Technical Area: Soil and Water Resources

BACKGROUND

In Section 3.4.7, Attachment 2, Revised Facility Description and Location, is described the proposed water supply from the City of Burbank (COB) Wastewater Reclamation Plant. According to the data provided the COB Reclamation Plant discharges an average of 4.7 MGD of reclaimed water to the Burbank Western Channel. The COB has agreed to supply city water as a backup source for those periods when the Magnolia Power Plant (MPP) demands exceed the availability of reclaimed water supply.

Data Request 66: The typical daily and maximum water supply requirements for the MPP are shown in Table 3.4-1 to be approximately 1.488 MGD average day and 2.188 MGD maximum day. If the COB discharges an average of 4.7 MGD please provide a description of <u>other existing reclaimed water demands</u> which would prevent the COB from supplying the maximum water demand required at the MPP.

Response: The typical daily and maximum water supply requirements shown in Table 3.4-1 represent the amount of reclaimed water to be used for non-potable uses by the MPP. The 4.7 MGD of reclaimed water discharged by the COB Reclamation Plant is an average daily estimate and represents the amount discharged after all competing demands (including existing COB power generating facility, golf course irrigation, landfill revegetation and other minor irrigation purposes) are met. A description of the relative amounts of these other uses of reclaimed water is described in Section 5.5.2.1.1, page 5.5-6 and 5.5-7 of the Data Adequacy Responses submitted by SCPPA September 2001. The MPP will need to divert 1.488 MGD on an average day and 2.183 MGD on a maximum day from the available 4.7 MGD average existing discharge. The remainder of the discharge stream continues to be discharged to Outfall 001 and is not diverted to other competing reclaimed water demands. The water balance shown on Figures 3.4-5 A through D identifies that the MPP waste stream will then be recombined with this remaining reclaimed water prior to its discharge to Outfall 001. A sufficient amount of reclaimed water is necessary to achieve enough flow prior to recombining the MPP discharge in order to meet the Outfall 001 discharge limitations.

MPP will contract with the COB for reclaimed water supply as described in the previously submitted "will-serve letter". The COB maintains an existing reclaim water storage reservoir for purposes of golf course irrigation. The COB currently manages golf course irrigation using the reservoir and irrigating during the early hours when power demands are expected to be lower. Therefore, since the MPP has based its water demand requirements on the amount of reclaimed water available after all other competing demands are met and the golf course irrigation needs occur at a time when power demand is low, other competing demands will not affect MPP's operations. In addition, as described in Data Response 70, the MPP will utilize a service water tank (surge tank) to assist in managing the diurnal and seasonal variations of the availability of reclaimed water.

Technical Area: Soil and Water Resources

BACKGROUND

Discharge of cooling tower blowdown is proposed to the existing COB Reclamation Plant discharge line (COB Outfall No. 001). In Table 3.4-5 of the Revised Facility Description is presented the typical waste volumes proposed from cooling tower blowdown discharge and from the COB Wastewater Reclamation Plant. An average discharge of 3.067 MGD is proposed from the reclamation plant. We understand that blending of reclaimed wastewater effluent with an average TDS of 732 mg/L together with the cooling tower discharge with an estimated TDS of 3980 mg/L is proposed to meet the current discharge limit of 950 mg/L TDS.

Data Request 67: Please provide a copy of the current Water Discharge Requirements (WDR) issued by the Regional Water Quality Control Board for COB Outfall No. 001 to the Burbank Western Channel which specifically identifies average and maximum daily discharges and average and maximum TDS concentrations.

Response: The MPP will divert and return a portion of the COB reclamation plant wastewater discharge for use in the cooling tower to the extent that the final discharge will comply with discharge limitations specified in the WDRs. A copy of Order No. 98-052 (NPDES No. CA0055531) was provided in Appendix I of the AFC. Discharge Requirement I.A.2.(a) (p. 10) specifies the Daily Maximum TDS concentration and loading. There are no discharge requirements for average TDS concentrations. Although the discharge volumes of Outfall Nos. 001 and 002 are characterized in Findings 9 and 10, there are no limitations on the flow volume.

Technical Area: Soil and Water Resources

BACKGROUND

In Section 3.11 (Alternatives) of the Revised Facility Description is presented cooling tower discharge alternatives. Discharge of cooling tower blowdown to the North Outfall Sewer operated by the City of Los Angeles is possible "but not preferred because of the continuing operational cost". The sewer piping that would be needed to connect to the North Outfall Sewer is relatively short and discharge to this sewer is included in existing discharge agreements between the COB and the City of Los Angeles.

Data Request 68: According to cost data presented in Table R-1 and Table R-2 (Appendix R) the increased capital costs associated with the discharge to the North Outfall Sewer is $775,000. The increased annual operating costs are estimated at $1,297,000. The annual operating costs estimated for this alternative appear to be unreasonably high. Please provide data which demonstrate how these annual costs were derived.

Response: Between the time Appendix R was written, and the writing of these responses to the CEC data request, the COB RWP has provided an update of the actual charges for using the North Outlet Sewer (NOS). The NOS, we are now told, is accessible to both the LA County Glendale POTW and the Hyperion POTW with Hyperion taking all or only some of the water as Glendale can not always use all the reclaim water. The calculated NOS use cost for three of the cases is reduced to less than $10,000 for the possibly oil contaminated wastewater being discharged to the NOS. The fourth case, Alternate A, is recalculated to be less than the amount shown but still in excess of $700,000 for the cooling tower wastewater discharged to the NOS. The line item has been renamed to “Wastewater to North Outlet Sewer.”

COB Public Works Department (PWD) negotiates the pricing and agreements with the City of Los Angeles. The City Engineer initially recommended a sewer discharge rate of $700,000 per mgd-yr. The water balance case presented in the Alternative Section for total discharge to the North Outfall Sewer specifies a total discharge rate of 1.384 mgd. At $700,000 per mgd-yr, this equates to an annual operating cost of $1.297 million per year for costs associated with discharge to the Los Angeles Hyperion Treatment Plant through the North Outfall Sewer.

More recent information provided by the City Engineer allows the calculation of a sewer discharge annual operating cost of approximately $720,000. In either case, SCPPA will require BWP to manage and operate the MPP in such a manner as to minimize annual operating and maintenance costs so that SCPPA's municipal participants need not pass on the costs through increased service rates its consumers.

MPP to LA Glendale/Hyperion Costs Calculation

All costs provided are dependent upon approval of discharge by the City of Los Angeles

ASSSC Charges by Los Angeles Under Universal Contract

Flow Year	Conveyance ($/MGD-mile)	Treatment Flow (million gal)	BOD (1000 lbs.)	SS (1000 lbs.)
2001-2002	$46,130	$331.30	$190.23	$136.94

Industrial Wastewater

Average BOD concentration (mg/L) =	100	*average discharge from 002*
Control TSS concentration (mg/L) =	50	*per BIBB recommendation*

If there is a cooling tower connection made upstream of Los Angeles - Glendale Plant

Discharge Flow* (MGD)	Conveyance Cost** ($/day)	Treatment Flow Cost ($/day)	BOD Cost ($/day)	SS Cost ($/day)	Total Cost ($/day)
1.384	$1,207	$459	$220	$79	**$1,964**

Conveyance Cost ($/year)	Treatment Flow Cost ($/year)	BOD Cost ($/year)	SS Cost ($/year)	Total Cost ($/year)
$440,523	$167,360	$80,145	$28,847	**$716,874**

***This cost assumes 80% of flow treated at LA-Glendale WRP and 20% at Hyperion*

Sanitary Wastewater

Average BOD concentration (mg/L) =	35	*50 people*0.075lb/day*454000mg/lb/13,000gpd/3.785l/gal*
Control TSS concentration (mg/L) =	461	*50 people*454000mg/day/13,000gpd/3.785l/gal*

If there is a sanitary connection made upstream of Los Angeles - Glendale Plant

Discharge Flow* (MGD)	Conveyance Cost** ($/day)	Treatment Flow Cost ($/day)	BOD Cost ($/day)	SS Cost ($/day)	Total Cost ($/day)
0.013	$11	$4	$1	$7	**$23**

Conveyance Cost ($/year)	Treatment Flow Cost ($/year)	BOD Cost ($/year)	SS Cost ($/year)	Total Cost ($/year)
$4,138	$1,572	$260	$2,500	**$8,470**

***This cost assumes 80% of flow treated at LA-Glendale WRP and 20% at Hyperion*

Technical Area: Soil and Water Resources

BACKGROUND

In Section 3.11 (Alternatives) of the Revised Facility Description is presented cooling tower discharge alternatives. Discharge of cooling tower blowdown to the North Outfall Sewer operated by the City of Los Angeles is possible "but not preferred because of the continuing operational cost". The sewer piping that would be needed to connect to the North Outfall Sewer is relatively short and discharge to this sewer is included in existing discharge agreements between the COB and the City of Los Angeles.

Data Request 69: Assuming that it can be demonstrated that annual costs would increase by as much as $1,297,000 with discharge to the North Outfall Sewer provide data which shows the total annual operating costs estimated for the MPP and the percentage increase in annual operating cost that would result with this discharge alternatives.

Response: The total annual operating cost estimated for MPP (excluding fuel cost) is $5.5 million. The increase in operating cost associated with discharge to the North Outfall Sewer ($1,297,000 as described in Table R-2 of Appendix R) is equal to $1,162,200 per year. This results in an increase of approximately 20% if the annual operating costs. The current revised cost data received from the COB would result in a 17% increase in annual operating cost.

Technical Area: Soil and Water Resources

BACKGROUND

According to Section 3.4.7, Water Supply and Treatment, of the Revised Facility and Description, the availability of reclaimed water from the COB is constrained in availability because it is affected by diurnal cycles, seasonal upsets and shutdowns.

Data Request 70: Variations in reclaimed wastewater supply diurnal cycles could be controlled with an onsite storage reservoir. Please evaluate the capacity of onsite storage needed to control daily fluctuation in reclaimed wastewater flow.

Response: The MPP will utilize an underground storage basin to hold approximately 2.2 million gallons of Reclaim Water to reduce fluctuations in the diurnal flows experienced at the RWP. In addition to that, a tank for holding cooling tower blowdown will be erected as part of the MPP. The tank is shown on the MPP Site Arrangement drawing, S1000, reference in response to Data Request #53. The tank will be sized to minimize visual impact to the site and is placed at the end of the new cooling tower. The anticipated storage volume is approximately 180,000 gallons.

Technical Area: Soil and Water Resources

BACKGROUND

According to Section 3.4.7, Water Supply and Treatment, of the Revised Facility and Description, the availability of reclaimed water from the COB is constrained in availability because it is affected by diurnal cycles, seasonal upsets and shutdowns.

Data Request 71: Please provide information from the COB regarding typical seasonal variations in wastewater discharge quantity. The COB reports daily, monthly average and monthly maximum wastewater discharges to the Regional Water Quality Control Board. Please provide this information over the past 3 to 5 years.

Response: The COB RWP has provided the following data.

Average Daily Discharge at 001

Year 1998	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Date												
Day 1	3.832	3.485	3.265	3.880	3.508	3.424	0	4.430	4.059	4.225	3.584	5.158
Day 2	3.749	3.950	3.248	3.580	3.392	3.331	4.816	3.360	4.509	4.116	4.108	3.614
Day 3	4.440	5.360	3.249	3.499	3.183	2.575	3.745	4.333	4.162	3.721	4.120	4.469
Day 4	4.725	3.732	3.328	3.392	4.066	3.645	4.034	5.291	4.714	3.740	4.158	4.455
Day 5	4.567	3.842	3.355	3.577	4.444	3.396	4.030	4.652	4.145	4.478	2.981	4.019
Day 6	3.487	5.682	3.293	3.395	3.618	3.037	3.703	4.395	4.078	3.780	4.025	3.531
Day 7	3.911	5.676	3.251	4.208	3.453	2.743	3.611	4.364	4.437	4.187	3.862	4.226
Day 8	3.733	3.906	3.513	3.299	3.529	0	3.731	3.86	4.457	4.152	4.007	3.914
Day 9	5.162	3.610	3.359	3.446	3.613	0	3.970	3.908	4.709	3.904	4.002	4.196
Day 10	3.898	3.228	3.310	3.203	3.396	4.491	4.008	4.632	4.714	3.294	4.305	3.548
Day 11	3.602	3.171	3.310	3.460	3.717	3.597	2.773	4.247	4.575	3.936	3.988	4.204
Day 12	3.869	3.216	3.161	4.008	4.679	4.165	3.832	4.102	4.081	4.431	4.084	4.015
Day 13	3.779	3.250	3.891	3.386	3.750	4.357	5.063	4.260	4.186	4.024	4.229	3.767
Day 14	3.957	3.935	3.329	3.414	3.533	4.495	3.547	4.245	4.237	4.086	4.178	4.141
Day 15	3.779	3.062	3.119	2.980	3.427	4.681	5.063	3.543	4.454	4.192	3.832	4.425
Day 16	4.259	3.508	3.024	3.399	3.426	4.282	5.548	3.971	4.681	4.064	4.169	3.948
Day 17	3.937	3.342	3.198	3.487	3.366	4.366	5.627	4.271	3.997	3.472	4.131	4.169
Day 18	3.684	3.375	2.544	3.400	0	4.685	4.774	4.094	4.414	3.420	4.237	4.467
Day 19	4.033	3.916	3.327	3.506	0	4.561	4.549	4.076	4.153	4.251	4.220	4.191
Day 20	3.793	4.272	2.514	3.521	0	4.114	4.615	4.106	3.196	3.981	4.175	4.096
Day 21	3.980	4.129	3.106	3.541	0	4.289	3.929	3.936	3.911	3.990	3.696	4.197
Day 22	3.926	4.147	3.079	3.315	0	4.059	3.921	3.858	3.938	3.579	2.816	4.179
Day 23	3.710	6.477	3.083	3.511	0	4.117	3.843	3.646	4.133	3.147	3.096	4.043

Day 24	3.549	3.438	5.521	3.661	0	4.378	3.807	4.201	4.649	3.727	3.495	4.124
Day 25	3.420	3.424	6.584	3.202	0	4.297	3.396	3.969	5.844	3.381	3.955	3.973
Day 26	2.182	3.359	4.278	3.293	0	4.810	3.652	3.897	5.793	3.959	3.611	3.867
Day 27	3.156	3.425	3.844	2.920	0	4.095	3.530	4.232	5.490	3.904	4.165	3.932
Day 28	3.400	3.235	3.562	3.586	8.471	3.939	3.874	3.845	4.135	4.445	4.521	3.871
Day 29	3.986		3.586	3.344	5.203	4.048	3.471	3.895	4.259	4.166	4.106	4.036
Day 30	3.453		3.654	3.548	3.298	0	2.978	3.773	3.861	4.240	4.106	3.796
Day 31	3.489		4.425		3.152		4.004	3.554		3.839		4.000
Totals	118.447	109.152	109.310	103.961	82.224	107.977	121.444	126.946	131.971	121.831	117.962	126.571
Average	3.821	3.898	3.526	3.465	2.652	3.599	3.918	4.095	4.399	3.930	3.932	4.083
Maximum	5.162	6.477	6.584	4.208	8.471	4.810	5.627	5.291	5.844	4.478	4.521	5.158

Year 1999	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Date												
Day 1	3.501	3.714	4.894	5.895	4.939	3.276	1.942	1.856	1.432	0.999	0.927	0.892
Day 2	3.837	4.433	4.914	5.701	5.107	2.316	2.100	2.127	1.316	1.186	1.051	0.994
Day 3	3.788	4.624	4.806	5.315	5.502	1.838	1.961	2.041	0.644	2.500	0.969	0.926
Day 4	3.651	4.794	4.958	5.521	4.898	1.841	2.012	3.504	1.114	2.519	1.035	0.95
Day 5	4.014	4.964	4.994	5.715	5.990	1.787	2.111	3.948	1.052	1.141	1.029	0.937
Day 6	3.951	4.575	4.202	5.912	4.952	1.704	1.686	4.323	1.121	1.089	1.097	0.982
Day 7	4.160	4.279	4.505	6.580	5.238	1.980	1.859	2.356	1.132	1.098	1.099	1.200
Day 8	3.472	4.669	4.795	6.580	4.354	1.948	1.771	1.970	1.056	1.069	1.124	1.265
Day 9	3.618	4.909	4.867	7.761	4.117	1.474	1.873	1.957	1.244	0.993	1.163	1.329
Day 10	2.957	3.784	4.924	7.236	4.663	1.255	1.794	2.098	1.147	1.000	1.291	1.301
Day 11	3.868	3.835	4.939	6.963	5.434	1.621	1.596	1.973	1.081	1.091	1.098	1.096
Day 12	3.727	5.207	4.264	7.590	5.551	1.863	1.741	1.972	1.082	0.957	1.162	1.146
Day 13	3.911	4.424	4.568	6.267	5.686	1.664	1.661	2.025	1.075	0.994	1.068	1.099

Day 14	4.189	4.403	4.365	5.367	1.899	1.840	1.671	1.836	0.725	1.244	0.961	1.282
Day 15	3.936	4.583	5.559	5.343	1.614	1.678	1.857	1.757	0.922	1.438	1.081	1.158
Day 16	4.063	4.585	4.896	4.692	1.497	1.554	1.436	1.737	0.931	1.335	1.372	1.162
Day 17	3.894	2.447	4.125	4.997	2.892	1.694	1.740	2.860	0.977	1.224	1.012	1.140
Day 18	3.962	1.249	4.903	4.272	3.790	1.753	1.713	1.922	0.991	1.348	0.962	1.020
Day 19	3.883	3.984	5.001	5.653	3.316	1.641	1.745	1.860	0.888	1.167	1.186	1.059
Day 20	4.403	4.874	5.439	5.353	3.193	0.552	1.761	1.385	1.105	1.365	1.135	1.132
Day 21	4.407	4.487	4.232	5.443	2.136	1.697	1.803	1.165	1.079	1.442	1.188	1.033
Day 22	4.587	4.609	4.786	5.661	3.224	1.687	1.375	1.965	1.151	2.868	1.105	1.200
Day 23	4.325	4.695	4.852	4.661	1.957	1.609	1.726	1.526	1.237	3.366	0.856	1.286
Day 24	4.755	4.85	4.791	5.346	4.498	1.746	1.583	1.506	1.132	3.032	0.988	1.195
Day 25	4.557	4.947	5.621	5.216	3.419	1.714	1.484	1.319	1.253	3.214	1.047	1.099
Day 26	4.994	4.963	5.017	5.309	3.126	1.558	1.667	1.317	1.183	3.034	0.908	1.092
Day 27	4.513	4.656	4.926	5.309	1.394	1.568	1.311	1.148	1.344	2.699	0.919	1.083
Day 28	4.441	4.702	4.603	5.373	2.067	1.719	1.495	1.336	1.343	3.060	0.995	1.054
Day 29	4.706		5.079	5.588	2.696	1.662	1.706	1.381	1.272	3.209	0.930	0.906
Day 30	4.999		4.403	5.380	2.876	1.872	1.861	1.356	1.238	1.244	0.918	1.262
Day 31	4.086		4.875		2.699		1.892	2.035		1.074		1.371
Totals	127.155	122.245	149.103	171.999	114.724	52.111	53.9269	61.561	33.267	53.999	31.676	34.651
Average	4.102	4.366	4.810	5.733	3.701	1.737	1.740	1.986	1.109	1.742	1.056	1.118
Maximum	4.999	5.207	5.621	7.761	5.990	3.276	2.111	4.323	1.432	3.366	1.372	1.371

Year 2000	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Date												
Day 1	1.369	1.571	1.246	3.302	1.877	3.479	4.814	1.513	3.296	2.111	3.609	2.920
Day 2	1.204	1.574	1.105	3.326	1.857	3.713	4.728	2.291	2.626	2.053	3.108	3.313

Day 3	1.519	1.224	1.302	3.726	2.134	3.640	4.852	1.935	2.505	2.025	3.271	2.916
Day 4	1.306	1.434	1.349	1.813	3.327	3.098	4.888	1.991	2.949	2.233	3.768	2.812
Day 5	1.370	1.694	2.418	1.993	3.450	3.675	5.221	2.091	2.455	2.218	3.320	2.780
Day 6	1.126	1.604	0.857	0.057	2.540	3.574	4.706	3.361	3.715	2.123	3.315	2.496
Day 7	1.079	1.643	2.250	0.231	2.815	4.385	4.948	2.796	1.928	2.539	3.616	2.417
Day 8	1.237	1.913	2.859	0.359	2.804	5.459	4.671	2.615	2.051	2.573	3.319	2.583
Day 9	1.231	2.018	4.103	0.230	3.016	4.351	4.794	2.054	2.207	2.281	3.220	1.960
Day 10	0.991	2.142	0.057	1.432	2.400	3.919	4.417	2.094	1.847	2.338	3.082	1.563
Day 11	0.828	1.454	0.568	1.771	2.770	3.651	3.322	1.313	1.564	2.691	3.091	1.192
Day 12	0.827	0.824	1.265	1.989	3.328	3.894	3.073	2.676	1.676	2.923	2.796	0.431
Day 13	0.897	0.949	1.246	0.700	3.362	4.030	3.176	2.719	1.628	3.229	2.863	0.621
Day 14	0.904	0.868	1.027	0.296	3.397	3.642	3.223	2.933	1.799	2.954	2.801	0.385
Day 15	0.850	1.008	1.522	0.210	3.696	3.806	3.150	2.542	1.771	3.016	2.773	0.236
Day 16	0.828	1.330	1.585	0.210	3.427	3.908	2.775	1.640	1.396	3.026	2.639	0.287
Day 17	0.886	0.677	1.806	2.545	3.427	3.695	2.994	1.681	1.638	2.904	2.888	0.219
Day 18	0.893	0.869	1.721	0.683	3.512	3.655	2.871	2.057	1.724	3.208	2.74	0.162
Day 19	0.965	1.644	1.455	0.234	3.576	3.976	2.610	1.888	1.659	2.968	2.546	1.848
Day 20	0.927	2.709	1.537	2.515	3.686	3.736	2.447	2.071	1.716	3.373	2.546	2.093
Day 21	1.203	2.422	2.329	2.816	3.686	4.986	3.687	2.085	1.935	3.497	2.652	2.188
Day 22	1.068	1.796	2.375	2.459	3.600	5.342	2.457	2.301	1.981	2.89	2.865	2.267
Day 23	1.037	2.922	2.601	2.472	3.374	5.220	2.782	3.212	2.392	3.34	2.446	2.359
Day 24	1.423	1.722	2.673	2.782	3.137	4.775	1.934	3.429	2.175	3.414	2.513	2.291
Day 25	1.333	1.977	2.523	3.074	3.792	4.703	1.944	3.083	1.978	3.289	2.582	2.084
Day 26	1.167	2.209	2.675	2.984	4.071	4.989	1.695	2.99	2.142	3.347	2.244	2.326
Day 27	1.220	2.606	2.539	3.117	3.144	4.191	1.804	3.6	2.257	3.486	2.821	2.07
Day 28	1.237	0.925	2.571	3.351	3.145	4.831	1.749	2.919	2.044	3.637	3.11	2.231
Day 29	1.227	0.425	2.539	2.66	3.438	5.481	2.152	3.611	2.04	3.607	3.123	2.304

Day 30	1.206		4.236	2.257	3.683	4.826	1.912	4.669	2.194	2.886	2.459	2.245
Day 31	1.333		4.156		3.855		1.752	3.449		3.126		2.266
Totals	34.691	46.153	62.495	55.594	99.326	126.63	101.548	79.609	63.288	89.305	88.126	57.865
Average	1.119	1.591	2.016	1.853	3.204	4.221	3.276	2.568	2.110	2.881	2.938	1.867
Maximum	1.519	2.922	4.236	3.726	4.071	5.481	5.221	4.669	3.715	3.637	3.768	3.313

Year 2001	Jan	Feb	Mar	Apr	May							
Date												
Day 1	2.005	3.185	3.405	3.305	3.018							
Day 2	2.149	2.864	3.463	3.786	3.230							
Day 3	2.149	2.728	3.627	3.421	2.166							
Day 4	1.337	2.225	3.877	0.742	2.926							
Day 5	1.523	2.505	4.041	3.303	3.352							
Day 6	2.412	2.594	3.180	2.816	3.060							
Day 7	1.742	2.678	3.359	0.520	3.030							
Day 8	2.588	2.587	3.435	0.186	2.820							
Day 9	2.691	2.835	3.251	0.204	2.624							
Day 10	5.720	2.901	3.262	1.590	2.777							
Day 11	0.796	3.998	3.489	1.649	2.924							
Day 12	0.216	5.043	3.330	2.394	3.092							
Day 13	0.216	0.811	3.247	2.392	2.288							
Day 14	0.184	2.329	3.417	2.650	0.272							
Day 15	0.183	3.254	3.140	2.547	1.522							
Day 16	2.531	3.621	3.595	2.482	1.575							
Day 17	2.963	3.121	3.555	2.460	1.574							
Day 18	2.689	1.481	3.666	2.436	1.754							

Day 19	2.888	0.317	3.630	2.494	1.824							
Day 20	2.375	1.703	2.637	2.862	0.672							
Day 21	2.387	1.634	1.282	2.562	0.354							
Day 22	2.115	3.500	2.685	2.509	0.379							
Day 23	2.341	3.753	3.619	1.450	1.613							
Day 24	2.341	3.829	3.928	1.449	2.354							
Day 25	3.661	5.449	3.691	0.307	2.624							
Day 26	0.370	3.601	3.716	0.206	2.871							
Day 27	0.358	3.545	3.430	0.206	2.79							
Day 28	0.477	3.474	3.430	0.218	2.846							
Day 29	0.504		3.433	0.196	2.811							
Day 30	3.048		3.732	2.124	2.764							
Day 31	3.072		3.063		2.834							
Totals	60.031	81.565	104.615	55.466	70.740							
Average	1.936	2.913	3.375	1.849	2.282							
Maximum	5.720	5.449	4.041	3.786	3.352							

Average Daily Discharge at 002

Year 1998	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Date												
Day 1	0.307	1.453	3.103	3.838	2.943	1.491	5.821	0.906	1.131	1.252	0.827	1.000
Day 2	0.114	1.481	2.731	3.592	2.704	2.131	1.452	0.791	1.740	1.237	1.071	1.076
Day 3	0.497	2.397	3.011	3.407	1.977	0.858	0.796	1.587	1.135	0.957	1.127	0.900
Day 4	0.527	2.267	2.969	2.815	3.108	1.844	0.929	1.185	1.812	1.166	1.152	1.000
Day 5	0.555	2.862	1.641	3.310	4.563	1.755	0.924	1.132	1.441	1.508	0.822	0.800
Day 6	1.141	3.624	2.400	3.914	4.107	1.104	0.754	1.208	1.633	1.112	0.776	0.800

Day 7	0.950	3.049	2.572	3.950	2.984	0.762	0.907	1.127	2.141	1.301	0.549	0.800
Day 8	0.812	1.606	2.396	3.454	3.833	4.424	0.800	1.349	1.624	1.019	0.966	0.585
Day 9	1.369	2.864	3.188	3.910	2.894	6.976	0.871	1.363	1.575	0.914	1.044	0.678
Day 10	1.300	2.968	3.164	1.870	3.292	3.281	1.099	1.855	1.718	1.101	1.215	0.564
Day 11	1.022	2.619	2.776	1.566	3.556	2.071	0.656	1.569	1.380	1.429	1.135	0.621
Day 12	0.855	2.95	2.353	2.246	4.317	1.345	0.893	1.528	1.408	1.924	0.987	0.711
Day 13	1.070	2.886	3.146	2.698	3.800	1.892	1.353	1.464	1.408	1.240	1.064	0.549
Day 14	1.215	3.320	3.698	2.889	3.756	1.969	0.794	1.433	1.560	1.177	1.177	0.651
Day 15	1.007	3.214	2.301	2.722	2.740	2.235	1.353	1.032	1.387	1.398	0.960	0.967
Day 16	1.402	3.641	2.428	2.989	3.568	1.437	0.953	1.327	1.632	1.127	0.999	0.961
Day 17	1.312	3.369	1.853	2.979	2.884	1.386	1.432	1.740	1.006	1.067	1.107	0.969
Day 18	1.213	2.833	1.181	3.207	6.905	2.062	0.934	1.389	1.286	1.044	0.989	0.866
Day 19	1.383	4.092	3.914	3.367	7.050	1.720	1.156	1.490	1.179	1.274	1.331	0.977
Day 20	1.160	3.398	0.723	3.513	6.887	1.177	1.438	1.325	0.521	0.839	0.967	0.762
Day 21	1.301	2.260	2.808	3.395	7.246	1.583	0.988	2.589	1.108	1.297	0.547	0.816
Day 22	2.344	4.147	2.750	2.928	6.977	1.085	0.935	0.956	1.301	0.684	0.614	0.991
Day 23	1.925	5.063	2.255	2.227	6.342	0.980	0.936	0.924	1.111	0.701	0.299	0.843
Day 24	1.186	4.159	3.037	2.670	6.174	1.139	0.868	1.568	0.972	0.671	0.388	0.913
Day 25	1.879	4.183	4.22	3.061	7.335	1.127	0.662	1.363	0.870	0.579	0.798	0.734
Day 26	0.451	3.606	4.421	3.136	6.333	0.616	0.865	1.248	0.869	1.069	0.895	0.842
Day 27	0.973	3.797	4.158	1.998	7.208	1.138	0.866	1.693	0.931	0.922	0.713	0.806
Day 28	0.852	2.813	3.879	3.532	2.167	0.741	0.938	0.935	0.699	1.466	0.700	0.821
Day 29	1.027		3.557	1.885	1.277	1.146	0.468	1.130	1.256	1.030	0.700	0.851
Day 30	0.922		3.390	3.594	1.539	4.927	0.431	1.186	1.036	1.117	0.700	0.797
Day 31	1.440		3.608		1.578		1.135	0.943		0.887		0.833
Totals	33.511	86.921	89.631	90.662	132.044	56.402	34.407	41.2162	38.87	34.509	26.619	25.484

Average	1.081	3.104	2.891	3.022	4.259	1.880	1.110	1.330	1.296	1.113	0.887	0.822
Maximum	2.344	5.063	4.421	3.950	7.335	6.976	5.821	2.589	2.141	1.924	1.331	1.076
Year 1999	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Date												
Day 1	0.559	0.254	0.708	0.562	0.591	0.349	2.031	2.352	1.102	1.264	3.17	1.427
Day 2	0.790	0.650	0.503	0.528	0.882	1.477	2.912	2.463	0.901	1.436	3.971	1.772
Day 3	0.820	0.789	0.464	0.545	0.932	1.794	2.340	2.483	1.722	1.766	3.998	1.144
Day 4	0.724	0.676	0.584	0.474	0.494	1.782	2.624	2.0122	1.505	1.614	3.577	1.866
Day 5	0.645	0.621	0.492	0.391	0.545	1.307	2.798	2.270	1.255	1.646	3.060	1.834
Day 6	0.567	0.626	0.327	0.459	0.693	1.595	2.338	2.773	1.691	1.253	3.693	1.592
Day 7	0.883	0.539	0.459	0.682	0.657	1.545	2.436	2.126	1.884	1.564	3.339	1.187
Day 8	0.451	0.543	0.457	0.575	0.740	1.473	2.544	2.504	1.480	1.557	3.724	1.464
Day 9	0.343	0.702	0.602	0.813	0.062	1.447	2.533	2.760	1.404	1.591	3.832	1.300
Day 10	0.232	0.243	0.667	0.576	0.018	1.461	2.594	2.345	1.642	1.536	3.473	1.448
Day 11	0.610	0.099	0.766	0.332	1.345	1.555	2.247	2.490	1.584	1.712	3.215	1.106
Day 12	0.424	0.530	0.253	0.691	0.746	1.268	2.606	2.602	1.594	1.517	3.661	1.317
Day 13	0.560	0.513	0.491	0.760	0.564	1.206	2.232	2.948	1.600	1.187	2.805	1.306
Day 14	0.761	0.532	0.288	0.743	2.995	1.429	2.635	2.775	0.816	1.000	2.931	1.583
Day 15	0.447	0.656	0.591	0.299	3.580	1.055	2.849	2.339	1.040	1.814	3.100	1.538
Day 16	0.775	0.600	0.376	0.109	3.985	0.873	1.414	2.737	0.893	2.233	3.269	1.715
Day 17	0.675	2.328	0.611	0.381	1.257	1.116	2.470	2.413	1.066	2.436	1.588	1.204
Day 18	0.880	1.944	0.472	0.157	1.589	1.243	2.597	2.242	1.279	2.690	0.683	1.390
Day 19	0.560	0.292	0.536	0.967	1.536	1.036	2.621	2.589	1.187	3.221	1.846	1.249
Day 20	0.933	0.685	0.670	0.528	1.256	1.370	2.6977	1.769	1.508	3.010	2.017	1.498
Day 21	1.012	0.557	0.368	0.481	1.240	1.278	1.918	1.088	1.496	3.624	2.263	1.999
Day 22	1.090	0.242	0.476	0.612	1.910	1.109	1.499	1.975	1.485	1.679	2.468	1.215
Day 23	0.965	0.487	0.489	0.484	2.040	1.081	2.781	1.771	1.511	1.767	2.276	1.501

Day 24	0.907	0.503	0.402	0.639	1.792	1.029	2.490	0.708	1.209	1.851	2.354	1.545
Day 25	0.878	0.351	0.948	0.798	2.087	1.200	2.478	1.019	1.450	1.640	1.974	1.003
Day 26	1.190	0.393	0.825	0.565	1.347	0.879	2.903	0.987	1.610	2.100	0.977	1.222
Day 27	0.913	0.374	0.550	0.565	0.365	1.235	2.977	0.652	1.652	1.442	1.293	1.467
Day 28	1.093	0.749	0.326	0.465	1.596	1.259	2.974	1.050	1.352	1.987	1.987	1.570
Day 29	1.000		0.907	0.539	0.844	1.007	3.072	0.926	1.550	1.803	2.346	1.334
Day 30	1.008		0.340	0.520	0.791	1.473	2.378	1.025	1.524	2.471	2.231	1.420
Day 31	0.993		0.543		0.478		2.412	0.139		3.626		1.380
Totals	23.688	17.478	16.491	16.24	38.957	37.931	77.4007	60.3322	41.992	60.037	81.121	44.596
Average	0.764	0.624	0.532	0.541	1.257	1.264	2.497	1.946	1.400	1.937	2.704	1.439
Maximum	1.190	2.328	0.948	0.967	3.985	1.794	3.072	2.948	1.884	3.626	3.998	1.999

Year 2000	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Date												
Day 1	1.136	1.929	0.496	0.468	2.143	2.494	1.846	1.601	3.952	3.537	3.016	2.640
Day 2	1.156	2.034	0.653	1.130	2.092	2.452	2.364	2.632	3.403	3.401	3.512	3.107
Day 3	1.998	1.169	0.658	1.119	2.976	2.639	1.728	2.050	3.478	3.353	3.521	2.988
Day 4	1.918	0.973	0.645	1.653	3.387	2.585	1.902	2.164	3.705	3.400	3.448	2.532
Day 5	1.667	1.305	0.658	1.501	2.976	3.289	2.702	2.296	3.648	3.560	3.351	2.264
Day 6	1.307	1.423	0.420	0.769	1.901	2.387	1.603	4.187	2.284	3.238	3.374	2.649
Day 7	1.214	1.594	0.140	0.231	1.480	2.275	1.852	3.354	3.688	3.480	2.664	2.153
Day 8	1.510	1.420	0.049	0	2.871	2.000	1.604	3.107	3.590	3.510	3.289	1.778
Day 9	1.755	1.582	0.094	0	2.119	2.598	2.425	3.382	3.527	3.571	3.211	1.680
Day 10	2.109	1.658	0.789	0	2.973	2.372	2.564	3.202	3.222	3.504	2.692	0.941
Day 11	1.797	2.383	0.801	0	2.440	2.889	2.369	3.789	3.365	3.462	2.556	0
Day 12	2.174	2.376	0.599	0	2.770	3.114	1.625	4.052	3.529	3.034	2.595	1.221

Day 13	1.915	2.372	0.619	1.350	2.340	3.092	1.631	3.691	3.488	2.779	2.624	2.396
Day 14	1.889	2.422	1.094	0	2.796	2.975	1.698	3.843	3.602	2.613	2.179	4.296
Day 15	1.683	2.524	0.929	0	3.100	2.302	1.648	4.131	3.541	2.909	2.180	4.727
Day 16	1.853	2.365	0.574	0	3.585	2.460	2.335	3.672	3.295	2.254	2.657	2.542
Day 17	2.209	1.148	0.491	0	2.039	1.953	2.610	5.081	3.530	3.012	2.272	3.546
Day 18	2.034	1.654	0.471	0	2.523	2.919	2.718	3.345	3.302	2.621	2.648	2.852
Day 19	2.268	2.117	0.675	2.060	2.335	3.133	2.567	3.415	3.447	2.892	2.808	3.268
Day 20	1.894	2.492	0.950	2.515	2.640	3.028	1.482	3.613	3.490	2.965	2.808	3.270
Day 21	1.457	2.350	0.933	1.367	2.640	2.896	1.752	3.569	3.477	3.100	2.730	3.163
Day 22	1.578	1.461	0.775	1.183	2.500	2.079	1.561	3.884	3.839	2.957	2.284	2.267
Day 23	1.853	1.672	0.353	1.579	2.339	2.063	1.853	3.194	3.890	3.081	2.113	3.241
Day 24	2.044	1.257	0.382	1.729	2.246	1.770	2.684	2.813	3.628	2.968	1.942	3.191
Day 25	1.983	1.012	0.379	2.289	2.795	2.227	1.845	3.133	3.539	2.898	2.289	2.125
Day 26	1.877	0.964	0.611	1.931	3.093	2.610	2.646	3.086	3.532	3.188	2.425	3.039
Day 27	1.740	1.026	1.091	1.845	2.079	2.298	1.784	3.243	3.601	3.138	2.573	2.090
Day 28	2.196	0.703	0.938	1.826	2.663	2.659	1.822	3.010	3.569	3.381	2.898	3.075
Day 29	2.196	0.409	0.811	1.634	3.080	1.573	1.890	3.2156	3.515	3.607	2.185	3.185
Day 30	2.267		0.255	1.947	3.280	1.552	2.704	3.729	3.794	3.189	3.052	3.196
Day 31	2.171		0.563		2.589		3.045	3.751		3.109		3.579
Totals	56.848	47.794	18.896	30.126	80.79	74.683	64.859	103.2346	105.47	97.711	81.896	83.001
Average	1.834	1.648	0.610	1.004	2.606	2.489	2.092	3.330	3.516	3.152	2.730	2.677
Maximum	2.268	2.524	1.094	2.515	3.585	3.289	3.045	5.081	3.952	3.607	3.521	4.727

Year 2001	Jan	Feb	Mar	Apr	May							
Date												
Day 1	2.491	2.521	3.789	3.561	3.485							

Day 2	2.971	2.759	3.792	3.538	3.076							
Day 3	2.971	3.217	3.853	3.318	1.774							
Day 4	3.669	3.152	3.982	5.969	1.113							
Day 5	3.076	3.055	4.754	3.792	3.292							
Day 6	2.860	3.795	4.229	4.689	3.160							
Day 7	2.295	3.637	3.817	6.821	3.153							
Day 8	2.589	4.096	3.946	6.495	3.095							
Day 9	2.846	3.922	3.868	6.495	2.999							
Day 10	4.663	4.289	4.212	5.115	3.376							
Day 11	5.351	5.040	4.008	4.802	3.337							
Day 12	5.077	5.450	3.795	4.480	3.351							
Day 13	4.780	6.939	3.899	4.381	3.698							
Day 14	5.157	4.966	3.974	4.712	5.479							
Day 15	5.485	4.412	3.961	4.138	3.683							
Day 16	3.180	3.615	3.472	4.272	3.933							
Day 17	2.965	3.243	3.663	4.110	3.908							
Day 18	2.869	4.746	3.983	4.522	4.297							
Day 19	2.854	6.667	3.696	4.447	4.434							
Day 20	2.991	4.878	3.638	4.556	2.738							
Day 21	3.056	4.426	5.174	4.532	2.454							
Day 22	2.755	3.879	4.094	4.451	0.989							
Day 23	6.163	3.974	3.372	4.329	4.800							
Day 24	4.765	3.824	3.384	5.706	3.654							
Day 25	1.470	4.273	3.281	5.866	3.450							
Day 26	5.461	3.959	3.411	5.416	3.585							
Day 27	5.400	4.007	3.391	5.570	3.323							
Day 28	5.002	3.733	2.928	5.651	3.590							

Day 29	5.222		2.883	5.545	3.708							
Day 30	3.054		3.412	3.915	3.424							
Day 31	2.475		3.689		3.697							
Totals	115.963	116.474	117.35	145.194	104.055							
Average	3.741	4.160	3.785	4.840	3.357							
Maximum	6.163	6.939	5.174	6.821	5.479							

Technical Area: Soil and Water Resources

BACKGROUND

According to Section 3.4.7, Water Supply and Treatment, of the Revised Facility and Description, the availability of reclaimed water from the COB is constrained in availability because it is affected by diurnal cycles, seasonal upsets and shutdowns.

Data Request 72: Please provide TDS measurements, over the past 3 to 5 years, for the treated wastewater discharged to COB sewer Outfall No .001

Response: The following table provides monthly and average annual TDS concentrations for the treated wastewater discharged from the COB Outfall No. 001 from January 1996 through September 2001.

TDS (mg/L)
COB Outfall No. 001

	1996	1997	1998	1999	2000	2001
	Avg	Avg	Avg	Avg	Avg	Avg
JAN	661	740	600	601	739	554
FEB	701	608	434	583	565	558
MAR	736	847	543	662	653	601
APR	754	657	493	536	586	530
MAY	755	626	519	574	717	577
JUN	743	785	538	549	722	606
JUL	867	759	568	653	476	641
AUG	781	749	517	675	622	607
SEP	681	604	662	585	741	
OCT	697	659	605	546	676	
NOV	651	520	582	685	558	
DEC	540	547	536	620	552	
AVG	714	675	550	606	634	584

Technical Area: Soil and Water Resources

BACKGROUND

According to Section 3.4.7, Water Supply and Treatment, of the Revised Facility and Description, the availability of reclaimed water from the COB is constrained in availability because it is affected by diurnal cycles, seasonal upsets and shutdowns.

Data Request 73: When plant upsets occur it is understood that COB reclamation plant discharges are directed to the City of Los Angeles North Outfall Sewer. Please provide data which provides a record of discharges to the North Outfall Sewer over the past 3 to 5 years.

Response: The COB Reclamation Plant discharges sludge associated with clarifier bottoms and raw sewage during plant upsets to the North Outfall Sewer. The Reclamation Plant does not discharge reclaimed water to the North Outfall Sewer. The following table includes the total discharges.

Average Monthly Flow to the North Outfall Sewer

	Monthly Average* *millions of gallons per day (mgd)*
Dec-99	7.76
Jan-00	7.56**
Feb-00	9.28
Mar-00	8.18
Apr-00	9.30
May-00	8.22
Jun-00	7.69
Jul-00	7.45
Aug-00	5.03
Sep-00	4.34
Oct-00	4.32
Nov-00	4.64
Dec-00	5.56

Jan-01	5.07
Feb-01	3.42
Mar-01	3.05
Apr-01	4.50
May-01	5.31
Jun-01	4.82
Jul-01	4.76
Aug-01	4.62
Sep-01	4.46

**Total flow mixture (raw sewage and sludge) in Monthly Average Units (mgd – millions of gallons per day).*
***17 consecutive days missing data*

Typically the Reclaim Plant has upsets every other month that are about half a day in duration. Full day upsets occur less frequently – approximately once per 3-4 months. Construction at the facility necessitates diversion of a day.

Reference: Rodney Anderson, Engineer's Office for the City of Burbank, Public Works Department.

(1998-1999 year annual data to be provided later.)

Technical Area: Soil and Water Resources

BACKGROUND

Other recently proposed energy facilities (Los Esteros Critical Energy Facility, Russell City Energy Center; for example) have proposed the addition of reclaimed water treatment using microfiltration and reverse osmosis processes to reduce the TDS of the reclaimed water source. The pretreatment processes proposed allow for increased cooling water recirculation and reduced water demands. Reducing water demands and reducing reliance on fresh inland water sources is consistent with State Water Resources Control Board Policy 75-58.

Data Request 74: Expand the description of alternatives to include water supply treatment. With treatment of the reclaimed water supply source, determine the increased number of cooling water cycles that could be provided and the decrease in the water supply requirements.

Response: The TDS limitations for discharges to the Burbank Western Channel and NOS apply equally to wastewater and reject water from source water pre-treatment and from cooling tower blowdown. The concentrated TDS waters will be recirculated into the COB wastewater discharge line under either alternative. Therefore, pretreatment of source water would introduce significant capital and operating costs with no net change in the TDS concentrations in the discharge to Outfall No. 001.

The makeup water flow is four or five times the cooling tower blowdown flow and the optimum numbers of cycles of concentration have been reached for the site design shown in the DAR. The best engineering solution is to treat the blowdown – not the makeup. A separate calculation page is attached with graphs showing the "Principle of Diminishing Returns" and how it applies to the cycles of concentration for a cooling tower. The cycles of concentration are based on quality parameters that are not easily removed from the incoming makeup water. The quality parameter limiting the cycles of concentration for the MPP is silica. This limit has also occurred at a cycles of concentration value that is almost the breakpoint for the principle of diminishing returns curve. In other words any further effort only add cost at no real added value to the project.

Fallacy in using higher cycles of concentration that 6 in a cooling tower.

The principle involved is called the "*Principle of Diminishing Returns*"

For an evaporation rate of 1595100 **gpd**
Assume drift is included in the blowdown

Cycles	%BD required	MU gpd	% MU saved
2	100	3190200	
3	50	2392650	25
4	33	2126800	11
5	25	1993875	6
6	20	1914120	4
7	17	1860950	3
8	14	1822971	2
9	13	1794488	2
10	11	1772333	1
11	10	1754610	1
12	9	1740109	1
13	8	1728025	1

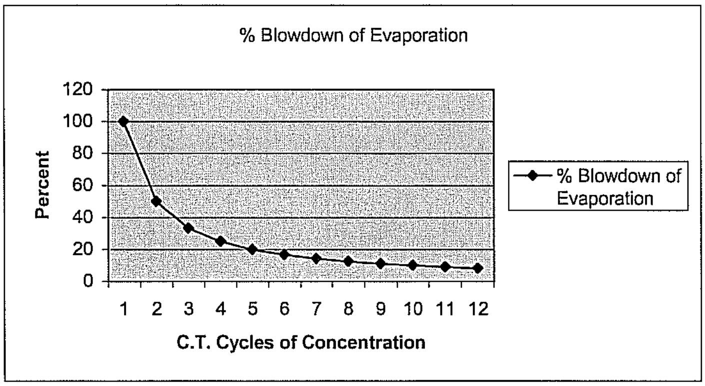
General equations =

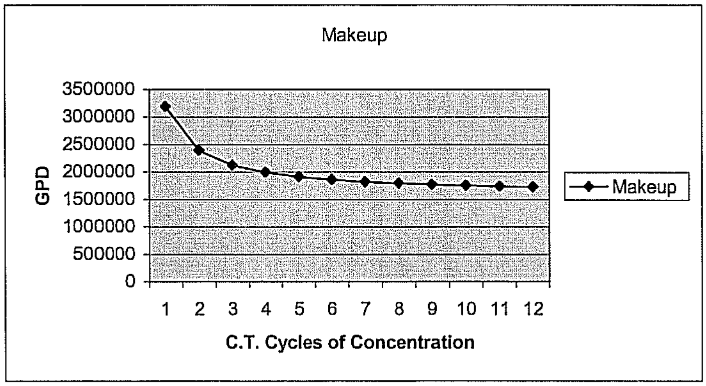
BD = E/(C-1)

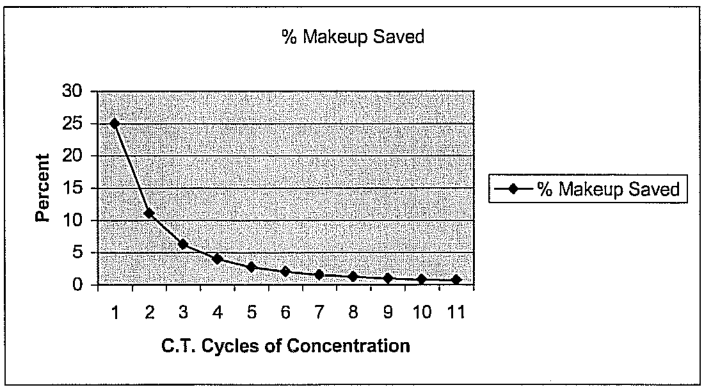
BD = blowdown
E = evaporation
C = cycles of concentration

MU = BD+E

MU = makeup







Technical Area: Soil and Water Resources

Data Request 75: With increased cooling water circulation and decreased cooling tower makeup water demands available with reclaimed water pretreatment prepare water supply tables and demand figures comparable to Table 3.4-1 (Daily Water Supply Requirements) and Figure 3.4-5A and Figure 3.4-5B for both average day and maximum day conditions.

Response: As explained in response to Data Request 74, the "Principle of Diminishing Returns" applies to the cycles of concentration and the maximum allowable concentrations of the constituents in the water make the best engineering solution treatment of the blowdown not the makeup.

Technical Area: Soil and Water Resources

BACKGROUND

Section 5.5.1.2.2 of the DAR states that the COB discharges approximately 4.3 MGD of wastewater to the Burbank Western Channel. The maximum monthly TDS average of this flow is reported in the DAR to be 583 mg/L. Section 3.4.7 of the Revised Facility Description states that the COB Reclamation Plant discharges an average of 4.7 MGD to the Burbank Western Channel. The "design reclaimed water" quality which would be provided to the MPP is 732 mg/L TDS (Table 3.4-2).

Data Request 76: Please clarify the average or "design" reclaimed water flow and TDS quality available to the MPP.

Response: Attachment 2, Revised Facility Location and Description, AFC Section 3.0 is included in the DAR. The numbers included in section 3.4.7 and Table 3.4.2 are not contradictory to the numbers in section 5.5.1.2.2. The numbers in section 5 are derived from historical data for 1997 as stated in that section. The numbers in section 3 are derived from wastewater quality records for the reclaim water plant (RWP) provided for August and September of 2000. To corroborate the fact that TDS is variable, the COB RWP has provided the data provided in the following table. The data all show that the TDS was higher in the year 2000 than in previous years. The engineering design for water treatment equipment at a power plant takes into account at least a +10% and a –50% flow range. That criterion is also applied to quality parameters likely to affect water discharges such as TDS hence the "design" description in section 3.4.2. The higher TDS value is seen to be as defined, a "design" value. The values in section 5 reflect the environmental concept of an "average" basis for considering potential effects on the biosphere. Further discussion of the "average" versus "design" concept is included in the response to Data Request 106.

TDS (mg/L)
COB Outfall No. 001

	1996	1997	1998	1999	2000	2001
	Avg	Avg	Avg	Avg	Avg	Avg
JAN	661	740	600	601	739	554
FEB	701	608	434	583	565	558
MAR	736	847	543	662	653	601
APR	754	657	493	536	586	530
MAY	755	626	519	574	717	577
JUN	743	785	538	549	722	606
JUL	867	759	568	653	476	641
AUG	781	749	517	675	622	607
SEP	681	604	662	585	741	
OCT	697	659	605	546	676	
NOV	651	520	582	685	558	
DEC	540	547	536	620	552	
AVG	714	675	550	606	634	584

Technical Area: Soil and Water Resources

BACKGROUND

The COB has provided a will-serve letter to provide water for use as backup cooling water. The source of this water could be onsite wells, MWD water or finished (treated and blended) domestic water.

Data Request 77: Please provide a copy of the referenced will-serve letter from the COB

Response: The WATER response, WATER-6-5, included in the DAR contained the letter document DOCKET 01-AFC-6, dated May 4, 2001 and received May 14, 2001. This is a will serve letter from the management of the COB to the SCPPA describing the COB intent to provide MPP with all needed water.

Technical Area: Soil and Water Resources

BACKGROUND

The Water-7 Response included in the DAR estimates the water use during construction at:

Annual Demand:	179,000,0000 gallons (179 MGD)
Average Day Demand	490,000 gallons (.49 MGD)
Maximum Day Demand:	6,400,000 gallons (6.4 MGD)

Data Request 78: Please identify the source of this water and the proposed discharge of wastewater during construction, if any.

Response: The source of water for construction will be both reclaimed water and domestic water from the COB. Some demineralized water will be produced on-site from domestic water using mobile equipment that is regenerated off-site. There is no plan to discharge wastewater from the MPP site to the Burbank Western Channel during construction. Construction wastewater that meets the normal description of water used for washing may be discharged to the sanitary sewer for treatment at the RWP. Other wastewater such as that produced in chemical cleaning of the piping and boiler will be temporarily contained in lined, mobile tanks, procured for that purpose, and neutralized before being transferred to the RWP for further treatment.

Technical Area: Soil and Water Resources

BACKGROUND

The Water-14 Response included in the DAR references a City of Burbank memo and a letter to the SCPPA authorizing use of the City's wastewater discharge point at the Magnolia Power Project site.

Data Request 79: Please provide copies of the referenced memo and letter;

- Memo from Bruce S. Feng, Public Works Director, City of Burbank to Ron Davis, General Manager, Burbank Water and Power, June 6, 2001.
- Letter from Bruce S. Feng, Public Works Director, City of Burbank to Bill Carnahan, Executive Director, Southern California Power Authority, May 21, 2001.

Response: Please see attached.

G. Marino
C: M. Simmonds

BWP
GENERAL MANAGER'S OFFICE
'01 JUN -8 P3:58

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
MEMORANDUM

DATE: June 6, 2001

TO: Ron Davis, BWP General Manager

FROM: Bruce S. Feng, Public Works Director

SUBJECT: **INCREASED WASTEWATER DISCHARGE AT THE STEAM POWER PLANT**

Attached is the signed letter to the Southern California Public Power Authority (SCPPA) that you requested. This letter indicates the City's intention to allow SCPPA to use the wastewater discharge point located at the Burbank Water and Power (BWP) Yard at 164 West Magnolia Boulevard. As you know, any flows that will be generated from the Magnolia Power Project must meet all National Pollution Discharge Elimination System (NPDES) discharge requirements.

The Public Works Department will be negotiating a new discharge permit with the Regional Water Quality Control Board (RWQCB) after our current litigation is settled. Since the RWQCB has decided to appeal the intial judgement granted by the Los Angeles County Superior Court, it could be a year or more before we reach settlement. During negotiations, it may be desired or necessary to obtain two separate permits – one for the discharge point at the Burbank Water Reclamation Plant and one for the BWP Yard. Should this occur, the Public Works Department would be willing to relinquish the control of the discharge point at 164 West Magnolia Boulevard to Burbank Water and Power.

cc. Bonnie Teaford, City Engineer
Rodney Andersen, Senior Civil Engineer
Bruce E. Blowey, Licensing Manager,

CITY OF BURBANK
275 EAST OLIVE AVENUE, P.O.BOX 6459, BURBANK, CALIFORNIA 91510-6459

PUBLIC WORKS
DEPARTMENT

May 21, 2001

Mr. Bill Carnahan
Executive Director
Southern California Public Power Authority
225 S. Lake Avenue
Pasadena, CA 91101

SUBJECT: INTENT TO PROVIDE WASTEWATER DISCHARGE SERVICES MAGNOLIA POWER PROJECT

Dear Bill:

The City of Burbank currently owns and operates a wastewater discharge point located at the Burbank Water and Power property at 164 West Magnolia Boulevard in Burbank, California. This discharge point is currently operated under a National Pollutant Discharge Elimination System permit and is the responsibility of the Public Works Department.

The City of Burbank is member of the Southern California Public Power Authority (SCPPA) and intends to provide SCPPA the ability to utilize the wastewater discharge point, in accordance with NPDES requirements, for the Magnolia Power Project (MPP). We understand the MPP may be operated for a term of at least 30 years. The members of SCPPA who will participate in the MPP include: City of Burbank, City of Anaheim, City of Colton, City of Glendale and the City of Pasadena.

The City of Burbank is committed to entering into an agreement with SCPPA to use the wastewater discharge point substantially in accordance with the above.

Sincerely,

Bruce S. Feng
Public Works Director

BSF:BB:gm
Scppa ltr – wastewater - feng.doc

c: Bruce E. Blowey
Licensing Manager, MPP
17213 Anne Freda Street
Canyon Country, CA 91351

Technical Area: Soil and Water Resources

BACKGROUND

Cooling water treatment may require the addition of chemicals such as a pH control agent (acid or caustic), a mineral scale dispersant, a corrosive inhibitor and a biocide (hypochlorite or equivalent). Onsite storage of cooling water treatment chemicals is proposed.

Data Request 80: Please identify for each chemical storage and containment system whether it is located inside a covered area or exposed to rainfall.

Response: All chemicals will be stored within a secondary containment. Except the acid used for circulating water pH and alkalinity control, all chemicals will be stored indoors. The acid tank will be located outdoors and will have secondary containment equivalent to 110% of the capacity of the tank with no drain. A covering will be provided to exclude precipitation from the secondary containment. The current design concept includes two portable sump pumps for removing any precipitation that does collect in the secondary containment. The same pumps can be used to transfer any acid spilled inside the secondary containment to drums or another tank and also will be used to cleanup the secondary containment after any spill is neutralized. Warehoused pumps are preferred to prevent inadvertent discharge of large quantities of acid to the environment.

Technical Area: Soil and Water Resources

BACKGROUND

Cooling water treatment may require the addition of chemicals such as a pH control agent (acid or caustic), a mineral scale dispersant, a corrosive inhibitor and a biocide (hypochlorite or equivalent). Onsite storage of cooling water treatment chemicals is proposed.

Data Request 81: Demonstrate how chemical storage and containment areas are to be drained to the sanitary sewer system with prevention of drainage to the stormwater system or to the Burbank Western Channel.

Response: All chemical storage will have secondary containment without drains – i.e., chemical storage secondary containment areas will not drain to the sanitary sewer or storm drains. Chemicals spilled within the secondary containment will be pumped out and disposed in accordance with applicable regulatory requirements.

Technical Area: Soil and Water Resources

BACKGROUND

A Data Adequacy response labeled Water-1, was submitted by the applicant. The initiating request (para 1) was for discussion of the impact of the plant on the POTW. The response is that the project will obtain approval from POTW and that "MPP will manage the waters sufficiently to maintain compliance with the discharge limitations." This is not a response that discusses the changes that will occur because of the project.

The last paragraph of the data request asked that "information should be compared with the estimated change in the constituents…". The response in the 3rd para answer is "The NPDES permit for the Burbank Water & Power discharge includes the use of performance goals, rather than performance-based limitations." The "goals" are not listed, and the intent of the question, to determine the impact of the plant on the POTW discharge, is not substantially addressed either in the response or in the revised AFC sections 3 and 5. It is apparent that the MPP will at least "consume" part of the current excess performance of the POTW, but this is not quantified. There are 3 references in footnotes for this Response that are not supplied. The third reference particularly is important.

Data Request 82: Respond to the original data request. Include discussing the impact of the project's wastewater discharge on operational parameters, such as the capacity and ability of the POTW to accept the discharge. Discuss the cumulative impacts of this discharge on the POTW and the waters that receive the POTW's discharge. Identify any impacts and discuss the effectiveness of the mitigation for any impacts identified. Particularly include any consumption of current performance excess by the POTW beyond requirements, whether goals or limits.

Response: Only sanitary wastes will be discharged to the COB water reclamation facility headworks.

The wastewater discharge from the COB water reclamation facility will be diverted for use by the MPP and returned following use to the COB wastewater discharge line COB Outfall No. 001 in conformance with the requirements of the COB Waste Discharge Requirements, i.e., industrial wastewater from the MPP will be will not be discharged to the headworks of the COB water reclamation facility.

The COB discharge will be reduced by the amount of evaporation from the cooling towers. The following table provides the average monthly and annual TDS concentrations of the discharge to Outfall No. 001 from the COB water reclamation facility. The operation of the MPP will increase the TDS concentration of these discharges to 950 mg/L or less as required by the WDRs. By definition, the discharge limitations specified in the WDRs are fully protective of all beneficial uses of receiving waters designated by the Los Angeles Regional Water Quality Control Board.

TDS (mg/L)
COB Outfall No. 001

	1996	1997	1998	1999	2000	2001
	Avg	Avg	Avg	Avg	Avg	Avg
JAN	661	740	600	601	739	554
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Technical Area: Soil and Water Resources

BACKGROUND

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Data Request 83: Supply the references footnoted in the Response.

Response: The 2000 Annual NPDES Report is attached.

CITY OF BURBANK
275 EAST OLIVE AVENUE, P.O.BOX 6459, BURBANK, CALIFORNIA 91510-6459

PUBLIC WORKS
DEPARTMENT

March 12, 2001

Mr. Dennis Dickerson
Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, #200
Los Angeles, CA 90013

Attention: Data and Information Management Unit

Subject: 2000 ~~**2001**~~ **Annual NPDES Report – Burbank Water Reclamation Plant and Steam Plant, Permit No. 0055531 - Order No. 98-052 (File No. 83-25) (Compliance File No. Cl-4424) (Ana Veronica Cuevas-Alpuche)**

Dear Mr. Dickerson:

Submitted herewith is the 2001 Annual NPDES Report pursuant to monitoring and reporting requirements contained in the CRWQCB Order No/ 98-052.

If you have any questions or need clarification, please call Gaspar Garza, Plant Manager, at (818) 972-1118 or Rodney Andersen of my staff at (818) 238-3931.

"I certify under the Penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility, of a fine and imprisonment for knowing violations."

Executed on the 13th day of March, 2001.

Very truly yours,

Bruce S. Feng
Public Works Director
City of Burbank

Gaspar Garza
Plant Manager
United Water Services,Inc.

cc: Mr. Carey Houk (W-4-1)
U.S. EPA Region 9
75 Hawthorne Street
San Francisco, CA 94105

California State Health Dept.
Sanitary Engineering Branch
1449 West Temple Street
Los Angeles, CA 90026

Rodney Andersen
Department of Public Works
City of Burbank
275 E. Olive Avenue
Burbank, CA 91510

Wayne Smith
Burbank Public Service Department
164 West Magnolia Boulevard
Burbank, CA 91503

Leighton Fong
Burbank Public Service Department
Water Division
164 West Magnolia Boulevard
Burbank, CA 91503

City of Burbank

BurbankWater Reclamation Plant

Annual NPDES Monitoring Report Permit CA0055531, Order No. 98-052

2000

Prepared By:

UnitedWater

TABLE OF CONTENTS

SECTION 6

Exception Summary

Mitigation Narrative

Operator Certification Summary

Section 1

United Water

Parameter		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
	002													
1,1,1-Trichloroethane	Max.,ug/L		ND(0.5)			ND(0.5)			ND(0.5)			ND(0.5)		ND(0.5)
1,1,2,2-Tetrachloroethane	Max.,ug/L		3.5			ND(0.5)			ND(0.5)			ND(0.5)		<1..3
1,1,2-Trichloroethane	Max.,ug/L		ND(0.5)			ND(0.5)			ND(0.5)			ND(0.5)		ND(0.5)
1,1-Dichloroethane	Max.,ug/L		ND(0.5)			ND(0.5)			ND(0.5)			ND(0.5)		ND(0.5)
1,1-Dichloroethylene	Max.,ug/L		ND(0.5)			ND(0.5)			ND(0.5)			ND(0.5)		ND(0.5)
1,2,4-Trichlorobenzene	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
1,2-Dichlorobenzene	Max.,ug/L		ND(5)			ND(0.5)			ND(3)			ND(0.5)		<3
1,2-Dichloroethane	Max.,ug/L		ND(0.5)			ND(0.5)			ND(0.5)			ND(0.5)		ND(0.5)
1,2-Dichloropropane	Max.,ug/L		ND(0.5)			ND(0.5)			ND(0.5)			ND(0.5)		ND(0.5)
1,2-Diphenylhydrazine	Max.,ug/L		ND(10)			ND(2)			ND(3)			ND(10)		<7
1,2-Trans-Dichloroethylene	Max.,ug/L		ND(0.5)			ND(0.5)			ND(0.5)			ND(0.5)		ND(0.5)
1,3-Dichlorobenzene	Max.,ug/L		ND(5)			ND(0.5)			ND(3)			0.53		<3
1,3-Dichloropropylene (cis)	Max.,ug/L		ND(0.5)			ND(0.5)			ND(0.5)			ND(0.5)		ND(0.5)
1,4-Dichlorobenzene	Max.,ug/L		ND(5)			ND(0.5)			ND(3)			0.51		<3
2,4,5-TP (silvex)	Max.,ug/L		ND(0.05)			ND(0.07)			ND(0.07)			ND(0.07)		<0.07
2,4,6-Trichlorophenol	Max.,ug/L		ND(5)			ND(5)			ND(6)			ND(5)		<6
2,4-D	Max.,ug/L		ND(0.5)			ND(0.1)			ND(0.4)			ND(0.4)		<0.4
2,4-Dichlorophenol	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
2,4-Dimethylphenol	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
2,4-Dinitrophenol	Max.,ug/L		ND(50)			ND(10)			ND(20)			ND(50)		<33
2,4-Dinitrotoluene	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
2,6-Dinitrotoluene	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
2-Chloroethylvinyl Ether	Max.,ug/L		ND(1)			ND(10)			ND(1)			ND(10)		<6
2-Chloronaphthalene	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
2-Chlorophenol	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
2-Nitrophenol	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
3,3-Dichlorobenzidine	Max.,ug/L		ND(50)			ND(5)			ND(6)			ND(50)		<28

Parameter		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
	002													
3-Methyl-4-Chlorophenol (P-Chloro-M-(	Max.,ug/L		ND(5)			ND(5)			ND(6)			ND(5)		<6
4,4"-DDT	Max.,ug/L		ND(0.02)			ND(0.005)			ND(3)			ND(0.005)		<1
4,4'-DDD	Max.,ug/L		ND(0.02)			ND(0.005)			ND(3)			ND(0.005)		<1
4,4'-DDE	Max.,ug/L		ND(0.02)			ND(0.005)			ND(4)			0.014		<1
4,6-Dinitro-O-Cresol (4,6-Dinitro-2-Met	Max.,ug/L		ND(50)			ND(10)			ND(20)			ND(50)		<33
4-BromoPhenyl Phenyl Ether	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
4-ChloroPhenyl Phenyl Ether	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
4-Methylphenol (p-cresol)	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
4-Nitrophenol	Max.,ug/L		ND(10)			ND(5)			ND(6)			ND(10)		<8
Acenaphthene	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
Acenaphthylene	Max.,ug/L		ND(5)			ND(2)			ND(2)			ND(5)		<4
Acrolein	Max.,ug/L		ND(10)						ND(10)					<10
Acrylonitrile	Max.,ug/L		ND(10)						ND(10)					<10
Acute Toxicity, Survival[TUc or %]	Min., %	60%	100%	0%	0%	0%	[redacted]	0%	0%	0%	[redacted]			20%
Aldrin	Max.,ug/L		ND(0.02)			ND(0.005)			ND(0.005)			0.033		<0.02
Alpha-BHC	Max.,ug/L		ND(0.02)			ND(0.005)			ND(0.005)			ND(0.005)		<0.01
Alpha-Endosulfan	Max.,ug/L		ND(0.02)			ND(0.005)			ND(0.005)			ND(0.005)		<0.01
Aluminum	Max.,ug/L		170			100			80			40		98
Ammonia Nitrogen, as N	Mo.,mg/L	21	17	12	15	21	25	24	18	2	20	24	5	17
Anthracene	Max.,ug/L		ND(5)			ND(2)			ND(2)			ND(5)		<4
Antimony	Max.,ug/L		ND(1)						ND(4)					<3
Arsenic	Max.,ug/L		ND(5)			ND(2)			ND(2)			ND(2)		<3
Boron	Mo.,mg/L	0.6	0.4	0.50	1.0	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.6
Barium	Max.,ug/L		53			50			ND(150)			ND(100)		<100
Benzene	Max.,ug/L		ND(0.5)			ND(0.5)			ND(0.5)			ND(0.5)		ND(0.5)
Benzidine	Max.,ug/L		ND(50)			ND(20)			ND(30)			ND(50)		<40
Benzo(A)Anthracene	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4

Burbank Wastewater Treament Facility
Annual Summary 2000

Parameter		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
	002													
Benzo(B)Fluoranthene	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
Benzo(GHI)Perylene (1,12-Benzoperyl	Max.,ug/L		ND(10)			ND(2)			ND(3)			ND(10)		<7
Benzo[a]pyrene	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
Benzo[k]fluoranthene	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
Beryllium	Max.,ug/L		ND(1)						ND(0.2)					<1
Beta-BHC	Max.,ug/L		ND(0.5)			ND(0.005)			ND(0.005)			ND(0.005)		<0.2
Beta-Endosulfan	Max.,ug/L		ND(0.02)			ND(0.005)			ND(0.005)			ND(0.005)		<0.01
bis (2-Ethylhexyl) phthalate	Max.,ug/L		ND(4)			62			57			ND(4)		<32
bis(2-Chloro-1-methylethyl) ether	Max.,ug/L		ND(10)			ND(2)			ND(3)			ND(10)		<7
bis(2-Chloroethoxy)Methane	Max.,ug/L		ND(10)			ND(2)			ND(3)			ND(10)		<7
bis(2-Chloroethyl)Ether	Max.,ug/L		ND(10)			ND(2)			ND(3)			ND(10)		<7
BOD	Mo.lbs/D, Avg	90	127	48	74	203	173	133	235	96	88	96	114	123
BOD	Mo.lbs/D,Max	136	183	76	161	263	258	208	551	152	133	165	237	210
BOD	Mo.Avg.,mg/L	9	9	10	9	8	8	9	8	3	3	4	5	7
Bromodichloromethane	Max.,ug/L		5			3			5			3		4
Bromoform	Max.,ug/L		ND(1)			ND(0.5)			1.2			7.6		<3
Butyl Benzyl Phthalate	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
Cadmium	Max.,ug/L		ND(5)			ND(10)			ND(10)			ND(10)		<9
Carbon Tetrachloride	Max.,ug/L		ND(0.5)			ND(0.5)			ND(0.5)			ND(0.5)		ND(0.5)
Chlordane	Max.,ug/L		ND(0.2)			ND(0.2)			ND(0.2)			ND(0.2)		ND(0.2)
Chloride	Mo.lbs/D,Max	1570	2163	1013	1599	2364	2579	1875	3448	3651	4028	116	4120	2377
Chloride	Mo.Avg.,mg/L	99	106	128	112	113	113	122	114	115	118	105	108	113
Chlorine residual, total	Max.,mg/L	9	12	9	8	7	11	10	9	8	15	7	10	9
Chlorobenzene (Monochlorobenzene)	Max.,ug/L		ND(0.5)			ND(0.5)			ND(0.5)			ND(0.5)		ND(0.5)
Chloroethane	Max.,ug/L		ND(0.5)			ND(1)			ND(0.5)			ND(1)		<1
Chloroform	Max.,ug/L		3.6			6.8			6.7			4.4		5.4
Chromium	Max.,ug/L		13			ND(10)			ND(10)			ND(10)		<11

Burbank Wastewater Treament Facility
Annual Summary 2000

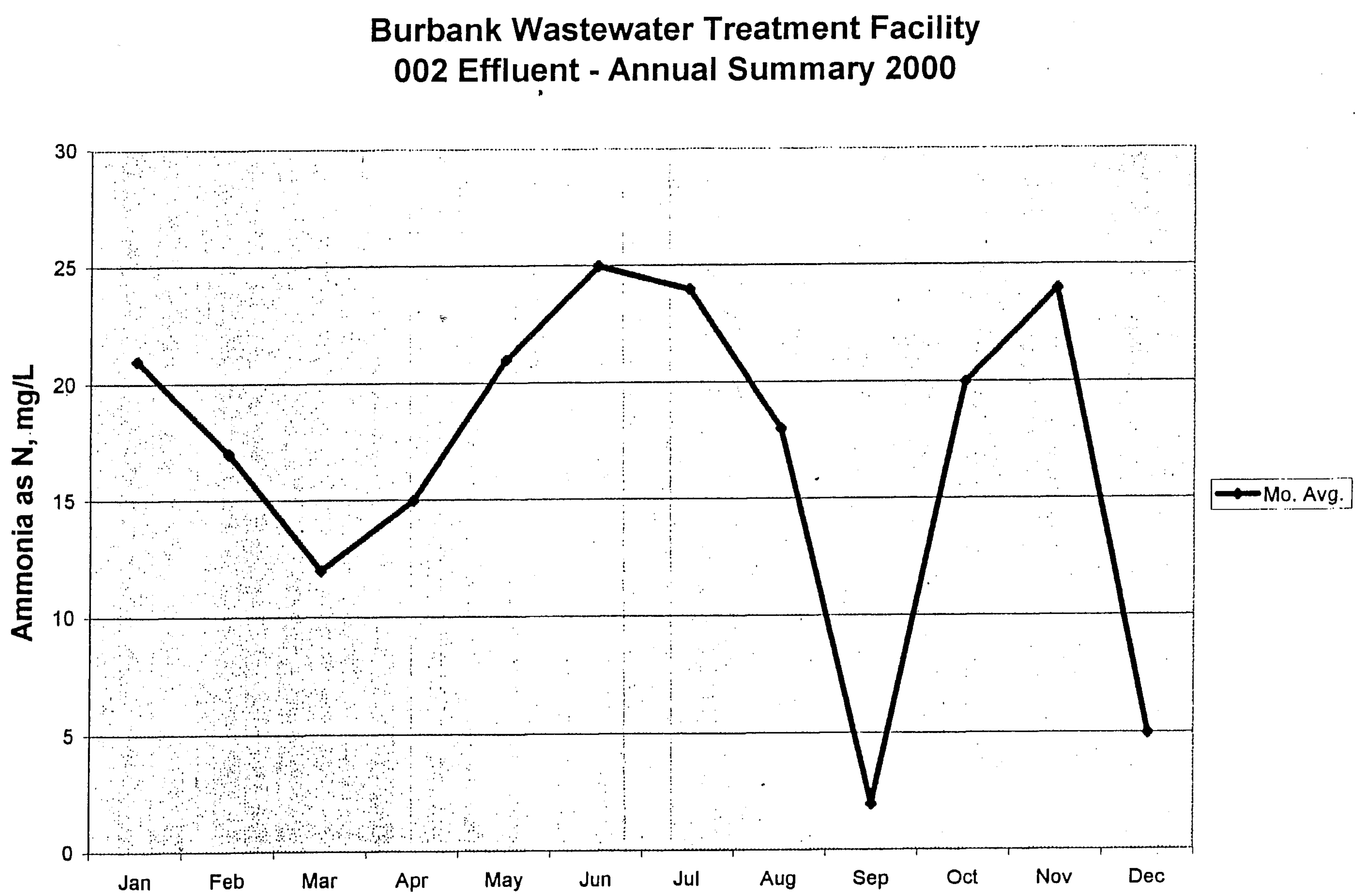
Parameter		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
	002													
Chronic Toxicity, Survival	Min., TUc	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.00	5.60	3.13	1.00	1.00	>1
Chrysene	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
Cobalt	Max.,ug/L		ND(2)						ND(50)					<30
Coliform, MPN/100mL	Mo. Median	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Coliform, MPN/100mL	Mo. Max.	2	2	13	<2	2	<2	2	<2	<2	2	4	11	<4
Copper	Max.,ug/L		21			ND(10)			10			10		<13
Cyanide	Max., mg/L		ND(0.005)			ND(0.02)			ND(0.02)			ND(0.02)		<0.02
Delta-BHC	Max.,ug/L		ND(0.02)			ND(0.005)			ND(0.005)			ND(0.005)		<0.01
Demeton	Max.,ug/L		ND(1)						ND(0.2)					<0.6
Dibenzo(A,H)Anthracene (1,2,5,6-Dibe	Max.,ug/L		ND(10)			ND(3)			ND(4)			ND(10)		<7
Dibromochloromethane	Max.,ug/L		4.3			1.7			2.2			3.3		2.9
Dichloromethane(MeCl2)	Max.,ug/L		ND(3)			ND(3)			5.2			10		<6
Dieldrin	Max.,ug/L		ND(0.02)			ND(0.005)			ND(0.005)			ND(0.005)		<0.01
Diethyl Phthalate	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
Dimethyl Phthalate	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
Di-N-Butyl Phthalate	Max.,ug/L		ND(10)			ND(2)			ND(3)			ND(10)		<7
Di-N-Octyl Phthalate[DEHP;Merck129	Max.,ug/L		ND(10)			ND(2)			ND(3)			ND(10)		<7
Endosulfan Sulfate	Max.,ug/L		ND(0.02)			ND(0.005)			ND(0.005)			ND(0.005)		<0.01
Endrin Aldehyde	Max.,ug/L		ND(0.02)			ND(0.01)			ND(0.01)			ND(0.01)		<0.02
Endrin	Max.,ug/L		ND(0.01)			ND(0.005)			ND(0.005)			ND(0.005)		<0.01
Ethylbenzene	Max.,ug/L		ND(0.5)			ND(0.5)			ND(0.5)			ND(0.5)		ND(0.5)
Flouride	Max., mg/L	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.5	0.3	0.4	0.5	0.3	0.4
Flow, MGD	Mo. Avg.	1.70	1.58	0.47	1.17	2.13	2.10	1.79	3.32	3.52	3.15	2.76	2.78	2.21
Flow, MGD	Mo. Max.	2.20	2.44	0.80	2.06	3.09	2.64	2.15	5.08	3.95	3.61	3.66	4.73	3.03
Flow, MGD	Mo.Min.	1.14	0.41	0.05	0.05	1.19	1.40	1.48	1.60	2.28	2.25	1.94	0.94	1.23
Fluoranthene	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
Fluorene	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4

Burbank Wastewater Treament Facility
Annual Summary 2000

Parameter		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
	002													
Gamma-BHC (Lindane)	Max.,ug/L		ND(0.02)			ND(0.005)			ND(0.005)			ND(0.005)		<0.01
Guthion(Azinphos methyl)	Max.,ug/L		ND(5)						ND(0.2)					<2
Hardness, total	Max.,mg/L	281	225	269	242	246	239	170	225	200	200	246	180	227
Heptachlor	Max.,ug/L		ND(0.01)			ND(0.005)			ND(0.005)			ND(0.005)		<0.01
Heptachlor Epoxide	Max.,ug/L		ND(0.01)			ND(0.005)			ND(0.005)			ND(0.005)		<0.01
Hexachlorobenzene	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
Hexachlorobutadiene	Max.,ug/L		ND(10)			ND(2)			ND(3)			ND(10)		<7
Hexachlorocyclopentadiene	Max.,ug/L		ND(10)			ND(2)			ND(3)			ND(10)		<7
Hexachloroethane	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
Indeno[1,2,3-cd]pyrene	Max.,ug/L		ND(10)			ND(2)			ND(3)			ND(10)		<7
Iron	Max.,ug/L	128	124	110	154	84	154	168	196	126	111	156	141	138
Isophorone	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
Lead	Max.,ug/L		ND(100)			ND(5)			ND(50)			ND(5)		<40
Malathion	Max.,ug/L		ND(0.5)						ND(0.2)					<0.4
Manganese	Max.,ug/L	40	6	45	22	38	54	11	15	12	24	12	12	24
Mercury	Max.,ug/L		ND(0.2)			ND(0.2)			ND(0.2)			ND(0.2)		ND(0.2)
Methoxychlor	Max.,ug/L		ND(0.2)			ND(0.005)			ND(0.005)			ND(0.005)		<0.2
Methyl Bromide	Max.,ug/L		ND(1)			ND(1)			ND(1)			ND(0.5)		<1
Methyl Chloride (Chloromethane)	Max.,ug/L		ND(1)			ND(1)			ND(1)			ND(1)		ND(1)
Methylene Blue(MBAS)	Max., mg/L	0.2	0.3	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.3	0.4	0.2
Mirex	Max.,ug/L		ND(0.05)						ND(0.01)					<0.03
MTBE (Methyl tert-Butyl Ether)	Max.,ug/L			0.39					0.56					0.48
Naphthalene	Max.,ug/L		ND(5)			ND(0.5)			ND(3)			ND(0.5)		<3
Nickel	Max.,ug/L		ND(20)			ND(10)			7			10		<12
Nitrate + Nitrite Nitrogen	Max., mg/L	5	6	13	5	1	1	0	1	0	1	1	0	3
Nitrite Nitrogen	Max., mg/L	2	2	2	2	ND(1)	1	0	ND(1)	0	0	0	0	<1
Nitrobenzene	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4

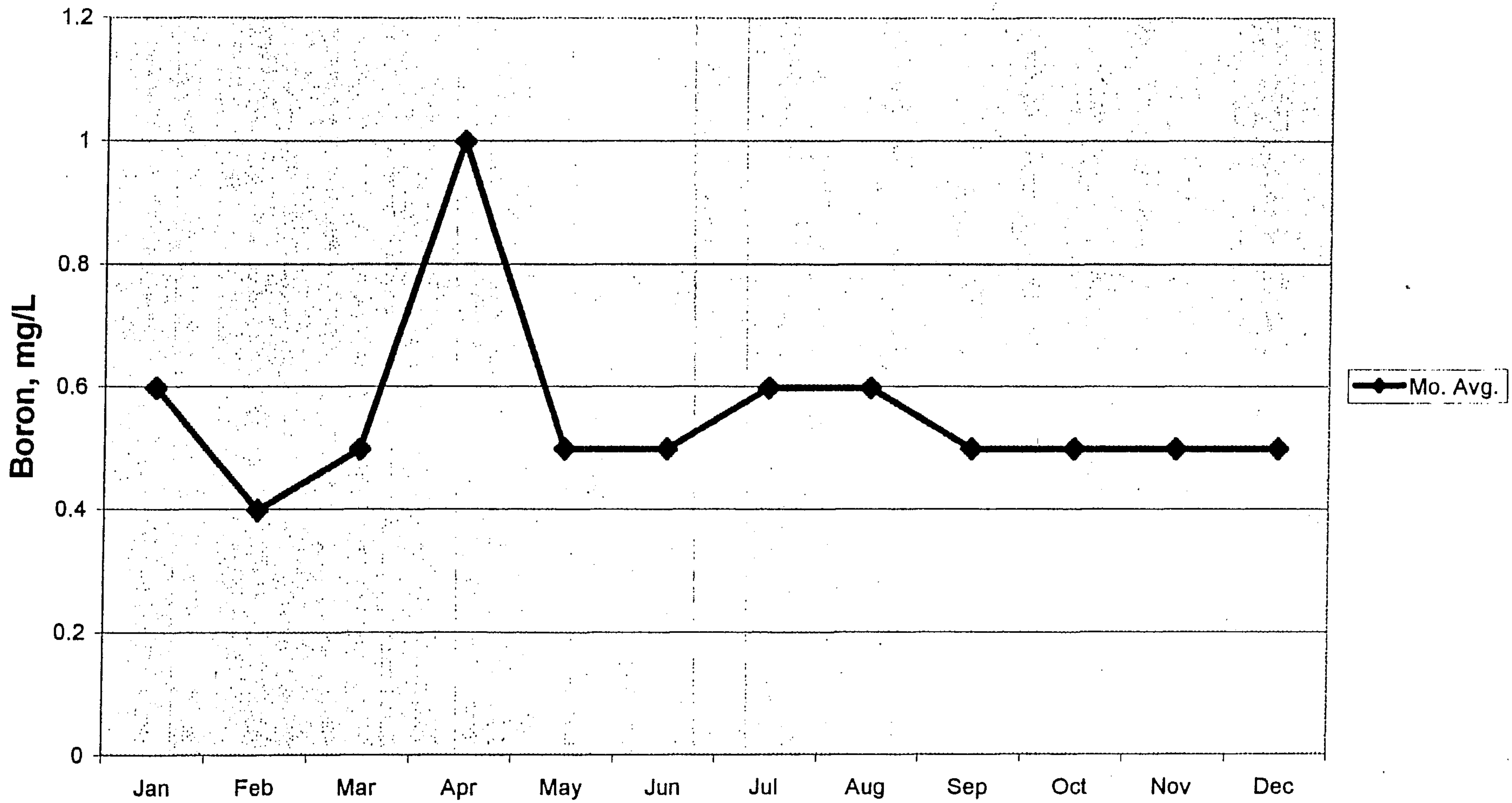
Parameter		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
	002													
N-Nitrosodimethylamine	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
N-Nitrosodi-N-Propylamine	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
N-Nitrosodiphenylamine	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
Oil & Grease	Mo.lbs/D,Max	53	58	13	48	66	75	29	<64	35	<127	<153	<197	<80
Oil & Grease	Mo.Avg.,mg/L	2	ND(2)	<7	<28	ND(2)	<156	ND(2)	ND(2)	<31	ND(2)	ND(5)	ND(5)	<21
Oil & Grease	Mo.Max., mg/L	4	<3	4	3	3	47	2	1	1	2	ND(5)	ND(5)	<7
Organic Nitrogen as N	Max., mg/L	ND(1)	<1	<2.5	5	<2.5	<2.5	<10	<3	21	<2.5	<2.5	20	<7
Parathion ethyl	Max.,ug/L		ND(0.5)						ND(0.2)					<0.4
Parathion (Parathion methyl)	Max.,ug/L		ND(0.5)						ND(0.2)					<0.4
PCB-1016	Max.,ug/L		ND(0.5)			ND(0.2)			ND(0.2)			ND(0.2)		<0.3
PCB-1221	Max.,ug/L		ND(0.5)			ND(0.2)			ND(0.2)			ND(0.2)		<0.3
PCB-1232	Max.,ug/L		ND(0.5)			ND(0.2)			ND(0.2)			ND(0.2)		<0.3
PCB-1242	Max.,ug/L		ND(0.5)			ND(0.2)			ND(0.2)			ND(0.2)		<0.3
PCB-1248	Max.,ug/L		ND(0.5)			ND(0.2)			ND(0.2)			ND(0.2)		<0.3
PCB-1254	Max.,ug/L		ND(0.5)			ND(0.2)			ND(0.2)			ND(0.2)		<0.3
PCB-1260	Max.,ug/L		ND(0.5)			ND(0.2)			ND(0.2)			ND(0.2)		<0.3
Pentachlorophenol	Max.,ug/L		ND(20)			ND(10)			ND(20)			ND(20)		<18
pH	Mo. Avg.	7.4	7.4	7.1	7.3	7.4	7.4	7.2	7.3	7.2	7.4	7.4	7.3	7.3
pH	Mo. Max.	7.5	7.6	7.4	7.7	7.5	7.6	7.5	7.5	7.5	7.5	7.6	7.6	7.5
Phenanthrene	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
Phenol	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
Phenols (Chlorinated;625)	Max.,ug/L		ND(20)			ND(10)			ND(20)			ND(50)		<25
Phenols (non-Cl2; 420)	Max., ug/L		ND(10)			10			10			11		<11
Phosphate as P	Mo.Max., mg/L	3	2	4	4	3	3	3	2	1	2	1	3	3
Pyrene	Max.,ug/L		ND(5)			ND(2)			ND(3)			ND(5)		<4
Radioactivity Beta pCi/L	Max., pCi/L		14			20			21			18		18
Radioactivity Gross(alpha) pCi/L	Max., pCi/L		8			7			1			7		6

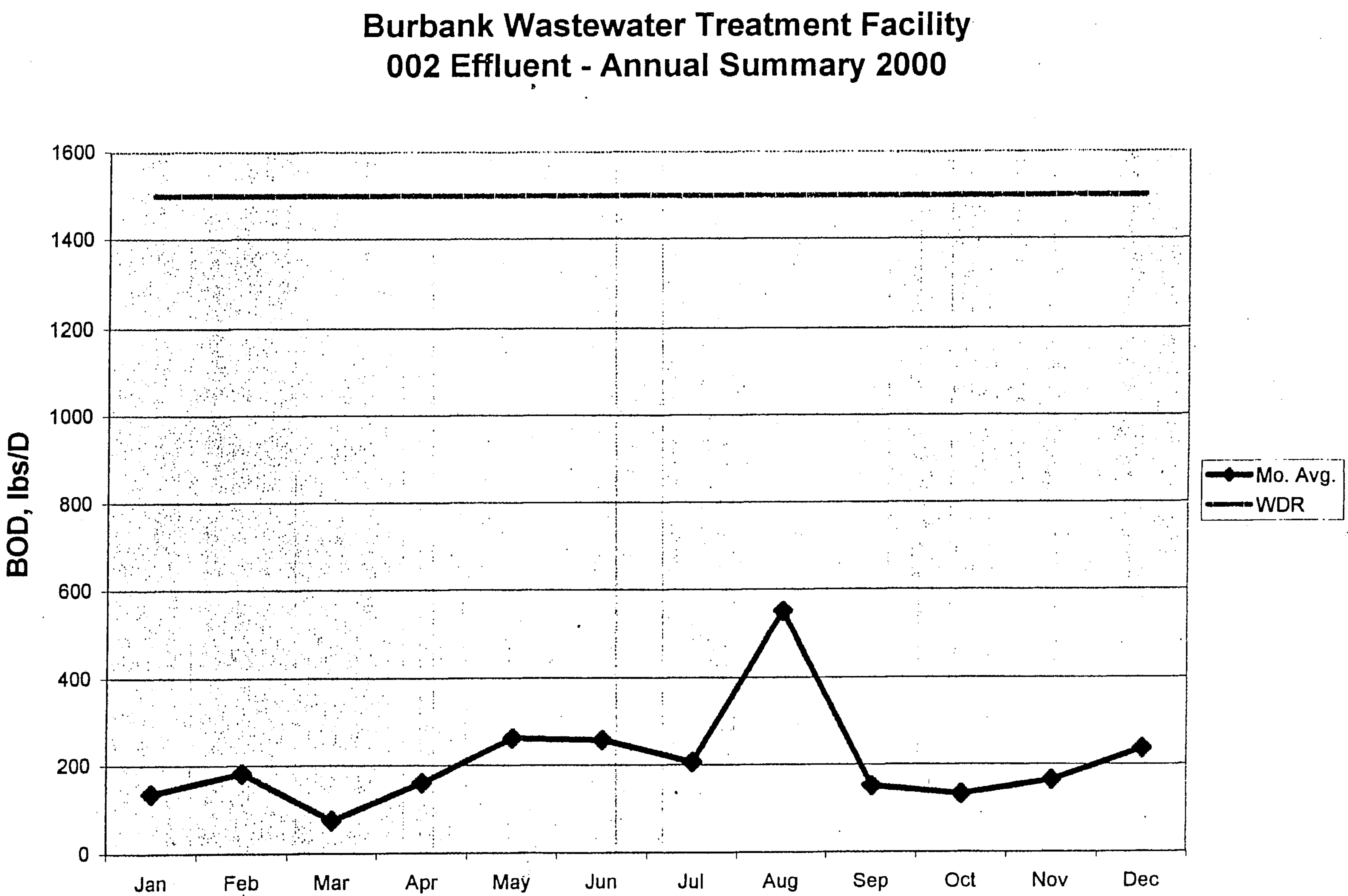
Parameter		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
	002													
Se	Max.,ug/L		ND(5)			ND(2)			ND(2)			ND(2)		<6
Sett. Solids	Mo.Avg.,mL/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sett. Solids	Mo.Max., mL/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Silver	Max.,ug/L		2			ND(20)			ND(50)			ND(20)		<23
Sulfate	Mo.lbs/D,Max	1643	1962	675	1394	2344	2625	1815	3263	3651	5247	2589	3189	2533
Sulfate	Mo.Max., mg/L	106	104	124	107	116	139	121	120	153	185	102	89	122
Suspended Solids	Mo.lbs/D, Avg	35	48	12	13	2	34	26	40	34	37	40	56	31
Suspended Solids	Mo.lbs/D,Max	84	90	30	33	70	56	47	142	69	99	73	122	76
Suspended Solids	Mo.Avg.,mg/L	2	4	3	2	2	2	2	2	1	1	2	2	2
TCDD	Max., ng/L		ND(0.035)						ND(0.023)					<0.03
Temperature, F	Mo. Max.	73	71	79	88	79	79	82	82	82	79	75	74	79
Tetrachloroethylene	Max.,ug/L		ND(0.5)			ND(0.5)			ND(0.5)			0.8		<0.6
Thallium	Max.,ug/L		ND(1)						ND(1)					ND(1)
Toluene	Max.,ug/L		ND(0.5)			ND(0.5)			ND(0.5)			ND(0.5)		ND(0.5)
Total Dissolved Solids	Mo.lbs/D,Max	7930	10693	3028	8274	11175	10837	7616	15484	15643.00	15308	14632	9883	10875
Total Dissolved Solids	Mo.Max., mg/L	579	534	575	588	553	544	502	523	567.00	518	526	468	540
Total Nitrogen, (TKN)	Mo.Max., mg/L	21	<18	<15	20	<24	<24	<34	<21	23	<23	<27	25	<23
Toxaphene	Max.,ug/L		ND(0.5)			ND(2)			ND(2)			ND(2)		<2
Trichloroethylene	Max.,ug/L		ND(0.5)			ND(0.5)			ND(0.5)			ND(0.5)		ND(0.5)
Turbidity, NTU	Mo. Avg.	1	2	2	2	1	1	1	1	1	1	1	1	1
Vinyl Chloride	Max.,ug/L		ND(0.5)			ND(0.5)			ND(0.5)			ND(0.5)		ND(0.5)
Zn	Max.,ug/L		66			70			87			76		75

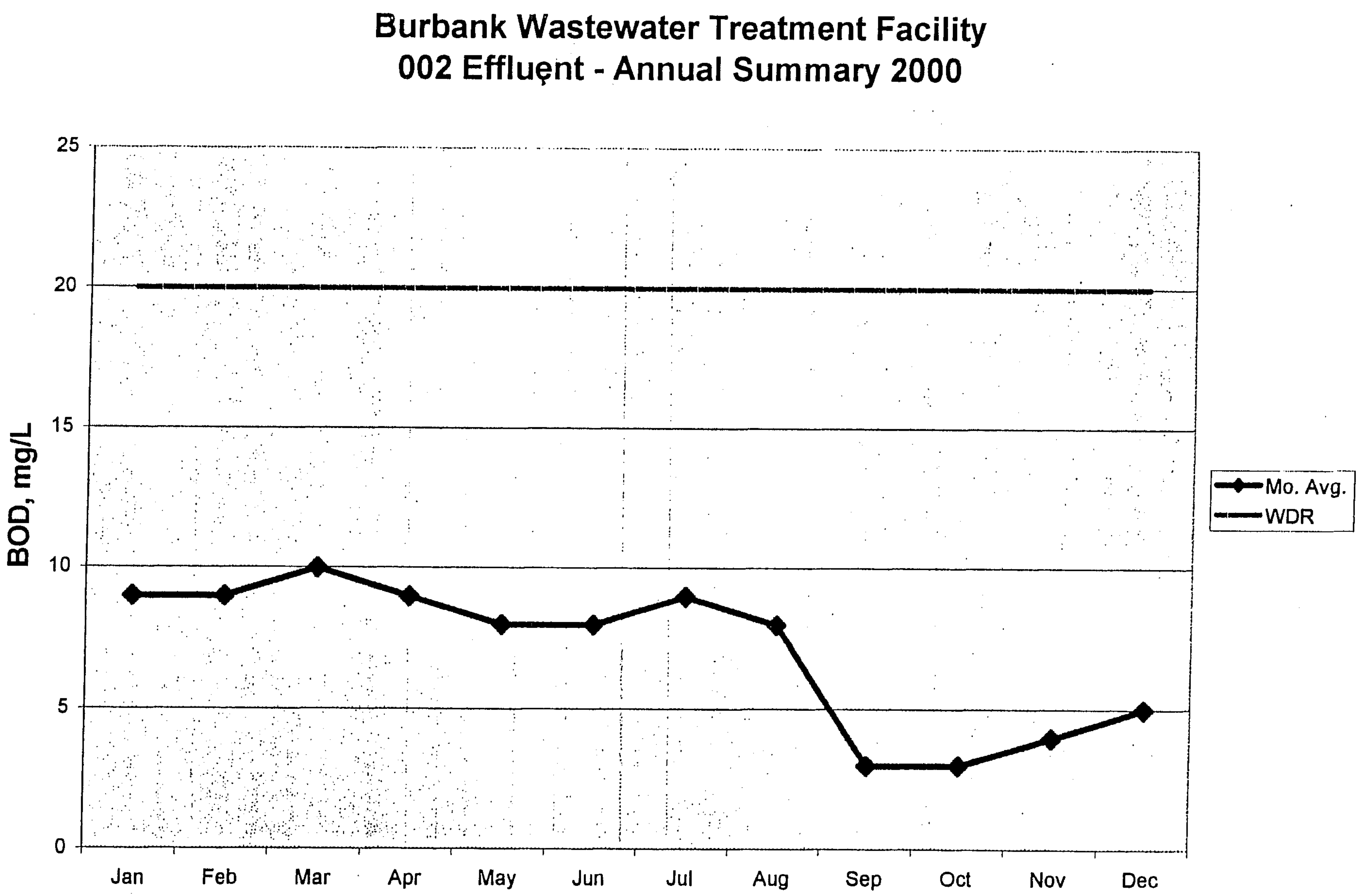


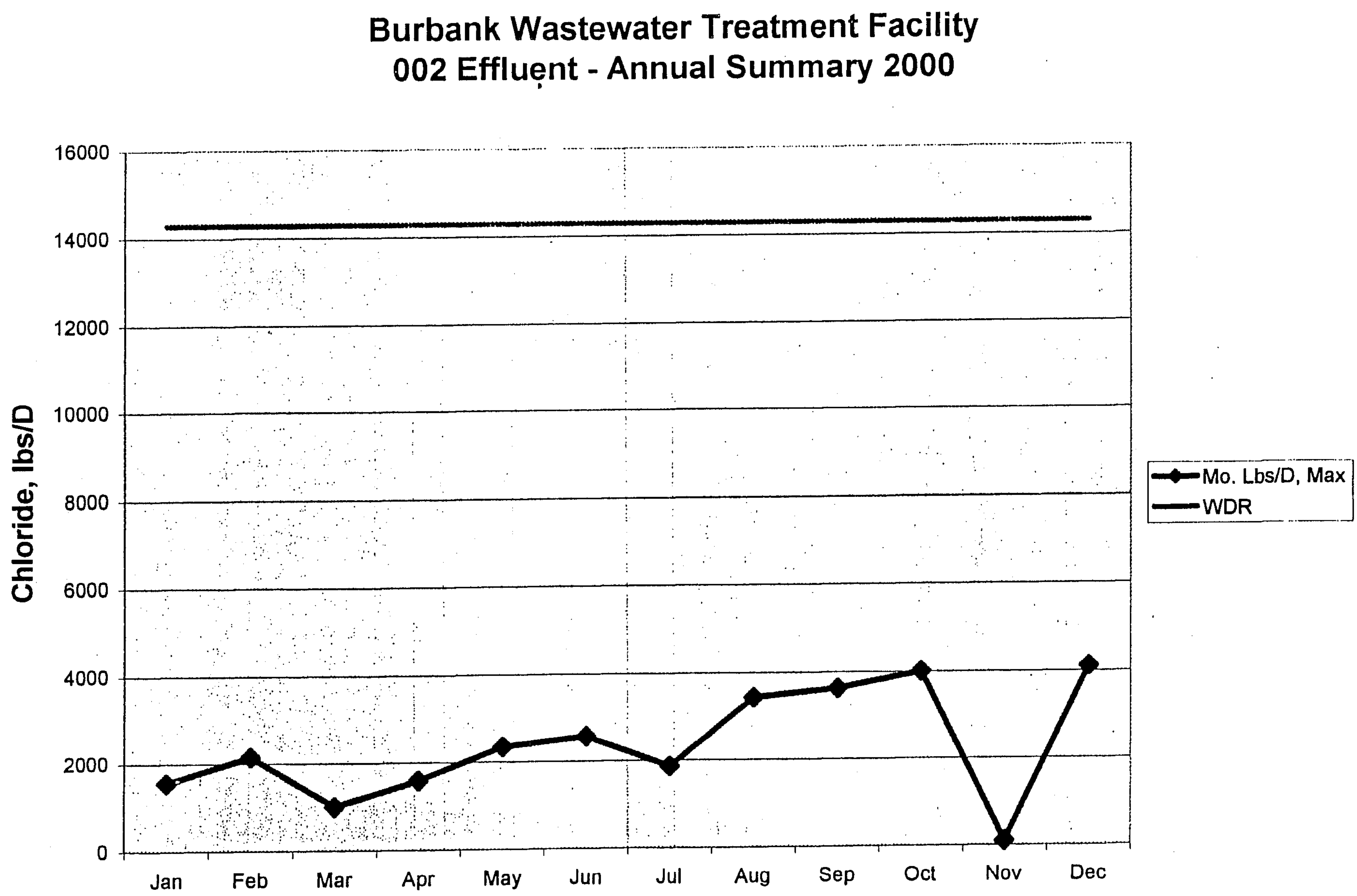
Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000
Ammonia as N, mg/L
0
5
10
15
20
25
30
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Mo. Avg.

Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000

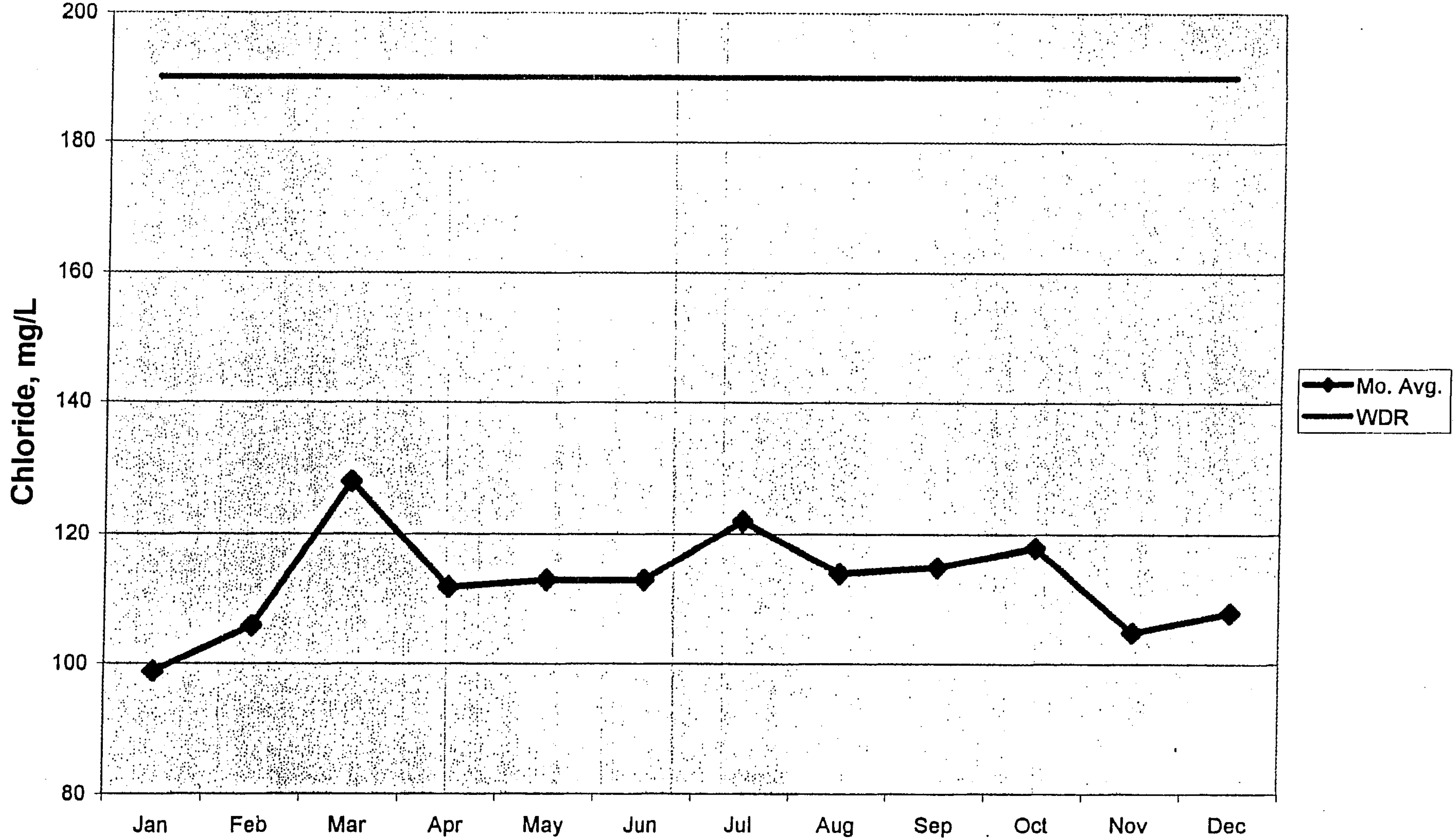


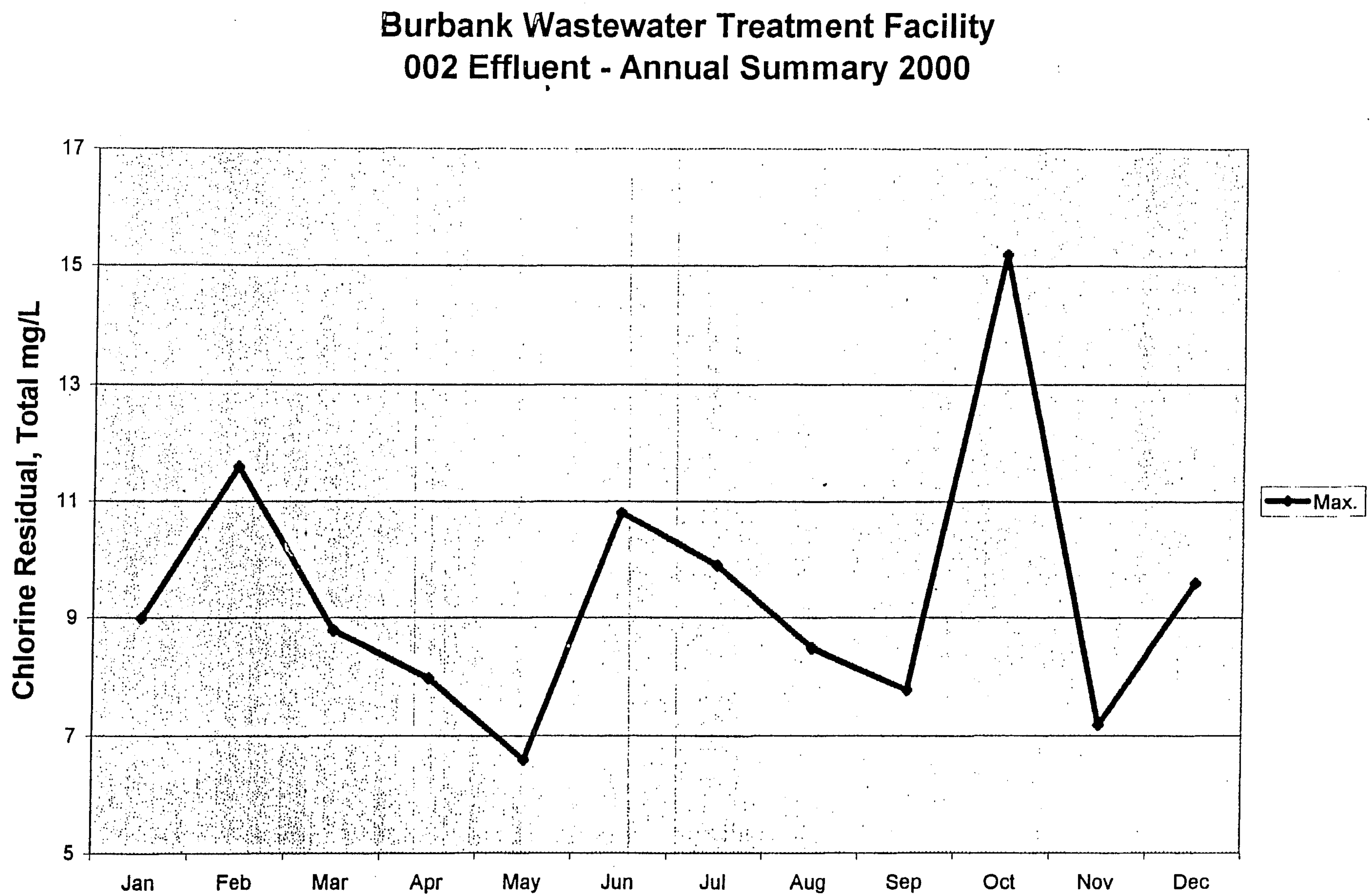

Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000
BOD, lbs/D
1600
1400
1200
1000
800
600
400
200
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Mo. Avg.
WDR

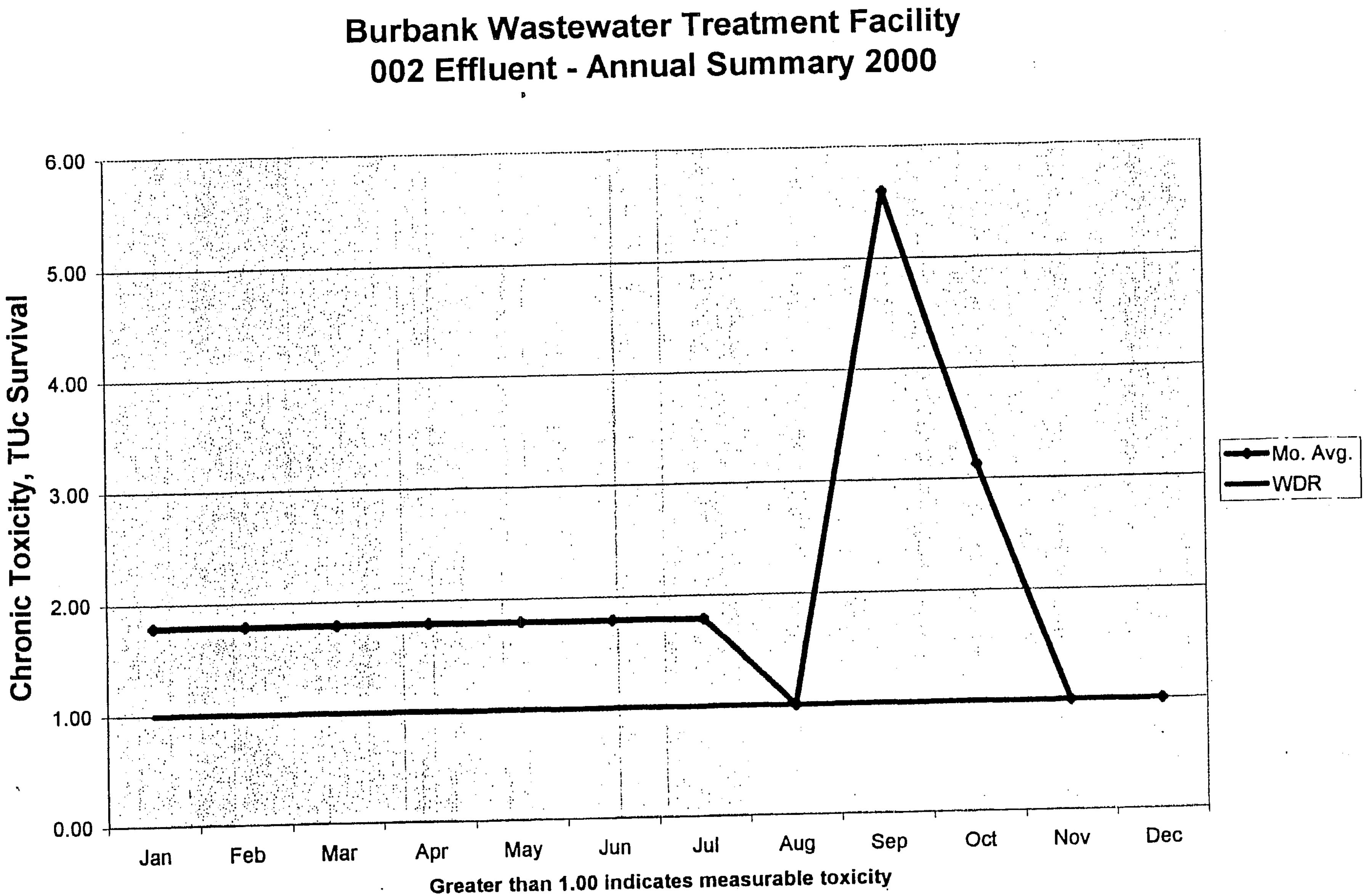

Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000
BOD, mg/L
25
20
15
10
5
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Mo. Avg.
WDR


Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000
Chloride, lbs/D
16000
14000
12000
10000
8000
6000
4000
2000
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Mo. Lbs/D, Max
WDR

Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000

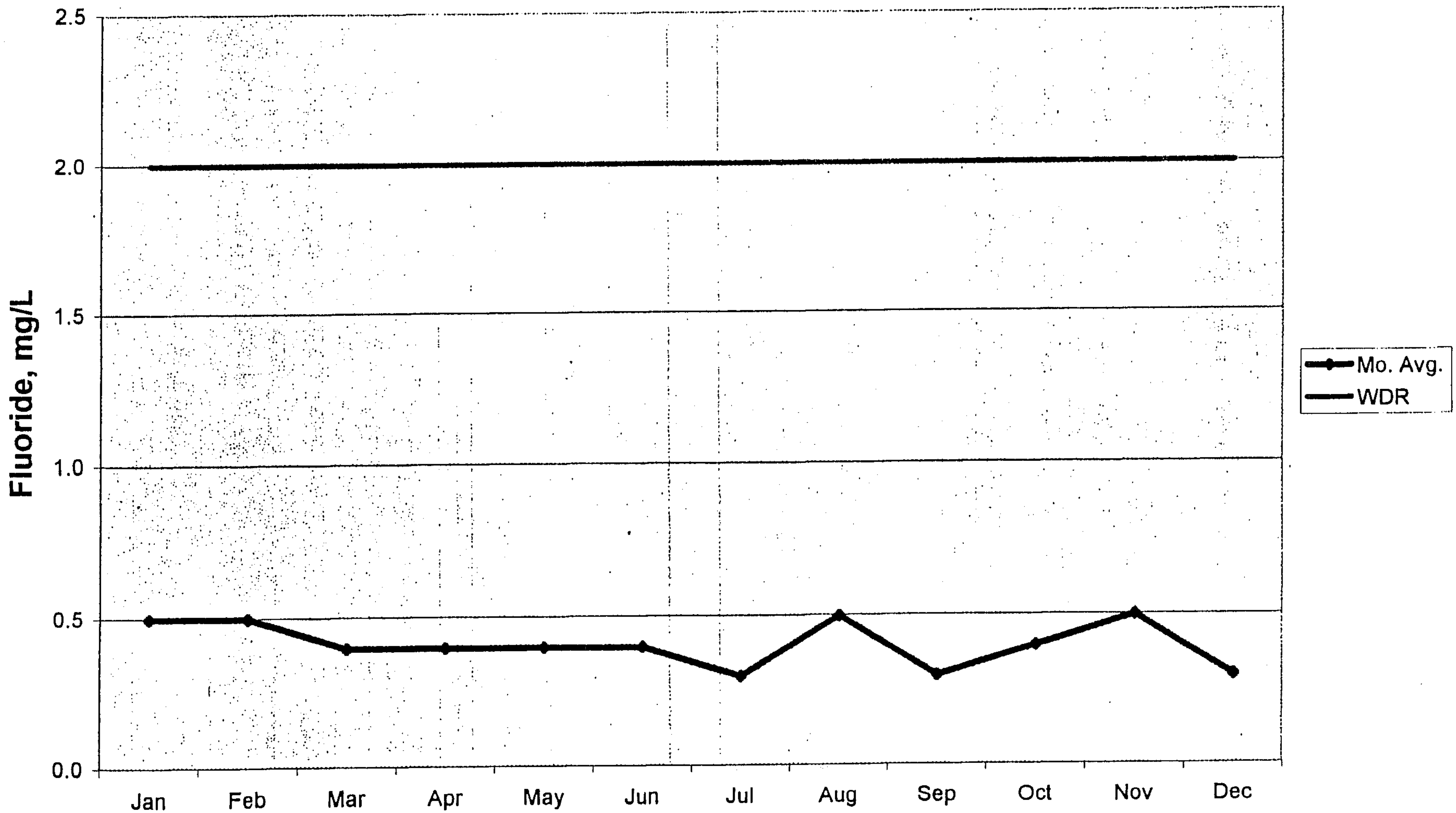



Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000
Chlorine Residual, Total mg/L
17
15
13
11
9
7
5
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Max.

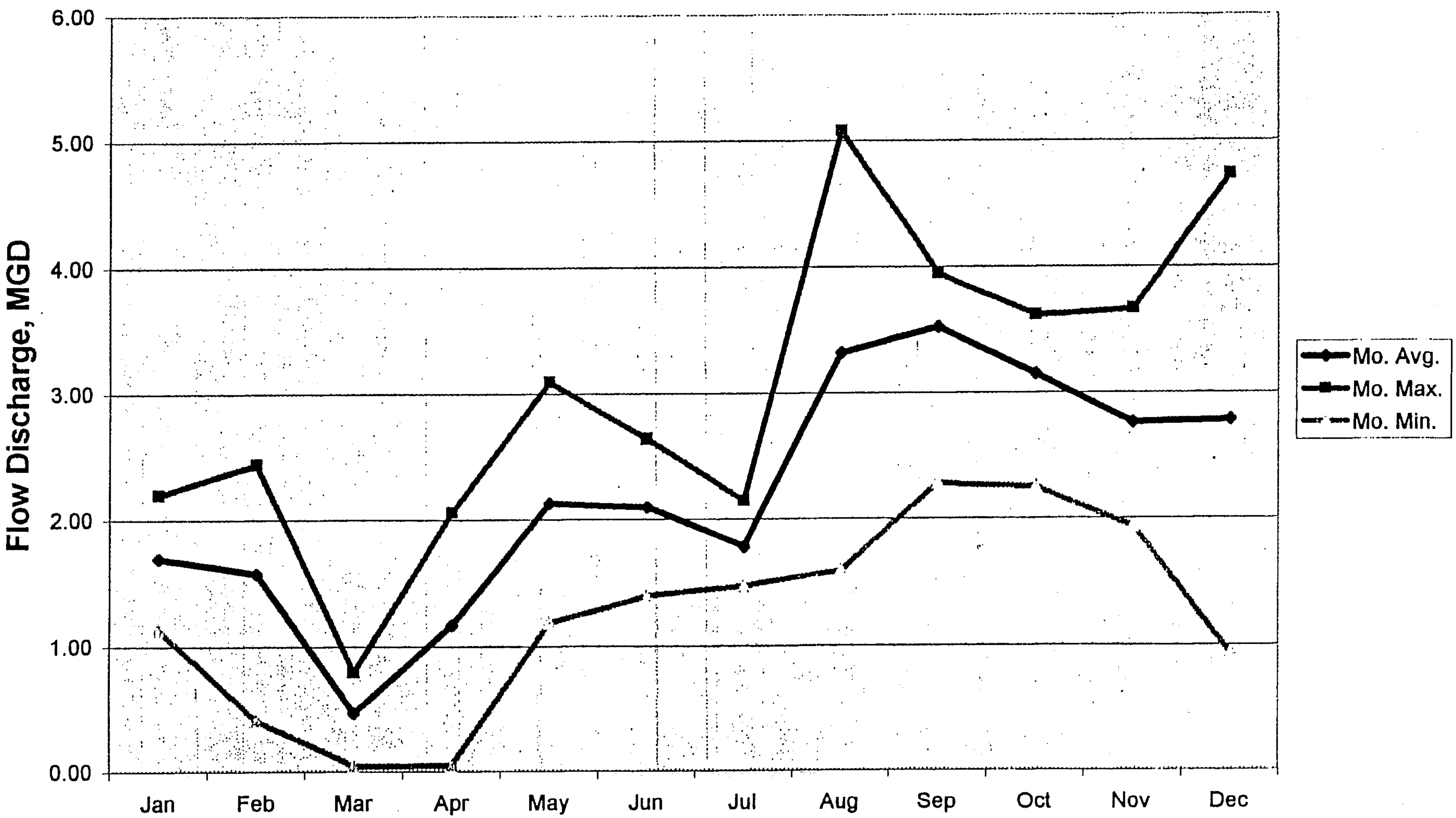


Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000
Chronic Toxicity, TUc Survival
6.00
5.00
4.00
3.00
2.00
1.00
0.00
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Greater than 1.00 indicates measurable toxicity
Mo. Avg.
WDR

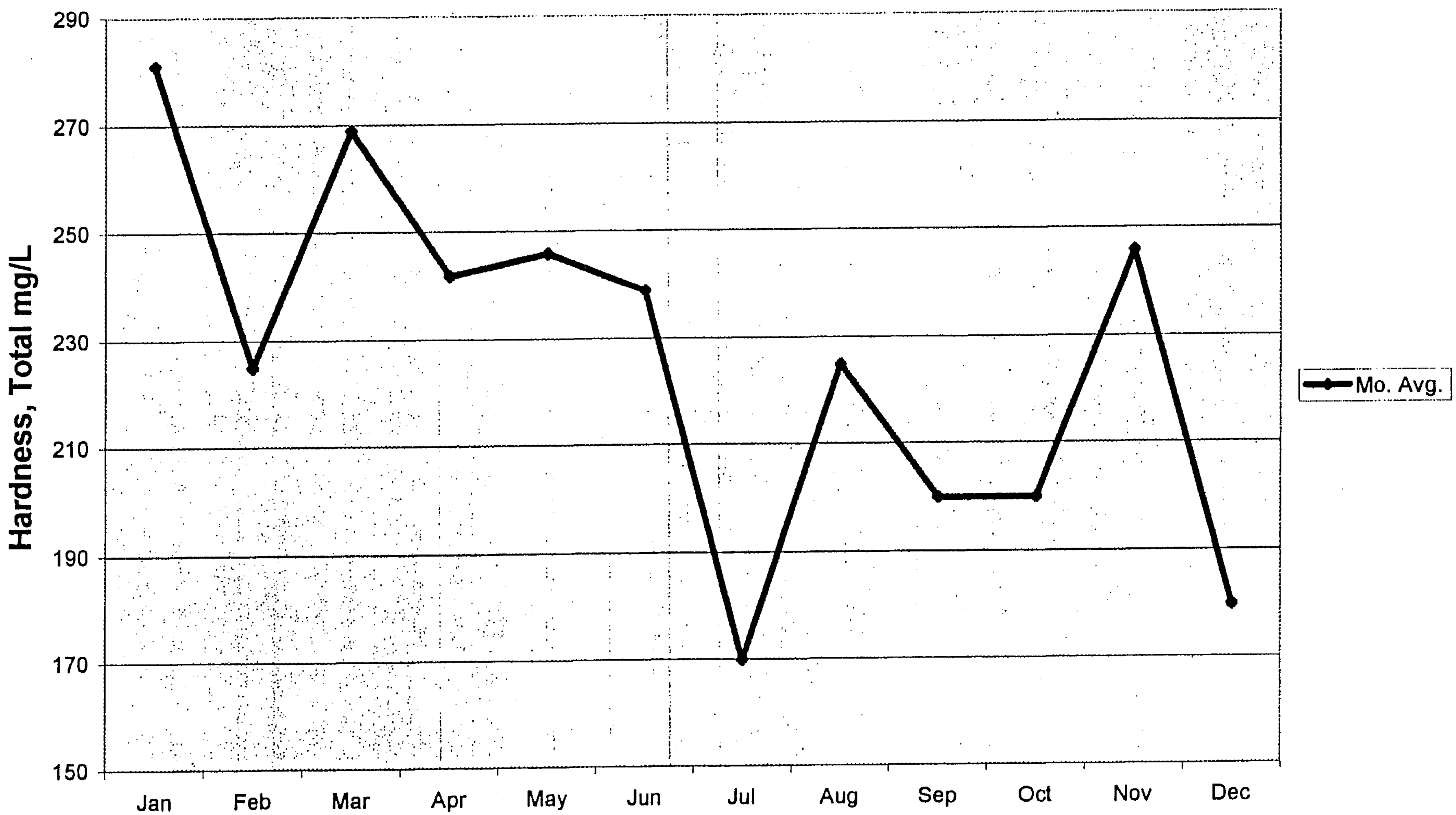
Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000



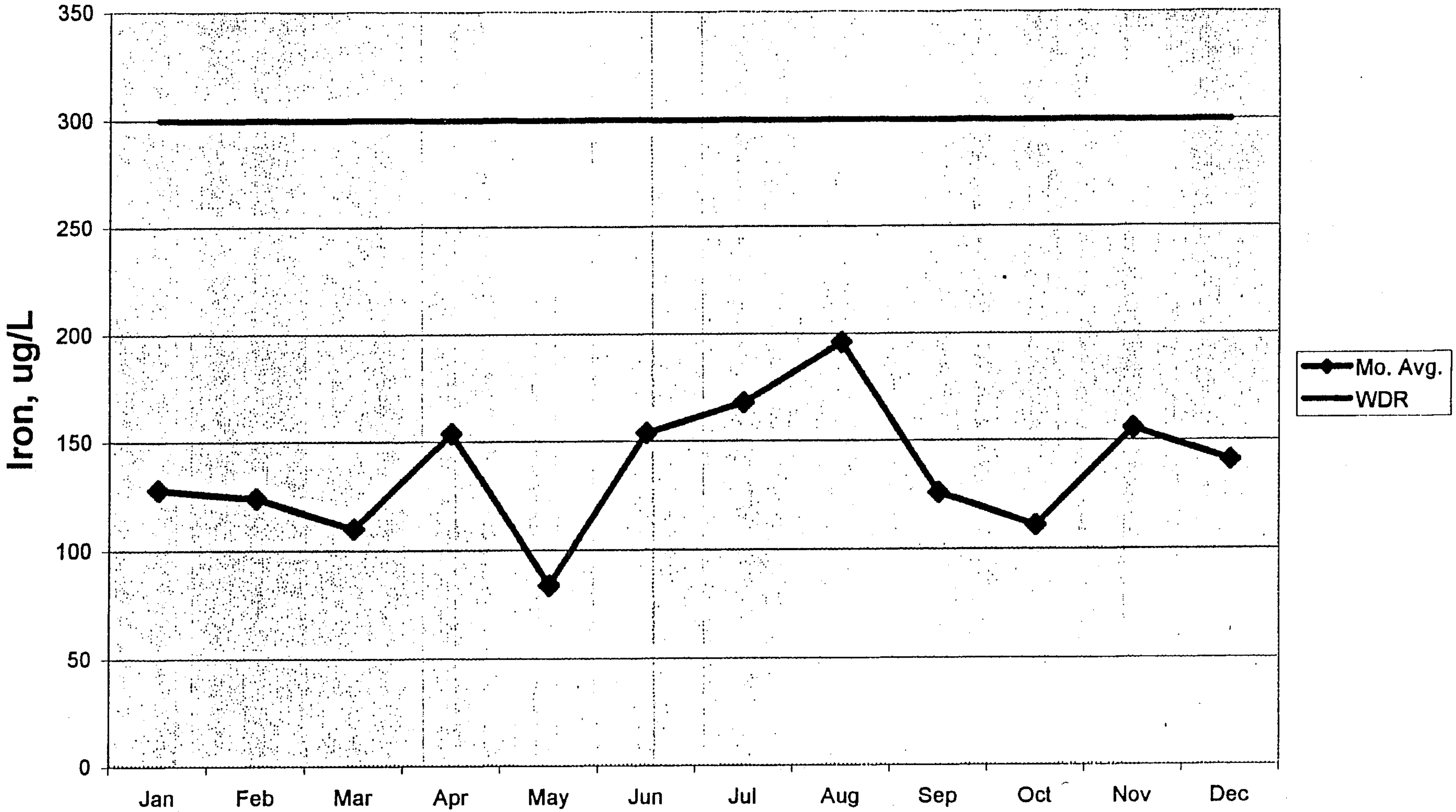
Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000

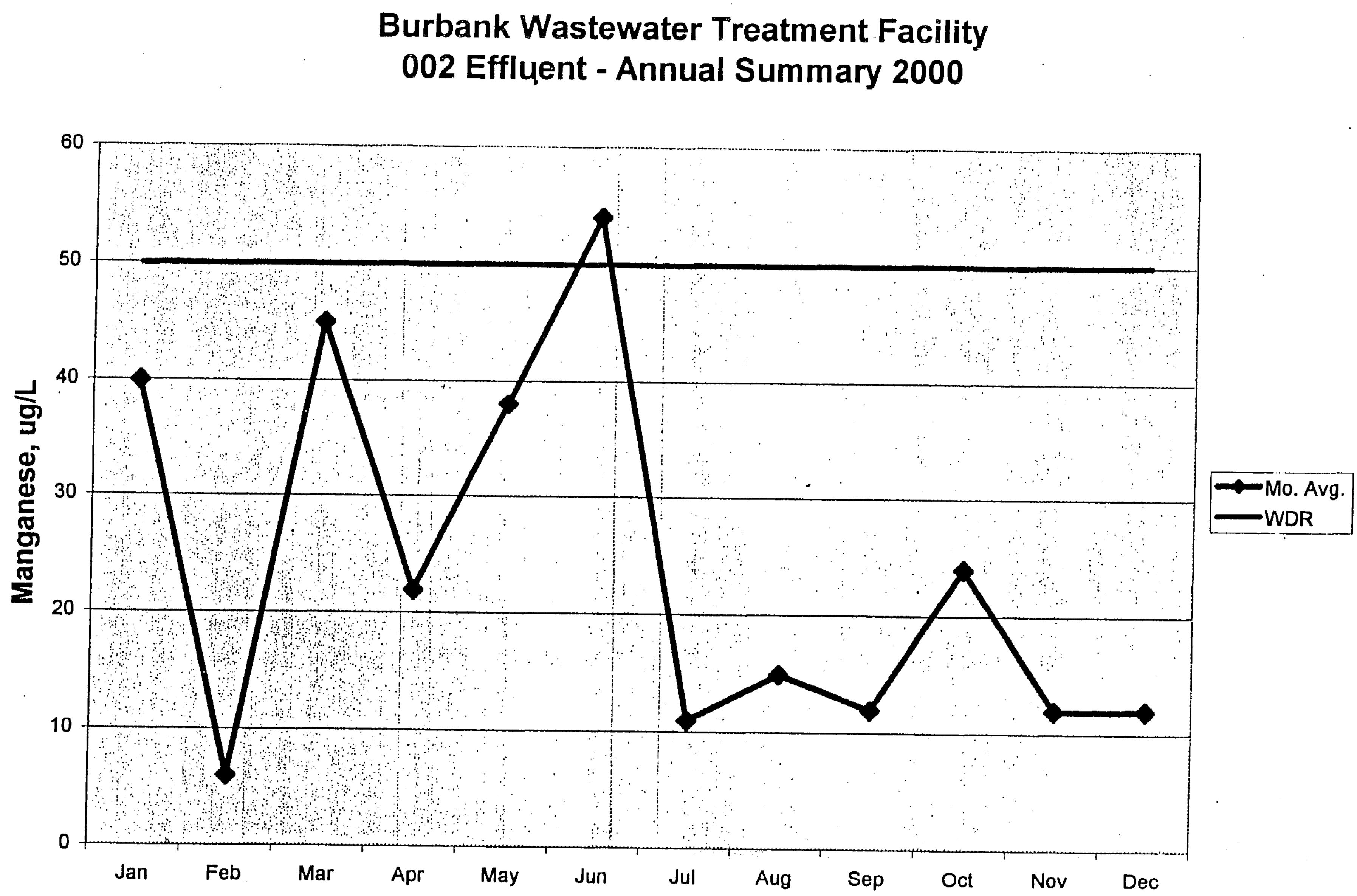


Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000



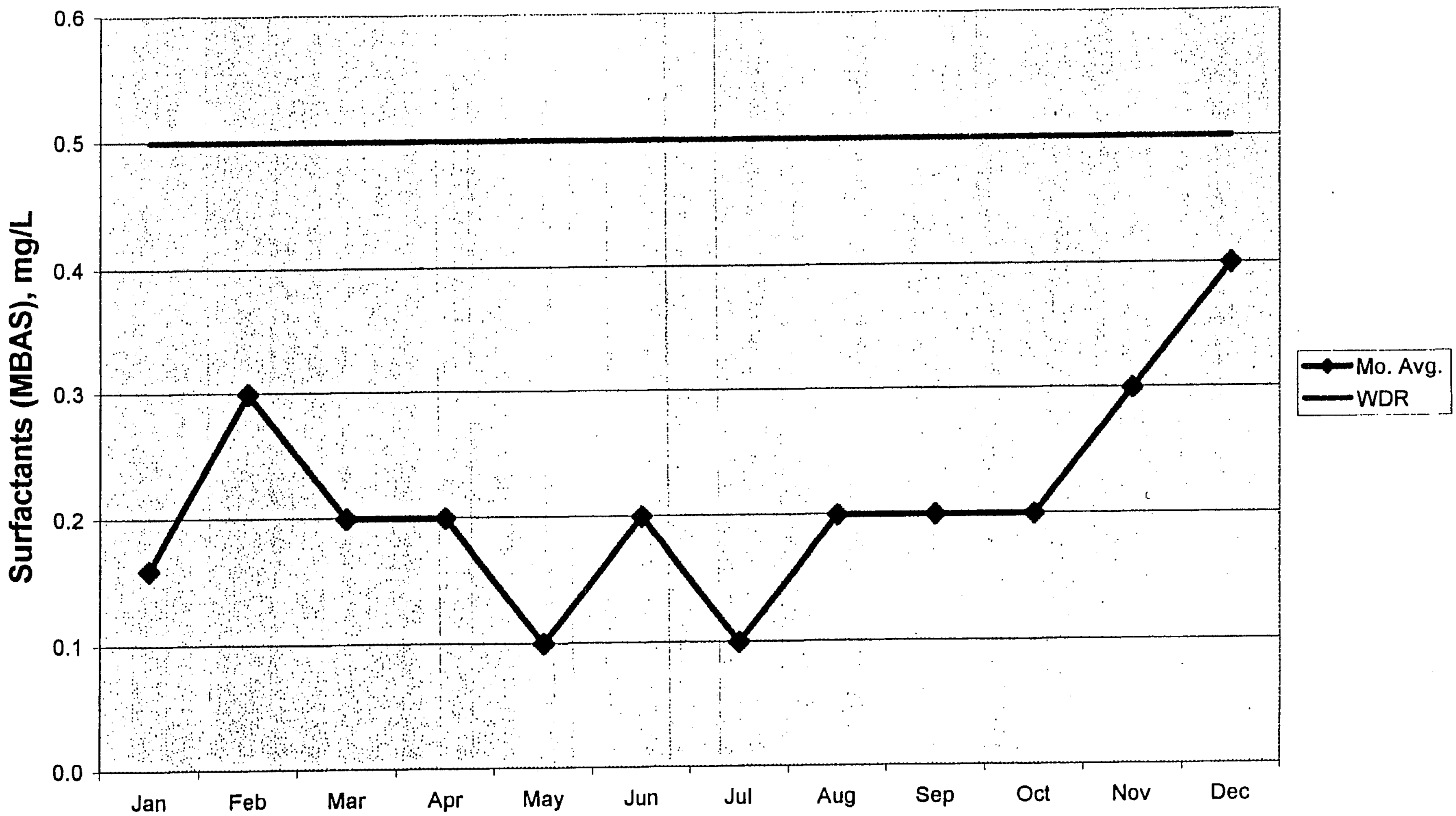
Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000



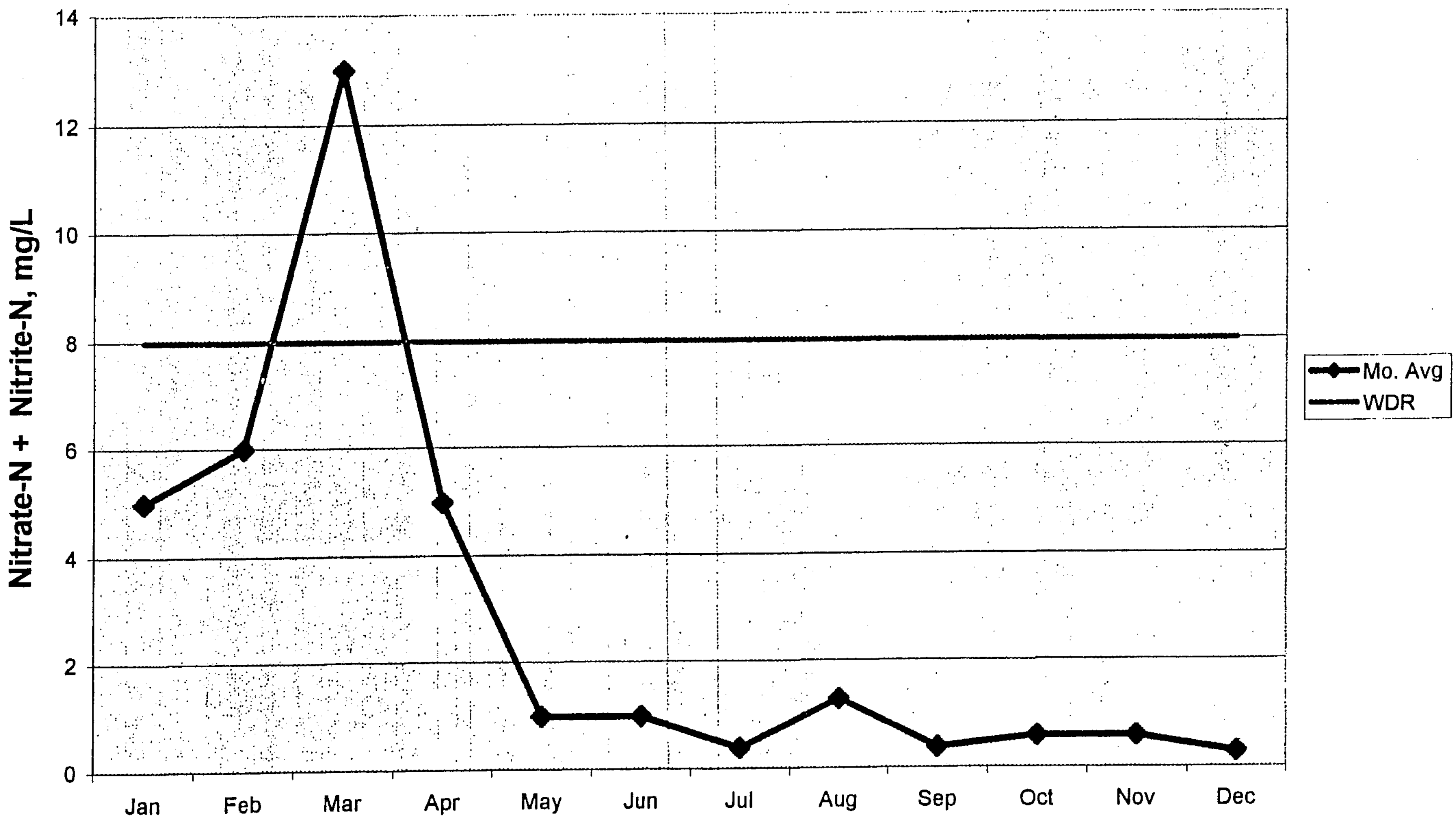


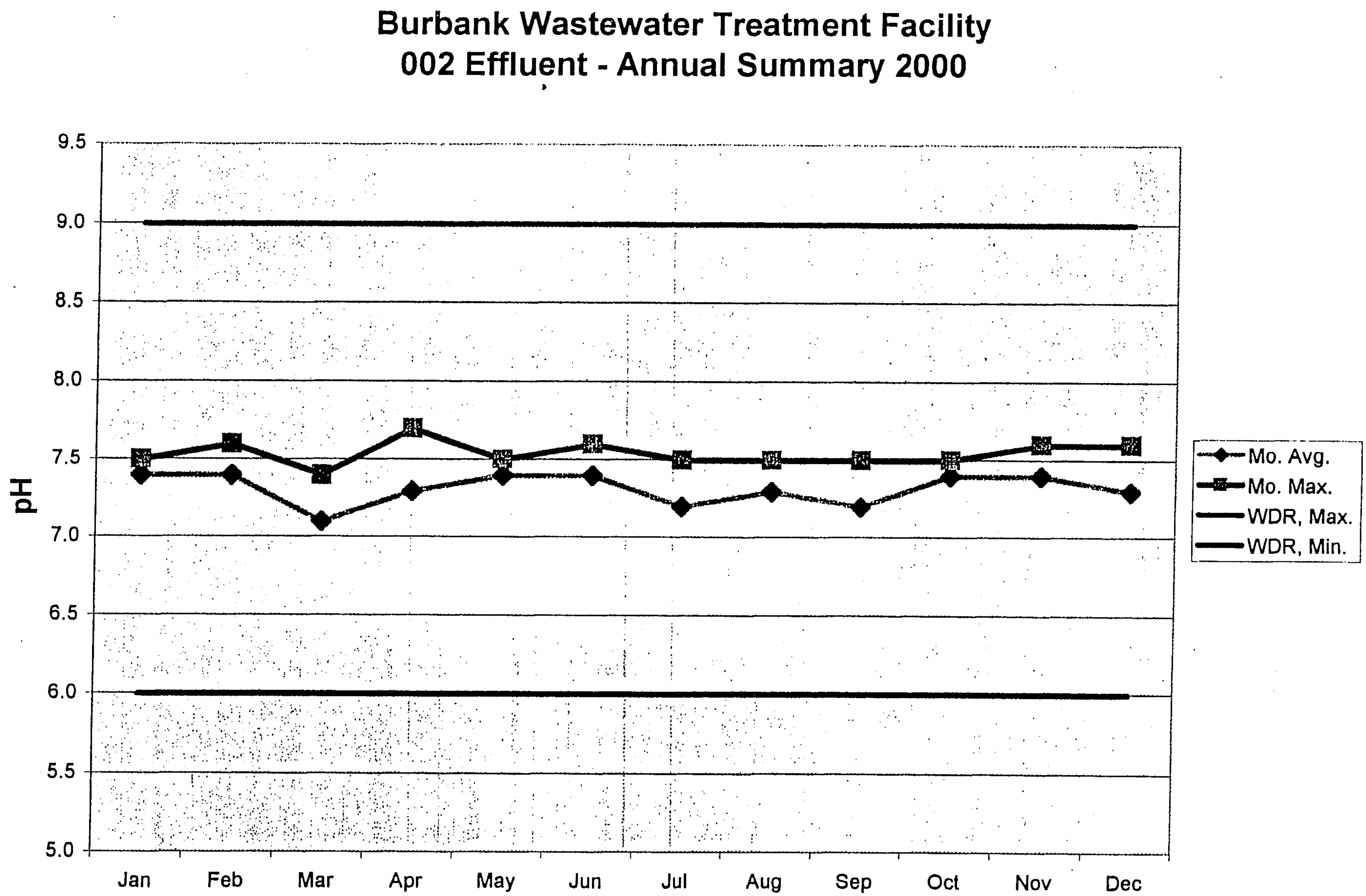
Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000
Manganese, ug/L
0
10
20
30
40
50
60
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Mo. Avg.
WDR

Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000



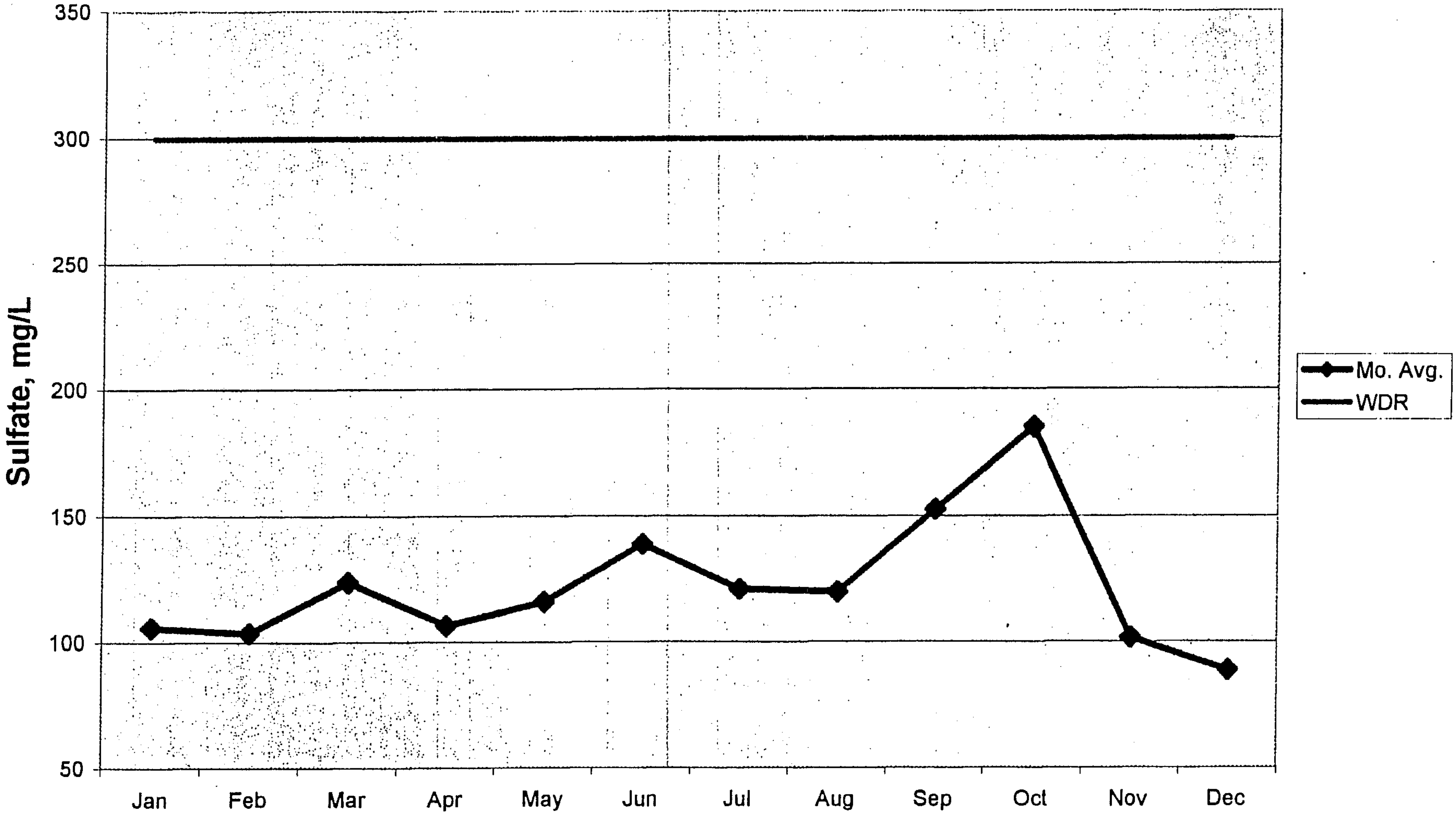
Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000

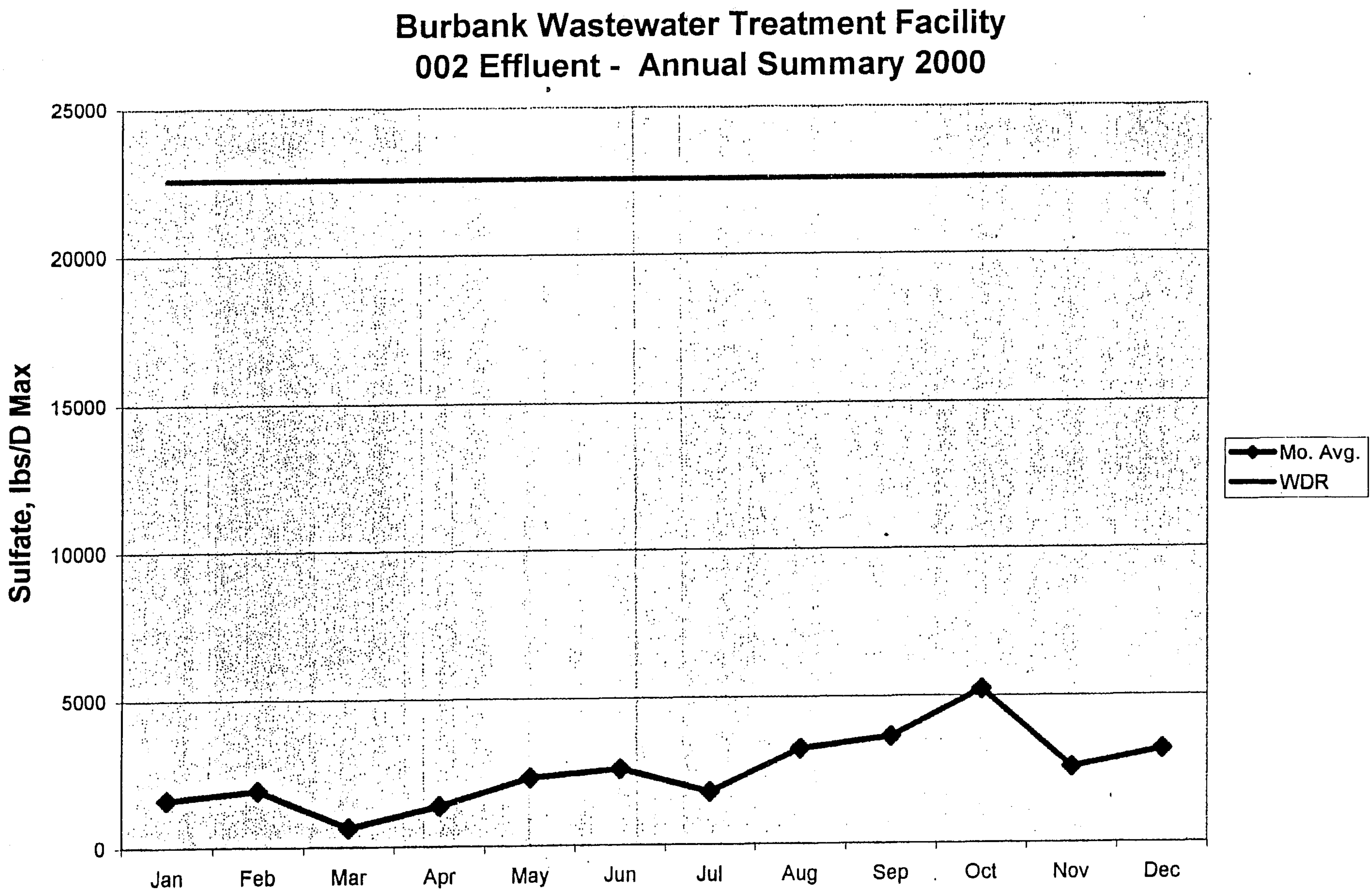




Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
pH
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Mo. Avg.
Mo. Max.
WDR, Max.
WDR, Min.

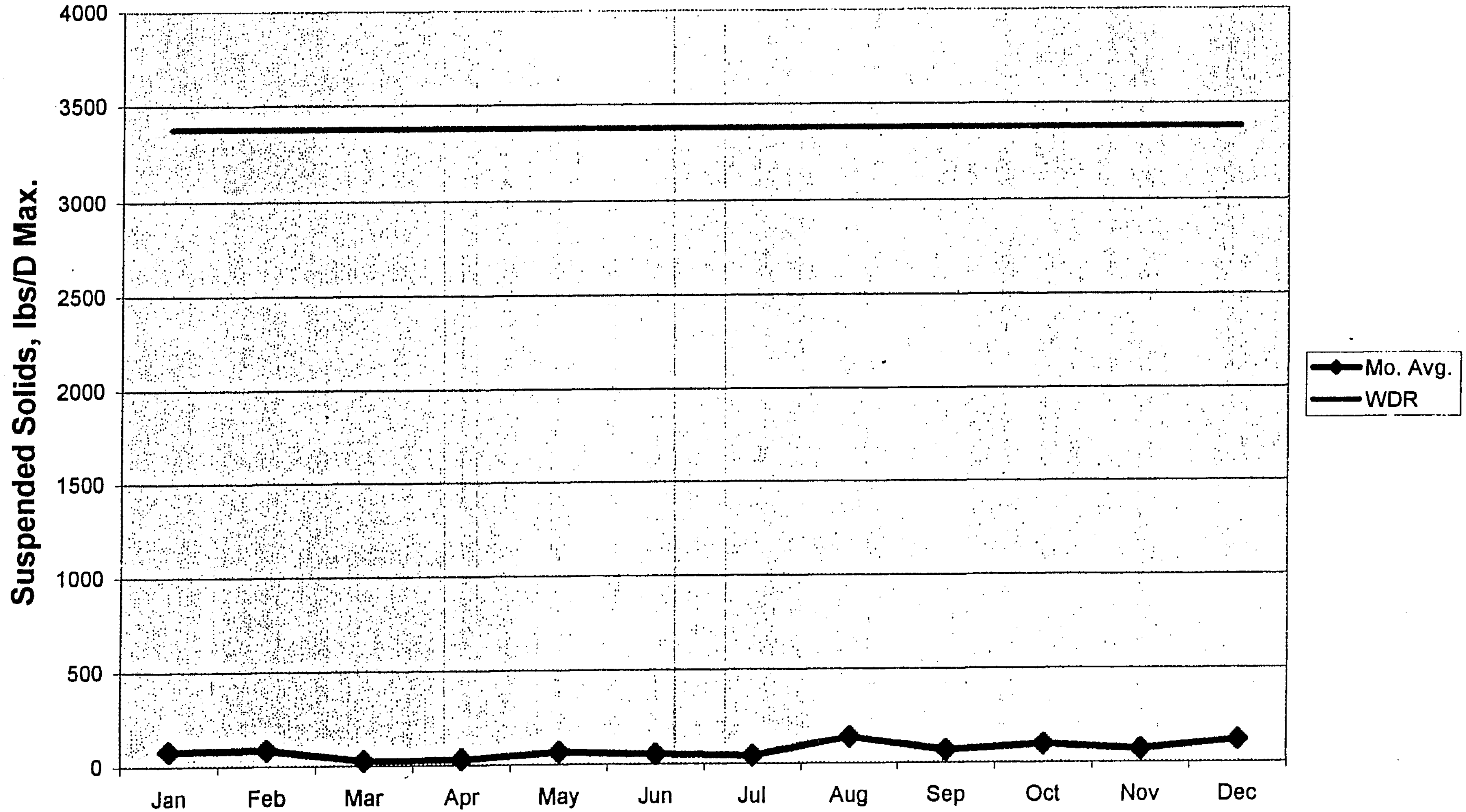
Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000



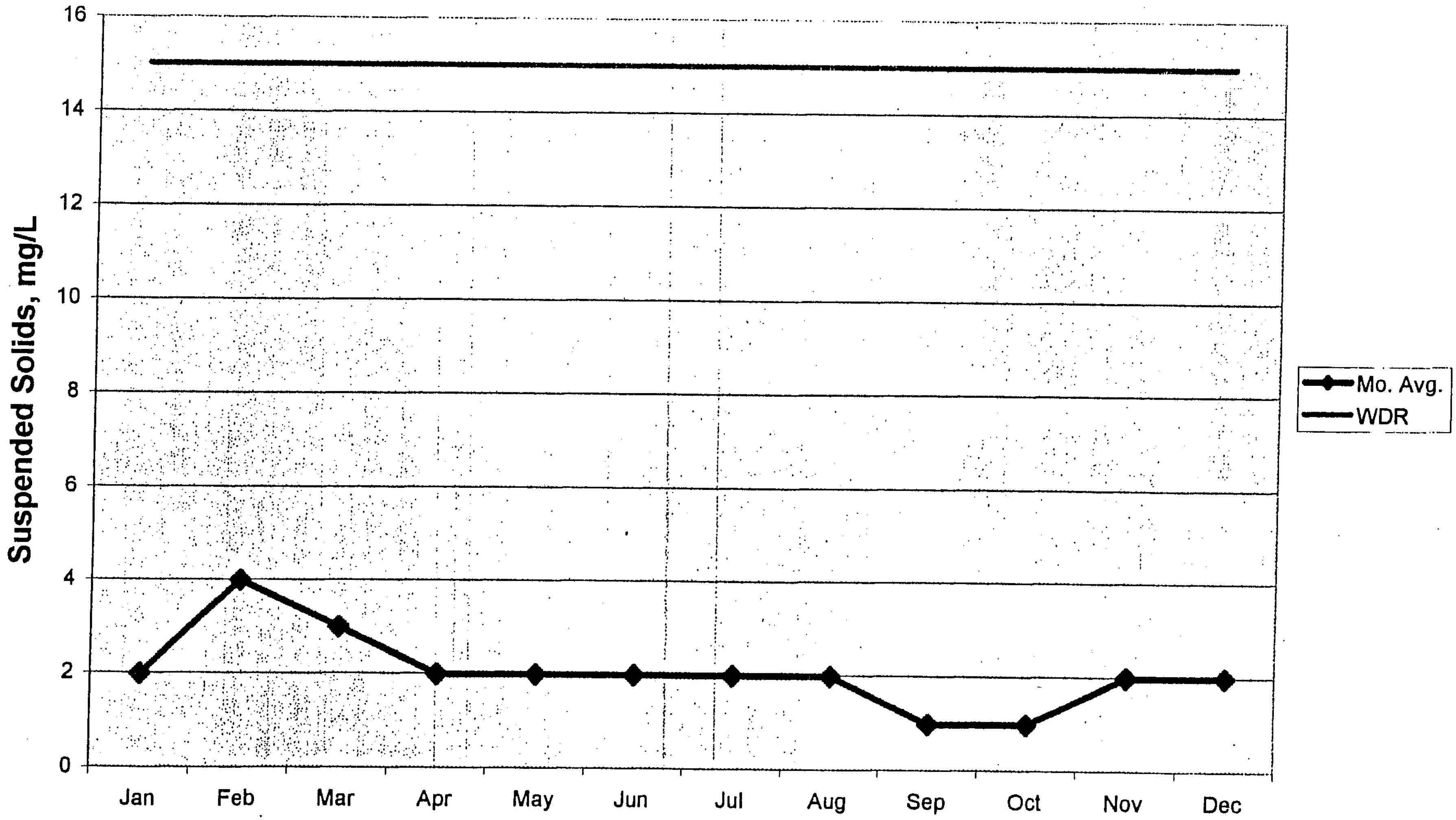


Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000
25000
20000
15000
10000
5000
0
Sulfate, lbs/D Max
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Mo. Avg.
WDR

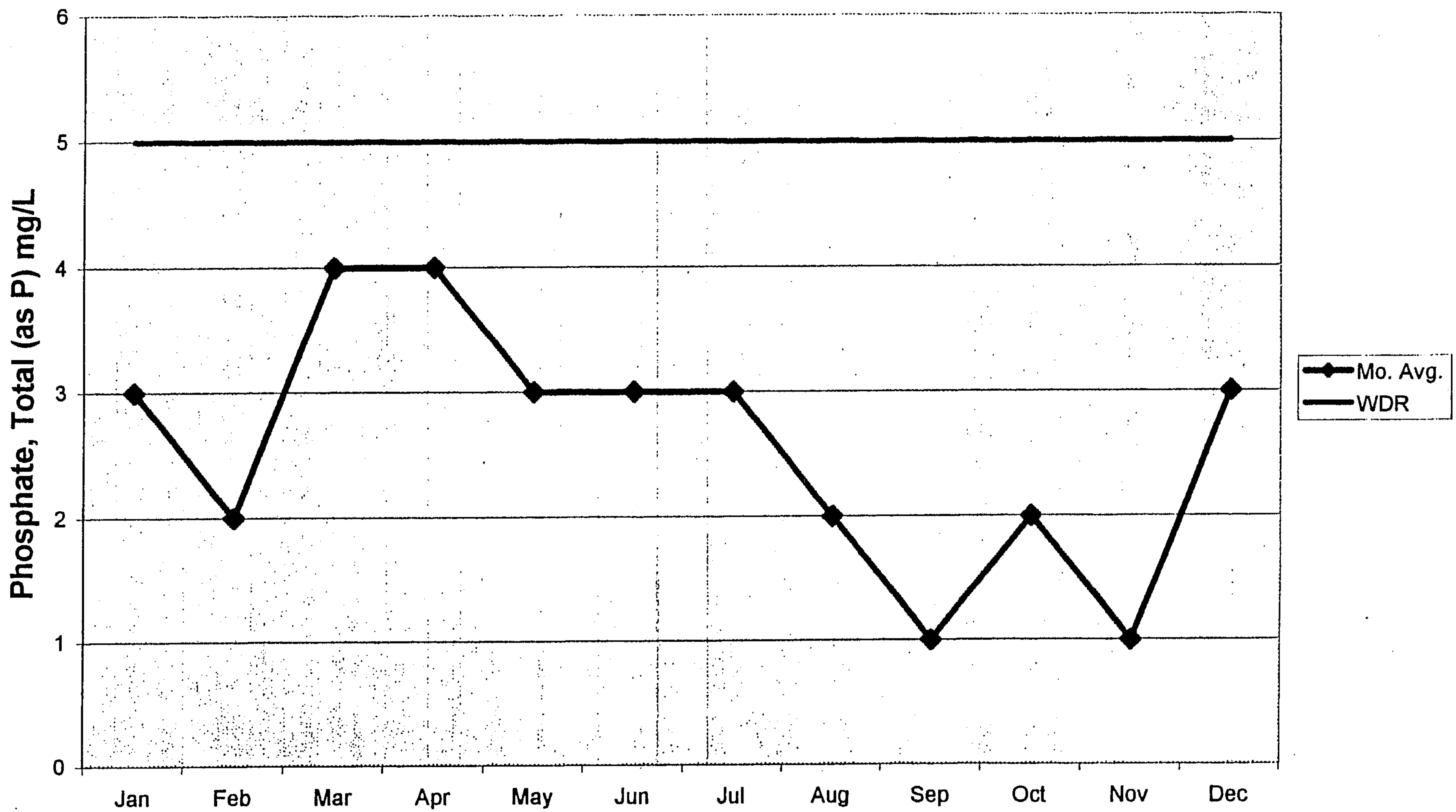
Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000

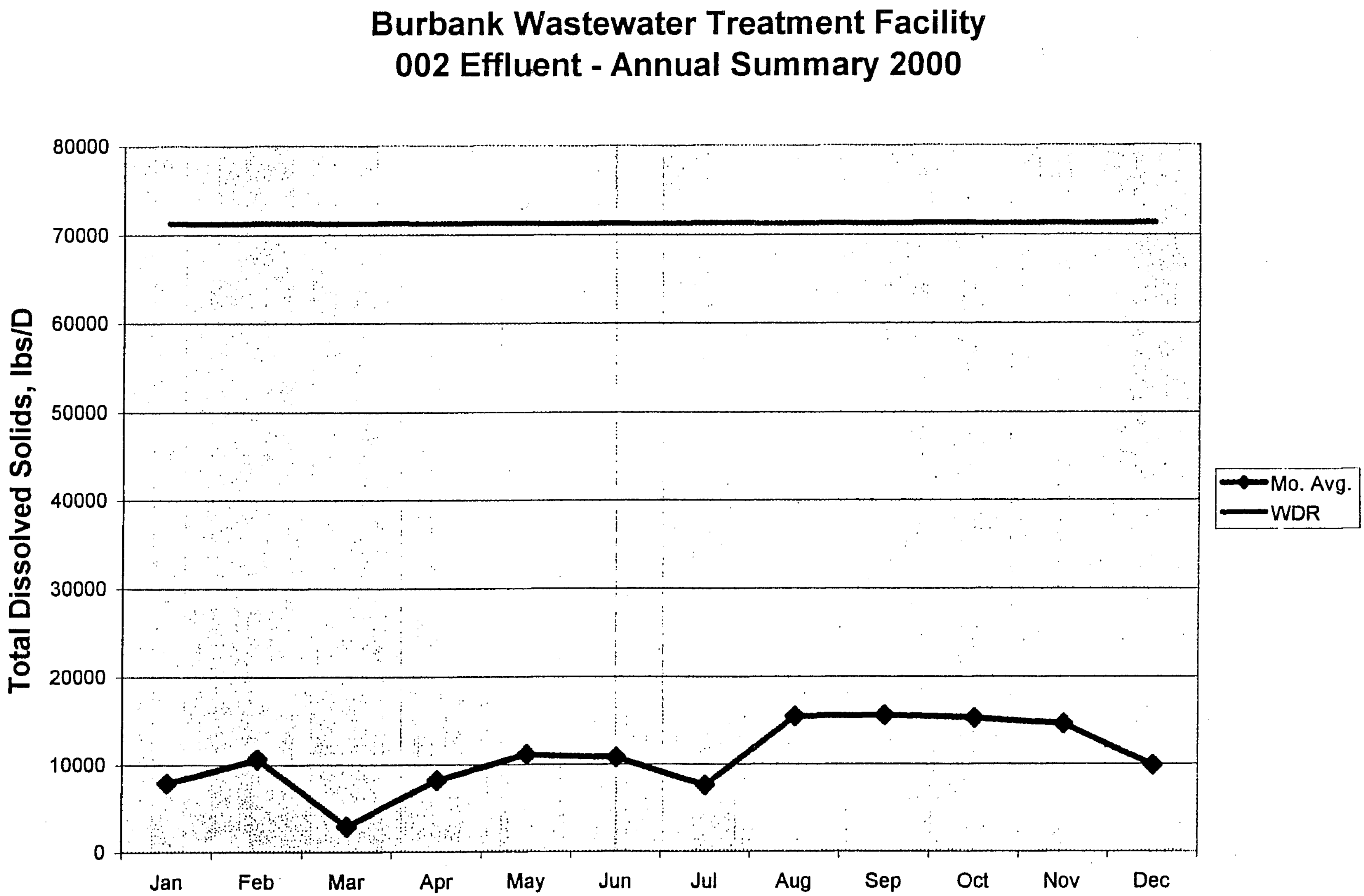


Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000

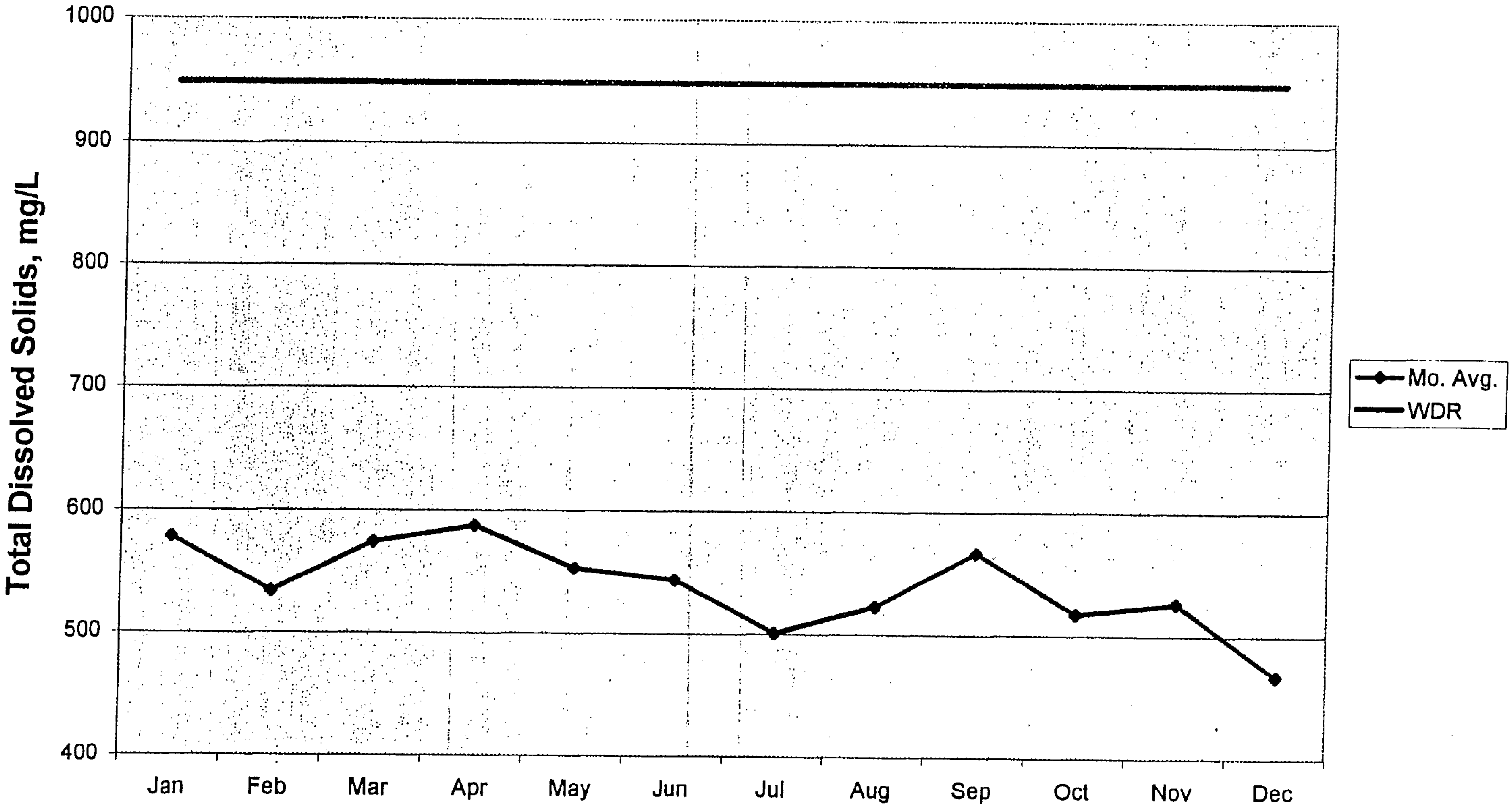


Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000

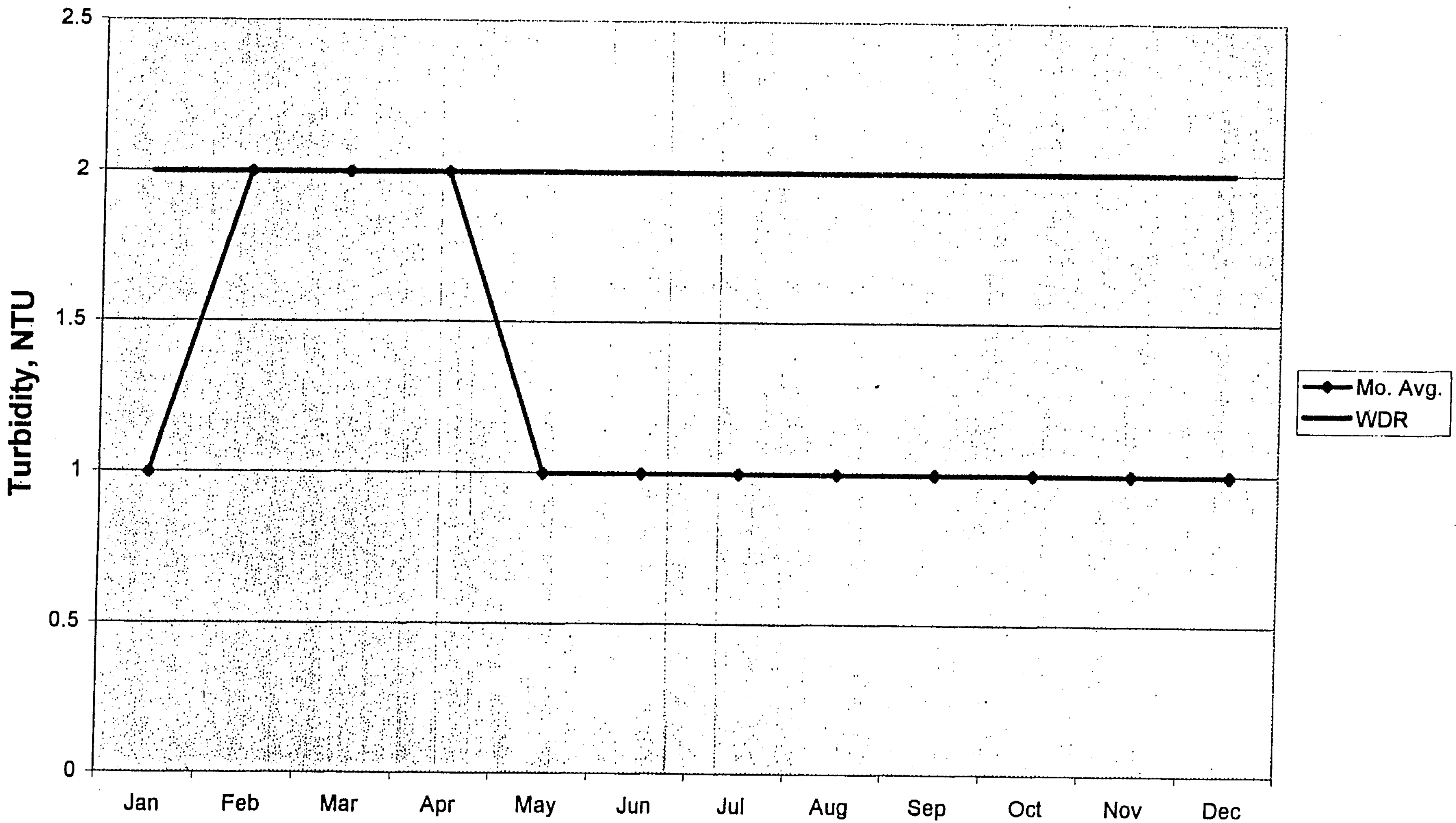


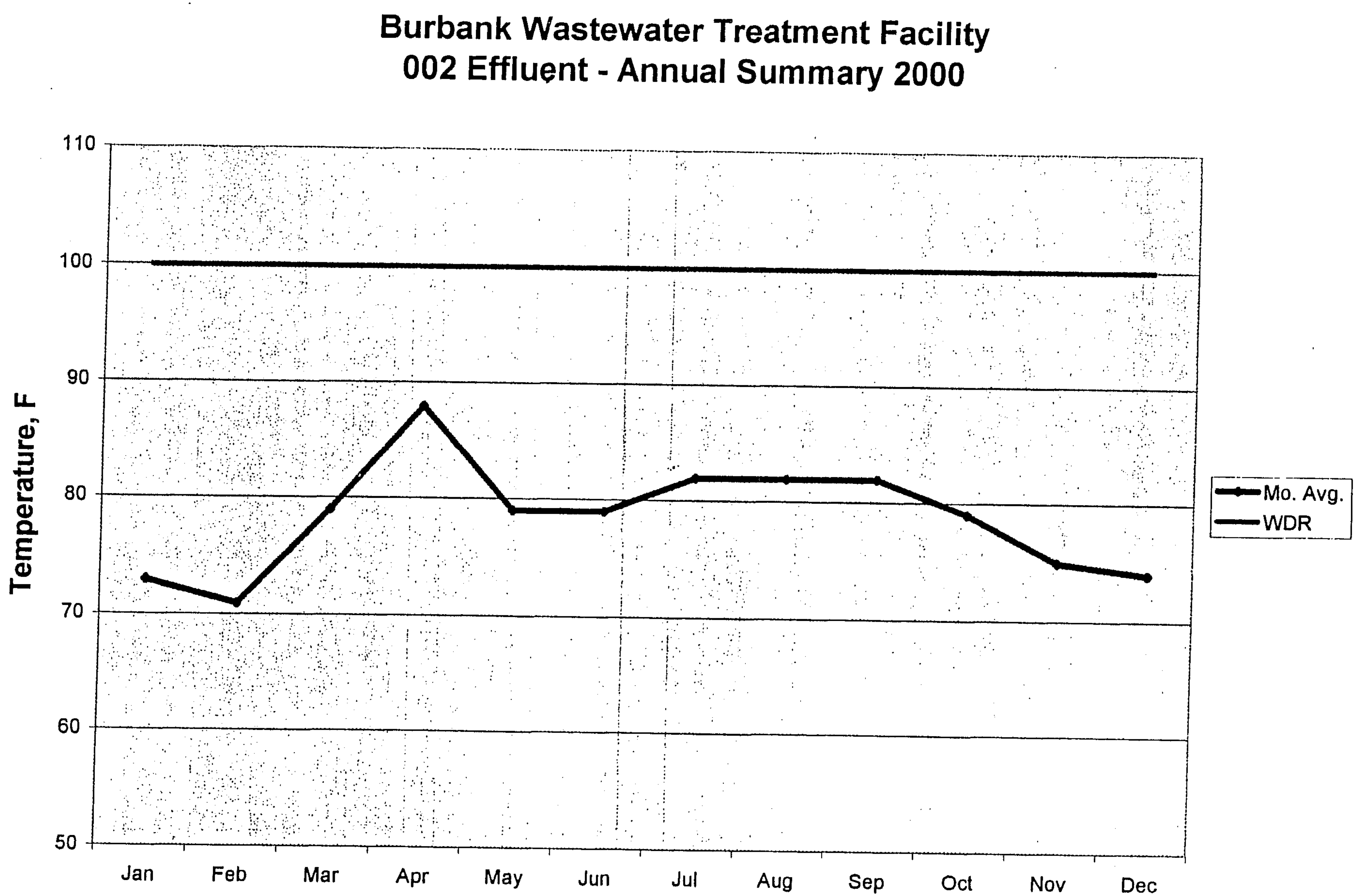

Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000
Total Dissolved Solids, lbs/D
80000
70000
60000
50000
40000
30000
20000
10000
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Mo. Avg.
WDR

Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000



Burbank WasteWater Treatment Facility
002 Effluent - Annual Summary 2000





Burbank Wastewater Treatment Facility
002 Effluent - Annual Summary 2000
Temperature, F
110
100
90
80
70
60
50
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Mo. Avg.
WDR

Burbank Wastewater Treatment Facility
Annual Summary 2000

Parameter	001	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Averag
1,1,1-Trichloroethane	Max.,ug/L		ND(0.5)	ND(0.5)						ND(0.5)				ND(0.5
1,1,2,2-Tetrachloroethane	Max.,ug/L		ND(0.5)	ND(0.5)						ND(0.5)				ND(0.5
1,1,2-Trichloroethane	Max.,ug/L		ND(0.5)	ND(0.5)						ND(0.5)				ND(0.5
1,1-Dichloroethane	Max.,ug/L		ND(0.5)	ND(0.5)						ND(0.5)				ND(0.5
1,1-Dichloroethylene	Max.,ug/L		ND(0.5)	ND(0.5)						ND(0.5)				ND(0.5
1,2,4-Trichlorobenzene	Max.,ug/L		ND(5)							ND(2)				<4
1,2-Dichlorobenzene	Max.,ug/L		ND(5)	ND(0.5)						ND(2)				<3
1,2-Dichloroethane	Max.,ug/L		ND(0.5)	ND(0.5)						ND(0.5)				ND(0.5)
1,2-Dichloropropane	Max.,ug/L		ND(0.5)	ND(0.5)						ND(0.5)				ND(0.5)
1,2-Diphenylhydrazine	Max.,ug/L		ND(10)							ND(2)				<6
1,2-Trans-Dichloroethylene	Max.,ug/L		ND(0.5)							ND(0.5)				ND(0.5)
1,3-Dichlorobenzene	Max.,ug/L		ND(5)	ND(0.5)						ND(2)				<3
cis-1,3-Dichloropropylene	Max.,ug/L		ND(0.5)	ND(0.5)						ND(0.5)				ND(0.5)
1,4-Dichlorobenzene	Max.,ug/L		ND(5)	ND(0.5)						ND(2)				<3
2,4,6-Trichlorophenol	Max.,ug/L		ND(5)							ND(5)				ND(5)
2,4-Dichlorophenol	Max.,ug/L		ND(5)							ND(2)				<4
2,4-Dimethylphenol	Max.,ug/L		ND(5)							ND(2)				<4
2,4-Dinitrophenol	Max.,ug/L		ND(50)							ND(10)				<30
2,4-Dinitrotoluene	Max.,ug/L		ND(5)							ND(2)				<4
2,6-Dinitrotoluene	Max.,ug/L		ND(5)							ND(2)				<4
2-Chloroethylvinyl Ether	Max.,ug/L			ND(5)						ND(1)				<3
2-Chloronaphthalene	Max.,ug/L		ND(5)							ND(2)				<4
2-Chlorophenol	Max.,ug/L		ND(5)							ND(2)				<4
2-Nitrophenol	Max.,ug/L		ND(5)							ND(2)				<4
3,3-Dichlorobenzidine	Max.,ug/L		ND(50)							ND(5)				<30
3-Methyl-4-Chlorophenol (P-Chloro-M-	Max.,ug/L		ND(5)							ND(5)				ND(5)
4,4"-DDT	Max.,ug/L		ND(0.02)							ND(2)				<2
4,4'-DDD	Max.,ug/L		ND(0.02)							ND(2)				<2

Burbank Wastewater Treatment Facility
Annual Summary 2000

Parameter	001	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
4,4'-DDE	Max.,ug/L		ND(0.02)							ND(3)				<2
4,6-Dinitro-O-Cresol (4,6-Dinitro-2-Met	Max.,ug/L		ND(50)							ND(10)				<30
4-BromoPhenyl Penyl Ether	Max.,ug/L		ND(5)							ND(2)				<4
4-ChloroPhenyl Phenyl Ether	Max.,ug/L		ND(5)							ND(2)				<4
4-Methylphenol (p-cresol)	Max.,ug/L		ND(5)							ND(2)				<4
4-Nitrophenol	Max.,ug/L		ND(10)							ND(5)				<8
Acenaphthene	Max.,ug/L		ND(5)							ND(2)				<4
Acenaphthylene	Max.,ug/L		ND(5)							ND(0.1)				<3
Acrolein	Max.,ug/L		ND(10)							ND(10)				ND(10)
Acrylonitrile	Max.,ug/L		ND(10)							ND(10)				ND(10)
Aldrin	Max.,ug/L		ND(0.02)							ND(0.005)				<0.02
Alpha-BHC	Max.,ug/L		ND(0.02)							ND(0.005)				<0.02
Alpha-Endosulfan	Max.,ug/L		ND(0.02)							ND(0.005)				<0.02
Anthracene	Max.,ug/L		ND(5)							ND(2)				<4
Antimony	Max.,ug/L		ND(1)							ND(4)				<3
Arsenic	Max.,ug/L		ND(5)							3				<4
Barium	Max.,ug/L		57							ND(150)				<104
Benzene	Max.,ug/L		ND(0.5)							ND(0.5)				ND(0.5)
Benzidine	Max.,ug/L		ND(50)							ND(20)				<35
Benzo(A)Anthracene	Max.,ug/L		ND(5)							ND(2)				<4
Benzo(A)Pyrene	Max.,ug/L		ND(5)							ND(2)				<4
Benzo(B)Fluoranthene	Max.,ug/L		ND(5)							ND(2)				<4
Benzo(GHI)Perylene (1,12-Benzoperyl	Max.,ug/L		ND(10)							ND(2)				<6
Benzo(K)Fluoranthene	Max.,ug/L		ND(5)							ND(2)				<4
Beryllium	Max.,ug/L		ND(1)							ND(0.2)				<1
Beta-BHC	Max.,ug/L		ND(0.50)							ND(0.005)				<0.25
Beta-Endosulfan	Max.,ug/L		ND(0.02)							ND(0.005)				<0.02

Burbank Wastewater Treatment Facility
Annual Summary 2000

Parameter	001	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Bis(2-Chloroethoxy)Methane	Max.,ug/L		ND(10)							ND(2)				<6
Bis(2-Chloroethyl)Ether	Max.,ug/L		ND(10)							ND(2)				<6
Bis(2-Ethylhexyl)Phthalate	Max.,ug/L		ND(4)							92				<50
bis(2-Chloro-1-methylethyl) ether	Max.,ug/L		ND(10)							ND(2)				<6
Bromodichloromethane	Max.,ug/L		4.9	3.2						ND(0.5)				<3
Bromoform	Max.,ug/L		3.5	3.8						ND(1)				<3
Butyl Benzyl Phthalate	Max.,ug/L		ND(5)							ND(2)				<4
Cadmium ug/L	Max.,ug/L		ND(5)							ND(10)				<8
Carbon Tetrachloride	Max.,ug/L		ND(0.5)	ND(0.5)						ND(0.5)				ND(0.5)
Chlordane	Max.,ug/L		ND(0.2)							ND(0.005)				<0.2
Chloride	Max.,mg/L	137	112	161	127	146	120	100	131	116	118	94	123	124
Chlorine residual, Total	Max.,mg/L	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	2.5*	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	<0.3
Chlorobenzene (Monochlorobenzene)	Max.,ug/L		ND(0.5)	ND(0.5)						ND(0.5)				ND(0.5)
Chlorodibromomethane	Max.,ug/L		4.1	3.5						1.0				2.9
Chloroethane	Max.,ug/L		ND(0.5)	ND(1)						ND(0.5)				<1
Chloroform	Max.,ug/L		3.5	2.4						3.0				3.0
Chloromethane	Max.,ug/L		ND(1)	ND(1)						ND(1)				ND(1)
Chromium	Max.,ug/L		17							ND(10)				<14
Chrysene	Max.,ug/L		ND(5)							ND(2)				<4
Cobalt	Max.,ug/L		ND(2)							ND(50)				<26
Copper	Max.,ug/L		ND(29)							20				<25
Cyanide	Max.,mg/L		ND(5)							12				<9
Delta-BHC	Max.,ug/L		ND(0.02)							ND(0.005)				<0.02
Dibenzo(A,H)Anthracene (1,2,5,6-Dibe	Max.,ug/L		ND(10)							ND(3)				<7
Dieldrin	Max.,ug/L		ND(0.02)							ND(0.005)				<0.02
Diethyl Phthalate	Max.,ug/L		ND(5)							ND(2)				<4
Dimethyl Phthalate	Max.,ug/L		ND(5)							ND(2)				<4

Burbank Wastewater Treatment Facility
Annual Summary 2000

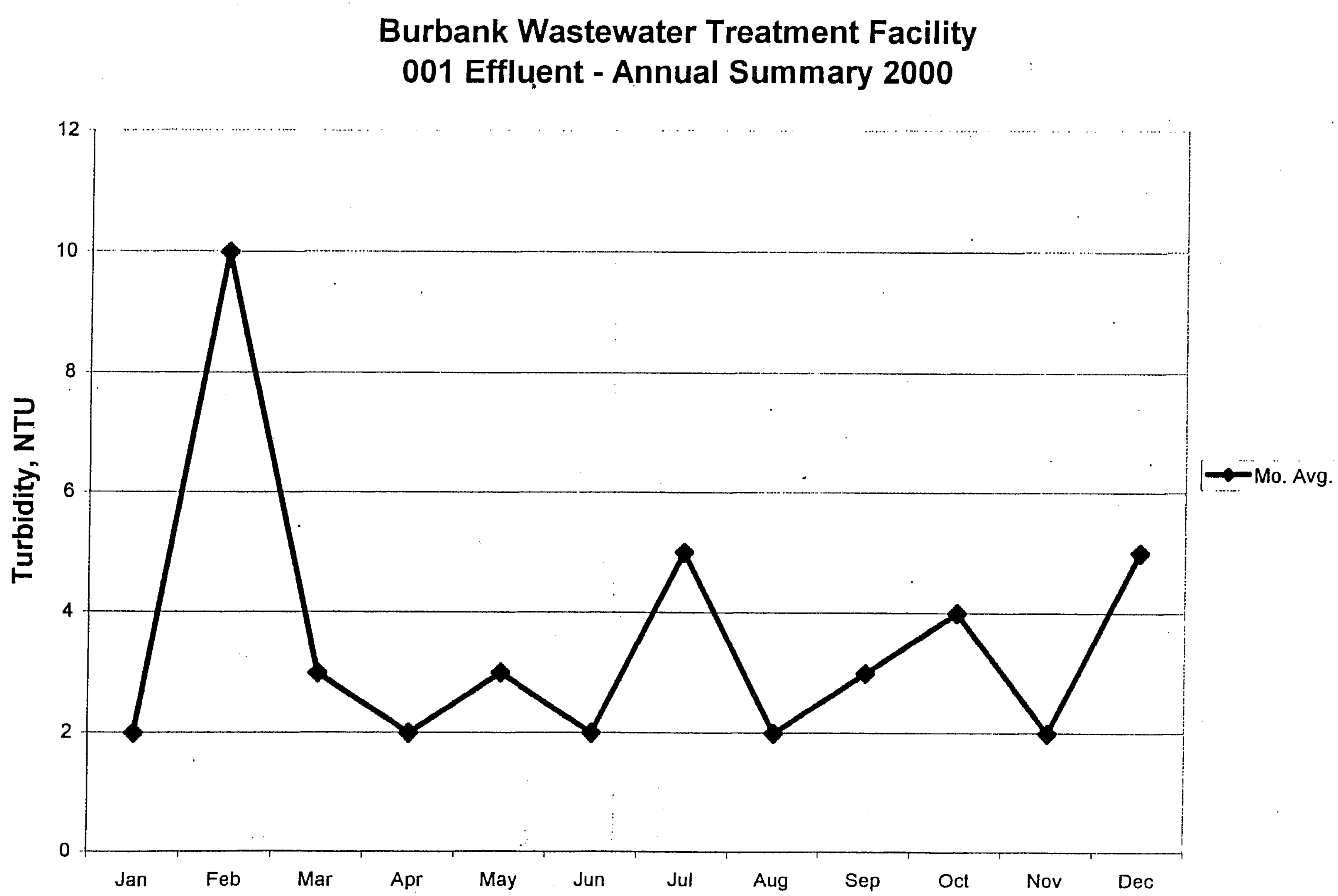
Parameter	001	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Di-N-Butyl Phthalate	Max.,ug/L		ND(10)							ND(2)				<6
Di-N-Octyl Phthalate	Max.,ug/L		ND(10)							ND(2)				<6
Endosulfan Sulfate	Max.,ug/L		ND(0.02)							ND(0.005)				<0.01
Endrin Aldehyde	Max.,ug/L		ND(0.02)							ND(0.005)				<0.01
Endrin	Max.,ug/L		ND(0.01)							ND(0.005)				<0.01
Ethylbenzene	Max.,ug/L		ND(0.5)							ND(0.5)				ND(0.5)
Flow, MGD	Mo Avg	1.1	1.6	2.0	1.9	3.1	4.2	3.3	2.5	2.1	2.9	3.0	1.9	2.5
Flow, MGD	Mo Max	1.5	2.9	4.2	3.7	4.1	5.5	5.2	4.7	3.7	3.6	3.8	3.3	3.9
Flow, MGD	Mo.Min	0.8	0.4	ND(0.1)	0.2	1.6	2.5	1.7	1.3	1.4	2.0	2.2	0.2	<1.2
Fluoranthene	Max.,ug/L		ND(5)							ND(2)				<4
Fluorene	Max.,ug/L		ND(5)							ND(2)				<4
Gamma-BHC (Lindane)	Max.,ug/L		ND(0.02)							ND(0.005)				<0.02
Heptachlor	Max.,ug/L		ND(0.01)							ND(0.005)				<0.01
Heptachlor Epoxide	Max.,ug/L		ND(0.01)							ND(0.005)				<0.01
Hexachlorobenzene	Max.,ug/L		ND(5)							ND(2)				<4
Hexachlorobutadiene	Max.,ug/L		ND(10)							ND(2)				<6
Hexachlorocyclopentadiene	Max.,ug/L		ND(10)							ND(2)				<6
Hexachloroethane	Max.,ug/L		ND(5)							ND(2)				<4
Indeno(1,2,3-CD)Pyrene	Max.,ug/L		ND(10)							ND(2)				<6
Iron	Max.,ug/L	125	86	104	164	196	177	145	206	142	180	400	165	174
Isophorone	Max.,ug/L		ND(5)							ND(2)				<4
Lead	Max.,ug/L		ND(100)							ND(50)				<80
Manganese	Max.,ug/L	36	12	40	21	36	65	9	17	18	32	20	17	27
Mercury	Max.,ug/L		0.25							ND(0.2)				<0.25
Methyl Bromide	Max.,ug/L		ND(1)	ND(0.5)						ND(1)				<0.9
Methylene Blue(MBAS)	Max.,mg/L	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.4	0.2
Methylene Chloride	Max.,ug/L		3.4	2.3						9.3				5.0

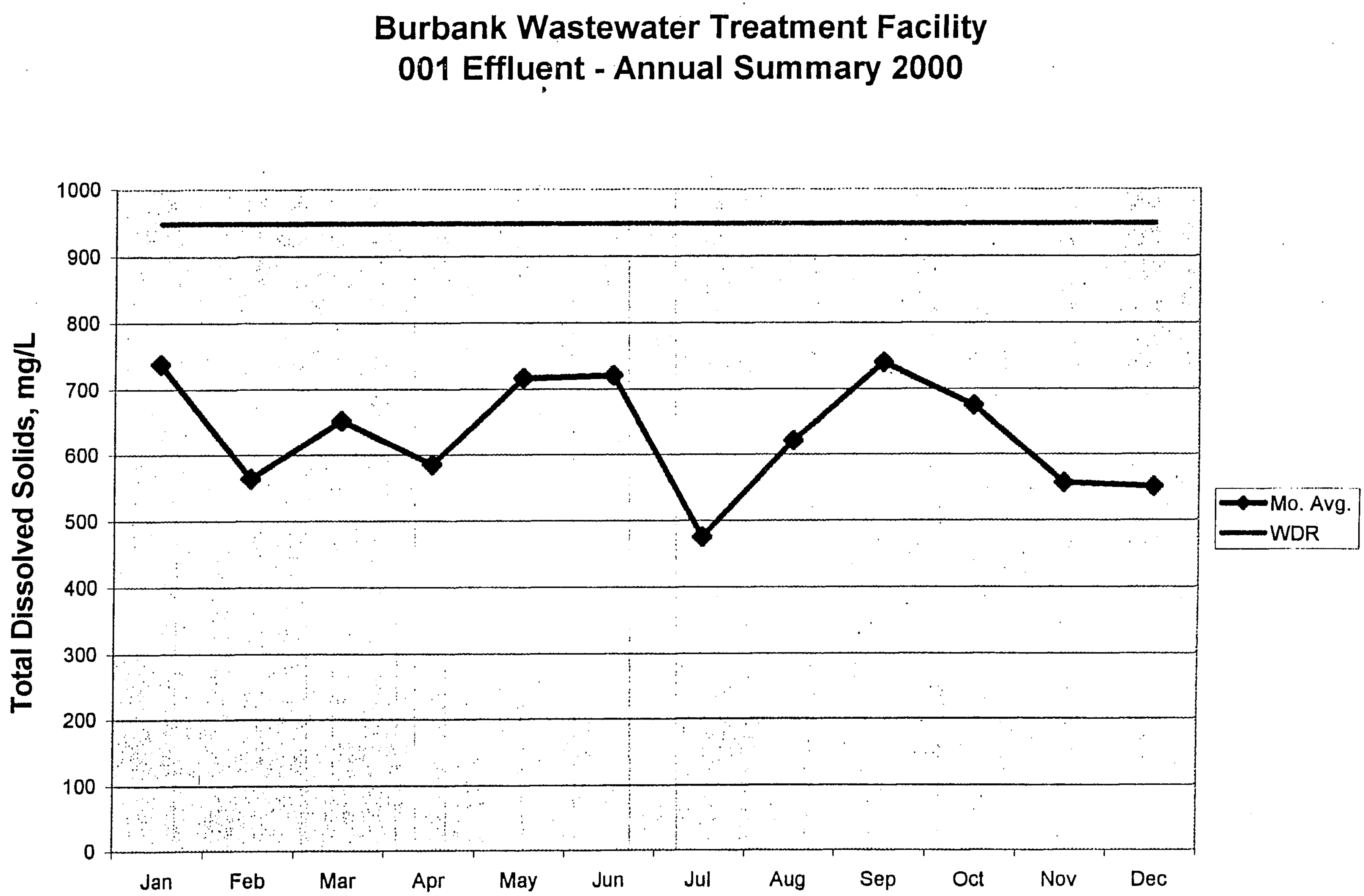
Burbank Wastewater Treatment Facility
Annual Summary 2000

Parameter	001	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Naphthalene	Max.,ug/L		ND(5)							ND(2)				<4
Nickel	Max.,ug/L		ND(20)							20				<20
Nitrate + Nitrite Nitrogen as N	Mo.Max., mg/L	25	6	11	5	3	3	4	4	9	6	1	4	7
Nitrite as N	Mo.Max., mg/L	2	2	2	2	1	1	<1	<1	<1	<1	1	<1	<2
Nitrobenzene	Max.,ug/L		ND(5)							ND(2)				<4
N-Nitrosodimethylamine	Max.,ug/L		ND(5)							ND(2)				<4
N-Nitrosodi-N-Propylamine	Max.,ug/L		ND(5)							ND(2)				<4
N-Nitrosodiphenylamine	Max.,ug/L		ND(5)							ND(2)				<4
PCB-1016	Max.,ug/L		ND(0.5)							ND(0.2)				<0.4
PCB-1221	Max.,ug/L		ND(0.5)							ND(0.2)				<0.4
PCB-1232	Max.,ug/L		ND(0.5)							ND(0.2)				<0.4
PCB-1242	Max.,ug/L		ND(0.5)							ND(0.2)				<0.4
PCB-1248	Max.,ug/L		ND(0.5)							ND(0.2)				<0.4
PCB-1254	Max.,ug/L		ND(0.5)							ND(0.2)				<0.4
PCB-1260	Max.,ug/L		ND(0.5)							ND(0.2)				<0.4
Pentachlorophenol	Max.,ug/L		ND(20)							ND(10)				<15
Phenanthrene	Max.,ug/L		ND(5)							ND(2)				<4
Phenol	Max.,ug/L		ND(5)							ND(2)				<4
Pyrene	Max.,ug/L		ND(5)							ND(2)				<4
Radioactivity, Beta	Max.,pCi/L		15.3							16.9				16.1
Radioactivity Gross(alpha)	Max.,pCi/L		9							3				6
Selenium	Max.,ug/L		ND(5)							ND(2)				<4
Silver	Max.,ug/L		2.3							ND(50)				<27
Sulfate	Max.,mg/L	226	132	196	178	220	104	142	200	119	110	126	109	155
TCDD(2,3,7,8-TCDD)	Max.,ng/L		ND(0.07)							ND(0.01)				<0.04
Tetrachloroethylene	Max.,ug/L		ND(0.5)	ND(0.5)						1				<1
Thallium	Max.,ug/L		ND(1)							ND(10)				<6

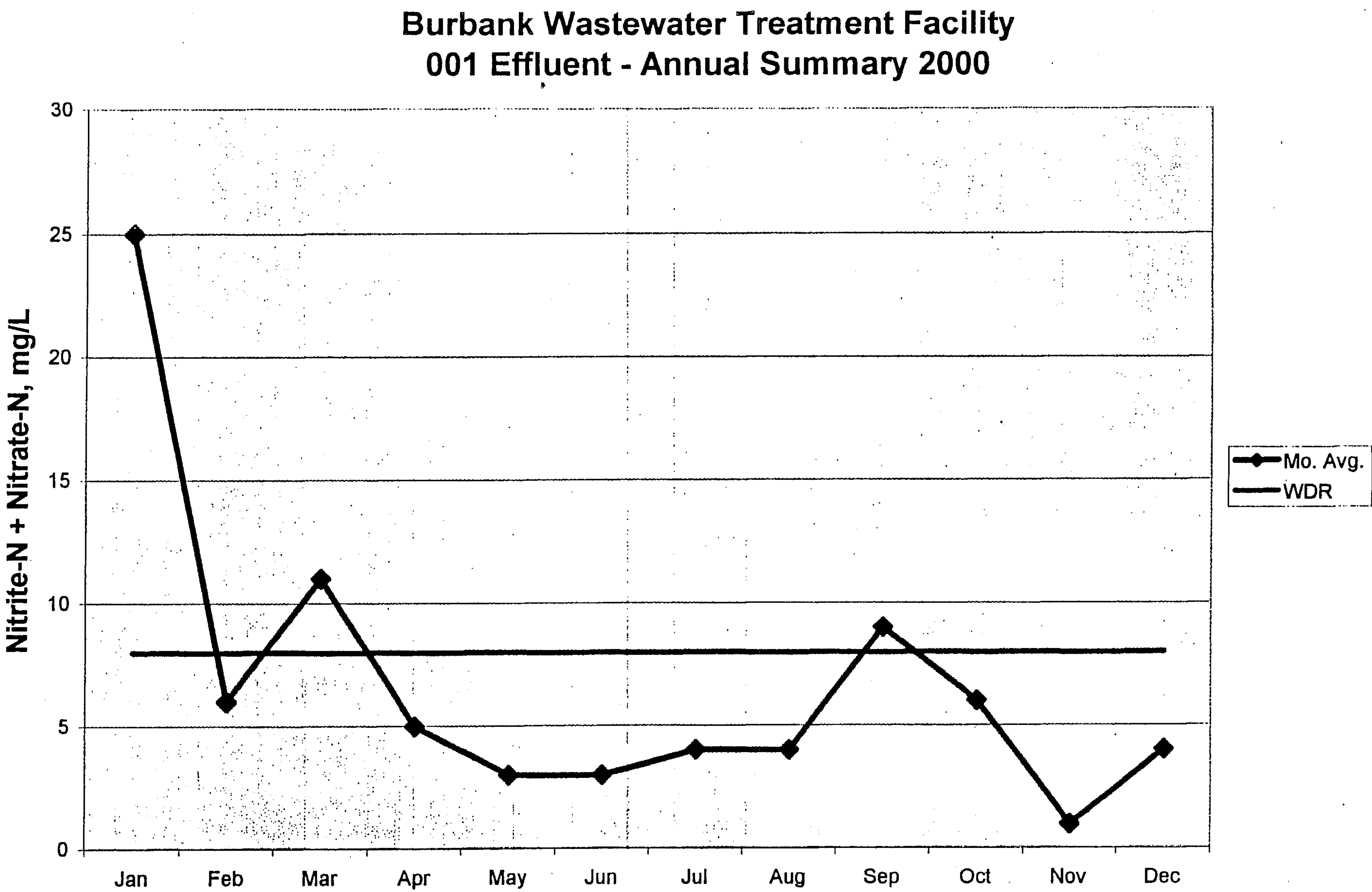
Burbank Wastewater Treatment Facility
Annual Summary 2000

Parameter	001	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Averag
Toluene	Max.,ug/L		ND(0.5)							ND(0.5)				ND(0.5
Total Dissolved Solids	Max.,mg/L	739	565	653	586	717	722	476	622	741	676	558	552	634
Toxaphene	Max.,ug/L		ND(0.5)							ND(2)				<2
Trichloroethylene	Max.,ug/L		ND(0.5)	ND(0.5)						ND(0.5)				ND(0.5)
Turbidity	NTU, Max.	2	10**	3	2	3	2	5	2	3	4	2	5	4
Vinyl Chloride	Max.,ug/L		ND(0.5)	ND(0.5)						ND(0.5)				ND(0.5)
Zn, ug/L	Max.,ug/L		81							100				91
	* Report footnote: "Chlorine Analyzer malfunction."													
	** Report footnote: "Stormwater runoff due to rain."													

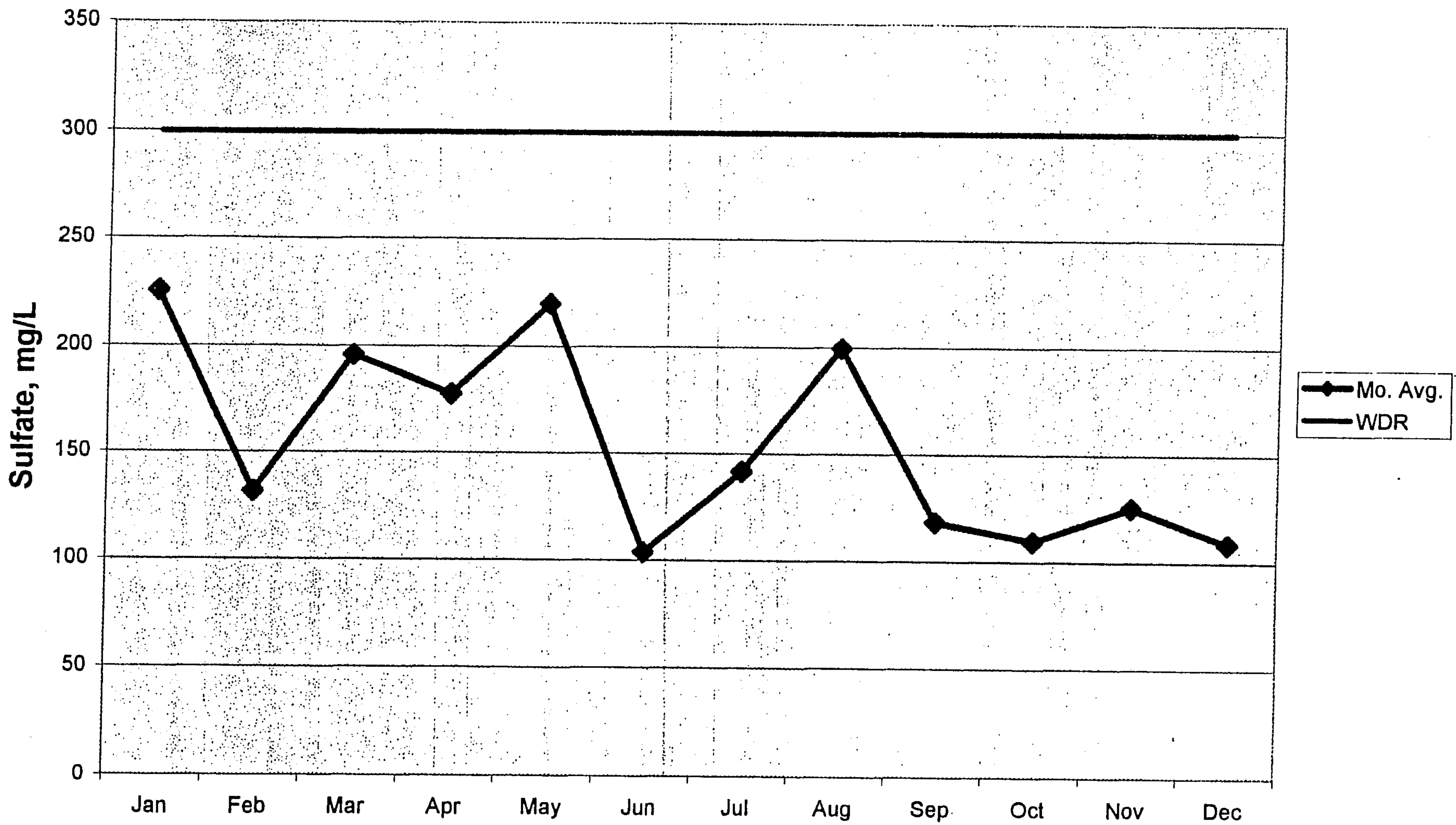

Burbank Wastewater Treatment Facility
001 Effluent - Annual Summary 2000
Turbidity, NTU
0
2
4
6
8
10
12
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Mo. Avg.



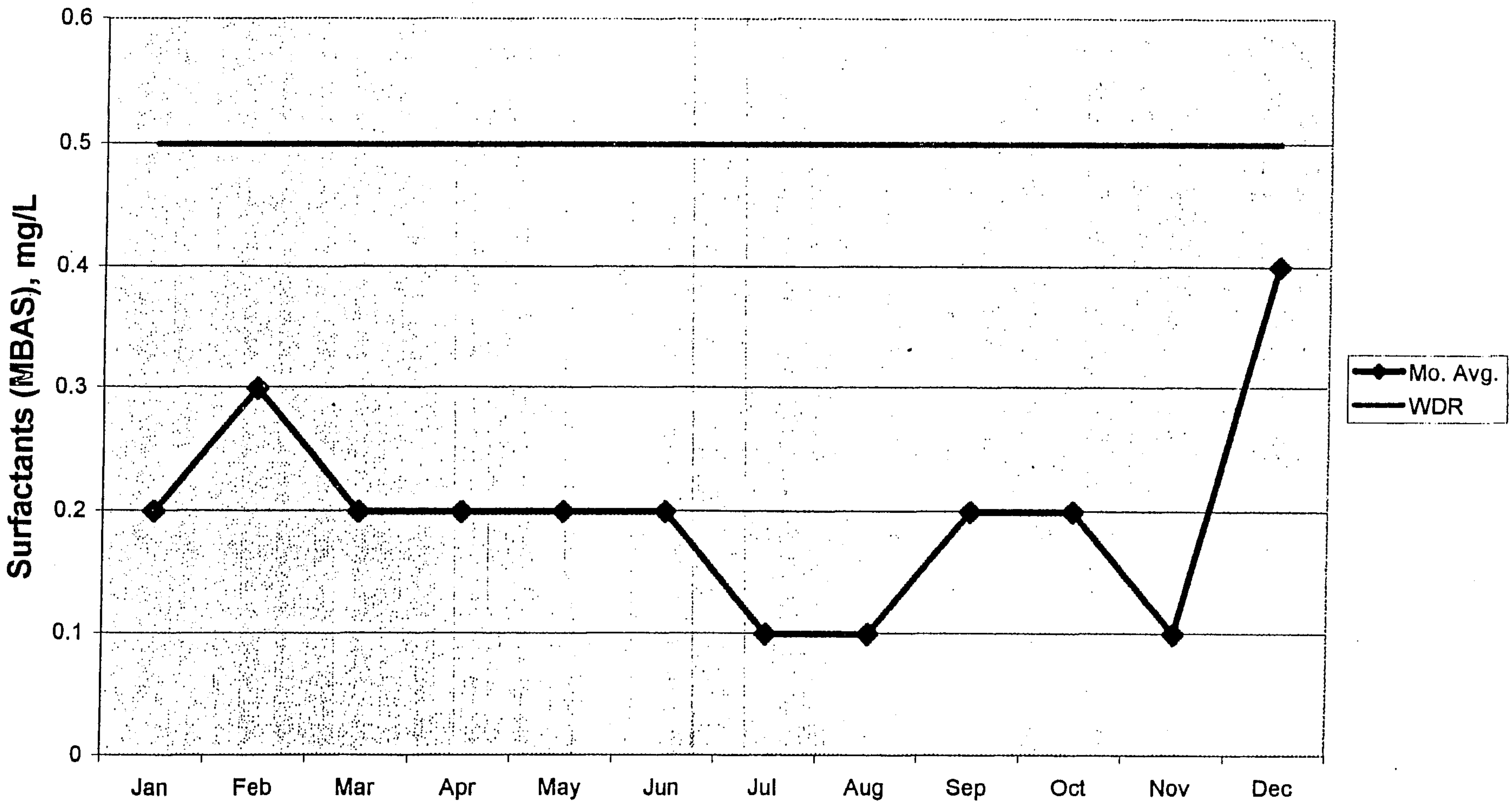
Burbank Wastewater Treatment Facility
001 Effluent - Annual Summary 2000
Total Dissolved Solids, mg/L
1000
900
800
700
600
500
400
300
200
100
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Mo. Avg.
WDR


Burbank Wastewater Treatment Facility
001 Effluent - Annual Summary 2000
Nitrite-N + Nitrate-N, mg/L
30
25
20
15
10
5
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Mo. Avg.
WDR

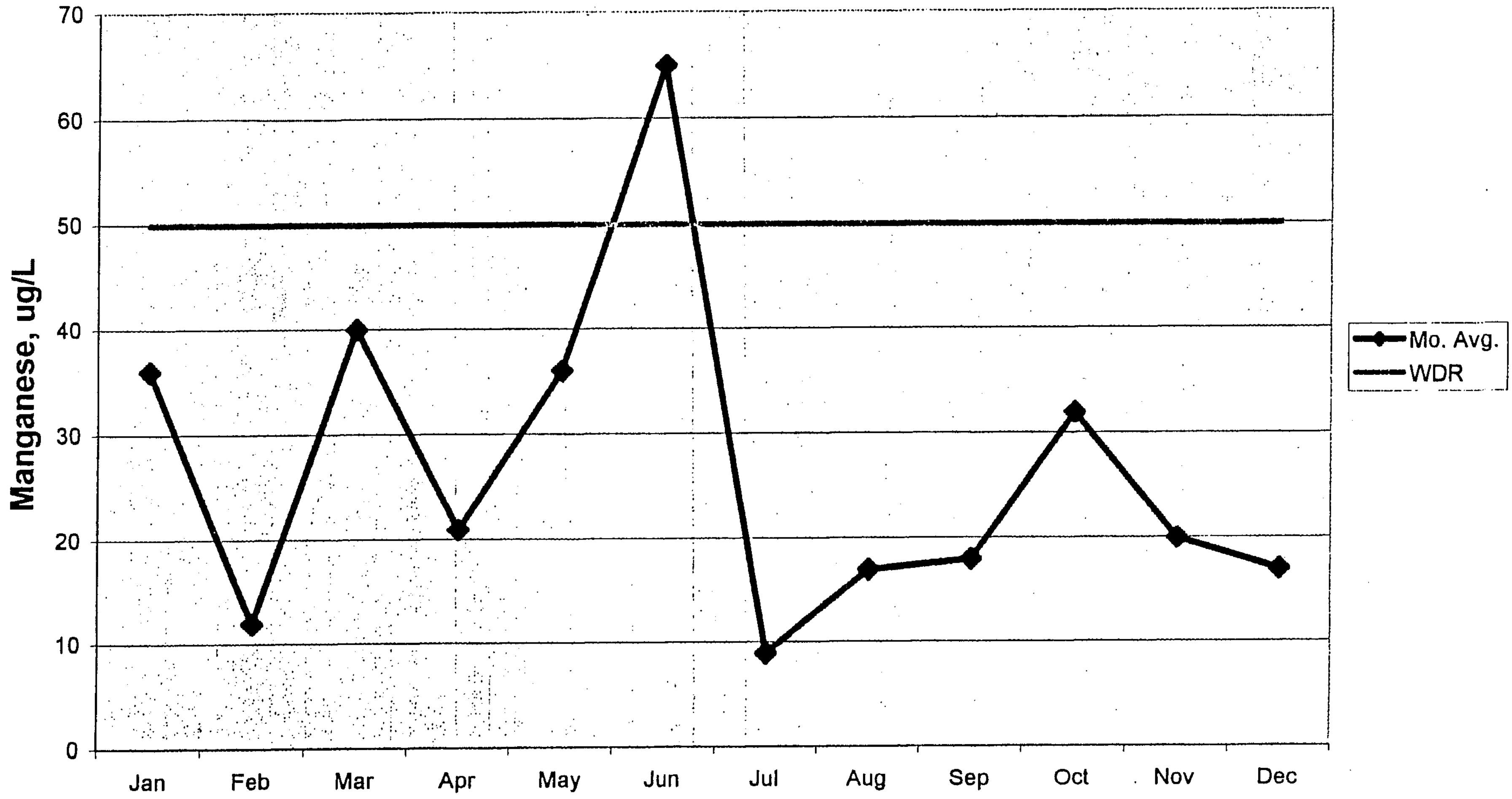
Burbank Wastewater Treatment Facility
001 Effluent - Annual Summary 2000



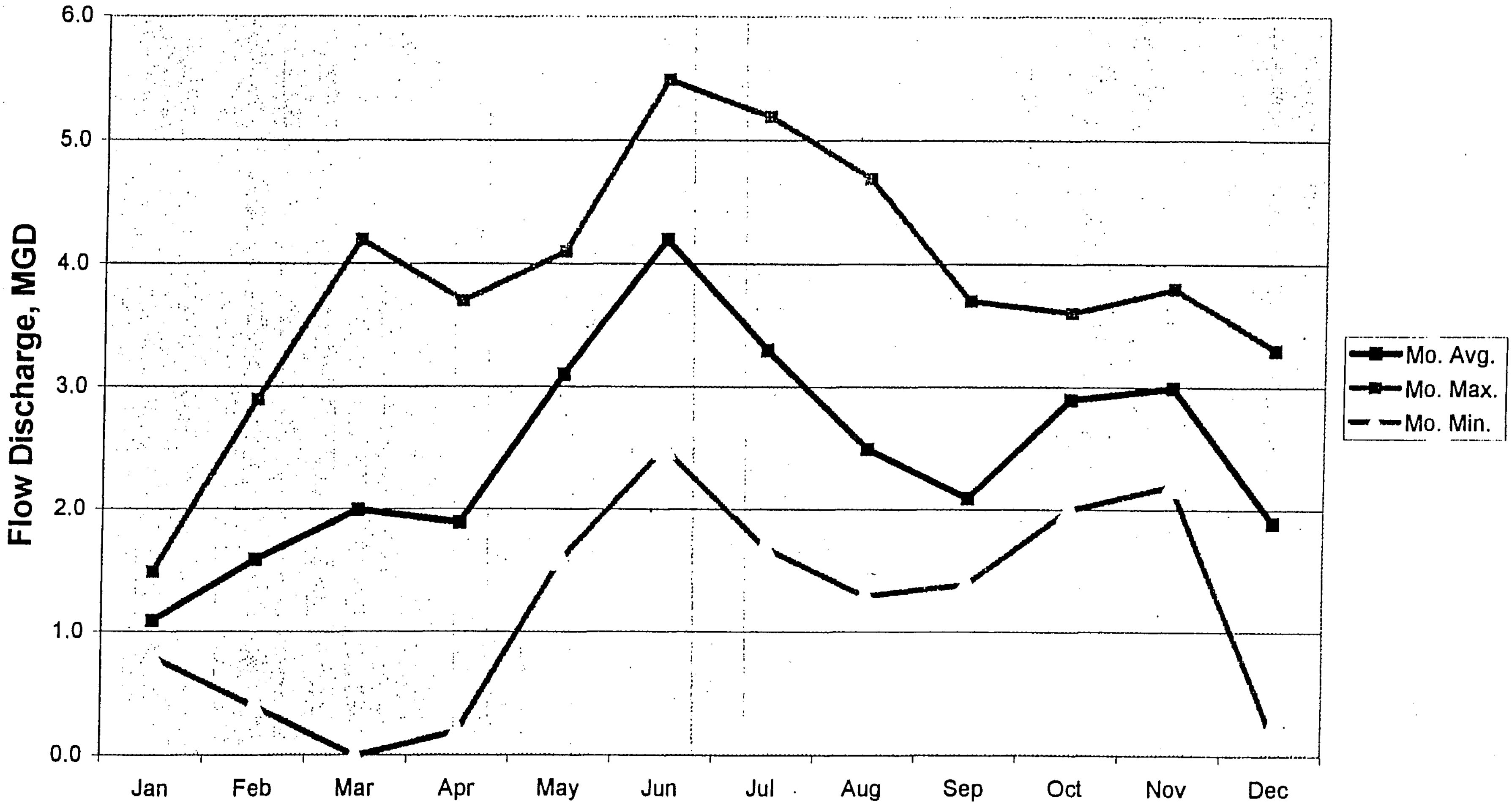
Burbank Wastewater Treatment Facility
001 Effluent - Annual Summary 2000

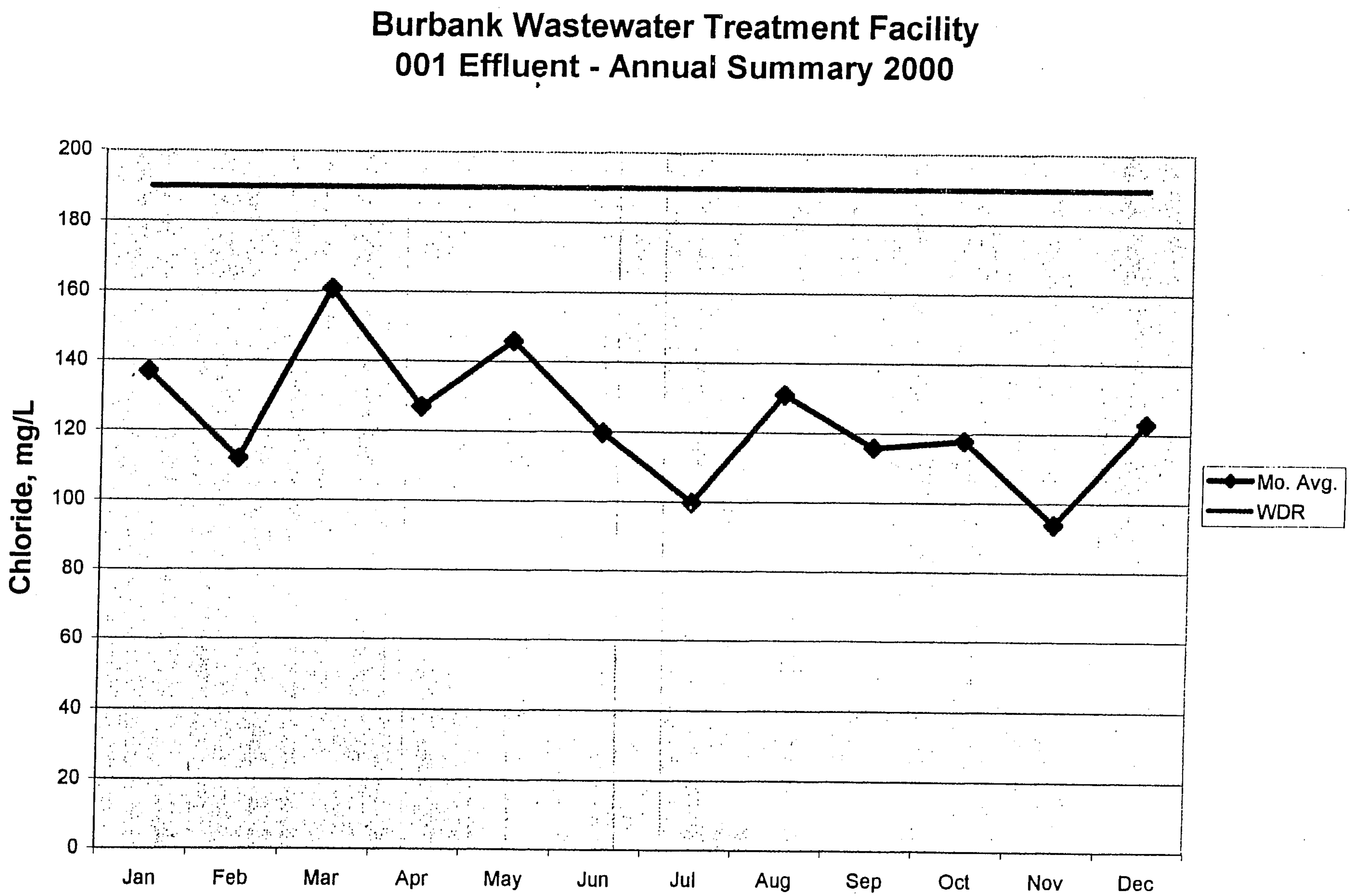


Burbank Wastewater Treatment Facility
001 Effluent - Annual Summary 2000

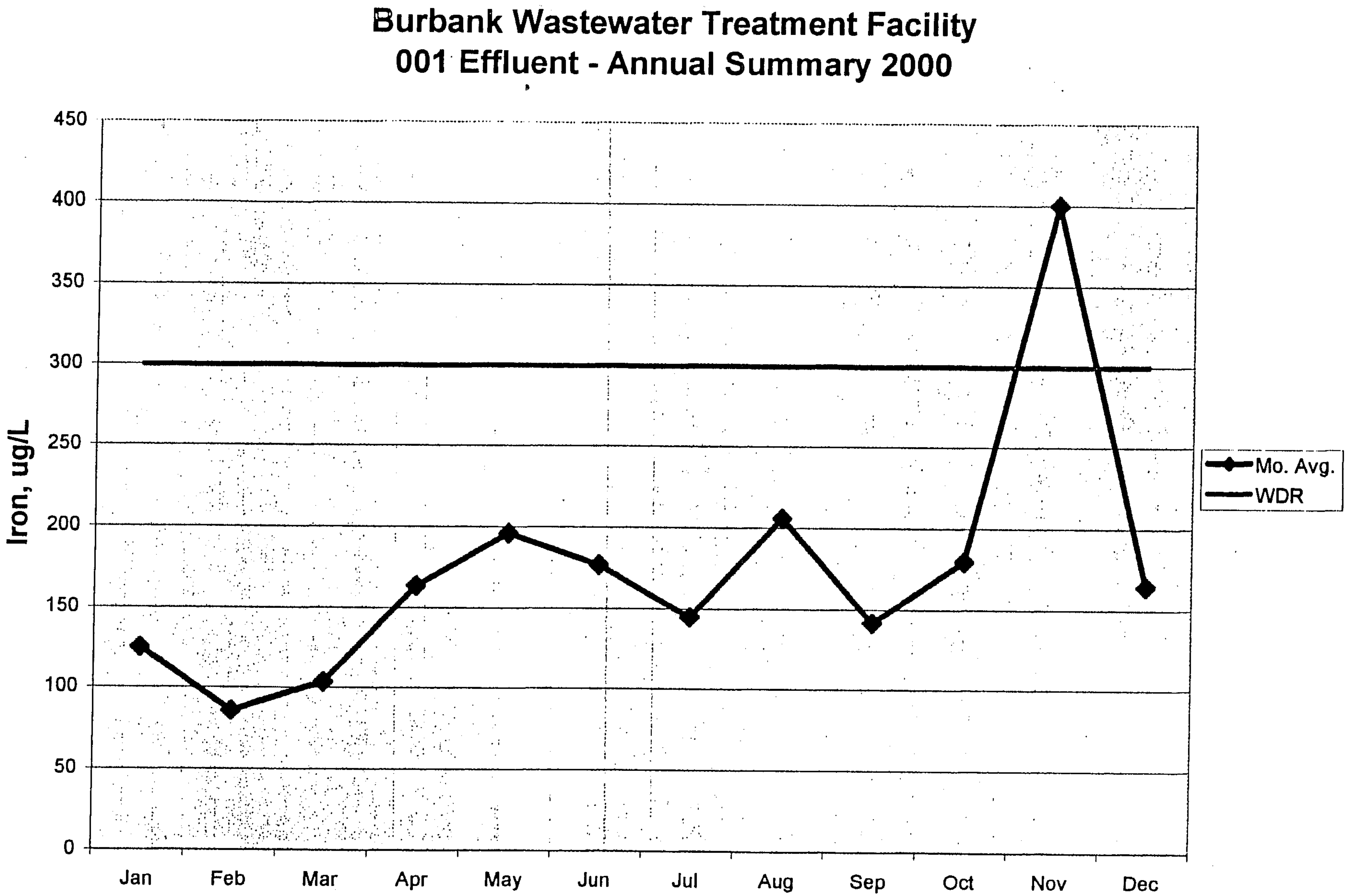


Burbank Wastewater Treatment Facility
001 Effluent - Annual Summary 2000





Burbank Wastewater Treatment Facility
001 Effluent - Annual Summary 2000
Chloride, mg/L
200
180
160
140
120
100
80
60
40
20
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Mo. Avg.
WDR



Burbank Wastewater Treatment Facility
001 Effluent - Annual Summary 2000
Iron, ug/L
450
400
350
300
250
200
150
100
50
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Mo. Avg.
WDR

Section 2

United Water

Burbank Wastewater Treatment Facility
Annual Summary 2000

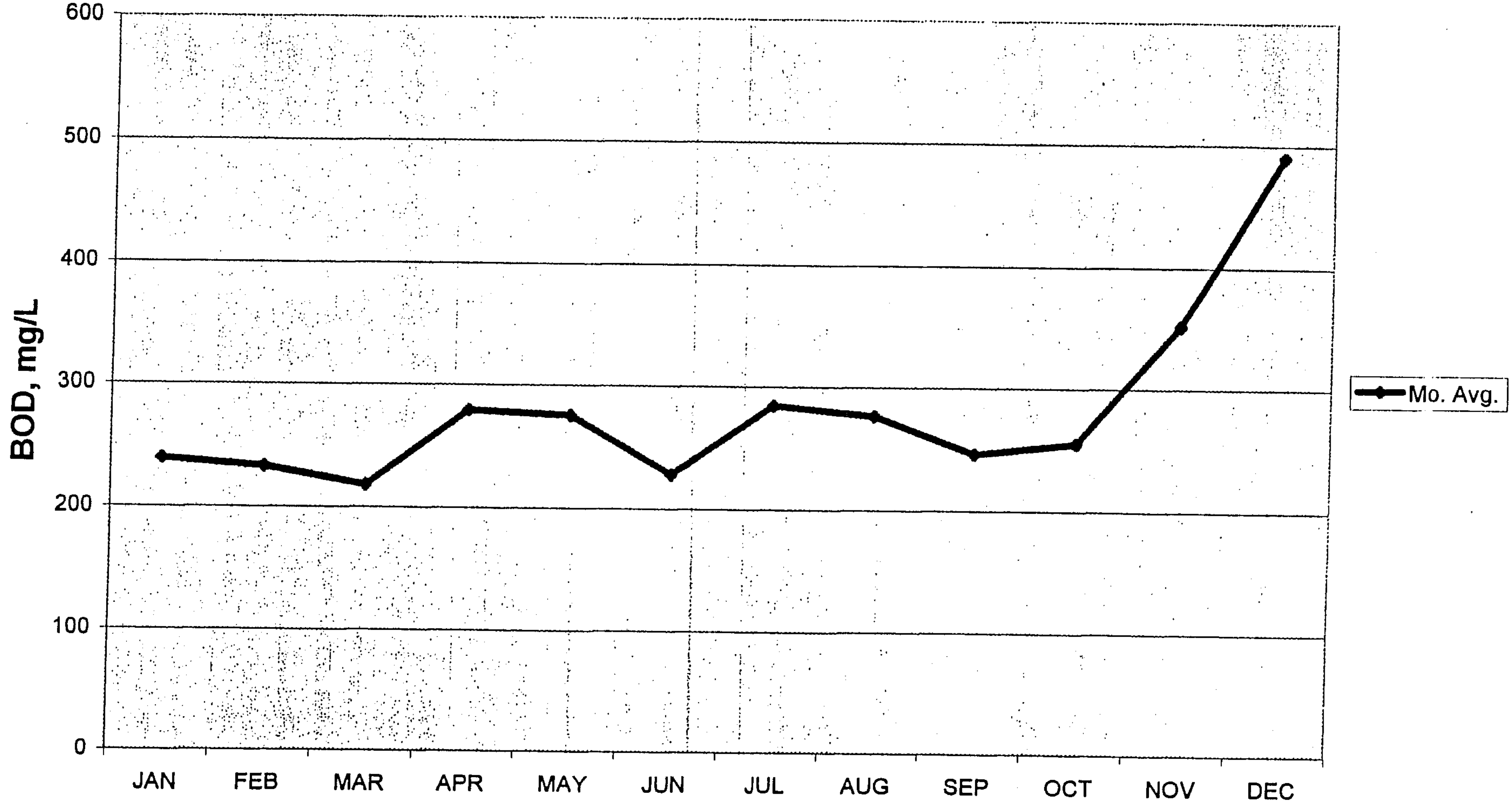
Parameter	Result Type	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Avg.
	Raw Influent													
Flow	MGD; Mo.Avg.	6.00	5.78	5.88	7.08	7.85	8.14	7.86	6.95	7.26	7.31	7.18	7.40	7.06
pH	Mo.Max., mg/L	8.3	8.3	8.3	8.1	8.3	8.4	8.3	8.2	8.3	8.4	8.5	8.5	8.3
pH	Mo. Min., mg/L	7.5	7.7	7.3	7.5	6.9	7.6	7.6	7.3	7.7	7.7	7.8	7.5	7.5
Suspended Solids	Mo.Max., mg/L	708	417	264	258	283	209	240	233	241	265	270	479	322
BOD	Mo.Max., mg/L	240	234	219	280	276	229	285	277	247.00	256	352	490	282
1,1,1-Trichloroethane	Mo.Max., ug/L			20										20
1,1,2,2-Tetrachloroethane	Mo.Max., ug/L			ND(3)										ND(3)
1,1,2-Trichloroethane	Mo.Max., ug/L			ND(3)										ND(3)
1,1-Dichloroethane	Mo.Max., ug/L			ND(3)										ND(3)
1,1-Dichloroethylene	Mo.Max., ug/L			ND(3)										ND(3)
1,2,4-Trichlorobenzene	Mo.Max., ug/L			ND(10)										ND(10)
1,2-Dichlorobenzene	Mo.Max., ug/L			ND(10)										ND(10)
1,2-Dichloroethane	Mo.Max., ug/L			ND(3)										ND(3)
1,2-Dichloropropane	Mo.Max., ug/L			ND(3)										ND(3)
1,2-Diphenylhydrazine	Mo.Max., ug/L			ND(10)										ND(10)
1,2-Trans-Dichloroethylene	Mo.Max., ug/L			ND(3)										ND(3)
1,3-Dichlorobenzene	Mo.Max., ug/L			ND(10)										ND(10)
1,3-Dichloropropylene	Mo.Max., ug/L			ND(3)										ND(3)
1,4-Dichlorobenzene	Mo.Max., ug/L			ND(10)										ND(10)
2,4,6-Trichlorophenol	Mo.Max., ug/L			ND(30)										ND(30)
2,4-Dichlorophenol	Mo.Max., ug/L			ND(10)										ND(10)
2,4-Dimethylphenol	Mo.Max., ug/L			ND(10)										ND(10)
2,4-Dinitrophenol	Mo.Max., ug/L			ND(50)										ND(50)
2,4-Dinitrotoluene	Mo.Max., ug/L			ND(10)										ND(10)
2,6-Dinitrotoluene	Mo.Max., ug/L			ND(10)										ND(10)
2-Chloroethylvinyl ether	Mo.Max., ug/L			ND(3)										ND(3)
2-Chloronaphthalene	Mo.Max., ug/L			ND(10)										ND(10)
2-Chlorophenol	Mo.Max., ug/L			ND(10)										ND(10)
2-Nitrophenol	Mo.Max., ug/L			ND(10)										ND(10)
3,3-Dichlorobenzidine	Mo.Max., ug/L			ND(30)										ND(30)
3-Methyl-4-Chlorophenol (P-Chloro-M-Cresol)	Mo.Max., ug/L			ND(30)										ND(30)
4,4"-DDT	Mo.Max., ug/L			ND(0.005)										ND(0.005)
4,4'-DDD	Mo.Max., ug/L			ND(0.005)										ND(0.005)
4,4'-DDE	Mo.Max., ug/L			ND(0.005)										ND(0.005)
4,6Dinitro-o-Cresol(4,6Dinitro-2-Methylphenol)	Mo.Max., ug/L			ND(50)										ND(50)
4-BromoPhenyl Phenyl Ether	Mo.Max., ug/L			ND(10)										ND(10)
4-ChloroPhenyl Phenyl Ether	Mo.Max., ug/L			ND(10)										ND(10)
4-Methylphenol (p-cresol)	Mo.Max., ug/L			45										45
4-Nitrophenol	Mo.Max., ug/L			ND(30)										ND(30)
Acenaphthene	Mo.Max., ug/L			ND(10)										ND(10)
Acenaphthylene	Mo.Max., ug/L			ND(10)										ND(10)
Acrolein	Mo.Max., ug/L			ND(10)										ND(10)
Acrylonitrile	Mo.Max., ug/L			ND(2)										ND(2)
Aldrin	Mo.Max., ug/L			ND(0.005)										ND(0.005)
Alpha-BHC	Mo.Max., ug/L			ND(0.005)										ND(0.005)
Alpha-Endosulfan	Mo.Max., ug/L			ND(0.005)										ND(0.005)
Anthracene	Mo.Max., ug/L			ND(10)										ND(10)
Antimony	Mo.Max., ug/L			ND(4)										ND(4)
Arsenic	Mo.Max., ug/L			ND(2)										ND(2)
Barium	Mo.Max., ug/L			87										87
Benzene	Mo.Max., ug/L			ND(3)										ND(3)
Benzidine	Mo.Max., ug/L			ND(100)										ND(100)

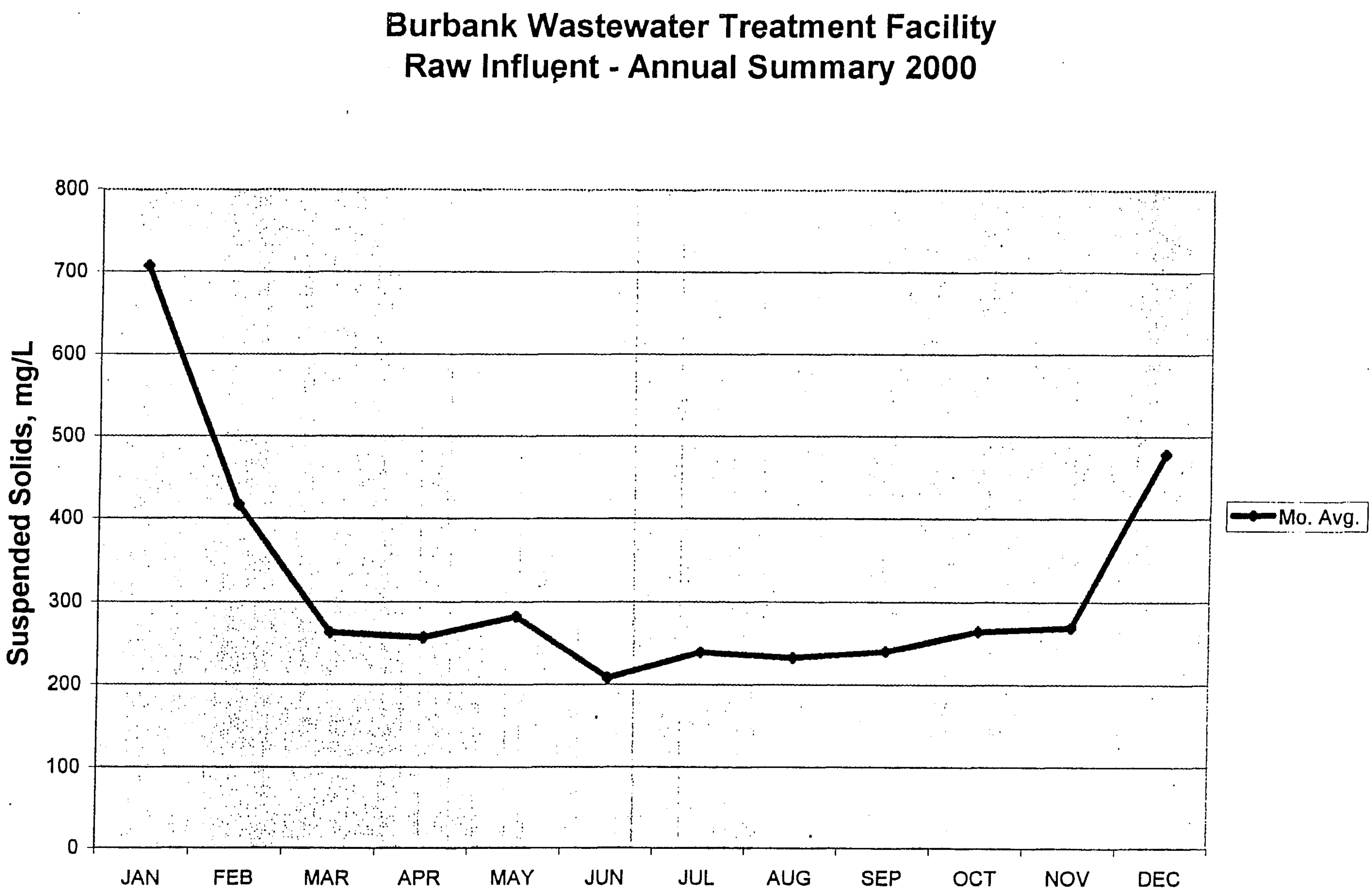
Burbank Wastewater Treatment Facility
Annual Summary 2000

Parameter	Result Type	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Avg.
	Raw Influent													
Benzo(A)Anthracene	Mo.Max., ug/L			ND(10)										ND(10)
Benzo(A)Pyrene	Mo.Max., ug/L			ND(10)										ND(10)
Benzo(B)Fluoranthene	Mo.Max., ug/L			ND(10)										ND(10)
Benzo(GHI)Perylene (1,12-Benzoperylene)	Mo.Max., ug/L			ND(10)										ND(10)
Benzo(K)Fluoranthene	Mo.Max., ug/L			ND(10)										ND(10)
Beryllium	Mo.Max., ug/L			ND(0.2)										ND(0.2)
Beta-BHC	Mo.Max., ug/L			ND(0.005)										ND(0.005)
Beta-Endosulfan	Mo.Max., ug/L			ND(0.005)										ND(0.005)
bis(2-Chloro-1-methylethyl) ether	Mo.Max., ug/L			ND(10)										ND(10)
Bis(2-Chloroethoxy)methane	Mo.Max., ug/L			ND(10)										ND(10)
Bis(2-Chloroethyl)Ether	Mo.Max., ug/L			ND(10)										ND(10)
Bis(2-Ethylhexyl)Phthalate	Mo.Max., ug/L			81										81
Bromodichloromethane	Mo.Max., ug/L			ND(3)										ND(3)
Bromoform	Mo.Max., ug/L			ND(3)										ND(3)
Butyl Benzyl Phthalate	Mo.Max., ug/L			ND(10)										ND(10)
Cadmium	Mo.Max., ug/L			ND(10)										ND(10)
Carbon Tetrachloride	Mo.Max., ug/L			ND(3)										ND(3)
Chlordane	Mo.Max., ug/L			ND)(0.2)										ND)(0.2)
Chlorobenzene (Monochlorobenzene)	Mo.Max., ug/L			ND(3)										ND(3)
Chlorodibromomethane	Mo.Max., ug/L			ND(3)										ND(3)
Chloroethane	Mo.Max., ug/L			ND(3)										ND(3)
Chloroform	Mo.Max., ug/L			4.6										5
Chloromethane	Mo.Max., ug/L			ND(3)										ND(3)
Chromium	Mo.Max., ug/L			ND(10)										ND(10)
Chrysene	Mo.Max., ug/L			ND(10)										ND(10)
Cobalt	Mo.Max., ug/L			0.6										0.6
Copper	Mo.Max., ug/L			30										30
Cyanide	Mo.Max., mg/L			ND(20)										ND(20)
Delta-BHC	Mo.Max., ug/L			ND(0.005)										ND(0.005)
Dibenzo(A,H)Anthracene (1,2,5,6-	Mo.Max., ug/L			ND(20)										ND(20)
Dieldrin	Mo.Max., ug/L			ND(0.005)										ND(0.005)
Diethyl Phthalate	Mo.Max., ug/L			12										12
Dimethyl Phthalate	Mo.Max., ug/L			ND(10)										ND(10)
Di-N-Butyl Phthalate	Mo.Max., ug/L			ND(10)										ND(10)
Di-N-Octyl Phthalate [DEHP, Merck 1291]	Mo.Max., ug/L			ND(10)										ND(10)
Endosulfan Sulfate	Mo.Max., ug/L			ND(0.005)										ND(0.005)
Endrin	Mo.Max., ug/L			ND(0.005)										ND(0.005)
Endrin Aldehyde	Mo.Max., ug/L			ND(0.01)										ND(0.01)
Ethylbenzene	Mo.Max., ug/L			ND(3)										ND(3)
Fluoranthene	Mo.Max., ug/L			ND(10)										ND(10)
Fluorene	Mo.Max., ug/L			ND(10)										ND(10)
Gamma-BHC (Lindane)	Mo.Max., ug/L			ND(0.005)										ND(0.005)
Heptachlor	Mo.Max., ug/L			ND(0.005)										ND(0.005)
Heptachlor Epoxide	Mo.Max., ug/L			ND(0.005)										ND(0.005)
Hexachlorobenzene	Mo.Max., ug/L			ND(10)										ND(10)
Hexachlorobutadiene	Mo.Max., ug/L			ND(10)										ND(10)
Hexachlorocyclopentadiene	Mo.Max., ug/L			ND(10)										ND(10)
Hexachloroethane	Mo.Max., ug/L			ND(10)										ND(10)
Indeno(1,2,3-CD)Pyrene	Mo.Max., ug/L			ND(10)										ND(10)
Isophorone	Mo.Max., ug/L			ND(10)										ND(10)
Lead	Mo.Max., ug/L			ND)50)										ND)50)
Mercury	Mo.Max., ug/L			0.2										0.2

Parameter	Result Type	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Avg.
	Raw Influent													
Methyl Bromide	Mo.Max., ug/L			ND(3)										ND(3)
Methylene Chloride	Mo.Max., ug/L			ND(5)										ND(5)
Naphthalene	Mo.Max., ug/L			ND(10)										ND(10)
Nickel	Mo.Max., ug/L			ND(10)										ND(10)
Nitrobenzene	Mo.Max., ug/L			ND(10)										ND(10)
N-Nitrosodimethylamine	Mo.Max., ug/L			ND(10)										ND(10)
N-Nitrosodi-N-Propylamine	Mo.Max., ug/L			ND(10)										ND(10)
N-Nitrosodiphenylamine	Mo.Max., ug/L			ND(10)										ND(10)
PCB-1016	Mo.Max., ug/L			ND(0.2)										ND(0.2)
PCB-1221	Mo.Max., ug/L			ND(0.2)										ND(0.2)
PCB-1232	Mo.Max., ug/L			ND(0.2)										ND(0.2)
PCB-1242	Mo.Max., ug/L			ND(0.2)										ND(0.2)
PCB-1248	Mo.Max., ug/L			ND(0.2)										ND(0.2)
PCB-1254	Mo.Max., ug/L			ND(0.2)										ND(0.2)
PCB-1260	Mo.Max., ug/L			ND(0.2)										ND(0.2)
Pentachlorophenol	Mo.Max., ug/L			ND(50)										ND(50)
Phenanthrene	Mo.Max., ug/L			ND(10)										ND(10)
Phenol	Mo.Max., ug/L			ND(10)										ND(10)
Pyrene	Mo.Max., ug/L			ND(10)										ND(10)
Selenium	Mo.Max., ug/L			ND(2)										ND(2)
Silver	Mo.Max., ug/L			70										70
TCDD	Mo.Max., ng/L			ND(0.0057)										ND(0.0057)
Tetrachloroethylene	Mo.Max., ug/L			8.7										8.7
Thallium	Mo.Max., ug/L			ND(1)										ND(1)
Toluene	Mo.Max., ug/L			3										3
Toxaphene	Mo.Max., ug/L			ND(0.2)										ND(0.2)
Trichloroethylene	Mo.Max., ug/L			3.8										3.8
Vinyl Chloride	Mo.Max., ug/L			ND(3)										ND(3)
Zinc	Mo.Max., ug/L			51										51

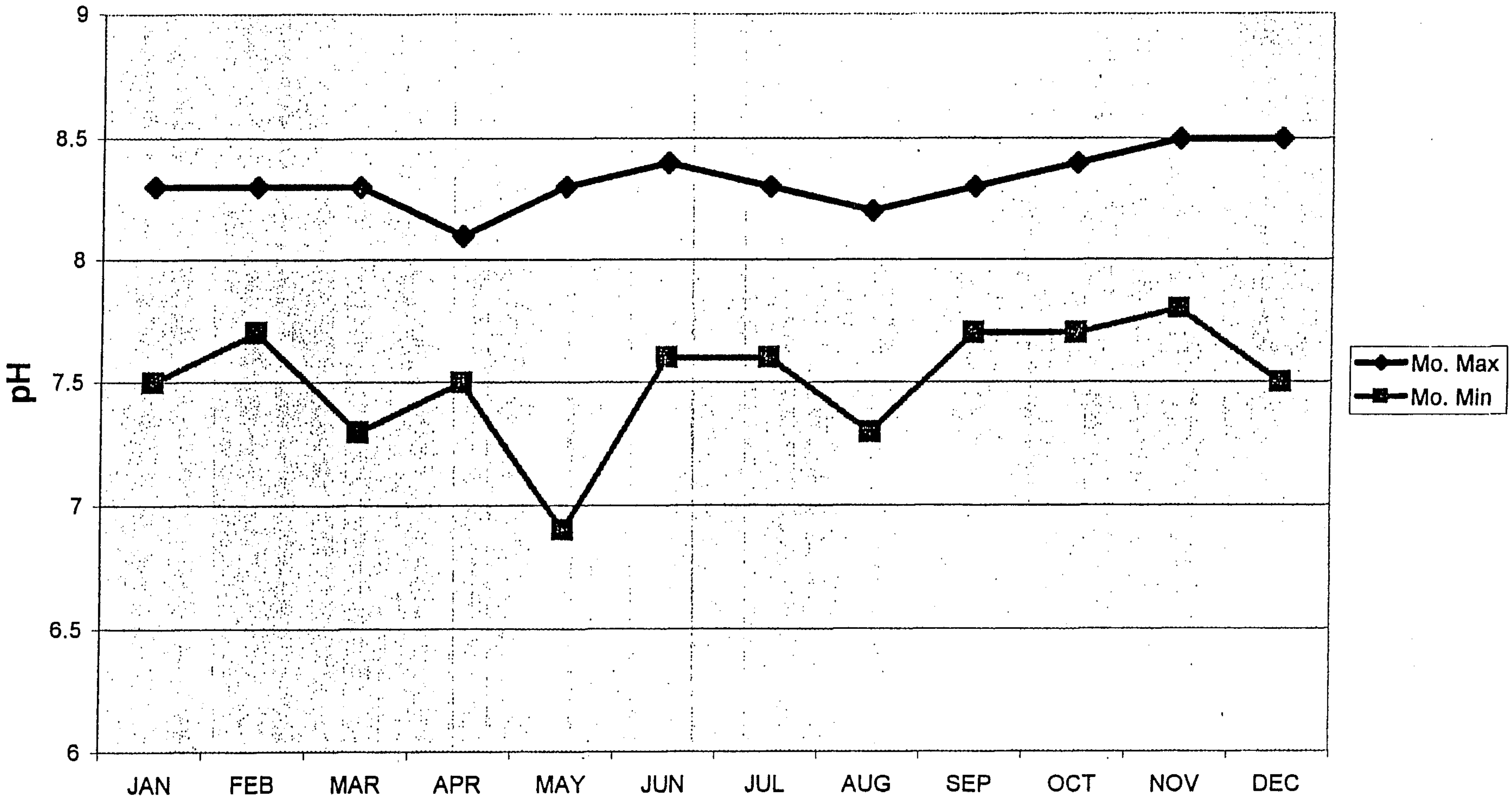
Burbank Wastewater Treatment Facility
Raw Influent - Annual Summary 2000



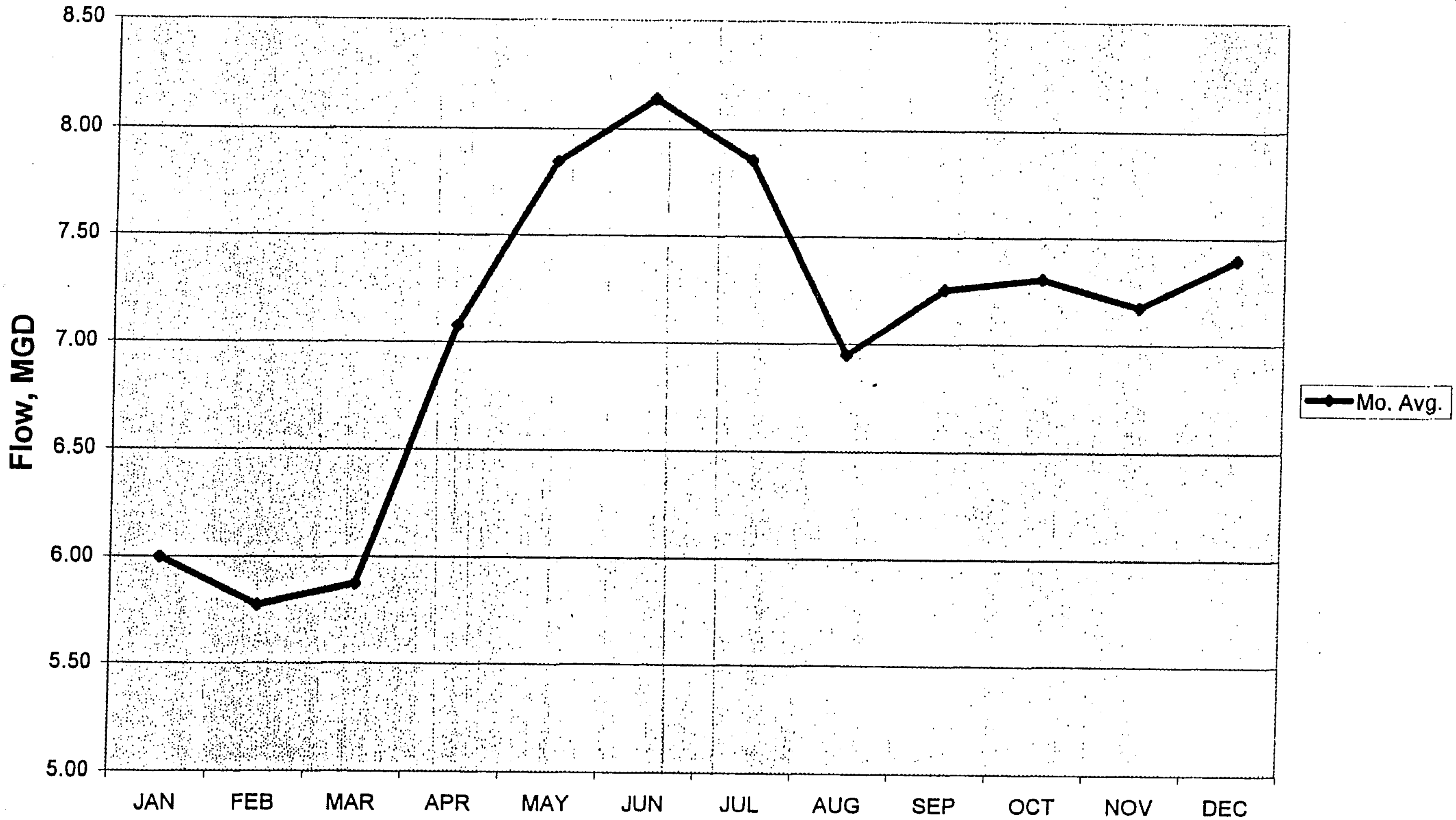


Burbank Wastewater Treatment Facility
Raw Influent - Annual Summary 2000
Suspended Solids, mg/L
800
700
600
500
400
300
200
100
0
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Mo. Avg.

Burbank Wastewater Treatment Facility
Raw Influent - Annual Summary 2000



Burbank Wastewater Treatment Facility
Raw Influent - Annual Summary 2000



Section 3

UnitedWater

Burbank Wastewater Treatment Facility

Receiving Waters - Annual Summary 2000

Parameter	Site	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1,12-Benzoperylene, ug/L	R-1 Ctrl		ND(10)						ND(2)					ND(2)
1,12-Benzoperylene, ug/L	R-2		ND(10)						ND(2)					ND(2)
1,12-Benzoperylene, ug/L	R-5		ND(10)						ND(2)					ND(2)
1,2-Benzanthracene, ug/L	R-1 Ctrl		ND(5)						ND(2)					ND(5)
1,2-Benzanthracene, ug/L	R-2		ND(5)						ND(2)					ND(5)
1,2-Benzanthracene, ug/L	R-5		ND(5)						ND(2)					ND(5)
2,4,6-Trichlorophenol, ug/L	R-1 Ctrl		ND(5)						ND(5)					ND(5)
2,4,6-Trichlorophenol, ug/L	R-2		ND(5)						ND(5)					ND(5)
2,4,6-Trichlorophenol, ug/L	R-5		ND(5)						ND(5)					ND(5)
2,4-Dichlorophenol, ug/L	R-1 Ctrl		ND(5)						ND(2)					ND(5)
2,4-Dichlorophenol, ug/L	R-2		ND(5)						ND(2)					ND(5)
2,4-Dichlorophenol, ug/L	R-5		ND(5)						ND(2)					ND(5)
2,4-Dimethylphenol, ug/L	R-1 Ctrl		ND(5)						ND(2)					ND(5)
2,4-Dimethylphenol, ug/L	R-2		ND(5)						ND(2)					ND(5)
2,4-Dimethylphenol, ug/L	R-5		ND(5)						ND(2)					ND(5)
2,4-Dinitrophenol, ug/L	R-1 Ctrl		ND(50)						ND(10)					ND(50)
2,4-Dinitrophenol, ug/L	R-2		ND(50)						ND(10)					ND(50)
2,4-Dinitrophenol, ug/L	R-5		ND(50)						ND(10)					ND(50)
2-Chlorophenol, ug/L	R-1 Ctrl		ND(5)						ND(2)					ND(5)
2-Chlorophenol, ug/L	R-2		ND(5)						ND(2)					ND(5)
2-Chlorophenol, ug/L	R-5		ND(5)						ND(2)					ND(5)
2-Methyl-4,6-Dinitrophenol, ug	R-1 Ctrl		ND(50)						ND(10)					ND(50)
2-Methyl-4,6-Dinitrophenol, ug	R-2		ND(50)						ND(10)					ND(50)
2-Methyl-4,6-Dinitrophenol, ug	R-5		ND(50)						ND(10)					ND(50)
2-Nitrophenol, ug/L	R-1 Ctrl		ND(5)						ND(2)					ND(5)
2-Nitrophenol, ug/L	R-2		ND(5)						ND(2)					ND(5)
2-Nitrophenol, ug/L	R-5		ND(5)						ND(2)					ND(5)
3,4-Benzofluoranthene, ug/L	R-1 Ctrl		ND(5)						ND(2)					ND(5)
3,4-Benzofluoranthene, ug/L	R-2		ND(5)						ND(2)					ND(5)
3,4-Benzofluoranthene, ug/L	R-5		ND(5)						ND(2)					ND(5)
3-Methyl-4-Chlorophenol, ug/L	R-1 Ctrl		ND(5)						ND(5)					ND(5)
3-Methyl-4-Chlorophenol, ug/L	R-2		ND(5)						ND(5)					ND(5)
3-Methyl-4-Chlorophenol, ug/L	R-5		ND(5)						ND(5)					ND(5)
4-Methylphenol, ug/L	R-1 Ctrl		ND(5)						ND(2)					ND(5)
4-Methylphenol, ug/L	R-2		ND(5)						ND(2)					ND(5)
4-Methylphenol, ug/L	R-5		ND(5)						ND(2)					ND(5)
4-Nitrophenol, ug/L	R-1 Ctrl		ND(10)						ND(5)					ND(10)

Burbank Wastewater Treatment Facility

Recelving Waters - Annual Summary 2000

Parameter	Site	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
4-Nitrophenol, ug/L	R-2		ND(10)						ND(5)					ND(10)
4-Nitrophenol, ug/L	R-5		ND(10)						ND(5)					ND(10)
Acenaphthylene, ug/L	R-1 Ctrl		ND(5)						ND(2)					ND(5)
Acenaphthylene, ug/L	R-2		ND(5)						ND(2)					ND(5)
Acenaphthylene, ug/L	R-5		ND(5)						ND(2)					ND(5)
Acute Tox., % Survival	R-1 Ctrl		80			80			85			100		86
Acute Tox., % Survival	R-2		70			0			0			0		<20
Acute Tox., % Survival	R-5		70			0			0			0		<20
Aldrin, ug/L	R-1 Ctrl		ND(0.02)						ND(0.005)					ND(0.02)
Aldrin, ug/L	R-2		ND(0.02)						ND(0.005)					ND(0.02)
Aldrin, ug/L	R-5		ND(0.02)						ND(0.005)					ND(0.02)
Ammonia-N, mg/L	R-1 Ctrl		ND(5)			ND(1)			0.8			0.1		<5
Ammonia-N, mg/L	R-2		13.8			18			15			25		18
Ammonia-N, mg/L	R-5		15			19			10			21		16
Anthracene, ug/L	R-1 Ctrl		ND(5)						ND(2)					ND(5)
Anthracene, ug/L	R-2		ND(5)						ND(2)					ND(5)
Anthracene, ug/L	R-5		ND(5)						ND(2)					ND(5)
As, ug/L	R-1 Ctrl		ND(5)			ND(2)			4.6			3.5		<5
As, ug/L	R-2		ND(5)			2			2.3			2		2
As, ug/L	R-5		ND(5)			ND(2)			2.7			1.7		<5
Benzo(k)fluoranthene, ug/L	R-1 Ctrl		ND(5)						ND(2)					ND(5)
Benzo(k)fluoranthene, ug/L	R-2		ND(5)						ND(2)					ND(5)
Benzo(k)fluoranthene, ug/L	R-5		ND(5)						ND(2)					ND(5)
Benzo[a]pyrene, ug/L	R-1 Ctrl		ND(5)						ND(2)					ND(5)
Benzo[a]pyrene, ug/L	R-2		ND(5)						ND(2)					ND(5)
Benzo[a]pyrene, ug/L	R-5		ND(5)						ND(2)					ND(5)
BOD, mg/L	R-1 Ctrl		4			4			5			9		6
BOD, mg/L	R-2		9			8			12			8		9
BOD, mg/L	R-5		3			9			13			13		10
Cd, ug/L	R-1 Ctrl		ND(5)			ND(10)			ND(10)			ND(10)		ND(10)
Cd, ug/L	R-2		ND(5)			ND(10)			ND(10)			ND(10)		ND(10)
Cd, ug/L	R-5		ND(5)			ND(10)			ND(10)			ND(10)		ND(10)
Chlordane, ug/L	R-1 Ctrl		ND(0.2)						ND(0.2)					ND(0.2)
Chlordane, ug/L	R-2		ND(0.2)						ND(0.2)					ND(0.2)
Chlordane, ug/L	R-5		ND(0.2)						ND(0.2)					ND(0.2)
Chloride, mg/L	R-1 Ctrl		55			342			185			56		160
Chloride, mg/L	R-2		102			155			140			94		123

Burbank Wastewater Treatment Facility

Receiving Waters - Annual Summary 2000

Parameter	Site	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Chloride, mg/L	R-5		100			146			152			94		123
Chlorine resid.,total, mg/L	R-1 Ctrl	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorine resid.,total, mg/L	R-2	<0.1	<0.1	<1.1	<0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<1.2	<0.3
Chlorine resid.,total, mg/L	R-5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.8	<0.2
Chronic Tox., Survival,Tuc	R-1 Ctrl		1.79			5.56			5.56			1.00		>1.00
Chronic Tox., Survival,Tuc	R-2		1.79			1.79			1.00			1.00		>1.00
Chronic Tox., Survival,Tuc	R-5		1.79			1.00			1.00			1.00		>1.00
Chrysene, ug/L	R-1 Ctrl		ND(5)						ND(2)					ND(5)
Chrysene, ug/L	R-2		ND(5)						ND(2)					ND(5)
Chrysene, ug/L	R-5		ND(5)						ND(2)					ND(5)
Coliform, total, MPN/100mL	R-1 Ctrl	>=1600	>=1600	>=1600	>=1600	>=1600	>=1600	>=1600	>=1600	>=1600	>=1600	>=1600	>=1206	>=1570
Coliform, total, MPN/100mL	R-2	>=1600	>=1600	>=1140	>=1085	>=1600	>=1600	>=1600	>=1600	>=1425	>=1220	>=1085	>=1260	>=1400
Coliform, total, MPN/100mL	R-5	>=1600	>=1600	>=1340	>=1600	>=1600	>=1600	>=1600	>=1600	>=1600	>=1600	>=1600	>=1200	>=1540
Conductivity, umhos/cm	R-1 Ctrl		677			1485			1214			803		1045
Conductivity, umhos/cm	R-2		1030			1232			1177			1078		1129
Conductivity, umhos/cm	R-5		1040			1225			1301			1098		1166
Cr, ug/L	R-1 Ctrl		ND(10)			ND(10)			20			ND(10)		<20
Cr, ug/L	R-2		ND(10)			ND(10)			ND(10)			ND(10)		ND(10)
Cr, ug/L	R-5		ND(10)			ND(10)			ND(10)			ND(10)		ND(10)
Cu, ug/L	R-1 Ctrl		15			20			150			10		49
Cu, ug/L	R-2		23			20			10			10		16
Cu, ug/L	R-5		31			10			20			10		18
Cyanide, mg/L	R-1 Ctrl		ND(5)			ND(0.02)			ND(0.02)			ND(0.02)		ND(5)
Cyanide, mg/L	R-2		7			0.025			0.02			ND(0.02)		<7
Cyanide, mg/L	R-5		14			0.023			0.04			ND(0.02)		<14
Dibenzo[ah]anthracene, ug/L	R-1 Ctrl		ND(10)						ND(3)					ND(10)
Dibenzo[ah]anthracene, ug/L	R-2		ND(10)						ND(3)					ND(10)
Dibenzo[ah]anthracene, ug/L	R-5		ND(10)						ND(3)					ND(10)
Dieldrin, ug/L	R-1 Ctrl		ND(0.02)						ND(0.005)					ND(0.02)
Dieldrin, ug/L	R-2		ND(0.02)						ND(0.005)					ND(0.02)
Dieldrin, ug/L	R-5		ND(0.02)						ND(0.005)					ND(0.02)
Dissolved Oxygen, mg/L	R-1 Ctrl	10.3	11	10.5	9.6	9.4	8.4	8.7	8.5	8.4	9.4	12.2	11.8	9.9
Dissolved Oxygen, mg/L	R-2	9.1	9.4	9.2	7.2	8.7	8	8.2	8.1	7.9	8.4	9.4	9.4	8.6
Dissolved Oxygen, mg/L	R-5	9.4	9.6	10.5	9.3	9.5	8.7	8.7	8.6	7.7	8.5	10.8	9.8	9.3
Endrin, ug/L	R-1 Ctrl		ND(0.01)						ND(0.005)					ND(0.02)
Endrin, ug/L	R-2		ND(0.01)						ND(0.005)					ND(0.02)
Endrin, ug/L	R-5		ND(0.01)						ND(0.005)					ND(0.02)

Burbank Wastewater Treatment Facility

Receiving Waters - Annual Summary 2000

Parameter	Site	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Fluorene, ug/L	R-1 Ctrl		ND(5)						ND(2)					ND(5)
Fluorene, ug/L	R-2		ND(5)						ND(2)					ND(5)
Fluorene, ug/L	R-5		ND(5)						ND(2)					ND(5)
Hardness, total, mg/L	R-1 Ctrl		226			395			547			316		371
Hardness, total, mg/L	R-2		191			323			275			241		258
Hardness, total, mg/L	R-5		228			266			337			250		270
Hg, ug/L	R-1 Ctrl		ND(0.2)			ND(0.2)			ND(0.2)			ND(0.2)		ND(0.2)
Hg, ug/L	R-2		ND(0.2)			ND(0.2)			ND(0.2)			ND(0.2)		ND(0.2)
Hg, ug/L	R-5		ND(0.2)			ND(0.2)			ND(0.2)			ND(0.2)		ND(0.2)
Indeno[1,2,3-cd] pyrene, ug/L	R-1 Ctrl		ND(10)						ND(2)					ND(10)
Indeno[1,2,3-cd] pyrene, ug/L	R-2		ND(10)						ND(2)					ND(10)
Indeno[1,2,3-cd] pyrene, ug/L	R-5		ND(10)						ND(2)					ND(10)
Lindane(HCH), ug/L	R-1 Ctrl		ND(0.02)						ND(0.005)					ND(0.02)
Lindane(HCH), ug/L	R-2		ND(0.02)						ND(0.005)					ND(0.02)
Lindane(HCH), ug/L	R-5		ND(0.02)						ND(0.005)					ND(0.02)
MBAS, mg/L	R-1 Ctrl		0.3			0.2			0.5			0.2		0.3
MBAS, mg/L	R-2		0.2			0.2			0.2			0.2		0.2
MBAS, mg/L	R-5		0.5			0.2			0.3			0.2		0.3
MTBE, ug/L	R-1 Ctrl		0.89			0.94			ND(0.5)			3.2		<2
MTBE, ug/L	R-2		0.69			0.57			ND(0.5)			0.9		<1
MTBE, ug/L	R-5		1.10			0.51			ND(0.5)			1		<1
Ni, ug/L	R-1 Ctrl		ND(20)			ND(10)			20			ND(10)		ND(20)
Ni, ug/L	R-2		ND(20)			ND(10)			ND(10)			10		ND(20)
Ni, ug/L	R-5		ND(20)			ND(10)			ND(10)			10		ND(20)
Nitrate-N, mg/L	R-1 Ctrl		1.89			0.45			0.56			2		1.2
Nitrate-N, mg/L	R-2		2.96			1.8			3.22			0.4		2.1
Nitrate-N, mg/L	R-5		2.99			1.34			5.51			0.6		2.6
Nitrite-N, mg/L	R-1 Ctrl		ND(0.10)			0.07			0.07			0.07		<0.10
Nitrite-N, mg/L	R-2		2.65			0.56			0.66			0.21		1.02
Nitrite-N, mg/L	R-5		2.52			0.53			1.00			0.39		1.11
Oil & Grease, mg/L	R-1 Ctrl		ND(3)			ND(2)			5			ND(5)		<5
Oil & Grease, mg/L	R-2		ND(3)			ND(2)			2			ND(5)		<5
Oil & Grease, mg/L	R-5		ND(3)			ND(2)			2			ND(5)		<5
Organic-N, mg/L	R-1 Ctrl		0.6			2.3			7			0.7		3
Organic-N, mg/L	R-2		0.7			ND(2.5)			ND(1)			ND(25)		<25
Organic-N, mg/L	R-5		ND(0.2)			ND(2.5)			3			ND(2.5)		<3
Pb, ug/L	R-1 Ctrl		ND(100)			ND(50)			ND(50)			ND(5)		<100

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R-Stations

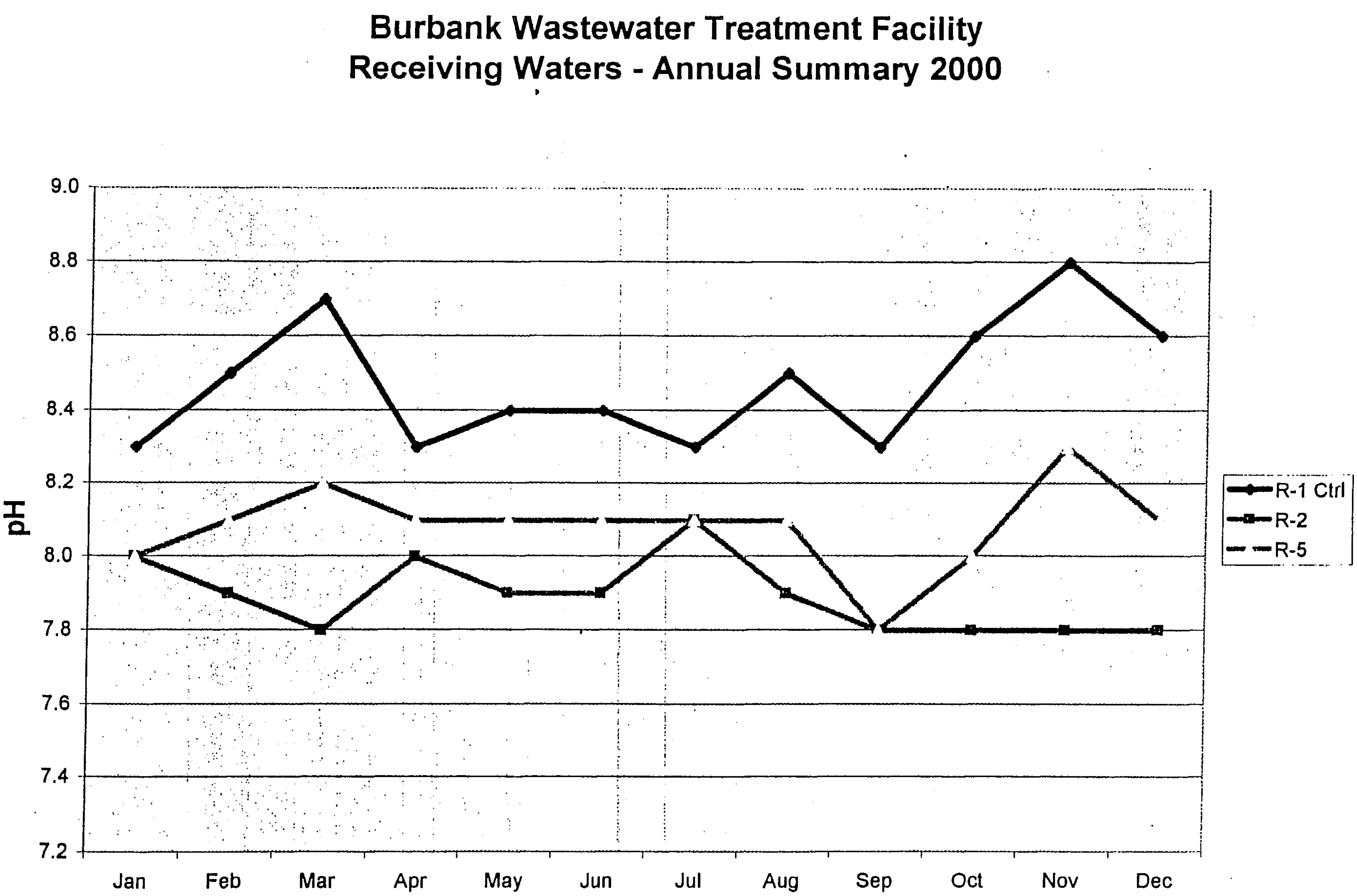
Burbank Wastewater Treatment Facility

Receiving Waters - Annual Summary 2000

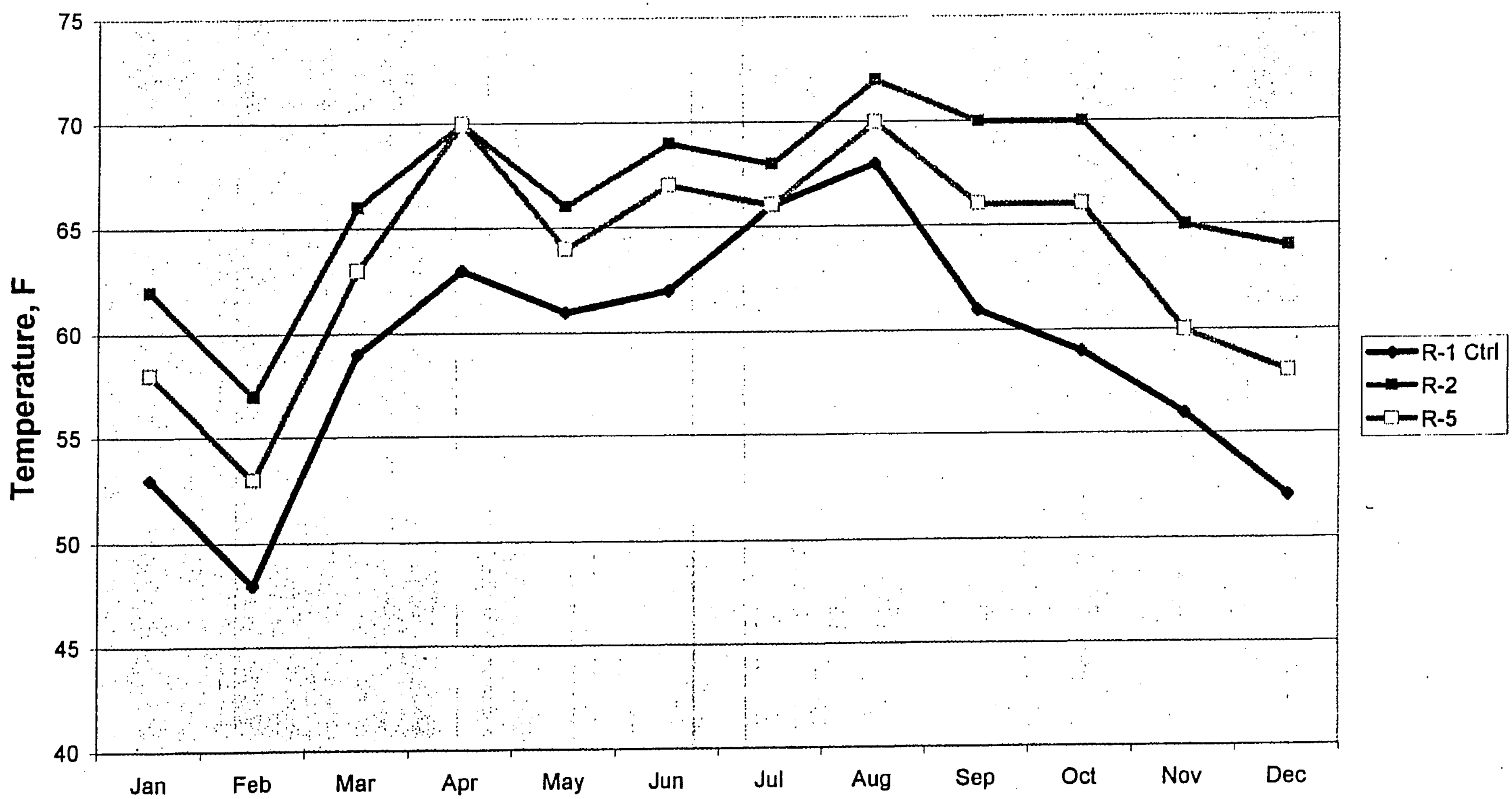
Parameter	Site	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Pb, ug/L	R-2		ND(100)			ND(50)			ND(50)			ND(5)		<100
Pb, ug/L	R-5		ND(100)			ND(50)			ND(50)			ND(5)		<100
Pentachlorophenol, ug/L	R-1 Ctrl		ND(20)						ND(10)					ND(20)
Pentachlorophenol, ug/L	R-2		ND(20)						ND(10)					ND(20)
Pentachlorophenol, ug/L	R-5		ND(20)						ND(10)					ND(20)
pH	R-1 Ctrl	8.3	8.5	8.7	8.3	8.4	8.4	8.3	8.5	8.3	8.6	8.8	8.6	8.5
pH	R-2	8.0	7.9	7.8	8.0	7.9	7.9	8.1	7.9	7.8	7.8	7.8	7.8	7.9
pH	R-5	8.0	8.1	8.2	8.1	8.1	8.1	8.1	8.1	7.8	8.0	8.3	8.1	8.1
Phenanthrene, ug/L	R-1 Ctrl		ND(5)						ND(2)					ND(5)
Phenanthrene, ug/L	R-2		ND(5)						ND(2)					ND(5)
Phenanthrene, ug/L	R-5		ND(5)						ND(2)					ND(5)
Phenol, ug/L	R-1 Ctrl		ND(5)						ND(2)					ND(5)
Phenol, ug/L	R-2		ND(5)						ND(2)					ND(5)
Phenol, ug/L	R-5		ND(5)						ND(2)					ND(5)
Phosphate(P), total, mg/L	R-1 Ctrl		0.1			0.3			2.5			0.3		0.8
Phosphate(P), total, mg/L	R-2		0.2			2.7			1.2			2.8		1.7
Phosphate(P), total, mg/L	R-5		2.6			2.6			2.3			2.8		2.6
Pyrene, ug/L	R-1 Ctrl		ND(5)						ND(2)					ND(5)
Pyrene, ug/L	R-2		ND(5)						ND(2)					ND(5)
Pyrene, ug/L	R-5		ND(5)						ND(2)					ND(5)
Sulfate, mg/L	R-1 Ctrl		138			179			142			117		144
Sulfate, mg/L	R-2		109			173			187			112		145
Sulfate, mg/L	R-5		111			149			234			104		150
Temperature, F	R-1 Ctrl	53	48	59	63	61	62	66	68	61	59	56	52	59
Temperature, F	R-2	62	57	66	70	66	69	68	72	70	70	65	64	67
Temperature, F	R-5	58	53	63	70	64	67	66	70	66	66	60	58	63
TOC, mg/L	R-1 Ctrl		7			12			25			9		13
TOC, mg/L	R-2		7			15			15			9		11
TOC, mg/L	R-5		8			15			14			14		13
Total Dissolved Solids, mg/L	R-1 Ctrl		420			892			746			499		639
Total Dissolved Solids, mg/L	R-2		493			696			650			545		596
Total Dissolved Solids, mg/L	R-5		430			651			745			571		599
Total N, (TKN), mg/L	R-1 Ctrl		0.6			2.5			<8			0.8		<8
Total N, (TKN), mg/L	R-2		14.5			18			<16			25		<25
Total N, (TKN), mg/L	R-5		13.5			20			13			21		<21
Toxaphene, ug/L	R-1 Ctrl		ND(0.5)											ND(0.5)
Toxaphene, ug/L	R-2		ND(0.5)											ND(0.5)

Burbank Wastewater Treatment Facility
Receiving Waters - Annual Summary 2000

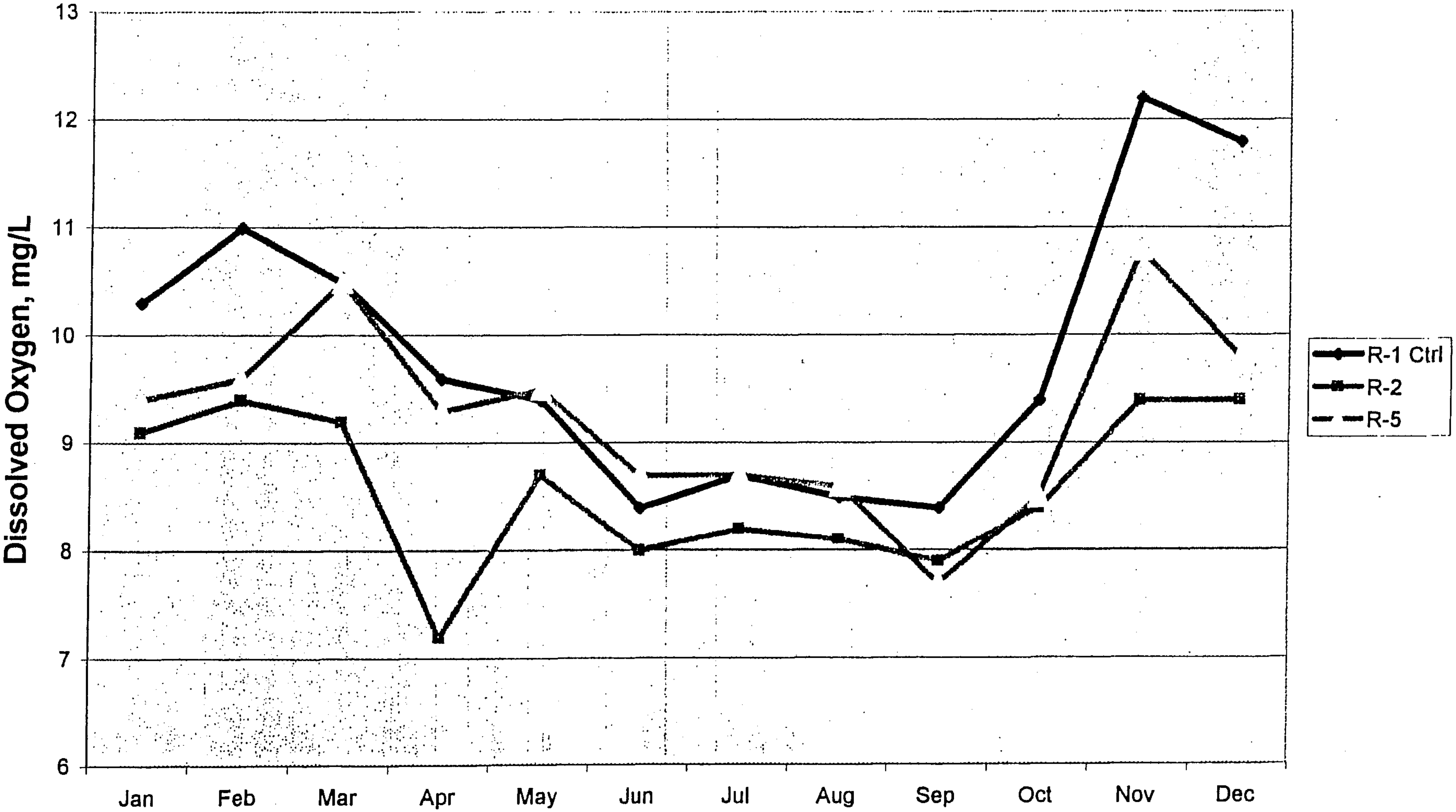
Parameter	Site	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Toxaphene, ug/L	R-5		ND(0.5)											ND(0.5)
Turbidity, NTU	R-1 Ctrl		9.4			3.2			24.0			3.0		9.9
Turbidity, NTU	R-2		9.2			3.9			2.8			1.4		4.3
Turbidity, NTU	R-5		11.8			4.7			3.0			1.5		5.3
Zn, ug/L	R-1 Ctrl		36			24			420			ND(50)		<135
Zn, ug/L	R-2		57			68			88			68		70.3
Zn, ug/L	R-5		69			58			94			83		76.0
Flow, MGD	R-1 Ctrl	0.74	0.82	0.97	1.25	2.72	0.85	0.98	1.41	0.94	0.96	1.08	0.56	1.1


Burbank Wastewater Treatment Facility
Receiving Waters - Annual Summary 2000
pH
9.0
8.8
8.6
8.4
8.2
8.0
7.8
7.6
7.4
7.2
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
R-1 Ctrl
R-2
R-5

Burbank Wastewater Treatment Facility
Receiving Waters - Annual Summary 2000



Burbank Wastewater Treatment Facility
Receiving Waters - Annual Summary 2000



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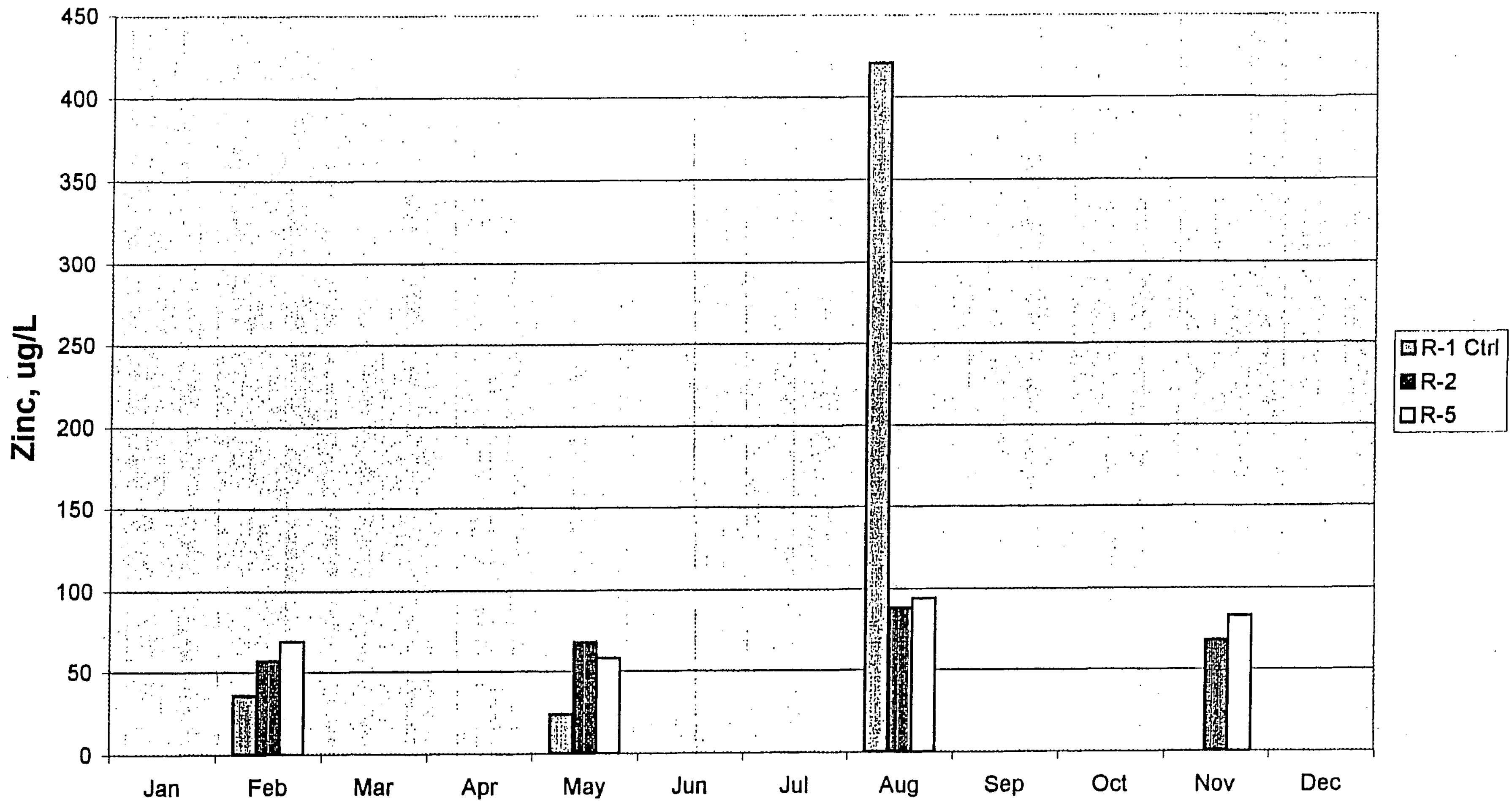
Receiving Waters - Annual Summary 2000



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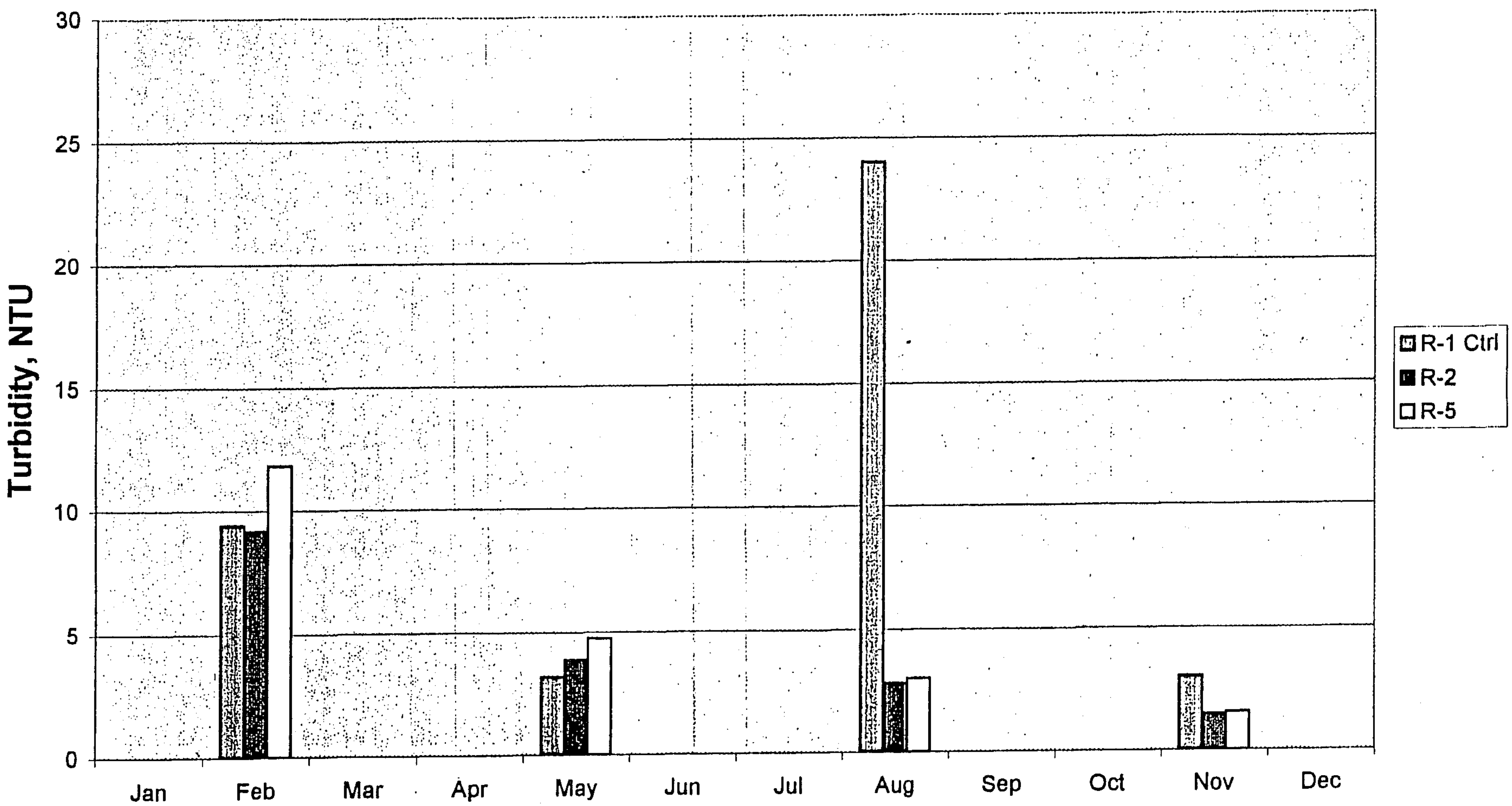
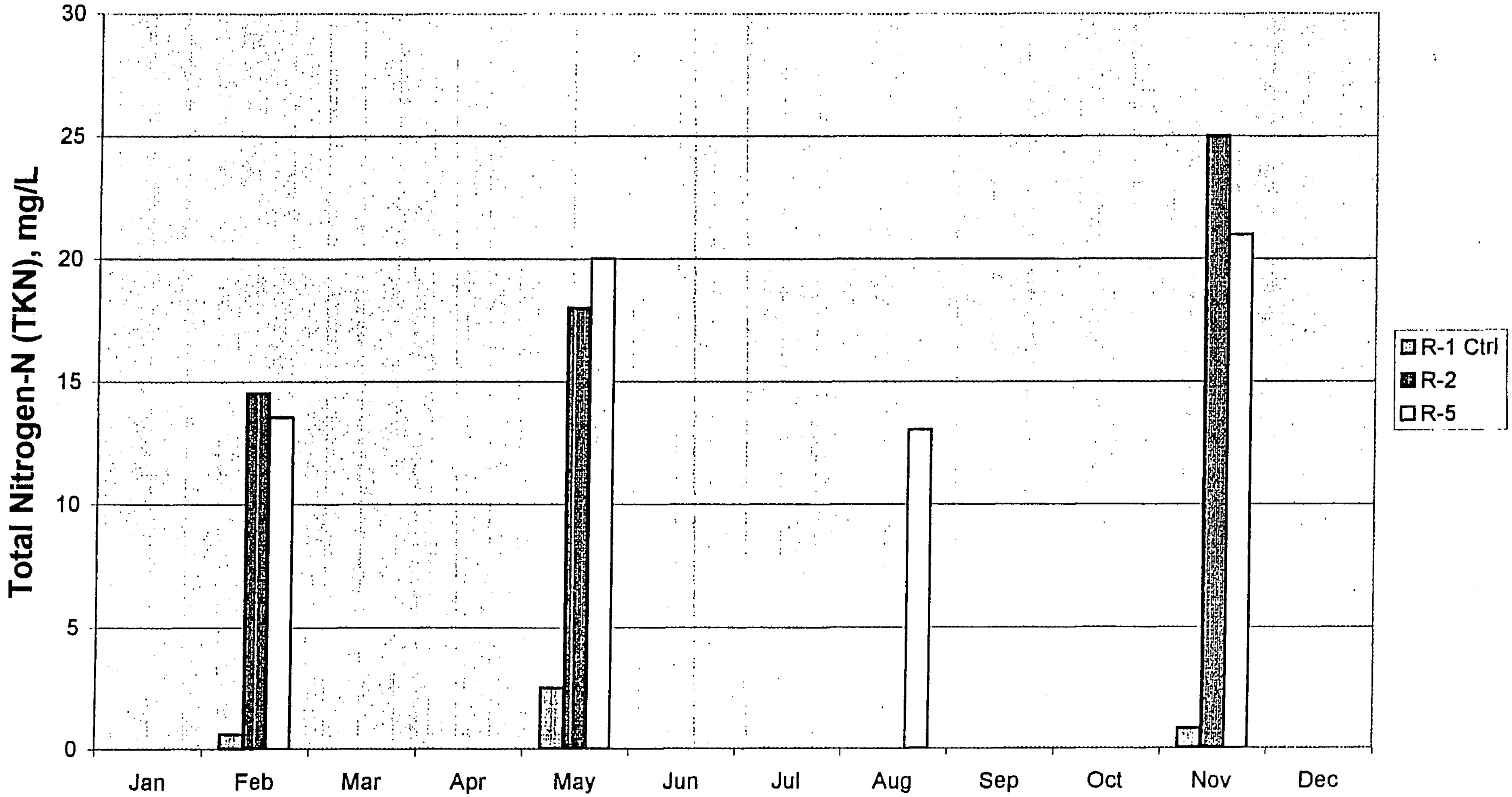
Receiving Waters - Annual Summary 2000



Burbank Wastewater Treatment Facility
Receiving Waters - Annual Summary 2000



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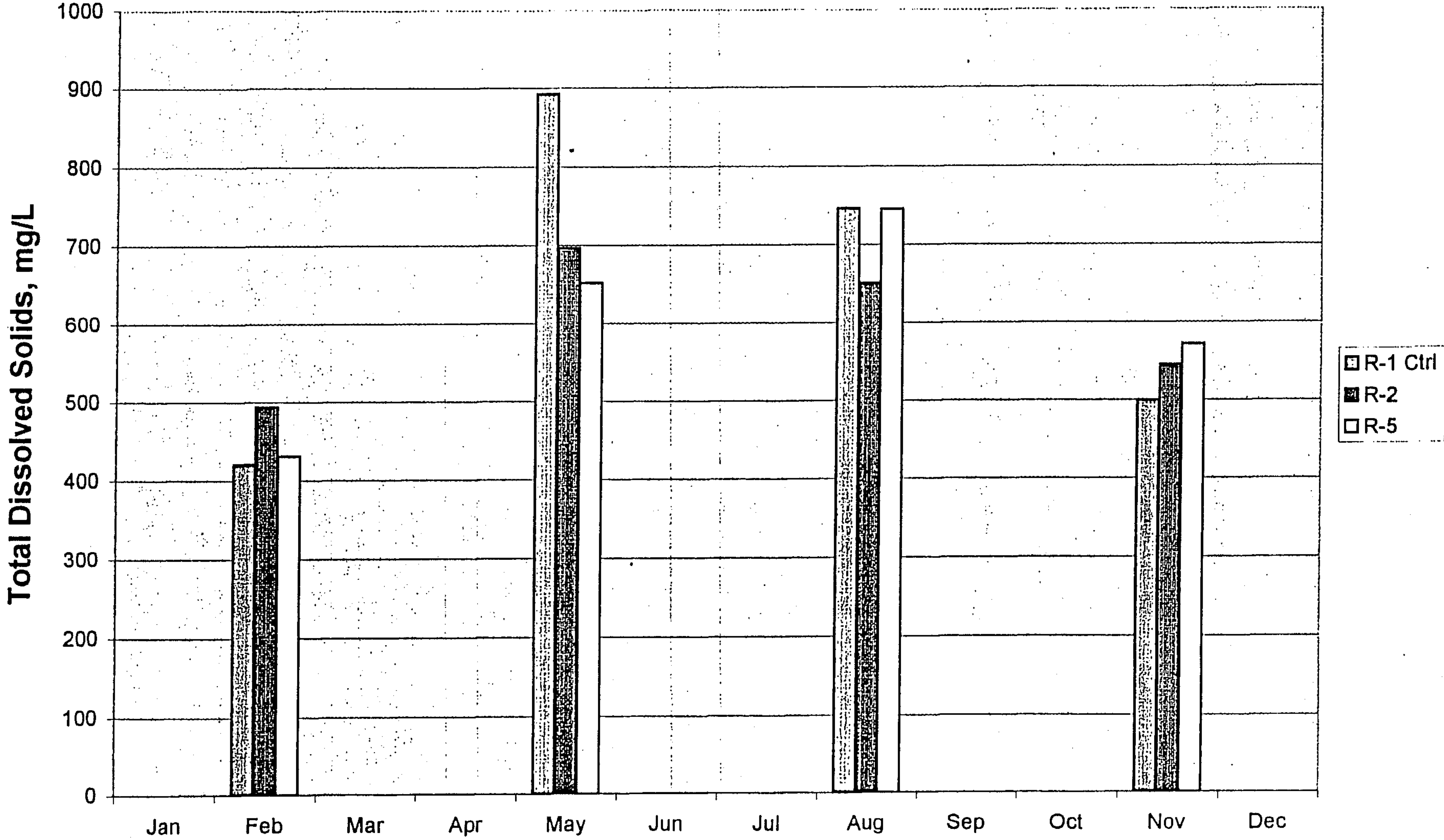
Receiving Waters - Annual Summary 2000



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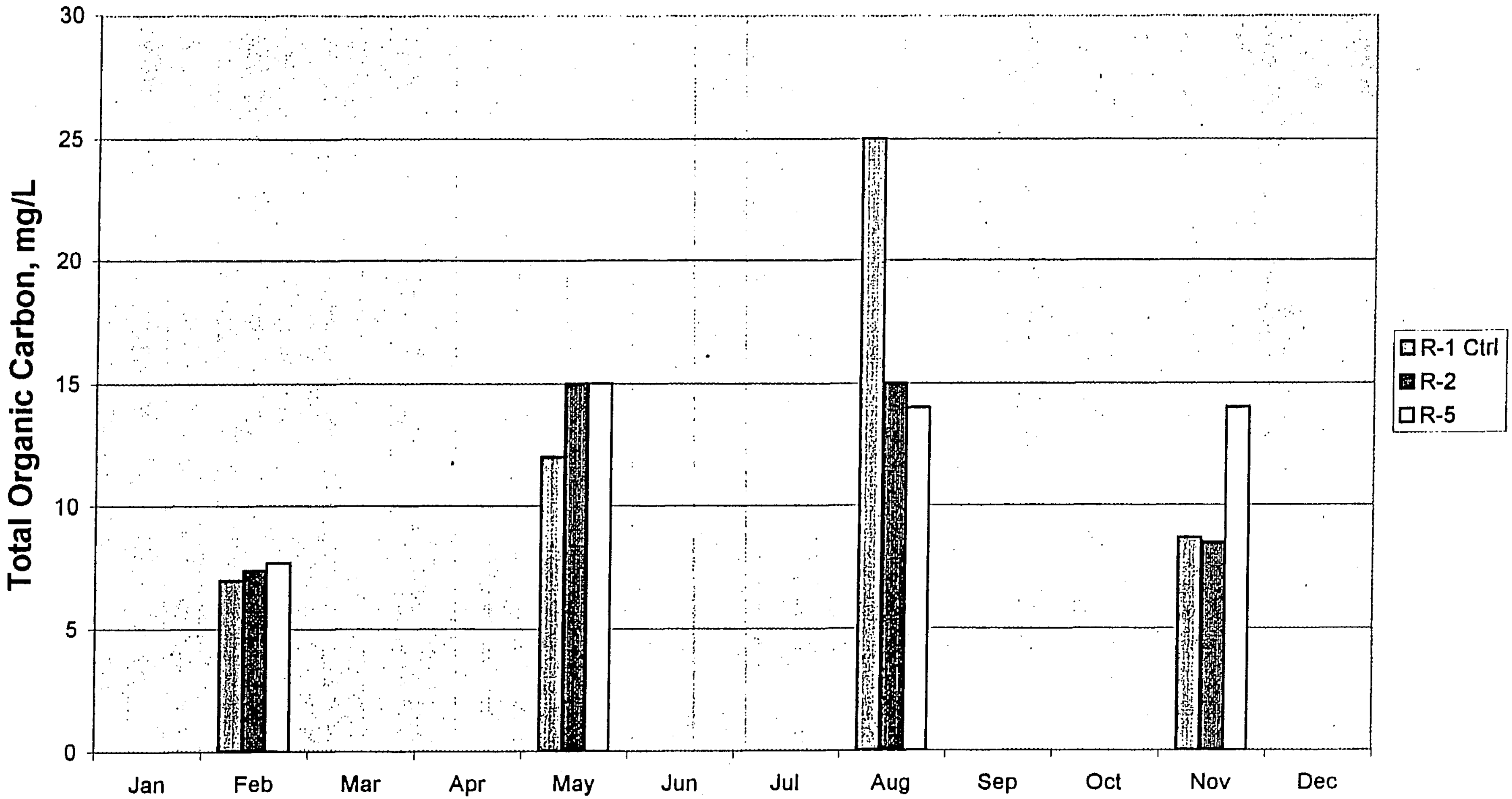
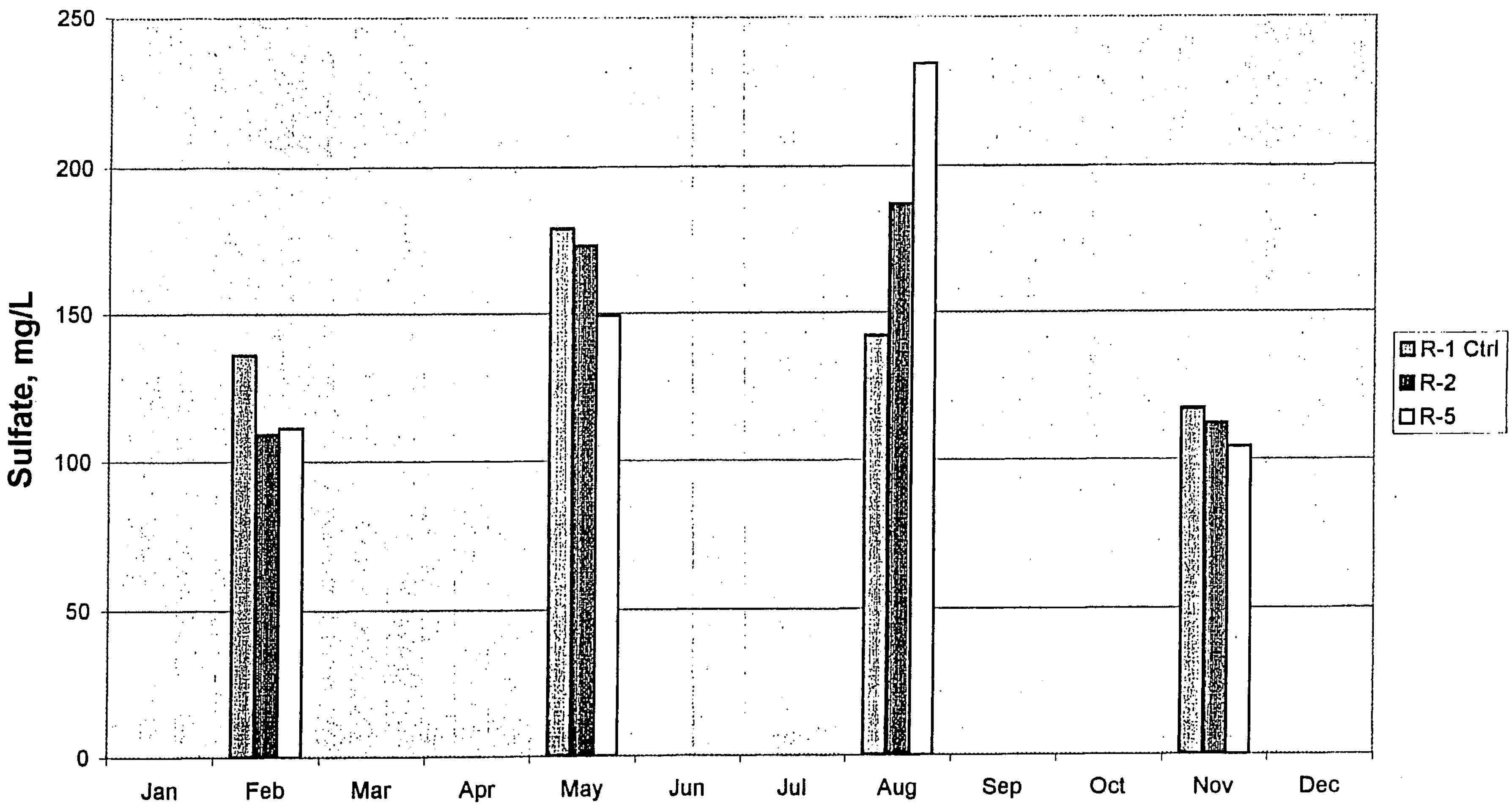
Receiving Waters - Annual Summary 2000



Burbank Wastewater Treatment Facility
Receiving Waters - Annual Summary 2000



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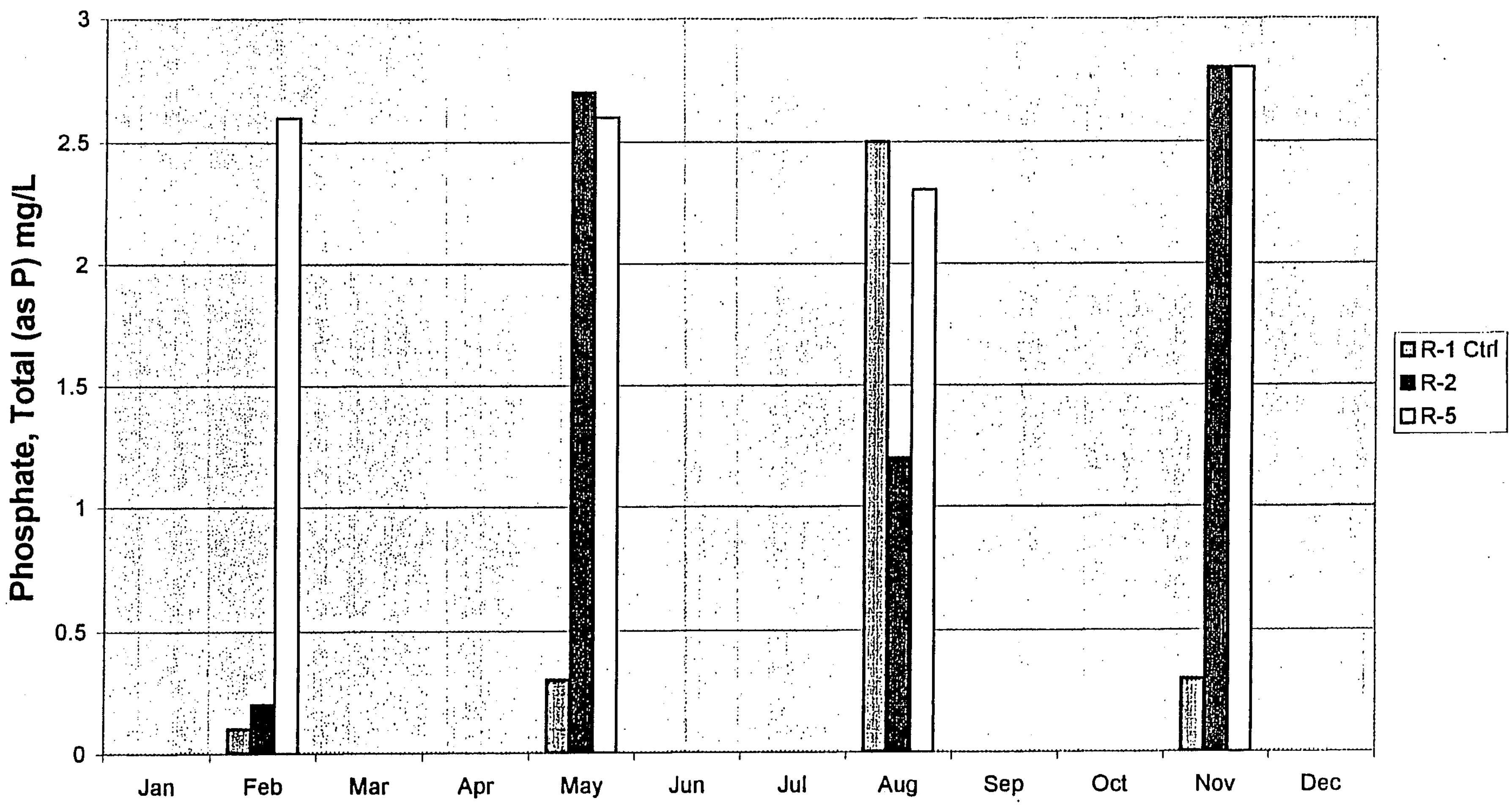
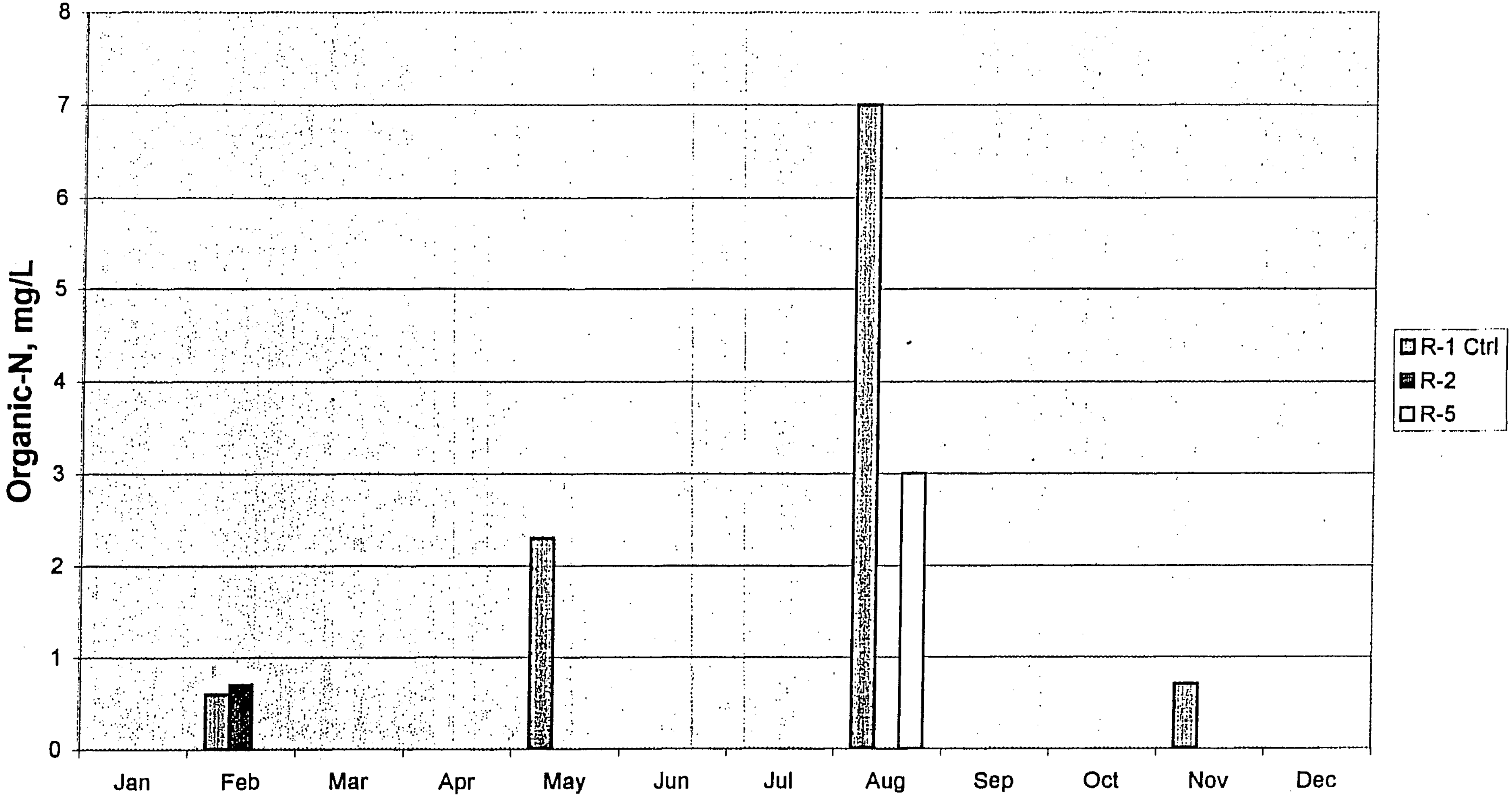
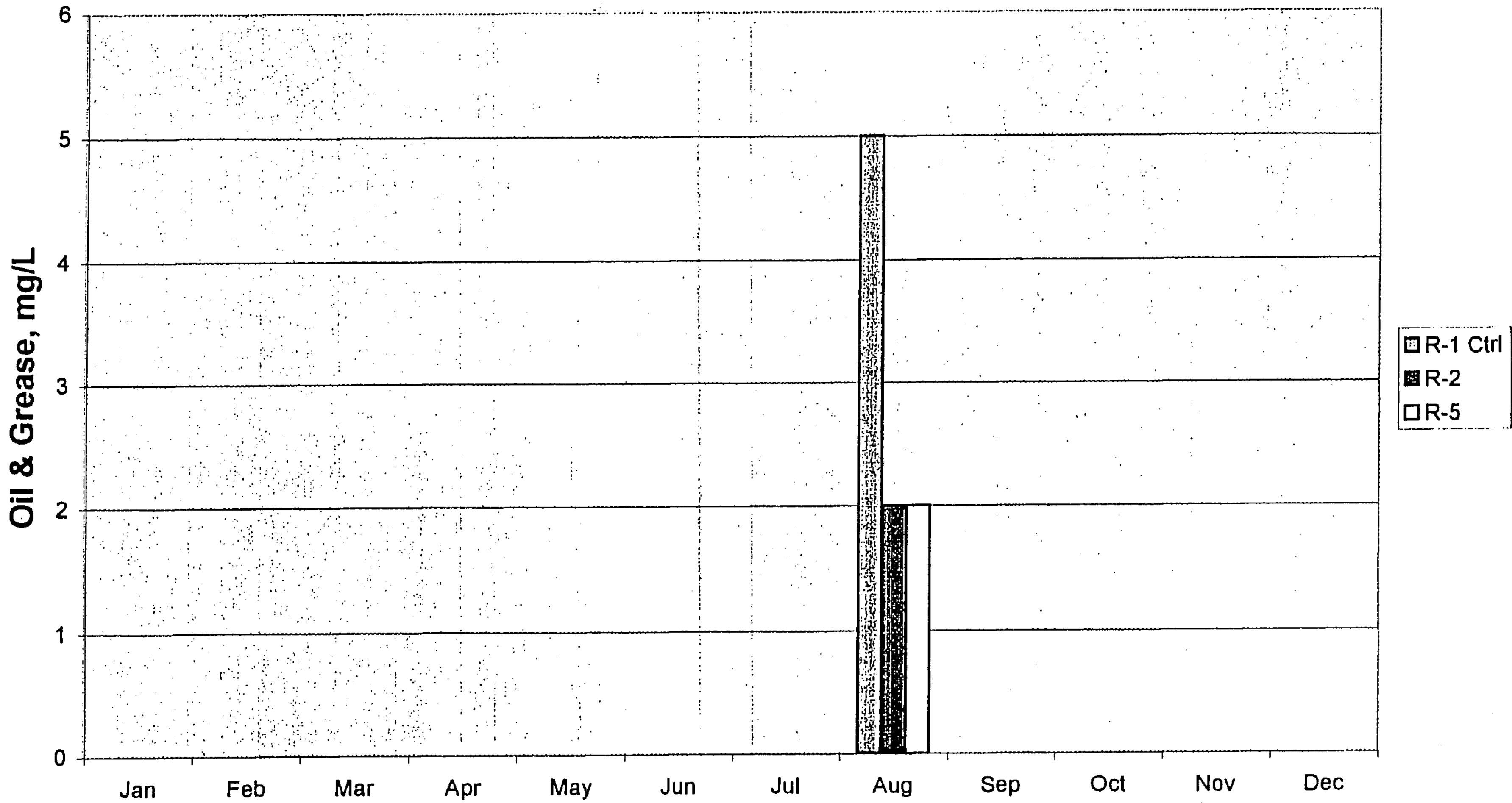
Receiving Waters - Annual Summary 2000



Burbank Wastewater Treatment Facility
Receiving Waters - Annual Summary 2000



Burbank Wastewater Treatment Facility
Receiving Waters - Annual Summary 2000



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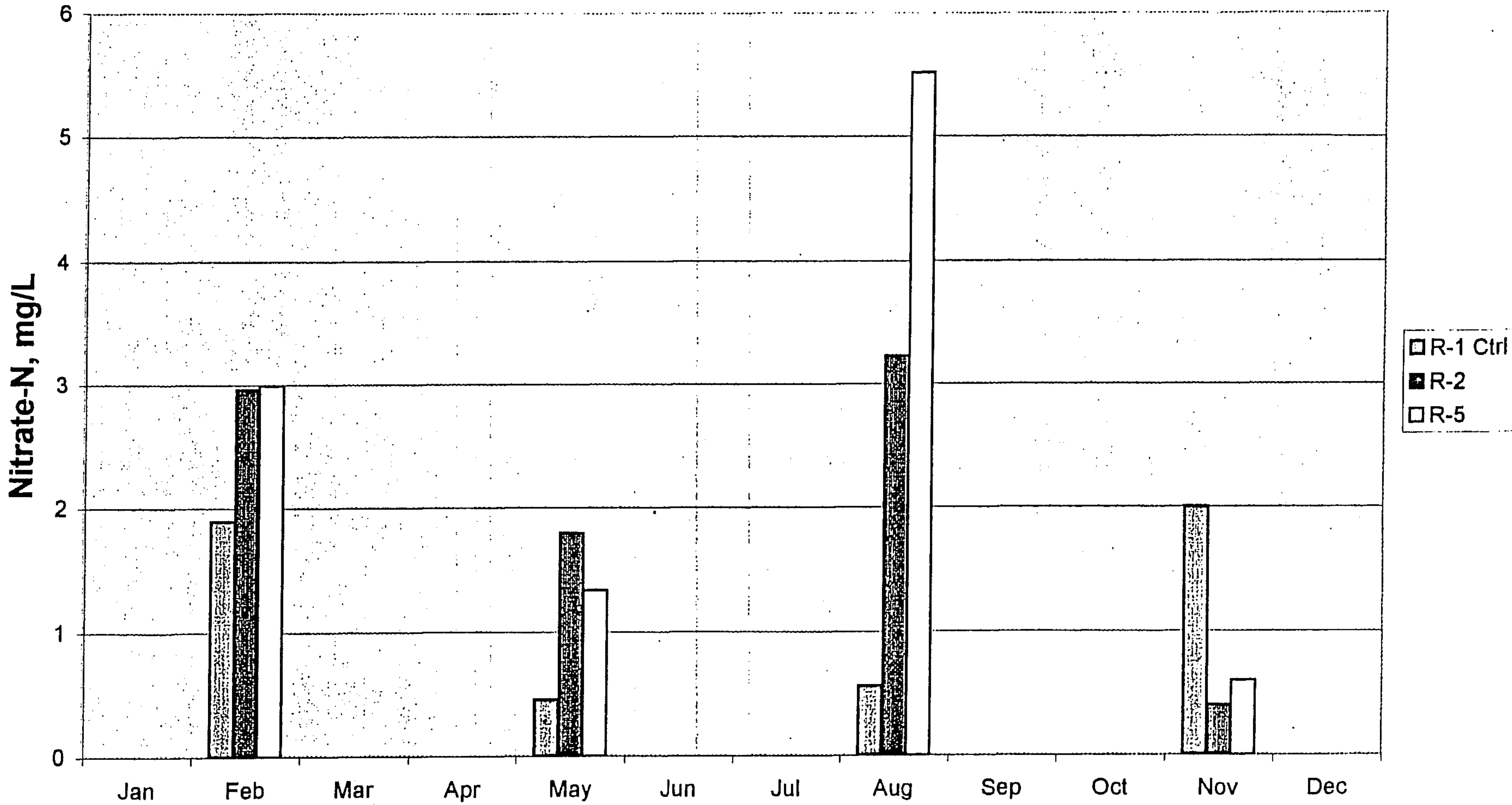
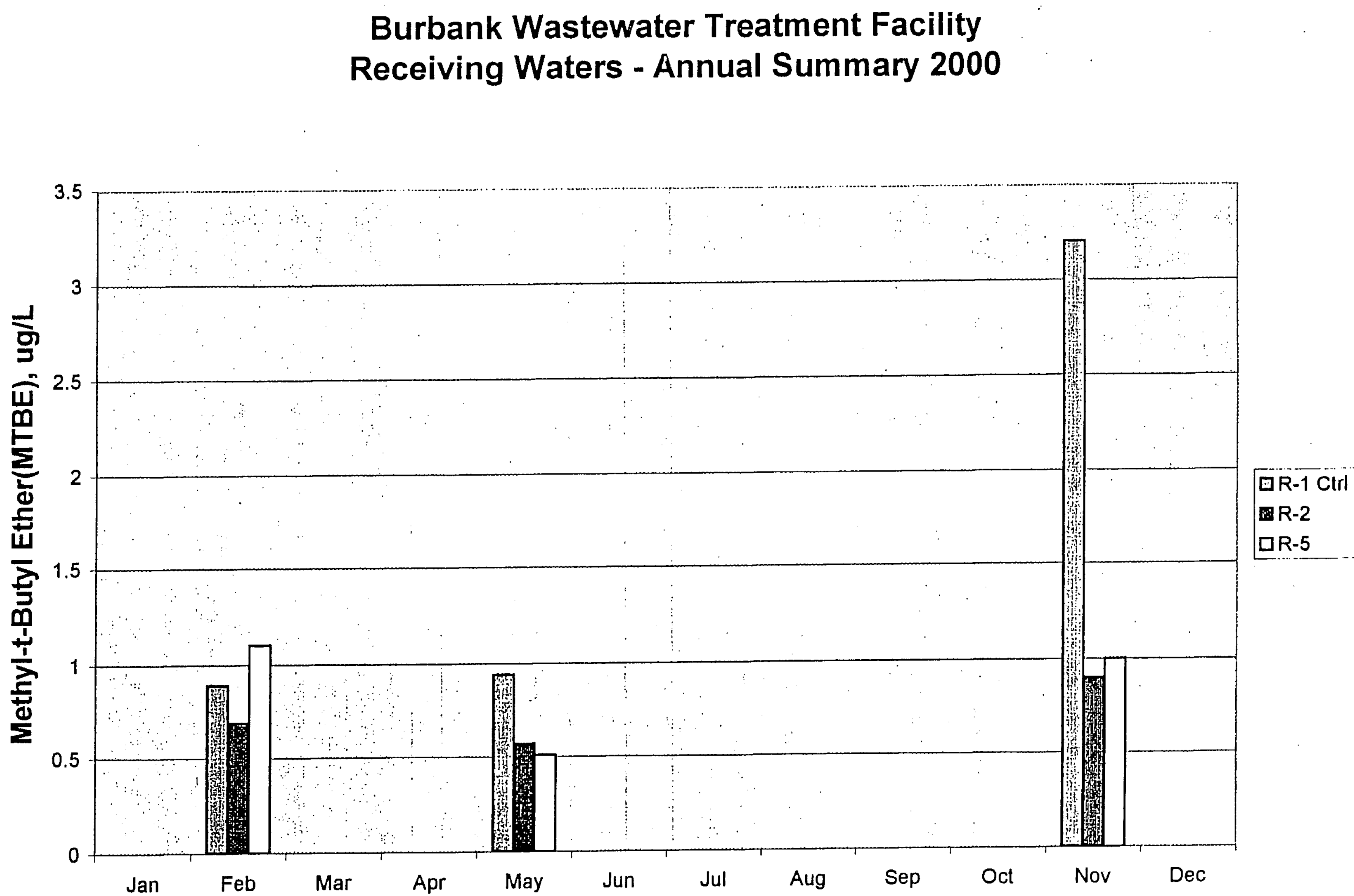
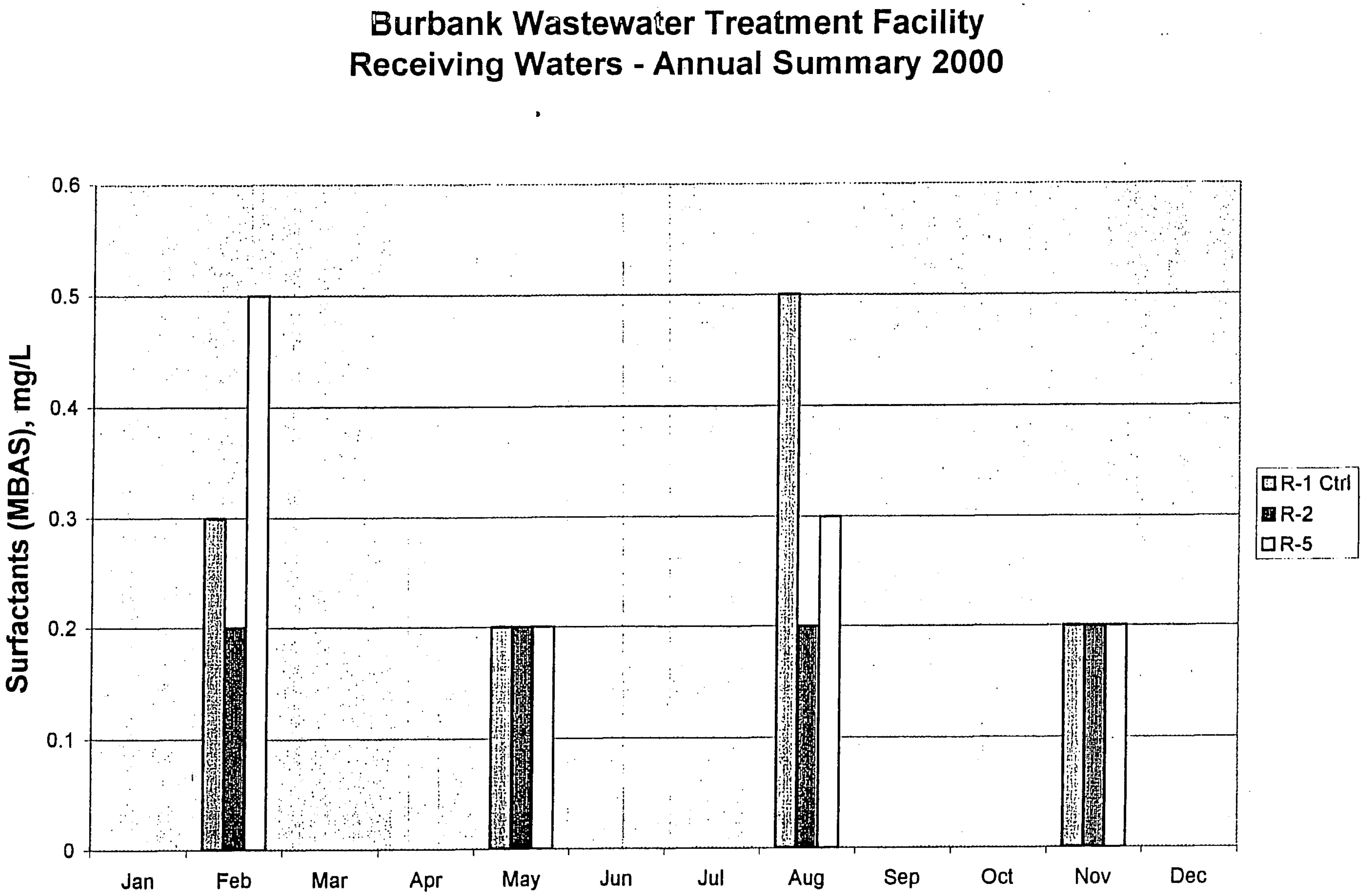
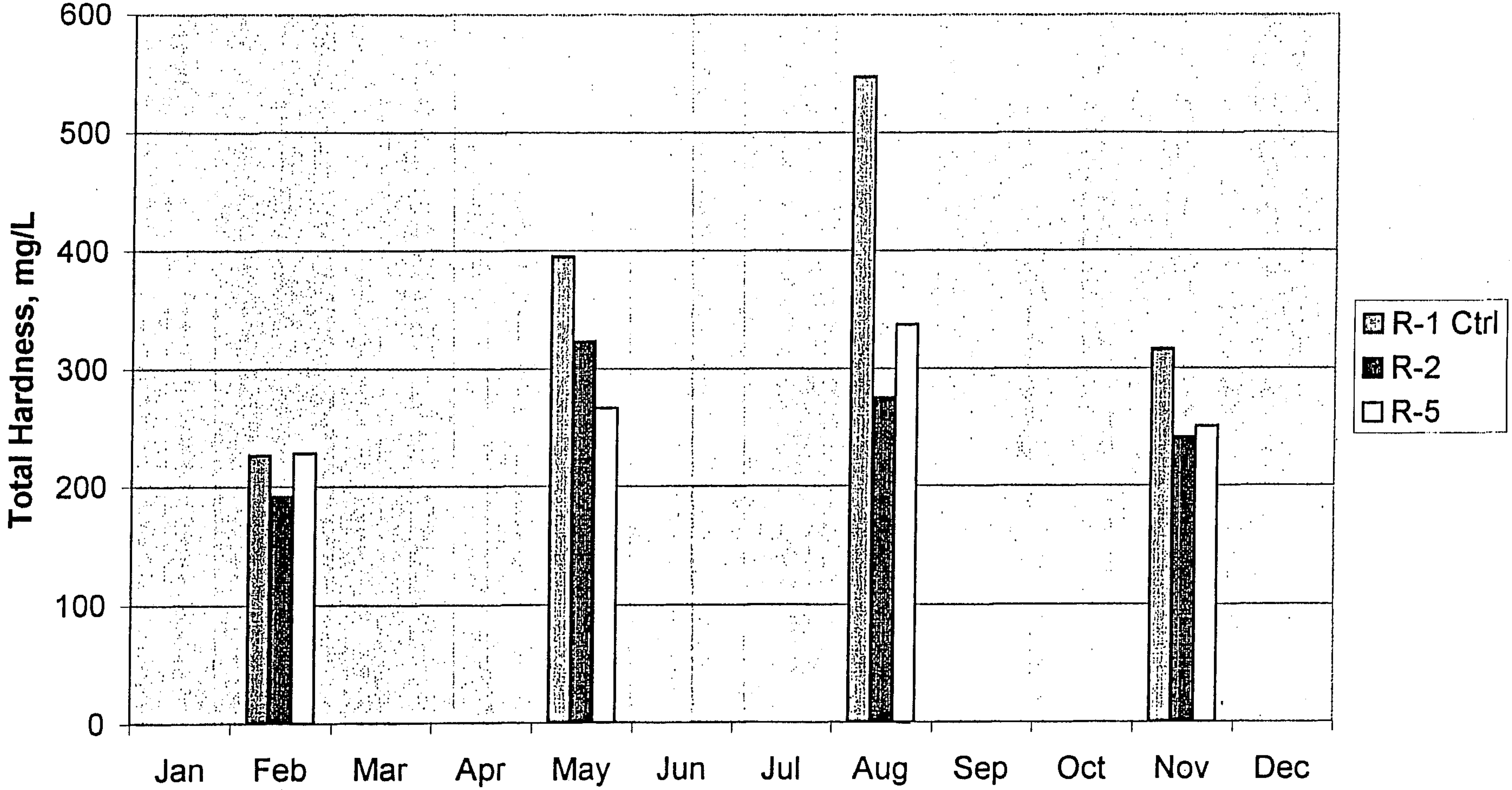
Receiving Waters - Annual Summary 2000



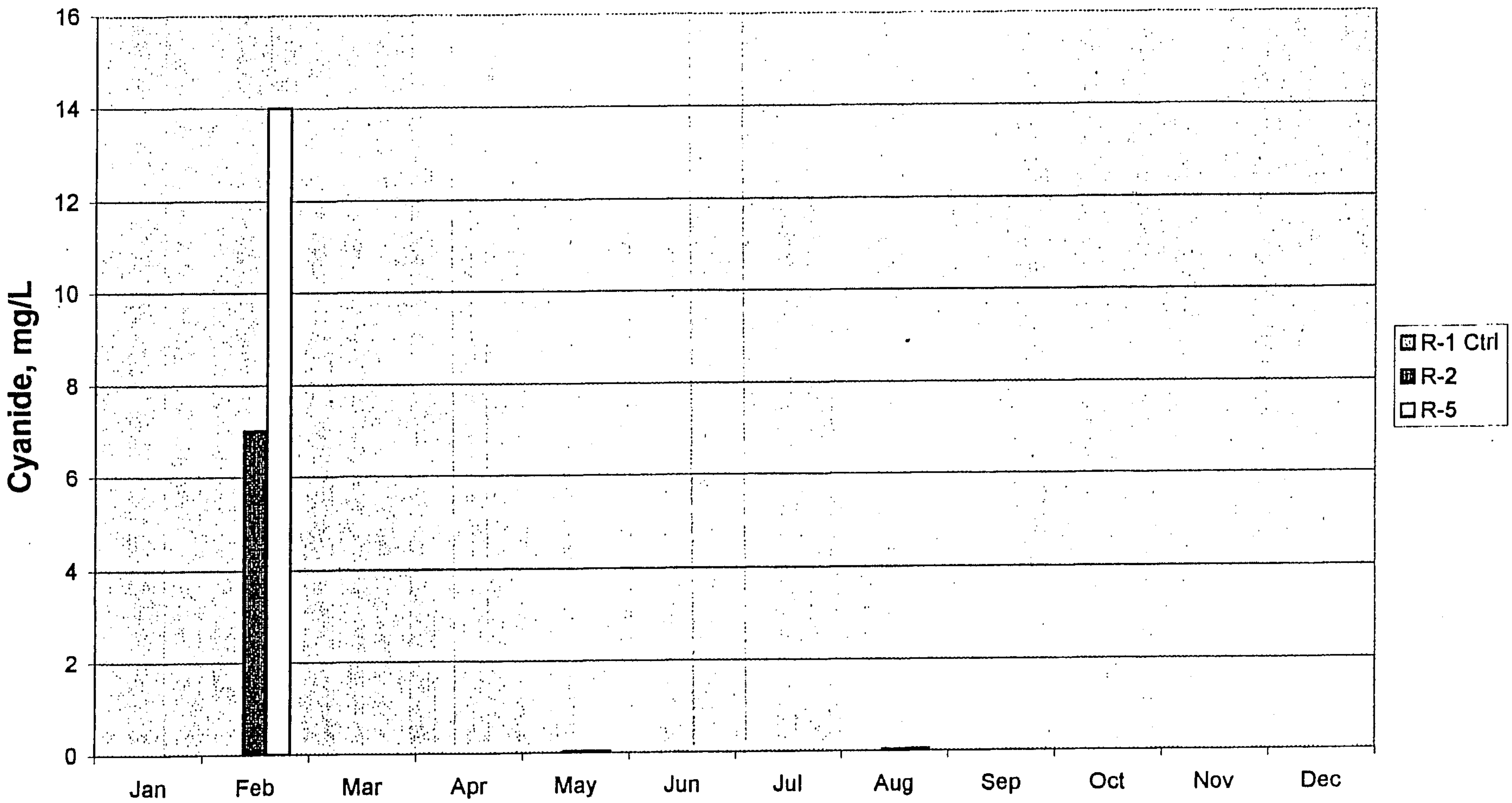

Burbank Wastewater Treatment Facility
Receiving Waters - Annual Summary 2000
Methyl-t-Butyl Ether(MTBE), ug/L
3.5
3
2.5
2
1.5
1
0.5
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
R-1 Ctrl
R-2
R-5


Burbank Wastewater Treatment Facility
Receiving Waters - Annual Summary 2000
Surfactants (MBAS), mg/L
0.6
0.5
0.4
0.3
0.2
0.1
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
R-1 Ctrl
R-2
R-5

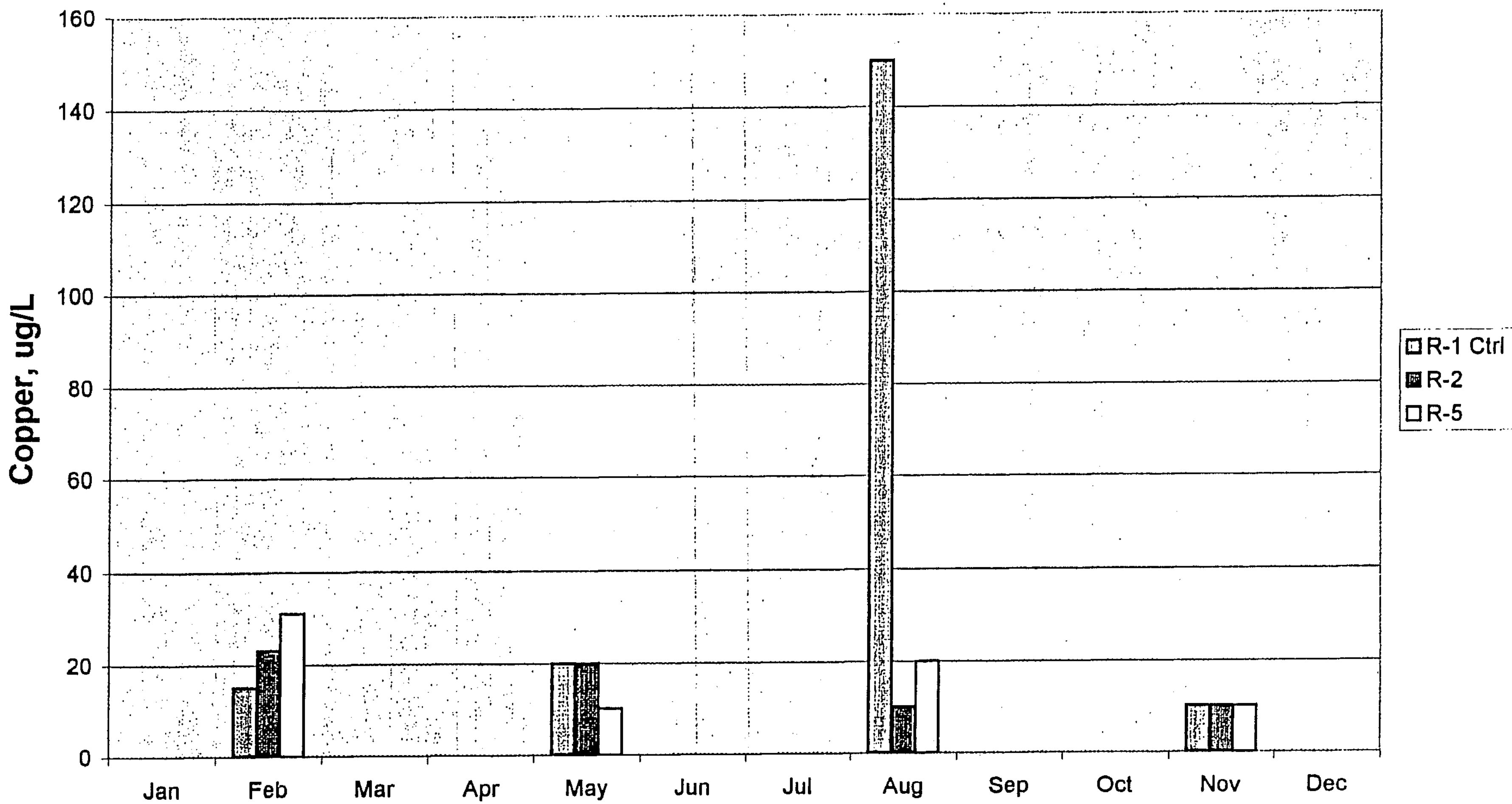
Burbank Wastewater Treatment Facility
Receiving Waters - Annual Summary 2000



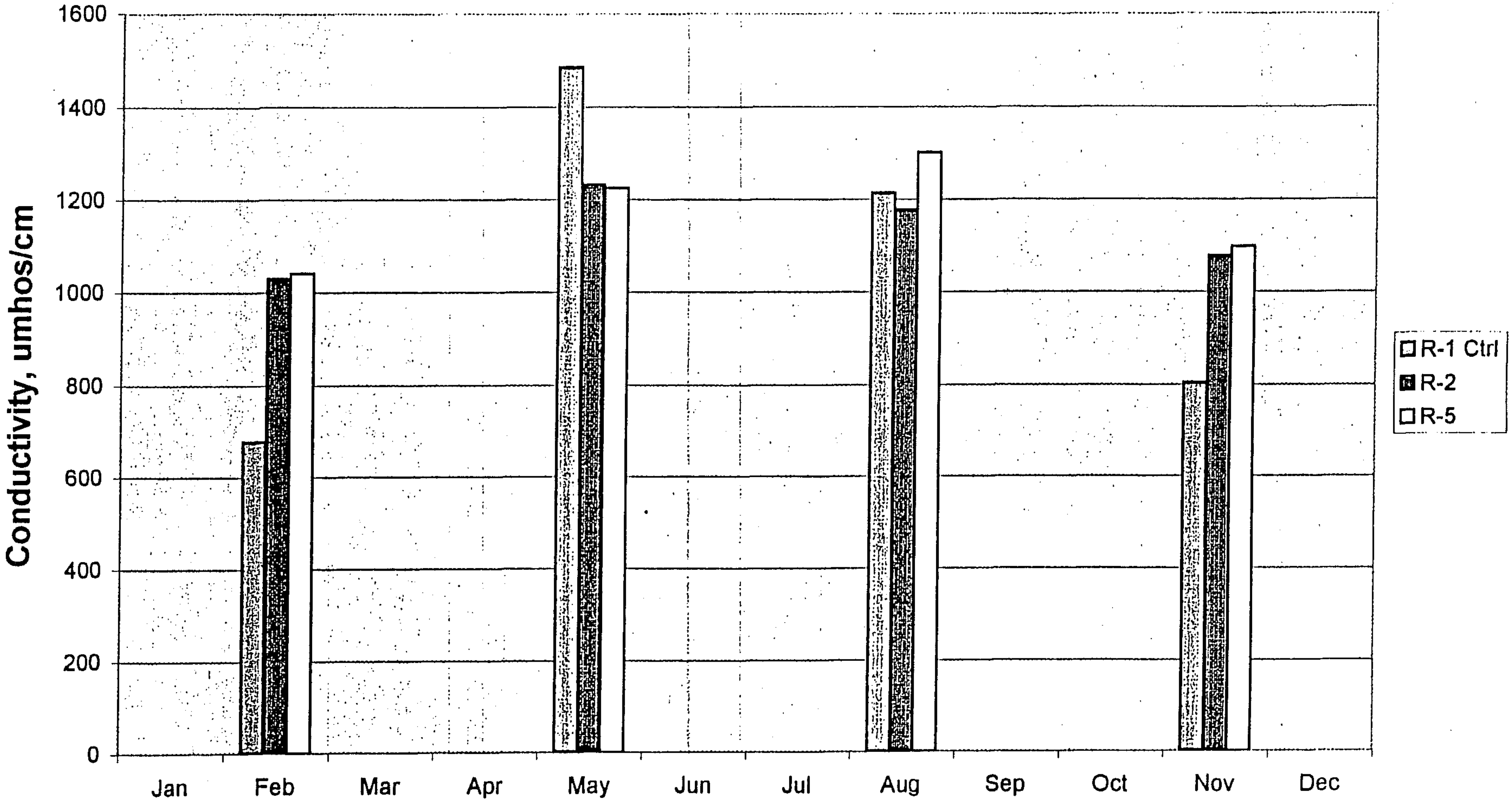
Burbank Wastewater Treatment Facility
Receiving Waters - Annual Summary 2000



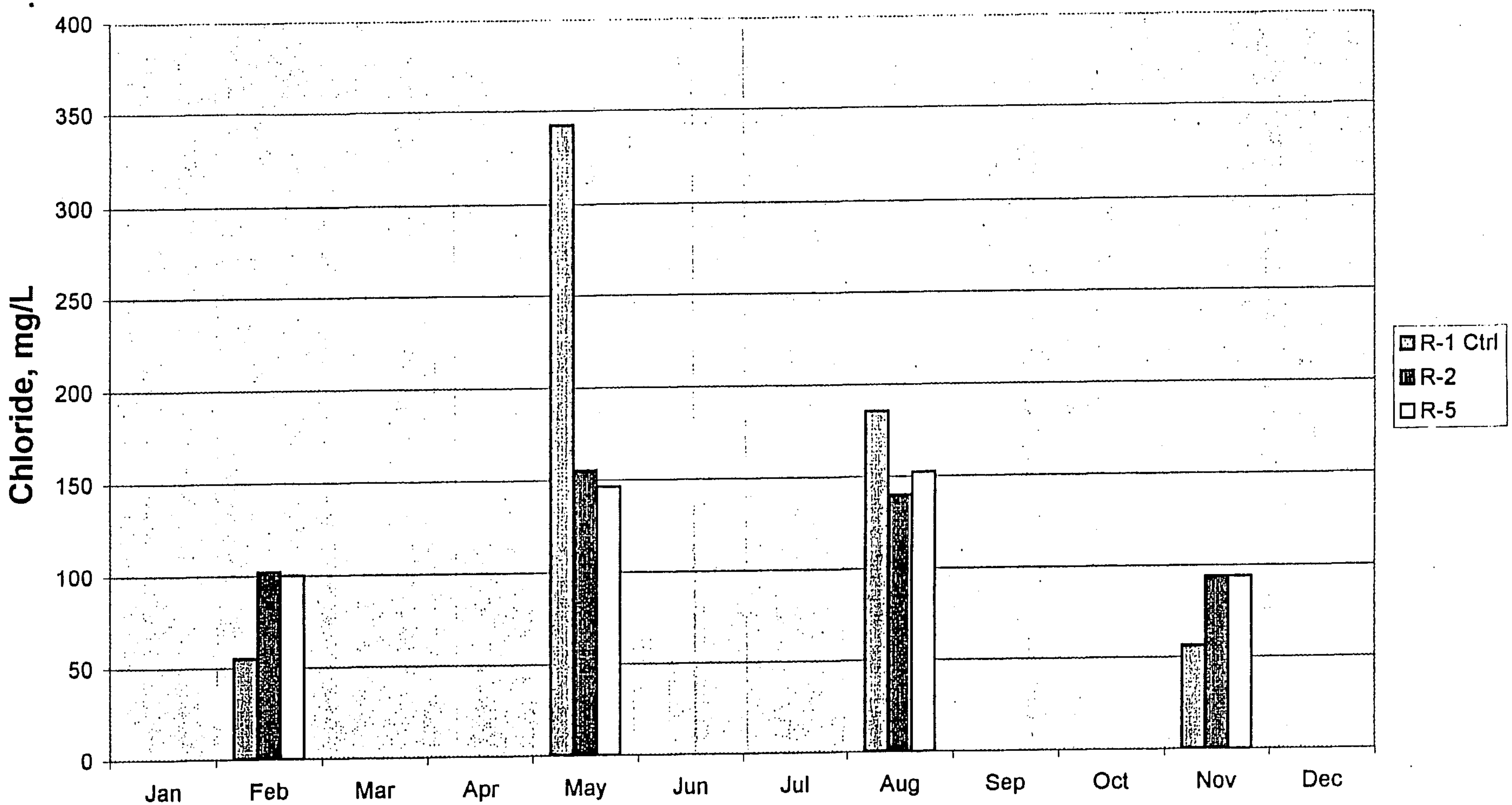
Burbank Wastewater Treatment Facility
Receiving Waters - Annual Summary 2000



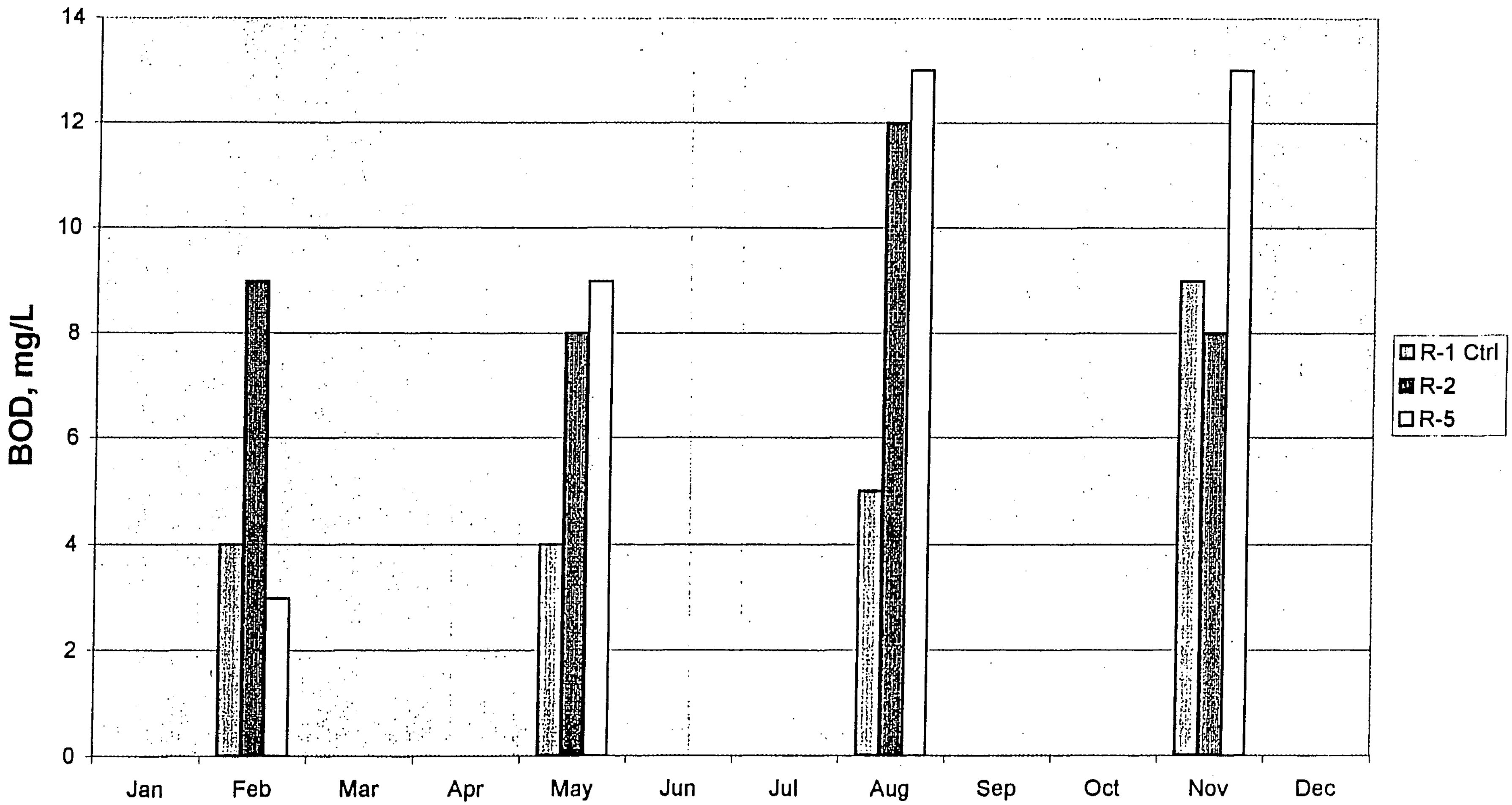
Burbank Wastewater Treatment Facility
Receiving Waters - Annual Summary 2000



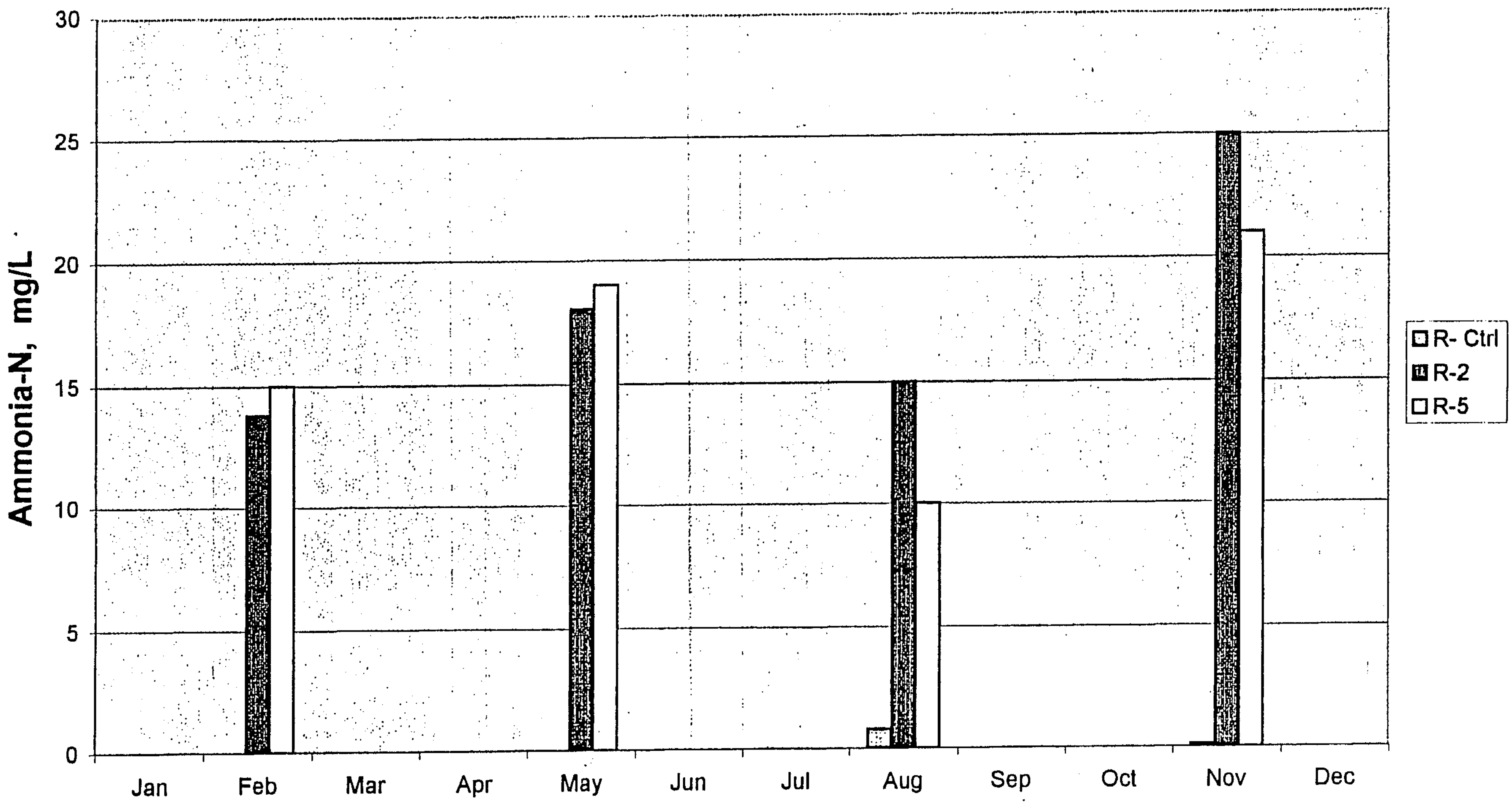
Burbank Wastewater Treatment Facility
Receiving Waters - Annual Summary 2000

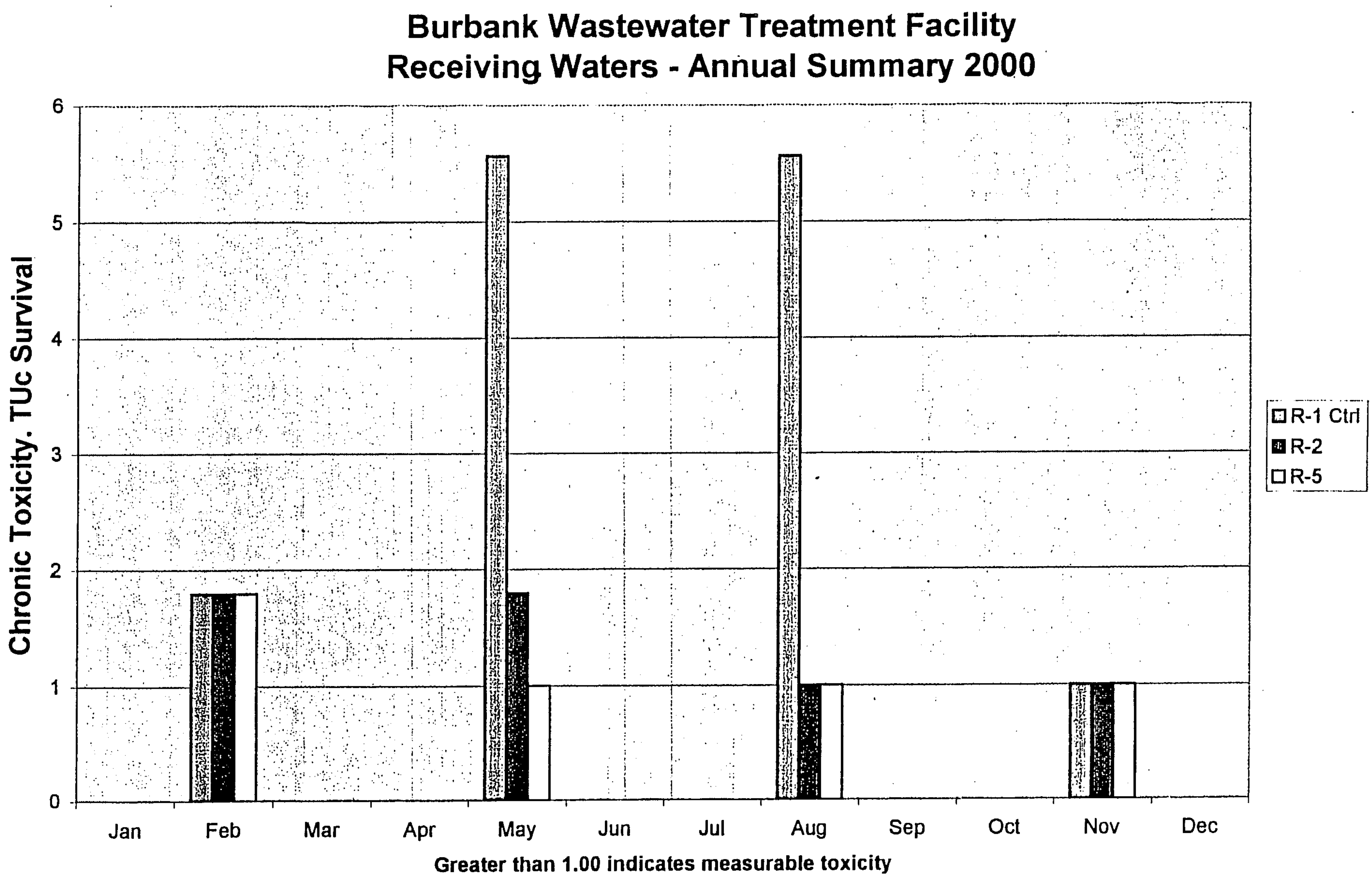


Burbank Wastewater Treatment Facility
Receiving Waters - Annual Summary 2000

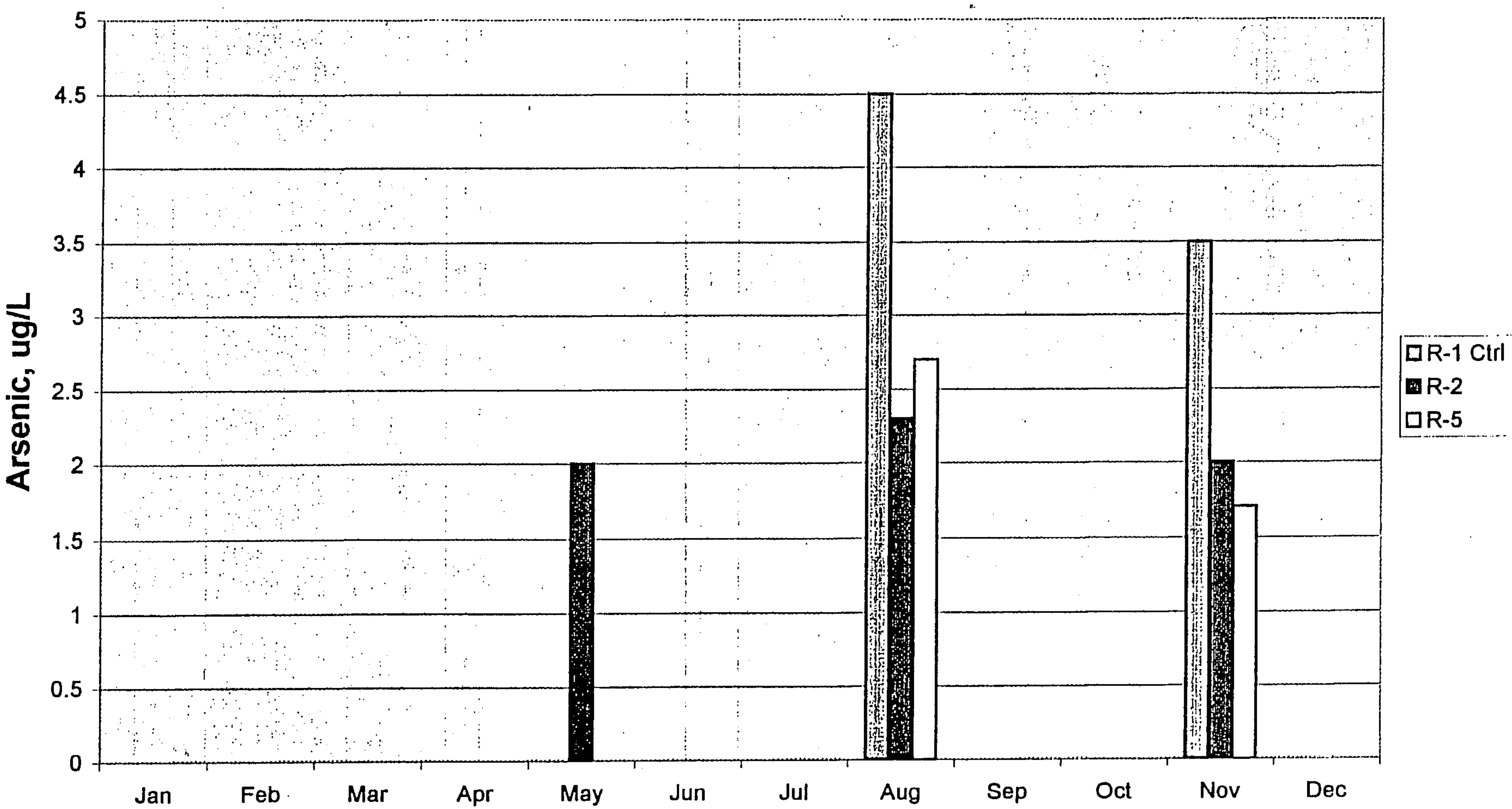


Burbank Wastewater Treatment Facility
Receiving Waters - Annual Summary 2000

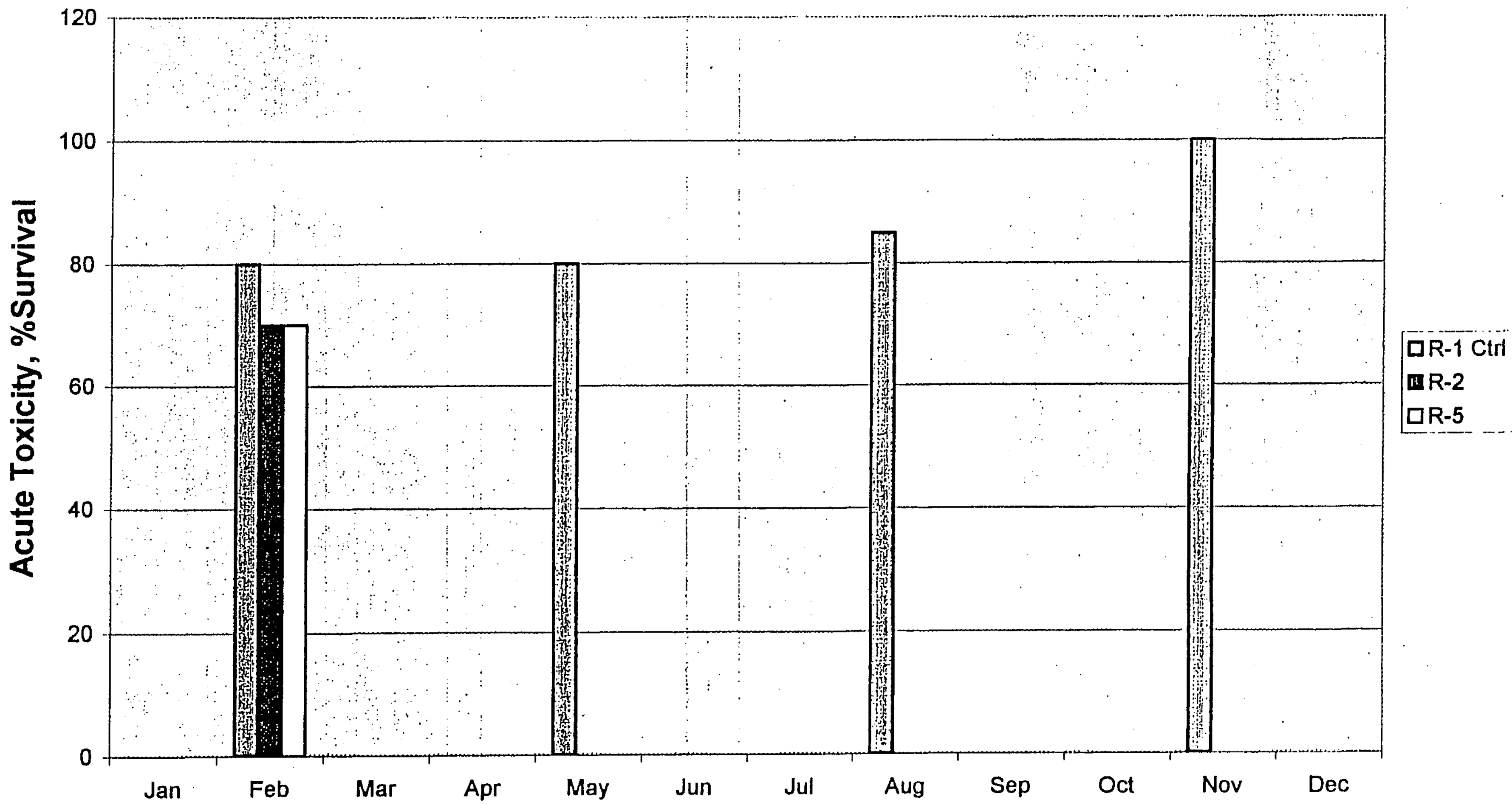



Burbank Wastewater Treatment Facility
Receiving Waters - Annual Summary 2000
Chronic Toxicity, TUc Survival
6
5
4
3
2
1
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Greater than 1.00 indicates measurable toxicity
R-1 Ctrl
R-2
R-5

Burbank Wastewater Treatment Facility
Receiving Waters - Annual Summary 2000



Burbank Wastewater Treatment Facility
Receiving Waters - Annual Summary 2000



Section 4

UnitedWater

Burbank Wastewater Treatment Facility
Annual Summary 2000

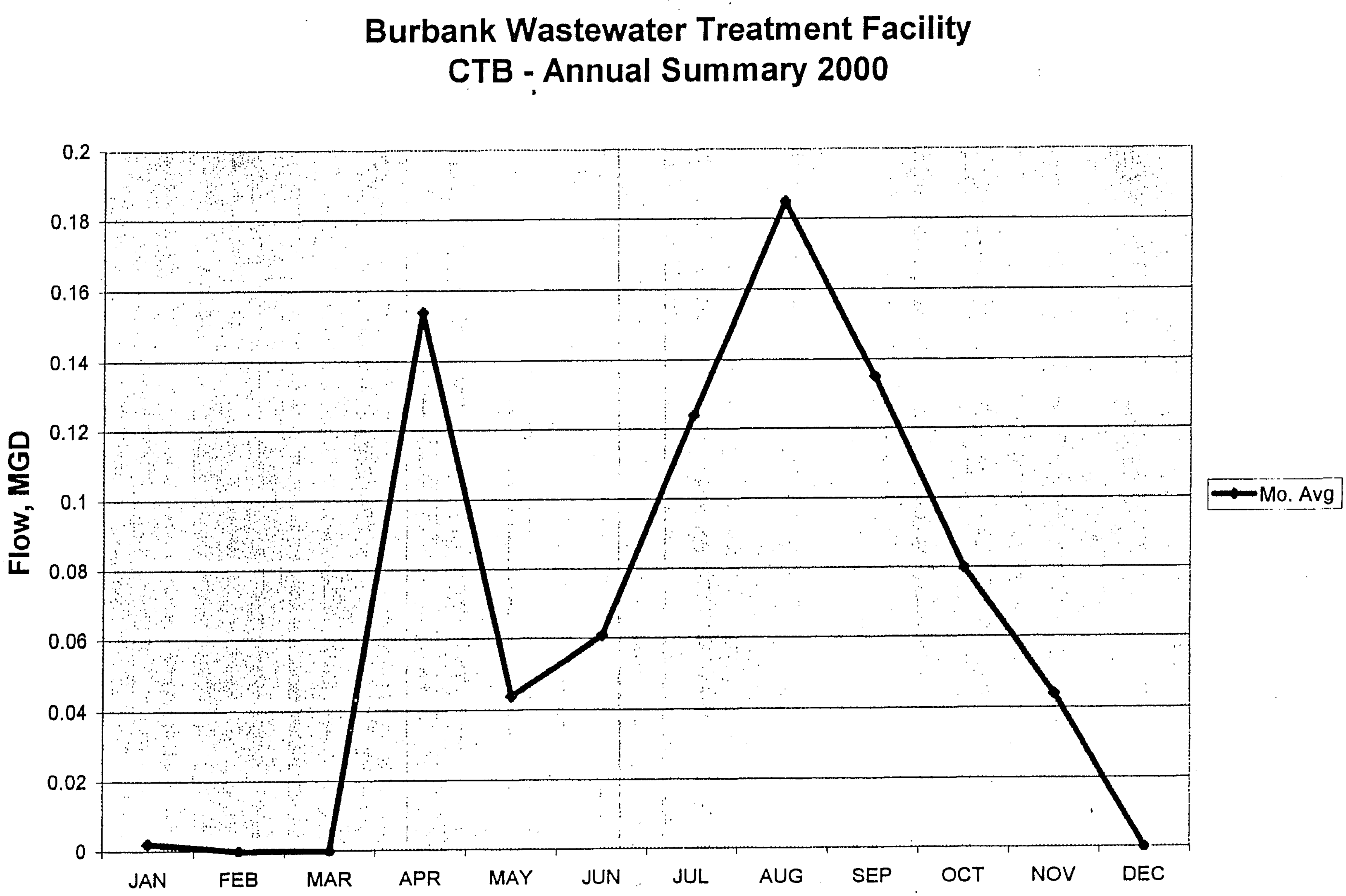
Parameter	Result Type	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Avg.
	CTB													
Flow	MGD; Mo.Avg.	0.0022	@	@	0.154	0.044	0.061	0.1240	0.1850	0.1350	0.0800	0.0440	@	0.0921
Chlorine residual, Free	Mo.Max., mg/L	0.1	@	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	@	<0.1
Chromium	Mo.Max., ug/L		@			10			10			20		13
Zinc	Mo.Max., ug/L		@			320			140			330		263

Priority Pollutants	Monitoring of the priority pollutants is excluded based on footnote 15, page T-12 of the NPDES Permit.

Proprietor assurances have been given to the City regarding chemicals it supplies for maintainance of its Cooling Towers and systems. The chemicals utilized are not found on the 'Attachment 1' Priority Pollutants listing given in the current NPDES Permit.

A memo from Wayne Smith (Jan. 11, 2001) is included. It details chemical trade names of chemicals used.

@ = no flow; inoperative at scheduled monitoring.
annfnlsq2000.xlsCTB3/5/01


Burbank Wastewater Treatment Facility
CTB - Annual Summary 2000
Flow, MGD
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Mo. Avg

Burbank Water Power

MEMORANDUM

DATE: January 11, 2001

TO: Mr. Gaspar Garza, Reclamation Plant

FROM: Wayne Smith

SUBJECT: PSD-Power Plant, 2000 Chemical Consumption

Per your request, follows a list of chemicals and usage by the PSD-Power Plant for the year 2000.

CHEMICAL NAME	TRADE NAME	2000 TOTAL USAGE
		FOR BOILER USE
Morpholine	Betz Steammate NA0160	57 Gallons
Morpholine	Betz 1405	56 Gallons
Oxygen Scavenger	Betz PL 1200 P	251 Gallons
Sodium Hydroxide	Caustic Soda	0 Gallons
Phosphate	Betz Optisperse 50715	160 Gallons
		FOR COOLING TOWER USE
Anti-Foam	Betz Foamtrol 4440	96 Gallons
Copper Inhibitor	Betz AZ 8104	1725 Gallons
Sodium Hypochlorite		12,070 Gallons
Sodium Bromide		560 Gallons
Deposit Control	Betz Dianodic DN2301	4565 Gallons
Molybdate	Betz 3200	1 Gallon
Sulfuric Acid		5037 Gallons
Chlorine		4 Tons

Should you have any questions, please call me at 3691.

Wayne A Smith

Wayne A. Smith
Power Plant Test Supervisor

EAC: was
cc: Mr. Paul Thayamagundalo, Public Works Dept.
Mr. Leighton Fong, Supervisor Civil Engr., Water Division - PSD
Mr. Dennis Moran, Power Production Superintendent

Section 5

UnitedWater

Usage of Chemicals – 2000

The following is a list of chemicals used for Discharge Point 001, 002 and Water Reclamation:

Chemical Name	Usage
Chlorine	115 Tons
Sodium Hypochlorite	78,000 Gallons
Polymer	21,221 Lbs
Aluminum Sulfate	1,814 Gallons

The following chemicals were used for Discharge Point 001:

Sodium Bisulfite	63,109 Gallons
Sulfur Dioxide	6 Tons

Section 6

United Water

NPDES
EXCEPTION SUMMARY
2000

	Discharge Point 001	**Discharge Point 002**
January	1 Nitrite 1 Nitrite + Nitrate	1 Nitrite 1 Chronic Toxicity 1 Acute Toxicity
February	0	1 Chronic Toxicity
March	0	1 Chronic Toxicity 1 Acute Toxicity
April	0	1 Chronic Toxicity 1 Acute Toxicity 1 Turbidity
May	0	1 Chronic Toxicity 1 Acute Toxicity
June	1 Manganese	1 Chronic Toxicity 1 Manganese 1 Oil & Grease
July	0	1 Chronic Toxicity 1 Acute Toxicity
August	0	1 Acute Toxicity
September	1 Nitrite + Nitrate	1 Chronic Toxicity 1 Acute Toxicity
October	0	1 Chronic Toxicity
November	1 Iron	1 Acute Toxicity
December	0	0

	Discharge Point 001		Discharge Point 002		
Total(s)	1 Nitrite 2 Nitrite + Nitrate 1 Manganese 1 Iron		1 Nitrite 8 Chronic Toxicity 7 Acute Toxicity 1 Turbidity 1 Manganese 1 Oil & Grease		
Total	5	+	20	=	25

2000 Mitigation Summary

Discharge Point 001

Exception: Exceeded Nitrite limit once.
Mitigation: Initiated activated sludge process control measures that inhibit nitrification.

Exception: Exceeded Manganese limit once.
Mitigation: The Industrial Source Reduction and Control Program staff has investigated IU's which could possibly discharge waste and/or have wastewaters containing manganese. A database of manganese sampling information has been compiled to further identify sources.

Exception: Exceeded Nitrite and Nitrate limit twice.
Mitigation: Initiated activated sludge process control measures that inhibit nitrification.

Exception: Exceeded Iron limit once.
Mitigation: In comparison, effluent iron concentration results for discharge point 002 was 156 ug/L, which meets permit requirements. It appears to be an isolated incident, which may have come from a storm water inlet.

Discharge Point 002

Exception: Exceeded Nitrite limit once.
Mitigation: Initiated activated sludge process control measures that inhibit nitrification.

Exception: Exceeded Chronic Toxicity limit eight times.
Mitigation: The City of Burbank is in pre-design for the Biological Nutrient Removal process, which will eventually reduce effluent ammonia levels and effluent toxicity.

Exception: Exceeded Acute Toxicity limit seven times.
Mitigation: The City of Burbank is in pre-design for the Biological Nutrient Removal process, which will eventually reduce effluent ammonia levels and effluent toxicity.

Exception: Exceeded 5 NTU for six hours on April 13th.
Mitigation: Standard Operating Procedures have been implemented to prevent noncompliance of this parameter in the future.

Exception: Exceeded Manganese limit once.

Mitigation: The ISRCP continues sewer monitoring to develop a database to help identify sources.

Exception: Exceeded Oil and Grease limit once.

Mitigation: Checked with Contract Lab and verified QA/QC was correct. They agreed that the analysis was unusually high. Oil and Grease has not exceeded 4 mg/l for at least two and one half years. A follow-up review was made on internal sampling and bottle identification practices.

STATE OF CALIFORNIA
WASTEWATER TREATMENT PLANT
<u>OPERATOR CERTIFICATIONS</u>

Gaspar Garza	Grade V
Manuel Benitez	Grade V
Jack Tchakerian	Grade V
Rich Campbell	Grade IV
James Baldwin	Grade III
Charles Kunze	Grade III
Steve Alcorn	Grade II
Clifford Henley	OIT
Boonlert Karnchanasai	OIT

Technical Area: Soil and Water Resources

BACKGROUND

A Data Adequacy response labeled Water-1, was submitted by the applicant. The initiating request (para 1) was for discussion of the impact of the plant on the POTW. The response is that the project will obtain approval from POTW and that "MPP will manage the waters sufficiently to maintain compliance with the discharge limitations." This is not a response that discusses the changes that will occur because of the project.

The last paragraph of the data request asked that "information should be compared with the estimated change in the constituents…". The response in the 3rd para answer is "The NPDES permit for the Burbank Water & Power discharge includes the use of performance goals, rather than performance-based limitations." The "goals" are not listed, and the intent of the question, to determine the impact of the plant on the POTW discharge, is not substantially addressed either in the response or in the revised AFC sections 3 and 5. It is apparent that the MPP will at least "consume" part of the current excess performance of the POTW, but this is not quantified. There are 3 references in footnotes for this Response that are not supplied. The third reference particularly is important.

Data Request 84: Is the plant going to comply with LARWQCB 98-052, or take advantage of new dates and limits in LARWQCB 98-072?

Response: The COB will continue to comply with the requirements of LARWQCB 98-052. Although the LARWQCB has appealed the court ruling in favor of the COB, the State Supreme Court has yet to agree to hear this appeal. Unless the appeal is heard and the Court rules in favor of the LARWQCB, the existing permit will remain in effect. The MPP will divert, use and return wastewaters from the COB reclamation plant wastewater discharge line in such a manner as to not impair the COB's ability to comply with the discharge limitations of LARWQCB 98-052.

Technical Area: Soil and Water Resources

BACKGROUND

The NPDES permit held by COB is a "hybrid" per Response to Data Adequacy labeled Water-3. This response in essence says that the COB does not and/or will not limit the MPP effluent by prior agreement, i.e.; limits will not be placed on the project, only on the COB.

Data Request 85: Please explain how conflicts regarding effluent control strategies between the participants to the MPP (i.e.; SCPPA) will be resolved. This should include evidence of a written agreement, or if no written agreement exists between the owners of MPP, then what other mechanism will be used to resolve conflicts. Particularly address the possible need for additional money to fund any improvements required by one participant. Does any owner have the ability to "veto" additional funds for management or operations?

Response: The MPP will be constructed, operated and maintained in accordance with an array of agreements between the Southern California Public Power Authority (SCPPA) as the owner; the Cities of Anaheim, Burbank, Cerritos, Colton, Glendale, Pasadena and San Marcos as the Power Purchasers (Purchasers); and the City of Burbank as the Project Manager and Operating Agent. The following agreements are currently being negotiated and will be executed prior to the issuance of bonds by SCPPA to pay for the anticipated costs of development and construction which are necessary, along with CEC Certification, before construction can commence.

Power Sales Agreements. Each Purchaser will enter into a Power Sales Agreement with SCPPA that will commit each Purchaser to pay for all fixed costs of MPP prorated to their share of the power output capacity and the variable costs of their energy use.

Construction Management and Operating Agreement. SCPPA will enter into this agreement with the City of Burbank that will name the City of Burbank as the Project Manager and Operating Agent. It will require, among other things, that actions taken by Burbank comply with prudent utility practice as well as all applicable laws and regulations. Burbank will also be required to submit proposed budgets to a committee of the Purchasers called the Coordinating Committee. This may include recommendations that Burbank proposes as optional strategies to deal with issues such as effluent control strategies. Each Purchaser will have a vote equal to their percentage of the capacity of the MPP and the percentage of votes to approve or veto recommendations by Burbank will be stipulated as well as mechanisms to resolve disputes. Budget decisions by the Coordinating Committee will obligate each Purchaser to their prorata share of the total costs. Funding by the Purchasers will normally be done with proceeds from sales to their retail customers.

Site Lease and Services Agreement. This will be another agreement between SCPPA and Burbank that will identify the land and services provided by Burbank and the associated costs. This agreement will address water and wastewater services and costs.

Technical Area: Soil and Water Resources

BACKGROUND

Page 5.5-7 Revised AFC 5.5.2.1.1 says that …"reclaim water use can be revisited." when the Reclaim Facility is modified.

Data Request 86: What impact would a modified reclaim facility have on the power plant? Is it relevant, or is that something to be considered only if and when a change is proposed? Discuss the relevance for current AFC considerations. Confirm the applicant's commitment to the actions specified in the AFC.

Response: The proposed modifications would provide improve water quality and increase the potential capacity of the COB reclamation plant. However, although the reclamation plant currently has a capacity of 9 MGD, it is only operated at 8 MGD. Therefore, it is uncertain if or when increases in treatment capacity of the COB reclamation plant would result in increased availability of reclaimed water.

Technical Area: Soil and Water Resources

BACKGROUND

Page 5.5-7 Revised AFC 5.5.2.1.1 Average flow of the reclaim plant is 8 mgd, existing uses are 6.5 mgd, with 1.5 mgd "wasted" to the channel. The new plant will consume an "average" of 1.4 mgd. So the "waste" amount will be reduced from 1.5 to 0.1 mgd.

Data Request 87: What effect will this reduction have on the quality of the channel water flow, and on the LA River?

Response: Currently, the "wasted" discharge to Outfall No. 001 of 1.5 mgd contains of about 500 to 700 mg/L TDS, and this concentration may range up to the Los Angeles RWQCB allowed discharge limit of 950 mg/L TDS. This currently results in an addition of dissolved solids mass to the channel and the LA River that is acceptable in terms of the existing waste discharge permit issued by the Los Angeles RWQCB and is, therefore, fully protective of all beneficial uses of receiving waters designated by the Los Angeles RWQCB. Operation of the new plant will not increase the mass of dissolved solids in the "wasted" discharge to the channel, and therefore there will be no change in the total mass of solids going to the LA River as a result of the plant. The total flow in the channel, and downstream in the LA River varies daily, monthly, and seasonally with changes in precipitation and other discharges. The total flow, however, is exceedingly large compared to the 1.5 mgd "wasted" discharge at Outfall No. 001, and by comparison, 1.5 mgd is an insignificant, imperceptible portion of the total flow in the channel and the LA River. Reducing the amount of "wasted" discharge from 1.5 mgd to 0.1 mgd will have no perceptible impact on the flow in the channel or the LA River. Therefore, due to the fact that there will be no change in total mass of dissolved solids and no perceptible change in total flow in the channel or the LA River, it is anticipated that the change in discharge will have no significant adverse impact on downstream water quality.

Technical Area: Soil and Water Resources

BACKGROUND

Several. There is an obvious opportunity to manage the several situations of groundwater contamination, reclaim water consumption, and potable water conservation, through the mechanism of coordinated management of these functions.

Data Request 88: Has a coordinated management plan been considered?

Response: As described in Response to Data Request 89, COB will provide all of the MPP water supply. BWP, a division of the COB, is responsible for local water management and delivery. BWP will also manage the construction, operation and maintenance of the MPP for SCPPA. As a municipality BWP will coordinate management of available water supplies in consultation with the Watermaster, Los Angeles RWQCB and the United States Environmental Protection Agency in providing this water to the MPP. This approach assures compliance with local, state and federal regulations. Please see Response to Data Request 89 for a description of the priority of water use at the MPP.

Technical Area: Soil and Water Resources

BACKGROUND

Table 5.5-2. This table describes an apparently arbitrary use of half reclaim water and half potable water for some uses. No on-site well water is assumed. In this table, Cycle Makeup of 94,000 gpd is assumed to be from potable rather than reclaim water as stated in text. Same for equipment drains. There is no logic for the assumption of half potable water. There are no goals described that this is intended to support. The Table is identical to Table 3.4-1 on Page 3.4-10 of the Revised AFC

Data Request 89: Provide discussion that specifies the logic or purpose of the use of half potable water. Recognizing that there will be occasions of inadequacy of Reclaim Water, discuss objectives or goals that may be achieved with the use of Reclaim, on-site well, and potable water at suitable times. Would it be proper and useful to say that it will be a goal of the combined project to withdraw local well water in order to reduce ground water contamination of hexavalent chromium and VOC's? Or a goal of maximizing health of the LA River? Or managing the overall cost of water treatment for the COB? Is a coordinated water supply management system being considered?

Response: The Data Request cites information presented on Table 5.5-2. That table and explanatory text was updated in the Data Adequacy Responses and revised Section 5, which was docketed in September 2001. The volumes of water represented on the table do not reflect quantities of potable water representing half of the MPP cooling requirements. To the contrary, the MPP will rely entirely on Reclaimed Water when it is available in sufficient quantities. The use of other sources of water will be to augment the amount of reclamation water only at those times when reclaimed water is not available. See Response to Data Request 71 for a discussion of the diurnal and seasonal variations when the reclamation water would need to be augmented with other sources of water. In addition, as described in Response to Data Request 70, MPP will incorporate a service water tank into the project design which will act as "surge tank" to assist in managing the diurnal variations in reclamation water availability. The use of this tank will allow MPP to operate continuously at full load for a period of time up to 8 hours when no reclamation water is delivered to the MPP. This management of reclamation water will further reduce the frequency that the MPP will need to augment with other sources of water.

Table 5.5-2A indicates that the total estimated amount of non-reclaimed water to be used for nonpotable purposes will be approximately 275 acre-feet per year. This amount has been estimated using an estimate of the amount of time and frequency that sufficient reclaimed water is not available. This represents a small percent of the total project needs and is a significant potable water conservation measure.

As previously discussed in MPP's Data Adequacy Responses, the MPP is committed to using reclaimed water as its primary source of water. As discussed further in Response to Data Request 86, if the COB Reclamation Plant is expanded or enhanced to provide additional reclamation water, MPP is committed to using the additional reclamation water to reduce its reliance on the frequency that it must augment the water supply with other sources of water from the COB. However, additional reclamation water is not yet available.

The data request recognizes that there will be times when the amount of reclaimed water will not be sufficient to meet MPP's demand while continuing to meet the COB discharge limitations of Outfall 001. The COB has issued a will serve letter that identifies that it will deliver other sources of water in the following priority.

1. Groundwater pumped from local well that is treated to remove VOCs and hexavalent chromium;

2. Other sources of potable water.

The MPP does not own the water and will need to rely on COB's management of its resources and use the type of water that COB will deliver. The COB will also operate the MPP project and therefore would be in a position to manage the amount of water needed to operate that MPP and the sources. Therefore, management of this groundwater will continue in accordance with the guidance and allocation provided by the appropriate agencies.

The data request identifies that withdrawing the groundwater for treatment would benefit the aquifer by further assisting in the efforts associated with the Lockheed Martin Superfund site. In addition, it is important to note that the pumping of this groundwater has been authorized by the Watermaster, Los Angeles RWQCB and the United States EPA. Therefore, this groundwater will continue to be pumped in accordance with the guidance and allocation provided by those agencies.

Technical Area: Soil and Water Resources

BACKGROUND

Table 5.5-2. This table describes an apparently arbitrary use of half reclaim water and half potable water for some uses. No on-site well water is assumed. In this table, Cycle Makeup of 94,000 gpd is assumed to be from potable rather than reclaim water as stated in text. Same for equipment drains. There is no logic for the assumption of half potable water. There are no goals described that this is intended to support. The Table is identical to Table 3.4-1 on Page 3.4-10 of the Revised AFC

Data Request 90: What is the basis for the 50% value? Does the applicant intend to warrant in some way the amount of potable water used in a year? What is the purpose or function of the second set of data of this table?

Response: It is anticipated that a range of mixes of water supplies will be provided to the MPP by the COB. The hypothetical use of half potable water was only provided for evaluation purposes to illustrate one point in this range of mixes. The COB will determine the sources of water supplied to the MPP and the applicant does not intend to warrant the annual amount of potable water uses.

Technical Area: Soil and Water Resources

BACKGROUND

Revised AFC Table 3.4-1A Annual Water Consumption. There is no explanation of the derivation of these numbers.

Data Request 91: Please describe the derivation of the numbers in the table, including the underlying assumptions. Is there any warranting by the parties to this AFC that domestic water consumption will be limited to these amounts?

Response: The COB will determine the sources of water supplied to the MPP and the applicant does not intend to warrant the annual amount of potable water uses.

Technical Area: Soil and Water Resources

BACKGROUND

Page 5.5-7 Revised AFC 5.5.2.1.1 In several places in the Data Responses, including here, there are indications that reclaim water will be insufficient volume on at least some occasions. There is no indication that the MPP will have first choice of reclaim water, or be junior to irrigation uses. Domestic water is to be used for emergency "and as necessary to meet discharge limitations."

Data Request 92: Please describe the policy that will be used to parcel reclaim water to the various users (golf course, irrigation, power plant) when there is a shortage. Discuss the permanence of the practice, and whatever assurances are available that it will not be changed capriciously.

Response: Users on the booster system (landscape irrigation) will have priority since there are 40 separate metered connections without potable interconnections. That system however was designed to accommodate the Power Plant demands by including 2 million gallons of storage for the peak irrigation. Pumping from the BWRP to replenish storage is during the day when there has been a surplus supply.

The policy is dictated by commitment to serve existing customers before taking on new customers.

Technical Area: Soil and Water Resources

BACKGROUND

Page 5.5-7 Revised AFC 5.5.2.1.1 In several places in the Data Responses, including here, there are indications that reclaim water will be insufficient volume on at least some occasions. There is no indication that the MPP will have first choice of reclaim water, or be junior to irrigation uses. Domestic water is to be used for emergency "and as necessary to meet discharge limitations."

Data Request 93: What is the meaning of the phrase "... and as necessary to meet discharge limitations." Who's limits are referenced, and what frequency will domestic/potable water be required in order to meet them?

Response: The discharge limitations referenced are those specified in LARWQCB 98-052 issued to the COB. The amount of water required will depend on the quality of reclaimed water received from the COB reclamation plant and the operating utilization of the MPP. It is estimated that domestic/potable water will be required during 16 percent of the operations of the MPP.

Technical Area: Soil and Water Resources

BACKGROUND

Referring to Revised AFC 3.4.7 Water supply and treatment. The paragraph states in part "The availability of reclaimed water is constrained because it is affected by diurnal cycles, seasonality, and upsets in the reclamation plant." Material states that local well water will be treated for VOC.

Data Request 94: Does this proposed facility have priority over irrigation or other uses? What is the advantage of priority of the various uses? Can you quantify the major causes of constraints listed, at minimum on a historical basis, but preferably on a reliability analysis basis?

Response: Users on the booster system (landscape irrigation) will have priority since there are 40 separate metered connections without potable interconnections. That system however was designed to accommodate the Power Plant demands by including 2 million gallons of storage for the peak irrigation. Pumping from the BWRP to replenish storage is during the day when there has been a surplus supply.

The policy is dictated by commitment to serve existing customers before taking on new customers.

Technical Area: Soil and Water Resources

BACKGROUND

Referring to Revised AFC 3.4.7 Water supply and treatment. The paragraph states in part "The availability of reclaimed water is constrained because it is affected by diurnal cycles, seasonality, and upsets in the reclamation plant." Material states that local well water will be treated for VOC.

Data Request 95: Discuss the treatment of well water for VOC; when is it to be treated, what is the disposition of waste material?

Response: Treatment of well water is performed by the COB at the wellhead and is not a part of the MPP. The COB will provide water treated for removal of VOC's . No further treatment at the MPP site will be required.

Technical Area: Soil and Water Resources

BACKGROUND

Revised AFC 3.4.7.3 Cooling Tower Makeup. The statement is made "Reclaim water will be available…as necessary to meet discharge regulations." Further "The circulating water will be … controlled in order to achieve not more than 5.6 cycles of concentration."

Data Request 96: Does this mean that reclaim water will be limited by the operator of MPP? If the goal is minimizing water consumption then the cycles should be maximized, not minimized. Will the applicant adopt a minimum cycles of concentration? Can you describe the logic for the maximum presented?

Response: The MPP will use reclaimed water available from the COB reclamation plant to the maximum extent practicable.

The variable quality of the RWP effluent will require the MPP operators to monitor the automatic flow controls for the various water supplies available to the MPP. Automatic instrumentation for conductivity will be connected to alarms and visual indications to assist the operators in monitoring the effect of operation of the MPP on the quality of the final discharge to Outfall No. 001.

The 5.6 cycles of concentration selected is based on the expected silica concentration in the RWP effluent. Silica cannot exceed 150 mg/l in the cooling tower circulating water without adversely impacting the heat transfer in high heat transfer equipment like the main surface condenser. Once deposited, silica is very difficult to remove and may permanently affect the entire unit efficiency of the generating unit. At 5.6 cycles of concentration the silica level reaches over 125 mg/l in the cooling water.

For further information see the discussion of the "Principle of Diminishing Returns" presented in the response to Data Requests 74, 76, and 106.

Technical Area: Soil and Water Resources

BACKGROUND

Appendix R has been provided. This is a necessary part of the review of water sources. However, there is no reference to Appendix R in any textual material, nor listing in the Table of Contents.

Data Request 97: Include Appendix R in Table of Contents and refer to that in appropriate parts of the Revised AFC textual material.

Response: Appendix R is listed in the Table of Contents. Enclosed is a revised page 5.5-18 of the revised water section that includes a reference to Appendix R.

Concentration limits placed on the water quality of Discharges 001 and 002 are shown together (Table 5.5-5) with the effluent quality for the reclaim water plant taken from the Monitoring Reports for August and September 2000.

Concentration limits are placed on the water quality of the effluent. A series of standards that have been developed and that govern the maximum allowable limits for many constituents are shown below in Table 5.5-5. All information related to these levels has been taken from the RWQCB Orders 98-052 and 98-072:

The temperature of the discharge shall not exceed 100 F. Other constituent levels must also be monitored and maintained, depending on the location within the watershed and point of discharge to the Los Angeles River. Each river may have different effluent limits because of upstream and downstream conditions.

The fees associated with this type of discharge are also regulated by the RWQCB. However, this is dependent on the categorization of the effluent upon submittal of a permit application. Based on discussion with the RWQCB, the effluent will most likely be categorized as a Type 1-A or 1-B discharge. The associated annual fees are listed below for these types:

ANNUAL FEE SCHEDULE

Categorical Rating	Fee
1-A	$10,000
1-B	$ 7,000

Alternative Wastewater Discharge Methods. The primary component of the wastewater will consist of blowdown from the cooling towers. Other wastewaters will also be discharged from the site. The only option for industrial wastewater discharge is to the Burbank Western Channel Discharge 001 permitted by NPDES Permit CA0055531. Sanitary wastes must be sent to the sanitary waste line already onsite. Additional analysis is included in Appendix R and attached to this document.

Technical Area: Soil and Water Resources

BACKGROUND

Revised AFC 5.5.1.2.2. This states in part "... RWQCB staff have stated that...cooling tower blowdown to the Reclamation Plant discharge line under the existing NPDES permit will be approved"

Data Request 98: When will the blowdown be approved, and specifically what will be approved in terms of agreed limits or coordinated operations? Should approval be a constraint on the permit?

Response: The attached LARWQCB response confirms that the beneficial use of wastewater from the COB reclamation plant in conformance with the discharge limitations is consistent with LARWQCB 98-052.

California Regional Water Quality Control Board
Los Angeles Region
(50 Years Serving Coastal Los Angeles and Ventura Counties)

Winston H. Hickox
Secretary for Environmental Protection

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640
Internet Address: http://www.swrcb.ca.gov/rwqcb4

Gray Davis
Governor

August 30, 2001

RECEIVED

AUG 3 1 2001

SCPPA-PASADENA

Mr. Bill D. Carnahan
Executive Director
Southern California Public Power Authority
225 South Lake Avenue, Suite 1410
Pasadena, CA 91101

Dear Mr. Carnahan:

MAGNOLIA POWER PROJECT – CITY OF BURBANK PUBLIC WORKS DEPARTMENT, BURBANK WATER RECLAMATION PLANT AND STEAM POWER PLANT (NPDES PERMIT NO. CA0055531, CI # 4424)

We received a copy of your letter dated June 26, 2001, in which you

- Describe the Magnolia Power Project;
- Inform us about your submittal of an application for certification to the California Energy Commission (CEC);
- Relay the CEC's request for additional information concerning use of an existing NPDES permit; and,
- Request confirmation that discharge from the Magnolia Power Project will be covered under the existing NPDES permit.

On August 15, 2001, Regional Board staff met with Mr. Ron S. Maxwell of Bibb and Associates, Project Manager of the Magnolia Power Project, to discuss your letter and to request additional information on the project. Mr. Maxwell provided Regional Board staff with one copy of the City of Burbank's application to the CEC and informed us that the application was going to be revised at the end of this month. We requested a copy of the updated CEC application and of the mass balance equations, once they became available.

Based on a preliminary review of the information received up to now, the only proposed change involves modernizing outdated equipment at the power plant. The current maximum discharge flow (4.33 million gallons per day) and the discharge location (latitude 34°10'42" and longitude 118°18'44") for Discharge Serial #001 are not expected to change. Also, there are no proposed changes in discharge characteristics, including the temperature, as a result of the Magnolia Power Project modernization. Therefore, the Magnolia Power Project can be covered under the existing NPDES permit. However, if material and substantial alteration or addition to the permitted facility or activity at the facility are proposed in the future, those changes would need to be incorporated into the permit though the NPDES permit renewal process.

The City of Burbank's NPDES Permit is scheduled for renewal this fiscal year. We would appreciate it if you would forward any updated information pertinent to the discharge point so that we may review it during our permit renewal cycle.

If you have any questions, please call Winnie D. Jesena at (213) 576-6651, or Namiraj Jain at (213) 620-6003.

Sincerely,

Dennis A. Dickerson
Exectuive Officer

cc: Mr. Rodney A. Andersen, Senior Civil Engineer, Public Works Department, City of Burbank
Mr. Gaspar Garza, Project Manager, United Water Services
Mr. Ron S. Maxwell, Project Manager, Magnolia Power Project

Technical Area: Soil and Water Resources

BACKGROUND

Revised AFC 5.5.2.1. Boiler Feedwater System states in part "Makeup to this system will be produced from domestic water onsite…". Water Balance Diagrams Figure 3.4-5 ABC&D show reclaim water being the primary source.

Data Request 99: Please correct the error in the textual material.

Response: As shown on the alternate water mass balances the source of water being used will be from one of two sources, Reclaim Water or COB Domestic Water with two different water qualities. The COB domestic water can come from many sources, one is the well supply currently blended with other raw water and used to produce the COB drinking water. The COB has the option to provide only well water in lieu of the blended Domestic Water because of the local wells. The primary water supply to the MPP is intended to be Reclaim Water but the cooling tower has priority for that water source. Therefore the demineralized water treatment system may be taking Domestic Water while the cooling tower is taking Reclaim Water.

Because the source is not a constant quality the water treatment purveyor, contracted to provide demineralized water, may need to add trailers or reconfigure the trailer arrangement used to suit the water used. Space has been left on site for a sufficient number of trailers to provide demineralized water continuously to the MPP. Storage of demineralized water is also planned. Some of the trailers will only be used to protect the purveyors downstream resin because of the possibility of organic contamination of the Reclaim Water. The production possible from one trailer will be about 300 gpm. This flow is sufficient, however if the water quality is changed and the TDS increases by 50% the useful life of the trailer will be halved. A minimum of four trailers is planned on site at all times.

Technical Area: Soil and Water Resources

BACKGROUND

Revised AFC Page 5.5-19. Table 5.5-5 is apparently the wrong table. It appears to be the Section 3 table, Table 3.4-1. The three paragraphs of references are rendered useless.

Data Request 100: Correct the error(s).

Response: It is true that the MPP does not use the NPDES Discharge 002, only the Reclaim Water Plant uses that one. It is the normal discharge point used by the Reclaim Plant when there is no other user for the Reclaim Water. There is no difference between the two discharges except that the RWP is responsible for disinfection of discharge 002 and the other users must provide disinfection of all wastewater discharged at 001. MPP will be disinfecting the wastewater generated for that unit.

Table 5.5-5 should not be the same as Table 3.4-1 because the 3.4-1 is revised and is included in the revised Section 3.0 of the DAR. All of the wastewater generated under table 3.4-1 heading, Water Supply will be combined into a single discharge that will then be added to the remainder of the Reclaim Water going to Discharge 001. There is a typographical mistake in the cooling tower blowdown to the wash. The value should be 347,000 gal/day. And that changes the total to 3,433,000 gal/day. Other references in Table 5.5-5 remain valid for the average case according to the notes at the bottom of the table.

Technical Area: Soil and Water Resources

BACKGROUND

The revised water balance diagrams do not show two discharge points, only "Burbank Western Channel". There is no functional description of the difference of the two discharges. From the Simplified Process Schematic of the POTW it appears that the 001 Discharge is the normal discharge and 002 is for overflow use only. There is no textual description of the two, however.

Data Request 101: Describe the functional character of the two discharges, including which will be used for MPP discharge (all references in text are to 001 only or indeterminate)

Response: Industrial wastewater from the MPP will be returned to the COB reclamation plant wastewater discharge line to Outfall No. 001.

Technical Area: Soil and Water Resources

BACKGROUND

Revised AFC Table 3.4-6. Table indicates that 7,500 gals of NaOCL will be stored.

Data Request 102: Please advise whether this will include secondary containment of some sort.

Response: Secondary containment will be provided sufficient to contain 110% of the volume of the sodium hypochlorite storage tank. No covering is needed as the sodium hypochlorite storage tank will be indoors.

Technical Area: Soil and Water Resources

BACKGROUND

5.5.2.2 OFFSITE REGENERATION OF DEMINERALIZERS. At this and other locations there is reference to off-site regeneration of the demineralizers which supply treated water to the Steam Cycle.

Data Request 103: Provide discussion of the off-site regeneration of the demineralizers. Include details of where regeneration is accomplished and what is the effect on the permitted discharges that occur wherever that is? Please provide details of the effect on permits for the regeneration facility. Quantify the effects on flows and any LORS involved?

Response: At this moment, MPP has not decided on a specific vendor to handle the offsite regeneration of the demineralizers. The process of regeneration however, is similar regardless of the vendor.

Demineralizers have a finite capacity. Therefore, they will require regeneration on a regular basis. When exhausted, the resin bearing vessels will be removed from MPP and replaced with fresh units of similar capacity. The exhausted resins will be regenerated at the vendor's facility. The resins will be regenerated with either dilute acid or dilute sodium hydroxide. The vendor will neutralize the combined regenerate waste and discharge in accordance with requirements of the California Regional Water Quality Control Board covered under existing discharge permits. The quantity of resin for regeneration that would be produced by MPP is approximately 1200 cubic feet of resin each month. Typical water treatment vendor regeneration facilities process more than 10,000 cubic feet of exhausted resin each month. The increased capacity from the MPP will have a small impact on the vendor's processing system and on the vendor discharge overall.

Technical Area: Soil and Water Resources

BACKGROUND

Revised AFC 5.5.2.1.1 RECLAIM WATER MANAGEMENT. The numbers for reclaim and potable water consumption are used through this AFC. There is no indication of how these numbers were derived; underlying assumptions, underlying data such as reclaim plant performance, power plant efficiency and loading, etc.

Data Request 104: Provide discussion and specific data on underlying assumptions used to derive the values used in the AFC. Provide the assumed load factor for the MPP, for the reliability of supply for the reclaim plant, and for the diurnal variations on reclaim demand, and any other relevant factor.

Response: The MPP will have a 100% load factor determined by the load demands of the participating cities.

The underlying assumptions for the design of the water requirements are summarized in the water mass balance diagrams and the heat balance diagrams used as a basis for the AFC. Design assumptions for the wastewater alternatives are as follows.

For Alternate A

- Cooling tower blowdown is discharged to the City of Los Angeles North Outfall Sewer
- The amount of total solids in the discharge is equal to the total solids in the makeup water
- Total dissolved solids in the cooling tower makeup water is 732 mg/l
- Manpower is 2 men per day

- Manpower cost is $30 per hour
- Electricity for the auxiliaries is 1,200 kwh/day
- The cost for electricity is $0.05 per kwh
- There is only a sanitary discharge to the City of Los Angeles North Outfall Sewer

For Alternate B

- Blowdown is lime/soda softened in a solids contact unit
- Lime/soda softened water is processed in a rental zeolite softener
- The "HERO" reverse osmosis unit has a recovery rate of 90%
- Power consumption for the HERO system is 7,200 kwh/day
- Steam consumption for the crystallizer is 127,200 lb/day
- There are 84 reverse osmosis membranes
- Each reverse osmosis membrane costs $600
- Solids are filtered from the crystallizer and there is only a sanitary discharge to the City of Los Angeles North Outfall Sewer
- The amount of total dissolved solids in the discharge is equal to the total dissolved solids in the makeup water
- Total dissolved solids in the cooling tower makeup water is 732 mg/l
- Manpower is 2 men per day
- Manpower cost is $30 per hour

- Steam cost is the cost for electricity that could be produced by the steam
- Electricity for the auxiliaries is 1,200 kwh/day
- The cost for electricity is $0.05 per kwh
- Lime required is 1540 lb/day
- Lime cost is $0.04 per lb
- Soda ash required is 3150 lb/day
- Soda ash cost is $0.10 per lb
- Coagulant required is 132 lb/day
- Coagulant cost is $0.09 per lb
- Polymer required is 33 lb/day
- Polymer cost is $1.50 per lb
- Caustic dosage for Hero reverse osmosis system is 528 lb/day
- Caustic cost is $0.20 per lb
- Solids contact sludge produced is 6336 lb per day on a dry basis
- Sludge is 40 % dry solids and 80 lb/cubic ft.
- Disposal charges for the solids contact sludge is $500 per truck (truck capacity is 4 tons) plus $80 per cubic yard
- Crystallizer solids have a density of 80 lb/cu.ft.

- Disposal charges for the crystallizer solids is $500 per truck (truck capacity is 4 tons) plus $80 per cubic yard

The following is a quantitative description of the variation of reclaimed water supply from the COB wastewater reclamation plant and the diurnal variation of reclaimed water supply to the steam plant. Discussion on the assumed load factor for the MPP is not discussed as this would be a design issue from Black & Veatch. All data are derived from Casper Garza of the COB wastewater reclamation plant and from Leighton Fong of Burbank Water & Power.

Reclamation Plant Reliability

According to Casper Garza, the reclamation plant produces about 8 million gallons of reclaimed water per day. This water gets distributed three-ways—one to miscellaneous reclamation uses, another to the Burbank Western Channel via Outfall No. 002, and the third one to the Burbank Western Channel via steam plant Outfall No. 001. Miscellaneous reclamation uses approximately 2 to 4 million gallons per day. Discharge flow to No. 002 varies as follows:

Outfall:	**002**
Month	Flow
	Avg. mgd
JAN	1.704
FEB	1.591
MAR	0.474
APR	1.171
MAY	2.132
JUN	2.100
JUL	1.788
AUG	3.322
SEP	3.516
OCT	3.152
NOV	2.757
DEC	2.767

Reclaimed water flow to the steam plant varies as follows:

Outfall:	**001**
Month	Flow
	Avg. mgd
JAN	1.119
FEB	1.576
MAR	2.017
APR	1.877
MAY	3.103
JUN	4.187
JUL	3.288
AUG	2.506
SEP	2.110
OCT	2.881
NOV	2.953
DEC	1.867

mgd = million gallons per day

These values are for the year 2000 as reported by the COB wastewater reclamation plant to Burbank Water & Power.

Diurnal Variations on Reclaim Demand

Reclaimed water produced by the COB wastewater reclamation plant is provided to the Power Plant via a 20" concrete cylinder pipe to a tee branch connecting to a 30" storm-drain to Outfall No. 001, and to a 16" CCP feeding the Magnolia 3 & 4 and Olive 2 Cooling Towers. The bulk of the flow occurs between the hours of 6:00 AM to 1:00 AM, with an average flow rate equal to approximately 3,000 gpm. Between the hours of 1:00 AM and 6:00 AM the flow into the plant reduces to a rate of approximately 350 gpm.

Technical Area: Soil and Water Resources

BACKGROUND

Revised AFC 5.5.2.1.1, Page 5.5-15. Cooling tower blowdown is purported to contain 3,800 ppm or mg/l TDS, whereas 5.6 cycles of 732 reclaim water yields 4099 mg/l, and Table 5.5 says the blowdown is 3,980 mg/l.

Data Request 105: Explain or Resolve these small variations in the blowdown.

Response: The predicted cooling tower blowdown TDS should be 4,100 mg/l, only the first two significant digits apply at this level of TDS; both values in section 5 should be the same. The text on page 5.5-15 qualifies the number as 3,800 (maintaining the two significant digits concept) and the approximated value of 4,000 or 4,100. The value 3,980 is based on 5.4 cycles of concentration. The request is correct in stating that the difference in the values shown results in a very small difference in the amount of blowdown. The real resolution is that the cooling tower will be operated at cycles lower that the 5.6 because the higher cycles of concentration are judged as detrimental to the operation of the plant equipment

Technical Area: Soil and Water Resources

BACKGROUND

Revised AFC 3.4.7.2 states that the Table 3.4-2 is "average" water quality. The Table says it is "design" water quality.

Data Request 106: Please confirm that both are correct or not.

Response: Average and design have different contractual connotations. In this section of the document the average water quality is the same as the design water quality. Data Request 76 also deals with this same question in other places in the AFC and DAR documents.

Technical Area: Soil and Water Resources

BACKGROUND

Textual material in section 3 says plant drains will be routed to the cooling tower as makeup. Figure 3.4-5A shows drains to sewer only.

Data Request 107: Correct the error.

Response: In general, all plant drains will be routed to the cooling tower for reuse before being discharged. The exceptions are the oily waste drains, sanitary waste drains, and the chemical waste drains. The oily waste drains will be treated for oil removal and then be discharged to the COB sanitary sewer for treatment before reuse. Oil in the cooling water would cause fouling of heat transfer surfaces and corrosion in equipment. Sanitary waste drains will be added to the existing COB sanitary waste drain lines on the MPP site that ultimately return to the RWP for treatment and reuse. The chemical waste drains are only from the indoor containment areas. Floor drains from these areas will be transferred to the North Outfall Sewer that goes to both the Glendale and Hyperion POTW's

Technical Area: Soil and Water Resources

BACKGROUND

Table 3.4-4 the column "discharge to 001" could mean the current experience, or the expected values with operation of MPP. If the former, then the TDS "Current Discharge Limits" of 950 TDS seemingly would be exceeded when the 3,980 TDS of "Cooling Tower Blowdown" is added to the 949 TDS listed. The TDS of the "Oil/Water Separator Effluent" is shown at 0, or less than the reclaim supply water. Cooling Tower Blowdown has details that would not be capable of prediction, so seem to be the result of current experience. Since the NPDES "limits" are not limits but goals according to this revised AFC, who sets the "limits" is not obvious.

Data Request 108: Please clarify what the numbers presented are, and what they mean. Please indicate what can be expected to change with the plant addition that is the subject of this AFC. Specifically, is the column "cooling tower blowdown" the result of current experience or prediction? Is the "discharge" column current experience without the project? How will these change with the plant operational? What are the "limits", who imposes and enforces them, and which will be exceeded by the operation of the project? Is the current discharge actually exceeding limits as shown for Bis(2-ethylhexyl)-phthalate?

Response: The cooling tower blowdown quality is based on the reclaim water quality average and maximum values taken from the COB reclamation plant monthly monitoring reports. The data was adjusted for all chemical additions required before being concentrated by the expected cycles of concentration. This is the predicted discharge with the MPP project factored into the data in Table 3.4-4. Variations in the cooling tower cycles of concentration and the rate at which the blowdown is discharged will be made to achieve the required quality at Discharge 001. The quality is monitored on a daily basis at the COB reclamation plant and will be monitored at the MPP. Operators at the MPP will adjust the cooling tower operations to make the discharge meet the limits for discharges from Outfall No. 001. Discharge limitations described in the WDRs are established and enforced by the Los

Angeles RWQCB. The COB reclamation plant has a variance on the bis(2-ethylhexyl)-phthalate discharge because the BACT does not remove the compound to acceptable levels. The discharge will be reviewed when the current NPDES permit is renewed.

Technical Area: Soil and Water Resources

BACKGROUND

Table 3.4-5. the column heading "Typical Wash Volume" does not correspond with anything else, and it is not apparent what is intended by this heading. The cooling tower blowdown etc. is shown at 247,000 gpd, which is an average of 171 gpm, yet "Peak Flows" are 3,050 gpm or 18 times the average, and there is no storage shown on any diagrams. Here the separator effluent goes to the sewer although in 3.4.7.4 it is directed to the cooling tower. This is the only reference to "SCR regeneration water". Boiler blowdown elsewhere is directed to the cooling tower and not to "reclaim discharge line" which is the subject of this Table.

Data Request 109: Please modify the table so it conveys meaning; clarify the headings, complete the assumptions used in its derivation, and make it correspond to the text it is supporting.

Response: Table 3.4-5 has two typographical errors; one error is caused by the other. The Cooling Tower Blowdown, Typical Wash Volume should be 347,000 gal/day to conform with the average of the alternate water balances blowdown. This makes the Total to Discharge 001 = 3,439,000 or 344,000 gal/day.

Technical Area: Soil and Water Resources

BACKGROUND

Table 3.4-5. the column heading "Typical Wash Volume" does not correspond with anything else, and it is not apparent what is intended by this heading. The cooling tower blowdown etc. is shown at 247,000 gpd, which is an average of 171 gpm, yet "Peak Flows" are 3,050 gpm or 18 times the average, and there is no storage shown on any diagrams. Here the separator effluent goes to the sewer although in 3.4.7.4 it is directed to the cooling tower. This is the only reference to "SCR regeneration water". Boiler blowdown elsewhere is directed to the cooling tower and not to "reclaim discharge line" which is the subject of this Table.

Data Request 110: Are oily drains directed to the sewer, as indicated? Will the sewer accept such drains and be in compliance with LORS?

Response: Waste water from the oil/water separator will be directed to the COB sewer that goes back to the reclamation plant where the oil will be removed and the water returned for reuse by MPP. The COB reclamation plant wastewater is currently discharged to Outfall Nos. 001 and 002 to the Burbank Western Channel. There is also the possibility of putting untreated wastewater into the City of Los Angeles' North Outfall Sewer that goes to both the Glendale POTW and the Hyperion POTW. With the construction of the MPP, the use of Outfall No. 002 will be discontinued except in emergencies or when the MPP plant is off-line. The normal operation case will be that the COB reclamation plant effluent supplied to MPP will be mostly passing through the MPP site on its way to the Burbank Western Channel through Outfall No. 001. The MPP cooling tower will evaporate some of the water but the other systems will put cleaner wastewater back into the COB reclamation plant wastewater stream. At Outfall No. 001 the discharge limitations will be met. Table 3.4-5 only deals with the portion of the COB reclamation plant effluent that is used at MPP. The rest of the effluent will continue to be discharged to Outfall Nos. 001 or 002.

Technical Area: Soil and Water Resources

BACKGROUND

Revised AFC Figures 3.4-5A,B,C & D. Diagrams are inconsistent with textual material in that O/W separator goes "normally" to sewer. The A & B versions show the reclaim plant producing 4,555 mgd and directing 1,477 mgd to the MPP, and 3,067 to Burbank Western Channel. The C and D versions show only the 1,464 to MPP, all to MPP, and 1,712 to the Channel.

Data Request 111: What happened to the rest of the reclaim plant, and the remainder of flow to the Channel?

Response: A portion of the reclaimed wastewater produced at the COB reclamation plant is used for golf course irrigation and a portion is discharged to the North Outfall Sewer. The rest of the treated wastewater, reclaim water, is allowed to flow down the Burbank Western Wash where it joins with the LA River and is discharged to the ocean.

Technical Area: Soil and Water Resources

BACKGROUND

Revised AFC 3.4.1 Overview. A power output of 12 MW from steam injection is parenthetically mentioned here for the first time in the material. This amount of steam/water is discharged to atmosphere.

Data Request 112: Is this included in tables, data, annual consumption numbers prior to Tables 3.4-5? How often will this be used?

Response: The steam injection water requirements are included in the cycle makeup supply values shown in Table 3.4-5. The steam injection to the combustion turbine is expensive in that it takes a significant quantity of demineralized water and requires more maintenance on the combustion turbine. Therefore, steam injection will only be used 3 to 4 hours per day on the days requiring peak power production.

Technical Area: Soil and Water Resources

BACKGROUND

DAR WATER-9 describes the site drainage system and runoff patterns. In addition, figure 3.4-1 depicts the existing and proposed underground storm drain system.

Data Request 113: Please provide a hydrology report for the site and a hydraulic analysis of the system to confirm that the system is adequately sized to convey the 100 year storm event.

Response: According to Western Regional Climate Center, there was a recorded 200 year storm event on January 22, 1943 in Burbank, California. The precipitation measured 7.76 inches that day. NOAA maps show 8" of rain for a 100 year storm in a 24 hour period and 4" of rain for a 100 year storm in a 6 hour period.

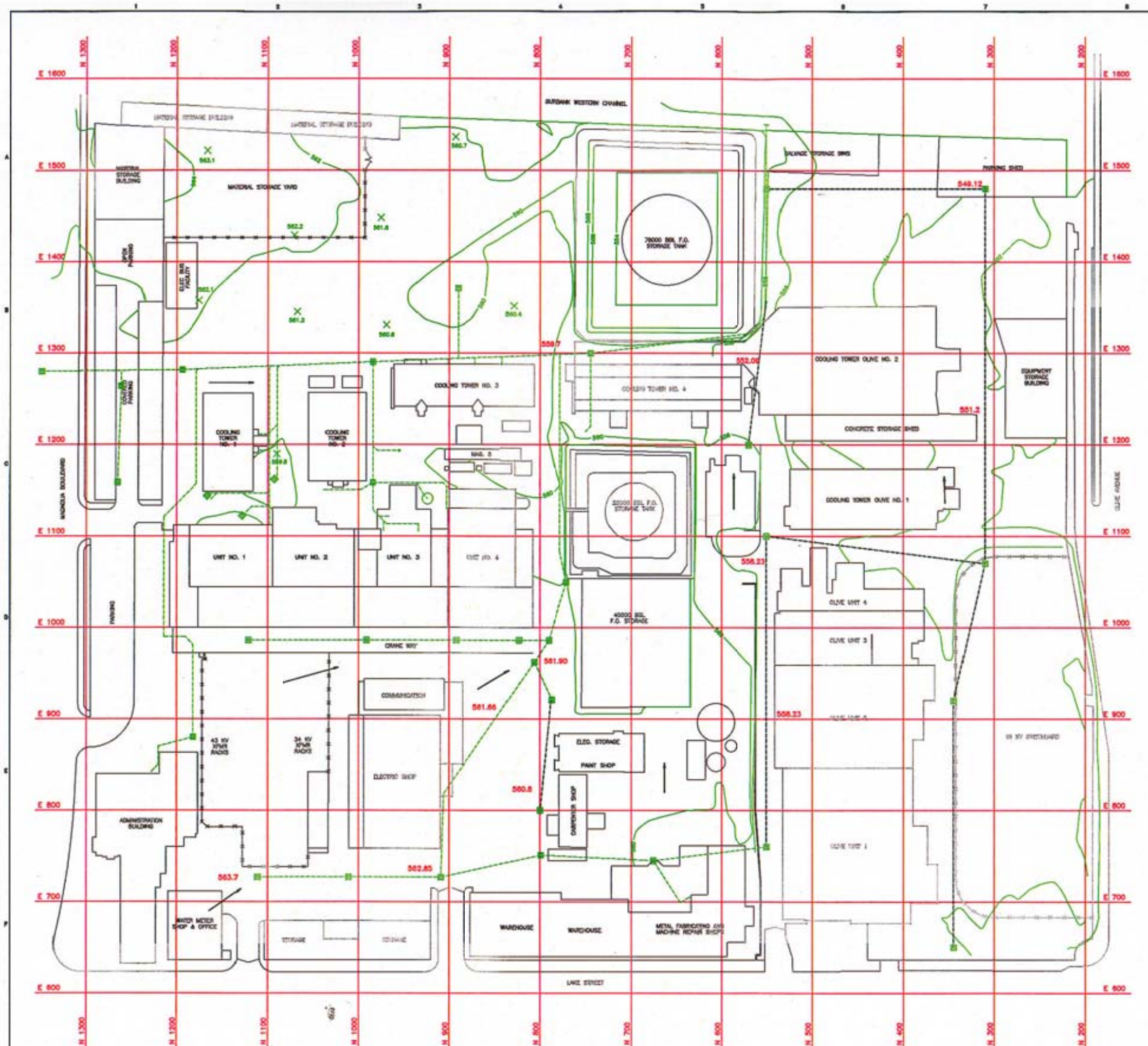
The plant has a total drainage area of 22 acres. Storm water from the Burbank Steam Power Plant is drained via an on-site drainage system, which connects to the discharge point No. 001. The size of the storm drain is 36 inches in diameter.

By inspection, the 36" diameter storm drain is sufficient for this 100 year storm. Also, having withstood a 200 year rain event, the plant would be able to withstand a 100 year rain event.

The 200 year storm event on the entire 22 acres would leave approximately 4.8 million gallons a day of precipitation to be handled by the main storm drain. This equates to approximately 3,300 gpm in a 36 inch drain. This is definitely a gravity flow of less than 2.7 feet per second velocity. A 100 year storm event on the site would produce approximately 2.4 million gallons of precipitation in six hours in the same 36 inch drain. The equals a flow of approximately 6,650 gallons per minute. This is also a gravity drain flow of less than 3.2 feet per minute in a 36 inch drain.

A 100 year storm event is not considered by California regulations, only a 50 year, 5 minute event is applicable according to the regulations. This 50 year, 5 minute event is a much higher intensity than the above 100 year storm event. This flow dumps into a 100 foot wide wash that is constructed to prevent flooding in the Burbank area.

The attached drainage drawing (S3001) shows that there are sufficient drains and site features to keep water off of the surrounding streets. The drawings also indicates that site runoff flow is principally from the center of the site towards Lake Street and the Burbank Western Wash and form Magnolia Street to Olive Street. The walls along both Lake and Olive Streets channel water towards drains at lower elevations. More than 2/3 of the site area drains directly toward the Burbank Western Wash. New connections from the immediate area being used for the Magnolia Power Project are planned for the east/west portion of the 36 inch interceptor drain.



LEGEND

	EXISTING FACILITY
	EXISTING CONTOUR
	EXISTING FENCE
	EXISTING DRAIN LINE
	EXISTING CATCH BASIN
560.0	SPOT ELEVATION

NOTES

1. THE GRID SYSTEM IS BURBANK WATER AND POWER YARD DATUM. YARD DATUM COORDINATE N 0.00, E 0.00 CORRESPONDS TO N [illegible], E [illegible] CALIFORNIA STATE PLANE, ZONE 5, NAD 83.
2. BACKGROUND AND GRID SCANNED FROM DRAWING EM-271-8, GENERAL PLANT BUILDINGS & GROUNDS LAYOUT. THE BACKGROUND CONTOURS SCANNED FROM DRAWING SHEET 1607, ANALYTICAL SURVEYS, INC., 1985. ALL COORDINATES AND DISTANCES SHALL BE FIELD VERIFIED.
3. SEE DWG S1000 FOR SITE ARRANGEMENT.
4. SEE DWG S3002 FOR PROPOSED GRADING AND DRAINAGE.

NOT TO BE USED
FOR CONSTRUCTION

NO	DATE	REVISIONS AND RECORD OF ISSUE
B	10-30-2001	CEC DATA REQUEST RESPONSE
A	02-15-2001	ISSUE FOR AFC SUBMITTAL

SCALE: 1"=40'

BLACK & VEATCH CORPORATION

MAGNOLIA POWER PROJECT
CITY OF BURBANK

SITE - EXISTING TOPO PLAN

099523-DS-S3001 A

FIGURE 3.3-1

Technical Area: Soil and Water Resources

BACKGROUND

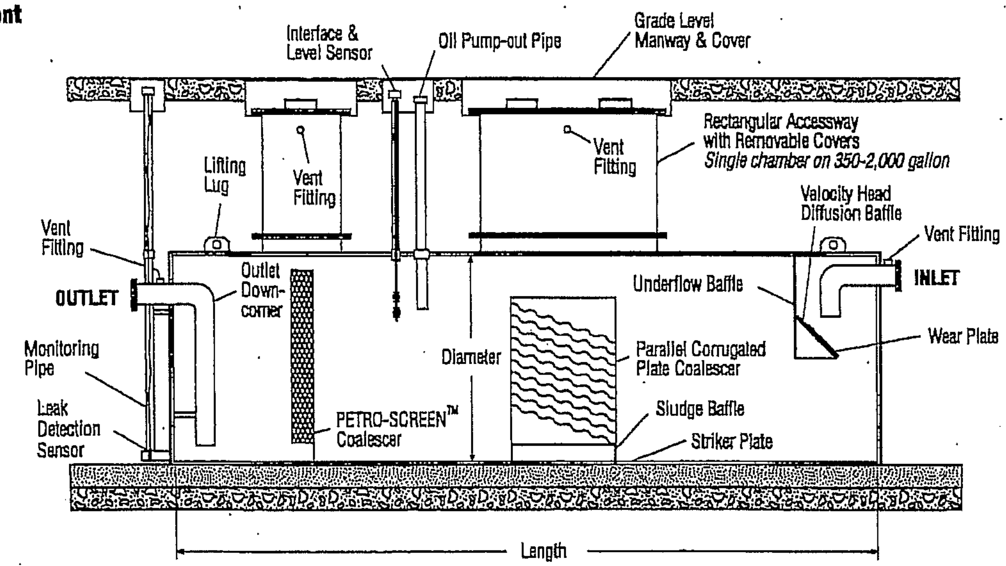
DAR WATER-9 describes the site drainage system and runoff patterns. In addition, figure 3.4-1 depicts the existing and proposed underground storm drain system.

Data Request 114: Please provide the design drawings or Manufacturers Data sheets for the oil and water separator, including maintenance requirements.

Response: A manufacturers data sheet and maintenance requirements are included as part of this response. This information is an example of what is typically used at many power plant projects. The actual oil/water separator used will be determined during design.

Meets OSHA Confined Space Requirements

General Arrangement



Maintenance

CAUTION: Separated liquid oil and vapors are flammable and/or combustible.

WARNING: Never enter an OWS or enclosed space, under any condition, without proper training and OSHA approved equipment. (Consult OSHA guidelines 29 CPR, Part 1910 "Permit Required Confined Spaces.")

All enclosed spaces must be properly vented prior to entry to avoid ignition of flammable materials or vapors.

Atmosphere must be properly tested for combustible vapors and oxygen prior to entry.

Entering the OWS without using a self-contained breathing apparatus may result in inhalation of hazardous fumes, causing headache, dizziness, nausea, loss of consciousness, and death. Required entry equipment includes, but is not limited to:

- Lifelines
- Safety harnesses (safety belts are unacceptable)
- Self-contained breathing apparatus
- Respirators (canister type)
- Rescue harness and ropes
- Horns, whistles, radios, etc. (for communication purposes)
- Explosion-proof lighting

Important: Be sure to inspect and replace manway gaskets as necessary when the OWS is shut-down for maintenance.

The coalescer plates and packs can be removed for cleaning or can be cleaned from above using a hot-water pressure wash with extension wand.

Mechanical lifting is required to remove the coalescer packs in large diameter OWS.

Inlet and effluent pipe valves should be closed prior to OWS entry.

All liquid must be removed from the OWS prior to entry.

Any and all oil recovered and removed from the OWS should be recycled or disposed of in accordance with federal, state, and local codes and regulations.

CAUTION: Interior surfaces of the OWS will be slippery.

OWS are designed for long-term, trouble-free operation. The following maintenance should be performed as needed or in accordance with a facility maintenance schedule.

Periodic inspection of:

- Upstream trench drains, sand interceptors, and traps
- Inside of the OWS for sand, trash, sludge and oil build-up
- Effluent for oils and other contaminants in accordance with local codes and permits
- Oil level in accordance with local codes and permits

OWS's with oil level sensors require oil removal when the alarm is activated. Simply remove the oil, then refill OWS with clean water (see Start-Up Instructions).

OWS's without oil level sensors require level checking by use of a gauge stick with oil/water sensing paste. If oil/water interface level is below that shown on the Oil Level Chart, oil needs to be removed and the OWS refilled with clean water.

WARNING: If the oil is not pumped out, the oil concentration in effluent may exceed the desired levels. Oil should only be removed during non-flow conditions to ensure pure oil draw-off.

Maintenance (cont'd.)

If contaminants are found, close the valve on the inlet line, determine what the requirements are for restoring working order and take appropriate action.

For optimum performance, maintenance is required as needed or at least:

Once per year or when:

Bottom sludge in tank is 12" deep;

The effluent exhibits an oil sheen or contains high contaminant levels.

Inspect OWS after a heavy rainfall to check for signs of malfunction due to an excessive flow rate.

If the OWS has been cleaned within the year and only bottom sludge has built up while the effluent water is contaminant free, it may be sufficient to vacuum the sludge from the sediment chamber and refill OWS with clean water. (See Start-Up Instructions.)

Oil Removal Procedures

Important: Oil should only be removed during non-flow conditions to ensure pure oil draw-off.

Oil Removal Procedures (with optional oil level controls)

Be sure the High Oil Level Warning Alarm is activated because of an actual high oil level, otherwise a mixture of oil and water will be removed.

To minimize water contamination of the oil, connect the oil suction hose to the 4" diameter Oil Pump-out Pipe fitting/coupling.

Suction out the oil.

Refill OWS with clean water to deactivate the High Oil Level Warning Alarm. (See Start-Up Instructions.)

Oil Removal Procedures (without optional oil level controls)

Determine where the oil/water interface by using a gauge stick and oil/water sensing paste.

If the oil/water interface is less than the level found on the Oil Level Chart for your model, suction out the surface oil from the 4" diameter Gauge Port or the manway, otherwise a mixture of oil and water will be removed.

If the oil/water interface is equal to or greater than the level found on the Oil Level Chart, connect the oil suction hose to the 4" diameter Oil Pump-out Pipe fitting/coupling and suction out the oil.

Refill with clean water. (See Start-Up Instructions.)

Mixed Oil and Water Removal Procedures

Place a 3" or smaller suction hose inside the OWS through either the 4" diameter Gauge Port or through the Sediment Chamber Manway.

The suction hose nozzle should be 12" or higher above the OWS bottom. If nozzle extends closer to the bottom, sludge may be inadvertently removed.

Suction out OWS contents.

Refill with clean water. (See Start-up Instructions.)

Major Oil Spill Response Procedures

Important: A major oil spill is a spill which exceeds the normal oil storage capacity of the OWS. In the event of a major spill, notify proper authorities as required by federal, state, and local laws.

After a major oil spill, the OWS should always be emptied, cleaned, and refilled with clean water.

Oil Spill Removal Procedures (with or without optional oil level controls)

If OWS has optional oil level controls, be sure the High and High-High Oil Level Warning Alarms are activated because of an actual High-High oil condition.

Determine exactly where the oil/water interface is located using a gauge stick and oil/water sensing paste.

Open the 4" diameter Gauge Port or Sediment Chamber Manway.

Apply oil/water sensing paste to a gauge stick.

Place gauge stick into the OWS through the 4" diameter Gauge Port or Manway to determine the oil/water interface location.

Place a 3" diameter or smaller suction hose inside the OWS through either the 4" diameter Gauge Port or through the Manway.

Lower hose to exact oil/water interface location. If the suction hose nozzle extends lower than the oil/water interface, water may be inadvertently removed with the oil.

Suction out the oil.

Refill with clean water. (See Start-Up Instructions.)

If oil is still visible on the surface of the OWS or the alarms remain on, suction out the oil and refill with clean water.

Continue this sequence until only a sheen of oil is visible on the surface of the OWS or the alarms deactivate.

Sludge Removal Procedures

Determine exactly where the sludge/water interface is located using a wooden gauge stick.

Open the 4" diameter Gauge Port or Sediment Chamber Manway.

Place gauge stick into the OWS through the 4" diameter Gauge Port or Manway.

Slowly lower the gauge stick until it comes into contact with the sludge blanket. Mark the stick.

Push the stick downward until it comes into contact with the Striker Plate on the OWS bottom. Mark the stick.

The sludge depth is the difference between the two measurements.

Sludge Removal Procedures (for full OWS)

Place a 3" diameter or smaller suction hose inside the OWS through either the 4" diameter Gauge Port or through the Manway.

Lower hose to exact sludge/water interface location.

Suction out the sludge while slowly lowering the suction hose nozzle until it comes into contact with the Striker Plate on the OWS bottom.

Refill with clean water. (See Start-Up Instructions.)

Sludge Removal Procedures (cont'd.)

Sludge Removal Procedures (for completely empty OWS)

Warning: Never enter an OWS or enclosed space, under any condition without proper training and OSHA approved equipment (Consult OSHA guidelines 29 CPR, Part 1910 "Permit Required Confined Spaces").

Suction out sludge and debris. Use caution to avoid internal coating damage.

Using a standard garden hose at normal pressure (40-70 PSIG), with or without a spray nozzle, loosen any caked oily solids. Use of hot water can be helpful.

Direct the water stream to the OWS wall side and bottom.

Suction out the resultant slurry.

General OWS Cleaning Procedures

If not properly maintained, the OWS may malfunction..

NOTE: Over a period of time sediment, oil, and grease will build up on the walls and floors of the OWS. Dirt and heavy oil may also build up on the Parallel Corrugated Plate Coalescer reducing the unit's efficiency. Also, the PETRO-SCREEN™ removes some suspended solids along with the small oil droplets in the wastewater. Periodic cleaning of the PETRO-SCREEN™ is also required.

Important: It is recommended that the OWS be cleaned as needed or at least once a year. Keep inspection and maintenance logs and have them available for ready reference.

Sediment Chamber

Remove manway cover to expose the Sediment Chamber being careful not to damage the gasket.

Pump-out contents of OWS (see Mixed Oil and Water Removal Procedures).

Gauge the level of sand, dirt, or debris with wooden gauge stick.

Important: The level of sand, dirt, or debris should not be allowed to accumulate higher than 12" from the bottom of the OWS.

Remove the accumulated waste with a suction hose (See Sludge Removal procedures).

Direct a high pressure hose downward to loosen any caked oily solids on OWS sides and bottom.

NOTE: Use of high-temperature, high-pressure washing equipment along with Highland Cleaner can be helpful in OWS cleaning. Highland Cleaner is very effective and is 100% Biodegradable, non-emulsifying, and contains no Linear Activated Solvents (LAS), Phosphates, Ammonia, or Acids.

Attach spray nozzle wand extension to the high pressure hose.

Direct spray downward and toward the velocity head diffusion baffle to loosen up any caked oily solids that may have accumulated on inlet head.

Direct the spray to the OWS wall sides, top and bottom.

Remove the slurry with the suction hose.

Oil Water Separator Chamber

Disconnect all non-voltage carrying sensor lines to the Oil Level Sensor.

Carefully remove the Oil Level Sensor.

Carefully check the Oil Level Sensor floats. If the floats do not slide easily on the stem or have sludge on them, clean the Oil Level Sensor. Use a parts washer and mineral spirits to remove accumulated oil, grease, or sludge.

Check the Oil Level Sensor with an OHM meter to assure proper operation.

Place the Oil Level Sensor in a safe area to prevent damage.

Remove manway cover over the 24" diameter manway to expose the Oil Water Separation Chamber.

Be careful not to damage the gasket.

Gauge the level of sand, dirt, or debris with wooden gauge stick.

Remove the accumulated waste with a suction hose (see Sludge Removal Procedures).

Direct a high pressure hose downward and around to loosen caked oily solids on OWS sides, top and bottom.

Attach spray nozzle wand extension to the high pressure hose.

Direct spray downward and toward the Parallel Corrugated Plate Coalescer to loosen up caked oily solids that may have accumulated on top of plates.

Flush the Parallel Corrugated Plate Coalescer from the outlet side to direct debris to Sediment Chamber.

NOTE: The coalescer packs must be cleaned of all sludge to operate properly.

Direct the spray to the OWS wall sides, top and bottom. Rotate the nozzle sufficiently and often so that all areas are reached with the spray.

Remove the slurry with a suction hose.

PETRO-SCREEN™ Coalescer

Important: Coalescer packs CAN BE cleaned in place or removed for cleaning. Mechanical lifting equipment is required to remove the coalescer packs in larger units.

Hook the Lifting Rod to the Lifting Lug on the coalescer pack and remove the coalescer pack directly below the manway.

Using the Lifting Rod, slide the next coalescer pack over and remove.

Continue until all coalescer packs have been removed and are above grade.

Place coalescer packs on oil absorbent blanket or sheet plastic.

NOTE: The coalescer packs should be moved to a convenient location upstream of the separator and washed to remove any gummy deposits.

Using a standard garden hose at normal pressure (40–70 PSIG) — with or without a spray nozzle — loosen any caked solids.

Flush the coalescer packs from both sides.

Let coalescer packs stand and dry.

PETRO-SCREEN™ Coalescer (cont'd.)

Visually inspect the OWS interior and components for any damage.

NOTE: If any visual damage exists, contact Highland Tank for further instructions.

Reinstall the coalescer packs.

The coalescer packs *must be* installed sitting on top of the bottom steel channel supports.

NOTE: Improper installation will result in separator malfunction.

Reattach the manway cover. Ensure the gasket is damage free.

Install the Oil Level Sensor in the 2" diameter Interface and Level Sensor Pipe.

Reconnect all non-voltage carrying sensor lines to the Oil Level Sensor.

Refer to OWS Start-Up Instructions for proper refilling and restarting procedures.

Technical Area: Soil and Water Resources

BACKGROUND

DAR WATER-9 Describes the offsite storage area that drains directly into the Burbank Western Channel, and some of the potentially polluting activities that will take place at the site. The response also refers to generic source control BMPs (CDs) that will be used to reduce exposure.

Data Request 115: Please provide documentation stating what structural controls and treatment controls, as described in the SUSMP, will be constructed to ensure that fuel, lubricants and other potentially polluting materials are not discharged into the channel.

Response: Any oil from the transformers and lube oil tank areas will be curbed and drained to the oil/water separator. All other potential spills will be contained within curbed areas or routed to various floor drains. These floor drains are connected to underground piping that is routed to the oil/water separator.

Technical Area: Soil and Water Resources

BACKGROUND

DAR WATER-9 Describes the offsite storage area that drains directly into the Burbank Western Channel, and some of the potentially polluting activities that will take place at the site. The response also refers to generic source control BMPs (CDs) that will be used to reduce exposure.

Data Request 116: Please provide a detailed site map with the Construction SWPPP depicting the layout of the offsite storage area including any post construction BMPs (structural or treatment controls).

Response: The off-site construction storage area and the off-site parking area including drainage provisions are described below.

The offsite parking area is on the old Front Street, starting under the Magnolia Bridge and continuing northwest up old Front Street to where the street ends just before Burbank Boulevard. This will include the existing parking lot area just southwest of where Front Street and Magnolia Boulevard intersect. This entire section of road and parking lot is contained within approximately 12 inch curbs. The existing storm runoff drains are at the southeast end of the street, one on each side. Storm runoff flows down the road to these drains. The parking lot contains one storm drain on the southeast side.

The offsite construction storage area will be between the Burbank Western Channel and the Union Pacific Railroad in an area contained between Magnolia Boulevard and Burbank Boulevard. The storm runoff from this area flows directly into the Burbank Western Channel. The existing storm runoff systems in these areas will continue to be used after they are utilized as construction storage and parking.

See the last two paragraphs in Water-9 of the Data Adequacy Responses for a description of the BMPs to be utilized in this area.

Technical Area: Soil and Water Resources

BACKGROUND

DAR WATER-9 Describes the offsite storage area that drains directly into the Burbank Western Channel, and some of the potentially polluting activities that will take place at the site. The response also refers to generic source control BMPs (CDs) that will be used to reduce exposure.

Data Request 117: Please confirm whether the offsite storage area is covered under the existing SWPPP regulated under the NPDES Industrial Permit, or the site specific NPDES permit for Power Plant and Reclamation Facility (Appendix I).

Response: This offsite area is not covered by the drawings and calculations in the new plant SWPPP nor the existing plant SWPPP. We have not been able to locate an existing SWPPP that covers this area. Please note that we do not plan on modifying this area and that it has also withstood the above 200-year flood. This street area is covered by the city drainage control plans.

Technical Area: Soil and Water Resources

BACKGROUND

Section 7.5.5.1 states that the MPP will prepare a SWPPP.

Data Request 118: Please confirm whether a SWPPP has been prepared (Per section 7.5.4.2 and Water 6-3) or will be prepared (per 7.5.5.1 and the table in Water-13). Please provide.

Response: A draft SWPPP has been prepared for the Magnolia Expansion Project and conforms to Section 7.5.5.1 and the table in Water-13 of the Data Adequacy Responses. It is included as part of this response.

Technical Area: Soil and Water Resources

BACKGROUND

The response to Water-8, section 3.5.7 of the revised AFC, section 5.5.2.1.2, and the Water Flow diagrams indicate that flows with the potential for oil contamination will be directed to an oil/water separator and ultimately into the sanitary sewer.

Data Request 119: Neither the flow diagrams nor the site grading and drainage plan provide adequate detail to show how the potentially oily waters are separated from the other runoff. Please show the oil and water separator on the Site Grading and Drainage Plan. If the oily water is conveyed through a separate system, please show the system. In addition, please provide a detailed site plan showing how the waters are separated.

Response: See the response to Data Request 115 for specific explanation. The potentially oily waters are curbed and contained, or it is routed to the oil/water separator through below grade piping.

See Figure S1003, attached to response #113, for approximate location of oil/water separator, and the underground piping system which gravity drains from the buildings and contained equipment into the oil/water separator. The water that is discharged from the oil/water separator will not contain oil and is drained into a COB sewer line that exits the plant site.

The location of the oil/water separator and the underground piping layout is preliminary. These may be revised during design.

Technical Area: Soil and Water Resources

BACKGROUND

The response to Water-8, section 3.5.7 of the revised AFC, section 5.5.2.1.2, and the Water Flow diagrams indicate that flows with the potential for oil contamination will be directed to an oil/water separator and ultimately into the sanitary sewer.

Data Request 120: Please describe any other potentially polluting materials (other than oil) that may come in contact with storm water, and the Post Construction BMPs (PCBMPs) that will be employed to remove the pollutants prior to discharge into the MS4.

Response: The major hazardous materials to be stored and/or used at the site during operation are included in the Application for Certification (AFC), Section 5.15, Table 5.15-1.

The post construction BMPs are outlined in Section 5.15.3.2.1 of the AFC. See data adequacy responses HAZMAT-5 through HAZMAT-9 for BMPs that will be utilized to ensure that pollutants are not discharged improperly.

Technical Area: Soil and Water Resources

BACKGROUND

The response to Water-8, section 3.5.7 of the revised AFC, section 5.5.2.1.2, and the Water Flow diagrams indicate that flows with the potential for oil contamination will be directed to an oil/water separator and ultimately into the sanitary sewer.

Data Request 121: The southern third of the site appears to sheet flow toward Olive Avenue. Please show the drainage patterns for this area and any PCBMPs that will be used to treat the water prior to discharge.

Response: See Data Request 113 and attached Figure S3001 for storm sewer layout and drainage patterns for the existing site.

The Magnolia Power Expansion Project will be constructed on the northern end of the existing site. The existing drainage areas on the southern third of the site will not be disturbed. Therefore, the post construction BMPs currently utilized on the existing site will continue to be utilized for all undisturbed drainage areas. These existing PCBMP's are part of the existing SWPPP attached as part of these responses.

Technical Area: Soil and Water Resources

BACKGROUND

Figure 3.2-1 depicts the area between the Burbank Western Channel and the Rail Road, between Magnolia Ave and Burbank Blvd as a Primary offsite parking area. Water-9 describes it as a construction lay down area that will be used as a permanent offsite storage area. Figure Proj.-4 refers to the described storage area as a primary offsite parking area.

Data Request 122: Please clarify the use of this area.

Response: Data Request 116 gives a description of where the off site construction storage area and parking lot is.

Technical Area: Soil and Water Resources

BACKGROUND

The response to Water-9 states that the area between the Burbank Western Channel and the Rail Road, between Magnolia Ave and Burbank Blvd will not be modified or altered.

Data Request 123: Please provide a detailed site map of the area showing existing site improvements (paving, gravel, graded areas, storm drain systems, discharge points, etc.), any proposed improvements, and the layout for the proposed storage area.

Response: The area located between the Burbank Western Channel and the railroad, and between Magnolia Ave. and Burbank Blvd. is currently asphalt and some soil. This area will not be modified. Therefore, the drainage area will not be effected. Pre-development will equal Post-development because no improvements will be made to this area.

To accommodate erosion control, silt fencing will be installed along the Burbank Western Channel before this area is used for construction storage and parking. The silt fence will be removed when the on-site construction is complete.

Technical Area: Soil and Water Resources

BACKGROUND

The response to Water-9 refers to CA10, CA31 and 32, CA12 and CA40.

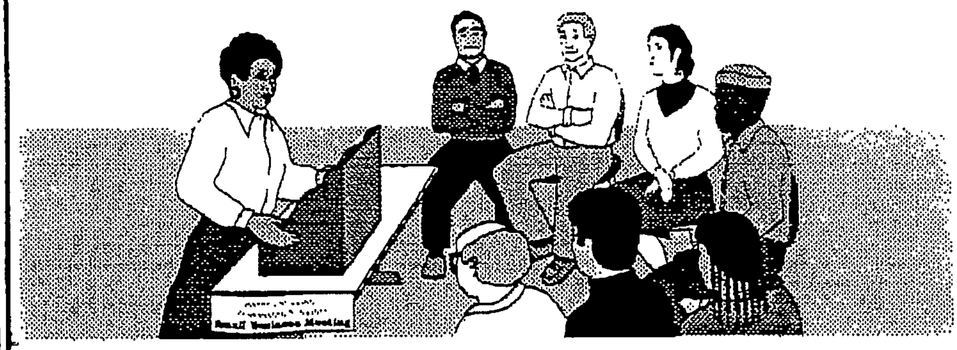
Data Request 124: For the record please provide in the document, a note or footnote describing the source and meaning of these abbreviations. In addition, please include copies of any such fact-sheets in the SWPPP.

Response: CA10, CA31, CA32, CA12, and CA40 are California BMP fact sheets for Contractor Activities. These BMPs are found in the California Storm Water Best Management Practice Construction Activity Handbook, prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe & Associates, and Resources Planning Associates for Stormwater Quality Task Force. Copies of these fact sheets have been included in the SWPPP.

The abbreviations noted are for BMPs described in the California BMP Handbooks prepared by the California Stormwater Quality Task Force.

BMP	Title
CA10	Material Delivery and Storage
CA31	Vehicle and Equipment Fueling
CA32	Vehicle and Equipment Maintenance
CA12	Spill Prevention and Control
CA40	Employee/Subcontractor Training

ACTIVITY: EMPLOYEE/SUBCONTRACTOR TRAINING



Objectives

Housekeeping Practices

Contain Waste

Minimize Disturbed Areas

Stabilize Disturbed Areas

Protect Slopes/Channels

Control Site Perimeter

Control Internal Erosion

DESCRIPTION

Employee/subcontractor training, like maintenance or a piece of equipment, is not so much a best management practice as it is a method by which to implement BMPs. This fact sheet highlights the importance of training and of integrating the elements of employee/subcontractor training from the individual source controls into a comprehensive training program as part of a company's Storm Water Pollution Prevention Plan (SWPPP).

The specific employee/subcontractor training aspects of each of the source controls are highlighted in the individual fact sheets. The focus of this fact sheet is more general, and includes the overall objectives and approach for assuring employee/subcontractor training in storm water pollution prevention. Accordingly, the organization of this fact sheet differs somewhat from the other fact sheets in this chapter.

OBJECTIVES

Employee/subcontractor training should be based on four objectives:

- Promote a clear identification and understanding of the problem, including activities with the potential to pollute storm water;
- Identify solutions (BMPs);
- Promote employee/subcontractor ownership of the problems and the solutions; and
- Integrate employee/subcontractor feedback into training and BMP implementation.

APPROACH

- Integrate training regarding storm water quality management with existing training programs that may be required for your business by other regulations such as: the Illness and Injury Prevention Program (IIPP) (SB 198) (California Code of Regulations Title 8, Section 3203), the Hazardous Waste Operations and Emergency Response (HAZWOPER) standard (29 CFR 1910.120), the Spill Prevention Control and Countermeasure (SPCC) Plan (40 CFR 112), and the Hazardous Materials Management Plan (Business Plan) (California Health and Safety Code, Section 6.95).
- Businesses, particularly smaller ones that may not be regulated by Federal, State, or local regulations, may use the information in this Handbook to develop a training program to reduce their potential to pollute storm water.
- Use the quick reference on disposal alternatives (Table 4.2) to train employee/subcontractors in proper and consistent methods for disposal.

CA40

Best Management Practices

ACTIVITY: EMPLOYEE/SUBCONTRACTOR TRAINING (Continue)

- Consider posting the quick reference table around the job site or in the on-site office trailer to reinforce training.
- Train employee/subcontractors in standard operating procedures and spill cleanup techniques described in the fact sheets. Employee/subcontractors trained in spill containment and cleanup should be present during the loading/ unloading and handling of materials.
- Personnel who use pesticides should be trained in their use. The California Department of Pesticide Regulation and county agricultural commissioners license pesticide dealers, certify pesticide applicators, and conduct on-site inspections.
- Proper education of off-site contractors is often overlooked. The conscientious efforts of well trained employee/ subcontractors can be lost by unknowing off-site contractors, so make sure they are well informed about what they are expected to do on-site.

CA40

Best Management Practices

Technical Area: Soil and Water Resources

BACKGROUND

The response to Water-10 states that flow calculations were obtained from the LA County Manuals and that the Underground Storm Drain System was designed using Manning's Equation. The response does not specify the design storm event or the hydraulic design of the system.

Data Request 125: Please provide detailed hydrology and hydraulic calculations in a report format confirming that the existing and proposed facilities are adequate to protect the site from the 100-year storm event (as required by the NPDES Permit). Hydraulic calculations should be prepared using WSPG or equivalent programming pursuant to local agency requirements and should evaluate the entire system (inlets, junction structures, friction losses, etc.).

Response: See Data Request 113 for details on the existing storm sewer system and the adequacy of this system during a 100 year storm event.

The proposed storm sewer system has been designed to protect the expansion site from a 50 year, 5 minute storm event which results in a higher intensity than the defined 100 year event. The calculations for this system are included as part of this response.

According to the Los Angeles Department of Public Works, Hydrology/Sedimentation Manual, Section 2, A-2, the Urban Flood Protection is runoff from a 25 year design storm. The tables, charts, and equations in this manual that are required to be used in design, only provide information for a 10 year, 25 year, and 50 year storm. Therefore, we are unable to design for a storm event larger than the 50 year, 5 minute storm event which is higher intensity than the defined 100 year event.

BLACK & VEATCH

Calculation Record

Client Name: SCPPA　　Page 1 of 11

Project Name: Magnolia　　Project No.: 099523

Calculation Title: Grading & Drainage

Calculation No./File No.:

Calculation Is: (check all that apply) ☐ Preliminary ☒ Final ☐ Nuclear Safety-Related

Objective To calculate the runoff flows into the storm water inlets using the Los Angeles Department of Public Works Rational Method and then use those flows to size the storm water system.

Unverified Assumptions Requiring Subsequent Verification			
No.	Assumption	Verified By	Date

See Page _____ of this calculation for additional assumptions.

This Section Used for Computer Generated Calculations

Program Name/Number: ______________ Version: ______________

Evidence of or reference to computer program verification, if applicable:

Bases or reference thereto supporting application of the computer program to the physical problem:

Review and Approval						
Rev	Prepared By	Date	Verified By	Date	Approved By	Date
0	Kim Kanaby	10/29/01	Eric W. Lew Eric W. Lew	10/30/2001		

REFERENCES:

1) LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS, HYDROLOGY / SEDIMENTATION MANUAL, HYDRAULIC / WATER CONSERVATION DIVISION, DECEMBER 1991.

2) LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS, HYDROLOGY / SEDIMENTATION APPENDIX.

3) BLACK & VEATCH DRAWING 099523-DS-S3002, MAGNOLIA POWER PROJECT, CITY OF BURBANK, SITE – GRADING & DRAINAGE PLAN.

TRIBUTARY AREAS

CB – 2 A = 0.84 acres (Reference 3)
CB – 3 A = 0.39 acres (Reference 3)

SOIL NUMBER AND RAINFALL ZONE

Values read from hydrologic map (Reference 2, Section A, Map 1 – H1 – 28; also see pg. 8 this calculation)

Soil number = 013
Rainfall zone = L

PEAK INTENSITY

Values read from table (Reference 2, Section B, pg. B – 5; also see pg. 9 this calculation.

I = 5.58 in/hr (a 50 year, 5 minute storm is very conservative)

INITIAL TIME OF CONCENTRATION

The minimum time of concentration is 5 minutes and the maximum is 30 minutes (Reference 1, pg. 4 – 7). An initial time of concentration will be assumed to be 5 minutes because this is the lowest allowed value and is the most conservative. The actual time of concentration will be calculated later and checked against the initial assumption.

RUNOFF COEFFICIENT

The C_u value and C_d equation are from Reference 2, Section D, pg. D – 32, also see pg. 10 this calculation.

Cd = (0.9 * IMP) + (1.0 - IMP) * Cu

Cd = Developed runoff coefficient
IMP = Proportion impervious
Cu = Undeveloped runoff coefficient

Cu = 0.98
IMP = 0.91 (Reference 2, pg. F – 1, also see pg. 11 this calculation)

Cd = (0.9 * 0.91) + (1.0 – 0.91) * 0.98
= 0.91

FLOW (Q)

See calculation sheet – pg. 4 this calculation (Reference 2, pg. N – 12)

Q = CIA
CB – 2 Q = 0.91 * 5.58 * 0.84 = 4.27 cfs
CB – 3 Q = 0.91 * 5.58 * 0.39 = 1.98 cfs

Los Angeles County Department of Public Works

RATIONAL METHOD HYDROLOGY CALCULATIONS BY KDK ON 10/29/01

Project MAGNOLIA

Initial Area

Rainfall Zone L Frequency 50 Years

Assumed Time = 5.0 Minutes I = 5.58 in/hr

Reach Data:

Reach No.	Area (ac)	Soil No.	Prop. Imp.	C Undev.	C Dev.	Q (cfs)	External Q (cfs)
CB-2	0.84	013	0.91	0.98	0.91	4.27	.
CB-3	0.39	013	0.91	0.98	0.91	1.98	.
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Use Time = ______ Minutes.

TIME OF CONCENTRATION CHECK:

Previously assumed the time of concentration was 5 minutes.

-Do not use a time of concentration less than 5 minutes or greater than 30 minutes. (Reference 1, pg 4-6)

Overland Flow Time of Concentration Equation:

$$T = \frac{0.933 * L^{0.6} * N^{0.6}}{(C * I)^{0.4} * S^{0.3}}$$

T = Time of concentration
L = Overland flow length (in feet)
N = Manning's N value
C = Runoff coefficient
I = Rainfall intensity (in. / hr)

CB – 2

L = 280 feet
N = 0.014 – Reference 2, pg. F - 1
C = 0.91 – previously calculated
I = 5.58 in / hr – previously calculated
~~S = 0.01~~ (slope is approximately 1%)

T = 4.4 minutes (because a minimum of 5 minutes must be used the original assumption for the time of concentration is ok.)

CB – 3

L = 146 feet
N = 0.014 – Reference 2, pg. F - 1
C = 0.91 – previously calculated
I = 5.58 in / hr – previously calculated
S = 0.005 (slope is approximately 1/2%)

T = 3.67 minutes (because a minimum of 5 minutes must be used the original assumption for the time of concentration is ok.)

CHK: EWL
10/30/2001

CB-2 Pipe Design
Worksheet for Circular Channel

Project Description	
Project File	c:\bv-users\kim_magn.fm2
Worksheet	CB-2
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.010	
Channel Slope	0.010000	ft/ft
Diameter	12.00	in
Discharge	4.27	cfs

Results		
Depth	0.76	ft
Flow Area	0.64	ft²
Wetted Perimeter	2.11	ft
Top Width	0.86	ft
Critical Depth	0.87	ft
Percent Full	75.72	
Critical Slope	0.007756	ft/ft
Velocity	6.69	ft/s
Velocity Head	0.70	ft
Specific Energy	1.45	ft
Froude Number	1.37	
Maximum Discharge	4.98	cfs
Full Flow Capacity	4.63	cfs
Full Flow Slope	0.008500	ft/ft
Flow is supercritical.		

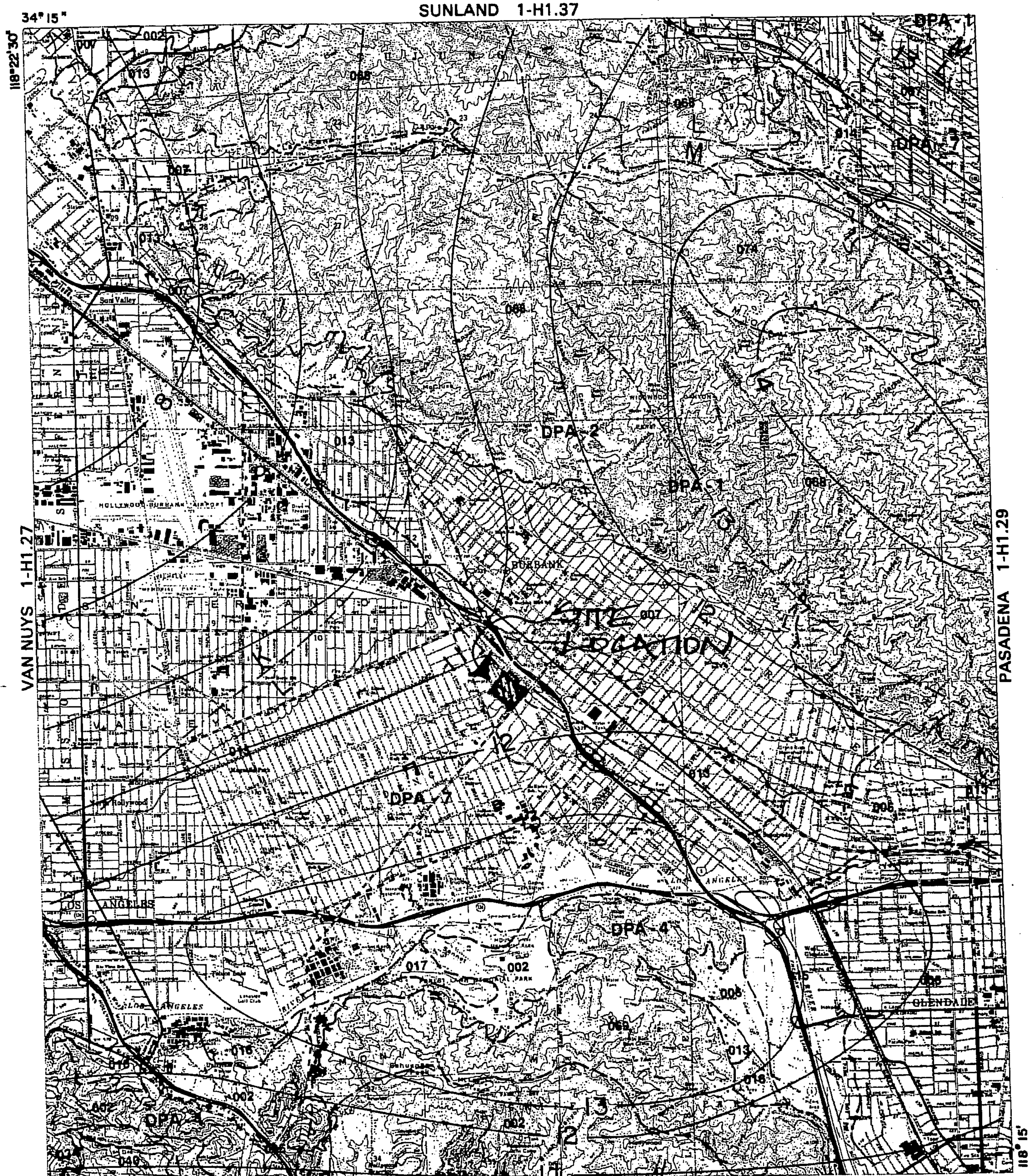
CB-3 Pipe Design
Worksheet for Circular Channel

CHK: EWJ
10/30/2001

Project Description	
Project File	untitled.fm2
Worksheet	CB-3
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.010	
Channel Slope	0.020000	ft/ft
Diameter	8.00	in
Discharge	1.98	cfs

Results		
Depth	0.49	ft
Flow Area	0.28	ft²
Wetted Perimeter	1.37	ft
Top Width	0.59	ft
Critical Depth	0.63	ft
Percent Full	73.57	
Critical Slope	0.013730	ft/ft
Velocity	7.19	ft/s
Velocity Head	0.80	ft
Specific Energy	1.29	ft
Froude Number	1.85	
Maximum Discharge	2.39	cfs
Full Flow Capacity	2.22	cfs
Full Flow Slope	0.015888	ft/ft
Flow is supercritical.		



LEGEND

— — — SOIL CLASSIFICATION AREA

.... DEBRIS POTENTIAL AREA

-·-·-·- RAINFALL ZONE

—12— 50-YEAR ISOHYET (MAX. 24-HOUR AMOUNT)

LACDPW

N

0 FEET 5000

BURBANK

1972

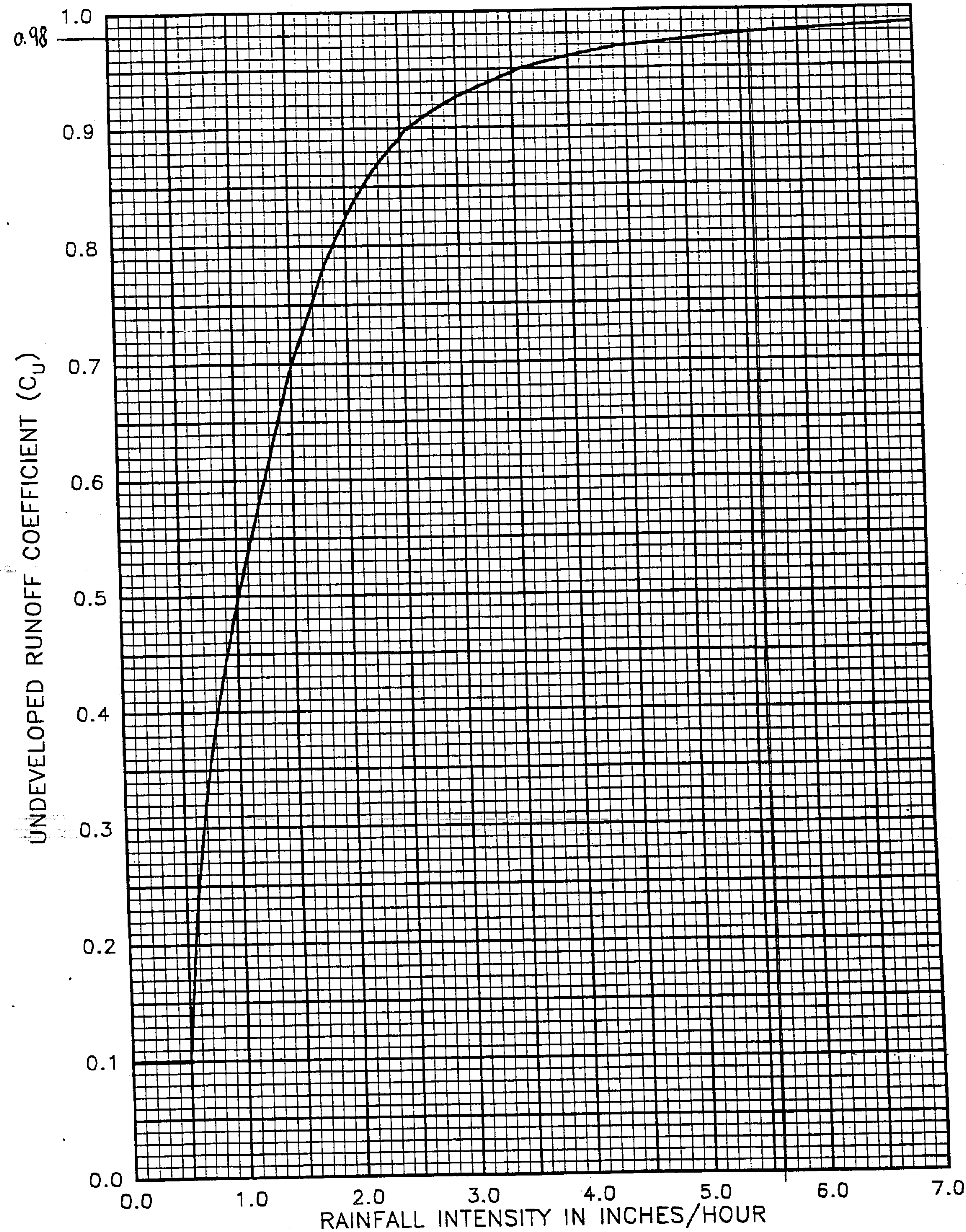
hydrologic map

PEAK INTENSITY-DURATION DATA

K AND L ZONES

	K Zone I-D Data			L Zone I-D Data		
Duration (Min.)	Rainfall Intensity (in/hr) 10 Year	25 Year	50 Year	Rainfall Intensity (in/hr) 10 Year	25 Year	50 Year
5	3.720	4.272	4.548	4.308	4.944	$\boxed{5.580}$
6	3.400	3.800	4.100	3.900	4.390	5.050
7	3.094	3.454	3.771	3.557	3.990	4.629
8	2.865	3.191	3.525	3.300	3.690	4.275
9	2.680	2.987	3.333	3.067	3.447	4.000
10	2.524	2.806	3.161	2.864	3.238	3.756
11	2.396	2.657	3.020	2.699	3.067	3.556
12	2.289	2.534	2.902	2.561	2.924	3.390
13	2.199	2.430	2.802	2.444	2.803	3.249
14	2.121	2.340	2.717	2.344	2.700	3.129
15	2.044	2.256	2.624	2.254	2.596	3.020
16	1.976	2.183	2.543	2.176	2.502	2.919
17	1.916	2.118	2.471	2.106	2.419	2.830
18	1.863	2.060	2.407	2.045	2.345	2.751
19	1.816	2.008	2.349	1.989	2.279	2.680
20	1.770	1.959	2.292	1.940	2.220	2.616
21	1.726	1.911	2.229	1.895	2.166	2.550
22	1.685	1.868	2.171	1.854	2.116	2.491
23	1.649	1.829	2.118	1.817	2.071	2.436
24	1.615	1.792	2.070	1.782	2.030	2.386
25	1.584	1.759	2.026	1.747	1.992	2.340
26	1.555	1.726	1.982	1.715	1.957	2.292
27	1.529	1.695	1.942	1.684	1.924	2.248
28	1.504	1.666	1.905	1.656	1.894	2.206
29	1.481	1.639	1.870	1.630	1.866	2.168
30	1.460	1.614	1.838	1.606	1.840	2.132

Los Angeles County Department of Public Works
PEAK INTENSITY-DURATION DATA K AND L ZONES



Equation:

$C_D = (0.9 * IMP) + (1.0 - IMP)\ C_U$

Where:
- C_D = Developed runoff coefficient.
- IMP = Proportion impervious.
- C_U = Undeveloped runoff coefficient.

Los Angeles County
Department of Public Works

RUNOFF COEFFICIENT CURVE

SOIL TYPE NO. 013

013.SPG

STANDARD VALUES TABLES

Overland Manning's N Values

Type of Development	N
Industrial-Commercial	$\boxed{0.014}$
Residential	0.040
Rural	0.060

Standard Lot Values

Type of Development	Lot Length	Lot Slope Range
Industrial-Commercial	200	0.005-0.02
Residential	100	0.01 -0.05
Rural	200	0.05 -1.00

STANDARD RANGE OF PROPORTION IMPERVIOUS

Type of Development	Proportion Impervious
Single-Family	0.21-0.45
Multi-Family	0.40-0.80
Commercial	0.48-0.92
Industrial	0.60-0.92
Institutional	0.70-0.90

Average Values for Metropolitan Los Angeles County are:
Single-Family=0.42 Multi-Family=0.68 Commercial=0.92
Industrial=0.91 Institutional=0.68
For more detail, see the separate Proportion Impervious Table.

Los Angeles County Department of Public Works
STANDARD VALUES TABLES

Technical Area: Soil and Water Resources

BACKGROUND

The table in the response to Water-13 (second row) states that a SWPPP has been prepared for the existing facility.

Data Request 126: Please provide a copy of the existing facility SWPPP.

Response: A draft SWPPP has been prepared for the Magnolia Expansion Project and is included as part of this response (see the response to Data Request 118). This construction will not have an effect on the existing Magnolia/Olive Site.

The existing facility SWPPP, Permit Number 4B19S000949, was provided with the Application for Certification (AFC) for the Magnolia Power Project. The document is attached for review.

STATE WATER RESOURCES CONTROL BOARD (SWRCB)
ORDER NO. 99 - 08 - DWQ
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT NO. CAS000002

WASTE DISCHARGE REQUIREMENTS (WDRS)
FOR
DISCHARGES OF STORM WATER RUNOFF ASSOCIATED WITH CONSTRUCTION ACTIVITY

The State Water Resources Control Board finds that:

1. Federal regulations for controlling pollutants in storm water runoff discharges were promulgated by the U.S. Environmental Protection Agency (USEPA) on November 16, 1990 (40 Code of Federal Regulations (CFR) Parts 122, 123, and 124). The regulations require discharges of storm water to surface waters associated with construction activity including clearing, grading, and excavation activities (except operations that result in disturbance of less than five acres of total land area and which are not part of a larger common plan of development or sale)[1] to obtain an NPDES permit and to implement Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to reduce or eliminate storm water pollution.

2. This General Permit regulates pollutants in discharges of storm water associated with construction activity (storm water discharges) to surface waters, except from those areas on Tribal Lands; Lake Tahoe Hydrologic Unit; construction projects which disturb less than five acres, unless part of a larger common plan of development or sale; and storm water discharges which are determined ineligible for coverage under this General Permit by the California Regional Water Quality Control Boards (RWQCBs). Attachment 1 contains addresses and telephone numbers of each RWQCB office.

3. This General Permit does not preempt or supersede the authority of local storm water management agencies to prohibit, restrict, or control storm water discharges to separate storm sewer systems or other watercourses within their jurisdiction, as allowed by State and Federal law.

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[1] ***Construction activities under five acres are not covered by this permit. Construction activities with less than five acres of disturbance are required to apply for a permit under Phase II regulations by August 7, 2001. (CFR Section 122.26(g)(l)(ii).)***

4. To obtain authorization for proposed storm water discharges to surface waters, pursuant to this General Permit, the landowner (discharger) must submit a Notice of Intent (NOI) with a vicinity map and the appropriate fee to the SWRCB prior to commencement of construction activities. In addition, coverage under this General Permit shall not occur until the applicant develops a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the requirements of Section A of this permit for the project. For proposed construction activity conducted on easements or on nearby property by agreement or permission, or by an owner or lessee of a mineral estate (oil, gas, geothermal, aggregate, precious metals, and/or industrial minerals) entitled to conduct the activities, the entity responsible for the construction activity must submit the NOI and filing fee and shall be responsible for development of the SWPPP.

5. If an individual NPDES Permit is issued to a discharger otherwise subject to this General Permit or if an alternative General Permit is subsequently adopted which covers storm water discharges regulated by this General Permit, the applicability of this General Permit to such discharges is automatically terminated on the effective date of the individual permit or the date of approval for coverage under the subsequent General Permit.

6. This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with section 13389 of the California Water Code.

7. The SWRCB adopted the California Ocean Plan, and the RWQCBs have adopted and the SWRCB has approved Water Quality Control Plans (Basin Plans). Dischargers regulated by this General Permit must comply with the water quality standards in these Basin Plans and subsequent amendments thereto.

8. The SWRCB finds storm water discharges associated with construction activity to be a potential significant sources of pollutants. Furthermore, the SWRCB finds that storm water discharges associated with construction activities have the reasonable potential to cause or contribute to an excursion above water quality standards for sediment in the water bodies listed in Attachment 3 to this permit.

9. It is not feasible at this time to establish numeric effluent limitations for pollutants in storm water discharges from construction activities. Instead, the provisions of this General Permit require implementation of Best Management Practices (BMPs) to control and abate the discharge of pollutants in storm water discharges.

10. Discharges of non-storm water may be necessary for the completion of certain construction projects. Such discharges include, but are not limited to: irrigation of vegetative erosion control measures, pipe flushing and testing, street cleaning, and dewatering. Such discharges are authorized by this General Permit as long as they (a) do comply with Section A.9 of this General Permit, (b) do not cause or contribute to violation of any water quality standard, (c) do not violate any other provision of this General Permit, (d) do not require a non-storm water permit as issued by some RWQCBs,

and (e) are not prohibited by a Basin Plan. If a non-storm water discharge is subject to a separate permit adopted by a RWQCB, the discharge must additionally be authorized by the RWQCB permit.

11. Following adoption of this General Permit, the RWQCBs shall enforce the provisions herein including the monitoring and reporting requirements.

12. Following public notice in accordance with State and Federal laws and regulations, the SWRCB in a public meeting on June 8, 1998, heard and considered all comments. The SWRCB has prepared written responses to all significant comments.

13. This Order is an NPDES permit in compliance with section 402 of the Clean Water Act (CWA) and shall take effect upon adoption by the SWRCB provided the Regional Administrator of the USEPA has no objection. If the USEPA Regional Administrator objects to its issuance, the General Permit shall not become effective until such objection is withdrawn.

14. This General Permit does not authorize discharges of fill or dredged material regulated by the U.S. Army Corps of Engineers under CWA section 404 and does not constitute a waiver of water quality certification under CWA section 401.

IT IS HEREBY ORDERED that all dischargers who file an NOI indicating their intention to be regulated under the provisions of this General Permit shall comply with the following:

A. DISCHARGE PROHIBITIONS:

1. Authorization pursuant to this General Permit does not constitute an exemption to applicable discharge prohibitions prescribed in Basin Plans, as implemented by the nine RWQCBs.

2. Discharges of material other than storm water which are not otherwise authorized by an NPDES permit to a separate storm sewer system (MS4) or waters of the nation are prohibited, except as allowed in Special Provisions for Construction Activity, C.3.

3. Storm water discharges shall not cause or threaten to cause pollution, contamination, or nuisance.

4. Storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of a reportable quantity listed in 40 CFR Part 117 and/or 40 CFR Part 302.

B. RECEIVING WATER LIMITATIONS:

1. Storm water discharges and authorized nonstorm water discharges to any surface or ground water shall not adversely impact human health or the environment.

2. The SWPPP developed for the construction activity covered by this General Permit shall be designed and implemented such that storm water discharges and authorized nonstorm water discharges shall not cause or contribute to an exceedance of any applicable water quality standards contained in a Statewide Water Quality Control Plan and/or the applicable RWQCB's Basin Plan.

3. Should it be determined by the discharger, SWRCB, or RWQCB that storm water discharges and/or authorized nonstorm water discharges are causing or contributing to an exceedance of an applicable water quality standard, the discharger shall:

   a. Implement corrective measures immediately following discovery that water quality standards were exceeded, followed by notification to the RWQCB by telephone as soon as possible but no later than 48 hours after the discharge has been discovered. This notification shall be followed by a report within 14-calender days to the appropriate RWQCB, unless otherwise directed by the RWQCB, describing (1) the nature and cause of the water quality standard exceedance; (2) the BMPs currently being implemented; (3) any additional BMPs which will be implemented to prevent or reduce pollutants that are causing or contributing to the exceedance of water quality standards; and (4) any maintenance or repair of BMPs. This report shall include an implementation schedule for corrective actions and shall describe the actions taken to reduce the pollutants causing or contributing to the exceedance.

   b. The discharger shall revise its SWPPP and monitoring program immediately after the report to the RWQCB to incorporate the additional BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring needed.

   c. Nothing in this section shall prevent the appropriate RWQCB from enforcing any provisions of this General Permit while the discharger prepares and implements the above report.

C. SPECIAL PROVISIONS FOR CONSTRUCTION ACTIVITY:

1. All dischargers shall file an NOI and pay the appropriate fee for construction activities conducted at each site as required by Attachment 2: Notice of Intent--General Instructions.

2. All dischargers shall develop and implement a SWPPP in accordance with Section A: Storm Water Pollution Prevention Plan. The discharger shall implement controls to reduce pollutants in storm water discharges from their construction sites to the BAT/BCT performance standard.

3. Discharges of non-storm water are authorized only where they do not cause or contribute to a violation of any water quality standard and are controlled through implementation of appropriate BMPs for elimination or reduction of pollutants. Implementation of appropriate BMPs is a condition for authorization of non-storm water discharges. Non-storm water discharges and the BMPs appropriate for their control must be described in the SWPPP. Wherever feasible, alternatives which do not result in discharge of nonstorm water shall be implemented in accordance with Section A.9. of the SWPPP requirements.

4. All dischargers shall develop and implement a monitoring program and reporting plan in accordance with Section B: Monitoring Program and Reporting Requirements.

5. All dischargers shall comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to separate storm sewer systems or other watercourses under their jurisdiction, including applicable requirements in municipal storm water management programs developed to comply with NPDES permits issued by the RWQCBs to local agencies.

6. All dischargers shall comply with the standard provisions and reporting requirements contained in Section C: Standard Provisions.

7. The discharger may terminate coverage for a portion of the project under this General Permit when ownership of a portion of this project has been transferred or when a phase within this multi-phase project has been completed. When ownership has transferred, the discharger must submit to its RWQCB a Change of Information Form (COI) Attachment 4 with revised site map and the name, address and telephone number of the new owner(s). Upon transfer of title, the discharger should notify the new owner(s) of the need to obtain coverage under this General Permit. The new owner must comply with provisions of Sections A. 2. (c) and
B. 2. (b) of this General Permit. To terminate coverage for a portion of the project when a phase has been completed, the discharger must submit to its RWQCB a COI with a revised map that identifies the newly delineated site.

8. The discharger may terminate coverage under this General Permit for a complete project by submitting to its RWQCB a Notice of Termination Form (NOT), and the post-construction BMPs plan according to Section A.10 of this General

Permit. Note that a construction project is considered complete only when all portions of the site have been transferred to a new owner; or the following conditions have been met:

a. There is no potential for construction related storm water pollution,

b. All elements of the SWPPP have been completed,

c. Construction materials and waste have been disposed of properly,

d. The site is in compliance with all local storm water management requirements, and

e. A post-construction storm water management plan is in place as described in the site's SWPPP.

9. This General Permit expires five years from the date of adoption.

D. REGIONAL WATER QUALITY CONTROL BOARD (RWQCB) AUTHORITIES:

1. RWQCBs shall:

a. Implement the provisions of this General Permit. Implementation of this General Permit may include, but is not limited to requesting the submittal of SWPPPS, reviewing SWPPPs, reviewing monitoring reports, conducting compliance inspections, and taking enforcement actions.

b. Issue permits as they deem appropriate to individual dischargers, categories of dischargers, or dischargers in a geographic area. Upon issuance of such permits by a RWQCB, the affected dischargers shall no longer be regulated by this General Permit.

2. RWQCBs may require, on a case-by-case basis, the inclusion of an analysis of potential downstream impacts on receiving waterways due to the permitted construction.

3. RWQCBs may provide information to dischargers on the development and implementation of SWPPPs and monitoring programs and may require revisions to SWPPPs and monitoring programs.

4. RWQCBs may require dischargers to retain records for more than three years.

5. RWQCBs may require additional monitoring and reporting program requirements including sampling and analysis of discharges to water bodies listed in Attachment

3 to this permit. Additional requirements imposed by the RWQCB should be consistent with the overall monitoring effort in the receiving waters.

6. RWQCBs may issue individual NPDES permits for those construction activities found to be ineligible for coverage under this permit.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on August 19, 1999.

AYE:	James M. Stubchaer Mary Jane Forster John W. Brown Arthur G. Baggett, Jr.
NO:	None
ABSENT:	None
ABSTAIN:	None

/s/

Maureen Marché
Administrative Assistant to the Board

SECTION A: STORM WATER POLLUTION PREVENTION PLAN

1. Objectives

A Storm Water Pollution Prevention Plan (SWPPP) shall be developed and implemented to address the specific circumstances for each construction site covered by this General Permit. The SWPPP shall be certified in accordance with the signatory requirements of section C, Standard Provision for Construction Activities (9). The SWPPP shall be developed and amended or revised, when necessary, to meet the following objectives:

a. Identify all pollutant sources including sources of sediment that may affect the quality of storm water discharges associated with construction activity (storm water discharges) from the construction site, and

b. Identify non-storm water discharges, and

c Identify, construct, implement in accordance with a time schedule, and maintain Best Management Practices (BMPs) to reduce or eliminate pollutants in storm water discharges and authorized nonstorm water discharges from the construction site during construction, and

d Develop a maintenance schedule for BMPs installed during construction designed to reduce or eliminate pollutants after construction is completed (post-construction BMPs).

2. Implementation Schedule

a. For construction activity commencing on or after adoption of this General Permit, the SWPPP shall be developed prior to the start of soil-disturbing activity in accordance with this Section and shall be implemented concurrently with commencement of soil-disturbing activities.

b. Existing permittees engaging in construction activities covered under the terms of the previous General Construction Permit SWPPP (WQ Order No.92-08-DWQ) shall continue to implement their existing SWPPP and shall implement any necessary revisions to their SWPPP in accordance with this Section of the General Permit in a timely manner, but in no case more than 90-calender days from the date of adoption of this General Permit.

c. For ongoing construction activity involving a change of ownership of property, the new owner shall review the existing SWPPP and amend if necessary, or develop a new SWPPP within 45-calender days.

3. Availability

The SWPPP shall remain on the construction site while the site is under construction during working hours, commencing with the initial construction activity and ending with termination of coverage under the General Permit.

4. Required Changes

a. The discharger shall amend the SWPPP whenever there is a change in construction or operations which may affect the discharge of pollutants to surface waters, ground waters, or a municipal separate storm sewer system (MS4). The SWPPP shall also be amended if the discharger violates any condition of this General Permit or has not achieved the general objective of reducing or eliminating pollutants in storm water discharges. If the RWQCB determines that the discharger is in violation of this General Permit, the SWPPP shall be amended and implemented in a timely manner, but in no case more than 14-calendar days after notification by the RWQCB. All amendments should be dated and directly attached to the SWPPP.

b. The RWQCB or local agency with the concurrence of the RWQCB may require the discharger to amend the SWPPP.

5. Source Identification

The SWPPP shall include: (a) project information and (b) pollutant source identification combined with an itemization of those BMPs specifically chosen to control the pollutants listed.

a. Project Information

(1) The SWPPP shall include a vicinity map locating the project site with respect to easily identifiable major roadways, geographic features, or landmarks. At a minimum, the map must show the construction site perimeter, the geographic features surrounding the site, and the general topography.

(2) The SWPPP shall include a site map(s) which shows the construction project in detail, including the existing and planned paved areas and buildings.

(a) At a minimum, the map must show the construction site perimeter; existing and proposed buildings, lots, roadways, storm water collection and discharge points; general topography both before and after construction; and the anticipated discharge location(s) where the storm water from the construction site discharges to a municipal storm sewer system or other water body.

(b) The drainage patterns across the project area must clearly be shown on the map, and the map must extend as far outside the site perimeter as necessary to illustrate the relevant drainage areas. Where relevant drainage areas are too large to depict on the map, map notes or inserts illustrating the upstream drainage areas are sufficient.

(c) Temporary on-site drainages to carry concentrated flow shall be selected to comply with local ordinances, to control erosion, to return flows to their natural drainage courses, and to prevent damage to downstream properties.

3. Information presented in the SWPPP may be represented either by narrative or by graphics. Where possible, narrative descriptions should be plan notes. Narrative descriptions which do not lend themselves to plan notes can be contained in a separate document which must be referenced on the plan.

b. Pollutant Source and BMP Identification

The SWPPP shall include a description of potential sources which are likely to add pollutants to storm water discharges or which may result in nonstorm water discharges from the construction site. Discharges originating from off-site which flow across or through areas disturbed by construction that may contain pollutants should be reported to the RWQCB.

The SWPPP shall:

(1) Show drainage patterns and slopes anticipated after major grading activities are completed. Runoff from off-site areas should be prevented from flowing through areas that have been disturbed by construction unless appropriate conveyance systems are in place. The amount of anticipated storm water run-on must be considered to determine the appropriateness of the BMPs chosen. Show all calculations for anticipated storm water run-on, and describe all BMPs implemented to divert off-site drainage described in section A. 5 a. (2) (c) around or through the construction project.

(2) Show the drainage patterns into each on-site storm water inlet point or receiving water. Show or describe the BMPs that will protect operational storm water inlets or receiving waters from contaminated discharges other than sediment discharges, such as, but not limited to: storm water with

elevated pH levels from contact with soil amendments such as lime or gypsum; slurry from sawcutting of concrete or asphalt ;washing of exposed aggregate concrete; concrete rinse water; building washing operations; equipment washing operations; minor street washing associated with street delineation; and/or sealing and paving activities occurring during rains.

(3) Show existing site features that, as a result of known past usage, may contribute pollutants to storm water, (e.g., toxic materials that are known to have been treated, stored, disposed, spilled, or leaked onto the construction site). Show or describe the BMPs implemented to minimize the exposure of storm water to contaminated soil or toxic materials.

(4) Show areas designated for the (a) storage of soil or waste, (b) vehicle storage and service areas, (c) construction material loading, unloading, and access areas, (d) equipment storage, cleaning, and maintenance areas.

(5) Describe the BMPs for control of discharges from waste handling and disposal areas and methods of on-site storage and disposal of construction materials and construction waste. Describe the BMPs designed to minimize or eliminate the exposure of storm water to construction materials, equipment, vehicles, waste storage areas, or service areas. The BMPs described shall be in compliance with Federal, State, and local laws, regulations, and ordinances.

(6) Describe all post-construction BMPs for the project, and show the location of each BMP on the map. (Post-construction BMPs consist of permanent features designed to minimize pollutant discharges, including sediment, from the site after construction has been completed.) Also, describe the agency or parties to be the responsible party for long-term maintenance of these BMPs.

c. Additional Information

(1) The SWPPP shall include a narrative description of pollutant sources and BMPs that cannot be adequately communicated or identified on the site map. In addition, a narrative description of preconstruction control practices (if any) to reduce sediment and other pollutants in storm water discharges shall be included.

(2) The SWPPP shall include an inventory of all materials used and activities performed during construction that have the potential to contribute to the discharge of pollutants other than sediment in storm water. Describe the BMPs selected and the basis for their selection to eliminate or reduce these pollutants in the storm water discharges.

(3) The SWPPP shall include the following information regarding the construction site surface area: the size (in acres or square feet), the runoff coefficient before and after construction, and the percentage that is impervious (e.g., paved, roofed, etc.) before and after construction.

(4) The SWPPP shall include a copy of the NOI, and the Waste Discharge Identification (WDID) number. Should a WDID number not be received from the SWRCB at the time construction commences, the discharger shall include proof of mailing of the NOI, e.g., certified mail receipt, copy of check, express mail receipt, etc.

(5) The SWPPP shall include a construction activity schedule which describes all major activities such as mass grading, paving, lot or parcel improvements at the site and the proposed time frame to conduct those activities.

(6) The SWPPP shall list the name and telephone number of the qualified person(s) who have been assigned responsibility for prestorm, poststorm, and storm event BMP inspections; and the qualified person(s) assigned responsibility to ensure full compliance with the permit and implementation of all elements of the SWPPP, including the preparation of the annual compliance evaluation and the elimination of all unauthorized discharges.

6. <u>Erosion Control</u>

Erosion control, also referred to as "soil stabilization" is the most effective way to retain soil and sediment on the construction site. The most efficient way to address erosion control is to preserve existing vegetation where feasible, to limit disturbance, and to stabilize and revegetate disturbed areas as soon as possible after grading or construction. Particular attention must be paid to large mass-graded sites where the potential for soil exposure to the erosive effects of rainfall and wind is great. Mass graded construction sites may be exposed for several years while the project is being built out. Thus, there is potential for significant sediment discharge from the site to surface waters.

At a minimum, the discharger/operator must implement an effective combination of erosion and sediment control on all disturbed areas during the rainy season. These disturbed areas include rough graded roadways, slopes, and building pads. Until permanent vegetation is established, soil cover is the most cost-effective and expeditious method to protect soil particles from detachment and transport by rainfall. Temporary soil stabilization can be the single-most important factor in reducing erosion at construction sites. The discharger shall consider measures such as: covering with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, permanent seeding, and a variety of other measures.

The SWPPP shall include a description of the erosion control practices, including a time schedule, to be implemented during construction to minimize erosion on disturbed areas of a construction site. The discharger must consider the full range of erosion control BMPs. The discharger must consider any additional site-specific and seasonal conditions when selecting and implementing appropriate BMPs. The above listed erosion control measures are examples of what should be considered and are not exclusive of new or innovative approaches currently available or being developed.

a. The SWPPP shall include:

(1) An outline of the areas of vegetative soil cover or native vegetation onsite which will remain undisturbed during the construction project.

(2) An outline of all areas of soil disturbance including cut or fill areas which will be stabilized during the rainy season by temporary or permanent erosion control measures, such as seeding, mulch, or blankets, etc.

(3) An outline of the areas of soil disturbance, cut, or fill which will be left exposed during any part of the rainy season, representing areas of potential soil erosion where sediment control BMPs are required to be used during construction.

(4) A proposed schedule for the implementation of erosion control measures.

b. The SWPPP shall include a description of the BMPs and control practices to be used for both temporary and permanent erosion control measures.

c. The SWPPP shall include a description of the BMPs to reduce wind erosion at all times, with particular attention paid to stock-piled materials.

7. Stabilization

(1) All disturbed areas of the construction site must be stabilized. Final stabilization for the purposes of submitting a NOT is satisfied when:

-All soil disturbing activities are completed AND EITHER OF THE TWO FOLLOWING CRITERIA ARE MET:

-A uniform vegetative cover with 70 percent coverage has been established OR:

-equivalent stabilization measures have been employed. These measures include the use of such BMPs as blankets, reinforced channel liners, soil cement, fiber matrices, geotextiles, or other erosion resistant soil coverings or treatments.

(2) Where background native vegetation covers less than 100 percent of the surface, such as in arid areas, the 70 percent coverage criteria is adjusted as follows: If the native vegetation covers 50 percent of the ground surface, 70 percent of 50 percent (.70 X .50=.35) would require 35 percent total uniform surface coverage.

8. Sediment Control

The SWPPP shall include a description or illustration of BMPs which will be implemented to prevent a net increase of sediment load in storm water discharge relative to preconstruction levels. Sediment control BMPs are required at appropriate locations along the site perimeter and at all operational internal inlets to the storm drain system at all times during the rainy season. Sediment control practices may include filtration devices and barriers (such as fiber rolls, silt fence, straw bale barriers, and gravel inlet filters) and/or settling devices (such as sediment traps or basins). Effective filtration devices, barriers, and settling devices shall be selected, installed and maintained properly. A proposed schedule for deployment of sediment control BMPs shall be included in the SWPPP. These are the most basic measures to prevent sediment from leaving the project site and moving into receiving waters. Limited exemptions may be authorized by the RWQCB when work on active areas precludes the use of sediment control BMPs temporarily. Under these conditions, the SWPPP must describe a plan to establish perimeter controls prior to the onset of rain.

During the nonrainy season, the discharger is responsible for ensuring that adequate sediment control materials are available to control sediment discharges at the downgrade perimeter and operational inlets in the event of a predicted storm. The discharger shall consider a full range of sediment controls, in addition to the controls listed above, such as straw bale dikes, earth dikes, brush barriers, drainage swales, check dams, subsurface drain, sandbag dikes, fiber rolls, or other controls. At a minimum, the discharger/operator must implement an effective combination of erosion and sediment control on all disturbed areas during the rainy season.

If the discharger chooses to rely on sediment basins for treatment purposes, sediment basins shall, at a minimum, be designed and maintained as follows:

Option 1: Pursuant to local ordinance for sediment basin design and maintenance, provided that the design efficiency is as protective or more protective of water quality than Option 3.

OR

Option 2: Sediment basin(s), as measured from the bottom of the basin to the principal outlet, shall have at least a capacity equivalent to 3,600 cubic feet of storage per acre draining into the sediment basin. The length of the basin shall be more than twice the width of the basin. The length is determined by measuring the distance between the inlet and the outlet; and the depth must not be less than three feet nor greater than five feet for safety reasons and for maximum efficiency.

OR

Option 3: Sediment basin(s) shall be designed using the standard equation:

$$As=1.2Q/Vs$$

Where: As is the minimum surface area for trapping soil particles of a certain size; Vs is the settling velocity of the design particle size chosen; and Q=C x I x A where Q is the discharge rate measured in cubic feet per second; C is the runoff coefficient; I is the precipitation intensity for the 10-year, 6-hour rain event and A is the area draining into the sediment basin in acres. The design particle size shall be the smallest soil grain size determined by wet sieve analysis, or the fine silt sized (0.01mm) particle, and the Vs used shall be 100 percent of the calculated settling velocity.

The length is determined by measuring the distance between the inlet and the outlet; the length shall be more than twice the dimension as the width; the depth shall not be less than three feet nor greater than five feet for safety reasons and for maximum efficiency (two feet of storage, two feet of capacity). The basin(s) shall be located on the site where it can be maintained on a year-round basis and shall be maintained on a schedule to retain the two feet of capacity;

OR

Option 4: The use of an equivalent surface area design or equation, provided that the design efficiency is as protective or more protective of water quality than Option 3.

A sediment basin shall have a means for dewatering within 7-calendar days following a storm event. Sediment basins may be fenced if safety (worker or public) is a concern.

The outflow from a sediment basin that discharges into a natural drainage shall be provided with outlet protection to prevent erosion and scour of the embankment and channel.

The discharger must consider any additional site-specific and seasonal conditions when selecting and designing sediment control BMPs. The above listed sediment control measures are examples of what should be considered and are not exclusive of new or innovative approaches currently available or being developed.

The SWPPP shall include a description of the BMPs to reduce the tracking of sediment onto public or private roads at all times. These public and private roads shall be inspected and cleaned as necessary. Road cleaning BMPs shall be discussed in the SWPPP and will not rely on the washing of accumulated sediment or silt into the storm drain system.

9. Non-Storm Water Management

Describe all non-storm water discharges to receiving waters that are proposed for the construction project. Non-storm water discharges should be eliminated or reduced to the extent feasible. Include the locations of such discharges and descriptions of all BMPs designed for the control of pollutants in such discharges. Onetime discharges shall be monitored during the time that such discharges are occurring. A qualified person should be assigned the responsibility for ensuring that no materials other than storm water are discharged in quantities which will have an adverse effect on receiving waters or storm drain systems (consistent with BAT/BCT), and the name and contact number of that person should be included in the SWPPP document.

Discharging sediment-laden water which will cause or contribute to an exceedance of the applicable RWQCB's Basin Plan from a dewatering site or sediment basin into any receiving water or storm drain without filtration or equivalent treatment is prohibited.

10. Post-Construction Storm Water Management

The SWPPP shall include descriptions of the BMPs to reduce pollutants in storm water discharges after all construction phases have been completed at the site (Post-Construction BMPs). Post-Construction BMPs include the minimization of land disturbance, the minimization of impervious surfaces, treatment of storm water runoff using infiltration, detention/retention, biofilter BMPs, use of efficient irrigation systems, ensuring that interior drains are not connected to a storm sewer system, and appropriately designed and constructed energy dissipation devices. These must be consistent with all local post-construction storm water management requirements, policies, and guidelines. The discharger must consider site-specific and seasonal conditions when designing the control practices. Operation and maintenance of control practices after construction is completed shall be addressed, including short-and long-term funding sources and the responsible party.

11. Maintenance, Inspection, and Repair

The SWPPP shall include a discussion of the program to inspect and maintain all BMPs as identified in the site plan or other narrative documents throughout the entire duration of the project. A qualified person will be assigned the responsibility to conduct inspections. The name and telephone number of that person shall be listed in the SWPPP document. Inspections will be performed before and after storm events and once each 24-hour period during extended storm events to identify BMP effectiveness and implement repairs or design changes as soon as feasible depending upon field conditions. Equipment, materials, and workers must be available for rapid response to failures and emergencies. All corrective maintenance to BMPs shall be performed as soon as possible after the conclusion of each storm depending upon worker safety.

For each inspection required above, the discharger shall complete an inspection checklist. At a minimum, an inspection checklist shall include:

a. Inspection date.

b. Weather information: best estimate of beginning of storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall (inches).

c. A description of any inadequate BMPs.

d. If it is possible to safely access during inclement weather, list observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list result of visual inspection at relevant outfall, discharge point, or downstream location and projected required maintenance activities.

e. Corrective actions required, including any changes to SWPPP necessary and implementation dates.

f. Inspectors name, title, and signature.

The dischargers shall prepare their inspection checklists using the inspection checklist form provided by the SWRCB or RWQCB or on forms that contain the equivalent information.

12. Training

Individuals responsible for SWPPP preparation, implementation, and permit compliance shall be appropriately trained, and the SWPPP shall document all training. This includes those personnel responsible for installation, inspection, maintenance, and repair of BMPs. Those responsible for overseeing, revising, and amending the SWPPP shall also document their training. Training should be both formal and informal, occur on an ongoing basis when it is appropriate and convenient, and should include training/workshops offered by the SWRCB, RWQCB, or other locally recognized agencies or professional organizations.

13. List of Contractors/Subcontractors

The SWPPP shall include a list of names of all contractors, (or subcontractors) and individuals responsible for implementation of the SWPPP. This list should include telephone numbers and addresses. Specific areas of responsibility of each subcontractor and emergency contact numbers should also be included.

14. Other Plans

This SWPPP may incorporate by reference the appropriate elements of other plans required by local, State, or Federal agencies. A copy of any requirements incorporated by reference shall be kept at the construction site.

15. Public Access

The SWPPP shall be provided, upon request, to the RWQCB. The SWPPP is considered a report that shall be available to the public by the RWQCB under section 308(b) of the Clean Water Act.

16. Preparer Certification

The SWPPP and each amendment shall be signed by the landowner (discharger) or his representative and include the date of initial preparation and the date of each amendment.

SECTION B: MONITORING PROGRAM AND REPORTING REQUIREMENTS

1. Required Changes

The RWQCB may require the discharger to conduct additional site inspections, to submit reports and certifications, or perform sampling and analysis.

2. Implementation

a. The requirements of this Section shall be implemented at the time of commencement of construction activity (see also Section A. 2. Implementation Schedule). The discharger is responsible for implementing these requirements until construction activity is complete and the site is stabilized.

b. For ongoing construction activity involving a change in ownership of property covered by this General Permit, the new owner must complete a NOI and implement the requirements of this Section concurrent with the change of ownership. For changes of information, the owner must follow instructions in

C. 7. Special Provisions for Construction Activity of the General Permit.

3. Site Inspections

Qualified personnel shall conduct inspections of the construction site prior to anticipated storm events, during extended storm events, and after actual storm events to identify areas contributing to a discharge of storm water associated with construction activity. The name(s) and contact number(s) of the assigned inspection personnel shall be listed in the SWPPP. Pre-storm inspections are to ensure that BMPs are properly installed and maintained; post-storm inspections are to assure that the BMPs have functioned adequately. During extended storm events, inspections shall be required each 24-hour period. Best Management Practices (BMPs) shall be evaluated for adequacy and proper implementation and whether additional BMPs are required in accordance with the terms of the General Permit (see language in Section A. 11. Maintenance, Inspection, and Repair). Implementation of nonstorm water discharge BMPs shall be verified and their effectiveness evaluated. One time discharges of non-storm water shall be inspected when such discharges occur.

4. Compliance Certification

Each discharger or qualified assigned personnel listed by name and contact number in the SWPPP must certify annually that construction activities are in compliance with the requirements of this General Permit and the SWPPP. This Certification shall be based upon the site inspections required in Item 3 of this Section. The certification must be completed by July 1 of each year.

5. Noncompliance Reporting

Dischargers who cannot certify compliance, in accordance with Item 4 of this Section and/or who have had other instances of noncompliance excluding exceedances of water quality standards as defined in section B. 3. Receiving Water Limitations Language, shall notify the appropriate RWQCB within 30 days. Corrective measures should be implemented immediately following discovery that water quality standards were exceeded. The notifications shall identify the noncompliance event, including an initial assessment of any impact caused by the event; describe the actions necessary to achieve compliance; and include a time schedule subject to the modifications by the RWQCB indicating when compliance will be achieved. Noncompliance notifications must be submitted within 30-calendar days of identification of noncompliance.

6. Monitoring Records

Records of all inspections, compliance certifications, and noncompliance reporting must be retained for a period of at least three years from the date generated. With the exception of noncompliance reporting, dischargers are not required to submit these records.

SECTION C: STANDARD PROVISIONS FOR CONSTRUCTION ACTIVITY

1. Duty to Comply

The discharger must comply with all of the conditions of this General Permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act and is grounds for enforcement action and/or removal from General Permit coverage.

The discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this General Permit has not yet been modified to incorporate the requirement.

2. General Permit Actions

This General Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the discharger for a General Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not annul any General Permit condition.

If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this General Permit, this General Permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and the dischargers so notified.

3. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this General Permit.

4. Duty to Mitigate

The discharger shall take all responsible steps to minimize or prevent any discharge in violation of this General Permit, which has a reasonable likelihood of adversely affecting human health or the environment.

5. Proper Operation and Maintenance

The discharger shall at all times properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with the conditions of this General Permit and with the requirements of Storm Water Pollution Prevention Plans (SWPPP). Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance may require the operation of backup or auxiliary facilities or similar systems installed by a discharger when necessary to achieve compliance with the conditions of this General Permit.

6. Property Rights

This General Permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor does it authorize any infringement of Federal, State, or local laws or regulations.

7. Duty to Provide Information

The discharger shall furnish the RWQCB, State Water Resources Control Board, or USEPA, within a reasonable time, any requested information to determine compliance with this General Permit. The discharger shall also furnish, upon request, copies of records required to be kept by this General Permit.

8. Inspection and Entry

The discharger shall allow the RWQCB, SWRCB, USEPA, and/or, in the case of construction sites which discharge through a municipal separate storm sewer, an authorized representative of the municipal operator of the separate storm sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the discharger's premises at reasonable times where a regulated construction activity is being conducted or where records must be kept under the conditions of this General Permit;

b. Access and copy at reasonable times any records that must be kept under the conditions of this General Permit;

c. Inspect at reasonable times the complete construction site, including any off-site staging areas or material storage areas, and the erosion/sediment controls; and

d. Sample or monitor at reasonable times for the purpose of ensuring General Permit compliance.

9. <u>Signatory Requirements</u>

a. All Notice of Intents (NOIs), Notice of Terminations (NOTs), SWPPPs, certifications, and reports prepared in accordance with this Order submitted to the SWRCB shall be signed as follows:

(1) For a corporation: by a responsible corporate officer. For the purpose of this Section, a responsible corporate officer means: (a) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or (b) the manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency: by either a principal executive officer, ranking elected official, or duly authorized representative. The principal executive officer of a Federal agency includes the chief executive officer of the agency or the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of USEPA).

b. All SWPPPs, reports, certifications, or other information required by the General Permit and/or requested by the RWQCB, SWRCB, USEPA, or the local storm water management agency shall be signed by a person described above or by a duly authorized representative. A person is a duly authorized representative if:

(1) The authorization is made in writing by a person described above and retained as part of the SWPPP; or

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the construction activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position).

c. If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the construction activity, a new authorization must be attached to the SWPPP prior to submittal of any reports, information, or certifications to be signed by the authorized representative.

10. Certification

Any person signing documents under Section C, Provision 9 above, shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

11. Anticipated Noncompliance

The discharger will give advance notice to the RWQCB and local storm water management agency of any planned changes in the construction activity which may result in noncompliance with General Permit requirements.

12. Penalties for Falsification of Reports

Section 309(c)(4) of the CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this General Permit, including reports of compliance or noncompliance shall upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than two years or by both.

13. Oil and Hazardous Substance Liability

Nothing in this General Permit shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities, or penalties to which the discharger is or may be subject to under Section 311 of the CWA.

14. Severability

The provisions of this General Permit are severable; and, if any provision of this General Permit or the application of any provision of this General Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this General Permit shall not be affected thereby.

15. Reopener Clause

This General Permit may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of USEPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations (CFR) 122.62, 122.63, 122.64, and 124.5.

16. Penalties for Violations of Permit Conditions

a. Section 309 of the CWA provides significant penalties for any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any such section in a permit issued under Section 402. Any person who violates any permit condition of this General Permit is subject to a civil penalty not to exceed $27,500 per calendar day of such violation, as well as any other appropriate sanction provided by Section 309 of the CWA.

b. The Porter-Cologne Water Quality Control Act also provides for civil and criminal penalties which in some cases are greater than those under the CWA.

17. Availability

A copy of this General Permit shall be maintained at the construction site during construction activity and be available to operating personnel.

18. Transfers

This General Permit is not transferable. A new owner of an ongoing construction activity must submit a NOI in accordance with the requirements of this General Permit to be authorized to discharge under this General Permit. An owner who sells property covered by this General Permit shall inform the new owner of the duty to file a NOI and shall provide the new owner with a copy of this General Permit.

19. Continuation of Expired Permit

This General Permit continues in force and effect until a new General Permit is issued or the SWRCB rescinds this General Permit. Only those dischargers authorized to discharge under the expiring General Permit are covered by the continued General Permit.

SWRCB AND RWQCB CONTACT LIST

STATE WATER RESOURCES CONTROL BOARD
Division of Water Quality
Attention: Storm Water Permit Unit
P.O. Box 1977
Sacramento, CA 95812-1977
(916) 657-1146 FAX:(916) 657-1011
Contact: Bruce Fujimoto

1) NORTH COAST REGION
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403
Contact: Nathan Quarles
(707) 576-2220 FAX: (707) 523-0135
Email: quarn@rb1.swrcb.ca.gov

2) SAN FRANCISCO BAY REGION
1515 Clay Street, Suite 1400
Oakland, CA 94612
Contact: Gayleen Perriera
(510) 622-2407 FAX: (510) 622-2460
Email: gp@rb2.swrcb.ca.gov

3) CENTRAL COAST REGION
81 Higuera Street, Suite 200
San Luis Obispo, CA 93401-5427
Contact: Jennifer Bitting
(805) 549-3147 FAX: (805) 543-0397
Email: jbitting@rb3.swrcb.ca.gov

4) LOS ANGELES REGION
320 W. 4th Street, Suite 200
Los Angeles, CA 90013
Contact: **Wayne Chiou** *(Inland Los Angeles)*
(213) 576-6664 FAX: (213) 576-6686
Email: wchiou@rb4.swrcb.ca.gov
Contact: **Mark Pumford** *(Ventura County)*
(213) 576-6657 FAX: (213) 576-6686
Email: mpumford@rb4.swrcb.ca.gov
Contact: **Carlos Urrunaga** *(Coastal)*
(213) 576-6655 FAX (213) 576-6686
Email: currunag@rb4.swrcb.ca.gov

5S) CENTRAL VALLEY REGION
Sacramento Office
3443 Routier road, Suite A
Sacramento, CA 95827-3098
Contact: Leo Sarmiento
(916) 255-3049 FAX: (916) 255-3015
Email: sarmienl@rb5s.swrcb.ca.gov

5F) CENTRAL VALLEY REGION
Fresno Branch Office
3614 East Ashlan Avenue
Fresno, CA 93726
Contact: Jarma Bennett *(Tulare & Kern Counties)*
(559) 445-5919 FAX: (559) 445-5910
Email: bennettj@rb5f.swrcb.ca.gov
Contact: **Greg Kelly** (Madera, Mariposa, Merced, Fresno, & Kings Counties)
(559) 445-5500 FAX: (559) 445-5910
Email: kellyg@rb5f.swrcb.ca.gov

5R) CENTRAL VALLEY REGION
Redding Branch Office
415 Knollcrest Drive
Redding, CA 96002
Contact: Carole Crowe
(530) 224-4849 FAX: (530) 224-4857
Email: crowec@rb5r.swrcb.ca.gov

6SLT) LAHONTAN REGION
South Lake Tahoe Office
2501 Lake Tahoe Boulevard
South Lake Tahoe, CA 96150
Contact: Chris Adair
(530) 542-5433 FAX: (530) 544-2271
Email: adaic@rb6s.swrcb.ca.gov

6V) LAHONTAN REGION
Victorville Office
15428 Civic Drive, Suite 100
Victorville, CA 92392
Contact: Jehiel Cass
(760) 241-7377 FAX: (760) 241-7308
Email: jcass@rb6v.swrcb.ca.gov

7) COLORADO RIVER BASIN REGION
73-720 Fred Waring Drive, Suite 100
Palm Desert, CA 92260
Contact: Abdi Haile
(760) 776-8935 FAX: (760) 341-6820
Email: haila@rb7.swrcb.ca.gov
Contact: Rosalyn Fleming
(760) 241-7364 FAX: (760) 341-6820
Email: flemr@rb7.swrcb.ca.gov

8) SANTA ANA REGION
3737 Main Street, Suite 500
Riverside, CA 92501-3339
Contact: Michael Roth *(Riverside County)*
(909) 320-2027 FAX: (909) 781-6288
Email: mroth@rb8.swrcb.ca.gov
Contact: Mark Smythe *(Orange County)*
(909) 782-4998 FAX: (909) 781-6288
Email: msmythe@rb8.swrcb.ca.gov
Contact: Bob Whitaker *(San Bernardino County)*
(909) 782-4993 FAX: (909) 781-6288
Email: bwhitake@rb8.swrcb.ca.gov

9) SAN DIEGO REGION
9771 Clairemont Mesa Boulevard, Suite A
San Diego, CA 92124
Contact: Jane Ledford
(619) 467-3272 FAX: (619) 571-6972
Email: ledfj@rb9.swrcb.ca.gov

NOTICE OF INTENT (NOI) TO COMPLY WITH THE TERMS OF THE GENERAL PERMIT TO DISCHARGE STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITY

GENERAL INSTRUCTIONS

Who Must Submit

Discharges of storm water associated with construction that results in the disturbance of five acres or more of land must apply for coverage under the General Construction Activities Storm Water Permit (General Permit). Construction activity which is a part of a larger common area of development or sale must also be permitted. (For example, if 4 acres of a 20-acre subdivision is disturbed by construction activities, and the remaining 16 acres is to be developed at a future date, the property owner must obtain a General Storm Water Permit for the 4-acre project). Construction activity includes, but is not limited to: clearing, grading, demolition, excavation, construction of new structures, and reconstruction of existing facilities involving removal and replacement that results in soil disturbance. This includes construction access roads, staging areas, storage areas, stockpiles, and any off-site areas which receive run-off from the construction project such as discharge points into a receiving water. Construction activity does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.

The owner of the land where the construction activity is occurring is responsible for obtaining a permit. Owners may obtain coverage under the General Permit by filing a NOI in accordance with the following instructions. Coverage for construction activity conducted on easements (e.g., pipeline construction) or on nearby properties by agreement or permission, or by an owner or lessee of a mineral estate (oil, gas, geothermal, aggregate, precious metals, and/or industrial minerals) entitled to conduct the activities, shall be obtained by the entity responsible for the construction activity. Linear construction projects which will have construction activity occurring in one or more than one Region should contact the State Water Resources Control Board at the number listed below prior to submitting an NOI application for specific information related to the use of the NOI form.

Construction Activity Not Covered By This General Permit

Storm water discharges in the Lake Tahoe Hydrologic Unit will be regulated by a separate permit(s) adopted by the California Regional Water Quality Control Board, Lahontan Region, and will not be covered under the State Water Resources Control Board's (SWRCB) General Permit. Storm water discharges on Indian Lands will be regulated by the U.S. Environmental Protection Agency.

Where to Apply

The NOI form, vicinity map, and appropriate fee must be mailed to the SWRCB at the following address:

> State Water Resources Control Board
> Division of Water Quality
> Attn: Storm Water Permit Unit
> P.O. Box 1977
> Sacramento, CA 95812-1977

When to Apply

Property owners proposing to conduct construction activities subject to this General Permit must file a Notice of Intent prior to the commencement of construction activity.

Fees

The annual fee is either $250 or $500 depending on the construction site location. See Enclosure 1 of the Permit to determine your fee. Checks should be made payable to: SWRCB.

Completing the Notice of Intent (NOI)

The submittal to obtain coverage under the General Permit must include a completed NOI Form (Notice of Intent, attached), a vicinity map, and the appropriate annual fee. The NOI must be completely and accurately filled out; the vicinity map and annual fee must be included with the NOI or the submittal is considered incomplete and will be rejected. A construction site is considered to be covered by the General Permit upon filing a complete NOI submittal, and implementation of a defensible Storm Water Pollution Prevention Plan (SWPPP). Upon receipt of a complete NOI submittal, each discharger will be sent a receipt letter containing the waste discharger's identification (WDID) number.

Questions?

If you have any questions on completing the NOI please call the SWRCB at (916) 657-1146.

NOI-LINE-BY-LINE INSTRUCTIONS

Please type or print when completing the NOI Form and vicinity map.

SECTION I--NOI STATUS

Mark one of the two boxes at the top portion of the NOI. Check box 1 if the NOI is being completed for new construction. Check box 2 if the NOI is being submitted to report changes for a construction site already covered by the General Permit. An example of a change that warrants a resubmittal of the NOI is a change of total area of the construction site. The permit is non-transferable, a change of ownership requires a Notice of Termination (NOT) submittal and a new NOI. Complete only those portions of the NOI that apply to the changes (the NOI must always be signed). If box 2 is checked, the WDID number must be included.

SECTION II--PROPERTY OWNER

Enter the construction site owner's official or legal name and address; contact person (if other than owner), title, and telephone number.

SECTION III--DEVELOPER / CONTRACTOR INFORMATION

Enter the name of the developer's (or general contractor's) official or legal name, address, contact person, title, and telephone number. The contact person should be someone who is familiar with the construction site and is responsible for compliance and oversight of the general permit.

SECTION IV-CONSTRUCTION PROJECT INFORMATION

Enter the project name, site address, county, city, (or nearest city if construction is occurring in an unincorporated area), zip code, and telephone number (if any) of the construction site. Include an emergency contact telephone or pager number. Construction site information should include latitude and longitude designations, tract numbers, and/or mile post markers, if applicable. The site contact person should be someone who is familiar with the project, site plans, SWPPP, and monitoring program. All NOIs must be accompanied by a vicinity map.

Part A: Enter the total size in acres of all areas associated with construction activity, including all access roads.

Part B: Enter the total size in acres of the area to be disturbed by construction activity and the percentage of the area listed in Part A above that this represents.

Part C: Enter the percentage of the site that is impervious (areas where water cannot soak into the ground, such as concrete, asphalt, rooftops, etc.) before and after construction.

Part D: Include tract numbers, if available.

Part E: Enter the mile post marker number at the project site location.

Part F: Indicate whether the construction site is part of a larger common plan of development or sale. For example, if the construction activity is occurring on a two-acre site which is within a development that is five acres or greater, answer yes.

Part G: Enter the name of the development (e.g. "Quail Ridge Subdivision", "Orange Valley Estates", etc.).

Part H: Indicate when construction will begin (month, day, year). When a NOI is being submitted due to a change in ownership, the commencement date should be the date the new ownership took effect.

Part I: Indicate the percentage of the total project area to be mass graded.

Part J: Enter the estimated completion dates for the mass grading activities and for the project completion.

Part K: Indicate the type(s) of construction taking place. For example, "Transportation" should be checked for the construction of roads; "Utility" should be checked for installation of sewer, electric, or telephone systems. Include a description of the major construction activities, (e.g., 20 single family homes, a supermarket, an office building, a factory, etc.)

SECTION V--BILLING ADDRESS

To continue coverage under the General Permit, the annual fee must be paid. Indicate where the annual fee invoice should be mailed by checking one of the following boxes:

Owner: sent to the owners address as it appears in Section II.

Developer/Contractor: sent to the developer's address as it appears in Section III.

Other: sent to a different address and enter that address in the spaces provided.

SECTION VI--REGULATORY STATUS

Indicate whether or not the site is subject to local erosion/sediment control ordinances. Indicate whether the erosion/sediment control plan designed to comply with the ordinance addresses the construction of infrastructure and structures in addition to grading. Identify the name and telephone number of the local agency, if applicable.

SECTION VII--RECEIVING WATER INFORMATION

Part A: Indicate whether the storm water runoff from the construction site discharges indirectly to waters of the United States, directly to waters of the United States, or to a separate storm drain system.

Indirect discharges include discharges that may flow overland across adjacent properties or rights-of-way prior to discharging into waters of the United States.

Enter the name of the owner/operator of the relevant storm drain system, if applicable. Storm water discharges directly to waters of the United States will typically have an outfall structure directly from the facility to a river, lake, creek, stream, bay, ocean, etc. Discharges to separate storm sewer systems are those that discharge to a collection system operated by municipalities, flood control districts, utilities, or similar entities.

Part B: Enter the name of the receiving water. Regardless of point of discharge, the owner must determine the receiving water for the construction site's storm water discharge. Enter the name of the receiving water.

SECTION VIII--IMPLEMENTATION OF NPDES PERMIT REQUIREMENTS

Part A: Indicate the status of the SWPPP, date prepared, or availability for review. Also indicate if a tentative construction schedule has been included in the SWPPP (the inclusion of a construction activity schedule is a mandatory SWPPP requirement).

Part B: Provide information concerning the status of the development of a monitoring program, a component of the SWPPP which outlines an inspection and maintenance schedule for the proposed Best Management Practices (BMPs). Provide name and phone number of program preparer.

Part C: Provide the name and phone numbers of the responsible party or parties designated to insure compliance with all elements of the General Permit and SWPPP.

SECTION IX--VICINITY MAP AND FEE

Provide a "to scale" or "to approximate scale" drawing of the construction site and the immediate surrounding area. Whenever possible, limit the map to an 8.5" x 11' or 11" x 17" sheet of paper. At a minimum, the map must show the site perimeter, the geographic features surrounding the site, and general topography, and a north arrow. The map must also include the location of the construction project in relation to named streets, roads, intersections, or landmarks. A NOI containing a map which does not clearly indicate the location of the construction project will be rejected. Do not submit blueprints unless they meet the above referenced size limits.

SECTION X--CERTIFICATIONS

This section must be completed by the owner or signatory agent of the construction site*. The certification provides assurances that the NOI and vicinity map were completed in an accurate and complete fashion and with the knowledge that penalties exist for providing false information. Certification also requires the owner to comply with the provisions in the General Permit.

* For a corporation: a responsible corporate officer (or authorized individual). For a partnership or sole proprietorship: a general partner or the proprietor, respectively. For a municipality, State, Federal, or other public agency: either a principal executive officer, ranking elected official, or duly authorized representative.

Attachment 2

State Water Resources Control Board

NOTICE OF INTENT

TO COMPLY WITH THE TERMS OF THE
GENERAL PERMIT TO DISCHARGE STORM WATER
ASSOCIATED WITH CONSTRUCTION ACTIVITY (WQ ORDER No. 99-08-DWQ)

I. NOI STATUS (SEE INSTRUCTIONS)

MARK ONLY ONE ITEM	1. ☐ New Construction	2. ☐ Change of Information for WDID#	

II. PROPERTY OWNER

Name	Contact Person		
Mailing Address	Title		
City	State	Zip	Phone

III. DEVELOPER/CONTRACTOR INFORMATION

Developer/Contractor	Contact Person		
Mailing Address	Title		
City	State	Zip	Phone

IV. CONSTRUCTION PROJECT INFORMATION

Site/Project Name	Site Contact Person		
Physical Address/Location	Latitude ______°	Longitude ______°	County
City (or nearest City)	Zip	Site Phone Number	Emergency Phone Number

A. Total size of construction site area: ________ Acres

B. Total area to be disturbed: ________ Acres (% of total ______)

C. Percent of site imperviousness (including rooftops):
Before Construction: ________%
After Construction: ________%

D. Tract Number(s): ________, ________

E. Mile Post Marker: ________

F. Is the construction site part of a larger common plan of development or sale?
☐ YES ☐ NO

G. Name of plan or development:

H. Construction commencement date: ________

I. % of site to be mass graded: ________

J. Projected construction dates:
Complete grading: ________ Complete project: ________

K. Type of Construction (Check all that apply):

1. ☐ Residential 2. ☐ Commercial 3. ☐ Industrial 4. ☐ Reconstruction 5. ☐ Transportation

6. ☐ Utility Description: ________ 7. ☐ Other (Please List): ________

V. BILLING INFORMATION

SEND BILL TO: ☐ OWNER (as in II. above)	Name	Contact Person	
☐ DEVELOPER (as in III. above)	Mailing Address	Phone/Fax	
☐ OTHER (enter information at right)	City	State	Zip

VI. REGULATORY STATUS

A. Has a local agency approved a required erosion/sediment control plan?........ ☐ YES ☐ NO

Does the erosion/sediment control plan address construction activities such as infrastructure and structures?........ ☐ YES ☐ NO

Name of local agency: ____________________ Phone: ____________________

B. Is this project or any part thereof, subject to conditions imposed under a CWA Section 404 permit of 401 Water Quality Certification?........ ☐ YES ☐ NO

If yes, provide details: ____________________

VII. RECEIVING WATER INFORMATION

A. Does the storm water runoff from the construction site discharge to (Check all that apply):

1. ☐ **Indirectly to waters of the U.S.**
2. ☐ **Storm drain system - Enter owner's name:** ____________________
3. ☐ **Directly to waters of U.S. (e.g. , river, lake, creek, stream, bay, ocean, etc.)**

B. Name of receiving water: (river, lake, creek, stream, bay, ocean): ____________________

VIII. IMPLEMENTATION OF NPDES PERMIT REQUIREMENTS

A. STORM WATER POLLUTION PREVENTION PLAN (SWPPP) (check one)

☐ A SWPPP has been prepared for this facility and is available for review: Date Prepared: __________ Date Amended: __________

☐ A SWPPP will be prepared and ready for review by (enter date): __________

☐ A tentative schedule has been included in the SWPPP for activities such as grading, street construction, home construction, etc.

B. MONITORING PROGRAM

☐ A monitoring and maintenance schedule has been developed that includes inspection of the construction BMPs before anticipated storm events and after actual storm events and is available for review.

If checked above: A qualified person has been assigned responsibility for pre-storm and post-storm BMP inspections to identify effectiveness and necessary repairs or design changes........ ☐ YES ☐ NO

Name: ____________________ Phone: ____________________

C. PERMIT COMPLIANCE RESPONSIBILITY

A qualified person has been assigned responsibility to ensure full compliance with the Permit, and to implement all elements of the Storm Water Pollution Prevention Plan including:

1. Preparing an annual compliance evaluation........ ☐ YES ☐ NO

   Name: ____________________ Phone: ____________________

2. Eliminating all unauthorized discharges........ ☐ YES ☐ NO

IX. VICINITY MAP AND FEE (must show site location in relation to nearest named streets, intersections, etc.)

Have you included a vicinity map with this submittal? .... ☐ YES ☐ NO

Have you included payment of the annual fee with this submittal?........ ☐ YES ☐ NO

X. CERTIFICATIONS

"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment. In addition, I certify that the provisions of the permit, including the development and implementation of a Storm Water Pollution Prevention Plan and a Monitoring Program Plan will be complied with."

Printed Name: ____________________

Signature: ____________________ **Date:** ____________________

Title: ____________________

ATTACHMENT 3

303d Listed Water Bodies for Sedimentation

REGION	WATER BODY NAME	CODE	POLLUTANT
1	MATTOLE RIVER	1100	Sedimentation/Siltation
1	TRINITY RIVER, SOUTH FORK	1100	Sedimentation/Siltation
1	REDWOOD CREEK	1100	Sedimentation/Siltation
1	MAD RIVER	1100	Sedimentation/Siltation
1	ELK RIVER	1100	Sedimentation/Siltation
1	EEL RIVER, SOUTH FORK	1100	Sedimentation/Siltation
1	EEL RIVER, NORTH FORK	1100	Sedimentation/Siltation
1	TRINITY RIVER	1100	Sedimentation/Siltation
1	EEL RIVER, MIDDLE FORK	1100	Sedimentation/Siltation
1	MAD RIVER	2500	Turbidity
1	TEN MILE RIVER	1100	Sedimentation/Siltation
1	NOYO RIVER	1100	Sedimentation/Siltation
1	BIG RIVER	1100	Sedimentation/Siltation
1	ALBION RIVER	1100	Sedimentation/Siltation
1	NAVARRO RIVER	1100	Sedimentation/Siltation
1	GARCIA RIVER	1100	Sedimentation/Siltation
1	GUALALA RIVER	1100	Sedimentation/Siltation
1	RUSSIAN RIVER	1100	Sedimentation/Siltation
1	TOMKI CREEK	1100	Sedimentation/Siltation
1	VAN DUZEN RIVER	1100	Sedimentation/Siltation
1	EEL RIVER DELTA	1100	Sedimentation/Siltation
1	EEL RIVER, MIDDLE MAIN FORK	1100	Sedimentation/Siltation
1	ESTERO AMERICANO	1100	Sedimentation/Siltation
1	NAVARRO RIVER DELTA	1100	Sedimentation/Siltation
1	EEL RIVER, UPPER MAIN FORK	1100	Sedimentation/Siltation
1	FRESHWATER CREEK	1100	Sedimentation/Siltation
1	SCOTT RIVER	1100	Sedimentation/Siltation
2	TOMALES BAY	1100	Sedimentation/Siltation
2	NAPA RIVER	1100	Sedimentation/Siltation
2	SONOMA CREEK	1100	Sedimentation/Siltation
2	PETALUMA RIVER	1100	Sedimentation/Siltation
2	LAGUNITAS CREEK	1100	Sedimentation/Siltation

2	WALKER CREEK	1100	Sedimentation/Siltation
2	SAN GREGORIO CREEK	1100	Sedimentation/Siltation
2	SAN FRANCISQUITO CREEK	1100	Sedimentation/Siltation
2	PESCADERO CREEK (REG 2)	1100	Sedimentation/Siltation
2	BUTANO CREEK	1100	Sedimentation/Siltation
3	MORRO BAY	1100	Sedimentation/Siltation
3	SAN LORENZO RIVER ESTUARY	1100	Sedimentation/Siltation
3	SHINGLE MILL CREEK	1100	Sedimentation/Siltation
3	MOSS LANDING HARBOR	1100	Sedimentation/Siltation
3	WATSONVILLE SLOUGH	1100	Sedimentation/Siltation
3	SAN LORENZO RIVER	1100	Sedimentation/Siltation
3	ELKHORN SLOUGH	1100	Sedimentation/Siltation
3	SALINAS RIVER LAGOON (NORTH)	1100	Sedimentation/Siltation
3	GOLETA SLOUGH/ESTUARY	1100	Sedimentation/Siltation
3	CARPINTERIA MARSH (EL ESTERO MARSH)	1100	Sedimentation/Siltation
3	LOMPICO CREEK	1100	Sedimentation/Siltation
3	MORO COJO SLOUGH	1100	Sedimentation/Siltation
3	VALENCIA CREEK	1100	Sedimentation/Siltation
3	PAJARO RIVER	1100	Sedimentation/Siltation
3	RIDER GULCH CREEK	1100	Sedimentation/Siltation
3	LLAGAS CREEK	1100	Sedimentation/Siltation
3	SAN BENITO RIVER	1100	Sedimentation/Siltation
3	SALINAS RIVER	1100	Sedimentation/Siltation
3	CHORRO CREEK	1100	Sedimentation/Siltation
3	LOS OSOS CREEK	1100	Sedimentation/Siltation
3	SANTA YNEZ RIVER	1100	Sedimentation/Siltation
3	SAN ANTONIO CREEK (SANTA BARBARA COUNTY)	1100	Sedimentation/Siltation
3	CARBONERA CREEK	1100	Sedimentation/Siltation
3	SOQUEL LAGOON	1100	Sedimentation/Siltation
3	APTOS CREEK	1100	Sedimentation/Siltation
4	MUGU LAGOON	1100	Sedimentation/Siltation
5	HUMBUG CREEK	1100	Sedimentation/Siltation
5	PANOCHE CREEK	1100	Sedimentation/Siltation
5	FALL RIVER (PIT)	1100	Sedimentation/Siltation
6	BEAR CREEK (R6)	1100	Sedimentation/Siltation
6	MILL CREEK (3)	1100	Sedimentation/Siltation
6	HORSESHOE LAKE (2)	1100	Sedimentation/Siltation

6	BRIDGEPORT RES	1100	Sedimentation/Siltation
6	TOPAZ LAKE	1100	Sedimentation/Siltation
6	LAKE TAHOE	1100	Sedimentation/Siltation
6	PINE CREEK (2)	1100	Sedimentation/Siltation
6	TRUCKEE RIVER	1100	Sedimentation/Siltation
6	CLEARWATER CREEK	1100	Sedimentation/Siltation
6	GRAY CREEK (R6)	1100	Sedimentation/Siltation
6	WARD CREEK	1100	Sedimentation/Siltation
6	BLACKWOOD CREEK	1100	Sedimentation/Siltation
6	GOODALE CREEK	1100	Sedimentation/Siltation
6	EAST WALKER RIVER	1100	Sedimentation/Siltation
6	HEAVENLY VALLEY CREEK	1100	Sedimentation/Siltation
6	WOLF CREEK (1)	1100	Sedimentation/Siltation
6	WEST WALKER RIVER	1100	Sedimentation/Siltation
6	HOT SPRINGS CANYON CREEK	1100	Sedimentation/Siltation
6	BRONCO CREEK	1100	Sedimentation/Siltation
6	SQUAW CREEK	1100	Sedimentation/Siltation
7	IMPERIAL VALLEY DRAINS	1100	Sedimentation/Siltation
7	NEW RIVER (R7)	1100	Sedimentation/Siltation
7	ALAMO RIVER	1100	Sedimentation/Siltation
8	SAN DIEGO CREEK, REACH 1	1100	Sedimentation/Siltation
8	RATHBONE (RATHBUN) CREEK	1100	Sedimentation/Siltation
8	SAN DIEGO CREEK, REACH 2	1100	Sedimentation/Siltation
8	UPPER NEWPORT BAY ECOLOGICAL RESERVE	1100	Sedimentation/Siltation
8	BIG BEAR LAKE	1100	Sedimentation/Siltation
8	ELSINORE, LAKE	1100	Sedimentation/Siltation
9	SAN ELIJO LAGOON	1100	Sedimentation/Siltation
9	LOS PENASQUITOS LAGOON	1100	Sedimentation/Siltation
9	AGUA HEDIONDA LAGOON	1100	Sedimentation/Siltation
9	BUENA VISTA LAGOON	1100	Sedimentation/Siltation

NEW OWNER INFORMATION AND CHANGE OF INFORMATION (COI) FORM FOR THE GENERAL CONSTRUCTION PERMIT NO. CAS000002

Owners Name: ____________________ Date: ____________________

WDID No.: ____________________ Date of Last NOI Change: ____________________

Prepared By: ____________________ Signature of Preparer: ______________________________

	Area Transferred (acres)[1] column 1	Area Remaining (acres)[2] column 2	Lot/Tract Numbers Transferred	Contact Person and Company Name of NewOwner(s)	Address(es) of the New Owner(s)	Phone # of New Owner	Is Const/Post Construction Complete? Yes/No	Date of Ownership Transfer
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

Use approximate area (in acres) if no exact figure is available.

Calculate running total in this column as follows:

Enter in column 2, line 1, the area from NOI minus the area in column 1.

Enter in column 2, line 2, the area in column 2, line 1, minus the area in line 2, column 1.

Enter in column 2, line 3, the area in column 2, line 2, minus the area in line 3, column 1, and so forth.

AREAS OF THE STATE IN WHICH THE $250.00 ANNUAL FEE APPLIES

Alameda County: The entire county except for the area east of **Altamont Pass**.

Contra Costa County: The entire county.

El Dorado County: The area draining into **Lake Tahoe**.

Fresno County: The cities of **Clovis** and **Fresno** and unincorporated areas for the County within the city limits of **Fresno/Clovis**.

Kern County: The city of **Bakersfield** and unincorporated areas of the County within the city limits.

Los Angeles County: The entire county except for the cities of **Avalon, Lancaster, Palmdale**, and areas with zip codes 93523, 93534, 93535, 93536, 93543, 93544, 93550, 93551, 93553, 93560, and 93563.

Orange County: The entire county.

Placer County: The area draining into **Lake Tahoe**.

Riverside County: The entire county except for the area east of the **Santa Ana Regional Board** boundary line (this area is east of the mountain crest and does not drain into the Pacific Ocean) and the **Coachella Valley**.

Sacramento County: The entire county except for the city of **Isleton**.

San Bernardino County: The entire county except for the area north and east of the **Santa Ana Regional Board** boundary line (this area is north and east of the mountain crest and does not drain into the Pacific Ocean).

San Diego County: The entire county except for the area east of the **San Diego Regional Board** boundary line (this area is east of the mountain crest and does not drain into the Pacific Ocean).

San Mateo County: The entire county.

Santa Clara County: The entire county except for the area south of and including the city of **Morgan Hill** (this area does not drain into **South San Francisco Bay**).

Solano County: The cities of **Fairfield, Suisun City and Vallejo City**

Sonoma County: The city of **Santa Rosa**.

Stanislaus County: The city of **Modesto** and unincorporated areas within the city limits.

Ventura County: The entire county.

State Water Resources Control Board

NOTICE OF INTENT

TO COMPLY WITH THE TERMS OF THE
GENERAL PERMIT TO DISCHARGE STORM WATER
ASSOCIATED WITH CONSTRUCTION ACTIVITY (WQ ORDER No. 99-08-DWQ)

I. NOI STATUS (SEE INSTRUCTIONS)

MARK ONLY ONE ITEM 1. ☐ New Construction 2. ☐ Change of Information for WDID# ____

II. PROPERTY OWNER

Name	Contact Person		
Mailing Address	Title		
City	State	Zip	Phone

III. DEVELOPER/CONTRACTOR INFORMATION

Developer/Contractor	Contact Person		
Mailing Address	Title		
City	State	Zip	Phone

IV. CONSTRUCTION PROJECT INFORMATION

Site/Project Name	Site Contact Person			
Physical Address/Location	Latitude ____ °	Longitude ____ °	County	
City (or nearest City)	Zip	Site Phone Number	Emergency Phone Number	

A. Total size of construction site area: ____ Acres

B. Total area to be disturbed: ____ Acres (% of total ____)

C. Percent of site imperviousness (including rooftops):

Before Construction: ____%

After Construction: ____%

D. Tract Number(s): ____, ____

E. Mile Post Marker: ____

F. Is the construction site part of a larger common plan of development or sale?

☐ YES ☐ NO

G. Name of plan or development:

H. Construction commencement date: ____

I. % of site to be mass graded: ____

J. Projected construction dates:

Complete grading: ____ Complete project: ____

K. Type of Construction (Check all that apply):

1. ☐ Residential 2. ☐ Commercial 3. ☐ Industrial 4. ☐ Reconstruction 5. ☐ Transportation

6. ☐ Utility Description: ____ 7. ☐ Other (Please List): ____

V. BILLING INFORMATION

SEND BILL TO: ☐ OWNER (as in II. above)	Name	Contact Person	
☐ DEVELOPER (as in III. above)	Mailing Address	Phone/Fax	
☐ OTHER (enter information at right)	City	State	Zip

VI. REGULATORY STATUS

A. Has a local agency approved a required erosion/sediment control plan?........ ☐ YES ☐ NO

Does the erosion/sediment control plan address construction activities such as infrastructure and structures?........ ☐ YES ☐ NO

Name of local agency: ____________________ Phone: ____________________

B. Is this project or any part thereof, subject to conditions imposed under a CWA Section 404 permit of 401 Water Quality Certification?........ ☐ YES ☐ NO

If yes, provide details: ____________________

VII. RECEIVING WATER INFORMATION

A. Does the storm water runoff from the construction site discharge to (Check all that apply):

1. ☐ **Indirectly to waters of the U.S.**
2. ☐ **Storm drain system - Enter owner's name:** ____________________
3. ☐ **Directly to waters of U.S. (e.g. , river, lake, creek, stream, bay, ocean, etc.)**

B. Name of receiving water: (river, lake, creek, stream, bay, ocean): ____________________

VIII. IMPLEMENTATION OF NPDES PERMIT REQUIREMENTS

A. STORM WATER POLLUTION PREVENTION PLAN (SWPPP) (check one)

☐ A SWPPP has been prepared for this facility and is available for review: Date Prepared: __________ Date Amended: __________

☐ A SWPPP will be prepared and ready for review by (enter date): __________

☐ A tentative schedule has been included in the SWPPP for activities such as grading, street construction, home construction, etc.

B. MONITORING PROGRAM

☐ A monitoring and maintenance schedule has been developed that includes inspection of the construction BMPs before anticipated storm events and after actual storm events and is available for review.

If checked above: A qualified person has been assigned responsibility for pre-storm and post-storm BMP inspections to identify effectiveness and necessary repairs or design changes........ ☐ YES ☐ NO

Name: ____________________ Phone: ____________________

C. PERMIT COMPLIANCE RESPONSIBILITY

A qualified person has been assigned responsibility to ensure full compliance with the Permit, and to implement all elements of the Storm Water Pollution Prevention Plan including:

1. Preparing an annual compliance evaluation........ ☐ YES ☐ NO

Name: ____________________ Phone: ____________________

2. Eliminating all unauthorized discharges........ ☐ YES ☐ NO

IX. VICINITY MAP AND FEE (must show site location in relation to nearest named streets, intersections, etc.)

Have you included a vicinity map with this submittal?........ ☐ YES ☐ NO

Have you included payment of the annual fee with this submittal?........ ☐ YES ☐ NO

X. CERTIFICATIONS

"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment. In addition, I certify that the provisions of the permit, including the development and implementation of a Storm Water Pollution Prevention Plan and a Monitoring Program Plan will be complied with."

Printed Name: ____________________

Signature: ____________________ **Date:** ____________________

Title: ____________________

Southern California Public Power Authority

Magnolia Power Expansion Project
Burbank, California

DRAFT

NPDES
Storm Water Pollution Prevention Plan
for
Storm Water Discharges Associated with Construction Activity

BLACK & VEATCH
Corporation

Project No. 99523
July 2001

Contents

Figures and Attachments

1.0 Project Information

1.1 Project Location

The Magnolia Power Plant (MPP) expansion project is a proposed nominal 250 megawatt (MW) natural gas fired electrical generating facility to be located at the site of the existing City of Burbank (COB) power plant in Burbank, California. The proposed plant will be owned and operated by the COB. The electricity generated by this project will go to serve the needs of the residents of Burbank, as well as other member cities of the Southern California Public Power Authority (SCPPA).

The Project facilities encompass approximately 3 acres within a 23 acre existing Magnolia and Olive Power Station Site, located at 164 West Magnolia Blvd. in Burbank, California (refer to Figure 1.3-1 and Map 3.2-1). The site is situated approximately 1/8 miles west of the I-5 freeway. The site is bordered by industrial properties on all sides. Primary access to the site will be from the north gate on Magnolia Boulevard and the south gate on Olive Avenue.

A Notice of Intent (NOI) will be filed for coverage of the construction storm water discharges under the California NPDES General Permit for Storm Water Discharges Associated with Construction Activities. See Attachment A for the Permit and Attachment B for the NOI.

1.2 Project Description

City of Burbank (COB) generating facilities at the site have been operating since 1941. The proposed project include demolition of the remaining components associated with Magnolia Units 1 and 2 (Figure 3.4-2), followed by the construction of a new combined cycle plant at the location of the demolished units. The existing Olive Units will remain unchanged. Station net power output will increase approximately 250 MW with the addition of the combined cycle plant, not including firing the HRSG or injecting steam into The CTG.

The new combined cycle unit will consist of one CTG, one HRSG, and one STG. Heat rejection for the STG will be accomplished with a new cooling tower that utilizes reclaimed water and/or fresh water from the COB. Natural gas will be the only fuel utilized by the new CTG. Natural gas will be supplied to the combined cycle unit by the SoCalGas, the current supplier of natural gas to the existing facilities.

1.3 Site Layout

The property is situated on approximately 23 acres of land. The new plant facilities will be constructed in an area of approximately 3 acres. The HRSG stack will have a height of 150 feet above grade to comply with air quality standards. Surrounding the plant facilities is a network of roads for fire equipment and facility maintenance access. The administration building expansion is located just west of the new power island. The demineralized water truck parking will be located south of the power island near an existing storage tank.

The plant facilities have been arranged to afford optimum use of property as well as to ensure ease of operation. Investigations and evaluations have been conducted to define the specific facility equipment requirements and the suitability of the proposed project site to accommodate these facilities.

The plant general arrangement is depicted on Figure 3.4-2 and a three dimensional view of the new combined cycle plant is illustrated on Figure 3.4-3. These drawings show the location and size of the proposed combined cycle plant facilities.

1.4 Offsite Facilities

1.4.1 Pipelines. There are no offsite pipelines associated with this project.

1.4.2 Parking and Storage Areas. The majority of parking and storage will occur onsite. However, the offsite parking and storage will occur at two locations near the site designated on Figure ________. The offsite parking area is located on old Front Street. Starting under the Magnolia Bridge and continuing northwest up old Front Street, the street ends just before Burbank Boulevard. This will include the existing parking lot area just southwest of the Front Street and Magnolia Boulevard intersection. The entire section of road and parking lot are contained within approximately 12 inch curbs. The existing storm runoff drains are at the southeast end of the street, one on each side. Storm runoff currently flows down the road to these drains. The parking lot contains one storm drain on the southeast side with the entire lot sloped toward that drain. The existing storm runoff systems in these areas will continue to be used after they are utilized for construction parking. This area will be solely for worker parking which is exempt from regulation under the federal storm water requirements. Assembly or sub-assembly will not be performed at this location. The offsite storage area will be located between the Burbank Western Channel and the Union Pacific Railroad in an area contained between Magnolia Boulevard and Burbank Boulevard.

2.0 Pollutant Source and BMP Identification

2.1 Plant Site

2.1.1 The plant site is fully developed and paved. Existing drainage patterns within the power block will not be altered significantly. Storm runoff from this area is currently collected through a system of drop inlets and storm drain pipes to a 36 inch storm drain line which discharges to the Burbank Western Channel.

Site drainage within the new power block area will be similar to the existing system. Storm runoff will be collected and routed to the 36 inch storm drain and then to the Burbank Western Channel. Figure 3.4-1 (Site-Grading & Drainage Plan) shows the proposed drainage system and conceptual grading plan. Storm water flows from areas with potential for oil contamination will be directed to an oil/water separator before being discharged to the sanitary sewer system.

Potential pollutant sources during construction are sediment from areas of soil disturbance (see 4.2), construction and start-up waste streams (see 3.2), fresh concrete and cement-related mortars, spilled oil, fuel, and fluids from vehicles and heavy equipment, paving operations, painting, and material delivery and storage. Best management practices (BMPs) for sediment and construction and start-up waste streams are identified in the referenced sections. BMPs identified as CAxx or ESCxx refer to specific BMPs in Chapter 4 (BMPs for Contractor Activities) or Chapter 5 (BMPs for Erosion and Sedimentation Control) of the *California Storm Water Best Management Practice Handbook for Construction Activity* (see Attachment C). Refer to CA23 for concrete waste management; CA12 for spill prevention and control; CA30, 31, and 32 for vehicle and equipment cleaning, fueling, and maintenance; CA2 for paving operations; CA3 for structure construction and painting; and CA 10 for material delivery and storage.

2.1.2 Staging Area. The existing 78,000 BBL storage tank and berm area at the east end of the plant site will be demolished and converted to a staging area for construction. Material excavated from the power block will be stored temporarily in this area until it can be reused as backfill following construction of the new plant foundations. The site will not have exccess excavated material stored for any extended period of time. The area will be surfaced with rock and/or paving to serve as a staging and laydown area for the new plant construction. No existing contaminated soil has been identified at the site. However, if contaminated soil is encountered during excavation, its disposal will comply with applicable federal, state, and local regulations. Refer to CA22 for contaminated soil management.

Potential pollutant sources in addition to those above are sediment from areas of soil disturbance (see 4.2), spilled oil, fuel, and fluids from vehicles and heavy equipment, paving operations, painting, and material delivery and storage. Refer to CA12 for spill prevention and control; CA2 for paving operations; CA3 for painting;

2.2 Offsite Facilities

2.2.1 Storage Areas. The offsite storage area will be located between the Burbank Western Channel and the Union Pacific Railroad in an area contained between Magnolia Boulevard and Burbank Boulevard. The storm runoff from this area flows directly into the Burbank Western

Channel. The existing storm runoff system in this area will continue to be used after it is utilized as construction laydown.

All equipment will be placed on cribbing and the cribbing arranged so that existing drainage patterns are not disturbed. No site preparation or other modifications that would affect the existing surface will be done in any of these areas. Neither the equipment nor the cribbing will be a source of pollution and the quantity and characteristics of the runoff will not change. Although the equipment to be stored in these areas will not be a source of pollution, sometimes items required for erection, installation, or operation, which might be pollutants, are shipped along with the equipment. When this occurs, they will be handled and stored accordingly (CA10). Security for protection of the equipment stored in these areas will be provided and will also be responsible for protection any materials stored in the storage area.

However, equipment for unloading and loading, such as cranes and forklifts, will likely require onsite fueling and lubrication, providing a potential pollutant source during such operations. To reduce exposure, fueling and lubrication will be done only in designated areas and equipment will be inspected daily to determine if fuel or lubricants are leaking (CA31 and 32). Secondary containment will be used to catch spills or leaks and spill cleanup materials will be stockpiled close at hand (CA12). Contractors, subcontractors, and individuals will be trained in proper fueling and cleanup procedures (CA40).

3.0 Additional Information

3.1 Outstanding Information

Petroleum-contaminated soils could possibly be encountered in the soils of the fuel oil storage tanks (see 2.1.2) and there is a possibility that contaminated soils may also be encountered in the deeper excavation of the power block.

3.2 Material Inventory

The following table summarizes the anticipated materials having the potential to contribute to the discharge of pollutants other than sediment in storm water during construction and start-up.

SUMMARY OF CONSTRUCTION AND START-UP WASTE STREAMS AND MANAGEMENT METHODS			
Waste Stream	**Waste Classification**	**Estimated Amount**	**BMPs**
Scrap wood, steel, glass, plastic, paper, calcium, silicate insulation, mineral wool insulation, asphalt and concrete	Non-hazardous	20-40 cu yd/wk	Limit amount stored on site. Cover waste piles when storms of 0.10 inch rainfall or greater are forecast. Waste disposal facility or recycle
Empty hazardous material containers – drums	Recyclable Hazardous	1 cu yd/wk	Limit amount stored on site. Store in covered, fenced area with secondary containment Recondition or recycle
Used and waste lube oil during CT and ST Lube Oil Flushes	Recyclable Hazardous	<55 gallons per flush period approximately 3 week duration	Limit amount stored on site Recycle
Oil absorbent mats from CT and ST lube oil flushes and normal construction	Non-hazardous	Mats per month, as needed	Limit amount stored on site. Store in covered, fenced area with secondary containment. Waste disposal facility or laundry (permitted to wash rags)
Oily rags generated during normal construction activities lube oil flushes	Non-hazardous	3-4 55-gallon drums a month	Limit amount stored on site. Store in covered area with secondary containment. Waste disposal facility or laundry (permitted to wash rags)

Spent batteries; lead acid	Hazardous	2 batteries/year	Limit amount stored on site. Store in covered, fenced area with secondary containment. Recycle
Spent batteries; alkaline type, Sizes AAA, AA, C and D	Hazardous Recyclable	60 batteries/month	Limit amount stored on site. Store indoors in designated spent battery storage bins. Recycle
HRSG and Preboiler Piping cleaning waste	Hazardous	200,000 gal per cleaning	Limit amount stored on site. Store in covered, fenced area with secondary containment. Hazardous waste disposal facility or recycle
Sanitary Waste-Portable Chemical Toilets and Construction Office Holding Tanks	Sanitary	600 gpd	Limit amount stored on site. Pumped 2 or 3 times a week by licensed contractors and transported to sanitary water treatment plant.
Soil	Recyclable Non-hazardous, Hazardous	To be determined during construction.	Recyclable, non-hazardous stockpiled at staging area. Hazardous hauled directly to Class I or III facility
Granular actuated carbon	Non-hazardous recyclable	Exchange 40,000 pounds of carbon per week (4 vessels)	Limit amount stored on site. Hazardous waste facility or recycle
[1] General NPDES Permit No. CAG994002; General NPDES Permit and Waste Discharge Requirements for Discharges of Treated Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties			

3.3 Site Area, Runoff Coefficient, and Percent Impervious

As indicated in 1.3, the plant area is 23 acres, of which the new facilities will have an area of approximately 3 acres. The site will be considered 100% impervious with a developed runoff coefficient of 0.91

3.4 Notice of Intent and Waste Discharge Identification Number

Attachment B is a blank NOI which will be replaced when the actual project NOI is submitted.

3.5 Construction Activity Schedule

The power plant will be constructed generally following the sequence indicated below.

Phase 1:

- Install sediment control BMPs on perimeter of construction area(s), where necessary.
- Demolish above ground equipment, vessels, and structures related to Units 1 and 2.
- Remove the 78,000 BBL above ground fuel oil storage tank with berm, above ground portions of the 40,000 BBL concrete fuel oil storage reservoir and possibly 25,000 BBL above ground fuel oil storage tank with berm.
- Demolish shallow foundations and remove existing pavement from power block area.
- Demolish all former building and equipment foundations and piping.
- Excavate power block to depths required and haul excavated earthen material to stockpile at east site of the plant.
- Segregate material based on suitability to be used to backfill the proposed structures. Treat or dispose of contaminated materials according to applicable regulations.
- Densify, as necessary, the in-situ soils and backfill to proposed foundation bearing levels utilizing the suitable stockpiled material.
- Construct major foundations and circulation water piping.
- Backfill to surface and construct storm water drainage system and underground utilities.

Phase 2:

- Install internal sediment control BMPs and connect storm water drains to the existing outfall structures.
- Provide temporary stabilization of site area.
- Erect major equipment and buildings.
- Finish road surfaces.
- Final site grading.
- Complete stabilization (paving) of site.
- Submit Notice of Termination.
- Remove temporary stabilization structural BMPs.

3.6 Qualified Persons

3.6.1 Person(s) Responsible for Inspections

Name:
Title:
Area of Responsibility:
Telephone Number:

3.6.2 Person(s) Responsible for Compliance and Implementation

Name:
Title:
Area of Responsibility:
Telephone Number:

4.0 Erosion Control

4.1 Vegetated Soil Cover Undisturbed by Construction

No vegetated soil cover will be disturbed by construction activities.

4.2 Areas of Soil Disturbance During Rainy Season

4.2.1 Areas of Soil Disturbance Which Will Be Stabilized.

Power Block and Staging Area. Following the demolition and foundation construction phases of the work (see 4.2.2 below) the power block area will be backfilled to the proposed pavement subgrade elevation and the proposed drop inlets and storm drain pipe installed. It is anticipated that aggregate base surfacing will be used to stabilize the area while heavy construction equipment is active. Final paving would be done once the cranes and other heavy equipment have been removed from the project site. Prior to final paving, gravel and wire screen filters (ESC54) will be placed over the drop inlets to prevent the entry of unfiltered water into the drain system. In addition, stabilized rock entrance(s) (ESC24) will be utilized to prevent tracking of sediment from the project site.

4.2.2 Areas of Soil Disturbance Which Will Be Left Exposed.

During the demolition and foundation construction phases of the work, the power block excavation will be left exposed and all runoff will percolate into the bottom of the excavation.

During this same time frame, the staging area at the site will serve as a temporary stockpile for material excavated from the power block excavation. The site, however, will not have excess excavated material stored for any extended period of time.

4.3 BMPs for Temporary and Permanent Erosion Control

To the extent possible, excavation activities will be scheduled during the dry season. Existing vegetation will be protected and only vegetated soil cover that must be removed will be removed. Disturbed areas will be re-seeded or planted as soon as possible to minimize erosion. Silt fence will be used for temporary stabilization where needed until permanent vegetated cover is firmly reestablished. Also see Attachment C for typical BMPs for erosion control.

4.4 BMPs for Wind Erosion

Roads and other areas will be wetted, but not saturated, by spraying with water to control dust. Surfaces of stockpiles will also be wetted or will be covered by tarpaulins depending on size and susceptibility to wind erosion. Trucks leaving the site loaded with earth or sand will be covered with tarpaulins.

5.0 Stabilization

5.1 Final Stabilization Measures

5.1.1 Power Block. The entire area within the power block is sloped to drain to drop inlets and will be completely stabilized with asphalt pavement.

5.1.2 Staging Area. The staging area surface is sloped to drain to drop inlets and the stablized surface will be left in place.

5.1.3 Offsite Storage Areas. Since these areas should not be disturbed by construction activities, stablization work is not applicable. However, in the event existing surfaces are damaged by the unloading and loading operations, they will be restored to a condition equal to or better than the condition existing at the start of the project.

6.0 Sediment Control

6.1 Perimeter Sediment Controls

6.1.1 Power Plant Site. Perimeter sediment controls will be provided for the power plant site. It should be noted that all disturbed areas drain to the interior and cannot run directly off the site. For Phase 1, the runoff will discharge through the bottom of the excavation. For Phase 2, the runoff will discharge through storm drain pipe systems after first having passed through gravel and wire screen filters at each drop inlet.

6.2 Plan for Reestablishment of Perimeter Controls If Suspended During Construction

Perimeter controls suspended at the end of the rainy season will be reinstalled, if still necessary, prior to the start of the following rainy season. To determine the location and type of controls that need to be reinstalled, the planned construction activities and the condition of the erodible surfaces will be evaluated.

6.3 Availability of Sediment Control Materials During Dry Season

An inventory of sediment control materials will be maintained on site during the dry season, so controls can be deployed rapidly in case of unexpected precipitation.

6.4 Drainage Outlet Protection

Because all storm water flows are directed to the existing outfall structures and are an insignificant fraction of the total discharge, no additional protective measures are necessary.

6.5 BMPs to Reduce Sediment Tracking onto Roadways

To reduce sediment tracking onto roadways, stabilized rock entrances will be installed at each location where vehicles can enter areas where the stabilized surface has been disturbed. In addition, if needed, vehicle washdown areas will be established. Further, as a regular part of the daily construction site maintenance, haul roads and roads adjacent to unstabilized disturbed surfaces will be swept. See Attachment C for typical BMPs for sedimentation control.

7.0 Non-Storm Water Management

7.1 Non-Storm Water Discharges

7.1.1 Waters Used to Wash Vehicles or Control Dust. Waters used to wash vehicles will be free from detergents and will be filtered before being discharged to the drainage system. The quantity of water used to control dust will be limited to prevent runoff from the sprayed surfaces. Refer to CA30 for vehicle washing and ESC21 for dust control.

7.1.2 Pavement Wash Waters. Pavement wash waters not containing toxic or hazardous substances will be limited to quantities sufficient for cleaning and will be filtered prior to entering the storm drain system. Refer to ESC54 for storm drain inlet protection.

7.1.3 Vegetation Watering. Vegetation watering will be limited to quantities that will soak in without causing runoff. However, until slopes are permanently stabilized, a combination of check dams (ESC41), silt fences (ESC50), straw bale barriers (ESC51), sand bag barriers (ESC52); brush filters (ESC53), storm drain inlet protection (ESC54), and sediment traps (ESC55) will be used to prevent entry of sediment into the storm drain system.

7.1.4 Potable Water Discharges. Potable water discharges are not anticipated in quantities sufficient to cause runoff. However, the source of fire fighting water is the potable water system. In the event of a fire, runoff will be filtered as described above (see 4.2 and 7.1.2).

7.1.5 Pipe and Tank Hydrostatic Testing Water. Pipe and tank hydrostatic testing water is covered by LARWQCB Order No. 97-047, General NPDES Permit No. CAG74001; General National Pollutant Discharge Elimination System Permit and Waste Discharge Requirements for Discharges of Hydrostatic Test Water to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties and is incorporated by reference.

7.2 Person Responsible for Non-Storm Water Management

Name:
Title:
Telephone Number:

8.0 Post-Construction Storm Water Management

8.1 Existing NPDES Permit

Post-Construction storm water discharges will be covered by existing LARWQCB Order No. 94-129, NPDES No. CA0001147, Waste Discharge Requirements for Southern California (Magnolia Power Plant). Under this permit, a SWPPP and storm water management plan exists and will be revised to conform to the changes this project makes in the ESGS.

8.2 Post-Construction BMPs

Permanent stabilization of disturbed areas will be effected as soon as practicable as indicated in 4.3 and 5.1.2. Following permanent stabilization, responsibility for prevention of storm water pollution will again fall under the existing NPDES permit.

9.0 Maintenance, Inspection, and Repair

9.1 Program to Inspect, Maintain, and Repair BMPs

BMPs will be inspected weekly during the rainy season, before and after storm events, and at least once each 24-hour period during extended storm events. The team will evaluate the effectiveness of the BMPs and make changes necessary to secure the intended performance. Inspections will be carried out and recorded on inspection checklists prescribed by the LARWQCB.

9.2 Qualified Person Responsible for Inspections

Name:
Title:
Telephone Number:

9.3 Rapid Response Team

A rapid response team will be formed to effect emergency maintenance and repair of structural BMPs to eliminate or reduce the adverse impact of failures caused by accidents or extraordinary events. The team will receive special training to better carry out their mission.

Name:
Title:
Telephone Number:

9.4 Inspection Checklists

Inspection checklists will be as prescribed by the LARWQCB.

10.0 Training

10.1 Training Documentation for All Responsible Persons

Magnolia Power Plant and/or their designated representative will be responsible for implementation of this SWPPP and will implement a training program for contractors, subcontractors, and other individuals responsible for the implementation of the SWPPP. Training will also be provided for all onsite workers in the practices and objectives of the SWPPP in order to familiarize workers with applicable BMPs. As new conditions arise, additional specific training sessions will be conducted to augment the knowledge and skills necessary for continued successful implementation of the SWPPP.

Records of all training sessions will be maintained at the project site as an integral part of the record keeping and reporting program of the SWPPP.

11.0 List of Contractors/Subcontractors

11.1 Contractors, Subcontractors, and Individuals Responsible for SWPPP Implementation

Prior to the start of construction, names, phone numbers, addresses and area of responsibilities for all contractors, subcontractors, or other individuals responsible for the implementation of the SWPPP will be provided.

11.2 Individual Responsible for Revision of SWPPP

It will be the responsibility of the Project Construction Manager to revise the SWPPP and associated drawings as construction progresses or if the location or types of control measures are changed in the field.

12.0 Other Plans

12.1 NPDES Industrial Discharge Permit

LARWQCB Order No. 94-129, NPDES Permit No. CA0001147, Waste Discharge Requirements for Southern California (Magnolia Power Plant).

12.2 NPDES Hydrostatic Test Water Permit

LARWQCB Order No. 97-047, General NPDES Permit No. CAG674001; General National Pollutant Discharge Elimination System Permit and Waste Discharge Requirements for Discharges of Hydrostatic Test Water to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties.

13.0 Certifications

13.1 Landowner Certification of SWPPP

SWPPP Preparer Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Printed name: ____

Signature: ____

Title: ____

Company: ____

Date: _________________________

13.2 Annual Compliance Certification

Annual Compliance Certification

Compliance Certification for the Period from ________________ to ________________.

"Based upon the data received from the monitoring program outlined in the SWPPP and an evaluation of the operation of the control measures implemented on the project site, I certify to the best of my knowledge that the construction activity is in compliance with the General Permit and the provisions in the SWPPP. Evaluation of the previous field inspections indicated that the measures identified in the SWPPP to reduce pollutant loadings generated from the construction site were adequate and properly implemented in accordance with the terms of the permit. I certify that the SWPPP implemented for this construction project has been effective."

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Printed name: ____

Signature: ____

Title: ____

Company: ____

Date: ______________________

ATTACHMENT A

CALIFORNIA NPDES GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES

ATTACHMENT B

NOTICE OF INTENT

ATTACHMENT C

<u>EXCERPTS FROM CALIFORNIA STORM WATER BEST MANAGEMENT PRACTICE HANDBOOK FOR CONSTRUCTION ACTIVITY</u>

2000133 F-921 waste wtr

CITY OF BURBANK
PUBLIC SERVICE DEPARTMENT
STORM WATER POLLUTION PREVENTION PLAN
Permit Number 4B19S000949

Section 1
INTRODUCTION

The Clean Water Act, as administered by the Regional Water Quality Control Board (RWQCB), requires the City of Burbank, Public Service Department to have a National Pollutant Discharge Elimination System (NPDES) General Industrial Permit. The purpose of the regulation is to protect water quality by reducing the amount of pollutants in the storm water run off. These pollutants come from the Department's outdoor activities, as well as atmospheric deposition, over which we have no control. The permit covers the entire facility located at 164 West Magnolia Blvd., Burbank, CA 91503, except for the employee parking lot across Lake Street. This facility is not included in the permit because it drains storm water into a separate drainage system that is included in the City's general permit. A copy of the Permit application and the approval letter are included as Appendix 1 in the back of this Storm Water Pollution Prevention Plan.

1.1 Purpose of the SWPPP

The regulations require us to prepare a Storm Water Pollution Prevention Plan (SWPPP). It describes the measures that we will take to prevent pollution from being washed off of our property by rain water, as specified in our permit. This plan is to be kept on the premises, at the office of the Safety Assistant.

1.2 BMP Implementation

The Permit requires that the SWPPP identify personnel to oversee the implementation of any measures to reduce pollution, called Best Management Practices (BMP), and to modify the SWPPP over time as necessary. We have assigned the Field Services Manager to implement and oversee the plan, assisted by the Safety Assistant.

1.3 Implementation Schedule

All of the "management" BMP's (those that do not require major construction) are to be implemented by the end of FY 1996. Other BMP's will be implemented as soon as staff time and budget allow.

1.4 Public Access to the SWPPP

Although this is a Department plan, meant for the use of our employees, it is a public document. Representatives of the RWQCB who visit the facility will be allowed direct access to the document. Any request for a copy of the plan by the RWQCB, other governmental agency or the public should be forwarded to the Safety Assistant's Office.

1.5 Updating the SWPPP

We are not required to forward this plan automatically to the RWQCB but only upon request. The RWQCB can require changes to the Plan. However, we are required to change the plan whenever a change in our activities occurs that may significantly affect the discharge of pollutants. We may also change the plan if we determine that there are more economical BMPs to reduce pollutants than the ones currently identified in the SWPPP. The Field Services Manager is responsible for determining if the SWPPP is to be changed and when, with input from the Safety Assistant and the manager of the affected area.

Section 2
SITE LOCATION AND GENERAL ENVIRONS

Although this is our plan to carry out the needed actions to reduce storm water pollution, this plan contains general background information that will aid in determining the value of the plan to the RWQCB and the general public should they request a copy of it.

2.1 General Nature of the Facility Activities

The Facility's primary objective is the production and conveyance of electricity and the treatment and conveyance of potable water to the residents and businesses of the City of Burbank. On site various support activities occur that are necessary to the primary function of the utility. These include customer service, engineering, warehousing; vehicle maintenance, metal fabrication, paint and carpenter shops.

2.2 Map of the General Environs

Map 1 shows the Facility. The site covers approximately 22.5 acres. The boundaries of the site include (from north, clockwise). Magnolia Bl., the West Channel of the Los Angles River, Olive Ave., and to the west is Lake Street. Of which greater than 90 % is covered with buildings or pavement. All storm water drains directly or via storm drains into the Burbank Western Channel owned by the Los Angles County Department of Public Works. There are two water wells on site, numbers 7 and 15. These wells are active but due to groundwater contamination they are involved with a Granular Activated Carbon (GAC) filtering program. There are no wetlands or active streams on site.

2.3 Map of the Facility Layout

Map 1 shows the location of major structures on site and the areas of outdoor activity within the boundaries of the site. There are numerous buildings on site and most activity is performed inside, however, there are several activities that are performed in the open. These activities are of concern for the purpose of this Plan.

The following is a list of structures on site and their function:

✓ Administration Building is the location of Customer Service operations, Engineering and most administrative functions.

✓ Water Meter Repair Shop houses water meter repair facilities and the field supervisor's offices.

✓ Lunch/Change Room houses the electrical distribution "ready room" (lockers and showers) and the field supervisor's offices.

✓ Warehouse #2 is the central location for the storage of parts and other supplies needed by the Department.

✓ Machine Repair is the location of equipment and vehicle service and repair.

✓ Metal Fabrication is the location of most metal working, such as welding and forming of special parts required by the Department.

✓ The Classrooms building is used to conduct most of the technical training given our electrical field employees.

✓ The Electric Repair Shop is the area for repair of the electrical equipment needed to provide electrical power to our customers.

✓ Carpenter Shop is for wood working and general facility maintenance.

✓ Paint Shop is the location of small parts painting and houses the equipment used by the painters for other facilities work.

✓ Paint Shop Spray Booth is used for paint applications that require a special finish.

✓ Splicer Shop is the location of storage for the underground electrical distribution special equipment, parts and tools.

✓ Magnolia Steam Power Plant is the original location of on site steam electrical power generation.

✓ Magnolia Cooling Towers #1, 2, 3 and 4 are the structures used to provide cooling water for the Magnolia Steam Power Plant.

✓ Magnolia Chlorine Building is the facility used to house the chlorine cylinders used for chlorine injection into the cooling water.

✓ Magnolia Storage area originally was the location of the first on site boilers. Long since dismantled, the area is now used for storage of various materials for the Power Plant and Warehouse #2.

✓ Magnolia #5 Turbine Generator Unit is used for electrical power generation.

✓ Olive Steam Power Plant is the location of our newer on site steam electric generation facilities.

✓ Steam Plant Office is the location of the administrative functions for all electrical power generation.

✓ Olive Cooling Towers #1 and 2 are used to provide cooling water for the Olive steam units.

✓ # 78 Residual Fuel Oil Tank is an above ground fuel storage tank for the Power Plant.

✓ # 25 Residual Fuel Oil Tank is an above ground fuel storage tank for the Power Plant.

✓ Olive #4 Heat Recovery Steam Generator Unit is used to generate steam from the exhaust heat of Olive #3 Turbine Generator.

✓ Olive #3 Turbine Generator Unit is used for electrical power generation.

✓ Olive Chlorine Building is the facility used to house the chlorine cylinders used for chlorine injection into the cooling tower water.

✓ Quonset Hut Storage Buildings are used for the storage of materials used by several work sections.

✓ Storage Building is used for general storage, as a small vehicle maintenance area and as a facility for the construction of the City's Rose

Parade Float entry.

✓ PCB Storage Shed is used to store PCB contaminated equipment prior to disposal.

✓ Storage Building between Olive Cooling Towers is used by various work sections for storage.

✓ Well #7 is a domestic water well.

✓ Forebay Well #7 is the building that houses the pumps and controls for the on site wells.

✓ Well #15 is a domestic water well.

✓ GAC Treatment Facility is the treatment facility for wells #7 and 15.

✓ Reclaimed Water Metering Station run by the Public Works Department is used to meter and treat the reclaimed water discharge from the site. NPDES Permit #CA0055531

✓ Communications Shop is a group of interconnected trailers used as a center for maintenance and repair of the City's mobile communications equipment and telephone system.

✓ Field Services Office is a trailer used as the administrative center for the various support functions on site.

✓ Burbank Switching Station is an electrical switching station used for system load control.

✓ Olive Switching Station is an electrical switching station used for system load control.

✓ Storage Shed Northeast corner is a storage area used predominately by Warehouse #2.

2.4 Description of Storm Drainage System and Outfalls

The drainage pipes, catch basins, outfalls and the boundaries of the areas that drain to each outfall are shown on Map 2. Included in the drainage system are a large number of catch basins. These basins do provide a moderate level of treatment, because of the physical configuration most settleable pollutants are captured. This is pointed out because it is necessary for these basins to be cleaned periodically if they are to be effective.

Section 3
DESCRIPTION OF POTENTIAL SOURCES OF POLLUTION

The locations of various activities that could be sources of pollution are shown on Map 2. Enclosed are various worksheets, including a summary of materials and sources of possible contaminants.

3.1 Machine Shop and Vehicle Maintenance Area

With the exception of the largest pieces of equipment, vehicle and equipment maintenance is performed inside of the shop. The large bucket trucks and cranes are maintained in the area just outside of the shop. In the event of a spill, absorbents are used to contain and cleanup the material. The absorbent/spilled material combination is then placed in a drum for proper disposal. The supervisor in charge of this area is charged with the responsibility to monitor compliance with this policy.

3.2 Paint Shop

Certain small parts are painted in the area behind(south) of the shop. In the event of a spill, absorbents are used to contain and cleanup the material. The absorbent/spilled material combination is then placed in a drum for proper disposal. The supervisor in charge of this area is charged with the responsibility to monitor compliance with this policy.

3.3 Power Plant

The Olive Power Plants are of open frame work construction and exposed to some rain. Pollution is avoided by storing all excess materials under covers or indoors. In addition, good housekeeping practices are used to prevent pollution from equipment that is exposed. The Magnolia units are contained in a three sided building and all but a very small amount of rain water is eliminated. Again good housekeeping practices prevent pollution. The supervisor in charge of this area is charged with the responsibility to monitor compliance with this policy.

3.4 Above Ground Fuel Storage Tanks

These tanks are fully contained in bermed areas capable of containing greater that 110% of the total volume of the tank in the event of a catastrophic failure of the tank. This has the effect of also containing any rain and pollutants that accumulate. The supervisor in charge of this area is charged with the responsibility to monitor compliance with this policy.

3.5 New Transformer Storage Area

This area currently is not bermed and any residual pollutants on the outside of the units maybe washed off. The master plan includes berming this area and is expected to be completed by the end of FY 96. Until this is completed the area is inspected each week to identify potential pollution sources. The Safety Assistant is responsible for this inspection.

3.6 Salvage Transformer Storage Area

This area currently is not bermed and any residual pollutants on the outside of the units maybe washed off. The master plan includes berming this area and is expected to be completed by the end of FY 96. Until this is completed the area is inspected each week to identify potential pollution sources. The Safety Assistant is responsible for this inspection.

3.7 Cooling Towers

There is a small amount of "drift" and this spray is generally deposited on the asphalt surrounding the towers. Currently the dried residual is cleaned up with the yard sweeper. The Field Services Manager has the responsibility to schedule the sweeping as needed.

3.8 Vehicle Fueling Island

The fueling island is located just east of the maintenance shop and is not enclosed. Currently the Equipment Maintenance Supervisor is charged with the responsibility to ensure that any spilled material is cleaned up properly.

Section 4
POTENTIAL POLLUTANTS

4.1 Significant Materials that May Come in Contact with Storm Water
The attached worksheet lists the materials that may come in contact with storm water. These materials predominately are associated with the production of electrical production and the facilities needed to support this primary activity.

4.2 Types of Pollutants
The table below lists the pollutants with a reasonable potential to be present in the storm water from this site.

4.3 Existing Data on the Quality of the Storm Water from the Site
There are no data on the quality of the storm water from the site.

4.4 Estimate of Pollutant Loading
Because of the lack of data on quality of the storm water we are unable to calculate with accuracy the probable loading of the possible pollutants.

4.5 Spills of Significant Materials After November 19, 1988
The facility has not experienced a significant spill.

MATERIAL	SOURCE
Oil/Grease	Maintenance activities
Petroleum hydrocarbons	Maintenance activities
Total suspended solids	General debris and dust
Small floatable debris	General wind blown trash
Paint thinners	Minor amounts from drips

Section 5
STEPS TO REDUCE POLLUTION

This section summarizes existing, new and future **BMPs** intended to reduce storm water run off pollution. Table 2 lists the BMP status(whether it is current , new, or future), the implementation schedule, and Division assigned.

5.1 Identifying Possible BMPs
In order to identify BMPs the following areas were considered:

1. Housekeeping- This refers to the daily practices we use to keep the work areas clean.

2. Preventative maintenance- Maintenance of our equipment so to anticipate problems that could result~~ing~~ in pollut~~ion~~.

   and discharge

3. Spill prevention and response- The focus to be minimizing spills.

4. Storm water management practices- This involves the construction of bermed areas to contain all oil filled equipment and the construction of covered storage areas.

5. Employee training- Our training program needs to include training as necessary for the various BMPs. Also training to ensure employee awareness of the need for compliance.

6. Inspections- We must periodically inspect our facility to be certain that all BMPs are being implemented, decide if they are effective, and to make changes as necessary. Exceptions must be noted.

7. Monitoring- We will install a seven monitor/samplers in order to isolate samples from different areas of the facility and identify problem areas. The appropriate number of samples will be taken during the wet season (October-April).

Table 2
BMP list

BMP	Current	New	Future	Implement	Division
Proper storage	X			NA	All
New Fueling Island			X	FY 96	Field Services
Clean-up Materials	X			NA	All
Sweep Yard	X			NA	Field Services
Oil/Water Separator	X			NA	Field Services
Use Drip Pans	X			NA	All
Oily Debris Handling		X		FY 95	All
Containment Pallets		X		FY 94	All
Clean Catch Basins		X		FY 95	Field Services
Training		X		FY 96	As needed
Monitoring			X	FY 96	As needed
Inspections		X		FY 95	As needed

5.2 Assignment to Monitor Compliance

The Field Services Manager has been assigned the overall program to be assisted by the Safety Assistant. All supervisors are charged with the duty to ensure their area is in compliance with the rules, regulations, and guidelines.

5.3 Machine Shop and Vehicle Maintenance Area

Current BMPs

Minor spills are cleaned up by City employees and the debris properly disposed of. A pallet with all materials needed for spill cleanup is maintained in the shop for quick response. All new fluids are kept in a balcony area with secondary containment. Used fluids and filters are placed in appropriate containers and disposed on an annual contract with Environmental Services, Inc. The vehicle wash area drains into an oil/water separator which drains into the sanitary sewer.

New BMPs

The City is combining vehicle fueling at one new facility, to be located in the Public Works Yard and to remove the station at the Public Services Yard.

Whenever vehicles and equipment are in the shop for servicing hydraulic lines will be inspected for wear.

5.4 Paint Shop

Current BMPs

Currently all paints, solvents, and thinners are stored indoors or under covers. Painting equipment(brushes, rollers, and pans) is cleaned in a closed container with three buckets of cleaner.

New BMPs

None are needed.

5.5 Power Plant

Current BMPs

All materials that are potential sources of pollutants are stored indoors or under covers. Equipment that can not be covered is wiped off periodically. Good housekeeping is a major concern for Power Plant personnel.

New BMPs

The backup fuel system for the boilers is being modified to use diesel instead of the current residual fuel oil(black oil).

Additional BMPs will be implemented as the monitoring system identifies problem areas.

5.6 Above Ground Fuel Storage Tanks

Current BMPs

All tanks are contained in bermed areas capable of holding greater that 110% of the total capacity of the tank.

New BMPs

Currently a consultant is reviewing our fuel system and making recommendations to convert the entire back up fuel system to diesel and to bring the new system online in complete compliance with all regulations

5.7 New Transformer Storage Area

Current BMPs

The storage area is inspected weekly to ensure that there are no releases. If a release is discovered it is cleaned up with absorbents and the debris is disposed of properly.

New BMPs

Per USEPA definition these "portable oil storage tanks" will be placed inside of a bermed area capable of holding 110% of the total inside the bermed area plus the result of a 25 year storm.

5.8 Salvage Transformer Storage Area

Current BMPs

The storage area is inspected weekly to ensure that there are no releases. If a release is discovered it is cleaned up with absorbents and the debris is disposed of properly.

New BMPs

Per USEPA definition these "portable oil storage tanks" will be placed inside of a bermed area capable of holding 110% of the total inside the bermed area plus the result of a 25 year storm.

5.9 Cooling Towers

Current BMPs

Currently the dried residual chemicals are cleaned up as necessary by the sweeping of the yard.

New BMPs

Additional BMPs will be implemented as the monitoring system identifies problem areas.

5.10 Vehicle Fueling Island

Current BMPs

Spills are cleaned up with absorbents and the debris is properly disposed of.

New BMPs

Additional BMPs will be implemented as the monitoring system identifies problem areas.

5.11 Employee Training

Current BMPs

The supervisor of each area has the responsibility to ensure that all employees are aware of the need for good housekeeping.

New BMPs

Additional BMPs will be implemented as the monitoring system identifies problem areas.

Section 6
MONITORING AND RECORD KEEPING

6.1 Checking on New BMP Implementation
An annual inspection is required which must be documented. This inspection will be carried out by the Safety Assistant with the respective supervisor assisting in their areas. Upon completion of the annual inspection the Field Services Manager and the Safety Assistant will meet to consider: how well the BMPs are working, progress with the more substantial BMPs, and any changes needed to the BMPs and the SWPPP.

6.2 Monitoring of Storm Water
Upon complete installation of the Storm Water monitoring system, samples will be taken from the first event and two others during the wet season. These samples will be sealed, iced and sent to a laboratory to be analyzed for all appropriate pollutants. Analytical results will be kept on file in the Safety Assistant's office.

6.3 As required the results of all inspections will be kept on file by the Safety Assistant.

Technical Area: Soil and Water Resources

BACKGROUND

The table in the response to Water-13 (last row) indicates that the SUSMP requirements will be addressed in the project design and in the construction SWPPP. Because the SUSMP requirements could have a significant impact on the site layout and design it is our opinion that these issues must be addressed at this stage.

Data Request 127: Please provide a detailed description of the SUSMP requirements and impact on the site, including site maps and PCBMP designs.

Response: The full text of the Los Angeles County Urban Runoff and Storm Water NPDES Permit Standard Urban Storm Water Mitigation Plan (SUSMP) is presented following this response. As described on page 1 of the attachment, the SUSMP was developed as part of the municipal storm water program to address storm water pollution from new development and redevelopment by the private sector. The categories of development and redevelopment projects subject to the SUSMP are:

- Single-family hillside residences
- 100,000 square foot commercial developments
- Automotive repair shops
- Retail gasoline outlets
- Restaurants
- Home subdivisions with 10 or more housing units
- Parking lots 5,000 square feet or more or with 25 or more parking spaces potentially exposed.

"Commercial Development" is defined as any development on private land that is not heavy industrial or residential. "Redevelopment" is defined as follows:

> "Redevelopment" means, on an already developed site, the creation or addition of at least 5,000 square feet of impervious surfaces. Redevelopment includes, but is not limited to: the expansion of a

building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces. Where redevelopment results in an increase of less than 50 percent of the impervious surfaces of a previously existing development, and the existing development was not subject to these SUSMPs, the Design Standards apply only to the addition, and not the entire development."

The SCPPA MPP is a public agency industrial redevelopment project. The project site is currently 100 percent impervious and will remain so following completion of the project. Public agency and industrial projects are not covered by the SUSMP requirements. Nevertheless, the project will incorporate SUSMP provisions as applicable as follows:

1. Peak Storm Water Runoff Discharge Rates – There will be no change in the pre-construction peak storm water runoff discharge rates resulting from the MPP.

2. Conserve Natural Areas – There are no natural areas to conserve as the MPP is fully developed.

3. Minimize Storm Water Pollutants of Concern – As described in the AFC and will be described in the SWPPP, BMPs will be implemented to minimize, to the maximum extent practicable, the introduction of pollutants of concern that may result in significant impacts.

4. Protect Slopes and Channels – There are no slopes on the MPP project site. Storm runoff from the project site drains to the Burbank Western Channel, which is fully lined and not subject to erosion.

5. Provide Storm Drain System Stenciling and Signage – Storm drain inlets at the MPP project site will be appropriately labeled to prevent dumping.

6. Properly Design Outdoor Material Storage Areas – With the exception of the acid storage tank, all materials will be stored inside within secondary containment. The acid storage will incorporate secondary containment with 110 percent of the volume of the acid storage tank. No drain will be provided to prevent accidental release of acid to the environment.

7. Properly Design Trash Storage Areas – Trash container areas will be located to avoid receiving drainage from adjoining roofs, pavement will be diverted around the area, and trash container areas will be screed or walled to prevent off-site transport of trash.

8. Provide Proof of Ongoing BMP Maintenance – The BMPs implemented at the MPP will be maintained by the City of Burbank as the operator of the facility.

9. Design Standards for Structural or Treatment Cotnrol BMPs – All storm water runoff from the MPP will be discharged through Outfall No. 001 in compliance with the discharge limitations specified in the WDRs.

10. Properly Design Loading/Unloading Dock Areas – Loading dock areas will be covered or drainage will be designed to minimize run-on and runoff of storm water and there will be no direct connections from depressed loading docks to storm drains.

11. Properly Design Repair/Maintenance Bays – The MPP will not include vehicle repair/maintenance bays.

12. Properly Design Vehicle/Equipment Wash Areas – The MPP will not include vehicle/equipment wash areas.

The LARWQCB is in the process of revising and reissuing the Los Angeles County Municipal Storm Water Permit. This permit, when adopted by the LARWQCB, may incorporate additional requirements applicable to the MPP. As applicable, these requirements will be incorporated into the facility SWPPP and the final design of the MPP.

STANDARD URBAN STORM WATER MITIGATION PLAN

FOR LOS ANGELES COUNTY AND CITIES IN LOS ANGELES COUNTY

STANDARD URBAN STORM WATER MITIGATION PLAN

BACKGROUND

The municipal storm water National Pollutant Discharge Elimination System (NPDES) permit (Los Angeles County Permit) issued to Los Angeles County and 85 cities (Permittees) by the Los Angeles Regional Water Quality Control Board (Regional Board) on July 15, 1996, requires the development and implementation of a program addressing storm water pollution issues in development planning for private projects. The same requirements are applicable to the City of Long Beach under its separate municipal storm water permit (City of Long Beach MS4 Permit), which was issued on June 30, 1999.

The requirement to implement a program for development planning is based on, federal and state statutes including: Section 402 (p) of the Clean Water Act, Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 ("CZARA"), and the California Water Code. The Clean Water Act amendments of 1987 established a framework for regulating storm water discharges from municipal, industrial, and construction activities under the NPDES program. The primary objectives of the municipal storm water program requirements are to:

1. Effectively prohibit non-storm water discharges, and
2. Reduce the discharge of pollutants from storm water conveyance systems to the Maximum Extent Practicable (MEP statutory standard).

The Standard Urban Storm Water Mitigation Plan (SUSMP) was developed as part of the municipal storm water program to address storm water pollution from new Development and Redevelopment by the private sector. This SUSMP contains a list of the minimum required Best Management Practices (BMPs) that must be used for a designated project. Additional BMPs may be required by ordinance or code adopted by the Permittee and applied generally or on a case-by-case basis. The Permittees are required to adopt the requirements set herein in their own SUSMP. Developers must incorporate appropriate SUSMP requirements into their project plans. Each Permittee will approve the project plan as part of the development plan approval process and prior to issuing building and grading permits for the projects covered by the SUSMP requirements.

All discretionary development and redevelopment projects that fall into one of the following categories are subject to these SUSMPs. These categories are:

- Single-Family Hillside Residences
- 100,000 Square Foot Commercial Developments
- Automotive Repair Shops
- Retail Gasoline Outlets
- Restaurants
- Home Subdivisions with 10 to 99 housing units
- Home Subdivisions with 100 or more housing units
- Parking lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to storm water runoff

The City of Long Beach permit requires a SUSMP for the following categories only: (i) 10-99 home subdivisions; (ii) 100 or more home subdivisions; (iii) 100,000 or more square foot commercial developments; and (iv) projects located adjacent to or discharging to environmentally sensitive areas. For the remaining five categories, equivalent requirements have been included directly in or are expected to be developed shortly under the City of Long Beach Storm Water Management Plan.

Permittees shall amend codes, and promulgate ordinances, if necessary, not later than January 15, 2001, to give legal effect to the SUSMP requirements. The SUSMP requirements for projects identified herein shall take effect not later than February 15, 2001.

DEFINITIONS

"100,000 Square Foot Commercial Development" means any commercial development that creates at least 100,000 square feet of impermeable area, including parking areas. "Automotive Repair Shop" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.

"Best Management Practice (BMP)" means any program, technology, process, siting criteria, operational methods or measures, or engineered systems, which when implemented prevent, control, remove, or reduce pollution.

"Commercial Development" means any development on private land that is not heavy industrial or residential. The category includes, but is not limited to: hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, multi-apartment buildings, car wash facilities, mini-malls and other business complexes, shopping malls, hotels, office buildings, public warehouses and other light industrial complexes.

"Directly Connected Impervious Area (DCIA)" means the area covered by a building, impermeable pavement, and/ or other impervious surfaces, which drains directly into the storm drain without first flowing across permeable land area (e.g. lawns).

"Discretionary Project" means a project which requires the exercise of judgement or deliberation when the public agency or public body decides to approve or disapprove a particular activity, as distinguished from situations where the public agency or body merely has to determine whether there has been conformity with applicable statutes, ordinances, or regulations.

"Greater than (>) 9 unit home subdivision" means any subdivision being developed for 10 or more single-family or multi-family dwelling units.

"Hillside" means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is 25 percent or greater.

"Infiltration" means the downward entry of water into the surface of the soil.

"New Development" means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision.

"Parking Lot" means land area or facility for the temporary parking or storage of motor vehicles used personally, for business or for commerce with a lot size of 5,000 square feet or more, or with 25 or more parking spaces.

"Redevelopment" means, on an already developed site, the creation or addition of at least 5,000 square feet of impervious surfaces. Redevelopment includes, but is not limited to: the expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/ or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces. Where redevelopment results in an increase of less than 50 percent of the impervious surfaces of a previously existing development, and the existing development was not subject to these SUSMPs, the Design Standards apply only to the addition, and not to the entire development.

"Restaurant" means a stand-alone facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption. (SIC code 5812).

"Retail Gasoline Outlet" means any facility engaged in selling gasoline and lubricating oils.

"Source Control BMP" means any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

"Storm Event" means a rainfall event that produces more than 0.1 inch of precipitation and that, which is separated from the previous storm event by at least 72 hours of dry weather.

"Structural BMP" means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g. canopy, structural enclosure). The category may include both Treatment Control BMPs and Source Control BMPs.

"Treatment" means the application of engineered systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media adsorption, biodegradation, biological uptake, chemical oxidation and UV radiation.

"Treatment Control BMP" means any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media adsorption or any other physical, biological, or chemical process.

CONFLICTS WITH LOCAL PRACTICES

Where provisions of the SUSMP requirements conflict with established local codes, (e.g., specific language of signage used on storm drain stenciling), the Permittee may continue the local practice and modify the SUSMP to be consistent with the code, except that to the extent that the standards in the SUSMP are more stringent than those under local codes, such more stringent standards shall apply.

SUSMP PROVISIONS APPLICABLE TO ALL CATEGORIES

REQUIREMENTS

1. PEAK STORM WATER RUNOFF DISCHARGE RATES

Post-development peak storm water runoff discharge rates shall not exceed the estimated pre-development rate for developments where the increased peak storm water discharge rate will result in increased potential for downstream erosion.

2. CONSERVE NATURAL AREAS

If applicable, the following items are required and must be implemented in the site layout during the subdivision design and approval process, consistent with applicable General Plan and Local Area Plan policies:

- Concentrate or cluster Development on portions of a site while leaving the remaining land in a natural undisturbed condition.
- Limit clearing and grading of native vegetation at a site to the minimum amount needed to build lots, allow access, and provide fire protection.
- Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants.
- Promote natural vegetation by using parking lot islands and other landscaped areas.
- Preserve riparian areas and wetlands.

3. MINIMIZE STORM WATER POLLUTANTS OF CONCERN

Storm water runoff from a site has the potential to contribute oil and grease, suspended solids, metals, gasoline, pesticides, and pathogens to the storm water conveyance system. The development must be designed so as to minimize, to the maximum extent practicable, the introduction of pollutants of concern that may result in significant impacts, generated from site runoff of directly connected impervious areas (DCIA), to the storm water conveyance system as approved by the building official. Pollutants of concern, consist of any pollutants that exhibit one or more of the following characteristics: current loadings or historic deposits of the pollutant are impacting the beneficial uses of a receiving water, elevated levels of the pollutant are found in sediments of a receiving water and/or have the potential to bioaccumulate in organisms therein, or the detectable inputs of the pollutant are at a concentrations or loads considered potentially toxic to humans and/or flora and fauna.

In meeting this specific requirement, "minimization of the pollutants of concern" will require the incorporation of a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in that runoff to the Maximum Extent Practicable. Those BMPs best suited for that purpose are those listed in the *California Storm Water Best Management Practices Handbooks*; *Caltrans Storm Water Quality Handbook: Planning and Design Staff Guide*; *Manual for Storm Water Management in Washington State*; *The Maryland Stormwater Design Manual*; *Florida Development Manual: A Guide to Sound Land and Water Management*; Denver *Urban Storm Drainage Criteria Manual, Volume 3 – Best Management Practices* and *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters* , USEPA Report No. EPA-840-B-92-002, as "likely to have significant impact" beneficial to water quality for targeted pollutants that are of concern at the site in question. However, it is possible that a combination of BMPs not so designated, may in a particular circumstance, be better suited to maximize the reduction of the pollutants.

Examples of BMPs that can be used for minimizing the introduction of pollutants of concern generated from site runoff are identified in Table 2. Any BMP not specifically approved by the Regional Board in Resolution No. 99-03, "Approving Best Management Practices for Municipal Storm Water and Urban Runoff Programs in Los Angeles County", for development planning may be used if they have been recommended in one of the above references.

4. PROTECT SLOPES AND CHANNELS

Project plans must include BMPs consistent with local codes and ordinances and the SUSMP to decrease the potential of slopes and/or channels from eroding and impacting storm water runoff:

- Convey runoff safely from the tops of slopes and stabilize disturbed slopes.
- Utilize natural drainage systems to the maximum extent practicable
- Control or reduce or eliminate flow to natural drainage systems to the maximum extent practicable
- Stabilize permanent channel crossings.
- Vegetate slopes with native or drought tolerant vegetation.
- Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion, with the approval of all agencies with jurisdiction, e.g., the U.S. Army Corps of Engineers and the California Department of Fish and Game

5. PROVIDE STORM DRAIN SYSTEM STENCILING AND SIGNAGE

Storm drain stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets. The stencil contains a brief statement that prohibits the dumping of improper materials into the storm water conveyance system. Graphical icons, either illustrating anti-dumping symbols or images of receiving water fauna, are effective supplements to the anti-dumping message.

- All storm drain inlets and catch basins within the project area must be stenciled with prohibitive language (such as: "NO DUMPING – DRAINS TO OCEAN") and/or graphical icons to discourage illegal dumping.
- Signs and prohibitive language and/or graphical icons, which prohibit illegal dumping, must be posted at public access points along channels and creeks within the project area.
- Legibility of stencils and signs must be maintained.

6. PROPERLY DESIGN OUTDOOR MATERIAL STORAGE AREAS

Outdoor material storage areas refer to storage areas or storage facilities solely for the storage of materials. Improper storage of materials outdoors may provide an opportunity for toxic compounds, oil and grease, heavy metals, nutrients, suspended solids, and other pollutants to enter the storm water conveyance system.

Where proposed project plans include outdoor areas for storage of materials that may contribute pollutants to the storm water conveyance system, the following Structural or Treatment BMPs are required:

- Materials with the potential to contaminate storm water must be: (1) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to the storm water conveyance system; or (2) protected by secondary containment structures such as berms, dikes, or curbs.
- The storage area must be paved and sufficiently impervious to contain leaks and spills.
- The storage area must have a roof or awning to minimize collection of storm water within the secondary containment area.

7. PROPERLY DESIGN TRASH STORAGE AREAS

A trash storage area refers to an area where a trash receptacle or receptacles are located for use as a repository for solid wastes.

Loose trash and debris can be easily transported by the forces of water or wind into nearby storm drain inlets, channels, and/or creeks. All trash container areas must meet the following Structural or Treatment Control BMP requirements (individual single family residences are exempt from these requirements):

- Trash container areas must have drainage from adjoining roofs and pavement diverted around the area(s).

- Trash container areas must be screened or walled to prevent off-site transport of trash.

8. PROVIDE PROOF OF ONGOING BMP MAINTENANCE

Improper maintenance is one of the most common reasons why water quality controls will not function as designed or which may cause the system to fail entirely. It is important to consider who will be responsible for maintenance of a permanent BMP, and what equipment is required to perform the maintenance properly. As part of project review, if a project applicant has included or is required to include, Structural or Treatment Control BMPs in project plans, the Permittee shall require that the applicant provide verification of maintenance provisions through such means as may be appropriate, including, but not limited to legal agreements, covenants, CEQA mitigation requirements and/or Conditional Use Permits.

For all properties, the verification will include the developer's signed statement, as part of the project application, accepting responsibility for all structural and treatment control BMP maintenance until the time the property is transferred and, where applicable, a signed agreement from the public entity assuming responsibility for Structural or Treatment Control BMP maintenance. The transfer of property to a private or public owner must have conditions requiring the recipient to assume responsibility for maintenance of any Structural or Treatment Control BMP to be included in the sales or lease agreement for that property, and will be the owner's responsibility. The condition of transfer shall include a provision that the property owners conduct maintenance inspection of all Structural or Treatment Control BMPs at least once a year and retain proof of inspection. For residential properties where the Structural or Treatment Control BMPs are located within a common area that will be maintained by a homeowner's association, language regarding the responsibility for maintenance must be included in the projects conditions, covenants and restrictions (CC&Rs). Printed educational materials will be required to accompany the first deed transfer to highlight the existence of the requirement and to provide information on what storm water management facilities are present, signs that maintenance is needed, how the necessary maintenance can be performed, and assistance that the Permittee can provide. The transfer of this information shall also be required with any subsequent sale of the property.

If Structural or Treatment Control BMPs are located within a public area proposed for transfer, they will be the responsibility of the developer until they are accepted for transfer by the County or other appropriate public agency. Structural or Treatment Control BMPs proposed for transfer must meet design standards adopted by the public entity for the BMP installed and should be approved by the County or other appropriate public agency prior to its installation.

9. DESIGN STANDARDS FOR STRUCTURAL OR TREATMENT CONTROL BMPs

Structural or Treatment control BMPs selected for use at any project covered by this SUSMP shall meet the design standards of this Section unless specifically exempted.

Post-construction Structural or Treatment Control BMPs shall be designed to:

A. mitigate (infiltrate or treat) storm water runoff from either:

1. the 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, from the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998)*, or
2. the volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook – Industrial/ Commercial,* (1993), or
3. the volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system, or
4. the volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event,

AND

B. control peak flow discharge to provide stream channel and over bank flood protection, based on flow design criteria selected by the local agency.

<u>Limited Exclusion</u>

Restaurants, where the land area for development or redevelopment is less than 5,000 square feet, and Retail Gasoline Outlets are excluded from the numerical Structural or Treatment Control BMP design standard requirement only.

10. PROVISIONS APPLICABLE TO INDIVIDUAL PRIORITY PROJECT CATEGORIES

REQUIREMENTS

A. 100,000 SQUARE FOOT COMMERCIAL DEVELOPMENTS

1. PROPERLY DESIGN LOADING/UNLOADING DOCK AREAS

Loading/unloading dock areas have the potential for material spills to be quickly transported to the storm water conveyance system. To minimize this potential, the following design criteria are required:

- Cover loading dock areas or design drainage to minimize run-on and runoff of storm water.
- Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

2. PROPERLY DESIGN REPAIR/MAINTENANCE BAYS

Oil and grease, solvents, car battery acid, coolant and gasoline from the repair/maintenance bays can negatively impact storm water if allowed to come into contact with storm water runoff. Therefore, design plans for repair bays must include the following:

- Repair/maintenance bays must be indoors or designed in such a way that doesn't allow storm water runon or contact with storm water runoff.
- Design a repair/maintenance bay drainage system to capture all washwater, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.

3. PROPERLY DESIGN VEHICLE/EQUIPMENT WASH AREAS

The activity of vehicle/equipment washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. Include in the project plans an area for washing/steam cleaning of vehicles and equipment. The area in the site design must be:

- Self-contained and/ or covered, equipped with a clarifier, or other pretreatment facility, and properly connected to a sanitary sewer.

B. RESTAURANTS

1. PROPERLY DESIGN EQUIPMENT/ACCESSORY WASH AREAS

The activity of outdoor equipment/accessory washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. Include in the project plans an area for the washing/steam cleaning of equipment and accessories. This area must be:

- Self-contained, equipped with a grease trap, and properly connected to a sanitary sewer.
- If the wash area is to be located outdoors, it must be covered, paved, have secondary containment, and be connected to the sanitary sewer.

C. RETAIL GASOLINE OUTLETS

1. PROPERLY DESIGN FUELING AREA

Fueling areas have the potential to contribute oil and grease, solvents, car battery acid, coolant and gasoline to the storm water conveyance system. The project plans must include the following BMPs:

- The fuel dispensing area must be covered with an overhanging roof structure or canopy. The canopy's minimum dimensions must be equal to or greater than the area within the grade break. The canopy must not drain onto the fuel dispensing area, and the canopy downspouts must be routed to prevent drainage across the fueling area.
- The fuel dispensing area must be paved with Portland cement concrete (or equivalent smooth impervious surface), and the use of asphalt concrete shall be prohibited.
- The fuel dispensing area must have a 2% to 4% slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of storm water to the extent practicable.
- At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.

D. AUTOMOTIVE REPAIR SHOPS

1. PROPERLY DESIGN FUELING AREA

Fueling areas have the potential to contribute oil and grease, solvents, car battery acid, coolant and gasoline to the storm water conveyance system. Therefore, design plans, which include fueling areas, must contain the following:

- The fuel dispensing area should be covered with an overhanging roof structure or canopy. The cover's minimum dimensions must be equal to or greater than the area within the grade break. The cover must not drain onto the fuel dispensing area and the downspouts must be routed to prevent drainage across the fueling area.
- The fuel dispensing areas must be paved with Portland cement concrete (or equivalent smooth impervious surface), and the use of asphalt concrete shall be prohibited.
- The fuel dispensing area must have a 2% to 4% slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of storm water.

- At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.

2. PROPERLY DESIGN REPAIR/MAINTENANCE BAYS

Oil and grease, solvents, car battery acid, coolant and gasoline from the repair/maintenance bays can negatively impact storm water if allowed to come into contact with storm water runoff. Therefore, design plans for repair bays must include the following:

- Repair/maintenance bays must be indoors or designed in such a way that doesn't allow storm water run-on or contact with storm water runoff.
- Design a repair/maintenance bay drainage system to capture all wash-water, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.

3. PROPERLY DESIGN VEHICLE/EQUIPMENT WASH AREAS

The activity of vehicle/equipment washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. Include in the project plans an area for washing/steam cleaning of vehicles and equipment. This area must be:

- Self-contained and/or covered, equipped with a clarifier, or other pretreatment facility, and properly connected to a sanitary sewer or to a permitted disposal facility.

4. PROPERLY DESIGN LOADING/UNLOADING DOCK AREAS

Loading/unloading dock areas have the potential for material spills to be quickly transported to the storm water conveyance system. To minimize this potential, the following design criteria are required:

- Cover loading dock areas or design drainage to minimize run-on and runoff of storm water.
- Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

E. <u>PARKING LOTS</u>

1. PROPERLY DESIGN PARKING AREA

Parking lots contain pollutants such as heavy metals, oil and grease, and polycyclic aromatic hydrocarbons that are deposited on parking lot surfaces by motor vehicles. These pollutants are directly transported to surface waters. To minimize the offsite transport of pollutants, the following design criteria are required:

- Reduce impervious land coverage of parking areas
- Infiltrate runoff before it reaches storm drain system.
- Treat runoff before it reaches storm drain system

2. PROPERLY DESIGN TO LIMIT OIL CONTAMINATION AND PERFORM MAINTENANCE

Parking lots may accumulate oil, grease, and water insoluble hydrocarbons from vehicle drippings and engine system leaks.

- Treat to remove oil and petroleum hydrocarbons at parking lots that are heavily used (e.g. fast food outlets, lots with 25 or more parking spaces, sports event parking lots, shopping malls, grocery stores, discount warehouse stores)
- Ensure adequate operation and maintenance of treatment systems particularly sludge and oil removal, and system fouling and plugging prevention control

11. WAIVER

A Permittee may, through adoption of an ordinance or code incorporating the treatment requirements of the SUSMP, provide for a waiver from the requirement if impracticability for a specific property can be established. A waiver of impracticability shall be granted only when all other Structural or Treatment Control BMPs have been considered and rejected as infeasible. Recognized situations of impracticability include, (i) extreme limitations of space for treatment on a redevelopment project, (ii) unfavorable or unstable soil conditions at a site to attempt infiltration, and (iii) risk of ground water contamination because a known unconfined aquifer lies beneath the land surface or an existing or potential underground source of drinking water is less than 10 feet from the soil surface. Any other justification for impracticability must be separately petitioned by the Permittee and submitted to the Regional Board for consideration. The Regional Board may consider approval of the waiver justification or may delegate the authority to approve a class of waiver justifications to the Regional Board Executive Officer. The supplementary waiver justification becomes recognized and effective only after approval by the Regional Board or the Regional Board Executive Officer. A waiver granted by a Permittee to any development or redevelopment project may be revoked by the Regional Board Executive Officer for cause and with proper notice upon petition.

12. LIMITATION ON USE OF INFILTRATION BMPs

Three factors significantly influence the potential for storm water to contaminate ground water. They are (i) pollutant mobility, (ii) pollutant abundance in storm water, (iii) and soluble fraction of pollutant. The risk of contamination of groundwater may be reduced by pretreatment of storm water. A discussion of limitations and guidance for infiltration practices is contained in, *Potential Groundwater Contamination from Intentional and Non-Intentional Stormwater Infiltration, Report No. EPA/600/R-94/051, USEPA (1994).*

In addition, the distance of the groundwater table from the infiltration BMP may also be a factor determining the risk of contamination. A water table distance separation of ten feet depth in California presumptively poses negligible risk for storm water not associated with industrial activity or high vehicular traffic.

Infiltration BMPs are not recommended for areas of industrial activity or areas subject to high vehicular traffic (25,000 or greater average daily traffic (ADT) on main roadway or 15,000 or more ADT on any intersecting roadway) unless appropriate pretreatment is provided to ensure groundwater is protected and the infiltration BMP is not rendered ineffective by overload.

13. ALTERNATIVE CERTIFICATION FOR STORM WATER TREATMENT MITIGATION

In lieu of conducting detailed BMP review to verify Structural or Treatment Control BMPs adequacy, a Permittee may elect to accept a signed certification from a Civil Engineer or a Licensed Architect registered in the State of California, that the plan meets the criteria established herein. The Permittee is encouraged to verify that certifying person(s) have been trained on BMP design for water quality, not more than two years prior to the signature date. Training conducted by an organization with storm water BMP design expertise (e.g., a University, American Society of Civil Engineers, American Society of Landscape Architects, American Public Works Association, or the California Water Environment Association) may be considered qualifying.

14. RESOURCES AND REFERENCES

TABLE 1. RESOURCES AND REFERENCES

SUGGESTED RESOURCES	HOW TO GET A COPY
Start at the Source (1999) by Bay Area Stormwater Management Agencies Association Detailed discussion of permeable pavements and alternative driveway designs presented.	Bay Area Stormwater Management Agencies Association 2101 Webster Street Suite 500 Oakland, CA 510-286-1255
Design of Stormwater Filtering Systems (1996) by Richard A. Claytor and Thomas R. Schuler Presents detailed engineering guidance on ten different storm water-filtering systems.	Center for Watershed Protection 8391 Main Street Ellicott City, MD 21043 410-461-8323
Better Site Design: A Handbook for Changing Development Rules in Your Community (1998) Presents guidance for different model development alternatives.	Center for Watershed Protection 8391 Main Street Ellicott City, MD 21043 410-461-8323
Design Manual for Use of Bioretention in Stormwater Management (1993) Presents guidance for designing bioretention facilities.	Prince George's County Watershed Protection Branch 9400 Peppercorn Place, Suite 600 Landover, MD 20785
Operation, Maintenance and Management of Stormwater Management (1997) Provides a thorough look at stormwater practices including, planning and design considerations, programmatic and regulatory aspects, maintenance considerations, and costs.	Watershed Management Institute, Inc. 410 White Oak Drive Crawfordville, FL 32327 850-926-5310
California Storm Water Best Management Practices Handbooks (1993) for Construction Activity, Municipal, and Industrial/Commercial Presents a description of a large variety of Structural BMPs, Treatment Control, BMPs and Source Control BMPs	Los Angeles County Department of Public Works Cashiers Office 900 S. Fremont Avenue Alhambra, CA 91803 626-458-6959

TABLE 1. RESOURCES AND REFERENCES (continued)

SUGGESTED RESOURCES	HOW TO GET A COPY
Second Nature: Adapting LA's Landscape for Sustainable Living (1999) by Tree People Detailed discussion of BMP designs presented to conserve water, improve water quality, and achieve flood protection.	Tree People 12601 Mullholland Drive Beverly Hills, CA 90210 818-753-4600 (?)
Florida Development Manual: A Guide to Sound Land and Water Management (1988) Presents detailed guidance for designing BMPs	Florida Department of the Environment 2600 Blairstone Road, Mail Station 3570 Tallahassee, FL 32399 850-921-9472
Stormwater Management in Washington State (1999) Vols. 1-5 Presents detailed guidance on BMP design for new development and construction.	Department of Printing State of Washington Department of Ecology P.O. Box 798 Olympia, WA 98507-0798 360-407-7529
Maryland Stormwater Design Manual (1999) Presents guidance for designing storm water BMPs	Maryland Department of the Environment 2500 Broening Highway Baltimore, MD 21224 410-631-3000
Texas Nonpoint Source Book – Online Module (1998)www.txnpsbook.org Presents BMP design and guidance information on-line	Texas Statewide Storm Water Quality Task Force North Central Texas Council of Governments 616 Six Flags Drive Arlington, TX 76005 817-695-9150
Urban Storm Drainage, Criteria Manual – Volume 3, Best Management Practices (1999) Presents guidance for designing BMPs	Urban Drainage and Flood Control District 2480 West 26th Avenue, Suite 156-B Denver, CO 80211 303-45 303-455-6277
Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters (1993) Report No. EPA–840-B-92-002. Provides an overview of, planning and design considerations, programmatic and regulatory aspects, maintenance considerations, and costs.	National Technical Information Service U.S. Department of Commerce Springfield, VA 22161 800-553-6847
National Stormwater Best Management Practices (BMP) Database, Version 1.0 Provides data on performance and evaluation of storm water BMPs	American Society of Civil Engineers 1801 Alexander Bell Drive Reston, VA 20191 703-296-6000
Caltrans Storm Water Quality Handbook: Planning and Design Staff Guide (Best Management Practices Handbooks (1998) Presents guidance for design of storm water BMPs	California Department of Transportation P.O. Box 942874 Sacramento, CA 94274-0001 916-653-2975

TABLE 2

EXAMPLE BEST MANAGEMENT PRACTICES (BMPs)

The following are examples of BMPs that can be used for minimizing the introduction of pollutants of concern that may result in significant impacts, generated from site runoff to the storm water conveyance system. (See Table 1: Suggested Resources for additional sources of information):

- Provide reduced width sidewalks and incorporate landscaped buffer areas between sidewalks and streets. However, sidewalk widths must still comply with regulations for the Americans with Disabilities Act and other life safety requirements.
- Design residential streets for the minimum required pavement widths needed to comply with all zoning and applicable ordinances to support travel lanes; on-street parking; emergency, maintenance, and service vehicle access; sidewalks; and vegetated open channels.
- Comply with all zoning and applicable ordinances to minimize the number of residential street cul-de-sacs and incorporate landscaped areas to reduce their impervious cover. The radius of cul-de-sacs should be the minimum required to accommodate emergency and maintenance vehicles. Alternative turnarounds should be considered.
- Use permeable materials for private sidewalks, driveways, parking lots, or interior roadway surfaces (examples: hybrid lots, parking groves, permeable overflow parking, etc.).
- Use open space development that incorporates smaller lot sizes.
- Reduce building density.
- Comply with all zoning and applicable ordinances to reduce overall lot imperviousness by promoting alternative driveway surfaces and shared driveways that connect two or more homes together.
- Comply with all zoning and applicable ordinances to reduce the overall imperviousness associated with parking lots by providing compact car spaces, minimizing stall dimensions, incorporating efficient parking lanes, and using pervious materials in spillover parking areas.
- Direct rooftop runoff to pervious areas such as yards, open channels, or vegetated areas, and avoid routing rooftop runoff to the roadway or the storm water conveyance system.
- Vegetated swales and strips
- Extended/dry detention basins
- Infiltration basin
- Infiltration trenches
- Wet ponds
- Constructed wetlands
- Oil/Water separators
- Catch basin inserts
- Continuous flow deflection/ separation systems
- Storm drain inserts
- Media filtration
- Bioretention facility
- Dry-wells
- Cisterns
- Foundation planting
- Catch basin screens
- Normal flow storage/ separation systems
- Clarifiers
- Filtration systems
- Primary waste water treatment systems

Technical Area: Soil and Water Resources

BACKGROUND

The response to Water-14 indicates that a letter has been forwarded to the Los Angeles RWQCB to confirm that the existing NPDES Discharge Permit will cover the return of cooling tower blow down from Magnolia Power Project to the Reclamation Plant discharge line.

Data Request 128: Please provide a copy of the correspondence to the LARWQCB and any response received there from.

Response: This correspondence with the LARWQCB is attached. The applicant will provide copies of future correspondence with the LARWQCB.

SCPPA
Southern California
Public Power Authority

Member Cities:
Anaheim
Azusa
Banning
Burbank
Colton
Glendale
Los Angeles
Pasadena
Riverside
Vernon
and the
Imperial Irrigation District

June 26, 2001

Mr. Dennis Dickerson
Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Magnolia Power Project – Applicability of Existing National Pollution Discharge Elimination System (NPDES) Permit

The Southern California Public Power Authority (SCPPA) is an association of Southern California municipalities (Anaheim, Burbank, Colton, Glendale, and Pasadena). SCPPA has submitted an Application for Certification (AFC) to the California Energy Commission (CEC) to install a new 270 MW "state-of-the-art" combined cycle natural gas fired power plant. This project is referred to as the Magnolia Power Project. SCPPA has applied for expedited six-month permitting under the CEC process in response to California's ongoing energy crises and Governor Gray Davis' call to increase high efficiency, lower costing electricity throughout the state. CEC staff has reviewed the AFC and has requested additional data concerning use of the existing National Pollution Discharge Elimination System (NPDES) Permit.

The discharges from the Magnolia Power Project will be in conformance with existing Waste Discharge Requirements (WDRs) (NPDES Permit No. CA0055531). Additional information on the Magnolia Power Project is attached. To help satisfy the CEC data request, we request your confirmation that discharges from the Magnolia Power Project will be covered under the existing WDR and reissuance of a WDR will not be required. Early response is requested to prevent delay in the processing of our AFC by the CEC.

If you require additional information or clarification regarding this request, please contact Bruce Blowey, Licensing Manager for the Magnolia Power Project at (661) 252-6908. I will call you in a few days to assure timely answering of any questions. We look forward to receiving your concurrence on the coverage of the existing WDRs.

Sincerely yours,

Bill D. Carnahan
Executive Director

Attachment

225 South
Lake Avenue
Suite 1410
Pasadena, CA
91101

(626) 793-9364
Fax
(626) 793-9461

Magnolia Power Project – Water Resources
Summary Information

Description of Existing Discharge

The electric power generating facilities at this site have been operating since 1941. The existing facilities consist of three combustion turbine generator (CTG) units and six steam-electric generating units having a total net output of 230 MW. Three of the steam units have been decommissioned or shutdown.

The City of Burbank discharges wastewater from their Water Reclamation Plant and the steam-electric generating units under WDRs contained in Order No. 98-052 (NPDES Permit No. CA0055531). Discharge Serial No. 001 from the power plant site is located at the Burbank Western Wash at Olive Street. The Burbank Western Wash is a tributary to the Los Angeles River. Findings in the permit indicate that wastewater discharged from the Discharge Serial No. 001 consists of (about 4.33 MGD):

- Surplus effluent from the Burbank Water Reclamation Plant and Steam Power Plant cooling tower blowdown
- Storm water
- Boiler drainage consisting of water from equipment packing glands, condensate, and boiler blowdown.

Magnolia Power Project Conforms with Existing Discharge

The project, designated as the Magnolia Power Project, is a combined-cycle power plant to be located on the existing Magnolia & Olive power station site in the City of Burbank. The project will consist of the construction of an advanced technology combustion turbine, a heat recovery steam generator (HRSG) with supplemental duct firing and a steam turbine generator (STG). The project will be rated nominally at 270 MW. It will incorporate a wet mechanical-draft cooling tower. The combined process wastewater from the Magnolia Power Project will consist of cooling tower blowdown. The wastewater discharge to Outfall No. 001 from the Magnolia Power Project is expected to be 4.4 MGD.

The wastewater discharges from the Magnolia Power Project are addressed in the existing WDRs based on the following considerations:

- Cooling tower blowdown is a permitted waste stream under existing WDRs.
- There will be no significant change in the volume or quality of storm water discharge to Outfall No. 001.
- Permitting of the discharges from the Magnolia Power Project under the existing WDRs is consistent with the Governor's initiative to expeditiously and responsibly address the State's energy emergency.

The Magnolia Power Project will continue the use of the existing reclaimed water discharge system utilizing the same outfall structure that has been utilized by steam-electric generating facilities at the site since 1941.

Coverage of the Magnolia Power Project Under Existing WDRs is Consistent with Executive Order

California is experiencing power shortages throughout the State. This is due in part to the growing demands for energy in California and the neighboring states, aging of the power generation infrastructure, and lack of sufficient power generation capacity within the State. To address this need, Governor Davis has signed two Executive Orders to facilitate the expeditious and environmentally responsible processing of applications for the construction and reconstruction of power generating facilities. Issuance of new WDRs may result in signification costs and delays to the implementation of the Magnolia Power Project. Covering the Magnolia Power Project under the existing WDRs is consistent with the intent of these directives. In addition, maintaining this classification will help reduce delays in approval of the authorization to proceed with construction.

California Regional Water Quality
Los Angeles Region
(50 Years Serving Coastal Los Angeles and Ventura Counties)

Winston H. Hickox
Secretary for Environmental Protection

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640
Internet Address: http://www.swrcb.ca.gov/rwqcb4

Gray Davis
Governor

August 30, 2001

RECEIVED
AUG 3 1 2001
SCPPA-PASADENA

Mr. Bill D. Carnahan
Executive Director
Southern California Public Power Authority
225 South Lake Avenue, Suite 1410
Pasadena, CA 91101

Dear Mr. Carnahan:

MAGNOLIA POWER PROJECT – CITY OF BURBANK PUBLIC WORKS DEPARTMENT, BURBANK WATER RECLAMATION PLANT AND STEAM POWER PLANT (NPDES PERMIT NO. CA0055531, CI # 4424)

We received a copy of your letter dated June 26, 2001, in which you

- Describe the Magnolia Power Project;
- Inform us about your submittal of an application for certification to the California Energy Commission (CEC);
- Relay the CEC's request for additional information concerning use of an existing NPDES permit; and,
- Request confirmation that discharge from the Magnolia Power Project will be covered under the existing NPDES permit.

On August 15, 2001, Regional Board staff met with Mr. Ron S. Maxwell of Bibb and Associates, Project Manager of the Magnolia Power Project, to discuss your letter and to request additional information on the project. Mr. Maxwell provided Regional Board staff with one copy of the City of Burbank's application to the CEC and informed us that the application was going to be revised at the end of this month. We requested a copy of the updated CEC application and of the mass balance equations, once they became available.

Based on a preliminary review of the information received up to now, the only proposed change involves modernizing outdated equipment at the power plant. The current maximum discharge flow (4.33 million gallons per day) and the discharge location (latitude 34°10'42" and longitude 118°18'44") for Discharge Serial #001 are not expected to change. Also, there are no proposed changes in discharge characteristics, including the temperature, as a result of the Magnolia Power Project modernization. Therefore, the Magnolia Power Project can be covered under the existing NPDES permit. However, if material and substantial alteration or addition to the permitted facility or activity at the facility are proposed in the future, those changes would need to be incorporated into the permit though the NPDES permit renewal process.

The City of Burbank's NPDES Permit is scheduled for renewal this fiscal year. We would appreciate it if you would forward any updated information pertinent to the discharge point so that we may review it during our permit renewal cycle.

If you have any questions, please call Winnie D. Jesena at (213) 576-6651, or Namiraj Jain at (213) 620-6003.

Sincerely,

Dennis A. Dickerson
Exectuive Officer

cc: Mr. Rodney A. Andersen, Senior Civil Engineer, Public Works Department, City of Burbank
Mr. Gaspar Garza, Project Manager, United Water Services
Mr. Ron S. Maxwell, Project Manager, Magnolia Power Project

Technical Area: Soil and Water Resources

BACKGROUND

The response to Water-14 indicates that a letter has been forwarded to the Los Angeles RWQCB to confirm that the existing NPDES Discharge Permit will cover the return of cooling tower blow down from Magnolia Power Project to the Reclamation Plant discharge line.

Data Request 129: The Data Requests presented herein are tied to many tables and figures. Please update all tables and figures as appropriate to reflect any changes in response to the Data Requests.

Response: Data in tables and figures presented herein that correspond with updated data responses have been updated or otherwise addressed in the updated data responses.

Technical Area: Soil and Water Resources

BACKGROUND

The Siting regulations require the quantification of accelerated soil loss due to wind and water erosion. The DAR section SOILS-1 states that there is attached correspondence that addresses this issue. The correspondence was not found.

Data Request 130: Please provide a copy of the referenced correspondence.

Response: Please refer to the attached correspondence.

"Richard Sapudar"
<Rsapudar@energy.state.ca.us>

07/26/2001 10:56 AM

To: "James Reede" <Jreede@energy.state.ca.us>
cc: "Dick Anderson" <Danderso@energy.state.ca.us>, <Douglas_Hahn@URSCorp.com>
Subject: Re: Fwd: Magnolia Power Project Data Questions

James

Regarding Doug Hahn's comments on "Page 40 of the Data Adequacy Worksheet package - Siting Regulations reference Appendix B (g) (15) (C) (i)".

His rationale for not including the Universal Soils Loss Equation results is reasonable. We will find the project data adequate for this particular item.

Rich

>>> James Reede 07/25/01 08:28AM >>>
Gentlemen, there are questions from the applicant about your specific areas. Please respond and cc me.

James W. Reede, Jr.
Project Manager
California Energy Commission
(916) 653-1245

Technical Area: Soil and Water Resources

BACKGROUND

The NPDES permit referenced in table 5.4-3 for the project does not appear to cover construction activities regulated under the NPDES General Permit For Storm Water Discharges Associated With Construction Activity (General Permit) Water Quality Order 99-08-DWQ issued by the SWRCB.

Data Request 131: Please revise the table to reflect the permit process necessary to comply with the NPDES General Permit for Construction Activities. The process should include the NOI preparation as correctly described the Response WATER-13 and in Response D-4. Table 7.1-1 (Sections 7.5.4 and 7.5.5) should also be revised to reflect the proper procedure. Please check to make sure all other applicable tables are revised to reflect the proper procedure for obtaining coverage under the NPDES construction activities permit.

Response: Revise Table 5.4-3 to add the following information:

Jurisdiction	Potential Permit Requirements
Federal/State	Coverage under the NPDES General Construction Activity Stormwater Permit will be required.

Revise Table 7.1-1, Section 7.5.5 Water Resources to add the following information:

AFC Section	Jurisdiction	Authority	Administering Agency	Agency Contact	Requirements/ Compliance
5.5	Federal/State	CWA § 402, 40 CFR Parts 122 – 136.	USEPA, SWRCB and LARWQCB	3, 11	A NOI for coverage under the NPDES General Construction Activity Stormwater Permit will be prepared and filed with the State Water Resources Control Board prior to initiation of construction of the MPP. In addition, a construction SWPPP will be prepared prior to construction idenifying the BMPs and monitoring program to be implemented during construction.

Technical Area: Soil and Water Resources

BACKGROUND

The NPDES permit referenced in table 5.4-3 for the project does not appear to cover construction activities regulated under the NPDES General Permit For Storm Water Discharges Associated With Construction Activity (General Permit) Water Quality Order 99-08-DWQ issued by the SWRCB.

Data Request 132: Please provide a copy of the construction SWPPP that has been prepared for the project as referenced in section 7.5.4.2 of the DAR. The SWPPP must be prepared in accordance with the NPDES General Construction Activities Permit. Please ensure that the SWPPP includes a monitoring and sampling plan as required under the recent amendment (2001-046) to the NPDES General Construction Activities Permit. The SWPPP should include a site maps for construction BMPs and Post Construction BMPs . The site plan should be provided at a scale no smaller than 1"=40'. Please ensure that the SWPPP covers offsite laydown areas, storage yards, temporary parking areas, and any other areas related to the construction of the new facilities.

Response: A copy of the Magnolia Power Project SWPPP is included with these responses as expressed in the response to Data Request #126. This SWPPP is in accordance with the guidelines and, together with all the drainage related data responses, is in accordance with the requests in this Data Request #132 except that it does not cover the offsite parking and storage area. For definition of the offsite parking and storage area, please refer to the answer to Data Request #116. The existing SWPPP for the whole COB facility is also attached as part of the response to Data Request #126. The BMPs in this existing facility SWPPP are also applicable to the new MPP plant that shares the existing facilities to the extent applicable. The Applicant will revise the Draft SWPPP to include offsite parking and storage area.

Technical Area: Soil and Water Resources

BACKGROUND

Section 7.5.4.2 states that storm water discharges from the MPP site are regulated by the existing NPDES (permit), and that the MPP will comply with the existing permit. However, The SUSMP and corresponding COB Municipal Code were adopted after the Project's NPDES permit was issued.

Data Request 133: Please describe how the more stringent requirements of the SUSMP and COB Code will be met. In particular, please confirm that Post Construction BMPs have been or will be incorporated into the design to manage the quality of the storm water runoff from the site. Please address this for all areas of the project including any permanent offsite parking areas and storage areas.

Response: Requirements of the SUSMP and COB Code will be met. Post Construction BMPs have been or will be incorporated into the design to manage the quality of storm water runoff from the site for all areas of the project including any permanent offsite parking areas and storage areas.

Technical Area: Soil and Water Resources

BACKGROUND

The project is essentially using fresh inland water obtained from groundwater for evaporative cooling (wet cooling), and other local surface water sources to augment water supply needs when sufficient reclaimed water is apparently not available. This practice is addressed by State Water Resources Control Board Policy 75-58. Both the project's water supply needs and the wastewater discharge volume are relatively high compared to other combined cycle plants operating in similar or even harsher environments. Reasonable water conservation measures using currently available and in-use power plant water conservation technology and practices are capable of significantly reducing both the volume of water supply needed, and the volume of wastewater discharged. Such technology and practices are capable of limiting the amount freshwater used, to essentially only that needed for heat rejection. The use of reverse osmosis, ion-exchangers, brine concentrators (evaporators), and crystallizers (dryers), filter presses, etc., are common in power plants in the State.

Data Request 134: Provide a detailed discussion of the water conservation measures, technology, and practices included in the project design, at what point they are applied, and the volume of water conserved and recycled for actual consumption for cooling (heat rejection).

Response: The largest saving in the MPP design is incorporated into the cooling system for the main cycle. The revised design incorporate much higher cycles of concentration in the circulating cooling water with a corresponding reduction in the water use by the cooling tower. The amount of water use has dropped from over 6.5 million gallons per day to slightly under 1.5 million gallons per day. In addition, all plant drains not containing oil are recycled directly back to the cooling tower as makeup further reducing the makeup water needed. Oily wastewater cannot be recycled because of the potential for fouling on high heat transfer surfaces. Oily wastewater is transferred to the COB RWP where the oil is removed before the reclaimed water is returned once again to MPP. The amount of water saved is about 50,000 gallons per day.

Technical Area: Soil and Water Resources

BACKGROUND

The project is essentially using fresh inland water obtained from groundwater for evaporative cooling (wet cooling), and other local surface water sources to augment water supply needs when sufficient reclaimed water is apparently not available. This practice is addressed by State Water Resources Control Board Policy 75-58. Both the project's water supply needs and the wastewater discharge volume are relatively high compared to other combined cycle plants operating in similar or even harsher environments. Reasonable water conservation measures using currently available and in-use power plant water conservation technology and practices are capable of significantly reducing both the volume of water supply needed, and the volume of wastewater discharged. Such technology and practices are capable of limiting the amount freshwater used, to essentially only that needed for heat rejection. The use of reverse osmosis, ion-exchangers, brine concentrators (evaporators), and crystallizers (dryers), filter presses, etc., are common in power plants in the State.

Data Request 135: Identify both the cycles of concentration and the concentration factor at which the cooling towers will operate. Provide a detailed discussion of the basis for operation of the cooling towers in this manner, what measures would be required to operate the cooling towers at 10-20 cycles of concentration.

Response: The cycles of concentration are 5.6 for the cooling water. This is the concentration factor for all the dissolved material in the reclaim water used as makeup. There are properties or water parameters that are not affected by the concentration factor such as pH, conductivity (not a linear response to concentration), temperature, suspended solids, color, dissolved oxygen, and other volatile compounds.

As discussed in Data Response #75, there is no justification for trying to run at 10 or 20 cycles of concentration with reclaim water or any water that contains an appreciable amount of total dissolved solids. The principle of diminishing returns applies, however it is the silica contained in the reclaim water that is the limiting factor for cycles of concentration. If, however, some method is used to remove the dissolved content of the makeup water to the quality of say, demineralized water, the cooling system cycles of concentration can be raised efficiently and economically. The cost of producing the needed amount of demineralized water is prohibitive. There is a limit to the amount of conservation that can be included. You still need to throw away at least 1.3 to 1.4 million gallons of water as evaporation at the cooling tower, that water cannot be recovered, to rid the main cycle of the heat produced in making the electricity.

Technical Area: Soil and Water Resources

BACKGROUND

The discussion of alternative cooling options does not provide sufficient detail to fully evaluate the feasibility of applying available cooling options to the proposed project. A more detailed cost/resource consumption analysis of alternative cooling technologies is required. State Water Resources Control Board Policy 75-58 identifies a need for an analysis of cost and water use associated with alternative cooling technologies for power plants.

Data Request 136: Provide a detailed discussion of capital and operating costs, effects on plant performance including power output, fuel consumption, and emissions. Provide the principal design specifications of dry cooling and wet-dry hybrid systems incorporated into the MPP. Include the following:

Response: Each of the three heat rejection system alternatives has been evaluated with respect to capital and operating costs, effects on plant performance including power output, fuel consumption, and cooling tower emissions. Summary Table 136.1 below includes values for capital and operating costs, effects on plant performance, fuel consumption and cooling tower emissions.

Table 136.1

	Wet Cooling	Hybrid Cooling	Dry Cooling
Capital Cost[1]	\$5,720,000	\$7,928,000	\$20,543,000
Operating Cost, \$/yr[2]	\$837,000	\$753,000	\$0
Net Power Output[3]	315,740 kW	315,331 kW	298,280 kW
Fuel Usage (LHV)[4]	2124 MBtu/hr	2124 MBtu/hr	2124 MBtu/hr
Cooling Tower Emissions, lb/hr[5]	4.25 lb/hr	3.83 lb/hr	N/A

Notes:

1 Capital cost includes furnish and erection costs.

2 Operating costs are based on water usage costs required to discharge to the local sewer system.

3 Net output is based on 95 F fully fired conditions.

4 Fuel usage was held constant for each alternative, net output was varied with Wet Cooling modeled as base.

5 Based on permitted drift rate of 0.0006%.

The principle design basis used for the analysis was based on ambient conditions of 95°F during fired operation. Off design performance has been assembled for the following conditions:

- 95°F, 100% capacity operation, no duct firing
- 41°F, fully fired operation
- 41°F, 100% capacity operation, no duct firing

The design basis for the wet heat rejection system was developed to achieve a backpressure of 2.41 in HgA on the 95 °F, fired day.

The hybrid cooling system accounts for rejecting approximately 10% of the cycle heat to atmosphere with the wet section accomplishing the remaining heat rejection. Given the heat duty and cooling range, it was determined that 10% dry cooling could be achieved with the use of a hybrid cooling tower.

The dry cooling system is designed to a 45 °F initial temperature difference (ITD). The ITD is defined as the difference between ambient air and the saturation temperature at the steam turbine exhaust. Given the 95 °F off design ambient point, a 45 °F ITD was chosen to keep the steam turbine exhaust pressure lower than 6 in HgA.

Technical Area: Soil and Water Resources

BACKGROUND

The discussion of alternative cooling options does not provide sufficient detail to fully evaluate the feasibility of applying available cooling options to the proposed project. A more detailed cost/resource consumption analysis of alternative cooling technologies is required. State Water Resources Control Board Policy 75-58 identifies a need for an analysis of cost and water use associated with alternative cooling technologies for power plants.

Data Request 137: Provide an analysis for the cost and water use associated with the proposed MPP. The analysis should include a table which compares wet, wet/dry, and dry cooling technologies, along with the estimated capital and operating costs, and the anticipated water demand.

Response: The estimated capital costs for each of the three heat rejection system cooling options is included in Table 137.1. Capital costs are included for each of the major pieces of equipment and include furnish and erection pricing

Table 137.1
Equipment Capital Cost

	Wet Cooling	Hybrid Cooling	Dry Cooling
Surface Condenser	$955,000	$955,000	N/A
Air-Cooled Condenser	N/A	N/A	$19,200,000
Air-Cooled Heat Exchanger	N/A	N/A	$1,343,000
Cooling Tower	$2,115,000	$4,072,000	N/A
Cooling Tower Basin	$875,000	$972,000	N/A
Circulating Water Pumps	$437,000	$524,000	N/A
Circulating Water Piping	$1,338,000	$1,405,000	N/A
Total Installed Capital Cost	$5,720,000	$7,928,000	$20,543,000
Differential Capital Cost	Base	$2,208,000	$14,823,000

Notes:

1 All equipment pricing is given in 2001 dollars.

2 Labor costs are based on union labor.

Estimated annual operating expenses are included in Table 137.2 below. Operating costs include additional power purchase costs associated with hybrid and dry cooling alternatives as well as water and chemical usage costs associated with wet and hybrid cooling. The wet cooling (Base Case) and hybrid cooling options assumed reclaimed water for makeup, and discharge to the Burbank Western Wash and LA Sewer for industrial waste and sanitary waste, respectively. The dry cooling option will have no discharge to Burbank Western Wash.

Table 137.2 Equipment Operating Cost

	Wet Cooling (Base Case)	Hybrid Cooling	Dry Cooling
Annual Wastewater Costs[1]	$717,000	$645,000	N/A
Annual Chemical Costs	$282,500	$254,000	$0
Sanitary Waste to LA Sewer	$8,470	$8,470	$8,470
Total Annual Operating Costs, $/yr	$1,007,970	$907,470	$8,470[2]

Notes:

1 Water discharge costs are based on a cost of $1/gpm/yr

2 Only water usage and chemical costs are included. It is noted that an ACC will still require an amount of water to clean the fin tubes to maximize heat transfer, but these costs are not included as they vary with manufacturer.

3 There are no costs associated with Reclaim Water usage for all three options.

Table 137.3 includes water usage amounts for each cooling alternate. The water usage values listed in Table 137.3 include only heat rejection system differences and do not include values for steam cycle makeup, potable water use, etc. Values for water usage other than heat rejection are constant for each cycle.

Table 137.3
Alternate Water Use

Wet Cooling	Evaporation, gpm	Blow Down[1], gpm	Drift[2], gpm	Total Makeup Required, gpm
95F, 100% Load, Fired	1591	349	2	1,942
95F, 100% Load, Unfired	1103	242	2	1,347
41F, 100% Load, Fired	1143	251	2	1,396
41F, 100% Load, Unfired	694	153	2	849
Hybrid Cooling				
95F, 100% Load, Fired	1432	314	2	1,748
95F, 100% Load, Unfired	993	218	2	1,213
41F, 100% Load, Fired	1029	226	2	1,257
41F, 100% Load, Unfired	625	138	2	765
Dry Cooling				
95F, 100% Load, Fired	0	0	0	0
95F, 100% Load, Unfired	0	0	0	0
41F, 100% Load, Fired	0	0	0	0
41F, 100% Load, Unfired	0	0	0	0

Notes:

1 Blow down rates are calculated based on 5.6 cycles of concentration.

2 Drift is based on permit limitation of 0.0006% drift rate.

Technical Area: Soil and Water Resources

BACKGROUND

The discussion of alternative cooling options does not provide sufficient detail to fully evaluate the feasibility of applying available cooling options to the proposed project. A more detailed cost/resource consumption analysis of alternative cooling technologies is required. State Water Resources Control Board Policy 75-58 identifies a need for an analysis of cost and water use associated with alternative cooling technologies for power plants.

Data Request 138: Provide the assumptions and calculations underpinning the capital costs, discussions of whether labor and financing costs are included in the estimates, and the performance levels for the technologies specified.

Response: Various assumptions were made during the development of cost estimates listed in the above Response to Data Request 137. The following list is a compilation of major assumptions made during the development of the cost estimates.

- All equipment pricing is given in 2001 dollars.
- Labor costs are based on union labor.
- Capital costs include furnish and erection of equipment.
- Operating costs are based only on costs associated with use of local sewer line and do not include replacement power costs.
- Net output is based on 95F fully fired conditions.
- Fuel usage was held constant for each alternative, net output was varied with Wet Cooling modeled as base.
- Water discharge costs are based on a cost of $1/gal/yr

- Blow down rates are calculated based on 5.6 cycles of concentration.
- Cost estimates do not include financing charges.
- Cost estimates do not include cost of replacement power associated with lower net plant output with the hybrid (wet/dry) or dry heat rejection systems.
- Drift is based on permit limitation of 0.0006% drift rate.

Performance levels of each alternate are discussed in the Response to Data Request 136.

Technical Area: Soil and Water Resources

BACKGROUND

The discussion of alternative cooling options does not provide sufficient detail to fully evaluate the feasibility of applying available cooling options to the proposed project. A more detailed cost/resource consumption analysis of alternative cooling technologies is required. State Water Resources Control Board Policy 75-58 identifies a need for an analysis of cost and water use associated with alternative cooling technologies for power plants.

Data Request 139: Provide energy balances for the combined cycles at 50 percent, 75 percent, 100 percent and peak loads, at both 41°F and 95°F. Include any effects of inlet cooling and power augmentation.

Response: Table 139.1 summarizes heat balances for the 41 °F and 95 °F fired and unfired cases for each heat rejection system option. Part load energy balances have not been prepared due to the multiple plant configurations that can be achieved during part load operation.

Four cases were developed for each of the three heat rejection system option. These cases included full load fired and full load unfired cases at the annual average day and extreme hot day. The results of the heat balance analysis demonstrates that plant output and heat input would be affected by choice of heat rejection system. Table 139.1 describes in further detail the output and efficiency implications of each of the three heat rejection system alternatives.

Table 139.1 Heat Balance Extracts

	Wet Cooling Option				Wet/Dry Hybrid Option				Dry Cooling Option			
Ambient:	95 °F / 26.6% RH	95 °F / 26.6% RH	41 °F / 100% RH	41 °F / 100% RH	95 °F / 26.6% RH	95 °F / 26.6% RH	41 °F / 100% RH	41 °F / 100% RH	95 °F / 26.6% RH	95 °F / 26.6% RH	41 °F / 100% RH	41 °F / 100% RH
CTG Load:	2 x 100%	2 x 100%	2 x 100%	2 x 100%	2 x 100%	2 x 100%	2 x 100%	2 x 100%	2 x 100%	2 x 100%	2 x 100%	2 x 100%
Duct Burner:	Fully Fired	Unfired	Fully Fired	Unfired	Fully Fired	Unfired	Fully Fired	Unfired	Fully Fired	Unfired	Fully Fired	Unfired
CTG Output (Total)	Base	Base	Base	Base	Base	Base	Base	Base	Base	Base	Base	Base
STG Output	Base	Base	Base	Base	Base	Base	Base	Base	-13,830 kW	-8,780 kW	-400 kW	-2,600 kW
Gross Plant Output	Base	Base	Base	Base	Base	Base	Base	Base	-13,830 kW	-8,780 kW	-400 kW	-2,600 kW
Cooling Tower Fan Auxiliary Power Use	Base	Base	Base	Base	147 kW	147 kW	147 kW	147 kW	N/A	N/A	N/A	N/A
Circ. Water Pump Auxiliary Power Use	Base	Base	Base	Base	223 kW	223 kW	223 kW	223 kW	N/A	N/A	N/A	N/A
ACC Fan Auxiliary Power Use	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3,410 kW	3,410 kW	3,679 kW	2,399 kW
ACHX Fan Auxiliary Power Use	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	220 kW	220 kW	250 kW	170 kW
Total Auxiliary Power Use	Base	Base	Base	Base	370 kW	370 kW	370 kW	370 kW	3,630 kW	3,630 kW	3,929 kW	2,569 kW
Net Plant Output	Base	Base	Base	Base	-370 kW	-370 kW	-370 kW	-370 kW	-17,460 kW	-12,410 kW	-4,329 kW	-5,169 kW
Net Plant Heat Rate (HHV)	Base	Base	Base	Base	8 Btu/kW-hr	9 Btu/kW-hr	8 Btu/kW-hr	8 Btu/kW-hr	355 Btu/ kW-hr	274 Btu/ kW-hr	54 Btu/kW-hr	111 Btu/ kW-hr
Steam Turbine Exhaust Pressure	2.41 in HgA	1.71 in HgA	1.52 in HgA	0.97 in HgA	2.41 in HgA	1.71 in HgA	1.52 in HgA	0.97 in HgA	5.88 in HgA	3.75 in HgA	2.00 in HgA	2.00 in HgA

Technical Area: Soil and Water Resources

BACKGROUND

The discussion of alternative cooling options does not provide sufficient detail to fully evaluate the feasibility of applying available cooling options to the proposed project. A more detailed cost/resource consumption analysis of alternative cooling technologies is required. State Water Resources Control Board Policy 75-58 identifies a need for an analysis of cost and water use associated with alternative cooling technologies for power plants.

Data Request 140: Provide the quantities of water used and wastewater discharged, and estimates of water, treatment, clean-up, and any other chemicals required for the various configurations.

Response: Please refer to Table 137.3 for details on each heat rejection system water use, including discharge.

Table 140.1 includes chemical use for each heat rejection alternate. As shown in the table, chemical use related to makeup water requirements decreases with the hybrid cooling alternate. The dry cooling alternate will not use any chemical treatment for circulating water since it is a completely dry system, utilizing an air-cooled condenser for steam cycle heat rejection in addition to an air-cooled heat exchanger to reject heat from auxiliary plant loads.

Table 140.1
Equipment Chemical Usage

Chemical	Wet Cooling	Hybrid Cooling	Dry Cooling
	Chemical Use (gallons/day)		
Sodium Hypochlorite (10%)	500	500	0
Inhibitor	22	20	0
Sulfuric Acid	223	240	0

Notes:
1 Based on annual average operation, full load with supplemental firing.

Technical Area: Soil and Water Resources

BACKGROUND

The discussion of alternative cooling options does not provide sufficient detail to fully evaluate the feasibility of applying available cooling options to the proposed project. A more detailed cost/resource consumption analysis of alternative cooling technologies is required. State Water Resources Control Board Policy 75-58 identifies a need for an analysis of cost and water use associated with alternative cooling technologies for power plants.

Data Request 141: Provide a discussion of the relative environmental advantages and disadvantages of wet, wet/dry, and dry cooling technologies. Include an evaluation of water demand, particulate matter emissions, visual resource implications, and land use requirements associated with the use of the three cooling options.

a. Quantify air emissions from the project stacks and cooling towers, efficiency and capacity losses, and increased parasitic loads for the three cooling options under conditions of both constant and maximum fuel use.

b. Quantify the footprints and dimensions of the cooling towers for the three cooling options.

Quantify the occurrence and size of visible plumes and the noise levels for the three cooling options.

Response: Air emissions from the cooling tower stacks are tabulated and shown in Table 136.1. Capacity losses, efficiency, and parasitic load information are tabulated and shown in Table 139.1.

Table 141.1 below discusses the footprint of each of the heat rejection system alternates. Included below are dimensions for the cooling tower and associated cold water basin and pump sump. It is noted here that the dry cooling alternate would include an air-cooled heat exchanger to reject heat from the auxiliary plant equipment. Sizing for the air-cooled heat exchanger is negligible in comparison to the air-cooled condenser and is not shown.

Table 141.1
Equipment Area Requirements

	Wet Cooling	Hybrid Cooling	Dry Cooling
Cell Length, ft	54	54	38
Cell Width, ft	54	54	38
Total Width, ft	60	60	152
Total Length, ft	326	380	228
Total Plan Area, ft^2	19,560	22,800	34,656

Sound impacts from each of the three heat rejection system alternates could vary widely and depend on many things including facility location. Table 141.2 below summarizes near and far field noise impacts from each of the three heat rejection system alternates. It is assumed that all three heat rejection systems would have standard noise abatement features included in the capital cost developed for Responses 36 and 37. Roughly 25% additional capital expenditure ($4,800,000) would be required to acoustically treat the Dry cooling system to achieve noise levels similar to the wet and hybrid cooling options.

Table 141.2
Equipment Noise Ratings

	Wet Cooling		Hybrid Cooling		Dry Cooling[1]	
	Far Field	Near Field	Far Field	Near Field	Far Field	Near Field
Total Noise, dB(A)	65	85	65	85	88	109

Notes:
[1] Source GEA Power Cooling Systems, Inc

The wet cooling tower visible plume was modeled in the AFC with the results summarized in Section 5.13.2 and the SACTI model data presented in Appendix H. The SACTI model predicted that the wet tower plume height would be up to 127 feet and 152 feet or more for approximately 50 %, and 5 % of the total hours when a plume would be visible, respectively. As noted in Section 5.13.2, the project is in a low to moderate visual quality setting with viewers in the area having a low to high sensitivity and the plume impact would be low to moderate.

The SACTI model has limitations to use for modeling hybrid towers and modeling was not performed. However, the dry section of the tower is expected to lower the frequency during which saturated air would be discharged and thus the frequency during which a visible plume would occur. An attempt at modeling the hybrid cooling tower plume effects was made by the Contra Costa project. This modeling yielded results which indicated that during daytime hours, the hybrid tower plume, relative to the wet tower, would be reduced 5 % in length, and 10 % in height and width. These estimates are believed to be representative of the approximate levels of reduction that would occur at the Magnolia Power Project site if a hybrid tower were used.

The Dry Cooling option would not have a plume.

Technical Area: Soil and Water Resources

BACKGROUND

California Water Code § 13550 requires the use of reclaimed water, where available. The use of potable domestic water for nonpotable uses, including industrial uses, is a waste or an unreasonable use of the water within the meaning of Section 2 of Article X of the California Constitution if recycled water is available. If recycled/reclaimed water is available, combined cycle power plants in the State have demonstrated the feasibility of using fresh or potable water for only sanitary, potable, and fire water purposes

Data Request 142: Provide a detailed discussion and supporting facts or evidence that reclaimed from the COB facility is not sufficient for the projects non-potable water needs.

Response: Reclaimed water will meet all of the MPP non-potable water needs most of the time. However, review of historical data on reclaimed water discharge rates at Discharge Point Nos. 001 and 002 (as provided in DR #72) shows that flow of reclaim water is not entirely sufficient for the project non-potable water needs all of the time. Therefore, it will be necessary for MPP to rely on backup water supply sources such as onsite groundwater wells to supplement the water supply source on an as needed basis. The frequency of use of the backup water sources will be reduced substantially through the use of a service water tank for onsite storage of 2.2 million gallons of reclaim water and one for onsite storage of cooling tower blowdown (as described in DR #70).

Technical Area: Soil and Water Resources

BACKGROUND

California Water Code § 13550 requires the use of reclaimed water, where available. The use of potable domestic water for nonpotable uses, including industrial uses, is a waste or an unreasonable use of the water within the meaning of Section 2 of Article X of the California Constitution if recycled water is available. If recycled/reclaimed water is available, combined cycle power plants in the State have demonstrated the feasibility of using fresh or potable water for only sanitary, potable, and fire water purposes

Data Request 143: Identify all other sources of reclaimed/recycled water or conveyance facilities in proximity to the project (within a 20-mile radius of the facility). Discuss the feasibility of the project using any additional sources of reclaimed/recycled available within this radius.

Response: The alternative sources of reclaimed water in the nearest vicinity of the MPP were identified and evaluated in Section 3.11.6.1 of the revised Alternatives Section of the AFC provided in the DAR. These sources are the Glendale and Tillman treatment plants located 5 miles and 8.5 miles respectively from the MPP. It was determined that, in addition to the impacts associated with pipeline construction to deliver reclaimed water to the MPP, these sources were not economically feasible. Although no additional alternative sources of reclaimed water were identified, it is assumed that more distant sources would also not be economically feasible. However, as noted elsewhere in our responses, addition of water storage facilities to the MPP will eliminate the need for non-reclaimed water except when reclaimed water is not available.

Technical Area: Soil and Water Resources

BACKGROUND

California Water Code § 13550 requires the use of reclaimed water, where available. The use of potable domestic water for nonpotable uses, including industrial uses, is a waste or an unreasonable use of the water within the meaning of Section 2 of Article X of the California Constitution if recycled water is available. If recycled/reclaimed water is available, combined cycle power plants in the State have demonstrated the feasibility of using fresh or potable water for only sanitary, potable, and fire water purposes

Data Request 144: Discuss water conservation and/or treatment practices or technologies (see Staff Data Request 69) that would conserve sufficient water such that the recycled/reclaimed water supply available to the project will not require supplementation with either fresh groundwater or potable water.

Response: Please refer to Data Request Response #134.

Technical Area: Soil and Water Resources

BACKGROUND

California Water Code § 13550 requires the use of reclaimed water, where available. The use of potable domestic water for nonpotable uses, including industrial uses, is a waste or an unreasonable use of the water within the meaning of Section 2 of Article X of the California Constitution if recycled water is available. If recycled/reclaimed water is available, combined cycle power plants in the State have demonstrated the feasibility of using fresh or potable water for only sanitary, potable, and fire water purposes

Data Request 145: Provide a detailed discussion of the feasibility of the project using available groundwater relative to potable water.

Response: Use of available groundwater by the MPP is entirely feasible. However, the COB will determine the source of supplemental fresh water supplied to the MPP. It is likely that the COB will preferentially provide groundwater to the MPP in furtherance of the groundwater cleanup program.