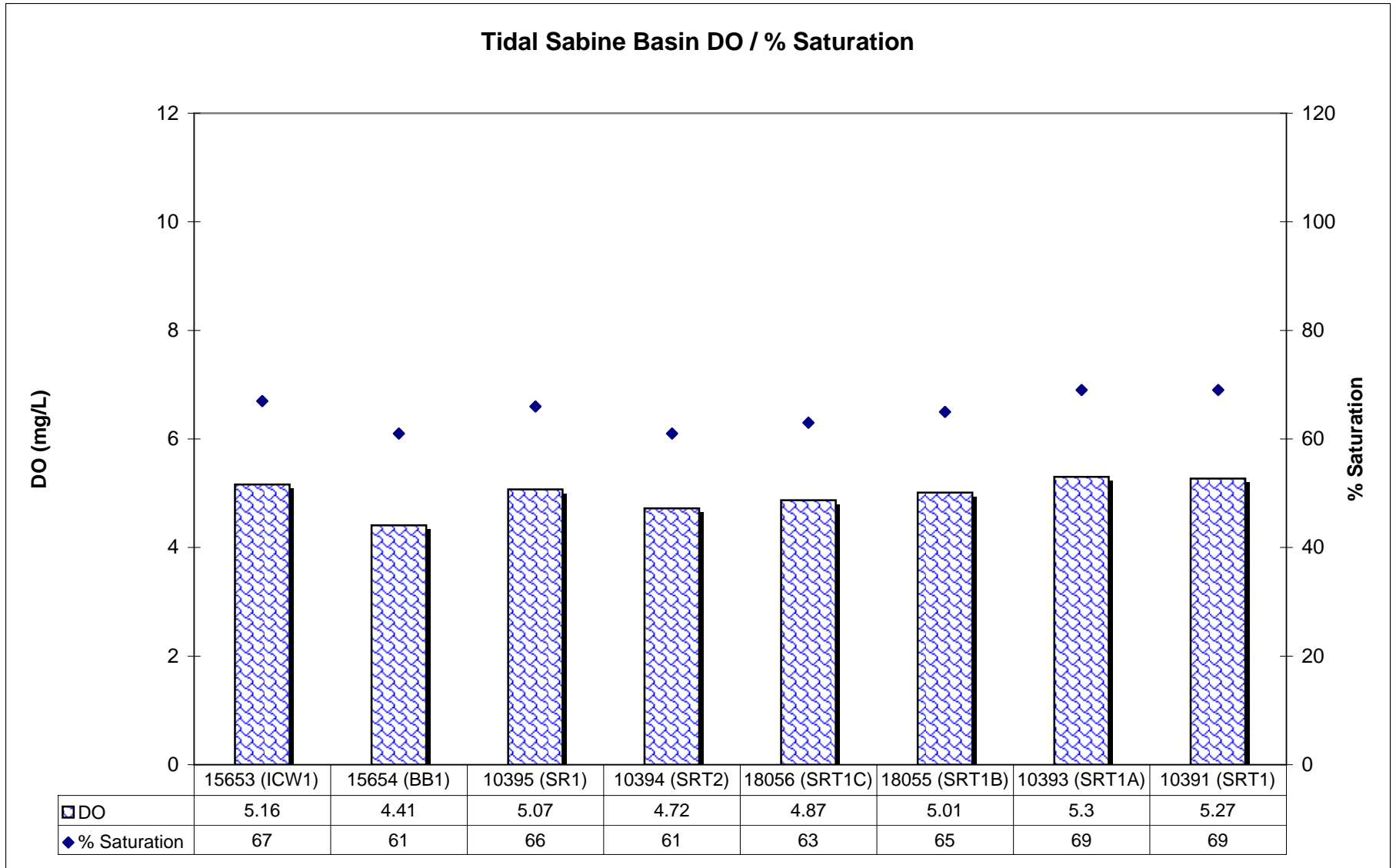
July 2004

Date	SW ID	Station	Temperature °C 00010	pH Units 00400	DO mg/L 00300	% Saturation 00301	Conductivity µS/cm 00094	Salinity ppt 00480	Secchi Meters 00078	Turbidity NTU 82079	<i>E. coli</i> mpn/100ml 31699	<i>Enterococcus</i> mpn/100ml 31701	Chlorophyll a µg/L 32211	Nitrite mg/L 00615	Nitrate mg/L 00620	Ortho- Phosphate 00671	TOC mg/L 00680	Total Alkalinity 00410	Total Hardness 00900
7/15/04 10:25 AM	1.05	15653 (ICW1)	29.1	6.56	5.16	67	133	< 1	0.43	8.89	< 1	30	*	< 0.02	0.05	< 0.04	9	20	28
7/15/04 11:25 AM	1.01	15654 (BB1)	31.5	6.97	4.41	61	1015	< 1	0.41	11.3	2	16	*	< 0.02	0.04	0.04	12	40	88
7/15/04 9:13 AM	1.00	10395 (SR1)	28.8	6.52	5.07	66	136	*	0.33	19.5	12	*	*	< 0.02	0.08	< 0.04	9	30	28
7/15/04 9:35 AM	1.00	10394 (SRT2)	28.8	6.48	4.72	61	118	< 1	0.41	11.1	4	75	*	< 0.02	0.09	< 0.04	9	20	28
7/15/04 10:05 AM	1.00	18056 (SRT1C)	28.8	6.49	4.87	63	118	< 1	0.42	9.63	5	64	*	< 0.02	0.11	< 0.04	9	20	28
7/15/04 10:55 AM	1.00	18055 (SRT1B)	28.9	6.57	5.01	65	167	< 1	0.45	10.5	9	43	*	< 0.02	0.08	< 0.04	9	20	28
7/15/04 11:11 AM	1.00	10393 (SRT1A)	29.1	6.58	5.3	69	150	< 1	0.44	8.6	4	44	*	< 0.02	0.09	0.04	9	20	32
7/15/04 1:20 PM	1.00	10391 (SRT1)	31	6.8	5.27	69	461	< 1	0.39	10.5	4	11	*	< 0.02	0.03	< 0.04	11	30	60

*: Not sampled on this run

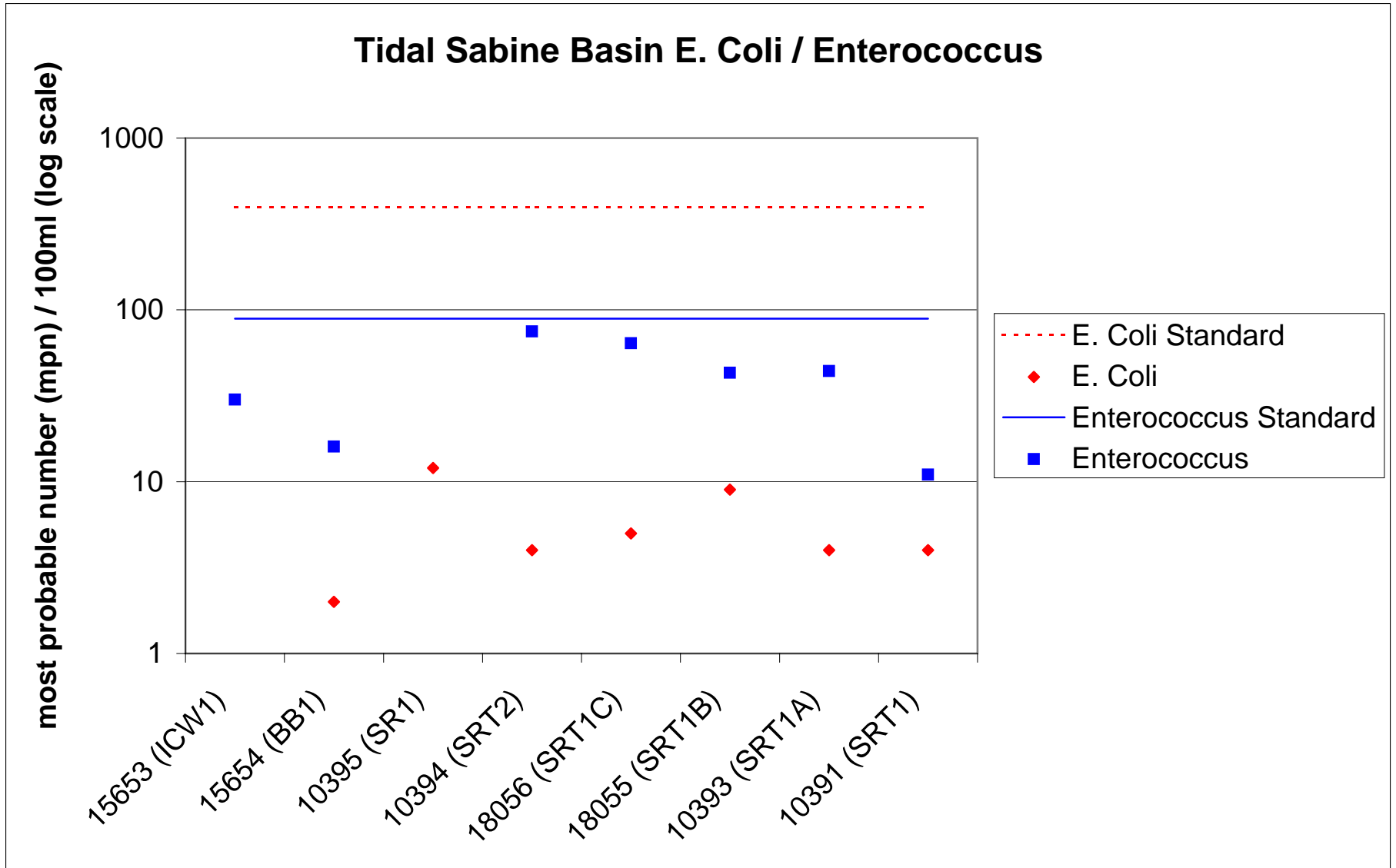
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July 2004



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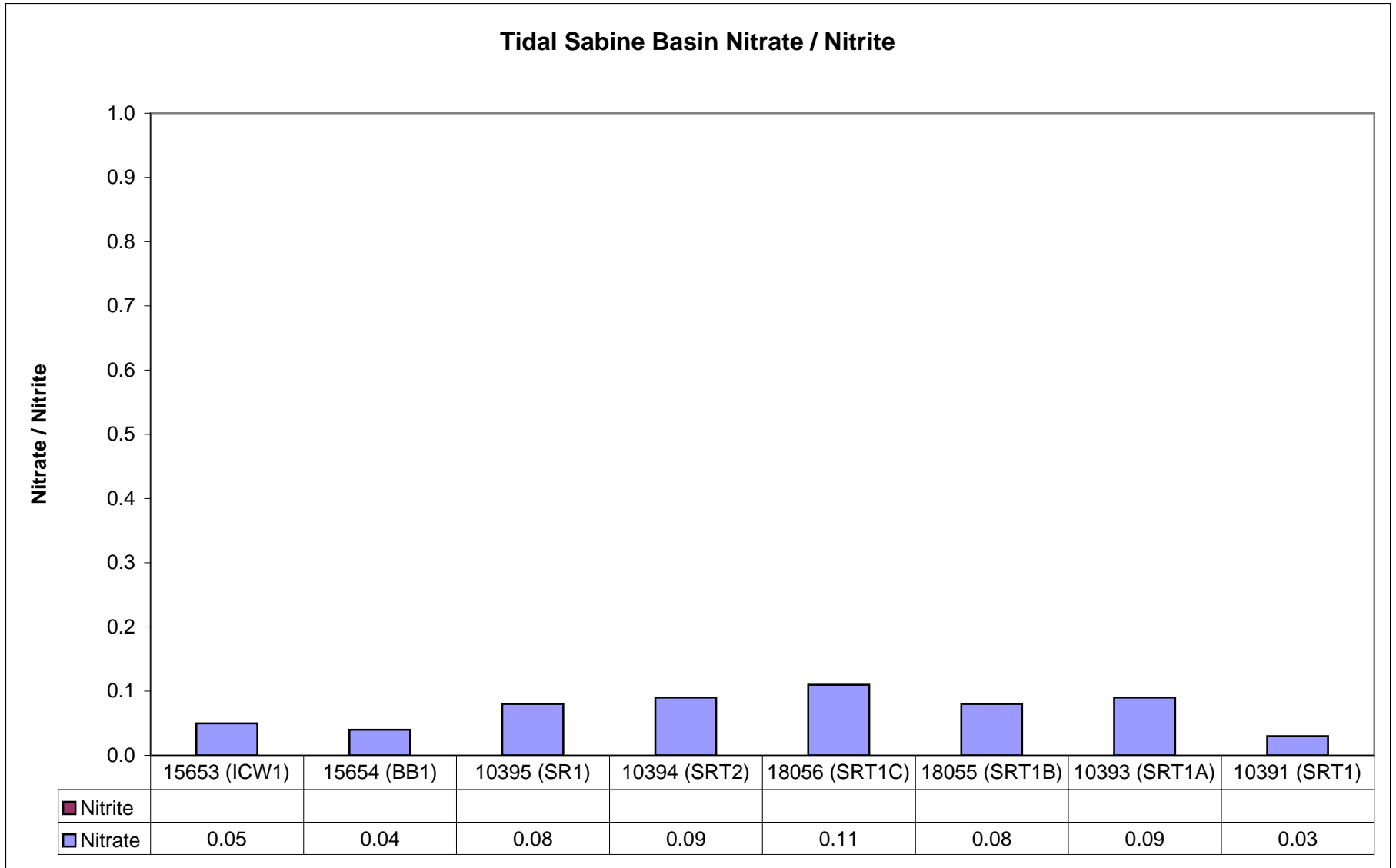
July 2004



Stations without values were not sampled on this run (see page 38).

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July 2004



Stations without values were below detection limit (< 0.02 mg/L) on this run (see page 38)

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Tidal Profiles

July 2004

Date	SW ID	Station	Depth Meters	Temperature	pH	DO	%	Conductivity	Salinity
				°C 00010	Units 00400	mg/L 00300	Saturation 00301	μS/cm 00094	ppt 00480
7/15/04 10:25 AM	1.05	15653 (ICW1)	0.3	29.1	6.56	5.16	67	133	< 1
			3	29.1	6.55	5.1	67	133	< 1
			6	29.1	6.43	5.07	66	133	< 1
7/15/04 11:25 AM	1.01	15654 (BB1)	0.3	31.5	6.97	4.41	61	1015	< 1
			3.3	31.2	6.91	4.37	59	987	< 1
7/15/04 9:35 AM	1.00	10394 (SRT2)	0.3	28.8	6.48	4.72	61	118	< 1
			3.5	28.6	6.45	4.57	58	118	< 1
			7.7	28.6	6.32	4.5	58	118	< 1
7/15/04 10:05 AM	1.00	18056 (SRT1C)	0.3	28.8	6.49	4.87	63	118	< 1
			5	28.6	6.47	4.56	59	117	< 1
			11.7	28.6	6.32	4.4	57	118	< 1
7/15/04 10:55 AM	1.00	18055 (SRT1B)	0.3	28.9	6.57	5.01	65	167	< 1
			4	28.9	6.55	4.86	65	167	< 1
			7.3	28.9	6.45	4.82	63	167	< 1
7/15/04 11:11 AM	1.00	10393 (SRT1A)	0.3	29.1	6.58	5.3	69	150	< 1
			8	28.9	6.45	4.48	58	152	< 1
7/15/04 1:20 PM	1.00	10391 (SRT1)	0.3	31	6.8	5.27	69	461	< 1
			4.9	29.6	6.57	4.31	57	319	< 1

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Orange Weather and River Data

July 2004

Date	310 (Orange) Rainfall	Gauge Height	GH - FS	Max Temp	Min Temp	Cur Temp	293 (GCD) Rainfall
7/1/2004	OUT	OUT	OUT	89	73	73	0.10
7/2/2004	OUT	OUT	OUT	88	73	75	0.02
7/3/2004	OUT	OUT	OUT	91	75	76	0.00
7/4/2004	OUT	OUT	OUT	92	74	75	0.00
7/5/2004	OUT	OUT	OUT	93	74	76	0.00
7/6/2004	OUT	OUT	OUT	92	76	77	0.05
7/7/2004	OUT	OUT	OUT	93	76	76	0.20
7/8/2004	OUT	OUT	OUT	93	76	77	0.00
7/9/2004	OUT	OUT	OUT	91	72	73	0.00
7/10/2004	OUT	OUT	OUT	83	73	73	0.02
7/11/2004	OUT	OUT	OUT	90	72	75	0.00
7/12/2004	OUT	OUT	OUT	92	75	76	0.00
7/13/2004	OUT	OUT	OUT	93	73	74	0.00
7/14/2004	OUT	OUT	OUT	93	74	74	0.00
7/15/2004	OUT	OUT	OUT	94	74	78	0.00
7/16/2004	OUT	OUT	OUT	97	76	80	0.00
7/17/2004	OUT	OUT	OUT	95	76	76	0.00
7/18/2004	OUT	OUT	OUT	94	76	78	0.00
7/19/2004	OUT	OUT	OUT	92	72	73	0.00
7/20/2004	OUT	OUT	OUT	89	69	69	0.00
7/21/2004	OUT	OUT	OUT	89	69	70	0.00
7/22/2004	OUT	OUT	OUT	93	70	74	0.00
7/23/2004	OUT	OUT	OUT	93	70	72	0.00
7/24/2004	OUT	OUT	OUT	93	72	74	0.00
7/25/2004	OUT	OUT	OUT	96	74	76	0.00
7/26/2004	OUT	OUT	OUT	96	72	72	1.18
7/27/2004	OUT	OUT	OUT	89	71	72	0.37
7/28/2004	OUT	OUT	OUT	87	70	70	0.00
7/29/2004	OUT	OUT	OUT	90	70	75	0.00
7/30/2004	OUT	OUT	OUT	90	75	75	0.10
7/31/2004	OUT	OUT	OUT	93	75	75	0.18
Avg or Tot	OUT	OUT	OUT	92	73	74	2.22

Units	Tot Inches	Avg Feet	Avg Feet	Avg Deg F	Avg Deg F	Avg Deg F	Tot Inches
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Appx. 8 am

310 Rainfall: Old Navy Base, City of Orange

293: SRA Gulf Coast Division Office, Northern Orange County

FS: Flood Stage = 4 Feet

OUT: Gage Out

Tidal Sabine Basin Sampled on 7/15/2004

SABINE RIVER AUTHORITY OF TEXAS

July 2004

