phelps dodge Tyrone, Inc. P. O. Drawer 571, Tyrone, New Mexico 88065 • (505) 538-5331

December 6, 2006

Certified Mail #70023150000565802189
Return Receipt Requested

Mr. Clint Marshall
Groundwater Quality Bureau
New Mexico Environment Department
1190 St. Francis Dr. P.O. Box 26110
Santa Fe, New Mexico 87502

Certified Mail #70023150000565802196
Return Receipt Requested

Mr. David Ohori
Mining and Minerals Division
Mining Act Reclamation Program
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Dear Messrs Marshall and Ohori,

Re: Submittal of Response to Comments and Addendum to Tyrone Stage 1 Abatement Plan Proposal, DP-1341 Condition 34

Phelps Dodge Tyrone Inc. (PDTI) is pleased to submit the enclosed Addendum to the Tyrone Mine Facility Stage 1 Abatement Plan Proposal. The addendum includes a response to New Mexico Environment Department comments on the Tyrone Mine Facility Stage 1 Abatement Plan Proposal provided in a letter dated June 14, 2006.

The addendum also includes the work plan entitled Tyrone Mine Facility Stage 1 Abatement Plan Proposal Work Plan for Additional Site Characterization. Three copies of each document are provided. The enclosed materials were prepared by Daniel B. Stephens & Associates, Inc. on behalf of PDTI. Also included is the electronic version of the documents.

Should you have any questions or comments regarding this submittal, please contact Mr. Lee Nix at (505) 538-7177.

Very truly yours,

Lee A. Nix for

Thomas L. Shelley, Manager
Environment, Land and Water

TLS:ln
Attachments
20061205-100

Addendum to the
Tyrone Mine Facility Stage 1
Abatement Plan Proposal

Prepared for **Phelps Dodge Tyrone, Inc.**
Tyrone, New Mexico

December 6, 2006

Daniel B. Stephens & Associates, Inc.

6020 Academy NE, Suite 100 • Albuquerque, New Mexico 87109

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1. Introduction

The Stage 1 abatement plan proposal (Stage 1 APP) for the Phelps Dodge Tyrone, Inc. (PDTI) mine site in Tyrone, New Mexico was prepared by Daniel B. Stephens & Associates, Inc. (DBS&A) in accordance with Condition 34 of discharge permit (DP) 1341 and submitted to the New Mexico Environment Department (NMED) on October 15, 2004. Comments on the Stage 1 APP were received from the NMED in a letter dated June 14, 2006 (NMED, 2006). PDTI and DBS&A staff met with NMED representatives in August, 2006 at Tyrone to discuss the comments and visit some areas of the mine that NMED has particular concerns about relative to the Stage 1 APP.

PDTI's responses to the NMED comments are provided in three parts. First, NMED's comments and PDTI's responses are provided in Appendix A of this addendum. Second, this addendum provides additional discussion and updated figures requested in the NMED comments, and includes monitoring data collected since the 2004 Stage 1 APP was submitted. Specifically, this addendum addresses all or part of NMED's general comments and specific comment numbers 7, 8, 9, 10, 14, 17, 18, 19, 21 and 25 (Appendix A). Finally, additional characterization of groundwater quality in the Mangas Valley and Deadman Canyon are proposed in the *Tyrone Mine Facility Stage 1 Abatement Plan Proposal Work Plan for Additional Site Characterization*, submitted as a companion document to this addendum. The work plan consists primarily of groundwater sampling using the cone penetrometer testing (CPT) method, and is referred to herein as the APP CPT work plan.

2. Additional Site Discussion

This section provides additional discussion of certain portions of the Tyrone mine site requested by NMED; it is organized by geographical area. The East Side area is discussed in Section 2.1, the Deadman Canyon area is discussed in Section 2.2, the Mangas Valley area is discussed in Section 2.3, and the No. 3A stockpile area is discussed in Section 2.4. In response to several NMED comments, Table 1 contains the available analytical data for groundwater wells that have been installed since the Stage 1 APP was submitted in 2004, and Appendix B contains updated

Table 1. Water Quality in Newly Installed Wells

Sample Location	Sample Date	Concentrations in mg/L unless otherwise noted																								
		Aluminum	Arsenic	Bicarbonate	Boron	Cadmium	Calcium	Chloride	Chromium	Cobalt	Copper	Fluoride	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Nitrate	pH [a]	Potassium	Selenium	Sodium	Sulfate	TDS	Zinc
27-2005-01	12/16/2005	0.043	---	152	<0.04	<0.002	57.2	10.5	---	---	0.019	0.2	<0.06	<0.0075	2.59	0.0471	0.015	---	---	7.6	1.5	---	9.48	10.3	235	0.047
27-2005-01	1/19/2006	0.08	---	150	<0.04	<0.002	58.7	10.7	---	---	0.02	0.34	<0.06	<0.008	2.63	0.0252	0.012	---	---	7.69	1.39	---	9.26	12.4	235	0.03
27-2005-02	1/21/2005	**30.7**	---	117	<0.04	**0.0449**	94.7	18.3	---	---	**16.7**	0.464	**6.42**	<0.005	24.1	**9.15**	0.0209	---	---	6.62	1.67	---	18	190	474	8.89
27-2005-02	2/10/2005	0.033	---	120	<0.04	<0.002	97	20.7	---	---	0.048	0.446	<0.06	<0.005	11.1	0.0277	0.0297	---	---	7.42	1.84	---	18.4	189	470	0.031
27-2005-02	3/9/2005	<0.03	---	121	<0.04	<0.002	96.9	21.3	---	---	<0.01	0.461	<0.06	<0.005	10.3	<0.004	0.0188	---	---	7.35	2.03	---	18.9	196	465	1.44
27-2005-02	4/18/2005	<0.03	---	127	<0.04	<0.002	92.8	20.7	---	---	<0.01	0.493	<0.06	<0.005	10	0.0056	0.0214	---	---	7.25	1.84	---	19.6	183	444	<0.01
27-2005-02	7/18/2005	<0.03	---	119	<0.04	<0.002	116	21.3	---	---	<0.01	0.463	<0.06	<0.0075	12.7	<0.004	0.0229	---	---	7.48	1.75	---	19.1	190	464	<0.01
27-2005-02	1/6/2006	**54**	---	146	0.04	**0.159**	88	8.35	---	---	**4.17**	0.34	**24.9**	<0.0075	30.1	**14.7**	0.0167	---	---	7.05	1.3	---	14.9	127	382	**18.5**
27-2005-02	2/2/2006	<0.03	---	139	<0.04	<0.002	86.6	8.5	---	---	<0.01	0.28	<0.06	<0.008	5.94	0.0046	0.017	---	---	7.28	1.46	---	17.4	117	359	0.011
27-2005-03	11/19/2005	<0.03	<0.025	70.7	---	<0.002	17.1	6.47	<0.006	<0.006	<0.01	**1.88**	0.089	<0.0075	7.3	**0.213**	---	<0.01	---	6.37	2.12	---	9.92	11.3	152	0.146
27-2005-04	11/18/2005	<0.03	<0.025	210	---	<0.002	26.3	13.4	<0.006	<0.006	<0.01	0.91	<0.06	<0.0075	1.2	0.0136	---	<0.01	---	7.19	1.57	---	73.3	6.27	301	0.013
27-2005-06	12/16/2005	<0.03	---	105	<0.04	<0.002	251	55.2	---	---	<0.01	0.22	<0.06	<0.0075	33.2	0.021	0.0137	---	---	7.36	3.27	---	28.2	**699**	**1,200**	0.019
27-2005-06	1/18/2006	0.07	---	103	<0.04	<0.002	243	54.1	---	---	0.014	0.26	<0.06	<0.008	31.8	0.0248	0.011	---	---	7.36	2.94	---	25.6	**657**	**1,180**	0.025
286-2005-01	12/17/2005	<0.03	<0.025	189	---	<0.002	66.9	11.4	<0.006	<0.006	<0.01	0.63	<0.06	<0.0075	5.66	0.0225	---	<0.01	---	7.09	2.52	---	13.1	20.6	290	0.017
286-2005-01	2/13/2006	<0.03	<0.025	187	---	<0.002	68.2	11.6	<0.006	<0.006	<0.01	0.69	<0.06	<0.008	5.55	0.013	0.039	<0.01	1.92	7.49	2.77	<0.04	14	20.7	268	<0.01
286-2005-01	6/13/2006	<0.03	<0.025	205	---	0.0031	76	11.3	<0.006	<0.006	<0.01	0.66	<0.06	<0.0075	6.32	0.01	0.035	<0.01	2.1	7.16	3.08	<0.04	15.3	22	293	<0.01
286-2005-02	12/17/2005	<0.03	<0.025	518	---	<0.002	509	7.08	<0.006	<0.006	<0.01	<0.1	<0.06	<0.0075	27.5	0.0142	---	<0.01	---	6.63	5.2	---	37.4	**963**	**2,020**	<0.01
286-2005-02	2/13/2006	<0.03	**0.029**	525	---	<0.002	595	6.73	<0.006	0.0063	<0.01	<0.1	<0.06	<0.008	31.4	0.0133	0.013	<0.01	3.24	6.74	6.04	<0.04	45.3	**980**	**2,010**	<0.01
286-2005-02	6/13/2006	<0.03	<0.025	531	---	0.0085	542	6.72	0.0096	0.011	<0.01	<0.1	<0.06	<0.0075	29.2	0.007	<0.008	<0.01	3.4	6.64	6.56	<0.04	40.8	**948**	**1,960**	<0.01
286-2005-03	10/27/2005	<0.03	<0.025	151	---	<0.002	74	18.6	<0.006	<0.006	<0.01	0.24	<0.06	<0.0075	6.39	0.0072	---	<0.01	---	6.96	2.17	---	10.7	48.3	311	0.027
286-2005-03	6/13/2006	<0.03	<0.025	153	---	<0.002	70.8	17.6	<0.006	<0.006	<0.01	0.26	<0.06	<0.0075	6.04	<0.004	0.008	<0.01	3.4	7.48	2.05	<0.04	10.3	37.2	272	<0.01
363-2005-01	11/17/2005	<0.03	<0.025	109	---	<0.002	29.3	7.14	<0.006	<0.006	<0.01	0.64	0.119	<0.0075	6.22	0.0564	---	<0.01	---	6.59	1.55	---	16.3	14	204	0.032
363-2005-01	4/10/2006	0.046	<0.025	101	---	<0.002	23.5	6.03	<0.006	<0.006	<0.01	0.4	<0.06	<0.0075	4.95	0.022	0.018	<0.01	0.58	6.39	1.15	<0.04	13.3	7.27	151	0.0236
363-2005-01	7/5/2006	<0.03	<0.025	109	---	<0.002	26.3	6.39	<0.006	<0.006	<0.01	0.43	<0.06	<0.0075	5.86	0.006	0.017	<0.01	0.43	7.25	1.39	<0.04	15	8.25	172	<0.01
363-2005-01	10/4/2006	<0.03	<0.025	105	---	<0.002	24.1	6.27	<0.006	<0.006	<0.01	0.47	<0.06	<0.0075	5.07	<0.004	0.021	<0.01	0.48	6.33	1.32	<0.04	14	9.05	169	0.025
363-2005-02	10/28/2005	<0.03	<0.025	110	---	<0.002	123	7.4	<0.006	<0.006	<0.01	1.01	<0.06	<0.0075	13.8	0.0342	---	<0.01	---	6.46	2.39	---	26.8	287	582	0.034
363-2005-02	10/28/2005	<0.03	<0.025	107	---	<0.002	126	7.56	<0.006	<0.006	<0.01	1.07	<0.06	<0.0075	14.2	0.0215	---	<0.01	---	6.46	2.49	---	27.8	297	607	0.025
363-2005-02	4/4/2006	<0.03	<0.025	101	---	<0.002	111	6.83	<0.006	<0.006	<0.01	0.56	0.48	0.0081	12	**0.577**	0.029	<0.01	0.12	7.04	2.7	<0.04	23.6	268	529	<0.01
363-2005-02	7/6/2006	<0.03	<0.025	95.2	---	<0.002	114	6.79	<0.006	<0.006	<0.01	0.47	0.16	<0.0075	13	**0.221**	0.017	<0.01	0.21	6.93	2.66	<0.04	23.2	274	538	<0.01
363-2005-02	10/3/2006	<0.03	<0.025	100	---	<0.002	108	6.85	<0.006	<0.006	<0.01	0.79	<0.06	<0.0075	11.7	0.07	0.014	<0.01	0.94	6.92	2.31	<0.04	23.4	282	566	<0.01
363-2005-03	11/8/2005	<0.03	<0.025	115	---	<0.002	115	8.05	<0.006	<0.006	<0.01	1.24	0.497	<0.0075	12.9	0.0101	---	<0.01	---	6.78	2.21	---	27.7	283	580	0.059
363-2005-03	11/10/2005	<0.03	<0.025	117	---	<0.002	114	7.98	<0.006	<0.006	<0.01	1.22	0.331	<0.0075	12.6	0.0125	---	<0.01	---	6.83	2.19	---	26.9	284	571	0.045
363-2005-03	4/4/2006	<0.03	<0.025	119	---	<0.002	108	8.02	<0.006	<0.006	<0.01	1.25	<0.06	<0.0075	12.2	<0.004	---	<0.01	---	6.91	2	---	25.8	272	582	<0.01
363-2005-03	7/3/2006	<0.03	<0.025	128	---	<0.002	116	8.12	<0.006	<0.006	<0.01	1.23	<0.06	<0.0075	13.2	0.008	---	<0.01	---	7.41	2.16	---	28.5	269	561	<0.01
363-2005-03	9/29/2006	<0.03	<0.025	117	---	<0.002	121	7.95	<0.006	0.008	<0.01	1.16	0.26	<0.0075	14	0.095	---	<0.01	---	7.01	2.62	---	31.7	262	572	<0.01

mg/L = Milligrams per liter
--- = Not measured
TDS = Total dissolved solids

[a] pH given in standard units

Bold values equal or exceed Section 20.6.2.3/03 NMAC List A, B, and C standards (NMWQCC, 2002).

Table 1. Water Quality in Newly Installed Wells

Sample Location	Sample Date	Concentrations in mg/L unless otherwise noted																								
		Aluminum	Arsenic	Bicarbonate	Boron	Cadmium	Calcium	Chloride	Chromium	Cobalt	Copper	Fluoride	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Nitrate	pH [a]	Potassium	Selenium	Sodium	Sulfate	TDS	Zinc
363-2005-04	11/11/2005	<0.03	<0.025	78.1	---	<0.002	266	13.4	<0.006	<0.006	<0.01	0.48	0.927	<0.0075	42.6	0.0097	---	<0.01	---	6.45	3.65	---	45.7	**795**	**1,340**	0.025
363-2005-04	11/14/2005	<0.03	<0.025	77.8	---	<0.002	267	13.3	<0.006	<0.006	<0.01	0.48	0.611	<0.0075	41.8	<0.004	---	<0.01	---	6.48	3.57	---	45	**794**	**1,320**	0.016
363-2005-04	4/5/2006	<0.03	<0.025	79	---	<0.002	274	13	<0.006	<0.006	<0.01	0.5	<0.06	<0.0075	45.3	<0.004	---	<0.01	---	6.81	3.61	---	44.3	**806**	**1,330**	<0.01
363-2005-04	7/13/2006	<0.03	<0.025	80.6	---	<0.002	269	12.8	<0.006	<0.006	<0.01	0.38	<0.06	<0.0075	45	0.013	---	<0.01	---	6.75	3.47	---	42.5	**830**	**1,370**	<0.01
363-2005-04	10/3/2006	<0.03	<0.025	78.8	---	<0.002	240	12.9	<0.006	<0.006	<0.01	0.25	<0.06	<0.0075	40.3	0.054	---	<0.01	---	6.64	3.49	---	40.8	**828**	**1,390**	<0.01
383-2005-01	10/4/2005	<0.03	<0.025	117	---	<0.002	75.3	16.3	<0.006	<0.006	0.019	0.27	<0.06	<0.0075	14.4	0.102	---	<0.01	---	6.78	3.28	---	25.3	155	435	0.012
383-2005-01	1/13/2006	<0.03	<0.025	124	---	<0.002	87.7	15.4	<0.006	<0.006	<0.01	0.24	<0.06	<0.008	16.4	0.007	---	<0.01	---	6.15	2.97	---	25.2	184	457	<0.01
383-2005-01	4/6/2006	<0.03	<0.025	131	---	<0.002	87.8	14.5	<0.006	<0.006	<0.01	0.23	<0.06	<0.0075	16.5	<0.004	---	<0.01	---	6.44	3.03	---	25	181	453	<0.01
383-2005-01	7/3/2006	<0.03	<0.025	127	---	<0.002	106	14.9	<0.006	<0.006	<0.01	0.22	<0.06	<0.0075	19.3	<0.004	---	<0.01	---	7.01	3.01	---	25.9	251	568	<0.01
383-2005-02	11/7/2005	<0.03	<0.025	125	---	<0.002	37.4	16.3	<0.006	<0.006	<0.01	0.24	0.135	<0.0075	5.74	0.0394	---	<0.01	---	6.73	2.91	---	14.7	9.47	212	0.037
383-2005-02	4/11/2006	<0.03	<0.025	126	---	<0.002	34.9	9.65	<0.006	<0.006	<0.01	0.32	<0.06	<0.0075	5.34	<0.004	0.014	<0.01	0.84	6.5	2.73	<0.04	14	11.5	179	<0.01
383-2005-02	7/10/2006	<0.03	<0.025	127	---	<0.002	37.5	9.77	<0.006	<0.006	<0.01	0.22	<0.06	<0.0075	5.75	<0.004	0.011	<0.01	0.85	6.71	2.93	<0.04	14.8	11.7	195	<0.01
383-2005-02	10/17/2006	<0.03	<0.025	120	---	<0.002	37.6	9.63	<0.006	<0.006	<0.01	0.3	<0.06	<0.0075	6.06	0.006	0.009	<0.01	0.82	6.1	2.94	<0.04	15.6	12.6	190	<0.01
435-2005-01	4/24/2006	<0.03	<0.025	191	---	<0.002	56.7	9.98	<0.006	<0.006	<0.01	**2.33**	0.39	<0.0075	8.32	**0.384**	---	<0.01	---	7.19	2.39	---	26.4	31.7	282	<0.01
435-2005-01	7/26/2006	<0.03	<0.025	201	---	<0.002	53.3	10.3	<0.006	<0.006	<0.01	**2.24**	0.25	<0.0075	7.93	**0.267**	---	<0.01	---	7.25	2.53	---	25.8	31.9	272	<0.01
435-2005-01	10/4/2006	<0.03	<0.025	187	---	<0.002	54	9.7	<0.006	<0.006	<0.01	**2.08**	0.25	<0.0075	7.95	**0.218**	---	<0.01	---	7.11	2.26	---	27.6	30.7	290	<0.01
435-2005-02	4/24/2006	<0.03	<0.025	142	---	<0.002	109	10.3	<0.006	<0.006	<0.01	1.29	0.07	<0.0075	17.5	0.081	---	<0.01	---	6.99	1.74	---	36.3	261	553	<0.01
435-2005-02	10/4/2006	<0.03	<0.025	141	---	<0.002	105	9.89	<0.006	<0.006	<0.01	1.13	<0.06	<0.0075	17.1	**0.243**	---	<0.01	---	6.92	1.86	---	36	252	546	<0.01
435-2005-03	4/10/2006	<0.03	<0.025	183	---	<0.002	58.3	8.75	<0.006	<0.006	<0.01	**1.81**	<0.06	<0.0075	7.74	0.02	---	<0.01	---	7.18	2.24	---	26.4	40.7	290	<0.01
435-2005-03	7/3/2006	<0.03	<0.025	186	---	<0.002	58.2	8.7	<0.006	<0.006	<0.01	**1.76**	<0.06	<0.0075	7.62	0.005	---	<0.01	---	7.27	2.06	---	25.2	40.5	286	<0.01
435-2005-03	10/3/2006	<0.03	<0.025	179	---	<0.002	57.2	8.51	<0.006	<0.006	<0.01	1.56	<0.06	<0.0075	7.37	0.006	---	<0.01	---	7.22	2.13	---	24.7	38.9	283	<0.01
455-2005-01	9/21/2005	3.93	<0.025	85.2	---	0.0058	46.1	6.35	<0.006	0.0378	**11.4**	**3.86**	<0.06	<0.0075	12.9	**4.7**	---	0.016	---	6.62	6.64	---	27.9	106	291	1.01
455-2005-01	11/16/2005	<0.03	<0.025	91.4	---	<0.002	42.6	5.7	<0.006	<0.006	<0.01	**3.57**	**14.3**	<0.0075	9.01	**3.6**	---	<0.01	---	6.29	6.52	---	25.6	57.5	278	0.593
455-2005-01	11/16/2005	<0.03	<0.025	95.3	---	<0.002	44.2	5.3	<0.006	0.008	<0.01	**3.45**	**15.1**	<0.0075	9.35	**4.45**	---	0.012	---	6.26	6.75	---	26.5	114	333	0.782
455-2005-01	5/16/2006	<0.03	<0.025	80.6	---	<0.002	42.1	5.97	<0.006	0.009	<0.01	**3.42**	**1.26**	<0.0075	8.49	**3.89**	---	<0.01	---	6.13	6.87	---	23.7	106	260	0.669
455-2005-01	8/8/2006	<0.03	<0.025	89.7	---	<0.002	36	5.67	<0.006	<0.006	<0.01	**3.69**	**2.8**	<0.0075	8.06	**4.05**	---	<0.01	---	6.45	6.38	---	23.9	93.4	269	<0.01
670-2005-01	2/25/2006	<0.03	<0.025	66.2	---	<0.002	120	15.2	<0.006	<0.006	<0.01	0.58	**4.53**	<0.008	31.2	**4.08**	---	<0.01	---	**5.95**	13.2	---	92.7	582	**1,000**	0.053
670-2005-01	5/10/2006	<0.03	<0.025	85.2	---	<0.002	171	16.5	<0.006	0.012	<0.01	0.62	**2.88**	<0.0075	44.3	**5.1**	---	<0.01	---	6.51	9.97	---	71.7	**663**	**1,110**	0.221
670-2005-01	8/15/2006	<0.03	<0.025	62	---	<0.002	180	16.1	<0.006	<0.006	<0.01	0.61	**4.98**	<0.0075	45.1	**4.61**	---	<0.01	---	6.17	6.23	---	52.2	**644**	**1,110**	<0.01
670-2005-02	5/16/2006	<0.03	<0.025	85.4	---	<0.002	448	14.5	<0.006	<0.006	<0.01	<0.2	<0.06	<0.0075	75.2	0.103	---	<0.01	---	6.54	4.17	---	46.5	**1,330**	**1,990**	0.0811
670-2005-02	8/15/2006	<0.03	<0.025	89.5	---	<0.002	393	13.9	<0.006	<0.006	<0.01	0.21	<0.06	<0.0075	69	0.095	---	<0.01	---	6.31	3.27	---	42.4	**1,280**	**2,050**	0.0855
896-2005-01	6/27/2006	<0.03	<0.025	171	---	<0.002	128	5.44	<0.006	<0.006	<0.01	**2.96**	**4.83**	<0.0075	19.4	**1.1**	0.034	<0.01	<0.02	6.83	5.71	<0.04	53.1	347	696	0.0173
896-2005-01	7/15/2006	0.103	<0.025	170	---	<0.002	133	5.26	<0.006	<0.006	<0.01	**2.74**	**5.2**	<0.0075	19.9	**0.918**	---	<0.01	---	6.7	5.96	---	53.7	327	668	0.0409
896-2005-01	9/29/2006	<0.03	<0.025	167	---	<0.002	128	4.92	<0.006	<0.006	<0.01	**2.62**	**3.04**	<0.0075	19	**0.707**	0.029	<0.01	<0.02	6.43	5.58	<0.04	51.1	330	689	<0.01

mg/L = Milligrams per liter
--- = Not measured
TDS = Total dissolved solids

[a] pH given in standard units

Bold values equal or exceed Section 20.6.2.3/03 NMAC List A, B, and C standards (NMWQCC, 2002).

total dissolved solids (TDS) and sulfate concentration versus time plots for existing regional and perched wells, including the recently installed wells included in Table 1.

2.1 East Side Area

The Tyrone Mine East Side area is located primarily within the Oak Grove Wash/Brick Kiln Gulch APP study area, but also includes the southern portion of the Mine/Stockpile APP study area along upper Oak Grove Wash. Figure 1 shows recent regional groundwater quality in the Mine/Stockpile and East Side areas; it is an updated version of Figure 7c presented in the Stage 1 APP (DBS&A, 2004). Note that only wells with water quality analysis within the 2005 to 2006 timeframe are illustrated in Figure 1. In addition, Figure 1 denotes all wells that equal or exceed a groundwater quality standard. In some cases, however, it is possible that groundwater may exceed standards due to natural conditions, rather than due to mining-related activities. Potential examples from Figure 1 include wells 2-11, 2-13 and MB-28. This issue will be investigated further as part of the evaluation of background constituent levels proposed in Section 3.4.5 of the Stage 1 APP.

Individual responses to certain NMED comments regarding the East Side area are provided in the subsections below.

2.1.1 Oak Grove Transects 7 and 9

Figure 2 is a map of Lower Oak Grove Wash from Transects 7 to 9 showing all existing monitoring (perched and regional) and pumping wells, soil borings, and November 2006 perched water elevations. Two regional groundwater wells installed in 2005 near Transect 7 (363-2005-02 and 363-2005-03) are also shown in Figure 2. Figure 3 is a cross section of Transect 7, which crosses the Mangas Fault; this figure shows perched and regional wells along the transect and the vertical extent of perched water in November 2006. Approximately 25 feet of perched water occurs above the alluvium/Gila Conglomerate contact in the area near the southwest end of Transect 7. Perched well OG-51, screened only in Gila Conglomerate, is currently dry. The two regional wells installed in 2005 have pH values near 7, TDS concentrations just below 600 milligrams per liter (mg/L), and no exceedances of water quality

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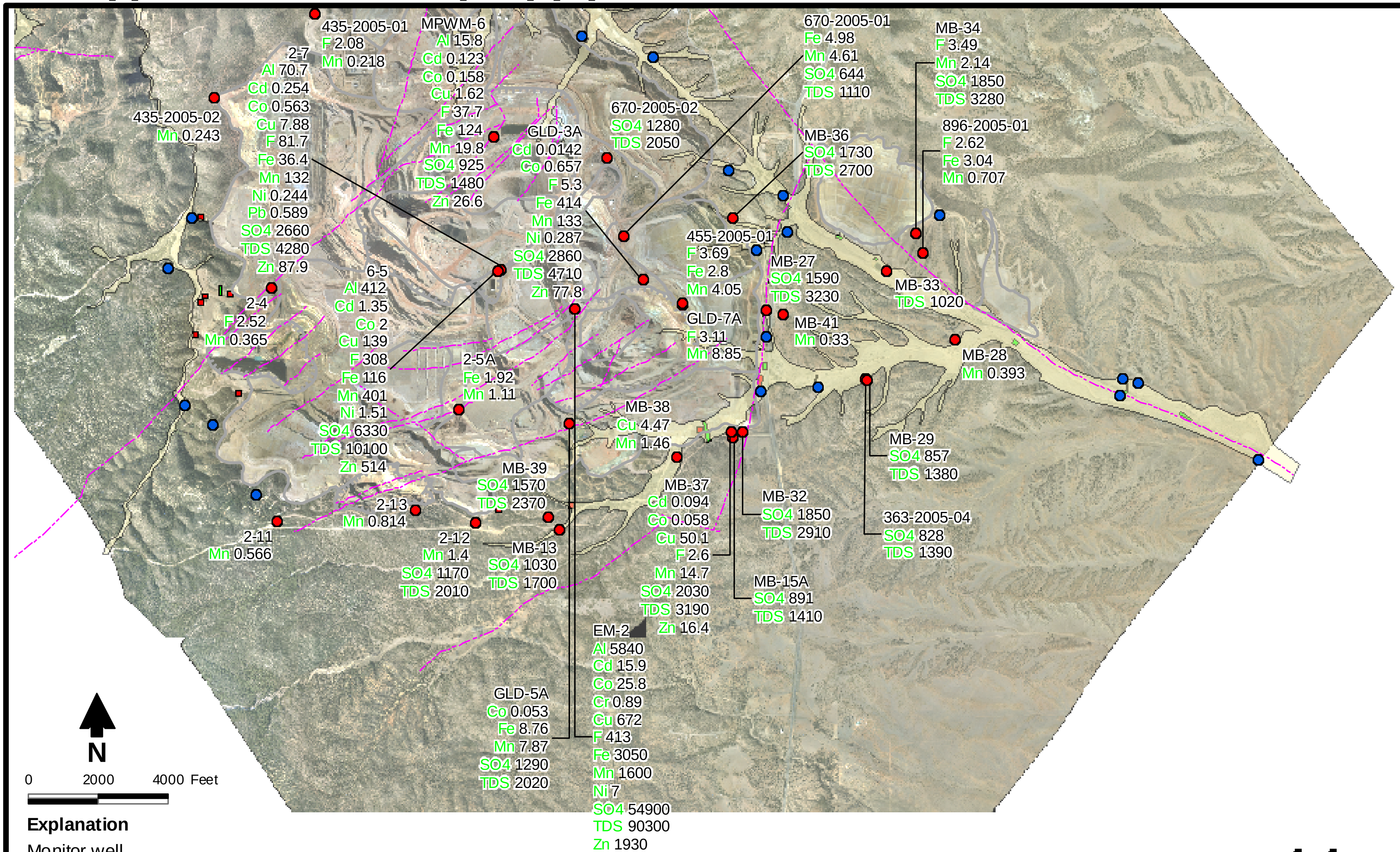

Explanation

Monitor well

- Equals or exceeds one or more standards
- Below all standards
- Fault

Notes:
1. Exceedances based on Section 20.6.2.3103 NMAC List A, B, and C standards for most recent sample taken from 2005 to 2006. (Values in mg/L).
2. MB-13 is not a regional well. It has been left on this figure to assist with explanation in the text.

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STAGE 1 APP ADDENDUM

Regional Groundwater Quality
Mine/Stockpile and East Side Areas

Figure 1

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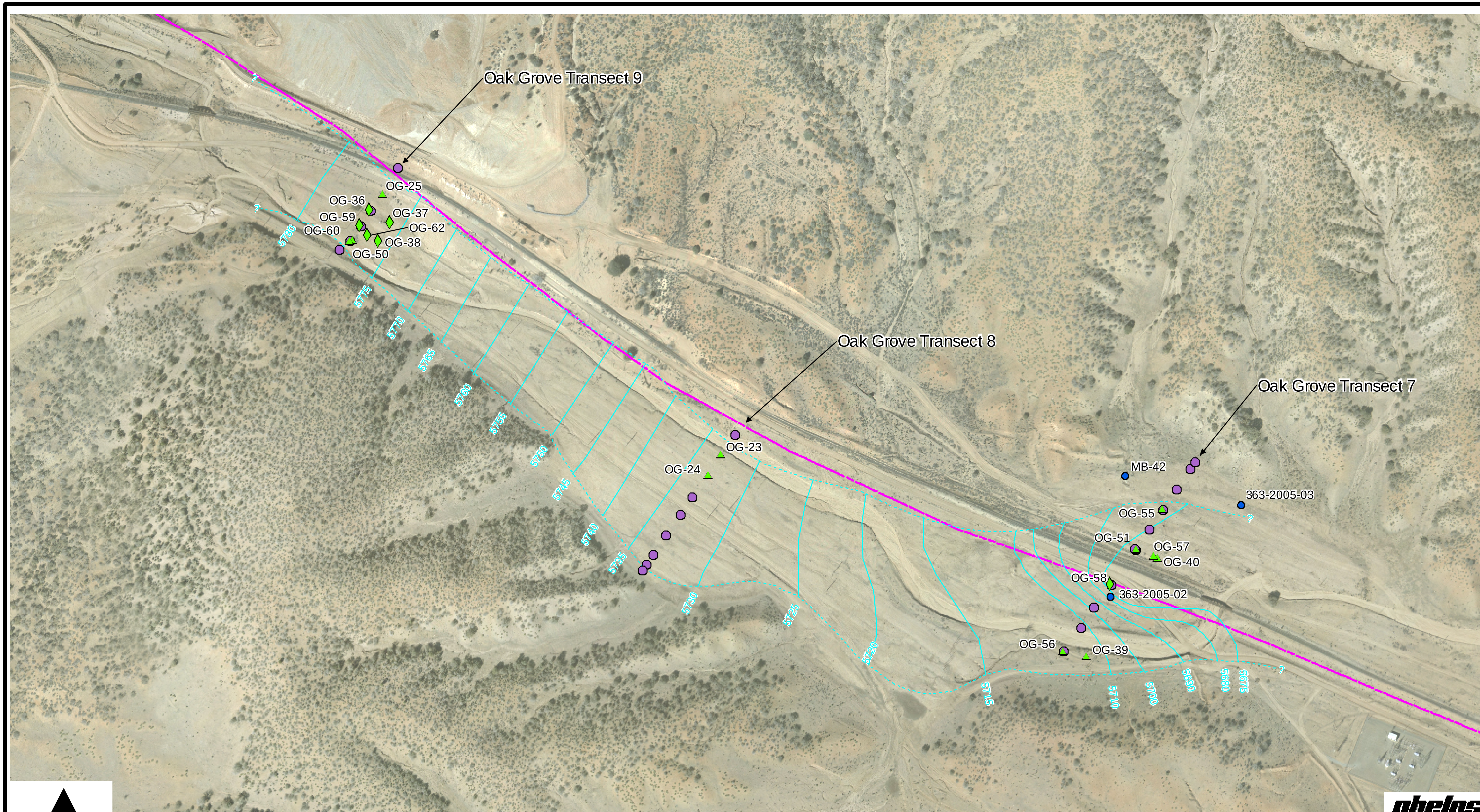

N

0 200 400 Feet

Explanation

- Perched monitor well
- Perched pumping well
- Regional monitor well
- Borehole
- Mangas Fault
- Water level elevation contour (ft msl), dashed where inferred (contour interval 5 ft)
- Estimated lateral extent of perched seepage zone

Notes: Water level elevation data are from November 2006. At the next downstream transect, 4 out of 7 wells contain perched water.

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STAGE 1 APP ADDENDUM

Perched Water Extent for East Side Area Near Transects 7 and 9

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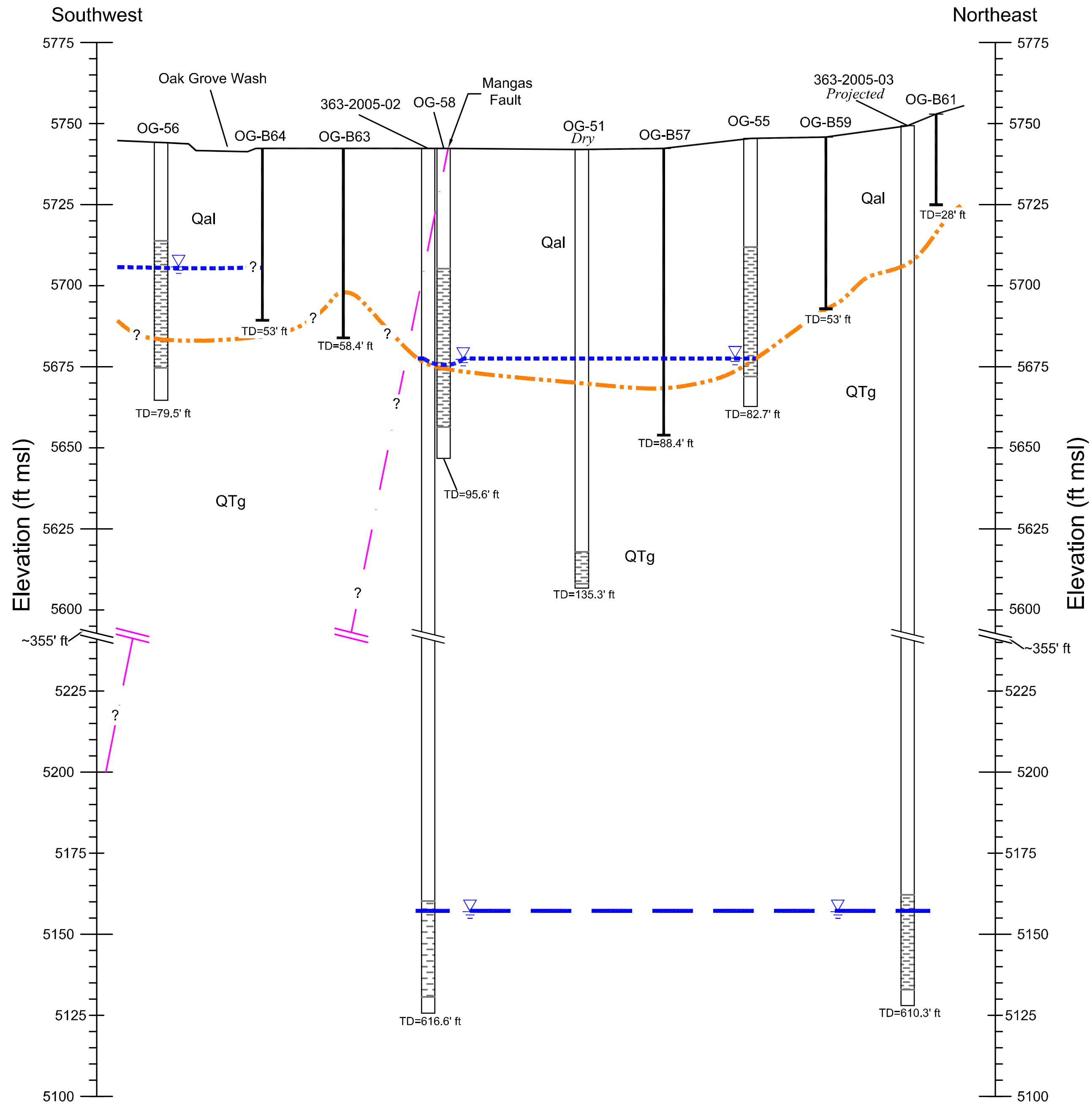
11/27/2006 JN LT05.0045

Figure 2

S:/PROJECTS/PDTI_DB_GIS/GIS/MXDS/LT05.0045/STAGE 1 APP ADDENDUM/FIG02_WL_EASTSIDE.MXD 607211



0 200 ft

Horizontal scale
4x Vertical exaggeration

Explanation

- Monitor well with screened interval
- Approximate vertical trace of Mangas fault
- Alluvium — Gila Conglomerate contact
- Soil boring
- July 2006 regional water level
- November 2006 perched water level

Notes: Qal= Alluvium
QTg= Gila Conglomerate
TD= Total Depth

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STAGE 1 APP ADDENDUM

Hydrogeologic Cross Section of Oak Grove Transect 7

Daniel B. Stephens & Associates, Inc.

12/06/06 JN LT05.0045

Figure 3

S:\Projects\PDTI_DB_GIS\VR\Stage1_app_addendum\LT05_0045_01F.dwg standards (Table 1 and Figure 1). Newly installed regional well 363-2005-02, drilled near the center of Transect 7, confirms the physical conditions observed at OG-51 in that saturated to wet conditions were first encountered in the alluvium above the Gila Conglomerate contact, and then again when the regional water table was reached at about 560 feet below ground surface (Appendix A in DBS&A, 2005).

NMED (2006, Specific Comment No. 7) stated a concern that the lateral extent of groundwater contamination may not be well defined in this area. Although the comment refers to Oak Grove well Transect 9, it is PDTI's understanding from conversations with NMED that the concern is really focused on Transect 7 (Figure 2). Due to unsafe drilling conditions (overhead power lines in the area), an additional boring southwest of perched well OG-56, at the southwest end of Transect 7, was not completed (DBS&A, 1997). The lateral extent of perched water, however, can be inferred from the upstream Transect 8 (along wells OG-23 and OG-24), as shown in Figure 7 of the February 1997 No. 1A stockpile seepage investigation progress report (DBS&A, 1997). The estimated lateral extent of perched water in Figure 2 is consistent with the lateral extent determined at Transect 8 through drilling. PDTI believes that the lateral (cross-gradient) extent of contaminated water in this area is adequately defined based on the available transects of wells and borings, as illustrated in Figures 2 and 3.

Note in Figure 2 that the delineated lateral extent of perched water in the downgradient direction (i.e., along Oak Grove Wash) is not closed, as it has been shown in some previous East Side perched zone maps submitted by PDTI. This is because water levels measured during November 2006 indicate that saturated conditions occur in the alluvium at four of the seven monitor wells in the next downgradient well transect (Transect 6, not shown on Figure 2). PDTI is currently in the process of acquiring and installing continuous water level recorders in two perched zone monitor wells in Oak Grove Wash to better monitor transient changes in perched zone water levels. One recorder will be installed in Oak Grove Transect 3, located about 2,400 feet southeast of Transect 6, and the other in Transect 1, located just upstream of the confluence of Oak Grove Wash and Brick Kiln Gulch. This activity was proposed under Section 3.4.4. of the Stage 1 APP. PDTI is also in the process of considering additional measures that can be implemented to capture and reduce the extent of contaminated alluvial water in Lower Oak Grove Wash.

2.1.2 South Rim Wells 2-12, MB-13, and MB-39

NMED Comment Number 17 (Appendix A) discusses wells 2-12, MB-13 and MB-39 on the south side of the mine. The locations of South Rim wells 2-12, MB-13, and MB-39 are shown in Figure 1 along with any exceedances from the most recent sample taken. Figure 4 shows the groundwater elevations in these wells over time from their installation to present, while Figure 5 shows time series plots of pH, sulfate, copper, and manganese. Water level elevations for wells 2-12 and MB-13 have been fairly stable over the period of record, showing only slight increasing or decreasing trends. Well MB-39, however, about 500 feet northwest of MB-13, experienced a sudden and dramatic water level increase from its initial water level elevation to the water level elevation in nearby well MB-13. MB-13 is listed as a regional well with a total depth of 182.7 feet in the PDTI database, while MB-39 is a regional well with a total depth of 655 feet completed in quartz monzonite with a reported yield of less than 1 gallon per minute (gpm). Screen and completion information is not provided for either well. Given its depth and location in Upper Oak Grove Wash, it is likely that MB-13 is actually a shallow aquifer well completed in alluvium or a perched zone of the igneous bedrock aquifer. In addition, based on the water level history and lack of a detailed well completion record, the probability that there is an insufficient annular seal at MB-39 is high, and the rise in water level through time (Figure 4), as well as groundwater quality degradation, is likely attributable to seepage along the well bore. PDTI proposes to plug and abandon well MB-39, and drill a replacement well at a nearby location to be approved by NMED.

Well 2-12 is classified as a regional well completed in quartz monzonite. There is, however, some question about the depth of this well—it is either 360 feet (the value reported in the PDTI environmental database) or 228 feet (the value reported on the driller's log, which is consistent with the screened interval in the PDTI database). The well depth could not be tagged during a recent field investigation due to the presence of a dedicated sampling pump in the well. Plans have been made to pull the pump and tag the depth of this well. It is possible that this well is screened across a local perched water zone as opposed to the regional aquifer (this situation is particularly likely if the well depth is confirmed to be about 228 feet).

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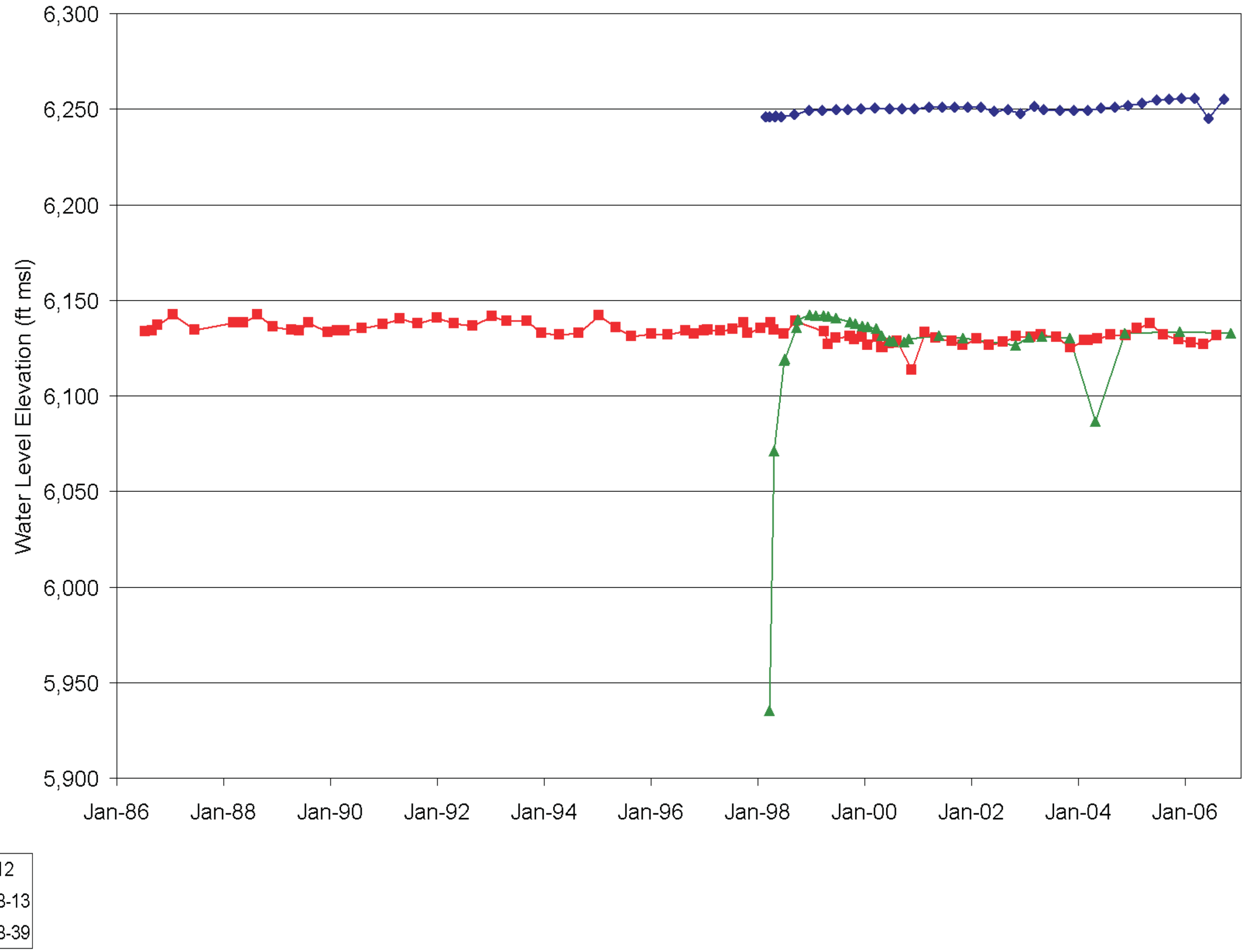

STAGE 1 APP ADDENDUM

Groundwater Elevations through Time in Wells 2-12, MB-13, and MB-39

Figure 4

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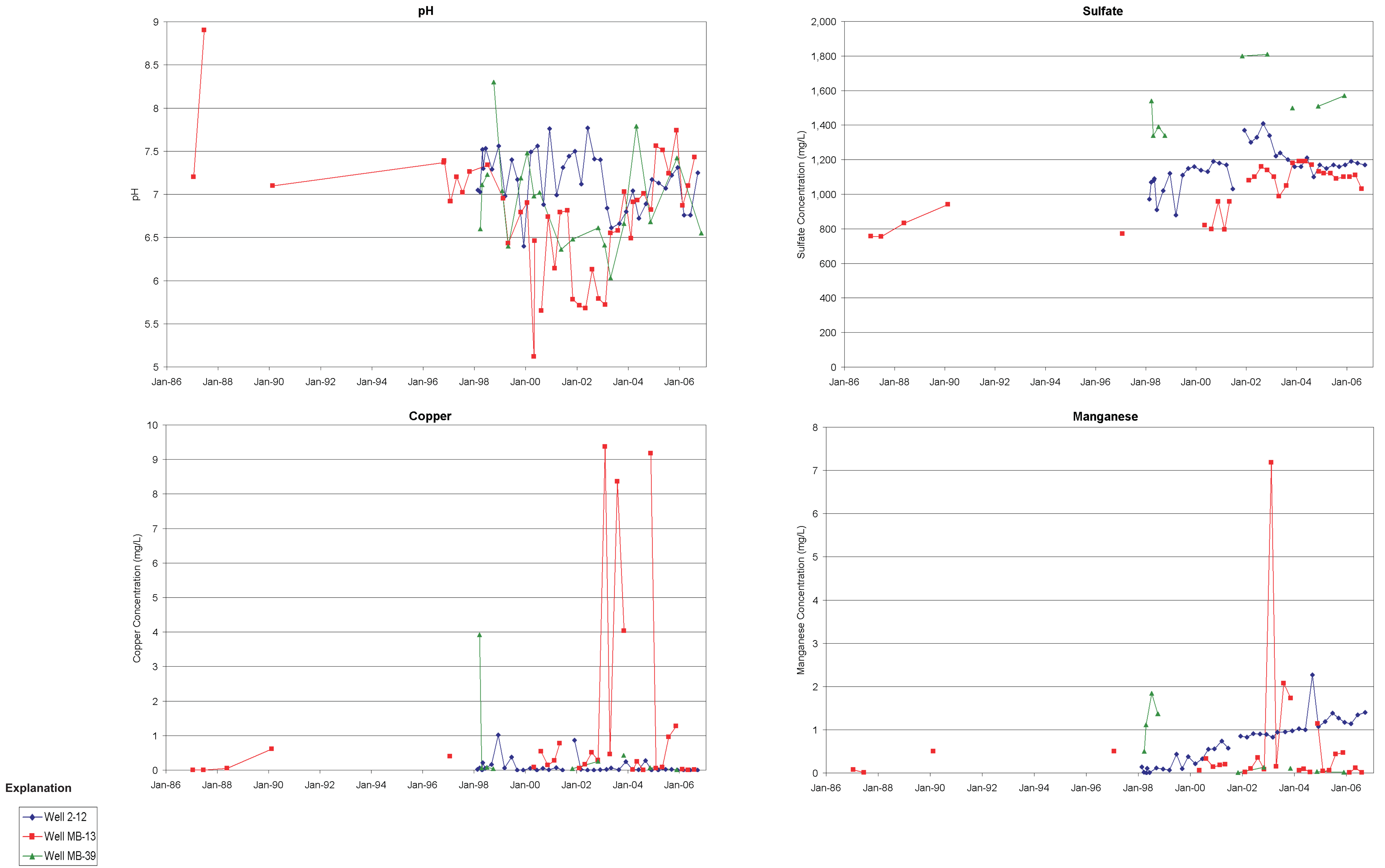

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STAGE 1 APP ADDENDUM

Groundwater Quality through Time in Wells 2-12, MB-13, and MB-39

Figure 5

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12-06-06 JN LT05.0045

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The pH values for all three wells can be highly variable, ranging from 5 to 9, but are generally near neutral. All three wells have exceeded the sulfate standard for the period of record. Wells MB-39 and 2-12 have generally met the copper standard for the period of record (with two exceptions), but MB-13 has exceeded the standard four times over about the past three years. Well 2-12 shows an increase in manganese concentration, and has exceeded standards for this constituent for much of the period of record. Wells MB-13 and MB-39 have also exceeded the manganese standard on a number of occasions (Figure 5).

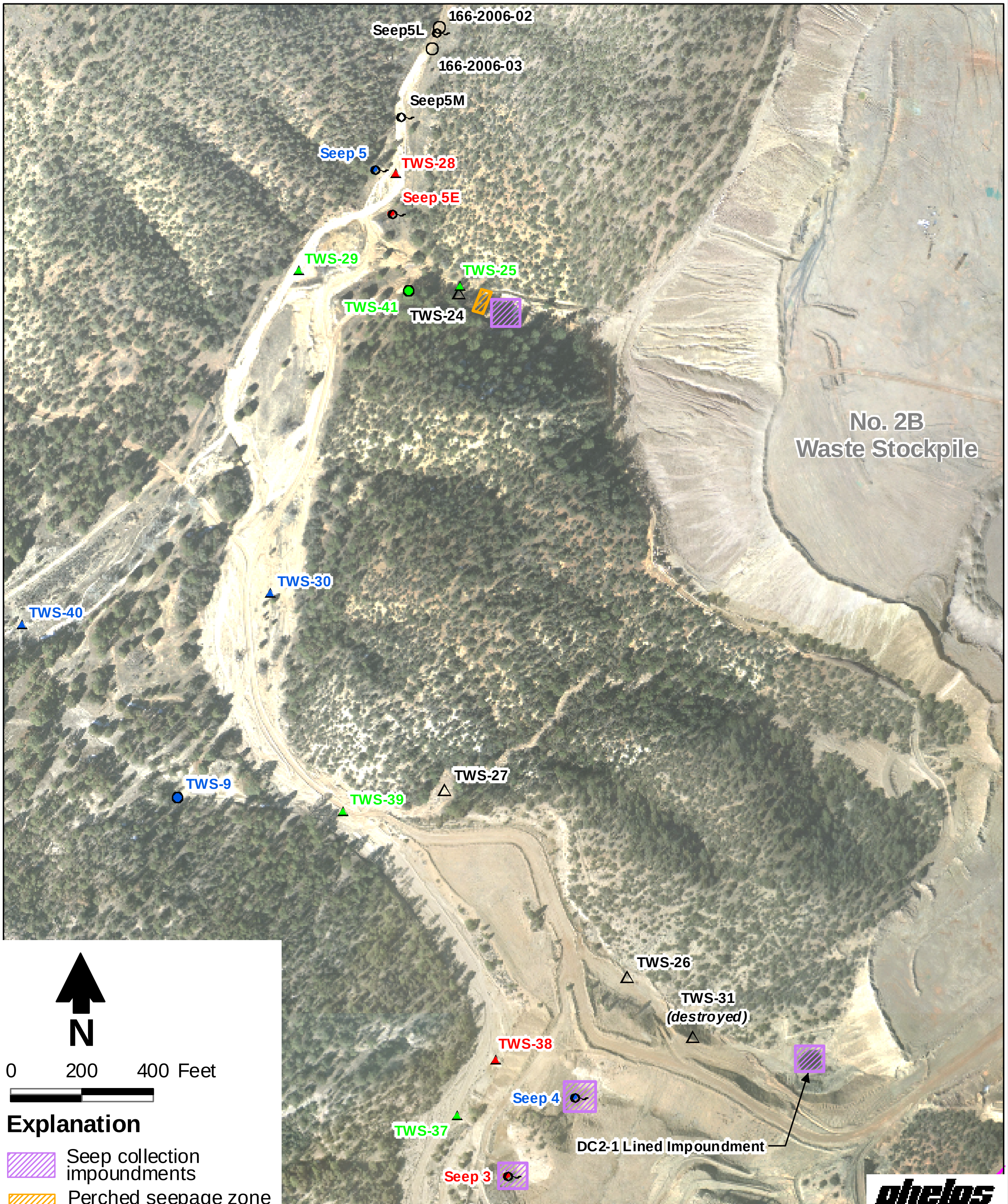
Given the depths of wells 2-12 and MB-13, and the observed water level behavior in well MB-39, it appears that observed groundwater quality impacts in the vicinity of these wells is indicative of impacted shallow or perched water, as opposed to regional water. The most likely sources are mine facilities to the north or northwest of the wells in question.

2.2 Deadman Canyon Area

Deadman Canyon is located along the western side of the Mine/Stockpile APP study area. The recent regional groundwater quality in the Mine/Stockpile and East Side areas, which includes Deadman Canyon, is shown in Figure 1. Figure 6 is a map of the Deadman Canyon area west of the No. 2B Stockpile between Seeps 3 and 5L. The figure illustrates existing perched and regional wells, springs, seep collection impoundments, a perched seepage zone interceptor trench, and recent water quality trends of the past three sampling events for sulfate and TDS in the Seep 5E (northern) and DC2-1 (southern) areas. Two new monitoring wells (regional well 166-2006-02 and perched well 166-2006-03), identified in the Stage 1 APP, were installed at the entrance to the Deadman Canyon narrows (Figure 6). Responses to NMED comments (primarily comment numbers 8 and 25; see Appendix A) regarding various regions of Deadman Canyon are provided in the subsections below.

2.2.1 Seep 5E and Perched Well TWS-25 Area

Figure 7 shows water quality data through time for pH, sulfate, copper, and TDS at the Seep 5E, TWS-28, TWS-29, and TWS-41 sampling locations, while Figure 8 shows the metal concentrations for aluminum, cobalt, iron, and manganese through time at these same



Explanation

- Seep collection impoundments
- Perched seepage zone interceptor trench
- Regional monitor well
- Perched monitor well
- Spring

TDS/sulfate trends over last 3 sampling events

- Increasing
- Steady
- Decreasing
- Not measured

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STAGE 1 APP ADDENDUM

Recent Water Quality Trends for Deadman Canyon Area Near Seep 5E and DC2-1

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12/06/2006

JN LT05.0045

Figure 6

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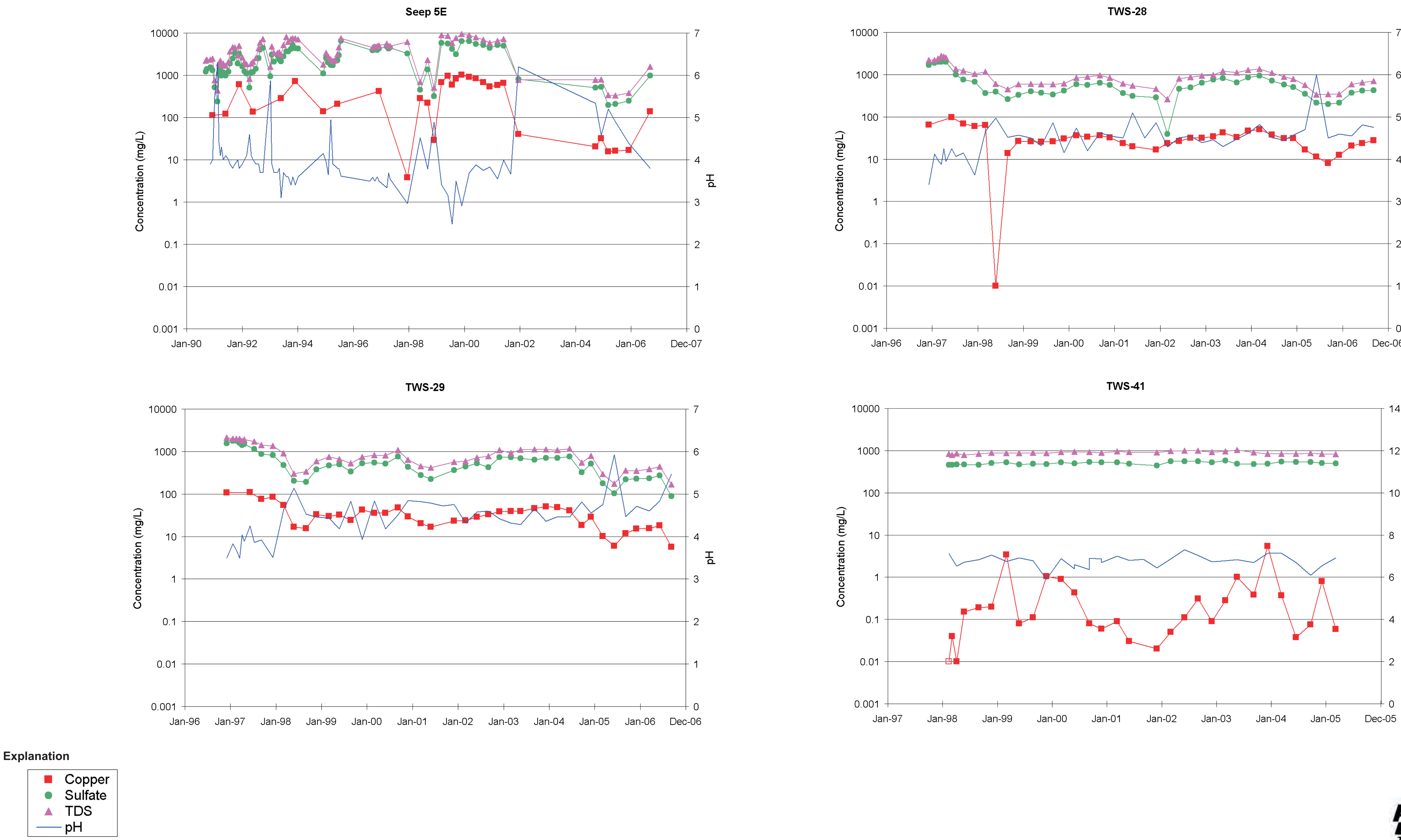

Note:
Open symbols indicate non-detects at posted concentration

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JN LT05.0045

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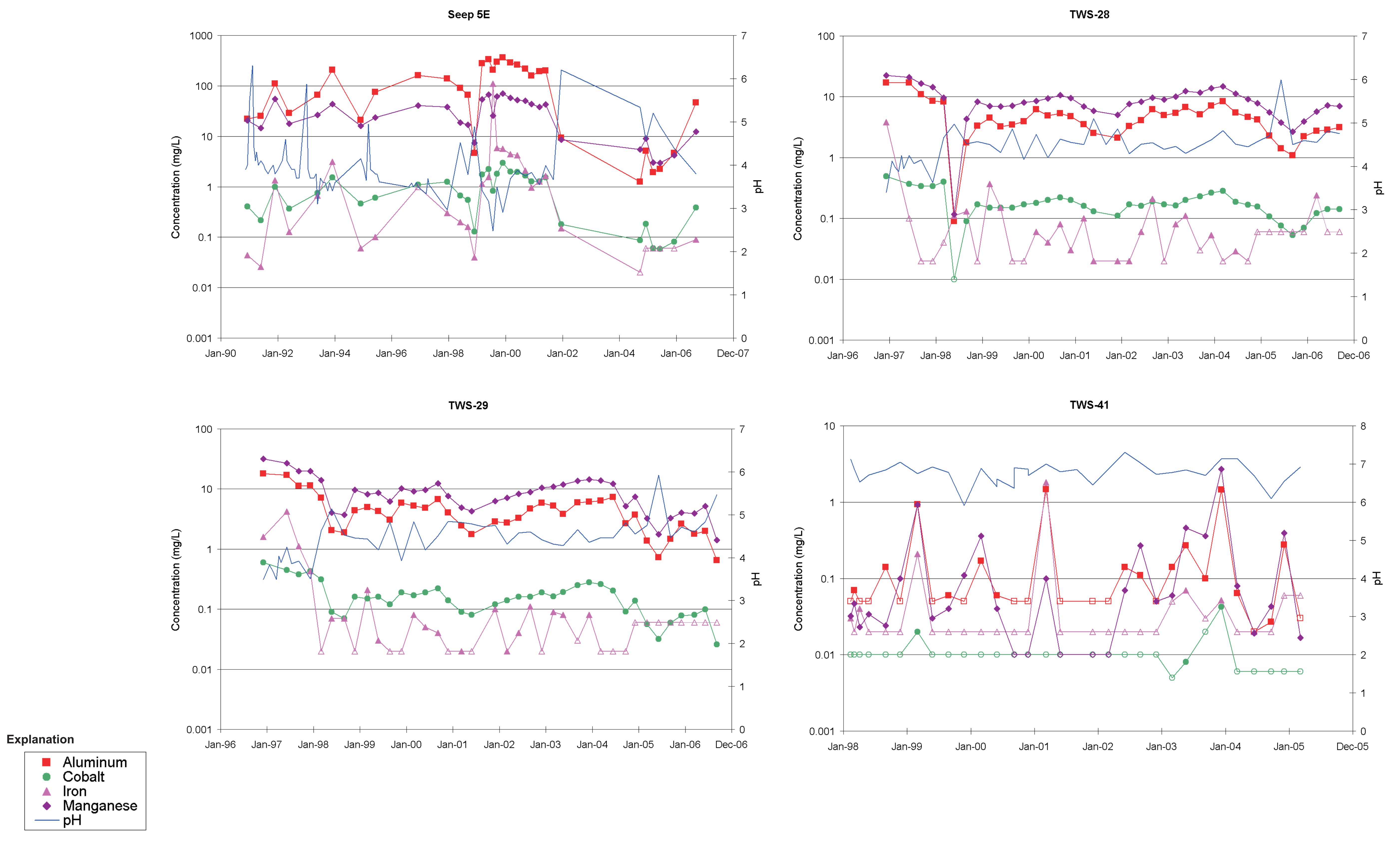
STAGE 1 APP ADDENDUM
Water Quality through Time at Seep 5E, TWS-28, TWS-29, and TWS-41

Figure 7



Note:
Open symbols indicate non-detects at posted concentration

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JN LT05.0045

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STAGE 1 APP ADDENDUM

Metal Concentrations through Time at Seep 5E, TWS-28, TWS-29, and TWS-41

Figure 8

locations. Note that the well and seep locations are provided in Figure 6. Perched zone well TWS-29 is in Deadman Canyon upgradient of Seep 5E, while perched zone well TWS-28 is in Deadman Canyon downgradient of Seep 5E. TWS-41 is a regional aquifer monitoring well adjacent to the Deadman canyon tributary that contains Seep 5E.

As Figure 7 indicates, although the water quality in Seep 5E has improved significantly since 2001, seep water still exceeds groundwater standards. For example, in September 2006 the seep exceeded standards for TDS (1,590 milligrams per liter [mg/L]), sulfate (983 mg/L), cadmium (0.0595 mg/L), cobalt (0.387 mg/L), copper (138 mg/L), fluoride (6.18 mg/L), and manganese (12.3 mg/L). Seep 5E was dry when attempts were made to sample the seep in September 2005, March 2006, and June 2006.

The improvement in water quality observed at Seep 5E is likely due, at least in part, to several upgradient seep capture systems installed by PDTI. For example, impacted water from Seeps 3 and 4, which emanates from the toe of the Copper Mountain stockpiles, is now captured in two clay-lined surface impoundments. The impacted seepage collected at the toes of the west side stockpiles is routed via drain pipes to the Seep 5E Collection Pond. In addition, PDTI recently (2005) constructed a lined storm water capture pond at the mouth of the Seep 5E tributary drainage to supplement the existing (and much smaller) pond. At the same time PDTI deepened an existing groundwater collection trench just east of the pond to ensure the capture of impacted shallow groundwater within the Seep 5E tributary channel. PDTI expects groundwater quality in the vicinity of Seep 5E to improve as a result of continued operation of the Deadman Canyon seepage collection systems.

As of the September 2006 sampling event, wells TWS-28 and TWS-29 exceed standards for copper and manganese; well TWS-28 also exceeds standards for cobalt and fluoride. TDS and sulfate concentrations for these wells are much less than historical values observed at the beginning of monitoring (Figure 7). Fluctuations in observed water quality in Deadman Canyon are related to changes in precipitation (HAI, 2001), the implementation of seepage control systems, the location and intensity of leach operations within the No. 2 leach stockpile complex, or some combination of all these factors. This issue will be examined in further detail using data collected as proposed in the APP CPT work plan, and as part of the DP-1341 Condition 82, the

Supplemental Groundwater Study, through examination of water quality, precipitation records, raffinate application records, and water levels collected from newly installed or instrumented perched/regional monitor well pairs. Seepage controls implemented in this area have been effective in reducing impacts to groundwater as evidenced by the reduced TDS, sulfate, and metals concentrations at TWS-28 and TWS-29 over the past two years (Figures 7 and 8).

TWS-25 is a shallow well (Figure 6), with the bottom of screen at 14.5 feet below ground surface; it contains water intermittently. Even though this well went dry in 2001, three water samples were taken between September 2005 and September 2006. In June and September of 2006, TWS-25 showed exceedances for TDS, sulfate, and most metals. Due to the limited saturated thickness, the water sampled likely included sump water from the bottom of the well. When TWS-25 was installed in 1996, there was only about 1.5 feet of saturated alluvium/colluvium above the igneous bedrock, which was encountered at 14 feet below ground surface. Since the purpose of this well is to monitor shallow groundwater in the alluvium/colluvium, replacement is not necessary, as the bottom of the well is already completed into the top of bedrock (see NMED comment number 8 in Appendix A). In addition, well TWS-24 is in the same vicinity as TWS-25 and also monitors the perched groundwater in the alluvium/colluvium of the same small tributary channel that extends beneath the No. 2B Waste Stockpile. PDTI proposes to continue monitoring wells TWS-25 and TWS-24 in accordance with the requirements of DP-166, and groundwater samples will be collected when sufficient saturated thickness occurs in the alluvium/colluvium at this location.

Water quality standards are met at regional well TWS-41 and TDS and sulfate concentrations in the well have been steady since 1998 (Figure 7). TDS concentrations of just over 1,000 mg/L have been observed in the past at this well, although concentrations have been less than 1,000 mg/L since September 2003. The observed TDS and sulfate concentrations in TWS-41 do not exhibit temporal fluctuations as large as those observed in TWS-28 and TWS-29. As discussed above, additional study of this area is being conducted as part of DP-1341 Condition 82.

2.2.2 Perched Well TWS-31 and DC2-1 Lined Impoundment

Figure 6 shows the locations of existing perched and regional wells, springs, and seep collection impoundments west of the No. 2B Stockpile. No data are available for 2005 and 2006 to determine recent water quality trends for TDS and sulfate downgradient of the DC2-1 lined impoundment at well TWS-26. Well TWS-31, which was closest to the impoundment, was destroyed (Figure 6). TWS-26, currently dry, is a shallow well with the bottom of screen at 17 feet below ground surface, similar to destroyed well TWS-31 (bottom of screen 18.72 feet deep). As noted above, additional groundwater quality investigation in Deadman Canyon is proposed in the APP CPT work plan (including groundwater sampling of well TWS-26, if it contains water). PDTI proposes to assess the need for additional monitor wells in Deadman Canyon, including replacement of TWS-31, once this investigation is complete.

2.2.3 Seeps 5L and 5M and Spring 31

Seeps 5L and 5M are located immediately west of the No. 2B stockpile and just south of where Deadman Canyon begins to narrow. These seeps are located near Seep 5 and Seep 5E. Seeps 5L and 5M have a short monitoring history, beginning and apparently ending in 1990. Water quality monitoring data are provided for these seeps in Table 2. The only available data are for temperature, TDS, sulfate, electrical conductivity (EC), and pH. The TDS, sulfate, EC, and pH of Seep 5L ranges from 1,260 to 2,101 mg/L, 45 to 1,250 mg/L, 1,200 to 1,650 micro siemen per centimeter (µS/cm), and 4 to 4.8 standard units (su), respectively. For Seep 5M the ranges of TDS (1,236 to 1,930 mg/L), sulfate (41 to 1,140 mg/L), EC (1,050 to 2,100 µS/cm) and pH (4 to 4.8) indicate similar water quality to Seep 5L.

Spring 31 is located where Deadman Canyon narrows, approximately 1,400 feet west of the No. 2B stockpile. Limited water quality data are available for this seep because it is often dry, as it has been during 2006. Water quality data exist for the period of February 1987 to January 1992 and is provided in Table 3. Except for high iron concentrations, water quality at Spring 31 met standards during this period. TDS and sulfate concentrations ranged from 126 to 232 mg/L and 13.3 to 80 mg/L respectively. The observed range in metal concentrations was as follows:

Table 2. Seep 5L and 5M Water Quality Data

Seep Location	Sample Date	Electrical Conductivity (µS/cm)	Field pH (su)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Temperature (°C)
Seep 5L	6/28/1990	1,500	4.5	382	1,813	23
	7/3/1990	1,625	4.5	370	1,804	22
	7/5/1990	1,650	4.5	45	1,966	20
	7/6/1990	1,600	4.5	852	2,101	21
	7/9/1990	1,325	4.2	1,081	2,020	20
	7/11/1990	1,400	4.5	357	1,777	19
	7/13/1990	1,300	4.2	1,028	1,677	18
	7/16/1990	1,200	4.5	932	1,551	19
	7/18/1990	1,400	4.0	981	1,611	19
	7/20/1990	1,400	4.5	971	1,461	21
	7/23/1990	1,200	4.5	957	1,487	18
	7/25/1990	1,200	4.5	871	1,385	18
	7/27/1990	1,280	4.7	910	1,487	20
	7/30/1990	1,300	4.5	975	1,587	19
	8/1/1990	1,300	4.5	788	1,262	21
	8/3/1990	1,500	4.2	1,250	2,020	20
	8/6/1990	1,300	4.5	916	1,536	18
	8/8/1990	1,250	4.5	770	1,296	19
	8/10/1990	1,350	4.8	784	1,260	21
	8/13/1990	1,200	4.5	822	1,456	18
	8/15/1990	1,250	4.5	854	1,412	19
Seep 5M	6/22/1990	1,750	4.5	964	1,628	22
	6/26/1990	2,100	4.5	327	1,330	23
	6/28/1990	1,350	4.5	334	1,604	22
	7/3/1990	1,500	4.5	344	1,615	23
	7/5/1990	1,500	4.5	41	1,885	19
	7/6/1990	1,350	4.5	252	1,753	19
	7/9/1990	1,200	4.2	42	1,734	19
	7/11/1990	1,250	4.5	712	1,655	18
	7/13/1990	1,150	4.2	932	1,531	16
	7/16/1990	1,050	4.5	755	1,318	17
	7/18/1990	1,400	4.0	1,011	1,637	17
	7/20/1990	1,200	4.5	866	1,363	19

µS/cm = Micro siemen per centimeter
su = Standard units
mg/L = Milligrams per liter
°C = Degrees Celsius

Table 2. Seep 5L and 5M Water Quality Data

Seep Location	Sample Date	Electrical Conductivity (µS/cm)	Field pH (su)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Temperature (°C)
	7/23/1990	1,100	4.5	868	1,359	17
	7/25/1990	1,150	4.5	838	1,642	17
	7/27/1990	1,200	4.7	885	1,427	19
	7/30/1990	1,200	4.5	875	1,410	17
	8/1/1990	1,250	4.5	799	1,236	19
	8/3/1990	1,320	4.2	1,140	1,930	18
	8/6/1990	1,300	4.5	903	1,510	17
	8/8/1990	1,200	4.5	772	1,326	18
	8/10/1990	1,250	4.8	796	1,248	20
	8/13/1990	1,150	4.5	837	1,444	17
	8/15/1990	1,200	4.5	858	1,452	18

µS/cm = Micro siemen per centimeter
su = Standard units
mg/L = Milligrams per liter
°C = Degrees Celsius

Table 3. Water Quality Data for Spring 31

Parameter	Units	Sample Date					
		2/13/1987	4/3/1987	1/7/1988	7/6/1988	1/4/1989	1/15/1992
Bicarbonate	mg/L	33	27	24	49	18	7
Calcium	mg/L	19.8	16.6	12.7	10.1	6.61	9.25
Chloride	mg/L	6	7	2.1	<1	1.4	5.21
Copper	mg/L	0.05	0.9	0.16	0.045	0.116	0.079
Electrical conductivity	µS/cm	150	175	70	270	80	75
Iron	mg/L	1.09	0.57	3.13	3.64	2.84	1.32
Potassium	mg/L	2.5	2.7	3.12	2.39	2.22	1.06
Magnesium	mg/L	2.7	1.9	4.31	3.58	1.67	2.99
Manganese	mg/L	0.06	0.01	0.03	0.045	0.019	0.008
Sodium	mg/L	7.6	8	5.57	6.08	3.87	5.6
pH	su	---	6.2	6.5	6.3	7.1	6.44
Sulfate	mg/L	59	47	45.5	22	13.3	32.3
Total dissolved solids	mg/L	194	126	184	232	150	162
Temperature	°C	---	---	---	---	---	6

mg/L = Milligrams per liter
µS/cm = Micro siemen per centimeter
su = Standard units
--- = Not measured
°C = Degrees Celsius

- Copper: 0.045 to 0.9 mg/L
- Iron: 0.57 to 3.64 mg/L
- Manganese: 0.008 to 0.06 mg/L

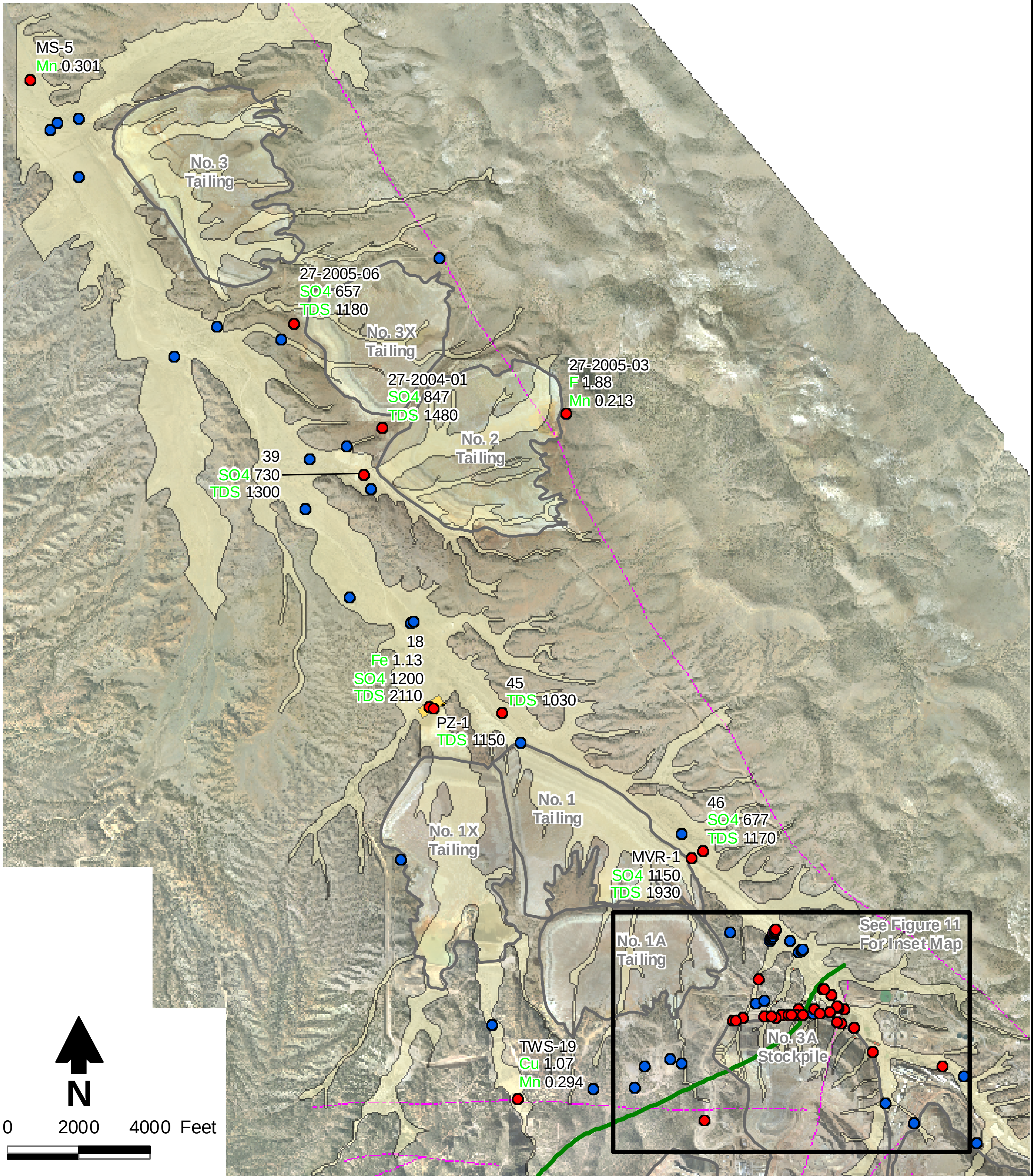
Apparently, the samples were not analyzed for other metals. The pH at Spring 31 was near neutral, ranging from 6.2 to 7.1.

2.2.4 Extent of Groundwater Contamination in Deadman Canyon

To the extent that perched water occurs in the shallow alluvium and colluvium in Deadman Canyon and its eastern tributaries in the regions discussed above and presented in Figure 6, it generally exhibits impacts (and in many cases exceeds groundwater quality standards) from mining operations conducted by either PDTI or United States Natural Resource, Inc. (a prior operator that conducted mining activities in the Deadman Canyon area). The lateral extent of the perched water within the canyon seems to be primarily climate driven (i.e., the perched zone is deeper and wider in wet periods and thinner and narrower during dry periods). The majority of water that flows through the alluvium to the north rises to the surface in the vicinity of the entrance to the Deadman Canyon narrows (i.e. in the general vicinity of TWS-28 to 166-2006-02); there is essentially no alluvium within the narrow portion of the canyon that continues to the north for a distance of about one mile.

Regional groundwater quality in the vicinity of that portion of Deadman Canyon discussed above, as evidenced by monitoring wells TWS-8, TWS-9 and TWS-41 (Figures 1 and 6), meets groundwater quality standards. Farther to the north, well TWS-19 at the north end of the Deadman Canyon narrows, exceeds water quality standards for copper and manganese (Figure 9). This well was added back in the DP-166 sampling regimen based on a recommendation made in the Stage 1 APP (DBS&A, 2004).

Based on the results of the studies mentioned above (i.e., the APP CPT work plan and DP-1341 Condition 82), the need for additional monitoring and remediation measures in Deadman Canyon will be assessed by PDTI and discussed with NMED.



Explanation

Monitor well

- Equals or exceeds one or more standards
- Below all standards

Fault

Groundwater divide

Note: Exceedances based on Section 20.6.2.3103 NMAC List A, B, and C standards for most recent sample taken from 2005 to 2006. (Values in mg/L).

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STAGE 1 APP ADDENDUM

Regional Groundwater Quality
Mangas Valley Tailing Area

Daniel B. Stephens & Associates, Inc.
12/06/2006 JN LT05.0045

Figure 9

S:/PROJECTS/PDTI_DB_GIS/GIS/MXDS/LT05.0045/STAGE 1 APP ADDENDUM/FIG09_REGIONAL_GW_MANGAS_TAILING.MXD 606021

2.3 Mangas Valley and No. 1X Capture System Areas

Figure 9 shows recent regional groundwater quality in the Mangas Valley Tailing Area and is an updated version of Figure 7a presented in the Stage 1 APP (DBS&A, 2004). Note that only wells with water quality analysis within the 2005 to 2006 timeframe are illustrated in Figure 9. Figure 10 is a map of the No. 1X Tailing Impoundment and associated groundwater capture system showing existing regional wells and recent water quality trends based on the past three sampling events for sulfate and TDS. At the No. 1X capture system, sulfate and TDS concentrations have increased in wells 20, PT-1, and PZ-1, while concentrations of these same constituents have decreased in well 18 over the past three sampling events. The remaining wells at the No. 1X capture system have not been sampled recently, so trends could not be determined. Downgradient wells 10 and 42 have steady sulfate and TDS concentrations. Two additional water quality sampling locations between the No. 1X capture system and wells 10 and 42 are proposed in the APP CPT work plan to better characterize groundwater quality downgradient of the No. 1X capture system (see NMED Comment Number 14 in Appendix A).

2.4 No. 3A Stockpile Area

Figure 11 shows recent regional groundwater quality in the No. 3A stockpile area and is an updated version of Figure 7b presented in the Stage 1 APP (DBS&A, 2004). Note that only wells with water quality analysis within the 2005 to 2006 timeframe are illustrated in Figure 11. Figure 12 is a map of the No. 3A stockpile toe showing all existing regional wells (monitor and pumping) and recent water quality trends of the past three sampling events for sulfate and TDS where data is available. P-203 in Canyon 11, P-196 in Canyon 7, and P-6B in Canyon 1 show increasing sulfate and TDS trends, while the remaining wells with recent water quality data along the toe have either steady or decreasing sulfate and TDS concentrations.

P-203 (Canyon 11) is a pumping well with a total depth of 245 feet and screened interval from 225 to 245 feet, and P-196 (Canyon 7) is a pumping well with a total depth of 170 feet and screened interval from 150 to 170 feet. These wells are both screened in Gila Conglomerate and sampled annually. TDS and sulfate concentrations have steadily increased over the past

Explanation

Regional pumping well

Regional monitor well

TDS/sulfate trends over last 3 sampling events

Increasing

Steady

Decreasing

Not measured

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STAGE 1 APP ADDENDUM

Recent Groundwater Quality Trends Near the No. 1X Capture System

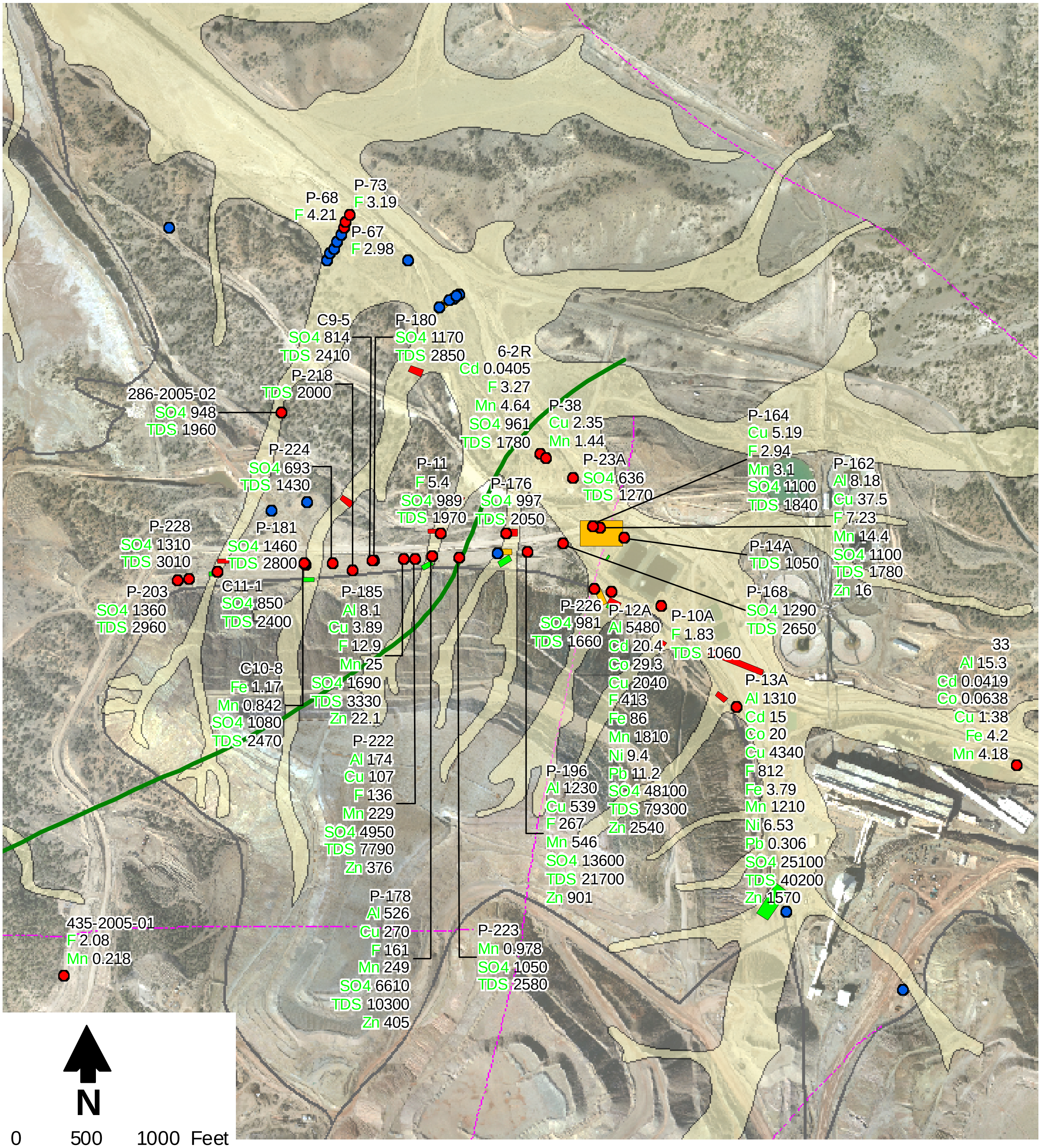
Daniel B. Stephens & Associates, Inc.

12/06/2006

JN LT05.0045

Figure 10

S:/PROJECTS/PDTI_DB_GIS/GIS/MXDS/LT05.0045/STAGE 1 APP ADDENDUM/FIG10_NO1X.MXD 609211



Note: Exceedances based on Section 20.6.2.3103 NMAC List A, B, and C standards for most recent sample taken from 2005 to 2006. (Values in mg/L).

Explanation

Monitor well

- Equals or exceeds one or more standards
- Below all standards

Fault

Groundwater divide

S:/PROJECTS/PDTI_DB_GIS/GIS/MXDS/LT05.0045/STAGE 1 APP ADDENDUM/FIG11_REGIONAL_GW_NO3.MXD 606021

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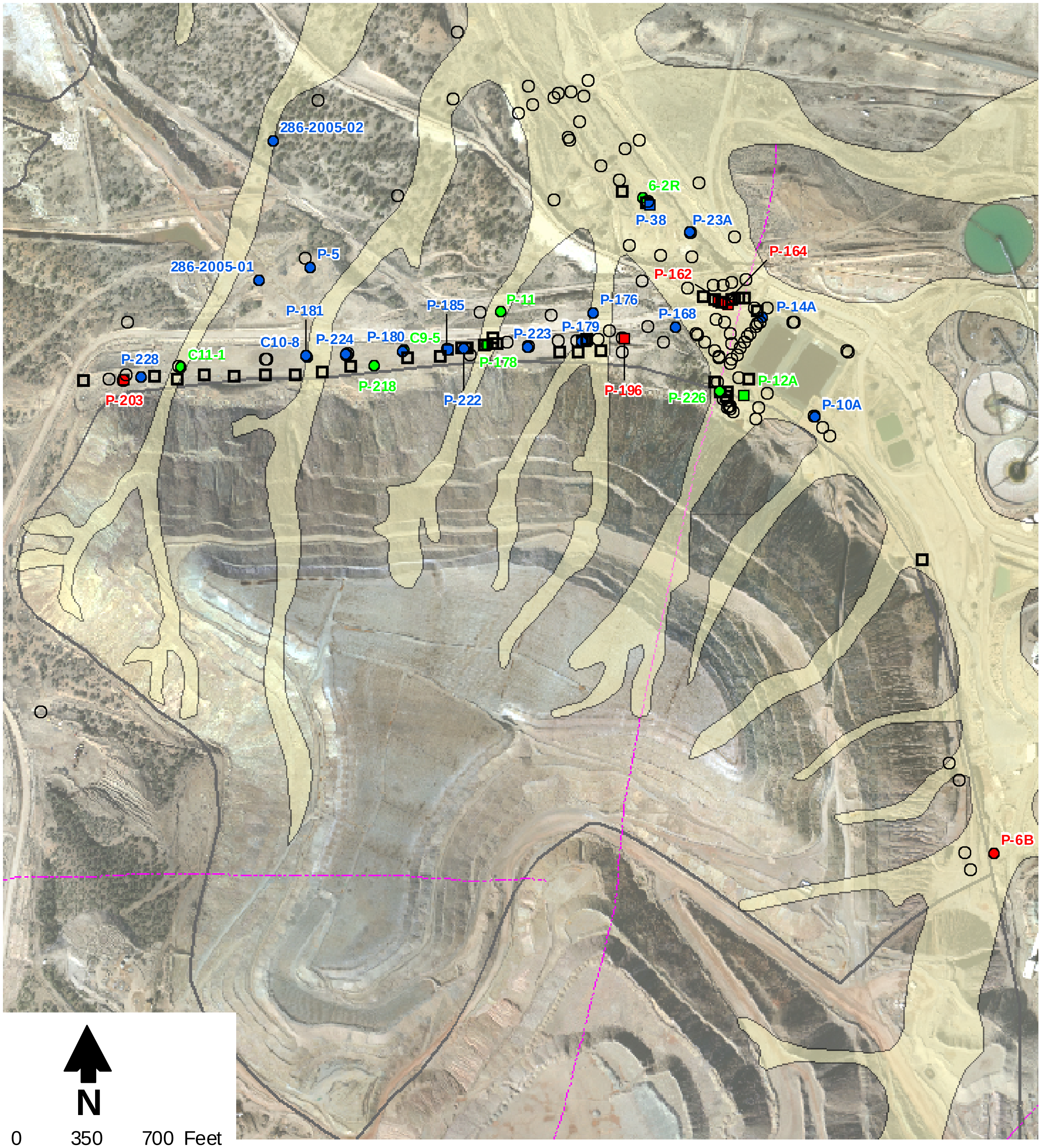
STAGE 1 APP ADDENDUM

Regional Groundwater Quality
No. 3A Stockpile Area

Daniel B. Stephens & Associates, Inc.
12/06/2006 JN LT05.0045

Figure 11



Explanation

Fault

Regional pumping well

Regional monitor well

TDS/sulfate trends over last 3 sampling events

- Increasing
- Steady
- Decreasing
- Not measured

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STAGE 1 APP ADDENDUM

Regional Groundwater Quality Trends At the No. 3A Stockpile Perimeter

Daniel B. Stephens & Associates, Inc.

12/06/2006

JN LT05.0045

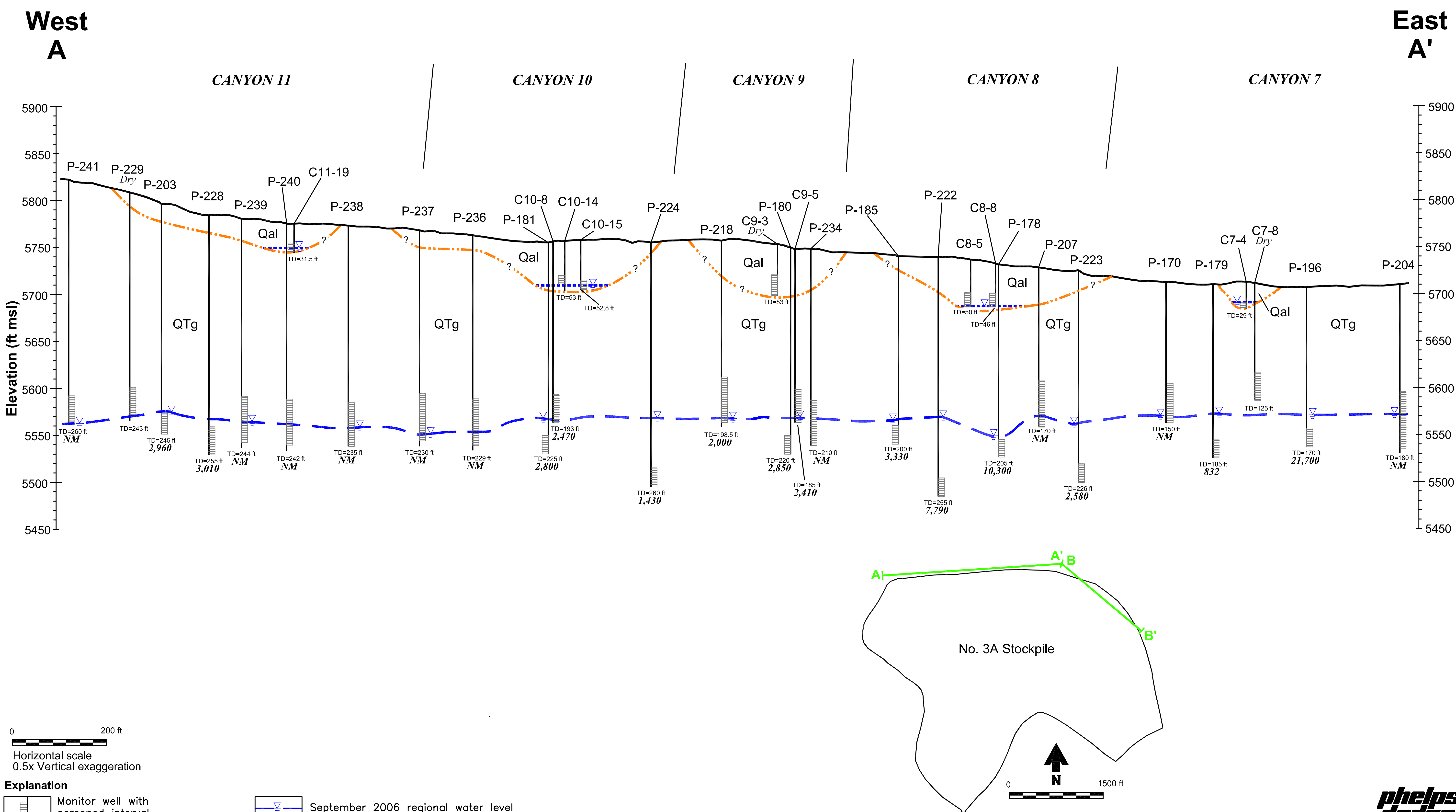
Figure 12

S:/PROJECTS/PDTI_DB_GIS/GIS/MXDS/LT05.0045/STAGE 1 APP ADDENDUM/FIG12_REGIONAL_GW_TRENDS_NO3_PERIMETER.MXD 602211 three sampling events, to almost 3,000 mg/L (P-203) and to over 20,000 mg/L (P-196), as shown in Appendix B. P-6B (Canyon 1) is a monitoring well with a total depth of 550 feet and a screened interval from 510 to 550 feet in granite. While TDS and sulfate concentrations have shown an increasing trend in this well over the last three sampling events, the most recent concentrations of these constituents are well below standards at 196, and 30.9 mg/L, respectively.

Figure 13 is a cross section along the toe of the No. 3A stockpile from Canyon 11 to Canyon 7, and Figure 14 is a cross section from Canyon 6 to Canyon 4. These figures show perched and regional wells with screened intervals, the vertical and horizontal extent of perched water in the canyons, the regional water table, and TDS concentration at regional wells where available. At some locations, higher TDS concentrations are found in shallower wells screened near the top of the regional water table and beneath the perched seepage zones, suggesting vertical migration of contaminants from the perched seepage zones to the regional aquifer. This observation is consistent with previous investigation findings at the No. 3A stockpile that indicate regional seepage pathways are spatially related to the natural drainages beneath the stockpile. The result of this seepage has been a progressive degradation in water quality along the toe of the stockpile from the Canyon 4 through the Canyon 11 areas.

At other locations, however, monitor wells with deeper well screens actually have higher TDS concentrations than nearby wells with shallower well screens (e.g., wells C9-5 and P-180 at Canyon 9 in Figure 13). At these and potentially at other locations, it is possible that some of the impacts to the regional aquifer are attributable to the lateral migration of contaminants from beneath the stockpile footprint, as opposed to downward seepage of pregnant leach solution or impacted water from overlying alluvium-filled drainages. This type of flow path would be a longer, and likely a slower, flow path for impacted water as opposed to seepage from beneath the alluvial channels.

Overall, the vertical extent of impacts in the regional aquifer near the toe of the No. 3A stockpile is not well defined. A large number of wells will be installed, and a large number of existing wells will be plugged and abandoned as part of stockpile regrading and reclamation. As part of these activities, PDTI plans to evaluate the vertical extent of impacted water in the vicinity of the



Explanation

Monitor well with screened interval

Fill material and alluvium – Gila Conglomerate contact

September 2006 regional water level

September 2006 perched water level

2,960 Total dissolved solids concentration (mg/L) in 2006

Notes: Qal= Fill material and alluvium
QTg= Gila Conglomerate
TD= Total Depth
NM= Not measured
mg/L= Milligrams per liter

S:\Projects\PDTI_DB_GIS\VR\LT05_0045_04W_WEST-EAST_CROSS_SECTION.DWG

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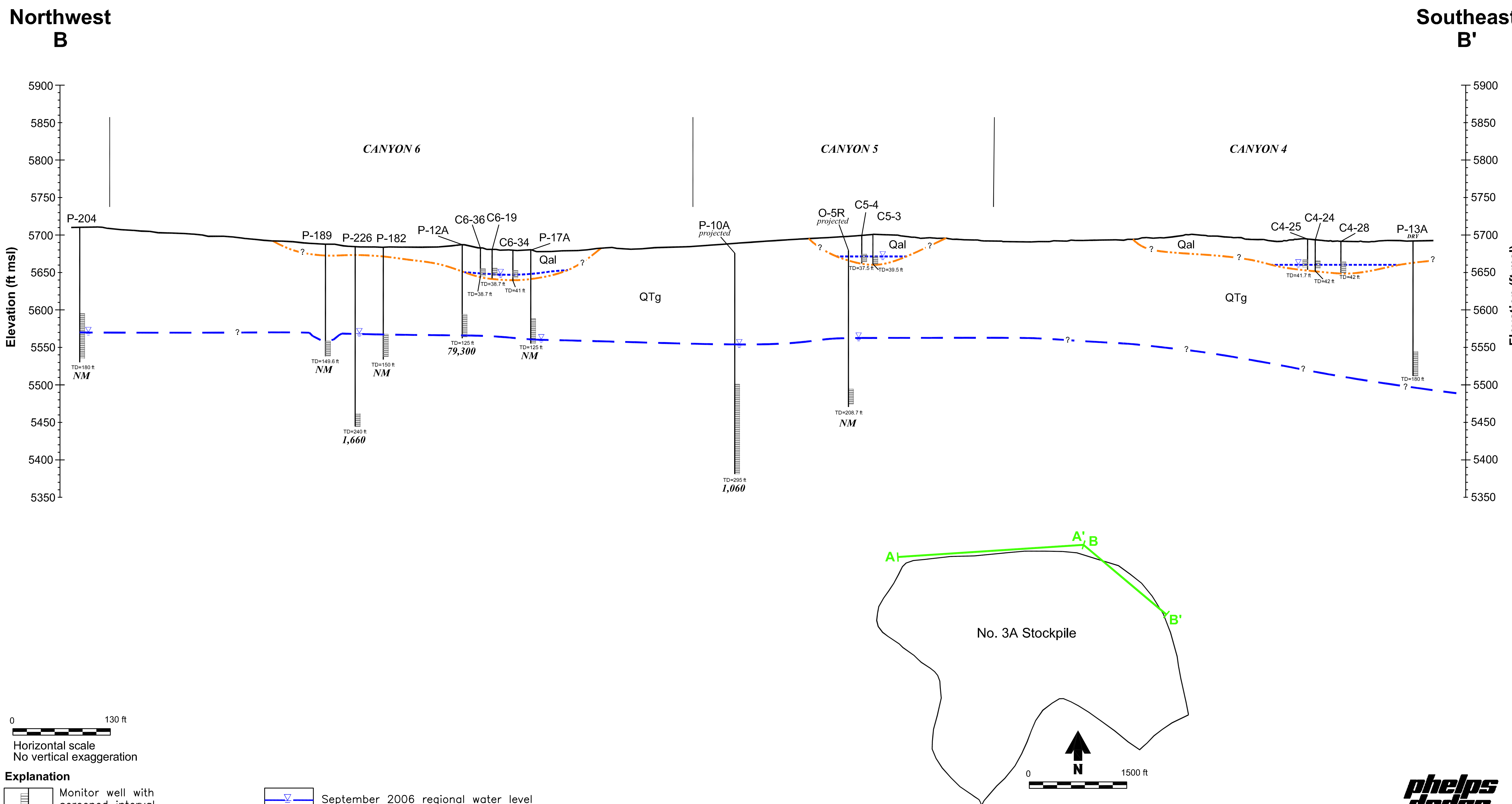
STAGE 1 APP ADDENDUM

No. 3A Stockpile Toe Cross Section A-A'

Figure 13



0 130 ft

Horizontal scale
No vertical exaggeration

Explanation

Monitor well with screened interval

Fill material and alluvium – Gila Conglomerate contact

September 2006 regional water level

September 2006 perched water level

1,660 Total dissolved solids concentration (mg/L) in 2006

Notes: Qal= Fill material and alluvium
QTg= Gila Conglomerate
TD= Total Depth
NM= Not measured
mg/L= Milligrams per liter

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STAGE 1 APP ADDENDUM
No. 3A Stockpile Toe Cross Section B-B'

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JN LT05.0045

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Figure 14

proposed 3A stockpile regional capture system. PDTI proposes to assess the need for additional monitor wells at the No. 3A stockpile based on the results of these additional investigation and reclamation activities.

References

Daniel B. Stephens & Associates, Inc., (DBS&A). 1997. *Seepage investigation of the Tyrone mine no. 1A stockpile*. Prepared for Phelps Dodge Tyrone, Inc., Tyrone, New Mexico. February 28, 1997.

DBS&A. 2004. *Stage 1 abatement plan proposal, Tyrone mine facility*. Prepared for Phelps Dodge Tyrone, Inc., Tyrone, New Mexico. October 15, 2004.

DBS&A. 2005. *Status report for Tyrone DP-1341 condition 82 activities*. Prepared for Phelps Dodge Tyrone, Inc., Tyrone, New Mexico. October 31, 2005.

Harlan and Associates, Inc., (HAI). 2001. Tyrone Mine No. 2 leach stockpile discharge plan DP-166: Evaluation of potential seepage to Deadman Canyon and supplemental monitoring results, April 1 through September 30, 2001. Prepared for Phelps Dodge Tyrone, Inc., Tyrone, New Mexico. October 31, 2001.

New Mexico Environment Department (NMED). 2006. Letter from Clint Marshall to Thomas Shelley, Phelps Dodge Tyrone, Inc., regarding Comments on the Stage I Abatement Plan Proposal, DP-1341, Condition 34, Phelps Dodge Tyrone, Inc. June 14, 2006.

New Mexico Water Quality Control Commission (NMWQCC). 2002. Ground and surface water protection regulations (NMAC 20.6.2). Available at <http://www.nmenv.state.nm.us/NMED_Regs/gwb/20_6_2_NMAC.pdf>.

Appendix A
Response to June 2006
NMED Comments

Appendix A1
Responses to Comments

Response to June 2006 NMED Comments
Stage 1 Abatement Plan Proposal
DP-1341, Condition 34
Phelps Dodge Tyrone, Inc.

General Comments

The APP lacks meaningful investigation proposals for the tailing impoundments in the Mangas Valley. More wells are needed downgradient of the impoundments. PDTI must make an assessment of possible locations after the boundaries of the reclamation have been established. A more extensive investigation needs to be conducted of increasing contaminant concentrations in the regional aquifer north of the No. 3 Leach Stockpile. The APP fails to address several areas of contamination at the Tyrone Mine where lateral and/or vertical extent have not been defined. TDS and sulfate concentration versus time plots for all existing wells included in Appendix A must be updated. Sample analyses of all new wells must be provided.

The TDS and sulfate concentration versus time plots have been updated and include sample analyses for the new wells. These plots are provided in Appendix B of the Addendum to the Stage 1 Abatement Plan Proposal (APP); Table 1 of the Addendum contains analytical data for the newly installed wells.

Additional characterization for groundwater quality in the Mangas Valley and Deadman Canyon are proposed in the *Tyrone Mine Facility Stage 1 Abatement Plan Proposal Work Plan for Additional Site Characterization* submitted with this response to comments. Because this work plan consists primarily of groundwater sampling using the cone penetrometer testing (CPT), it is referred to as the APP CPT work plan.

As part of reclamation activities, numerous wells will be drilled in the vicinity of the No. 3A leach stockpile and many existing wells will be plugged and abandoned. Proposed activities have been outlined as part of other submittals provided to the New Mexico Environment Department (NMED) related to No. 3A stockpile reclamation. PDTI proposes to assess the need for additional monitor wells at the No. 3A stockpile based on the results of these activities. Some additional information and discussion on the No. 3A stockpile area is provided in the Addendum to the Stage 1 APP (Section 2.4).

1. Section 2.1, Page 4

The first paragraph states that the Copper Mountain stockpile was removed in 2000. NMED understands that stockpile material associated with the USNR operations is still in place. More discussion is needed about existing stockpiles in the area around the Copper Mountain Pit and Tyrone's plans to remove or cover this material.

The Copper Mountain Leach stockpile and associated processing facilities were originally developed by United States Natural Resource, Inc. (USNR) during the late 1960s. The stockpile was composed primarily of copper oxide ore that was leached and processed through a local precipitation plant. The Copper Mountain Leach pad was underlain by an asphalt liner and the leach solution was collected at four collection ponds.

In March 2000, Tyrone incorporated the stockpile and processing facilities into DP-166 and Permit No. GR010RE. Subsequently, Tyrone excavated and removed about 1,260,000 tons of the leached ore. Excavation was achieved using a shovel, augmented by bulldozers pushing materials downslope to a loading area. The excavation of the stockpile extended into and below the asphalt liner over nearly the entire leach pad. Relatively small volumes of stockpile materials remained in areas that were inaccessible by the bulldozers; otherwise the entire the pile was removed. The stockpile materials were hauled to the No. 2B leach stockpile for further processing. The precipitation plant and associated facilities were demolished and covered for closure.

In accordance with the approved reclamation plan, one small overburden pile was left in place on the south end of the area. This material was circum-neutral, non-acid generating, and partially vegetated by native plants. The remaining stockpile footprint was reclaimed. The reclamation in this area was proposed as an experiment with covers ranging from 0 to 12 inches in thickness. Tyrone is currently evaluating options for the USNR area.

2. Section 2.2, Page 4

This section names DP-1341, DP-286, and DP-363 as the reporting vehicles for abatement activities in the three separate mine areas. Clarification was provided in the April 28 teleconference that these three discharge plans would serve only as an interim reporting if needed. All water quality and water level data reports will ultimately reside in the respective discharge permits. DP-1341 will receive text, maps and figures related to site-wide abatement activities whether organized by separate mine areas.

It is PDTI's understanding that any activities conducted as part of the Stage 1 APP, which is required under Condition 34 of discharge plan (DP) 1341, must be reported under DP-1341. Where data are collected for new monitor wells within a given DP area, the results of the monitoring will also be reported as part of the standard DP reports.

3. Section 2.3.2, Page 14

The APP states that a 1997 diesel fuel spill near the power plant resulted in contamination near the confluence of Niagara Gulch and Mangas Wash. A boring (NG-B17) indicated ground water contamination in 2001. A nearby well, MV-4 showed no evidence of hydrocarbon contamination, but the well went dry in 2003. An investigation must be proposed to determine the magnitude and extent of ground water contamination in this area. Alternatively, an existing study may be cited if it adequately characterized the hydrocarbon contamination.

Previous investigation activities for this area are documented in a report titled *Diesel Investigation Final Report, Phelps Dodge Tyrone, Inc.*, completed by DBS&A and dated June 8, 1999. This report is referenced as DBS&A (1999e) in the Stage 1 APP. The source of the diesel contamination was determined to be several cracks and small holes along the welded seams of two lengths of an underground pipeline that runs from a storage tank on the eastern side of Mangas Wash to the pump house near the power plant; the two pipeline segments were replaced in July of 1998 (DBS&A, 1999). Additional investigation activities for this area are proposed within the APP CPT work plan.

4. Section 3.1, Page 17

Pit water that is pumped to the 1X Tailing Impoundment for disposal is not considered process water for the mine.

Comment noted.

5. Section 3.1, Page 19

The APP states that saturated conditions would not exist in the alluvial aquifer if not for the PLS contributions from mine operations. The reasoning is based on dry conditions in the aquifer downgradient of the Oak Grove collection trench. Given that all ground water moving down Oak Grove Draw is intercepted at the trench, the dry section of Oak Grove Draw can only be recharged from storm water that infiltrates from directly above the aquifer. The diluted PLS present in much of Oak Grove Draw and Brick Kiln Gulch is evidence that natural waters do exist. This condition is actually acknowledged in the APP in Section 3.2.1 on Page 23.

Additional investigation and continued monitoring activities regarding alluvial groundwater occurrence are ongoing.

6. Section 3.2.1, Page 21

The first paragraph states that PLS-saturated zones in the alluvial aquifer adjacent to the stockpiles and upgradient of the collection systems are an intrinsic component of mine operations. It should be noted that the saturated alluvial aquifer was not known to be an intrinsic component until PDTI haphazardly discovered their existence in 1990 and again in 1996. These alluvial channels may continue to be saturated with PLS for many years after closure of the stockpiles.

The comment regarding the discovery of PLS in alluvium is noted. The purpose of the text was to indicate that in some places shallow alluvium is used for PLS capture involving trenches and sumps, and that this process is currently an intrinsic part of mine operations. In addition, at some locations PLS is collected from shallow subsurface alluvium that would not be saturated with water under natural conditions. One such location is the alluvium-filled channels that underlie the No. 3A stockpile. Due to the high hydraulic conductivity of the alluvium and the cessation of leaching under closure conditions, PDTI believes that these channels will not continue to be saturated with PLS for many years after closure of the stockpiles. It is probable, however, that residual or diluted PLS will persist in the alluvium under partially saturated conditions for some period of time, as is stated in the Stage 1 APP.

7. Section 3.2.1, Page 23

The second paragraph discusses the extent of contamination in the alluvial aquifer near Transect 9. PDTI must provide a more detailed map of this area showing all existing monitor wells, pumping wells and borings which define the lateral and vertical extent of contamination in this area. From the map provided in Figure 5, it does not appear that the lateral extent is well defined.

A more detailed map with available relevant information is provided in Section 2.1.1 of the Addendum to the Stage 1 APP.

8. Section 3.2.1, Page 23

The third paragraph states that monitoring well TWS-25 went dry back in 2001. PDTI must provide more discussion on the extent of contamination in the area surrounding Seep 5E. Given the poor water quality at Seep 5E and rising TDS and sulfate concentrations in wells TWS28 and TWS-29 (Page 28), at a minimum well TWS-25 should be replaced. A detailed map of this area showing the locations of all existing monitoring wells and seepage collection systems, and the extent of ground water contamination must be provided. Based on this information, more wells may be required.

Additional discussion and a map of the Seep 5E area is provided in Section 2.2.1 of the Addendum to the Stage 1 APP. Additional groundwater quality investigation in Deadman Canyon is proposed in the CPT work plan.

TWS-25 is a shallow well, with the bottom of screen at 14.5 feet below ground surface; it contains water intermittently. Even though this well went dry in 2001, three water samples were taken between September 2005 and September 2006. When the well was installed in 1996, there was only about 1.5 feet of saturated alluvium/colluvium above the igneous bedrock, which was encountered at 14 feet below ground surface. Since the purpose of this well is to monitor shallow groundwater in the alluvium/colluvium, replacement is not necessary (the bottom of the well is already completed into the top of bedrock). In addition, well TWS-24 is in the same vicinity as TWS-25 and also monitors the perched groundwater in the alluvium/colluvium of the same small tributary channel that extends beneath the No. 2B Waste Stockpile. PDTI proposes to continue monitoring wells TWS-25 and TWS-24 in accordance with the requirements of DP-166, and groundwater samples will be collected when sufficient saturated thickness occurs in the alluvium/colluvium at this location.

9. Section 3.2.1, Page 27

The first paragraph discusses the poor water quality that was associated with TWS-31 before it was destroyed. A more detailed investigation must be conducted in this area. A map showing the collection system and any monitoring wells in this area must be included. At least one monitoring well must be installed down gradient of the collection system to determine if it is operating properly.

This comment is addressed in Section 2.2.2 of the Addendum to the Stage 1 APP.

10. Figures 7a, 7b and 7c, Pages 29-31

The regional groundwater quality maps in the APP must be updated to show more recent data as well as data from the new monitoring wells installed at the Tyrone Mine. The maps presented are general in nature and more detailed maps must be provided for areas affected by contamination in the alluvial as well as the regional aquifer. Specifically, the areas surrounding Seep 5E (Comment 8), Seep DC2-1 (Comment 9), the northern perimeter of the No. 3 Stockpile (Comment 18), and the 1X Collection System. Different colors or symbols should be used to indicate monitoring wells that have increasing concentrations of TDS/sulfate over the last three sampling events.

The regional groundwater quality maps have been updated with 2005 and 2006 data and are included in the Addendum to the Stage 1 APP. The more detailed maps and discussion are presented in Section 2.2 (Deadman Canyon), Section 2.3 (Mangas Valley), and Section 2.4 (No. 3A Stockpile) of the Addendum to the Stage 1 APP.

11. Section 3.2.2.1, Page 34

The first bullet in the second paragraph discusses ground water quality at the No. 3 Tailing Impoundment. Although the wells listed have been stable through time, a more thorough assessment is needed to determine if ground water is being adequately monitored. During the April 27th teleconference NMED and PDTI agreed that a site inspection by both parties would be useful to complete the assessment. At a minimum, NMED will require additional wells to characterize ground water quality downgradient of the former storm water catchment basins located on the northern perimeter of the No. 3 Tailing Impoundment.

The APP CPT work plan provided with this submittal is based on the site visit held on August 9, 2006 at Tyrone. The work plan proposes additional groundwater sampling at a number of locations in the Mangas Valley adjacent to tailing impoundments. The need for additional monitoring wells will be evaluated based on the results of the groundwater sampling proposed in the APP CPT work plan.

12. Section 3.2.2.1, Page 34

The third bullet discusses ground water quality adjacent to the 3X Tailing Impoundment. There is a scarcity of wells downgradient and one of the two existing wells is showing increasing concentrations of TDS and sulfate. As discussed in Comment 11, a site visit is needed to assess the adequacy of the ground water monitoring network in this area.

See response to Comment 11.

13. Section 3.2.2.1, Page 34

Two monitoring wells located downgradient of the No. 2 Tailing Impoundment have been approved by NMED to be abandoned. A third well, Monitoring Well 40, may also be abandoned. Two of these wells exceed standards and one shows increasing concentrations. After completion of reclamation of the No. 2 Tailing Impoundment, this area must be assessed for locating replacement wells and the possibility of new wells. Additional investigation is needed to determine the lateral extent of contamination present in well 27-2004-01.

See response to Comment 11.

14. Section 3.2.2.1, Page 35

The second bullet states that the effectiveness of the ground water capture system at the 1X Tailing Impoundment is evidenced by the good water quality at wells 10 and 42. It should be noted that these wells are located over 1/2 mile downgradient of the capture system. A more detailed evaluation and discussion is needed for this area (see Comment 10).

Wells 10 and 42 are located slightly less than 0.5 mile downgradient of the No. 1X capture system. Additional delineation of groundwater quality between the capture system and wells 10 and 42 is proposed in the APP CPT work plan.

15. Section 3.2.2.1, Page 35

The third bullet mentions increasing concentrations in well MVR-1. This well, along with well 46 exceed standards for TDS and sulfate. PDTI must provide additional investigation to determine the lateral extent of contamination around these wells.

Additional delineation of groundwater quality in the vicinity of wells MVR-1 and 46 is proposed in the APP CPT work plan.

16. Section 3.2.2.2, Page 37

NMED disagrees that the existing ground water quality monitoring data in the Mangas Valley is sufficient for Abatement Plan purposes. The lateral extent of ground water contamination in several areas remains undetermined. More wells are also needed to better characterize ground water downgradient of the tailing impoundments. NMED recommends a thorough assessment of Tailing Impoundments 2, 3 and 3X after reclamation is completed, and again after Tailing Impoundments 1, 1A and 1X are completed.

Additional delineation of groundwater quality in the Mangas Valley adjacent to various tailing impoundments is proposed in the APP CPT work plan. The need for additional monitor wells will be assessed based on observed water quality at existing wells and new APP CPT sample locations.

17. Section 3.2.2.2, Page 37

The second paragraph suggests that the water quality impacts around wells MB-13 and 2-12 are limited because no upgradient sources can be defined. Possibilities include mounding from the north or a ground water gradient that is not from the south. This area is of concern to NMED because of increasing concentrations measured in wells MB-39 and MB-13.

This area is discussed in greater detail in Section 2.1.2 of the Addendum to the Stage 1 APP.

18. Section 3.2.2.2, Page 40

The last paragraph contains mostly discussions of regional monitoring wells at the No. 3 Leach Stockpile with decreasing trends in water quality. Only one line of discussion is given to wells with increasing concentrations, and many wells with increasing trends are not mentioned. Comparing 2005 sample analyses with TDS and sulfate data in Appendix A shows significant increases in concentrations in several regional monitoring wells in the central and eastern sections of the northern toe (wells P12A, P-13A, P-178, P-196, P-222). NMED is concerned with this area of contamination. More discussion must be provided concerning the rapid increases in contaminant concentrations in the regional aquifer. Patterns, possible causes, and proposals for determining lateral and vertical extent must be included in the discussion. Cross-sections including screened intervals for individual wells must be contained in the discussion. PDTI must provide updated graphs that include the most recent data for wells in this area. PDTI must also provide a revised map that includes the most recent TDS/sulfate/metal concentrations. Different colors should be used to indicate monitoring wells with separate colors showing increasing, steady, and decreasing TDS concentrations over the last three sampling events.

PDTI's conceptual model of groundwater flow paths in the vicinity of the No. 3A leach stockpile was discussed with NMED during the August 9, 2006 site visit. The revised map and additional discussion of this area is provided in Section 2.4 of the Addendum to the Stage 1 APP. Also, as explained under the response to General Comments, a large number of wells will be installed and a large number of existing wells will be plugged and abandoned as part of stockpile regrading and reclamation. PDTI proposes to assess the need for additional monitor wells at the No. 3A stockpile based on the results of these activities.

19. Section 3.2.2.2, Page 41

Please provide the most recent water quality analysis and plots of TDS and sulfate concentrations for well MVR-4. The plots are missing from Appendix A.

The plots have been provided in Appendix B of the Addendum to the Stage 1 APP. Three water quality sample results are available for this well; the sample dates are August 28, 2003; August 24, 2004; and July 27, 2006. The observed TDS and sulfate concentrations for these three sample dates are 370, 359, and 436 milligrams per liter (mg/L), and 33, 58, and 114 mg/L, respectively.

20. Section 3.3, Page 44

Not all streams in Tyrone Mine are ephemeral. The stream in Deadman Canyon is perennial.

PDTI disagrees with this comment—the stream in Deadman Canyon is ephemeral.

21. Section 3.4, Page 48

Two additional regional monitoring wells are proposed for the western portion of the No. 3 Leach Stockpile. As stated in Comment 18, the rapid increase in contaminant concentrations warrants a more extensive investigation including an assessment of deeper pathways within the regional aquifer. More wells may be required depending on the outcome of the investigation. Geological cross-sections may be useful when evaluating the vertical extent of contamination.

See response to Comment 18.

22. Section 3.4.2, Page 52

NMED does not agree with this statement. See Comment 16.

See response to Comment 16 and responses to other comments regarding the Mangas Valley area.

23. Section 3.4.3, Page 52

More justification is needed for proposing only two new monitoring wells for the western portion of the No. 3 Stockpile. As stated in Comment 18, a comparison of recent analyses with the TDS data in Appendix A shows several wells in the central and eastern portion of the No. 3 Leach Stockpile that have significant increases in contaminant concentrations. However, no additional wells are proposed for the central or eastern areas.

See response to Comment 18.

24. Section 3.4.3, Page 52

The regional well required by NMED to be installed at the southeast corner of the 5A (formerly 1D) Stockpile was due in part because of ground water quality periodically measured in well MB-10. The few times in the past several years when well MB-10 contained enough water to obtain a sample, the analyses showed that standards were exceeded for several constituents. Hopefully the new well will provide more consistent sampling results. As stated on Page 53, a status report is needed on the operating condition of well MB-10.

Well MB-10 is a shallow well that is 65 feet deep, which explains why it has been dry during the vast majority of sampling events. Well MB-10 is completed adjacent to a drainage and is difficult to access, but is in suitable condition for sampling if water is present.

Regional well 383-2005-02 was installed close to MB-10 in 2005, and should provide consistent regional groundwater sampling results. Groundwater sampling results for this well to date indicate that regional groundwater at this location meets water quality standards (Table 1 of the Addendum to the Stage 1 APP).

25. Section 3.4.3, Page 53

Please provide the status of Seeps 5M, 5L and 31 in Deadman Canyon as shown in Figure 6. Please provide water quality data for these seeps if any is available.

Available information on these seeps is provided in Section 2.2.3 of the Addendum to the Stage 1 APP.

26. Section 3.4.3, Page 54

NMED agrees with the statement in the second Paragraph. Quarterly sampling of well TWS-19 should be included in the DP-166 monitoring plan. PDTI should submit a request to amend the discharge permit.

This well has been added to the DP-166 monitoring list.

Appendix A2
Original NMED Comments

State of New Mexico
ENVIRONMENT DEPARTMENT
Ground Water Quality Bureau
Harold Runnels Building
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, New Mexico 87502-6110
(505) 827-2918 phone
(505) 827-2965 fax

BILL RICHARDSON
Governor

RON CURRY
Secretary

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

June 14, 2006

RECEIVED
JUN 19 2006
PHELPS DODGE TYRONE, INC
ENVIRONMENTAL SERVICES
20060619-101

Mr. Thomas Shelley, Manager
Environment, Land and Water
New Mexico Operations
Phelps Dodge Tyrone, Inc.
P.O. Drawer 571
Tyrone, New Mexico 88065

RE: Comments on the Stage I Abatement Plan Proposal, DP-1341, Condition 34, Phelps Dodge Tyrone, Inc.

Dear Mr. Shelley:

The Ground Water Quality Bureau of the New Mexico Environment Department (NMED) has received the October 15, 2004 Stage I Abatement Plan Proposal (APP) from Phelps Dodge Tyrone, Inc. (PDTI). NMED and PDTI held a teleconference on April 27, 2006 to discuss major issues in the APP. The APP is required under Condition 34 of the Supplemental Discharge Permit for Closure, DP-1341 for the Phelps Dodge Tyrone Mine. NMED has reviewed the submittal and has the following comments. The comments must be addressed in an addendum or technical memorandum that also updates the current status of well drilling and mine reclamation projects that will affect Stage I APP investigations.

General Comments

The APP lacks meaningful investigation proposals for the tailing impoundments in the Mangas Valley. More wells are needed downgradient of the impoundments. PDTI must make an assessment of possible locations after the boundaries of the reclamation have been established. A more extensive investigation needs to be conducted of increasing contaminant concentrations in the regional aquifer north of the No. 3 Leach Stockpile. The APP fails to address several areas of contamination at he Tyrone Mine where lateral and/or vertical extent have not been defined. TDS and sulfate concentration versus time plots for all existing wells included in Appendix A must be updated. Sample analyses of all new wells must be provided.

Specific Comments

1. Section 2.1, Page 4. The first paragraph states that the Copper Mountain stockpile was removed in 2000. NMED understands that stockpile material associated with the USNR operations is still in place. More discussion is needed about existing stockpiles in the area around the Copper Mountain Pit and Tyrone's plans to remove or cover this material.

2. Section 2.2, Page 4. This section names DP-1341, DP-286 and DP-363 as the reporting vehicles for abatement activities in the three separate mine areas. Clarification was provided in the April 28 teleconference that these three discharge plans would serve only as a interim reporting if needed. All water quality and water level data reports will ultimately reside in the respective discharge permits. DP-1341 will receive text, maps and figures related to site-wide abatement activities whether organized by separate mine areas.

3. Section 2.3.2, Page 14. The APP states that a 1997 diesel fuel spill near the power plant resulted in contamination near the confluence of Niagara Gulch and Mangas Wash. A boring (NG-B17) indicated ground water contamination in 2001. A nearby well, MV-4 showed no evidence of hydrocarbon contamination, but the well went dry in 2003. An investigation must be proposed to determine the magnitude and extent of ground water contamination in this area. Alternatively, an existing study may be cited if it adequately characterized the hydrocarbon contamination.

4. Section 3.1, Page 17. Pit water that is pumped to the 1X Tailing Impoundment for disposal is not considered process water for the mine.

5. Section 3.1, Page 19. The APP states that saturated conditions would not exist in the alluvial aquifer if not for the PLS contributions from mine operations. The reasoning is based on dry conditions in the aquifer downgradient of the Oak Grove collection trench. Given that all ground water moving down Oak Grove Draw is intercepted at the trench, the dry section of Oak Grove Draw can only be recharged from storm water that infiltrates from directly above the aquifer. The diluted PLS present in much of Oak Grove Draw and Brick Kiln Gulch is evidence that natural waters due exist. This condition is actually acknowledged in the APP in Section 3.2.1 on Page 23.

6. Section 3.2.1, Page 21. The first paragraph states that PLS-saturated zones in the alluvial aquifer adjacent to the stockpiles and upgradient of the collection systems are an intrinsic component of mine operations. It should be noted that the saturated alluvial aquifer was not known to be an intrinsic component until PDTI haphazardly discovered their existence in 1990 and again in 1996. These alluvial channels may continue to be saturated with PLS for many years after closure of the stockpiles.

7. Section 3.2.1, Page 23. The second paragraph discusses the extent of contamination in the alluvial aquifer near Transect 9. PDTI must provide a more detailed map of this area showing all existing monitor wells, pumping wells and borings which define the lateral and vertical extent of contamination in this area. From the map provided in Figure 5, it does not appear that the lateral extent is well defined.

8. Section 3.2.1, Page 23. The third paragraph states that monitoring well TWS-25 went dry back in 2001. PDTI must provide more discussion on the extent of contamination in the area surrounding Seep 5E. Given the poor water quality at Seep 5E and rising TDS and sulfate concentrations in wells TWS28 and TWS-29 (Page 28), at a minimum well TWS-25 should be replaced. A detailed map of this area showing the locations of all existing monitoring wells and seepage collection systems, and the extent of ground water contamination must be provided. Based on this information, more wells may be required.

9. Section3.2.1, Page 27. The first paragraph discusses the poor water quality that was associated with TWS-31 before it was destroyed. A more detailed investigation must be conducted in this area. A map showing the collection system and any monitoring wells in this area must be included. At least one monitoring well must be installed down gradient of the collection system to determine if it is operating properly.

10. Figures 7a, 7b and 7c, Pages 29-31. The regional groundwater quality maps in the APP must be updated to show more recent data as well as data from the new monitoring wells installed at the Tyrone Mine. The maps presented are general in nature and more detailed maps must be provided for areas affected by contamination in the alluvial as well as the regional aquifer. Specifically, the areas surrounding Seep 5E (Comment 8), Seep DC2-1 (Comment 9), the northern perimeter of the No. 3 Stockpile (Comment 18), and the 1X Collection System. Different colors or symbols should be used to indicate monitoring wells that have increasing concentrations of TDS/sulfate over the last three sampling events.

11. Section 3.2.2.1, Page 34. The first bullet in the second paragraph discusses ground water quality at the No. 3 Tailing Impoundment. Although the wells listed have been stable through time, a more thorough assessment is needed to determine if ground water is being adequately monitored. During the April 27th teleconference NMED and PDTI agreed that a site inspection by both parties would be useful to complete the assessment. At a minimum, NMED will require additional wells to characterize ground water quality downgradient of the former storm water catchment basins located on the northern perimeter of the No. 3 Tailing Impoundment.

12. Section 3.2.2.1, Page 34. The third bullet discusses ground water quality adjacent to the 3X Tailing Impoundment. There is a scarcity of wells downgradient and one of the two existing wells is showing increasing concentrations of TDS and sulfate. As discussed in Comment 11, a site visit is needed to assess the adequacy of the ground water monitoring network in this area.

13. Section 3.2.2.1, Page 34. Two monitoring wells located downgradient of the No. 2 Tailing Impoundment have been approved by NMED to be abandoned. A third well, Monitoring Well 40, may also be abandoned. Two of these wells exceed standards and one shows increasing concentrations. After completion of reclamation of the No. 2 Tailing Impoundment, this area must be assessed for locating replacement wells and the possibility of new wells. Additional investigation is needed to determine the lateral extent of contamination present in well 27-2004-01.

14. Section 3.2.2.1, Page 35. The second bullet states that the effectiveness of the ground water capture system at the 1X Tailing Impoundment is evidenced by the good water quality at wells 10 and 42. It should be noted that these wells are located over ½ mile downgradient of the capture system. A more detailed evaluation and discussion is needed for this area (see Comment 10).

15. Section 3.2.2.1, Page 35. The third bullet mentions increasing concentrations in well MVR-1. This well, along with well 46 exceed standards for TDS and sulfate. PDTI must provide additional investigation to determine the lateral extent of contamination around these wells.

16. Section 3.2.2.1, Page 36. NMED disagrees that the existing ground water quality monitoring data in the Mangas Valley is sufficient for Abatement Plan purposes. The lateral extent of ground water contamination in several areas remains undetermined. More wells are also needed to better characterized ground water downgradient of the tailing impoundments. NMED recommends a thorough assessment of Tailing Impoundments 2, 3 and 3X after reclamation is completed, and again after Tailing Impoundments 1, 1A and 1X are completed.

17. Section 3.2.2.2, Page 37. The second paragraph suggests that the water quality impacts around wells MB-13 and 2-12 are limited because no upgradient sources can be defined. Possibilities include mounding from the north or a ground water gradient that is not from the south. This area is of concern to NMED because of increasing concentrations measured in wells MB-39 and MB-13.

18. Section 3.2.2.2, Page 40. The last paragraph contains mostly discussions of regional monitoring wells at the No. 3 Leach Stockpile with decreasing trends in water quality. Only one line of discussion is given to wells with increasing concentrations, and many wells with increasing trends are not mentioned. Comparing 2005 sample analyses with TDS and sulfate data in Appendix A shows significant increases in concentrations in several regional monitoring wells in the central and eastern sections of the northern toe (wells P12A, P-13A, P-178, P-196, P-222). NMED is concerned with this area of contamination. More discussion must be provided concerning the rapid increases in contaminant concentrations in the regional aquifer. Patterns, possible causes, and proposals for determining lateral and vertical extent must be included in the discussion. Cross-sections including screened intervals for individual wells must be contained in the discussion. PDTI must provide updated graphs that include the most recent data for wells in this area. PDTI must also provide a revised map that includes the most recent TDS/sulfate/metal concentrations. Different colors should be used to indicate monitoring wells that are above standards or below standards. An additional map should show the same wells with separate colors showing increasing, steady, and decreasing TDS concentrations over the last three sampling events.

19. Section 3.2.2.2, Page 41. Please provide the most recent water quality analysis and plots of TDS and sulfate concentrations for well MVR-4. The plots are missing from Appendix A.

20. Section 3.3, Page 44. Not all streams at the Tyrone Mine are ephemeral. The stream in Deadman Canyon is perennial.

21. Section 3.4, Page 48. Two additional regional monitoring wells are proposed for the western portion of the No. 3 Leach Stockpile. As stated in Comment 18, the rapid increase in contaminant concentrations warrants a more extensive investigation including an assessment of deeper pathways within the regional aquifer. More wells may be required depending on the outcome of the investigation. Geological cross-sections may be useful when evaluating the vertical extent of contamination.

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23. Section 3.4.3, Page 52. More justification is needed for proposing only two new monitoring wells for the western portion of the No. 3 Stockpile. As stated in Comment 18, a comparison of recent analyses with the TDS data in Appendix A shows several wells in the central and eastern portion of the No. 3 Leach Stockpile that have significant increases in contaminant concentrations. However, no additional wells are proposed for the central or eastern areas.

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25. Section 3.4.3, Page 53. Please provide the status of Seeps 5M, 5L and 31 in Deadman Canyon as shown in Figure 6. Please provide water quality data for these seeps if any is available.

26. Section 3.4.3, Page 54. NMED agrees with the statement in the second Paragraph. Quarterly sampling of well TWS-19 should be included in the DP-166 monitoring plan. PDTI should submit a request to amend the discharge permit.

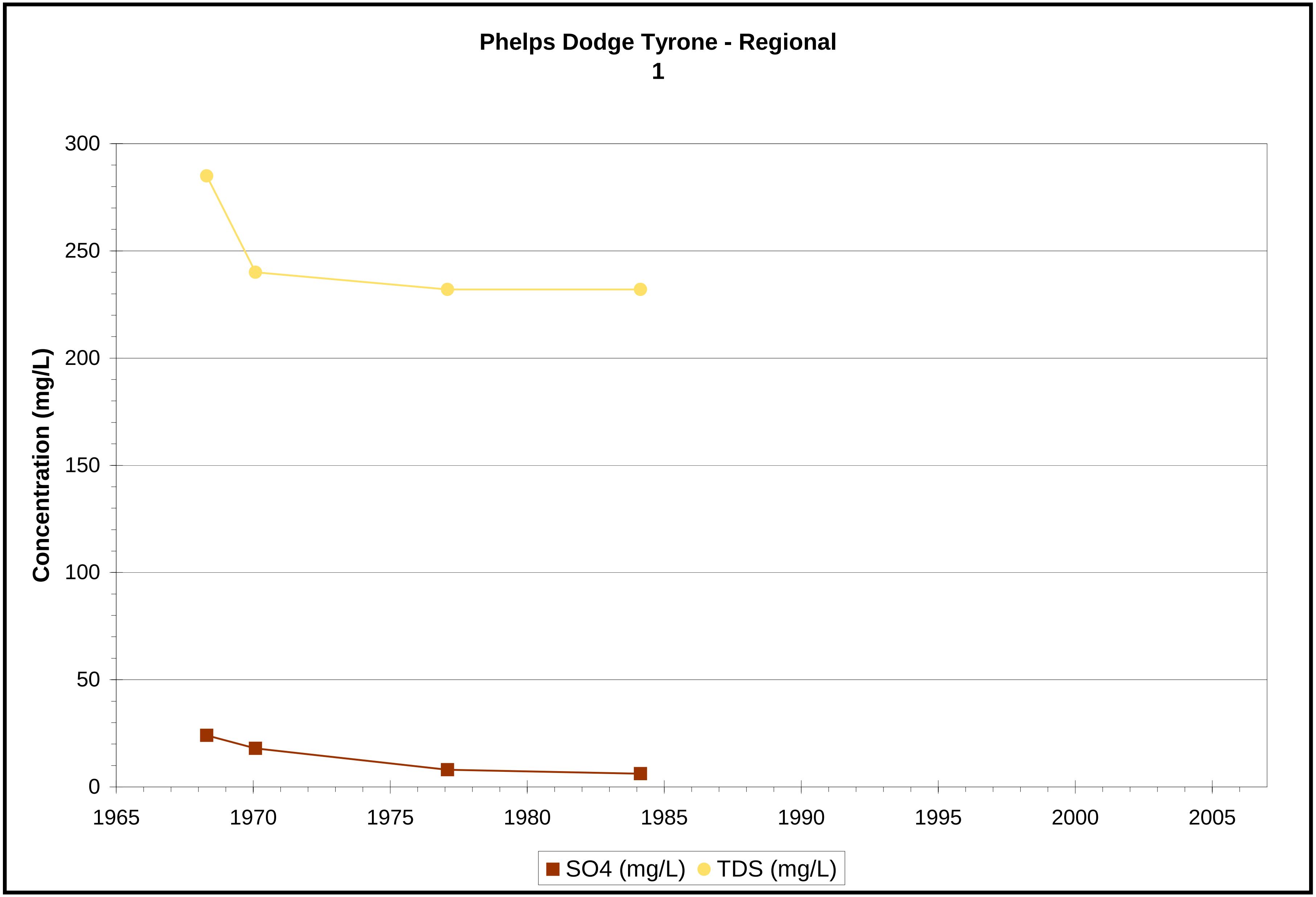
Please respond to these comments within 30 days of receipt of this letter. If you have any questions, please call me at 505-827-0027.

Sincerely,

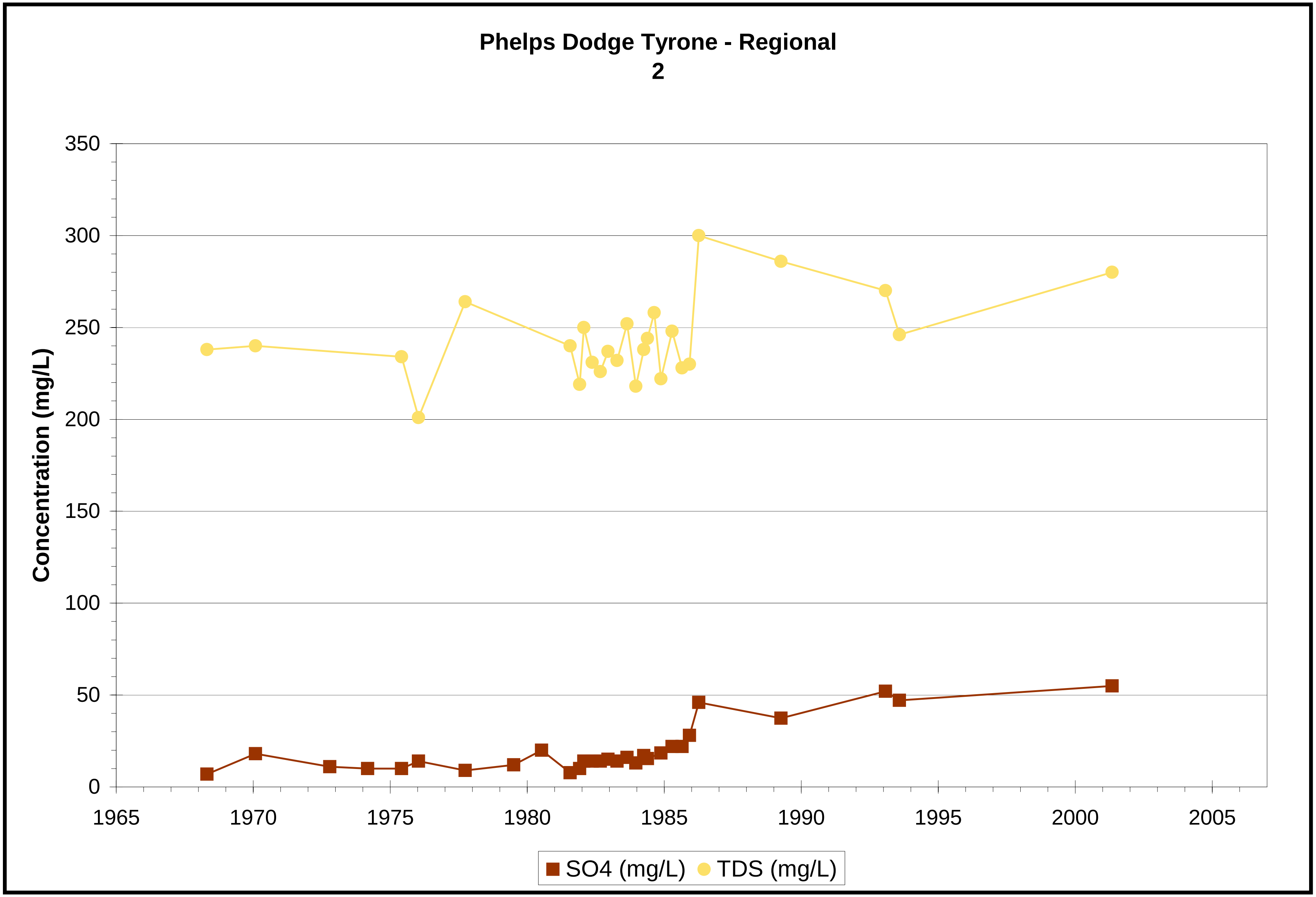
Clint Marshall, Hydrogeologist
Mining Environmental Compliance Section
Ground Water Quality Bureau

cc: George Llewellyn, GWQB, Silver City Field Office
David Ohori, EMNRD - MMD
Kevin Myers, MECS

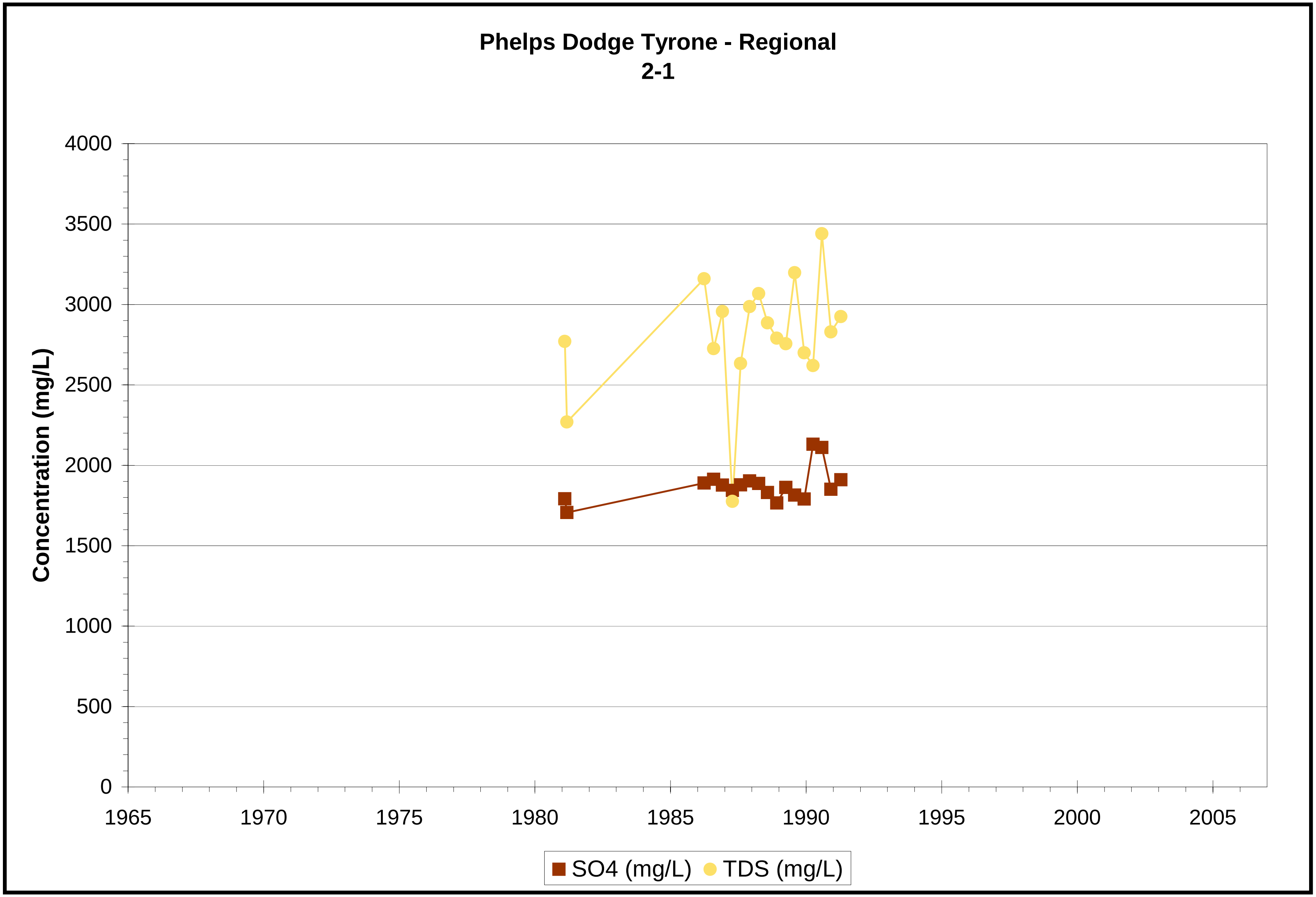
Appendix B
Plots of TDS and Sulfate Concentrations at Tyrone Monitor Wells

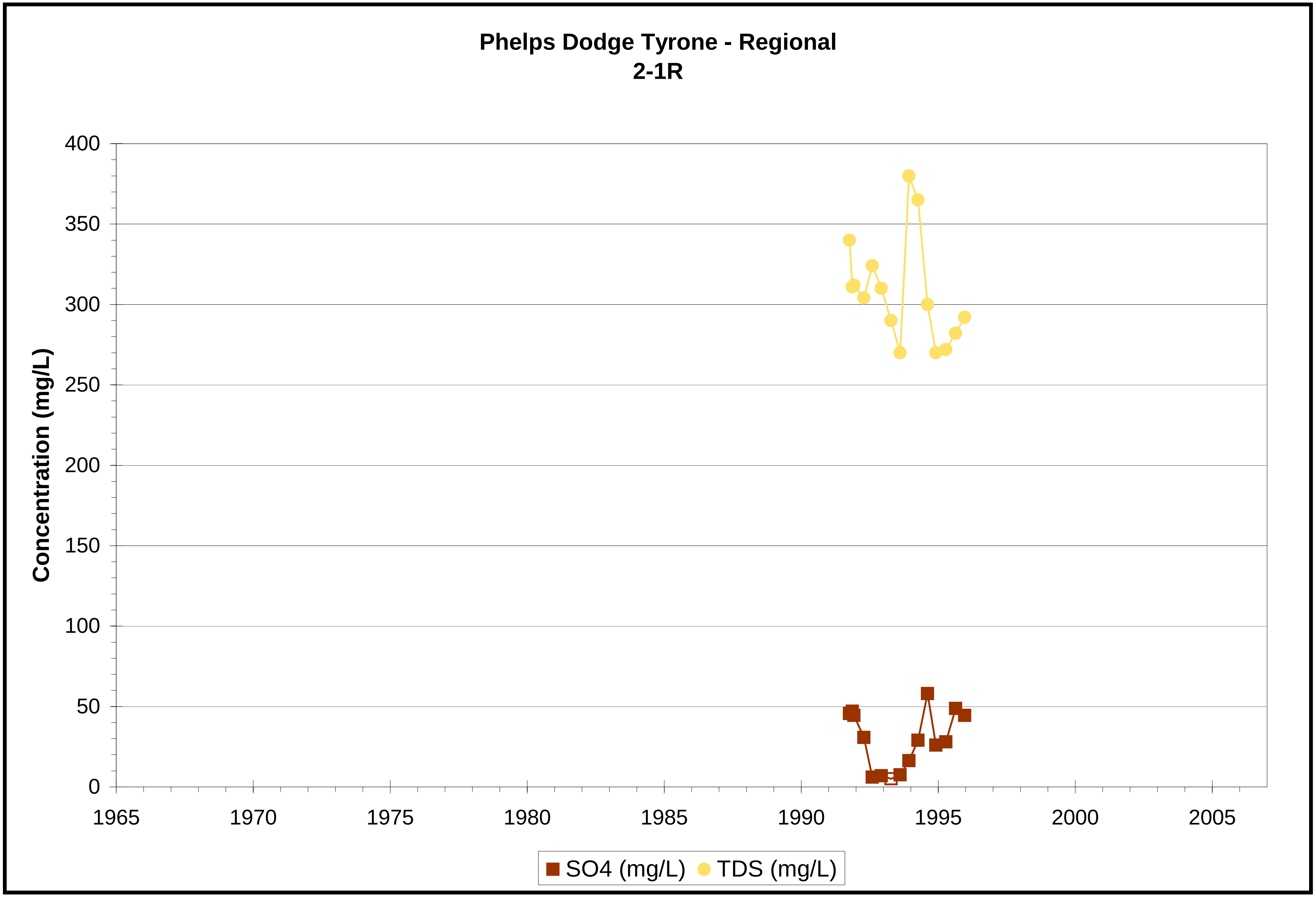


Phelps Dodge Tyrone - Regional
1
Concentration (mg/L)
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

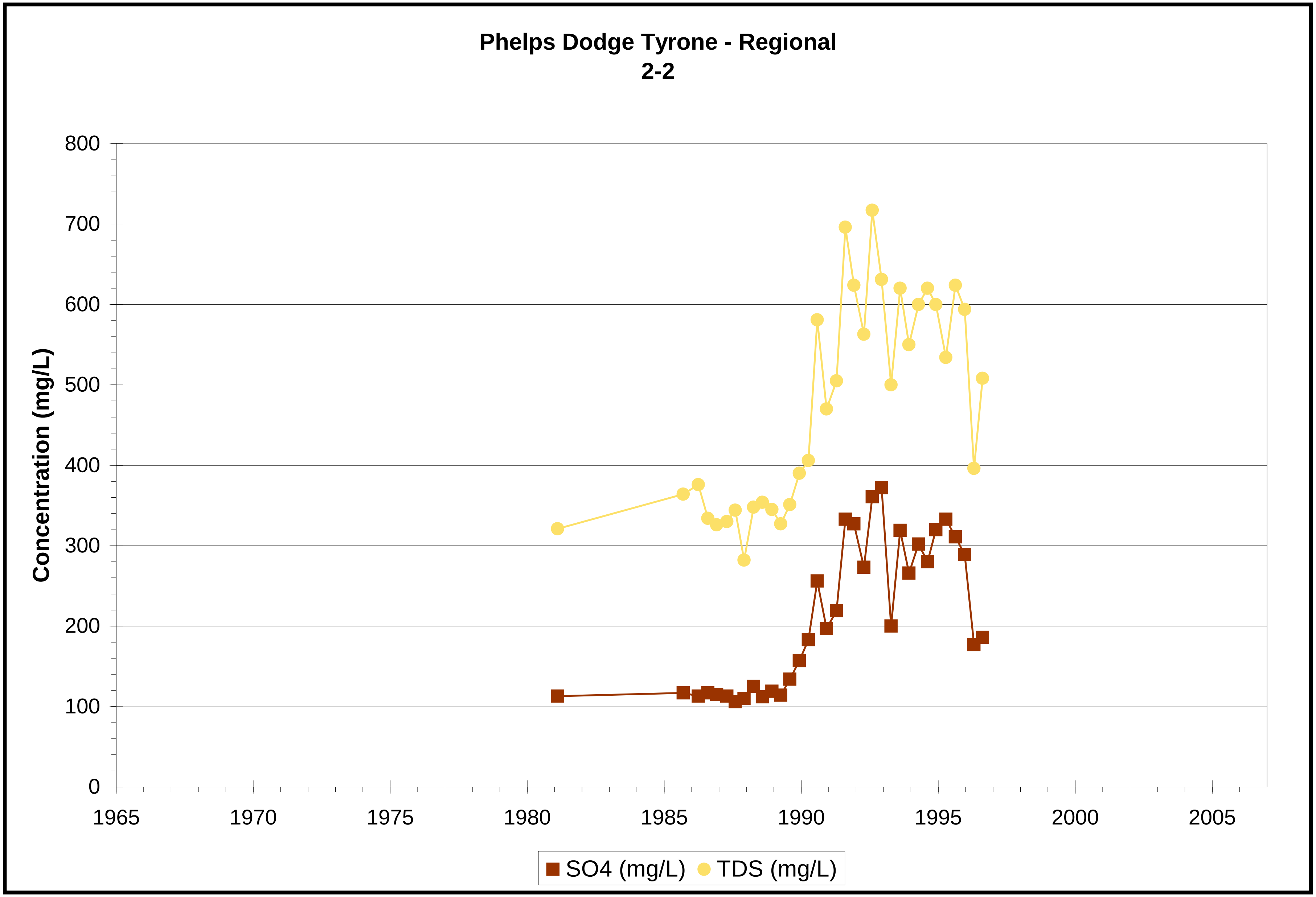


Phelps Dodge Tyrone - Regional
2
Concentration (mg/L)
0
50
100
150
200
250
300
350
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

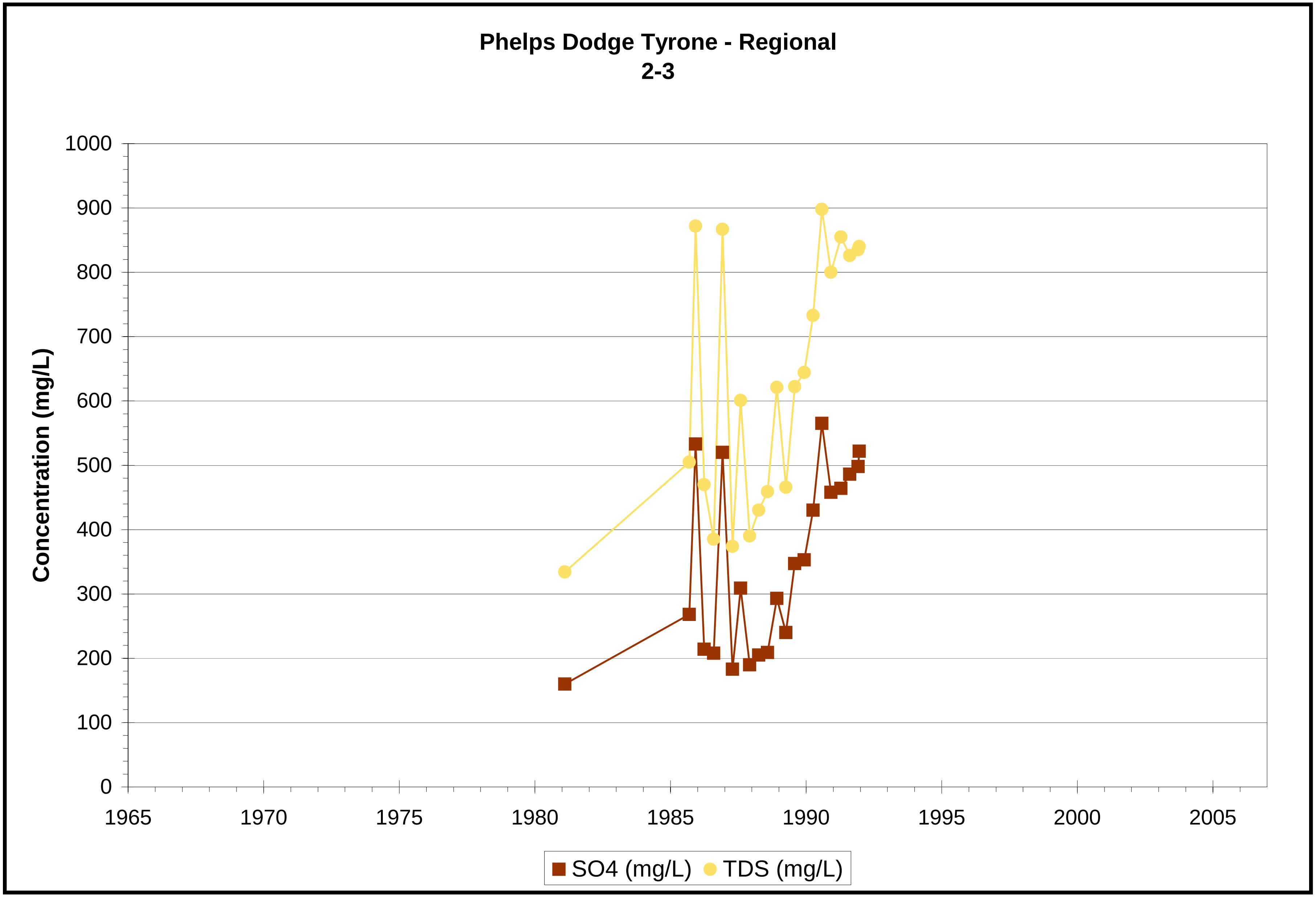

Phelps Dodge Tyrone - Regional
2-1
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



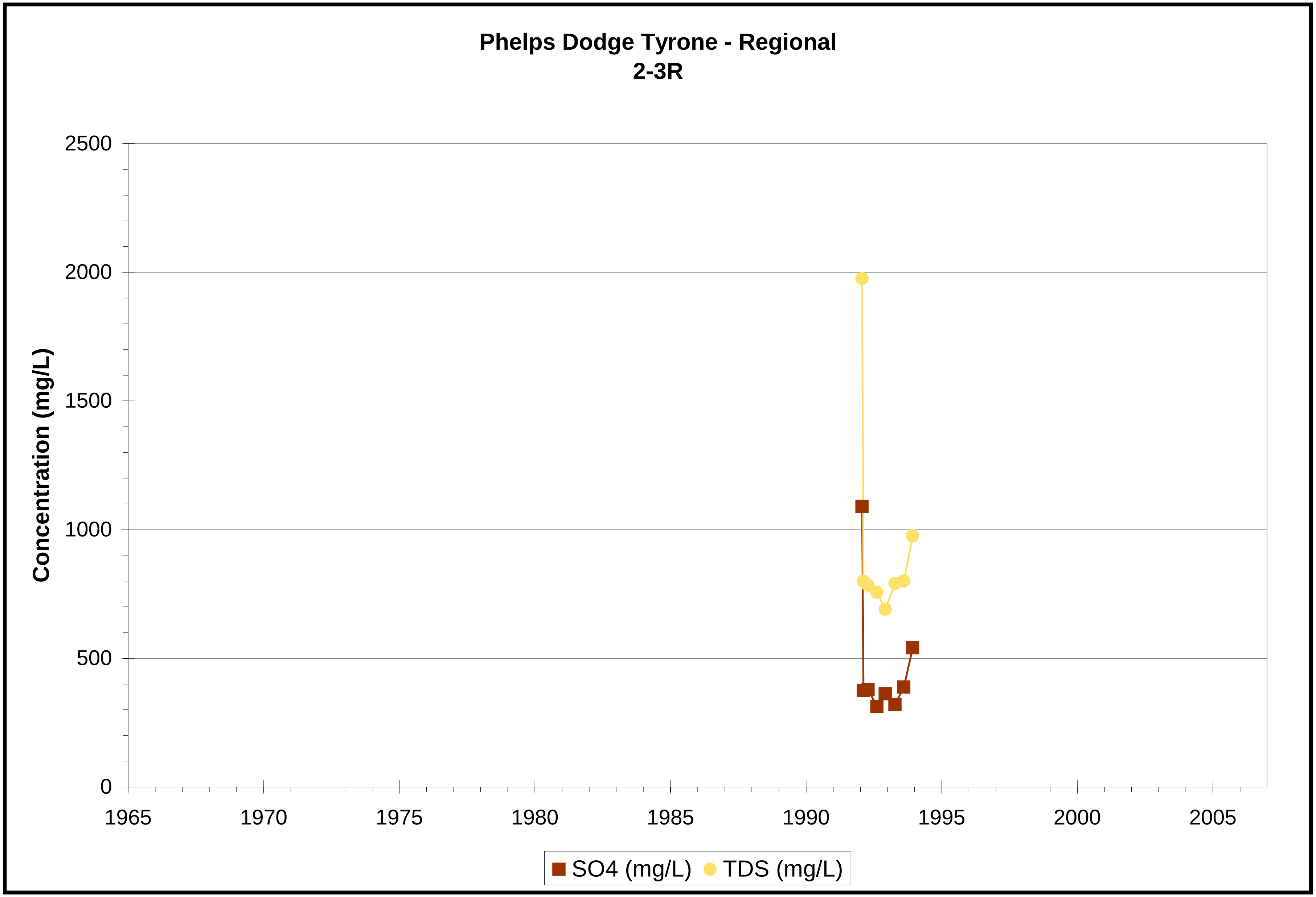
Phelps Dodge Tyrone - Regional
2-1R
Concentration (mg/L)
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



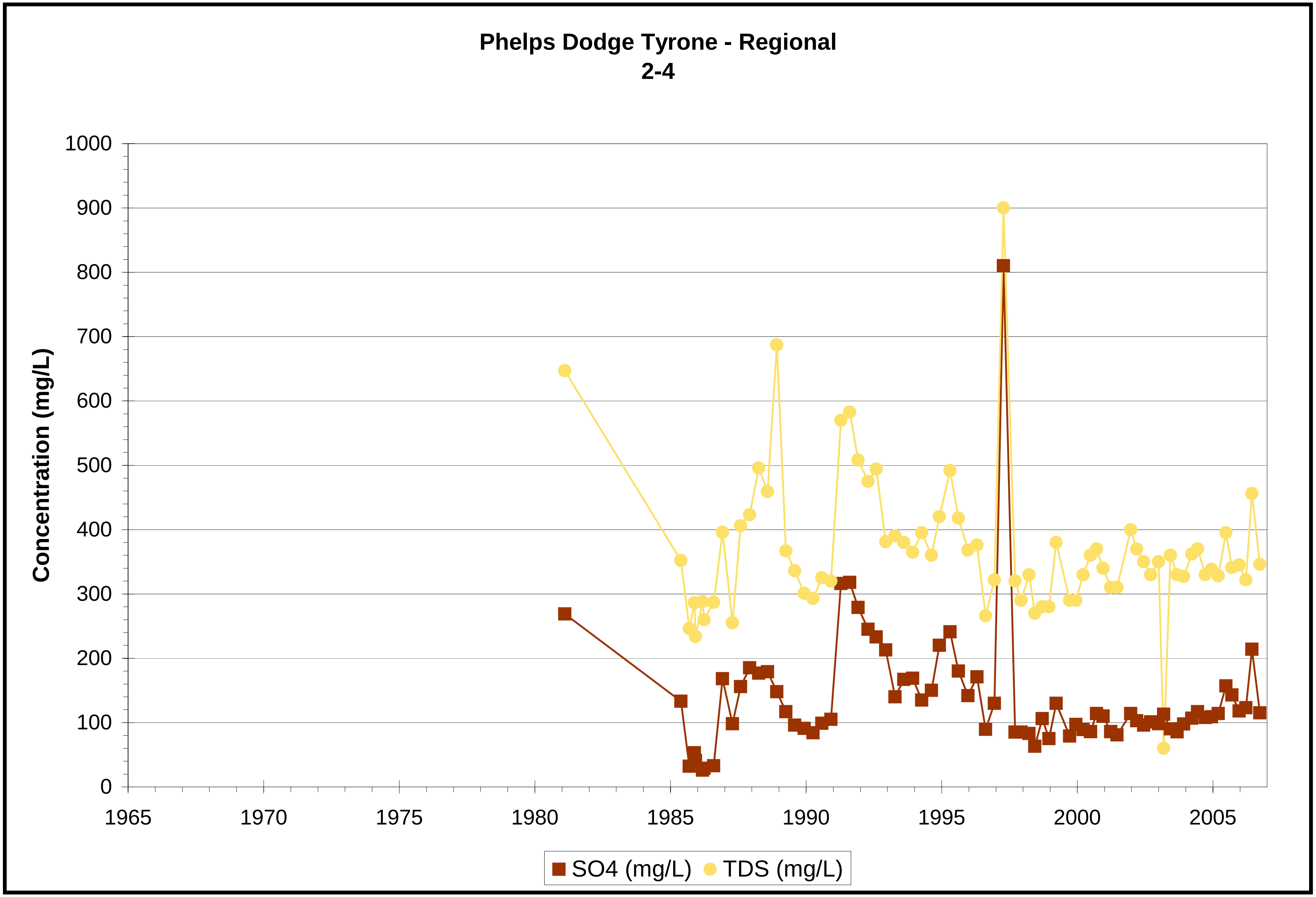
Phelps Dodge Tyrone - Regional
2-2
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

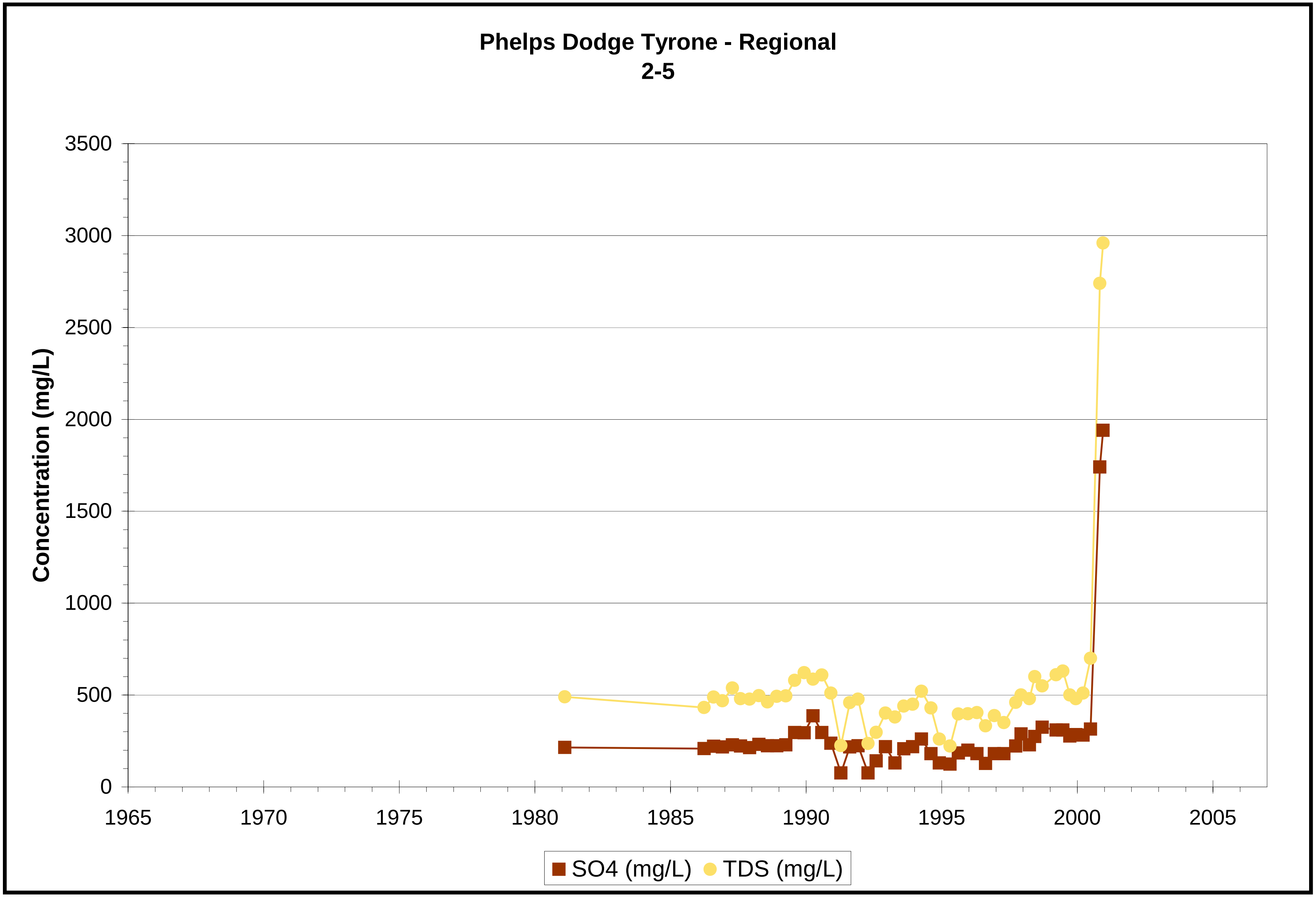


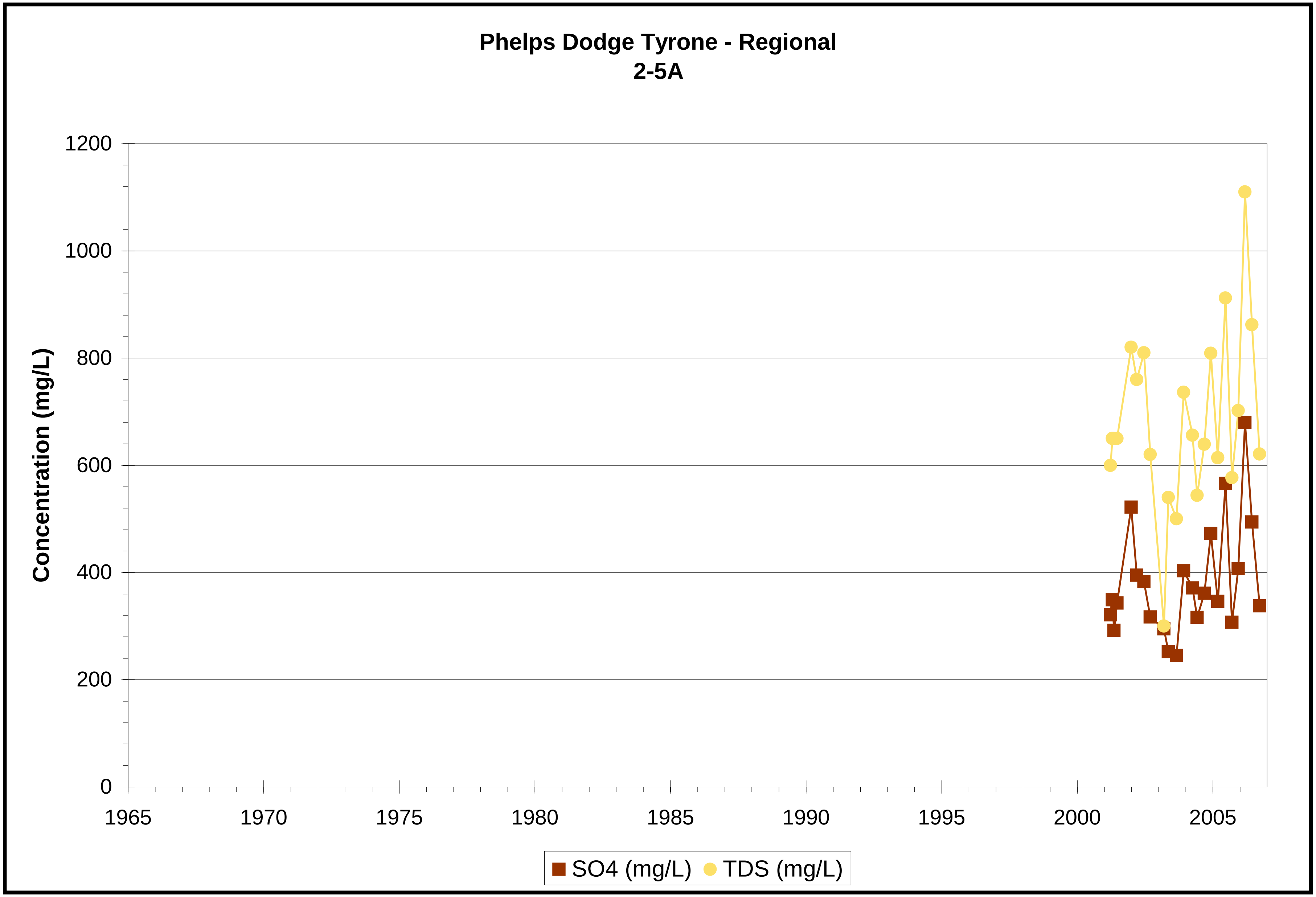
Phelps Dodge Tyrone - Regional
2-3
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
900
1000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



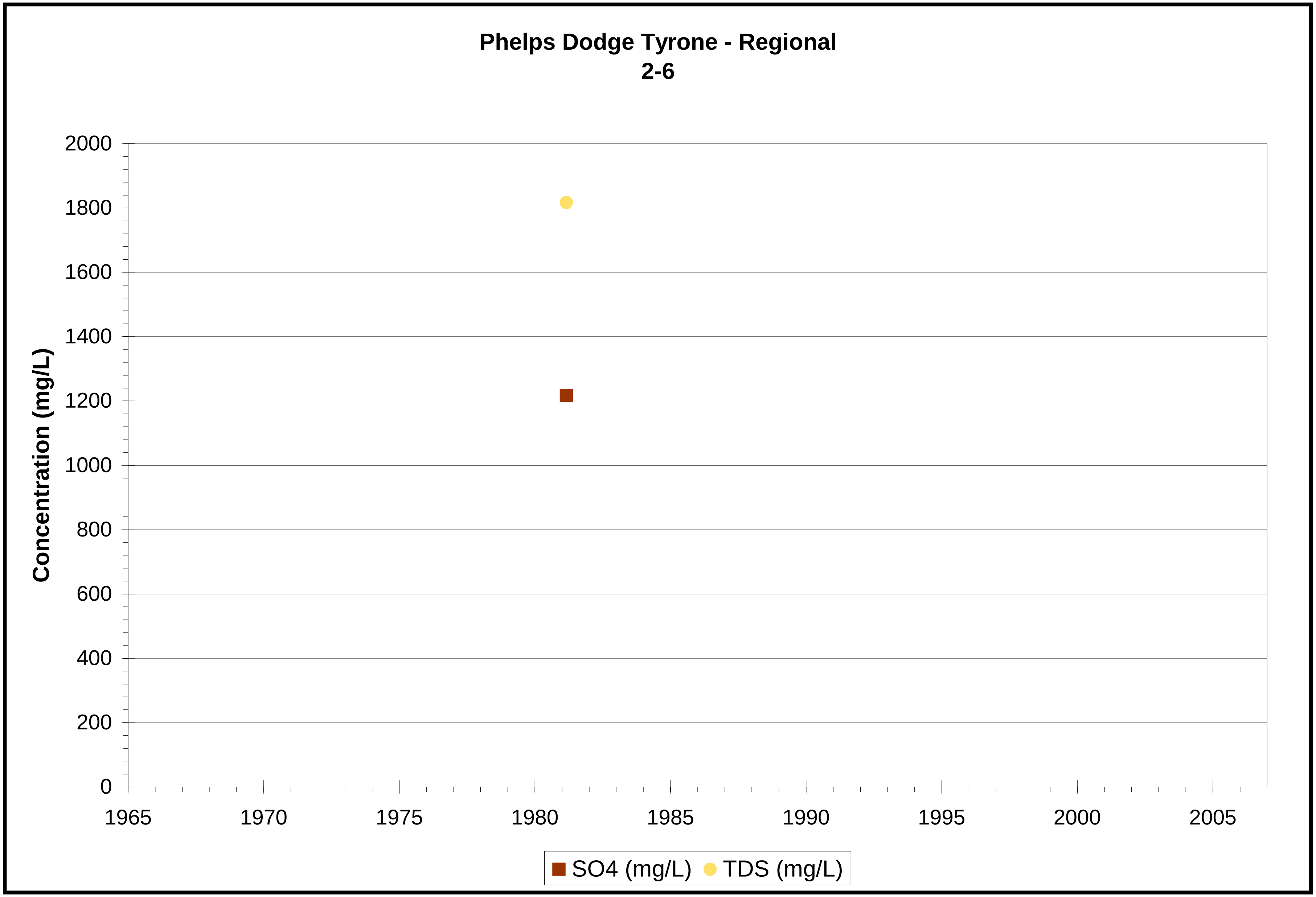
Phelps Dodge Tyrone - Regional
2-3R
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

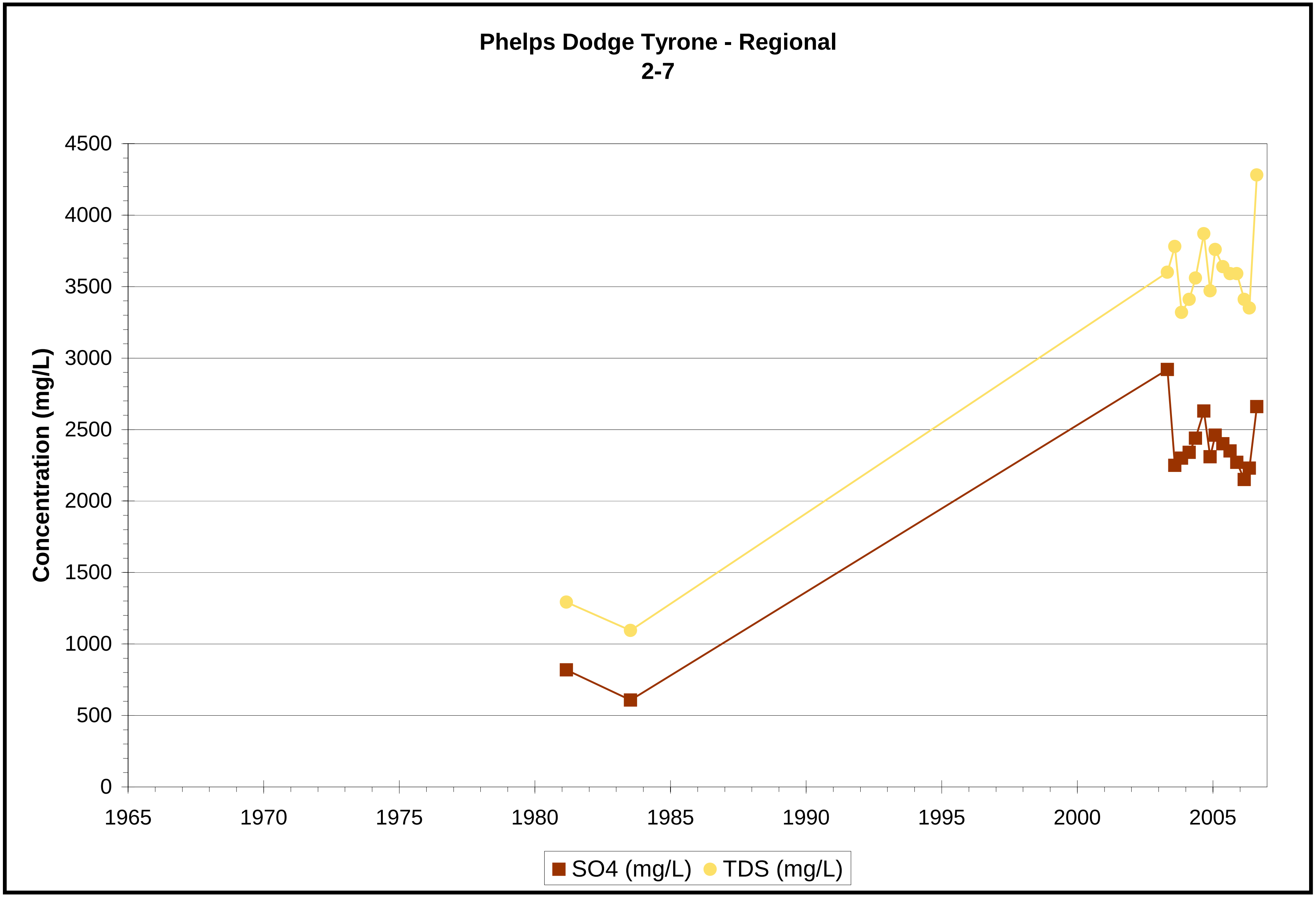

Phelps Dodge Tyrone - Regional
2-4
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
900
1000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

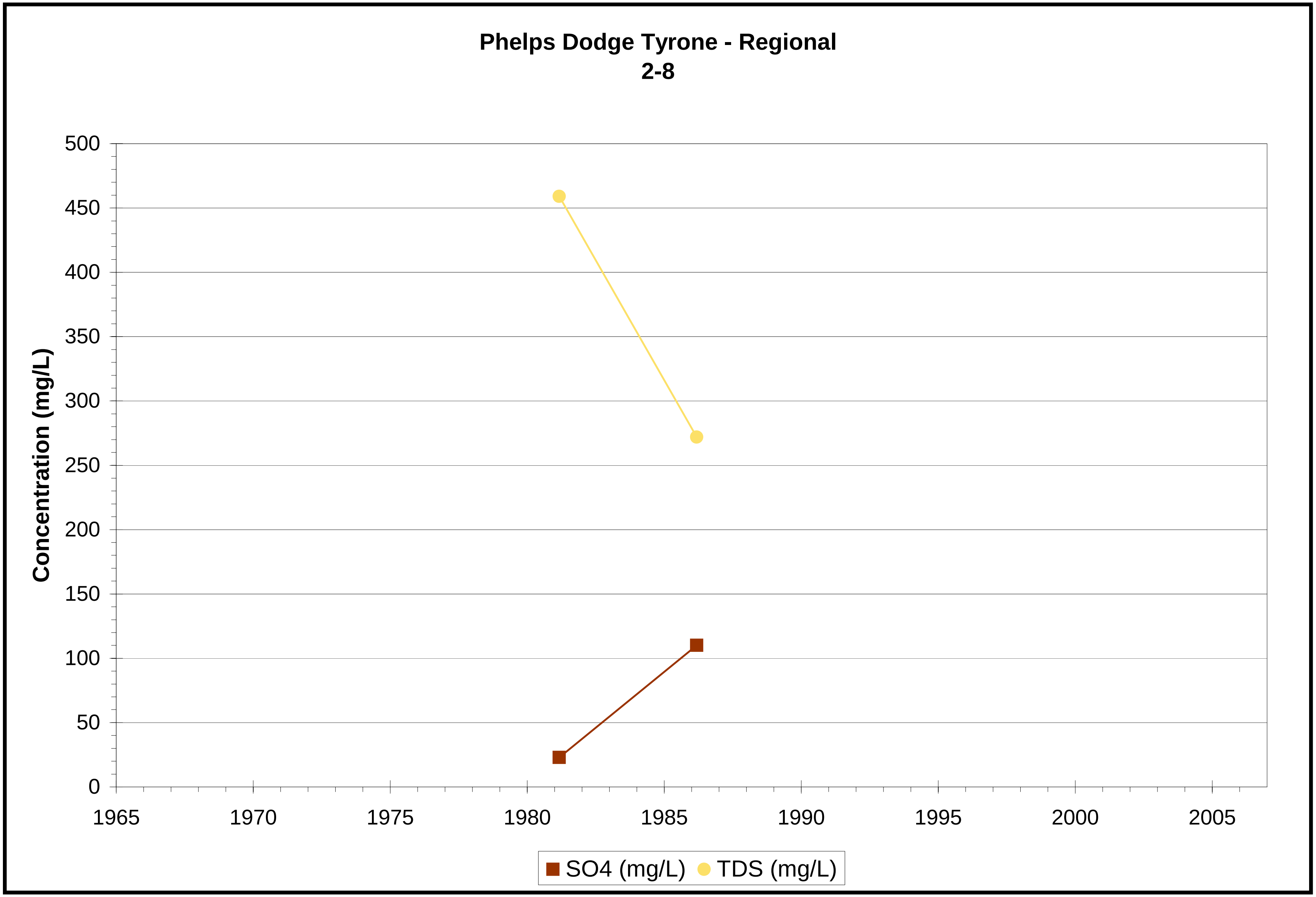

Phelps Dodge Tyrone - Regional
2-5
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



Phelps Dodge Tyrone - Regional
2-5A
Concentration (mg/L)
0
200
400
600
800
1000
1200
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
2-6
Concentration (mg/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
2-7
Concentration (mg/L)
0
500
1000
1500
2000
2500
3000
3500
4000
4500
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
2-8
Concentration (mg/L)
500
450
400
350
300
250
200
150
100
50
0
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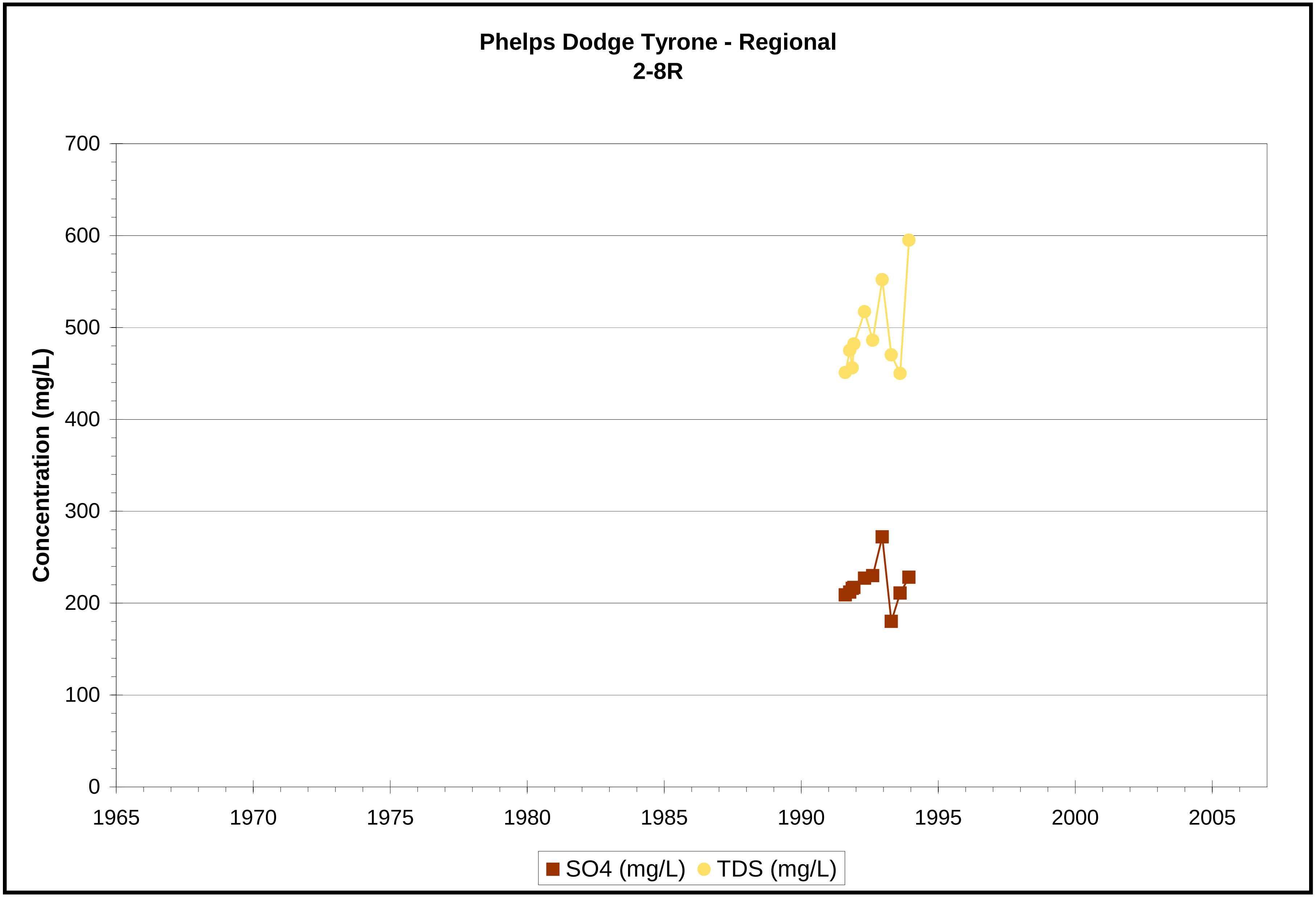
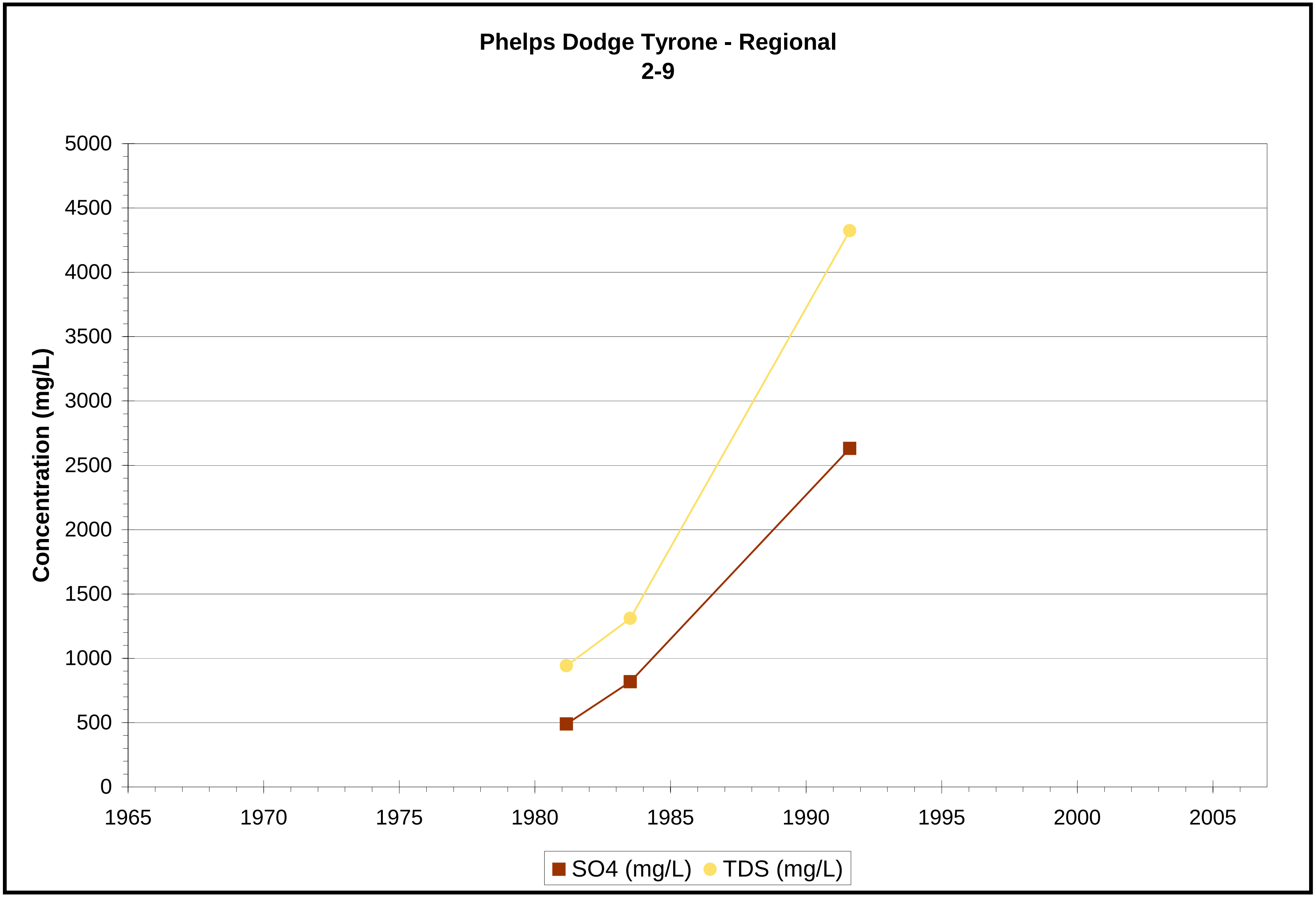
2005
SO4 (mg/L)
TDS (mg/L)



Phelps Dodge Tyrone - Regional
2-8R
Concentration (mg/L)
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
2-9
Concentration (mg/L)
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
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1965
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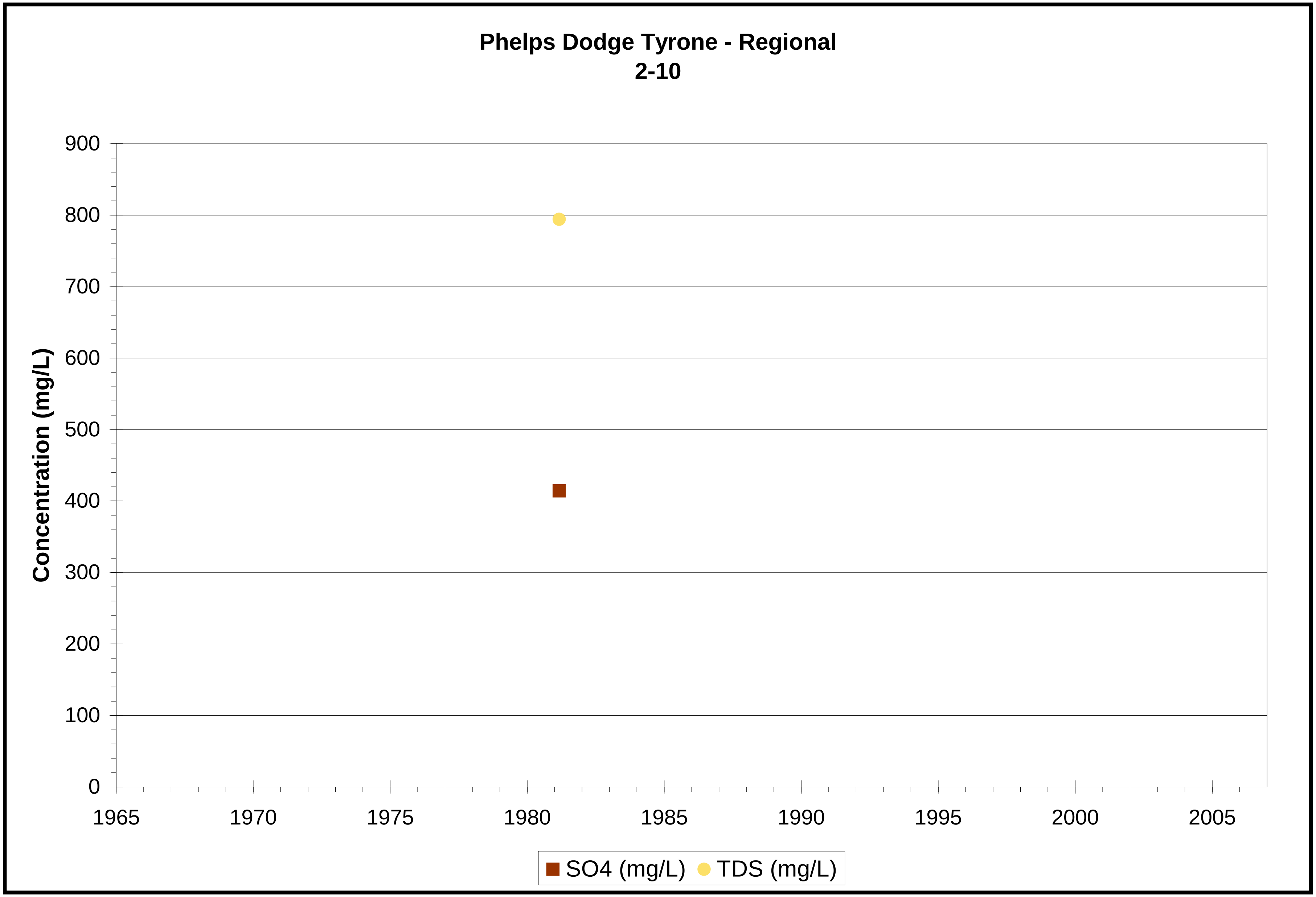
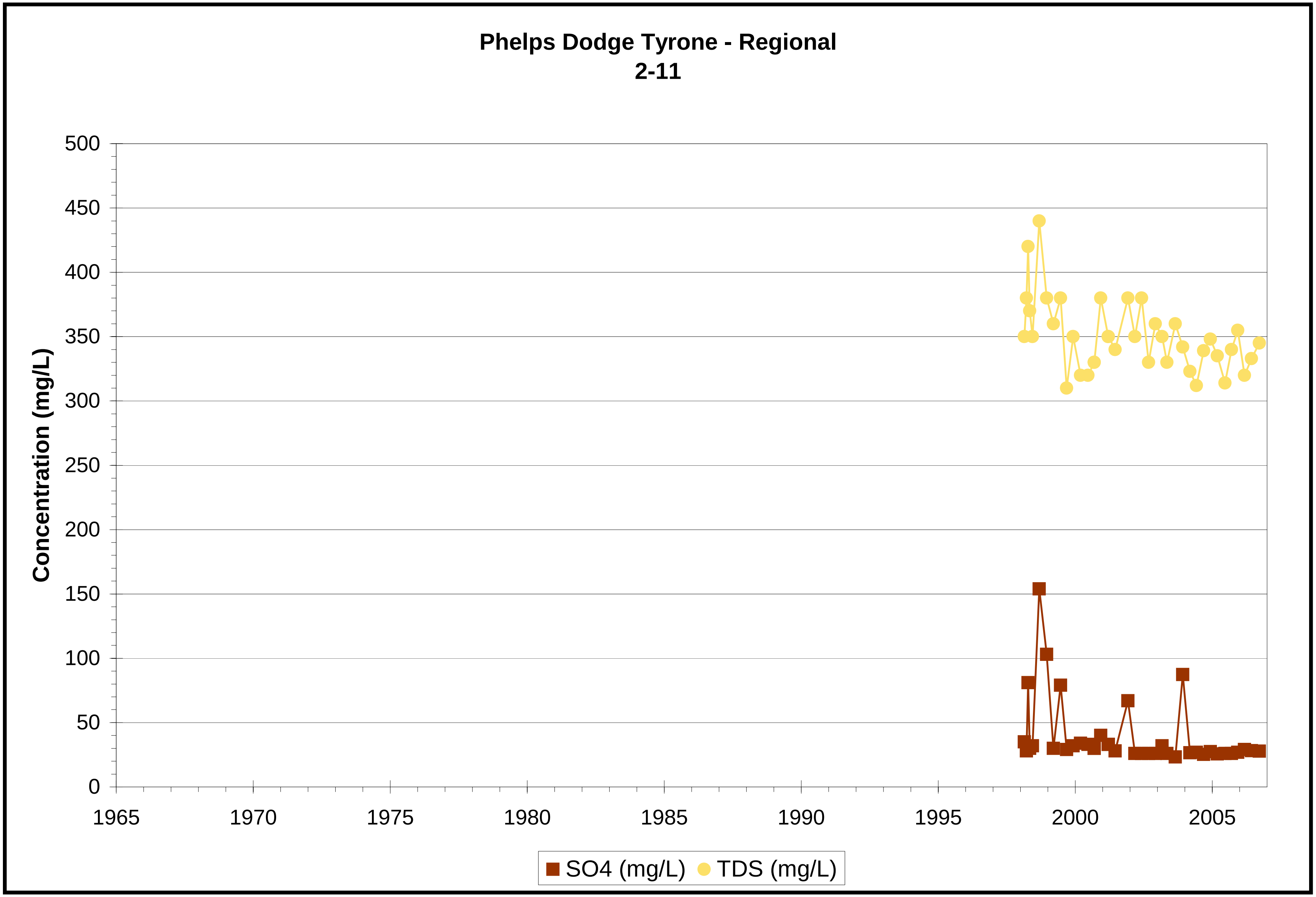
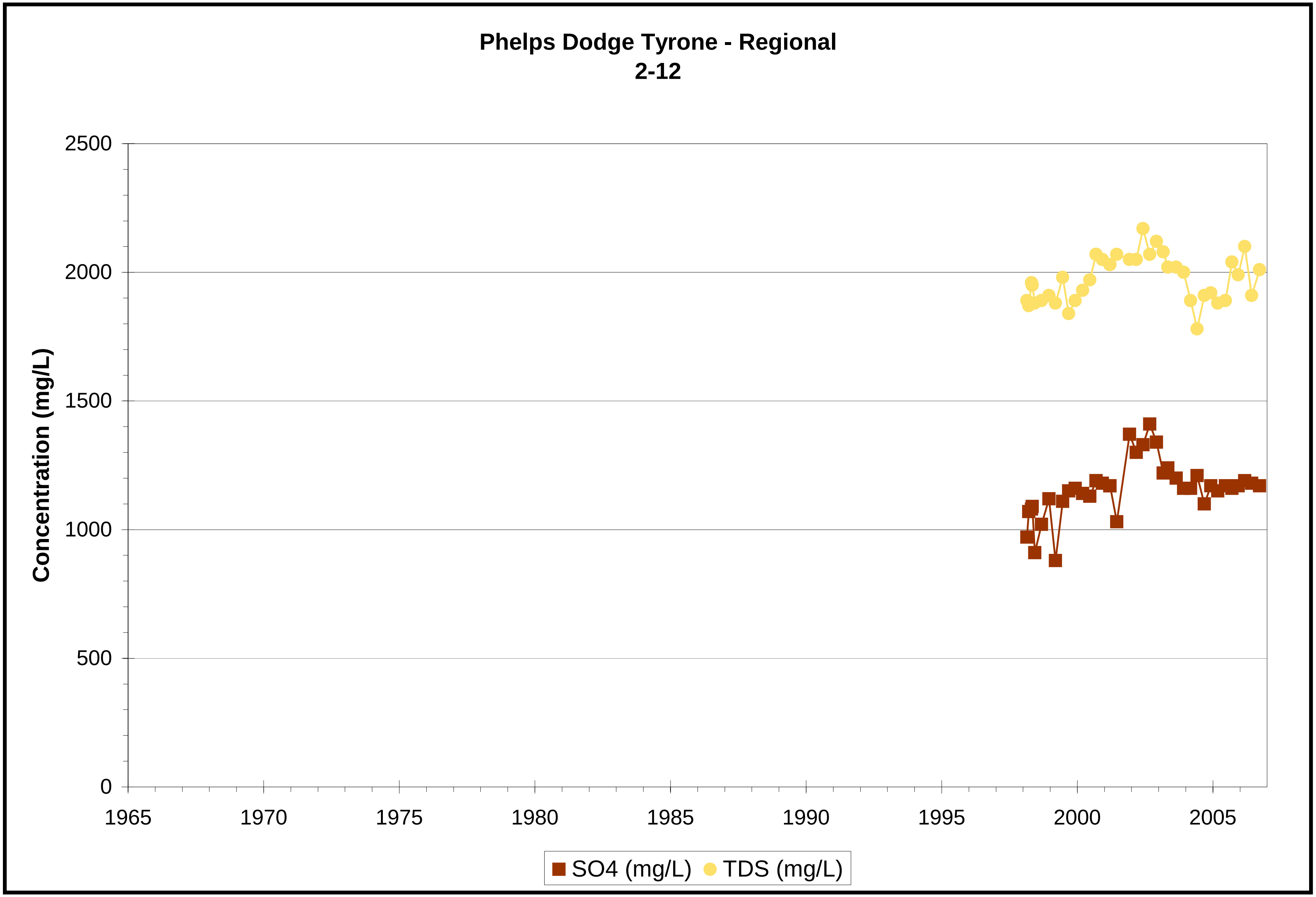
2000
2005
SO4 (mg/L)
TDS (mg/L)



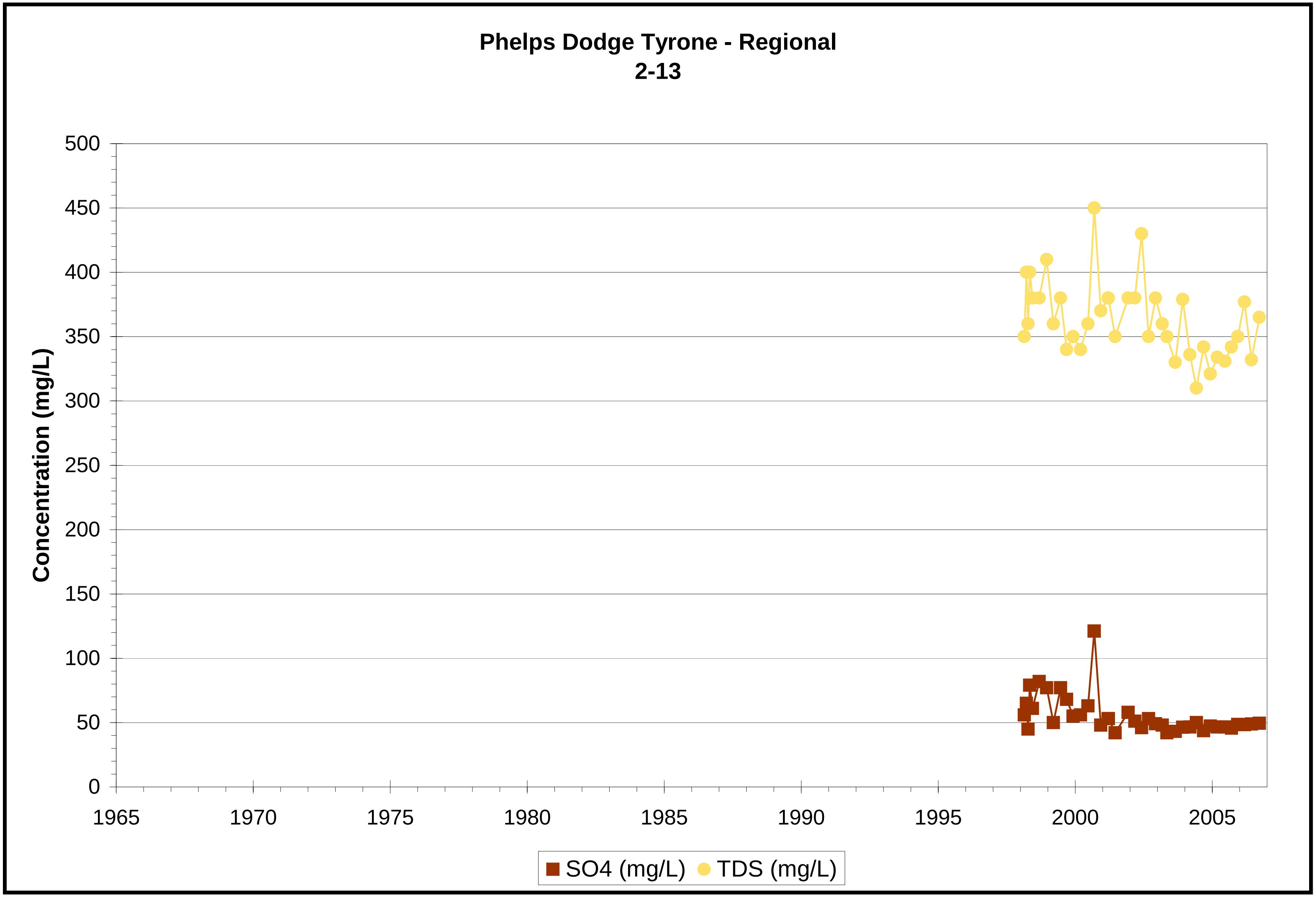
Phelps Dodge Tyrone - Regional
2-10
Concentration (mg/L)
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



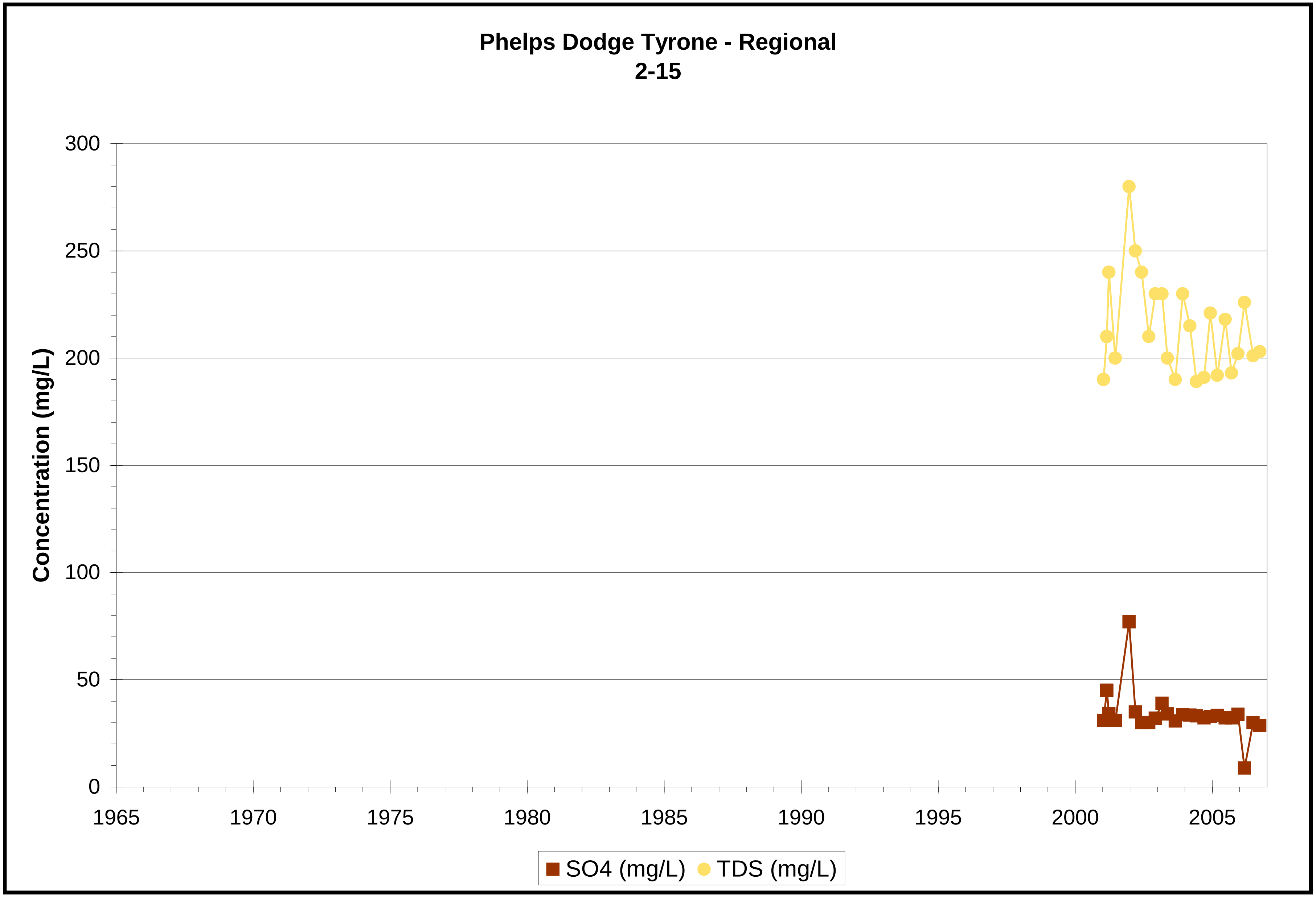
Phelps Dodge Tyrone - Regional
2-11
Concentration (mg/L)
0
50
100
150
200
250
300
350
400
450
500
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



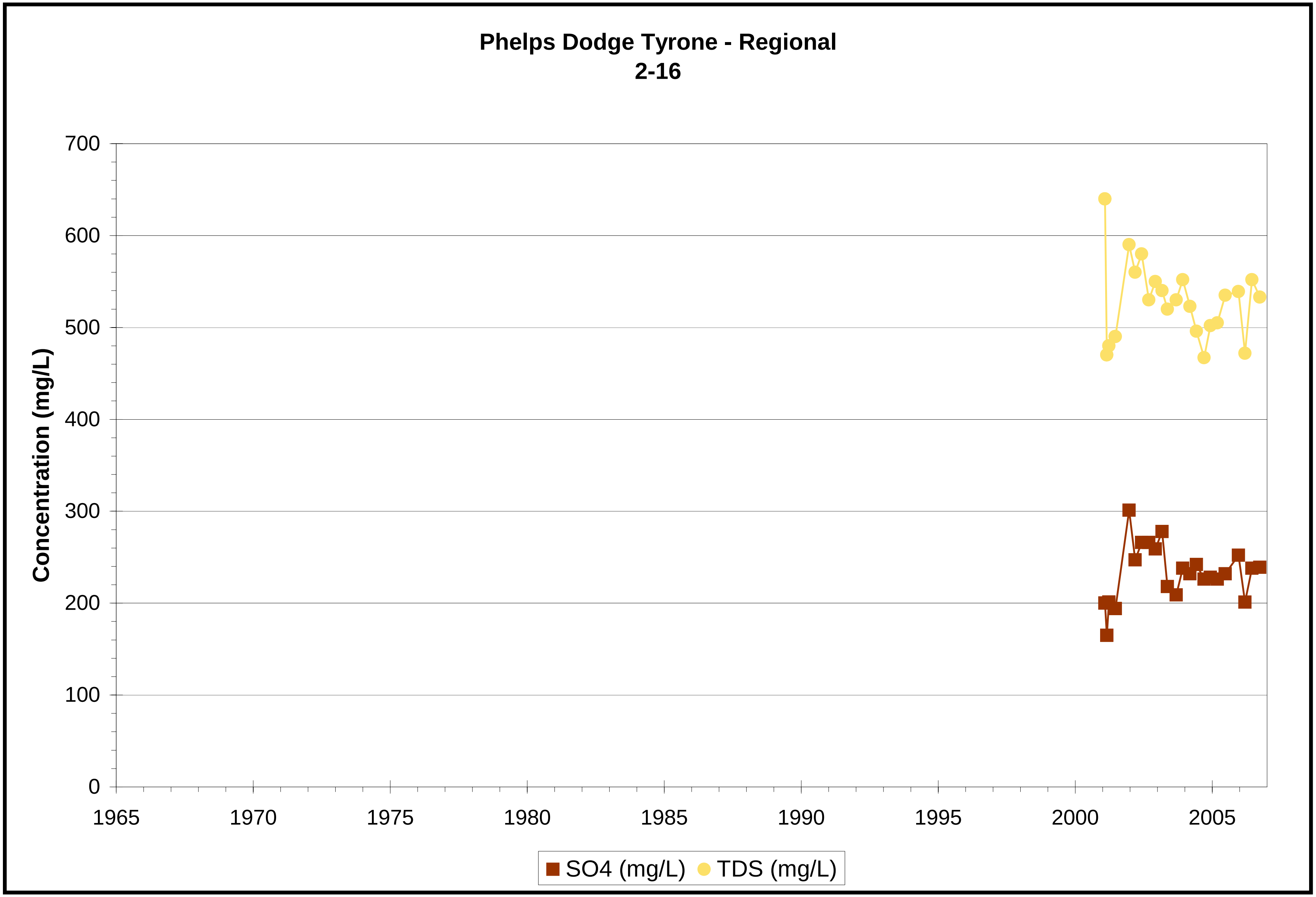
Phelps Dodge Tyrone - Regional
2-12
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

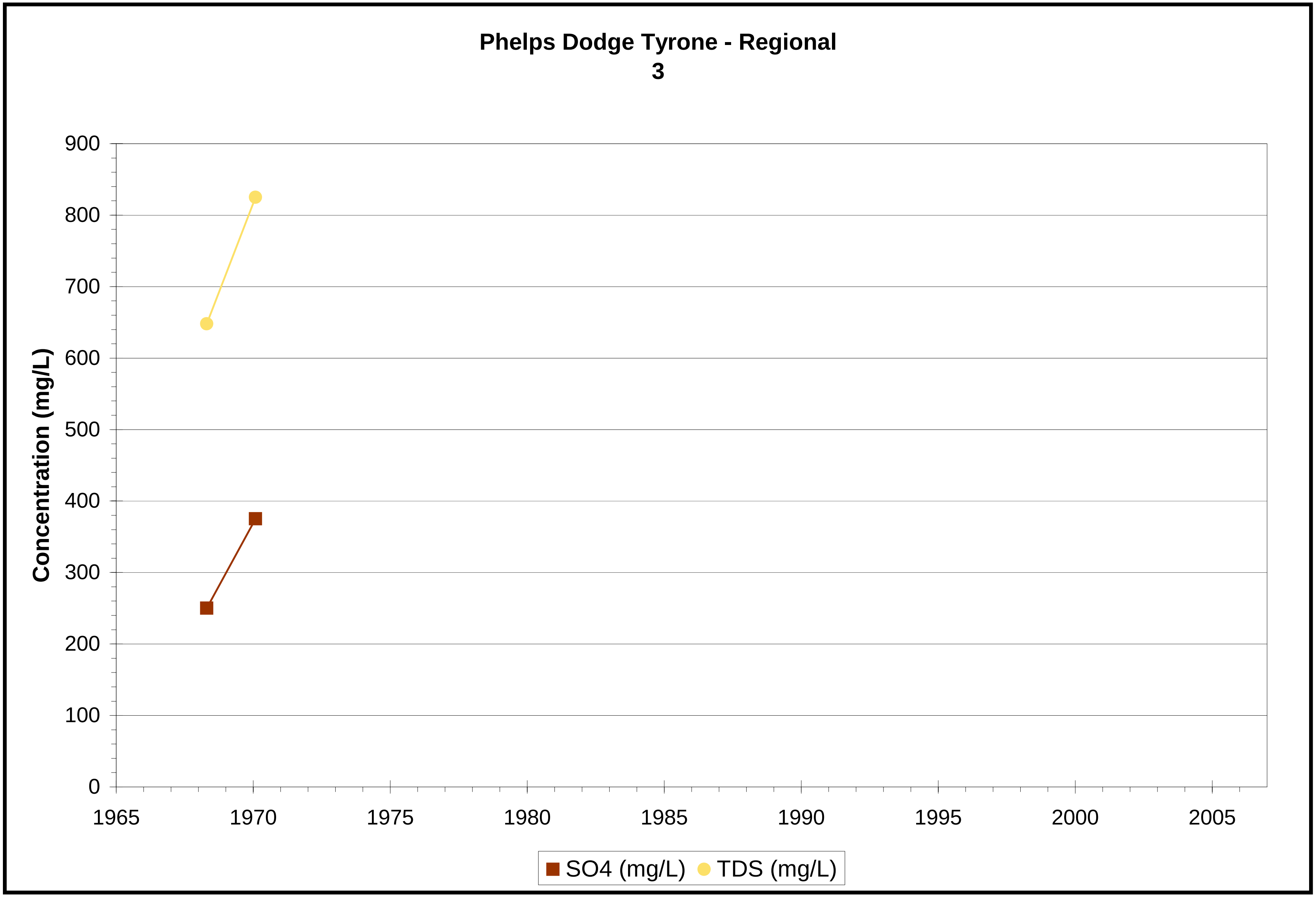


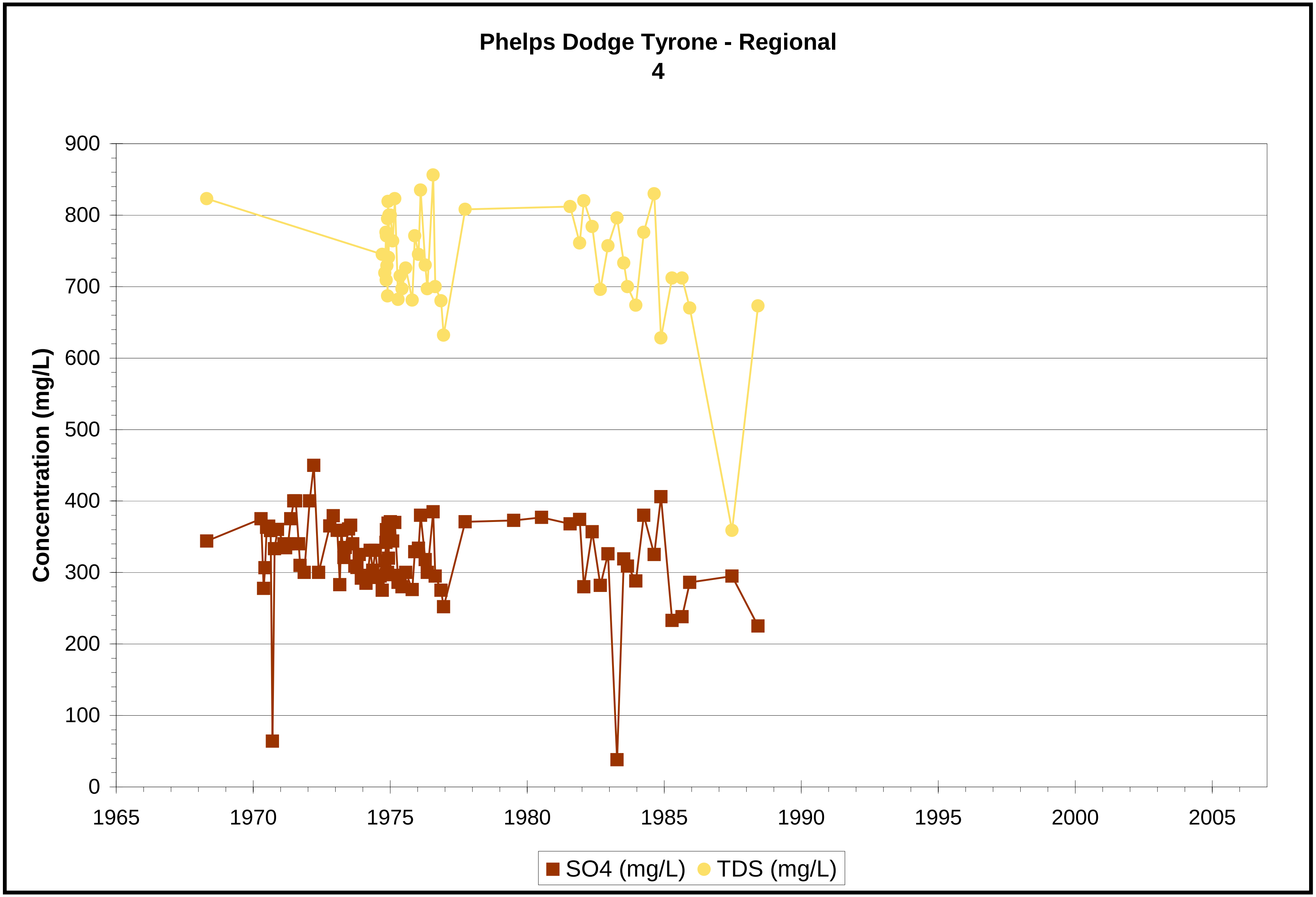
Phelps Dodge Tyrone - Regional
2-13
Concentration (mg/L)
500
450
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

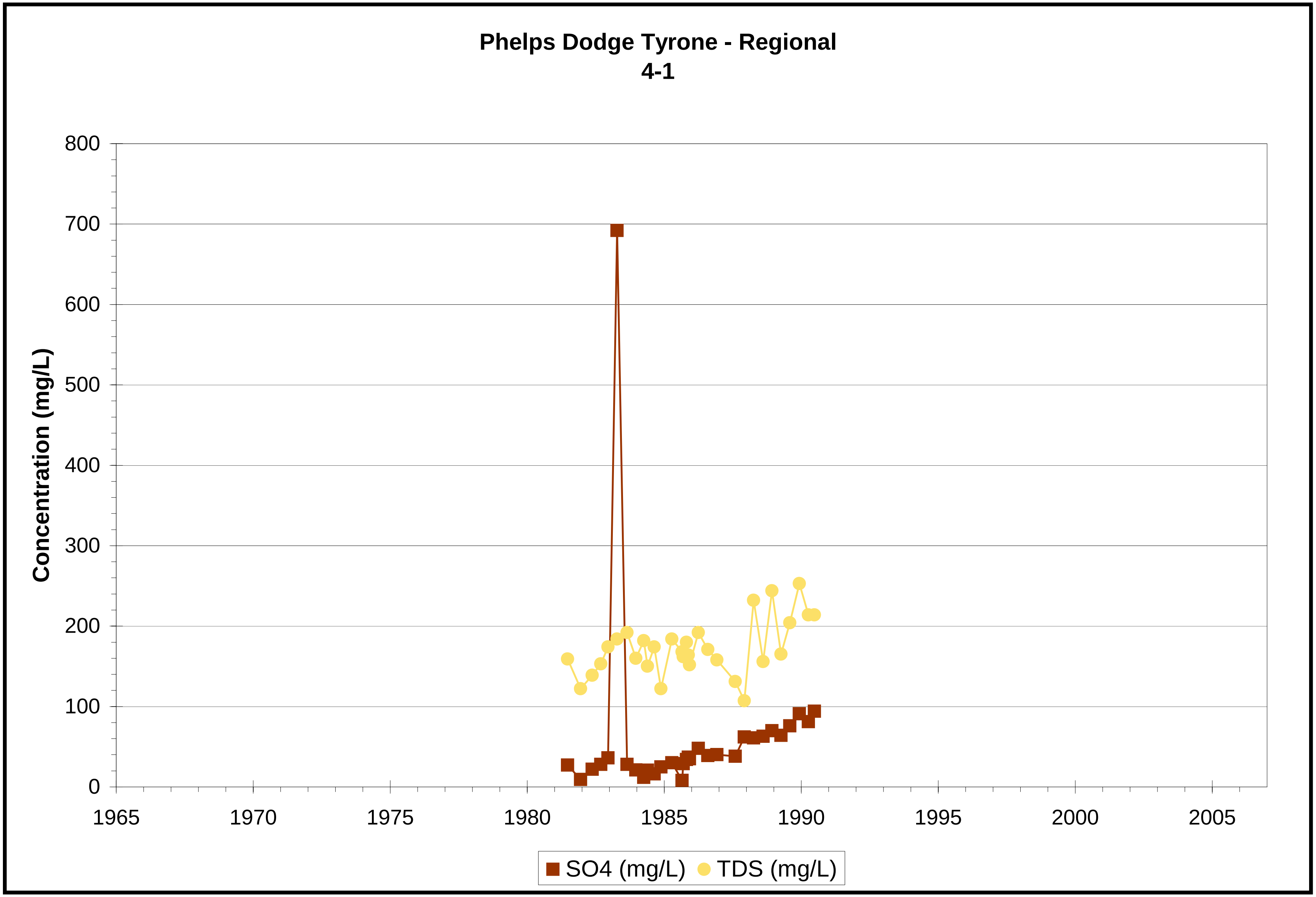


Phelps Dodge Tyrone - Regional
2-15
Concentration (mg/L)
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

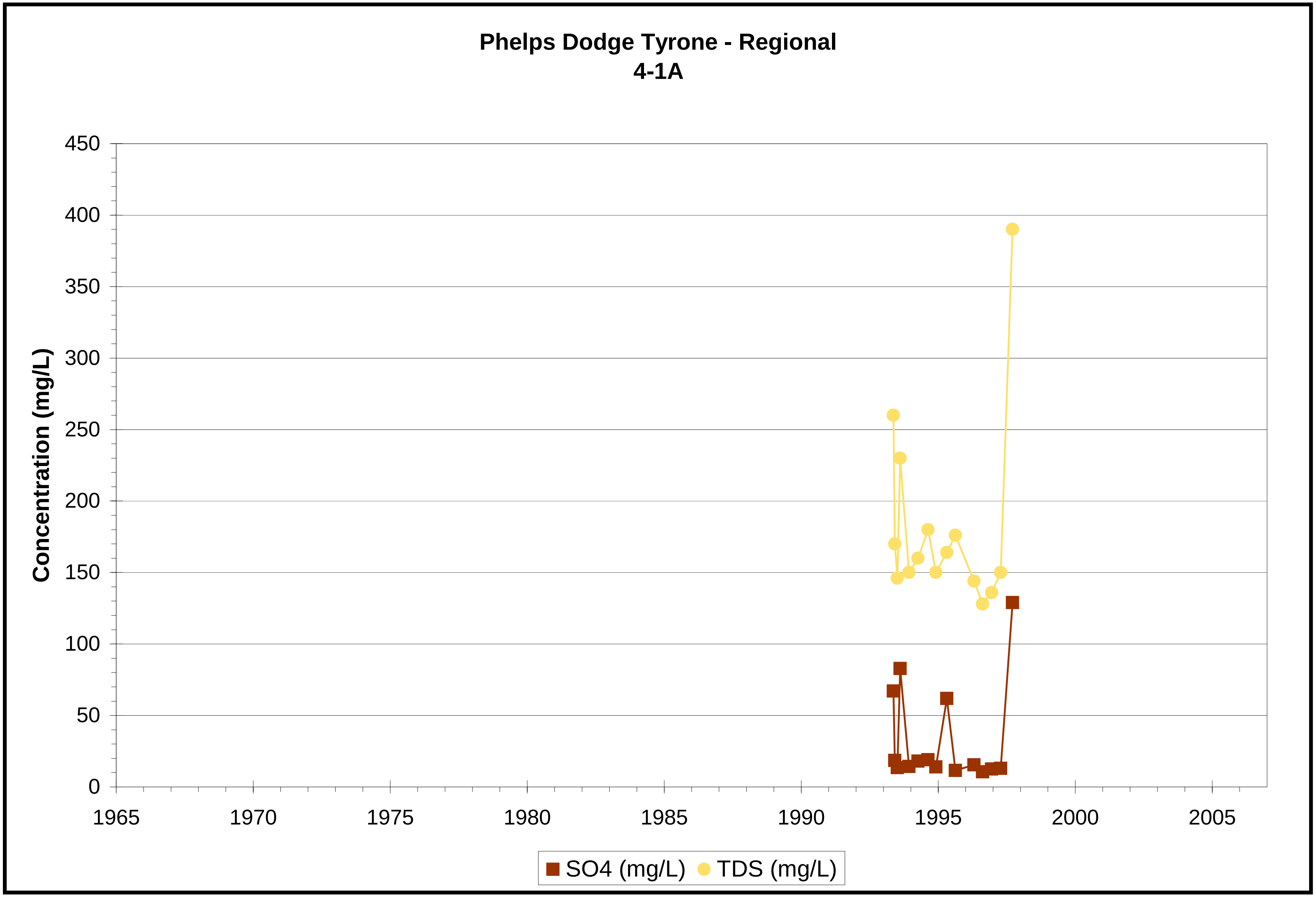

Phelps Dodge Tyrone - Regional
2-16
Concentration (mg/L)
0
100
200
300
400
500
600
700
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
3
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
900
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

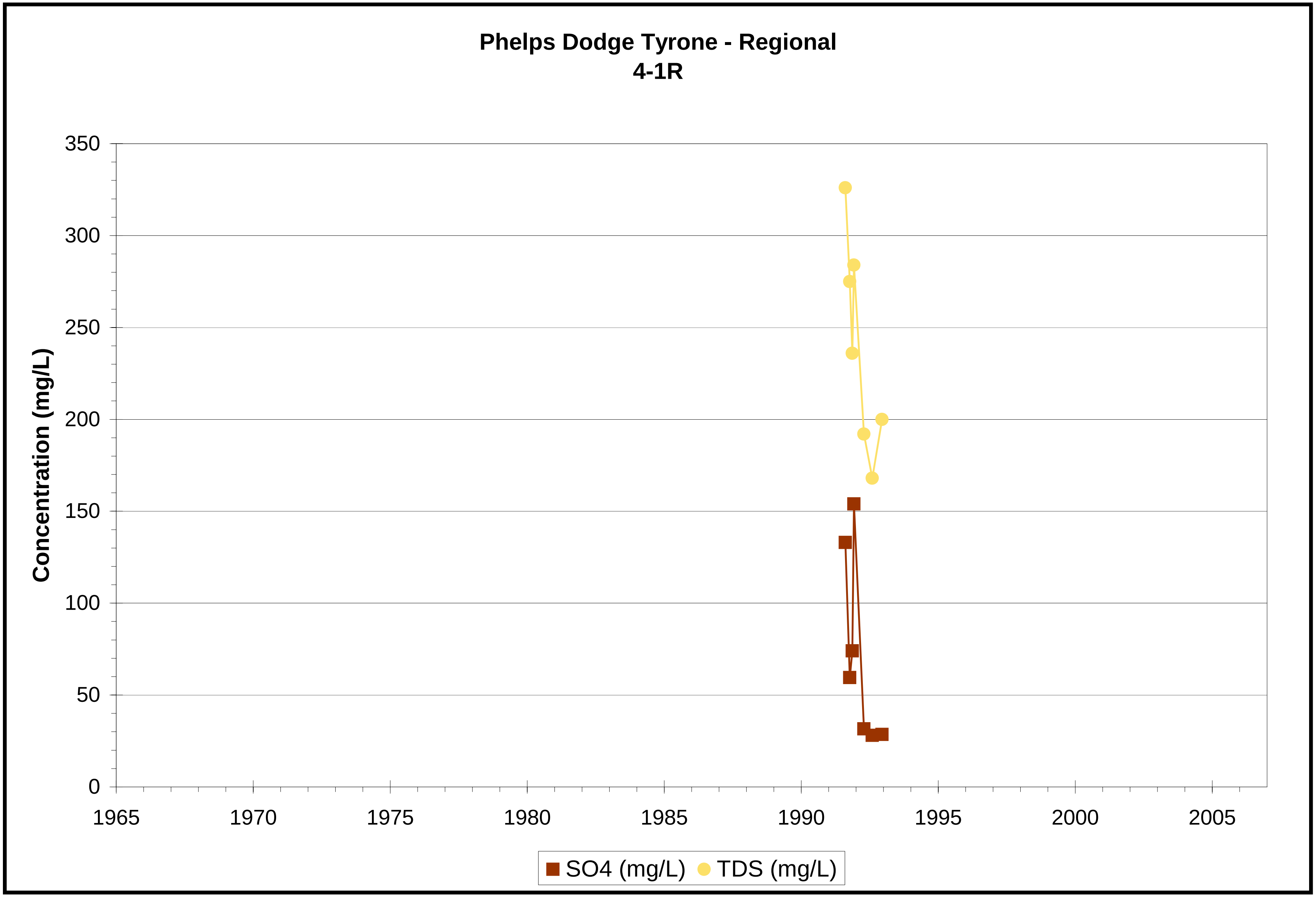

Phelps Dodge Tyrone - Regional
4
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
900
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



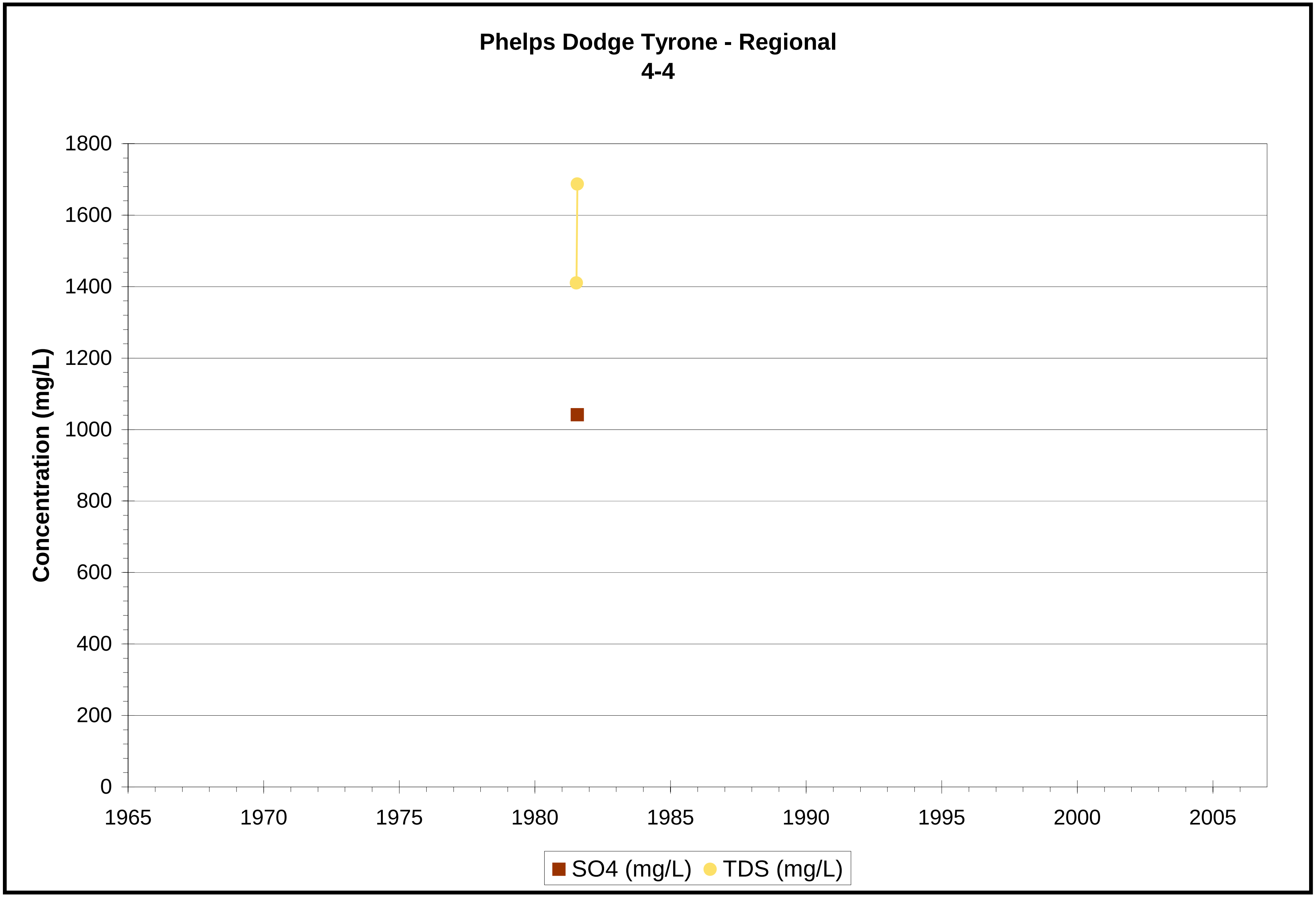
Phelps Dodge Tyrone - Regional
4-1
Concentration (mg/L)
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



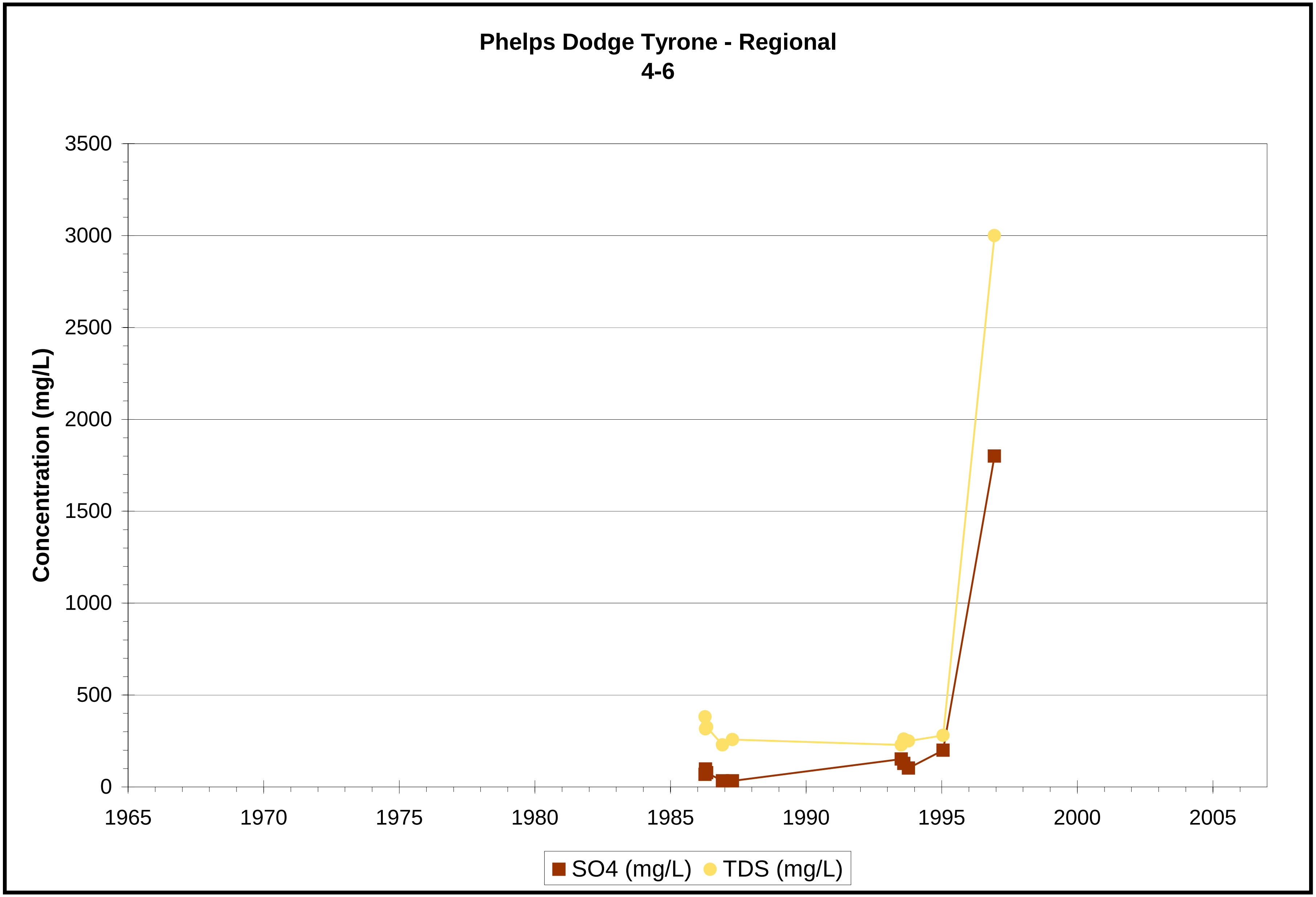
Phelps Dodge Tyrone - Regional
4-1A
Concentration (mg/L)
450
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



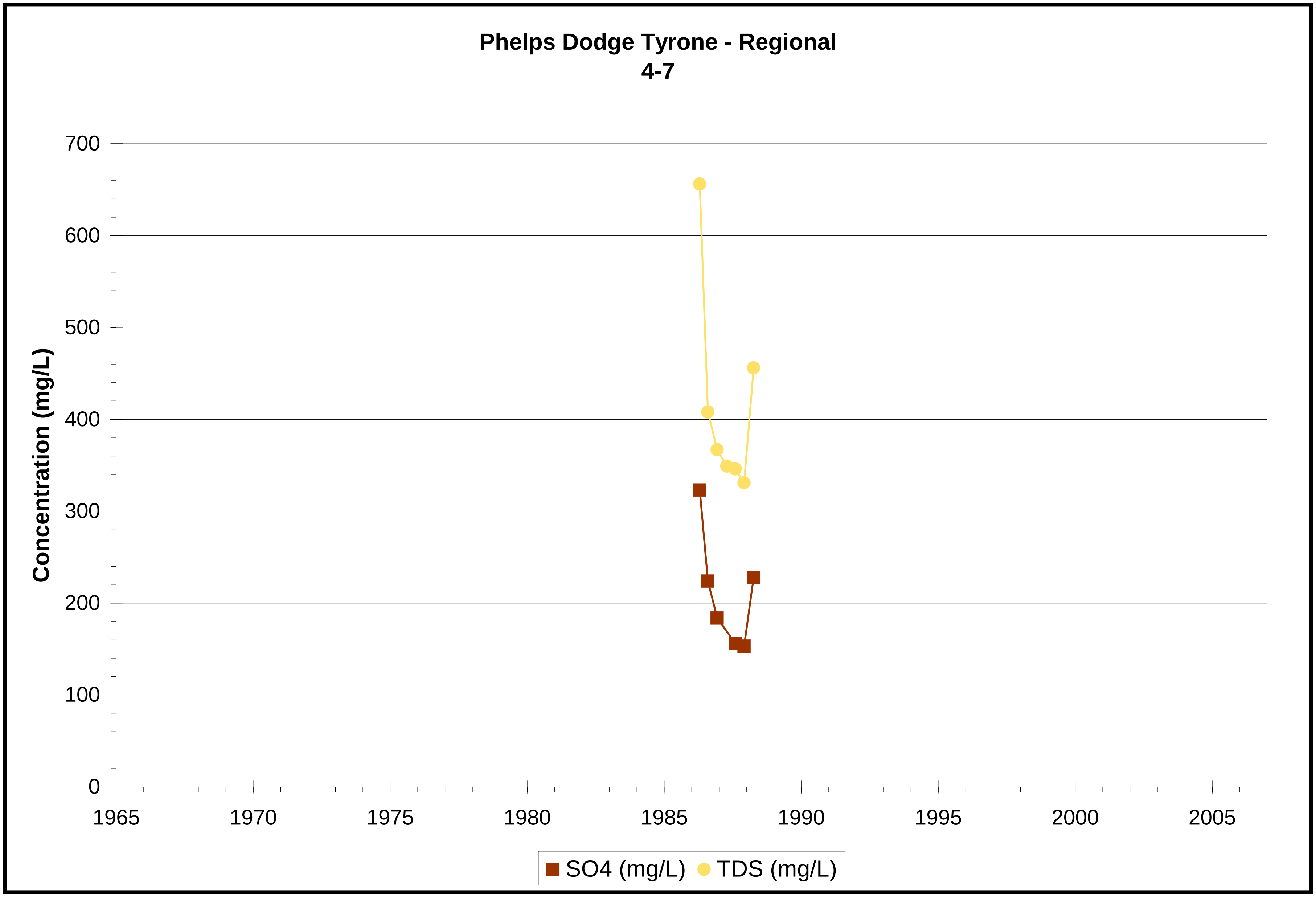
Phelps Dodge Tyrone - Regional
4-1R
Concentration (mg/L)
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



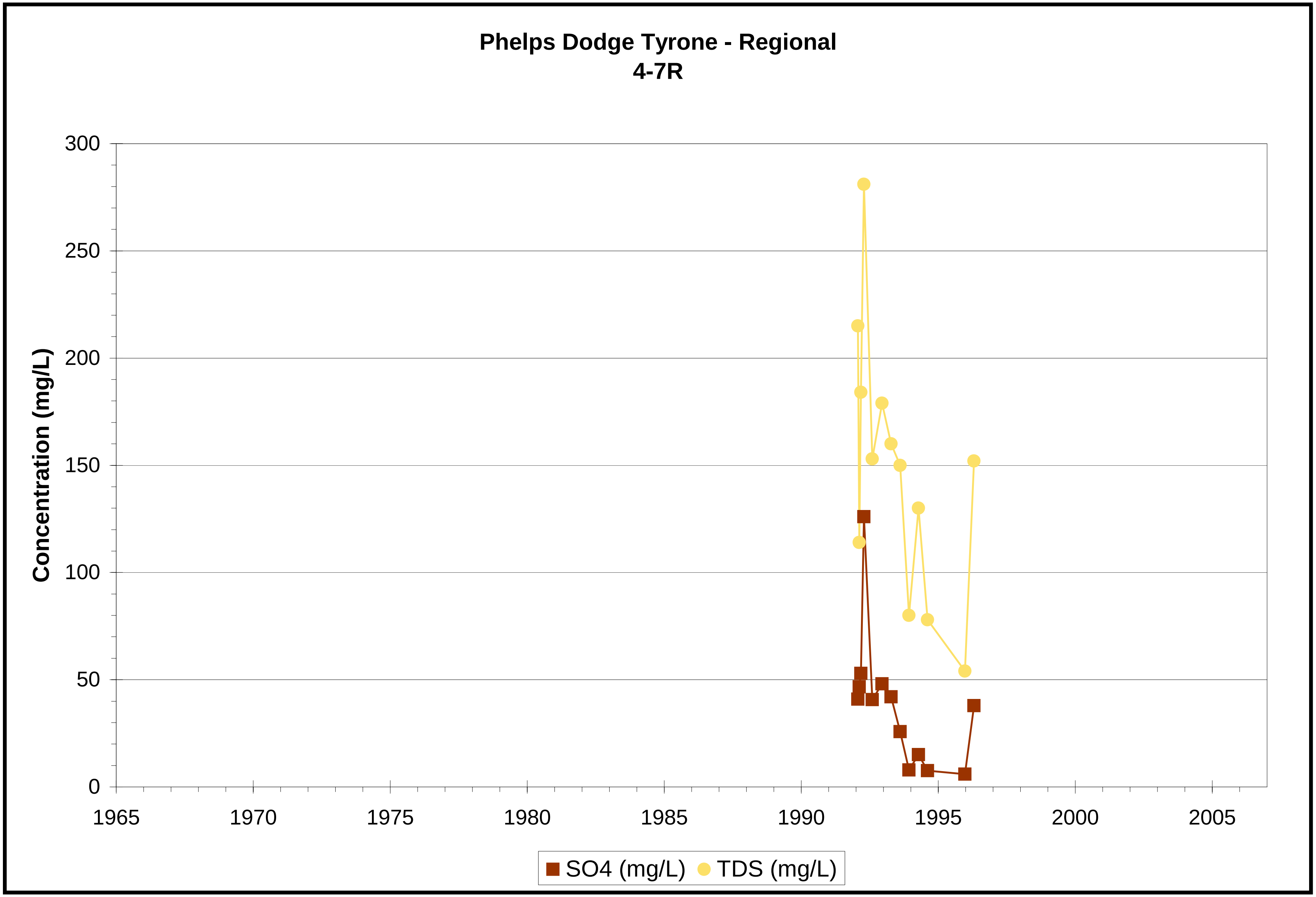
Phelps Dodge Tyrone - Regional
4-4
Concentration (mg/L)
1800
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



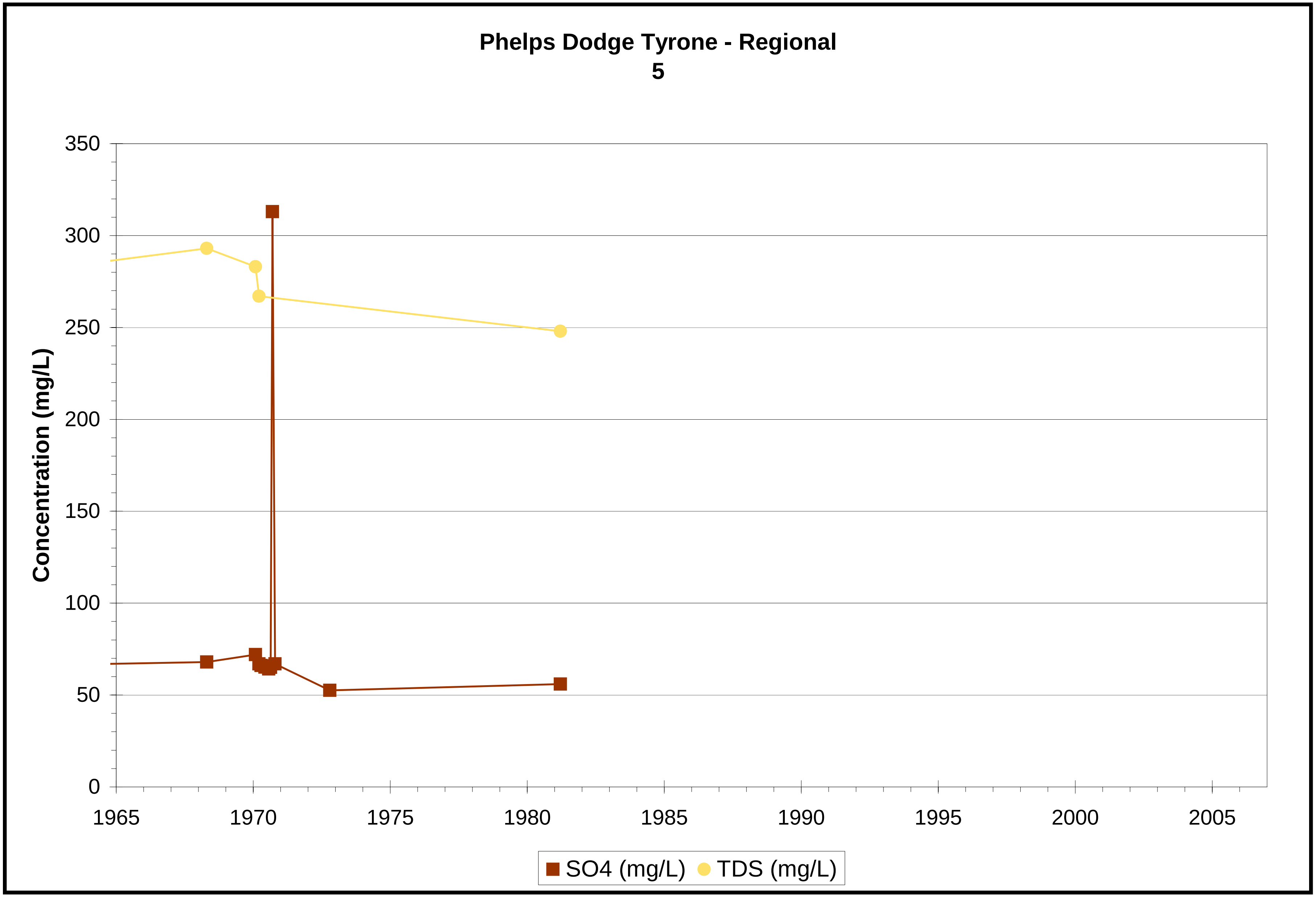
Phelps Dodge Tyrone - Regional
4-6
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



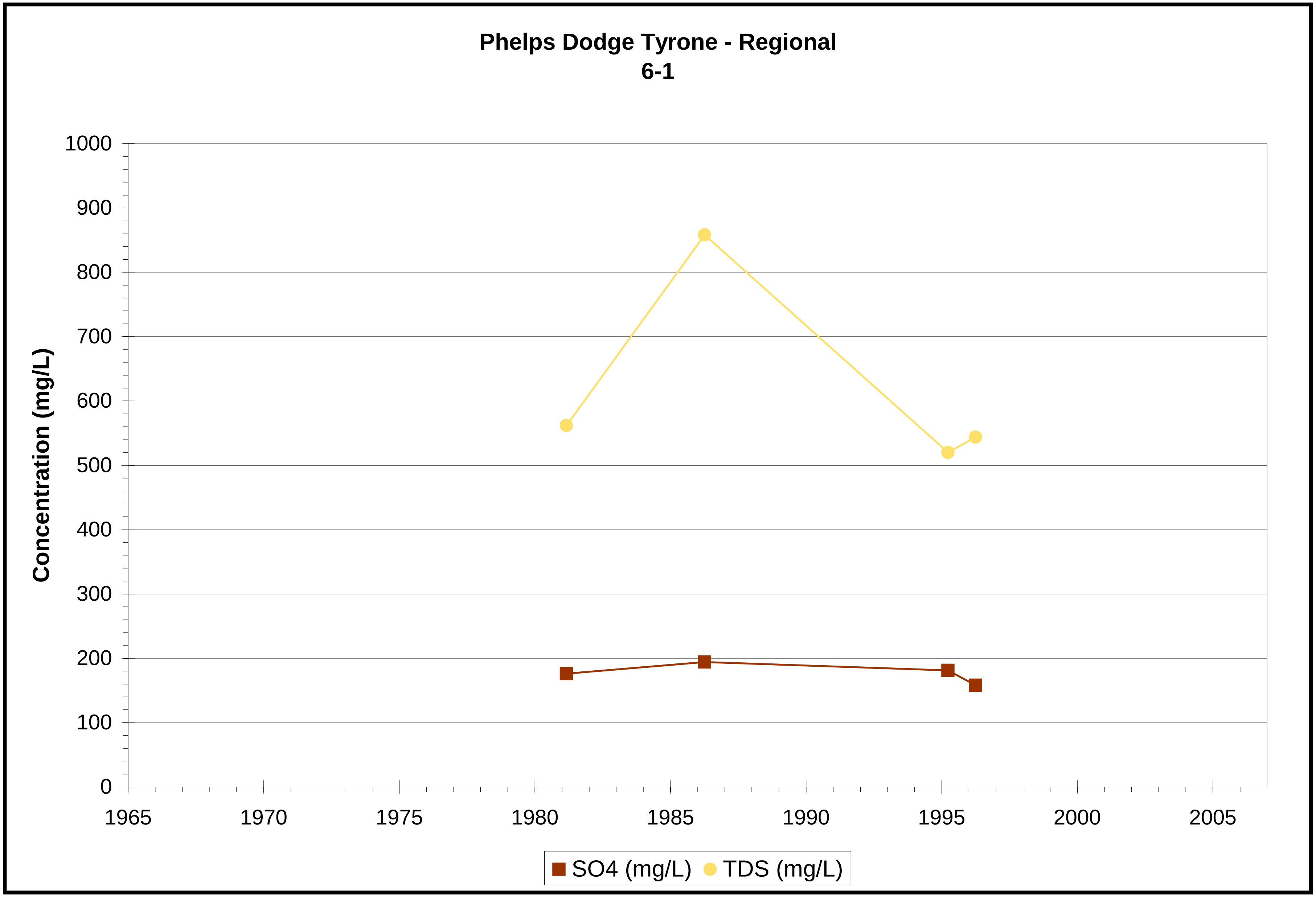
Phelps Dodge Tyrone - Regional
4-7
Concentration (mg/L)
0
100
200
300
400
500
600
700
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

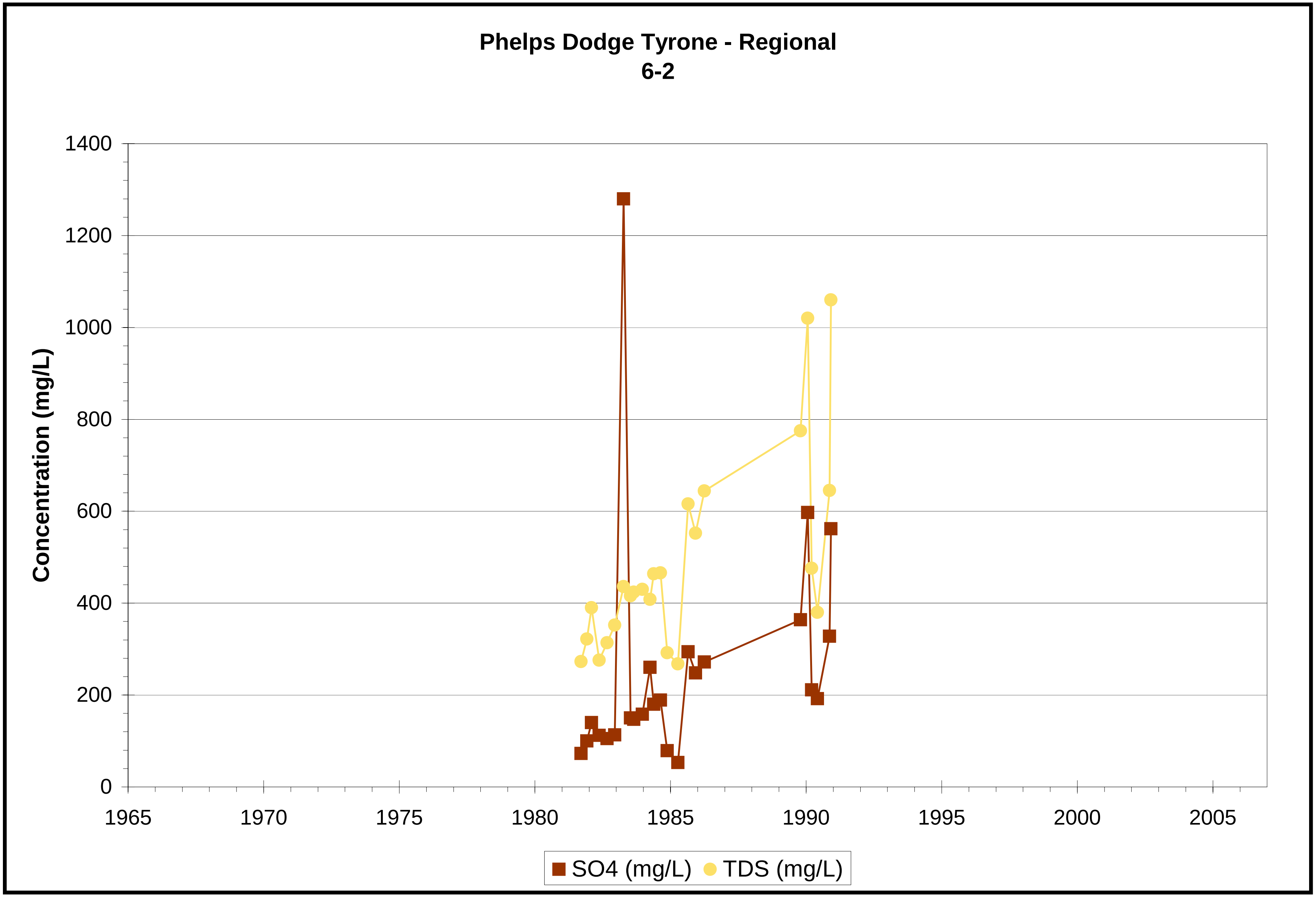


Phelps Dodge Tyrone - Regional
4-7R
Concentration (mg/L)
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

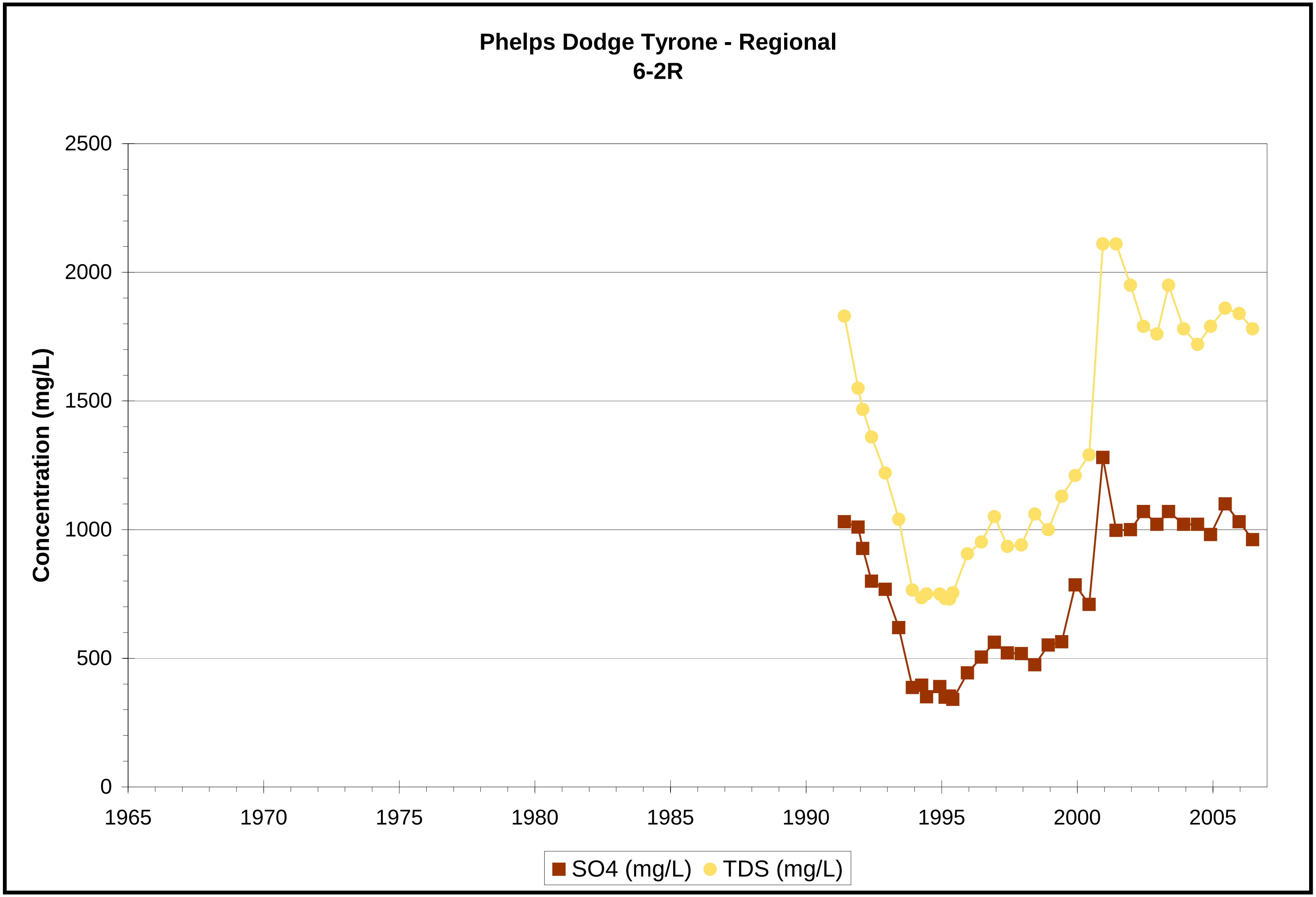


Phelps Dodge Tyrone - Regional
5
Concentration (mg/L)
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

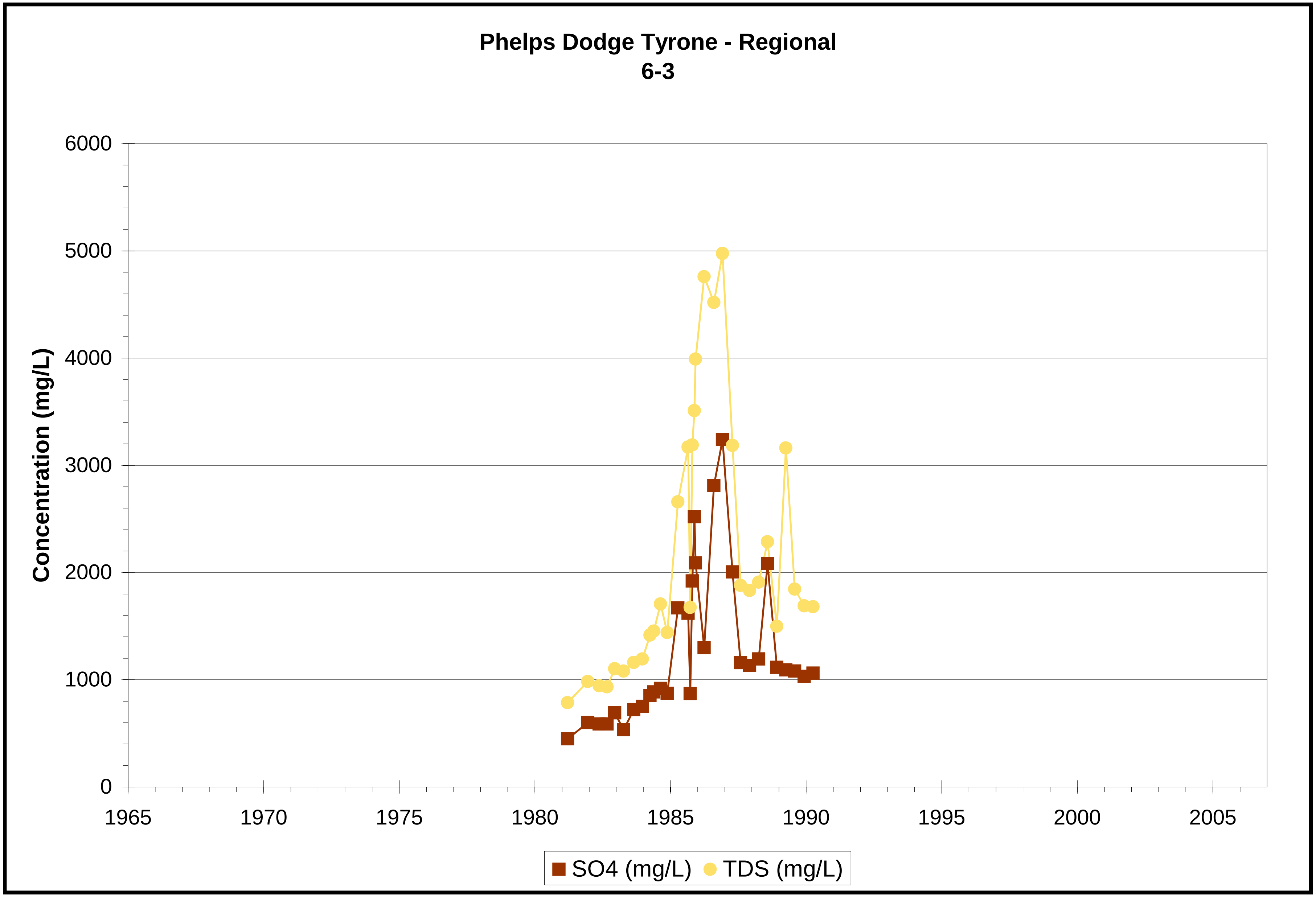

Phelps Dodge Tyrone - Regional
6-1
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

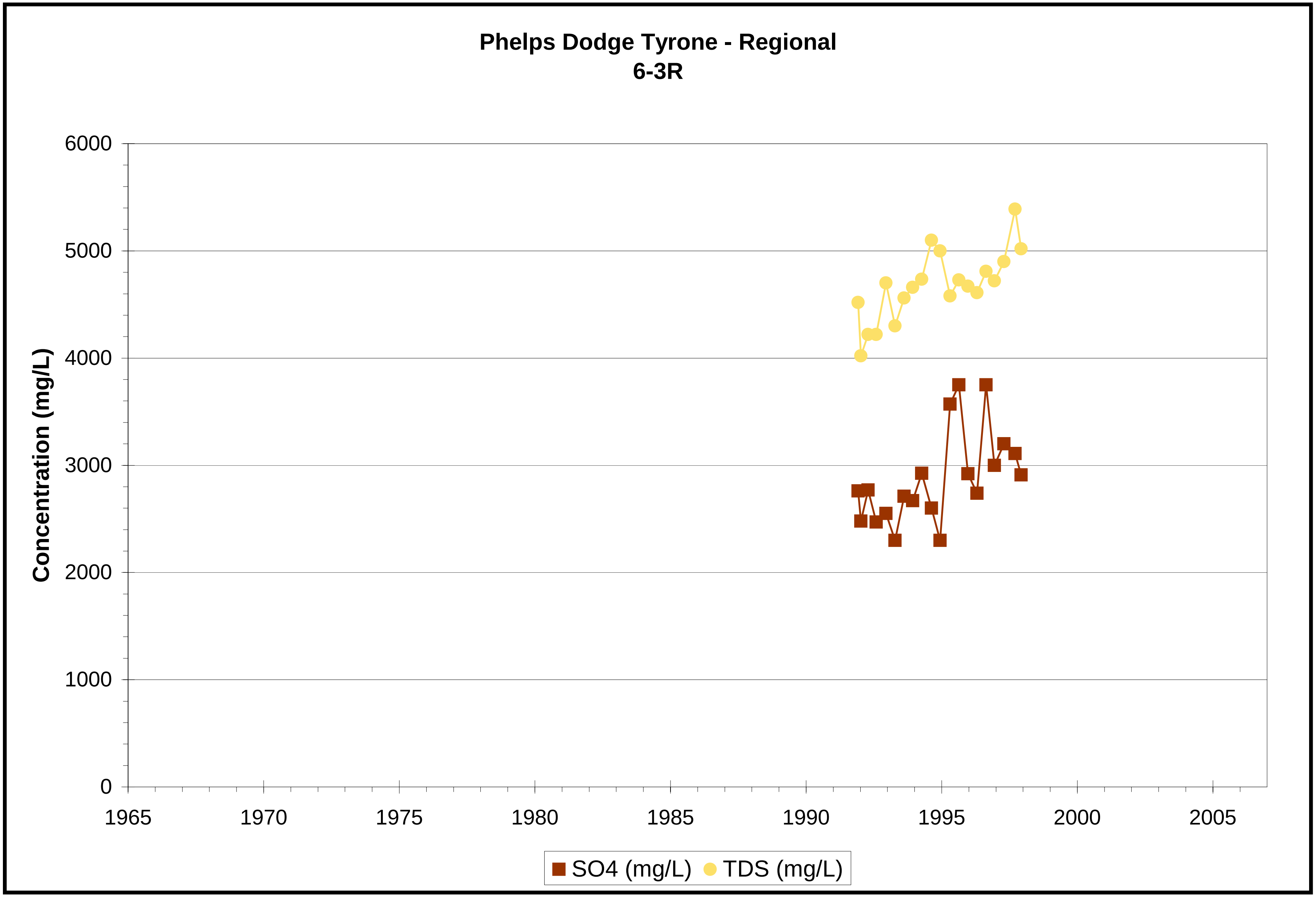


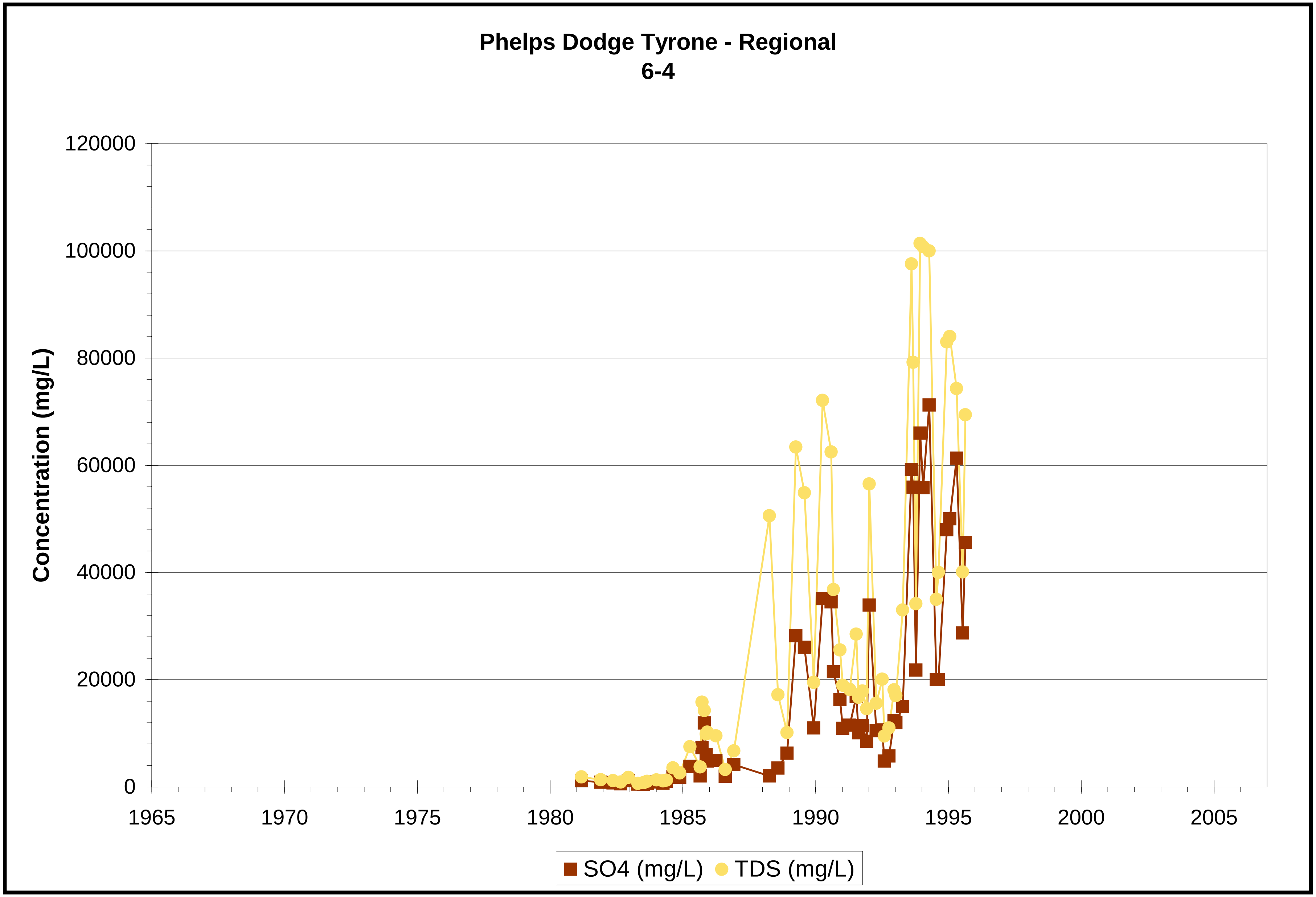
Phelps Dodge Tyrone - Regional
6-2
Concentration (mg/L)
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



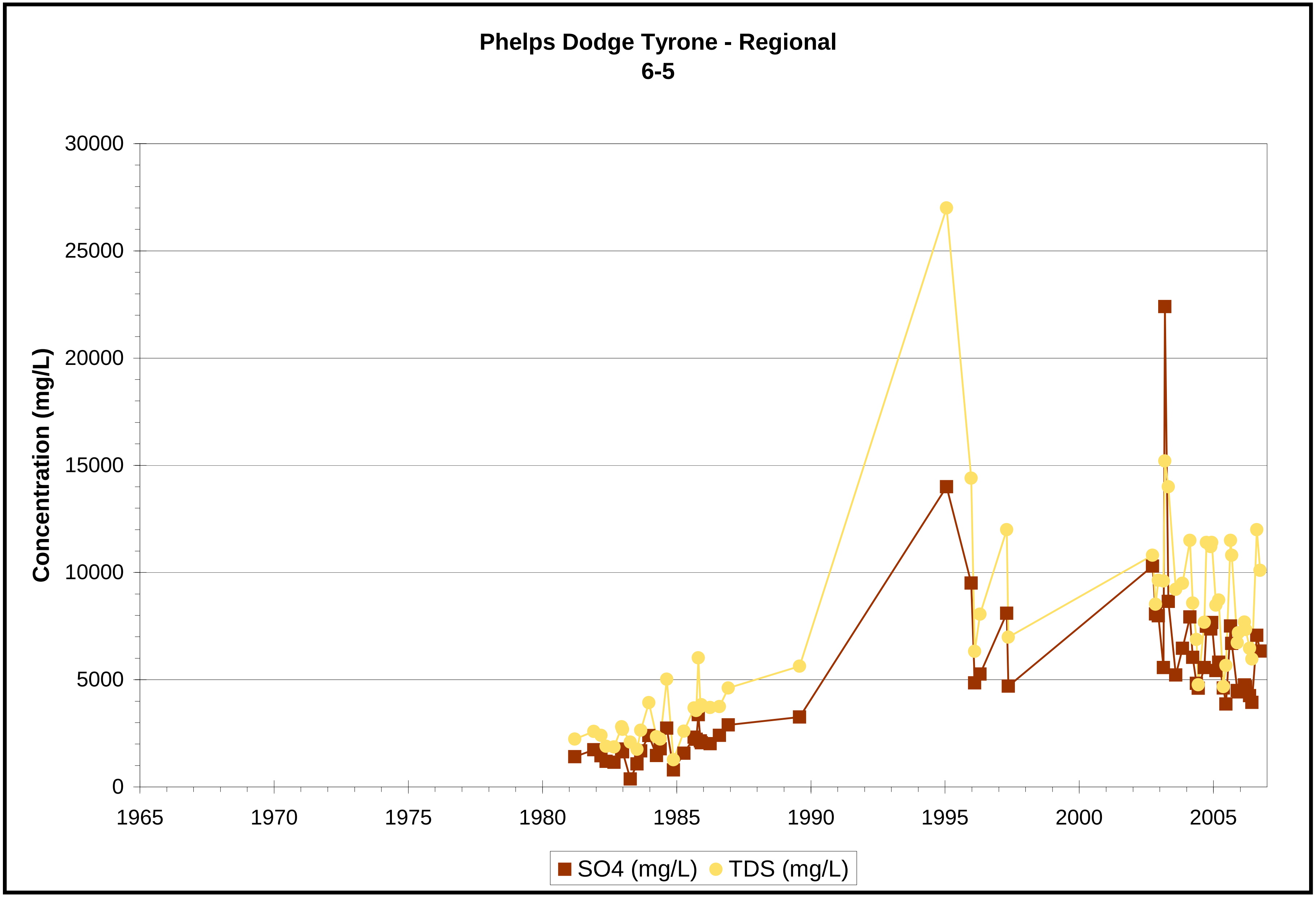
Phelps Dodge Tyrone - Regional
6-2R
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
6-3
Concentration (mg/L)
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

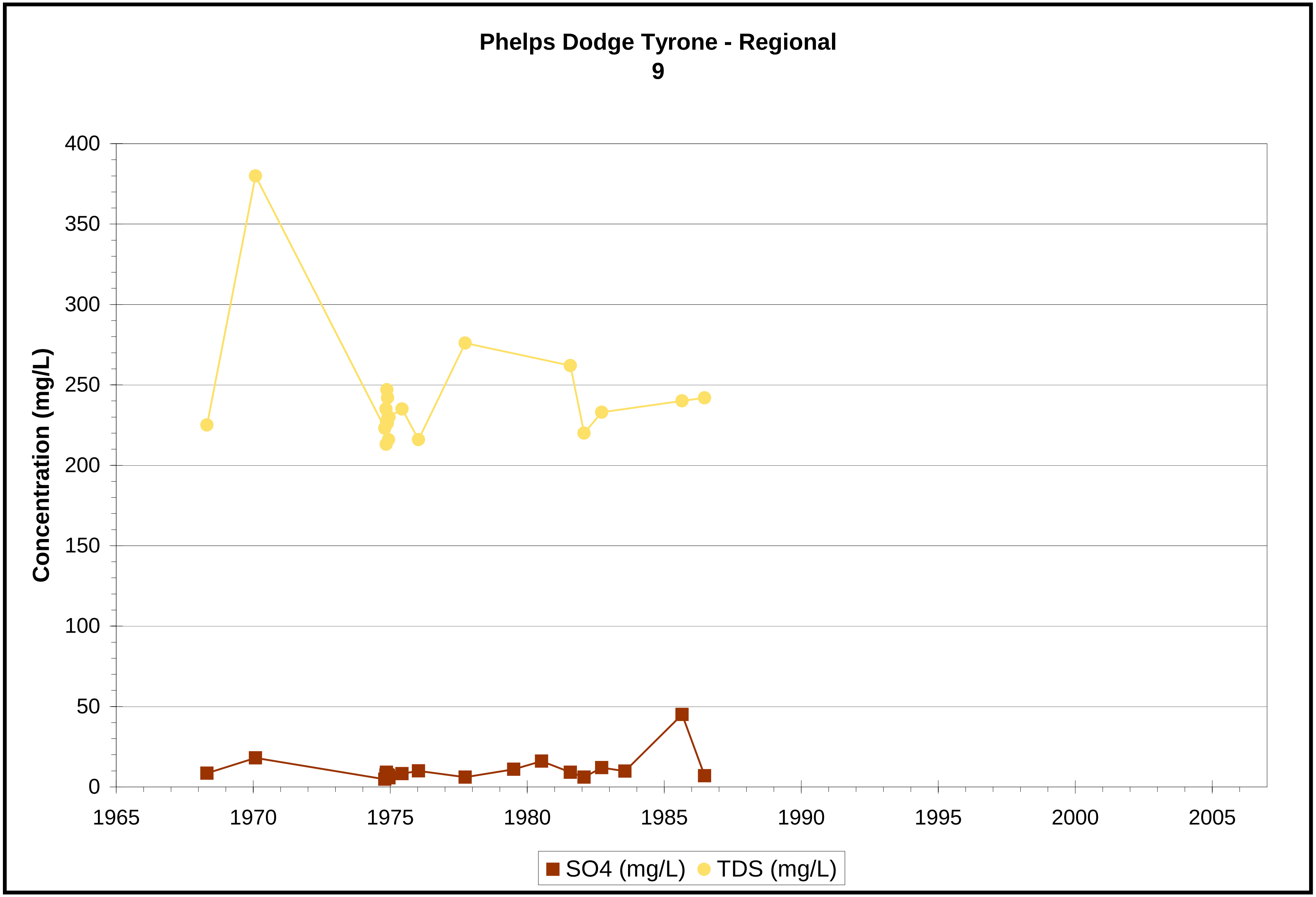

Phelps Dodge Tyrone - Regional
6-3R
Concentration (mg/L)
0
1000
2000
3000
4000
5000
6000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



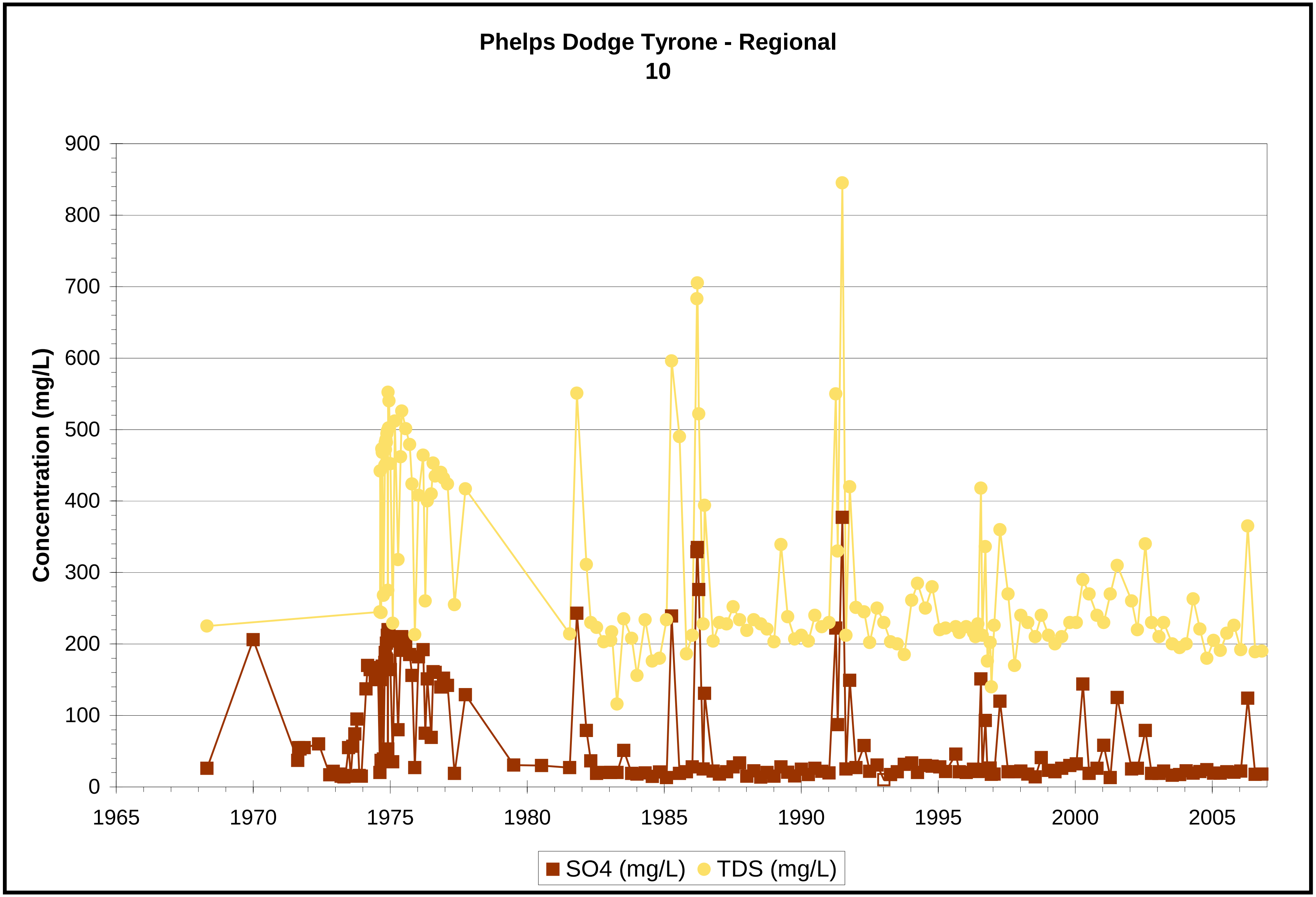
Phelps Dodge Tyrone - Regional
6-4
Concentration (mg/L)
120000
100000
80000
60000
40000
20000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

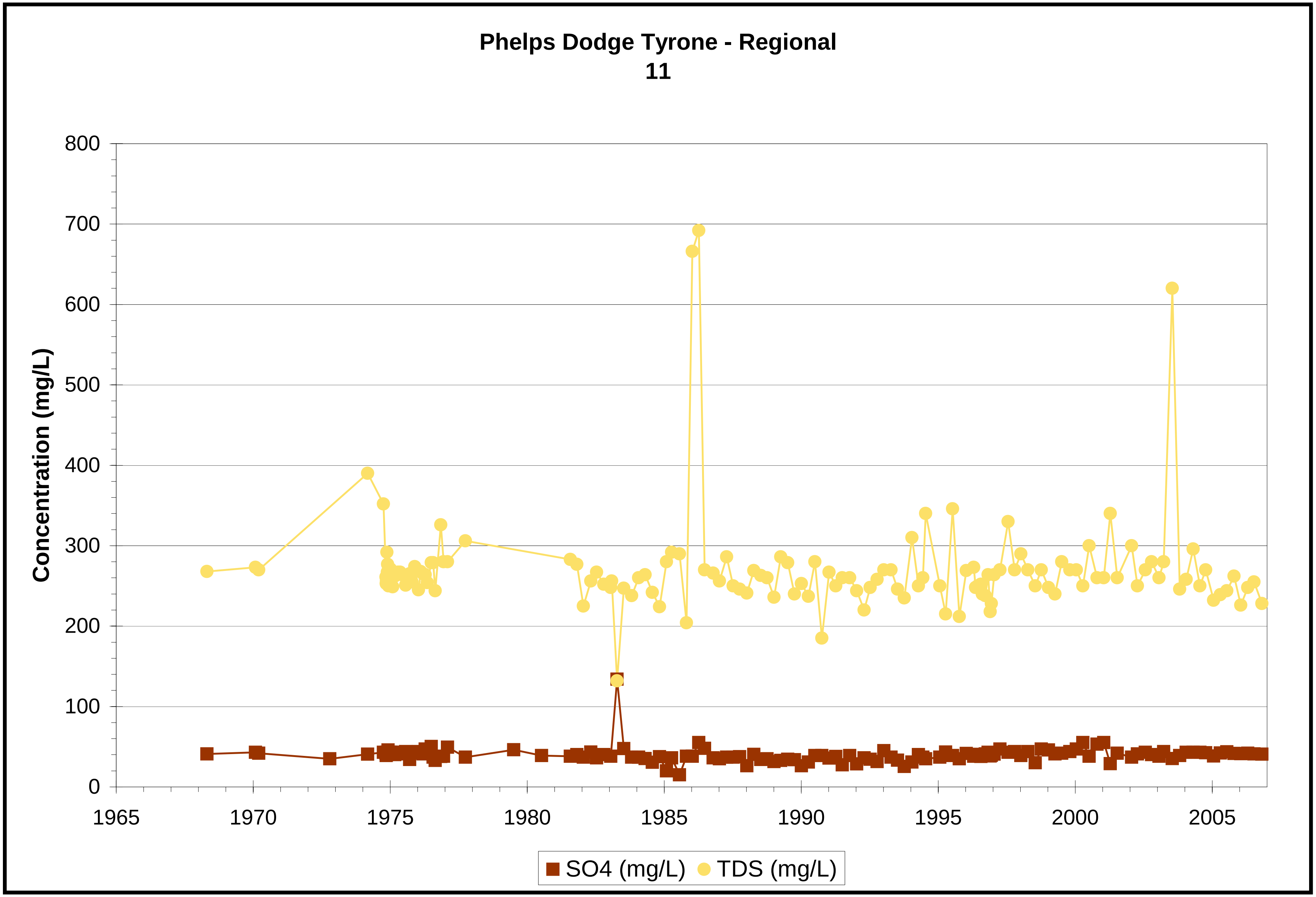


Phelps Dodge Tyrone - Regional
6-5
Concentration (mg/L)
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

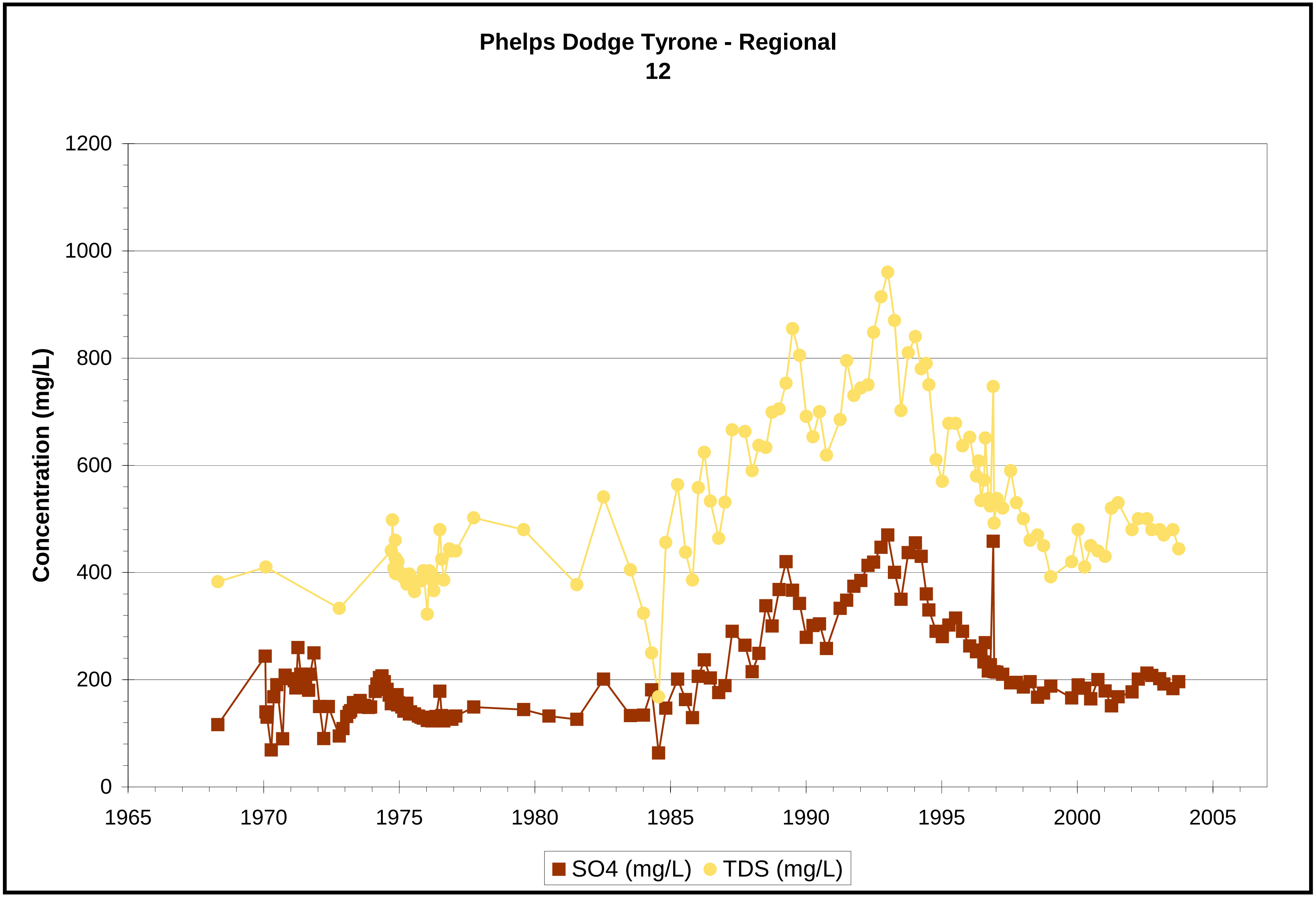


Phelps Dodge Tyrone - Regional
9
Concentration (mg/L)
0
50
100
150
200
250
300
350
400
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

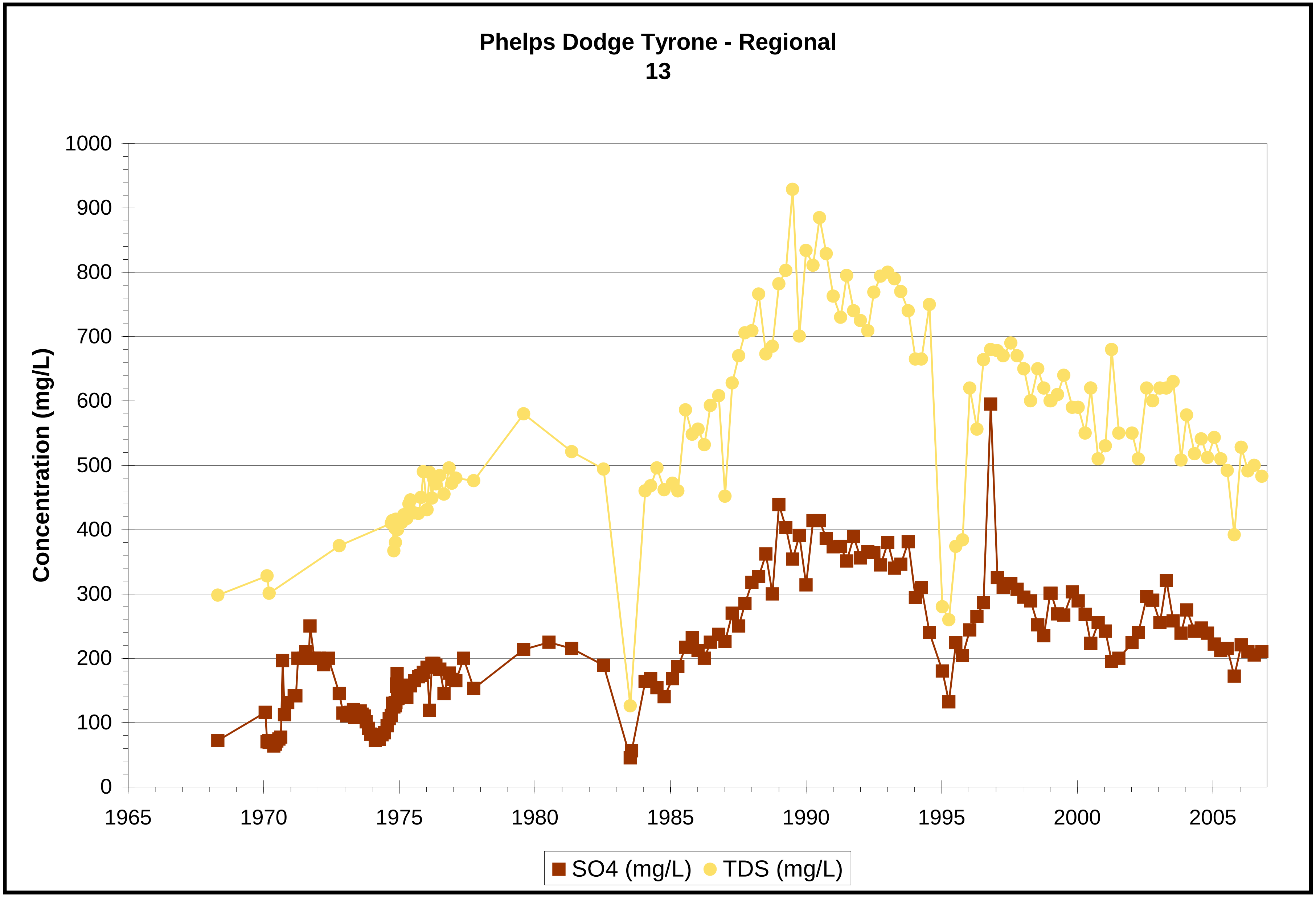

Phelps Dodge Tyrone - Regional
10
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
900
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

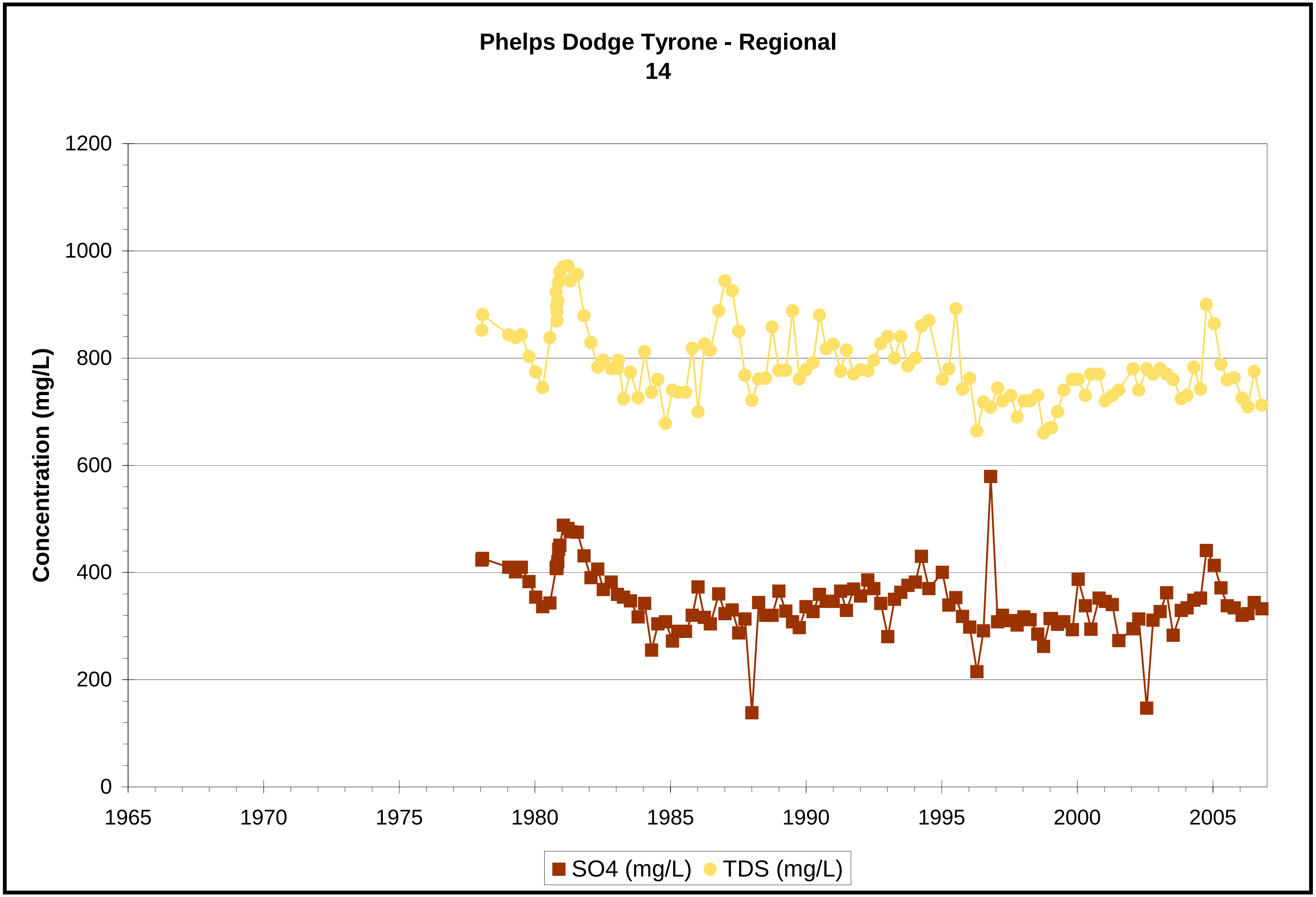


Phelps Dodge Tyrone - Regional
11
Concentration (mg/L)
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

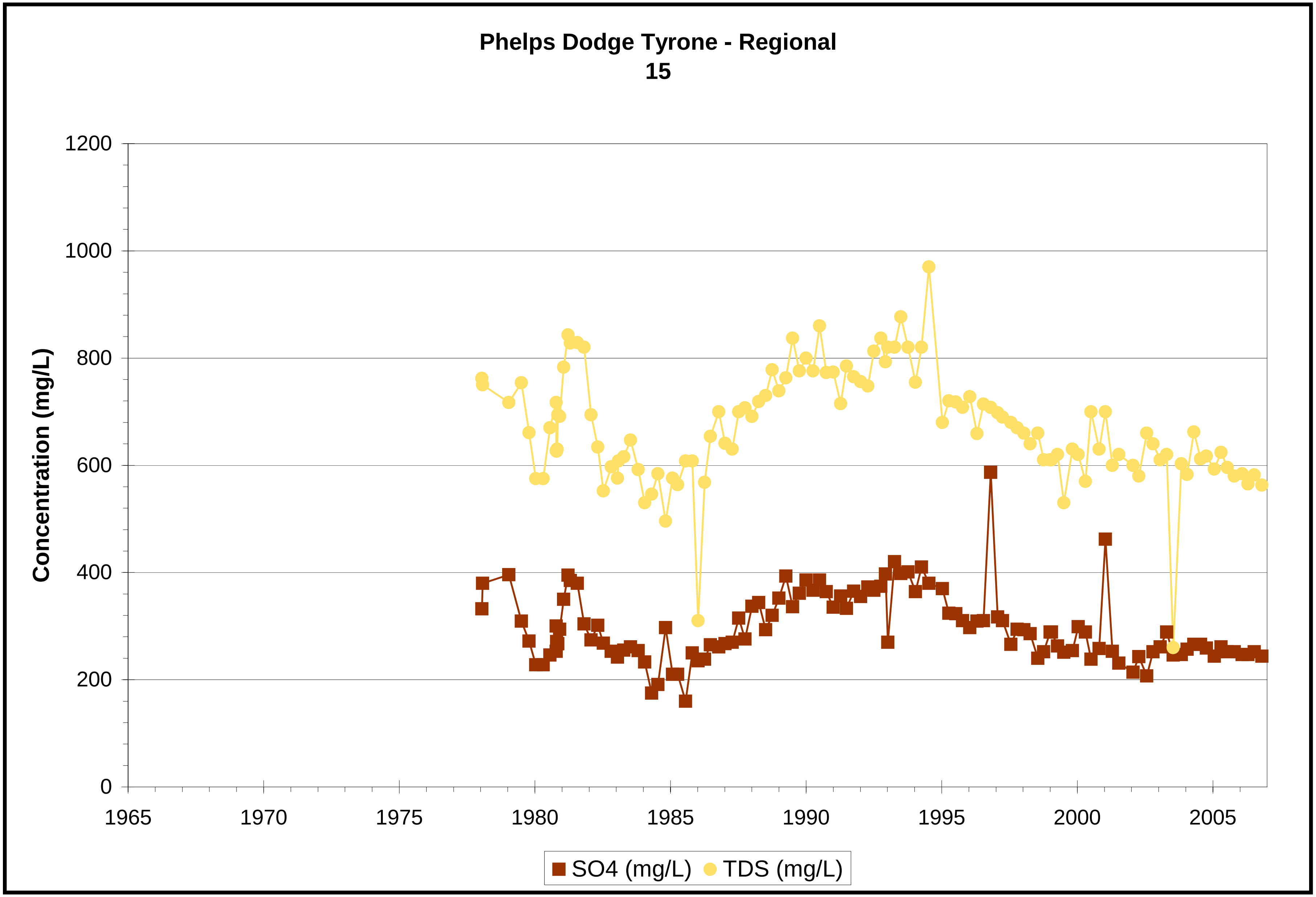


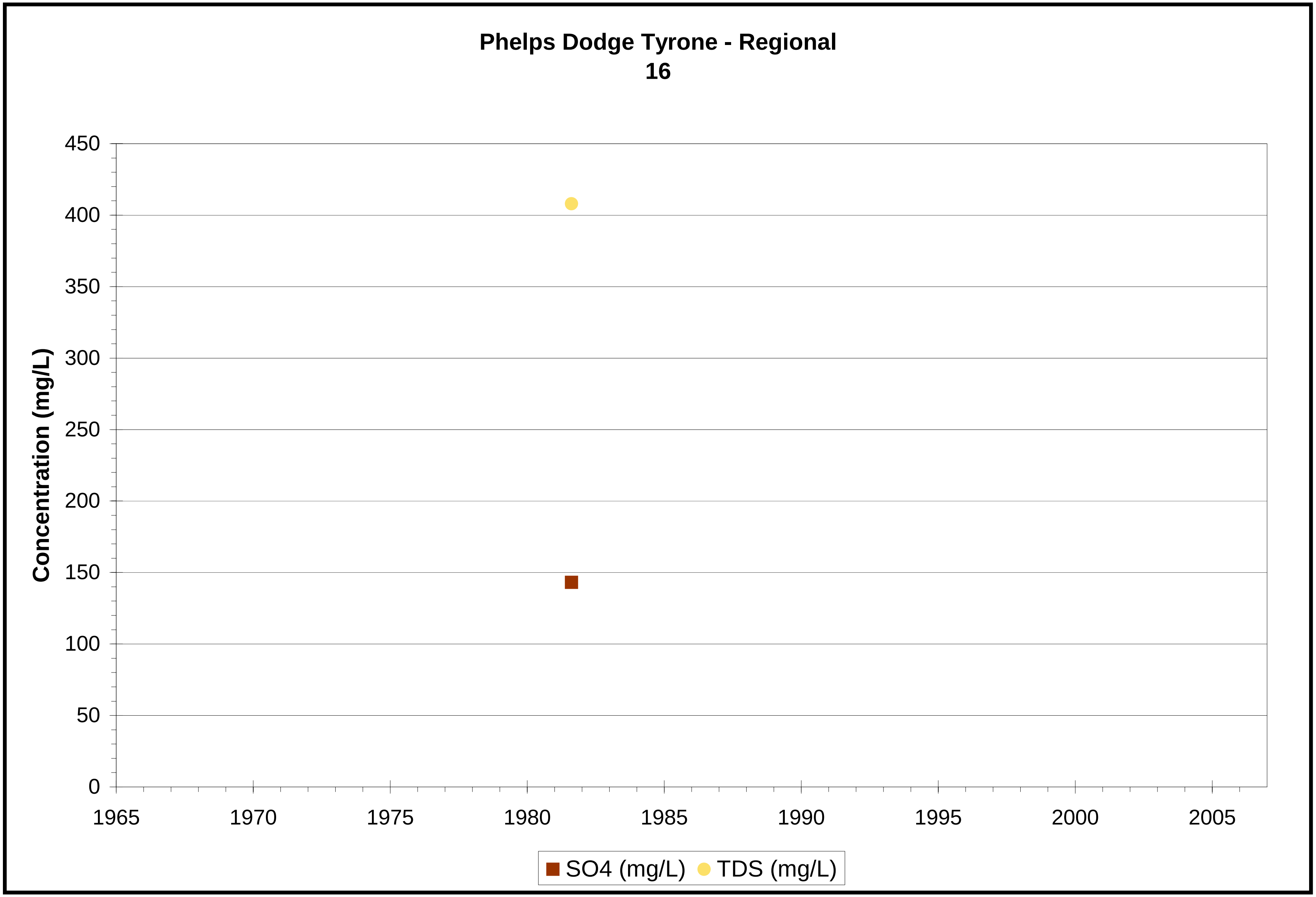
Phelps Dodge Tyrone - Regional
12
Concentration (mg/L)
0
200
400
600
800
1000
1200
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
13
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

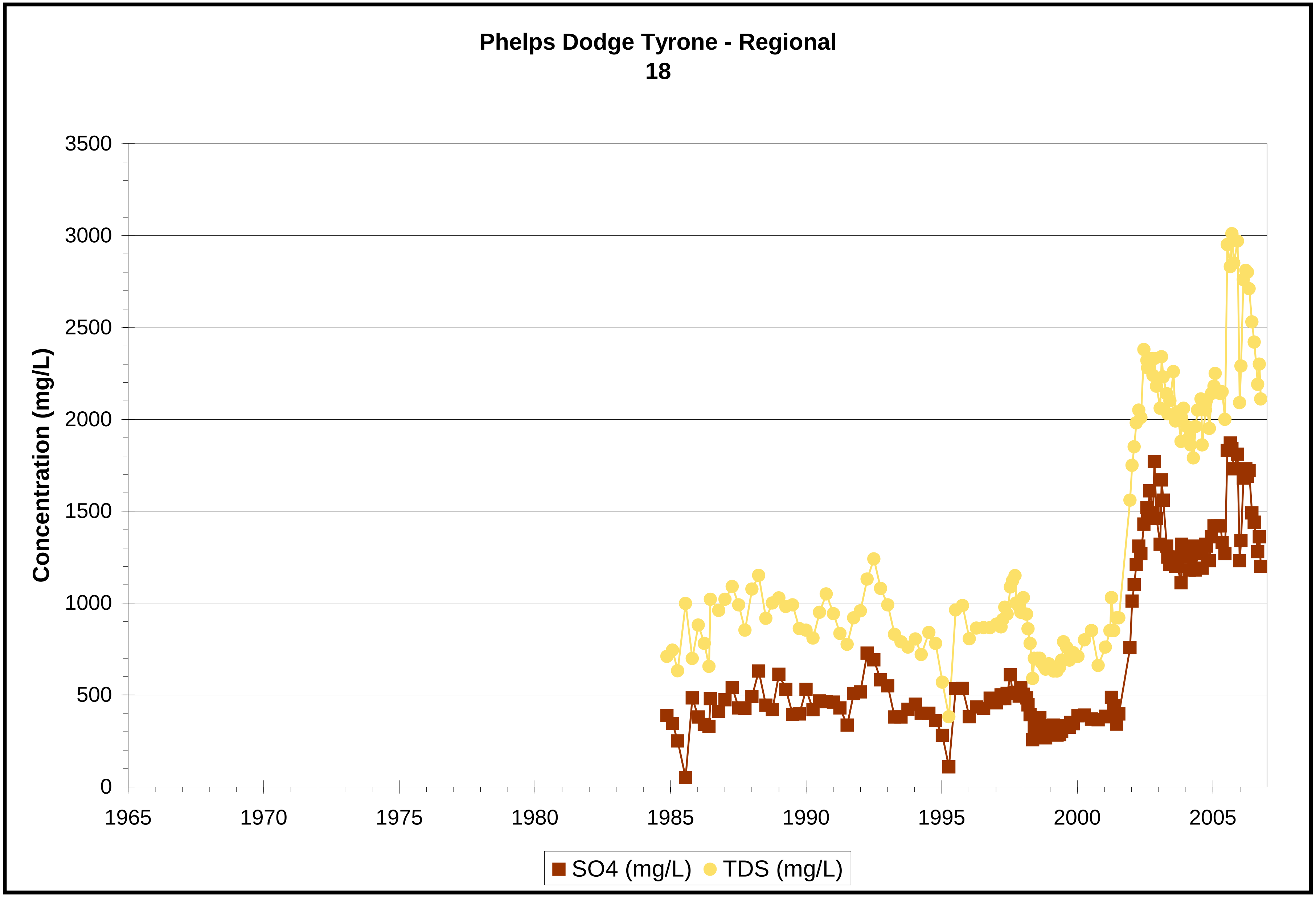


Phelps Dodge Tyrone - Regional
14
Concentration (mg/L)
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

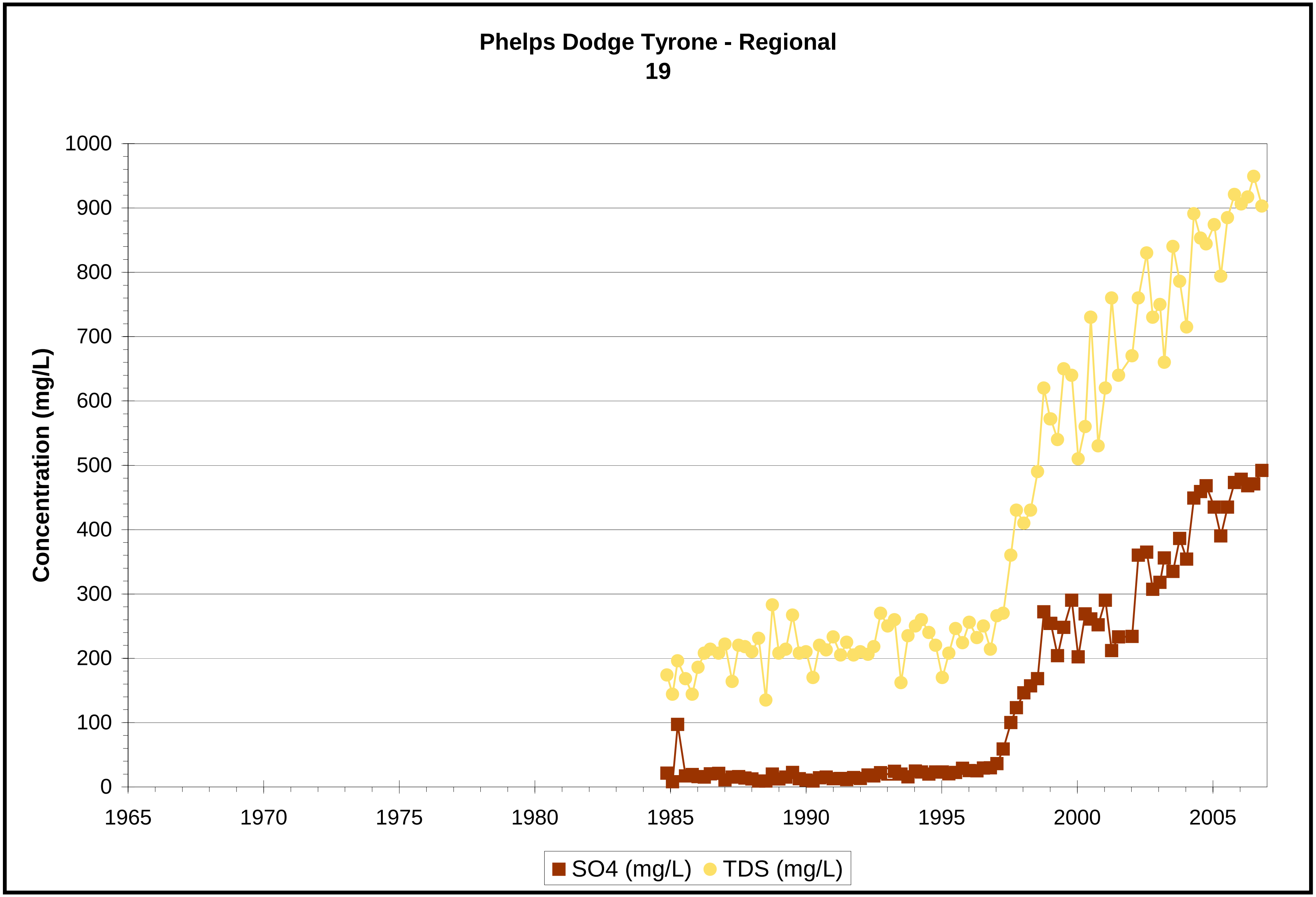

Phelps Dodge Tyrone - Regional
15
Concentration (mg/L)
0
200
400
600
800
1000
1200
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



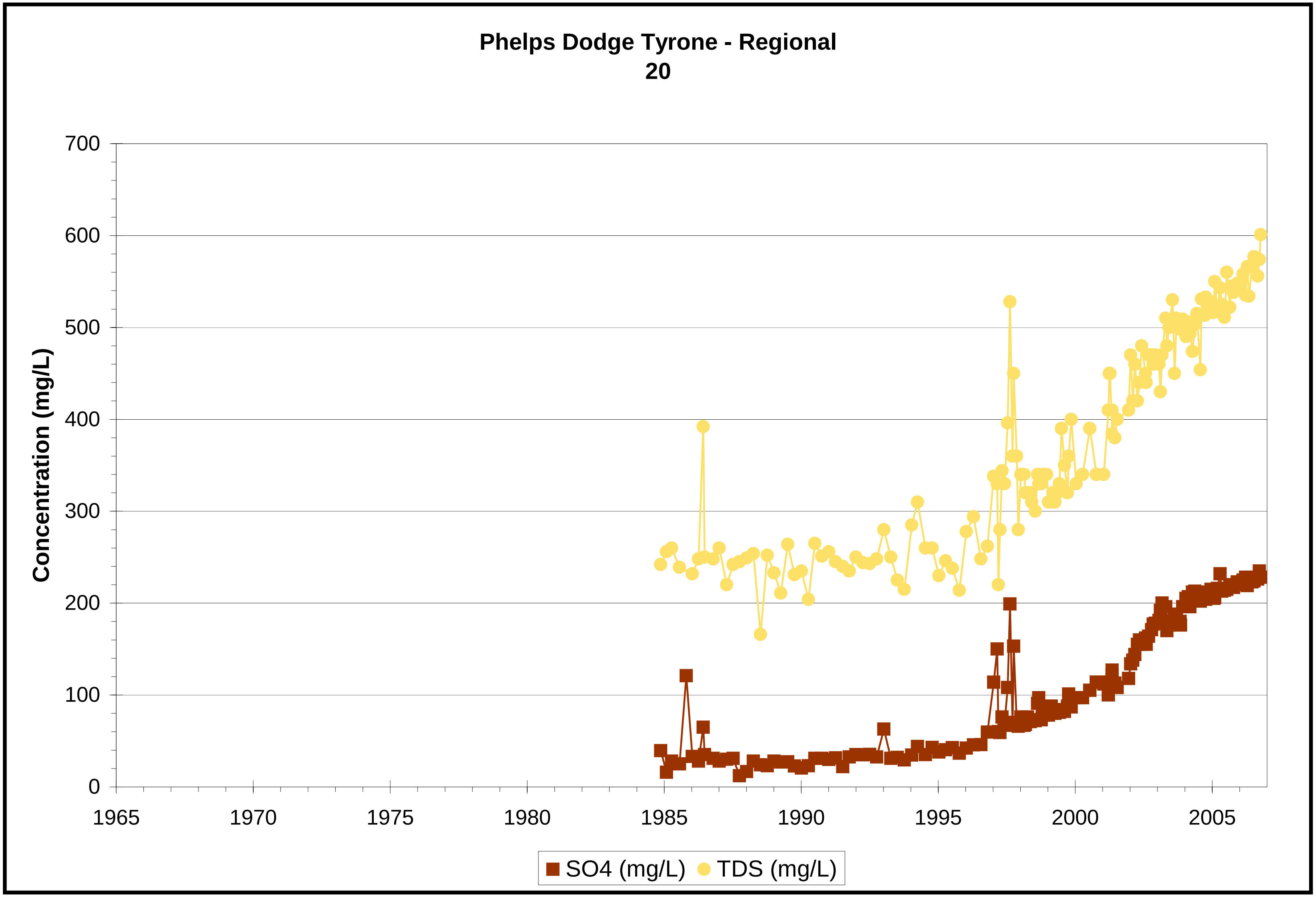
Phelps Dodge Tyrone - Regional
16
Concentration (mg/L)
450
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

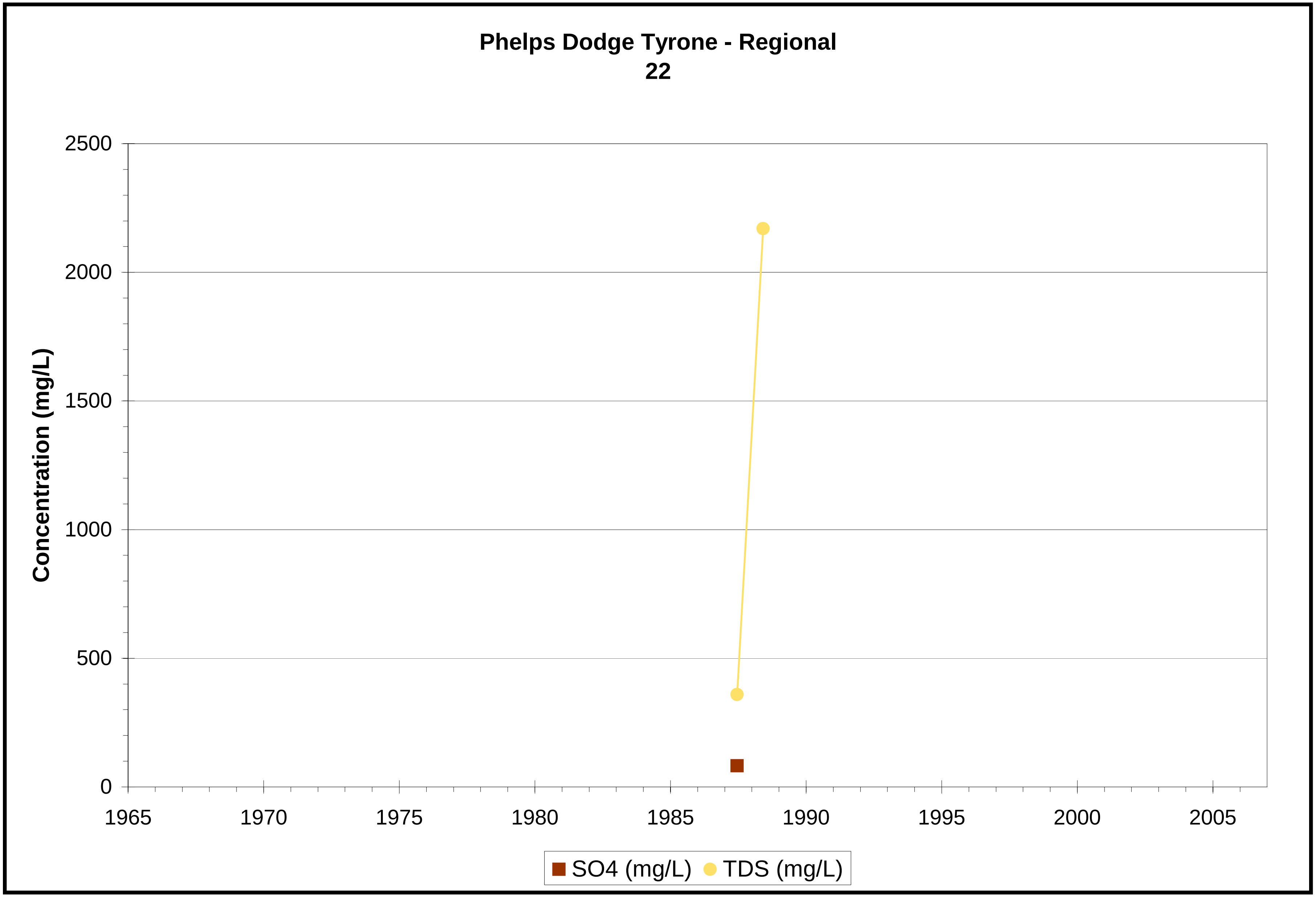


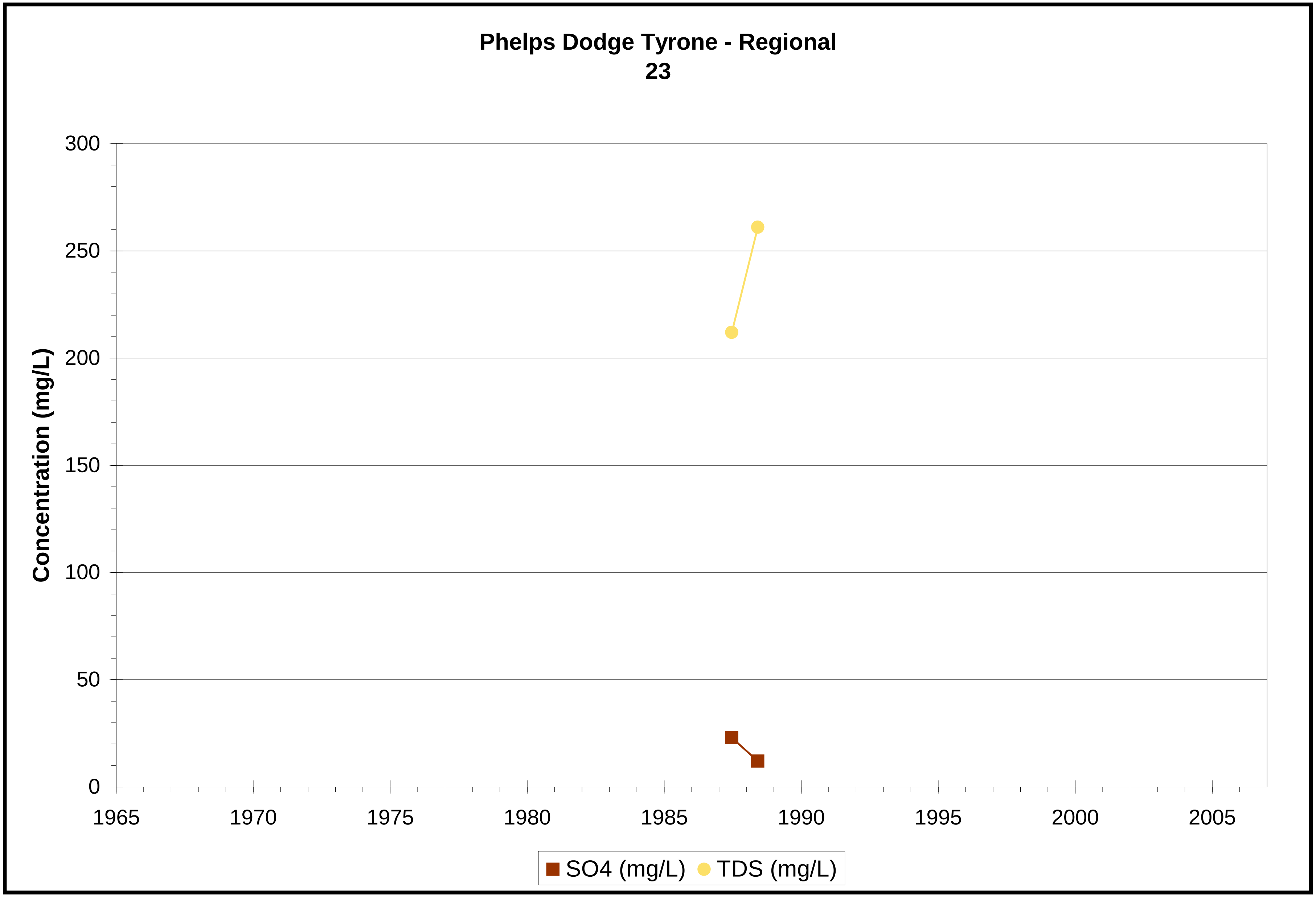
Phelps Dodge Tyrone - Regional
18
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

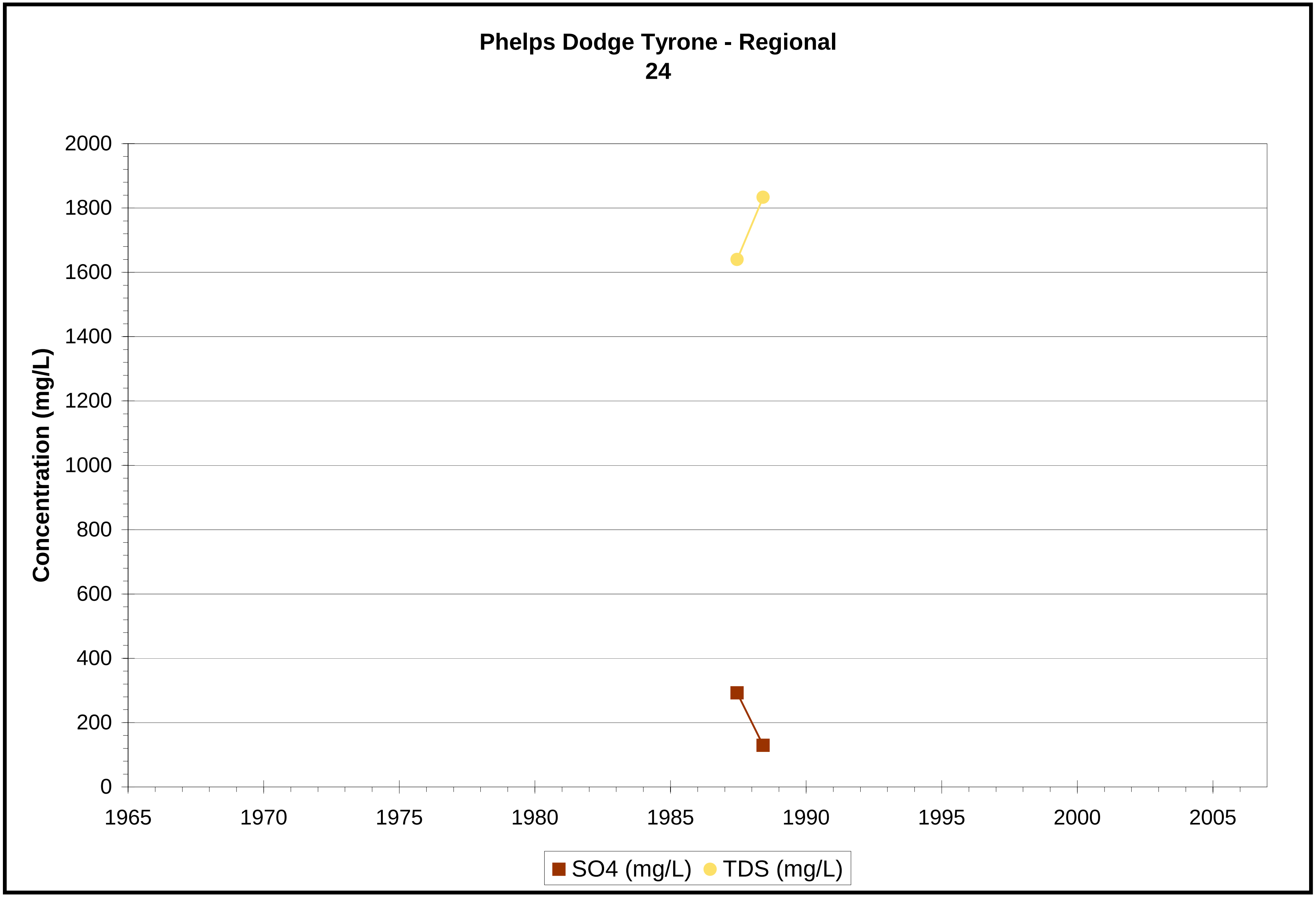


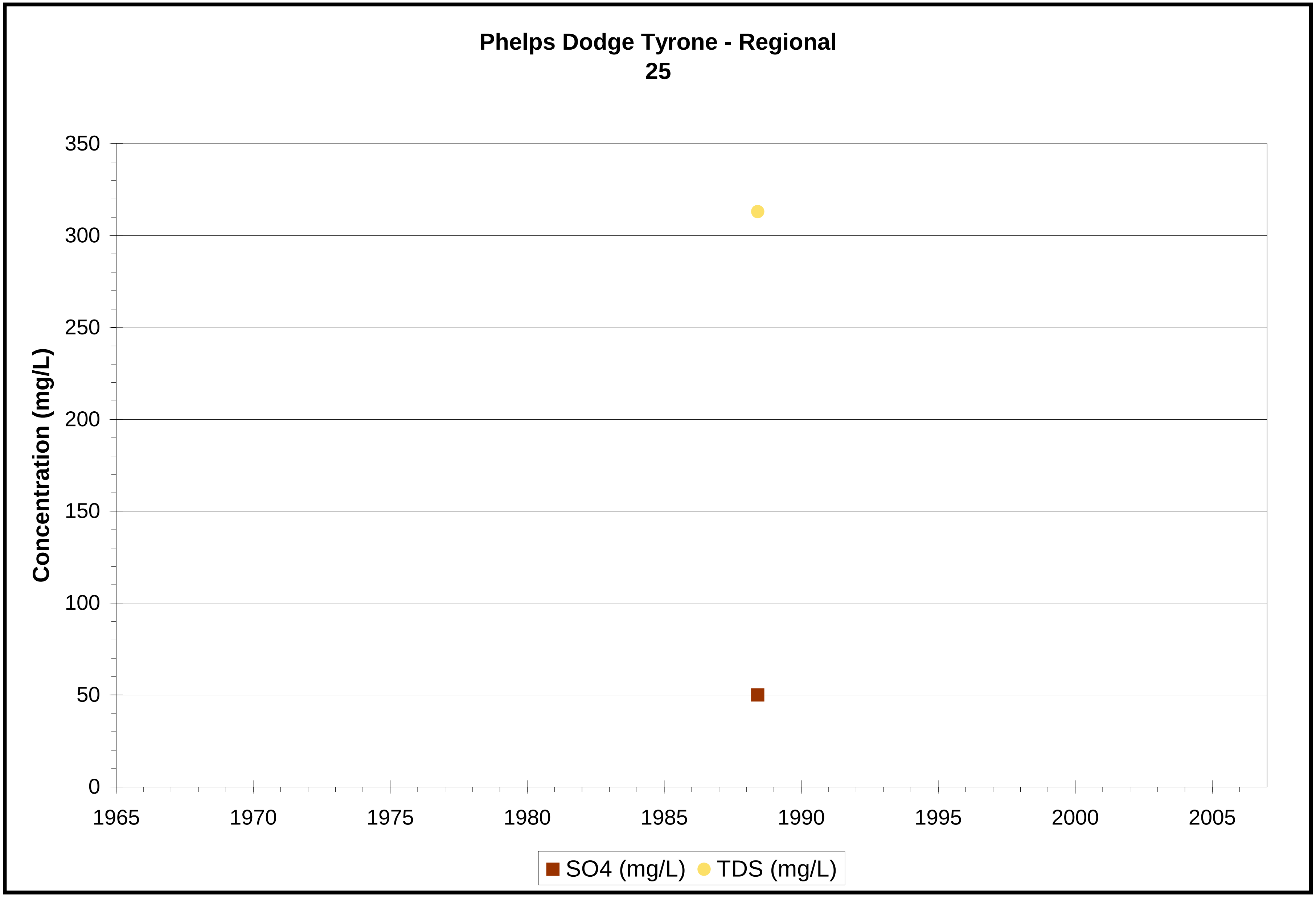
Phelps Dodge Tyrone - Regional
19
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
900
1000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

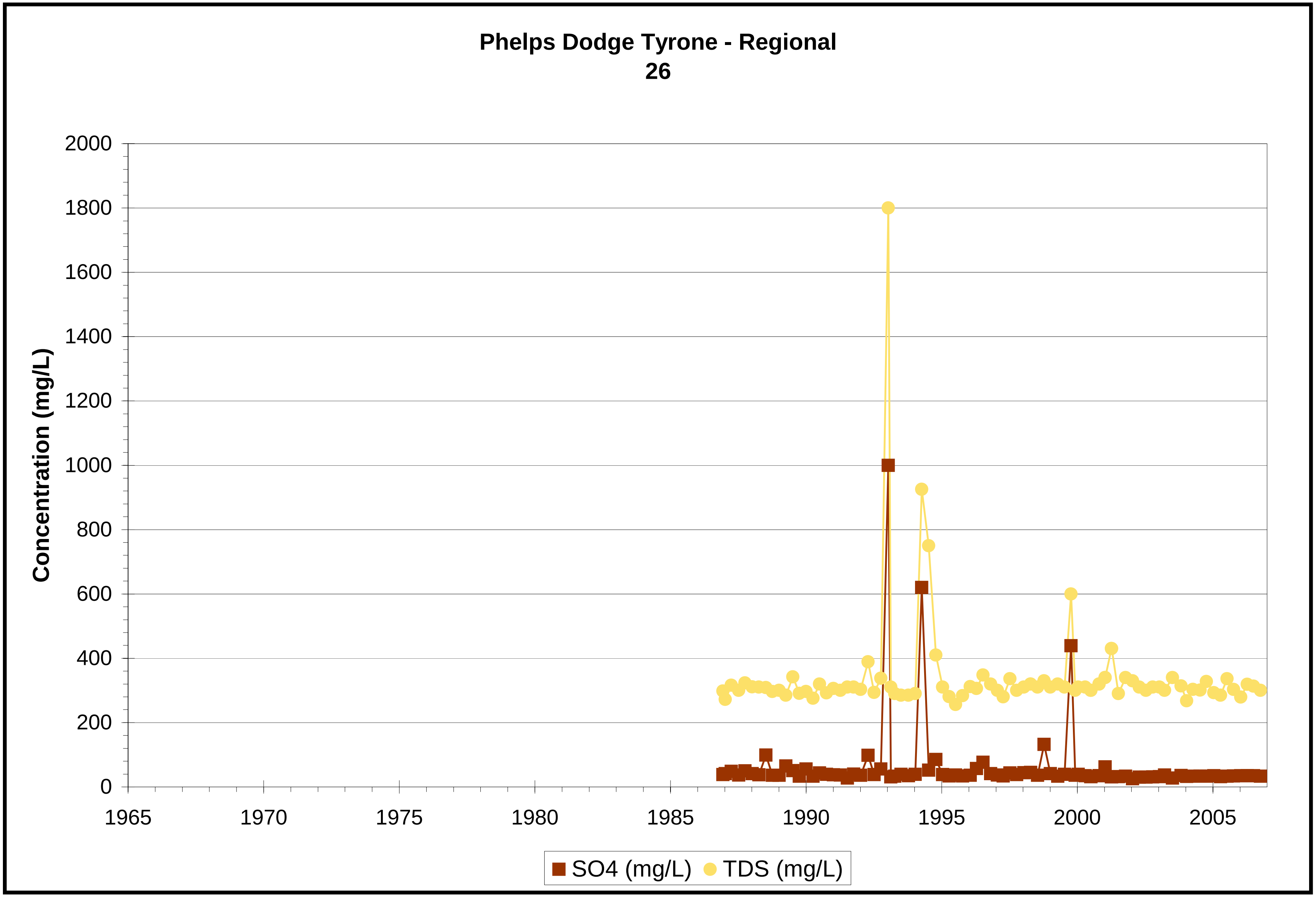

Phelps Dodge Tyrone - Regional
20
Concentration (mg/L)
0
100
200
300
400
500
600
700
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
22
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

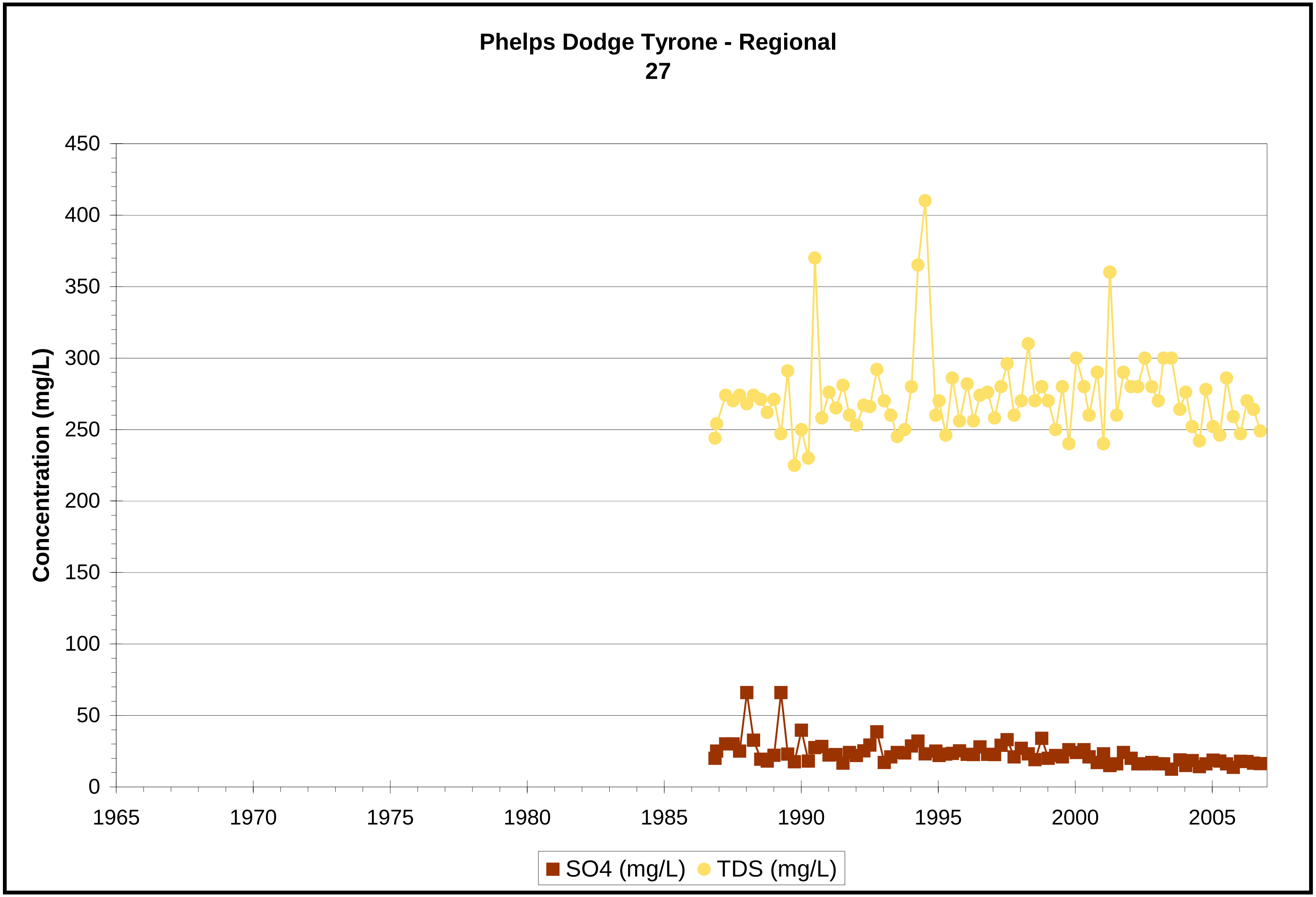

Phelps Dodge Tyrone - Regional
23
Concentration (mg/L)
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
24
Concentration (mg/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

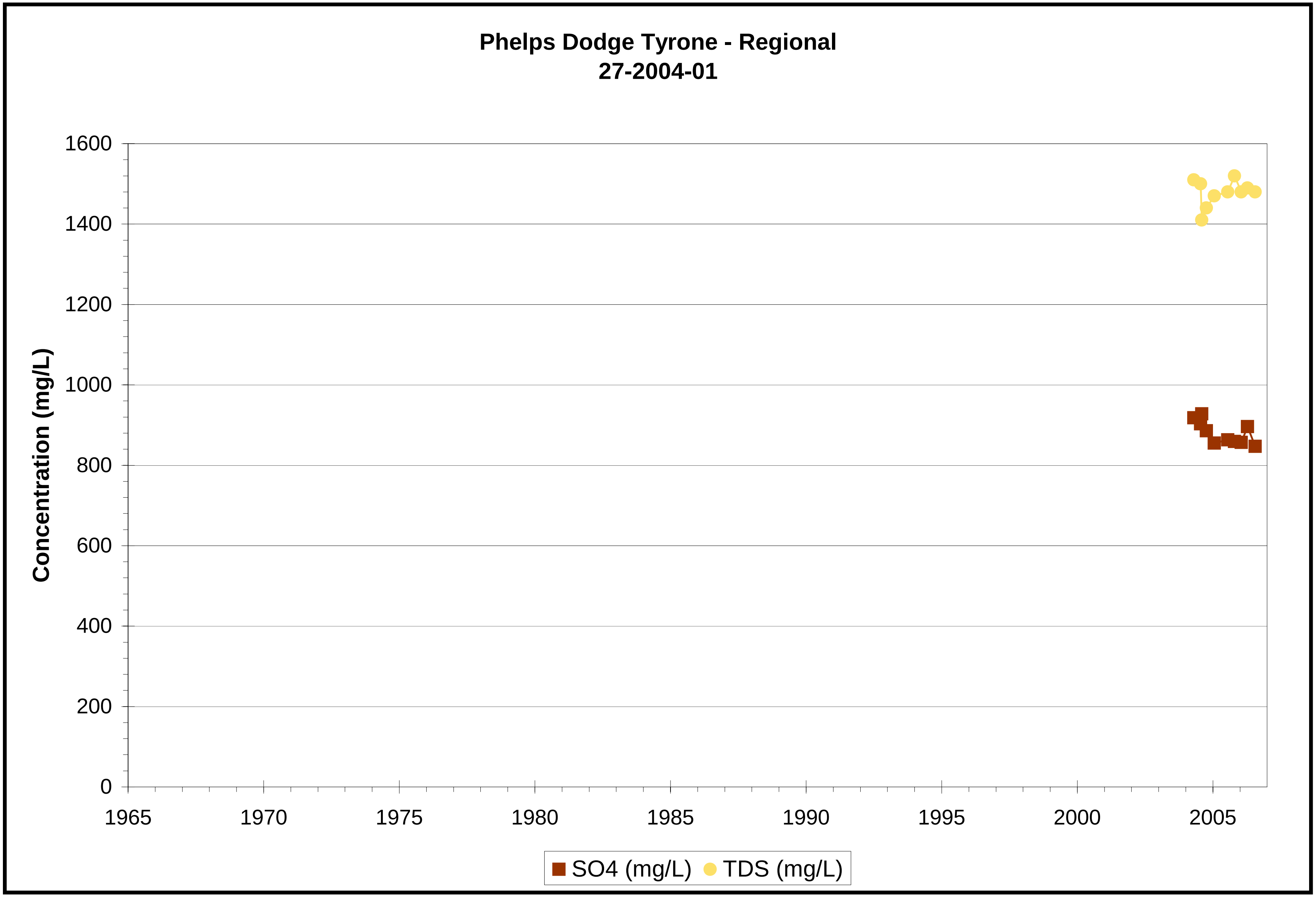

Phelps Dodge Tyrone - Regional
25
Concentration (mg/L)
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

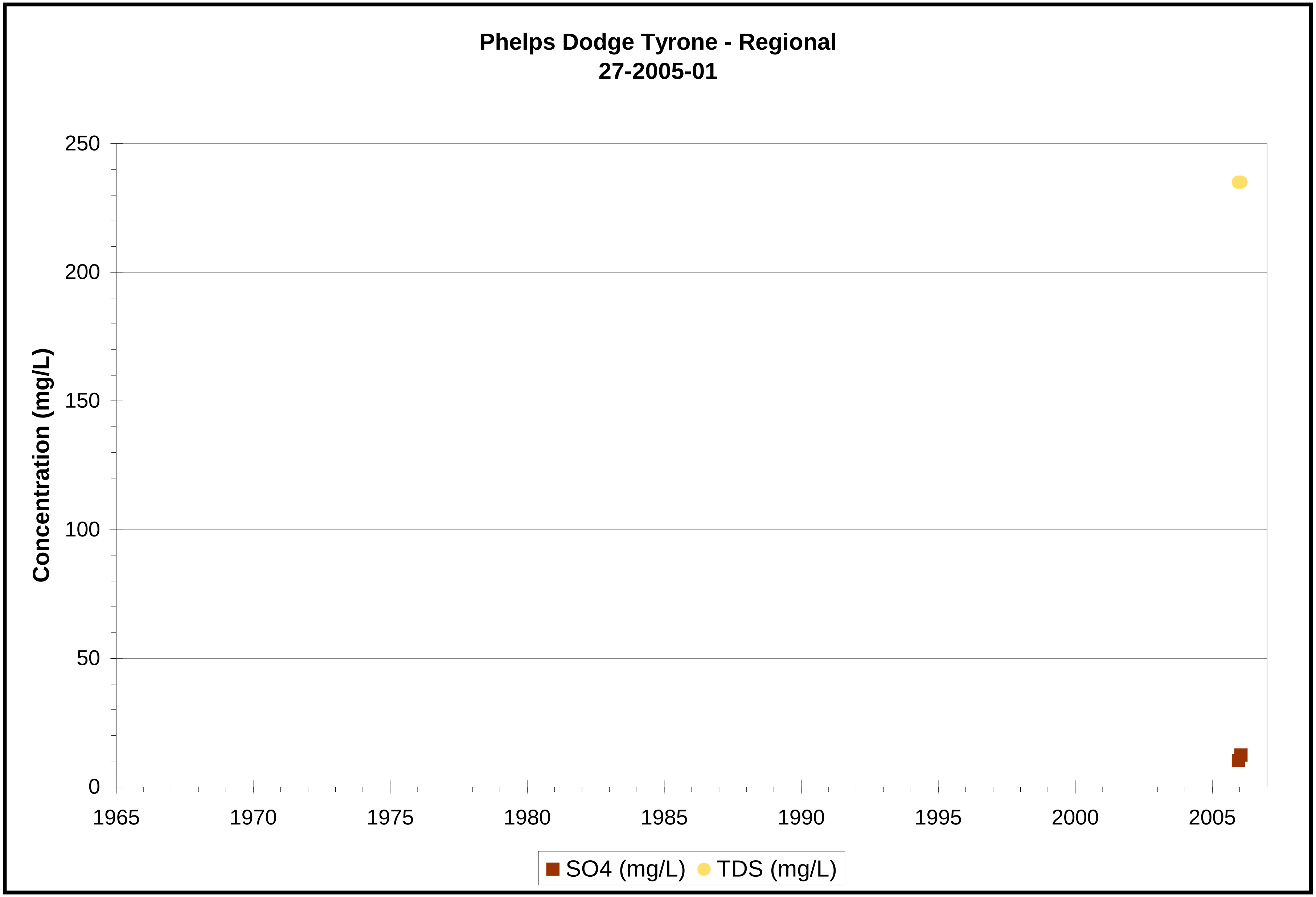


Phelps Dodge Tyrone - Regional
26
Concentration (mg/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

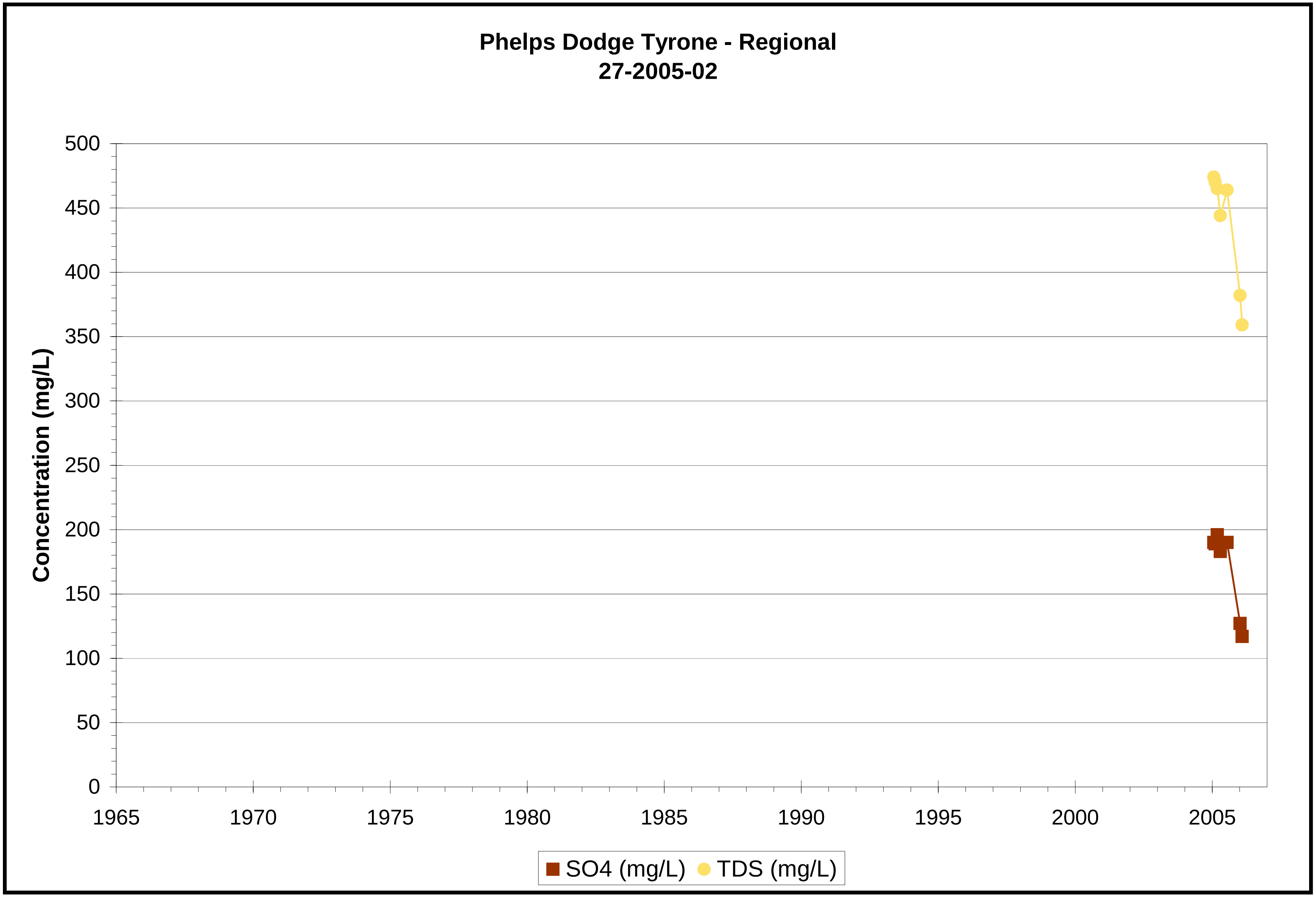


Phelps Dodge Tyrone - Regional
27
Concentration (mg/L)
450
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

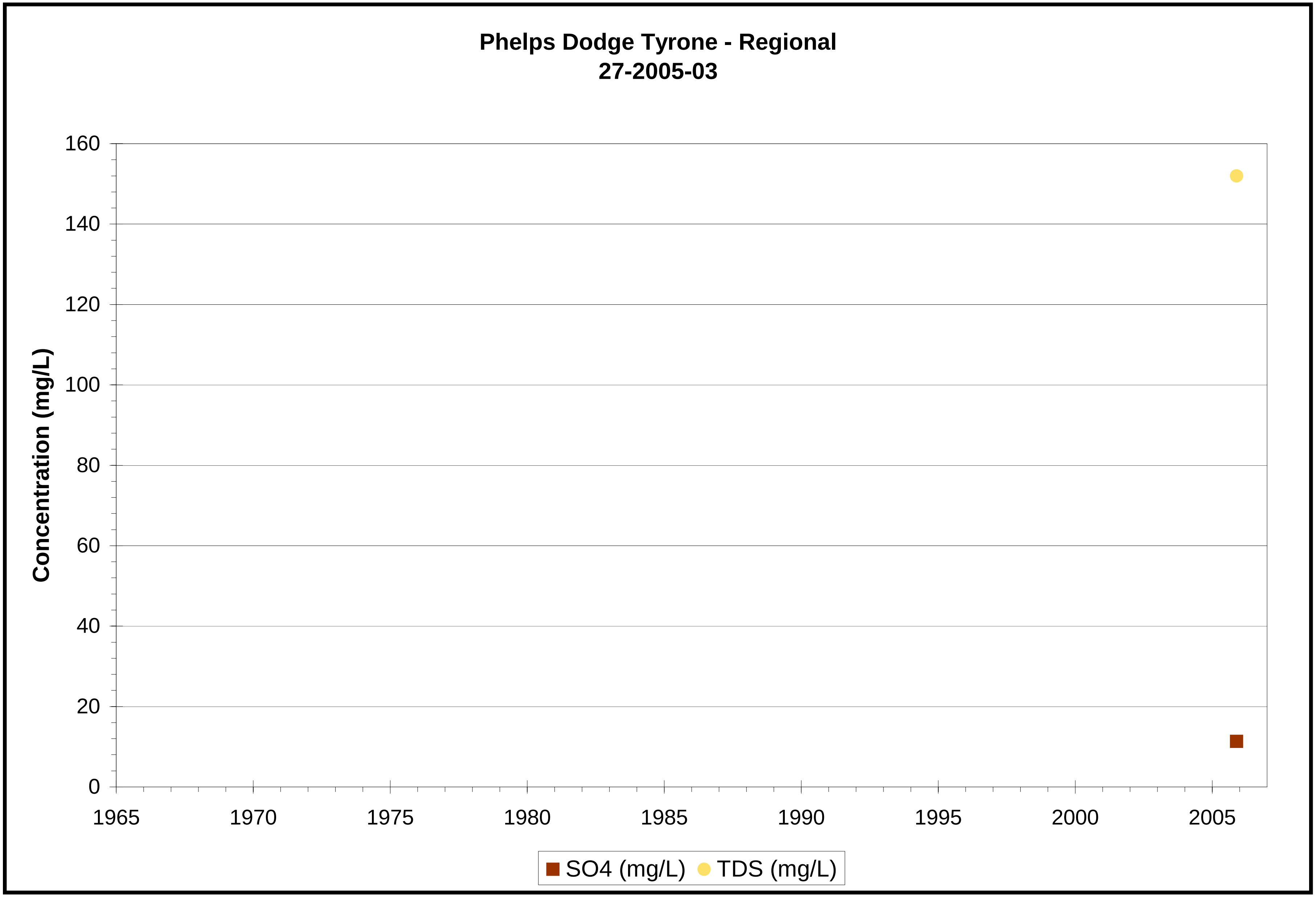

Phelps Dodge Tyrone - Regional
27-2004-01
Concentration (mg/L)
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

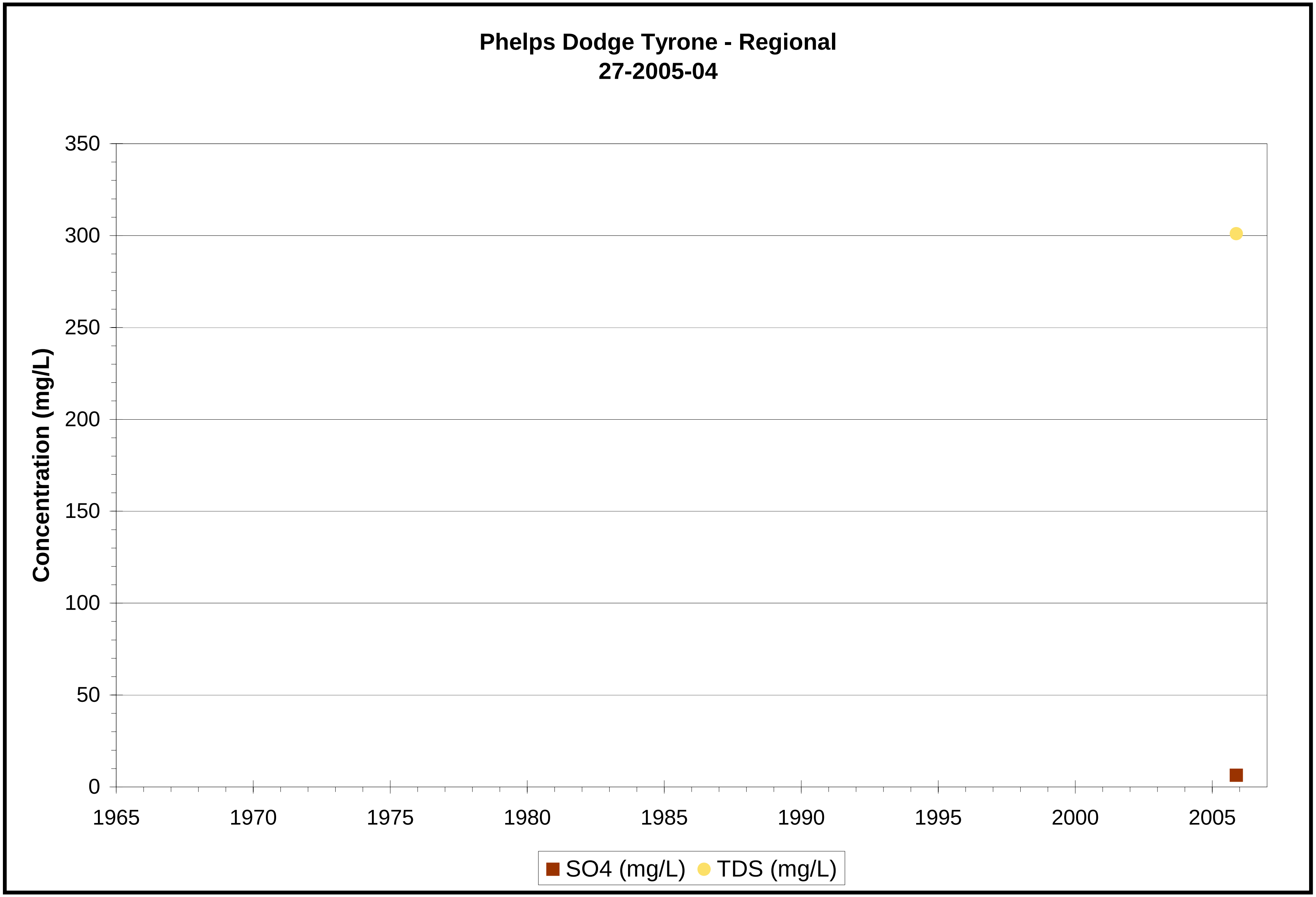


Phelps Dodge Tyrone - Regional
27-2005-01
Concentration (mg/L)
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

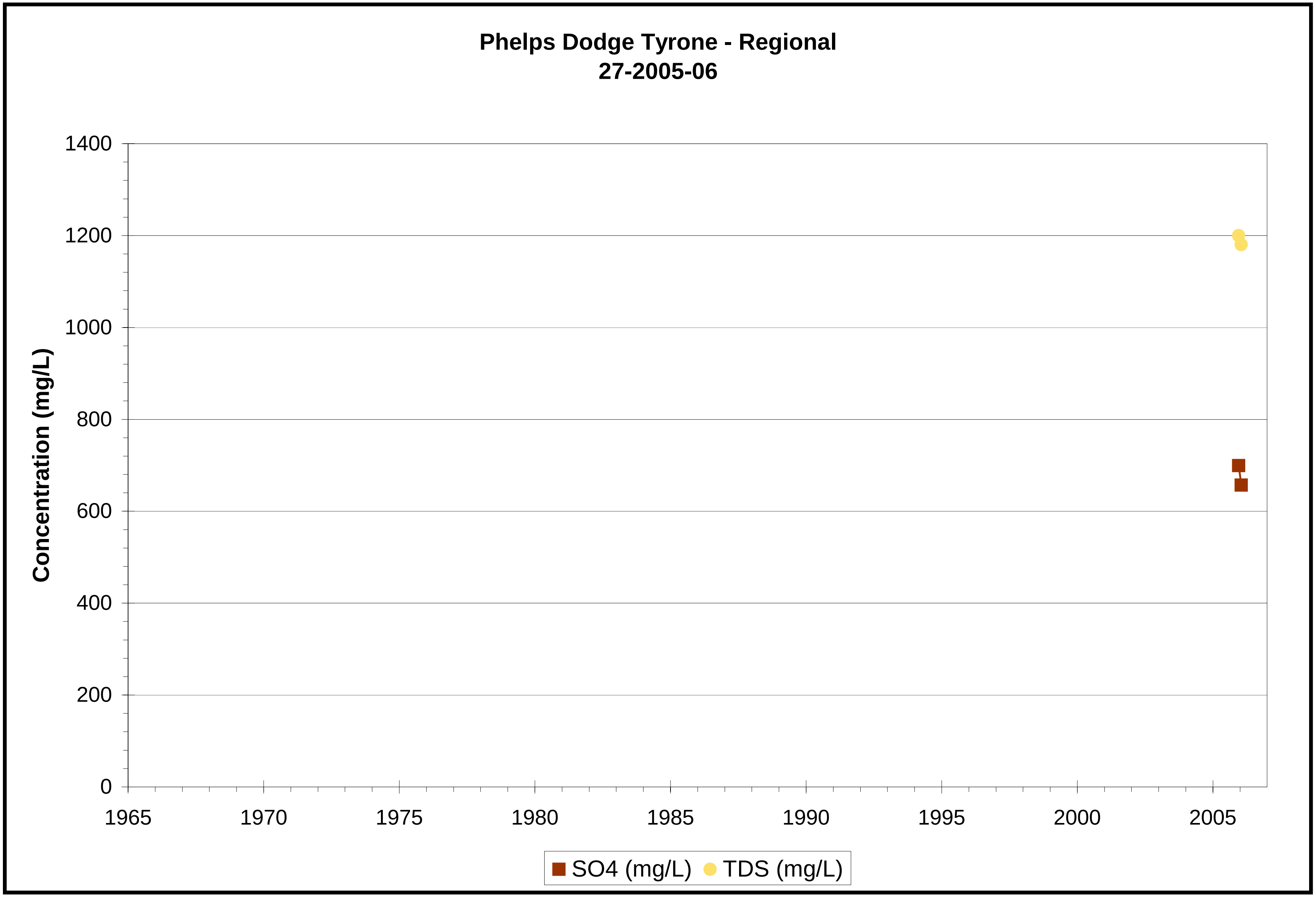


Phelps Dodge Tyrone - Regional
27-2005-02
Concentration (mg/L)
500
450
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

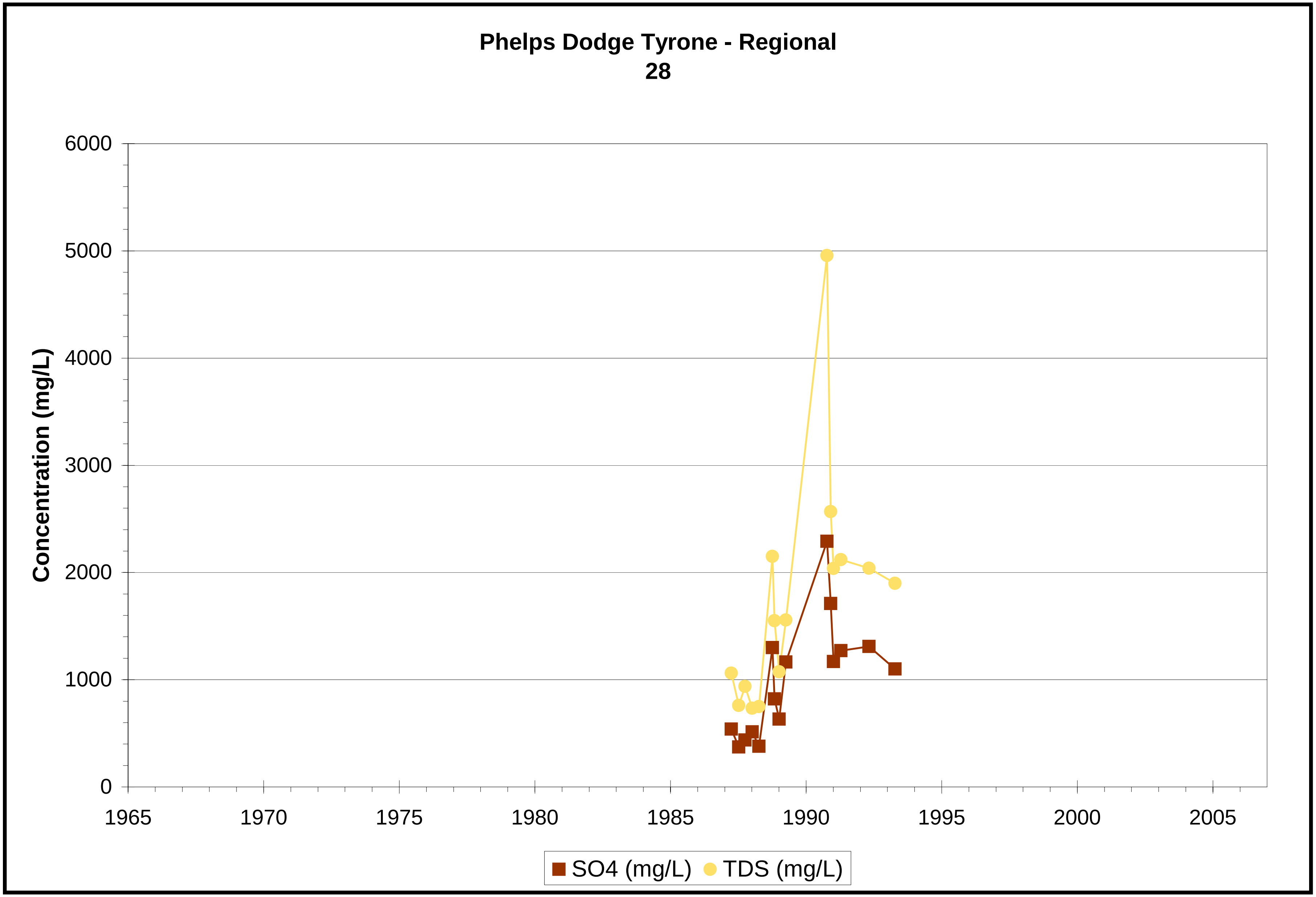

Phelps Dodge Tyrone - Regional
27-2005-03
Concentration (mg/L)
0
20
40
60
80
100
120
140
160
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

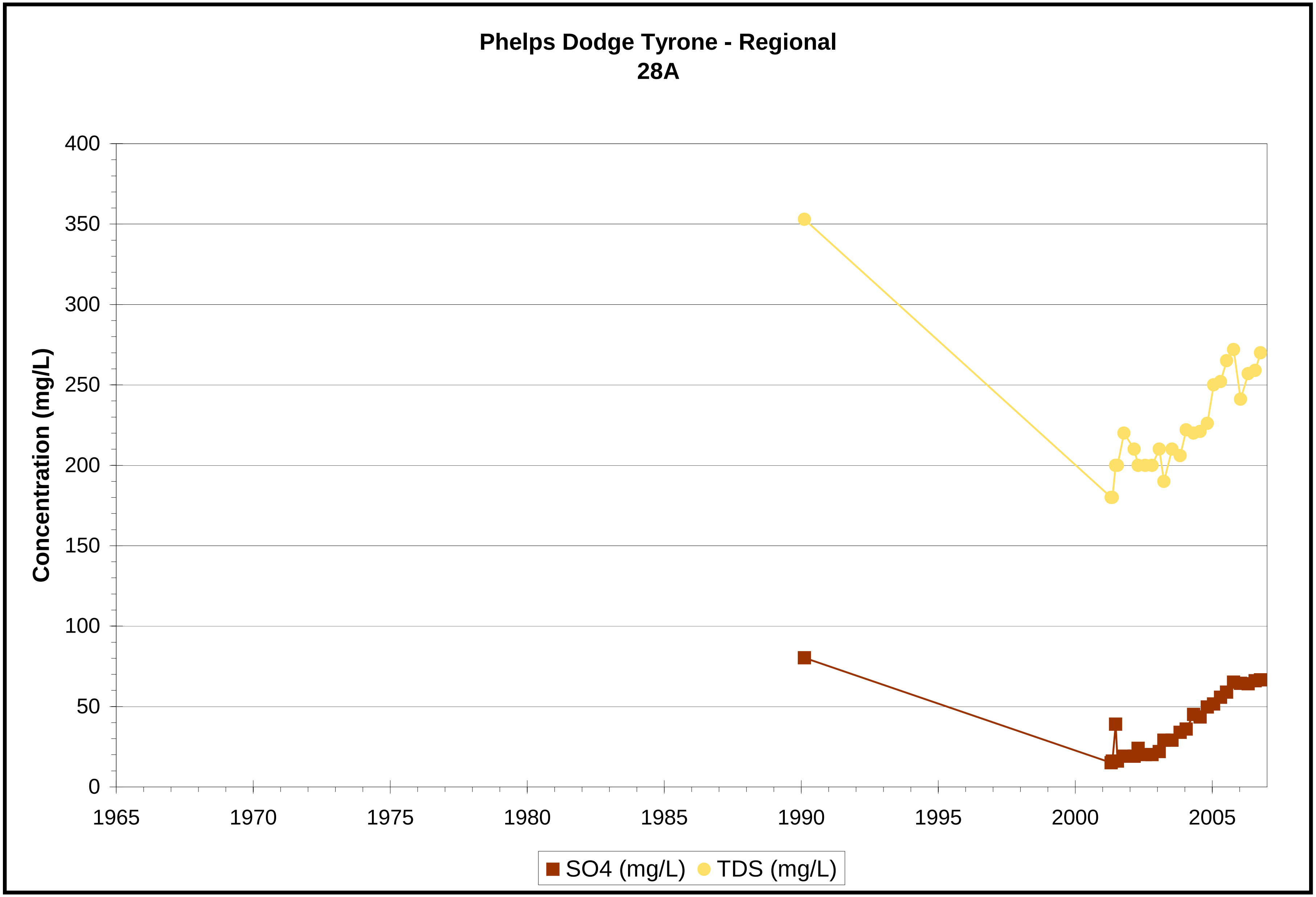


Phelps Dodge Tyrone - Regional
27-2005-04
Concentration (mg/L)
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

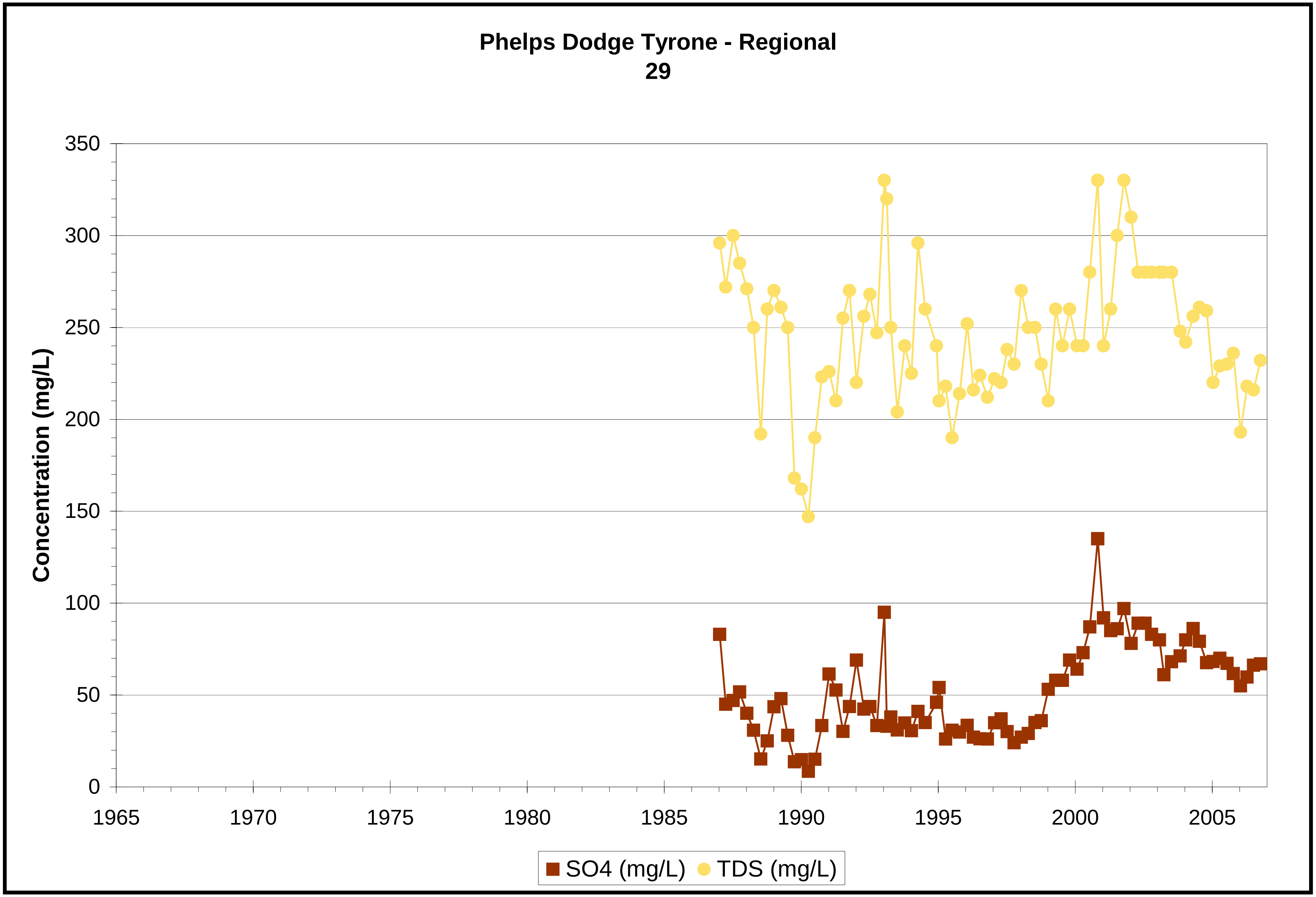


Phelps Dodge Tyrone - Regional
27-2005-06
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

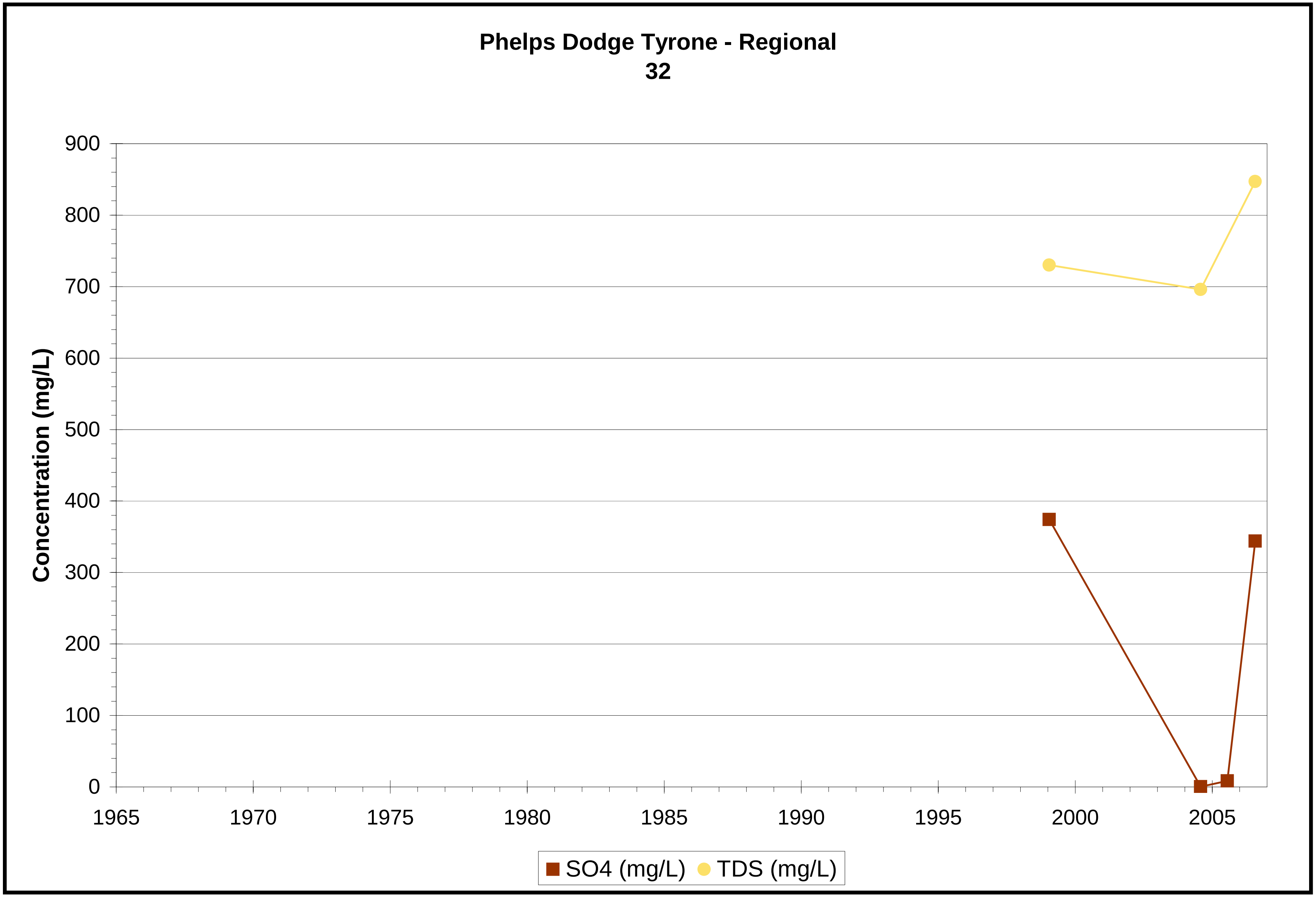

Phelps Dodge Tyrone - Regional
28
Concentration (mg/L)
0
1000
2000
3000
4000
5000
6000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



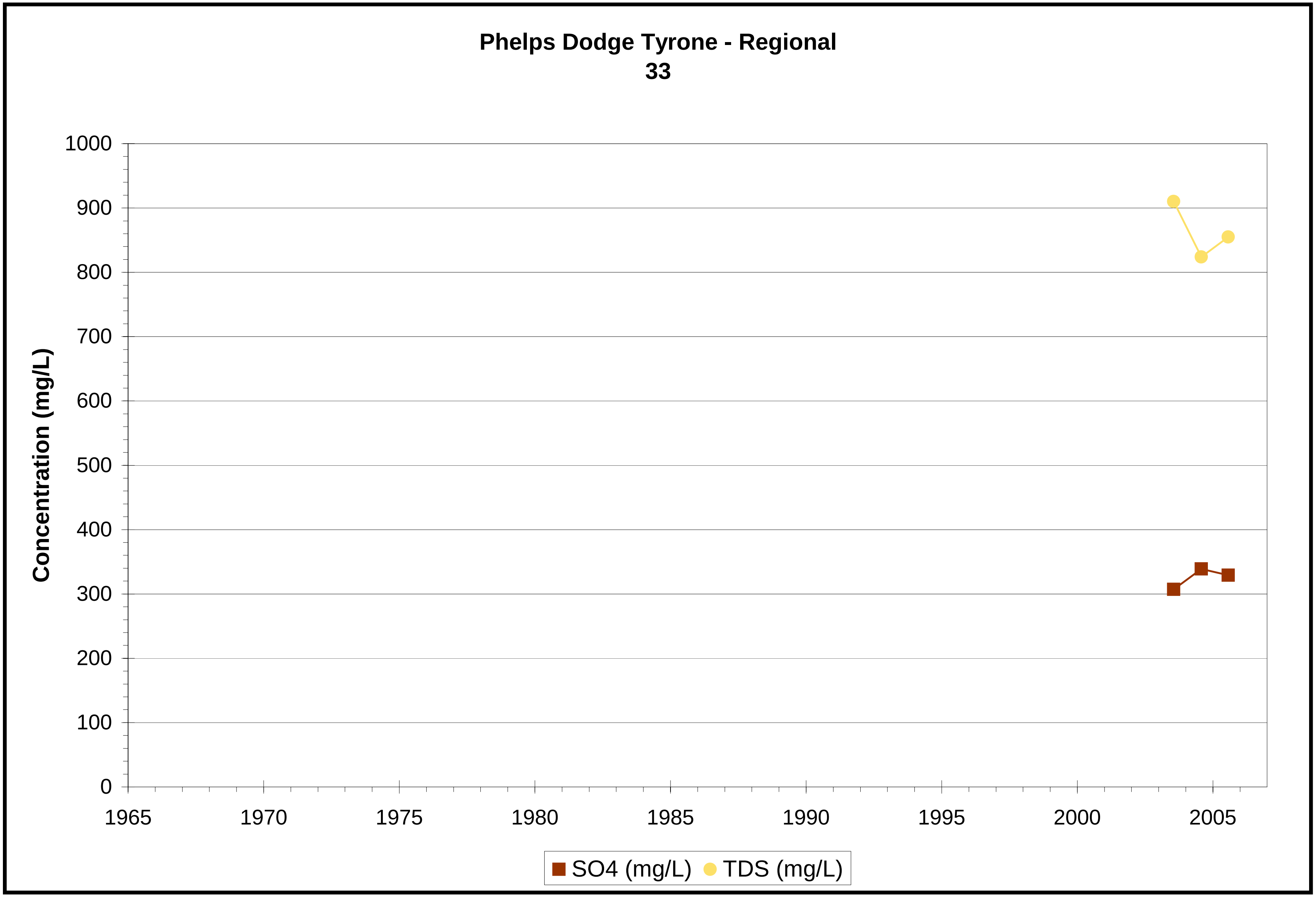
Phelps Dodge Tyrone - Regional
28A
Concentration (mg/L)
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

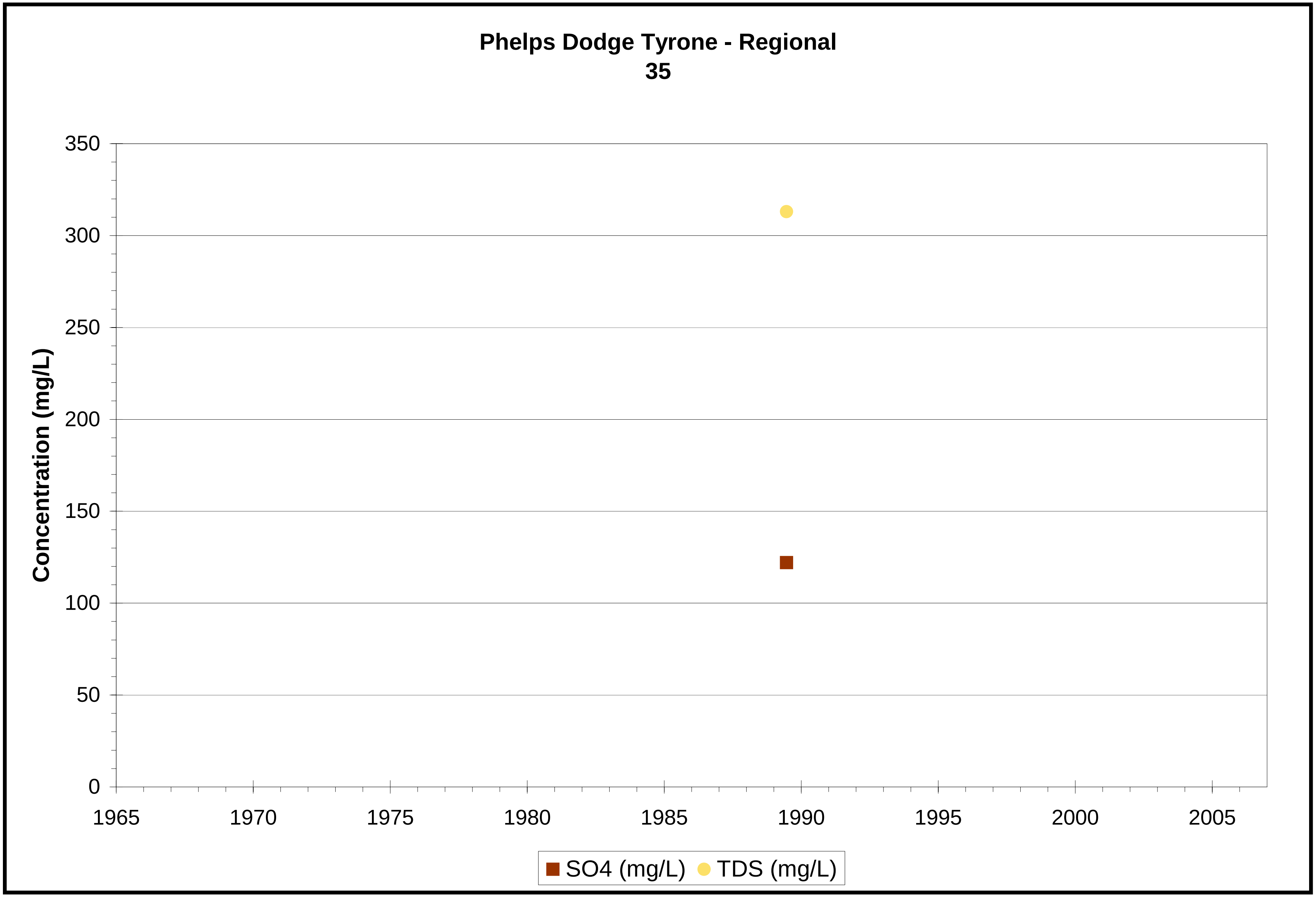


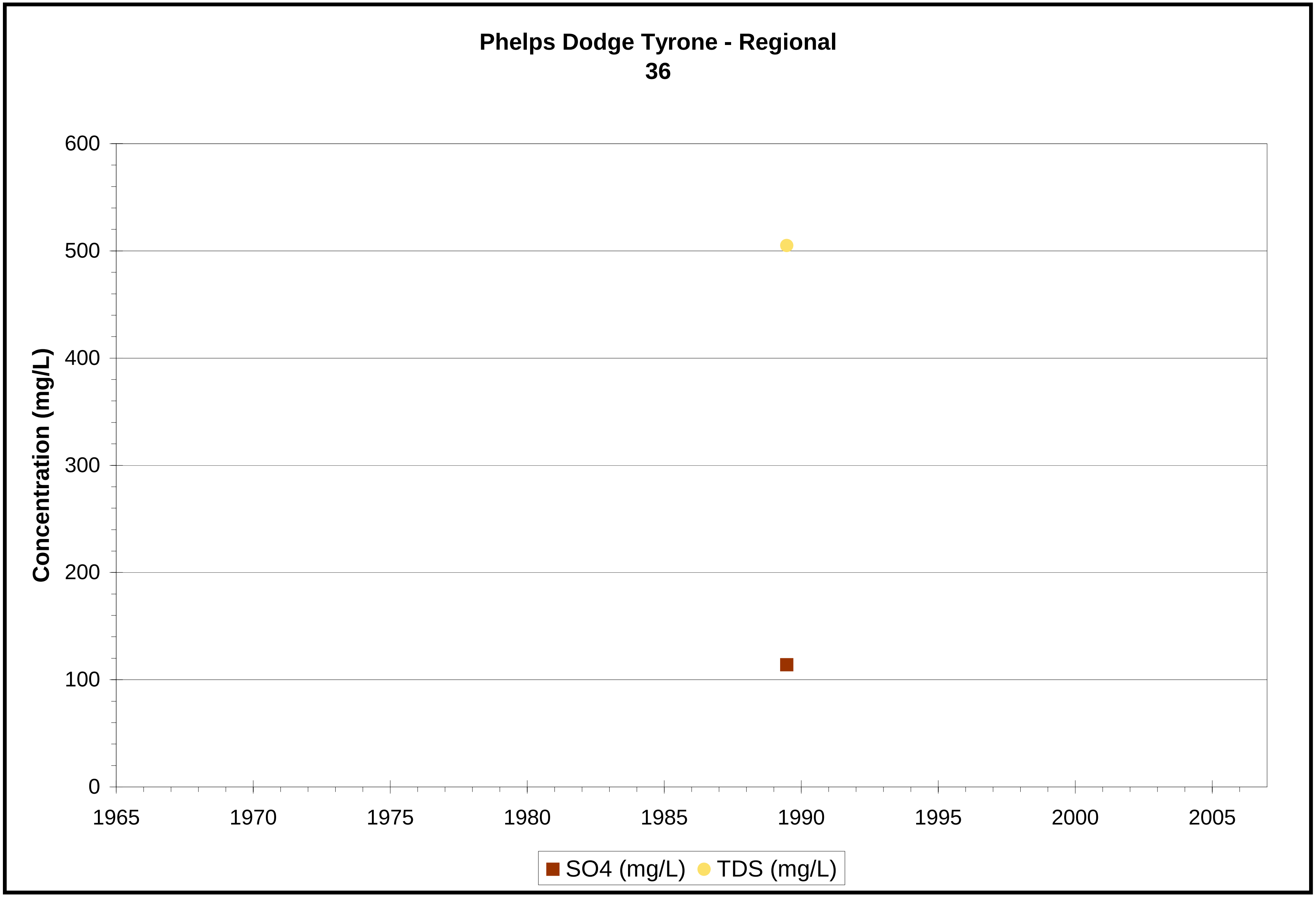
Phelps Dodge Tyrone - Regional
29
Concentration (mg/L)
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

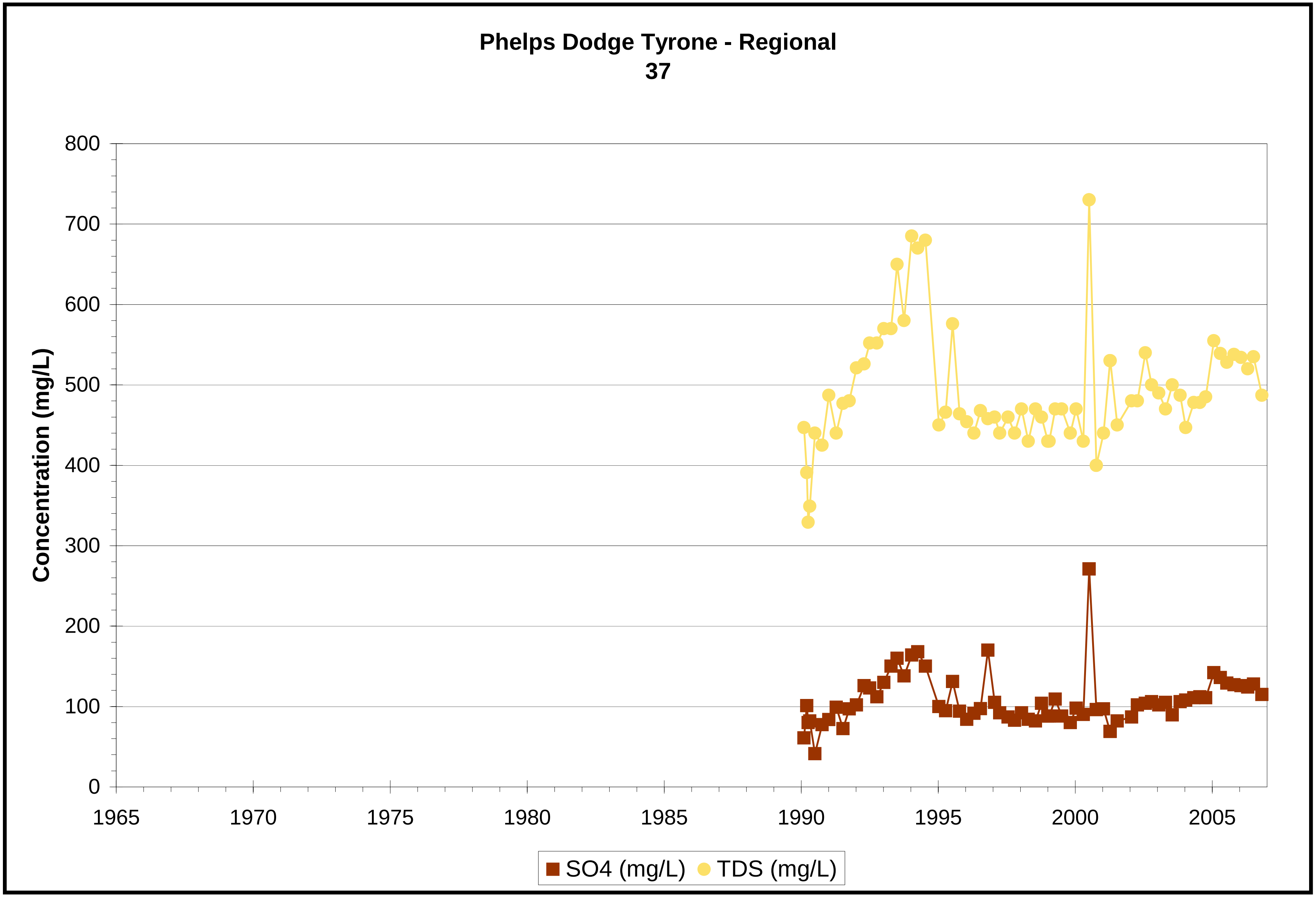


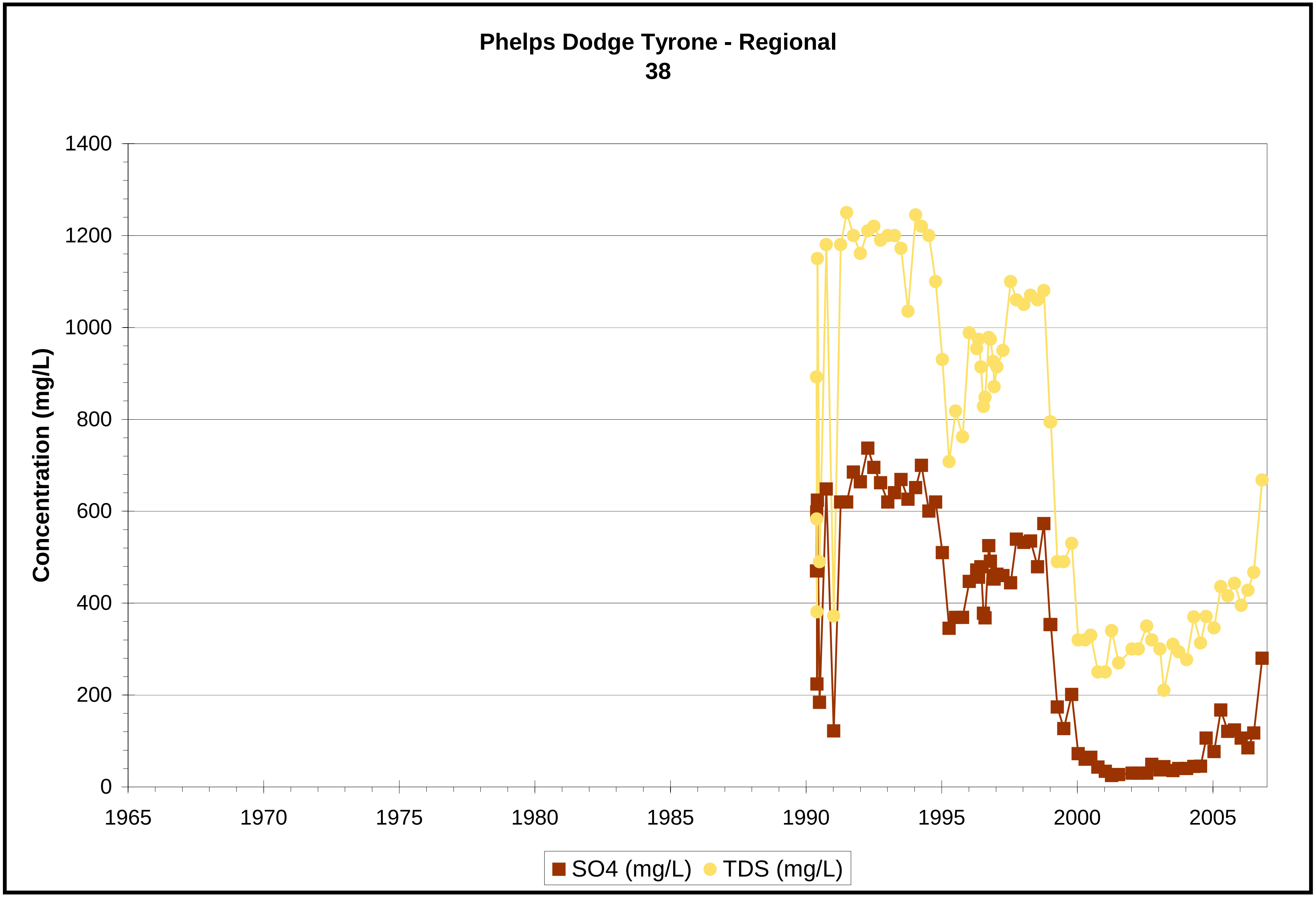
Phelps Dodge Tyrone - Regional
32
Concentration (mg/L)
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
33
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

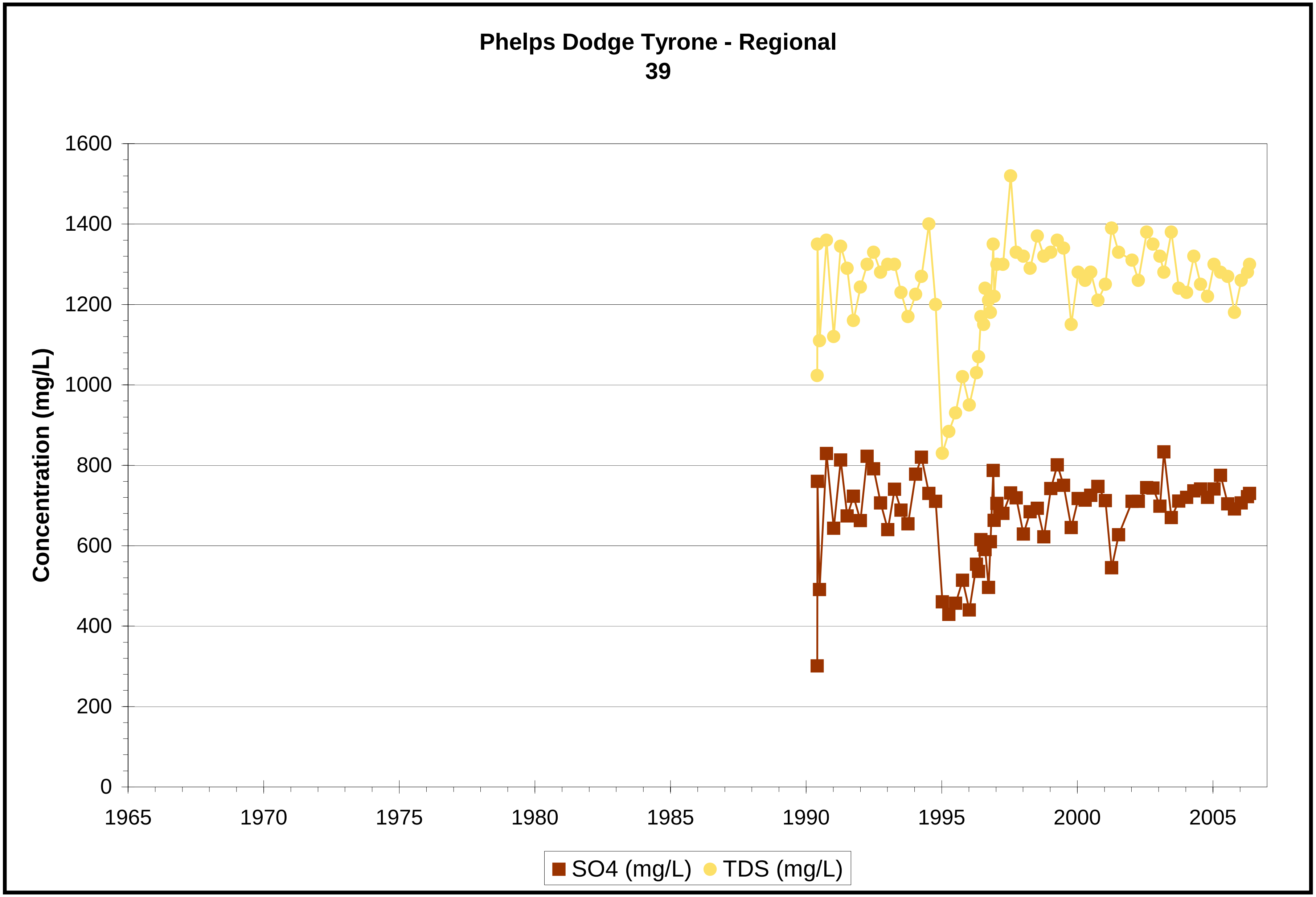

Phelps Dodge Tyrone - Regional
35
Concentration (mg/L)
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
36
Concentration (mg/L)
0
100
200
300
400
500
600
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

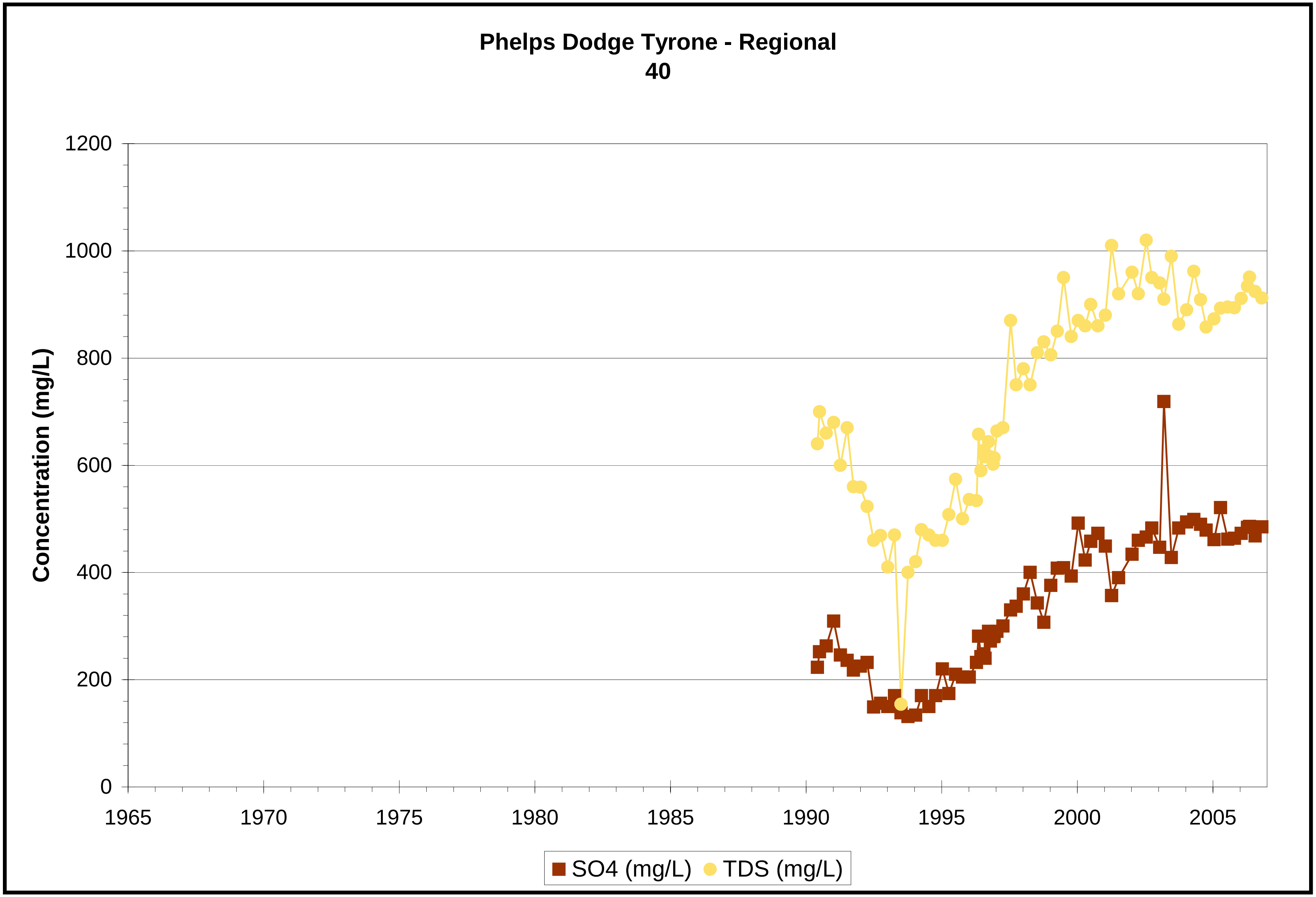

Phelps Dodge Tyrone - Regional
37
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



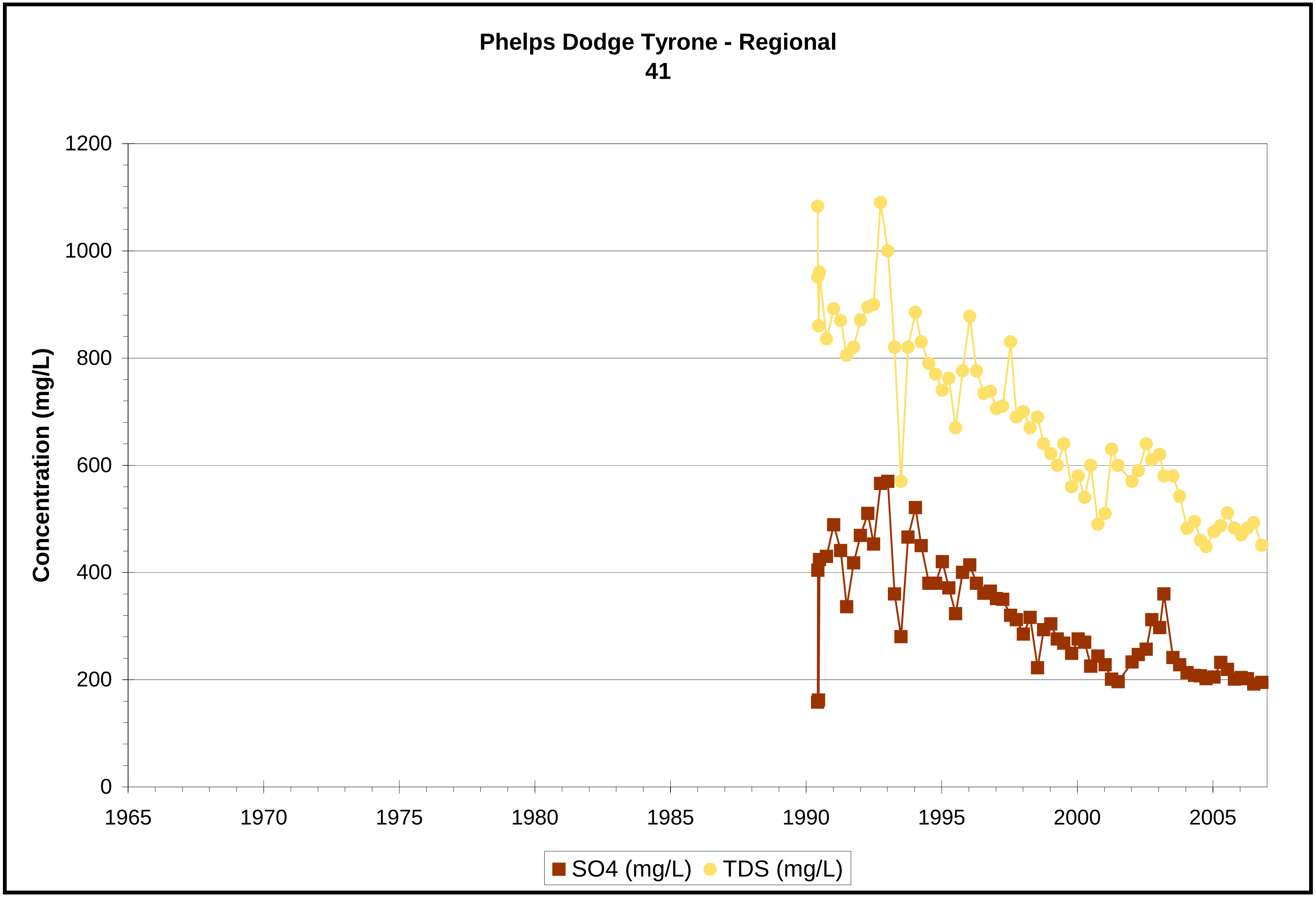
Phelps Dodge Tyrone - Regional
38
Concentration (mg/L)
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



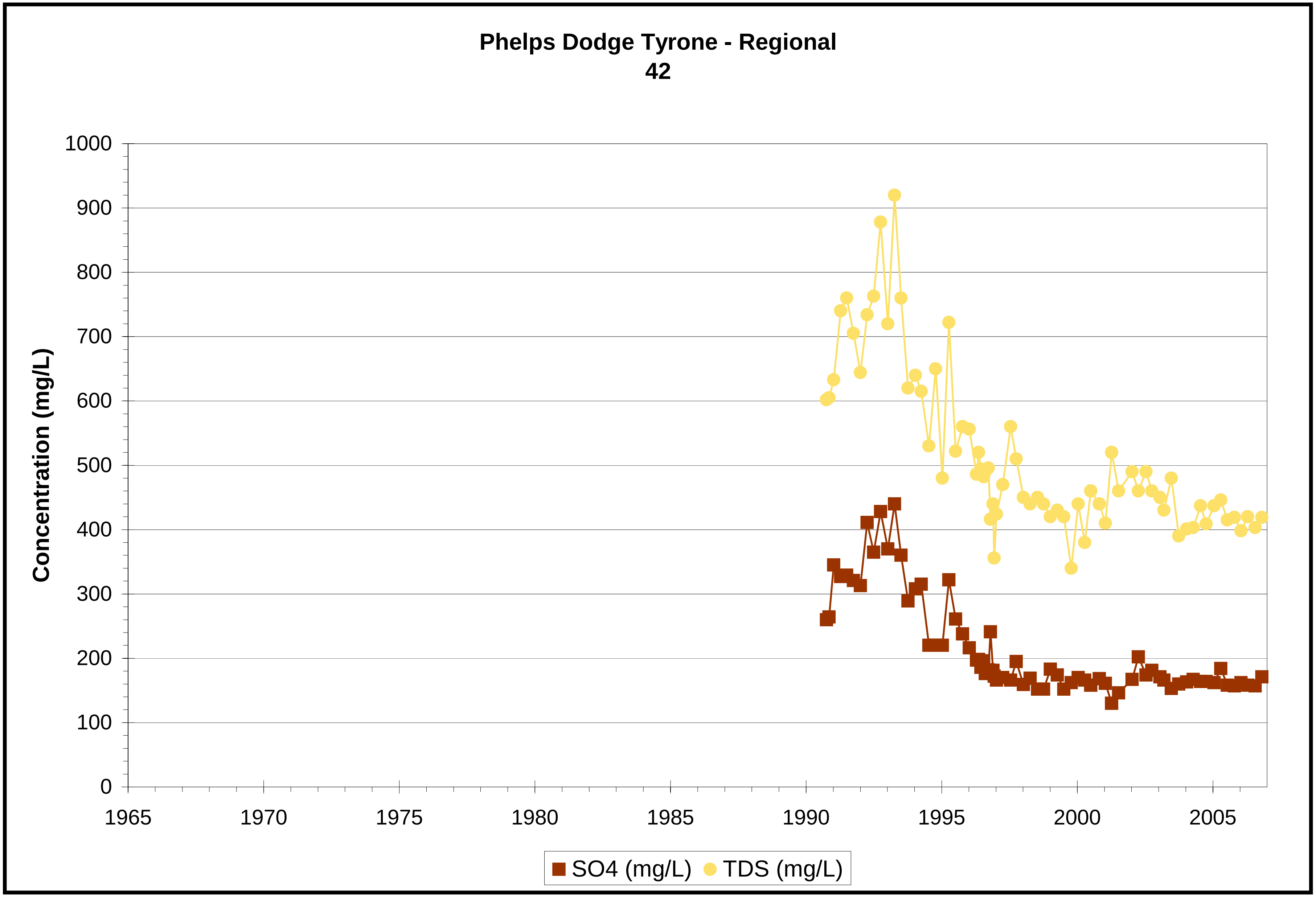
Phelps Dodge Tyrone - Regional
39
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

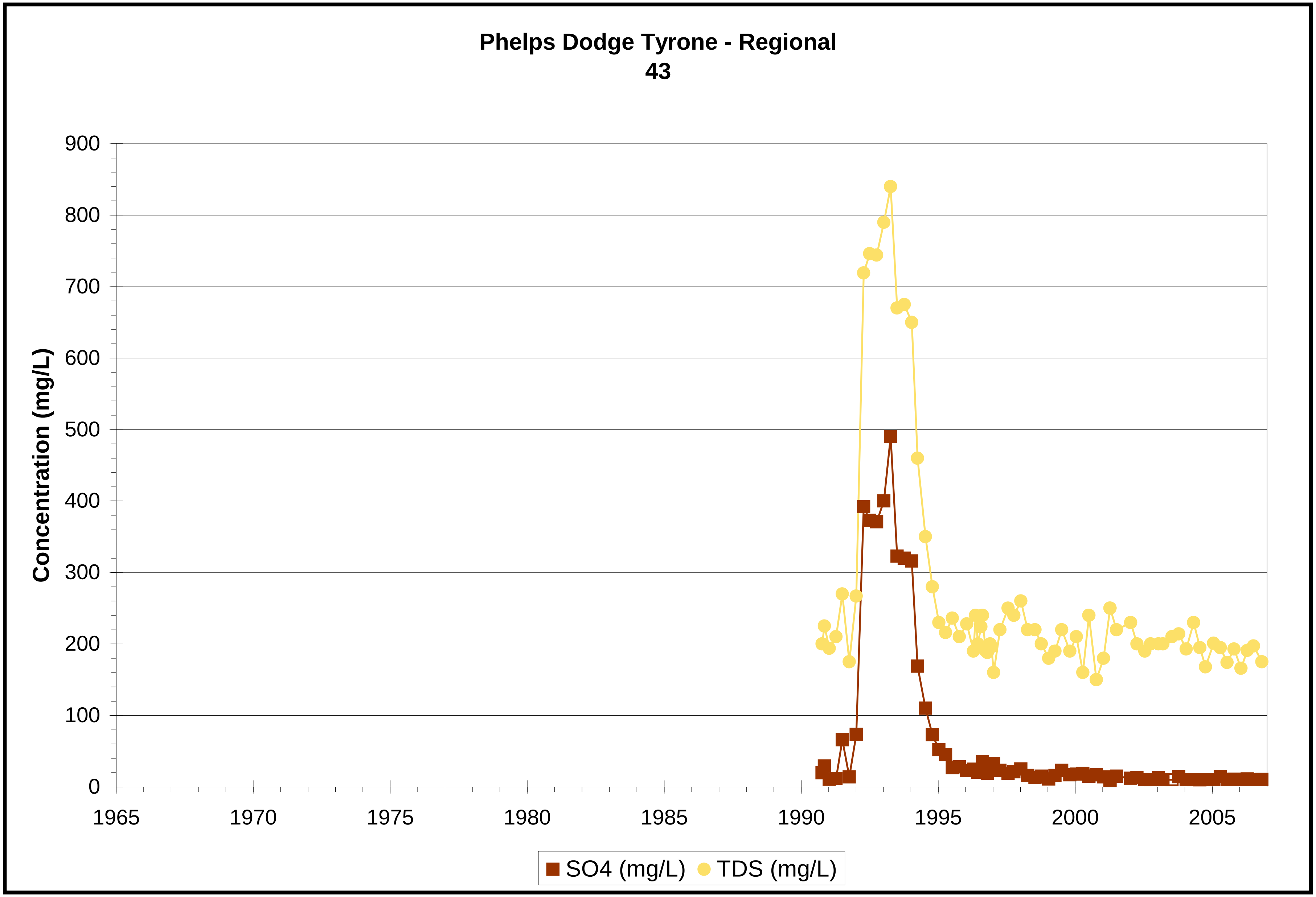


Phelps Dodge Tyrone - Regional
40
Concentration (mg/L)
0
200
400
600
800
1000
1200
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

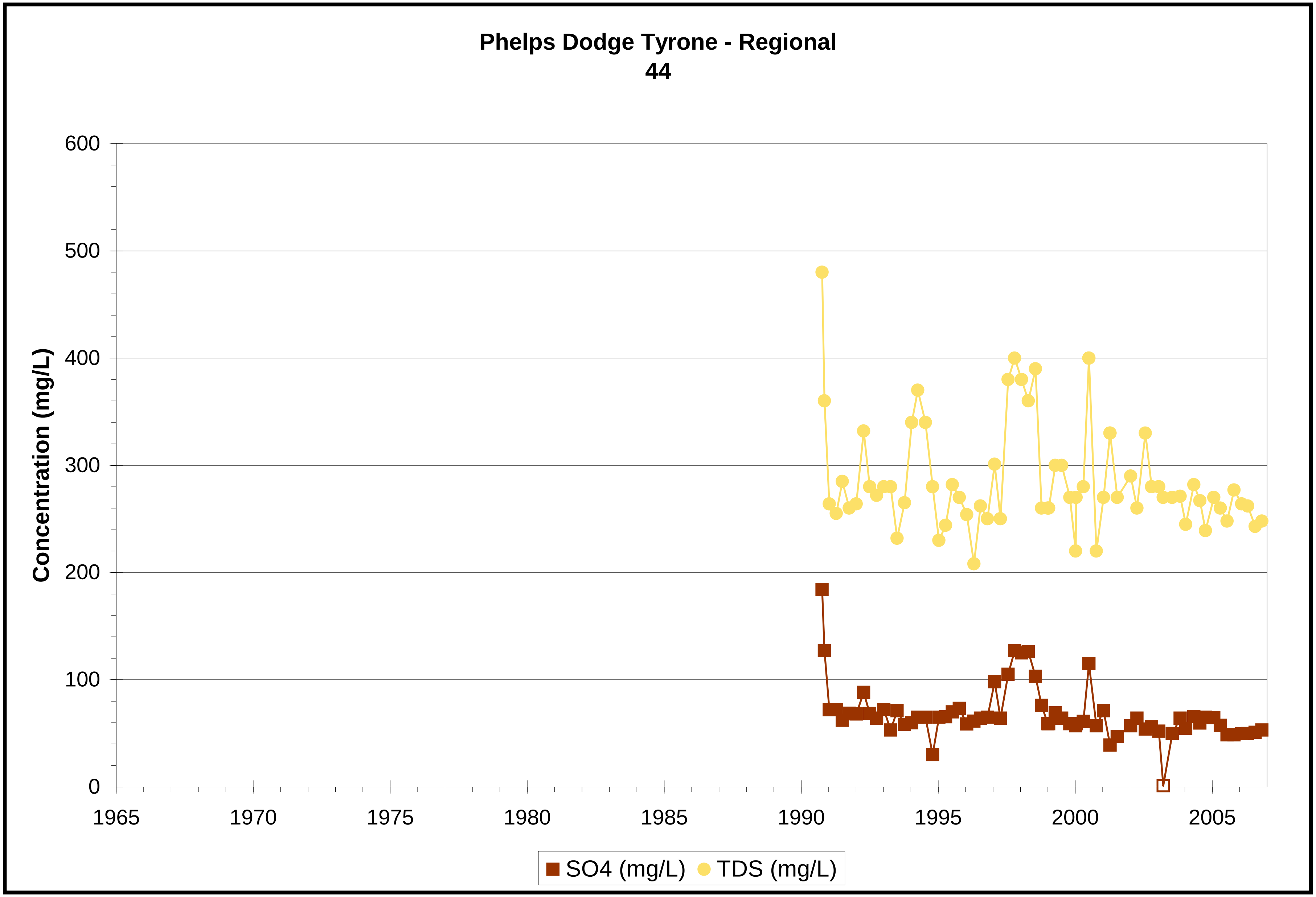


Phelps Dodge Tyrone - Regional
41
Concentration (mg/L)
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

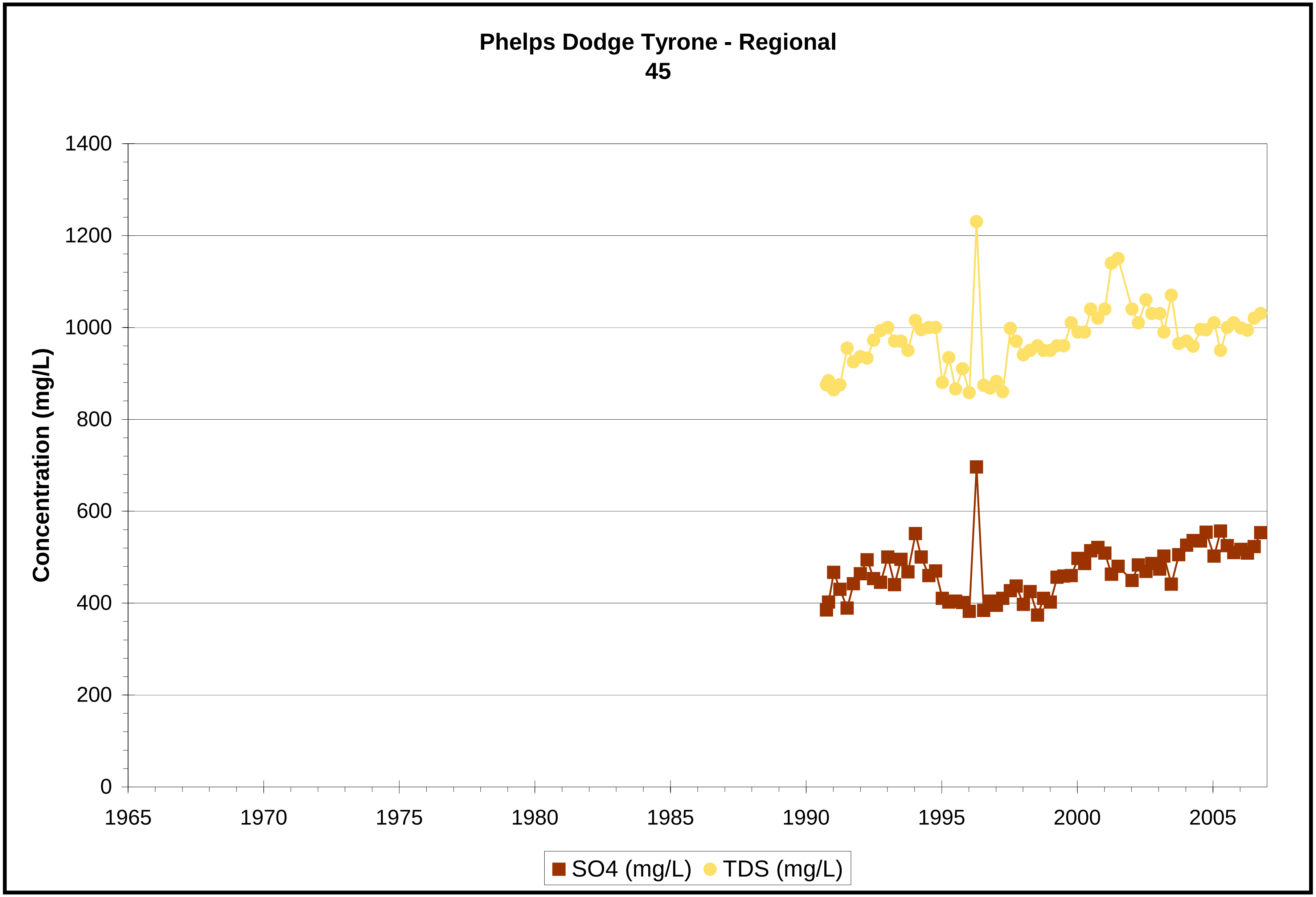

Phelps Dodge Tyrone - Regional
42
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



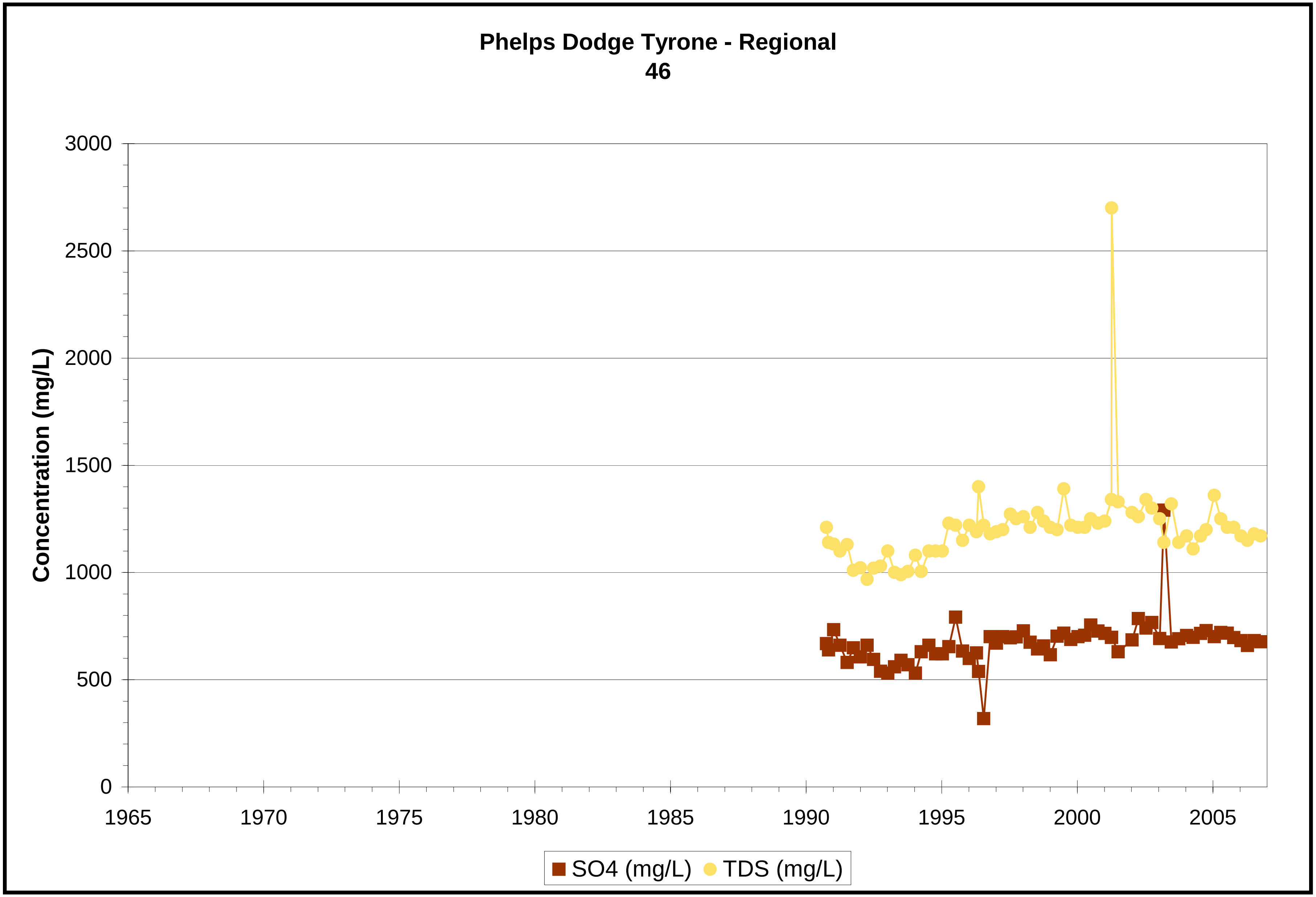
Phelps Dodge Tyrone - Regional
43
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
900
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



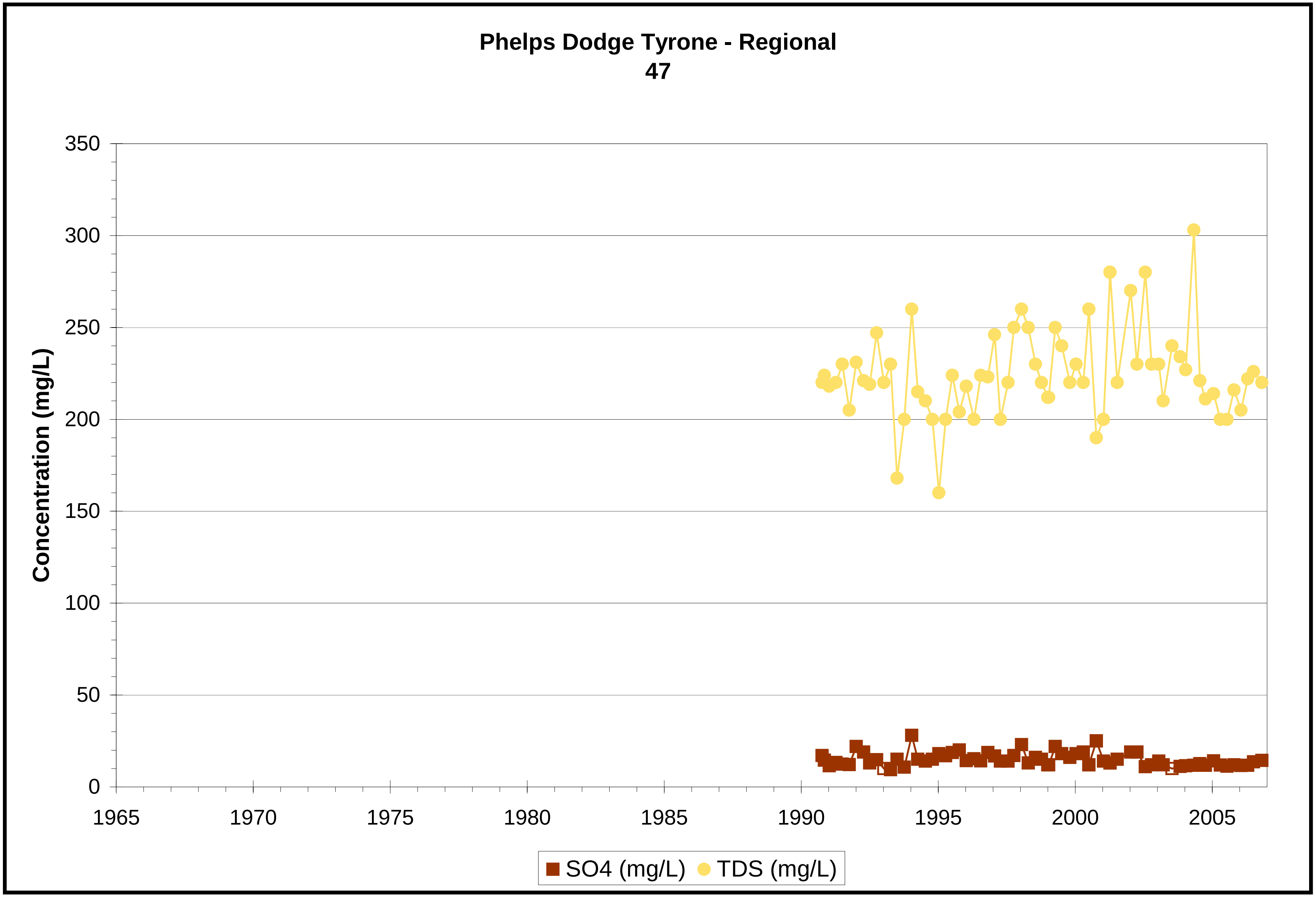
Phelps Dodge Tyrone - Regional
44
Concentration (mg/L)
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



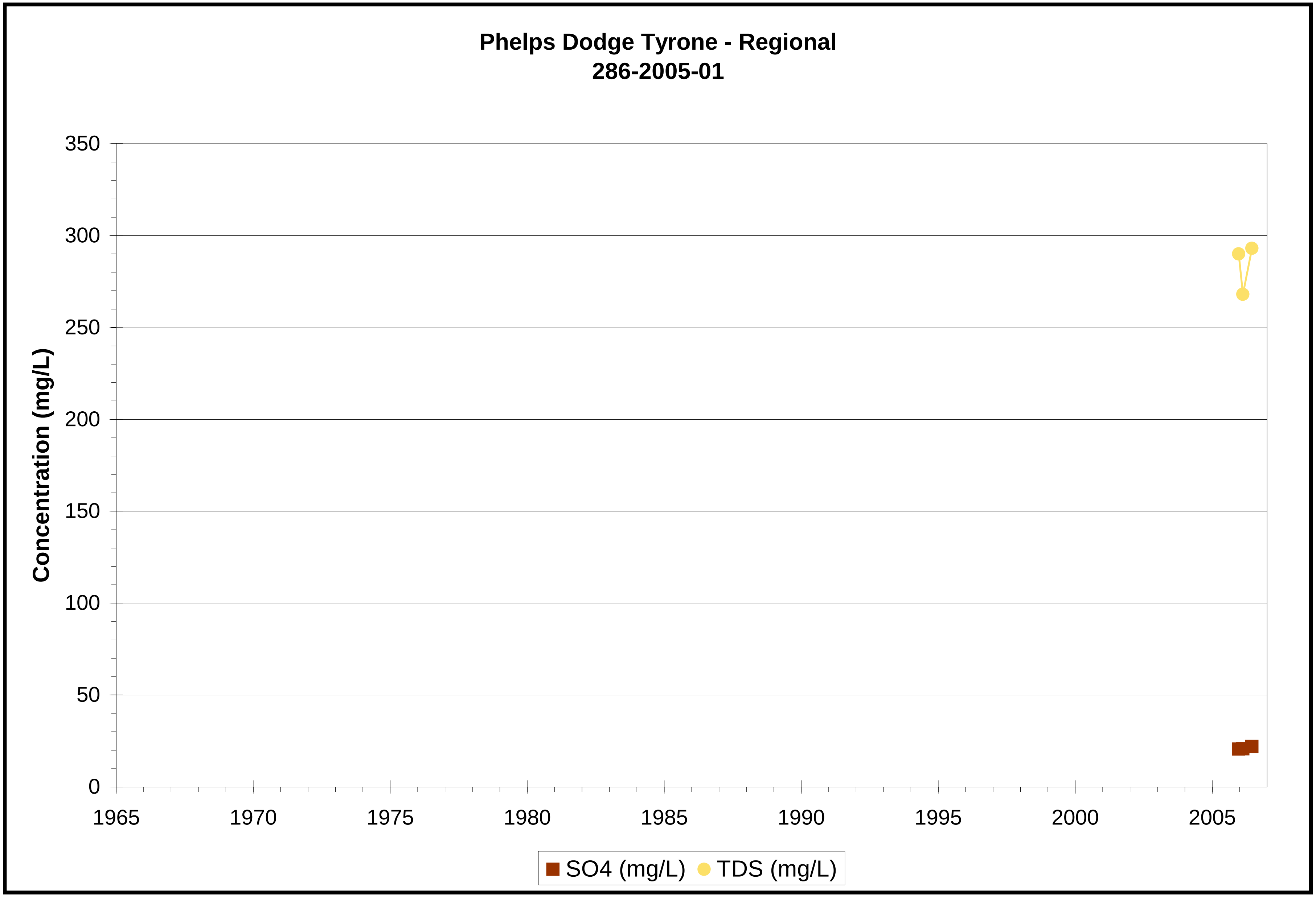
Phelps Dodge Tyrone - Regional
45
Concentration (mg/L)
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



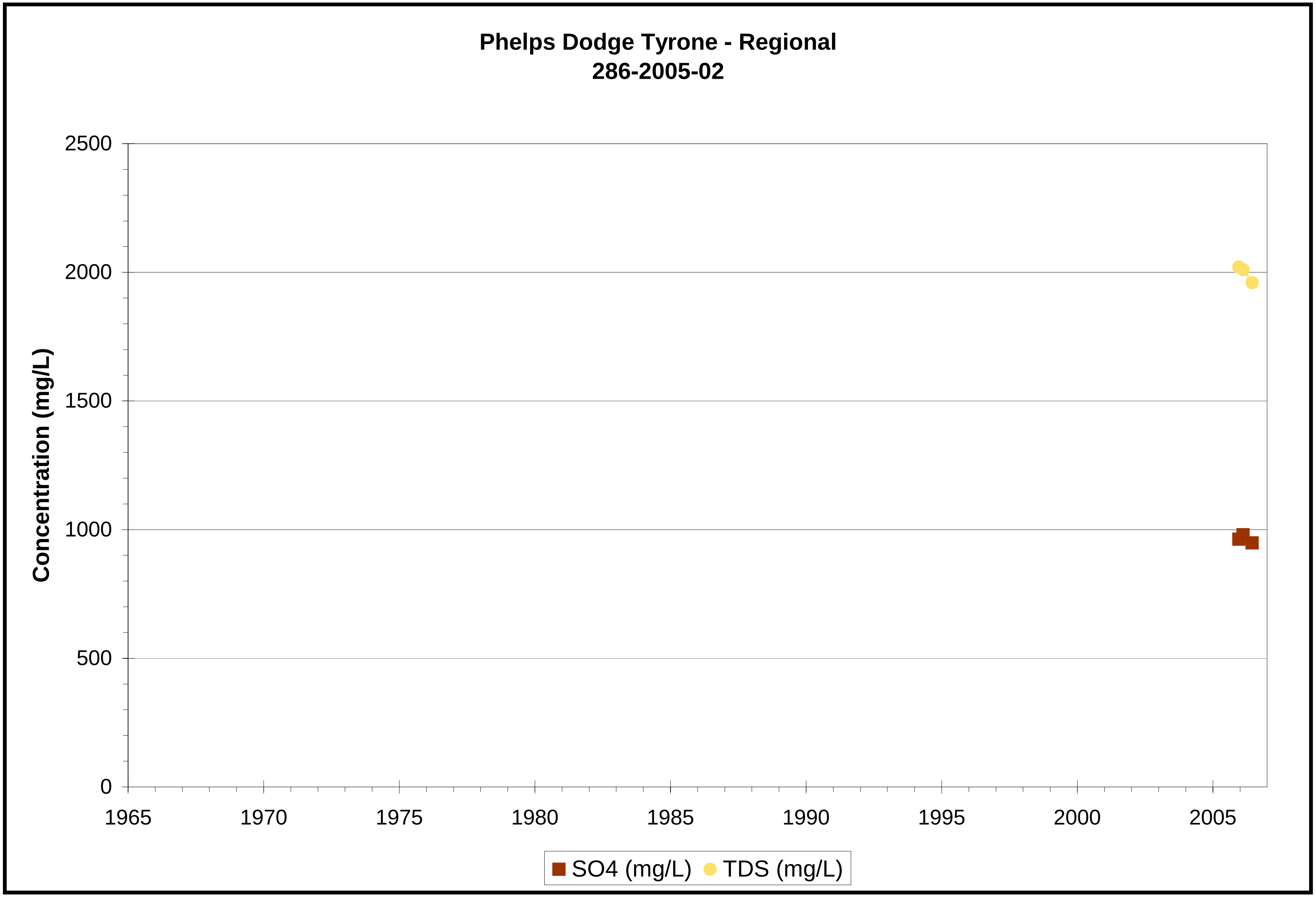
Phelps Dodge Tyrone - Regional
46
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



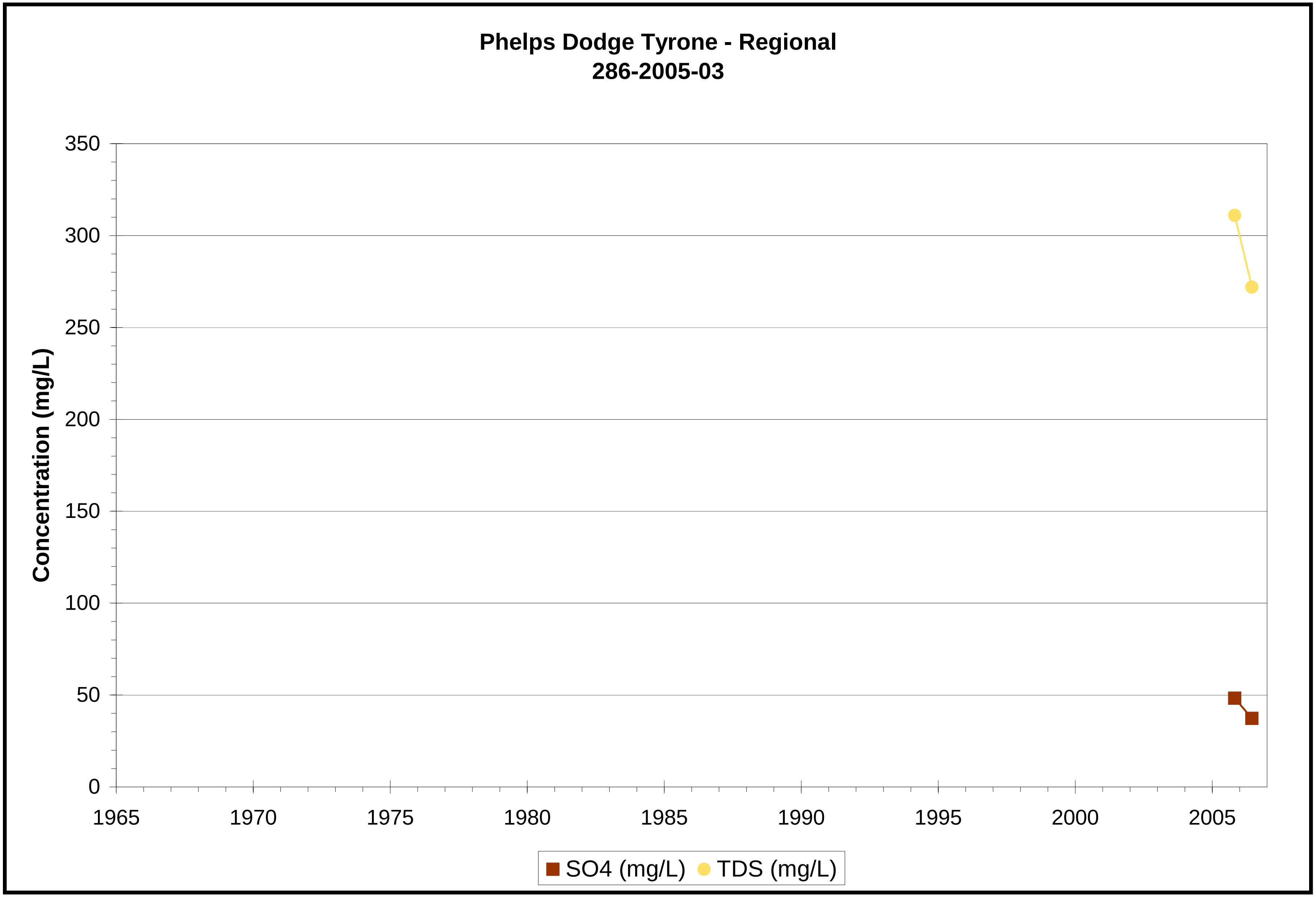
Phelps Dodge Tyrone - Regional
47
Concentration (mg/L)
0
50
100
150
200
250
300
350
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

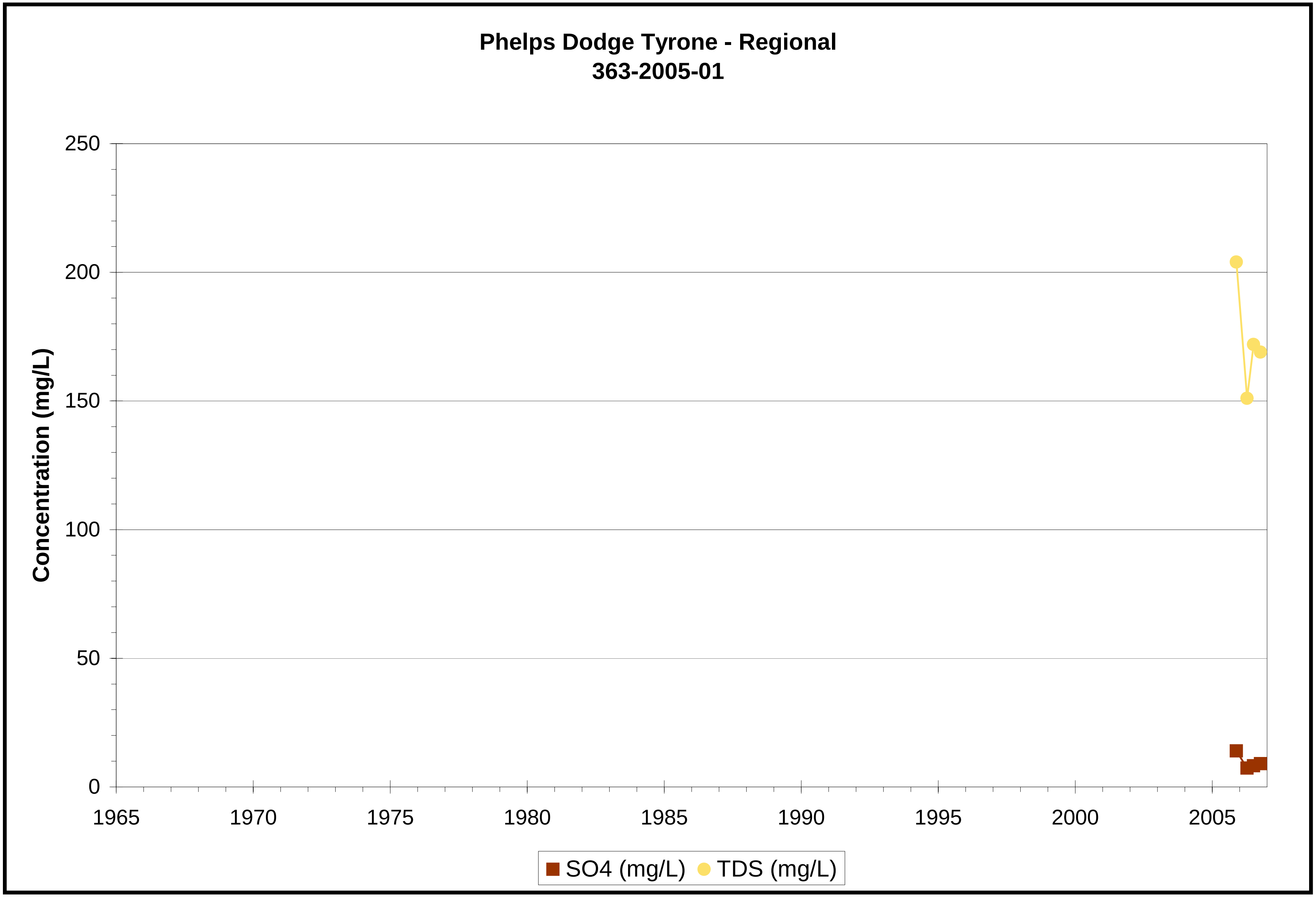


Phelps Dodge Tyrone - Regional
286-2005-01
Concentration (mg/L)
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

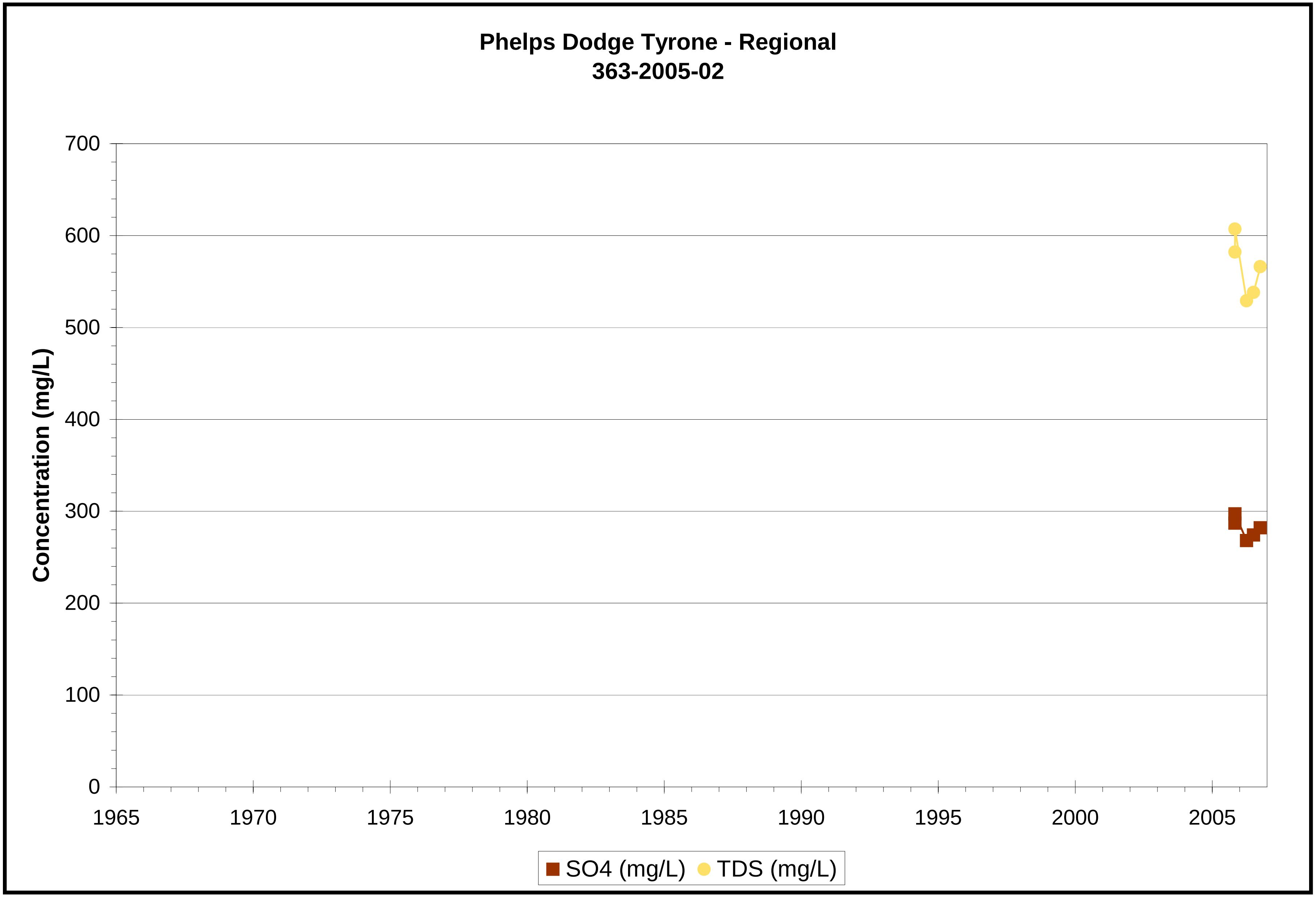


Phelps Dodge Tyrone - Regional
286-2005-02
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

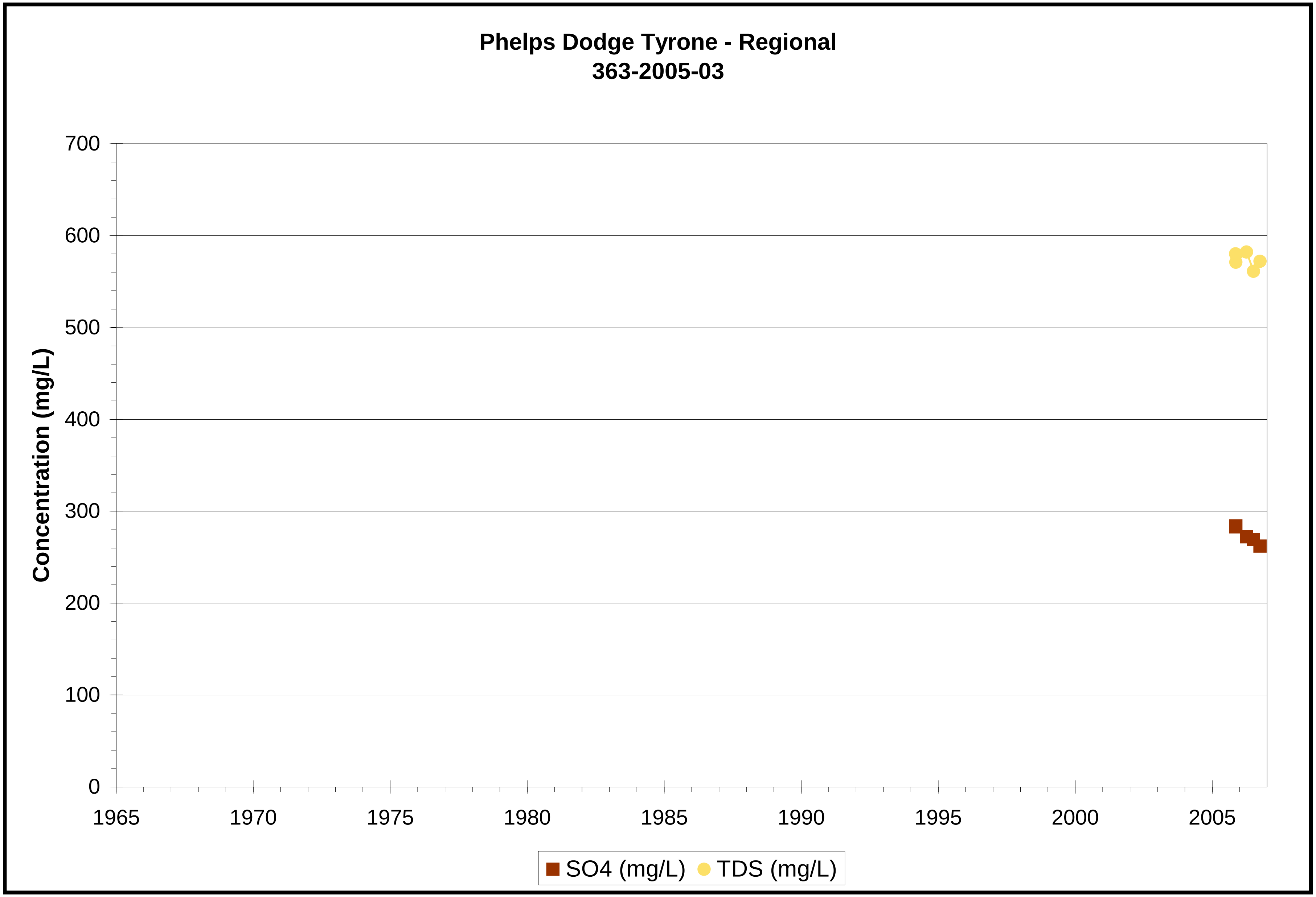

Phelps Dodge Tyrone - Regional
286-2005-03
Concentration (mg/L)
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



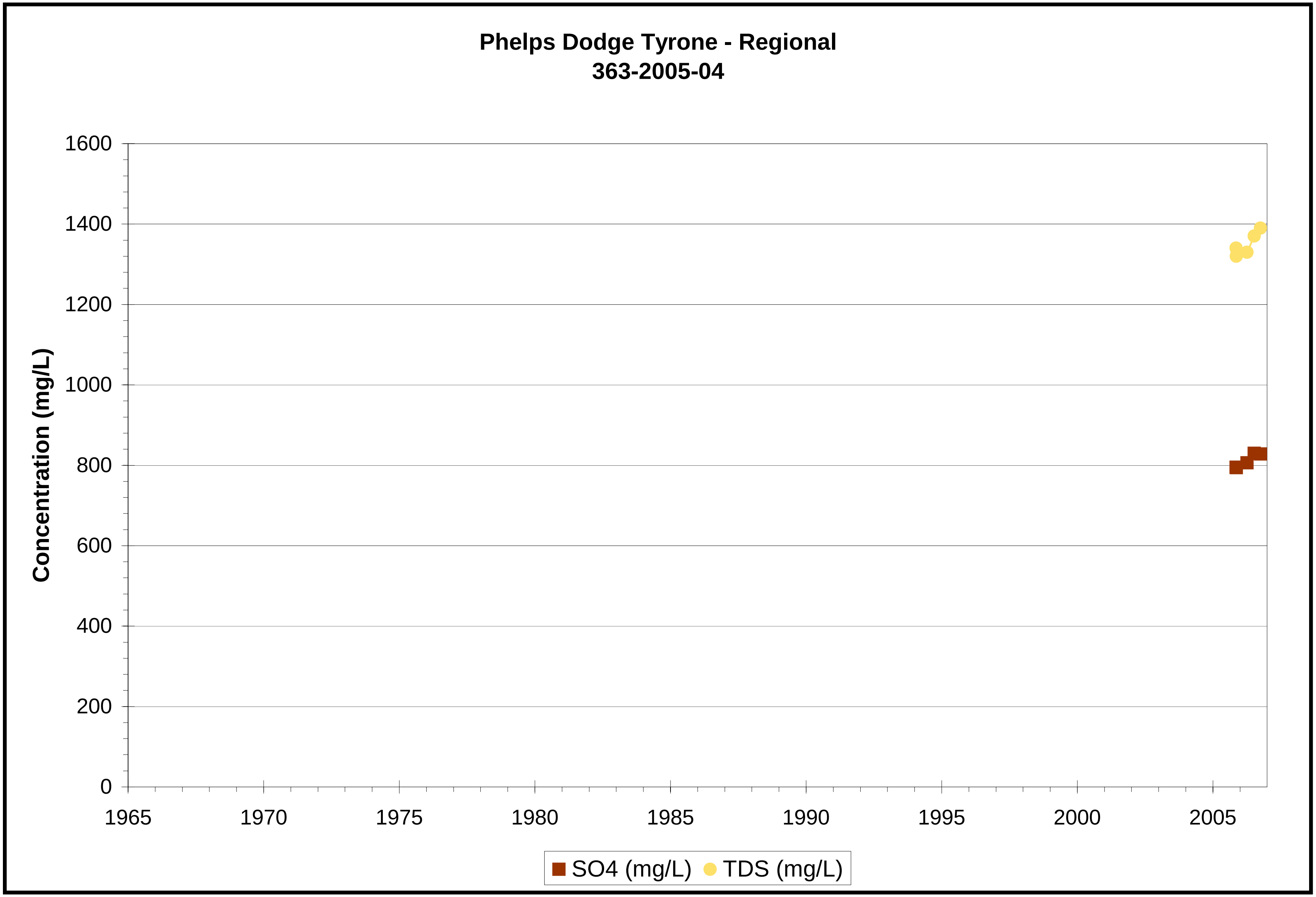
Phelps Dodge Tyrone - Regional
363-2005-01
Concentration (mg/L)
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

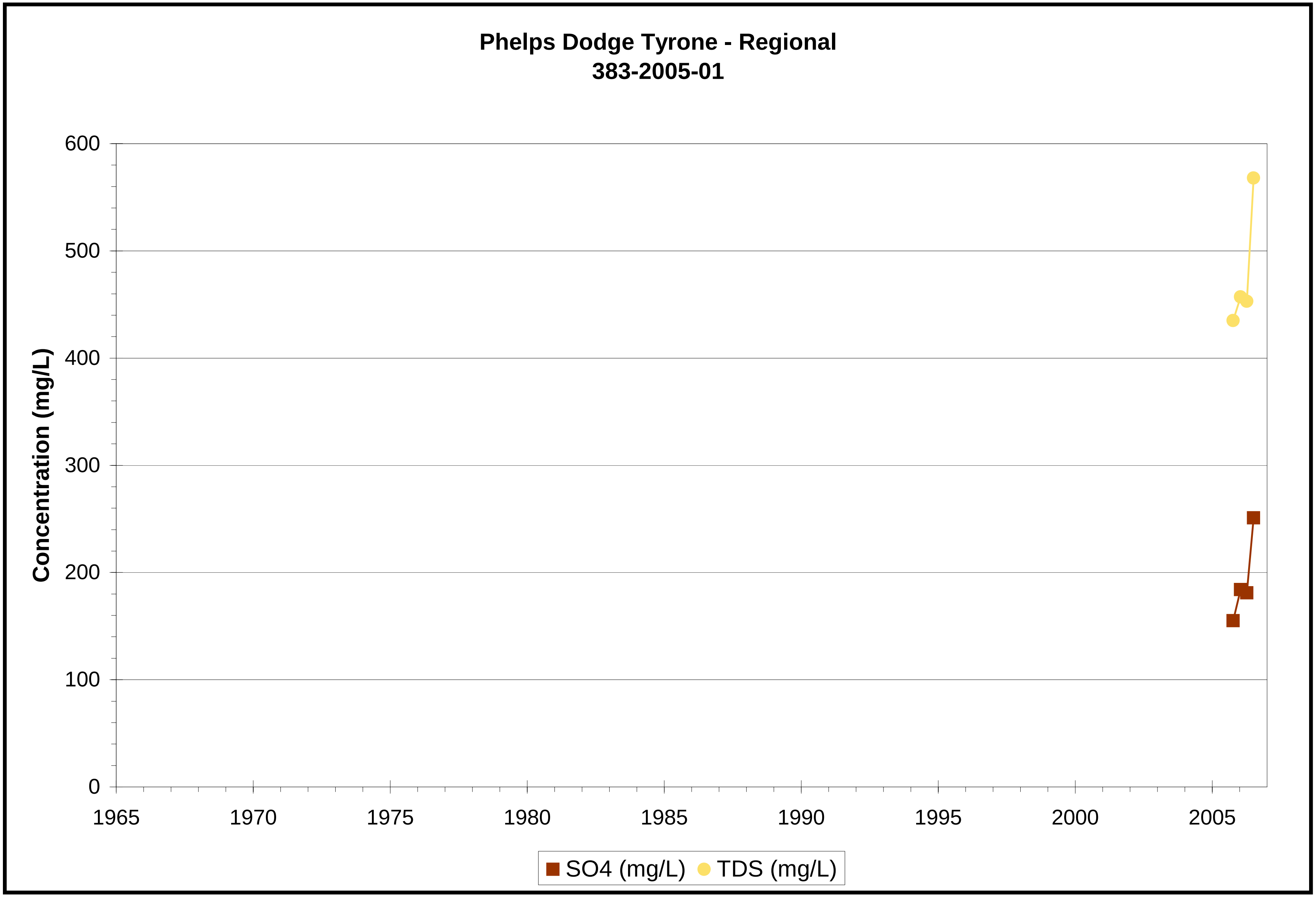


Phelps Dodge Tyrone - Regional
363-2005-02
Concentration (mg/L)
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

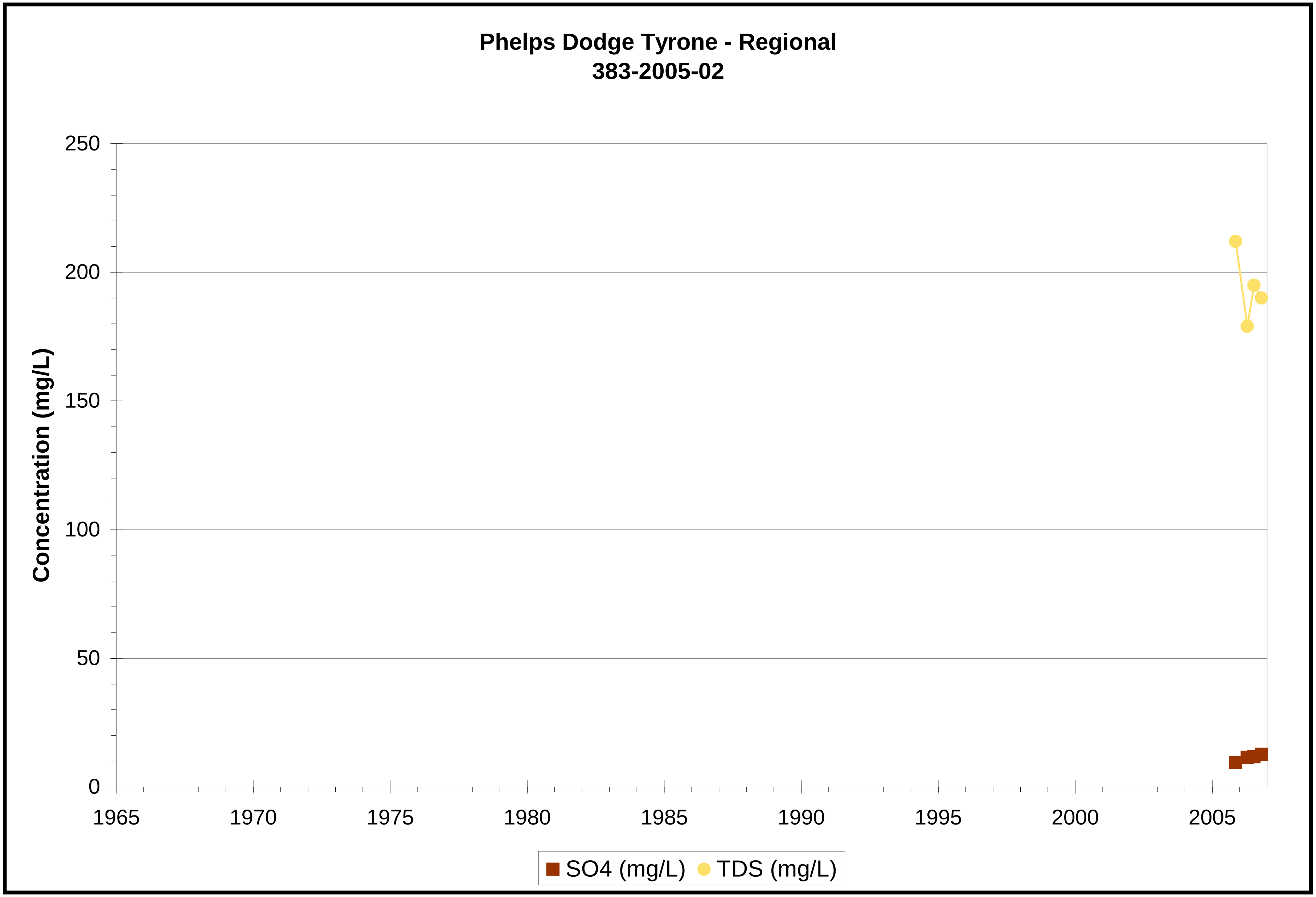


Phelps Dodge Tyrone - Regional
363-2005-03
Concentration (mg/L)
0
100
200
300
400
500
600
700
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

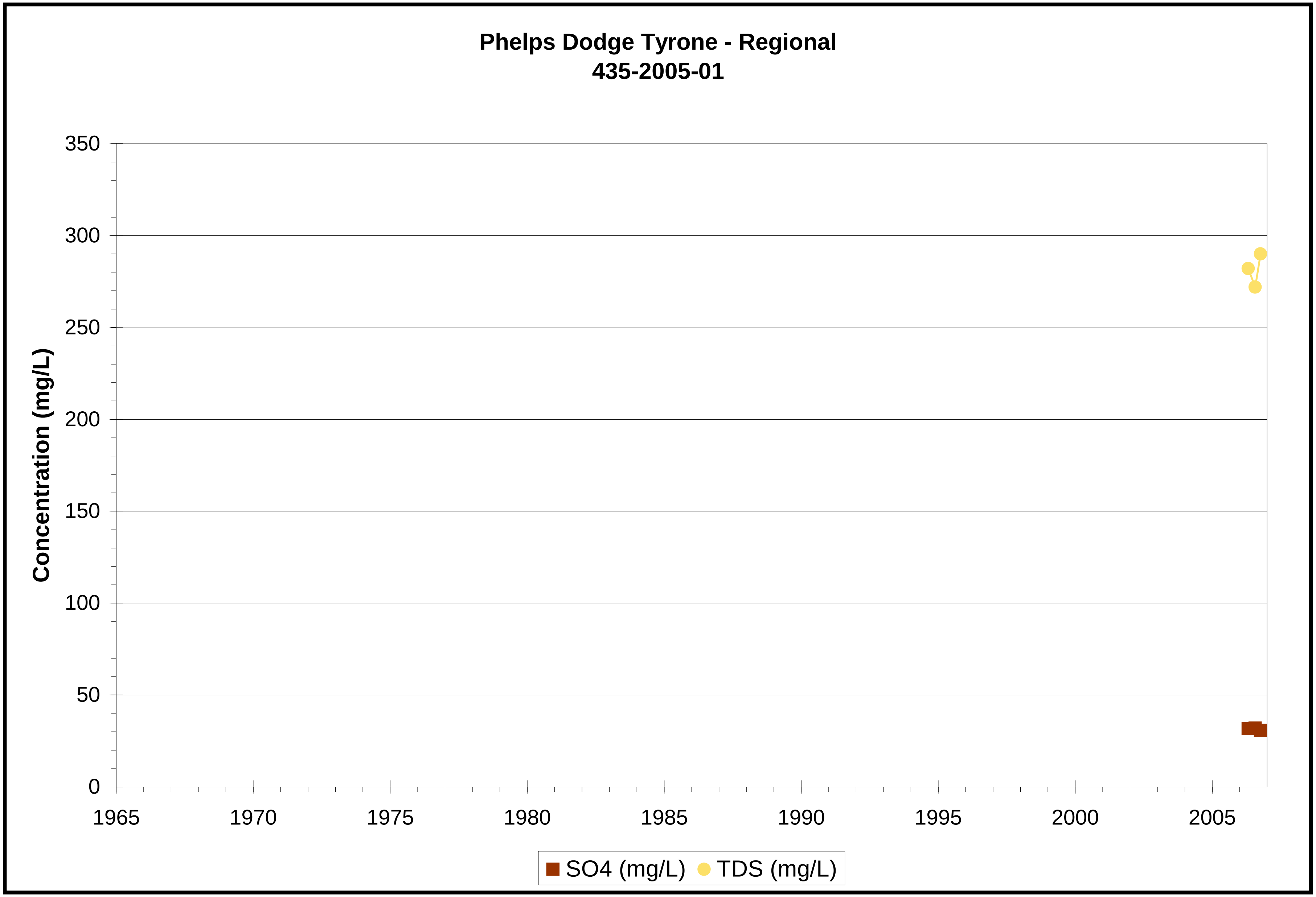

Phelps Dodge Tyrone - Regional
363-2005-04
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

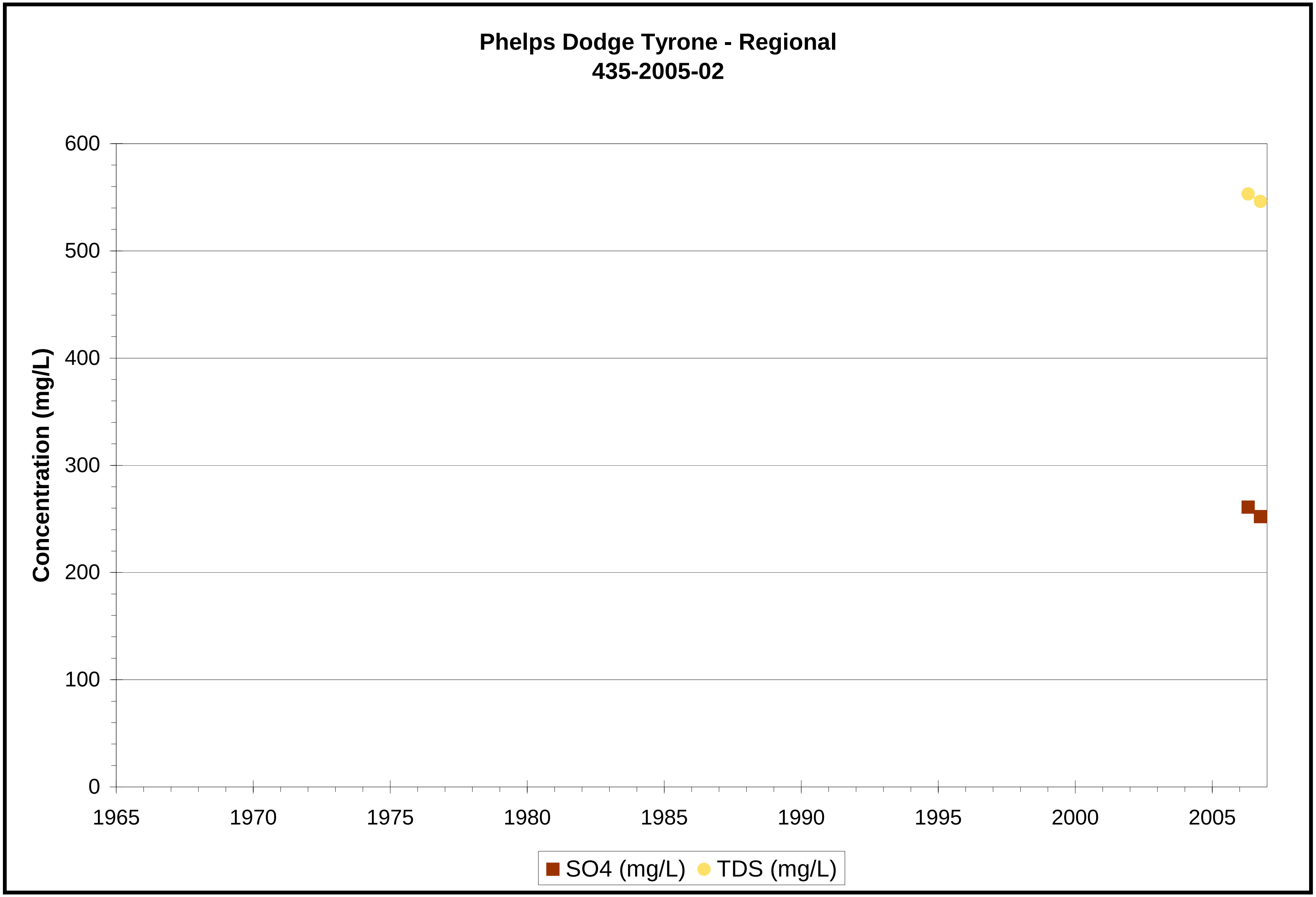


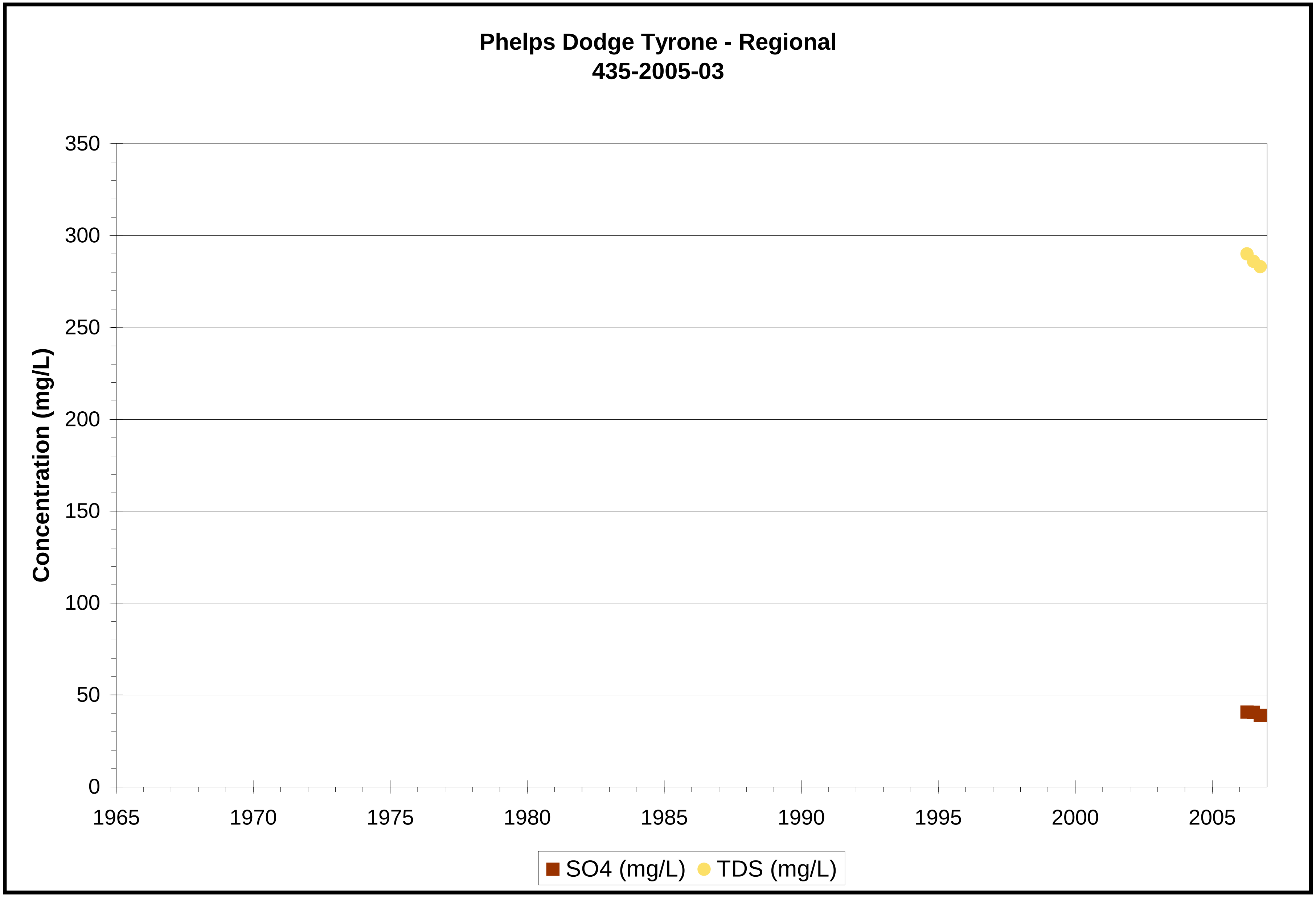
Phelps Dodge Tyrone - Regional
383-2005-01
Concentration (mg/L)
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



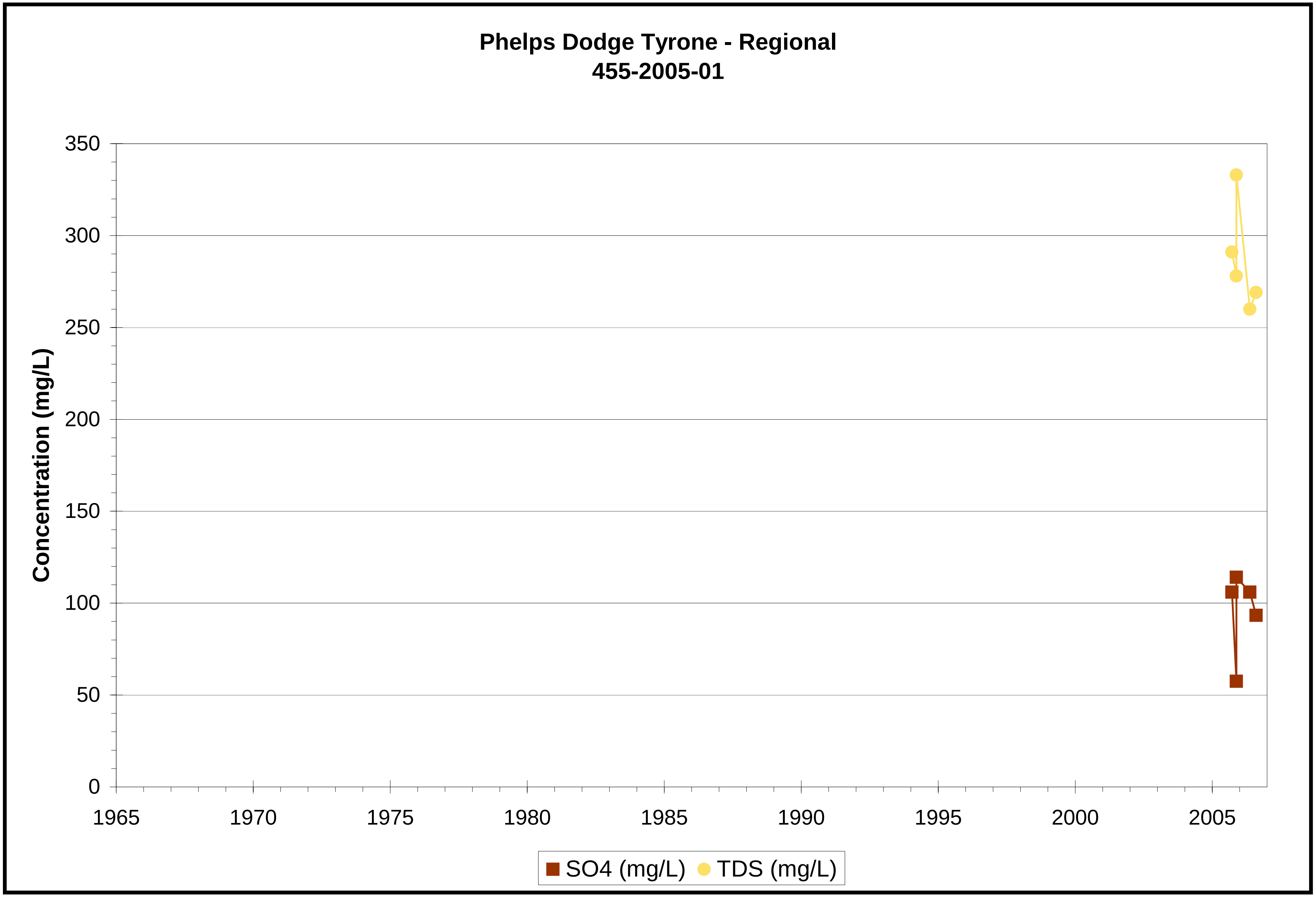
Phelps Dodge Tyrone - Regional
383-2005-02
Concentration (mg/L)
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
435-2005-01
Concentration (mg/L)
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

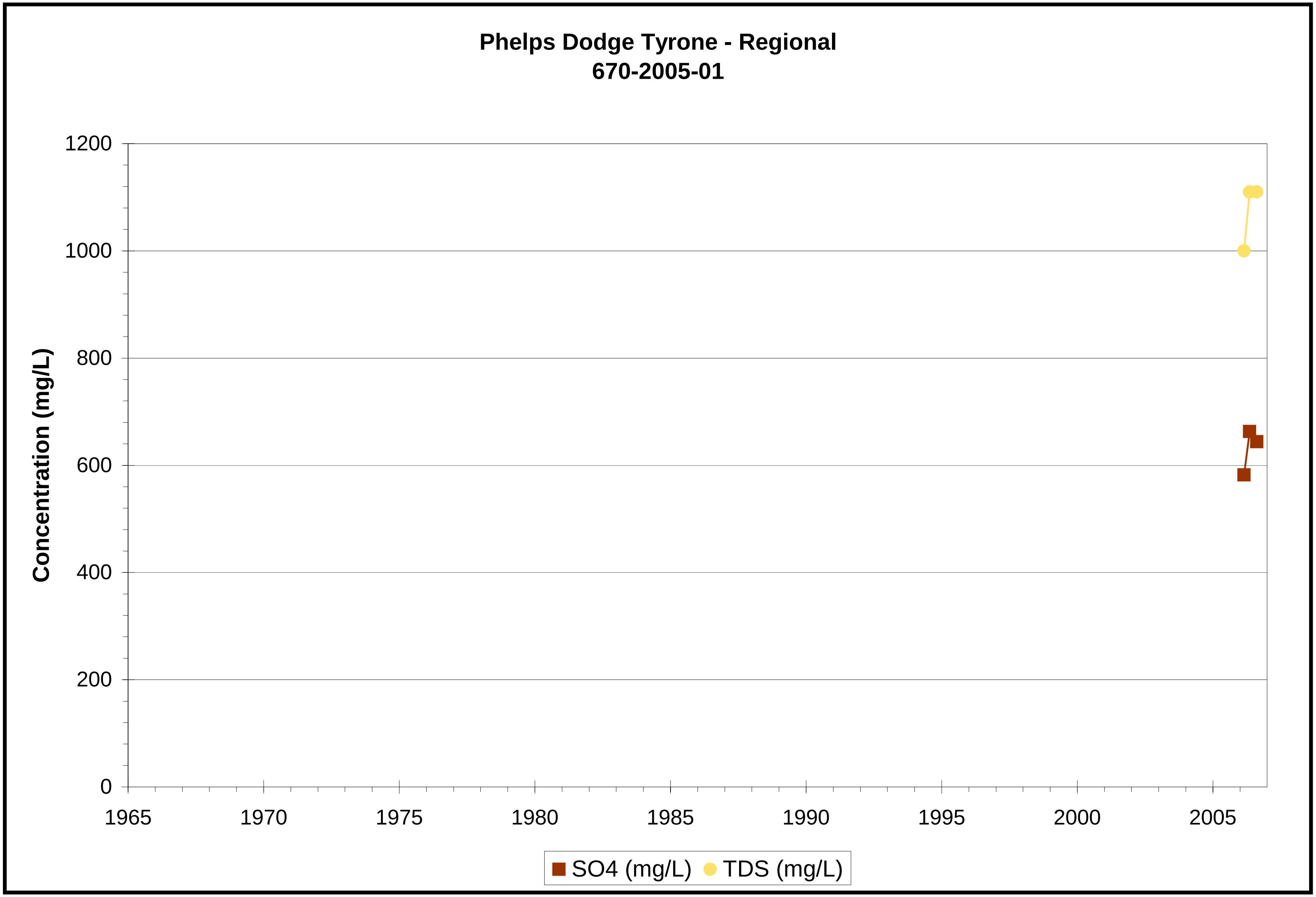

Phelps Dodge Tyrone - Regional
435-2005-02
Concentration (mg/L)
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



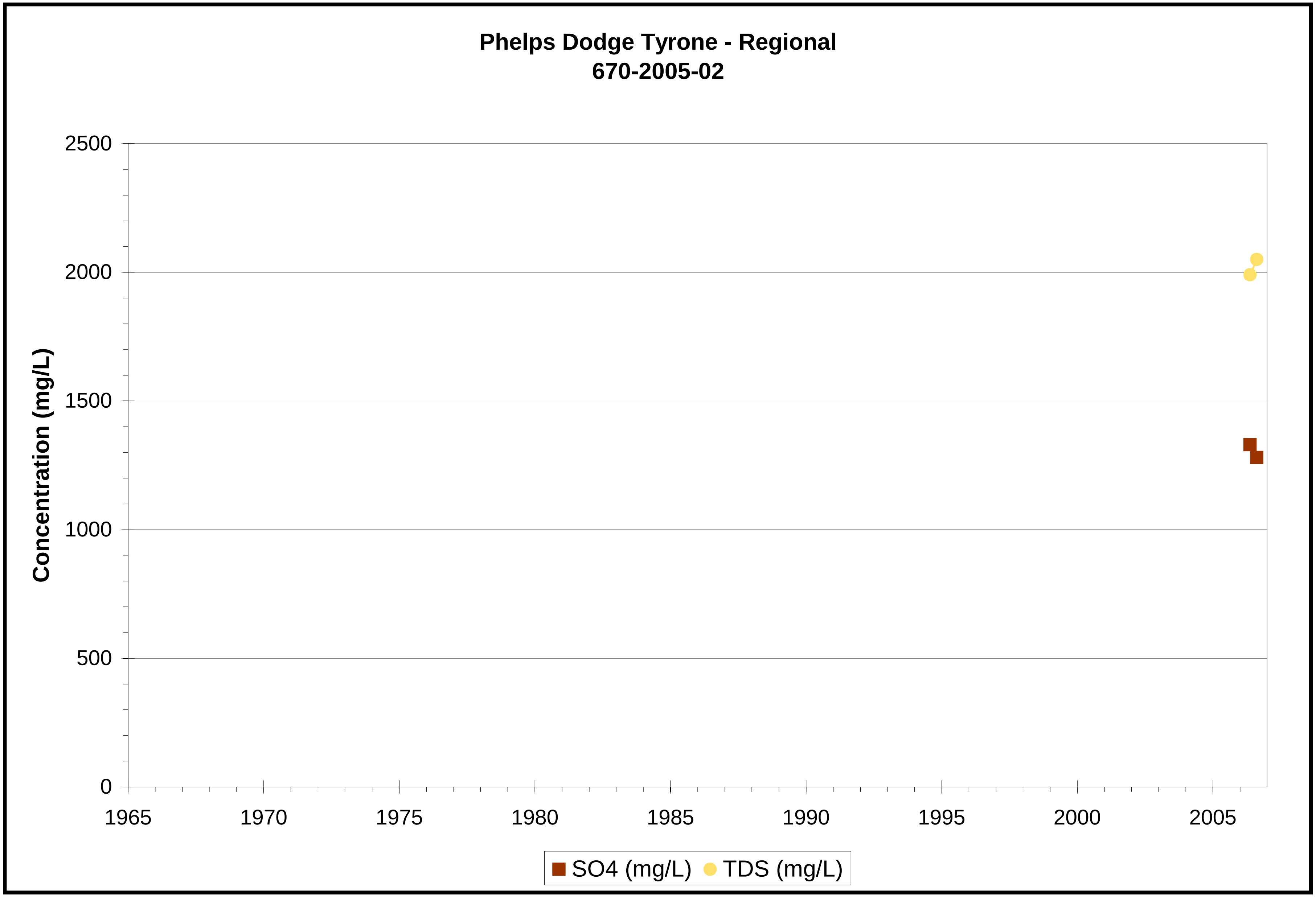
Phelps Dodge Tyrone - Regional
435-2005-03
Concentration (mg/L)
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



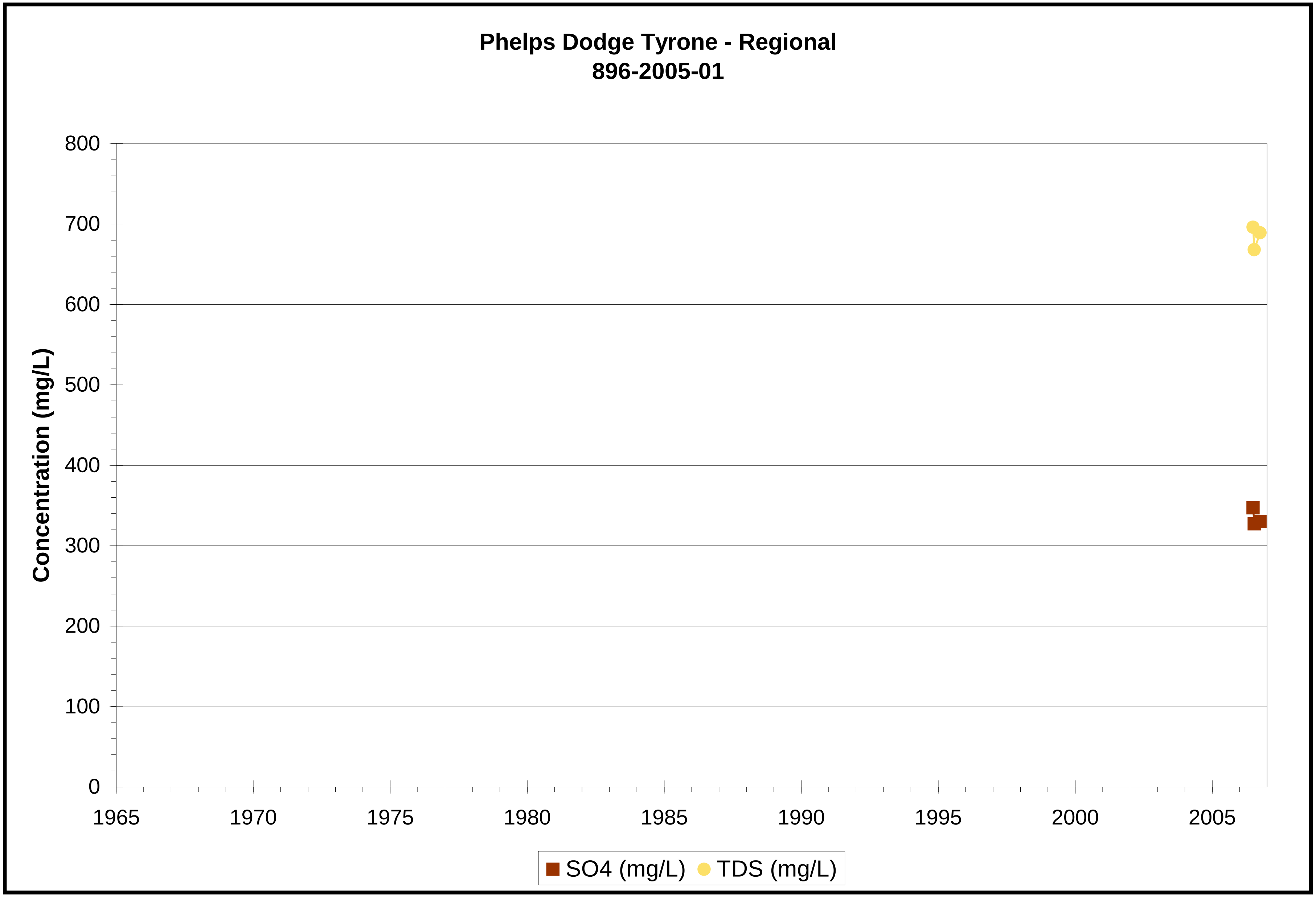
Phelps Dodge Tyrone - Regional
455-2005-01
Concentration (mg/L)
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

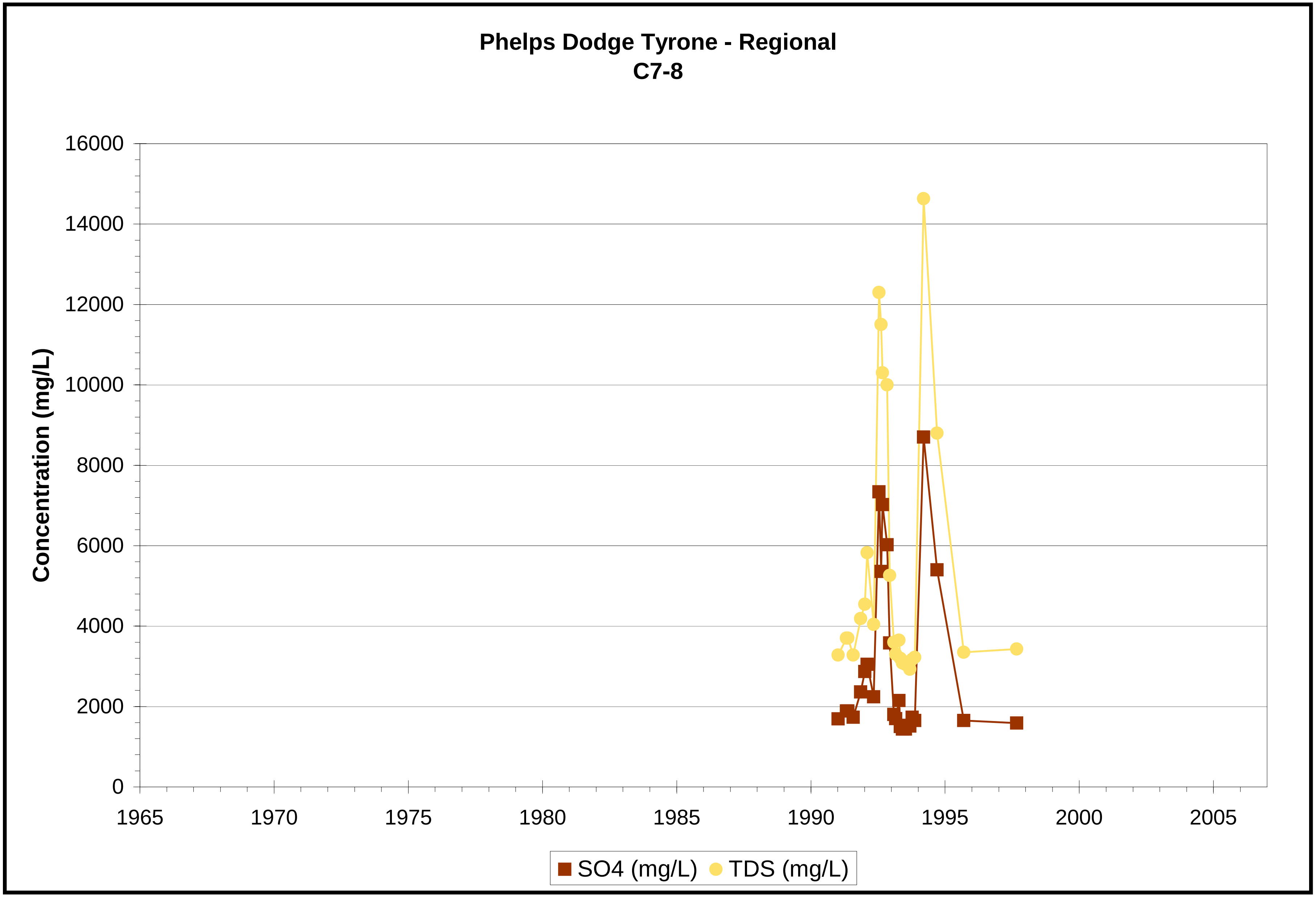


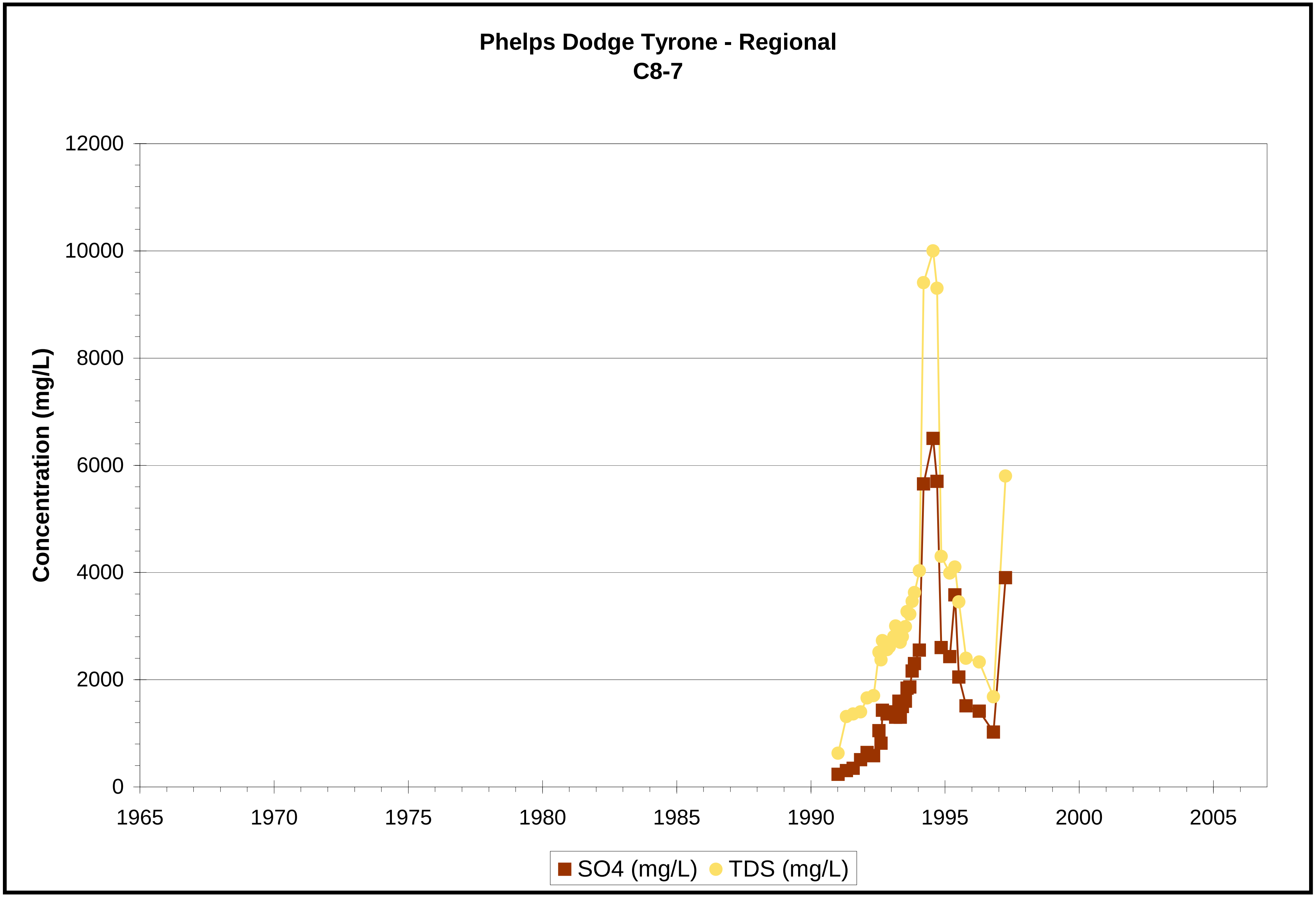
Phelps Dodge Tyrone - Regional
670-2005-01
Concentration (mg/L)
0
200
400
600
800
1000
1200
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



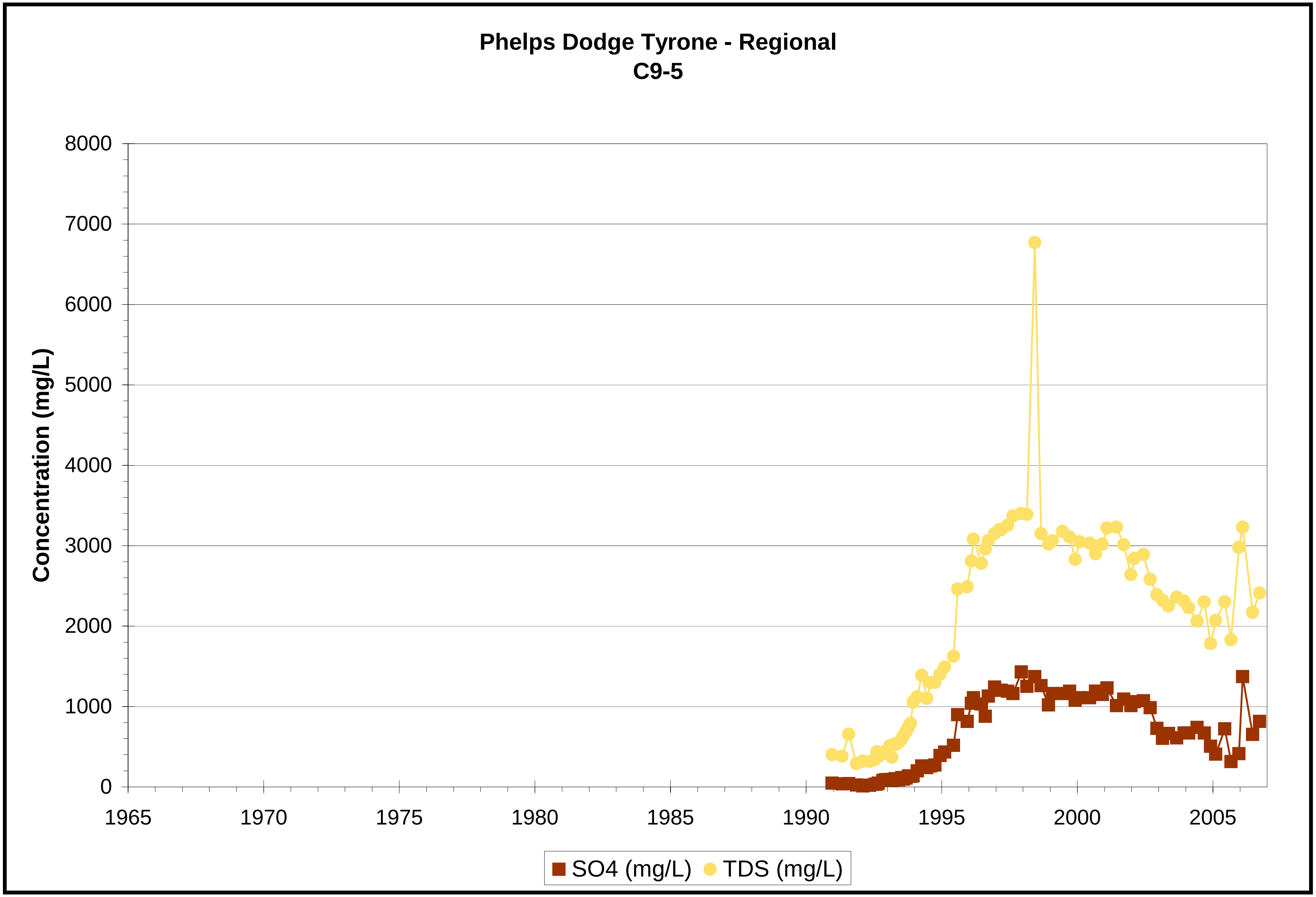
Phelps Dodge Tyrone - Regional
670-2005-02
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
896-2005-01
Concentration (mg/L)
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

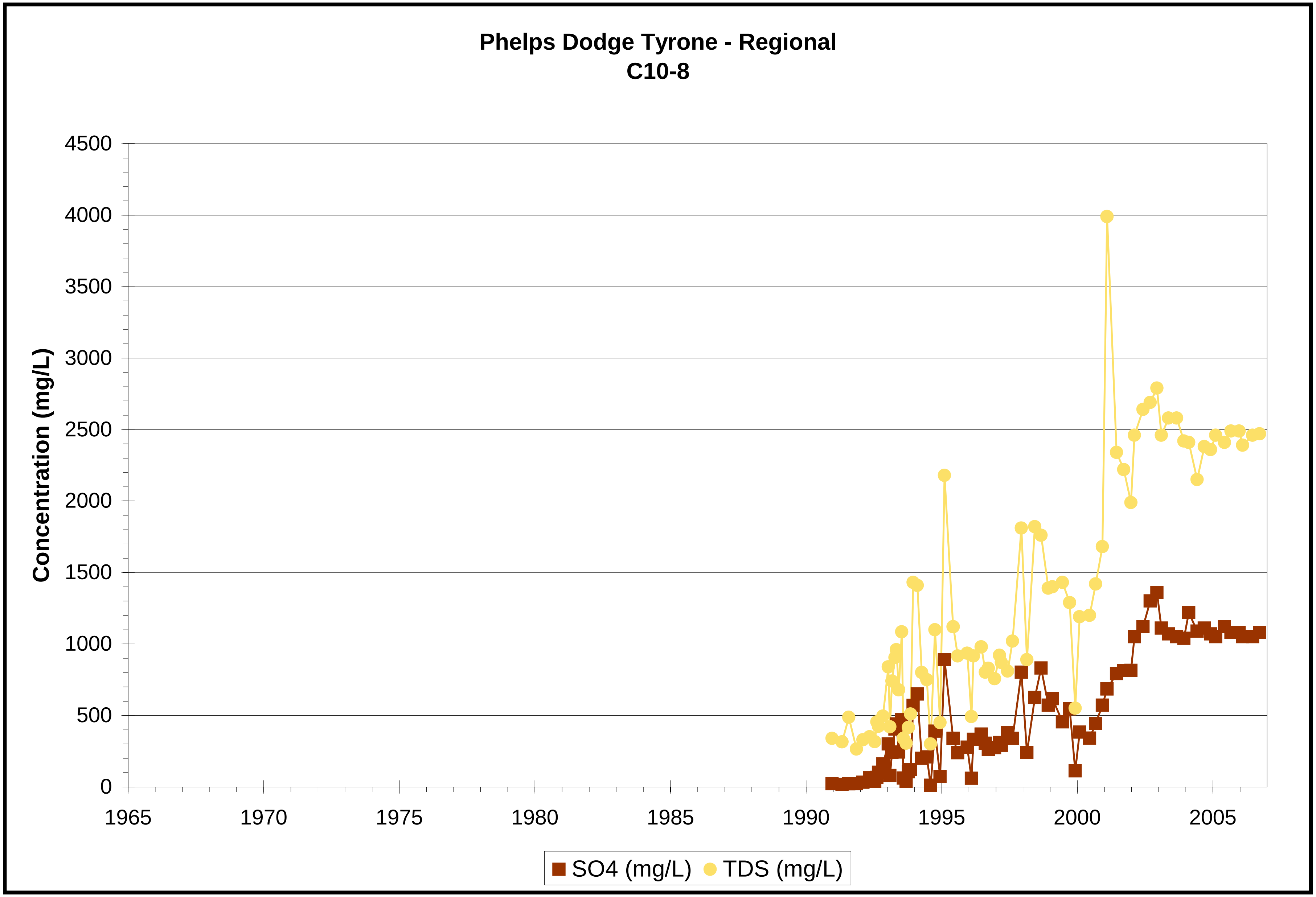

Phelps Dodge Tyrone - Regional
C7-8
Concentration (mg/L)
16000
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

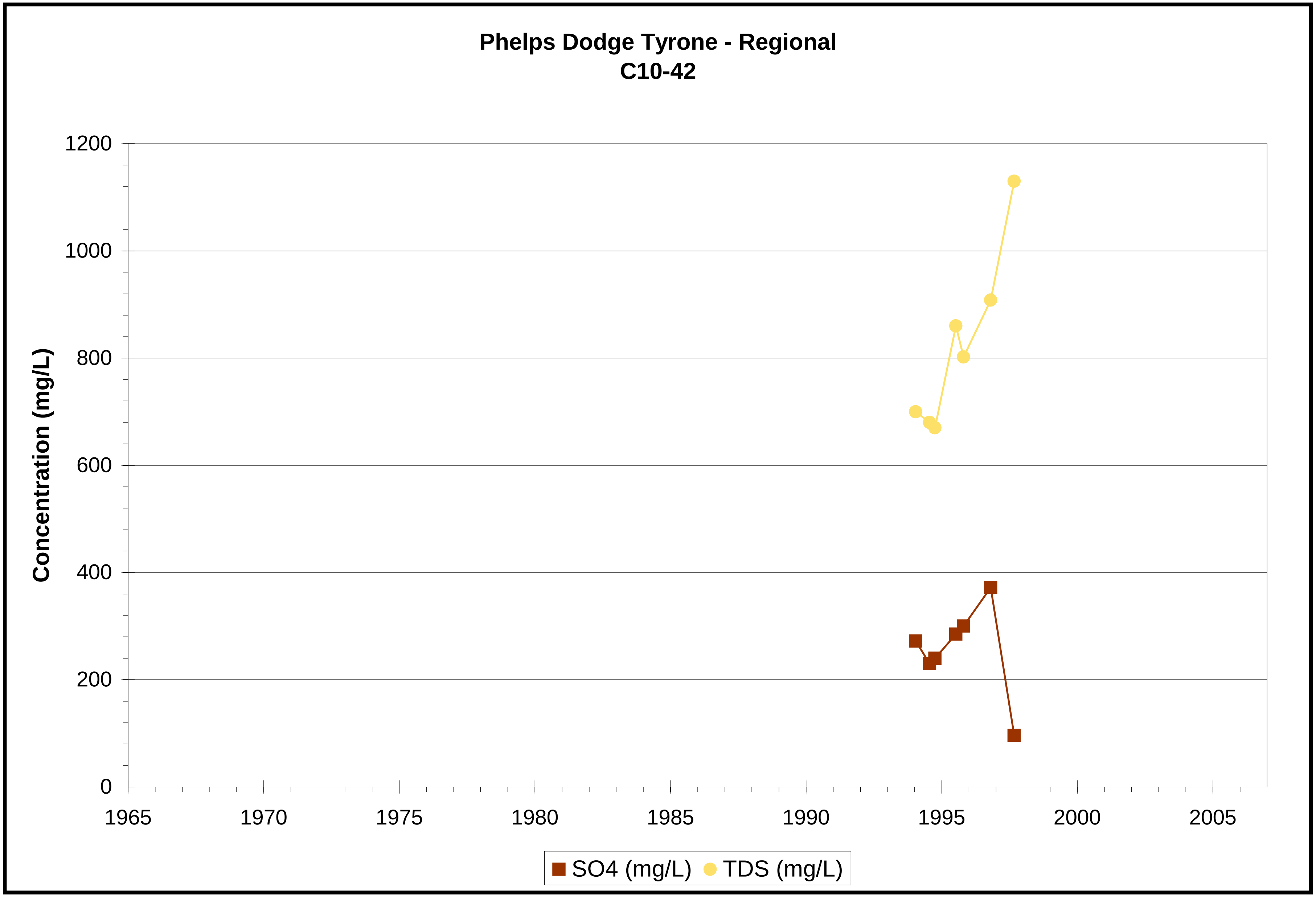


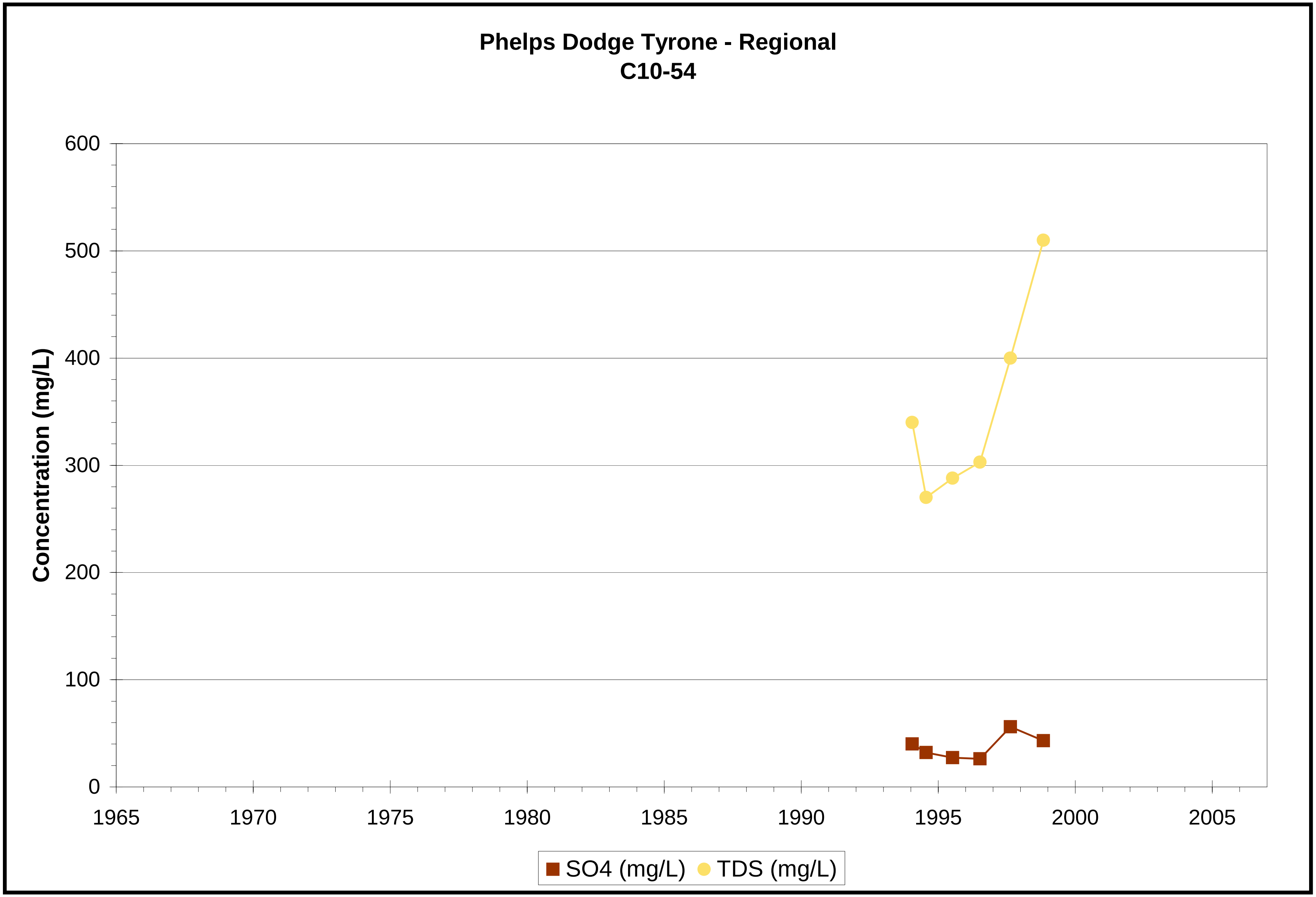
Phelps Dodge Tyrone - Regional
C8-7
Concentration (mg/L)
0
2000
4000
6000
8000
10000
12000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

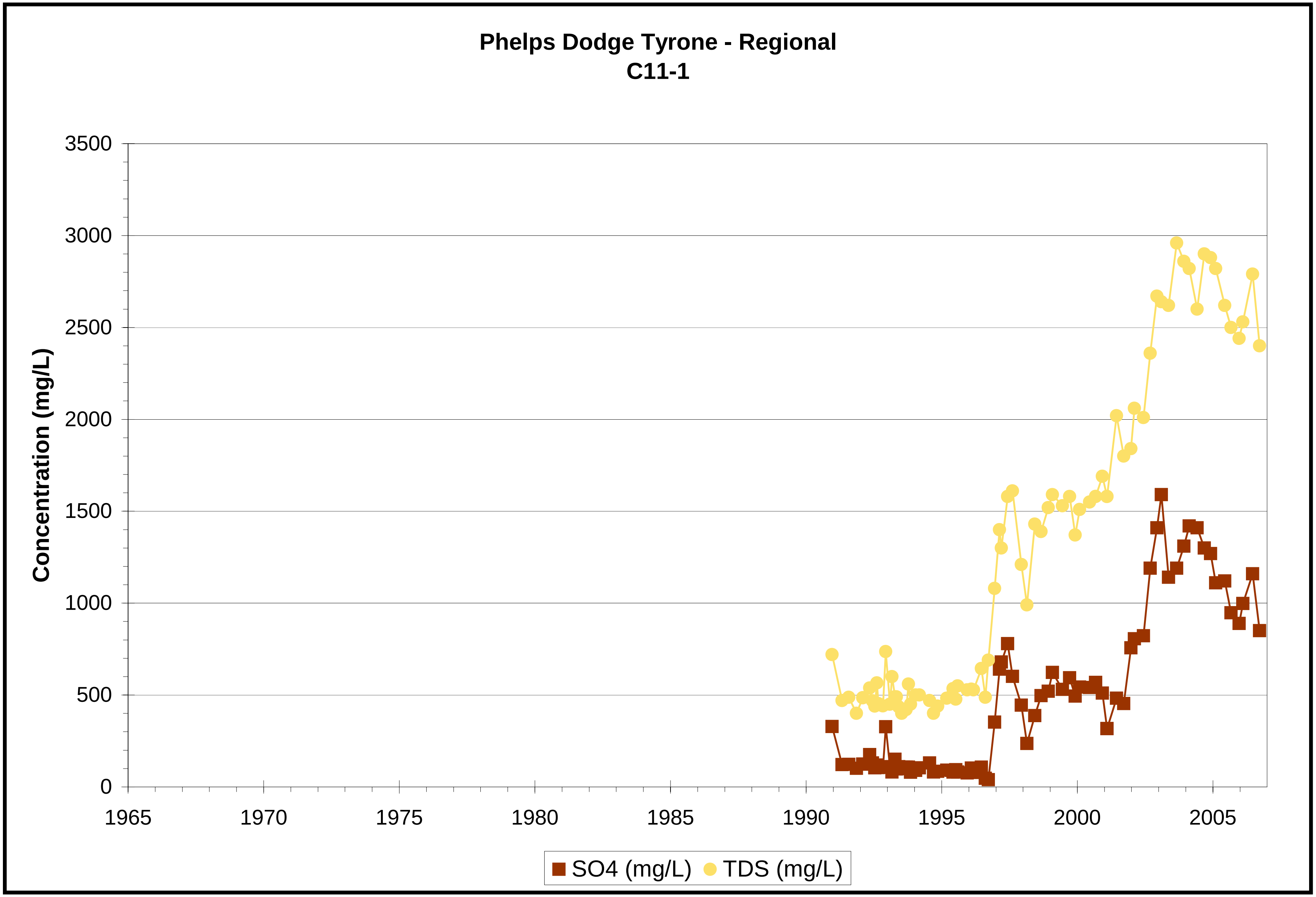


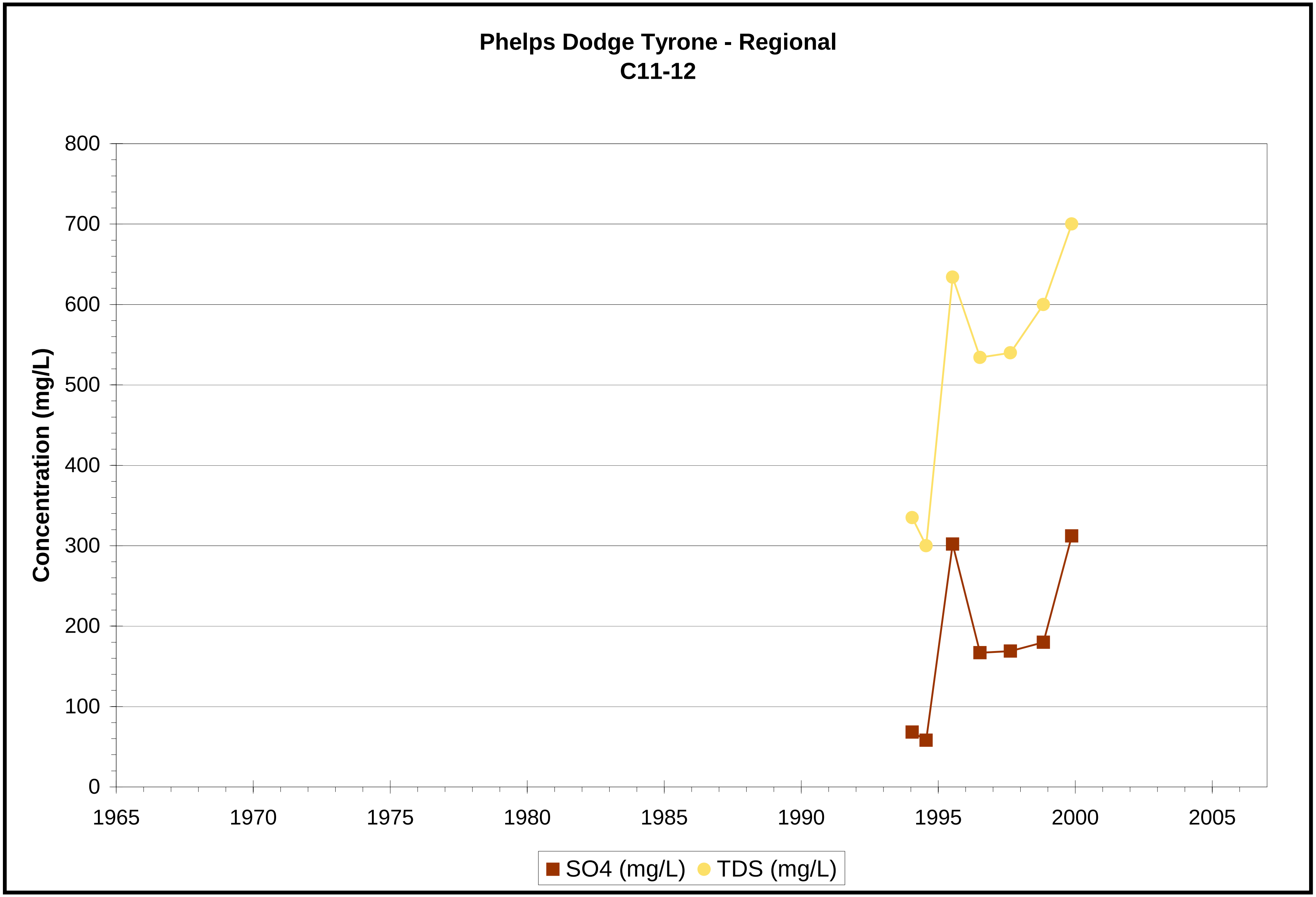
Phelps Dodge Tyrone - Regional
C9-5
Concentration (mg/L)
8000
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
C10-8
Concentration (mg/L)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

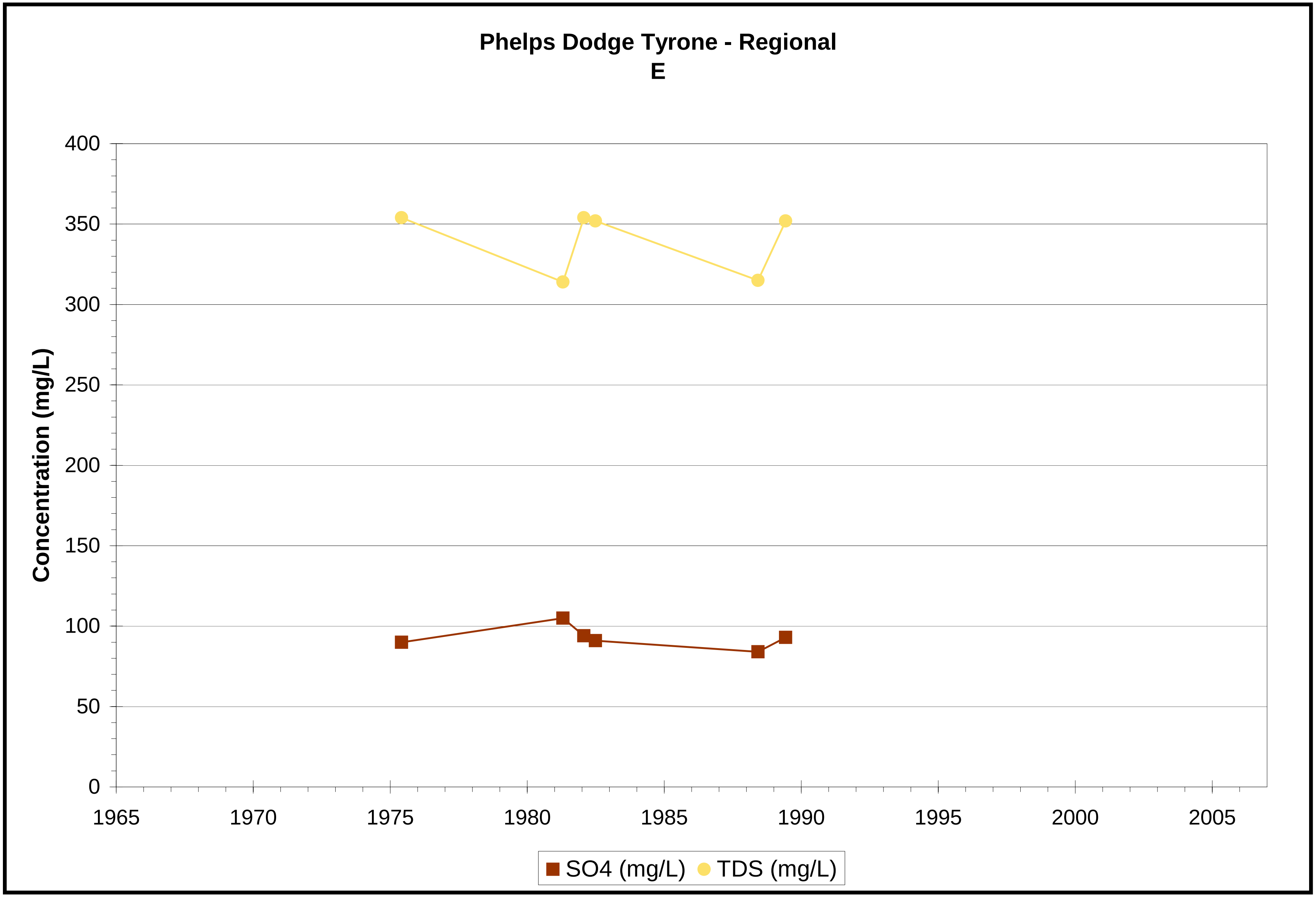

Phelps Dodge Tyrone - Regional
C10-42
Concentration (mg/L)
0
200
400
600
800
1000
1200
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
C10-54
Concentration (mg/L)
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

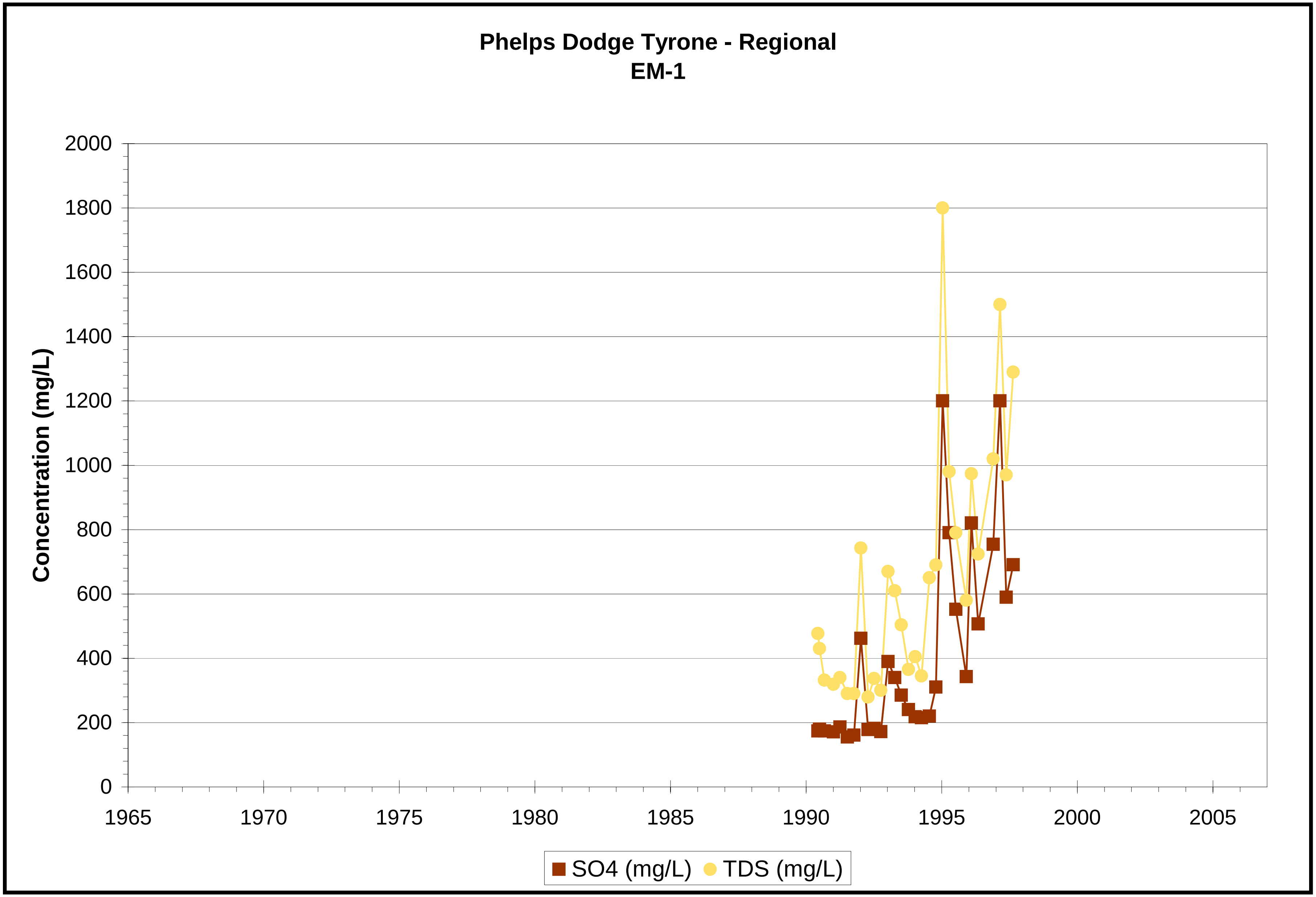

Phelps Dodge Tyrone - Regional
C11-1
Concentration (mg/L)
0
500
1000
1500
2000
2500
3000
3500
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

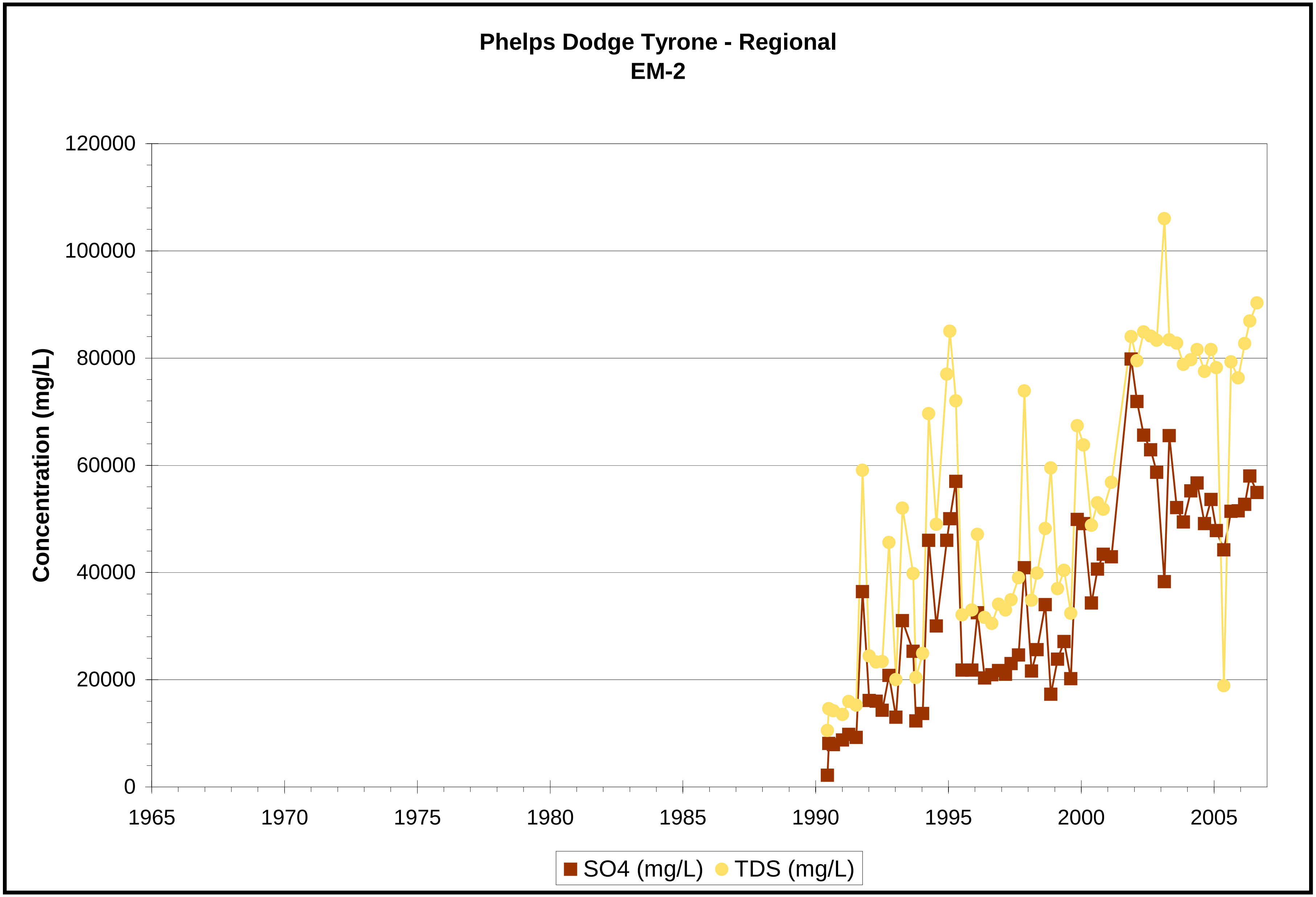


Phelps Dodge Tyrone - Regional
C11-12
Concentration (mg/L)
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

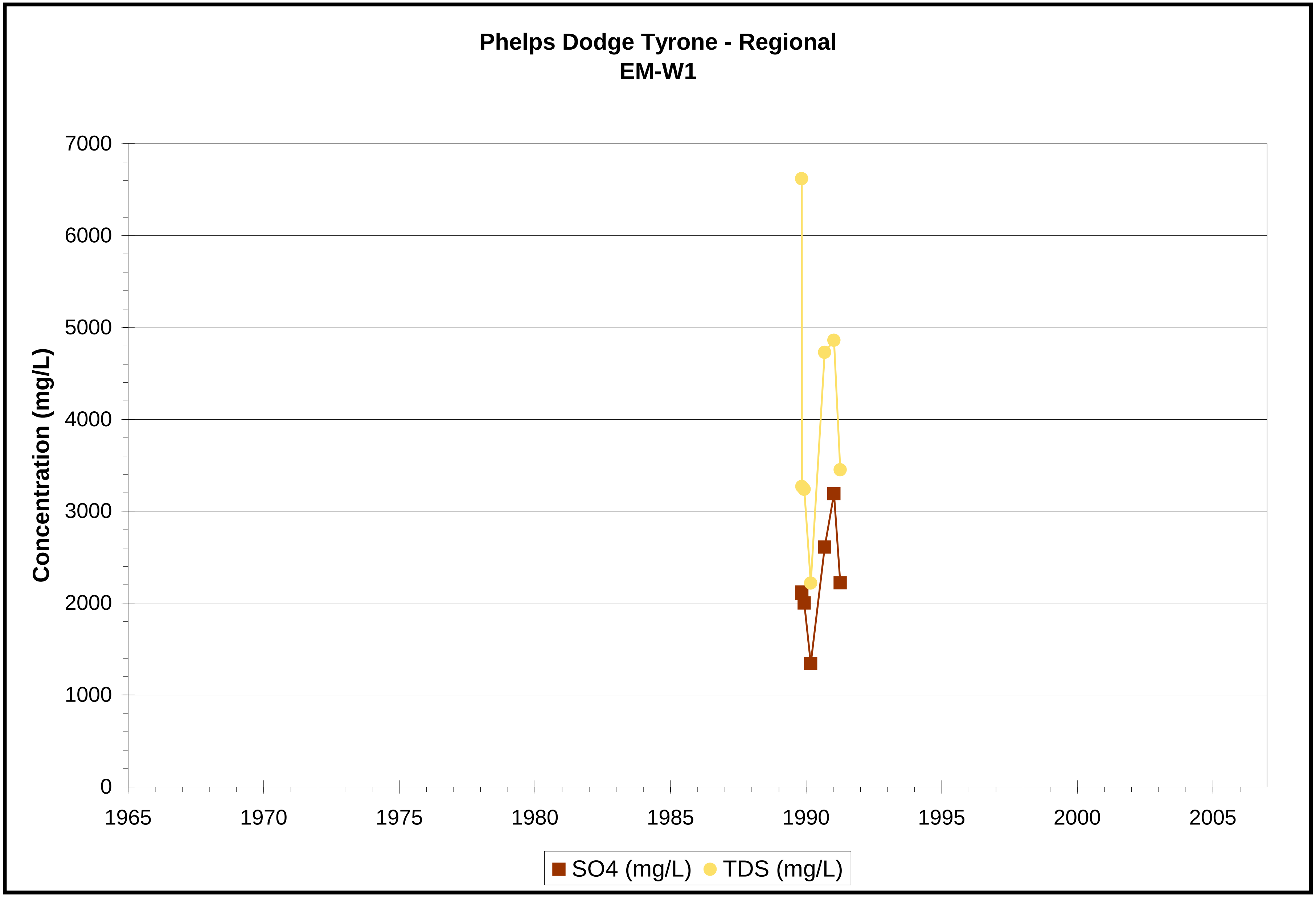


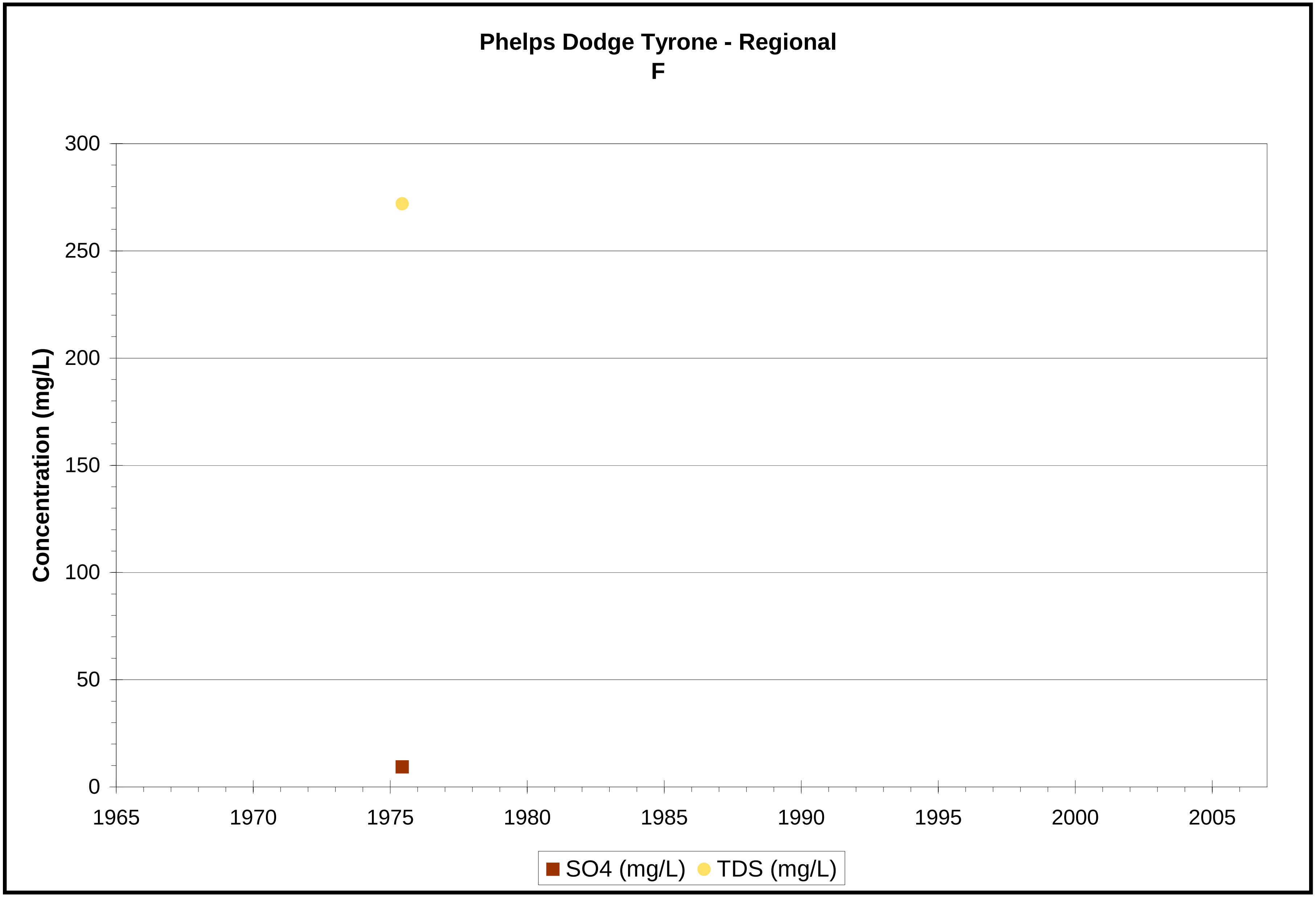
Phelps Dodge Tyrone - Regional
E
Concentration (mg/L)
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
EM-1
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1800
2000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

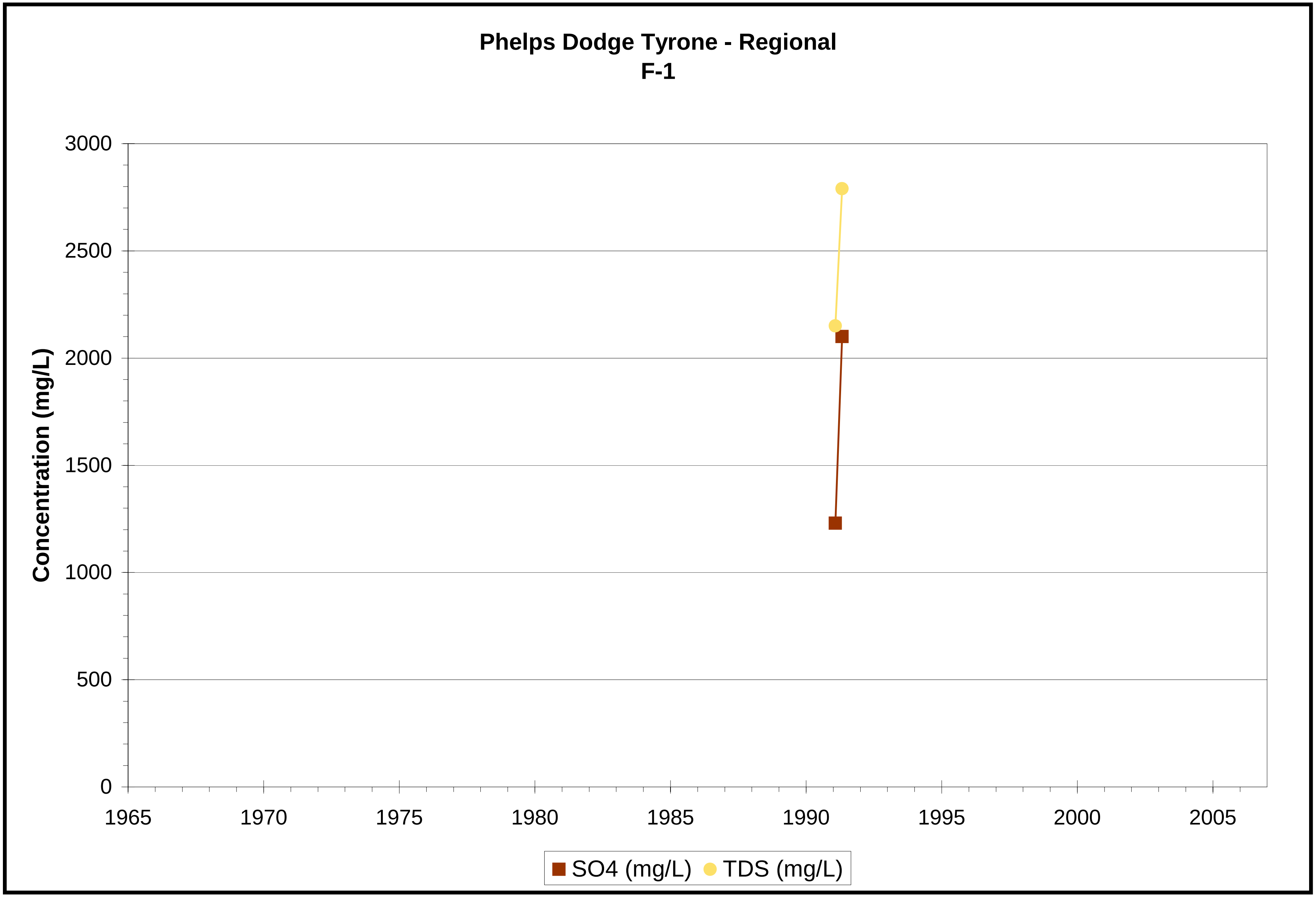


Phelps Dodge Tyrone - Regional
EM-2
Concentration (mg/L)
120000
100000
80000
60000
40000
20000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

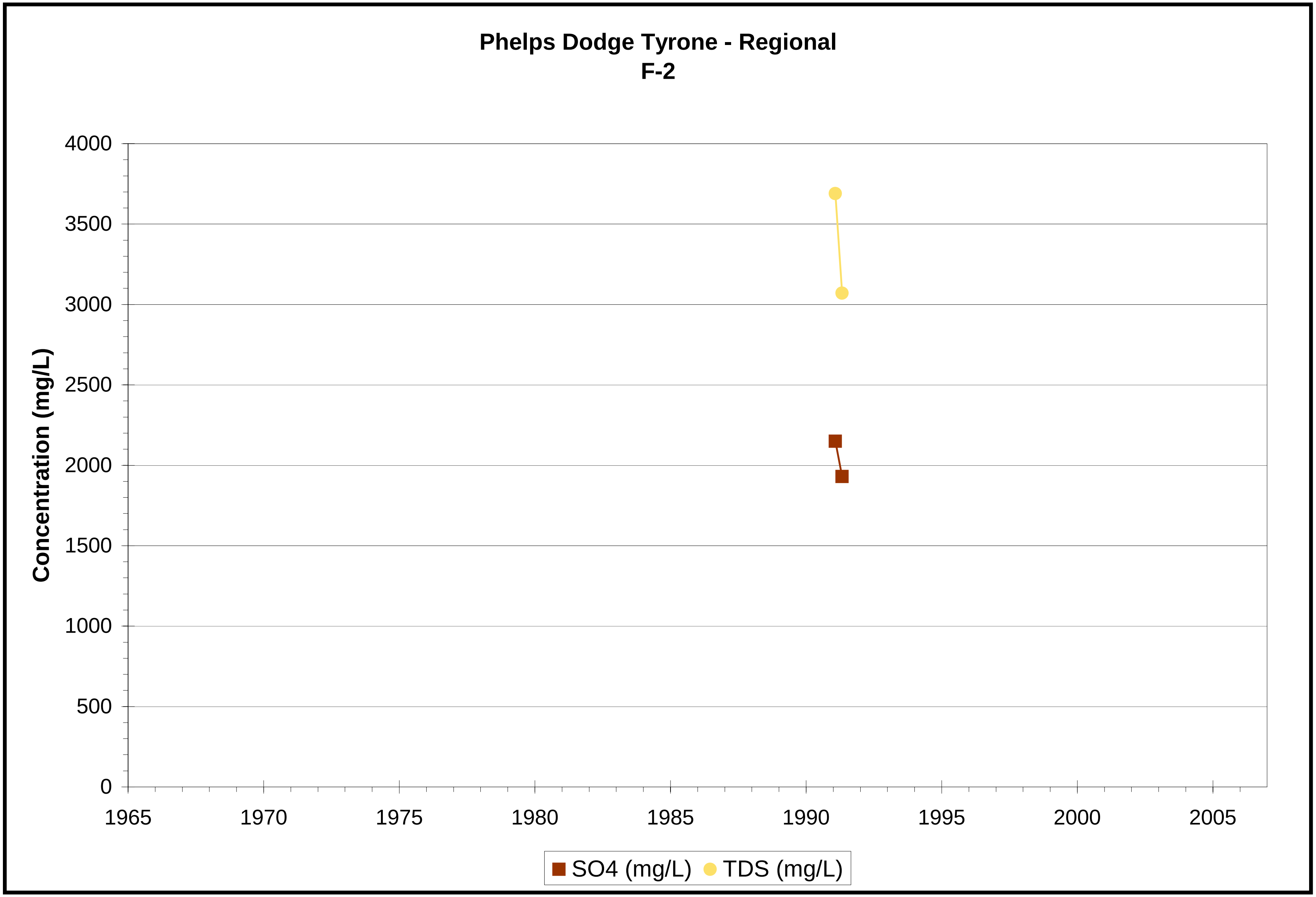

Phelps Dodge Tyrone - Regional
EM-W1
Concentration (mg/L)
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



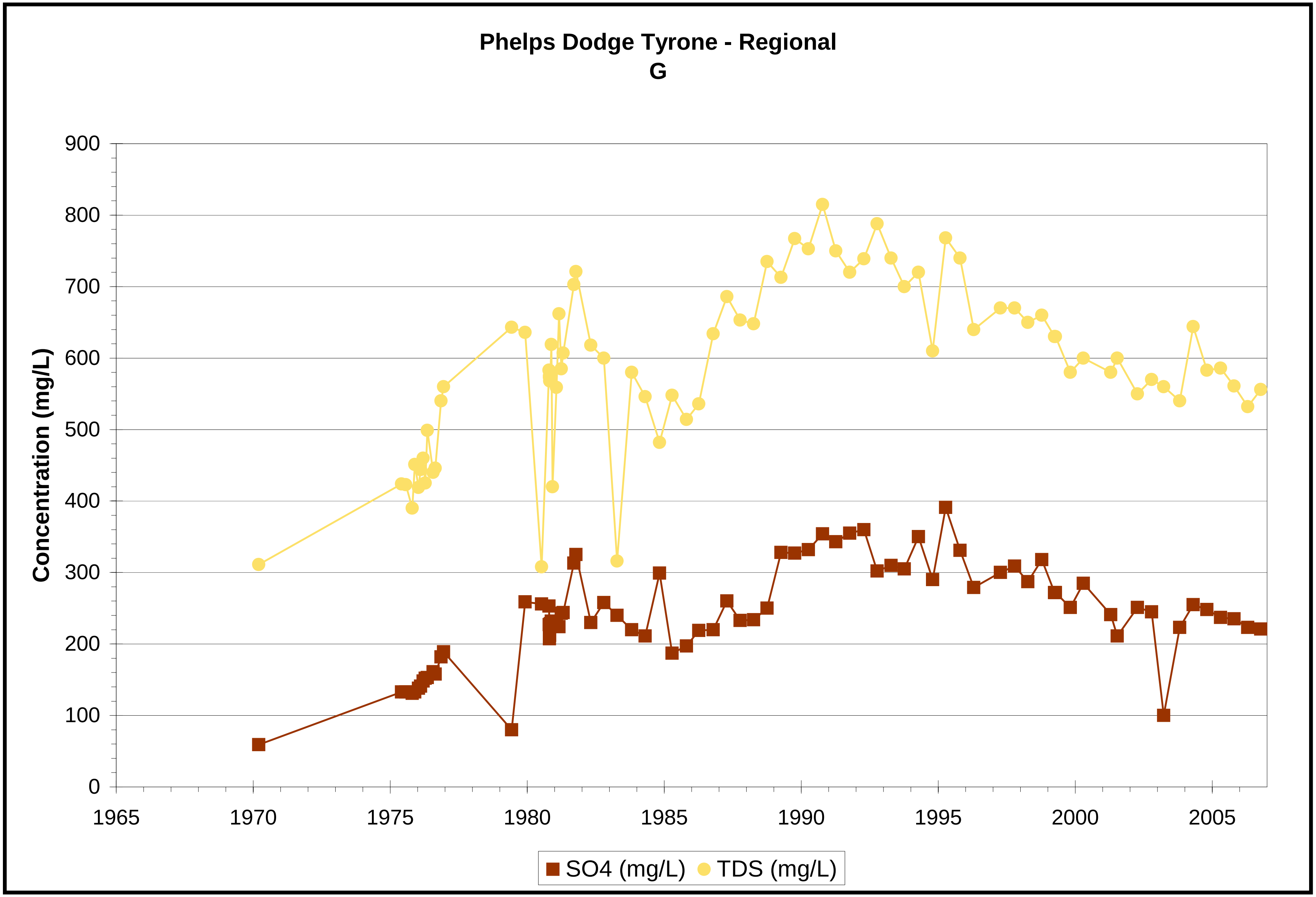
Phelps Dodge Tyrone - Regional
F
Concentration (mg/L)
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



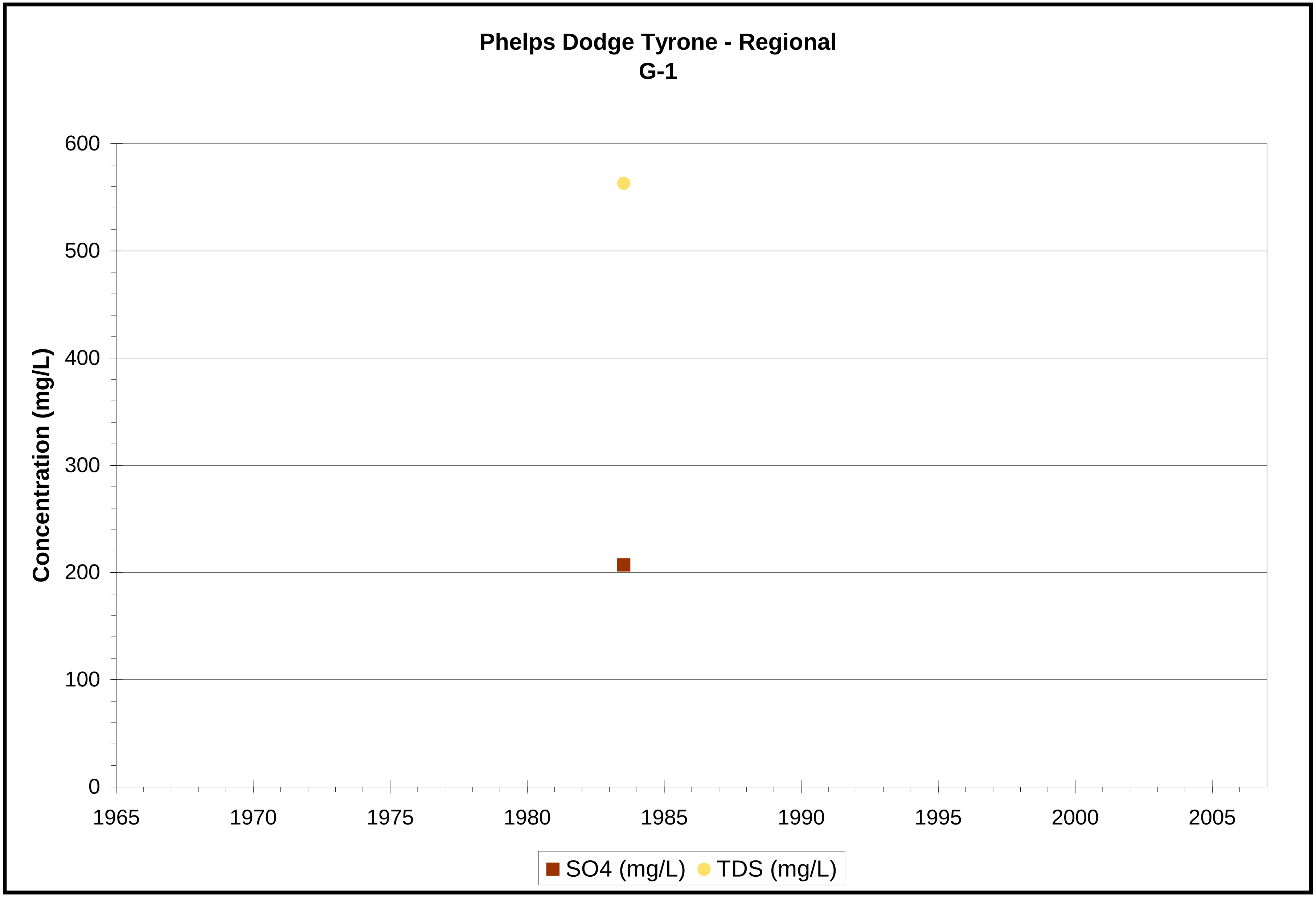
Phelps Dodge Tyrone - Regional
F-1
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



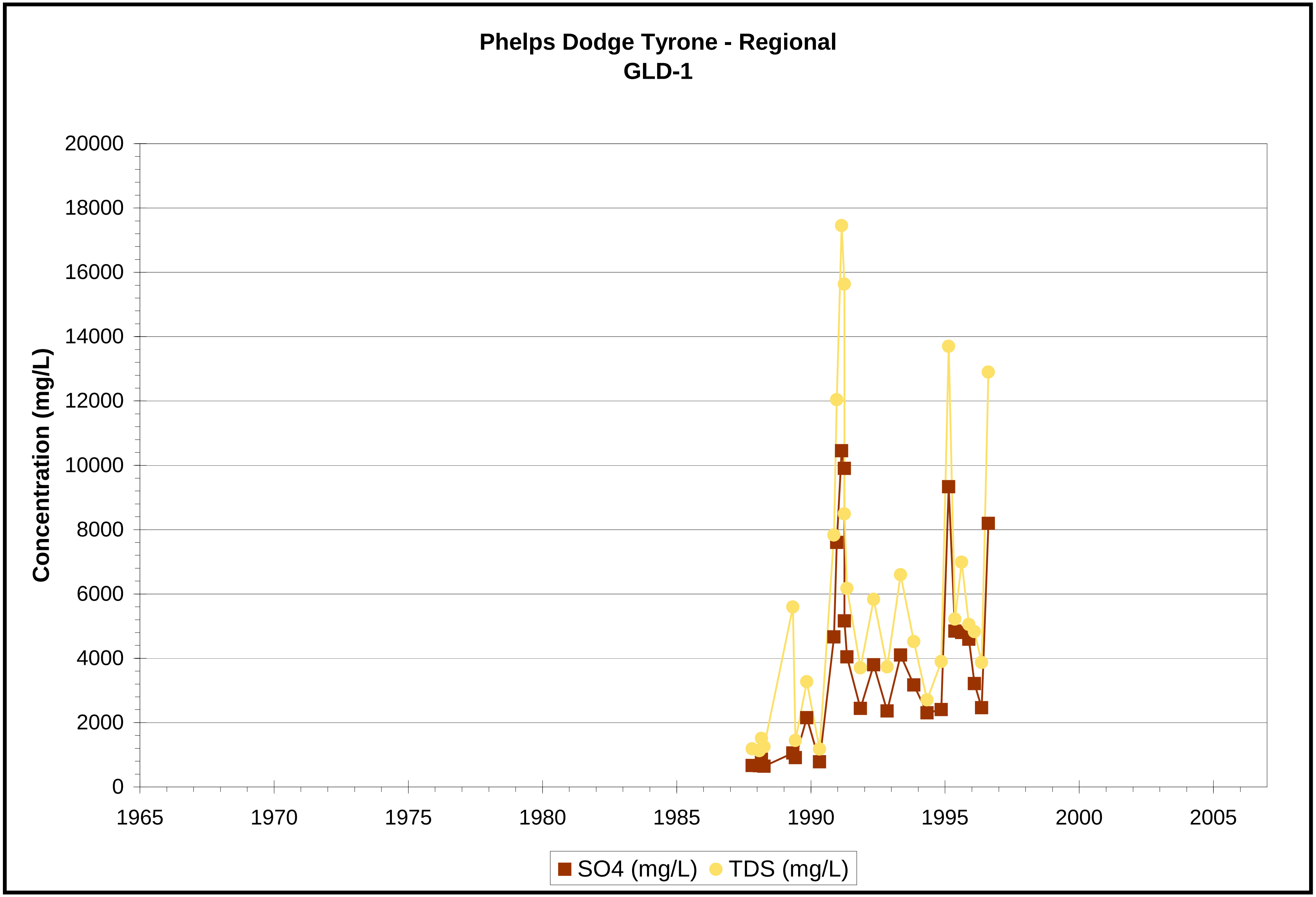
Phelps Dodge Tyrone - Regional
F-2
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

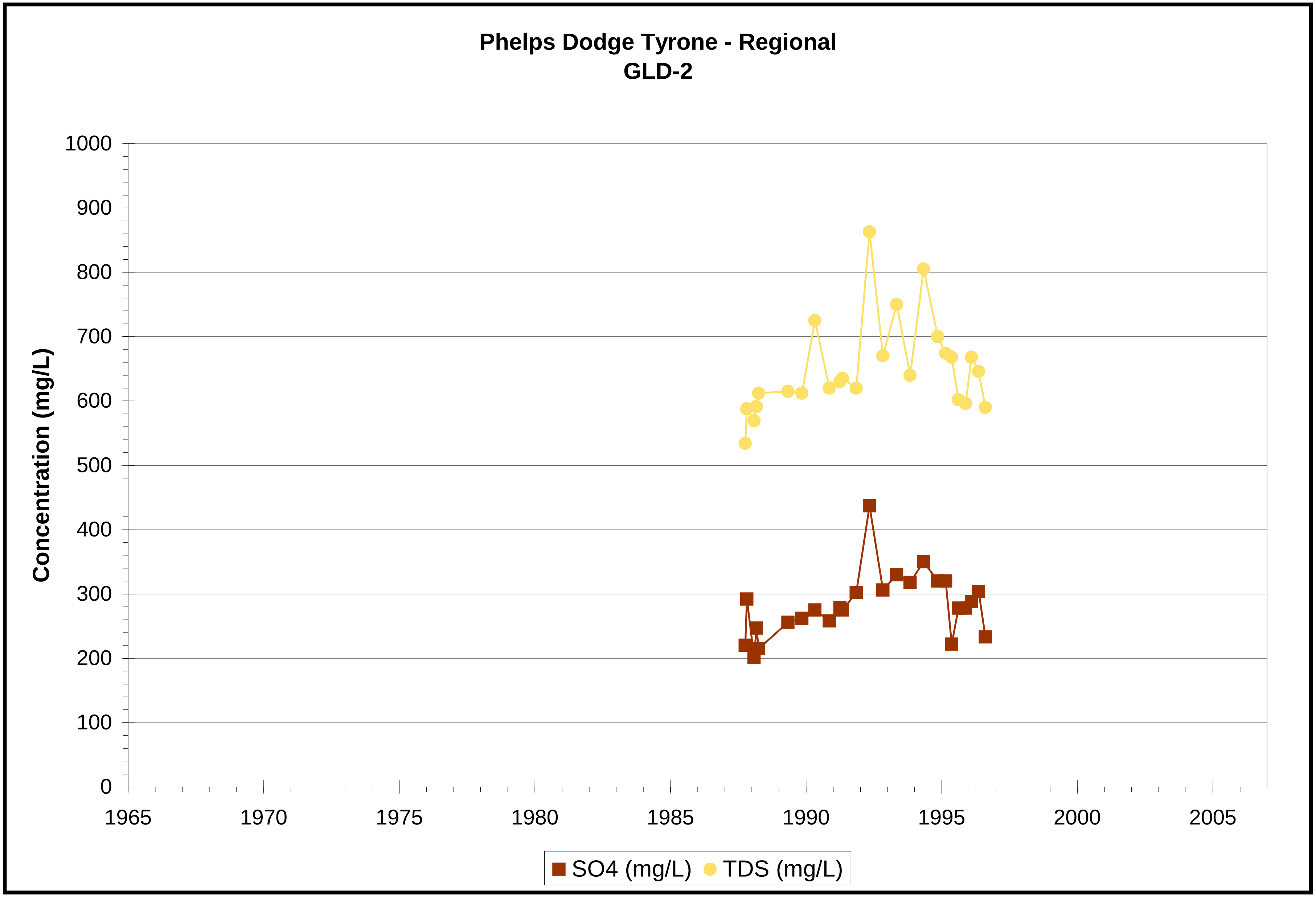


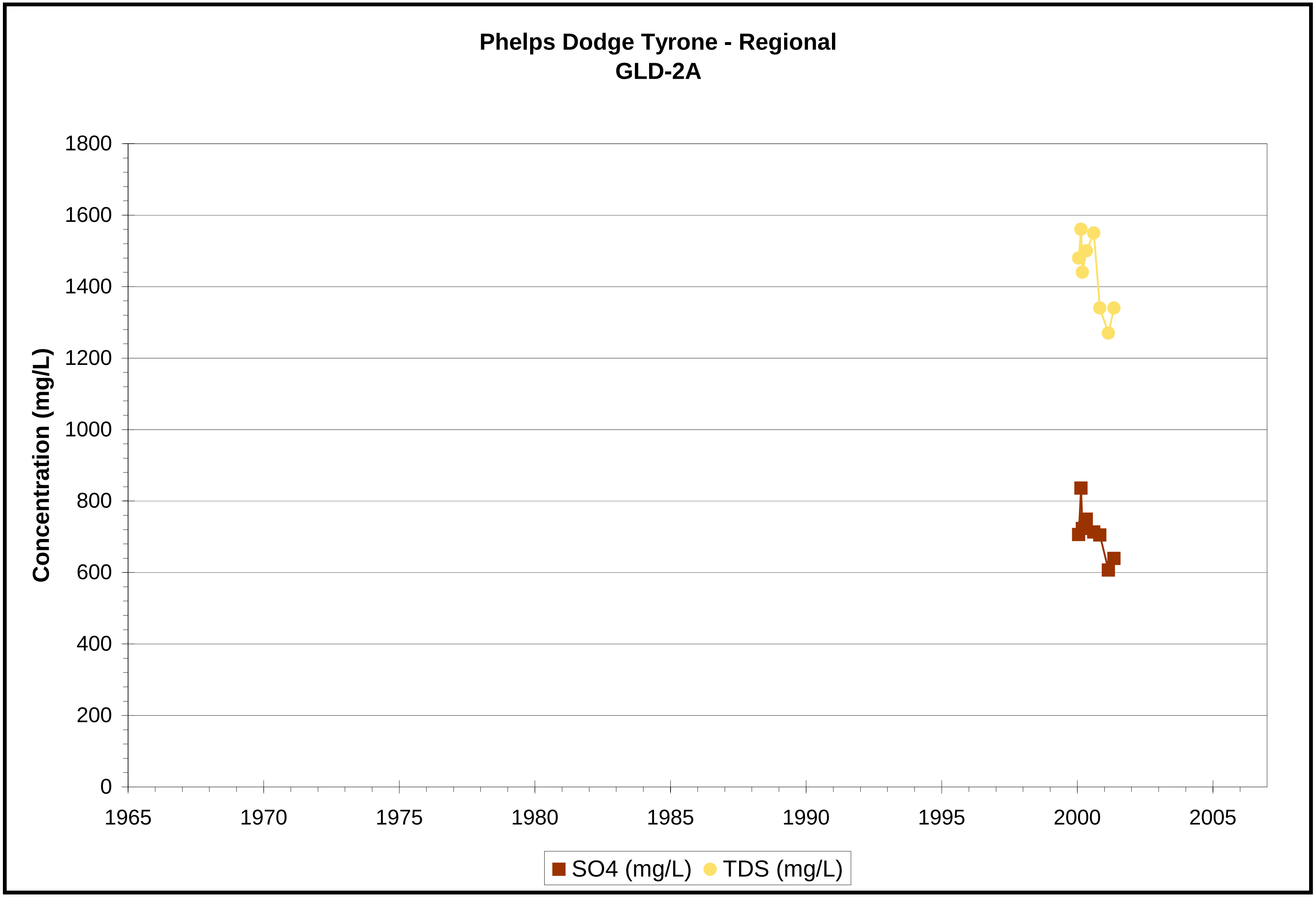
Phelps Dodge Tyrone - Regional
G
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
900
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

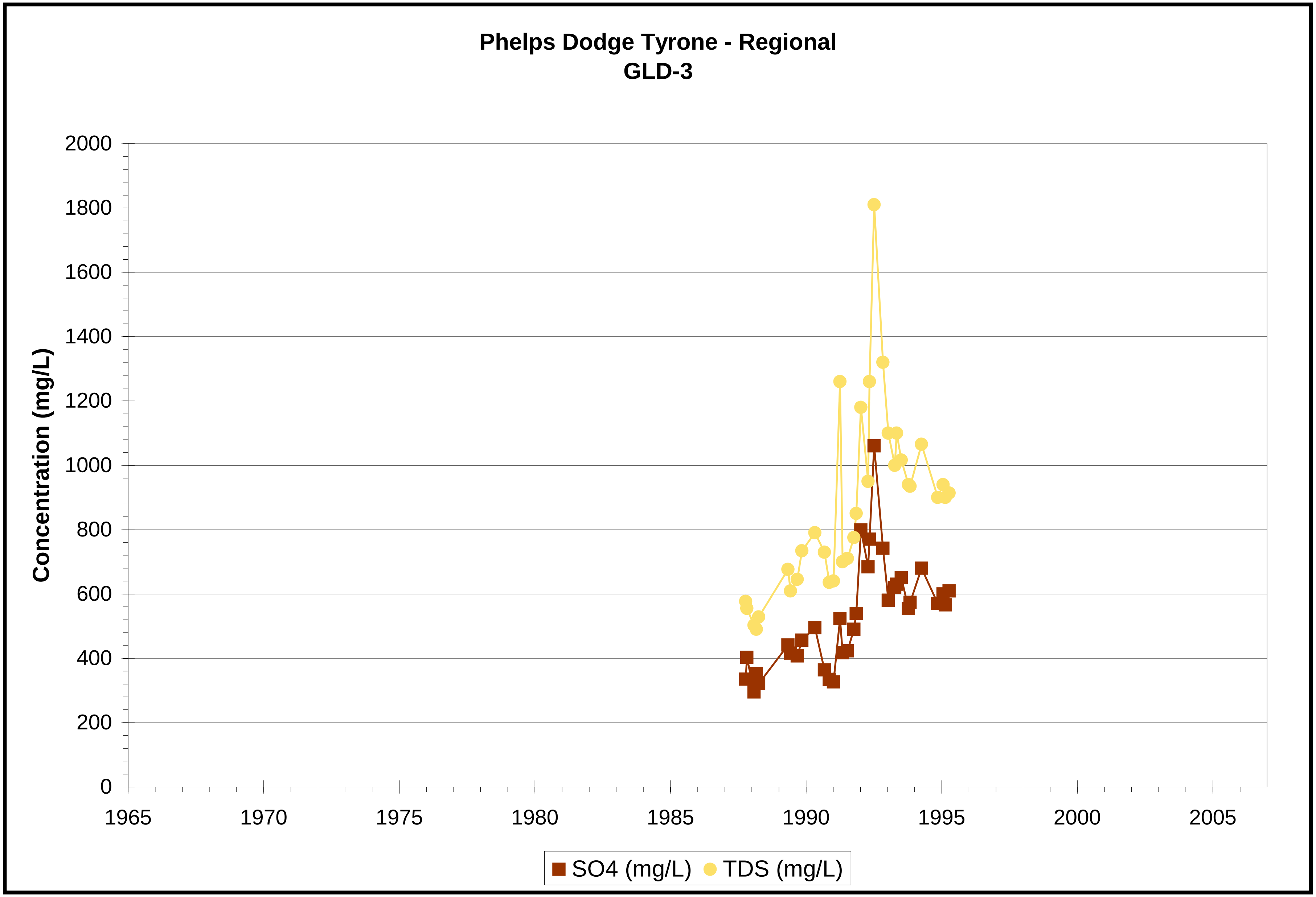


Phelps Dodge Tyrone - Regional
G-1
Concentration (mg/L)
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

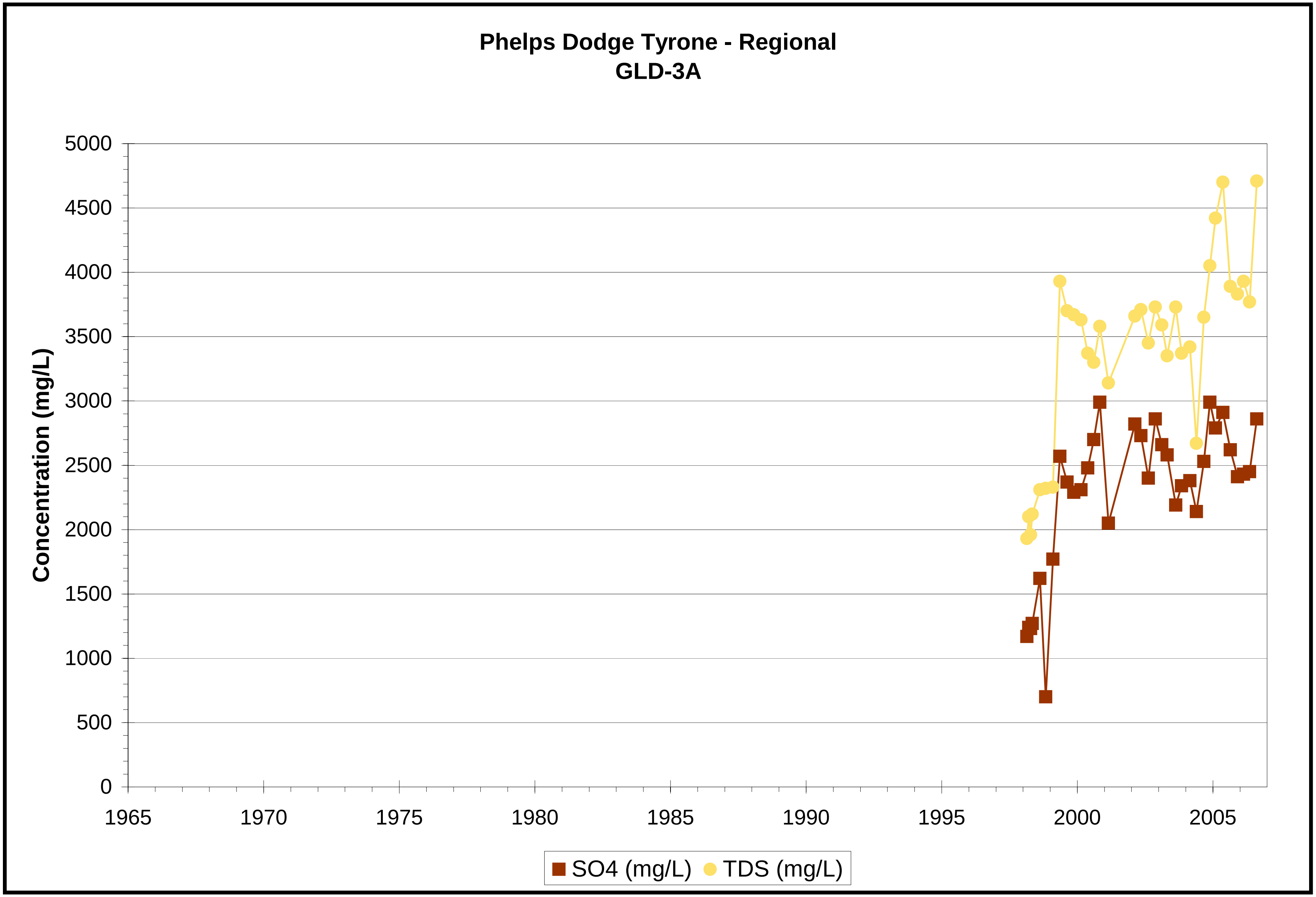

Phelps Dodge Tyrone - Regional
GLD-1
Concentration (mg/L)
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
20000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

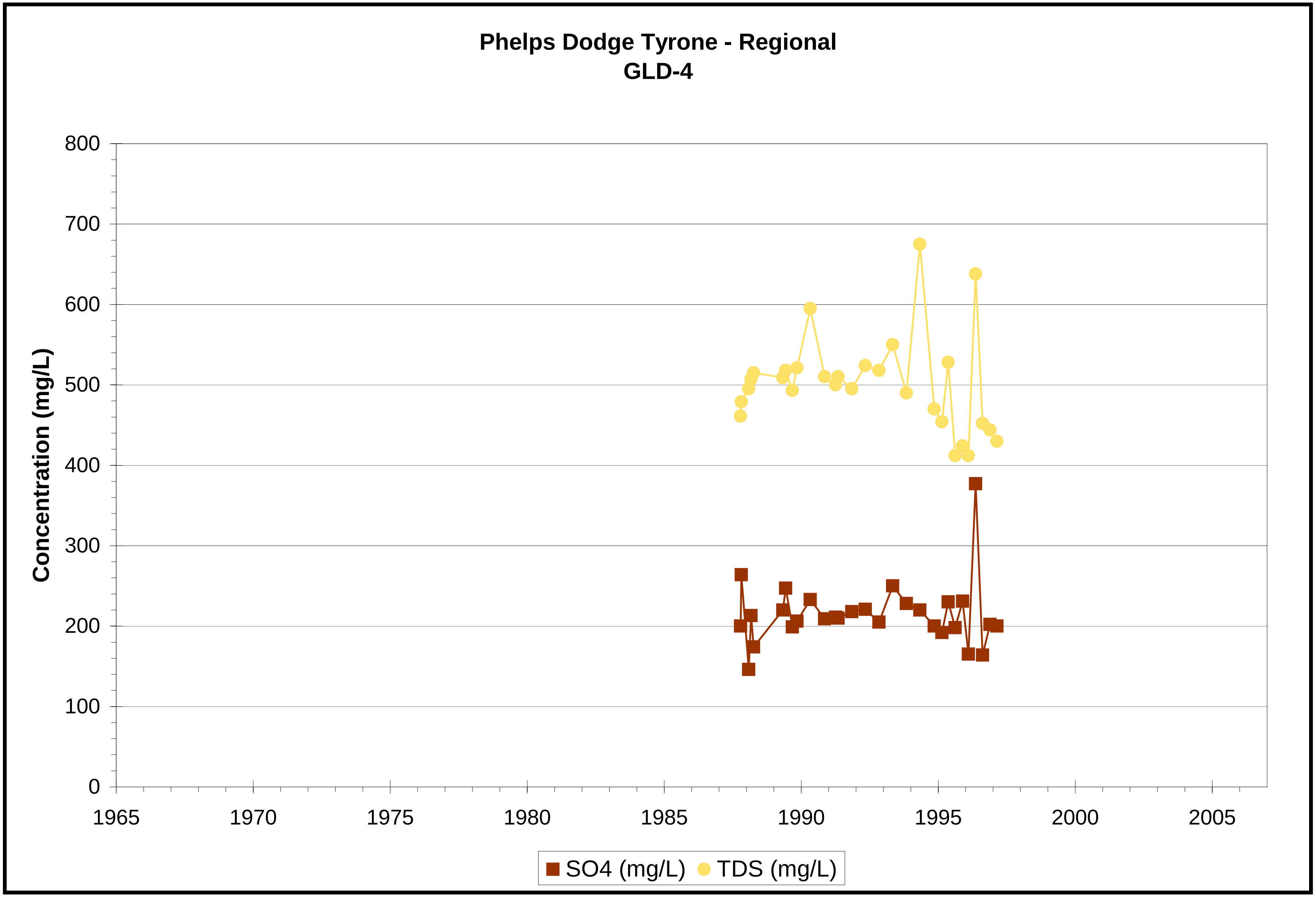

Phelps Dodge Tyrone - Regional
GLD-2
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
900
1000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

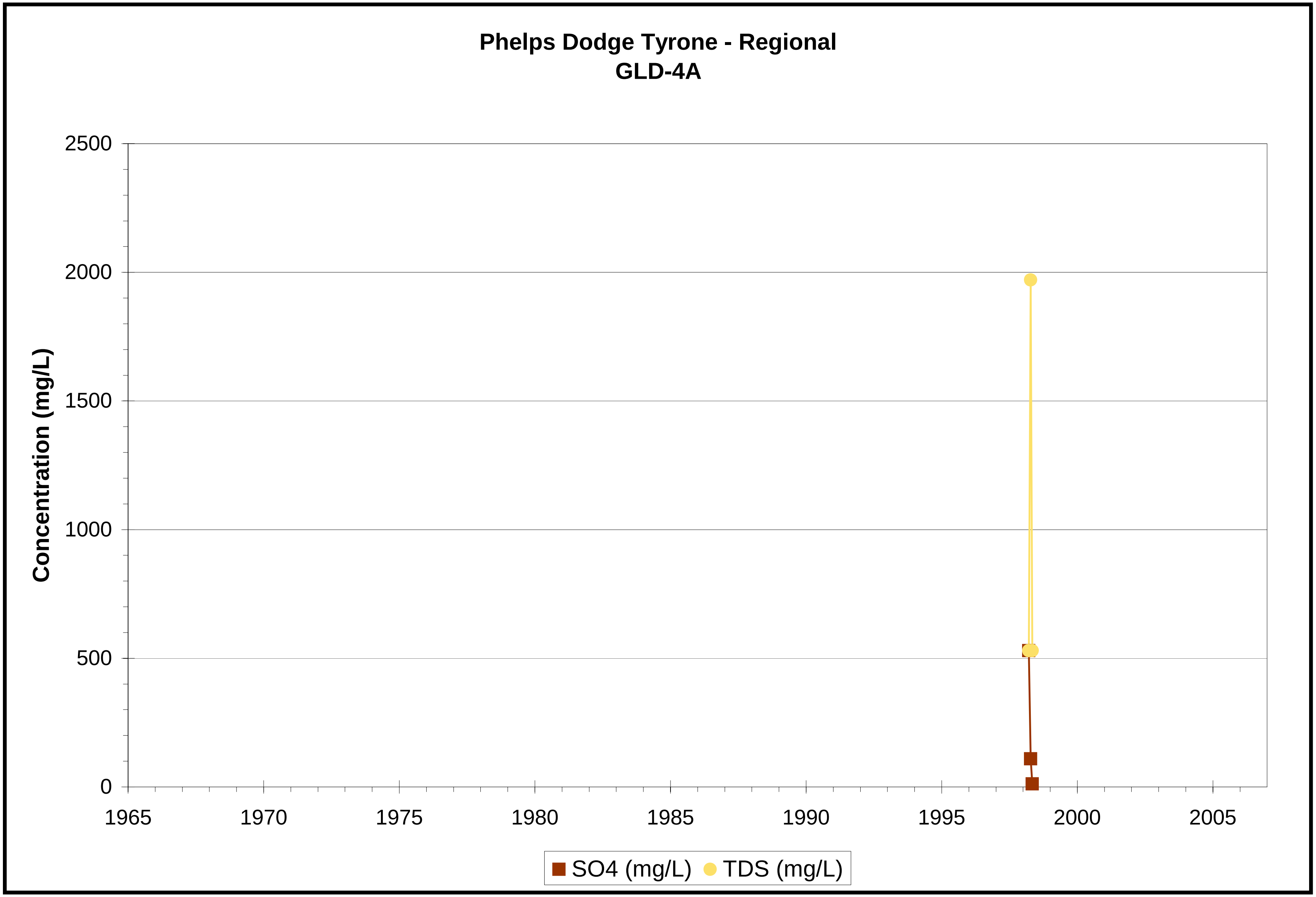

Phelps Dodge Tyrone - Regional
GLD-2A
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1800
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



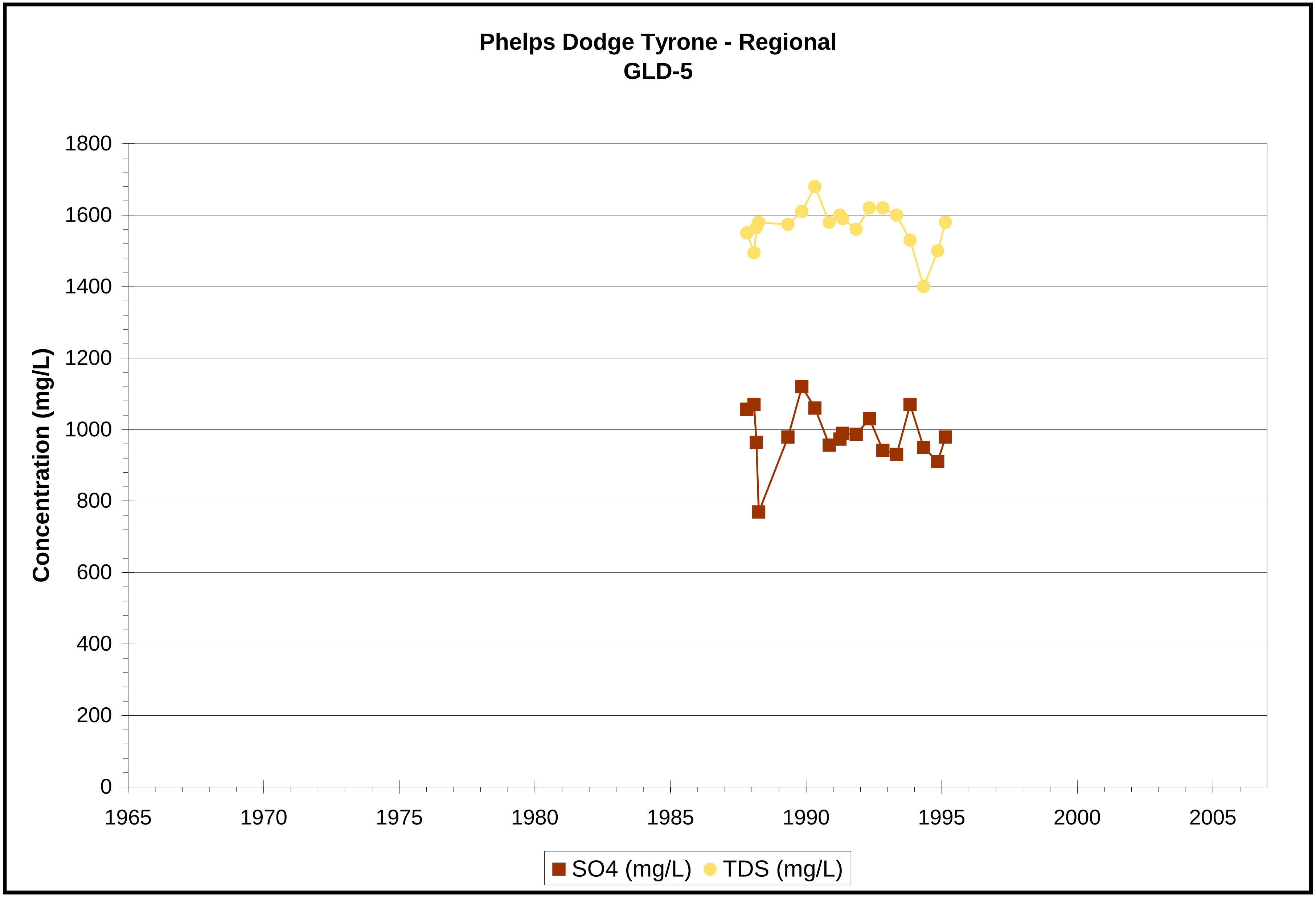
Phelps Dodge Tyrone - Regional
GLD-3
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1800
2000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
GLD-3A
Concentration (mg/L)
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

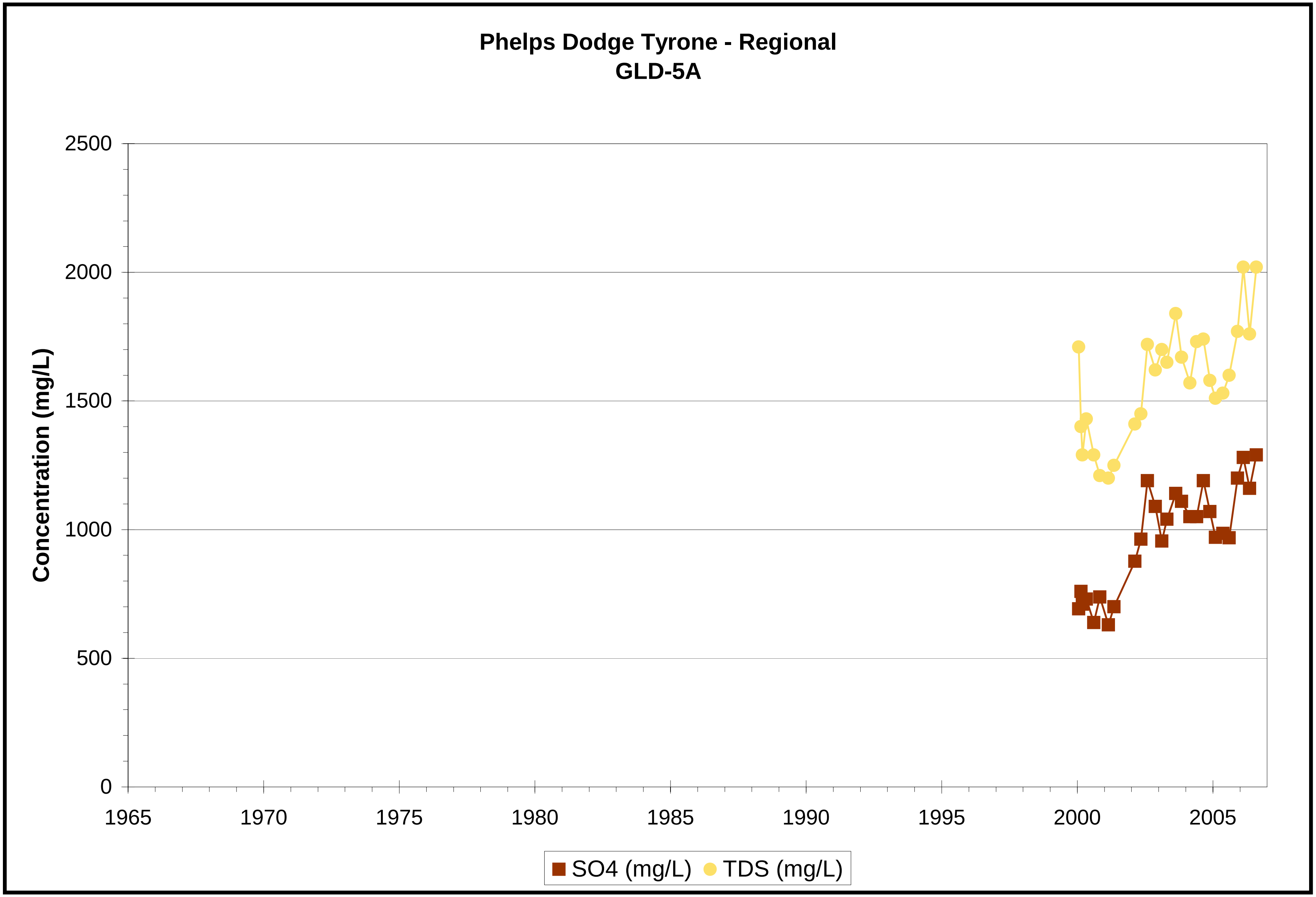

Phelps Dodge Tyrone - Regional
GLD-4
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

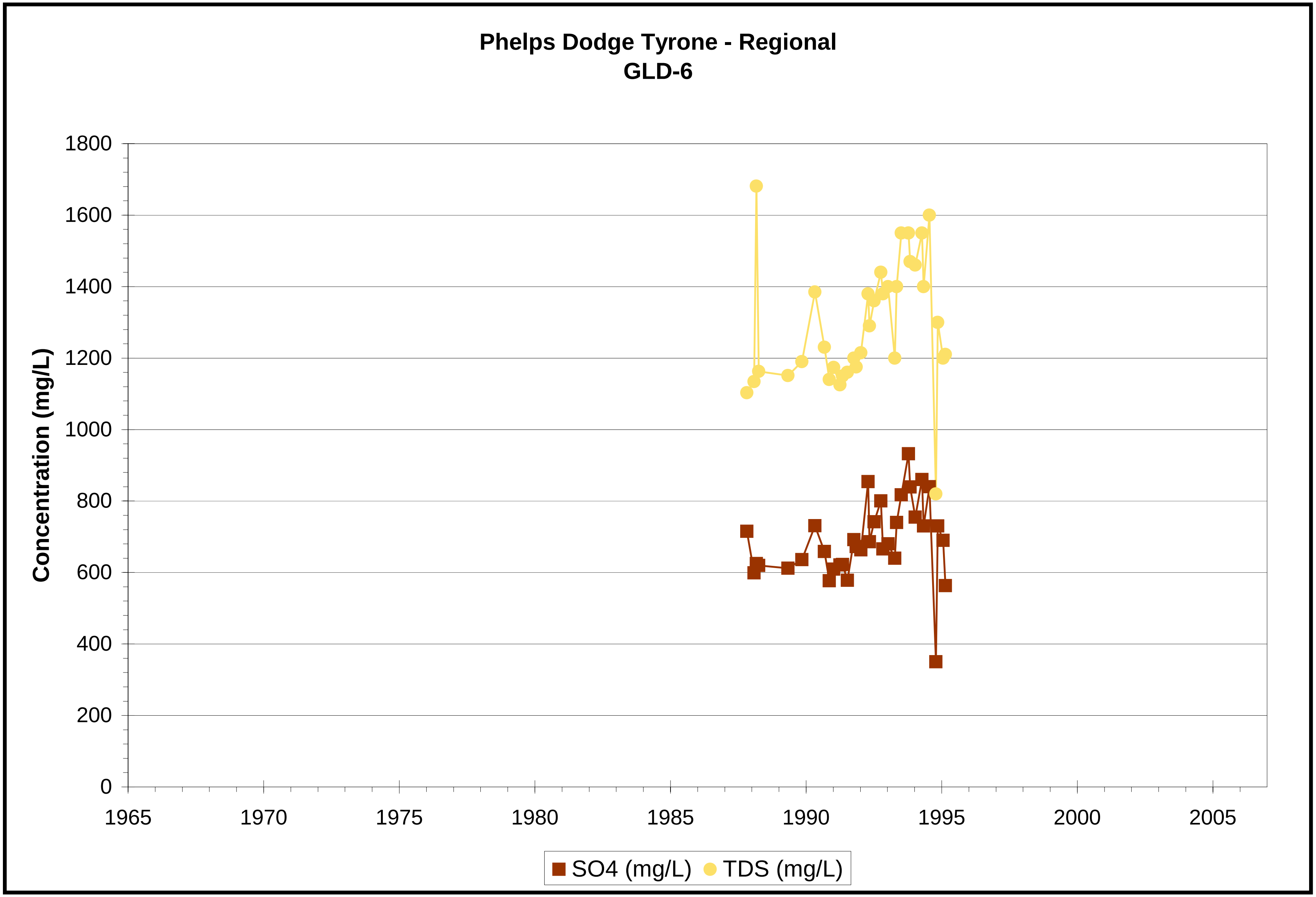


Phelps Dodge Tyrone - Regional
GLD-4A
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

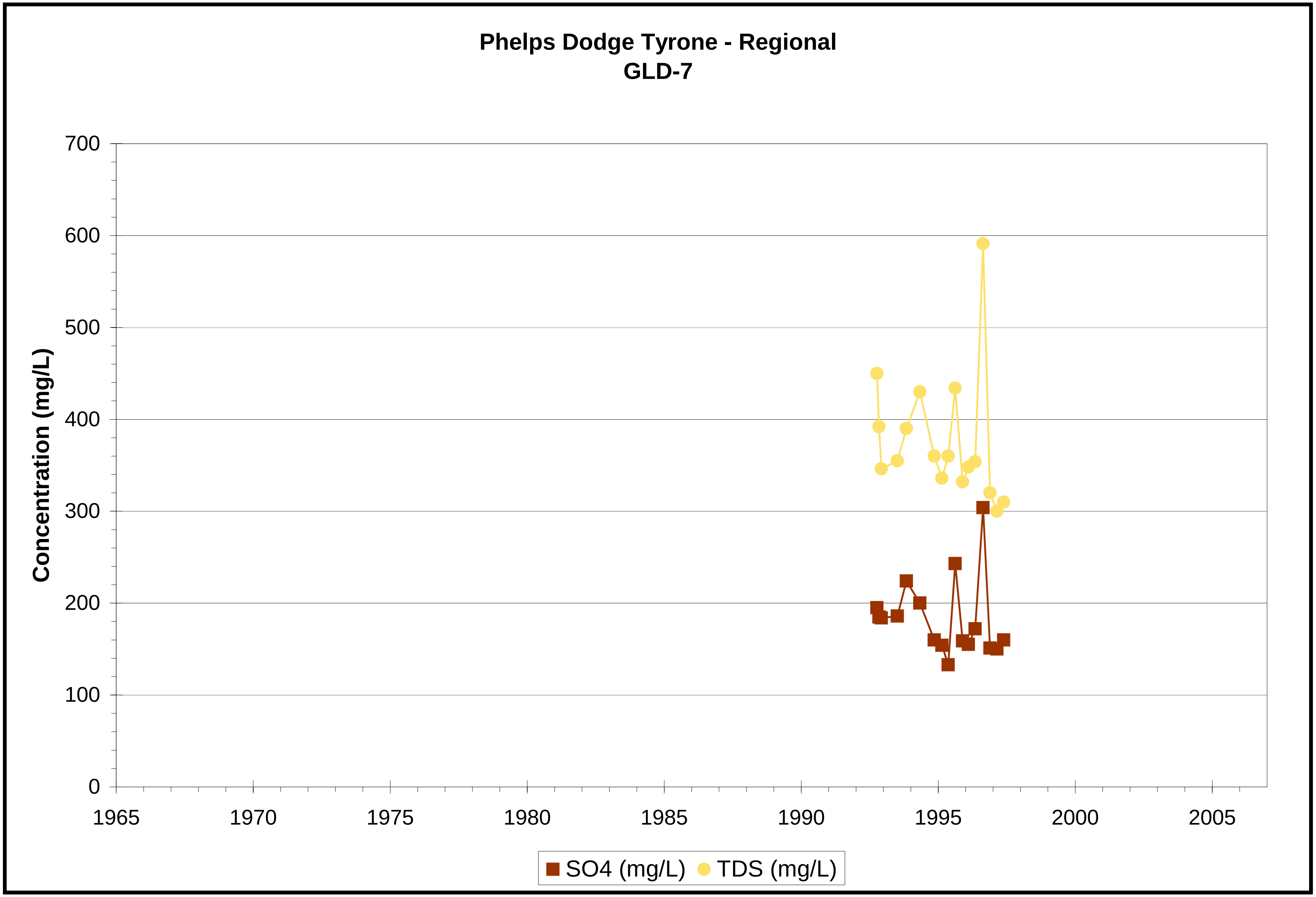


Phelps Dodge Tyrone - Regional
GLD-5
Concentration (mg/L)
1800
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

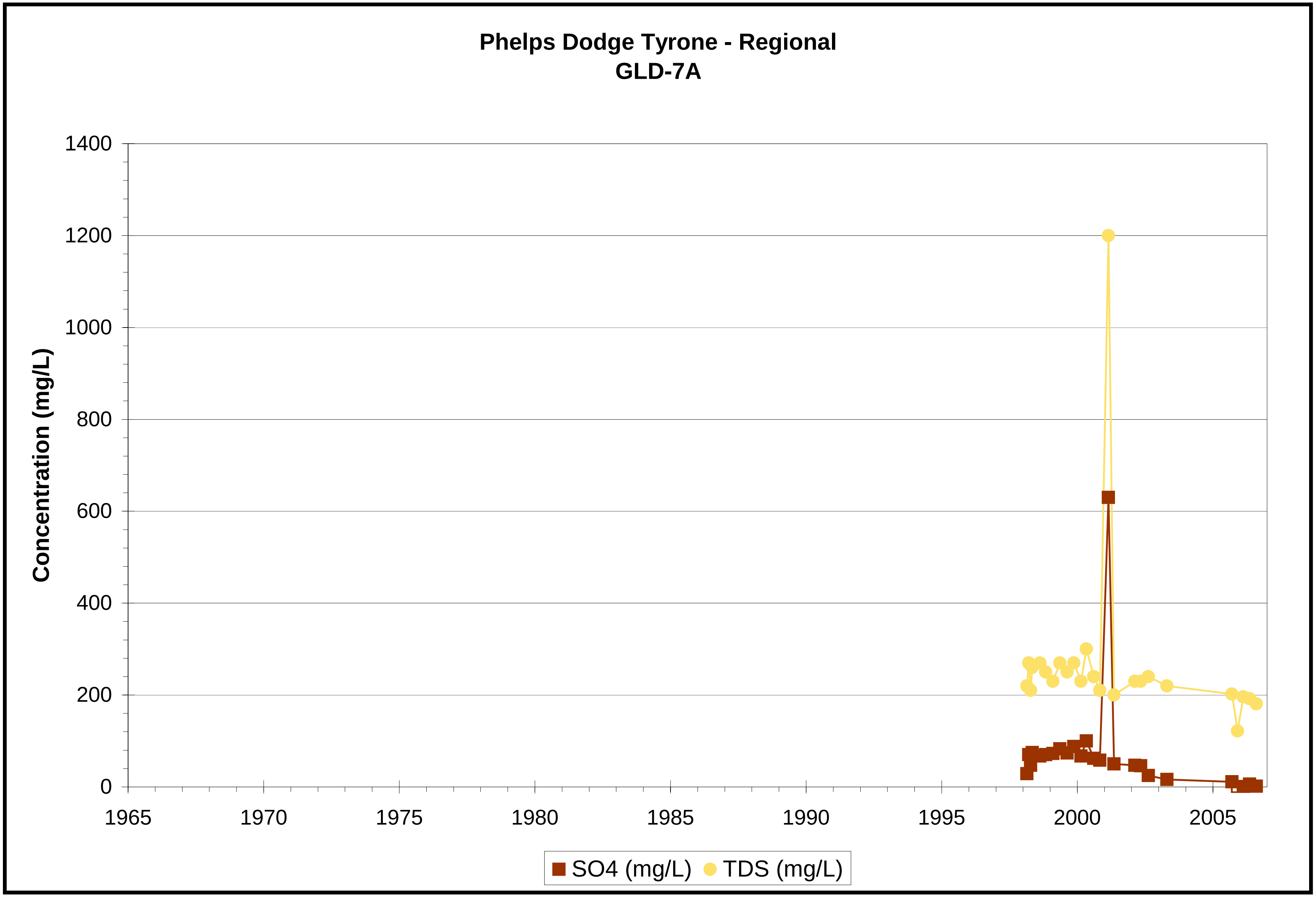

Phelps Dodge Tyrone - Regional
GLD-5A
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

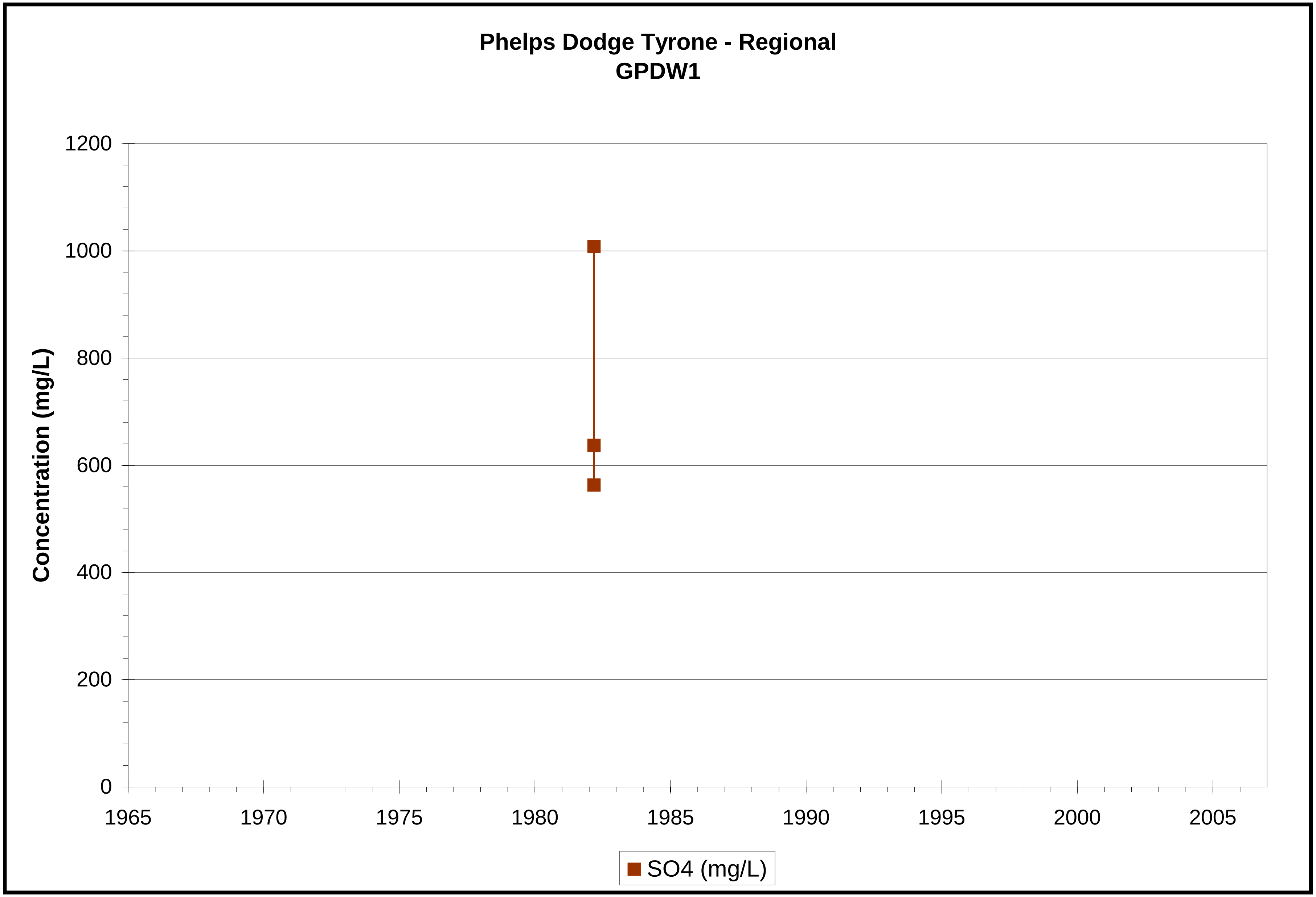


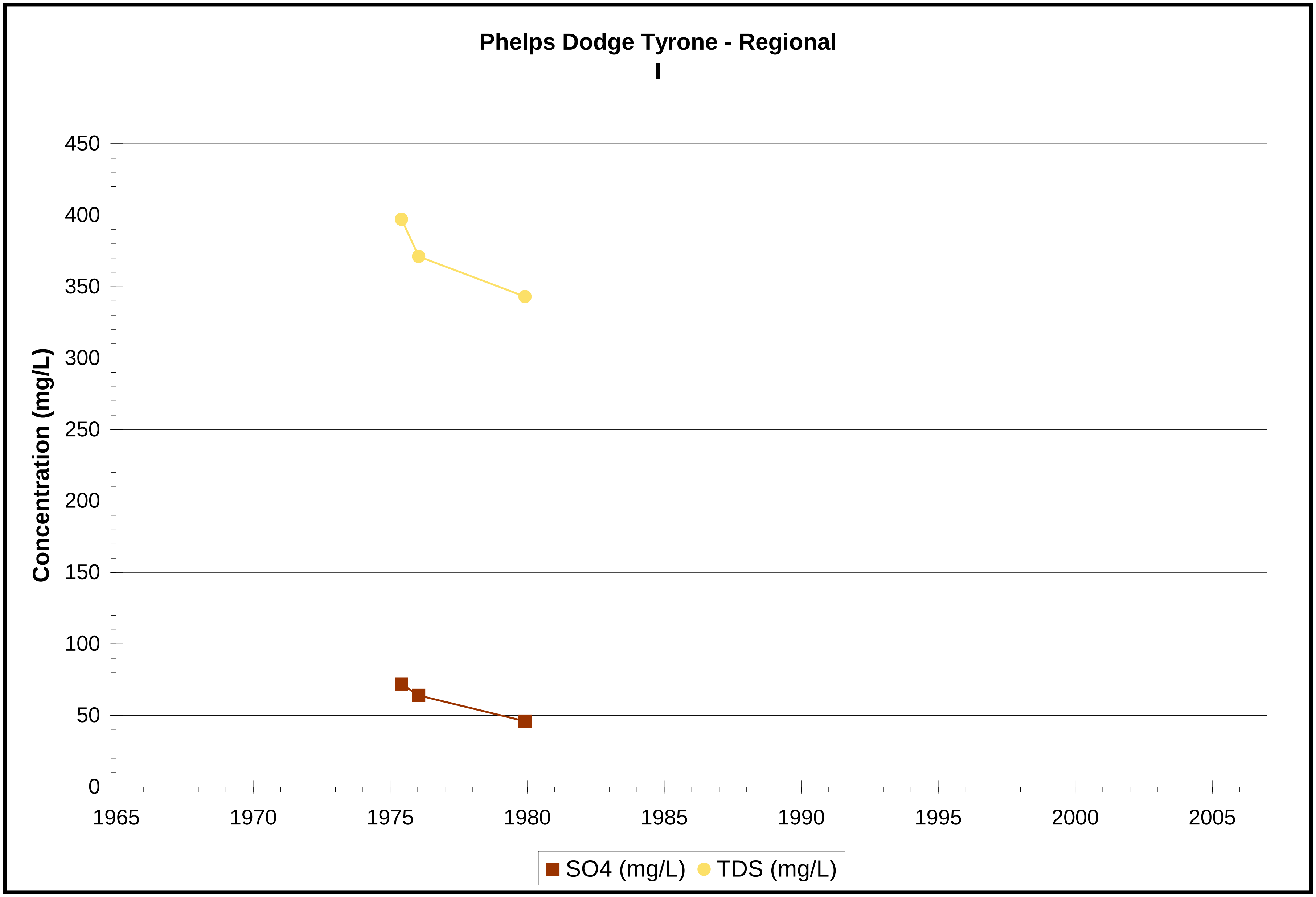
Phelps Dodge Tyrone - Regional
GLD-6
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1800
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



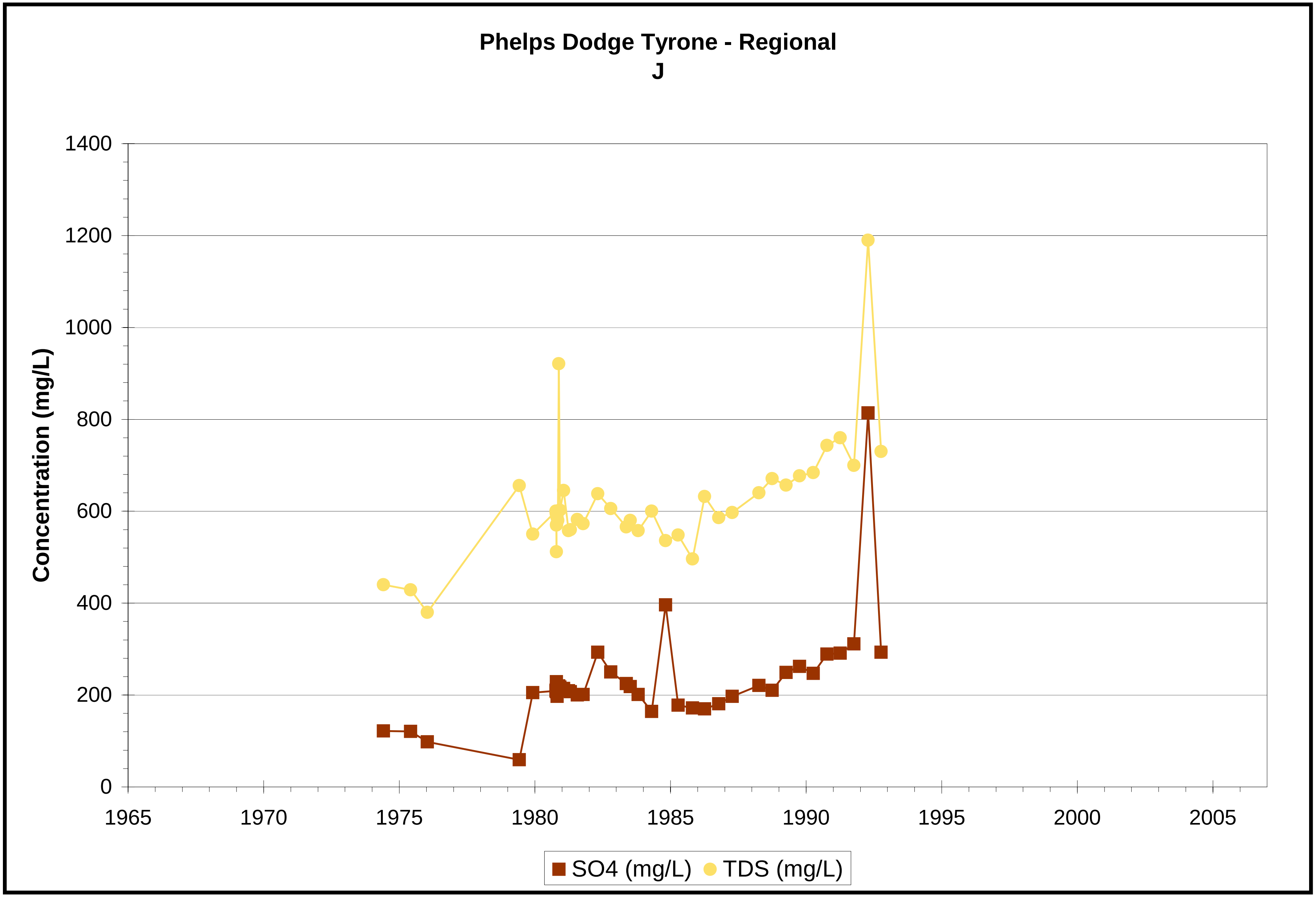
Phelps Dodge Tyrone - Regional
GLD-7
Concentration (mg/L)
0
100
200
300
400
500
600
700
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
GLD-7A
Concentration (mg/L)
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

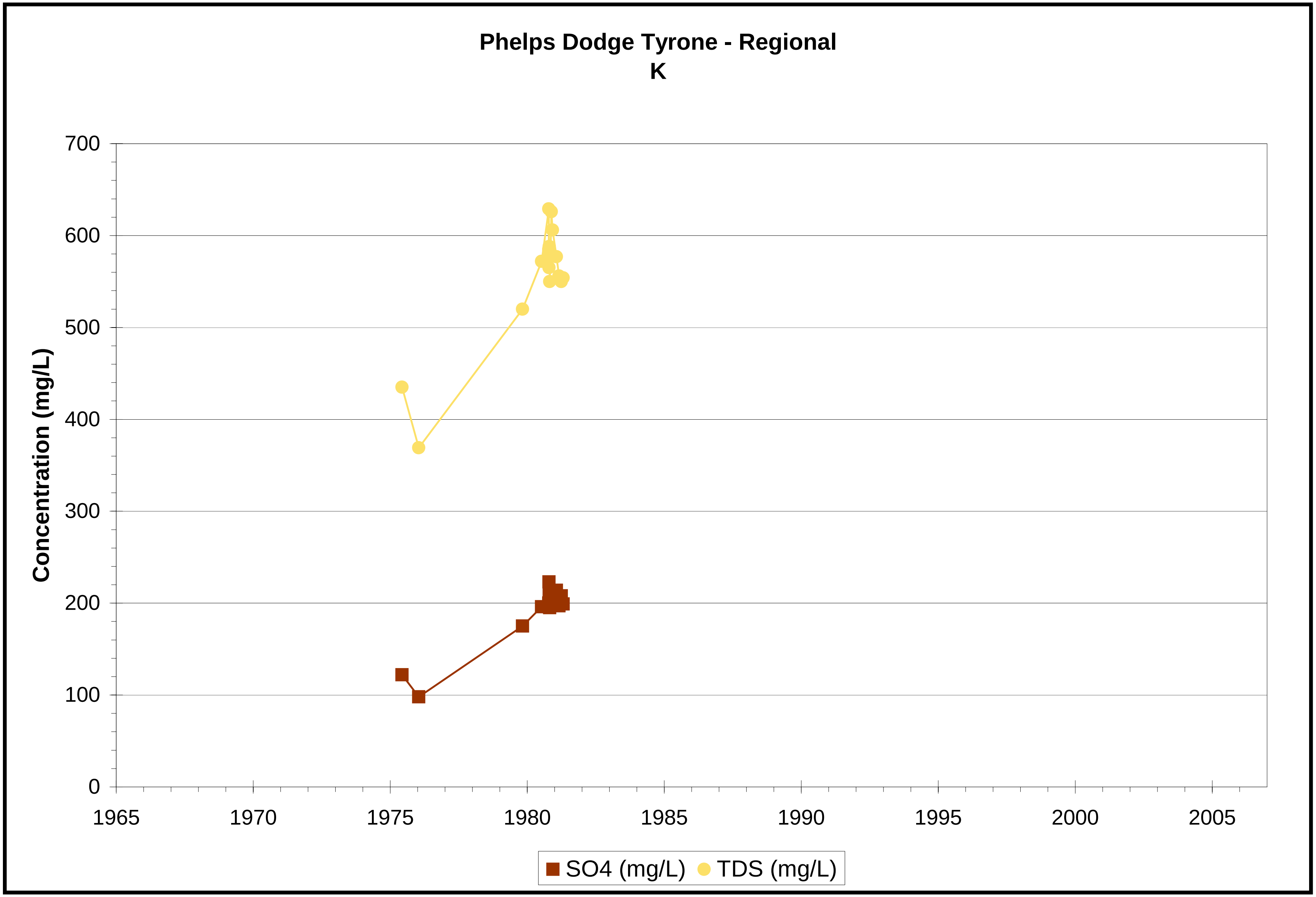

Phelps Dodge Tyrone - Regional
GPDW1
Concentration (mg/L)
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)

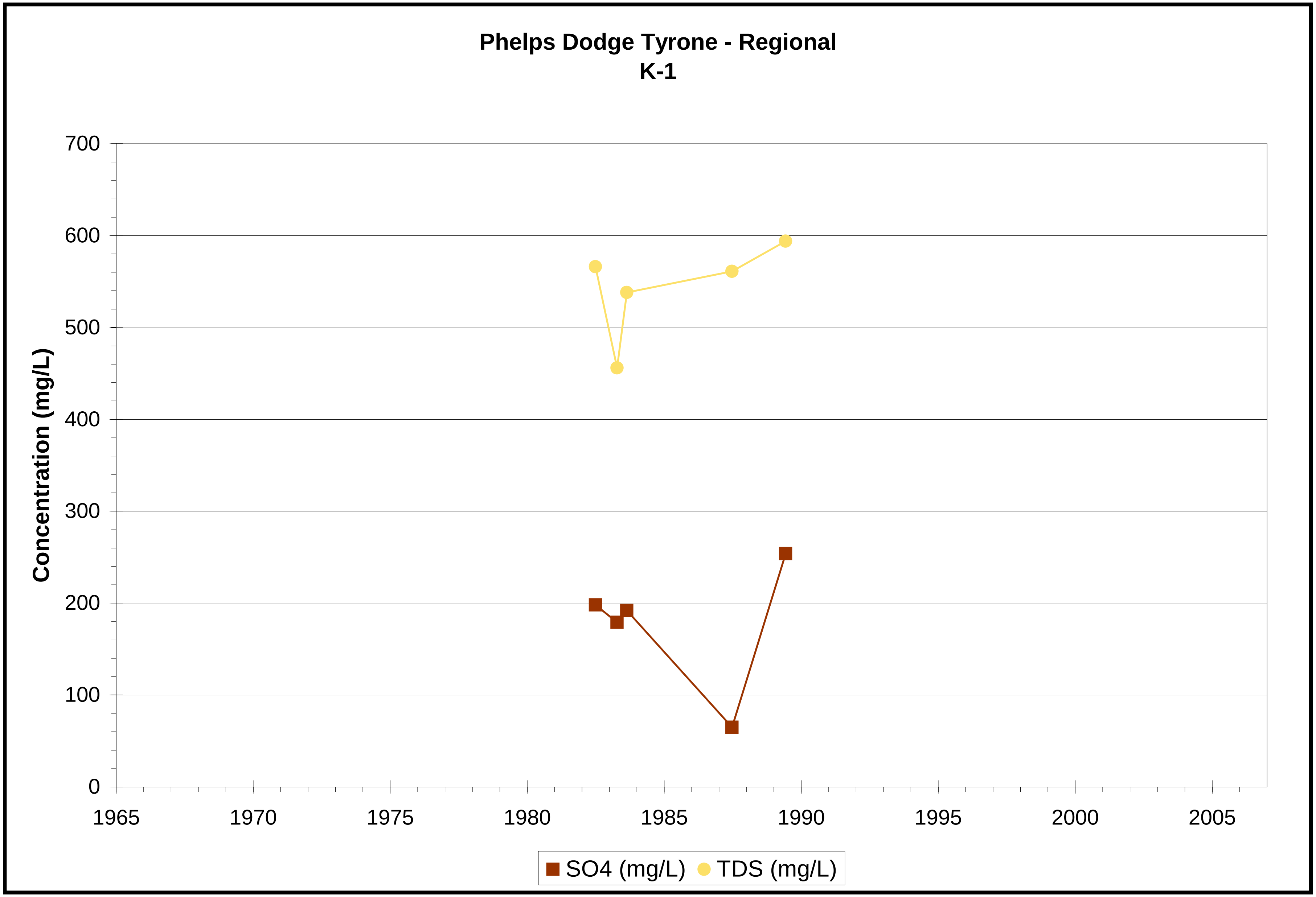


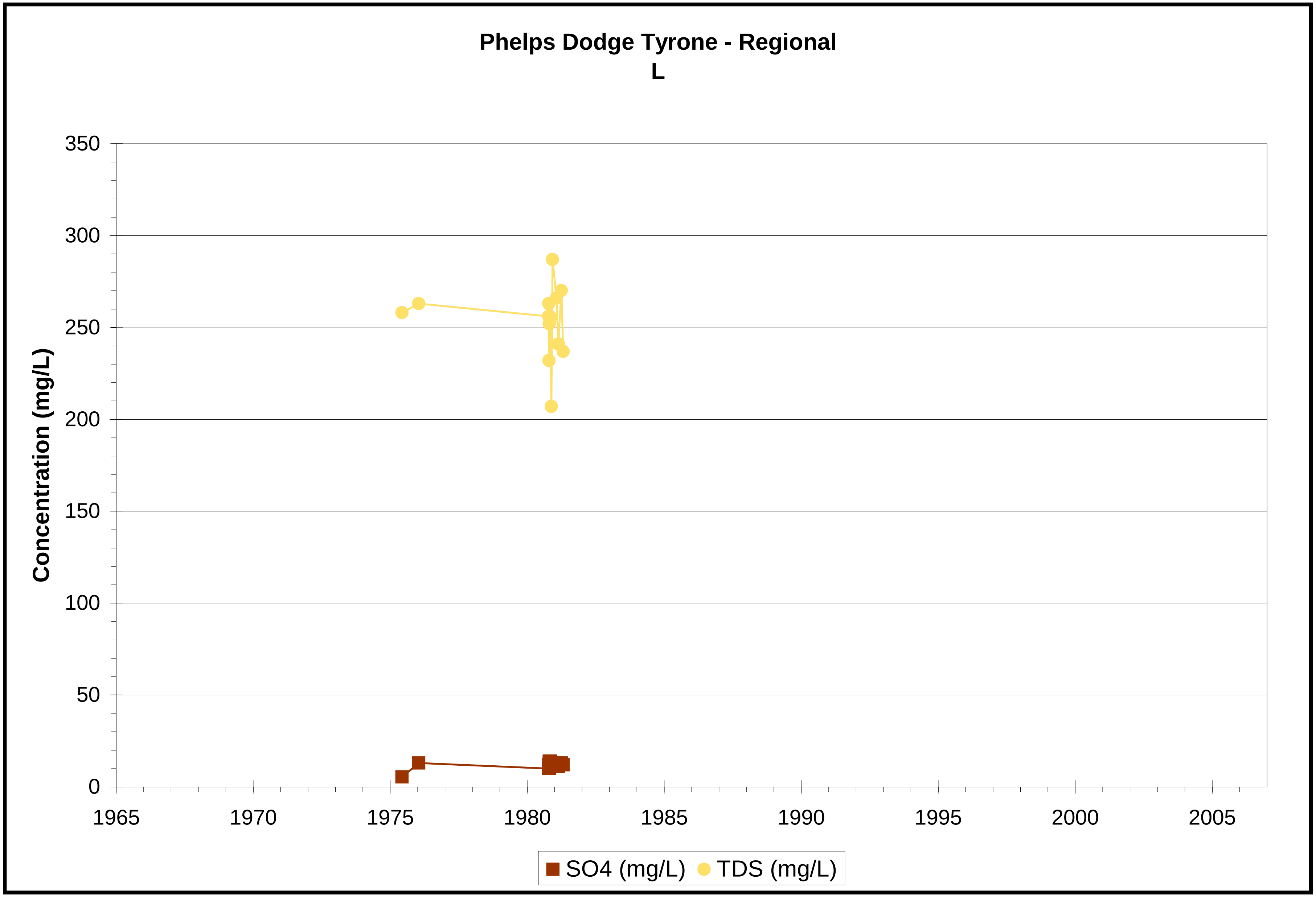
Phelps Dodge Tyrone - Regional
I
Concentration (mg/L)
450
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

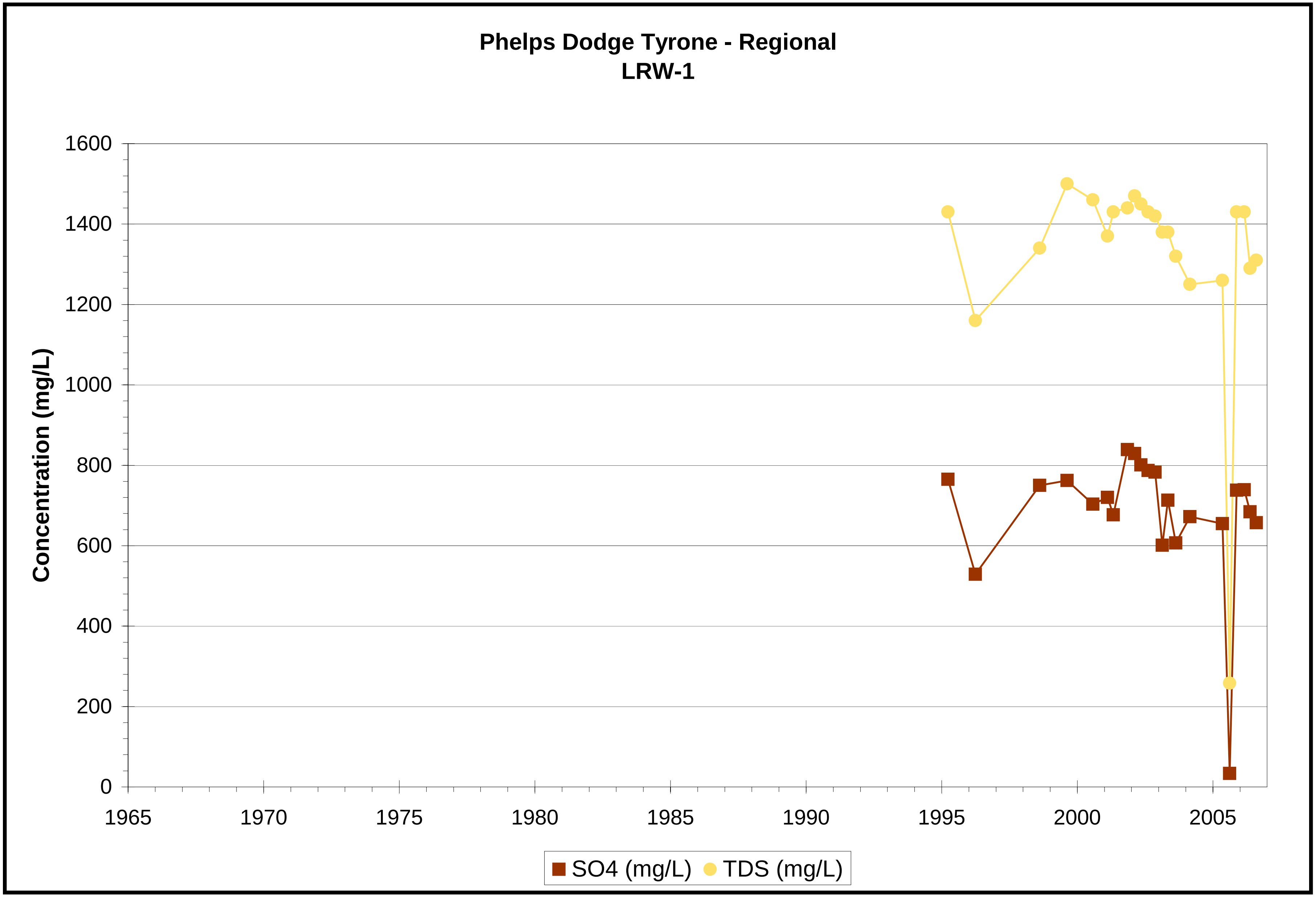


Phelps Dodge Tyrone - Regional
J
Concentration (mg/L)
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

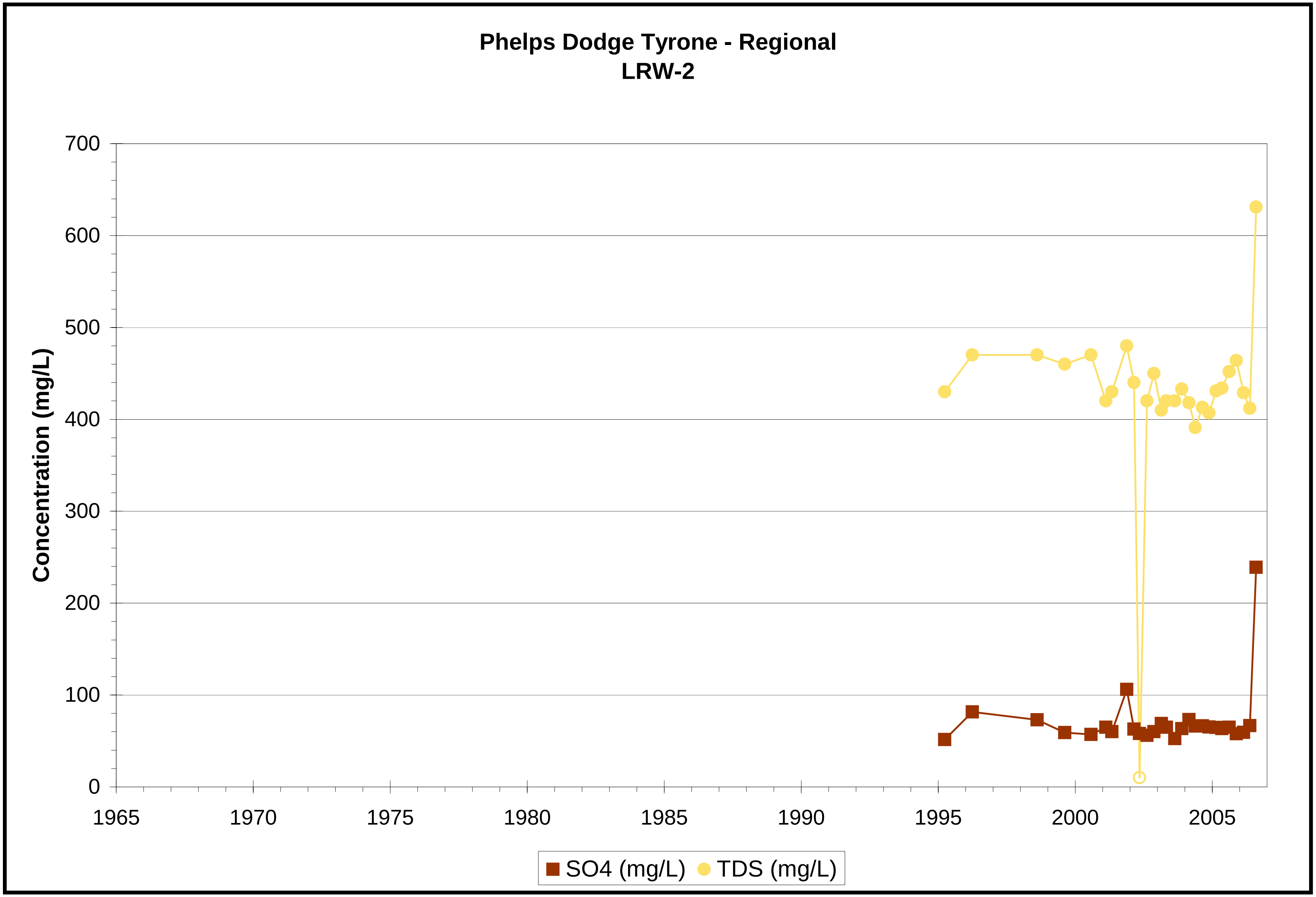

Phelps Dodge Tyrone - Regional
K
Concentration (mg/L)
0
100
200
300
400
500
600
700
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
K-1
Concentration (mg/L)
0
100
200
300
400
500
600
700
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

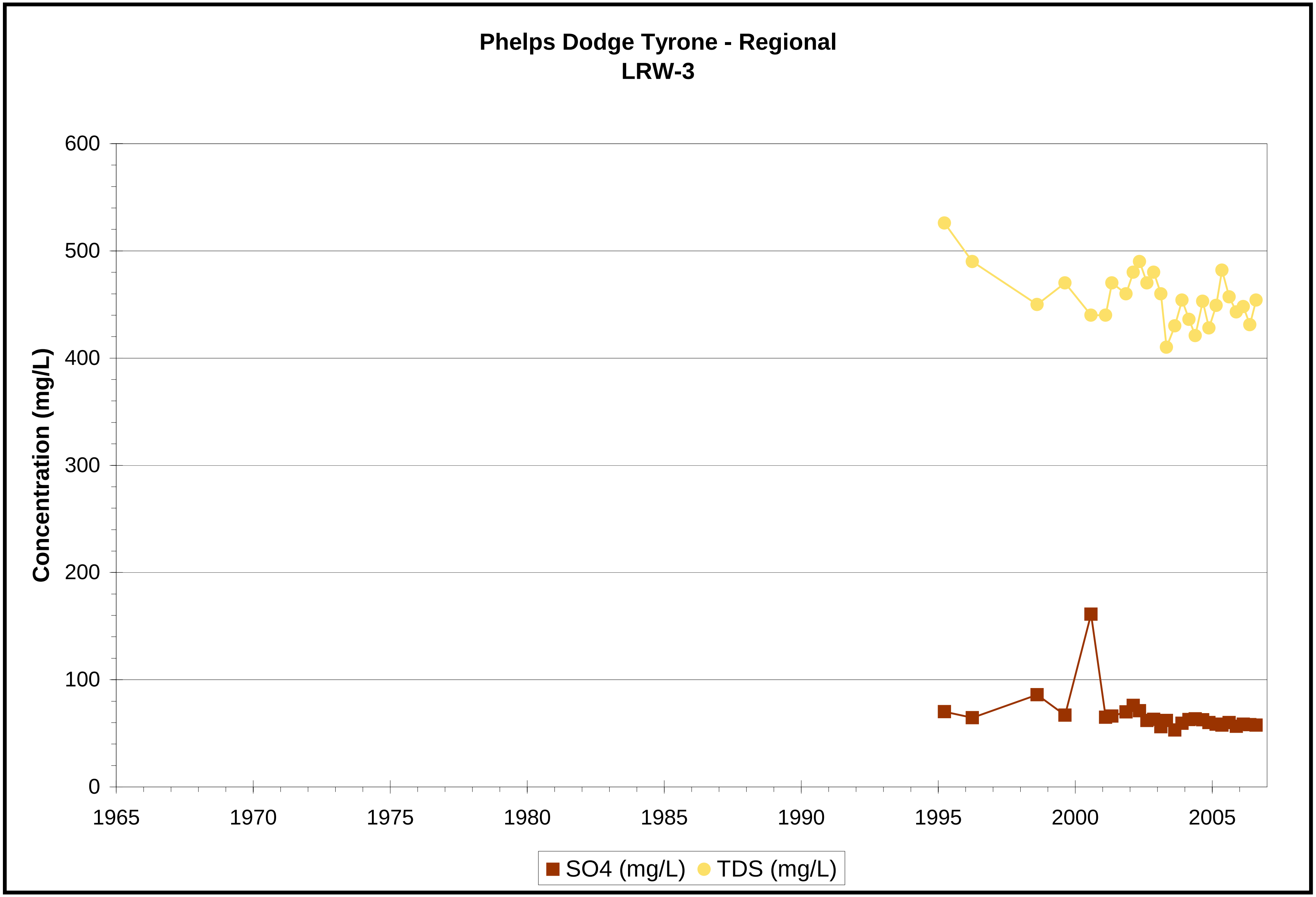

Phelps Dodge Tyrone - Regional
L
Concentration (mg/L)
0
50
100
150
200
250
300
350
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



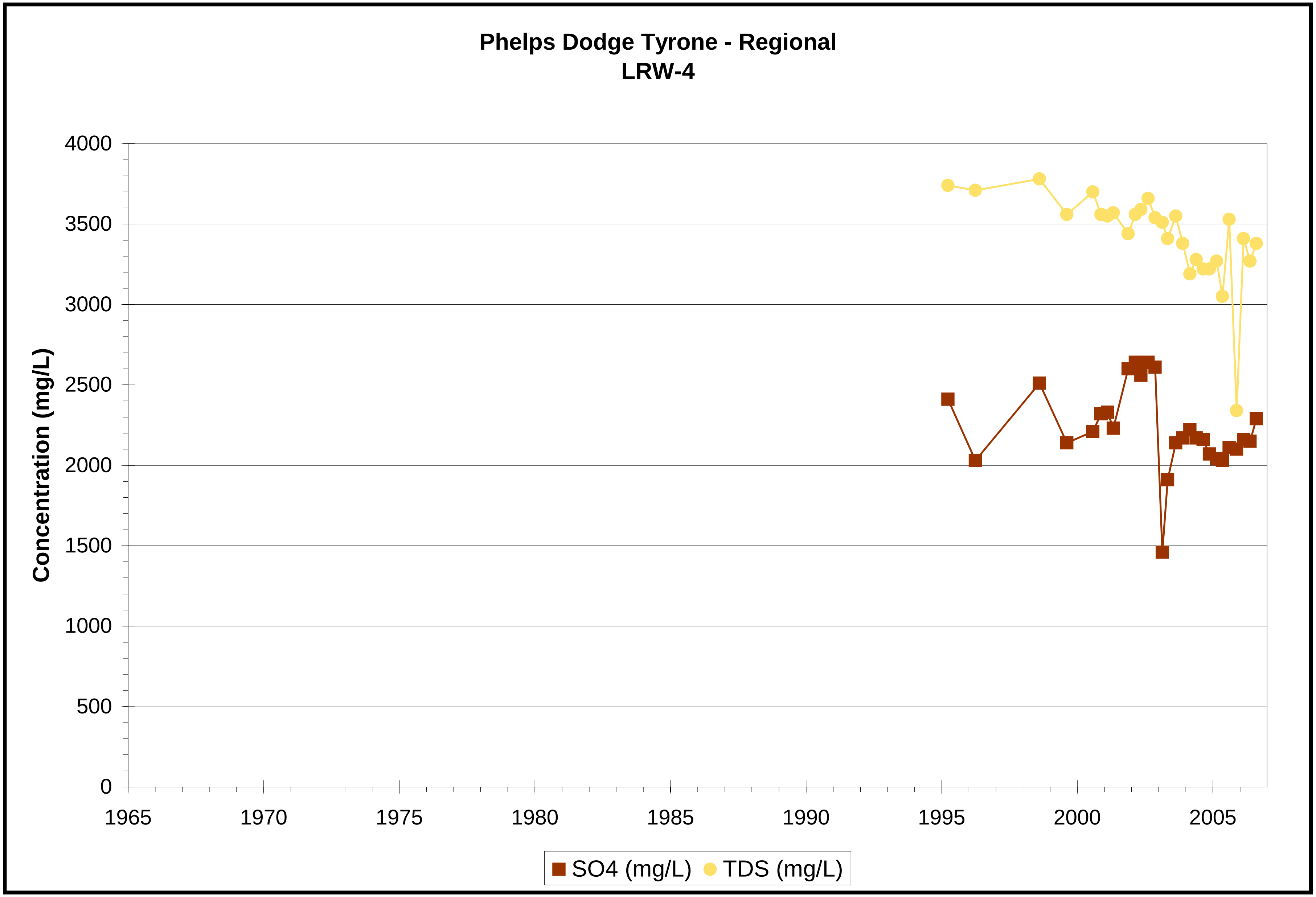
Phelps Dodge Tyrone - Regional
LRW-1
Concentration (mg/L)
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

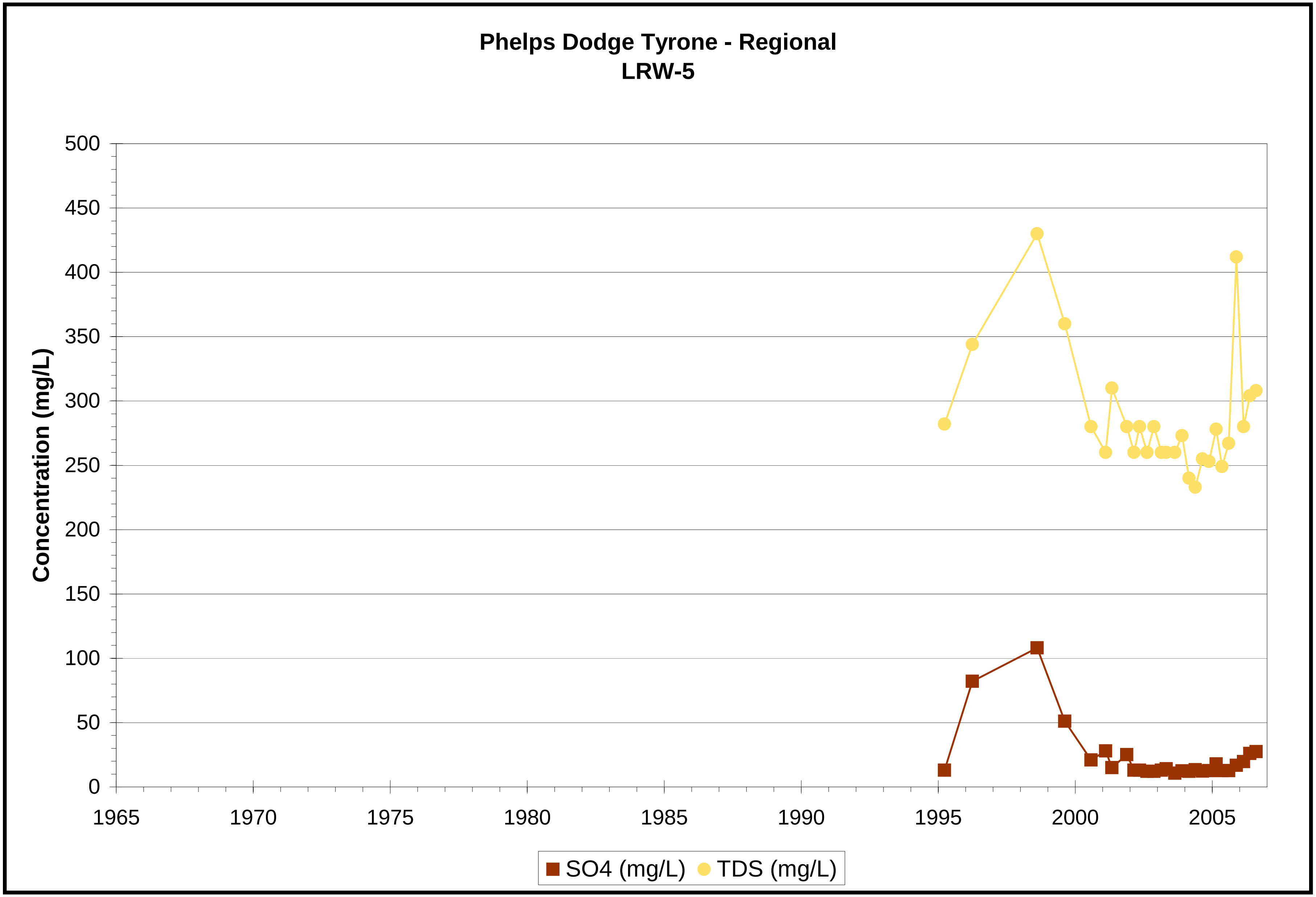


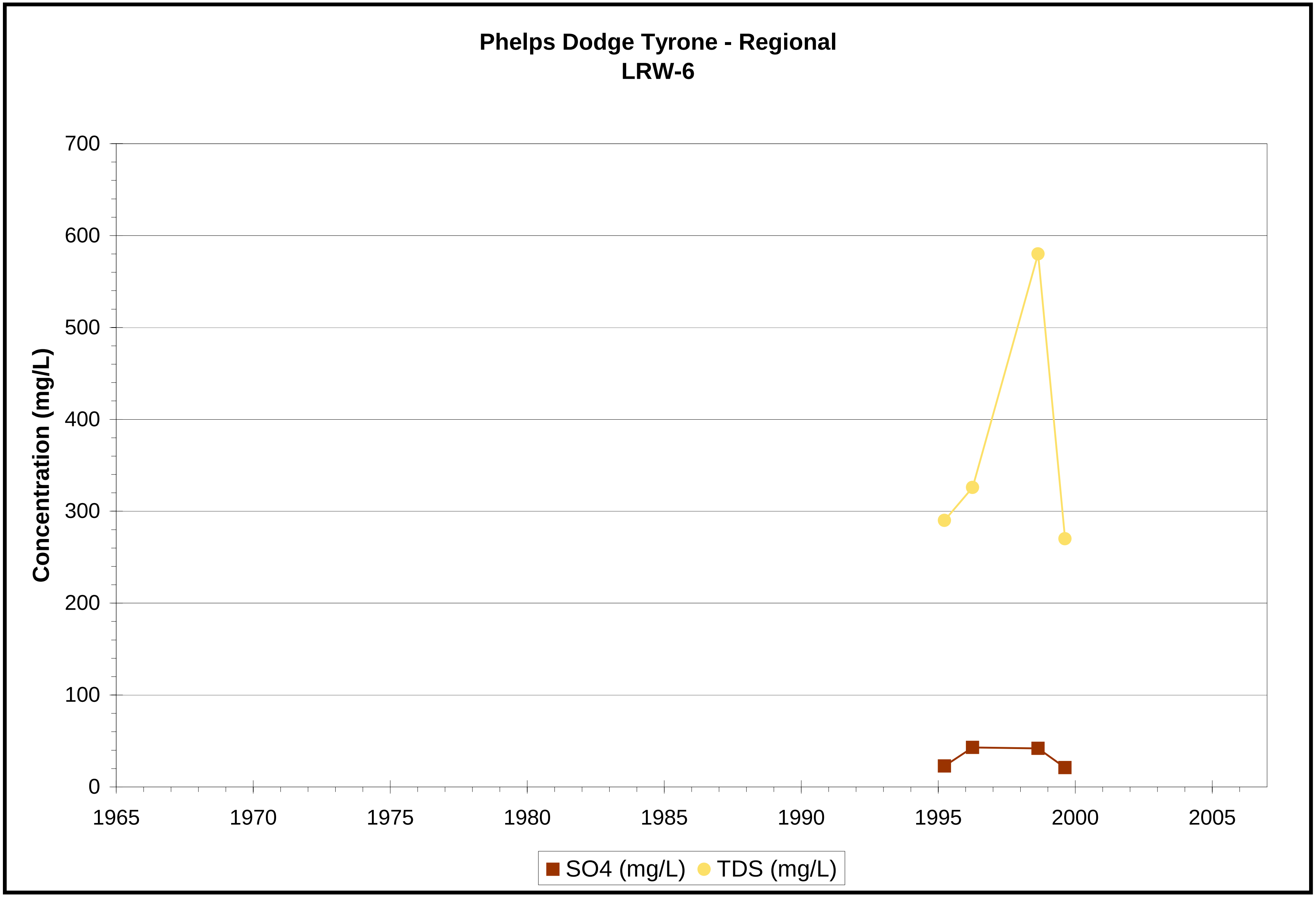
Phelps Dodge Tyrone - Regional
LRW-2
Concentration (mg/L)
0
100
200
300
400
500
600
700
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



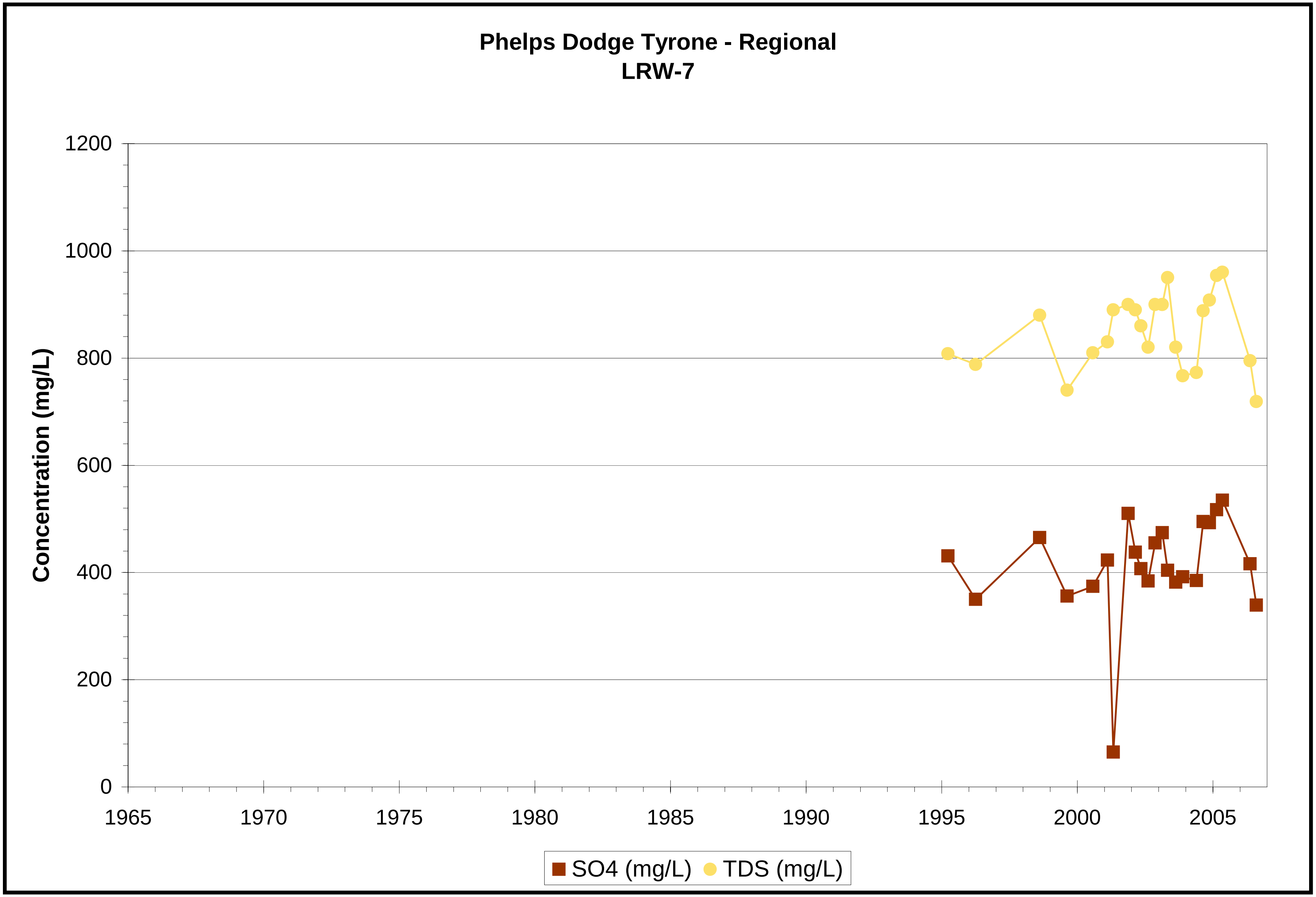
Phelps Dodge Tyrone - Regional
LRW-3
Concentration (mg/L)
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
LRW-4
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

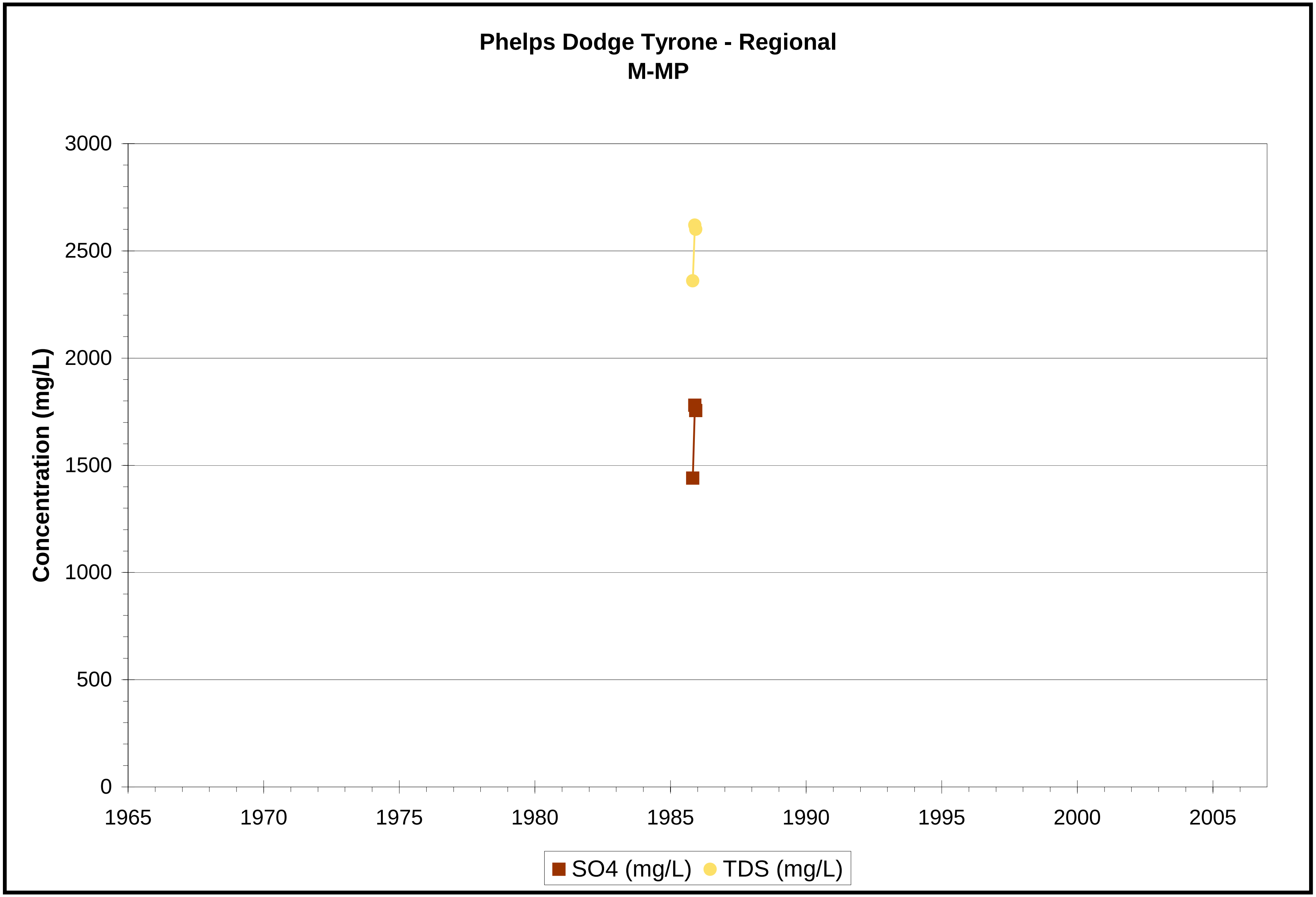

Phelps Dodge Tyrone - Regional
LRW-5
Concentration (mg/L)
500
450
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



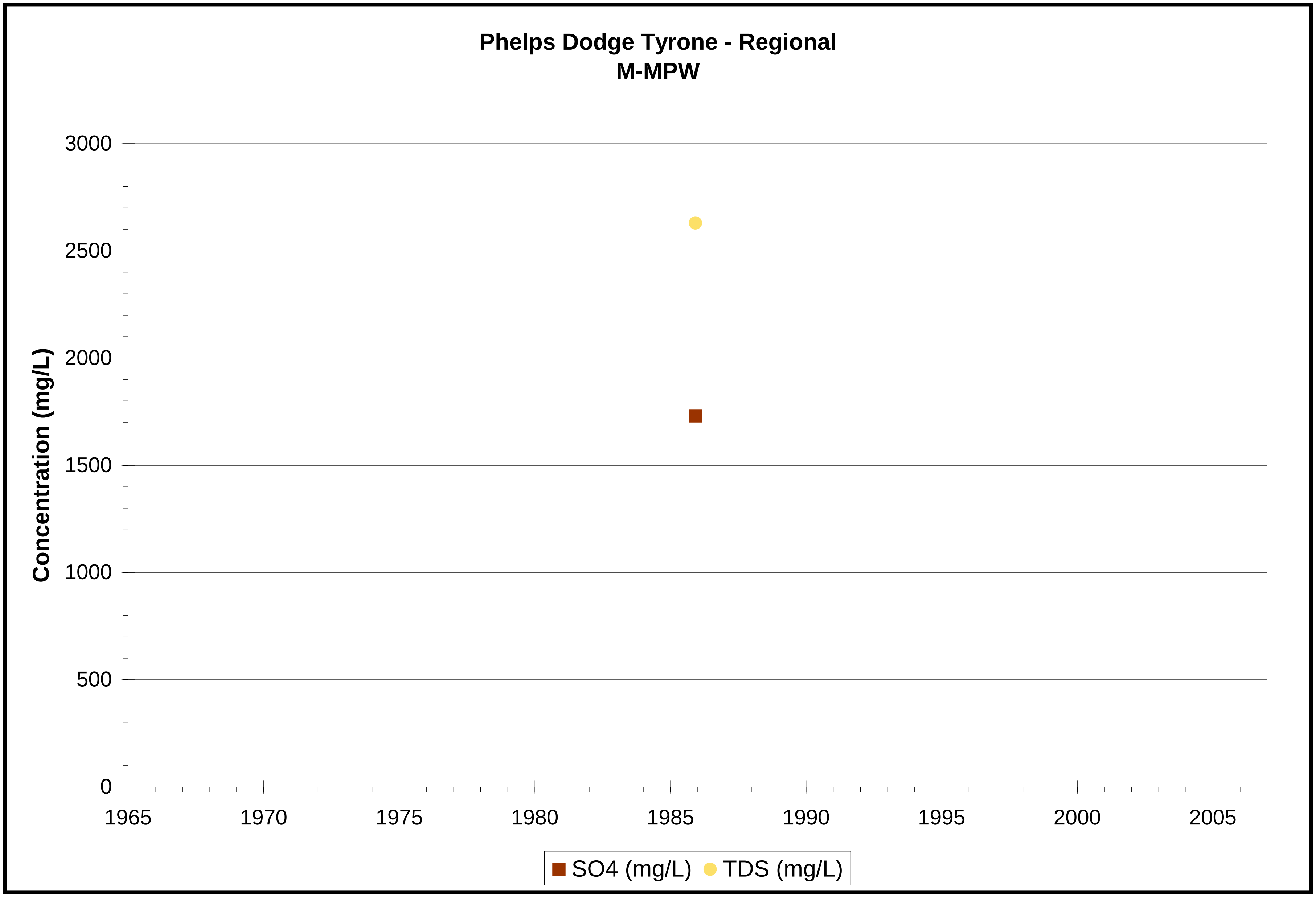
Phelps Dodge Tyrone - Regional
LRW-6
Concentration (mg/L)
0
100
200
300
400
500
600
700
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

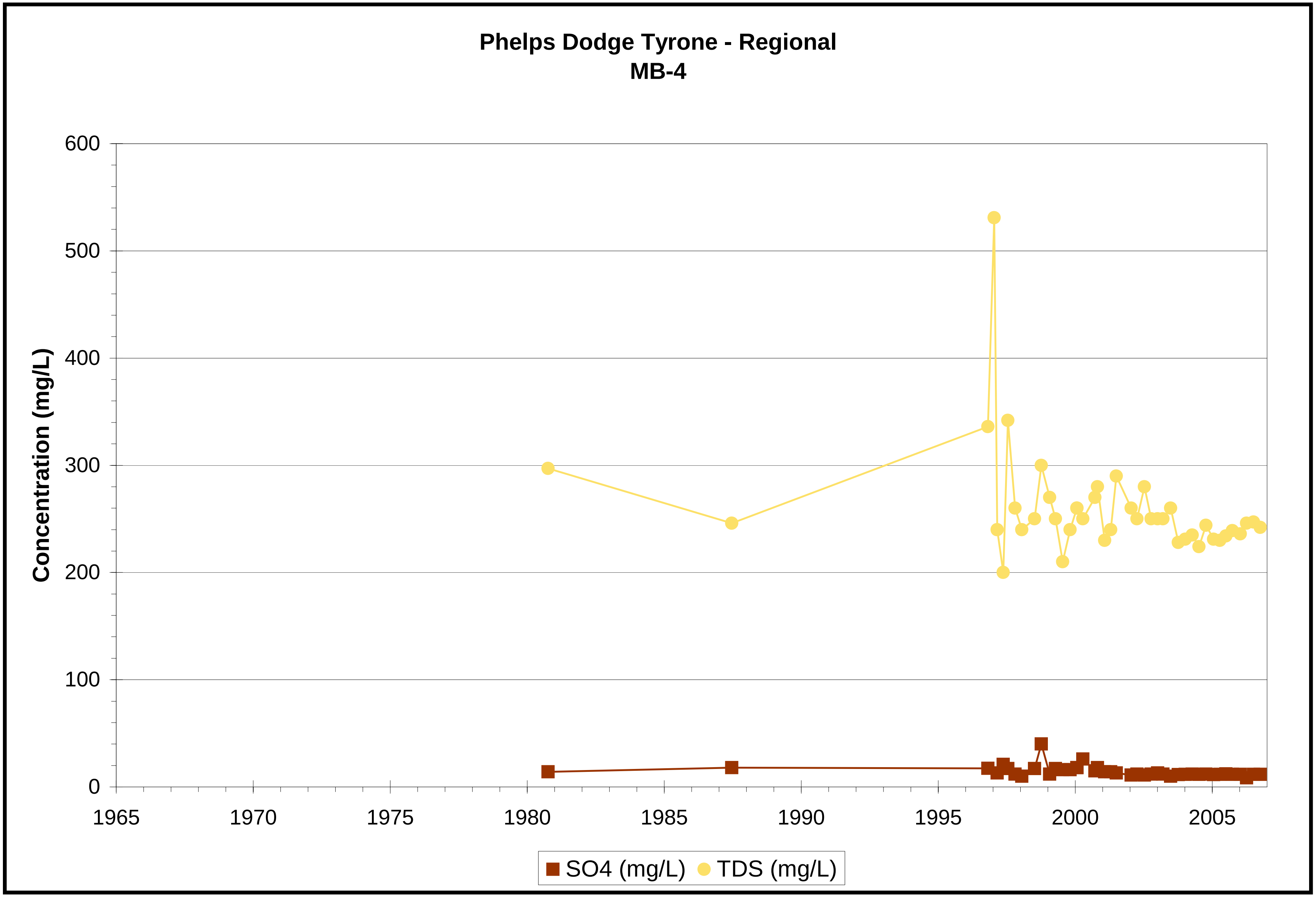


Phelps Dodge Tyrone - Regional
LRW-7
Concentration (mg/L)
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

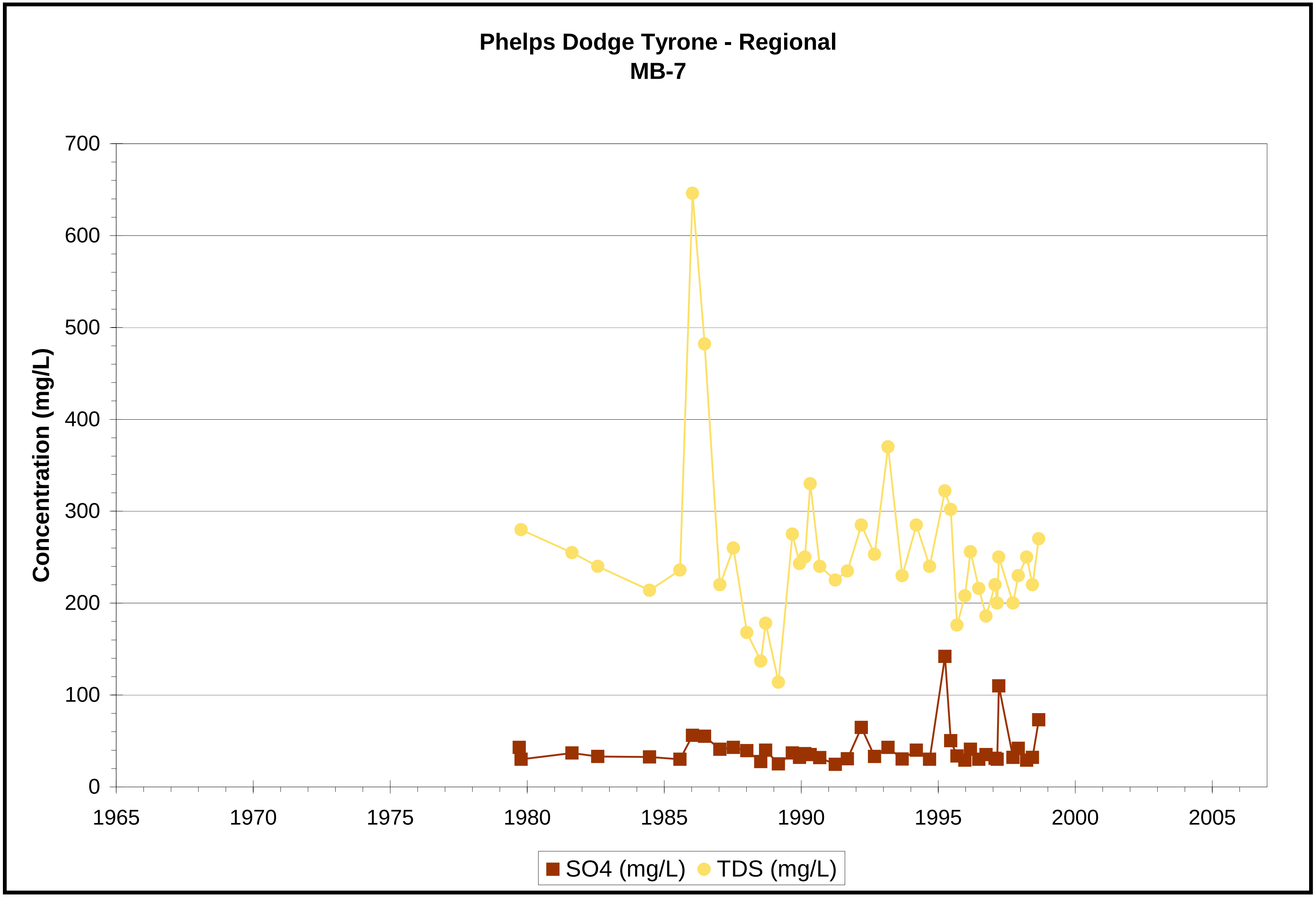


Phelps Dodge Tyrone - Regional
M-MP
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

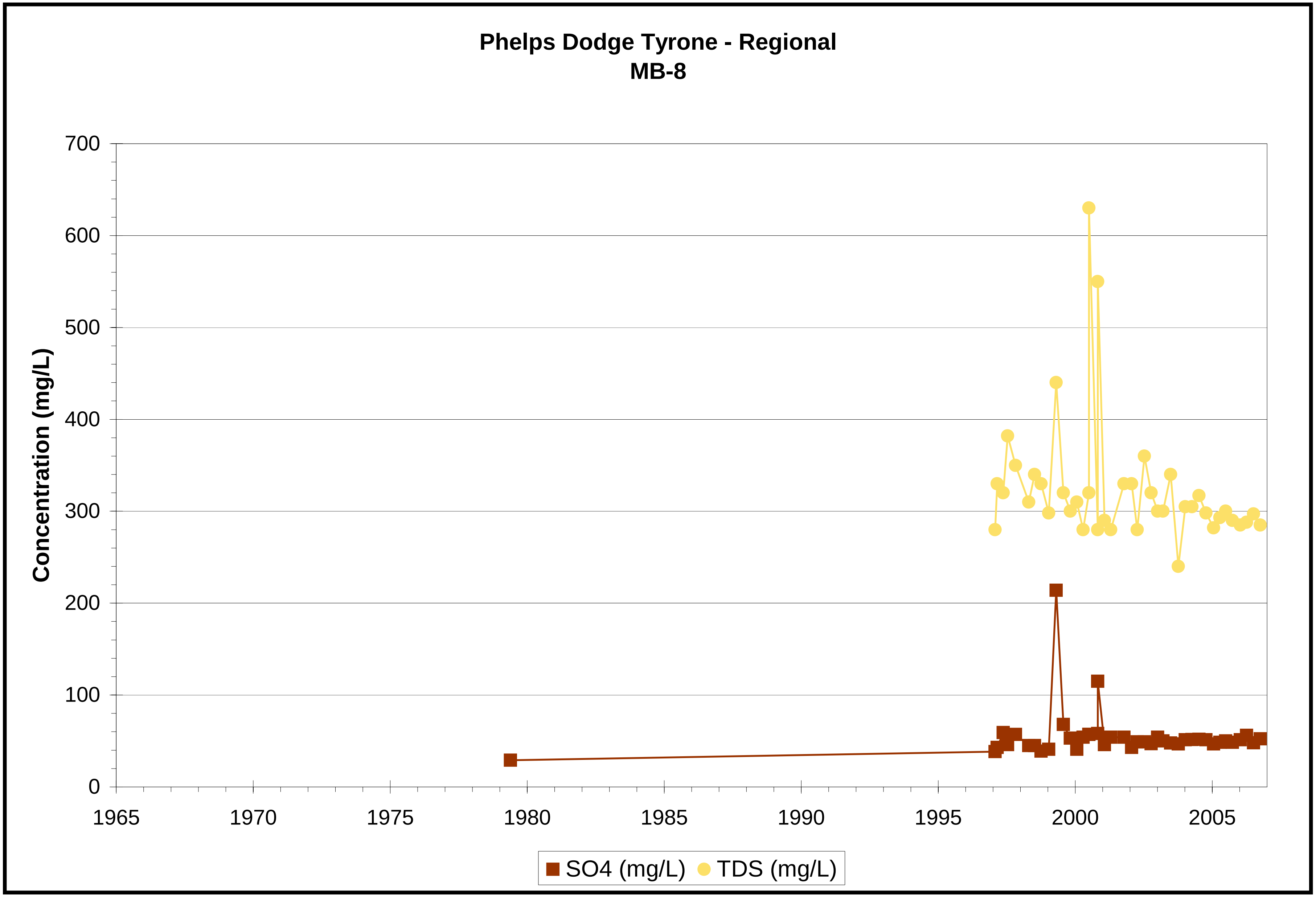

Phelps Dodge Tyrone - Regional
M-MPW
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



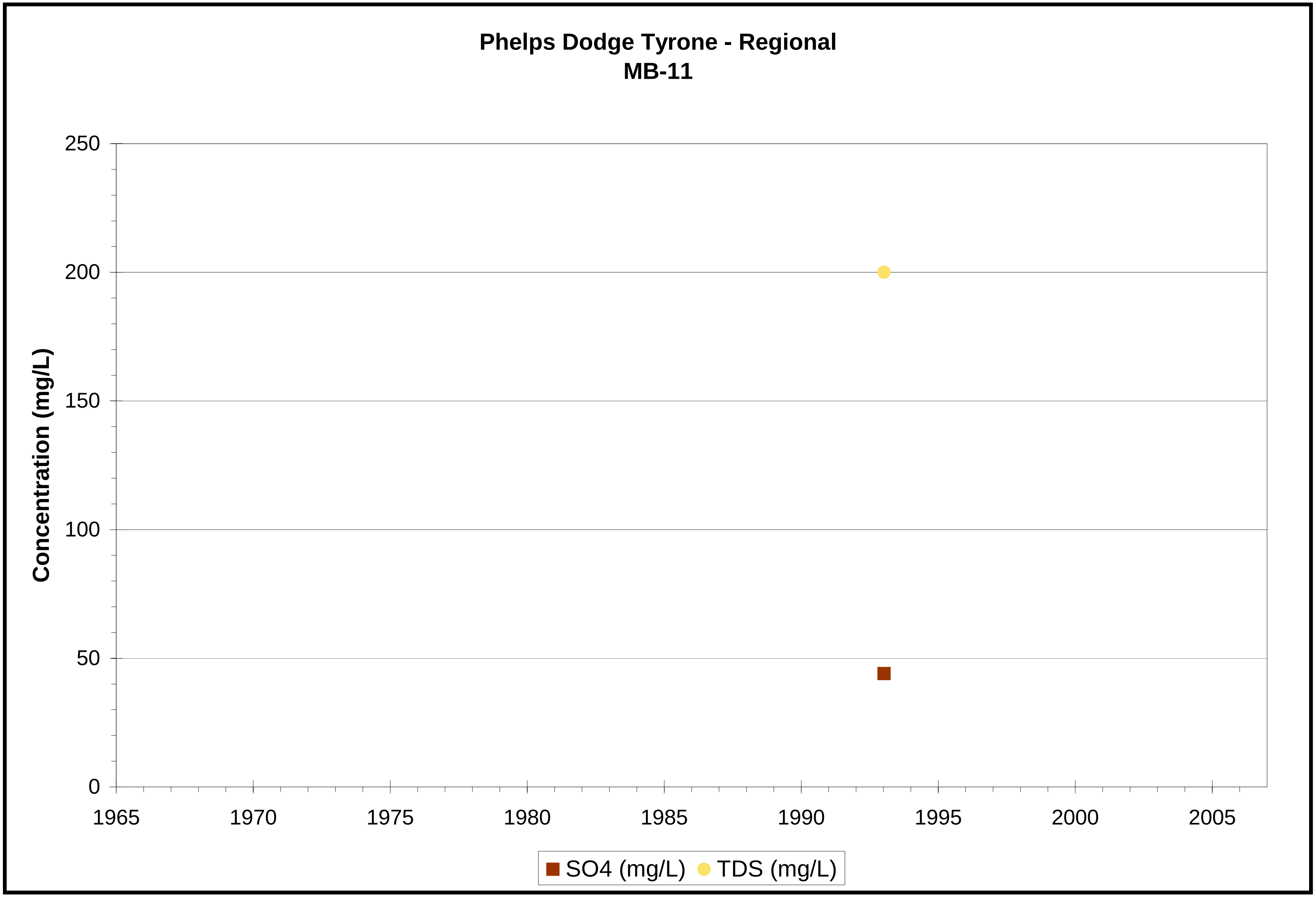
Phelps Dodge Tyrone - Regional
MB-4
Concentration (mg/L)
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



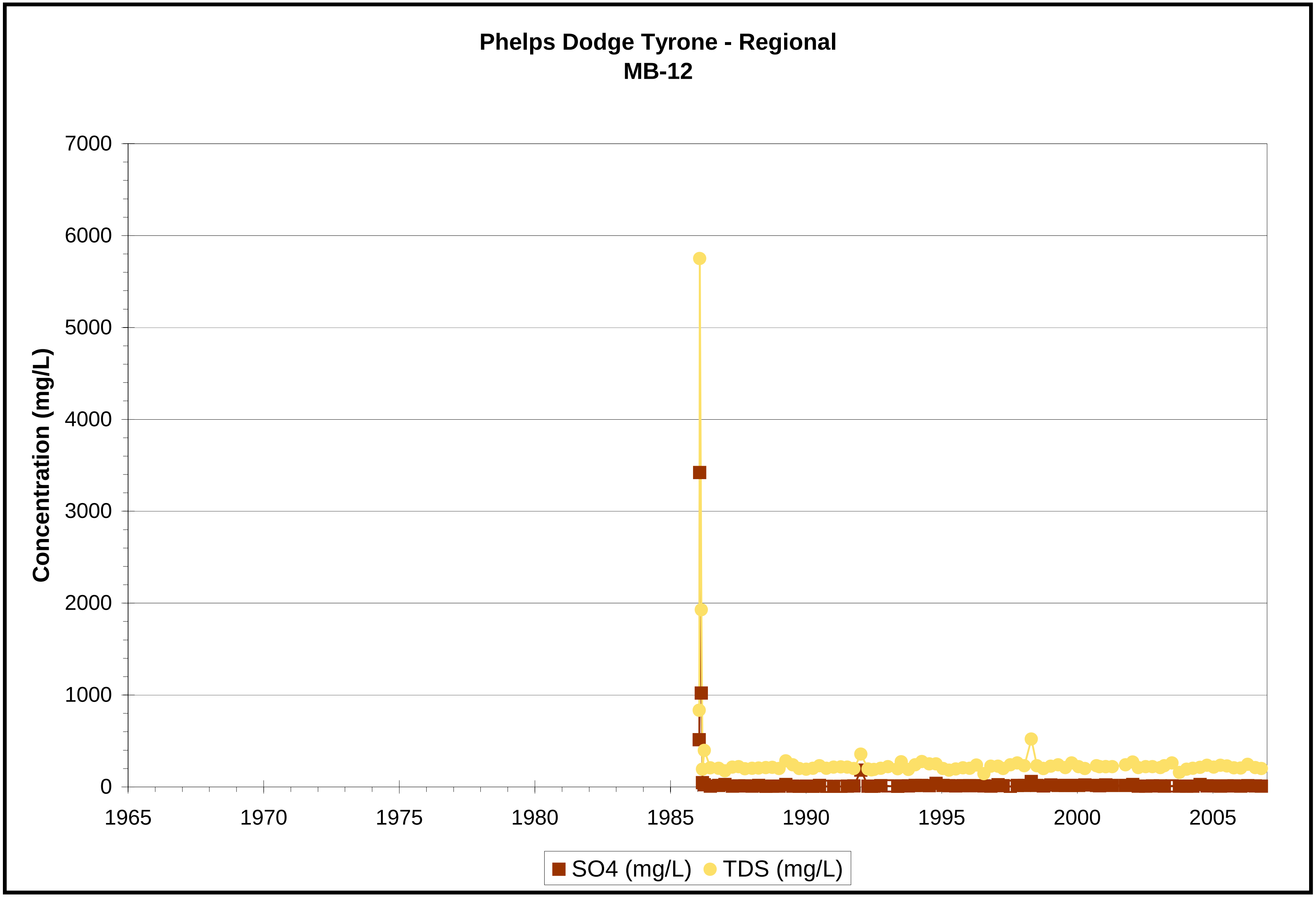
Phelps Dodge Tyrone - Regional
MB-7
Concentration (mg/L)
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



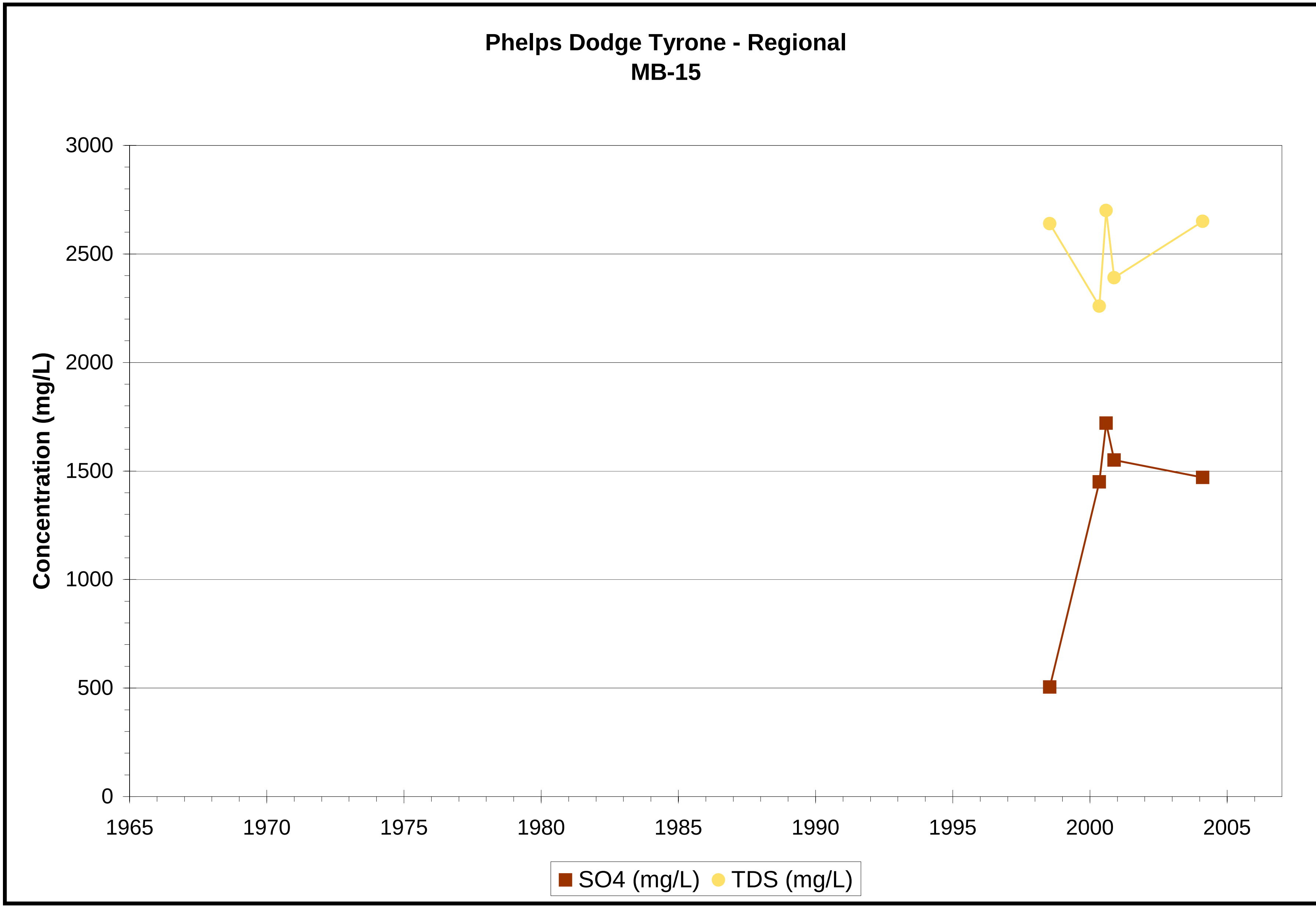
Phelps Dodge Tyrone - Regional
MB-8
Concentration (mg/L)
0
100
200
300
400
500
600
700
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



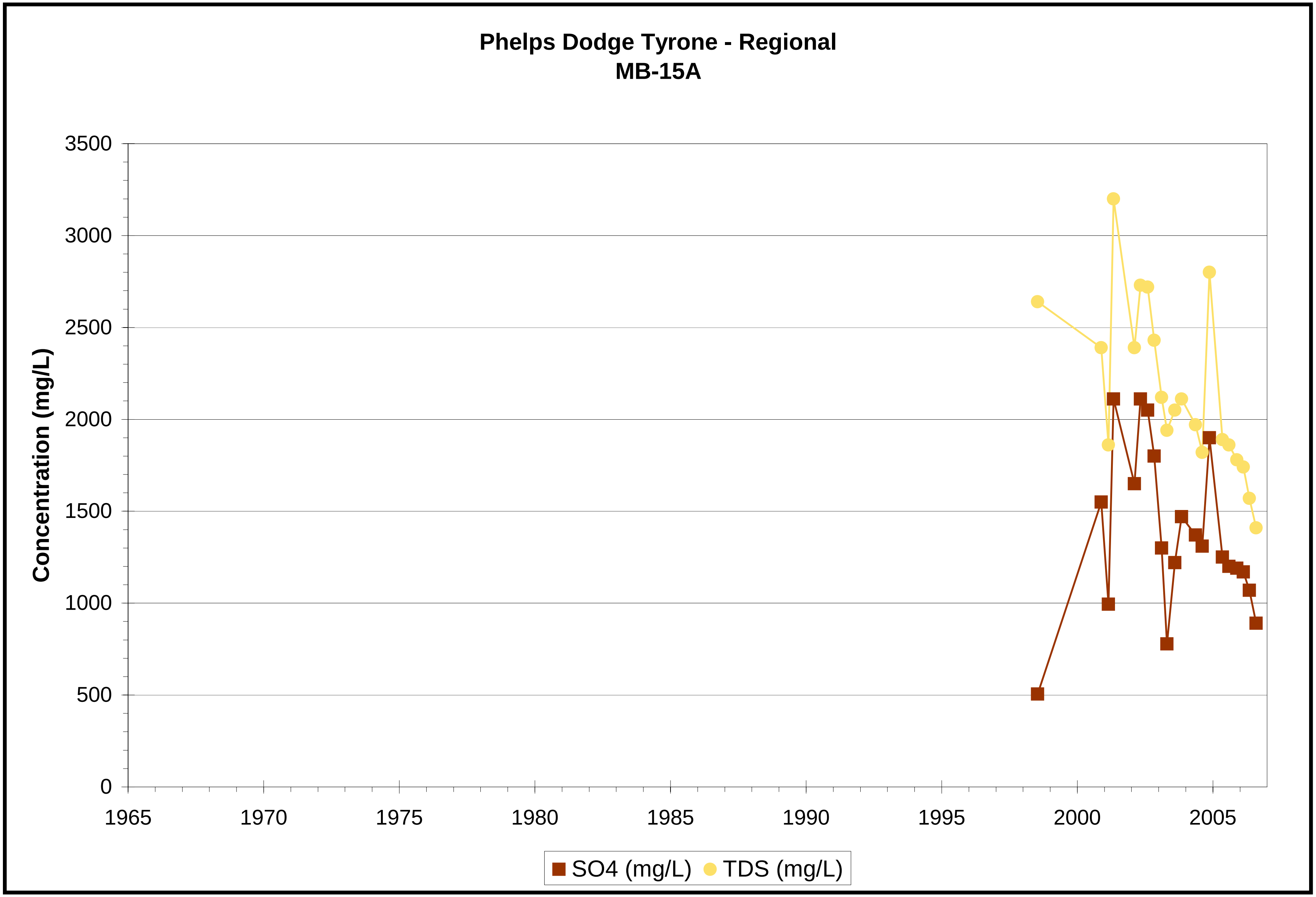
Phelps Dodge Tyrone - Regional
MB-11
Concentration (mg/L)
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



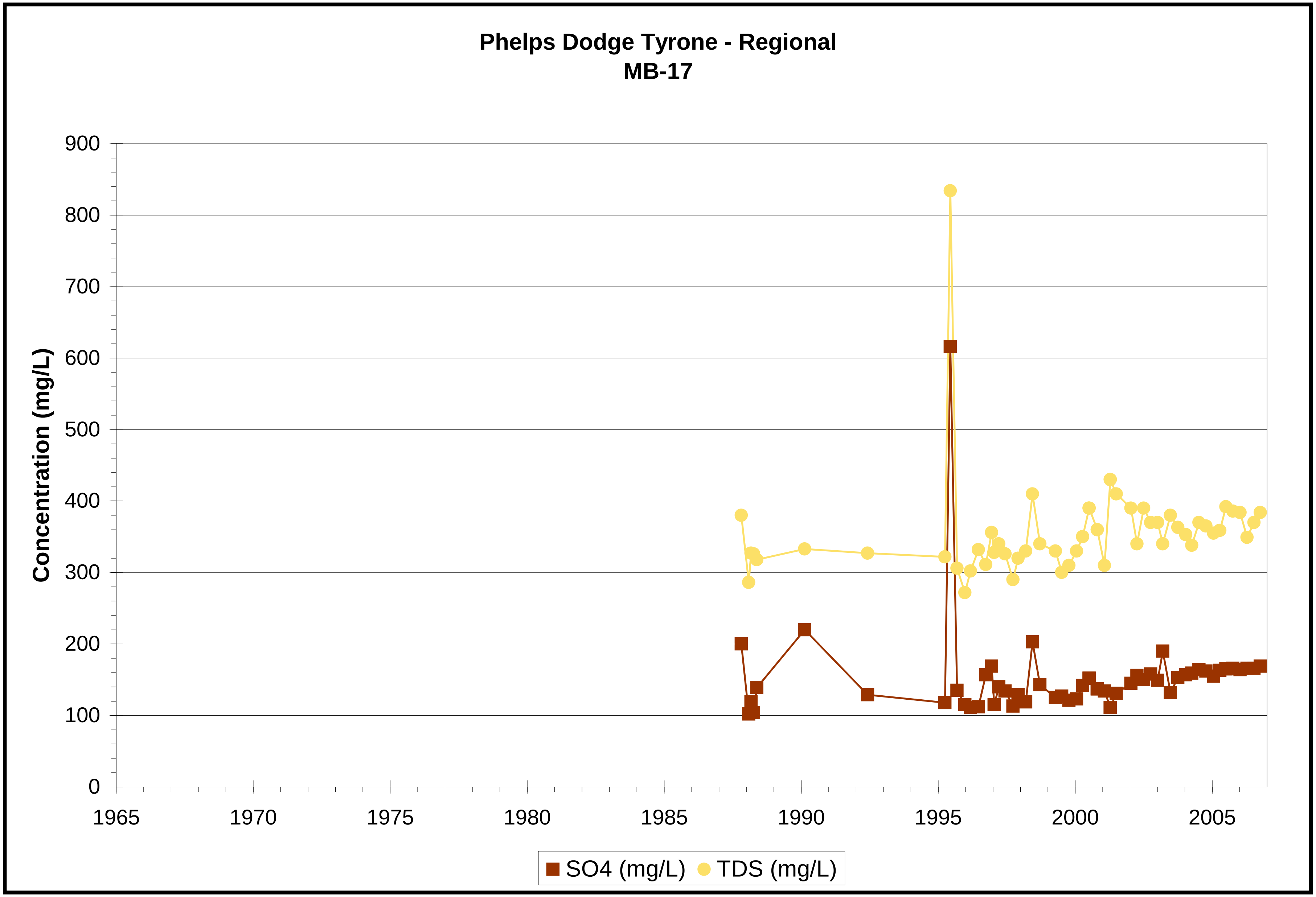
Phelps Dodge Tyrone - Regional
MB-12
Concentration (mg/L)
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



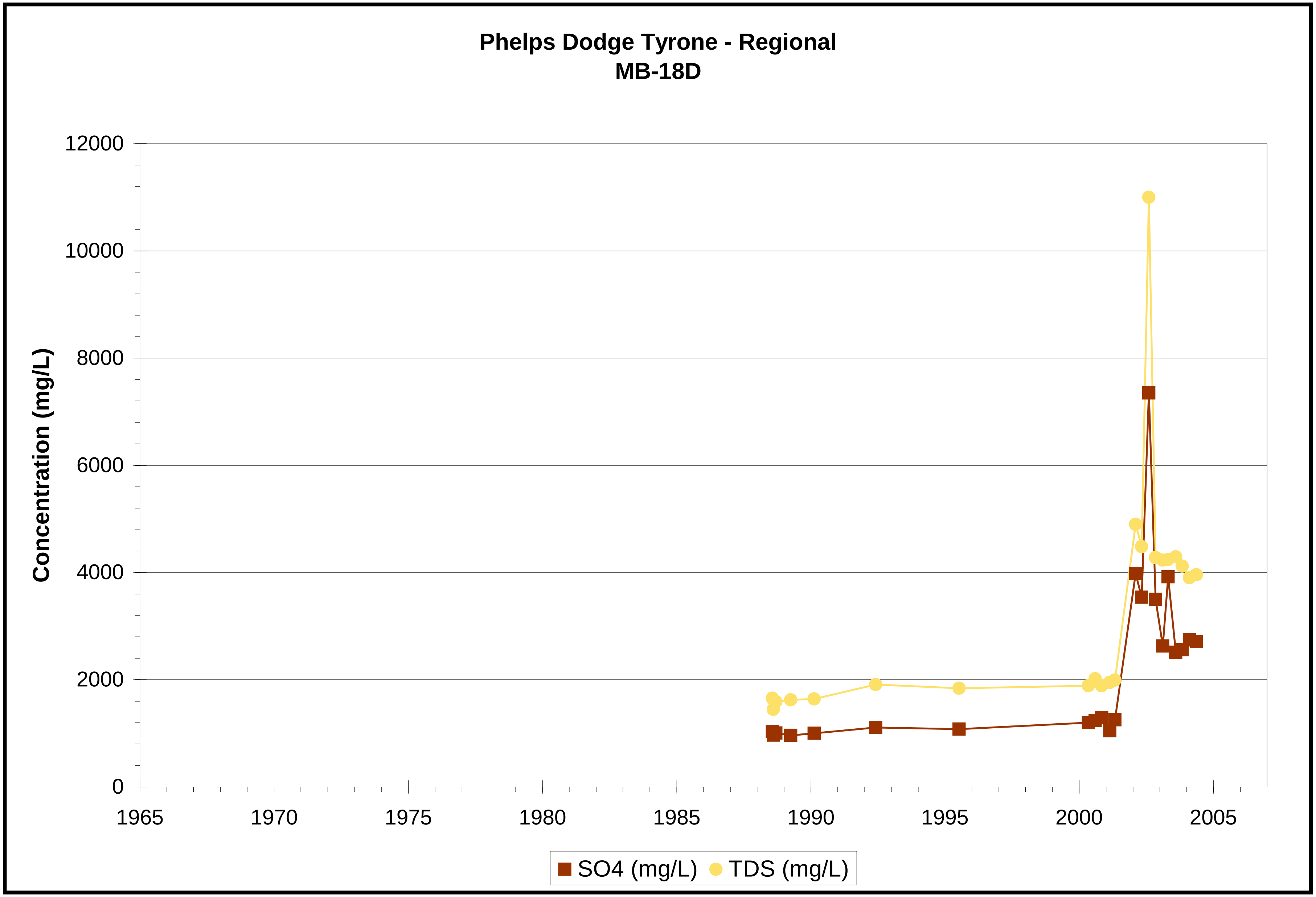
Phelps Dodge Tyrone - Regional
MB-15
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



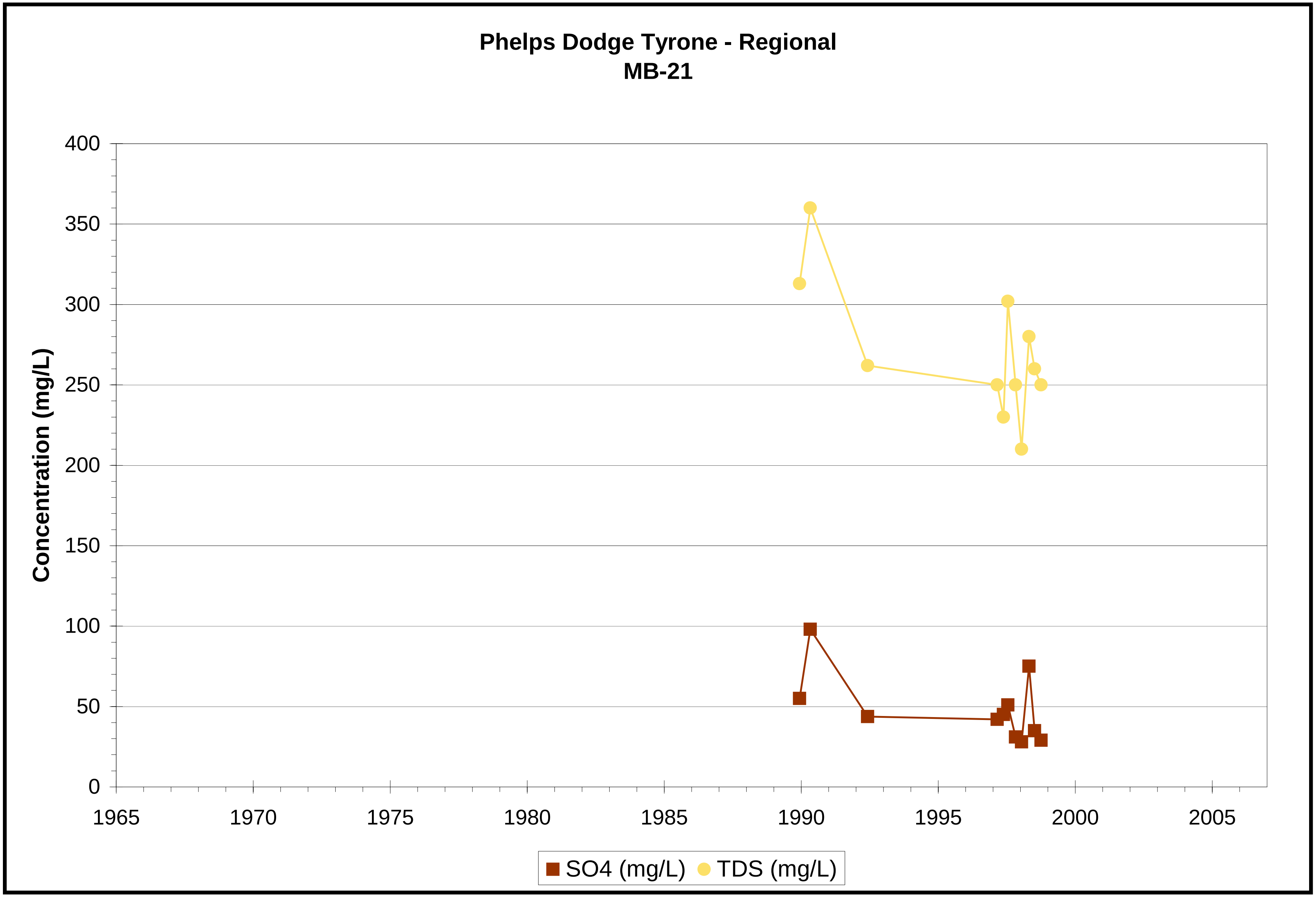
Phelps Dodge Tyrone - Regional
MB-15A
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

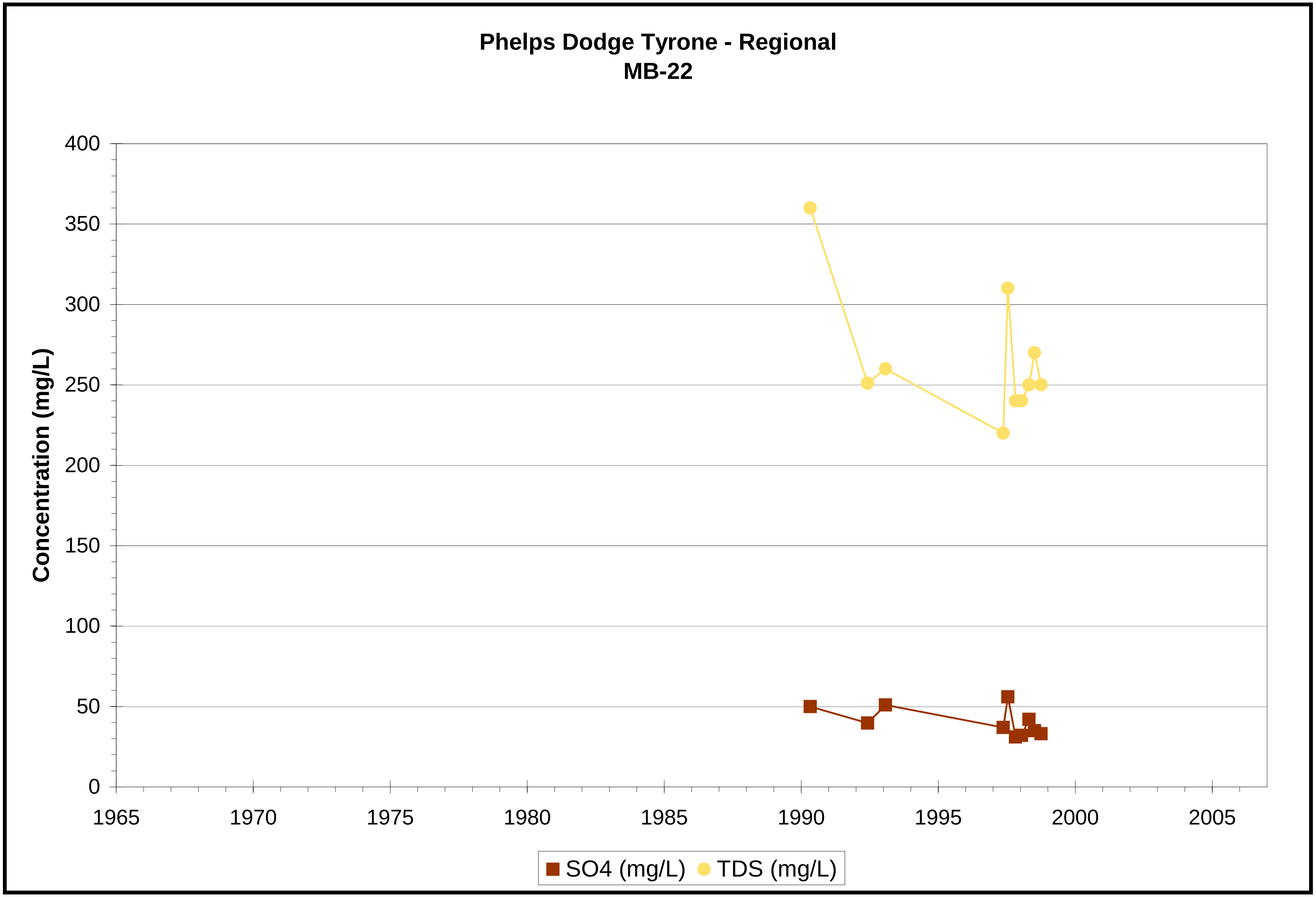


Phelps Dodge Tyrone - Regional
MB-17
Concentration (mg/L)
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

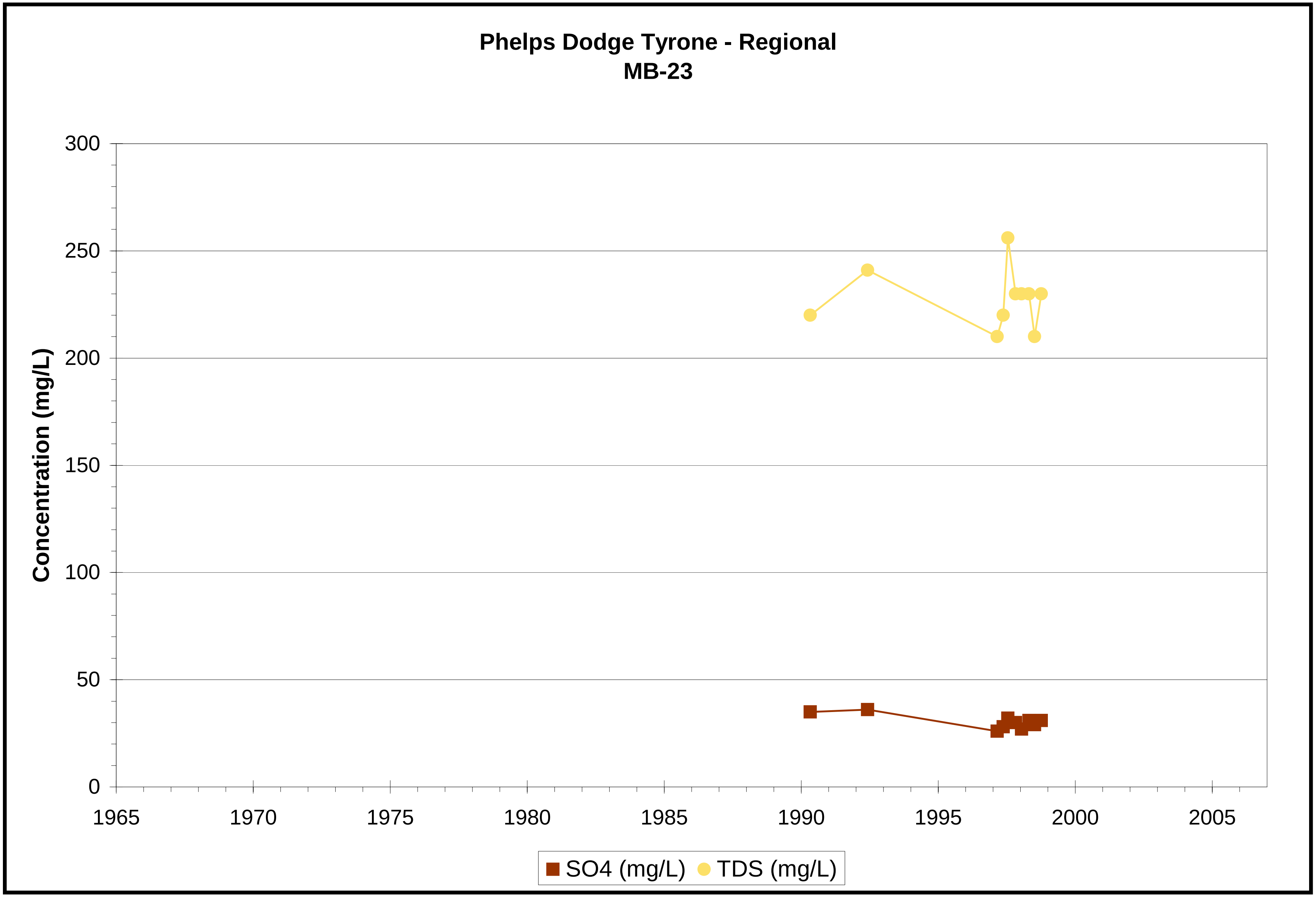


Phelps Dodge Tyrone - Regional
MB-18D
Concentration (mg/L)
0
2000
4000
6000
8000
10000
12000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

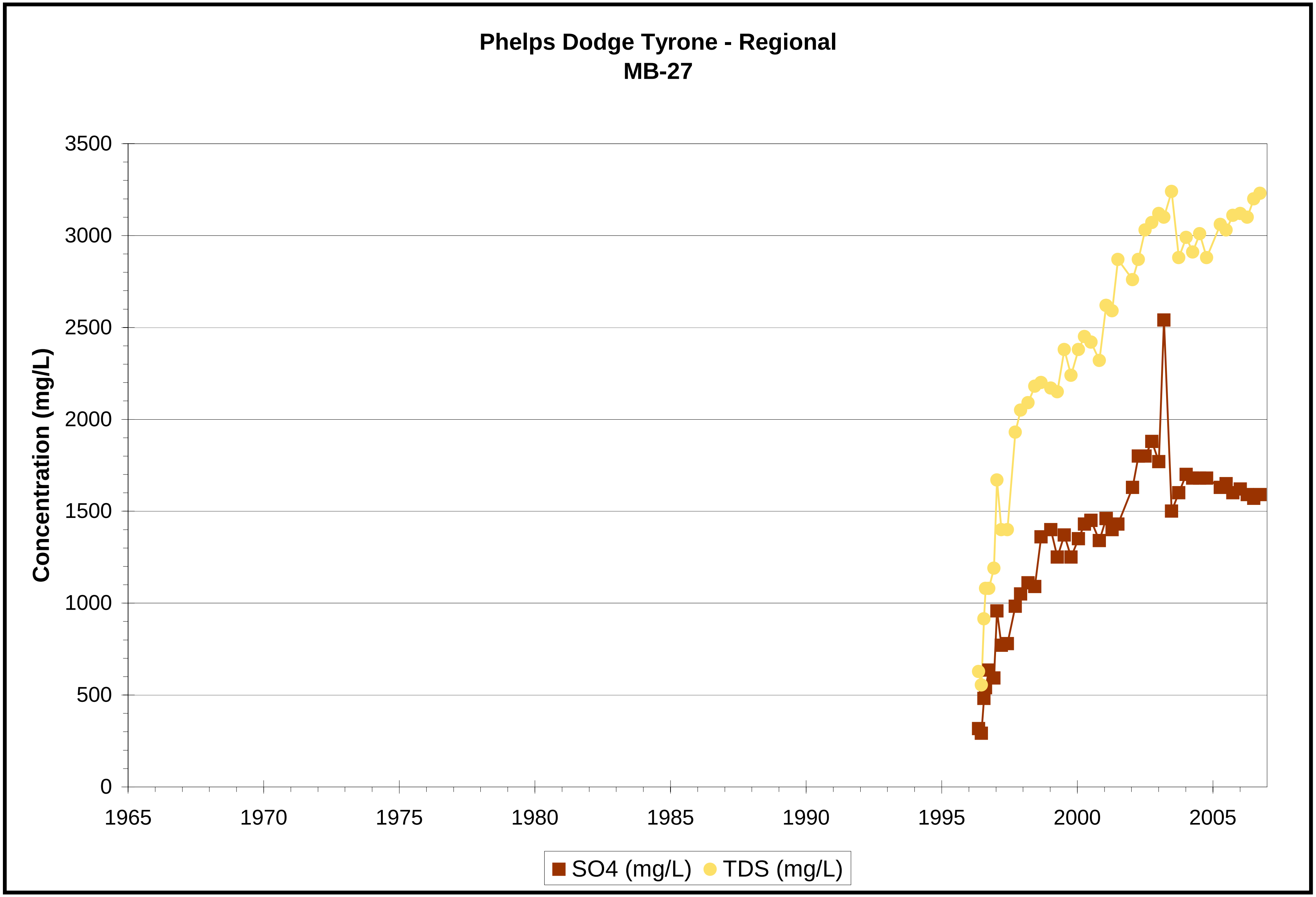

Phelps Dodge Tyrone - Regional
MB-21
Concentration (mg/L)
0
50
100
150
200
250
300
350
400
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



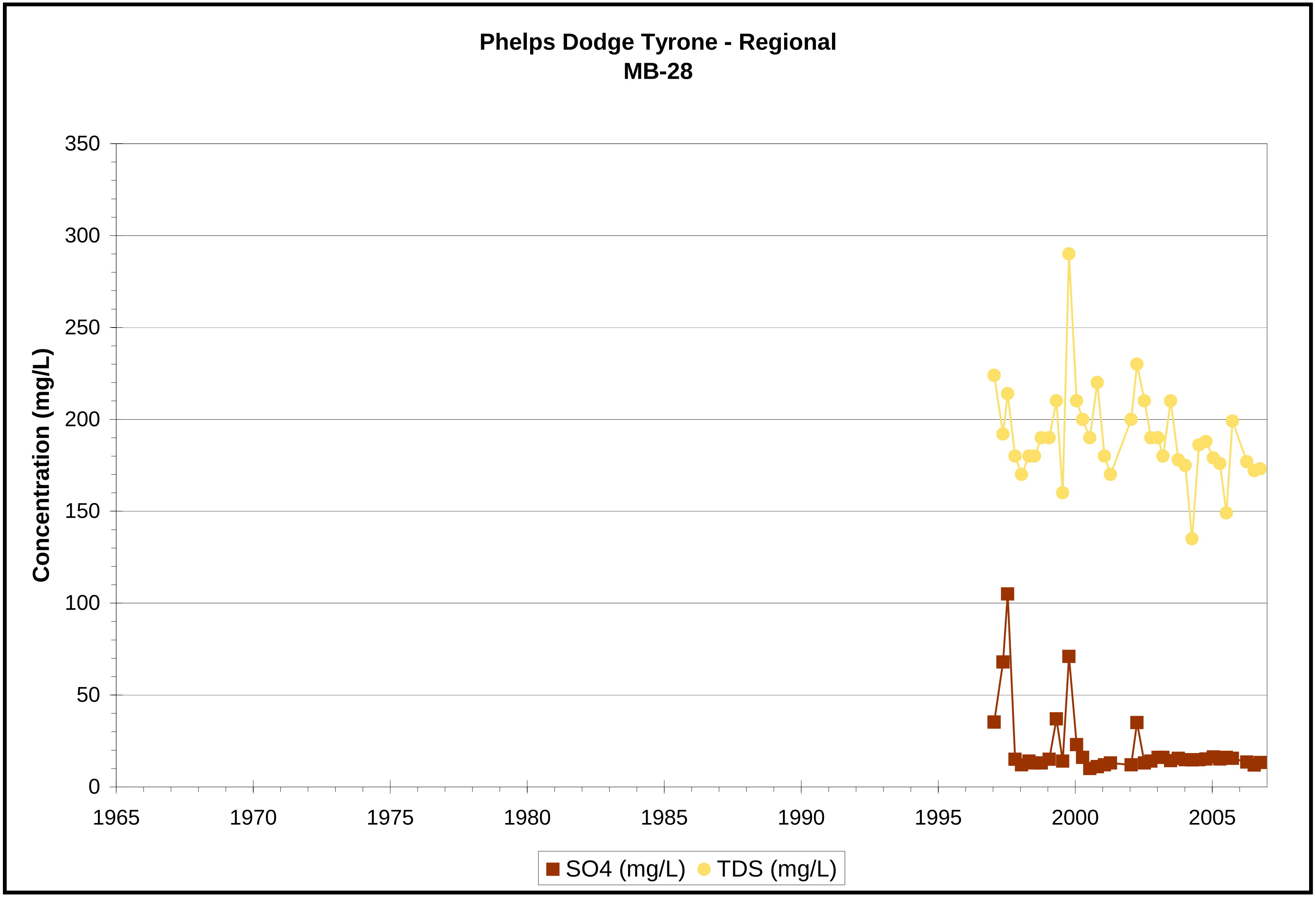
Phelps Dodge Tyrone - Regional
MB-22
Concentration (mg/L)
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

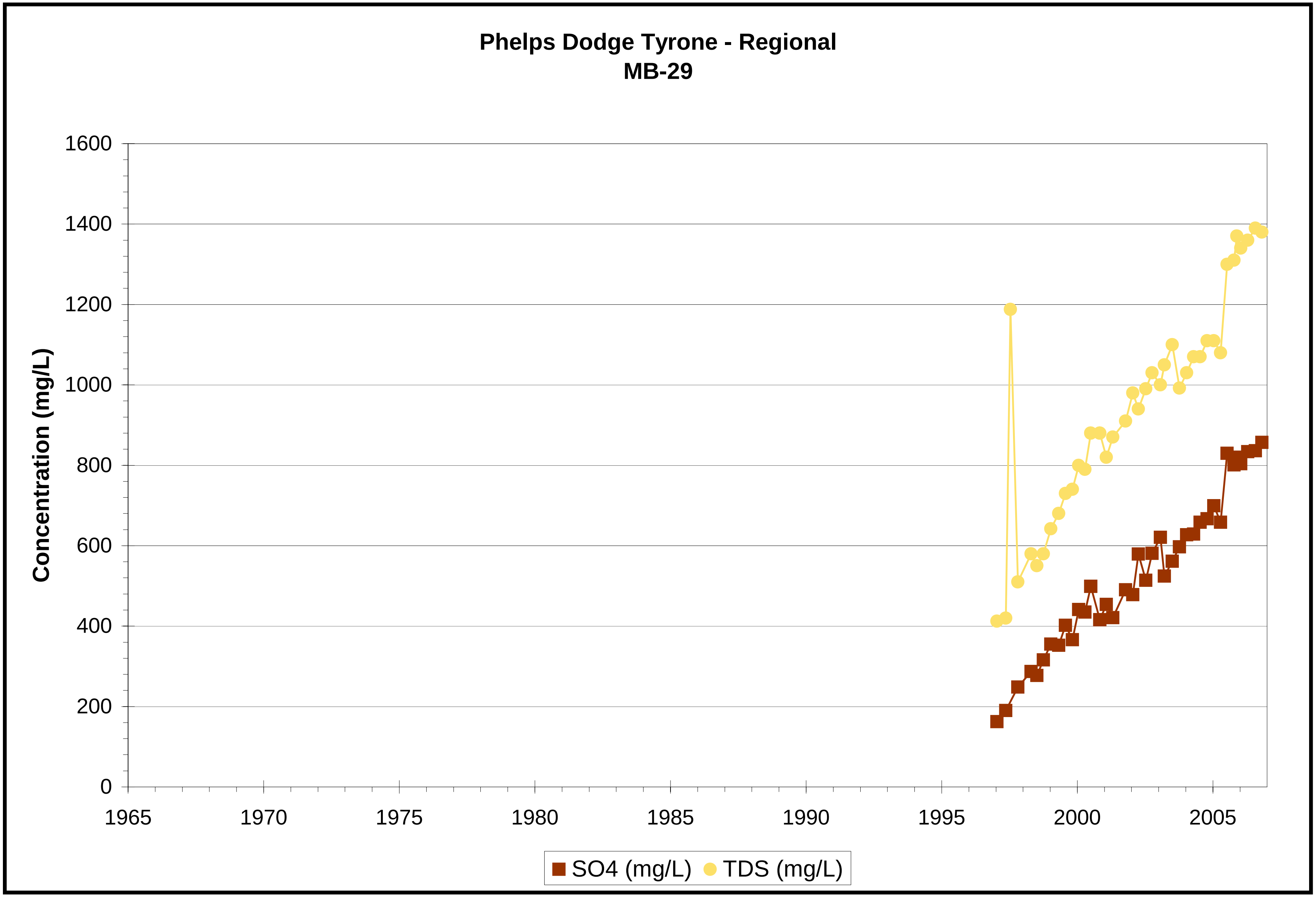


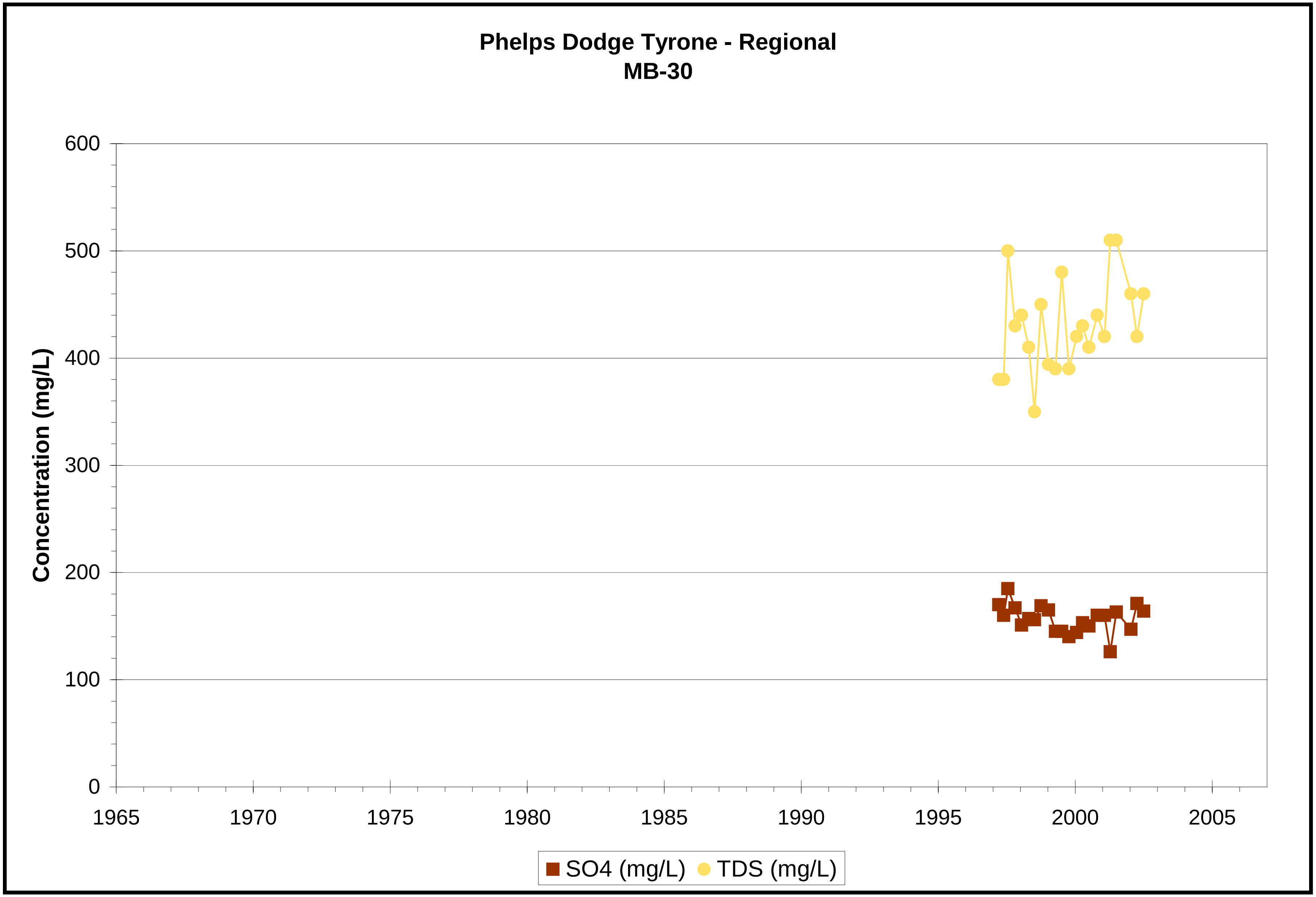
Phelps Dodge Tyrone - Regional
MB-23
Concentration (mg/L)
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

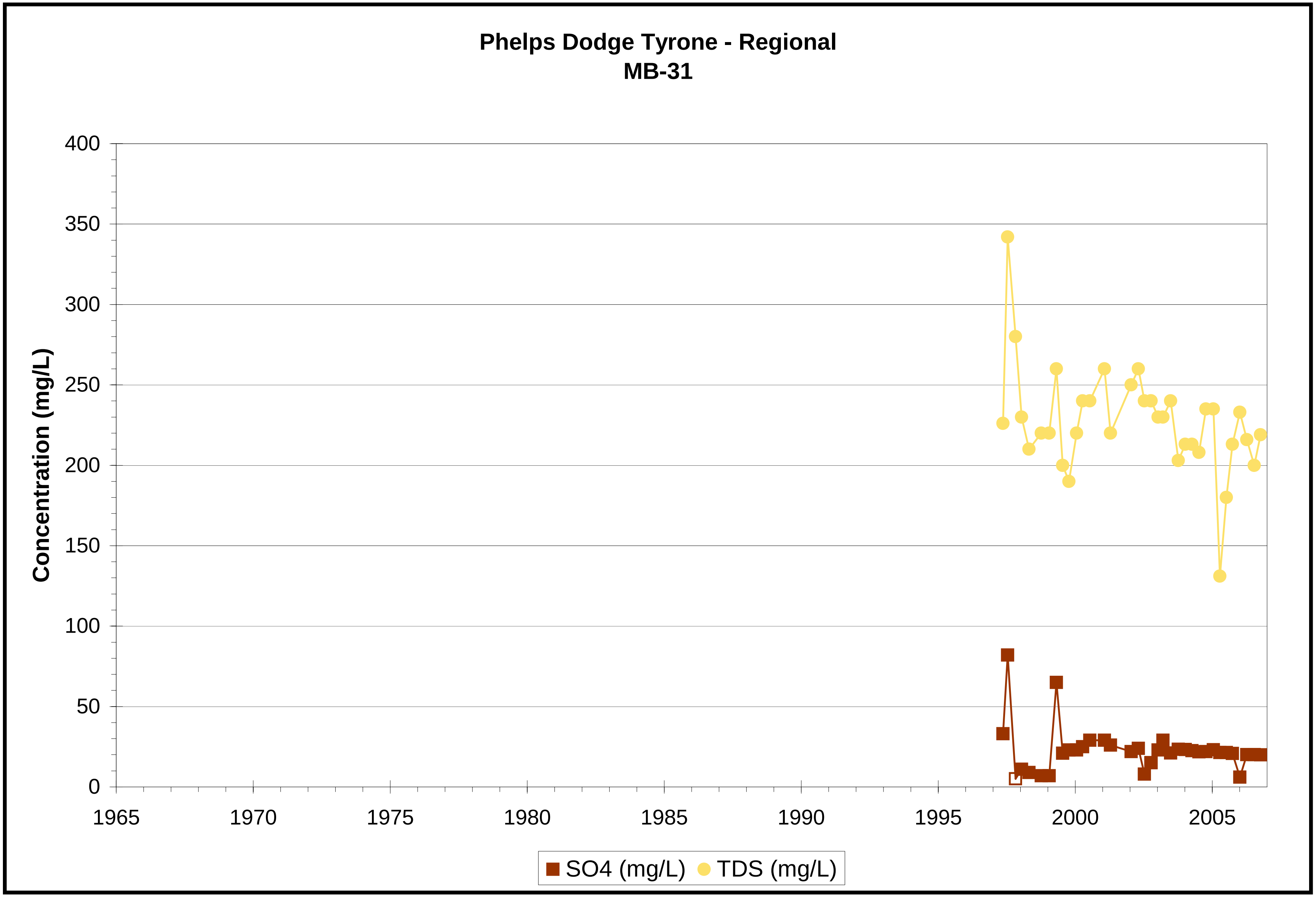


Phelps Dodge Tyrone - Regional
MB-27
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

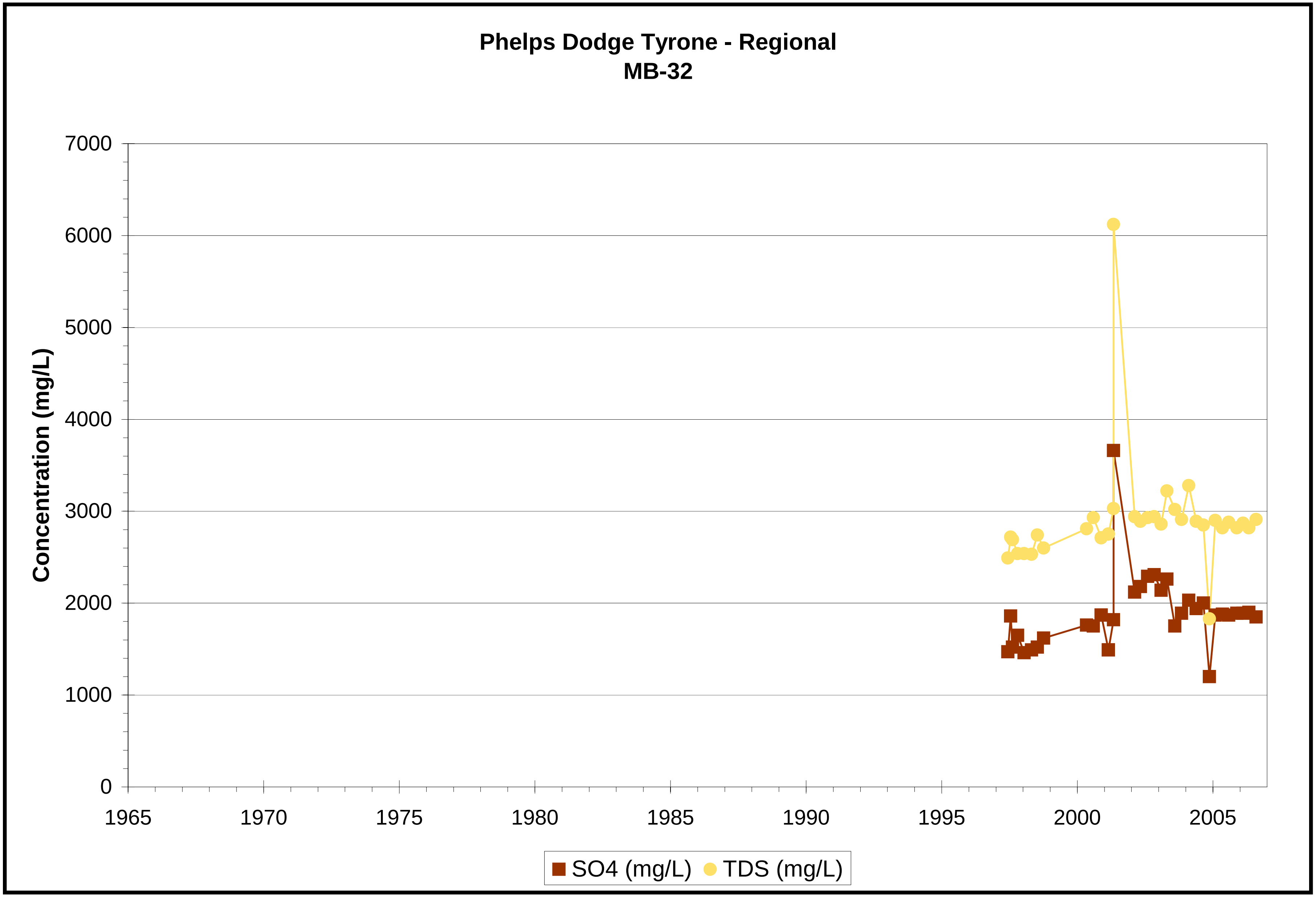

Phelps Dodge Tyrone - Regional
MB-28
Concentration (mg/L)
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
MB-29
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

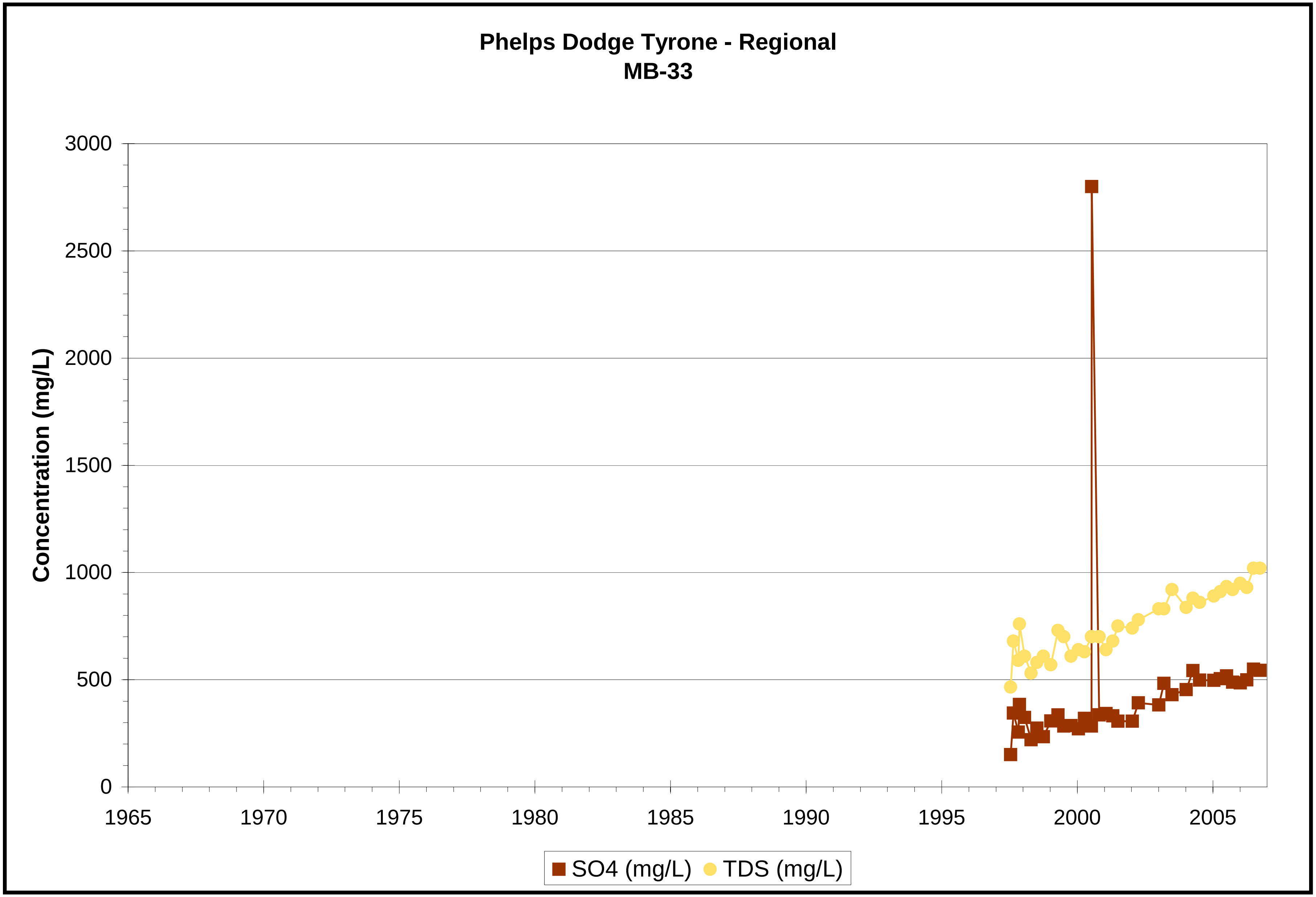

Phelps Dodge Tyrone - Regional
MB-30
Concentration (mg/L)
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



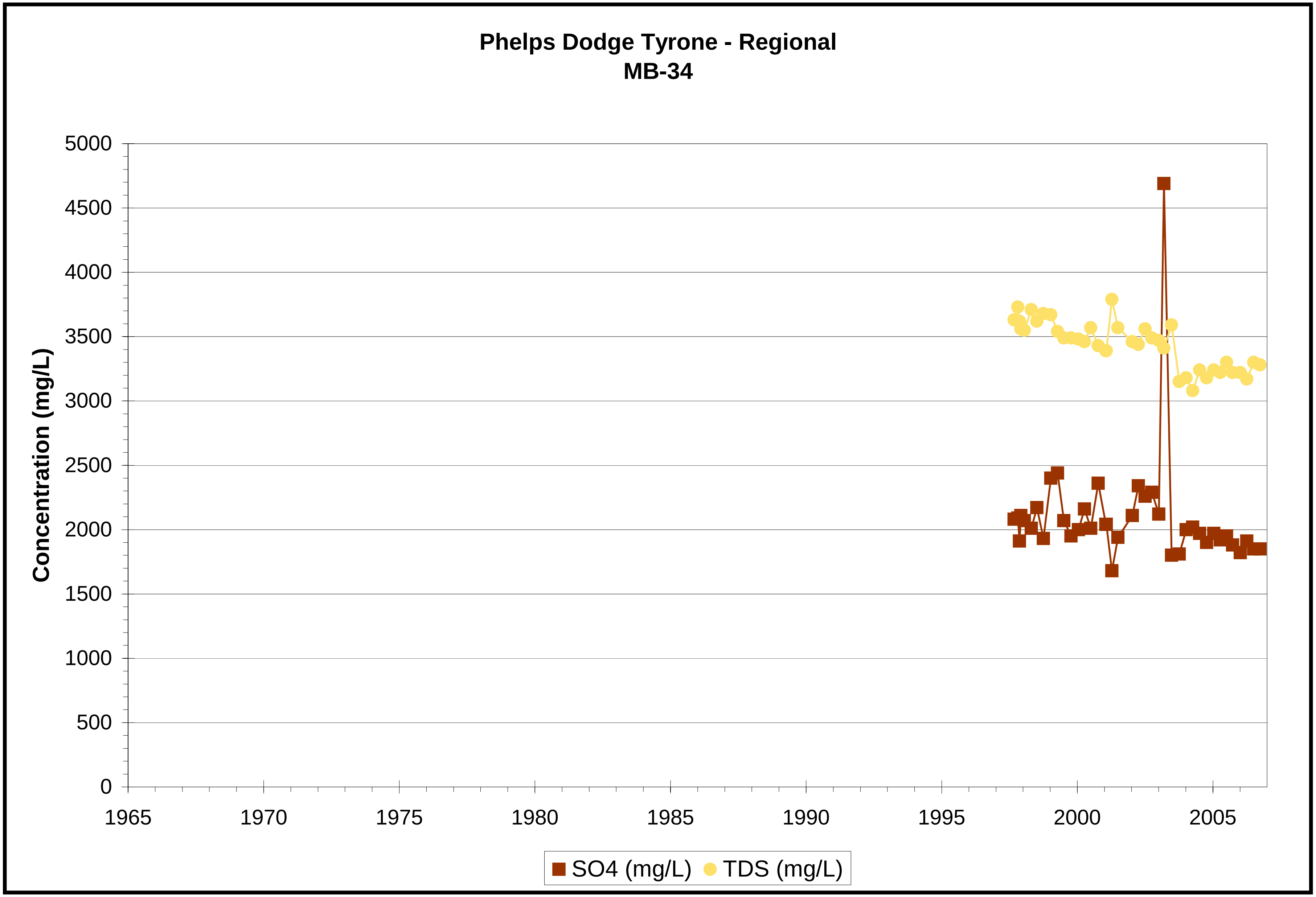
Phelps Dodge Tyrone - Regional
MB-31
Concentration (mg/L)
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



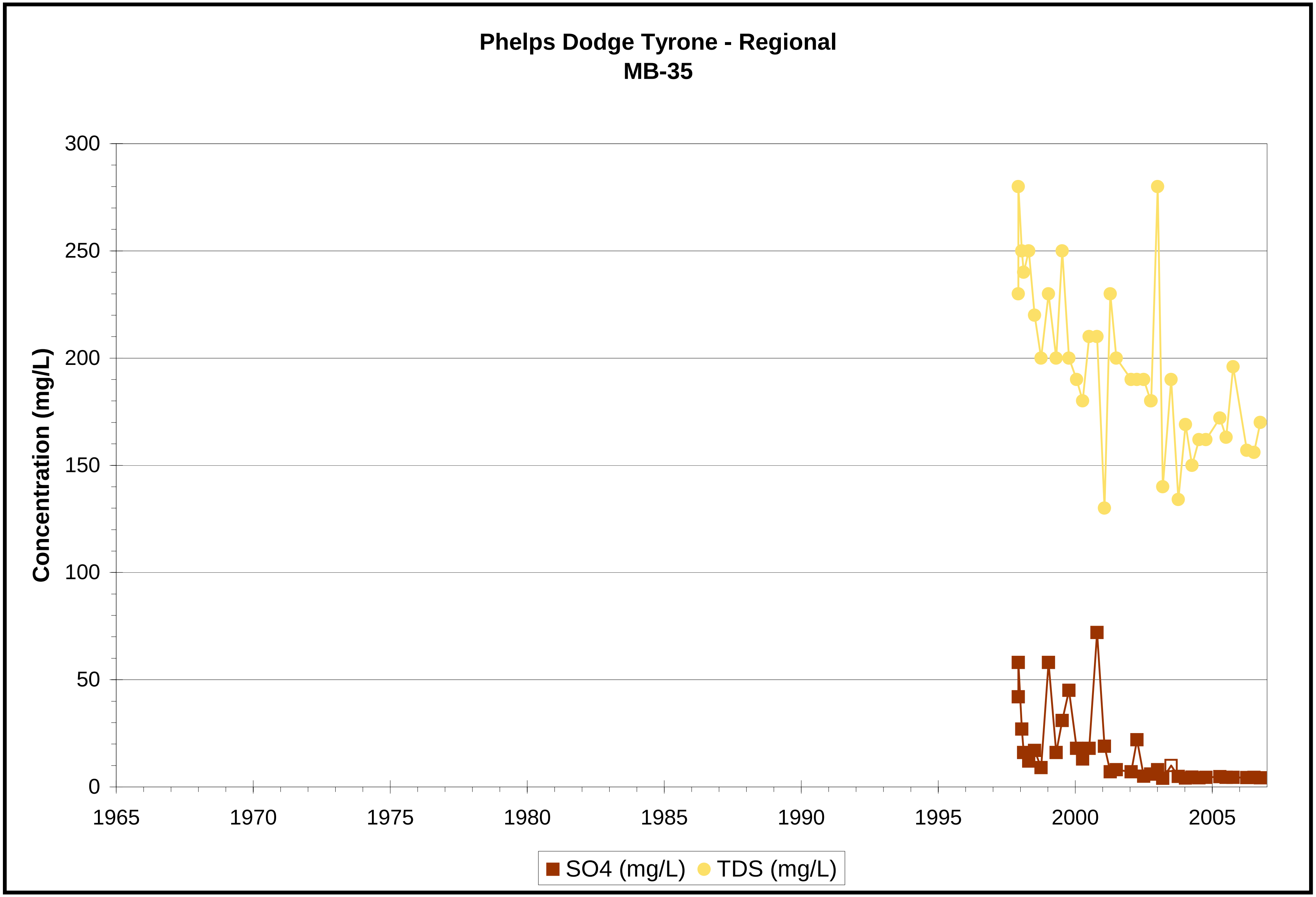
Phelps Dodge Tyrone - Regional
MB-32
Concentration (mg/L)
0
1000
2000
3000
4000
5000
6000
7000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



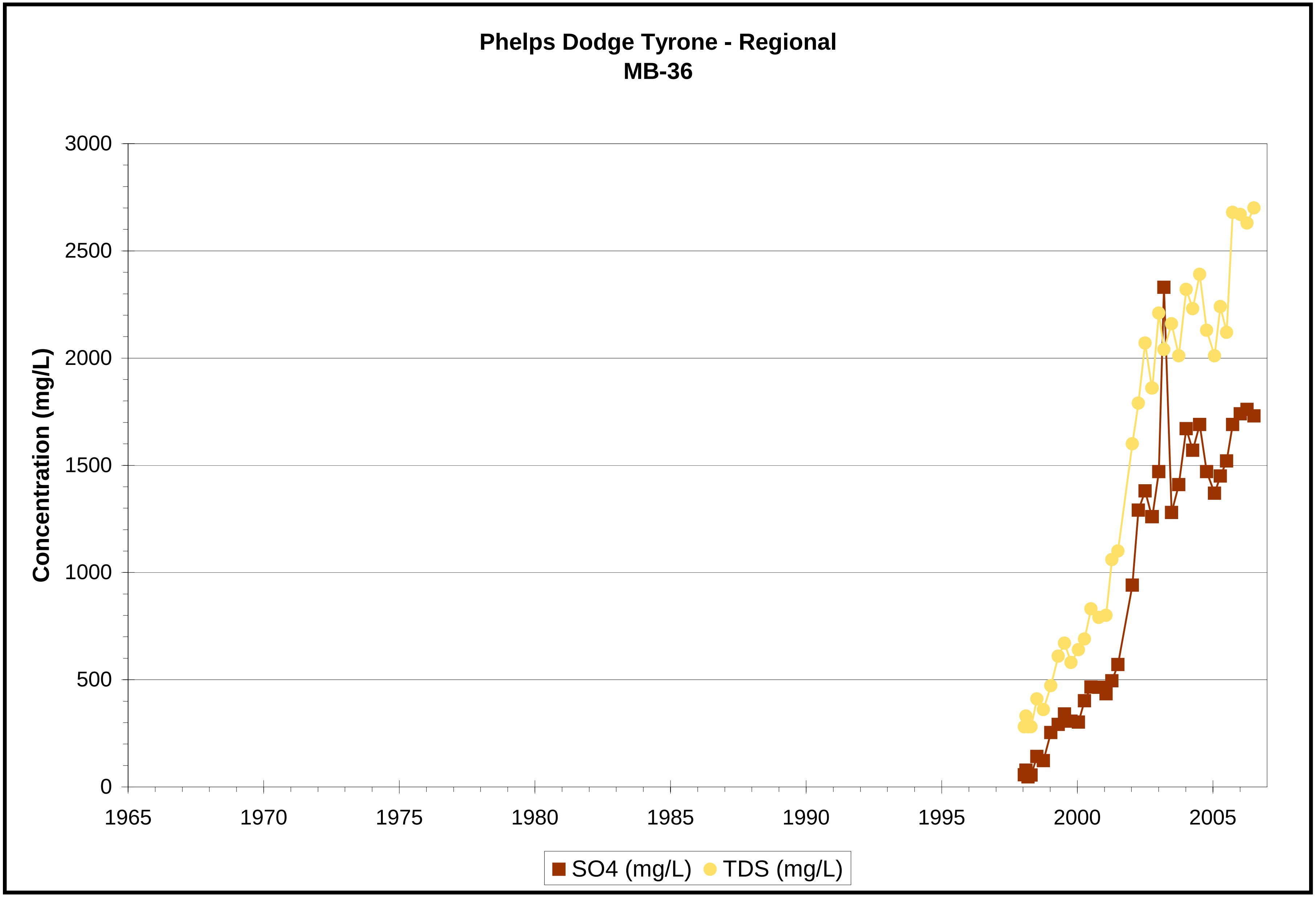
Phelps Dodge Tyrone - Regional
MB-33
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



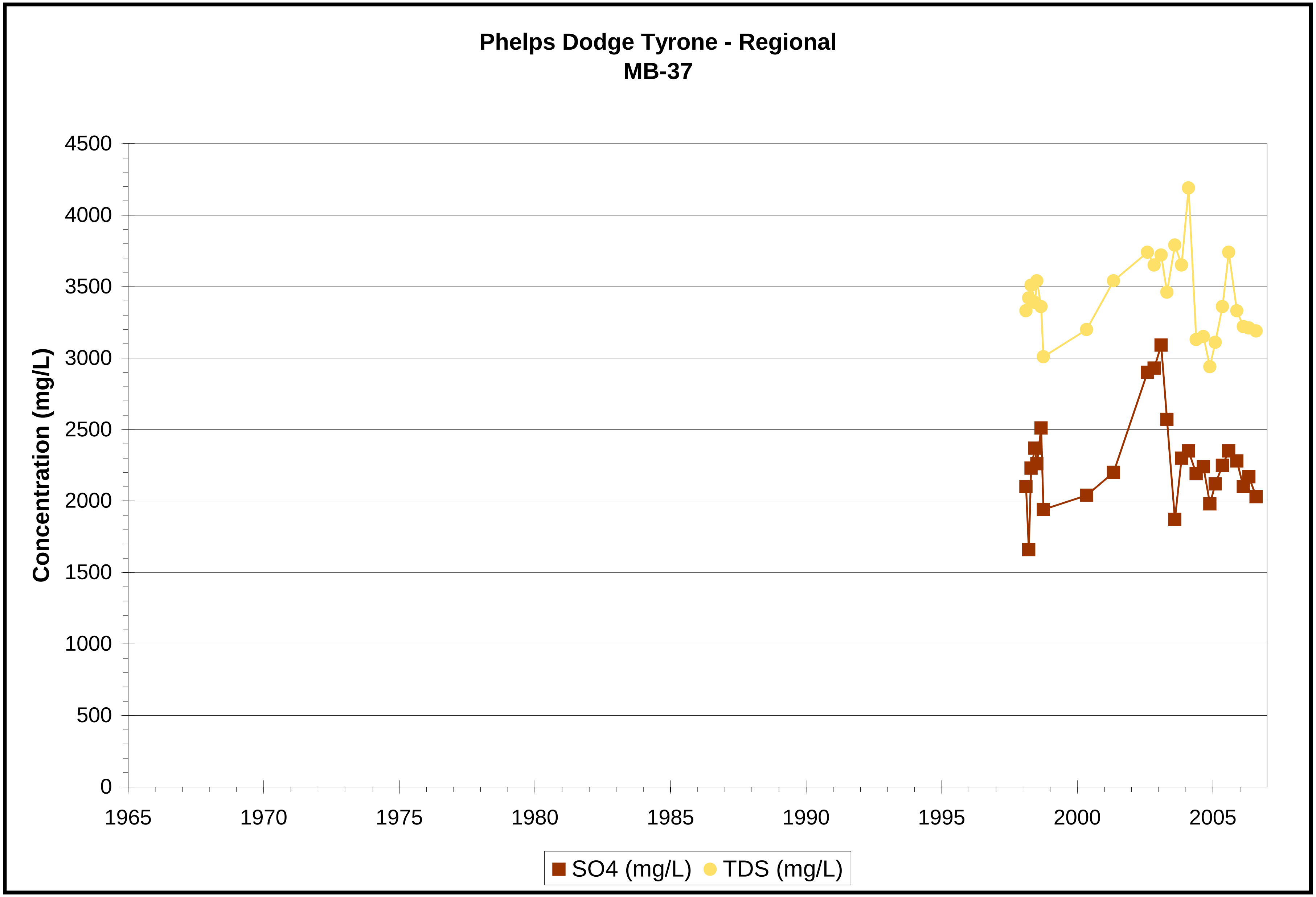
Phelps Dodge Tyrone - Regional
MB-34
Concentration (mg/L)
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



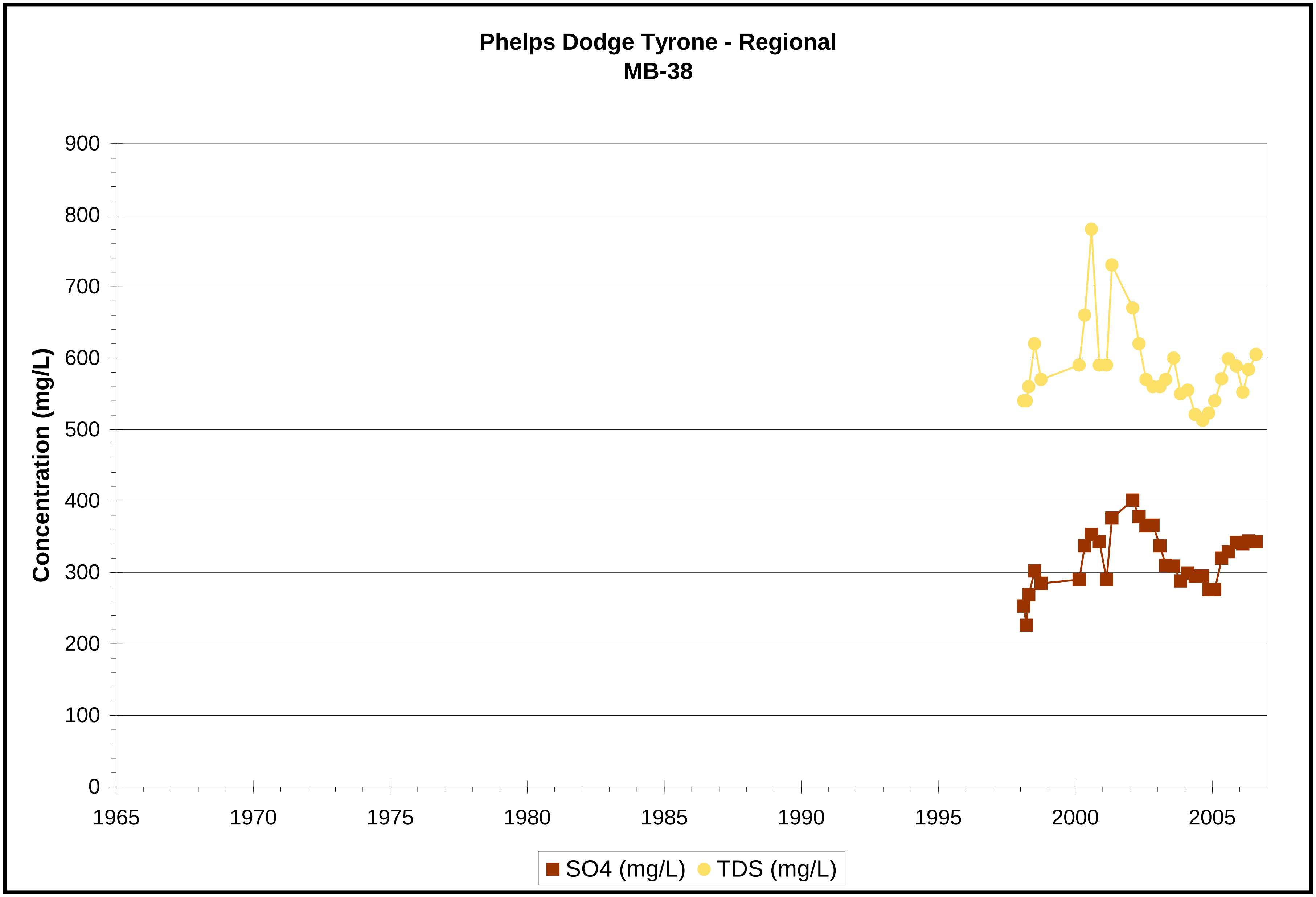
Phelps Dodge Tyrone - Regional
MB-35
Concentration (mg/L)
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



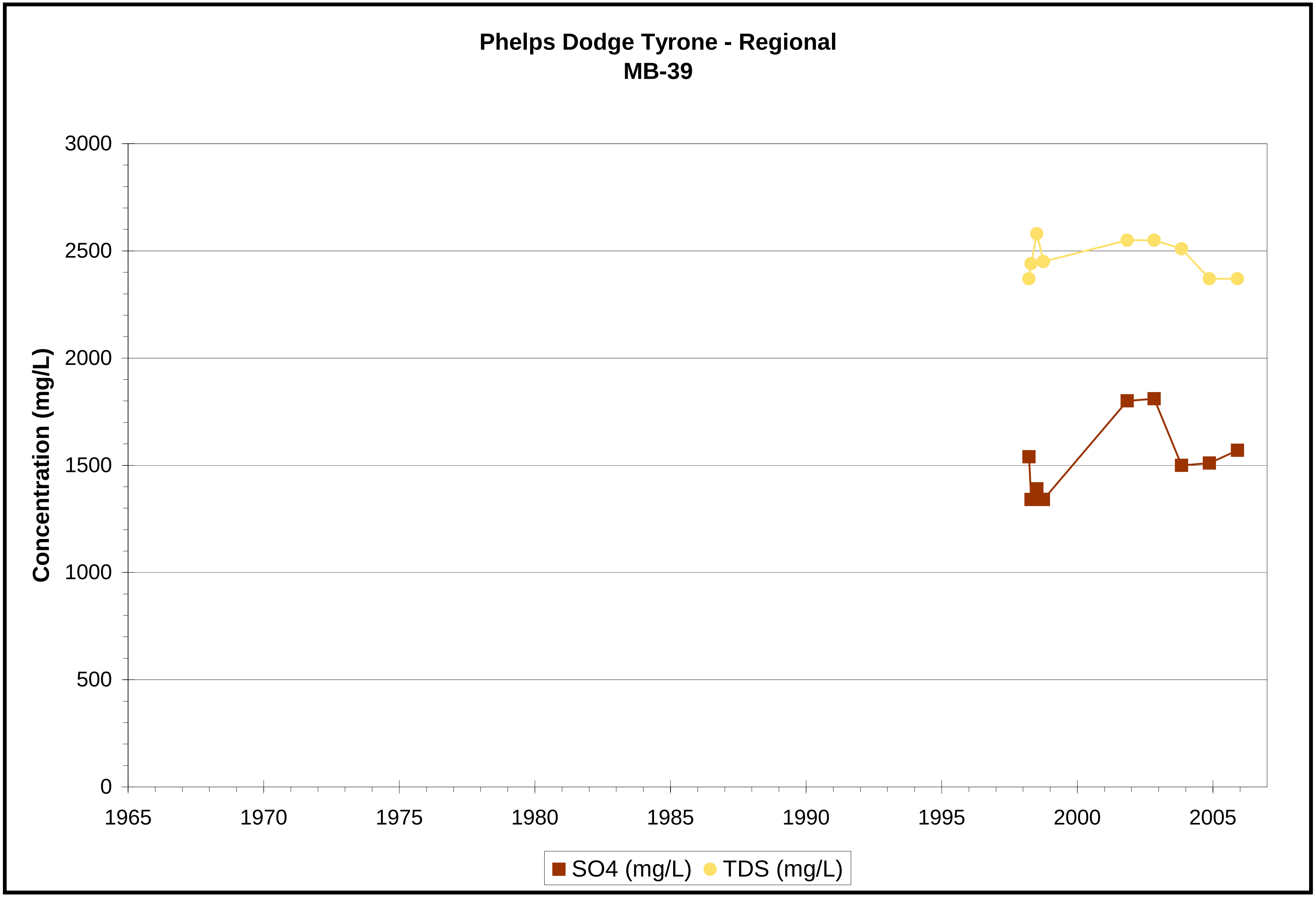
Phelps Dodge Tyrone - Regional
MB-36
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



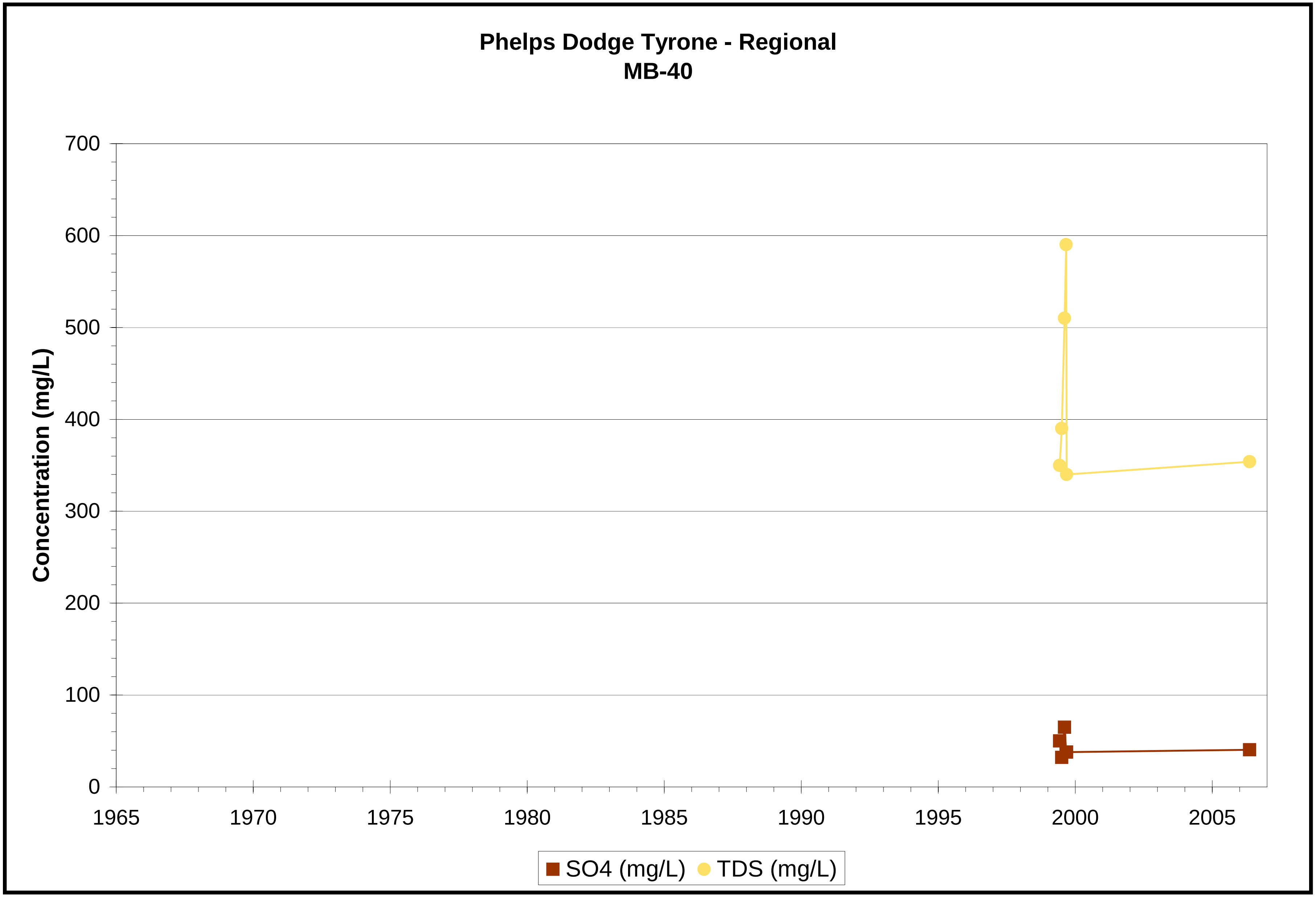
Phelps Dodge Tyrone - Regional
MB-37
Concentration (mg/L)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



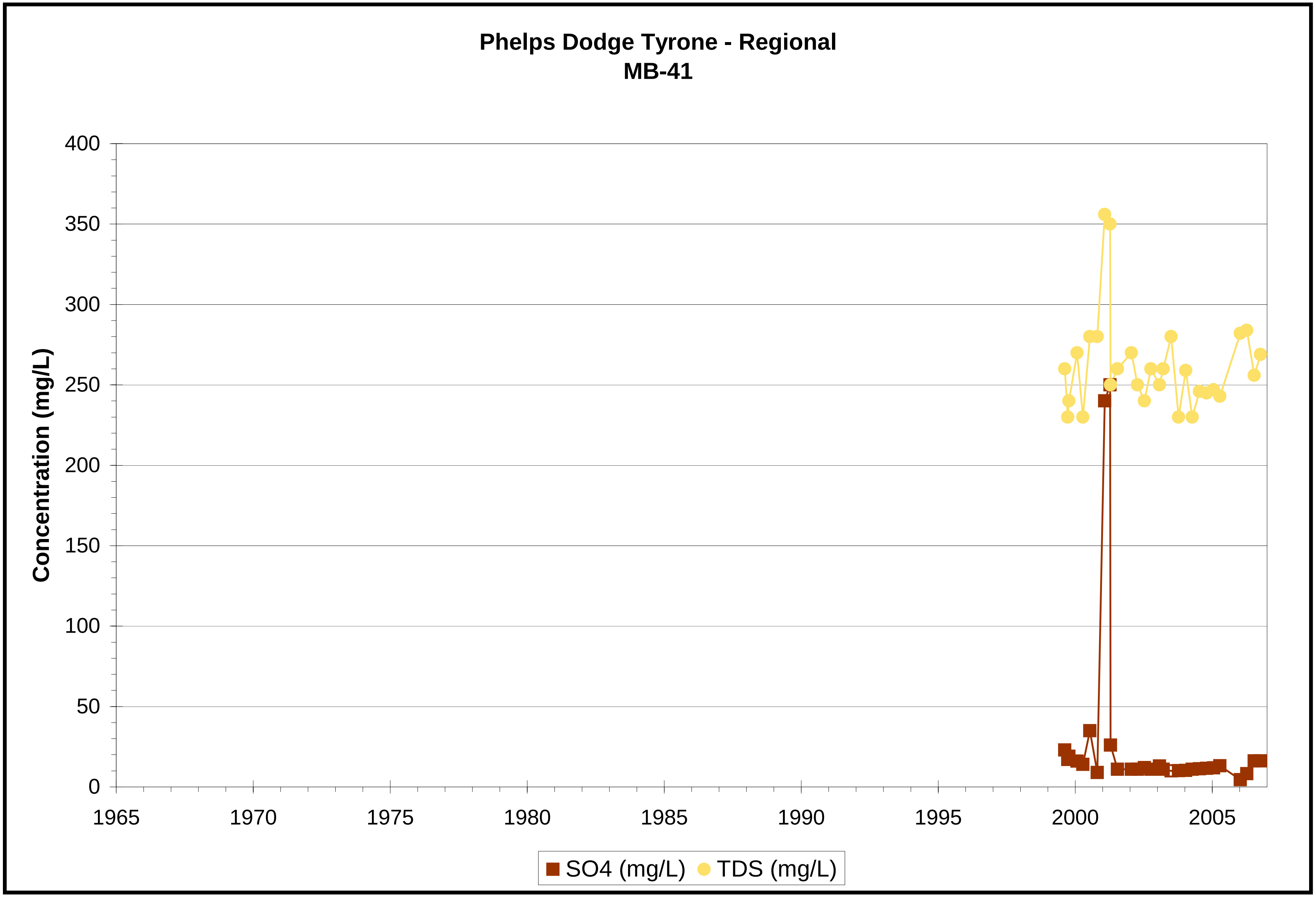
Phelps Dodge Tyrone - Regional
MB-38
Concentration (mg/L)
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



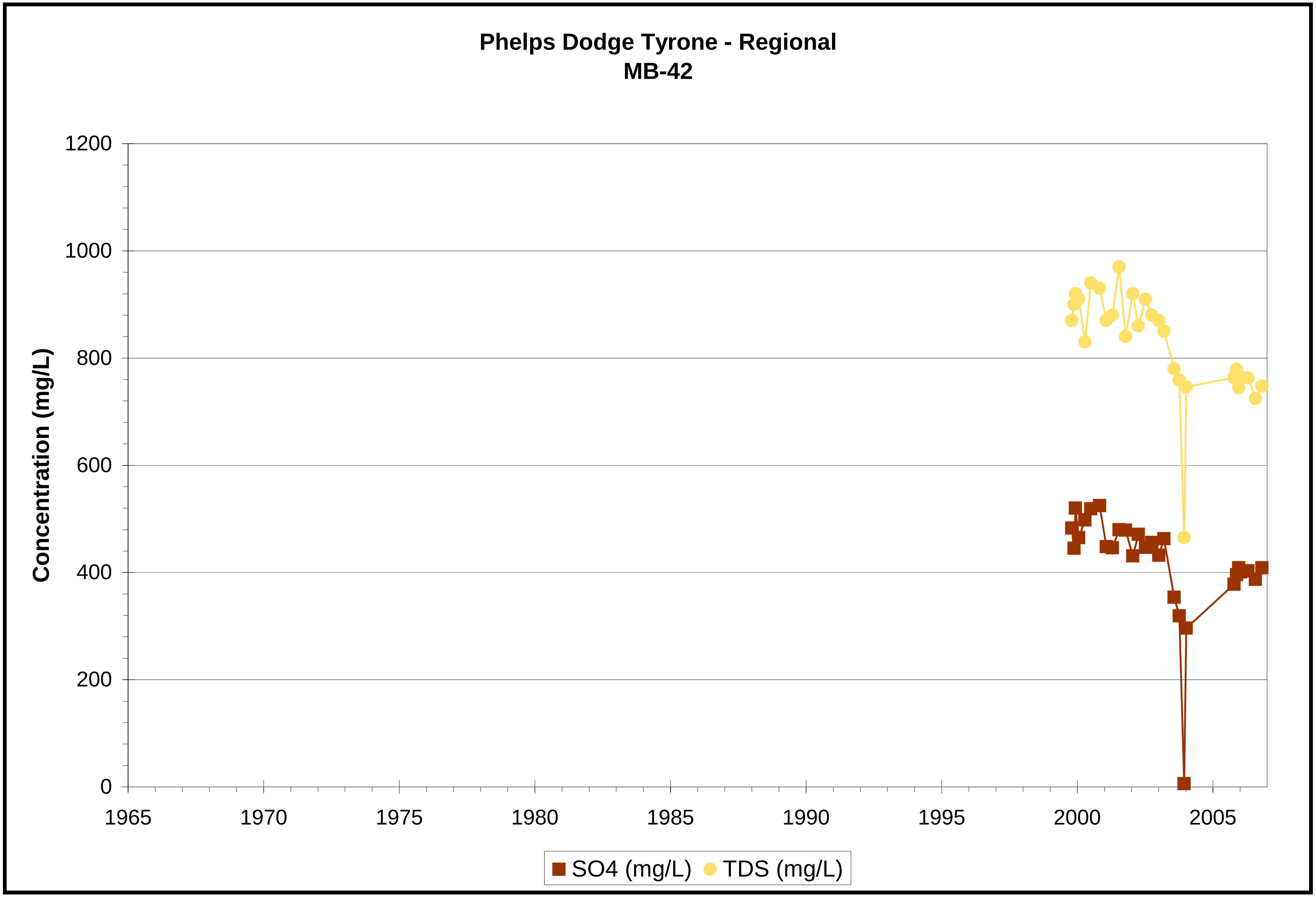
Phelps Dodge Tyrone - Regional
MB-39
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



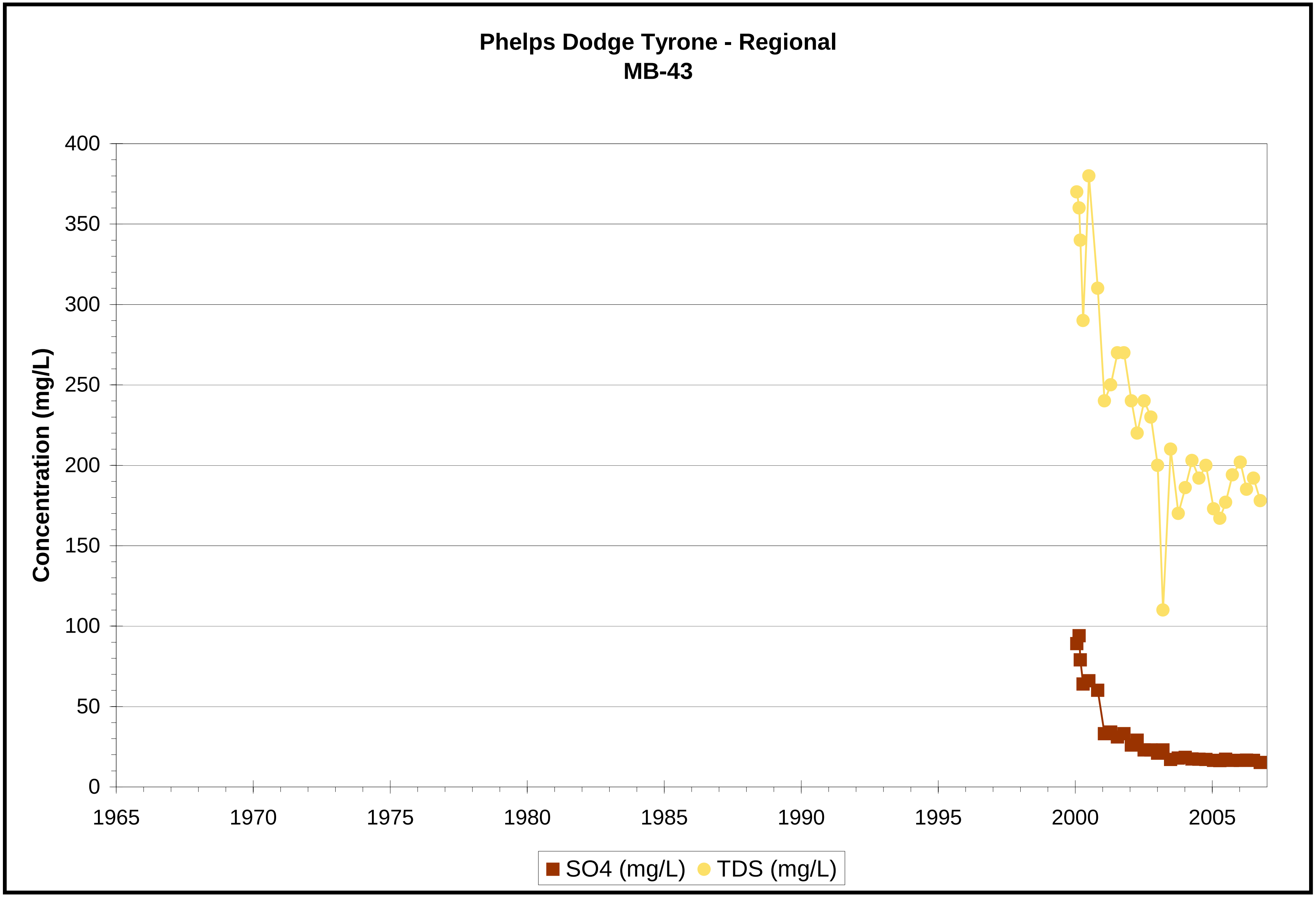
Phelps Dodge Tyrone - Regional
MB-40
Concentration (mg/L)
0
100
200
300
400
500
600
700
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



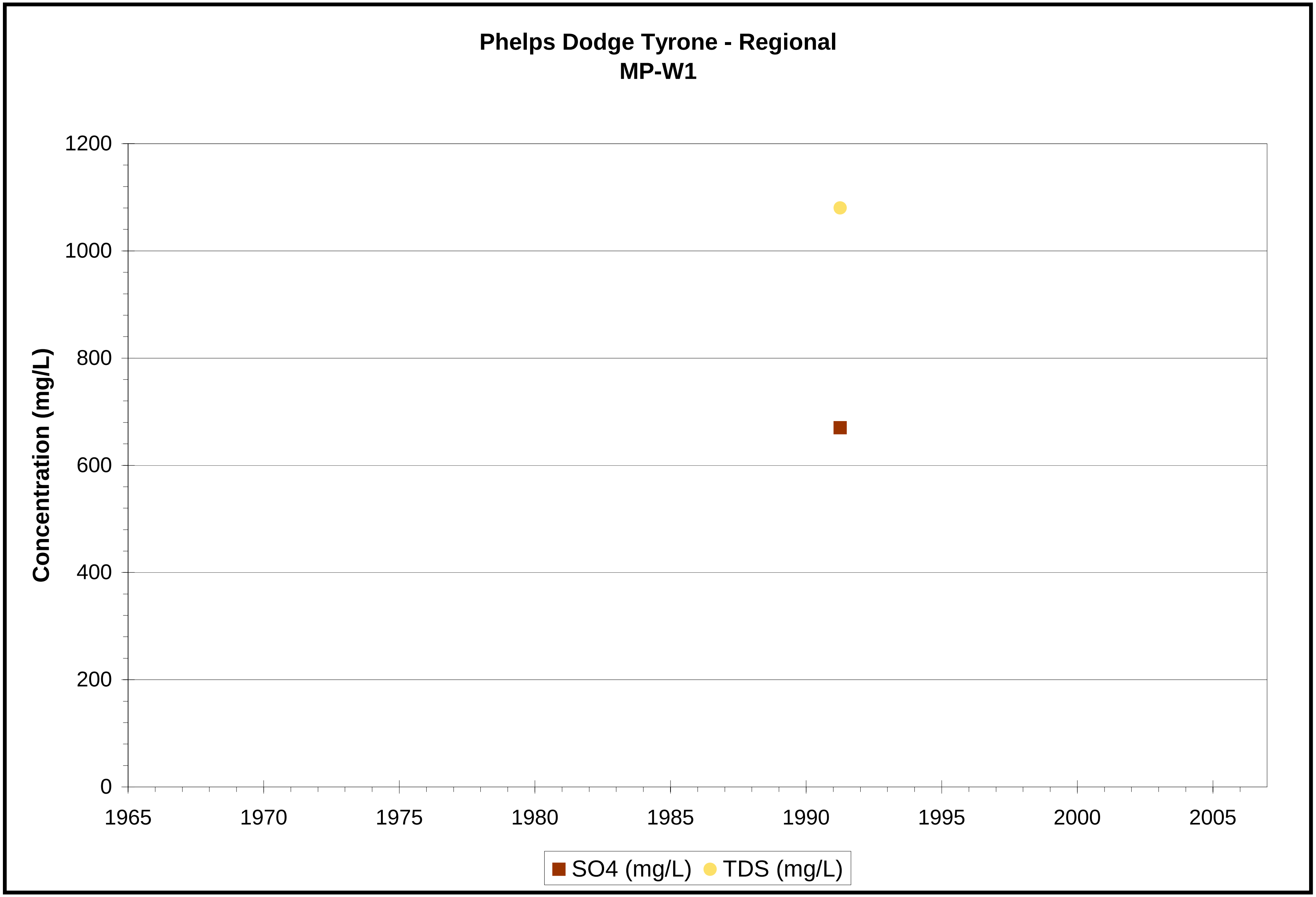
Phelps Dodge Tyrone - Regional
MB-41
Concentration (mg/L)
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



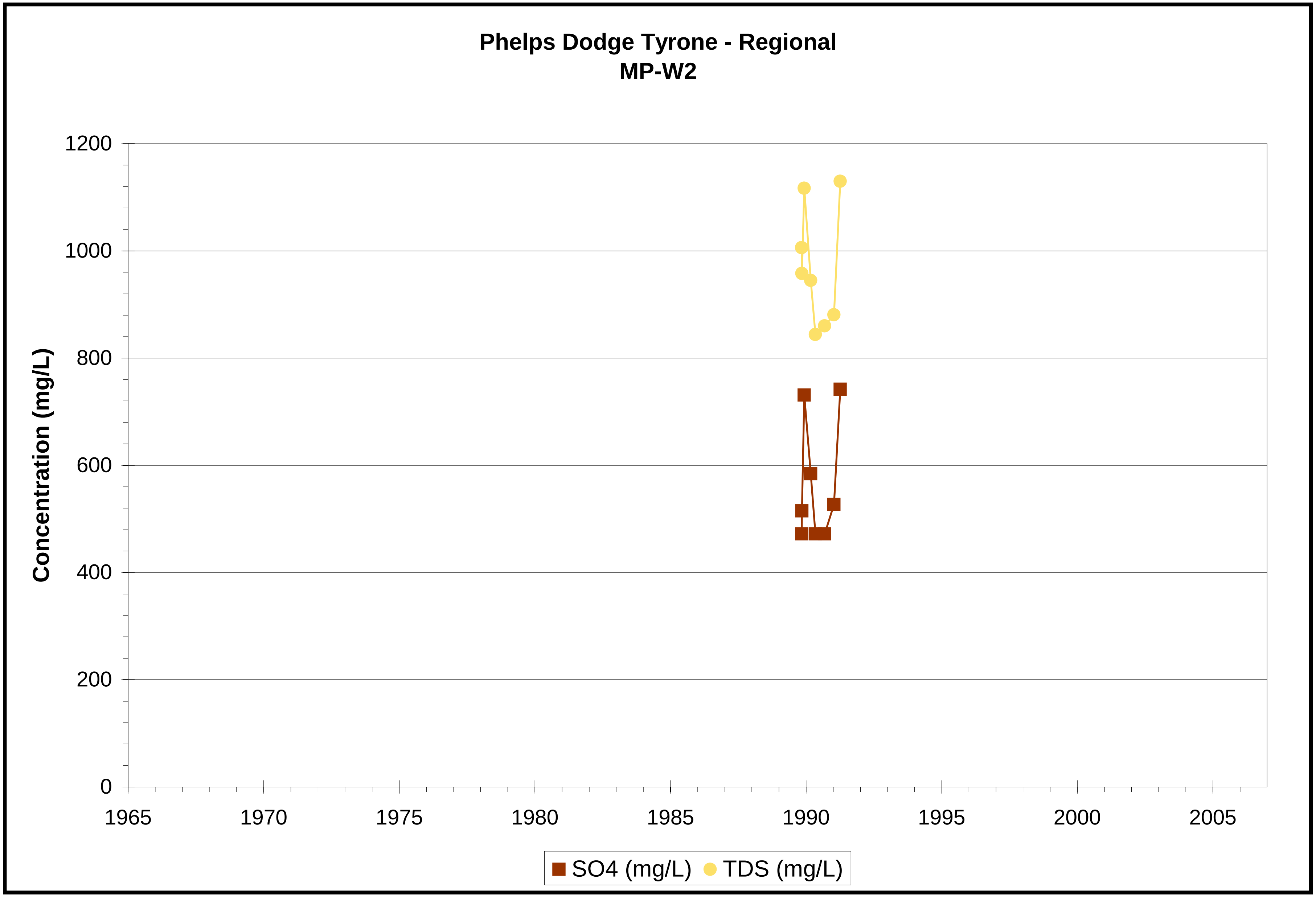
Phelps Dodge Tyrone - Regional
MB-42
Concentration (mg/L)
0
200
400
600
800
1000
1200
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



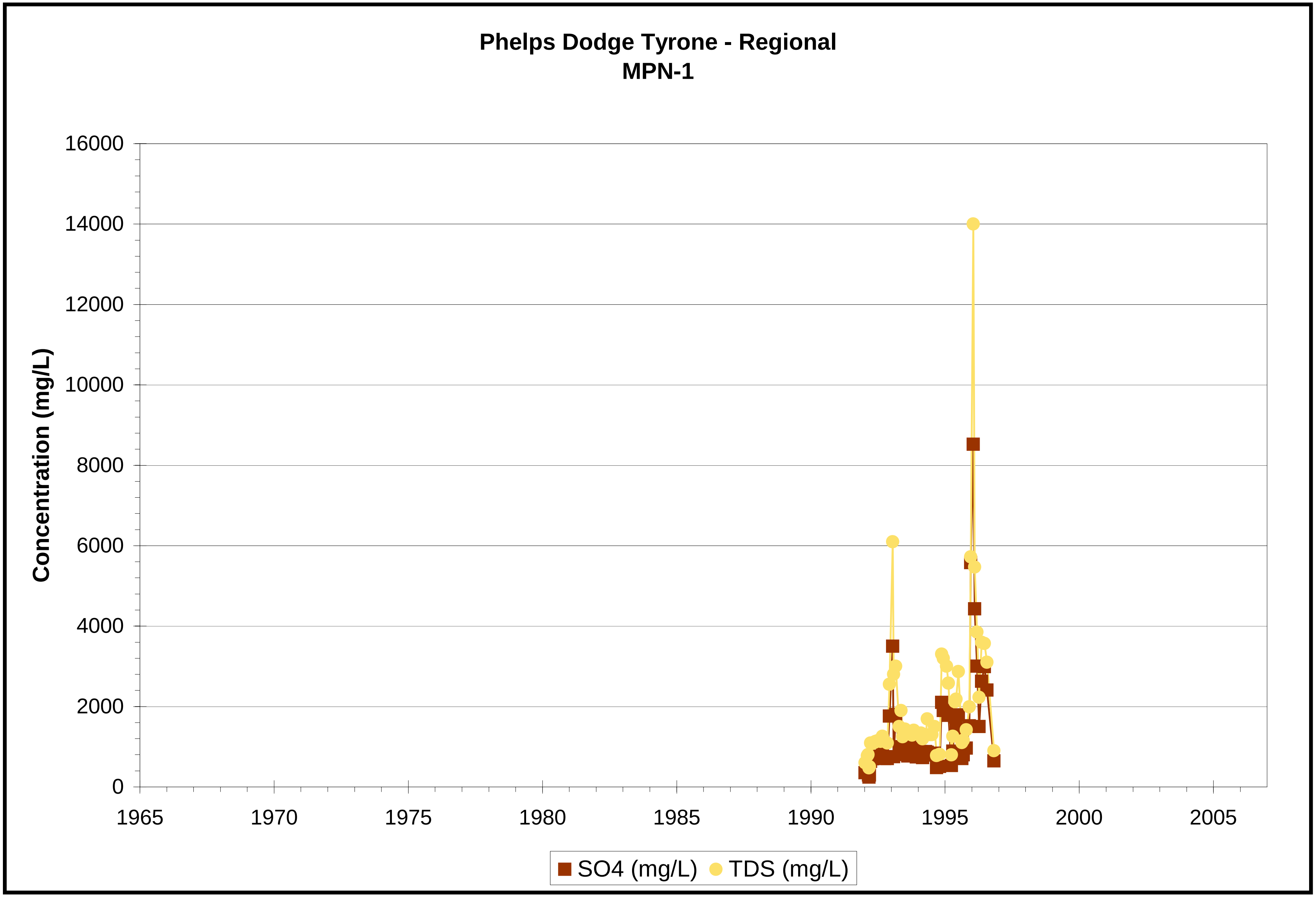
Phelps Dodge Tyrone - Regional
MB-43
Concentration (mg/L)
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



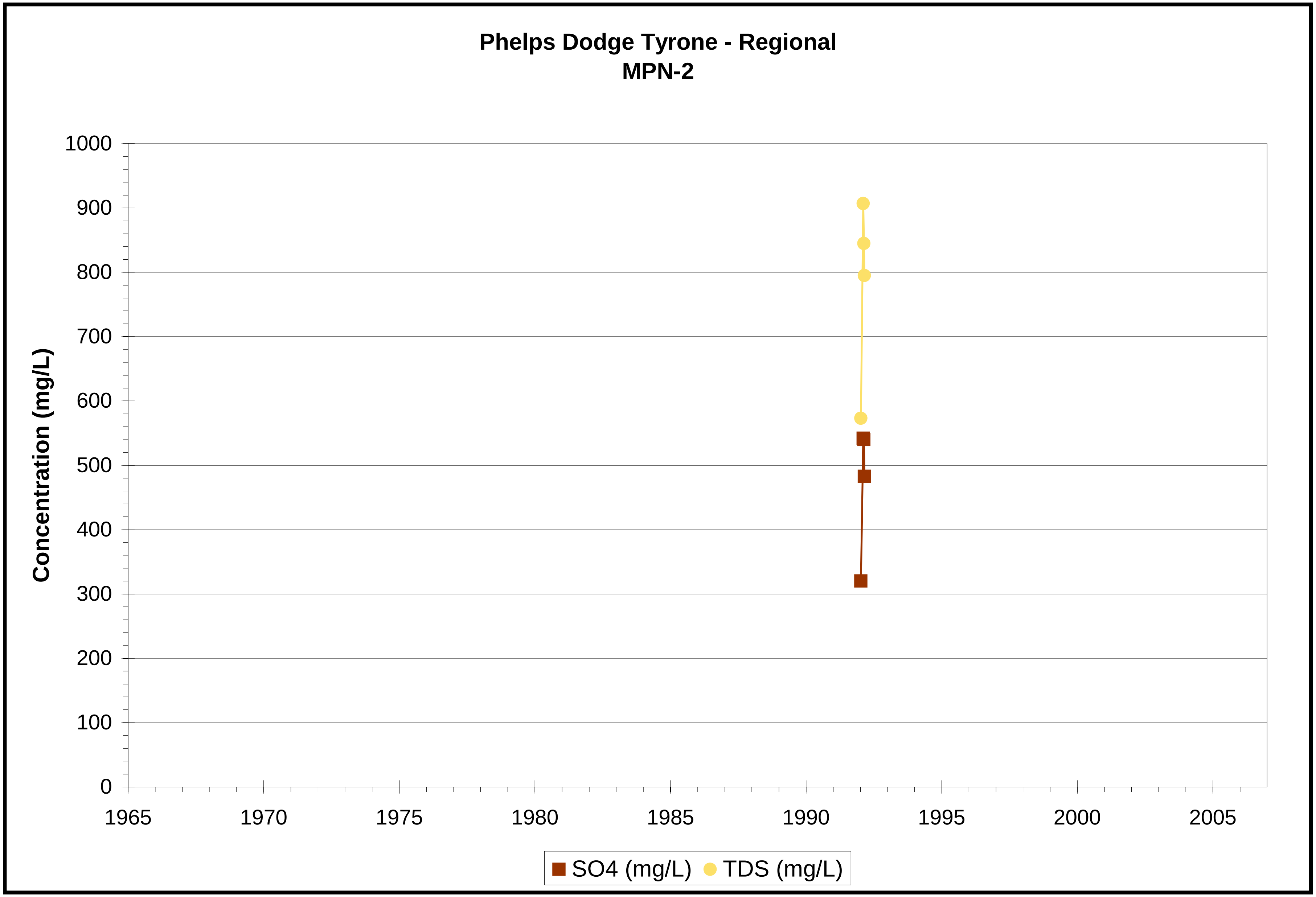
Phelps Dodge Tyrone - Regional
MP-W1
Concentration (mg/L)
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



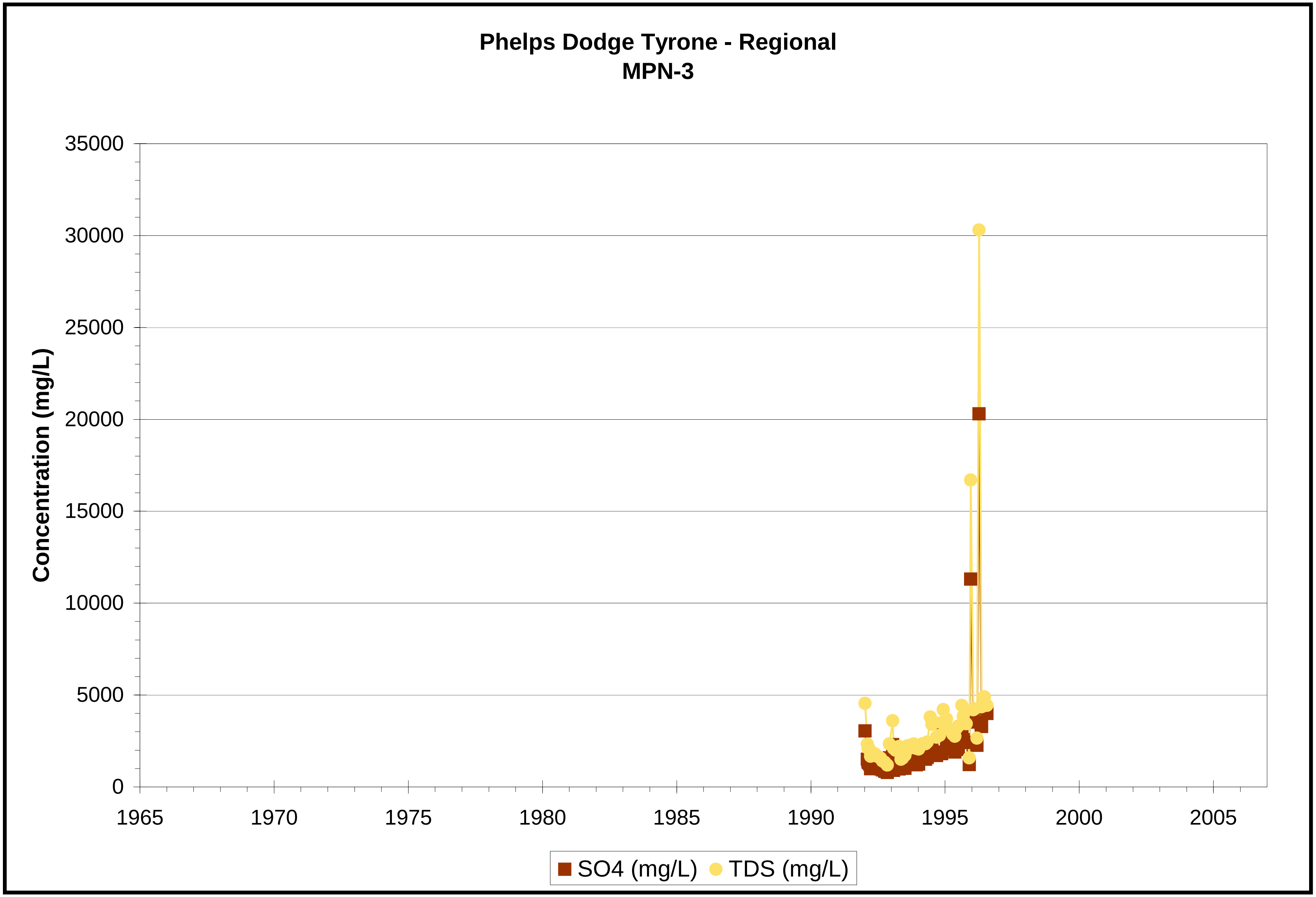
Phelps Dodge Tyrone - Regional
MP-W2
Concentration (mg/L)
0
200
400
600
800
1000
1200
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



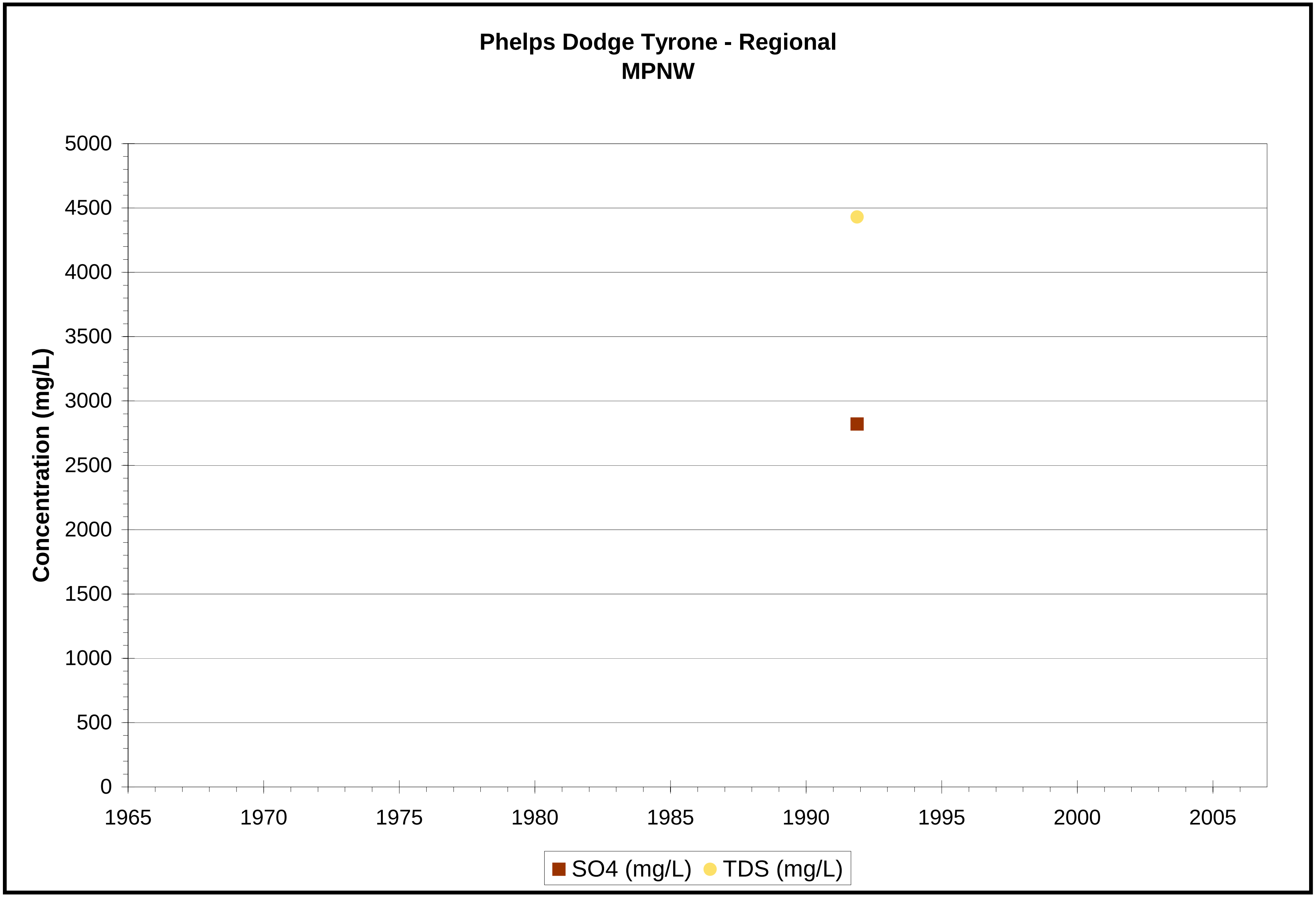
Phelps Dodge Tyrone - Regional
MPN-1
Concentration (mg/L)
16000
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



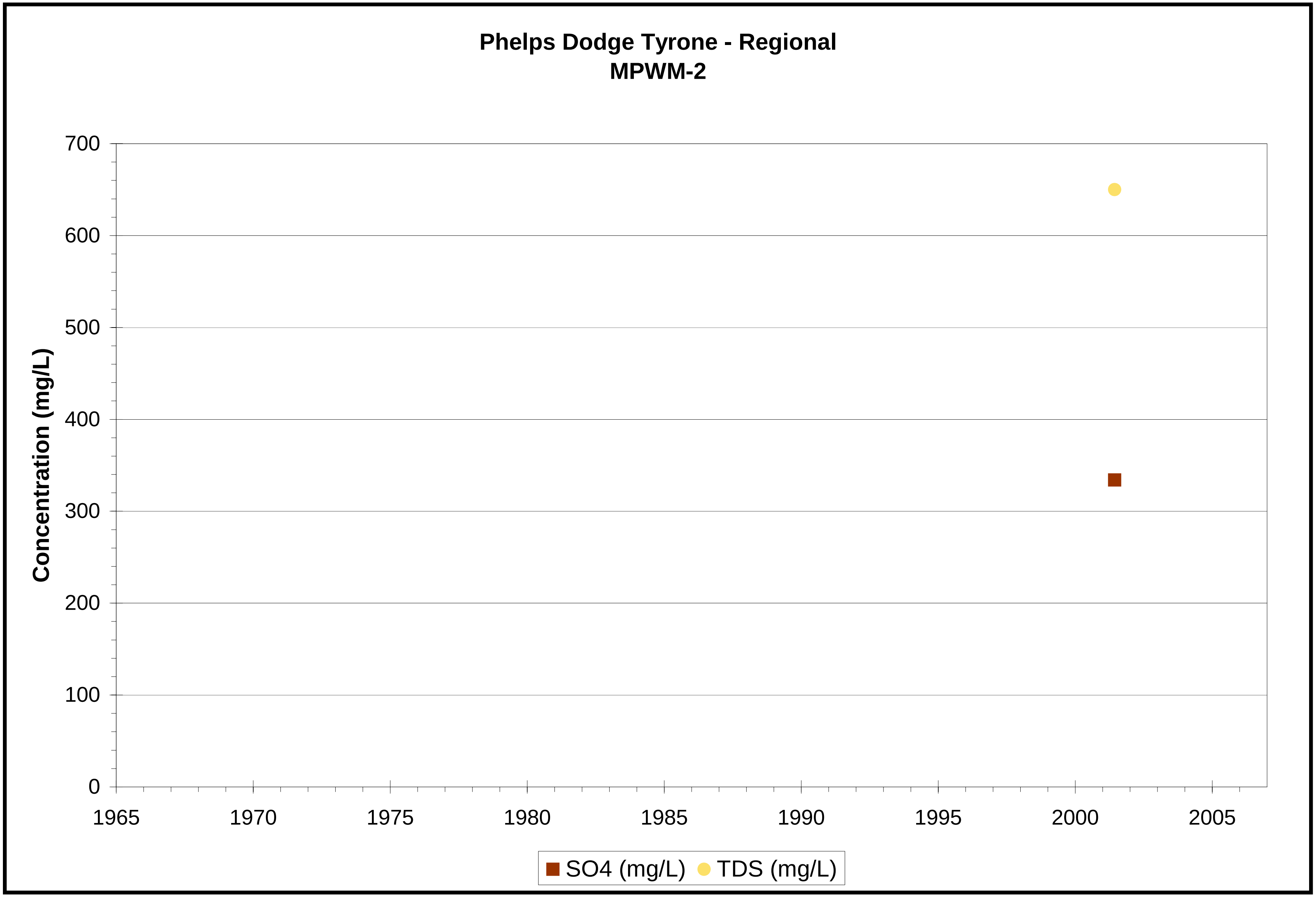
Phelps Dodge Tyrone - Regional
MPN-2
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

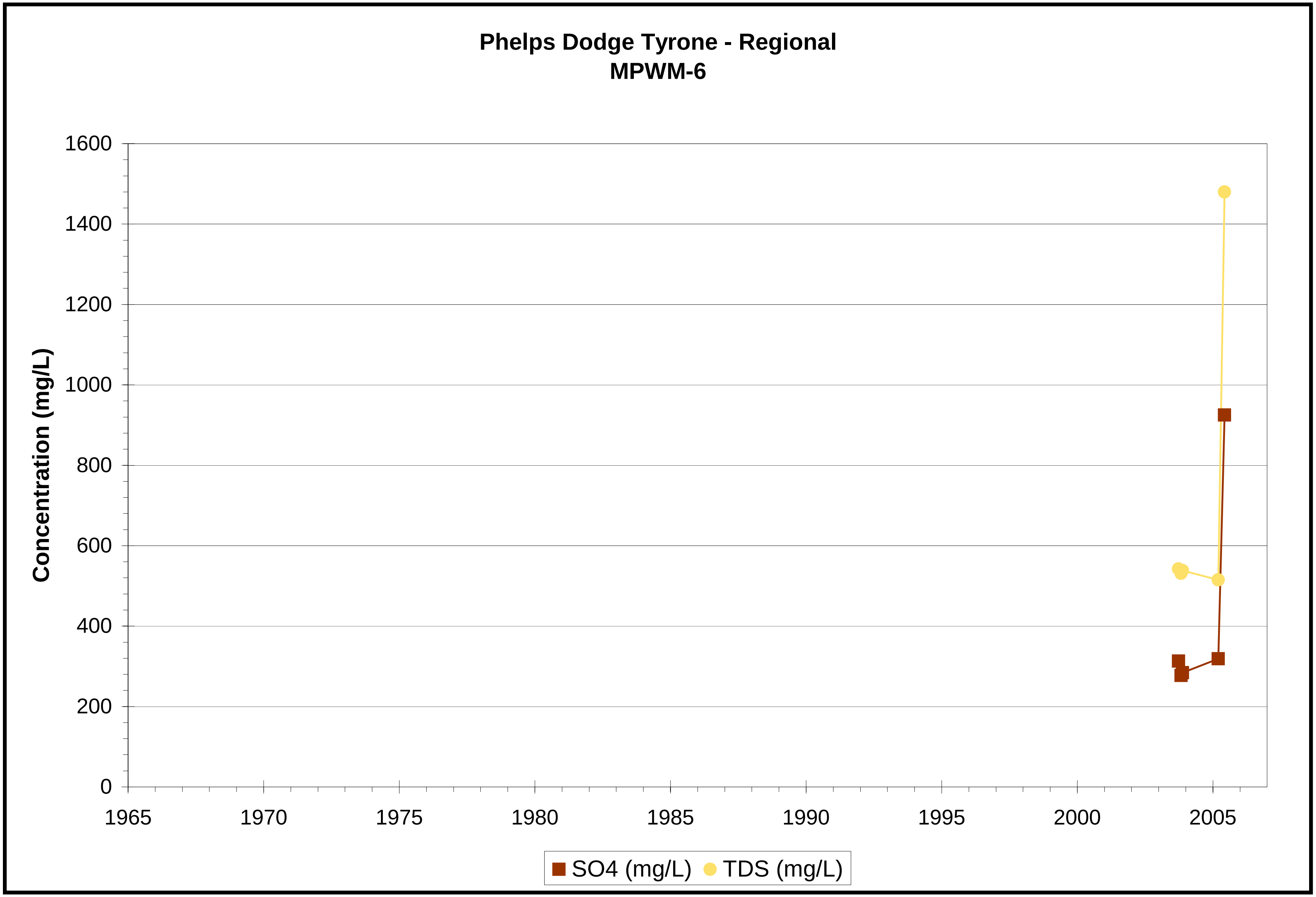


Phelps Dodge Tyrone - Regional
MPN-3
Concentration (mg/L)
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

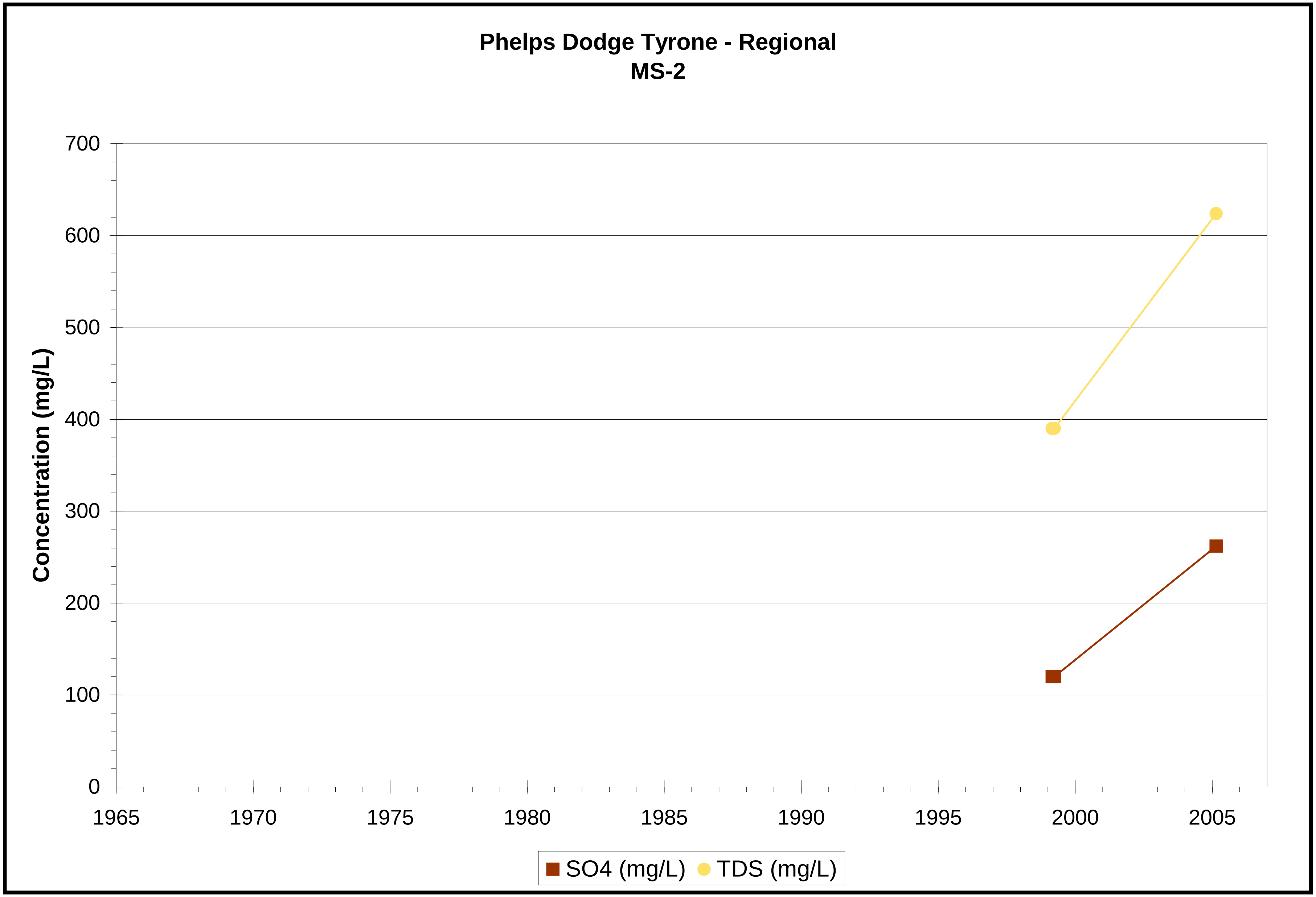


Phelps Dodge Tyrone - Regional
MPNW
Concentration (mg/L)
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

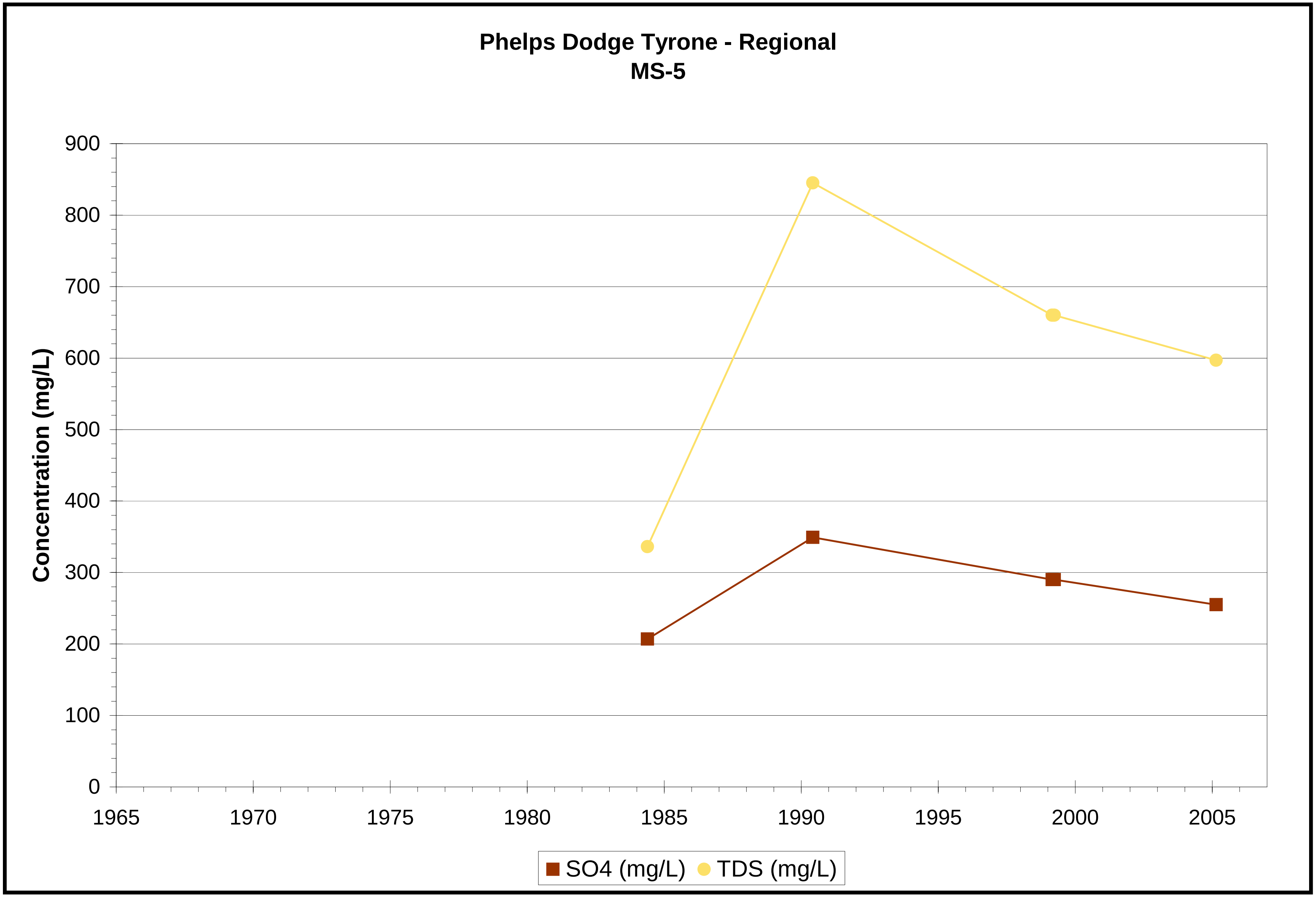

Phelps Dodge Tyrone - Regional
MPWM-2
Concentration (mg/L)
0
100
200
300
400
500
600
700
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



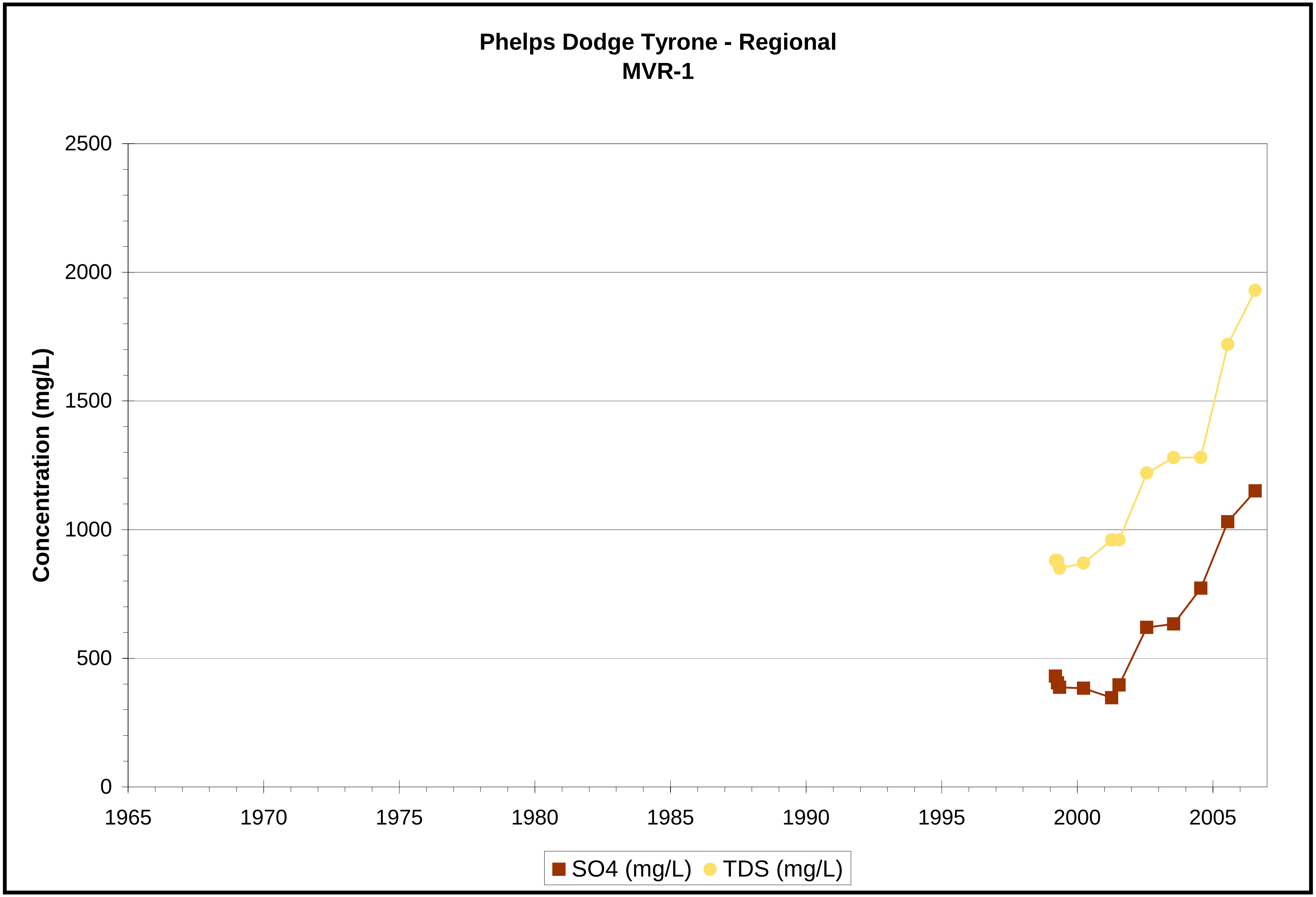
Phelps Dodge Tyrone - Regional
MPWM-6
Concentration (mg/L)
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

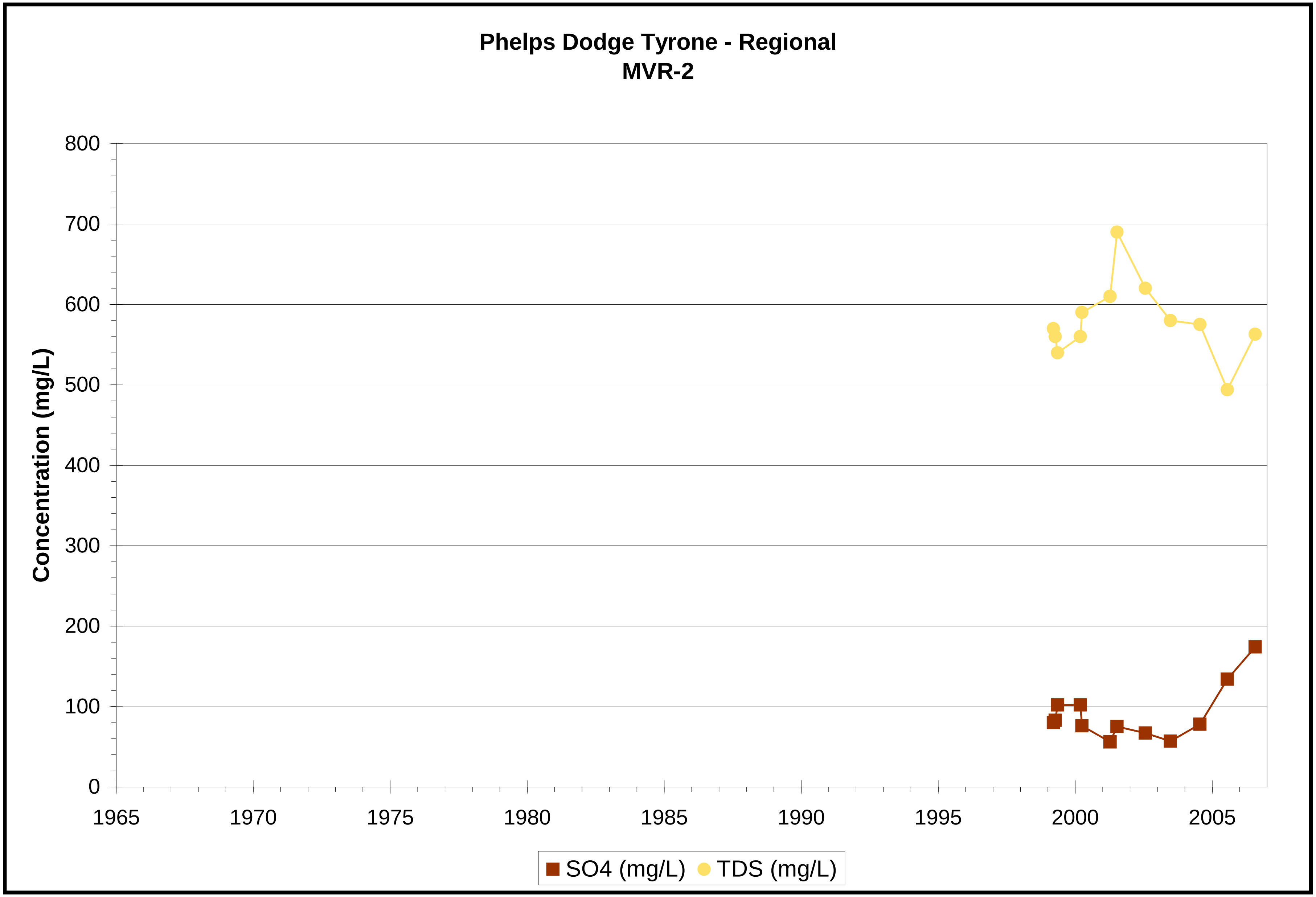


Phelps Dodge Tyrone - Regional
MS-2
Concentration (mg/L)
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

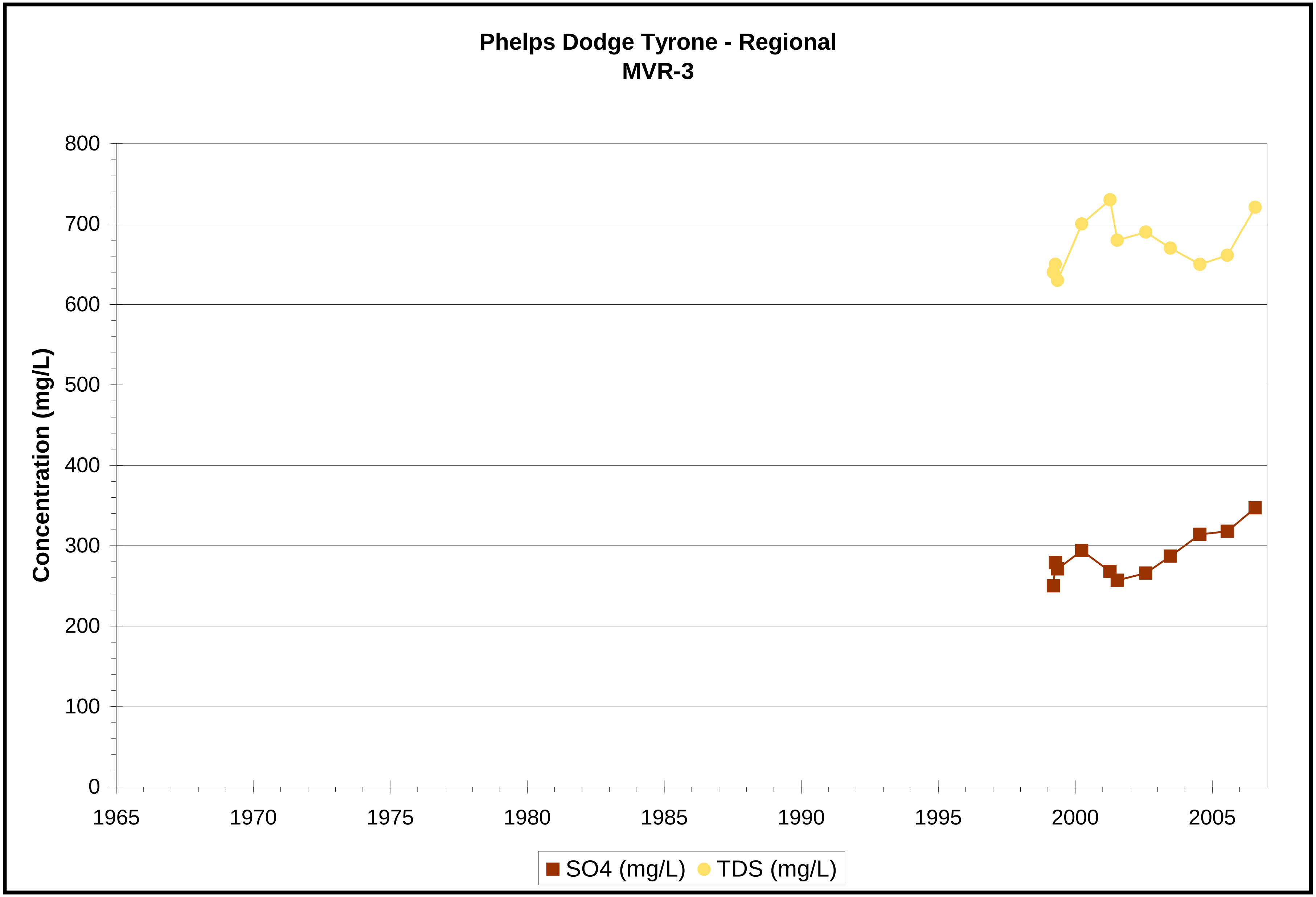


Phelps Dodge Tyrone - Regional
MS-5
Concentration (mg/L)
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

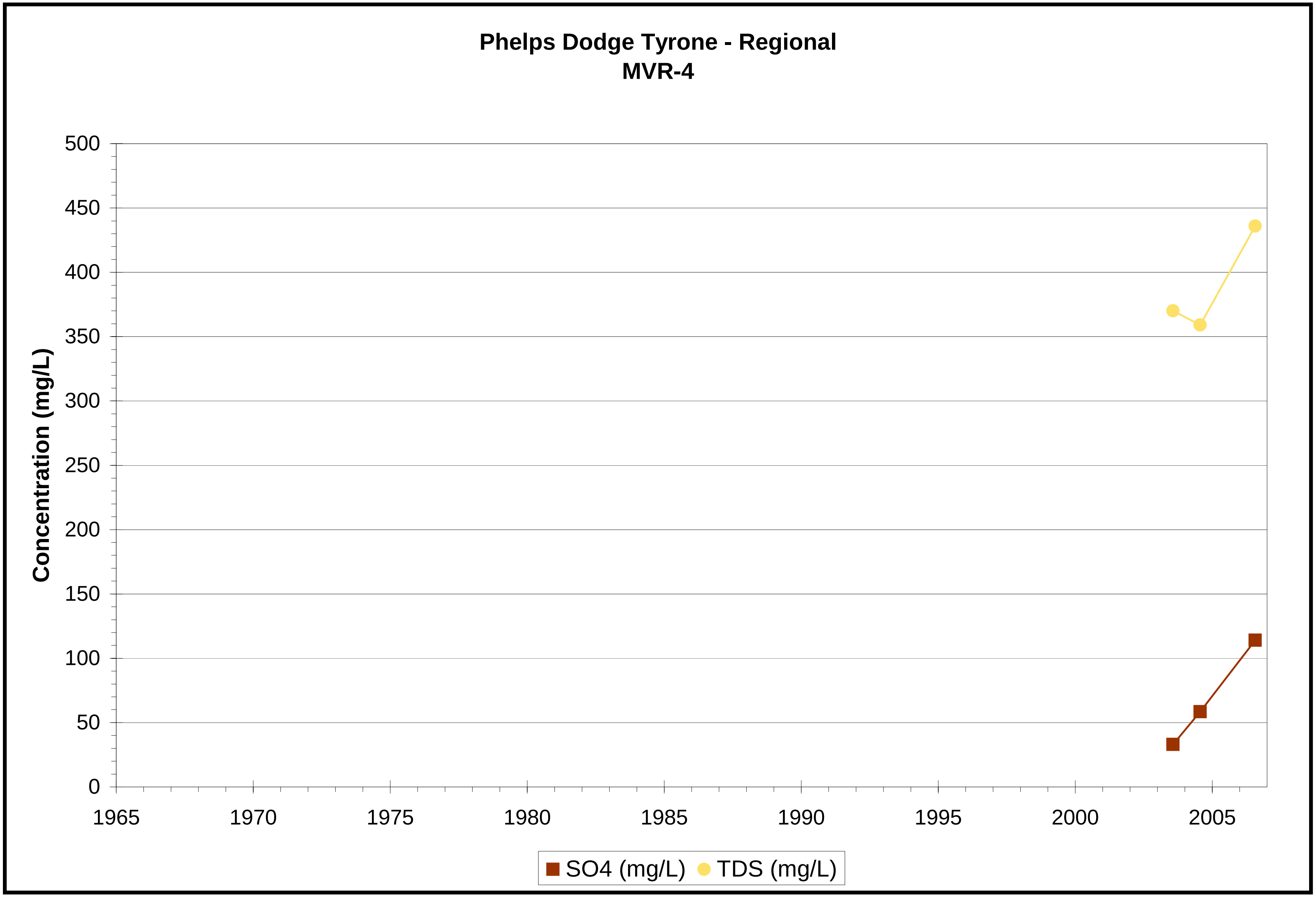

Phelps Dodge Tyrone - Regional
MVR-1
Concentration (mg/L)
0
500
1000
1500
2000
2500
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



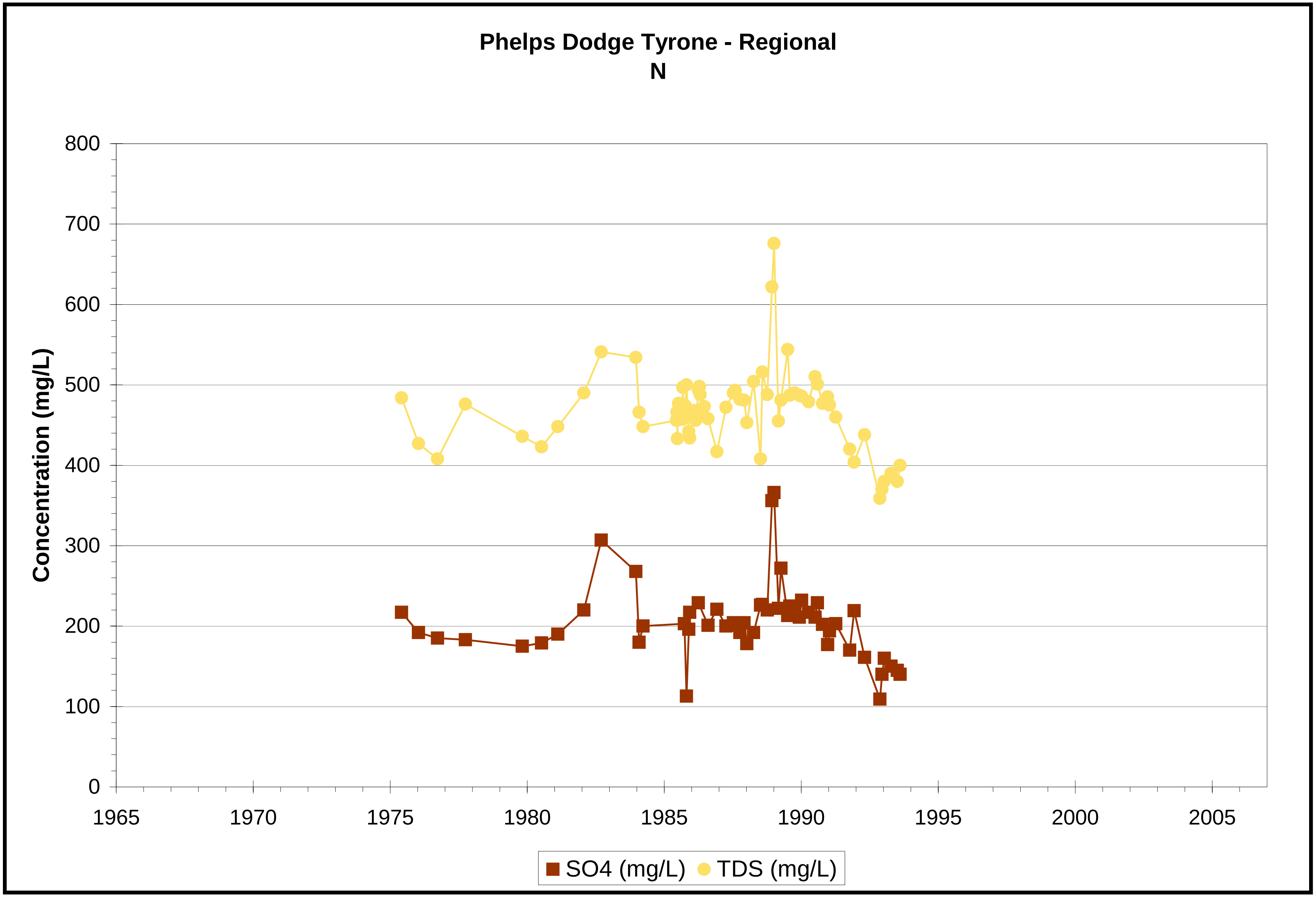
Phelps Dodge Tyrone - Regional
MVR-2
Concentration (mg/L)
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



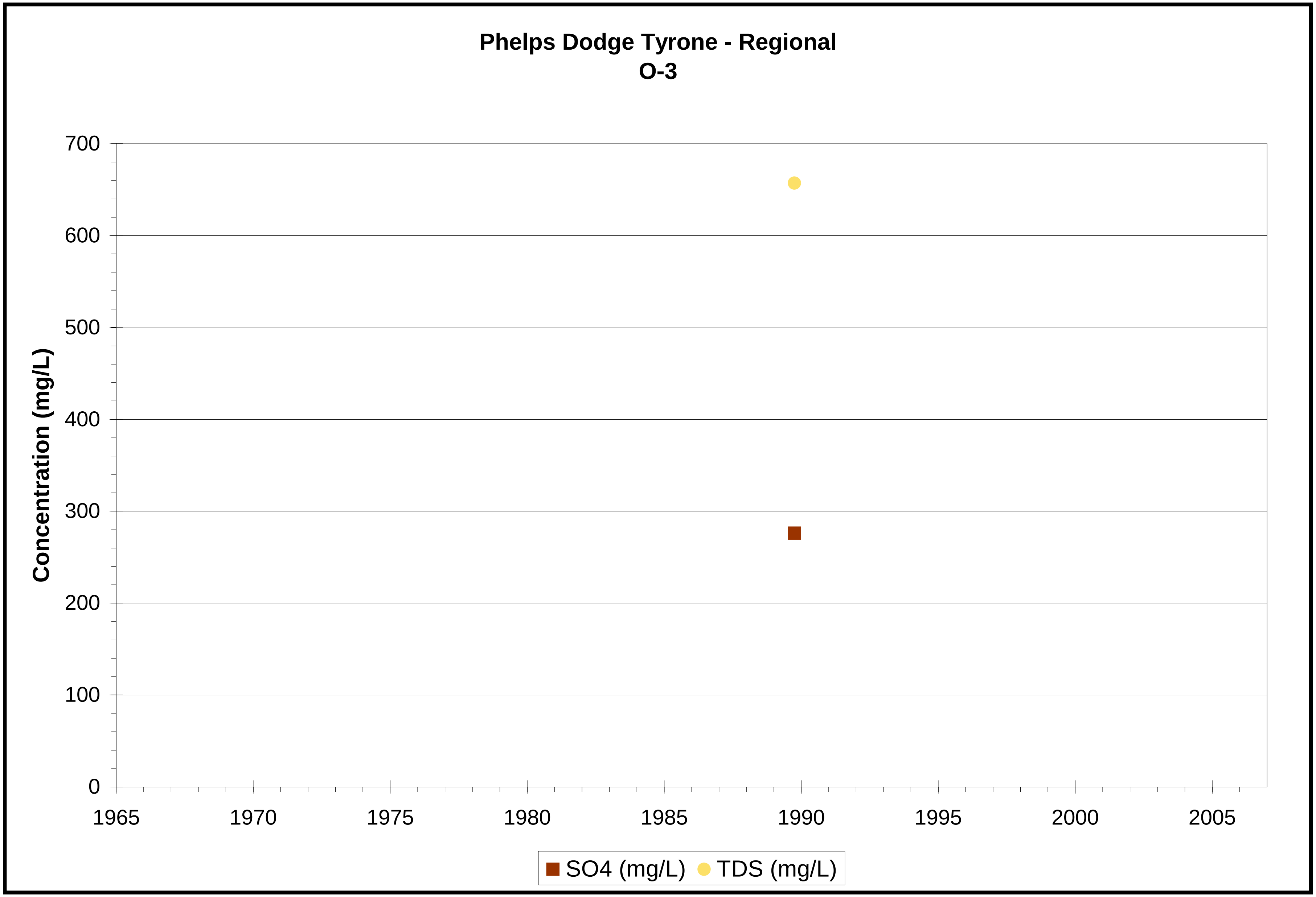
Phelps Dodge Tyrone - Regional
MVR-3
Concentration (mg/L)
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



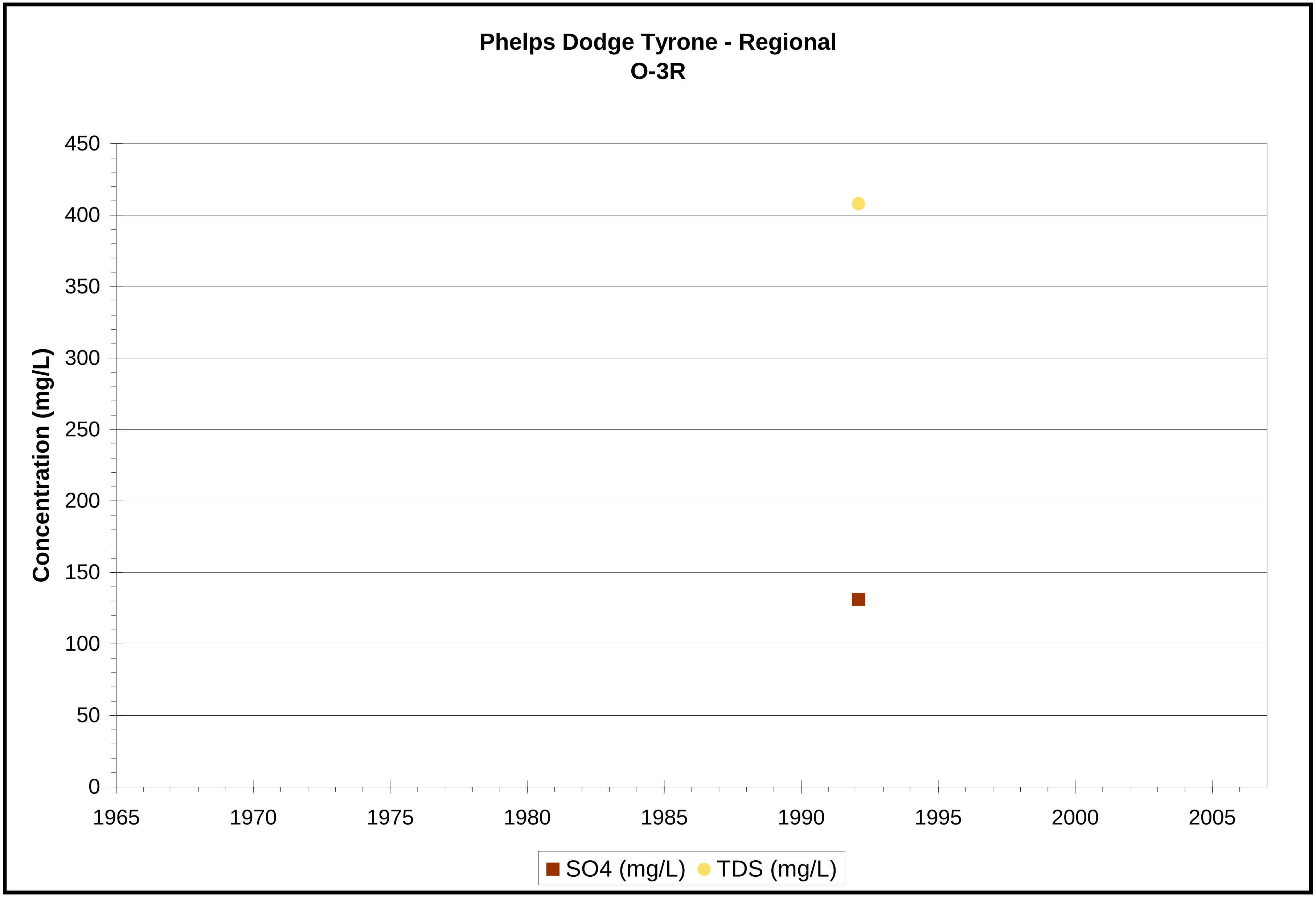
Phelps Dodge Tyrone - Regional
MVR-4
Concentration (mg/L)
500
450
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



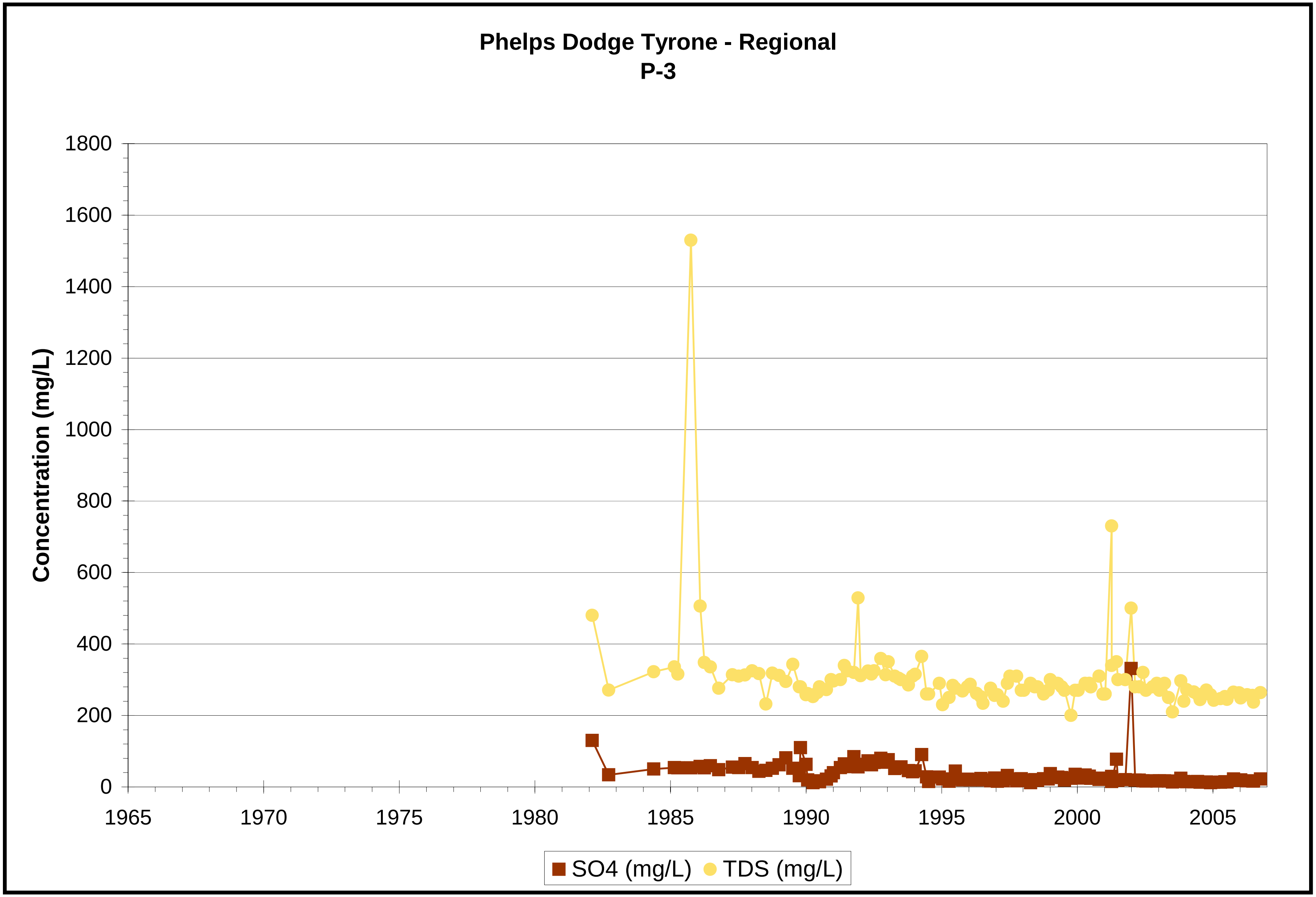
Phelps Dodge Tyrone - Regional
N
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



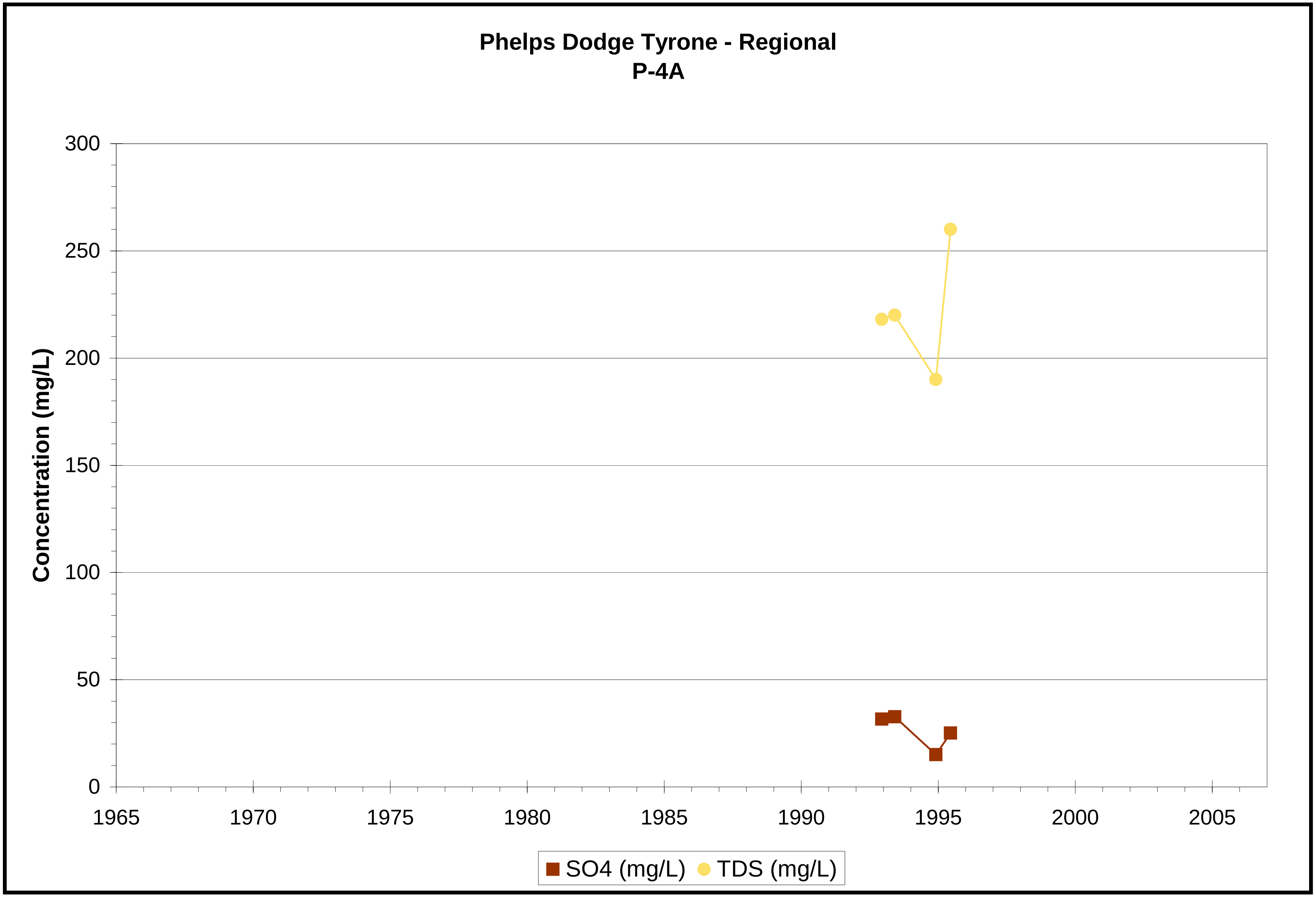
Phelps Dodge Tyrone - Regional
O-3
Concentration (mg/L)
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



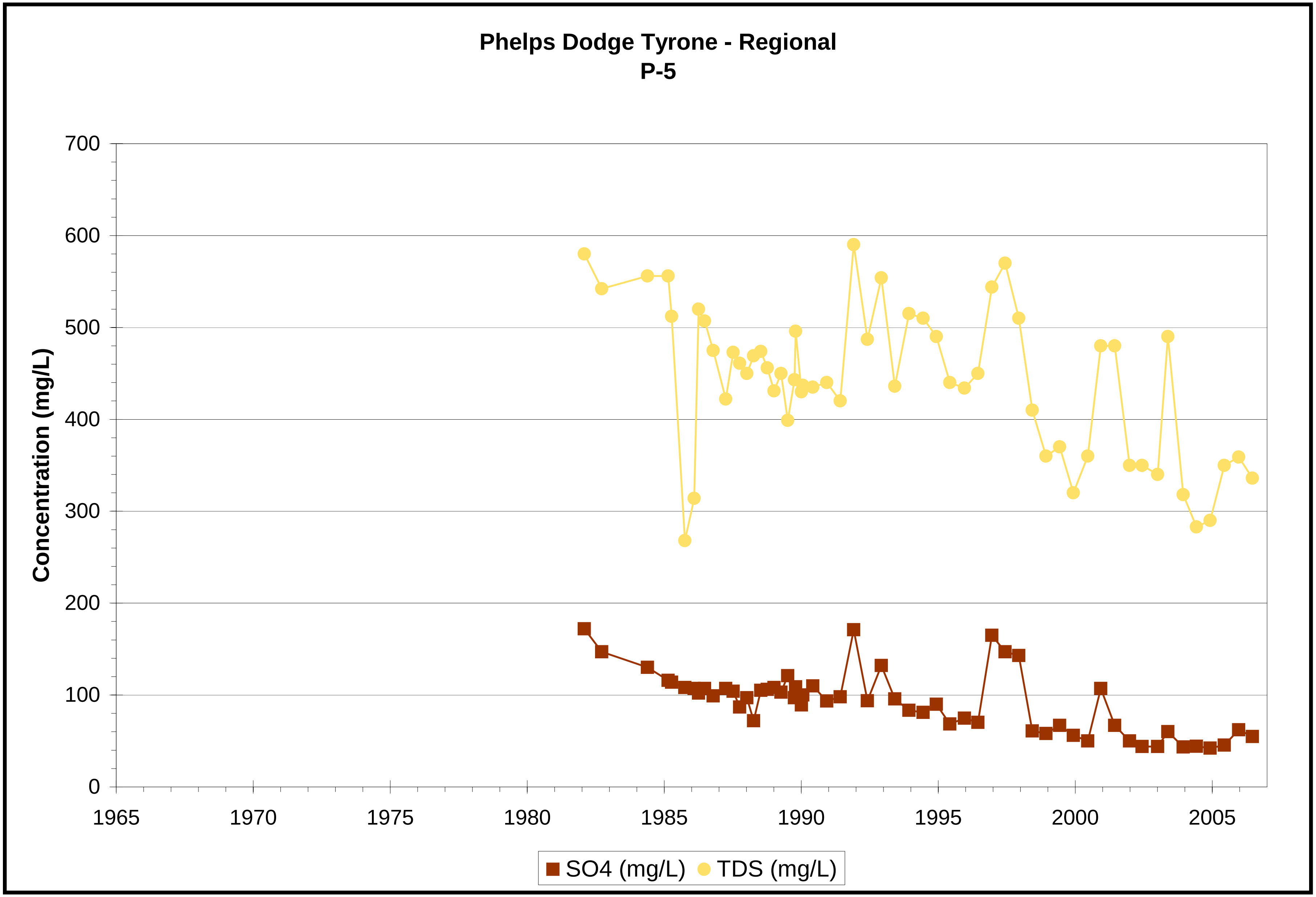
Phelps Dodge Tyrone - Regional
O-3R
Concentration (mg/L)
0
50
100
150
200
250
300
350
400
450
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



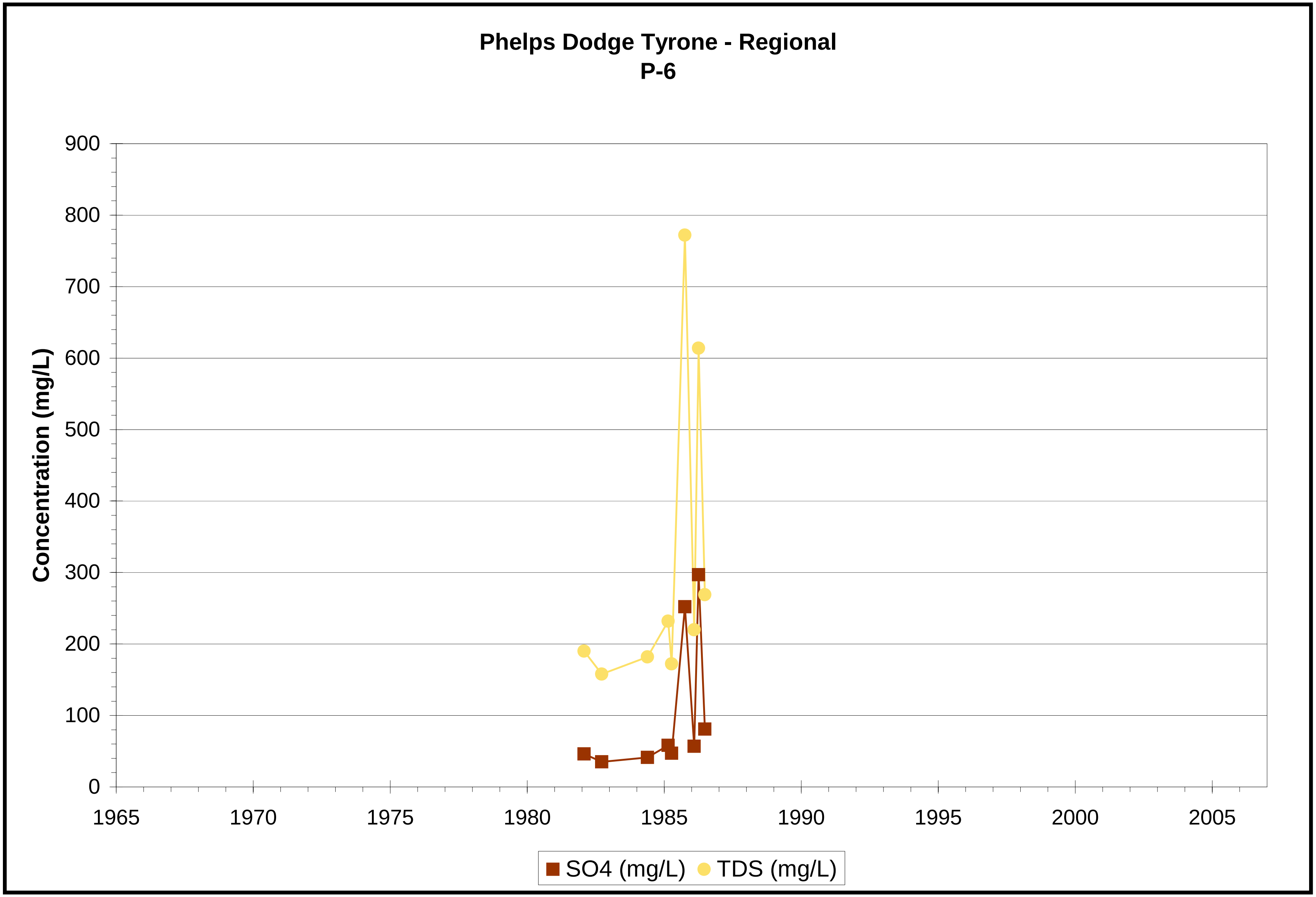
Phelps Dodge Tyrone - Regional
P-3
Concentration (mg/L)
1800
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

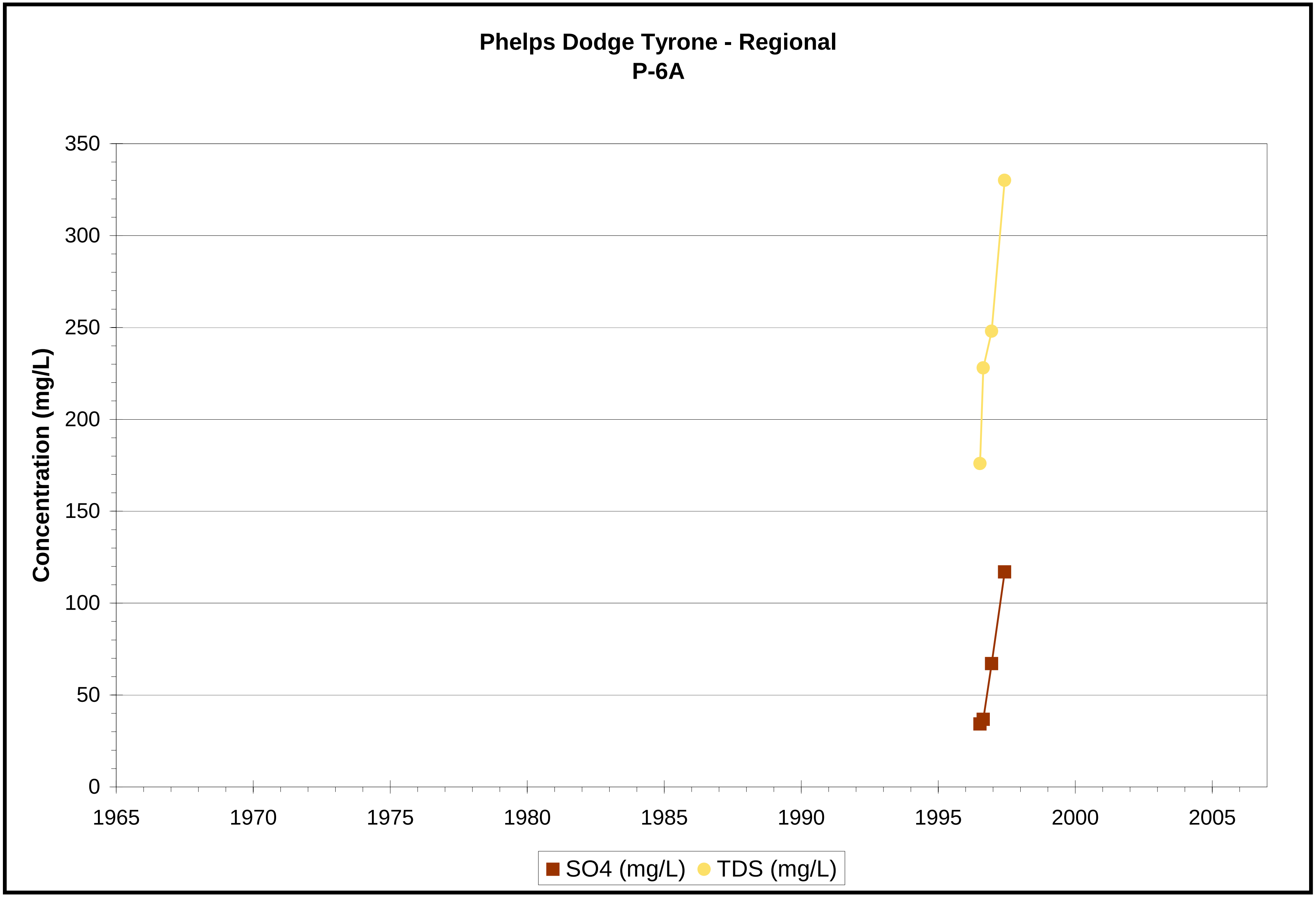


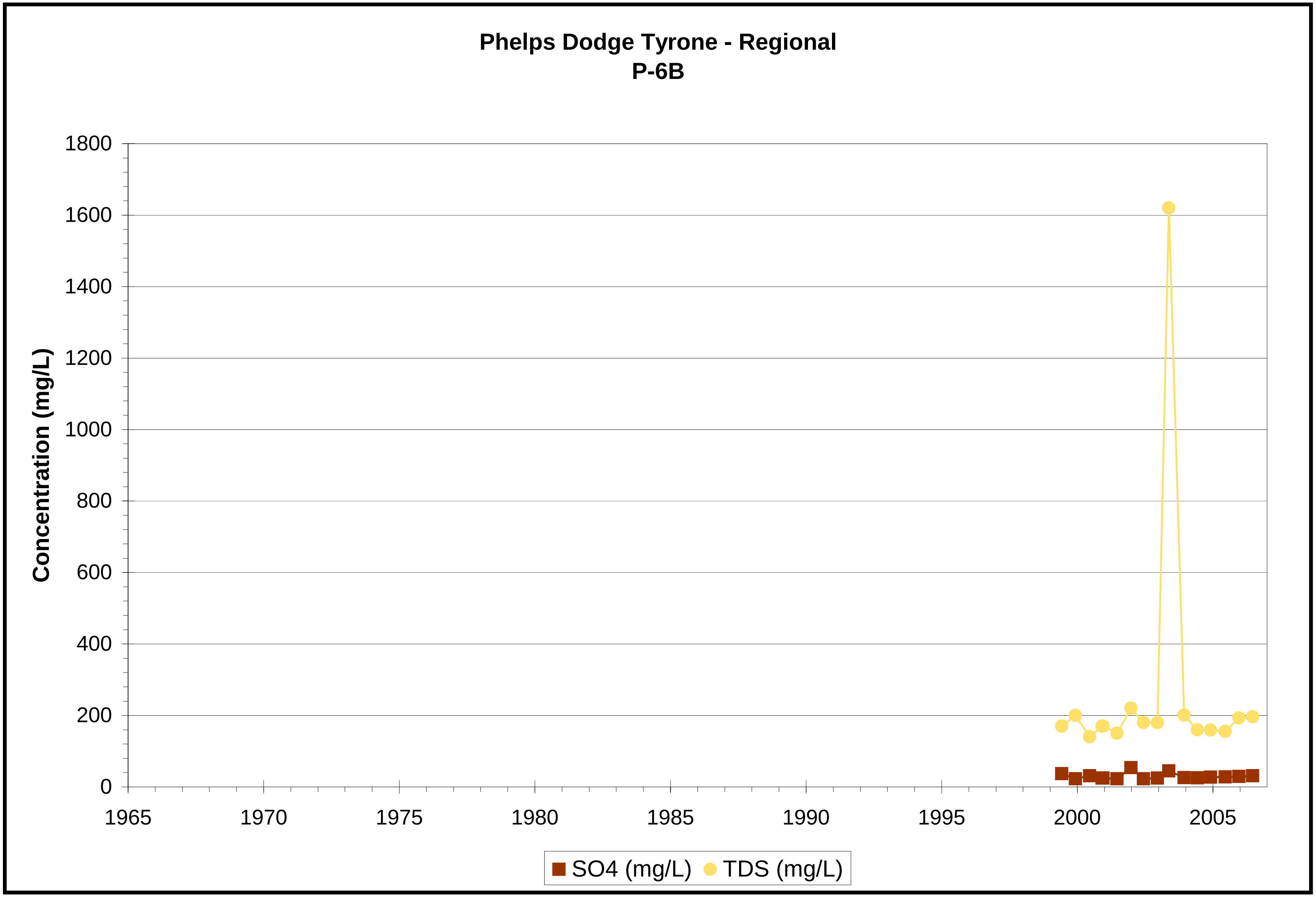
Phelps Dodge Tyrone - Regional
P-4A
Concentration (mg/L)
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

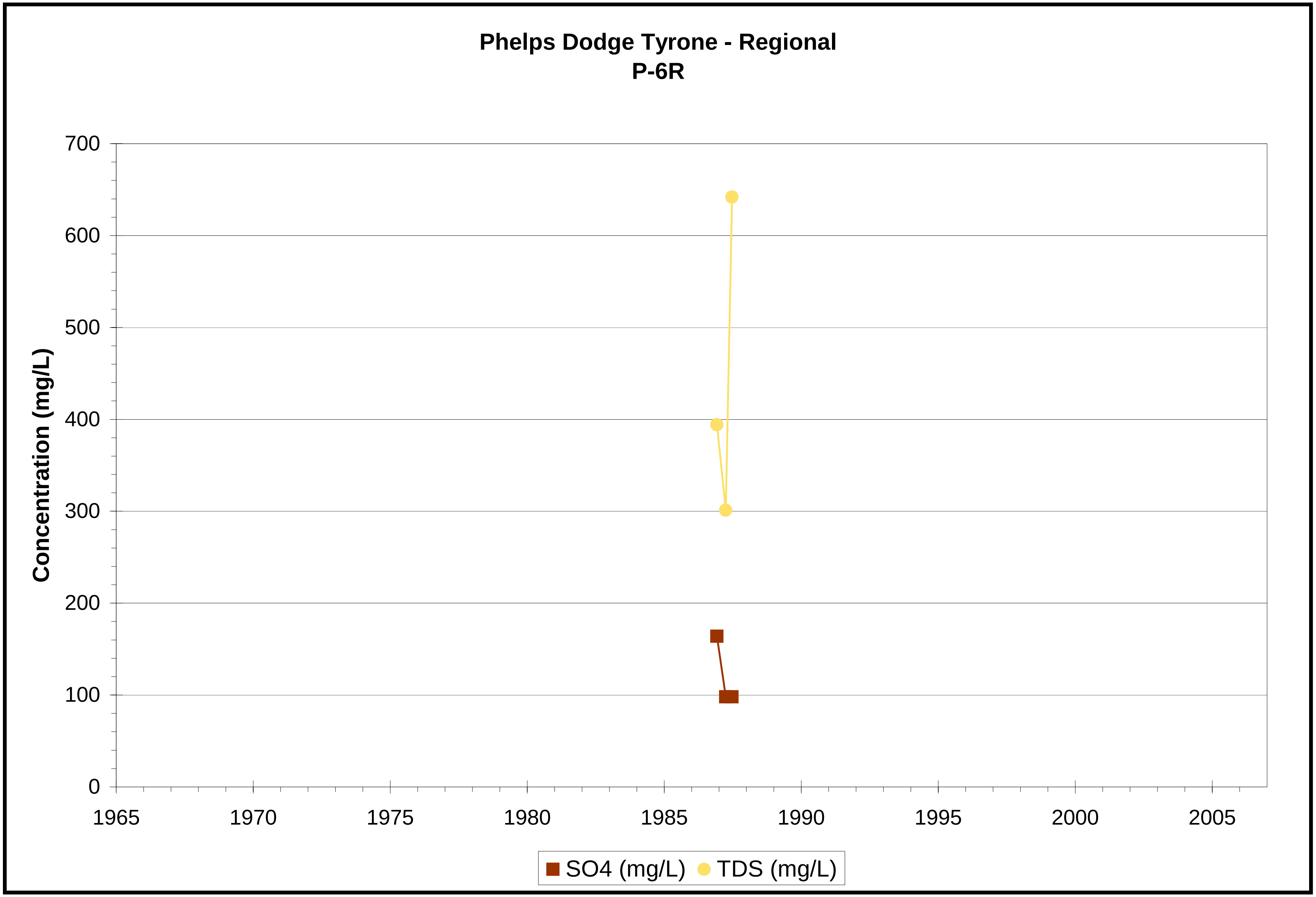


Phelps Dodge Tyrone - Regional
P-5
Concentration (mg/L)
0
100
200
300
400
500
600
700
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

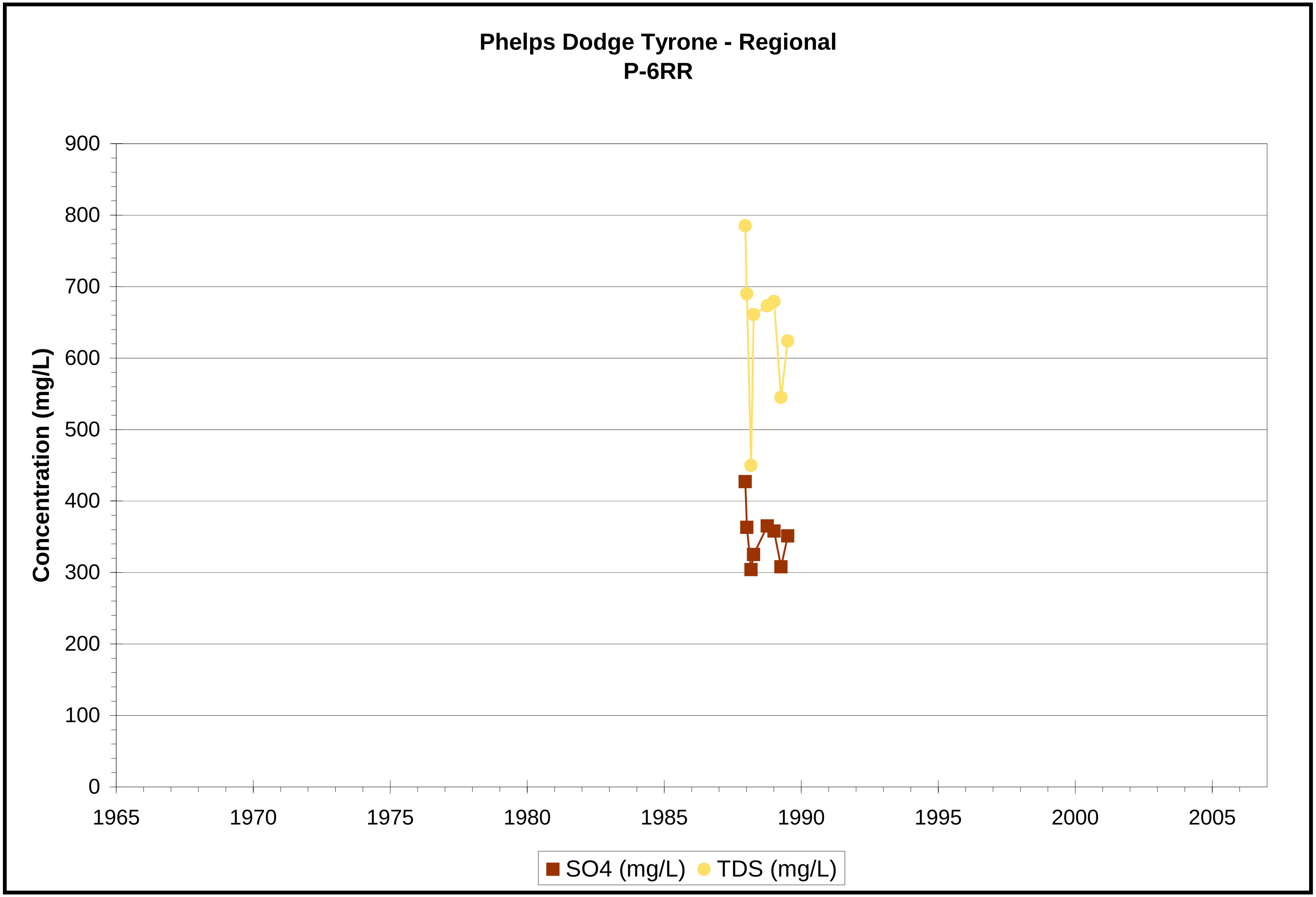

Phelps Dodge Tyrone - Regional
P-6
Concentration (mg/L)
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

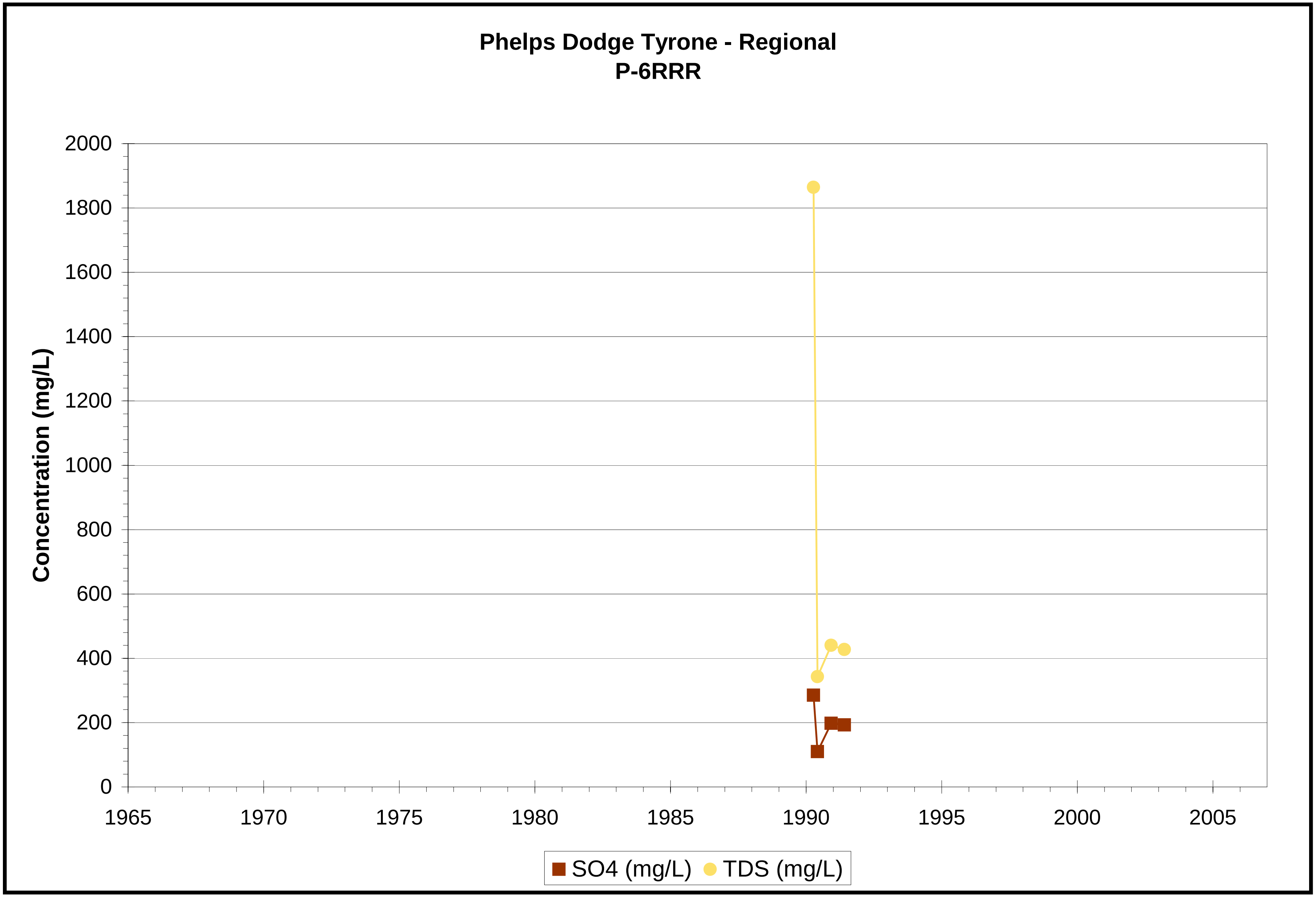

Phelps Dodge Tyrone - Regional
P-6A
Concentration (mg/L)
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-6B
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1800
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

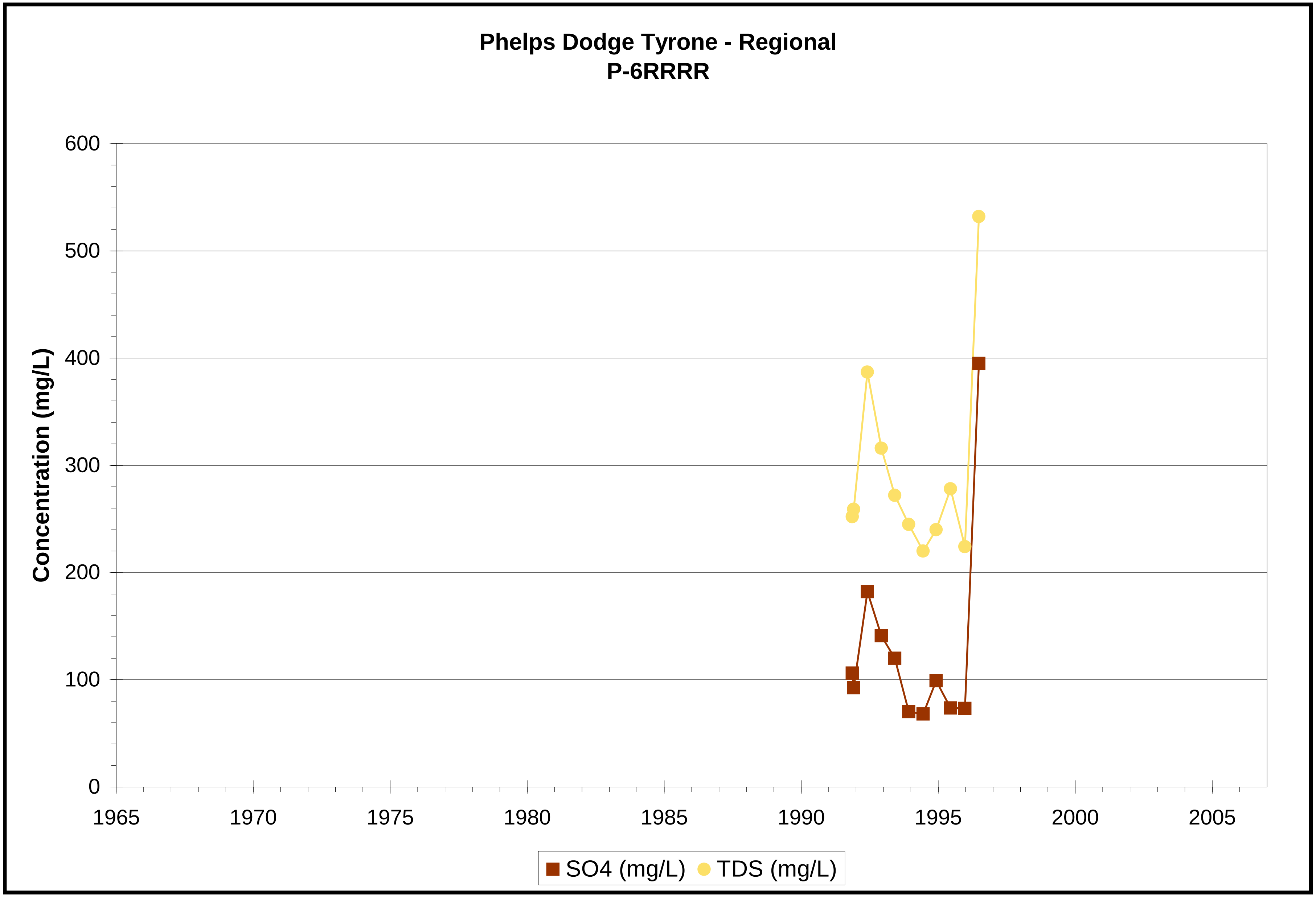


Phelps Dodge Tyrone - Regional
P-6R
Concentration (mg/L)
0
100
200
300
400
500
600
700
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

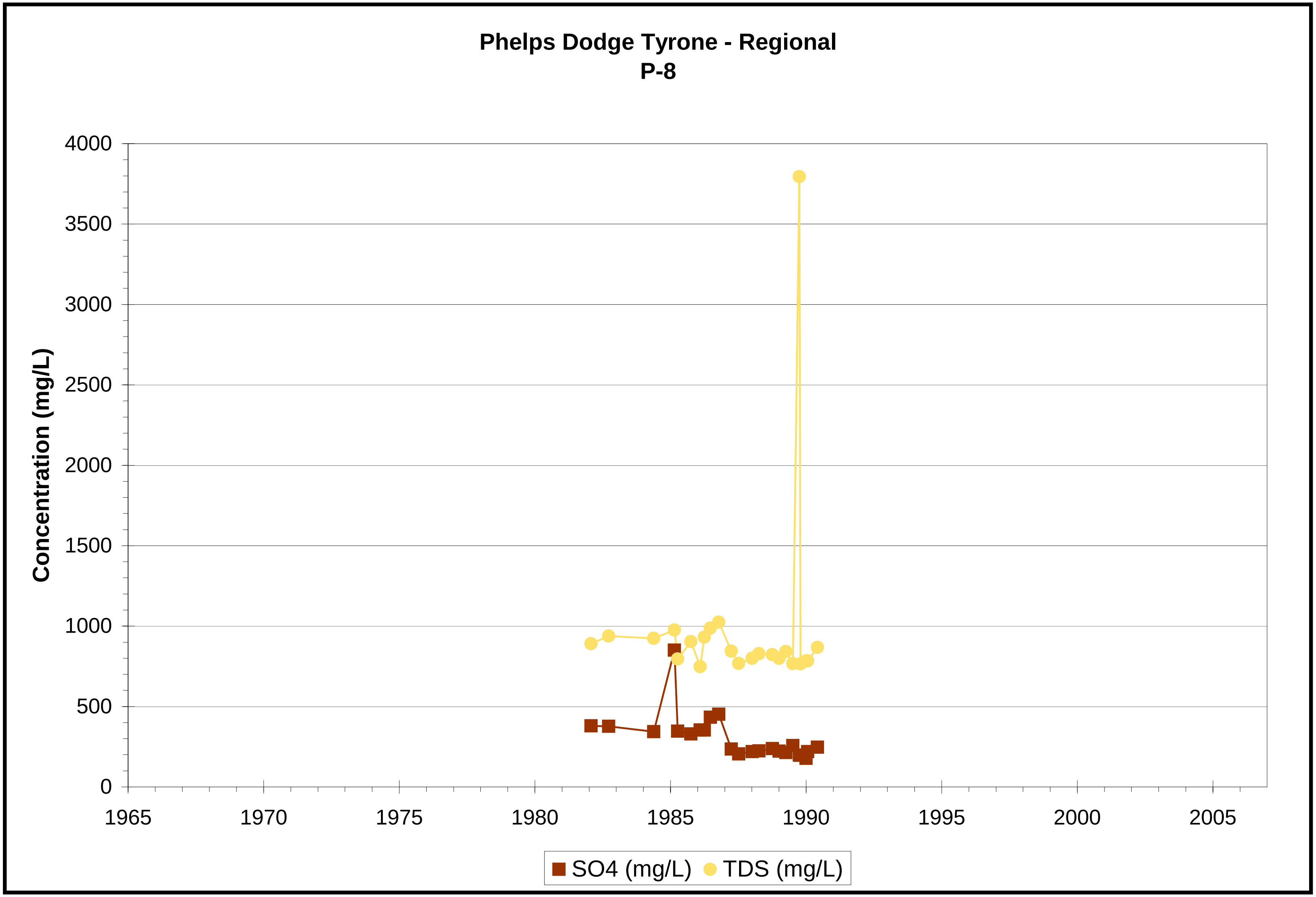

Phelps Dodge Tyrone - Regional
P-6RR
Concentration (mg/L)
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

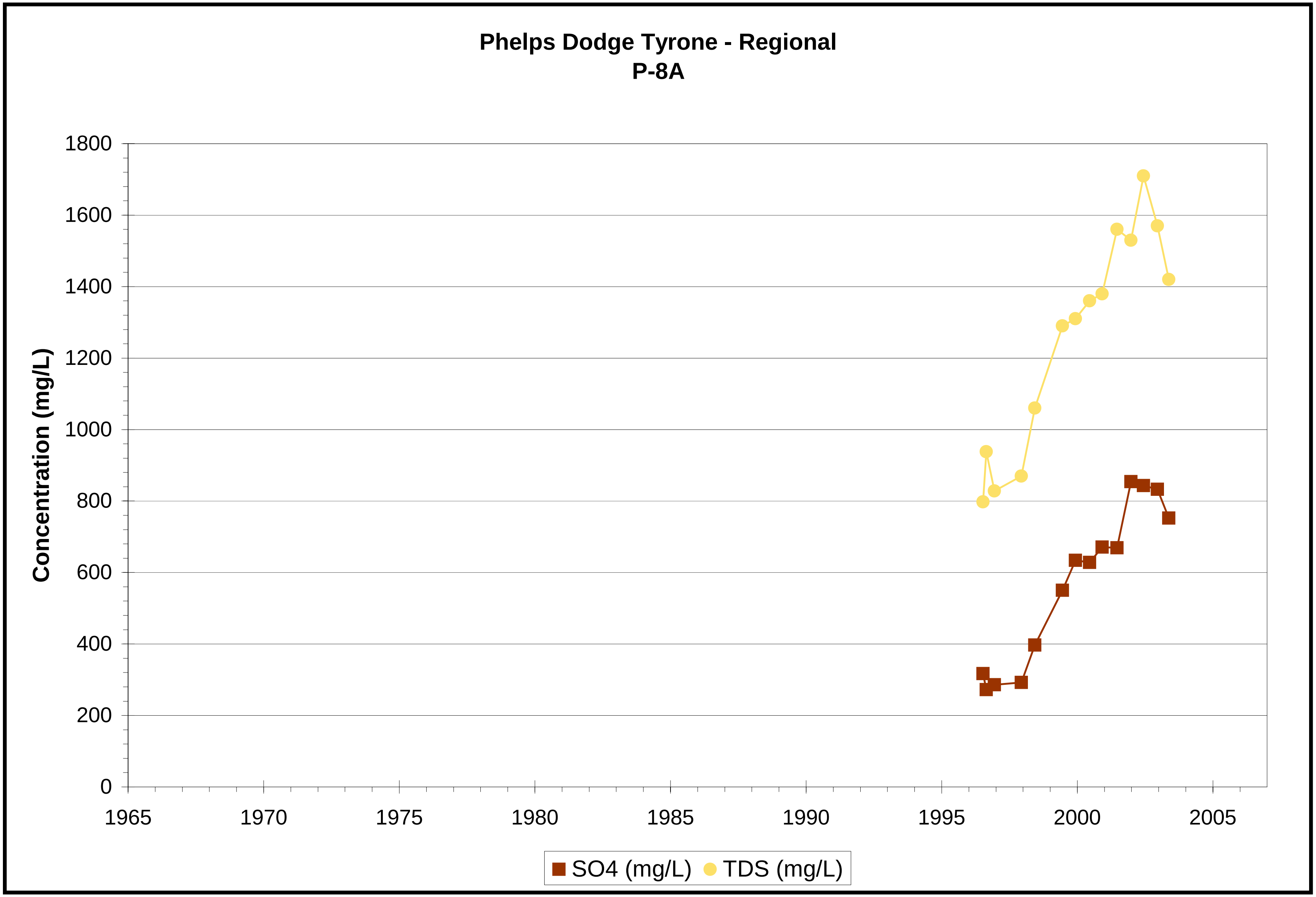


Phelps Dodge Tyrone - Regional
P-6RRR
Concentration (mg/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

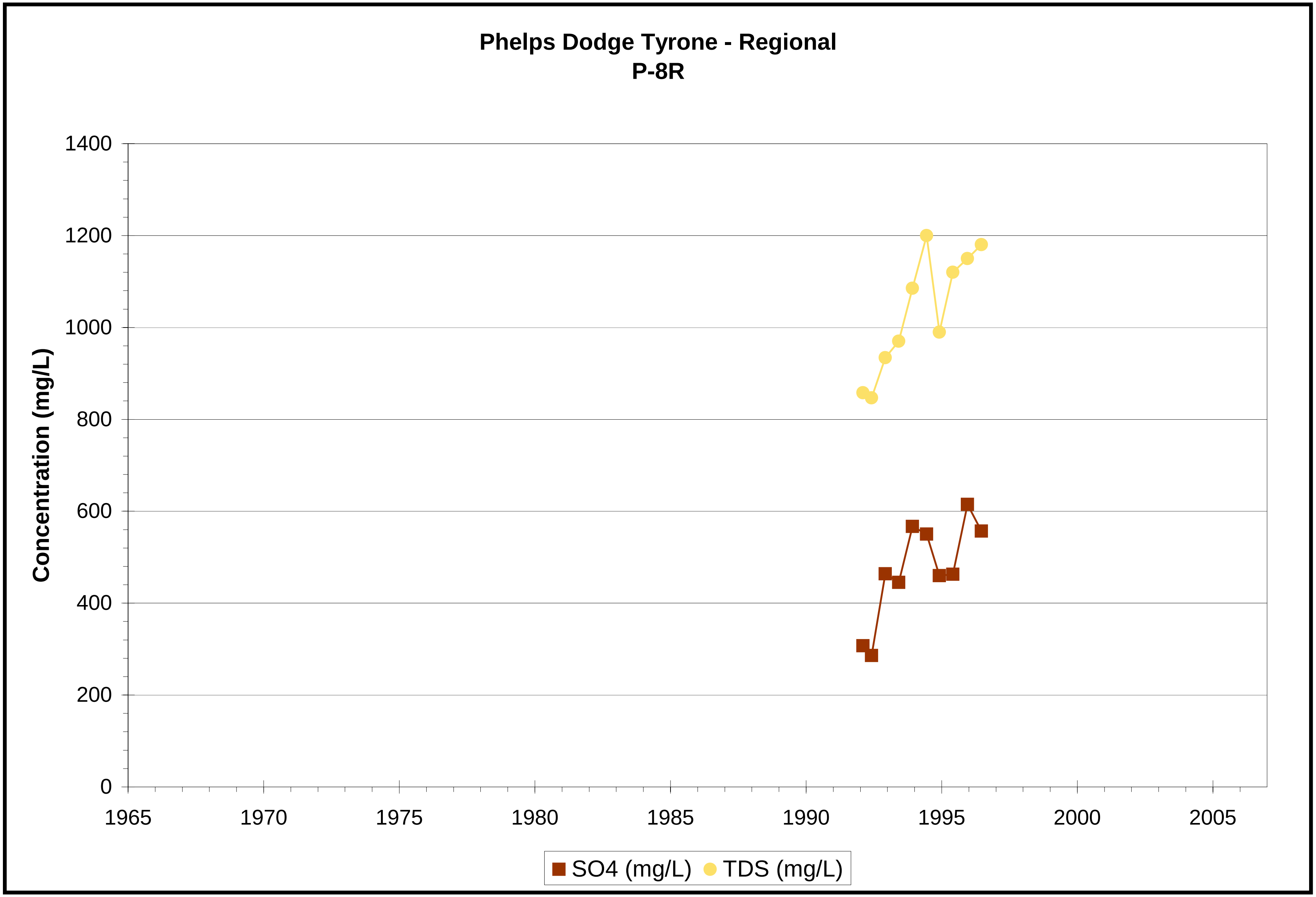


Phelps Dodge Tyrone - Regional
P-6RRRR
Concentration (mg/L)
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

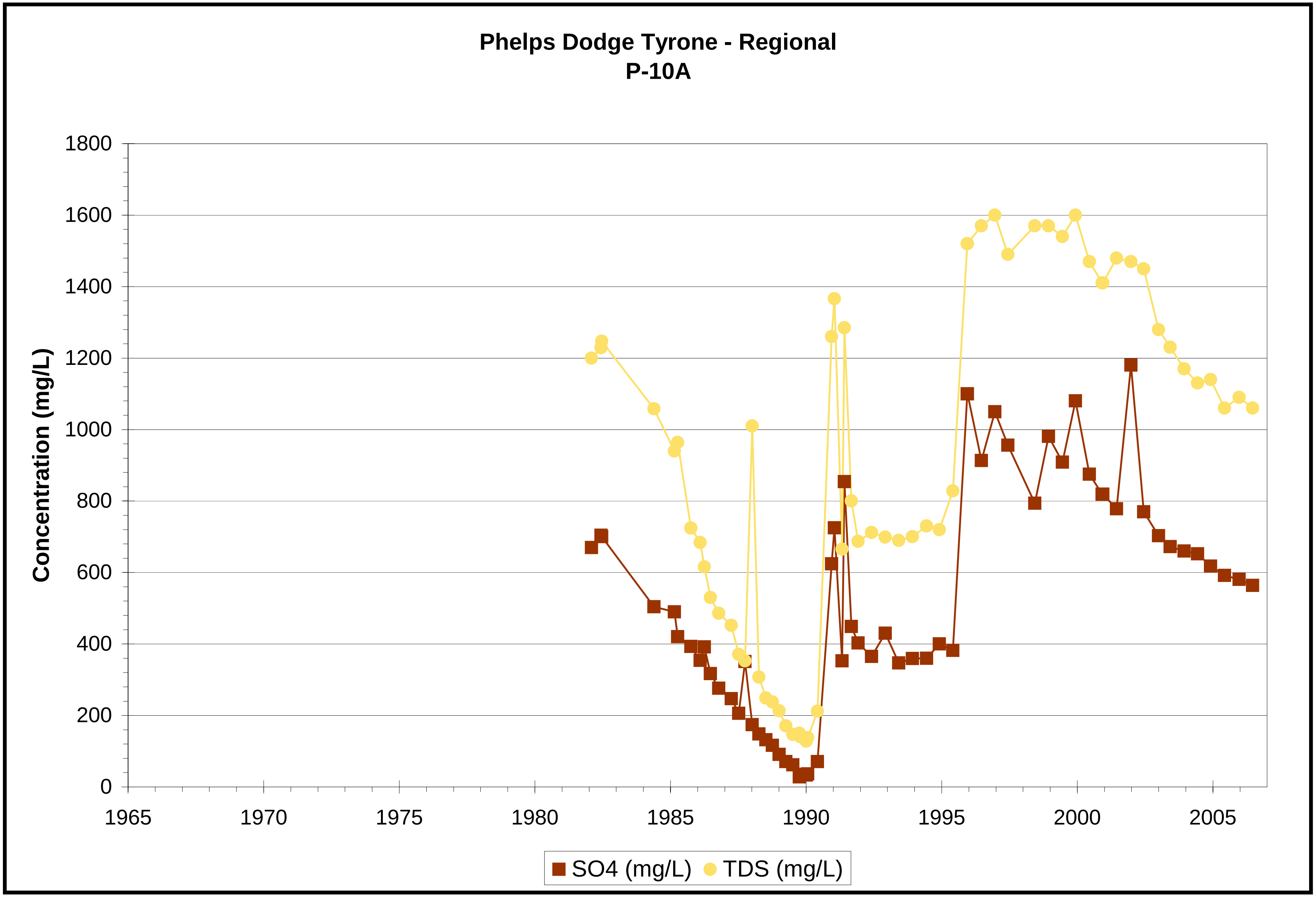

Phelps Dodge Tyrone - Regional
P-8
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



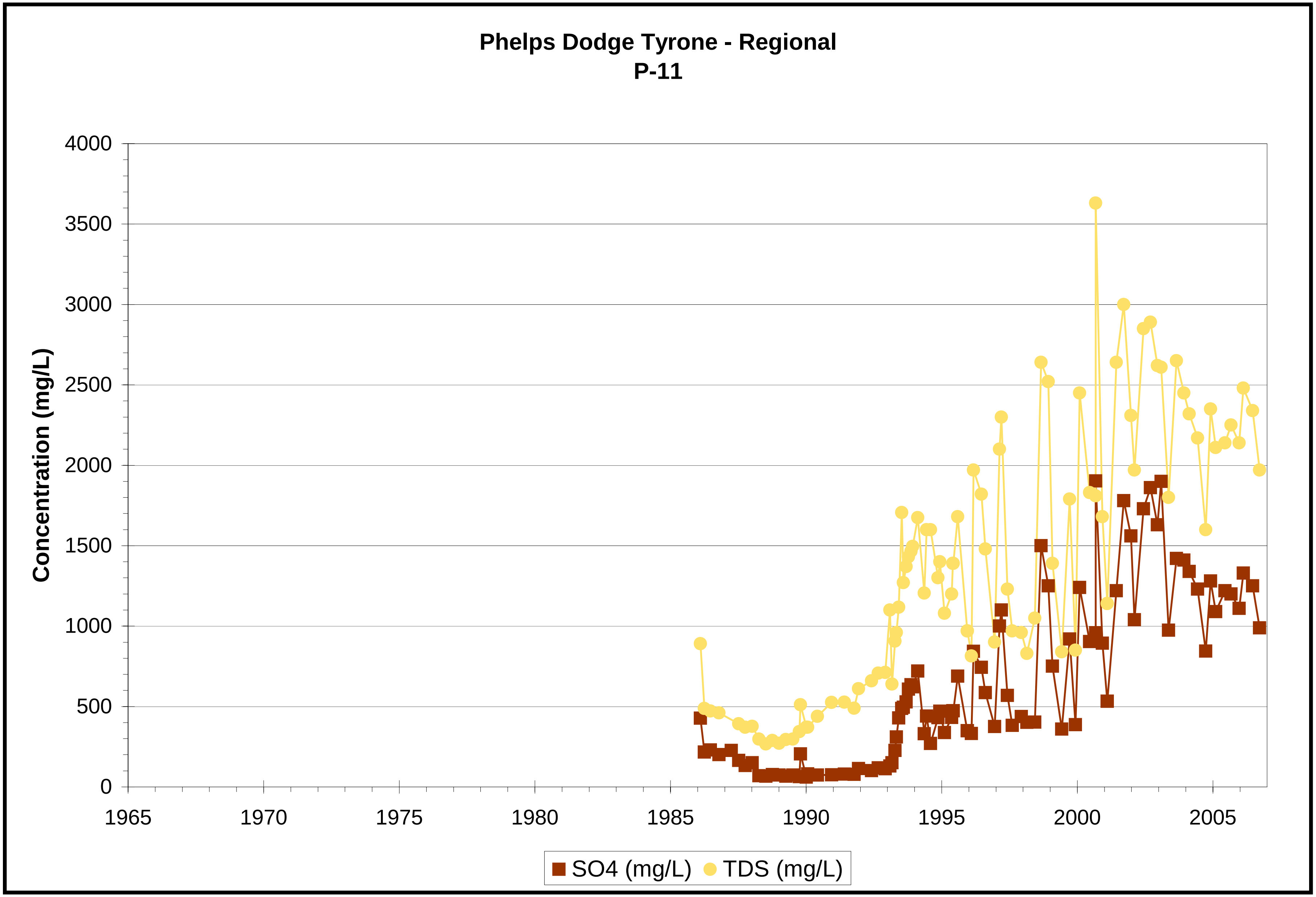
Phelps Dodge Tyrone - Regional
P-8A
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1800
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

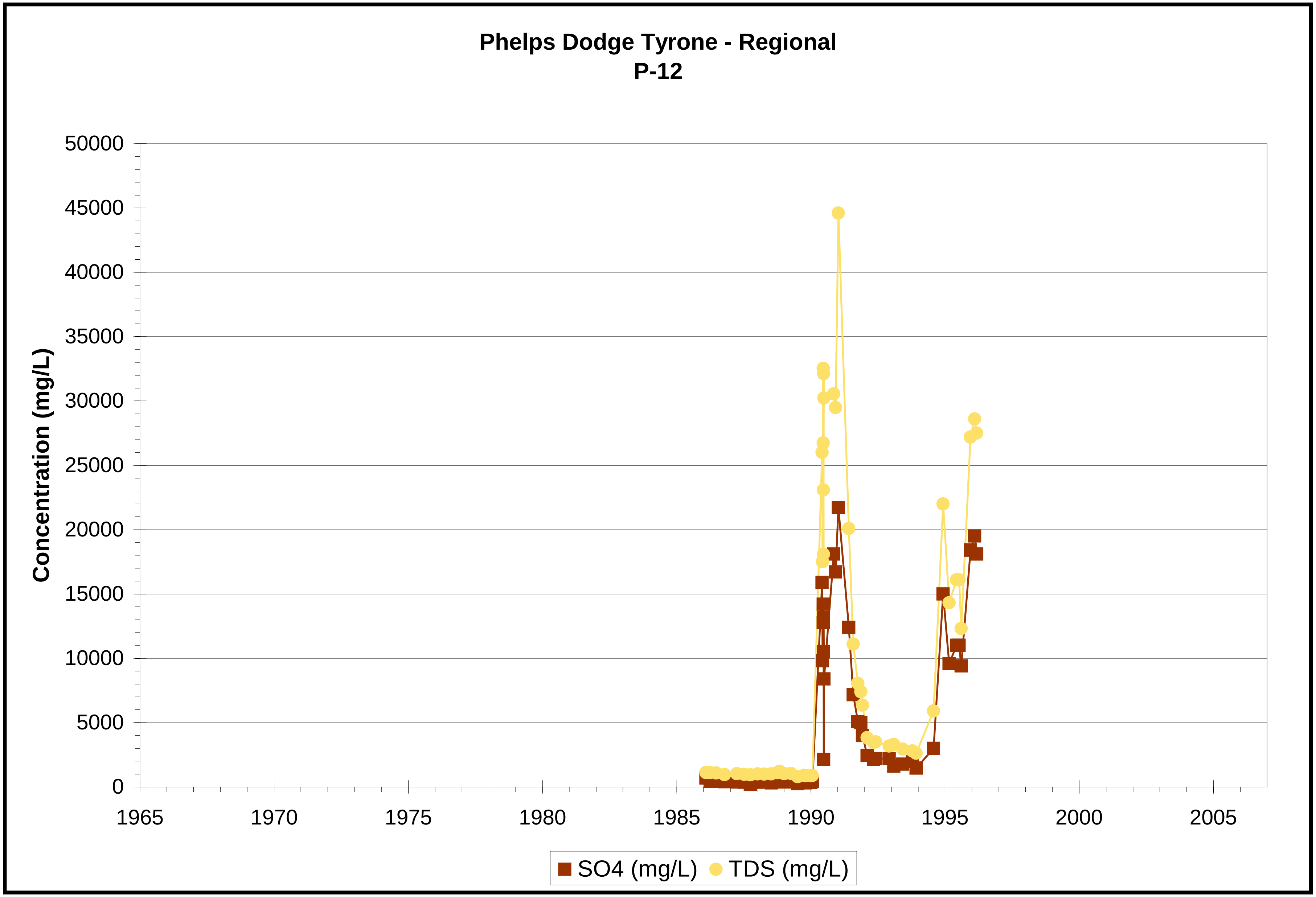


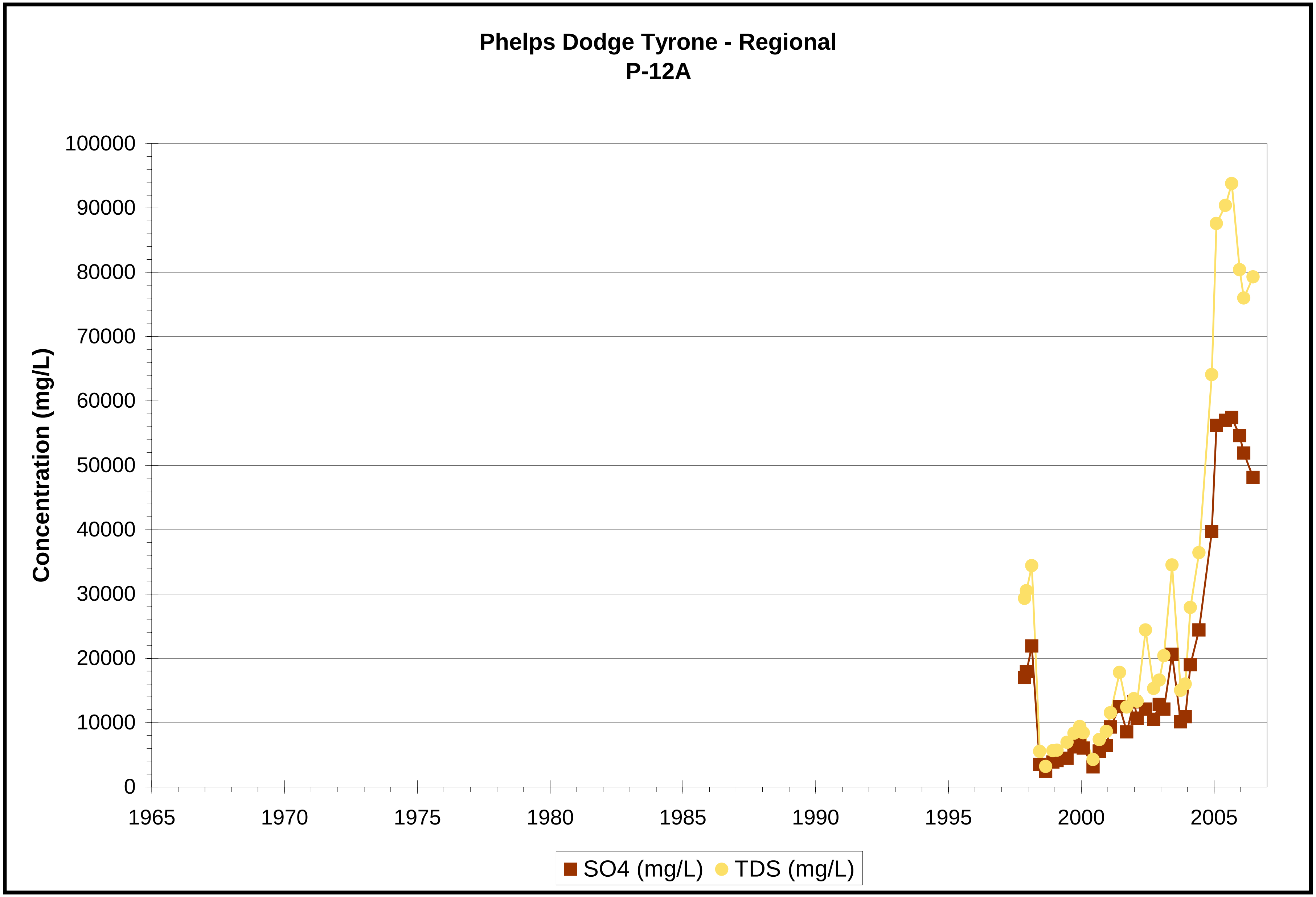
Phelps Dodge Tyrone - Regional
P-8R
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



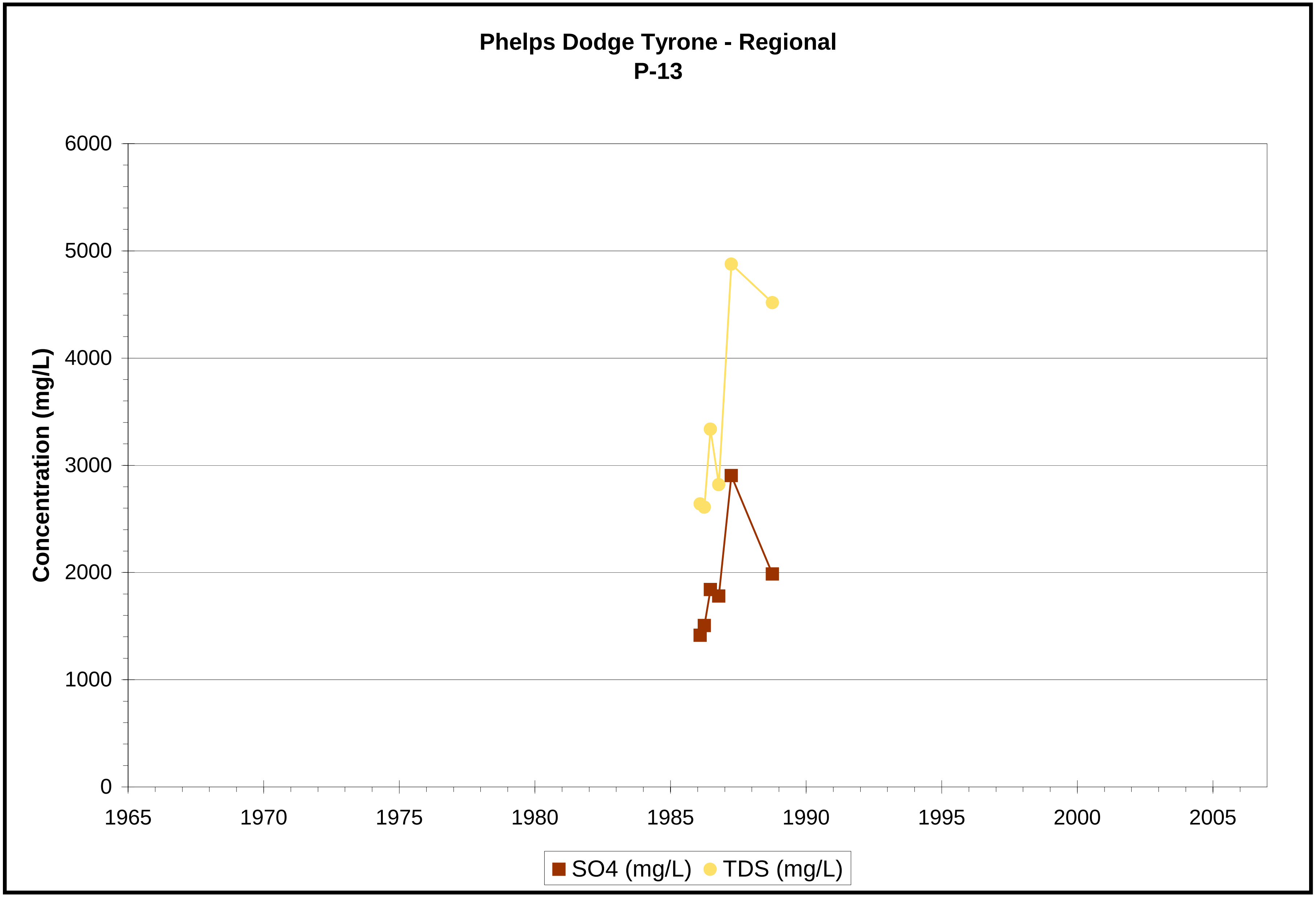
Phelps Dodge Tyrone - Regional
P-10A
Concentration (mg/L)
1800
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-11
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

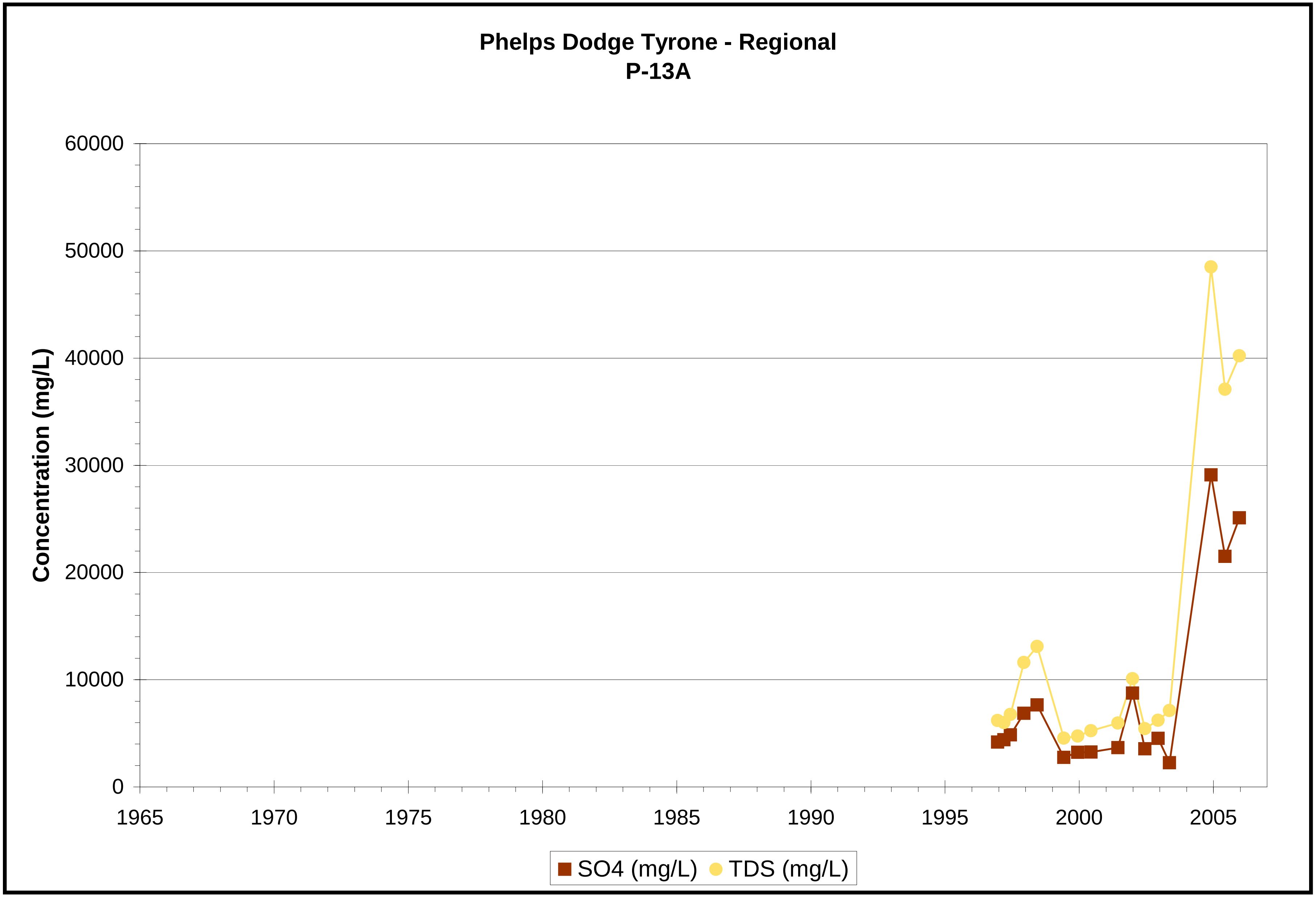

Phelps Dodge Tyrone - Regional
P-12
Concentration (mg/L)
50000
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



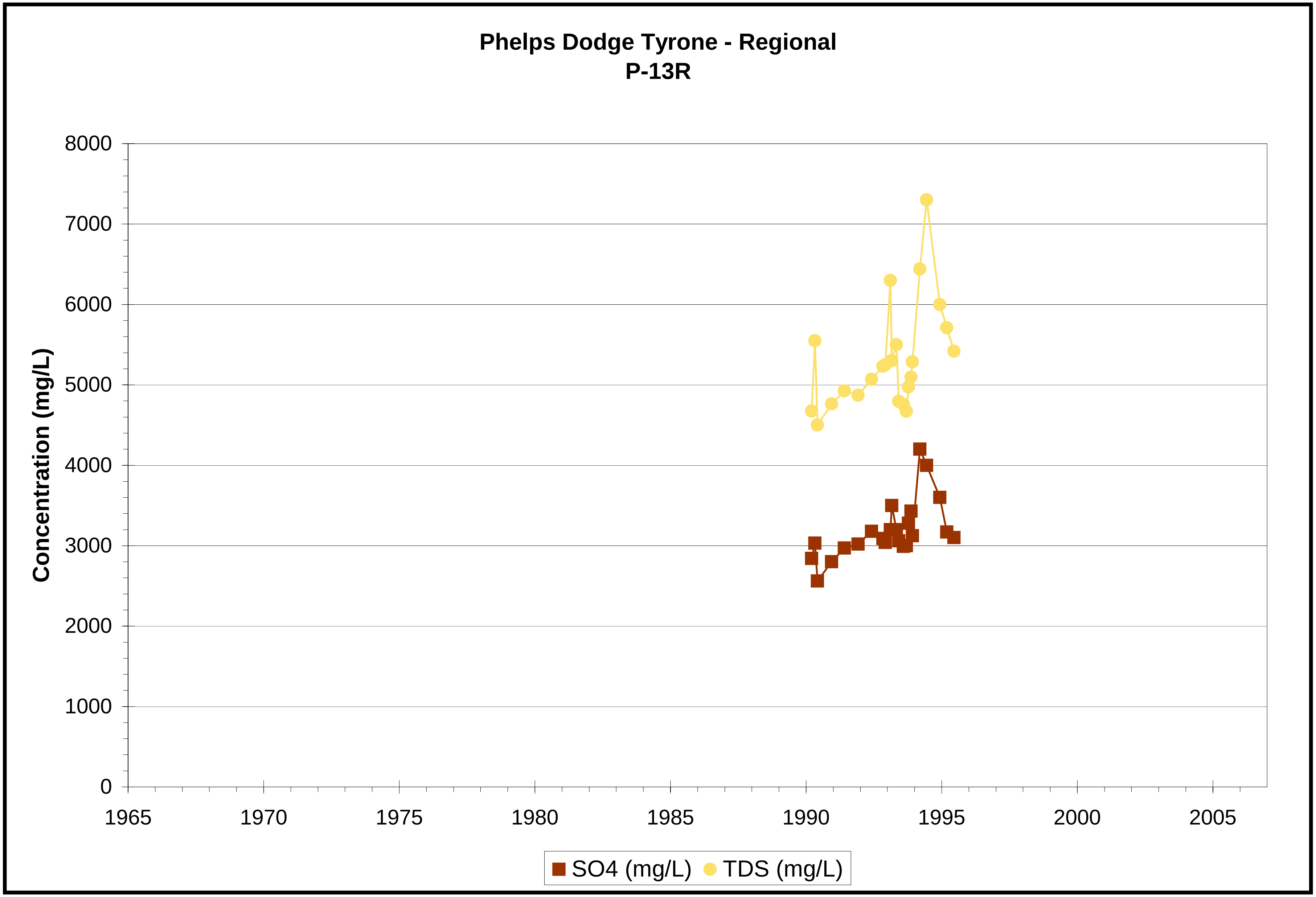
Phelps Dodge Tyrone - Regional
P-12A
Concentration (mg/L)
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



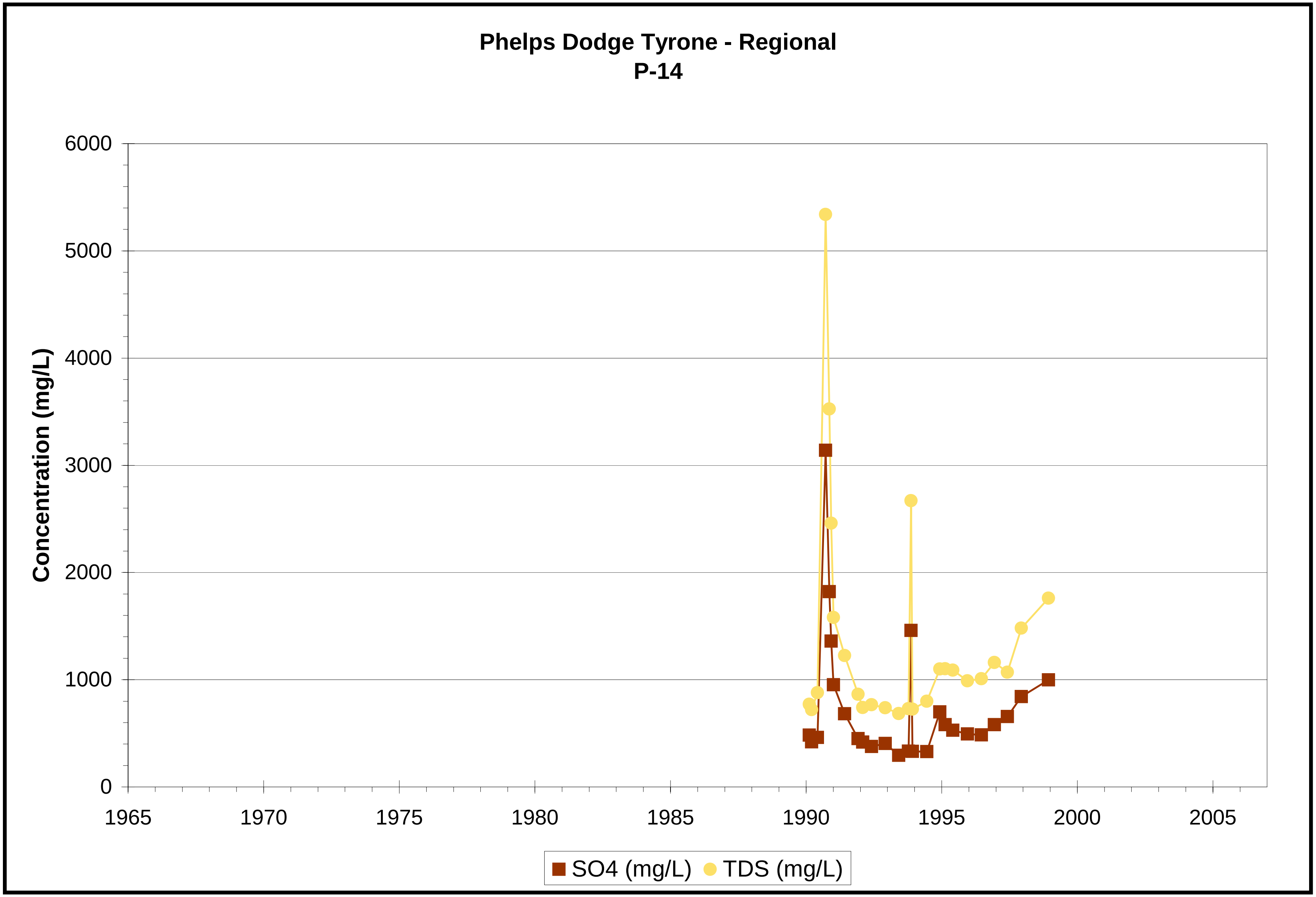
Phelps Dodge Tyrone - Regional
P-13
Concentration (mg/L)
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



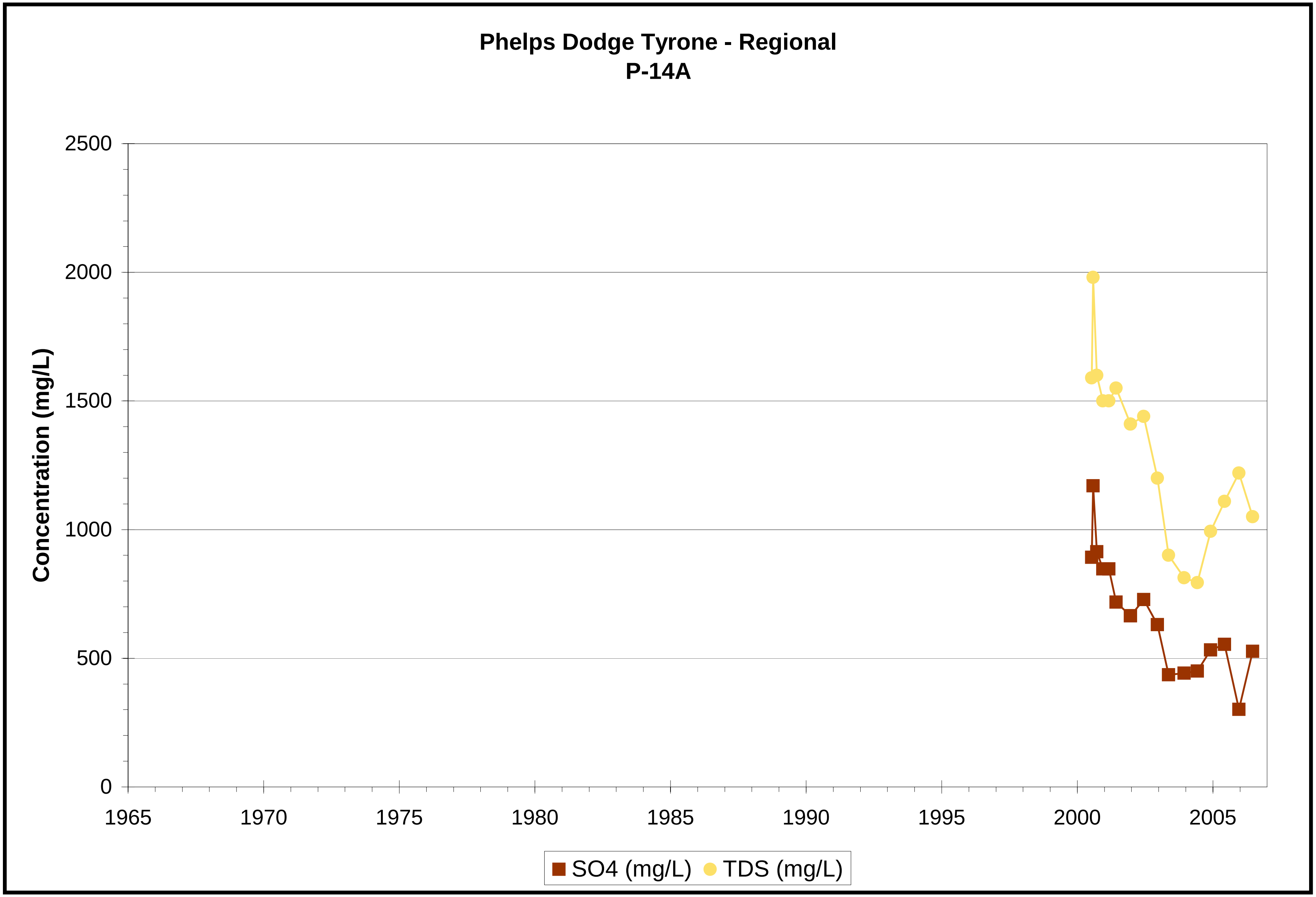
Phelps Dodge Tyrone - Regional
P-13A
Concentration (mg/L)
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



Phelps Dodge Tyrone - Regional
P-13R
Concentration (mg/L)
8000
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

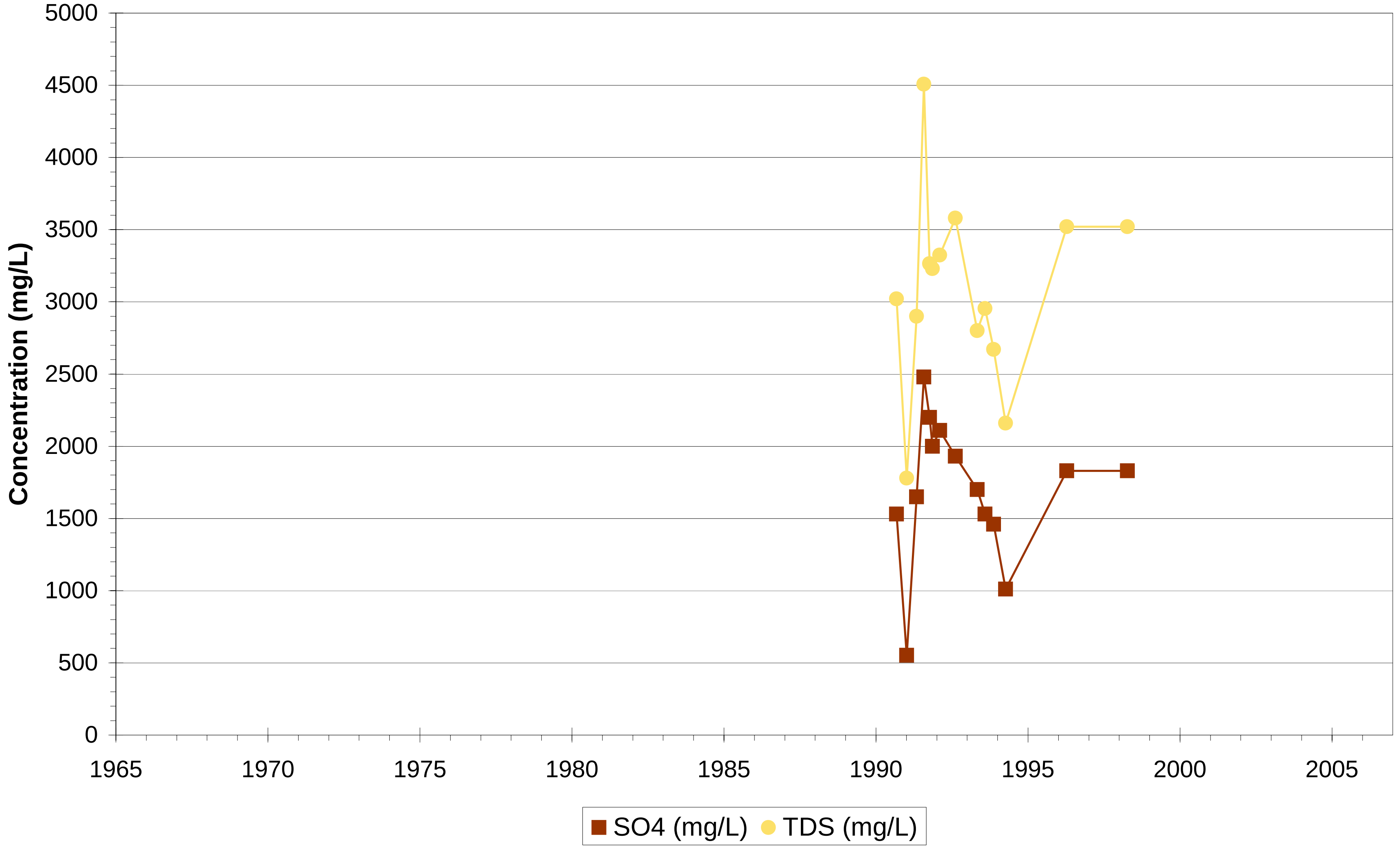


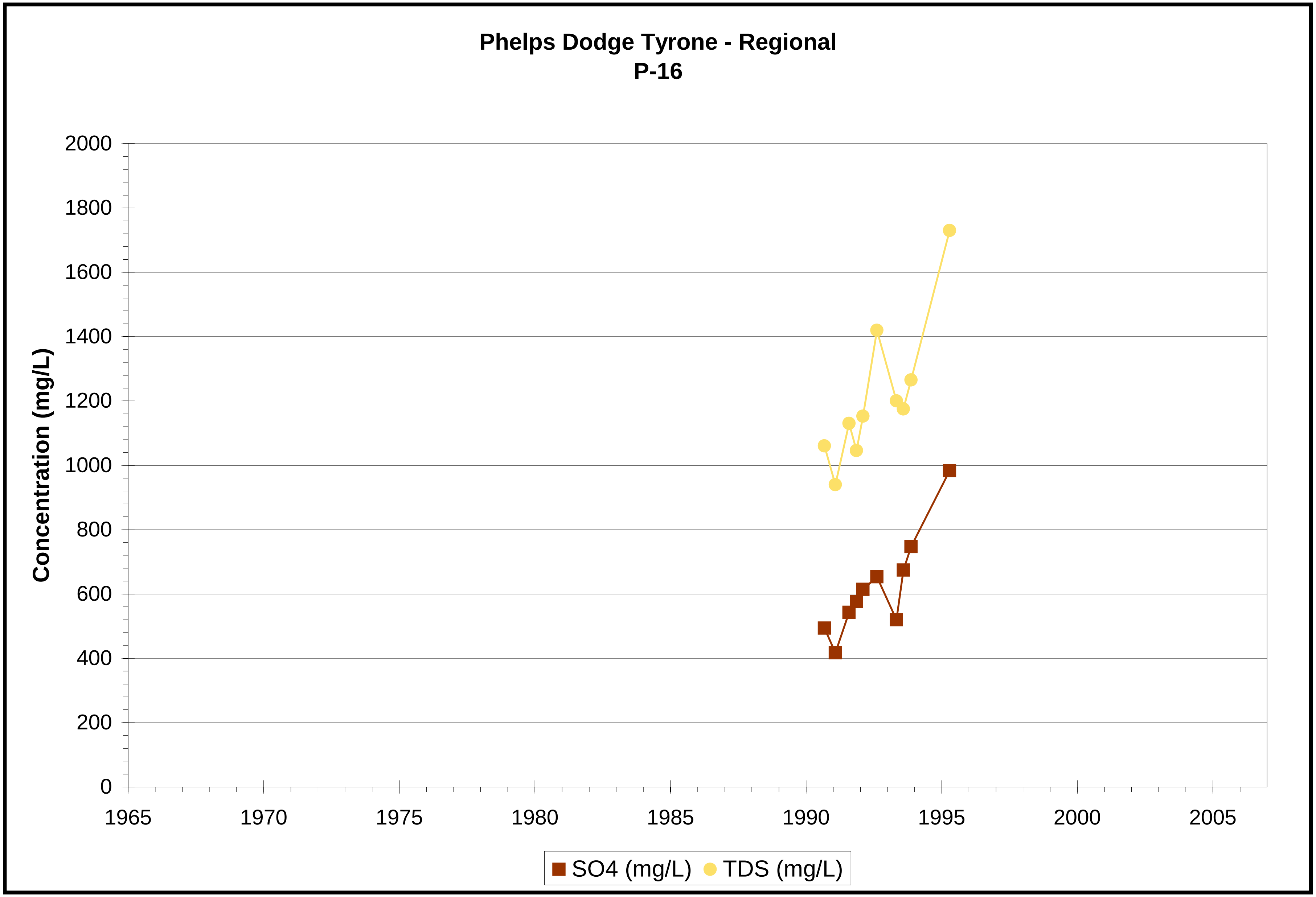
Phelps Dodge Tyrone - Regional
P-14
Concentration (mg/L)
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



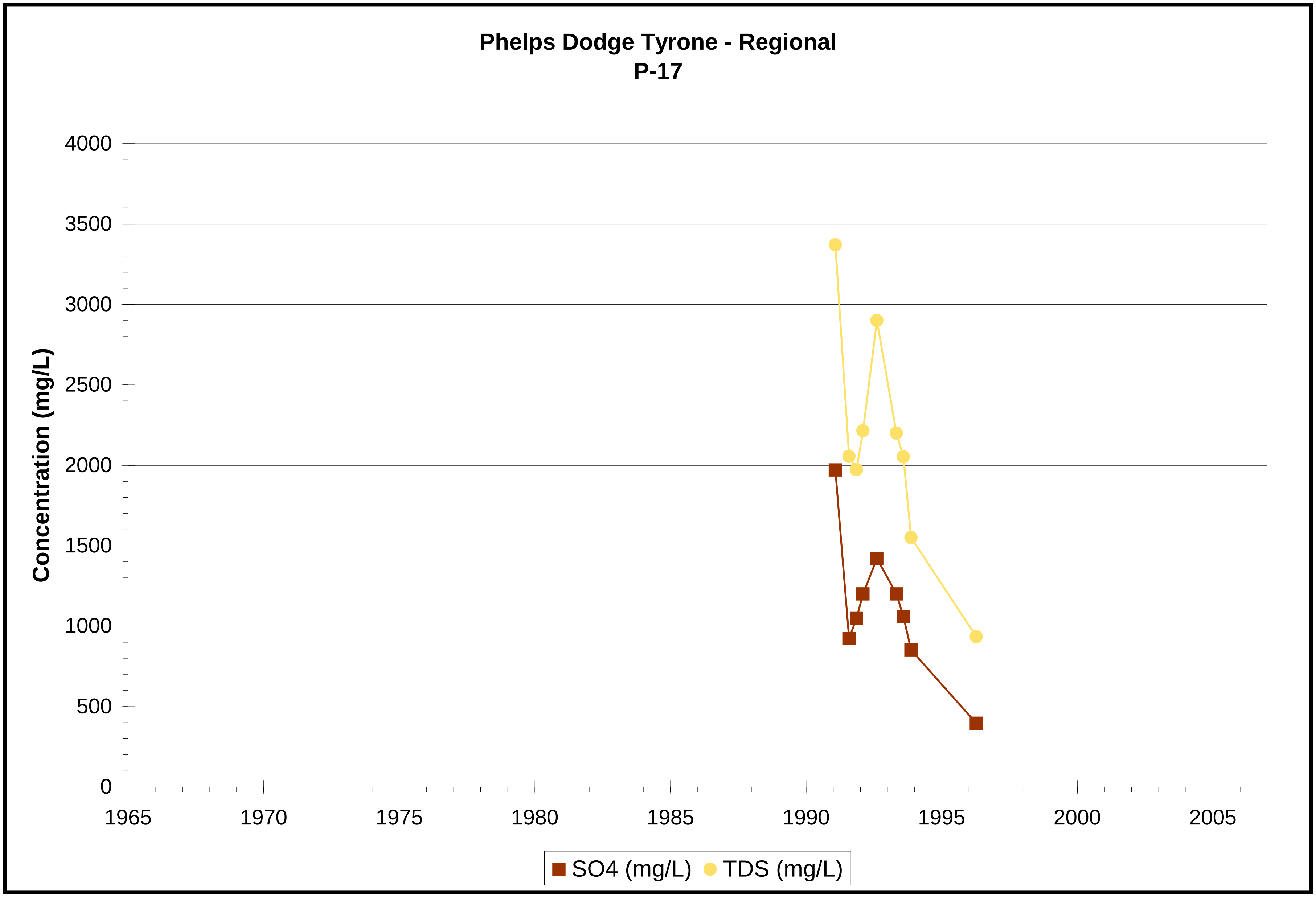
Phelps Dodge Tyrone - Regional
P-14A
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

Phelps Dodge Tyrone - Regional
P-15D

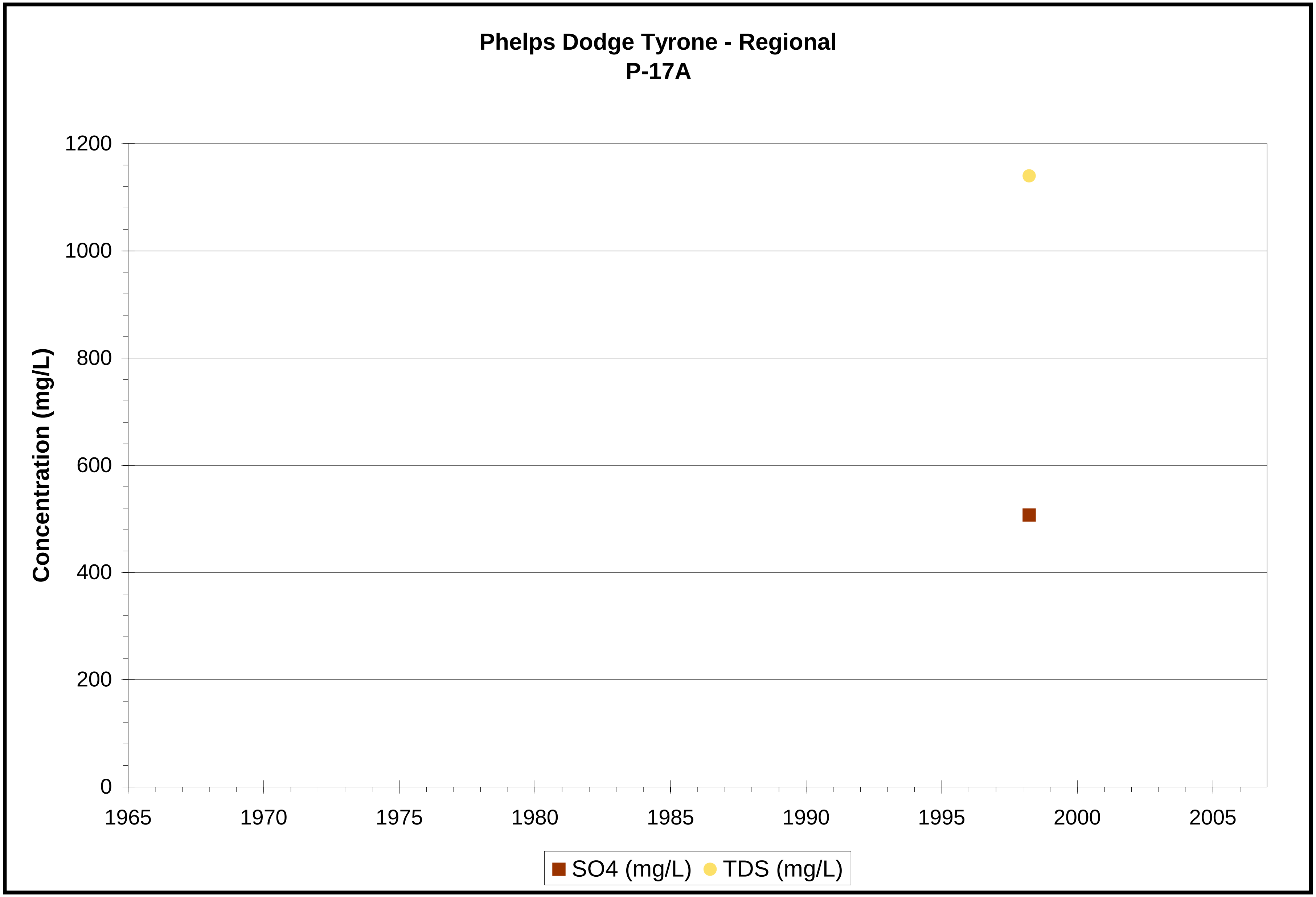




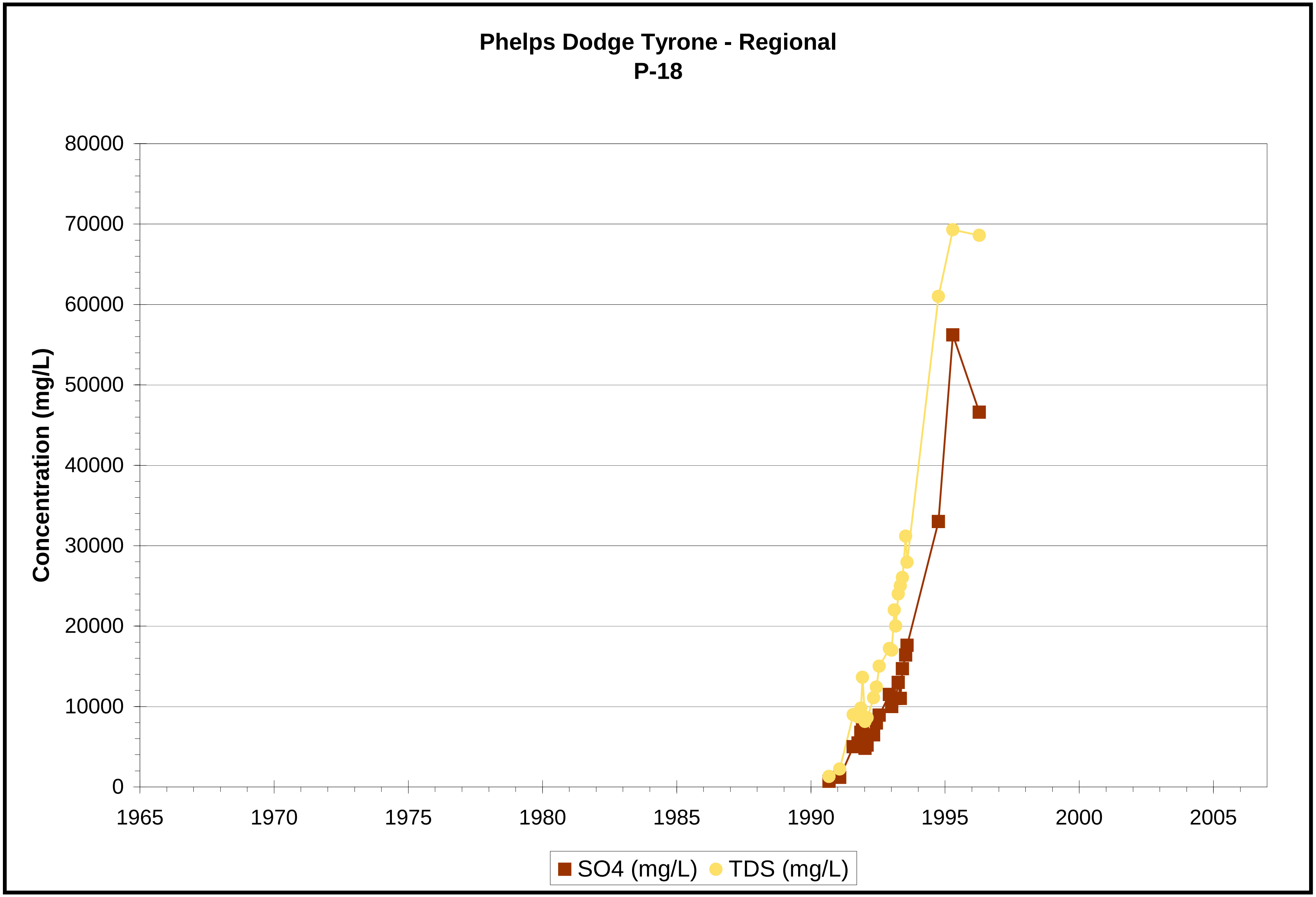
Phelps Dodge Tyrone - Regional
P-16
Concentration (mg/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



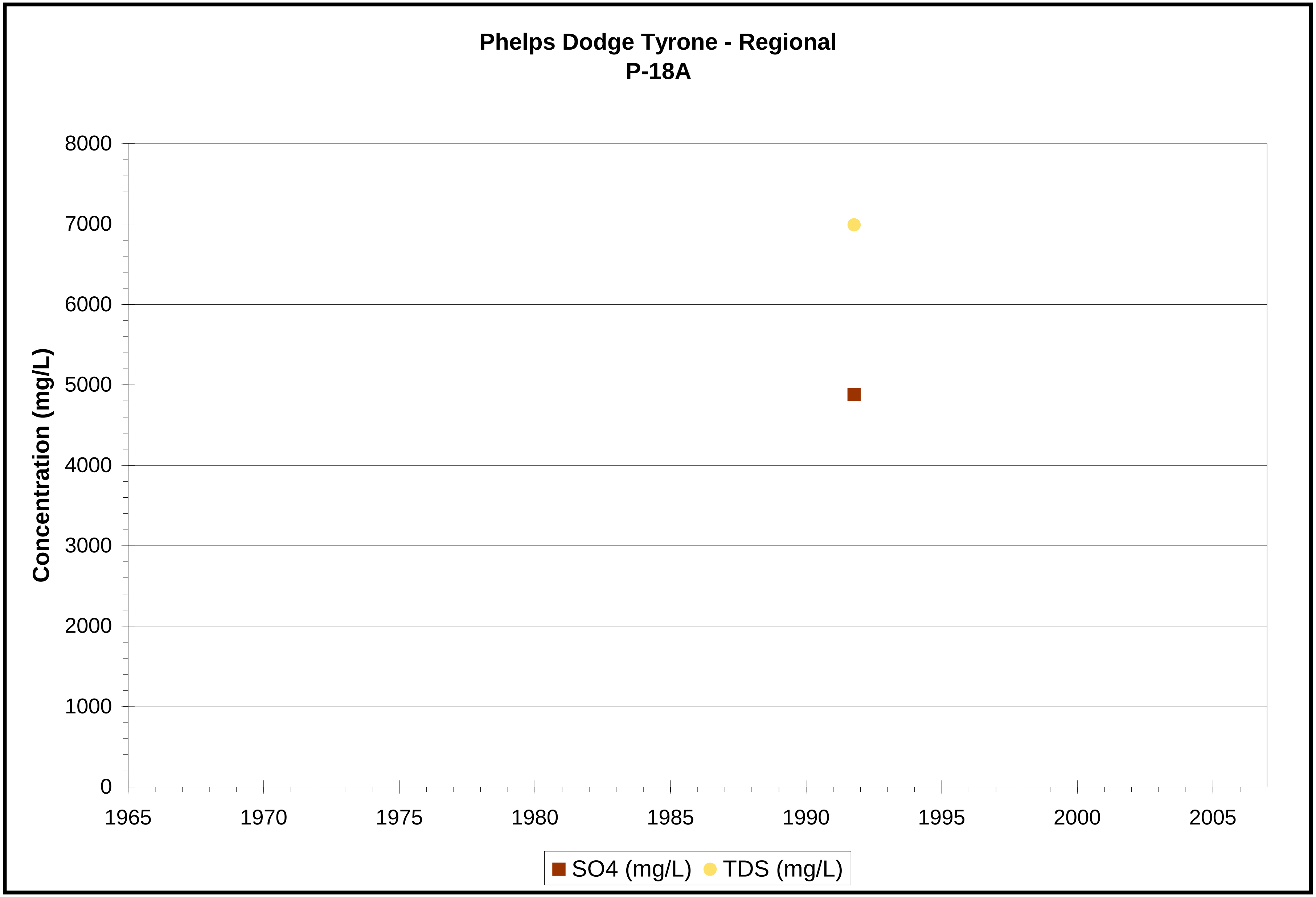
Phelps Dodge Tyrone - Regional
P-17
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



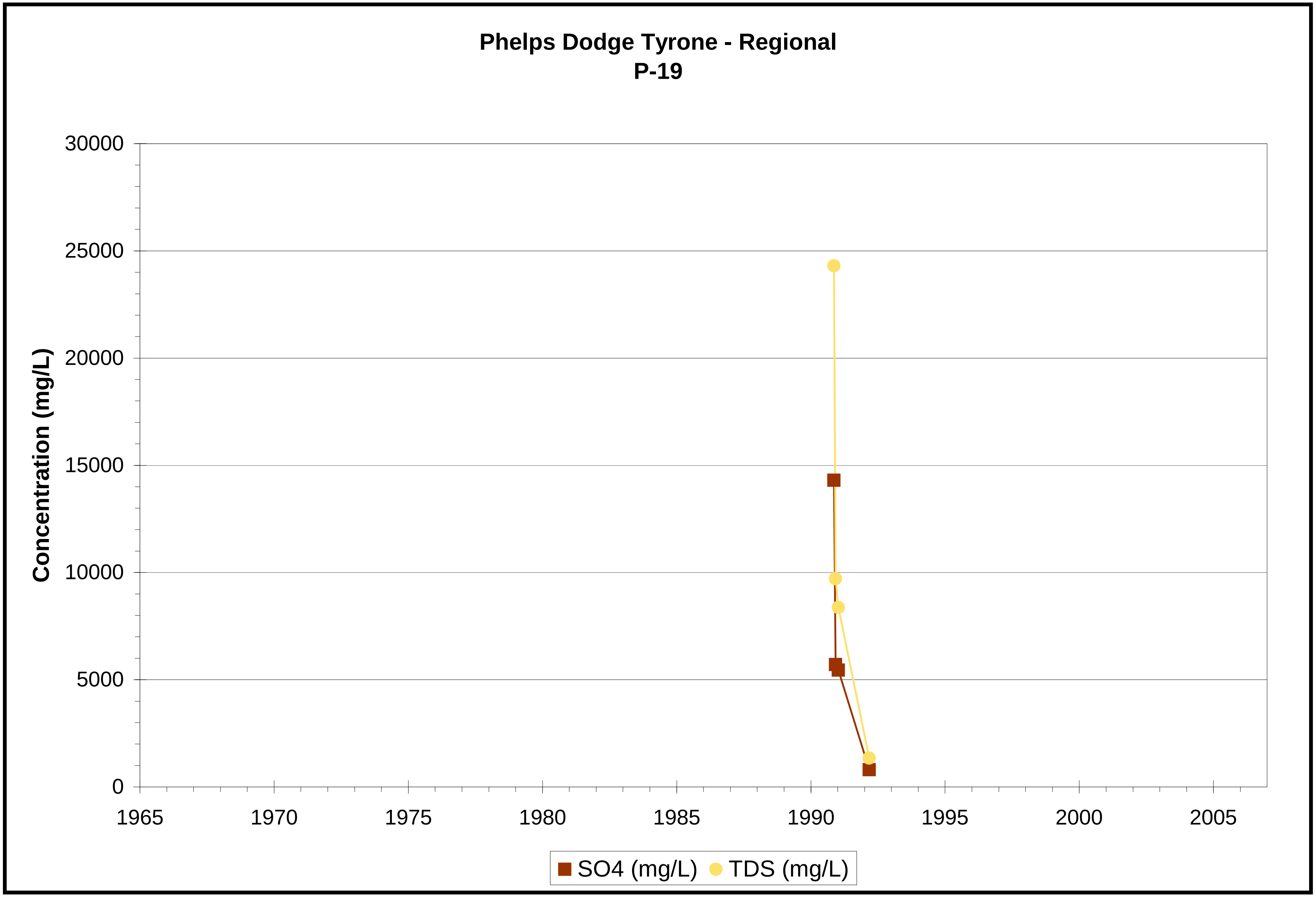
Phelps Dodge Tyrone - Regional
P-17A
Concentration (mg/L)
0
200
400
600
800
1000
1200
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

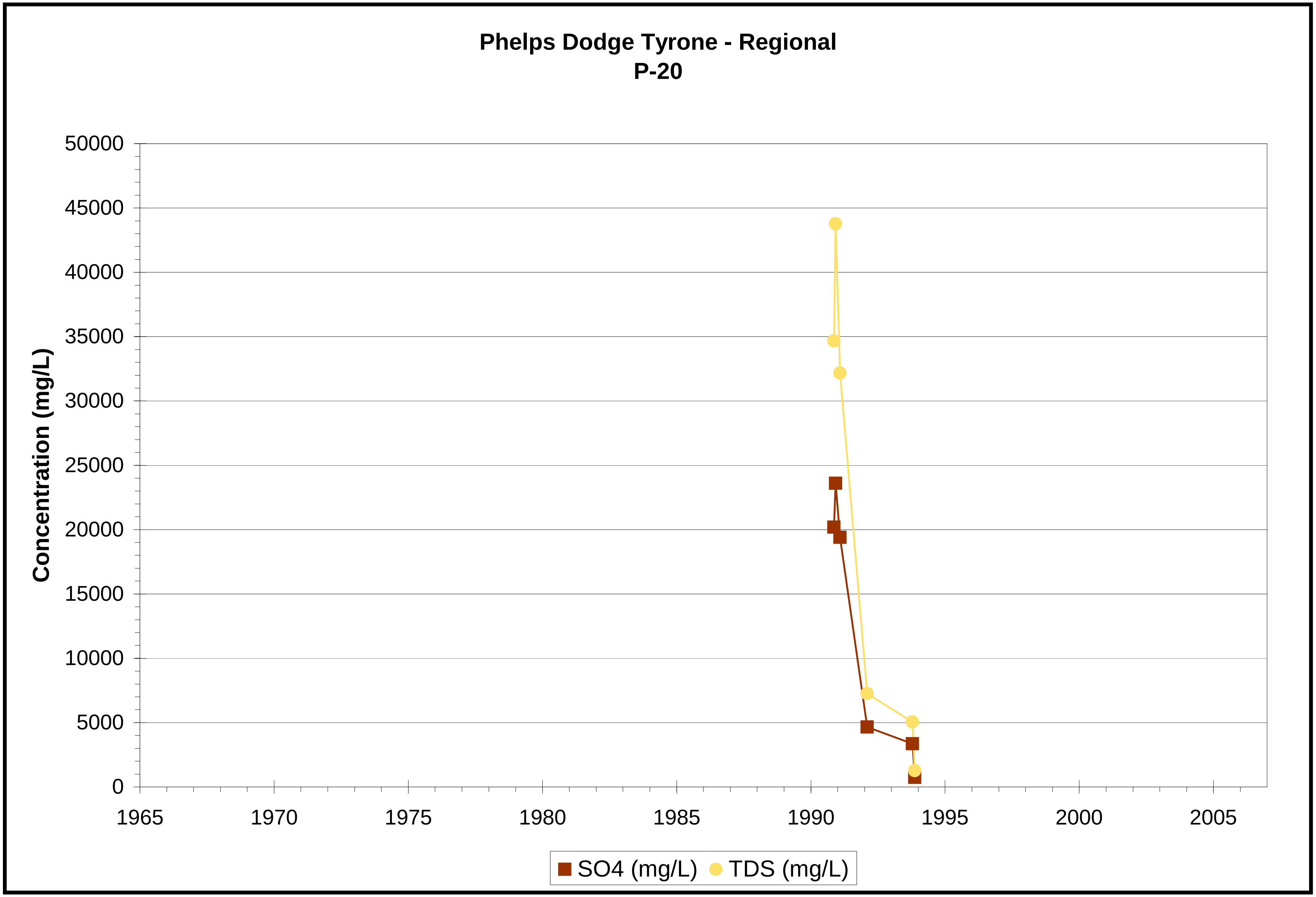


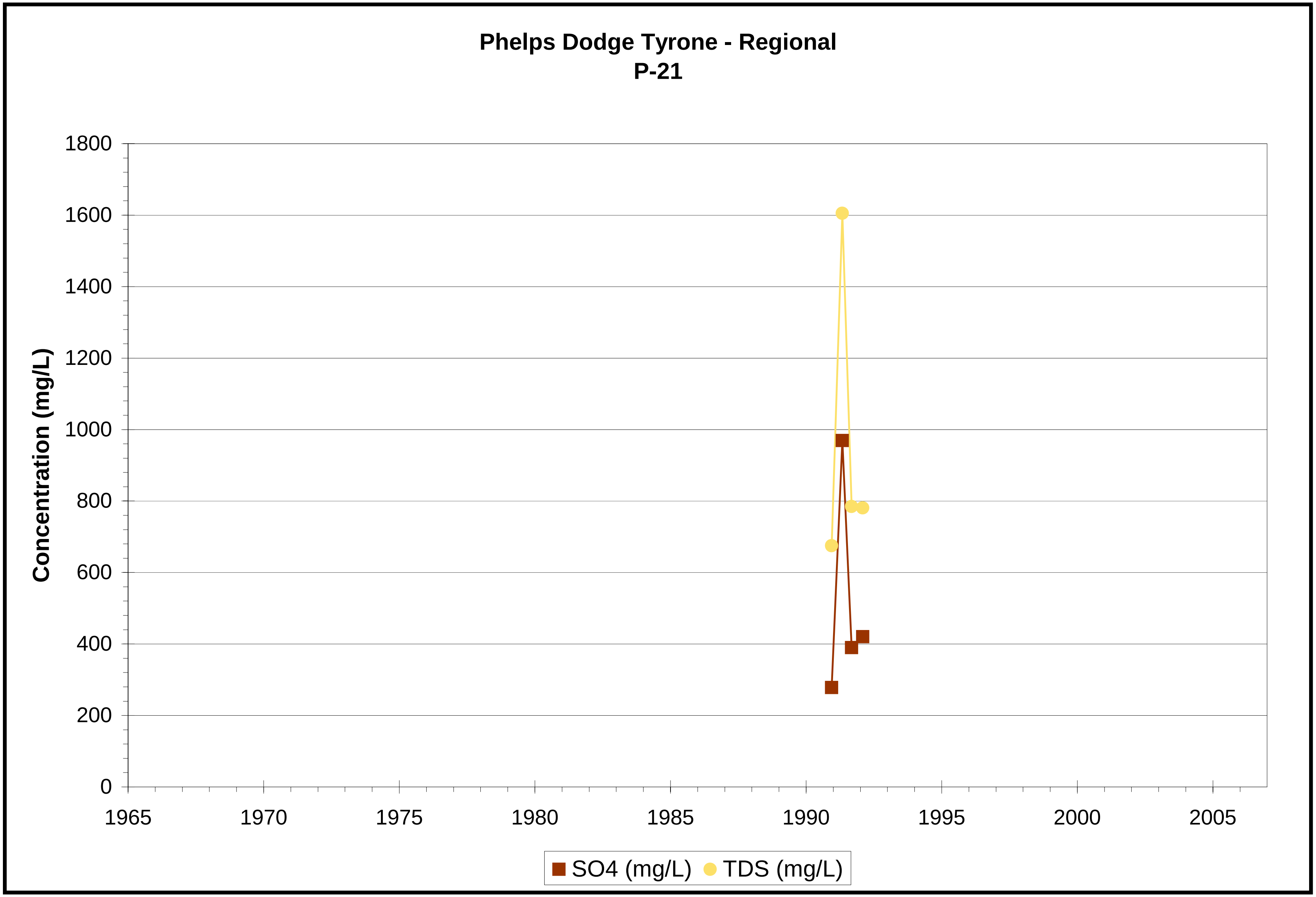
Phelps Dodge Tyrone - Regional
P-18
Concentration (mg/L)
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



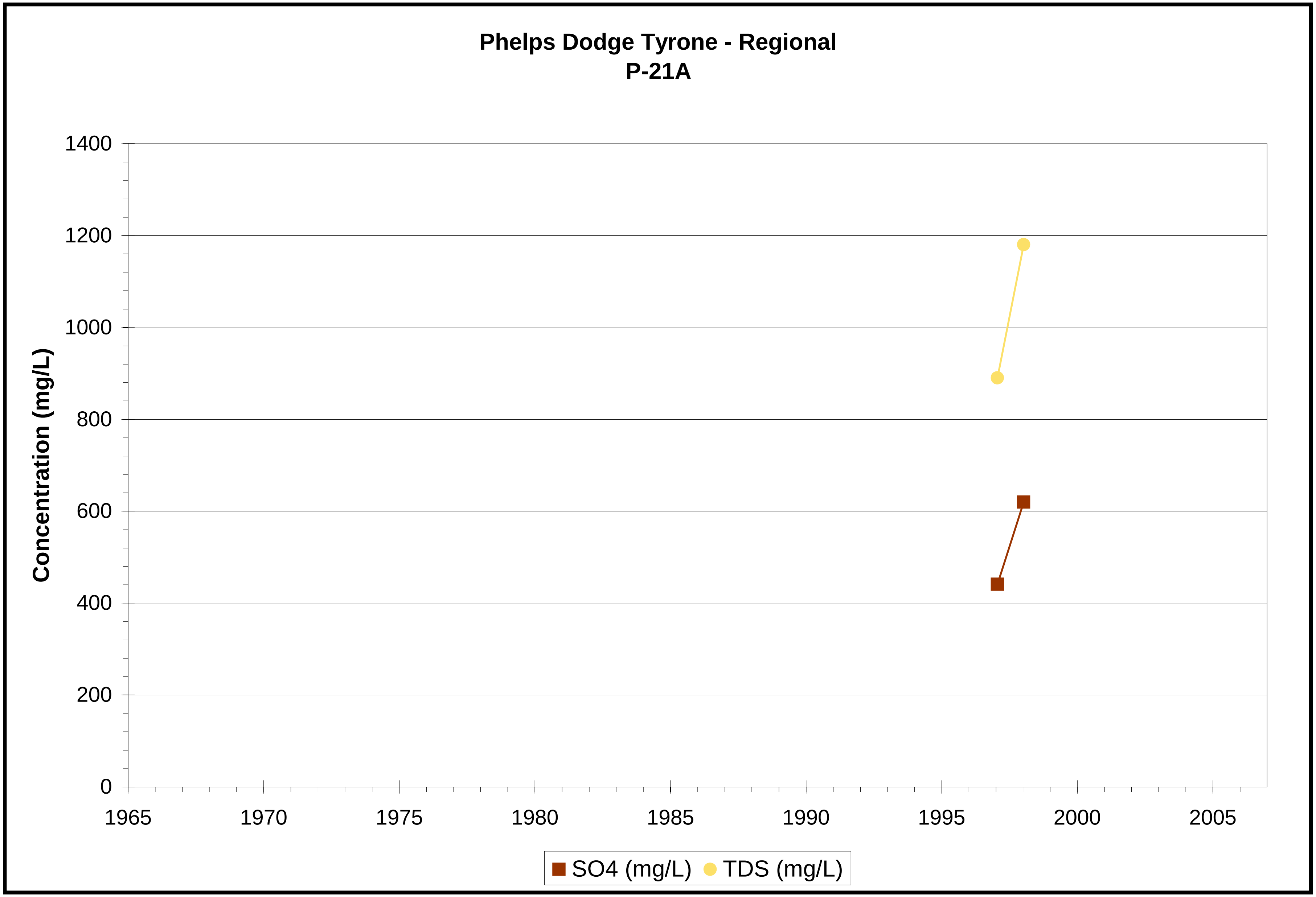
Phelps Dodge Tyrone - Regional
P-18A
Concentration (mg/L)
8000
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

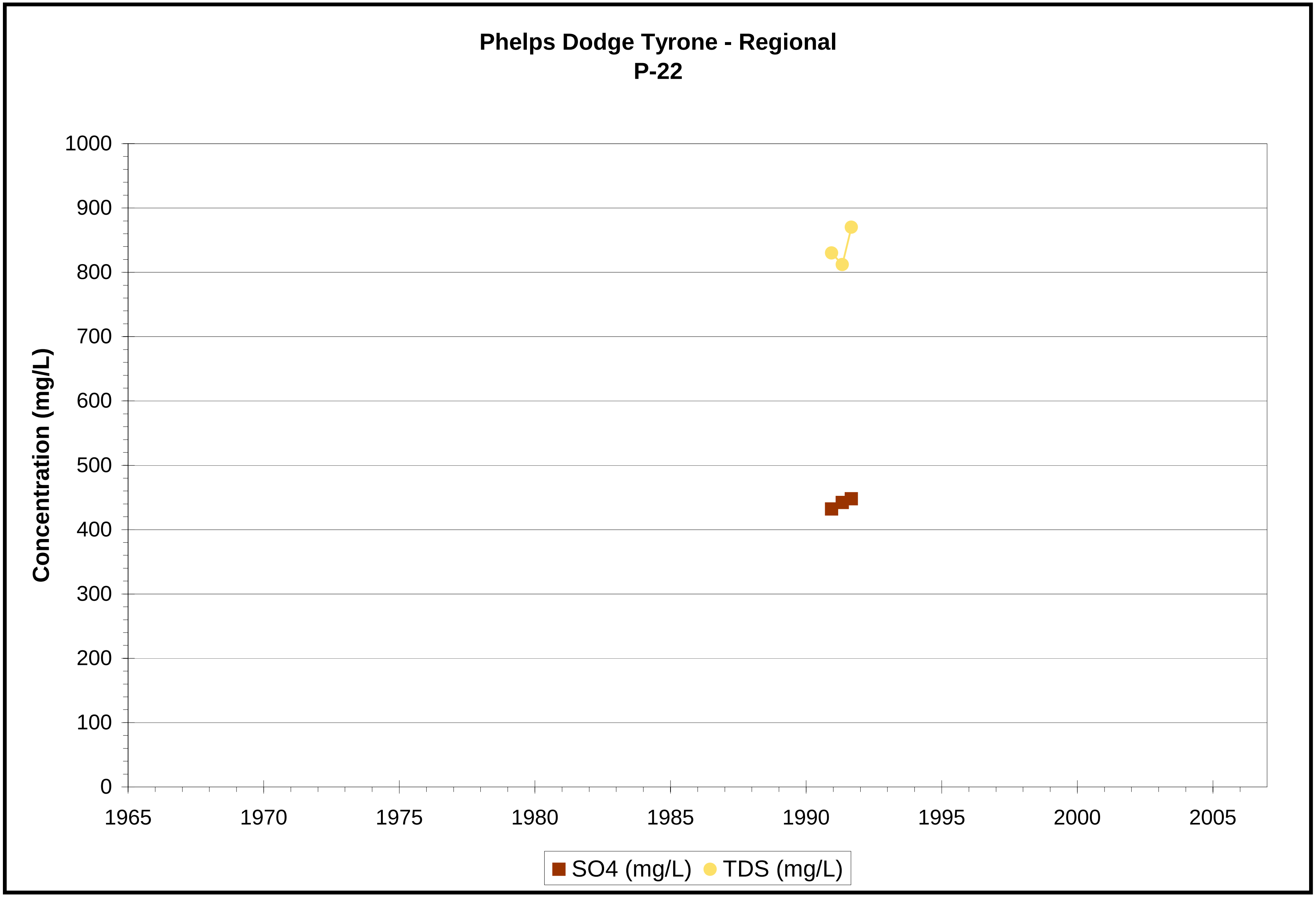

Phelps Dodge Tyrone - Regional
P-19
Concentration (mg/L)
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-20
Concentration (mg/L)
50000
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

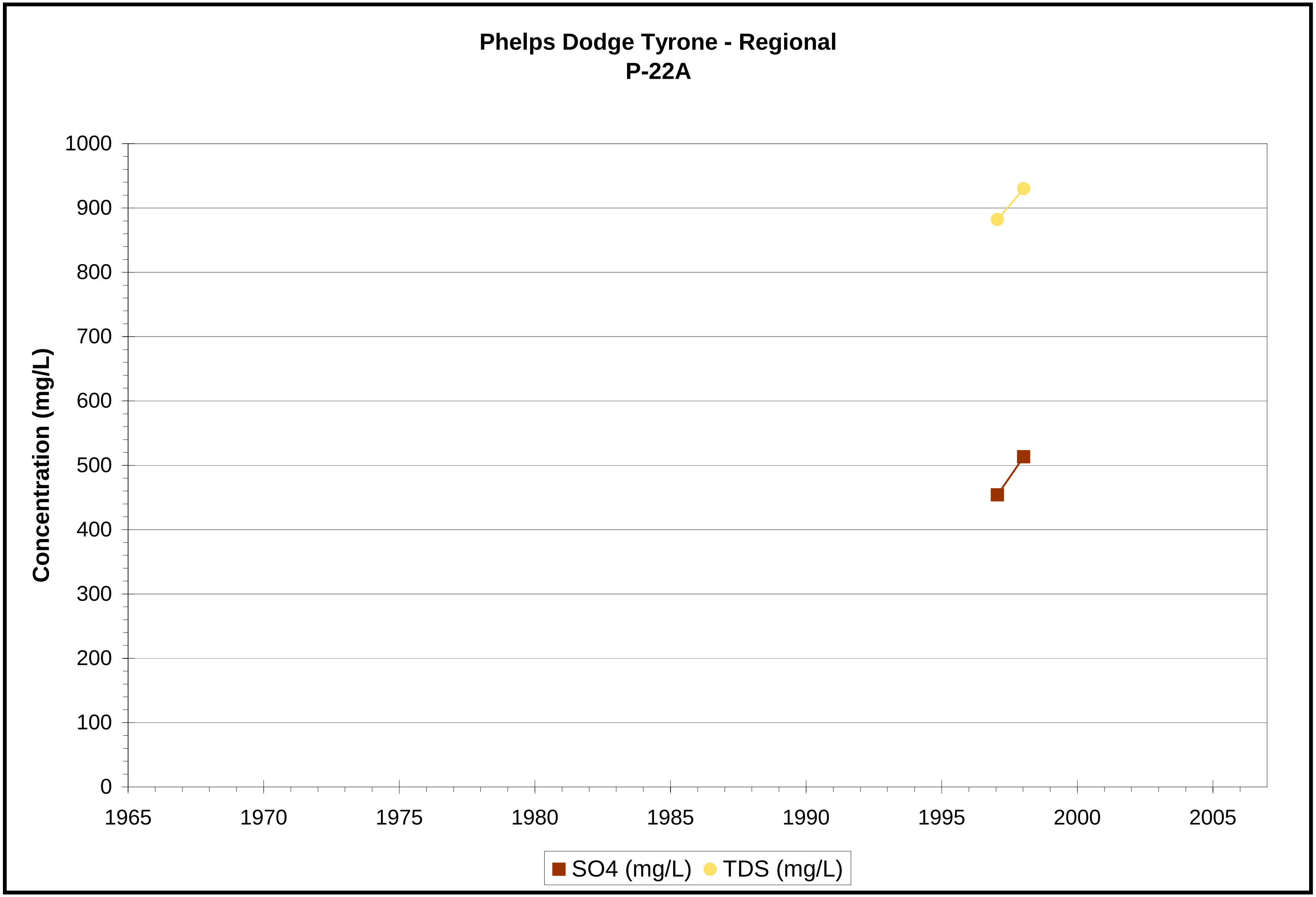


Phelps Dodge Tyrone - Regional
P-21
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1800
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

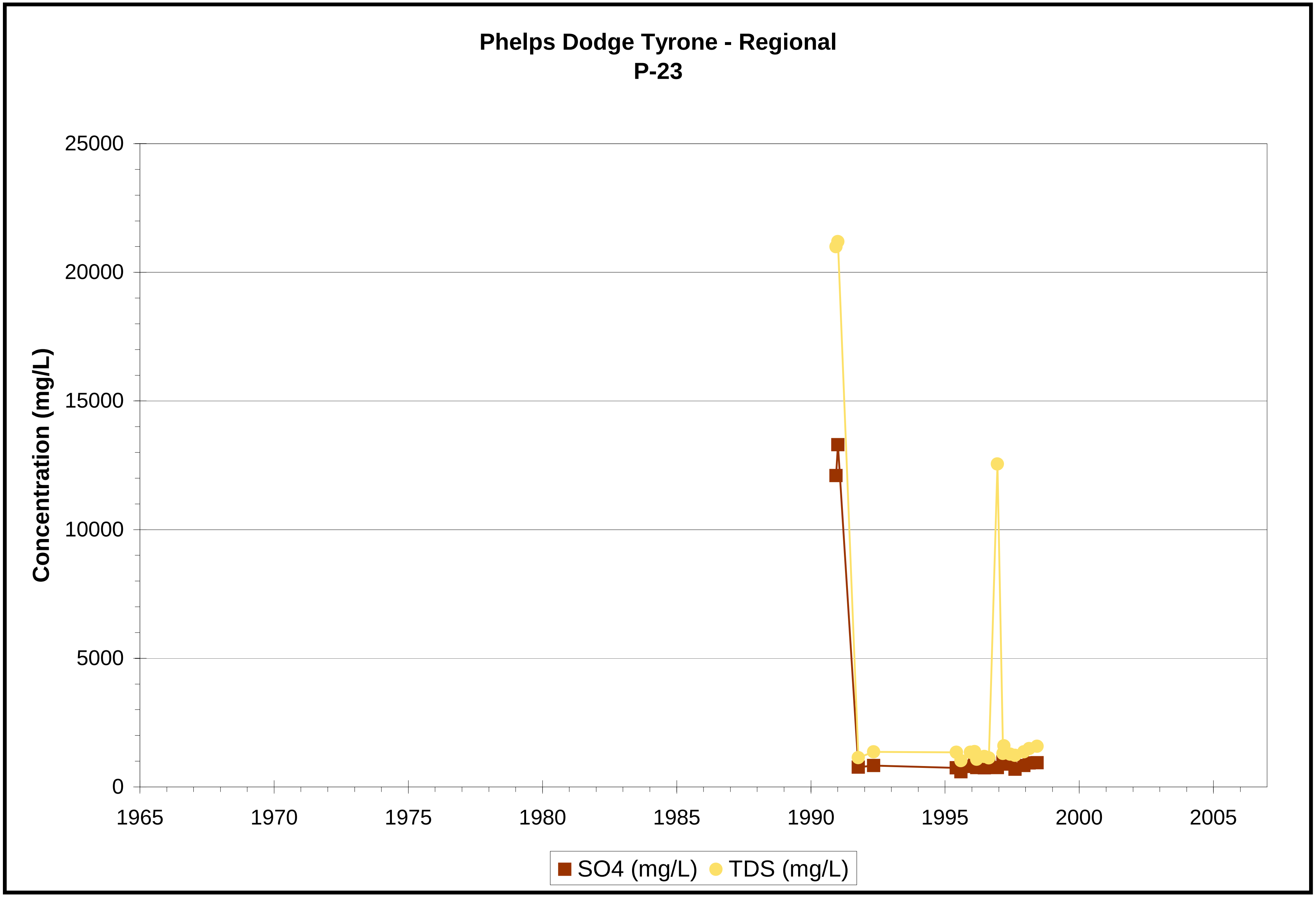

Phelps Dodge Tyrone - Regional
P-21A
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



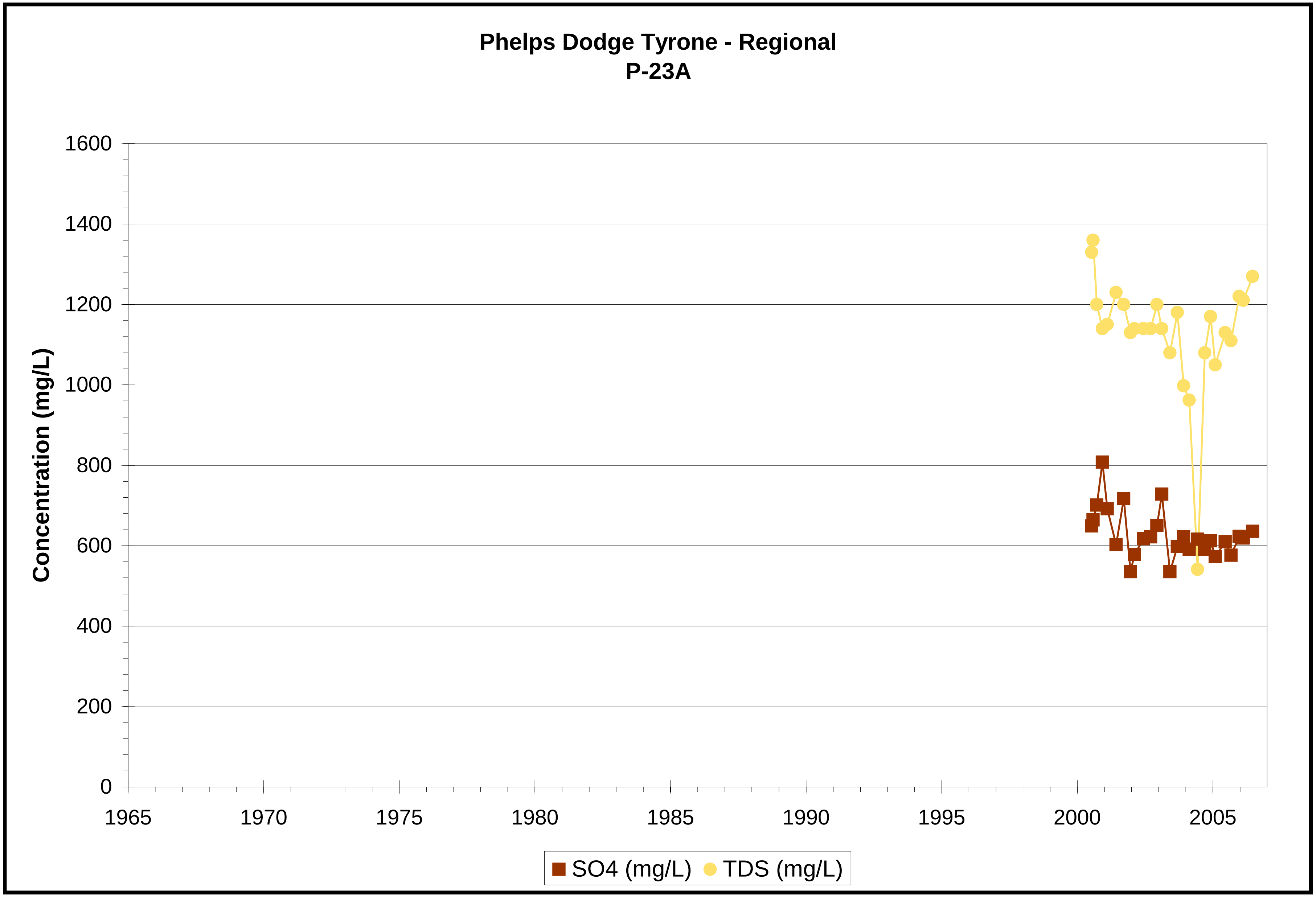
Phelps Dodge Tyrone - Regional
P-22
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



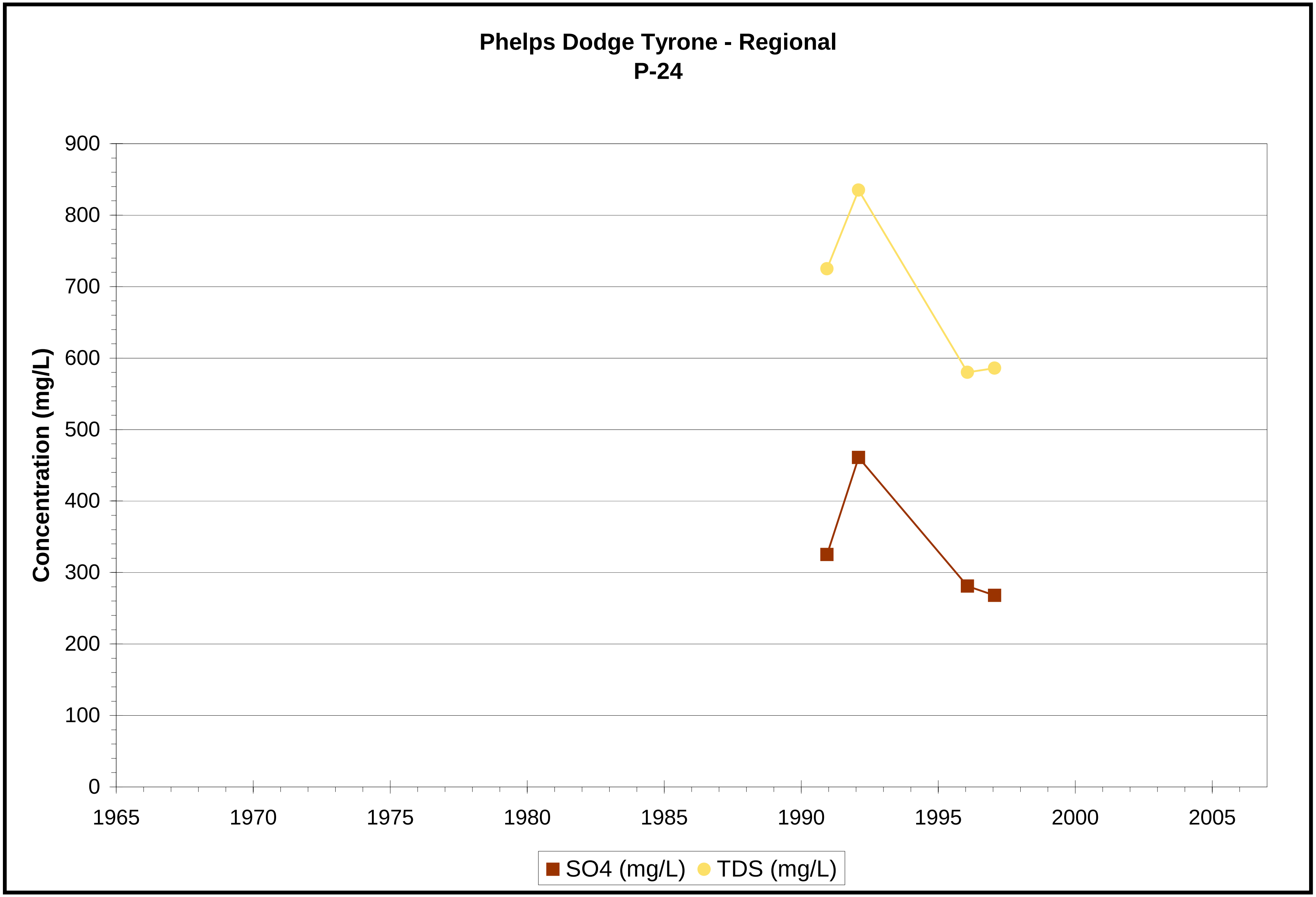
Phelps Dodge Tyrone - Regional
P-22A
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

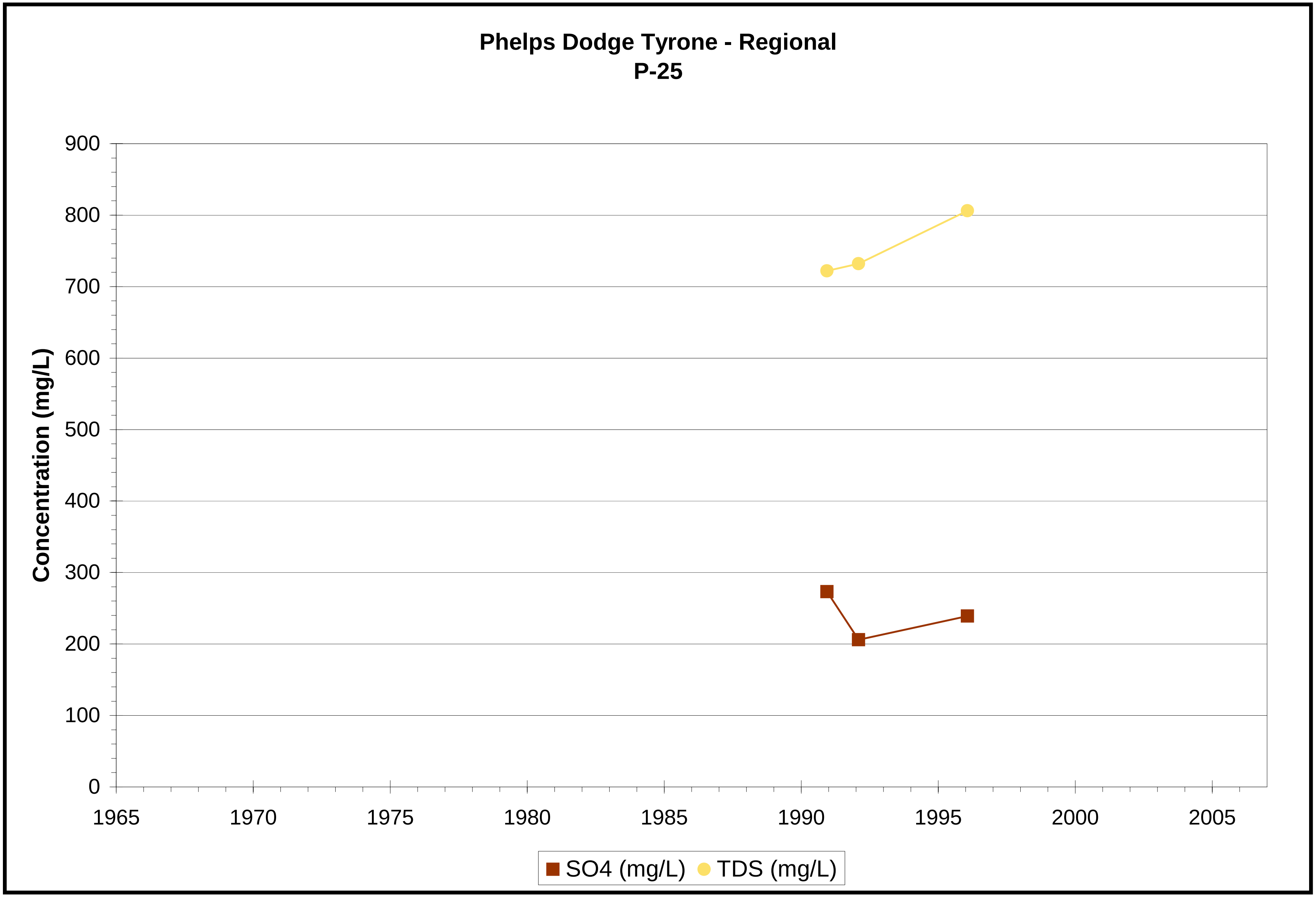


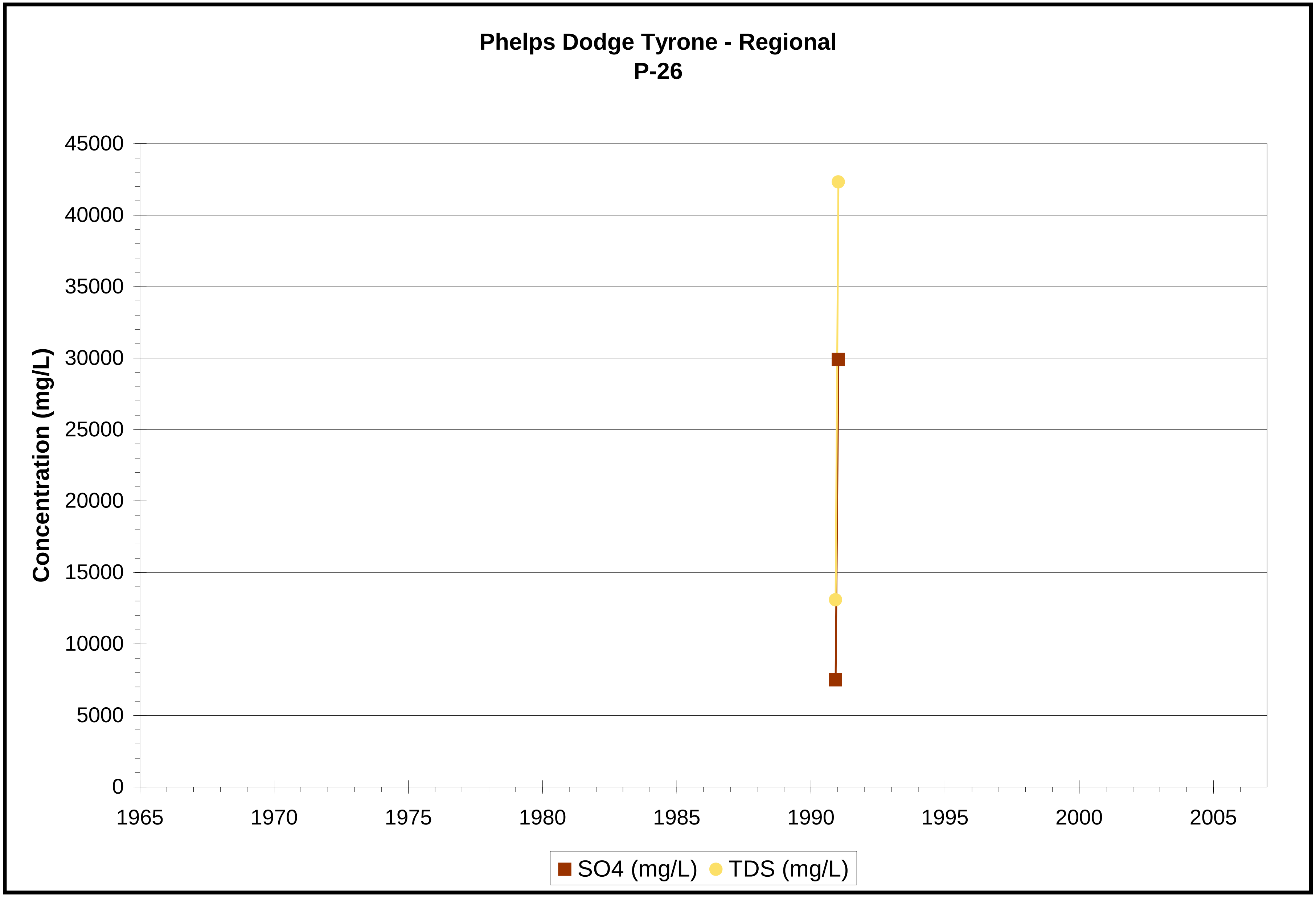
Phelps Dodge Tyrone - Regional
P-23
Concentration (mg/L)
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



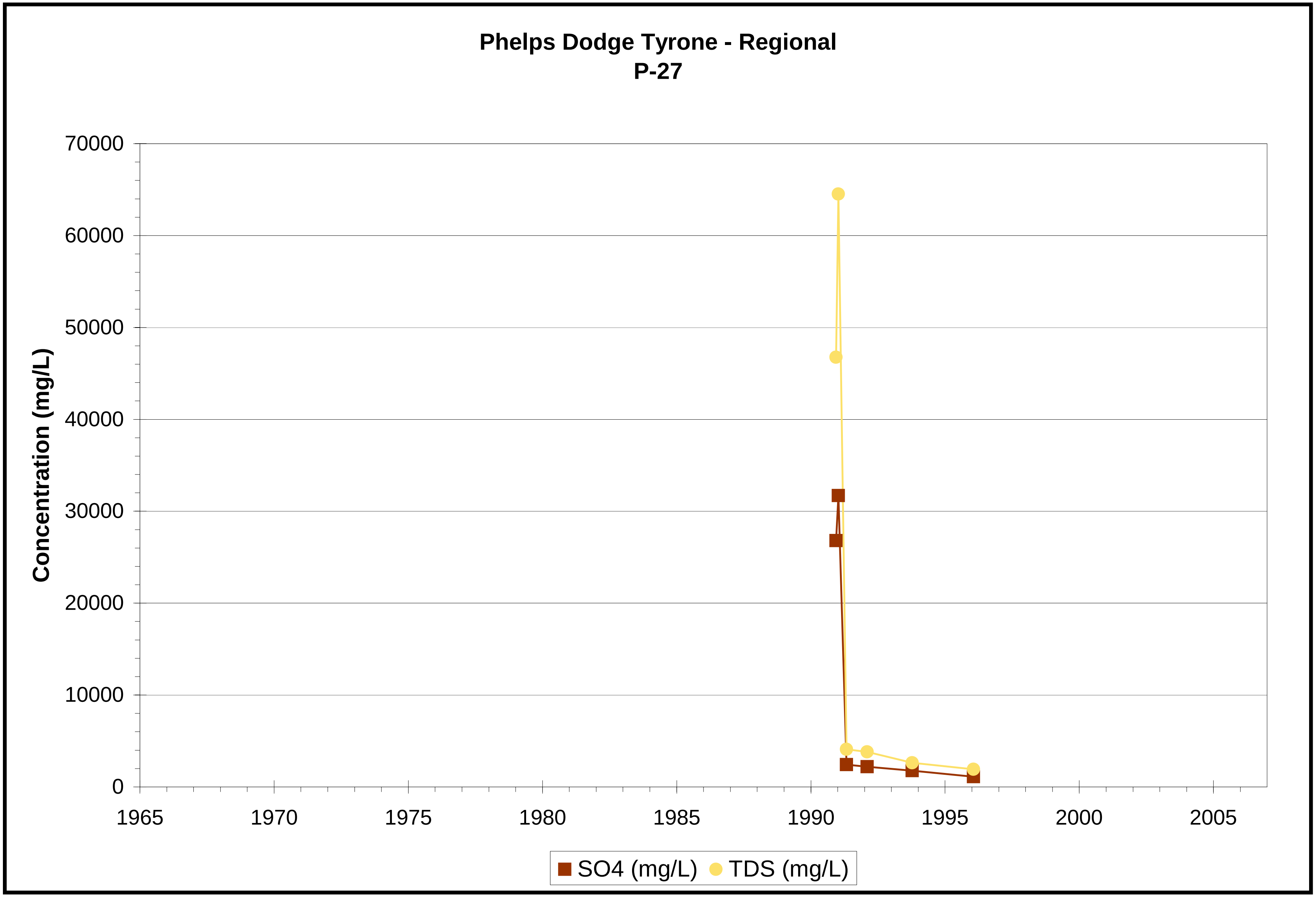
Phelps Dodge Tyrone - Regional
P-23A
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

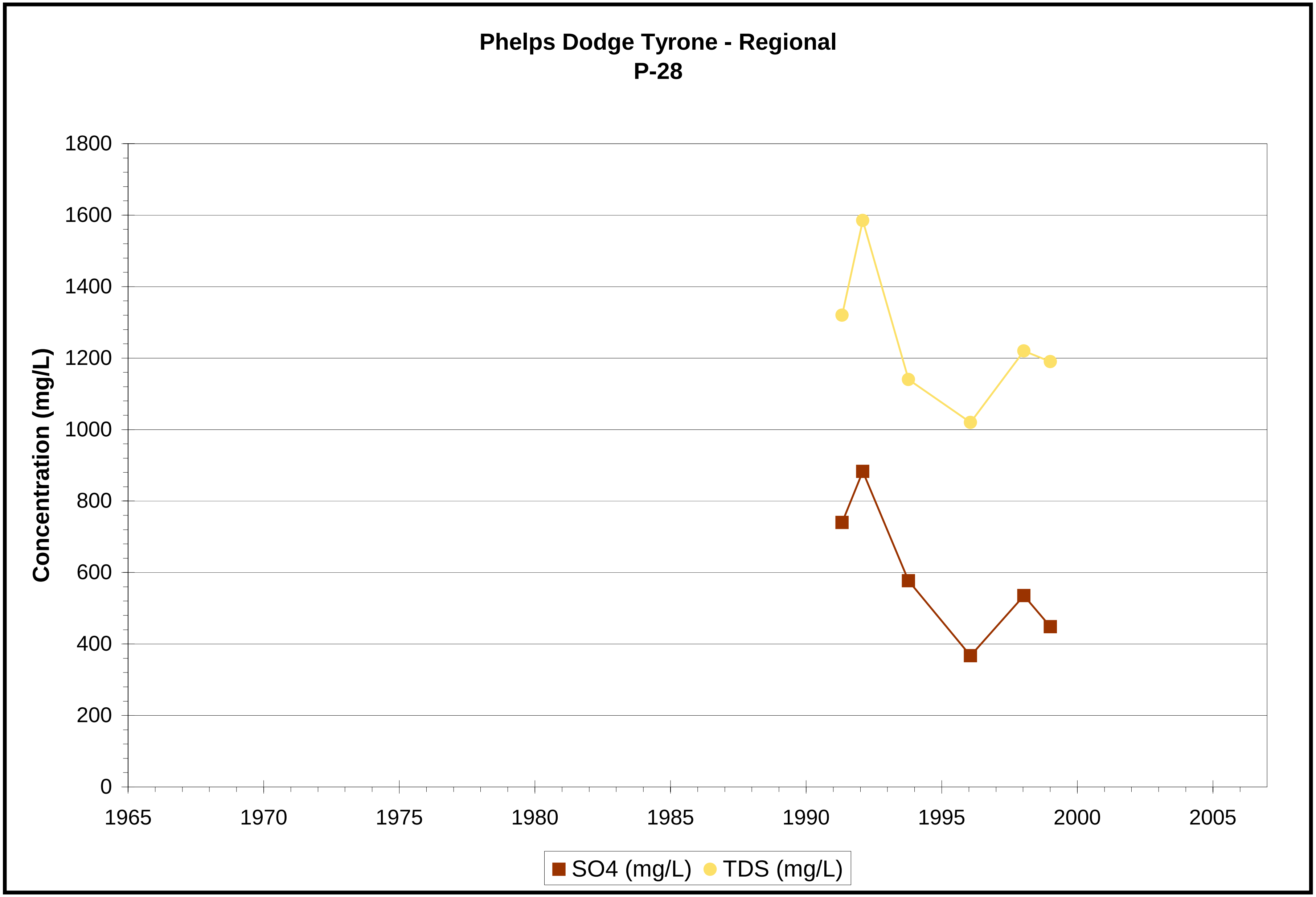

Phelps Dodge Tyrone - Regional
P-24
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
900
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-25
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
900
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

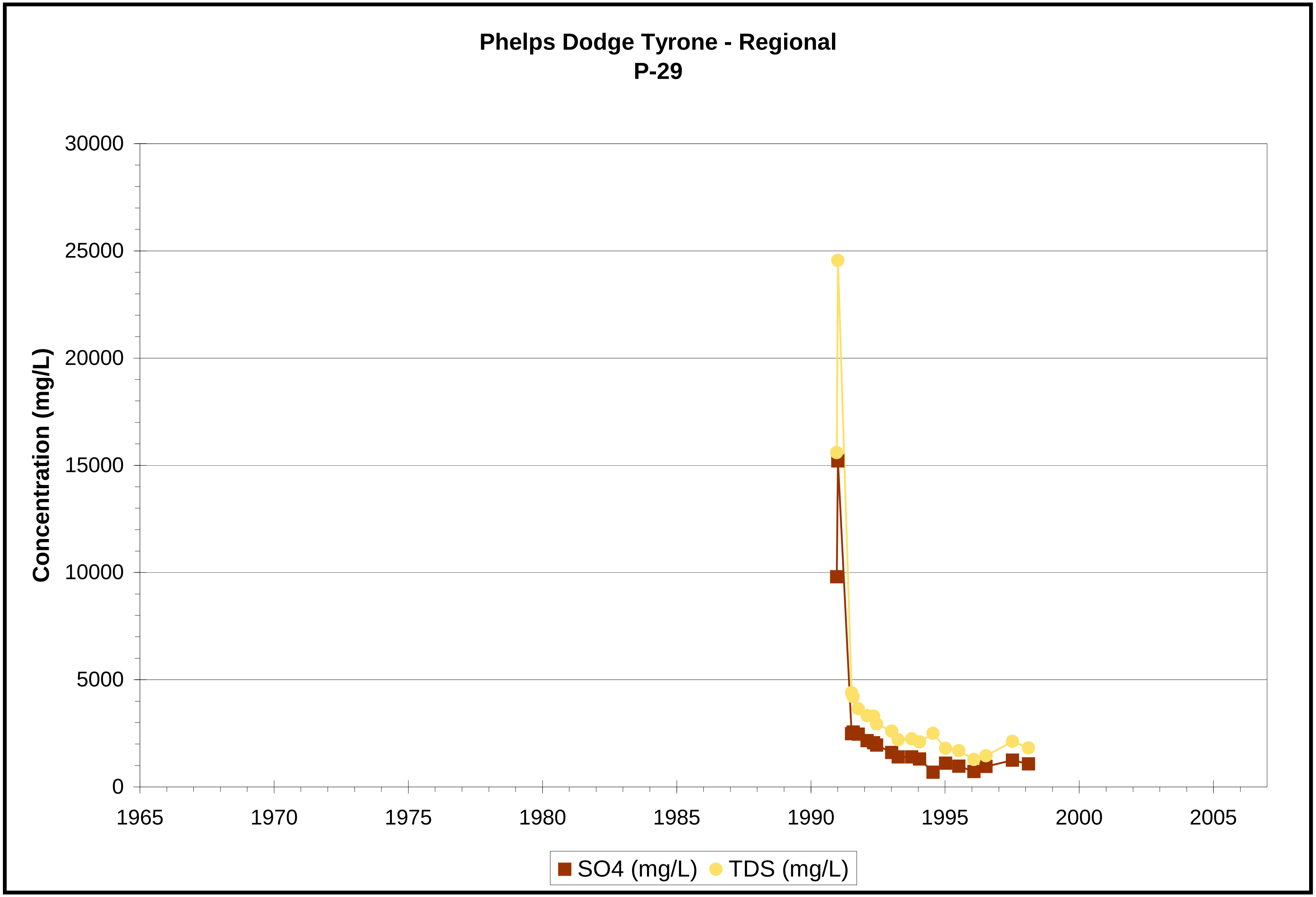


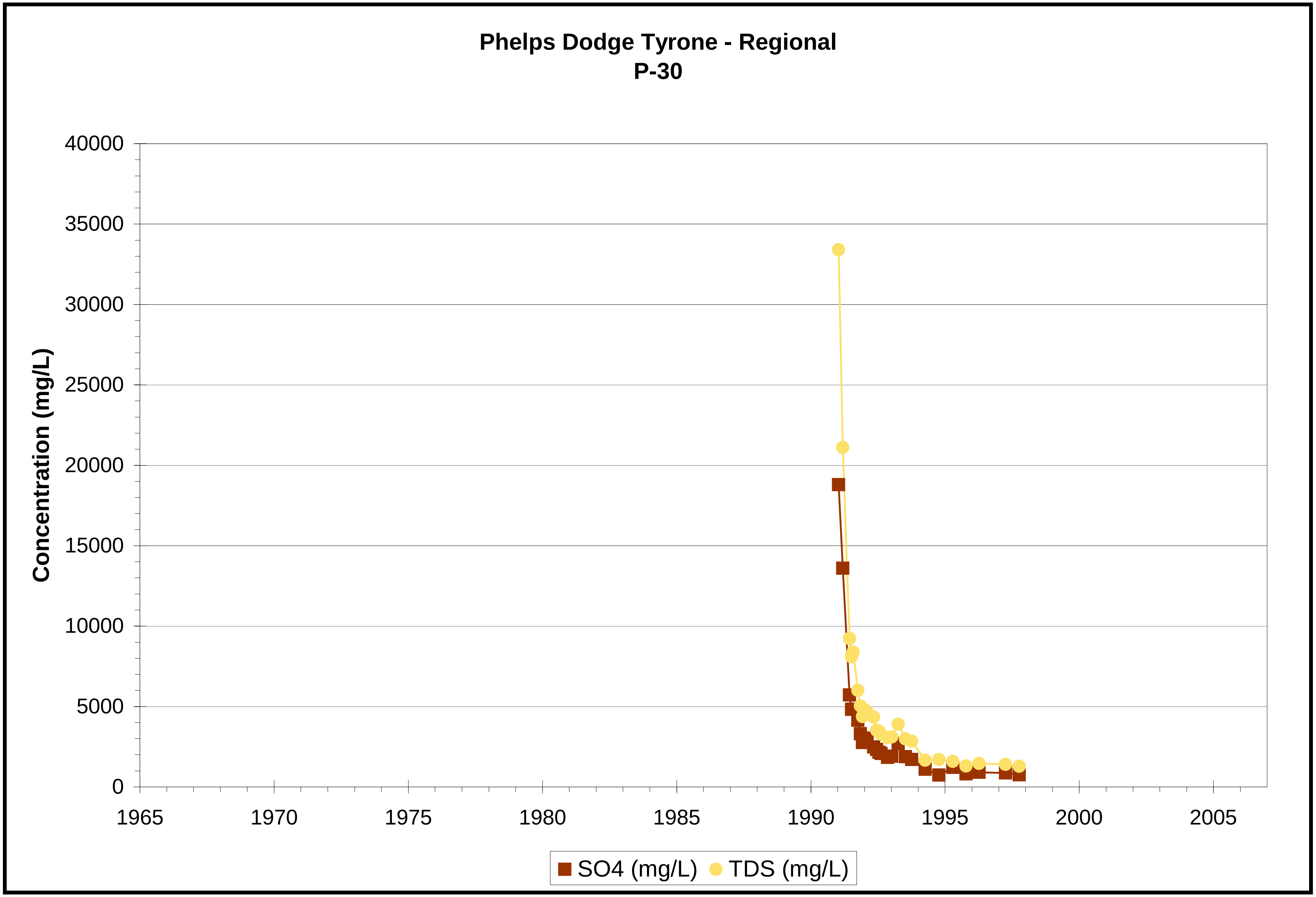
Phelps Dodge Tyrone - Regional
P-26
Concentration (mg/L)
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-27
Concentration (mg/L)
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

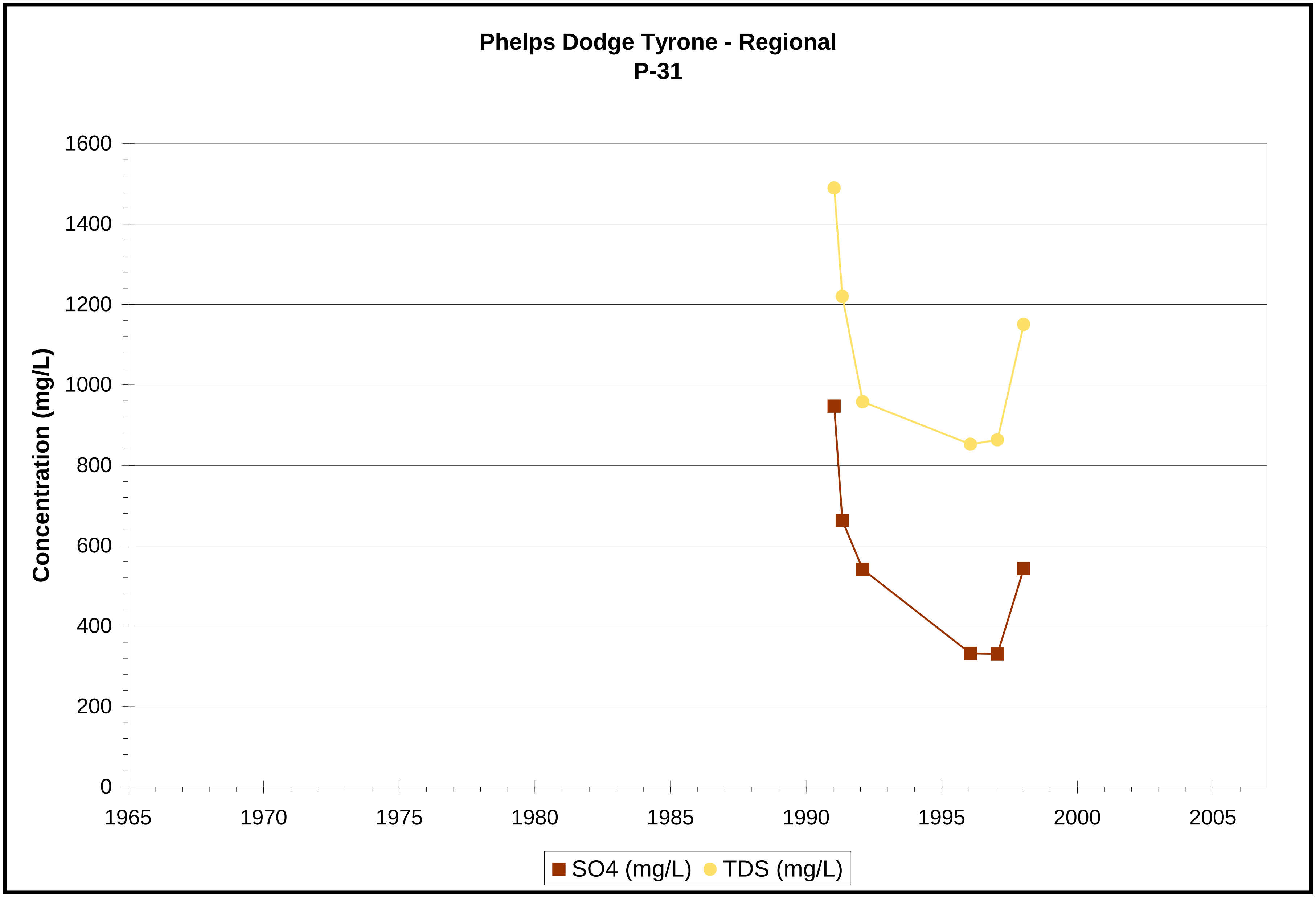


Phelps Dodge Tyrone - Regional
P-28
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1800
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

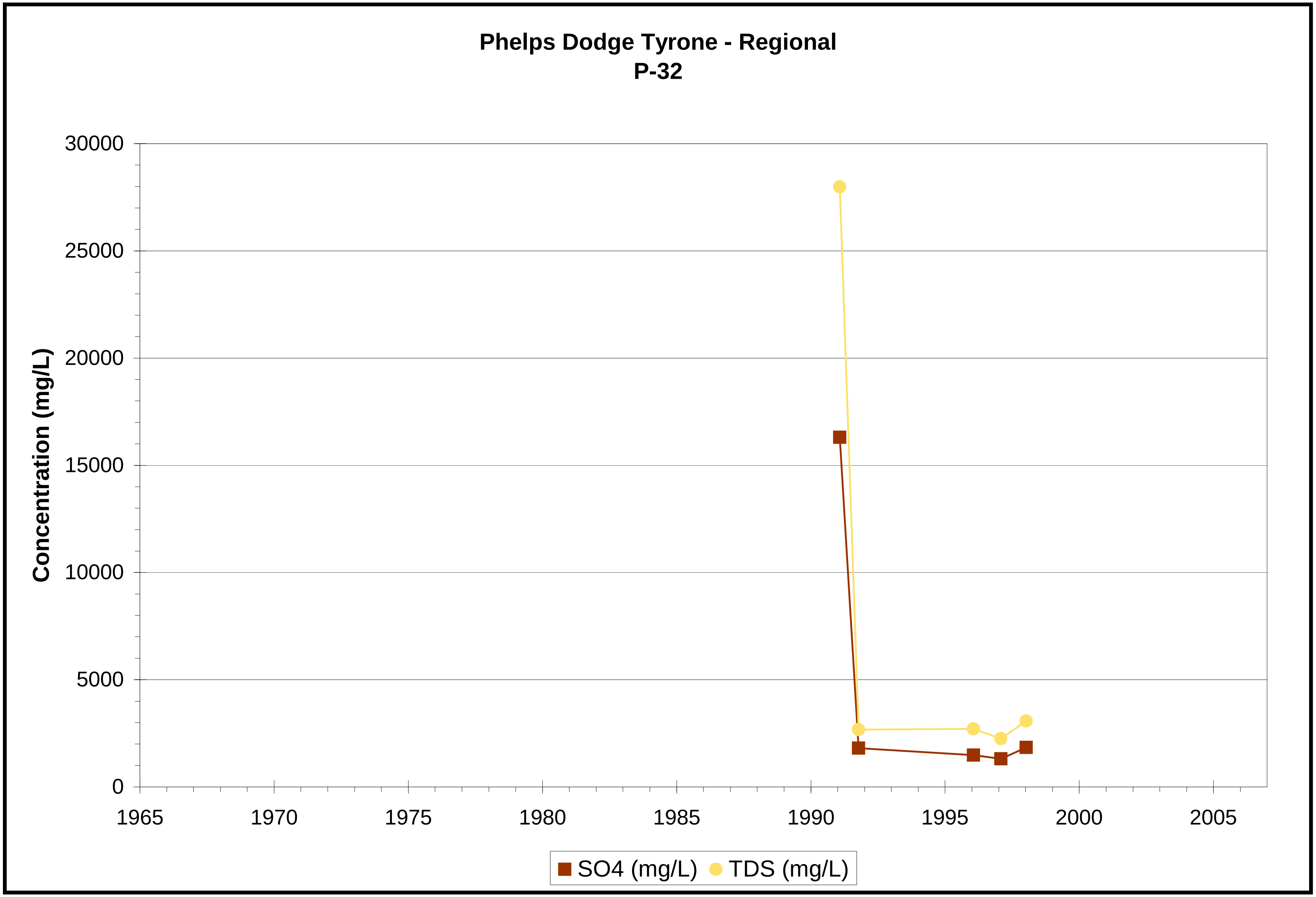

Phelps Dodge Tyrone - Regional
P-29
Concentration (mg/L)
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



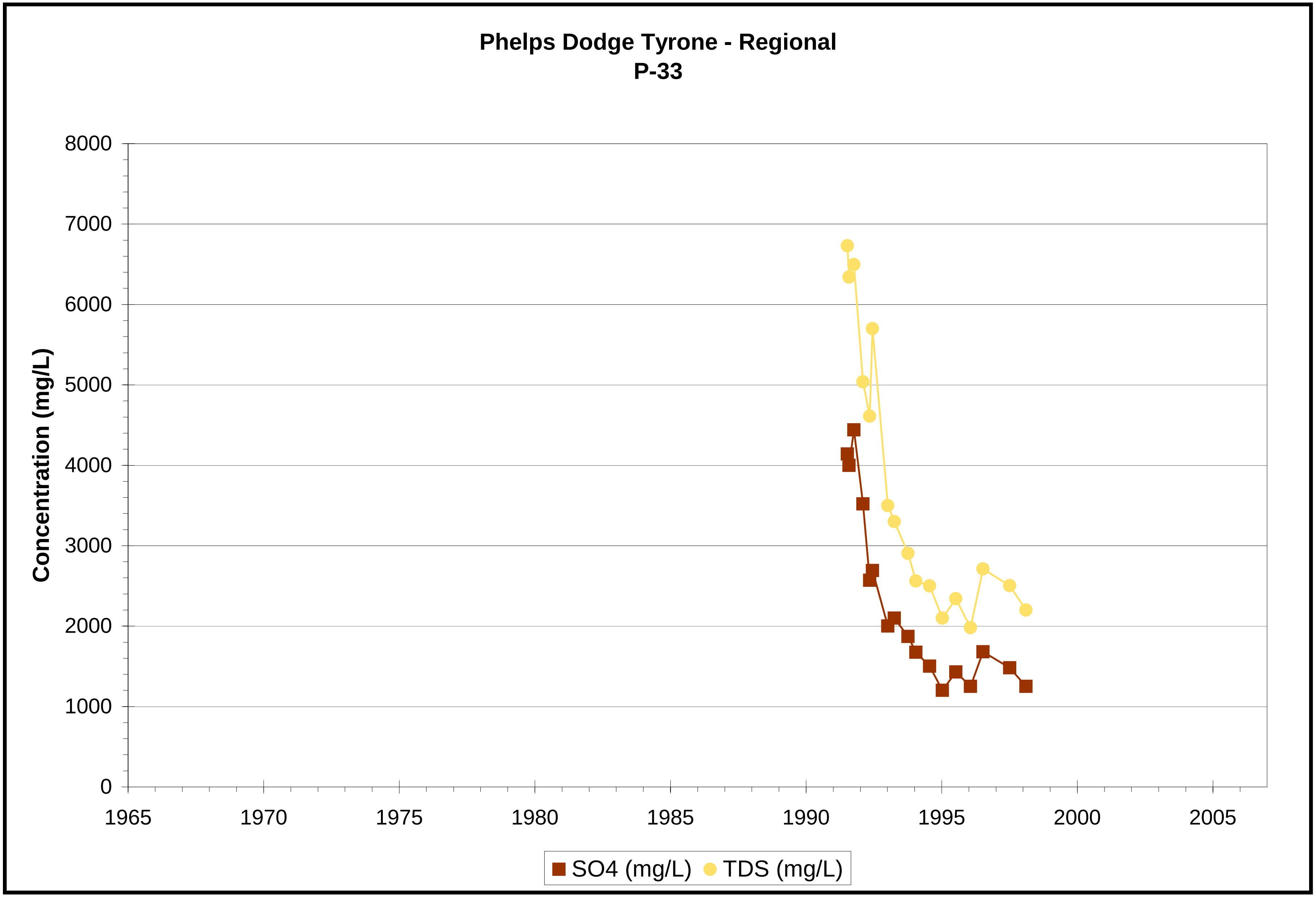
Phelps Dodge Tyrone - Regional
P-30
Concentration (mg/L)
40000
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



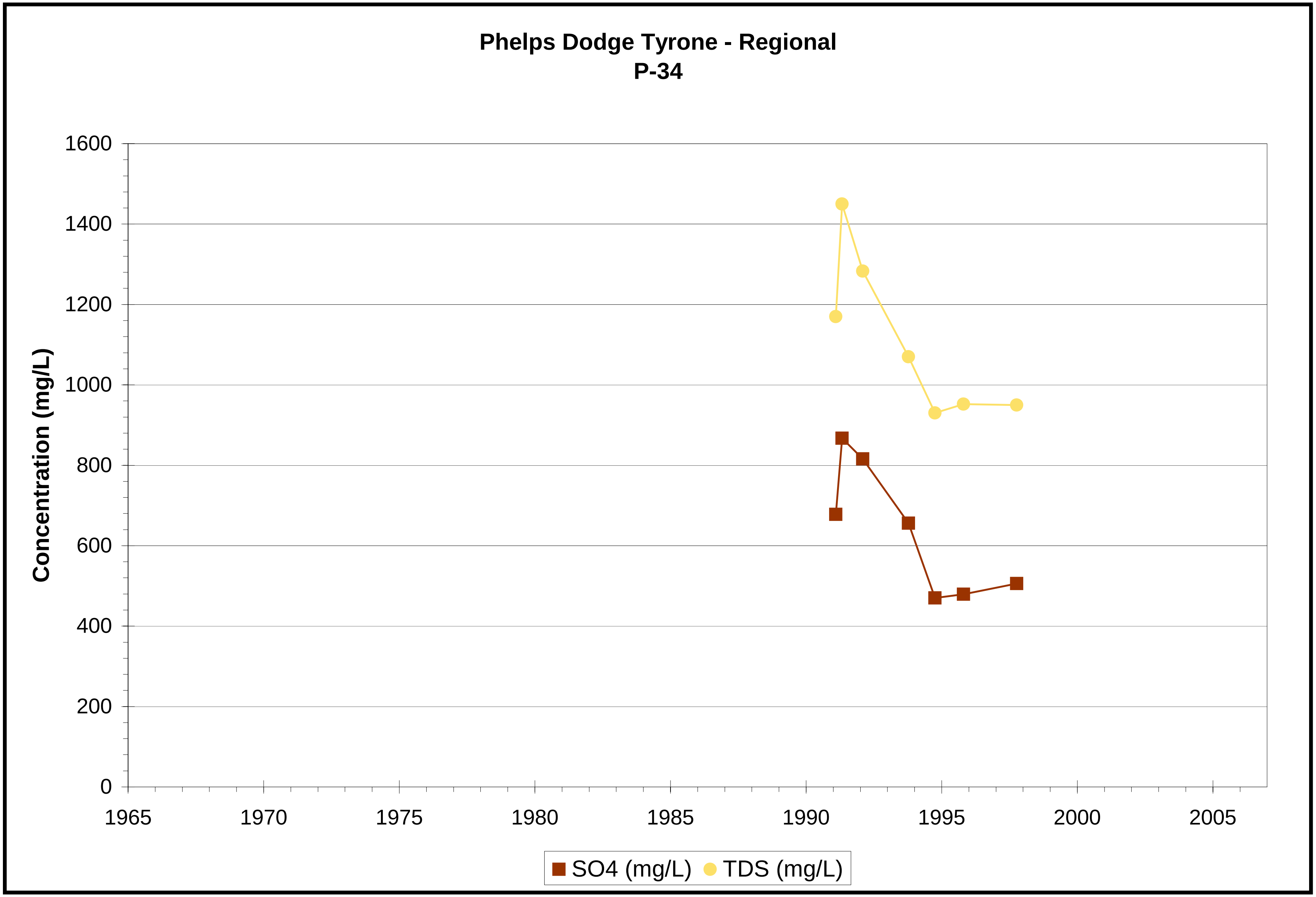
Phelps Dodge Tyrone - Regional
P-31
Concentration (mg/L)
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



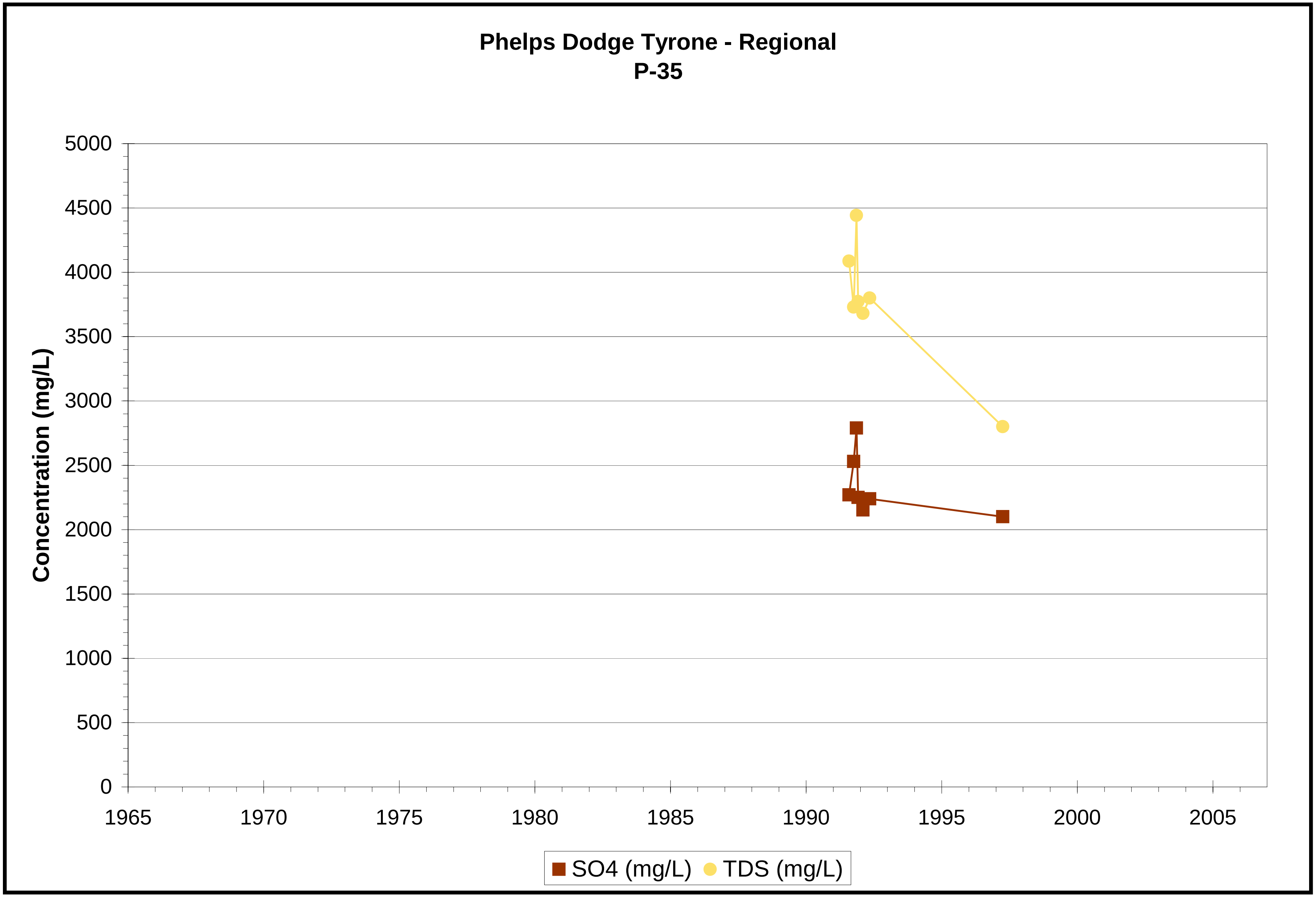
Phelps Dodge Tyrone - Regional
P-32
Concentration (mg/L)
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



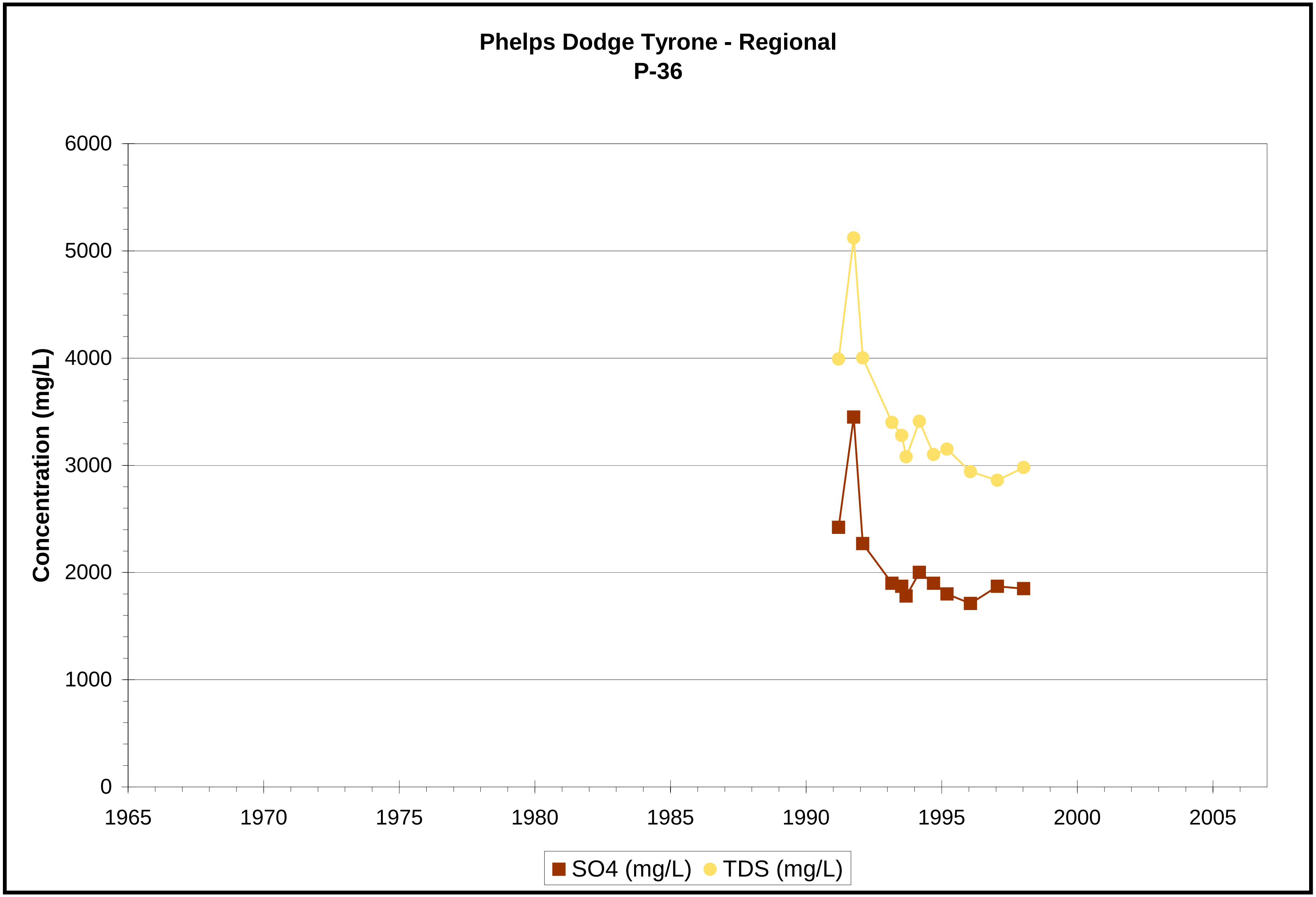
Phelps Dodge Tyrone - Regional
P-33
Concentration (mg/L)
8000
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



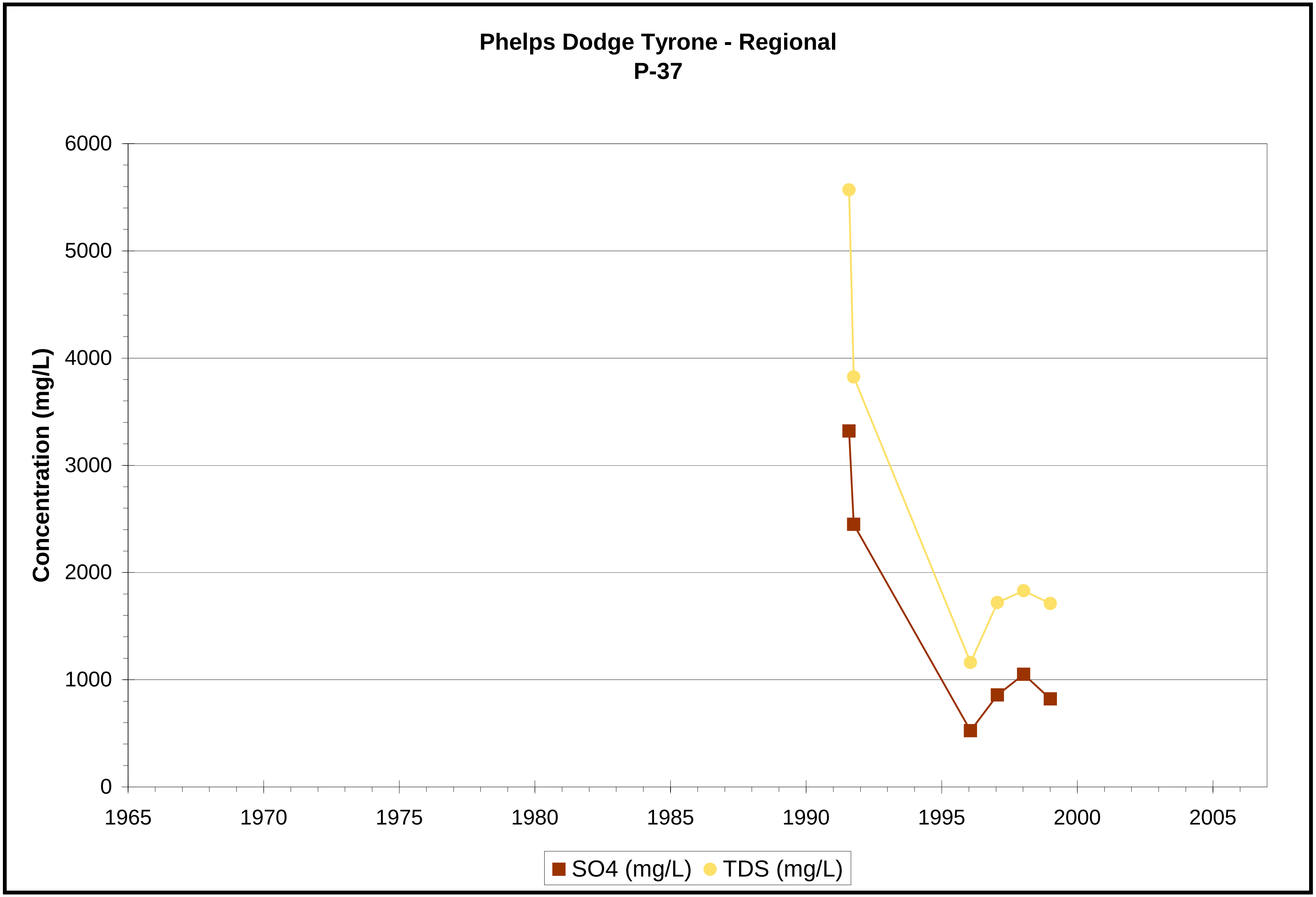
Phelps Dodge Tyrone - Regional
P-34
Concentration (mg/L)
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

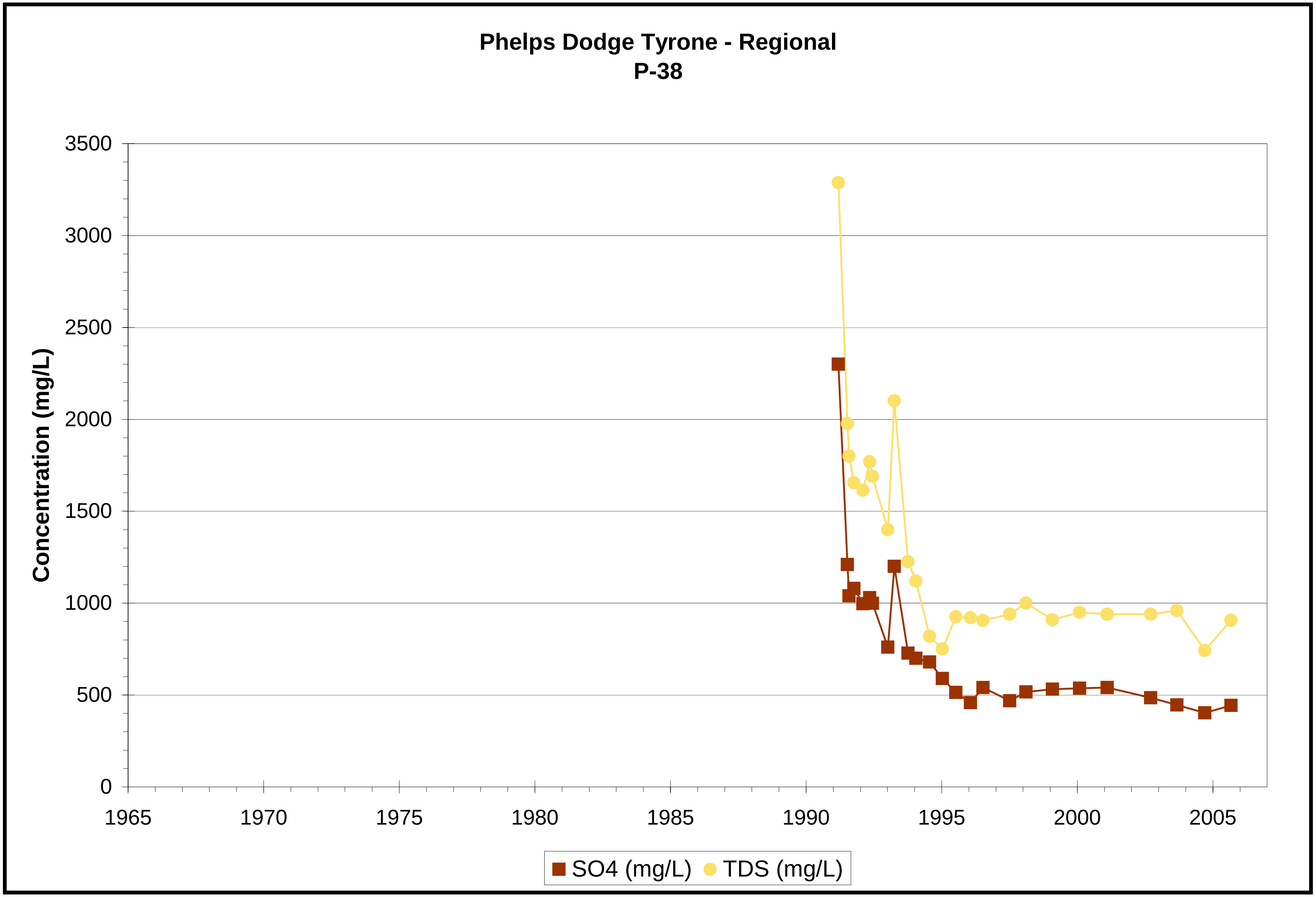


Phelps Dodge Tyrone - Regional
P-35
Concentration (mg/L)
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

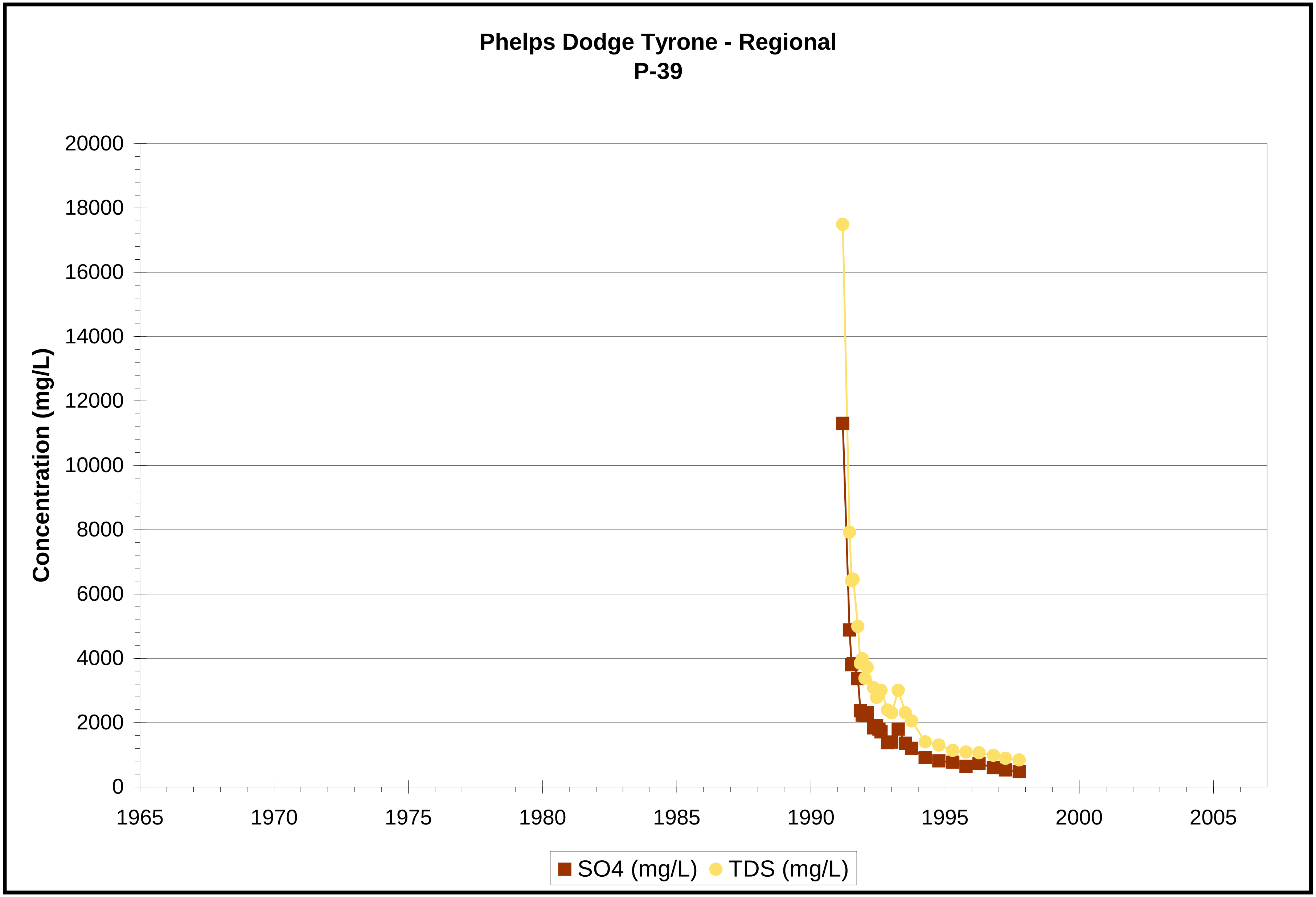


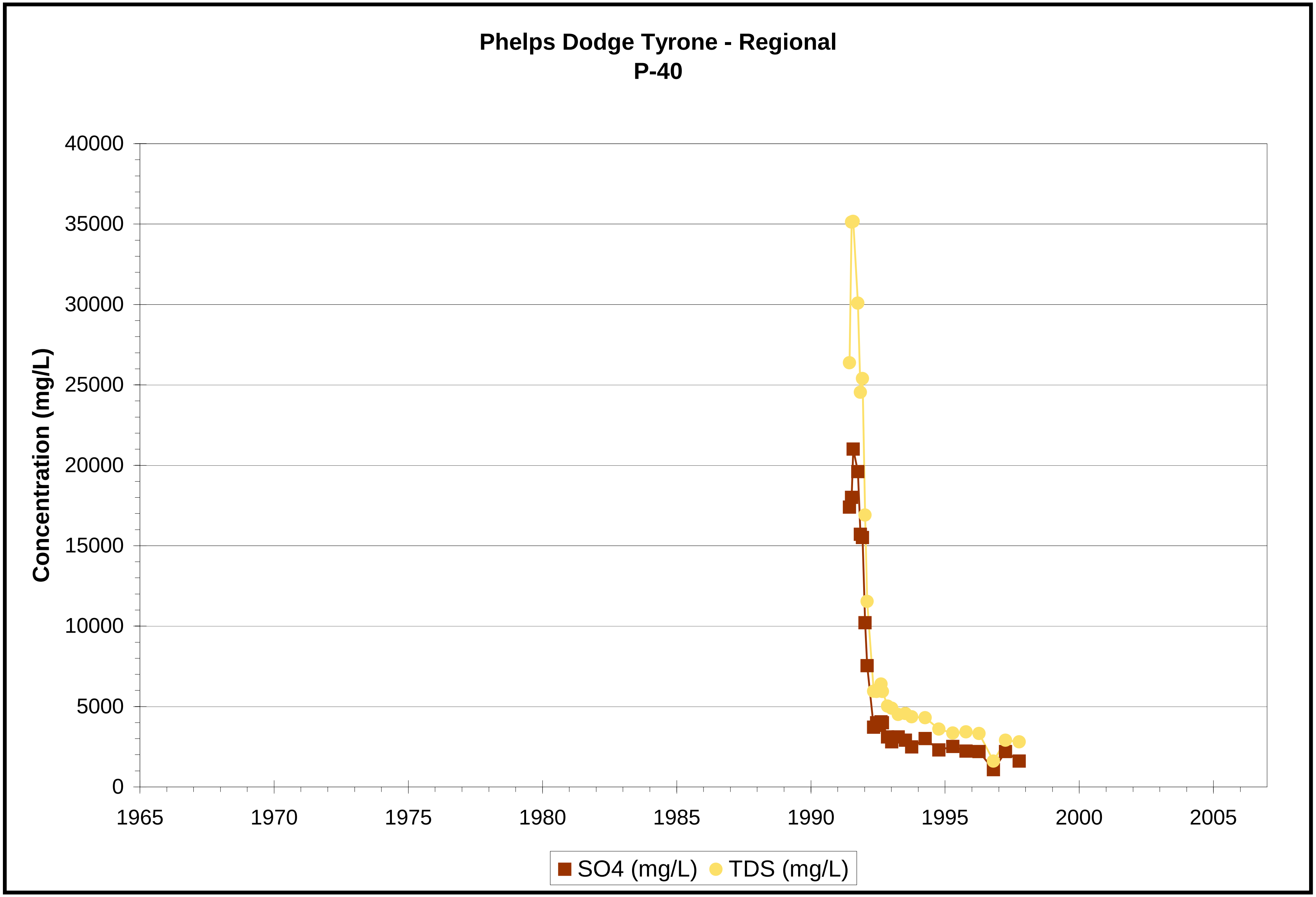
Phelps Dodge Tyrone - Regional
P-36
Concentration (mg/L)
0
1000
2000
3000
4000
5000
6000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-37
Concentration (mg/L)
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

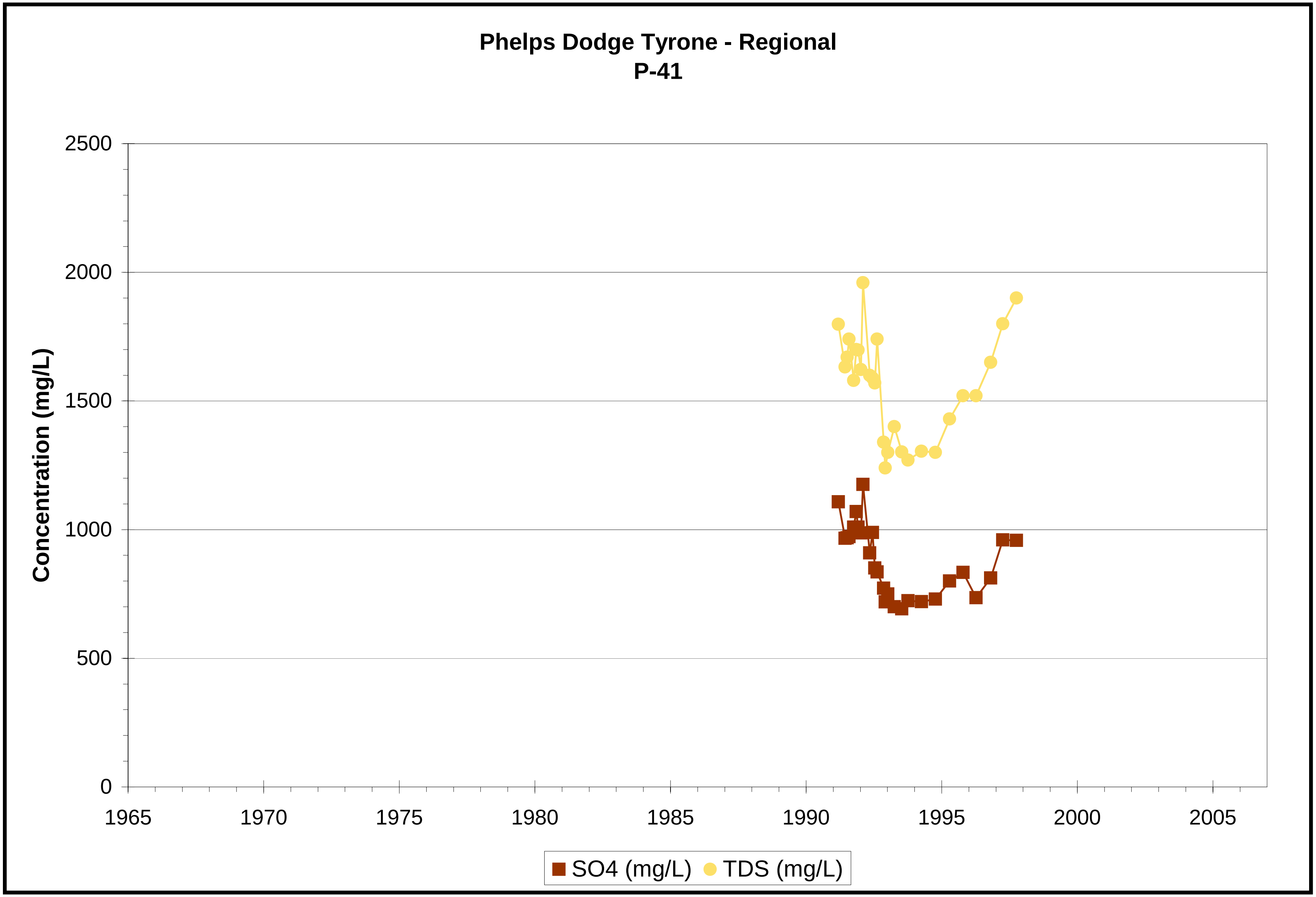


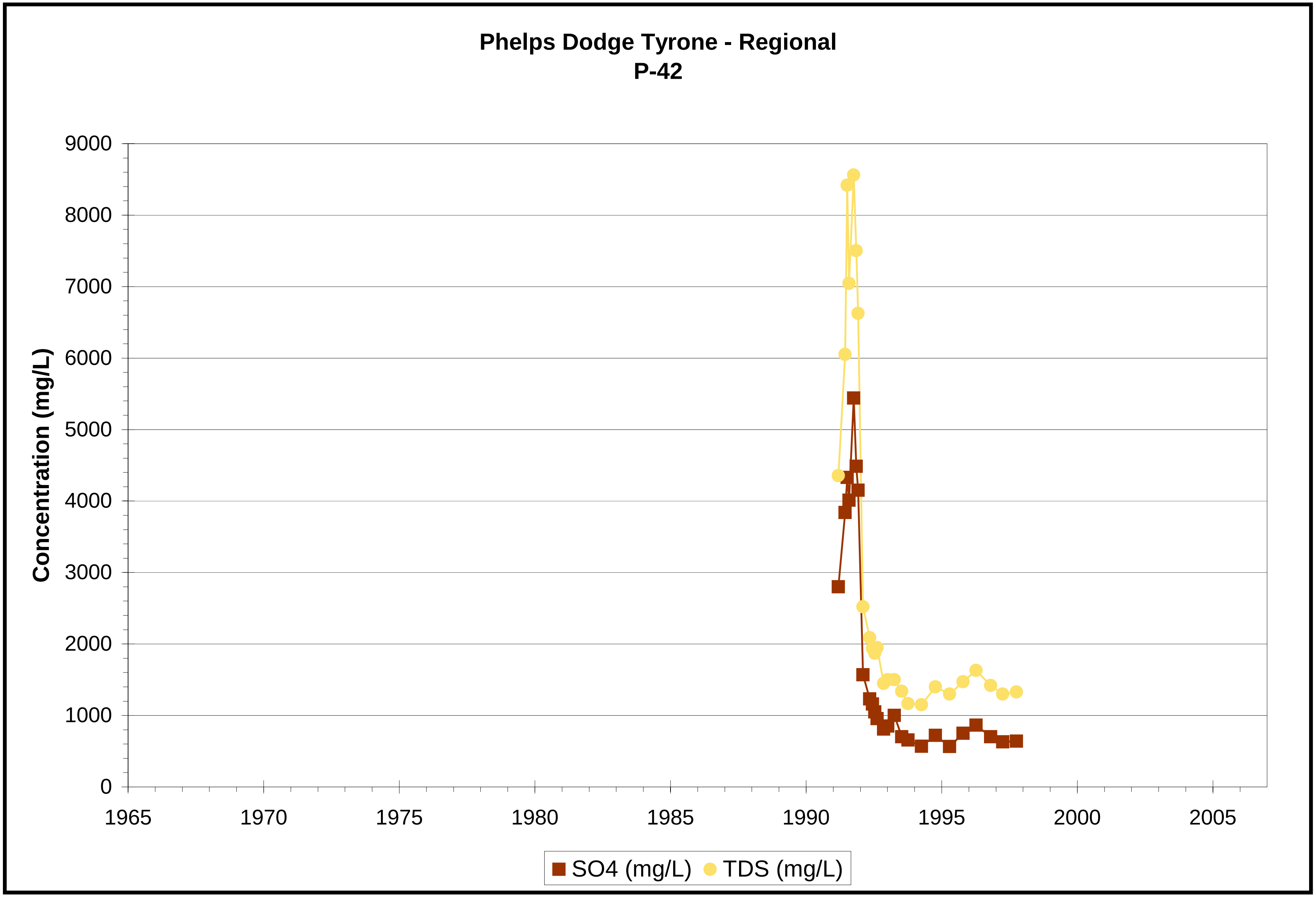
Phelps Dodge Tyrone - Regional
P-38
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-39
Concentration (mg/L)
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

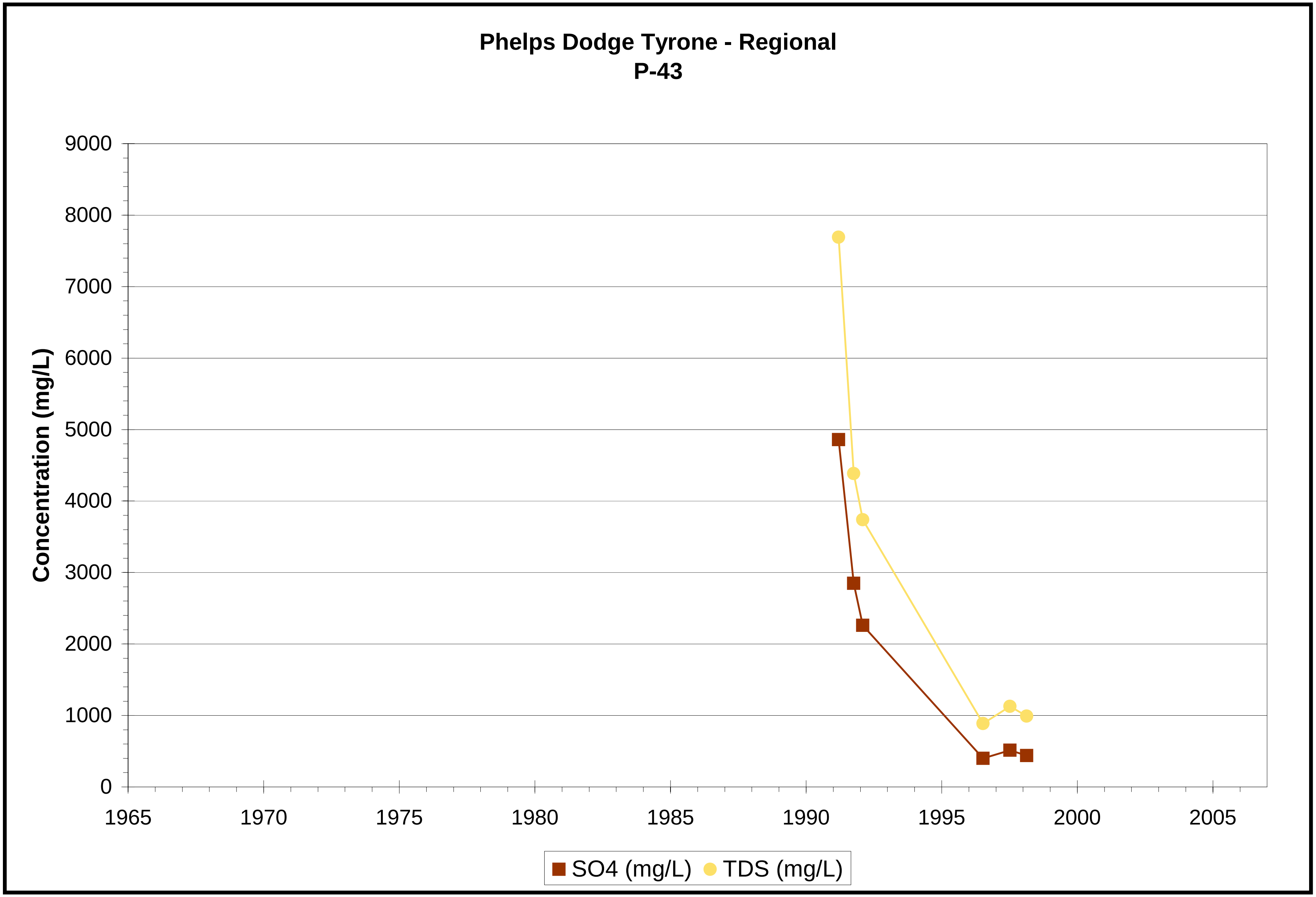


Phelps Dodge Tyrone - Regional
P-40
Concentration (mg/L)
40000
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

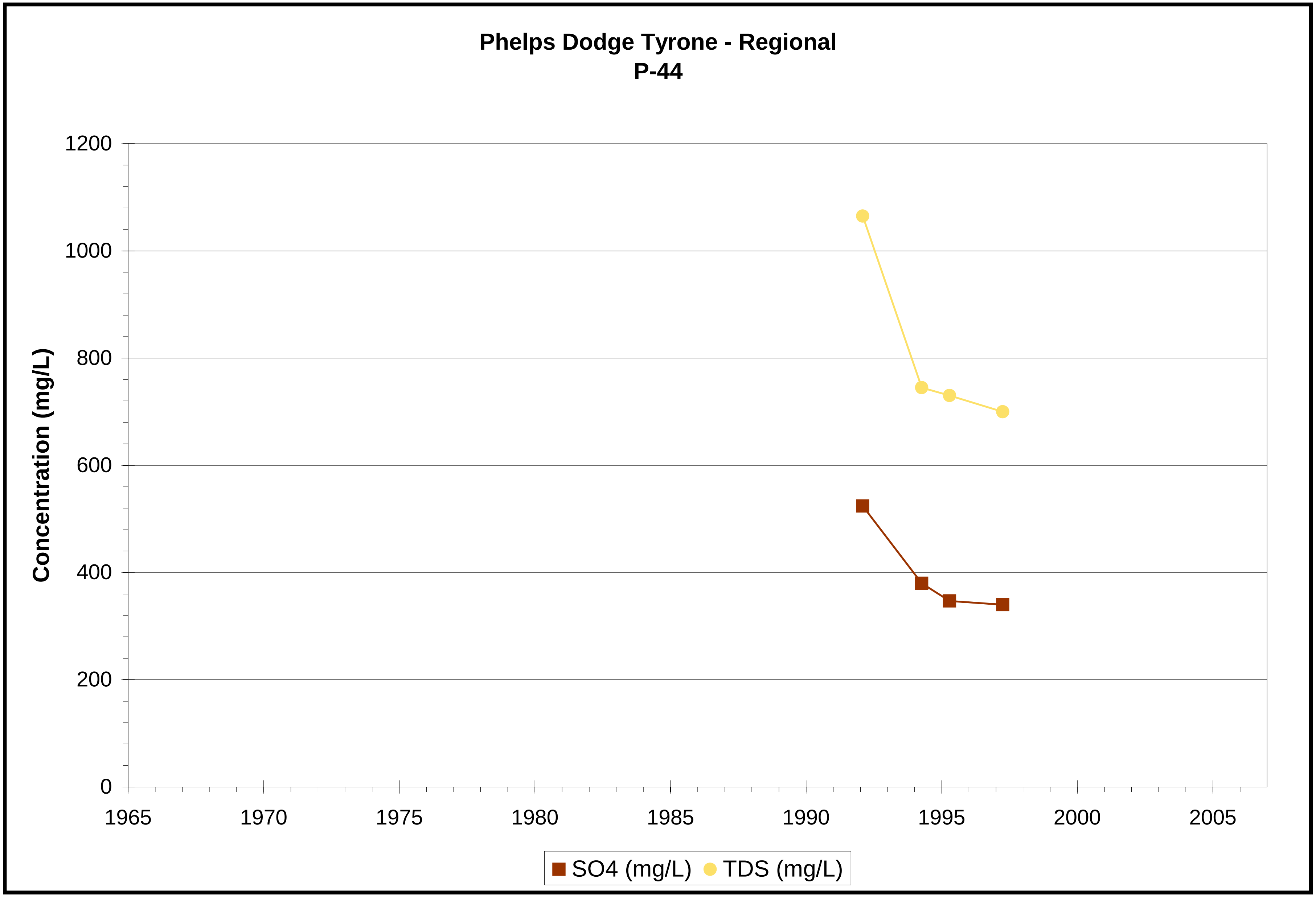

Phelps Dodge Tyrone - Regional
P-41
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

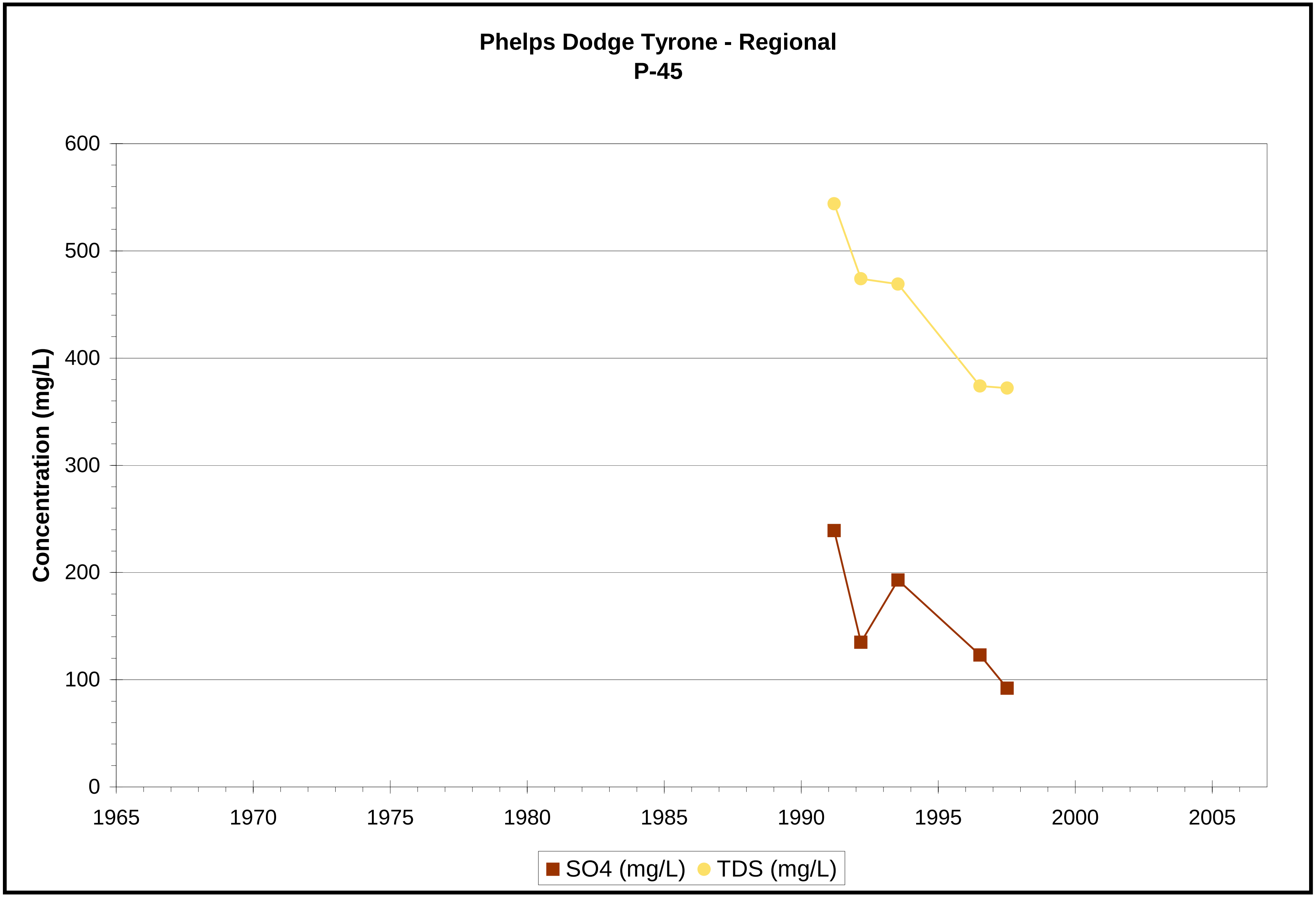


Phelps Dodge Tyrone - Regional
P-42
Concentration (mg/L)
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

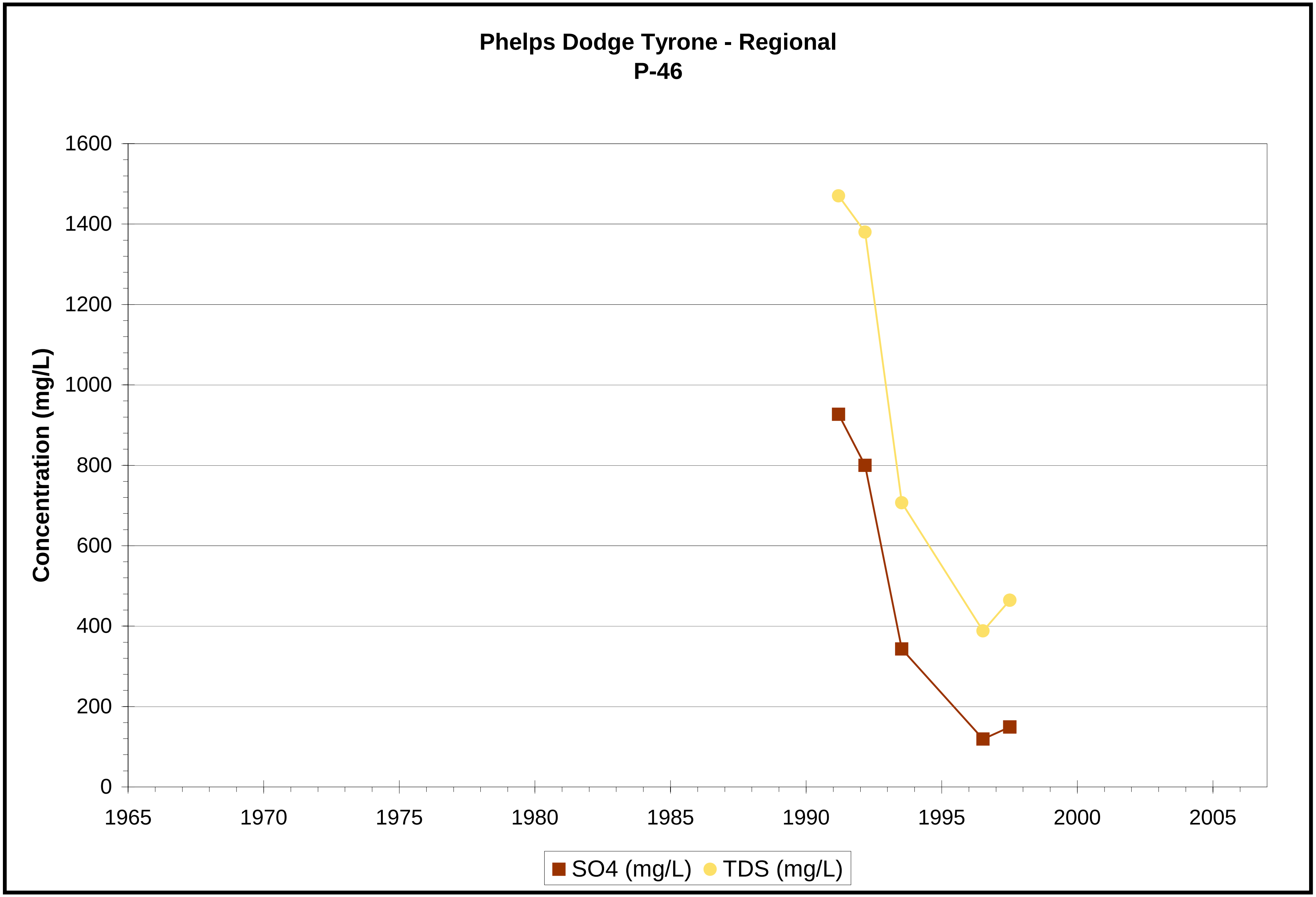


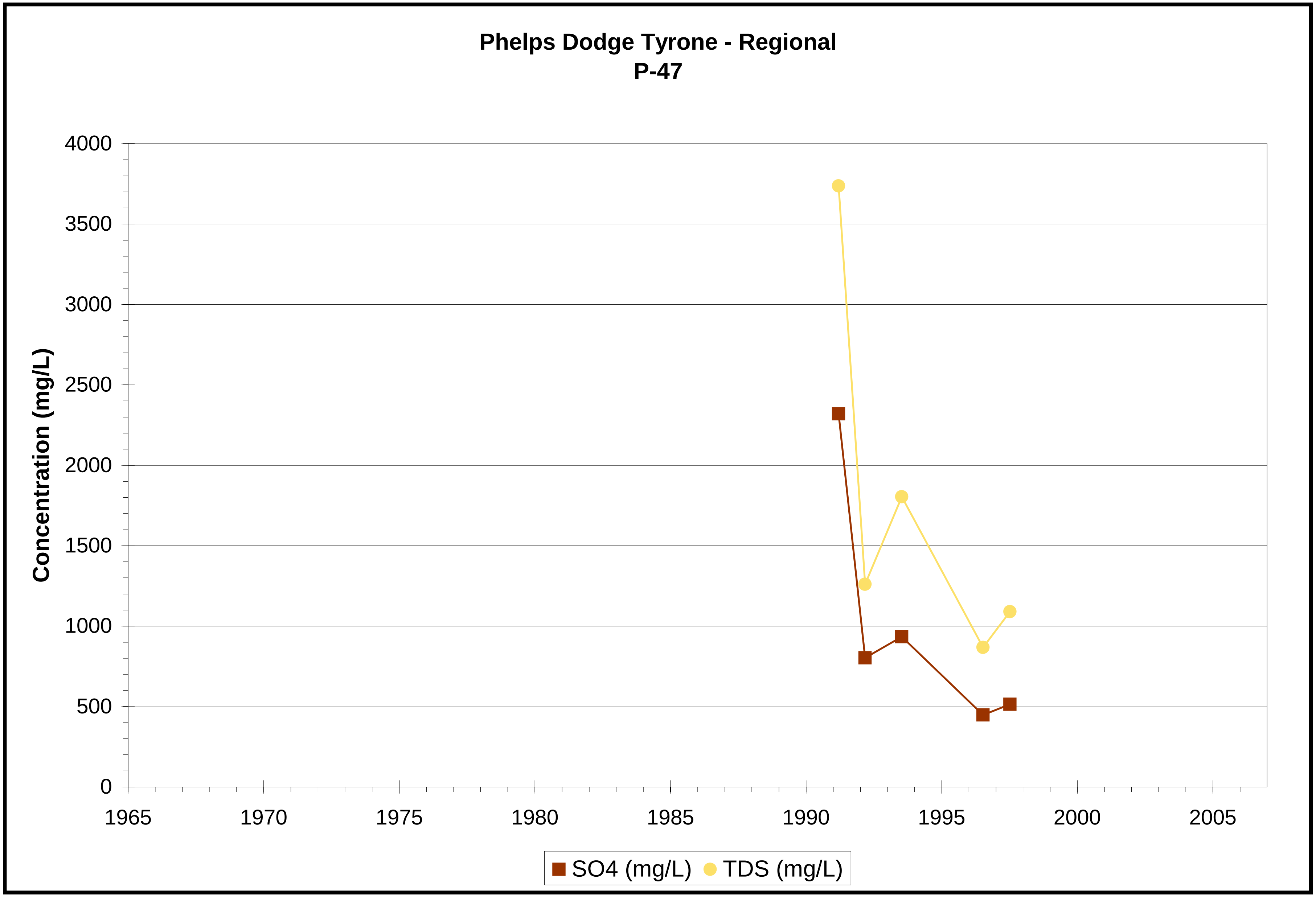
Phelps Dodge Tyrone - Regional
P-43
Concentration (mg/L)
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-44
Concentration (mg/L)
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

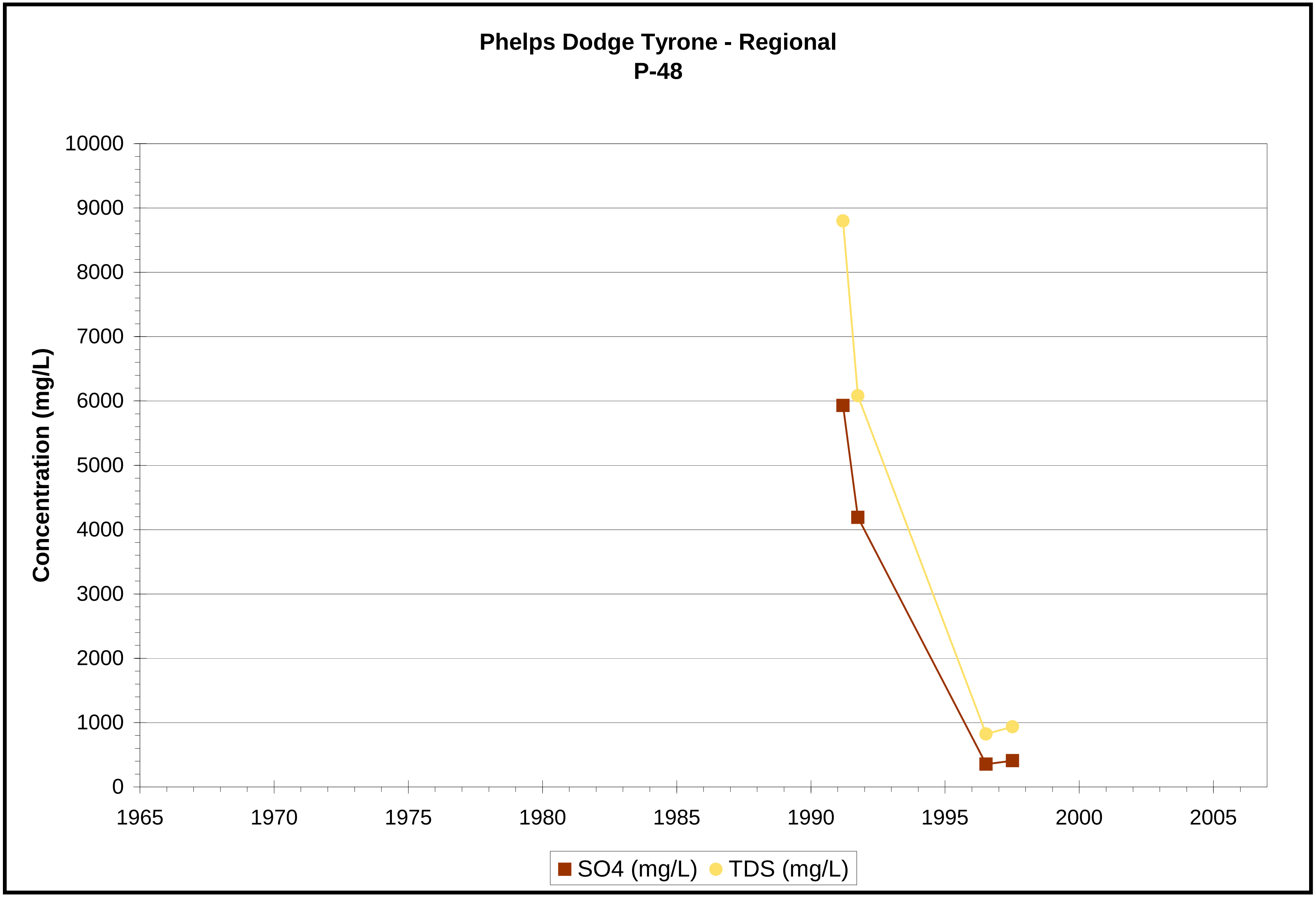


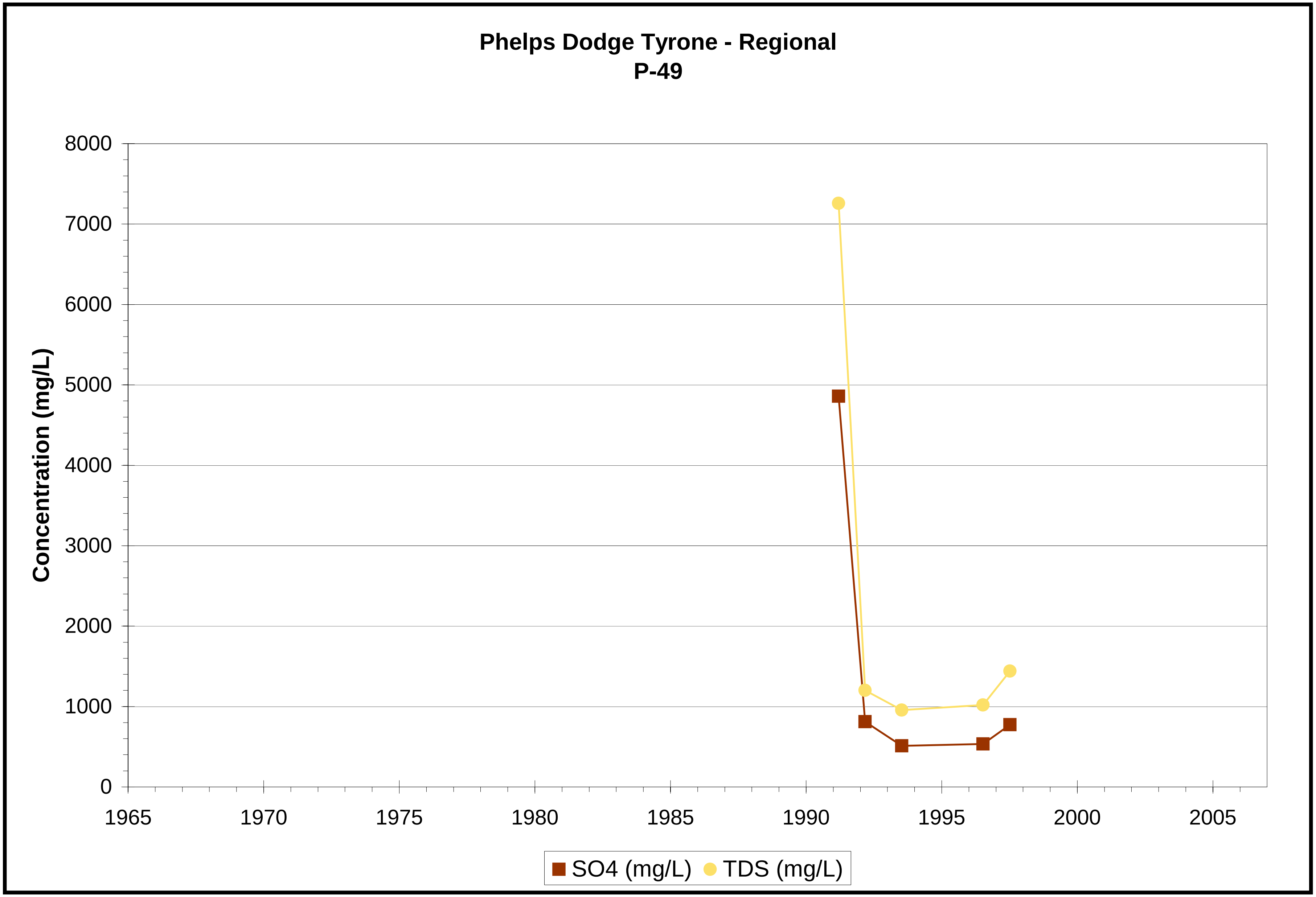
Phelps Dodge Tyrone - Regional
P-45
Concentration (mg/L)
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-46
Concentration (mg/L)
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

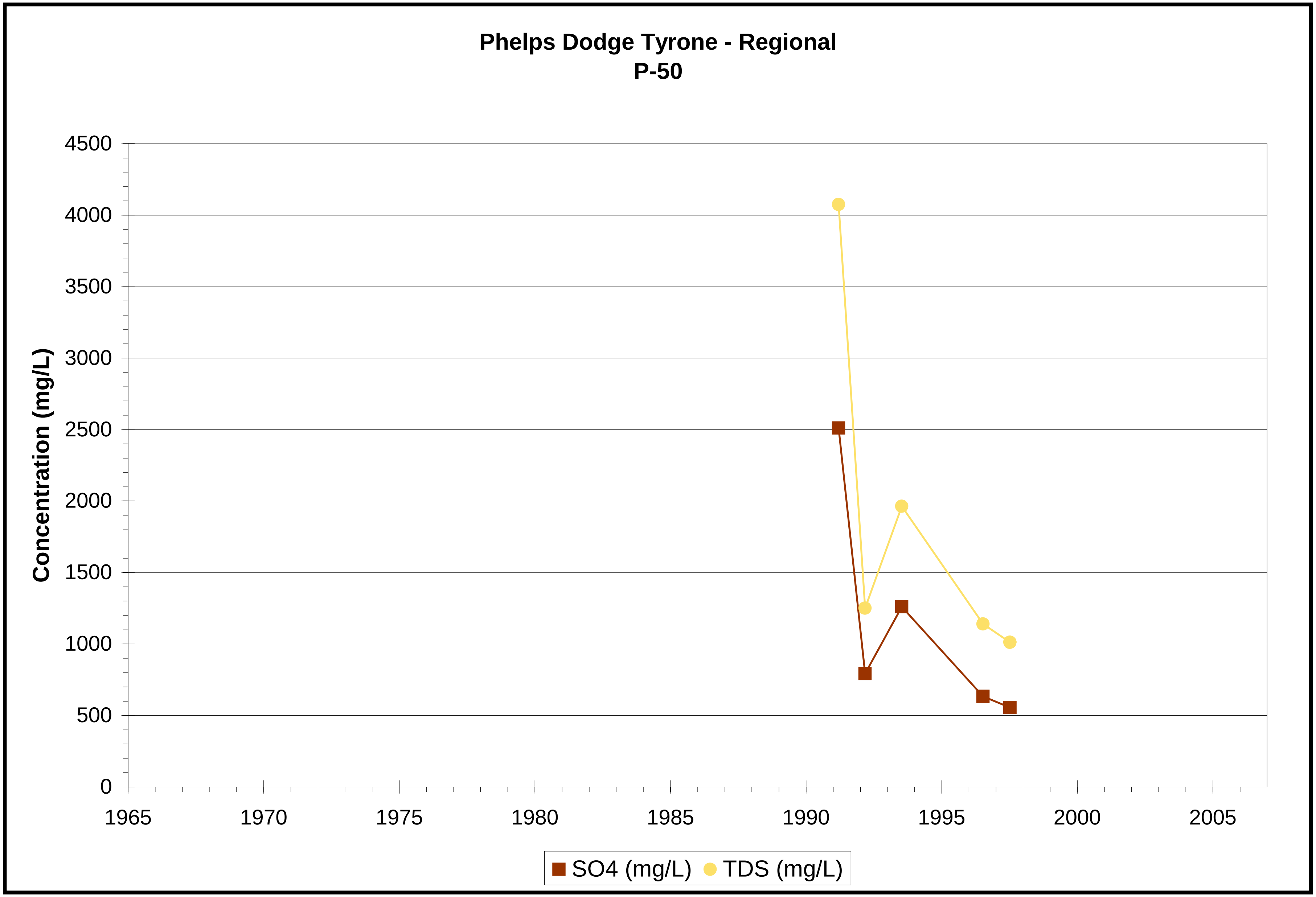


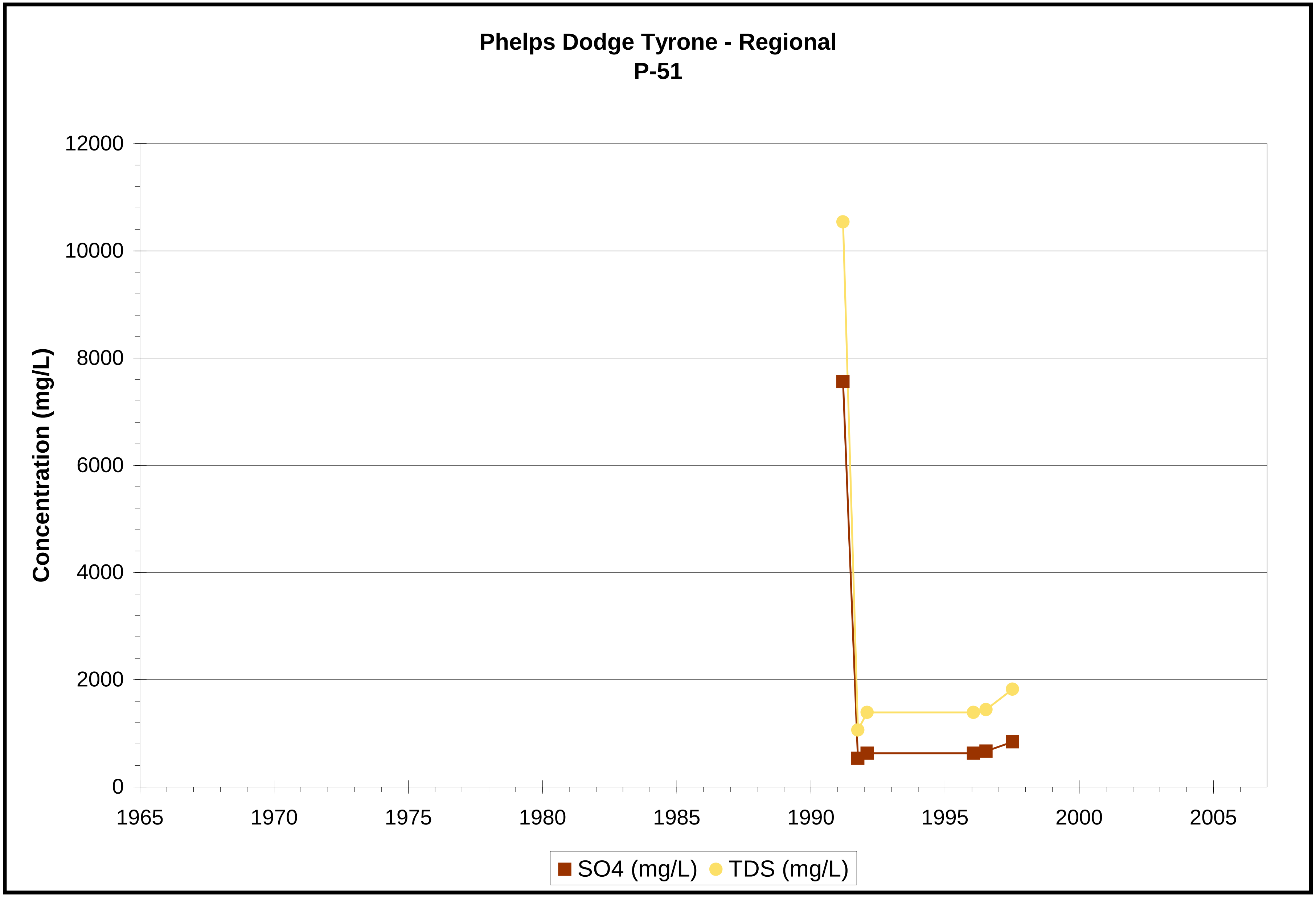
Phelps Dodge Tyrone - Regional
P-47
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

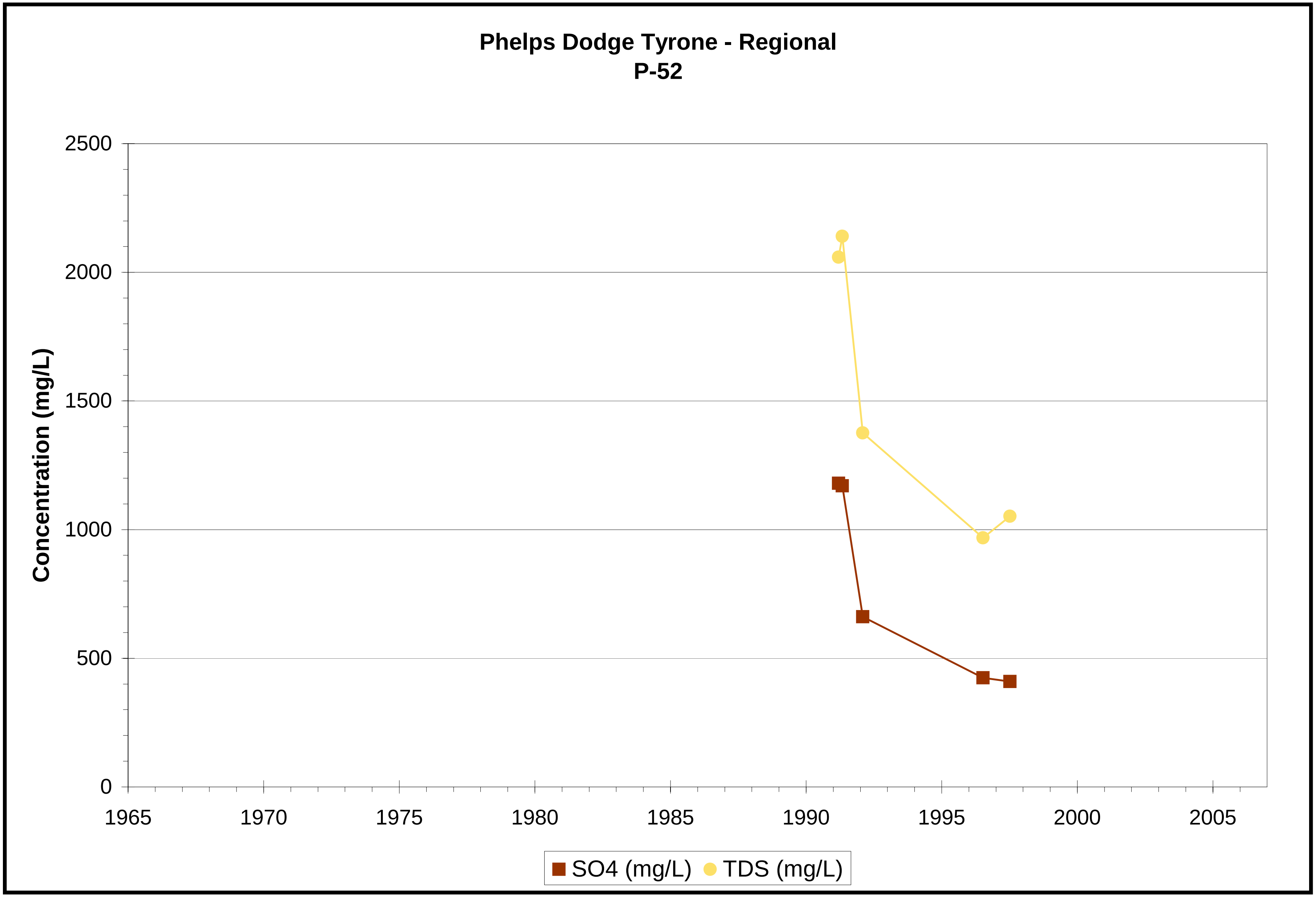

Phelps Dodge Tyrone - Regional
P-48
Concentration (mg/L)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



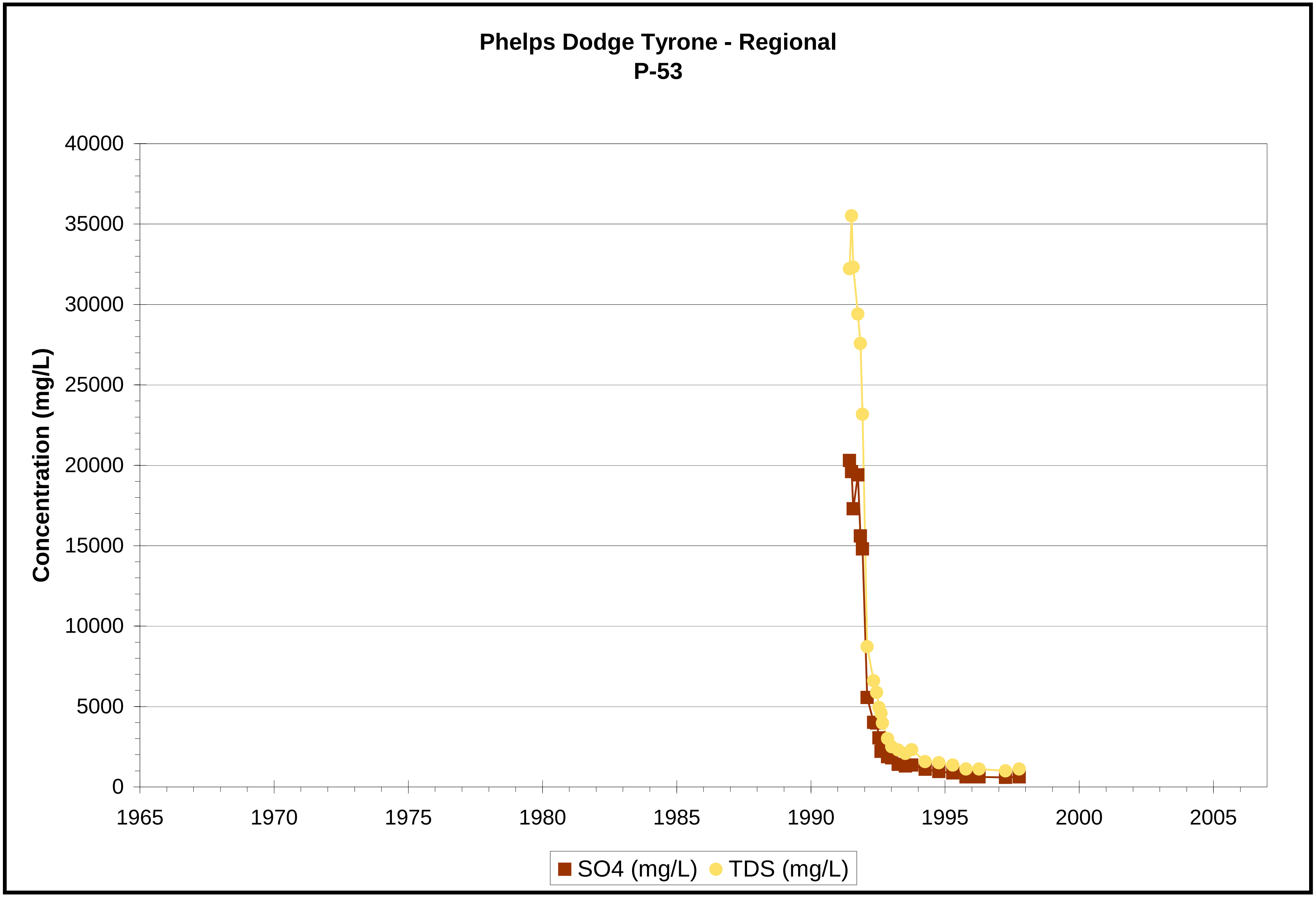
Phelps Dodge Tyrone - Regional
P-49
Concentration (mg/L)
8000
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-50
Concentration (mg/L)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

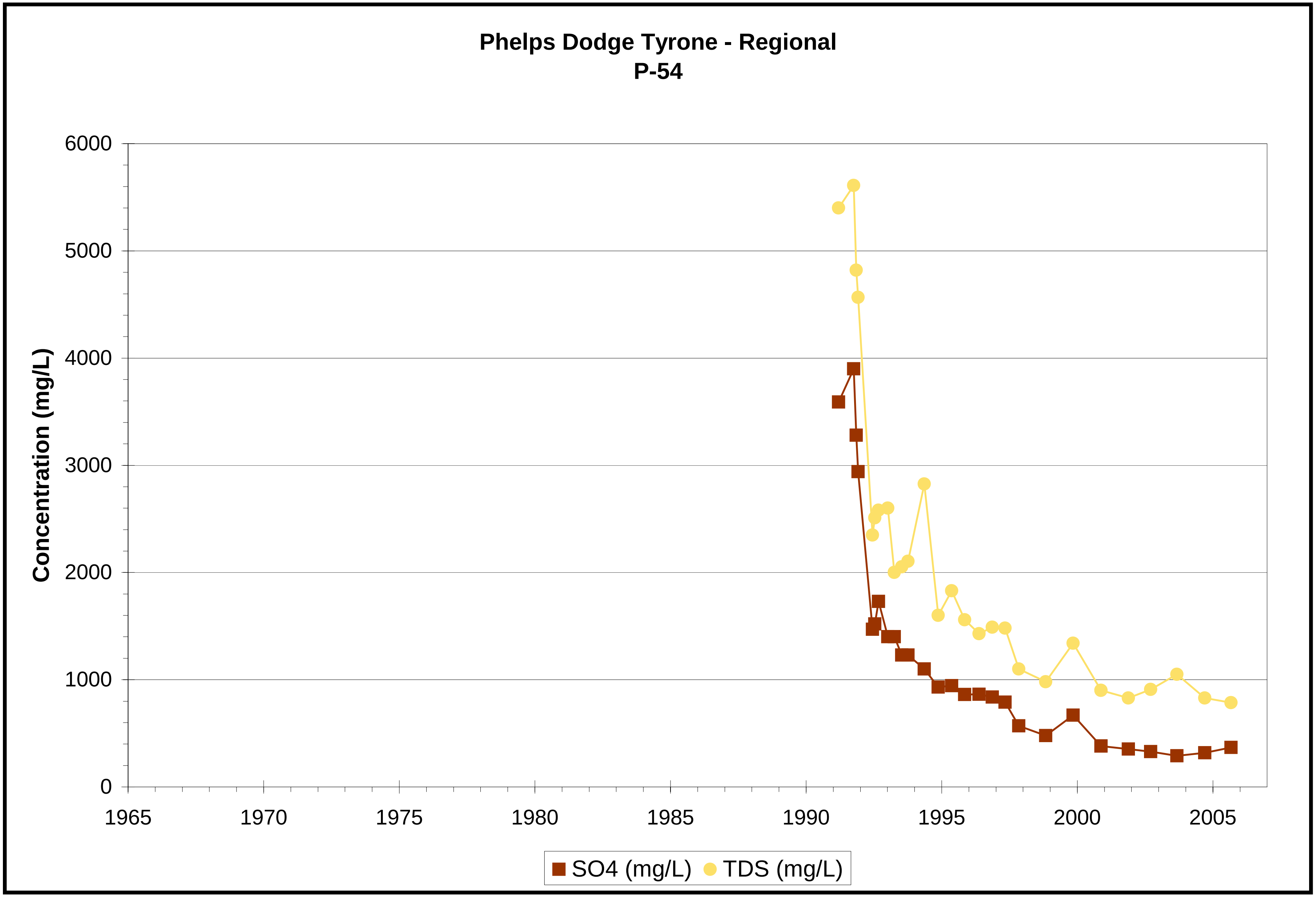

Phelps Dodge Tyrone - Regional
P-51
Concentration (mg/L)
0
2000
4000
6000
8000
10000
12000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

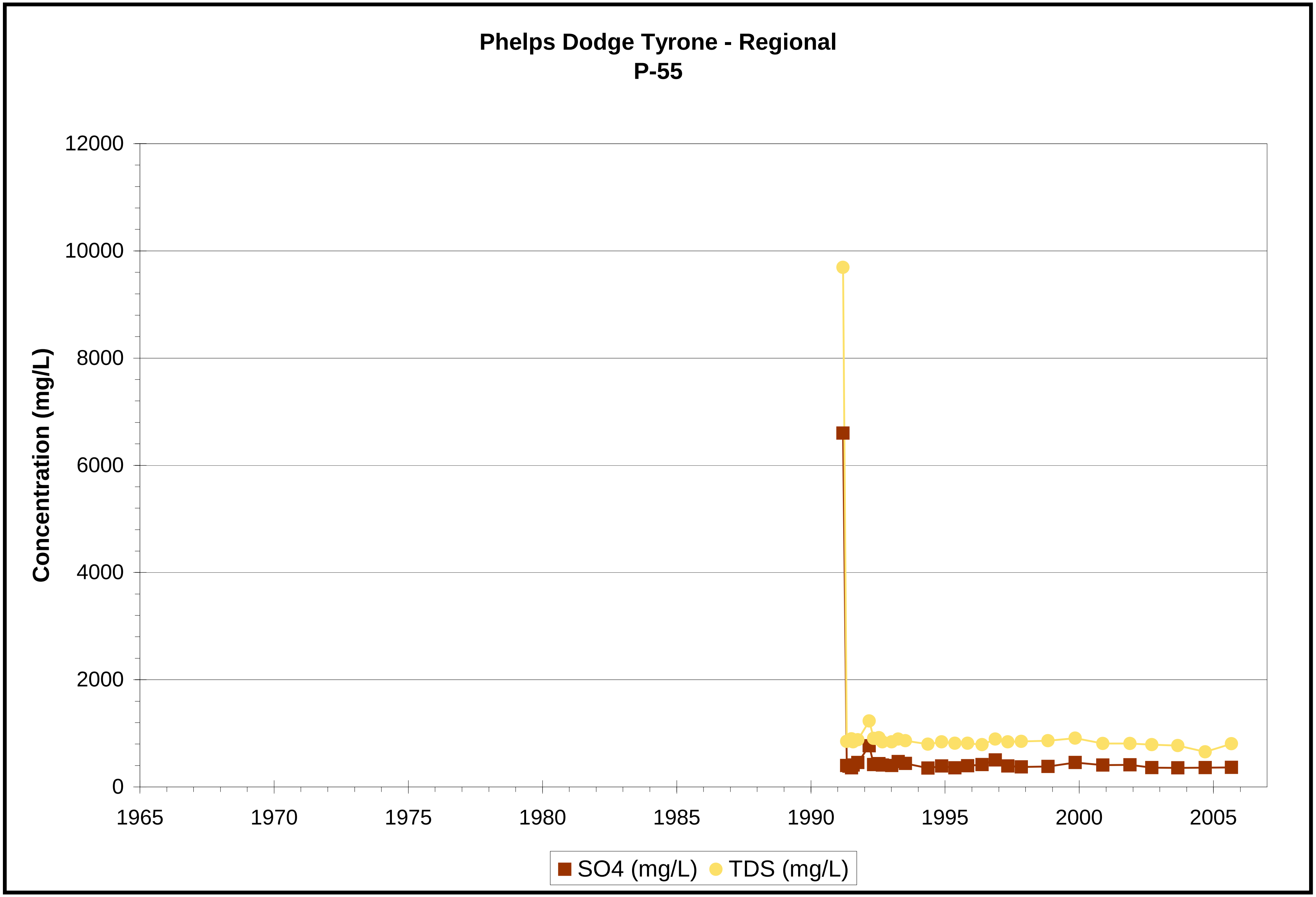


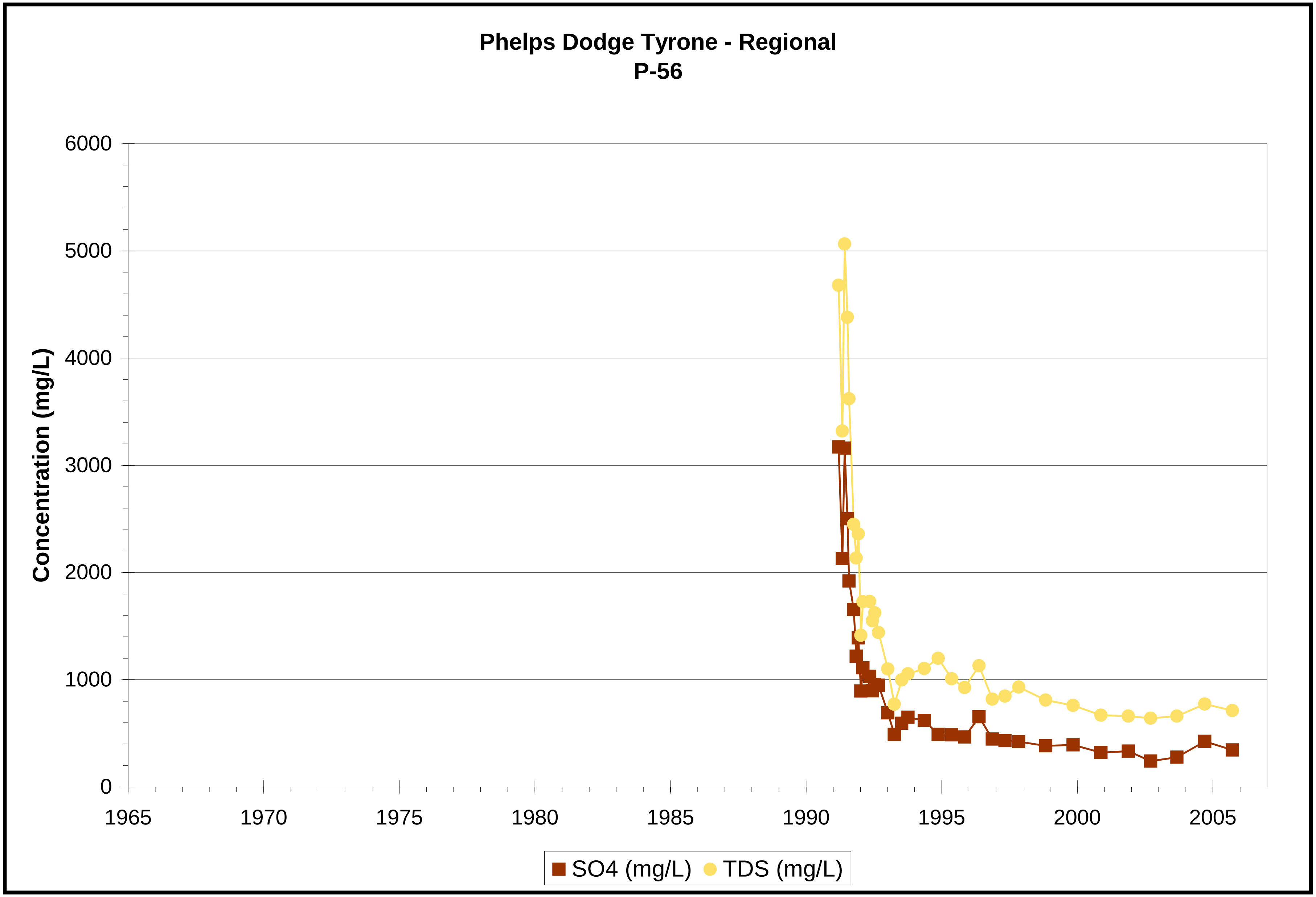
Phelps Dodge Tyrone - Regional
P-52
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

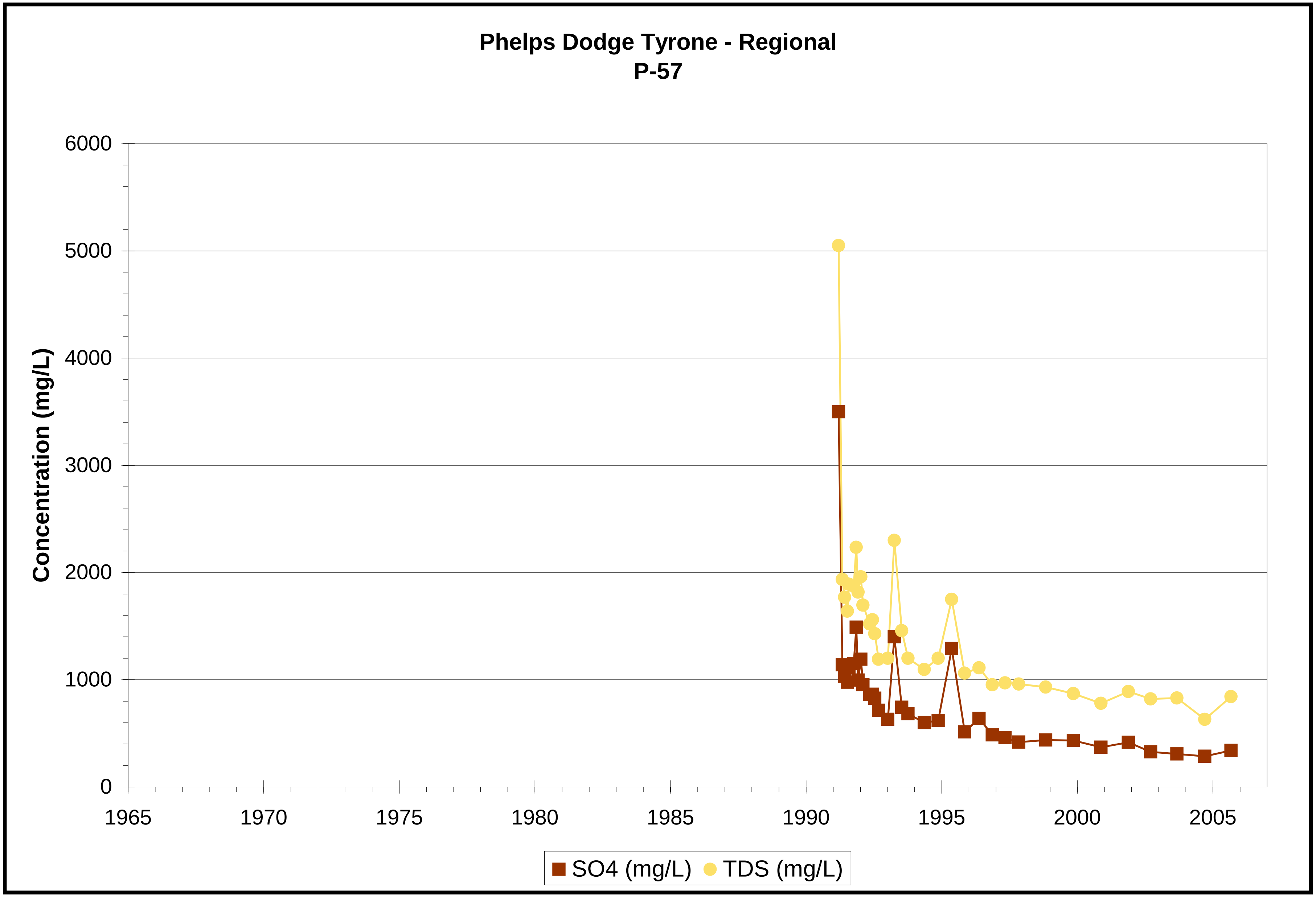


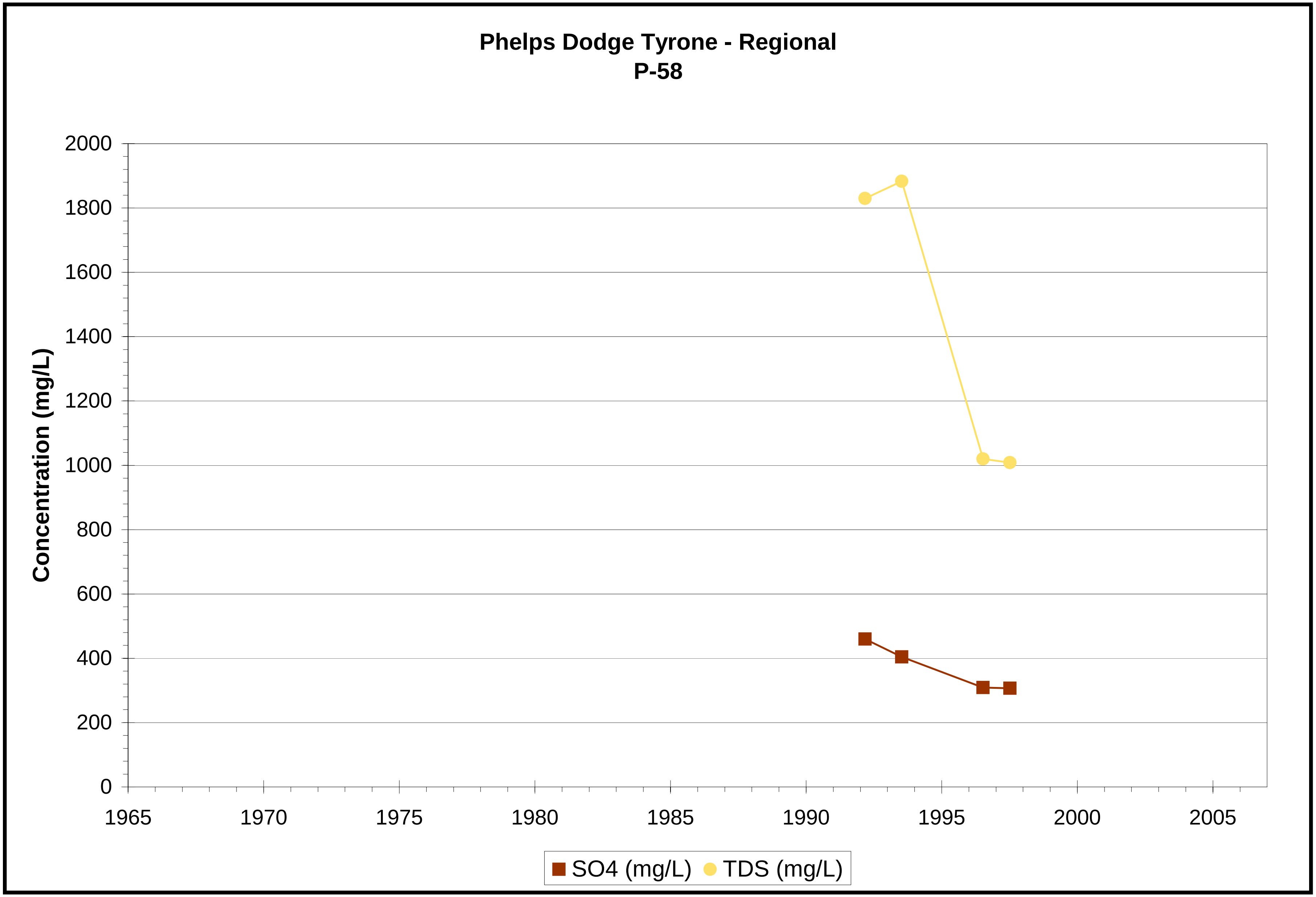
Phelps Dodge Tyrone - Regional
P-53
Concentration (mg/L)
40000
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-54
Concentration (mg/L)
0
1000
2000
3000
4000
5000
6000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

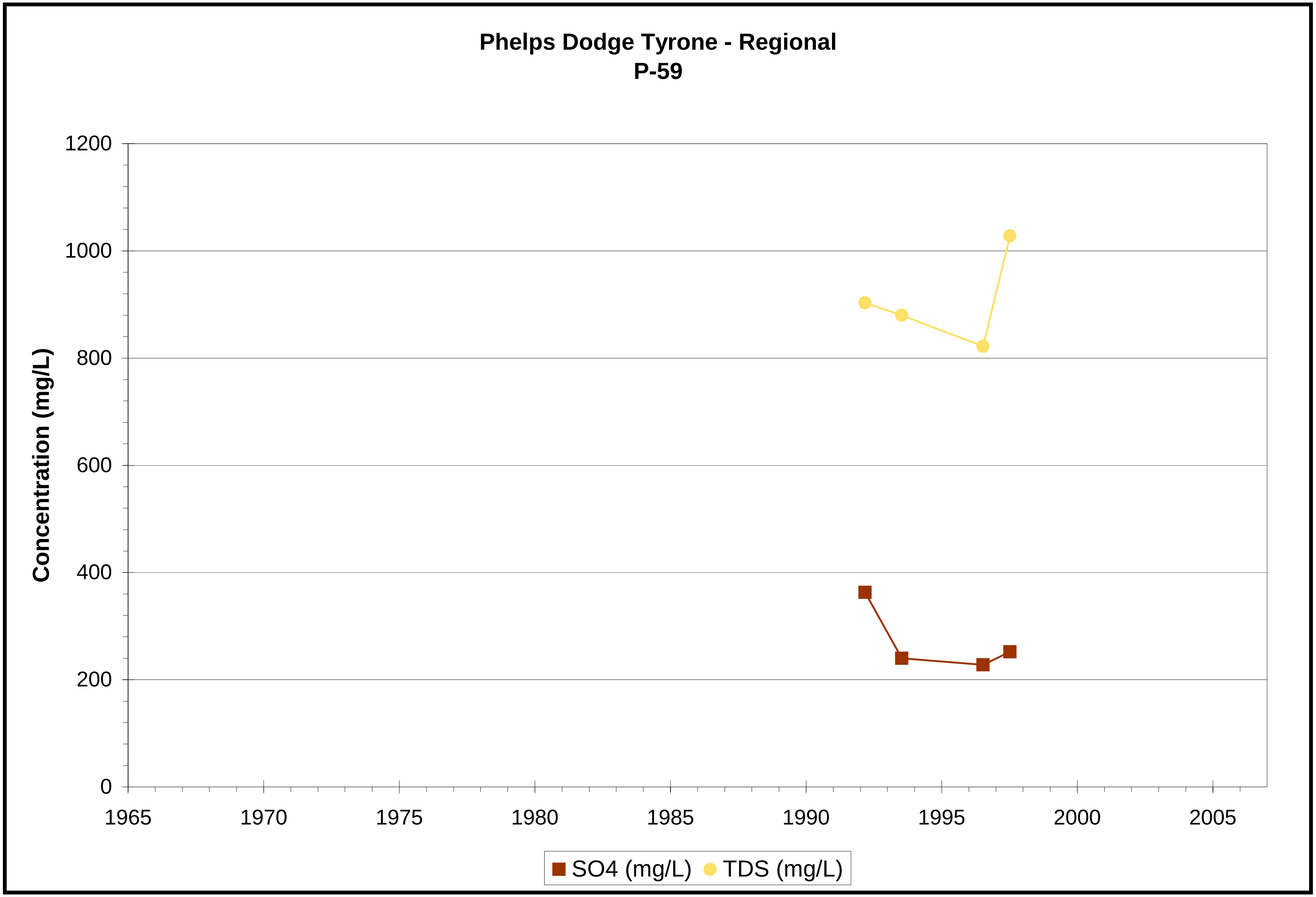

Phelps Dodge Tyrone - Regional
P-55
Concentration (mg/L)
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-56
Concentration (mg/L)
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

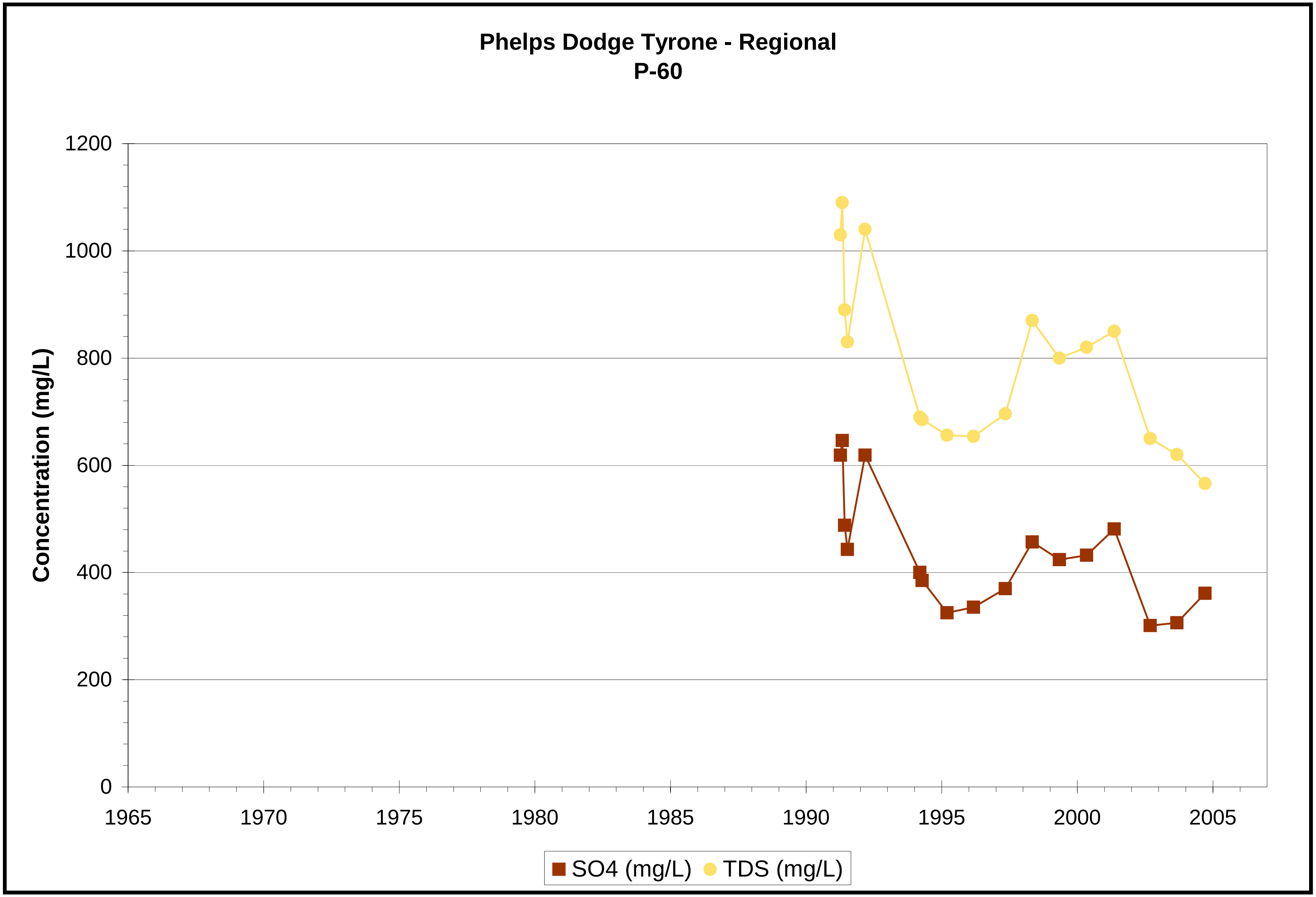

Phelps Dodge Tyrone - Regional
P-57
Concentration (mg/L)
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

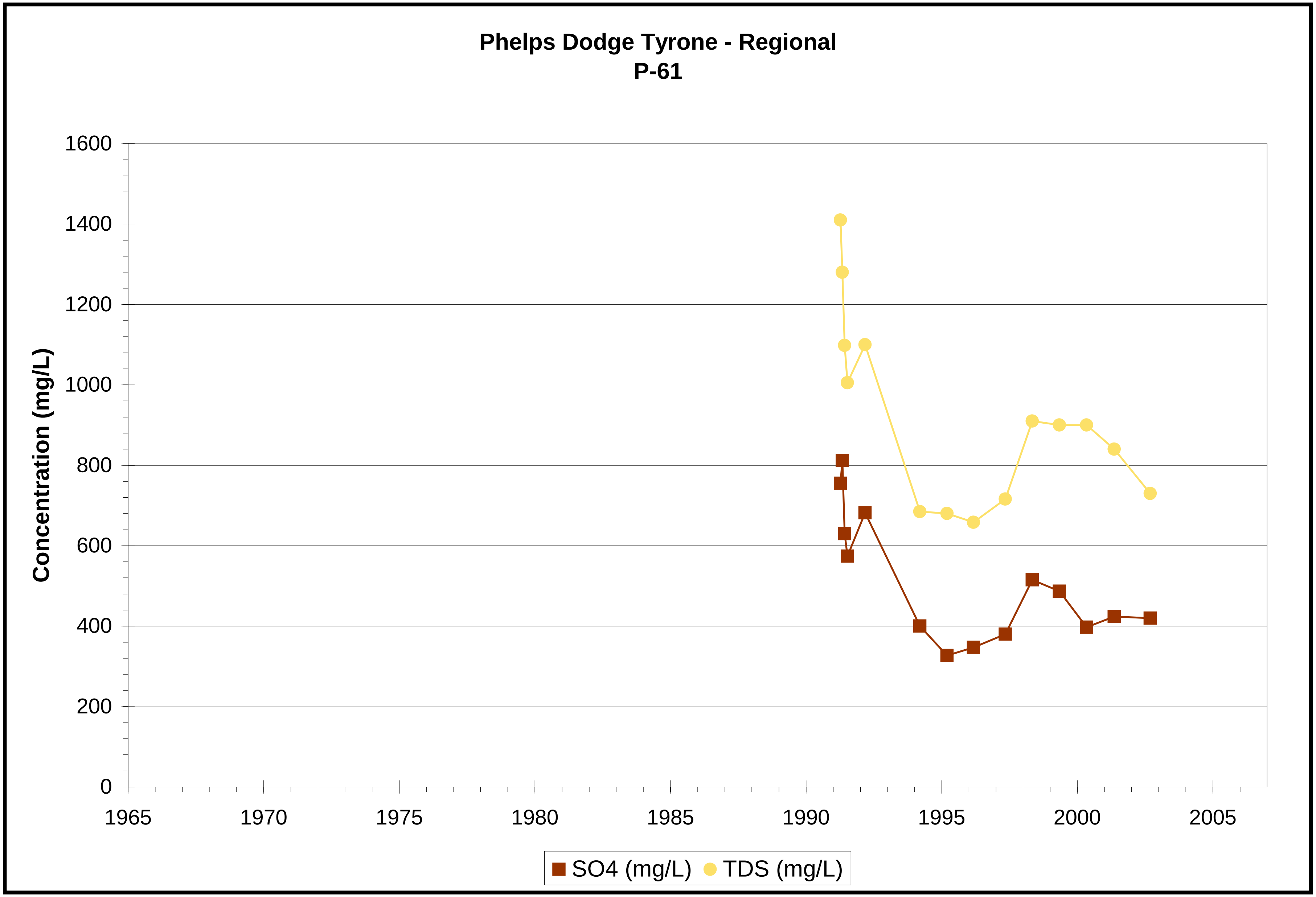


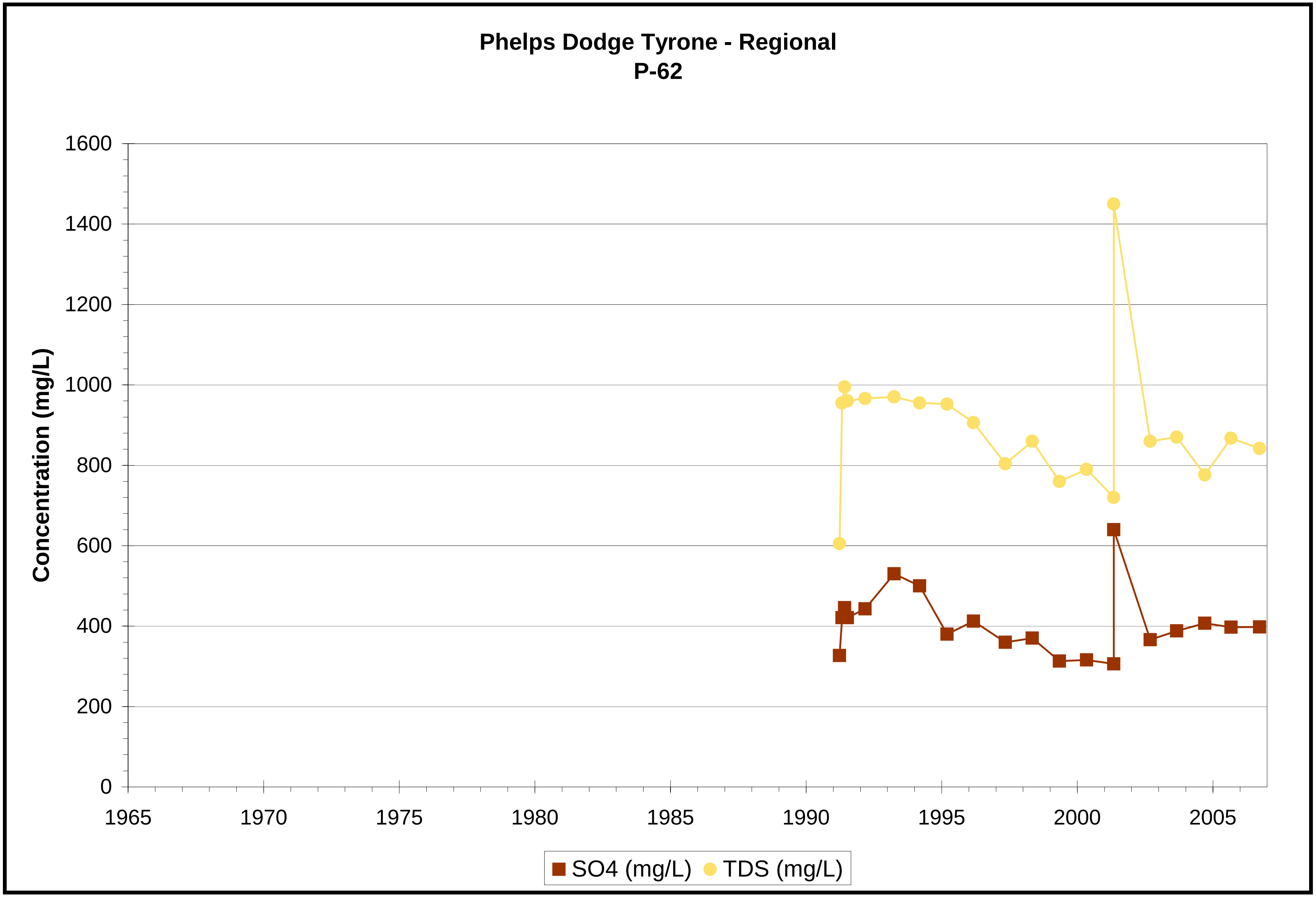
Phelps Dodge Tyrone - Regional
P-58
Concentration (mg/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

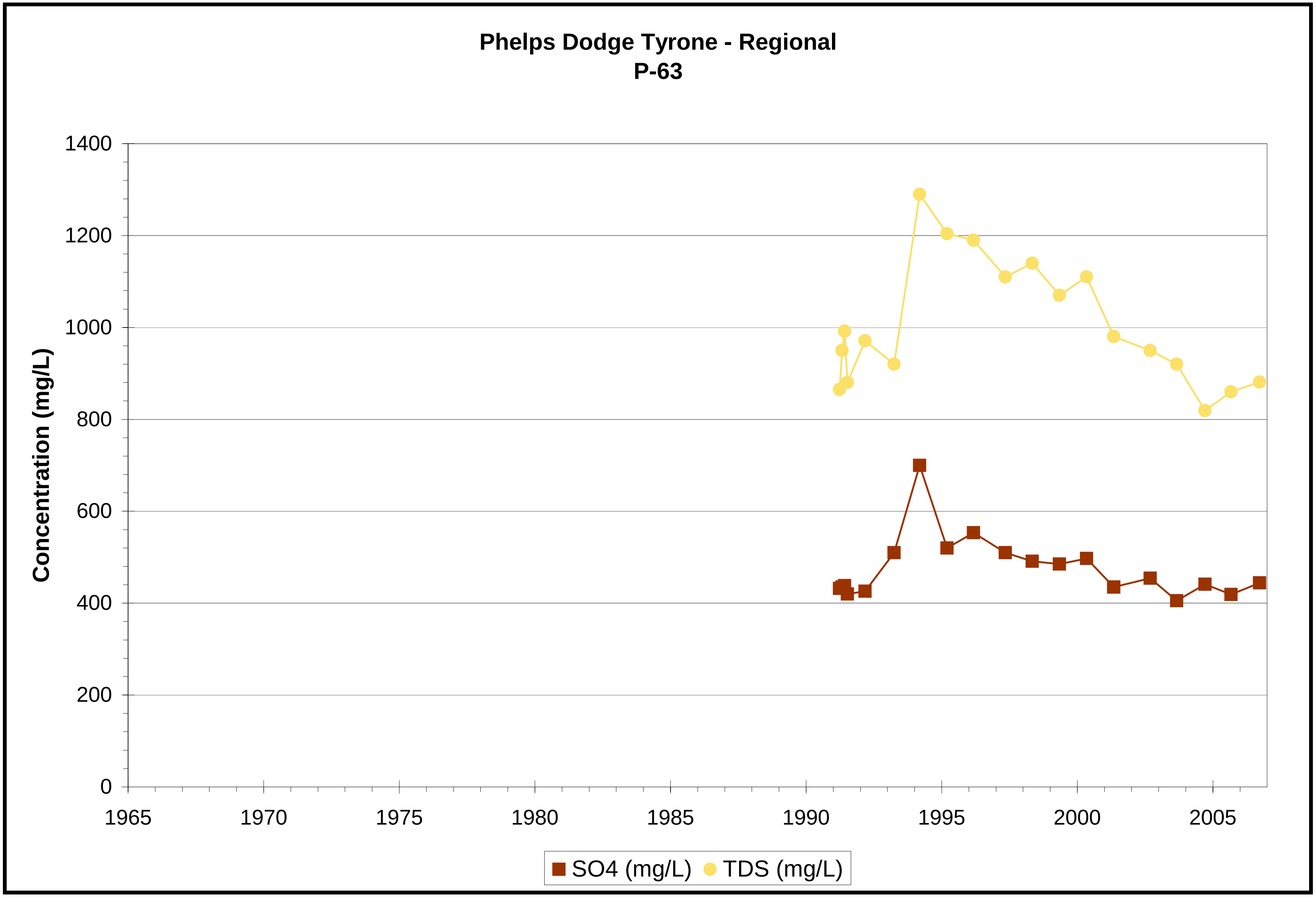


Phelps Dodge Tyrone - Regional
P-59
Concentration (mg/L)
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

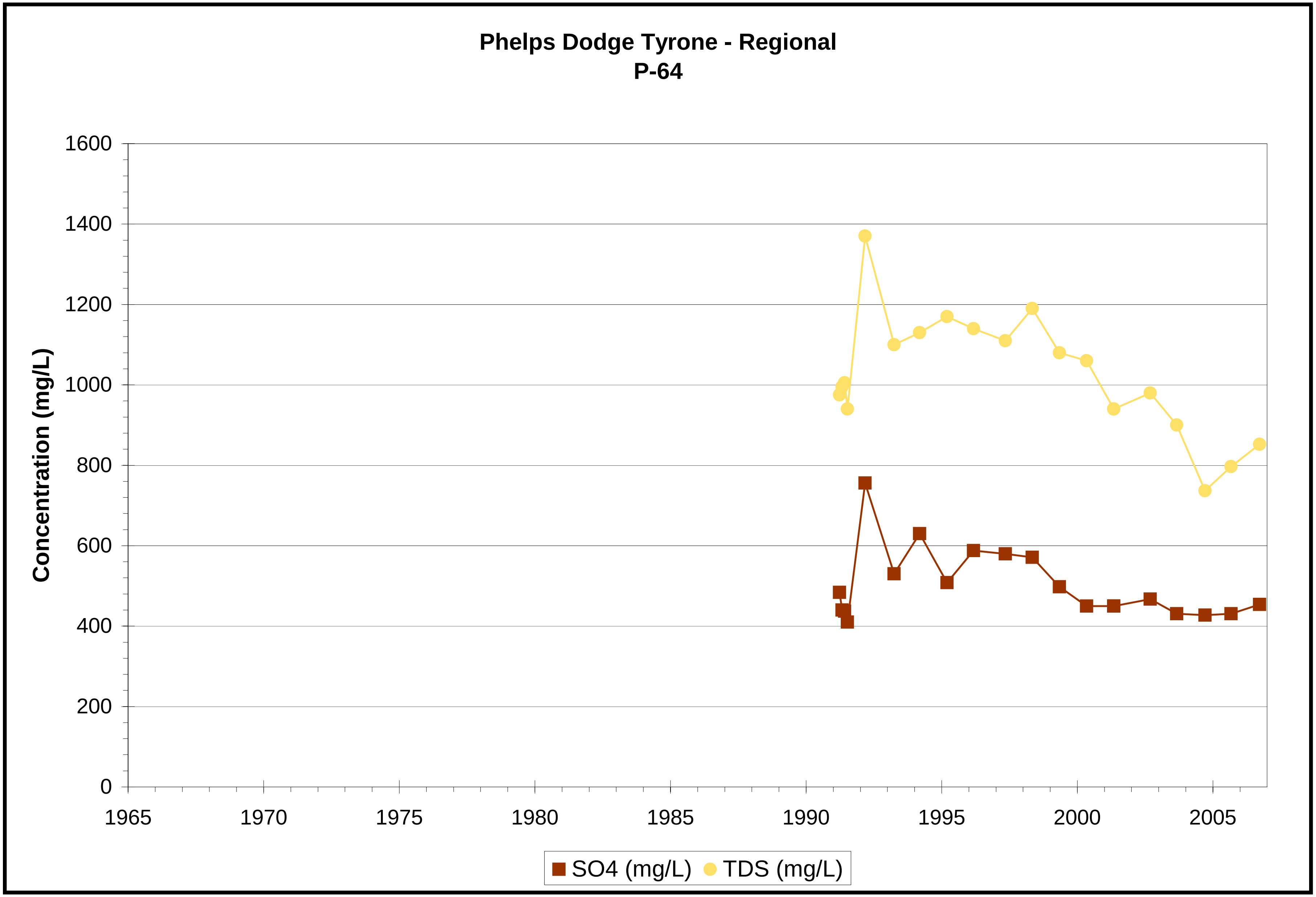

Phelps Dodge Tyrone - Regional
P-60
Concentration (mg/L)
0
200
400
600
800
1000
1200
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-61
Concentration (mg/L)
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

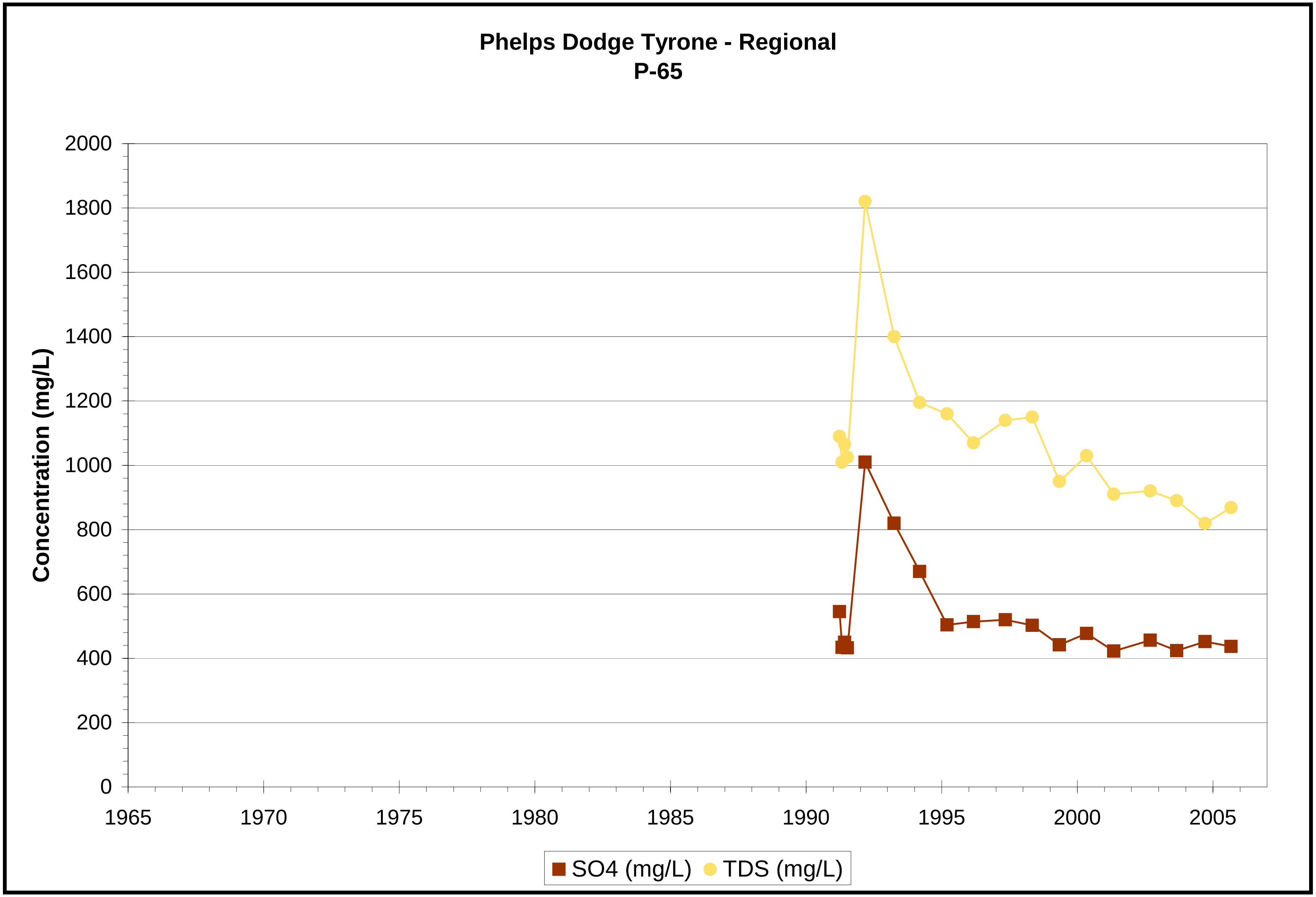

Phelps Dodge Tyrone - Regional
P-62
Concentration (mg/L)
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



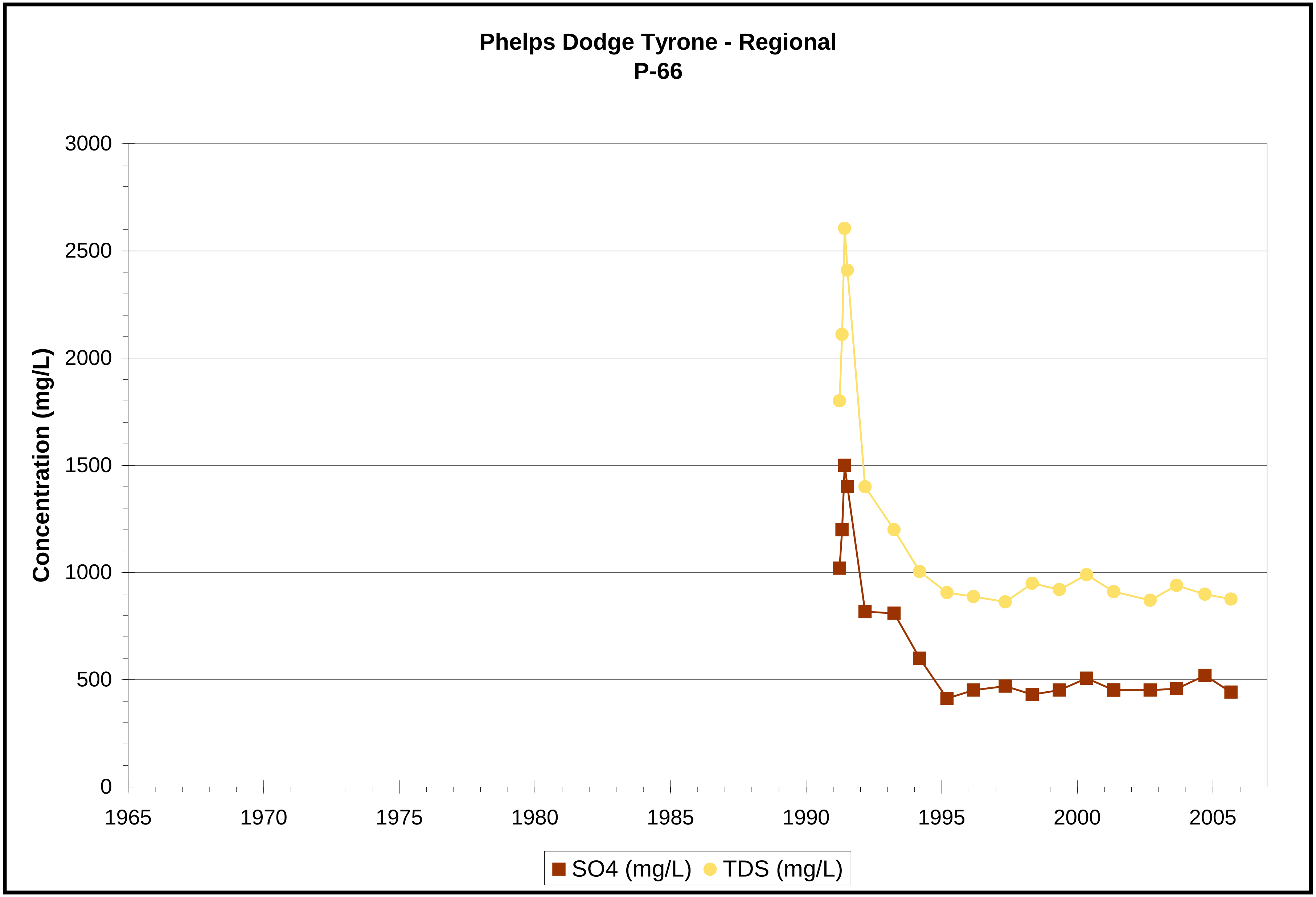
Phelps Dodge Tyrone - Regional
P-63
Concentration (mg/L)
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



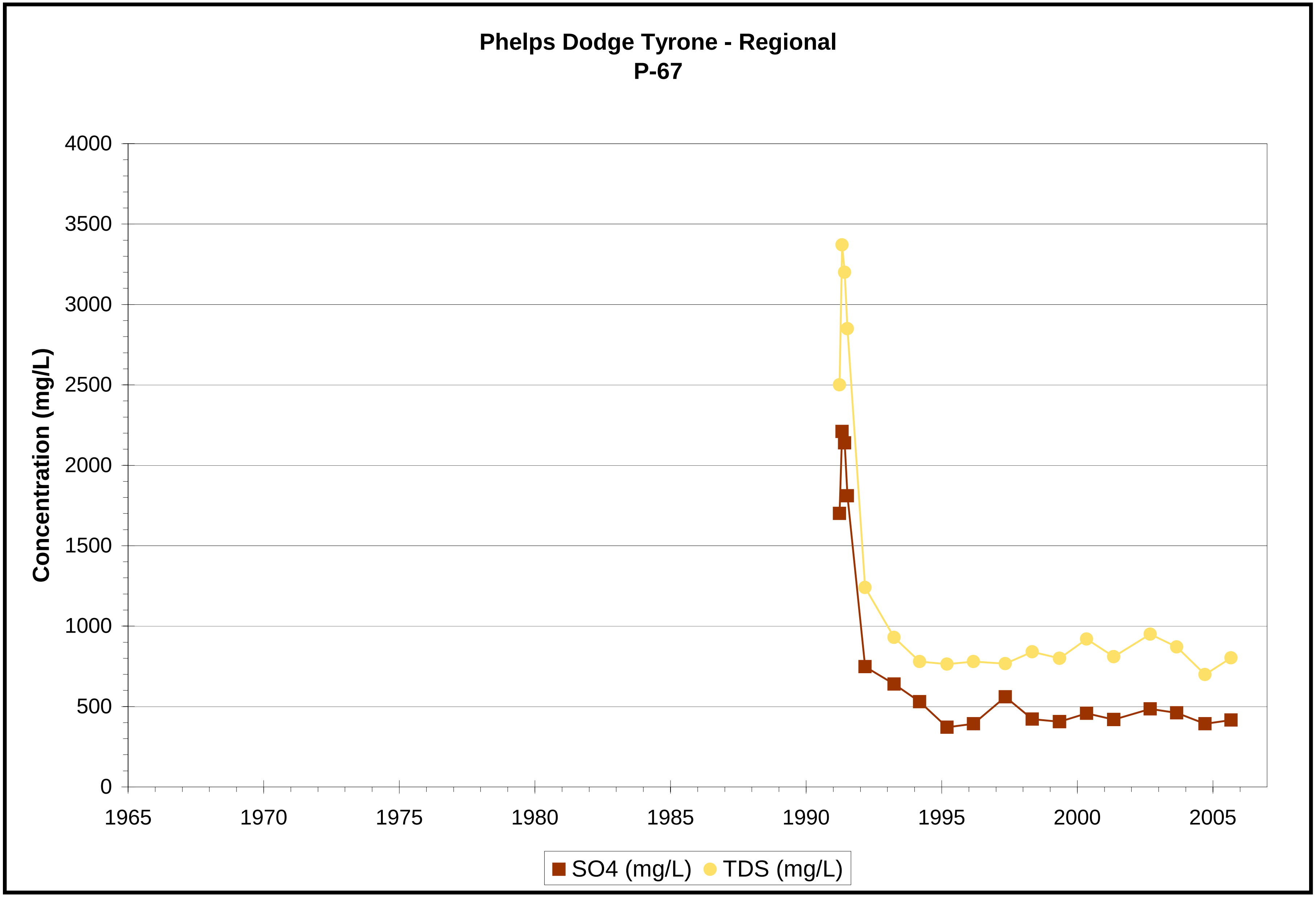
Phelps Dodge Tyrone - Regional
P-64
Concentration (mg/L)
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

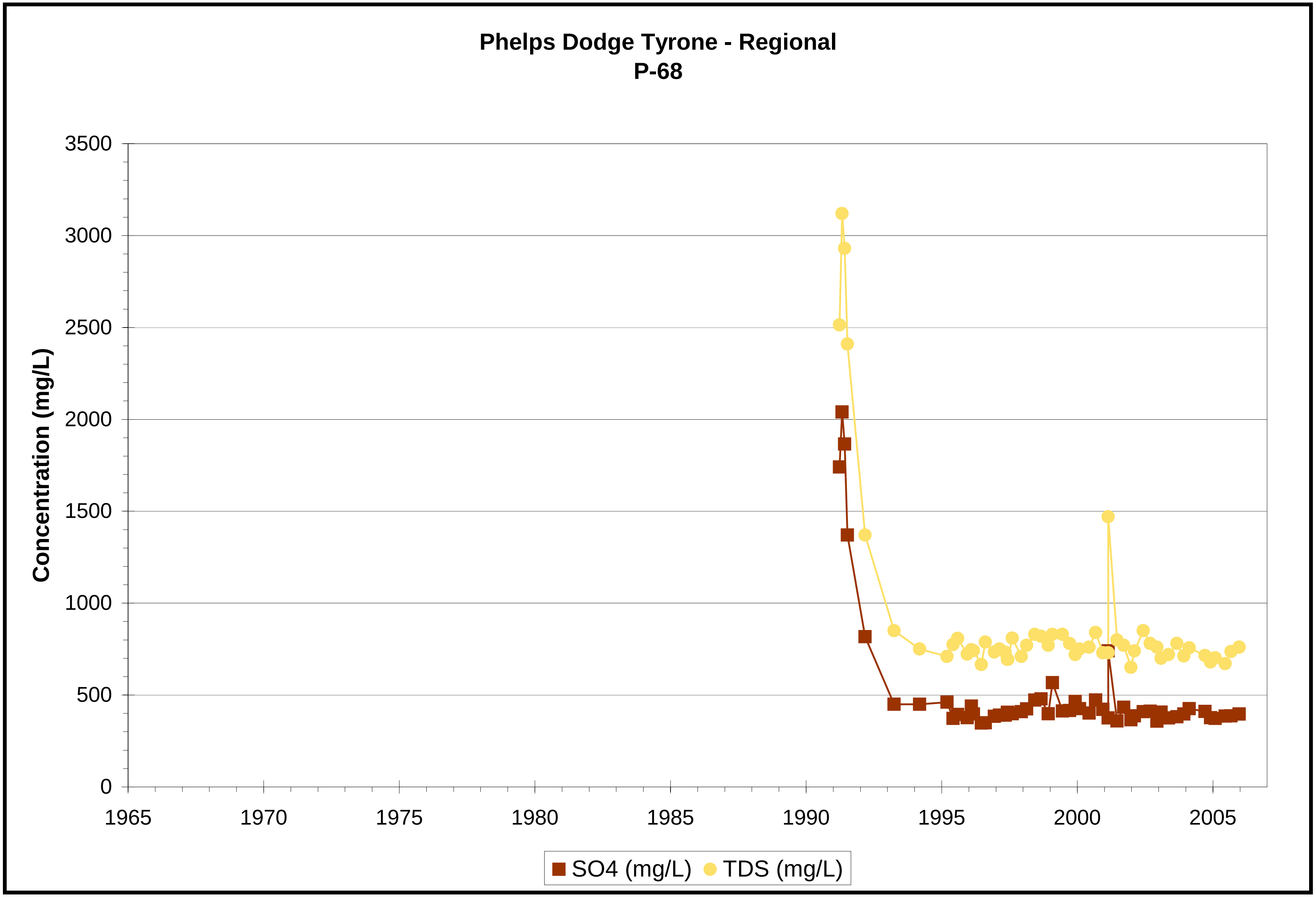


Phelps Dodge Tyrone - Regional
P-65
Concentration (mg/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

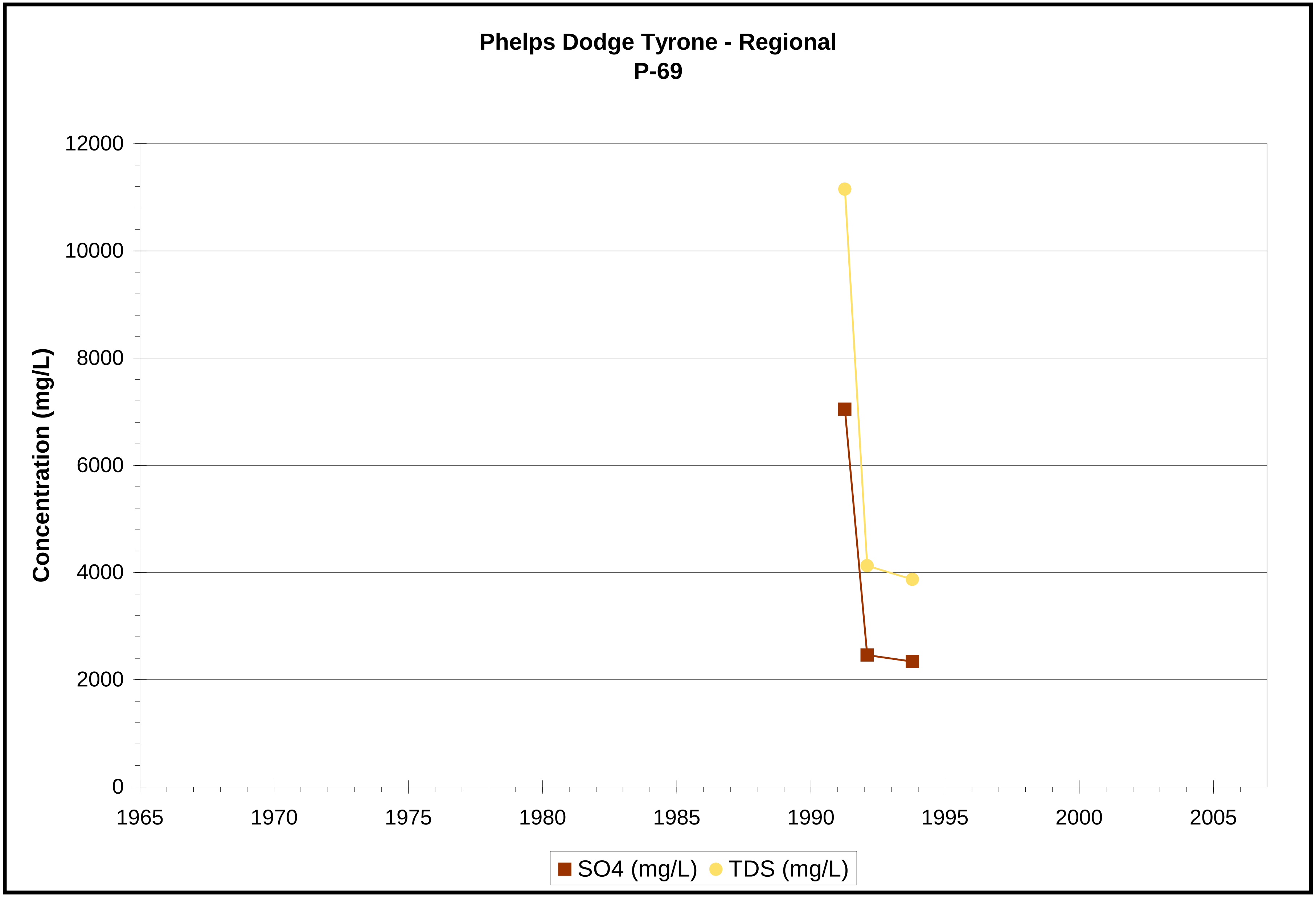


Phelps Dodge Tyrone - Regional
P-66
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

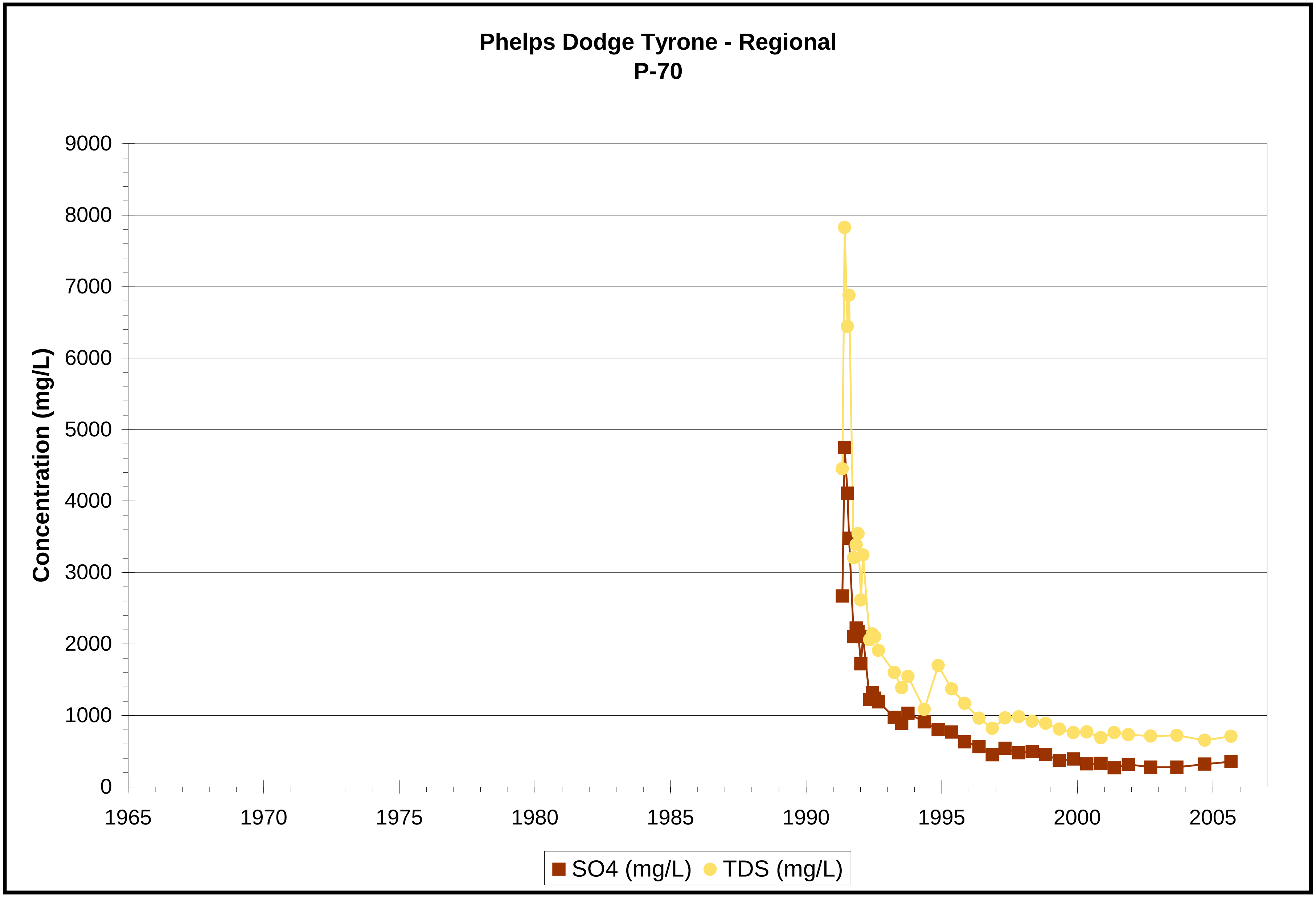

Phelps Dodge Tyrone - Regional
P-67
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

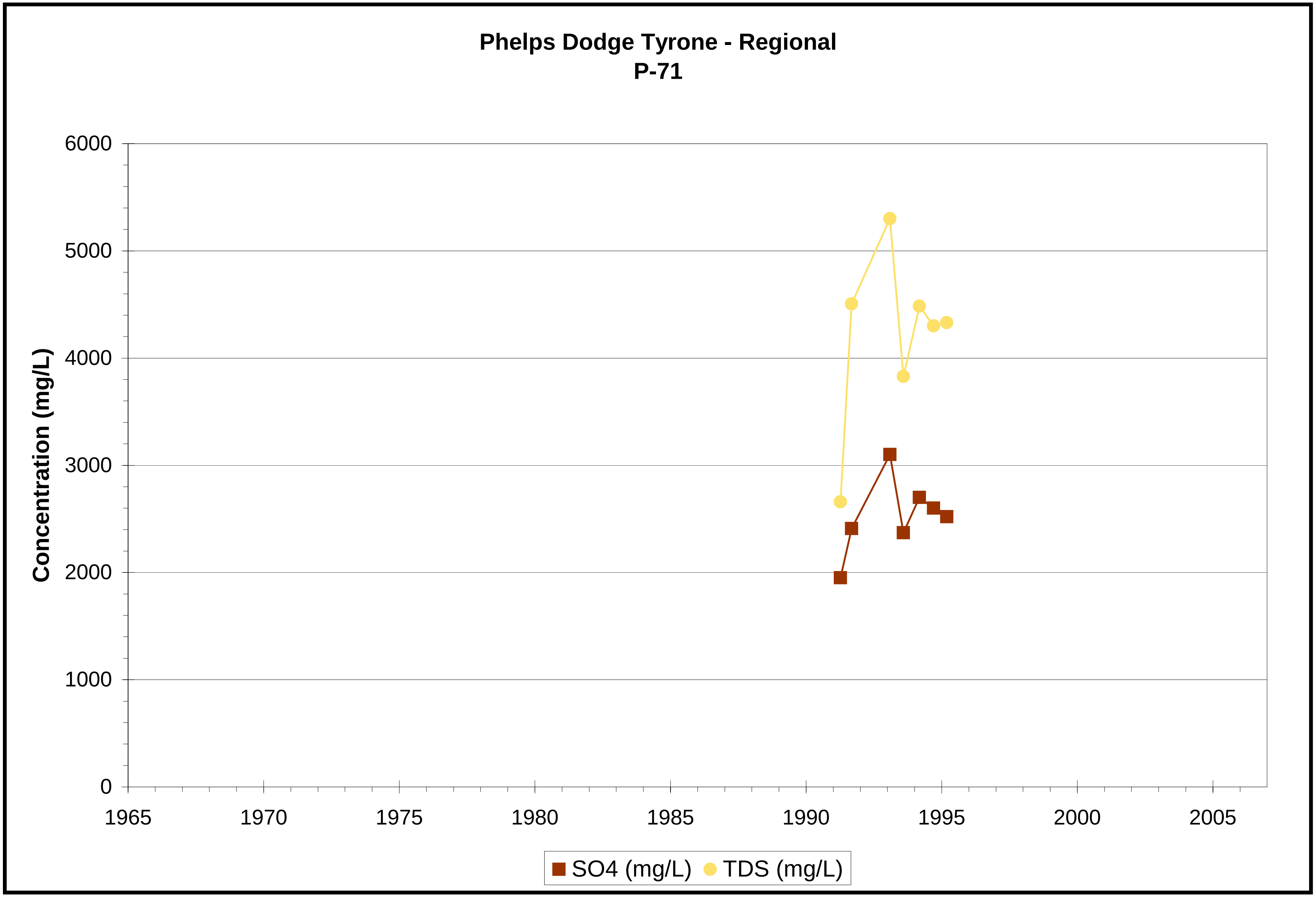


Phelps Dodge Tyrone - Regional
P-68
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

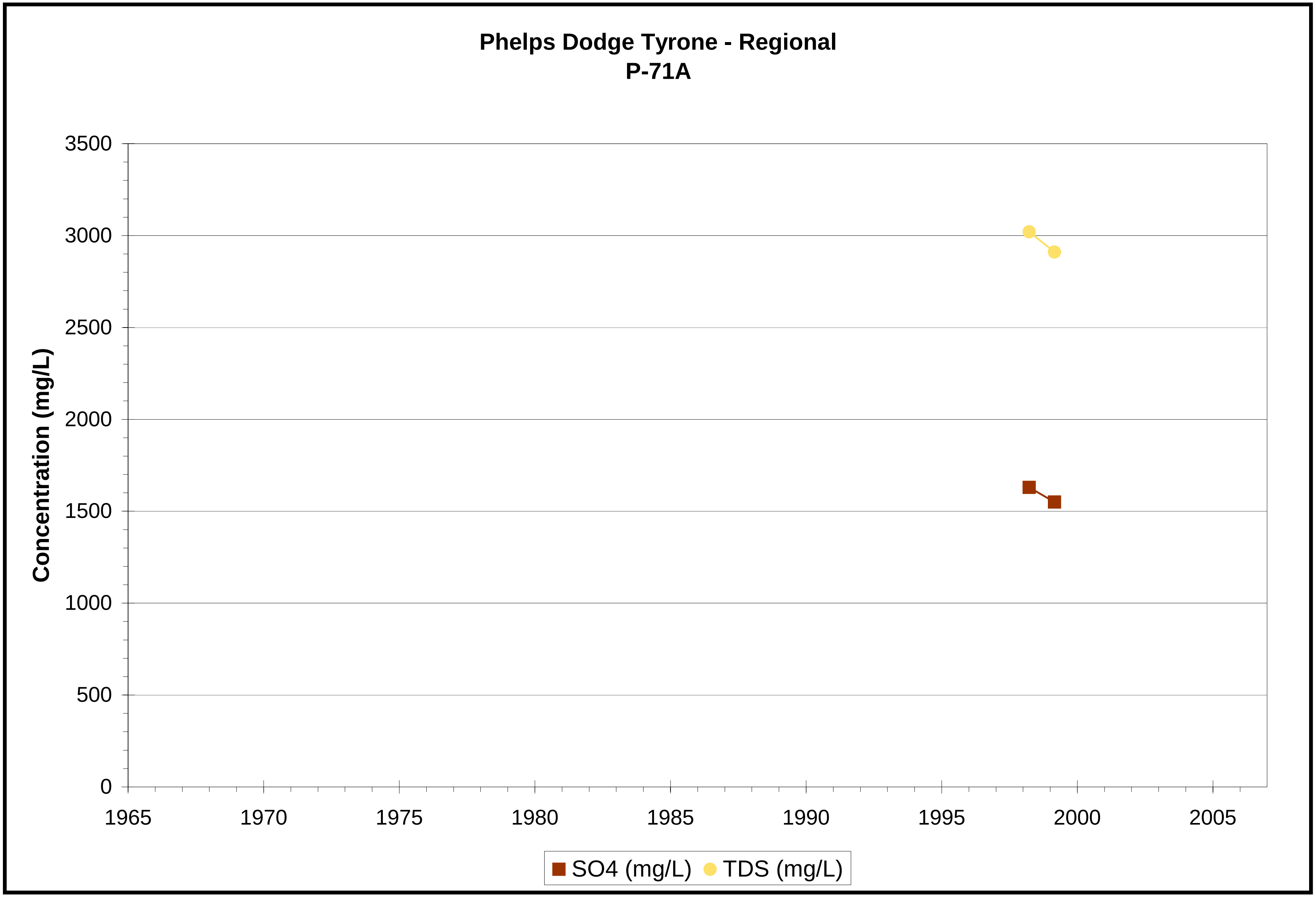


Phelps Dodge Tyrone - Regional
P-69
Concentration (mg/L)
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

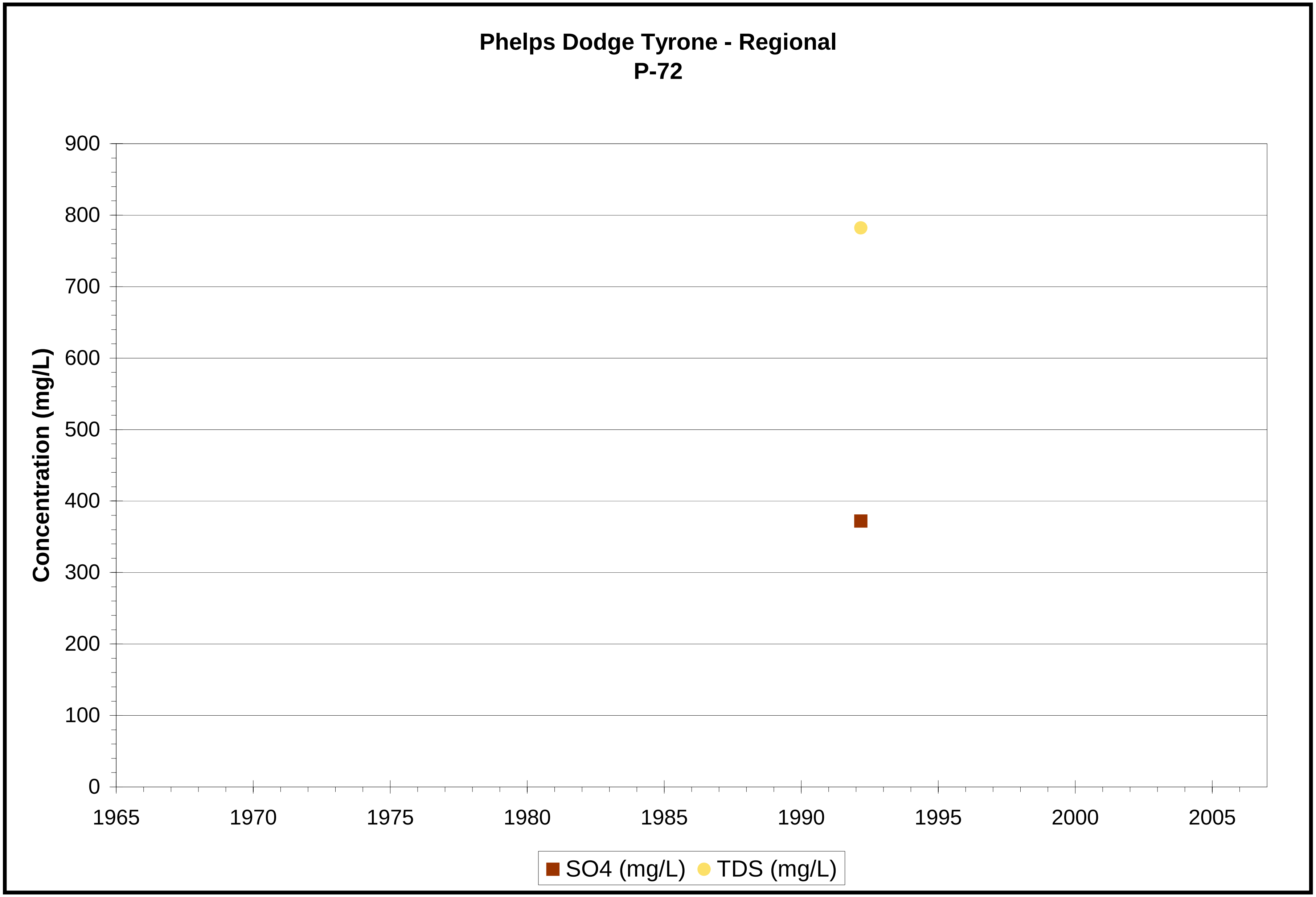

Phelps Dodge Tyrone - Regional
P-70
Concentration (mg/L)
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

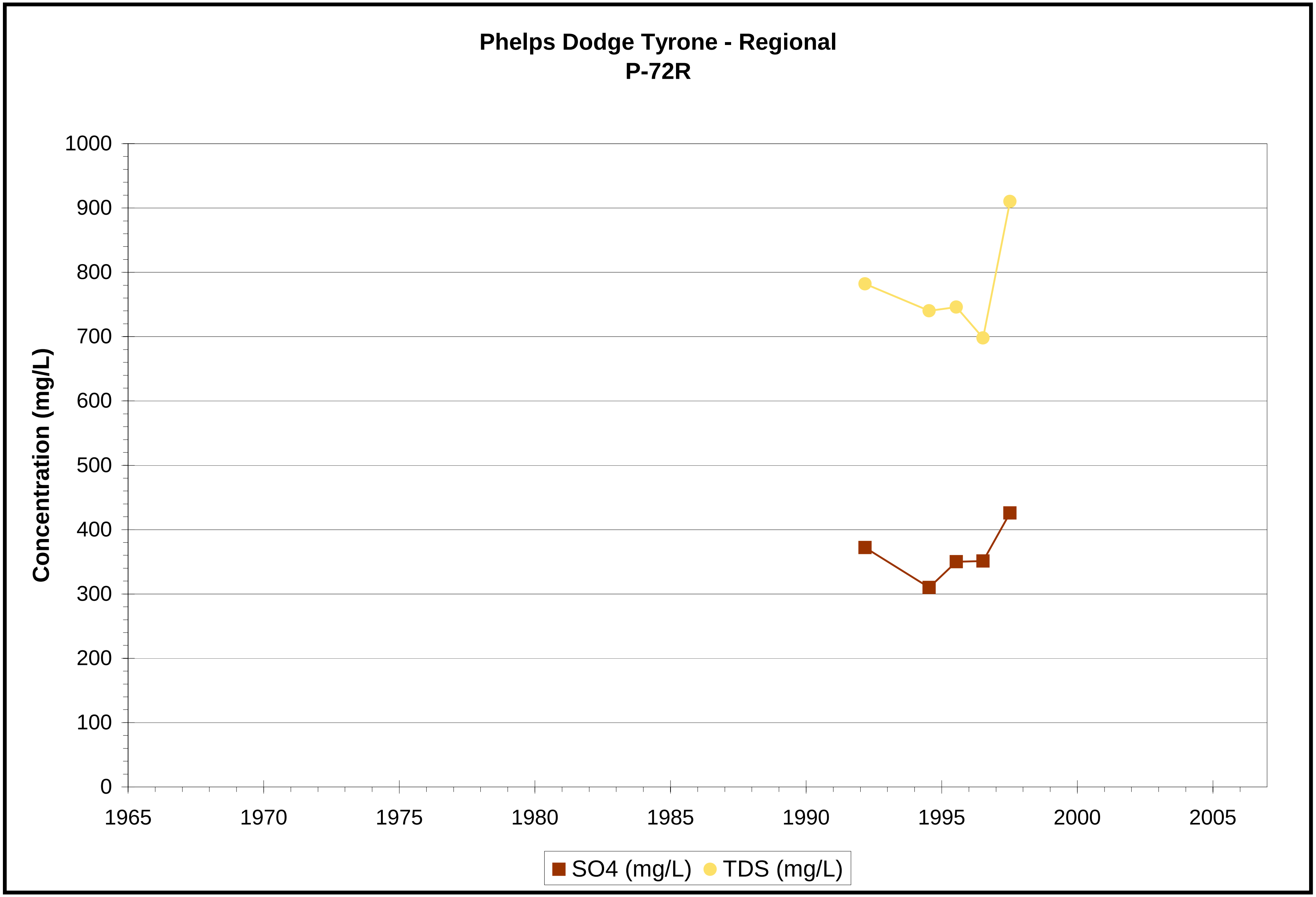


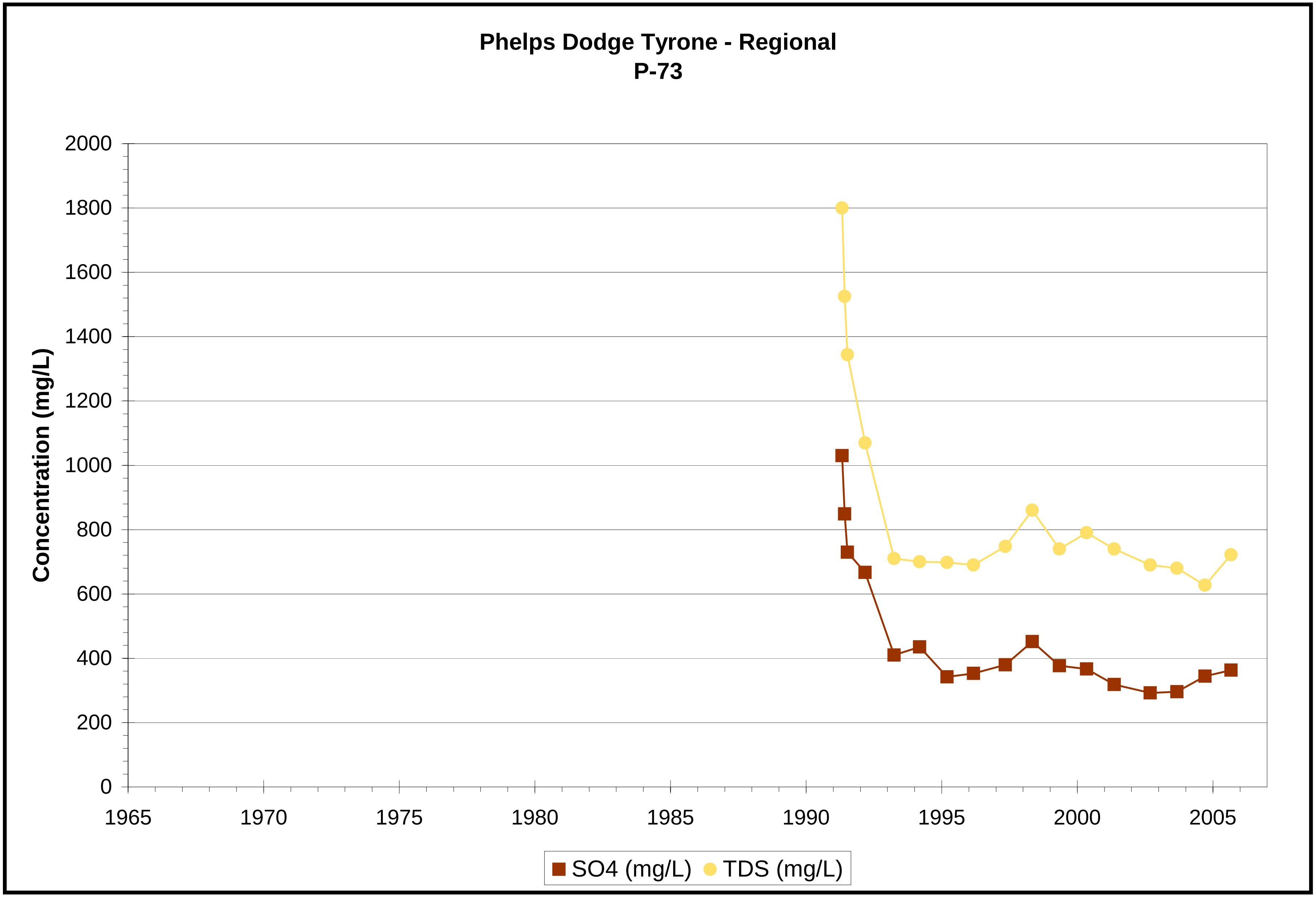
Phelps Dodge Tyrone - Regional
P-71
Concentration (mg/L)
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



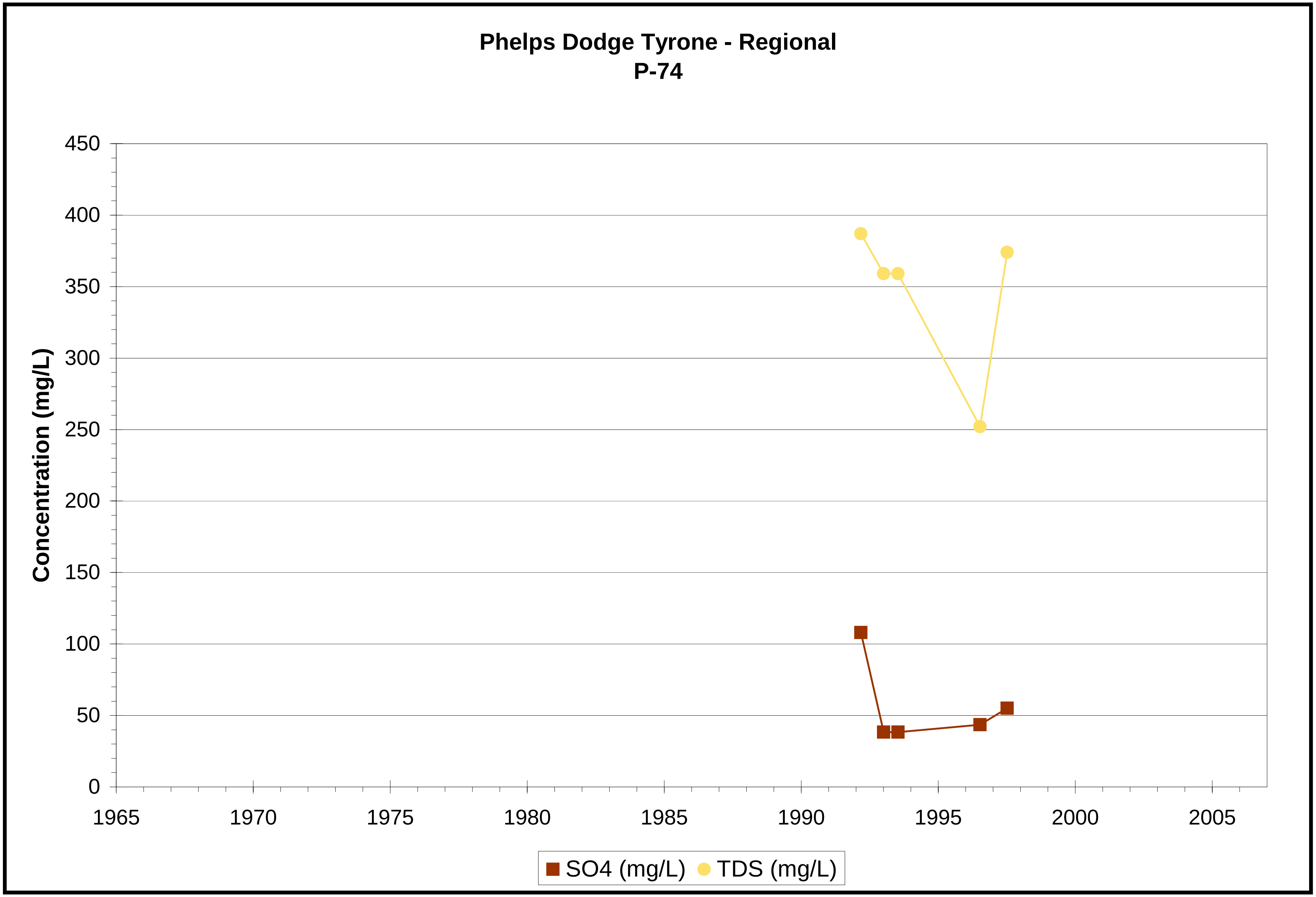
Phelps Dodge Tyrone - Regional
P-71A
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-72
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
900
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

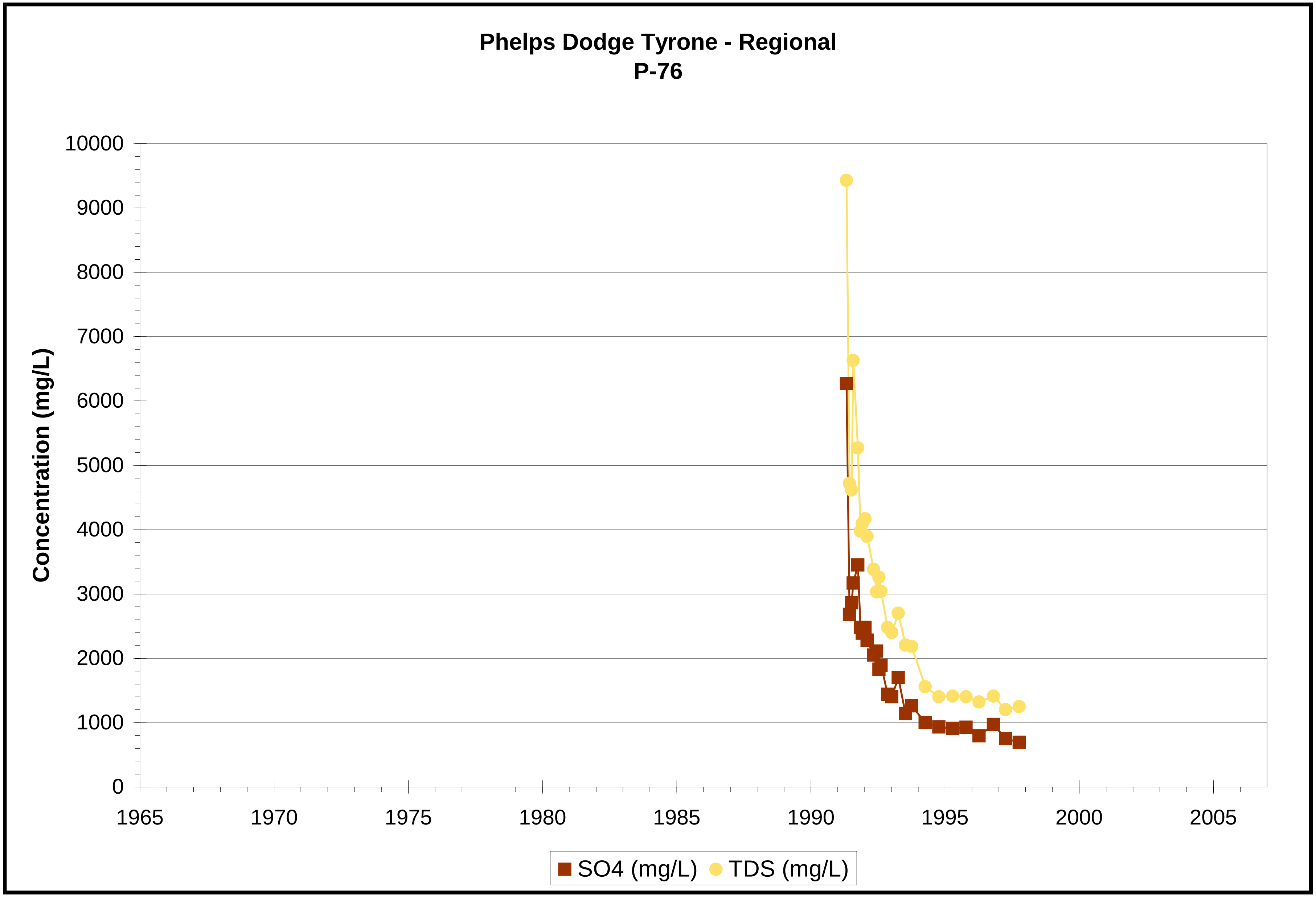

Phelps Dodge Tyrone - Regional
P-72R
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

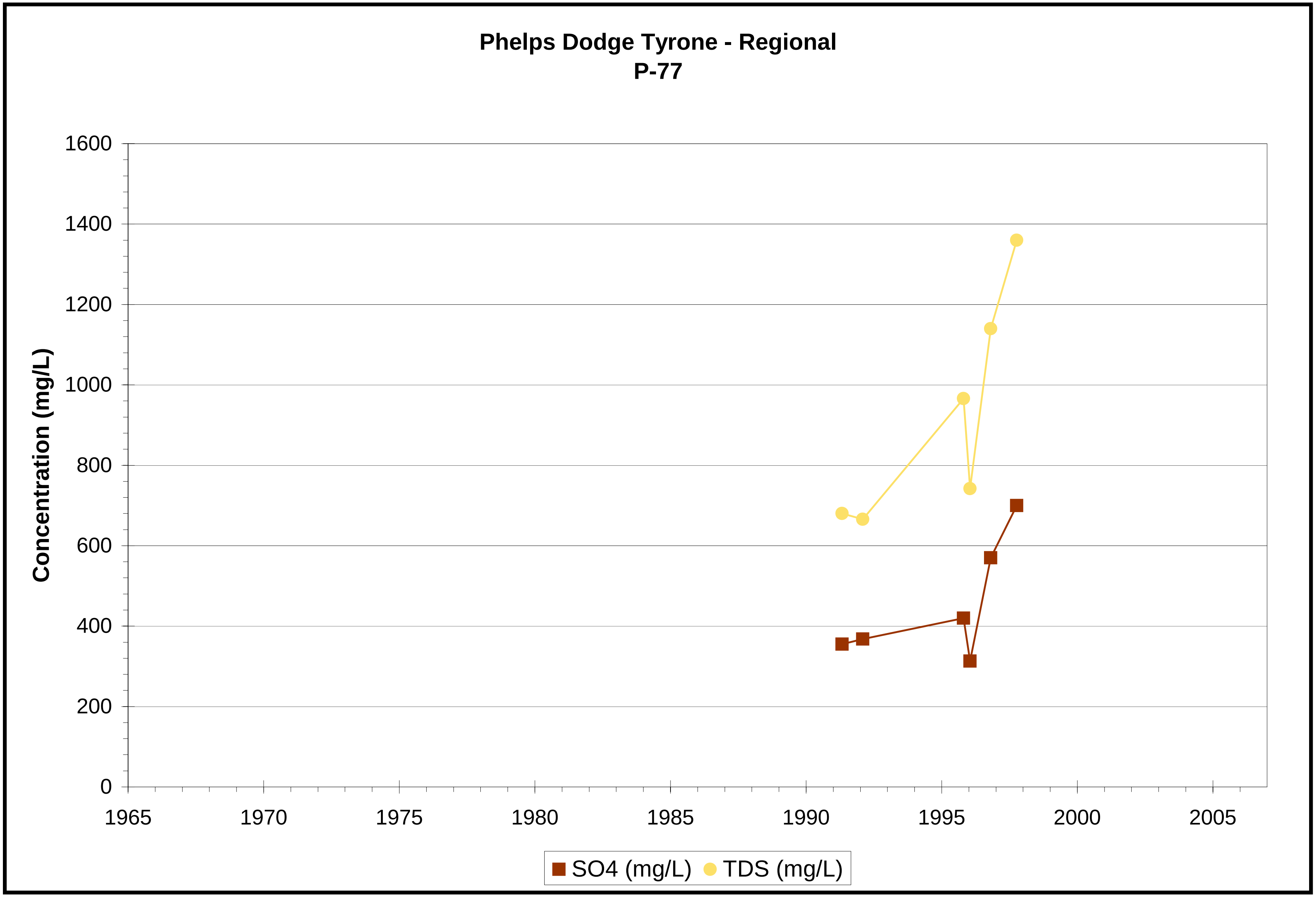


Phelps Dodge Tyrone - Regional
P-73
Concentration (mg/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

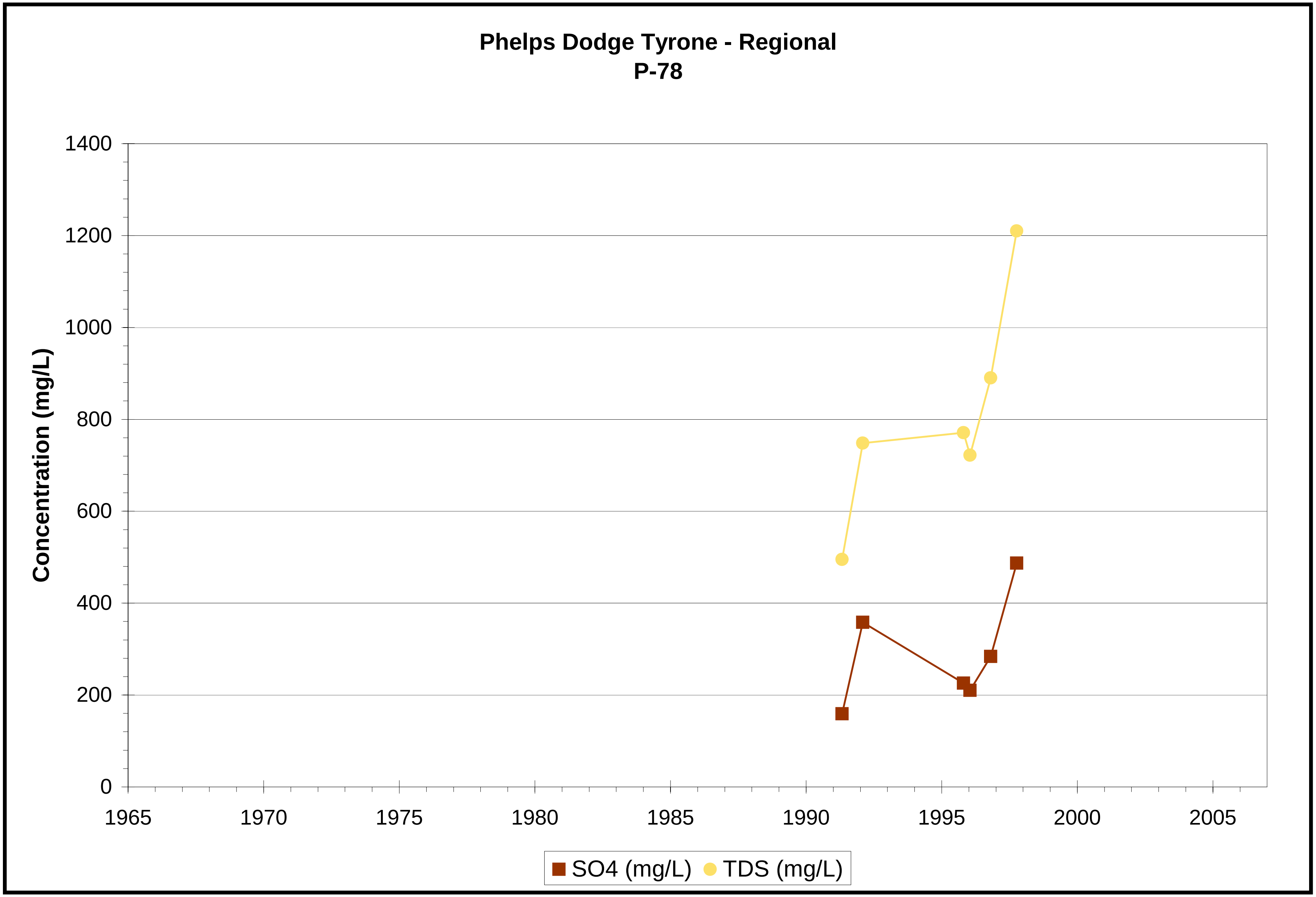


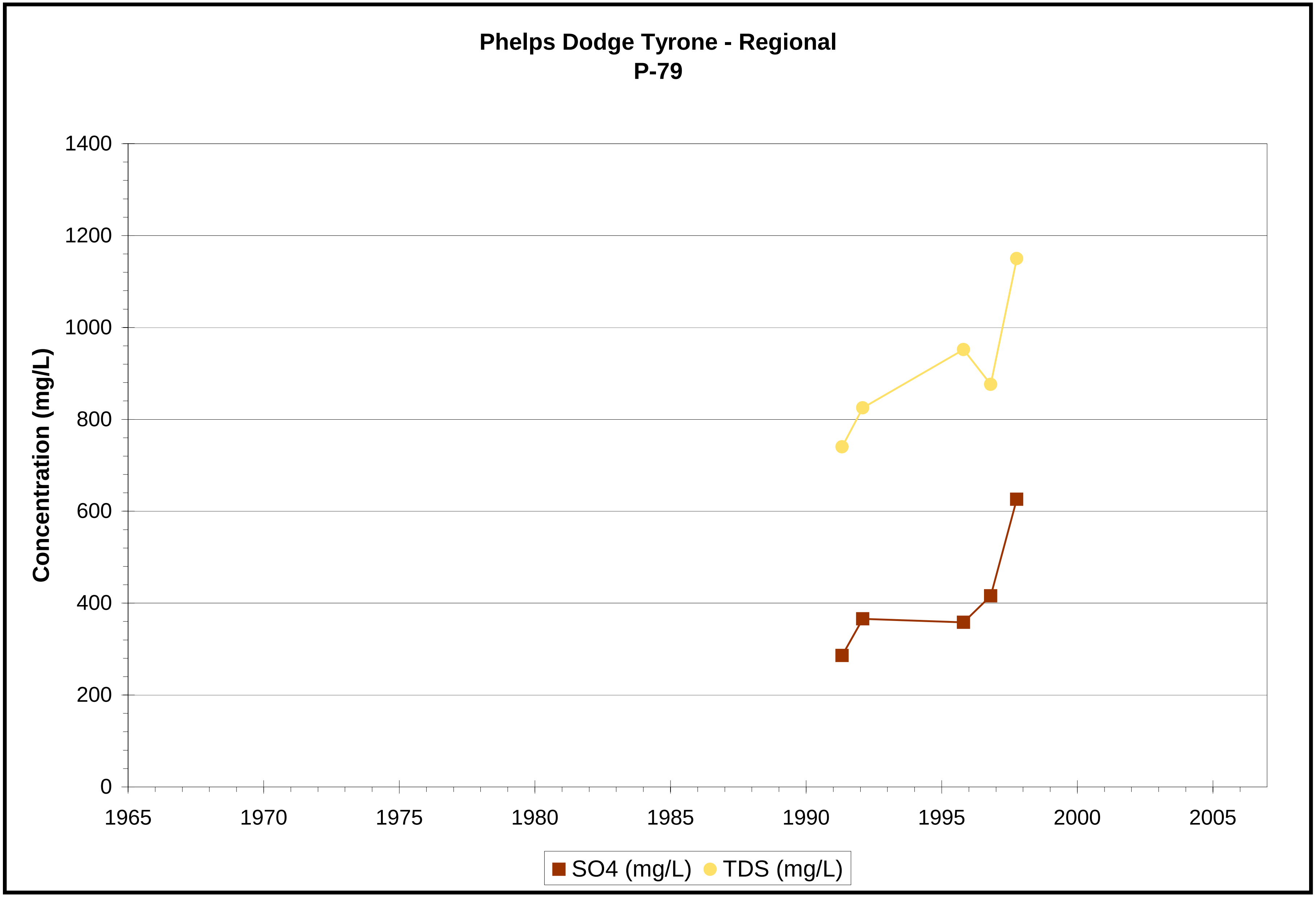
Phelps Dodge Tyrone - Regional
P-74
Concentration (mg/L)
450
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-76
Concentration (mg/L)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

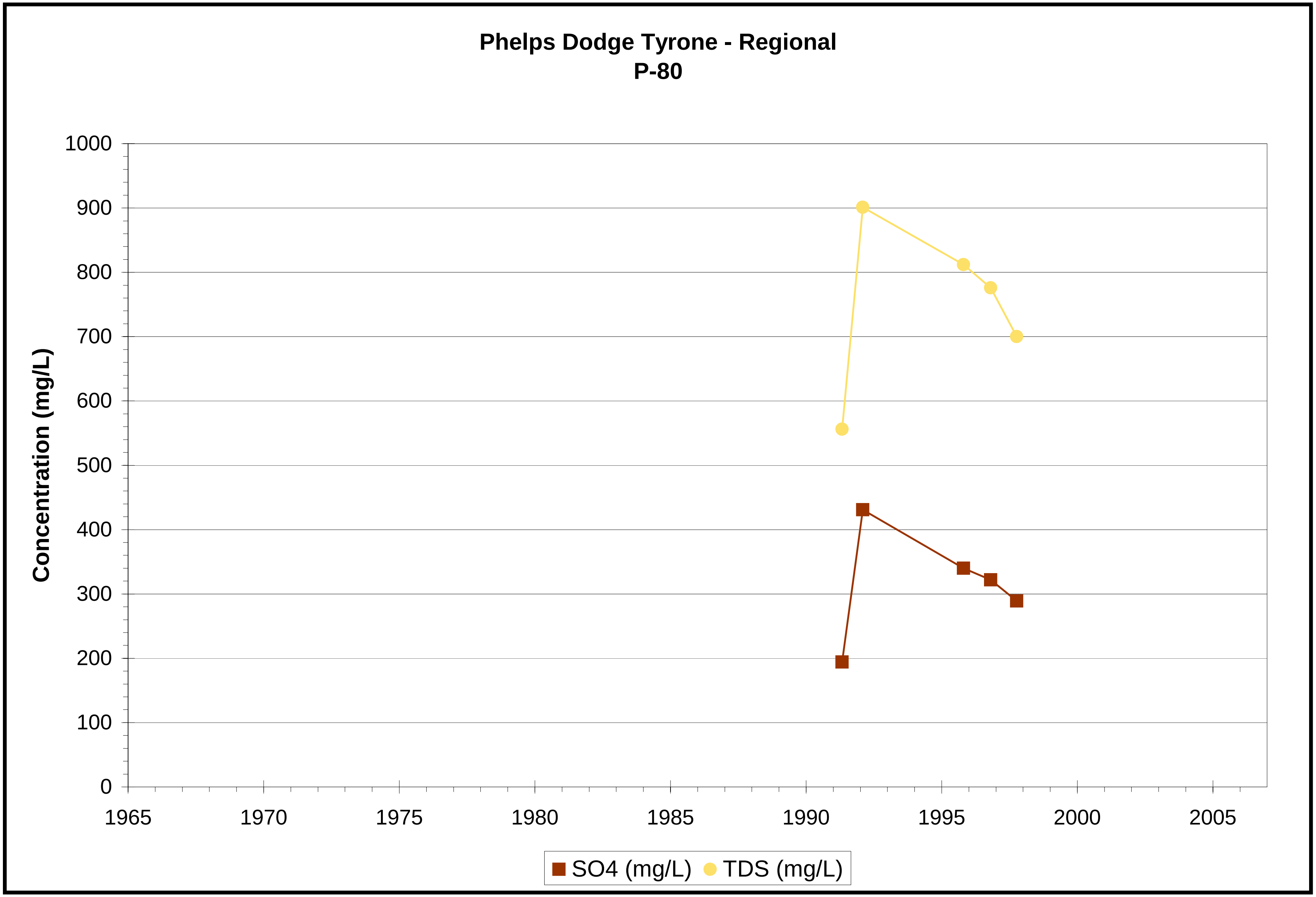


Phelps Dodge Tyrone - Regional
P-77
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

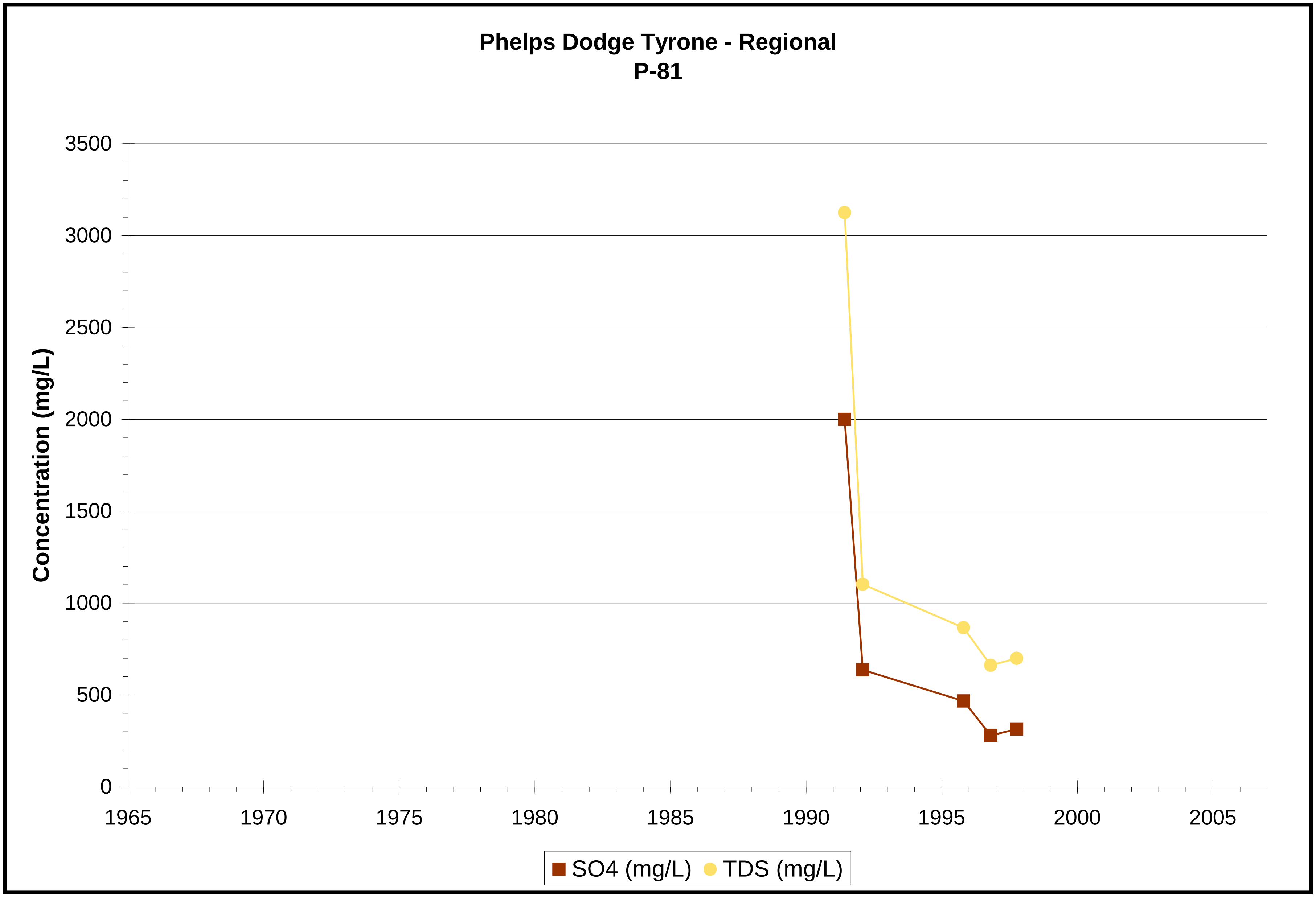

Phelps Dodge Tyrone - Regional
P-78
Concentration (mg/L)
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

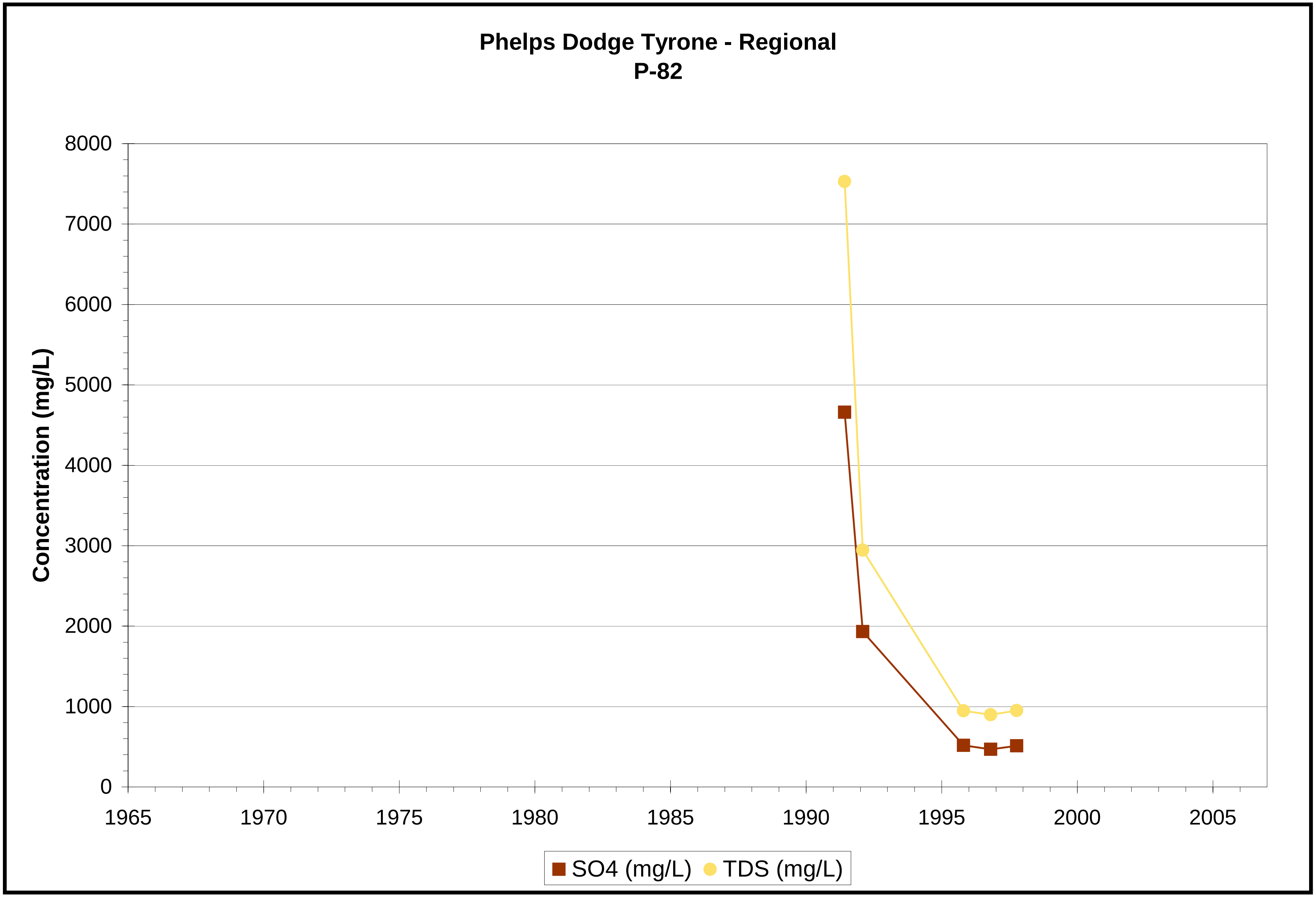


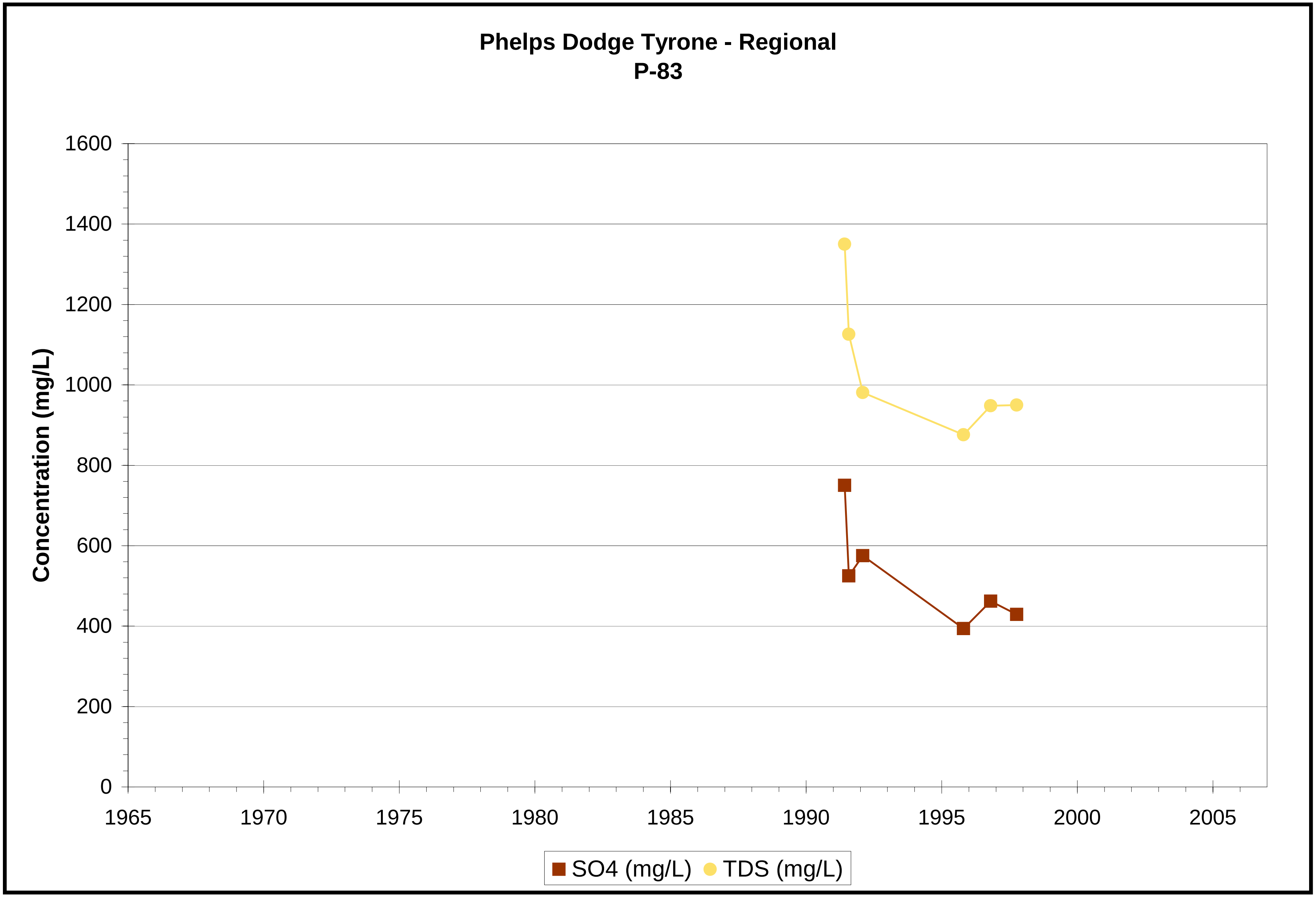
Phelps Dodge Tyrone - Regional
P-79
Concentration (mg/L)
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

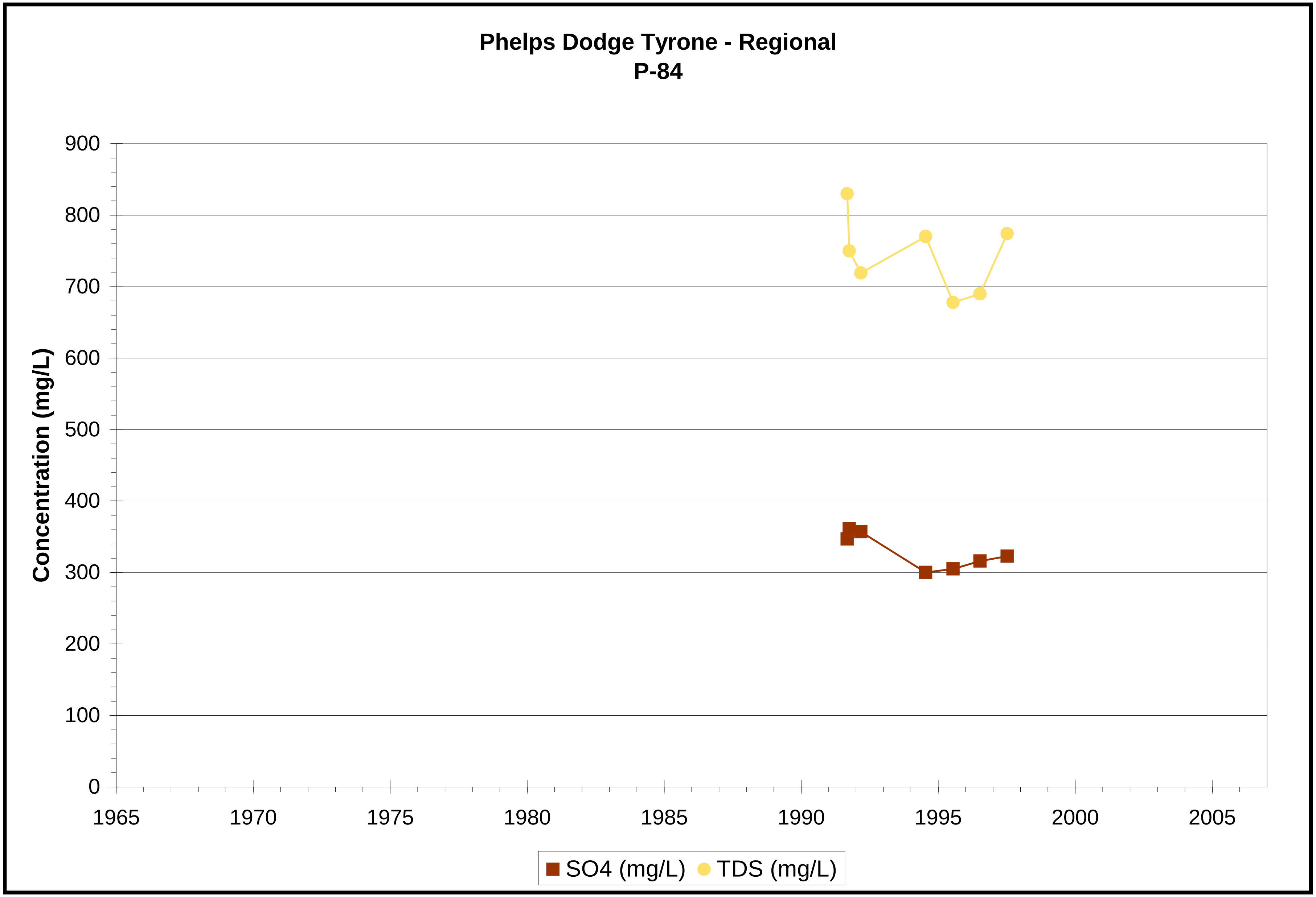


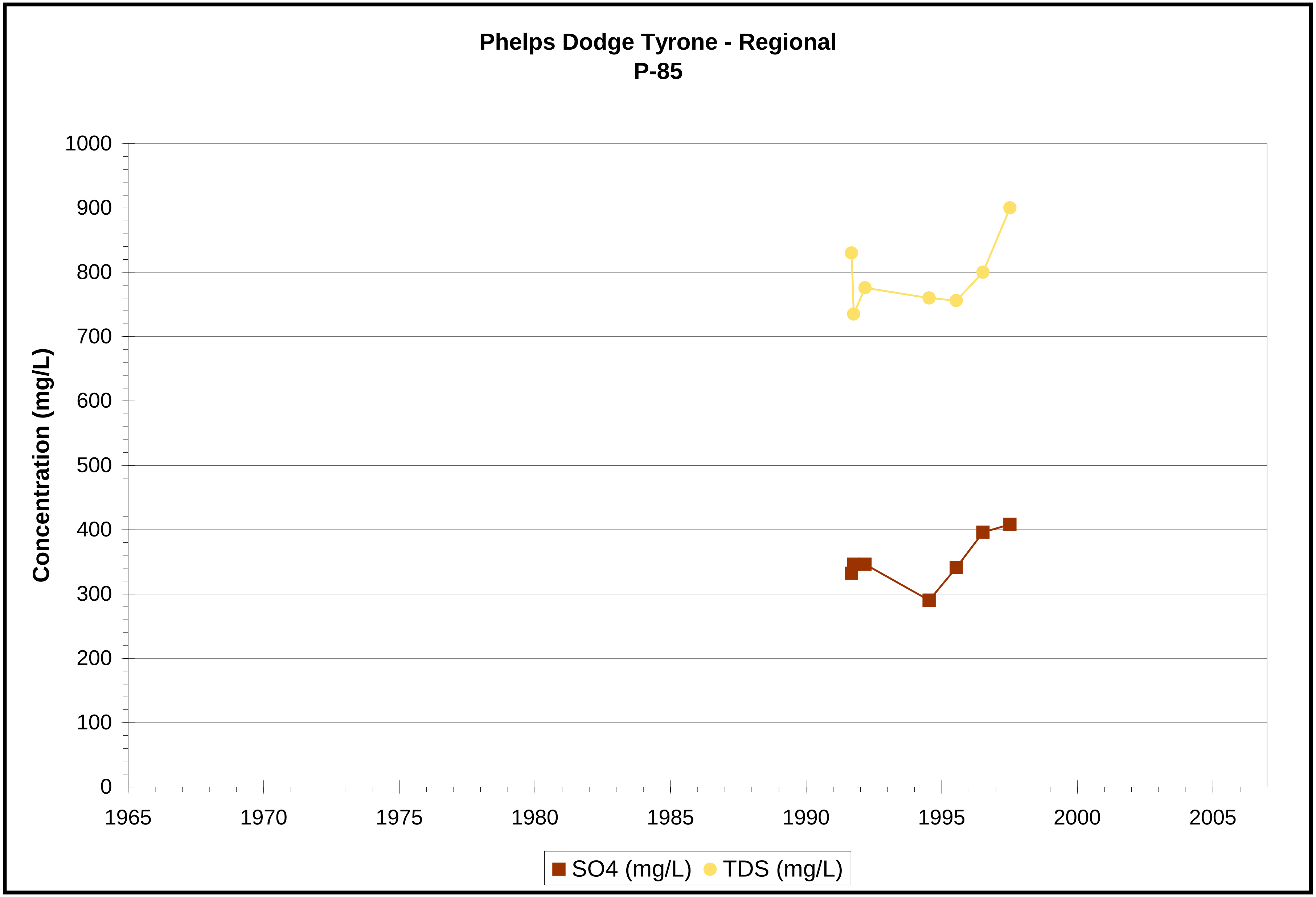
Phelps Dodge Tyrone - Regional
P-80
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
900
1000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-81
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

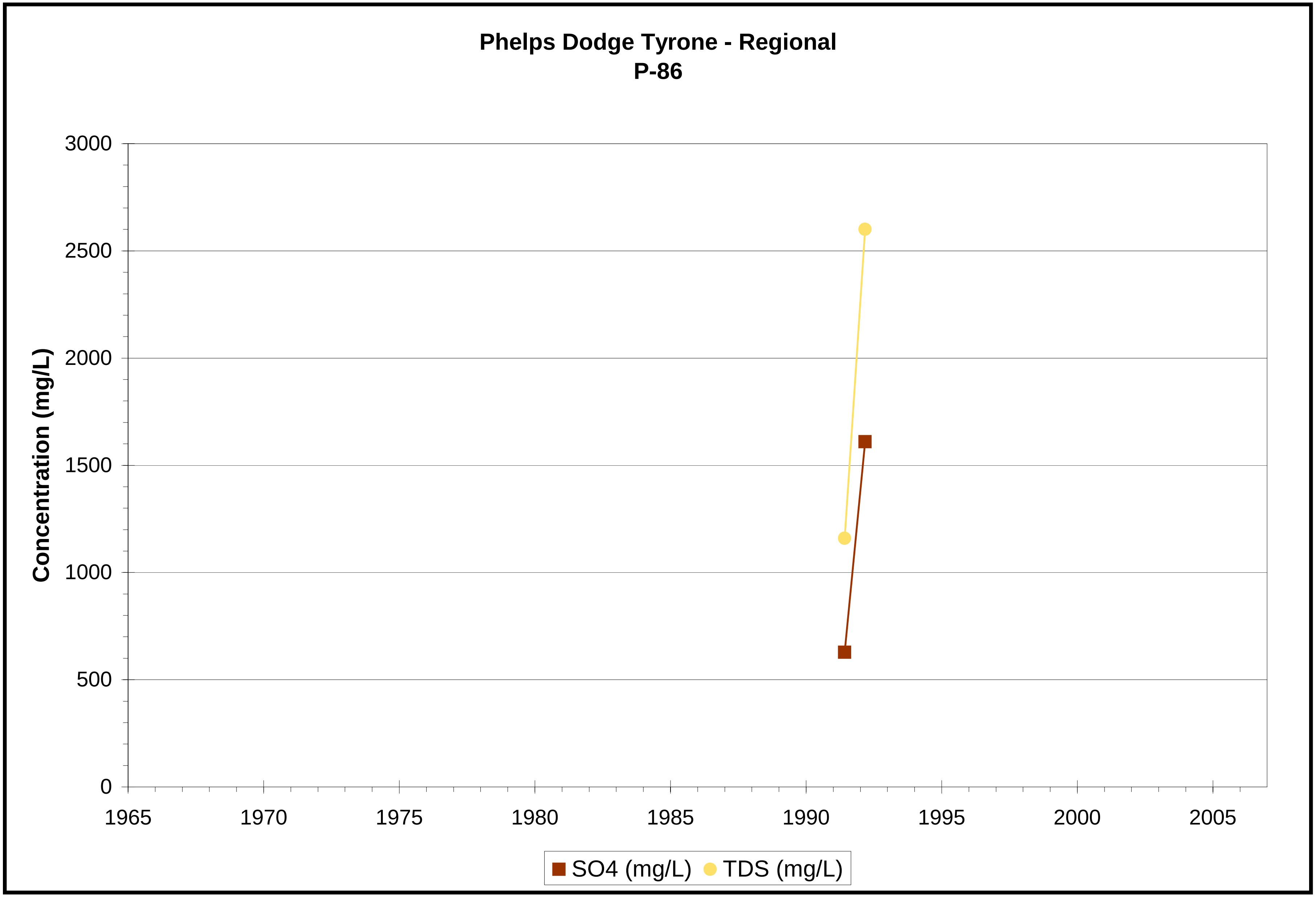

Phelps Dodge Tyrone - Regional
P-82
Concentration (mg/L)
0
1000
2000
3000
4000
5000
6000
7000
8000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-83
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

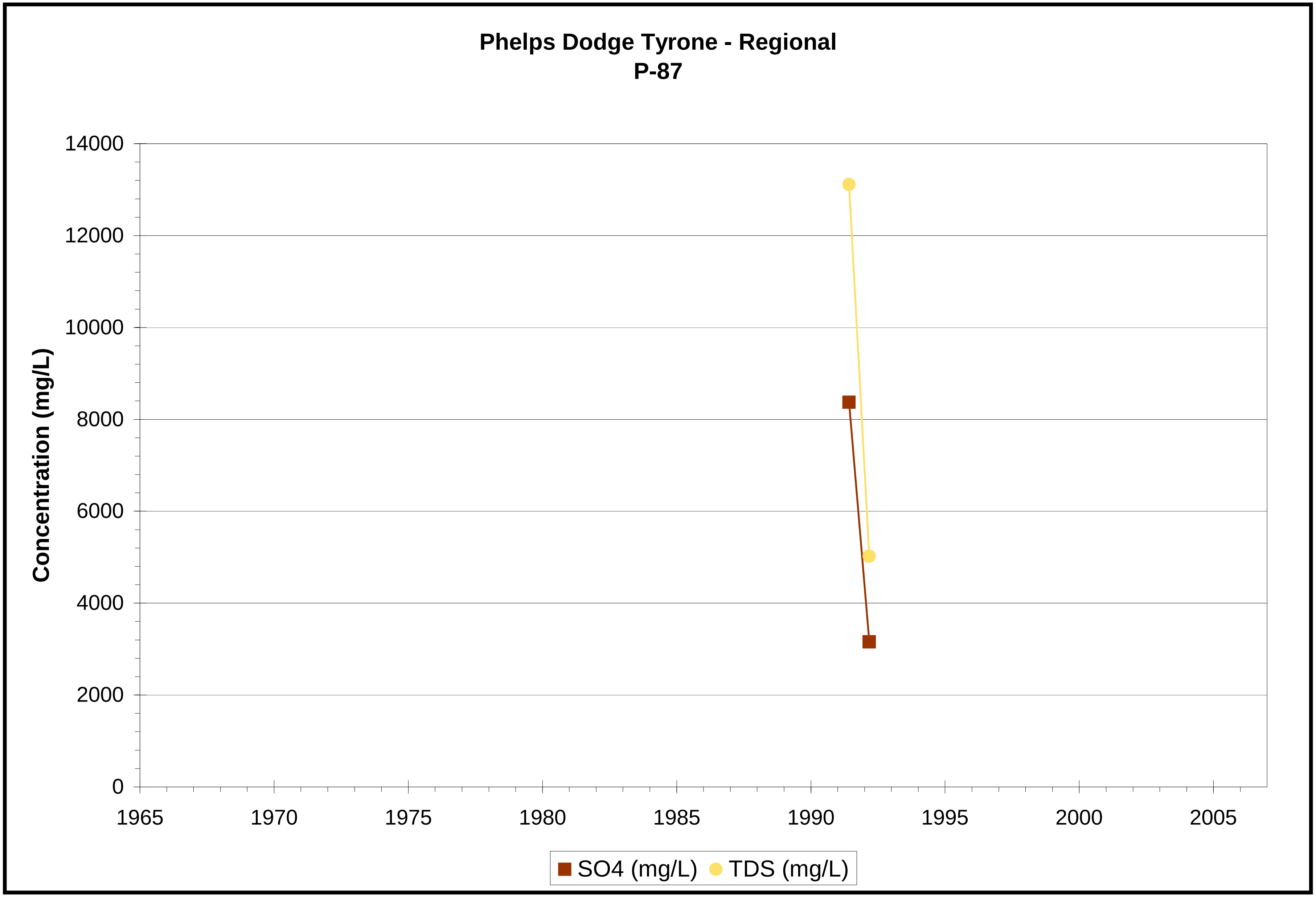

Phelps Dodge Tyrone - Regional
P-84
Concentration (mg/L)
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

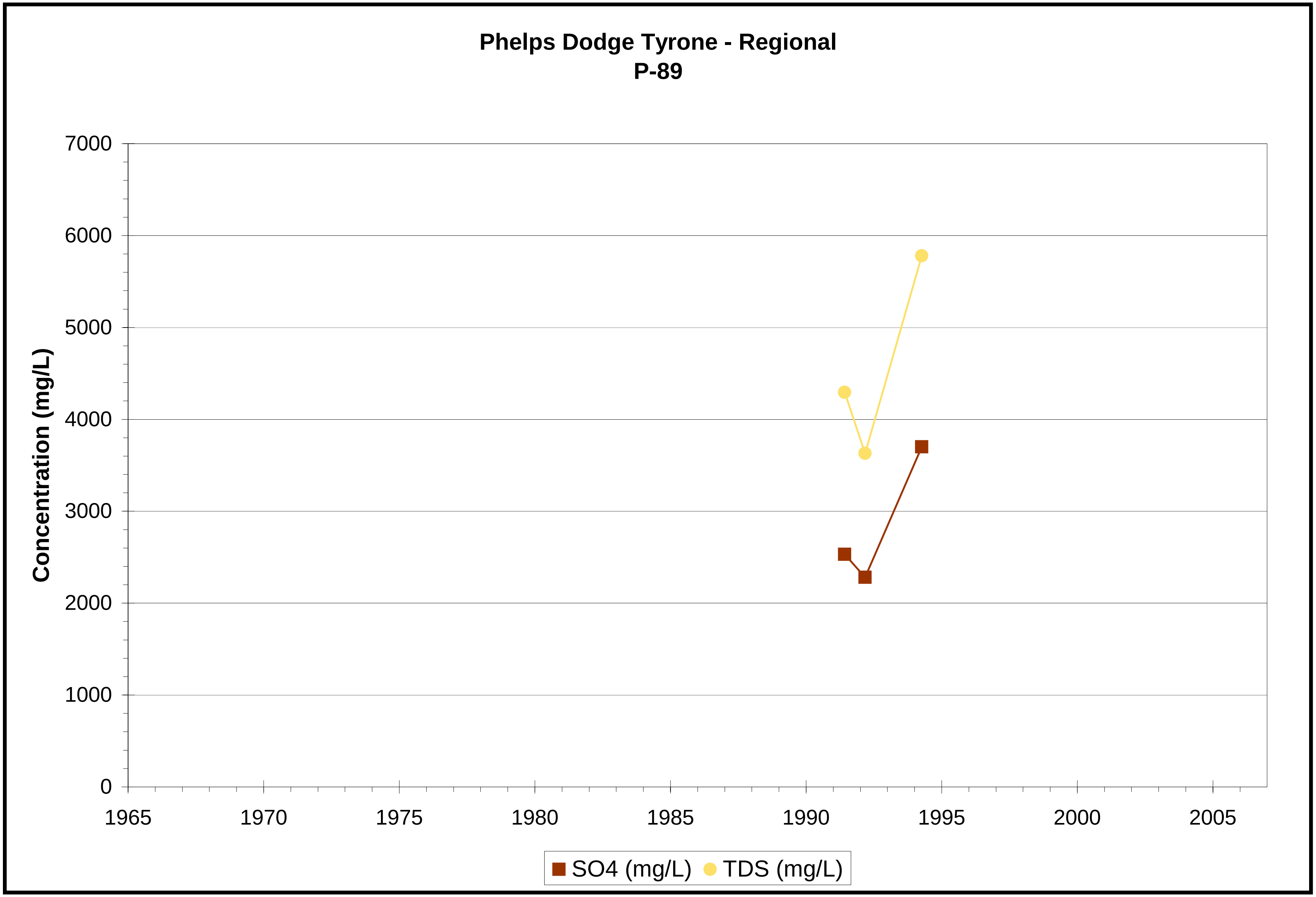


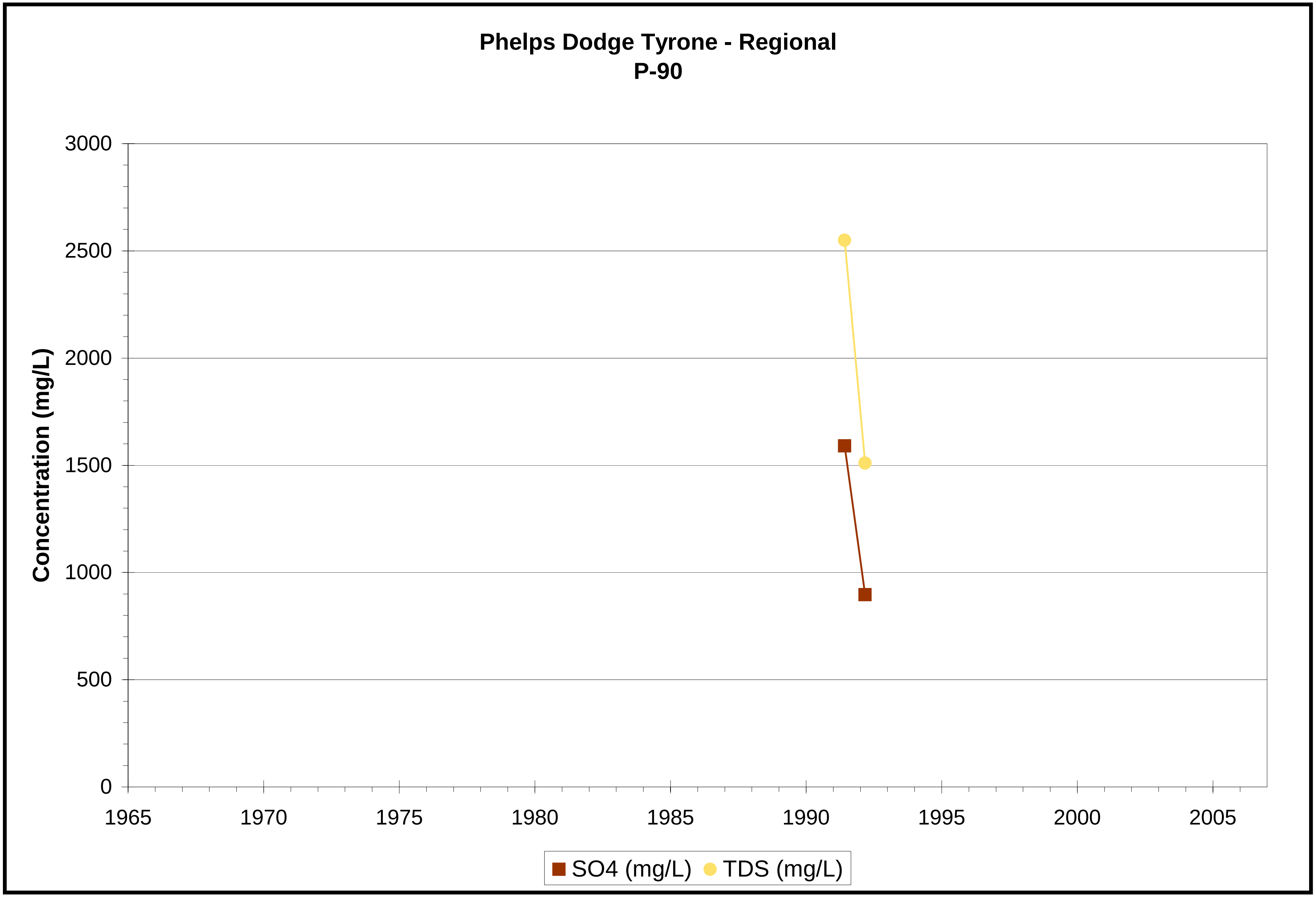
Phelps Dodge Tyrone - Regional
P-85
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



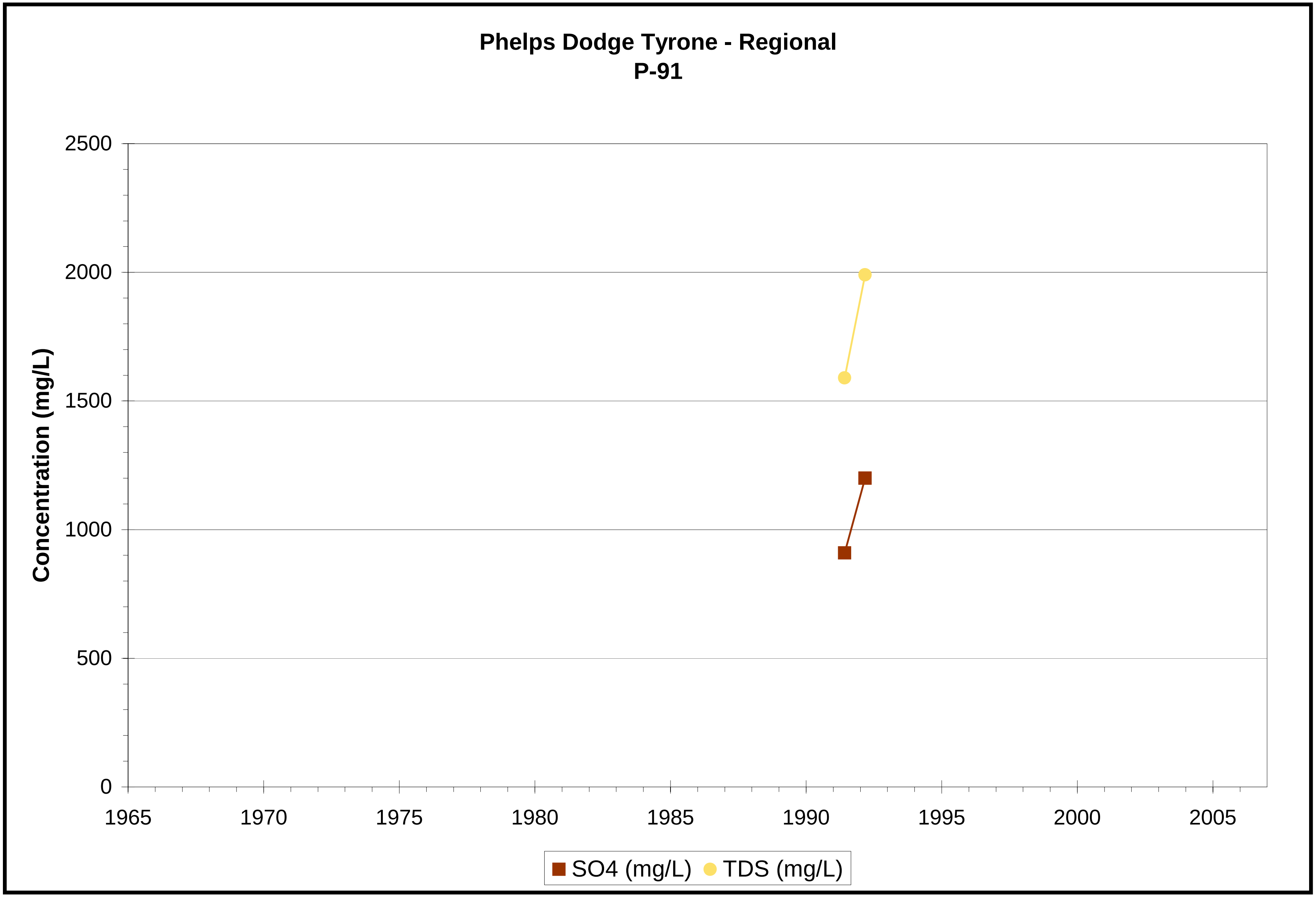
Phelps Dodge Tyrone - Regional
P-86
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

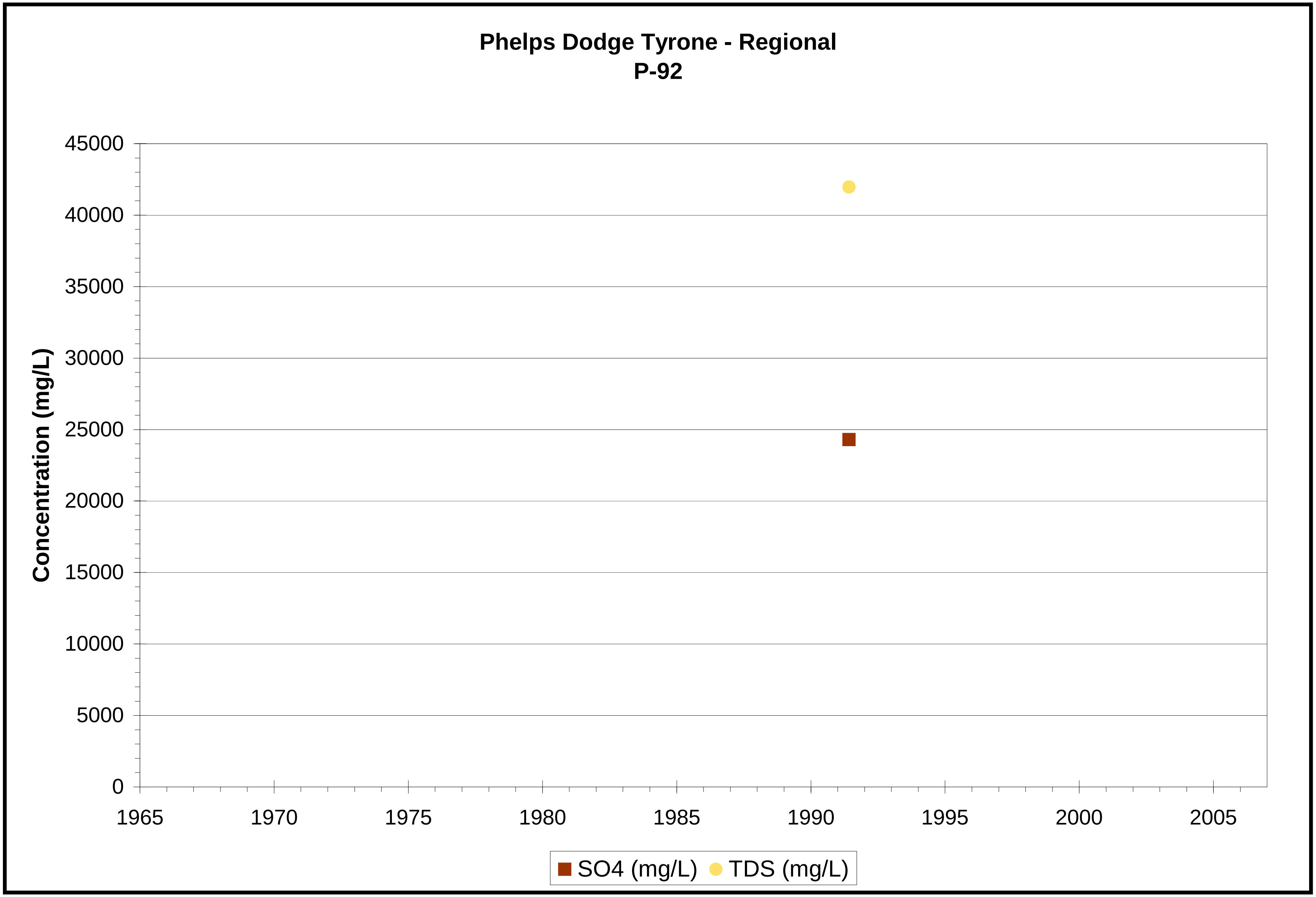

Phelps Dodge Tyrone - Regional
P-87
Concentration (mg/L)
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-89
Concentration (mg/L)
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

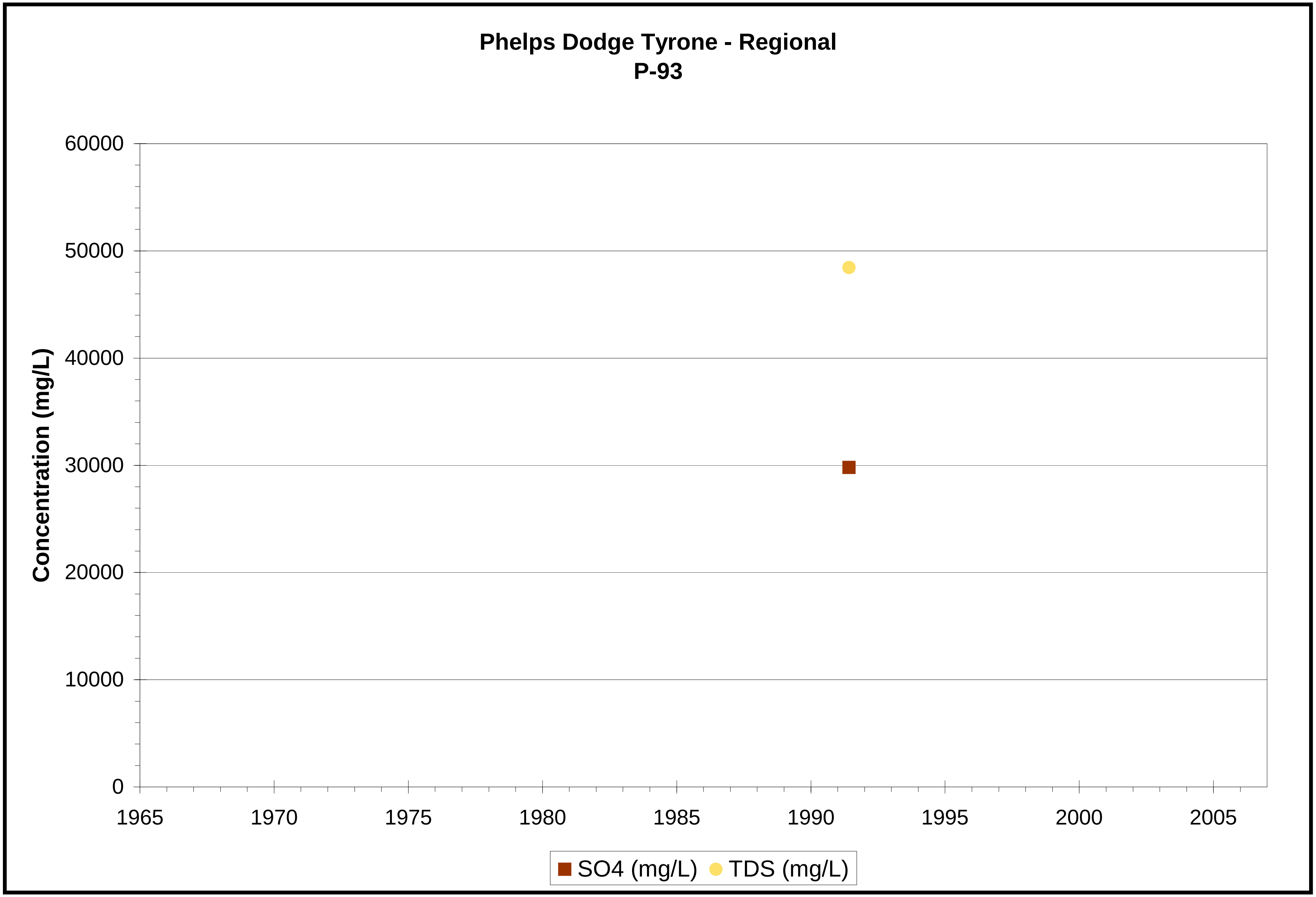


Phelps Dodge Tyrone - Regional
P-90
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

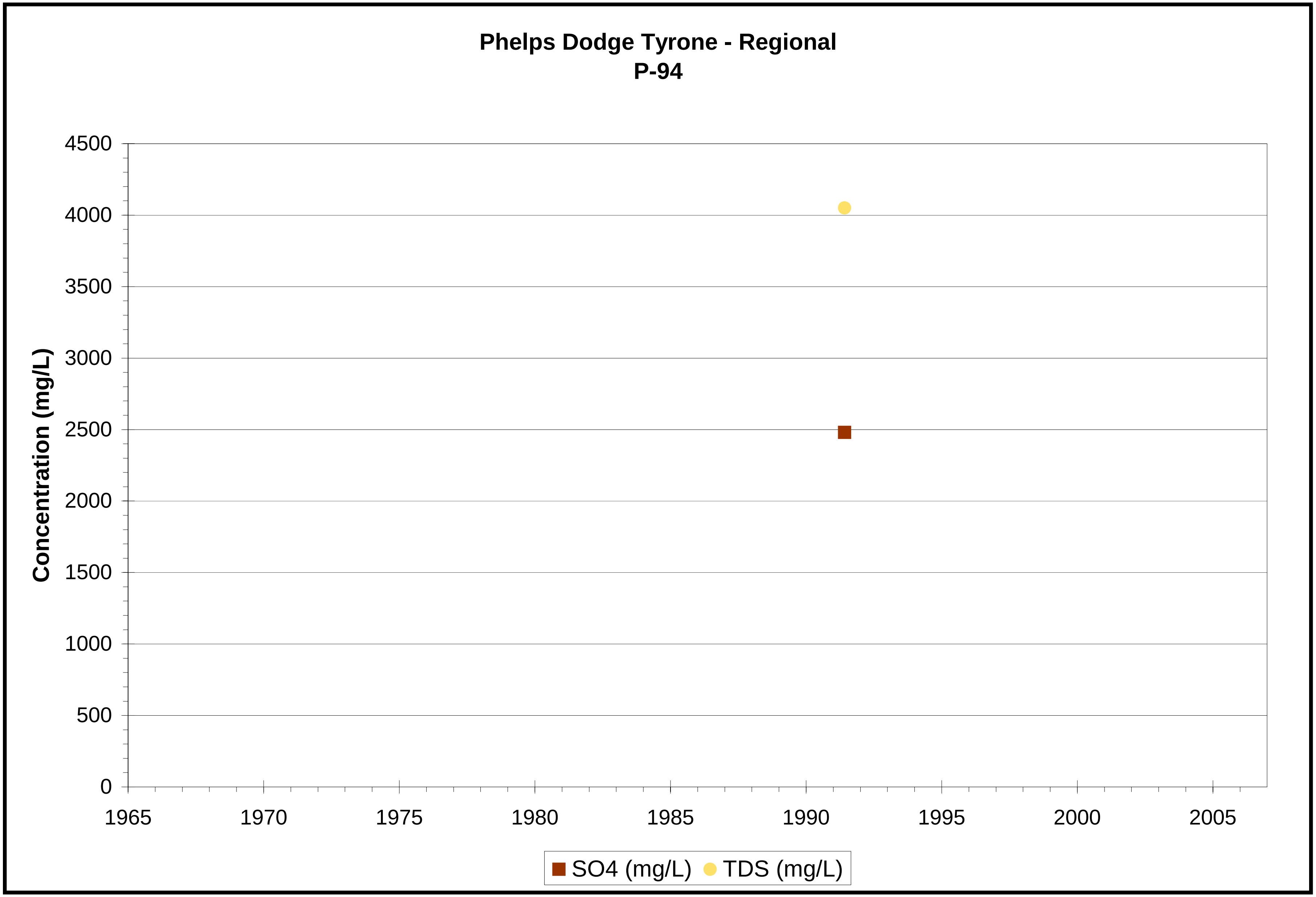

Phelps Dodge Tyrone - Regional
P-91
Concentration (mg/L)
0
500
1000
1500
2000
2500
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



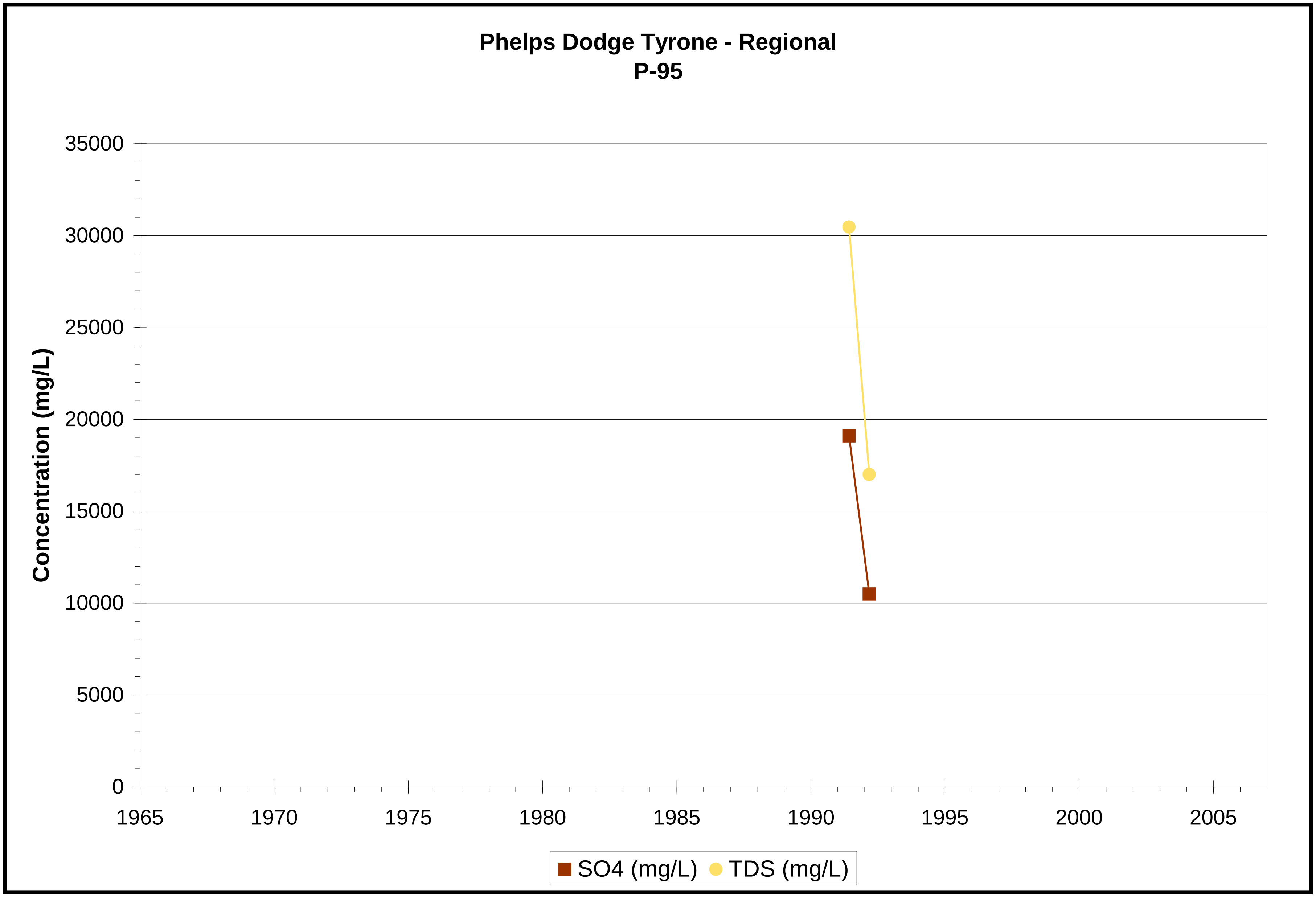
Phelps Dodge Tyrone - Regional
P-92
Concentration (mg/L)
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

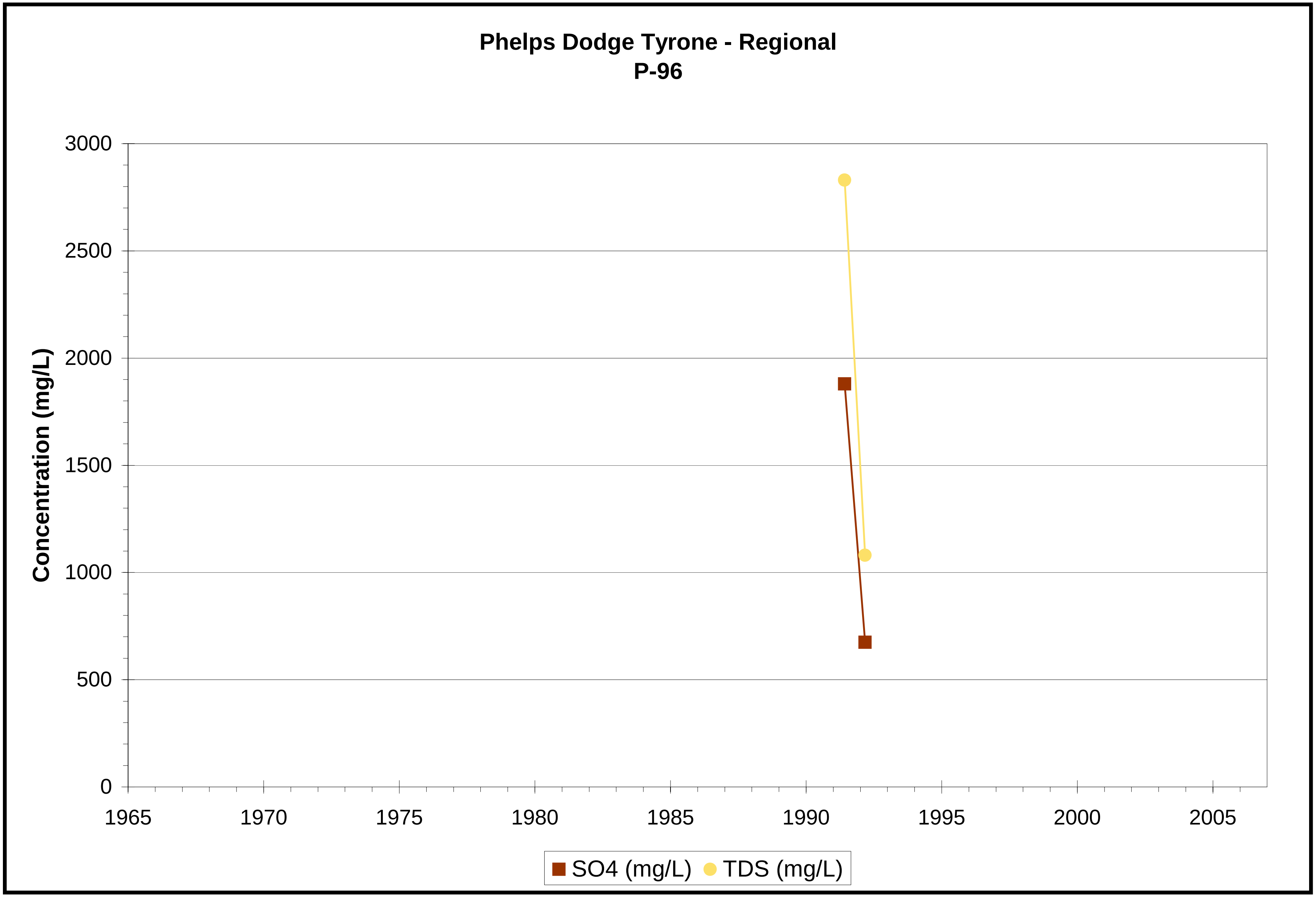


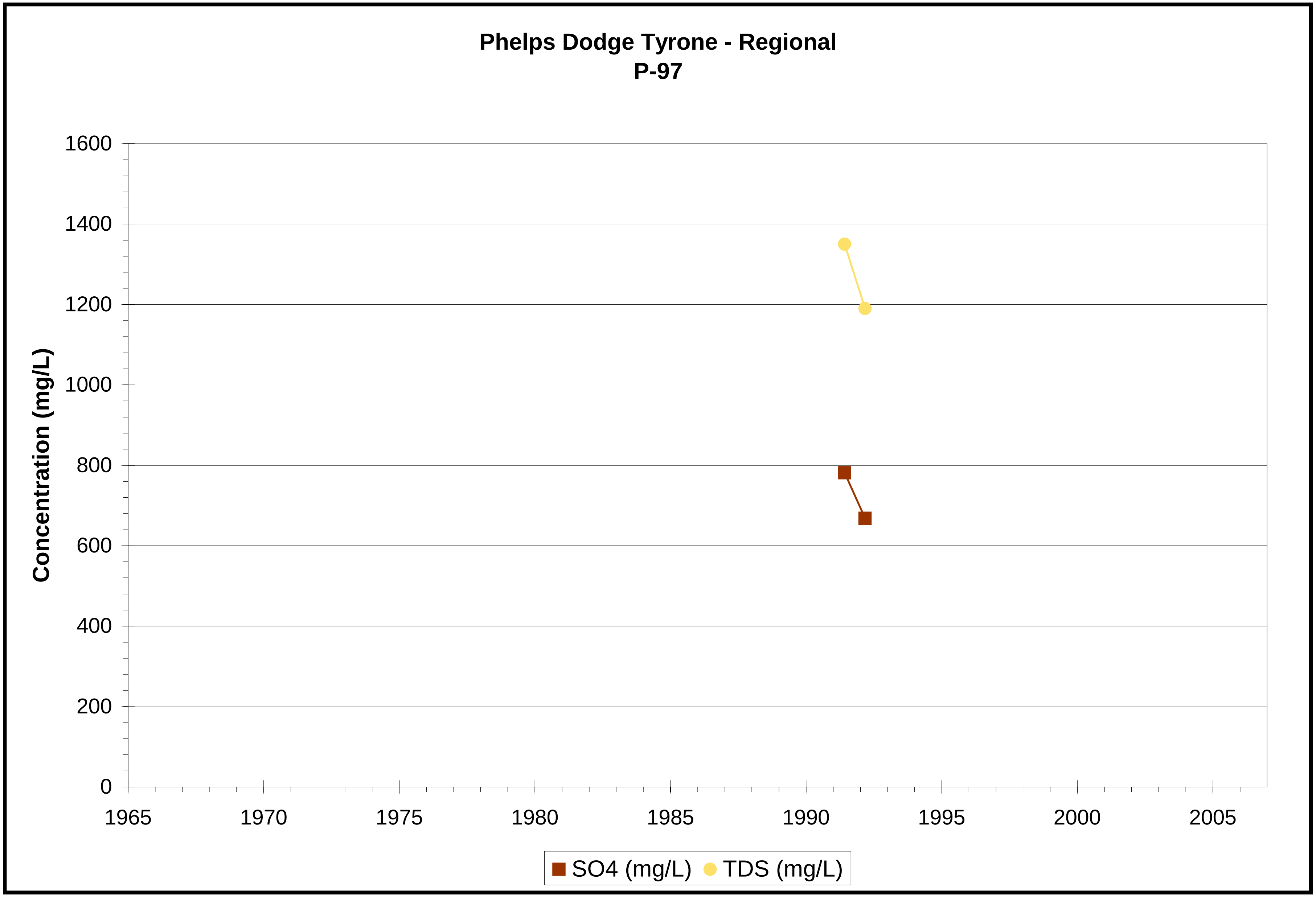
Phelps Dodge Tyrone - Regional
P-93
Concentration (mg/L)
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



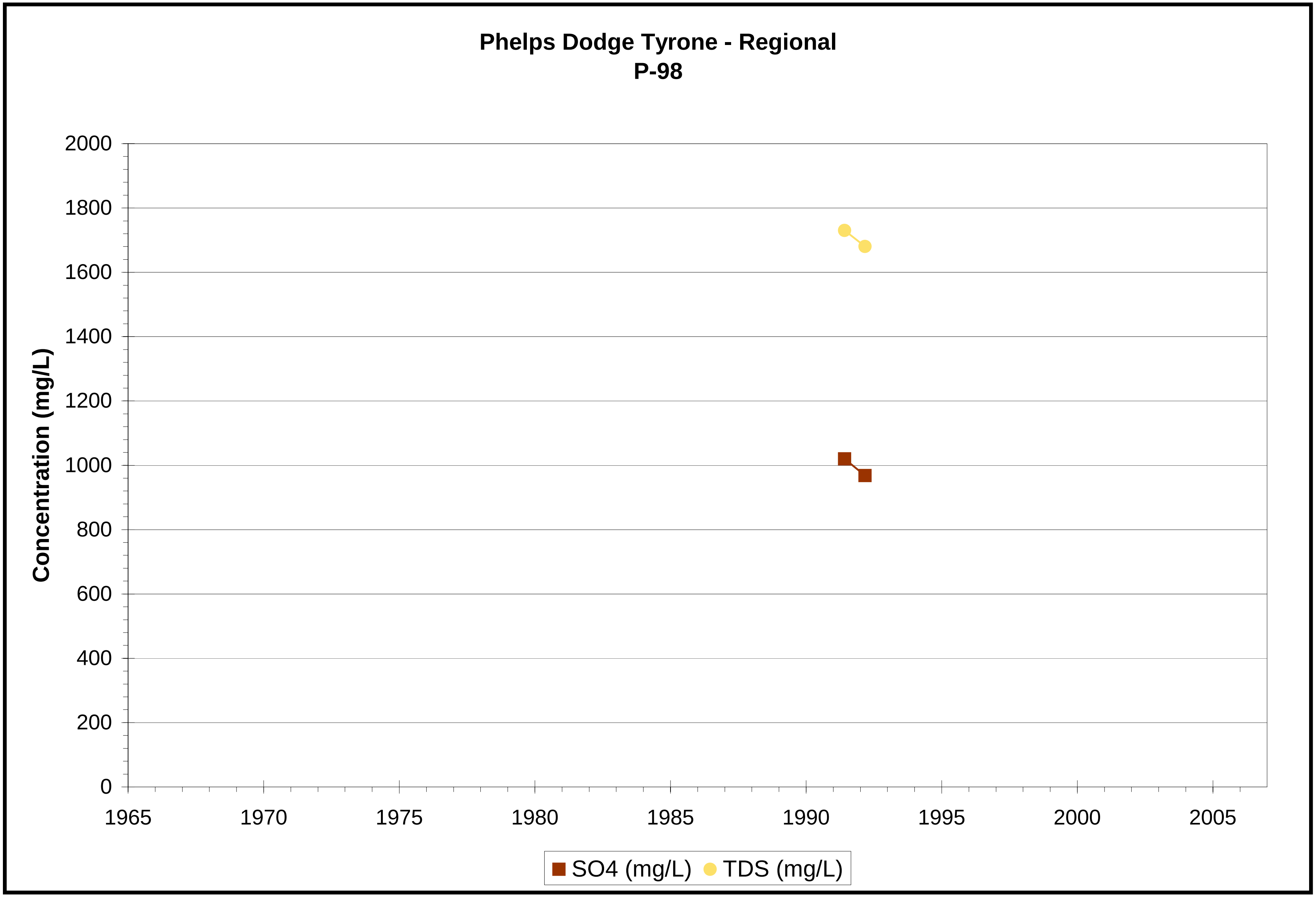
Phelps Dodge Tyrone - Regional
P-94
Concentration (mg/L)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-95
Concentration (mg/L)
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

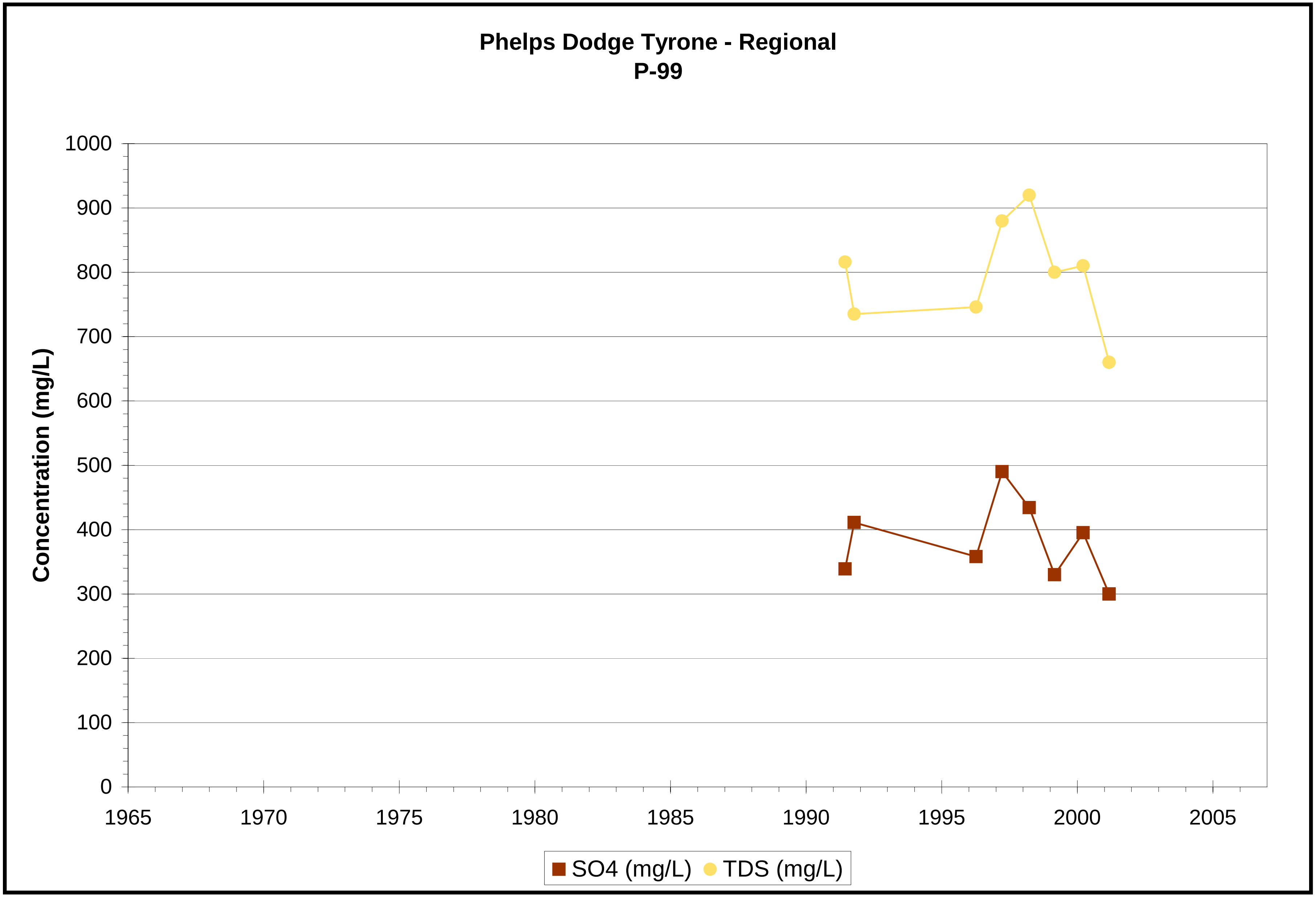

Phelps Dodge Tyrone - Regional
P-96
Concentration (mg/L)
0
500
1000
1500
2000
2500
3000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



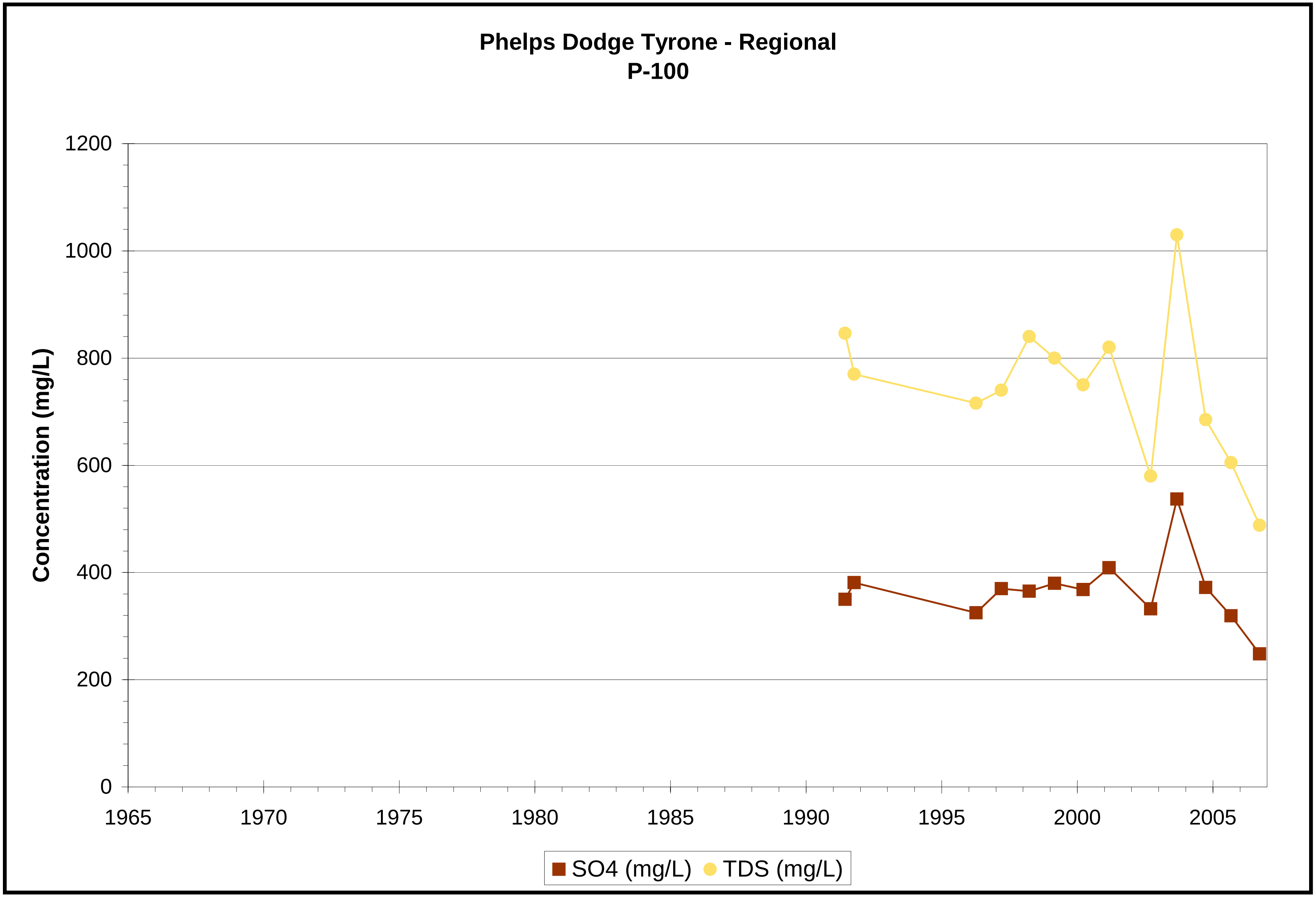
Phelps Dodge Tyrone - Regional
P-97
Concentration (mg/L)
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



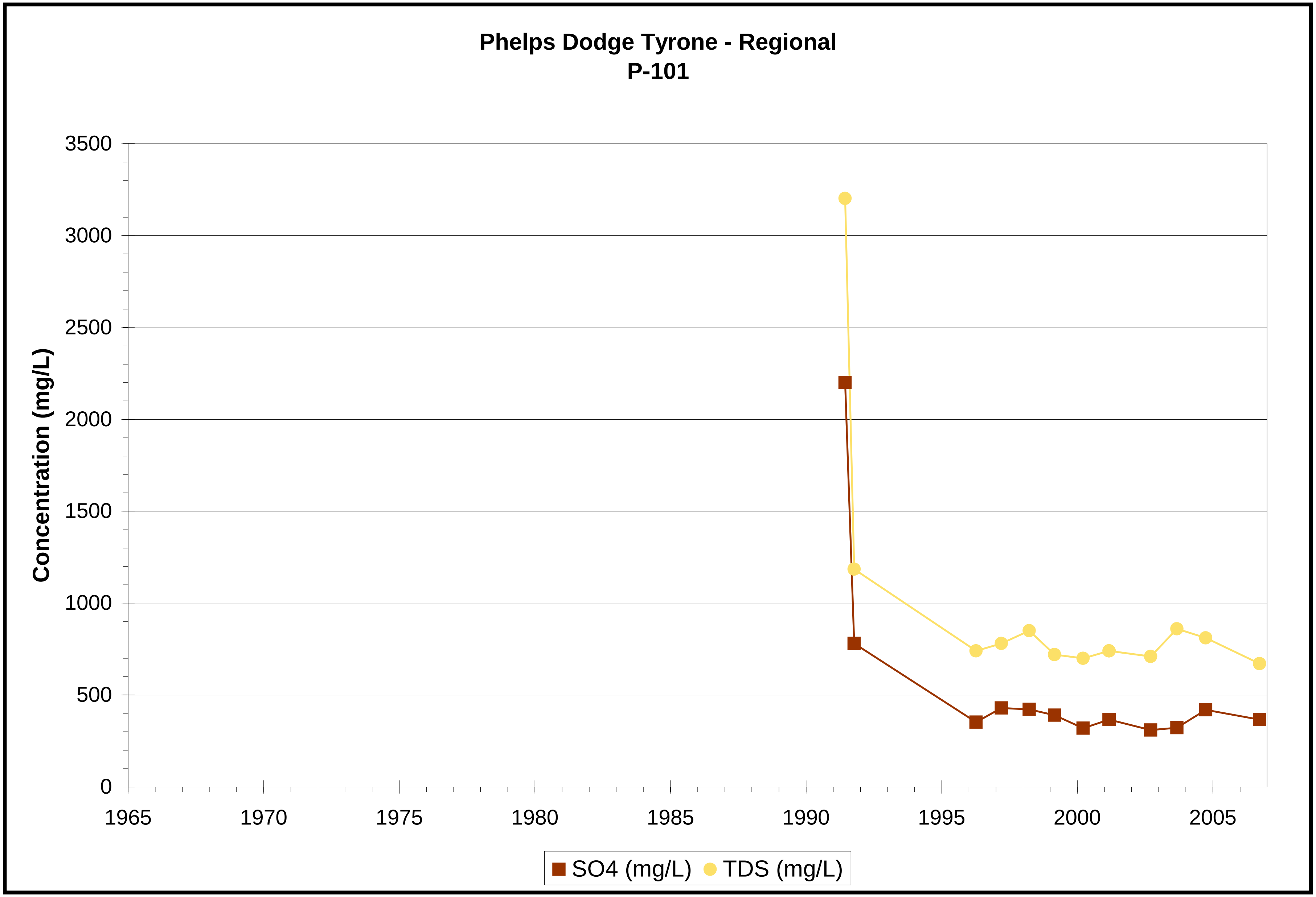
Phelps Dodge Tyrone - Regional
P-98
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1800
2000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



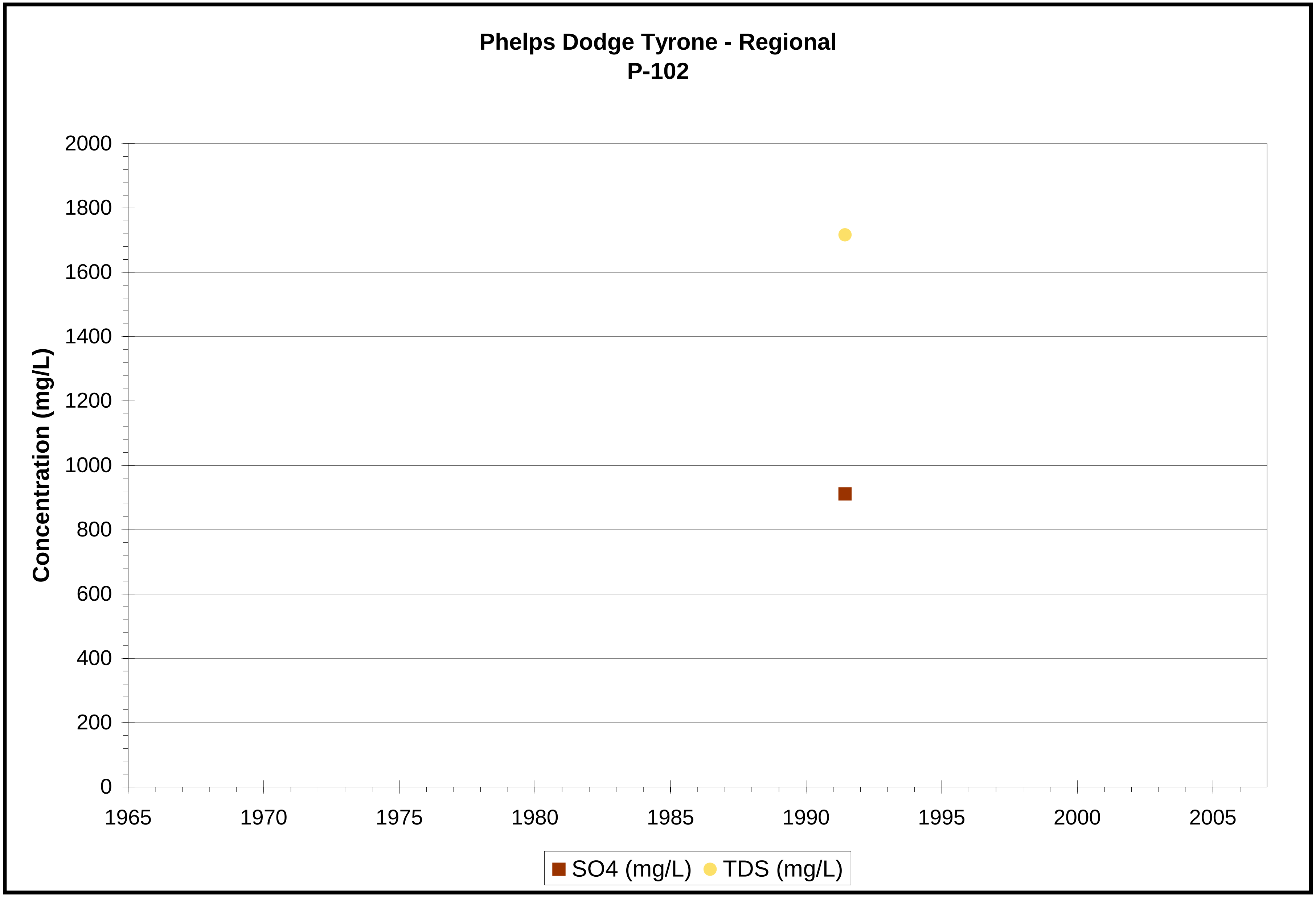
Phelps Dodge Tyrone - Regional
P-99
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

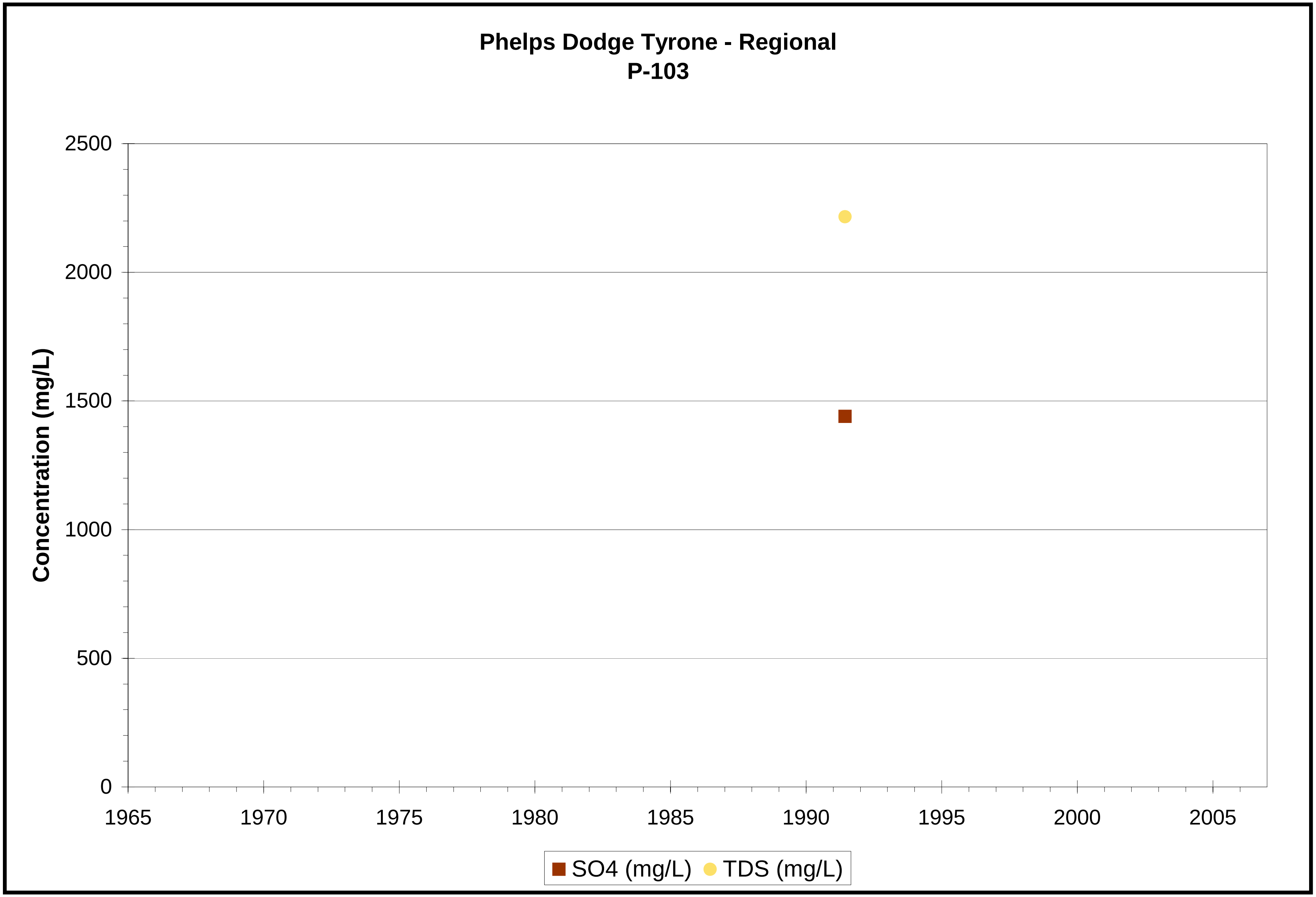


Phelps Dodge Tyrone - Regional
P-100
Concentration (mg/L)
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

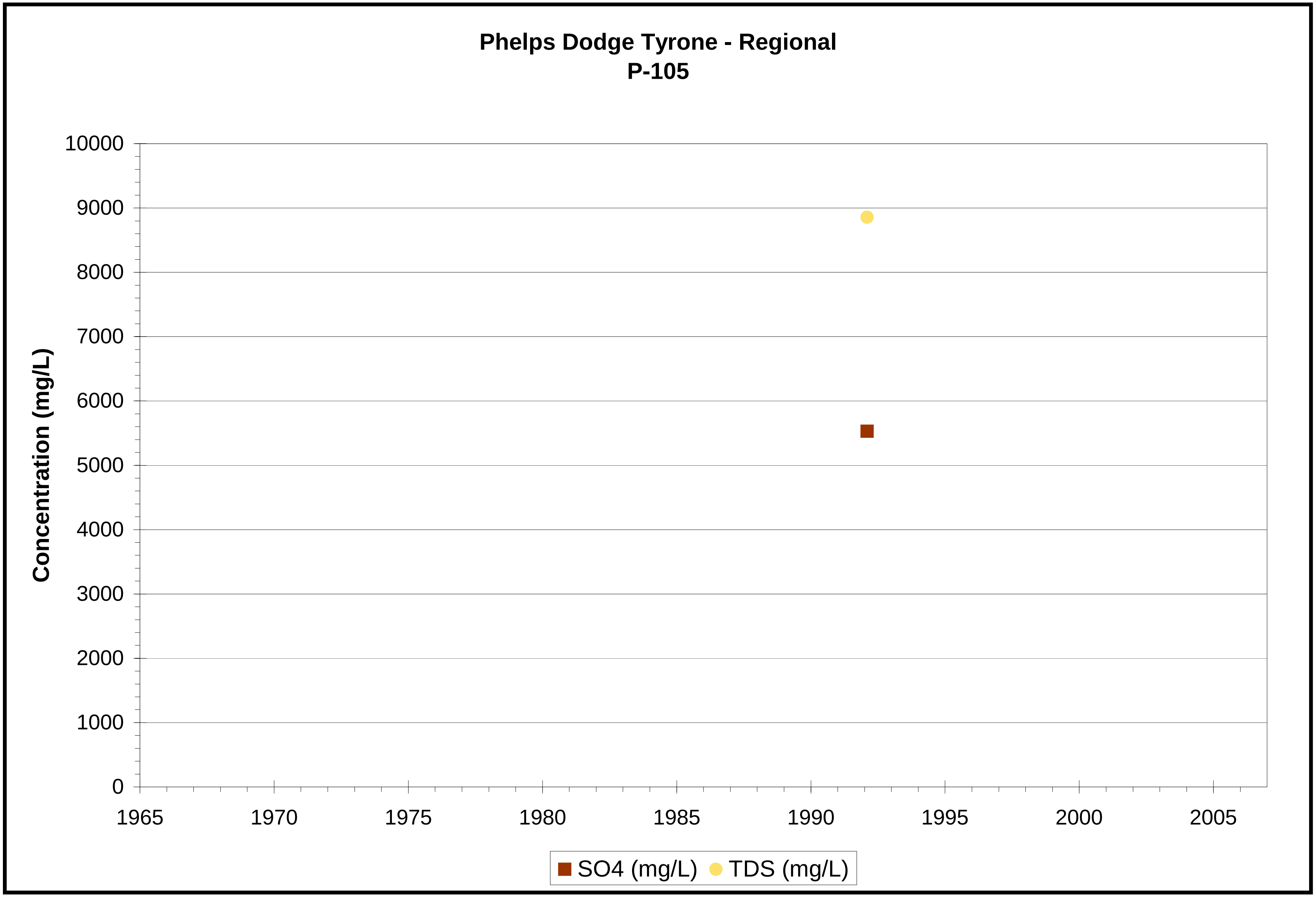


Phelps Dodge Tyrone - Regional
P-101
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

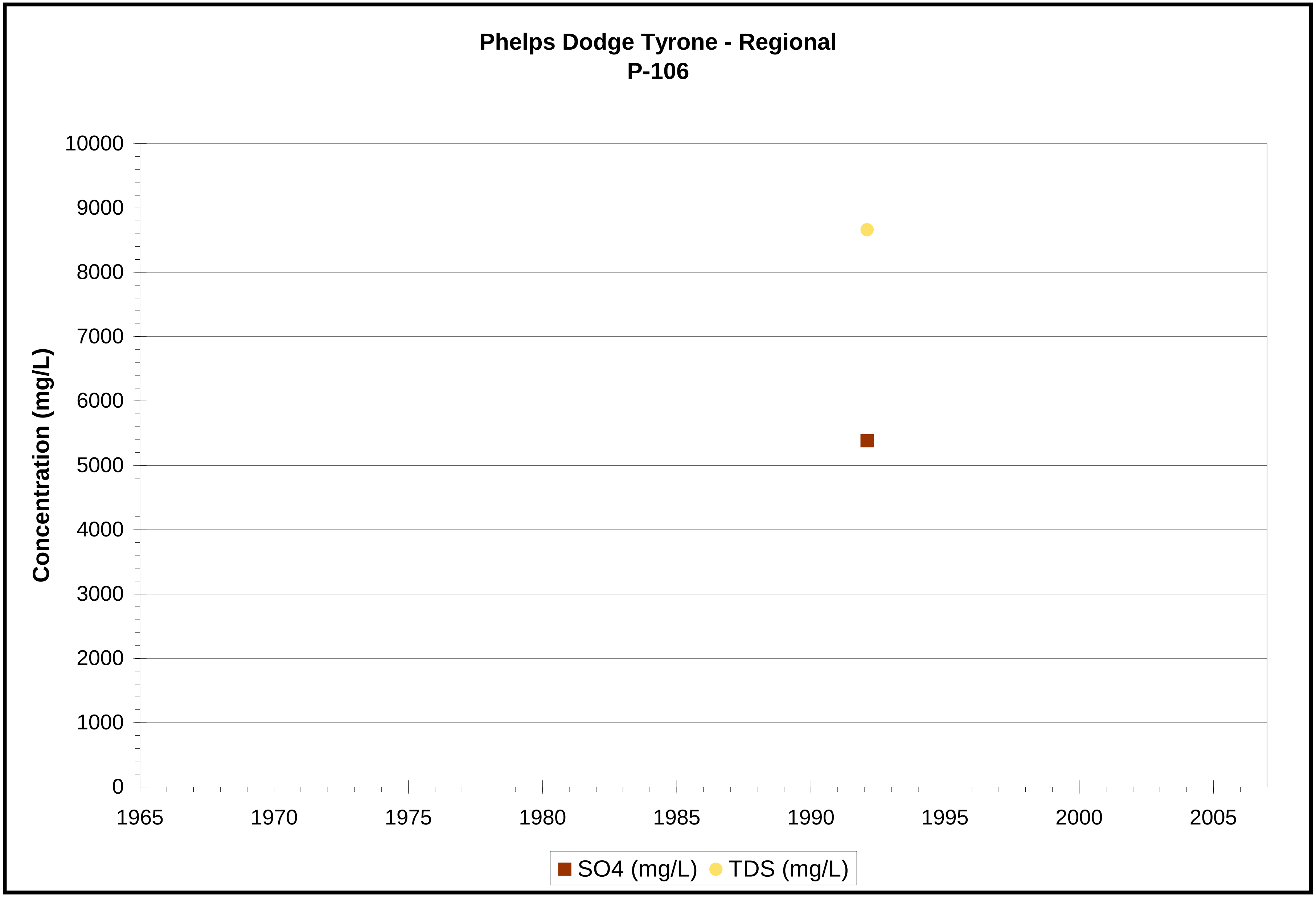

Phelps Dodge Tyrone - Regional
P-102
Concentration (mg/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



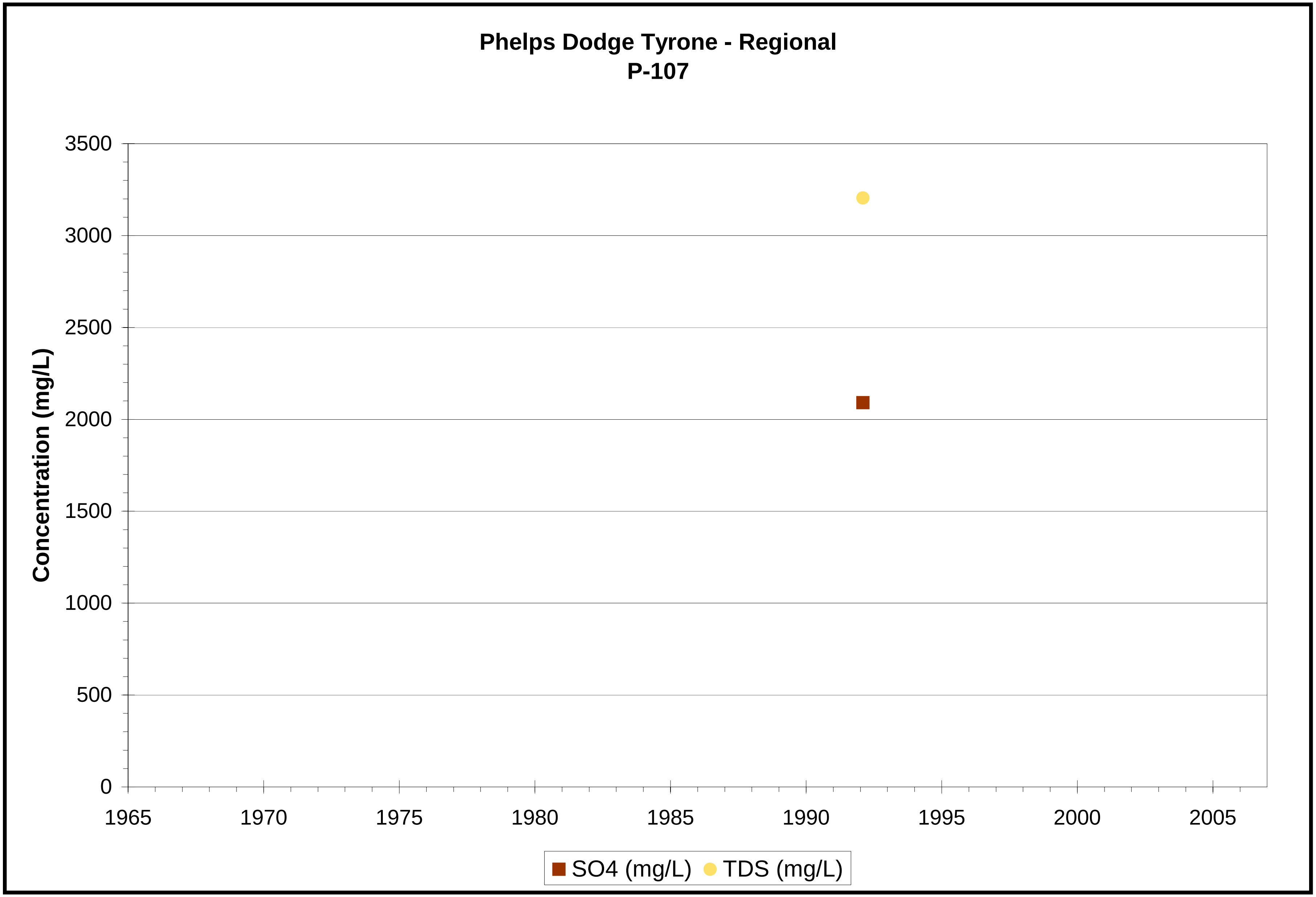
Phelps Dodge Tyrone - Regional
P-103
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

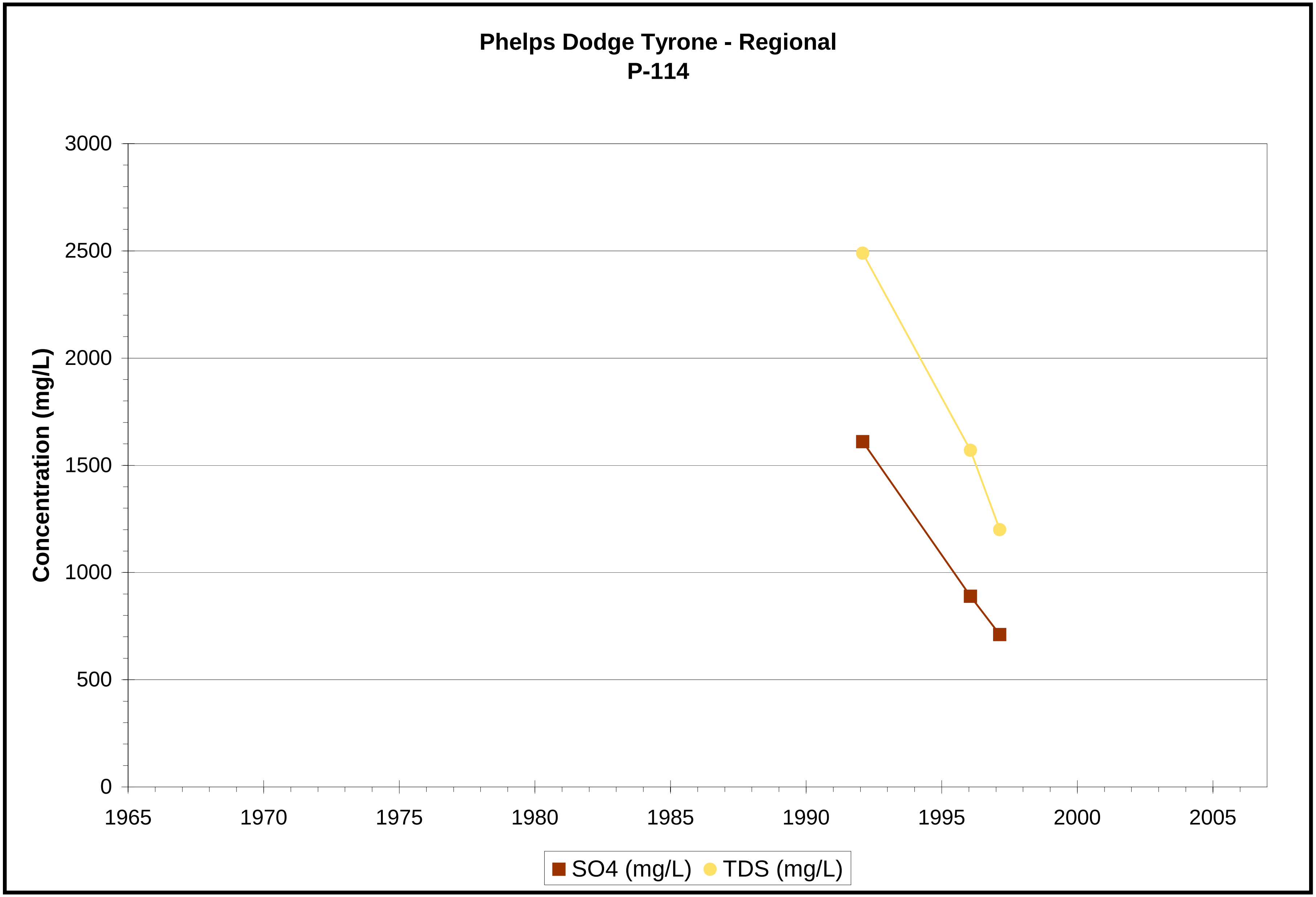


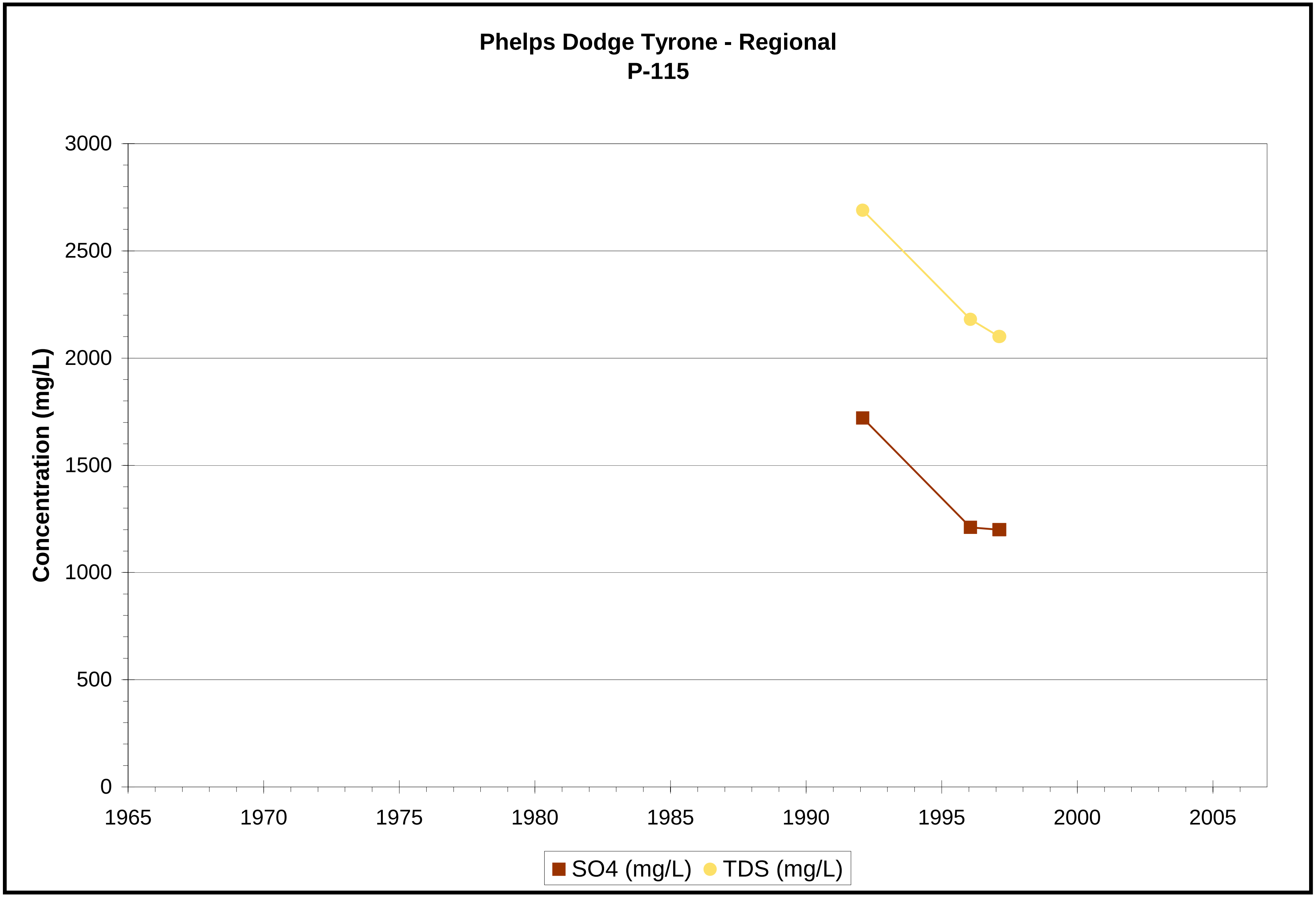
Phelps Dodge Tyrone - Regional
P-105
Concentration (mg/L)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

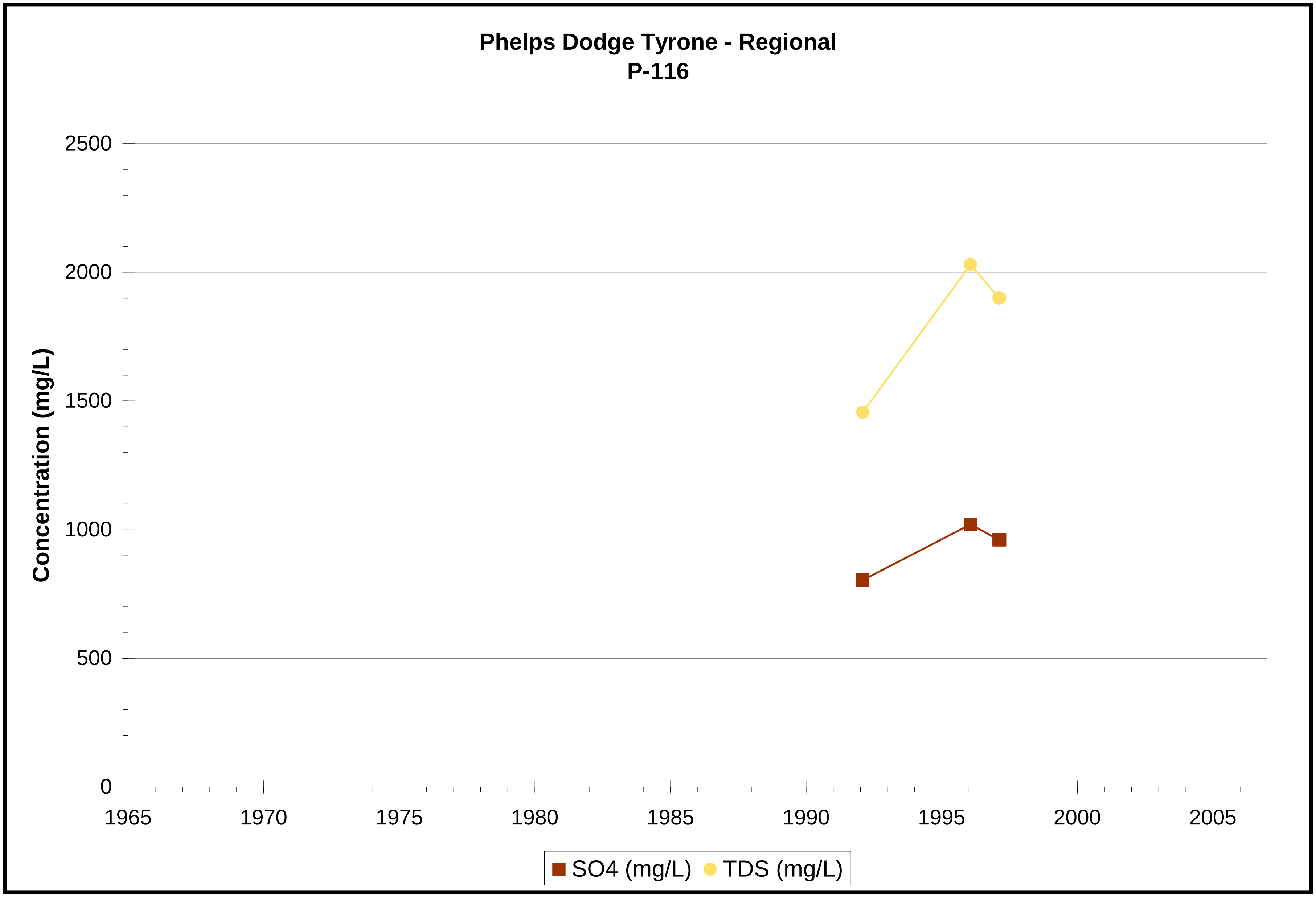


Phelps Dodge Tyrone - Regional
P-106
Concentration (mg/L)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

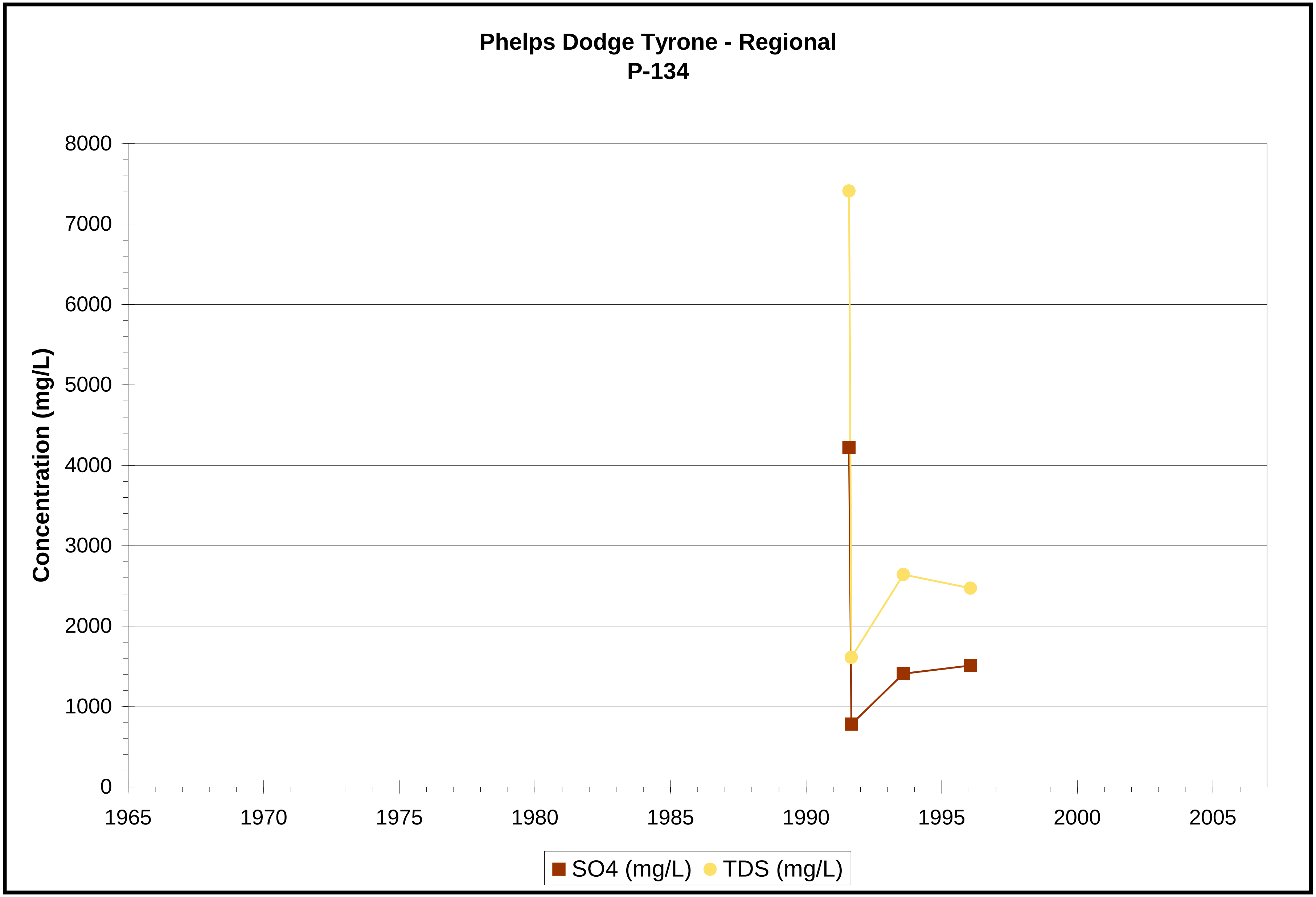

Phelps Dodge Tyrone - Regional
P-107
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

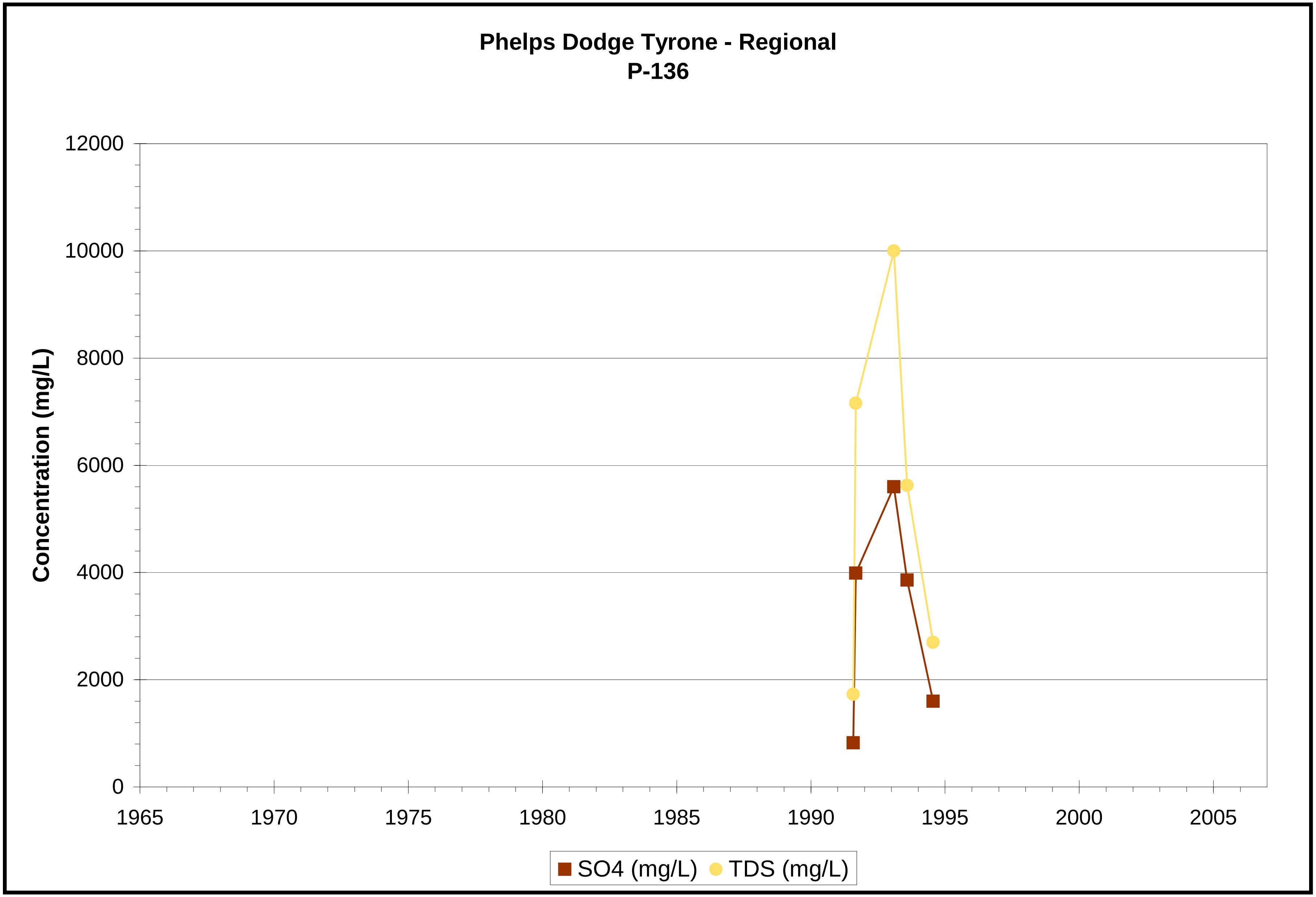

Phelps Dodge Tyrone - Regional
P-114
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

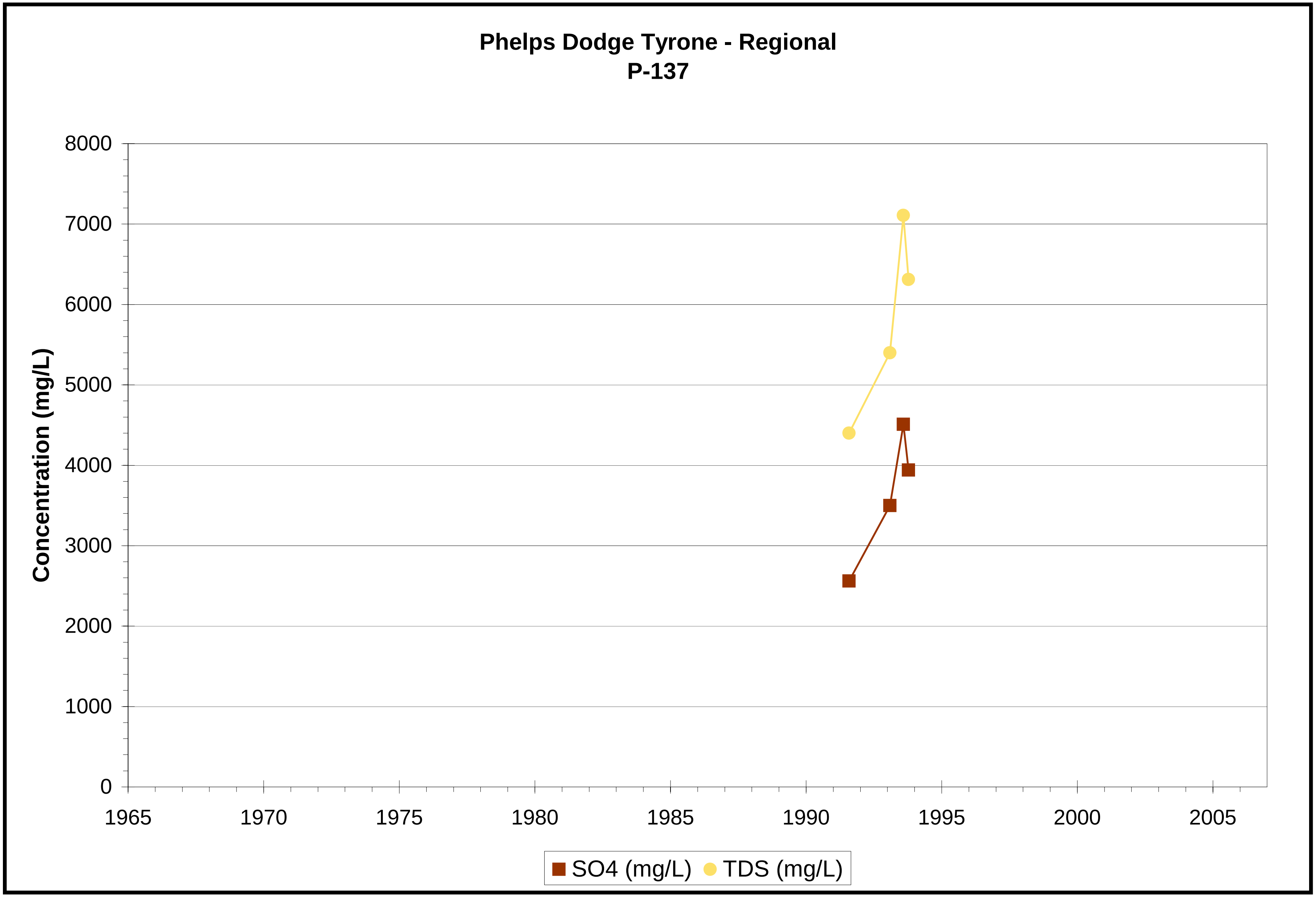

Phelps Dodge Tyrone - Regional
P-115
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



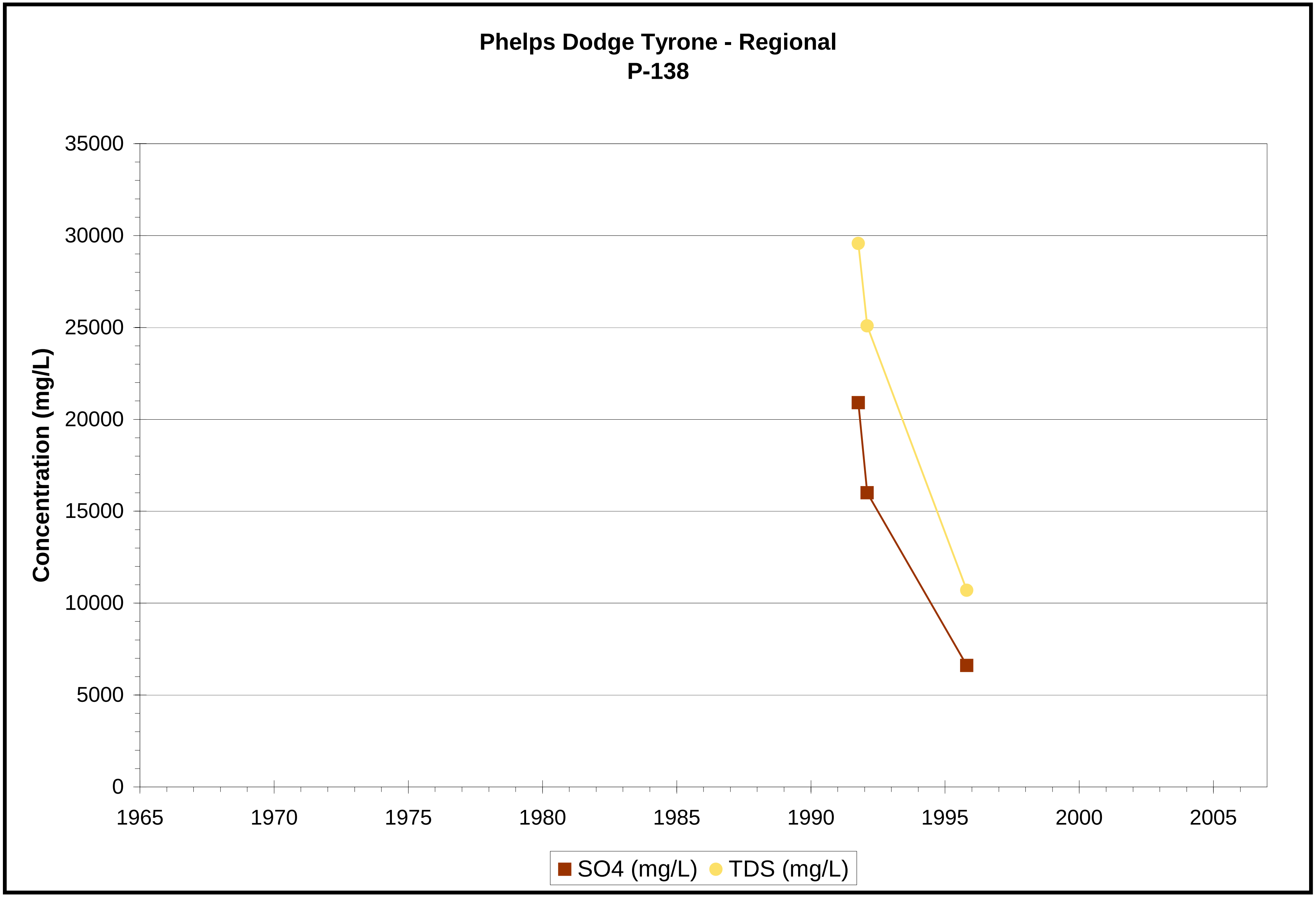
Phelps Dodge Tyrone - Regional
P-116
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-134
Concentration (mg/L)
8000
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

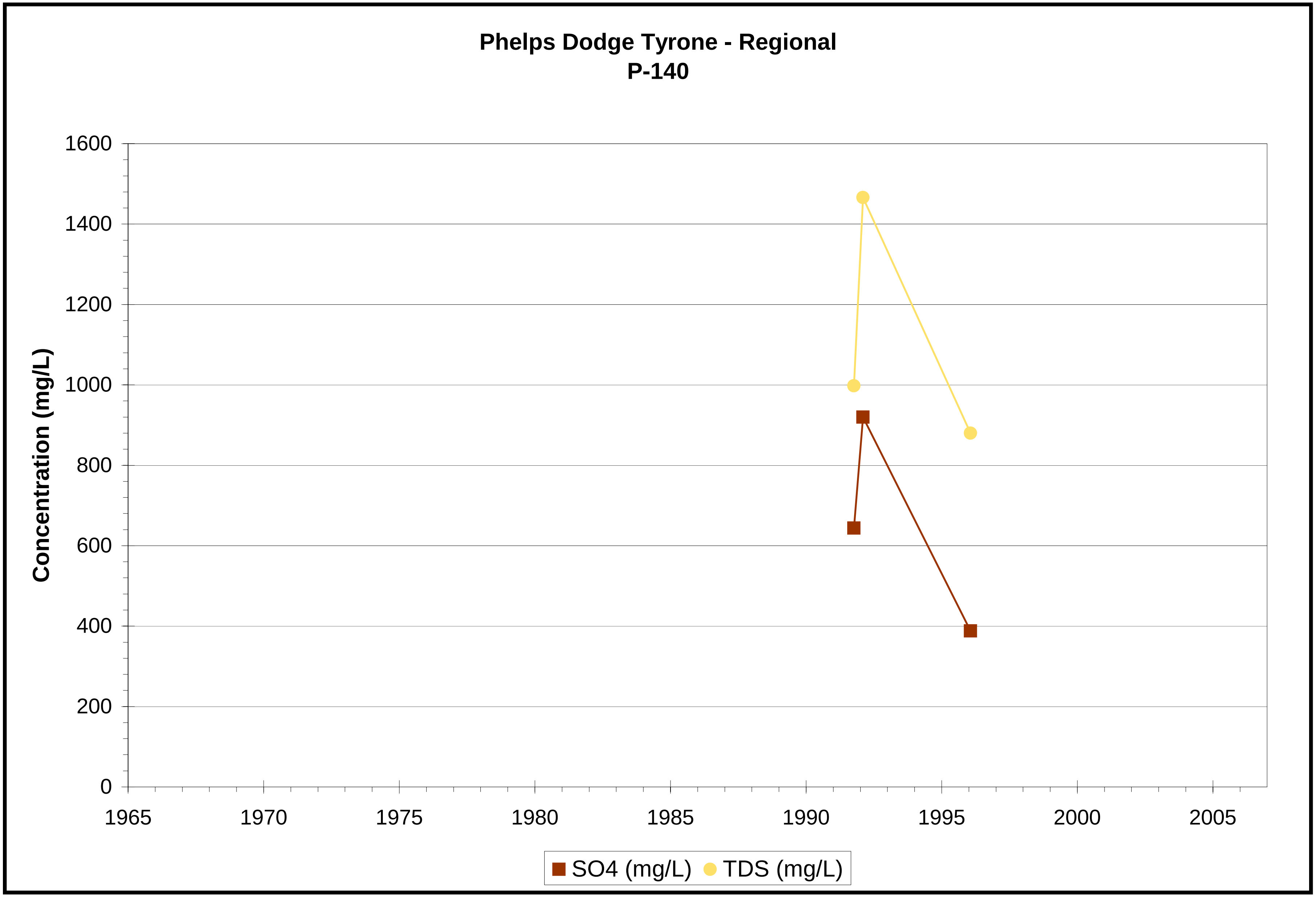

Phelps Dodge Tyrone - Regional
P-136
Concentration (mg/L)
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



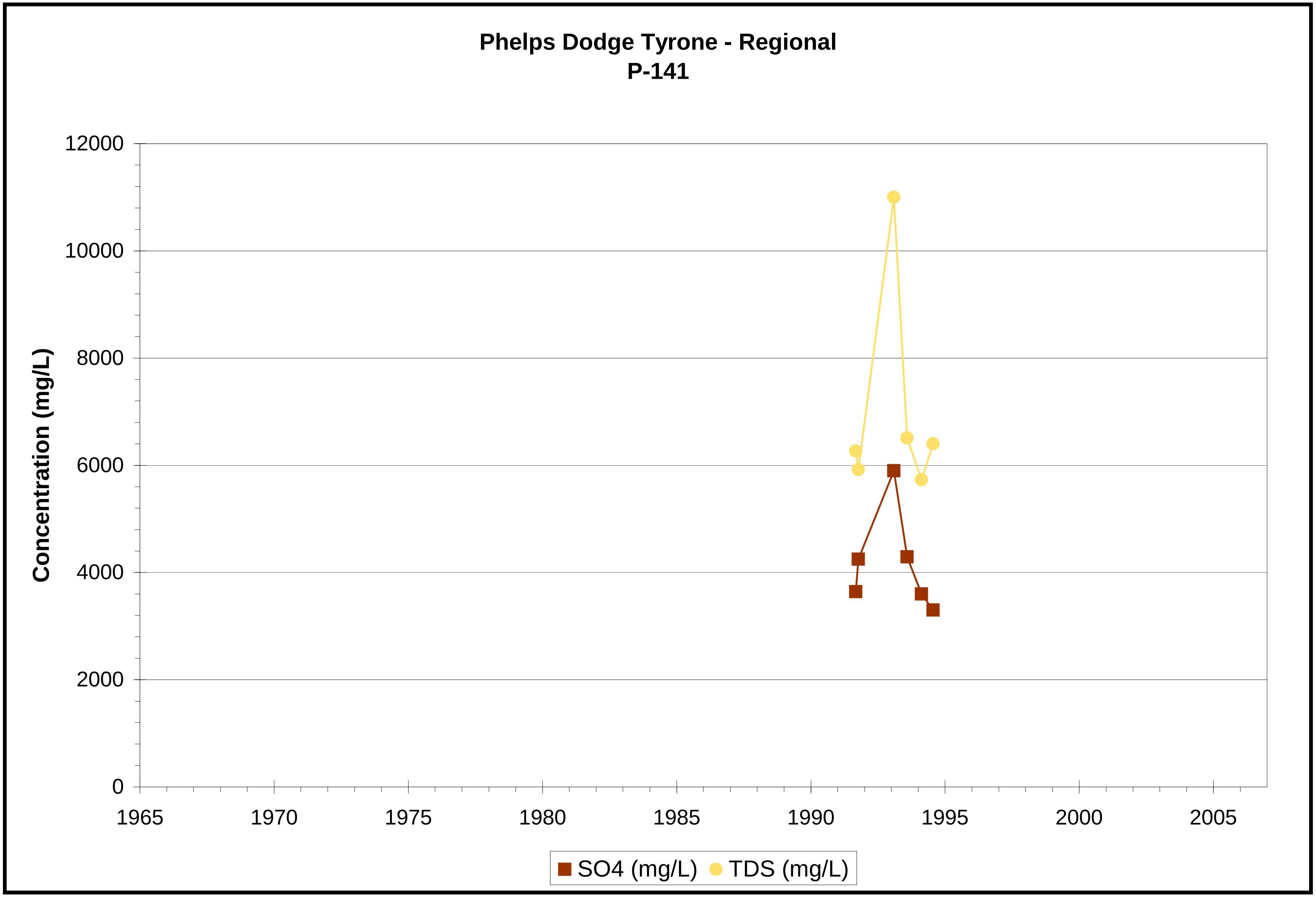
Phelps Dodge Tyrone - Regional
P-137
Concentration (mg/L)
8000
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



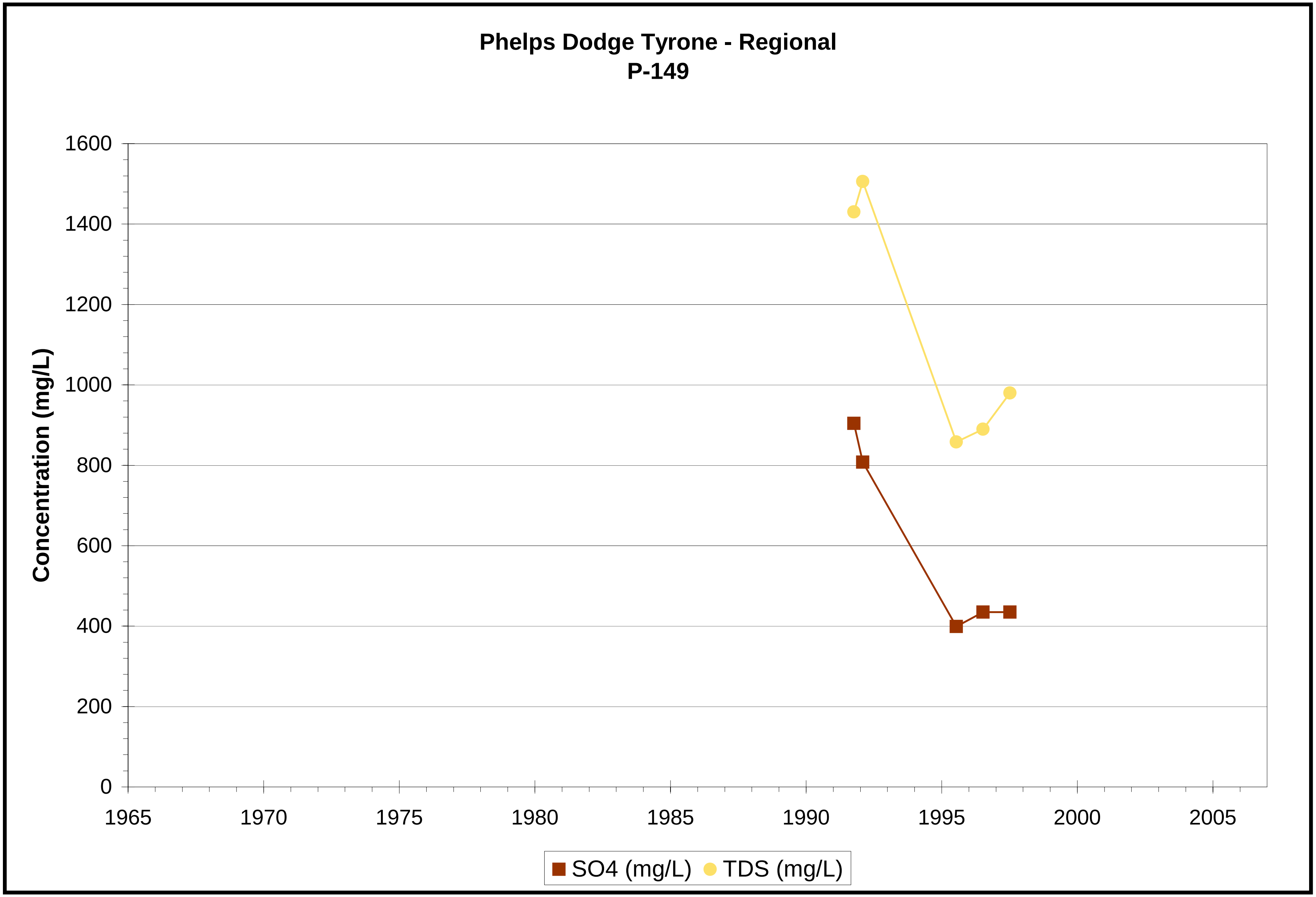
Phelps Dodge Tyrone - Regional
P-138
Concentration (mg/L)
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

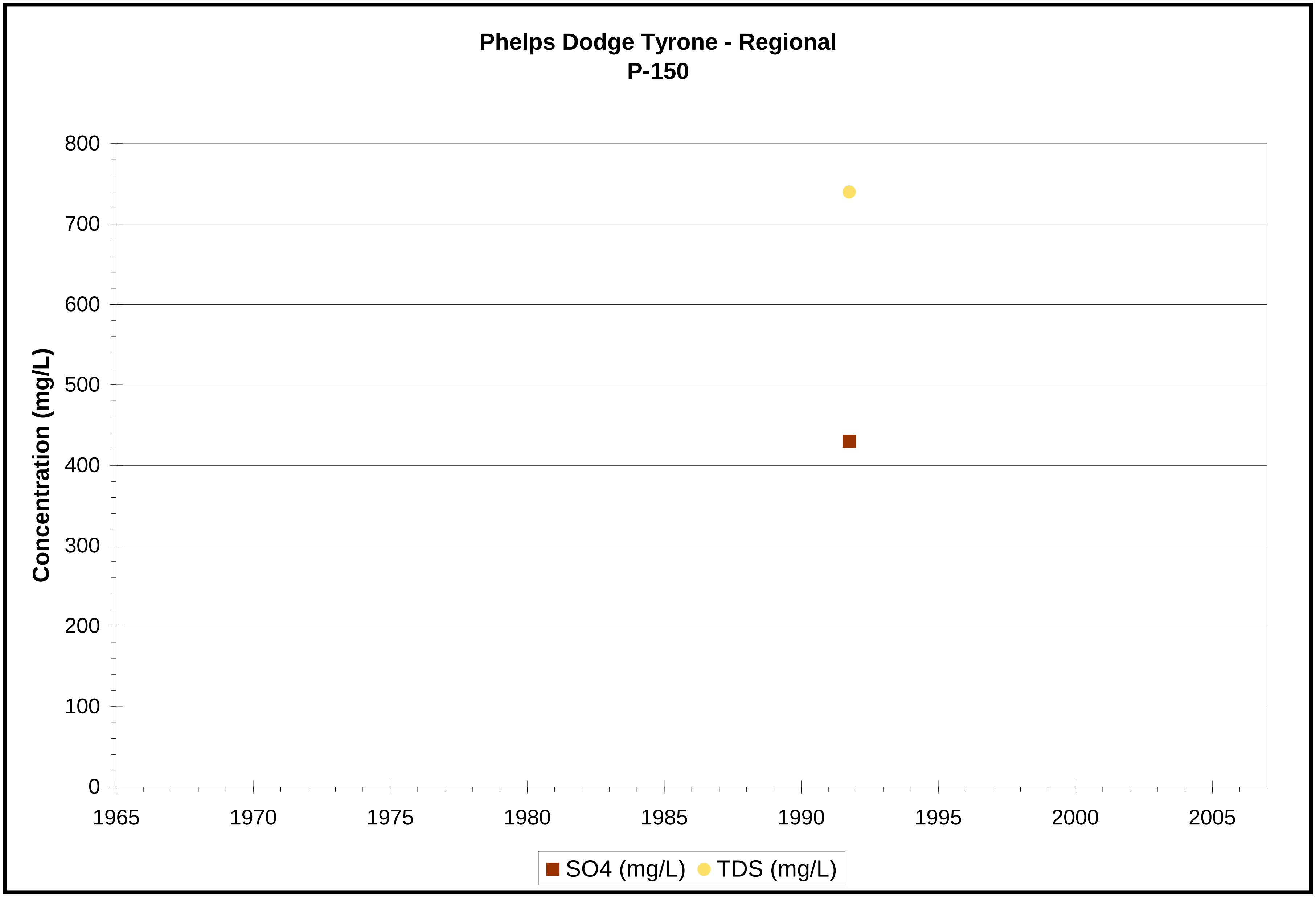


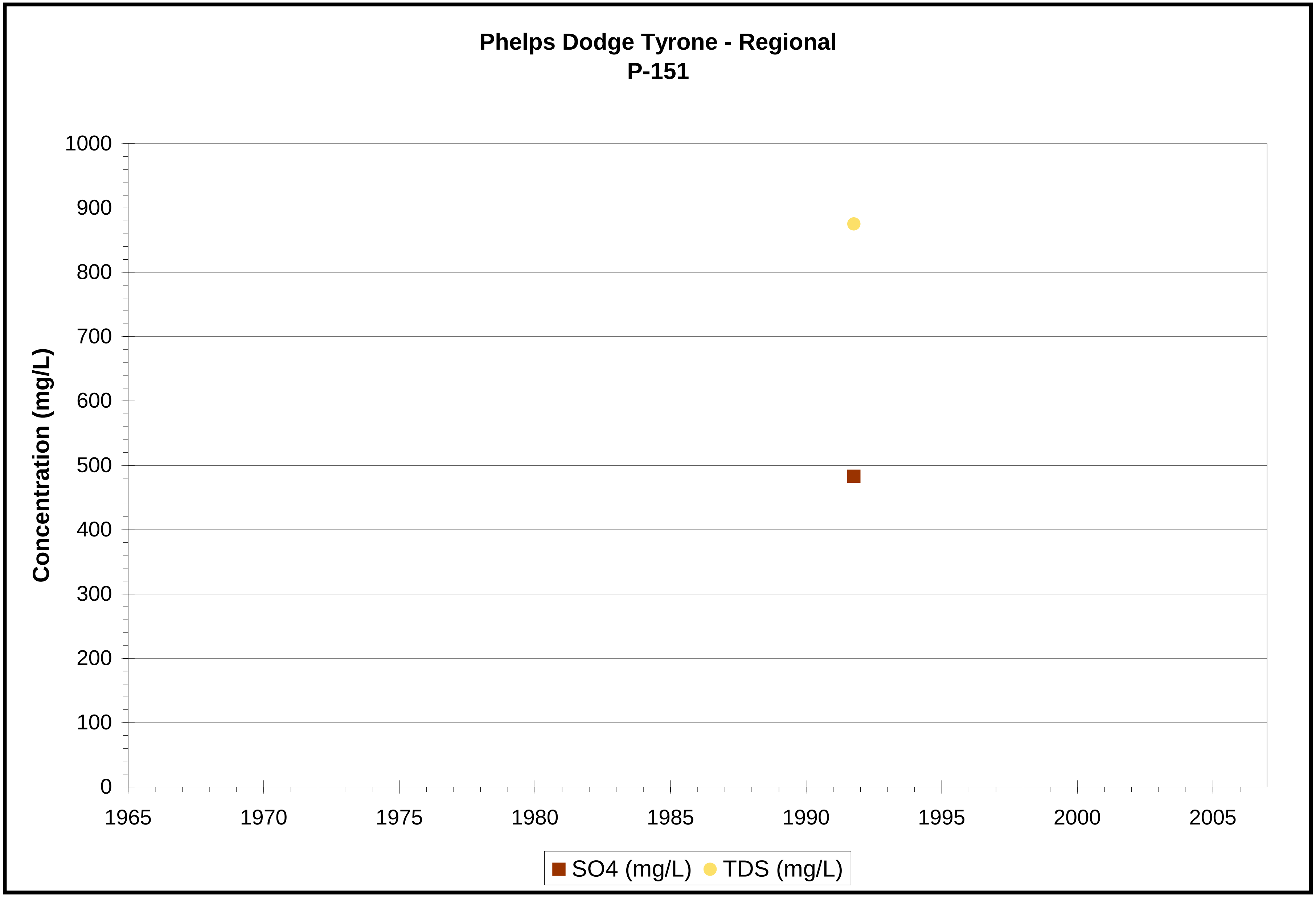
Phelps Dodge Tyrone - Regional
P-140
Concentration (mg/L)
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

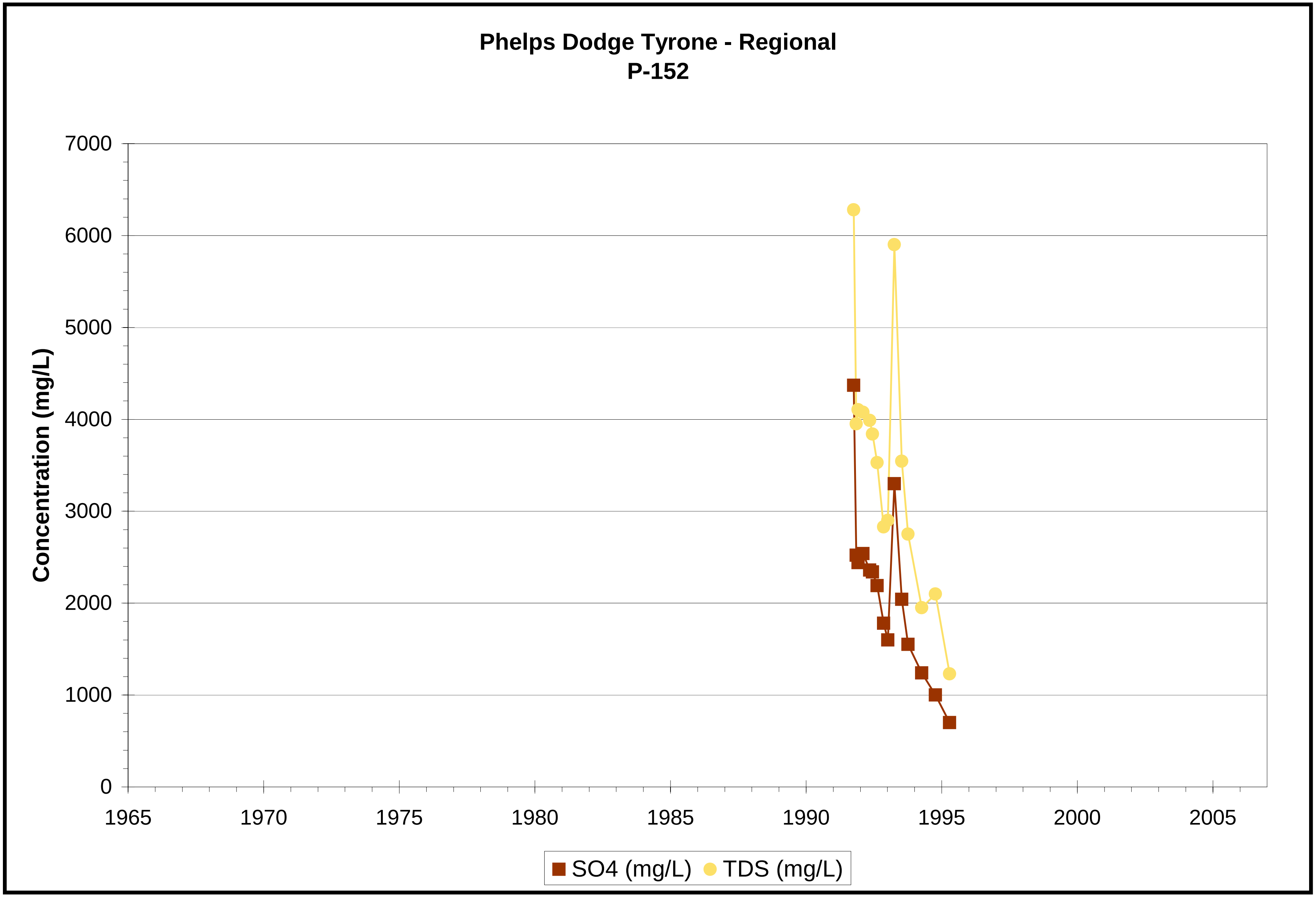


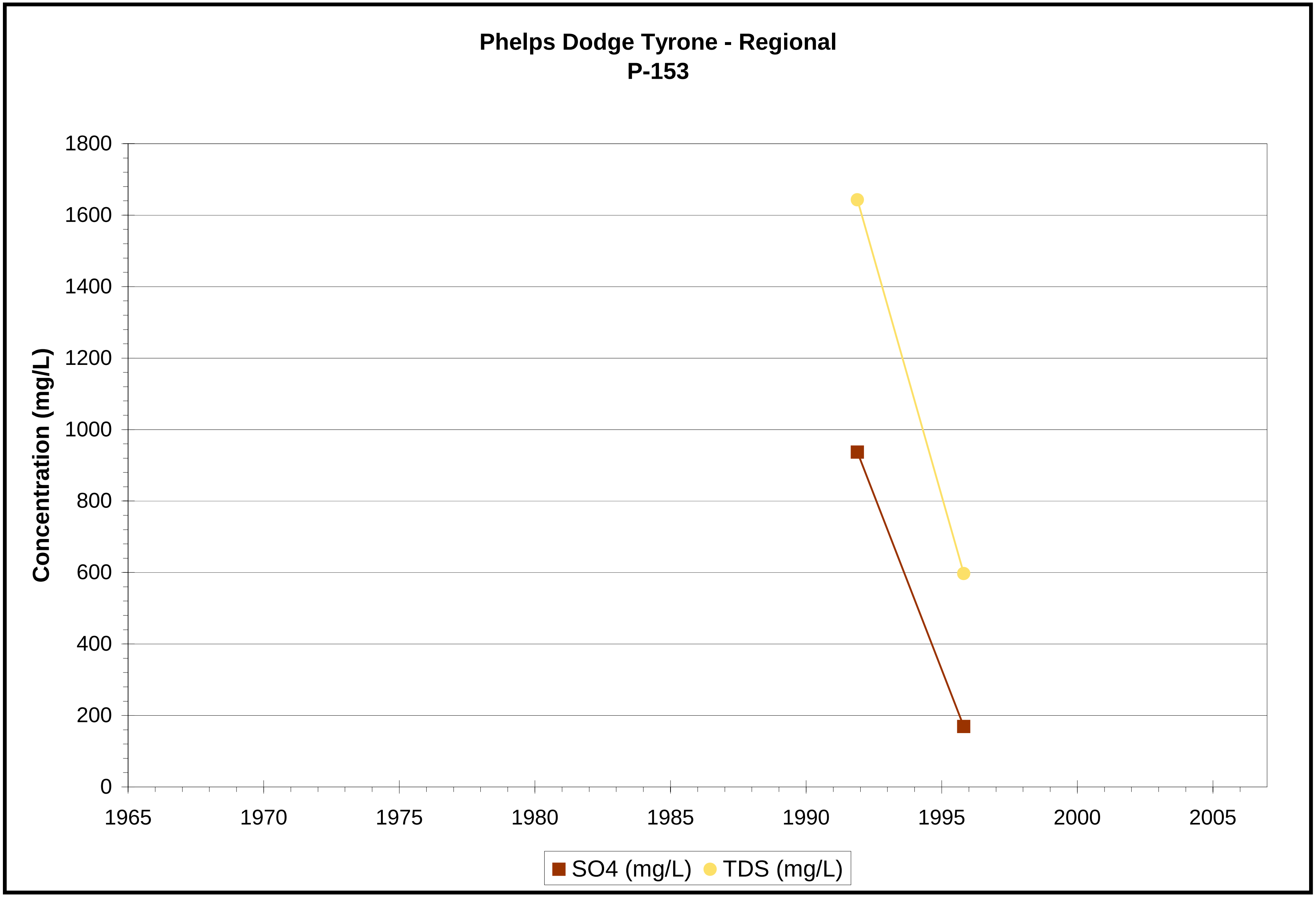
Phelps Dodge Tyrone - Regional
P-141
Concentration (mg/L)
0
2000
4000
6000
8000
10000
12000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-149
Concentration (mg/L)
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

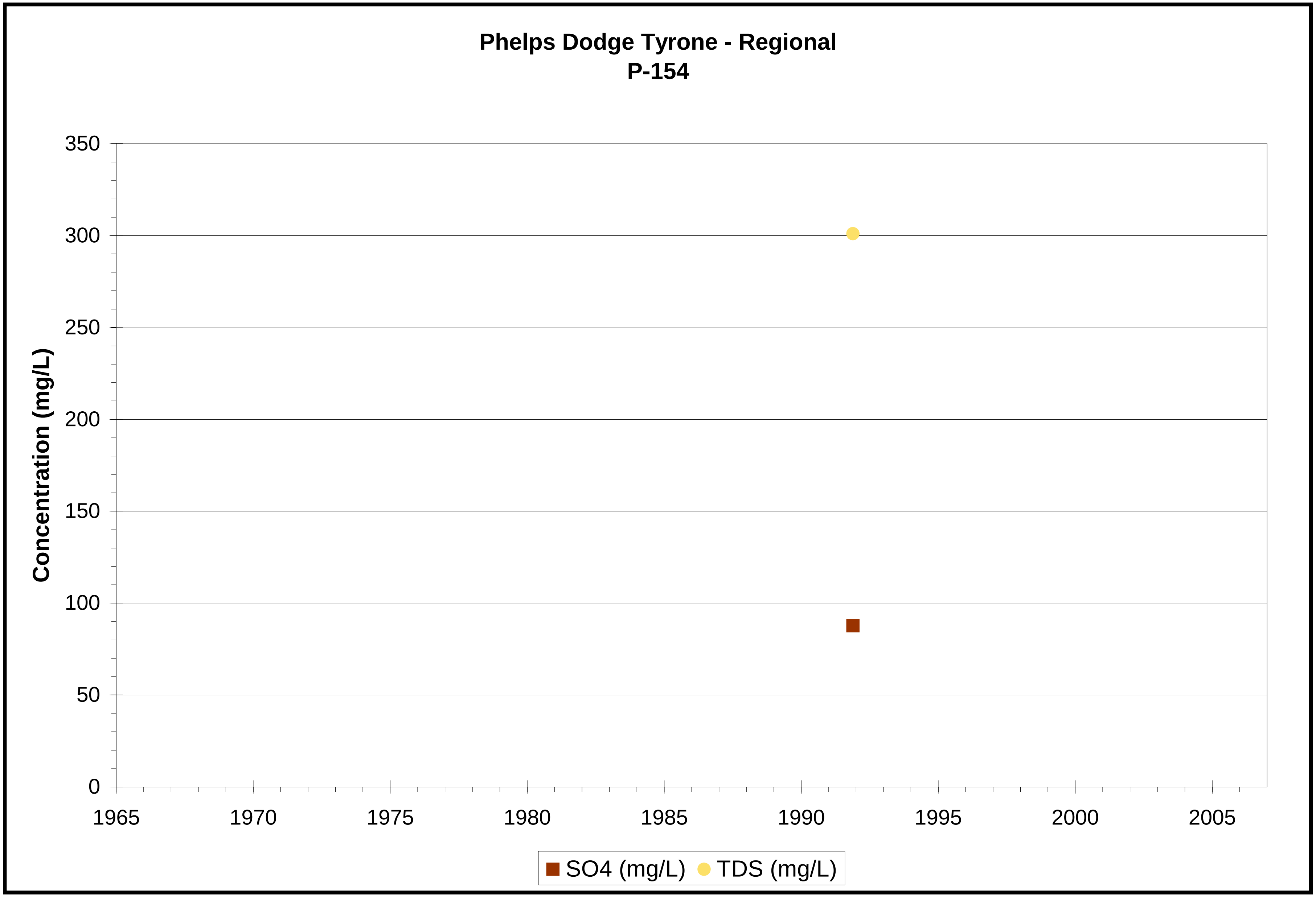

Phelps Dodge Tyrone - Regional
P-150
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-151
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
900
1000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

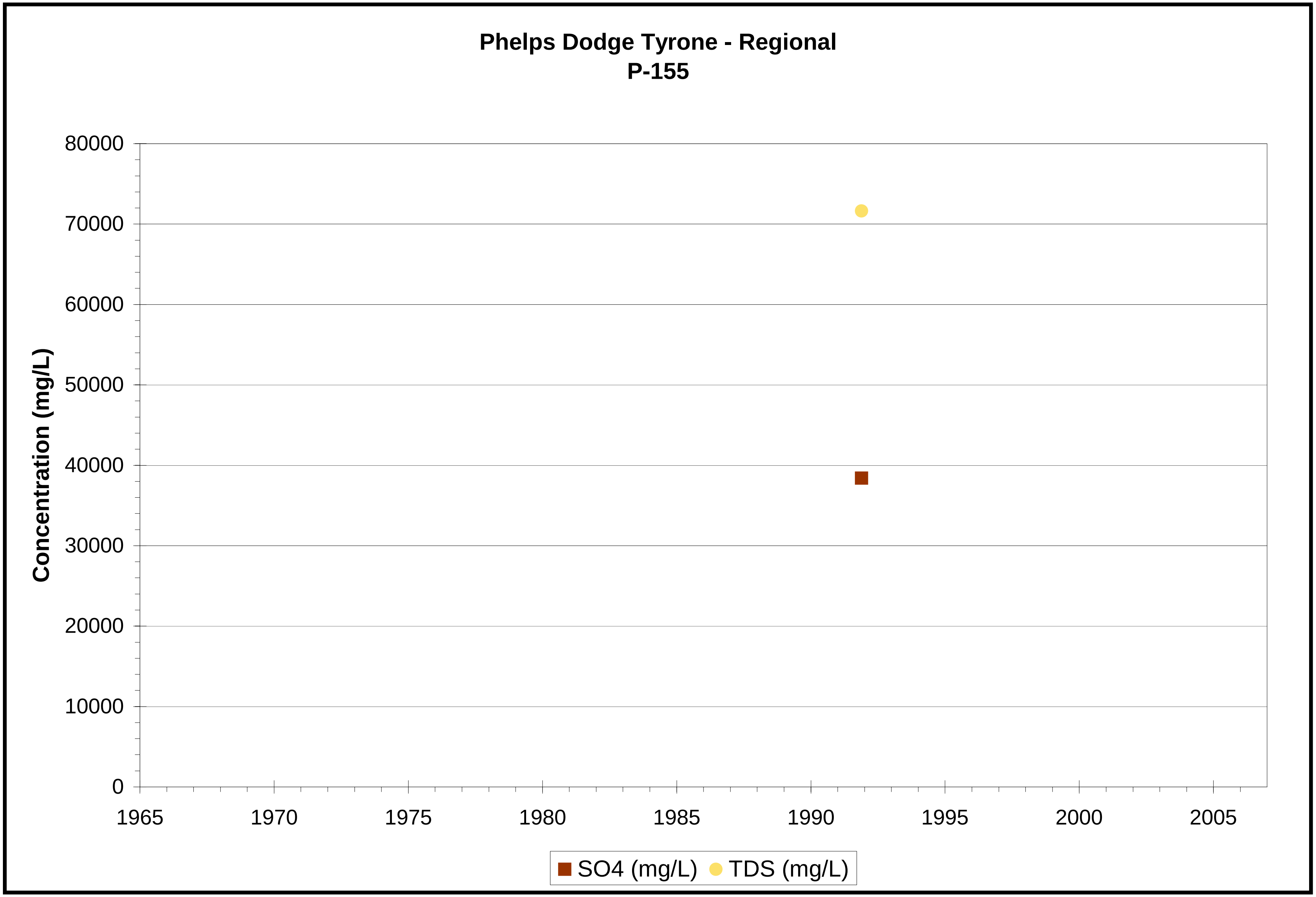

Phelps Dodge Tyrone - Regional
P-152
Concentration (mg/L)
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



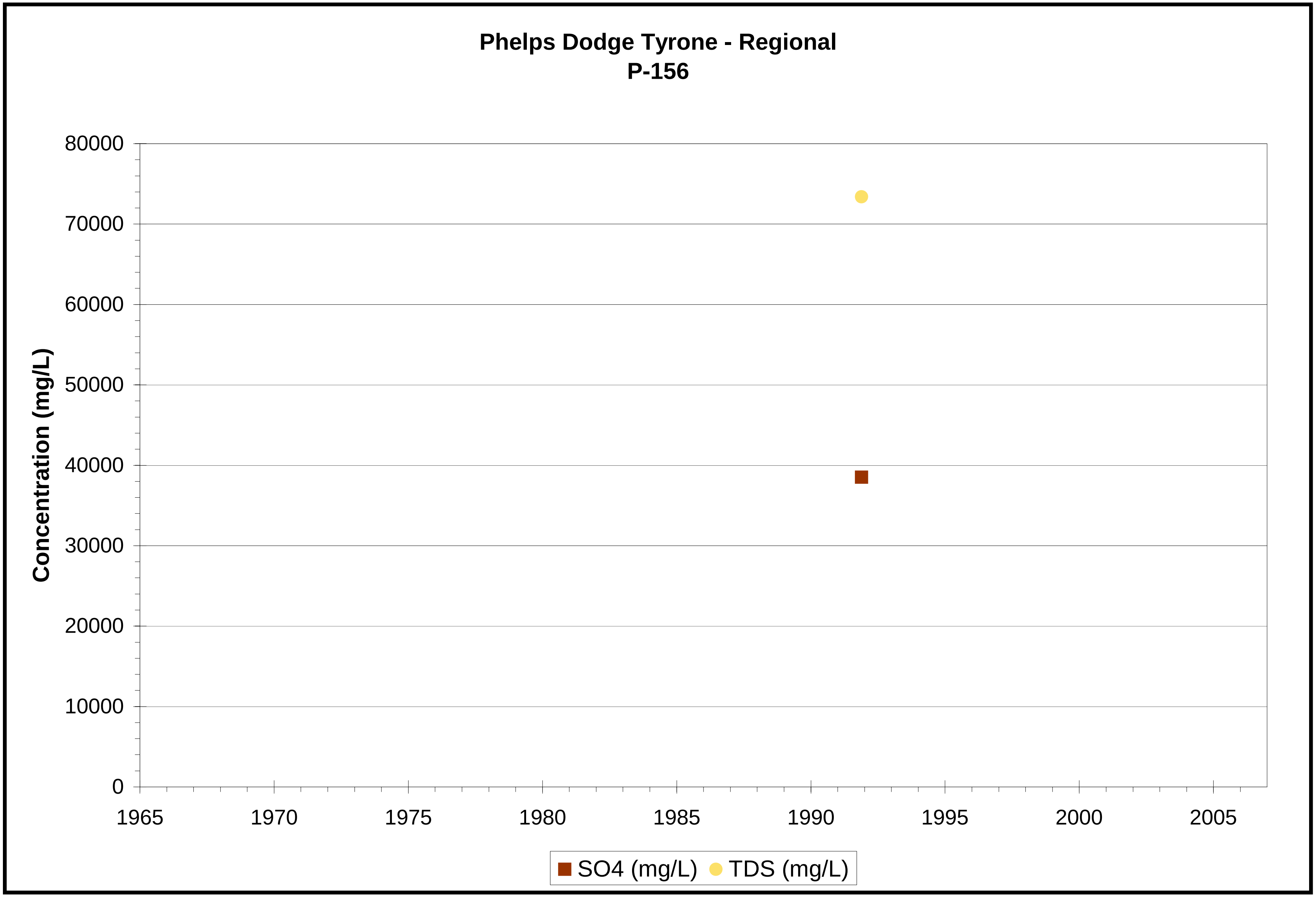
Phelps Dodge Tyrone - Regional
P-153
Concentration (mg/L)
1800
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



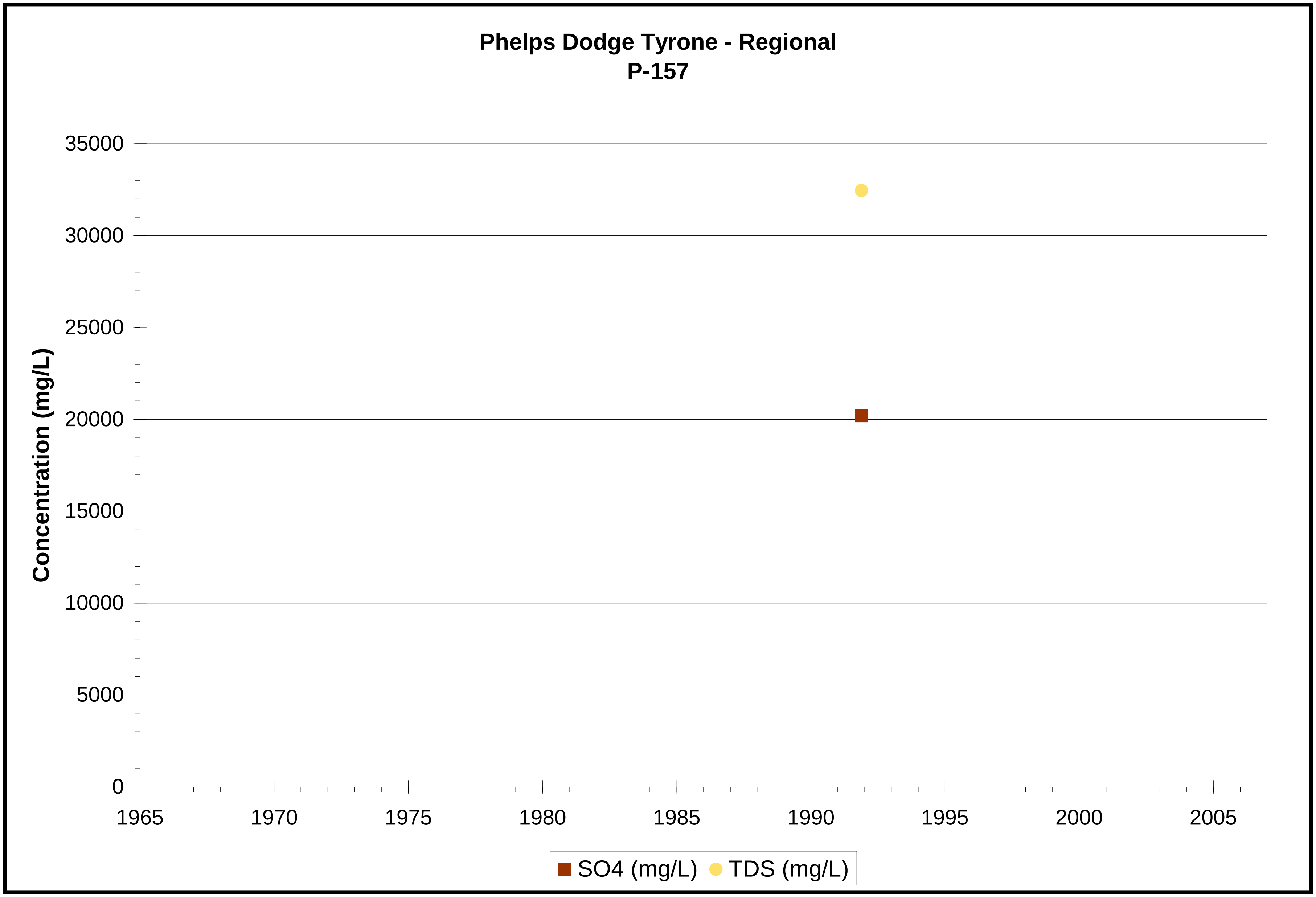
Phelps Dodge Tyrone - Regional
P-154
Concentration (mg/L)
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

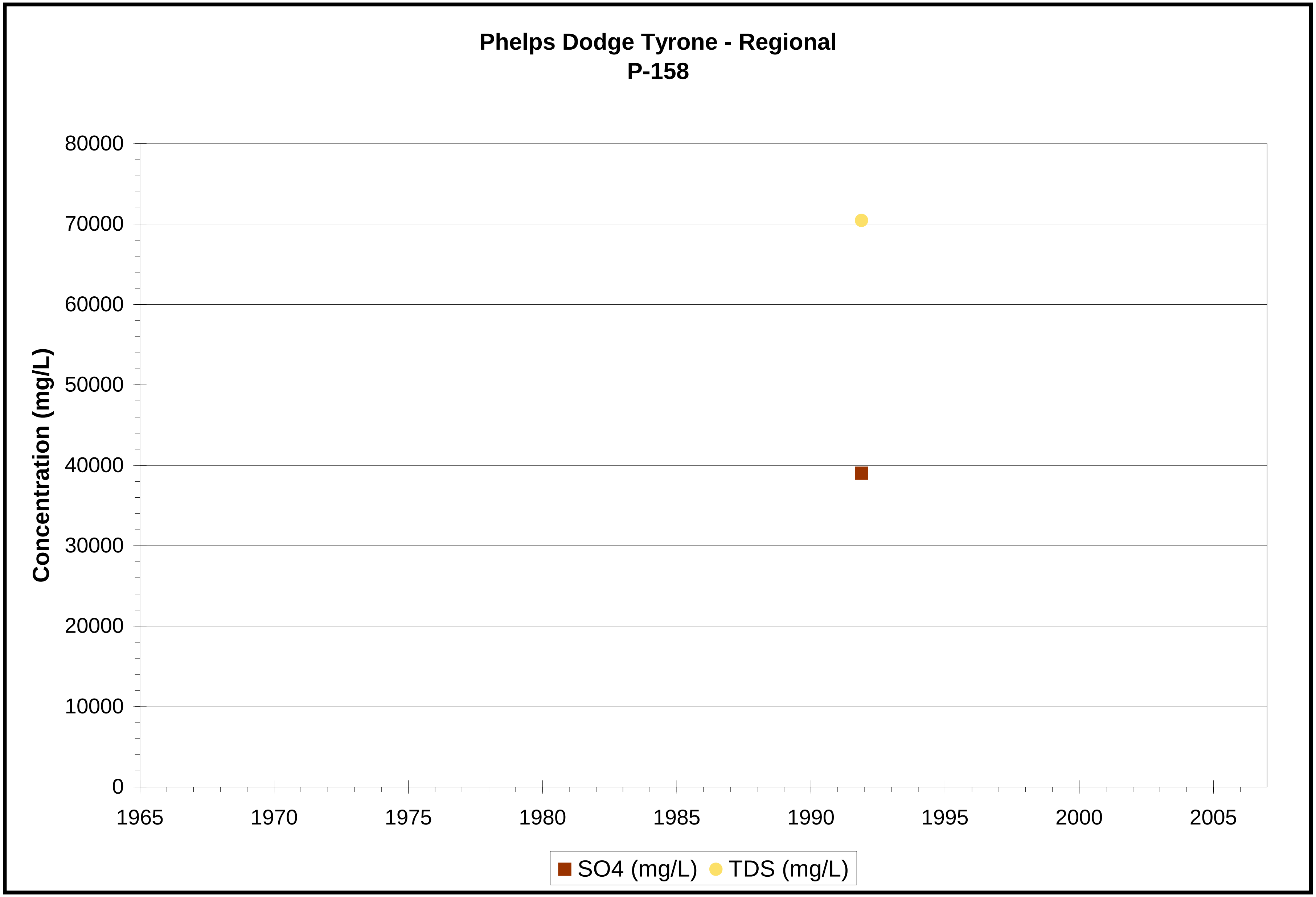


Phelps Dodge Tyrone - Regional
P-155
Concentration (mg/L)
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

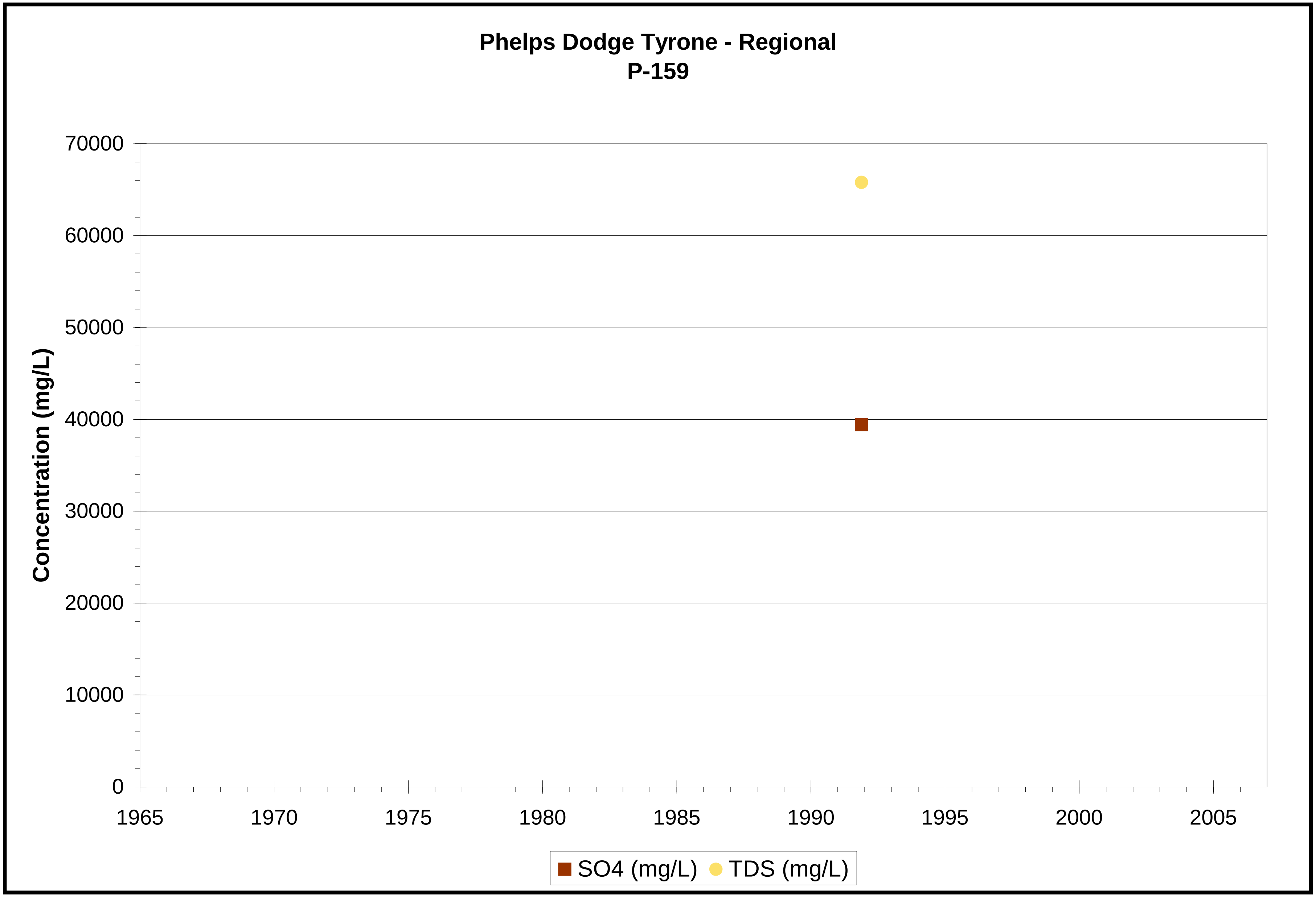


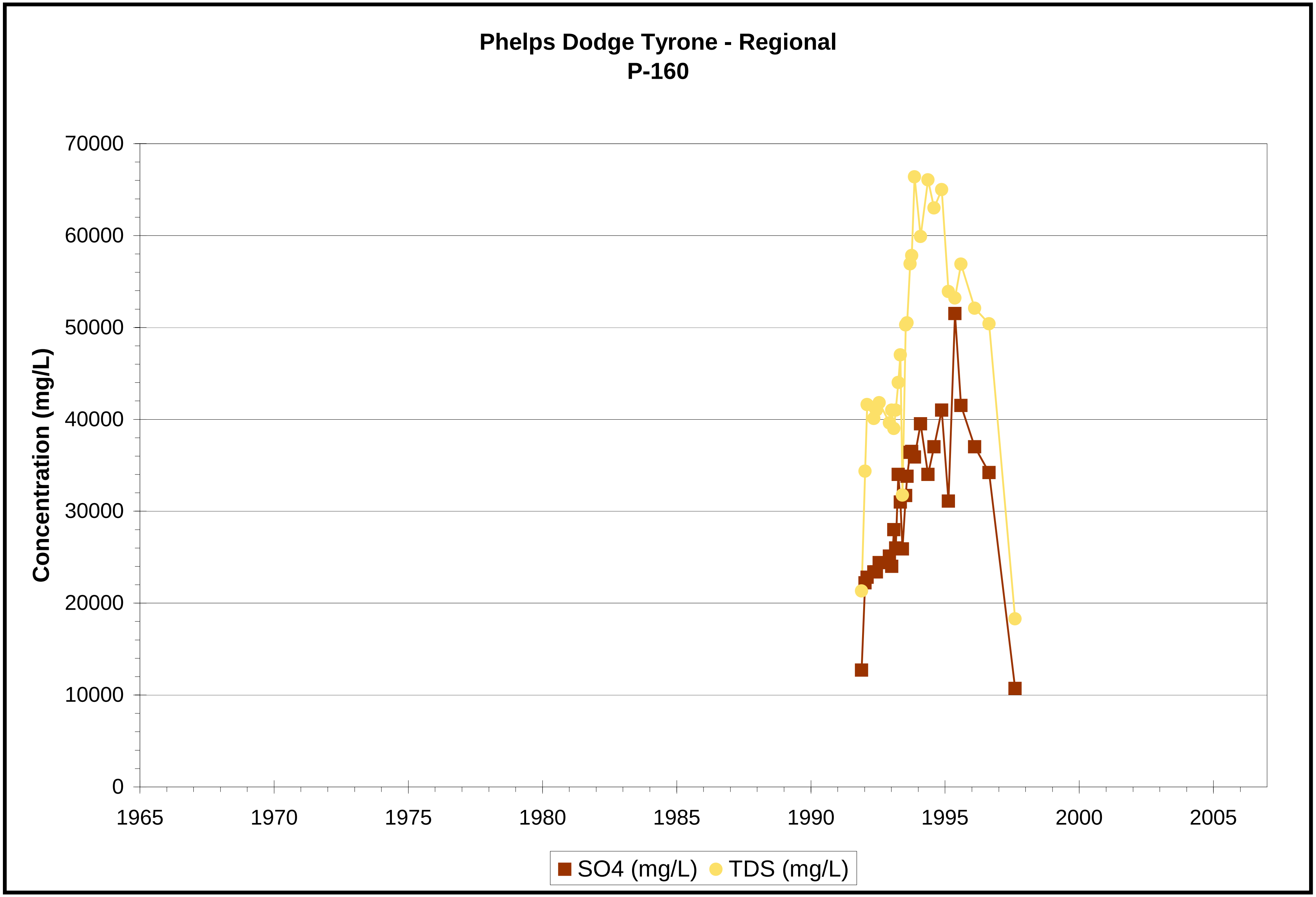
Phelps Dodge Tyrone - Regional
P-156
Concentration (mg/L)
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

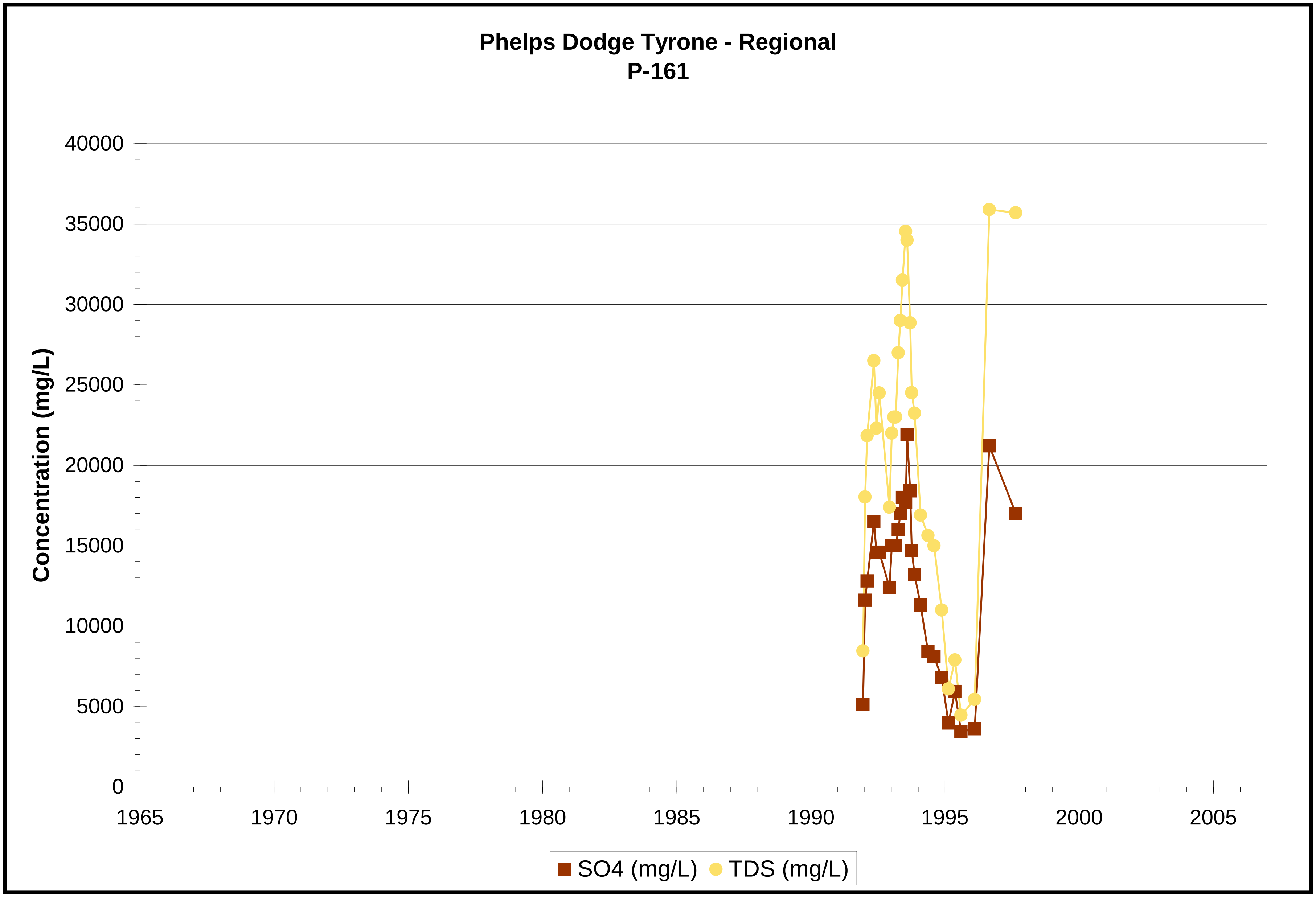

Phelps Dodge Tyrone - Regional
P-157
Concentration (mg/L)
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



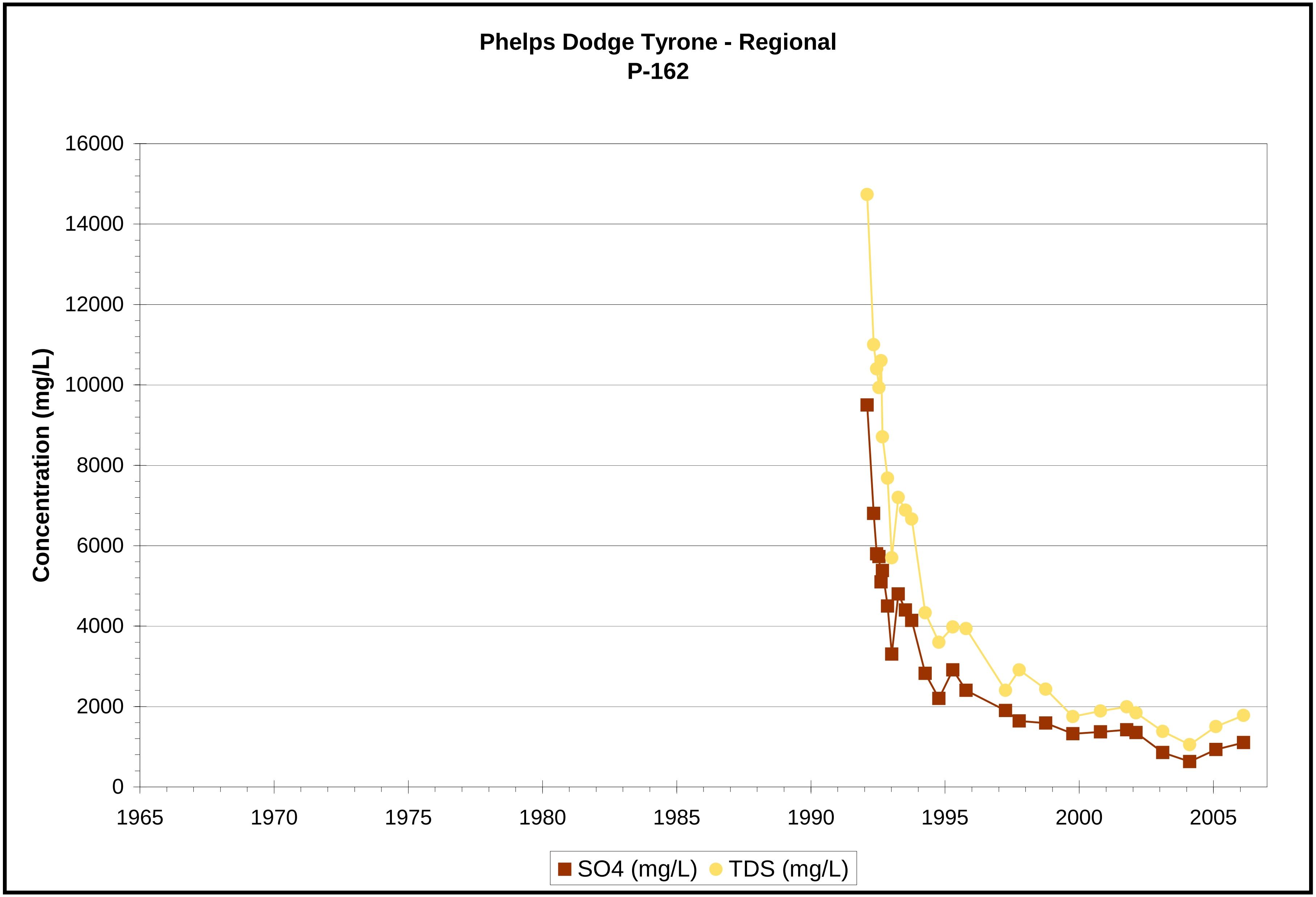
Phelps Dodge Tyrone - Regional
P-158
Concentration (mg/L)
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

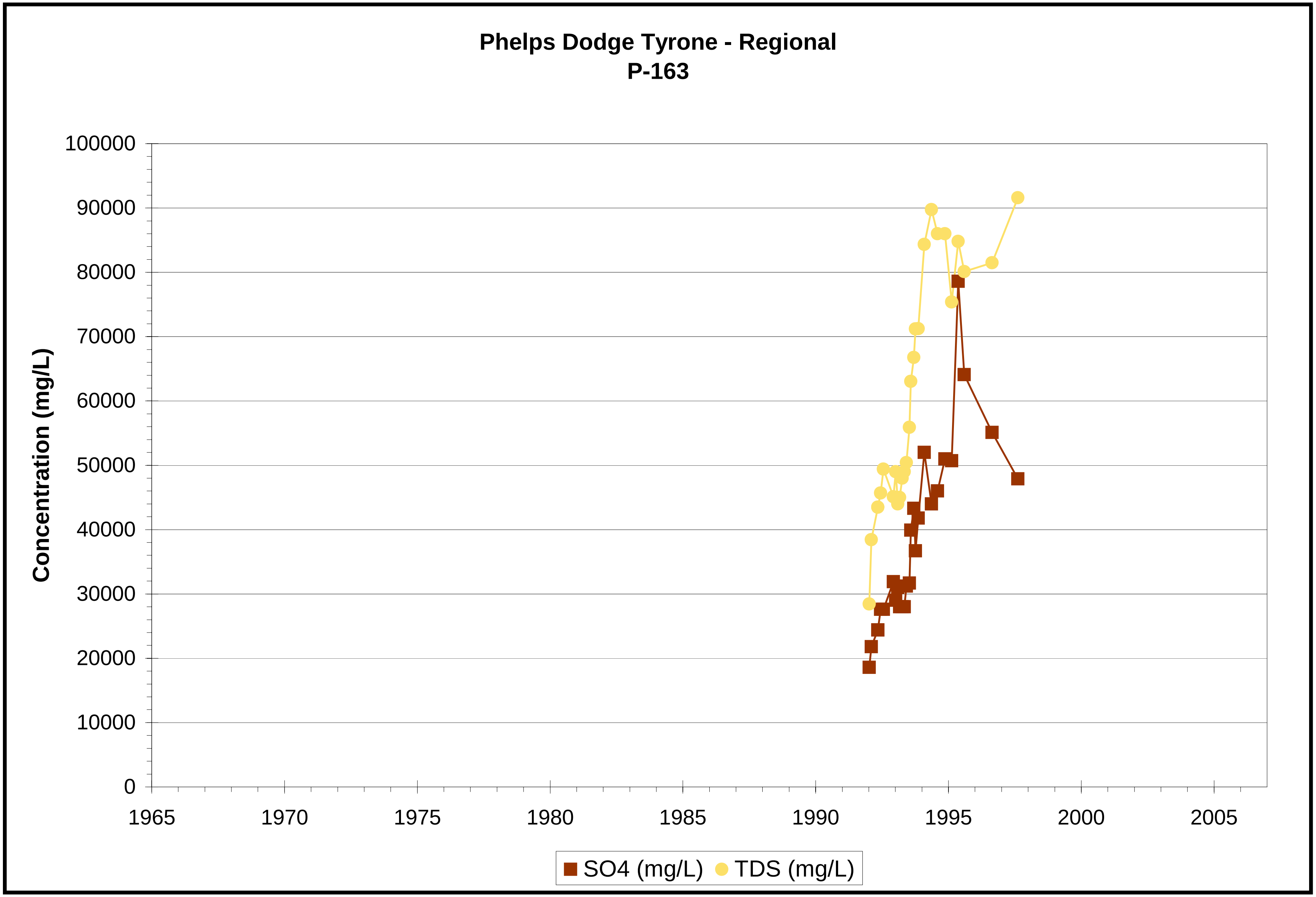

Phelps Dodge Tyrone - Regional
P-159
Concentration (mg/L)
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

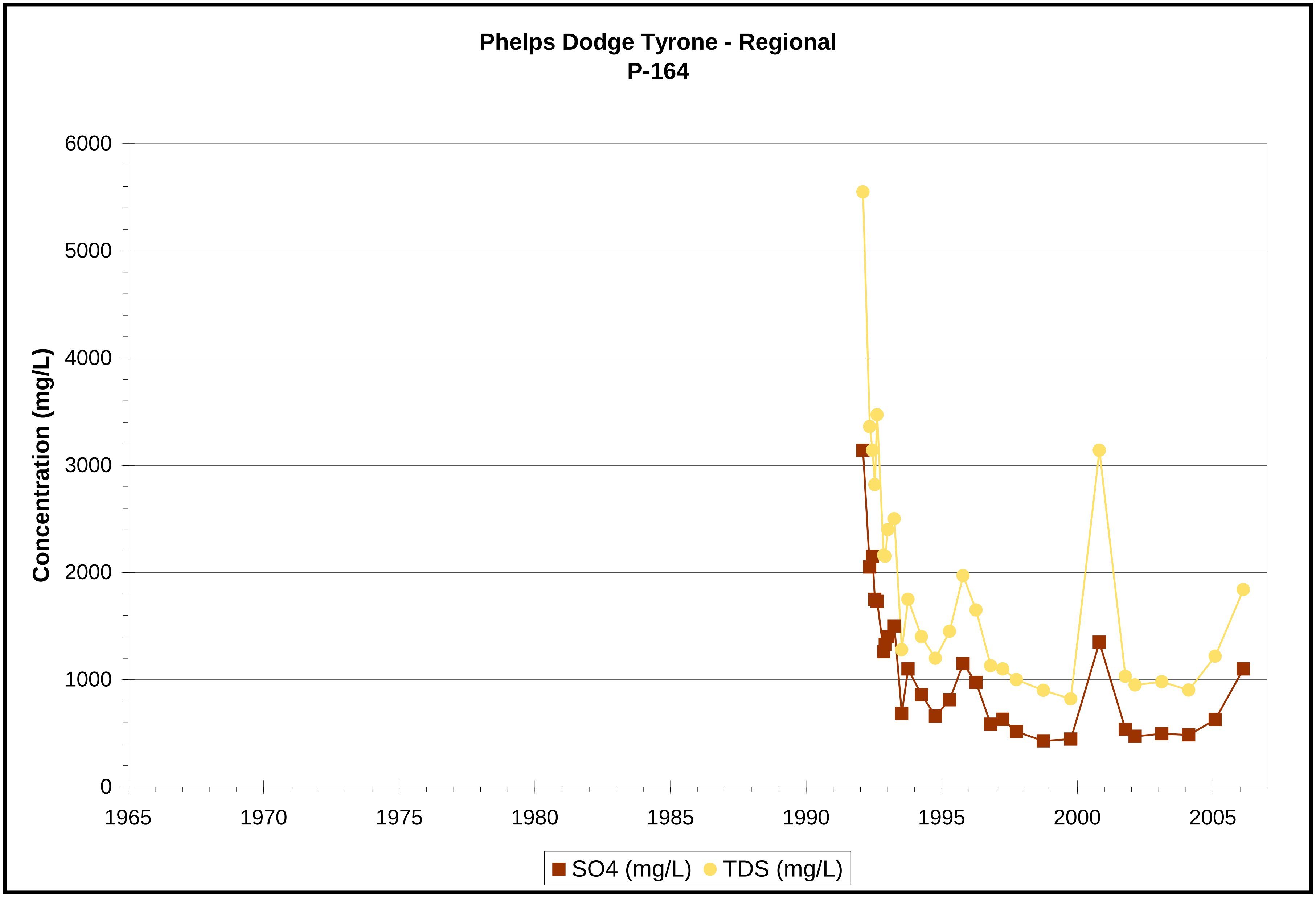

Phelps Dodge Tyrone - Regional
P-160
Concentration (mg/L)
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

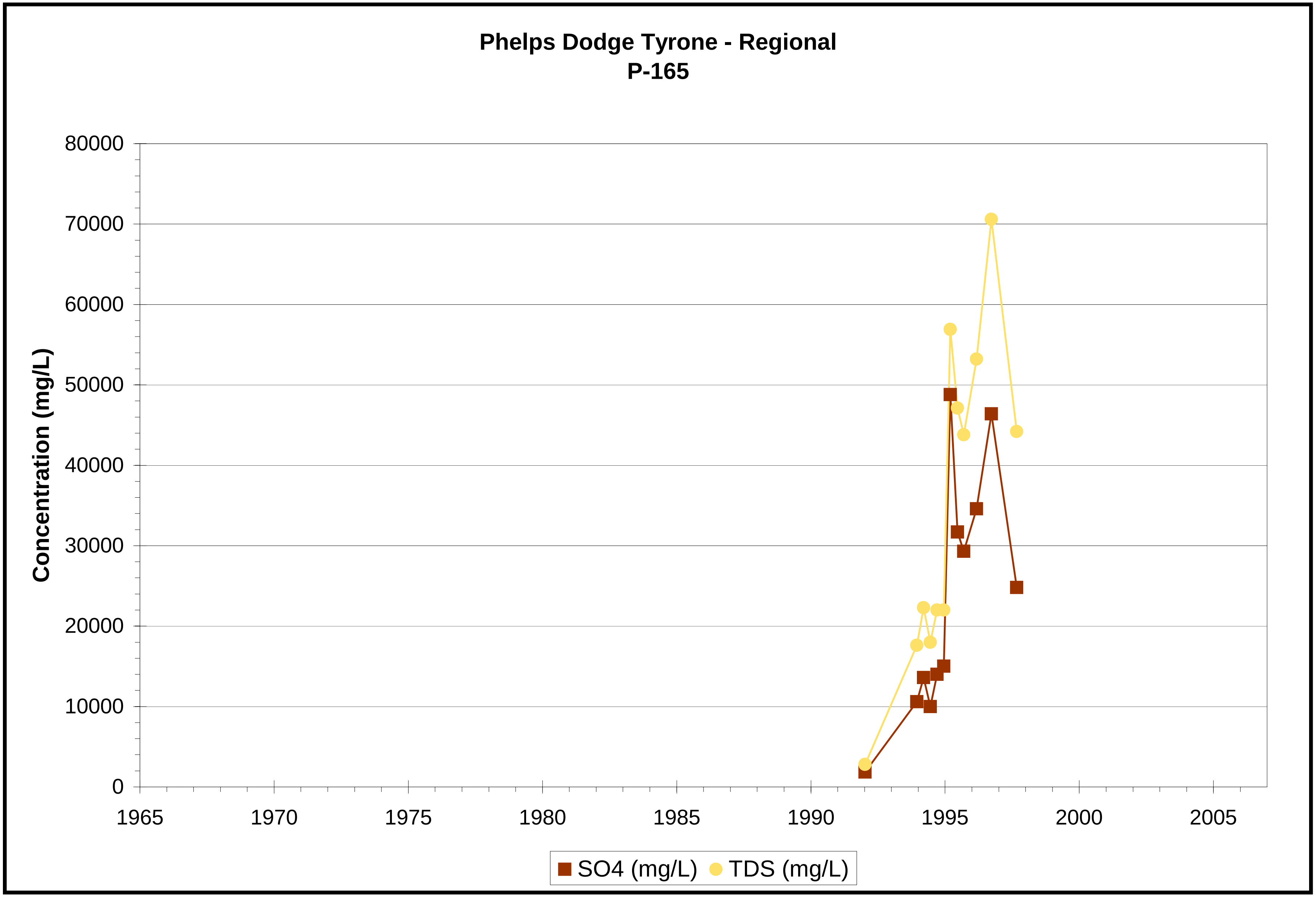


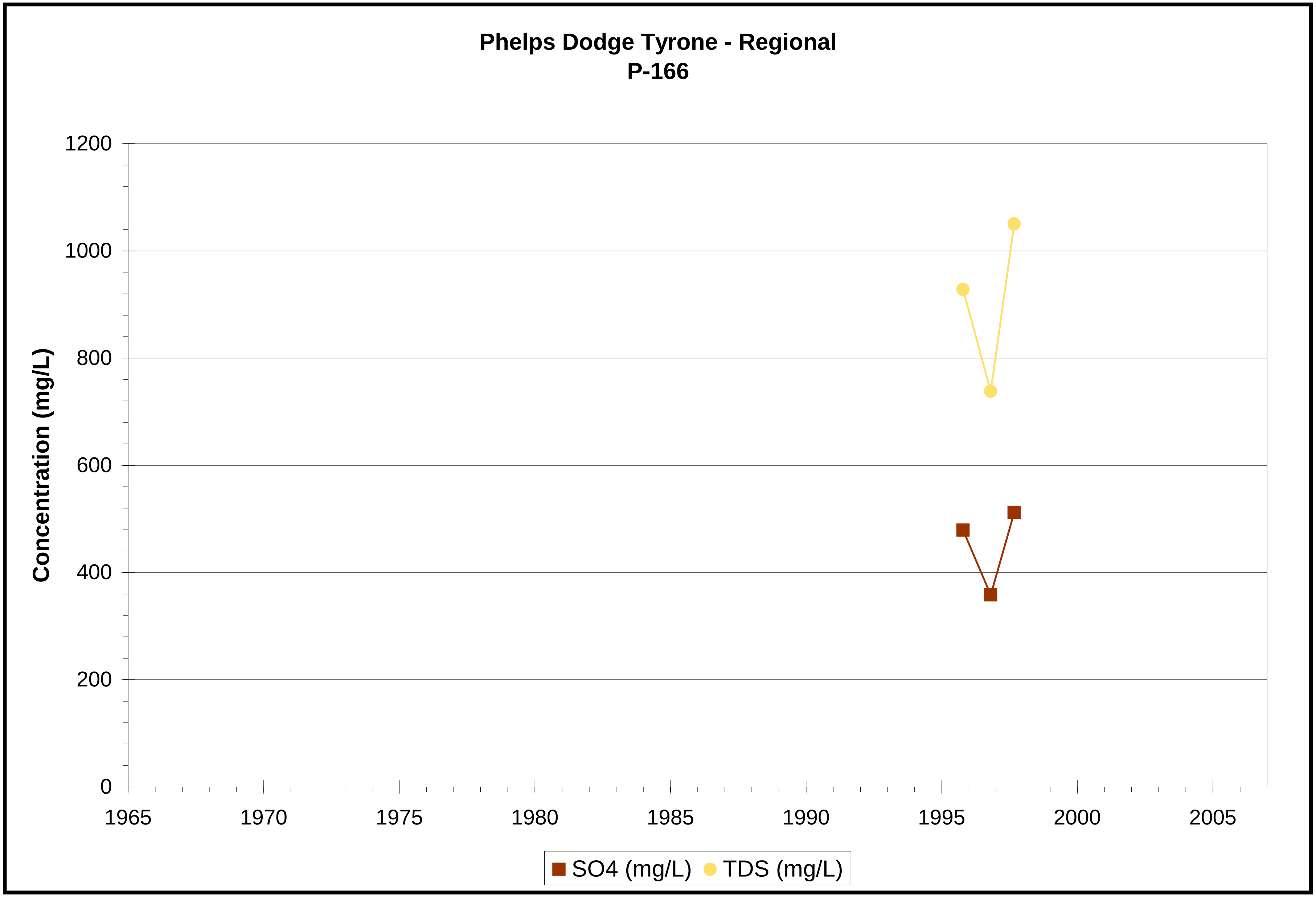
Phelps Dodge Tyrone - Regional
P-161
Concentration (mg/L)
40000
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-162
Concentration (mg/L)
16000
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

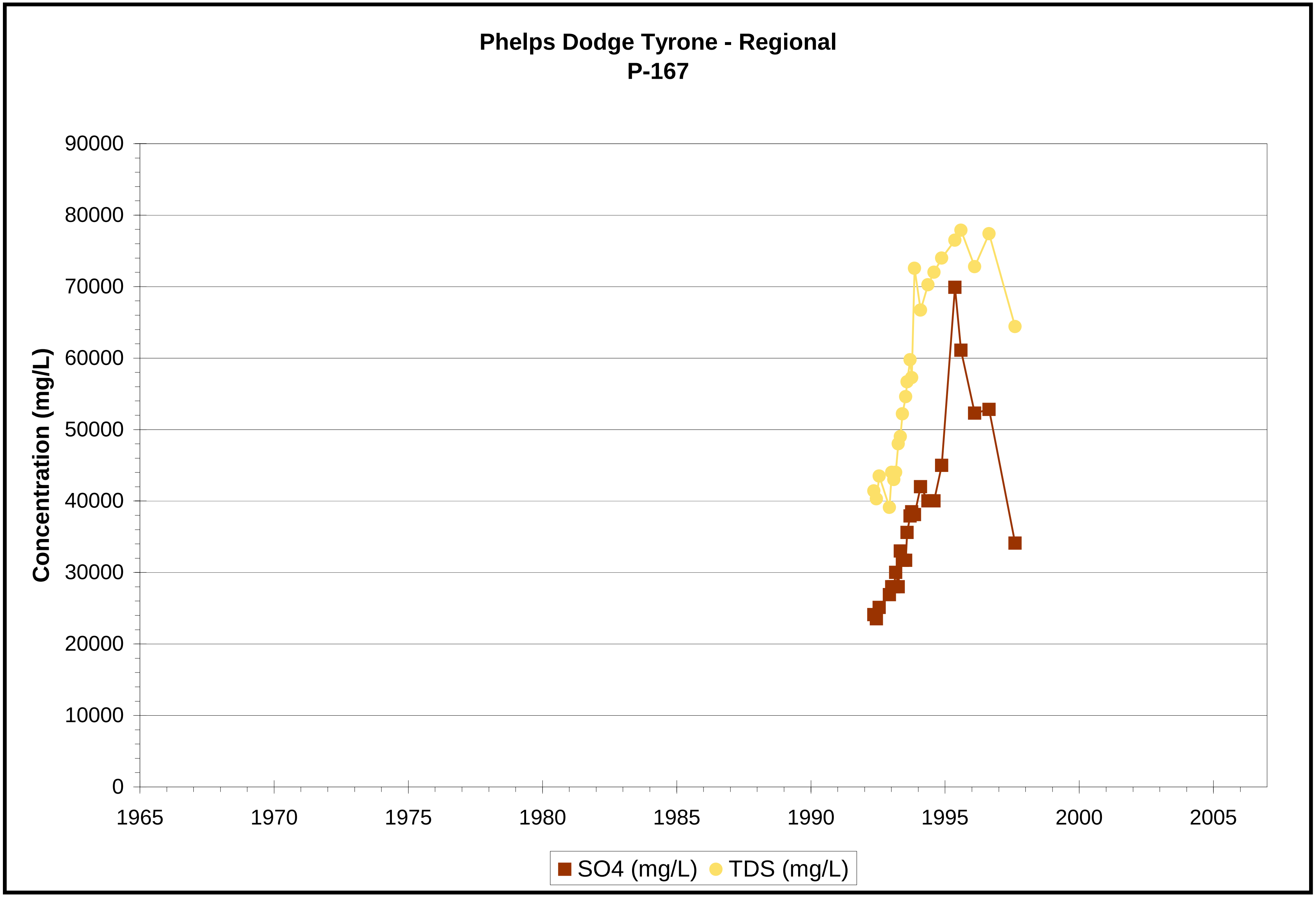

Phelps Dodge Tyrone - Regional
P-163
Concentration (mg/L)
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-164
Concentration (mg/L)
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

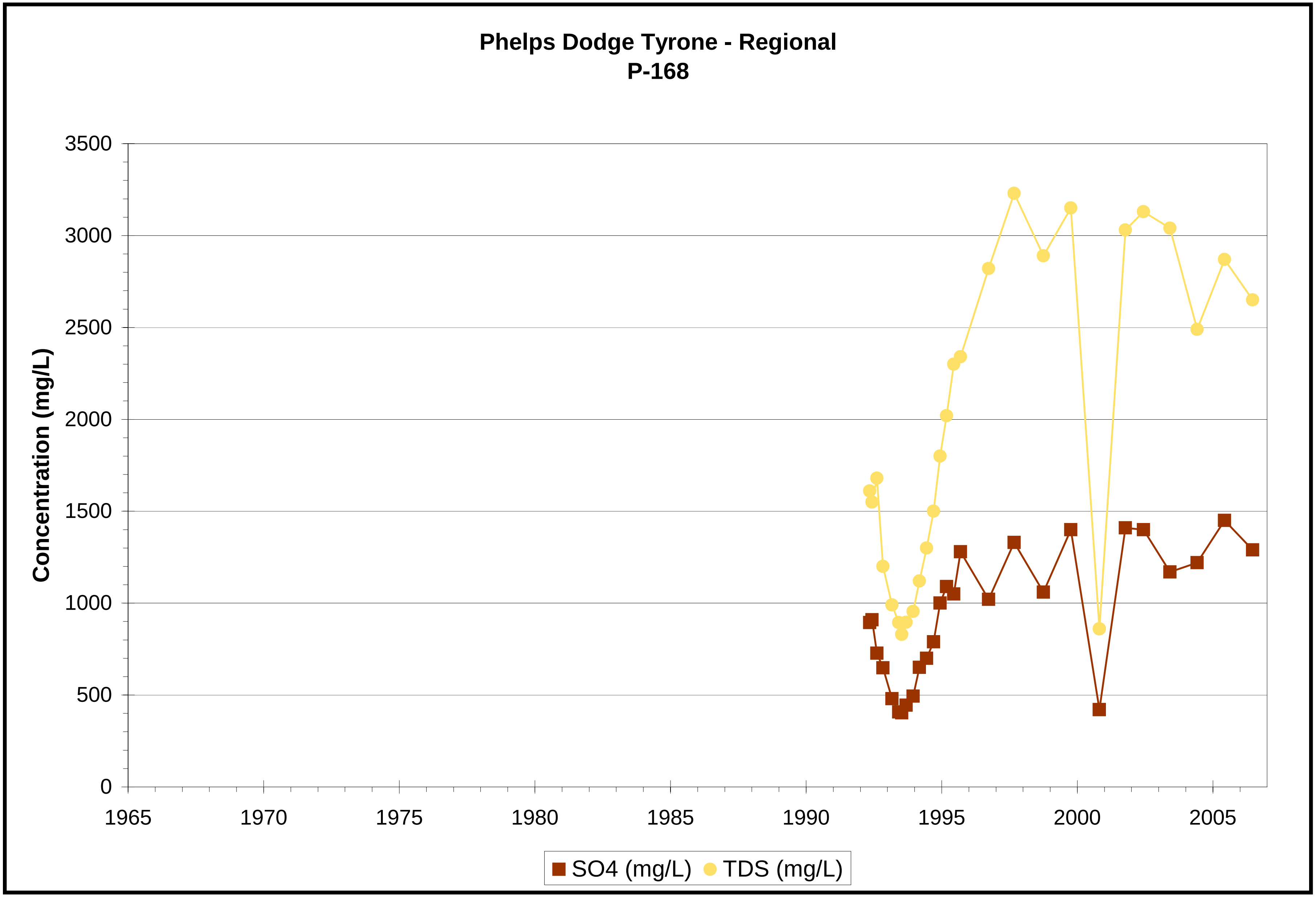

Phelps Dodge Tyrone - Regional
P-165
Concentration (mg/L)
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



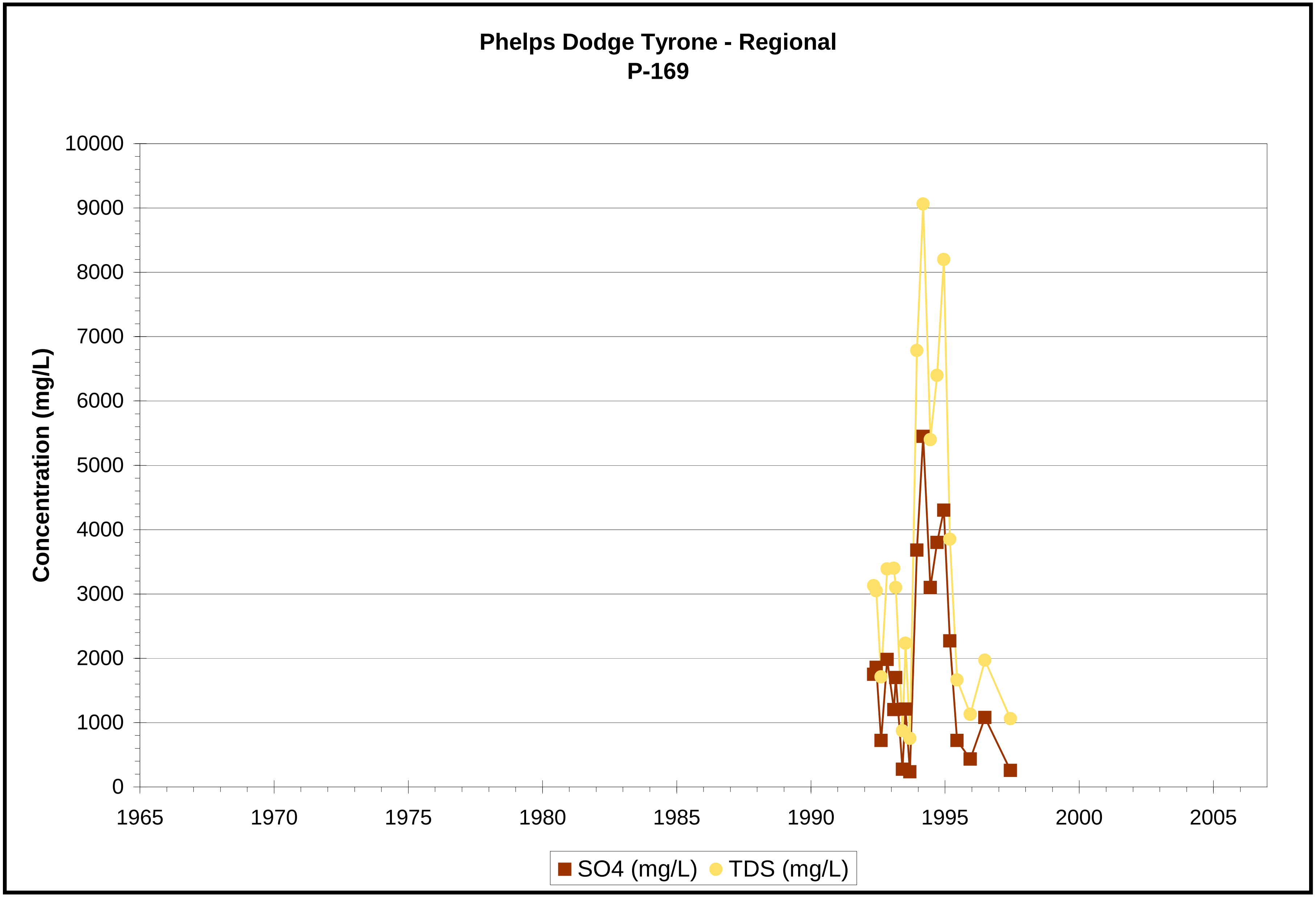
Phelps Dodge Tyrone - Regional
P-166
Concentration (mg/L)
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

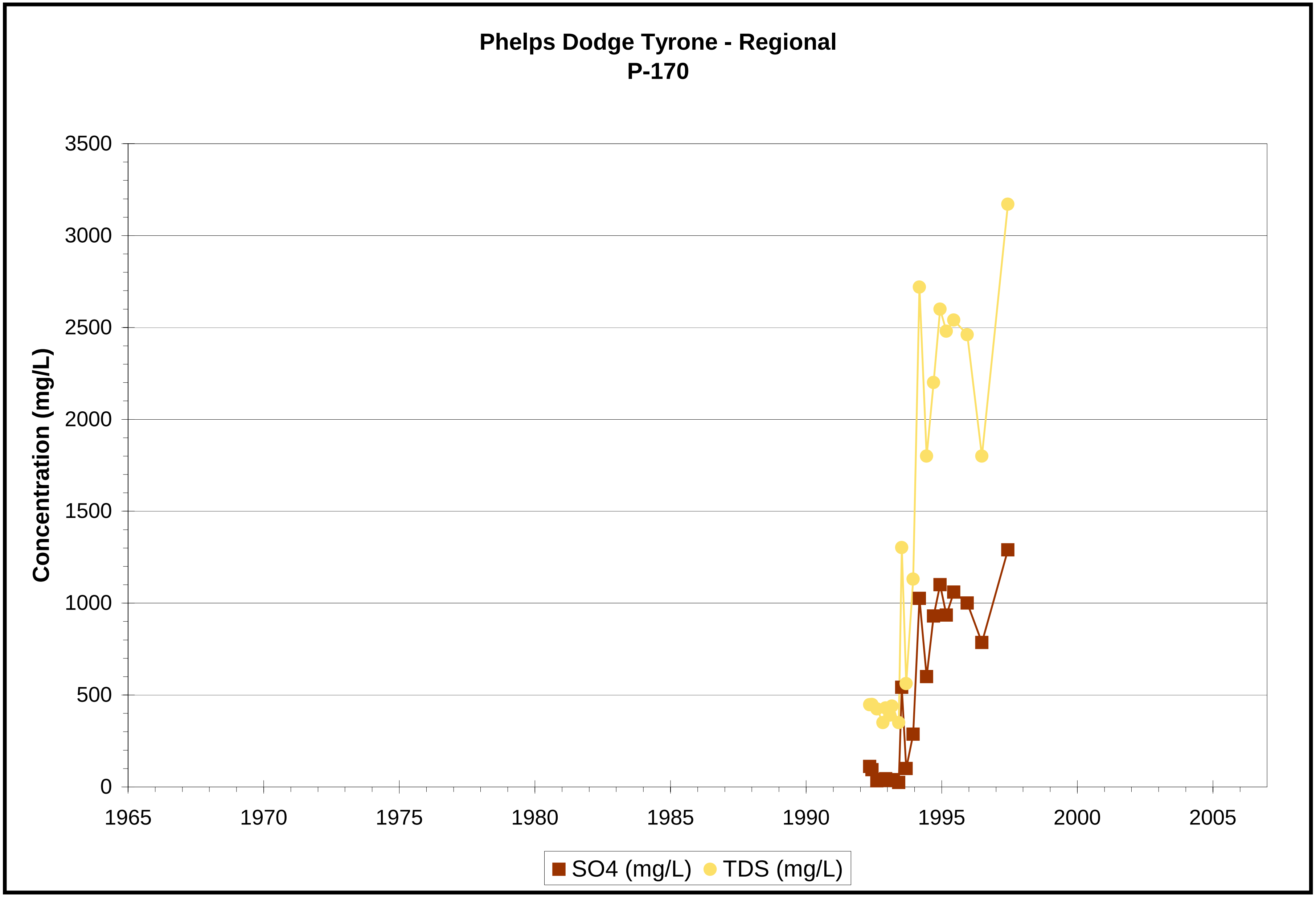


Phelps Dodge Tyrone - Regional
P-167
Concentration (mg/L)
0
10000
20000
30000
40000
50000
60000
70000
80000
90000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

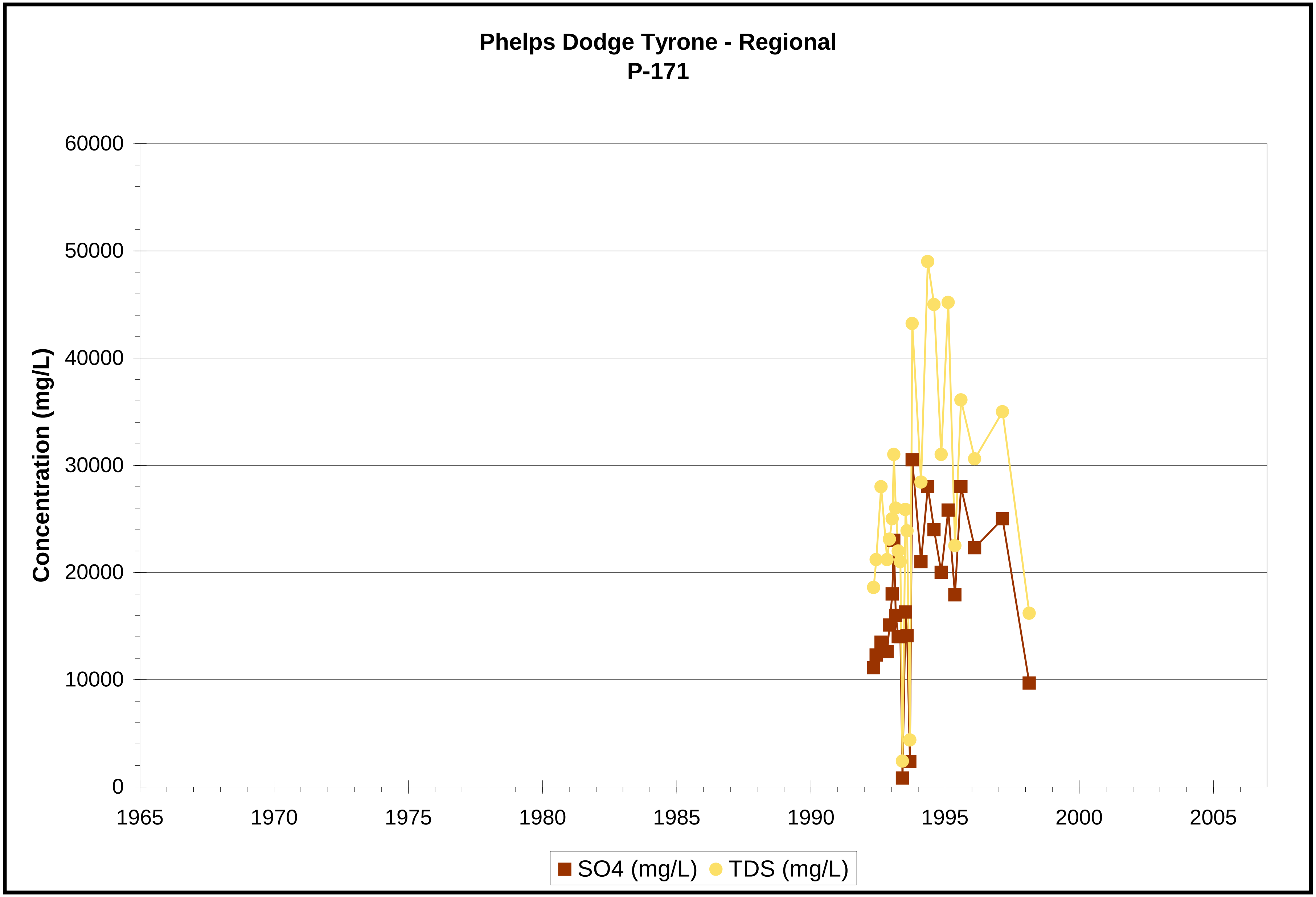


Phelps Dodge Tyrone - Regional
P-168
Concentration (mg/L)
0
500
1000
1500
2000
2500
3000
3500
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

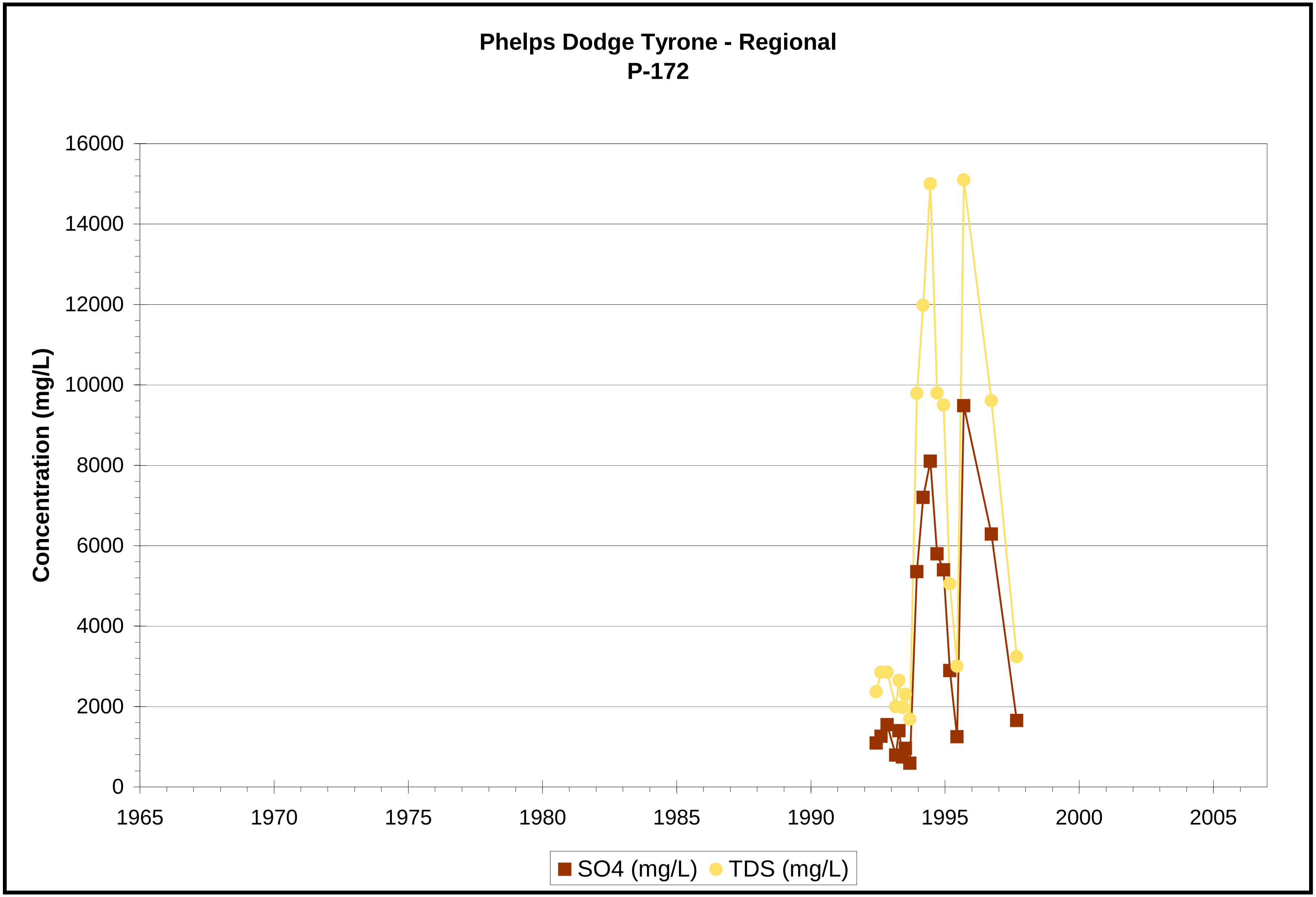

Phelps Dodge Tyrone - Regional
P-169
Concentration (mg/L)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



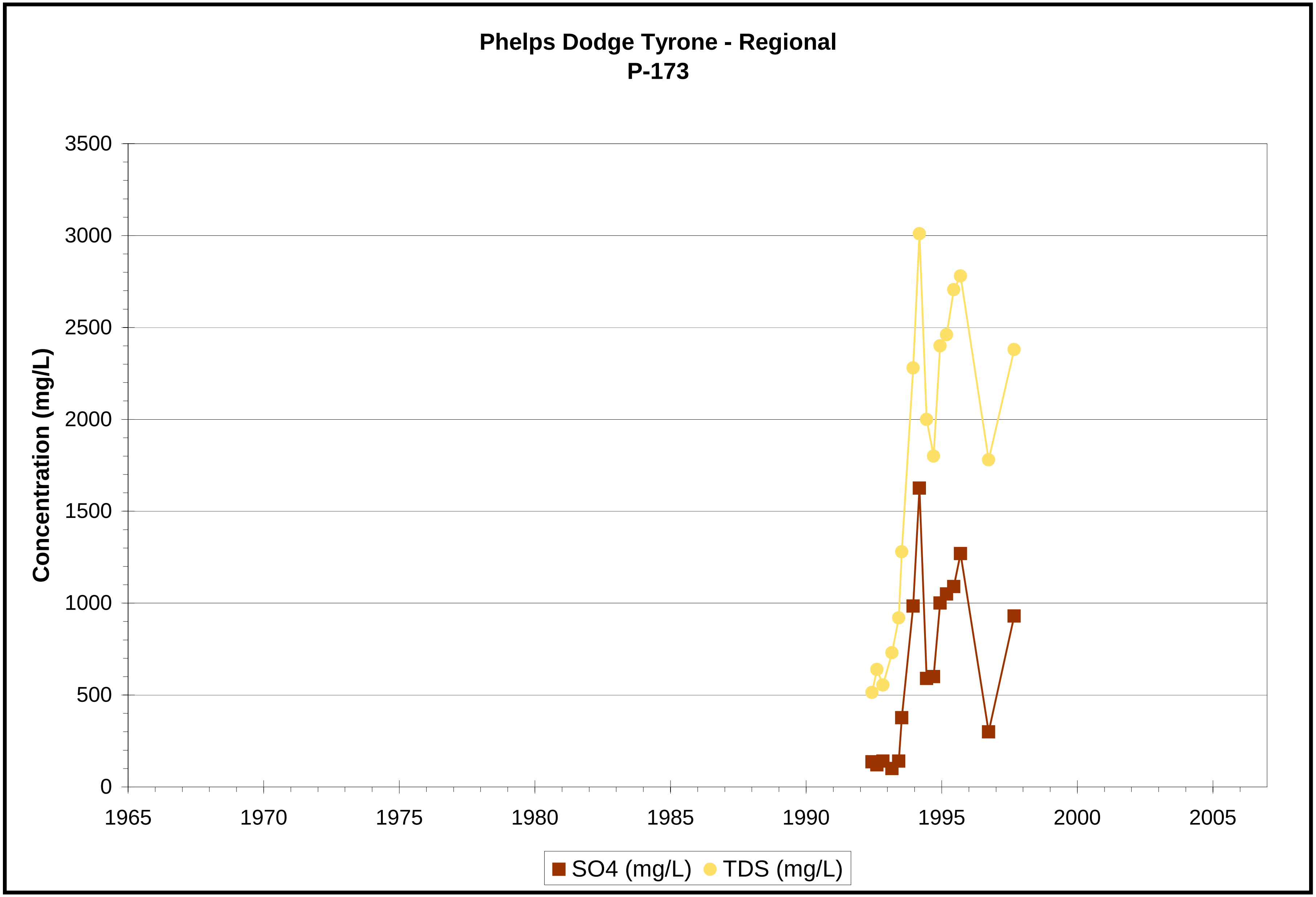
Phelps Dodge Tyrone - Regional
P-170
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



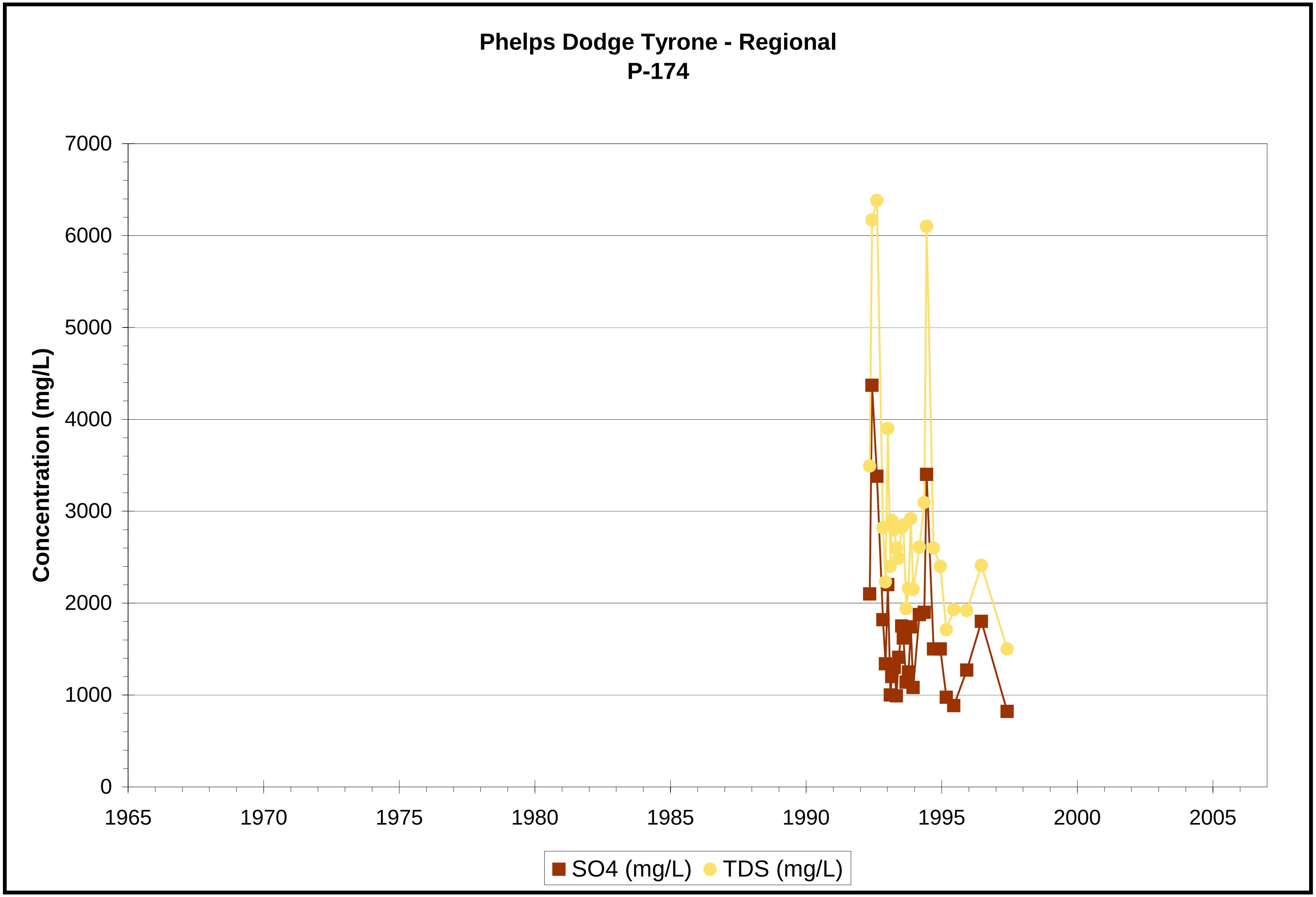
Phelps Dodge Tyrone - Regional
P-171
Concentration (mg/L)
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

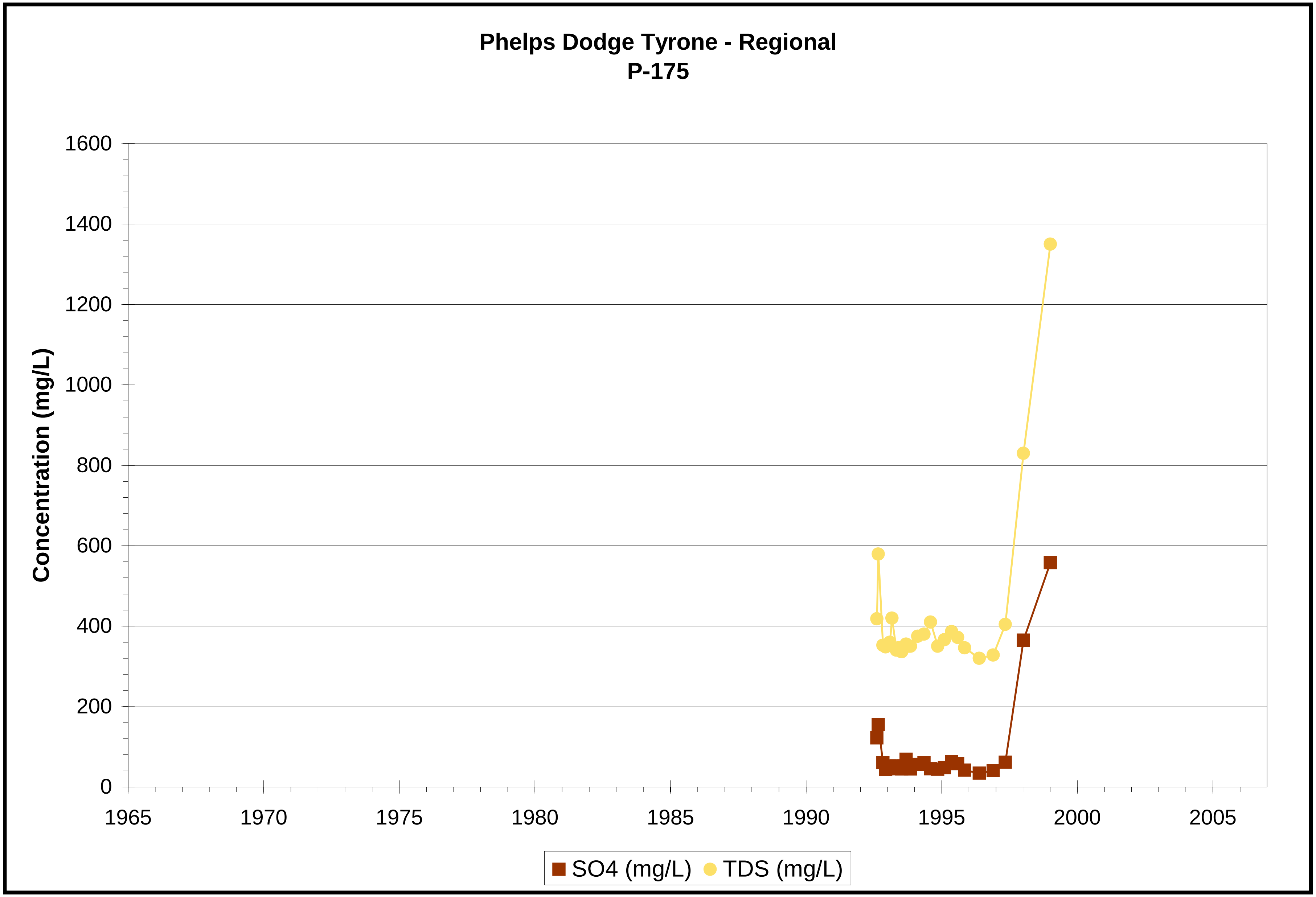


Phelps Dodge Tyrone - Regional
P-172
Concentration (mg/L)
16000
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

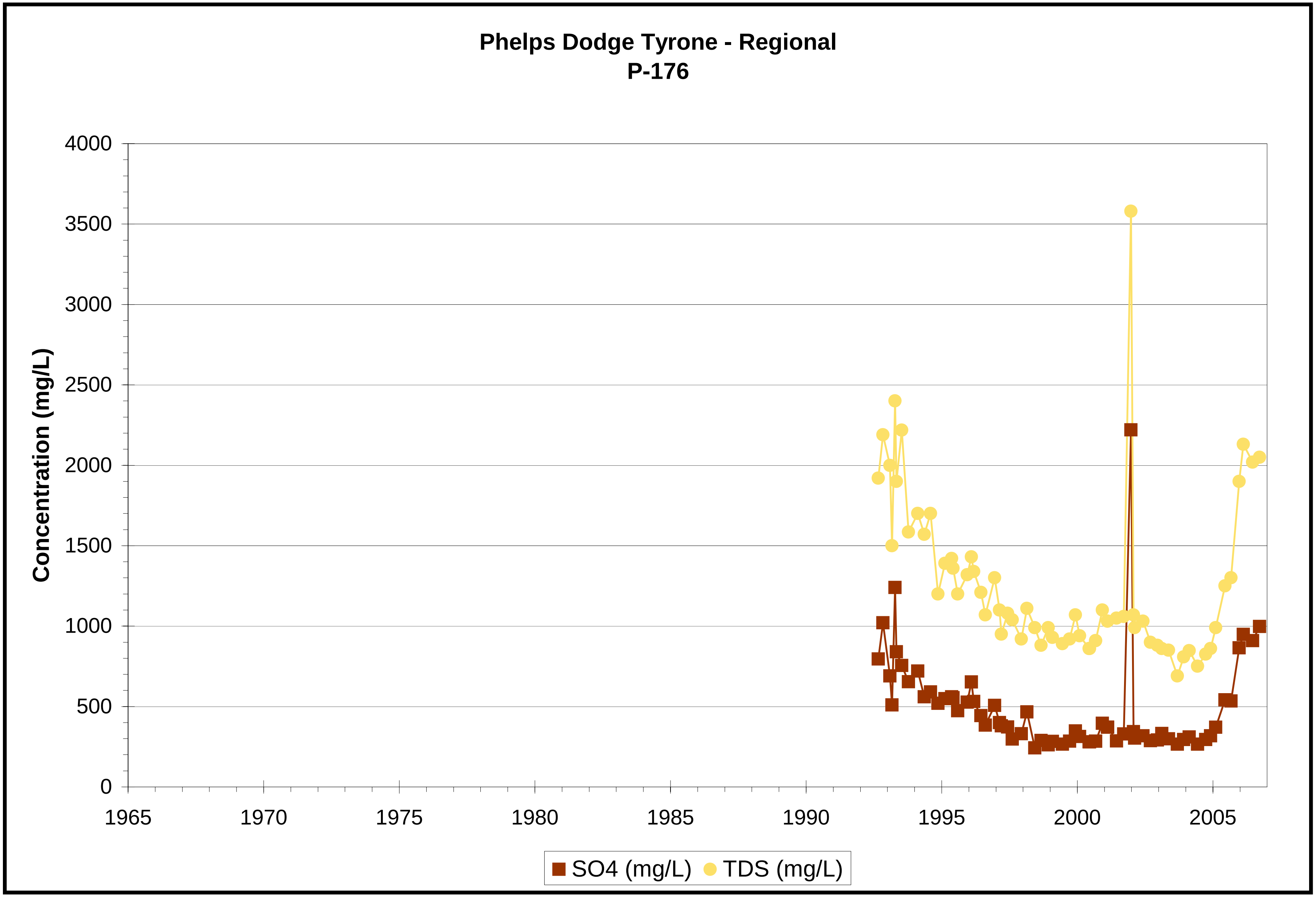


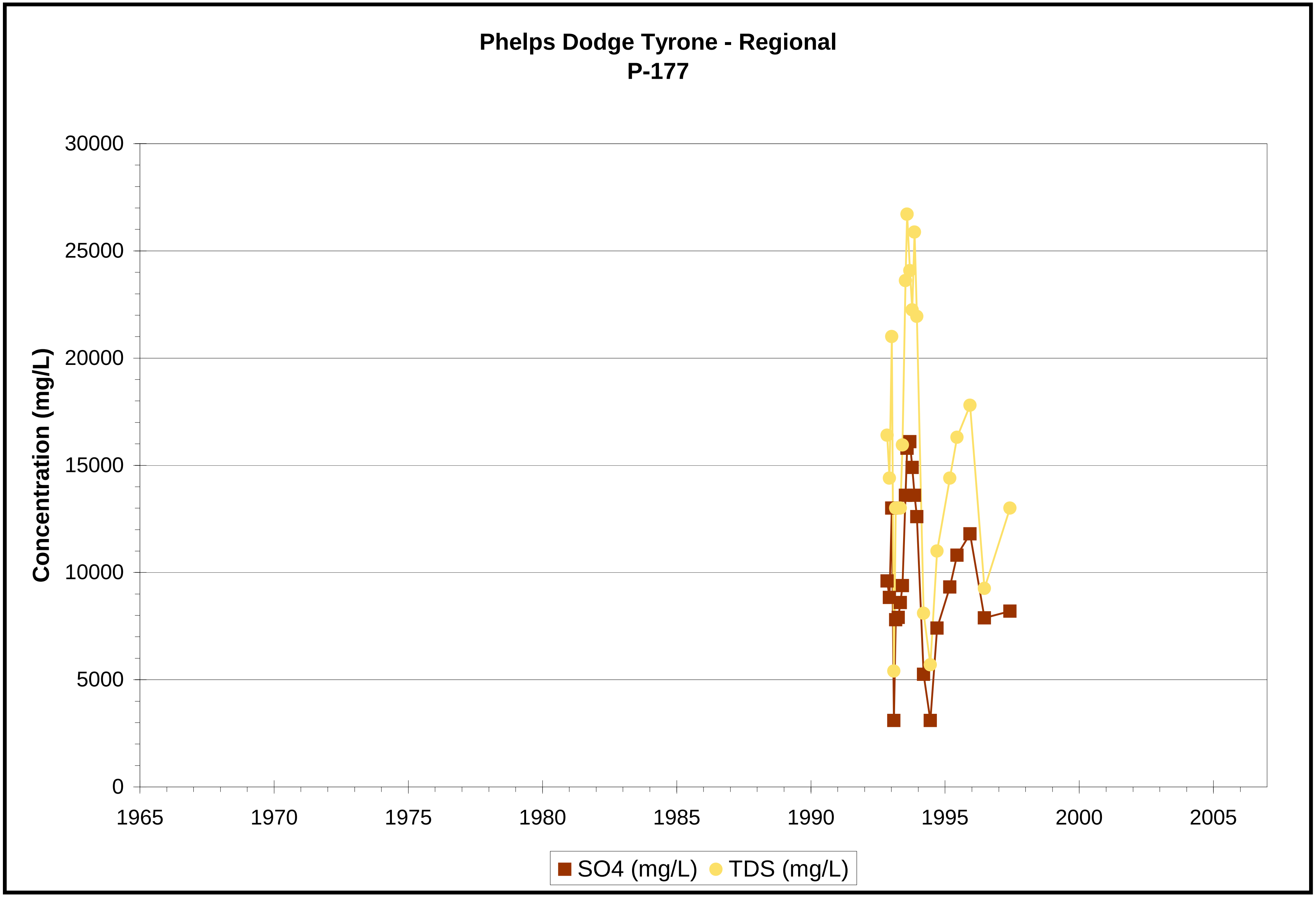
Phelps Dodge Tyrone - Regional
P-173
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

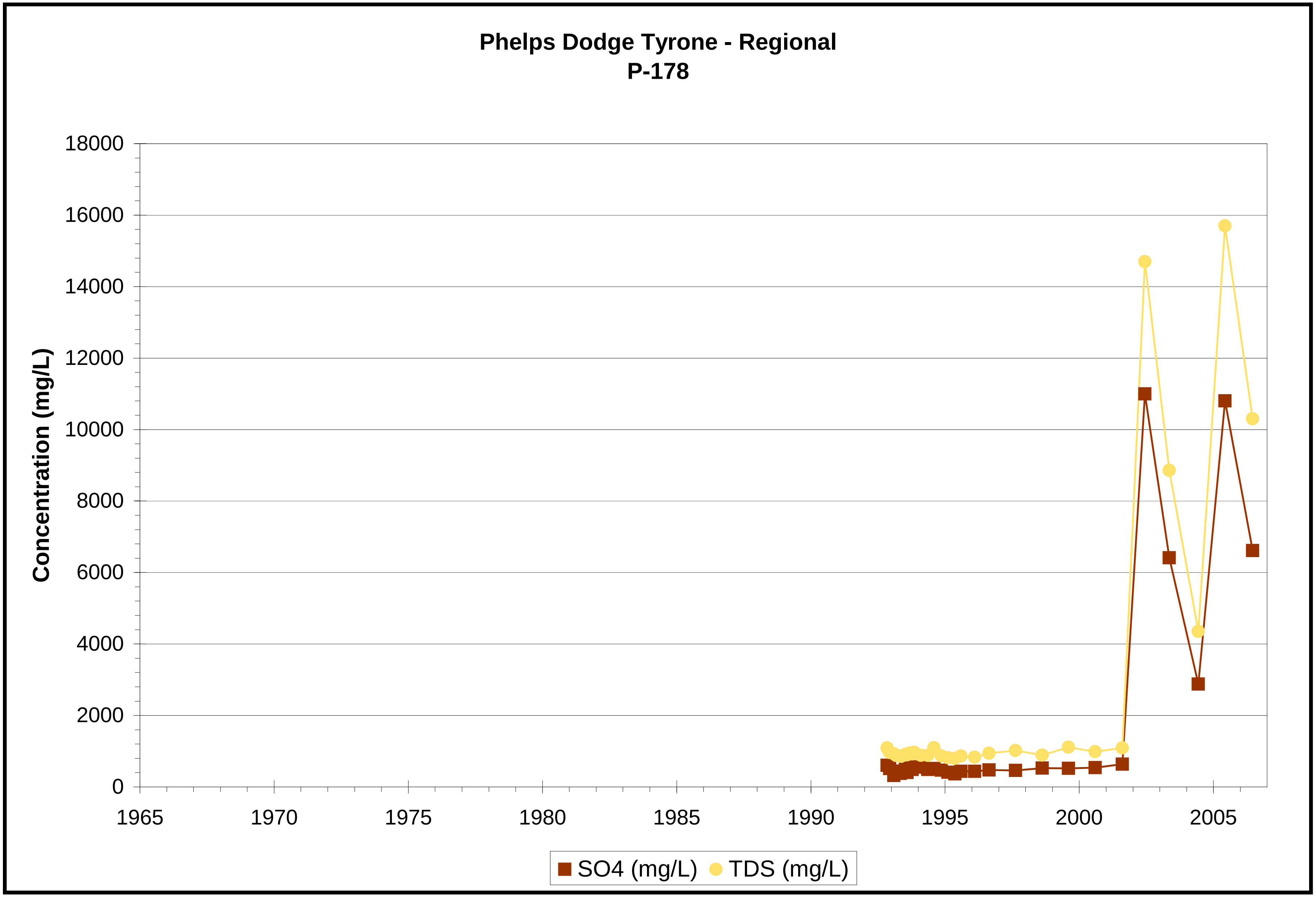

Phelps Dodge Tyrone - Regional
P-174
Concentration (mg/L)
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



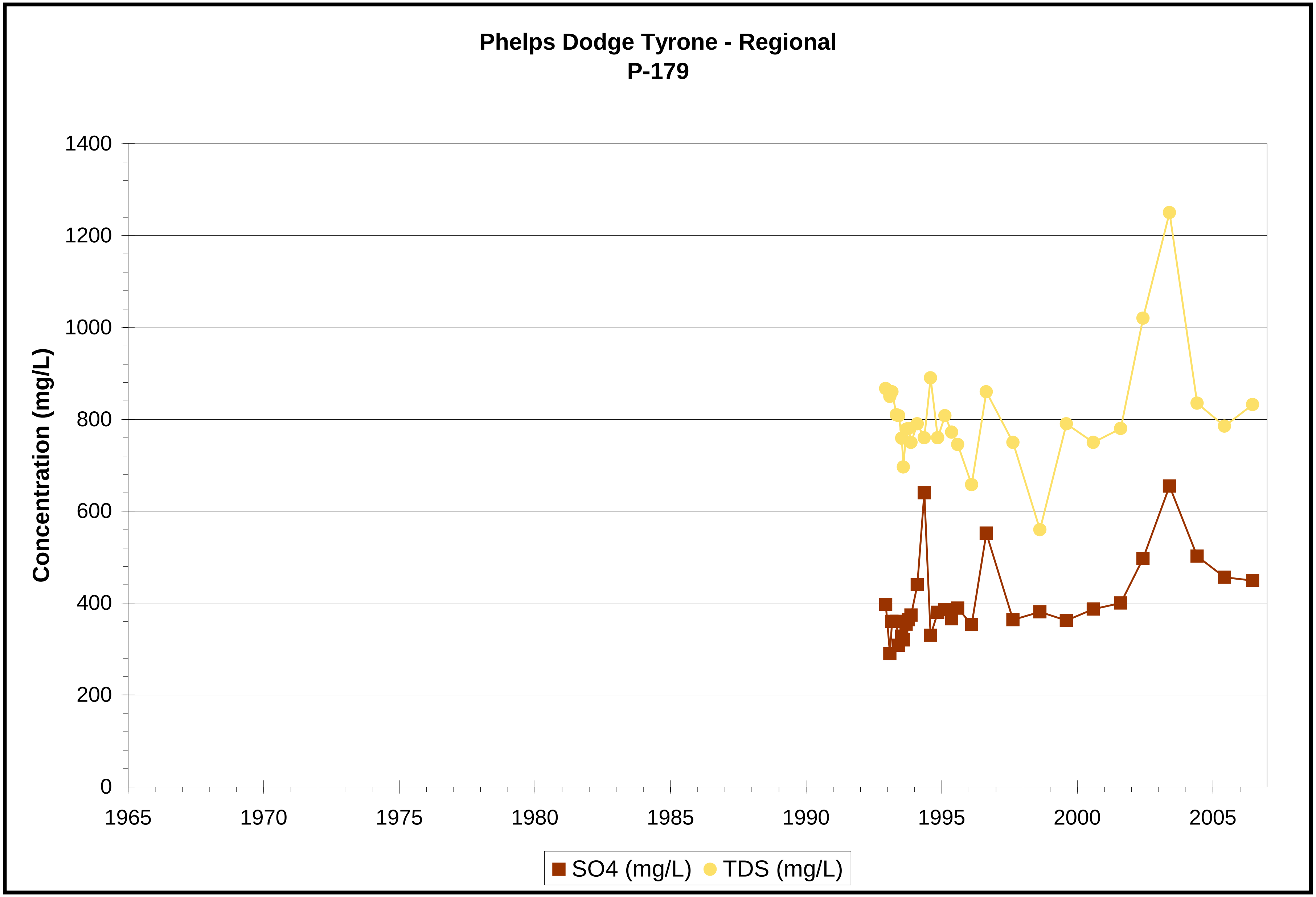
Phelps Dodge Tyrone - Regional
P-175
Concentration (mg/L)
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-176
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

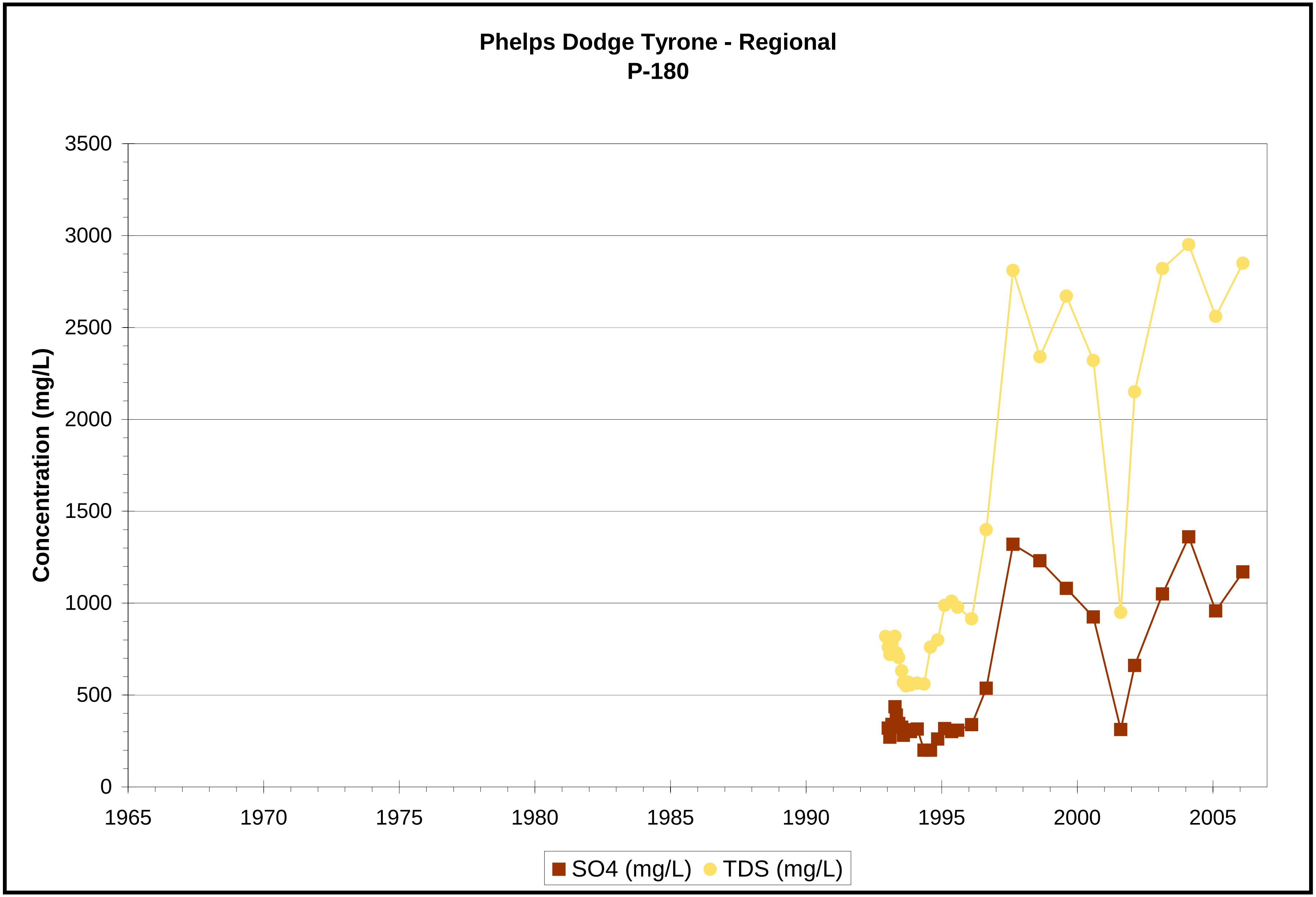

Phelps Dodge Tyrone - Regional
P-177
Concentration (mg/L)
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



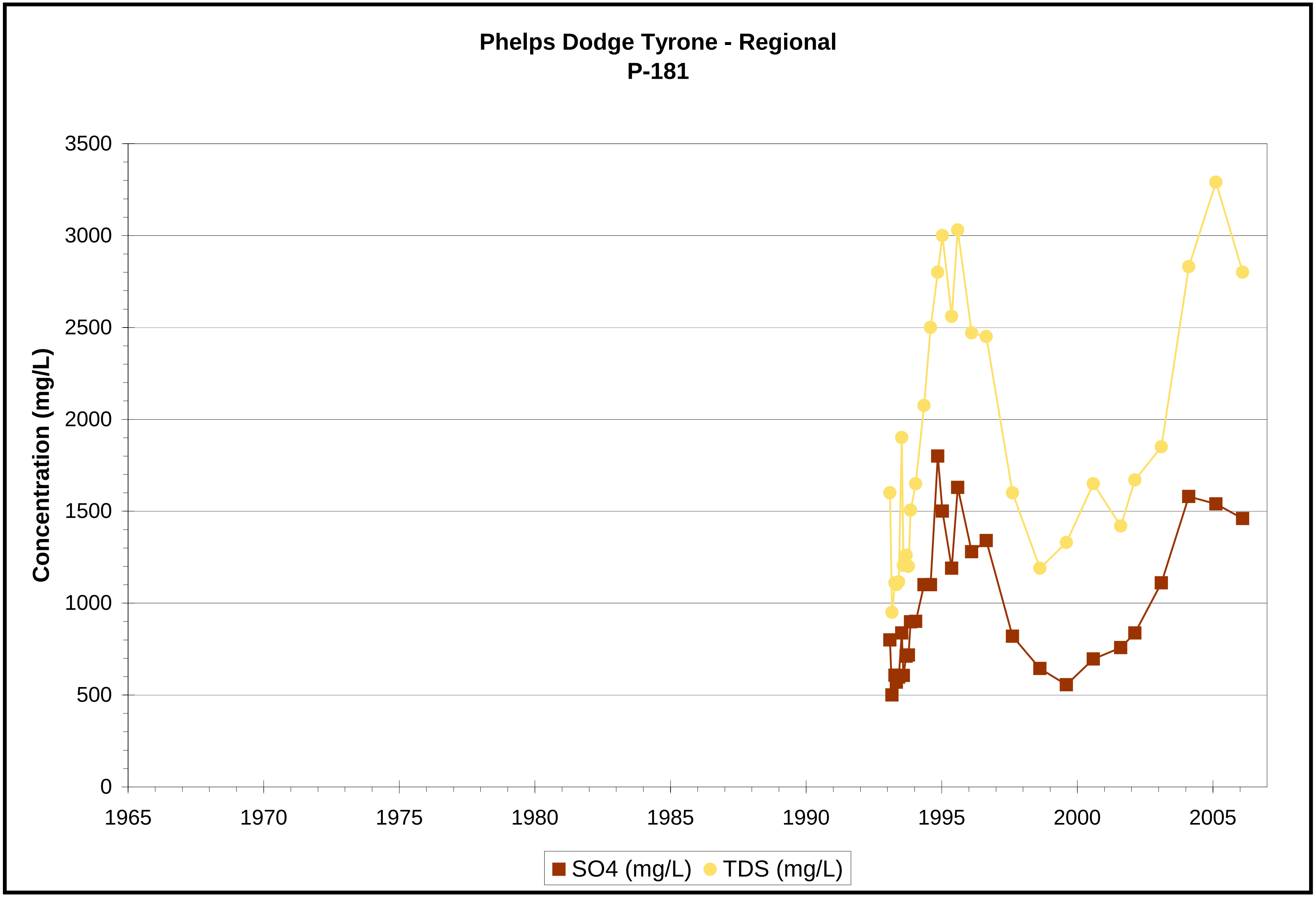
Phelps Dodge Tyrone - Regional
P-178
Concentration (mg/L)
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



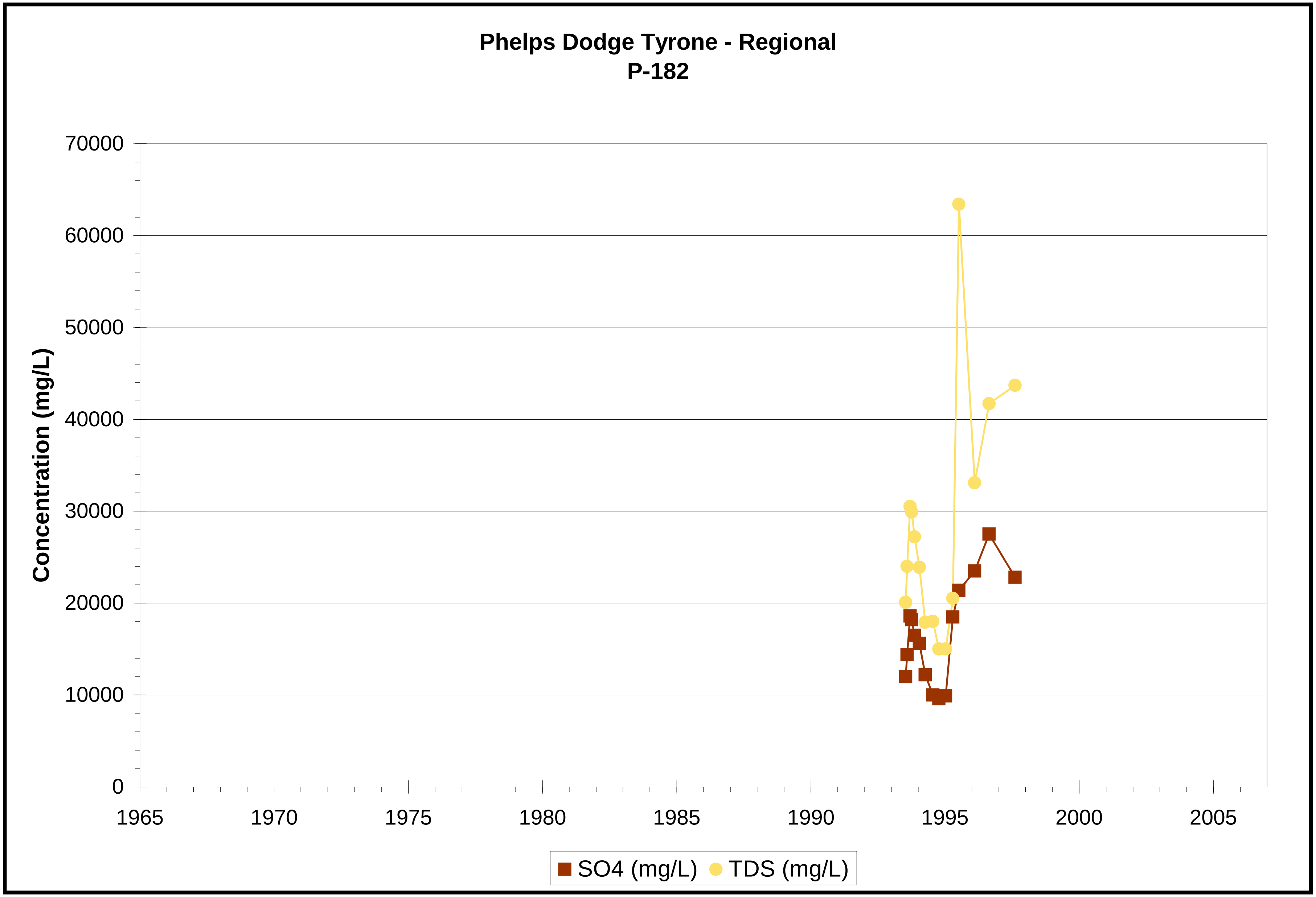
Phelps Dodge Tyrone - Regional
P-179
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



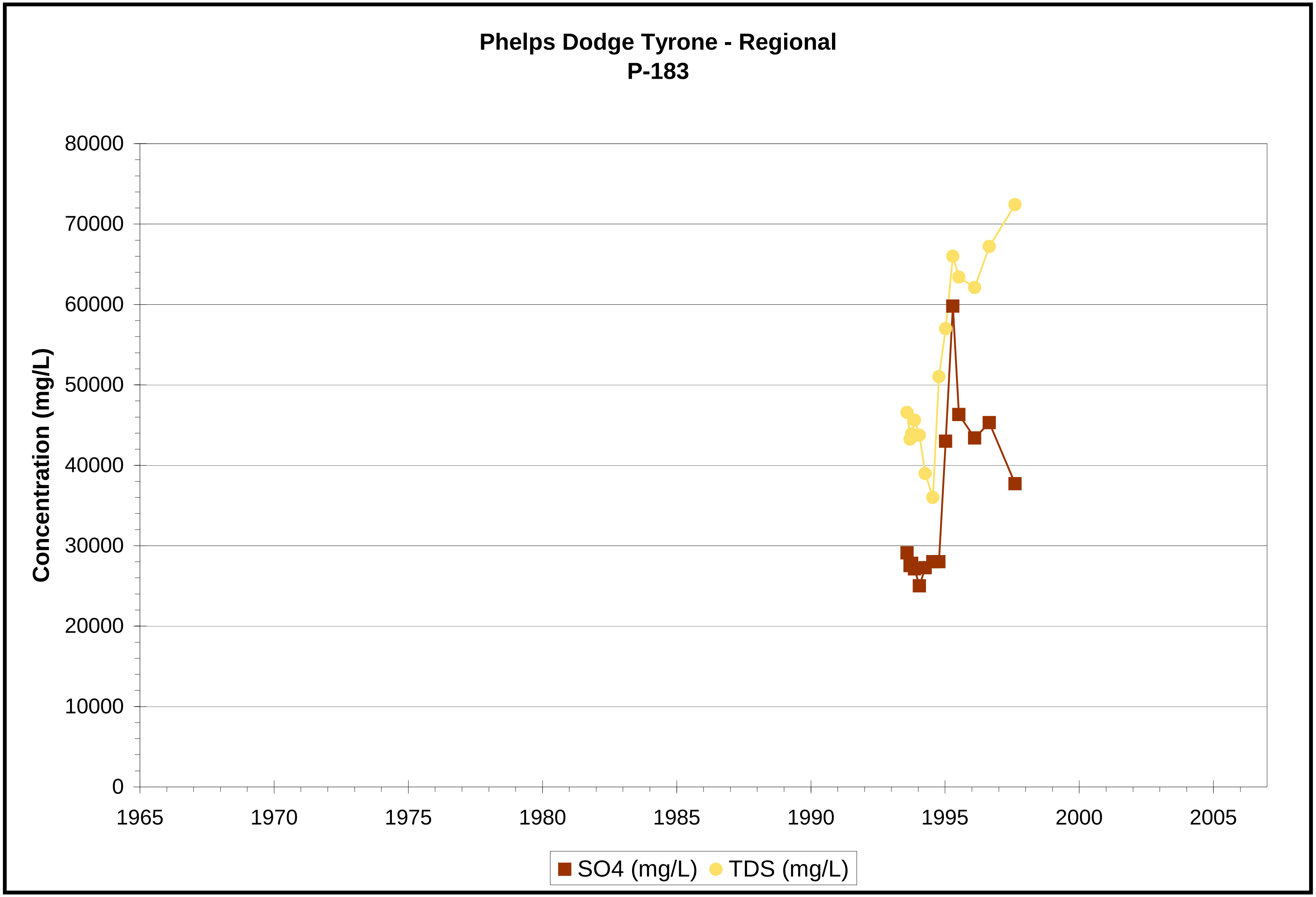
Phelps Dodge Tyrone - Regional
P-180
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



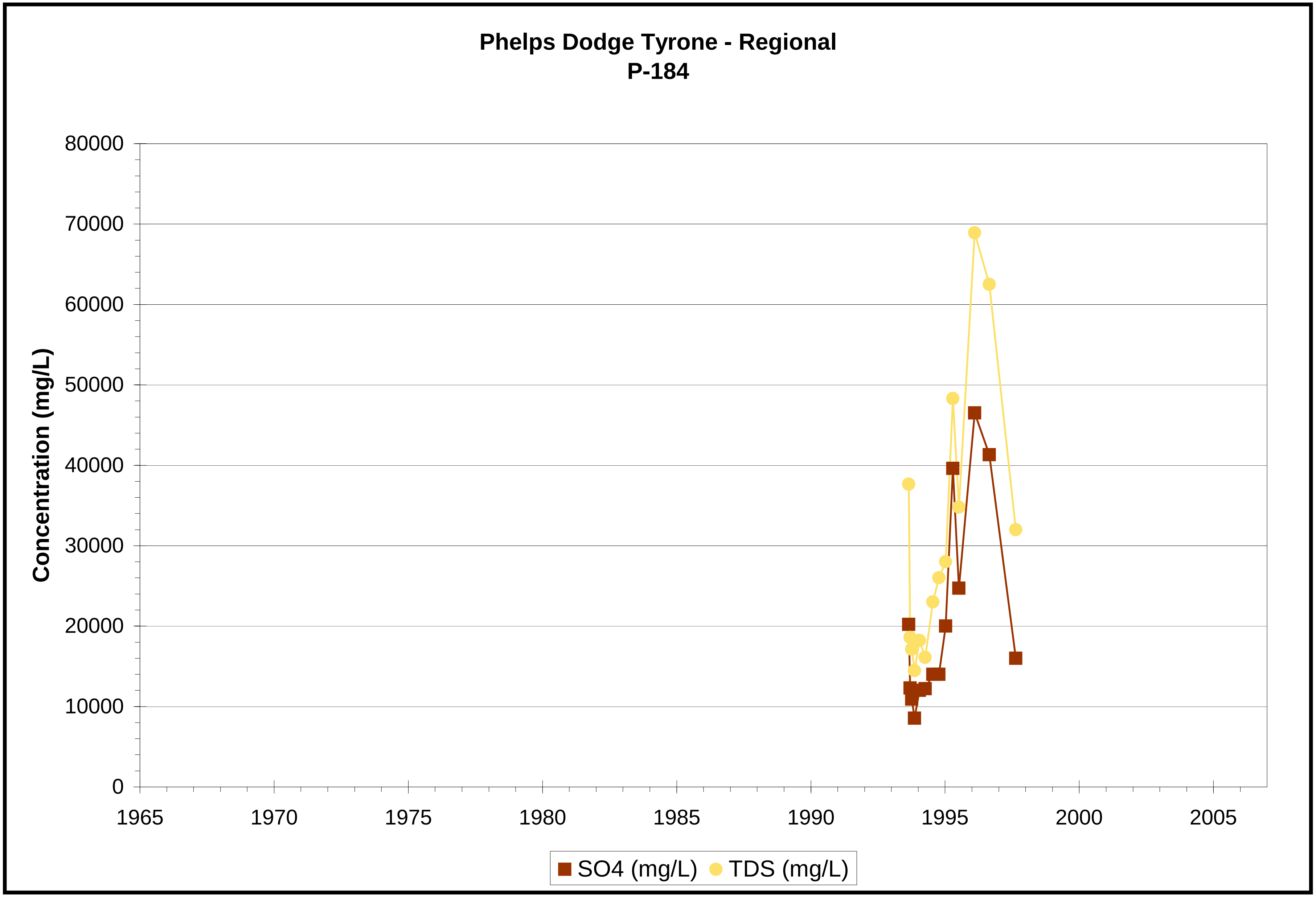
Phelps Dodge Tyrone - Regional
P-181
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



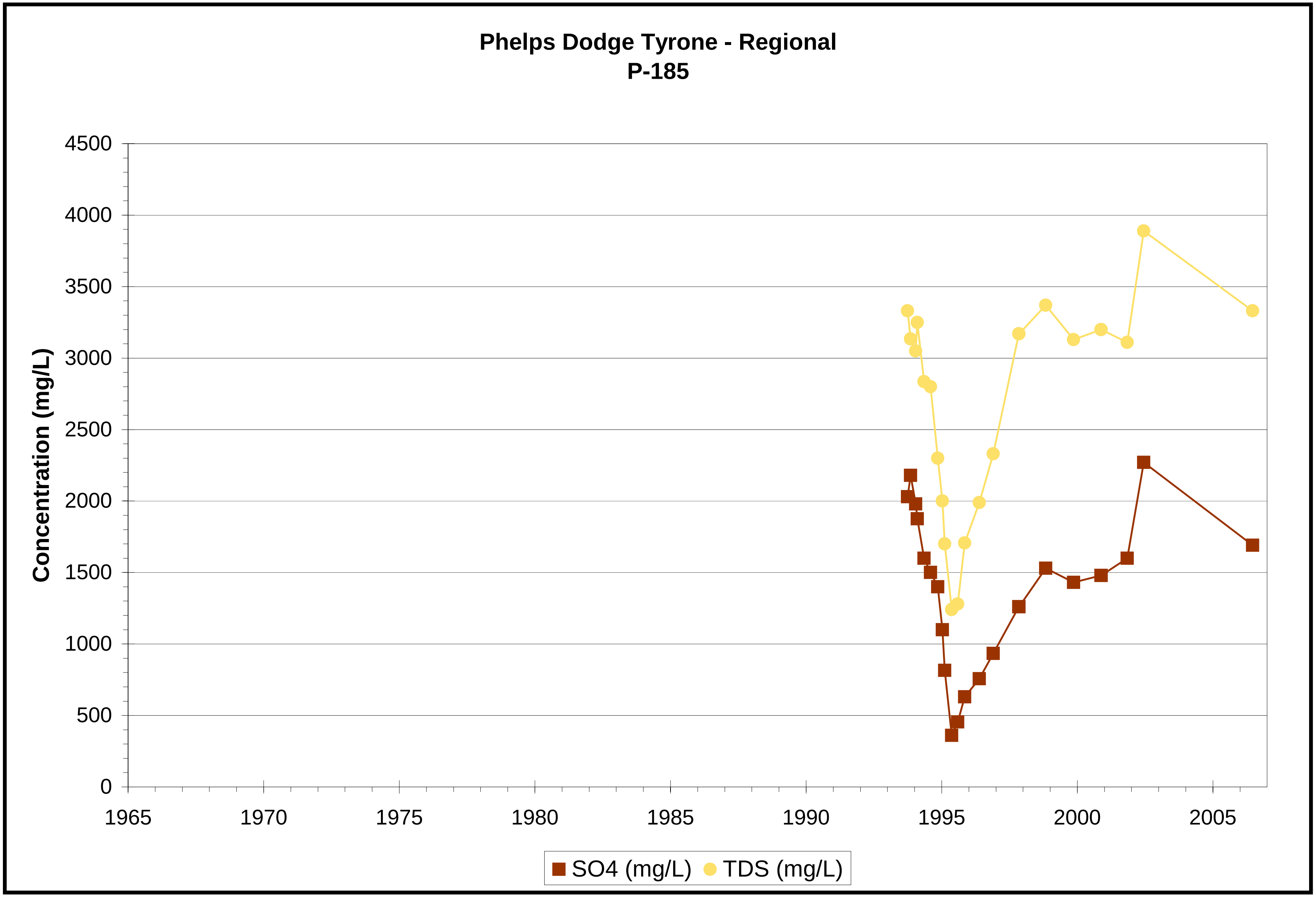
Phelps Dodge Tyrone - Regional
P-182
Concentration (mg/L)
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

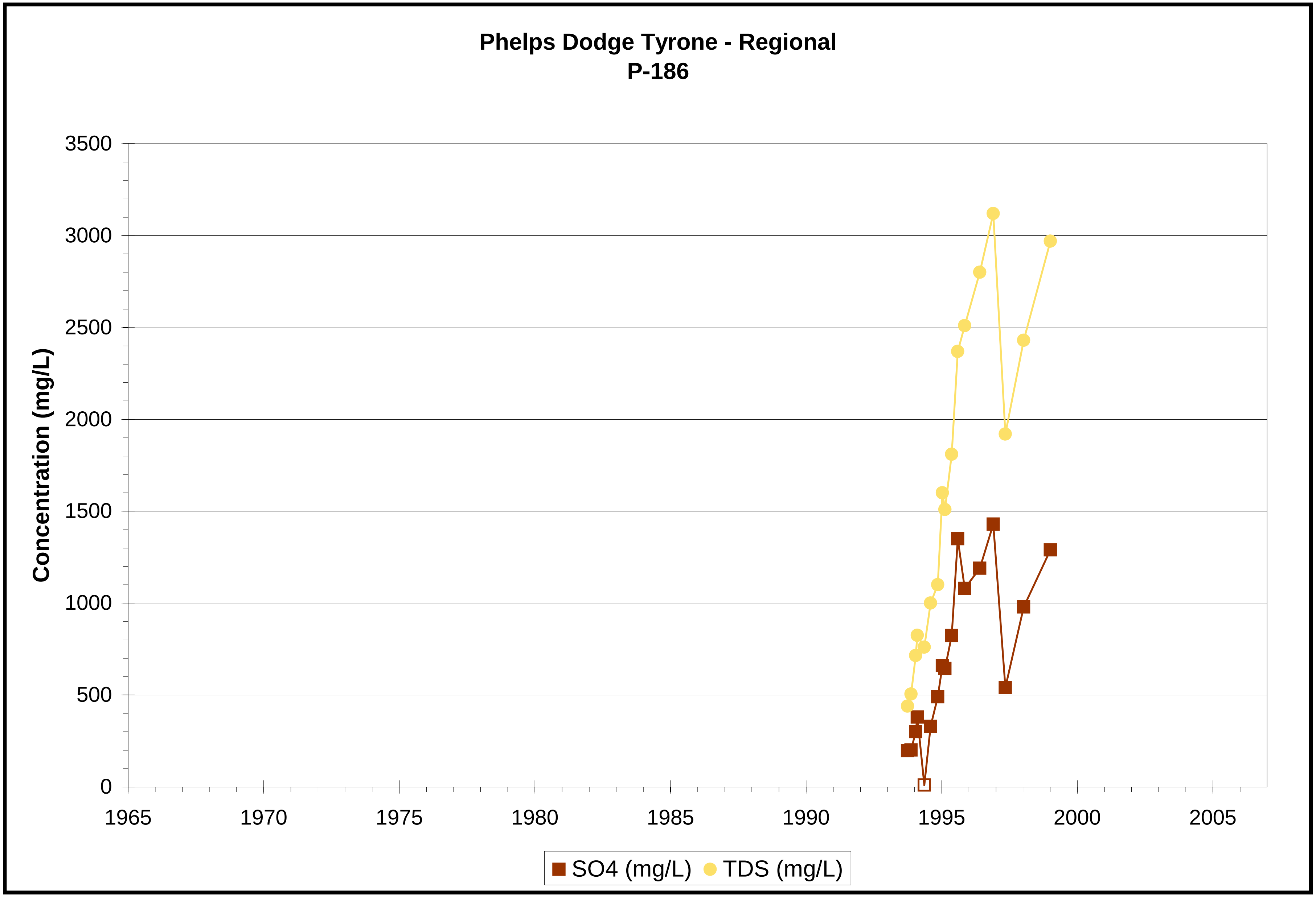


Phelps Dodge Tyrone - Regional
P-183
Concentration (mg/L)
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

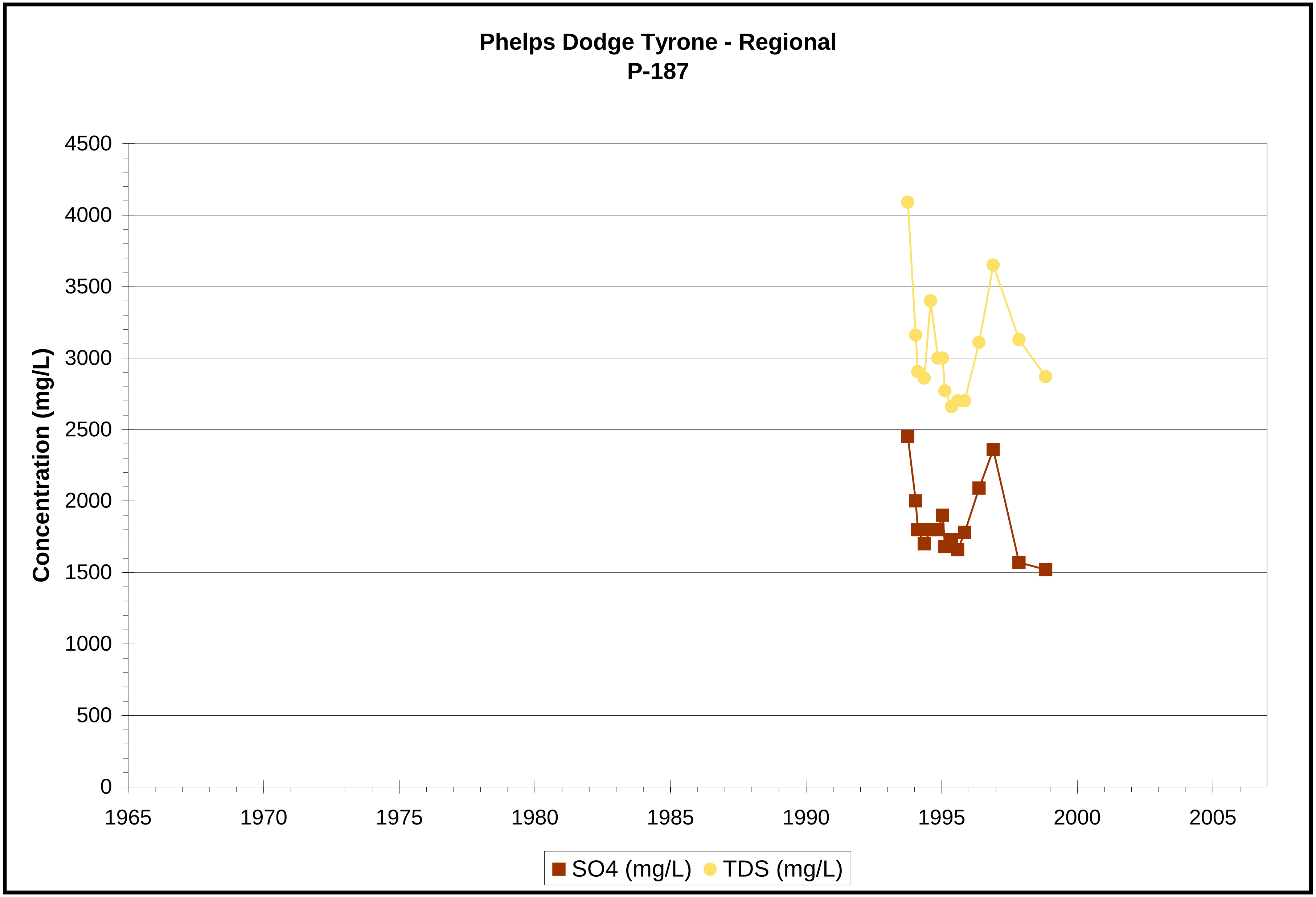


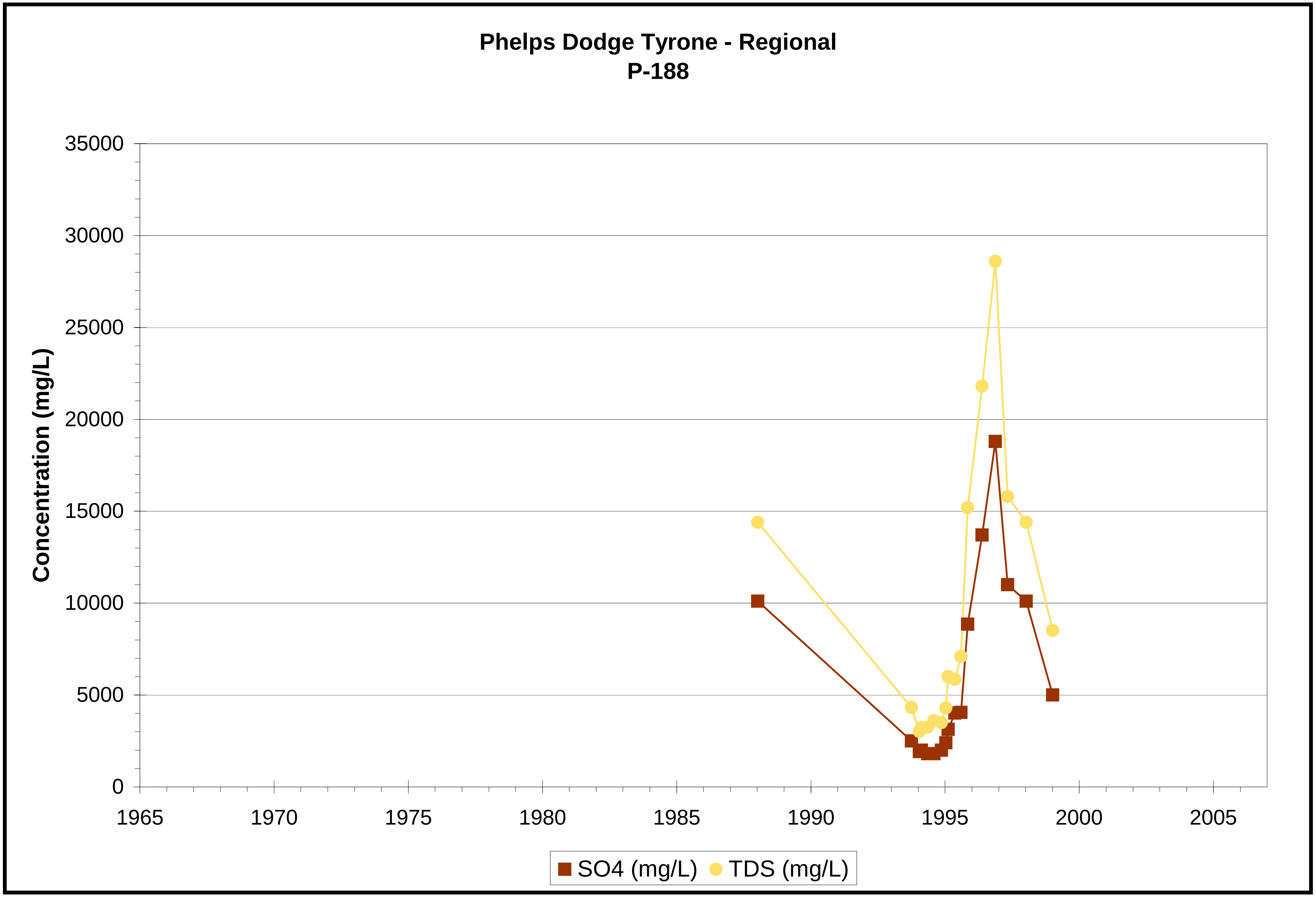
Phelps Dodge Tyrone - Regional
P-184
Concentration (mg/L)
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-185
Concentration (mg/L)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

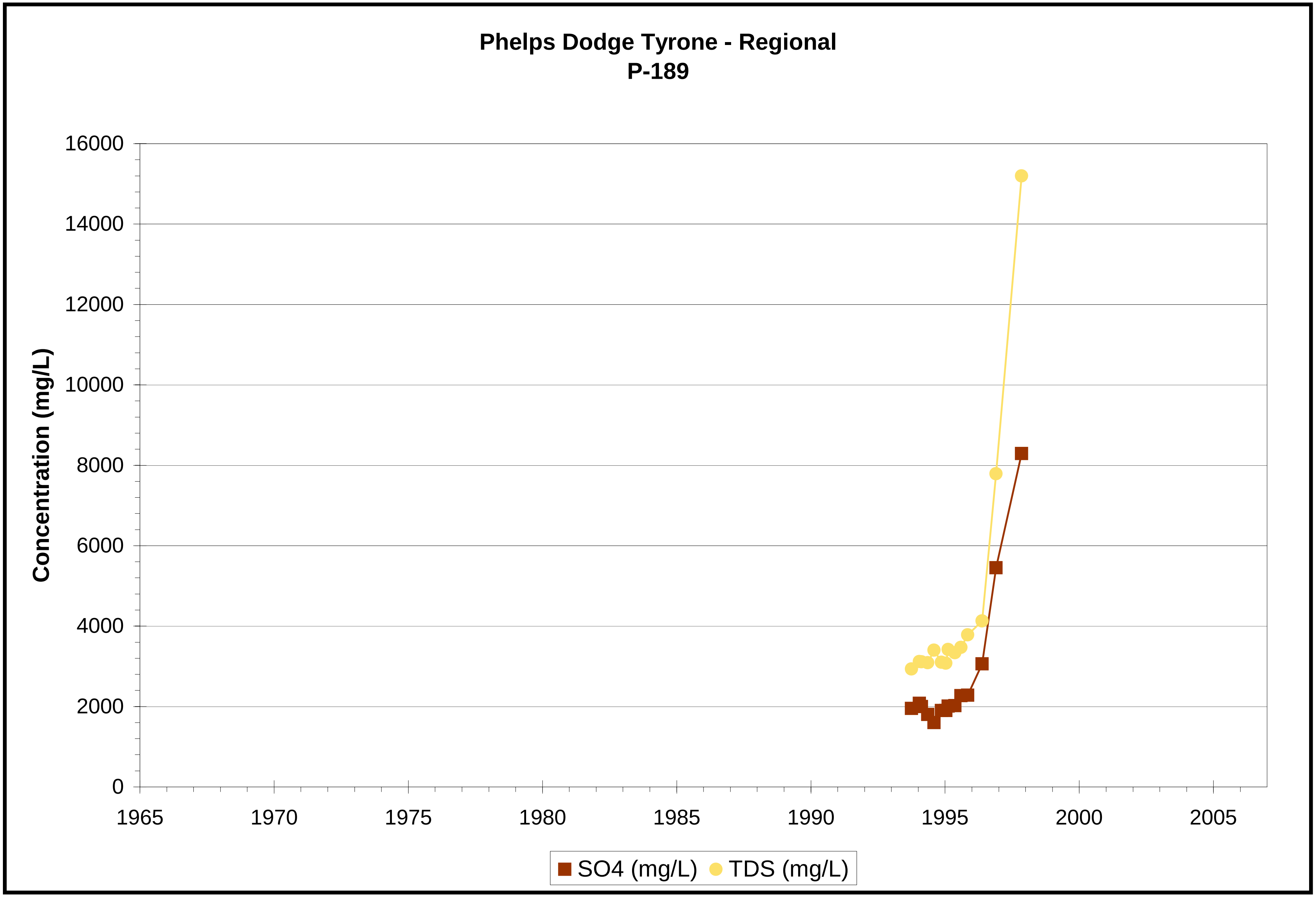


Phelps Dodge Tyrone - Regional
P-186
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

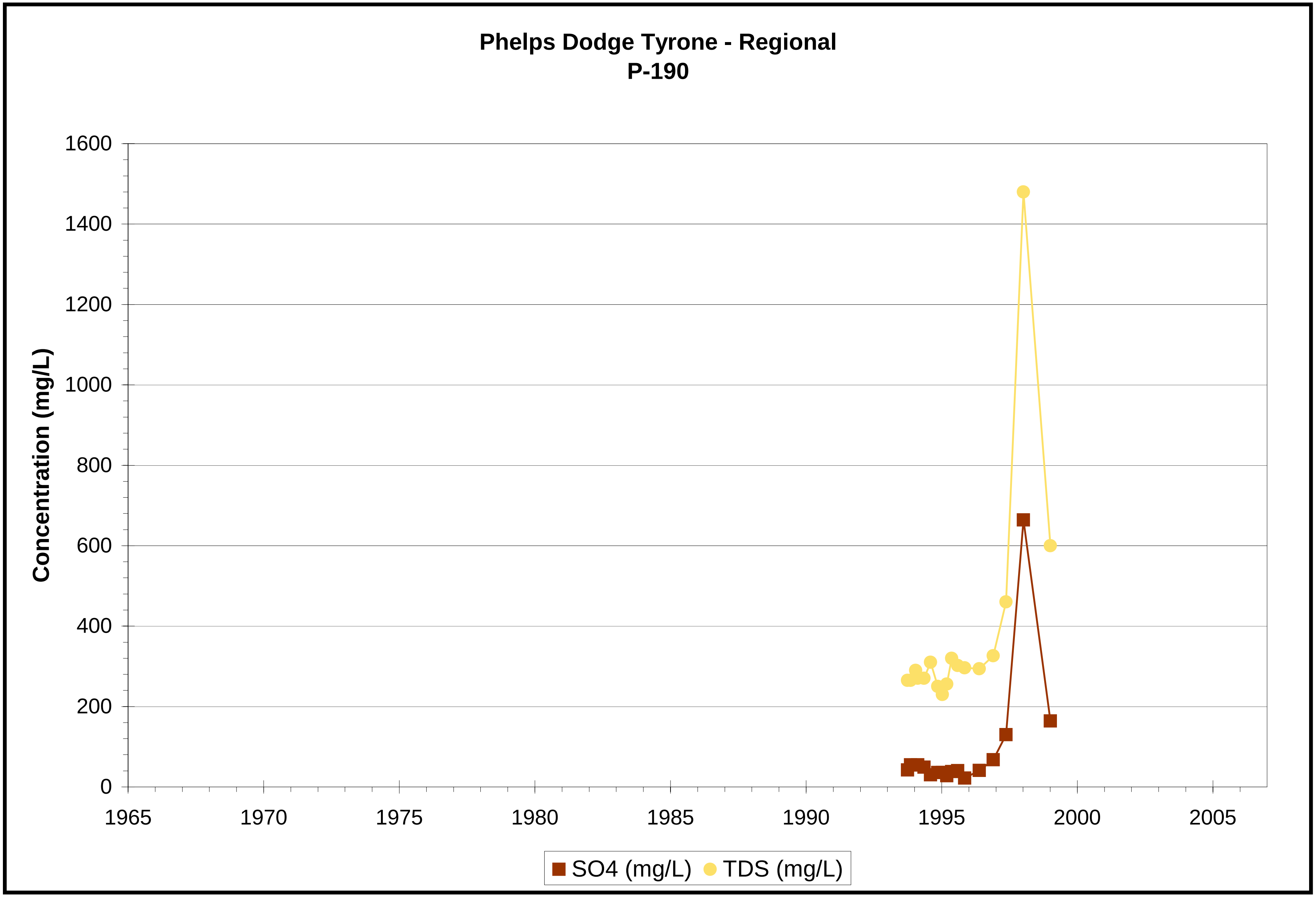

Phelps Dodge Tyrone - Regional
P-187
Concentration (mg/L)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



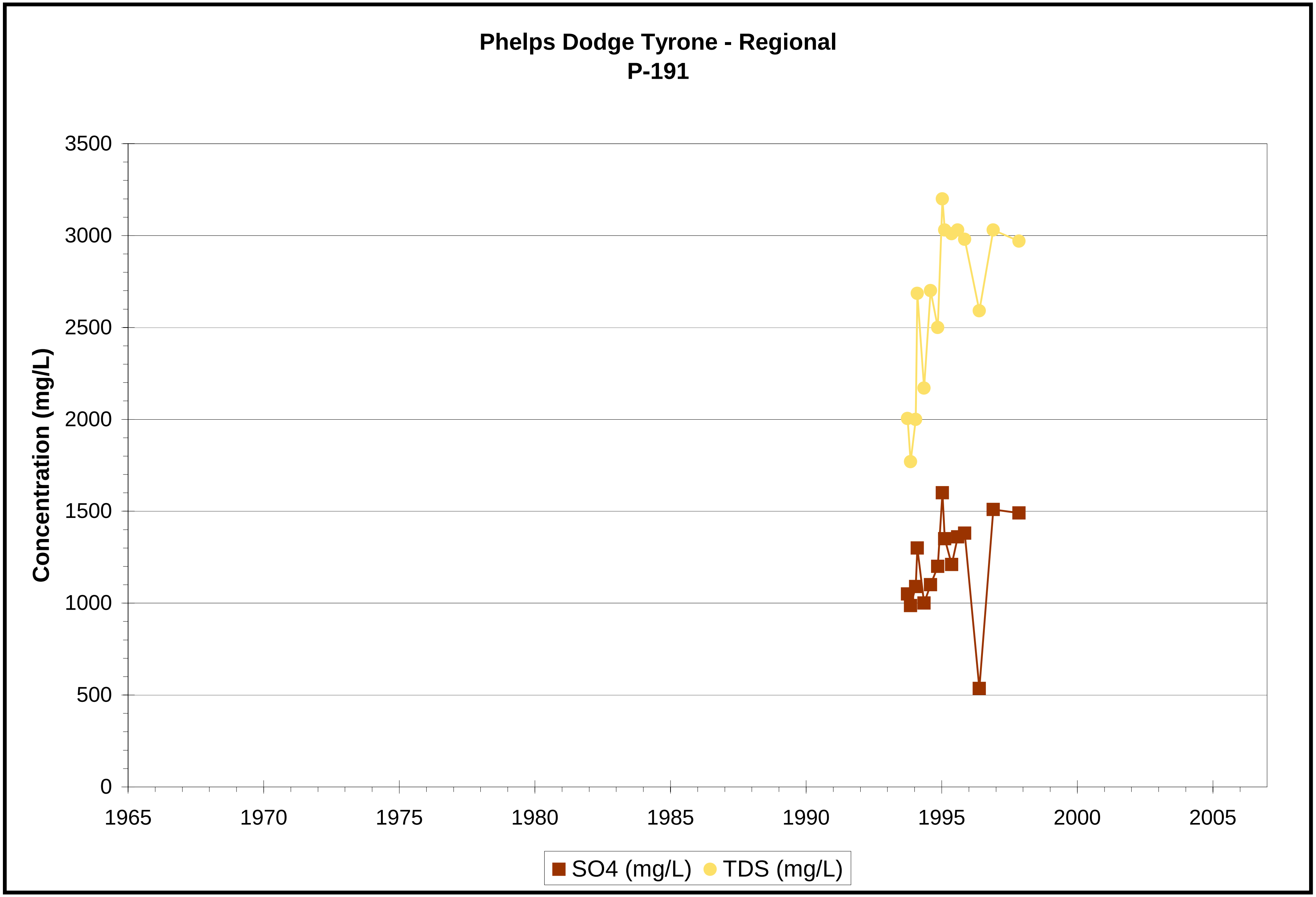
Phelps Dodge Tyrone - Regional
P-188
Concentration (mg/L)
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



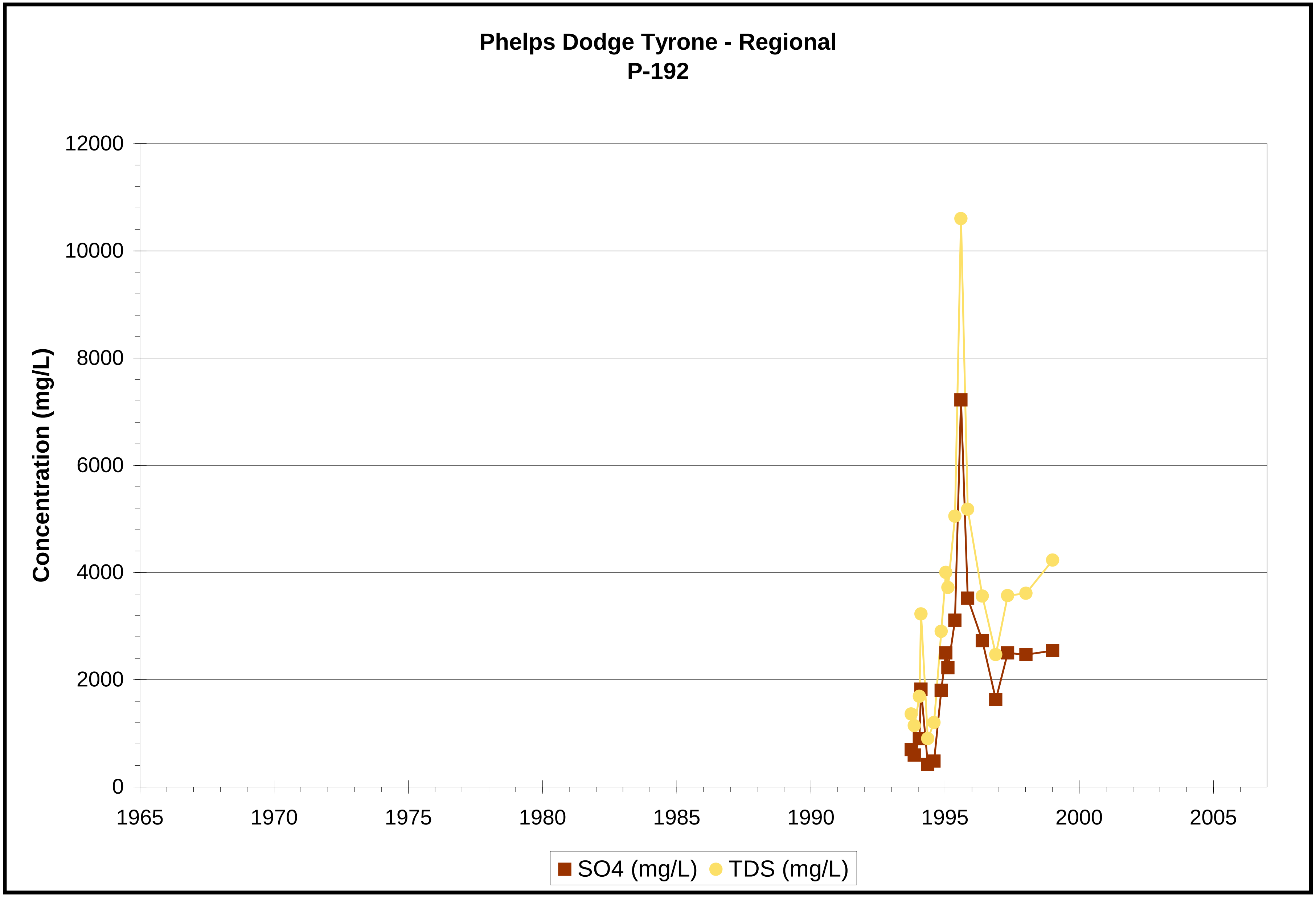
Phelps Dodge Tyrone - Regional
P-189
Concentration (mg/L)
16000
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

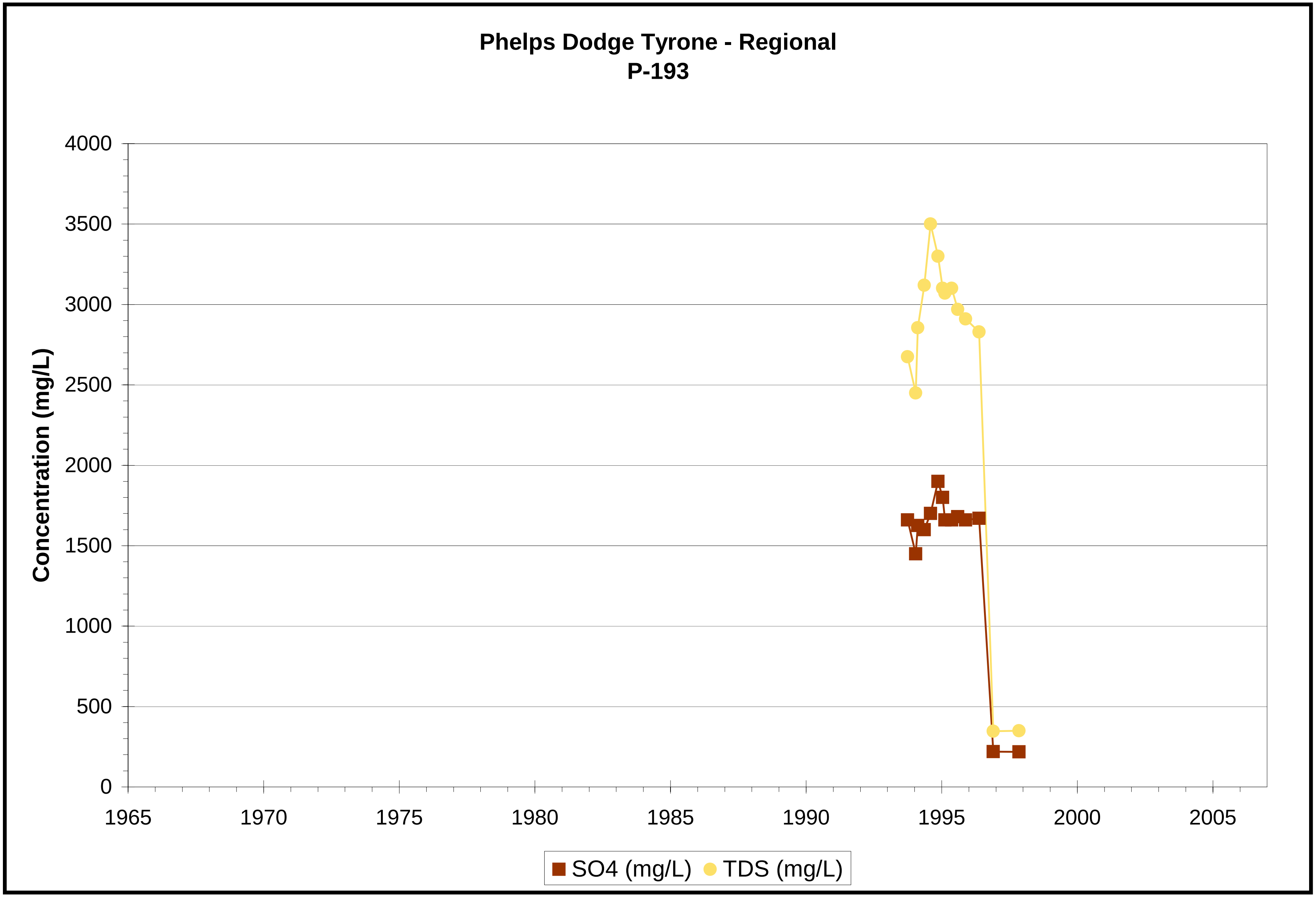


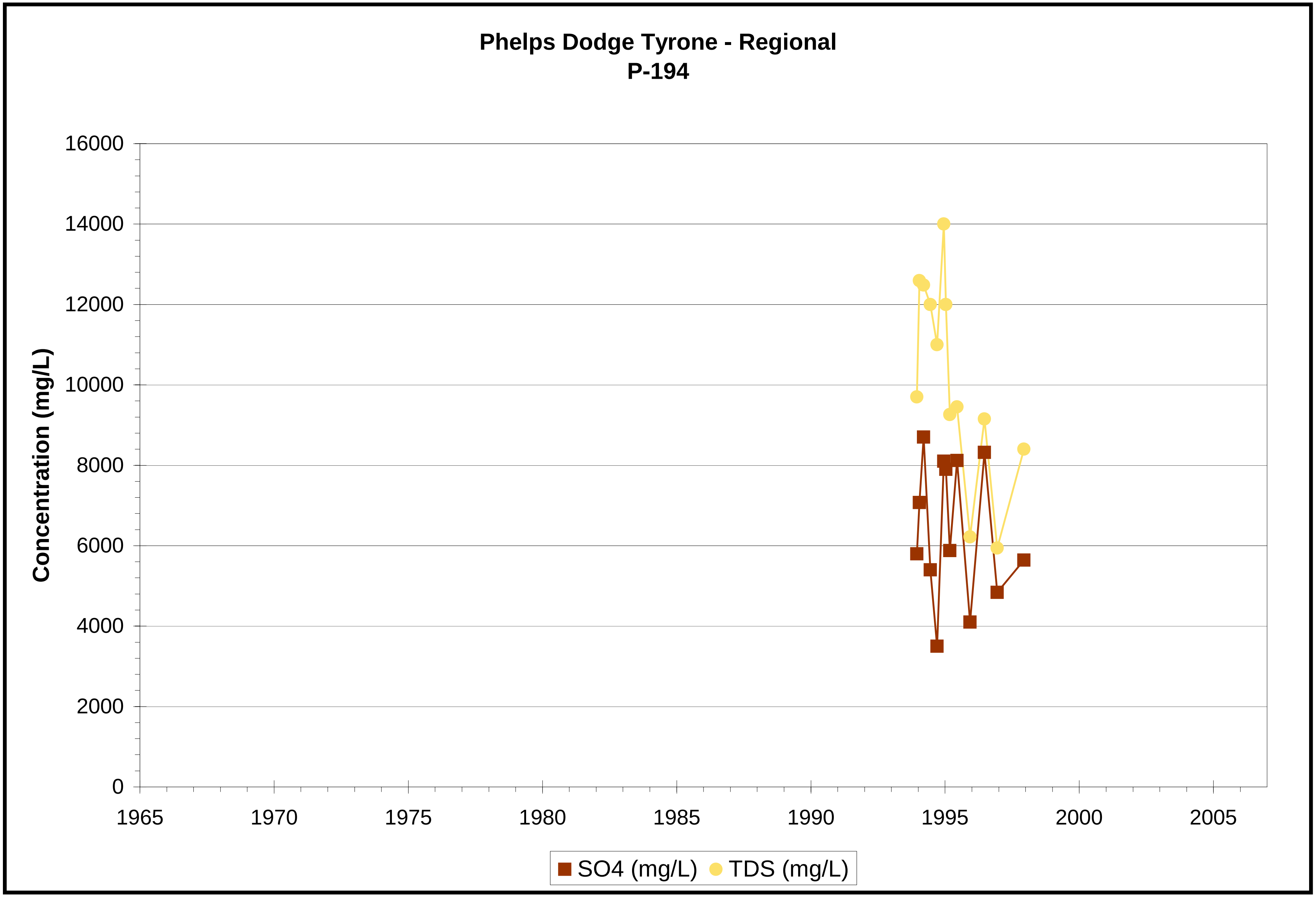
Phelps Dodge Tyrone - Regional
P-190
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

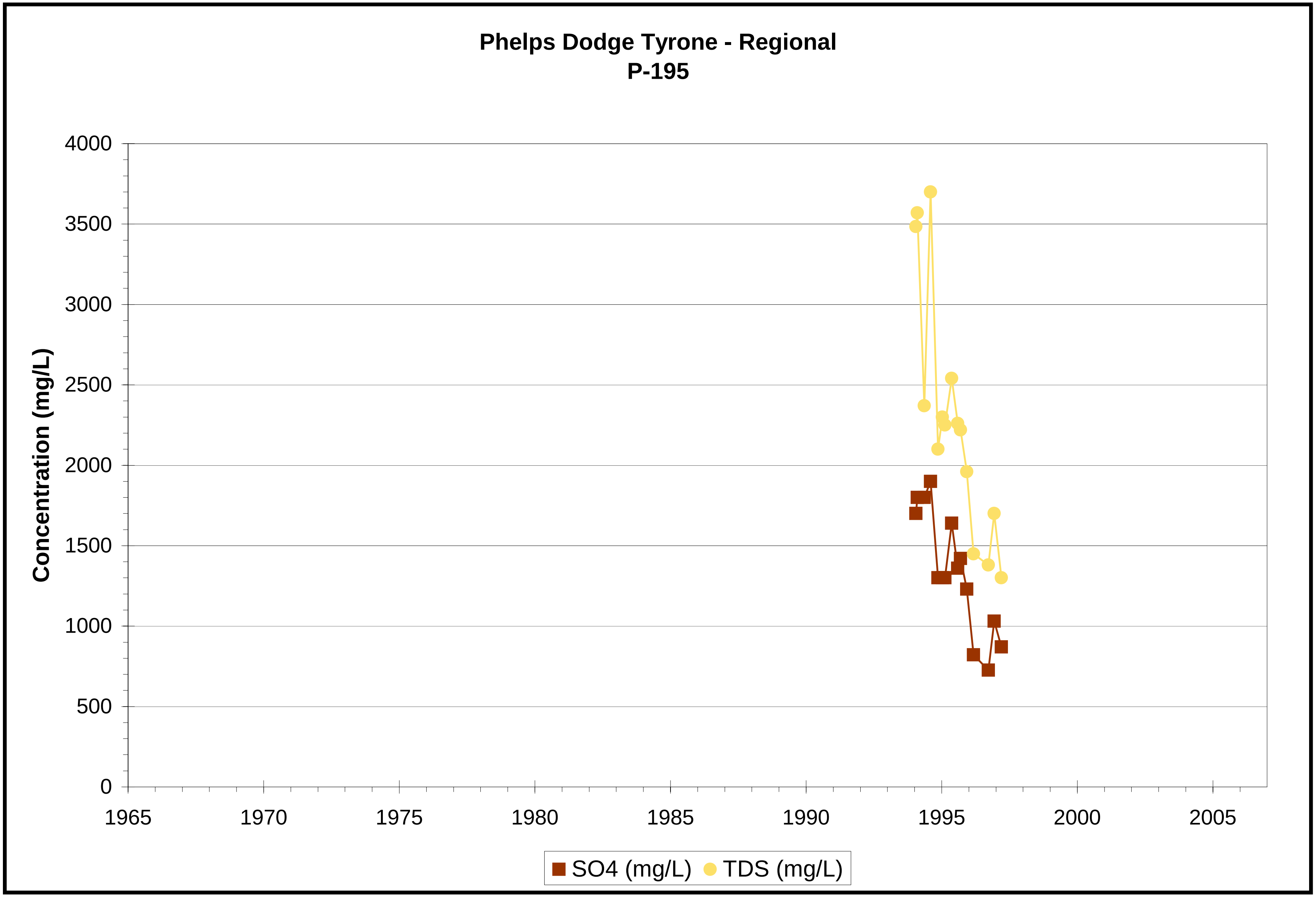


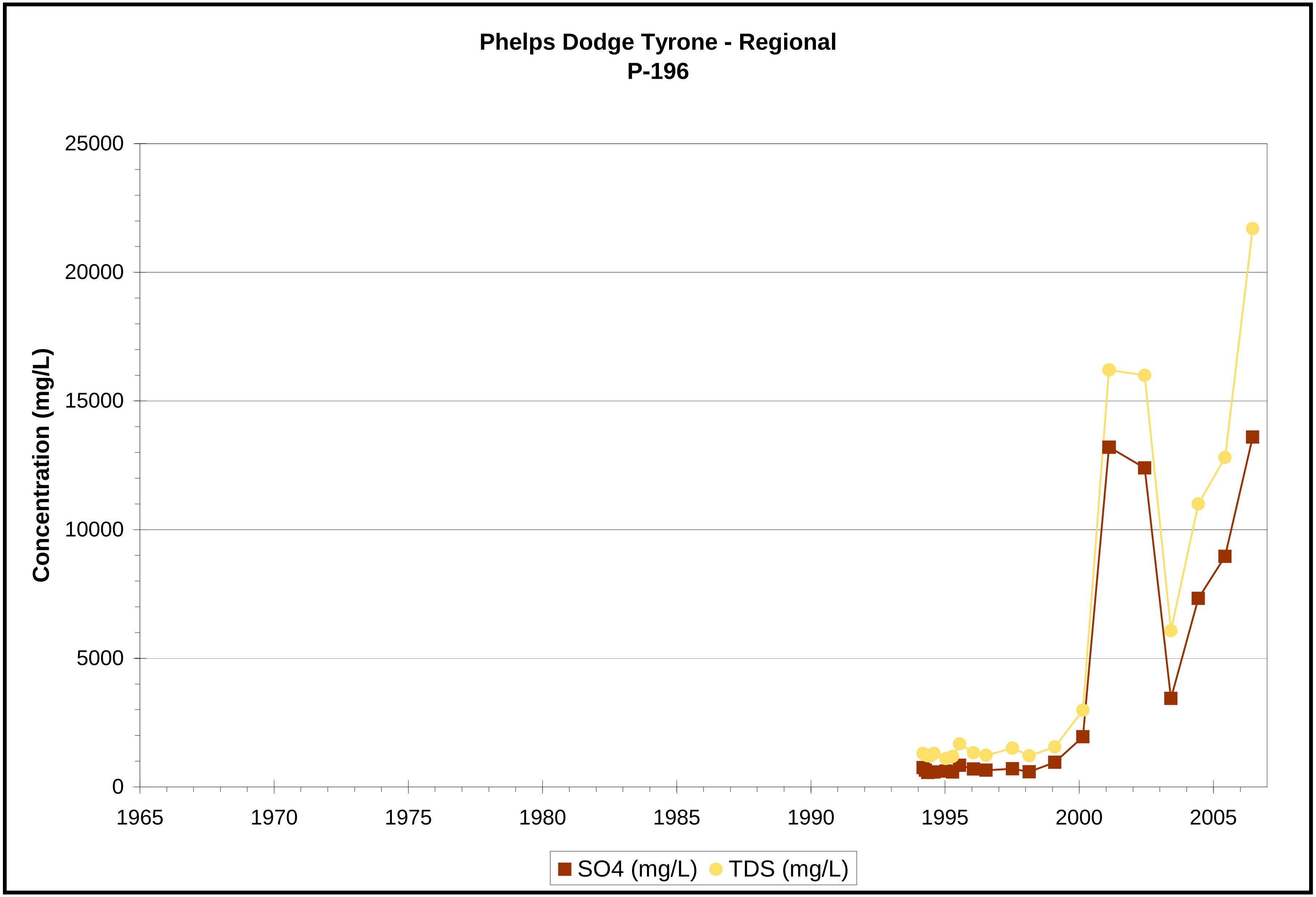
Phelps Dodge Tyrone - Regional
P-191
Concentration (mg/L)
0
500
1000
1500
2000
2500
3000
3500
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-192
Concentration (mg/L)
0
2000
4000
6000
8000
10000
12000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

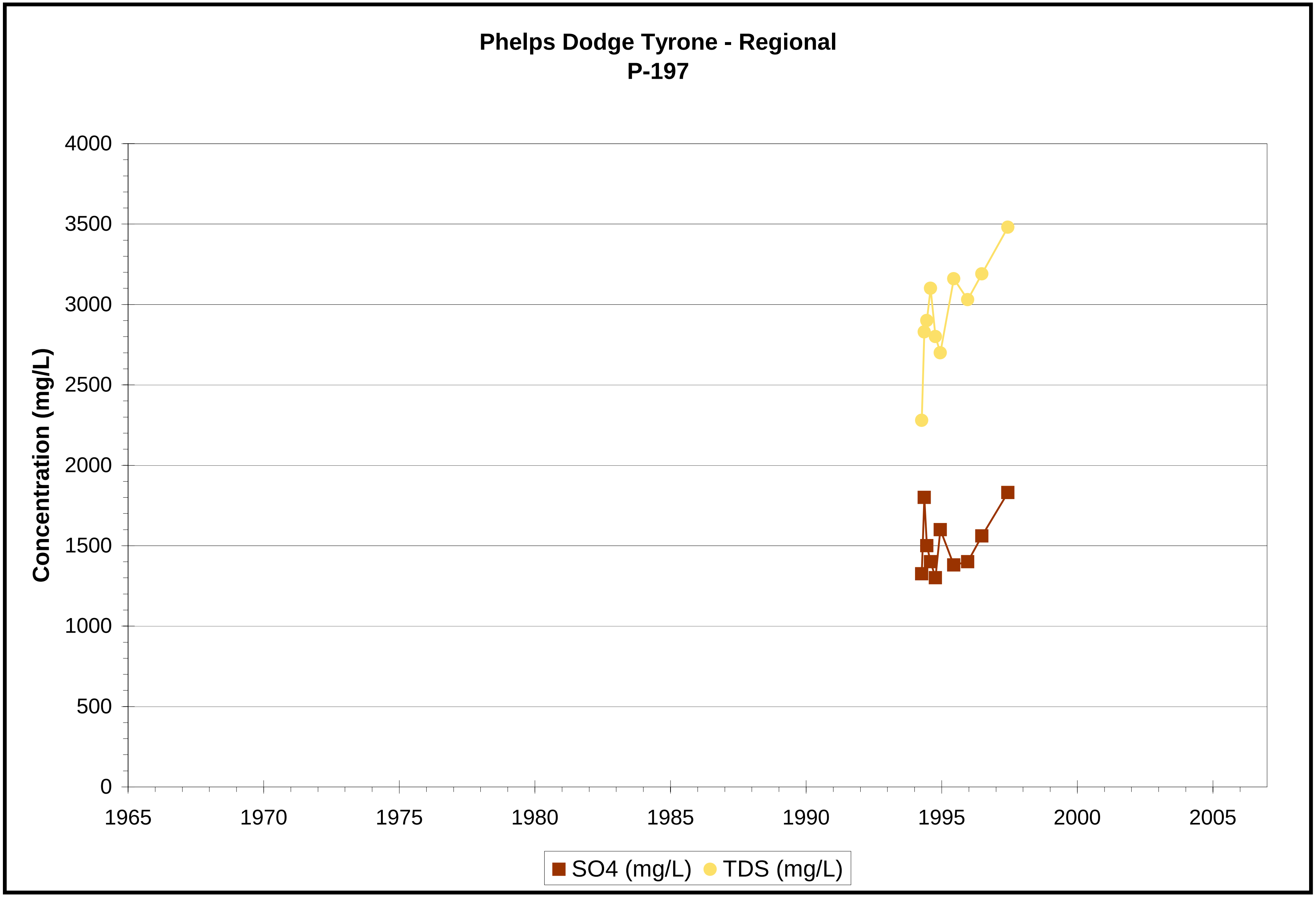

Phelps Dodge Tyrone - Regional
P-193
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

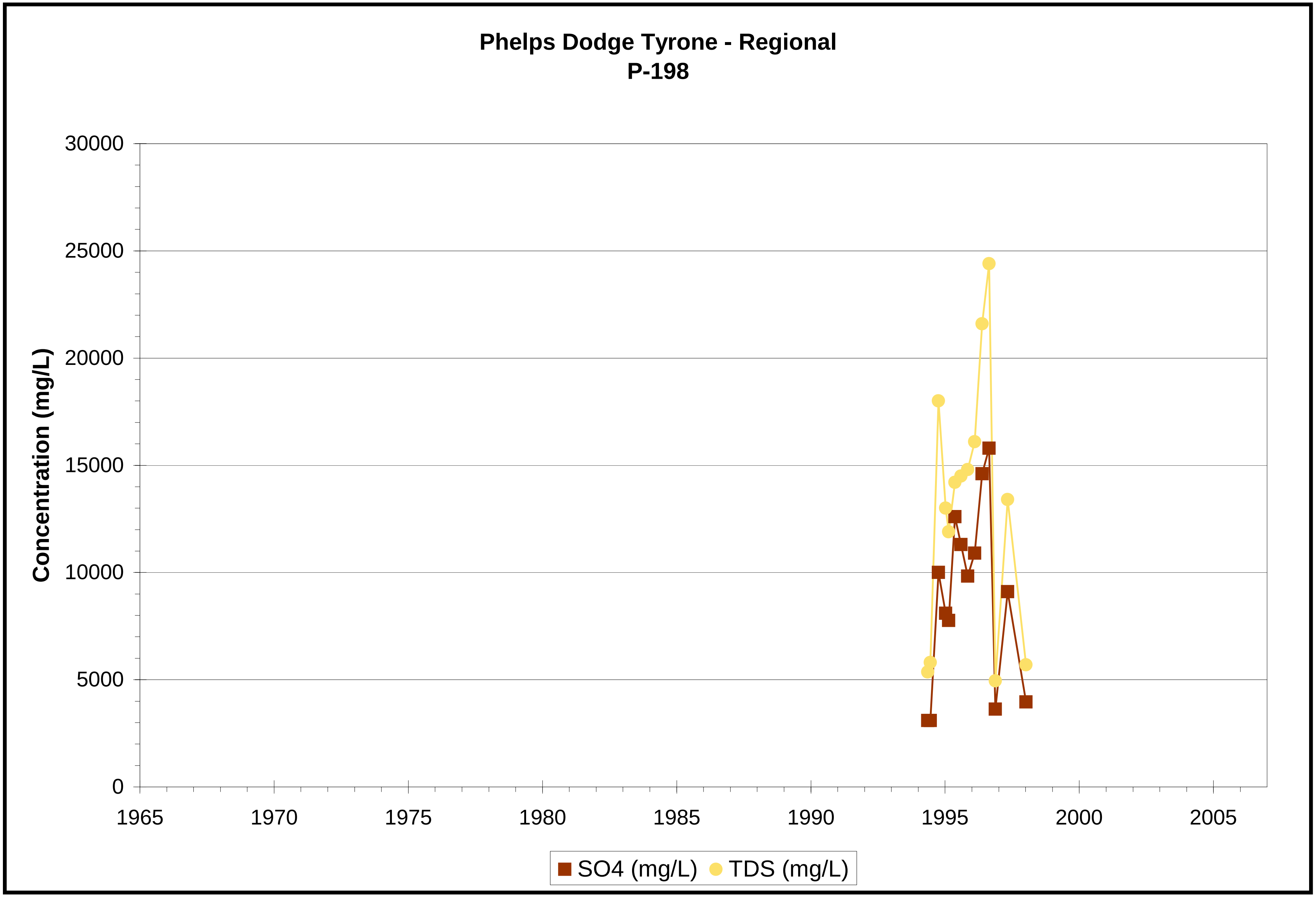

Phelps Dodge Tyrone - Regional
P-194
Concentration (mg/L)
16000
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-195
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

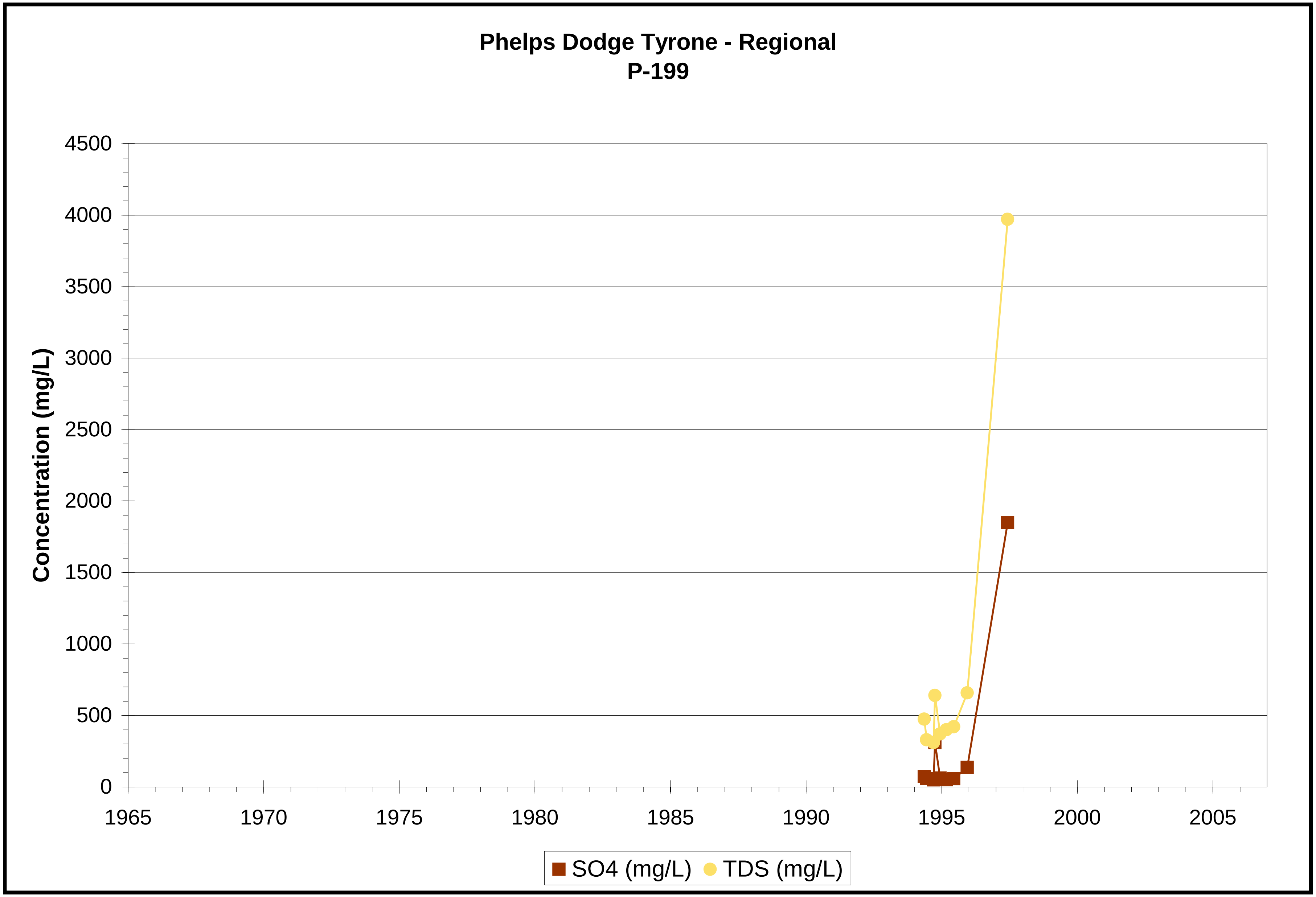


Phelps Dodge Tyrone - Regional
P-196
Concentration (mg/L)
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

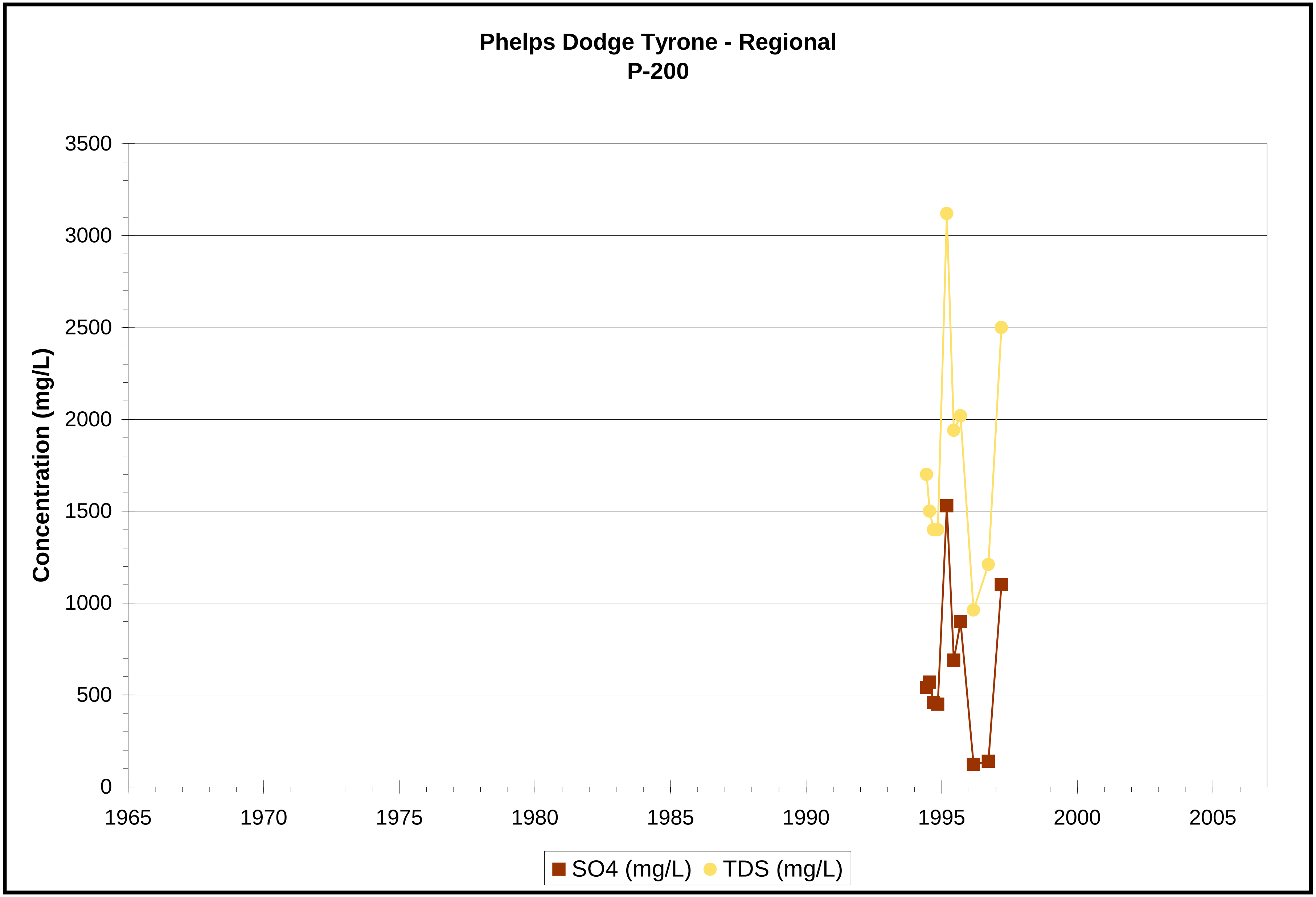

Phelps Dodge Tyrone - Regional
P-197
Concentration (mg/L)
0
500
1000
1500
2000
2500
3000
3500
4000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



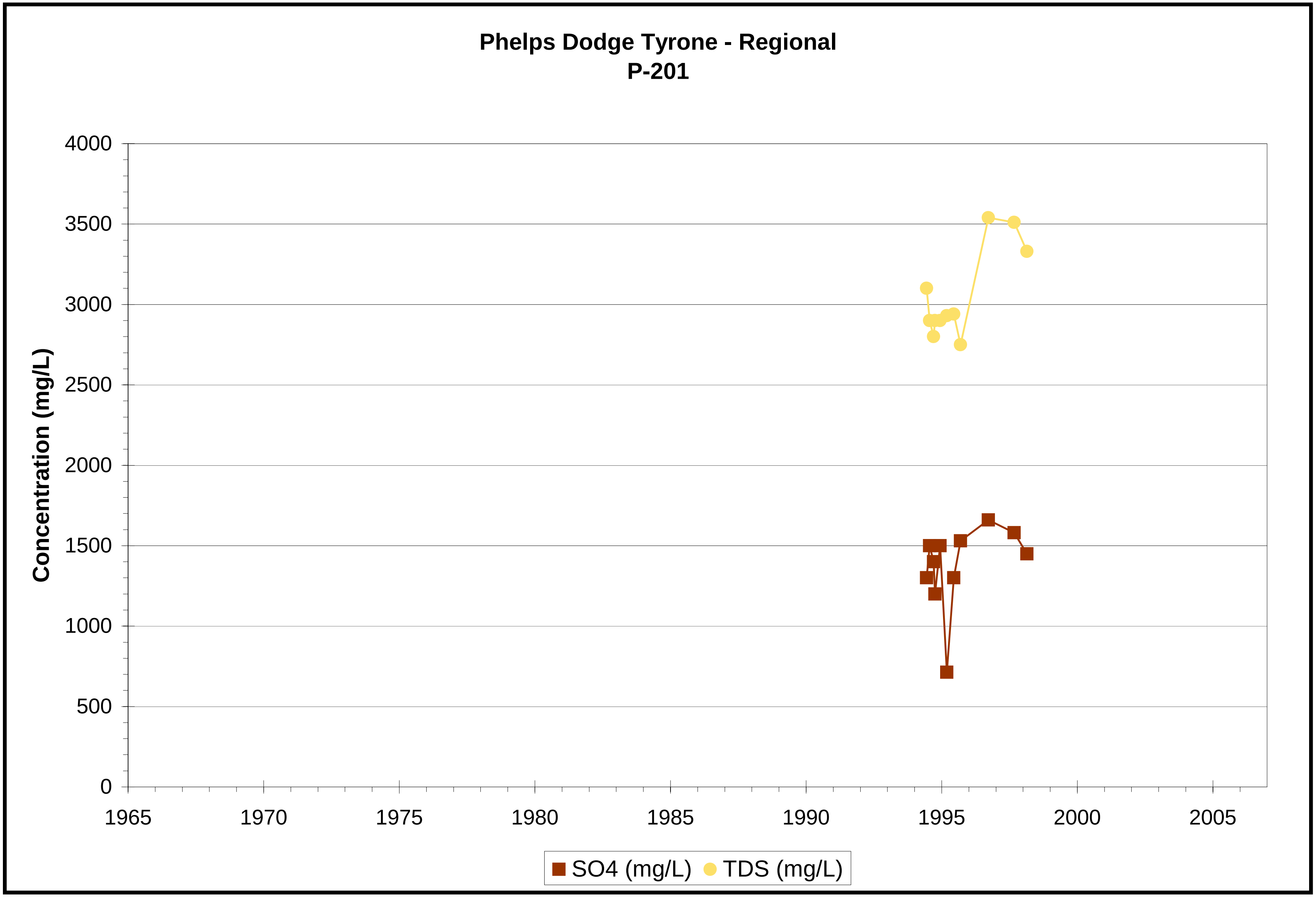
Phelps Dodge Tyrone - Regional
P-198
Concentration (mg/L)
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



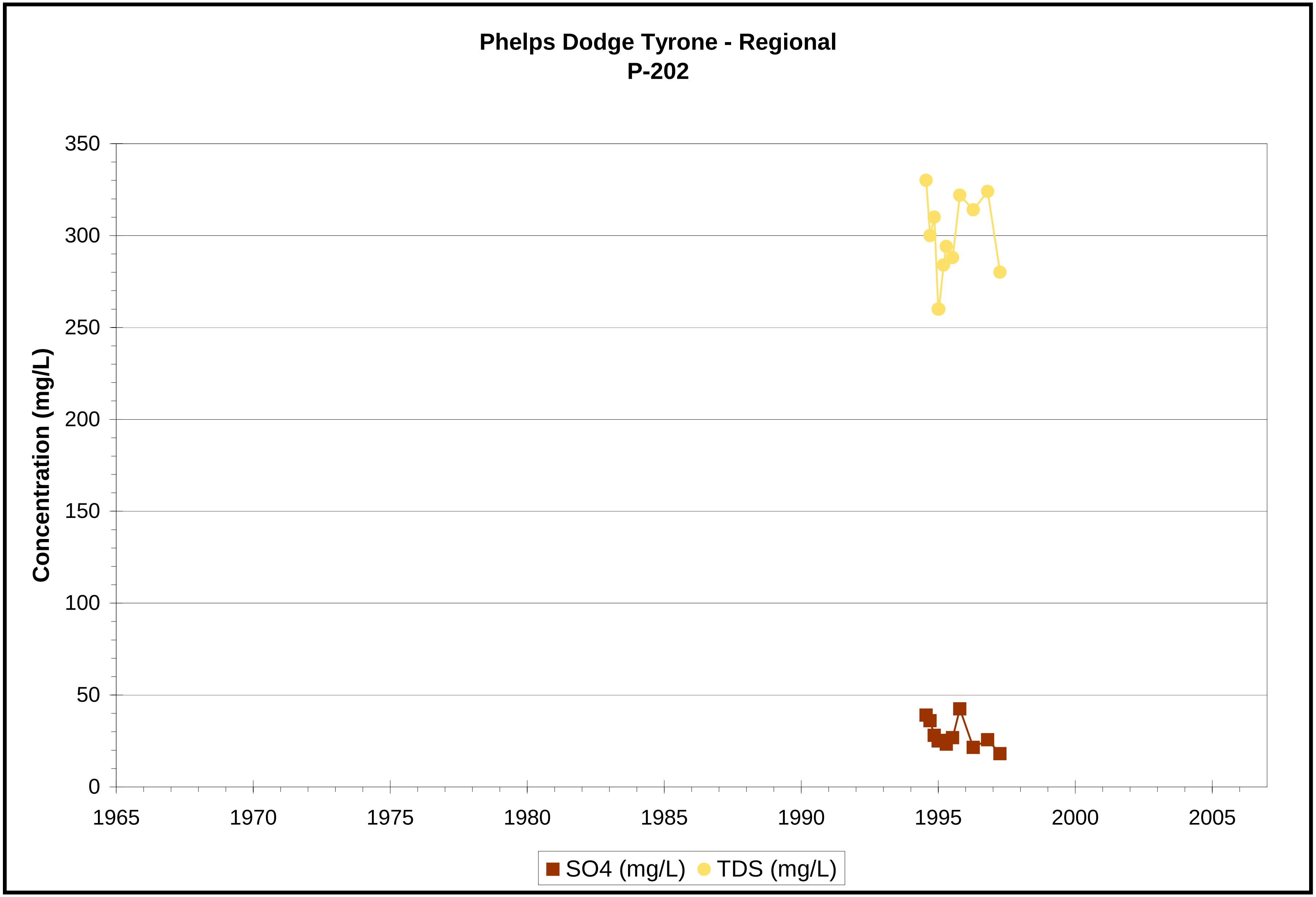
Phelps Dodge Tyrone - Regional
P-199
Concentration (mg/L)
0
500
1000
1500
2000
2500
3000
3500
4000
4500
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

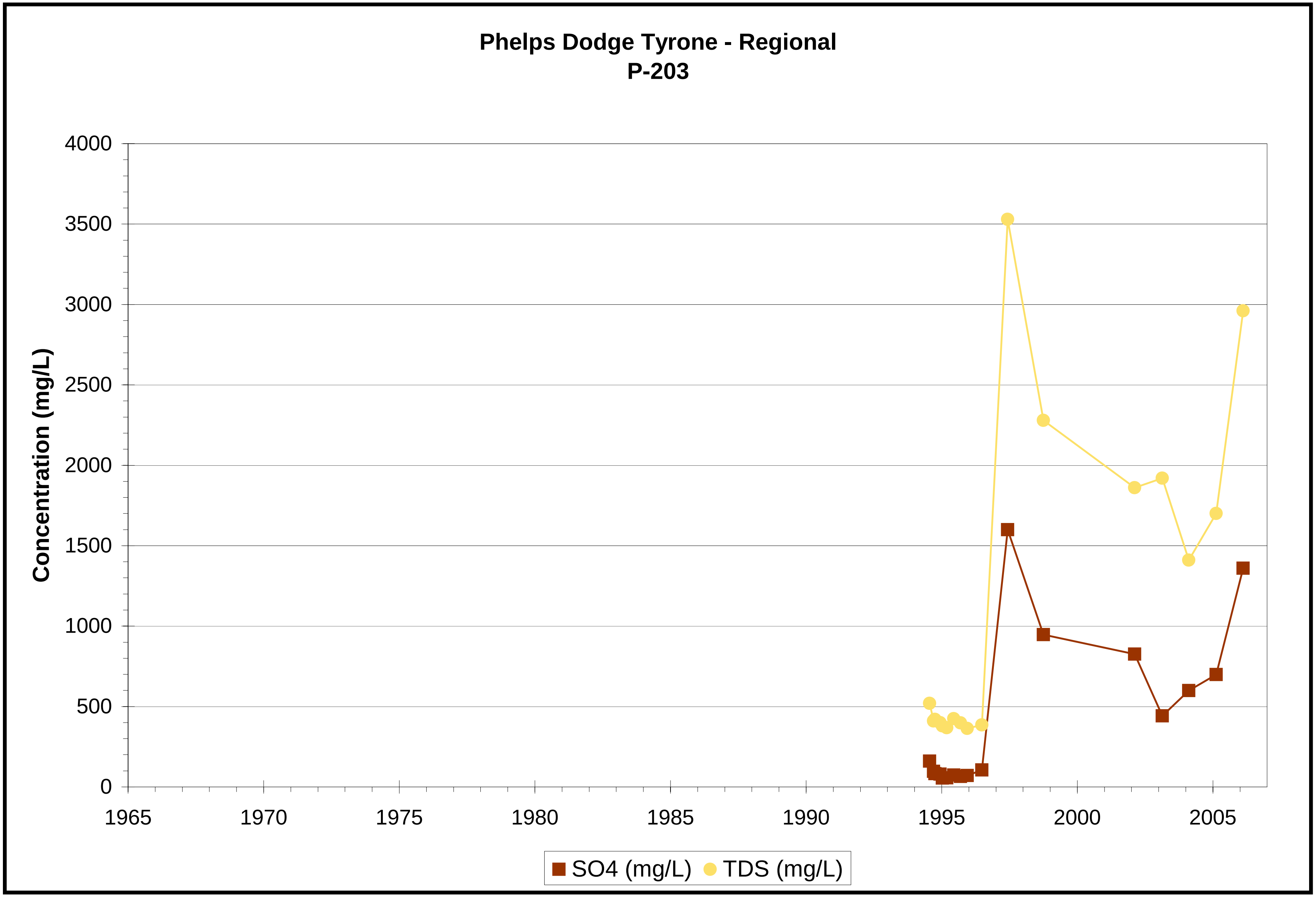


Phelps Dodge Tyrone - Regional
P-200
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

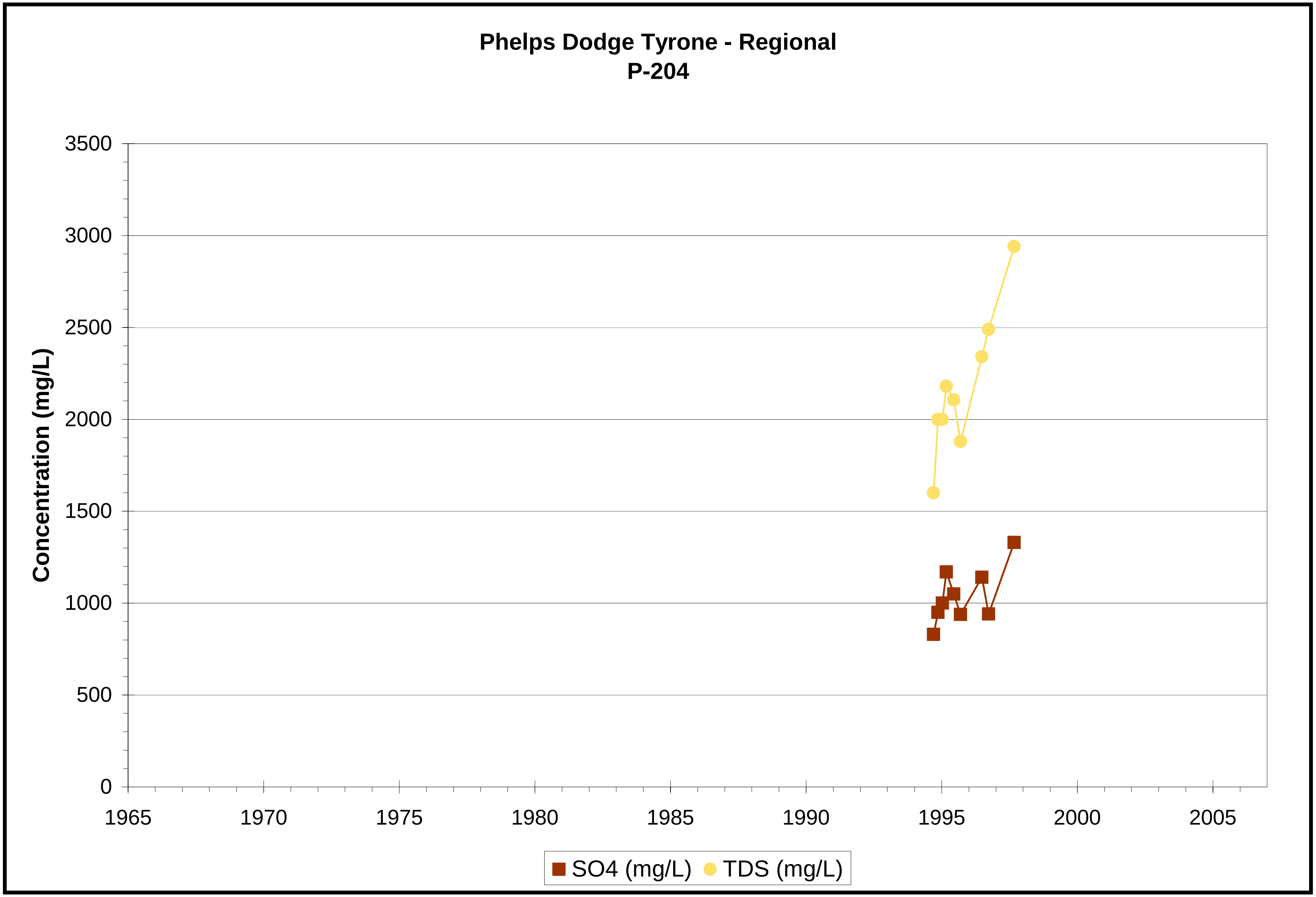


Phelps Dodge Tyrone - Regional
P-201
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

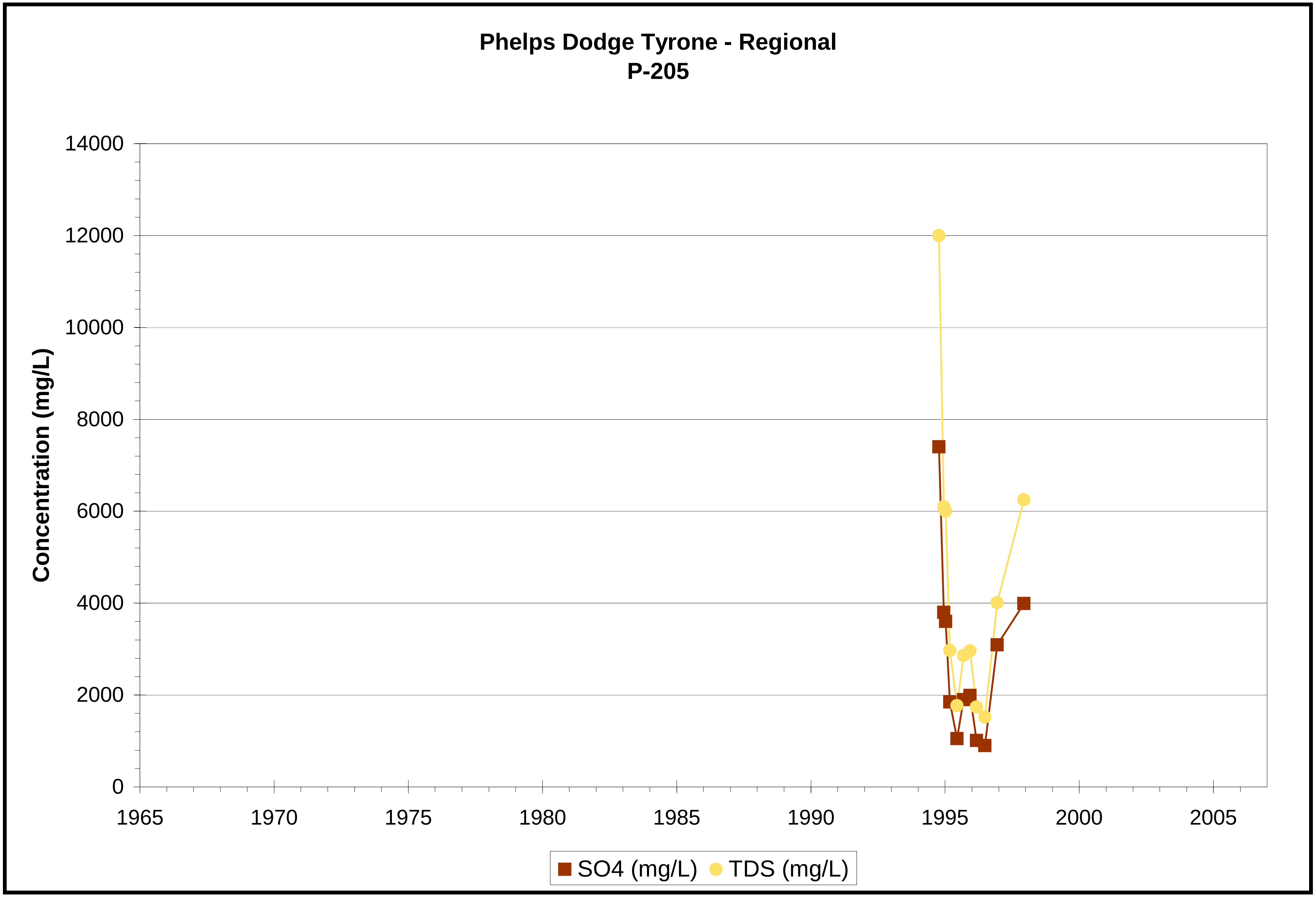

Phelps Dodge Tyrone - Regional
P-202
Concentration (mg/L)
0
50
100
150
200
250
300
350
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



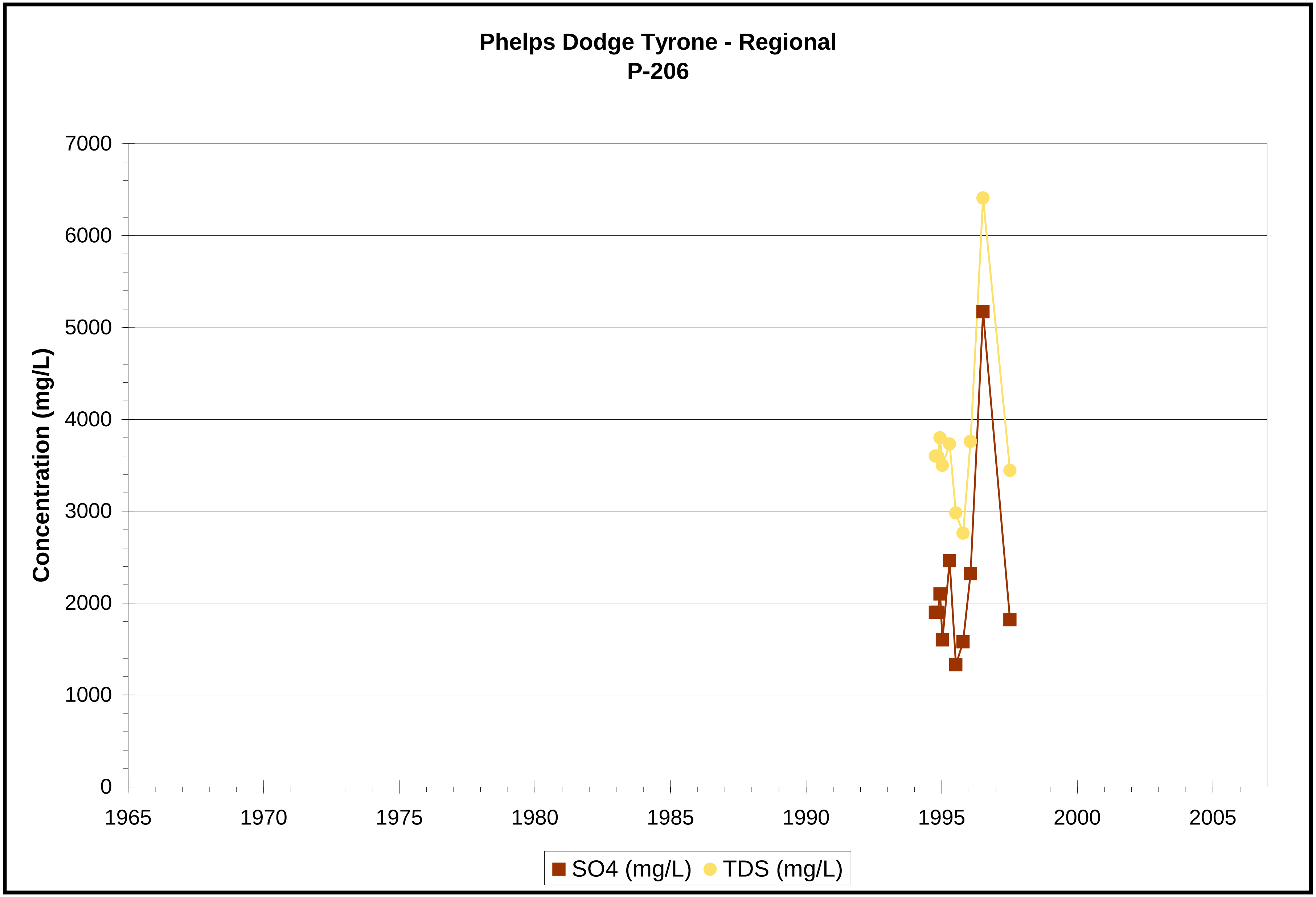
Phelps Dodge Tyrone - Regional
P-203
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



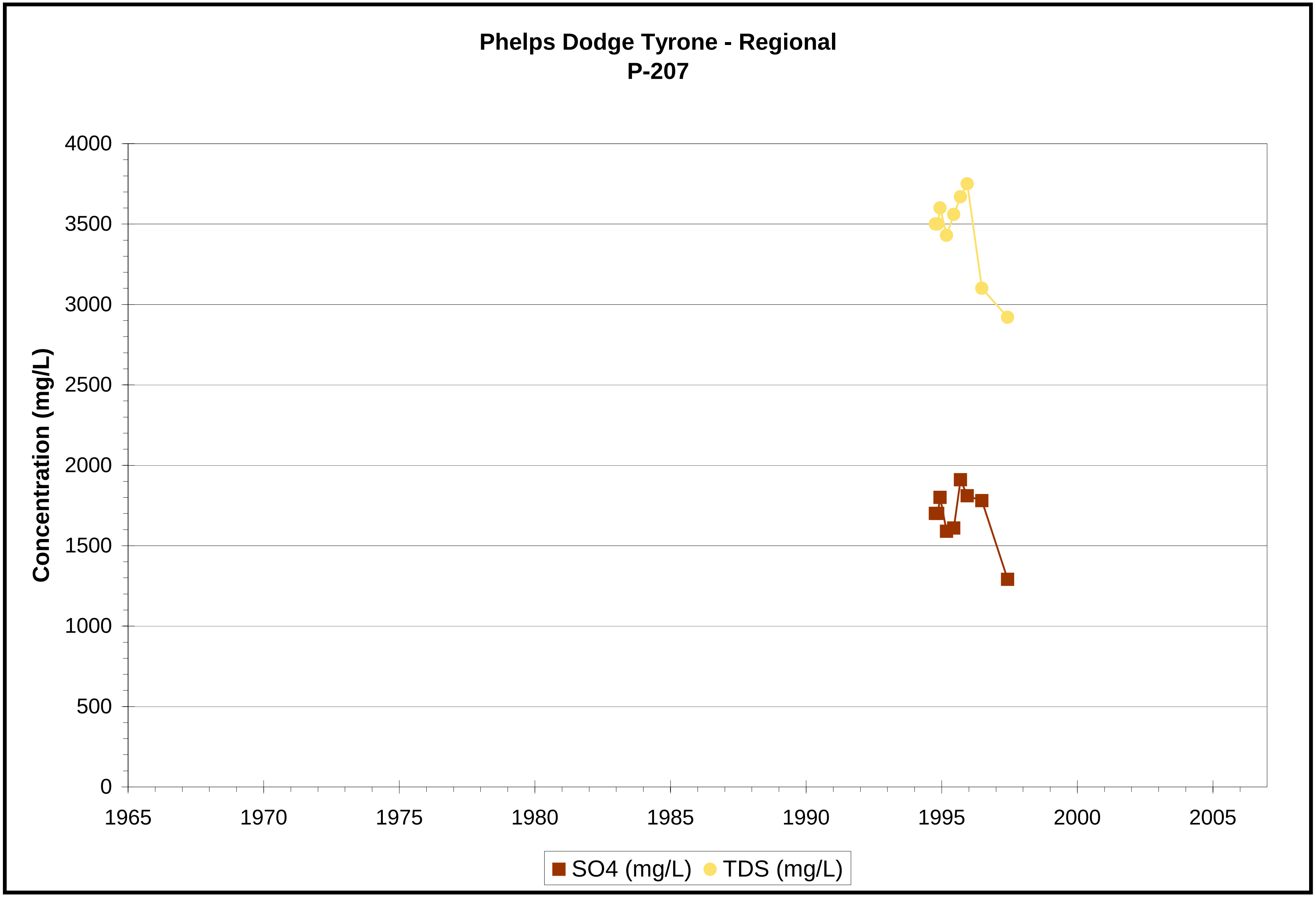
Phelps Dodge Tyrone - Regional
P-204
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



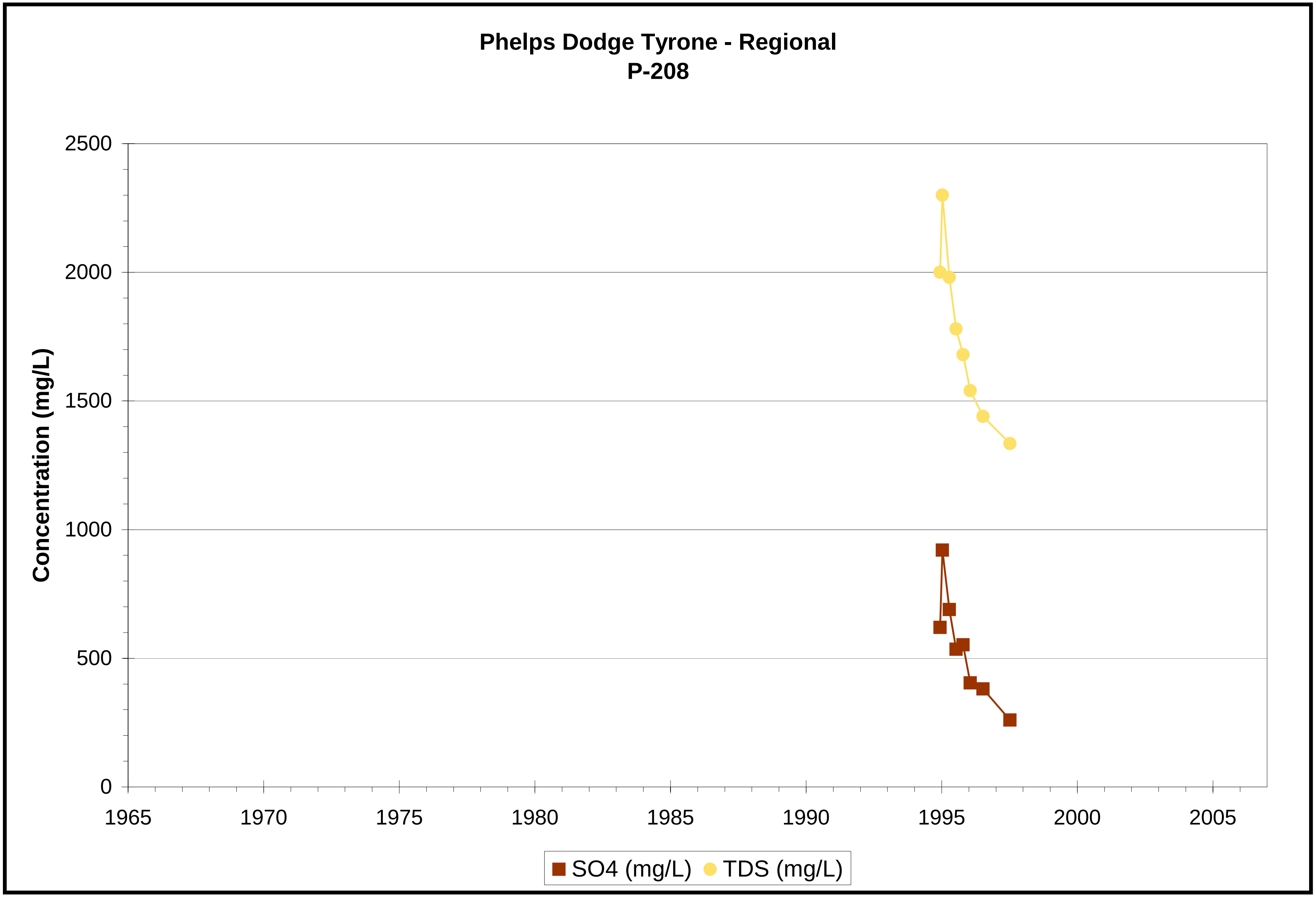
Phelps Dodge Tyrone - Regional
P-205
Concentration (mg/L)
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



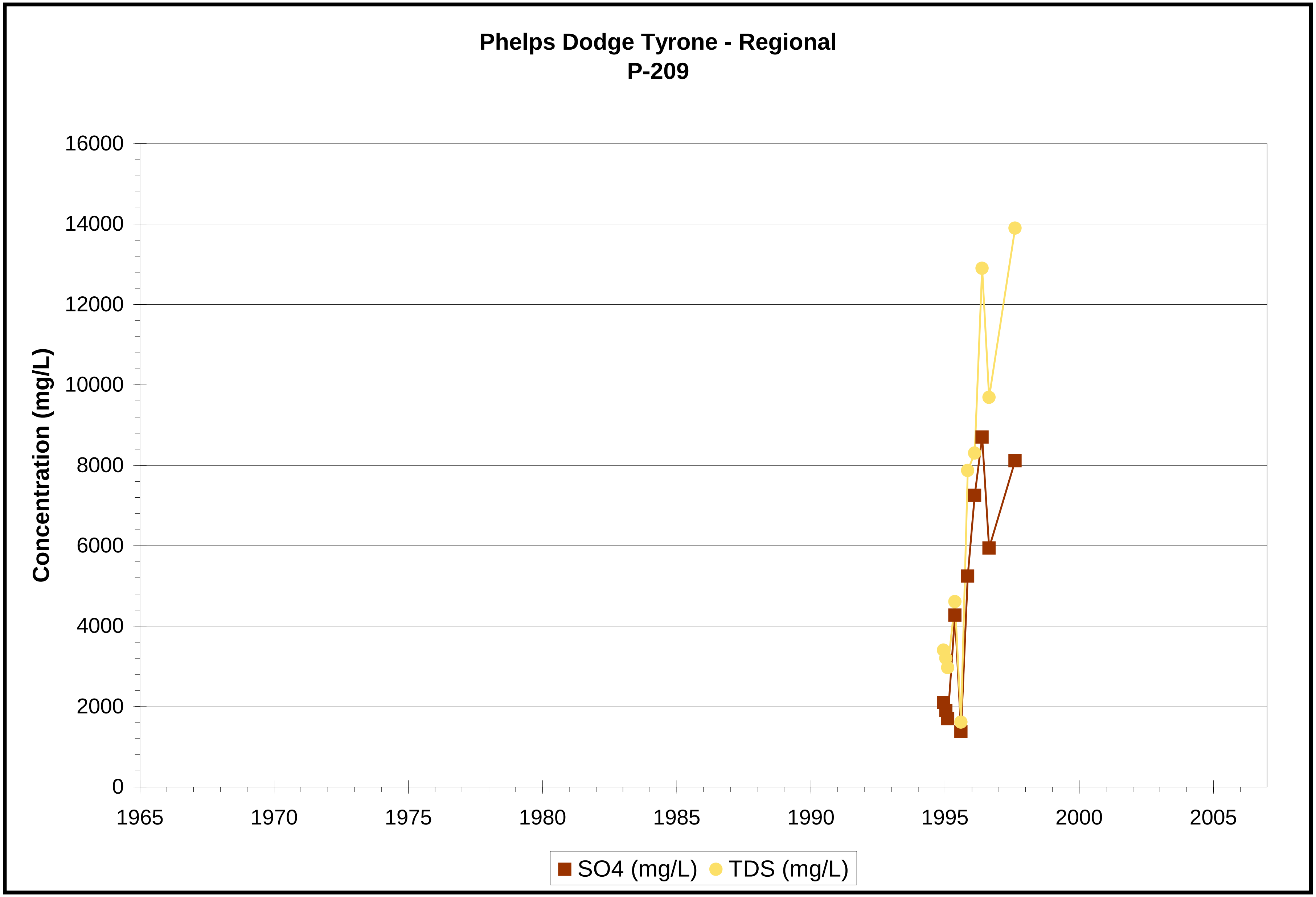
Phelps Dodge Tyrone - Regional
P-206
Concentration (mg/L)
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

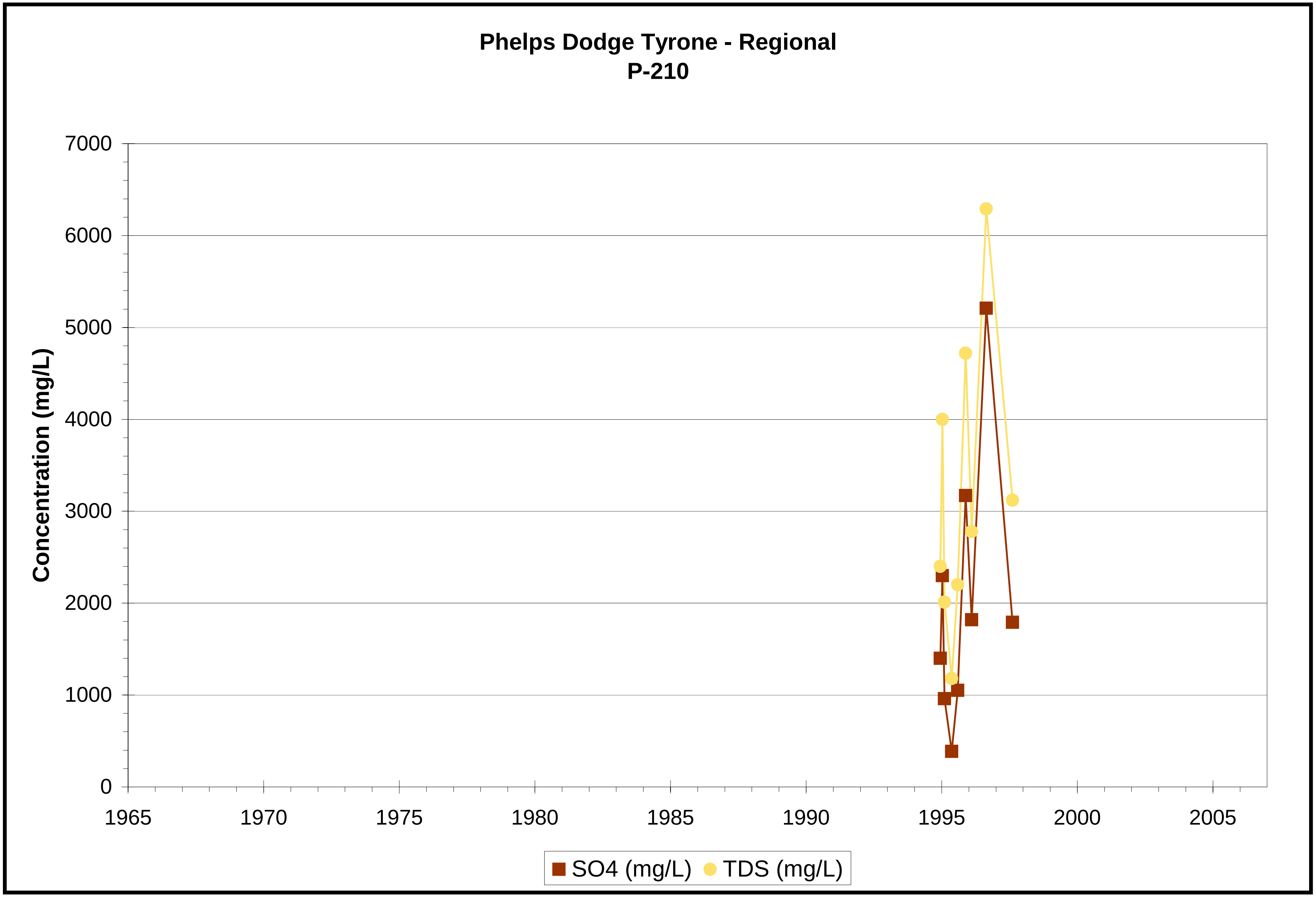


Phelps Dodge Tyrone - Regional
P-207
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

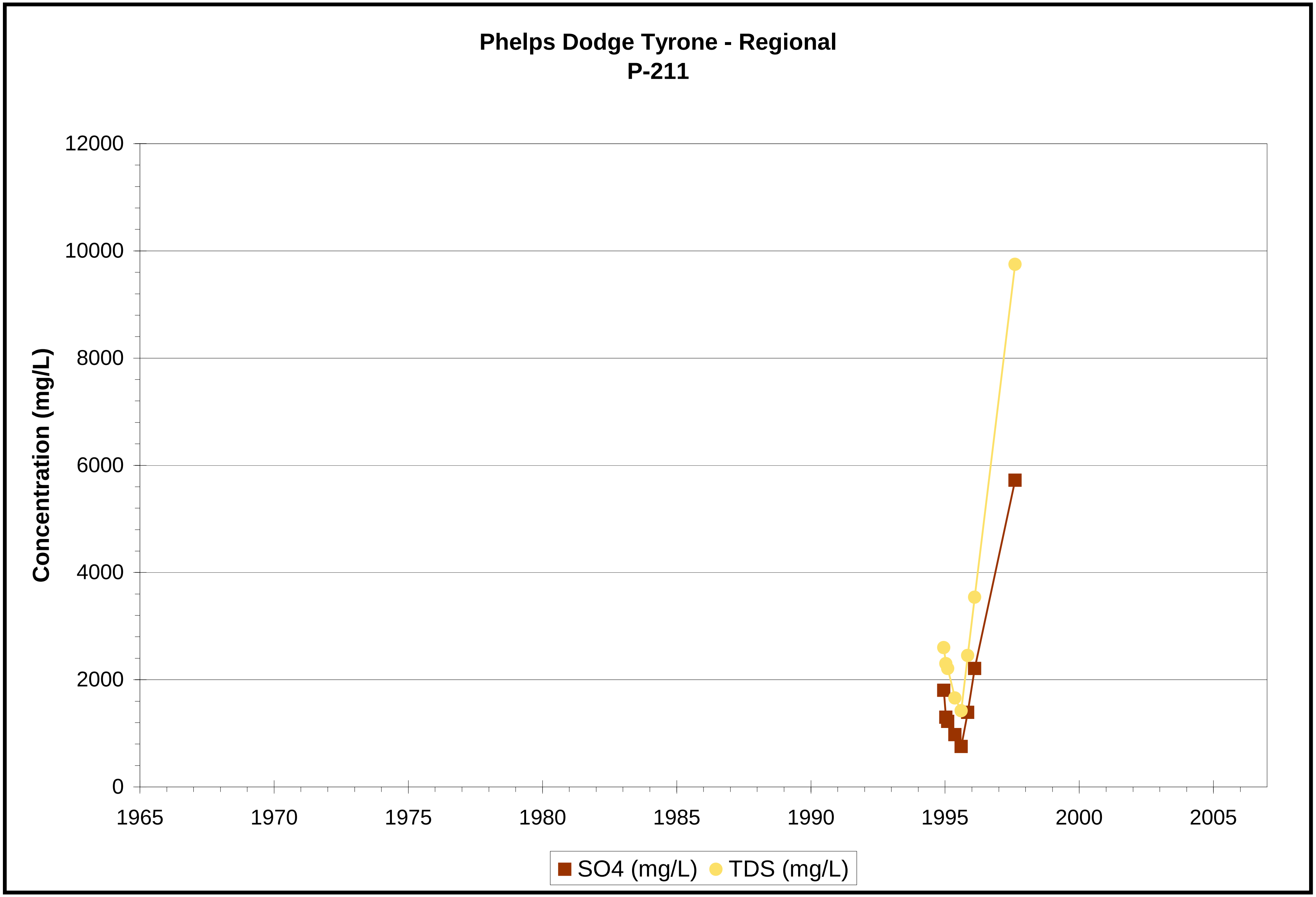


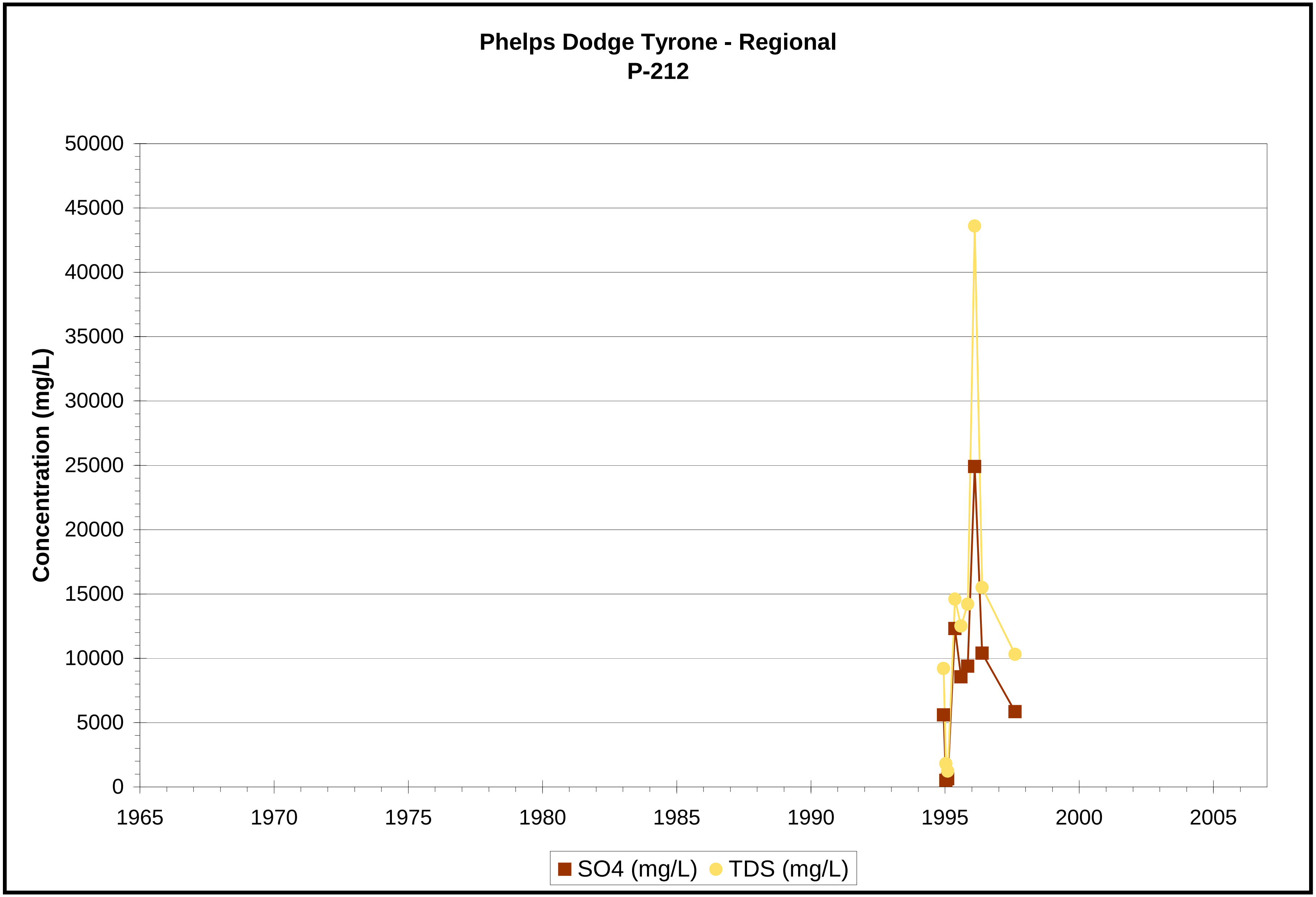
Phelps Dodge Tyrone - Regional
P-208
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

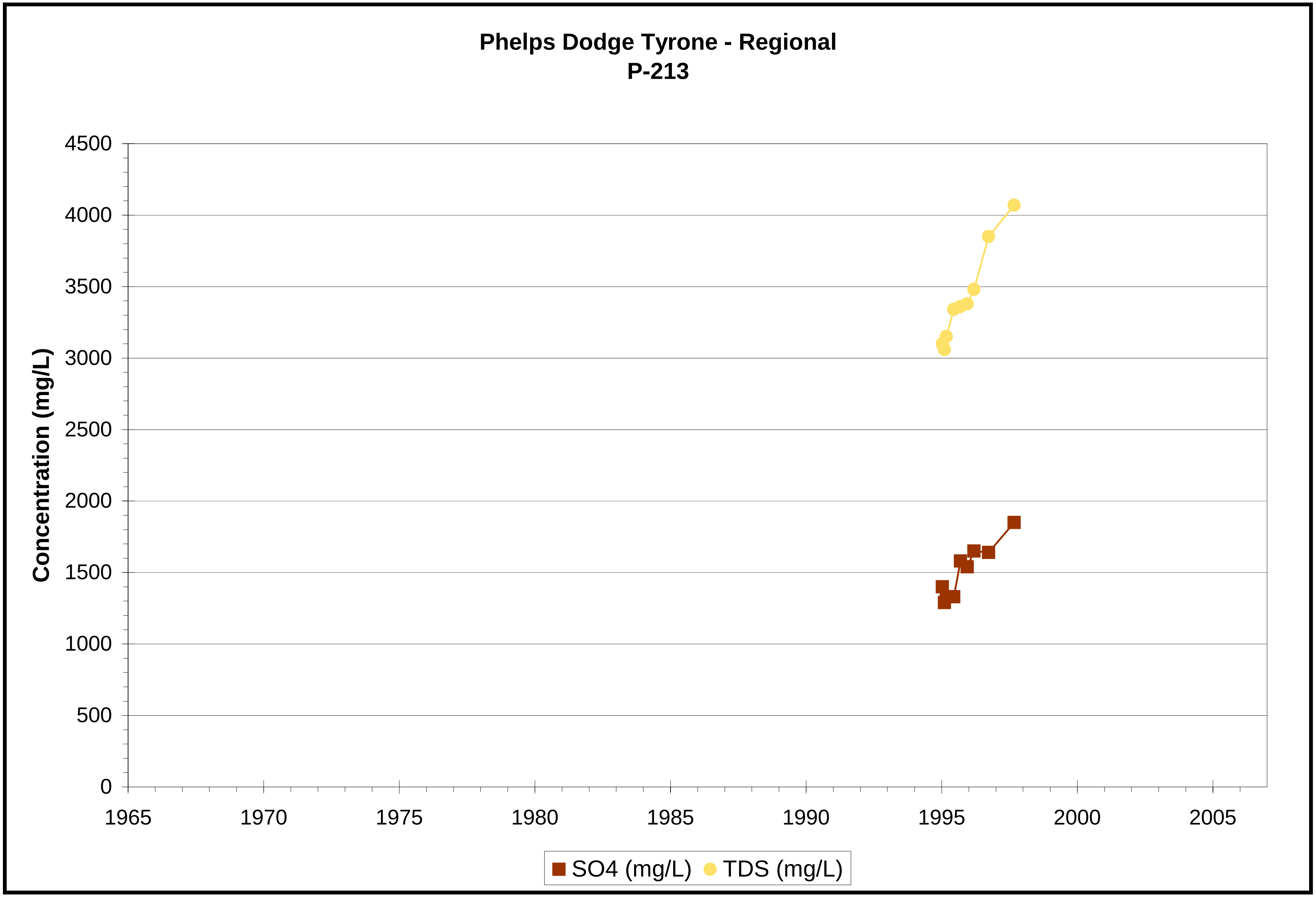

Phelps Dodge Tyrone - Regional
P-209
Concentration (mg/L)
16000
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

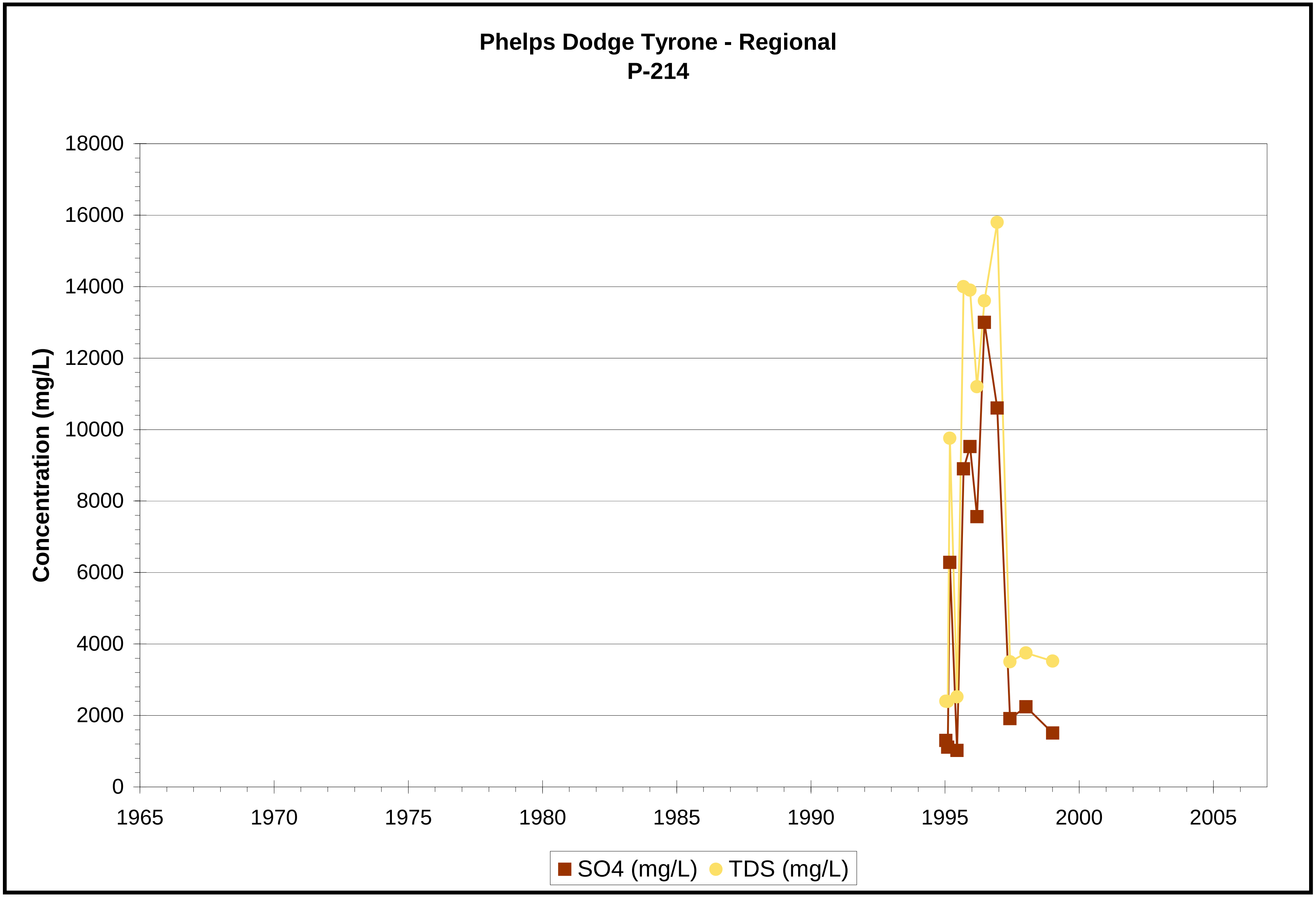


Phelps Dodge Tyrone - Regional
P-210
Concentration (mg/L)
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

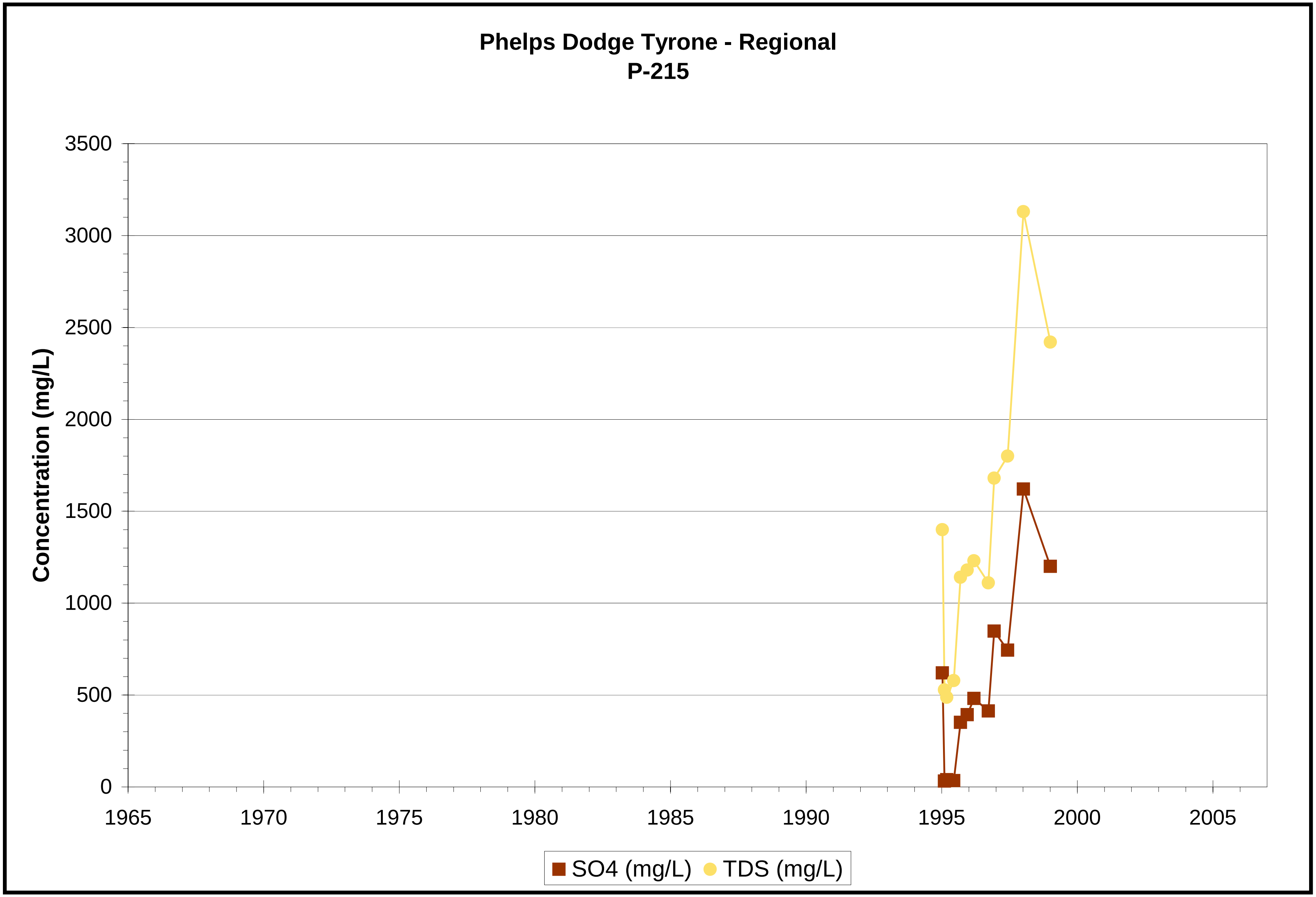

Phelps Dodge Tyrone - Regional
P-211
Concentration (mg/L)
0
2000
4000
6000
8000
10000
12000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-212
Concentration (mg/L)
50000
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

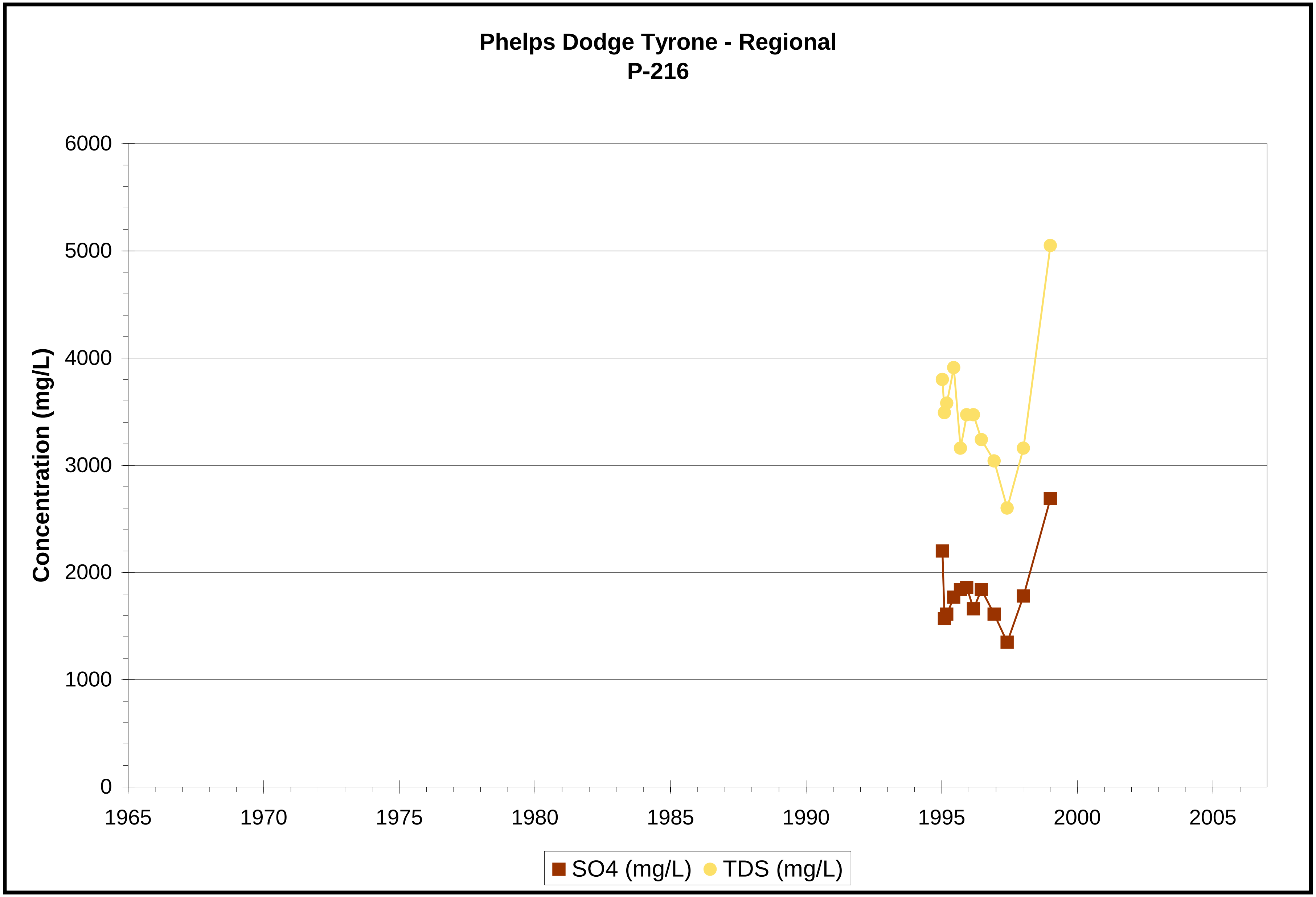

Phelps Dodge Tyrone - Regional
P-213
Concentration (mg/L)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



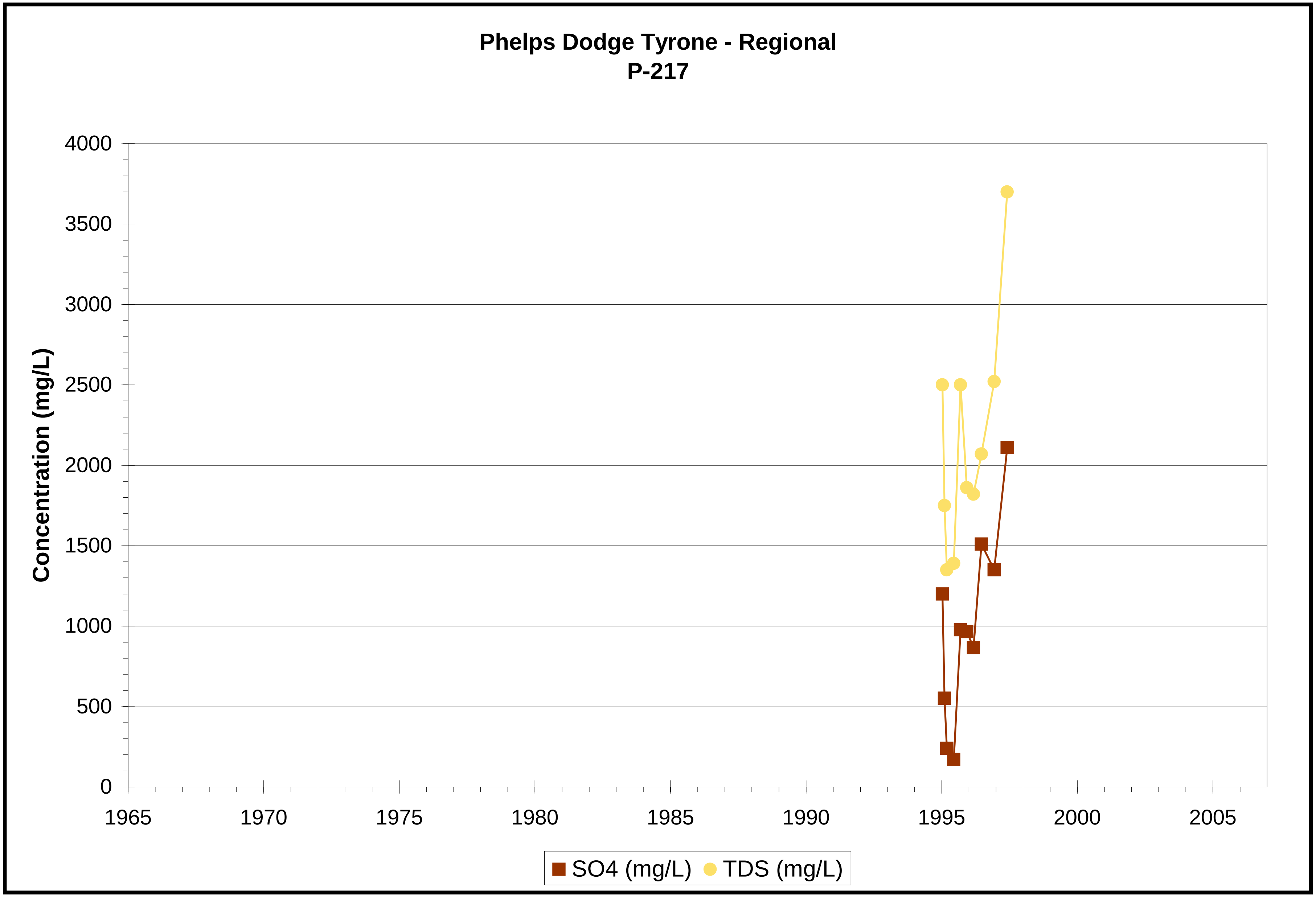
Phelps Dodge Tyrone - Regional
P-214
Concentration (mg/L)
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



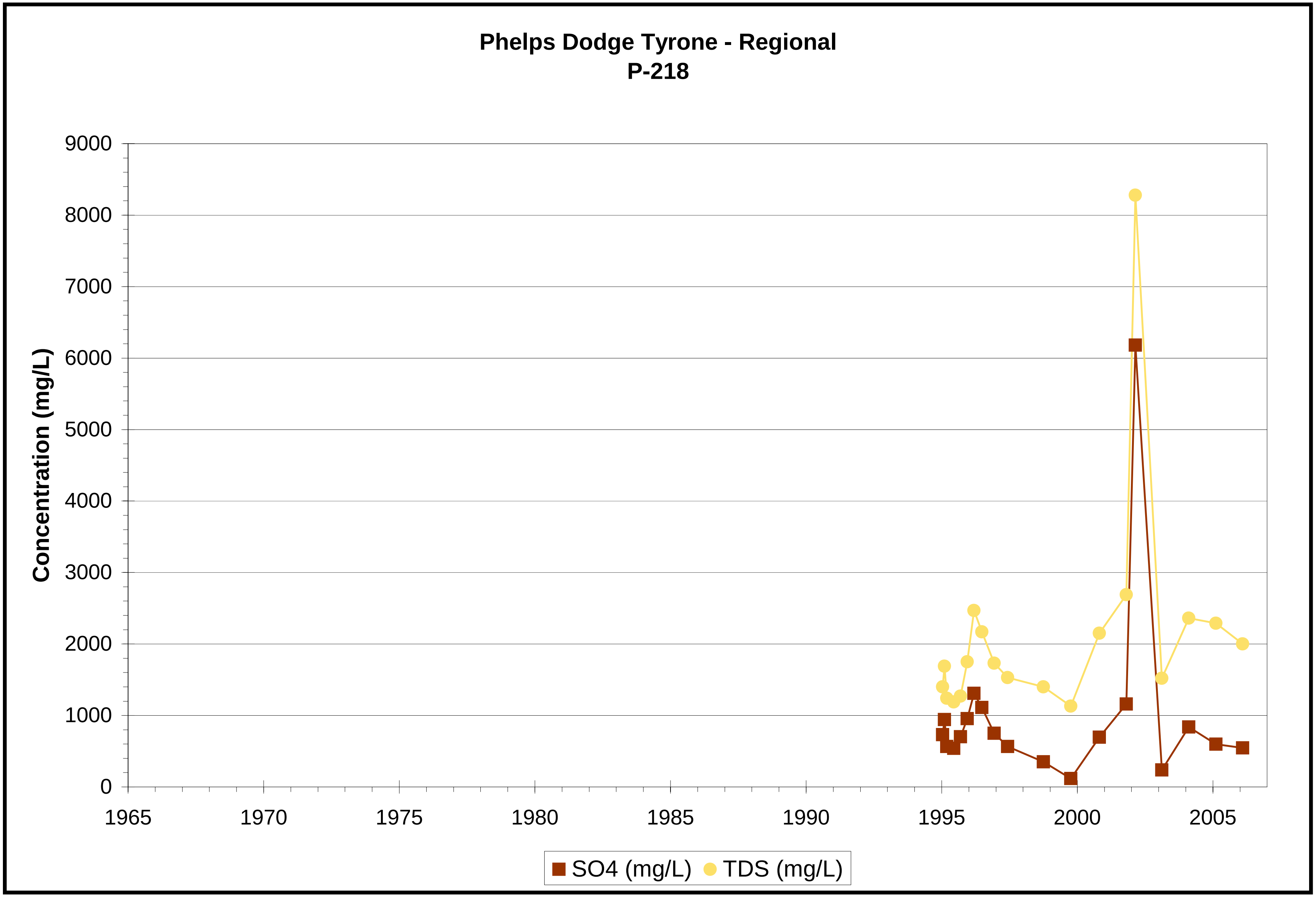
Phelps Dodge Tyrone - Regional
P-215
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



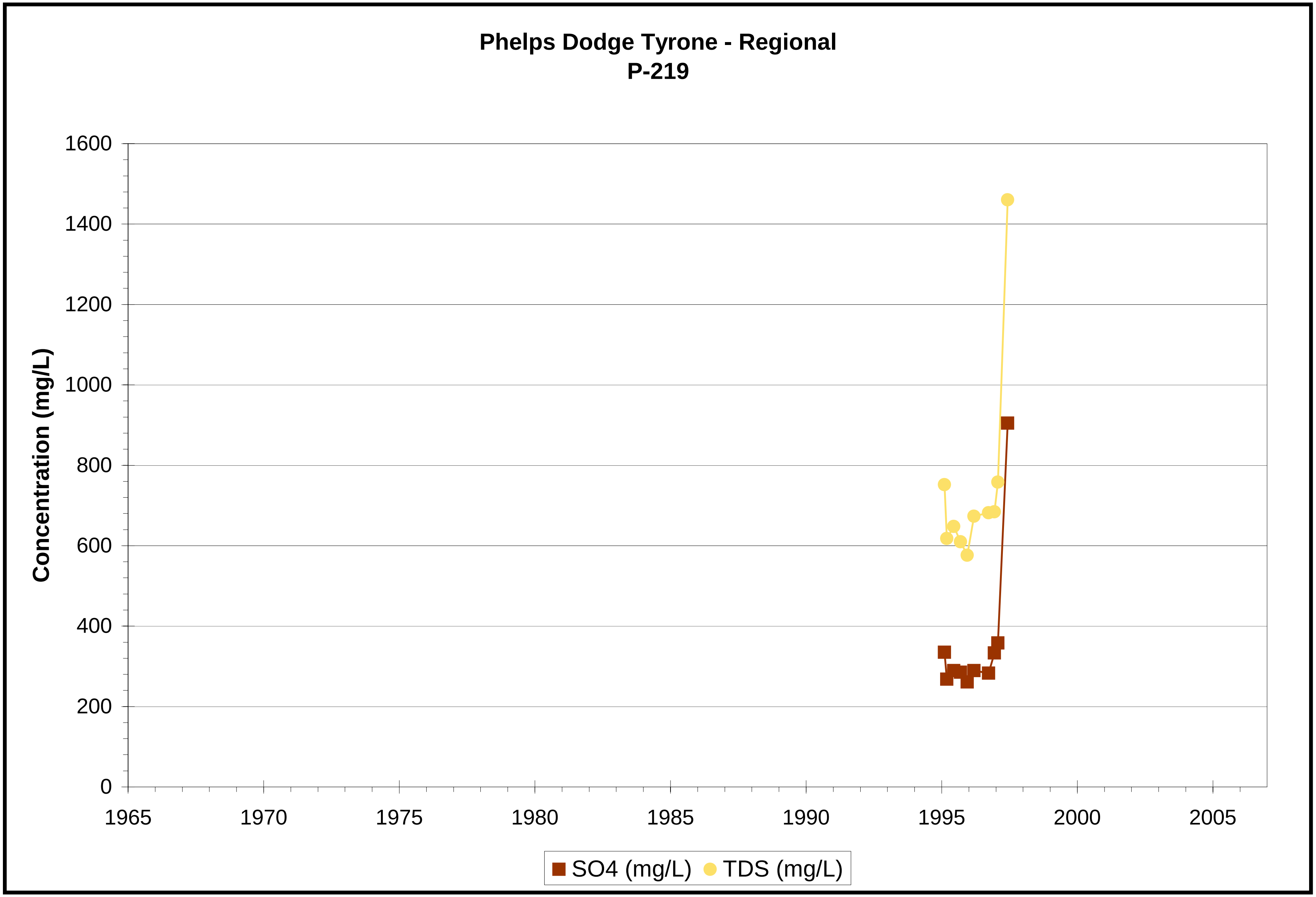
Phelps Dodge Tyrone - Regional
P-216
Concentration (mg/L)
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



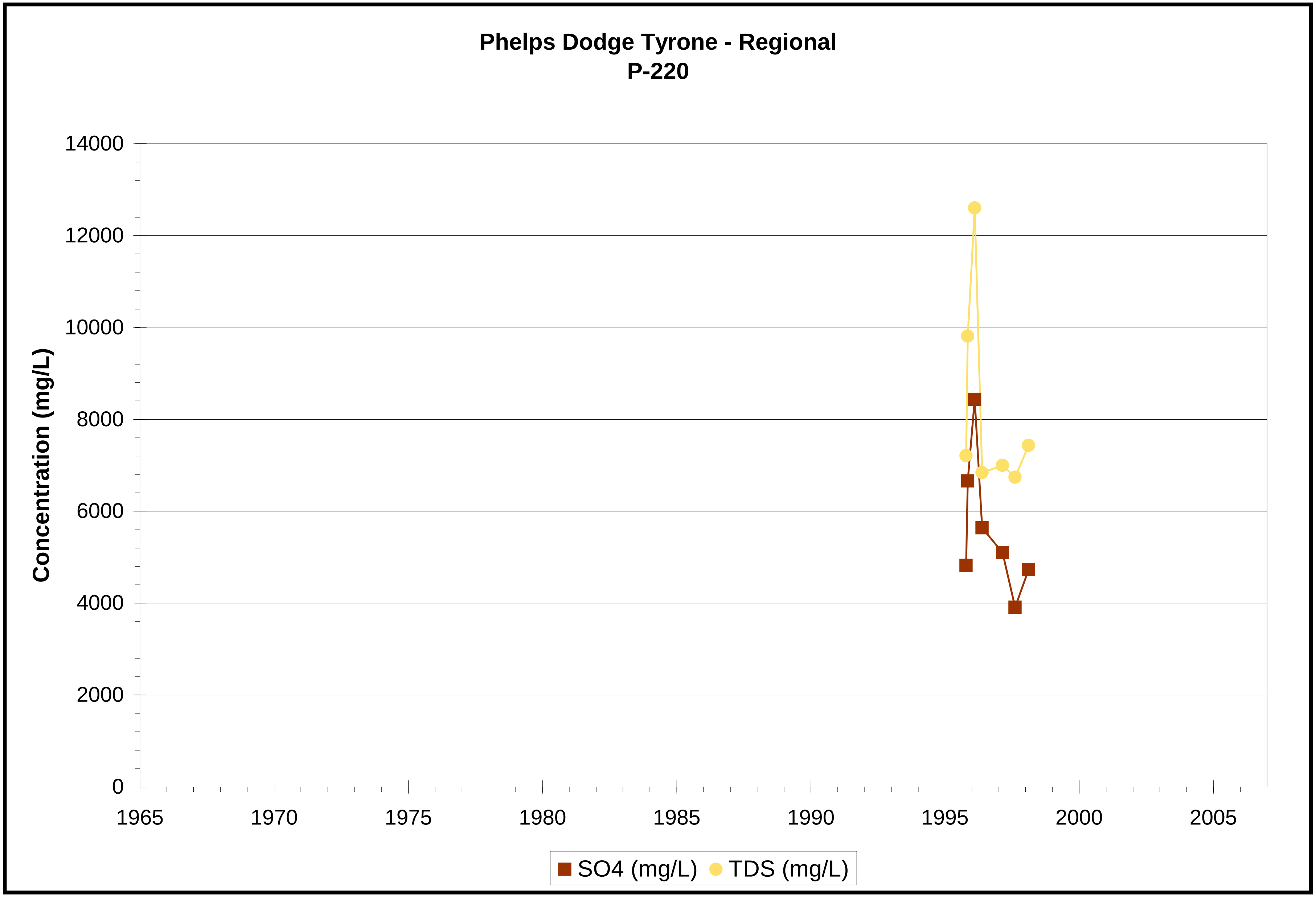
Phelps Dodge Tyrone - Regional
P-217
Concentration (mg/L)
0
500
1000
1500
2000
2500
3000
3500
4000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



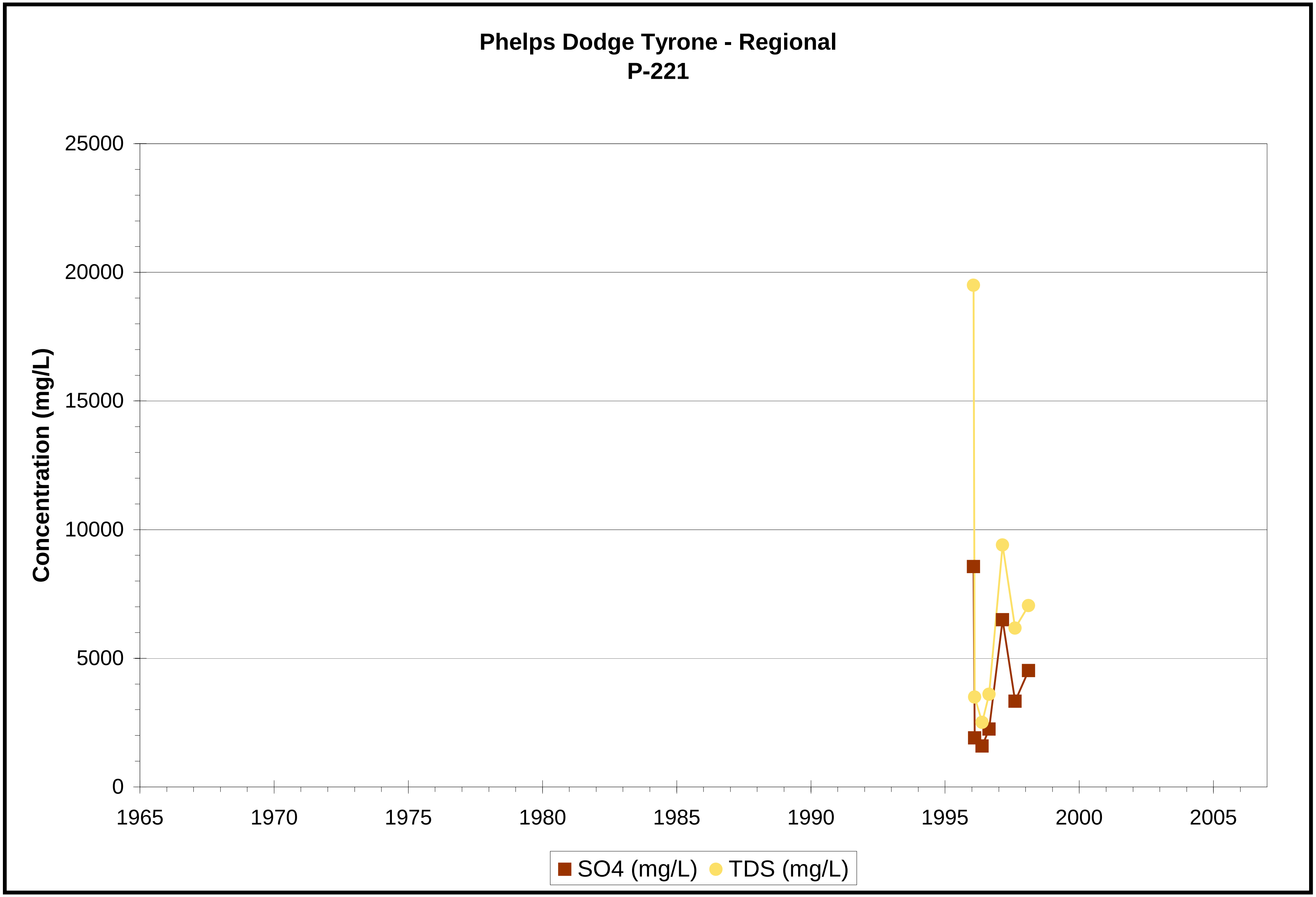
Phelps Dodge Tyrone - Regional
P-218
Concentration (mg/L)
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



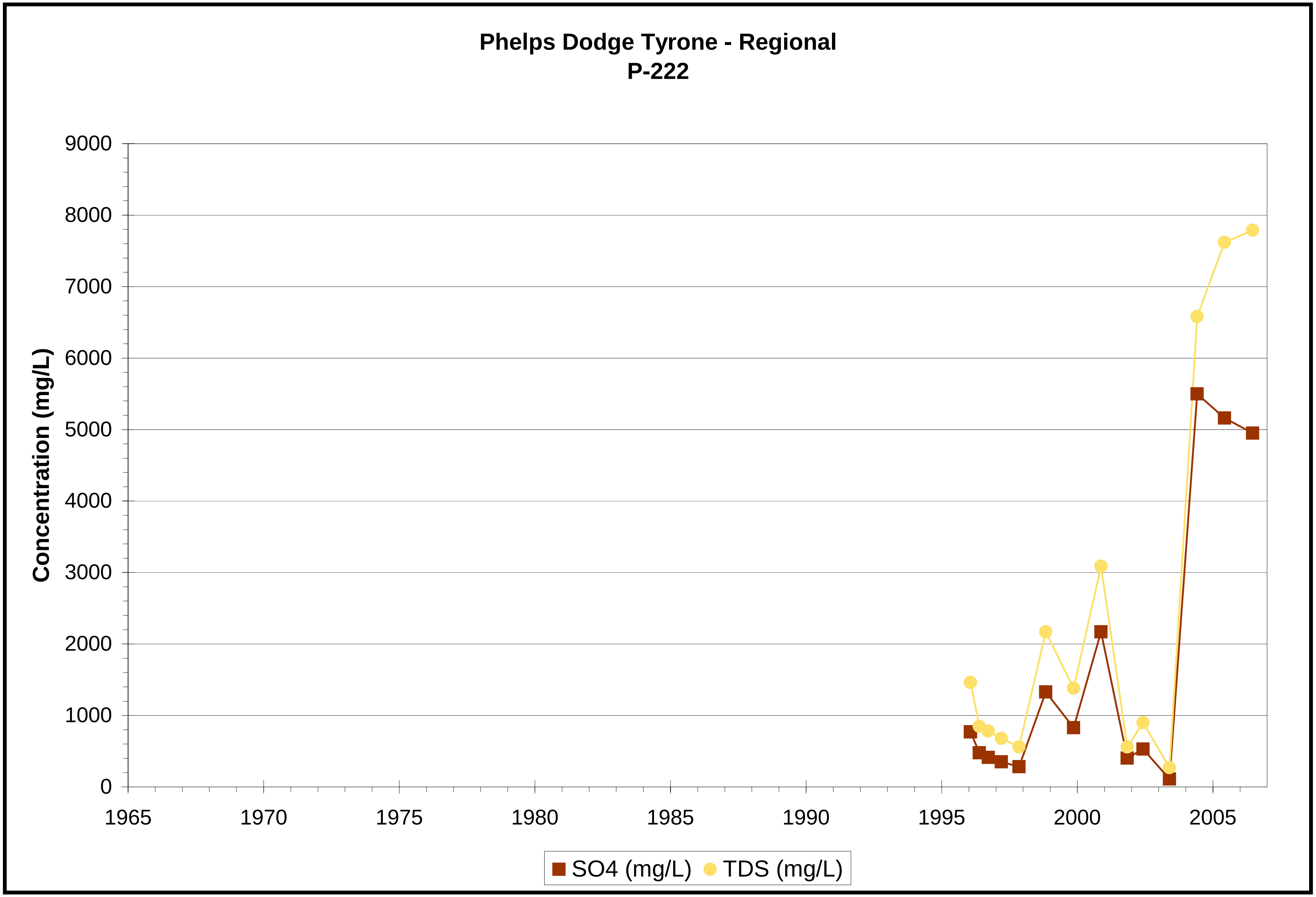
Phelps Dodge Tyrone - Regional
P-219
Concentration (mg/L)
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



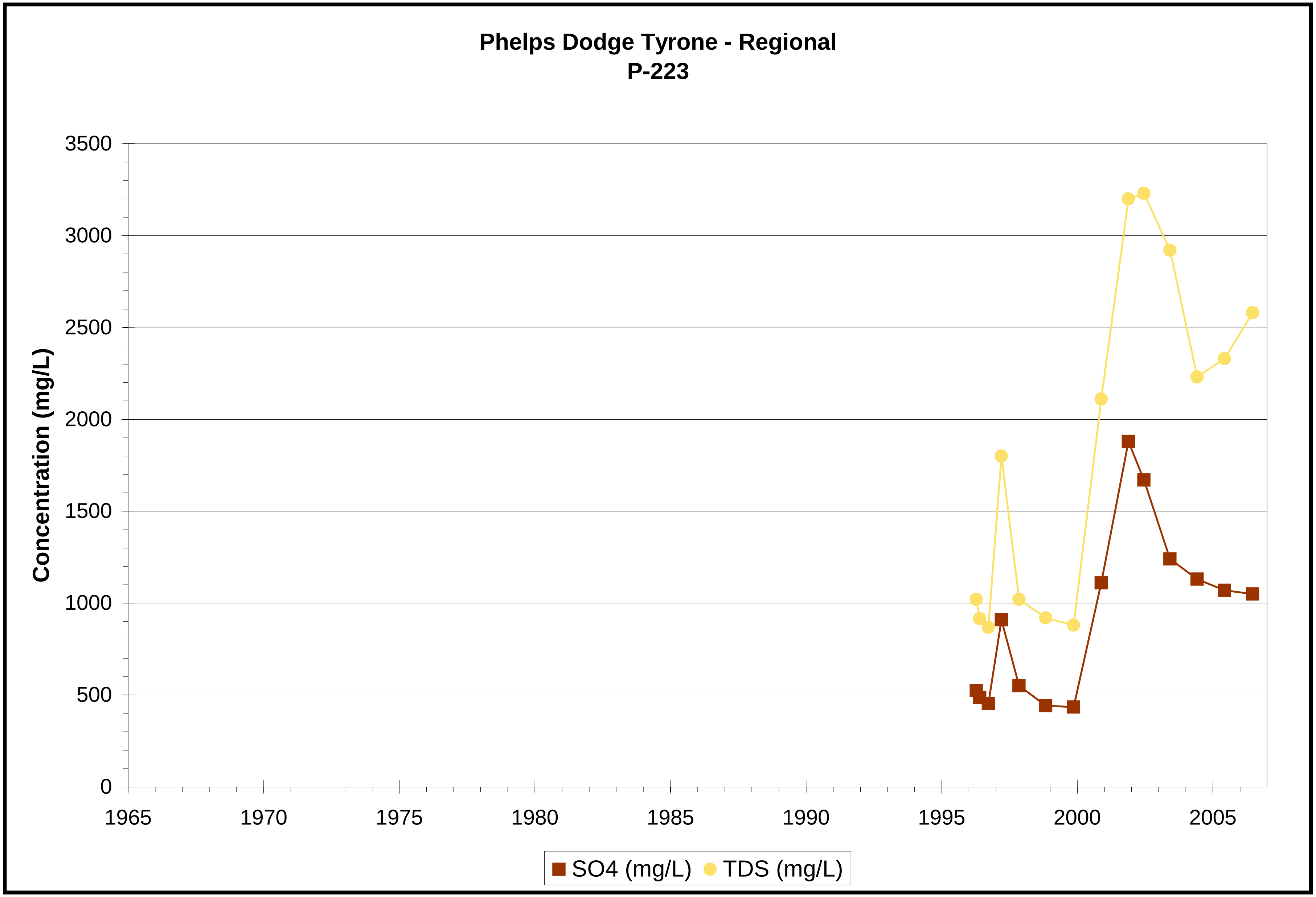
Phelps Dodge Tyrone - Regional
P-220
Concentration (mg/L)
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



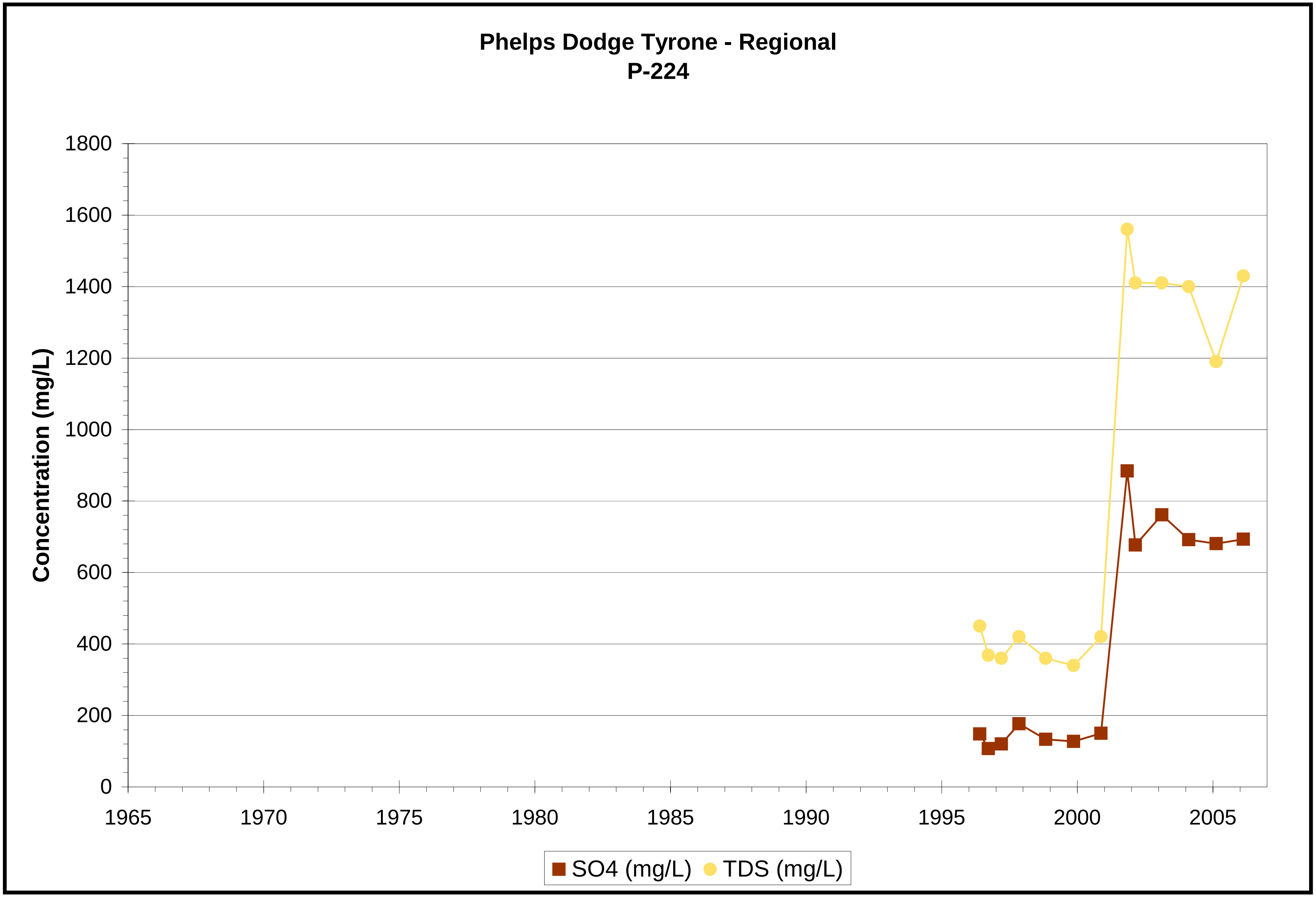
Phelps Dodge Tyrone - Regional
P-221
Concentration (mg/L)
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

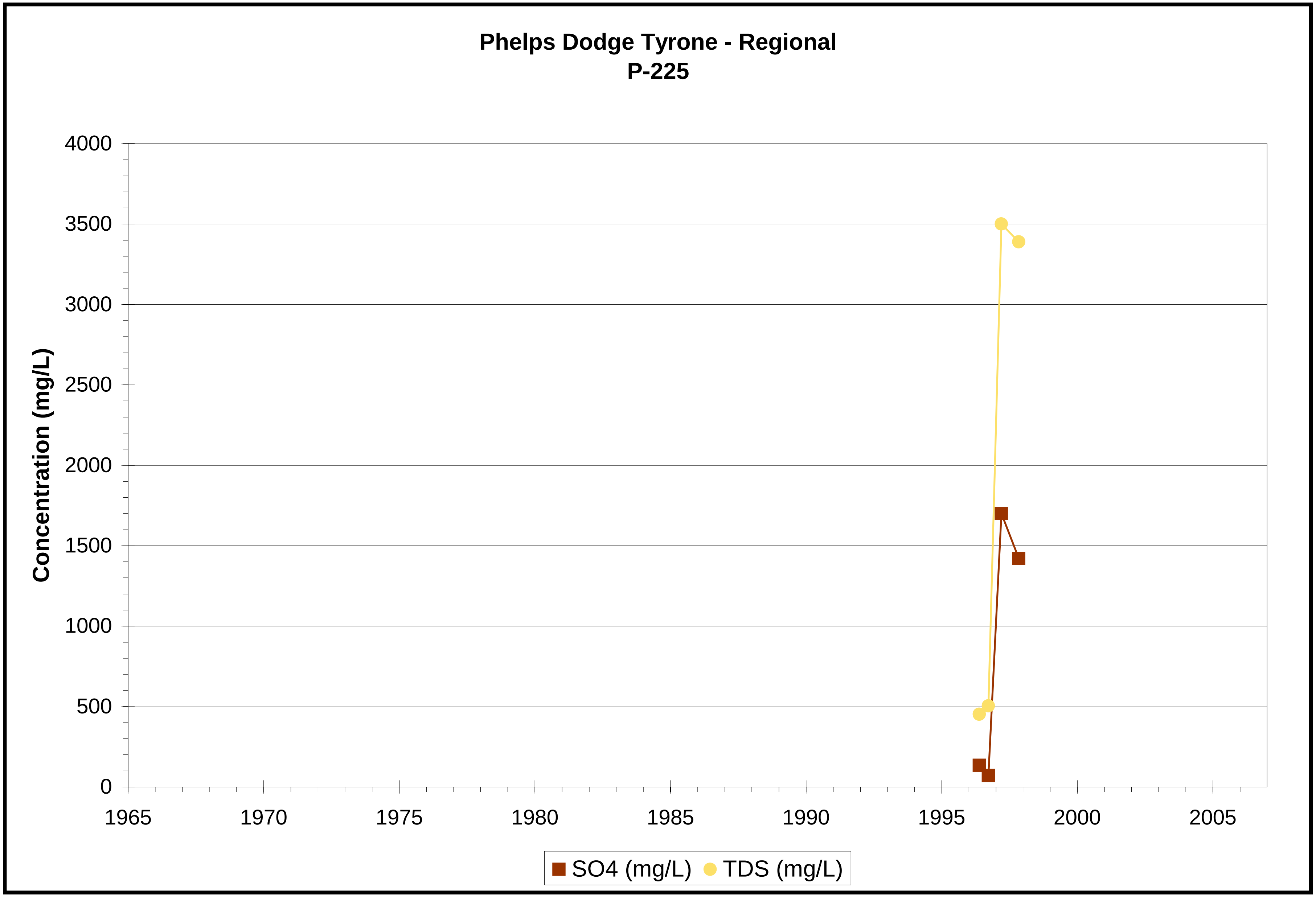


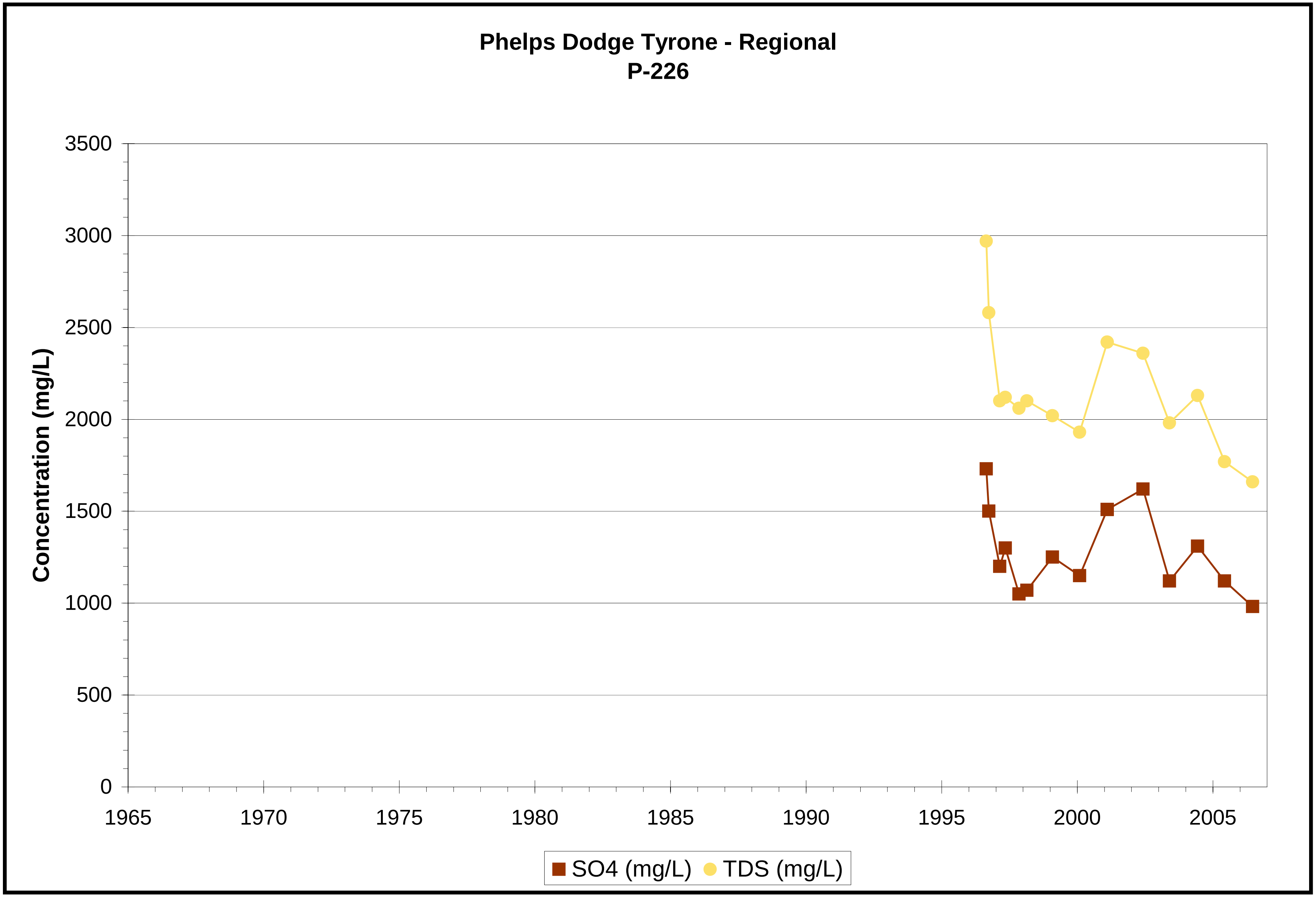
Phelps Dodge Tyrone - Regional
P-222
Concentration (mg/L)
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



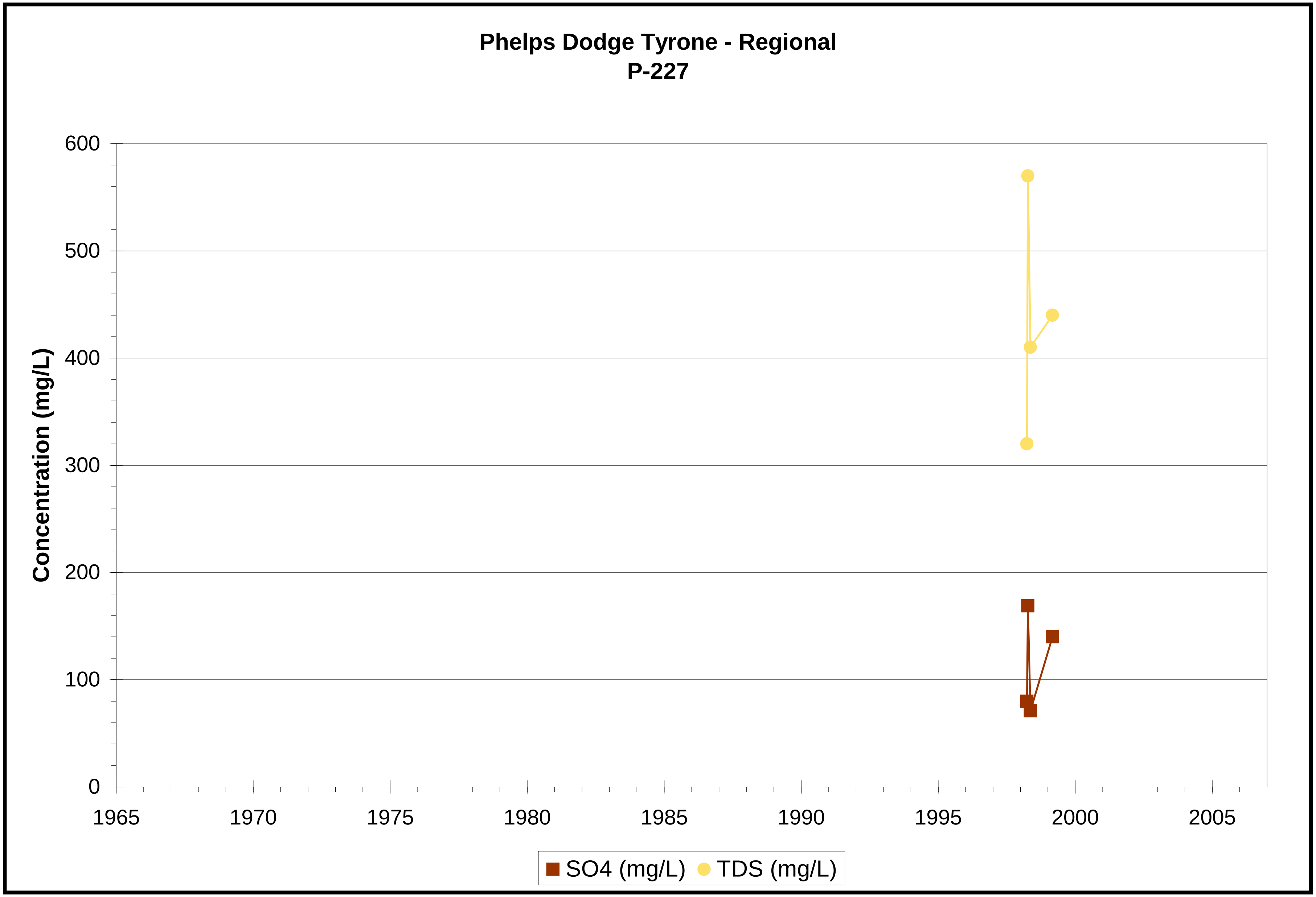
Phelps Dodge Tyrone - Regional
P-223
Concentration (mg/L)
0
500
1000
1500
2000
2500
3000
3500
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-224
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1800
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

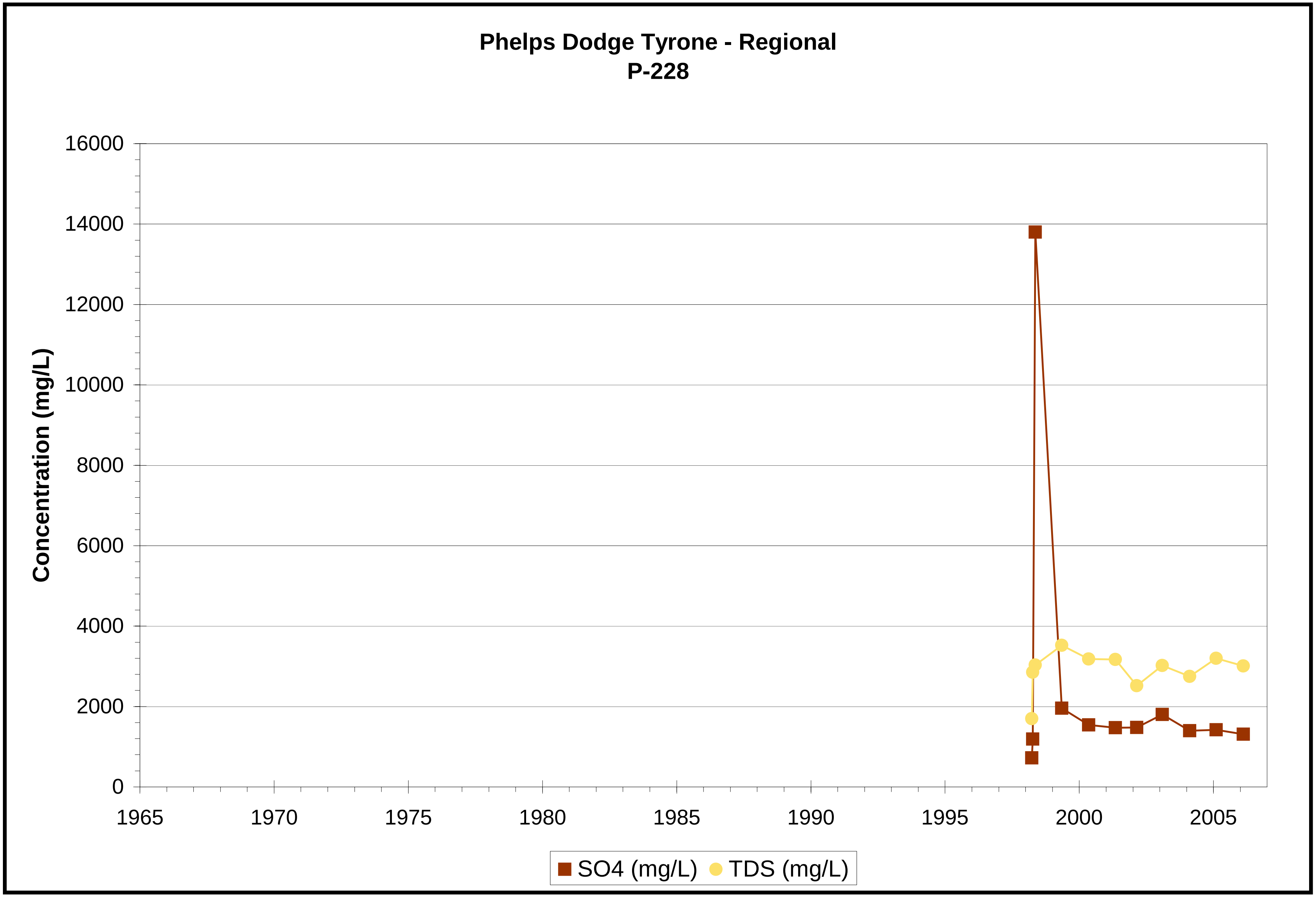

Phelps Dodge Tyrone - Regional
P-225
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

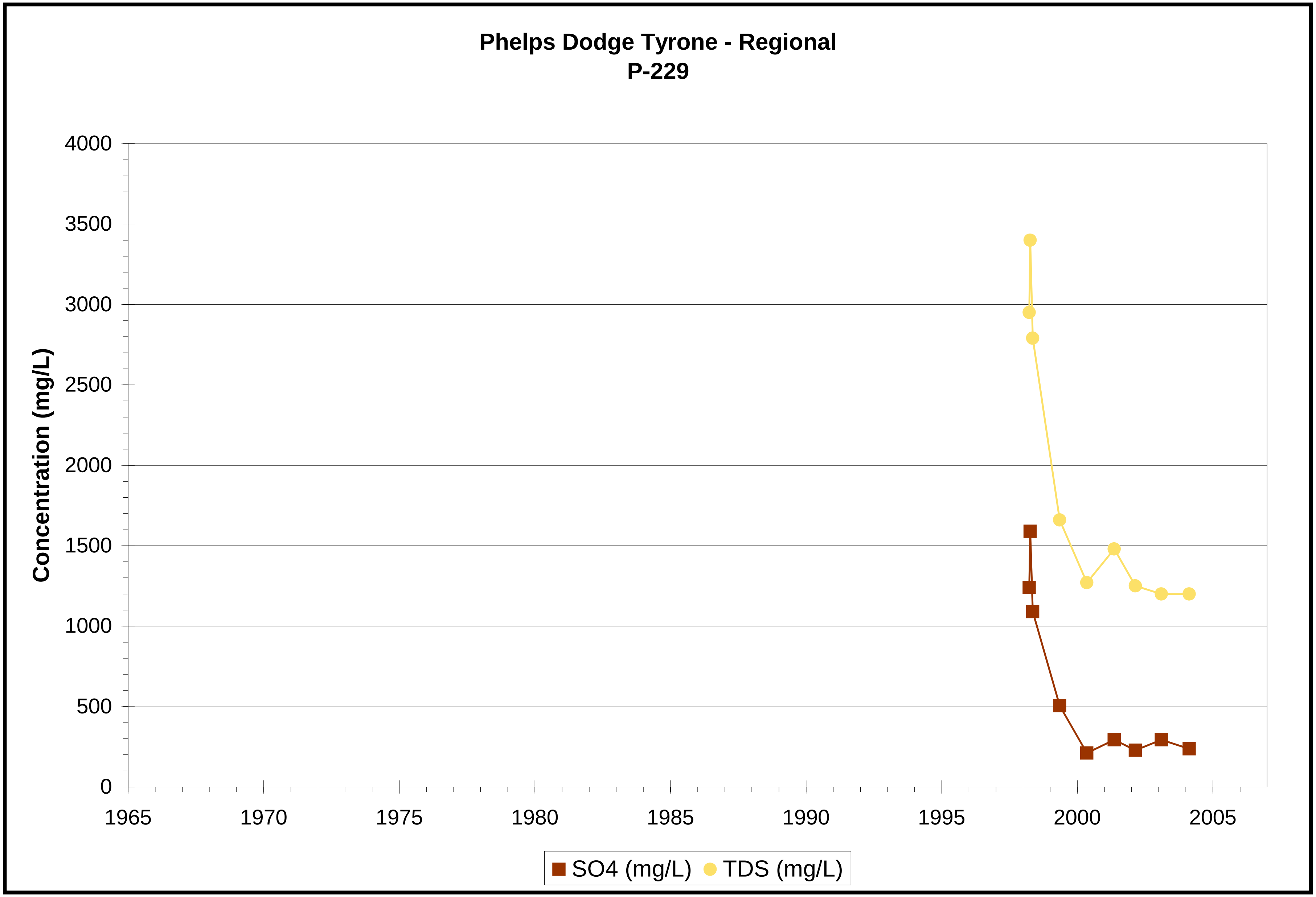


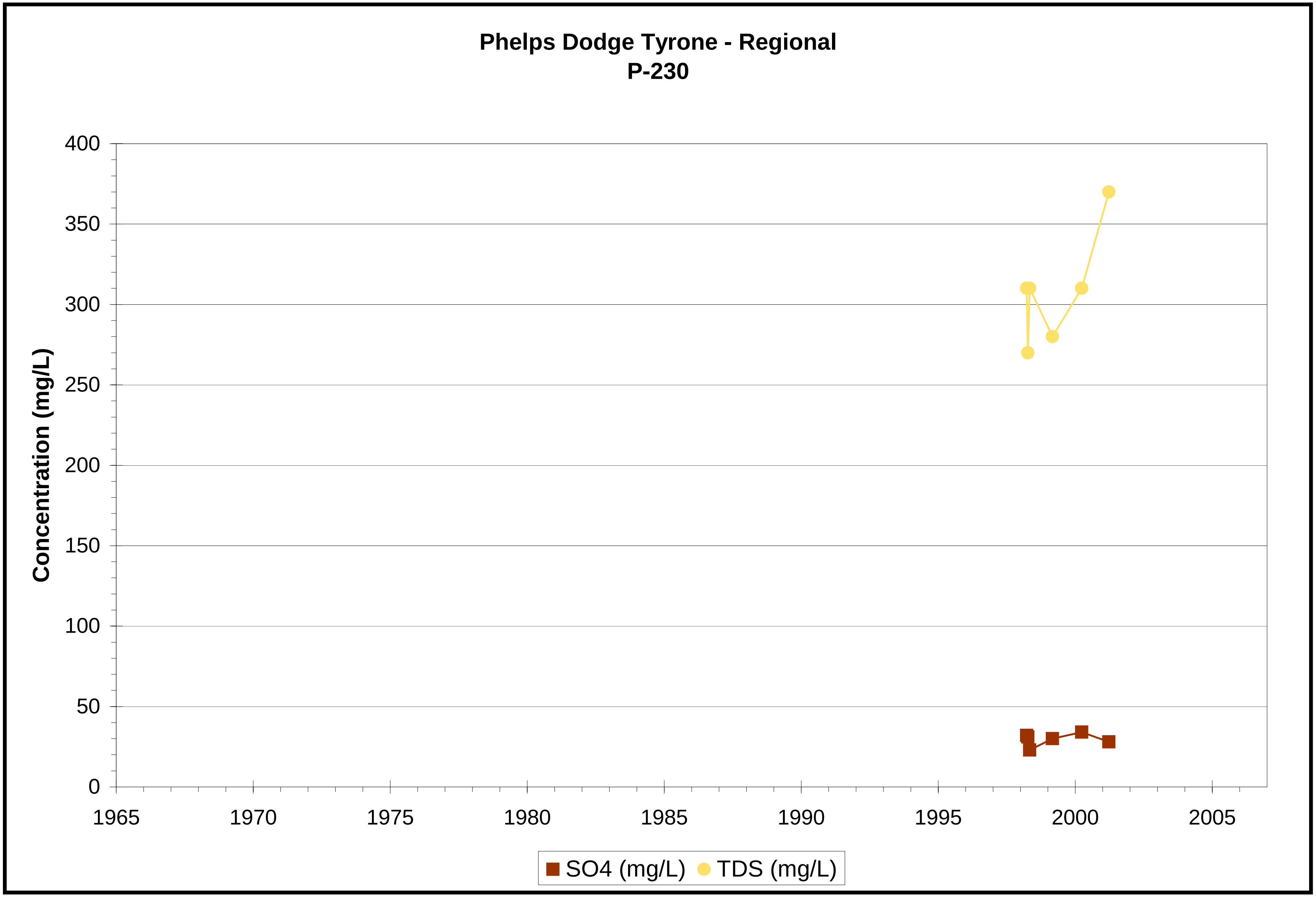
Phelps Dodge Tyrone - Regional
P-226
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



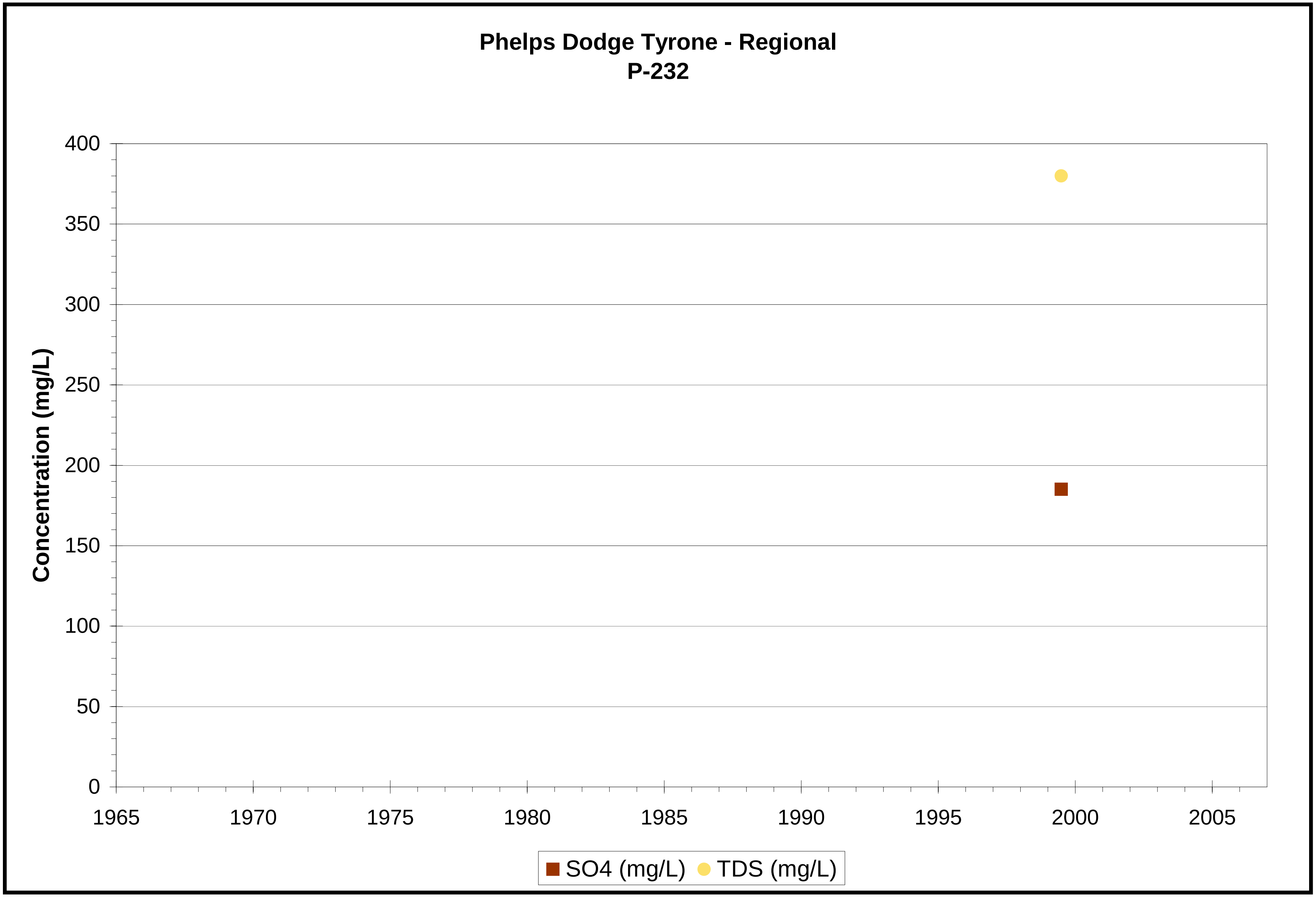
Phelps Dodge Tyrone - Regional
P-227
Concentration (mg/L)
0
100
200
300
400
500
600
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

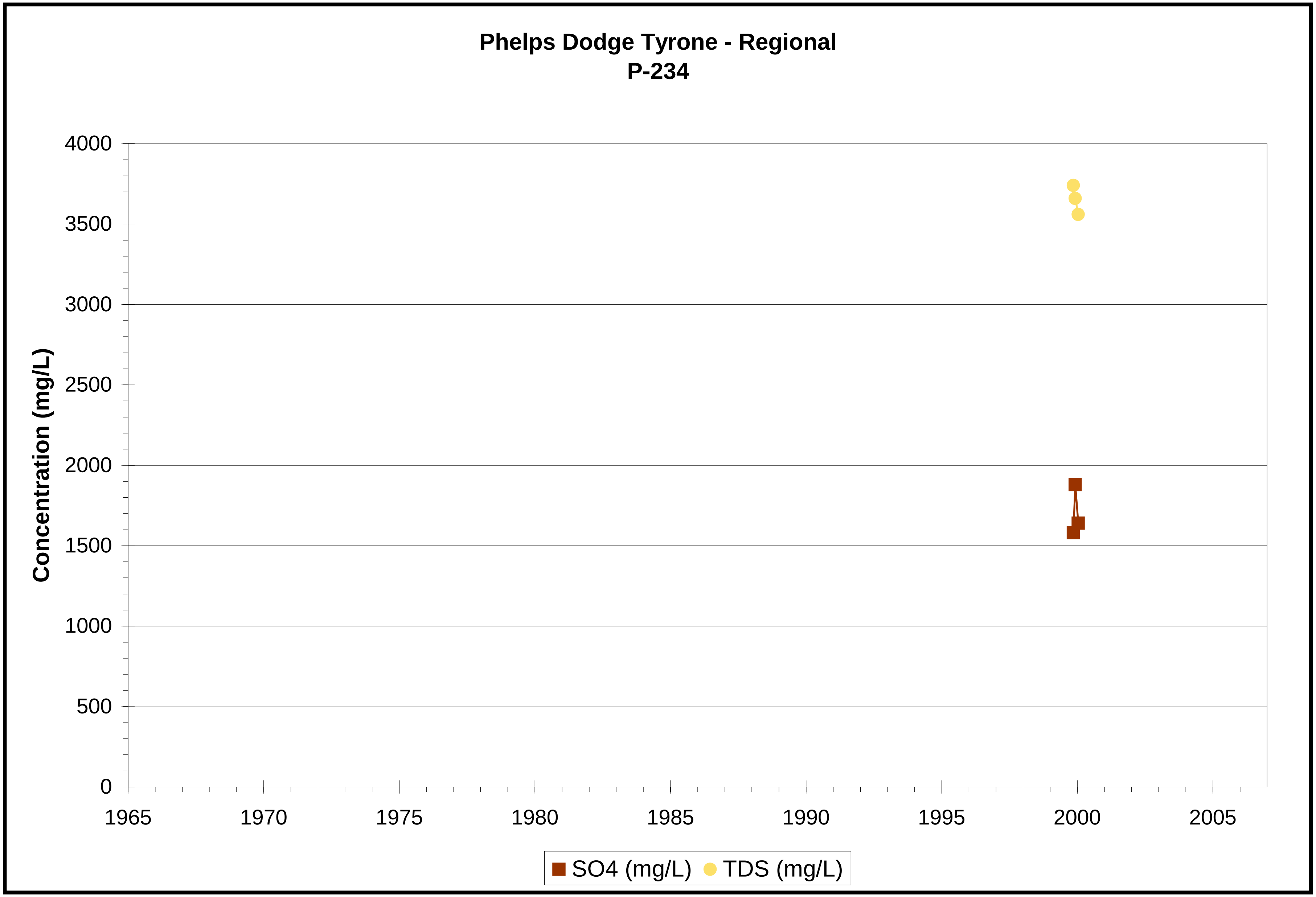

Phelps Dodge Tyrone - Regional
P-228
Concentration (mg/L)
16000
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-229
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

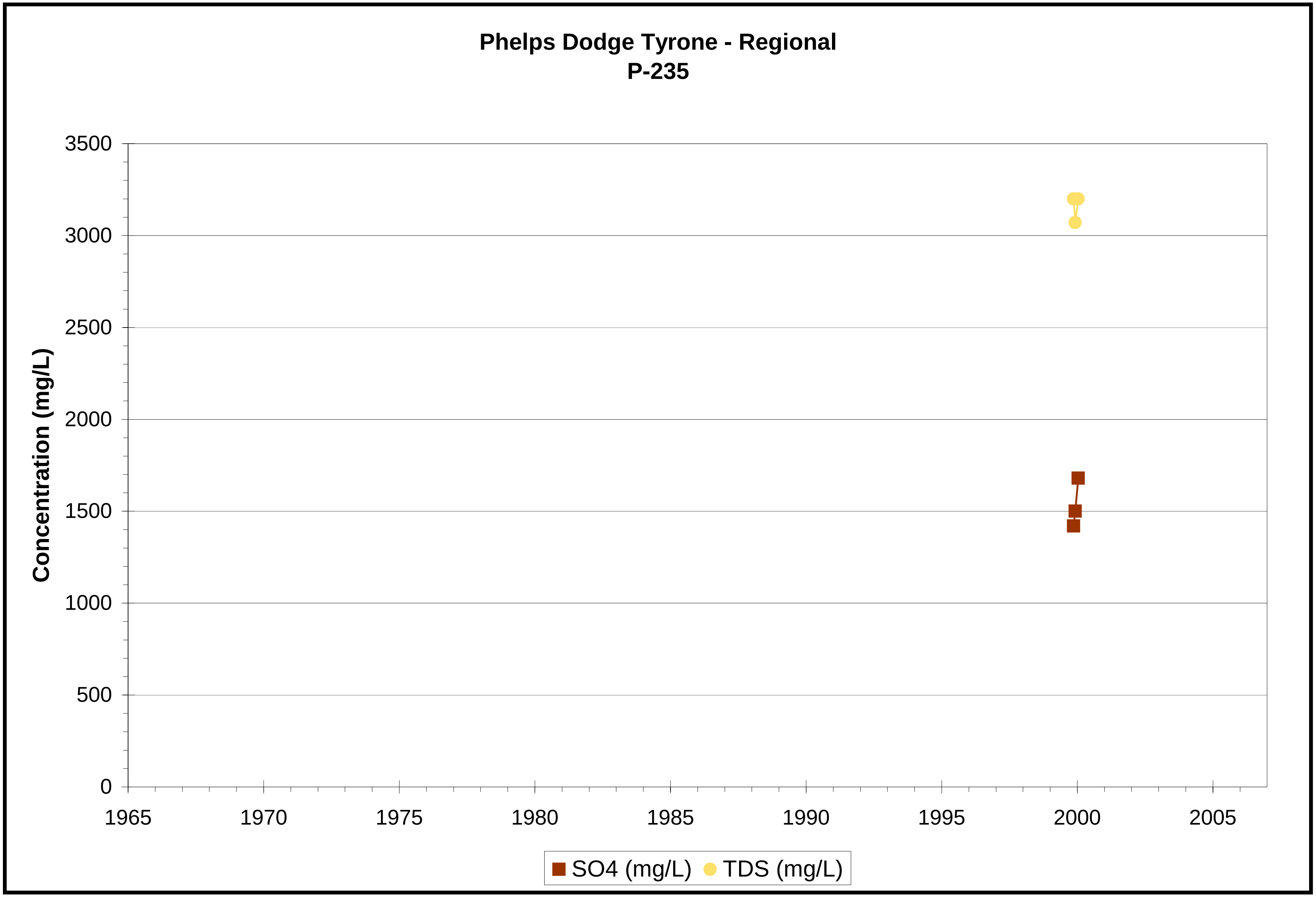


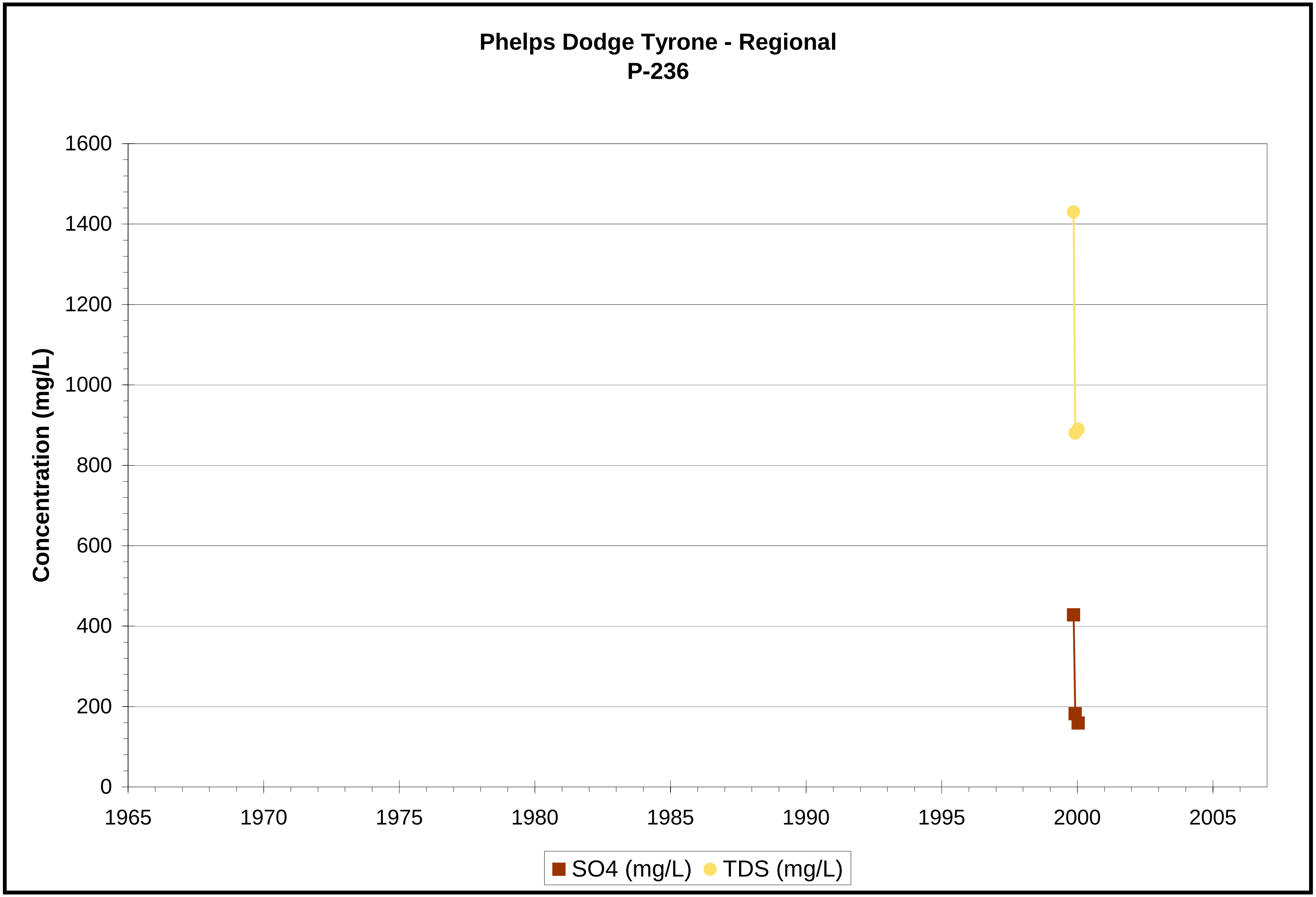
Phelps Dodge Tyrone - Regional
P-230
Concentration (mg/L)
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-232
Concentration (mg/L)
0
50
100
150
200
250
300
350
400
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

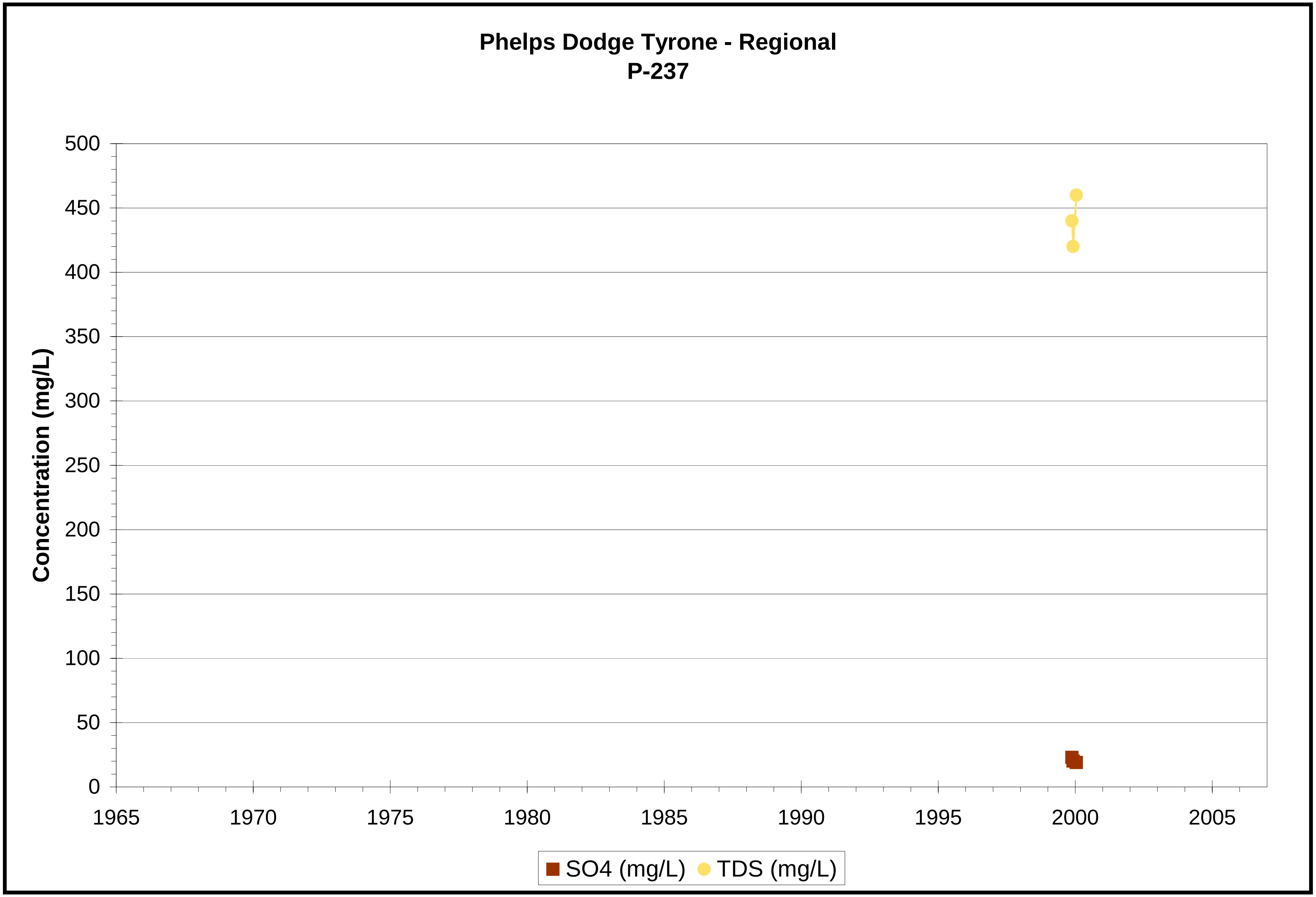


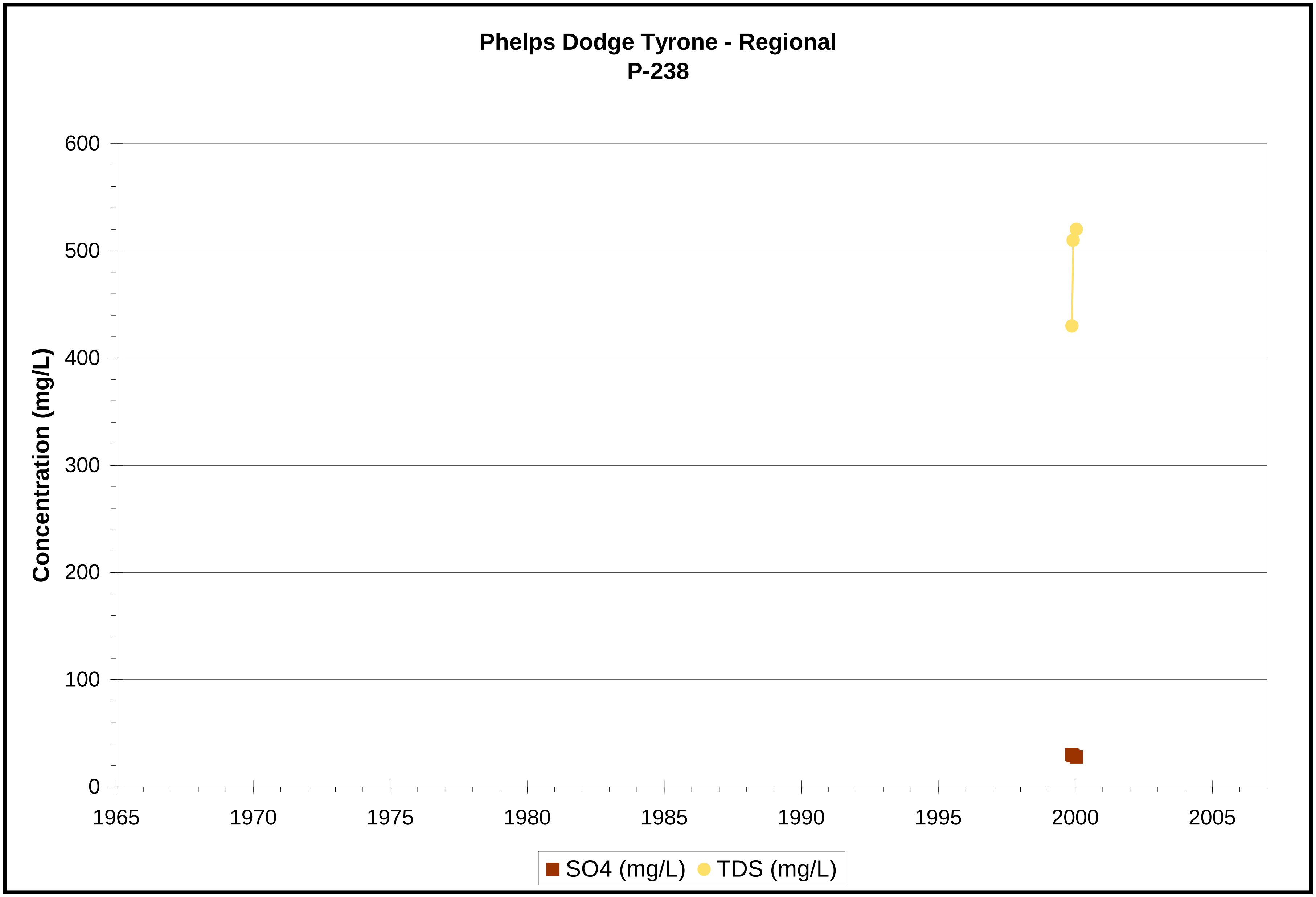
Phelps Dodge Tyrone - Regional
P-234
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-235
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

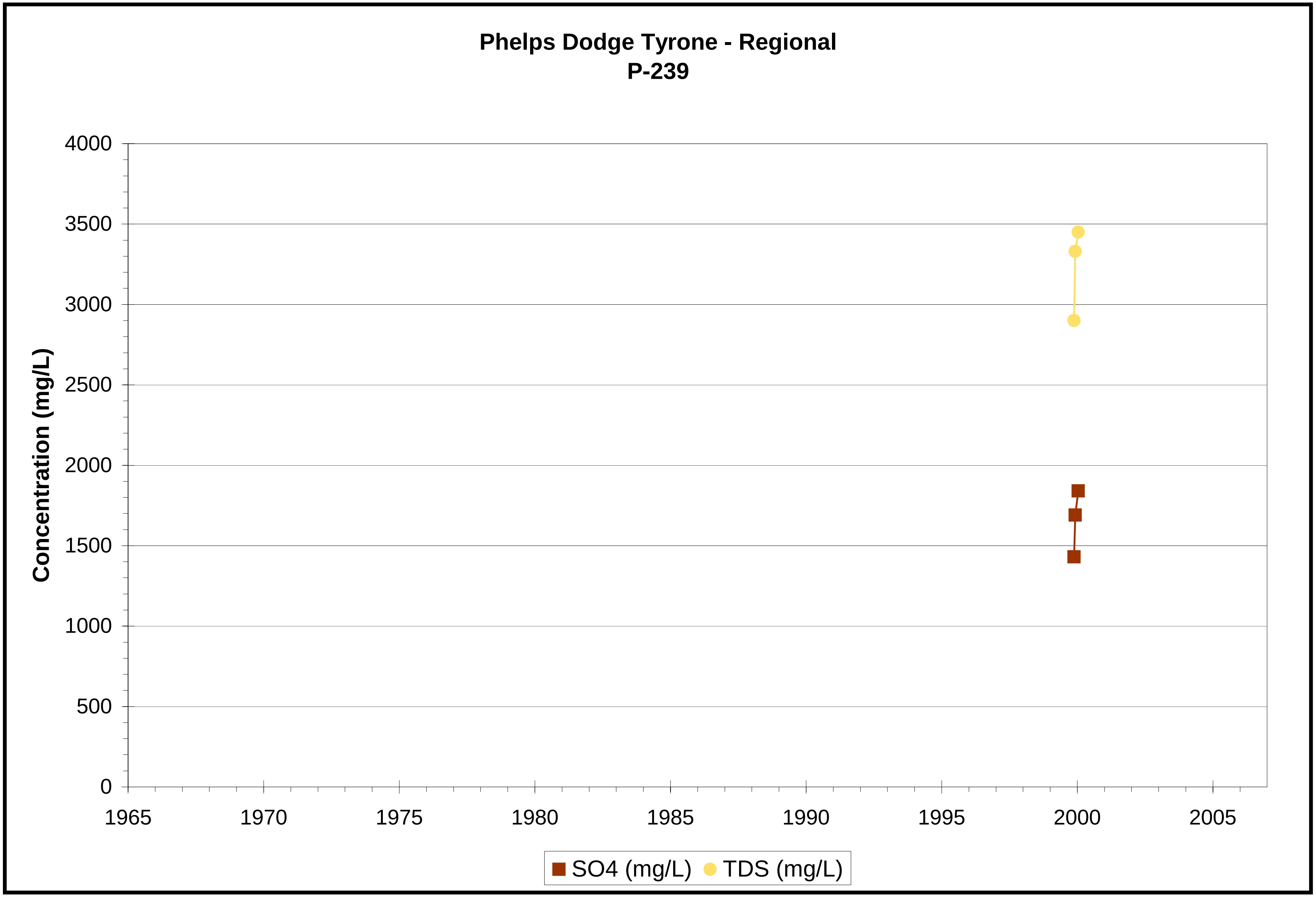


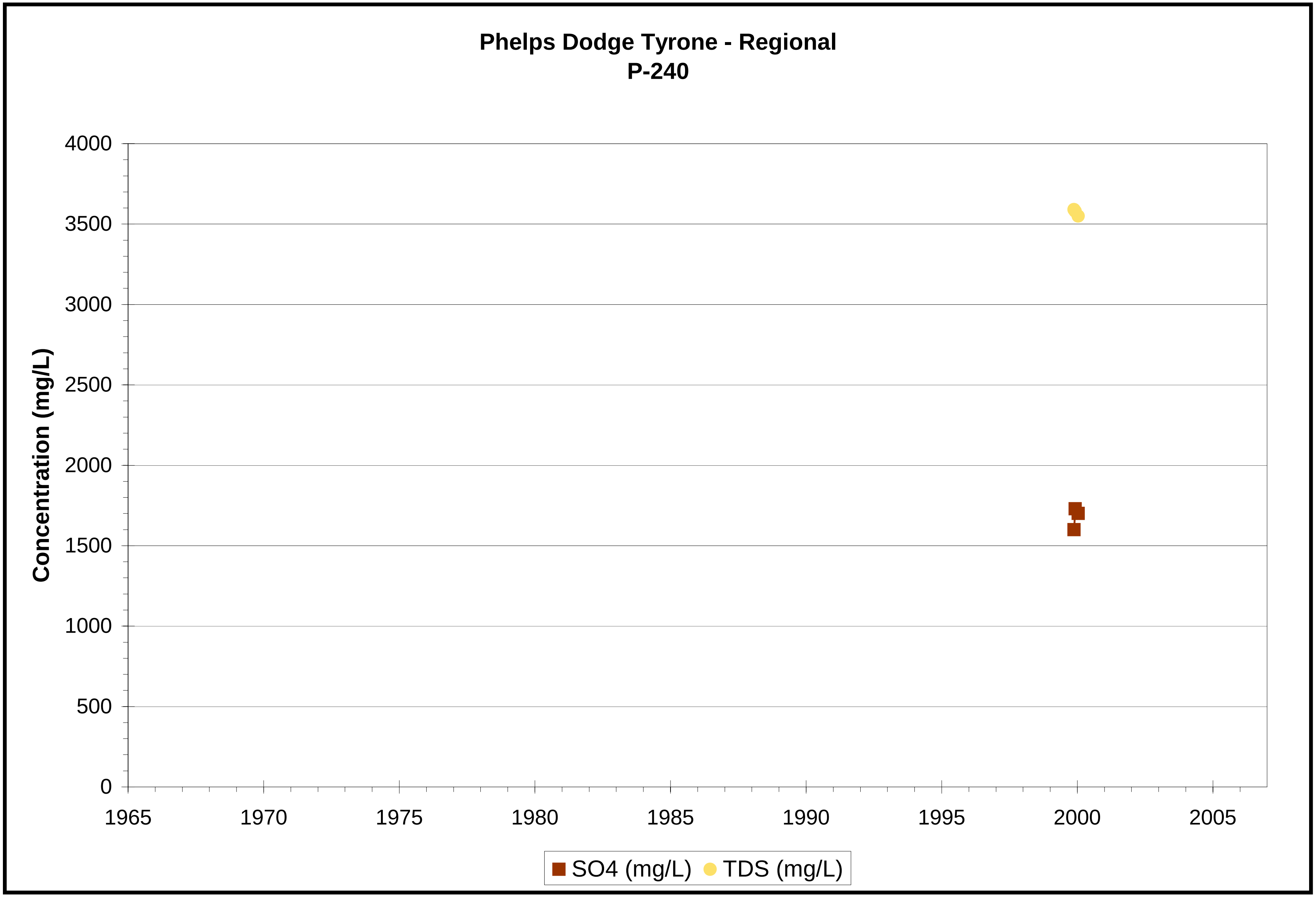
Phelps Dodge Tyrone - Regional
P-236
Concentration (mg/L)
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

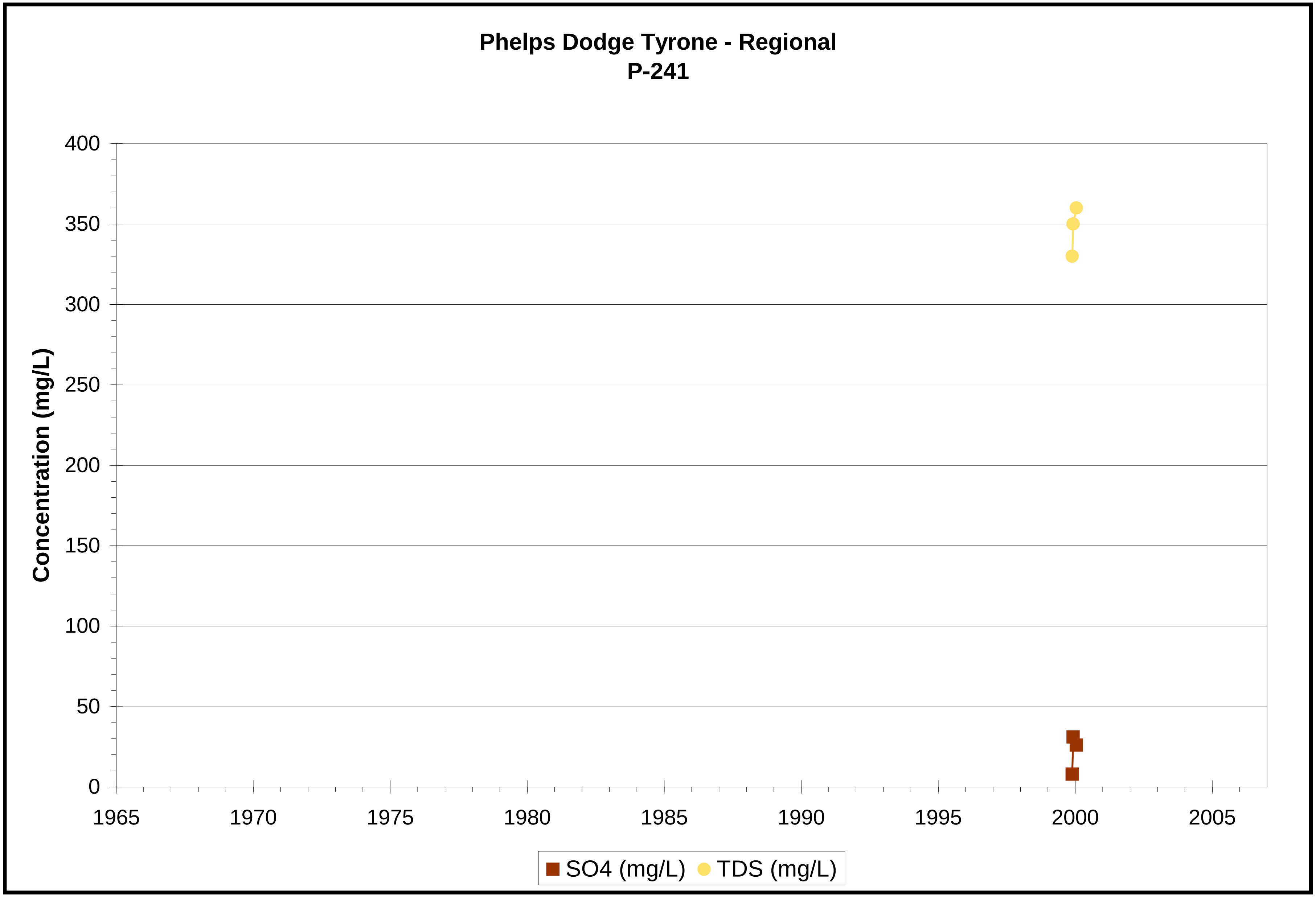

Phelps Dodge Tyrone - Regional
P-237
Concentration (mg/L)
500
450
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

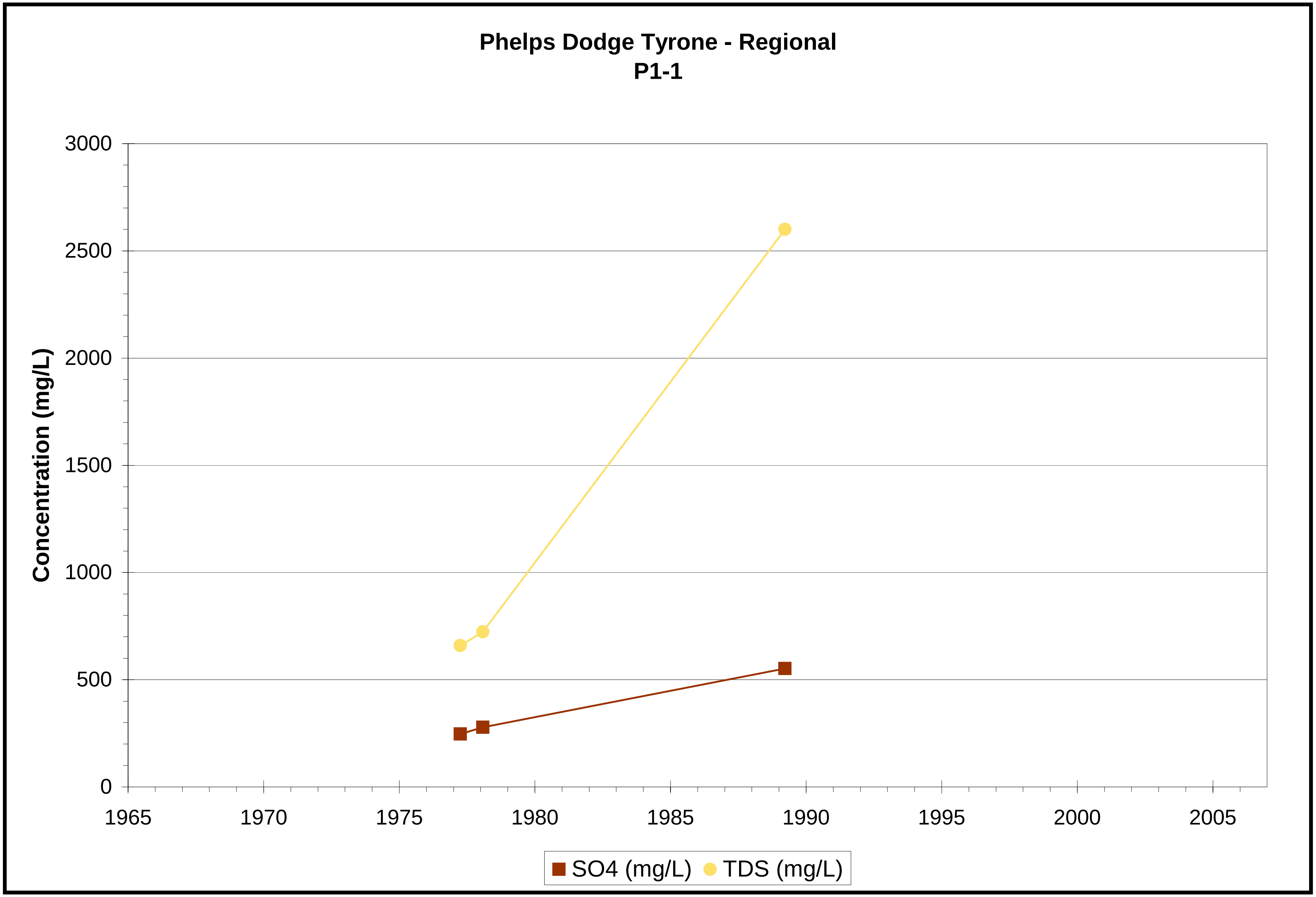


Phelps Dodge Tyrone - Regional
P-238
Concentration (mg/L)
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

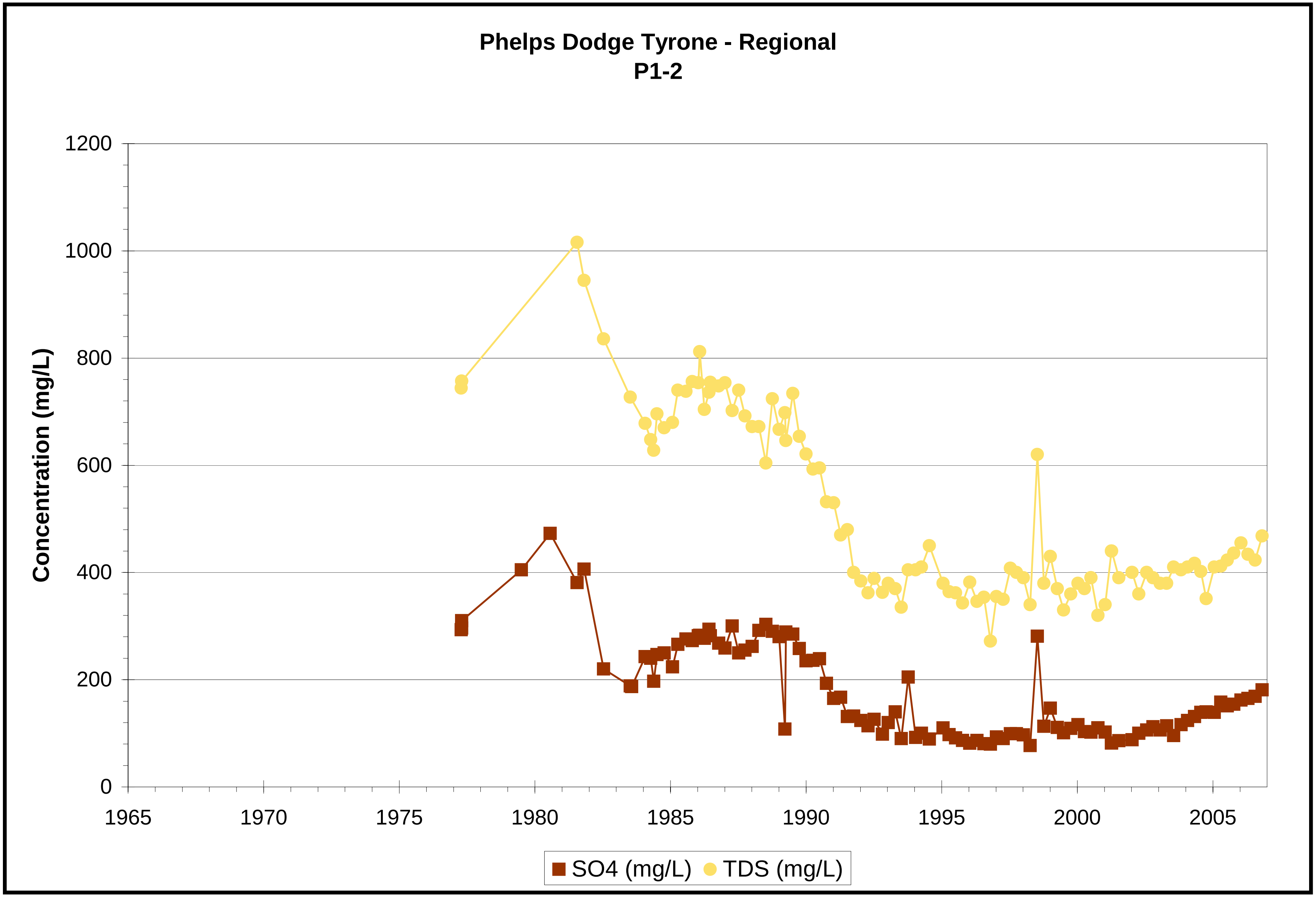

Phelps Dodge Tyrone - Regional
P-239
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P-240
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

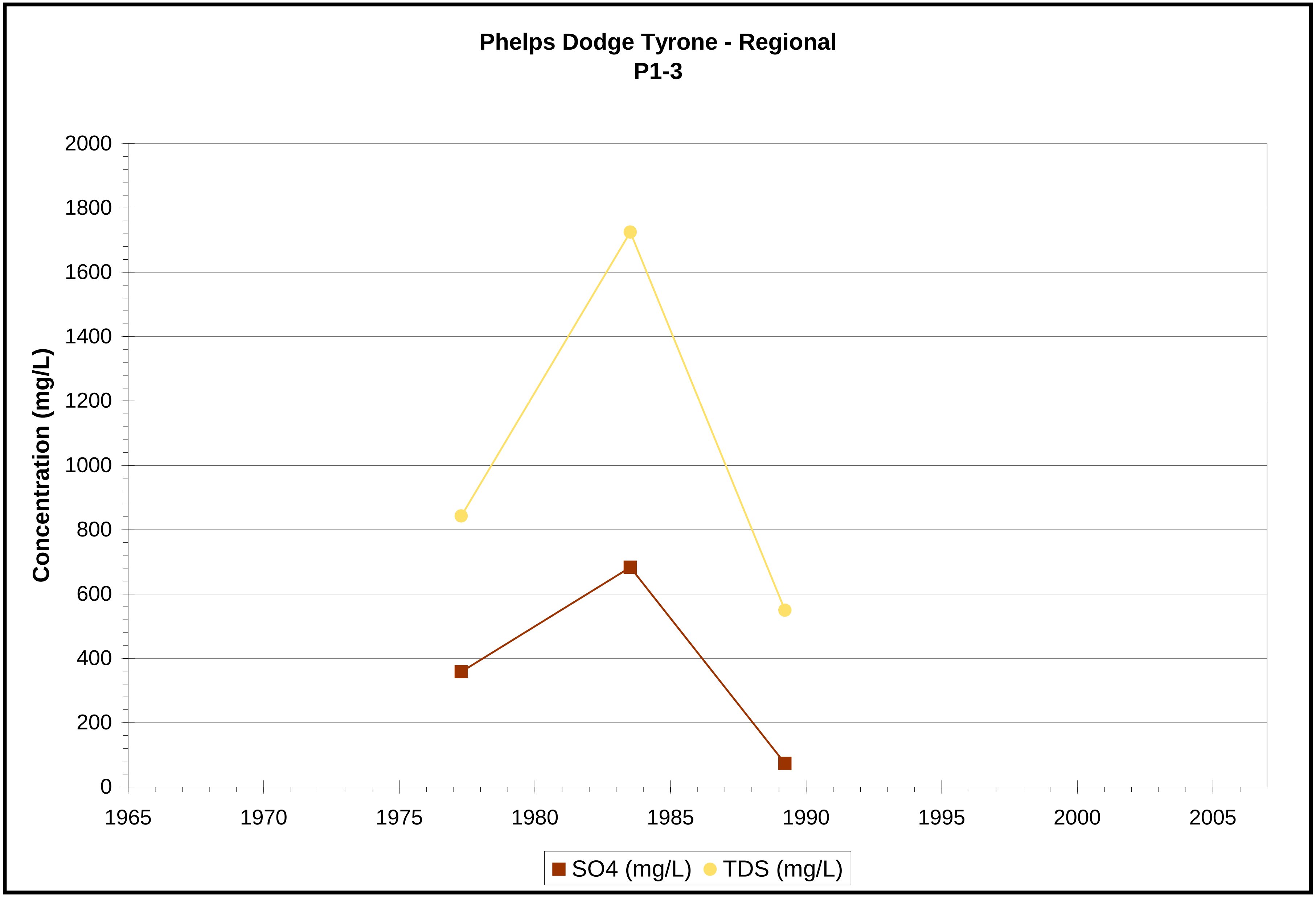

Phelps Dodge Tyrone - Regional
P-241
Concentration (mg/L)
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



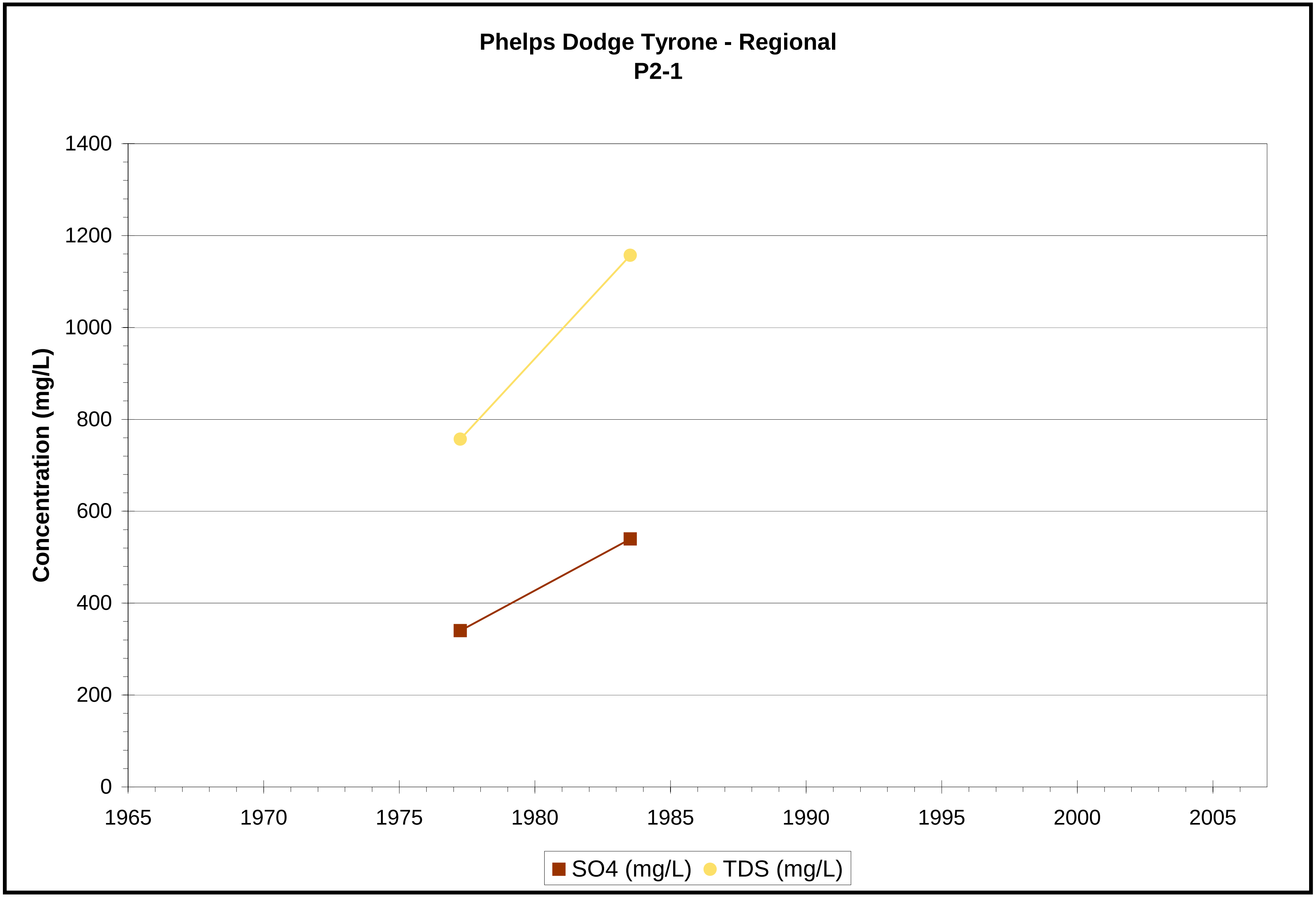
Phelps Dodge Tyrone - Regional
P1-1
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

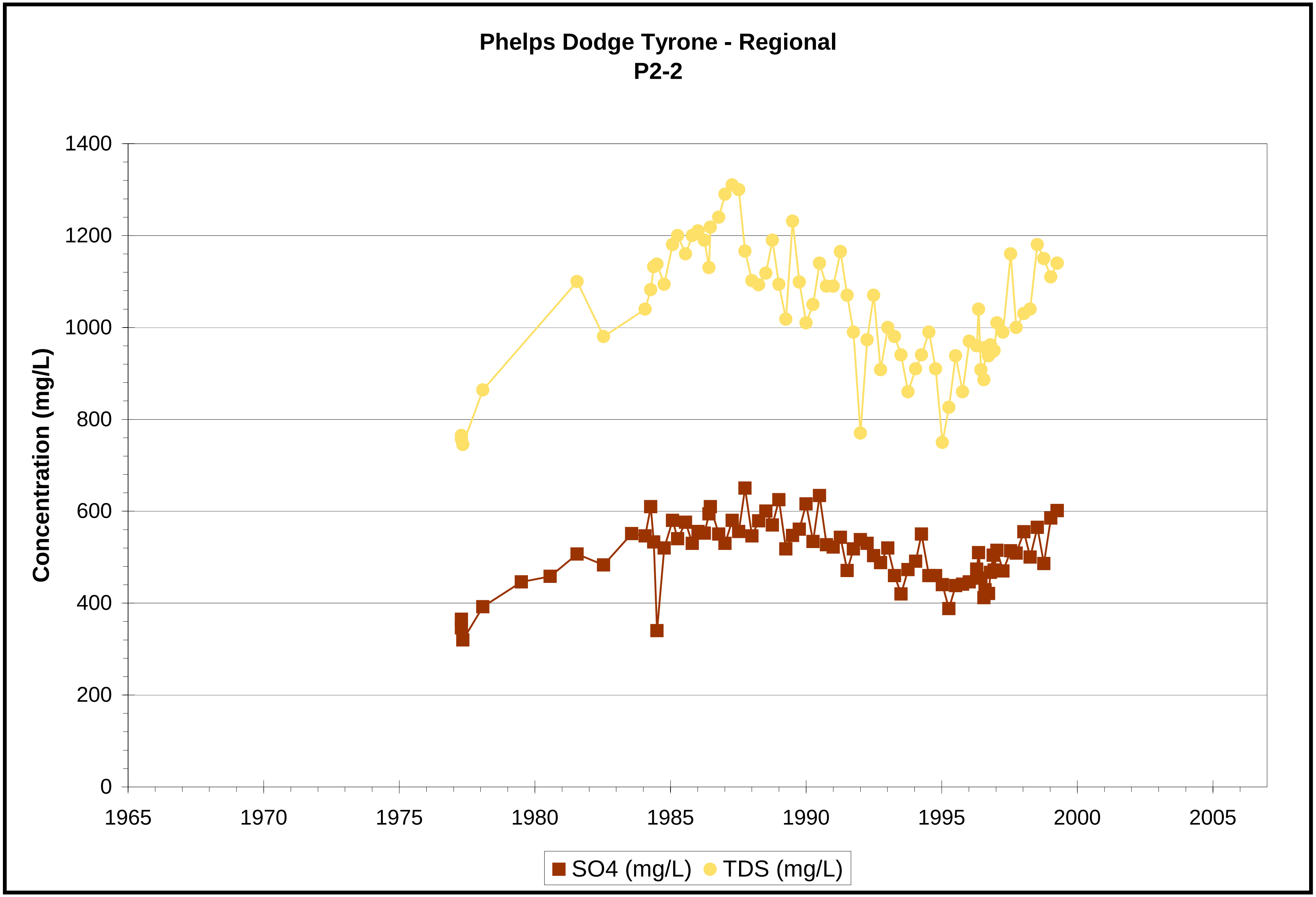


Phelps Dodge Tyrone - Regional
P1-2
Concentration (mg/L)
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

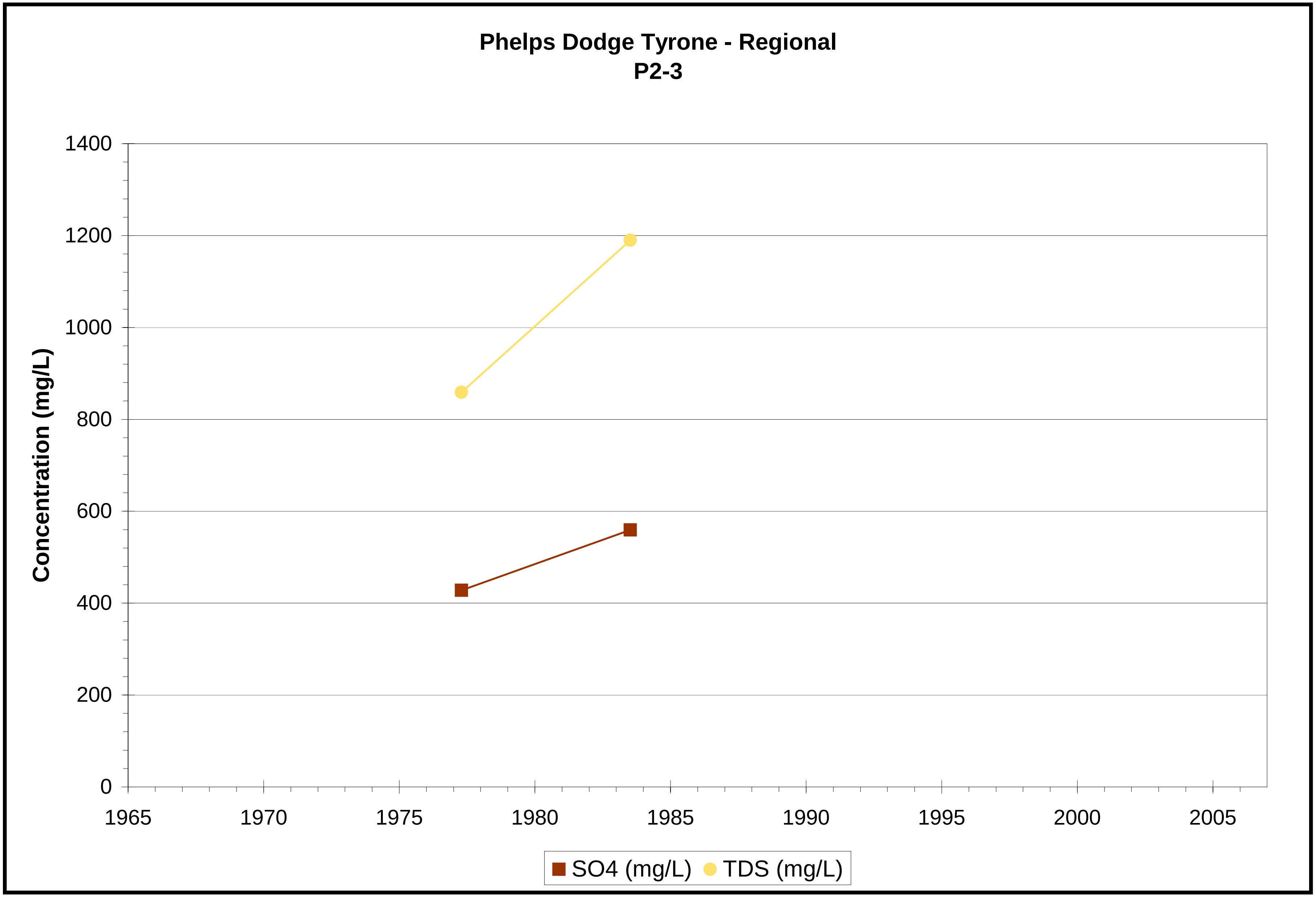


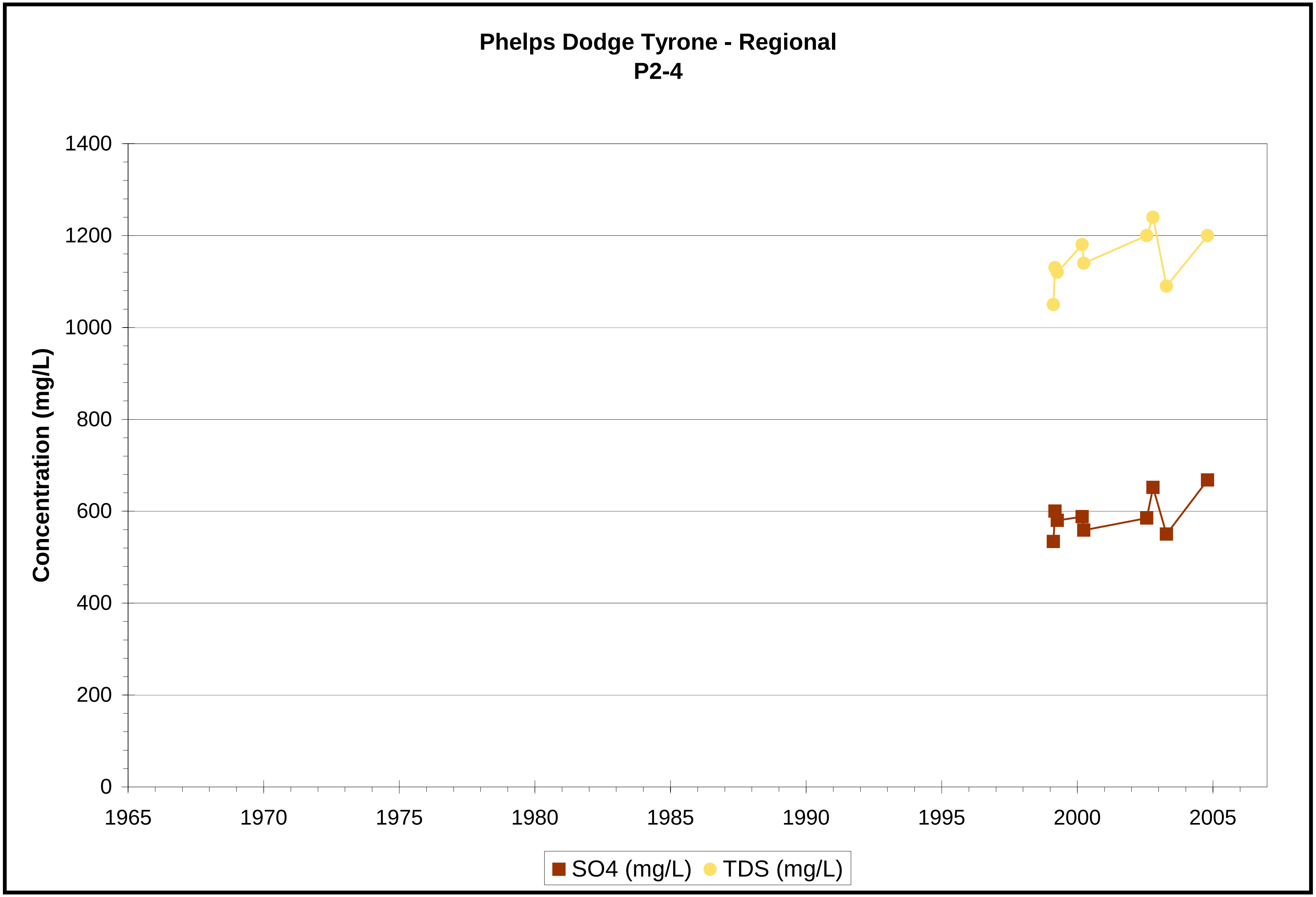
Phelps Dodge Tyrone - Regional
P1-3
Concentration (mg/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
P2-1
Concentration (mg/L)
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

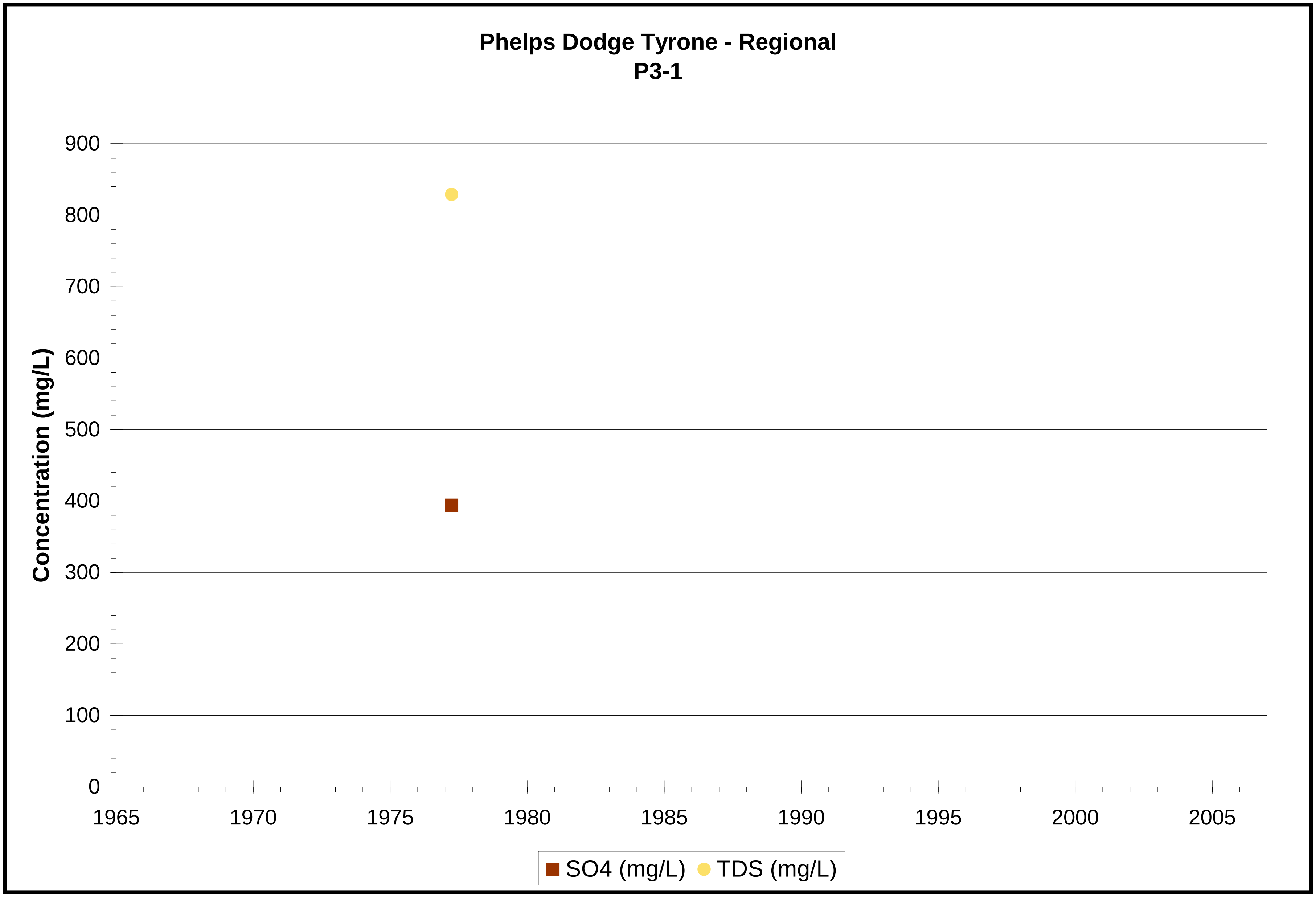


Phelps Dodge Tyrone - Regional
P2-2
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

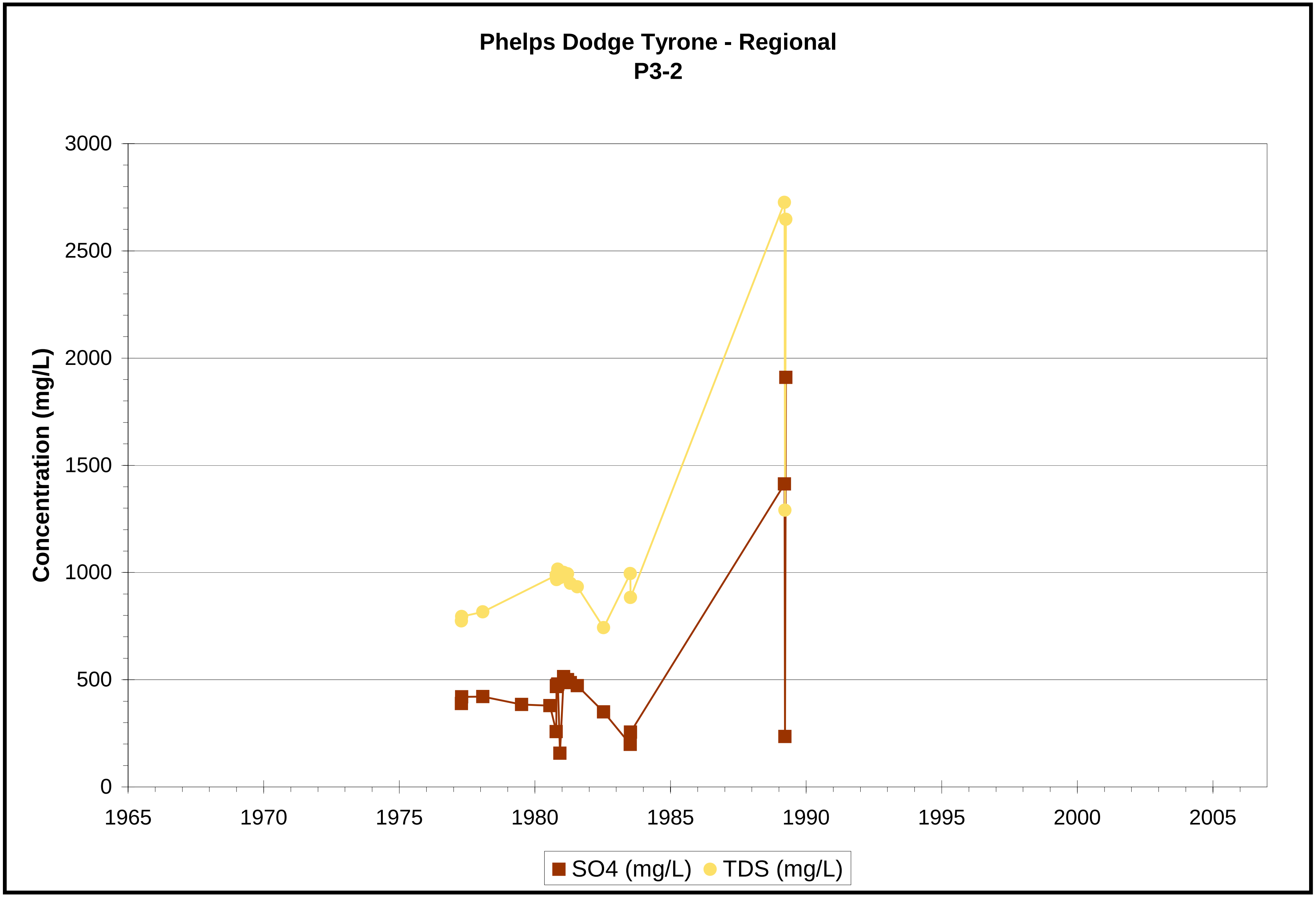

Phelps Dodge Tyrone - Regional
P2-3
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



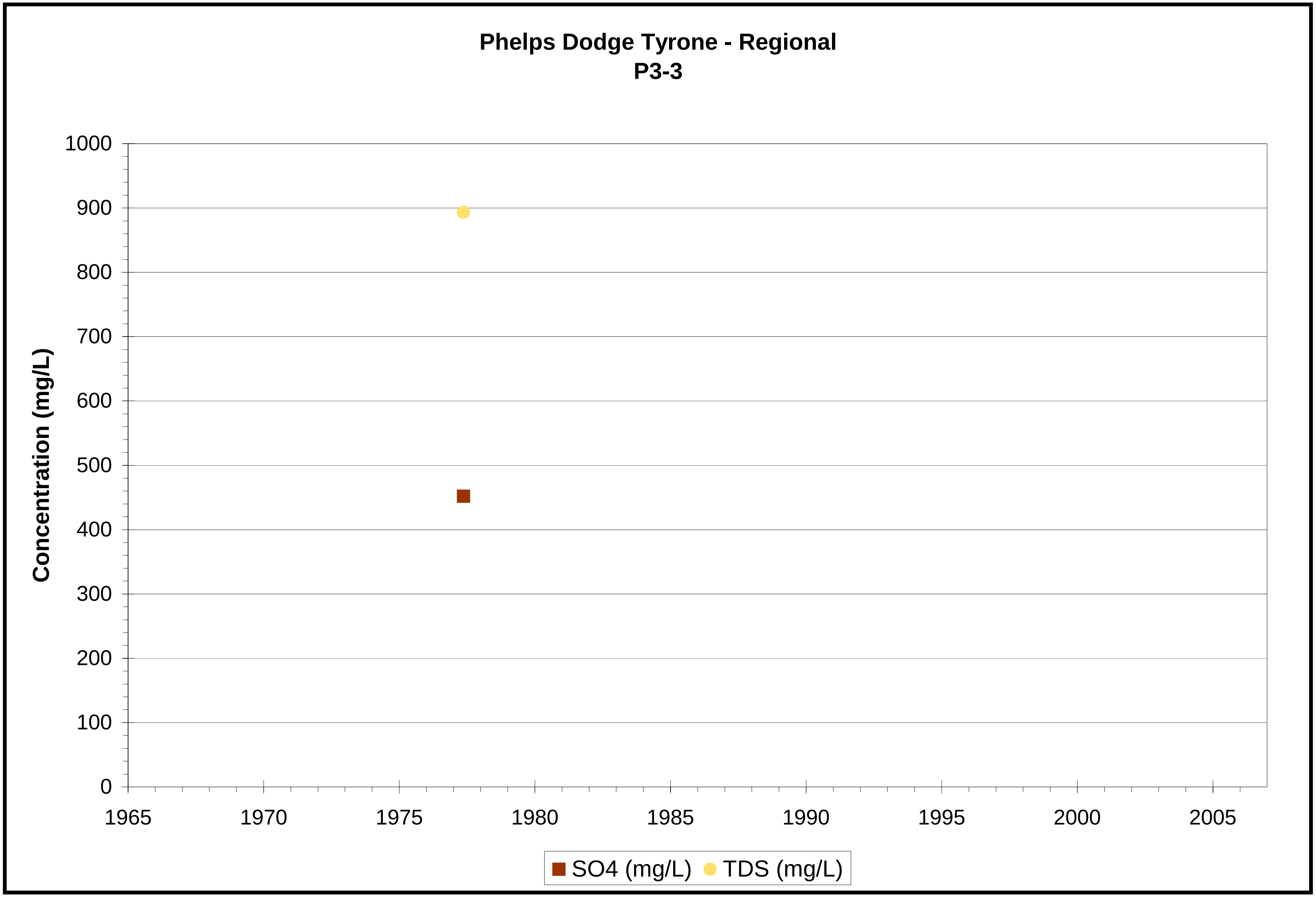
Phelps Dodge Tyrone - Regional
P2-4
Concentration (mg/L)
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



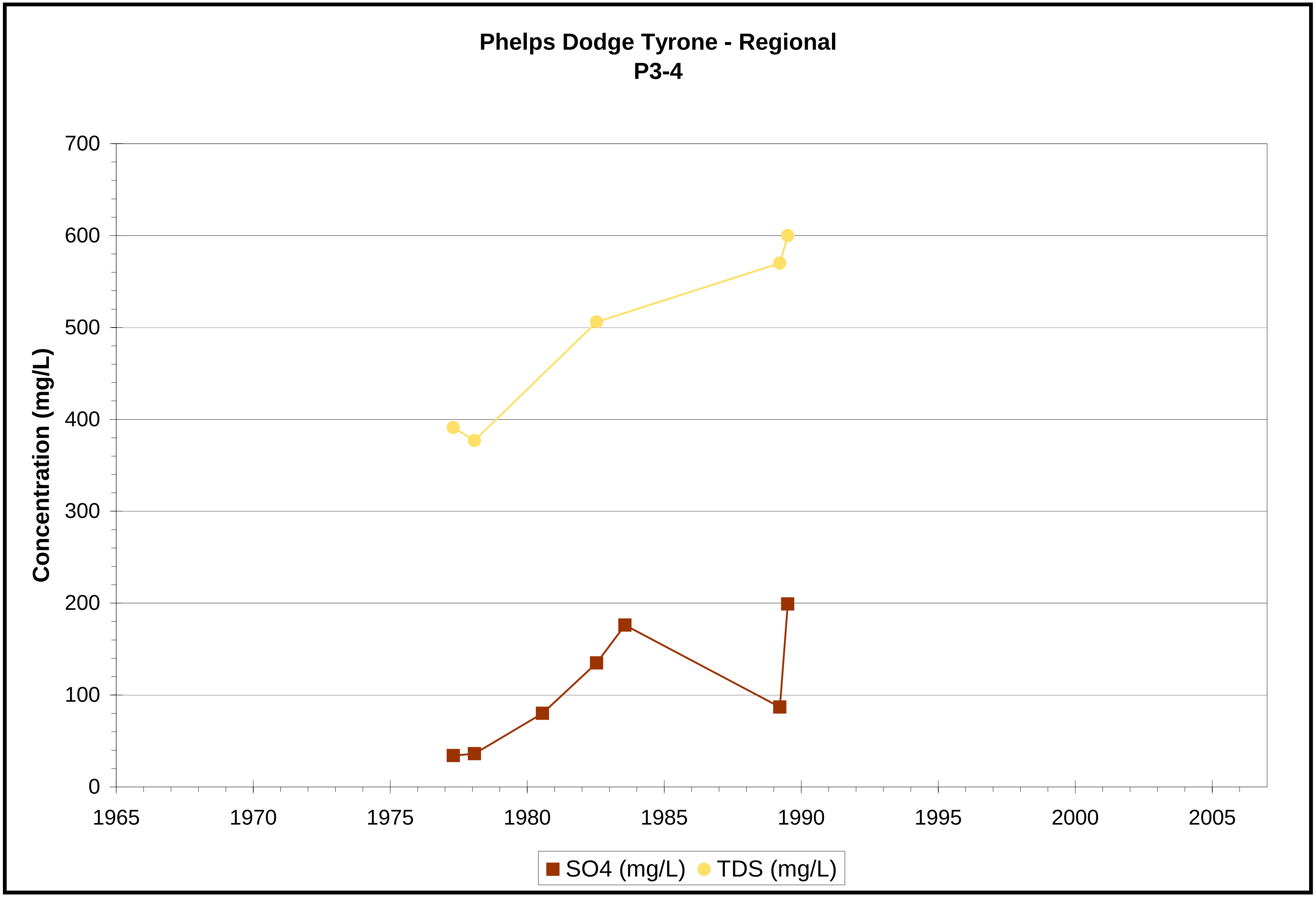
Phelps Dodge Tyrone - Regional
P3-1
Concentration (mg/L)
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



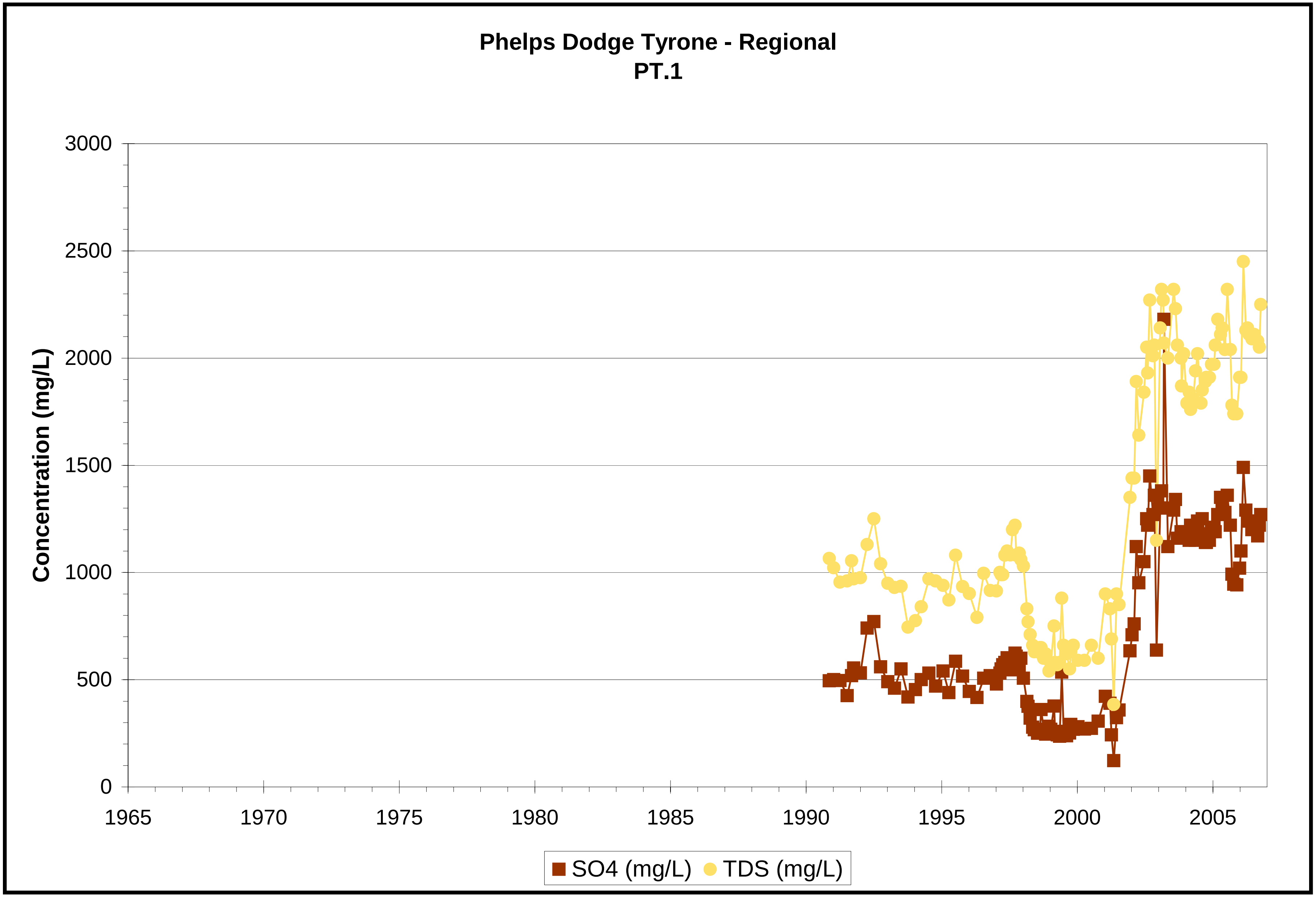
Phelps Dodge Tyrone - Regional
P3-2
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



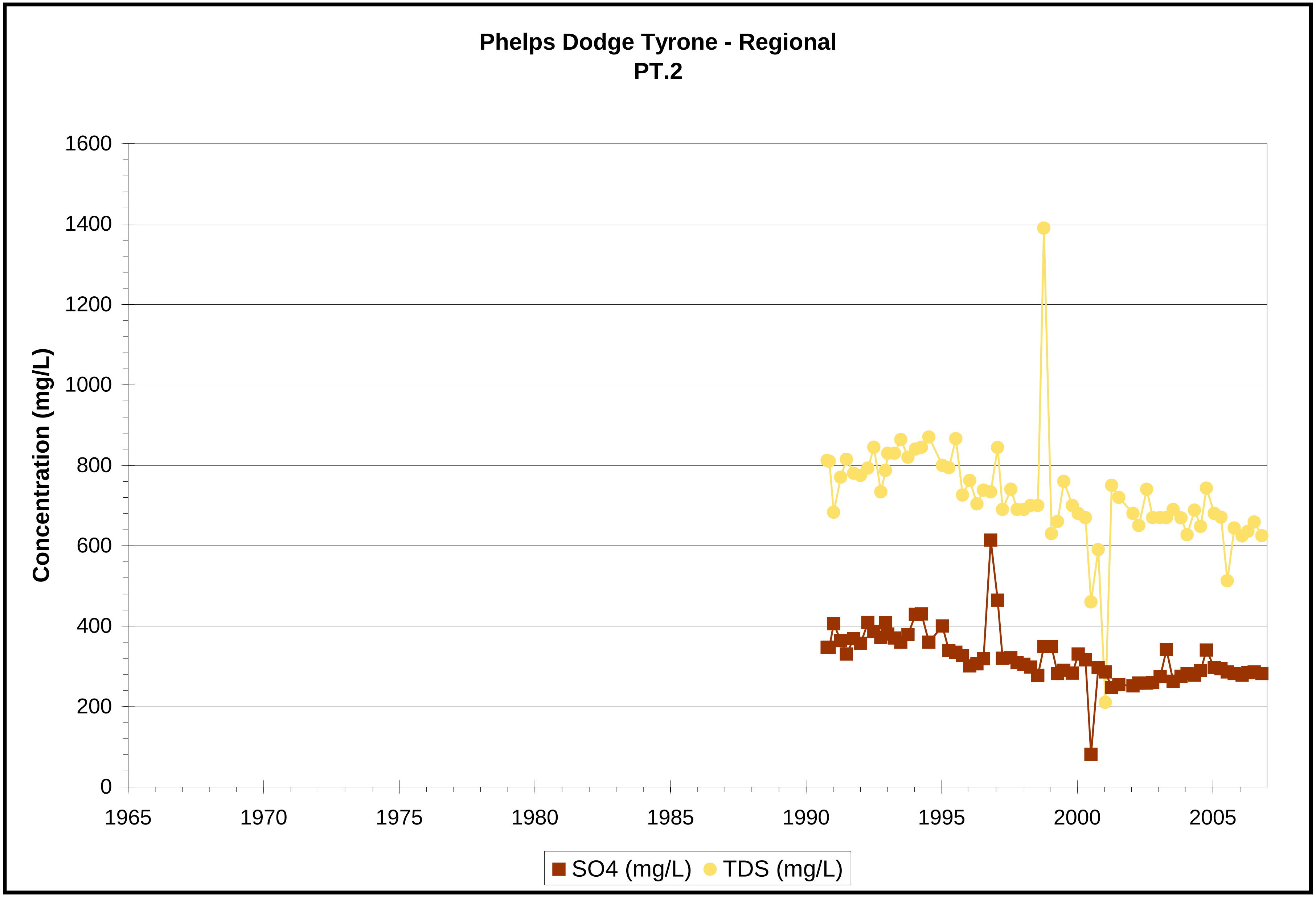
Phelps Dodge Tyrone - Regional
P3-3
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
900
1000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

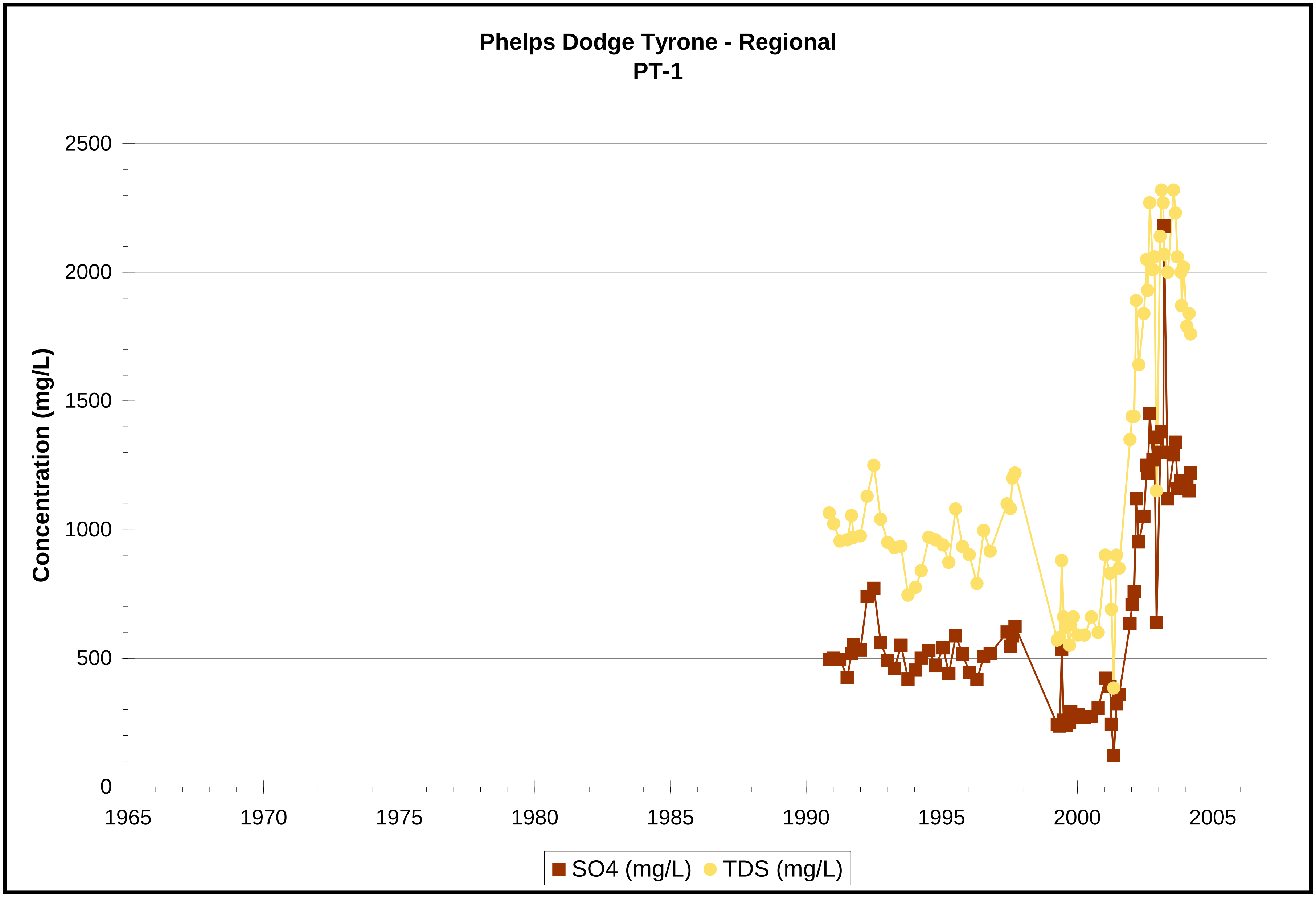


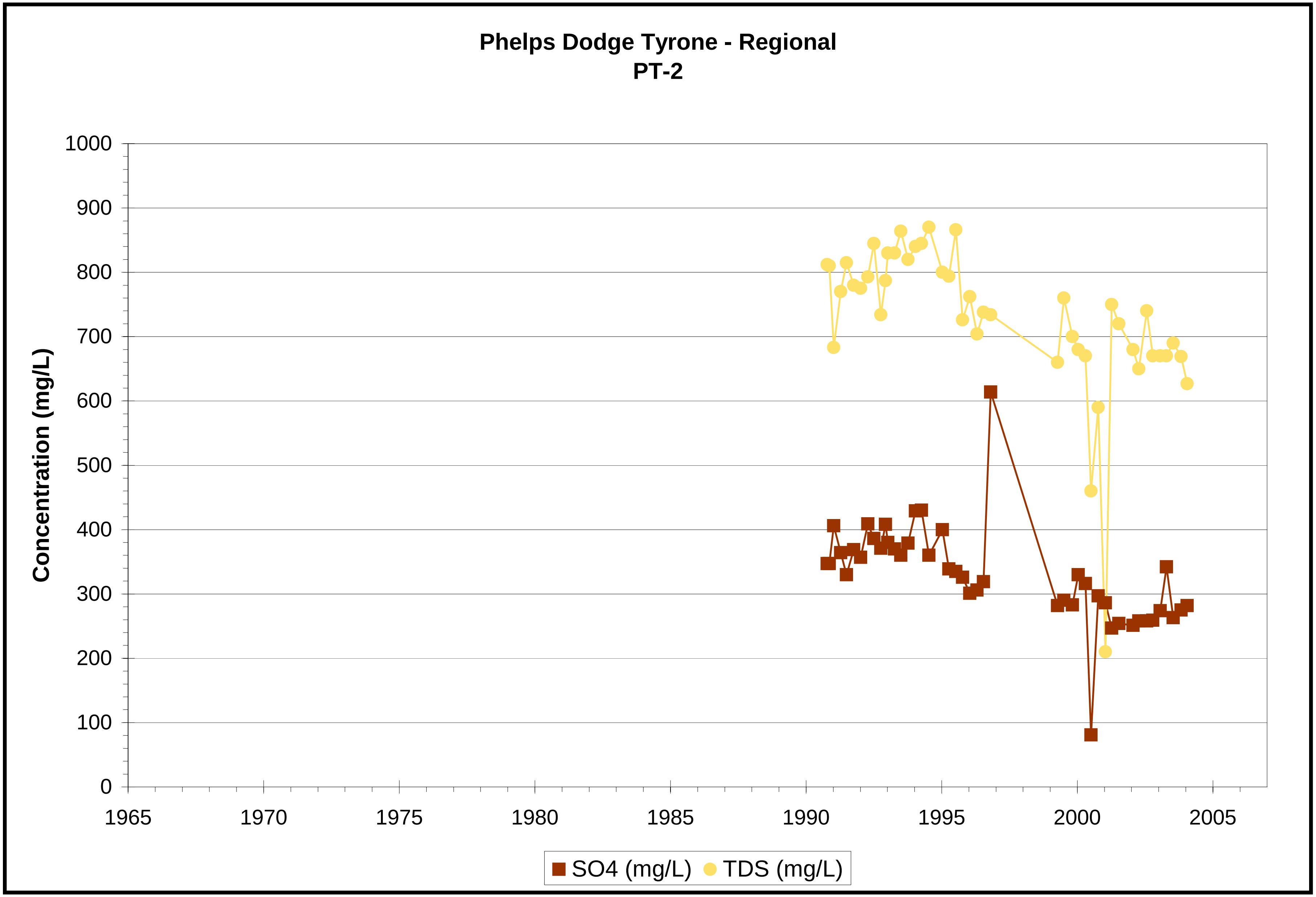
Phelps Dodge Tyrone - Regional
P3-4
Concentration (mg/L)
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



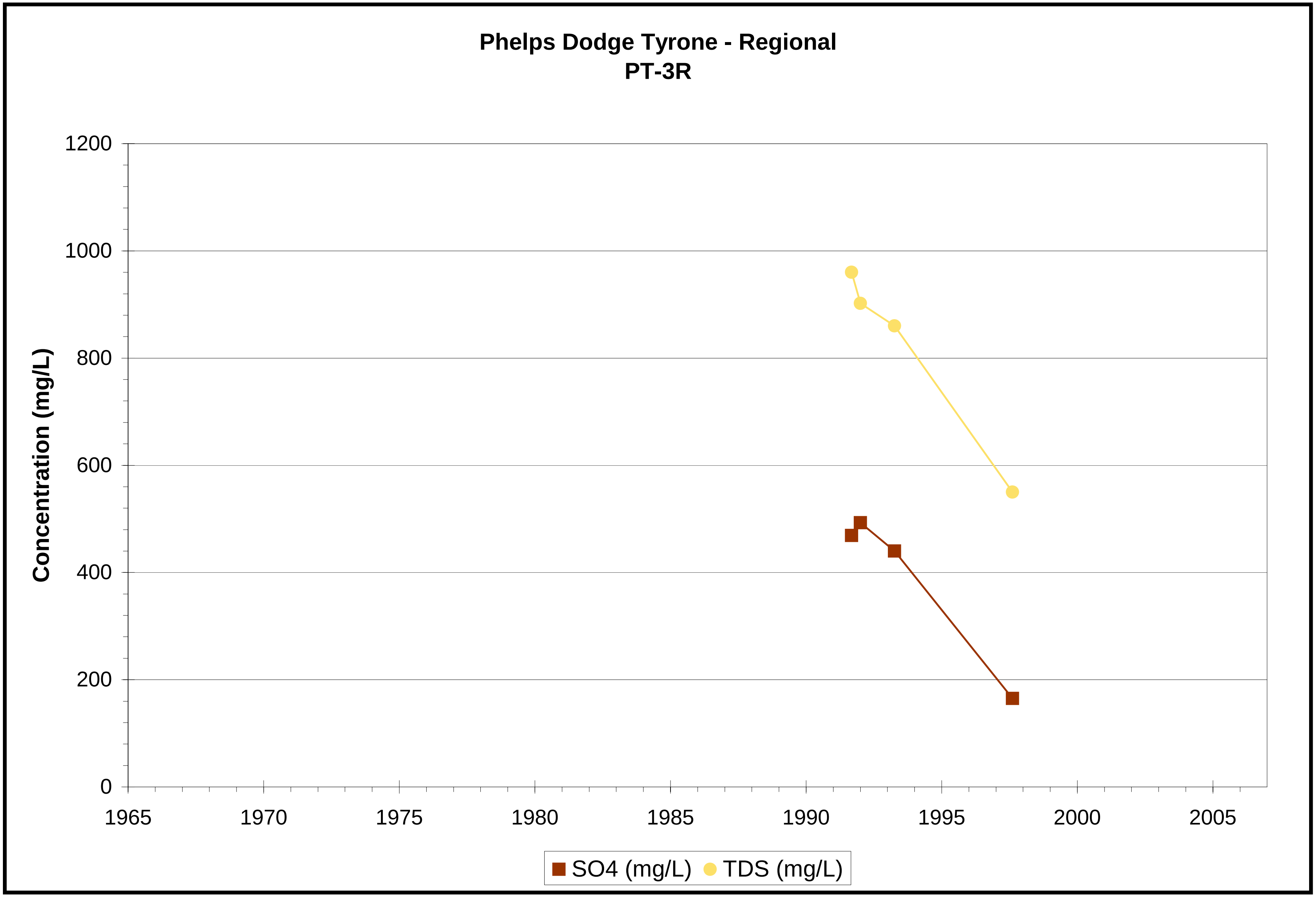
Phelps Dodge Tyrone - Regional
PT.1
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

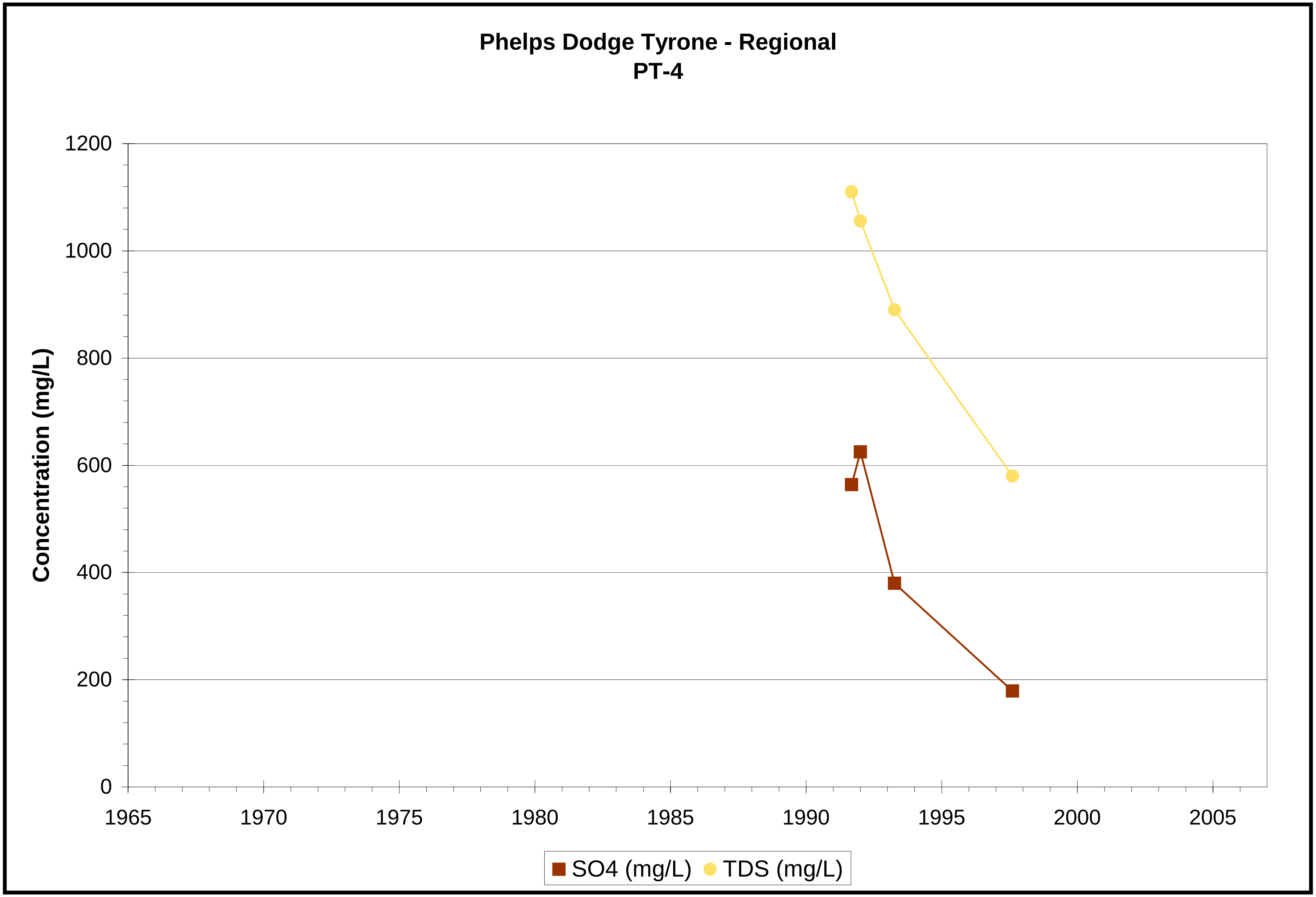

Phelps Dodge Tyrone - Regional
PT.2
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
PT-1
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

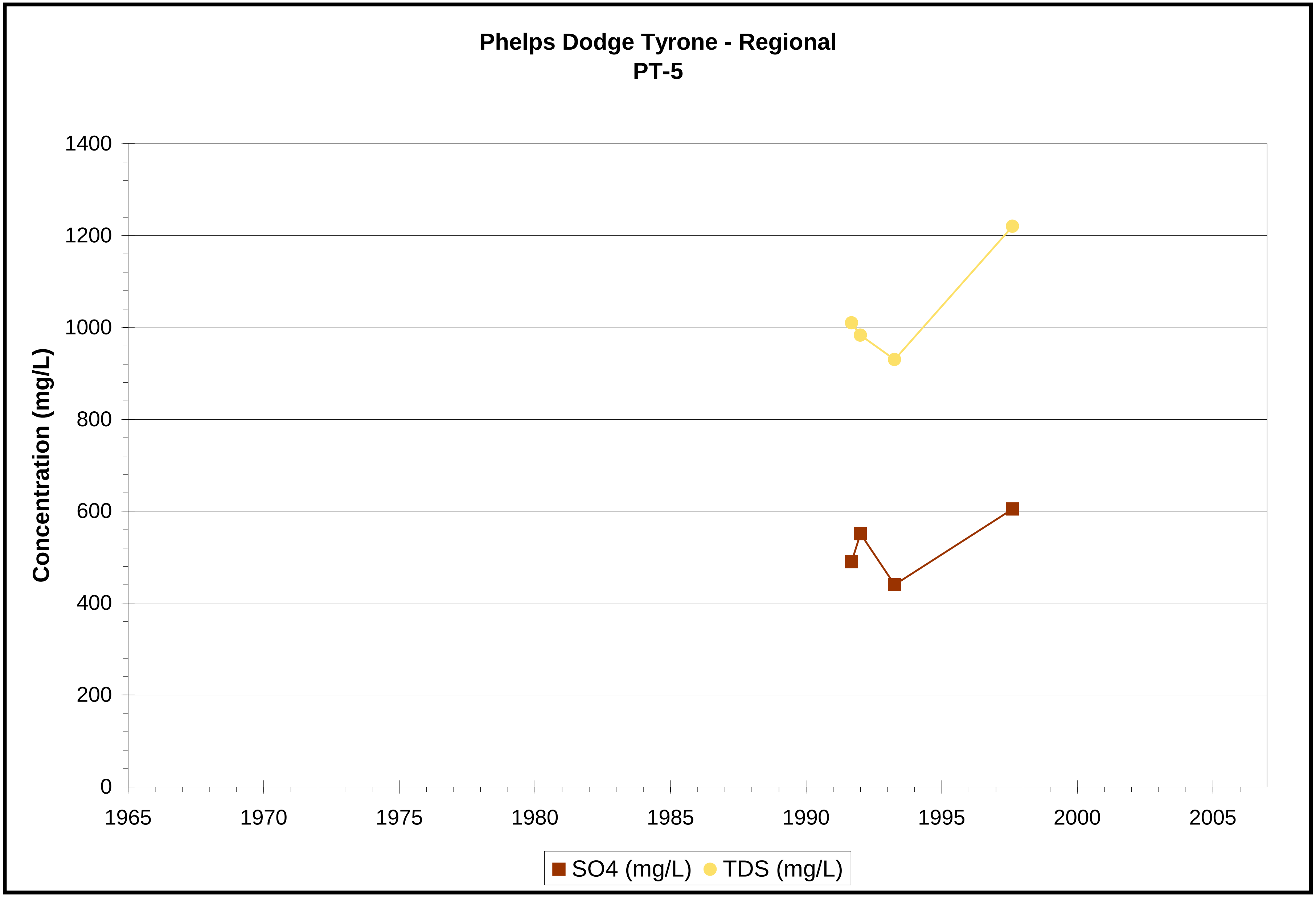


Phelps Dodge Tyrone - Regional
PT-2
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

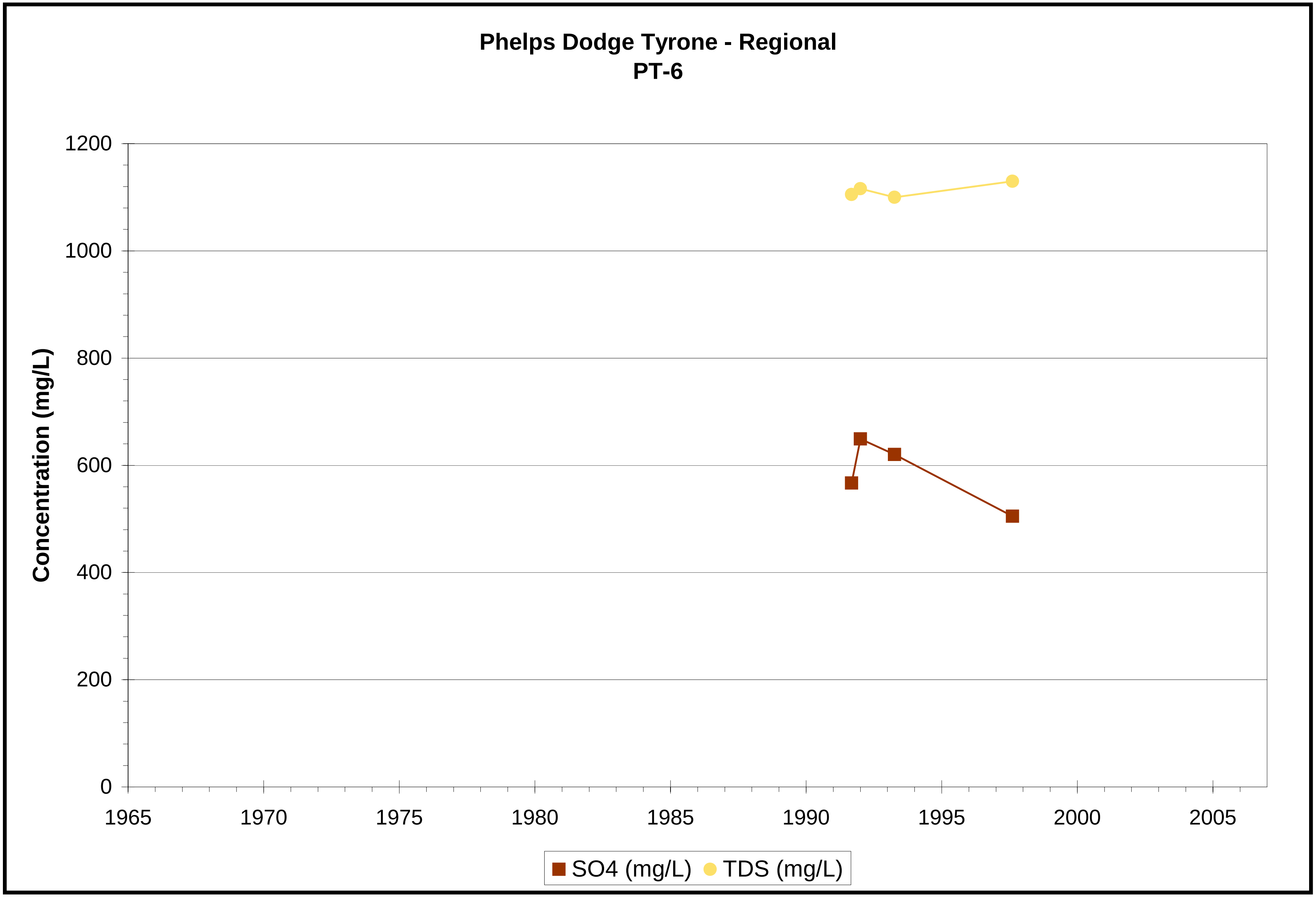

Phelps Dodge Tyrone - Regional
PT-3R
Concentration (mg/L)
0
200
400
600
800
1000
1200
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

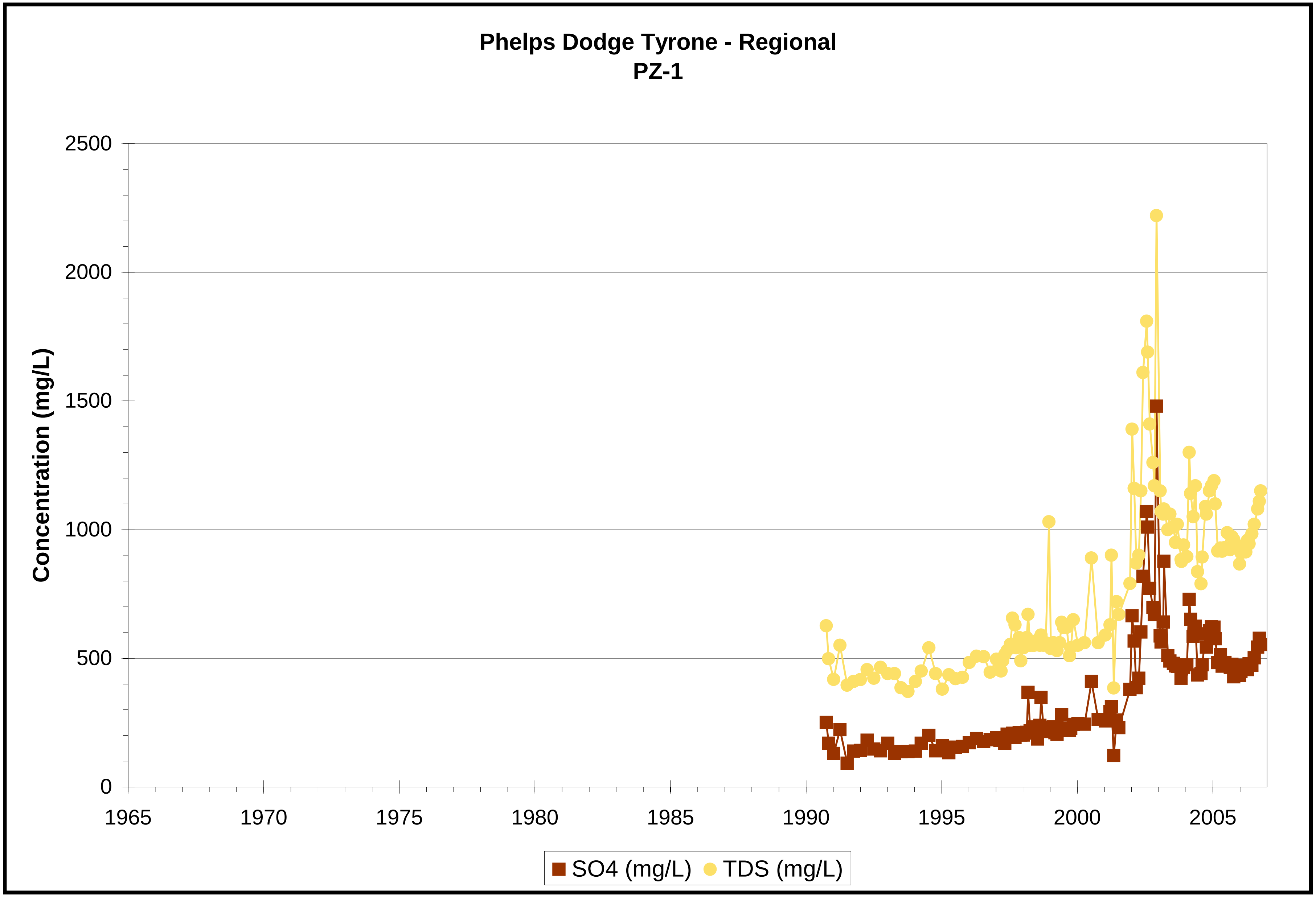


Phelps Dodge Tyrone - Regional
PT-4
Concentration (mg/L)
0
200
400
600
800
1000
1200
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

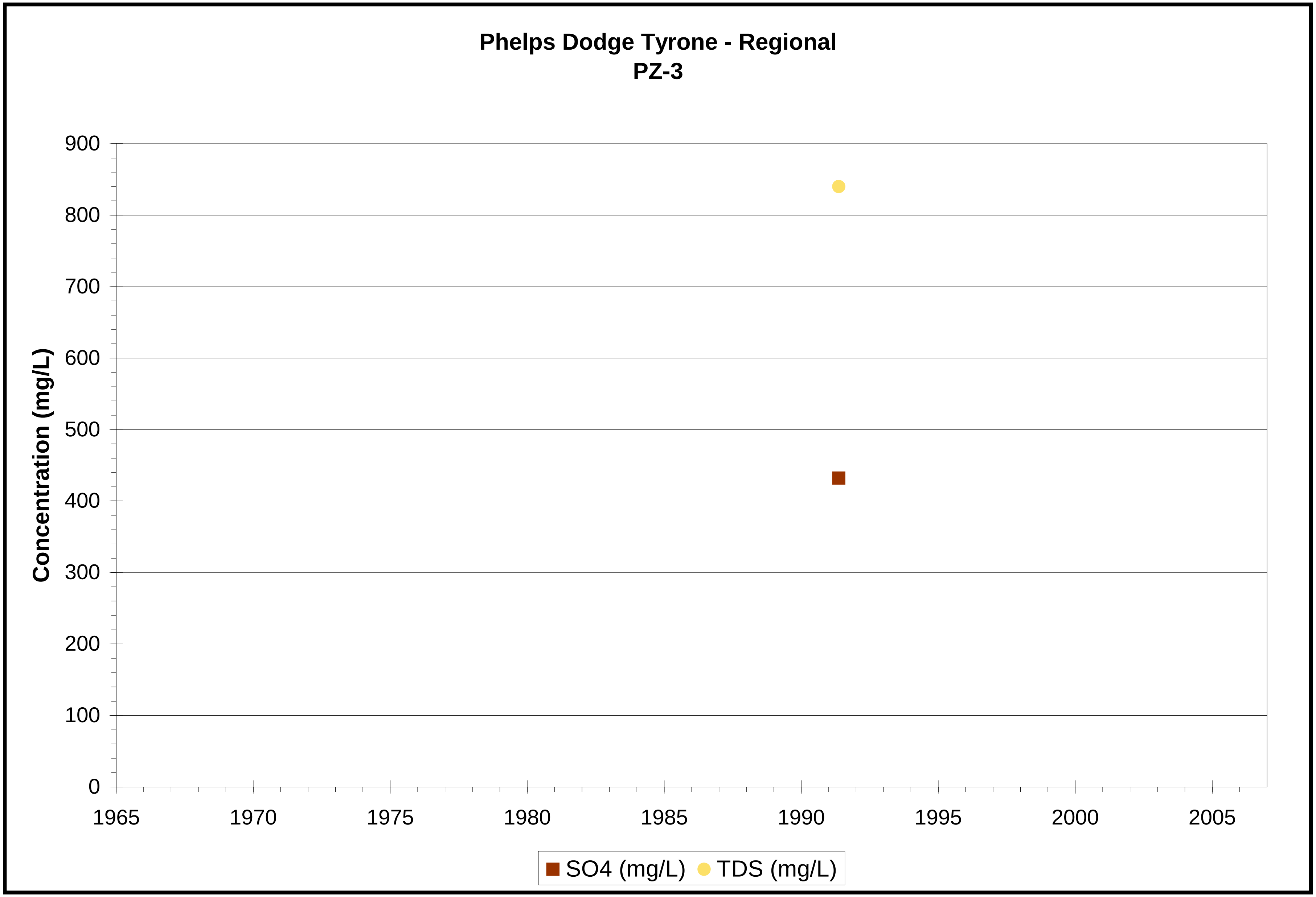


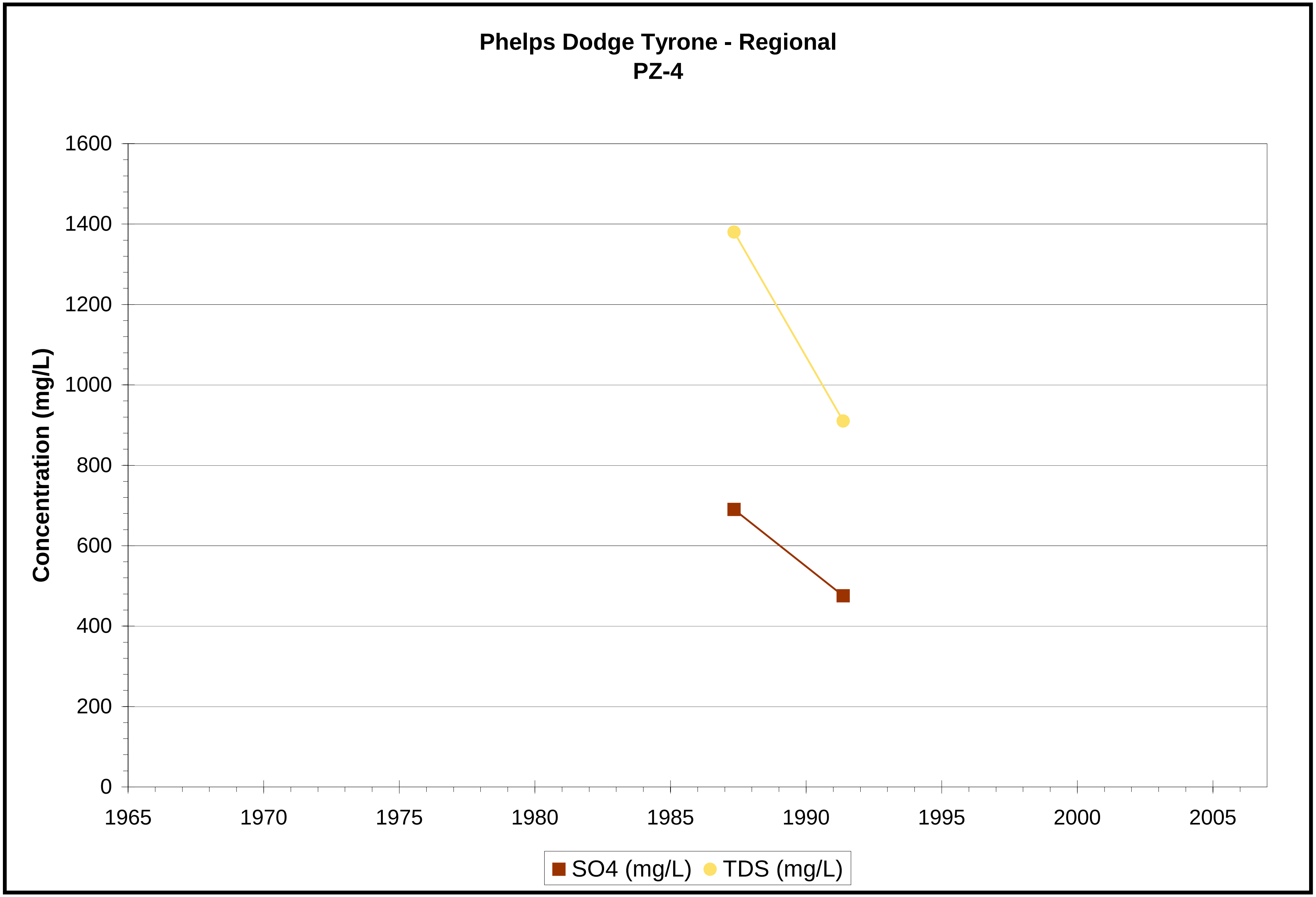
Phelps Dodge Tyrone - Regional
PT-5
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

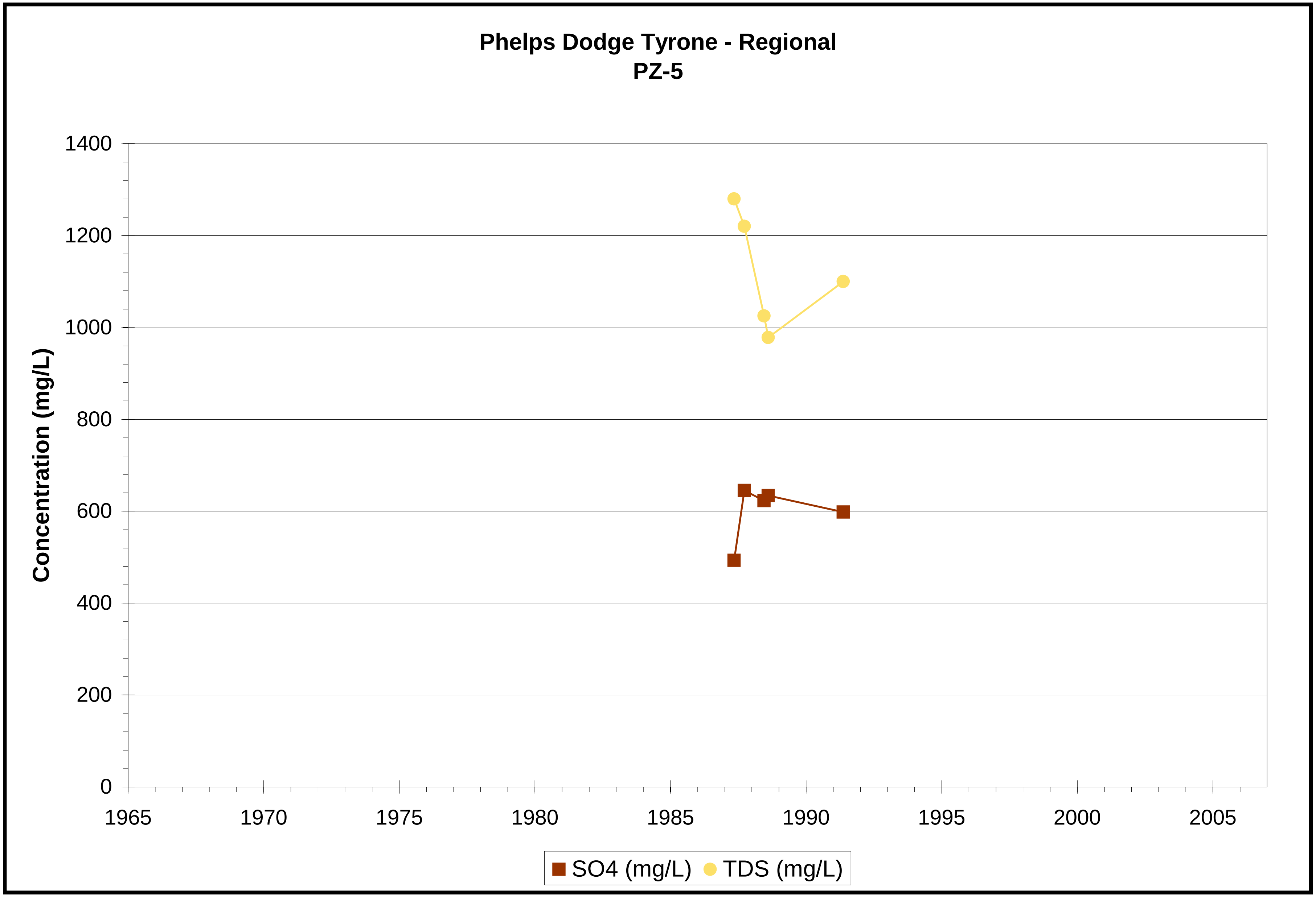

Phelps Dodge Tyrone - Regional
PT-6
Concentration (mg/L)
0
200
400
600
800
1000
1200
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

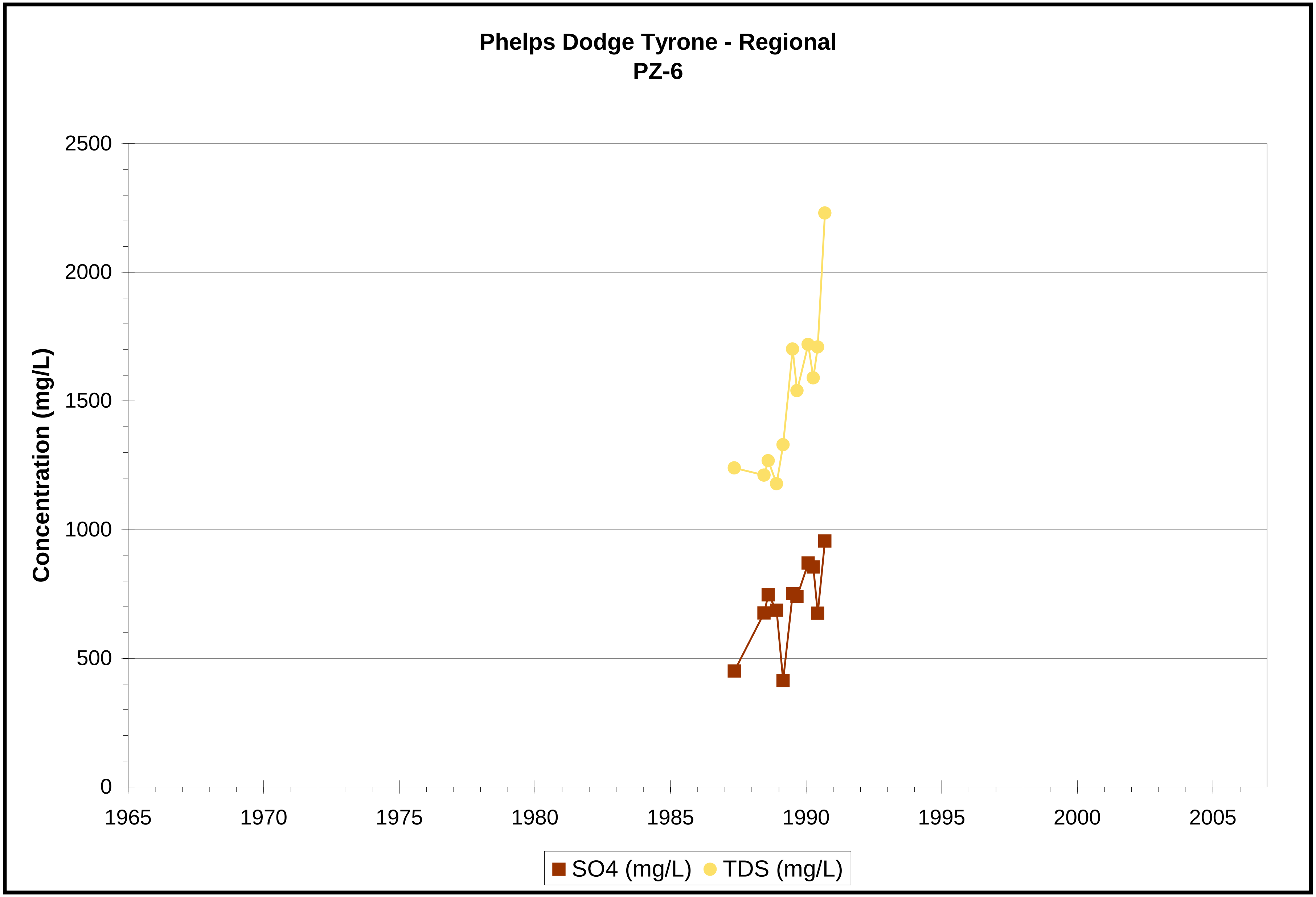


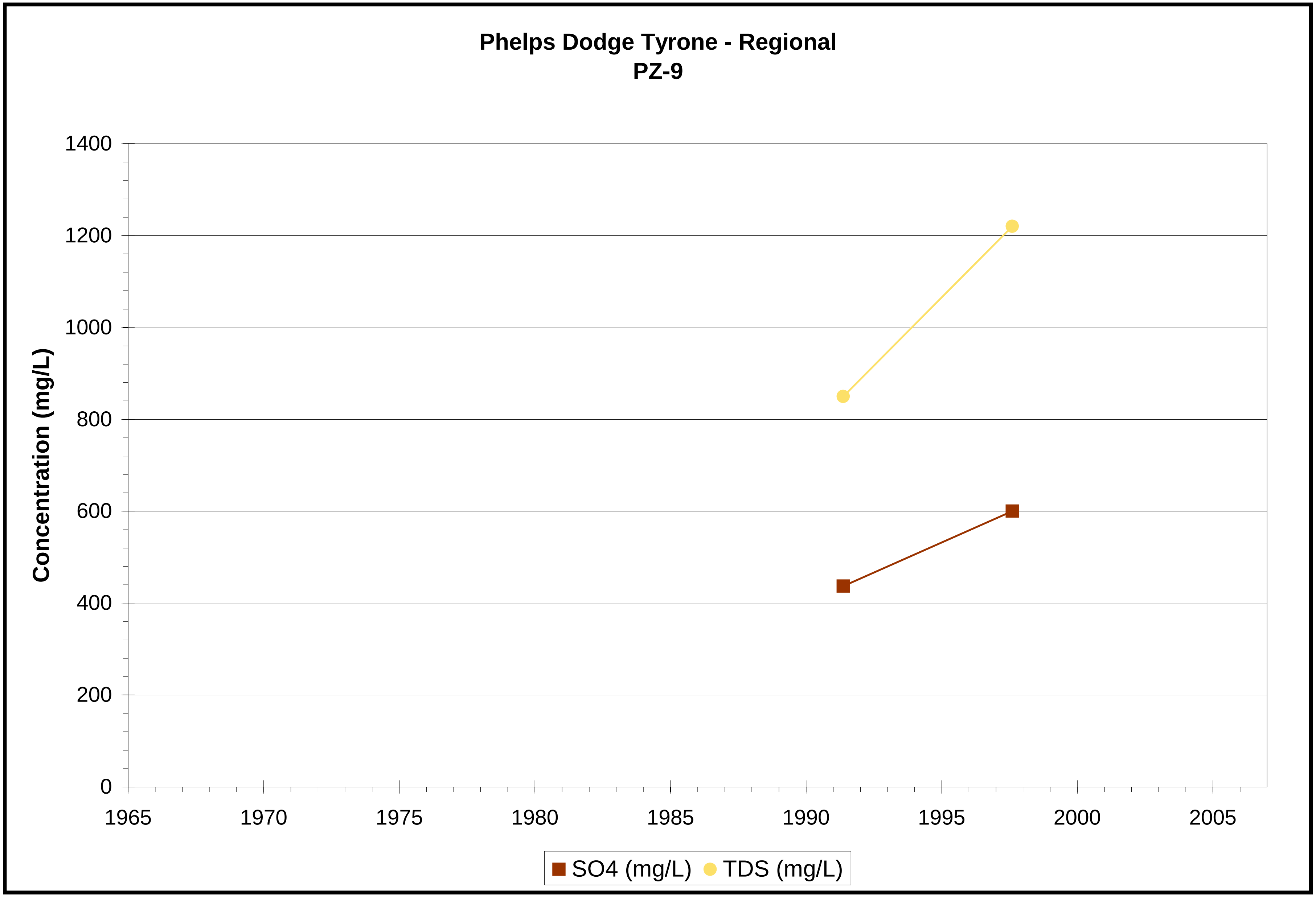
Phelps Dodge Tyrone - Regional
PZ-1
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

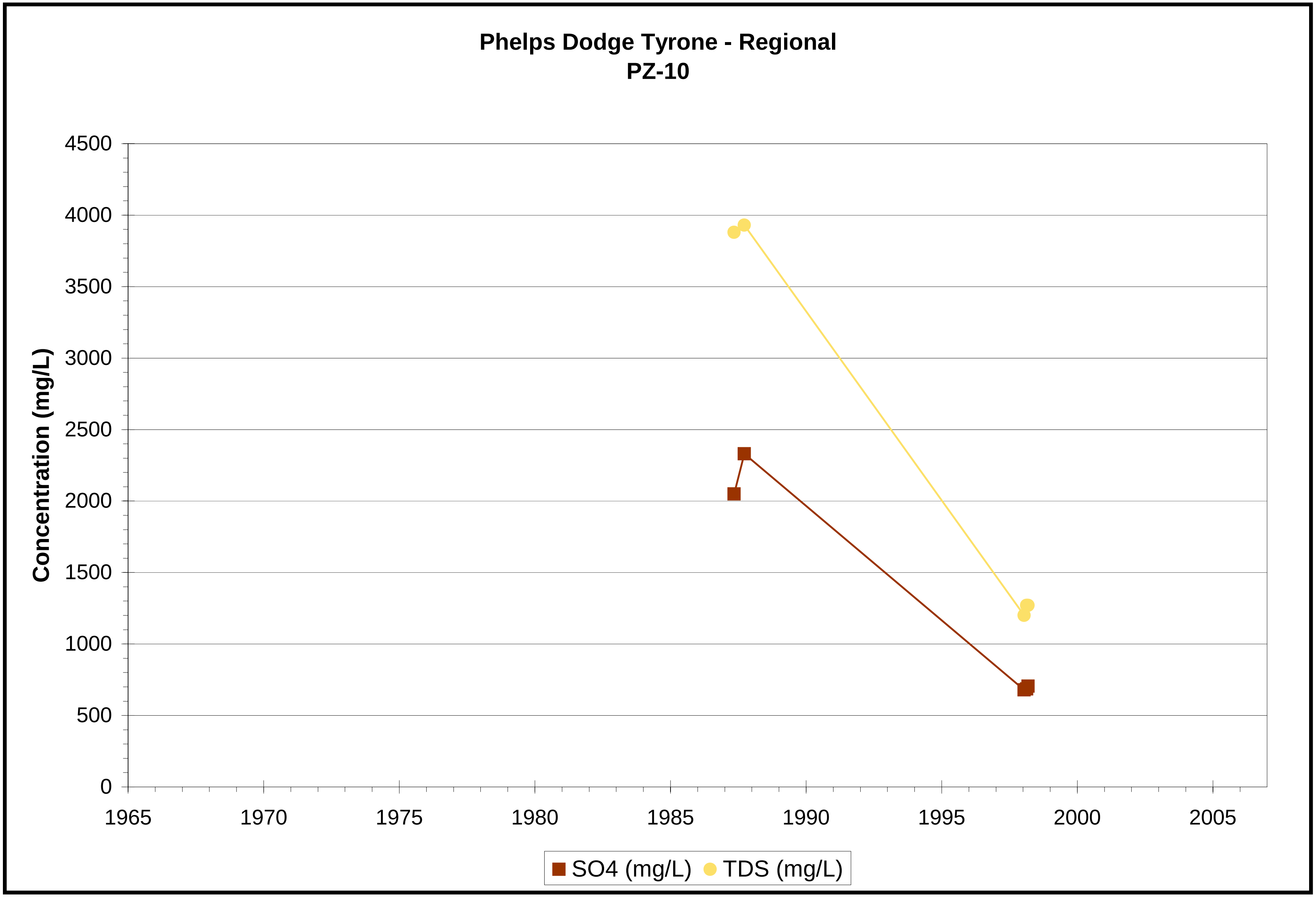

Phelps Dodge Tyrone - Regional
PZ-3
Concentration (mg/L)
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

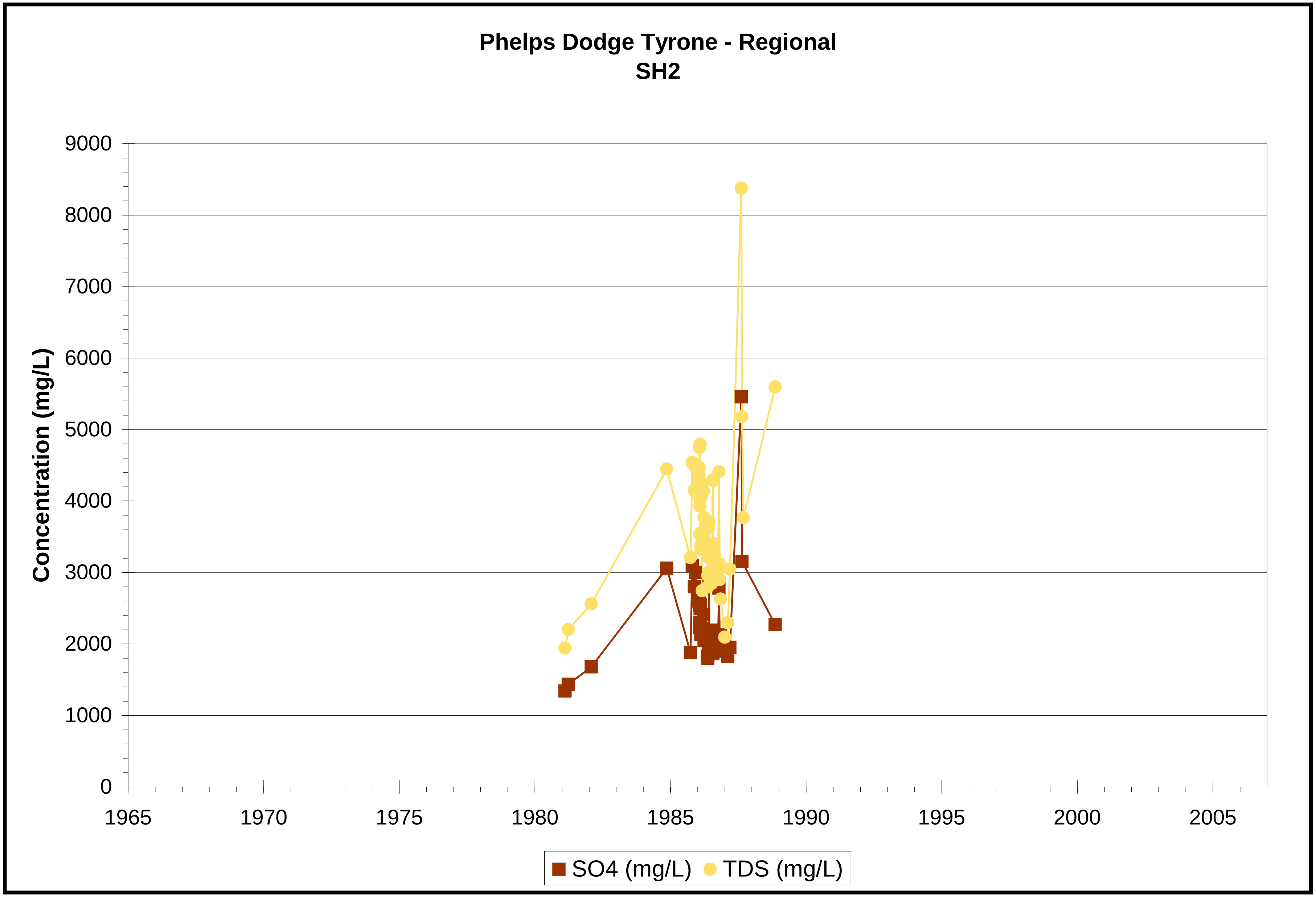

Phelps Dodge Tyrone - Regional
PZ-4
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
PZ-5
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

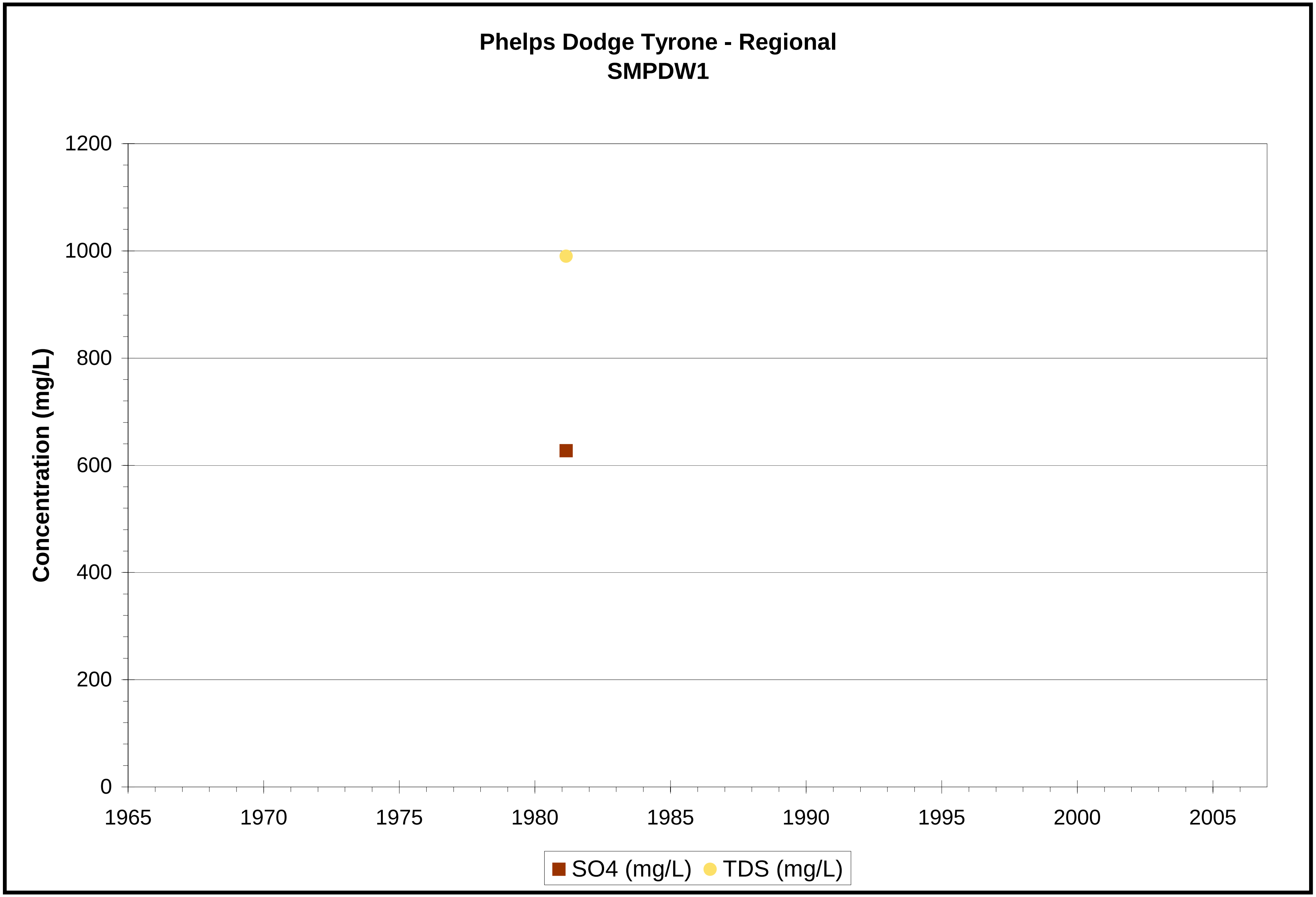

Phelps Dodge Tyrone - Regional
PZ-6
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

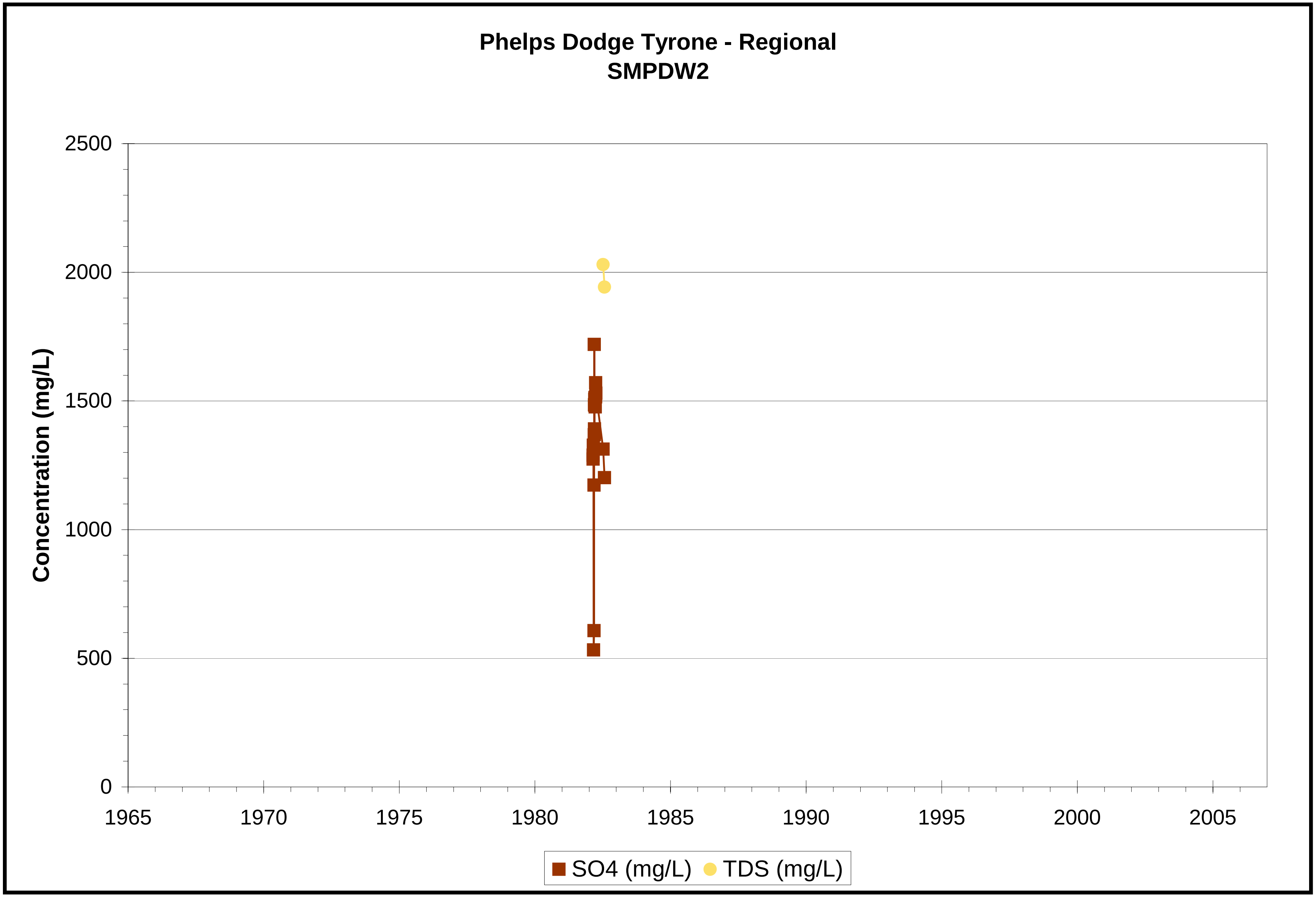

Phelps Dodge Tyrone - Regional
PZ-9
Concentration (mg/L)
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
PZ-10
Concentration (mg/L)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

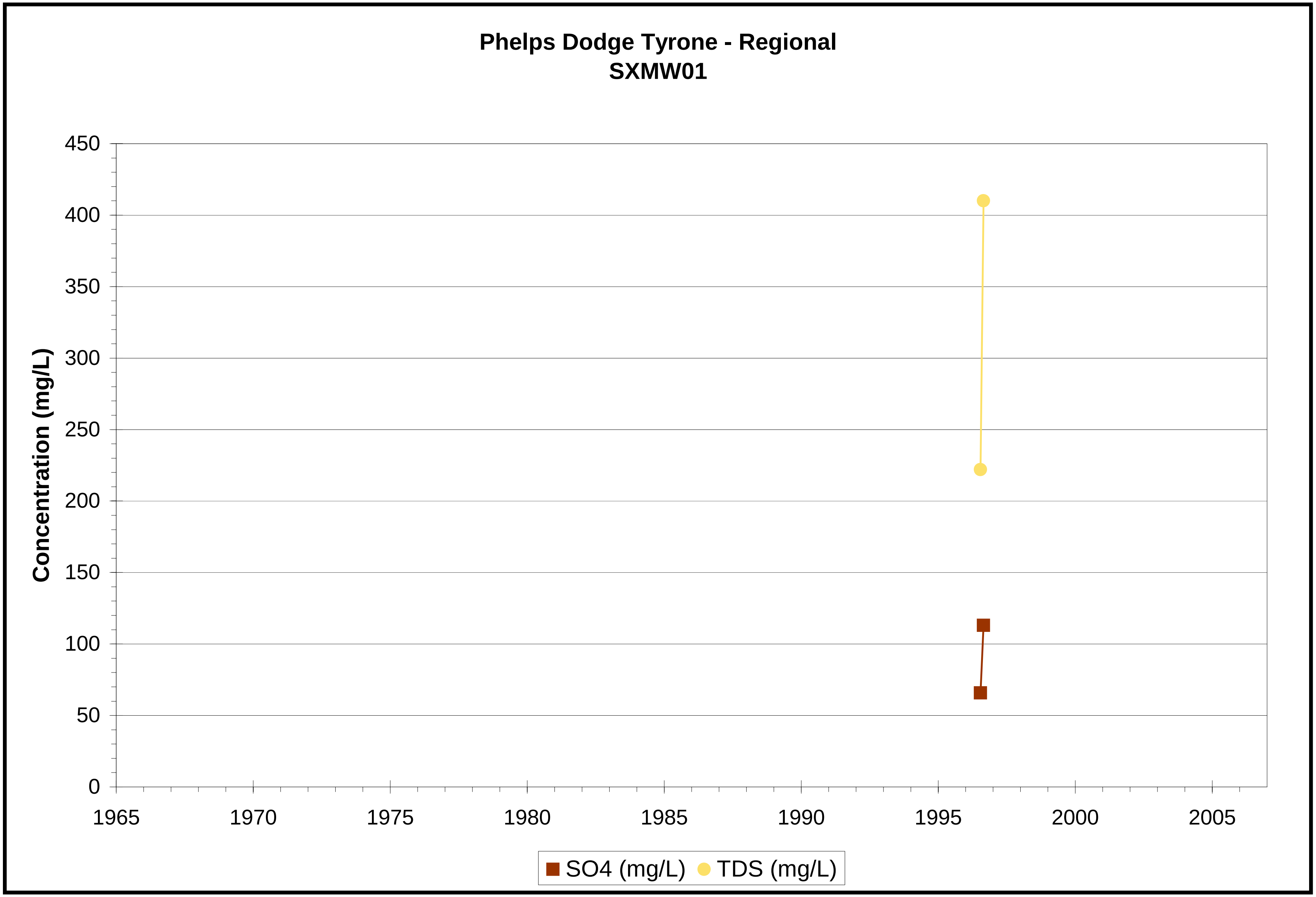


Phelps Dodge Tyrone - Regional
SH2
Concentration (mg/L)
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

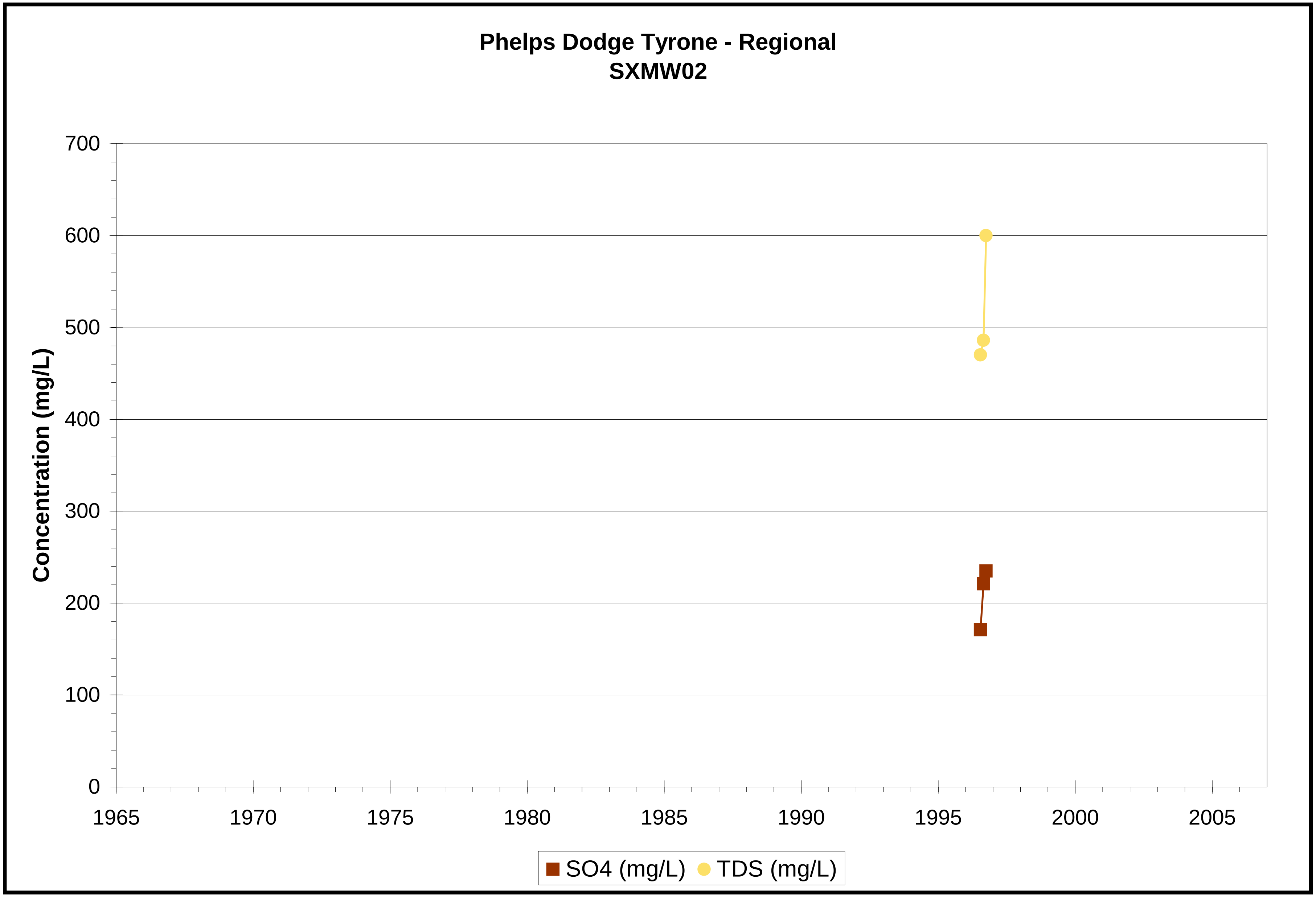

Phelps Dodge Tyrone - Regional
SMPDW1
Concentration (mg/L)
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

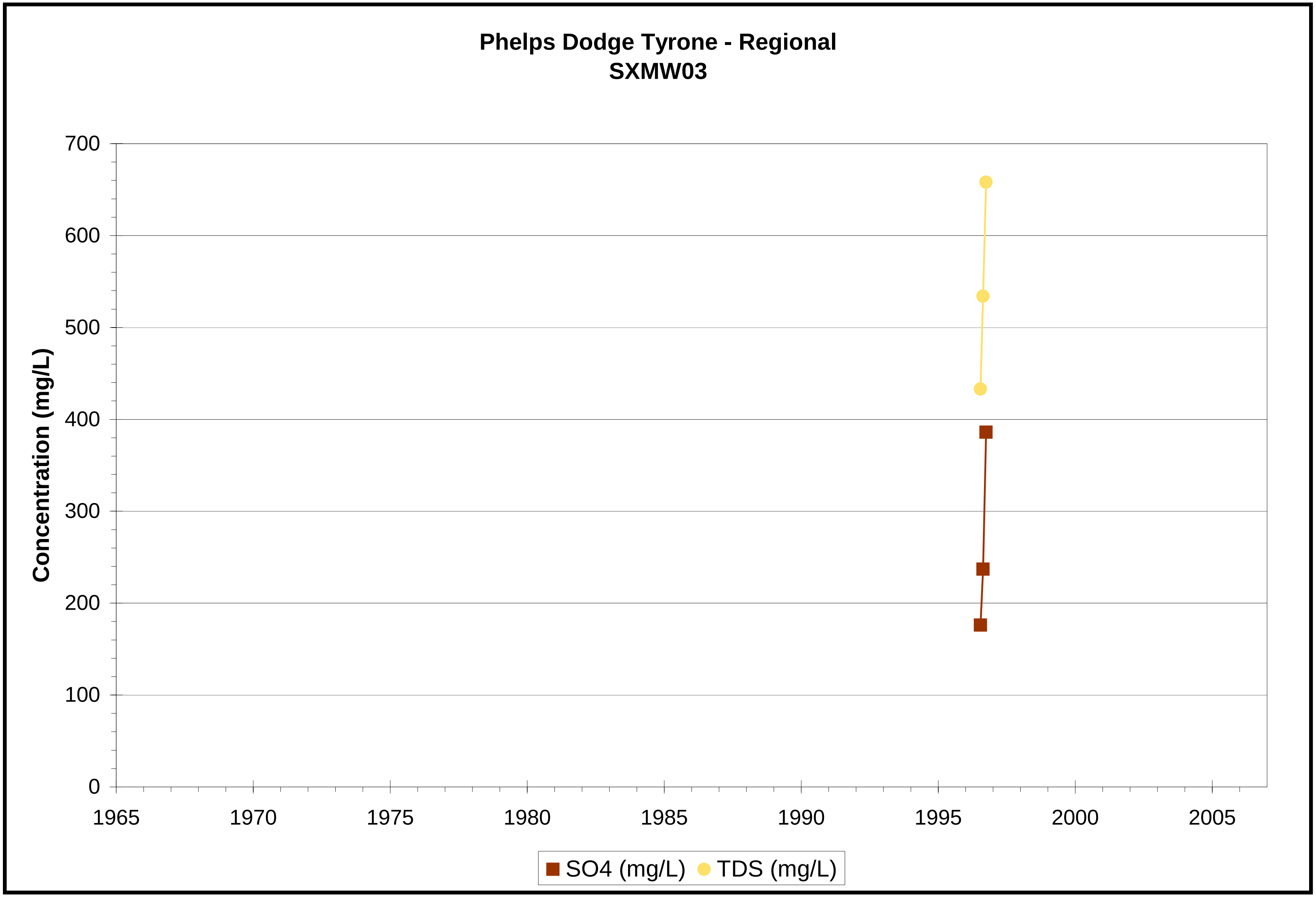


Phelps Dodge Tyrone - Regional
SMPDW2
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

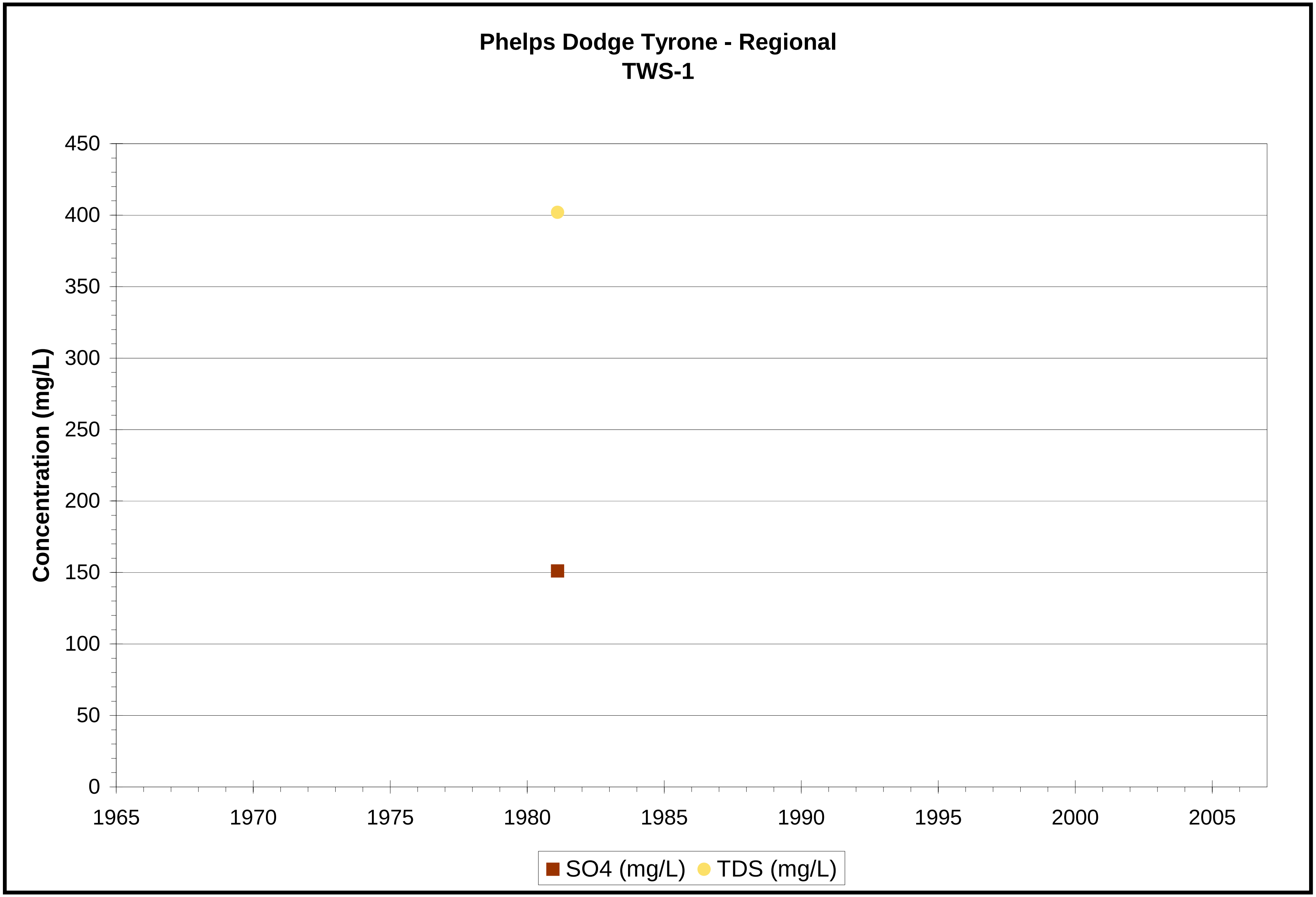


Phelps Dodge Tyrone - Regional
SXMW01
Concentration (mg/L)
450
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

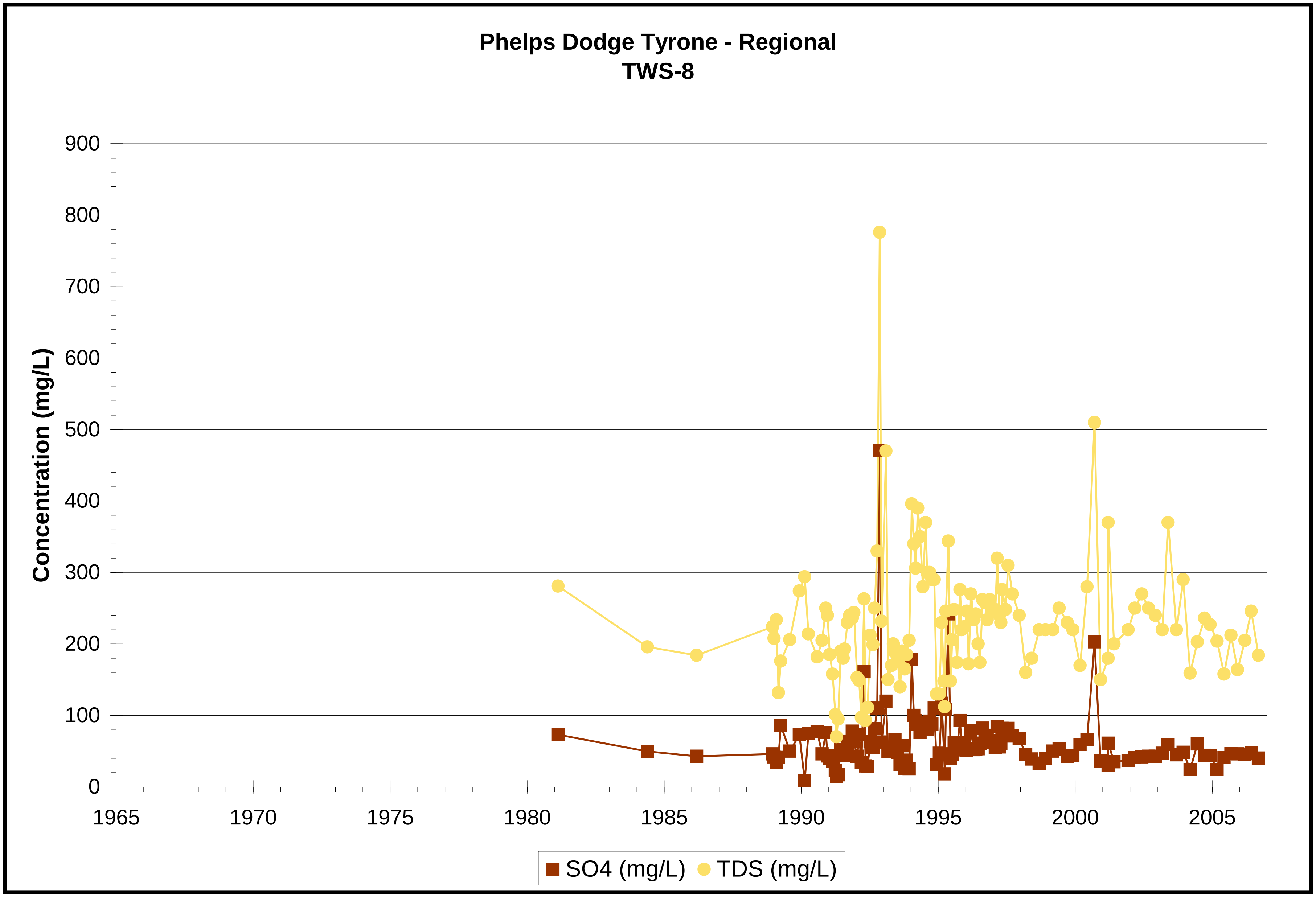

Phelps Dodge Tyrone - Regional
SXMW02
Concentration (mg/L)
0
100
200
300
400
500
600
700
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

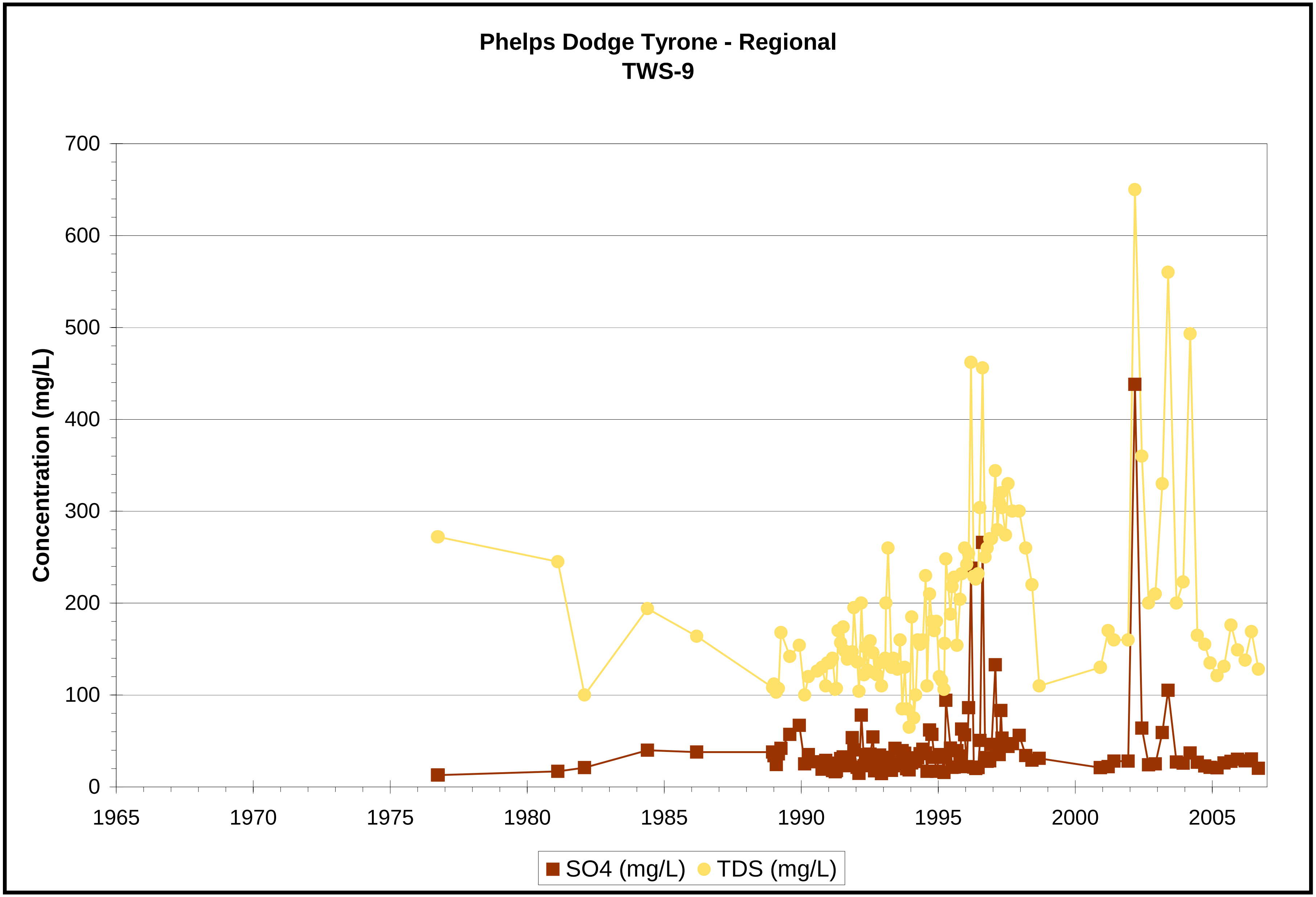


Phelps Dodge Tyrone - Regional
SXMW03
Concentration (mg/L)
0
100
200
300
400
500
600
700
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

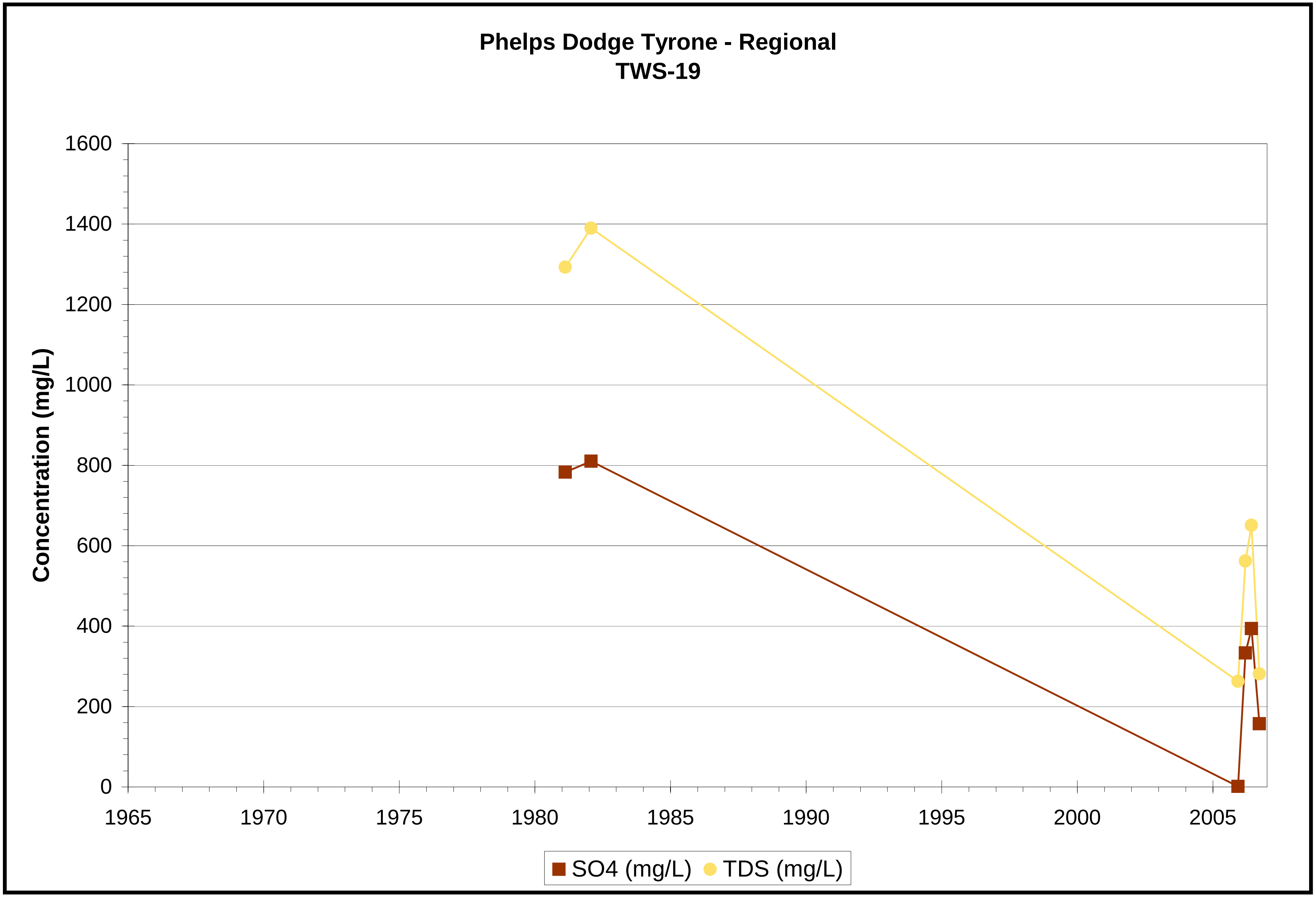


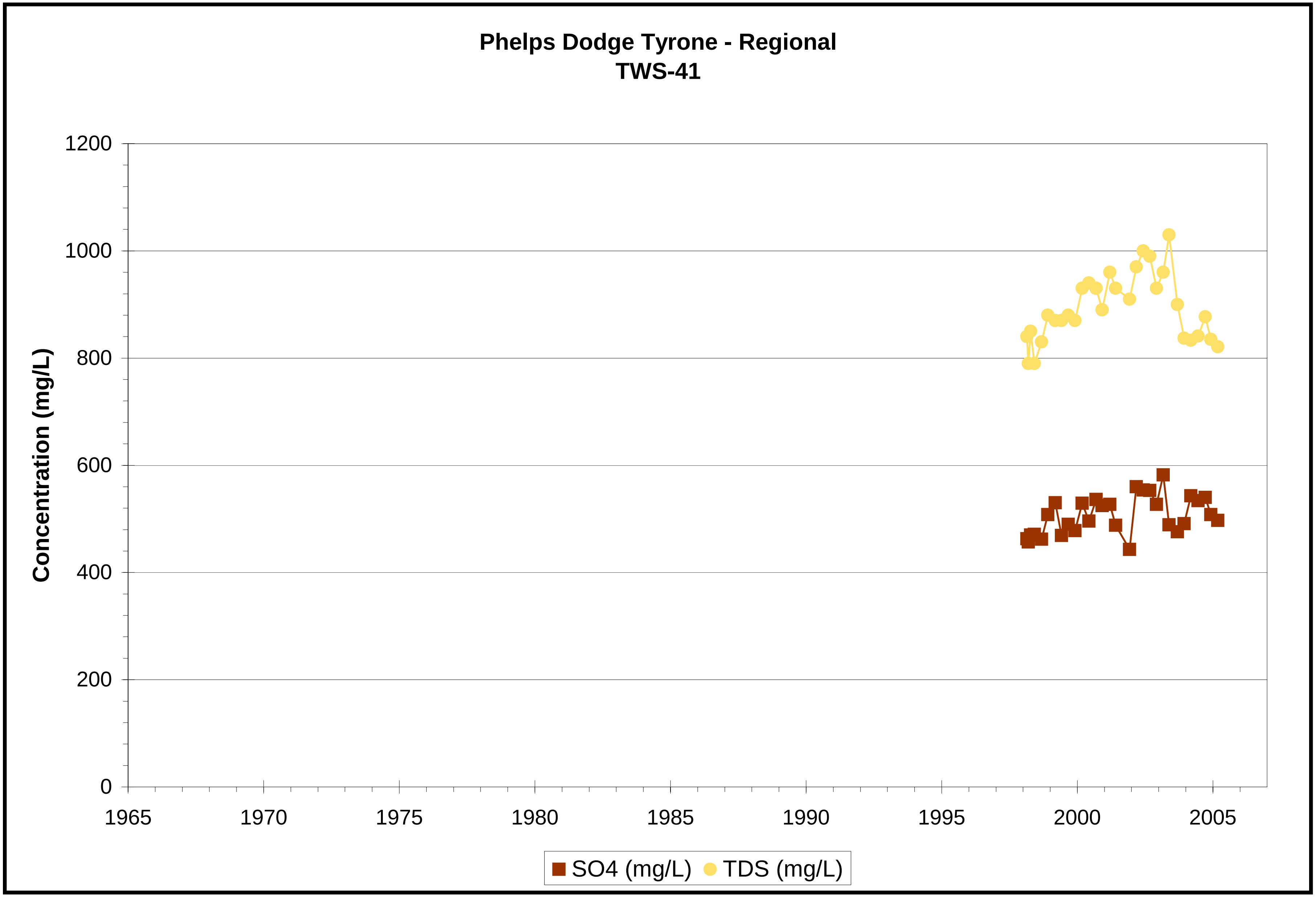
Phelps Dodge Tyrone - Regional
TWS-1
Concentration (mg/L)
450
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

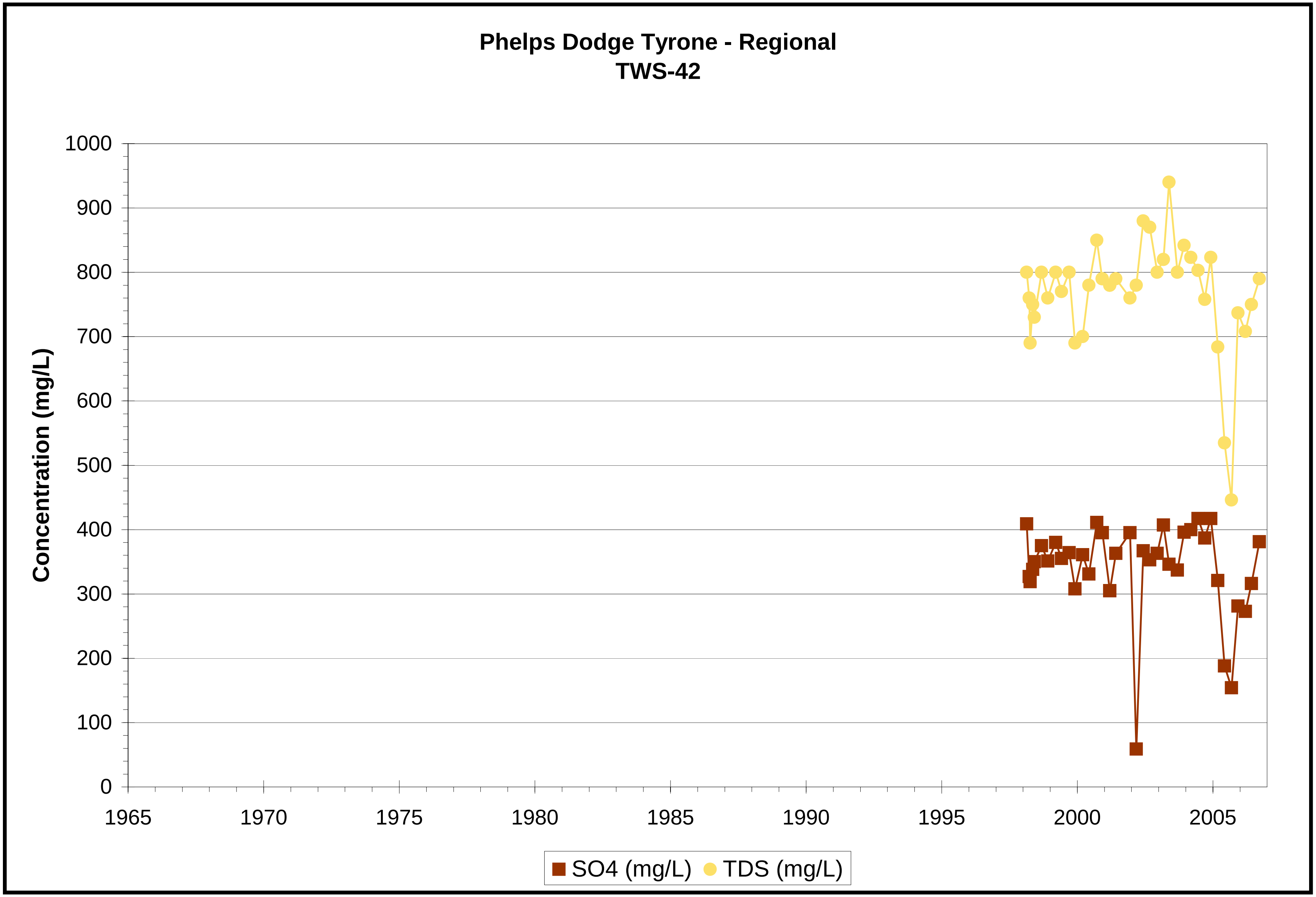

Phelps Dodge Tyrone - Regional
TWS-8
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
900
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



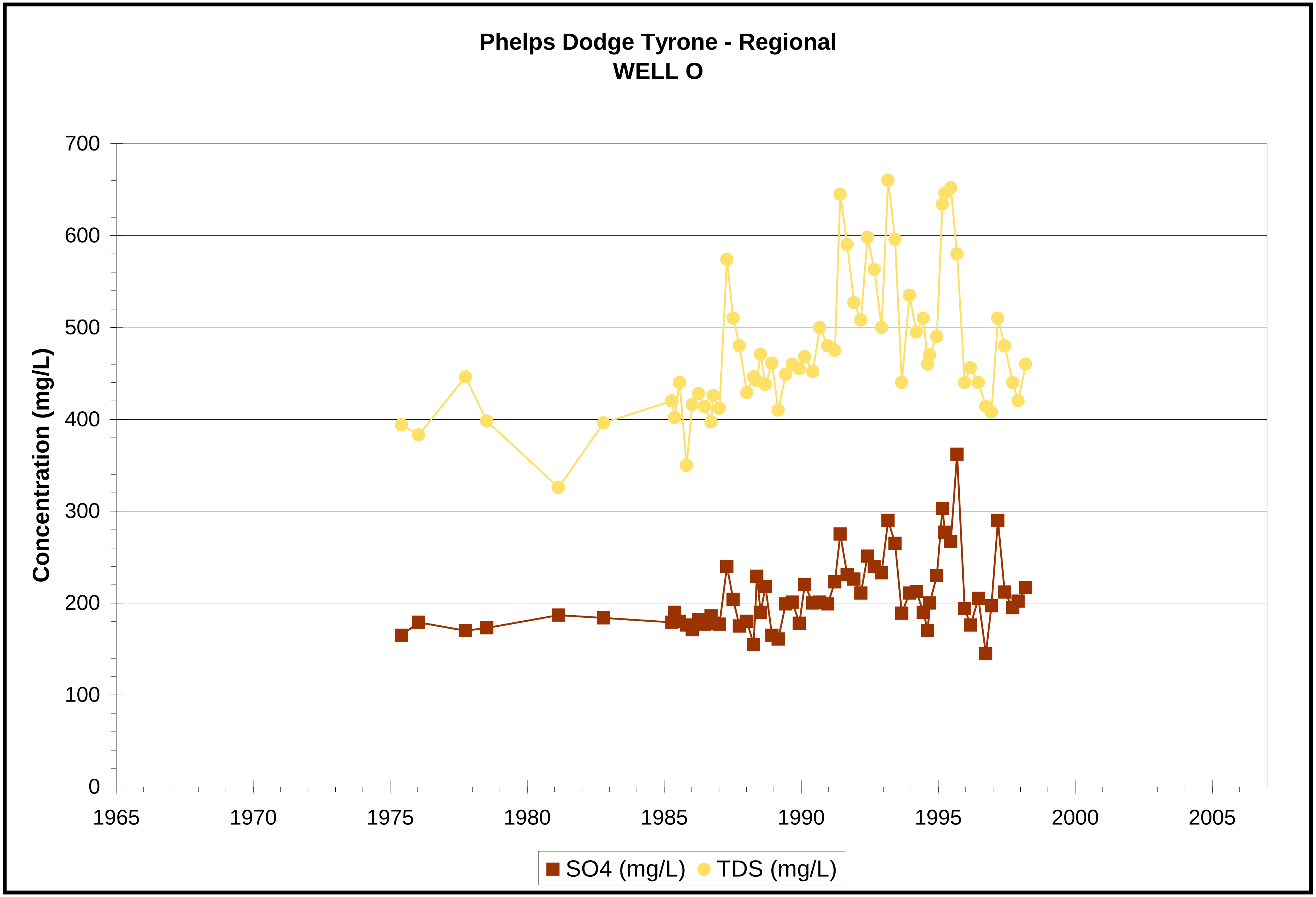
Phelps Dodge Tyrone - Regional
TWS-9
Concentration (mg/L)
0
100
200
300
400
500
600
700
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Regional
TWS-19
Concentration (mg/L)
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

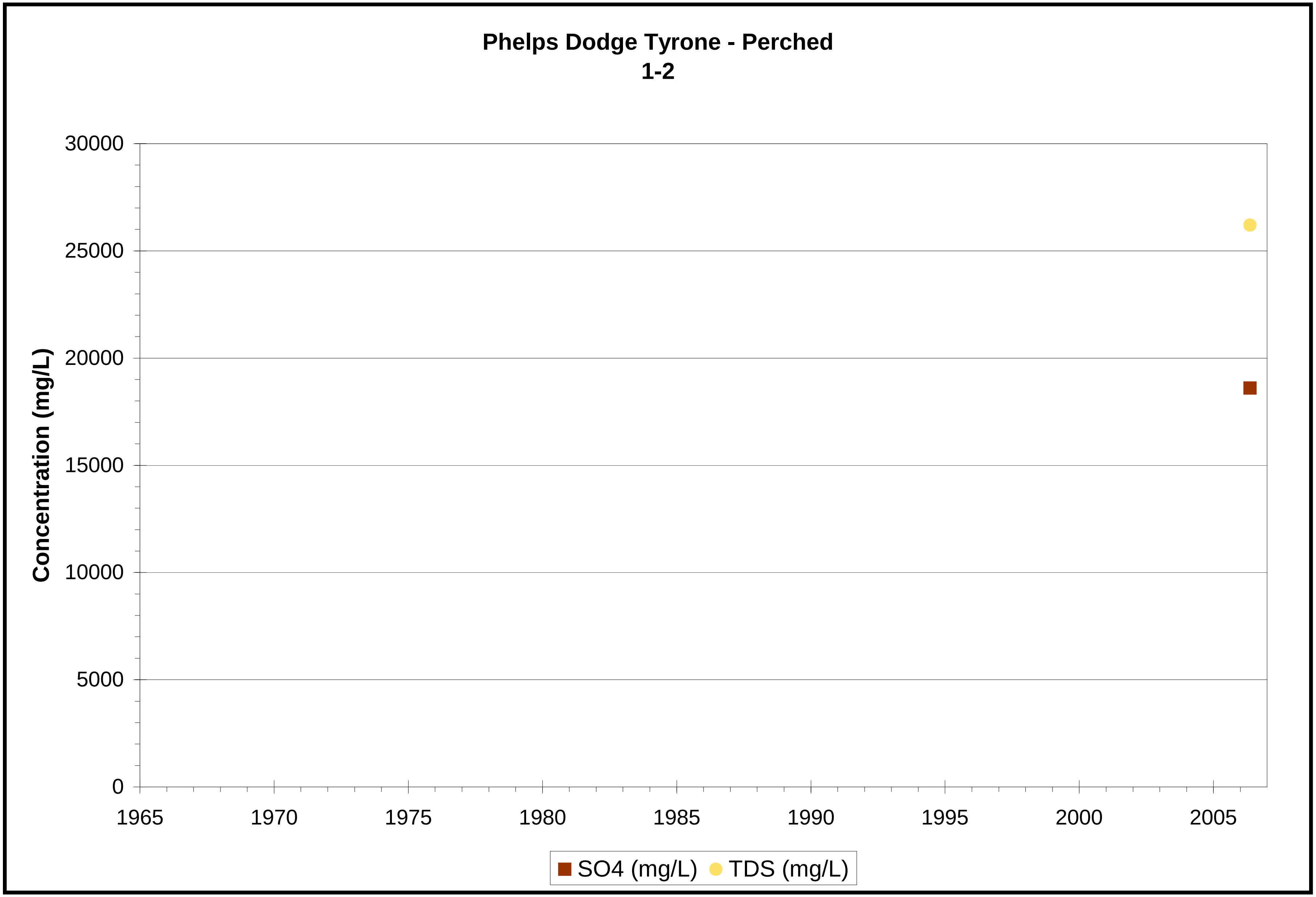

Phelps Dodge Tyrone - Regional
TWS-41
Concentration (mg/L)
0
200
400
600
800
1000
1200
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



Phelps Dodge Tyrone - Regional
TWS-42
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

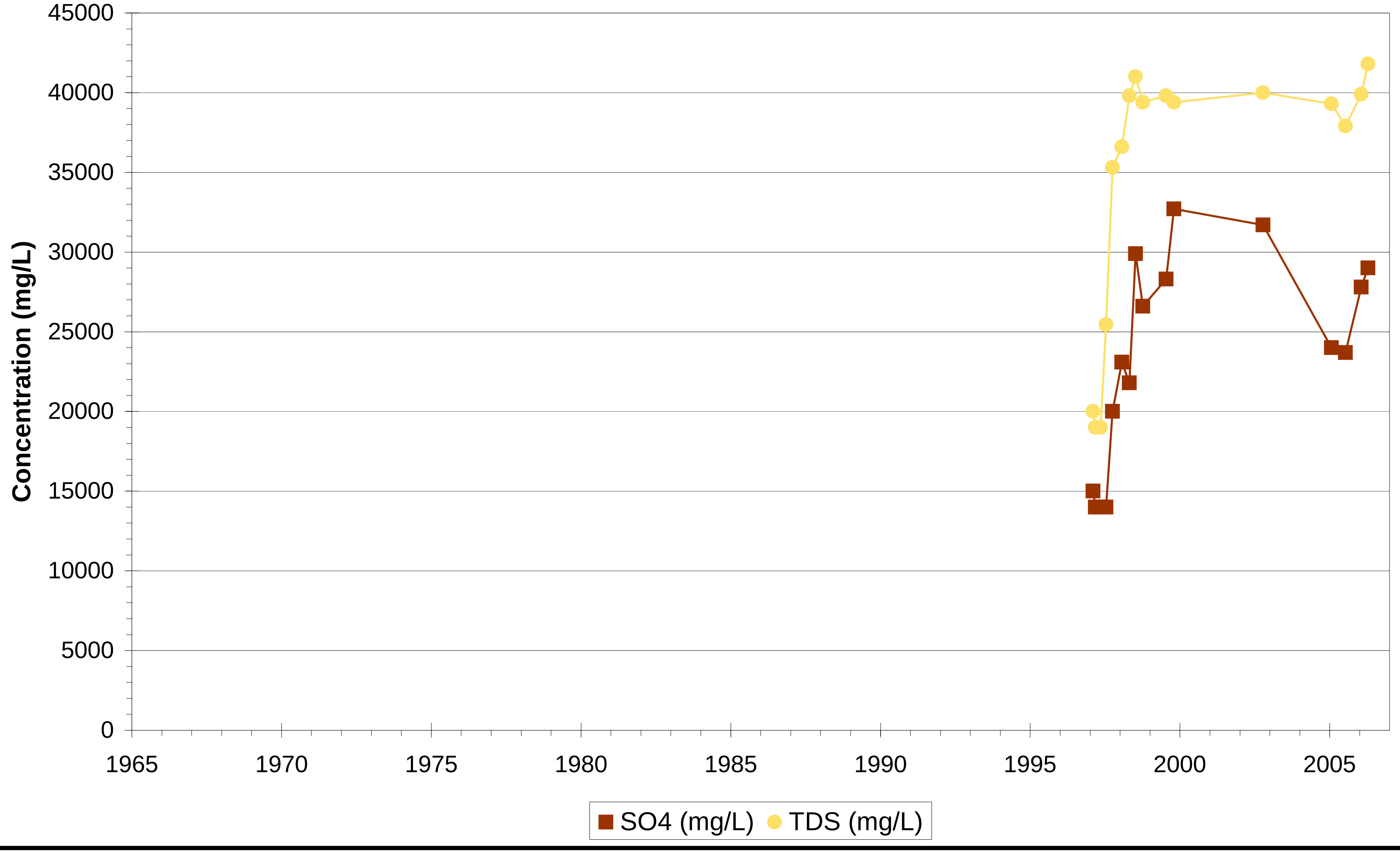


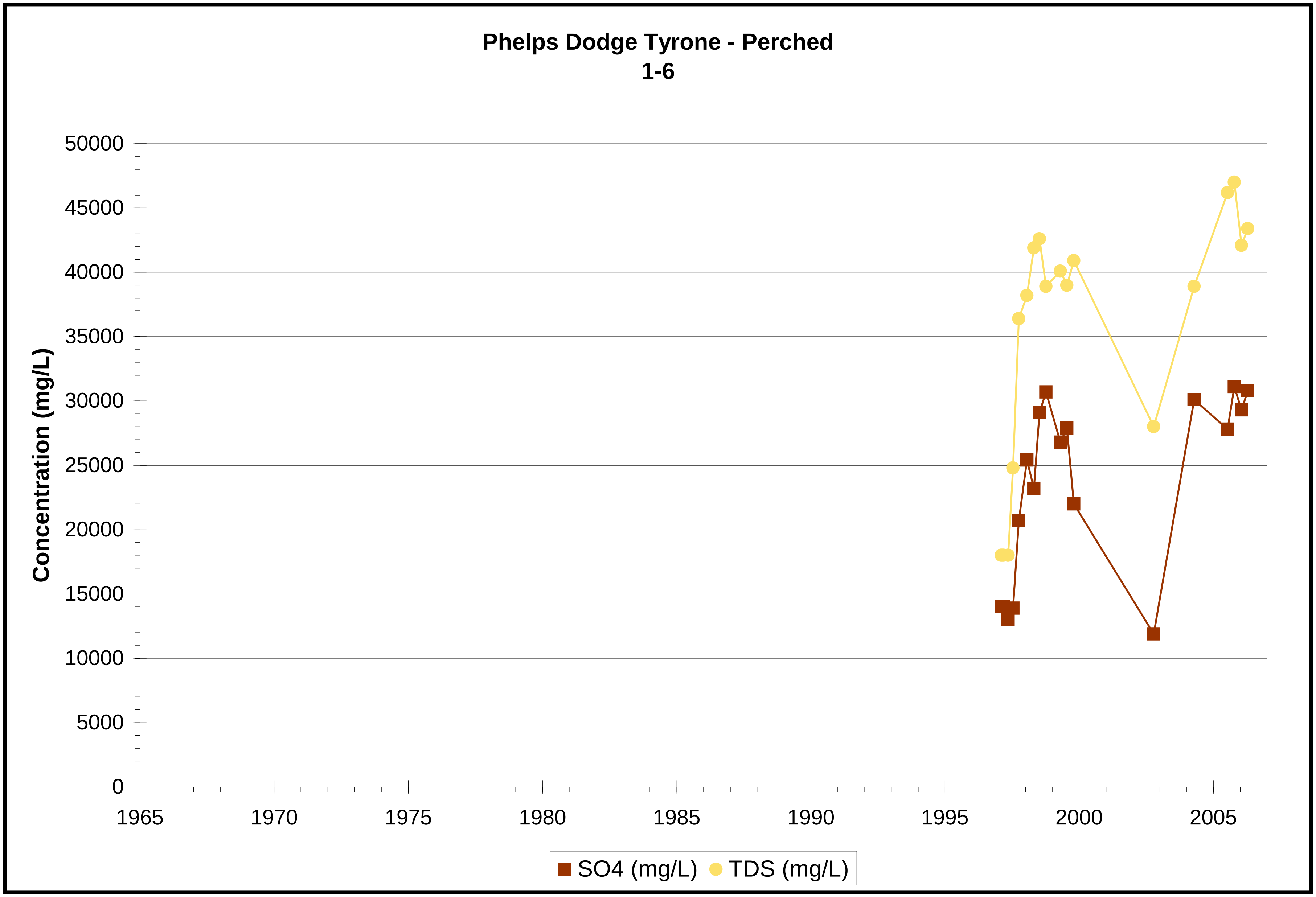
Phelps Dodge Tyrone - Regional
WELL O
Concentration (mg/L)
0
100
200
300
400
500
600
700
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

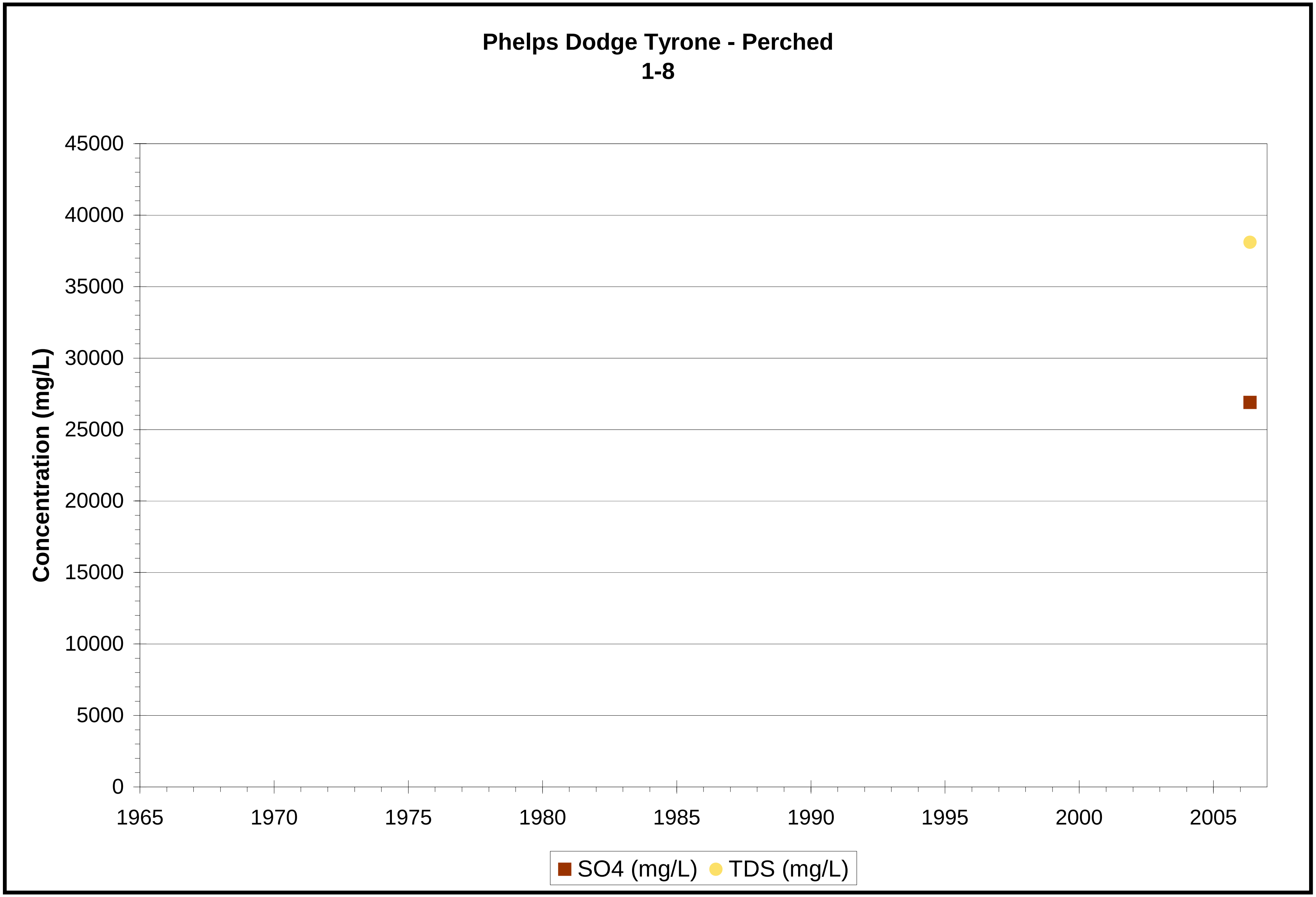


Phelps Dodge Tyrone - Perched
1-2
Concentration (mg/L)
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

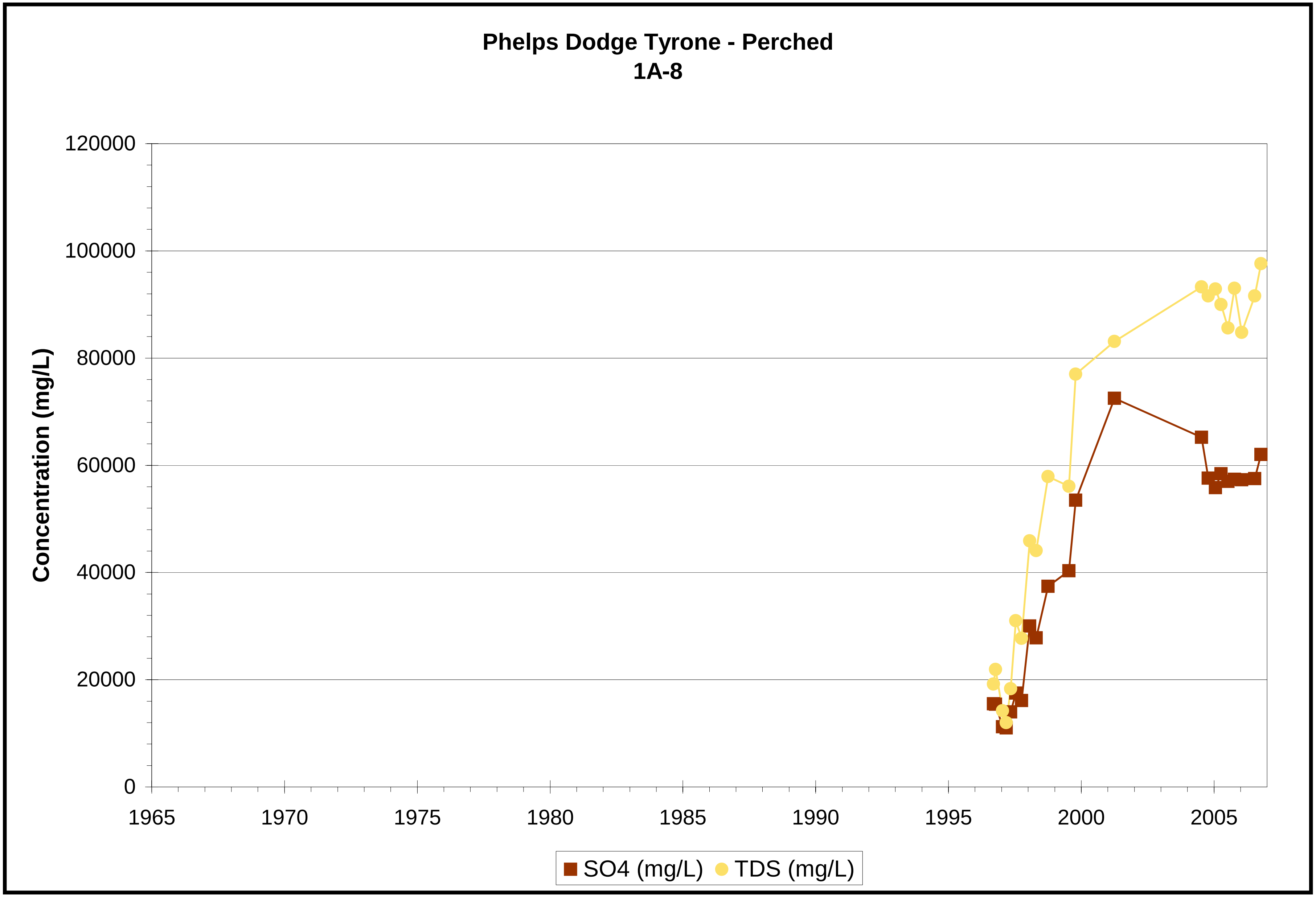
Phelps Dodge Tyrone - Perched
1-5



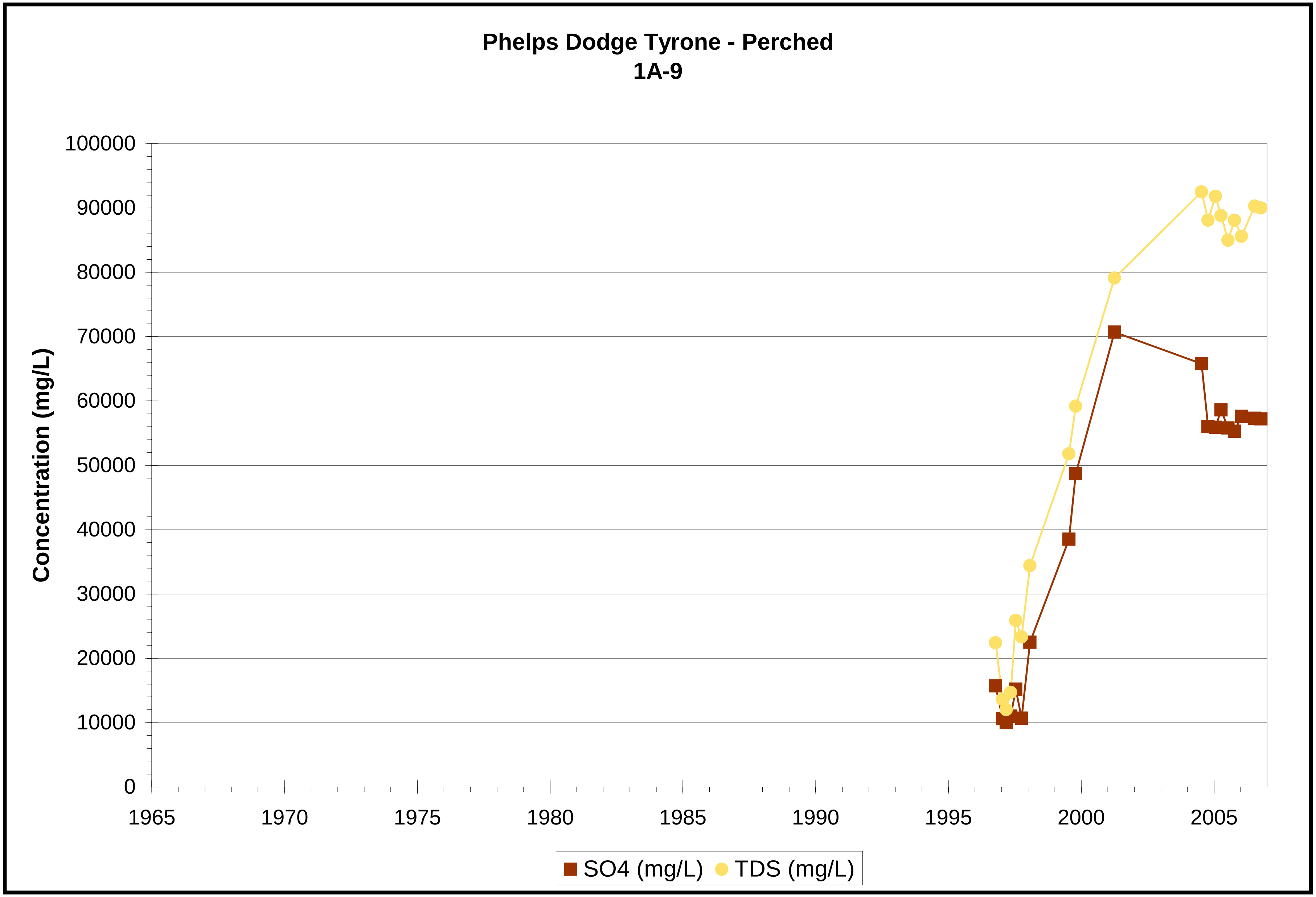

Phelps Dodge Tyrone - Perched
1-6
Concentration (mg/L)
50000
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



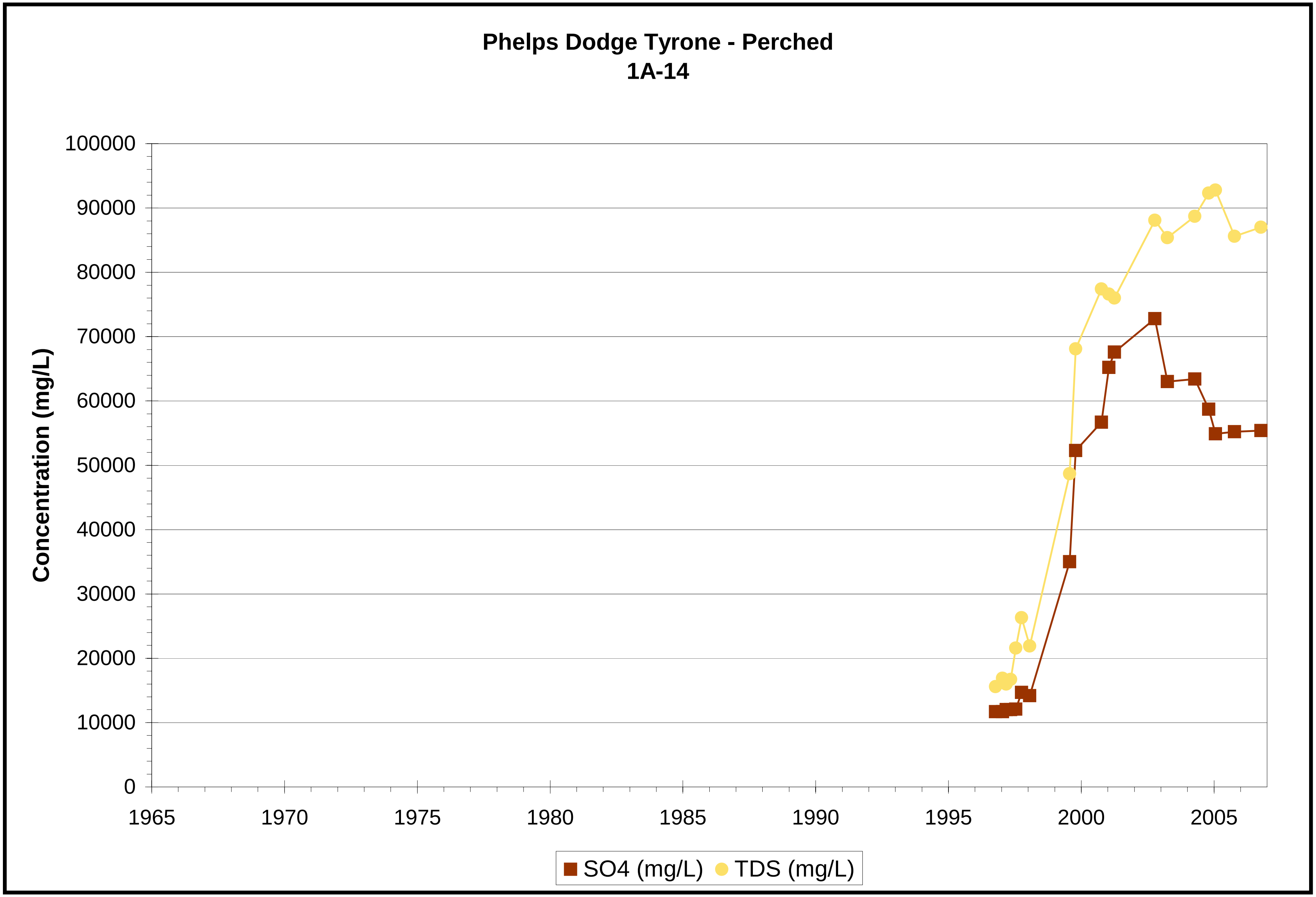
Phelps Dodge Tyrone - Perched
1-8
Concentration (mg/L)
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



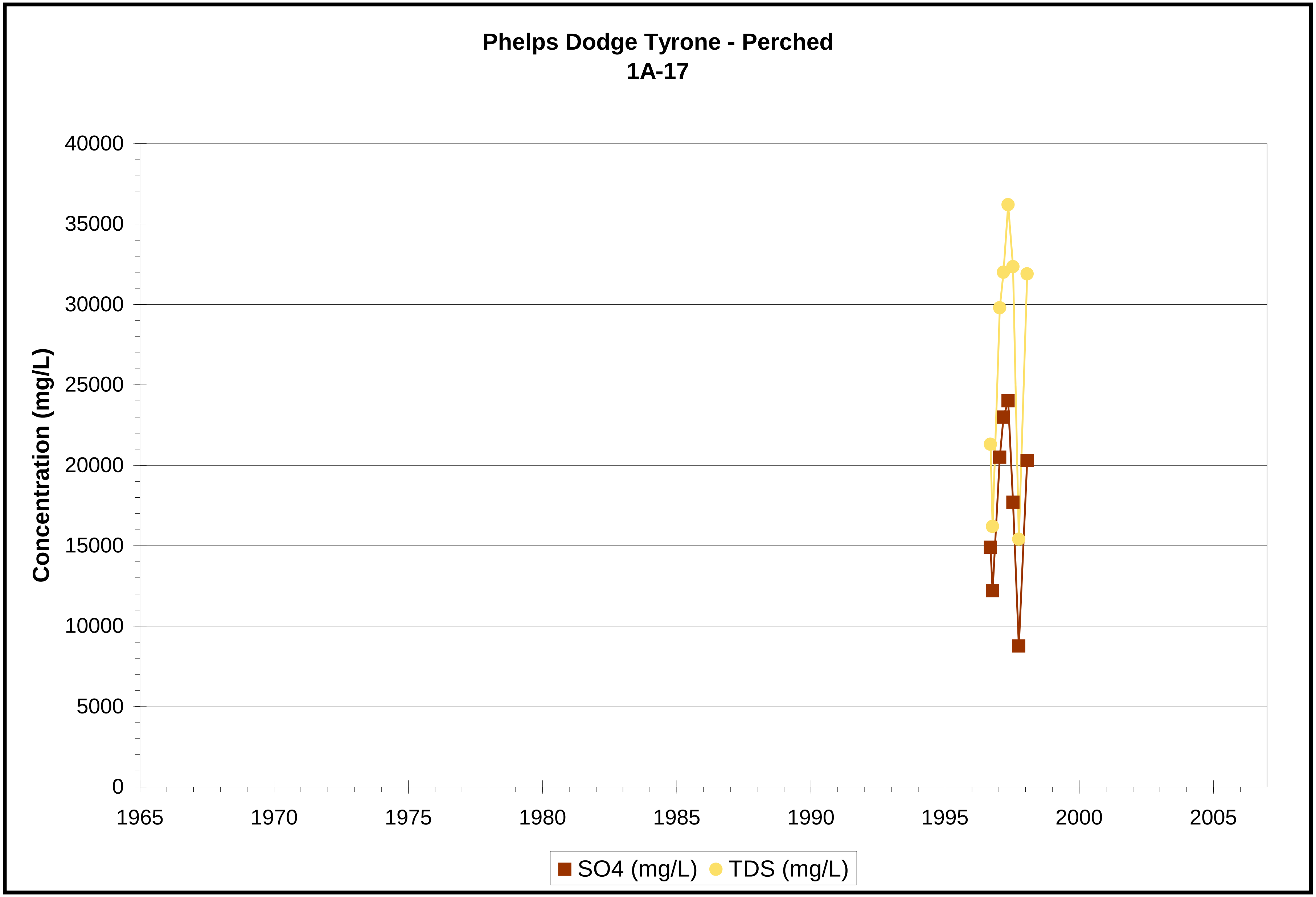
Phelps Dodge Tyrone - Perched
1A-8
Concentration (mg/L)
120000
100000
80000
60000
40000
20000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

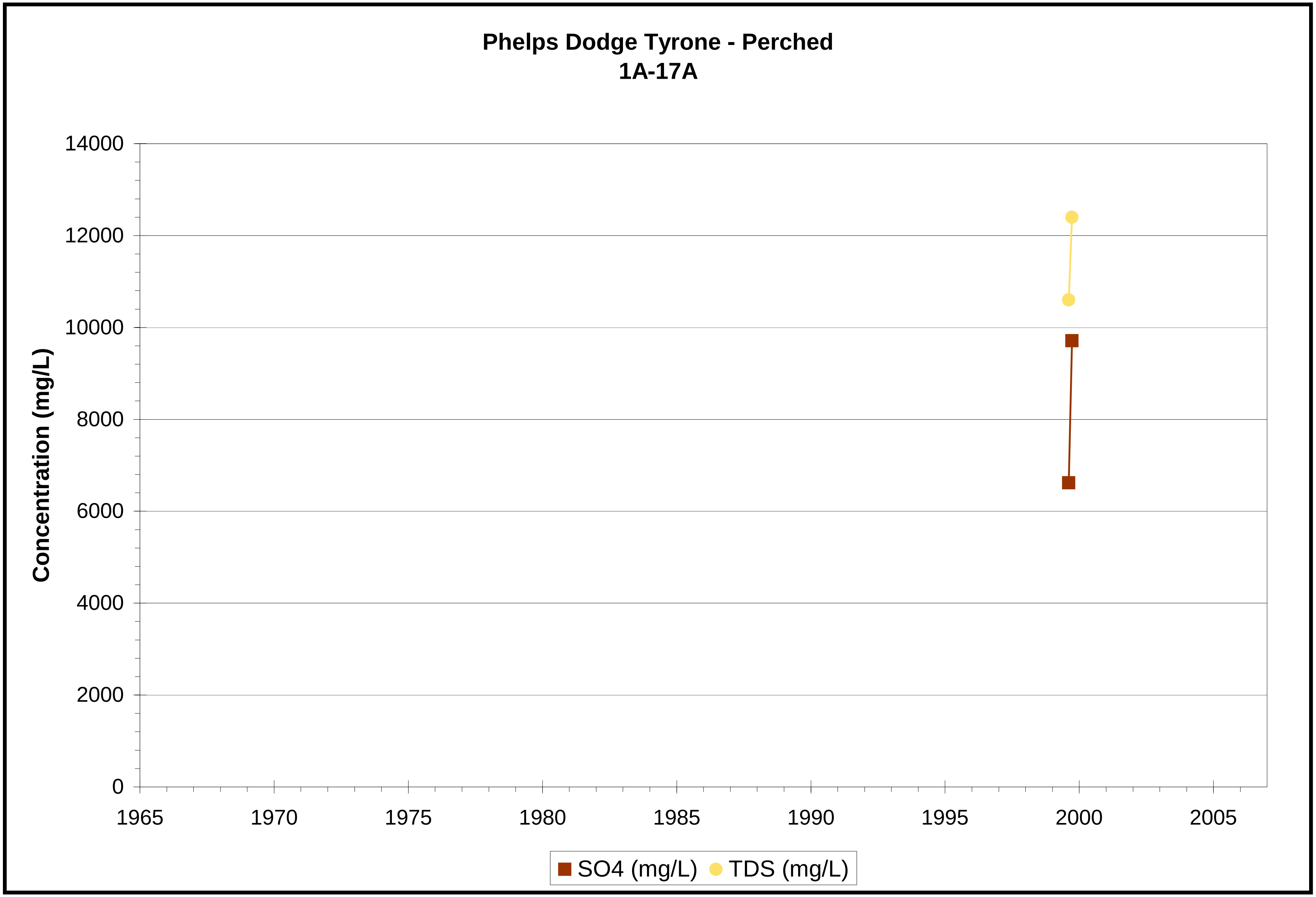


Phelps Dodge Tyrone - Perched
1A-9
Concentration (mg/L)
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

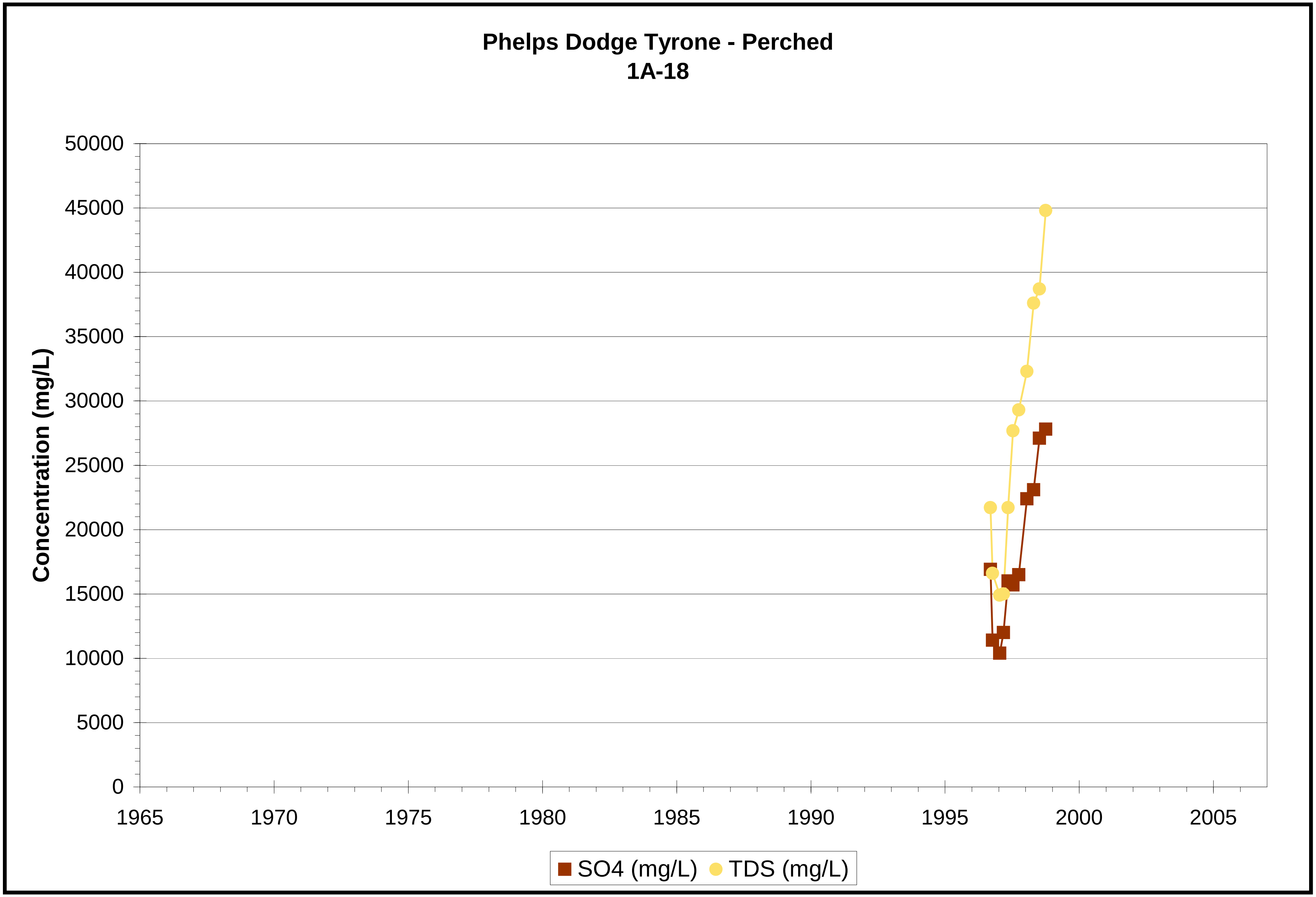


Phelps Dodge Tyrone - Perched
1A-14
Concentration (mg/L)
0
10000
20000
30000
40000
50000
60000
70000
80000
90000
100000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

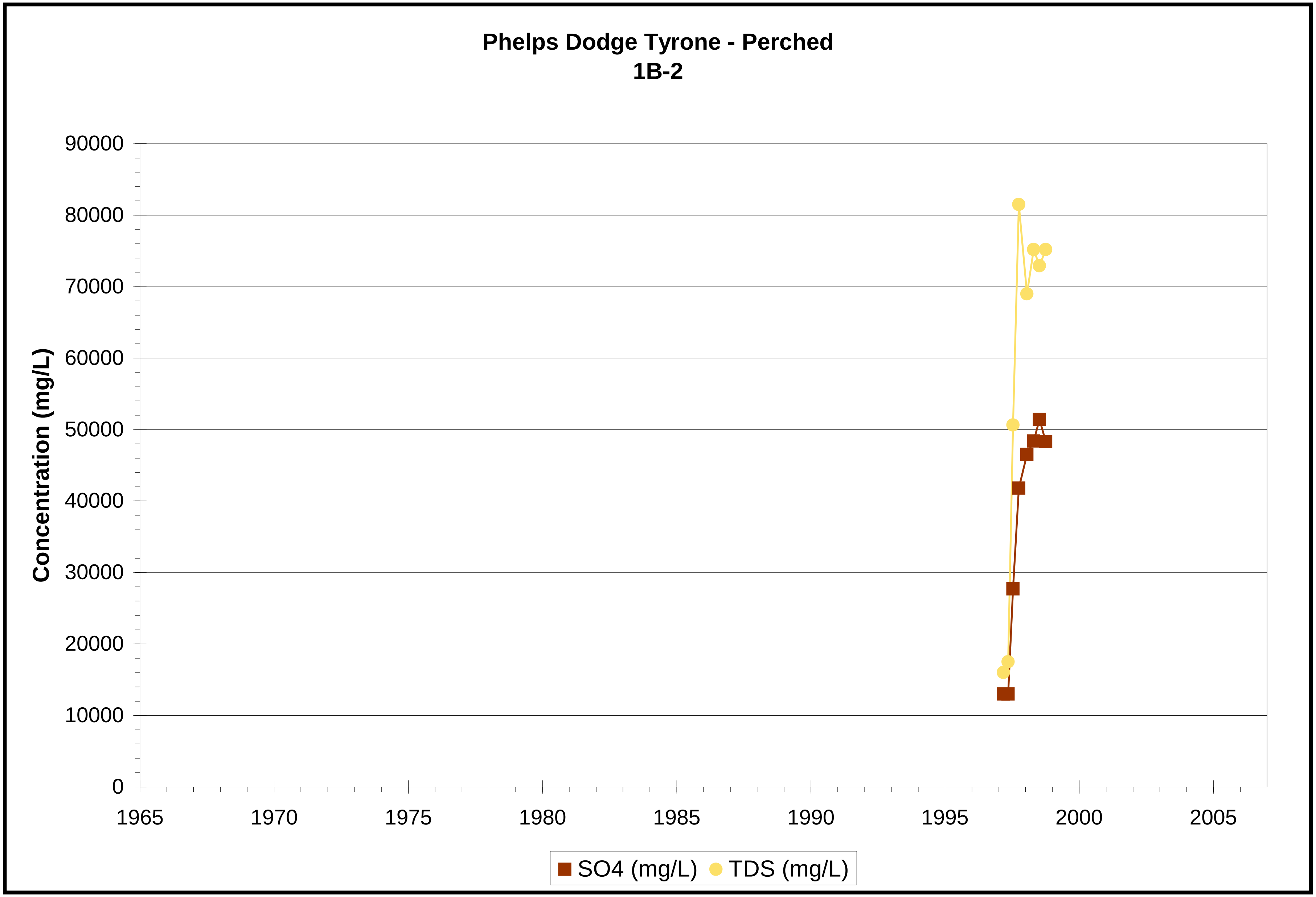

Phelps Dodge Tyrone - Perched
1A-17
Concentration (mg/L)
40000
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



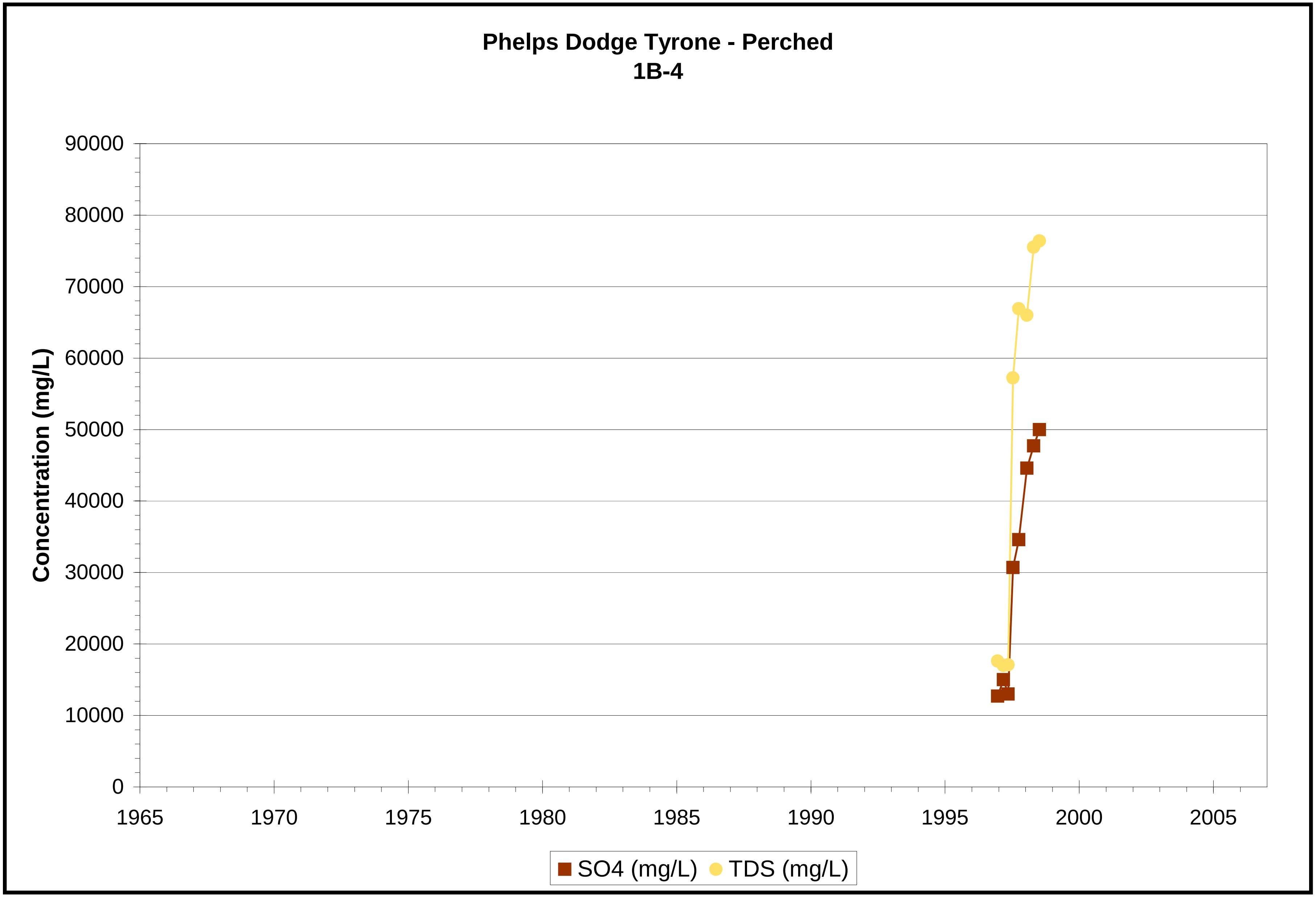
Phelps Dodge Tyrone - Perched
1A-17A
Concentration (mg/L)
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



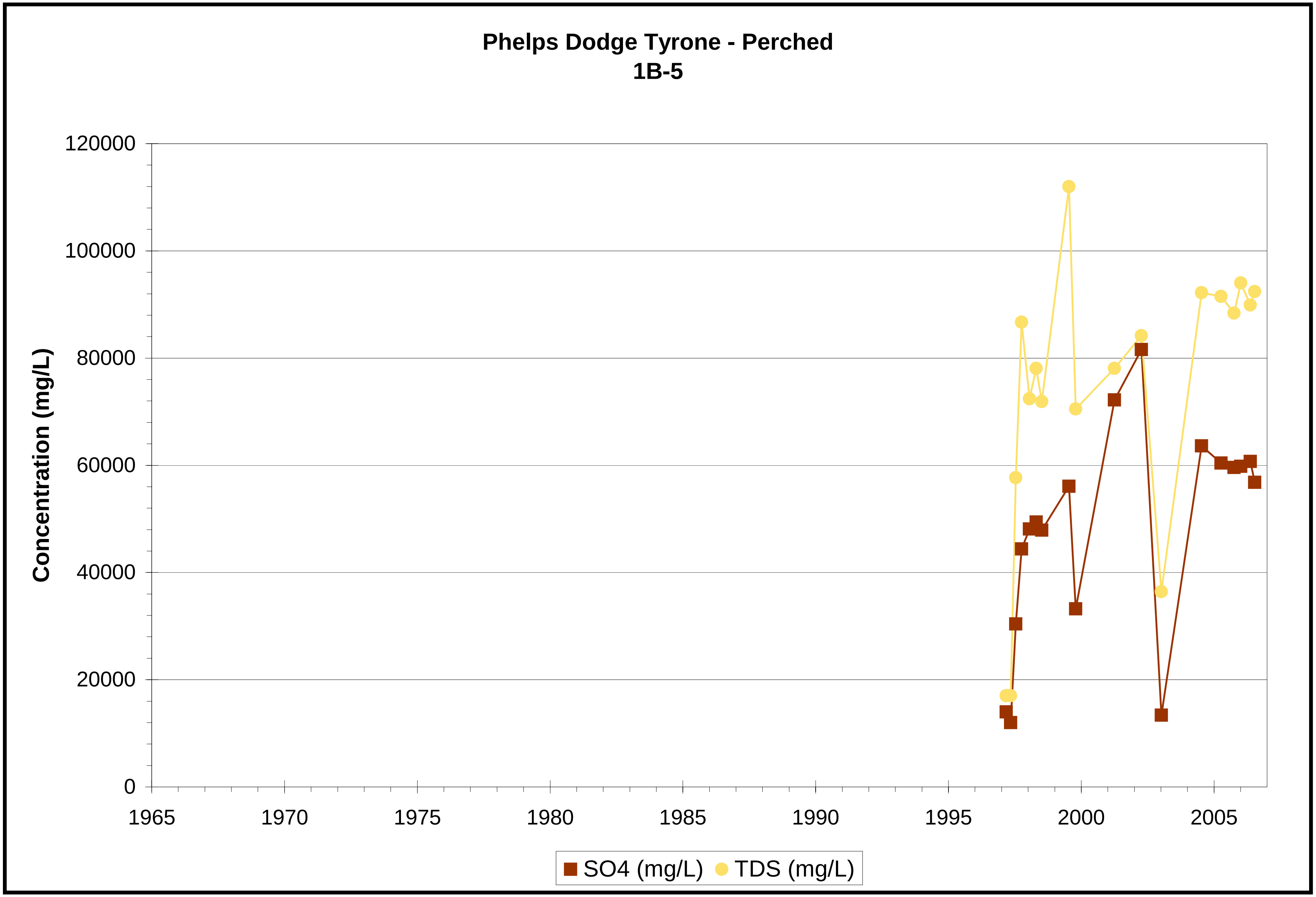
Phelps Dodge Tyrone - Perched
1A-18
Concentration (mg/L)
50000
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

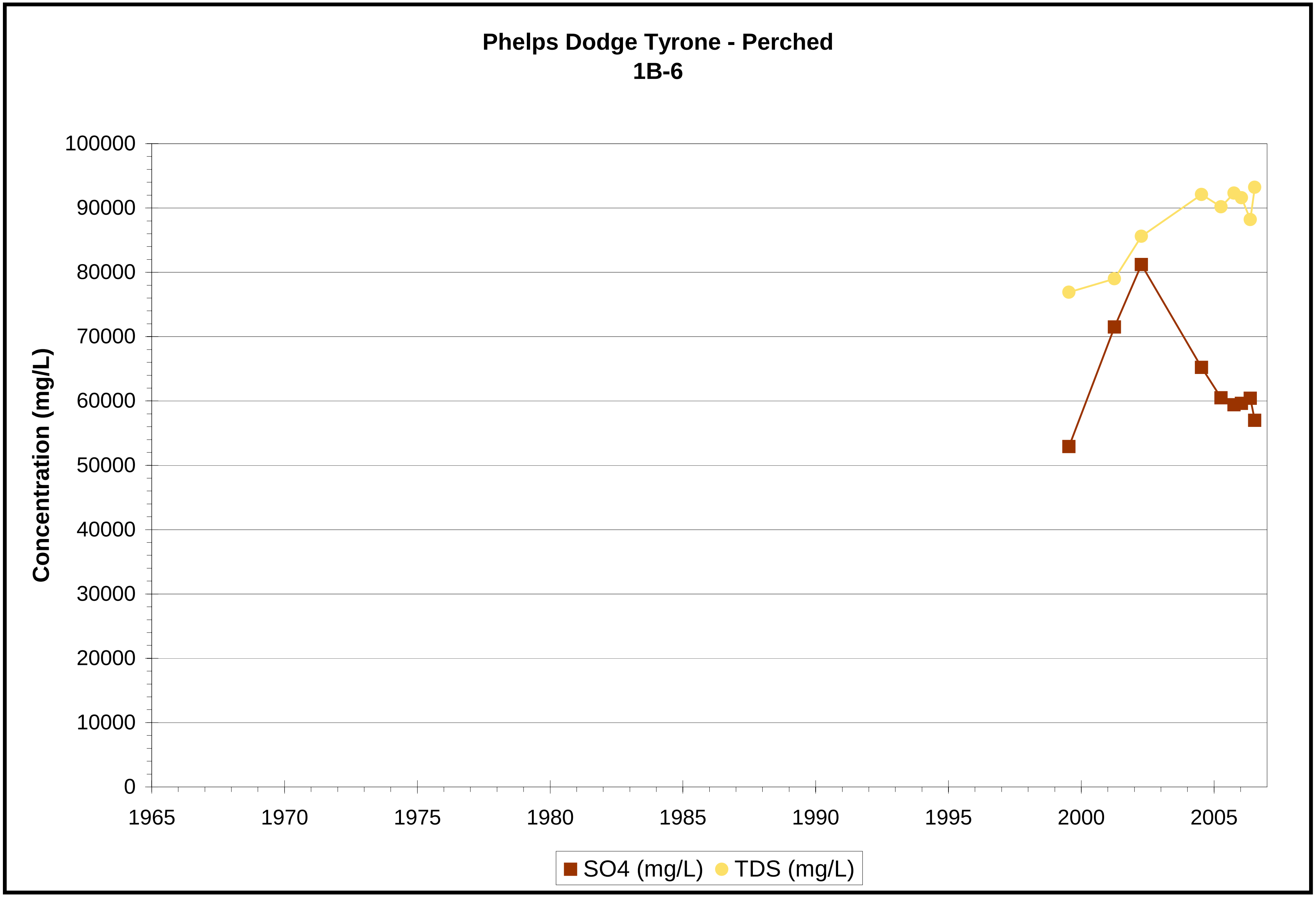


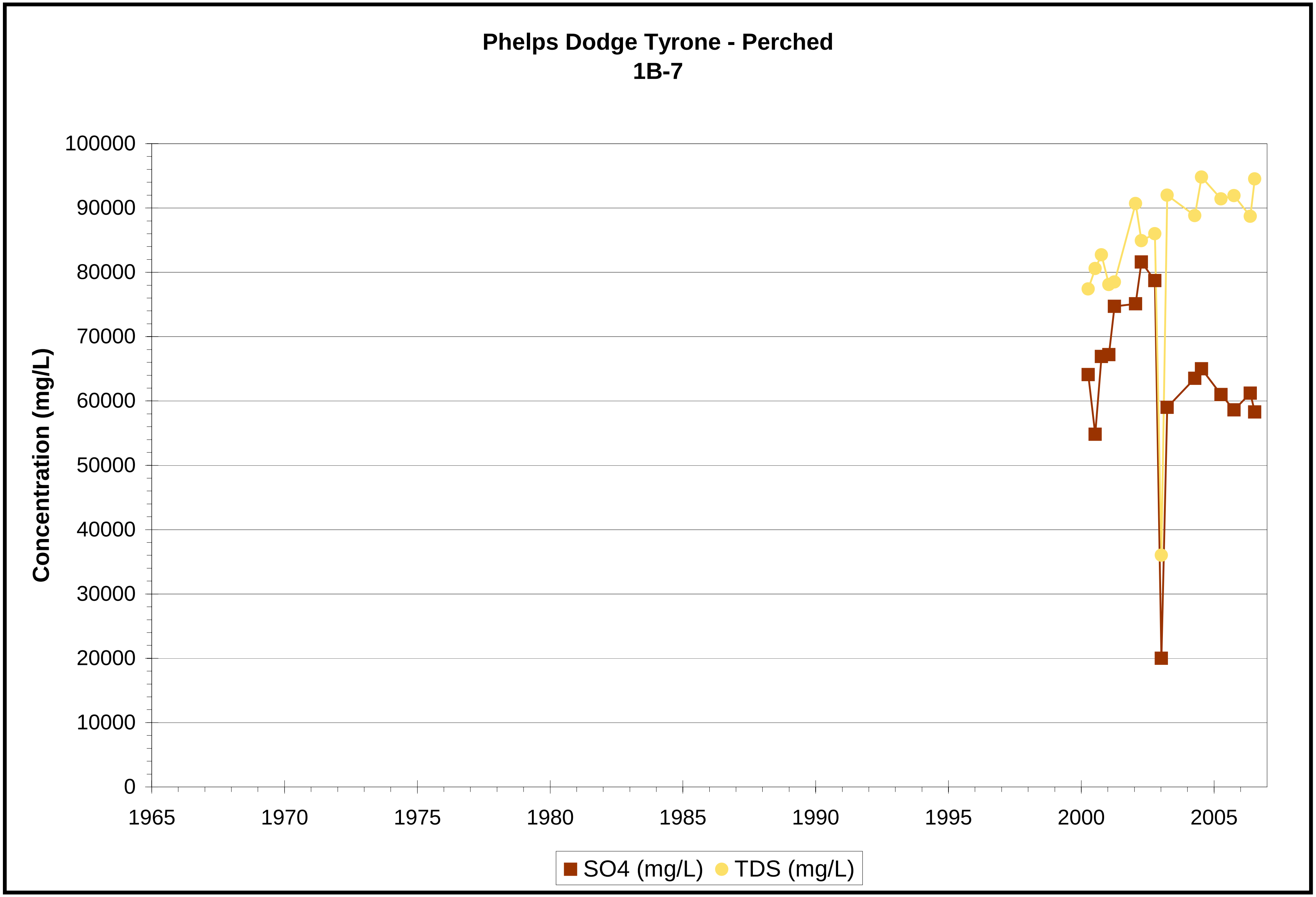
Phelps Dodge Tyrone - Perched
1B-2
Concentration (mg/L)
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



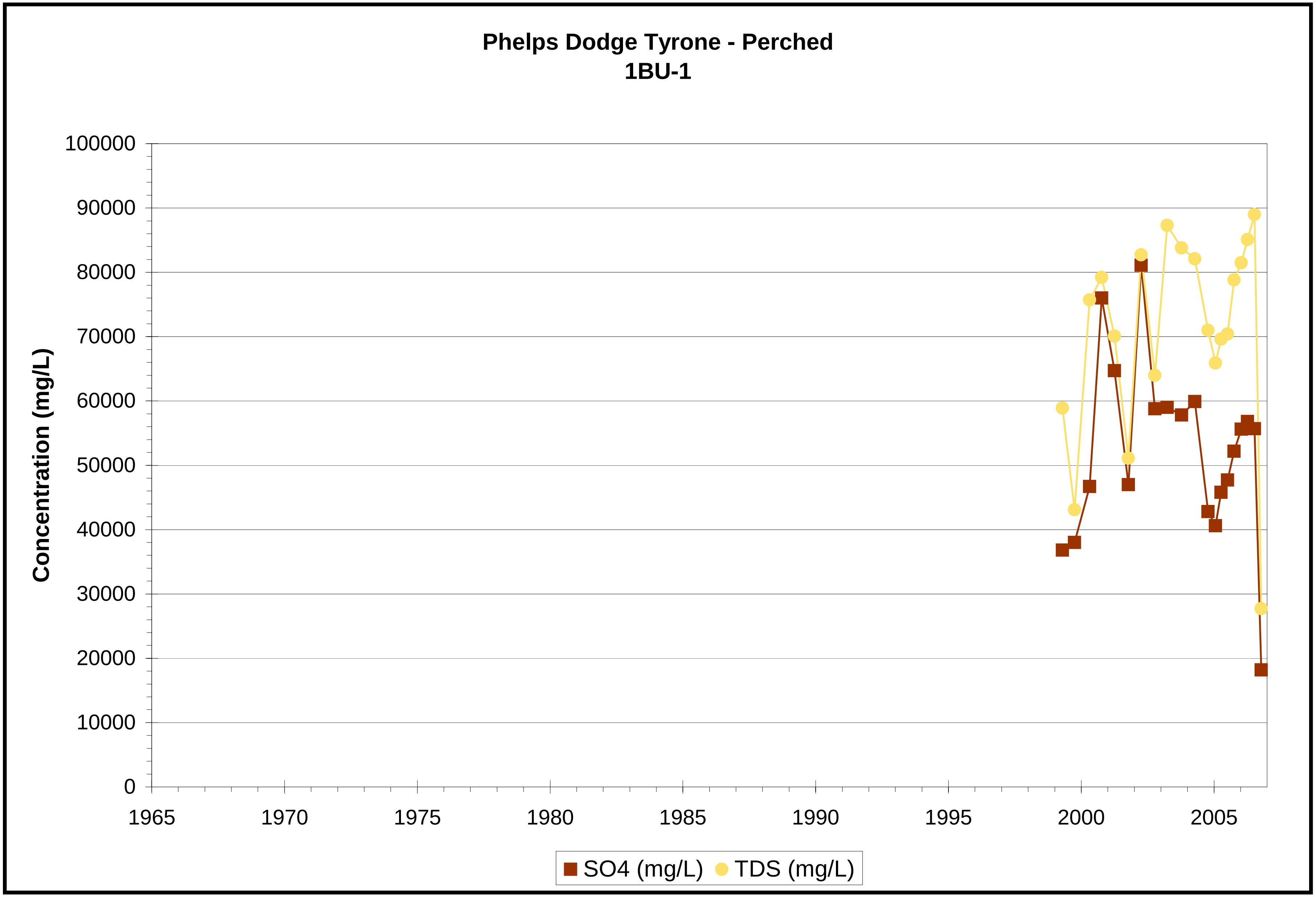
Phelps Dodge Tyrone - Perched
1B-4
Concentration (mg/L)
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Perched
1B-5
Concentration (mg/L)
120000
100000
80000
60000
40000
20000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

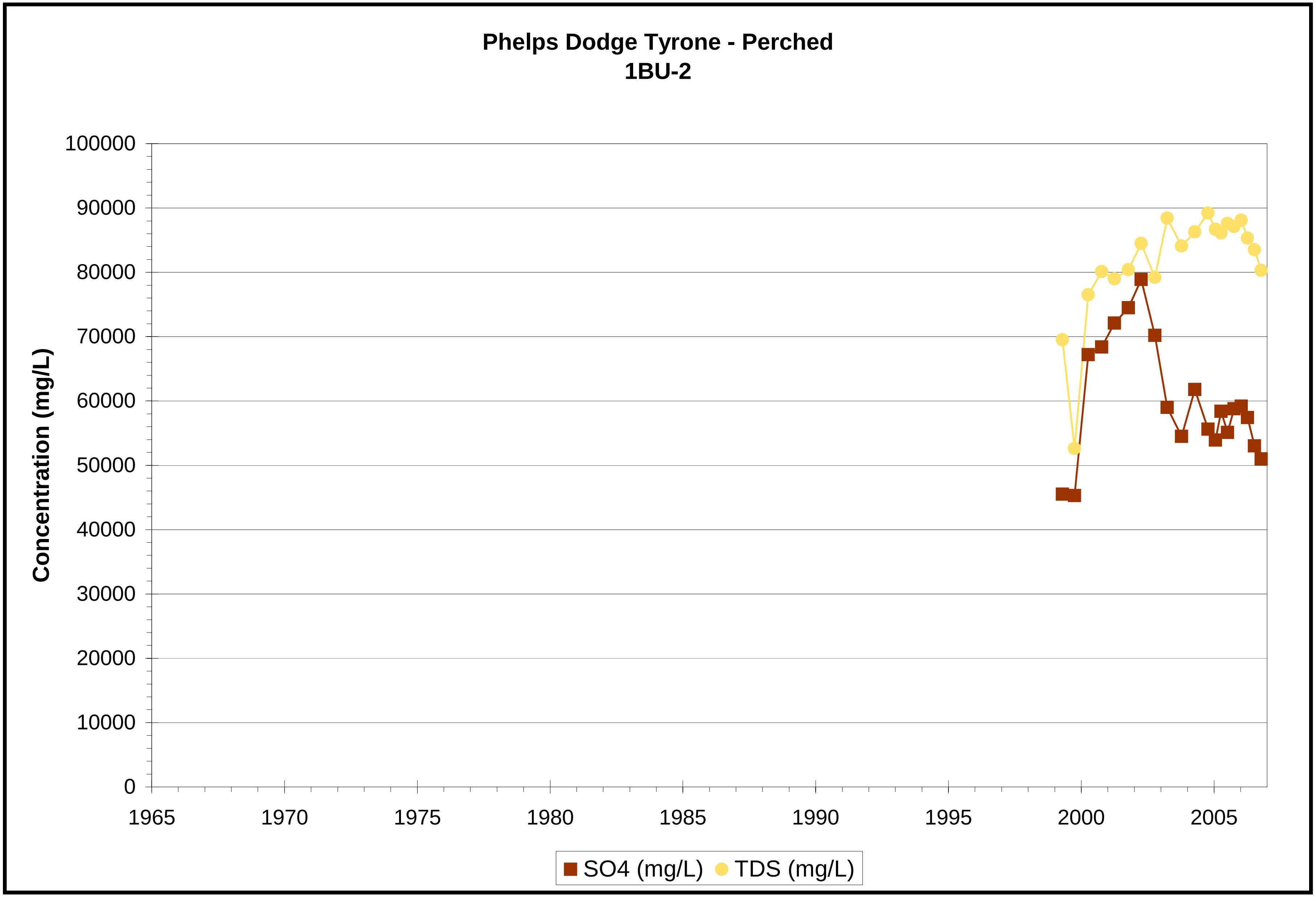

Phelps Dodge Tyrone - Perched
1B-6
Concentration (mg/L)
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



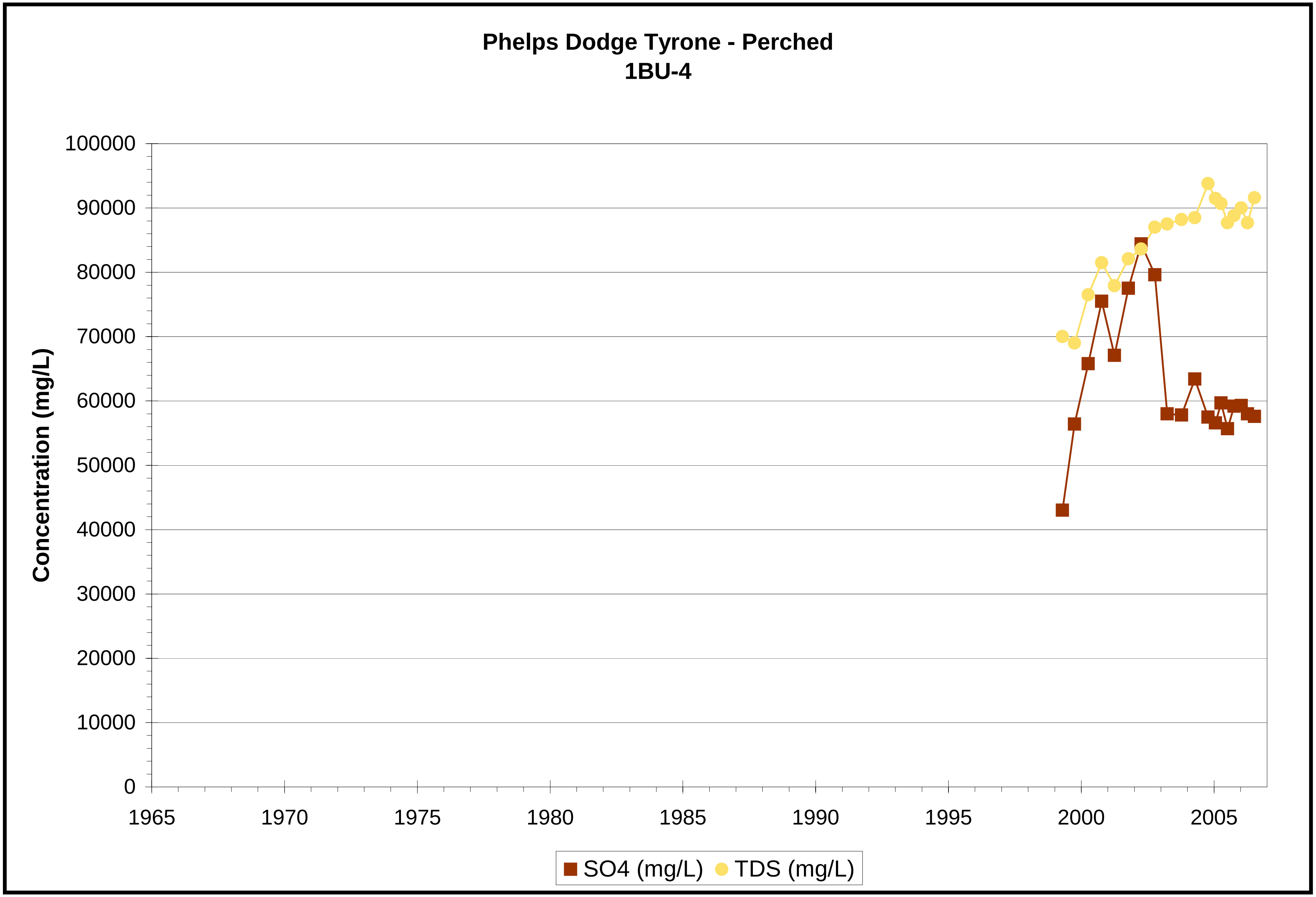
Phelps Dodge Tyrone - Perched
1B-7
Concentration (mg/L)
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



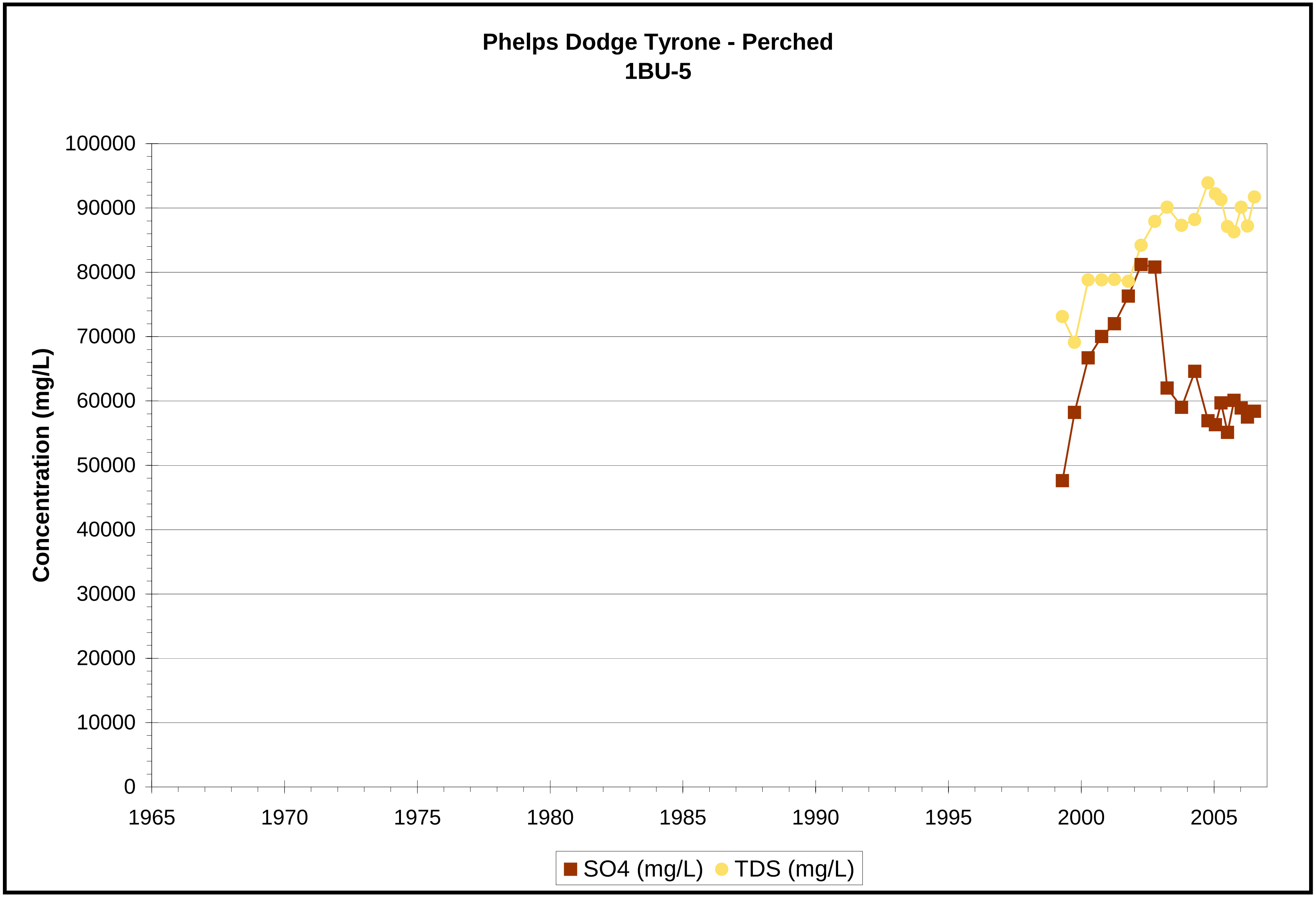
Phelps Dodge Tyrone - Perched
1BU-1
Concentration (mg/L)
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



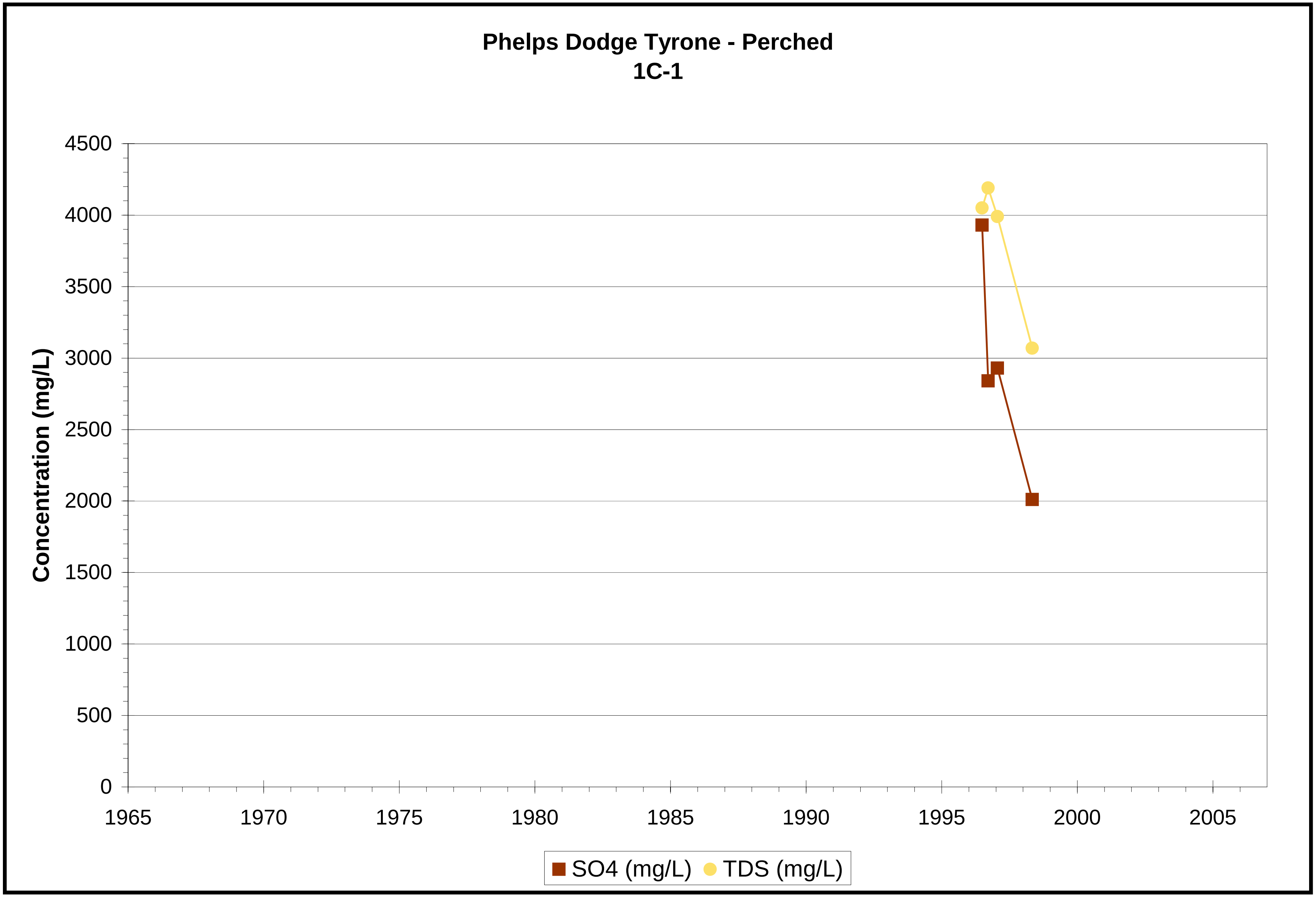
Phelps Dodge Tyrone - Perched
1BU-2
Concentration (mg/L)
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



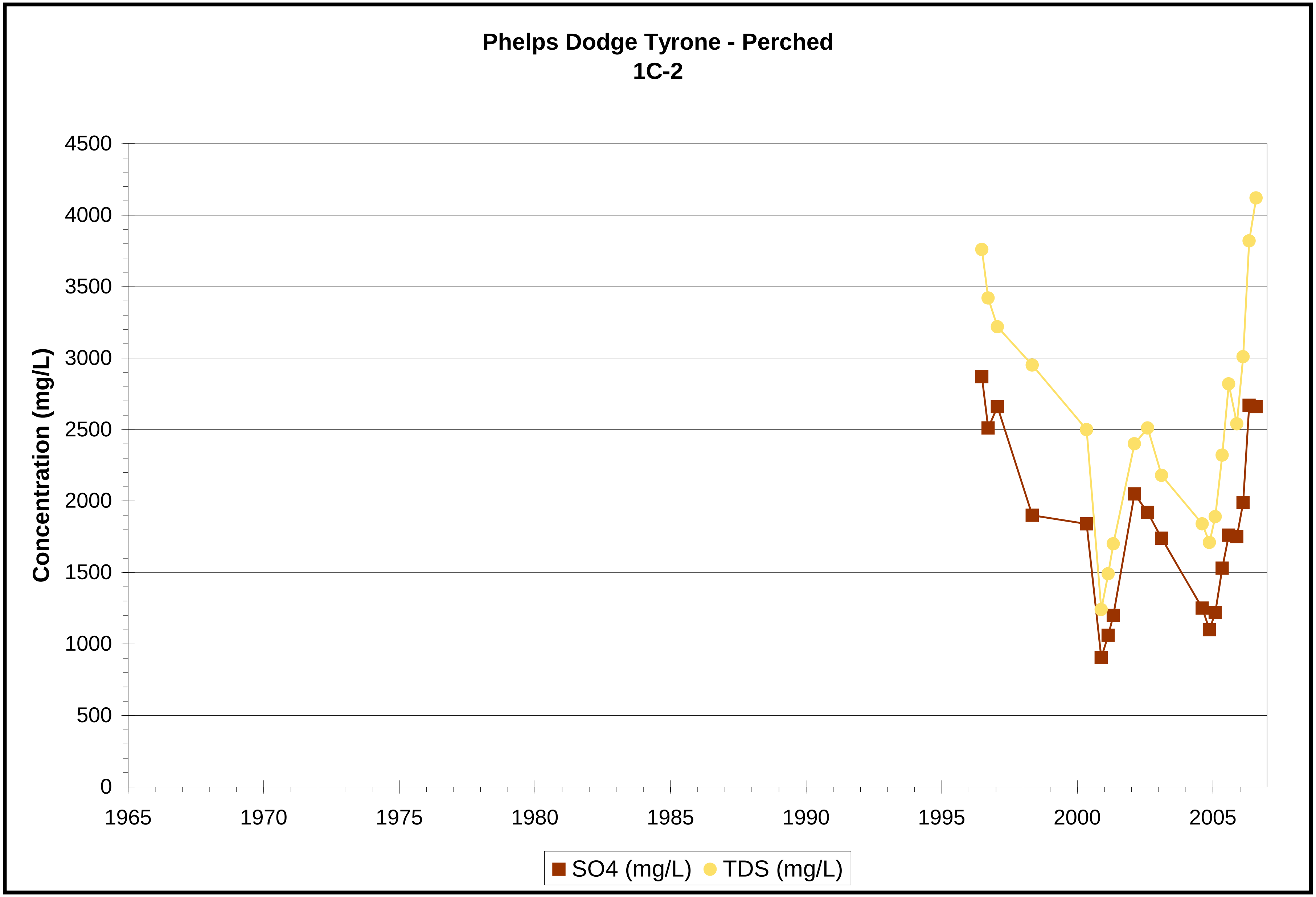
Phelps Dodge Tyrone - Perched
1BU-4
Concentration (mg/L)
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



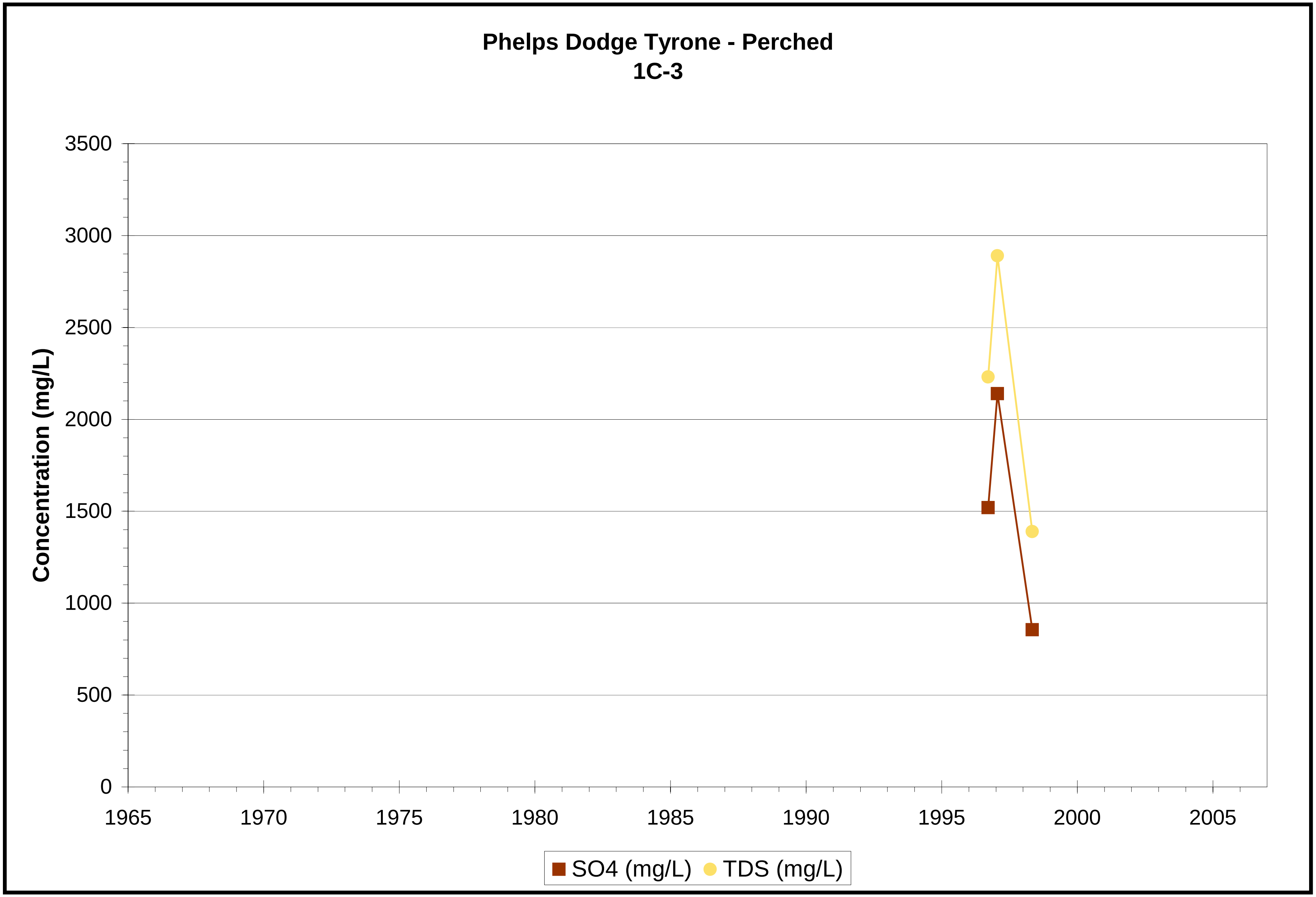
Phelps Dodge Tyrone - Perched
1BU-5
Concentration (mg/L)
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



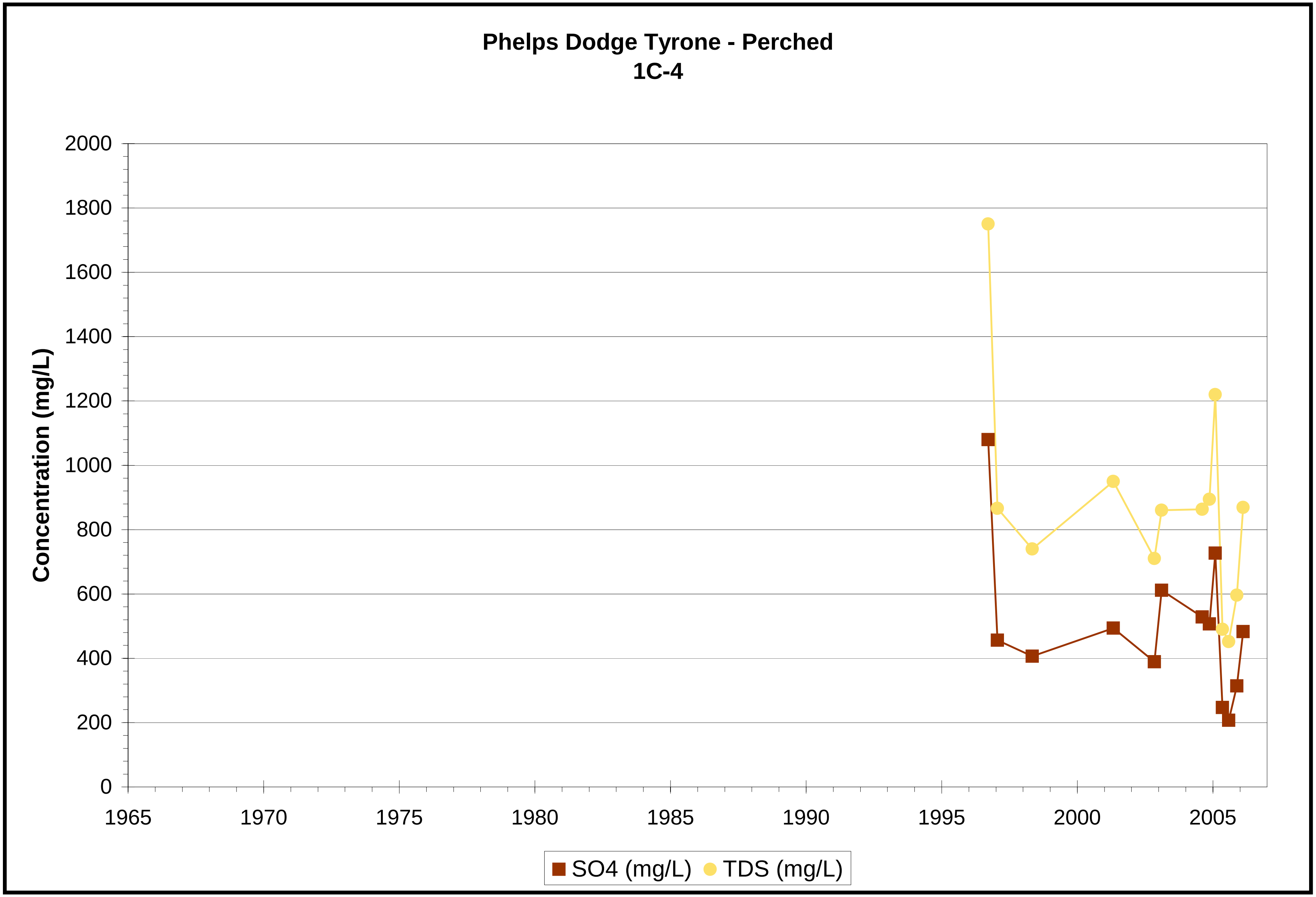
Phelps Dodge Tyrone - Perched
1C-1
Concentration (mg/L)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

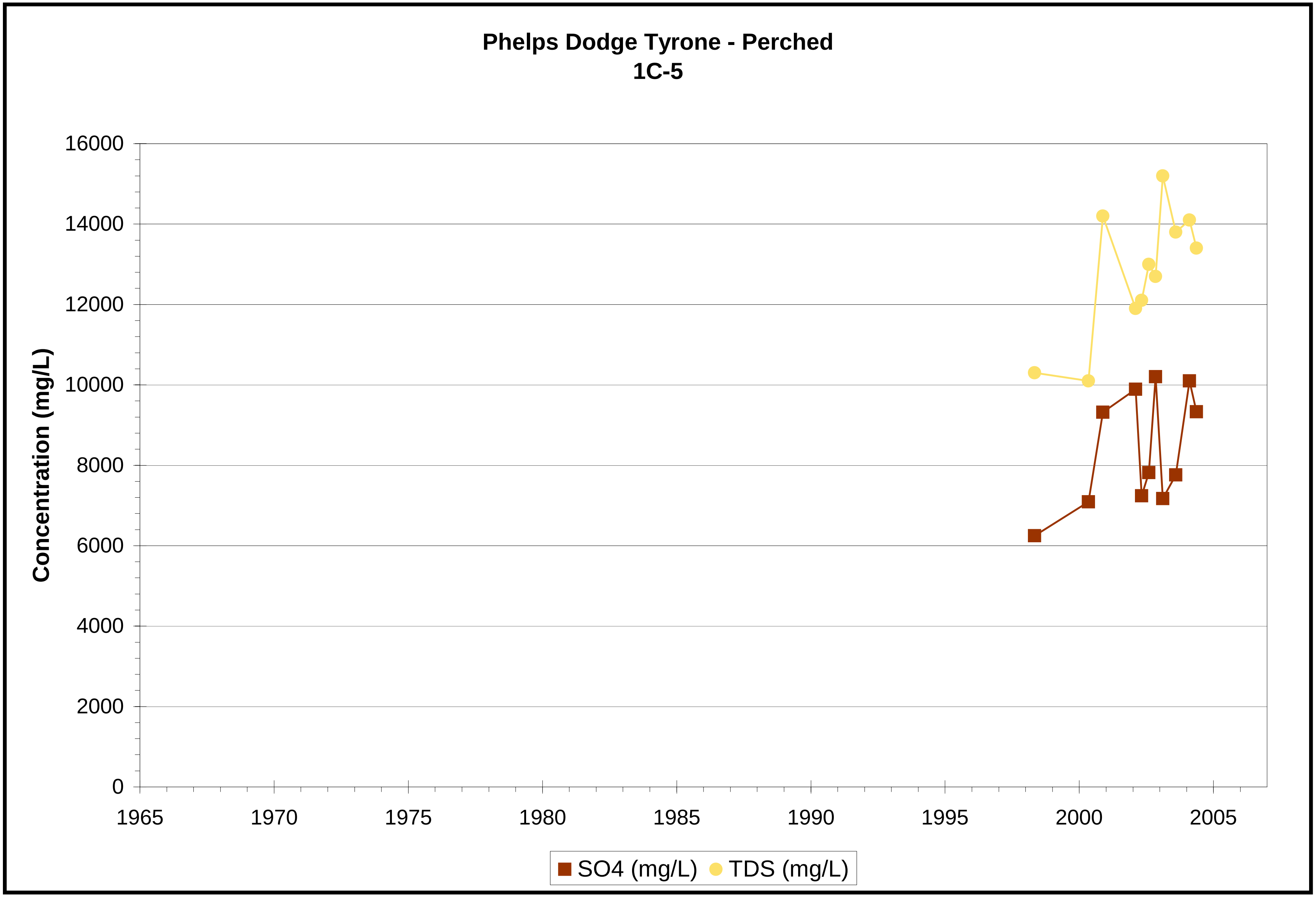


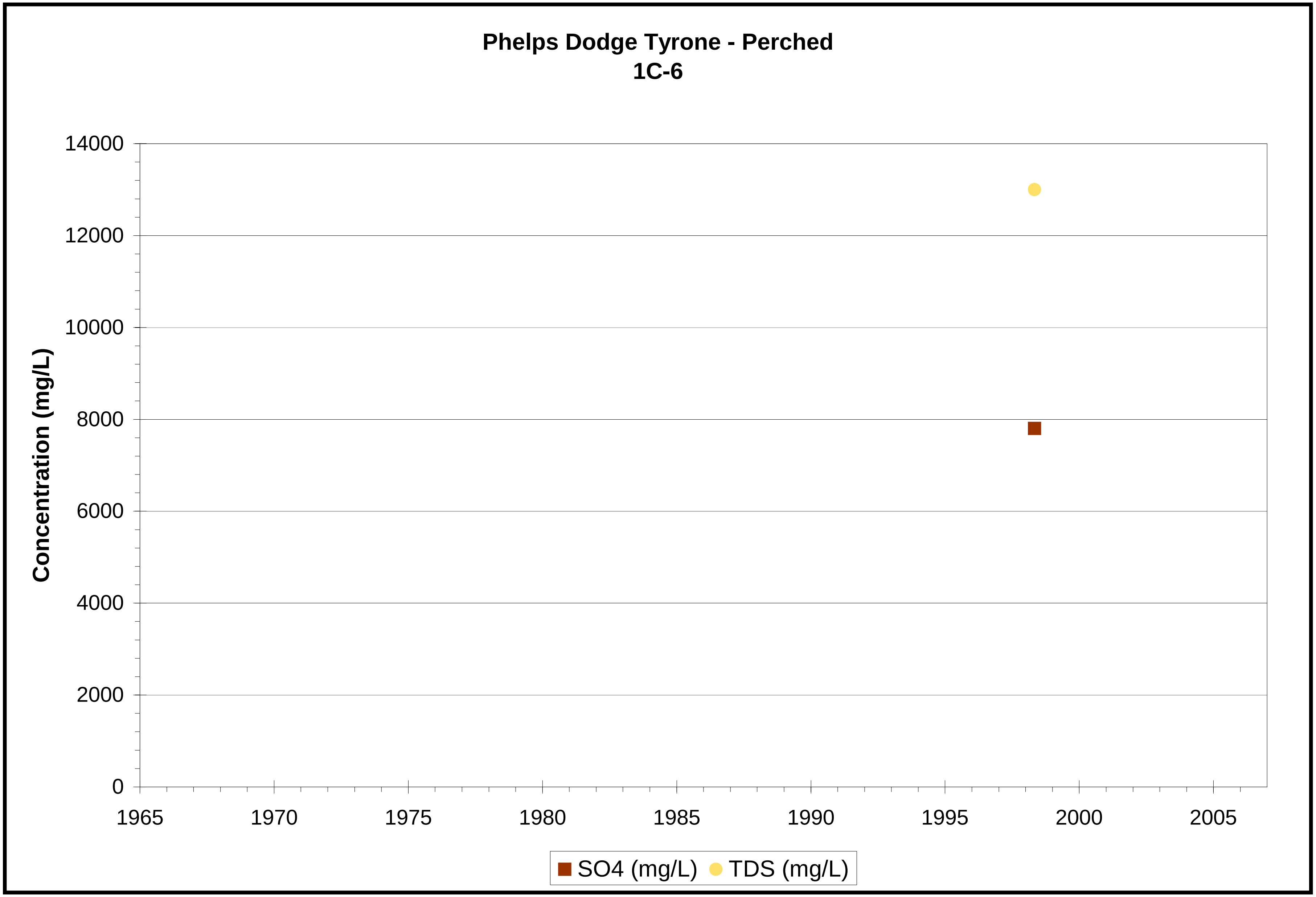
Phelps Dodge Tyrone - Perched
1C-2
Concentration (mg/L)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

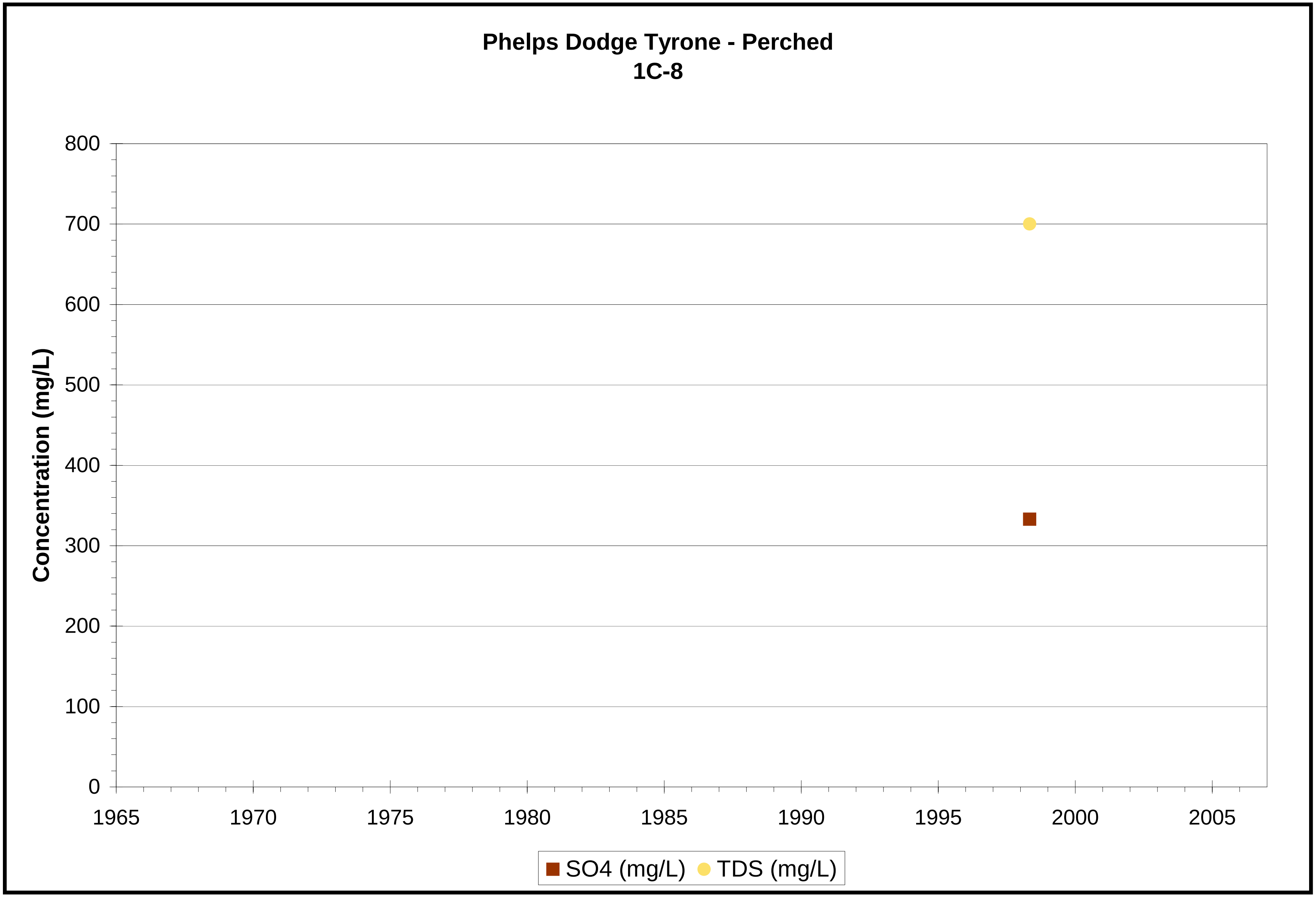


Phelps Dodge Tyrone - Perched
1C-3
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

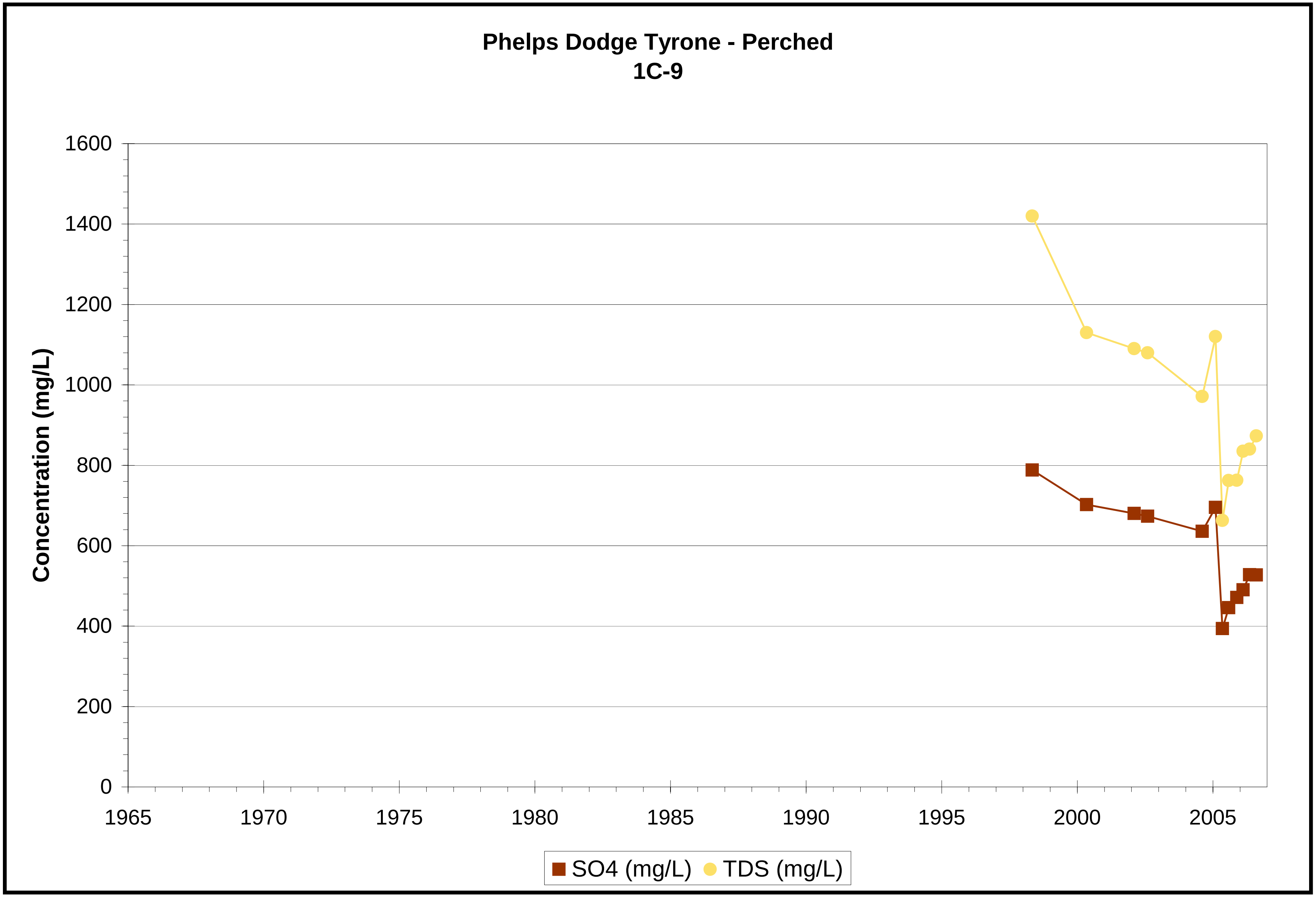

Phelps Dodge Tyrone - Perched
1C-4
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1800
2000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

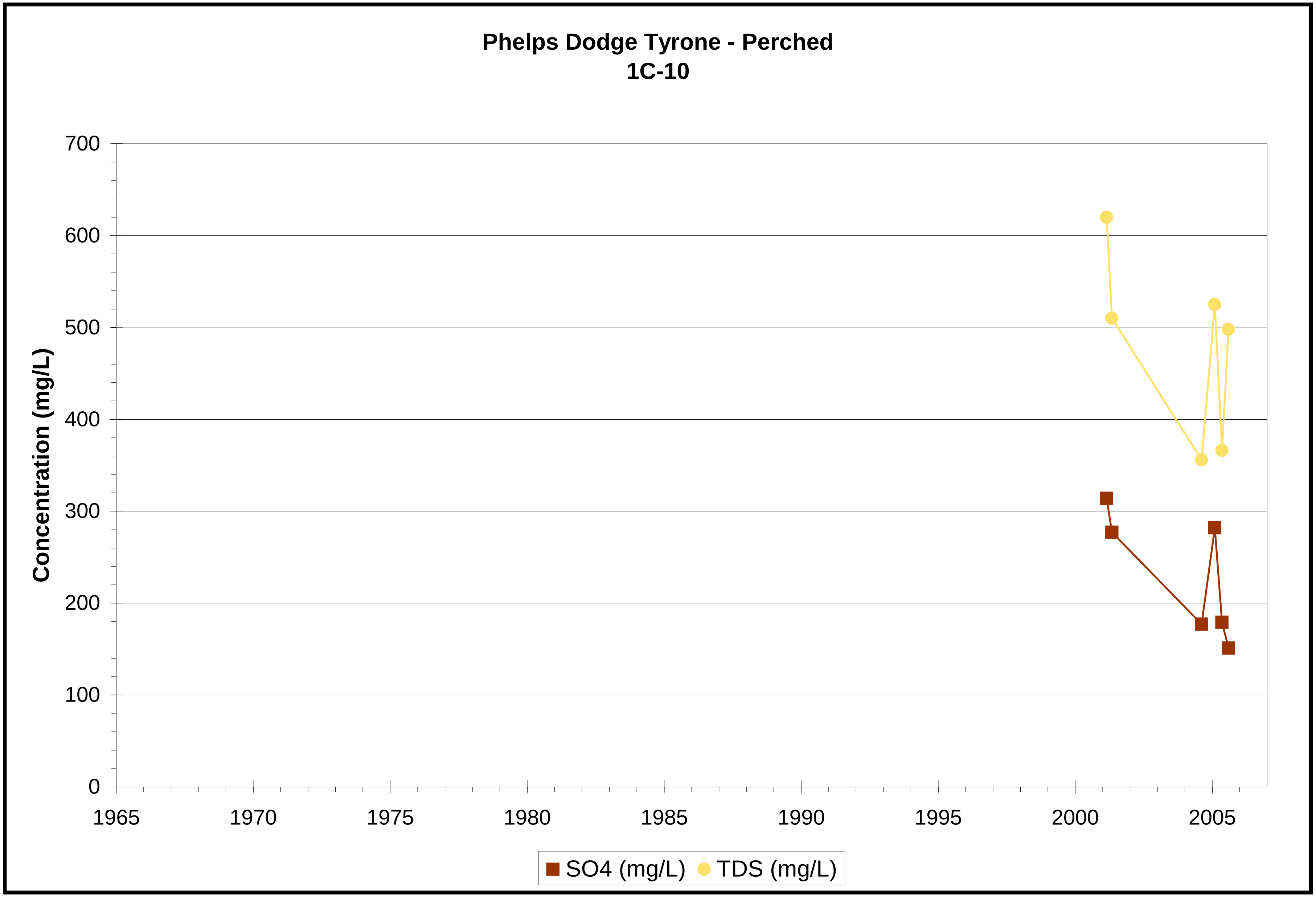

Phelps Dodge Tyrone - Perched
1C-5
Concentration (mg/L)
16000
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Perched
1C-6
Concentration (mg/L)
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

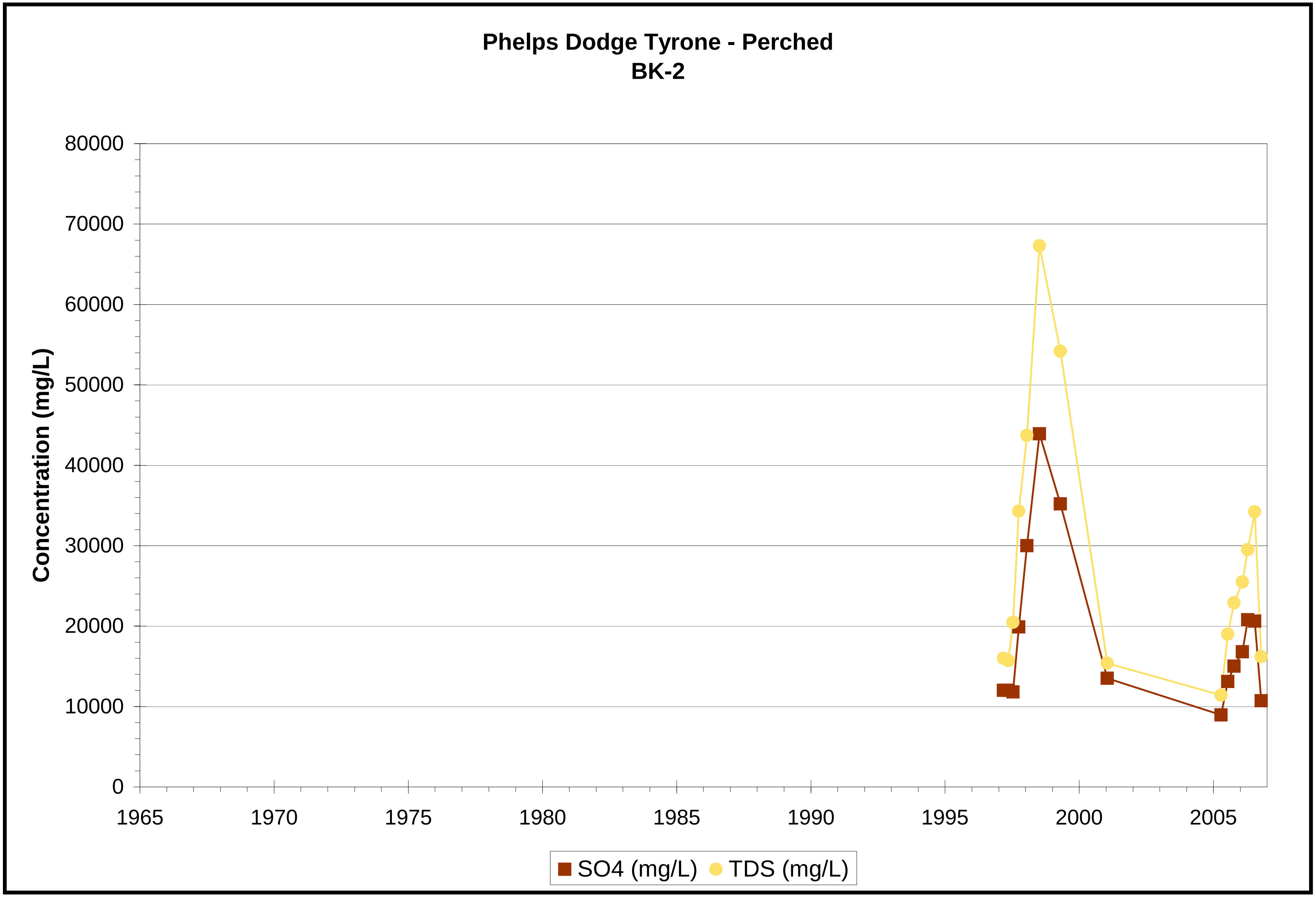


Phelps Dodge Tyrone - Perched
1C-8
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

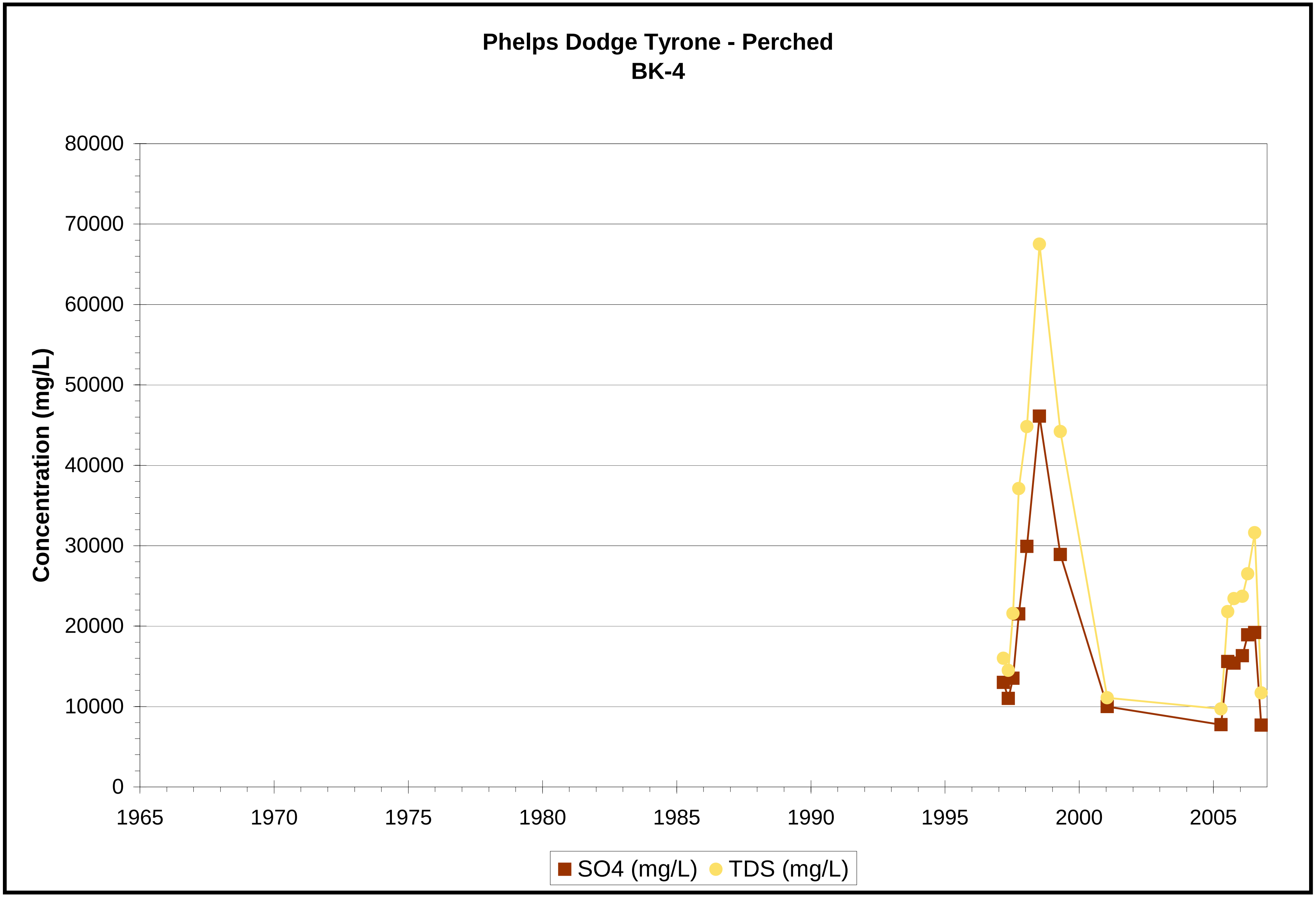

Phelps Dodge Tyrone - Perched
1C-9
Concentration (mg/L)
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

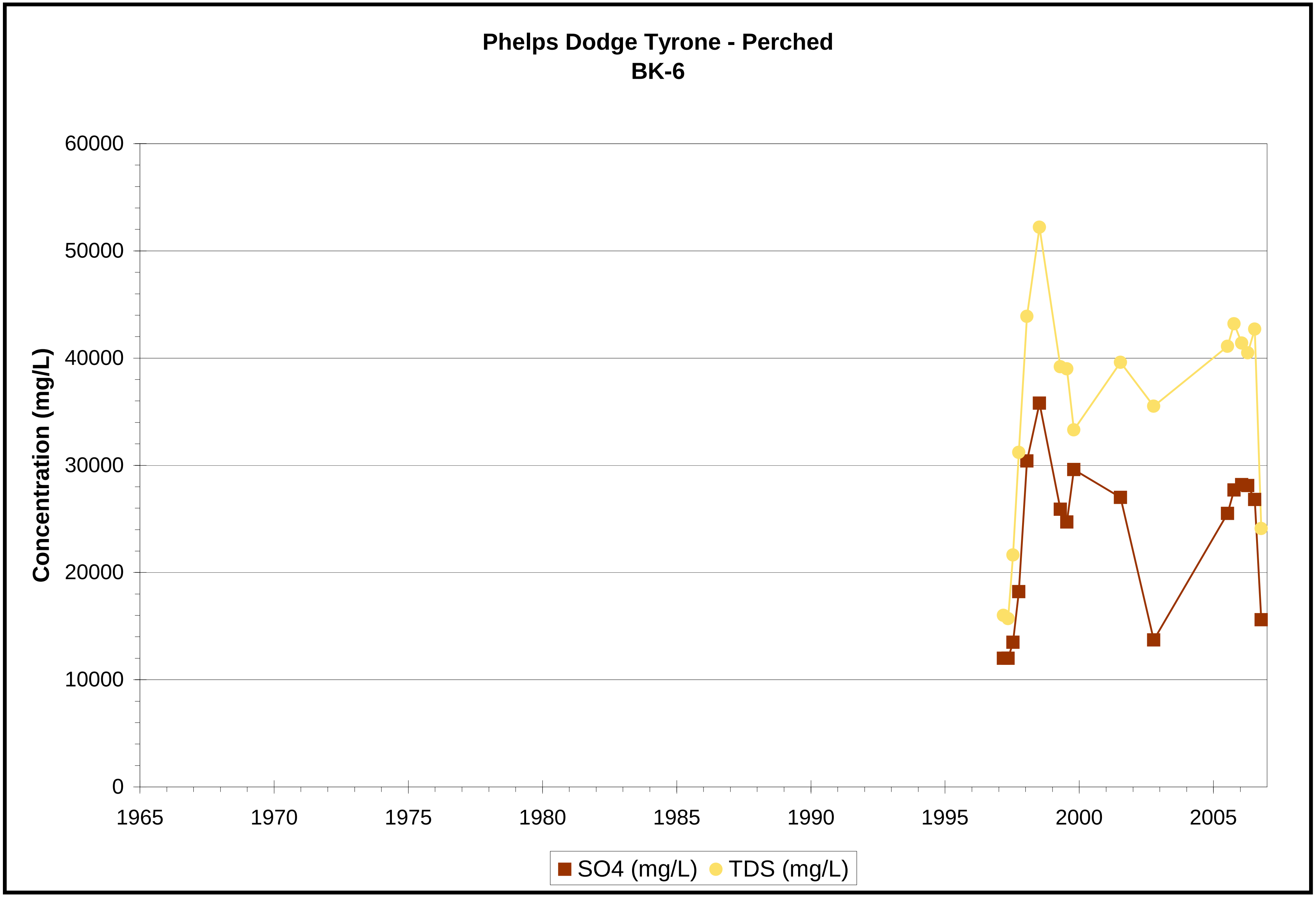


Phelps Dodge Tyrone - Perched
1C-10
Concentration (mg/L)
0
100
200
300
400
500
600
700
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

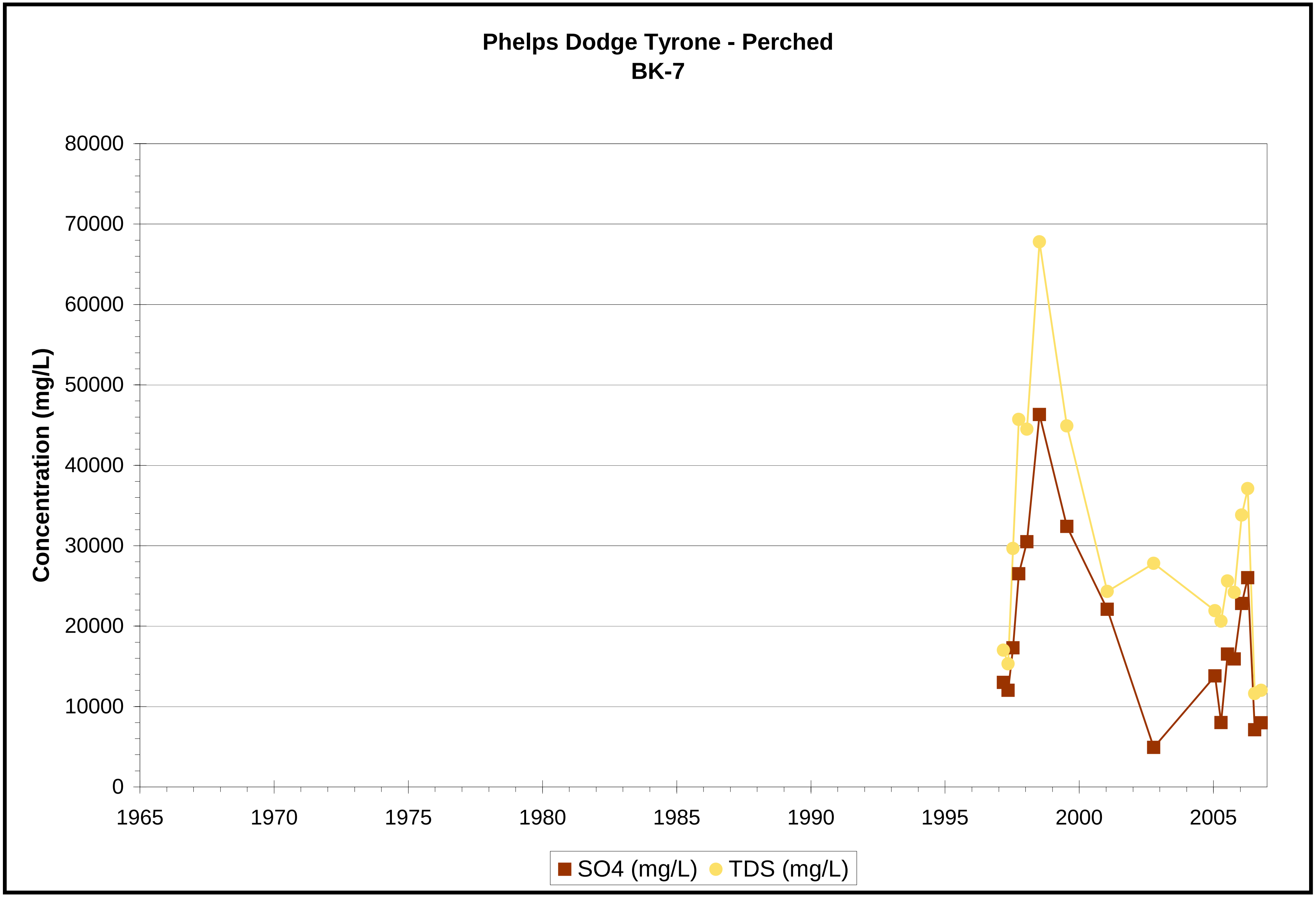


Phelps Dodge Tyrone - Perched
BK-2
Concentration (mg/L)
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

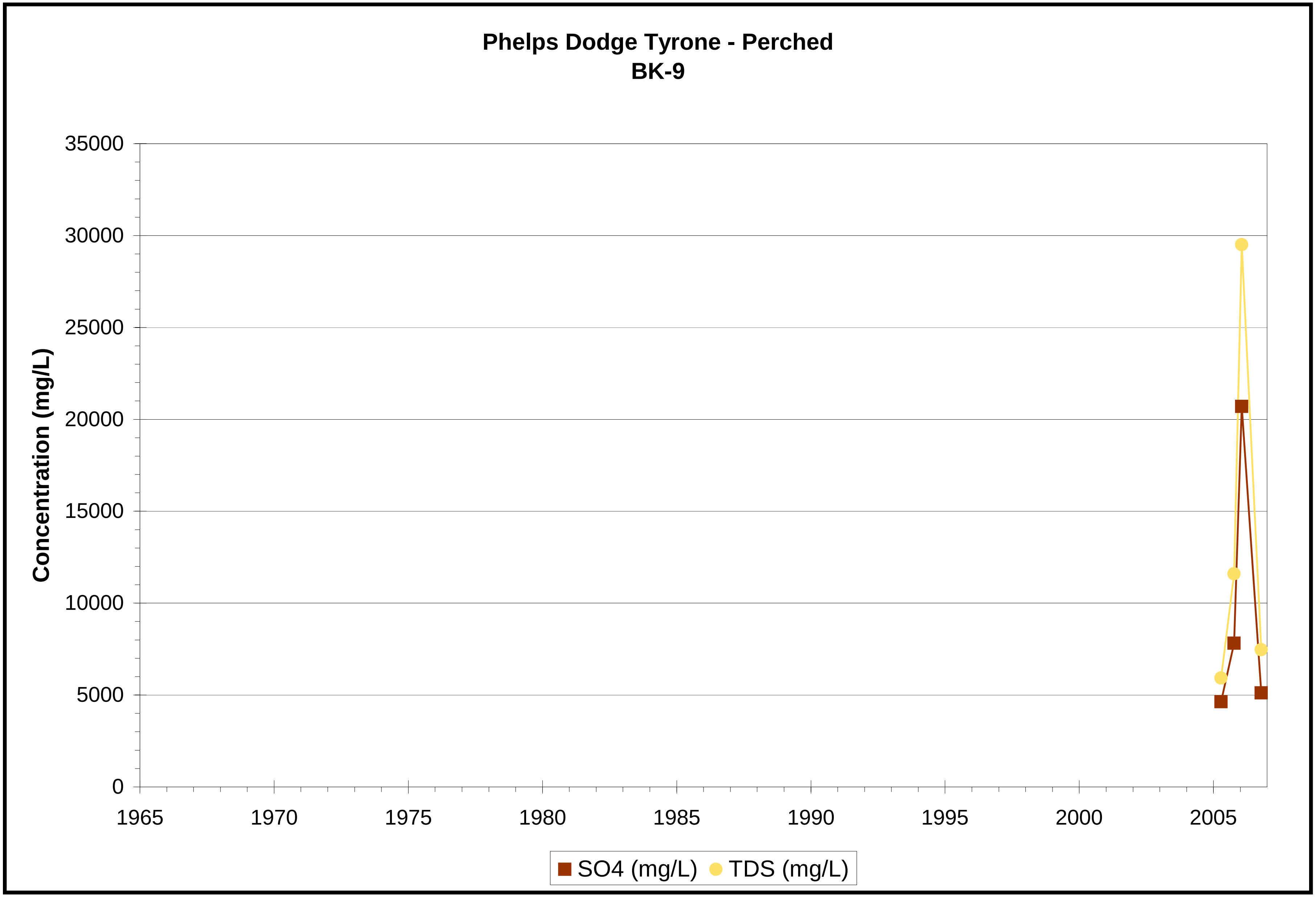

Phelps Dodge Tyrone - Perched
BK-4
Concentration (mg/L)
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



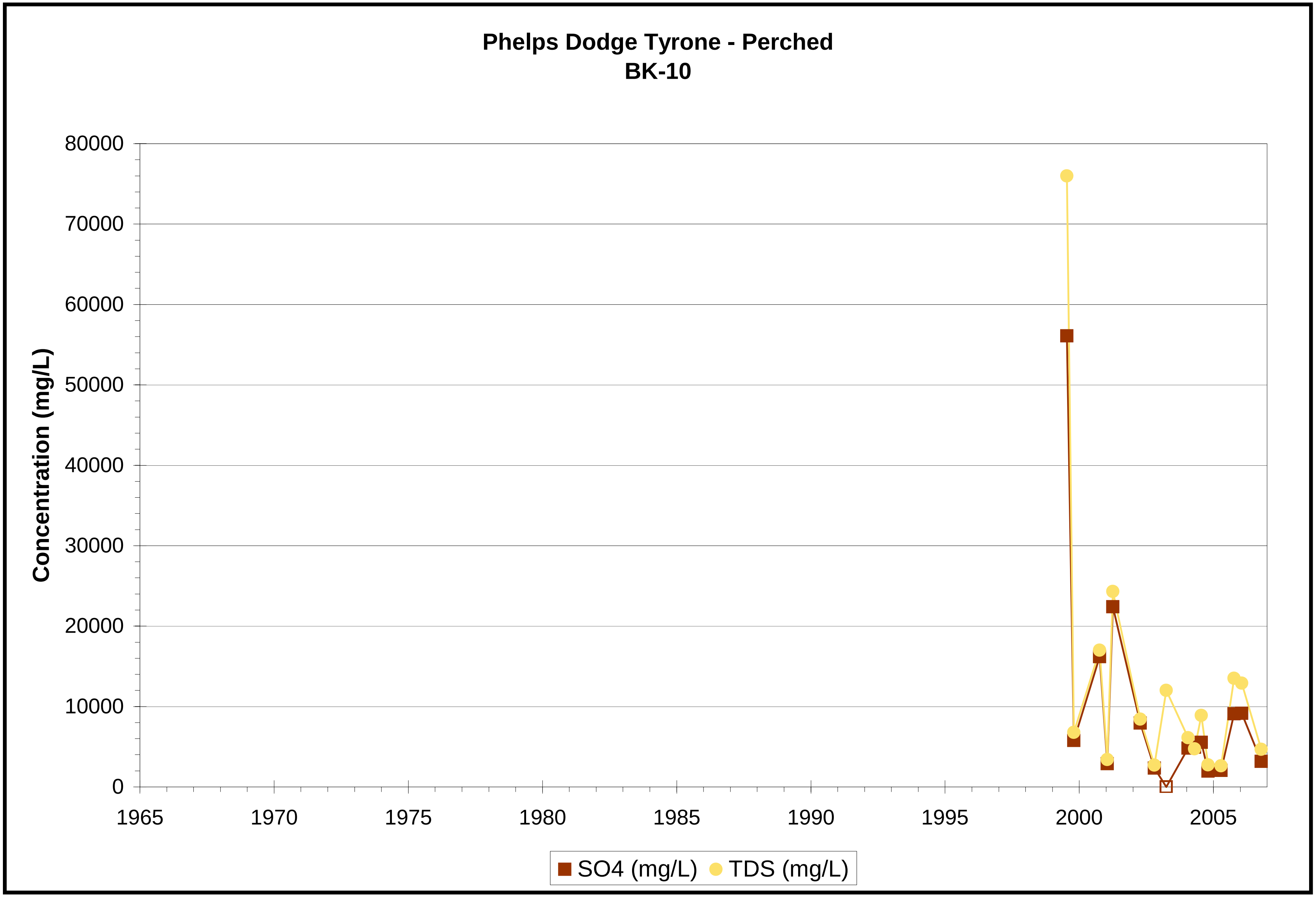
Phelps Dodge Tyrone - Perched
BK-6
Concentration (mg/L)
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



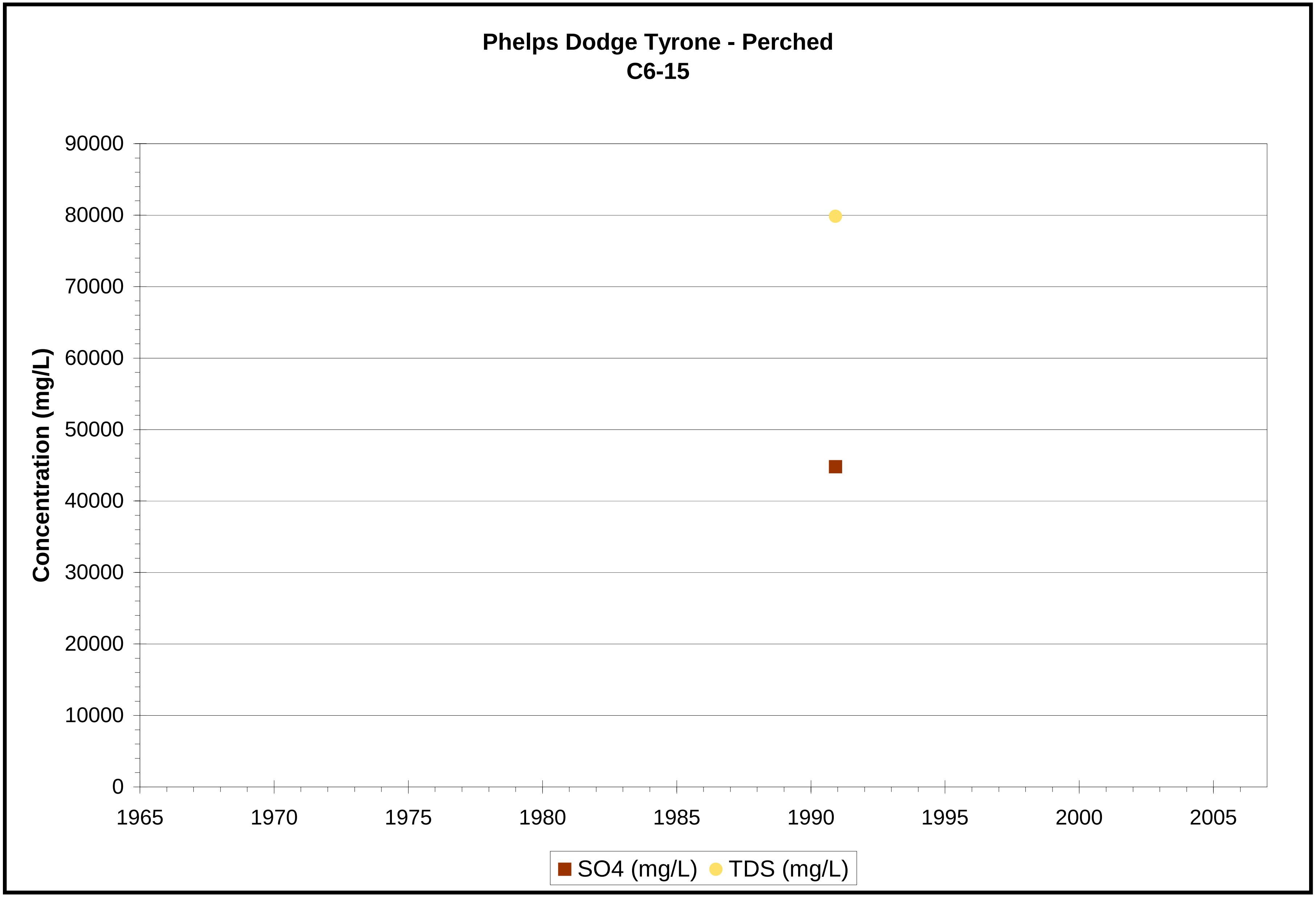
Phelps Dodge Tyrone - Perched
BK-7
Concentration (mg/L)
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

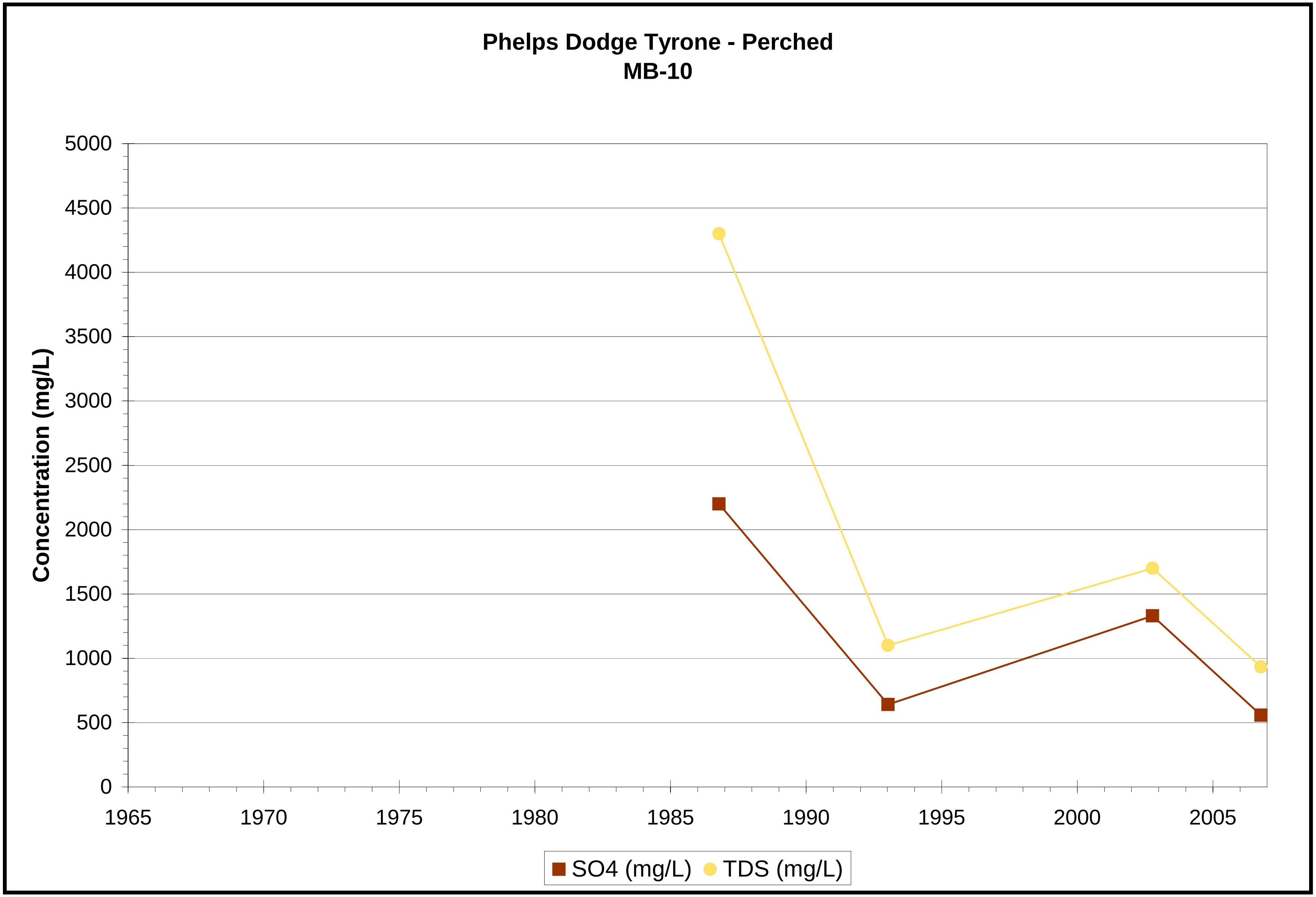


Phelps Dodge Tyrone - Perched
BK-9
Concentration (mg/L)
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

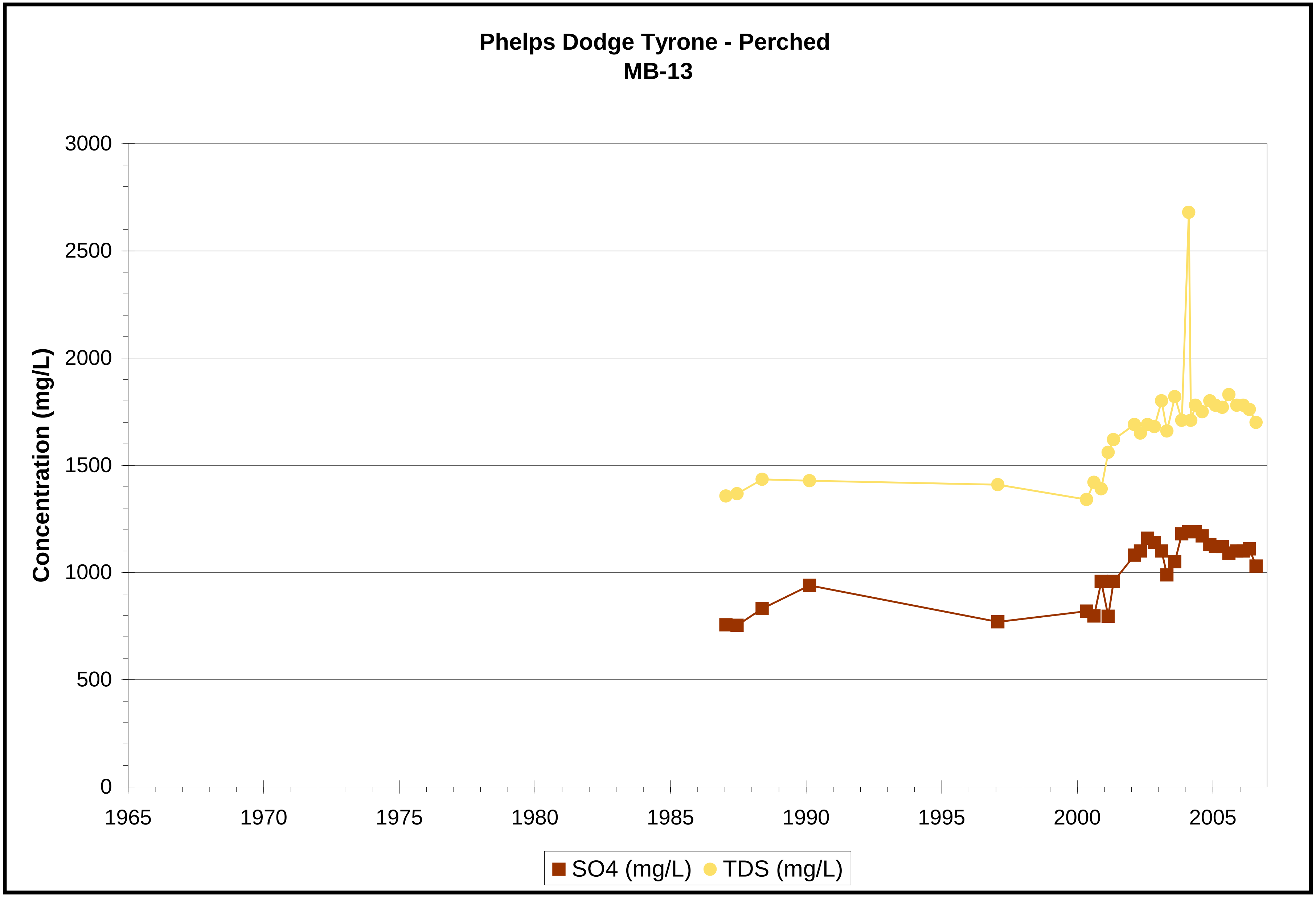


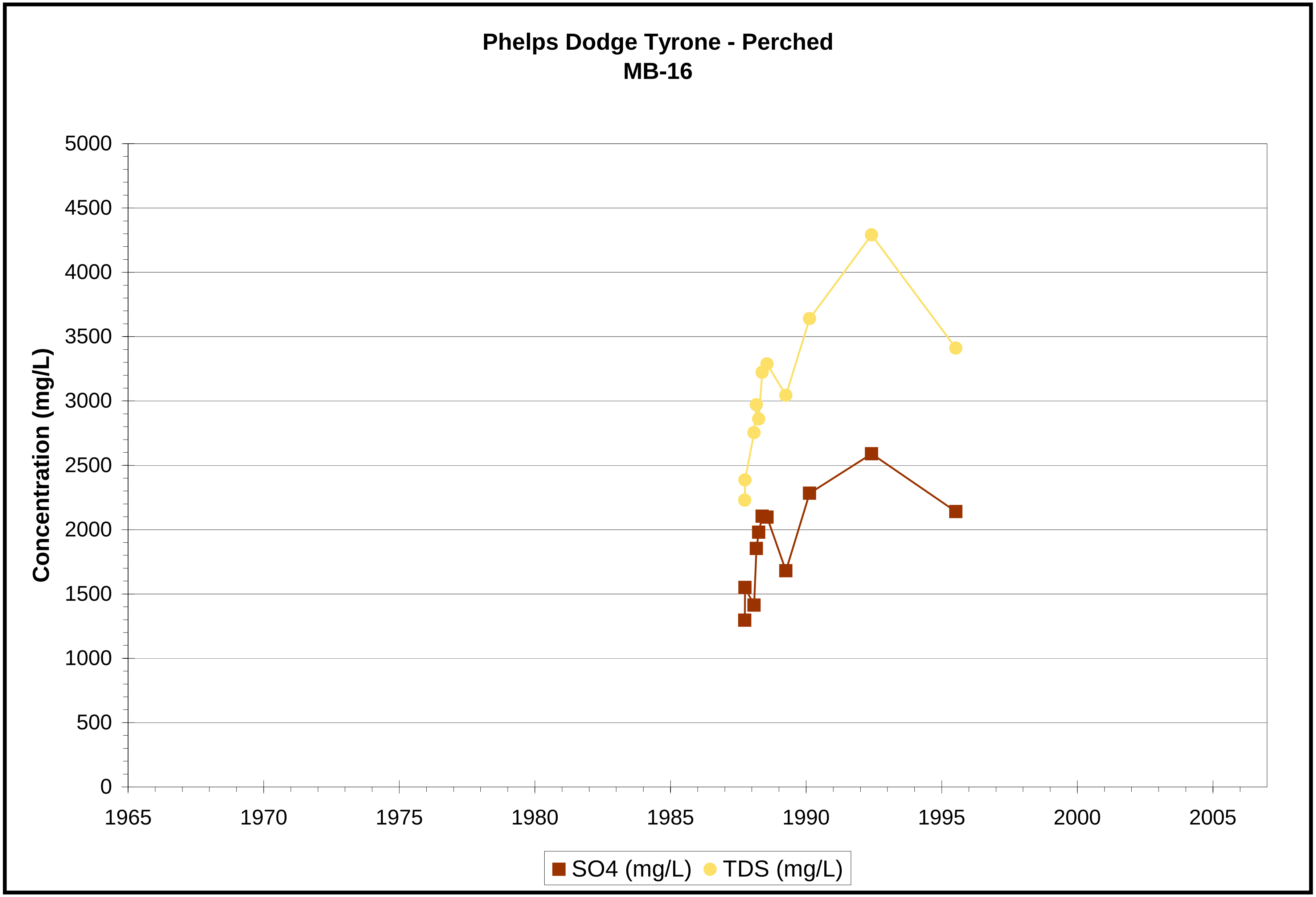
Phelps Dodge Tyrone - Perched
BK-10
Concentration (mg/L)
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Perched
C6-15
Concentration (mg/L)
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

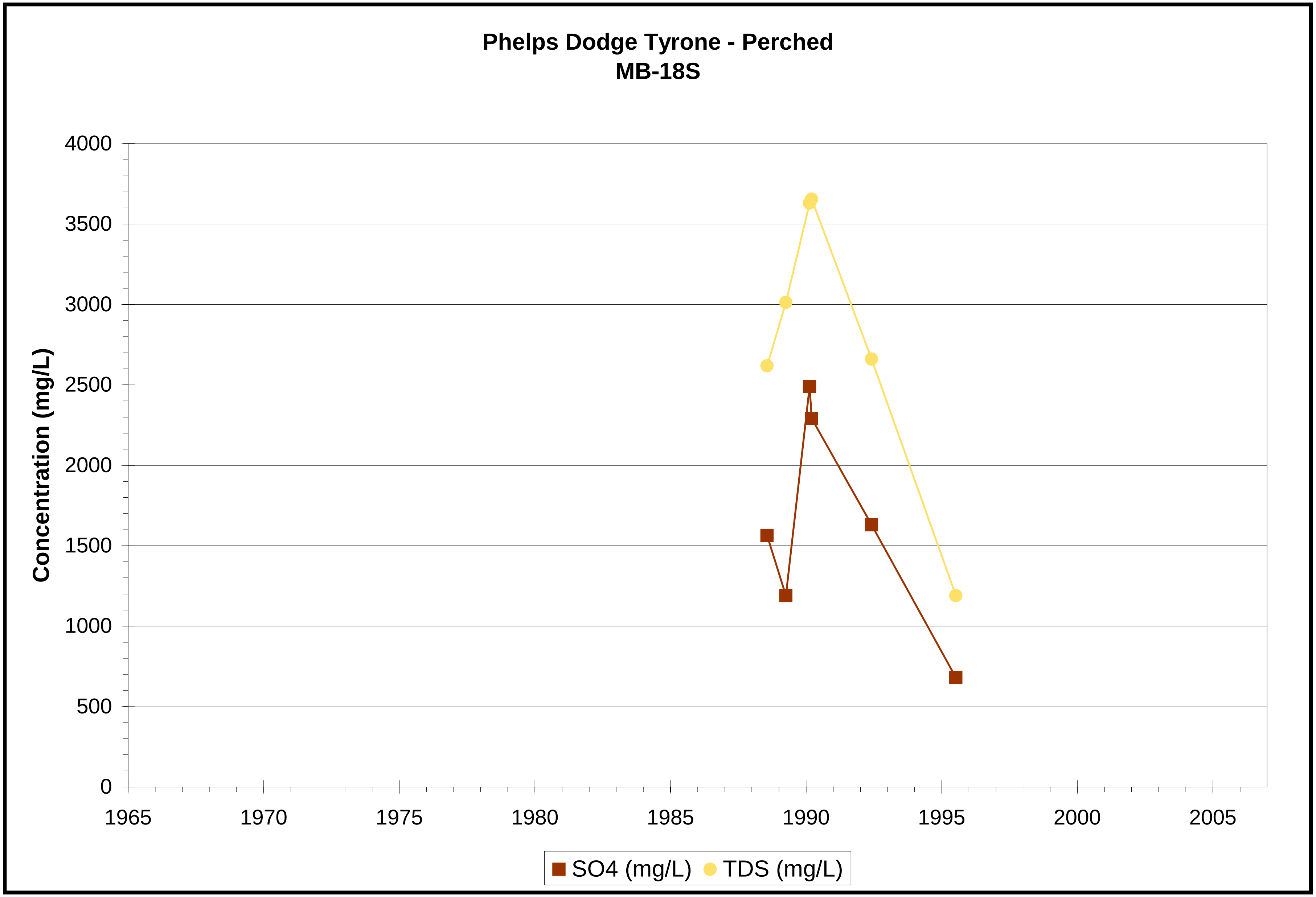


Phelps Dodge Tyrone - Perched
MB-10
Concentration (mg/L)
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

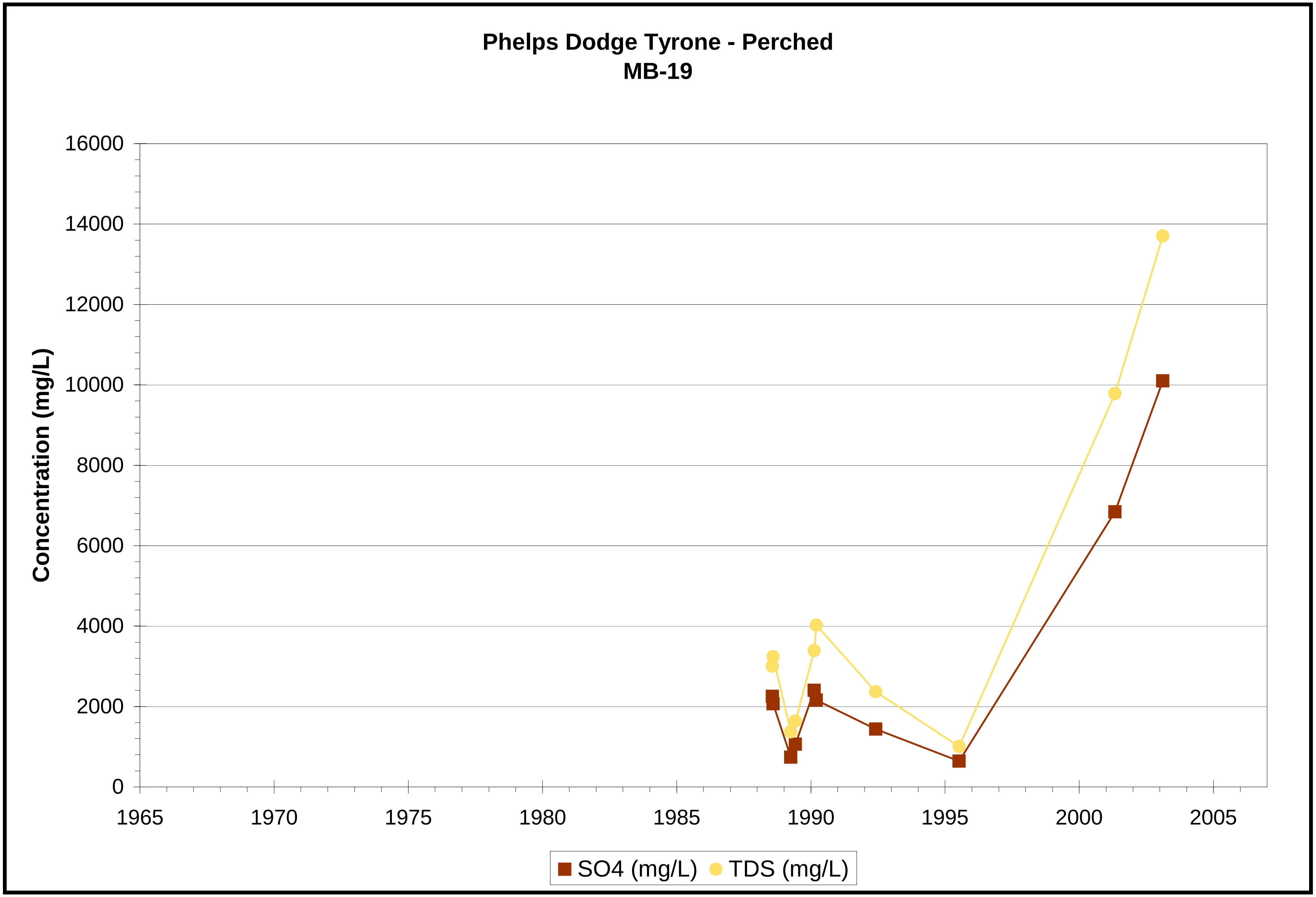

Phelps Dodge Tyrone - Perched
MB-13
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



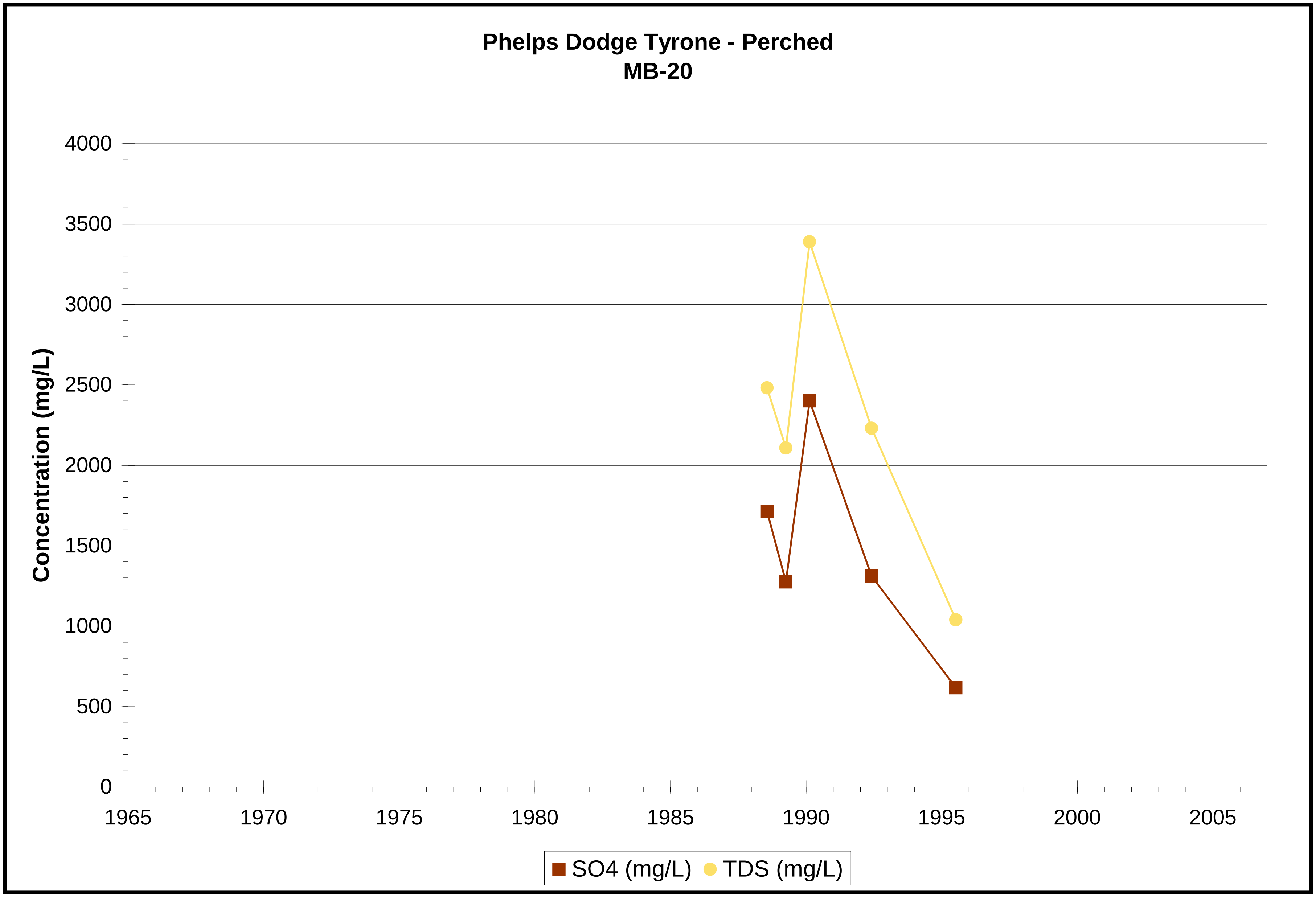
Phelps Dodge Tyrone - Perched
MB-16
Concentration (mg/L)
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

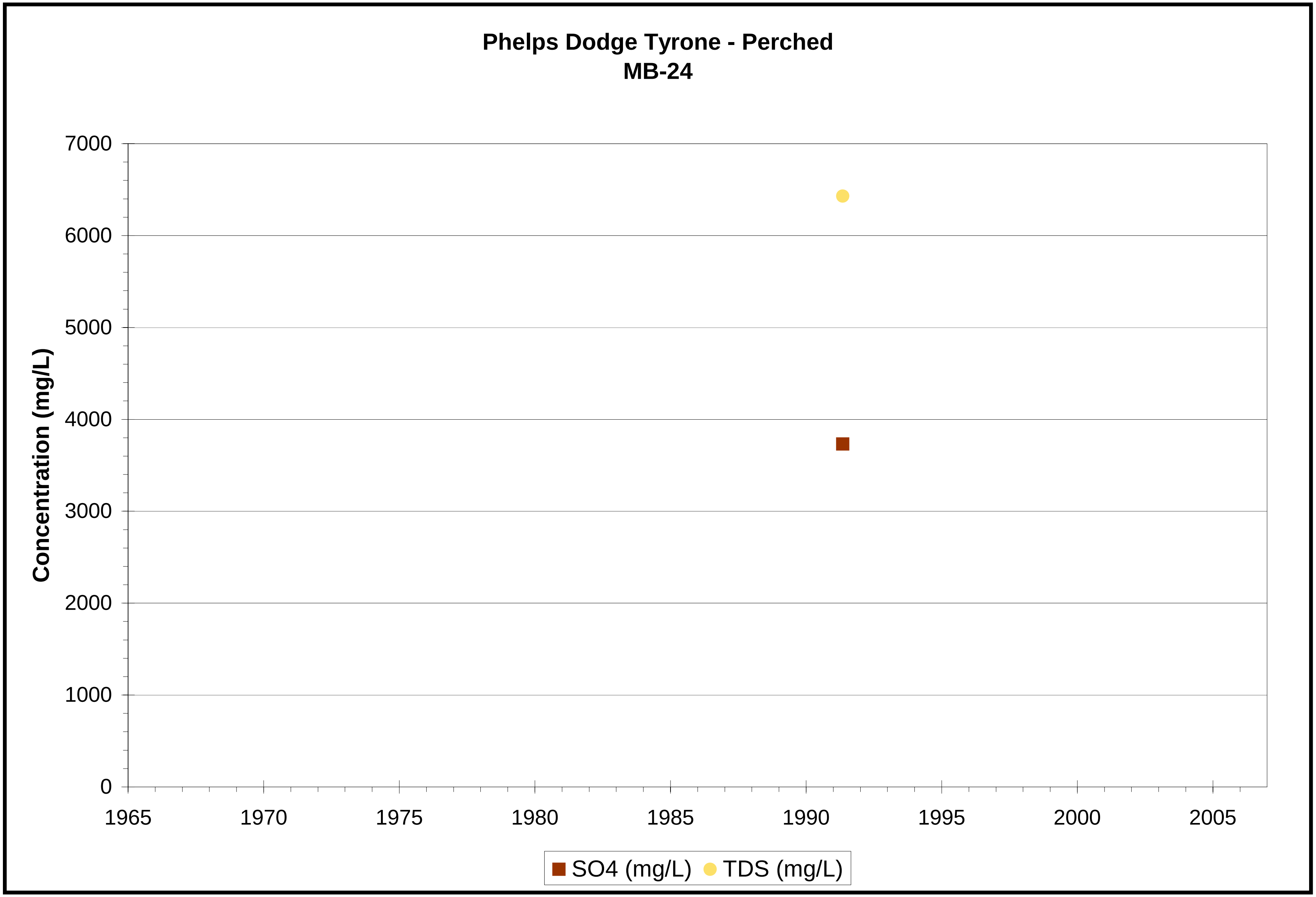


Phelps Dodge Tyrone - Perched
MB-18S
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

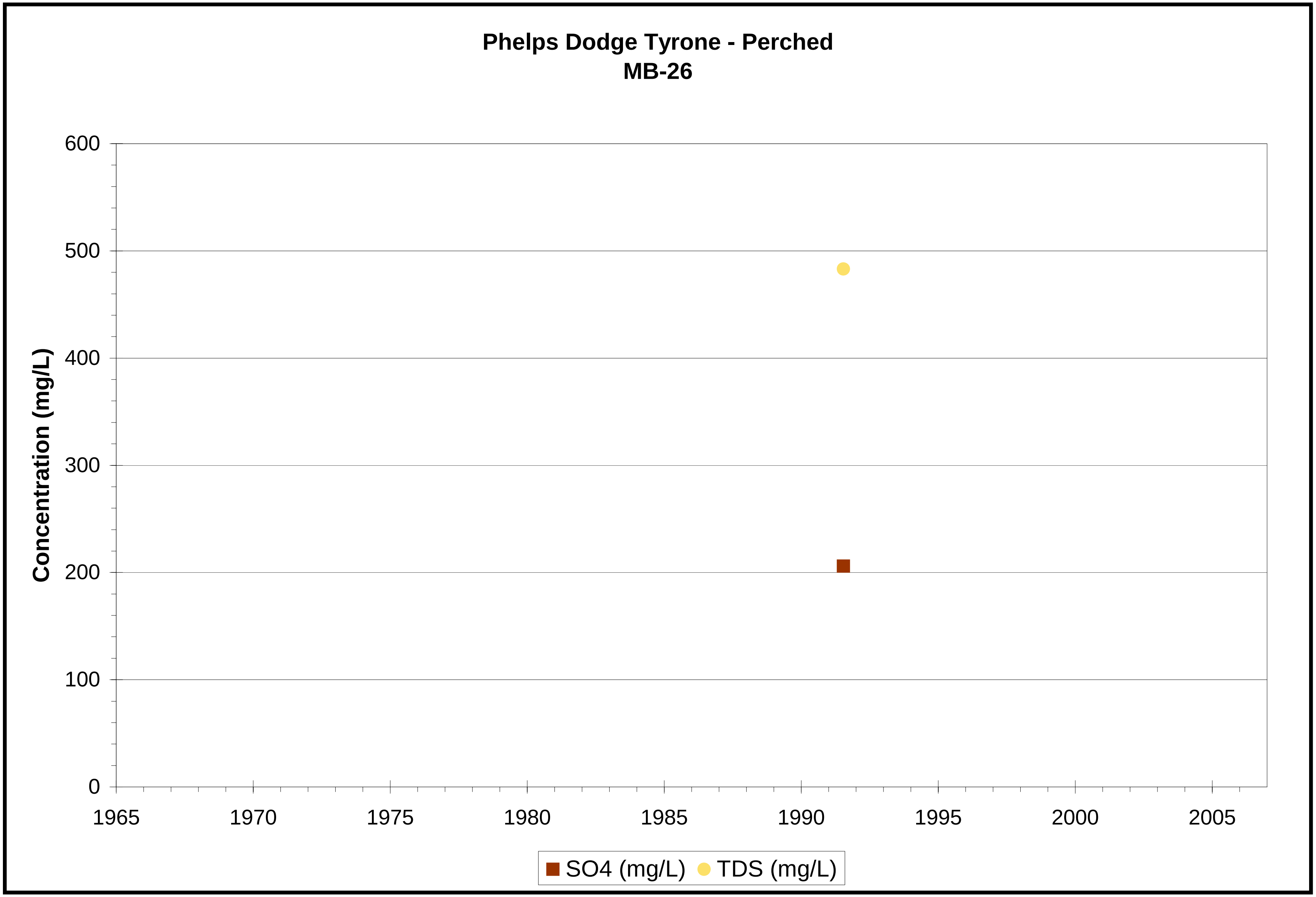


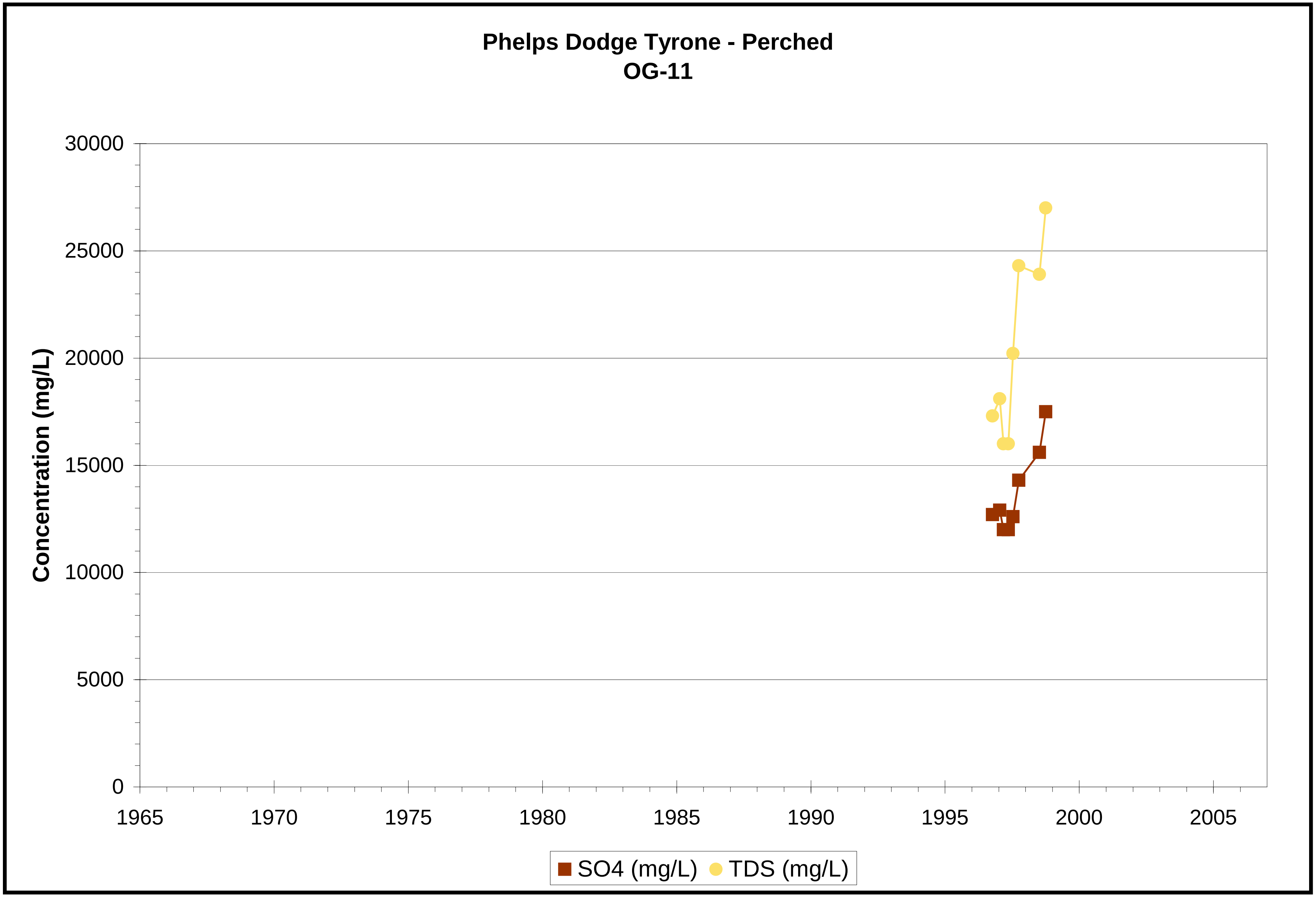
Phelps Dodge Tyrone - Perched
MB-19
Concentration (mg/L)
16000
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Perched
MB-20
Concentration (mg/L)
0
500
1000
1500
2000
2500
3000
3500
4000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

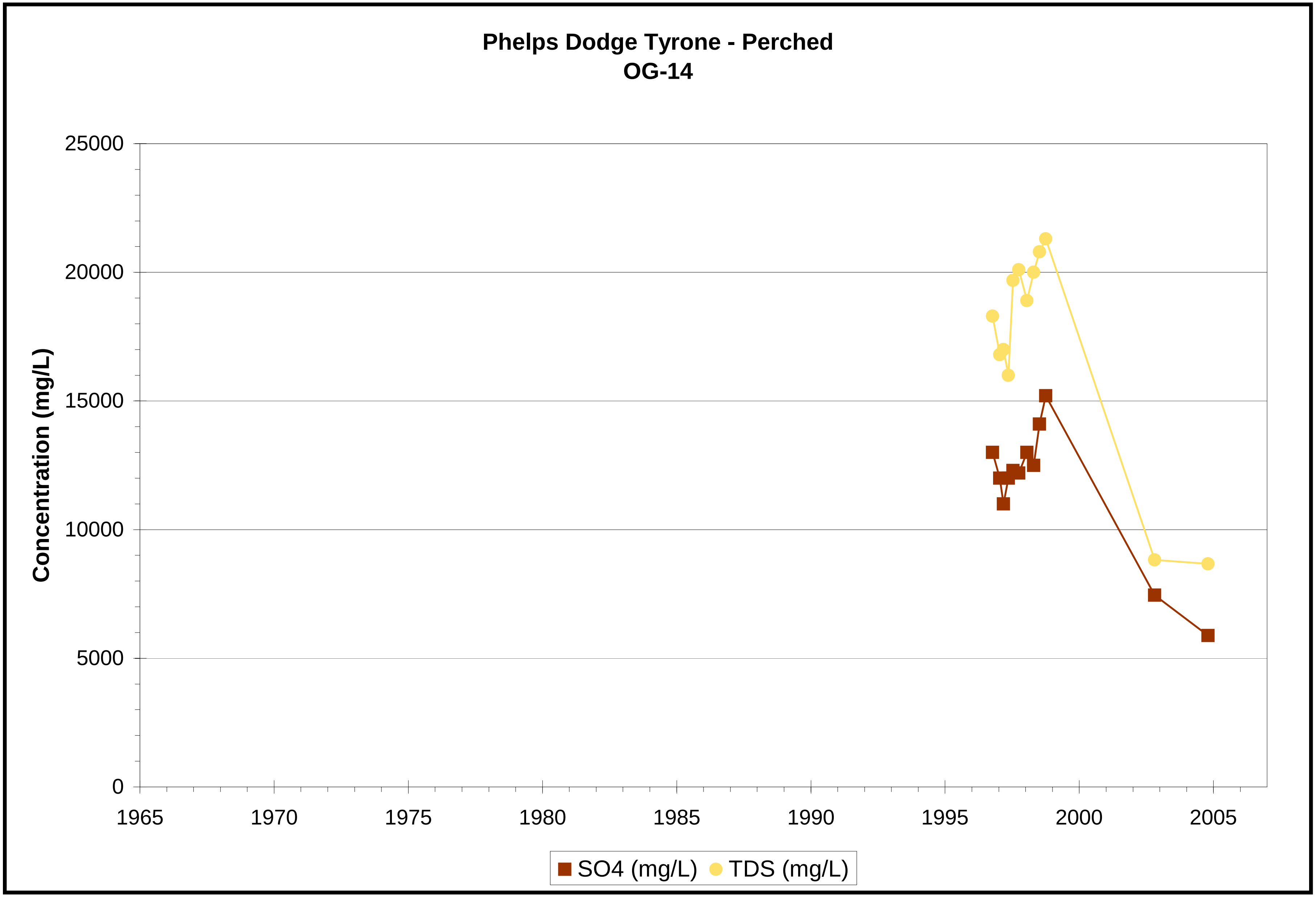


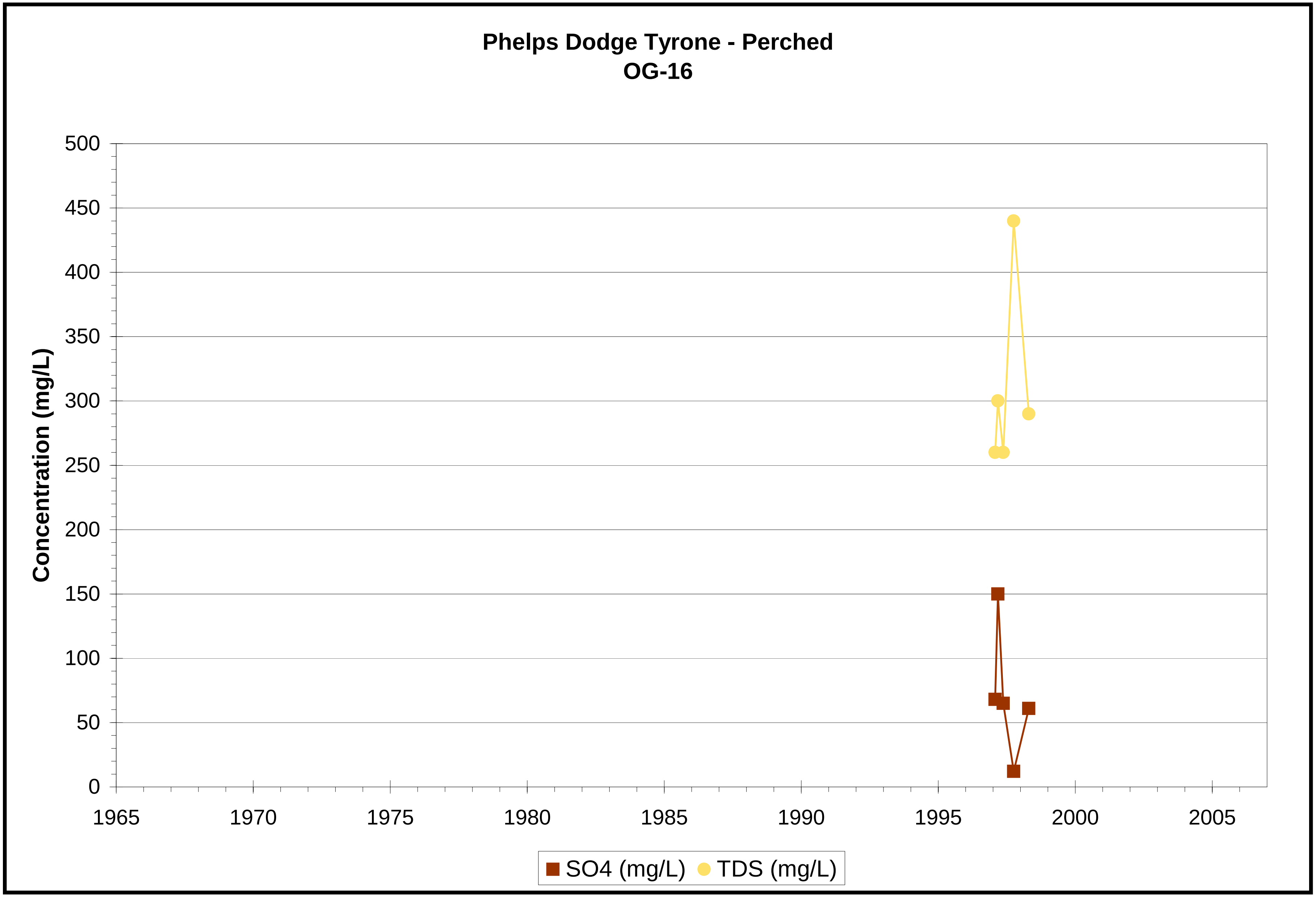
Phelps Dodge Tyrone - Perched
MB-24
Concentration (mg/L)
0
1000
2000
3000
4000
5000
6000
7000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Perched
MB-26
Concentration (mg/L)
0
100
200
300
400
500
600
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

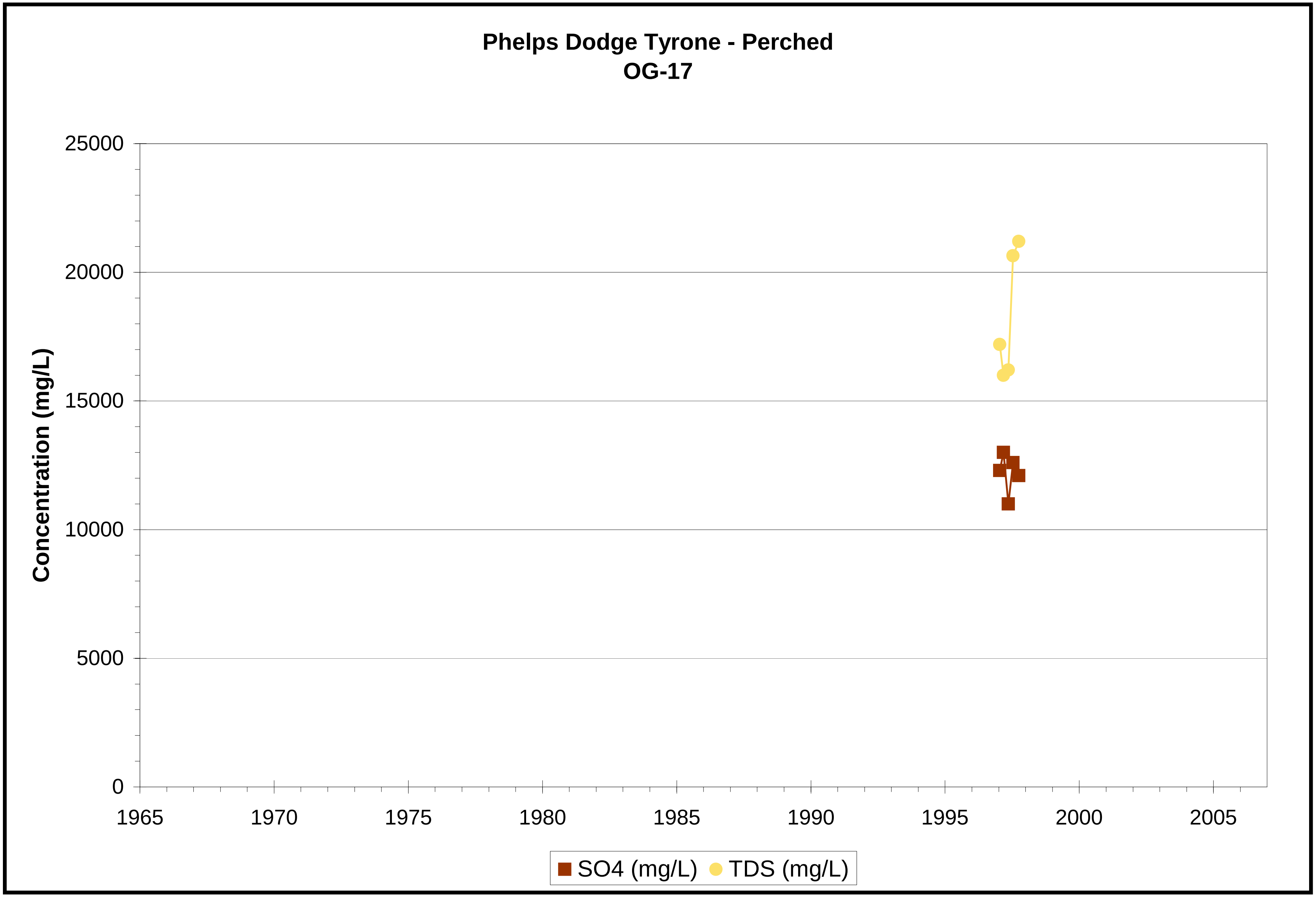


Phelps Dodge Tyrone - Perched
OG-11
Concentration (mg/L)
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

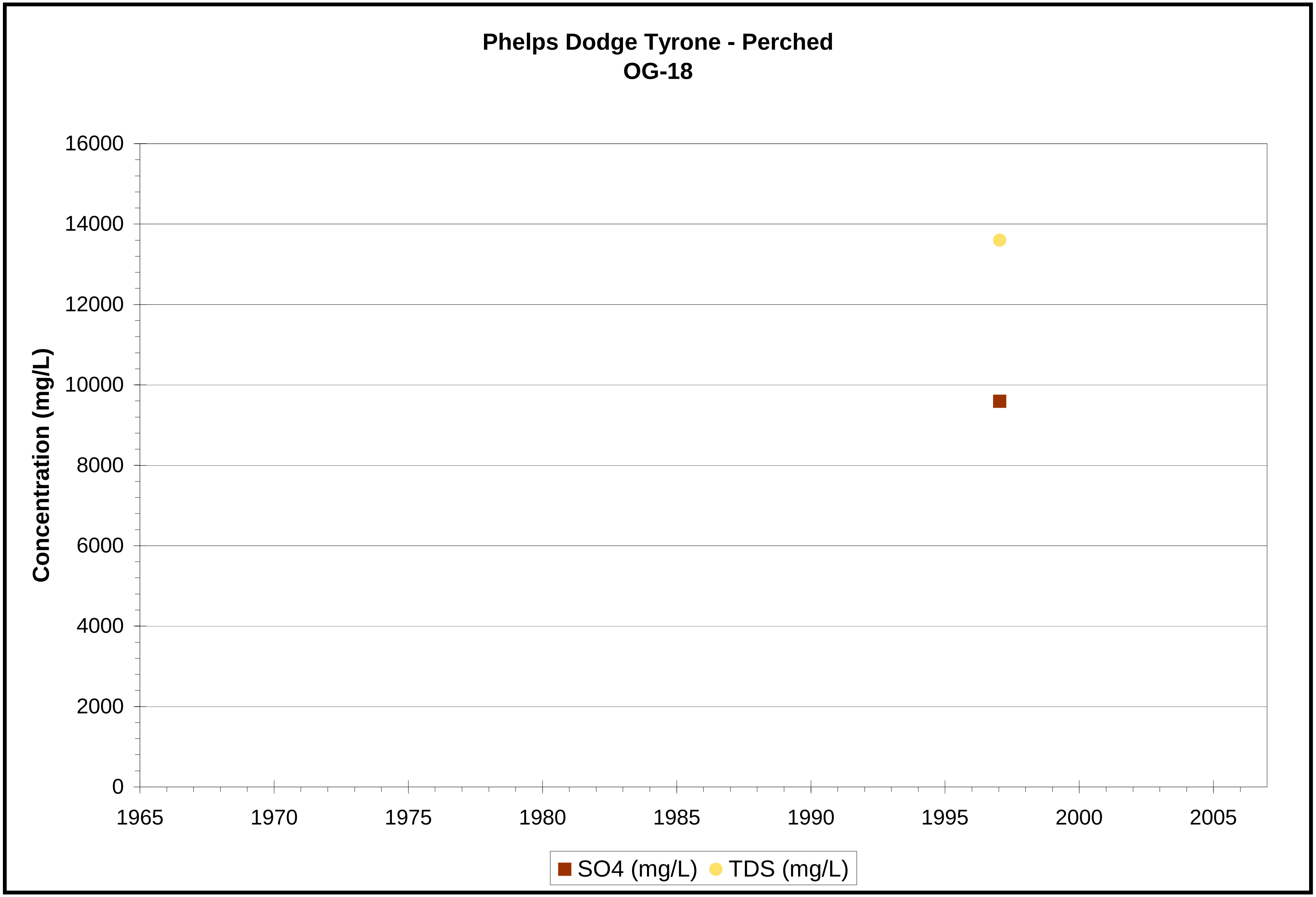

Phelps Dodge Tyrone - Perched
OG-14
Concentration (mg/L)
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

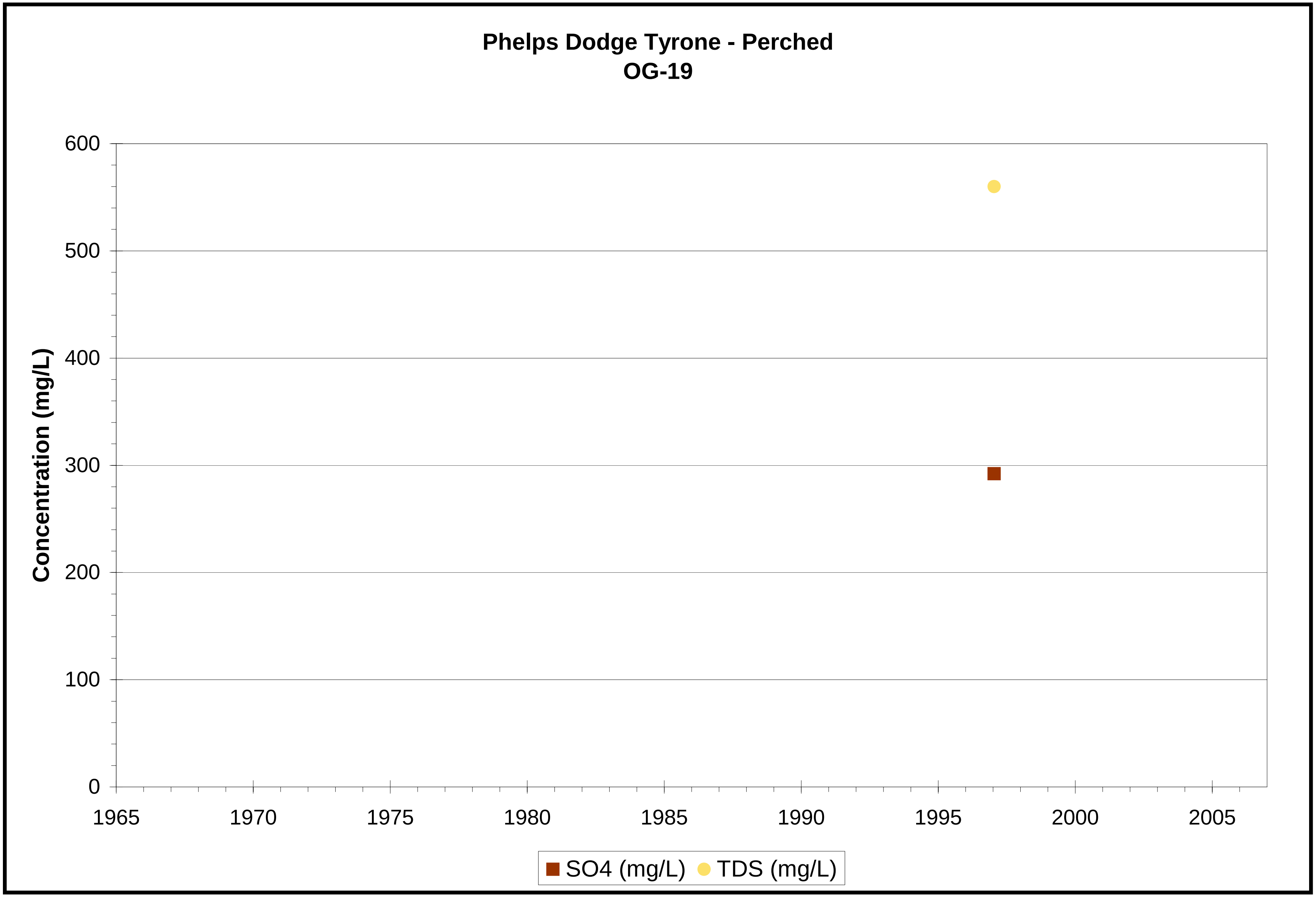


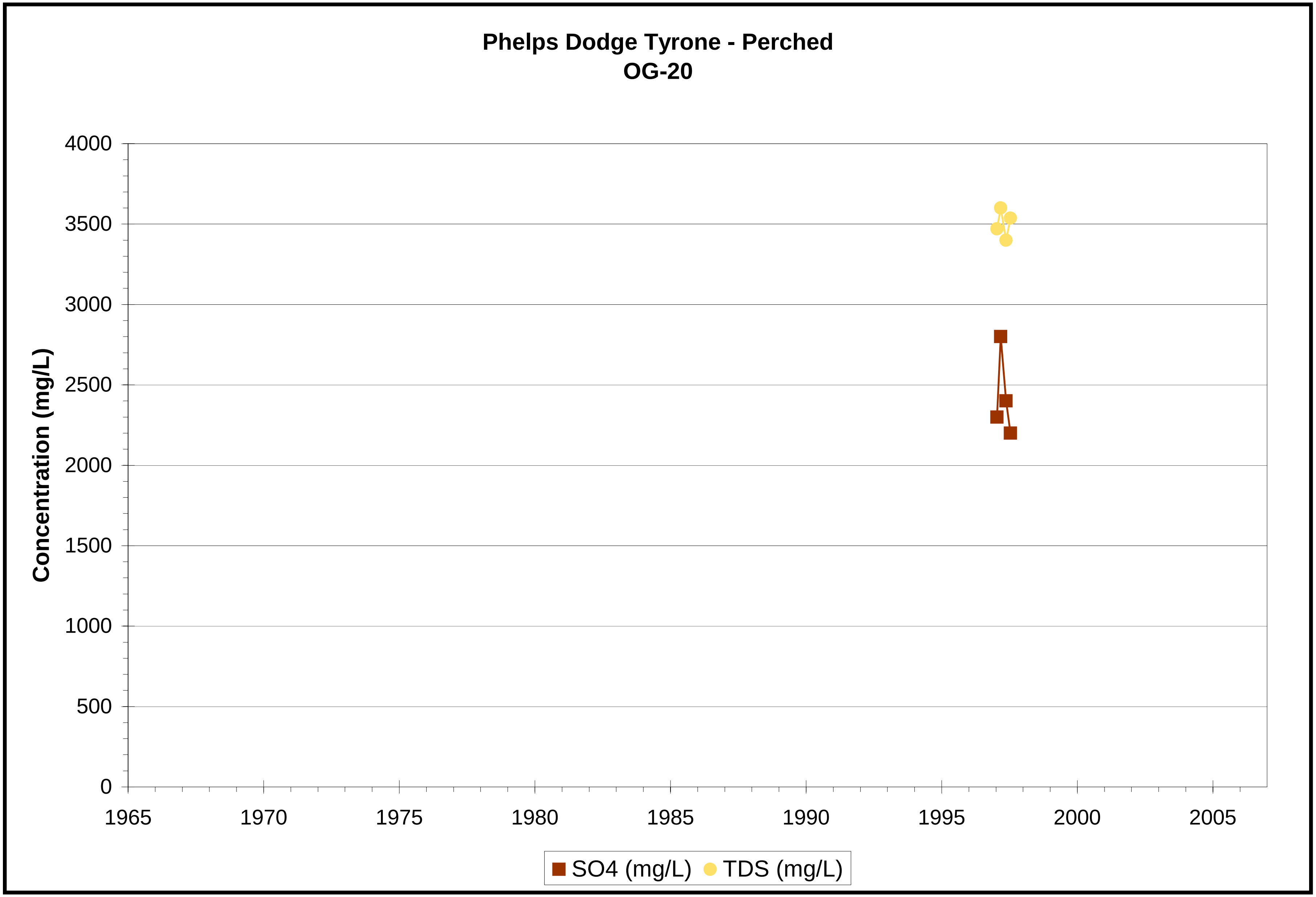
Phelps Dodge Tyrone - Perched
OG-16
Concentration (mg/L)
0
50
100
150
200
250
300
350
400
450
500
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



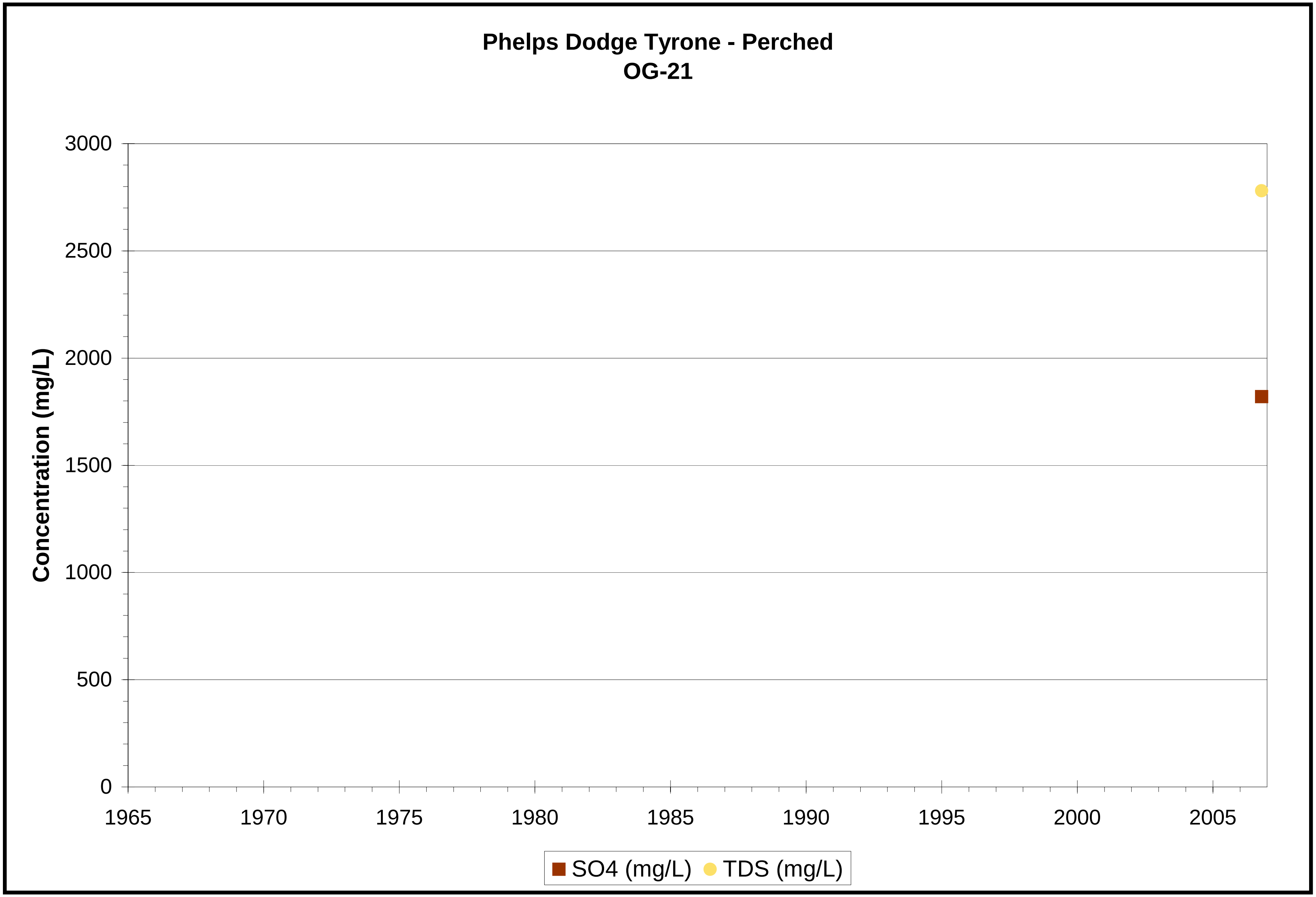
Phelps Dodge Tyrone - Perched
OG-17
Concentration (mg/L)
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

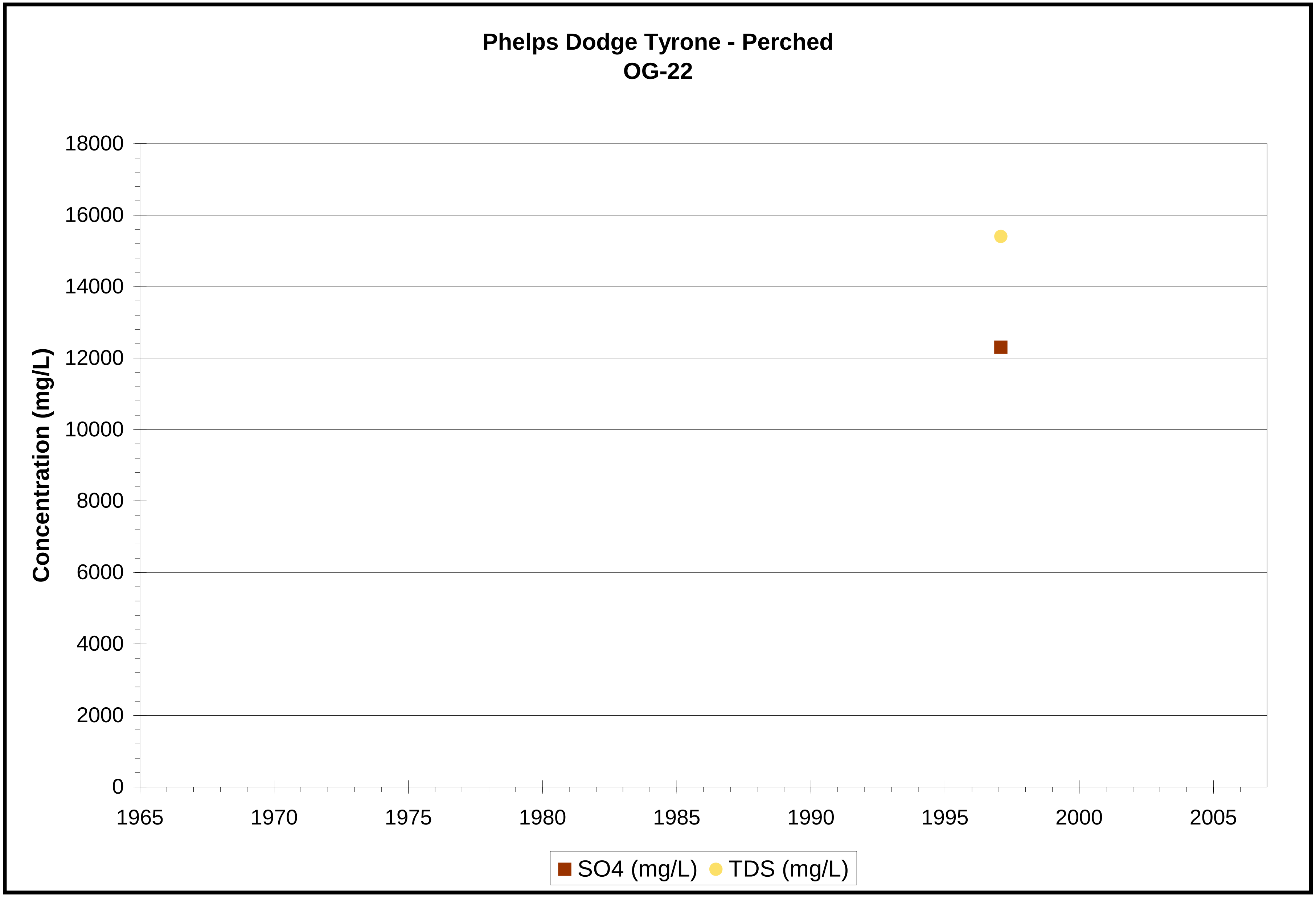

Phelps Dodge Tyrone - Perched
OG-18
Concentration (mg/L)
16000
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

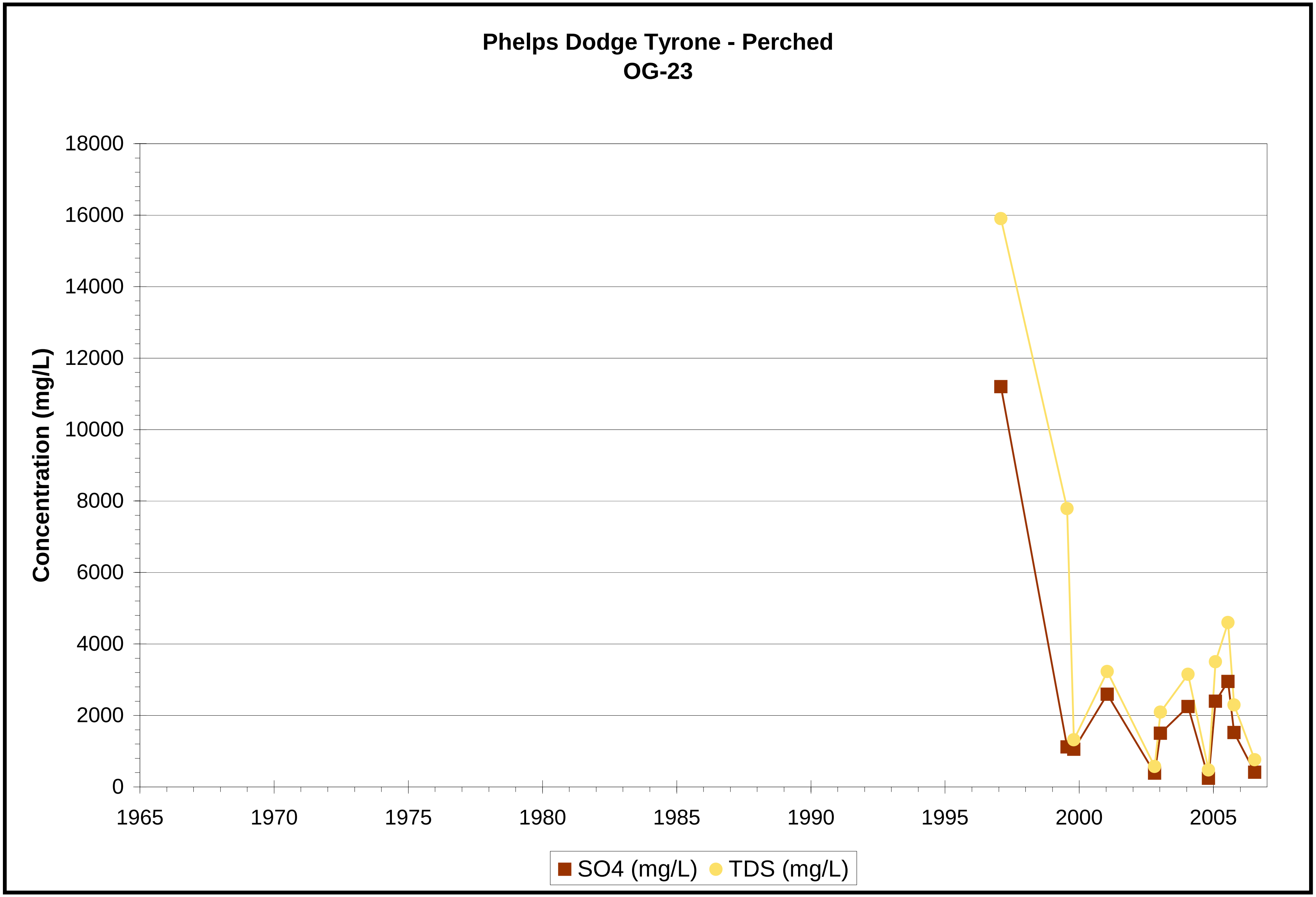

Phelps Dodge Tyrone - Perched
OG-19
Concentration (mg/L)
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

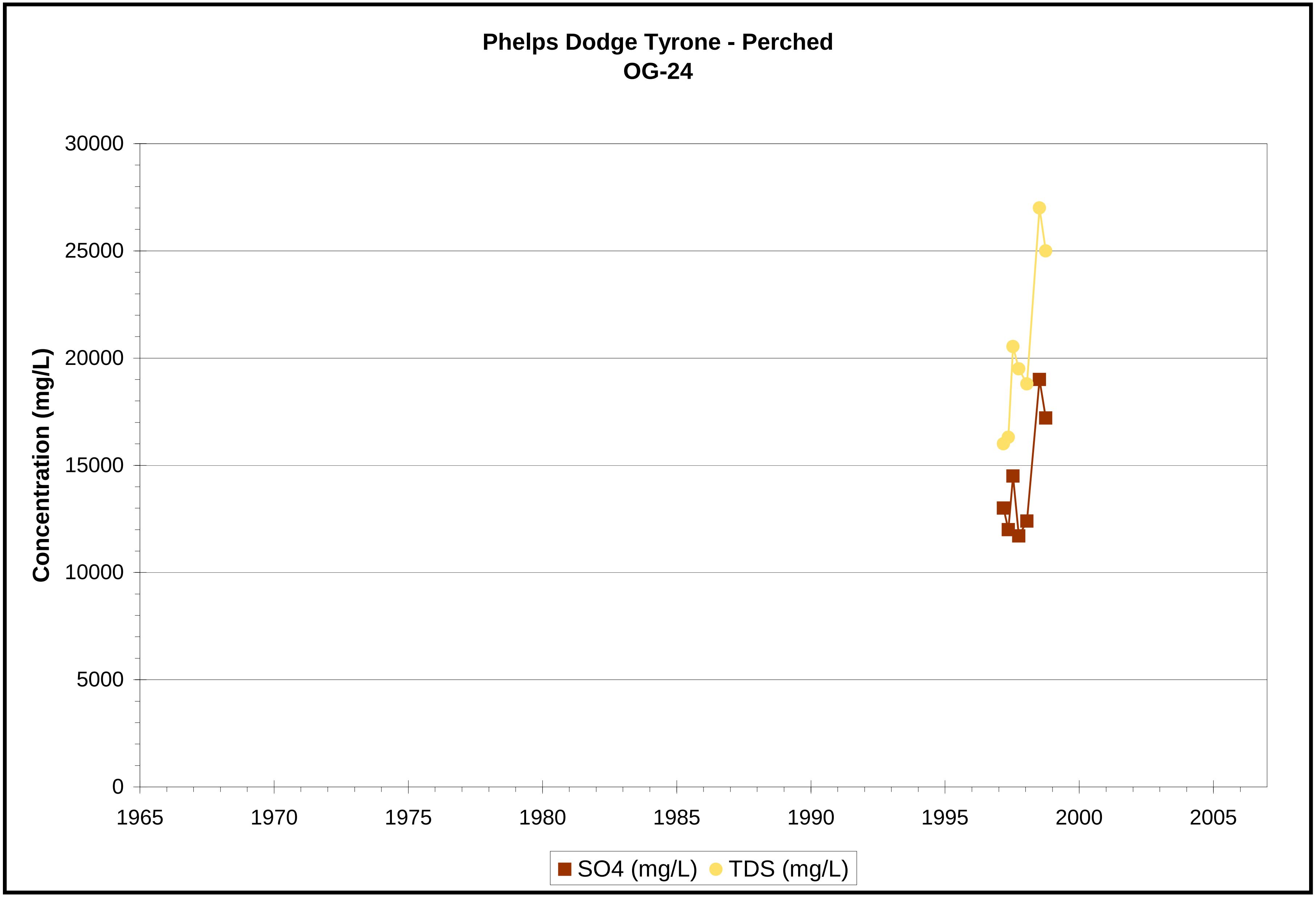


Phelps Dodge Tyrone - Perched
OG-20
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

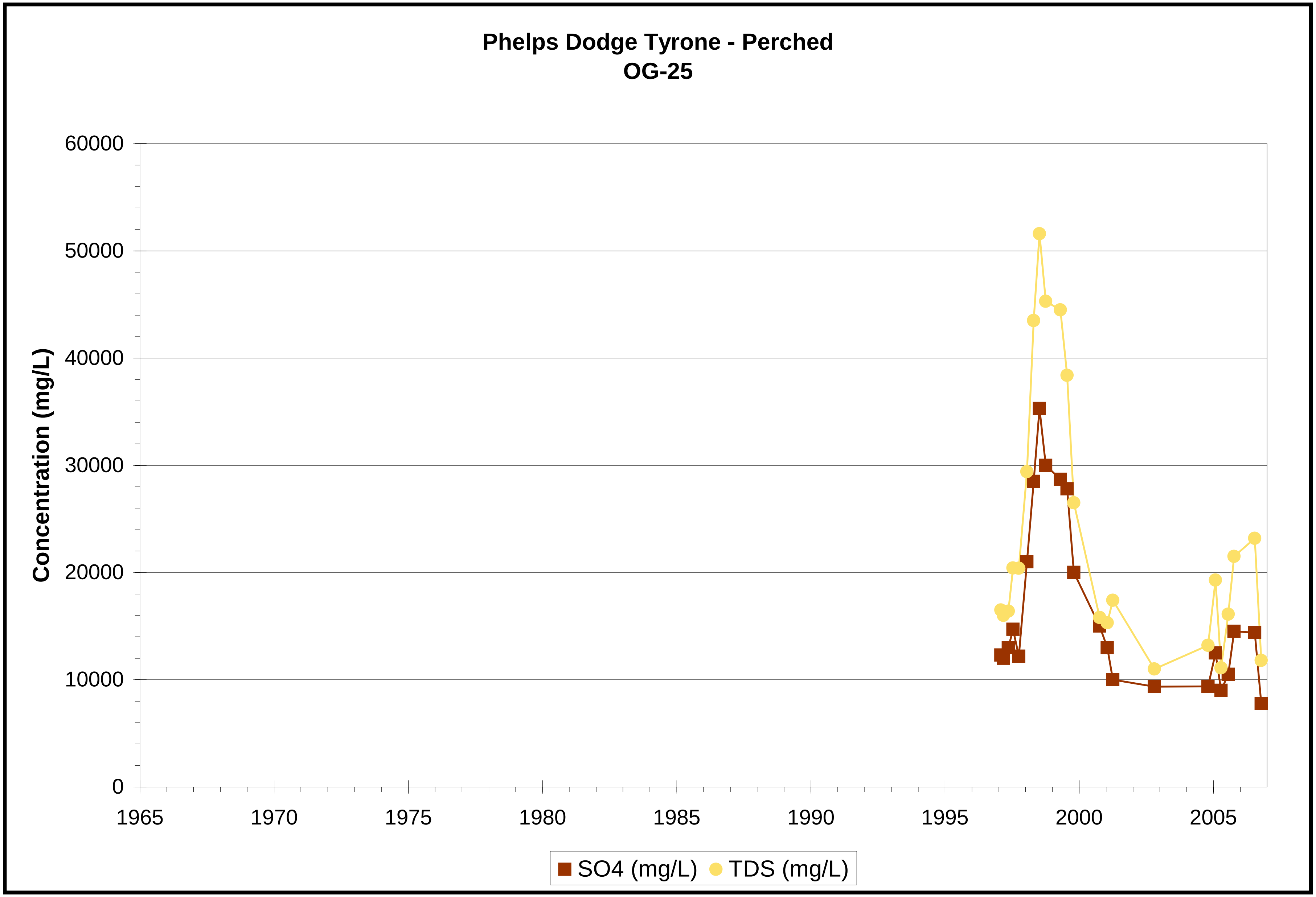

Phelps Dodge Tyrone - Perched
OG-21
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Perched
OG-22
Concentration (mg/L)
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

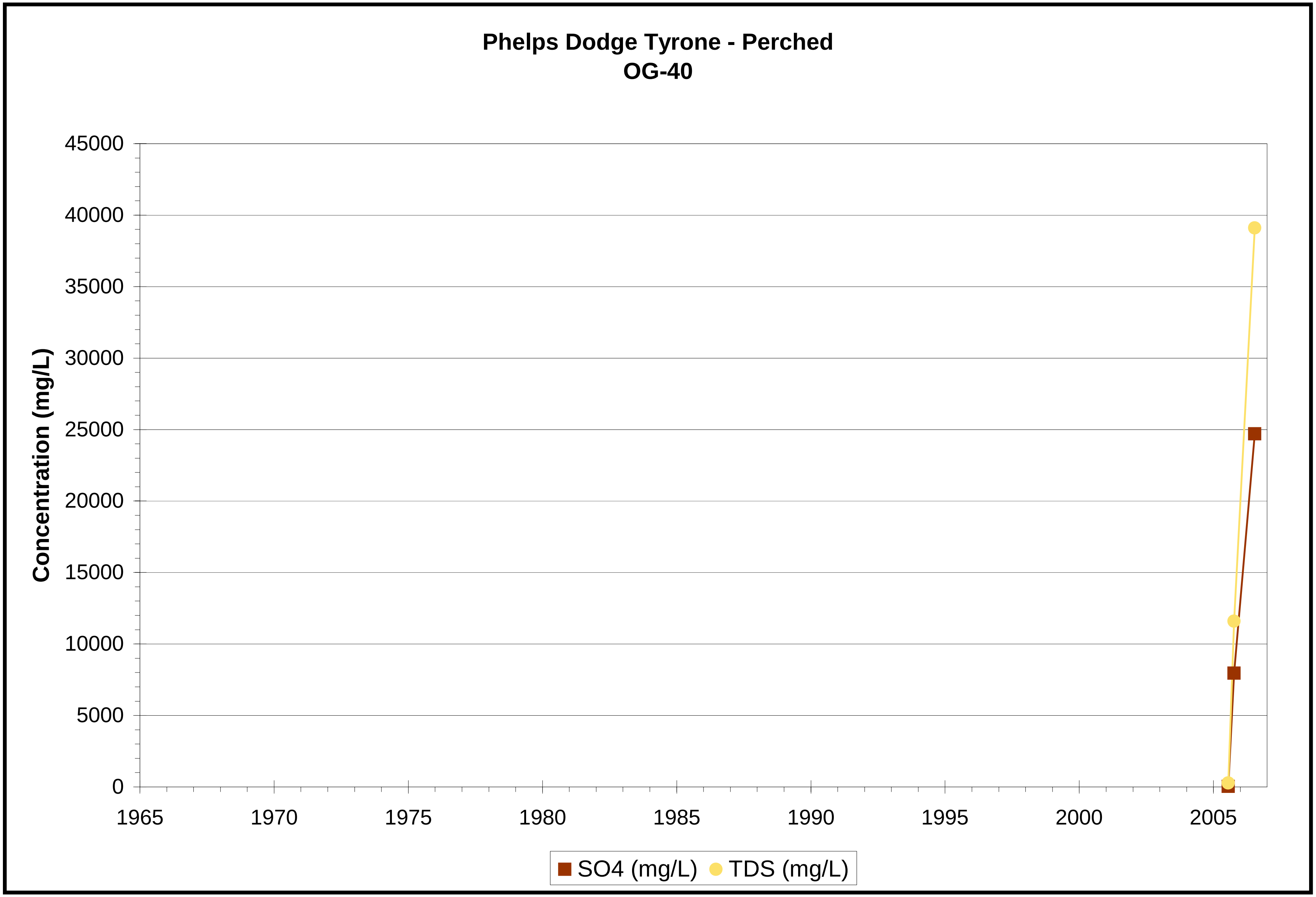

Phelps Dodge Tyrone - Perched
OG-23
Concentration (mg/L)
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



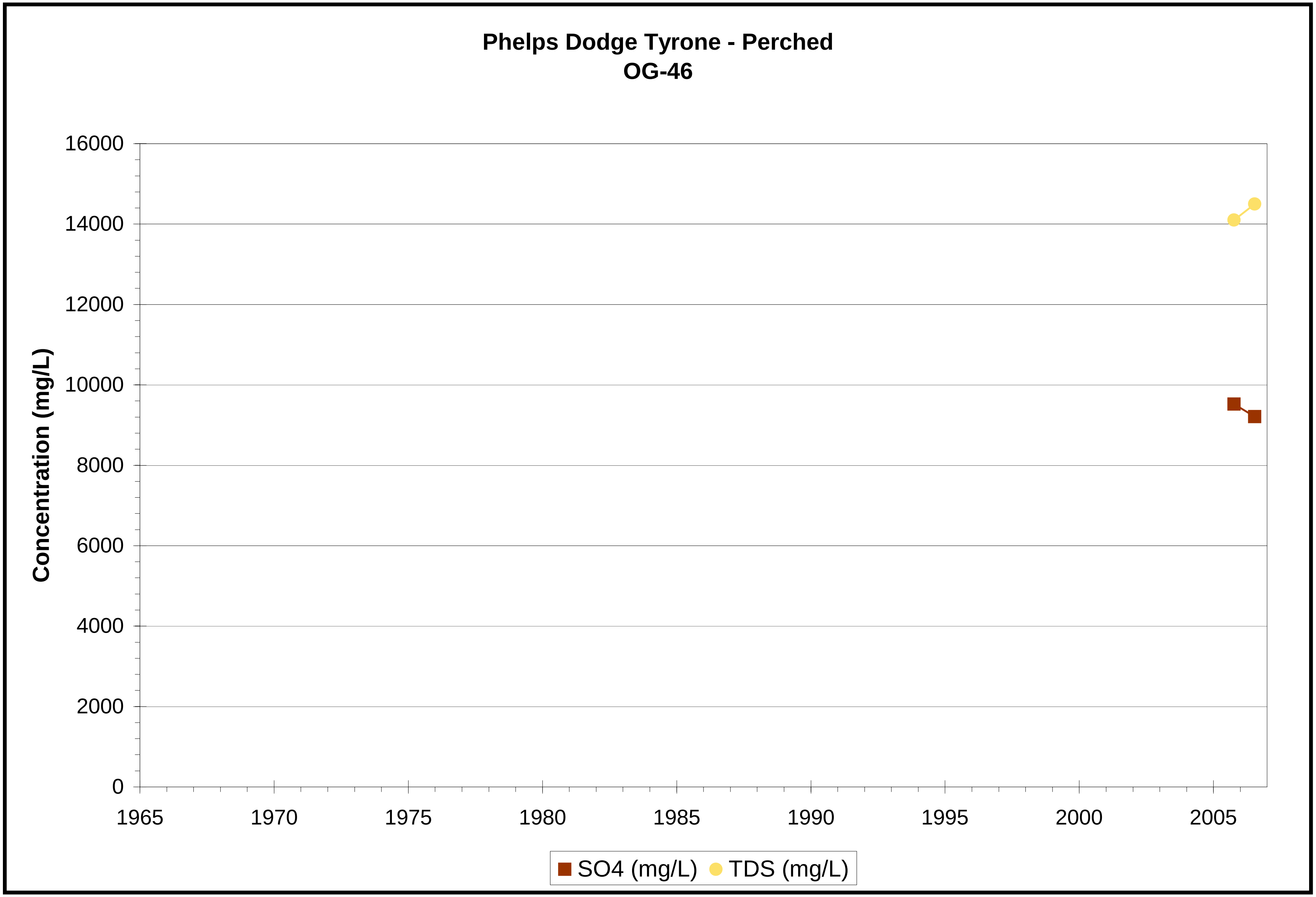
Phelps Dodge Tyrone - Perched
OG-24
Concentration (mg/L)
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



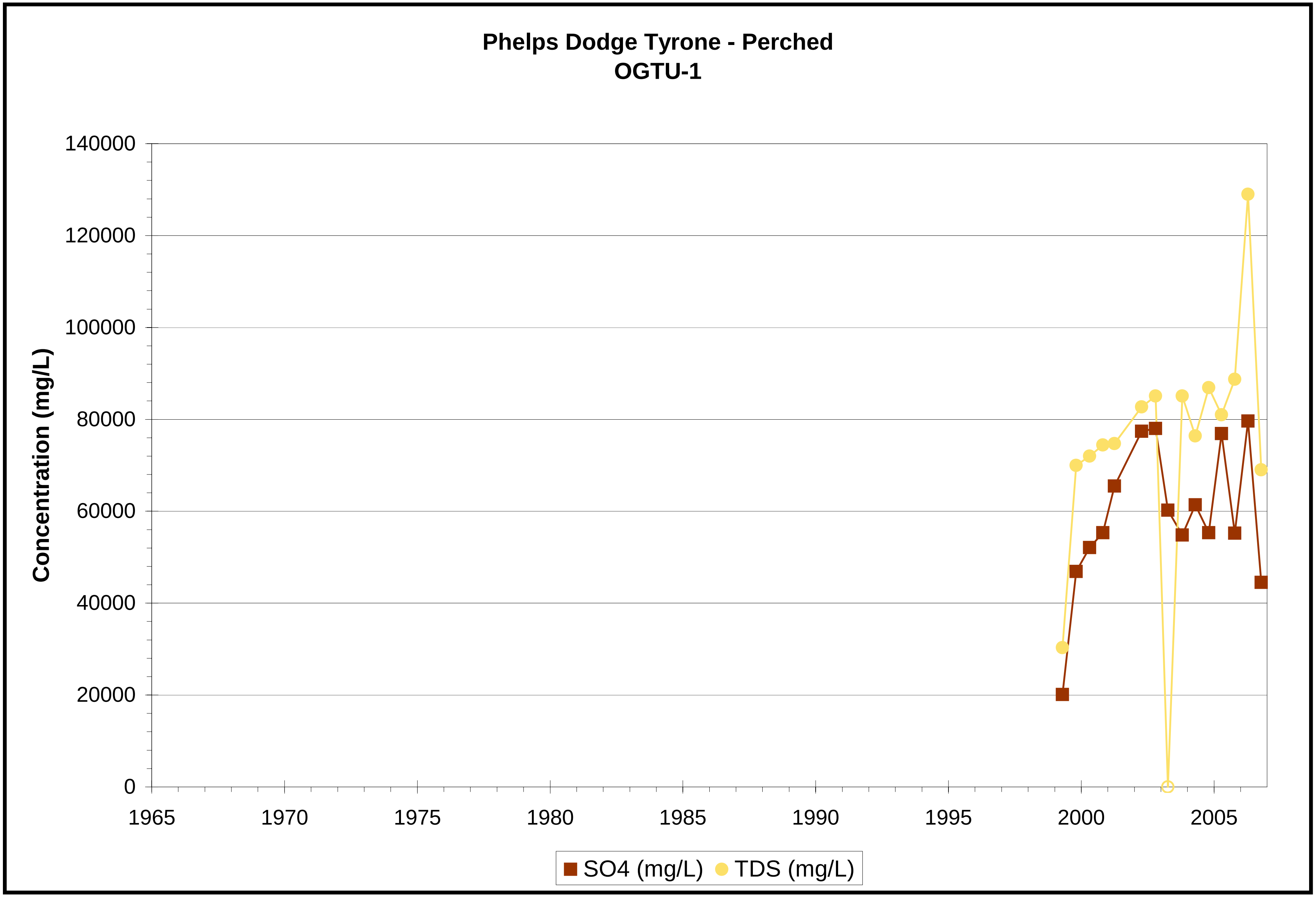
Phelps Dodge Tyrone - Perched
OG-25
Concentration (mg/L)
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



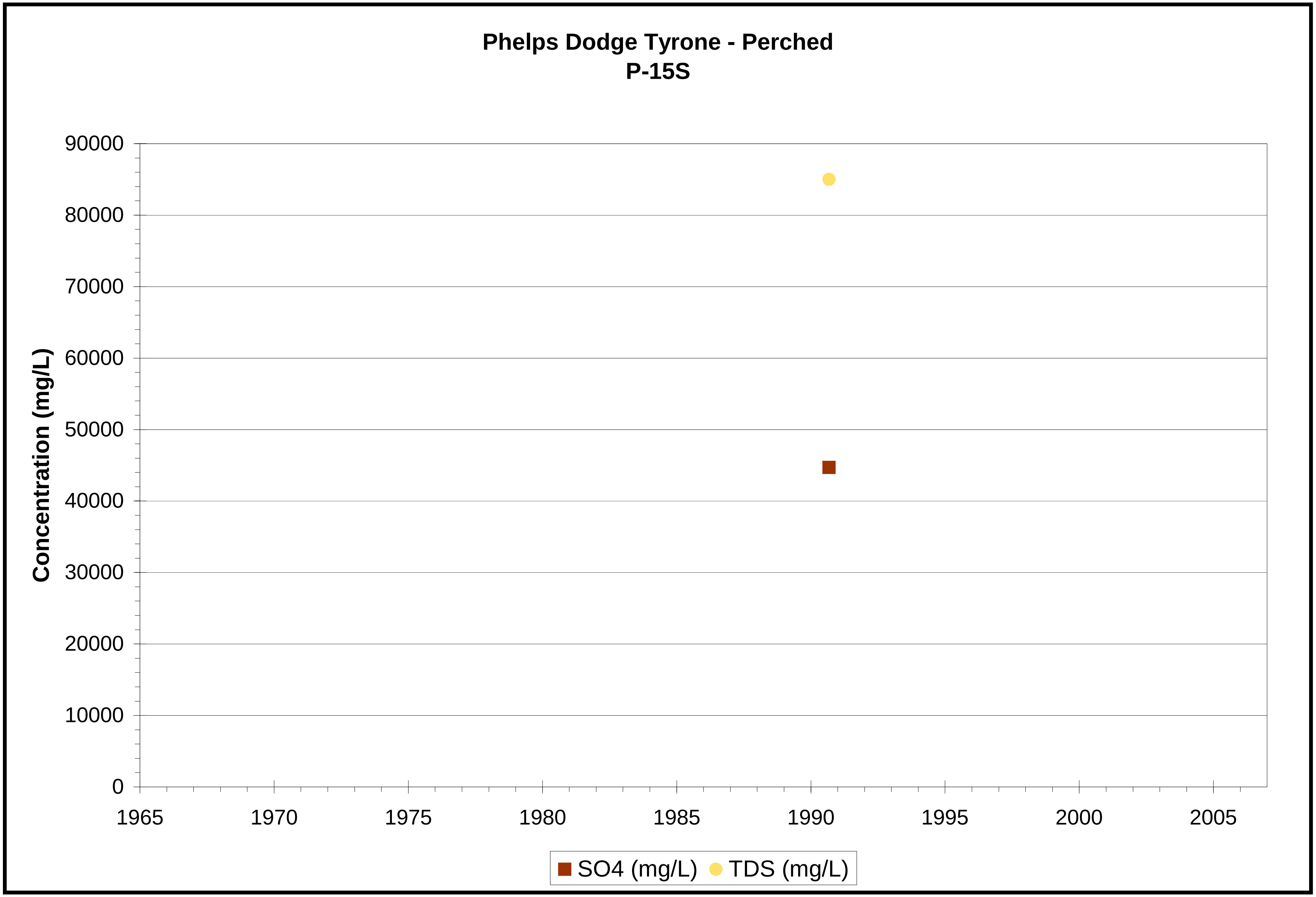
Phelps Dodge Tyrone - Perched
OG-40
Concentration (mg/L)
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



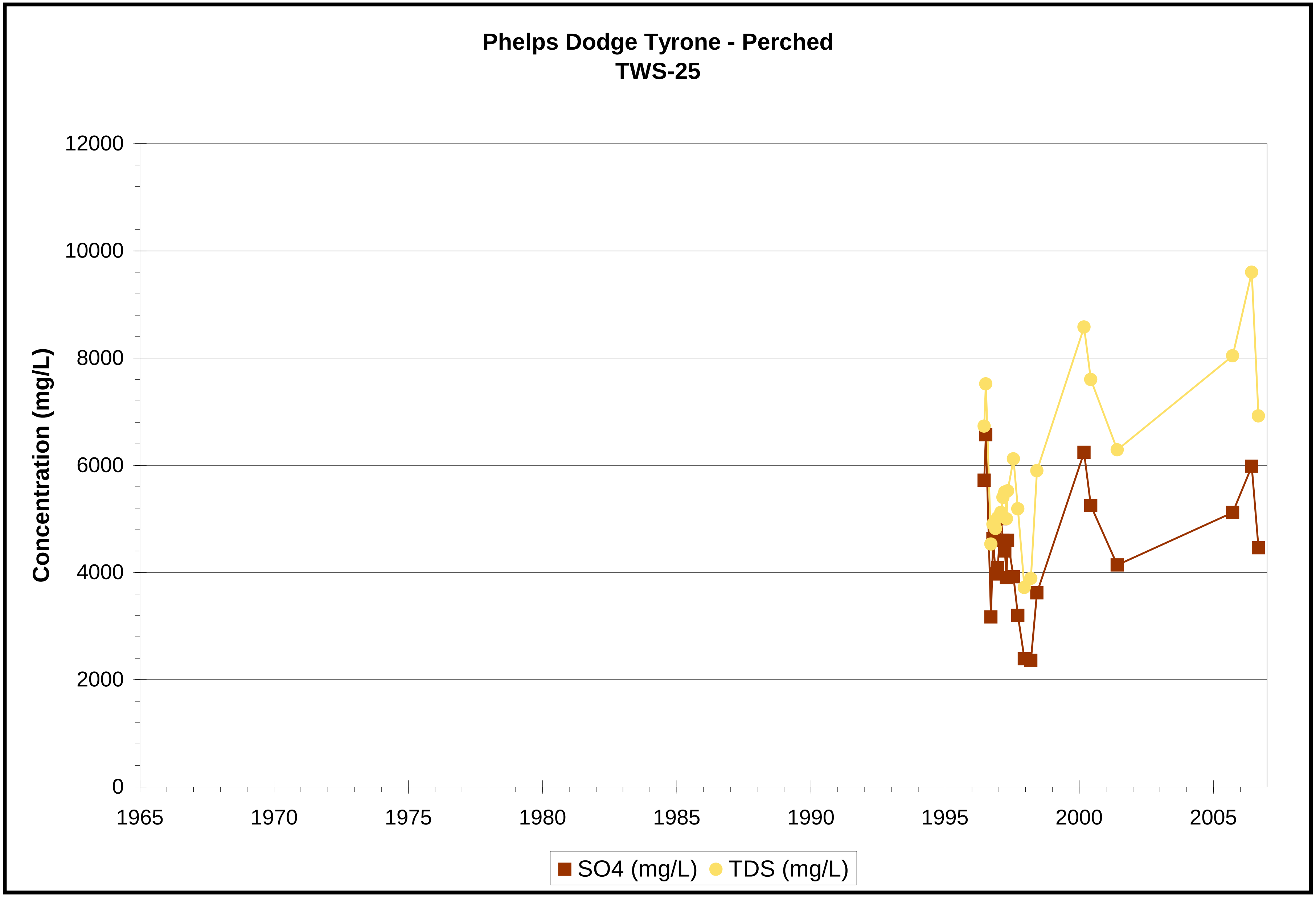
Phelps Dodge Tyrone - Perched
OG-46
Concentration (mg/L)
16000
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

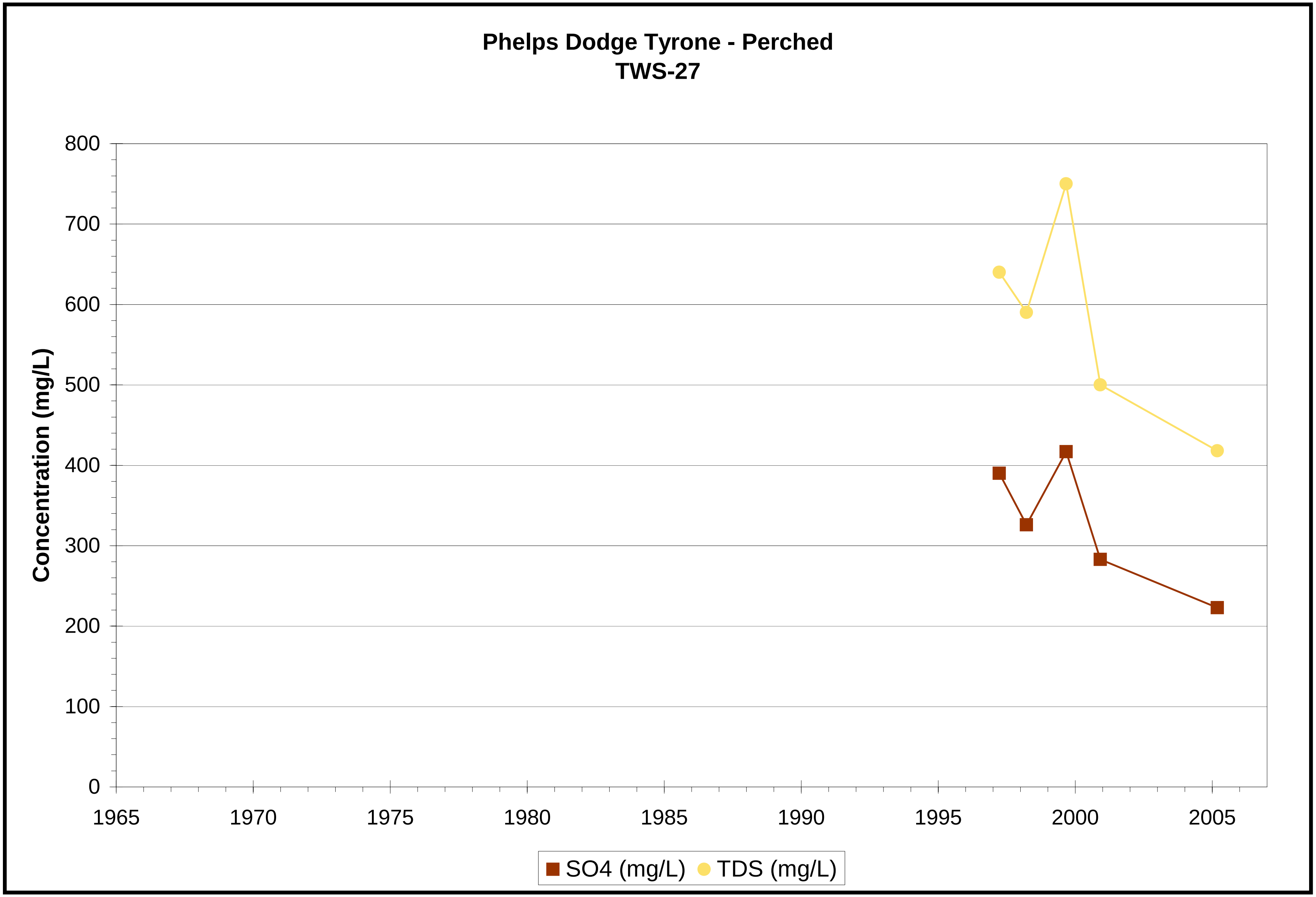


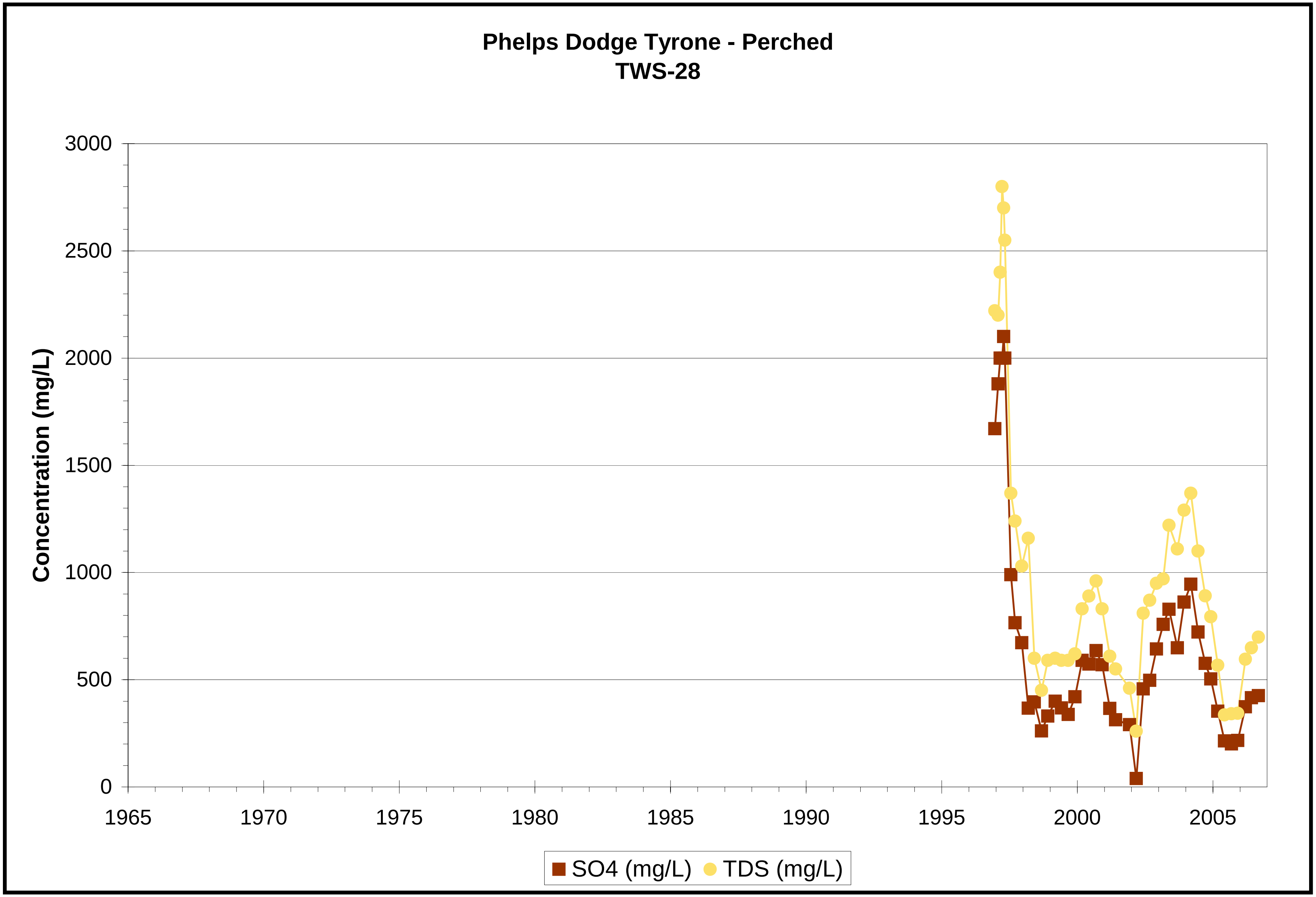
Phelps Dodge Tyrone - Perched
OGTU-1
Concentration (mg/L)
140000
120000
100000
80000
60000
40000
20000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

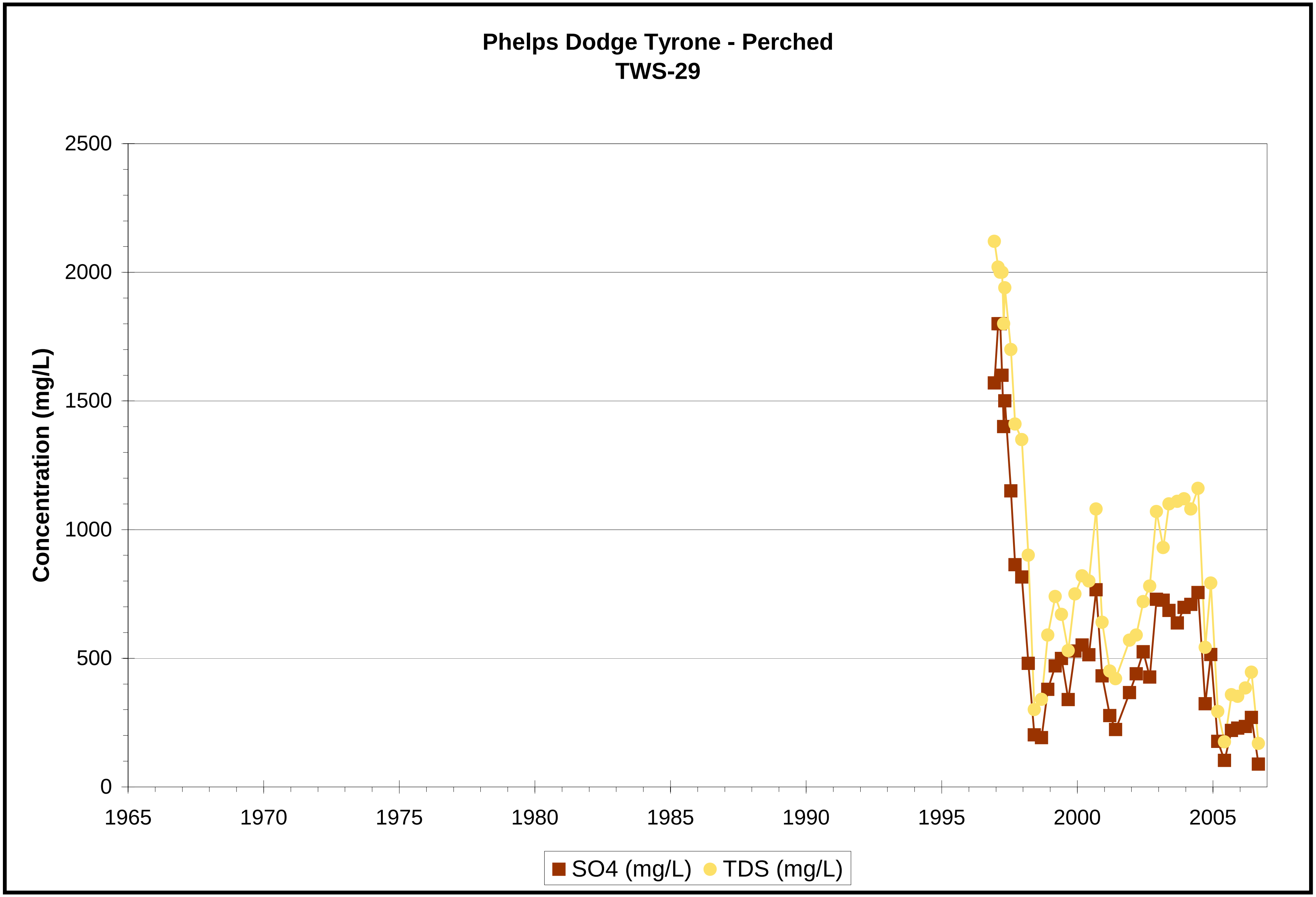


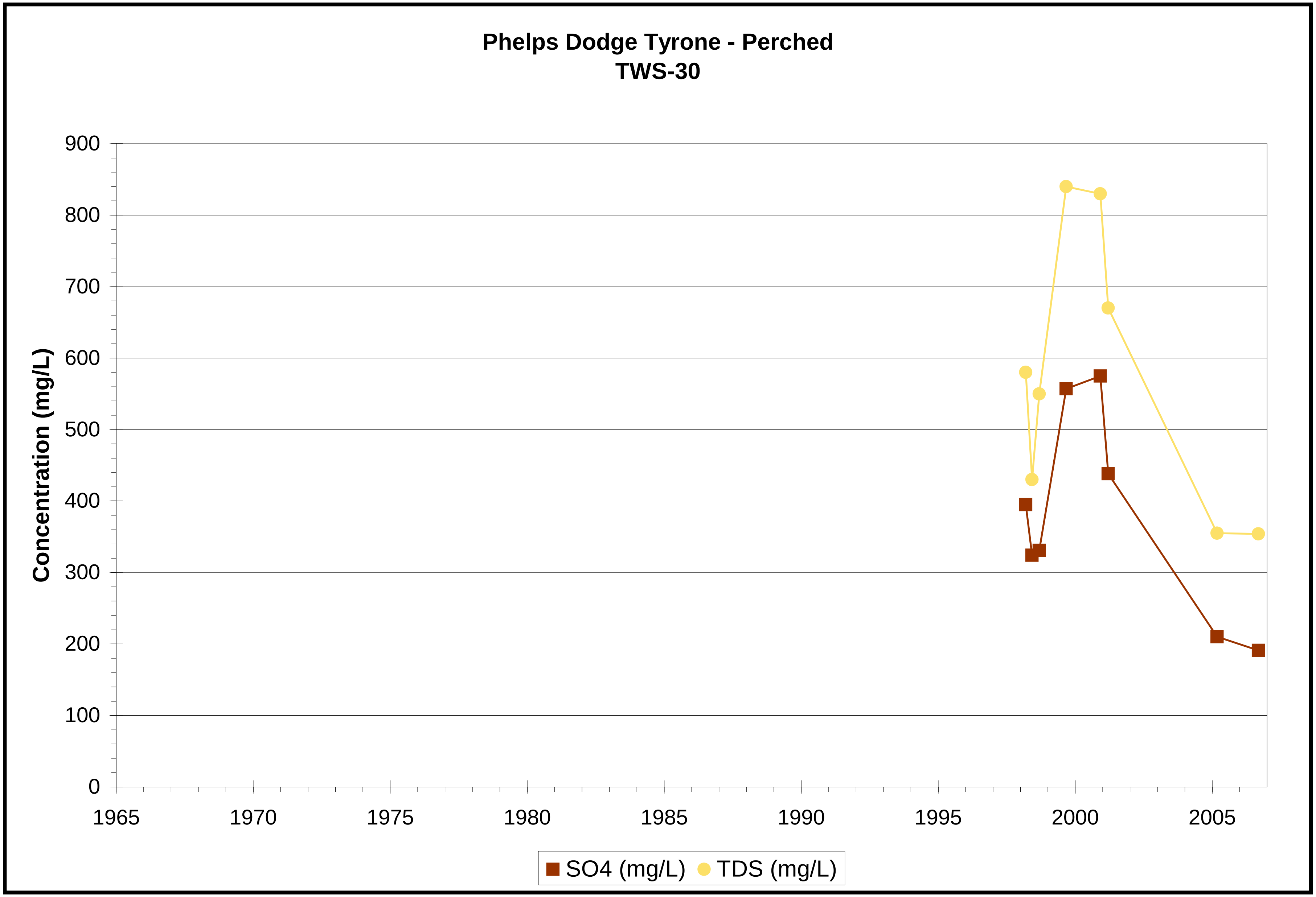
Phelps Dodge Tyrone - Perched
P-15S
Concentration (mg/L)
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Perched
TWS-25
Concentration (mg/L)
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

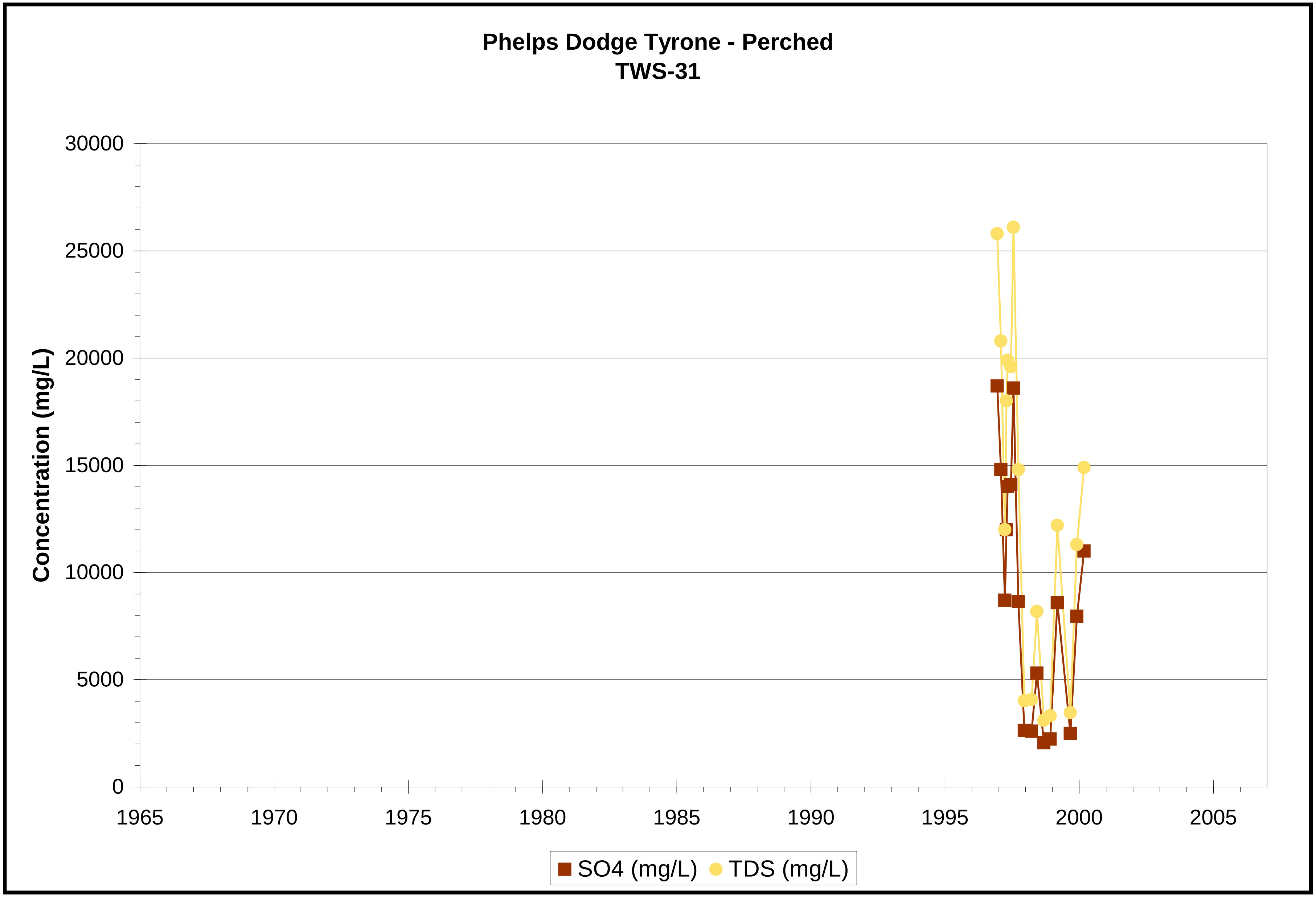

Phelps Dodge Tyrone - Perched
TWS-27
Concentration (mg/L)
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Perched
TWS-28
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

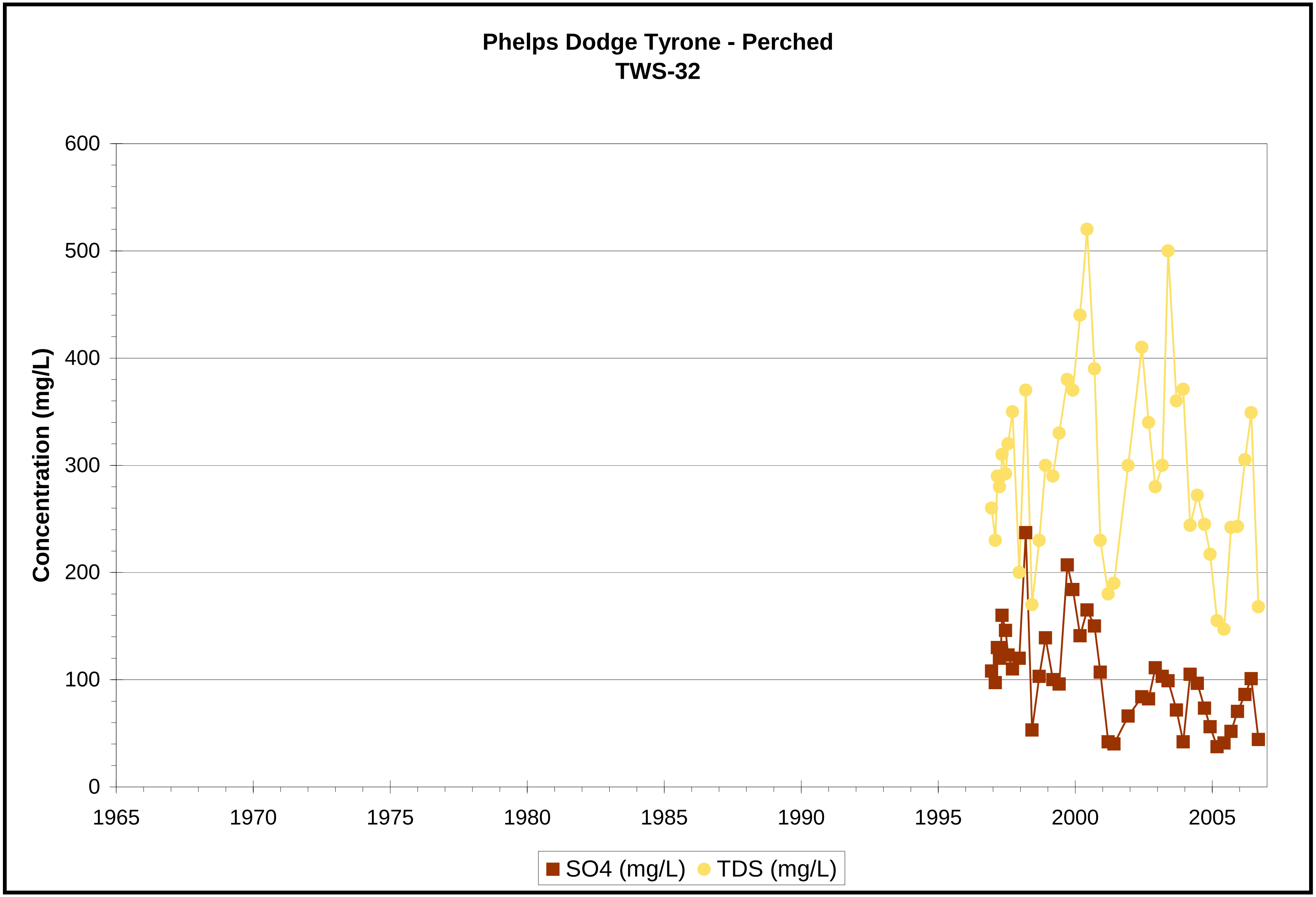

Phelps Dodge Tyrone - Perched
TWS-29
Concentration (mg/L)
0
500
1000
1500
2000
2500
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

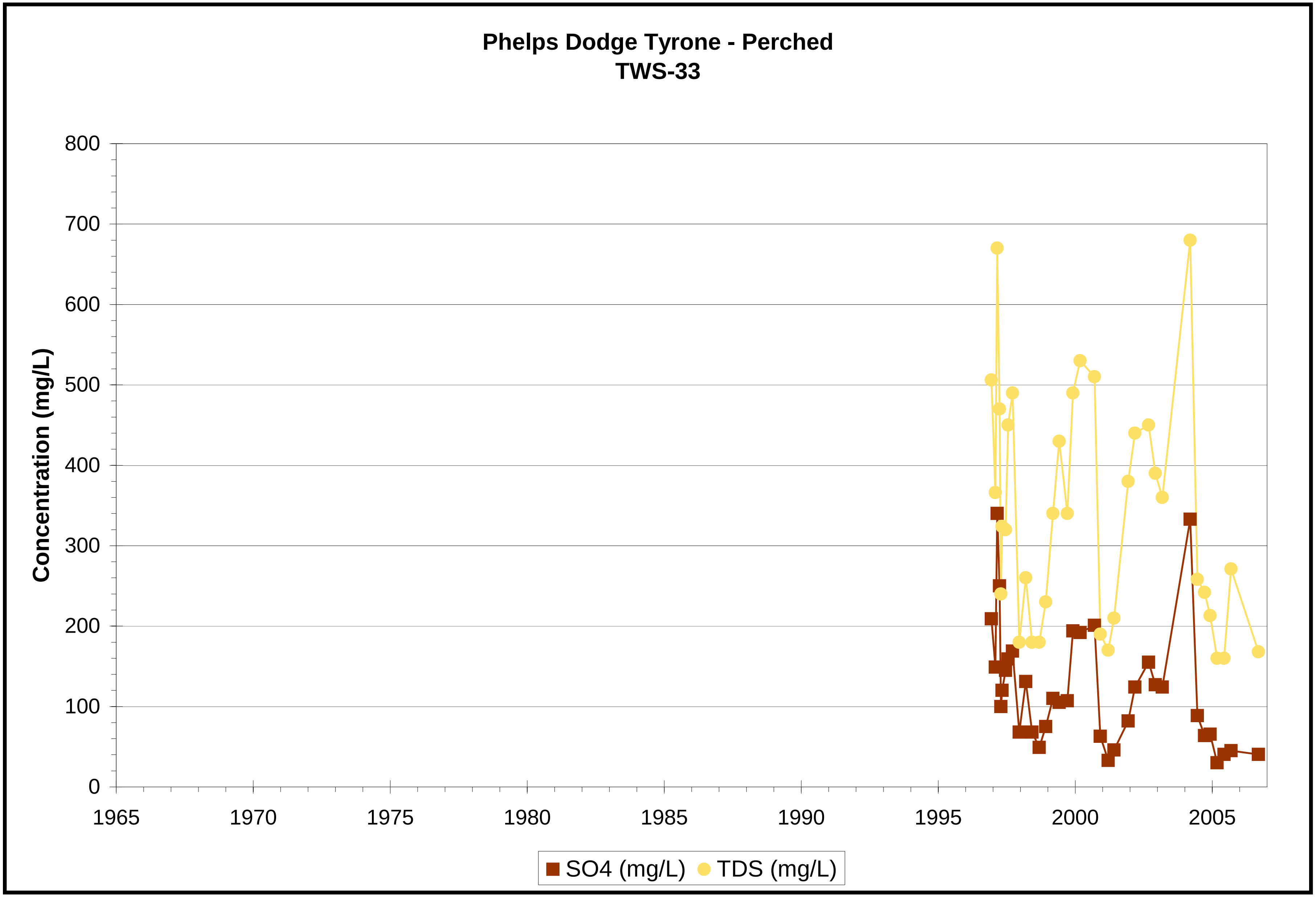


Phelps Dodge Tyrone - Perched
TWS-30
Concentration (mg/L)
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

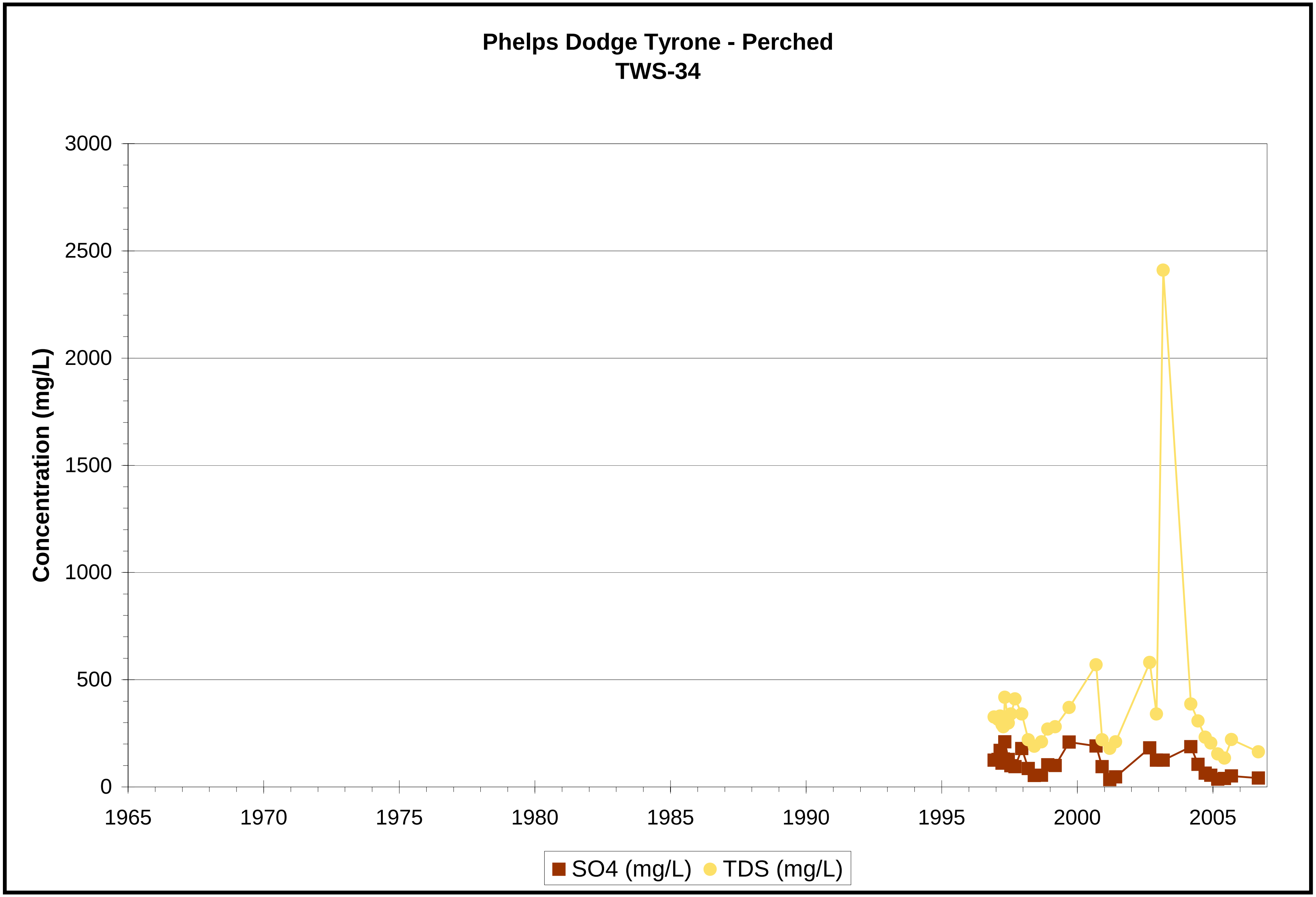


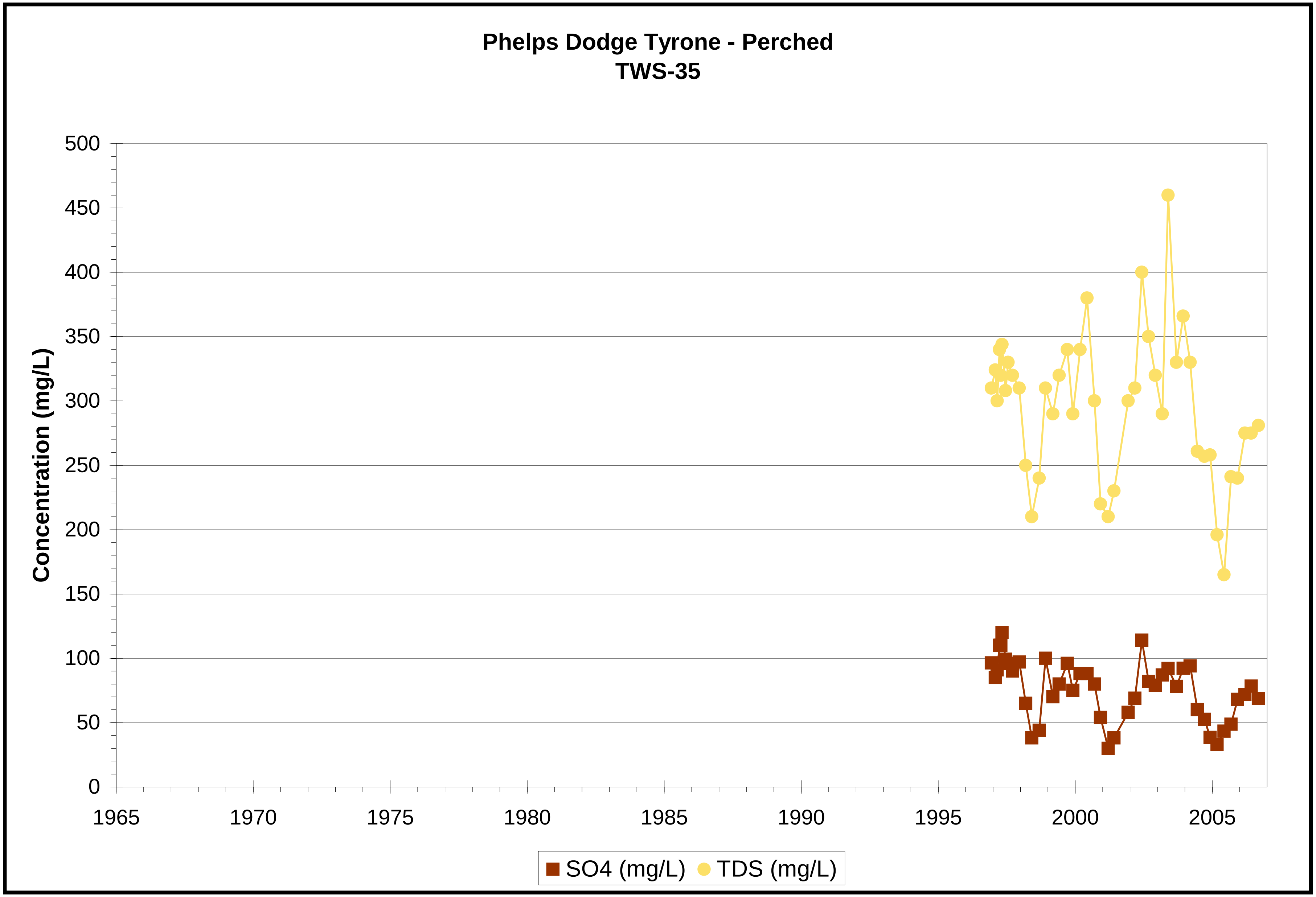
Phelps Dodge Tyrone - Perched
TWS-31
Concentration (mg/L)
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Perched
TWS-32
Concentration (mg/L)
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

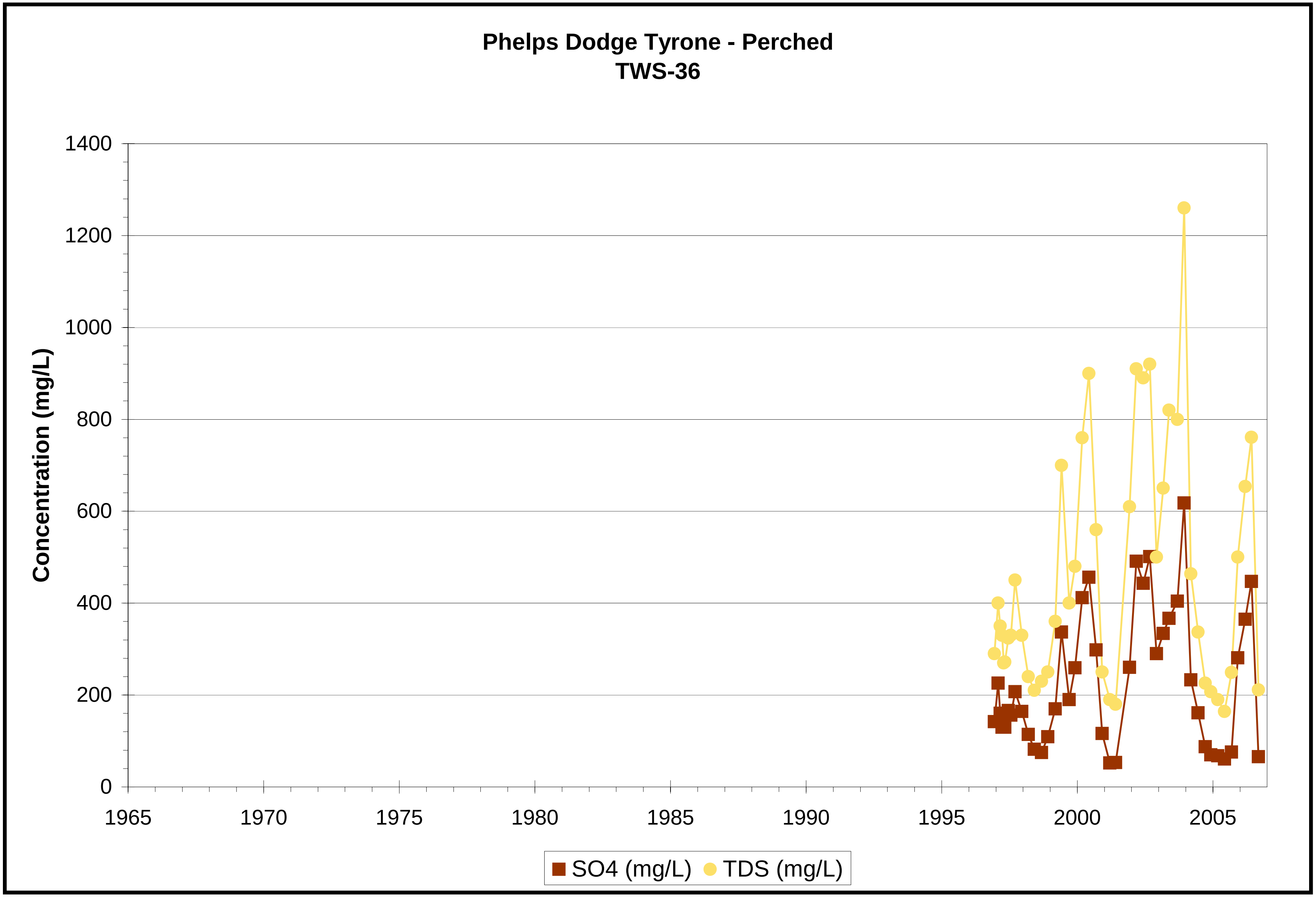


Phelps Dodge Tyrone - Perched
TWS-33
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

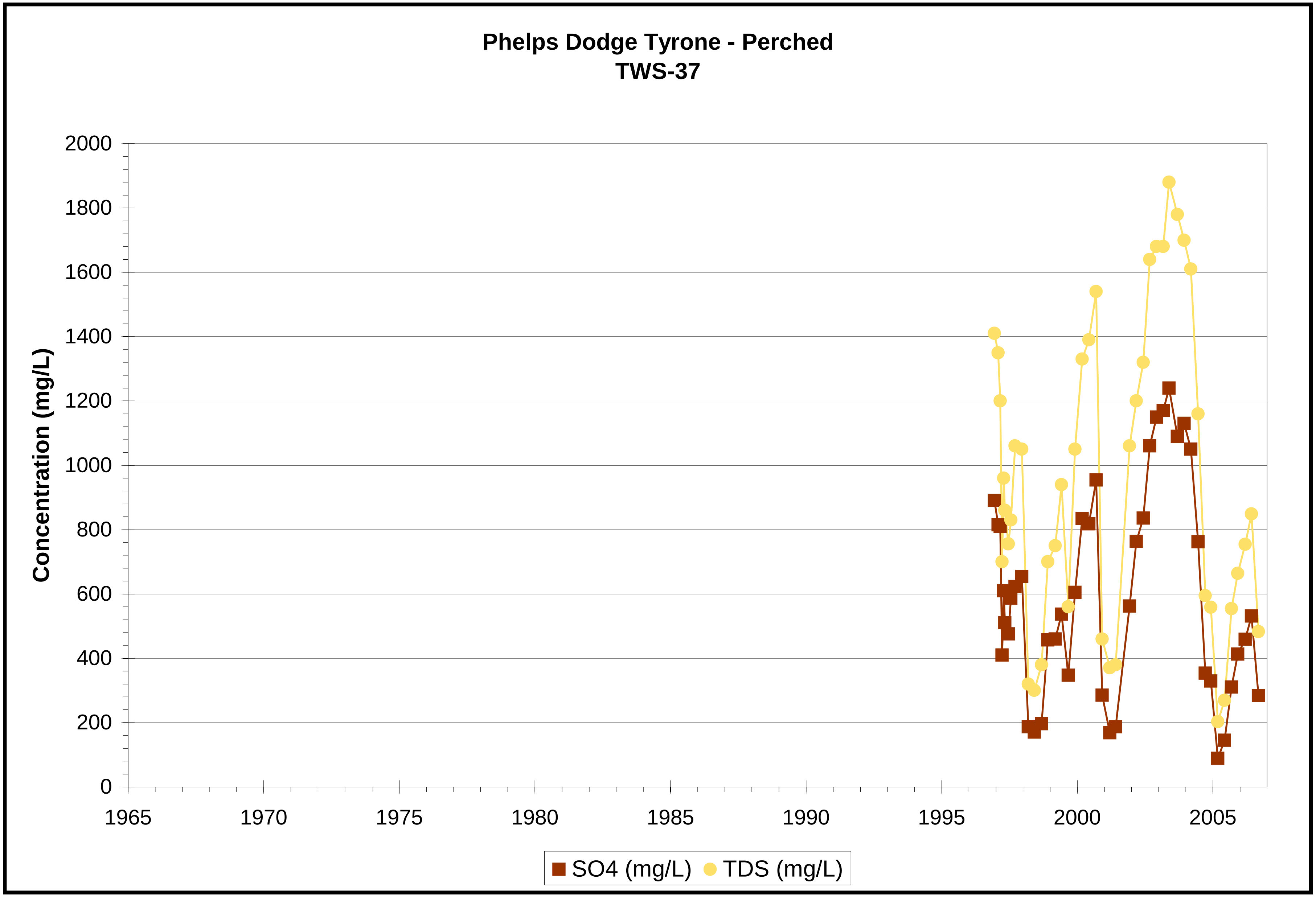

Phelps Dodge Tyrone - Perched
TWS-34
Concentration (mg/L)
0
500
1000
1500
2000
2500
3000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



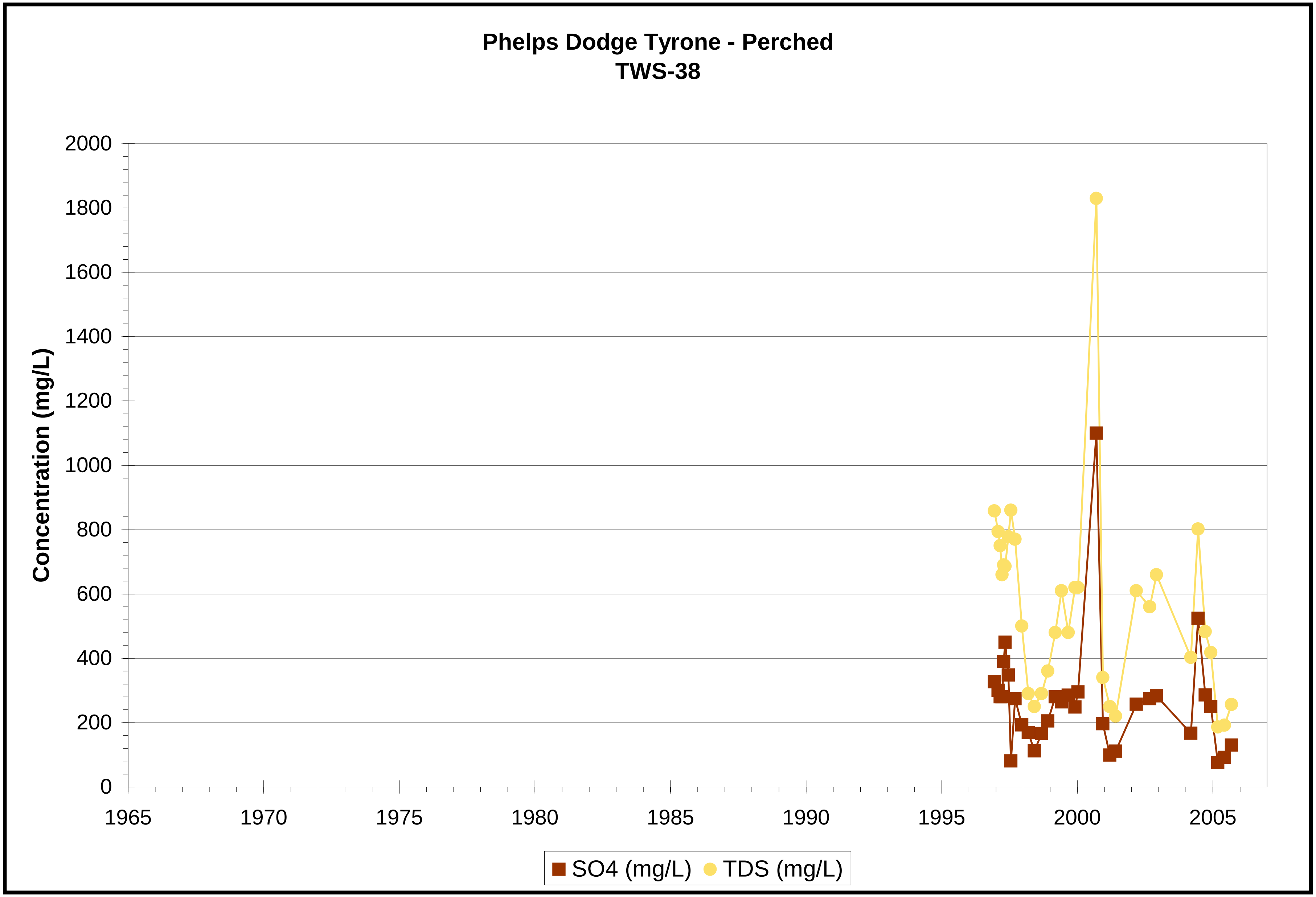
Phelps Dodge Tyrone - Perched
TWS-35
Concentration (mg/L)
0
50
100
150
200
250
300
350
400
450
500
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

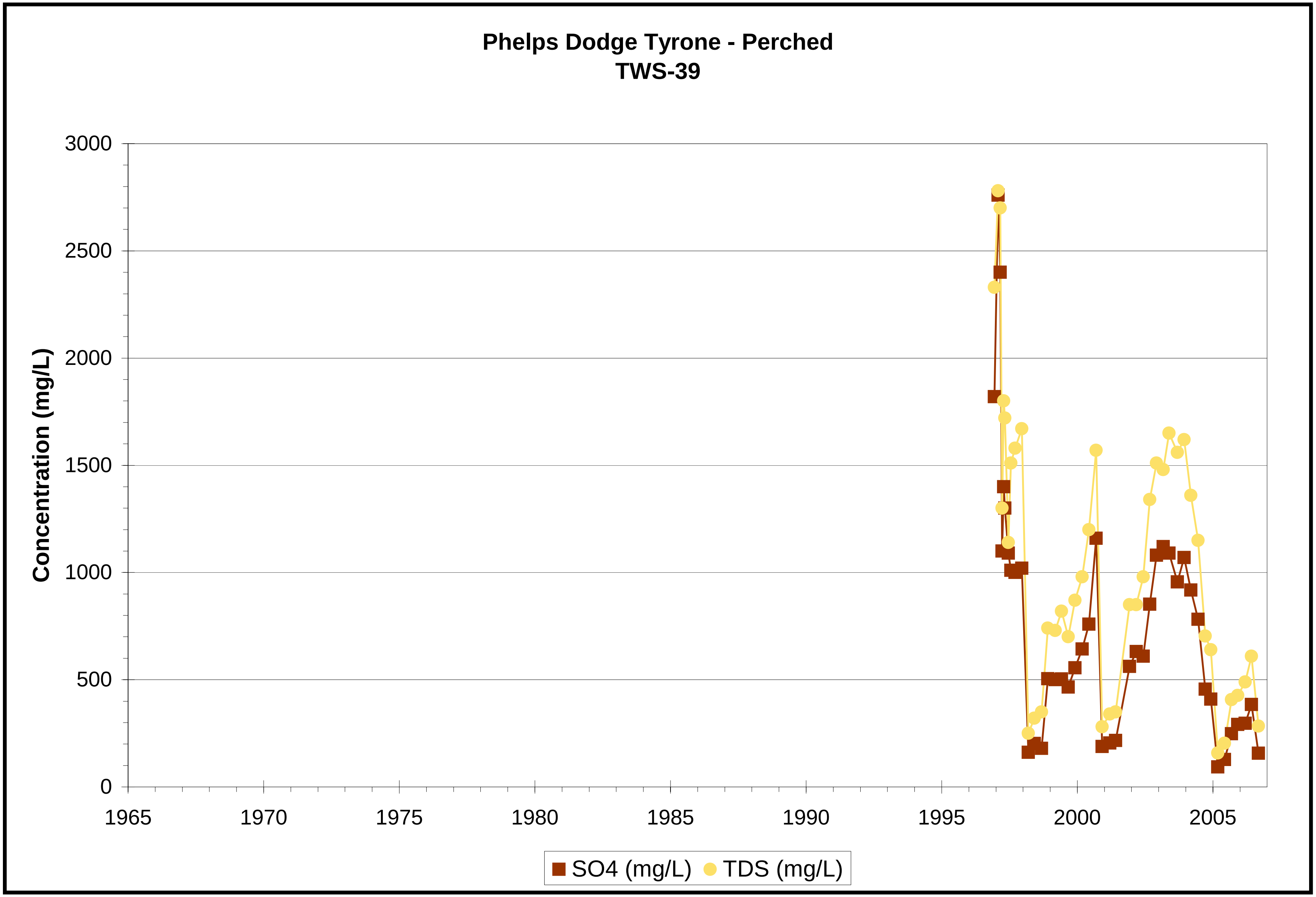


Phelps Dodge Tyrone - Perched
TWS-36
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

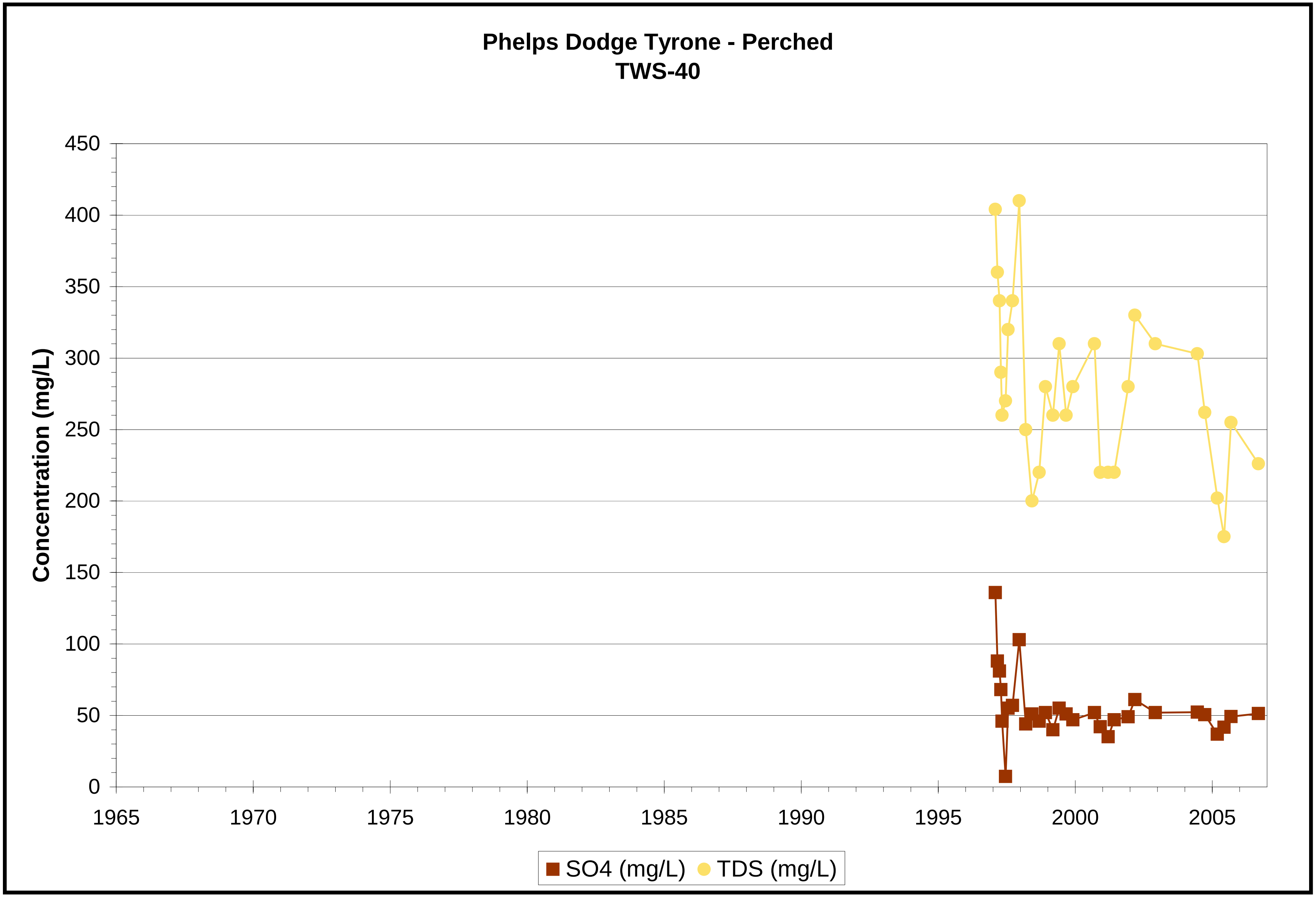


Phelps Dodge Tyrone - Perched
TWS-37
Concentration (mg/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

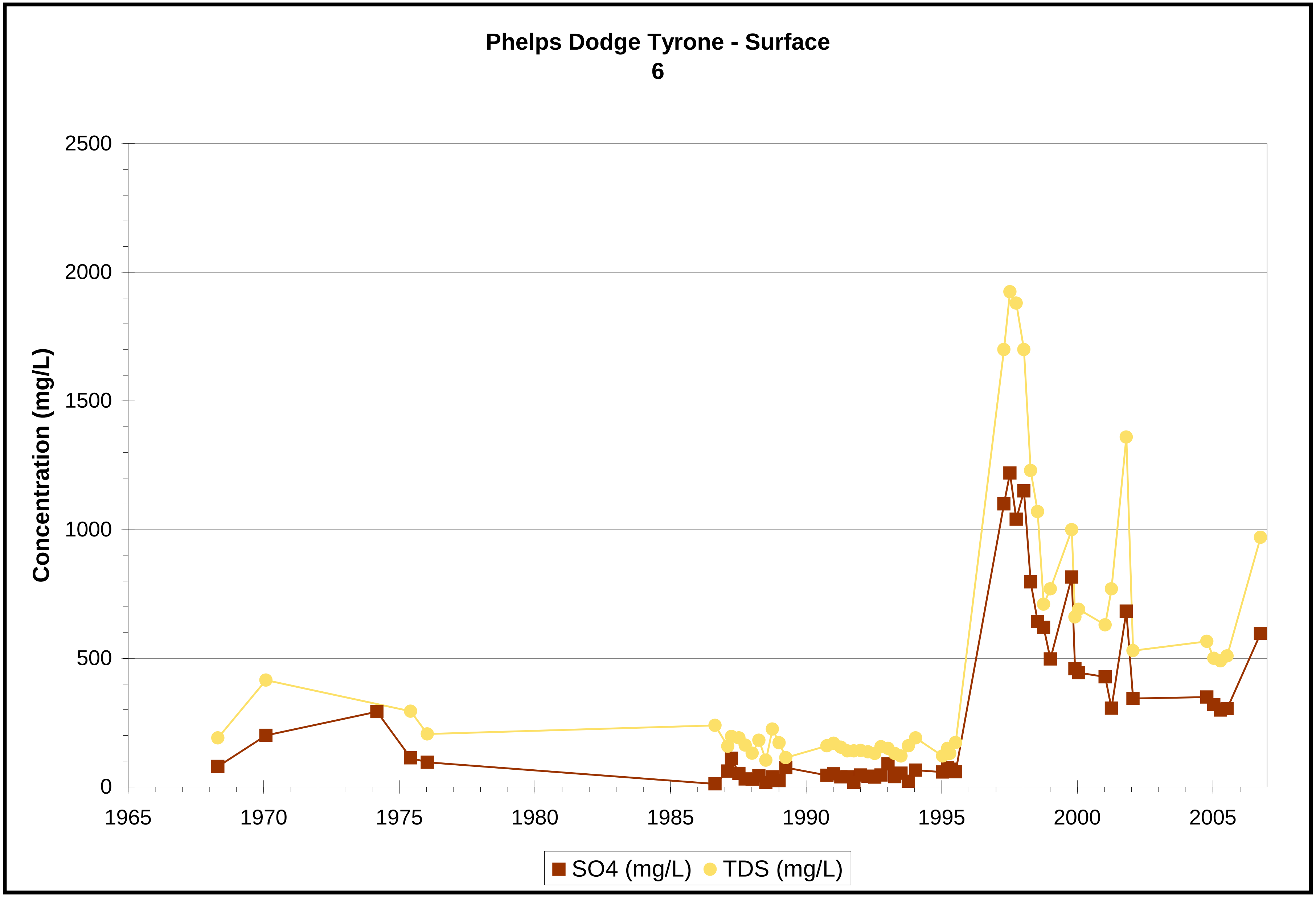

Phelps Dodge Tyrone - Perched
TWS-38
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1800
2000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



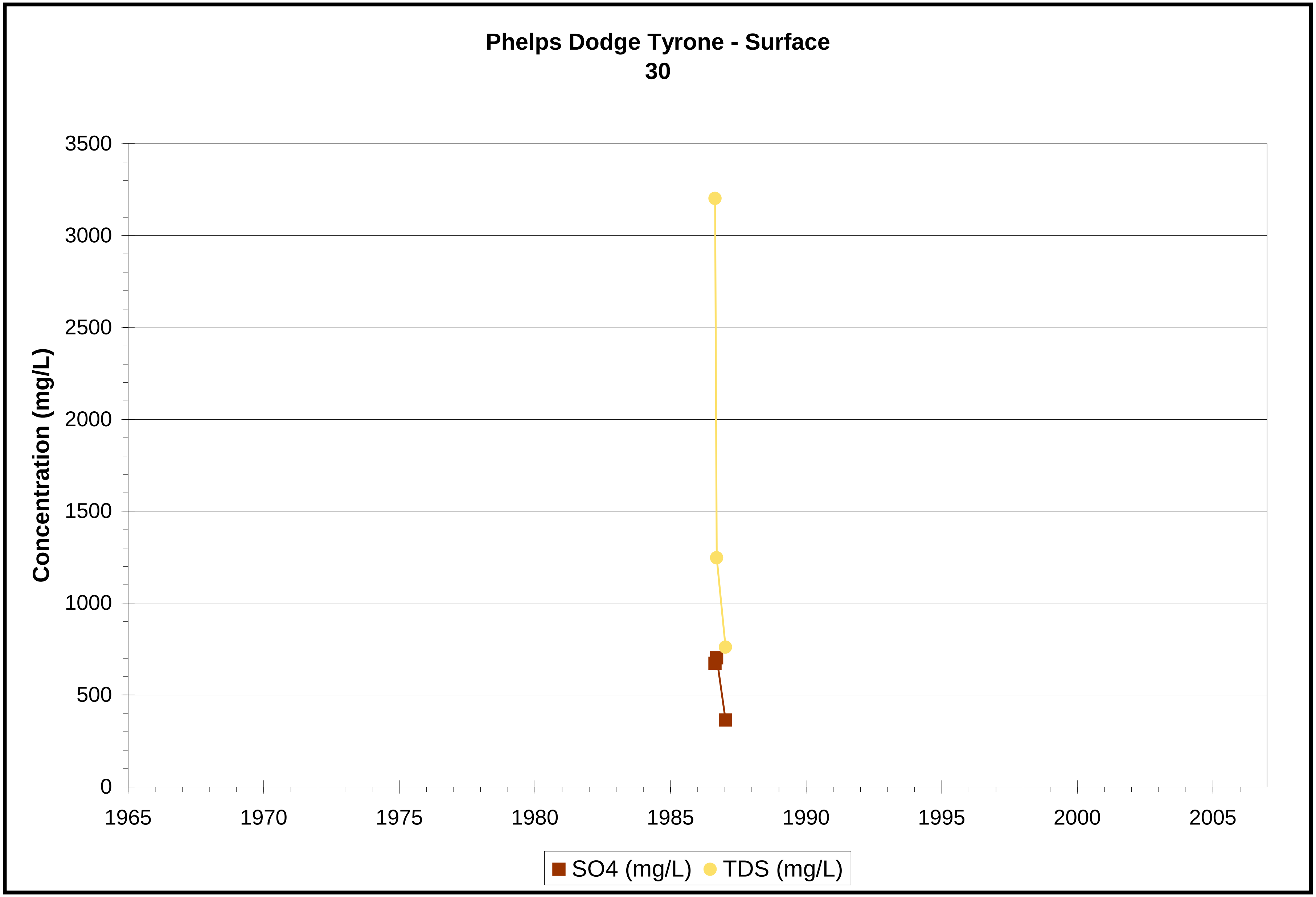
Phelps Dodge Tyrone - Perched
TWS-39
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



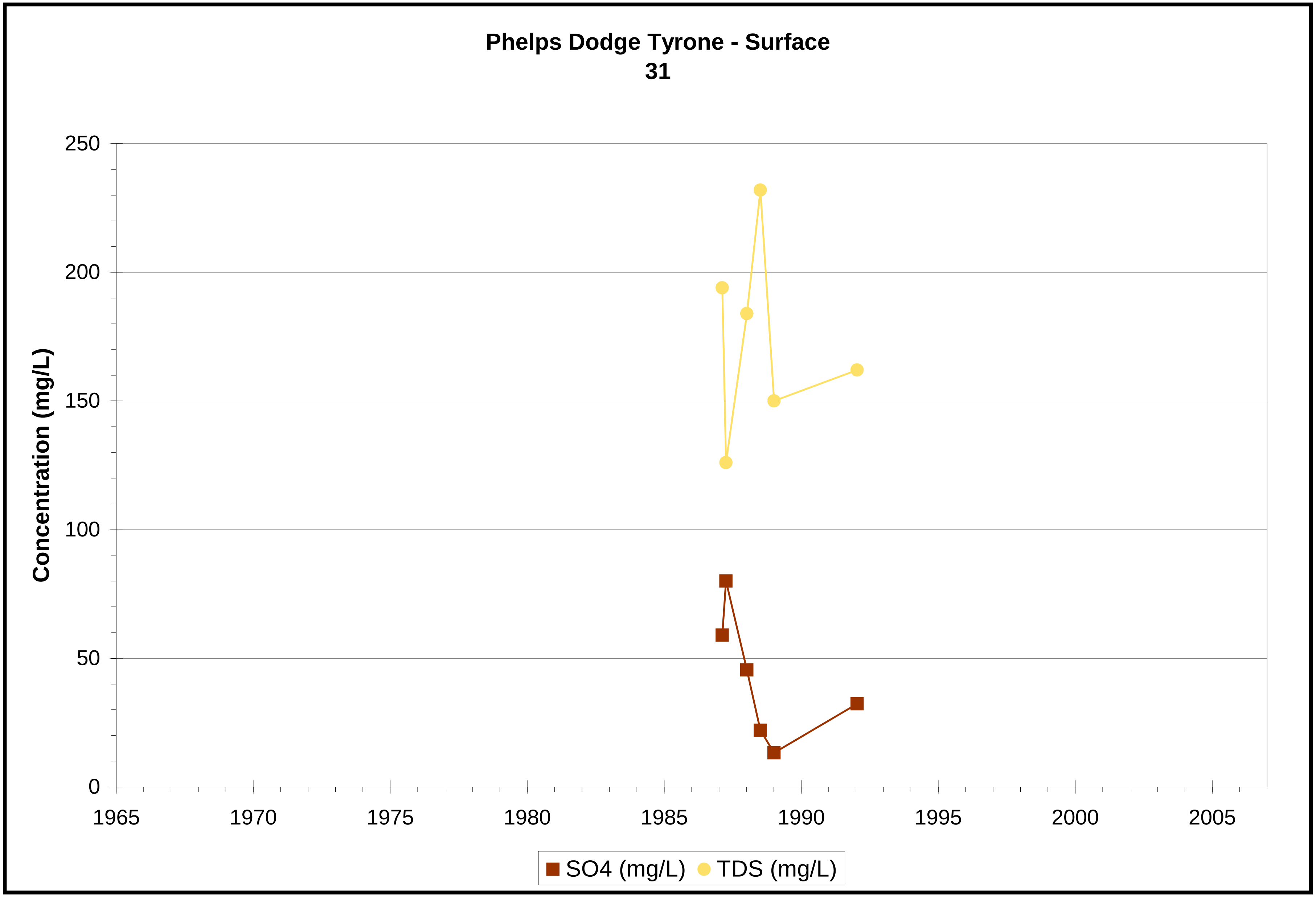
Phelps Dodge Tyrone - Perched
TWS-40
Concentration (mg/L)
0
50
100
150
200
250
300
350
400
450
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

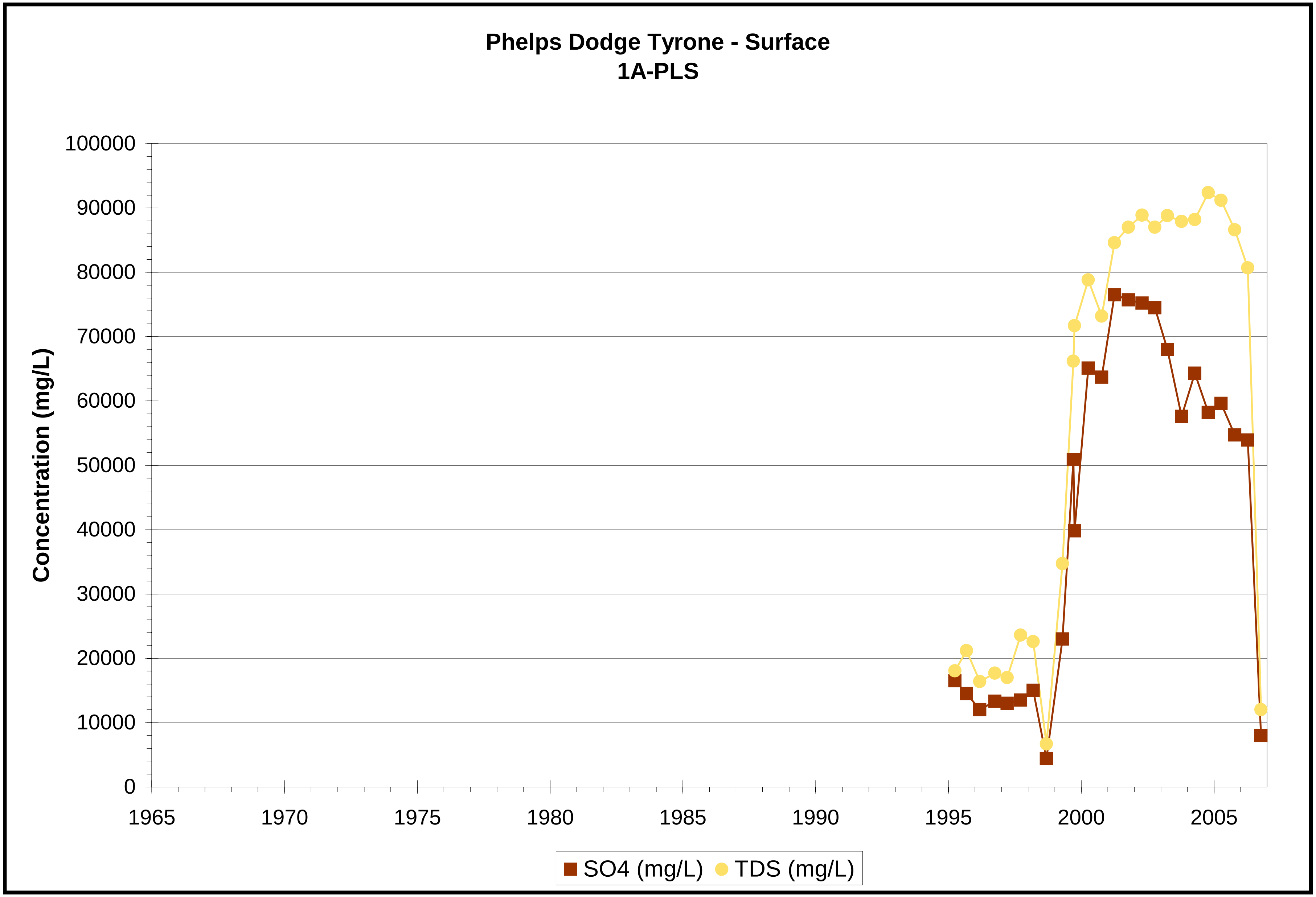


Phelps Dodge Tyrone - Surface
6
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

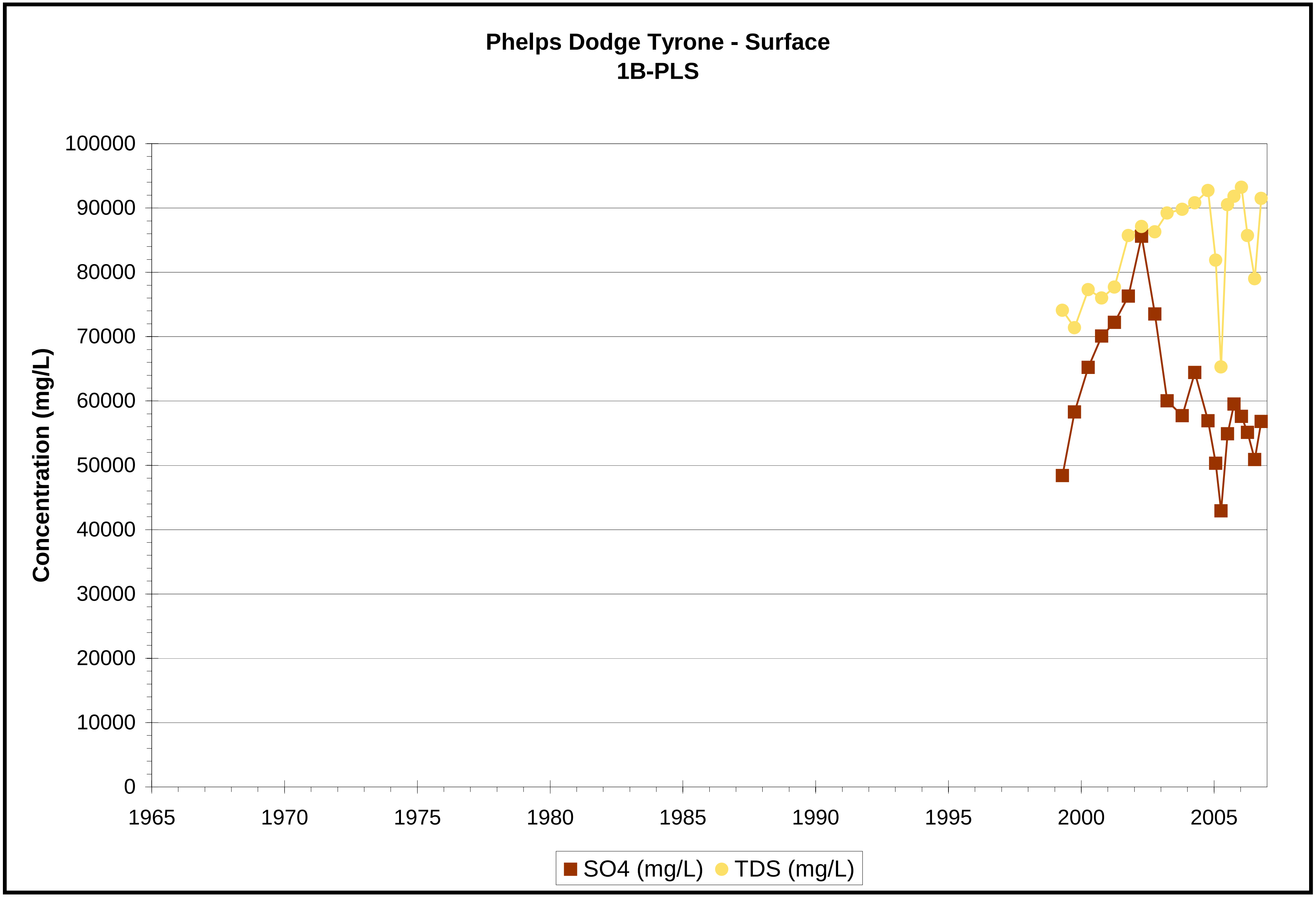


Phelps Dodge Tyrone - Surface
30
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

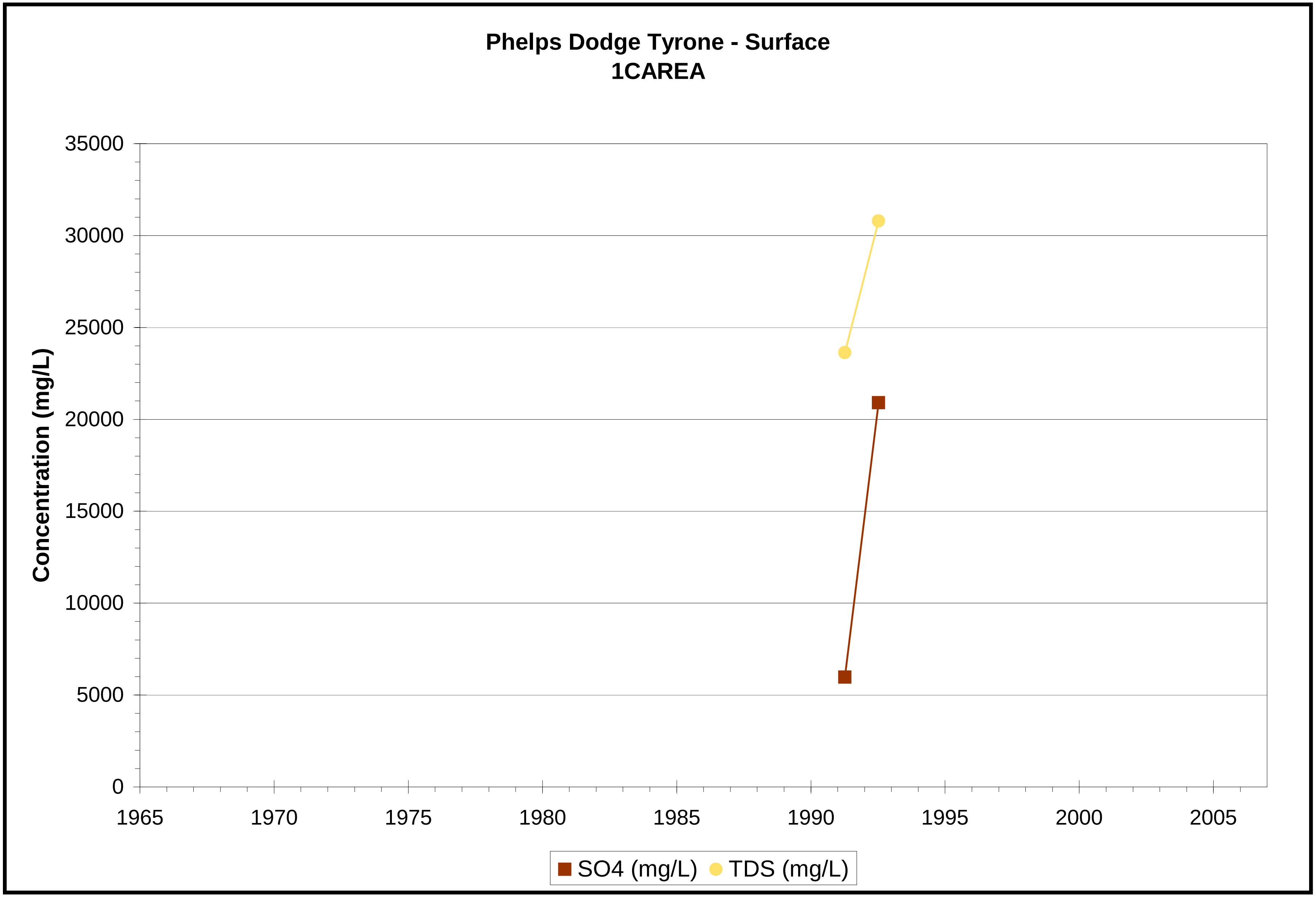

Phelps Dodge Tyrone - Surface
31
Concentration (mg/L)
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



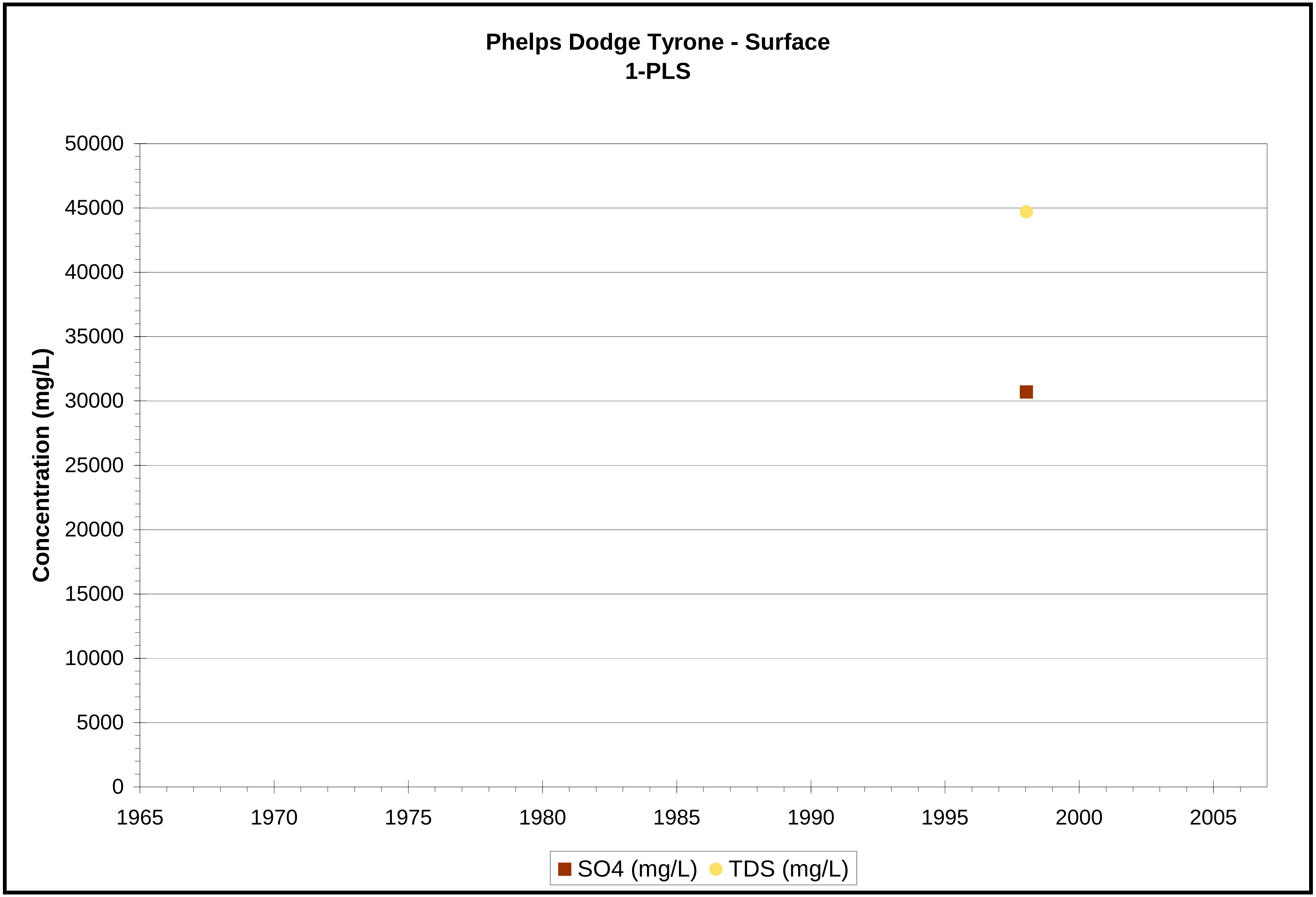
Phelps Dodge Tyrone - Surface
1A-PLS
Concentration (mg/L)
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



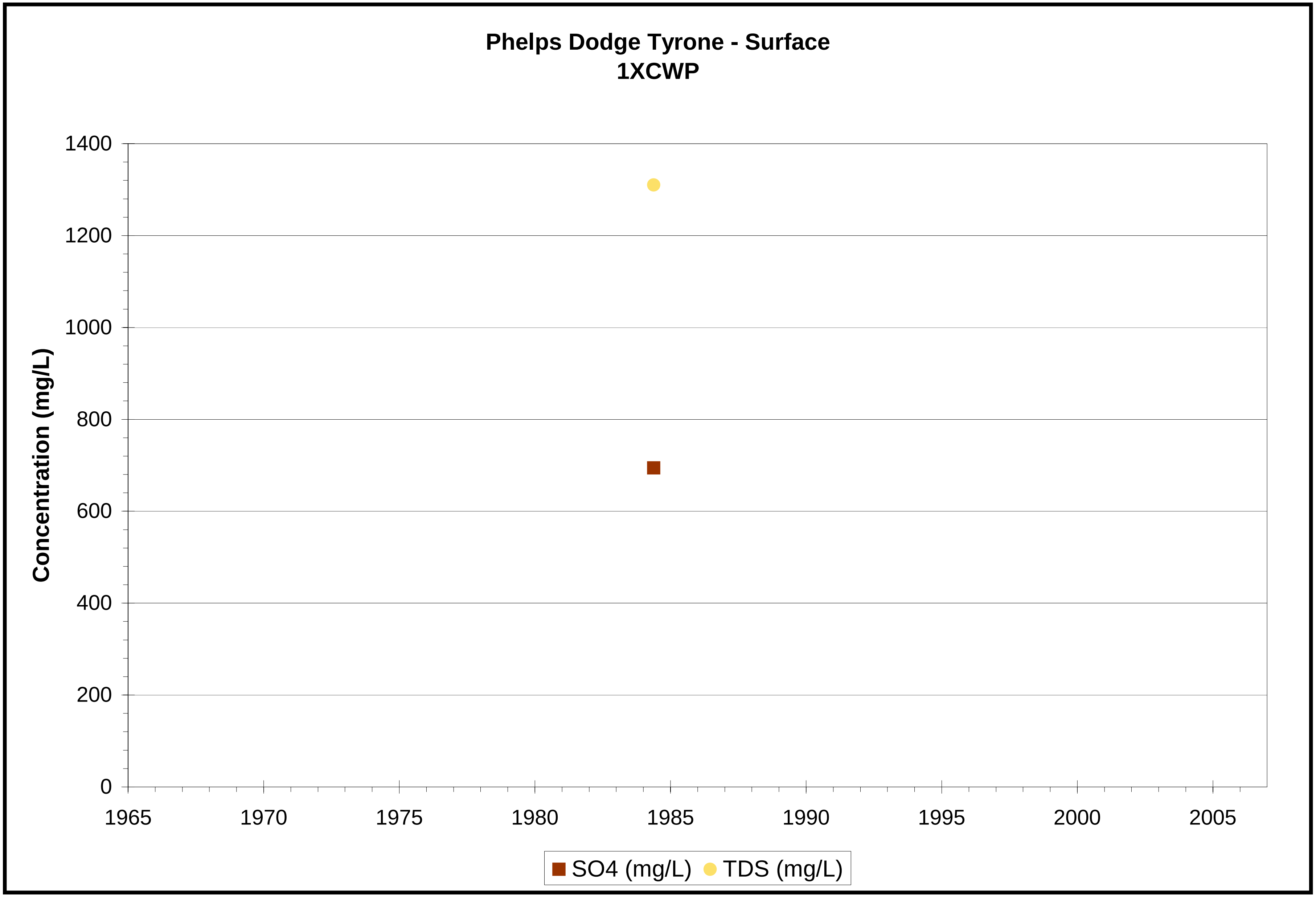
Phelps Dodge Tyrone - Surface
1B-PLS
Concentration (mg/L)
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



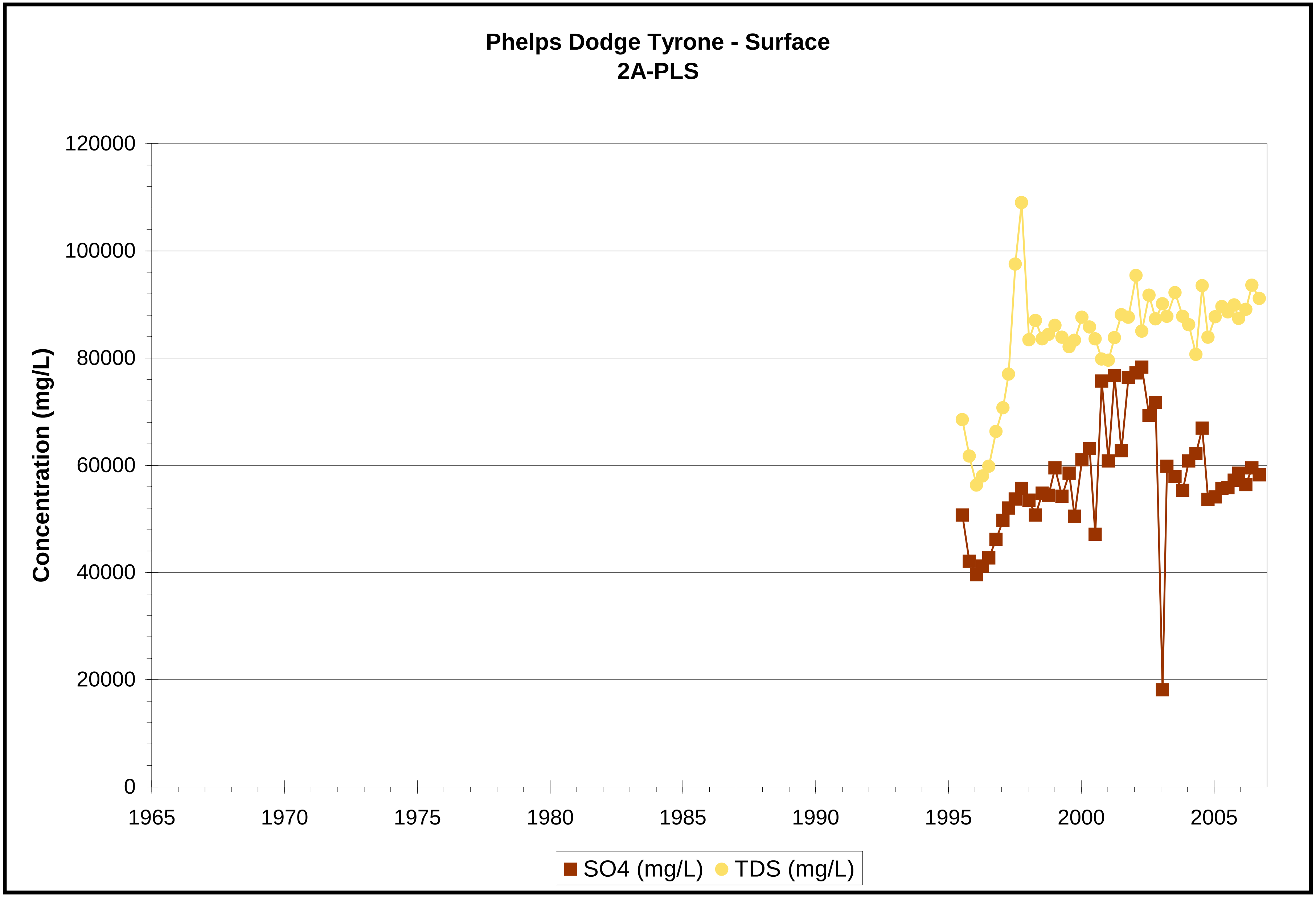
Phelps Dodge Tyrone - Surface
1CAREA
Concentration (mg/L)
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



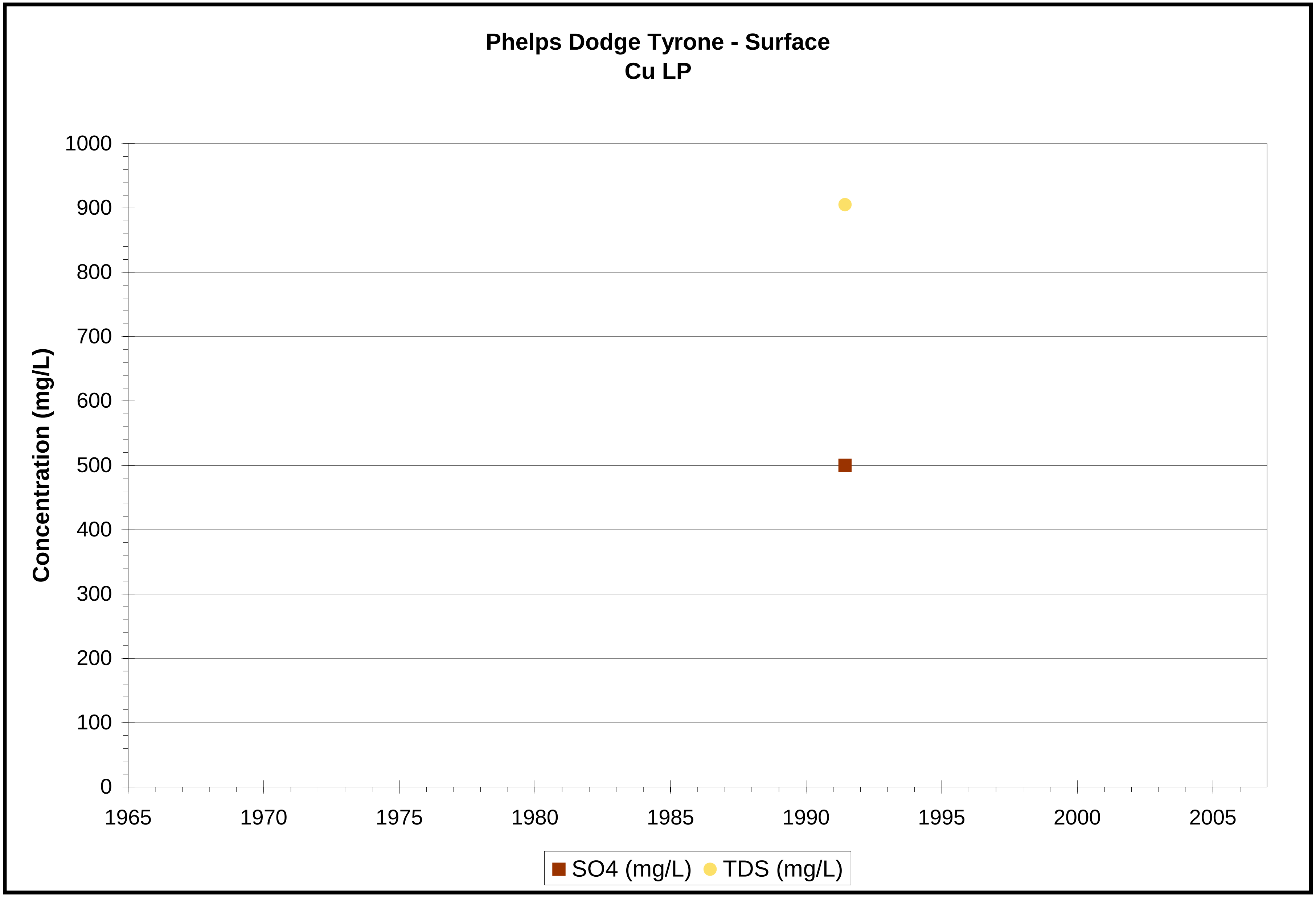
Phelps Dodge Tyrone - Surface
1-PLS
Concentration (mg/L)
50000
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



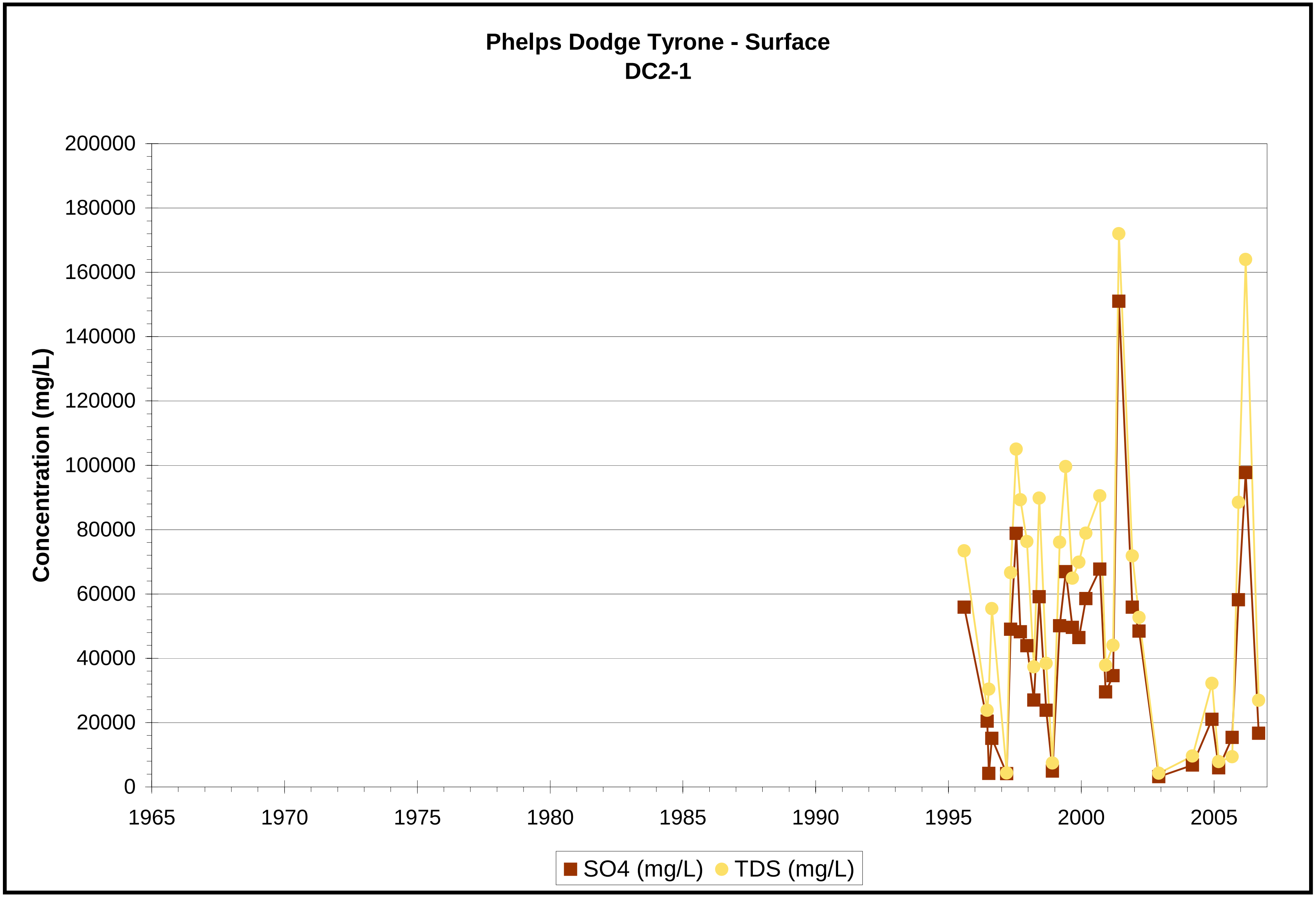
Phelps Dodge Tyrone - Surface
1XCWP
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



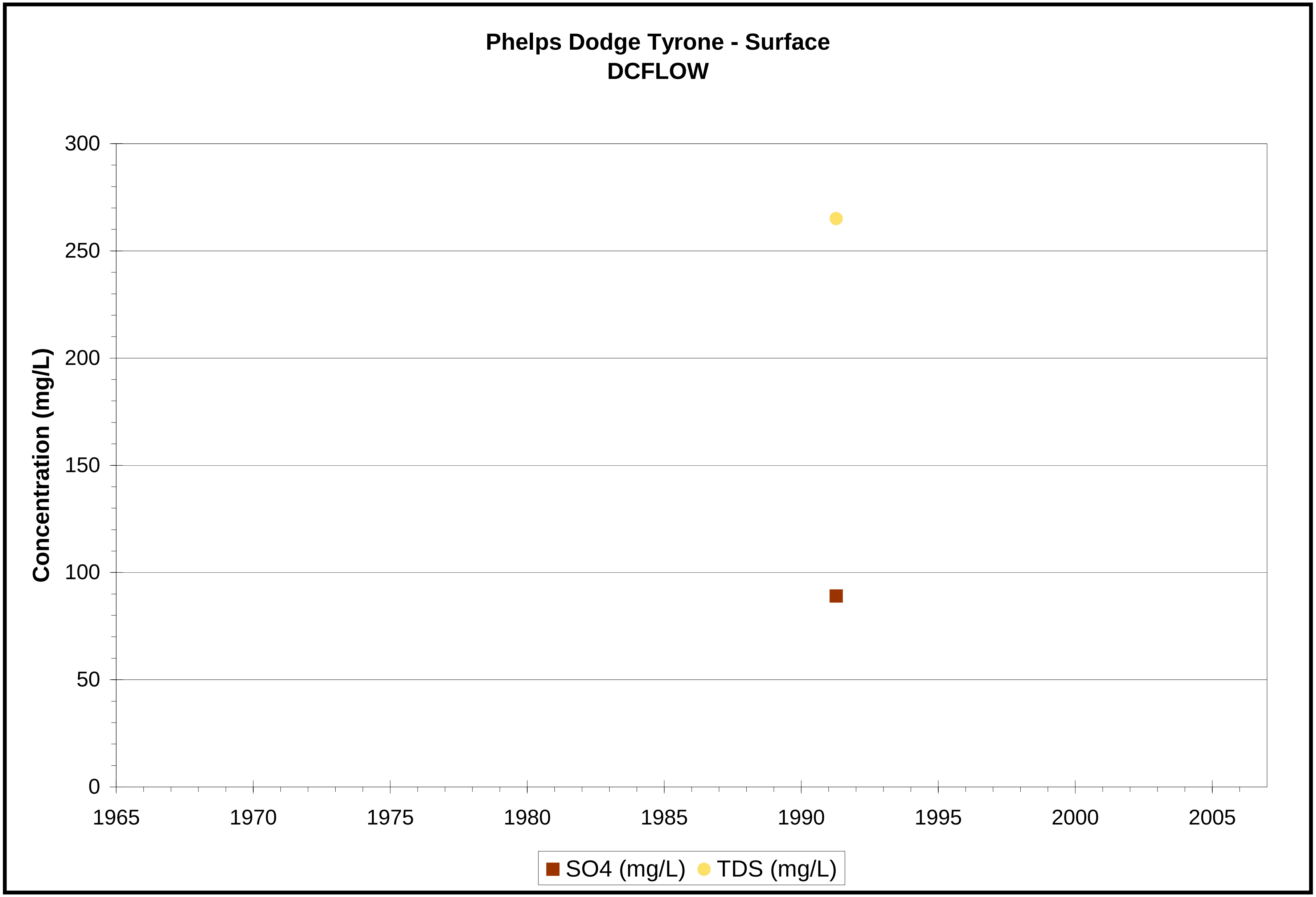
Phelps Dodge Tyrone - Surface
2A-PLS
Concentration (mg/L)
120000
100000
80000
60000
40000
20000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

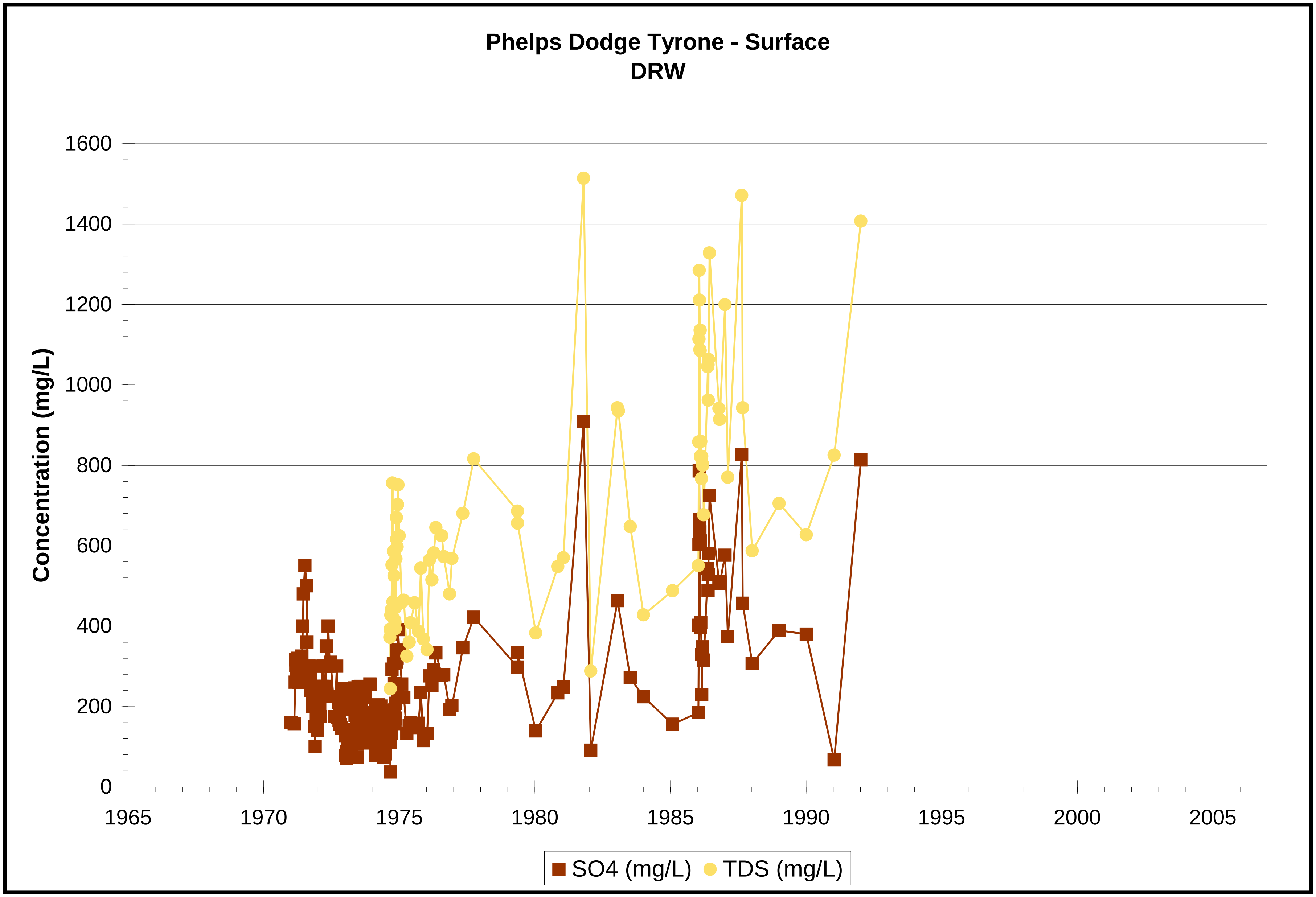


Phelps Dodge Tyrone - Surface
Cu LP
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

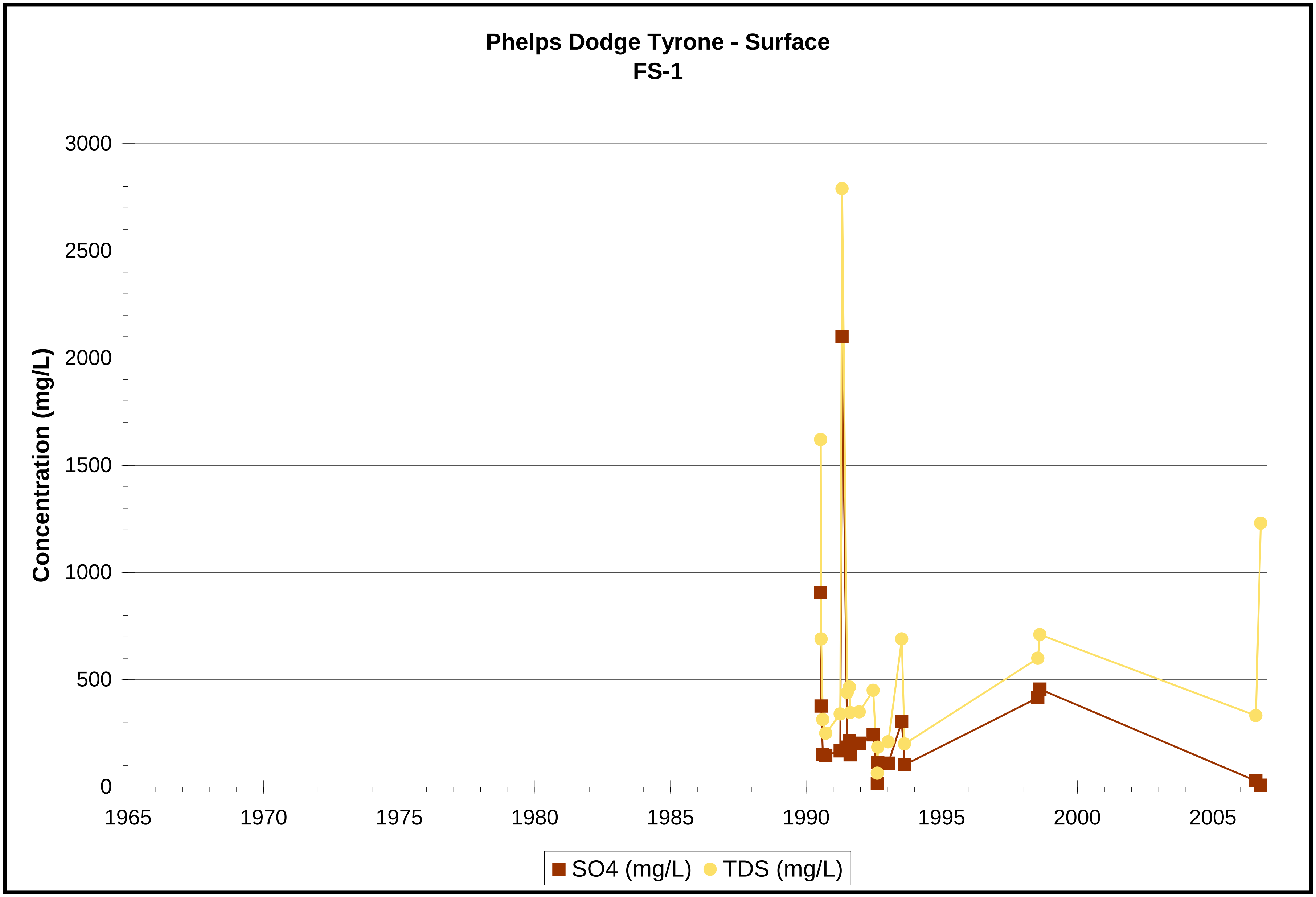


Phelps Dodge Tyrone - Surface
DC2-1
Concentration (mg/L)
200000
180000
160000
140000
120000
100000
80000
60000
40000
20000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

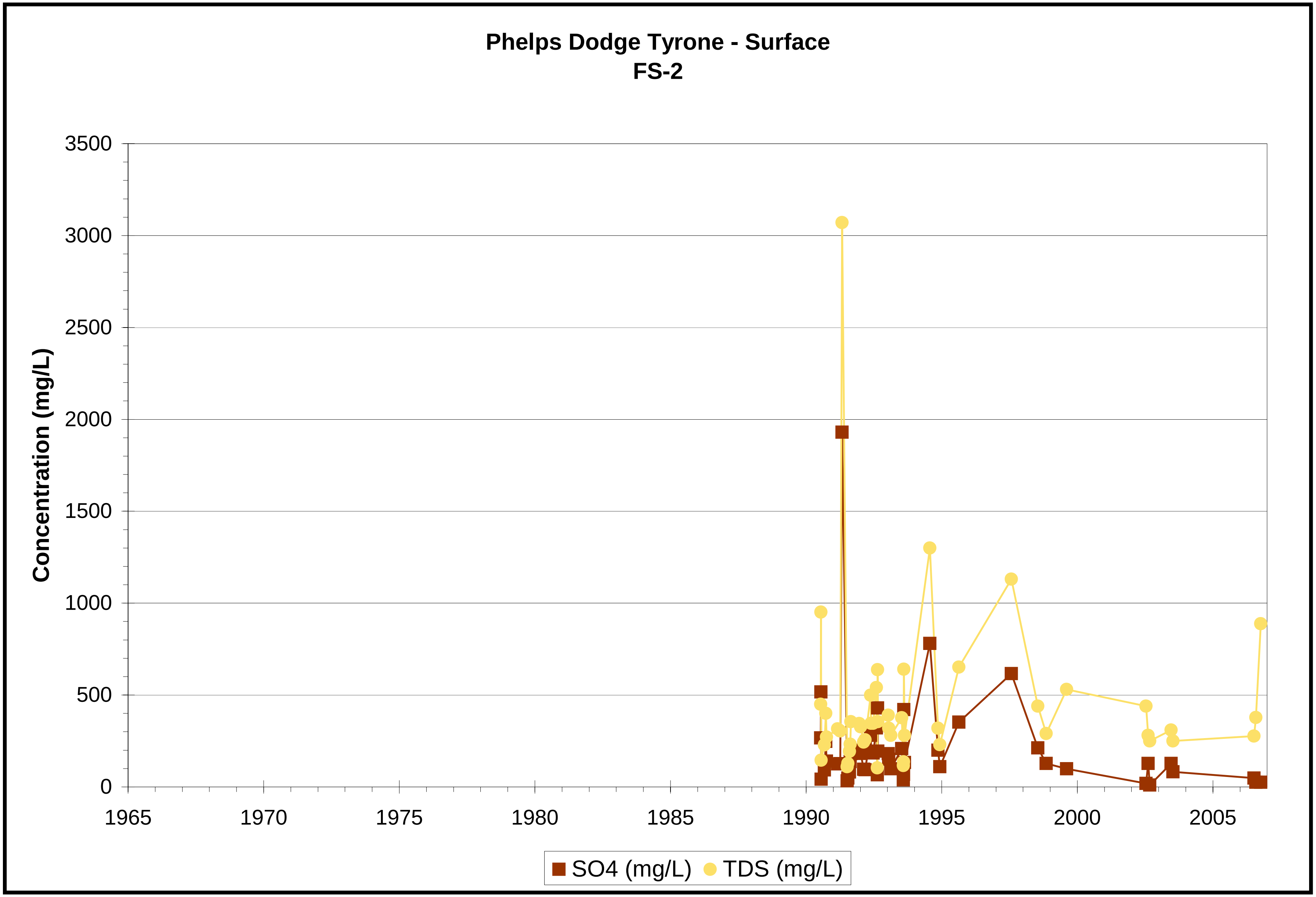

Phelps Dodge Tyrone - Surface
DCFLOW
Concentration (mg/L)
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



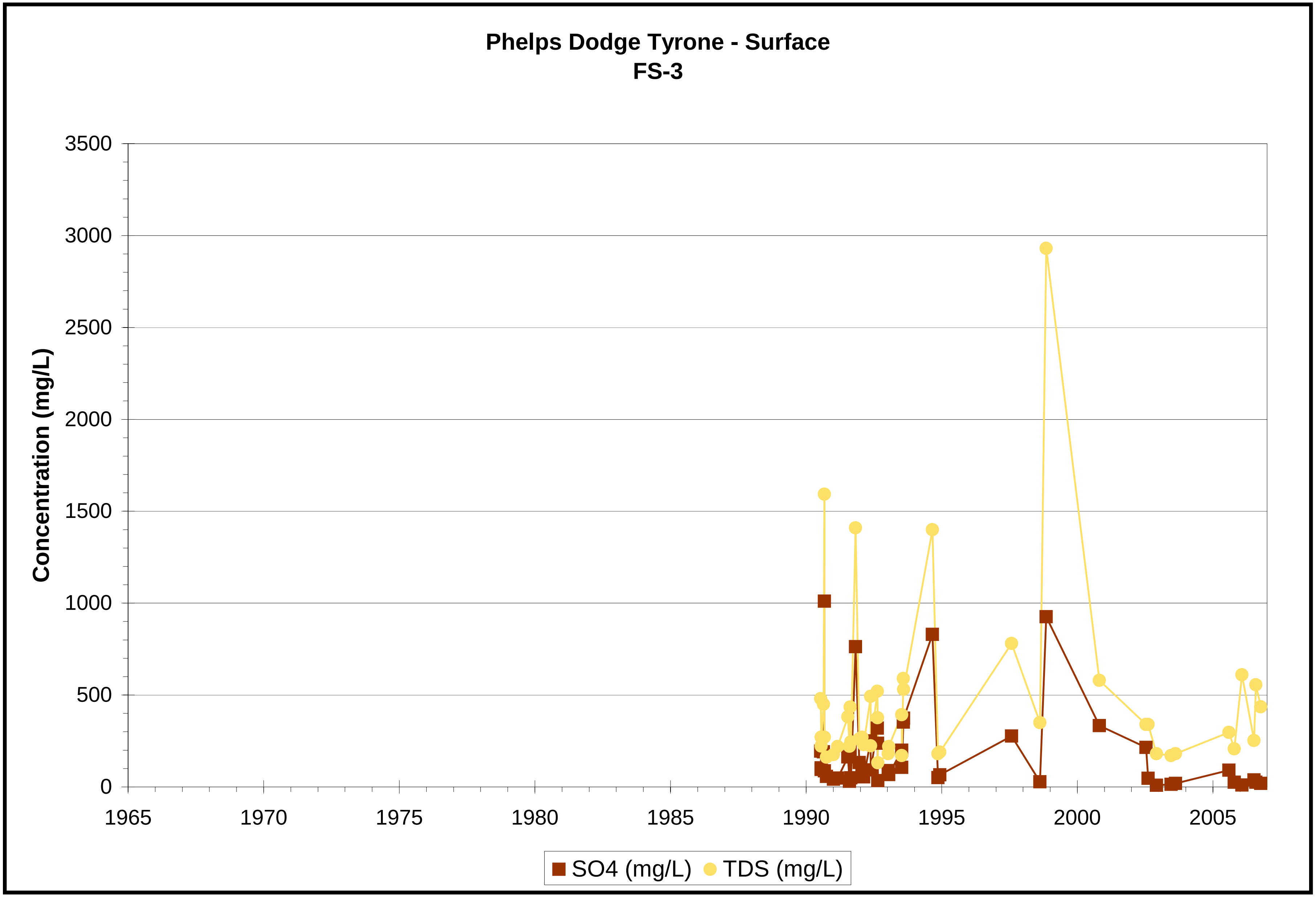
Phelps Dodge Tyrone - Surface
DRW
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

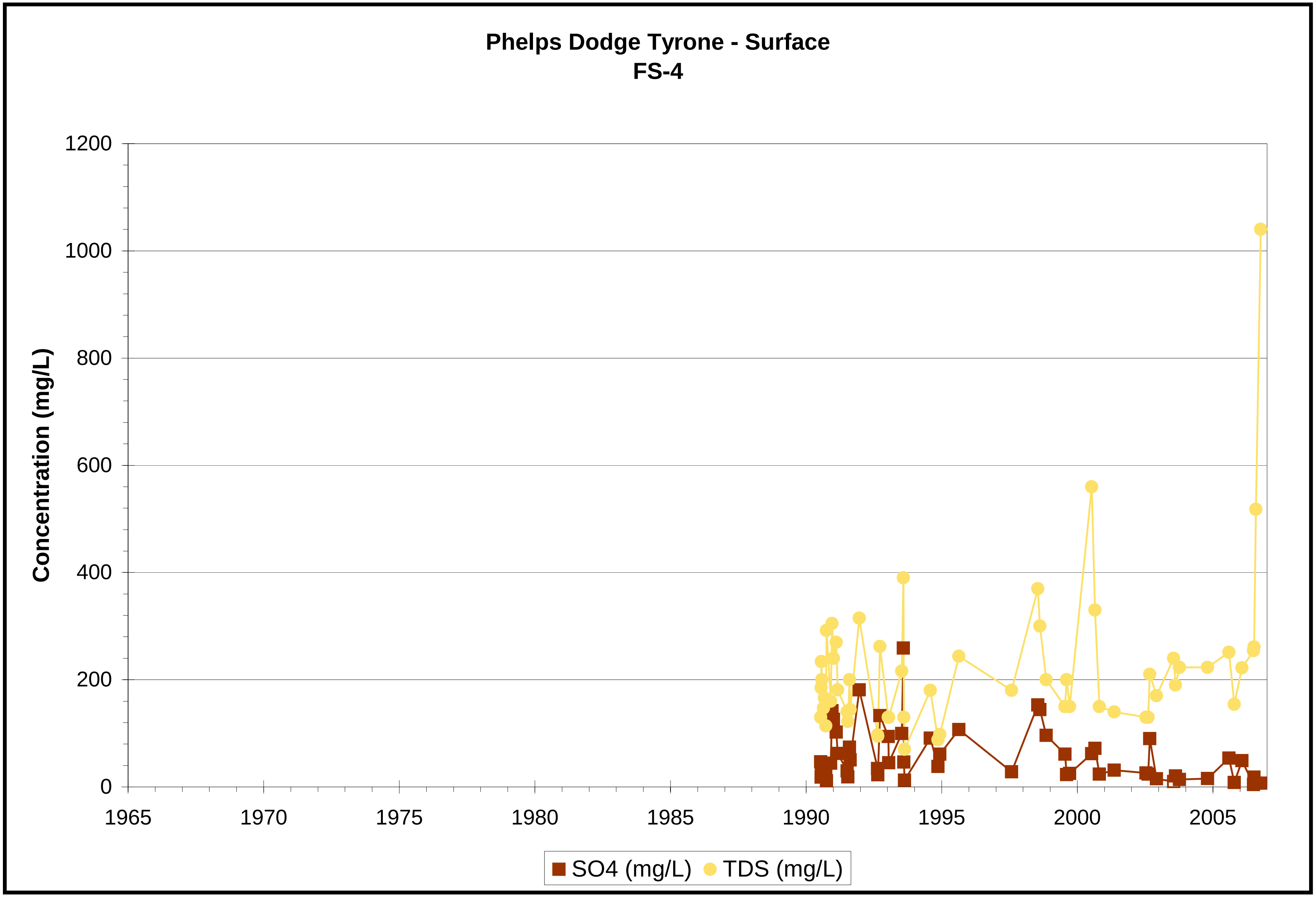


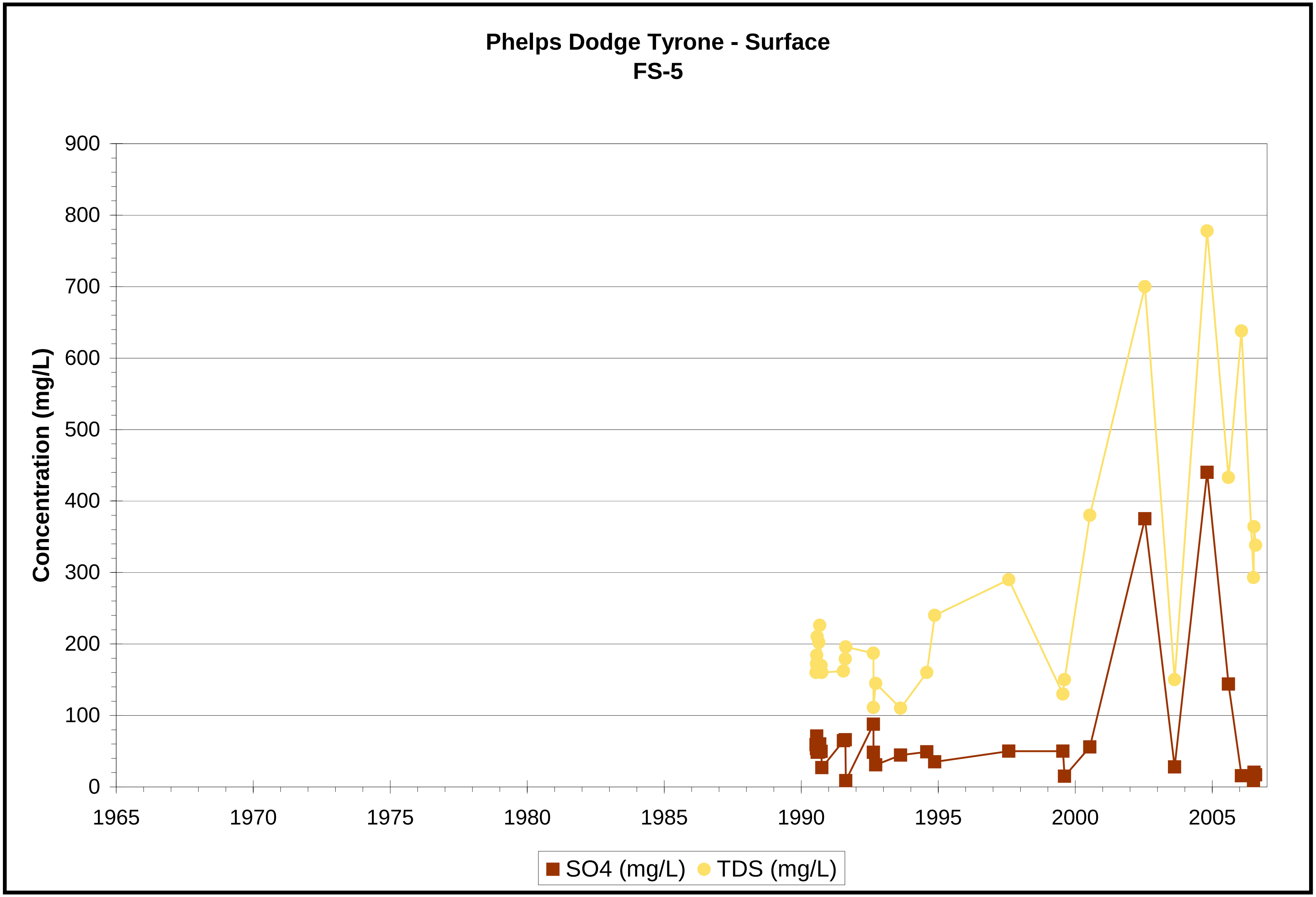
Phelps Dodge Tyrone - Surface
FS-1
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

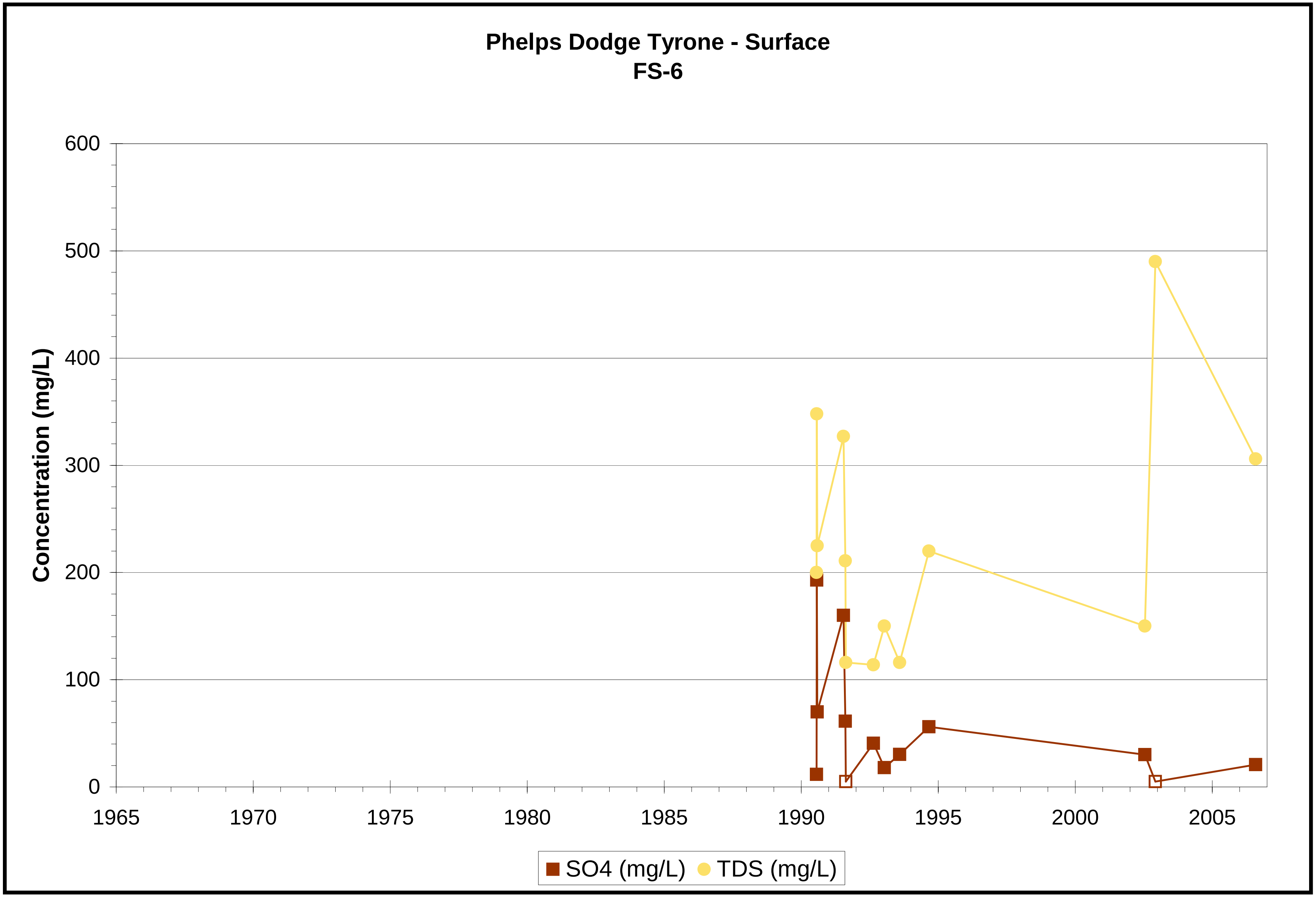


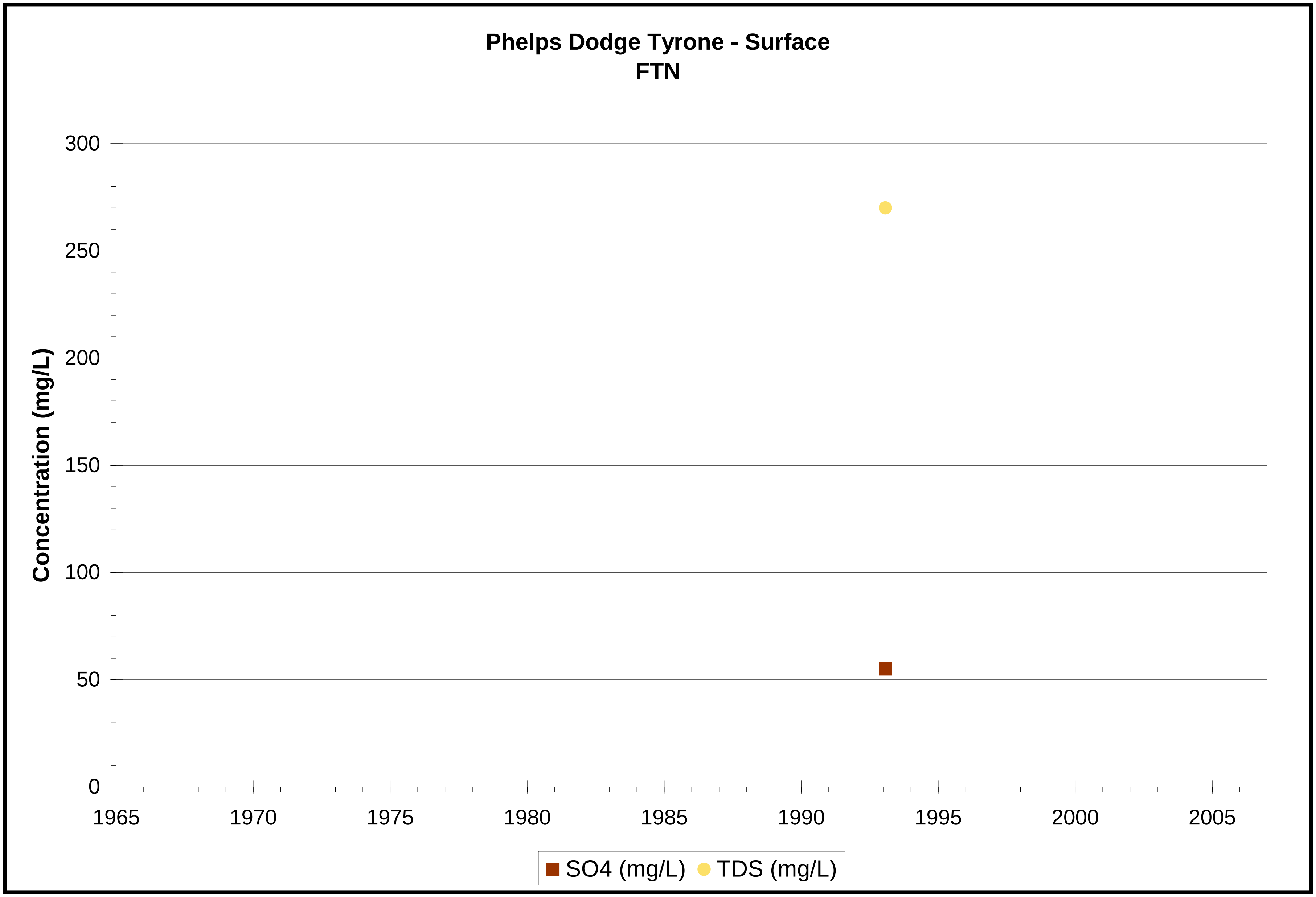
Phelps Dodge Tyrone - Surface
FS-2
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Surface
FS-3
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

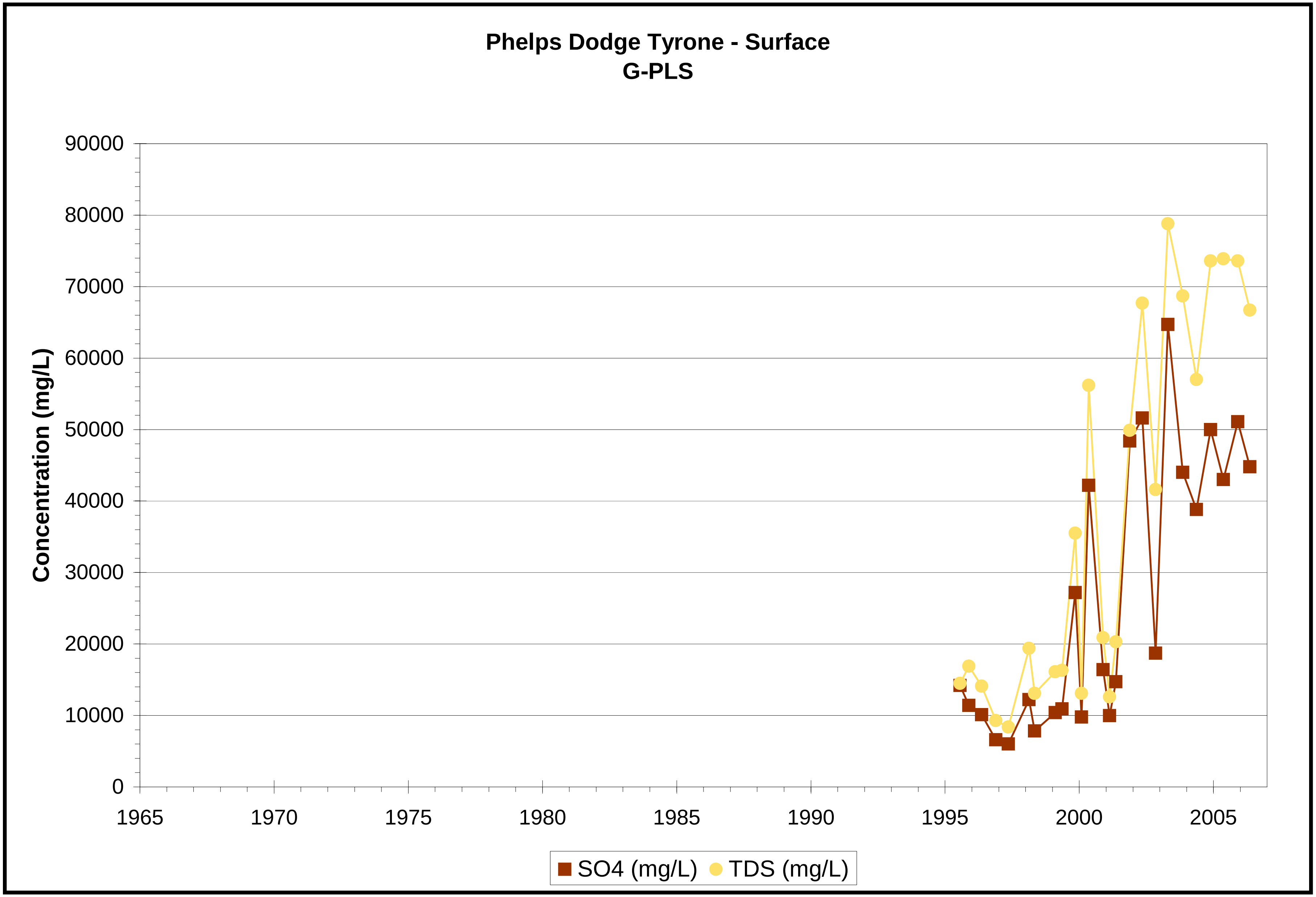

Phelps Dodge Tyrone - Surface
FS-4
Concentration (mg/L)
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Surface
FS-5
Concentration (mg/L)
900
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

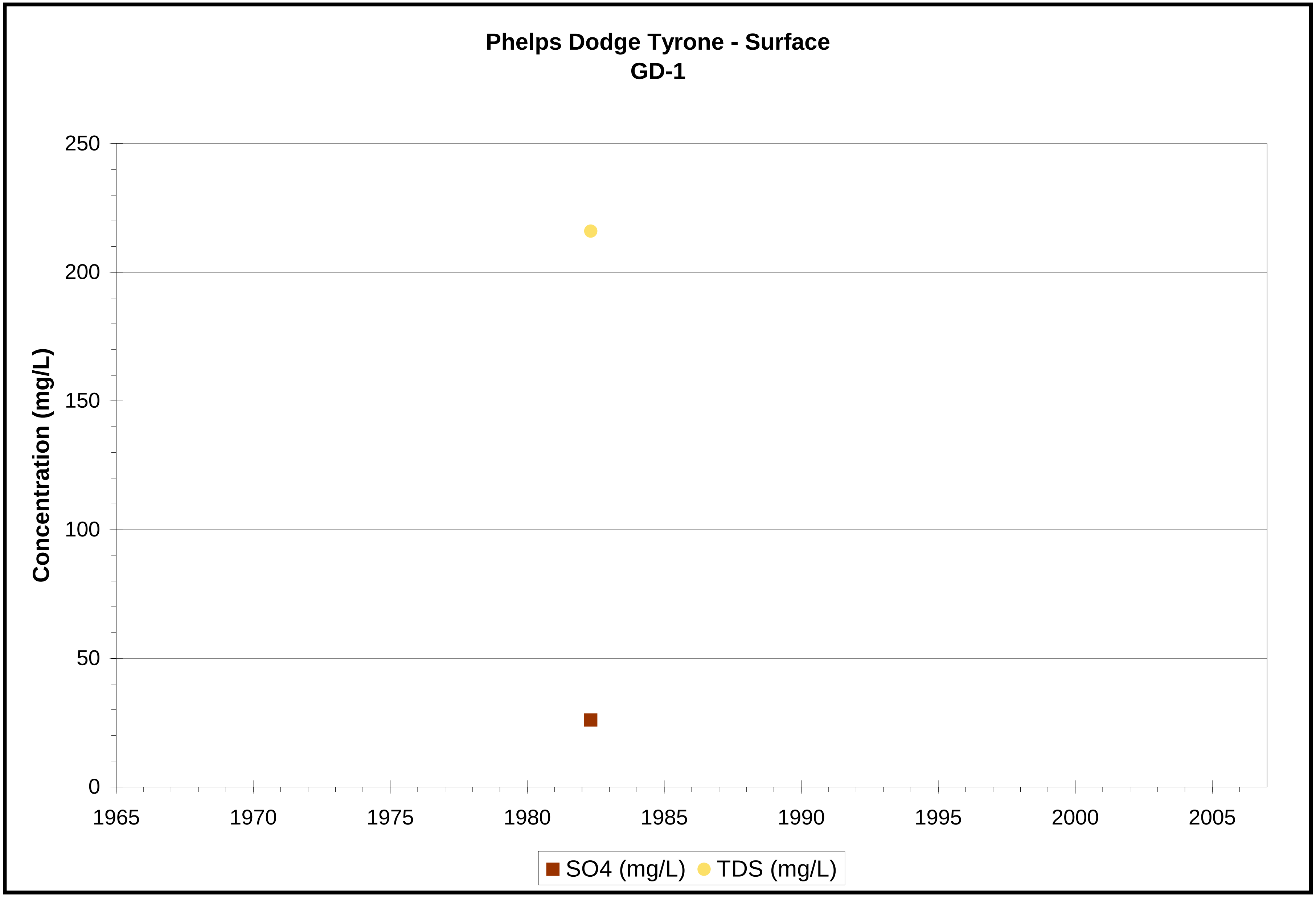

Phelps Dodge Tyrone - Surface
FS-6
Concentration (mg/L)
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



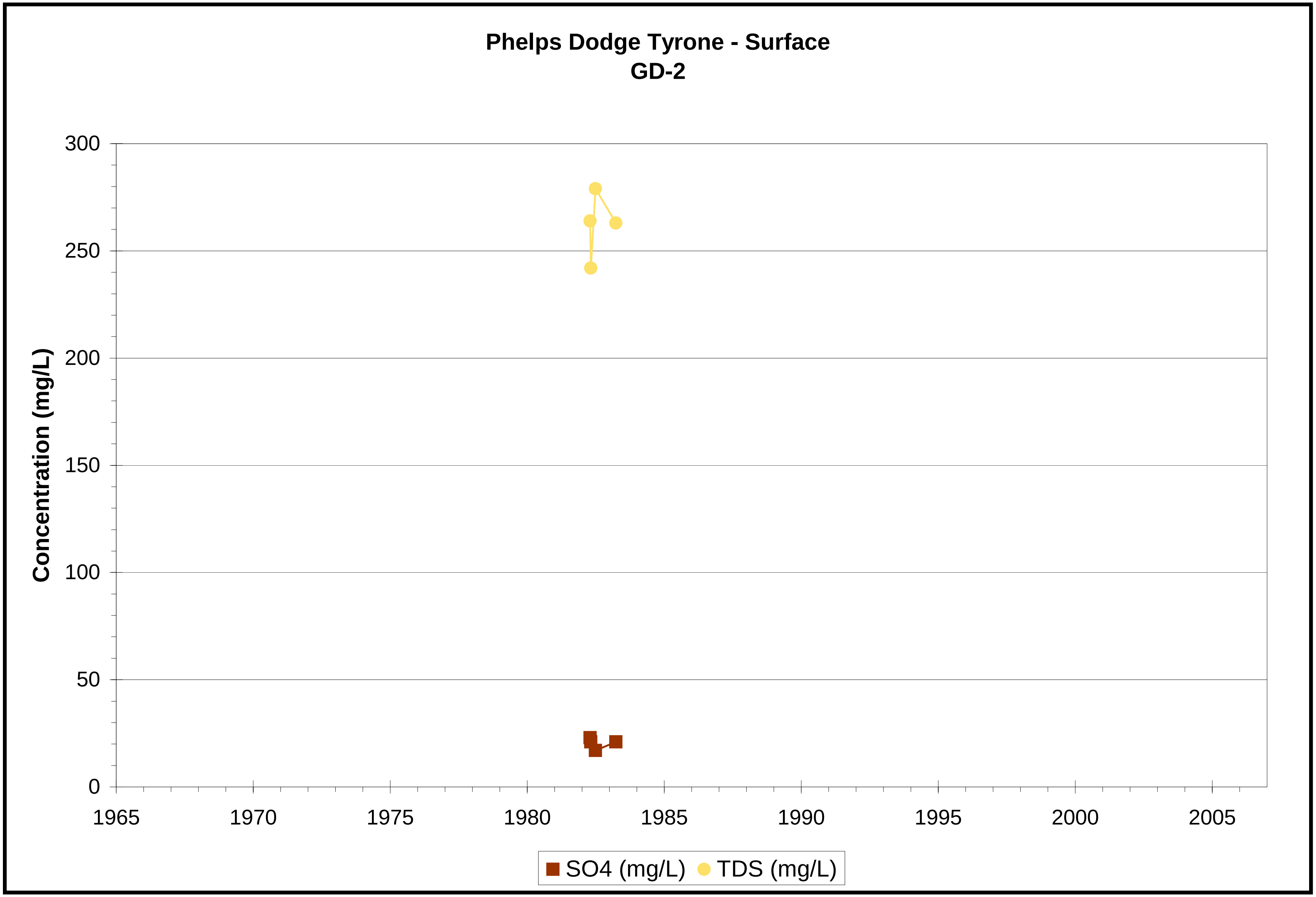
Phelps Dodge Tyrone - Surface
FTN
Concentration (mg/L)
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



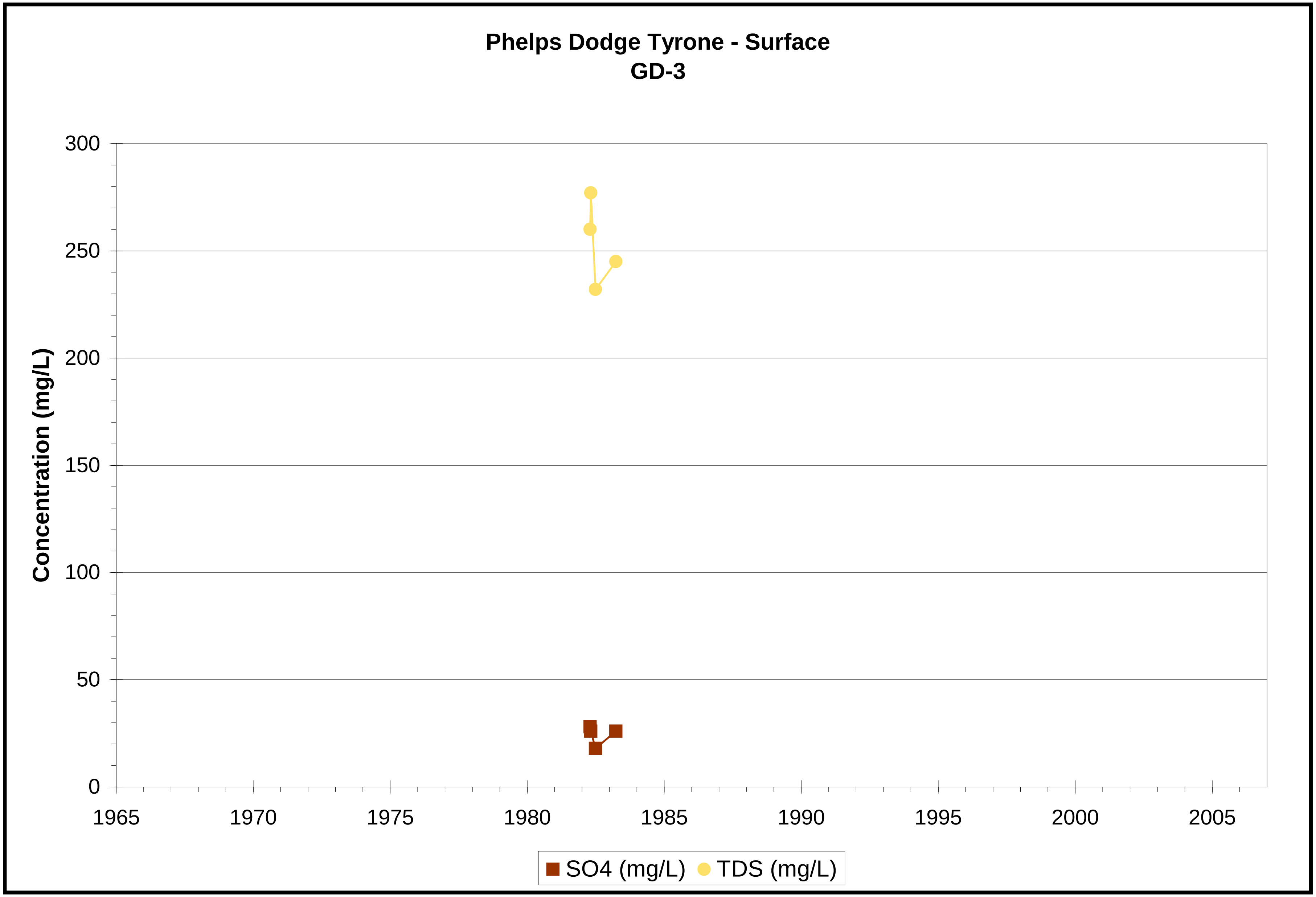
Phelps Dodge Tyrone - Surface
G-PLS
Concentration (mg/L)
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

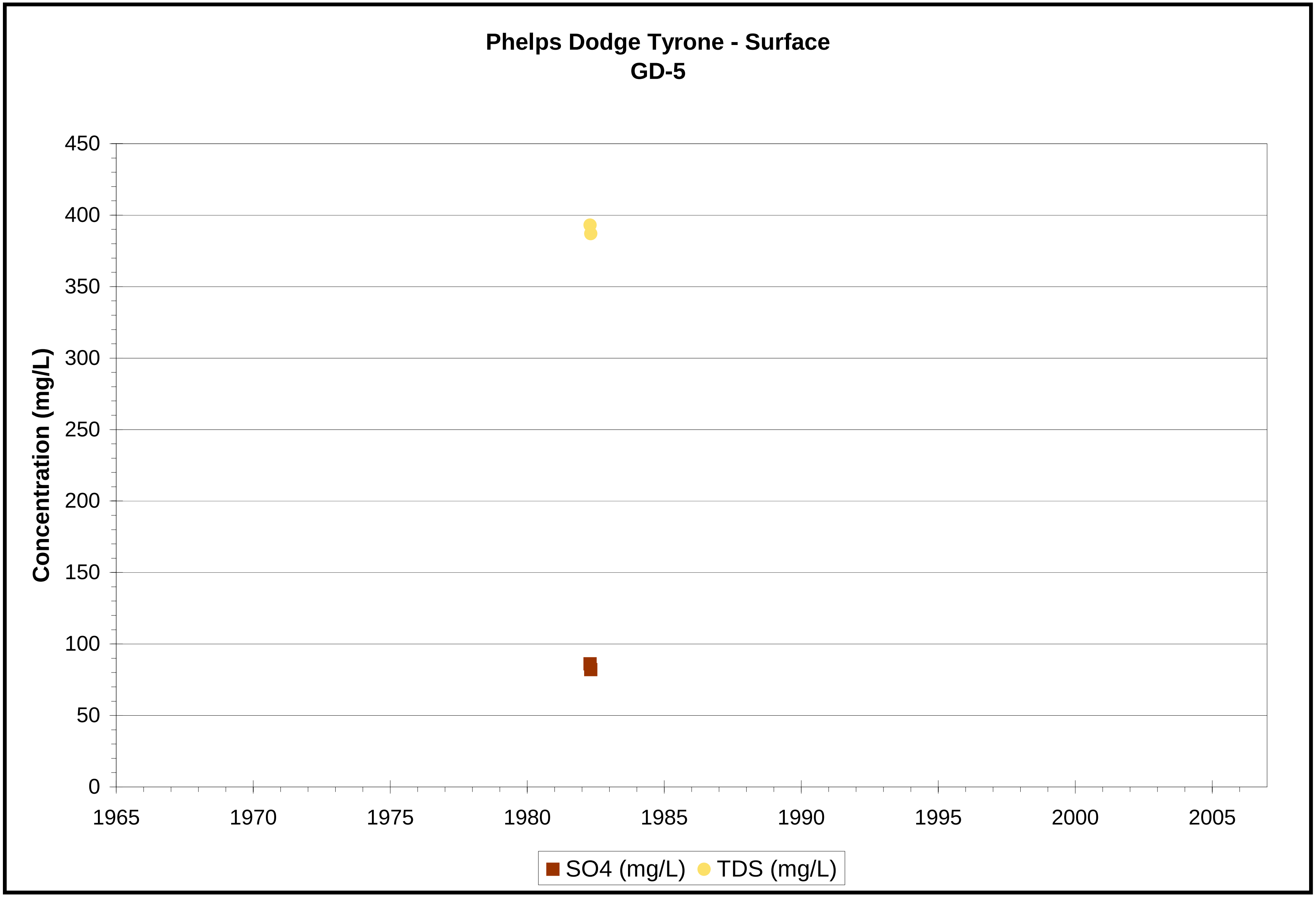


Phelps Dodge Tyrone - Surface
GD-1
Concentration (mg/L)
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

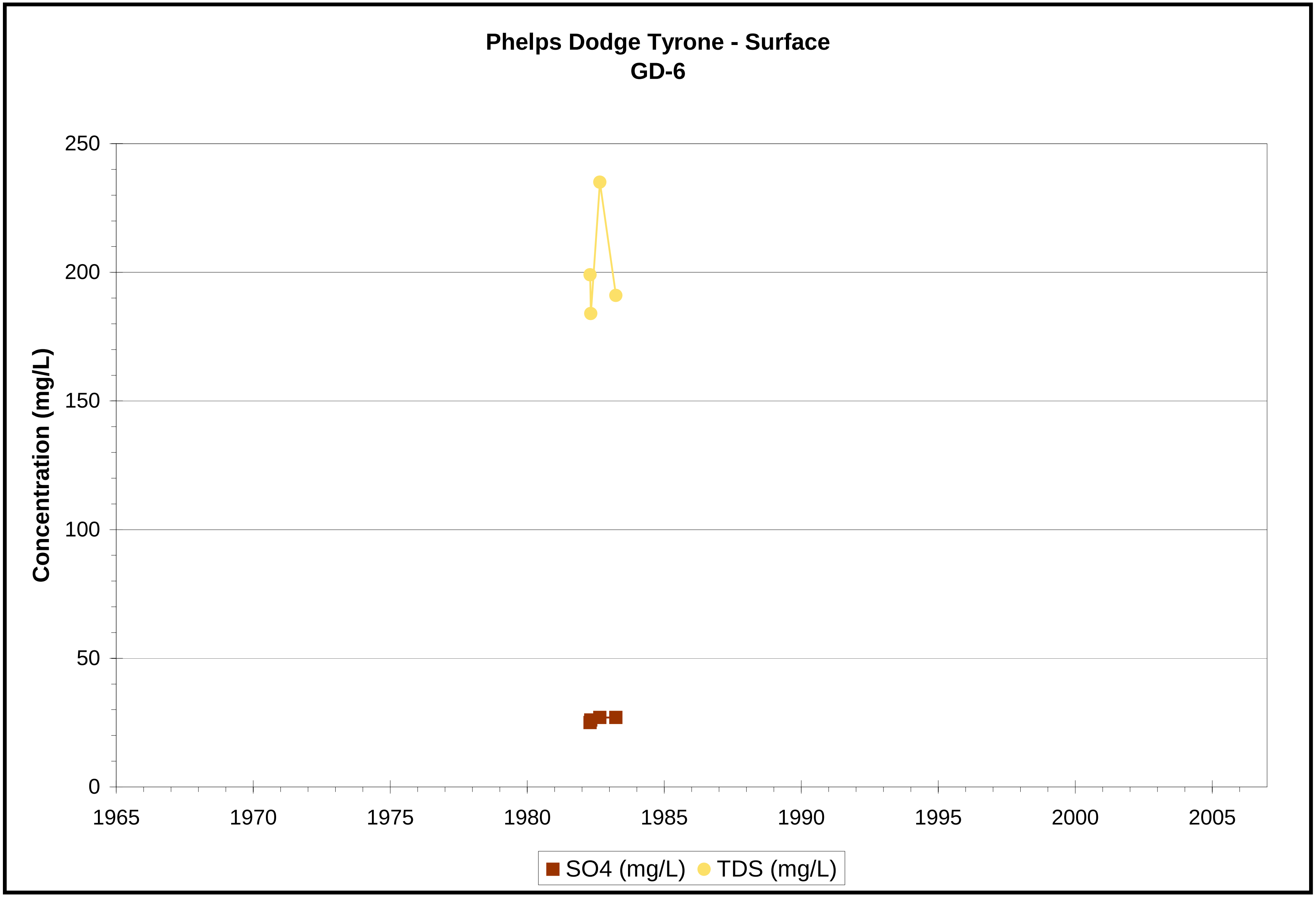


Phelps Dodge Tyrone - Surface
GD-2
Concentration (mg/L)
0
50
100
150
200
250
300
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

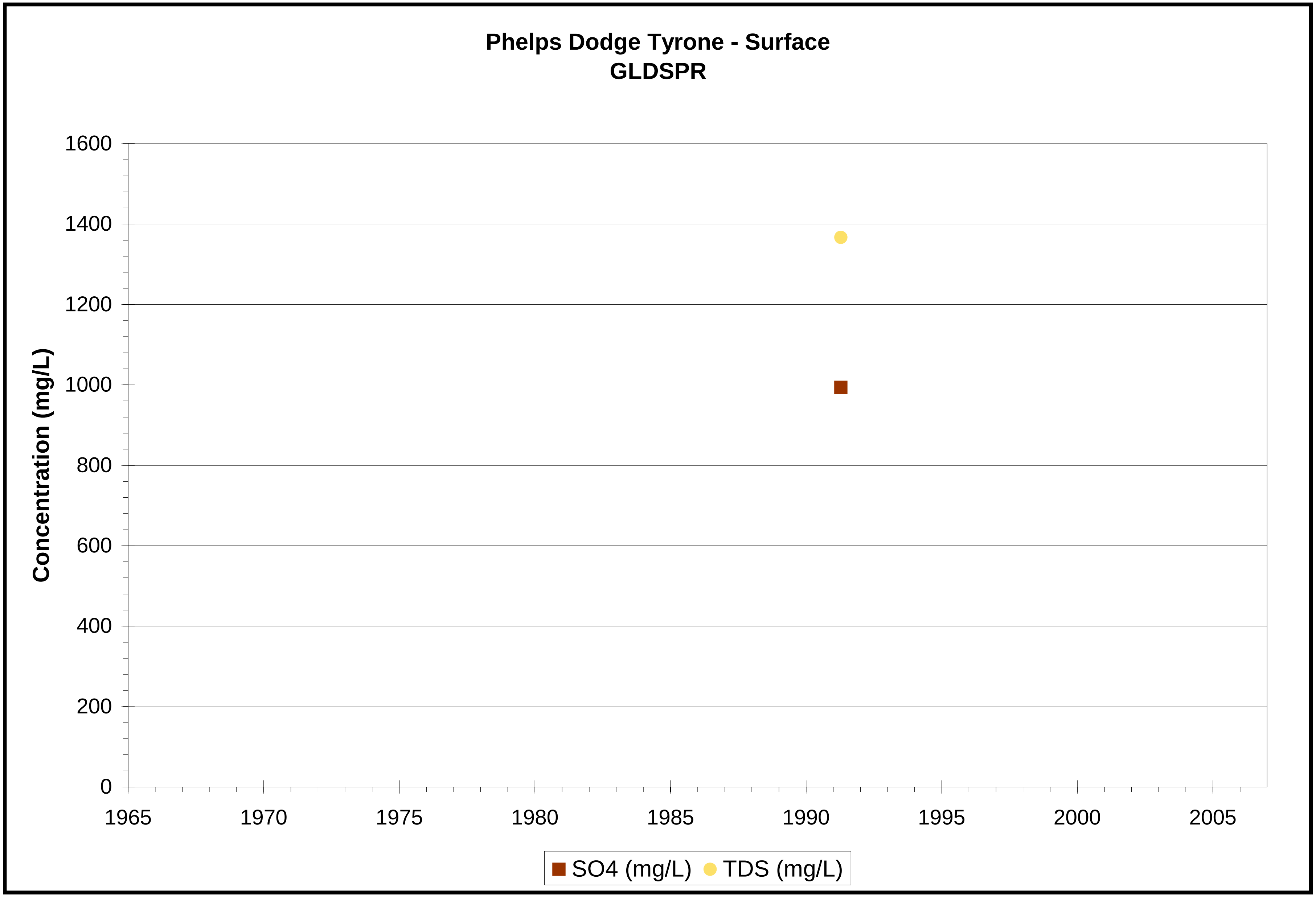

Phelps Dodge Tyrone - Surface
GD-3
Concentration (mg/L)
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



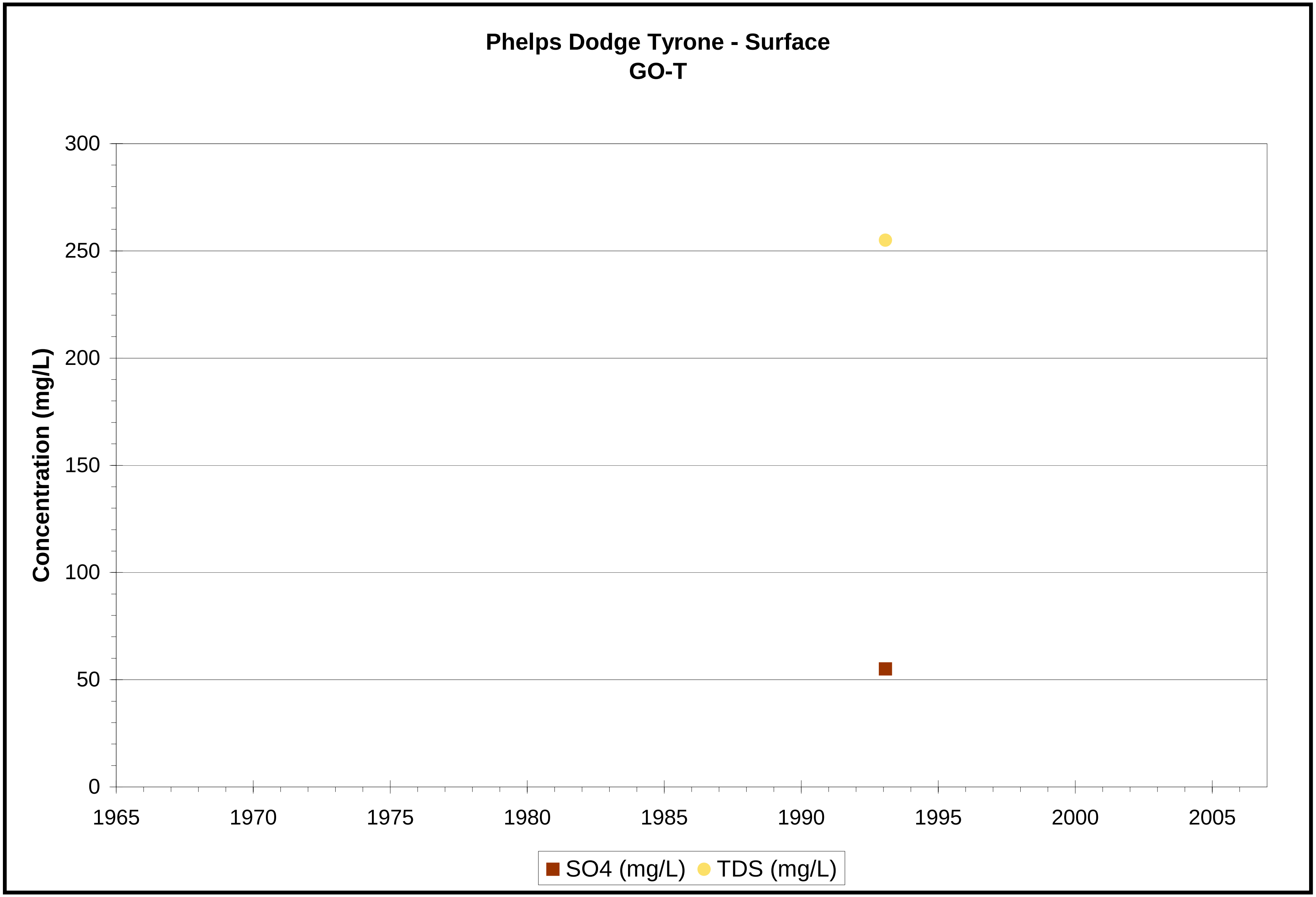
Phelps Dodge Tyrone - Surface
GD-5
Concentration (mg/L)
0
50
100
150
200
250
300
350
400
450
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

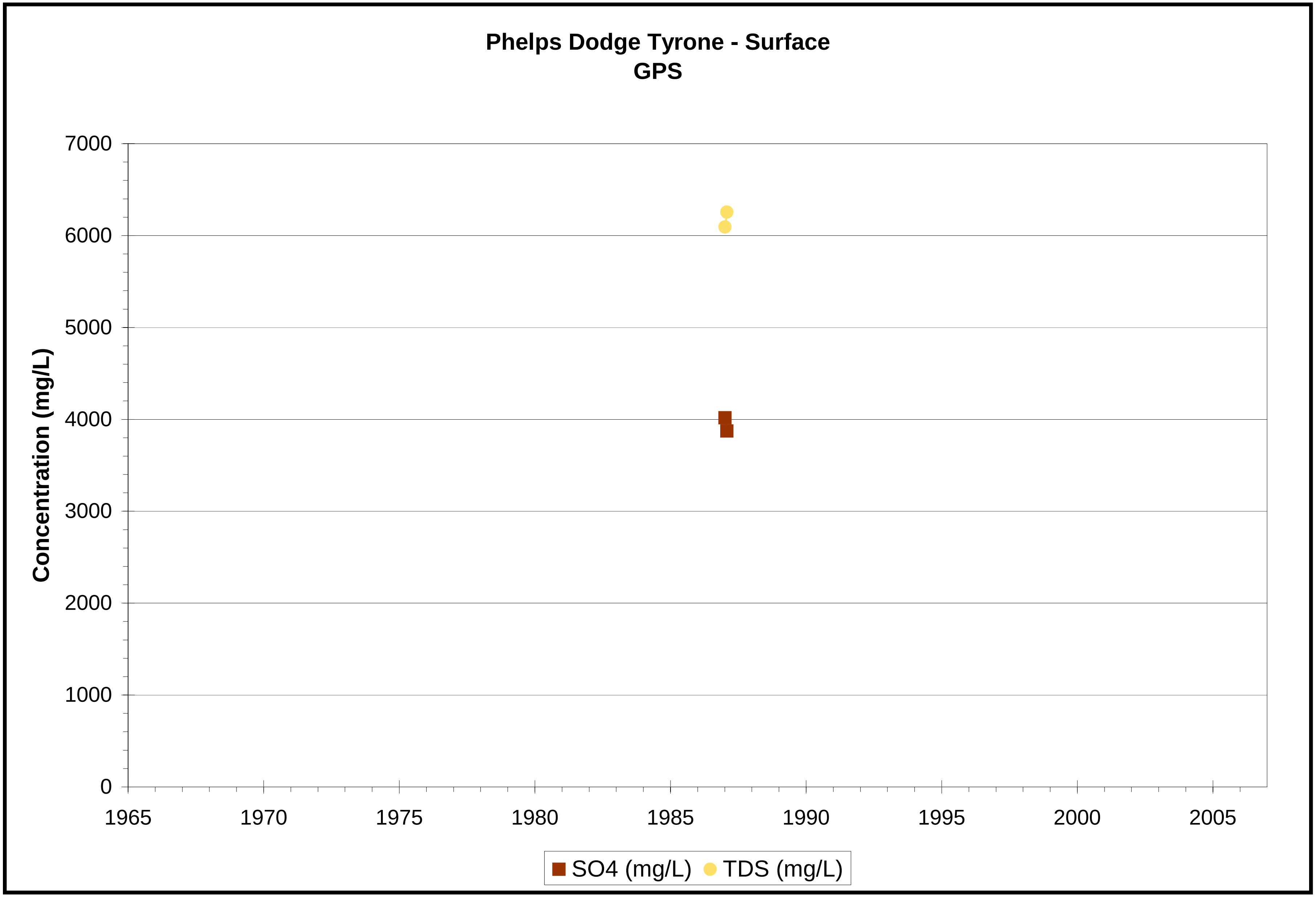


Phelps Dodge Tyrone - Surface
GD-6
Concentration (mg/L)
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

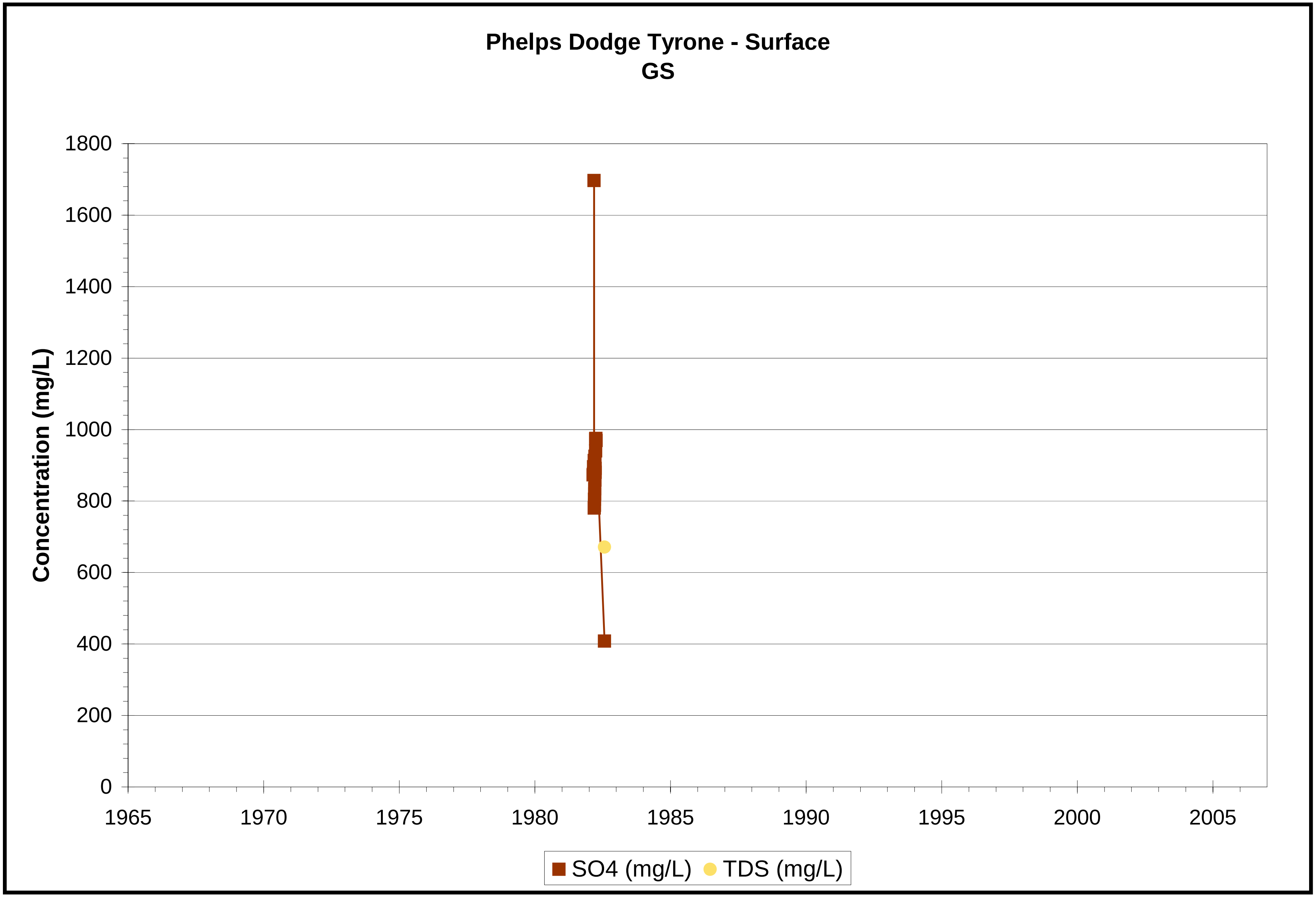


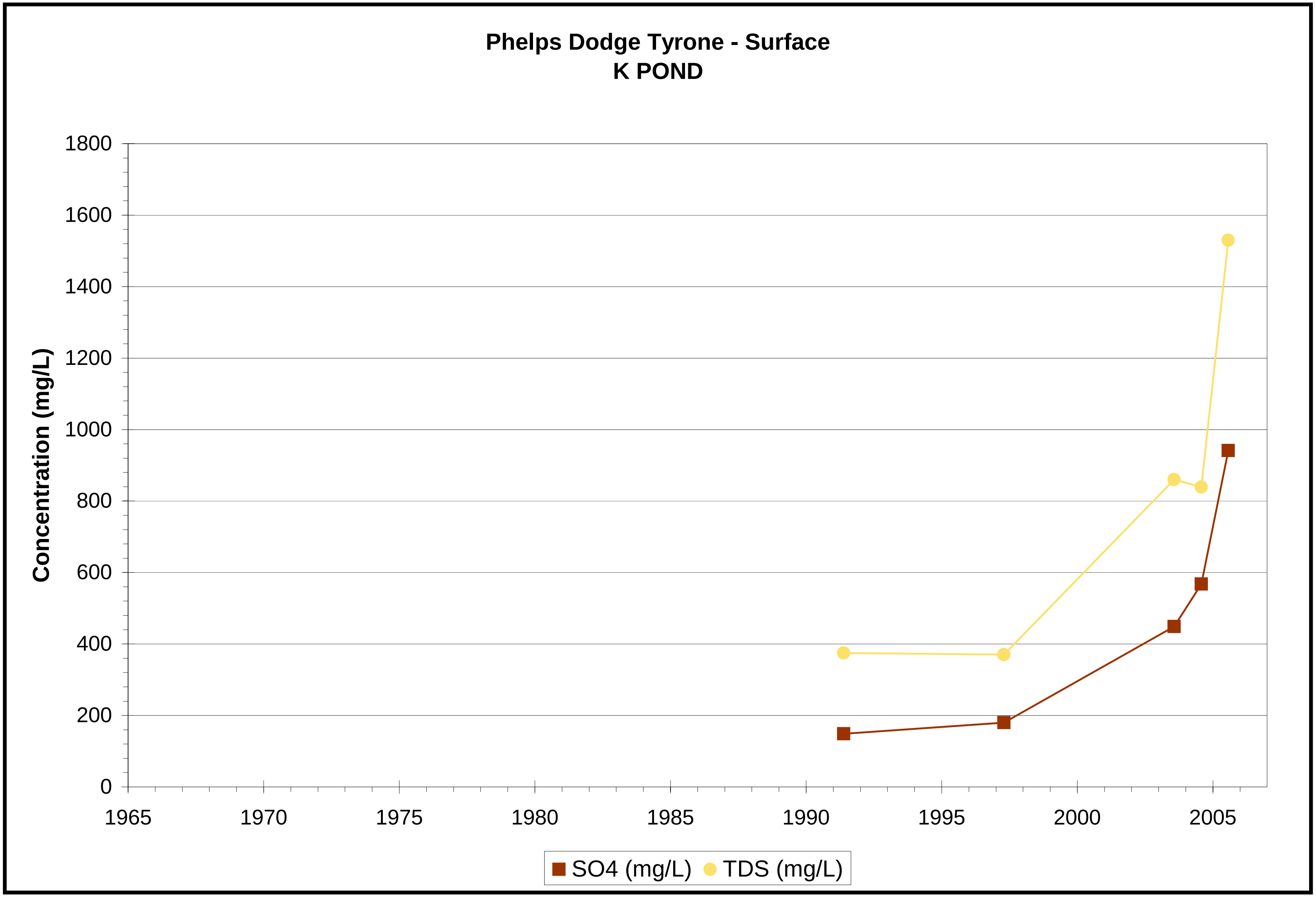
Phelps Dodge Tyrone - Surface
GLDSPR
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Surface
GO-T
Concentration (mg/L)
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

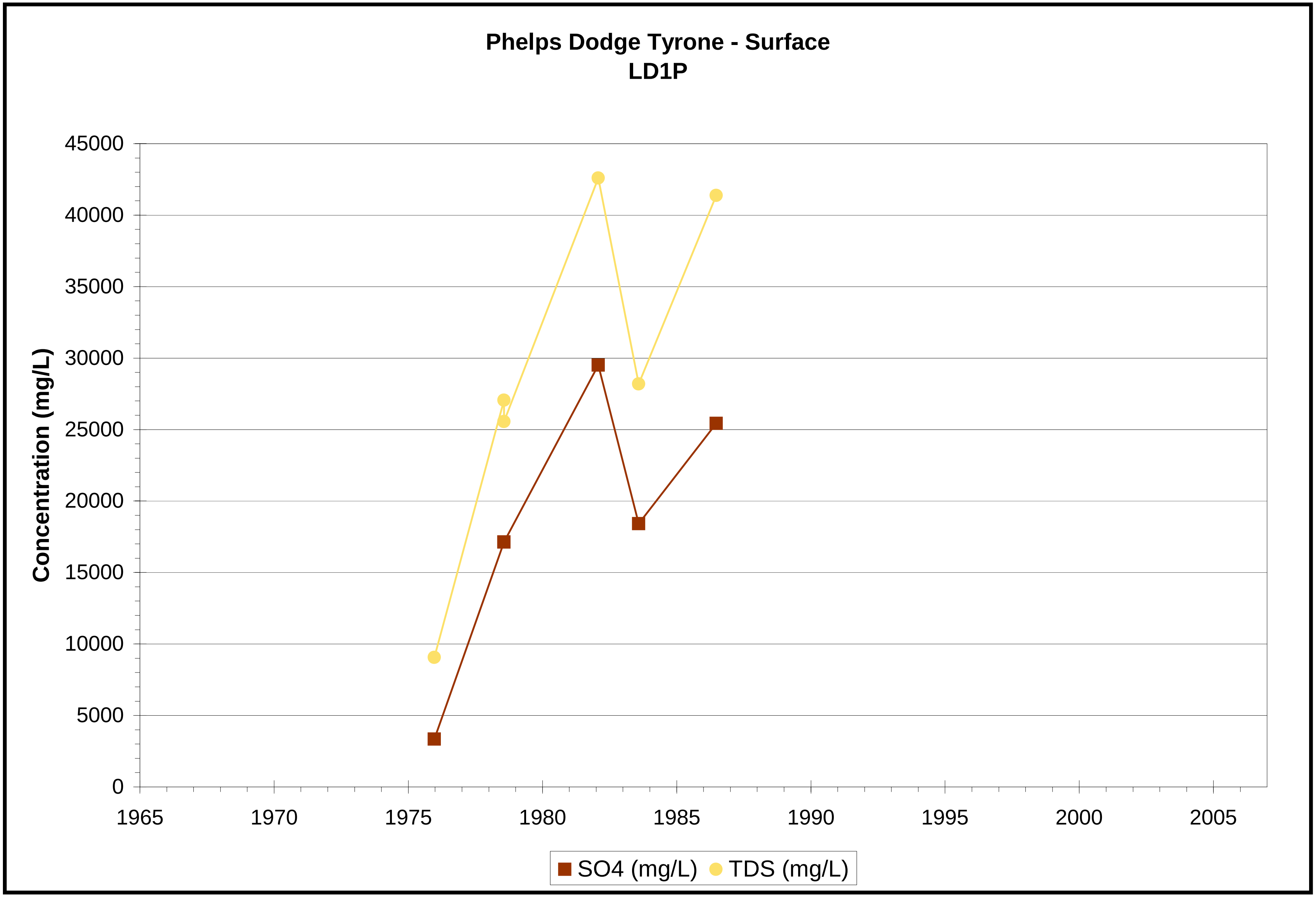


Phelps Dodge Tyrone - Surface
GPS
Concentration (mg/L)
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

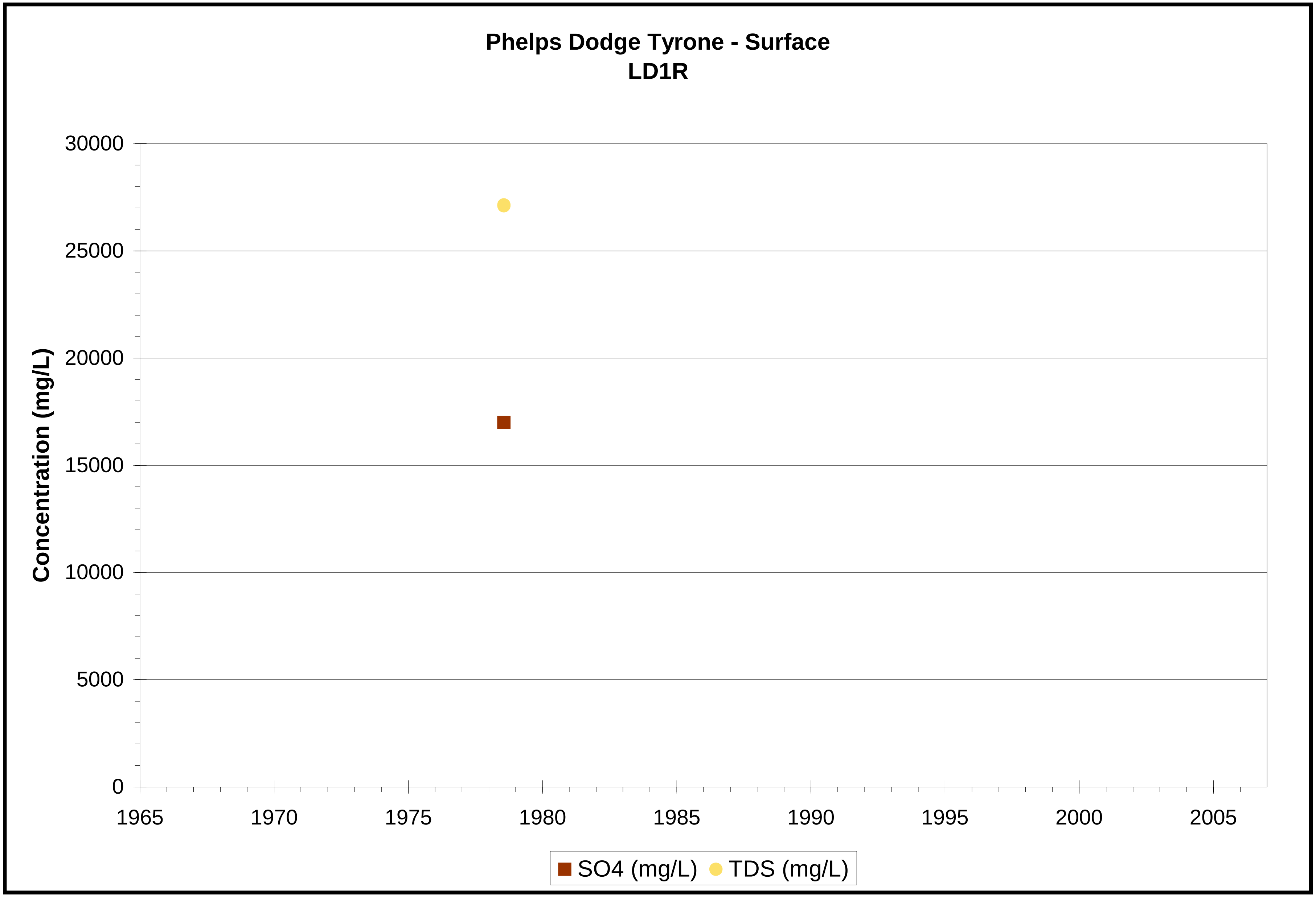

Phelps Dodge Tyrone - Surface
GS
Concentration (mg/L)
1800
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

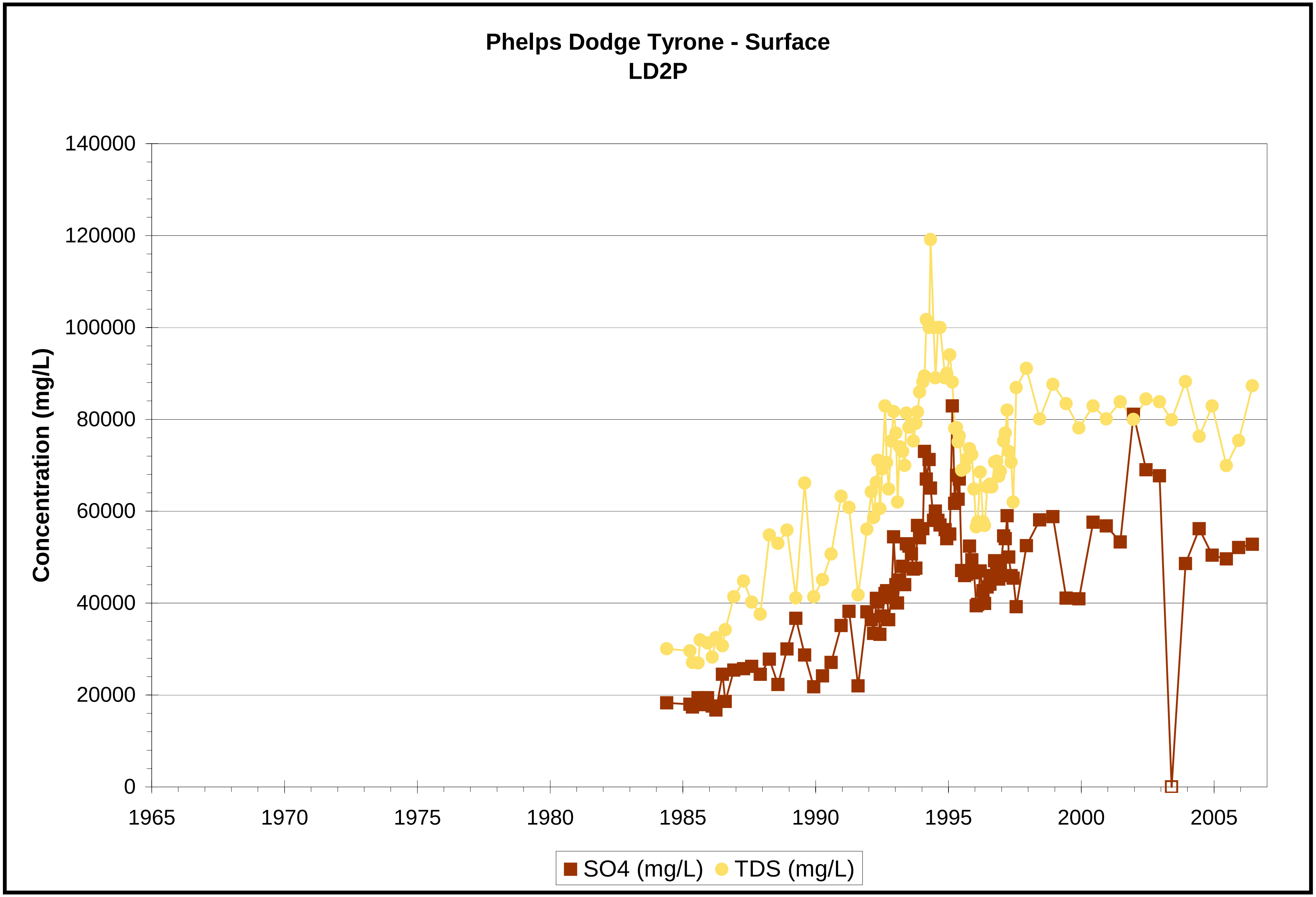


Phelps Dodge Tyrone - Surface
K POND
Concentration (mg/L)
1800
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

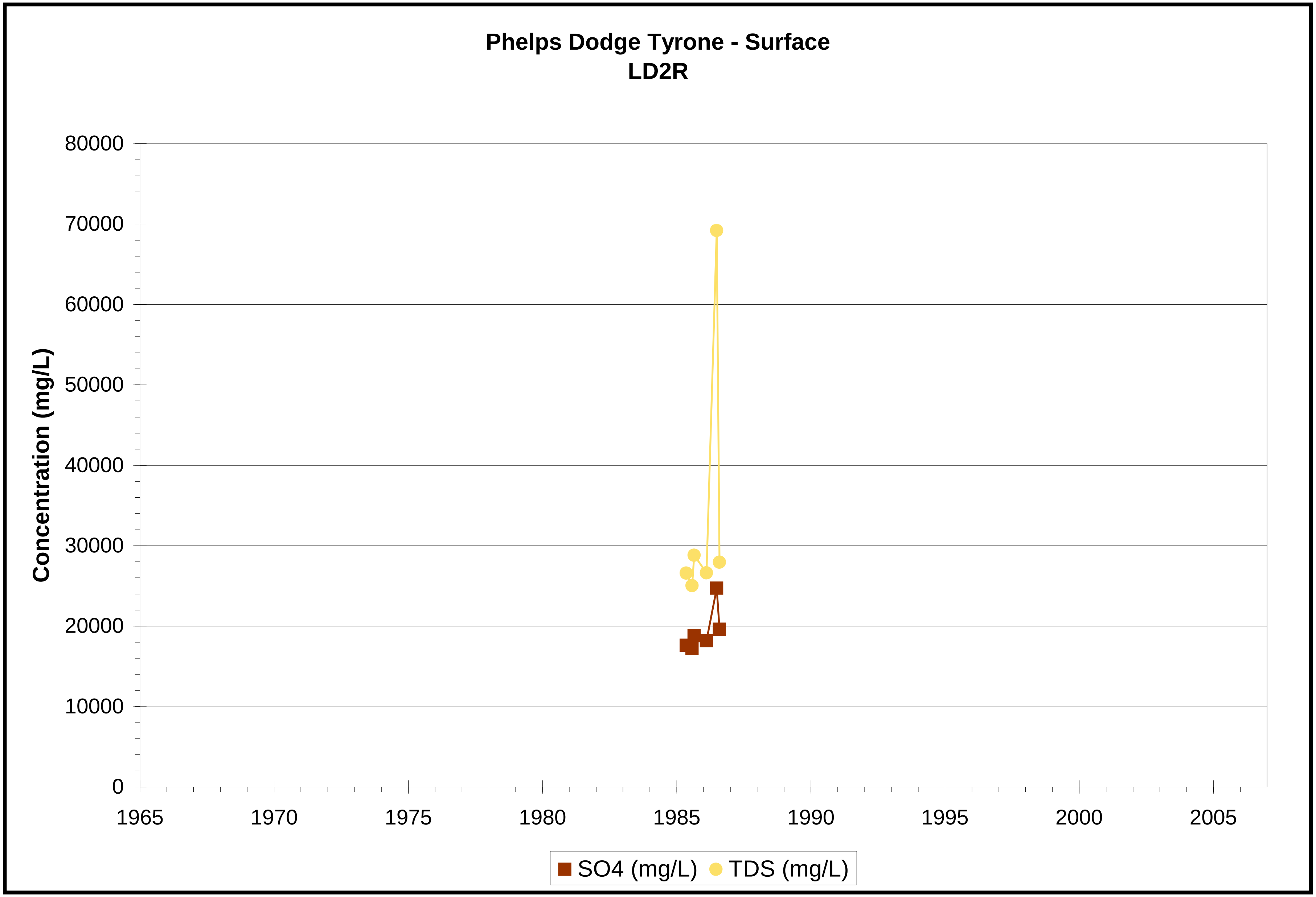


Phelps Dodge Tyrone - Surface
LD1P
Concentration (mg/L)
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

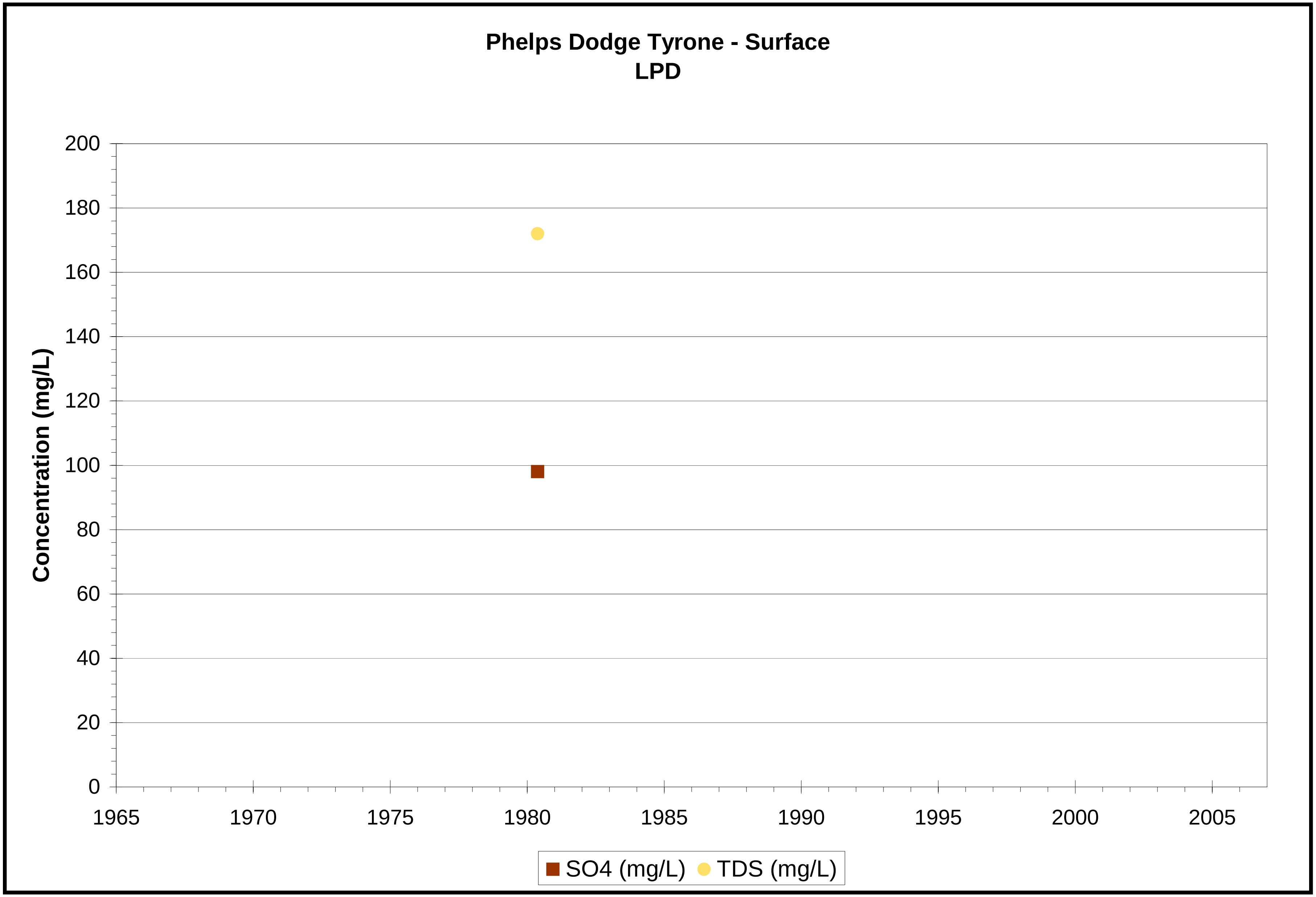

Phelps Dodge Tyrone - Surface
LD1R
Concentration (mg/L)
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



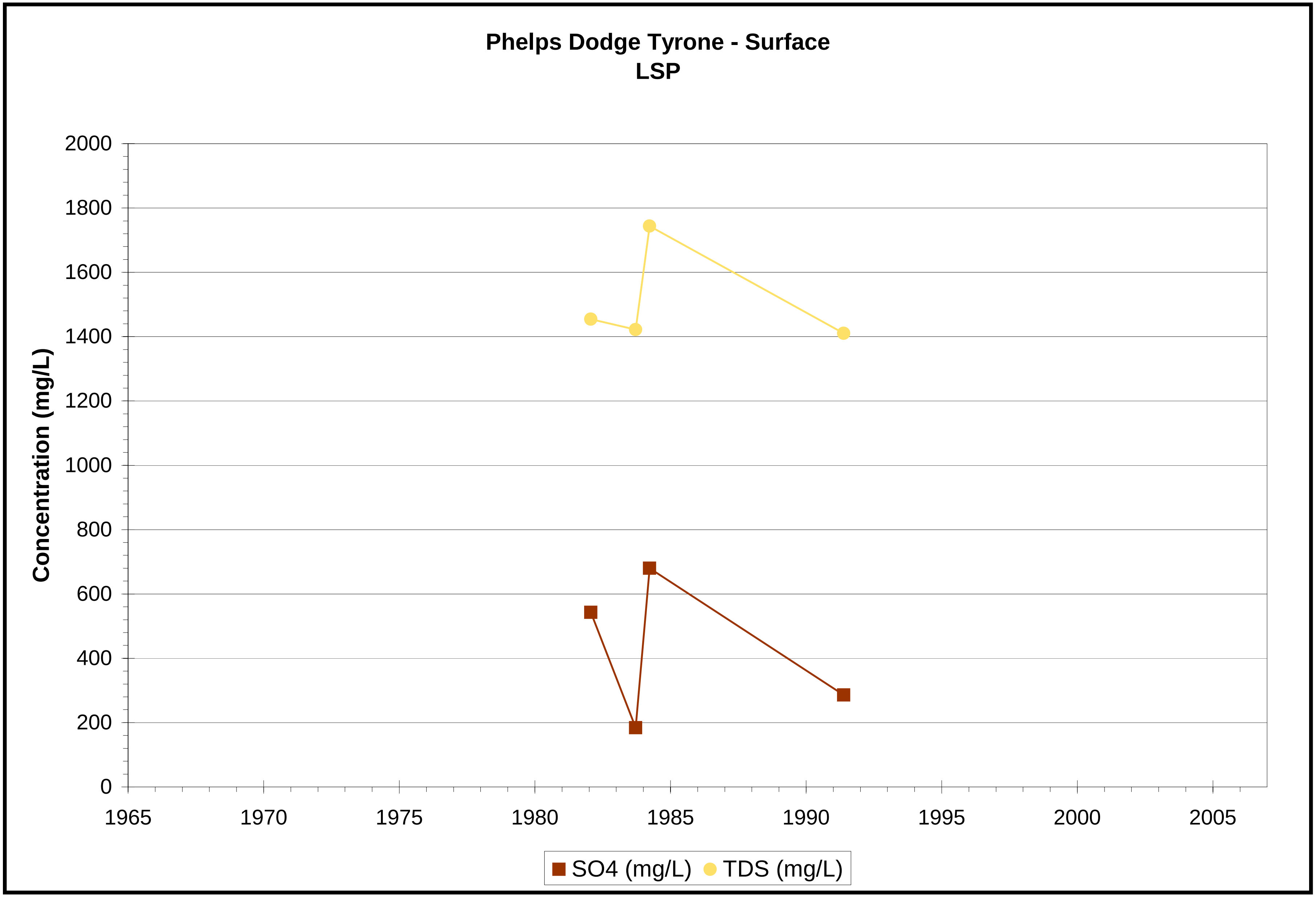
Phelps Dodge Tyrone - Surface
LD2P
Concentration (mg/L)
140000
120000
100000
80000
60000
40000
20000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



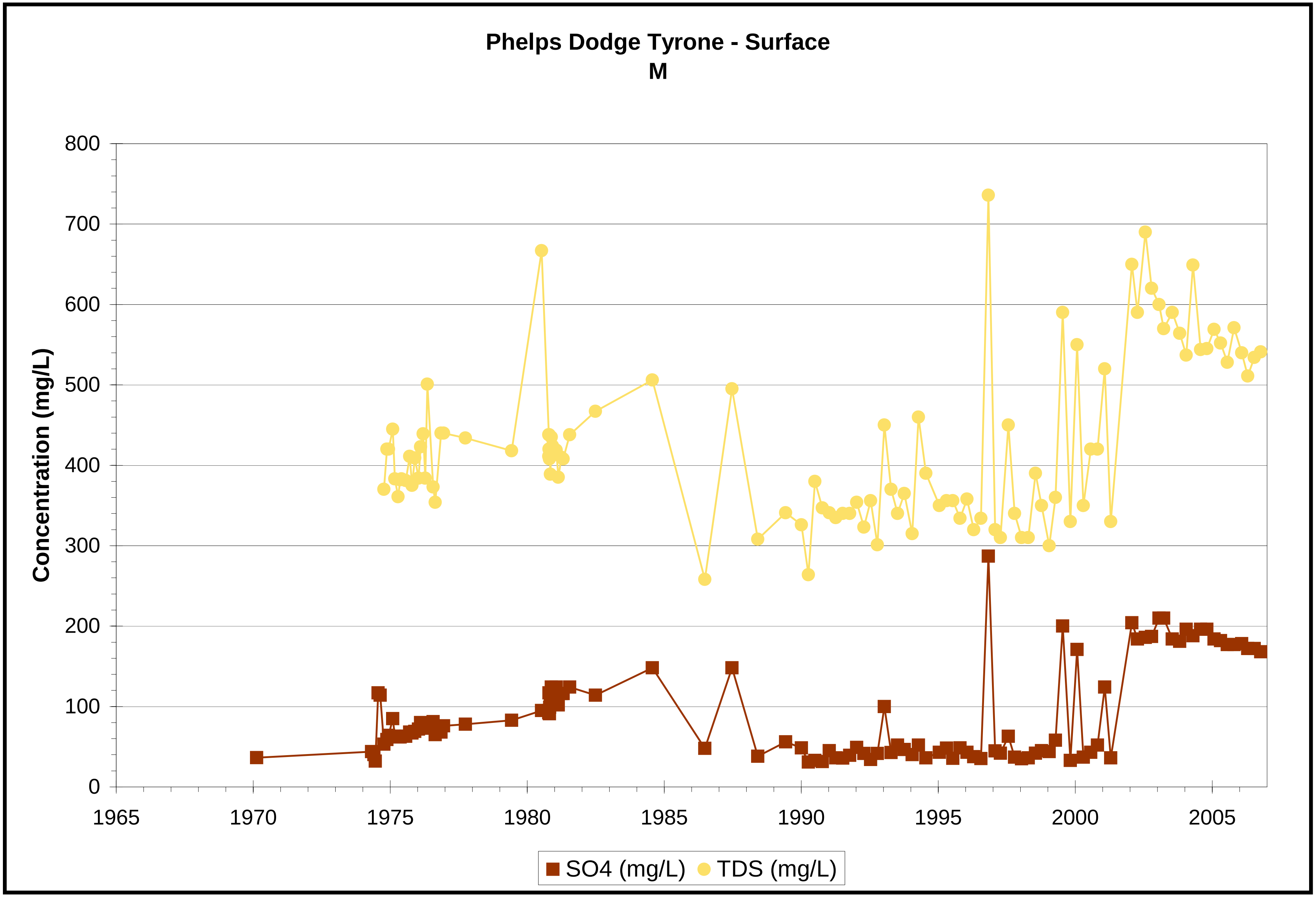
Phelps Dodge Tyrone - Surface
LD2R
Concentration (mg/L)
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



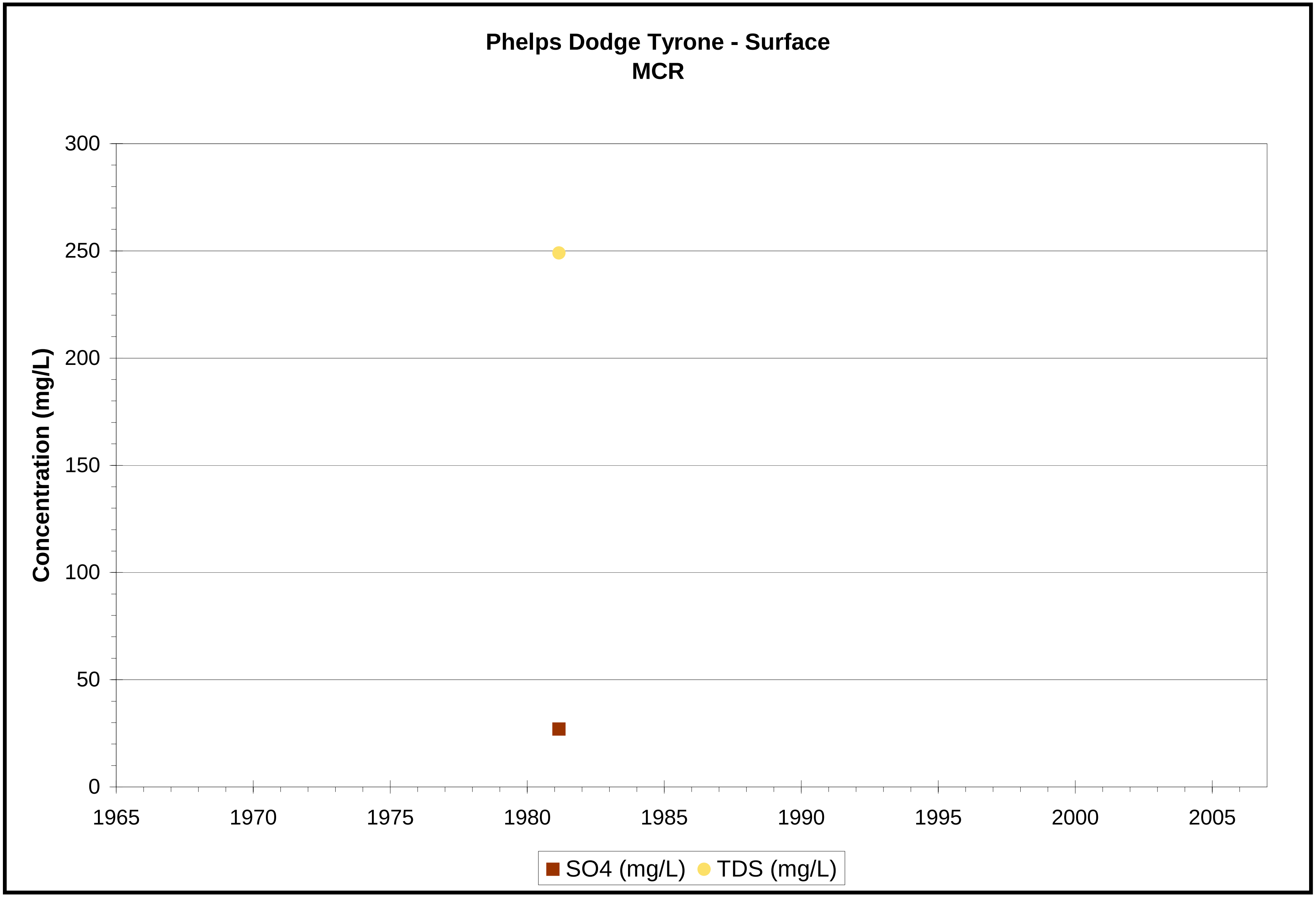
Phelps Dodge Tyrone - Surface
LPD
Concentration (mg/L)
0
20
40
60
80
100
120
140
160
180
200
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

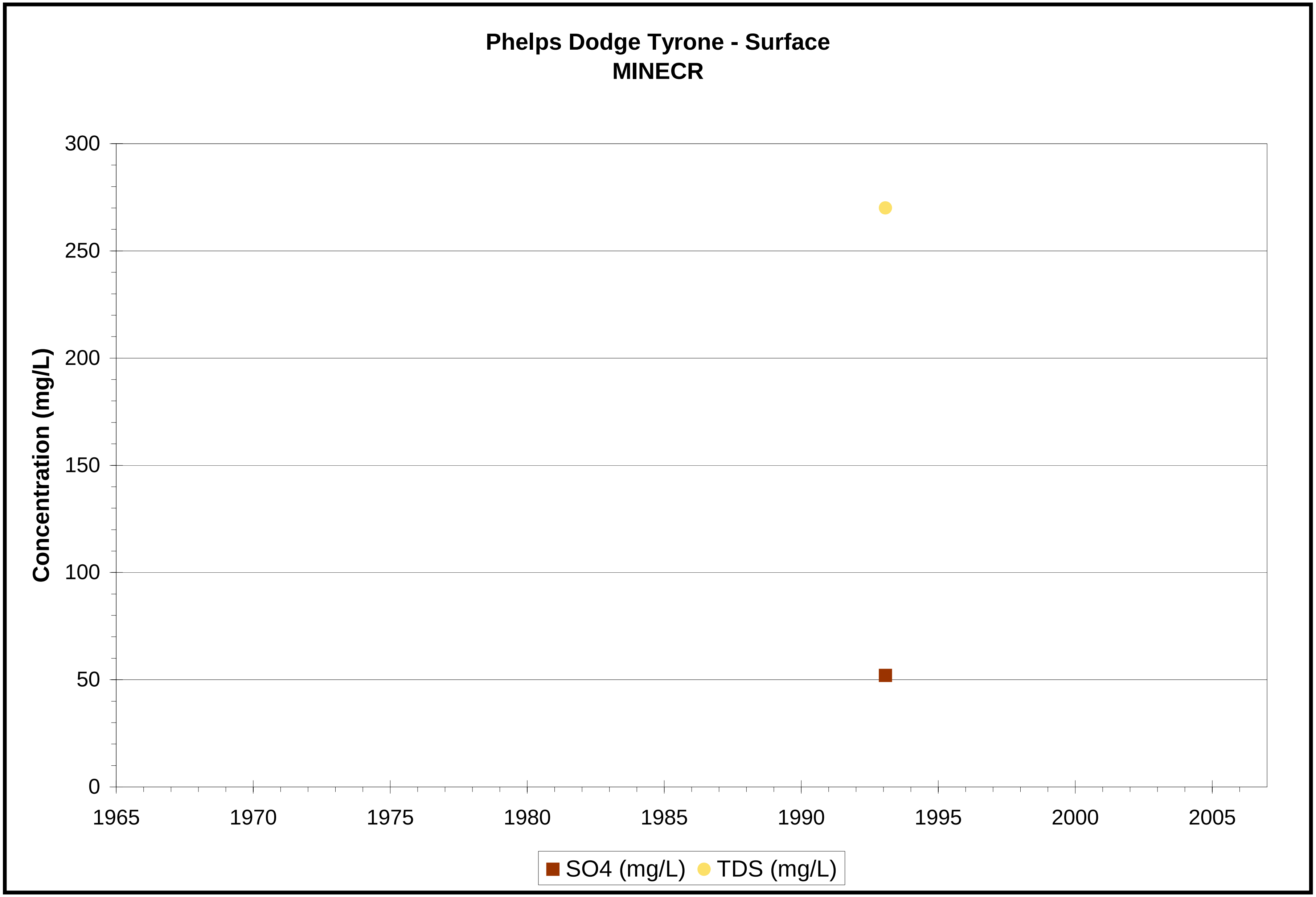


Phelps Dodge Tyrone - Surface
LSP
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1800
2000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

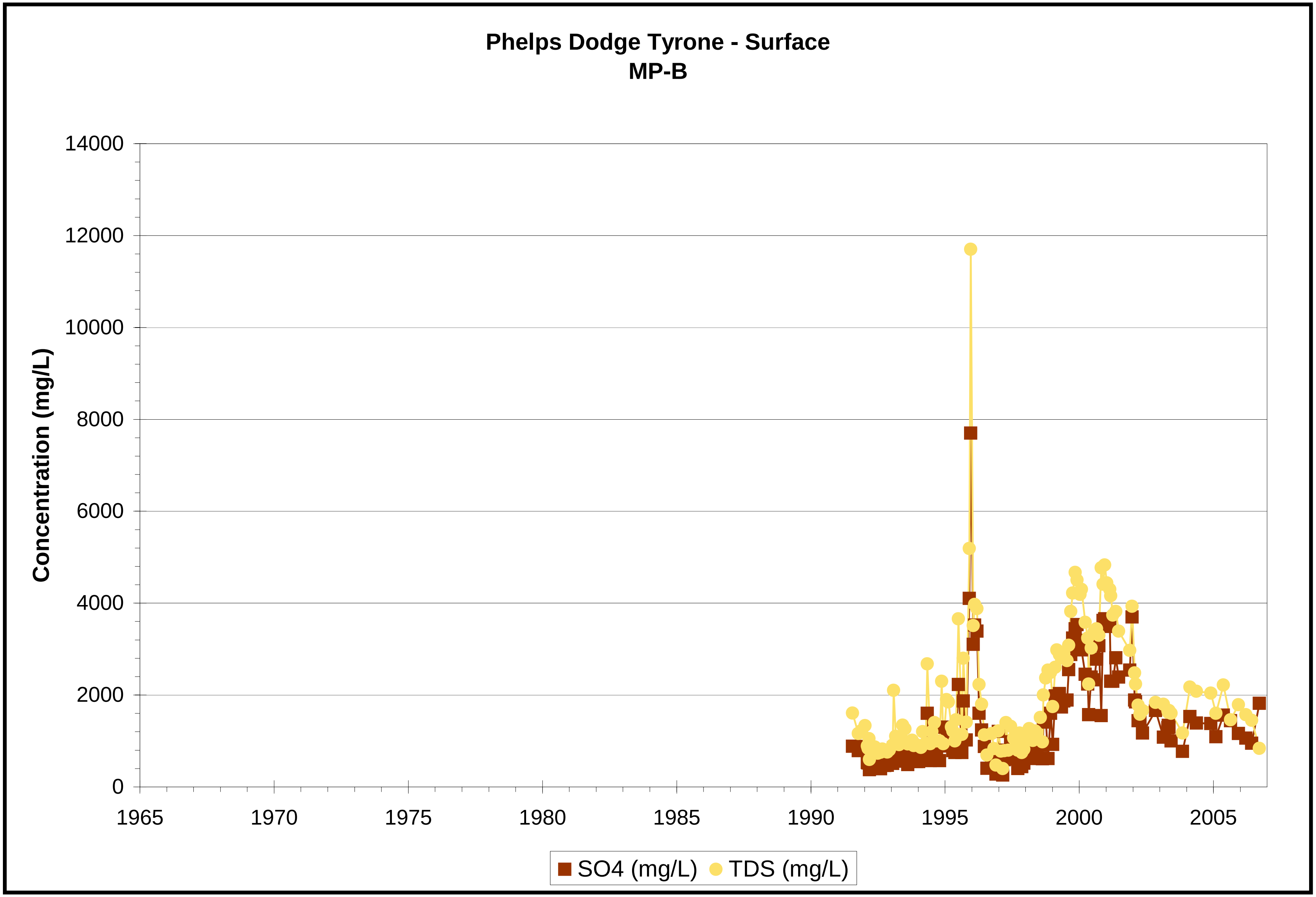


Phelps Dodge Tyrone - Surface
M
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

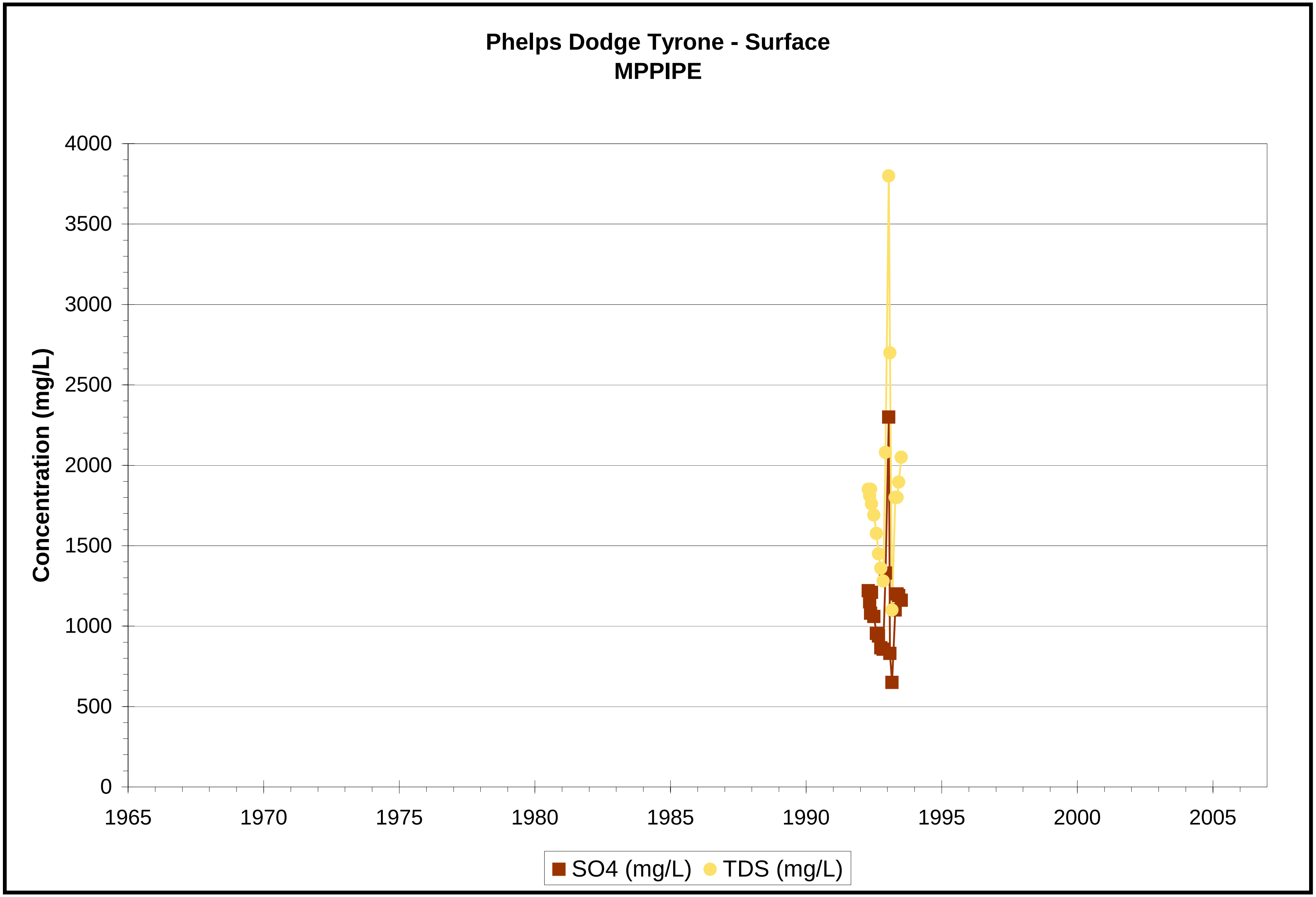

Phelps Dodge Tyrone - Surface
MCR
Concentration (mg/L)
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



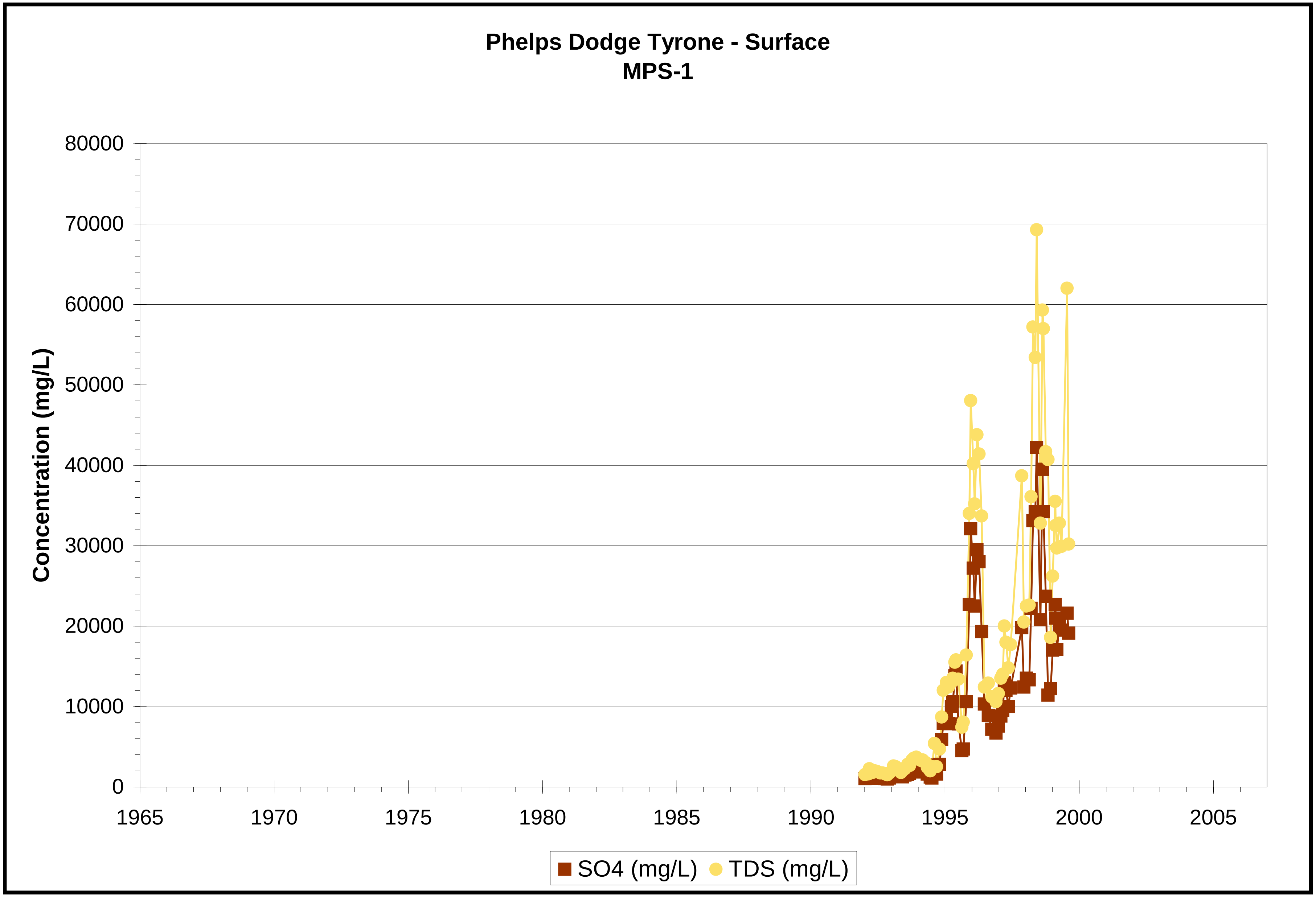
Phelps Dodge Tyrone - Surface
MINECR
Concentration (mg/L)
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

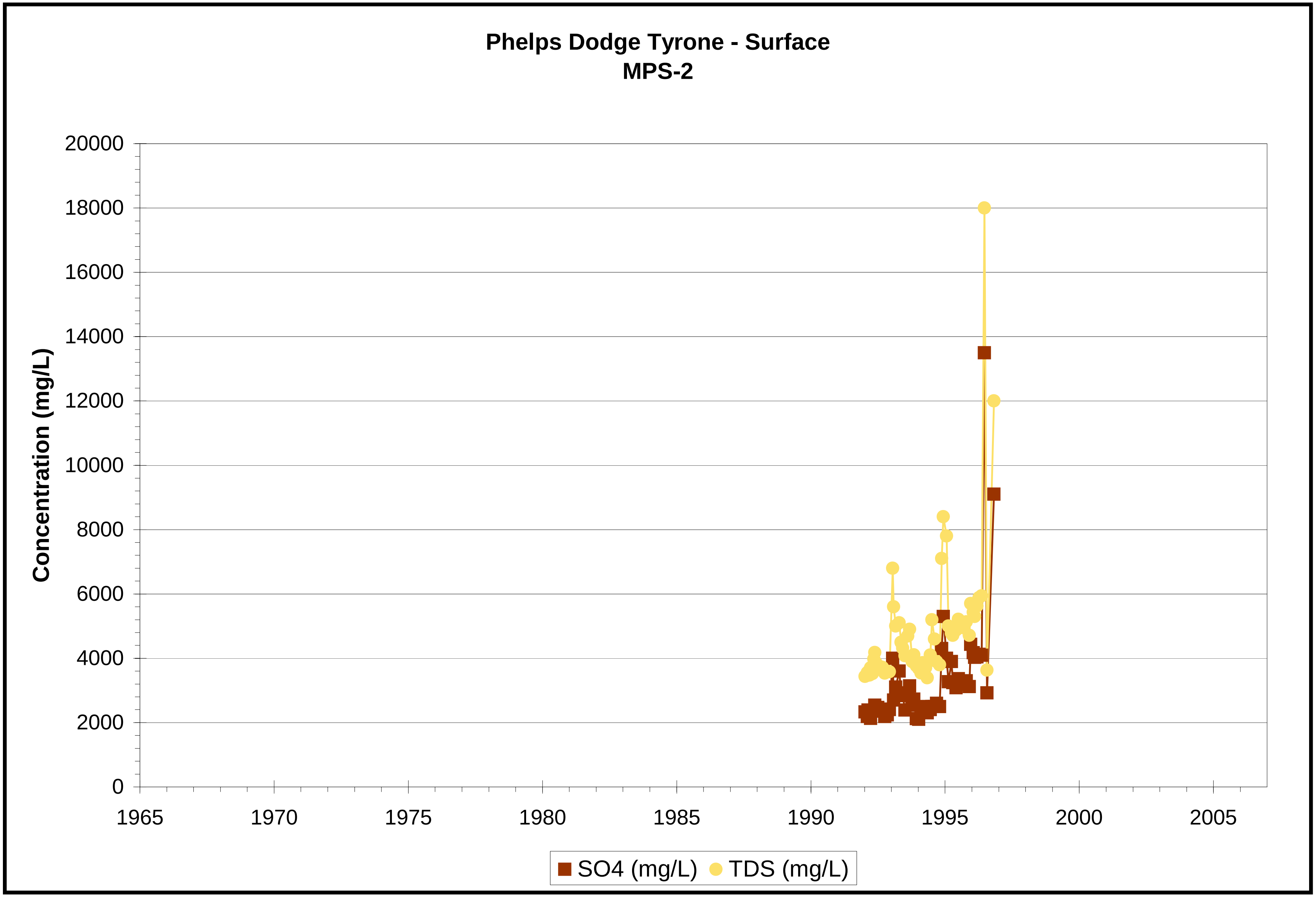


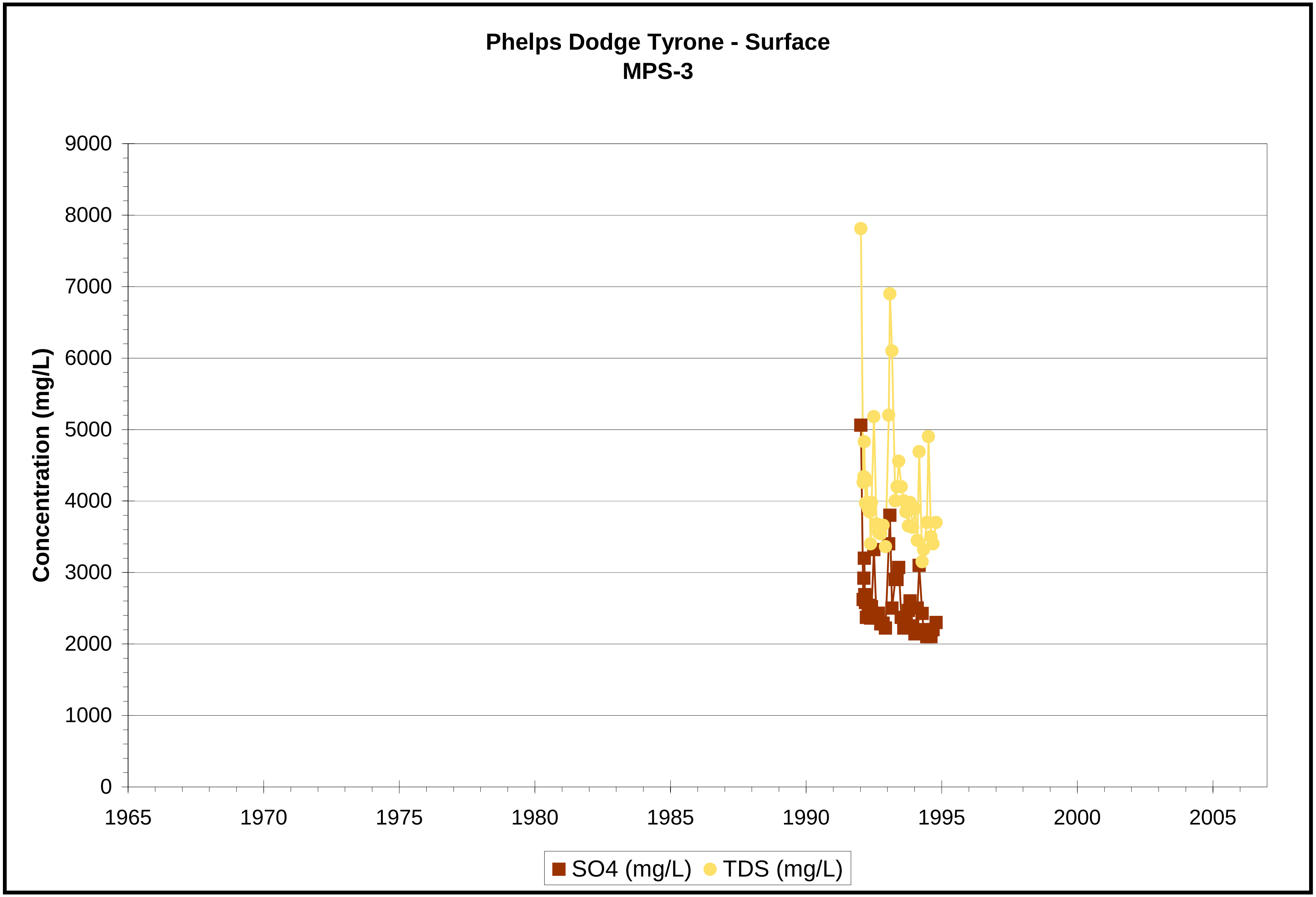
Phelps Dodge Tyrone - Surface
MP-B
Concentration (mg/L)
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



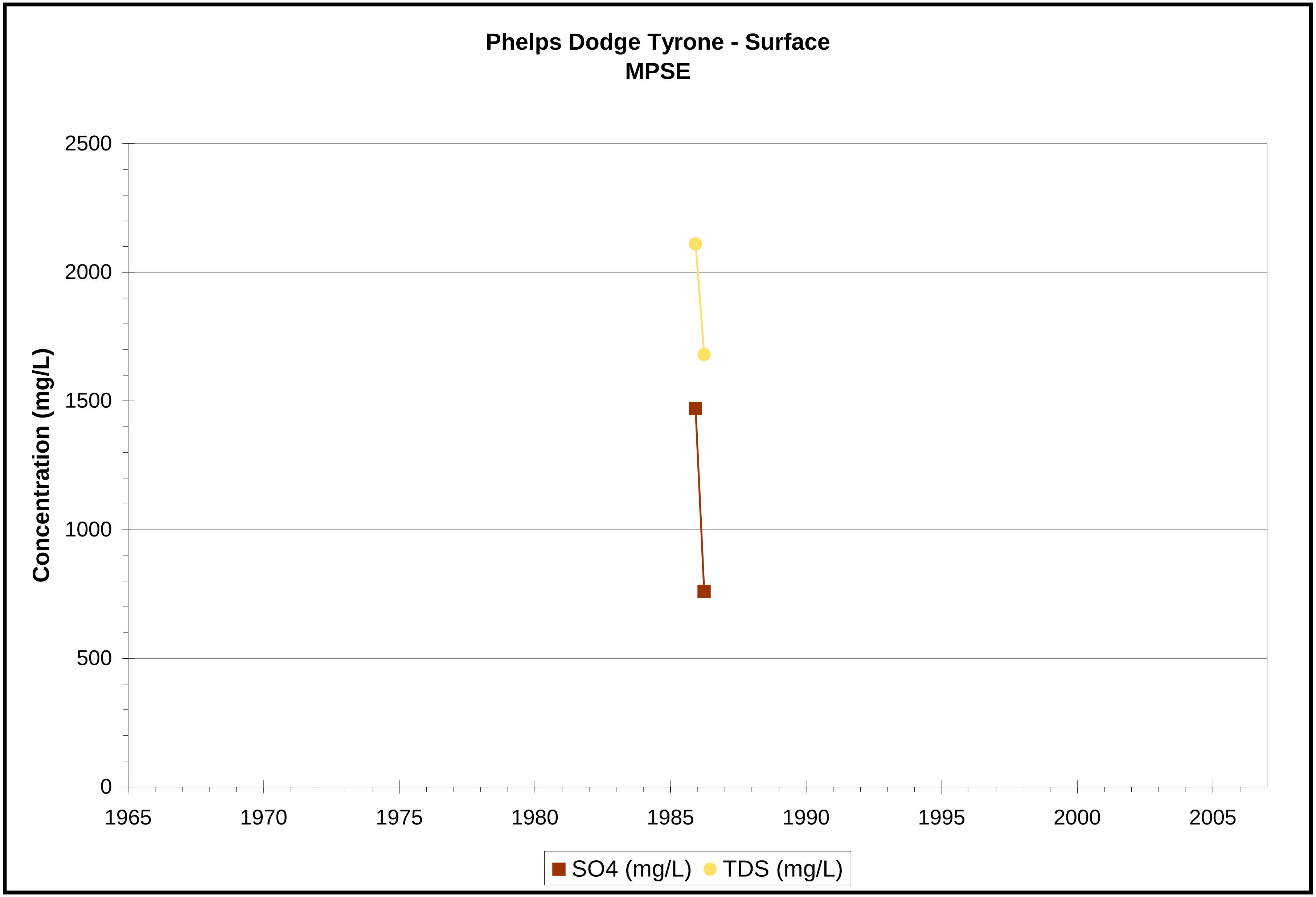
Phelps Dodge Tyrone - Surface
MPPIPE
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

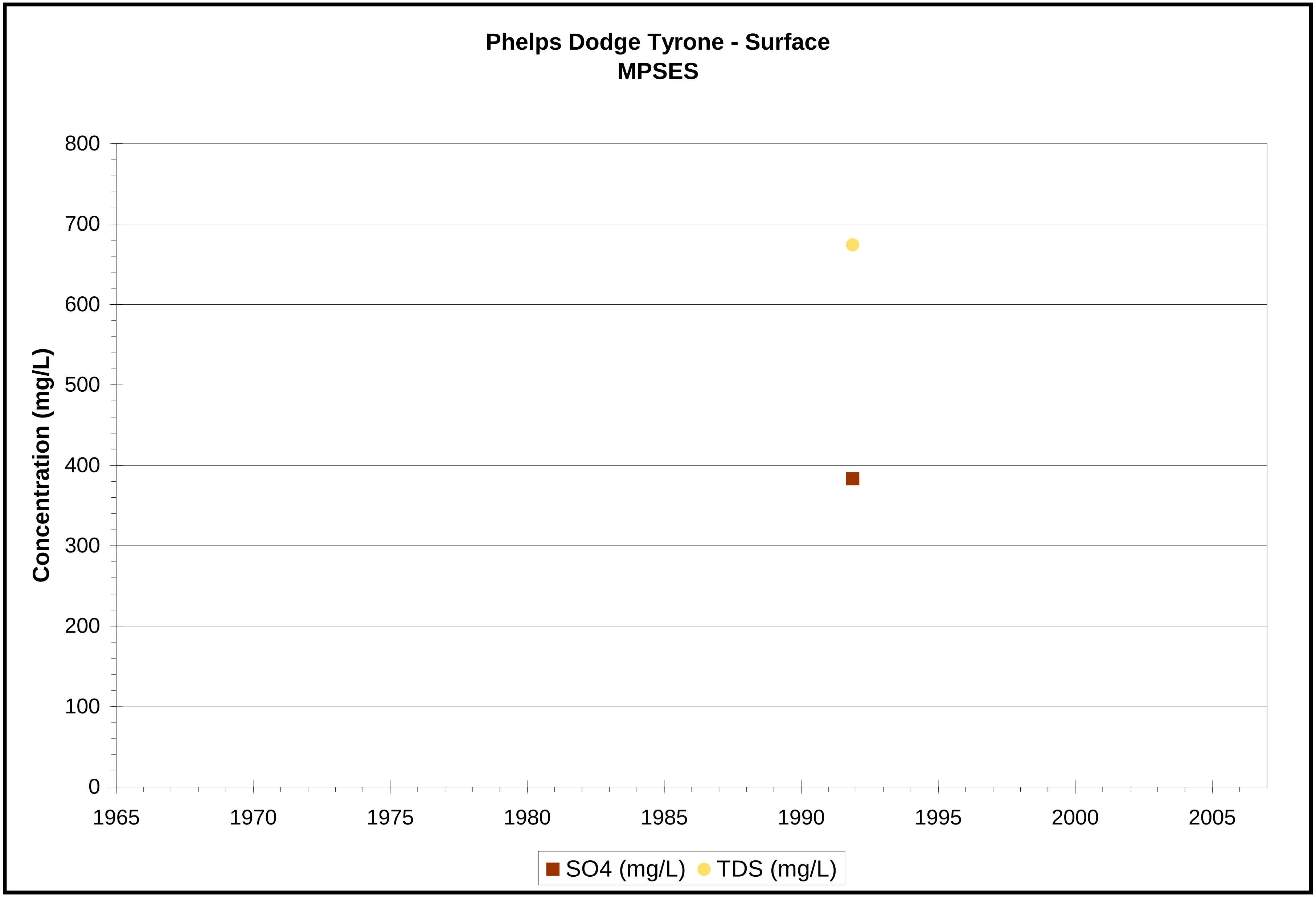

Phelps Dodge Tyrone - Surface
MPS-1
Concentration (mg/L)
80000
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

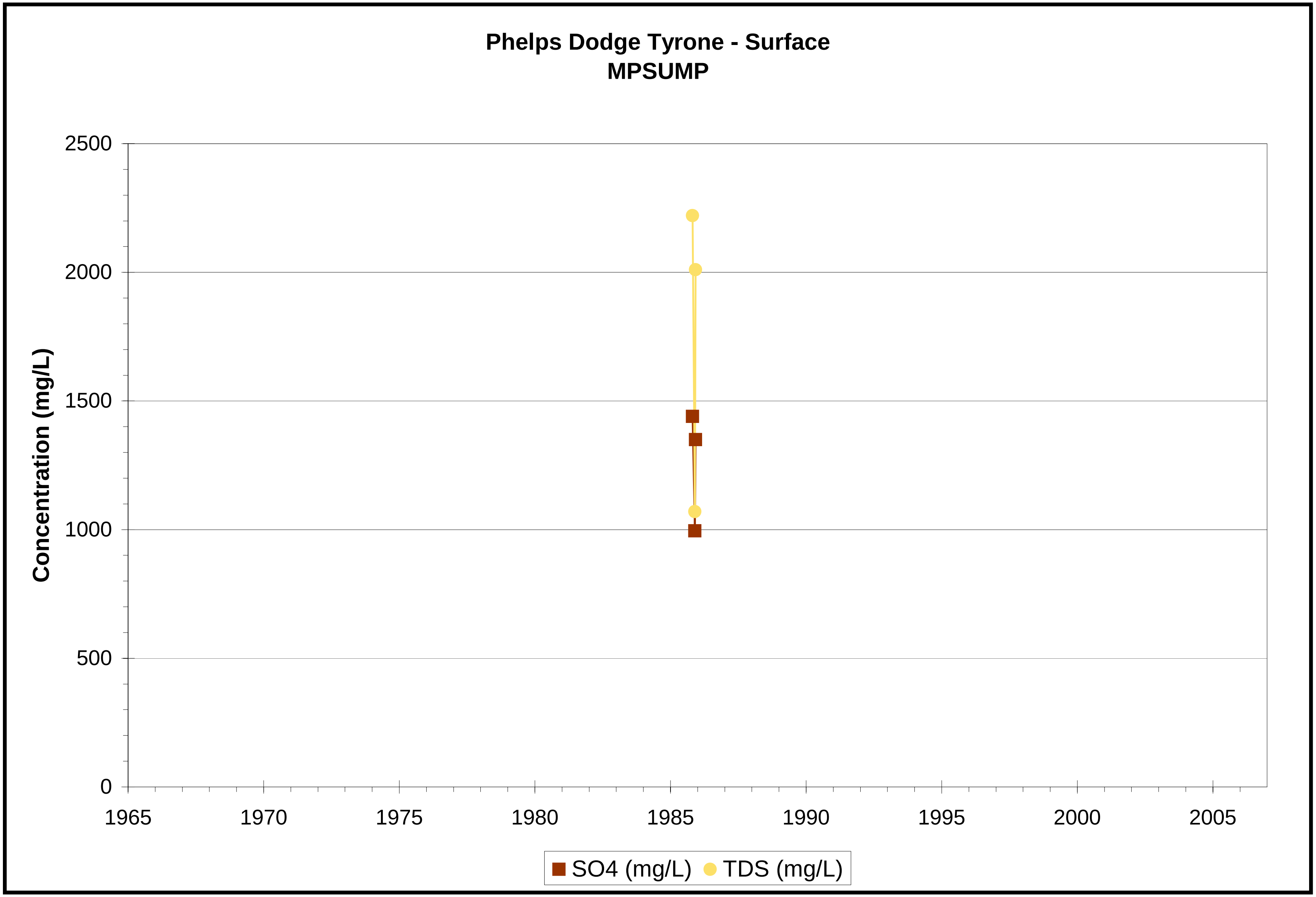

Phelps Dodge Tyrone - Surface
MPS-2
Concentration (mg/L)
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

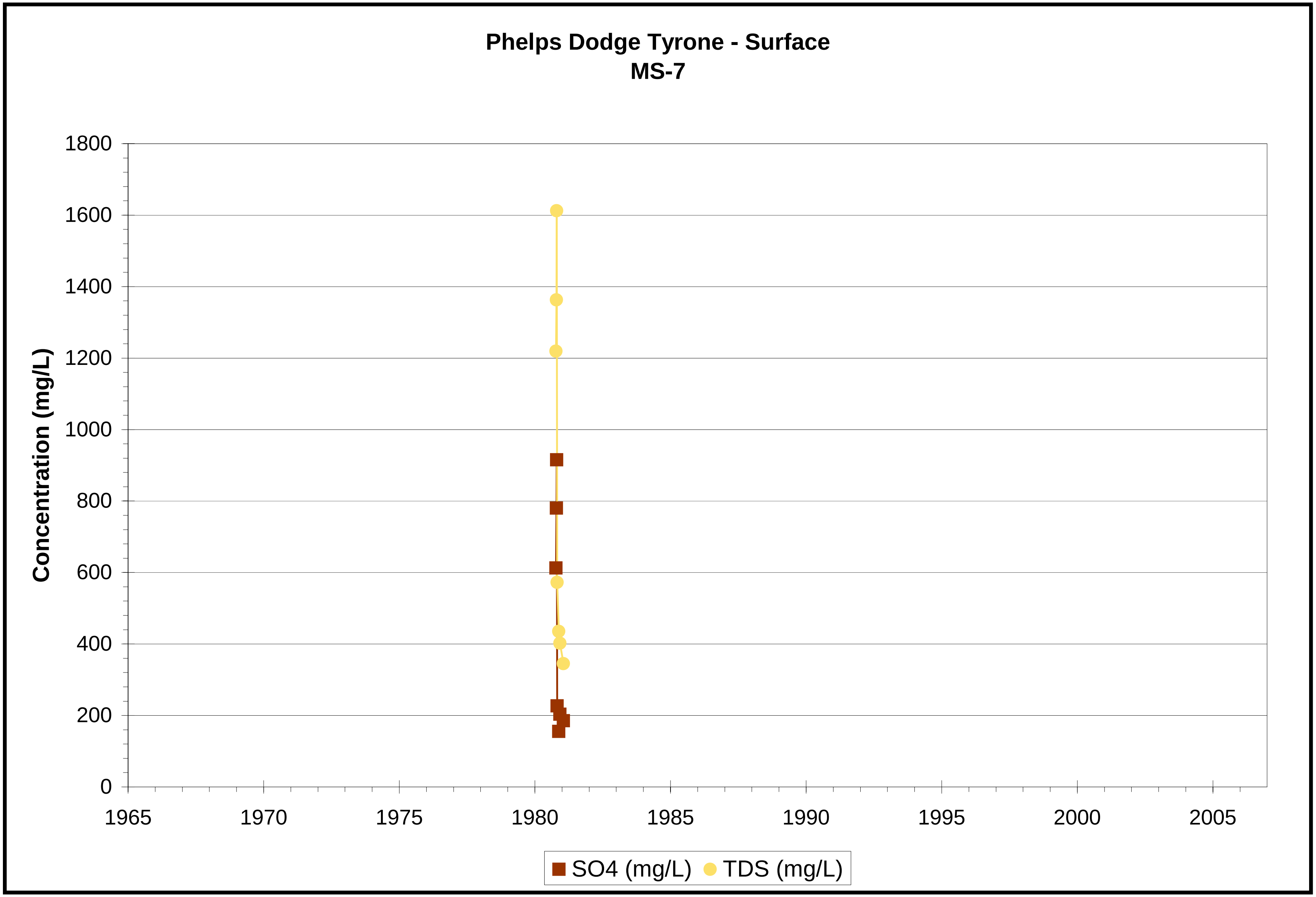


Phelps Dodge Tyrone - Surface
MPS-3
Concentration (mg/L)
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

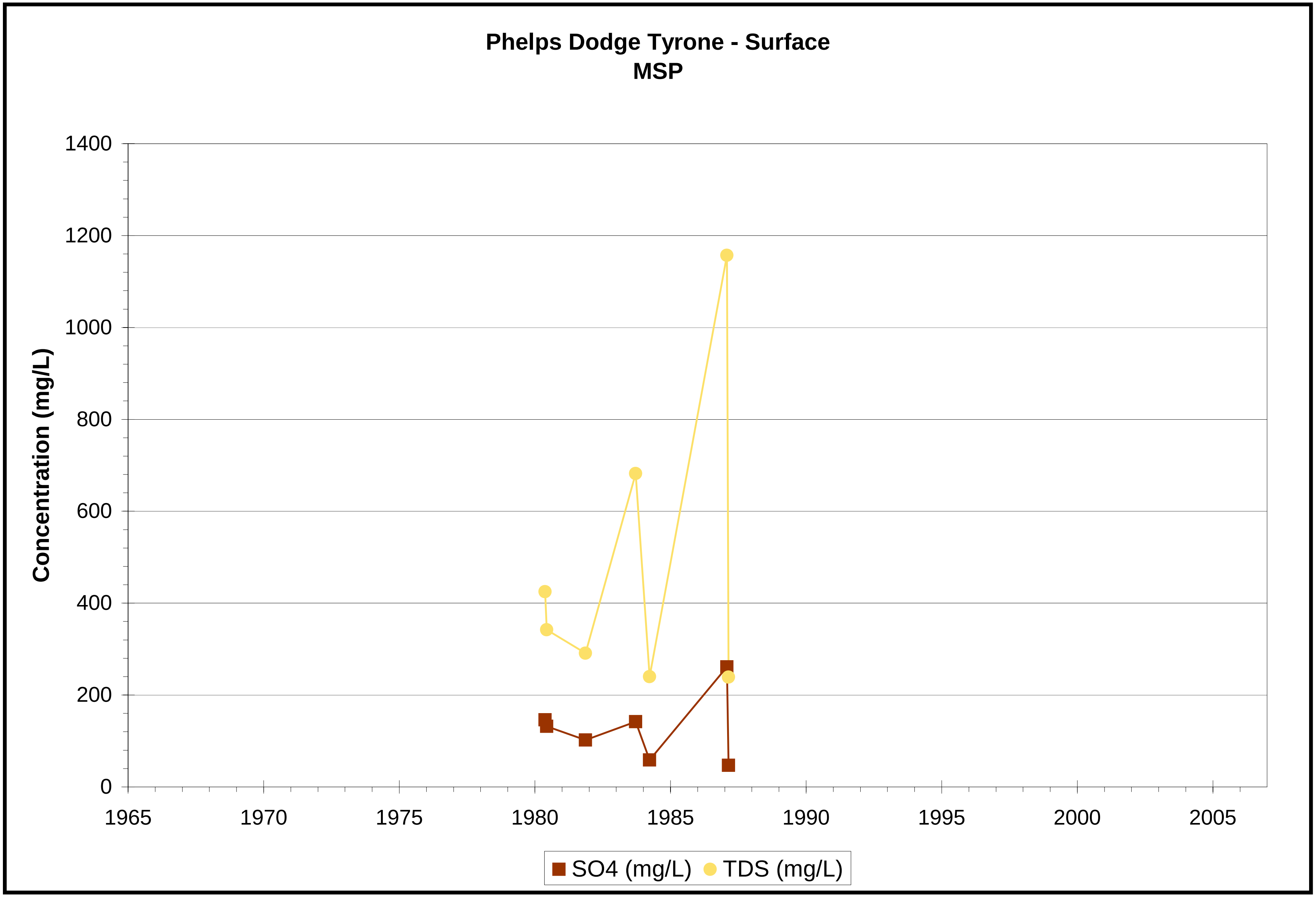

Phelps Dodge Tyrone - Surface
MPSE
Concentration (mg/L)
0
500
1000
1500
2000
2500
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

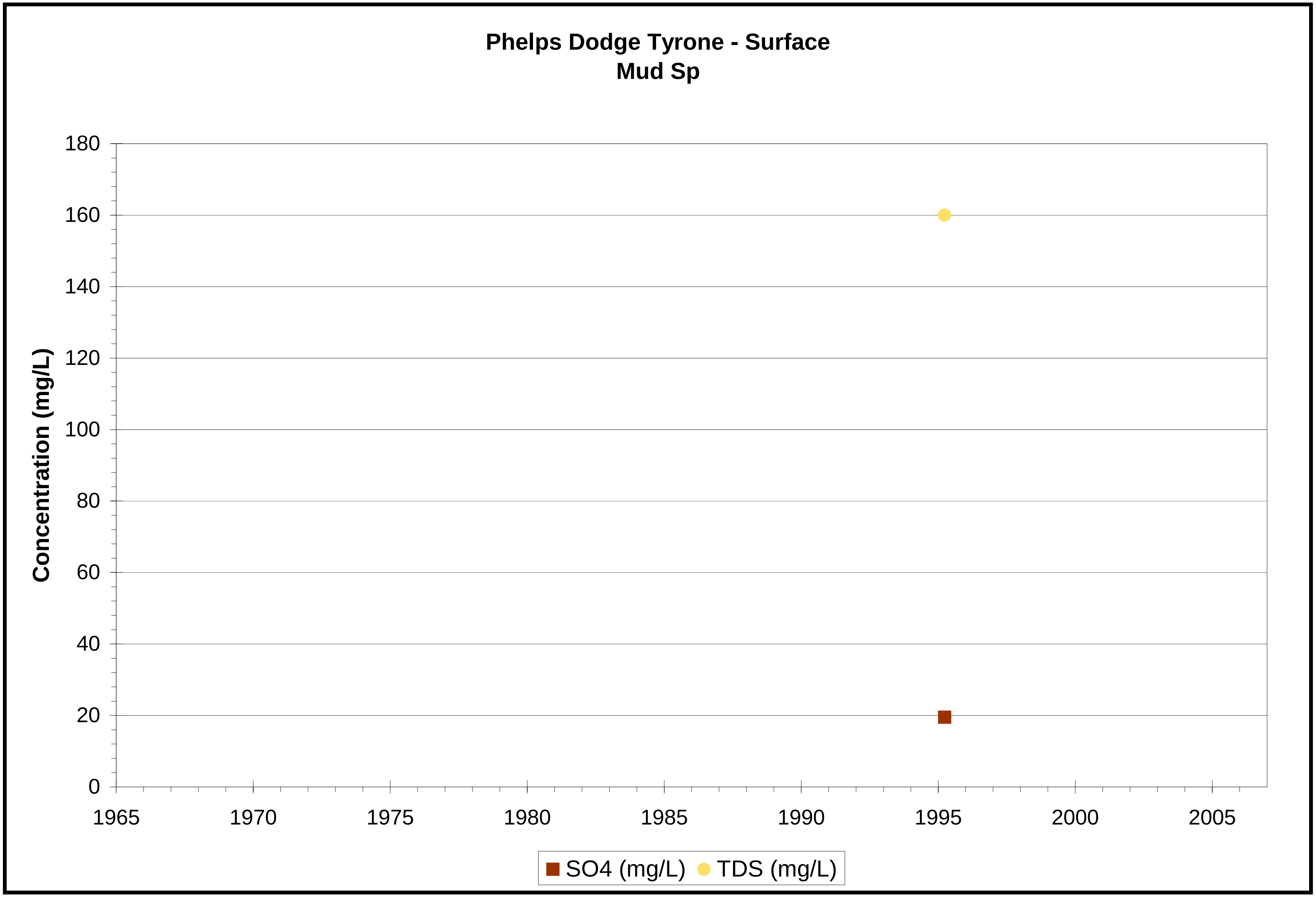

Phelps Dodge Tyrone - Surface
MPSES
Concentration (mg/L)
800
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Surface
MPSUMP
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

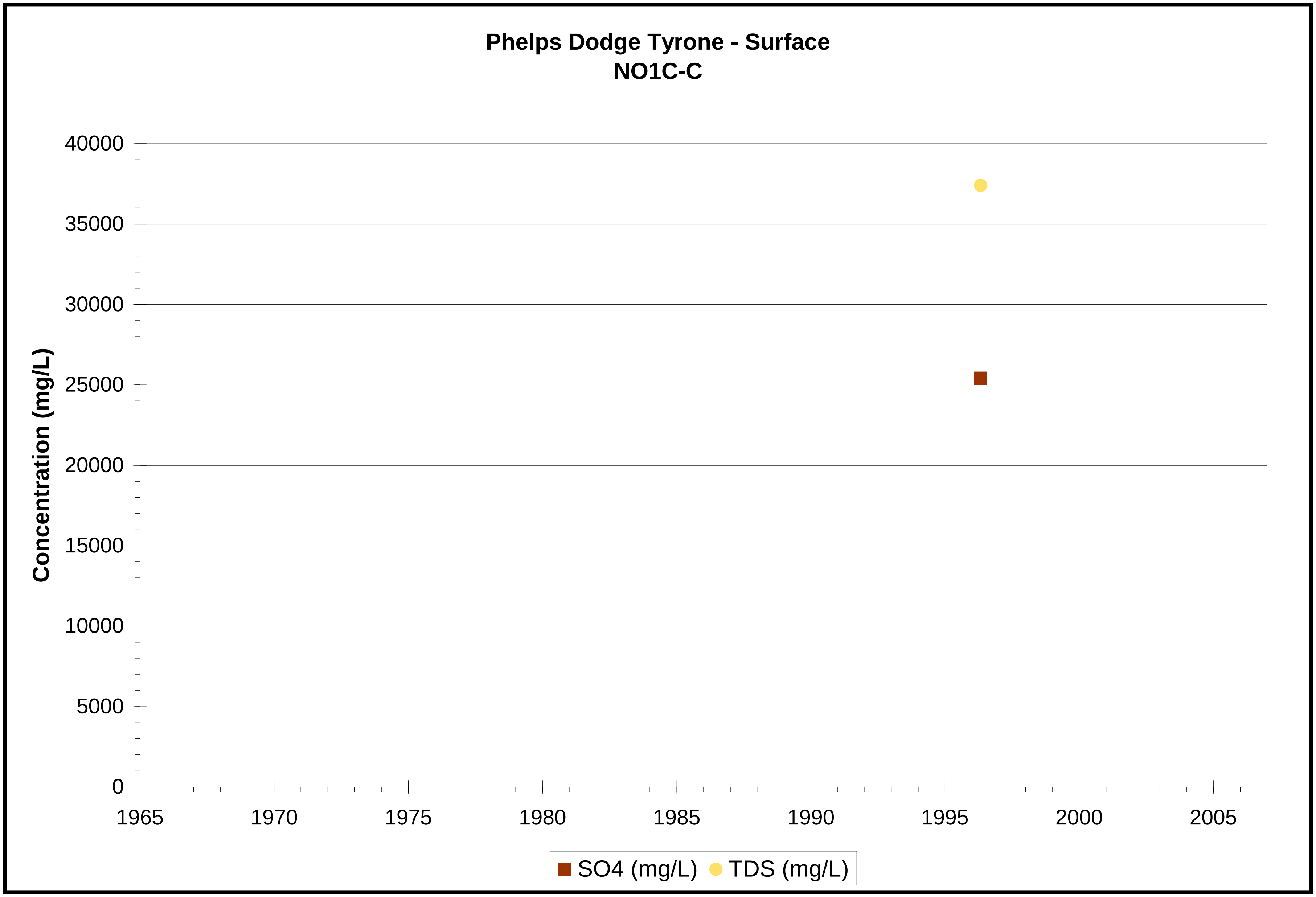


Phelps Dodge Tyrone - Surface
MS-7
Concentration (mg/L)
1800
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

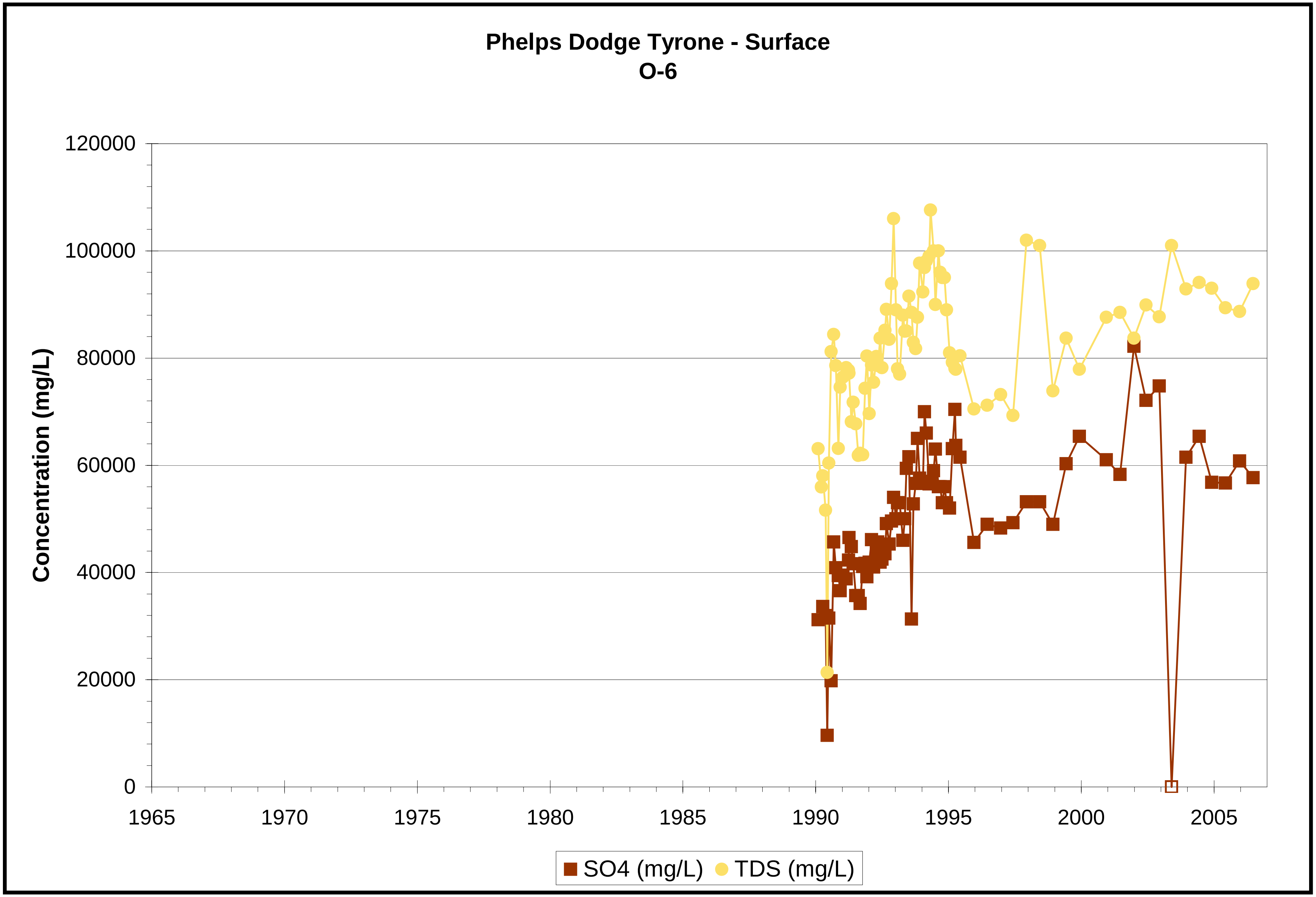

Phelps Dodge Tyrone - Surface
MSP
Concentration (mg/L)
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



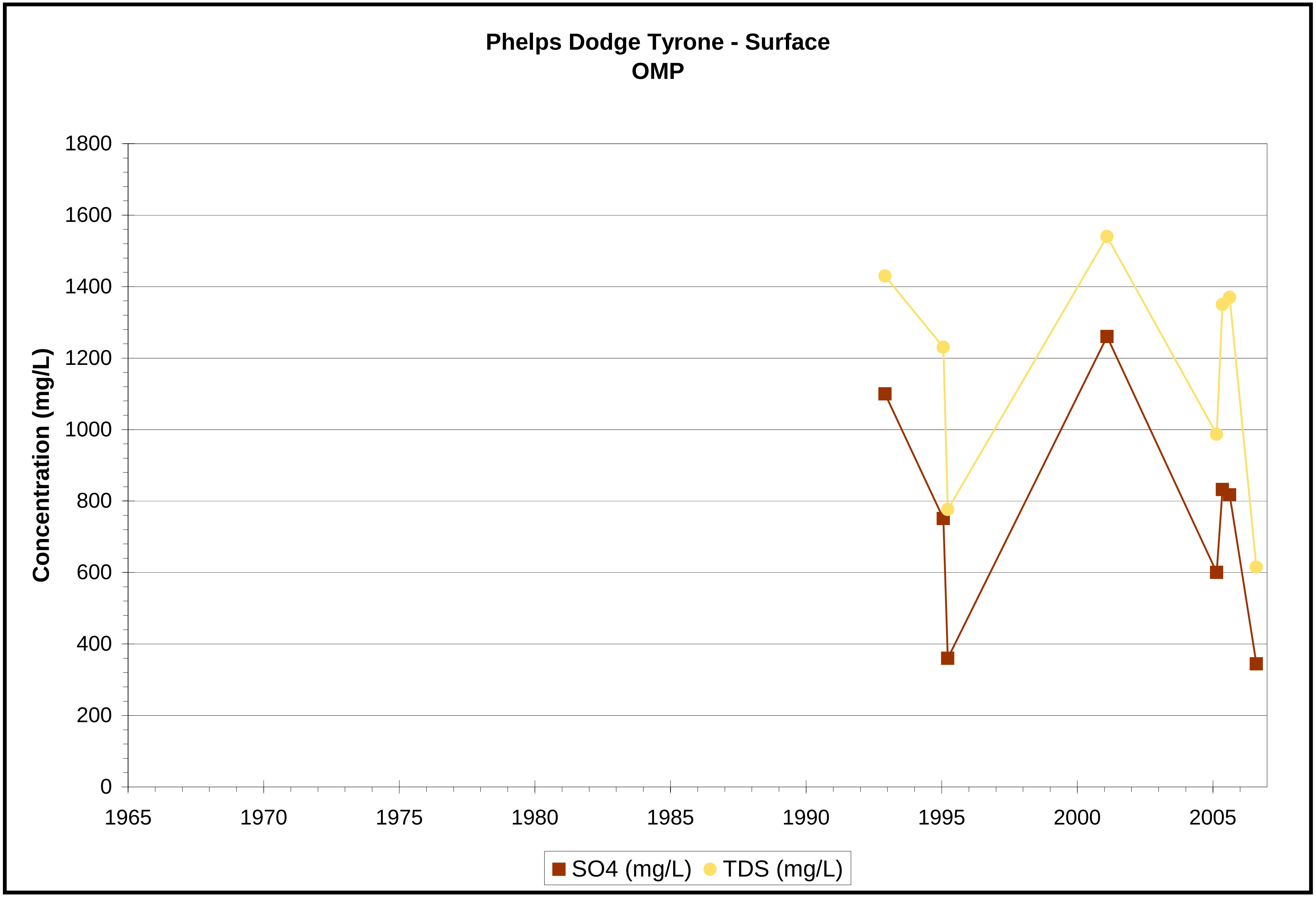
Phelps Dodge Tyrone - Surface
Mud Sp
Concentration (mg/L)
180
160
140
120
100
80
60
40
20
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

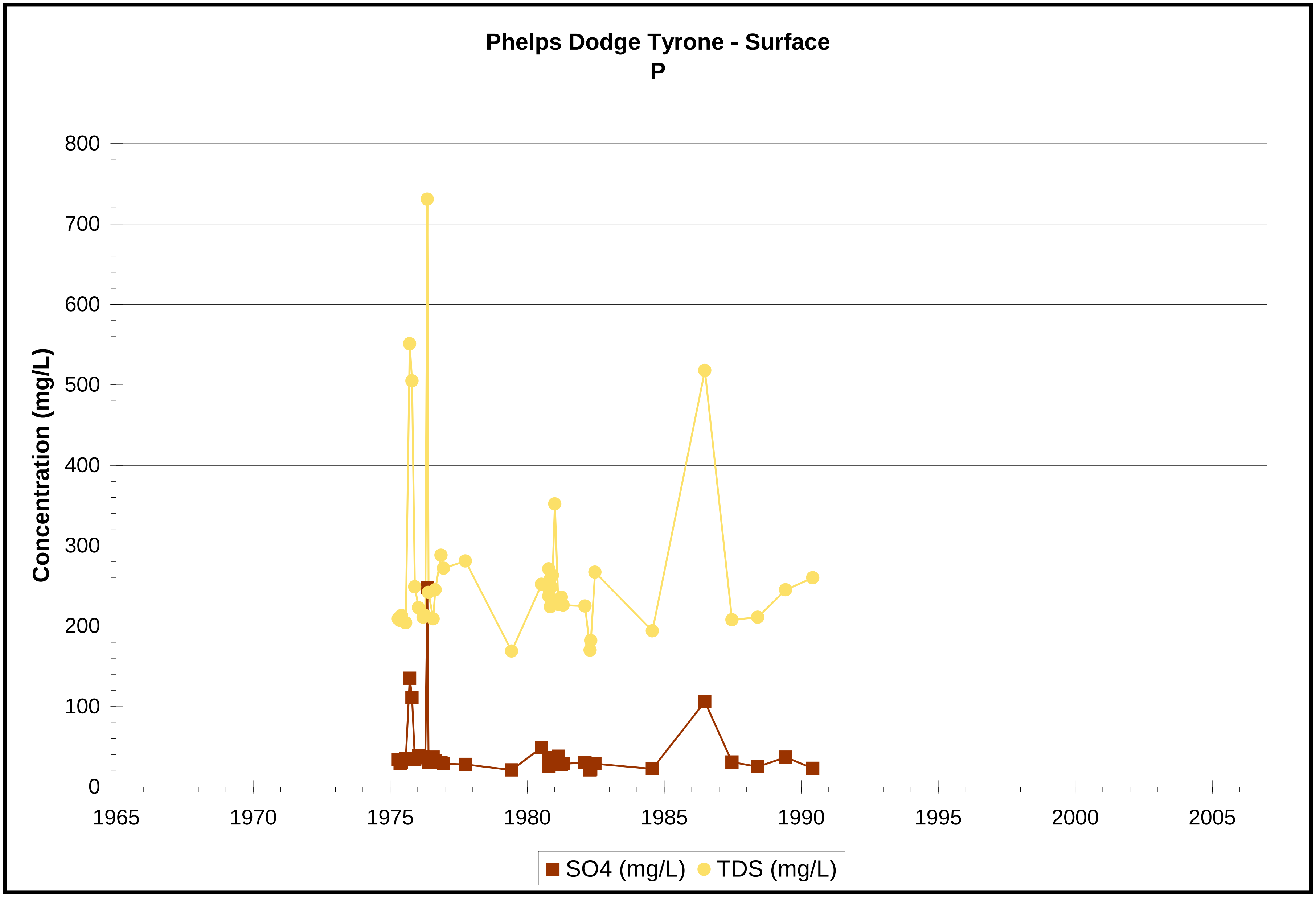


Phelps Dodge Tyrone - Surface
NO1C-C
Concentration (mg/L)
40000
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

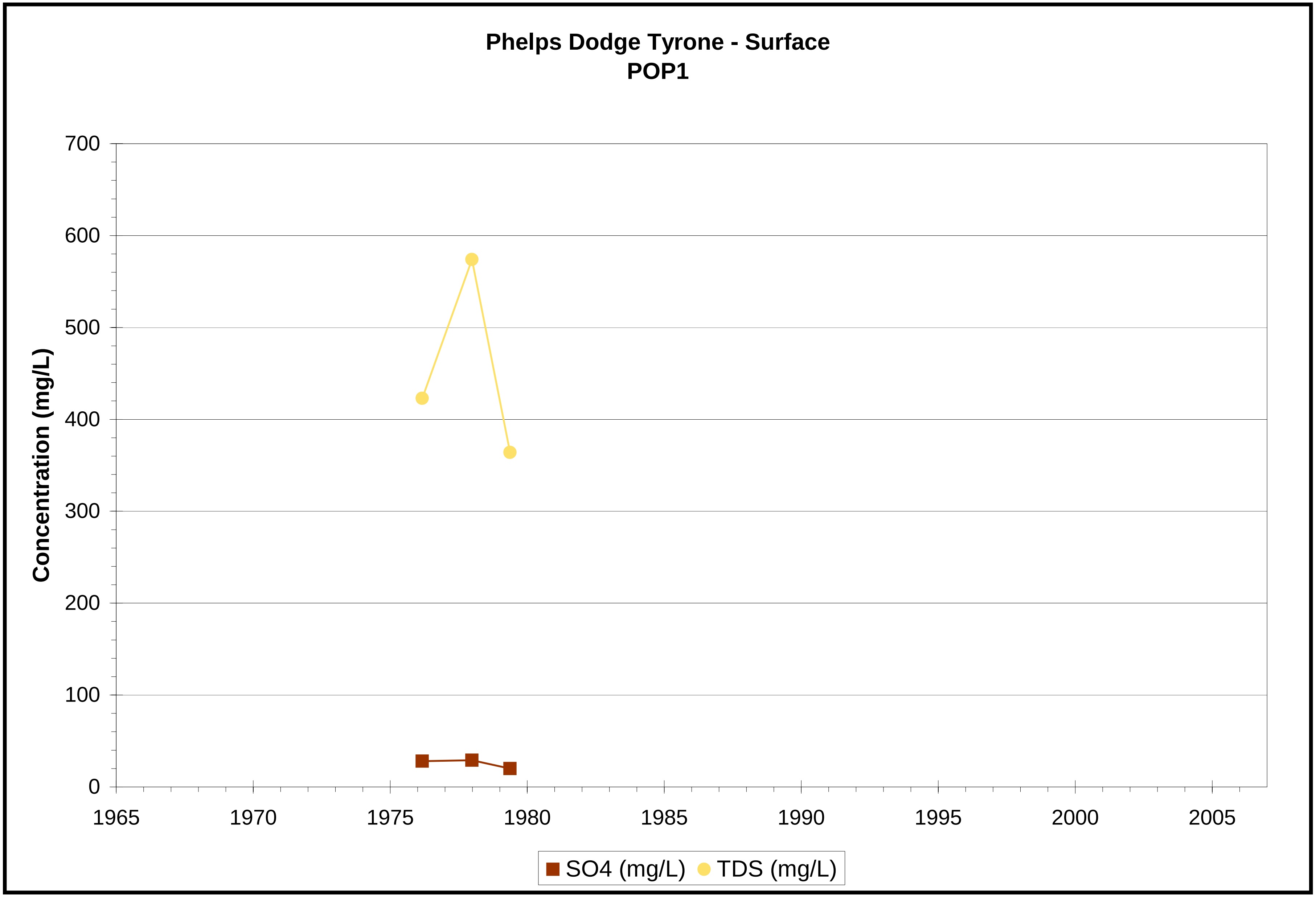


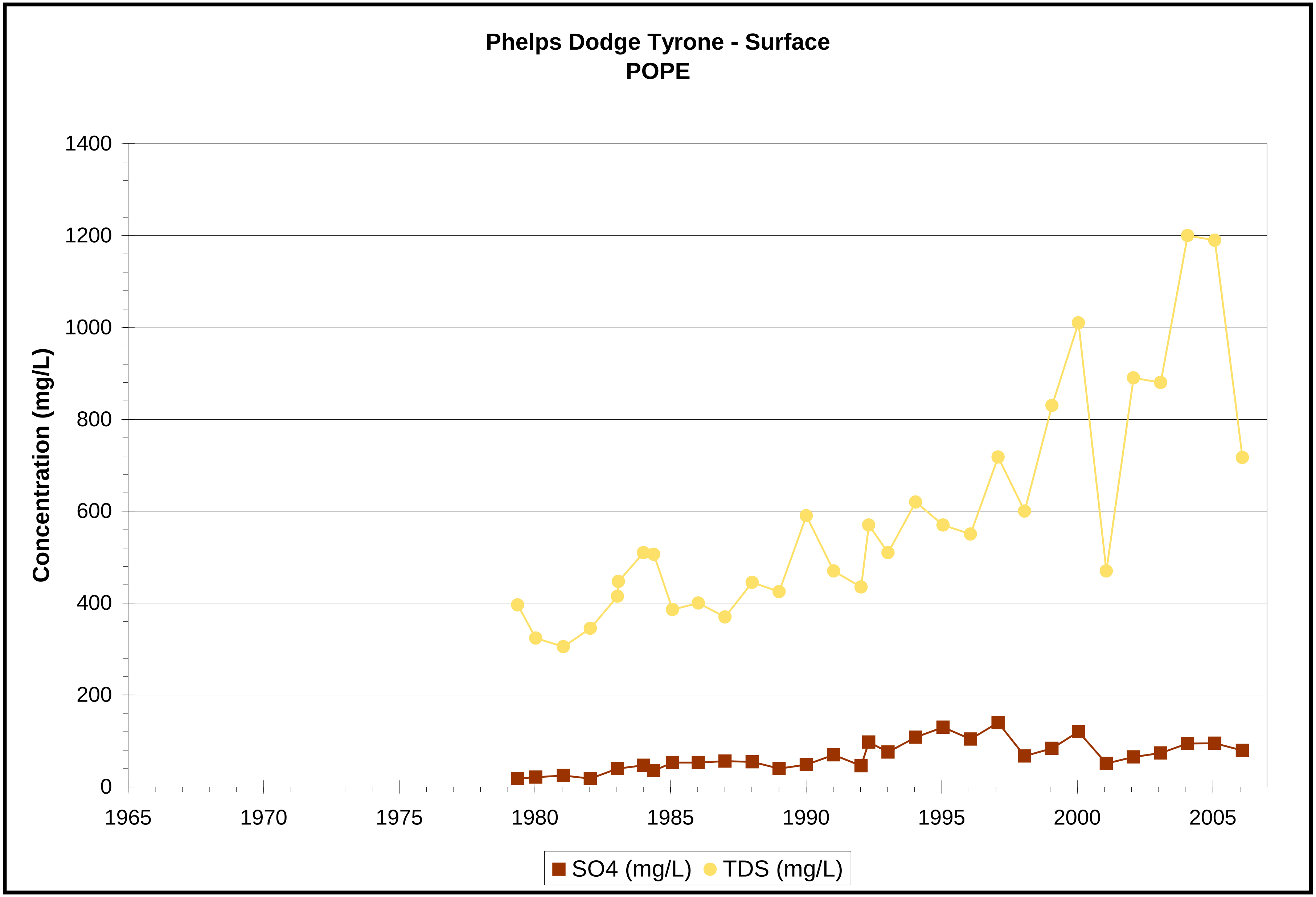
Phelps Dodge Tyrone - Surface
O-6
Concentration (mg/L)
120000
100000
80000
60000
40000
20000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Surface
OMP
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1600
1800
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

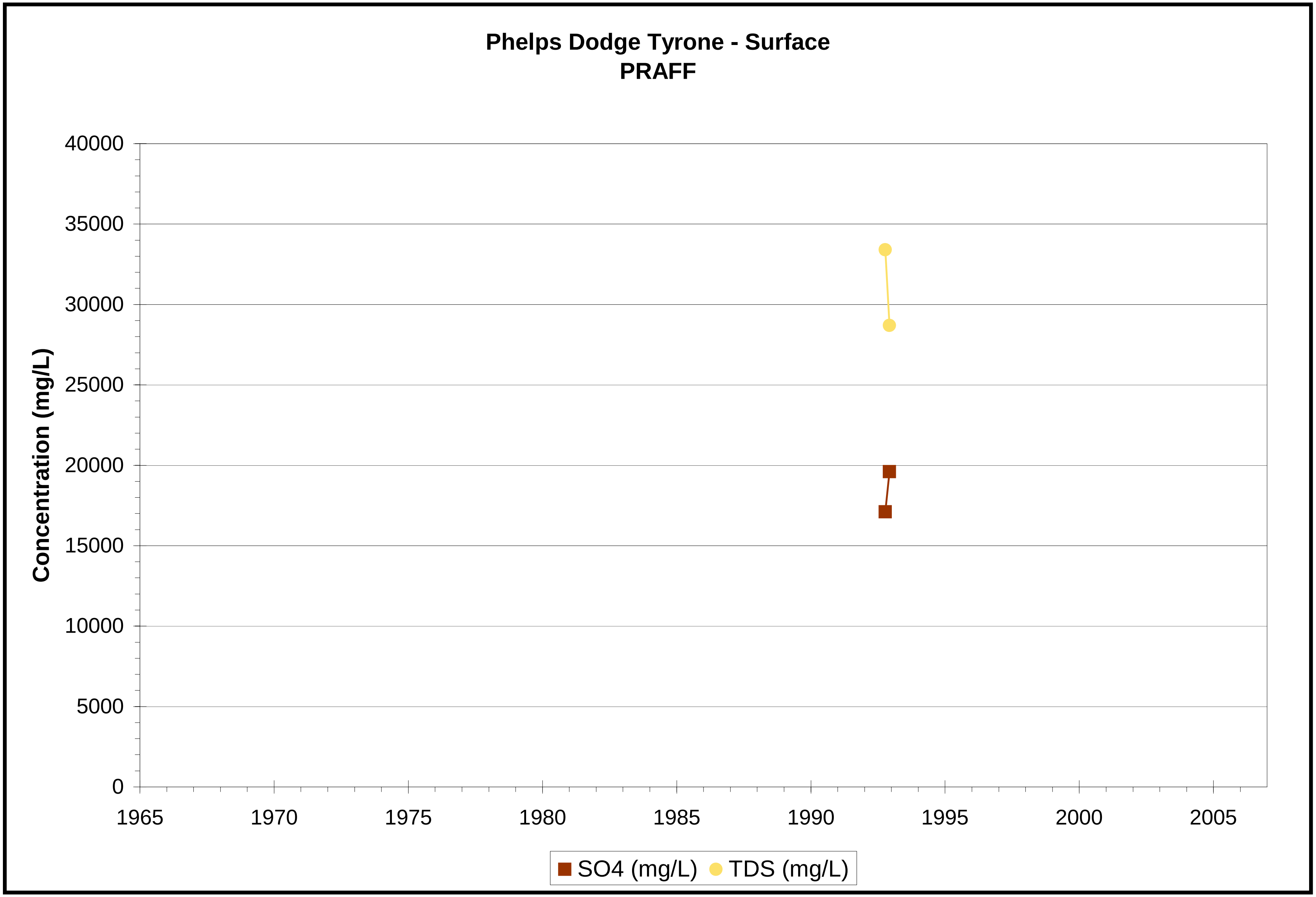


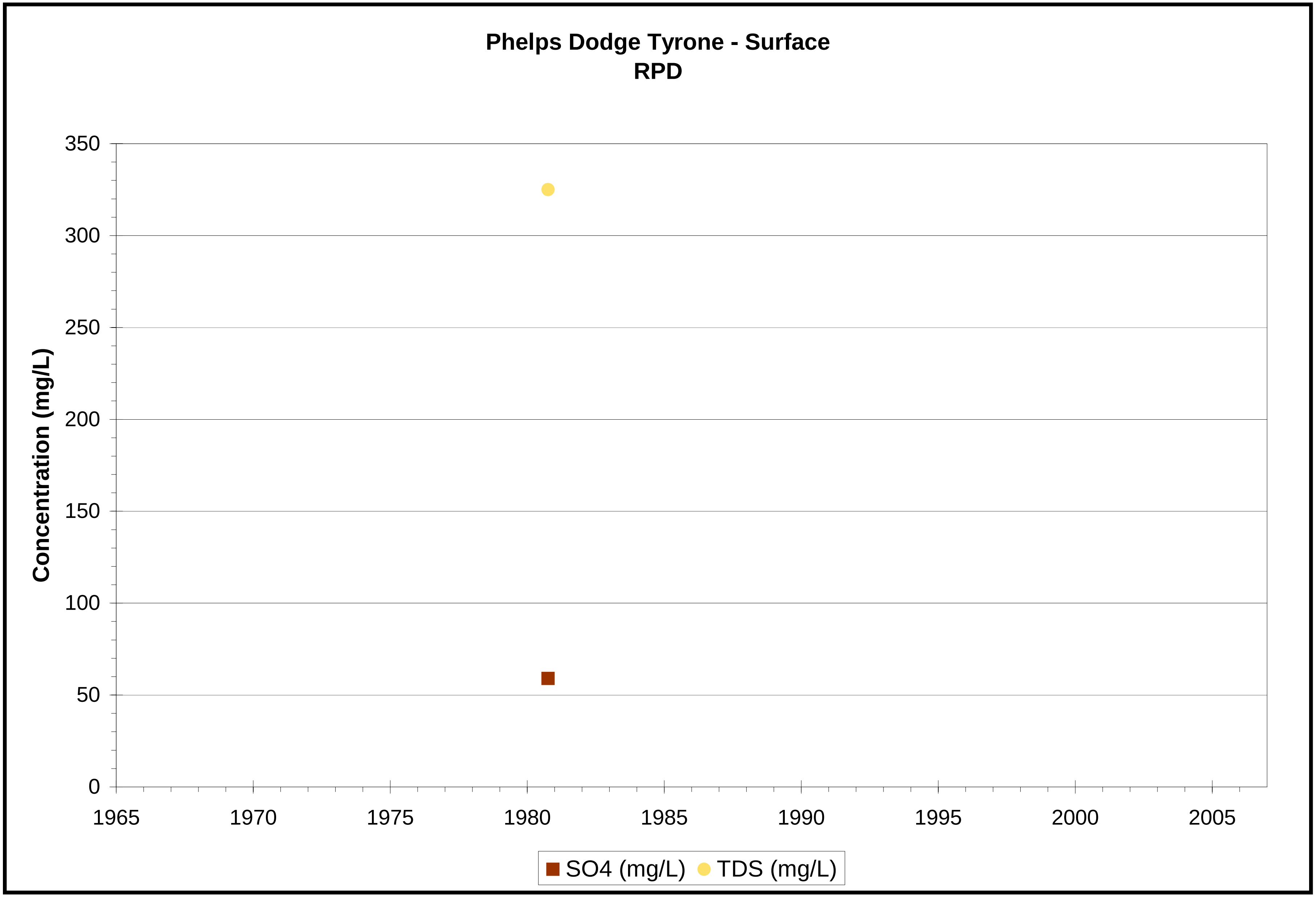
Phelps Dodge Tyrone - Surface
P
Concentration (mg/L)
0
100
200
300
400
500
600
700
800
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

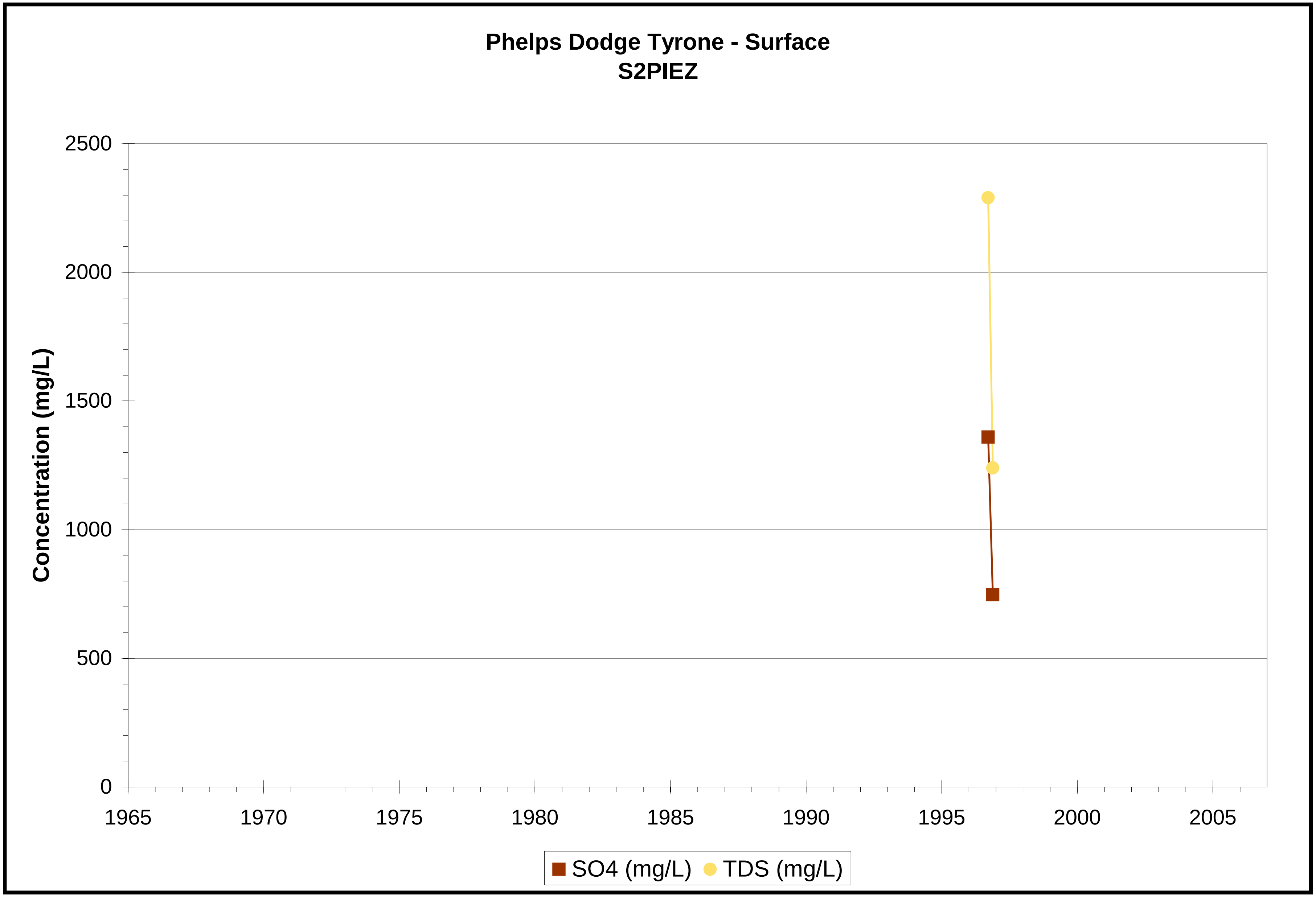

Phelps Dodge Tyrone - Surface
POP1
Concentration (mg/L)
700
600
500
400
300
200
100
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



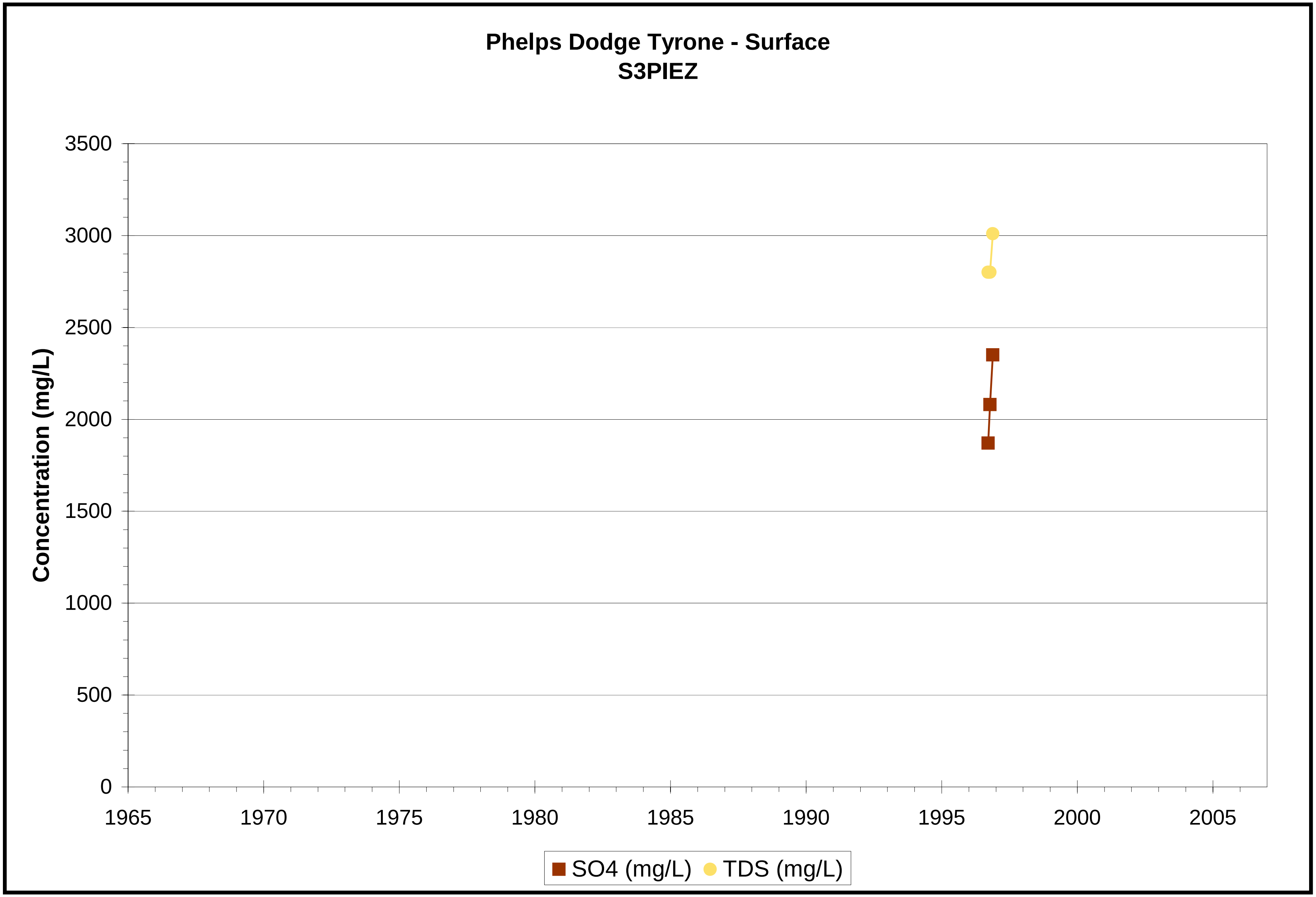
Phelps Dodge Tyrone - Surface
POPE
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

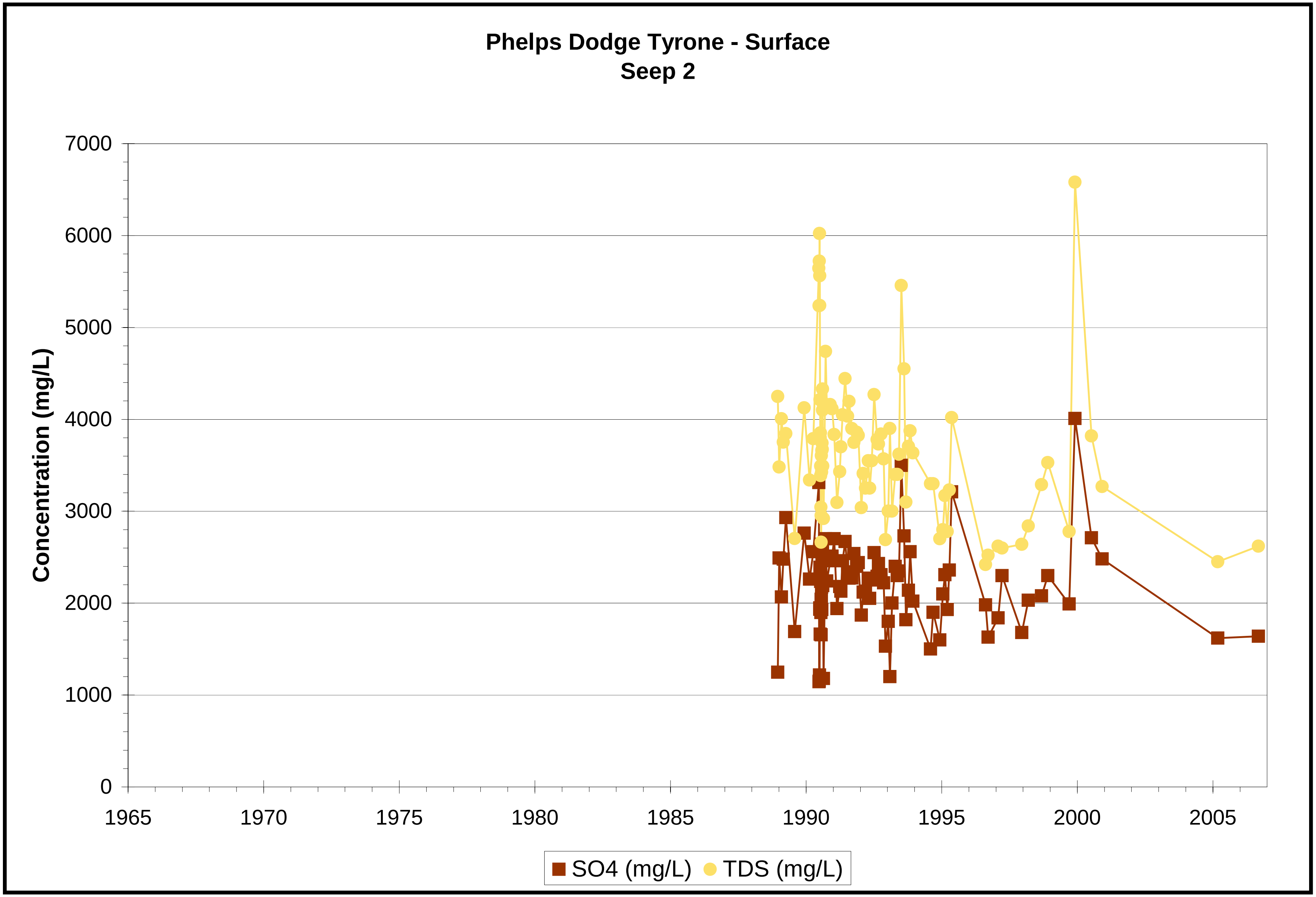

Phelps Dodge Tyrone - Surface
PRAFF
Concentration (mg/L)
40000
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Surface
RPD
Concentration (mg/L)
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

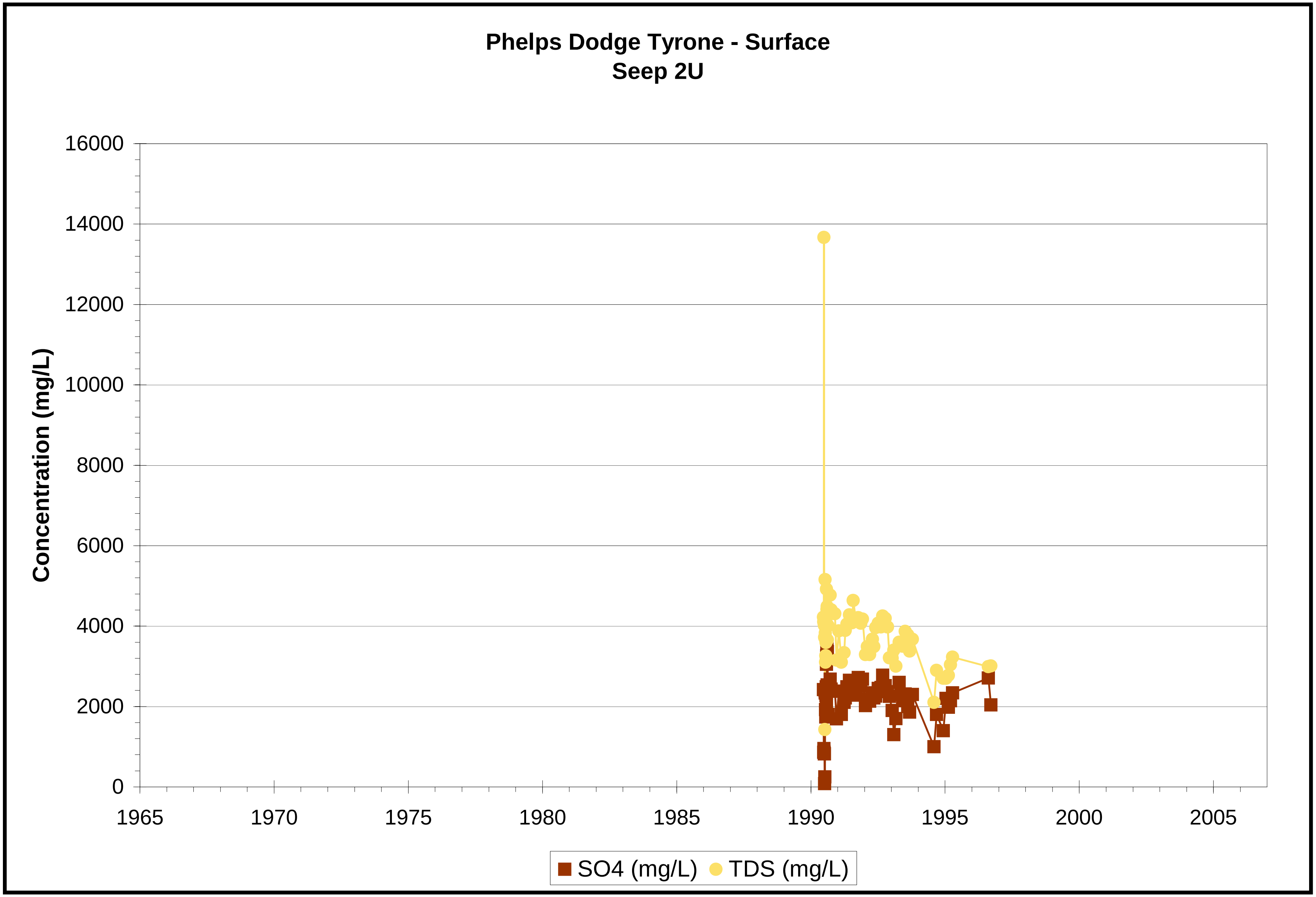


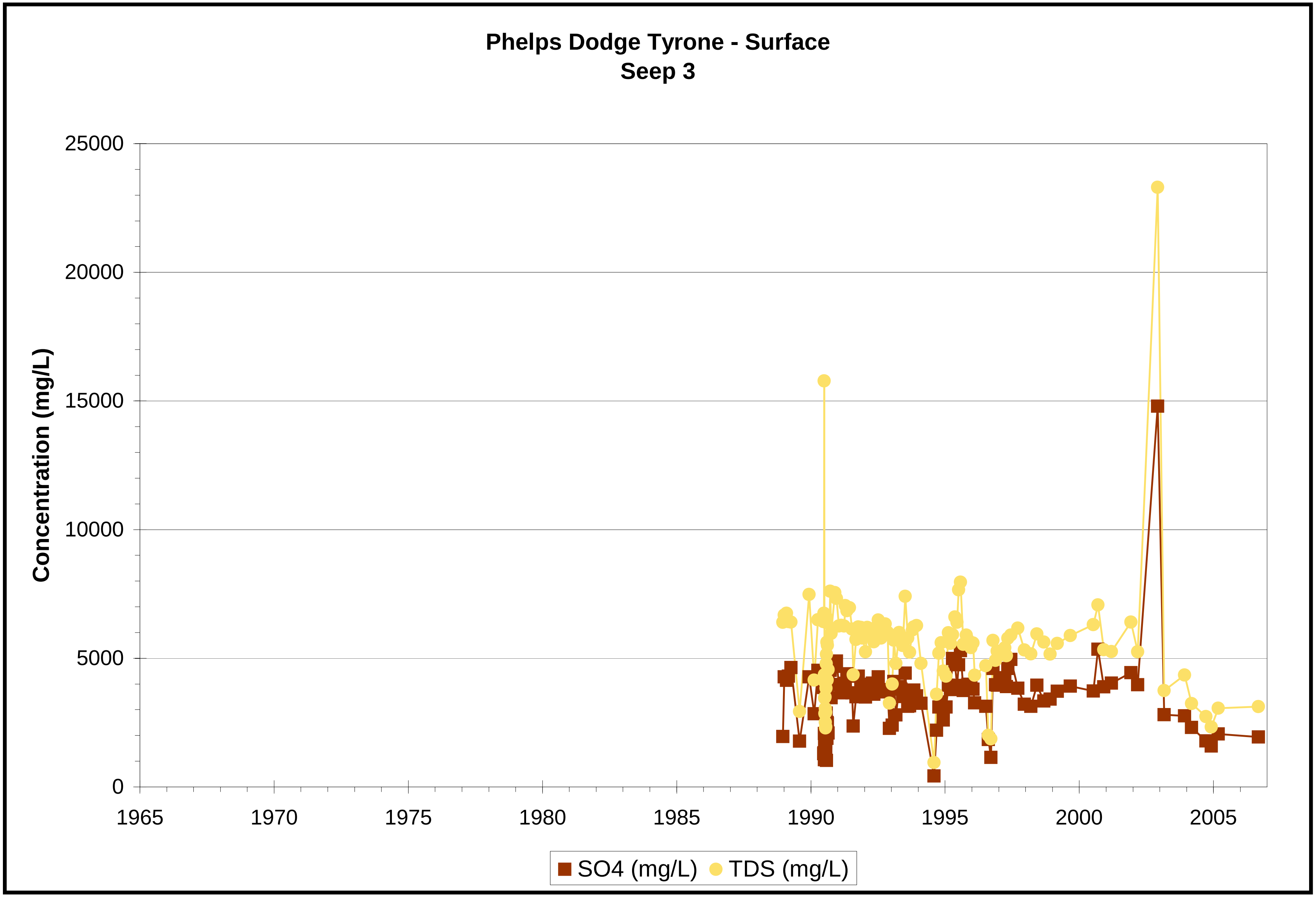
Phelps Dodge Tyrone - Surface
S2PIEZ
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Surface
S3PIEZ
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

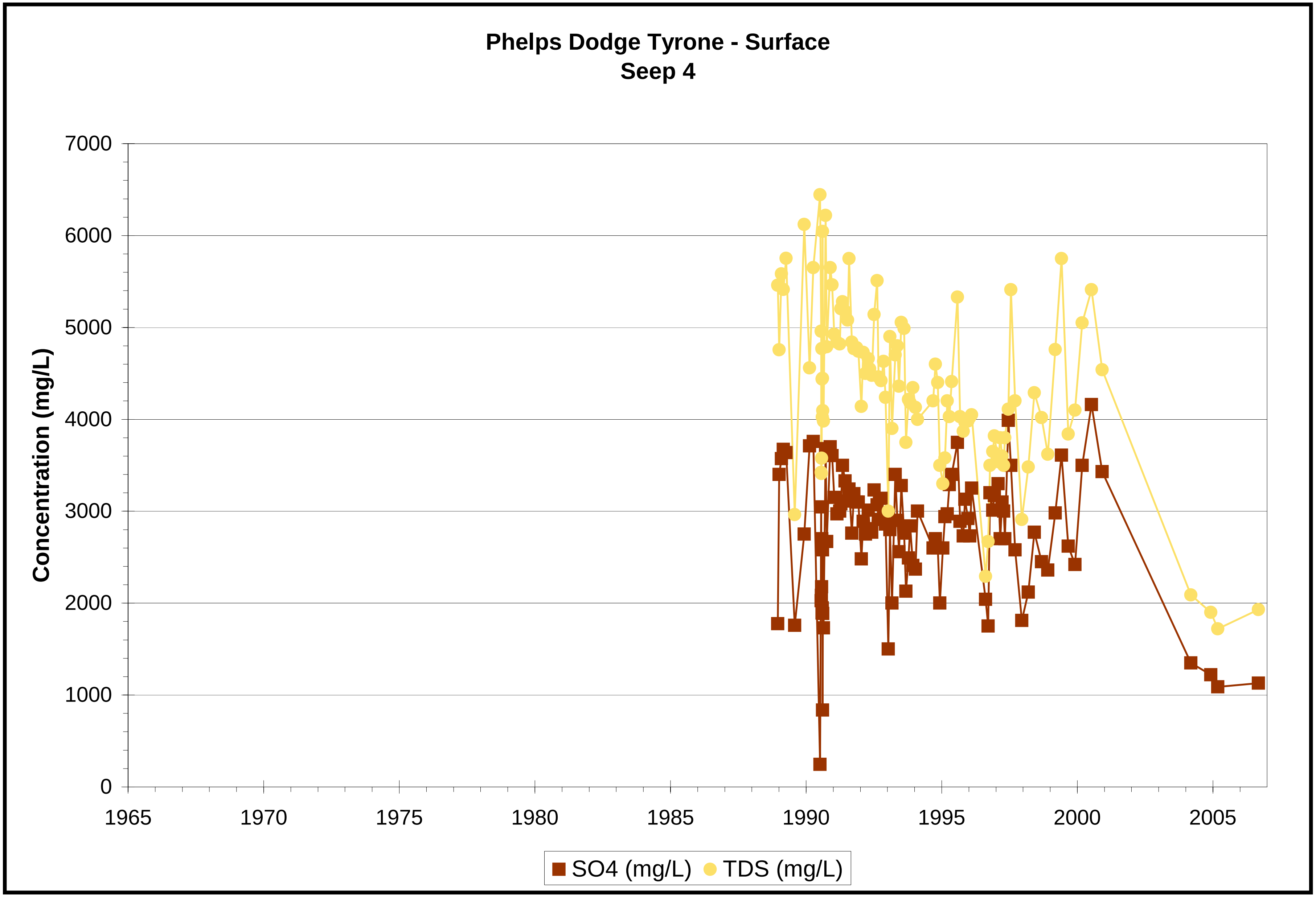


Phelps Dodge Tyrone - Surface
Seep 2
Concentration (mg/L)
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

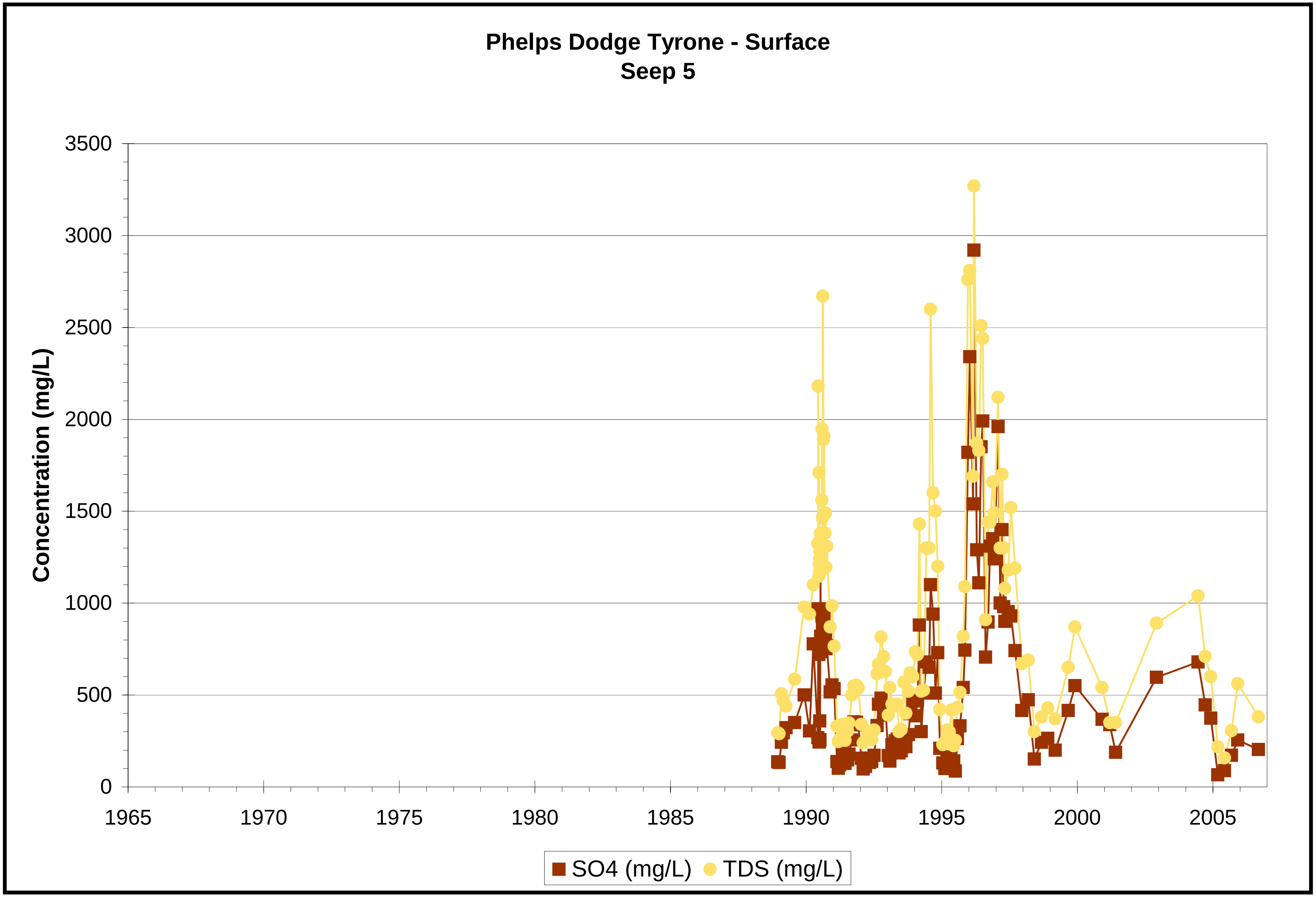

Phelps Dodge Tyrone - Surface
Seep 2U
Concentration (mg/L)
16000
14000
12000
10000
8000
6000
4000
2000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

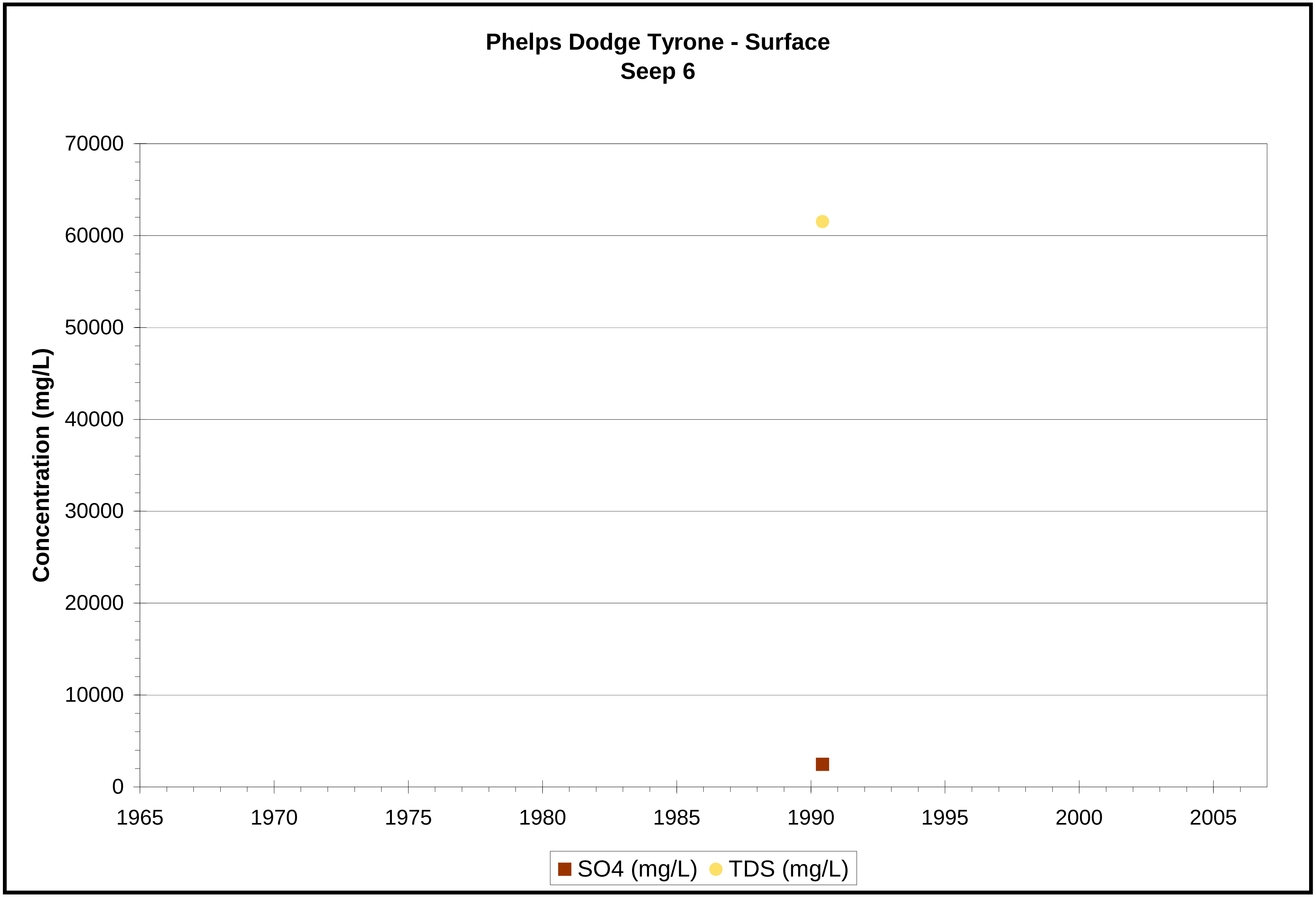


Phelps Dodge Tyrone - Surface
Seep 3
Concentration (mg/L)
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

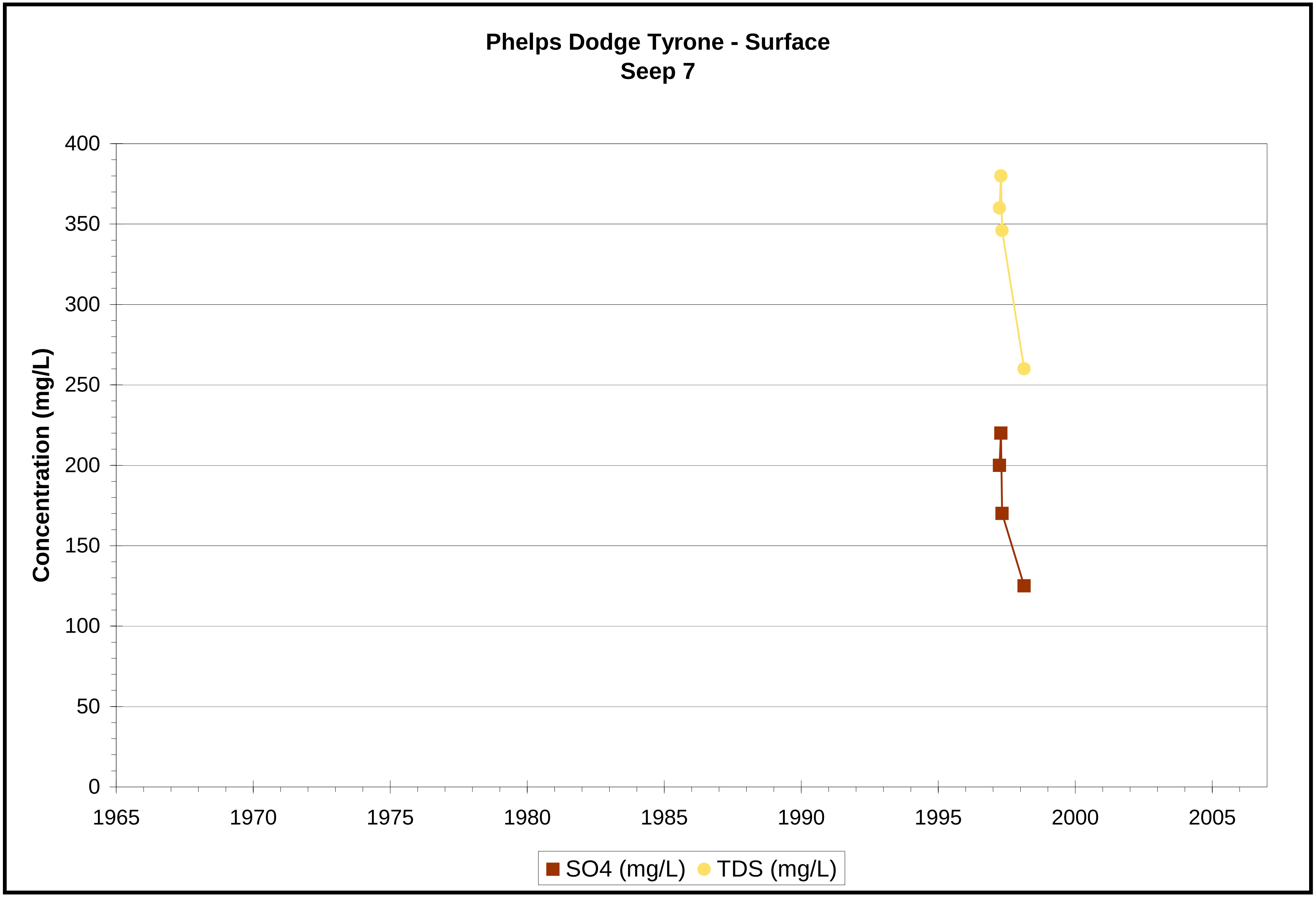


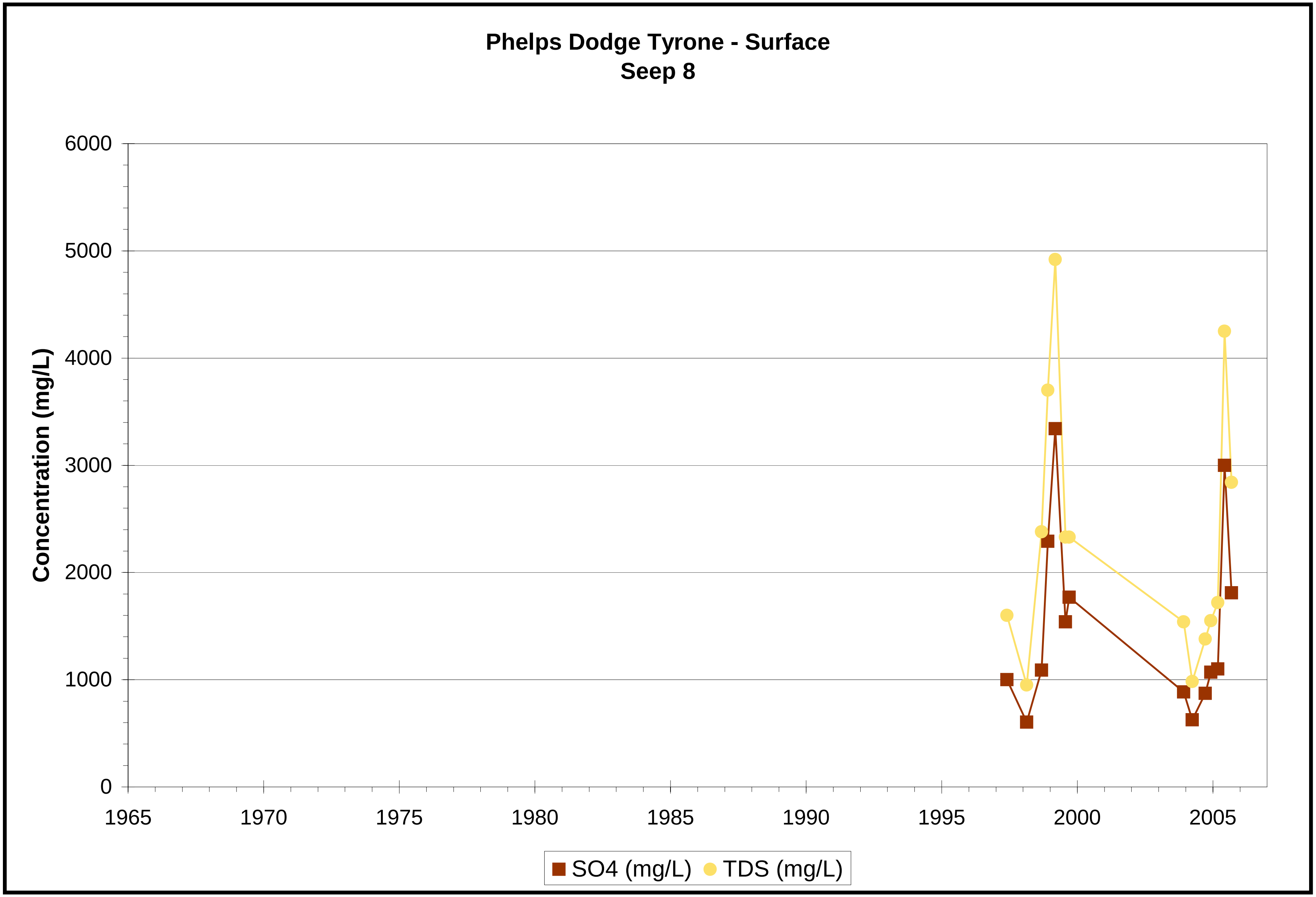
Phelps Dodge Tyrone - Surface
Seep 4
Concentration (mg/L)
0
1000
2000
3000
4000
5000
6000
7000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Surface
Seep 5
Concentration (mg/L)
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

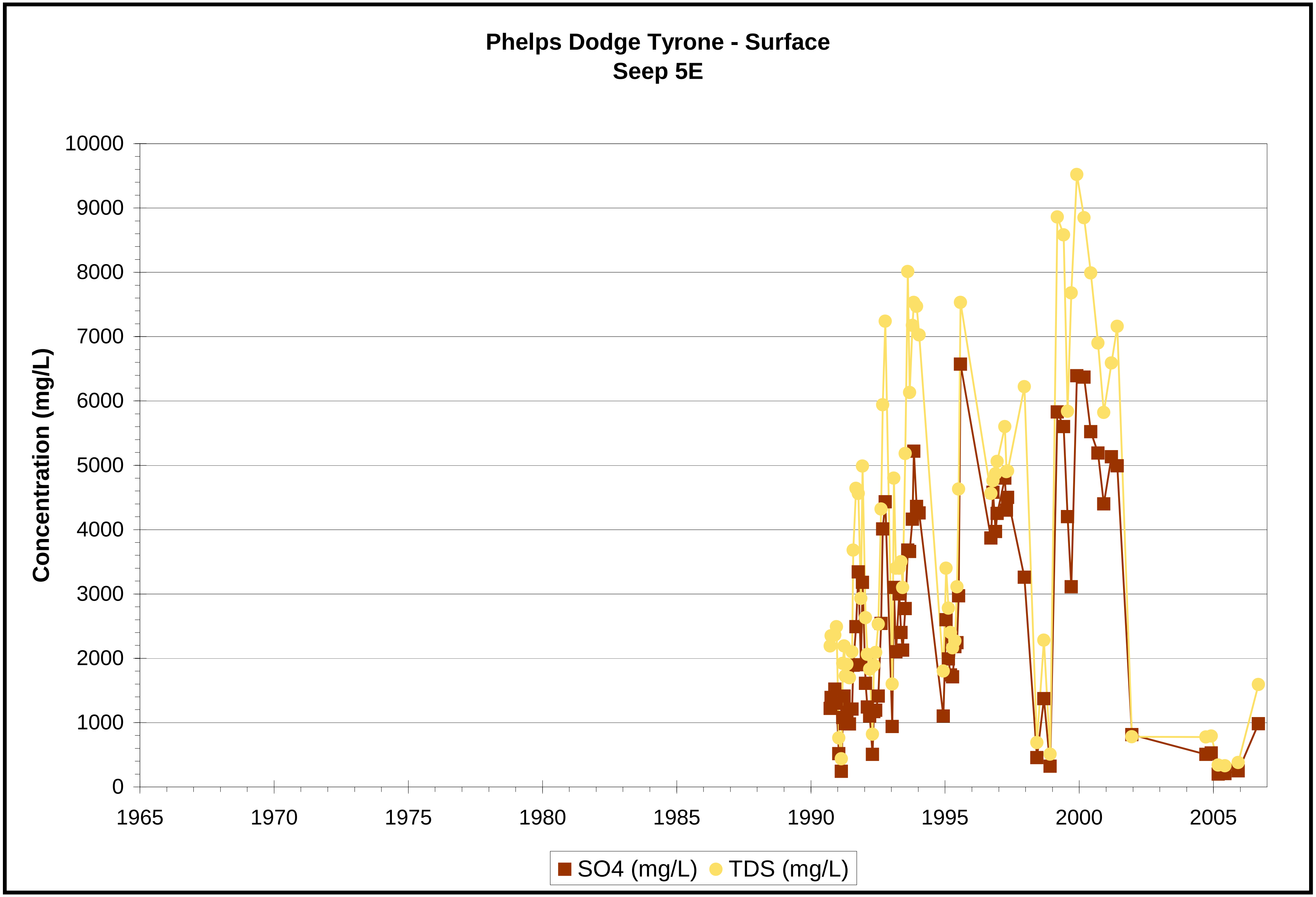


Phelps Dodge Tyrone - Surface
Seep 6
Concentration (mg/L)
70000
60000
50000
40000
30000
20000
10000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

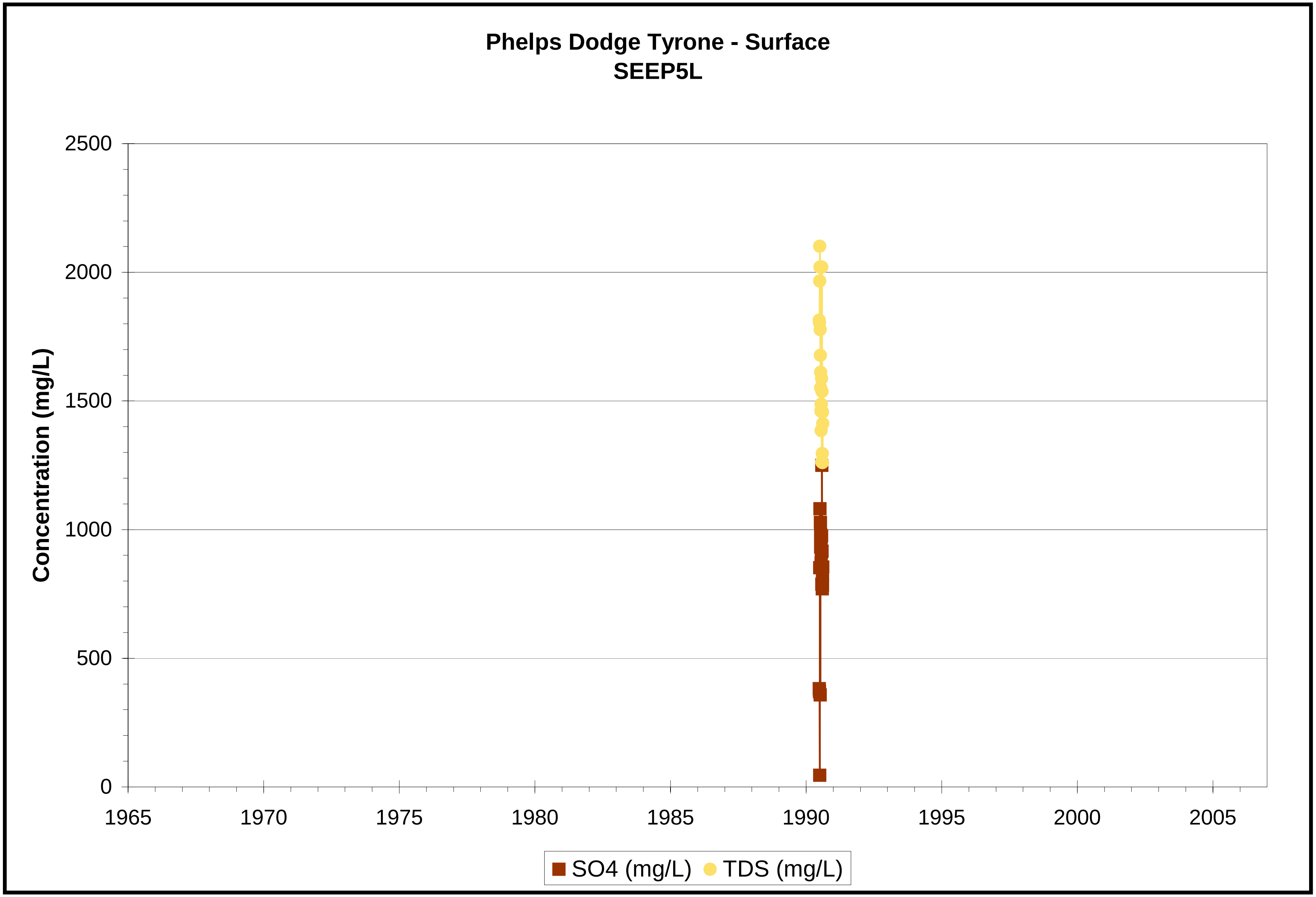

Phelps Dodge Tyrone - Surface
Seep 7
Concentration (mg/L)
0
50
100
150
200
250
300
350
400
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

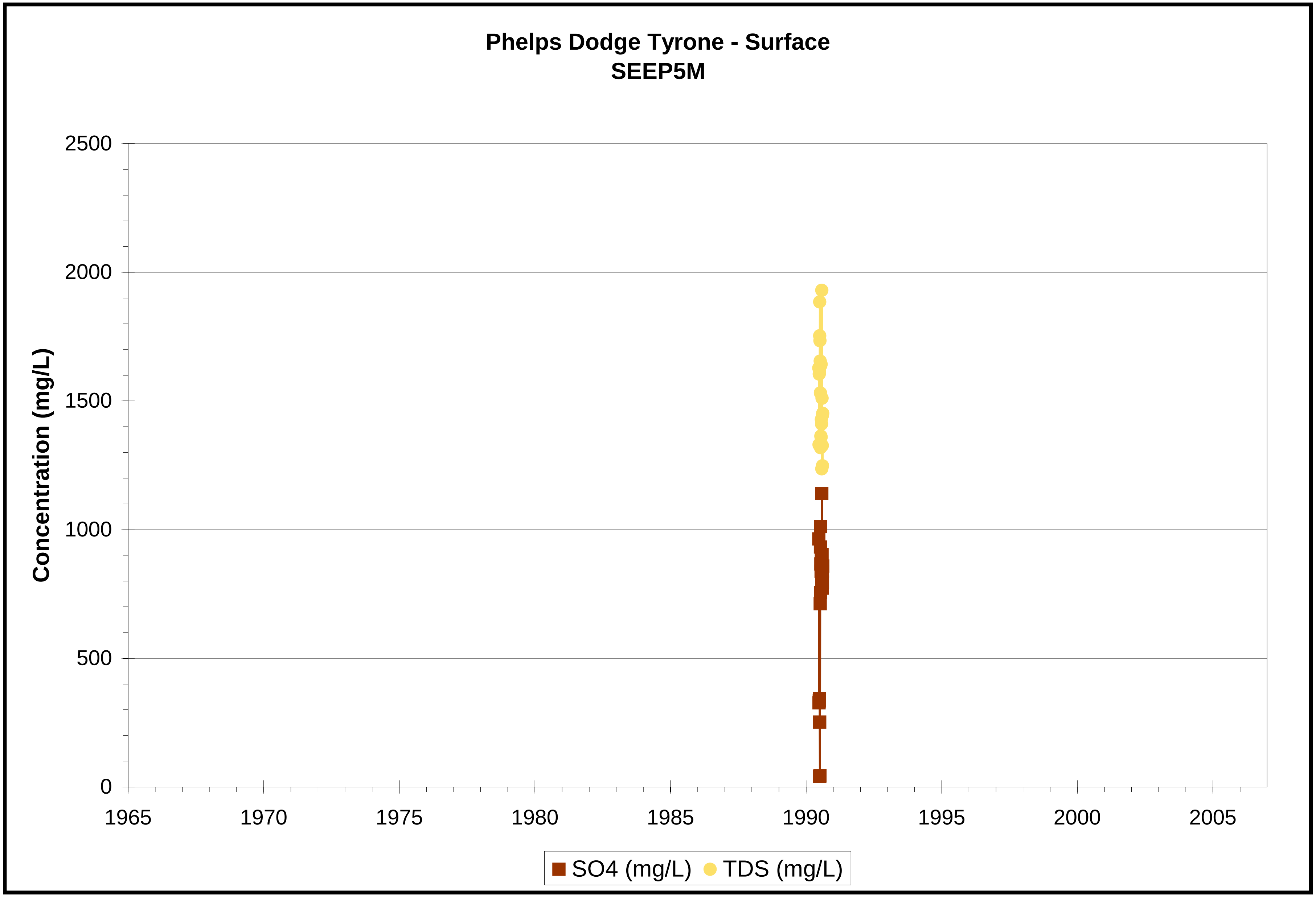


Phelps Dodge Tyrone - Surface
Seep 8
Concentration (mg/L)
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

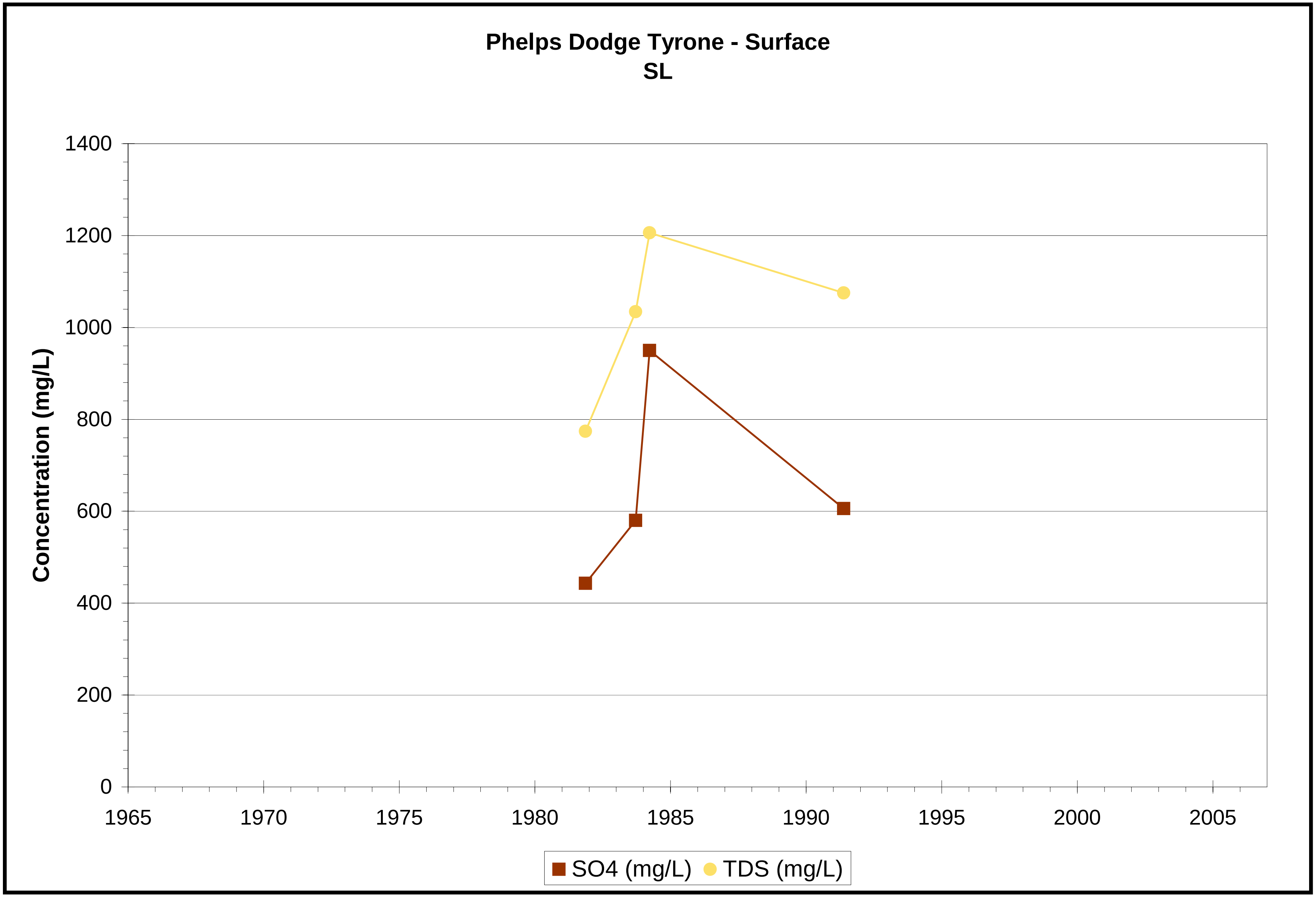


Phelps Dodge Tyrone - Surface
Seep 5E
Concentration (mg/L)
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

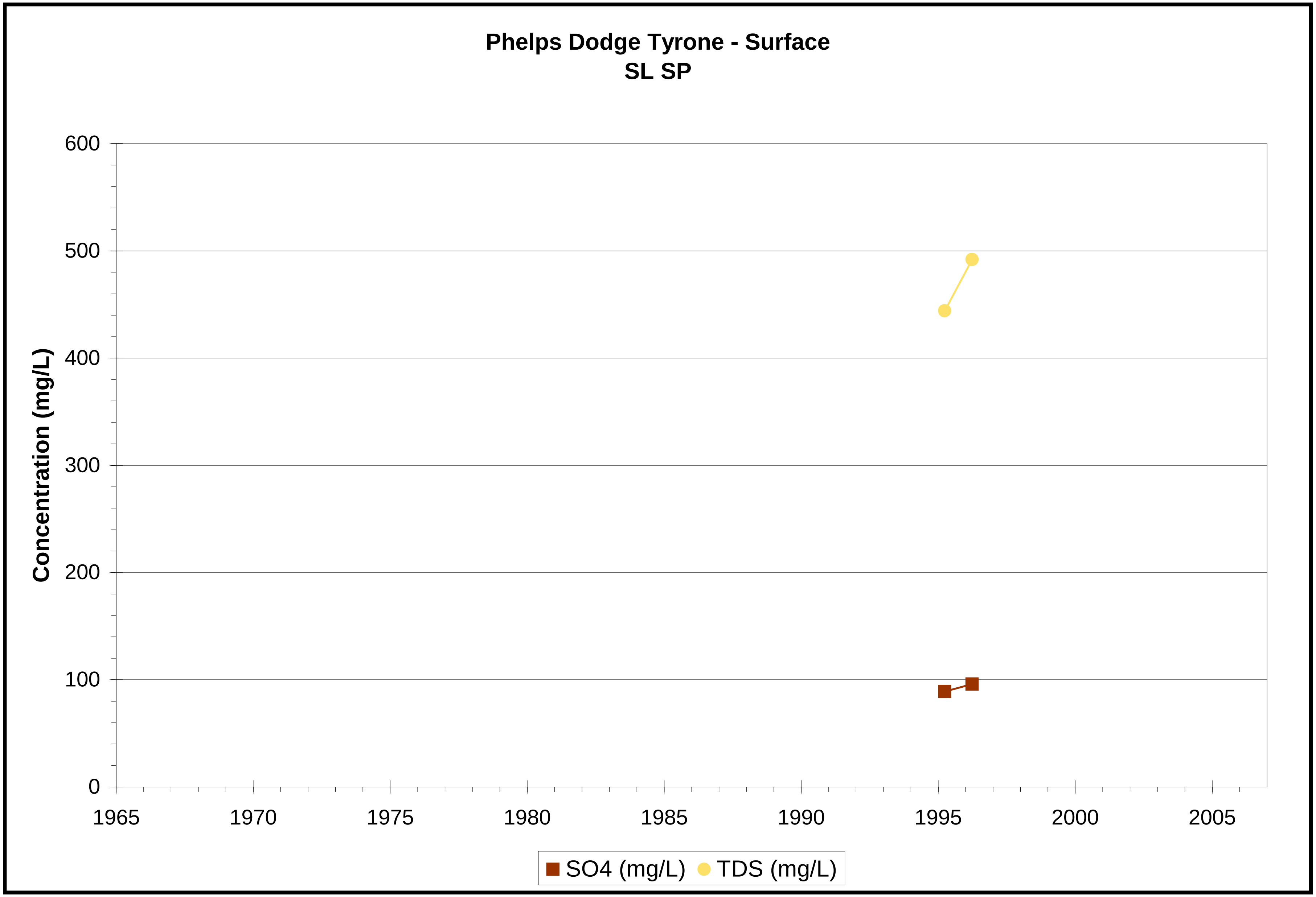

Phelps Dodge Tyrone - Surface
SEEP5L
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

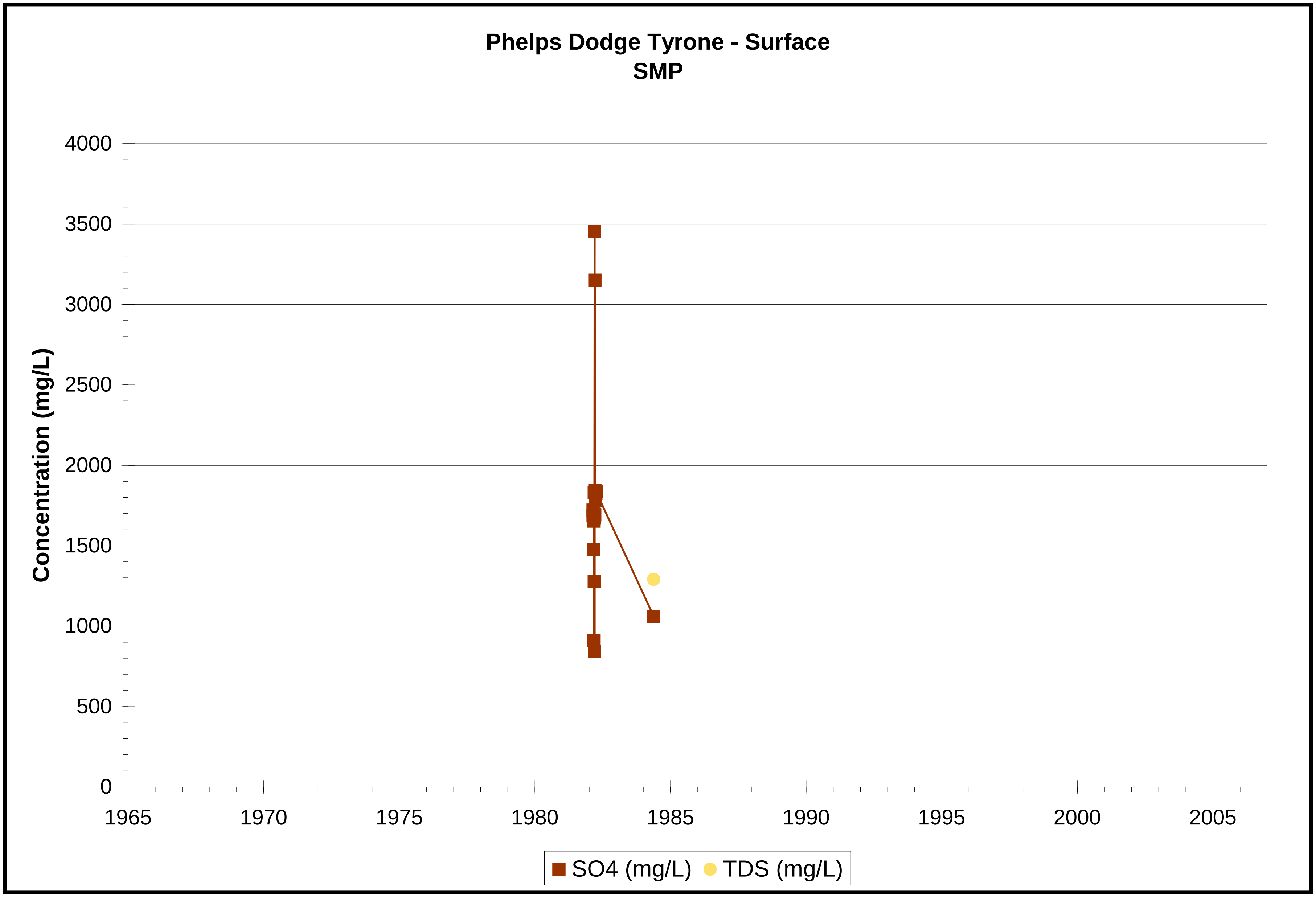


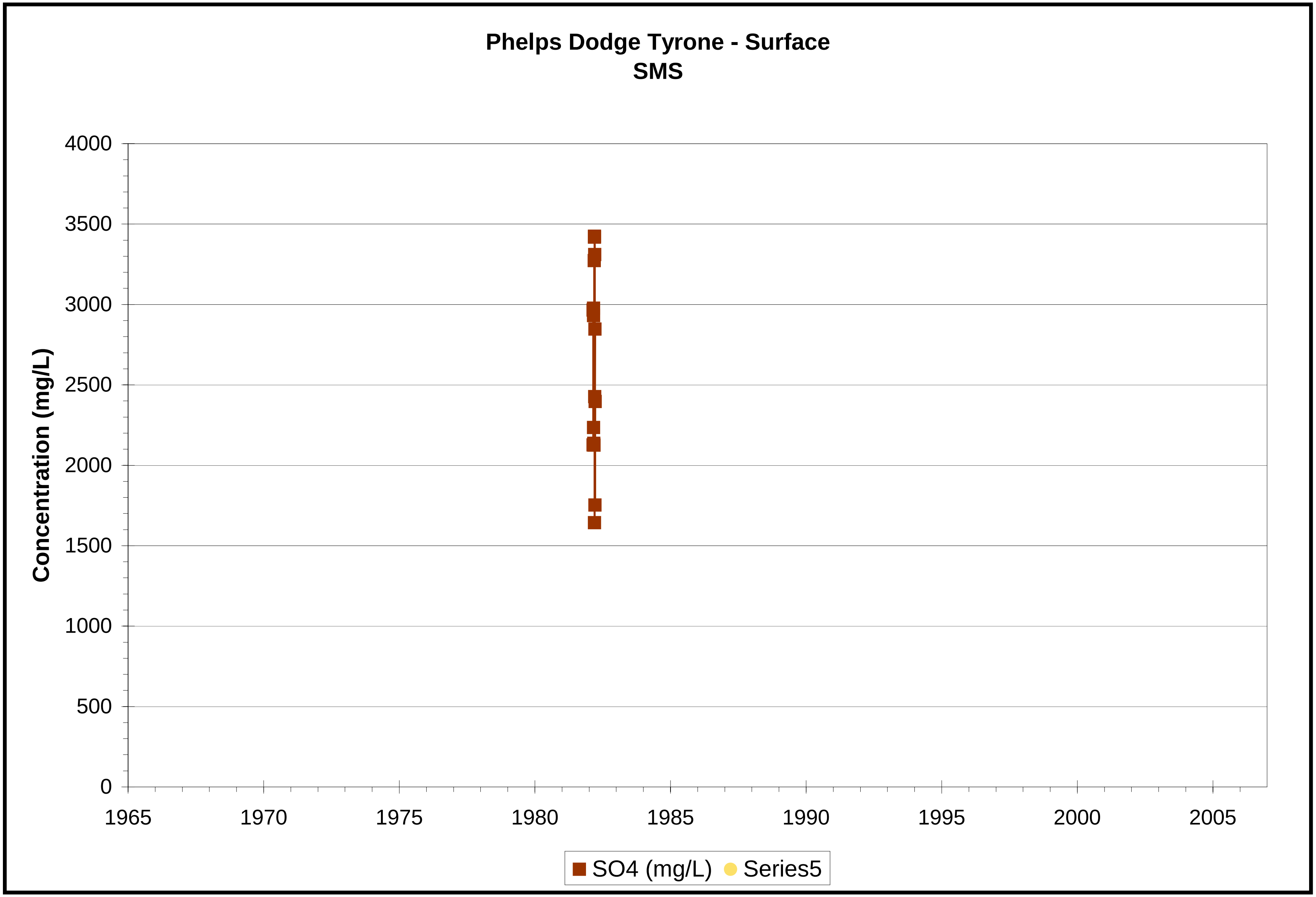
Phelps Dodge Tyrone - Surface
SEEP5M
Concentration (mg/L)
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



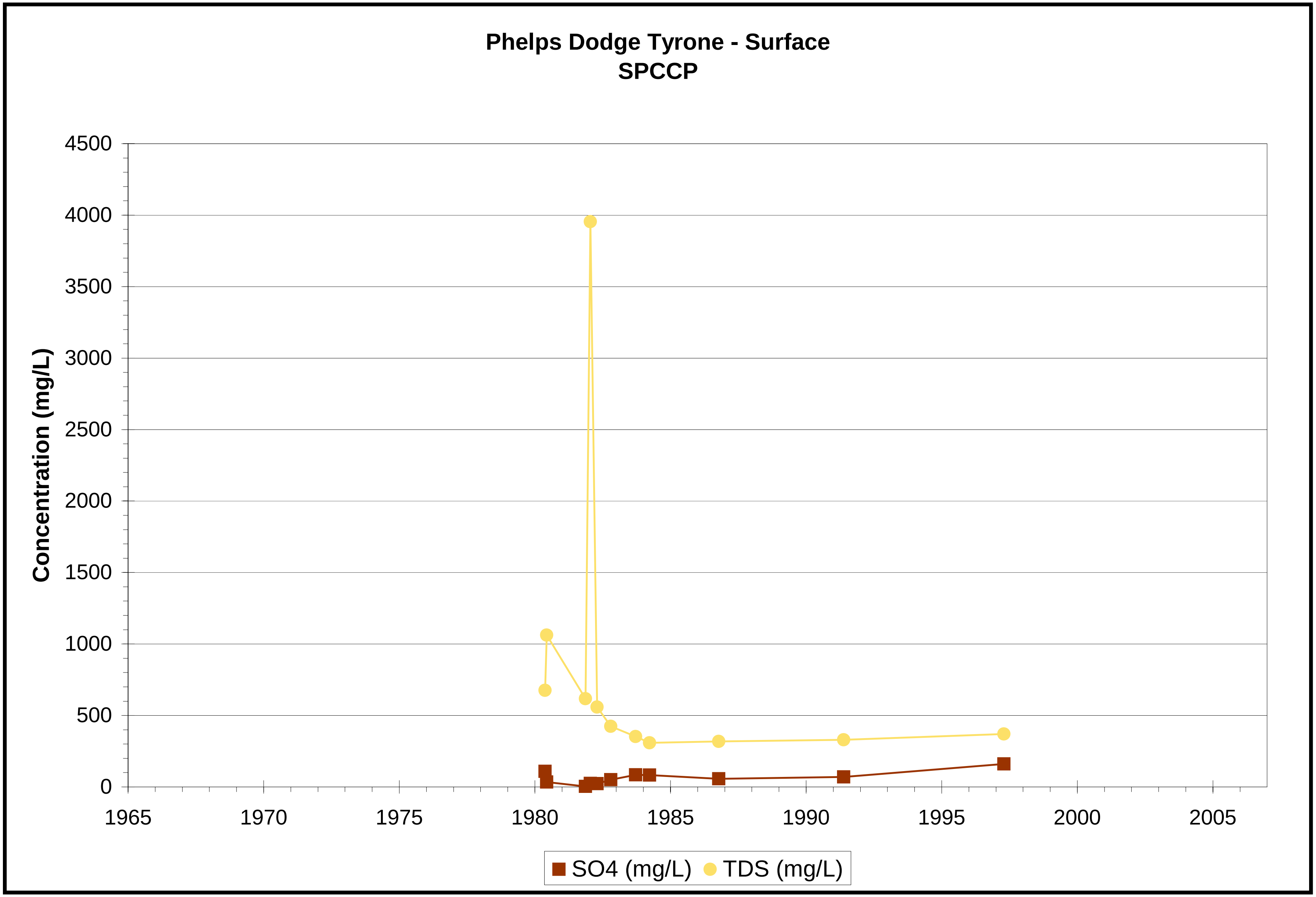
Phelps Dodge Tyrone - Surface
SL
Concentration (mg/L)
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Surface
SL SP
Concentration (mg/L)
0
100
200
300
400
500
600
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

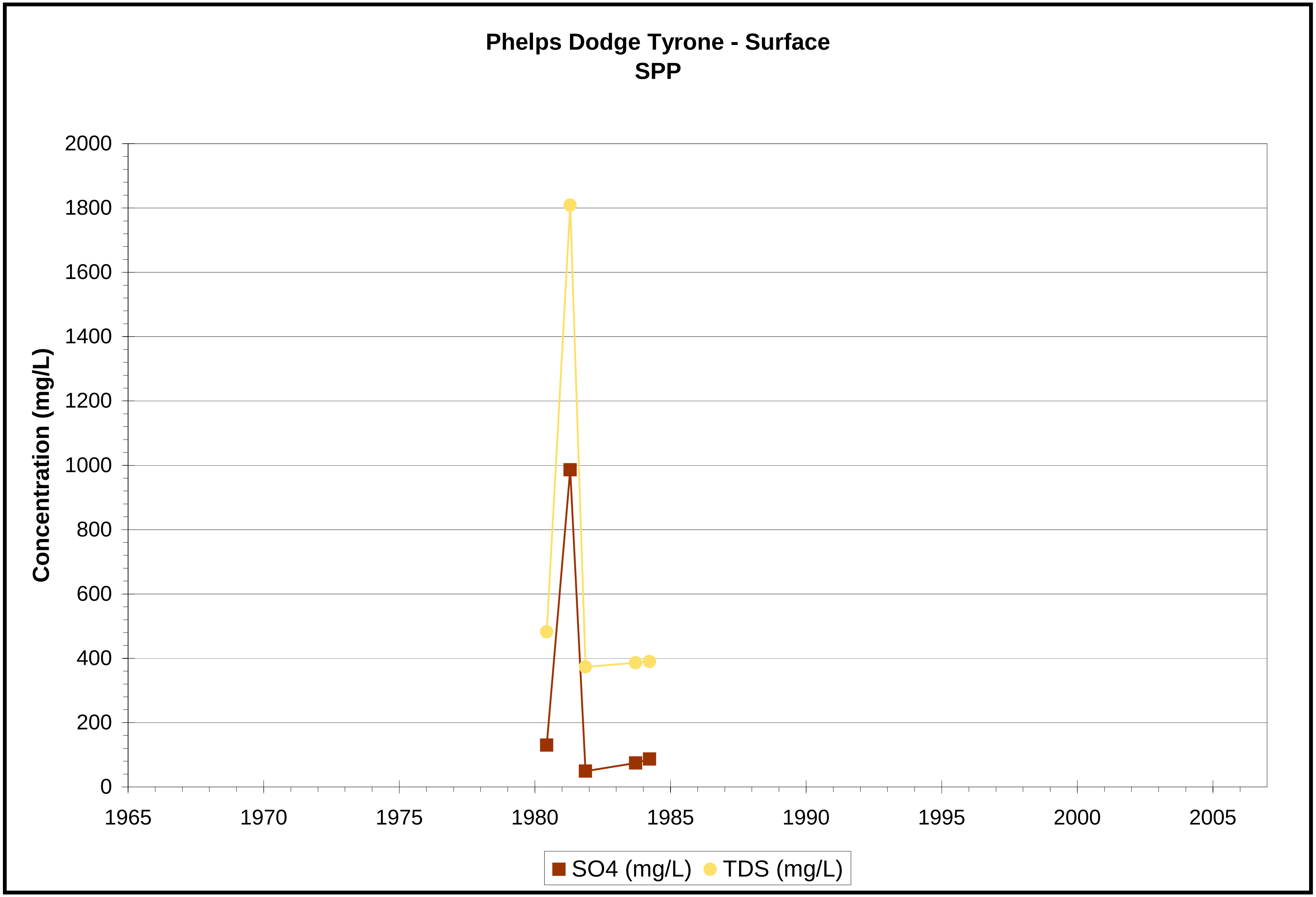

Phelps Dodge Tyrone - Surface
SMP
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



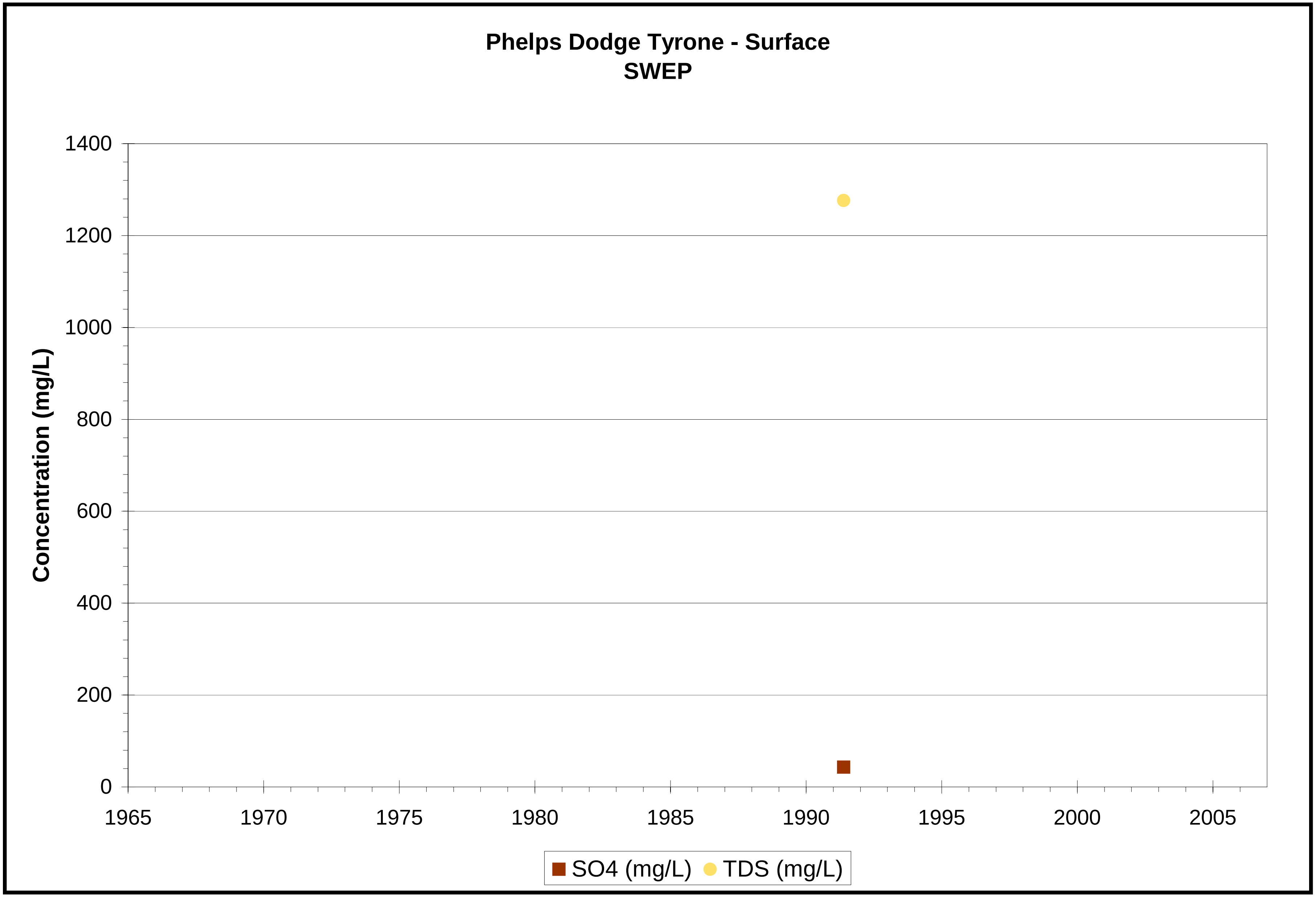
Phelps Dodge Tyrone - Surface
SMS
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
Series5

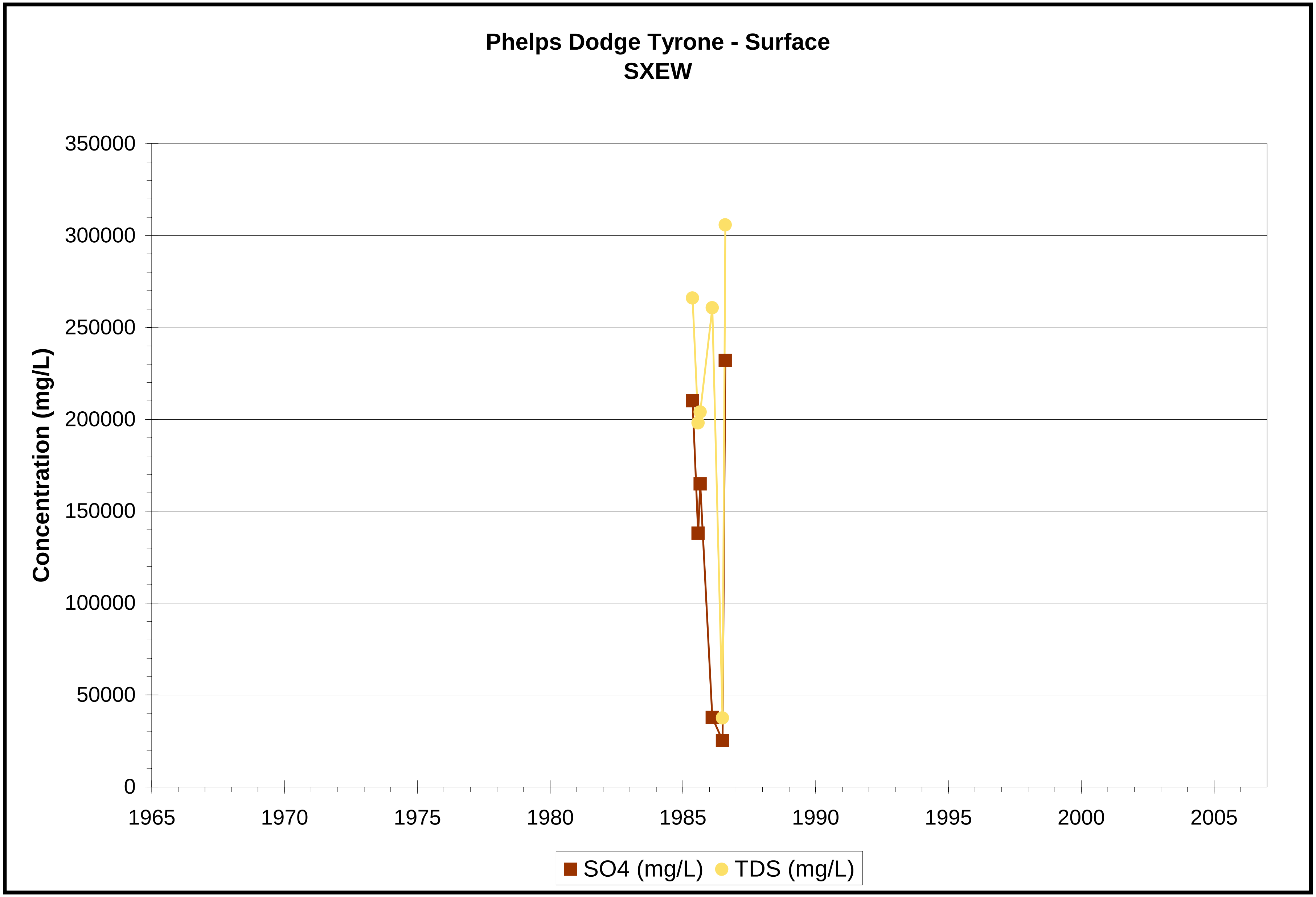


Phelps Dodge Tyrone - Surface
SPCCP
Concentration (mg/L)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

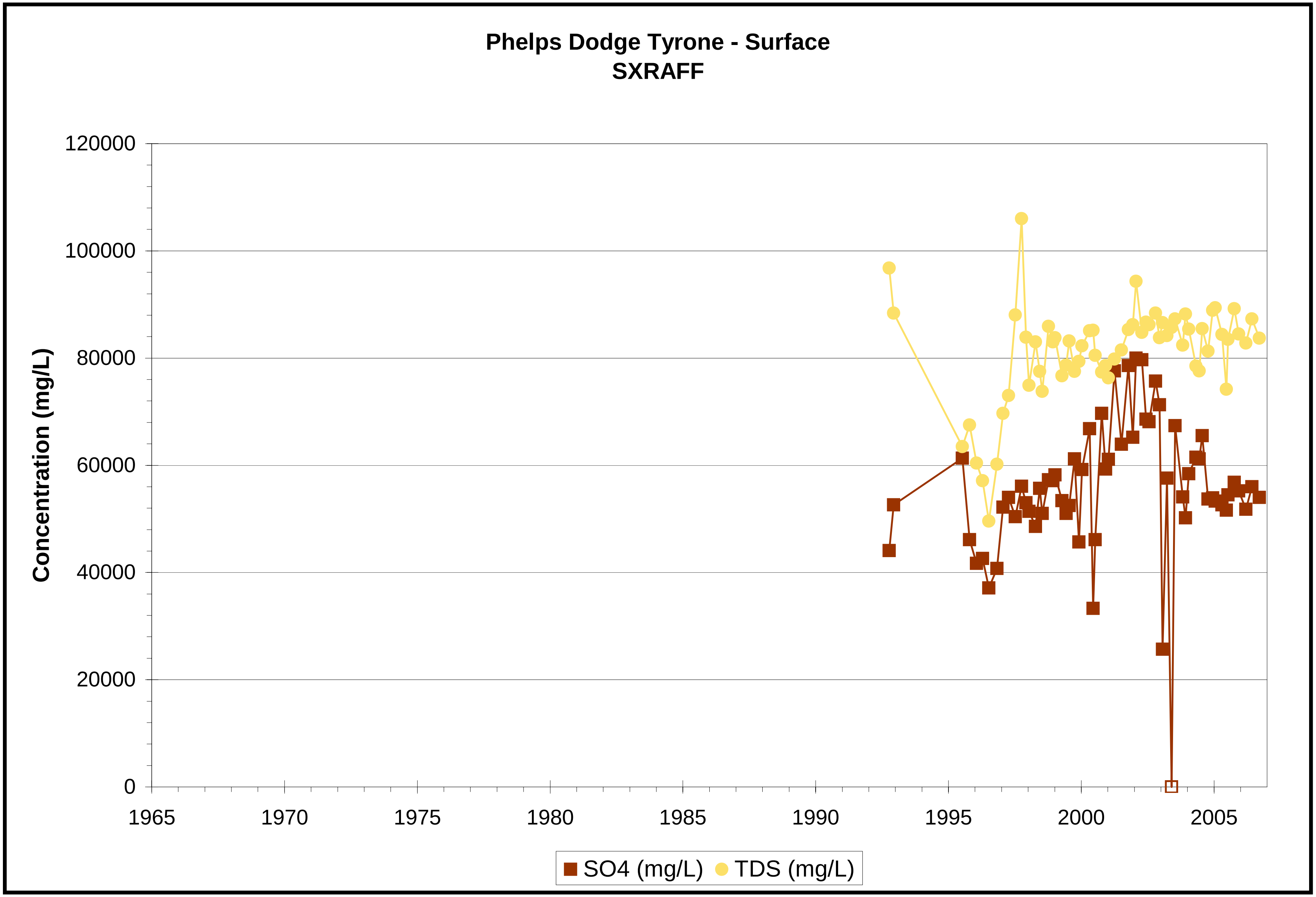


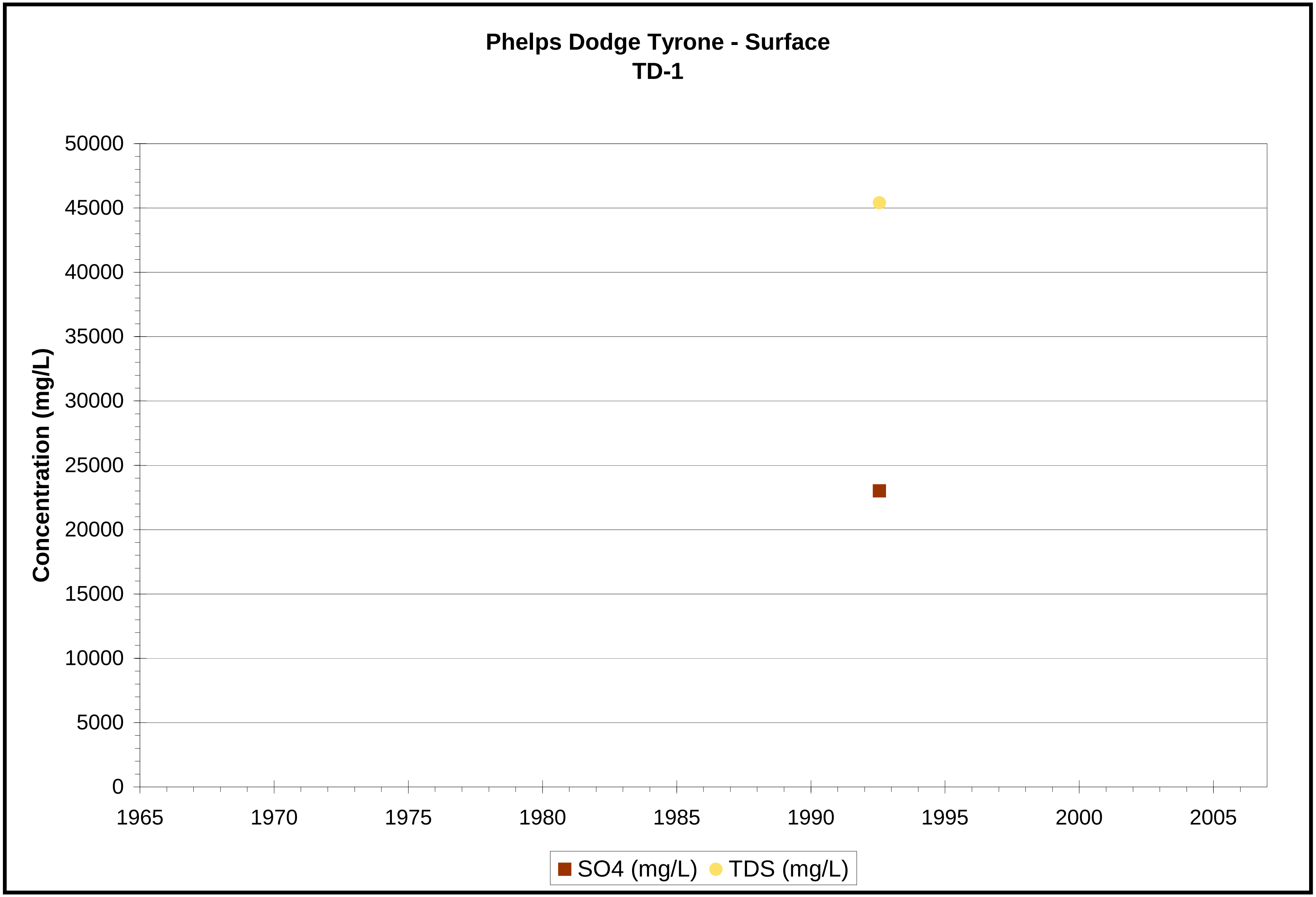
Phelps Dodge Tyrone - Surface
SPP
Concentration (mg/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Surface
SWEP
Concentration (mg/L)
0
200
400
600
800
1000
1200
1400
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

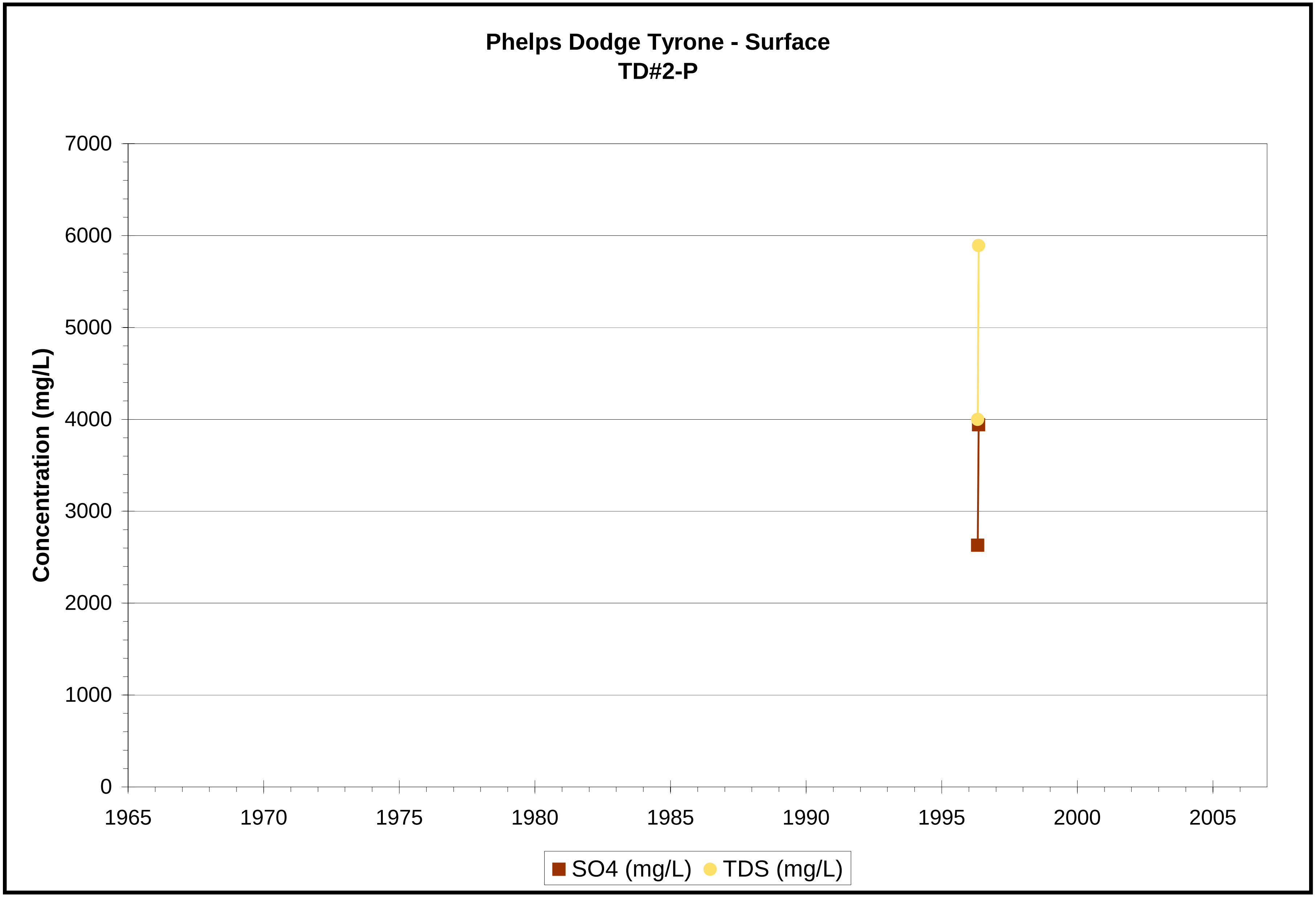


Phelps Dodge Tyrone - Surface
SXEW
Concentration (mg/L)
350000
300000
250000
200000
150000
100000
50000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

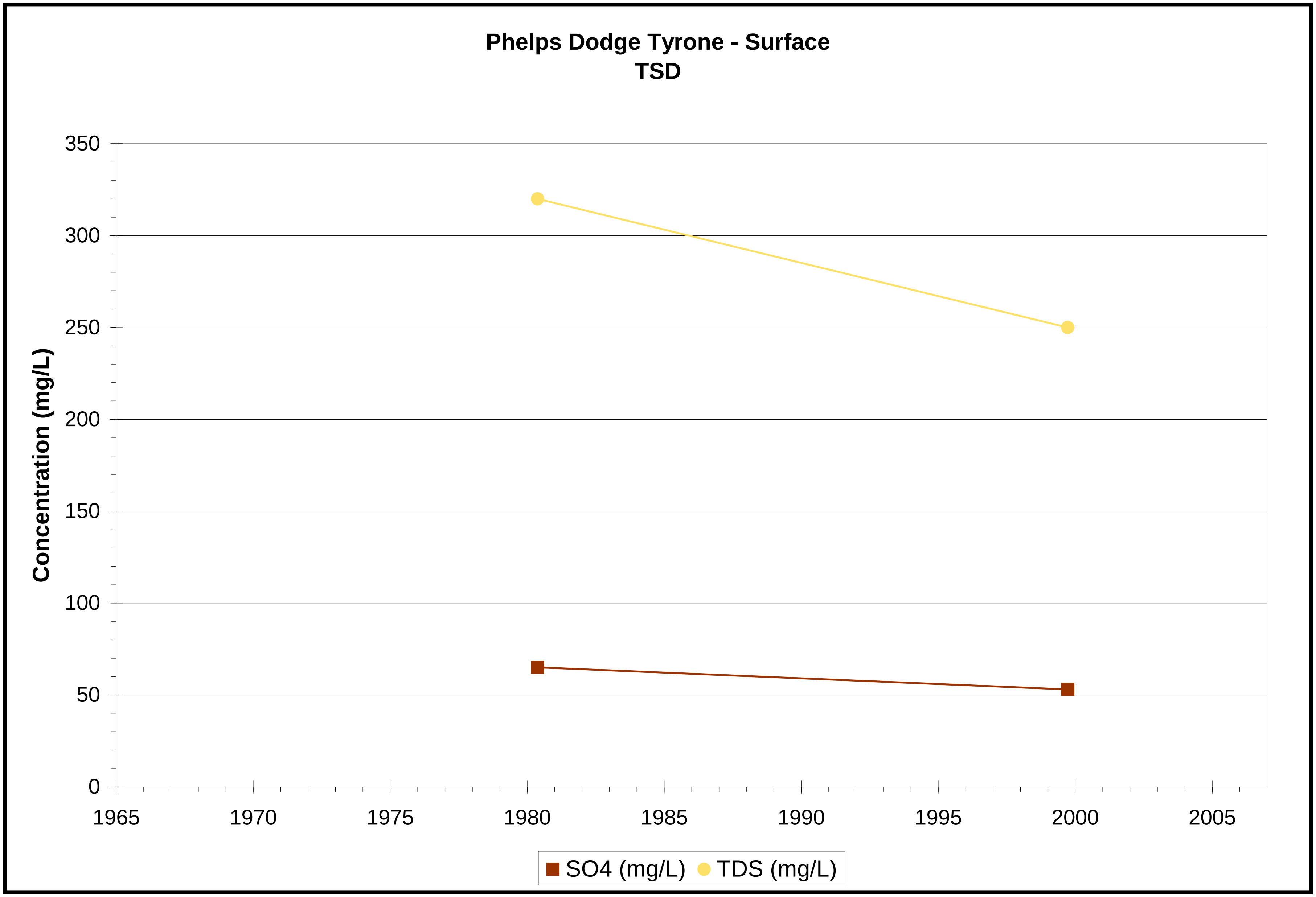

Phelps Dodge Tyrone - Surface
SXRAFF
Concentration (mg/L)
120000
100000
80000
60000
40000
20000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

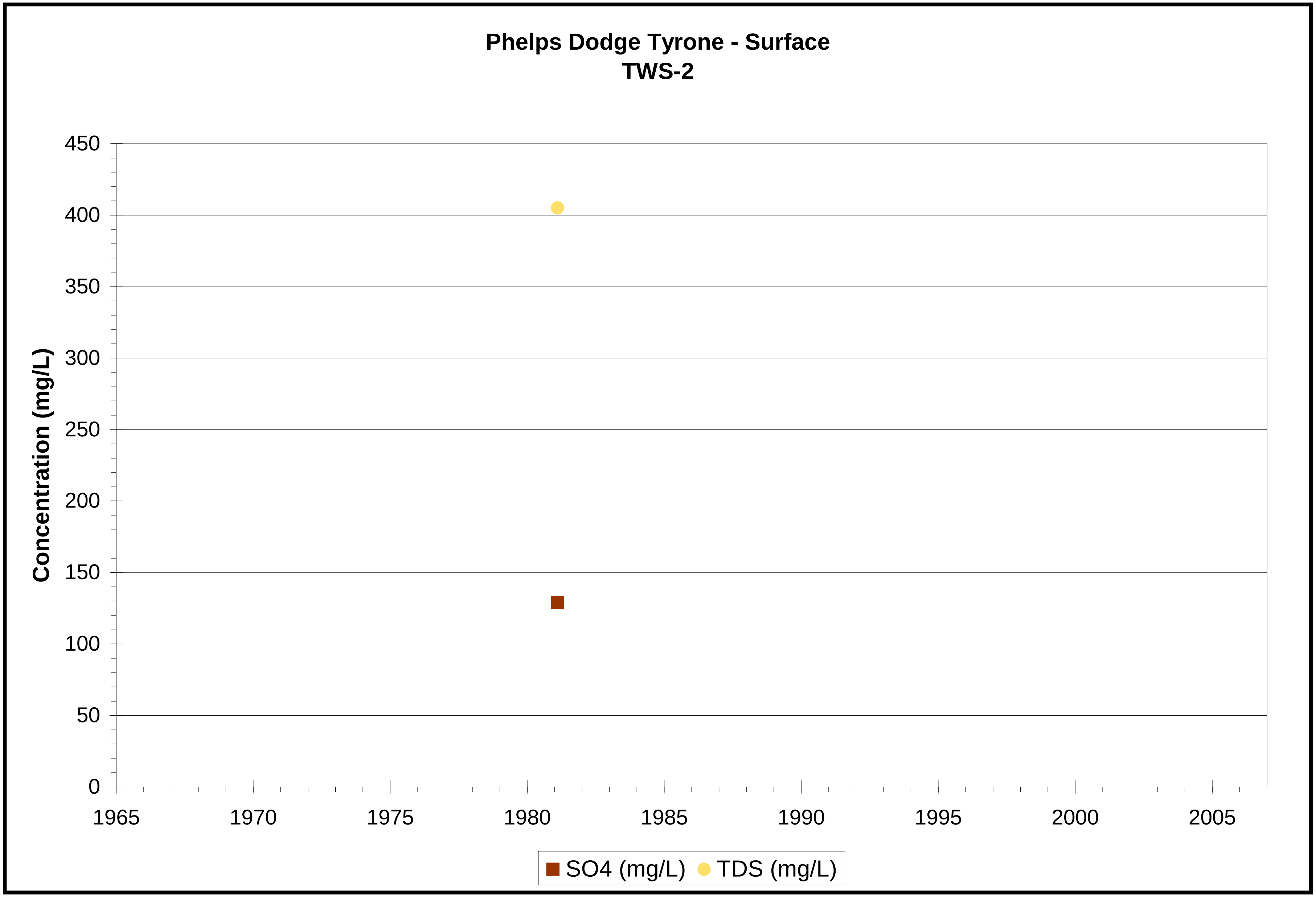


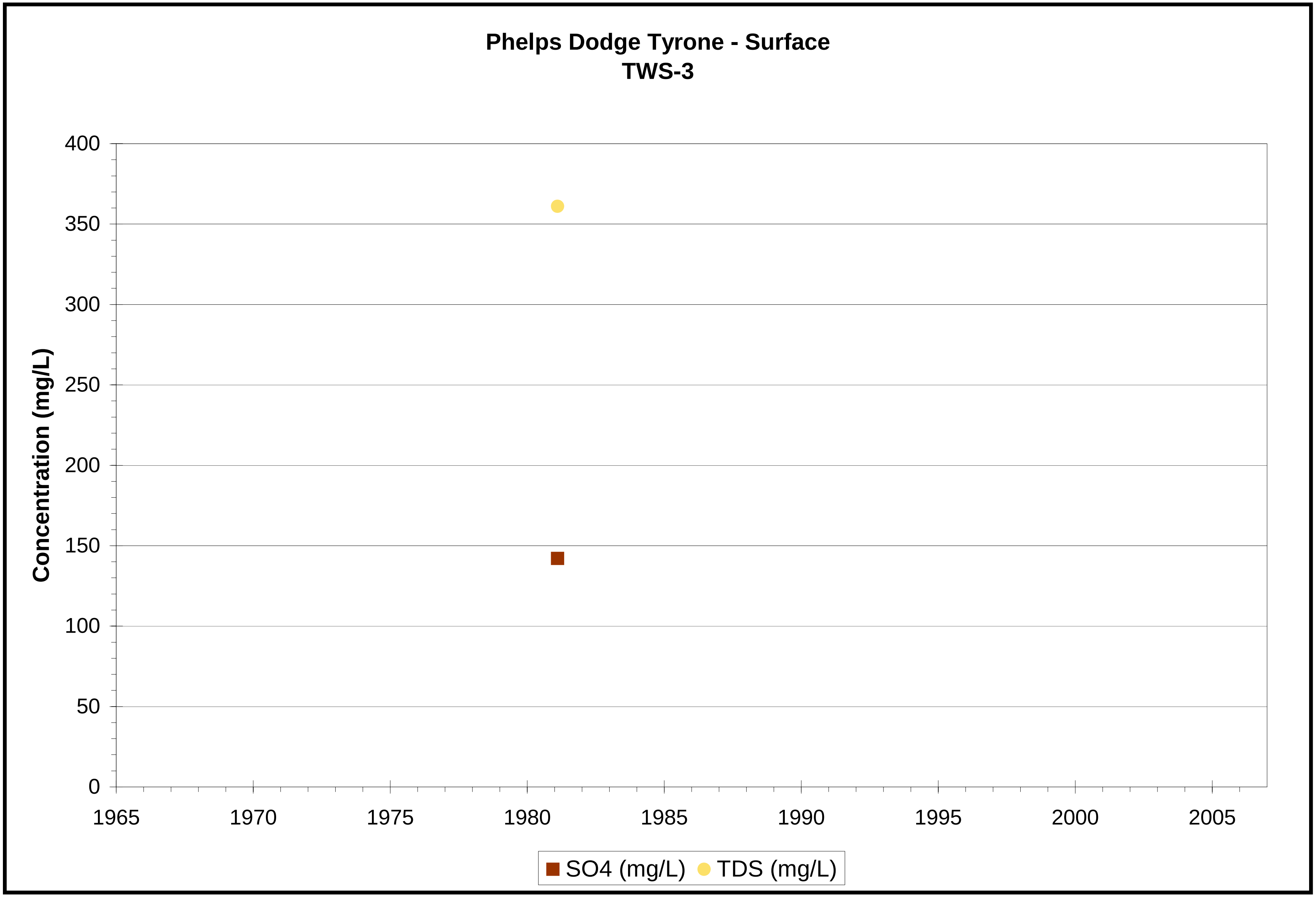
Phelps Dodge Tyrone - Surface
TD-1
Concentration (mg/L)
50000
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

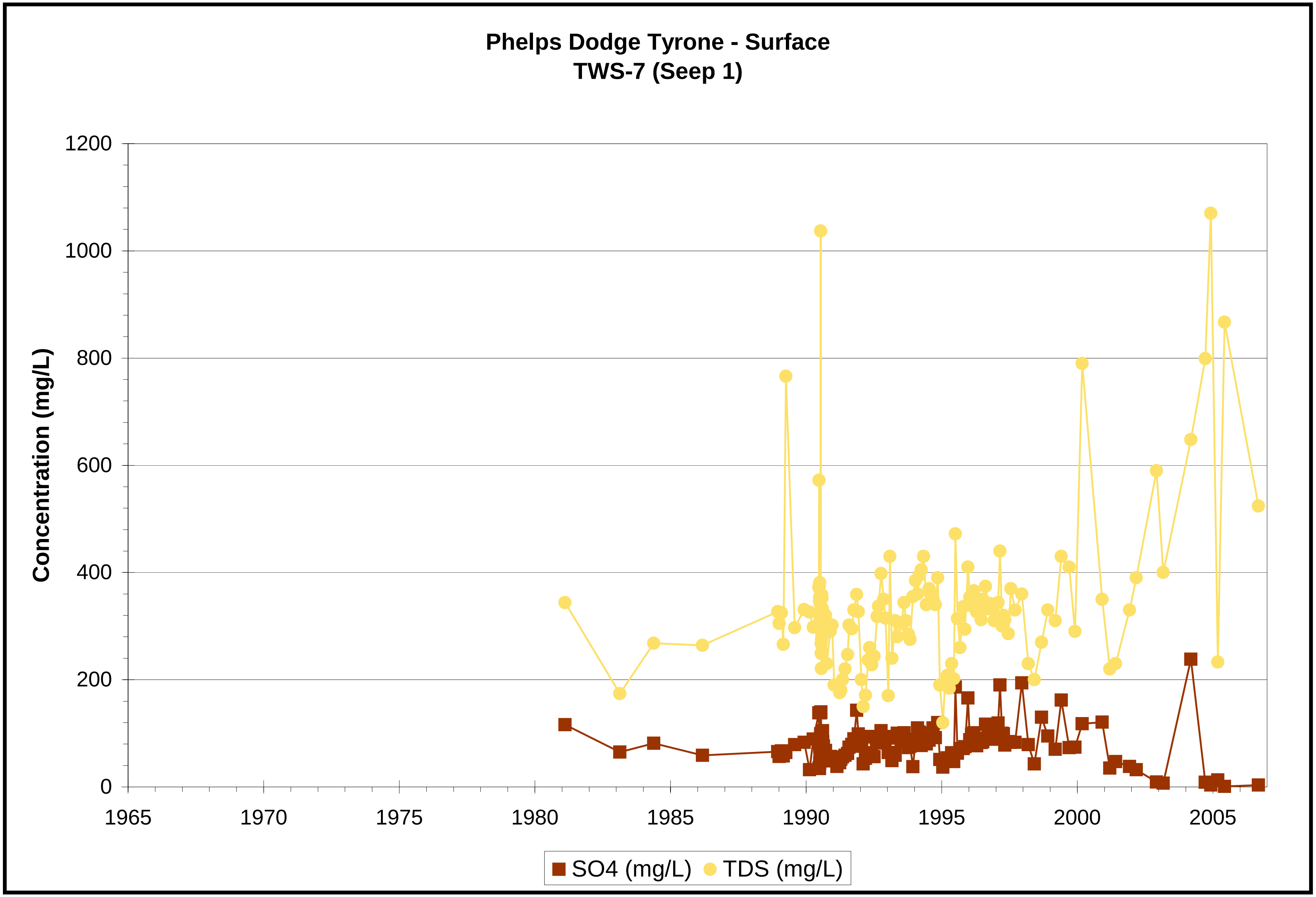


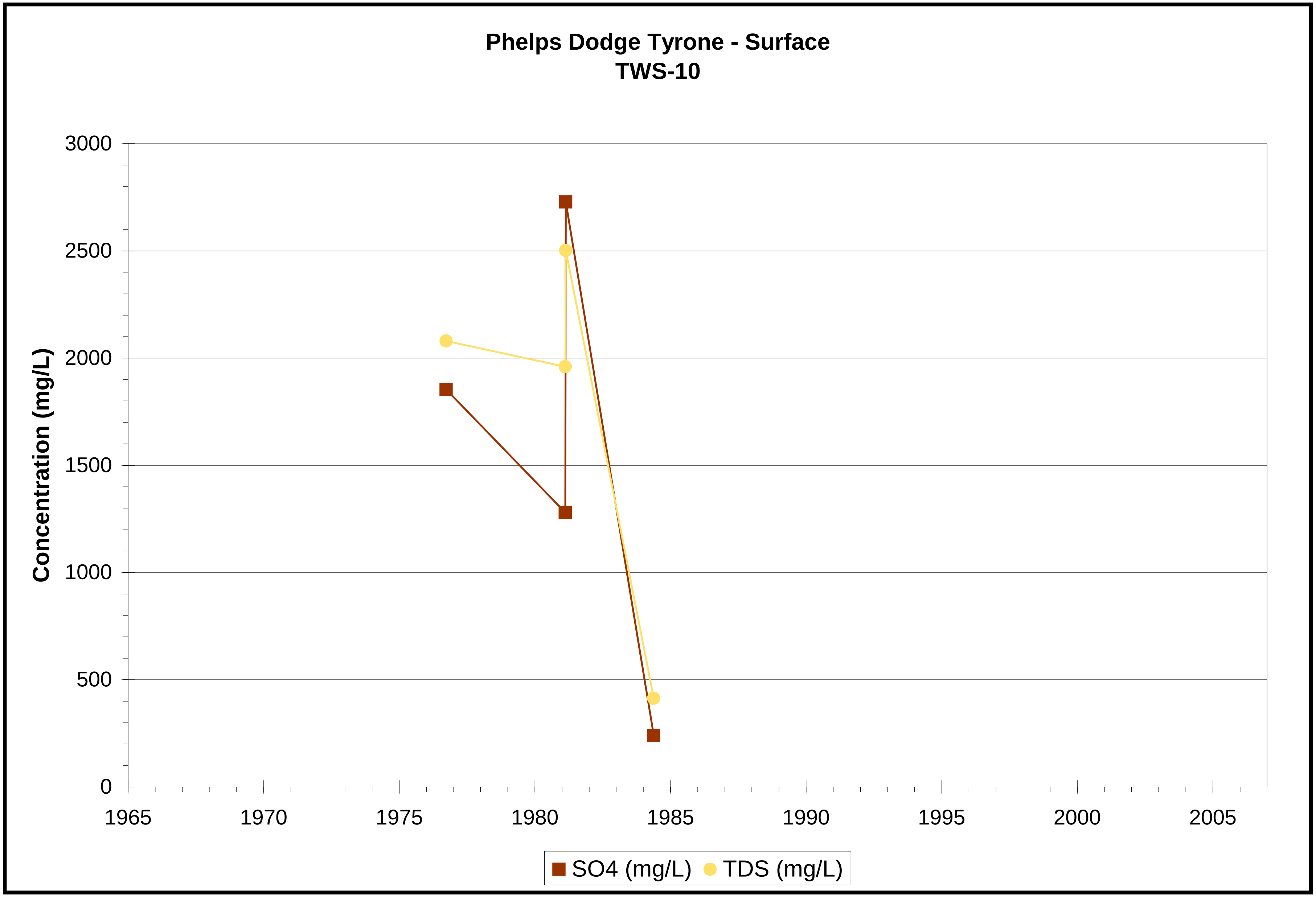
Phelps Dodge Tyrone - Surface
TD#2-P
Concentration (mg/L)
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Surface
TSD
Concentration (mg/L)
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

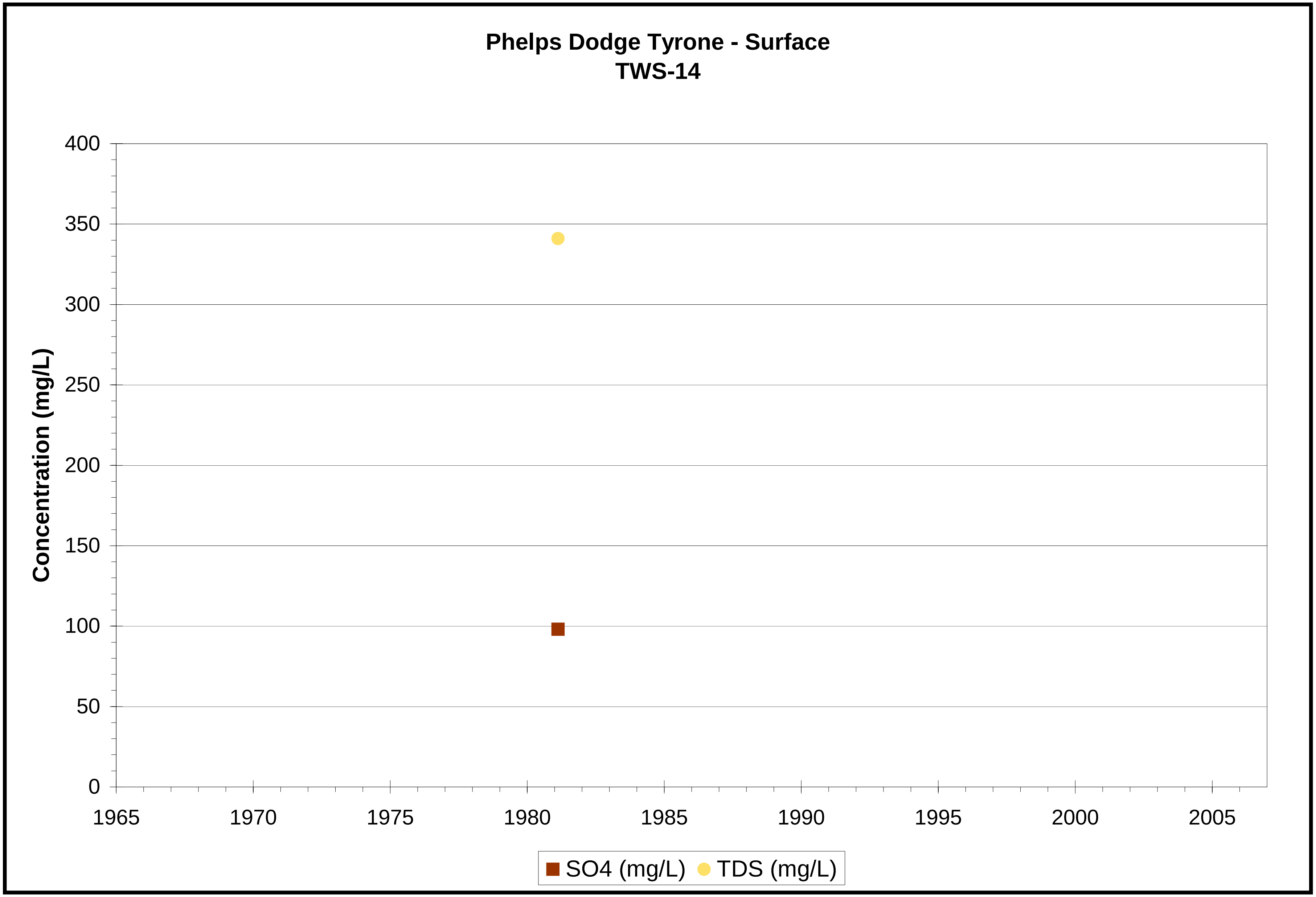

Phelps Dodge Tyrone - Surface
TWS-2
Concentration (mg/L)
450
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

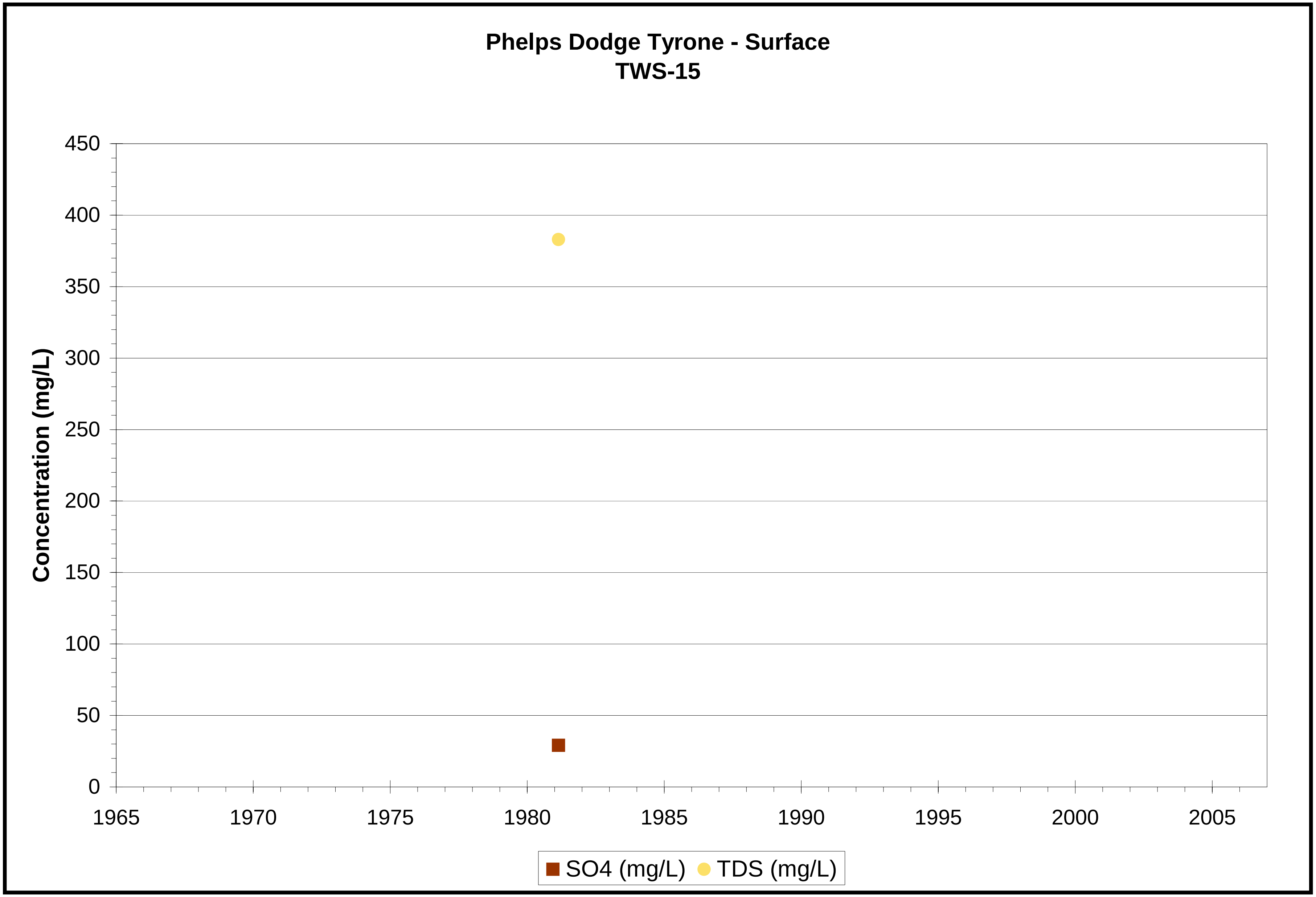

Phelps Dodge Tyrone - Surface
TWS-3
Concentration (mg/L)
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

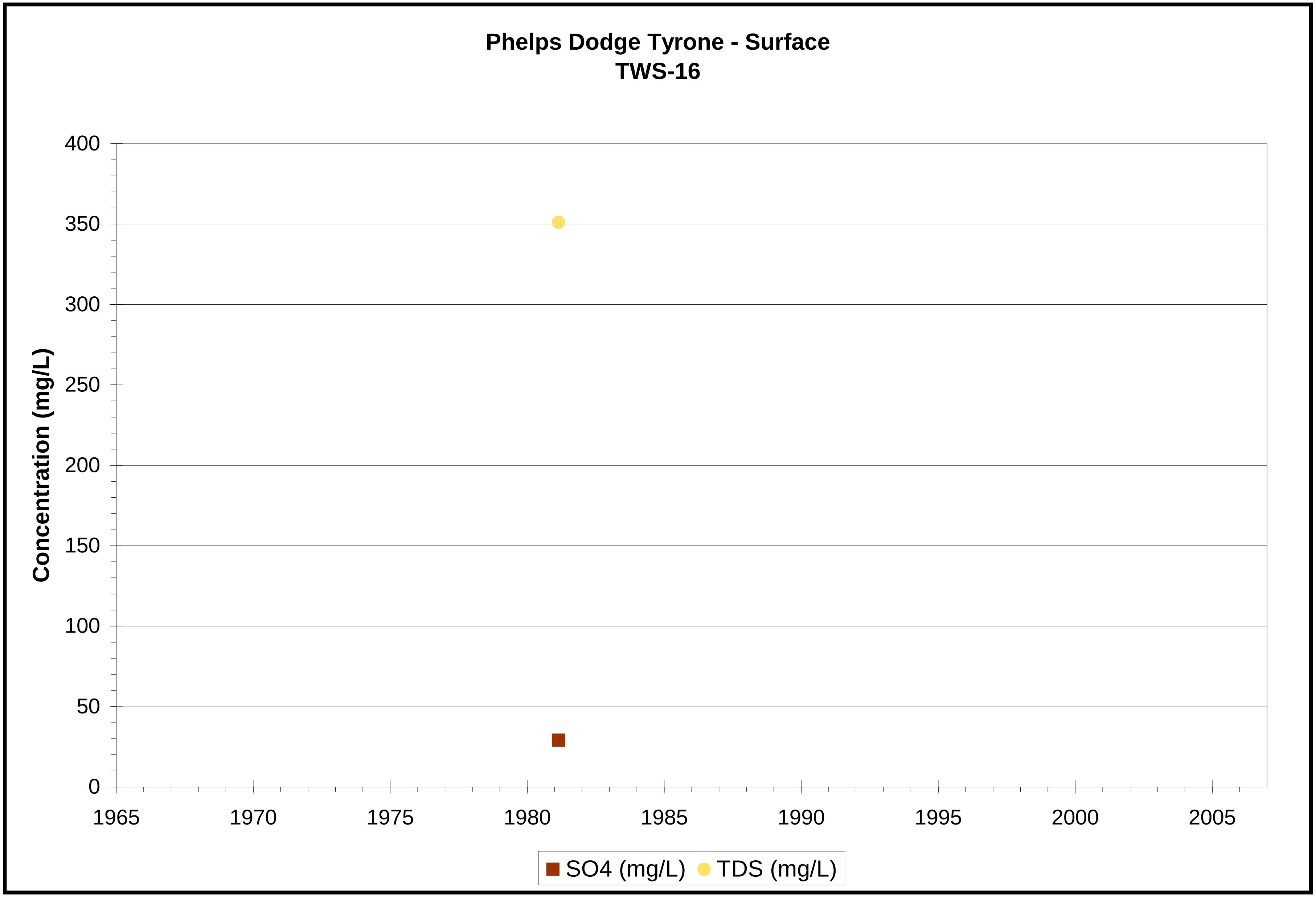

Phelps Dodge Tyrone - Surface
TWS-7 (Seep 1)
Concentration (mg/L)
1200
1000
800
600
400
200
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

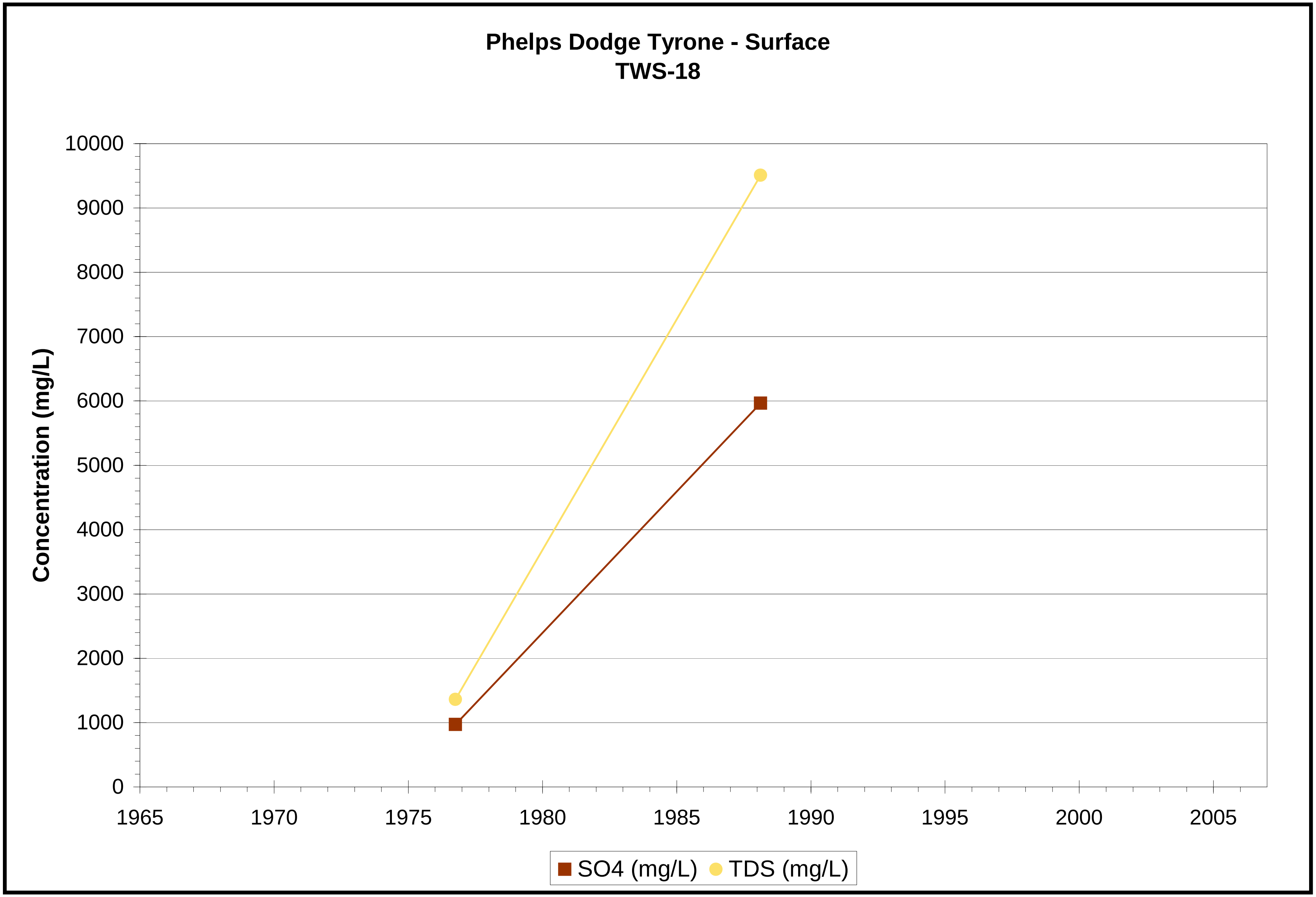


Phelps Dodge Tyrone - Surface
TWS-10
Concentration (mg/L)
3000
2500
2000
1500
1000
500
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

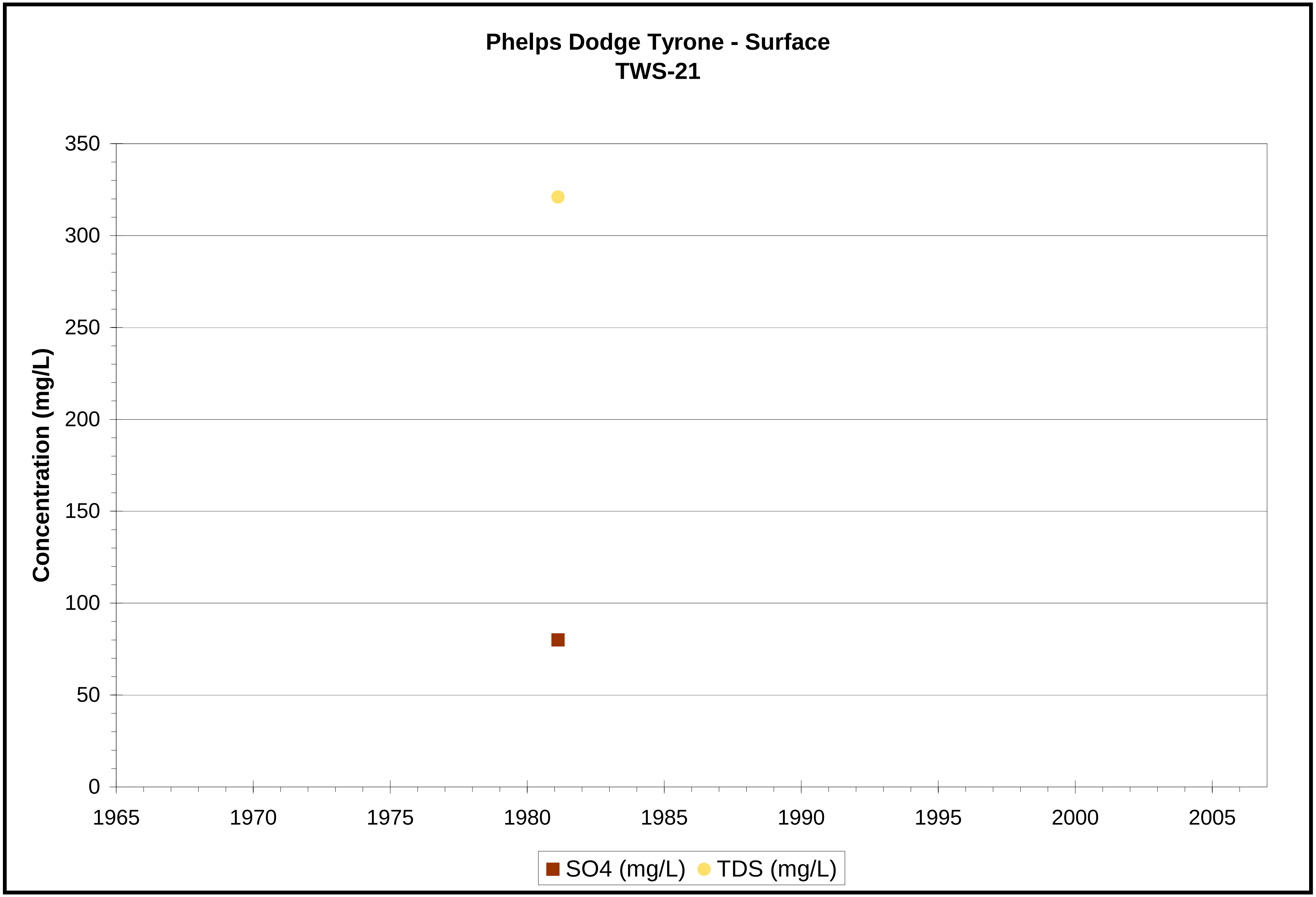

Phelps Dodge Tyrone - Surface
TWS-14
Concentration (mg/L)
0
50
100
150
200
250
300
350
400
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

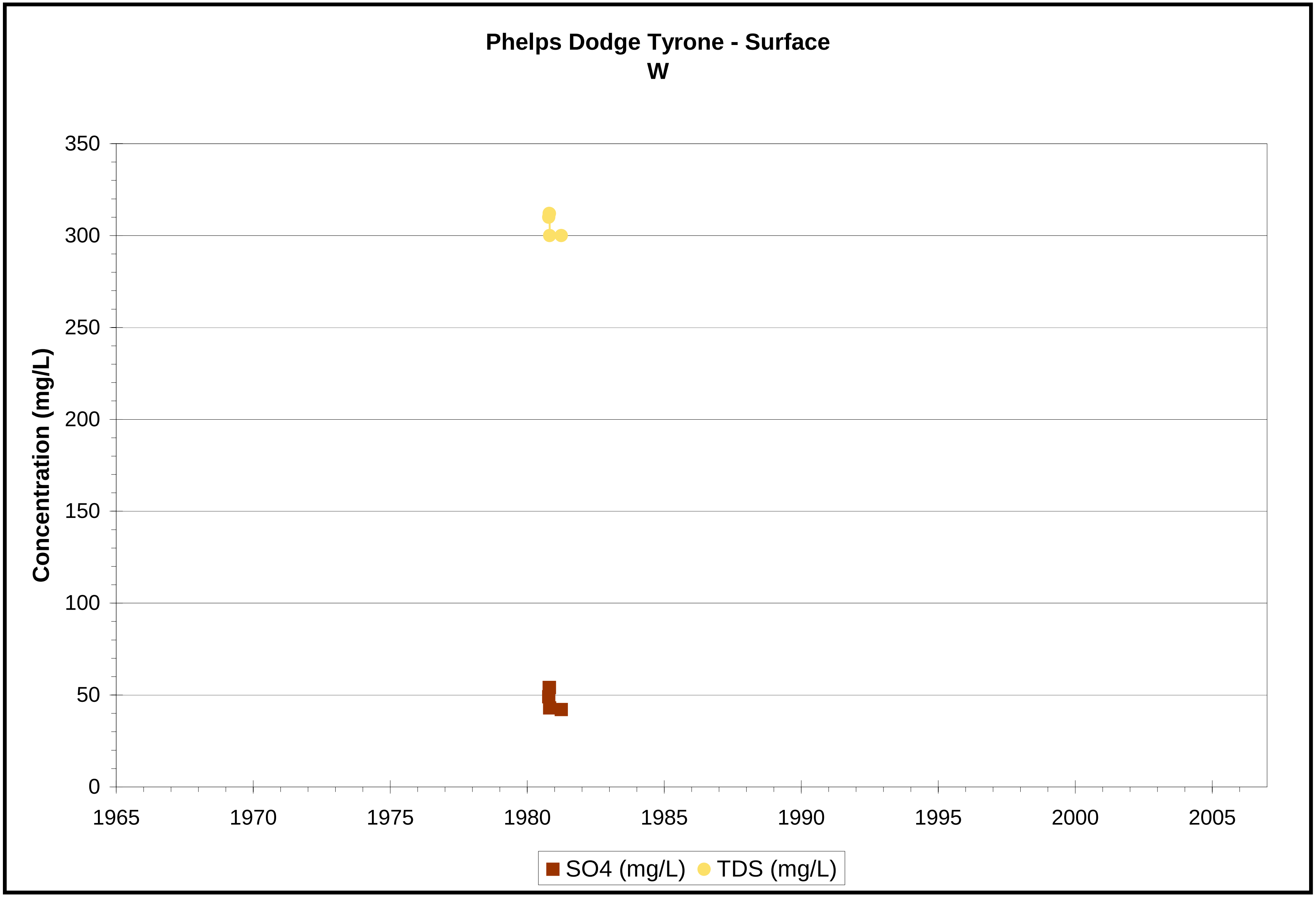

Phelps Dodge Tyrone - Surface
TWS-15
Concentration (mg/L)
450
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Surface
TWS-16
Concentration (mg/L)
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)

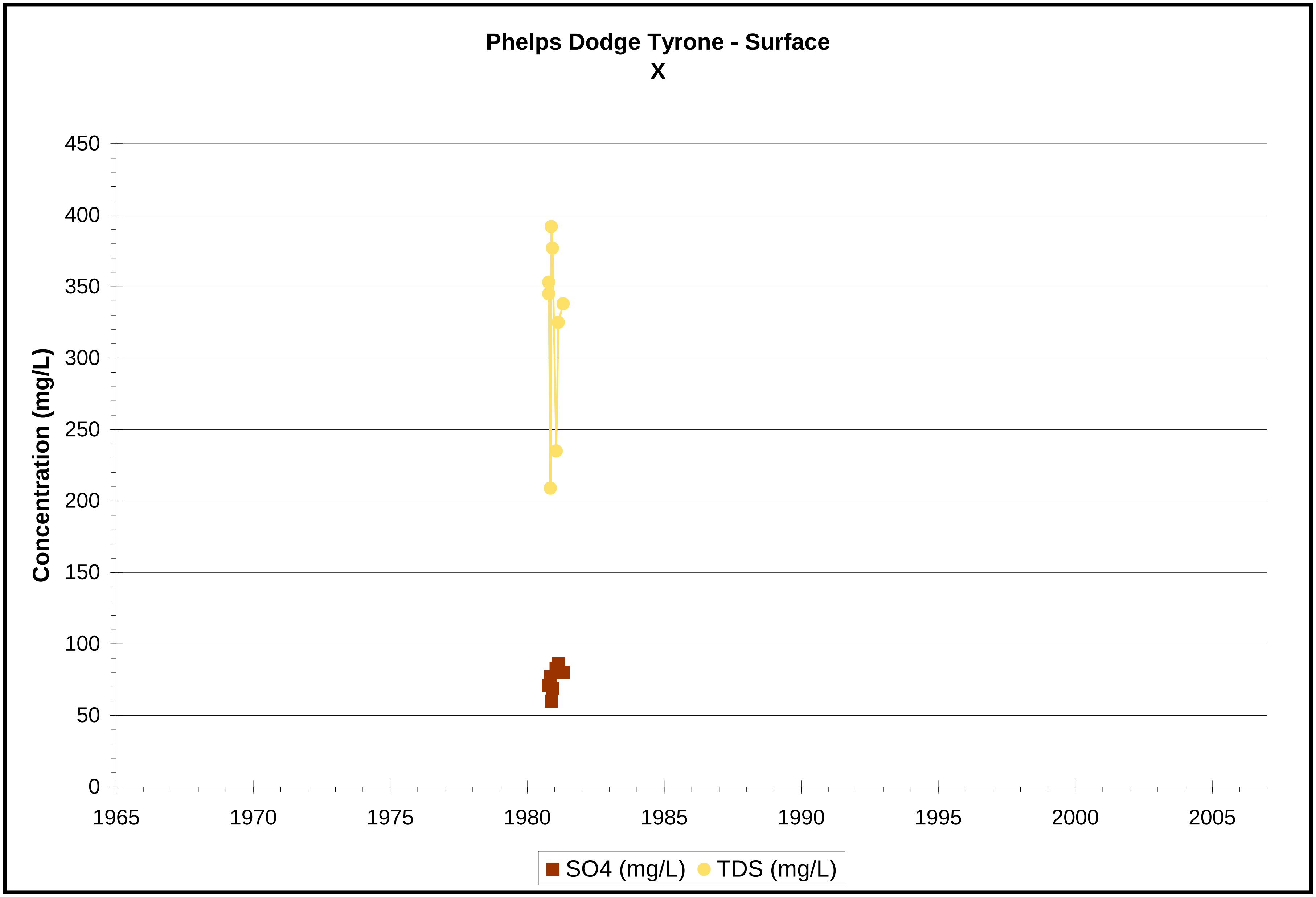


Phelps Dodge Tyrone - Surface
TWS-18
Concentration (mg/L)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)


Phelps Dodge Tyrone - Surface
TWS-21
Concentration (mg/L)
0
50
100
150
200
250
300
350
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



Phelps Dodge Tyrone - Surface
W
Concentration (mg/L)
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)



Phelps Dodge Tyrone - Surface
X
Concentration (mg/L)
450
400
350
300
250
200
150
100
50
0
1965
1970
1975
1980
1985
1990
1995
2000
2005
SO4 (mg/L)
TDS (mg/L)