

SO_DYFAMED Time Series - 1991-> ...

JC. MARTY : head of mission and project leader

ALKALINITY, pH, TCO2 : C. COPIN-MONTEGUT

[PROTOCOL](#) | [DATA](#)

PROTOCOL METHOD

Methods are fully explained in Begovic and Copin-Montégut (2002) and Copin-Montégut and Begovic (2002)

- The file **ros-dyfa.txt** corresponds to data obtained on rosette samplings. **Nan means no data**

- The files **sal***, **th***, **ox***, are interpolated data from temperature, salinity, and oxygen ($\mu\text{mol kg}^{-1}$) of CTD corresponding to precedent file (where oxygen sensor was calibrated). For each parameter, there are four files:

- Ending by **dp** corresponding to CTD (0-2000m) descent
- Ending by **rp** corresponding to CTD (0-2000m) rise
- Ending by **ds** corresponding to CTD (0-200m) descent
- Ending by **rs** corresponding to CTD (0-200m) rise

Interpolation pressure are given in **zsurf** and **zprof** (0:2:200 db and 0:2:2000 db);

Dates are given in **datectdsurf** and **datectdprof** and are numbered from the first of January 1998. There is a different date for CTD (0-2000m) and CTD (0-200m) which are thus separated.

BEGOVIC, M., COPIN-MONTÉGUT, C., 2002. Processes controlling annual variations in the partial pressure of CO_2 in surface waters of the central northwestern Mediterranean Sea (Dyfamed site). Deep-Sea Res. II 49 (11), 2031-2047.

COPIN-MONTÉGUT, C., BEGOVIC, M., 2002. Distributions of carbonate properties and oxygen along the water column (0-2000 m) in the central part of the NW Mediterranean Sea (Dyfamed site): Influence of winter vertical mixing on air-sea CO_2 and O_2 exchanges. Deep-Sea Res. II 49 (11), 2049-2066.

[DATA](#)

day	pressure	salinity	pot. Temp	alkalinity	Total CO2	pHT at 25°C	O2
	db		°C	µmole kg-1	µmole kg-1		µmole l
2/6/1998	4.527	38.053	13.7953	2536.2	2243.9	7.9611	234.97
2/6/1998	9.968	38.0771	13.7685	2540.5	2246.5	7.963	231.8
2/6/1998	20.379	38.1056	13.648	2543.2	2252.3	7.9573	231.83
2/6/1998	29.793	38.1083	13.5696	2539.5	2248.7	7.9577	233.75
2/6/1998	49.35	38.1165	13.5089	2543.2	2251.7	7.9583	233.61
2/6/1998	70.055	38.1346	13.4003	2542.6	2254	7.9534	232.96
2/6/1998	90.318	38.1455	13.321	2542	2254.2	7.9519	236.87
2/6/1998	109.846	38.1688	13.3047	2544.8	2261.2	7.9443	229.17
2/6/1998	130.076	38.3309	13.542	NaN	NaN	7.9169	199.29
2/6/1998	150.226	38.287	13.1482	2557.1	2288.7	7.9158	214.07
2/6/1998	200.335	38.3074	13.0539	2560.2	2292	7.9148	214.55
2/6/1998	299.924	38.4982	13.3683	2580.8	2315.6	7.905	177.02
2/6/1998	400.192	38.5566	13.4084	2584.9	2319.6	7.9041	172.01
2/6/1998	499.751	38.5725	13.3973	2585.1	2319.5	7.9043	181.22
2/6/1998	600.102	38.5647	13.3275	2588	2320	7.9082	175.4
2/6/1998	700.076	38.5557	13.2779	2589.2	2318.9	7.9119	177.79
2/6/1998	800.034	38.5409	13.2098	2585.8	2314.5	7.9143	185.01
2/6/1998	1000.026	38.5128	13.0901	2585.8	2314.3	7.9149	185.1
2/6/1998	1250.755	38.4854	12.9806	2579.2	2309.7	7.9127	187.8
2/6/1998	1499.993	38.4607	12.8838	2575.5	2307	7.9117	193.06
2/6/1998	2000.493	38.4406	12.8012	2579.3	2310.6	7.9118	197.97
3/16/1998	4.868	38.2941	13.3944	2562.2	2270	7.9549	243.67
3/16/1998	9.102	38.2948	13.2977	2562.7	2269.9	7.9556	236.92
3/16/1998	20.173	38.2949	13.2298	2564	2275	7.9493	242.9
3/16/1998	29.87	38.296	13.1299	2562.8	2279.6	7.9399	226.55
3/16/1998	38.653	38.3139	13.153	NaN	NaN	7.9349	220.96
3/16/1998	48.88	38.3351	13.1977	2566.2	2292.4	7.9234	208.55
3/16/1998	70.111	38.3453	13.1277	2567.2	2287	7.9335	220.85
3/16/1998	89.139	38.3459	13.1058	2566.8	2287.5	7.9323	219.22
3/16/1998	109.598	38.4015	13.2569	2571.4	2297.1	7.9232	202.2
3/16/1998	128.776	38.5195	13.6023	2583.1	2312.2	7.9141	174.9
3/16/1998	151.034	38.5361	13.6007	2585.5	2316.1	7.9112	174.46
3/16/1998	200.138	38.5455	13.4596	2586.2	2321.3	7.9032	171.17
3/16/1998	299.406	38.5734	13.4485	2588.2	2320.8	7.907	171.01
3/16/1998	400.488	38.5653	13.3608	2588.7	2320.1	7.909	173.79
3/16/1998	499.898	38.5731	13.3558	2591.8	2318.6	7.9165	181.98
3/16/1998	600.821	38.5672	13.3202	2589.4	2314.4	7.9198	180.52
3/16/1998	700.992	38.5359	13.1902	2587.6	2314.4	7.9172	185.05
3/16/1998	801.489	38.529	13.1602	2587.1	2313.9	7.9174	
3/16/1998	1000.932	38.4953	13.0249	2584.1	2313.1	7.9144	190.84
3/16/1998	1250.101	38.4705	12.9275	2581.7	2311.2	7.9142	195.38
3/16/1998	1499.899	38.4522	12.8584	2580.7	2310.4	7.9143	196.26
3/16/1998	1998.636	38.4379	12.7956	2579.1	2310.2	7.9122	
4/25/1998	5.216	38.0842	15.6219	2541.4	2240.5	7.9741	256.85
4/25/1998	8.944	38.078	14.4466	2543	2241	7.9756	258.95
4/25/1998	20.644	38.0929	14.1014	2545.1	2247.6	7.9679	256.35
4/25/1998	29.845	38.1288	13.7748	2546.5	2256.1	7.9558	246.45

4/25/1998	39.382	38.2323	13.5005	2558.4	2294.1	7.9089	210.9
4/25/1998	50.323	38.3022	13.3702	2561.6	2301.8	7.9002	201.69
4/25/1998	70.361	38.3599	13.3626	2565	2307.1	7.8959	192.55
4/25/1998	90.452	38.3982	13.4089	2570	2312	7.895	186.04
4/25/1998	110.188	38.4279	13.3811	2571.3	2316.6	7.8887	179.54
4/25/1998	130.17	38.4571	13.3789	2574.6	2319.2	7.8892	179.29
4/25/1998	149.667	38.4645	13.3139	2576.6	2320.3	7.8905	180.56
4/25/1998	199.438	38.5245	13.3886	NaN	NaN	7.8893	173.18
4/25/1998	299.625	38.5624	13.3901	2589.2	2325.3	7.901	170.21
4/25/1998	399.532	38.5678	13.3605	2592.5	2324.4	7.9077	174.01
4/25/1998	500.644	38.5499	13.2658	2591.1	2320.6	7.9122	178.33
4/25/1998	600.085	38.5384	13.2091	2590.3	2318.3	7.9149	180.58
4/25/1998	699.764	38.5388	13.1976	2589.1	2315.5	7.9177	183.21
4/25/1998	800.142	38.52	13.1202	2587.7	2314.1	7.9182	185.72
4/25/1998	1000.377	38.4993	13.0392	2587.4	2316	7.9148	188.24
4/25/1998	1248.817	38.4711	12.9309	2583.1	2312.4	7.9146	192.52
4/25/1998	1500.245	38.4468	12.8382	2582.3	2311.8	7.9144	196.15
4/25/1998	2000.185	38.4376	12.7959	2580.7	2311.7	7.9122	199.78
5/6/1998	4.727	38.1088	14.9624	2545.3	2232.2	7.9927	254.22
5/6/1998	10.483	38.1073	14.6083	2544.6	2233.1	7.9902	256.7
5/6/1998	19.723	38.1017	14.485	2547.7	2234.7	7.9924	257.52
5/6/1998	29.863	38.1571	13.647	2553.1	2246.5	7.9809	255.12
5/6/1998	39.818	38.1998	13.4738	2555.2	2260.9	7.9602	240.55
5/6/1998	49.958	38.2341	13.3686	2557.9	2276.1	7.9387	224.21
5/6/1998	69.804	38.3226	13.2	2564.3	2291.6	7.9217	212.37
5/6/1998	89.306	38.3558	13.1352	nan	nan	7.9187	211.24
5/6/1998	109.795	38.3967	13.2046	2572.1	2304.5	7.9113	198.06
5/6/1998	129.712	38.4329	13.2598	2577.4	2313.3	7.9042	186.2
5/6/1998	149.695	38.4708	13.3383	2580.4	2316.6	7.903	178.67
5/6/1998	200.509	38.5236	13.3825	2586.9	2321.4	7.9044	172.54
5/6/1998	300	38.574	13.413	2590.6	2320.8	7.9109	170.1
5/6/1998	400	38.571	13.361	nan	nan	7.9124	173.71
5/6/1998	500	38.56	13.295	2593	2321.2	7.9139	176.71
5/6/1998	600	38.553	13.25	2590.1	2314.9	7.9202	178.75
5/6/1998	700	38.54	13.191	2587.4	2313.9	7.9179	182.31
5/6/1998	800	38.524	13.125	2587.1	2314.4	7.9167	184.01
5/6/1998	1000	38.501	13.036	2586.4	2316.7	7.9118	186.06
5/6/1998	1250	38.473	12.927	2588.1	2321.5	7.9068	189.84
5/6/1998	1500	38.448	12.836	2579.8	2313.9	7.9068	193.8
5/6/1998	2000	38.438	12.789	2580.9	2316	7.9051	199.23
6/16/1998	5	38.074	17.75	2537.5	2219.9	8.0013	241.88
6/16/1998	10	38.074	17.654	2539.1	2220.1	8.0033	243.88
6/16/1998	20	38.142	14.747	2546	2226.5	8.0024	264.59
6/16/1998	30	38.163	14.049	2549.5	2234.2	7.995	263.12
6/16/1998	40	38.18	13.691	2552.8	2253.1	7.9696	247.35
6/16/1998	50	38.211	13.394	2552.5	2275.2	7.9323	220.99
6/16/1998	70	38.241	13.314	2555.5	2284.7	7.9206	212.17
6/16/1998	90	38.287	13.211	2556.8	2289.6	7.9137	206.68
6/16/1998	110	38.352	13.311	2565.1	2302.2	7.9057	193.44
6/16/1998	130	38.372	13.23	2567.3	2305.1	7.9029	189.61
6/16/1998	150	38.428	13.31	2573.6	2311.6	7.9011	182.35

6/16/1998	200	38.507	13.419	2579.3	2316.7	7.9007	172.7
6/16/1998	300.49	38.5636	13.4393	2586.8	2320.5	7.9053	169.35
6/16/1998	401.438	38.5743	13.4039	2588.8	2319.7	7.9099	170.76
6/16/1998	600.561	38.5514	13.2567	2589	2316	7.9165	178.25
6/16/1998	700.638	38.5443	13.2141	2588.1	2314.1	7.9185	181.31
6/16/1998	803.738	38.536	13.1791	2588.7	2315.6	7.9171	182.62
6/16/1998	998.952	38.5054	13.0584	2583.3	NaN	NaN	186.2
6/16/1998	1248.953	38.4719	12.9292	2580.5	2310.7	7.9132	190.11
6/16/1998	1499.404	38.4521	12.8549	2580.2	2310.4	7.9135	194.2
6/16/1998	1999.562	38.4376	12.7931	2580	2307.7	7.9179	
7/22/1998	5.517	38.2859	24.3065	NaN	NaN	8.0348	218.72
7/22/1998	9.959	38.2088	22.8486	NaN	NaN	8.0444	278.45
7/22/1998	20.286	38.2398	15.3053	NaN	NaN	8.057	280.12
7/22/1998	29.521	38.3023	14.0714	NaN	NaN	7.9591	
7/22/1998	39.701	38.341	13.3964	NaN	NaN	7.9248	213.36
7/22/1998	49.961	38.3526	13.2587	NaN	NaN	7.8913	224.12
7/22/1998	70.284	38.3894	13.2325	NaN	NaN	7.9039	191.31
7/22/1998	90.199	38.4211	13.2456	NaN	NaN	7.9222	186.77
7/22/1998	110.979	38.4677	13.3215	NaN	NaN	7.9011	178.35
7/22/1998	130.091	38.4908	13.348	NaN	NaN	7.8926	173.35
7/22/1998	149.721	38.5306	13.4234	NaN	NaN	7.8935	172.1
7/22/1998	201.147	38.55	13.4176	NaN	NaN	7.8958	170.37
7/22/1998	299.864	38.5594	13.3608	NaN	NaN	7.8937	170.45
7/22/1998	400.266	38.5699	13.3558	NaN	NaN	7.9121	173.46
7/22/1998	500.254	38.563	13.3037	NaN	NaN	7.9096	178.5
7/22/1998	600.556	38.5503	13.2427	NaN	NaN	7.9068	181.9
7/22/1998	700.448	38.54	13.1966	NaN	NaN	7.9196	182.75
7/22/1998	800.114	38.525	13.1364	NaN	NaN	7.9096	184.06
7/22/1998	1000.312	38.4986	13.0326	NaN	NaN	7.9137	187.45
7/22/1998	1250.701	38.4738	12.9356	NaN	NaN	7.913	192.33
7/22/1998	1500.715	38.4549	12.8653	NaN	NaN	7.9132	194.01
7/22/1998	2000.064	38.439	12.8009	NaN	NaN	NaN	199.36
8/19/1998	5.024	38.2611	25.1148	2557.7	2204.3	8.0507	216.18
8/19/1998	9.858	38.1855	23.5129	2552.2	2207.9	8.0386	271.57
8/19/1998	19.611	38.2	15.1973	2556.9	2224.3	8.0194	289.9
8/19/1998	29.624	38.2299	14.1088	2557.6	2261.7	7.962	250.7
8/19/1998	39.936	38.2656	13.6247	2564.6	2287.7	7.9292	221.11
8/19/1998	49.202	38.3032	13.4038	2564	2306.1	7.8965	203.4
8/19/1998	70.039	38.3519	13.2548	2565.4	2313	7.8863	187.71
8/19/1998	89.554	38.3804	13.2365	2566.5	2309.5	7.894	190.7
8/19/1998	109.679	38.4104	13.2473	2575.9	2314.3	7.9003	187.29
8/19/1998	129.356	38.4436	13.2775	2573.2	2319.9	7.886	180.12
8/19/1998	150.229	38.4715	13.307	NaN	NaN	7.8925	176.23
8/19/1998	202.013	38.5227	13.3788	2583.4	2322.5	7.897	170.83
8/19/1998	301.029	38.5589	13.374	NaN	NaN	7.8999	169.23
8/19/1998	399.792	38.5623	13.3438	NaN	NaN	7.9108	172.33
8/19/1998	499.593	38.5604	13.3085	2586.9	2318.8	7.9086	175.77
8/19/1998	599.326	38.5488	13.2468	2589.9	2317.1	7.9163	180.02
8/19/1998	698.546	38.5336	13.1803	2588.6	2320.3	7.9089	182.03
8/19/1998	800.17	38.5243	13.1383	2586.8	2315.5	7.9144	183.61
8/19/1998	999.891	38.4993	13.0375	2586.1	2314.8	7.9147	186.74

8/19/1998	1249.181	38.4731	12.9359	2579.6	2313	7.9078	190.07
8/19/1998	1500.35	38.4535	12.8622	2581.3	2310.6	7.9147	193.86
8/19/1998	1999.912	38.4379	12.799	2580.3	2306.2	7.9209	199.14
9/4/1998	4.801	38.2772	21.2345	2557.8	2206.1	8.048	243.73
9/4/1998	9.697	38.2112	18.4118	2557.3	2219	8.0278	278.19
9/4/1998	19.89	38.2315	14.3638	2559.3	2241.5	7.9963	274.27
9/4/1998	29.854	38.2309	13.8887	2561.1	2265.6	7.9607	246.67
9/4/1998	40.019	38.2785	13.4536	2561.7	2293.2	7.9154	218.02
9/4/1998	49.717	38.315	13.3181	2567.4	2308.4	7.8978	199.48
9/4/1998	69.083	38.3334	13.1768	2565.6	2303.1	7.9041	205.02
9/4/1998	89.867	38.386	13.2222	2568.8	2310	7.8967	191.61
9/4/1998	109.343	38.4326	13.2846	2573.9	2317.8	7.8908	
9/4/1998	128.975	38.4591	13.3182	2576.5	2319	7.8926	176.79
9/4/1998	149.387	38.4922	13.3664	2580.3	2321.2	7.8946	175.44
9/4/1998	199.385	38.5315	13.3917	2581.8	2318.5	7.9011	171.12
9/4/1998	298.979	38.564	13.3951	2587.5	2322.9	7.9023	171.15
9/4/1998	399.046	38.5596	13.3272	2589.7	2321.7	7.9081	172.41
9/4/1998	499.424	38.5551	13.2801	2589	2318.6	7.9122	177.99
9/4/1998	599.417	38.5612	13.2823	2590.5	2318.4	7.9149	181.82
9/4/1998	700.358	38.5318	13.168	2587.2	2318.6	7.9098	182.71
9/4/1998	798.32	38.5217	13.1228	2586.3	2315.1	7.9143	184.4
9/4/1998	1000.492	38.4987	13.0291	2582.1	2316	7.9063	187.58
9/4/1998	1249.848	38.4701	12.9168	2583	2312.6	7.9139	191.49
9/4/1998	1499.813	38.4497	12.8414	2582.7	2313	7.9129	196.11
9/4/1998	2003.681	38.4387	12.7919	2578.3	2311.5	7.9086	201.39
10/10/1998	5.316	38.1587	17.7358	2549.3	2221	8.0156	234.42
10/10/1998	10.23	38.1339	17.4885	2540.5	2220.6	8.004	235.8
10/10/1998	20.264	38.1523	16.957	2550	2232.7	7.9981	237.78
10/10/1998	30.324	38.2248	13.8312	NaN	NaN	7.9449	227.45
10/10/1998	40.369	38.2374	13.4321	2556.8	2285.7	7.921	211.61
10/10/1998	50.593	38.2601	13.3189	2561.4	2292.9	7.9157	206.64
10/10/1998	69.798	38.2927	13.2512	2558.8	2294.7	7.908	203.4
10/10/1998	90.505	38.34	13.2097	2564.3	2301.2	7.9051	198.22
10/10/1998	110.714	38.3768	13.1947	2573	2306.2	7.91	194.72
10/10/1998	130.517	38.4196	13.2473	2573.4	2313.4	7.8978	188.23
10/10/1998	150.591	38.4389	13.2528	2577.5	2315.1	7.9012	184.9
10/10/1998	201.234	38.4939	13.3039	2578.1	2315.2	7.9015	176.91
12/9/1998	4.931	38.1609	14.3341	2547.2	2243.8	7.9765	240.3
12/9/1998	10.421	38.1611	14.3338	2546.7	2244.4	7.9748	236.92
12/9/1998	20.323	38.1611	14.3297	2546.2	2244.3	7.9741	238.29
12/9/1998	39.407	38.1945	13.9238	2549.6	2284.9	7.9115	204.82
12/9/1998	49.757	38.2101	13.7582	2547.2	2286.9	7.9042	212.31
12/9/1998	69.891	38.2018	13.5764	2554.5	NaN	NaN	227.53
12/9/1998	89.969	38.2175	13.5328	2556.1	NaN	NaN	223.59
12/9/1998	110.385	38.2288	13.4999	2554.6	2282	7.924	217.85
12/9/1998	130.403	38.2599	13.4376	2559.1	2293.8	7.9104	205.25
12/9/1998	149.99	38.3172	13.3747	2563	2300.8	7.9041	195.62
12/9/1998	201.278	38.4152	13.448	2574.8	NaN	NaN	186.36
12/9/1998	400.423	38.5484	13.3848	2591.5	2328.5	7.8992	171.98
12/9/1998	500.588	38.5845	13.4455	NaN	NaN	7.9191	193.13
12/9/1998	600.822	38.583	13.4098	2593.2	2320.6	7.9151	168.56

12/9/1998	699.99	38.5652	13.3206	2591.7	NaN	NaN	180.33
12/9/1998	801.884	38.5428	13.226	2591.5	2319.1	7.9154	183.31
12/9/1998	1001.122	38.5137	13.1076	2587.2	NaN	NaN	187.24
12/9/1998	1248.516	38.4842	12.9895	2583	2312.2	7.9145	190.81
12/9/1998	1500.103	38.4567	12.8833	NaN	NaN	7.9137	193.88
12/9/1998	2009.196	38.4383	12.8116	2579.6	2312.1	7.9097	199.84
1/26/1999	5.262	38.15	13.329	2544.6	2249	7.9642	242.28
1/26/1999	9.846	38.1499	13.3315	2549.8	2255.6	7.9615	242.28
1/26/1999	19.581	38.1794	13.3486	2551.5	2261	7.955	237.26
1/26/1999	29.677	38.1983	13.2596	2552.4	2262.4	7.9536	236.62
1/26/1999	36.877	38.2036	13.1981	2556.4	2273.5	7.9412	230.42
1/26/1999	49.221	38.2833	13.3443	2559.2	2278.9	7.936	227.79
1/26/1999	69.6	38.2722	13.1082	2553.6	2275.3	7.9334	227.64
1/26/1999	89.078	38.4148	13.5547	2570.1	2304.8	7.9074	184.63
1/26/1999	109.461	38.4406	13.4646	2570.8	2303.7	7.9102	186.79
1/26/1999	130.048	38.5028	13.617	2577.5	2310.1	7.9093	185.17
1/26/1999	149.709	38.4416	13.2843	2576.2	2311.7	7.9051	189.18
1/26/1999	200.194	38.5392	13.4579	2582.6	2314.9	7.9085	170.19
2/4/1999	299.579	38.543	13.4371	nan	nan	nan	171.85
2/4/1999	499.76	38.5806	13.419	nan	nan	nan	173.07
2/4/1999	600.351	38.5697	13.3434	nan	nan	nan	178.26
2/4/1999	699.515	38.5528	13.2666	nan	nan	nan	181.24
2/4/1999	799.525	38.5348	13.1876	nan	nan	nan	184.25
2/4/1999	1000.063	38.5099	13.0849	nan	nan	nan	188.06
2/4/1999	1250.313	38.4729	12.9392	nan	nan	nan	193.71
2/4/1999	2000.406	38.4373	12.7994	nan	nan	nan	200.63
2/21/1999	5.531	38.2131	13.004	2552.2	NaN	NaN	249.23
2/21/1999	9.423	38.2213	12.9196	2553.1	NaN	NaN	245.45
2/21/1999	19.872	38.302	13.0223	2561.2	2285	7.9284	230.21
2/21/1999	29.528	38.3392	13.0322	2563	2284.8	7.9311	230.81
2/21/1999	39.442	38.3702	13.0129	2566.4	2292.8	7.9226	227.95
2/21/1999	49.788	38.3758	12.996	2566.4	2291	7.9255	225.78
2/21/1999	70.946	38.3811	12.9665	2570	2294.5	7.9253	225.92
2/21/1999	89.85	38.3961	13.0026	2570.6	2296	7.9234	222.22
2/21/1999	110.659	38.4348	13.0904	2572.4	2300.2	7.9187	209.2
2/21/1999	130.224	38.4591	13.1529	2572.9	2301.7	7.9166	203.86
2/21/1999	149.475	38.4623	13.1253	2575	2305.4	7.9137	203.45
2/21/1999	199.328	38.5846	13.4998	2589.9	2322.4	7.9069	173.95
2/21/1999	299.832	38.5812	13.4517	2591.7	2323.3	7.9083	173.91
2/21/1999	400.616	38.5745	13.3824	2588.8	2320.5	7.9085	177.74
2/21/1999	500.258	38.5595	13.3041	2588.6	2318.8	7.9111	180.46
2/21/1999	599.787	38.5505	13.2537	2589.4	2317.8	7.9142	183.81
2/21/1999	699.243	38.5353	13.1924	2586.3	2316.5	7.9118	188.89
2/21/1999	798.251	38.5273	13.1569	2586.5	2314.7	7.9152	186.37
2/21/1999	1000.107	38.4966	13.0349	2587.4	2315.8	7.915	190.98
2/21/1999	1249.163	38.4713	12.9363	2583.2	NaN	NaN	184.39
2/21/1999	1500.334	38.4485	12.8491	2580.6	2310.3	7.9143	199.42
2/21/1999	1998.533	38.4366	12.7988	2583.7	2309.7	7.9203	202.26
3/19/1999	nan	38.427	nan	2574.2	2272.7	7.9668	
3/19/1999	nan	38.427	nan	2577	2284.6	7.9517	
3/19/1999	4.979	38.432	13.1668	2575	2288.5	7.9422	238.86

3/19/1999	9.741	38.4316	13.07	2573.6	2295.9	7.9279	239
3/19/1999	19.676	38.4316	13.0092	2574.1	2290	7.9384	236.34
3/19/1999	29.404	38.4321	12.9978	2574.4	2291.4	7.9365	234.72
3/19/1999	40.098	38.432	12.989	2574.6	2294.2	7.9323	232.71
3/19/1999	49.607	38.4319	12.9851	2573	2294.7	7.9288	231.36
3/19/1999	69.701	38.4303	12.9772	2572.7	2295.5	7.9271	230.17
3/19/1999	88.897	38.43	12.9763	2573.3	2294.6	7.9296	
3/19/1999	109.592	38.43	12.9761	2573.4	2295.4	7.9285	230.54
3/19/1999	129.626	38.43	12.9767	2573.9	2297.6	7.9254	229.41
3/19/1999	150.334	38.4283	12.9687	2573.1	2296.6	7.9259	229.09
3/19/1999	200.162	38.4259	12.9473	2571.8	2302.6	7.9138	219.66
3/19/1999	300.425	38.4445	12.9996	2570.9	2303	7.9115	214.63
3/19/1999	399.799	38.4834	13.0948	2577.7	2309.8	7.9103	203.48
3/19/1999	499.31	38.5166	13.1895	2584.1	2317	7.9077	191.72
3/19/1999	599.79	38.5599	13.3047	2587.4	2320.5	7.9065	177.71
3/19/1999	700.087	38.54	13.2118	2585.9	2315.9	7.9121	181.62
3/19/1999	799.715	38.5307	13.1677	2585.6	2314.8	7.9137	184.1
3/19/1999	999.284	38.5027	13.0504	2588.4	2317	7.9145	187.59
3/19/1999	1249.293	38.4724	12.9336	2583	2311.8	7.9153	191.51
3/19/1999	1498.355	38.4517	12.8546	2579.2	2309.3	7.9137	196.03
3/19/1999	2000.869	38.4384	12.7981	2579.6	2306.6	7.9192	200.93
4/11/1999	2.89	38.2725	13.756	2559.8	2258	7.9711	
4/11/1999	2.96	38.2718	13.765	2558.7	2256.3	7.9721	
4/11/1999	4.874	38.2687	13.5652	2557.2	2254.6	7.9726	256.49
4/11/1999	10.453	38.2677	13.4119	2557.3	2255.1	7.972	257.1
4/11/1999	20.34	38.271	13.3202	2557	2257	7.9684	252.58
4/11/1999	29.397	38.292	13.3091	2560	2263	7.963	248.37
4/11/1999	40.375	38.2957	13.2716	2560.2	2267	7.9568	246.02
4/11/1999	49.356	38.3038	13.1139	2559.3	2276.9	7.9389	233.85
4/11/1999	68.676	38.3451	13.0505	2560.9	2285.2	7.9271	222.62
4/11/1999	89.734	38.3881	13.0996	2566	2295.2	7.9177	212.06
4/11/1999	99.28	38.4038	13.1331	2566.6	2295.5	7.9179	209.24
4/11/1999	130.331	38.4289	13.1664	2570.2	2301.4	7.9132	203.2
4/11/1999	149.074	38.4441	13.1983	2571.8	2303.5	7.912	198.56
4/11/1999	199.2	38.4538	13.1528	2572.4	2302.4	7.9147	205.59
4/11/1999	300.289	38.4862	13.1601	2576.1	2309.5	7.9082	196.37
4/11/1999	400.381	38.5444	13.3244	2583.4	2315.1	7.9094	182.71
4/11/1999	498.985	38.5645	13.3652	2585.8	2318	7.9081	176.86
4/11/1999	598.457	38.5636	13.3283	2588.2	2318.9	7.9103	175.83
4/11/1999	700.547	38.5577	13.2913	2585.6	2315.3	7.9124	178.99
4/11/1999	801.049	38.546	13.2351	2586.4	2315.6	7.9134	181.62
4/11/1999	1000.123	38.5277	13.1559	2586	2314.8	7.9142	184.21
4/11/1999	1248.568	38.5	13.0431	2583.1	2312.4	7.9141	186.74
4/11/1999	1999.108	38.4414	12.8178	2578.7	2306.8	7.9173	196.98
5/15/1999	5.276	38.3139	17.7429	2561.2	2246.8	7.9903	244.12
5/15/1999	8.792	38.2824	16.742	2560	2247.8	7.9874	251.49
5/15/1999	20.151	38.2853	14.2864	2560.4	2252	7.9813	258.82
5/15/1999	29.274	38.314	13.7534	2562.1	2264.2	7.9638	247.98
5/15/1999	39.523	38.3265	13.4625	2563.7	2274.6	7.9493	237.49
5/15/1999	48.97	38.3903	13.4433	2568	2280.7	7.9451	
5/15/1999	68.558	38.398	13.2724	2569.4	2287.3	7.936	222.33

5/15/1999	89.478	38.4086	13.1468	2568.9	2296.2	7.9203	208.96
5/15/1999	110.419	38.448	13.1731	2573.1	2304.1	7.913	197.29
5/15/1999	129.441	38.4701	13.2091	2574.9	2306.5	7.9115	194.83
5/15/1999	150.036	38.4687	13.1693	2573.8	2305.8	7.911	195.63
5/15/1999	198.811	38.536	13.3428	2584	2313.7	7.9128	179.94
5/15/1999	299.674	38.541	13.2453	2586	2318.2	7.9084	183.86
5/15/1999	400.311	38.5679	13.3547	2591.6	2320.1	7.9136	175.53
5/15/1999	500.006	38.5646	13.3171	2589.1	2319.7	7.9105	177.25
5/15/1999	601.338	38.5581	13.2727	2588.4	2314.8	7.9175	179.83
5/15/1999	799.882	38.5295	13.1508	2587.1	2313.4	7.9179	183.13
5/15/1999	999.24	38.5031	13.0456	2583.6	2313.2	7.9132	187.32
5/15/1999	1249.06	38.4756	12.9392	2578.7	2309.8	7.912	190.06
5/15/1999	1499.566	38.4563	12.8659	2582.5	2312.3	7.9138	193.36
5/15/1999	2001.061	38.4405	12.8032	2580.8	2309	7.917	197.49
6/12/1999	5.24	38.3246	21.271	2566.7	2243.1	8.0038	
6/12/1999	9.708	38.3246	21.177	2565.3	2241.6	8.0041	227.9
6/12/1999	9.648	38.2962	20.9738	2564	2243.6	7.9993	246.18
6/12/1999	30.541	38.3367	14.2323	2568.3	2251.3	7.9931	272.97
6/12/1999	39.996	38.3424	13.7582	2569.2	2256	7.987	270.26
6/12/1999	50.148	38.3648	13.419	2566.2	2284	7.9371	232.36
6/12/1999	69.674	38.3982	13.2378	2568.2	2296.7	7.9183	220.6
6/12/1999	89.867	38.3991	13.1326	2567.9	2301.6	7.9095	210.96
6/12/1999	109.194	38.4323	13.1664	2571.3	2307.4	7.9047	203.4
6/12/1999	129.511	38.453	13.1658	2573.5	2310.9	7.902	198.64
6/12/1999	149.265	38.469	13.169	2573.8	2311.6	7.9011	196.12
6/12/1999	199.198	38.5001	13.2266	2577.6	2315.9	7.8992	189.36
6/12/1999	300.938	38.5453	13.3232	NaN	NaN	7.9036	180.12
6/12/1999	400.255	38.5508	13.3056	2586.2	2320.1	7.9053	180.45
6/12/1999	499.844	38.5578	13.3029	2587.7	2320.3	7.9073	177.86
6/12/1999	600.241	38.5542	13.274	2587.2	2317.3	7.9117	179.82
6/12/1999	700.2	38.5406	13.212	2589.4	2317.9	7.9143	181.99
6/12/1999	800.239	38.5303	13.1659	2589.4	2317.1	7.9156	184.14
6/12/1999	986.664	38.5043	13.0609	2586.2	2315.6	7.9135	187.02
6/12/1999	1249.996	38.4736	12.9407	2582	2311.8	7.9136	191.01
6/12/1999	1500.197	38.4566	12.8759	2579.6	2310.4	7.9124	194.8
6/12/1999	2000.069	38.4379	12.8025	2581.1	2311.7	7.9128	198.75
7/10/1999	5.031	38.4388	22.7993	2570.7	2234.5	8.0212	
7/10/1999	9.646	38.3982	21.7961	2564.4	2234.4	8.0131	260.64
7/10/1999	19.252	38.1909	15.3718	2557.4	2236.9	8.0017	276.24
7/10/1999	30.83	38.2187	13.8774	2557.3	2253.2	7.9756	260.24
7/10/1999	38.698	38.2514	13.509	2558.3	2265.1	7.9574	246.45
7/10/1999	50.188	38.2668	13.3301	2559.1	2284.4	7.9265	223.59
7/10/1999	69.402	38.3193	13.215	2564.1	2292	7.9209	216.59
7/10/1999	90.206	38.3477	13.1787	2565.1	2293.6	7.9193	212.8
7/10/1999	110.412	38.3893	13.2152	2569	2296.3	7.9205	206.23
7/10/1999	130.108	38.4163	13.204	2571.1	2302.1	7.9137	206.93
7/10/1999	150.562	38.4273	13.1813	2572.3	2304.2	7.9118	203.36
7/10/1999	199.391	38.502	13.3041	2578.9	2312.1	7.9079	186.4
7/10/1999	299.46	38.5249	13.2722	2584.1	2317.7	7.9064	184.36
7/10/1999	399.413	38.5543	13.3265	2587.6	2318.2	7.9107	183.31
7/10/1999	500.323	38.5596	13.3142	2587.2	2316.7	7.9124	177.71

7/10/1999	599.991	38.5588	13.2914	2590	2318.3	7.9142	178.31
7/10/1999	697.365	38.5507	13.2466	2590.2	2316.6	7.9175	180.18
7/10/1999	799.225	38.5386	13.1915	2587.8	2314.5	7.9175	182.49
7/10/1999	1000.119	38.5146	13.0922	2585.4	2313.3	7.916	187.79
7/10/1999	1250.659	38.4858	12.9796	2582.3	2312.3	7.9131	192.66
7/10/1999	1500.552	38.4611	12.8847	2580	2311.9	7.9105	194.71
7/10/1999	2001.326	38.4405	12.8043	2579	2312.6	7.908	198.27
10/3/1999	5.459	38.327	22.005	2565.6	2214.6	8.0454	217.28
10/3/1999	15.602	38.323	21.905	2563.7	2215.3	8.0418	219.46
10/3/1999	20.443	38.288	15.224	2564.9	2239.1	8.0078	291.17
10/3/1999	29.654	38.321	14.33	2569.4	2264.1	7.9747	278.12
10/3/1999	39.894	38.356	13.582	2569.6	2286.9	7.9376	230.31
10/3/1999	49.882	38.37	13.343	2570.1	2303.3	7.9106	213.36
10/3/1999	59.636	38.385	13.275	2566.5	2307	7.8982	207.28
10/3/1999	70.082	38.405	13.226	2570.6	2311	7.8977	205.1
10/3/1999	80.093	38.422	13.207	2573.4	2313.2	7.8981	202.06
10/3/1999	89.855	38.433	13.186	2572.4	2313.1	7.8966	199.88
10/3/1999	110.072	38.455	13.208	2575.9	2316	7.897	194.23
10/3/1999	150.346	38.512	13.31	2580.2	2318.3	7.8993	183.8
10/3/1999	199.504	38.532	13.311	2582.1	2317.6	7.9033	181.62
10/3/1999	299.903	38.544	13.293	2587.8	2321.2	7.906	179.45
10/3/1999	399.126	38.548	13.266	2588.8	2321.1	7.9078	178.14
10/3/1999	599.92	38.538	13.197	2589	2317.3	7.9147	181.4
10/3/1999	800.284	38.521	13.121	2586.1	2313	7.9175	185.31
10/3/1999	998.384	38.493	13.007	2584.4	2315.2	7.9115	188.36
10/3/1999	1200.32	38.471	12.921	2582.4	2312.1	7.9138	191.62
10/3/1999	1499.731	38.448	12.834	2581.8	2310.9	7.9152	195.32
10/3/1999	1799.82	38.439	12.797	2581.1	2310.2	7.9153	198.14
10/3/1999	2100.18	38.439	12.795	2582.5	2311.5	7.9154	199.45
10/3/1999	2244.253	38.444	12.809	2582.4	2304.8	7.9264	199.36
10/28/1999	3.995	37.7248	19.8516	NaN	NaN	8.05	228.25
10/28/1999	10.056	38.1173	19.4532	2549.1	2204	8.0414	232.75
10/28/1999	18.455	38.1253	18.6184	2548.8	2208.3	8.0345	234.71
10/28/1999	29.426	38.1452	17.8893	NaN	NaN	8.0317	234.87
10/28/1999	39.318	38.2753	17.4606	2564.9	2226.4	8.0273	236.34
10/28/1999	50.568	38.1949	14.8718	2558.2	2263.7	7.9603	238.49
10/28/1999	69.954	38.2763	13.33	2559.6	2290.2	7.9173	212.12
10/28/1999	89.647	38.3342	13.2096	2568.3	2299.7	7.9142	206.7
10/28/1999	110.257	38.386	13.2304	2574.4	2305.4	7.9136	202.26
10/28/1999	130.316	38.4079	13.2289	2576	2306	7.9148	197.63
10/28/1999	130.301	38.4175	13.2406	2573.6	2304.3	7.9138	
10/28/1999	149.774	38.4467	13.2695	2576.3	2306.2	7.9144	192.91
10/28/1999	199.885	38.5094	13.3344	2581.6	2310.7	7.9146	183.33
10/28/1999	300.102	38.5423	13.3389	2585.4	2315.8	7.9115	179.19
10/28/1999	400.197	38.5556	13.3352	2588	2318.7	7.9105	179.3
10/28/1999	500.343	38.553	13.2926	2588.2	2319.2	7.91	180.74
10/28/1999	600.488	38.5465	13.2483	2589.3	2316.9	7.9156	182.97
10/28/1999	699.651	38.5367	13.2015	2587.3	2314.3	7.917	184.01
10/28/1999	799.953	38.5317	13.176	2588.2	2313.4	7.92	185.28
10/28/1999	999.653	38.5013	13.052	2583	2310.3	7.9176	188.45
10/28/1999	1249.74	38.4741	12.9472	2581.1	2311.4	7.913	193.89

10/28/1999	1499.842	38.4553	12.8766	2582	2313.2	7.9115	196.84
10/28/1999	1999.947	38.4373	12.8054	NaN	NaN	7.9234	202.11
12/18/1999	4.502	38.2438	13.2566	2556.7	2266.9	7.9521	240.6
12/18/1999	9.209	38.2435	13.2573	2557.7	2267	7.9537	240.91
12/18/1999	19.775	38.2437	13.2566	2557.5	2266.5	7.954	242.27
12/18/1999	29.576	38.2435	13.2558	2557.3	2264.7	7.9568	241.08
12/18/1999	38.87	38.2436	13.2543	2559	2269.8	7.951	241.27
12/18/1999	49.598	38.2437	13.2516	2556.6	2266.8	7.9522	241.29
12/18/1999	68.527	38.2448	13.2437	2557.4	2269.2	7.9494	239.59
12/18/1999	88.884	38.2626	13.2611	2561.2	2277.4	7.9414	238.16
12/18/1999	109.086	38.3609	13.2698	2567.8	2299.1	7.9142	206.88
12/18/1999	129.322	38.4425	13.2716	2573.1	2311.4	7.9007	191.45
12/18/1999	148.839	38.4697	13.3137	2576.7	2314.4	7.9008	188.5
12/18/1999	199.258	38.5196	13.3711	2580.8	2316.9	7.9025	183.19
12/18/1999	299.693	38.5619	13.4168	2586.6	2321.3	7.9038	180.05
12/18/1999	398.422	38.5615	13.3489	2587.4	2321.1	7.9054	176.19
12/18/1999	698.462	38.5418	13.2264	2589.1	2319.5	7.9111	180.63
12/18/1999	798.991	38.5287	13.1707	2586.1	2316.2	7.9121	182.56
12/18/1999	999.811	38.4968	13.0403	2584.9	2314.1	7.914	187.98
12/18/1999	1249.716	38.4672	12.9254	2580.9	2311.3	7.9127	191.94
12/18/1999	1499.225	38.4481	12.8529	2580.3	2309.7	7.9148	194.08
12/18/1999	2000.462	38.4363	12.8032	2575.6	2299.8	7.9243	194.88
1/30/2000	3.551	38.4479	13.1697	2576.7	2306.4	7.9148	215.31
1/30/2000	9.565	38.448	13.1215	2576.3	2305	7.9165	212.37
1/30/2000	19.702	38.4551	13.1094	2576.5	2305.9	7.9153	213.98
1/30/2000	30.052	38.4572	13.1062	2577.9	2308.8	7.9123	210.94
1/30/2000	39.617	38.4612	13.1087	2577.7	2307.9	7.9136	207.76
1/30/2000	49.882	38.4756	13.1521	2579.8	2312.5	7.909	204.61
1/30/2000	70.32	38.4772	13.1465	2579	2311	7.9103	203.41
1/30/2000	90.157	38.5117	13.2622	2583.6	2319	7.9035	189.04
1/30/2000	103.889	38.5293	13.3197	2586.8	2322.7	7.9021	184.41
1/30/2000	128.89	38.5218	13.2862	2583.4	2318.6	7.9038	186.37
1/30/2000	150.49	38.5097	13.2373	2580.5	2315.3	7.9048	193.68
1/30/2000	201.903	38.5308	13.3016	2583.8	2320.1	7.9016	184.41
1/30/2000	299.335	38.5797	13.435	2590.3	2324	7.9048	176.53
1/30/2000	400.387	38.5583	13.3265	2588	2321.7	7.9054	181.77
1/30/2000	499.861	38.5515	13.2817	2589.8	2322.7	7.9065	182.77
1/30/2000	599.371	38.5451	13.2468	2592.6	NaN	NaN	
1/30/2000	699.007	38.5396	13.2172	2590.1	2319.8	7.9121	185.77
1/30/2000	799.112	38.5401	13.2086	2592.3	2320.5	7.9144	187.39
1/30/2000	999.986	38.5148	13.1073	2587.8	2315.9	7.9155	188.27
1/30/2000	1248.426	38.4839	12.9858	2584.8	2314.5	7.9134	192.45
1/30/2000	1499.918	38.4582	12.8881	2583.2	2314.1	7.9119	195.34
1/30/2000	2000.533	38.4386	12.8119	2582.3	2307	7.9226	201.69
2/22/2000	4.875	38.3496	12.9137	2568.3	2285.5	7.9378	240.23
2/22/2000	9.295	38.3501	12.916	2569.6	2286.2	7.9387	239.45
2/22/2000	19.16	38.3553	12.9275	2568.9	2286	7.9381	240.02
2/22/2000	28.819	38.3565	12.9283	2569.1	2287.6	7.9357	238.32
2/22/2000	49.873	38.3688	12.9528	2569.8	2290.6	7.9314	
2/22/2000	89.946	38.4254	13.0401	2575	2302.1	7.9195	218.72
2/22/2000	108.827	38.436	13.0648	2576.1	2303.7	7.9186	215.6

2/22/2000	129.801	38.4458	13.0787	2575.8	2305.7	7.9146	213.24
2/22/2000	149.717	38.4482	13.0723	2576	2306	7.9144	214.57
2/22/2000	200.224	38.4522	13.0552	2576.2	2306.8	7.9133	214.34
2/22/2000	249.317	38.4553	13.0583	2577.7	2307.8	7.9138	215.09
2/22/2000	400.531	38.4975	13.1747	2583	2317	7.9061	199.42
2/22/2000	500.409	38.5515	13.3144	2588.9	2322.3	7.9058	182.6
2/22/2000	600.551	38.5553	13.2966	2590.9	2323.9	7.9062	178.33
2/22/2000	700.993	38.5496	13.2618	2589.9	2320.8	7.9099	179.57
2/22/2000	800.279	38.5427	13.2246	2589.6	2319.4	7.9119	181.04
2/22/2000	1000.681	38.5205	13.1294	2588.3	2317.6	7.9132	184.49
2/22/2000	1250.21	38.499	13.044	2585.9	2315.3	7.9136	187.34
2/22/2000	1501.503	38.4745	12.9492	2584.9	2314.5	7.9135	189.85
2/22/2000	2005.95	38.4423	12.8248	2580.9	2304.9	7.9238	