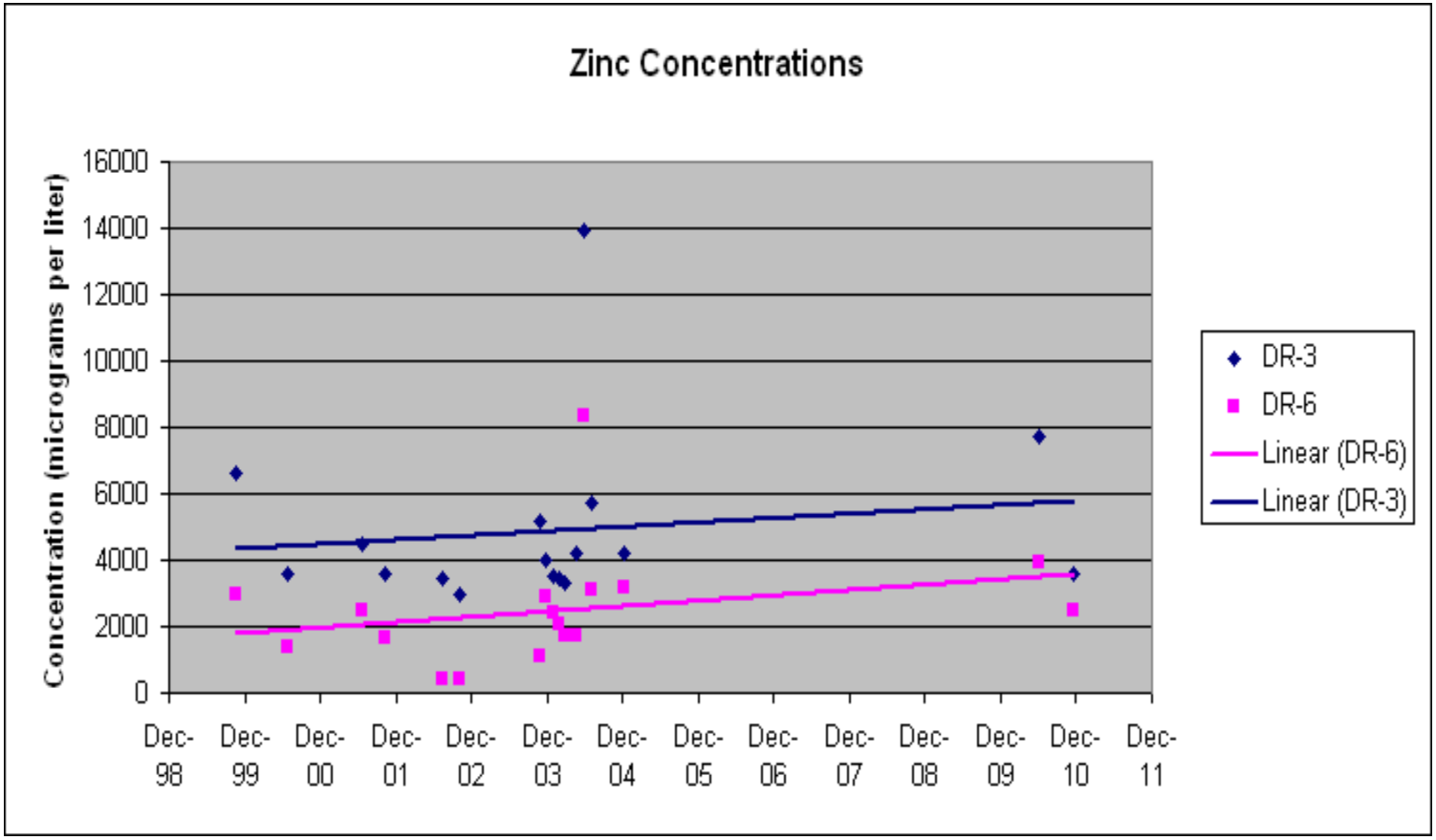
1189862

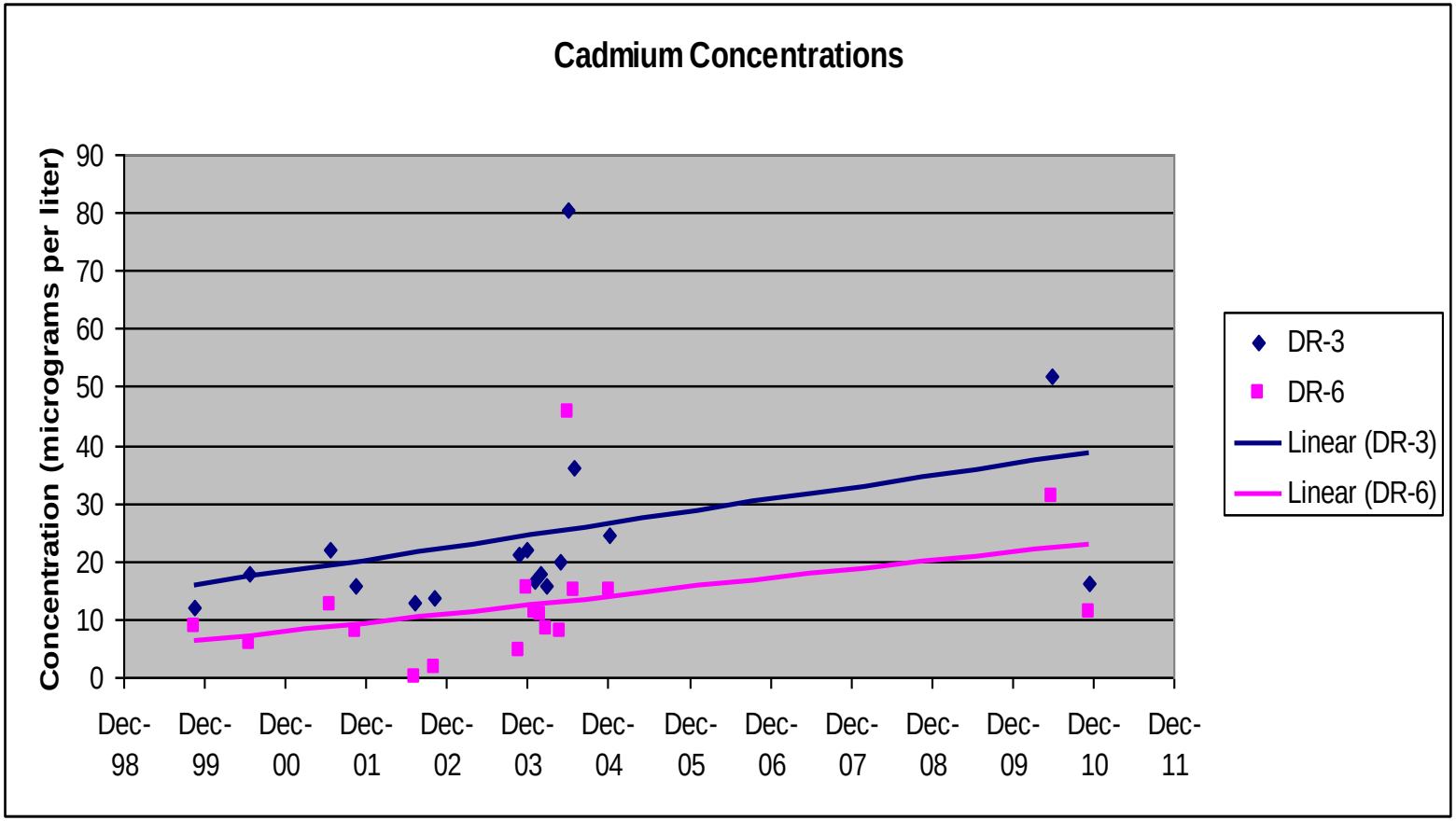
St Louis Tunnel - Rico

Mine Water Discharge Data

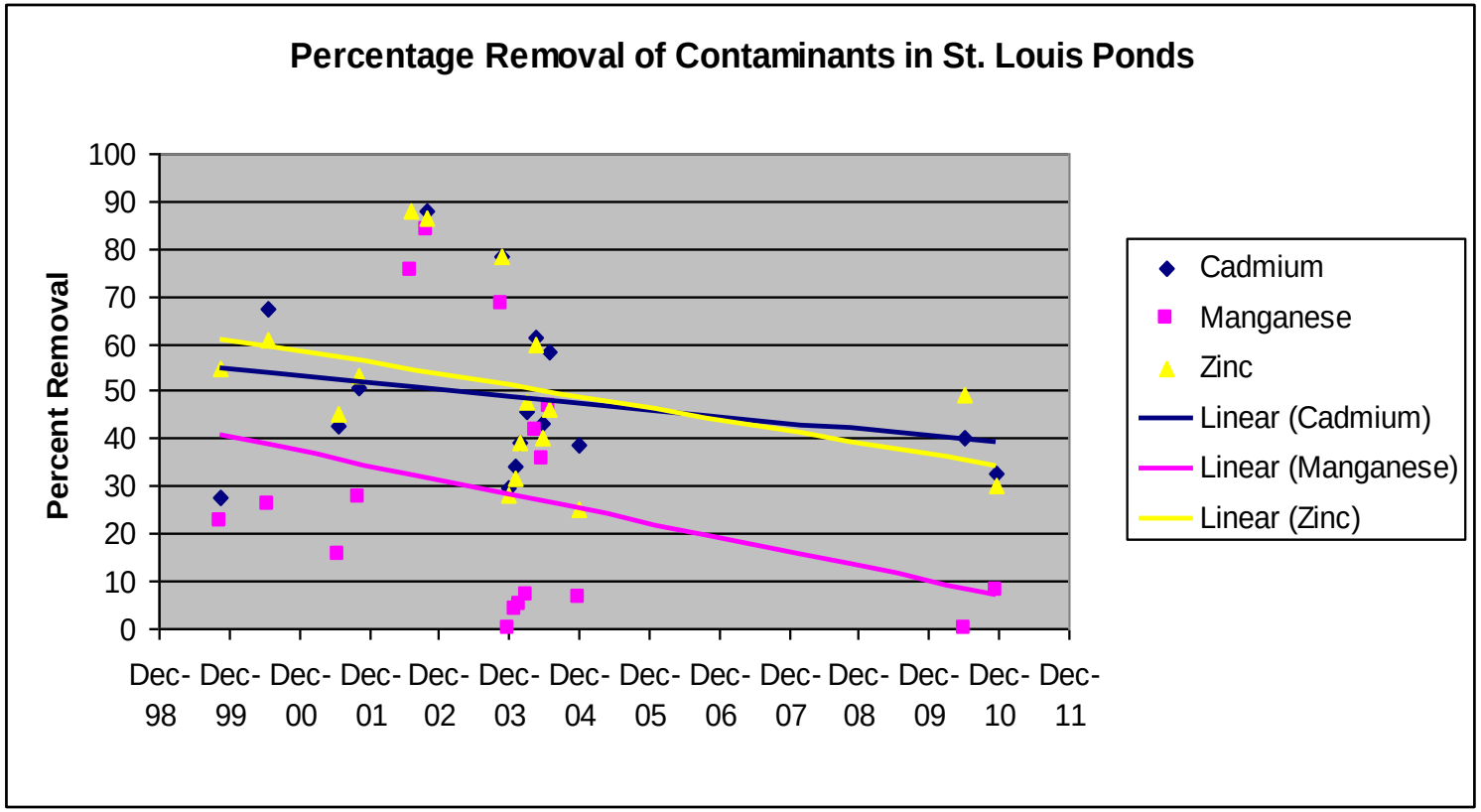
Adit Discharge (DR3) and Outfall (DR6)



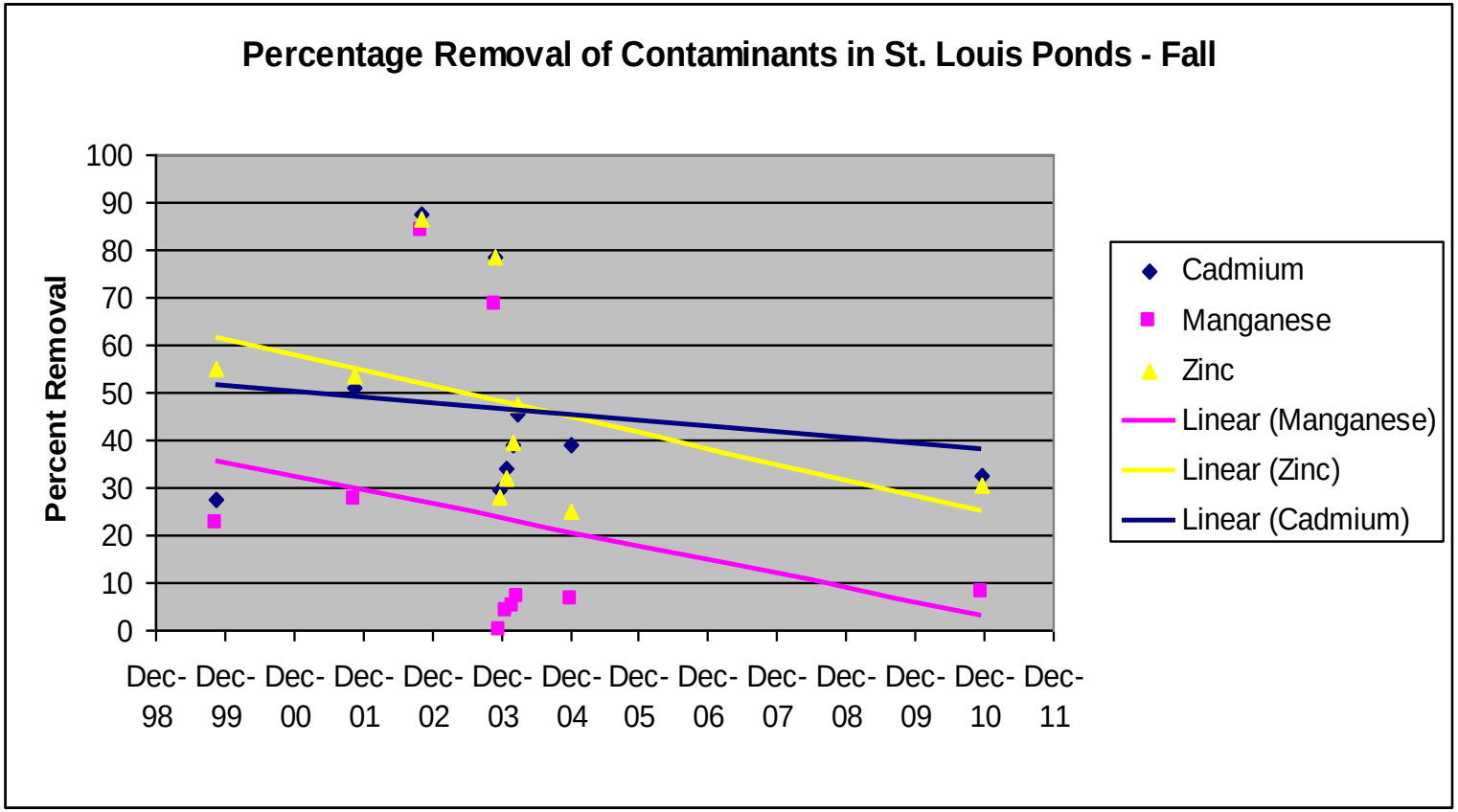
Adit Discharge (DR3) and Outfall (DR6)



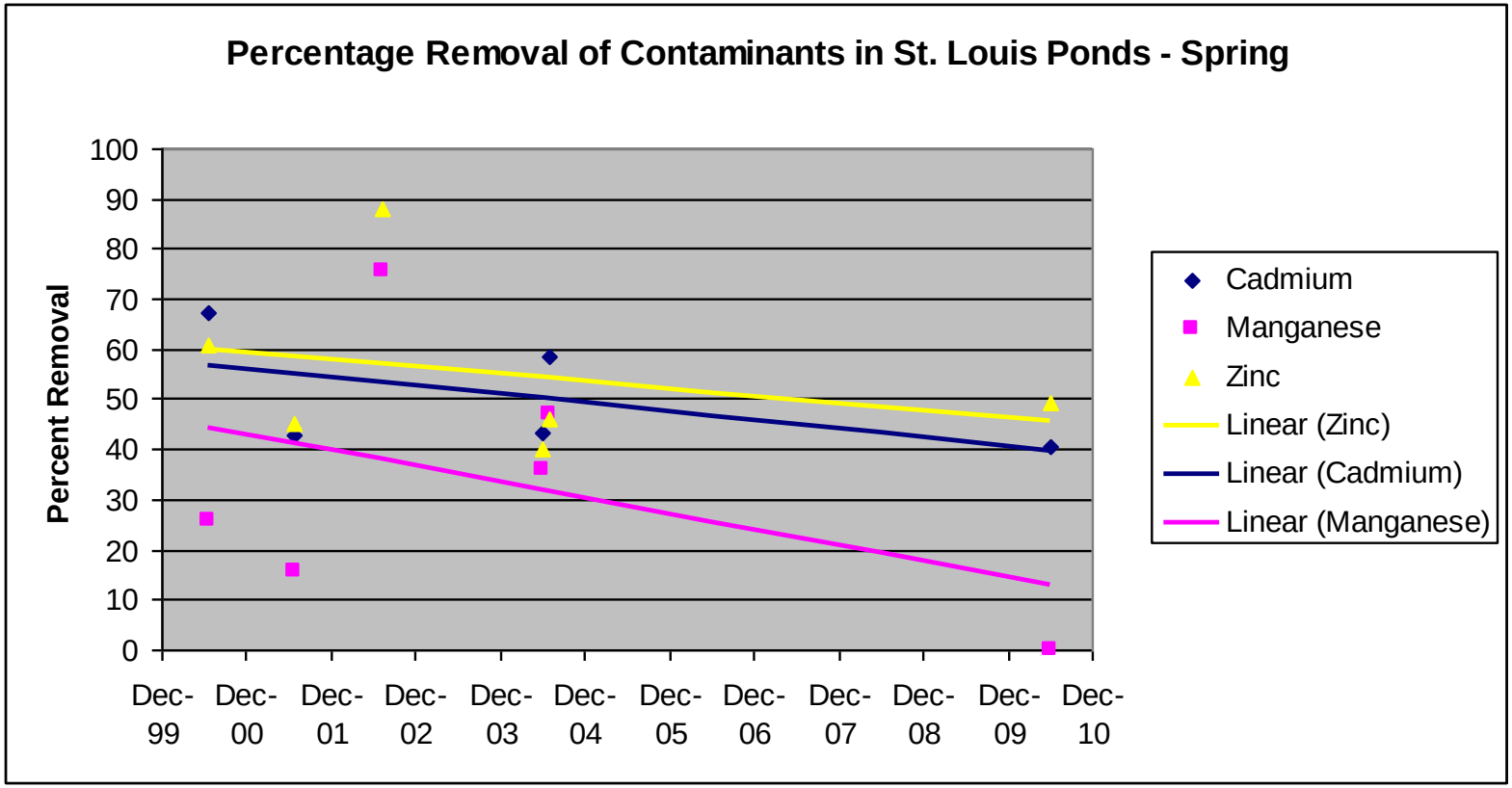
Percent Metals Removal (DR3 to DR6)



Percent Metals Removal – Fall (DR 3 to DR 6)



Percent Metals Removal – Spring (DR 3 to DR 6)



Metals Removal Calculations: DR3 and DR6

Percent Removal - Overall			
Date	Cadmium	Manganese	Zinc
10/24/1999	27.5	22.7	55
6/26/2000	67.2	25.9	60.8
6/27/2001	42.7	15.7	45.2
10/18/2001	51	27.4	53.4
7/16/2002		75.4	88
10/8/2002	87.7	83.8	86.5
10/30/2003	78.4	68.4	78.6
12/2/2003	29.5	0	28
1/7/2004	34.1	3.8	31.8
2/3/2004	39	5.1	39.4
3/2/2004	45.6	7	47.6
4/27/2004	61.3	41.5	59.6
6/1/2004	43.1	35.9	40
7/6/2004	58.5	46.9	46
12/7/2004	38.8	6.7	25.2
6/2/2010	40.4	0	49.4
11/16/2010	32.5	8	30.4

Percent Removal - Spring			
Date	**Cadmium**	**Manganese**	**Zinc**
6/26/2000	67.2	25.9	60.8
6/27/2001	42.7	15.7	45.2
7/16/2002		75.4	88
6/1/2004	43.1	35.9	40
7/6/2004	58.5	46.9	46
6/2/2010	40.4	0	49.4

Percent Removal - Fall			
Date	**Cadmium**	**Manganese**	**Zinc**
10/24/1999	27.5	22.7	55
10/18/2001	51	27.4	53.4
10/8/2002	87.7	83.8	86.5
10/30/2003	78.4	68.4	78.6
12/2/2003	29.5	0	28
1/7/2004	34.1	3.8	31.8
2/3/2004	39	5.1	39.4
3/2/2004	45.6	7	47.6
12/7/2004	38.8	6.7	25.2
11/16/2010	32.5	8	30.4

Water Quality Data Set: DR3 and DR6

Location	Date	Arsenic	Cadmium	Copper	Lead	Manganese	Zinc	Hardness
DR-3 - St. Louis Adit, at portal	10/24/1999	--	12	10 U	1.4	2200	6650	490
	6/26/2000	--	18	30	0.5 U	2660	3600	639
	6/27/2001	--	21.8	20	0.1 U	2300	4510	685
	10/18/2001	--	15.7	20	0.1 U	2150	3560	685
	7/16/2002	--	13	20	16.7	2050	3430	742
	10/8/2002	--	13.8	22	13.2	1830	2970	762
	10/30/2003	--	21.3	20.6	0.1 U	2170	5190	730
	12/2/2003	--	22	8.2	0.1	1930	4000	687
	1/7/2004	--	16.7	14.1	0.2 U	1820	3550	716
	2/3/2004	--	17.7	29.5	0.1 U	1780	3450	707
	3/2/2004	--	15.569	28	0.1192	1850	3320	729
	4/27/2004	--	19.9613	27.3	0.1 U	1830	4180	738
	6/1/2004	--	80.3882	217	0.1006	4320	13900	724
	7/6/2004	--	35.9311	18.60	0.1 U	2750	5700	613
	12/7/2004	0.8	24.5	18.5	0.1 U	2230	4200	680
	6/2/2010+	4.4 U	52	91	2.6 U	2400	7700	670
	11/16/2010	2.5 U	16.3	9.17	0.5 U	1760	3580	687
DR-6 - St. Louis Ponds Outfall 002 Discharge	10/24/1999	--	8.7	10 U	0.9	1700	2990	--
	6/26/2000	--	5.9	10 U	0.5 U	1970	1410	793
	6/27/2001	--	12.5	10 U	0.1 U	1940	2470	807
	10/18/2001	--	7.7	10 U	0.1 U	1560	1660	773
	7/16/2002	--	3 U	3	0.2 U	505	410	925
	10/8/2002	--	1.7	--	0.1 U	296	400	848
	10/30/2003	--	4.6	9.7	0.1	685	1110	905
	12/2/2003	--	15.5	3.1	0.1 U	1930	2880	802
	1/7/2004	--	11	3	0.2 U	1750	2420	749
	2/3/2004	--	10.8	3.1	0.1 U	1690	2090	787
	3/2/2004	--	8.4735	3.15	0.1 U	1720	1740	763
	4/27/2004	--	7.7287	9.5	0.1 U	1070	1690	817
	6/1/2004	--	45.762	1.5 U	1.2221	2770	8340	875
	7/6/2004	--	14.9022	1.5 U	0.3435	1460	3080	820
	12/7/2004	1.4	15	7.6	0.2	2080	3140	732
	6/2/2010+	4.4 U	31	3.5	2.6 U	2400	3900	740
	11/16/2010	2.5 U	11	2.5 U	0.5 U	1620	2490	730