

APPENDIX C

Storm Sampling Results

Table C-1. Detections of Analytes for Which Standards Exist

	Glyphosate	Endosulfan I	Endosulfan II	Chlorpyrifos	Diazinon	Malathion	Chloroform	Toluene	Chromium
Total samples	87	6	6	84	84	84	13	13	87
Number of detections	32	0	0	16	49	17	1	1	64
Percentage of detections	36.8%	0.0%	0.0%	19.0%	58.3%	20.2%	7.7%	7.7%	73.6%
Minimum	0.011			0.00004	0.00004	0.0001	0.0007	0.0008	0.01
Average	0.033			0.00017	0.00042	0.0005	0.0007	0.0008	0.02
Maximum	0.079			0.00120	0.00510	0.0018	0.0007	0.0008	0.04
Standard Deviation	0.018			0.00029	0.00086	0.0005	0	0	0.01
Objective or standard	MUN	CCC	CCC	CCC	CMC	CCC	Chr	Acu	CCC
Value	0.7	0.000056	0.000056	0.000041	0.0000009	0.0001	1.24	17.4	0.74
Number of exceedances	0	0	0	15	49	15	0	0	0

	Copper	Mercury	Nickel	Zinc	Nitrate as Nitrogen	Total coliform (MPN)	E. coli (MPN)	Enterococcus (MPN)
Total samples	87	87	87	87	87	41	41	41
Number of detections	41	2	11	85	76	41	41	41
Percentage of detections	47.1%	2.3%	12.6%	97.7%	87.4%	100.0%	100.0%	100.0%
Minimum	0.01	0.0002	0.01	0.01	0.5	3282	10	20
Average	0.03	0.0003	0.02	0.11	3.9	535596	21706	22451
Maximum	0.21	0.0003	0.04	0.41	24.0	3000000	241920	120330
Standard Deviation	0.03	0.0001	0.01	0.09	4.0	791915	43706	33032
Objective or standard	CCC	Chr	CCC	C/W	MUN	SOWQS	SOWQS	SOWQS
Value	0.009	0.000012	0.052	0.004	45	10,000	400	104
Number of exceedances	41	2	0	85	0	35	33	38

Table C-2. Comparison of 1999-2000, 2000-01 and 2001-02 Results

		1999-2000					2000-01					2001-02				
		Minimum	Average	Maximum	Standard Deviation	# of Detections	Minimum	Average	Maximum	Standard Deviation	# of Detections	Minimum	Average	Maximum	Standard Deviation	# of Detections
Pesticides	Glyphosate	0.0098	0.067	0.57	0.11	41	0.009	0.034	0.160	0.029	67	0.011	0.033	0.079	0.018	32
	4,4'-DDE	0.00003	0.00003	0.00003	0	1	-	-	-	-	-	-	-	-	-	-
	4,4'-DDT	-	-	-	-	-	0.00004	0.00004	0.00004	0	1	-	-	-	-	-
	Endosulfan I	0.00005	0.00005	0.00005	0	1	0.00004	0.00009	0.00017	0.00007	3	-	-	-	-	-
	Endosulfan II	0.00003	0.00003	0.00003	0	1	0.00005	0.00008	0.00011	0.00003	3	-	-	-	-	-
	Endosulfan sulfate	0.00005	0.000065	0.00008	0.00002	2	0.00004	0.00007	0.00011	0.00004	3	-	-	-	-	-
	Chlorpyrifos	0.00004	0.000196	0.00052	0.0002	5	0.00004	0.00030	0.00290	0.00055	30	0.00004	0.00017	0.00120	0.00029	16
	Diazinon	0.00004	0.00065	0.018	0.003	39	0.00004	0.00042	0.00840	0.00120	65	0.00004	0.00042	0.00510	0.00086	49
	Malathion	0.00007	0.0002	0.00048	0.0002	6	0.00010	0.00025	0.00070	0.00017	16	0.0001	0.0005	0.0018	0.0005	17
	2,4-D	0.006	0.006	0.006	0	1	-	-	-	-	-	-	-	-	-	-
VOCs	Chloroform	0.0007	0.0007	0.0007	0	1	-	-	-	-	-	0.0007	0.0007	0.0007	0	1
	4-Isopropyltoluene	0.0007	0.0014	0.0021	0.00099	2	0.007	0.007	0.007	0	1	-	-	-	-	-
	Naphthalene	0.0032	0.0032	0.0032	0	1	-	-	-	-	-	-	-	-	-	-
	Toluene	0.0006	0.00105	0.0015	0.000636	2	-	-	-	-	-	0.0008	0.0008	0.0008	0	1
	1,2,4-Trimethylbenzene	0.0011	0.0011	0.0011	0	1	-	-	-	-	-	-	-	-	-	-
	Xylenes	0.0011	0.0011	0.0011	0	1	-	-	-	-	-	-	-	-	-	-
	cis-1,2-Dichloroethene	-	-	-	-	-	-	-	-	-	-	0.0022	0.0022	0.0022	0	1
	Tetrachloroethene	-	-	-	-	-	-	-	-	-	-	0.0072	0.0072	0.0072	0	1
	Trichloroethene	-	-	-	-	-	-	-	-	-	-	0.0009	0.0009	0.0009	0	1
Metals	Arsenic	0.05	0.07	0.12	0.03	9	0.05	0.05	0.05	0	1	-	-	-	-	-
	Chromium	0.01	0.07	0.42	0.08	56	0.01	0.02	0.03	0.01	5	0.01	0.02	0.04	0.01	64
	Copper	0.01	0.05	0.27	0.06	62	0.01	0.03	0.47	0.06	63	0.01	0.03	0.21	0.03	41
	Lead	0.01	0.01	0.04	0.01	46	0.013	0.014	0.015	0.001	2	-	-	-	-	-
	Mercury	0	0	0.01	0	3	0.00009	0.00043	0.00110	0.00025	32	0.0002	0.0003	0.0003	0.0001	2
	Nickel	0.01	0.03	0.27	0.05	41	0.01	0.02	0.09	0.02	13	0.01	0.02	0.04	0.01	11
	Zinc	0.02	0.11	0.68	0.11	68	0.01	0.09	0.33	0.09	71	0.01	0.11	0.41	0.09	85

		1999-2000					2000-01					2001-02				
		Minimum	Average	Maximum	Standard Deviation	# of Detections	Minimum	Average	Maximum	Standard Deviation	# of Detections	Minimum	Average	Maximum	Standard Deviation	# of Detections
Nutrients	Ammonical Nitrogen	0.1	0.7	3.8	0.9	48	0.1	0.4	1.8	0.3	78	0.1	0.4	1.6	0.4	66
	Nitrate as Nitrogen	0.5	4.4	22	5.3	68	0.5	4.8	24.0	5.2	94	0.5	3.9	24.0	4.0	76
	Nitrite as Nitrogen	0.5	1	1.8	0.6	4	0.5	0.5	0.5	0	1	-	-	-	-	-
	Phosphorus as Phosphorus	1	1.8	3.4	0.8	13	1.1	1.9	2.7	0.6	10	1.1	1.8	2.8	0.7	12
	Total Phosphorus	0.02	1.4	13	2	73	0.02	1.20	8.40	1.56	110	0.03	1.67	18.00	2.81	87
	Total Kjeldahl Nitrogen	0.2	2.5	12	2.2	73	0.5	2.6	13.0	2.0	103	0.5	2.8	8.9	1.8	85
Other	TRPH	1	1.4	1.9	0.4	7	1	1.3	1.7	0.3	6	1.0	1.4	1.8	0.4	5
	Total Organic Carbon	1.7	22	130	23	62	3.2	24.1	110.0	17.3	100	3.8	20.3	78.0	15.8	73
	Oil and Grease	1	2	4	1	12	1.0	2.7	8.5	2.2	22	1.1	1.8	3.7	0.8	20
	Hardness	32	425	2400	561	74	8	329	2200	339	113	14	429	2100	384	85
	Specific Conductance (uhmos/cm)	69	2324	52000	7405	74	28	850	10000	1213	113	45	942	6700	999	85
	TDS	140	1685	26000	4098	74	22	607	4700	690	113	18	597	3800	572	85
	TSS	10	587	18000	2215	72	5	425	4000	815	102	5	444	16000	1952	67
	BOD	3	15	84	15	69	5	18	73	14	63	4	17	50	10	39
	Turbidity (NTU)	2	97	950	184	42	2.1	286.8	3700.0	665.3	110	2.5	701.2	12000.0	1942.0	81
Bacteria	Total Coliform	0	22466	241920	40503	228	496	317209	2419200	503865	122	3282	535596	3000000	791915	41
	<i>E. coli</i>	4106	188675	241920	81152	228	17	24413	1046200	99959	122	10	21706	241920	43706	41
	Enterococcus	152	27007	241920	34244	228	31	22163	241920	42688	122	20	22451	120330	33032	41

Figure C-1. Total Coliform

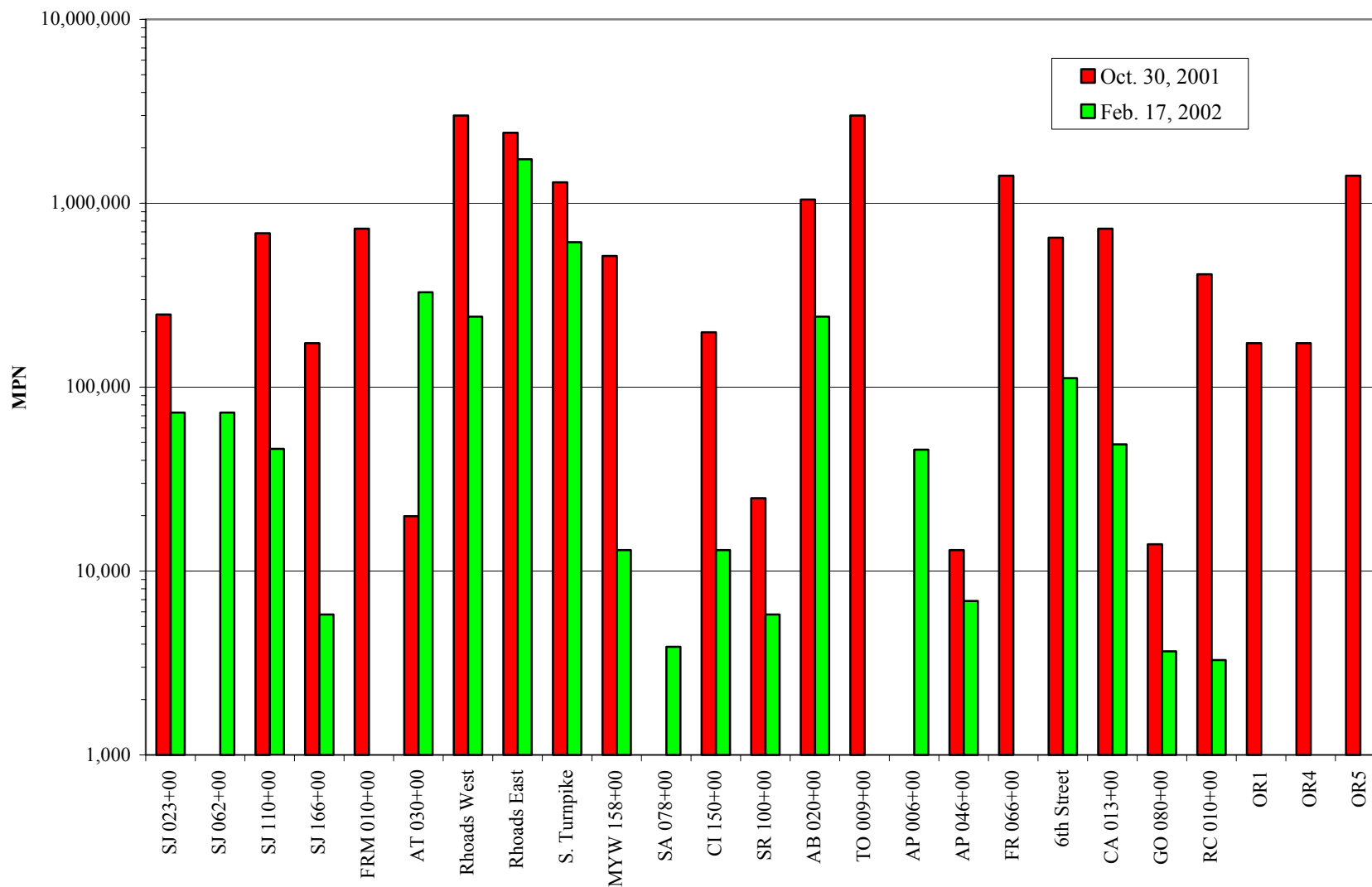


Figure C-2. *E. coli*

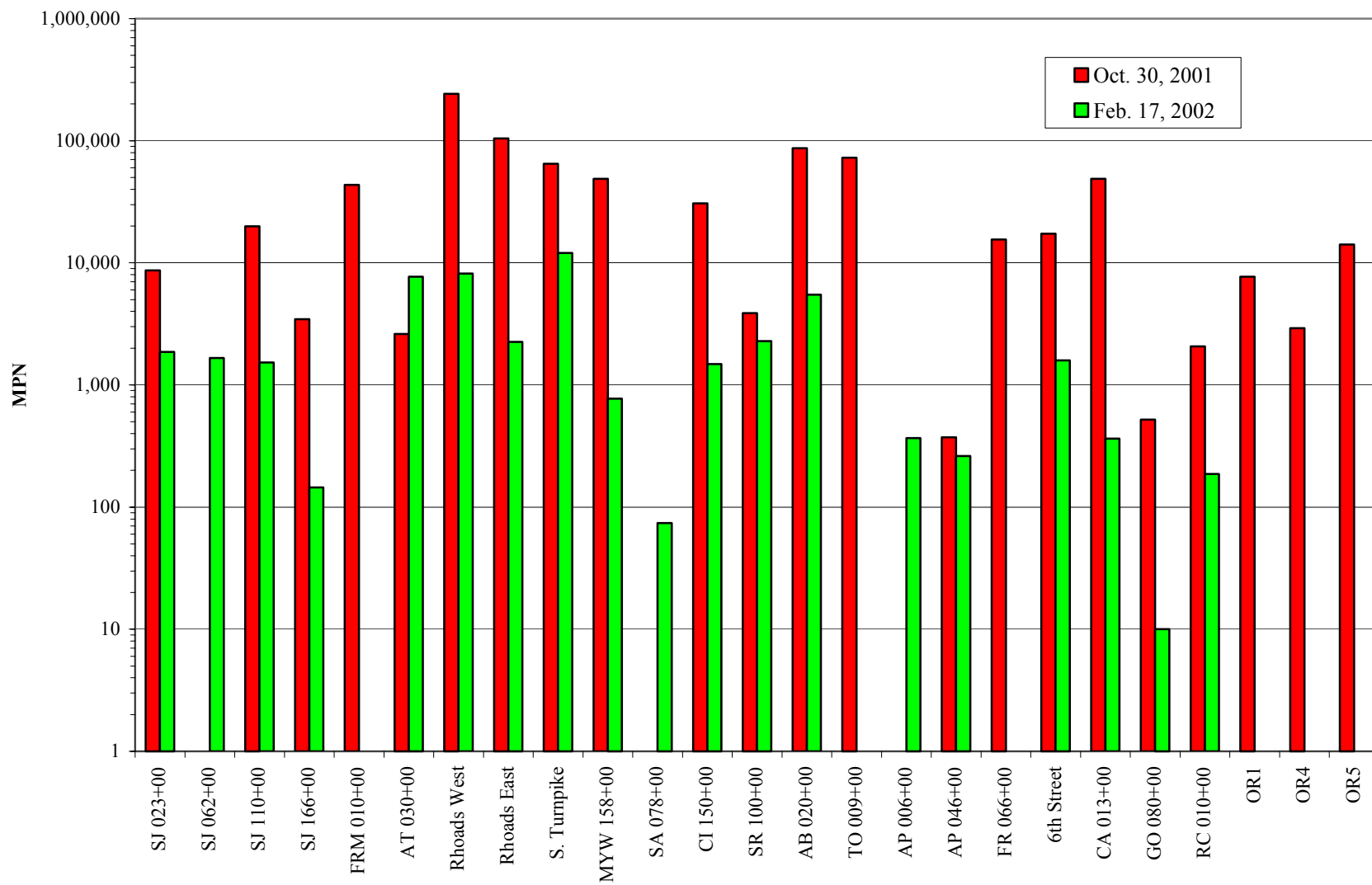


Figure C-3. Enterococcus

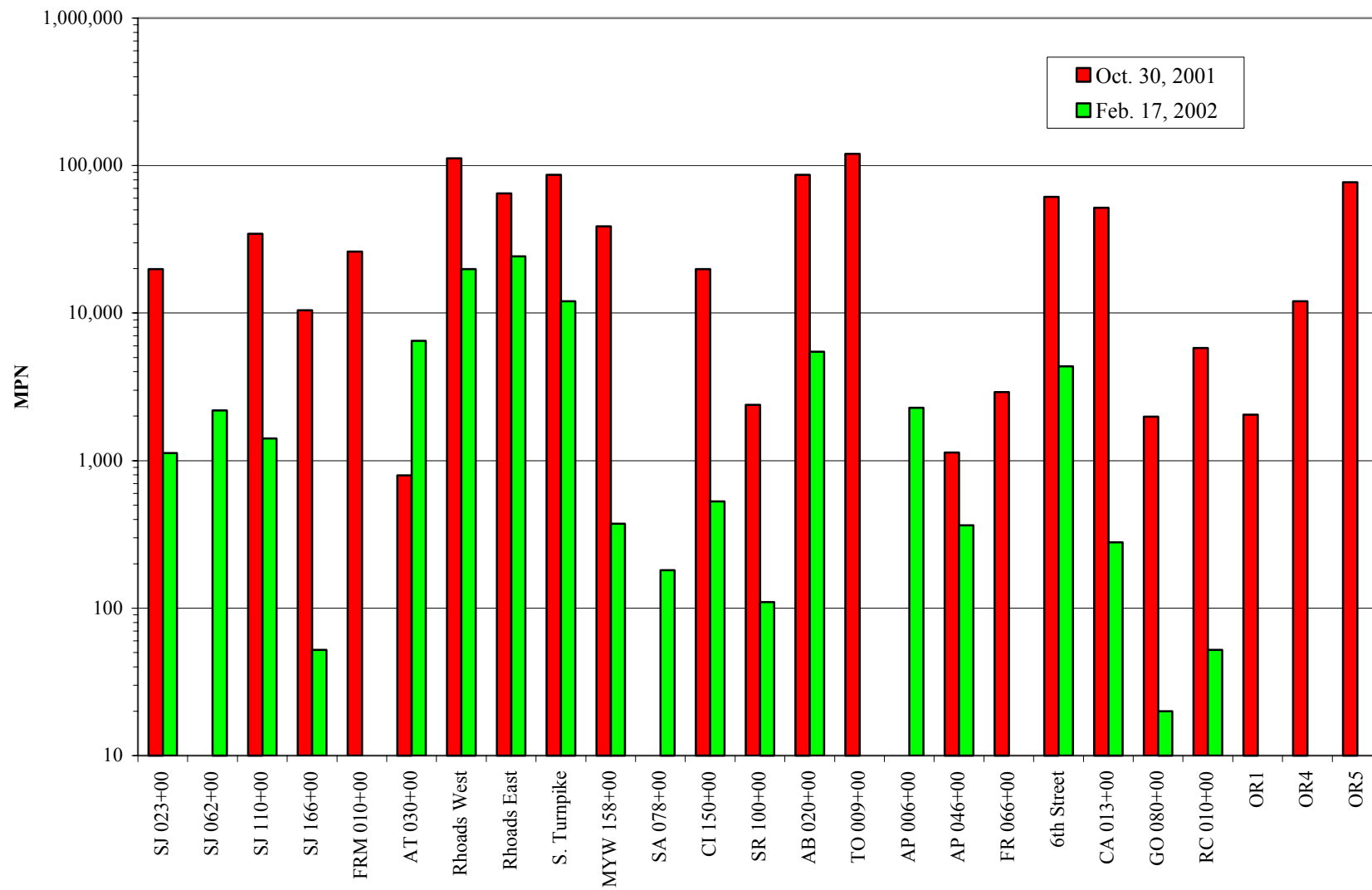


Figure C-4. Glyphosate

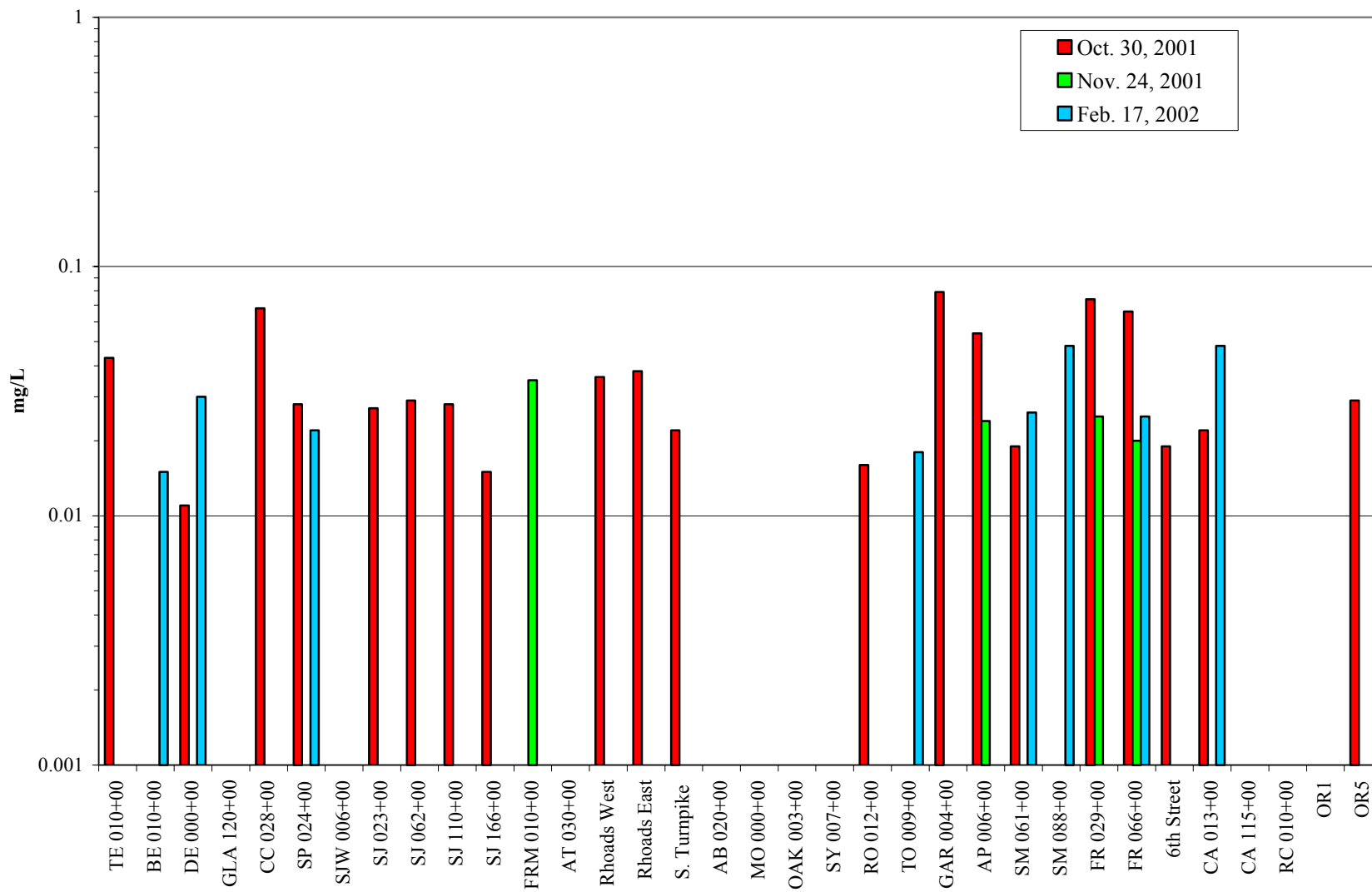


Figure C-5. Chlorpyrifos

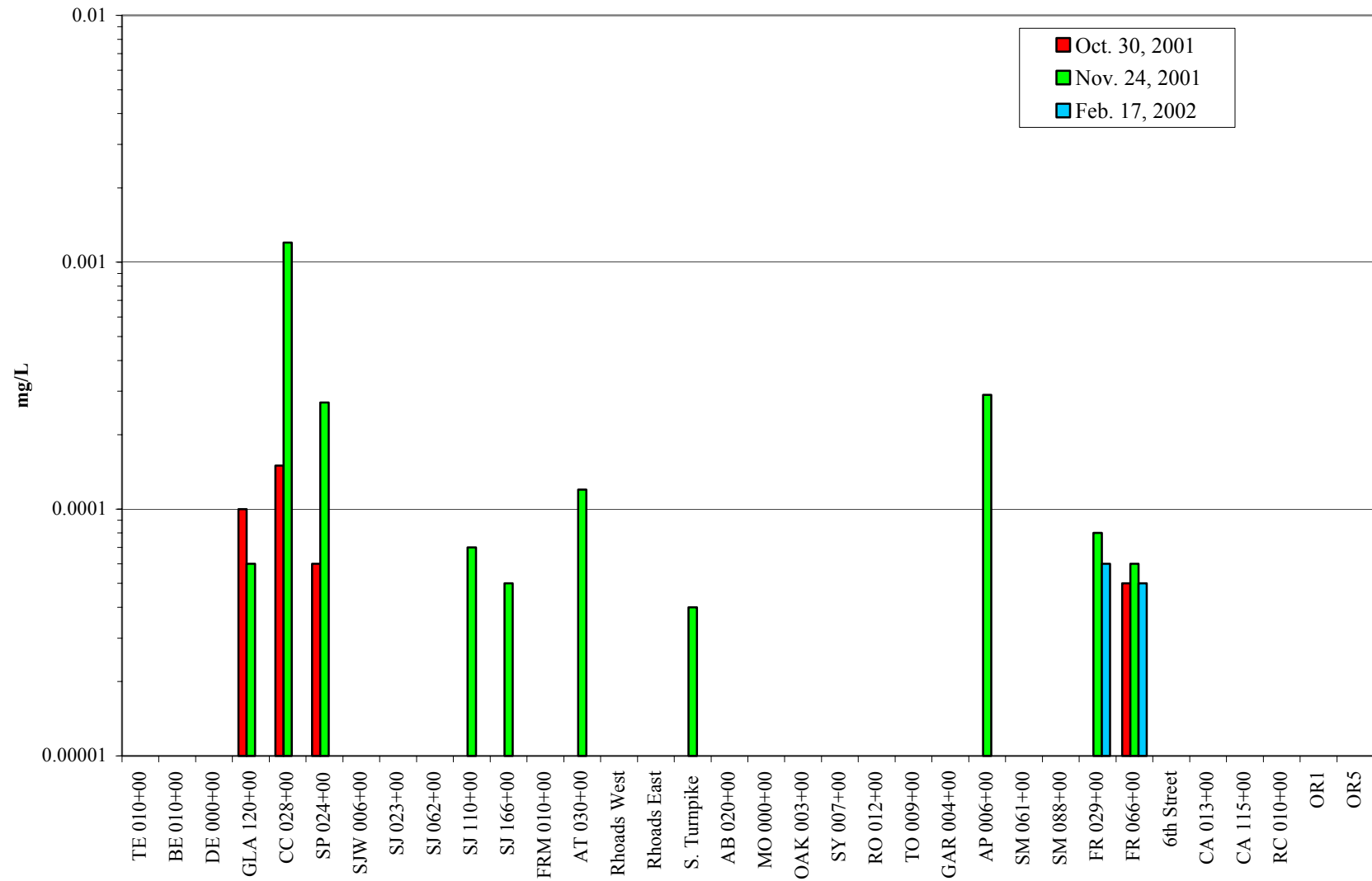


Figure C-6. Diazinon

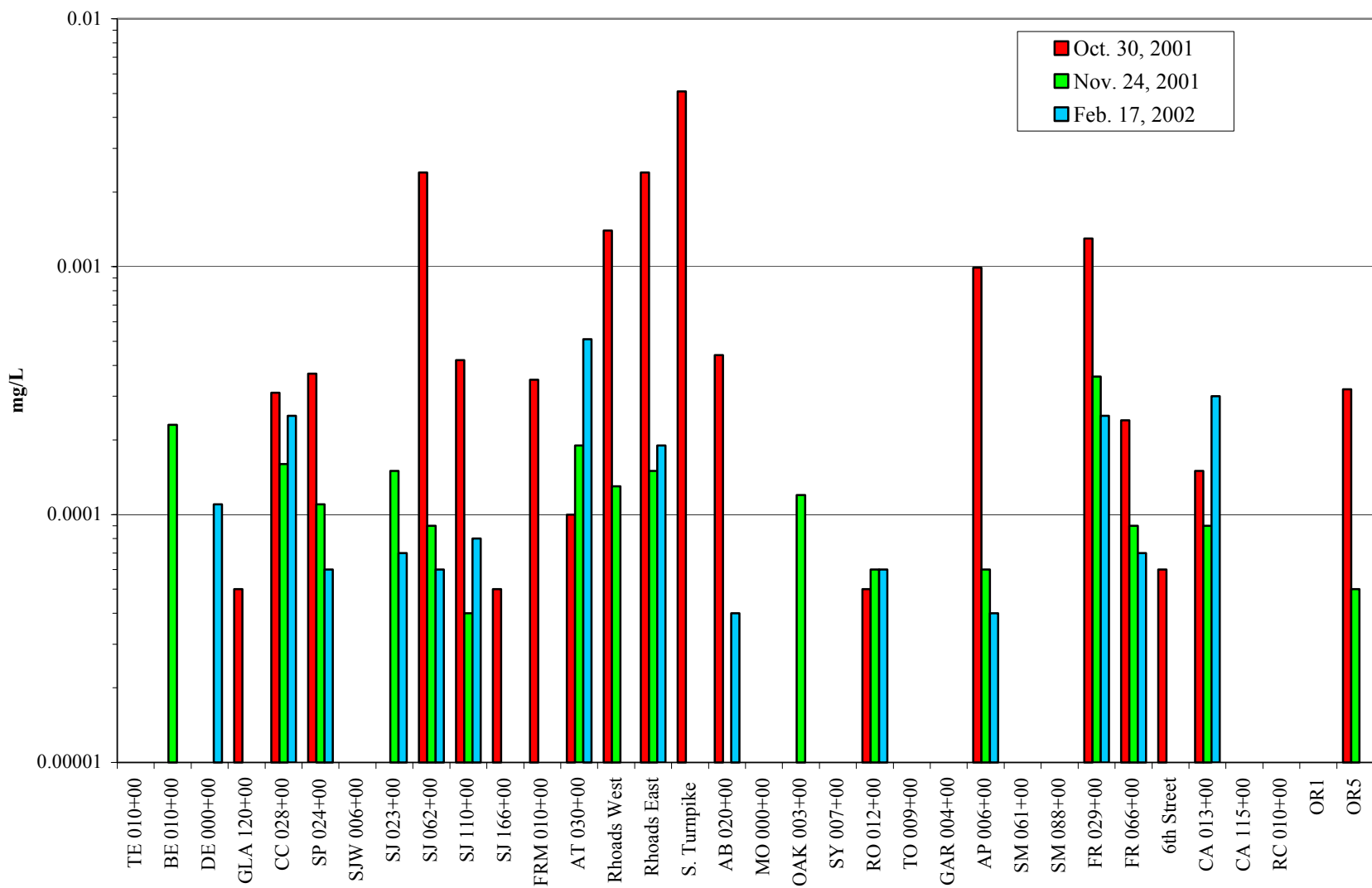


Figure C-7. Malathion

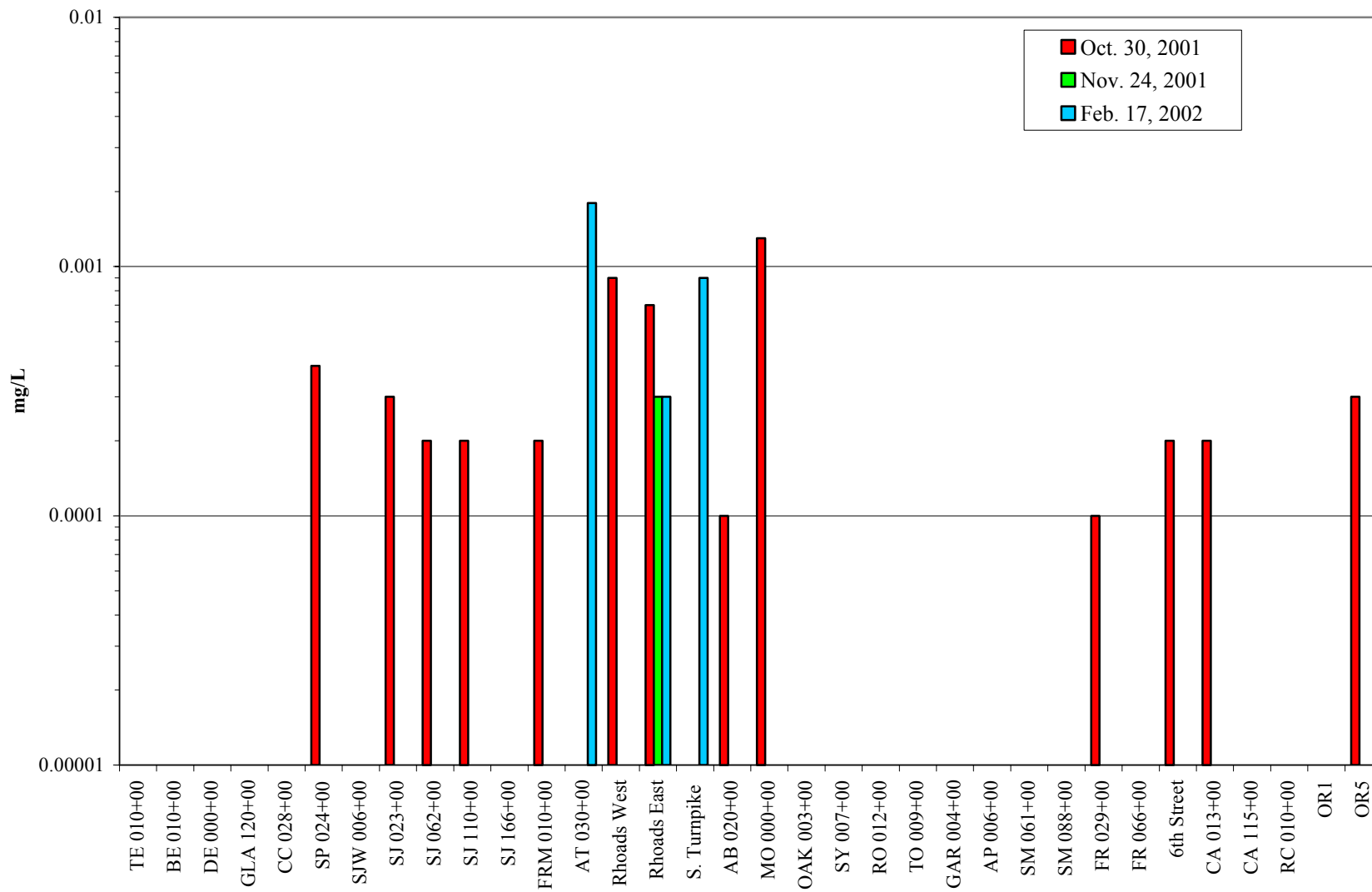


Figure C-8. Chromium

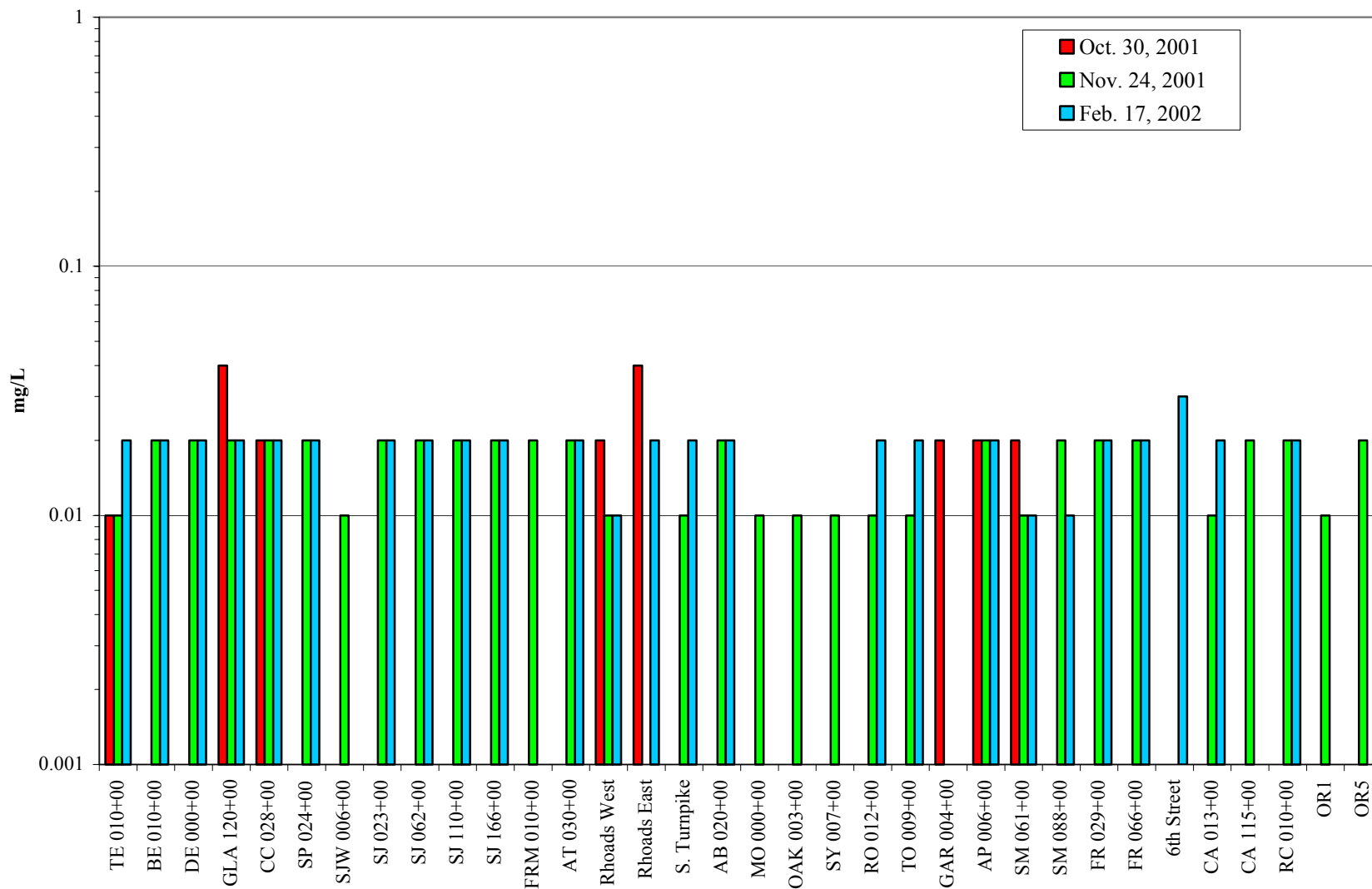


Figure C-9. Copper

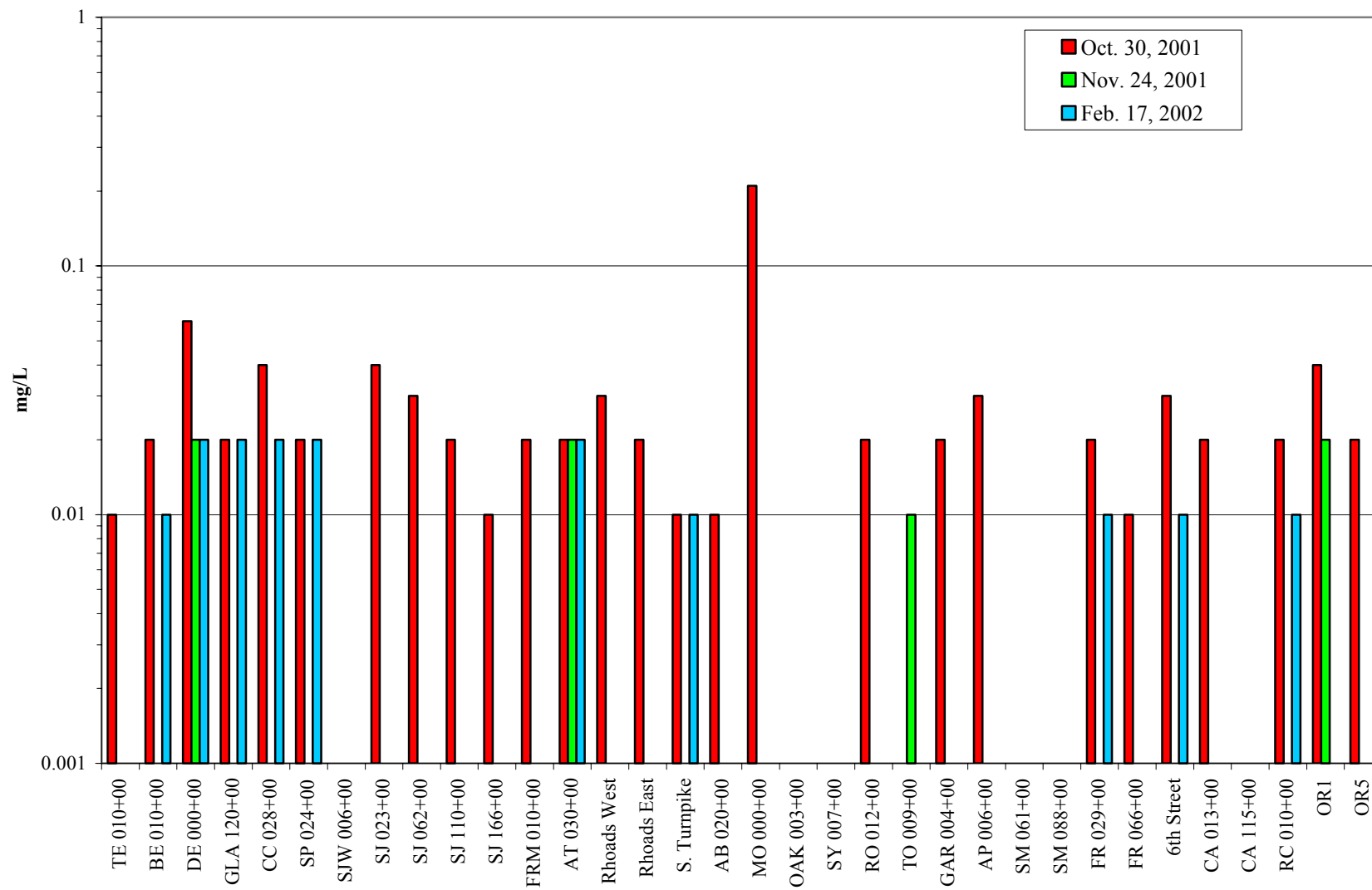


Figure C-10. Mercury

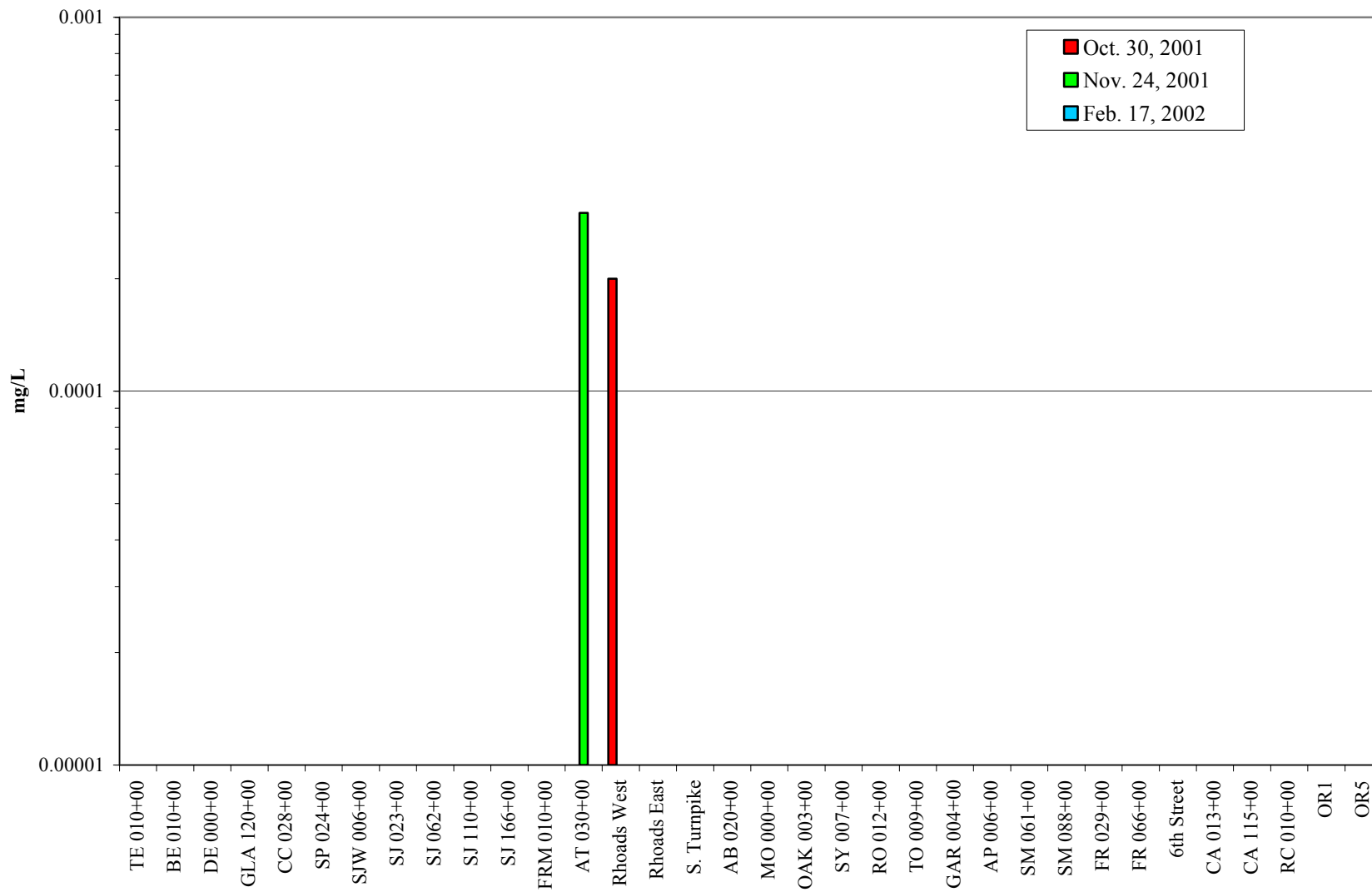


Figure C-11. Nickel

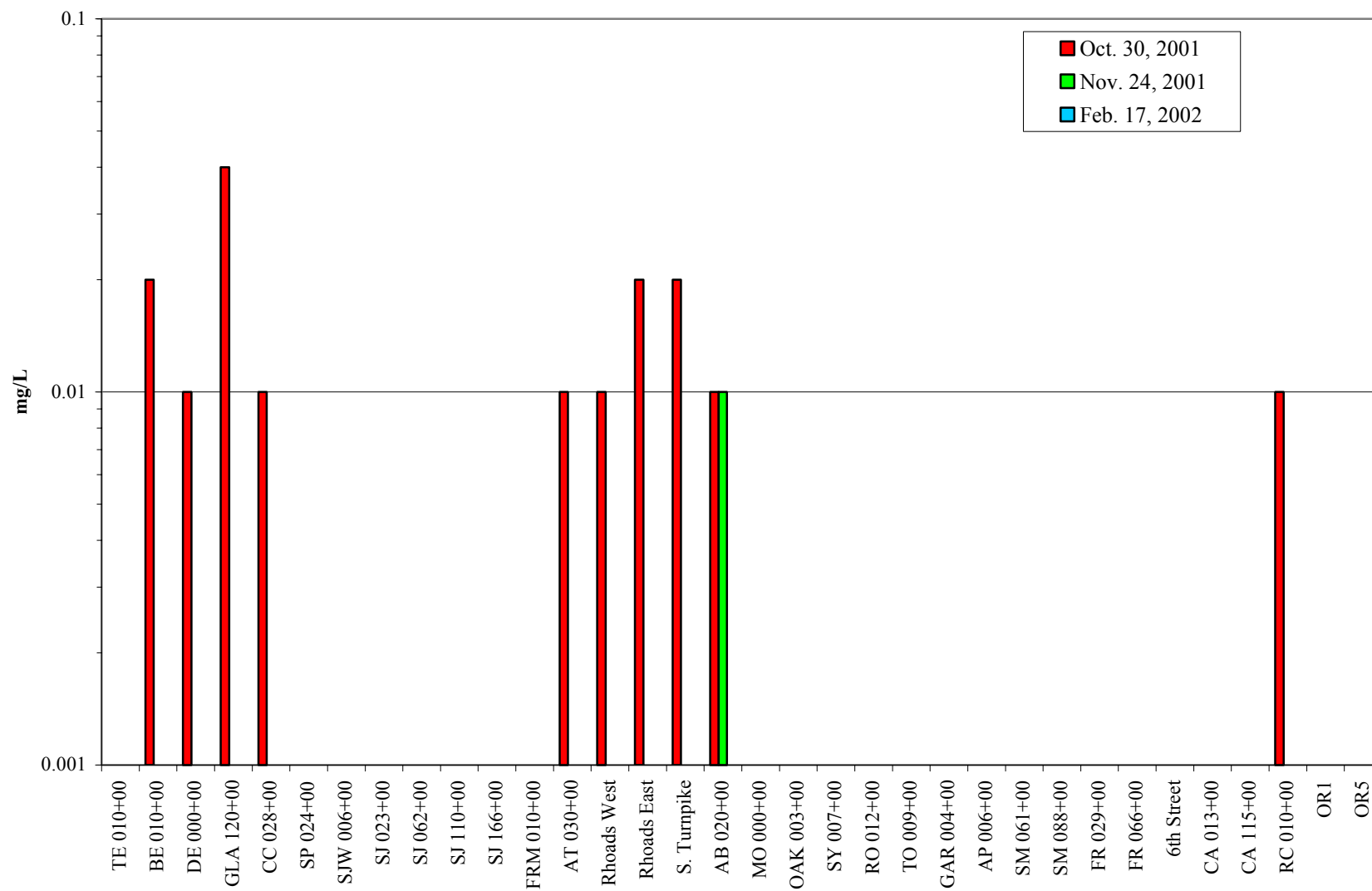


Figure C-12. Zinc

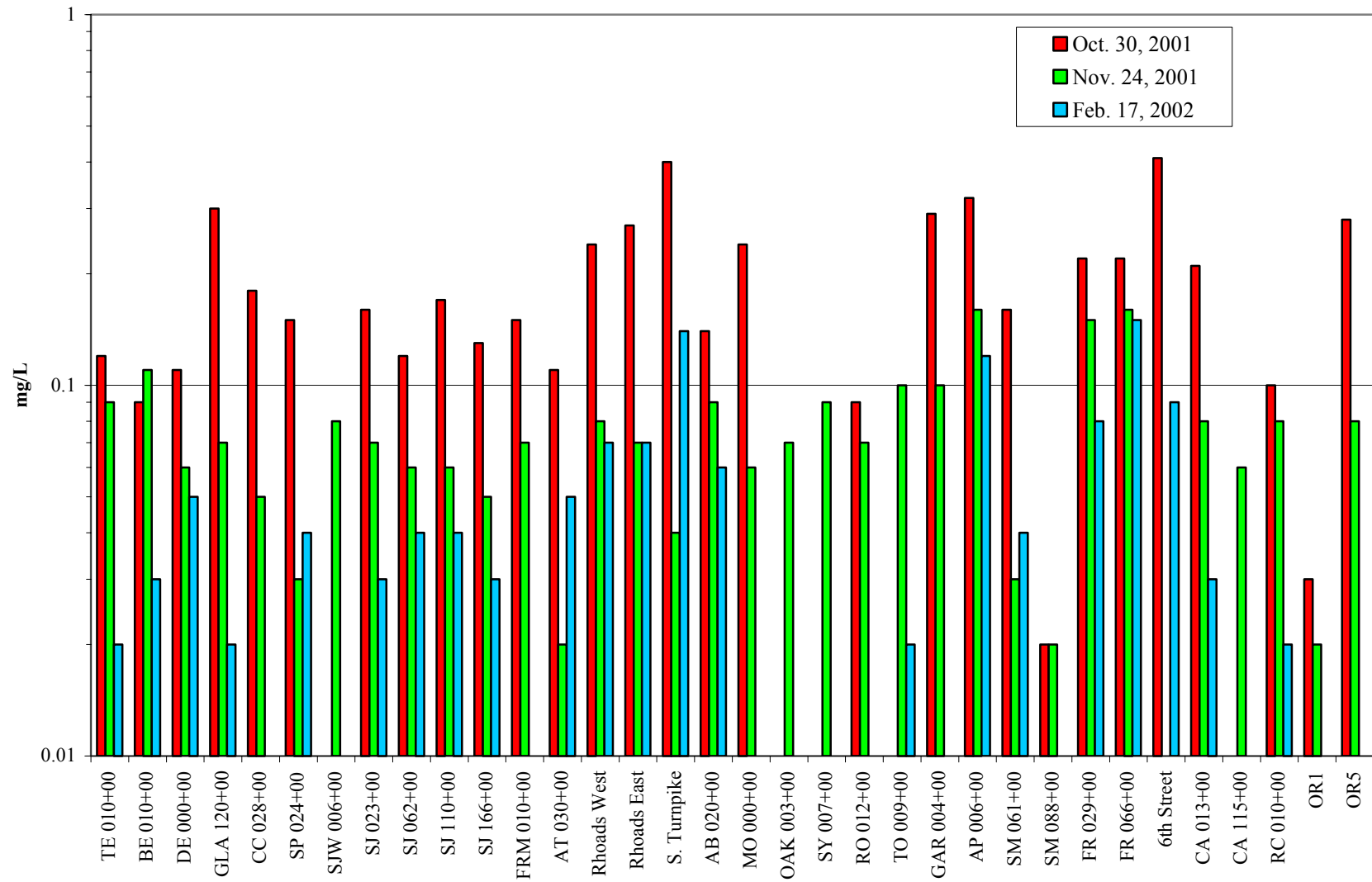


Figure C-13. Ammonical Nitrogen

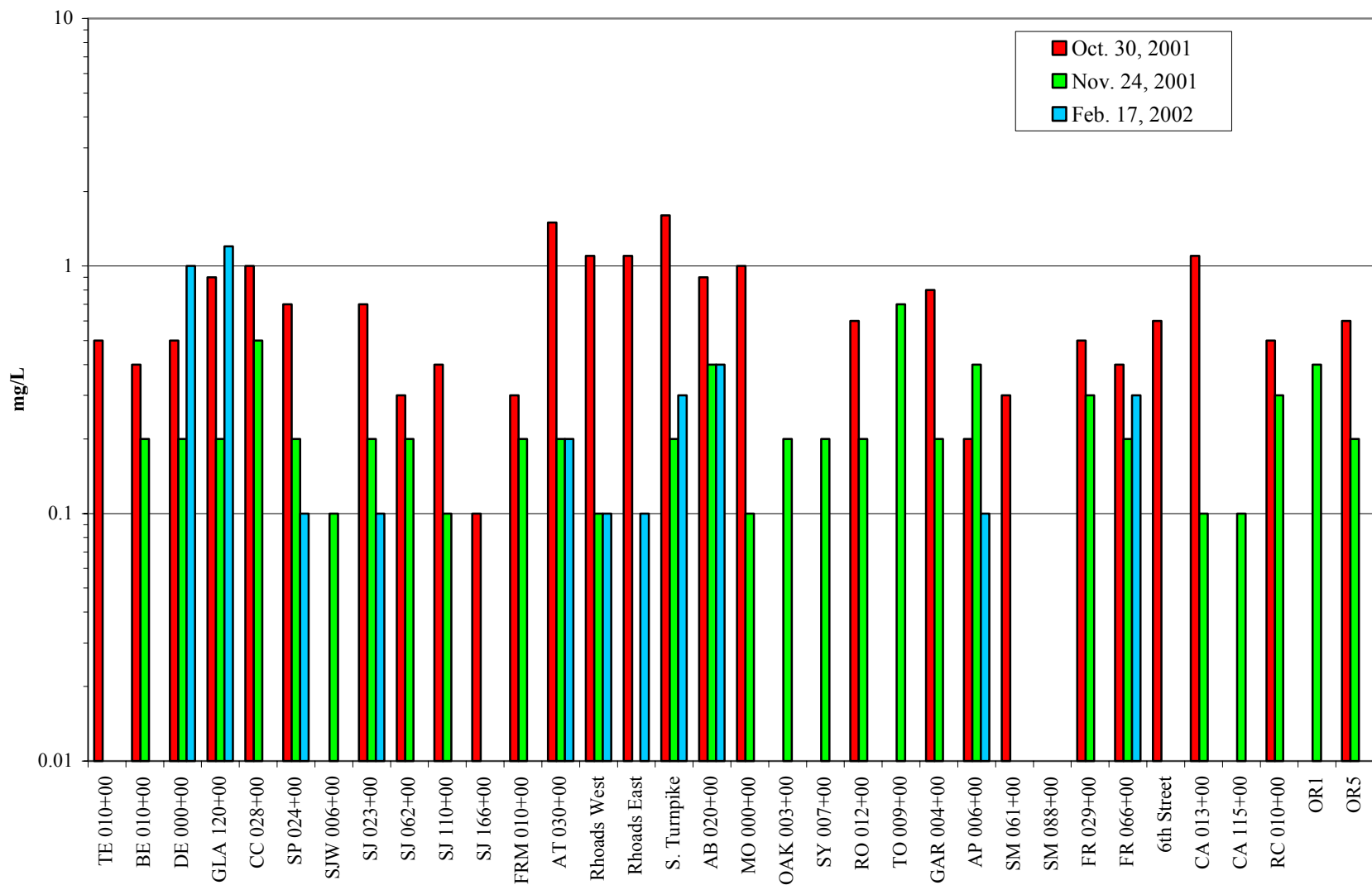


Figure C-14. Nitrate

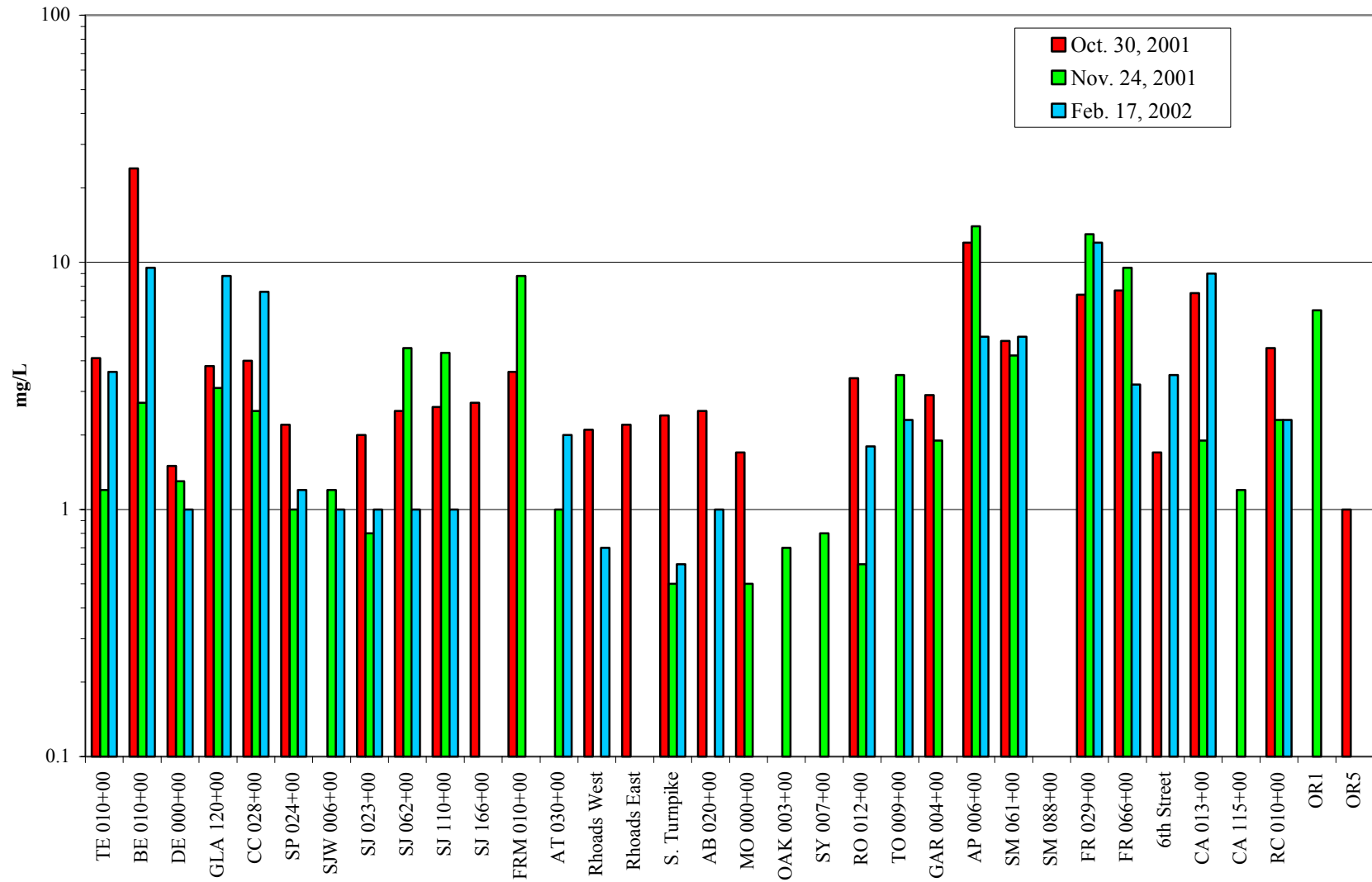


Figure C-15. Phosphorus as Phosphorus

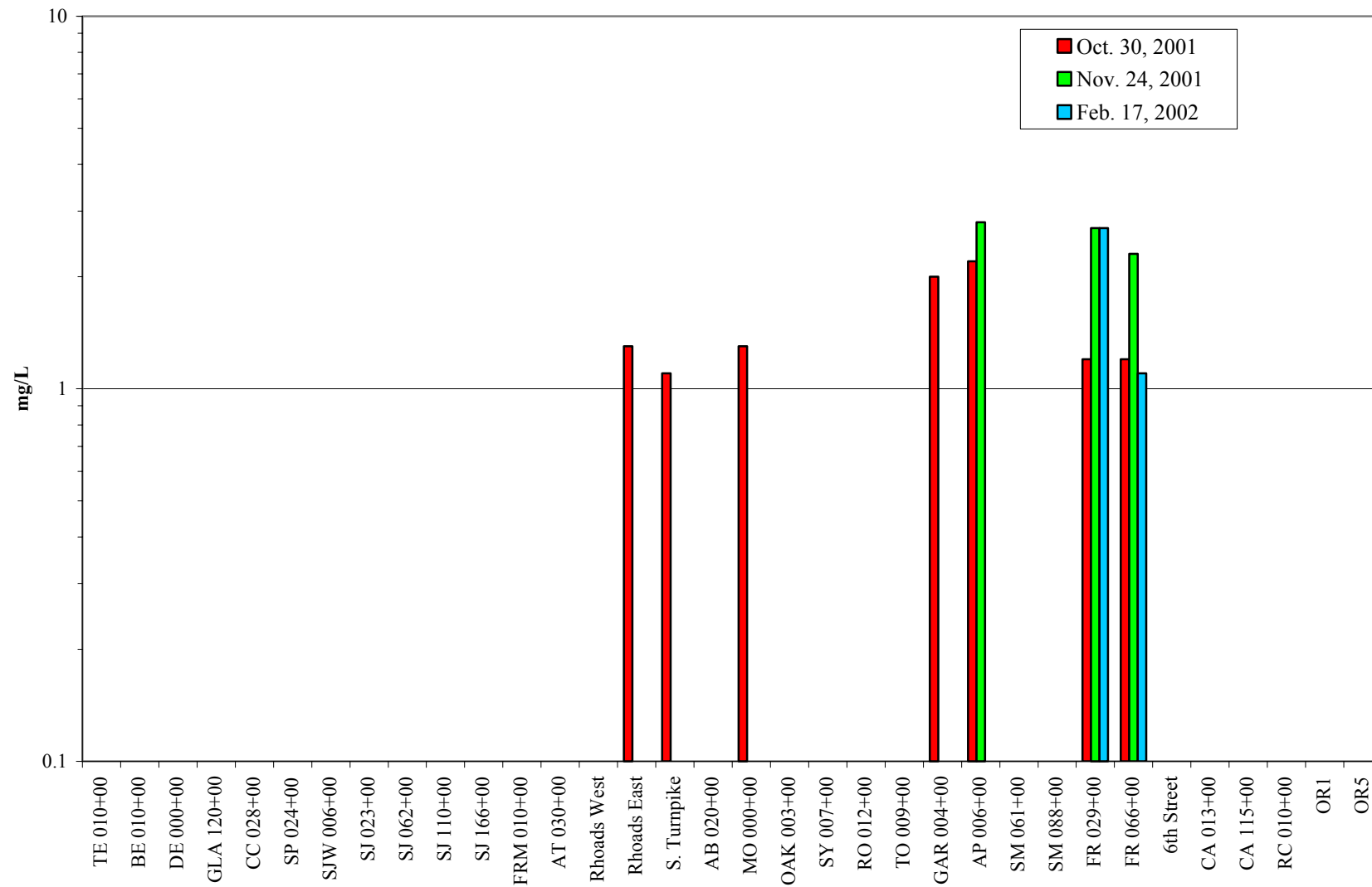


Figure C-16. Total Phosphorus

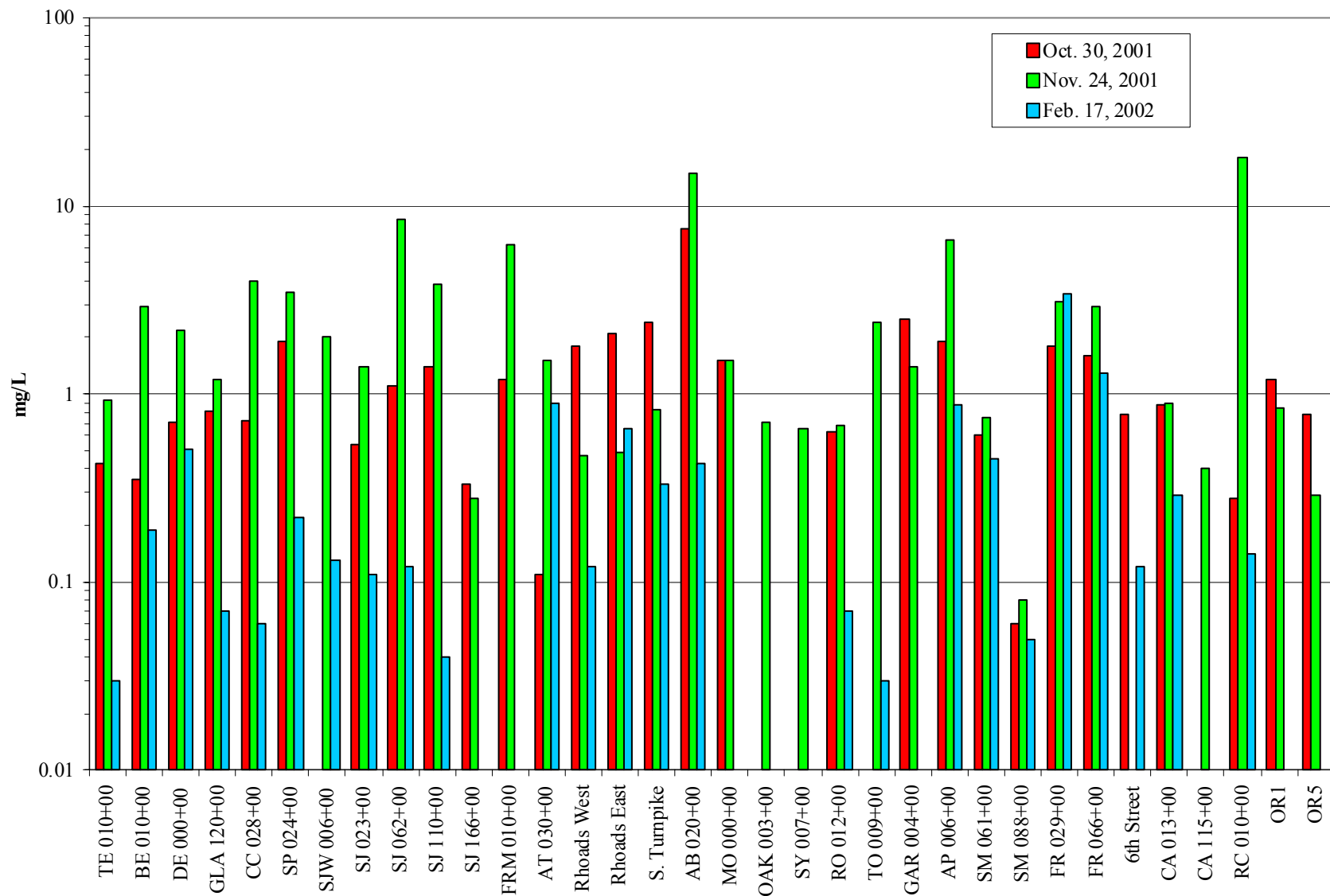


Figure C-17. Total Kjeldahl Nitrogen

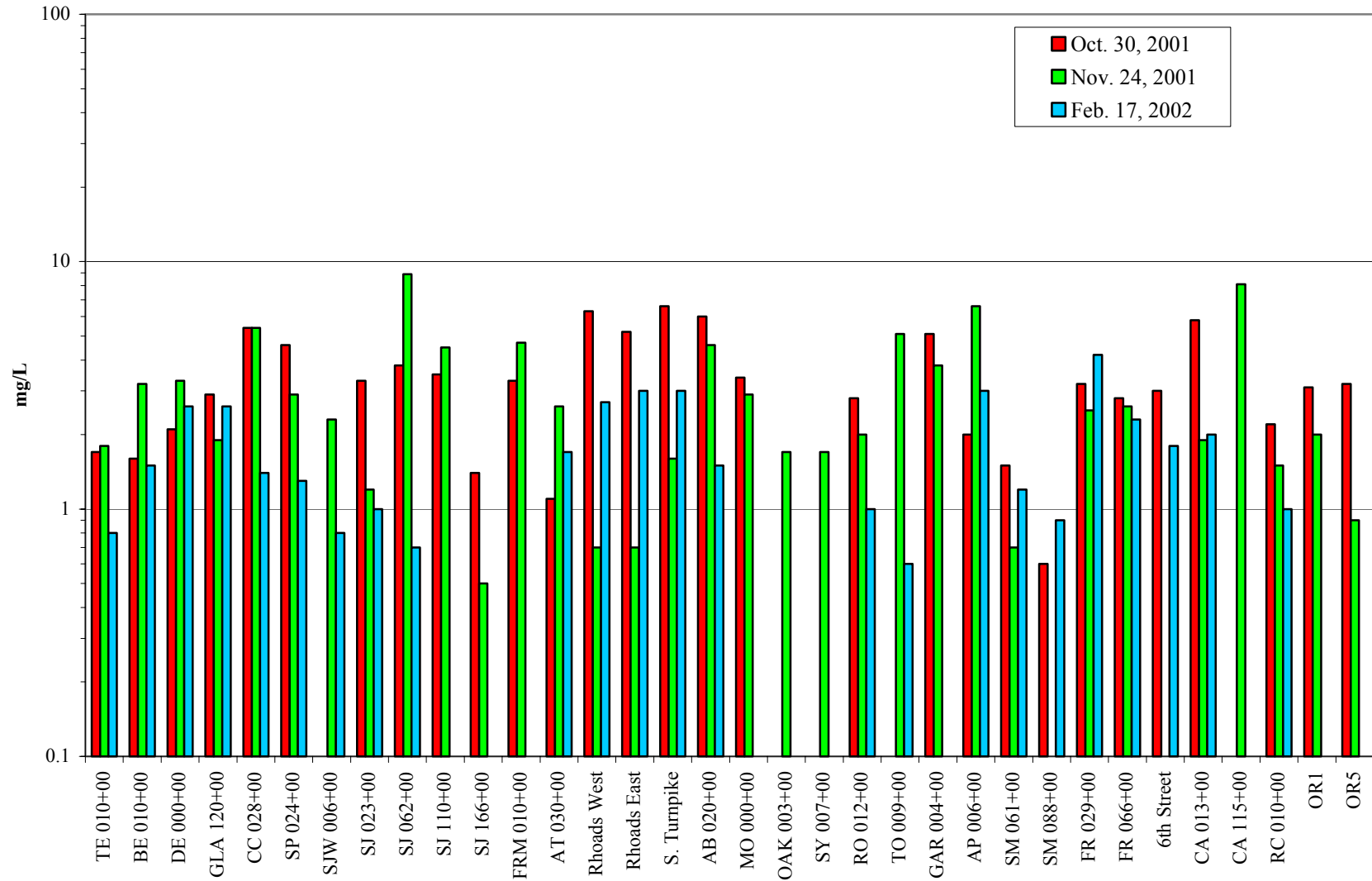


Figure C-18. Total Organic Carbon

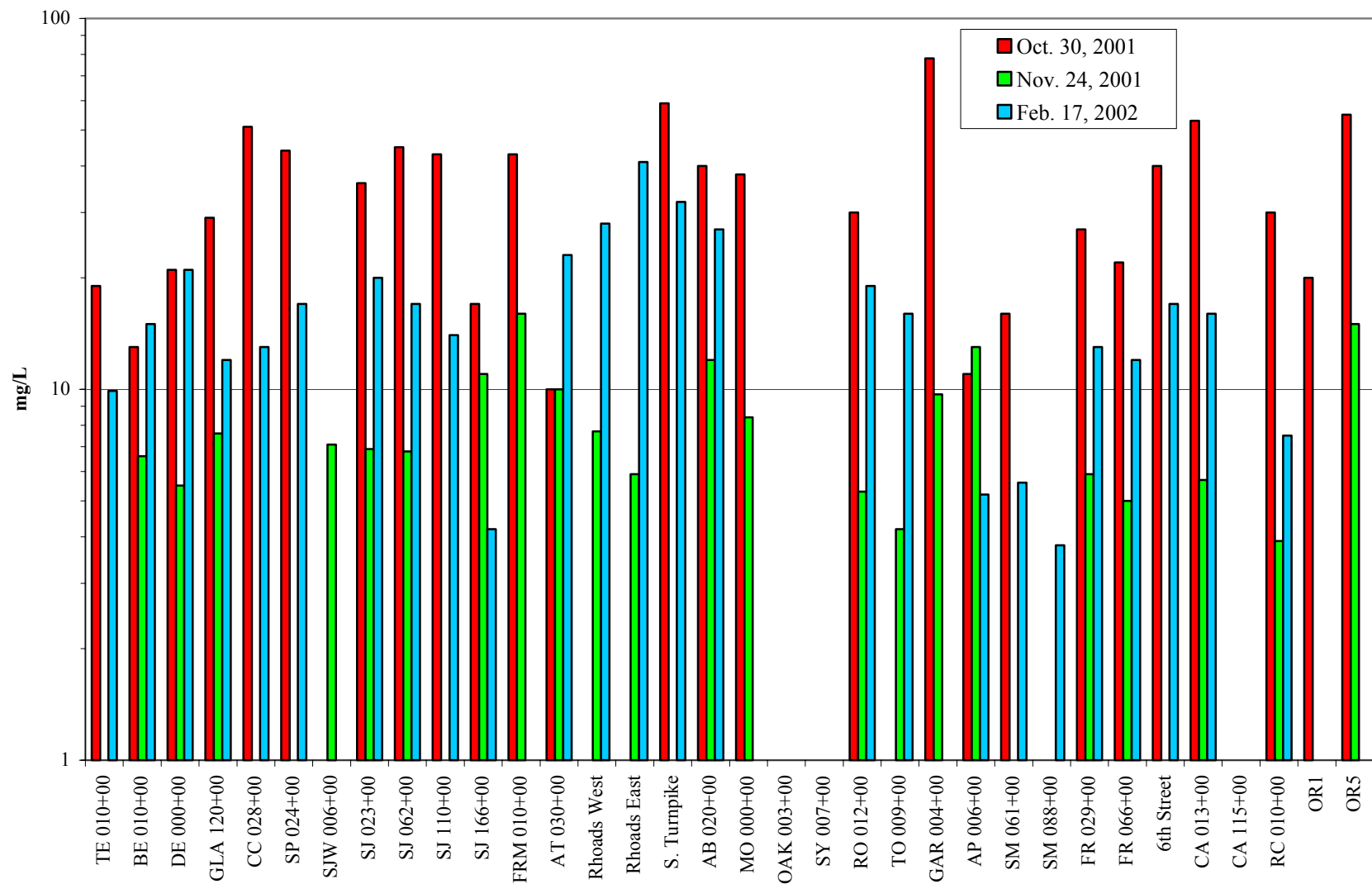


Figure C-19. Oil and Grease

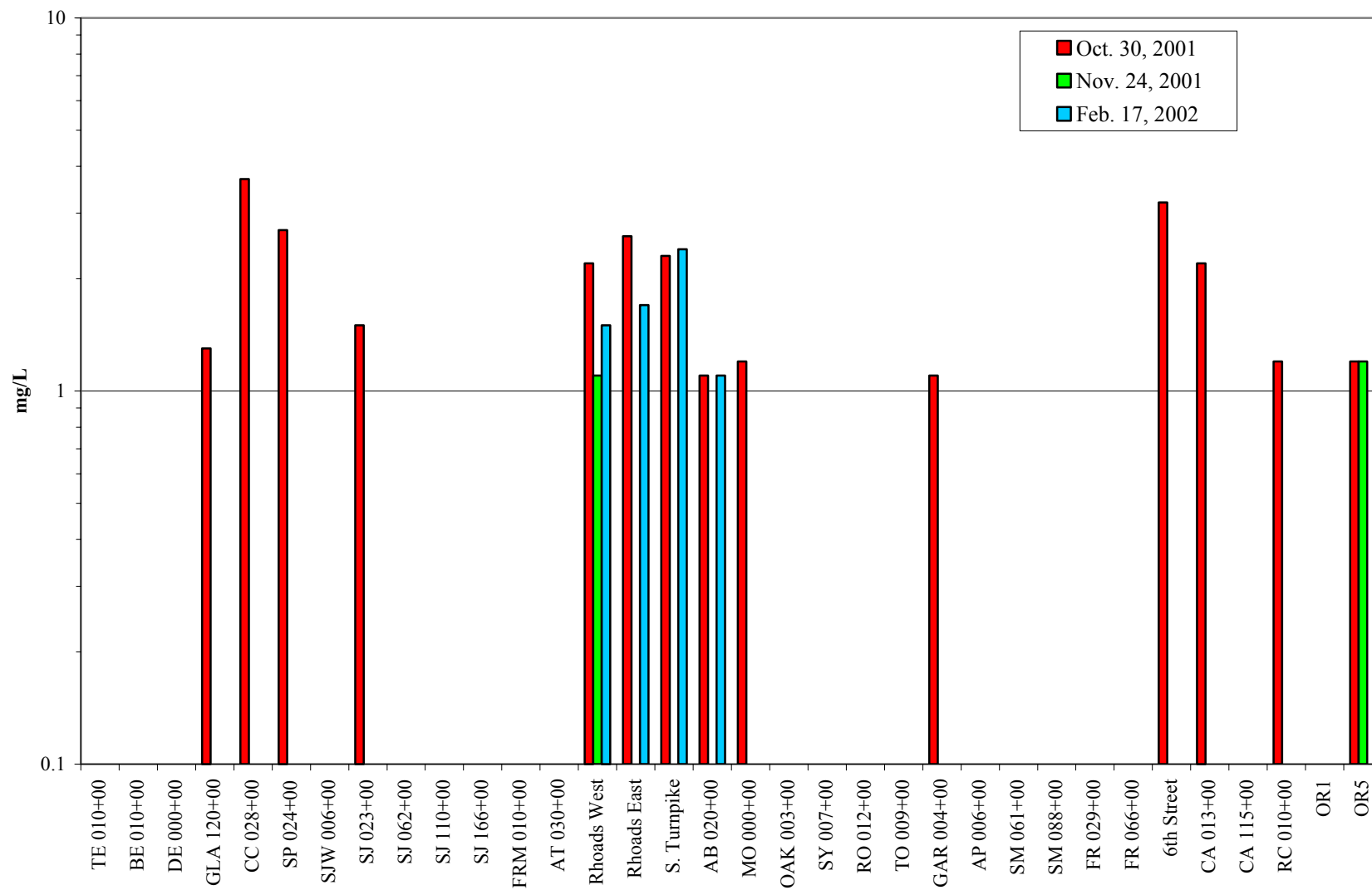


Figure C-20. Total Recoverable Petroleum Hydrocarbons

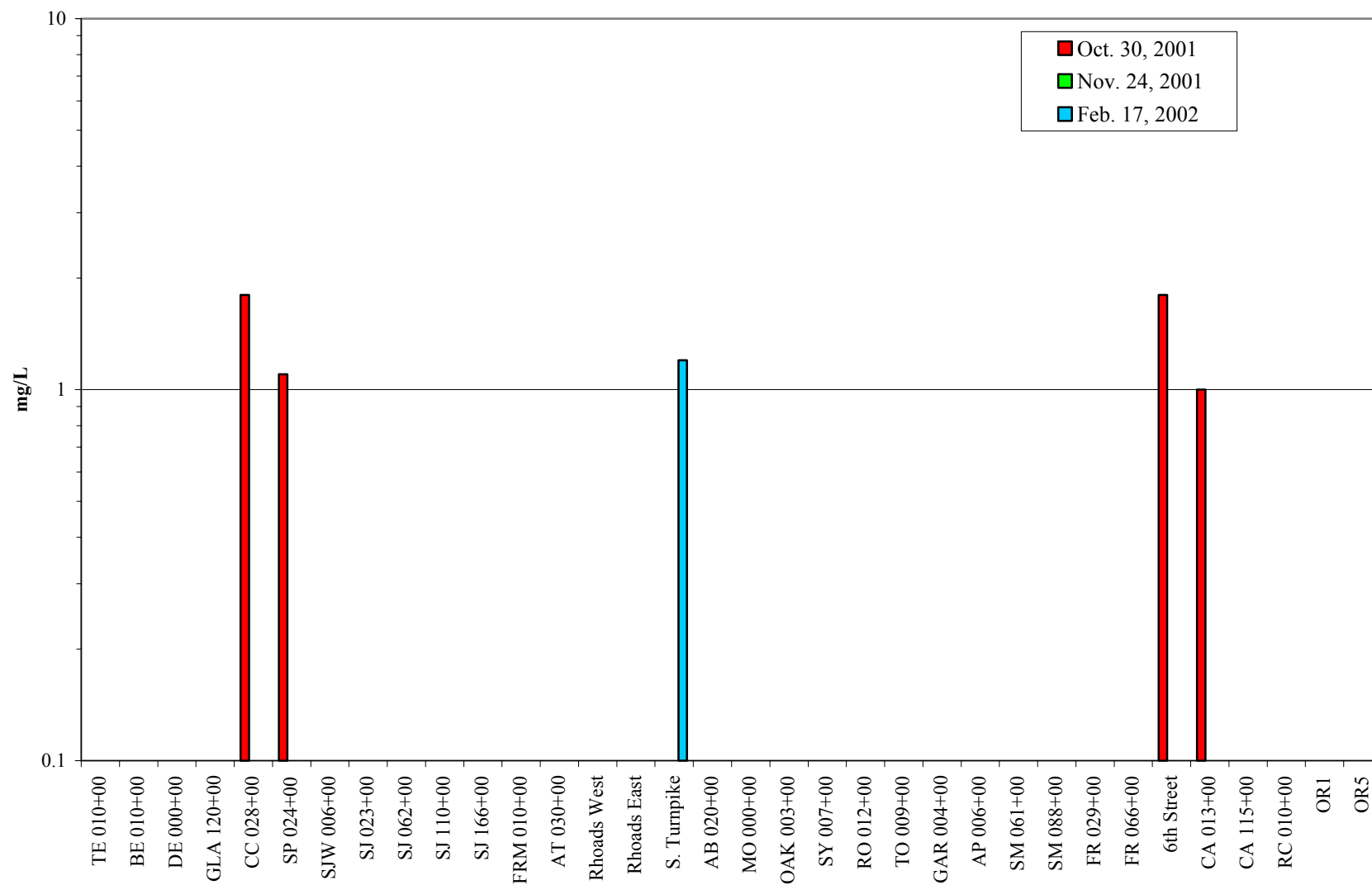


Figure C-21. Hardness

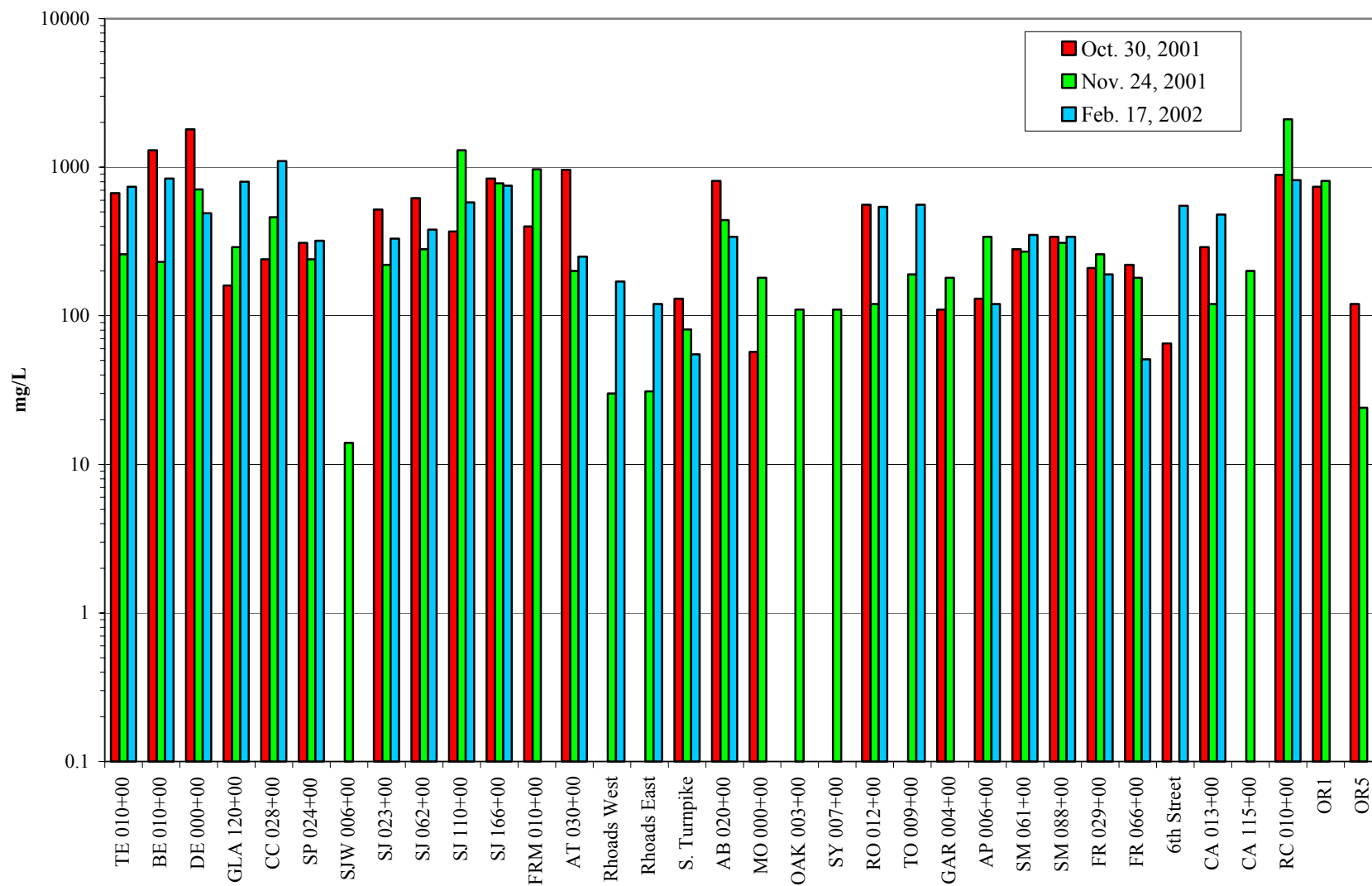


Figure C-22. Specific Conductance

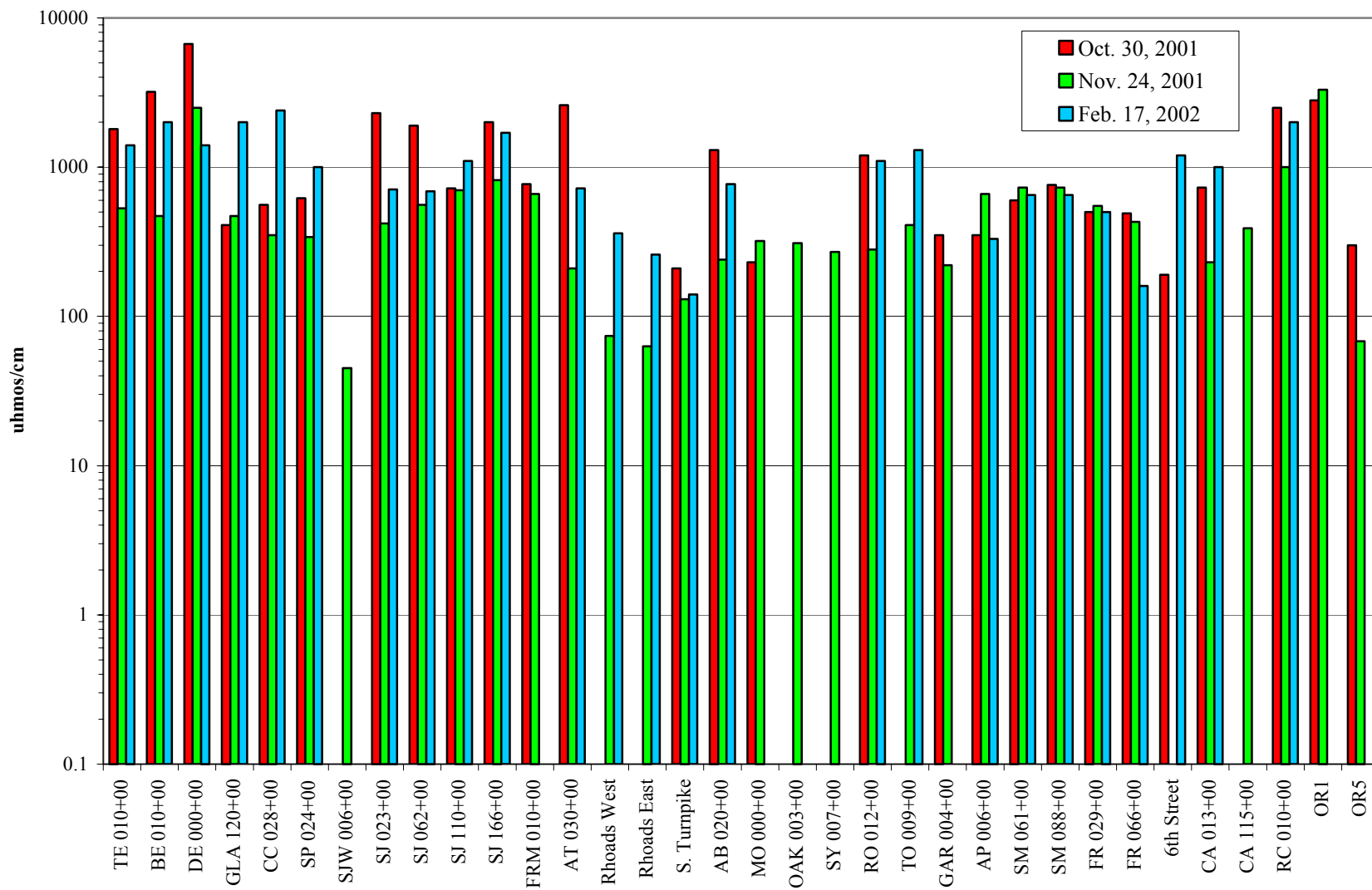


Figure C-23. Total Dissolved Solids

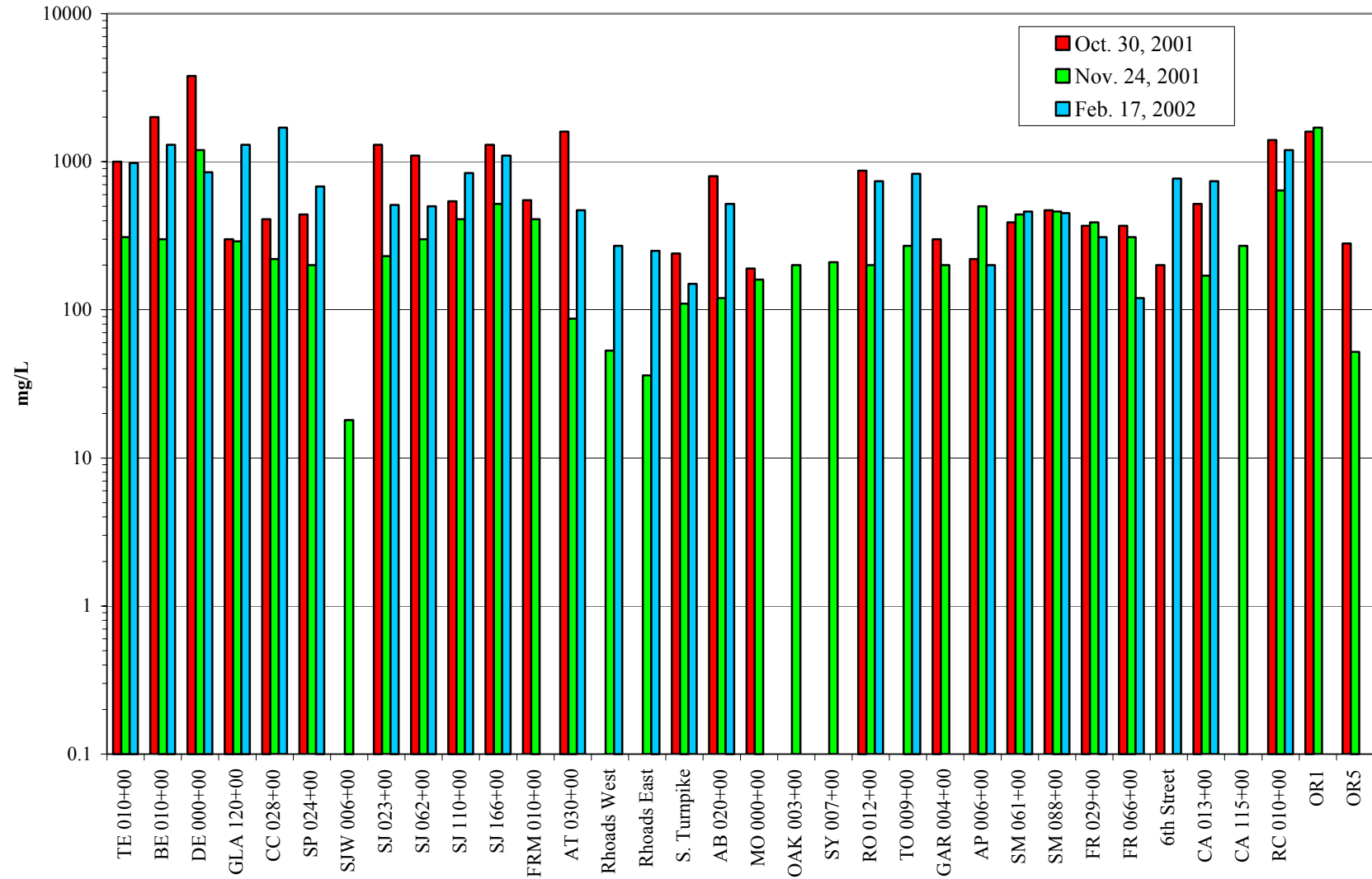


Figure C-24. Total Suspended Solids

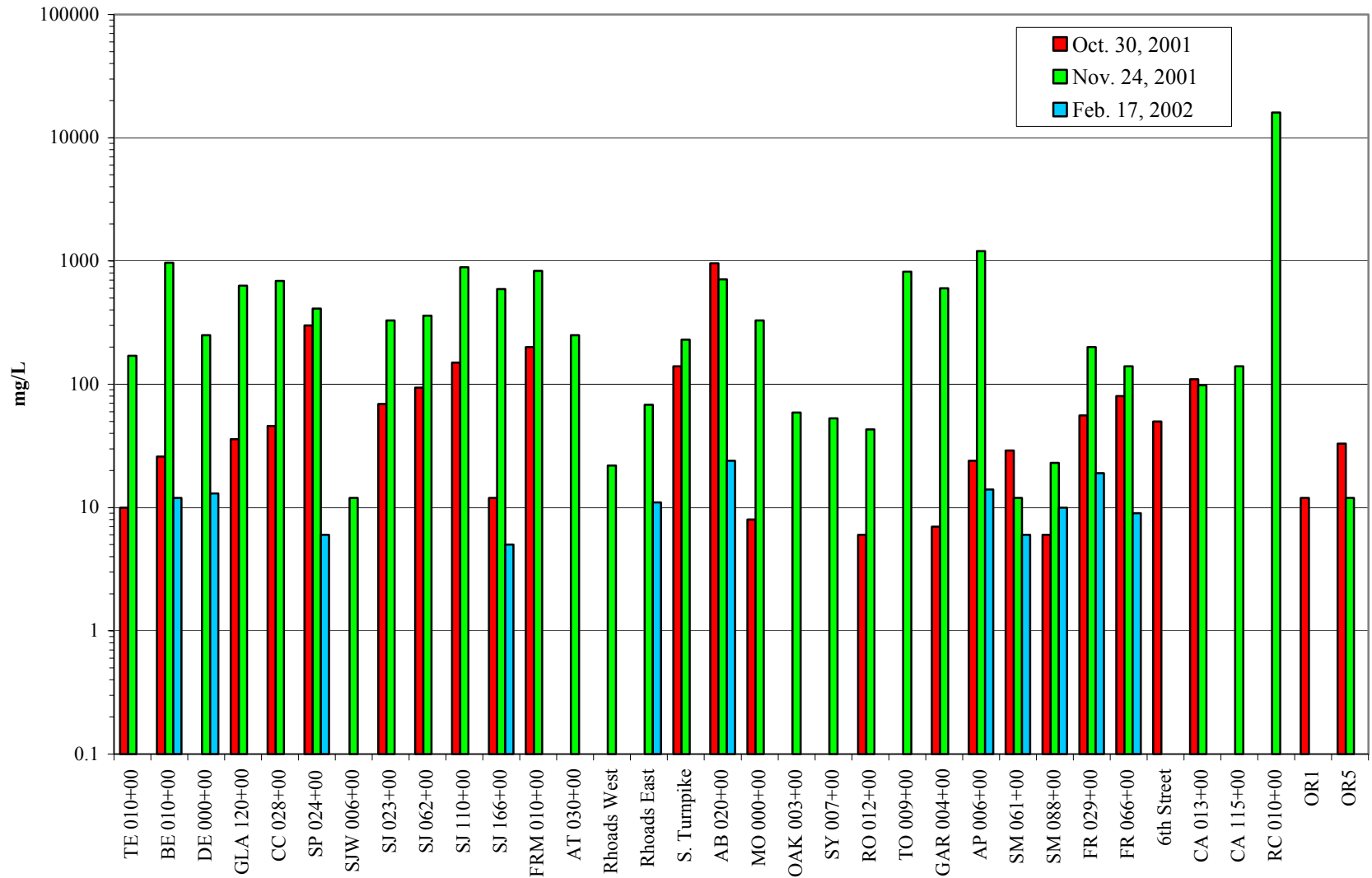


Figure C-25. Biochemical Oxygen Demand

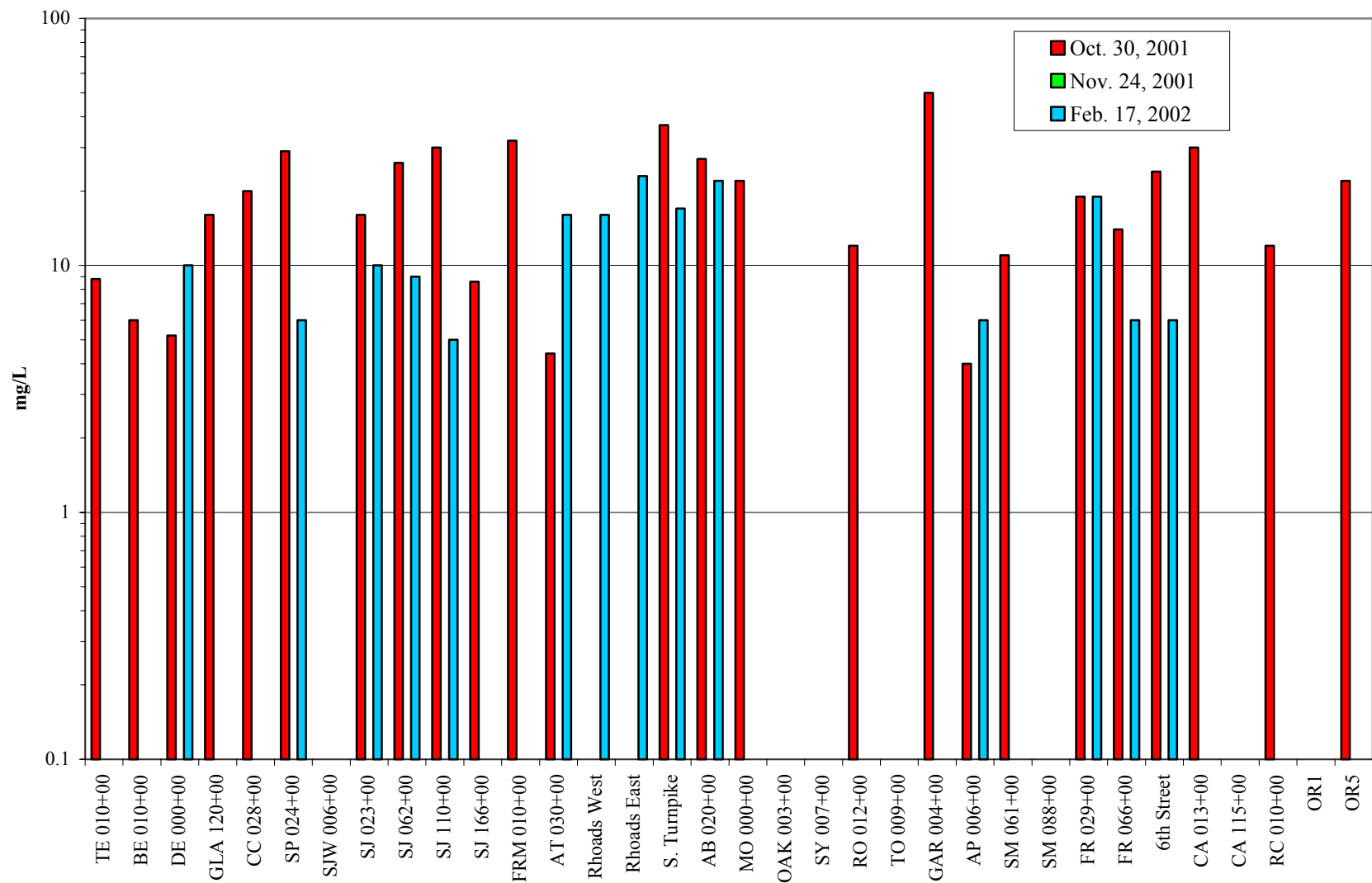


Figure C-26. Turbidity

