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**SABINE RIVER AUTHORITY OF TEXAS**

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**TO:** INTERESTED PARTIES  
**FROM:** ENVIRONMENTAL SERVICES DIVISION  
**RE:** NOVEMBER 2002 MONTHLY WATER QUALITY REPORT

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This is the Sabine River Authority Water Quality Report for November 2002. Water quality sampling was performed November 12<sup>th</sup> through November 14<sup>th</sup>. Recent weather in the Basin was variable with daytime high air temperatures from the 60s to the 80s at Lake Tawakoni and Lake Fork, and ranging from 60s to the 80s at Toledo Bend Reservoir and Orange. Lows were mostly in the 30s and 40s at Lake Tawakoni, 40s through 60s at Lake Fork, 30s through 60s at Toledo Bend, and 40s through 60s in Orange. The Upper Basin received 6.40 – 5.99 inches of rainfall during the 28 days since the previous sample run as recorded at Lake Tawakoni and Lake Fork respectively. Toledo Bend and Orange had unusually high amounts of rainfall recording 18.74 and 18.54 inches respectively during the 28 days preceding the sample run. Reservoir profiles indicated complete mixing of the water column in Lake Tawakoni, Lake Fork and Toledo Bend reservoirs.

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

For the November sample run, most of the parameter's values seen at the Upper Basin sites were consistent with water of high quality. The most recent significant rain was 0.26 inches at Lake Tawakoni and 0.63 inches at Lake Fork eight days prior to the sample date. Surface water temperatures were between 12.1 and 16.2°C at river and reservoir sites. BS-1 exceeded the numeric criteria for the stream standards for *E. coli*. Nitrate/nitrite levels at LT23A and LT23D exceeded reservoir screening criteria. No stream standards exist for nitrate/nitrite so screening values are used as a guide. Surface water temperatures near the dams at Lake Tawakoni and Lake Fork were 15.9 and 16.2°C respectively. Bottom temperatures at the same sites were essentially the same as their surface temperatures with 15.8 and 16.2°C respectively. Lake Tawakoni and Lake Fork were completely mixed.

**LOWER SABINE BASIN INCLUDING TOLEDO BEND TO MORGAN BLUFF**

The November monthly sampling results were indicative of water of high quality at most sites. The area received heavy rainfall about one week prior to the sample run. During that rain event the area received close to eight inches of rain within a three-day period. The level of Toledo Bend Reservoir was recorded at 168.61 feet with seven gates discharging from the spillway, but no discharge through the generator at the time of sampling. All lake sites showed stratification, but only the very deepest station on the reservoir showed anoxic conditions at the deepest depths. The *E. coli* level at TB6N was above the stream standard. Station TB6N is located in a small, slow-moving bayou, and does not represent the conditions of the main body of the reservoir. Stations located in the main body of the reservoir showed no impact from the water quality conditions indicated in this backwater area.

**TIDAL SECTION OF THE SABINE BASIN BELOW MORGAN BLUFF**

Stations sampled in the tidal portion of the Sabine Basin had values that were consistent with water of high quality at most sites. The area received its last significant rainfall just over a week prior to the sample event. Around three inches of rain was recorded during a two-day period. Most sites in this section of the Basin were well mixed with only slight oxygen differences throughout the water column. No anoxic conditions were found. No recordable salinities were found at any site at any depth. Stations SRT2 and SRT1 had elevated bacterial results.

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

- *Upper Sabine Basin*  
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409-746-3284 ([jwiegreffe@sra.dst.tx.us](mailto:jwiegreffe@sra.dst.tx.us))
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Miles Hall, Assistant Division Manager Environmental Services  
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# SABINE RIVER AUTHORITY OF TEXAS

## Monthly Water Quality Report

November 2002

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# ***FY2003 Fixed Monitoring Stations***

## ***Upper Sabine Basin***

<i><b>SW</b></i>	<i><b>Segment Station</b></i>	<i><b>Location</b></i>
7.00	0507 10440 (LT23C)	LAKE TAWAKONI NR 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 FM515
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 10468 (BS1)	BIG SANDY CREEK AT SH 155
6.00	0506 17065 (SR22)	SABINE RIVER AT FM 17 (SR22)
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	0505 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

November 2002

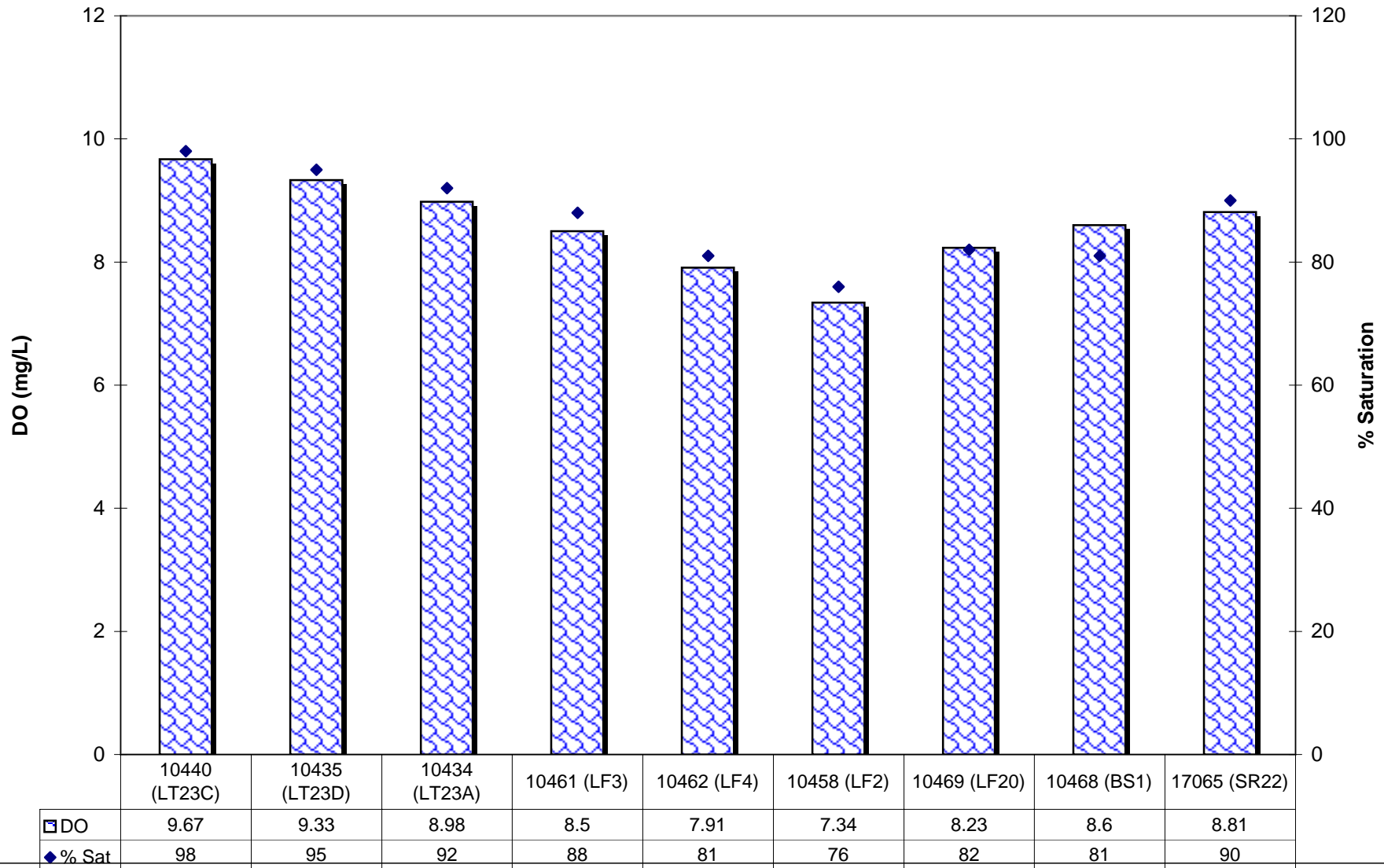
Date	SW ID	Station	Temperature °C 00010	pH Units 00400	DO mg/L 00300	% Saturation 00301	Conductivity µS/cm 00094	Salinity ppt 00480	Secchi Meters 00078	Turbidity NTU 82079	<i>E. coli</i> mpn/100ml 31699	Chlorophyll a µg/L 32211	Nitrate & Nitrite 00630	Ortho- Phosphate 00671	TOC mg/L 00680	Total Alkalinity 00410	Total Hardness 00900	Chloride mg/L 00940	Sulfate mg/L 00945
11/12/02 12:20 PM	7.00	10440 (LT23C)	15.3	8.27	9.67	98	162	*	0.47	14.5	9	18	0.3	< 0.04	5	62	60	< 10	< 10
11/12/02 11:24 AM	7.00	10435 (LT23D)	15.3	8.08	9.33	95	167	*	0.48	16.8	5	18	0.44	< 0.04	5	63	60	< 10	< 10
11/12/02 9:55 AM	7.00	10434 (LT23A)	15.9	7.93	8.98	92	164	*	1.16	7.08	3	< 10	0.42	< 0.04	5	63	56	< 10	< 10
11/12/02 8:50 AM	6.12	10461 (LF3)	15.7	7.27	8.5	88	138	*	1.1	4.6	2	< 10	0.22	< 0.04	5	26	36	< 10	14
11/12/02 9:05 AM	6.12	10462 (LF4)	16.1	7.22	7.91	81	140	*	1.33	3.44	< 1	< 10	0.29	< 0.04	6	29	36	< 10	13
11/12/02 8:10 AM	6.12	10458 (LF2)	16.2	7.08	7.34	76	138	*	1.57	2.08	7	< 10	0.32	< 0.04	5	30	40	< 10	12
11/12/02 2:10 PM	6.10	10469 (LF20)	14.5	7.02	8.23	82	221	*	> 0.7	18.8	48	*	0.12	< 0.04	6	26	52	25	30
11/13/02 7:40 AM	6.02	10468 (BS1)	12.1	6.57	8.6	81	157	*	1.32	5.22	126	*	0.13	< 0.04	6	12	40	21	16
11/12/02 1:07 PM	6.00	17065 (SR22)	15.3	7.67	8.81	90	170	*	0.44	21.2	122	*	0.29	< 0.04	5	63	60	< 10	< 10
11/12/02 1:45 PM	6.00	10430 (SR21)	15.3	7.51	8.48	86	208	*	0.42	24.6	38	*	0.28	< 0.04	5	62	64	12	12
11/12/02 2:30 PM	6.00	10429 (SR19)	15.3	7.44	9.08	91	239	*	0.4	27.2	46	*	0.23	< 0.04	5	57	60	26	16
11/13/02 8:15 AM	5.00	10428 (SR17)	13.7	7.27	8.71	85	244	*	0.56	20.6	29	*	0.19	< 0.04	6	47	56	28	15
11/13/02 8:40 AM	5.00	10427 (SR16)	13.7	7.22	8.48	83	262	*	0.49	24.4	59	*	0.2	< 0.04	5	47	56	35	15
11/13/02 9:05 AM	5.00	10426 (SR15)	13.9	7.22	8.78	86	264	*	0.44	23.9	66	*	0.23	< 0.04	6	47	60	39	16
11/13/02 9:30 AM	5.00	10423 (SR14)	13.8	7.2	8.85	87	261	*	0.48	23.4	119	*	0.68	< 0.04	5	46	56	33	17
11/13/02 10:40 AM	5.00	13628 (SR11)	13.8	7.32	9.24	91	274	*	0.42	25.7	31	*	0.52	< 0.04	6	50	64	28	25
11/13/02 11:15 AM	5.00	10415 (SR10)	14.1	7.32	9.12	91	243	*	0.48	29.3	24	*	< 0.04	< 0.04	6	51	60	27	24

\*: Not sampled on this run

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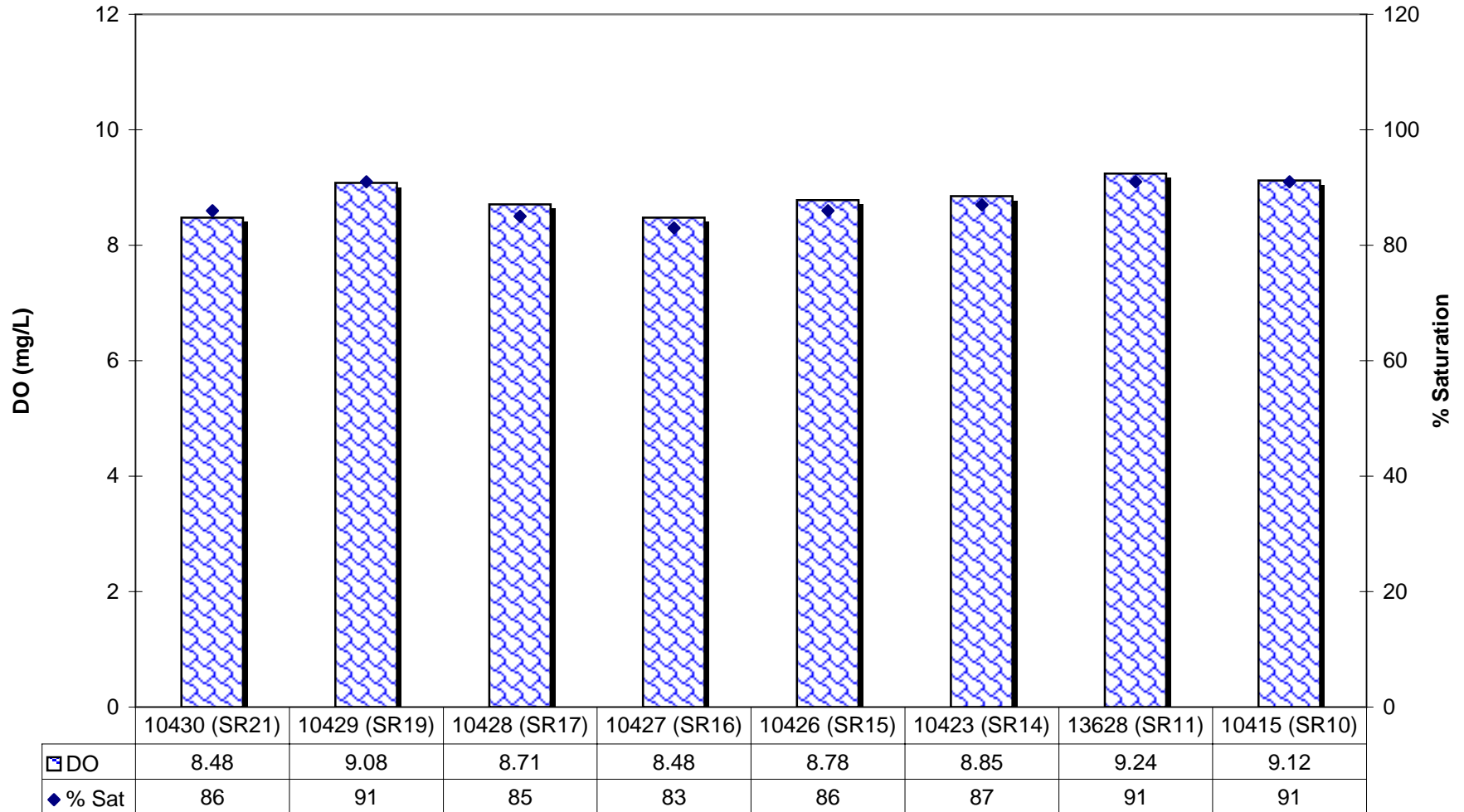
## Upper Sabine Basin DO / % Saturation (1 of 2)



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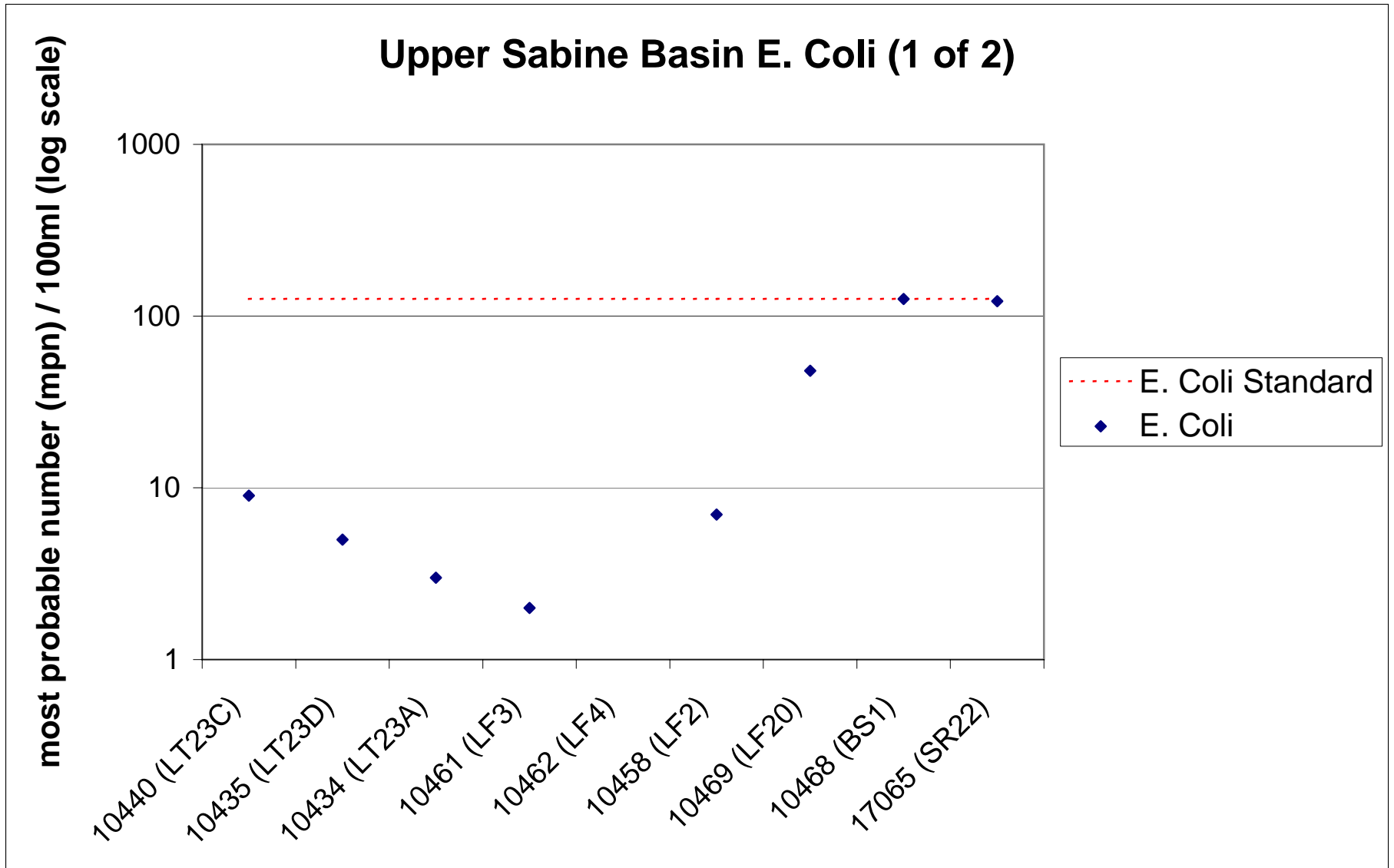
## Upper Sabine Basin DO / % Saturation (2 of 2)





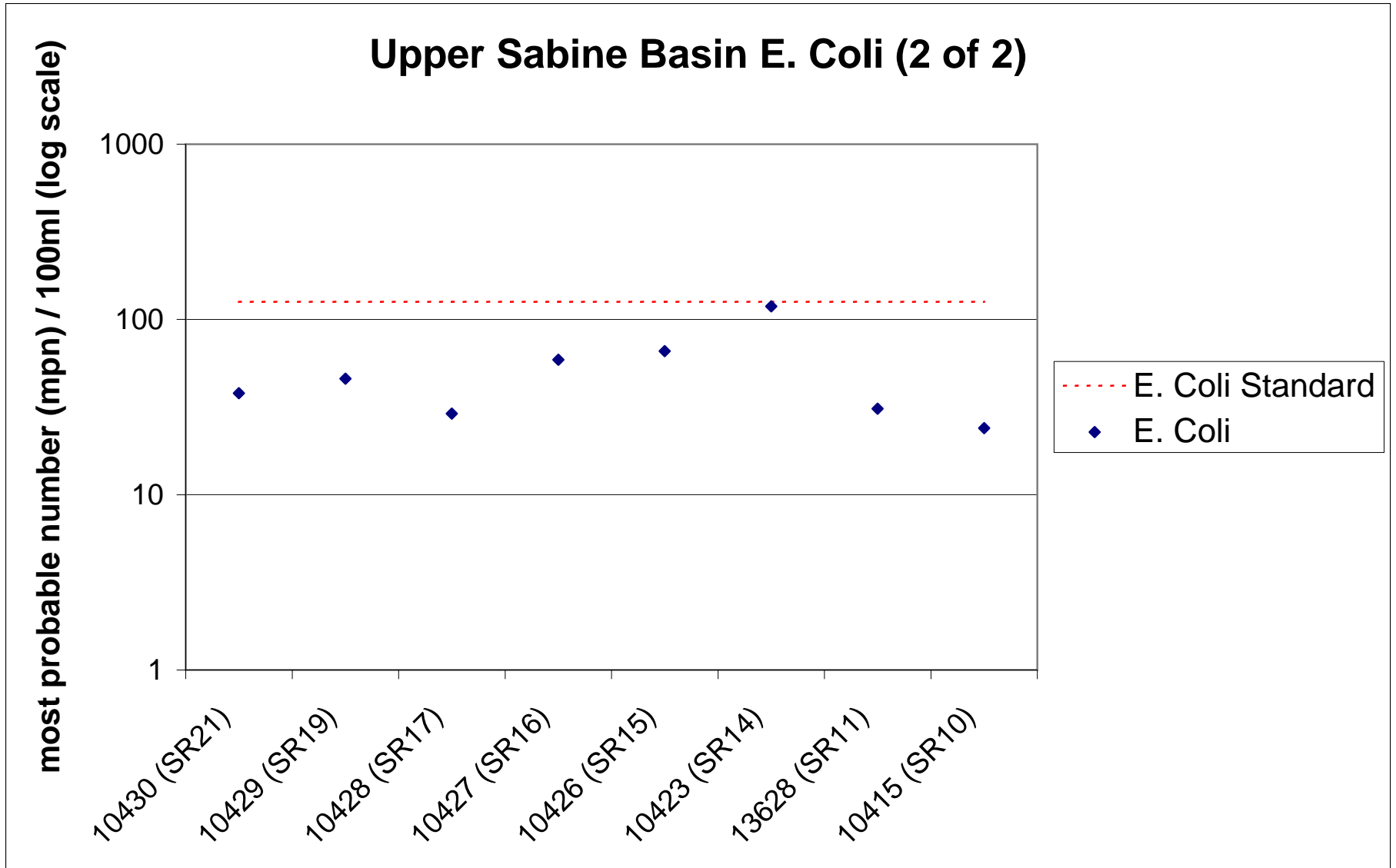
# SABINE RIVER AUTHORITY OF TEXAS

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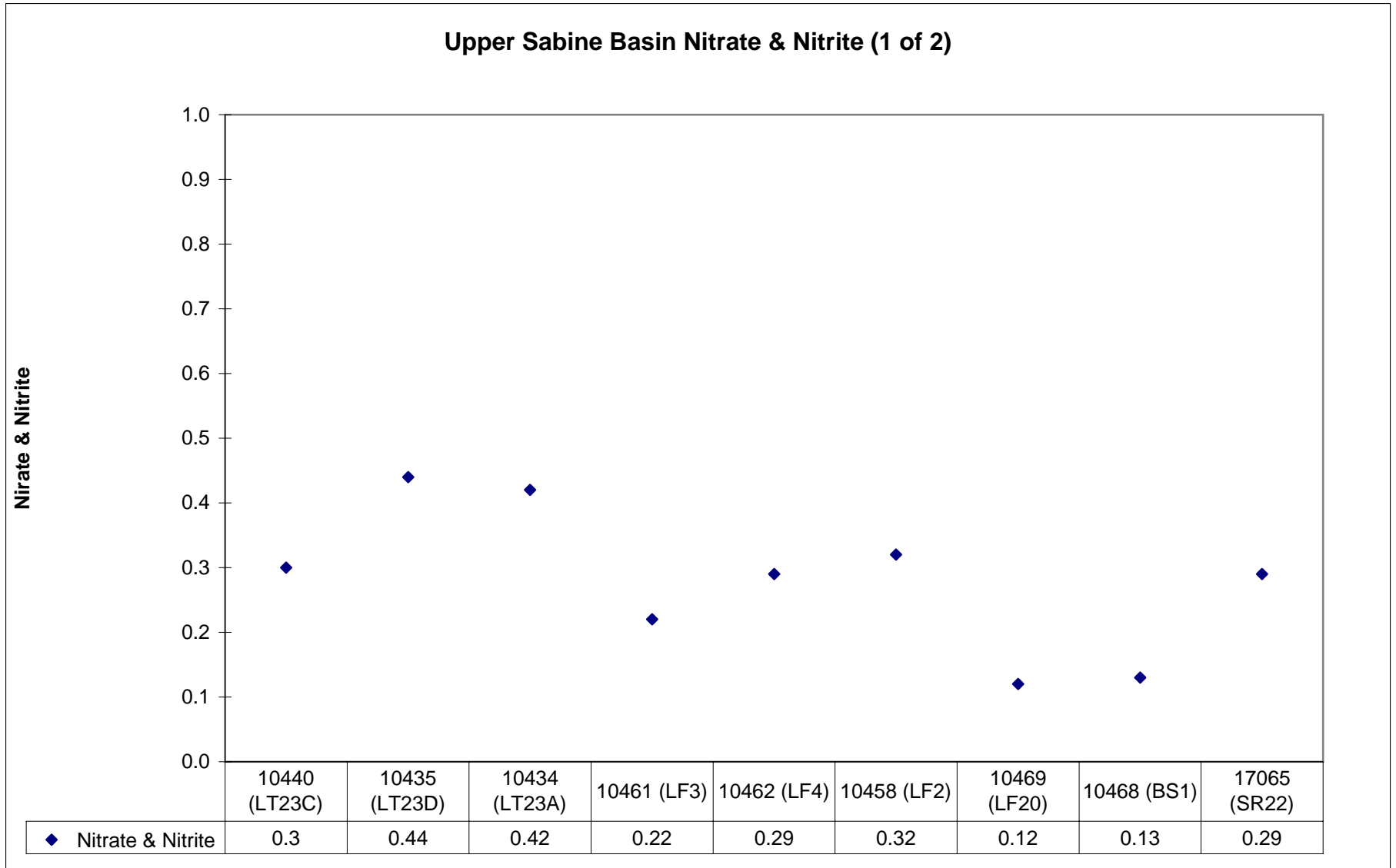
# SABINE RIVER AUTHORITY OF TEXAS

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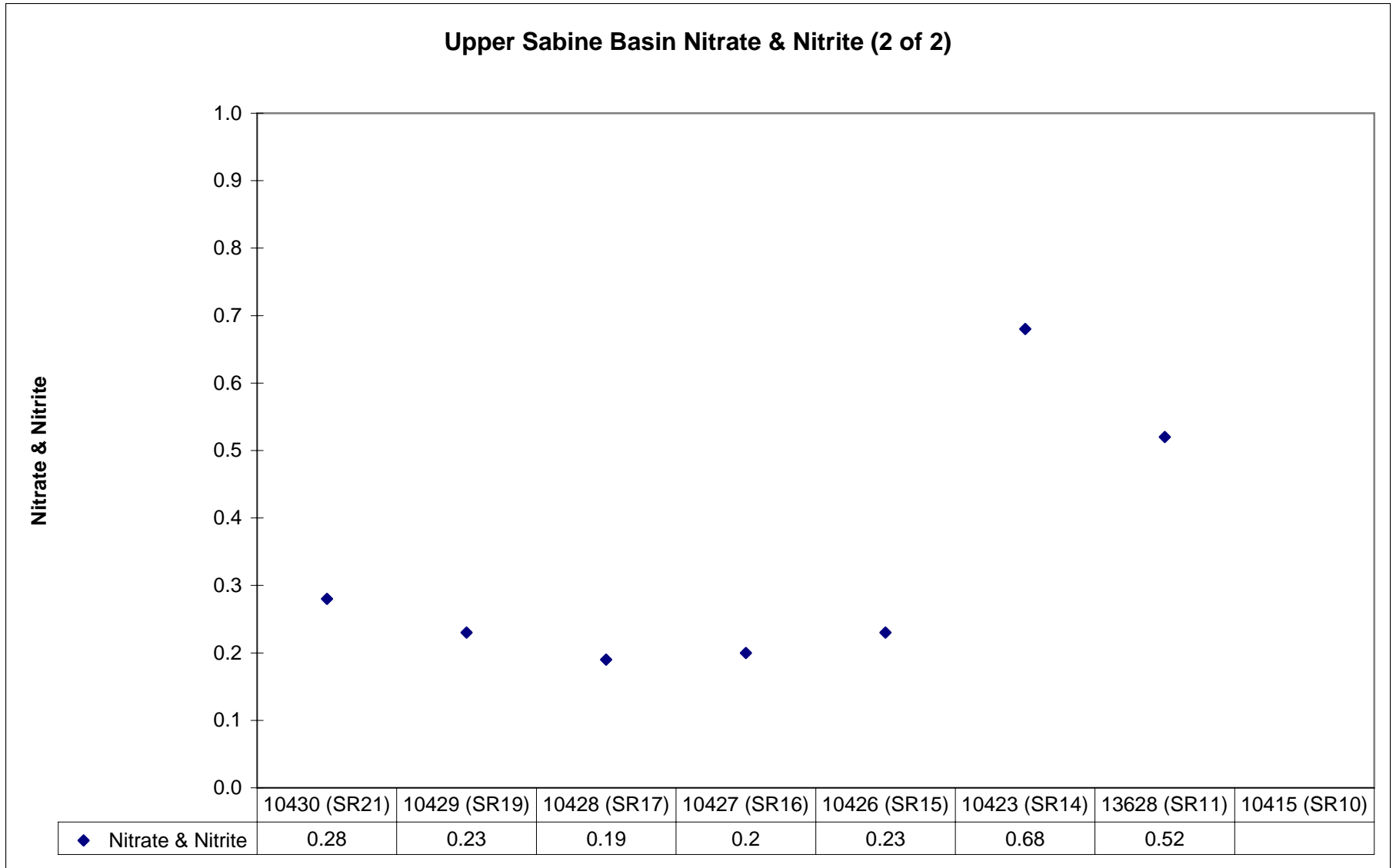
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Stations without values were below detection limit on this run (see page 2)

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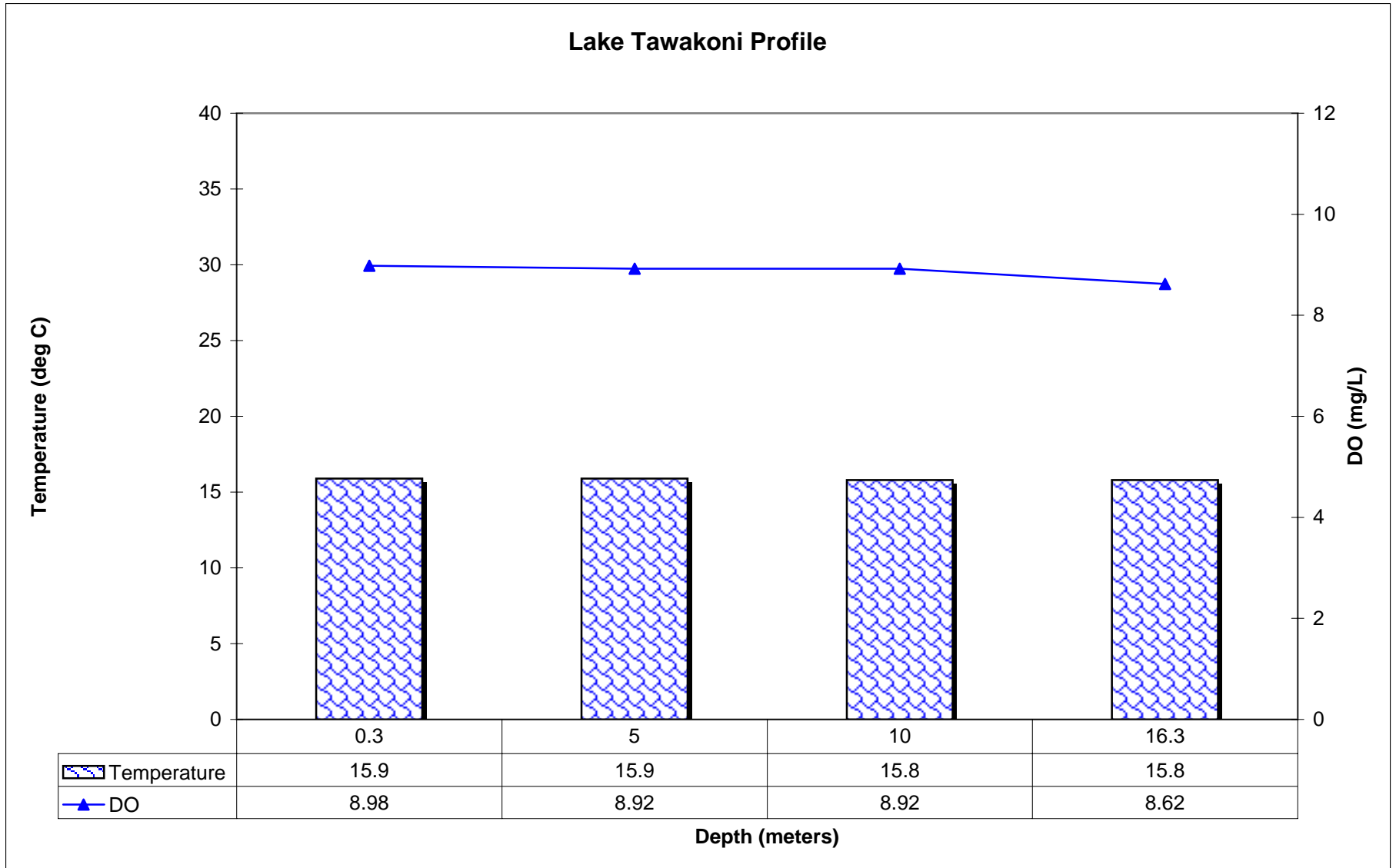
## Upper Basin Profiles

November 2002

Date	SW ID	Station	Depth Meters	Temperature	pH	DO	%	Conductivity
				°C	Units	mg/L	Saturation	μS/cm
				00010	00400	00300	00301	00094
11/12/02 12:20 PM	7.00	10440 (LT23C)	0.3	15.3	8.27	9.67	98	162
			4.6	15.3	8.18	9.71	98	158
11/12/02 11:24 AM	7.00	10435 (LT23D)	0.3	15.3	8.08	9.33	95	167
			5	15.3	8.01	9.23	94	167
			9.8	15	7.78	8.79	89	168
11/12/02 9:55 AM	7.00	10434 (LT23A)	0.3	15.9	7.93	8.98	92	164
			5	15.9	7.87	8.92	91	165
			10	15.8	7.85	8.92	91	167
			16.3	15.8	7.71	8.62	88	167
11/12/02 8:50 AM	6.12	10461 (LF3)	0.3	15.7	7.27	8.5	88	138
			5	15.7	7.2	8.5	87	142
			10.1	15.6	7.13	8.41	86	143
11/12/02 9:05 AM	6.12	10462 (LF4)	0.3	16.1	7.22	7.91	81	140
			5	16.1	7.18	7.9	81	139
			11.6	16	7.1	7.94	82	134
11/12/02 8:10 AM	6.12	10458 (LF2)	0.3	16.2	7.08	7.34	76	138
			5	16.2	7.03	7.31	76	135
			13.7	16.2	6.91	7.33	76	143

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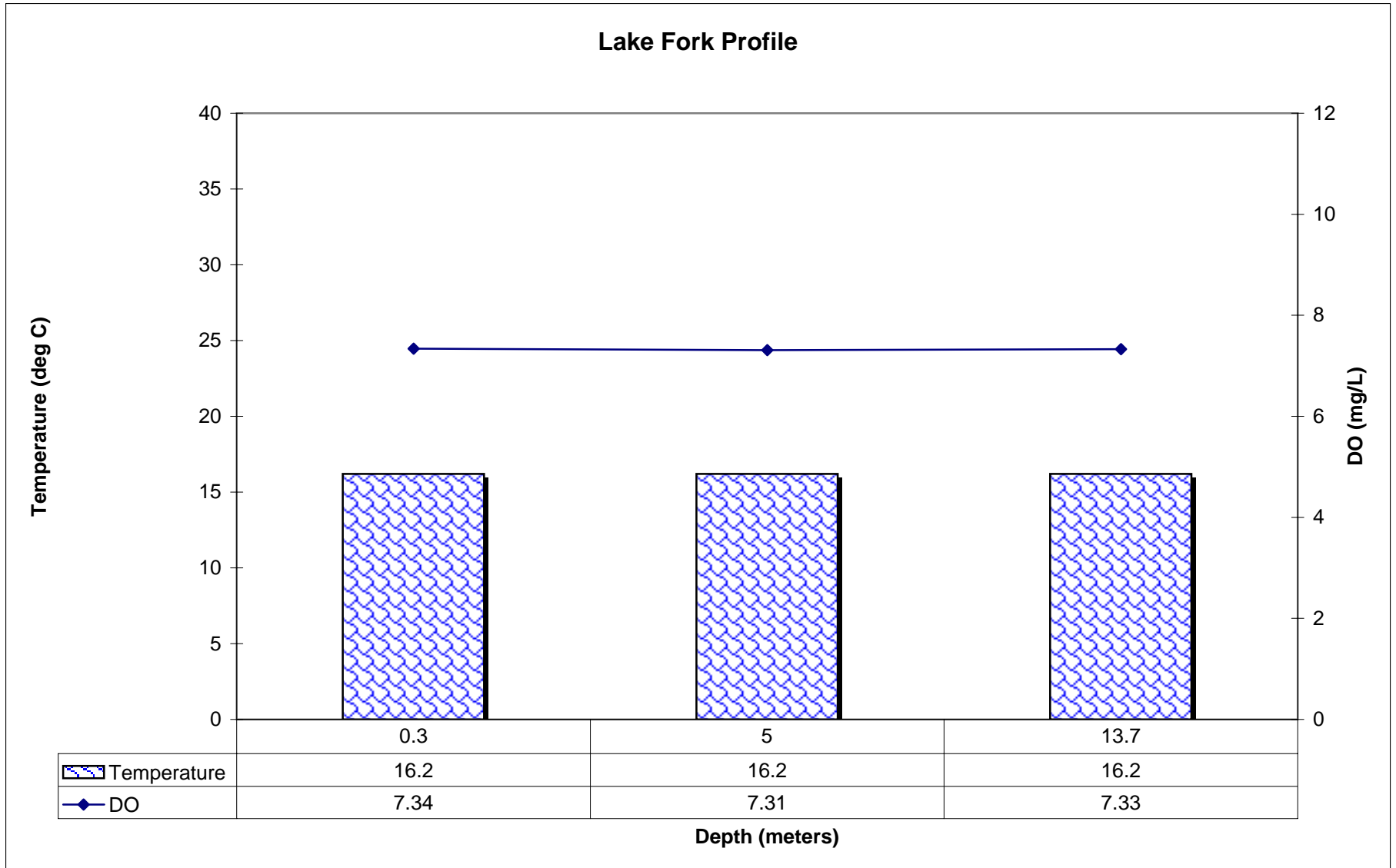
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For Station 10434 (LT23A): LAKE TAWAKONI IN THE MAIN LAKE NEAR THE DAM IN THE OLD RIVER CHANNEL

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## Lake Tawakoni Weather and Reservoir Data

November 2002

Date	Lake Elev	LE - TOP	Releases inst	Max Temp	Min Temp	Rainfall	Evap
11/1/2002	438.06	0.56	665	65	44	0.03	0.06
11/2/2002	437.99	0.49	355	59	47	0.05	0.07
11/3/2002	437.95	0.45	355	57	47	0.19	0.16
11/4/2002	437.93	0.43	355	55	64	0.06	0.03
11/5/2002	437.90	0.40	355	51	46	0.26	0.00
11/6/2002	437.87	0.37	355	62	41	0.00	0.11
11/7/2002	437.79	0.29	125	65	39	0.00	0.13
11/8/2002	437.75	0.25	125	70	39	0.00	0.14
11/9/2002	437.71	0.21	125	74	49	0.00	0.18
11/10/2002	437.70	0.20	125	80	63	0.00	0.23
11/11/2002	437.70	0.20	125	76	46	0.00	0.21
11/12/2002	437.68	0.18	125	70	43	0.00	0.25
11/13/2002	437.63	0.13	125	65	38	0.00	0.12
11/14/2002	437.58	0.08	45	67	38	0.00	0.12
11/15/2002	437.61	0.11	45	71	43	0.00	0.16
11/16/2002	437.56	0.06	45	62	34	0.00	0.21
11/17/2002	437.48	(0.02)	5	59	34	0.00	0.12
11/18/2002	437.44	(0.06)	5	69	41	0.00	0.50
11/19/2002	437.45	(0.05)	5	70	36	0.00	0.17
11/20/2002	437.43	(0.07)	5	68	34	0.00	0.14
11/21/2002	437.42	(0.08)	5	68	38	0.00	0.09
11/22/2002	437.40	(0.10)	5	73	38	0.00	0.17
11/23/2002	437.35	(0.15)	5	60	39	0.00	0.12
11/24/2002	437.33	(0.17)	5	71	54	0.00	0.16
11/25/2002	437.36	(0.14)	5	72	42	0.00	0.11
11/26/2002	437.32	(0.18)	5	42	37	0.00	0.06
11/27/2002	437.29	(0.21)	5	50	29	0.00	0.22
11/28/2002	437.23	(0.27)	5	46	26	0.00	0.03
11/29/2002	437.20	(0.30)	5	60	26	0.00	0.13
11/30/2002	437.20	(0.30)	5	66	40	0.00	0.11
<b>Avg or Tot</b>	437.58	0.08	117	64	41	0.59	4.31

	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.				

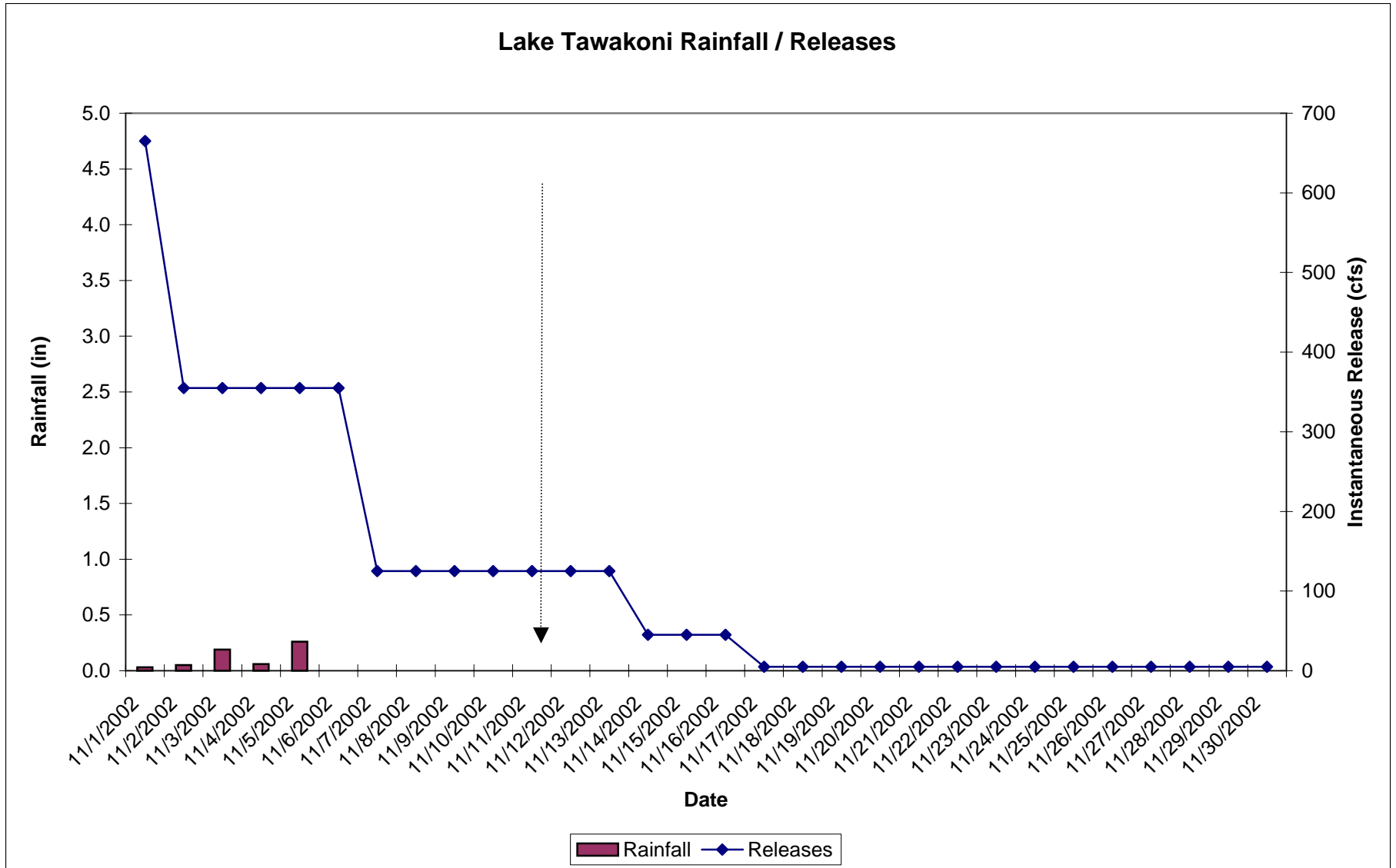
TOP: Top of Pool = 437.5 Feet M.S.L.

Lake Tawakoni Sampled on 11/12/2002



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Please Note : Lake Tawakoni has an uncontrolled spillway.

# SABINE RIVER AUTHORITY OF TEXAS

## Lake Fork Weather and Reservoir Data

November 2002

Date	Lake Elev	LE - TOP	Releases avg	Releases cur	Max Temp	Min Temp	Rainfall	Evap
11/1/2002	402.49	(0.51)	8	8	70	50	0.01	0.00
11/2/2002	402.46	(0.54)	8	8	58	46	0.01	0.10
11/3/2002	402.46	(0.54)	8	8	60	46	0.15	0.00
11/4/2002	402.44	(0.56)	8	8	58	46	0.06	0.12
11/5/2002	402.49	(0.51)	8	8	66	50	0.63	0.00
11/6/2002	402.51	(0.49)	8	8	62	46	0.00	0.08
11/7/2002	402.48	(0.52)	8	8	68	42	0.00	0.04
11/8/2002	402.45	(0.55)	8	8	72	50	0.00	0.13
11/9/2002	402.45	(0.55)	8	8	76	64	0.00	0.25
11/10/2002	402.46	(0.54)	8	8	82	66	0.00	0.14
11/11/2002	402.46	(0.54)	8	8	80	49	0.00	0.26
11/12/2002	402.45	(0.55)	8	8	74	52	0.00	0.11
11/13/2002	402.45	(0.55)	8	8	67	37	0.00	0.25
11/14/2002	402.44	(0.56)	8	8	70	40	0.00	0.21
11/15/2002	402.44	(0.56)	8	8	73	45	0.00	0.16
11/16/2002	402.44	(0.56)	8	8	65	42	0.00	0.13
11/17/2002	402.43	(0.57)	8	8	60	42	0.00	0.08
11/18/2002	402.44	(0.56)	8	8	70	37	0.00	0.23
11/19/2002	402.34	(0.66)	8	8	73	40	0.00	0.16
11/20/2002	402.34	(0.66)	8	8	69	34	0.00	0.13
11/21/2002	402.34	(0.66)	8	8	72	35	0.00	0.09
11/22/2002	402.35	(0.65)	8	8	76	50	0.00	0.12
11/23/2002	402.32	(0.68)	8	8	62	39	0.00	0.11
11/24/2002	402.30	(0.70)	8	8	72	39	0.00	0.14
11/25/2002	402.33	(0.67)	8	8	74	46	0.00	0.12
11/26/2002	402.29	(0.71)	8	8	57	37	0.05	0.19
11/27/2002	402.29	(0.71)	8	8	53	32	0.00	0.10
11/28/2002	402.29	(0.71)	8	8	49	27	0.00	0.05
11/29/2002	402.28	(0.72)	8	8	61	28	0.00	0.07
11/30/2002	402.22	(0.78)	8	8	68	35	0.00	0.16
<b>Avg or Tot</b>	402.40	(0.60)	8	8	67	43	0.91	3.73

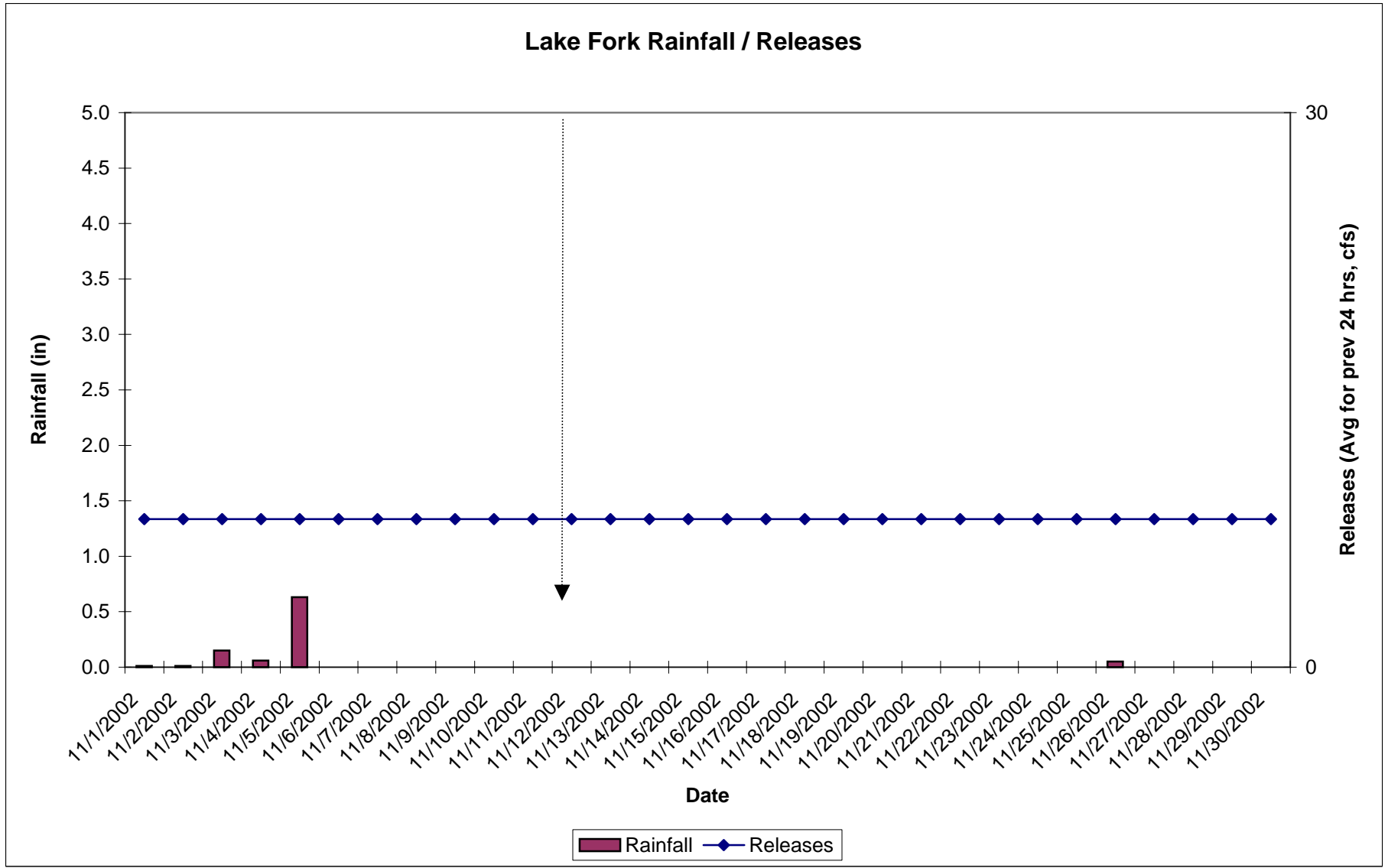
Units	Avg Feet M.S.L.	Avg Feet	Avg cfs Previous 24 hrs	cfs	Avg Deg F	Avg Deg F	Tot Inches	Tot Inches
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TOP: Top of Pool = 403 Feet M.S.L.

Lake Fork Sampled on 11/12/2002

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# ***FY2003 Fixed Monitoring Stations***

## ***Lower Sabine Basin***

<i><b>SW</b></i>	<i><b>Segment Station</b></i>	<i><b>Location</b></i>
4.10	0504 15658 (TB6N)	BAYOU SCIE AT LA SH 191
4.00	0504 10403 (TB8)	TOLEDO BEND RESERVOIR AT US 84
4.00	0504 15657 (TB6M)	TOLEDO BEND RESERVOIR SAN PATRICIA ARM AT LA SH191
4.00	0504 15656 (TB6L)	TOLEDO BEND RESERVOIR SAN MIGUEL ARM AT LA SH191
4.00	0504 15655 (TB6J)	TOLEDO BEND RESERVOIR PATROON BAYOU ARM AT SH 276
4.00	0504 15659 (TB6K)	TOLEDO BEND RESERVOIR LANANA ARM AT LA SH191
4.00	0504 10402 (TB6H)	TOLEDO BEND RESERVOIR AT SH 21
4.00	0504 10411 (TB6F)	TOLEDO BEND RESERVOIR IN SUNSHINE BAY AT FM 3121
4.00	0504 10407 (TB6CN)	TOLEDO BEND RESERVOIR IN SIX MILE BOAT LANE AT SH 87
4.00	0504 10404 (TB6A)	TOLEDO BEND RESERVOIR NEAR DAM IN RIVER CHANNEL
3.03	0503 10340 (BA4)	ANACOCO BAYOU AT LOUISIANA HWY 111
3.00	0503 10401 (TB6S)	SABINE RIVER BELOW TOLEDO BEND SPILLWAY
3.00	0503 10400 (TB6)	TAIL RACE CHANNEL AT FM 692 TB6
3.00	0503 10399 (SR5)	SABINE RIVER AT SH 63
3.00	0503 10398 (SR3)	SABINE RIVER AT US 190
2.05	0513 10465 (BCC1)	BIG COW CREEK AT FM 1416
2.00	0503 10397 (SR2)	SABINE RIVER AT SH 12

# SABINE RIVER AUTHORITY OF TEXAS

## Lower Basin Report

November 2002

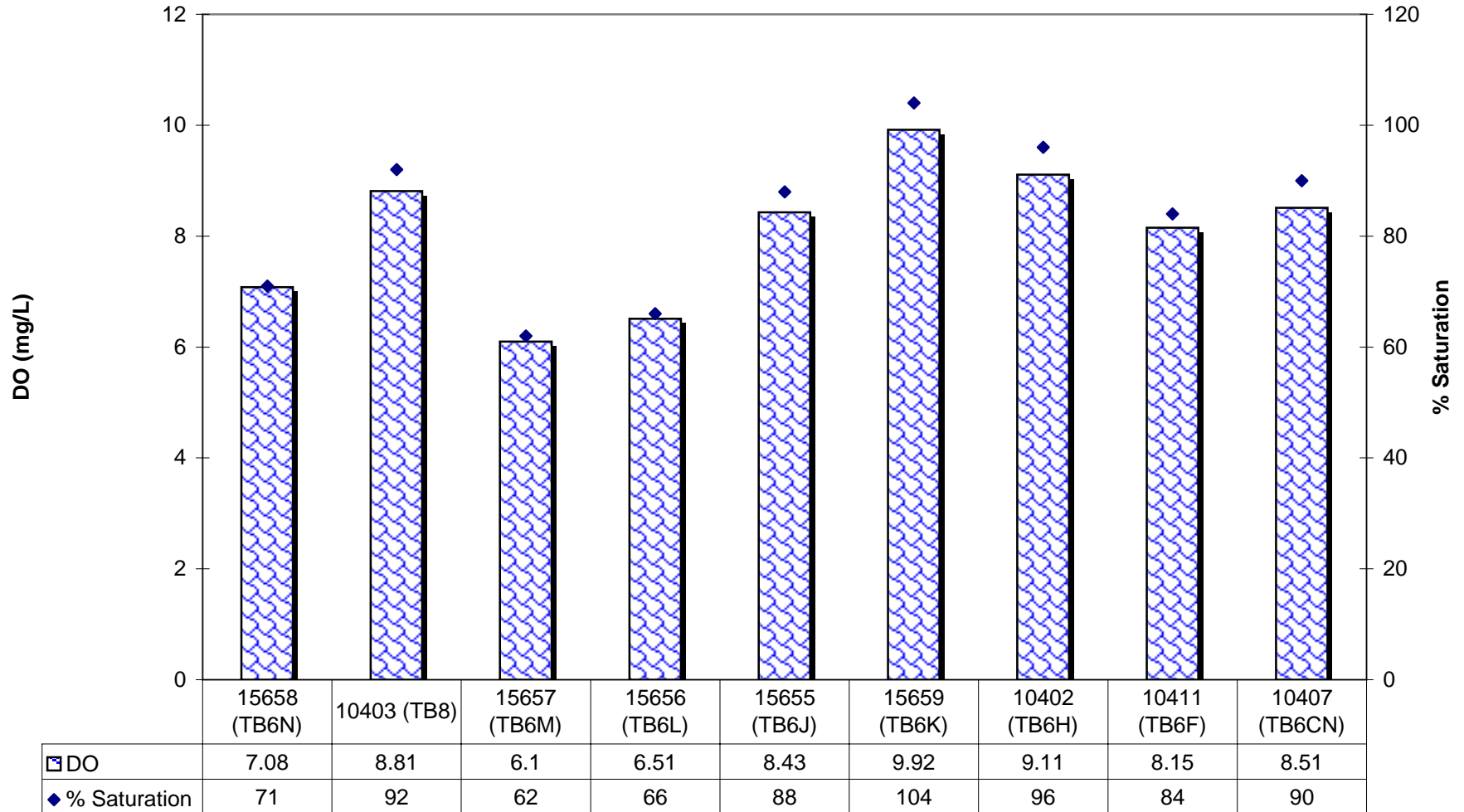
Date	SW ID	Station	Temperature °C 00010	pH Units 00400	DO mg/L 00300	% Saturation 00301	Conductivity µS/cm 00094	Salinity ppt 00480	Secchi Meters 00078	Turbidity NTU 82079	<i>E. coli</i> mpn/100ml 31699	Chlorophyll a µg/L 32211	Nitrate & Nitrite 00630	Ortho-Phosphate 00671	TOC mg/L 00680	Total Alkalinity 00410	Total Hardness 00900	Chloride mg/L 00940	Sulfate mg/L 00945
11/12/02 1:25 PM	4.10	15658 (TB6N)	15.7	7.36	7.08	71	181	*	0.26	30.3	147	*	0.1	0.28	10	29	36	14	22
11/13/02 11:50 AM	4.00	10403 (TB8)	16.5	7.36	8.81	92	225	*	0.54	18.7	16	*	0.33	< 0.04	6	48	56	17	21
11/12/02 1:52 PM	4.00	15657 (TB6M)	16.2	7.2	6.1	62	146	*	0.46	22.7	36	*	0.18	< 0.04	10	< 10	32	13	25
11/12/02 1:38 PM	4.00	15656 (TB6L)	15.9	7.24	6.51	66	98	*	0.4	34.5	40	*	0.17	0.14	10	< 10	28	< 10	13
11/12/02 10:57 AM	4.00	15655 (TB6J)	17.2	7.37	8.43	88	118	*	0.4	26.5	36	*	0.14	< 0.04	8	18	32	< 10	13
11/12/02 1:04 PM	4.00	15659 (TB6K)	17.6	7.57	9.92	104	134	*	0.46	13.3	21	*	0.05	< 0.04	7	23	36	11	12
11/12/02 11:54 AM	4.00	10402 (TB6H)	17.6	7.57	9.11	96	159	*	1.65	3.16	< 1	< 10	0.2	< 0.04	6	29	40	13	13
11/12/02 11:27 AM	4.00	10411 (TB6F)	16.8	7.42	8.15	84	61	*	0.26	46.4	57	< 10	0.09	< 0.04	8	< 10	16	< 10	< 10
11/12/02 10:16 AM	4.00	10407 (TB6CN)	17.5	6.38	8.51	90	75	*	0.4	16.7	11	*	< 0.04	< 0.04	9	< 10	32	< 10	< 10
11/13/02 10:27 AM	4.00	10404 (TB6A)	18.8	7.3	8.57	92	143	*	0.98	2.66	1	< 10	0.06	< 0.04	5	24	36	12	13
11/13/02 12:54 PM	3.03	10340 (BA4)	17.3	7.41	8.32	86	98	*	0.37	49.4	12	*	0.07	< 0.04	8	16	20	< 10	13
11/13/02 11:02 AM	3.00	10401 (TB6S)	18.8	7.43	9.93	107	142	*	*	3.56	6	*	0.06	< 0.04	5	24	36	12	13
11/13/02 11:16 AM	3.00	10400 (TB6)	17.4	7.54	8	83	176	*	> 1.6	1.11	< 1	*	0.13	1.03	4	41	32	14	< 10
11/13/02 12:24 PM	3.00	10399 (SR5)	18.5	7.56	9.54	102	139	*	0.6	12.5	27	*	0.09	< 0.04	5	22	36	12	13
11/13/02 1:24 PM	3.00	10398 (SR3)	17.6	7.19	8.24	86	122	*	0.44	38.5	21	*	0.08	< 0.04	7	20	28	< 10	16
11/13/02 9:11 AM	2.05	10465 (BCC1)	16.1	7.06	8.41	85	49	*	0.49	18.3	91	*	0.07	< 0.04	8	< 10	16	< 10	< 10
11/13/02 8:36 AM	2.00	10397 (SR2)	17.2	7.21	7.11	74	84	*	0.5	24.3	52	*	< 0.04	< 0.04	9	13	24	< 10	< 10

\*: Not sampled on this run

# SABINE RIVER AUTHORITY OF TEXAS

November 2002

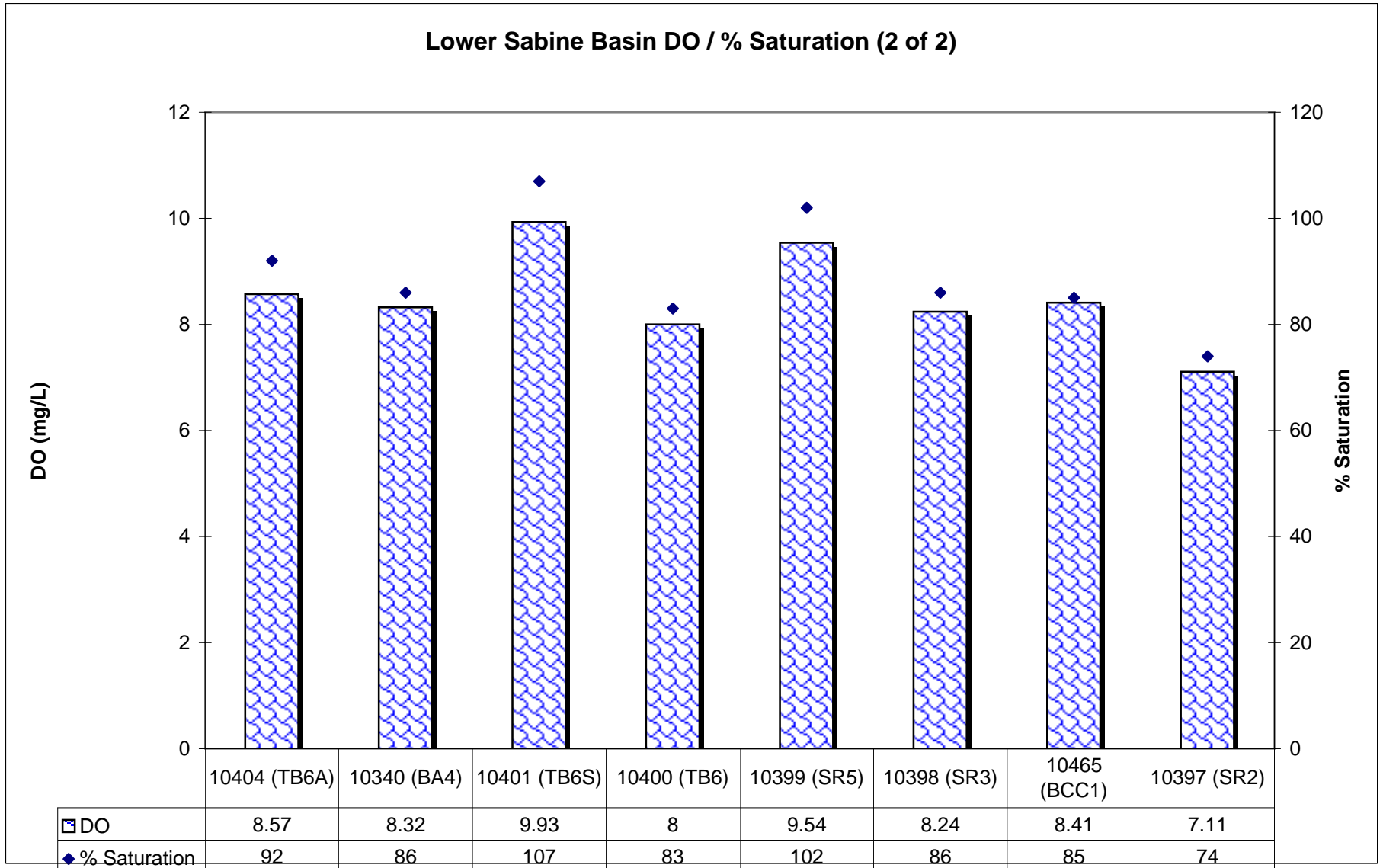
## Lower Sabine Basin DO / % Saturation (1 of 2)



# SABINE RIVER AUTHORITY OF TEXAS

November 2002

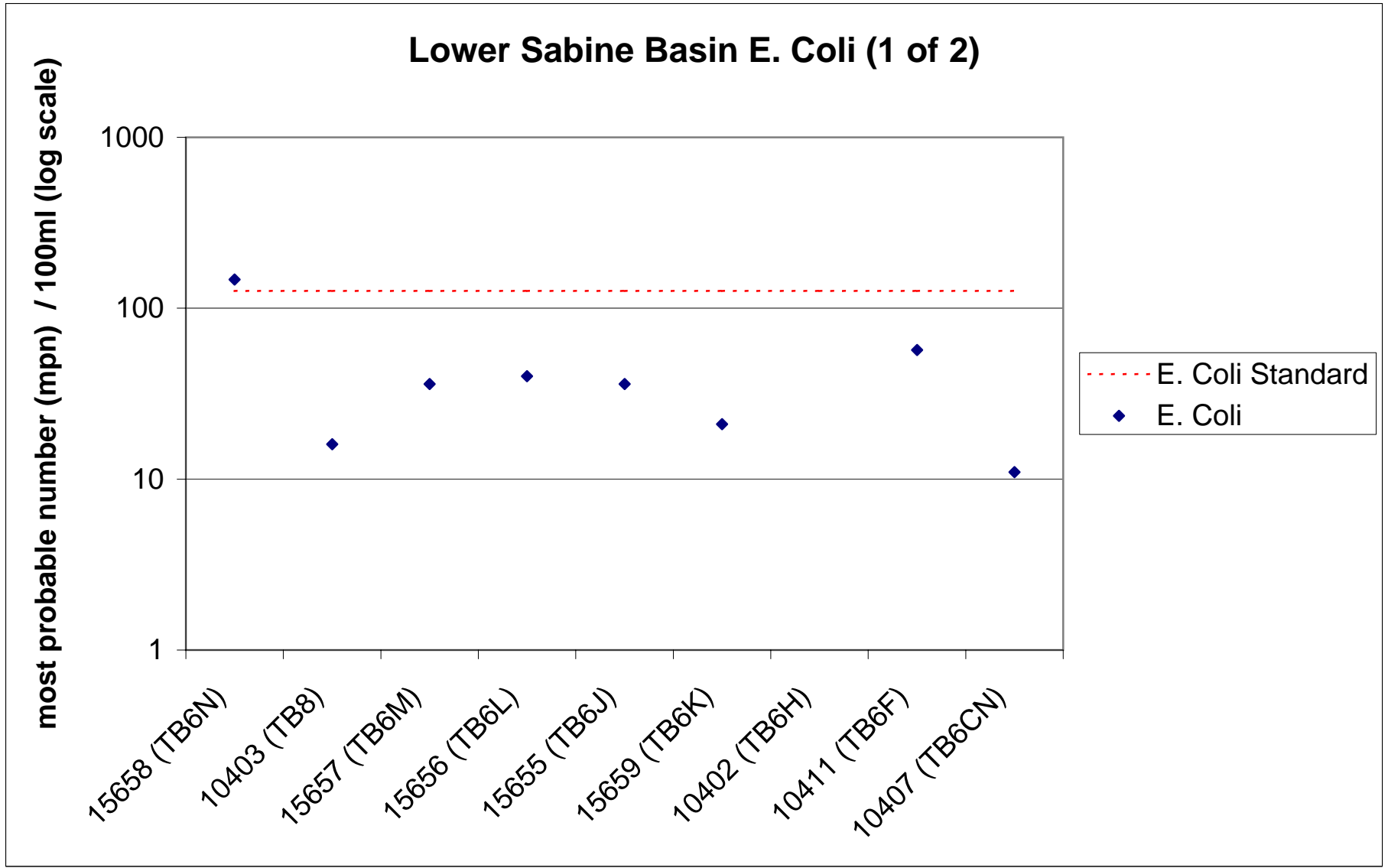
## Lower Sabine Basin DO / % Saturation (2 of 2)





# SABINE RIVER AUTHORITY OF TEXAS

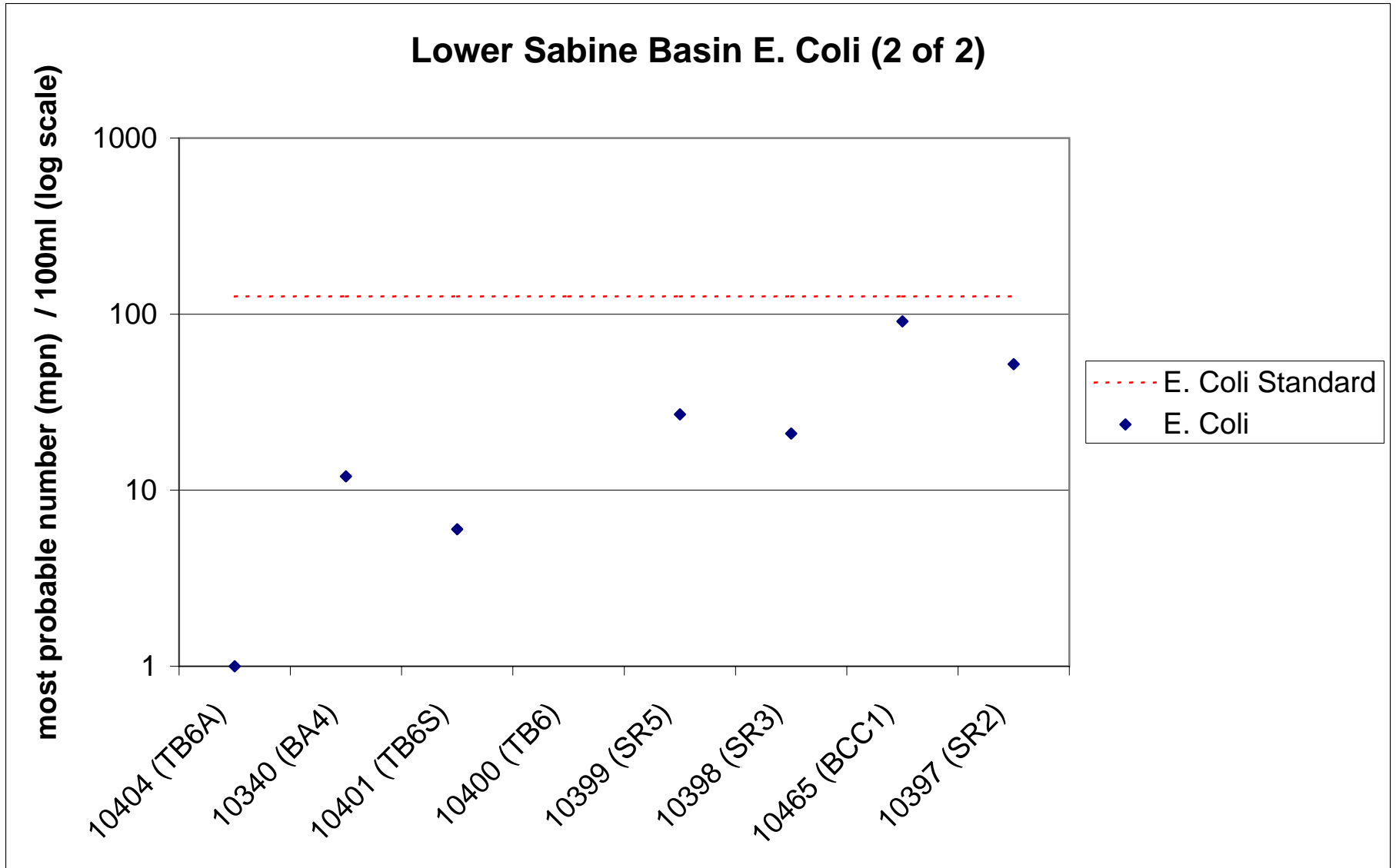
November 2002



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

# SABINE RIVER AUTHORITY OF TEXAS

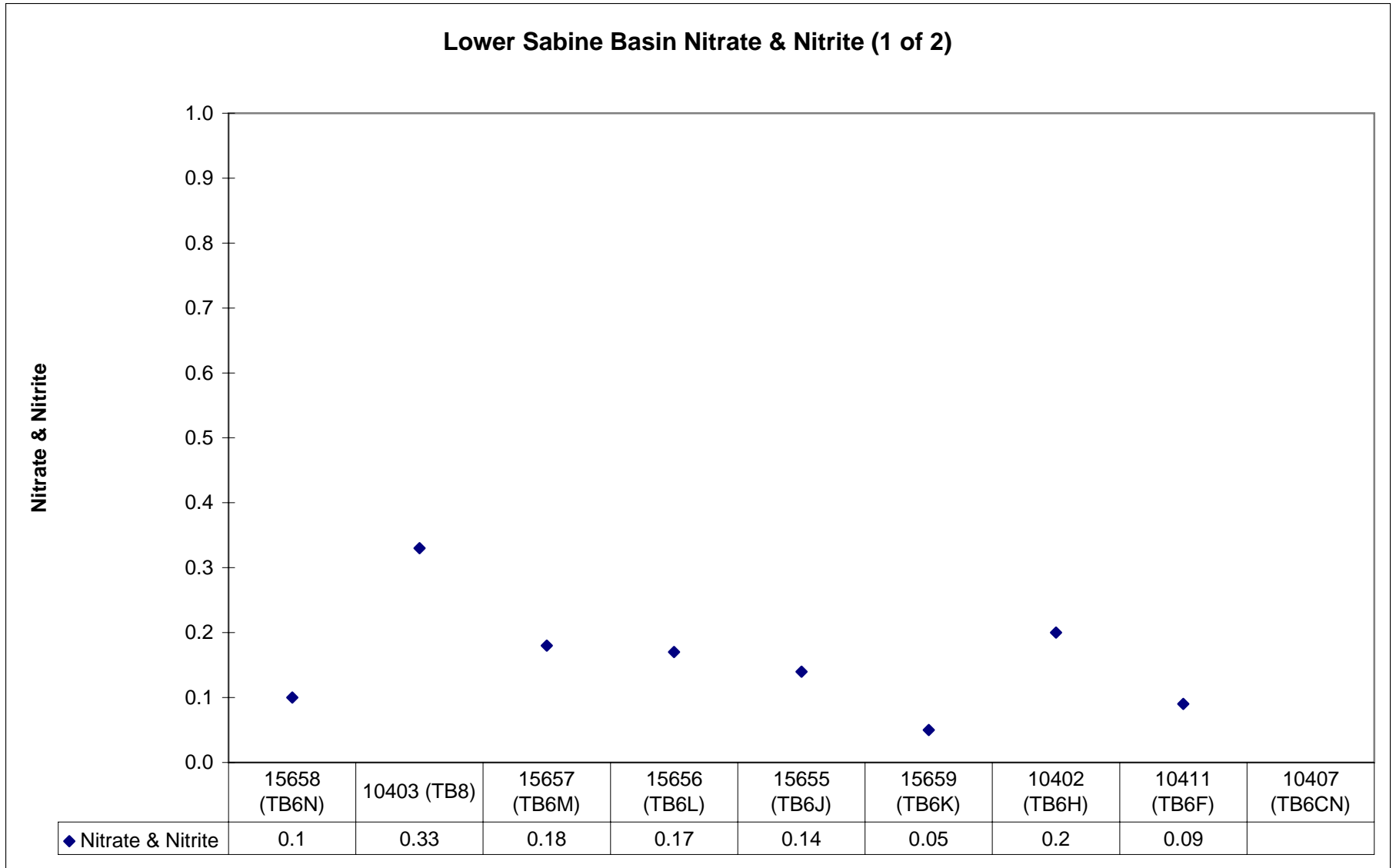
November 2002



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

# SABINE RIVER AUTHORITY OF TEXAS

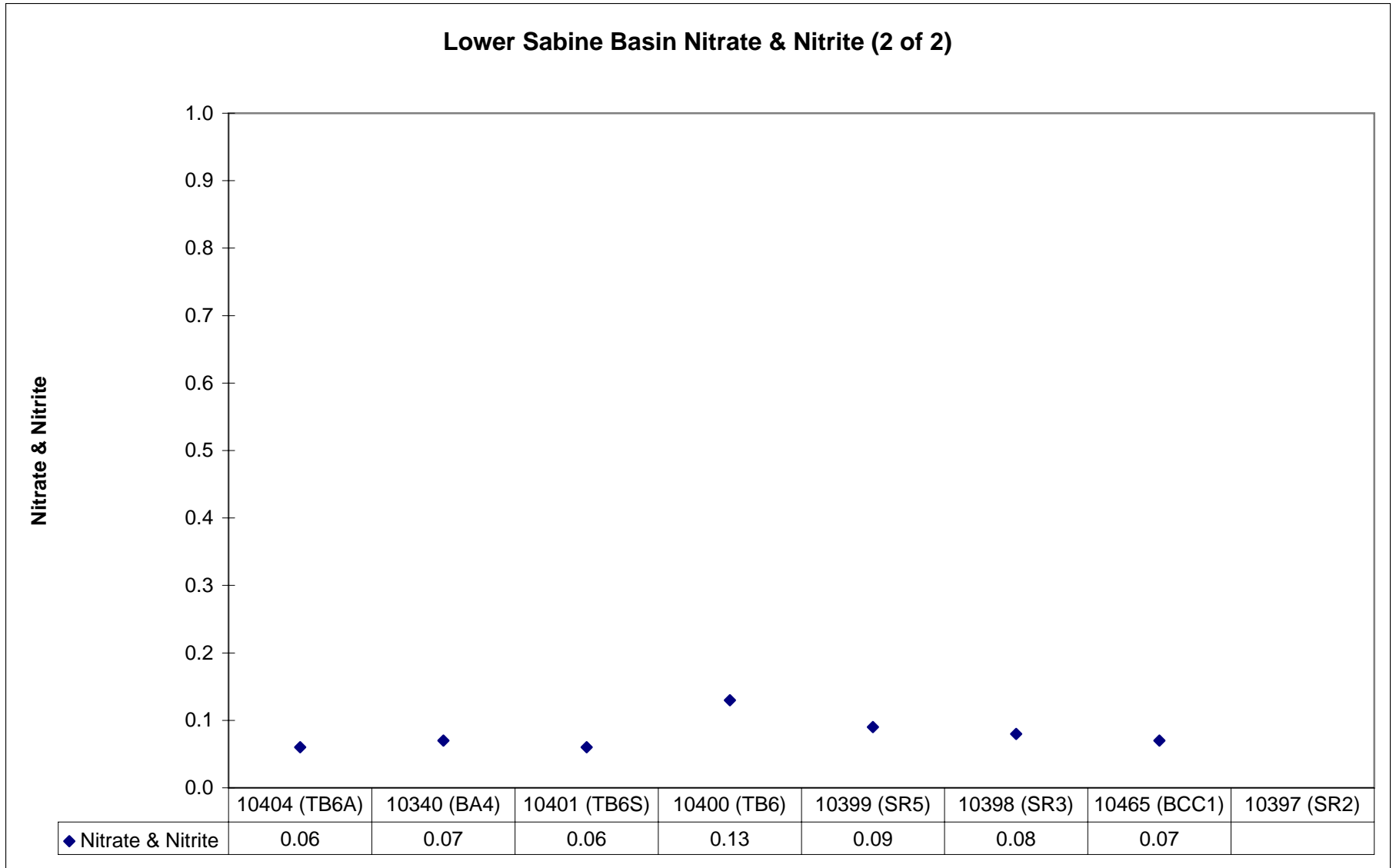
November 2002



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

# SABINE RIVER AUTHORITY OF TEXAS

November 2002



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

# SABINE RIVER AUTHORITY OF TEXAS

## Lower Basin Profiles

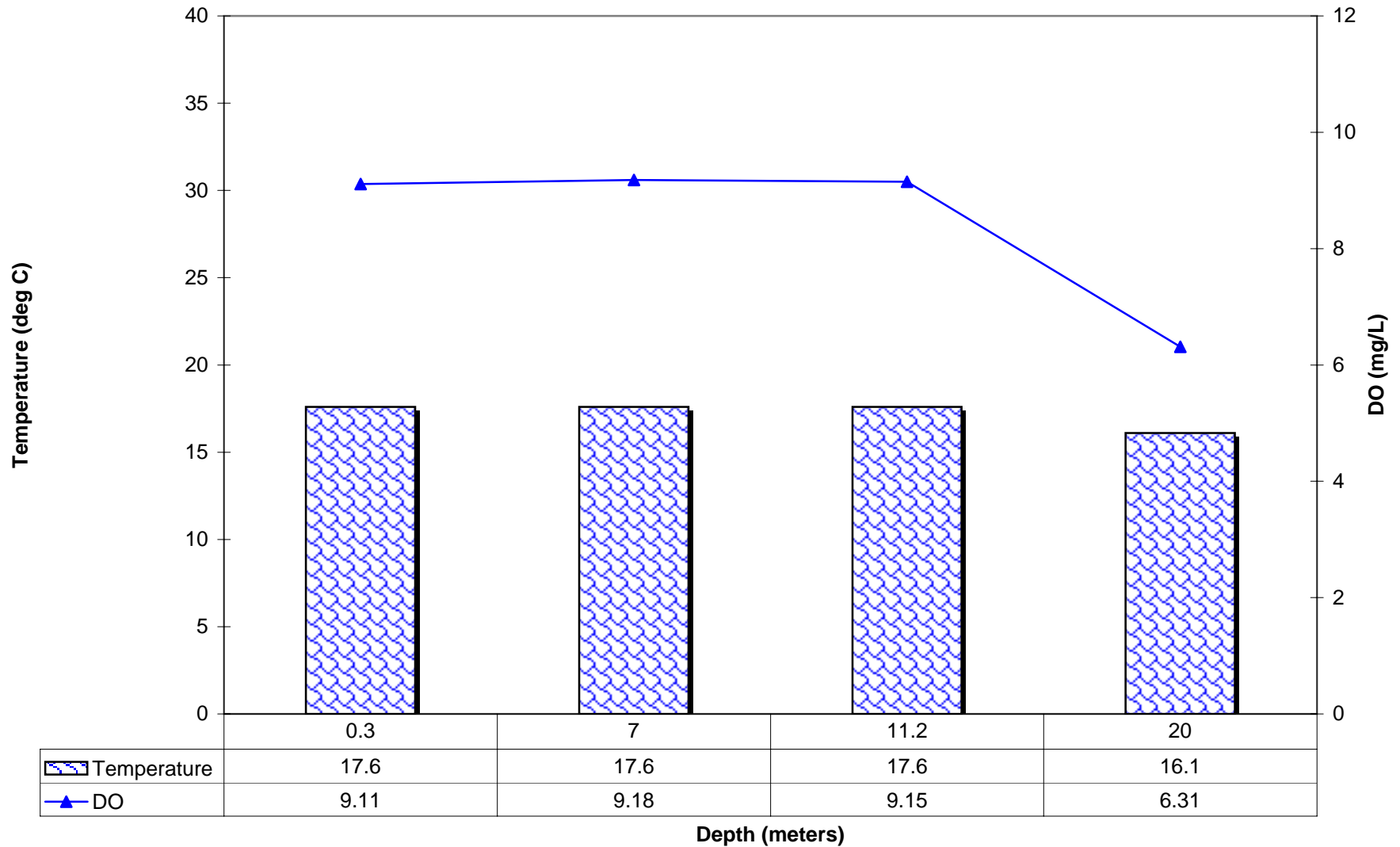
November 2002

Date	SW ID	Station	Depth Meters	Temperature	pH	DO	%	Conductivity
				°C 00010	Units 00400	mg/L 00300	Saturation 00301	µS/cm 00094
11/13/02 11:50 AM	4.00	10403 (TB8)	0.3	16.5	7.36	8.81	92	225
			5	15.4	7.22	8.14	83	225
			11.3	15.4	7.2	8.11	82	228
11/12/02 1:52 PM	4.00	15657 (TB6M)	0.3	16.2	7.2	6.1	62	146
			3.8	15.2	7.3	5.55	55	149
11/12/02 1:38 PM	4.00	15656 (TB6L)	0.3	15.9	7.24	6.51	66	98
			1.5	15.8	7.31	6.45	65	99
11/12/02 10:57 AM	4.00	15655 (TB6J)	0.3	17.2	7.37	8.43	88	118
			1.3	17.1	7.42	8.41	87	117
			3.6	17.1	7.31	8.41	87	113
11/12/02 1:04 PM	4.00	15659 (TB6K)	0.3	17.6	7.57	9.92	104	134
			3	17.5	7.5	9.65	101	131
			6	16.9	7.42	8.71	94	115
			9.2	13.4	7.49	6.42	64	80
11/12/02 11:54 AM	4.00	10402 (TB6H)	0.3	17.6	7.57	9.11	96	159
			7	17.6	7.54	9.18	96	159
			11.2	17.6	7.48	9.15	96	159
			20	16.1	7.49	6.31	63	136
11/12/02 11:27 AM	4.00	10411 (TB6F)	0.3	16.8	7.42	8.15	84	61
			2	16.6	7.43	8.12	83	61
			4.9	15.6	7.44	6.41	64	61
11/12/02 10:16 AM	4.00	10407 (TB6CN)	0.3	17.5	6.38	8.51	90	75
			1.6	17.4	6.31	8.44	88	72
			6.3	15.1	6.05	6.62	66	86
11/13/02 10:27 AM	4.00	10404 (TB6A)	0.3	18.8	7.3	8.57	92	143
			14.4	18.5	7.12	8.65	93	144
			19.8	17.1	7.08	5.54	59	125
			24.6	17.1	7.12	3.05	30	120
			28	15.3	7.09	0.52	5	183

# SABINE RIVER AUTHORITY OF TEXAS

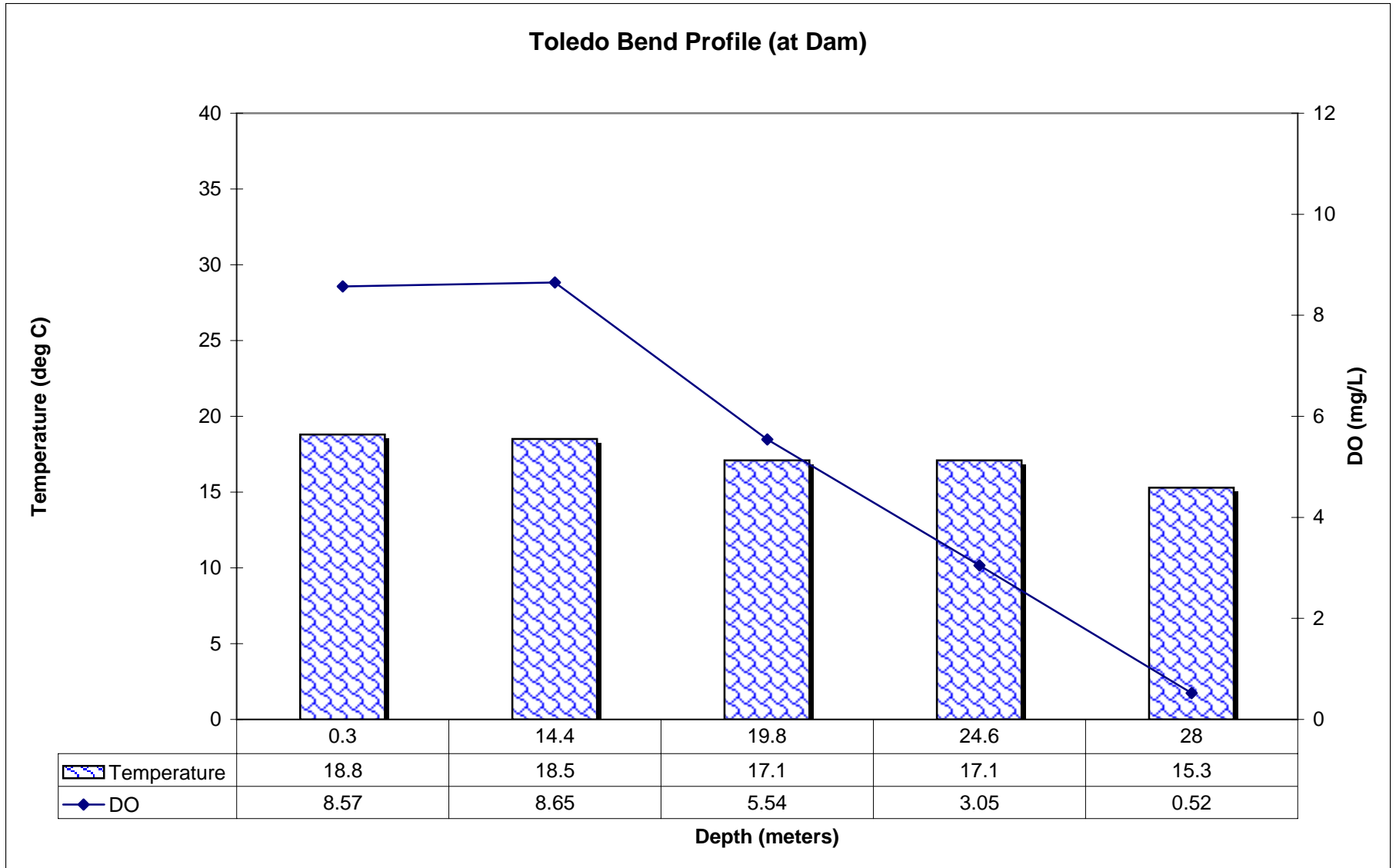
November 2002

## Toledo Bend Profile (at Pendleton Bridge)



# SABINE RIVER AUTHORITY OF TEXAS

November 2002



# SABINE RIVER AUTHORITY OF TEXAS

## Toledo Bend Weather and Reservoir Data

November 2002

Date	Lake Elev	LE - TOP	Max Temp	Min Temp	Rainfall	Evaporation	Daily Releases cfs	Daily Releases ac ft	Current Release
11/1/2002	166.95	(5.05)	62	48	0.01	0.06	174	345	174
11/2/2002	166.93	(5.07)	61	46	0.01	0.11	174	345	174
11/3/2002	167.06	(4.94)	59	47	1.14	0.05	174	345	174
11/4/2002	167.44	(4.56)	60	48	4.10	NR	174	345	174
11/5/2002	168.10	(3.90)	58	49	2.75	NR	174	345	174
11/6/2002	168.53	(3.47)	62	47	0.00	0.28	4,548	9,021	174
11/7/2002	168.68	(3.32)	64	37	0.00	0.21	6,894	13,674	7,044
11/8/2002	168.64	(3.36)	71	38	0.00	0.10	6,969	13,823	6,944
11/9/2002	168.61	(3.39)	74	40	0.00	0.08	7,004	13,892	6,944
11/10/2002	168.61	(3.39)	83	60	0.00	0.12	7,064	14,011	7,064
11/11/2002	168.71	(3.29)	85	55	0.00	0.24	1,950	3,868	174
11/12/2002	168.76	(3.24)	75	45	0.00	0.20	3,572	7,085	144
11/13/2002	168.61	(3.39)	54	37	0.00	0.20	7,144	14,170	7,044
11/14/2002	168.48	(3.52)	65	36	0.00	0.11	7,144	14,170	7,144
11/15/2002	168.56	(3.44)	72	37	0.08	0.10	7,144	14,170	7,144
11/16/2002	168.56	(3.44)	60	45	0.00	0.07	7,144	14,170	7,144
11/17/2002	168.30	(3.70)	57	33	0.00	0.16	7,144	14,170	7,144
11/18/2002	168.16	(3.84)	66	33	0.00	0.17	7,232	14,344	7,144
11/19/2002	168.24	(3.76)	75	39	0.00	0.10	6,889	13,664	6,794
11/20/2002	168.11	(3.89)	68	41	0.00	0.12	6,989	13,862	6,984
11/21/2002	168.06	(3.94)	67	39	0.00	0.11	6,999	13,882	6,994
11/22/2002	167.94	(4.06)	70	47	0.00	0.15	2,373	4,707	6,984
11/23/2002	167.88	(4.12)	60	32	0.00	0.14	174	345	174
11/24/2002	167.89	(4.11)	67	32	0.00	0.09	174	345	174
11/25/2002	167.89	(4.11)	72	36	0.00	0.04	174	345	174
11/26/2002	168.06	(3.94)	67	45	0.00	0.10	174	345	174
11/27/2002	168.08	(3.92)	47	38	0.24	0.03	174	345	174
11/28/2002	167.95	(4.05)	50	30	0.00	0.09	174	345	174
11/29/2002	167.90	(4.10)	56	29	0.00	0.08	174	345	174
11/30/2002	167.96	(4.04)	66	30	0.04	0.09	174	345	174
<b>Avg or Tot</b>	168.12	(3.88)	65	41	8.37	3.40	3,549	211,168	

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.

TOP: Top of Pool = 172 Feet M.S.L.

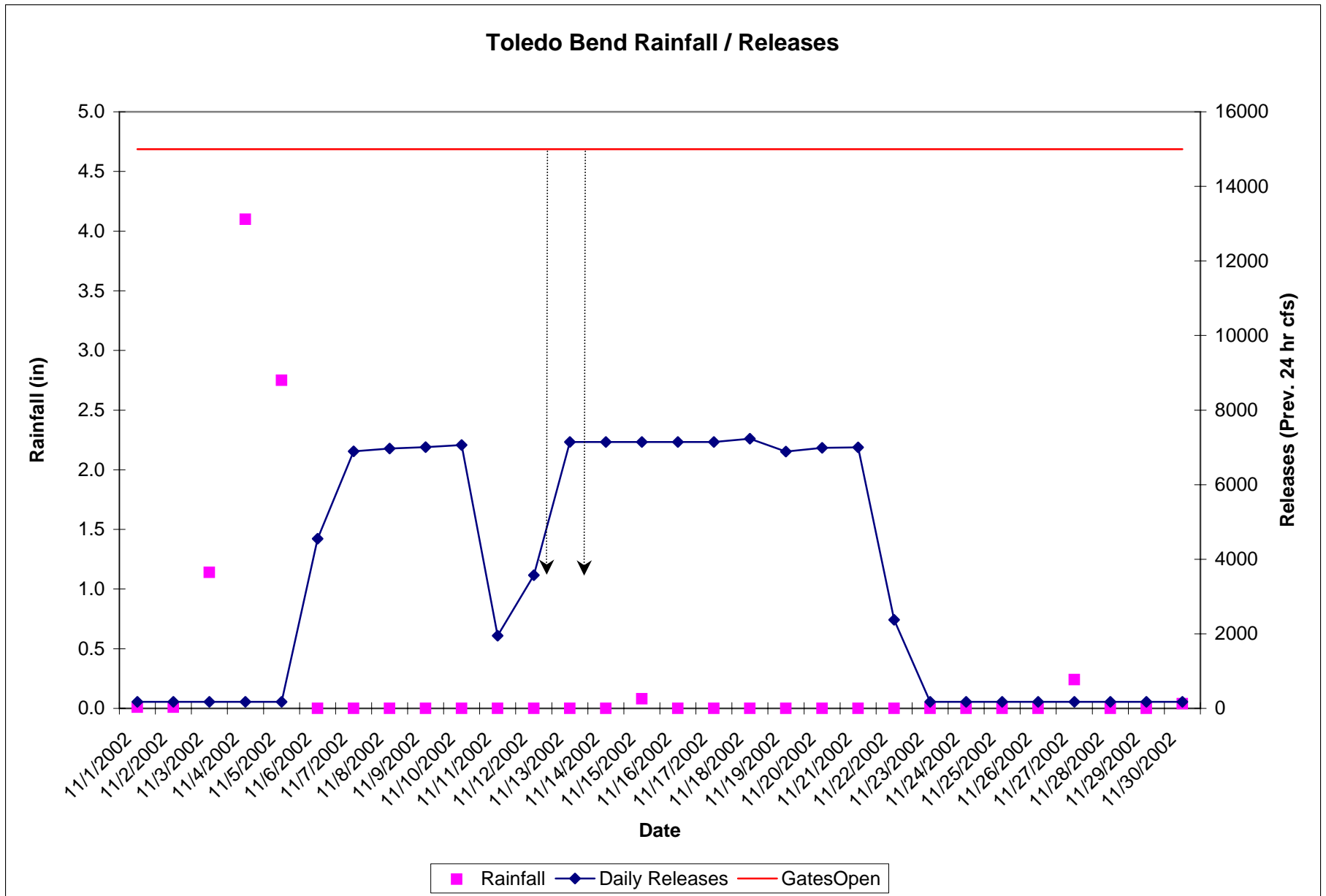
NR: No Reading

Toledo Bend Sampled on 11/12/2002 and 11/13/2002



# SABINE RIVER AUTHORITY OF TEXAS

November 2002



Toledo Bend sampled on 11/12/2002 and 11/13/2002

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

# SABINE RIVER AUTHORITY OF TEXAS

## Burkeville Weather and River Data

November 2002

<b>Date</b>	<i>Rainfall</i>	<i>Gauge Height</i>	<i>GH - FS</i>	<i>Flow</i>
11/1/2002	OUT	OUT	OUT	OUT
11/2/2002	0.00	12.72	(25.28)	234
11/3/2002	OUT	OUT	OUT	OUT
11/4/2002	OUT	OUT	OUT	OUT
11/5/2002	OUT	OUT	OUT	OUT
11/6/2002	0.00	20.76	(17.24)	6,055
11/7/2002	0.00	23.97	(14.03)	10,047
11/8/2002	0.00	22.12	(15.88)	7,637
11/9/2002	0.00	21.04	(16.96)	6,367
11/10/2002	0.00	20.86	(17.14)	6,165
11/11/2002	0.00	20.75	(17.25)	6,044
11/12/2002	0.00	13.69	(24.31)	552
11/13/2002	0.00	19.11	(18.89)	4,354
11/14/2002	0.00	19.49	(18.51)	4,724
11/15/2002	0.00	19.48	(18.52)	4,714
11/16/2002	0.00	19.50	(18.50)	4,734
11/17/2002	0.00	19.49	(18.51)	4,724
11/18/2002	0.00	19.46	(18.54)	4,695
11/19/2002	0.00	20.68	(17.32)	5,967
11/20/2002	0.00	20.57	(17.43)	5,846
11/21/2002	0.00	20.60	(17.40)	5,879
11/22/2002	0.00	20.62	(17.38)	5,901
11/23/2002	0.00	13.44	(24.56)	458
11/24/2002	OUT	OUT	OUT	OUT
11/25/2002	OUT	OUT	OUT	OUT
11/26/2002	OUT	OUT	OUT	OUT
11/27/2002	OUT	OUT	OUT	OUT
11/28/2002	OUT	OUT	OUT	OUT
11/29/2002	OUT	OUT	OUT	OUT
11/30/2002	OUT	OUT	OUT	OUT
<b>Avg or Tot</b>	0.00	19.39	(18.61)	5,005

	Tot	Avg	Avg	Avg
Units	Inches	Feet	Feet	cfs

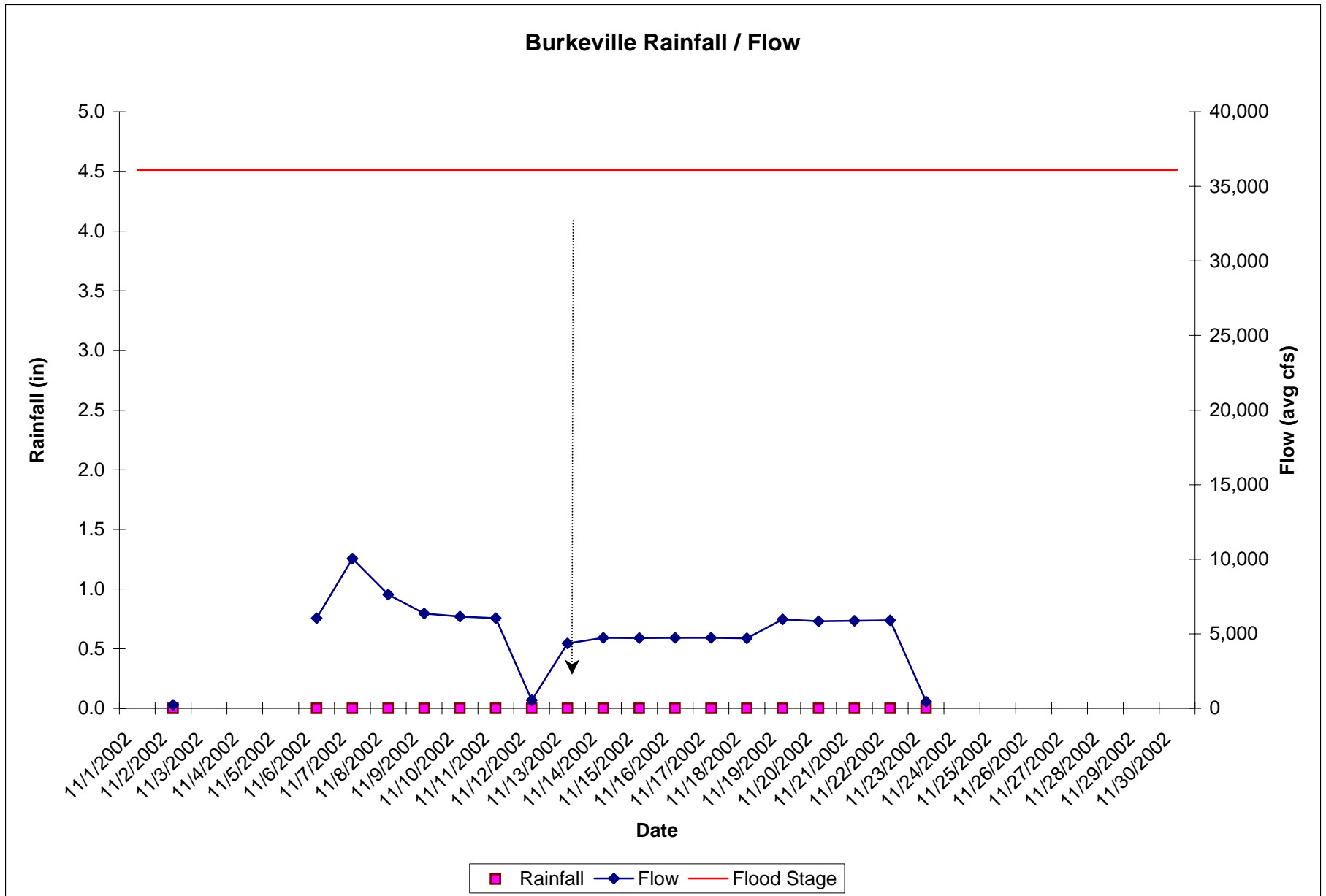
FS: Flood Stage = 41 feet

OUT: Gage Out

Lower Sabine Basin Sampled on 11/13/2002

# SABINE RIVER AUTHORITY OF TEXAS

November 2002



Flood stage flow of 36,100 cfs calculated from flood stage gage height, 38 ft msl.

# SABINE RIVER AUTHORITY OF TEXAS

## Bon Wier Weather and River Data

November 2002

<b>Date</b>	<i>Gauge Height</i>	<i>GH - FS</i>	<i>Flow Avg</i>	<i>308 Rainfall</i>
11/1/2002	19.68	(10.32)	6,262	0.00
11/2/2002	17.84	(12.16)	4,264	0.00
11/3/2002	15.92	(14.08)	2,556	0.57
11/4/2002	25.45	(4.55)	14,680	4.78
11/5/2002	31.15	1.15	26,560	1.40
11/6/2002	30.85	0.85	25,755	0.00
11/7/2002	30.17	0.17	23,949	0.00
11/8/2002	OUT	OUT	OUT	OUT
11/9/2002	OUT	OUT	OUT	OUT
11/10/2002	OUT	OUT	OUT	OUT
11/11/2002	OUT	OUT	OUT	OUT
11/12/2002	OUT	OUT	OUT	OUT
11/13/2002	OUT	OUT	OUT	OUT
11/14/2002	OUT	OUT	OUT	OUT
11/15/2002	OUT	OUT	OUT	OUT
11/16/2002	OUT	OUT	OUT	OUT
11/17/2002	OUT	OUT	OUT	OUT
11/18/2002	OUT	OUT	OUT	OUT
11/19/2002	OUT	OUT	OUT	OUT
11/20/2002	OUT	OUT	OUT	OUT
11/21/2002	OUT	OUT	OUT	OUT
11/22/2002	20.66	(9.34)	7,465	0.00
11/23/2002	18.93	(11.07)	5,406	0.01
11/24/2002	14.92	(15.08)	1,824	0.00
11/25/2002	14.02	(15.98)	1,262	0.00
11/26/2002	13.86	(16.14)	1,172	0.00
11/27/2002	13.78	(16.22)	1,128	0.08
11/28/2002	13.80	(16.20)	1,139	0.00
11/29/2002	13.70	(16.30)	1,085	0.00
11/30/2002	13.61	(16.39)	1,037	0.00
<b>Avg or Tot</b>	19.27	(10.73)	7,847	6.84

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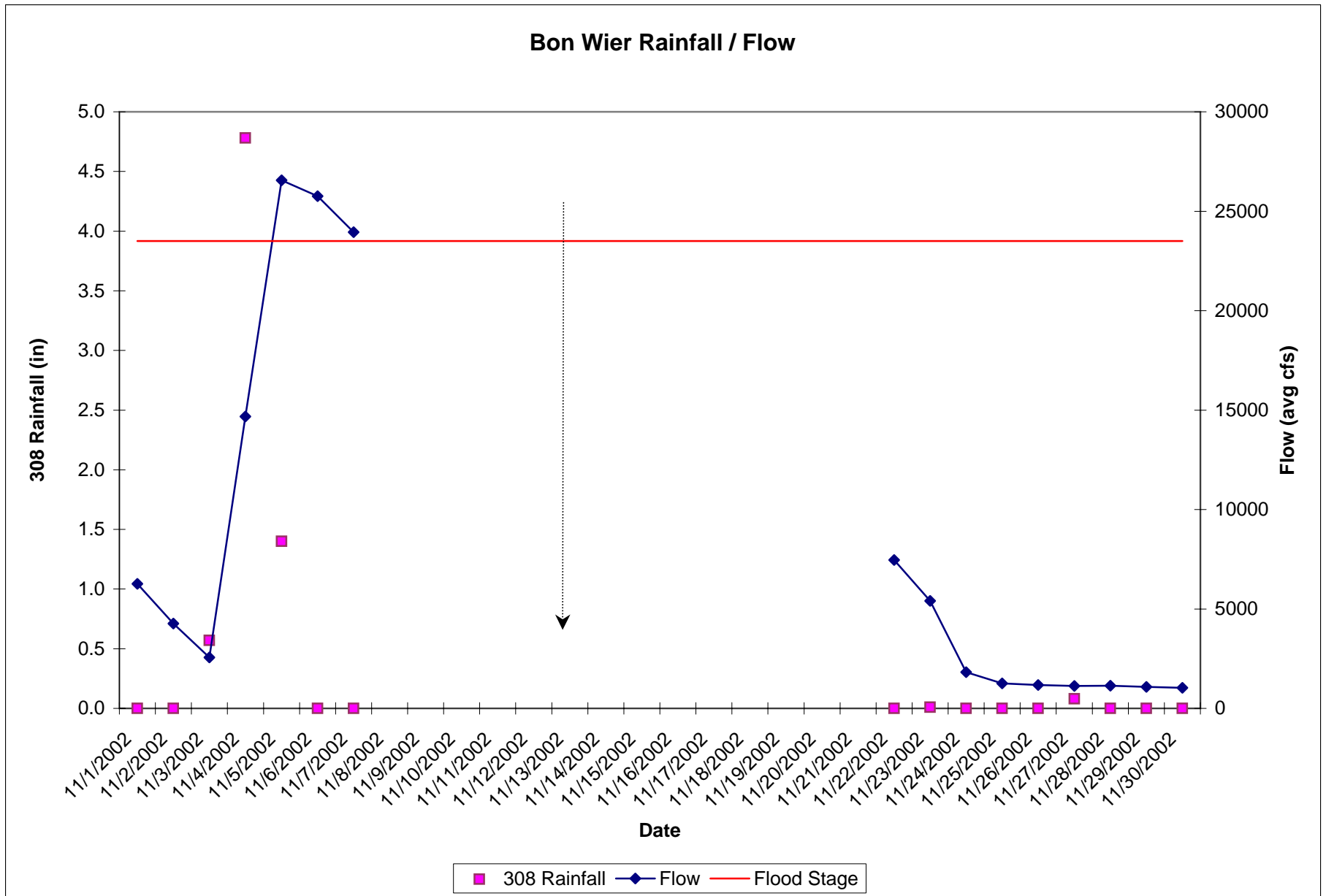
FS: Flood Stage = 30 feet

OUT: Gage Out

Lower Sabine Basin Sampled on 11/13/2002

# SABINE RIVER AUTHORITY OF TEXAS

November 2002



Lower Sabine Basin sampled on 11/13/2002

Flood stage flow of 23,500 cfs calculated from flood stage gage height, 30 ft msl.

# SABINE RIVER AUTHORITY OF TEXAS

## Ruliff Weather and River Data

November 2002

<b>Date</b>	<i>Gauge Height</i>	<i>GH - FS</i>	<i>Flow cfs</i>	<i>Flow acft</i>	<i>Flow avg</i>	<i>309 Rainfall</i>
11/1/2002	24.47	0.47	23,965	47,534	23,965	0.00
11/2/2002	24.18	0.18	19,998	39,665	21,982	0.00
11/3/2002	23.97	(0.03)	17,506	34,723	20,490	0.28
11/4/2002	24.15	0.15	19,620	38,916	20,272	3.80
11/5/2002	24.28	0.28	21,298	42,244	20,477	1.59
11/6/2002	24.72	0.72	27,418	54,383	21,634	0.00
11/7/2002	26.08	2.08	52,296	103,728	26,014	0.00
11/8/2002	26.06	2.06	51,972	103,085	29,259	0.01
11/9/2002	25.63	1.63	43,029	85,347	30,789	0.00
11/10/2002	25.06	1.06	32,618	64,697	30,972	0.00
11/11/2002	24.80	0.80	28,570	56,668	30,754	0.00
11/12/2002	24.34	0.34	22,116	43,866	30,034	0.00
11/13/2002	24.04	0.04	18,276	36,250	29,129	0.00
11/14/2002	23.77	(0.23)	15,610	30,962	28,164	0.00
11/15/2002	23.33	(0.67)	12,321	24,438	27,108	0.14
11/16/2002	22.90	(1.10)	10,190	20,212	26,050	0.00
11/17/2002	22.74	(1.26)	9,638	19,117	25,085	0.00
11/18/2002	22.62	(1.38)	9,238	18,323	24,204	0.00
11/19/2002	22.52	(1.48)	8,914	17,681	23,400	0.00
11/20/2002	22.43	(1.57)	8,667	17,191	22,663	0.01
11/21/2002	22.43	(1.57)	8,667	17,191	21,997	0.00
11/22/2002	22.48	(1.52)	8,798	17,451	21,397	0.00
11/23/2002	22.56	(1.44)	9,043	17,937	20,859	0.00
11/24/2002	22.56	(1.44)	9,043	17,937	20,367	0.00
11/25/2002	21.97	(2.03)	7,544	14,963	19,854	0.00
11/26/2002	20.20	(3.80)	4,872	9,663	19,278	0.01
11/27/2002	18.34	(5.66)	3,144	6,236	18,680	0.10
11/28/2002	17.47	(6.53)	2,595	5,147	18,106	0.02
11/29/2002	17.16	(6.84)	2,411	4,782	17,565	0.00
11/30/2002	17.02	(6.98)	2,331	4,623	17,057	0.00
<b>Avg or Tot</b>	22.81	(1.19)	17,057	1,014,960		5.96

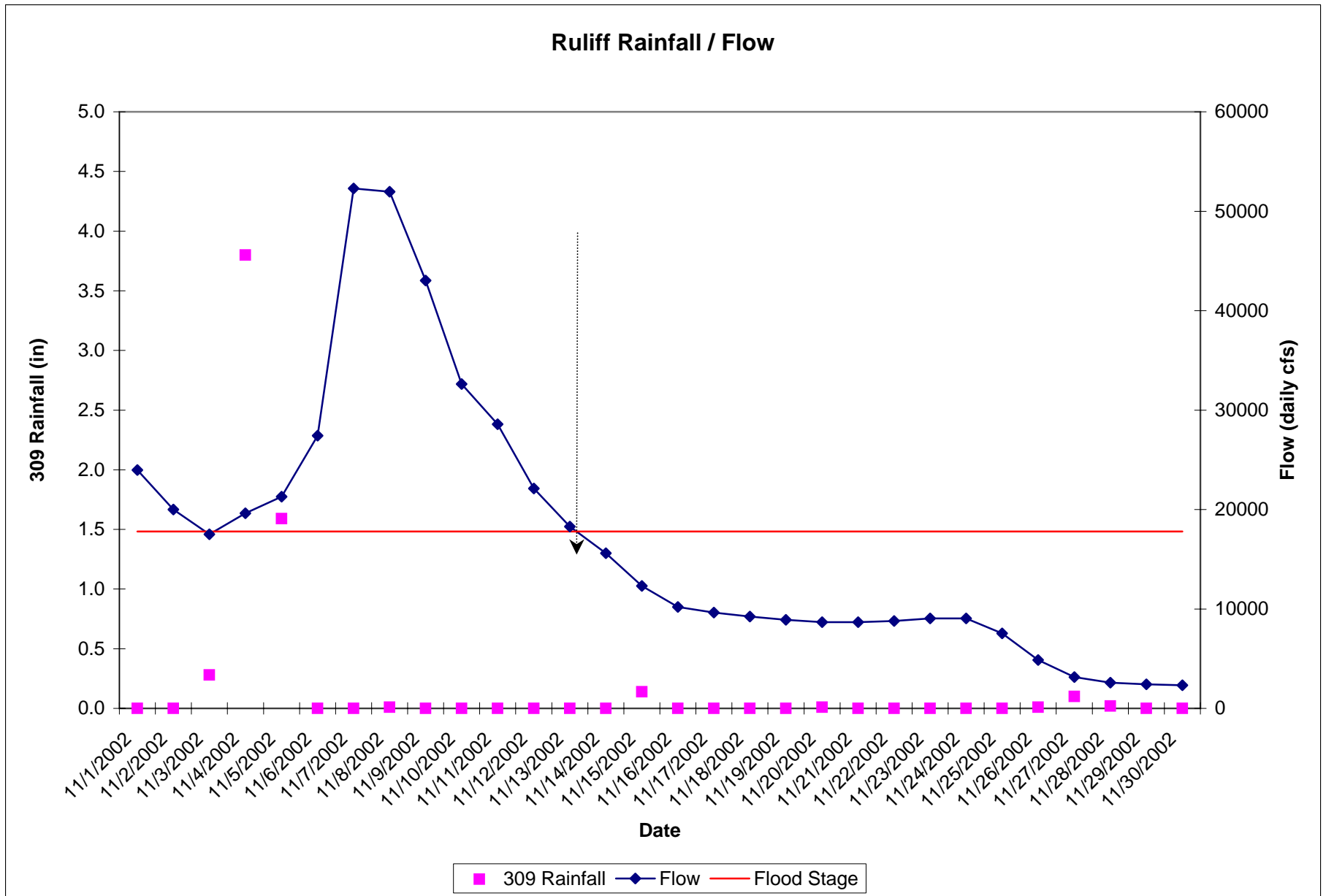
Units	Avg Feet	Avg Feet	Avg cfs	Tot ac ft	Tot Inches
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FS: Flood Stage 24 feet with 10 foot datum

Lower Sabine Basin Sampled on 11/13/2002

# SABINE RIVER AUTHORITY OF TEXAS

November 2002



Lower Sabine Basin sampled on 11/13/2002

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

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# ***FY2003 Fixed Monitoring Stations***

## ***Tidal Sabine Basin***

<i><b>SW</b></i>	<i><b>Segment Station</b></i>	<i><b>Location</b></i>
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 10391 (SRT1)	SABINE RIVER AT CHANNEL CAN 3

# SABINE RIVER AUTHORITY OF TEXAS

Tidal Report  
November 2002

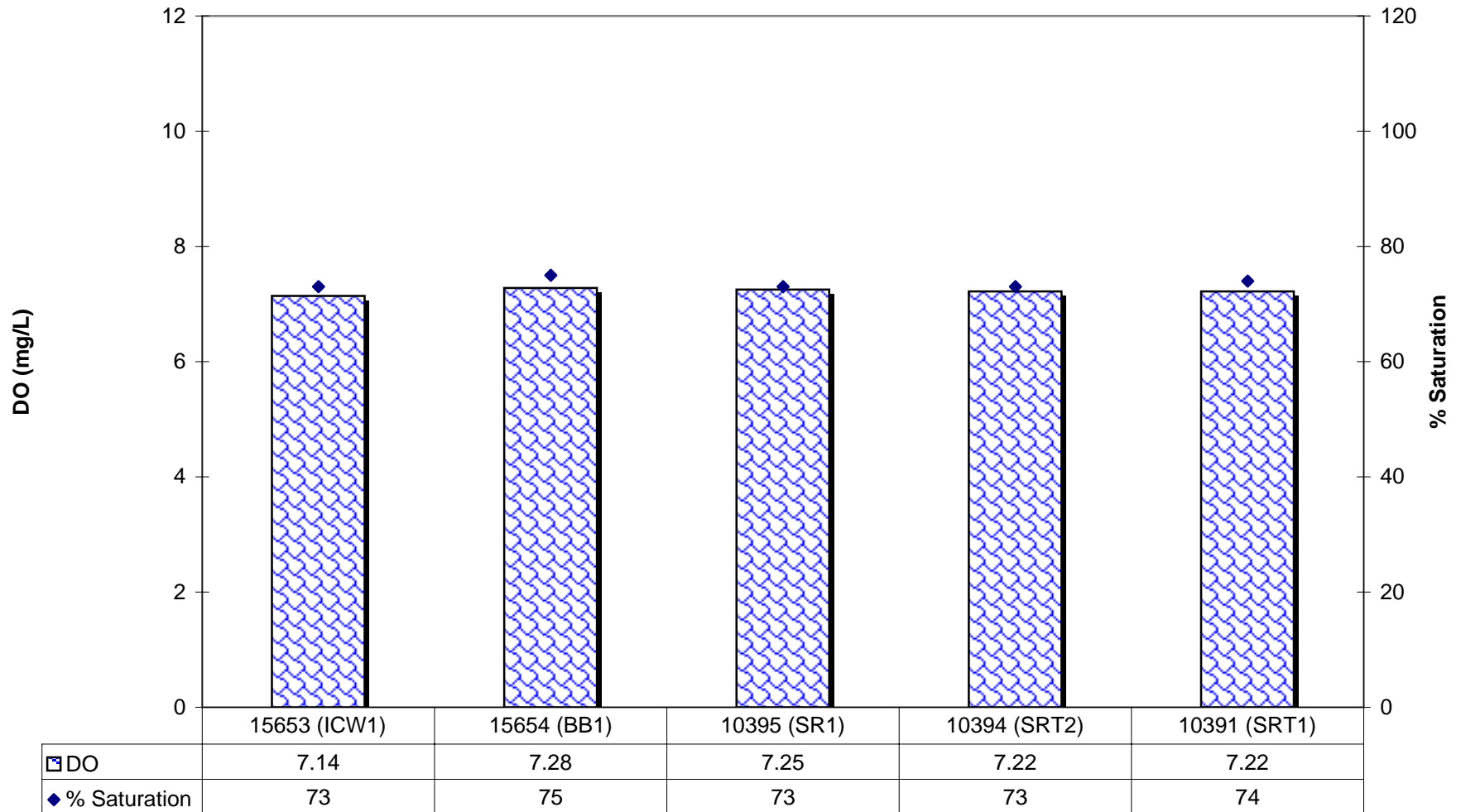
Date	SW ID	Station	Temperature °C 00010	pH Units 00400	DO mg/L 00300	% Saturation 00301	Conductivity µS/cm 00094	Salinity ppt 00480	Secchi Meters 00078	Turbidity NTU 82079	<i>E. coli</i> mpn/100ml 31699	<i>Enterococcus</i> mpn/100ml 31701	Chlorophyll a µg/L 32211	Nitrate & Nitrite 00630	Ortho-Phosphate 00671	TOC mg/L 00680	Total Alkalinity 00410	Total Hardness 00900
11/14/02 10:15 AM	1.05	15653 (ICW1)	16.6	7.26	7.14	73	119	< 1	0.47	24.7	*	35	*	< 0.04	< 0.04	10	11	20
11/14/02 10:40 AM	1.01	15654 (BB1)	17.3	7.52	7.28	75	1016	< 1	0.51	10.5	*	12	*	< 0.04	< 0.04	9	27	84
11/14/02 9:20 AM	1.00	10395 (SR1)	16.1	7.17	7.25	73	94	*	0.35	24.7	45	*	< 0.04	< 0.04	10	13	24	
11/14/02 9:45 AM	1.00	10394 (SRT2)	15.8	7.14	7.22	73	83	< 1	0.55	24.6	*	114	*	< 0.04	< 0.04	10	12	24
11/14/02 10:50 AM	1.00	10391 (SRT1)	16.6	7.5	7.22	74	104	< 1	0.51	24.6	*	46	*	0.05	< 0.04	10	11	20

\*: Not sampled on this run

# SABINE RIVER AUTHORITY OF TEXAS

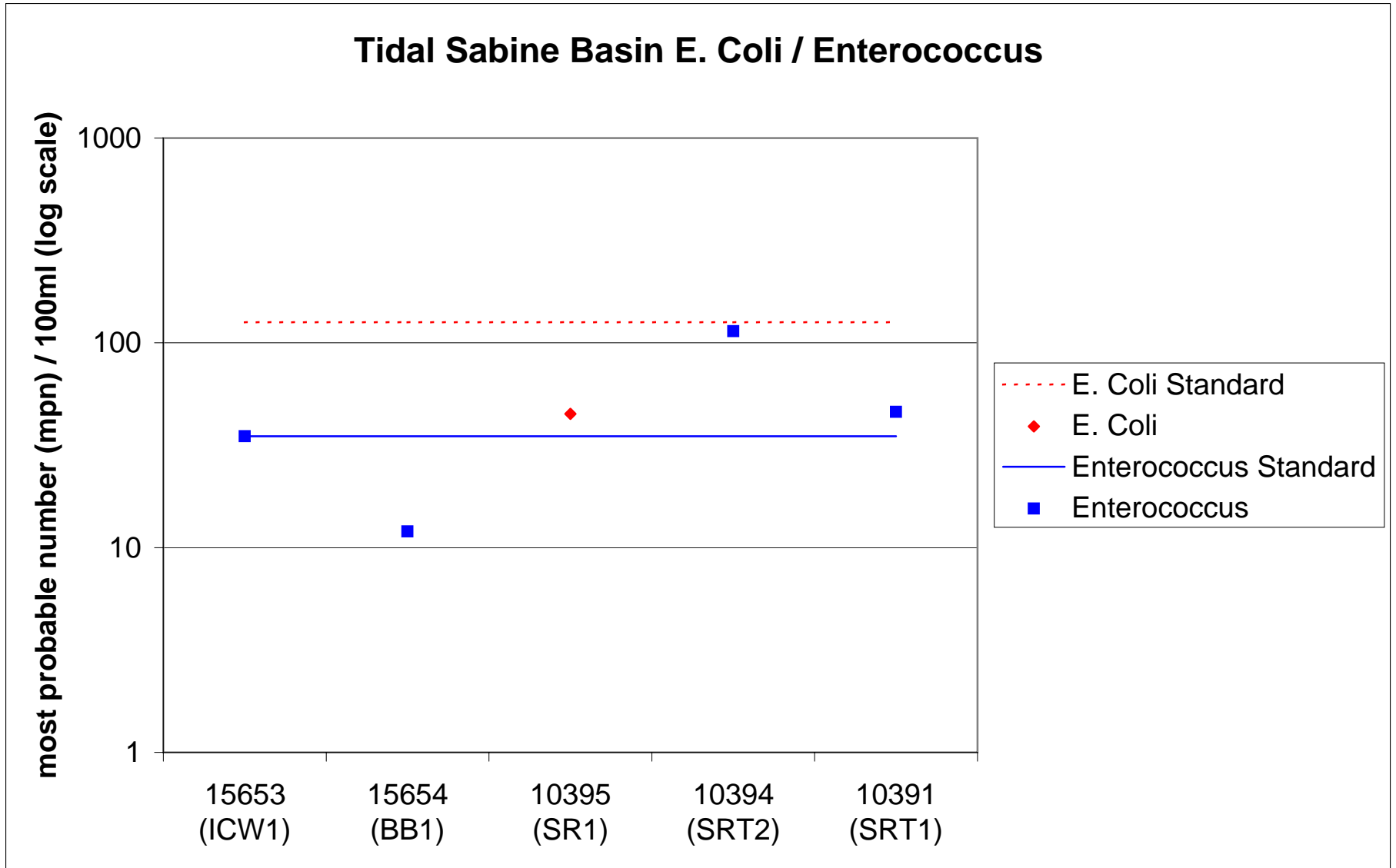
November 2002

## Tidal Sabine Basin DO / % Saturation



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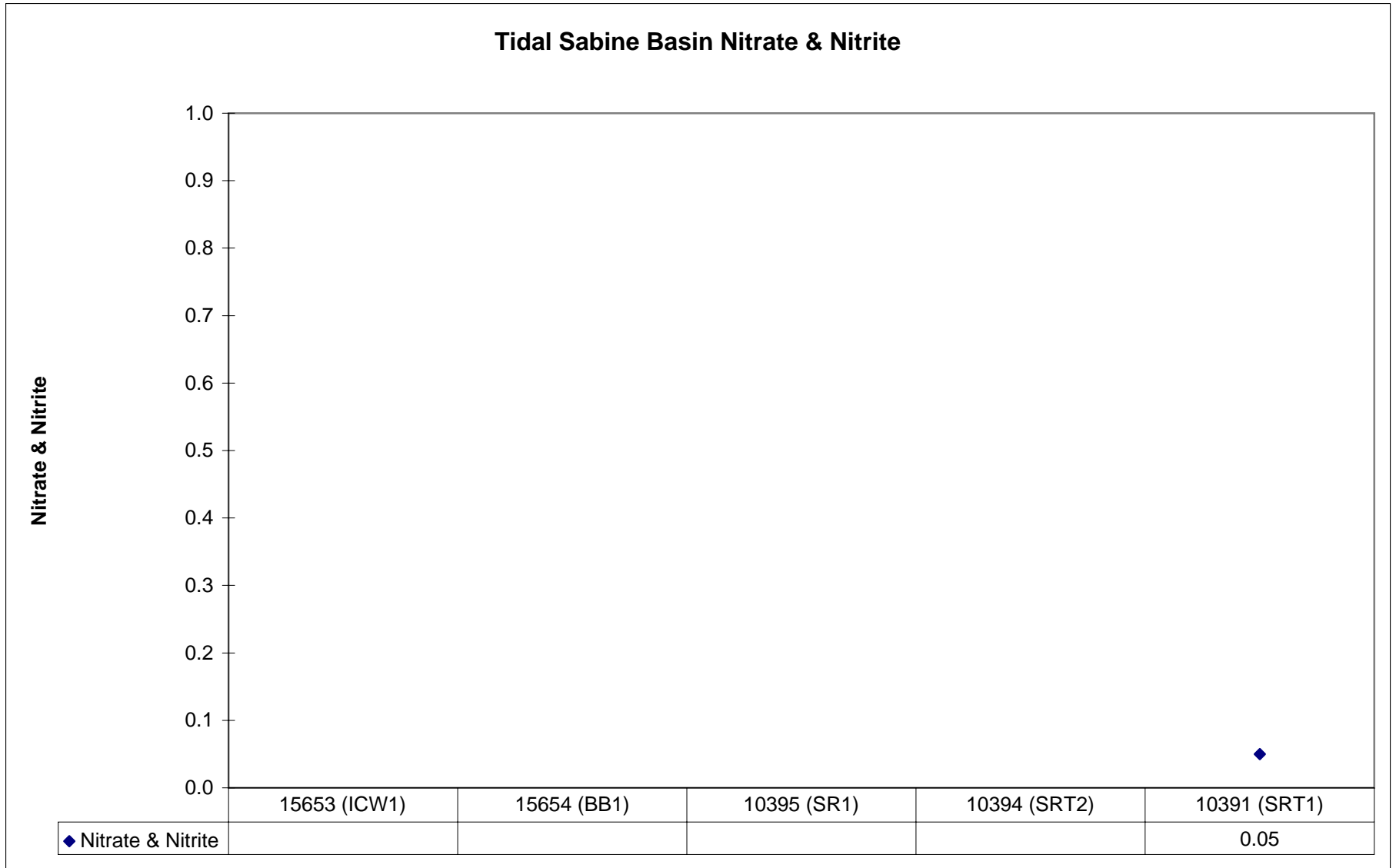
November 2002



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

# SABINE RIVER AUTHORITY OF TEXAS

November 2002



Stations without values were below detection limit on this run (see page 38)

# SABINE RIVER AUTHORITY OF TEXAS

## Tidal Profiles

November 2002

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
11/14/02 10:15 AM	1.05	15653 (ICW1)	0.3	16.6	7.26	7.14	73	119	< 1
			6	16.5	7.08	7.14	73	120	< 1
11/14/02 10:40 AM	1.01	15654 (BB1)	0.3	17.3	7.52	7.28	75	1016	< 1
			5.6	17.2	7.42	7.03	73	1021	< 1
11/14/02 9:45 AM	1.00	10394 (SRT2)	0.3	15.8	7.14	7.22	73	83	< 1
			8.8	15.8	6.96	7.15	72	82	< 1
11/14/02 10:50 AM	1.00	10391 (SRT1)	0.3	16.6	7.5	7.22	74	104	< 1
			5	16.5	7.08	6.93	71	99	< 1
			10.6	16.5	7.2	7.08	72	99	< 1

# SABINE RIVER AUTHORITY OF TEXAS

## Orange Weather and River Data

November 2002

Date	310 (Orange) Rainfall	Gauge Height	GH - FS	Max Temp	Min Temp	Cur Temp	293 (GCD) Rainfall
11/1/2002	0.00	2.98	(1.02)	70	53	53	0.00
11/2/2002	0.00	2.81	(1.19)	66	49	50	0.00
11/3/2002	0.19	3.42	(0.58)	61	50	59	0.55
11/4/2002	0.74	3.06	(0.94)	67	54	54	3.70
11/5/2002	1.88	3.53	(0.47)	59	54	56	1.75
11/6/2002	0.00	2.93	(1.07)	65	47	47	0.01
11/7/2002	0.00	2.65	(1.35)	66	42	42	0.00
11/8/2002	0.00	3.18	(0.82)	68	41	51	0.00
11/9/2002	0.00	3.51	(0.49)	76	50	66	0.00
11/10/2002	0.01	3.57	(0.43)	81	66	74	0.02
11/11/2002	0.00	3.22	(0.78)	82	61	61	0.00
11/12/2002	0.00	2.65	(1.35)	78	54	54	0.00
11/13/2002	0.00	2.05	(1.95)	67	44	44	0.00
11/14/2002	0.00	2.47	(1.53)	67	43	48	0.00
11/15/2002	0.43	2.55	(1.45)	74	48	58	1.40
11/16/2002	0.00	1.52	(2.48)	62	48	48	0.00
11/17/2002	0.00	1.18	(2.82)	56	38	38	0.00
11/18/2002	0.00	2.05	(1.95)	66	37	49	0.00
11/19/2002	0.00	1.46	(2.54)	75	49	57	0.00
11/20/2002	0.01	1.30	(2.70)	74	48	49	0.00
11/21/2002	0.00	1.44	(2.56)	71	44	44	0.00
11/22/2002	0.00	1.50	(2.50)	71	49	49	0.00
11/23/2002	0.00	1.58	(2.42)	63	39	39	0.00
11/24/2002	0.00	2.08	(1.92)	64	39	44	0.00
11/25/2002	0.01	1.94	(2.06)	71	44	56	0.00
11/26/2002	0.00	1.78	(2.22)	76	56	56	0.02
11/27/2002	0.03	0.86	(3.14)	57	44	44	0.06
11/28/2002	0.03	1.40	(2.60)	50	38	38	0.00
11/29/2002	0.00	1.49	(2.51)	58	33	33	0.00
11/30/2002	0.01	1.75	(2.25)	65	33	57	0.03
<b>Avg or Tot</b>	3.34	2.26	(1.74)	68	47	51	7.54

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

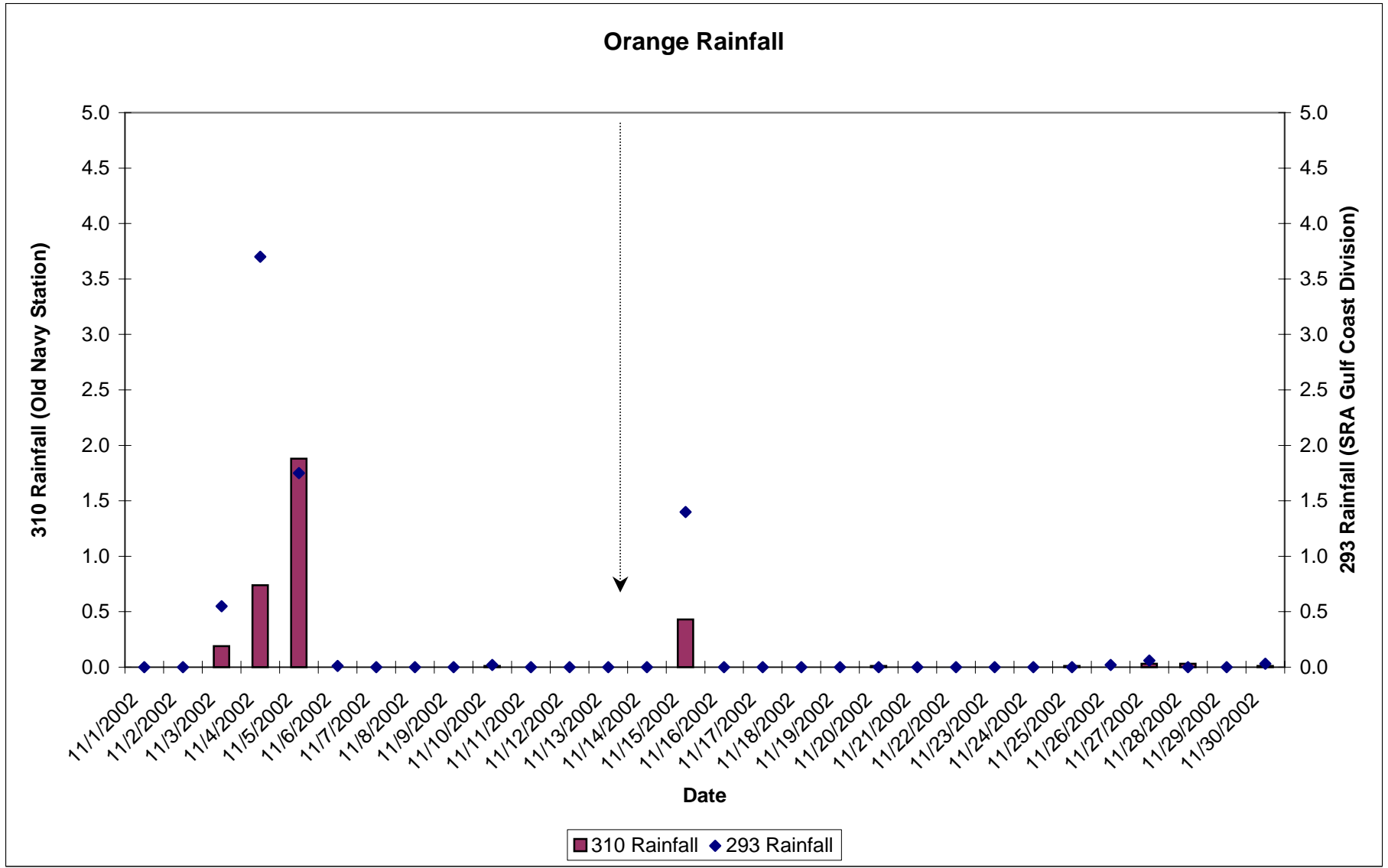
310 Rainfall: Old Navy Base, City of Orange  
 293: SRA Gulf Coast Division Office, Northern Orange County

FS: Flood Stage = 4 Feet

Tidal Sabine Basin Sampled on 11/14/2002

# SABINE RIVER AUTHORITY OF TEXAS

November 2002



Tidal Sabine Basin Sampled on 11/14/2002