

**EVALUATION OF GAS REBURNING AND LOW NO_x BURNERS
ON A WALL-FIRED BOILER**

Environmental Monitoring Report
Public Service of Colorado's Cherokee Station Unit 3
Long-Term Testing Period
April 27, 1993 - January 27, 1995

Prepared for:
U.S. Department of Energy
Gas Research Institute
Public Service Company of Colorado
Colorado Interstate Gas Company
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1.0 INTRODUCTION

An evaluation of Gas Reburning (GR) and Low NO_x Burners (LNB) has been completed at Public Service Company of Colorado's Cherokee Station Unit 3. The goal of the demonstration, which was carried out in a U.S. DOE Clean Coal Technology Round 3 Program, was to reduce NO_x emissions by 70%. The reduction was to be achieved from the pre-project level, prior to LNB retrofit. The GR system was supplied by Energy and Environmental Research Corporation (EER) and the LNBs were supplied by the Foster Wheeler Energy Corporation. The project was carried out in three phases in which EER designed the GR system and obtained necessary permits (Phase 1), constructed the system and completed start-up tasks (Phase 2), and evaluated its performance with both Optimization Tests and a Long-Term Demonstration (Phase 3). As directed by the cooperative agreement, environmental monitoring was conducted in each phase. Measurements were taken by plant personnel and an EER Field Testing Team and were divided into two types. "Compliance Monitoring" was conducted by plant personnel to satisfy requirements of regulatory agencies, while "Supplemental Monitoring" was conducted by EER personnel to develop a database of environmental impacts of the technology and to ensure environmental acceptability of the project. This document presents environmental monitoring data obtained during the Long-Term Testing period, April 27, 1993 to January 27, 1995. During this period, ten months of testing of the GR-LNB system was followed by a modification into a "second-generation" GR-LNB system, which was evaluated for six months. In addition to the DOE, program co-sponsors include the Gas Research Institute, Electric Power Research Institute, Public Service Company of Colorado, and the Colorado Interstate Gas Company.

Compliance Monitoring was conducted primarily in two areas, air emissions and aqueous discharges. The unit is required to meet an SO₂ limit of 1.2 lb/MBtu and an opacity limit of 20 percent (6 minute average). Therefore, the plant monitors flue gas SO₂ and opacity continuously and submits Excess Emissions Reports to the Colorado Air Pollution Control Division on a quarterly basis. These reports state the periods when emissions exceeded the standards and the reasons for the emissions excursions. Discharge limits for the aqueous effluent from the plant and monitoring requirements are specified by a permit issued by the Colorado

Water Quality Control Division (WQCD). The plant submits National Pollutant Discharge Elimination System (NPDES) monitoring reports to the WQCD on a monthly basis. The aqueous stream discharging to the South Platte River has limits for total flow, pH, total suspended solids, oil and grease, temperature, total residual chlorine, total chromium, and total recoverable zinc. Plant personnel conduct daily to monthly monitoring to ensure compliance with limits stated in a subsequent section of this report.

Supplemental Monitoring was in the areas of gaseous emissions from the boiler and limited characterization of the ash waste. Boiler emissions were monitored continuously with EER's Continuous Emissions Monitoring System (CEMS). Flue gas samples were extracted from a 16 point stainless steel grid installed at the economizer outlet. Gas samples drawn from the duct cross-section were mixed, dried, and then analyzed for concentration of NO_x , SO_2 , CO, CO_2 , HC, and O_2 . These species were measured and logged continuously by the Boiler Performance Monitoring System (BPMS). Ash analysis was limited to determination of carbon content used to evaluate combustion completion.

2.0 GAS REBURNING-LOW NO_x BURNERS

Gas Reburning and Low NO_x Burners are synergistic NO_x control technologies. In Gas Reburning, natural gas is injected into the furnace above the coal burners to create a fuel rich region in which NO_x is reduced to atmospheric nitrogen, N_2 . Overfire air is added higher up to burn out the primary and reburning fuels under a normal excess air level. The natural gas input is typically 15 to 25% of the total heat input, therefore there is a corresponding decrease in the coal fired by the burners. The reduced fuel input and limited burner excess air result in a reduction in the level of "primary NO_x ." The natural gas addition produces a variety of hydrocarbons and free radicals which reduce NO_x to intermediates such as HCN and NH_2 then to N_2 . Overfire air is added higher up in the furnace to burn out the fuels under a normal excess air level of 15 to 20%. The process reduces SO_2 emissions at a percentage equal to the gas heat input. Emissions of CO_2 also decrease since the fuels (natural gas and coal) have different hydrogen/carbon ratios. Also, reductions in fly ash and bottom ash result in a lower

disposal requirement of the solid waste and potentially lower stack particulate emissions.

At this site, Gas Reburning was applied with Low NO_x Burners (LNB). The LNBs selected are Foster Wheeler Controlled Flow/Split Flame Low NO_x Burners. Generally, LNBs reduce NO_x emissions by staging the mixing of coal with combustion air. LNBs have secondary (and in some cases tertiary) air zones in which the air split determines the mixing rate and hence the burner NO_x level. They produce longer flames with a lower peak flame temperature. LNBs typically reduce NO_x emissions by 30 to 50%. Therefore, the combined application of Gas Reburning and Low NO_x Burners was expected to achieve 70% NO_x reduction.

3.0 DESCRIPTION OF HOST UNIT

Cherokee Station Unit 3 is a front-wall-fired steam generating unit supplied by Babcock and Wilcox which has a rated electric capacity of 172 MW_e (gross). At its capacity it produces steam at a rate of 1,140,000 lb/hr, at a pressure of 1925 psig and temperature of 1005°F. It is equipped with a reheat cycle which reheats steam to the same design temperature. It fires low sulfur western bituminous coal with a typical sulfur content of 0.4% and ash content of 10%. Coal is pulverized by four Riley Stoker No. 556 duplex drum pulverizers and carried by 160°F primary air to a 4x4 array of burners on the front wall of the unit. The burners mix coal/primary air with 600°F secondary air and fire it into a radiant furnace. Flue gas flows up the furnace through a secondary superheater, reheater, primary superheater, economizer then to two Ljungstrom air heaters. The unit is equipped with a Baghouse Fabric Filter, which is designed to handle 825,000 acfm of flue gas at a temperature of 290°F. The Baghouse has a gross air/cloth ratio of 2.03 and was designed to limit particulate emissions to 0.007 gr/dscf.

4.0 RESULTS

The results of Environmental Monitoring conducted during the period April 27, 1993 through January 27, 1995 are presented in this section. Data from several modes of operation are discussed. These include GR-LNB data obtained with the original system, second-generation

GR-LNB data, 100% gas firing results, and Gas/Gas Reburning data. The original GR-LNB system was tested from April 27, 1993 through January 20, 1994 for 2,913 hours. Following modification, the second-generation GR-LNB system was tested from August 17, 1994 through January 27, 1995 for 95 hours. Gas-only firing (100% Gas) and Gas/Gas Reburning occurred from November 2 to 11, 1994 for 53 hours. The modifications forming the second-generation system consisted of elimination of the FGR system, installation of high velocity reburning gas jets, and installation of double concentric OFA ports. These were expected to achieve the same level of NO_x control and improve CO burnout with a system which has substantially lower capital and operating costs.

4.1 AIR EMISSIONS

Boiler emissions data from the original GR-LNB system are presented in Table 1. Under GR-LNB operation, NO_x emissions averaged 0.260 lb/MBtu, which is a reduction of 64% from the pre-project baseline of 0.73 lb/MBtu. CO emissions varied widely, with the highest emissions recorded under low gas inputs. This resulted from relatively low overfire air flows and velocities in this "off-design" condition (design gas heat input equal to 18%). On average, CO emissions were 160 ppm (@ 3% O₂). SO₂ emissions averaged 0.571 lb/MBtu, with a high of 0.72 lb/MBtu and a low of 0.374 lb/MBtu. Several coal analyses performed during the long-term testing period indicated an average sulfur content of 0.46% and higher heating value of 11,350 Btu/lb. These correspond to a theoretical SO₂ level of 0.81 lb/MBtu. Therefore, measured SO₂ values are somewhat lower than expected based on fuel composition.

Second-generation GR-LNB system NO_x data, which are summarized in Table 2, are comparable to results from the original system. NO_x emissions averaged 0.264 lb/MBtu, a reduction of 64% from the 0.73 lb/MBtu baseline, but required a gas heat input of 10.2% compared to 12.9% for the original GR-LNB system. CO burnout improved, resulting in an average emissions rate of 68 ppm. On average, SO₂ emissions were 0.622 lb/MBtu, with a peak of 0.732 lb/MBtu and a minimum of 0.546 lb/MBtu.

During the period, November 2 to 11, 1994, 100% Gas Firing and Gas/Gas Reburning testing was conducted. The results are summarized in Tables 3 and 4. Gas firing resulted in an average NO_x emissions rate of 0.174 lb/MBtu and average SO₂ emissions of under 0.01 lb/MBtu. This NO_x level represents a 76% reduction from the original coal baseline. CO₂ emissions were also reduced, to 10.1% of the flue gas concentration compared to an average of 16.0% under GR-LNB (10.2% gas heat input). Reductions in flue gas pollutants were expected under gas-only firing, since natural gas has no fuel-bound nitrogen which may contribute to NO_x, is virtually free of sulfur, has no ash, and has a lower carbon-to-hydrogen ratio than coal.

Gas/Gas Reburning, with an average of 6.1% of the gas diverted to reburning fuel injectors, resulted in an average NO_x emissions rate of 0.127 lb/MBtu. This represents a reduction of 27% from the 100% Gas Firing case and 83% from the original 0.73 lb/MBtu coal baseline. SO₂ and CO₂ emissions were the same as in the 100% Gas Firing tests. Emissions of CO increased slightly to an average of 168 ppm.

4.2 ASH ANALYSIS

Ash samples were taken from the unit with a high volume SLM sampler for analysis of carbon content. The unburned carbon level indicates the extent of fuel burnout. Table 5 lists the unburned carbon in ash measured under LNB and GR-LNB operation. Wide variations are evident, with higher excess air levels achieving enhanced fuel burnout. On average, LNB and GR-LNB data are comparable, i.e. neither condition results in higher carbon-in-ash levels.

4.3 AQUEOUS DISCHARGE

GR-LNB operation was not expected to change either the quantity or makeup of the aqueous discharge from the facility. Plant personnel monitor the aqueous discharge as required by the Colorado Water Quality Control Division. Monitoring frequency and discharge limits applicable through June, 1993 are listed in Table 6. Table 7 lists the aqueous discharge limits for the remainder of the Long-Term Testing period. Appendix A contains the discharge monitoring

reports. Discharge limits were consistently met during the Long-Term GR-LNB Demonstration.

4.4 OPACITY AND PLANT SO₂ MONITORING

The plant measured opacity of the flue gas from each unit with Lear Siegler Model Number RM-41 monitors. Periods of excess opacity (20 percent, six minute average) were reported with the likely cause. Appendix B contains the Excess Emissions Reports (EER) for the three quarters covering the Optimization Testing period. Periods of excess opacity were typically due to unit start-up or Baghouse bypass (with gas firing in some cases). Also reported are periods of SO₂ emissions exceeding the 1.2 lb/MBtu standard and maximum theoretical SO₂ emissions based on coal analyses. The plant employed Rosemount Model Number EC960 and Altech Model Number MCS100 SO₂ monitors. The SO₂ monitors did not measure excursions above the limit and, on average, coal sampling results were also below the limit.

5.0 CONCLUSIONS

Environmental monitoring was conducted to determine the impacts of Gas Reburning and Low NO_x Burners on gaseous emissions, carbon burnout, and the aqueous discharge. Boiler emissions, measured under operation of the original and second-generation GR-LNB system, 100% Gas Firing, and Gas/Gas Reburning, indicate that NO_x emissions were significantly reduced, CO emissions were maintained in an acceptable range (under 200 ppm), and SO₂ emissions were well below the regulatory compliance limit of 1.2 lb/MBtu. The first and second-generation GR-LNB systems had average NO_x reduction of 64%, requiring different levels of gas input, while 100% Gas Firing and Gas/Gas Reburning resulted in NO_x reductions of 76% and 83%, respectively, from the original coal baseline. The second-generation GR-LNB system achieved improved CO burnout, resulting from OFA system modification. Ash characterization, limited to measurement of unburned carbon, indicated GR operation did not increase the amount of unburned carbon-in-fly ash. Monitoring of the aqueous effluent indicated that all discharge limits were met.

TABLE 1. SUMMARY OF LONG-TERM GR-LNB EMISSIONS AT CHEROKEE UNIT 3

Test Date	Test Dur.	Net Power (MWe)	Gas Heat (% totl)	CEMS O2 (% dry)	COc (ppm)	CO2c (%)	NOxc (ppm)	NOx (lb/MBtu)	SO2c (ppm)	SO2 (lb/MBtu)	HCC (ppm)
4/27/93	0:53	150	11.43	3.99	25	16.1	268	0.361	299	0.564	1.6
4/27/93		151	17.18	3.64	40	15.8	213	0.285	280	0.523	1.3
4/28/93	6:35	138	16.42	3.74	6	15.8	191	0.256	284	0.533	1.5
5/3/93	7:00	142	17.13	4.19	7	15.5	222	0.297	287	0.537	2.3
5/6/93	1:15	142	15.34	3.91	20	15.7	204	0.274	292	0.547	1.9
5/7/93	4:50	140	17.36	4.06	7	15.4	208	0.278	338	0.632	1.4
5/7/93	1:59	159	17.39	3.49	8	15.6	208	0.278	323	0.605	1.2
5/7/93		148	17.57	3.74	11	15.6	196	0.262	315	0.589	1.2
5/11/93	6:08	139	17.10	4.86	7	15.5	209	0.280	298	0.558	1.4
5/24/93	7:10	150-158 MWe		4.64	5	15.6	253	0.335	287	0.532	2.1
5/24/93	6:59			4.77	5	15.7	244	0.324	289	0.537	1.3
5/25/93	7:11		16.00	5.43	4	15.8	252	0.338	301	0.562	0.9
5/25/93	1:25	103	16.15	5.04	5	15.4	224	0.300	296	0.554	1.8
5/25/93	15:04	147	16.79	3.98	7	15.7	208	0.279	297	0.557	1.4
5/26/93	1:29	109	16.24	5.06	5	15.4	207	0.276	296	0.553	2.4
5/27/93	13:40	144	15.93	4.19	7	15.7	222	0.298	302	0.565	0.4
5/28/93	2:57	108	14.87	5.47	6	15.5	221	0.297	300	0.563	0.0
6/1/93	1:36		16.00	4.57	19	15.5	241	0.319	387	0.720	2.7
6/2/93	6:43		16.00	4.97	9	15.7	232	0.308	296	0.550	0.8
6/3/93	13:37		16.00	5.78	5	15.5	254	0.339	296	0.551	0.2
6/3/93	8:51	142	16.83	3.29	18	16.2	176	0.236	301	0.564	0.4
6/4/93	7:42	147	16.81	3.07	37	15.7	176	0.235	301	0.564	0.1
6/8/93	6:21	134	16.86	4.54	16	15.8	198	0.265	310	0.580	0.9
6/8/93	5:30	147	17.23	3.05	87	16.1	167	0.224	306	0.573	0.9
6/9/93	1:16	115	15.82	3.70	49	16.2	157	0.211	307	0.576	0.9
6/9/93	4:28	138	16.90	4.84	6	16.1	232	0.311	308	0.576	0.7
6/10/93	2:57	148	17.42	4.54	11	15.7	229	0.306	309	0.577	0.8
6/11/93	5:28	134	15.87	3.91	18	15.6	192	0.258	337	0.632	0.8
6/11/93	9:06	148	16.16	3.79	15	15.6	207	0.278	342	0.641	0.8
6/12/93	2:13	89	8.74	5.19	31	15.7	256	0.344	349	0.659	0.8
6/12/93	11:22	136	15.88	3.42	44	15.7	179	0.240	335	0.628	0.6
6/13/93	0:08	90	16.52	5.15	62	15.7	239	0.320	327	0.614	0.5
6/14/93	4:06	149	16.90	3.26	28	16.0	188	0.252	327	0.611	1.0
6/18/93	14:24	142	17.81	3.76	8	15.8	197	0.263	322	0.601	0.3
6/19/93	1:33	98	16.62	4.56	6	15.7	203	0.270	318	0.595	0.1
6/19/93	0:30	104	18.54	5.24	4	15.4	244	0.324	320	0.598	0.1
6/19/93	11:53	144	18.64	3.01	59	15.9	162	0.217	325	0.608	0.1
6/22/93	13:32	148	16.00	2.64	52	15.9	169	0.217			0.0
6/22/93	1:21	121	16.00	3.92	11	15.8	185	0.238			0.1
6/23/93	1:09	129	17.45	3.65	18	15.8	173	0.231	292	0.546	0.0
6/23/93	7:35	149	18.35	2.99	35	15.7	165	0.221	317	0.593	0.1
6/23/93	8:59	137		3.19	17	15.9	175	0.225	333	0.600	0.0
6/24/93		124	17.10	3.61	6	15.8	188	0.251	346	0.649	0.0
6/24/93	11:22	148	18.35	2.98	12	15.8	176	0.235	335	0.626	0.0
6/25/93	1:52	83	14.11	5.57	3	15.7	330	0.443	348	0.653	0.0
6/25/93	8:00	141	17.42	3.23	17	15.9	178	0.238	353	0.661	0.0
6/30/93	1:53	131	16.47	5.18	4	15.5	231	0.309	304	0.570	0.1
6/30/93	6:05	147	16.52	4.48	5	15.6	226	0.303	318	0.596	0.1
6/30/93	1:48	149	16.56	3.71	46	15.7	191	0.256	325	0.608	0.1
7/1/93	8:22	88	12.30	6.32	19	15.4	276	0.371	320	0.602	0.1
7/1/93	15:37	141	15.97	3.62	80	15.7	176	0.236	324	0.607	0.1

Subscript c denotes correction to 3% O2

TABLE 1. SUMMARY OF LONG-TERM GR-LNB EMISSIONS AT CHEROKEE UNIT 3 (Con.)

Test Date	Test Dur.	Net Power (MWe)	Gas Heat (% totl)	CEMS O2 (% dry)	COc (ppm)	CO2c (%)	NOxc (ppm)	NOx (lb/MBtu)	SO2c (ppm)	SO2 (lb/MBtu)	HCc (ppm)
7/2/93	14:56	115	14.78	4.39	444	15.6	179	0.240	323	0.607	0.1
7/2/93	7:05	149	16.28	3.71	45	15.7	188	0.251	331	0.619	0.1
7/3/93	8:43	143	15.84	3.47	43	15.3	169	0.238	304	0.570	0.1
7/3/93	7:46	147	15.94	3.63	90	15.5	173	0.232	325	0.608	0.1
7/4/93	17:27	108	12.57	4.23	21	15.1	155	0.249	328	0.617	0.1
7/4/93	6:33	147	15.16	3.16	11	15.3	152	0.242	323	0.607	0.1
7/5/93	11:52	95	10.62	4.84	7	15.1	165	0.279	332	0.626	0.1
7/5/93	12:08	140	14.71	3.48	6	15.1	142	0.238	329	0.617	0.1
7/6/93	7:09	102	12.49	4.84	6	15.1	136	0.239	324	0.610	0.1
7/6/93	3:36	110	13.57	5.09	11	15.9	185	0.249	318	0.597	0.1
7/7/93	8:56	140	15.36	4.57	8	15.3	215	0.288	319	0.599	0.1
7/8/93		99	12.60	5.87	8	15.3	236	0.318	325	0.612	0.1
7/8/93		150	15.74	3.73	40	15.6	192	0.257	325	0.608	0.1
7/9/93		105	13.35	5.03	12	15.6	202	0.272	334	0.629	0.1
7/9/93		143	15.45	3.31	10	15.8	193	0.258	347	0.650	0.1
7/10/93		107	13.44	4.54	12	15.7	200	0.269	348	0.654	0.1
7/10/93	9:49	147	16.29	3.31	6	15.7	196	0.262	338	0.633	0.1
7/11/93	22:09	104	14.23	4.56	23	15.8	202	0.271	327	0.615	0.1
7/11/93	1:51	146	16.77	3.40	6	15.8	191	0.256	325	0.609	0.1
7/12/93		109	14.96	3.86	215	15.6			321	0.602	0.1
7/12/93	5:07	147	16.52	3.16	9	15.7			327	0.612	0.1
7/13/93	19:40	117	14.16	3.75	269	15.8			327	0.614	0.1
7/14/93	15:25	124	16.34	3.60	621	15.7			317	0.594	0.1
7/15/93	7:50	104	16.30	4.27	136	15.6			314	0.588	0.1
7/16/93	9:45	152	16.74	3.42		15.6	190	0.254	331	0.620	0.1
7/17/93		97	16.36	5.27	0	15.4	198	0.266	311	0.583	0.1
7/17/93	5:45	141	16.95	3.99	0	15.8	188	0.251	320	0.599	0.1
7/19/93	3:29	119	16.05	3.79		15.7	176	0.236	316	0.592	
7/19/93	7:06	146	16.68	3.72		15.7	196	0.263	312	0.585	
7/21/93	4:52	140	16.89	3.69	0	15.8	194	0.260	308	0.576	
7/23/93	1:08	127	16.06	4.64	10	15.5	193	0.259	338	0.633	
7/23/93	4:53	143	16.48	4.37	7	15.6	210	0.281	336	0.630	
7/24/93	2:09	91	15.60	5.65	7	15.4	269	0.360	312	0.585	
7/24/93	7:45	141	15.60	4.20	12	15.6	190	0.254	321	0.600	
7/25/93	1:10	72	15.55	6.85	5	15.0	364	0.489	303	0.569	
7/25/93	10:19	122	16.35	5.03	9	15.6	210	0.281	319	0.598	
7/25/93	6:14	148	16.37	3.73	11	15.8	181	0.242	319	0.597	
7/26/93	5:09	131	15.49	4.83	6	15.7	201	0.269	288	0.539	
7/26/93	10:15	107	15.90	6.08	8	15.3	237	0.317	312	0.584	
7/26/93	8:34	147	16.06	3.89	6	15.7	193	0.259	304	0.570	
7/27/93	10:48	106	15.43	5.72	5	15.5	245	0.327	294	0.552	
7/27/93	9:16	134	15.74	3.98	10	15.8	190	0.255	314	0.589	
7/28/93	11:06	124	15.61	4.33	7	15.9	191	0.256	317	0.595	
7/28/93	8:10	155	15.92	3.19	37	15.8	191	0.256	305	0.571	
7/28/93	2:02	156	16.42	3.57	13	15.8	195	0.261	309	0.579	
7/29/93	15:55	145	15.93	3.58	26	15.8	192	0.257	314	0.588	
7/29/93	8:04	146	16.41	3.28	81	15.7	180	0.241	315	0.590	
7/30/93	9:00	145	16.00	4.19	43	15.8	203	0.271	308	0.577	
7/30/93	10:04	140	16.02	3.47	168	15.8	169	0.227	316	0.592	
7/31/93	6:49	147	15.11	3.25	67	15.9	172	0.230	320	0.601	
7/31/93	17:10	144	16.00	3.53	38	15.9	178	0.238	319	0.598	

Subscript c denotes correction to 3% O2

TABLE 1. SUMMARY OF LONG-TERM GR-LNB EMISSIONS AT CHEROKEE UNIT 3 (Con.)

Test Date	Test Dur.	Net Power (MWe)	Gas Heat (% totl)	CEMS O2 (% dry)	COc (ppm)	CO2c (%)	NOxc (ppm)	NOx (lb/MBtu)	SO2c (ppm)	SO2 (lb/MBtu)	HCC (ppm)
8/1/93	10:21	99	15.22	5.20	6	15.7	229	0.308	306	0.574	
8/1/93	1:25	131	15.38	3.81	30	15.8	169	0.226	315	0.591	
8/1/93	12:14	142	15.75	3.64	24	15.9	180	0.241	302	0.566	
8/2/93	8:55	93	14.83	5.73	5	15.3	234	0.314	287	0.538	
8/2/93	6:02	143	16.02	3.47	14	15.7	167	0.224	295	0.552	
8/2/93	7:14	138	16.30	3.66	9	15.0	173	0.232			
8/3/93	8:29	86	15.61	6.17	4	15.1	255	0.342			
8/3/93	5:55	145	16.25	3.68	6	15.9	181	0.243			
8/3/93	9:34	138	16.40	4.39	4	15.9	193	0.258			
8/4/93	24:00	133	15.46	4.23	8	15.8	188	0.252			
8/5/93	7:39	112	14.82	4.76	7	15.7	178	0.239			
8/5/93	15:50	147	15.55	4.05	8	15.8	204	0.274			
8/6/93	9:48	134	15.18	3.74	7	15.7	188	0.253			
8/7/93	3:53	135	7.62	3.61	875	16.0	184	0.249			
8/9/93	13:45	147	10.44	3.91	15	16.2	199	0.268			
8/10/93	7:48	144	9.58	3.96	48	16.2	195	0.263			
8/10/93	7:25	140	9.73	4.29	14	16.2	204	0.275			
8/11/93	3:22	135	9.87	4.65	9	16.0	217	0.294			
8/12/93	14:33	145	9.87	4.07	9	16.2	194	0.262			
8/13/93	18:16	143	10.12	4.26	11	16.0	205	0.276			
8/14/93	4:54	114	9.27	4.85	46	15.8	188	0.254			
8/14/93	11:05	141	10.02	4.75	10	15.9	199	0.268			
8/15/93	1:10	108	9.10	5.35	24	15.8	199	0.271			
8/24/93	3:25	147	10.89	3.47	141	16.0	174	0.234			
9/8/93	11:15	146	13.04	3.94	52	16.5	183	0.246			3.6
9/8/93	1:49	119	14.13	4.82	72	17.4	176	0.236			4.5
9/9/93	14:15	134	14.33	4.17	202	16.7	169	0.227			0.5
9/9/93	6:55	106	14.55	5.17	69	17.8	198	0.266			4.1
9/10/93	1:46	106	15.66	4.99	15	17.6	180	0.240			3.2
9/11/93	4:10	144	14.21	4.88	25	17.5	201	0.270			1.3
9/12/93	12:09	153	13.10	4.04	52	16.6	183	0.246			0.3
9/12/93	11:51	125	14.18	5.39	15	18.1	190	0.256			0.7
9/13/93	18:03	144	10.91	4.63	54	17.2	195	0.262			2.1
9/13/93	5:35	113	13.90	5.67	13	18.4	190	0.255			0.1
9/14/93	4:15	128	12.26	4.57	135	17.1	173	0.233			3.1
9/14/93	6:55	145	12.49	3.19	28	15.8	171	0.230			0.9
9/15/93	11:20	144	12.76	3.33	12	15.9	182	0.245			1.0
9/15/93	0:50	131	12.89	3.92	15	16.5	167	0.224			0.9
9/15/93	4:26	122	13.57	4.14	18	16.7	178	0.239			2.2
9/16/93	15:24	136	12.33	4.87	15	17.5	191	0.256			1.8
9/16/93	5:46	119	13.35	4.32	7	16.9	194	0.260			2.0
9/17/93	18:28	144	12.26	3.83	23	16.4	179	0.241			1.0
9/17/93	5:31	125	13.45	4.80	13	17.4	174	0.233			1.4
9/18/93	24:00	140	11.72	3.61	63	16.2	173	0.232			0.9
9/19/93	13:54	147	10.93	3.48	22	16.1	182	0.245			0.4
9/19/93	10:06	129	11.99	4.07	23	16.6	173	0.233			3.2
9/20/93	24:00	141	12.72	3.19	192	15.8	165	0.222			4.2
9/21/93	17:56	141	13.27	3.74	135	16.3	168	0.225	199	0.374	2.5
9/21/93	3:00	116	14.45	4.01	256	16.6	166	0.223			6.0
9/22/93	8:25	120	14.03	4.53	18	15.9	160	0.215	287	0.540	
9/22/93	7:59	112	14.84	4.93	35	17.5	154	0.206	284	0.533	0.0
9/23/93	24:00	122	14.02	4.52	16	15.7	165	0.221	329	0.618	

Subscript c denotes correction to 3% O2

TABLE 1. SUMMARY OF LONG-TERM GR-LNB EMISSIONS AT CHEROKEE UNIT 3 (Con.)

Test Date	Test Dur.	Net Power (MWe)	Gas Heat (% totl)	CEMS O2 (% dry)	COc (ppm)	CO2c (%)	NOxc (ppm)	NOx (lb/MBtu)	SO2c (ppm)	SO2 (lb/MBtu)	HCC (ppm)
9/24/93	12:09	136	12.24	4.63	10	16.1	192	0.258	320	0.601	
9/24/93	6:10	120	13.47	4.97	12	15.8	174	0.234	311	0.584	
9/24/93	1:58	97	14.88	5.63	8	15.4	165	0.221	306	0.574	
9/25/93	19:05	147	11.64	4.01	12	16.2	190	0.255	326	0.614	
9/25/93	2:12	121	13.13	4.70	9	16.0	169	0.228	314	0.590	
9/26/93	16:33	138	12.73	4.48	7	16.0	191	0.256	319	0.601	
9/26/93	4:15	119	14.03	4.74	9	16.2	171	0.229	304	0.571	
9/27/93	2:53	124	13.53	5.10	7	15.7	187	0.251	312	0.586	
9/27/93	0:57	121	14.56	4.36	26	15.9	163	0.218	316	0.593	
9/28/93	2:48	122	9.99	4.57	8	16.2	184	0.248	326	0.615	
9/28/93	5:58	147	10.66	3.49	30	16.3	172	0.232	333	0.629	
9/28/93	9:13	129	13.59	4.81	8	16.0	187	0.250	313	0.589	
9/29/93	5:22	111	9.67	5.23	6	16.0	204	0.275	322	0.607	
9/29/93	18:37	146	11.91	3.89	14	16.1	186	0.251	325	0.611	
9/30/93	13:24	146	13.15	4.15	9	16.1	193	0.259	321	0.603	
9/30/93	5:32	108	14.42	5.49	6	15.5	204	0.273	305	0.573	
9/30/93	2:27	123	14.97	5.07	7	15.9	183	0.246	311	0.583	
10/1/93	9:12	124	13.94	4.68	7	16.1	174	0.234	278	0.522	
10/1/93	11:00	100	14.60	6.13	7	15.8	223	0.299	287	0.538	
10/2/93	24:00	121	13.73	5.29	6	16.3	184	0.247	289	0.542	
10/3/93	24:00	115	13.54	5.56	6	16.1	195	0.262	287	0.540	
10/4/93	24:00	123	14.51	4.95	7	16.0	181	0.243	291	0.545	
10/5/93	24:00	125	15.65	5.11	6	15.8	189	0.254	305	0.571	
10/6/93	10:15	142	13.71	4.69	10	16.0	188	0.252	307	0.577	
10/8/93	8:45	146	12.51	3.63	18	16.6	174	0.234	309	0.582	
10/9/93	24:00	147	12.23	4.59	12	16.5	197	0.264	308	0.581	
10/10/93	11:00	147	12.19	4.65	32	16.4	198	0.266	311	0.585	
10/13/93	2:02	121	13.75	4.93	12	16.3	188	0.252	311	0.584	
10/13/93	4:07	146	14.23	4.24	18	16.5	193	0.259	310	0.582	
10/14/93	6:02	131	14.17	4.86	20	16.4	190	0.255	312	0.586	
10/14/93	14:56	147	15.94	4.19	18	16.4	190	0.255	307	0.575	
10/14/93	3:00	117	18.19	5.35	8	16.0	201	0.269	294	0.550	
10/15/93	7:05	131	14.15	4.45	16	16.5	191	0.257	316	0.593	
10/15/93	2:58	142	15.23	3.46	30	16.6	178	0.239	315	0.591	
10/15/93	12:49	134	16.00	4.45	63	16.4	174	0.233	311	0.582	
10/16/93	12:05	105	14.41	5.90	5	16.2	212	0.285	315	0.591	
10/16/93	1:25	135	14.78	4.32	31	16.5	158	0.213	312	0.586	
10/16/93	10:28	152	15.28	4.04	16	16.6	198	0.265	317	0.595	
10/17/93	23:46	130	15.36	4.40	164	16.3	161	0.215	310	0.581	
10/19/93	15:35	122	14.92	4.87	20	15.7	172	0.231	284	0.533	
10/20/93	4:09	118	14.47	5.41	22	16.1	196	0.263	270	0.507	
10/20/93	7:35	123	14.92	5.02	14	15.8	171	0.229	238	0.445	
10/20/93	10:42	145	15.13	4.55	16	15.7	192	0.257	296	0.555	
10/21/93	24:00	145	16.22	4.25	93	15.7	184	0.246	303	0.568	
10/22/93	24:00	141	16.38	4.16	96	15.7	176	0.235	312	0.584	
10/23/93	24:00	147	16.04	4.29	74	15.6	177	0.237	311	0.583	
10/24/93	14:00	144	15.48	4.32	91	15.6	174	0.233	313	0.587	
10/24/93	10:00	147	15.83	4.17	103	15.5			310	0.579	
10/25/93	4:55	116	14.43	5.13	19	15.3			312	0.586	
10/25/93	19:04	145	15.35	4.10	68	15.8			307	0.576	
10/26/93	24:00	144	15.22	3.89	47	16.0			312	0.585	

Subscript c denotes correction to 3% O2

TABLE 1. SUMMARY OF LONG-TERM GR-LNB EMISSIONS AT CHEROKEE UNIT 3 (Con.)

Test Date	Test Dur.	Net Power (MWe)	Gas Heat (% totl)	CEMS O2 (% dry)	COc (ppm)	CO2c (%)	NOxc (ppm)	NOx (lb/MBtu)	SO2c (ppm)	SO2 (lb/MBtu)	HCC (ppm)
10/27/93		145	14.76	3.00		15.6			311	0.583	
10/27/93		149	14.97	3.58	267	15.9			306	0.574	
10/28/93	7:21	136	14.18	3.55		15.4			311	0.583	
10/28/93	16:38	146	14.76	3.31	257	16.1			305	0.572	
10/29/93	24:00	145	15.01	4.07	211	16.4			300	0.563	
10/30/93	24:00	149	15.02	3.88	95	16.4			317	0.595	
10/31/93	24:00	147	15.04	3.93	55	16.1			331	0.621	
11/1/93	6:18	143	11.75	3.92		16.4			328	0.616	
11/2/93	0:29	145	11.10	2.97		16.8			318	0.599	
11/2/93	8:15	147	11.23	2.96		16.9			324	0.611	
11/2/93	10:09	145	11.25	2.96		16.8			317	0.597	
11/4/93	13:29	143	10.20	3.36		16.8	179	0.241			
11/4/93	1:40	141	10.38	2.57		16.4					
11/5/93	7:20	133	9.79	6.00		17.4	192	0.259			
11/5/93	5:54	147	10.16	3.94		15.1	178	0.240			
11/8/93	4:55	147	14.82	3.76	244	16.4	195	0.263			
11/9/93	5:29	154	12.09	3.86	123	15.9	230	0.311			
11/9/93	8:30	150	14.57	3.26	216	15.8	186	0.251			
11/10/93	15:43	148	11.46	3.62	405	16.1	207	0.280			
11/15/93	13:00	144	14.44	3.16	17	15.9	191	0.257	243	0.457	
11/16/93	7:42	140	14.00	3.02	15	15.9	177	0.239	255	0.479	
11/16/93	16:17	128	14.01	5.58	14	15.6	181	0.245	225	0.423	
11/17/93	0:40	123	13.66	5.65	8	15.7	167	0.225	239	0.450	
12/8/93	0:46	149	5.25	3.30	239	16.9	214	0.290	329	0.624	
12/8/93	2:44	151	5.27	2.32	806	17.1	184	0.249	331	0.628	
12/8/93	3:31	154	5.29	1.76	934	17.1	167	0.226	329	0.623	
12/8/93	3:40	151	15.65	3.03	287	16.2	169	0.226	293	0.549	
12/9/93	7:10	134	4.93	4.71	27	16.9	249	0.338	263	0.498	
12/9/93	12:00	142	5.20	2.26	828	17.0	168	0.228	317	0.601	
12/9/93	0:13	153	5.23	2.92	871	17.1	190	0.259	297	0.564	
12/9/93	2:59	149	5.34	3.08	377	17.1	199	0.269	301	0.571	
12/9/93	0:07	149	7.92	2.98	334	17.0	175	0.237	269	0.509	
12/9/93	0:05	149	10.34	2.79	426	16.9	160	0.216	255	0.482	
12/9/93	0:09	149	14.83	3.10	383	16.5	161	0.216	246	0.461	
12/10/93	11:35	140	4.81	4.39	87	17.0	233	0.316	272	0.516	
12/11/93	16:15	134	4.70	3.83	124	16.4	205	0.278	294	0.557	
12/11/93	7:44	152	4.96	3.64		16.1	221	0.300	308	0.584	
12/12/93	24:00	152	5.03	3.47		15.9	218	0.295	285	0.540	
12/13/93	7:48	155	4.98	3.17		16.3	197	0.268	249	0.473	
12/13/93	4:18	153	5.05	3.65	183	16.6	197	0.268	240	0.454	
12/14/93	1:18	154	5.12	3.68	868	16.6	203	0.276	310	0.588	
12/15/93	5:15	133	5.34	3.70	461	16.2	195	0.265	285	0.540	
12/16/93	6:14	154	5.27	4.30	685	16.7	224	0.303	274	0.520	
12/16/93	1:15	104	5.74	4.83	848	16.5	172	0.233	261	0.494	
12/17/93	2:10	101	5.80	5.25	848	16.4	172	0.233	262	0.496	
1/7/94	15:40	142	5.61	3.79	849	16.3	197	0.267	286	0.542	
1/8/94	15:39	148	5.56	3.06	1001	16.4	177	0.239	283	0.537	
1/8/94	8:20	125	5.64	3.69	917	16.4	162	0.220	281	0.534	
1/9/94	8:39	114	5.63	3.75	956	16.1	157	0.213	276	0.523	
1/9/94	9:02	138	5.76	3.89	880	16.1	196	0.266	269	0.510	
1/9/94	2:10	145	5.77	2.70	983	16.2	157	0.213	282	0.534	

Subscript c denotes correction to 3% O2

TABLE 1. SUMMARY OF LONG-TERM GR-LNB EMISSIONS AT CHEROKEE UNIT 3 (Con.)

Test Date	Test Dur.	Net Power (MWe)	Gas Heat (% totl)	CEMS O2 (% dry)	COc (ppm)	CO2c (%)	NOxc (ppm)	NOx (lb/MBtu)	SO2c (ppm)	SO2 (lb/MBtu)	HCc (ppm)
1/10/94	2:40	155	5.22	4.32	822	16.9	221	0.300	289	0.548	
1/10/94	4:54	121	6.74	5.39	209	16.7	201	0.272	268	0.507	
1/10/94	4:04	120	6.84	5.19	364	16.7	194	0.262	278	0.526	
1/11/94	2:48	121	6.22	4.39	393	16.4	188	0.254	275	0.521	
1/11/94	14:38	151	6.70	4.13	541	16.4	232	0.313	273	0.516	
1/11/94	6:32	106	7.06	5.93	48	16.5	208	0.281	268	0.507	
1/12/94	6:14	132	6.20	4.41	437	16.5	210	0.285	266	0.503	
1/12/94	13:30	141	6.29	4.18	553	16.4	220	0.298	266	0.503	
1/12/94	1:09	130	6.45	4.05	717	16.4	206	0.279	267	0.505	
1/12/94	1:39	136	8.88	3.15	791	16.2	161	0.218	266	0.503	
1/13/94	6:00	133	6.70	4.15	619	16.4	189	0.256	274	0.519	
1/13/94	7:15	153	6.80	3.55	1023	16.4	200	0.271	281	0.532	
1/13/94	4:23	106	7.45	3.70	844	16.2	138	0.186	266	0.503	
1/13/94	1:13	137	8.41	3.23	970	16.2	153	0.207	281	0.531	
1/14/94	7:54	131	6.25	3.75	612	16.6	190	0.257	281	0.532	
1/14/94	7:50	132	6.26	3.70	1023	16.5	163	0.220	283	0.536	
1/14/94	7:25	103	6.57	4.91	200	16.2	180	0.243	272	0.514	
1/15/94	1:33	127	6.30	3.74	614	16.2	182	0.247	275	0.522	
1/15/94	5:11	148	6.42	3.54	730	16.3	212	0.288	281	0.532	
1/15/94	17:14	119	6.51	4.04	372	16.5	183	0.248	276	0.522	
1/16/94	13:06	150	6.42	3.23	633	16.6	194	0.263	274	0.519	
1/16/94	2:22	118	6.49	3.46	410	16.6	159	0.215	276	0.523	
1/16/94	8:30	117	6.67	3.61	727	16.3	164	0.222	270	0.512	
1/17/94	11:10	131	6.20	3.62	373	16.6	185	0.250	275	0.522	
1/17/94	8:55	136	6.63	4.69	764	16.6	178	0.241	286	0.542	
1/18/94	13:30	120	6.59	4.97	639	16.6	175	0.237	279	0.528	
1/18/94	8:00	117	6.76	3.73	754	16.6	166	0.224	298	0.564	
1/19/94	24:00	114	6.59	4.15	643	16.5	175	0.237	312	0.591	
1/20/94	6:38	111	6.59	4.04	486	16.9	163	0.220	314	0.594	
1/20/94	3:50	145	7.65	3.55	674	16.5	187	0.253	321	0.607	
Average		133	12.89	4.17	160	16.1	193	0.260	304	0.571	0.9
Maximum		159	18.64	6.85	1023	18.4	364	0.489	387	0.720	6.0
Minimum		72	4.70	1.76	0	15.0	136	0.186	199	0.374	0.0
St Dev.		17	3.89	0.82	271	0.5	27	0.036	25	0.046	1.2

Subscript c denotes correction to 3% O2

TABLE 2. SECOND GENERATION GR-LNB EMISSIONS SUMMARY.

Test Date	Test Dur.	Net Power (MWe)	Gas Heat (% totl)	CEMS O2 (% dry)	COc (ppm)	CO2c (%)	NOxc (ppm)	NOx (lb/MBtu)	SO2c (ppm)	SO2 (lb/MBtu)
8/17/94	1:15		7.29	4.33	639	16.5	168	0.228		
8/17/94	0:40		8.25	4.59	189	16.4	172	0.233		
8/18/94	0:31		8.45	4.42	34	16.5	167	0.226		
8/18/94	0:36		8.26	4.36	19	16.5	165	0.223		
8/18/94	0:36		8.22	3.88	93	16.6	160	0.216		
8/29/94	0:22	138	8.00	4.51	97	16.6	199	0.268		
8/29/94	0:21	139	8.02	3.56	452	16.7	222	0.299		
8/30/94	0:19	142	7.96	4.50	169	16.4	204	0.275		
8/30/94	0:23	143	15.17	4.27	43	16.0	200	0.268		
9/1/94	0:30	140	10.05	4.31	41	16.1	219	0.295		
9/1/94	0:30	140	10.27	4.46	4	16.0	210	0.283		
9/1/94	0:30	140	10.13	4.49	3	16.0	205	0.276		
9/2/94	0:30	140	6.08	4.39	93	16.4	229	0.311		
9/2/94	0:37	140	6.07	4.37	69	16.4	228	0.308		
9/7/94	0:30	138	10.17	4.94	107	15.9	259	0.349		
9/7/94	0:30	138	10.17	4.19	8	16.0	207	0.279		
9/7/94	0:30	138	10.20	4.07	11	16.0	203	0.273		
9/7/94	0:21	138	6.23	4.19	52	16.2	217	0.293		
9/8/94	0:30	139	16.61	3.97	30	15.7	207	0.278		
9/9/94	0:22	137	6.56	4.25	20	16.0	220	0.297		
9/9/94	0:18	137	10.44	4.05	5	15.8	269	0.363		
9/9/94	0:17	137	12.41	3.95	5	15.7	193	0.260		
10/4/94	0:20	151	6.26	3.62	64	16.3	207	0.281	330	0.624
10/4/94	0:26	152	7.91	3.49	61	16.3	199	0.270	324	0.612
10/4/94	0:15	153	9.62	3.33	27	16.2	193	0.261	318	0.600
10/4/94	0:17	154	14.81	3.18	11	15.9	185	0.247	302	0.566
10/14/94	0:20	138	10.49	3.31	115	16.0	190	0.256	313	0.591
10/18/94	0:53	128	11.39	4.05	155	16.1	188	0.253	323	0.608
10/18/94	0:24	133	17.12	3.68	16	15.9	171	0.229	301	0.563
10/20/94	0:26	148	9.82	3.34	74	16.1	188	0.254	319	0.602
10/20/94	0:20	150	9.84	2.86	131	16.2	181	0.244	320	0.604
10/21/94	0:28	148	9.58	3.10	64	16.1	190	0.257	333	0.628
10/25/94	0:19	129	11.03	4.13	156	15.9	197	0.265	318	0.599
10/25/94	0:12	129	11.07	4.33	44	15.9	201	0.270	318	0.599
1/19/95	1:00	124	12.35	3.92	12	15.9	193	0.260	375	0.705
1/19/95	1:02	124	8.06	3.99	12	16.1	199	0.269	387	0.732
1/20/95	1:01	87	8.05	5.36	16	15.6	187	0.253	376	0.710
1/20/95	1:00	88	15.99	5.16	13	15.1	207	0.277	336	0.630
1/20/95	1:05	89	11.90	5.27	13	15.3	184	0.247	342	0.643
1/20/95	0:40	89	7.88	5.19	16	15.6	171	0.232	352	0.664
1/25/95	0:20	142	11.88	3.49	22	15.8	224	0.301	308	0.579
1/25/95	0:40	141	8.00	3.64	18	16.1	229	0.308	319	0.602
1/25/95	1:00	124	7.76	3.50	45	16.1	170	0.230	321	0.606
1/25/95	1:00	126	15.82	4.04	40	15.5	168	0.225	291	0.546
1/25/95	1:00	127	12.05	4.04	17	15.7	173	0.233	302	0.568
1/25/95	0:45	127	8.06	4.28	20	15.9	179	0.242	316	0.596
1/25/95	0:20	145	8.07	3.16	38	16.0	194	0.262	312	0.591
1/25/95	0:50	146	14.25	2.98	40	15.7	178	0.239	295	0.553
1/26/95	0:24	144	11.79	3.49	39	15.7	186	0.250	300	0.564
1/26/95	0:25	144	6.85	3.10	27	16.2	200	0.270	366	0.692
1/26/95	0:30	145	8.11	3.16	26	16.1	193	0.261	364	0.688
1/26/95	0:48	146	13.69	2.92	23	15.8	185	0.248	342	0.642
1/26/95	0:30	146	11.21	3.09	21	16.0	192	0.259	341	0.643

subscript c denotes correction to 3% O2

TABLE 2. SECOND GENERATION GR-LNB EMISSIONS SUMMARY. (Con.)

Test Date	Test Dur.	Net Power (MWe)	Gas Heat (% totl)	CEMS O2 (% dry)	COc (ppm)	CO2c (%)	NOxc (ppm)	NOx (lb/MBtu)	SO2c (ppm)	SO2 (lb/MBtu)
1/27/96	0:42	122	7.71	3.82	109	15.9	189	0.255	376	0.712
1/27/96	0:31	122	16.51	3.83	62	15.6	171	0.230	339	0.634
1/27/96	0:30	122	12.13	3.72	58	15.8	174	0.234	350	0.658
Average		134	10.22	3.96	68	16.0	196	0.264	330	0.622
Maximum		154	17.12	5.36	639	16.7	269	0.363	387	0.732
Minimum		87	6.07	2.86	3	15.1	160	0.216	291	0.546
St. Dev.		16	2.94	0.61	105	0.3	22	0.030	26	0.049

subscript c denotes correction to 3% O2

TABLE 3. 100% GAS FIRING EMISSIONS SUMMARY.

Test Date	Test Dur.	Net Power (MWe)	Reburn Gas Heat (% totl)	CEMS O2 (% dry)	COc (ppm)	CO2c (%)	NOxc (ppm)	NOx (lb/MBtu)	SO2c (ppm)	SO2 (lb/MBtu)
11/2/94	4:00	149	0.00	3.98	2	10.2	251	0.343	1	0.002
11/3/94	1:19	118	0.00	3.94	8	10.1	162	0.222	3	0.006
11/3/94	0:05	120	0.00	2.02	111	10.2	145	0.196	4	0.008
11/3/94	0:04	119	0.00	4.21	19	10.2	125	0.170	5	0.010
11/3/94	0:18	118	0.00	2.82	164	10.2	91	0.124	4	0.008
11/3/94	0:08	117	0.00	3.17	238	10.2	69	0.093	4	0.007
11/3/94	0:02	116	0.00	3.28	294	10.2	64	0.087	4	0.007
11/3/94	0:12	116	0.00	3.31	274	10.2	58	0.079	4	0.007
11/4/94	1:17	149	0.00	2.84	21	10.1	208	0.283	3	0.006
11/4/94	0:17	147	0.00	2.93	102	10.1	108	0.148	3	0.006
11/7/94	1:43	118	0.00	2.83	30	10.1	164	0.225	3	0.005
11/7/94	0:05	117	0.00	2.65	304	10.0	124	0.169	3	0.007
11/7/94	0:05	117	0.00	2.79	94	10.1	84	0.115	4	0.006
11/8/94	1:03	120	0.00	2.69	85	10.1	147	0.201	1	0.002
11/9/94	0:18	118	0.00	2.85	12	10.1	150	0.205	1	0.003
11/9/94	0:09	116	0.00	3.45	82	10.1	80	0.109	2	0.003
11/9/94	0:08	115	0.00	3.51	200	10.1	67	0.092	1	0.003
11/9/94	0:06	116	0.00	3.39	364	10.1	58	0.080	2	0.004
11/10/94	1:15	119	0.00	4.14	54	10.1	169	0.231	1	0.002
11/10/94	0:27	148	0.00	3.06	2	10.2	223	0.304	1	0.002
Average		124	0.00	3.19	123	10.1	127	0.174	3	0.005
Maximum		149	0.00	4.21	364	10.2	251	0.343	5	0.010
Minimum		115	0.00	2.02	2	10.0	58	0.079	1	0.002
St. Dev.		13	0.00	0.56	116	0.0	58	0.079	1	0.002

subscript c denotes correction to 3% O2

TABLE 4. GAS/GAS REBURNING EMISSIONS SUMMARY.

Test Date	Test Dur.	Net Power (MWe)	Reburn Gas Heat (% totl)	CEMS O2 (% dry)	COc (ppm)	CO2c (%)	NOxc (ppm)	NOx (lb/MBtu)	SO2c (ppm)	SO2 (lb/MBtu)
11/2/94	0:24	150	5.18	4.10	4	10.2	146	0.197	2	0.004
11/2/94	1:08	150	5.18	4.00	71	10.2	202	0.274	1	0.002
11/2/94	0:14	150	5.19	3.99	20	10.2	173	0.234	1	0.002
11/3/94	0:14	116	4.80	2.75	459	10.1	79	0.106	1	0.003
11/3/94	0:12	116	4.83	3.61	223	10.2	87	0.119	1	0.002
11/3/94	1:11	116	8.38	3.90	188	10.1	79	0.106	1	0.002
11/3/94	0:24	116	12.12	4.03	437	10.1	73	0.097	3	0.005
11/3/94	0:14	117	14.34	3.80	373	10.1	73	0.097	2	0.004
11/4/94	0:20	147	3.86	2.96	11	10.1	121	0.164	2	0.003
11/4/94	0:23	149	3.91	2.65	316	10.1	110	0.150	2	0.004
11/4/94	0:12	150	6.45	2.63	104	10.1	107	0.145	1	0.003
11/4/94	0:14	149	6.74	2.83	102	10.1	113	0.153	1	0.003
11/4/94	1:39	147	11.68	3.09	207	10.1	108	0.145	2	0.003
11/7/94	0:15	116	0.55	3.31	303	10.0	122	0.166	2	0.003
11/7/94	0:16	119	4.67	4.59	1	10.1	98	0.134	1	0.003
11/7/94	0:09	114	4.80	2.68	314	10.0	81	0.109	3	0.006
11/7/94	0:24	114	4.83	2.95	460	10.0	74	0.100	3	0.007
11/7/94	0:05	114	4.97	3.02	420	10.0	102	0.138	3	0.005
11/7/94	0:12	119	7.69	3.98	80	10.1	82	0.110	1	0.002
11/7/94	1:35	116	8.18	3.09	120	10.1	86	0.117	2	0.004
11/8/94	0:09	119	4.77	2.95	160	10.1	91	0.123	1	0.002
11/8/94	2:55	119	5.91	3.03	110	10.1	80	0.108	1	0.002
11/8/94	0:33	119	5.99	2.80	263	10.1	75	0.102	1	0.002
11/8/94	0:08	118	6.06	3.08	62	10.1	87	0.118	1	0.002
11/8/94	0:10	118	6.09	3.07	84	10.1	84	0.114	0	0.000
11/8/94	0:08	119	6.12	3.07	277	10.1	75	0.102	0	0.000
11/8/94	0:40	119	6.14	3.10	276	10.1	75	0.102	0	0.001
11/9/94	0:03	90	1.17	4.28	1	10.1	68	0.079	1	0.002
11/9/94	0:45	89	1.21	4.05	21	10.1	73	0.099	0	0.001
11/9/94	0:04	88	1.26	4.37	53	10.1	52	0.070	1	0.003
11/9/94	0:04	87	1.26	4.31	86	10.1	49	0.066	1	0.002
11/9/94	0:15	88	6.17	3.89	318	10.0	46	0.062	1	0.001
11/9/94	5:31	149	6.80	3.25	32	10.1	126	0.170	1	0.001
11/9/94	0:32	135	7.28	3.18	12	10.1	108	0.145	1	0.002
11/9/94	0:39	118	7.31	3.00	170	10.1	74	0.100	1	0.002
11/9/94	0:16	87	7.41	4.22	69	10.1	49	0.067	1	0.001
11/9/94	0:31	125	7.69	4.01	52	9.9	100	0.136	0	0.000
11/9/94	3:29	117	7.71	3.39	297	10.1	80	0.108	2	0.003
11/9/94	0:11	89	9.67	3.33	399	10.0	43	0.057	0	0.000
11/10/94	0:48	148	6.76	3.11	174	10.1	129	0.174	1	0.001
11/10/94	1:29	147	6.85	3.26	66	10.1	116	0.157	0	0.000
11/10/94	1:42	149	6.85	3.06	161	10.1	118	0.159	0	0.000
11/10/94	9:45	147	6.89	3.52	23	10.1	113	0.152	0	0.000
11/11/94	9:12	147	6.97	3.66	13	10.1	115	0.155	0	0.000
Average		123	6.11	3.43	168	10.1	94	0.127	1	0.002
Maximum		150	14.34	4.59	460	10.2	202	0.274	3	0.007
Minimum		87	0.55	2.63	1	9.9	43	0.057	0	0.000
St. Dev.		21	2.74	0.55	143	0.0	32	0.043	1	0.002

subscript c denotes correction to 3% O2

TABLE 5. CARBON-IN-FLY ASH DATA

Test Condition	Date	Gross Power (MWe)	Net Power (MWe)	CEMS O ₂ (% , dry)	Gas Heat (% , totl)	Coal Zone Stoich	Reburn Zone Stoich	Exit Zone Stoich	OFA	Carbon In Ash (% , As Rcvd)
GR-LNB	11/9/93	162	150	3.26	14.57	1.077	0.932	1.178	21%	5.15
GR-LNB	11/10/93	161	148	3.62	11.46	1.086	0.972	1.202	19%	6.69 , 8.69
LNB	11/10/93	158	146	3.36	0.00	1.186	1.186	1.186	0%	4.41
GR-LNB	9/7/94	150	138	4.94	10.17	1.174	1.059	1.296	18%	4.12
GR-LNB	9/7/94	149	138	4.19	10.17	1.106	0.998	1.241	20%	1.16
GR-LNB	9/7/94	150	138	4.07	10.20	1.096	0.989	1.231	20%	3.56
LNB	9/8/94	149	138	4.31	0.00	1.251	1.251	1.251	0%	5.11
GR-LNB	9/8/94	150	139	3.97	16.61	1.210	1.016	1.225	17%	5.03
LNB	1/24/95	157	144	4.59	0.00	1.266	1.266	1.273	1%	7.87
GR-LNB	1/25/95	159	146	2.98	14.25	1.055	0.909	1.160	22%	7.01
GR-LNB	1/26/95	159	146	2.92	13.69	1.042	0.903	1.156	22%	9.98

Note: 9/7/94 Through 1/26/95 Data From Second-Generation GR-LNB System

TABLE 6. AQUEOUS DISCHARGE LIMITS AND MONITORING FREQUENCY

Effluent Parameter	Discharge Limitations		Sampling Frequency	Sample Type
	30-Day Avg.	Daily Maximum		
Flow	5.6 MGD	N/A	Daily	Instantaneous or Continuous
Total Suspended Solids	30 mg/l	100 mg/l	Weekly	Composite
Oil and Grease	15 mg/l	20 mg/l	Contingent	Grab (5 x Weekly - Visual)
Temperature	N/A	86 F	5 x Weekly	In Situ
Total Residual Chlorine	0.007 mg/l	0.015 mg/l	Weekly	Grab
Total Chromium	0.11 mg/l	0.11 mg/l	Monthly	Composite
Total Recoverable Copper	Report	Report	Monthly	Composite
Total Recoverable Zinc	0.23 mg/l	0.46 mg/l	Monthly	Composite
pH	6.5 Minimum	9.0 Maximum	5 x Weekly	Grab or Continuous

Note: Limits applicable through June, 1993

TABLE 7. AQUEOUS DISCHARGE LIMITS AND MONITORING FREQUENCY

Effluent Parameter	Discharge Limitations		Sampling Frequency	Sample Type
	30-Day Avg.	Daily Maximum		
Flow in Conduit or thru Treatment Plant	3.1 MGD	5.5 MGD	Daily	Instantaneous or Continuous
Total Suspended Solids	30 mg/l	84 mg/l	Weekly	Composite
Oil and Grease	13.5 mg/l	17 mg/l	Contingent	Grab (5 x Weekly - Visual)
Temperature	Report	86 F	Daily	Grab
Total Ammonia Nitrogen (as N)	Report	Report	Monthly	Grab
Total Nitrate Nitrogen (as N)	Report	Report	Monthly	Grab
Total Phosphorus (as P)	Report	Report	Monthly	Grab
Total Residual Chlorine	Optional	0.021 mg/l	Weekly	Grab
Trivalent Chromium (as Cr)	Report	Report	Weekly	Grab
Hexavalent Dissolved Chromium (as Cr)	Report	Report	Weekly	Grab
Total Recoverable Copper	0.12 mg/l	0.24 mg/l	Weekly	Grab
Total Zinc (as Zn)	0.35 mg/l	0.40 mg/l	Weekly	Grab
pH	6.5 Minimum	9.0 Maximum	Daily	Grab or Continuous
P/F ST/ATRE 48HR ACU Ceriodaphnia TGM3B 1 0 0	Minimum: Pass/Fail	Maximum: Pass/Fail	Quarterly	Grab
P/F ST/ATRE 96HR ACU Pimephales Promelas TGN6C 1 0 0	Minimum: Pass/Fail	Maximum: Pass/Fail	Quarterly	Grab

Note: Limits applicable from July, 1993

APPENDIX A

DISCHARGE MONITORING REPORTS

FINAL

001A
DISCHARGE NUMBER

CO-0001104
PERMIT NUMBER

MONITORING PERIOD
FROM 73 04 01 TO 73 04 30
(20-31) (22-31) (24-31) (26-27) (28-29) (30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	(J Card Only) QUANTITY OR LOADING (34-41)			(K Card Only) QUANTITY OR CONCENTRATION (34-41)			NO. EX (42-43)	FREQUENCY OF ANALYSIS (44-48)	SAMPLE TYPE (49-70)
	AVERAGE (46-53)	MAXIMUM (34-41)	UNITS (46-53)	MINIMUM (48-45)	AVERAGE (46-53)	MAXIMUM (34-41)			
TEMPERATURE							0	25/30	
WATER DEG FAHRENHEIT						(15)		5/7	INSIT
00011 1 0 0						DEGF		25/30	
EFFLUENT GROSS VALUE							0	5/7	
HI				7.350		8.160	0	25/30	
00400 1 0 0				6.500		9.000		5/7	GR
EFFLUENT GROSS VALUE				Minimum		Maximum	0	5/30	
SOLIDS, TOTAL TSS						12.200	0	1/7	8HR C
SUSPENSION						30,000		5/30	
00530 1 0 0						30-Day Avg.		1/7	
EFFLUENT GROSS VALUE						CONTINGENT	0	5/30	
OIL AND GREASE								1/30	COMP
00556 1 0 0						15,000		1/30	
EFFLUENT GROSS VALUE						30-Day Avg.		1/30	
IRON EXTR-GRAV METI								1/30	
00556 1 0 0								1/30	
EFFLUENT GROSS VALUE								1/30	
CHROMIUM, TOTAL								1/30	
(AS CR)								1/30	
01034 1 0 0								1/30	
EFFLUENT GROSS VALUE								1/30	
ZINC								1/30	
01094 1 0 0								1/30	
TOTAL RECOVERABLE								1/30	
EFFLUENT GROSS VALUE								1/30	
00100 1 0 0								1/30	
TOTAL RECOVERABLE								1/30	
EFFLUENT GROSS VALUE								1/30	
00110 1 0 0								1/30	
TOTAL RECOVERABLE								1/30	
EFFLUENT GROSS VALUE								1/30	
00110 1 0 0								1/30	
TOTAL RECOVERABLE								1/30	
EFFLUENT GROSS VALUE								1/30	
00110 1 0 0								1/30	
TOTAL RECOVERABLE								1/30	
EFFLUENT GROSS VALUE								1/30	

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY KNOWLEDGE OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC 1001 AND 33 USC 1319. Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
JAMES R. JAMES R.
MGR. COUPL & ENV AFFRS
TYPED OR PRINTED

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
003942808
AREA NUMBER

TELEPHONE
DATE
YEAR MO DAY
93 07 11

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

AMS PULP & PAPER COMPANY OF COLORADO
 ADDRESS - P.O. BOX 340
 DENVER, COLORADO 80201

(17-19) 001104

PERMIT NUMBER

FINAL

Expires 3-31-88

DISCHARGE NUMBER 0010

MONITORING PERIOD

YEAR	MO	DAY	YEAR	MO	DAY
73	05	01	73	05	31

FROM (20-21) (22-23) (24-25) TO (26-27) (28-29) (30-31)

NOTE: Read instructions before completing this form.

PARAMETER (22-27)	(J Card Only) QUANTITY OR LOADING (34-61)			(K Card Only) QUANTITY OR CONCENTRATION (34-61)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM			
EMPERATURE							0	20/31	
WATER DEG FAHRENHEIT									
00011 1 0 0								5/7	INSIT
EFFLUENT GROSS VALUE				6.940		7.940	0	20/31	
PH									
00100 1 0 0				6.500		9.000		5/7	GR
EFFLUENT GROSS VALUE				Minimum		Maximum			
SOLIDS, TOTAL TSS					14.050	18.400	0	4 /31	
SUSPENDED									
00530 1 0 0					30,000	100,000	0	1/7	BHR C
EFFLUENT GROSS VALUE					30-Day Avg.	Daily Max.			
OIL AND GREASE					CONTINGENT		0	4 /31	
PERON EXR GRAY METH									
00556 1 0 0					15,000	20,000		1/7	GR
EFFLUENT GROSS VALUE					30-Day Avg.	Daily Max.			
CHROMIUM, TOTAL (AS CR)							0	1 /31	
01034 1 0 0					0.005	0.005			
EFFLUENT GROSS VALUE									
ZINC									
TOTAL RECOVERABLE					0.110	0.140		1/30	COMP
01074 1 0 0					30-Day Avg.	Daily Max.			
EFFLUENT GROSS VALUE					0.029	0.029	0	1 /31	
COPPER									
TOTAL RECOVERABLE					0.230	0.460		1/30	COMP
01174 1 0 0					30-Day Avg.	Daily Max.			
EFFLUENT GROSS VALUE					0.031	0.031	0	1 /31	
COPPER									
TOTAL RECOVERABLE								1/30	COMP
01119 1 0 0									
EFFLUENT GROSS VALUE									

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
 JAMES R. WEXELS
 MGR, GOVT & ENV AFFRS

3031942808
 AREA NUMBER

93 06 14
 YEAR MO DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

TYPED OR PRINTED

FINAL

(17-19)
001A
DISCHARGE NUMBER

(2-16)
CO-0001104
PERMIT NUMBER

MONITORING PERIOD
FROM 93 05 01 TO 93 05 31
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	QUANTITY OR LOADING (34-61)			QUALITY OR CONCENTRATION (34-61)			NO. EX ANALYSIS (64-68)	FREQUENCY OF ANALYSIS (69-70)	SAMPLE TYPE (69-70)
	AVERAGE (46-53)	MAXIMUM (46-53)	UNITS (46-53)	MINIMUM (46-53)	AVERAGE (46-53)	MAXIMUM (46-53)			
FLOW, IN CONDUIT OR THROUGH TREATMENT PLANT	SAMPLE MEASUREMENT	2.271	4.135	(03)			0	31/31	
	PERMIT REQUIREMENT	5.600 30-Day Avg.						7/7	INST
EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT				< 0.05	(19)	0	4 / 31	
	PERMIT REQUIREMENT				0.007 30-Day Avg. Daily Max.	MG/L		1/7	GR
CHLORINE TOTAL RESIDUAL	SAMPLE MEASUREMENT		0	YES			0	20/31	
	PERMIT REQUIREMENT		Inst. Max.	NO				5/7	VIS
OIL AND GREASE VISUAL	SAMPLE MEASUREMENT								
	PERMIT REQUIREMENT								
BOD600	SAMPLE MEASUREMENT								
	PERMIT REQUIREMENT								
EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT								
	PERMIT REQUIREMENT								
	SAMPLE MEASUREMENT								
	PERMIT REQUIREMENT								
	SAMPLE MEASUREMENT								
	PERMIT REQUIREMENT								
	SAMPLE MEASUREMENT								
	PERMIT REQUIREMENT								
	SAMPLE MEASUREMENT								
	PERMIT REQUIREMENT								
	SAMPLE MEASUREMENT								
	PERMIT REQUIREMENT								
	SAMPLE MEASUREMENT								
	PERMIT REQUIREMENT								

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
JAMES R. WELLS
MGR, GOVT & ENV AFFRS

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
James R. Wells

TELEPHONE NUMBER
303 942 808

DATE
93 06 14

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 USC 1001 AND 33 USC 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 3 years.)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

FINAL

(1719)

001A
DISCHARGE NUMBER

(216)

CO-0001104
PERMIT NUMBER

(216)

CO-0001104
PERMIT NUMBER

NAME PUBLIC SERVICE COMPANY OF COLORADO

ADDRESS P.O. BOX 810
DENVER, COLORADO 80201

FACILITY CHEERKEE

LOCATION

MONITORING PERIOD			
YEAR	MO	DAY	DISCHARGE NUMBER
73	06	01	001A
73	06	30	

NOTE: Read instructions before completing this form.

PARAMETER (12-17)	(4 Card Only) QUANTITY OR LOADING (54-57)			(4 Card Only) QUANTITY OR CONCENTRATION (54-57)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	AVERAGE	MAXIMUM	UNITS	AVERAGE	MAXIMUM	UNITS			
TEMPERATURE							0	20/30	
WATER DEG FAHRENHEIT									
0011 1 0 0									
EFFLUENT GROSS VALUE									
PH									
00400 1 0 0									
EFFLUENT GROSS VALUE									
SOLIDS, TOTAL TSS									
SUSPENDED									
00530 1 0 0									
EFFLUENT GROSS VALUE									
OIL AND GREASE									
00556 1 0 0									
EFFLUENT GROSS VALUE									
CHROMIUM, TOTAL									
(AS CR)									
01034 1 0 0									
EFFLUENT GROSS VALUE									
ZINC									
TOTAL RECOVERABLE									
01094 1 0 0									
EFFLUENT GROSS VALUE									
COPPER									
TOTAL RECOVERABLE									
01119 1 0 0									
EFFLUENT GROSS VALUE									

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY KNOWLEDGE OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SO MANY PERMITS FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT (SEE 18 USC 1101) AND 33 USC 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of 6 months and 1 year.)

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
JEXELS, JAMES R.
16R, GOVT & ENV AFFRS

TYPED OR PRINTED

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
James R. Jexels

TELEPHONE
DATE
93 07 12

AREA CODE	NUMBER	YEAR	MO	DAY
0033	942808	93	07	12

DRESS P.O. Box 840
DENVER, CO 80201

PERMIT NUMBER
CO-0001104

DISCHARGE NUMBER
001A

INTERIM
Expires 3-31-88

CITY: Cheyenne
CATION:

NOTE: Read instructions before completing this form.

PARAMETER (12-37)	(3 Card Only) QUANTITY OR LOADING (54-61)			(4 Card Only) QUALITY OR CONCENTRATION (54-67)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-66)	SAMPLE TYPE (69-70)
	AVERAGE (46-53)	MAXIMUM (54-61)	UNITS	MINIMUM (58-65)	AVERAGE (46-53)	MAXIMUM (54-67)			
Temperature									
EG. FAIRENHETT									
0011 1 0 0									
Influent Gross Value									
0400 1 0 0									
Influent Gross Value									
Solids, Total suspended									
0530 1 0 0									
Influent Gross Value									
Oil and Grease									
Iron Extra-Grav Meth									
0556 1 0 0									
Influent Gross Value									
Nitrogen, Ammonia total (as N)									
0610 1 0 0									
Influent Gross Value									
Nitrogen, Nitrate total (as N)									
0620 1 0 0									
Influent Gross Value									
Phosphorus, Total (as P)									
0665 1 0 0									
Influent Gross Value									

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC 1001 AND 1303C §1319 (Penalties under these statutes may include fines up to \$100,000 and/or maximum imprisonment of between 6 months and 5 years)

NAME/TITLE: PRINCIPAL EXECUTIVE OFFICER
Signature: James R. GIBB, GOVT & ENV AFFERS
TYPED OR PRINTED

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
303 294-2808
AREA CODE NUMBER

TELEPHONE

DATE: 93 08 23

INTERIM

CO-0001104
PERMIT NUMBER

001A
DISCHARGE NUMBER

CO-0001104
PERMIT NUMBER

001A
DISCHARGE NUMBER

CO-0001104
PERMIT NUMBER

CO-0001104
PERMIT NUMBER

MONITORING PERIOD

YEAR	MO	DAY	YEAR	MO	DAY
93	07	01	93	07	31
FROM (20.21) (22.23) (24.25) TO (26.27) (28.29) (30.31)					

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	(1 Card Only) QUANTITY OR LOADING (34-35)		(4 Card Only) QUANTITY OR CONCENTRATION (34-37)		NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-65)	SAMPLE TYPE (69-70)
	AVERAGE	MAXIMUM	MINIMUM	AVERAGE			
Chromium, Trivalent (as Cr)				< 0.030	0	5/31	
01033 1 0 0				Report		1/7	GRAB
Effluent Gross Value				30-Day Avg. Daily Max.			
Zinc, Total (as Zn)				0.031	0	3/31	
01092 1 0 0				0.35		1/7	GRAB
Effluent Gross Value				30-Day Avg. Daily Max.			
Copper Total Recoverable				0.033	0	5/31	
01119 1 0 0				0.12		1/7	GRAB
Effluent Gross Value				30-Day Avg. Daily Max.			
Chromium, Hexavalent Dissolved (as Cr)				< 0.025	0	5/31	
01220 1 0 0				Report		1/7	GRAB
Effluent Gross Value				30-Day Avg. Daily Max.			
Flow, In Conduit Or Thru Treatment Plant	1.96	3.28			0	31/31	INST
50050 1 0 0	3.1	5.5				7/7	
Effluent Gross Value	30-Day Avg. Daily Max.						
Chlorine, Total Residual				< 0.05	0	5/31	
50060 1 0 0				Optional		1/7	GRAB
Effluent Gross Value				30-Day Avg. Daily Max.			
Oil And Grease					0	31/31	
Visual						7/7	VISUAL
84066 1 0 0							
Effluent Gross Value							

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIG NIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 USC 1001 AND 18 USC 1319. Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.

JAMES/TITLE PRINCIPAL EXECUTIVE OFFICER
 Wuxels, James R.
 MGR, GOVT & ENV AFFRS

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
James R. Wuxels

TELEPHONE
 DATE
 AREA CODE NUMBER
 303 294-2808
 YEAR MO DAY
 93 08 23

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NAME PUBLIC SERVICE COMPANY OF COLORADO
ADDRESS P. O. BOX 810
 DELVER, COLORADO 80501

INTERIM

PERMIT NUMBER
 CU 0001104
DISCHARGE NUMBER
 001A

MONITORING PERIOD
 FROM 93 08 01 TO 93 08 31
 (20-31) (22-31) (24-31) (26-31) (28-29) (30-31)

FACILITY CHIROKEE
LOCATION

NOTE: Read instructions before completing this form.

PARAMETER (27-37)	(J Card Only) QUANTITY OR LOADING (54-61)			(K Card Only) QUALITY OR CONCENTRATION (54-61)			NO. EX ANALYSIS (64-68)	FREQUENCY OF ANALYSIS (69-76)	SAMPLE TYPE (69-76)		
	AVERAGE (46-53)	MAXIMUM (54-61)	UNITS (54-61)	MINIMUM (58-65)	AVERAGE (46-53)	MAXIMUM (54-61)				UNITS (54-61)	
TEMPERATURE							0	31/31			
WATER DEG FAHRENHEIT								7/7	INSITU		
00011 1 0 0				Optional Minimum	Report 30-Day Avg.	(15) DEGF	0	31/31			
EFFLUENT GROSS VALUE				6.750	7.790	(12) SU	0	31/31			
PH											
00400 1 0 0				6.500 Minimum	9.000 Maximum			7/7	GRAB		
EFFLUENT GROSS VALUE											
SOLIDS, TOTAL TSS					18.840	(19) MG/L	0	5/31			
SUSPENDED											
00530 1 0 0					30.000 30-Day Avg.			1/7	GRAB		
EFFLUENT GROSS VALUE											
OIL AND GREASE											
CRUDN EXTR GRAY HEFT											
00556 1 0 0								0	0/31		
EFFLUENT GROSS VALUE											
NITROGEN, AMMONIA TOTAL (AS N)								CONT.	GR		
00610 1 0 0					13.500 30-Day Avg.	(19) MG/L	0	1/31			
EFFLUENT GROSS VALUE											
NITROGEN, NITRATE TOTAL (AS N)								1/30	GRAB		
00620 1 0 0					10.400	(19) MG/L	0	1/31			
EFFLUENT GROSS VALUE											
PHOSPHORUS, TOTAL (AS P)								1/30	GRAB		
00655 1 0 0					0.600	(19) MG/L	0	1/31			
EFFLUENT GROSS VALUE											
I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE NO SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC 1001 AND 33 USC 1319 (Penalties under (New statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 3 years))											
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER							TELEPHONE			DATE	
JEWEL C. JAMES R.							303 942 800			93 09 13	
AGR, GOVT & UNV AFFERS							AREA NUMBER			YEAR MO DAY	
TYPED OR PRINTED							303 942 800			93 09 13	
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT							AREA NUMBER			YEAR MO DAY	
							303 942 800			93 09 13	

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

INTERIM

(17-19)

001A
DISCHARGE NUMBER

00001104
PERMIT NUMBER

(2-16)

00001104
PERMIT NUMBER

(20-21) (22-23) (24-25)
FROM

MONITORING PERIOD

YEAR	MO	DAY	YEAR	MO	DAY
73	08	01	73	08	31

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	(J Card Only) QUANTITY OR LOADING (54-61)			(K Card Only) QUALITY OR CONCENTRATION (54-61)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	AVERAGE (66-67)	MAXIMUM (68)	UNITS (69)	MINIMUM (71-72)	AVERAGE (73-74)	MAXIMUM (75-76)			
IRONIUM, TRIVALENT (AS CR)					< 0.03	(19)	0	5 / 31	
1010 1 0 0 EFLUENT GROSS VALUE				Report 30-Day Avg.	0.055 Daily Max.	MG/L	0	1/7	GRAB
1011 1 0 0 INC, TOTAL (AS ZN)				0.076-	0.134	(19)	0	5 / 31	
1012 1 0 0 EFLUENT GROSS VALUE				0.350	0.400 Daily Max.	MG/L	0	1/7	GRAB
1013 1 0 0 OPPER				0.042	0.049	(19)	0	5 / 31	
1014 1 0 0 OTAL RECOVERABLE				0.120	0.240 Daily Max.	MG/L	0	1/7	GRAB
1015 1 0 0 EFLUENT GROSS VALUE				30-Day Avg.	< 0.025	(19)	0	5 / 31	
1016 1 0 0 BROMIUM, HEXAVALENT (AS CR)				Report 30-Day Avg.	0.018 Daily Max.	MG/L	0	1/7	GRAB
1017 1 0 0 EFLUENT GROSS VALUE				2.115	3.750	(03)	0	31/31	
1018 1 0 0 LOW, IN CONDUIT OR THRU TREATMENT PLANT				3.100 30-Day Avg.	5.500 Daily Max.	MG/L	0	7/7	INST
1019 1 0 0 EFLUENT GROSS VALUE					< 0.05	(19)	0	5 / 31	
1020 1 0 0 CHLORINE TOTAL RESIDUAL				INST. MAX.	0	MG/L	0	1/7	GR
1021 1 0 0 EFLUENT GROSS VALUE					Optional 30-Day Avg.	MG/L	0	31/31	VISUAL
1022 1 0 0 OIL AND GREASE VISUAL							0	7/7	
1023 1 0 0 EFLUENT GROSS VALUE									

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY KNOWLEDGE AND BELIEF, I BELIEVE THE INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319. Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
James R. Jexels

3031942808
AREA NUMBER

93 09 13
YEAR MO DAY

TELEPHONE

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

JEXELS, JAMES R.
DIR, GOVT & ENV AFFRS

TYPED OR PRINTED

Public Service Company of Colorado
 P.O. Box 940
 Denver, Colorado 80201

City: Denver
 Location: Cherokee

Permit Number: 0001104
 Discharge Number: 001A

Monitoring Period:
 From: 73 07 01 to 73 07 30

Quantity or Concentration (4 Card Only):
 (20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

Quantity or Loading (3 Card Only):
 (34-35) (36-37) (38-39)

Quality or Concentration (4 Card Only):
 (46-53) (54-61) (62-63) (64-68)

Frequency of Analysis (64-68):
 0 30/30
 7/7
 0 30/30
 7/7
 0 3/30
 1/7
 0 0/30
 CONT
 0 1/30
 1/30
 0 1/30
 1/30
 0 1/30
 1/30

Sample Type (69-70):
 (15)
 DECF
 (12)
 SU
 (19)
 MG/L
 (19)
 MG/L
 (17)
 MG/L
 (19)
 MG/L
 (19)
 MG/L
 (19)
 MG/L

Sample Type (69-70):
 (15)
 DECF
 (12)
 SU
 (19)
 MG/L
 (19)
 MG/L
 (17)
 MG/L
 (19)
 MG/L
 (19)
 MG/L
 (19)
 MG/L

PARAMETER (22-37)	QUANTITY OR LOADING (3 Card Only) (34-35)			QUALITY OR CONCENTRATION (4 Card Only) (46-53)			UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	AVERAGE (46-53)	MAXIMUM (34-35)	MINIMUM (36-37)	AVERAGE (54-61)	MAXIMUM (54-61)	MINIMUM (58-59)				
TEMPERATURE				69.273	79.700		(15)	0	30/30	
WATER DEG FAHRENHEIT				REPORT	86.000		DECF		7/7	
0011 1 0 0				30-Day Avg.	Daily Max.					INSITU
EFFLUENT GROSS VALUE				7.10	7.690			0	30/30	
0400 1 0 0				6.500	9.000				7/7	GRAB
EFFLUENT GROSS VALUE				MINIMUM	Maximum			0	3/30	
SOLIDS, TOTAL TSS				7.000	7.400				1/7	GRAB
0530 1 0 0				30.000	84.000				1/7	GRAB
EFFLUENT GROSS VALUE				30-Day Avg.	Daily Max.				0	0/30
IL AND GPLASE				CONTINGENT					CONT	GR
REON EXTR-GRAY METH				13.500	17.000				0	1/30
0556 1 0 0				30-Day Avg.	Daily Max.				1/30	GRAB
EFFLUENT GROSS VALUE				0.110	0.110				0	1/30
NITROGEN, AMMONIA				REPORT	REPORT				1/30	GRAB
TOTAL (AS N)				30-Day Avg.	Daily Max.				0	1/30
0610 1 0 0				10.600	10.600				0	1/30
EFFLUENT GROSS VALUE				REPORT	REPORT				0	1/30
NITROGEN, NITRATE				30-Day Avg.	Daily Max.				0	1/30
TOTAL (AS N)				REPORT	REPORT				0	1/30
0620 1 0 0				0.300	0.300				0	1/30
EFFLUENT GROSS VALUE				REPORT	REPORT				0	1/30
NITROGEN, TOTAL				30-Day Avg.	Daily Max.				0	1/30
0650 1 0 0				REPORT	REPORT				0	1/30
EFFLUENT GROSS VALUE				30-Day Avg.	Daily Max.				0	1/30
PHOSPHORUS, TOTAL				REPORT	REPORT				0	1/30
AS P)				30-Day Avg.	Daily Max.				0	1/30
0655 1 0 0				REPORT	REPORT				0	1/30
EFFLUENT GROSS VALUE				30-Day Avg.	Daily Max.				0	1/30

NOTE: Read instructions before completing this form.

TELEPHONE: _____

DATE: _____

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER: _____

OFFICER OR AUTHORIZED AGENT: _____

AREA NUMBER: 3037942800

YEAR: 93

MO: 10

DAY: 12

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

NAME FUEL... ADDRESS P.O. BOX 840 DENVER, COLORADO 80201

CD-0001104 PERMIT NUMBER

0010 DISCHARGE NUMBER

INTERIM

UNID Expires 3-

MONITORING PERIOD
 FROM 73 07 01 TO 73 07 30
 (20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

NOTE: Read instructions before completing this form.

PARAMETER (22-37)	(J Card Only) QUANTITY OR LOADING (54-61)		(4 Card Only) QUALITY OR CONCENTRATION (54-61)		NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-66)	SAMPLE TYPE (69-70)
	AVERAGE (46-53)	MAXIMUM (54-55)	AVERAGE (46-53)	MAXIMUM (54-55)			
CHROMIUM, TRIVALENT (AS CR)					0	4 / 30	
EFFLUENT GROSS VALUE			REPORT 30-Day Avg. Daily Max.	0.055		1/7	GRAB
ZINC, TOTAL (AS ZN)			0.035	0.048	0	4 / 30	
EFFLUENT GROSS VALUE			0.350	0.400		1/7	GRAB
COPPER			0.025	0.034	0	4 / 30	
TOTAL RECOVERABLE			0.120	0.240		1/7	GRAB
EFFLUENT GROSS VALUE			REPORT 30-Day Avg. Daily Max.	0.018	0	4 / 30	GRAB
CHROMIUM, HEXAVALENT DISSOLVED (AS CR)			0.025	0.025		4 / 30	
EFFLUENT GROSS VALUE			REPORT 30-Day Avg. Daily Max.	0.018		1/7	GRAB
LOW, IN CONDUIT OR THRU TREATMENT PLANT		1.830			0	30 / 30	
EFFLUENT GROSS VALUE		3.100				7/7	INST
CHLORINE TOTAL RESIDUAL		30-Day Avg. Daily Max.			0	4 / 30	
EFFLUENT GROSS VALUE			0.05	0.05		4 / 30	
DIL AND GREASE VISUAL			OPTIONAL 30-Day Avg. Daily Max.	0.021		1/7	GR
EFFLUENT GROSS VALUE					0	30/30	
VISUAL						7/7	VISUAL

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)

James R. Wafel
 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 JEXELS, JAMES R.
 MGR, GOVT & ENV AFFRS

3031742808
 AREA NUMBER

DATE
 93 10 12
 YEAR MO DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

INTERIM

CO-0001104
PERMIT NUMBER

DISCHARGE NUMBER
001W

MONITORING PERIOD

FROM 93 07 01 TO 93 09 30
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

NAME Public Service Company of Colorado
ADDRESS P.O. Box 840
Denver, CO 80201

CITY Cherokee
CATION

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	QUANTITY OR LOADING (34-61)			QUALITY OR CONCENTRATION (34-51)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	AVERAGE (46-53)	MAXIMUM (46-53)	UNITS (46-53)	MINIMUM (38-45)	AVERAGE (46-53)	MAXIMUM (34-51)			
2/F STATRE 48HR ACU Ceriodaphnia				0	0	(9A) Pass=0 Fail=1	0	1/90	GRAB
Effluent Gross Value				REPORT	REPORT	SING SAMP		QTRLY	GRAB
2/F STATRE 96HR ACU Pimephales Promelas				0	0	(9A) Pass=0 Fail=1	0	1/90	GRAB
Effluent Gross Value				REPORT	REPORT	SING SAMP		QTRLY	GRAB
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									

I, CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY KNOWLEDGE OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIX (6) PERMIT REQUIREMENTS FOR SUBMITTING: FAIL IN INFORMATION INCLUDING THE PERMIT NUMBER OF THE PERMIT, IMPROPERLY SEE TO U.S.C. 100 AND 101 AND 102 AND 103. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of 10 years, 6 months and 3 years.)

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
Nexels, James R.
MGR, GOVT & ENV AFFRS

TYPED OR PRINTED

TELEPHONE
DATE

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
303 294-2808
AREA NUMBER

YEAR 93
MO 10
DAY 12

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all pertinent items)

ADDRESS P.O. BOX 140
 DENVER, COLORADO 80201

CD-0001104
 PERMIT NUMBER

001A
 DISCHARGE NUMBER

INIEKIN

NOTE: Read instructions before completing this form.

MONITORING PERIOD
 FROM 7/3 10 01 TO 7/3 10 31
 (20/21) (22/23) (24/25) (26/27) (28/29) (30/31)

PARAMETER (32-37)	QUANTITY OR LOADING (34-61)			QUALITY OR CONCENTRATION (34-61)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM			
TEMPERATURE					65.874	74.500	0	31/31	
WATER DEG FAHRENHEIT					REPORT 30-Day Avg.	86.000 Daily Max.		7/7	INSITU
00011 1 0 0				Optional Minimum					
TFFLUENT GROSS VALUE				6.740		7.750	0	31/31	
"H									
00400 1 0 0				6.500 Minimum		9.000 Maximum		7/7	GRAB
TFFLUENT GROSS VALUE					13.200	21.200	0	4 /31	
SOLIDS, TOTAL TSS									
SUSPENDED									
00530 1 0 0					30.000	84.000		1/7	GRAB
TFFLUENT GROSS VALUE					30-Day Avg.	Daily Max.			
OIL AND GREASE				CONTINGENT			0	0 /31	
TRON EXTR GRAY METH									
00556 1 0 0					13.500	17.000		CONT	GR
TFFLUENT GROSS VALUE					30-Day Avg.	Daily Max.			
NITROGEN, AMMONIA									
TOTAL (AS N)									
00610 1 0 0						0.200	0	1 /31	
TFFLUENT GROSS VALUE									
NITROGEN, NITRATE					REPORT 30-Day Avg.	REPORT Daily Max.		1/30	GRAB
TOTAL (AS N)									
00620 1 0 0					12.300	12.300	0	1 /31	
TFFLUENT GROSS VALUE									
PHOSPHORUS, TOTAL					REPORT 30-Day Avg.	REPORT Daily Max.		1/30	GRAB
(AS P)									
00635 1 0 0					0.950	0.950	0	1 /31	
TFFLUENT GROSS VALUE									
00640 1 0 0					REPORT 30-Day Avg.	REPORT Daily Max.		1/30	GRAB
TFFLUENT GROSS VALUE									

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY KNOWLEDGE AND BELIEF, THE INFORMATION IS TRUE AND CORRECT. I AM NOT PROVIDING THIS INFORMATION FOR ANY OTHER PURPOSE THAN THAT STATED HEREIN. I AM NOT PROVIDING THIS INFORMATION FOR ANY OTHER PURPOSE THAN THAT STATED HEREIN. I AM NOT PROVIDING THIS INFORMATION FOR ANY OTHER PURPOSE THAN THAT STATED HEREIN.

NAME/TITLE: JAMES R. WEXELS, JR., PRINCIPAL EXECUTIVE OFFICER
 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER: [Signature]
 OFFICER OR AUTHORIZED AGENT: [Signature]
 TELEPHONE: 303-942-8008
 DATE: 5/31/81

MS PUBLIC SERVICE COMPANY OF COLORADO
 BOX 100 BOX 840
 DENVER, COLORADO 80201

CO-0001104
 PERMIT NUMBER

0016
 DISCHARGE NUMBER

INTERIM

MONITORING PERIOD
 FROM YEAR 73 MO 10 DAY 01 TO YEAR 73 MO 10 DAY 31
 (20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	(3 Card Only) QUANTITY OR LOADING (34-41)			(4 Card Only) QUALITY OR CONCENTRATION (46-53)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-65)	SAMPLE TYPE (69-70)
	AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM			
IRONIUM, TRIVALENT (AS CR)					< 0.03	< 0.03	0	4 / 31	
0033 1 0 0					REPORT 30-Day Avg.	0.055 Daily Max.		1 / 7	GRAB
EFFLUENT GROSS VALUE					0.043	0.060	0	4 / 31	
0034 1 0 0					0.350	0.400	0	1 / 7	GRAB
EFFLUENT GROSS VALUE					REPORT 30-Day Avg.	Daily Max.		4 / 31	
0035 1 0 0					0.032	0.043	0	1 / 7	GRAB
EFFLUENT GROSS VALUE					0.120	0.240	0	4 / 31	
0036 1 0 0					REPORT 30-Day Avg.	Daily Max.		1 / 7	GRAB
EFFLUENT GROSS VALUE					< 0.025	< 0.025	0	4 / 31	
0037 1 0 0					REPORT 30-Day Avg.	Daily Max.		1 / 7	GRAB
EFFLUENT GROSS VALUE							0	31 / 31	
0038 1 0 0								7 / 7	INST
EFFLUENT GROSS VALUE							0	4 / 31	
0039 1 0 0					OPTIONAL 30-Day Avg.	Daily Max.		1 / 7	OR
EFFLUENT GROSS VALUE							0	31 / 31	
0040 1 0 0								7 / 7	VISUAL
EFFLUENT GROSS VALUE									

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY KNOWLEDGE OF THE INFORMATION IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties apply, these penalties may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
James R. Weyels
 JAMES R. WYELS
 PRINCIPAL EXECUTIVE OFFICER & ENV AFFERS

TELEPHONE
 DATE
 AREA CODE NUMBER
 303 942808
 YEAR MO DAY
 93 11 16

TYPED OR PRINTED
 COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

11-17
001A
DISCHARGE NUMBER

12-19
CO-0001104
PERMIT NUMBER

12-19
CO-0001104
PERMIT NUMBER

MS PUBLIC SERVICE COMPANY DE LAULUKOU
ADDRESS P.O. BOX 840
DENVER, COLORADO 80201

MONITORING PERIOD
FROM 73 11 01 TO 93 11 30
(70-31) (21-31) (22-31) (76-31) (78-31) (30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	QUANTITY OR LOADING (54-61)			QUALITY OR CONCENTRATION (54-61)			NO. OF ANALYSIS (62-67)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM			
TEMPERATURE					52.203	58.200	0	31/30	
WATER DEO FARENHEIT				Optional Minimum	Report 30-Day Avg. Daily Max.	86,000		7/7	INSITU
0011 1 0 0				6.960		7.750	0	31/30	
EFFLUENT GROSS VALUE				6.500 Minimum		7.000 Maximum		7/7	GRAB
0400 1 0 0					12.033	14.000	0	6/30	
EFFLUENT GROSS VALUE					30,000	84,000		1/7	GRAB
OLIOS, TOTAL TSS					30-Day Avg. Daily Max.			0/30	
03FENDEO								CONT	GR
0530 1 0 0					13,500	17,000	0	1/30	
EFFLUENT GROSS VALUE					30-Day Avg. Daily Max.			1/30	GRAB
OIL AND GREASE								1/30	
0536 1 0 0					0.170	0.170	0	1/30	
REON EXTR ORAV METI					Report 30-Day Avg. Daily Max.			1/30	GRAB
0536 1 0 0					10.700	10.700	0	1/30	
EFFLUENT GROSS VALUE					Report 30-Day Avg. Daily Max.			1/30	GRAB
NITROGEN, AMONIA					Report 30-Day Avg. Daily Max.			1/30	
TOTAL (AS N)					0.680	0.680	0	1/30	
0610 1 0 0					Report 30-Day Avg. Daily Max.			1/30	GRAB
EFFLUENT GROSS VALUE					Report 30-Day Avg. Daily Max.			1/30	
NITROGEN, NITRATE					Report 30-Day Avg. Daily Max.			1/30	
TOTAL (AS N)					Report 30-Day Avg. Daily Max.			1/30	
0620 1 0 0					Report 30-Day Avg. Daily Max.			1/30	
EFFLUENT GROSS VALUE					Report 30-Day Avg. Daily Max.			1/30	
PHOSPHORUS, TOTAL					Report 30-Day Avg. Daily Max.			1/30	
AS P)					Report 30-Day Avg. Daily Max.			1/30	
0665 1 0 0					Report 30-Day Avg. Daily Max.			1/30	
EFFLUENT GROSS VALUE					Report 30-Day Avg. Daily Max.			1/30	

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319. Penalties under these statutes may include, from up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
JAMES S. JAMES R.
MGR, GOVT & ENV AFFRS

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
3031942808

AREA NUMBER
3031942808

DATE
53 12 14

TELEPHONE
OFFICER OR AUTHORIZED AGENT

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

TYPED OR PRINTED

INTERIM

CD-0001104
PERMIT NUMBER

001A
DISCHARGE NUMBER

CD-0001104
PERMIT NUMBER

ADDRESS: P.O. BOX 840
DENVER, COLORADO 80201

VELOCITY CHEEKEE
LOCATION

NOTE: Read instructions before completing this form.

MONITORING PERIOD

YEAR	MO	DAY	YEAR	MO	DAY
73	11	01	73	11	30

FROM (20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

PARAMETER (32-37)	(J Card Only) QUANTITY OR LOADING (34-61)		(K Card Only) QUANTITY OR CONCENTRATION (34-61)		NO. EX. (62-67)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-79)
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM			
CHROMIUM, TRIVALENT (AS CR)			< 0.03	< 0.03	0	5 / 30	
1033 1 0 0			Report 30-Day Avg.	0.055 Daily Max.		1/7	GRAB
CELLENT GROSS VALUE INC, TOTAL (AS ZN)			0.043	0.059	0	5 / 30	
1092 1 0 0			0.1350 30-Day Avg.	0.400 Daily Max.		1/7	GRAB
CELLENT GROSS VALUE UPPER TOTAL RECOVERABLE			0.023	0.040	0	5 / 30	
1117 1 0 0			0.1120 30-Day Avg.	0.240 Daily Max.		1/7	GRAB
CELLENT GROSS VALUE CHROMIUM, HEXAVALENT DISSOLVED (AS CR)			< 0.025	< 0.025	0	5 / 30	
1220 1 0 0			Report 30-Day Avg.	0.010 Daily Max.		1/7	GRAB
CELLENT GROSS VALUE LOW, IN CONDUIT OR HRU TREATMENT PLANT			1.898	3.750	0	31/30	
0050 1 0 0			3.100 30-day Avg.	5.500 Daily Max.		7/7	INST
CELLENT GROSS VALUE CHLORINE TOTAL (SODIUM)					0	30/30	
0060 1 0 0						1/7	GR
CELLENT GROSS VALUE IL AND GREASE VISUAL					0	30/30	
4066 1 0 0						7/7	VISUAL
CELLENT GROSS VALUE							

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY KNOWLEDGE OF THESE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 USC § 1001 AND 33 USC § 1318. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of 5 years, 6 months, and 1 year.)

JAMES/TITLE PRINCIPAL EXECUTIVE OFFICER
 EXELS, JAMES R.
 GR, GOVT & ENV AFFRS
 TYPED OR PRINTED

TELEPHONE
 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
 OFFICER OR AUTHORIZED AGENT
 NUMBER
 AREA CODE
 DATE
 YEAR
 MO
 DAY

STATEMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

ADDRESS 1225 17TH STREET, WHITE 2000

P.O. BOX 840

CITY DENVER CO 80201

CITY DENVER CO 80201

CITY DENVER CO 80201

CITY DENVER CO 80201

CITY DENVER CO 80201

CITY DENVER CO 80201

CITY DENVER CO 80201

CITY DENVER CO 80201

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CITY DENVER CO 80201

CITY DENVER CO 80201

CITY DENVER CO 80201

CITY DENVER CO 80201

CITY DENVER CO 80201

PERMIT NUMBER C00001104

DISCHARGE NUMBER 001 A

MONITORING PERIOD

DAY 01 TO 01

YEAR 93

MO 12

DAY 31

DATE 12/31/93

DATE 12/31/93

DATE 12/31/93

DATE 12/31/93

DATE 12/31/93

DATE 12/31/93

DATE 12/31/93

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DATE 12/31/93

DATE 12/31/93

DATE 12/31/93

DATE 12/31/93

DATE 12/31/93

(SUBR EC) OMB WA 7540-0004

M - INTER approval expires 6-30-91

FINAL TREATMENT TO SO PLATTS

*** NO DISCHARGE ***

NOTE: Read instructions before completing this form.

PARAMETER (37-37)	QUANTITY OR LO. (34-41)			QUALITY OR CONCENTRATION (34-41)			UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	AVERAGE (46-53)	MAXIMUM (36-43)	MINIMUM (38-45)	AVERAGE (46-53)	MAXIMUM (34-41)	MINIMUM (38-45)				
TEMPERATURE, WATER	***	***	***	52.290	55.800		(15)	0	31/31	
DRG. FARMENHIT	***	***	***	***	***	***	DEG.F			
00011 1 0 0	***	***	***	***	***	***				
EFFLUENT GROSS VALUE	***	***	***	***	***	***				
PH	***	***	***	6.69	7.70		(12)	0	31/31	
00400 1 0 0	***	***	***	***	***	***				
EFFLUENT GROSS VALUE	***	***	***	***	***	***				
SOLIDS, TOTAL	***	***	***	***	***	***				
SUSPENDED	***	***	***	10.38	16.40		(19)	0	5/31	
00530 1 0 0	***	***	***	***	***	***	MG/L			
EFFLUENT GROSS VALUE	***	***	***	***	***	***				
OIL AND GREASE	***	***	***	***	***	***				
PERSON EXTR-GRAV METH	***	***	***	Contingent	Contingent	Contingent				
00556 1 0 0	***	***	***	***	***	***	(19)	0	0/31	
EFFLUENT GROSS VALUE	***	***	***	***	***	***	MG/L			
NITROGEN, AMMONIA	***	***	***	***	***	***				
TOTAL (AS N)	***	***	***	0.180	0.180		(19)	0	1/31	
00610 1 0 0	***	***	***	***	***	***				
EFFLUENT GROSS VALUE	***	***	***	***	***	***	MG/L			
NITROGEN, NITRATE	***	***	***	***	***	***				
TOTAL (AS N)	***	***	***	12.426	12.426		(19)	0	1/31	
00620 1 0 0	***	***	***	***	***	***				
EFFLUENT GROSS VALUE	***	***	***	***	***	***	MG/L			
PHOSPHORUS, TOTAL	***	***	***	***	***	***				
(AS P)	***	***	***	0.680	0.680		(19)	0	1/31	
00665 1 0 0	***	***	***	***	***	***				
EFFLUENT GROSS VALUE	***	***	***	***	***	***	MG/L			

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. Penalties under these statutes may include fines up to \$100,000 and/or maximum imprisonment of between 6 months and 5 years.

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 Wexels, James R.
 MGR, GOVT & ENV AFFRS

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
 303 294-2808
 AREA NUMBER

TELEPHONE
 DATE
 MONTH 12 DAY 12 YEAR 94

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 REPORT TOTAL RECOVERABLE CR+3. ONP-TIME GRAH ANALYSIS FOR TR PE, TR SE 6 NITRITE REQUIRED AT FID51 DIS-
 CHARGES. ADD'L MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO ASH PONDS-Y.9.3.9.

TYPED OR PRINTED

MAJOR Form Approved.
(SUBR EC) OMB No. 16940-0004.
M - INTER Approval expires 6-30-91.
FINAL TREATMENT TO SO PLATTE

001 A
DISCHARGE NUMBER

MONITORING PERIOD
AR MO DAY
13 12 31

PERMIT NUMBER
00001104

QUALITY OR CONCENTRATION (34-41)
AVERAGE (46-53)
MINIMUM (45)
MAXIMUM (34-41)
UNITS (19)

NO DISCHARGE
NOTE: Read instructions before completing this form.

PERMIT NUMBER
C00001104

DISCHARGE NUMBER
001 A

MONITORING PERIOD
AR MO DAY
13 12 31

PERMIT NUMBER
00001104

MAJOR Form Approved.
(SUBR EC) OMB No. 16940-0004.
M - INTER Approval expires 6-30-91.
FINAL TREATMENT TO SO PLATTE

PARAMETER (37-37)	QUANTITY OR LOADING (54-51)		QUALITY OR CONCENTRATION (34-41)		FREQUENCY OF ANALYSIS (64-44)	SAMPLE TYPE (69-70)
	AVERAGE (46-53)	MAXIMUM (34-41)	AVERAGE (46-53)	MINIMUM (45)		
IRONIUM, TRIVALENT (AS CR)	0.033	0.051	0.033	0.051	0	4/31
PLUENT GROSS VALUE	0.033	0.051	0.033	0.051	0	4/31
NC, TOTAL (AS ZN)	0.033	0.051	0.033	0.051	0	4/31
PLUENT GROSS VALUE	0.033	0.051	0.033	0.051	0	4/31
PPER	0.033	0.051	0.033	0.051	0	4/31
TOTAL RECOVERABLE	0.033	0.051	0.033	0.051	0	4/31
PLUENT GROSS VALUE	0.033	0.051	0.033	0.051	0	4/31
IRONIUM, HEXAVALENT DISSOLVED (AS CR)	0.12	0.079	0.12	0.079	0	4/31
PLUENT GROSS VALUE	0.12	0.079	0.12	0.079	0	4/31
CON, IN CONDUIT OR TREATMENT PLANT	3.920	3.920	3.920	3.920	0	31/31
PLUENT GROSS VALUE	3.920	3.920	3.920	3.920	0	31/31
ILORINE, TOTAL	0.060	0.021	0.060	0.021	0	9/31
SIDUAL	0.060	0.021	0.060	0.021	0	9/31
PLUENT GROSS VALUE	0.060	0.021	0.060	0.021	0	9/31
EL AND GREASE	0.066	0	0.066	0	0	31/31
SUAL	0.066	0	0.066	0	0	31/31
PLUENT GROSS VALUE	0.066	0	0.066	0	0	31/31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY KNOWLEDGE AND BELIEF, THE INFORMATION IS TRUE AND CORRECT. I AM RESPONSIBLE FOR OBTAINING THE INFORMATION AND COMPLETELY RELYING THEREON. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 16 USC 11001 AND 11002. I understand that these penalties may include fines up to \$10,000 and/or a maximum imprisonment of between 6 months and 5 years.

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
Wexels, James R.
MGR, GOVT & ENV AFFRS

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER
James R. Wexels

OFFICER OR AUTHORIZED AGENT

TELEPHONE NUMBER
294-2808

DATE
01 12

REPORT TOTAL RECOVERABLE CR+3. ONE-TIME GPAB ANALYSIS FOR TR FE, TR SE & NITRITE REQUIRED AT FIRST DISCHARGE. ADD'L MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO ASH POND - I. I. I. I. I.

001 Q
DISCHARGE NUMBER

C00001104
PERMIT NUMBER

001 Q
DISCHARGE NUMBER

MONITORING PERIOD
YEAR MO DAY TO YEAR MO DAY
93 10 01 TO 93 12 31

FROM 20-31 (22-23) (24-25) (26-27) (28-29) (30-31)

QUALITY OR CONCENTRATION (54-61)
AVERAGE (46-51)
MINIMUM (38-45)
MAXIMUM (54-61)

UNITS (62-63)
(19)

NO. EX. ANALYSES (64-67)
0 1/90

SAMPLE TYPE (69-70)

DATE

001 Q
DISCHARGE NUMBER

C00001104
PERMIT NUMBER

001 Q
DISCHARGE NUMBER

MONITORING PERIOD
YEAR MO DAY TO YEAR MO DAY
93 10 01 TO 93 12 31

QUALITY OR CONCENTRATION (54-61)
AVERAGE (46-51)
MINIMUM (38-45)
MAXIMUM (54-61)

UNITS (62-63)
(19)

NO. EX. ANALYSES (64-67)
0 1/90

SAMPLE TYPE (69-70)

DATE

DATE

NOTE: Read instructions before completing this form.

OPTIONAL REPORT
300A AVE DALLAS TX 75211

303
AREA CODE

294-2808
NUMBER

94
YEAR

01
MO

12
DAY

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

James R. Weixel

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

QUARTERLY SAMPLING AND REPORTING INSTRUCTIONS--SEE FOOTNOTE D/, PG 2.

MAJOR Form Approved.
(SUBR EC) OMB NO. 1545-0004.
M - INTERIM approval expires 6-30-91.
ACUTE NET TESTING FOR 001

DISCHARGE MONITORING REPORT (DMR)
(17-19)
001 W
DISCHARGE NUMBER

MONITORING PERIOD
YEAR MO DAY
93 12 31
FROM TO
(28-21) (28-29) (30-31)

PERMIT NUMBER
00001104
CO 80201
DENVER

NAME PUBLIC SERVICE CO-CHEMORRE
ADDRESS 225 17TH STREET, SUITE 2000
P.O. BOX 990
DENVER CO 80201

*** NO DISCHARGE ***
NOTE: Read instructions before completing this form.

PARAMETER (28-27)	QUANTITY OR CONCENTRATION (34-47)			UNIT (34-48)	NO. EX ANALYSIS (64-68)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	AVERAGE (46-51)	MINIMUM (46-51)	MAXIMUM (46-51)				
777 STATE 48HR ACU CERIODAPHRINA TG38 1 0 0 EFFLUENT GROSS VALUE	*****	0	0	(9A)	0	1/90	
777 STATE 96HR ACU PINEPHALES PROMELAS TG6C 1 0 0 EFFLUENT GROSS VALUE	*****	0	0	ASS=0 FAIL=	0	1/90	
SAMPLE MEASUREMENT							
SAMPLE MEASUREMENT							
SAMPLE MEASUREMENT							
SAMPLE MEASUREMENT							
SAMPLE MEASUREMENT							
SAMPLE MEASUREMENT							
SAMPLE MEASUREMENT							

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
Wexels, James R.
MGR, GOVT & ENV AFFRS

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
James R. Wexels

TELEPHONE
303 294-2808

DATE
94 01 12

AREA CODE NUMBER

TYPED OR PRINTED

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

SEE PART I.B OF PERMIT FOR DETAILS OF TEST PROCEDURE. REPORT RESULTS OF IMC TEST AS "MINIMUM" AND "MAXIMUM" AND ATTACH ACUTE TOXICITY TEST REPORT FORM TO DMR.

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)
 MAJOR (SUBR EC) OMB No: 2040-0004
 M - INTERIM APPROVAL EXPIRES 6-30-91.
 FINAL TREATMENT TO SO PLATTE

Form Approved

PERMIT NUMBER: C00001104
 DISCHARGE NUMBER: 001 A

MONITORING PERIOD
 FROM 94 01 01 TO 94 01 31

FACILITY: DENVER
 LOCATION: CO 80201

ATTN: LOUISE MEYERKORD, UNIT MGR

PARAMETER (37-37)	QUANTITY OR LOADING (46-53)			QUALITY OR CONCENTRATION (54-61)			NO. OF ANALYSIS (62-67)	FREQUENCY OF ANALYSIS (68-69)	SAMPLE TYPE (69-70)
	AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM			
TEMPERATURE, WATER	54.5	56.9	(15)	54.5	56.9	(15)	0	31/31	
DEG. FAHRENHEIT	OPTIONAL	REPORT		REPORT	30DA AVG				
C0011 1 0 0	MINIMUM	MINIMUM		30DA AVG	MAXIMUM	DEG. F			
EFFLUENT GROSS VALUE	7.19	7.96	(12)	7.19	7.96	(12)	0	31/31	
PH	6.5	9.0		6.5	9.0				
C0400 1 0 0	MINIMUM	MINIMUM		MINIMUM	MAXIMUM	SU		DAILY CONTIN	
EFFLUENT GROSS VALUE	20.4	32.4	(19)	20.4	32.4	(19)	0	4/31	
SOLIDS, TOTAL	30	84		30	84				
SUSPENDED	30DA AVG	DAILY MX	MG/L	30DA AVG	DAILY MX	MG/L			
C0530 1 0 0	Contingent	Contingent		Contingent	Contingent		0	0/31	
EFFLUENT GROSS VALUE	13.5	17		13.5	17				
OIL AND GREASE	0.75	0.75	(19)	0.75	0.75	(19)	0	1/31	
FREON EXTR-GRAV MPHT	REPORT	REPORT		REPORT	REPORT				
C0556 1 0 0	30DA AVG	INST MAX	MS/L	30DA AVG	INST MAX	MS/L			
EFFLUENT GROSS VALUE	14.1	14.1		14.1	14.1		0	1/31	
NITROGEN, AMMONIA	REPORT	REPORT		REPORT	REPORT				
TOTAL (AS N)	30DA AVG	DAILY MX	MG/L	30DA AVG	DAILY MX	MG/L			
C0610 1 0 0	1.43	1.43	(19)	1.43	1.43	(19)	0	1/31	
EFFLUENT GROSS VALUE	REPORT	REPORT		REPORT	REPORT				
NITROGEN, NITRATE	30DA AVG	DAILY MX	MG/L	30DA AVG	DAILY MX	MG/L			
TOTAL (AS N)	1.43	1.43		1.43	1.43		0	1/31	
C0620 1 0 0	REPORT	REPORT		REPORT	REPORT				
EFFLUENT GROSS VALUE	30DA AVG	DAILY MX	MG/L	30DA AVG	DAILY MX	MG/L			
PHOSPHORUS, TOTAL	1.43	1.43	(19)	1.43	1.43	(19)	0	1/31	
(AS P)	REPORT	REPORT		REPORT	REPORT				
C0665 1 0 0	30DA AVG	DAILY MX	MG/L	30DA AVG	DAILY MX	MG/L			
EFFLUENT GROSS VALUE	REPORT	REPORT		REPORT	REPORT				

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: Wexels, James R.
 MGR, GOVT & ENV AFFRS

TYPED OR PRINTED

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER: [Signature]

OFFICER OR AUTHORIZED AGENT

TELEPHONE NUMBER: 294-2808

DATE: 94 02 14

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

REPORT TOTAL RECOVERABLE CP+3. ONE-TIME GRAB ANALYSIS FOR TP PH, TH SG & NITRITE PROVIDED AT 2:30 PM. ADD'L MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO ASP POND-1, 2, 3.

FORM APPROVED
 (SUBR EC) OMB No. 2840-0004
 M - INTER Approval expires 6-30-91
 FINAL TREATMENT TO SO PLANTS

NO DISCHARGE
 NOTE: Read instructions before completing this form.

PERMIT NUMBER: CO0001104
 DISCHARGE NUMBER: C01A

MONITORING PERIOD
 FROM 7/1 (22-23) (24-25) TO 7/31 (26-27) (28-29) (30-31)

QUALITY OR CONCENTRATION (34-67)
 QUANTITY OR LOADING (34-51)
 QUANTITY OR LOADING (46-53)

PARAMETER (32-37)
 SAMPLE MEASUREMENT
 PERMIT REQUIREMENT

PARAMETER (32-37)	AVERAGE (46-53)	MINIMUM (38-45)	MAXIMUM (34-51)	UNITS	PERMIT REQUIREMENT	NO. OF ANALYSIS (64-68)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
CHROMIUM, TRIVALENT (AS CR)	<0.030	REPORT 30DA AVG	<0.030	(19)	PERMIT REQUIREMENT	0	WEEKLY	CRAB
INFLUENT GROSS VALUE	0.0665	0.0665	0.098	(19)	PERMIT REQUIREMENT	0	WEEKLY	CRAB
INC, TOTAL (AS ZN)	0.35	0.35	0.4	MG/L	PERMIT REQUIREMENT	0	WEEKLY	CRAB
TOTAL RECOVERABLE	0.12	0.12	0.24	MG/L	PERMIT REQUIREMENT	0	WEEKLY	CRAB
CHROMIUM, HEXAVALENT DISSOLVED (AS CR)	<0.025	REPORT 30DA AVG	<0.025	(19)	PERMIT REQUIREMENT	0	WEEKLY	CRAB
INFLUENT GROSS VALUE	4.30	4.30	5.5	MG/L	PERMIT REQUIREMENT	0	WEEKLY	CRAB
FLOW, IN CONDUIT OR THROUGH TREATMENT PLANT	3.1	3.1	3.0DA AVG	MG/L	PERMIT REQUIREMENT	0	WEEKLY	CRAB
CHLORINE, TOTAL RESIDUAL	<0.05	<0.05	<0.05	(19)	PERMIT REQUIREMENT	0	WEEKLY	CRAB
INFLUENT GROSS VALUE	0.021	0.021	0.021	MG/L	PERMIT REQUIREMENT	0	WEEKLY	CRAB
OIL AND GREASE	OPTIONAL 30DA AVG	OPTIONAL 30DA AVG	INST MAX	MG/L	PERMIT REQUIREMENT	0	WEEKLY	CRAB
VISUAL	PERMIT REQUIREMENT	PERMIT REQUIREMENT	PERMIT REQUIREMENT	PERMIT REQUIREMENT	PERMIT REQUIREMENT	0	WEEKLY	CRAB
INFLUENT GROSS VALUE	303	303	294-2808	AREA NUMBER	PERMIT REQUIREMENT	0	WEEKLY	CRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: James R. Wexels
 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER: [Signature]
 OFFICER OR AUTHORIZED AGENT: [Signature]
 TELEPHONE: 294-2808
 DATE: 02 14

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 18 USC § 1319 (Penalties under this statute may include fines up to \$100,000 and/or maximum imprisonment of between 6 months and 5 years)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 REPORT TOTAL RECOVERABLE CP+3. ONE-TIME GRAB ANALYSIS FOR TP FE. TP 25 & METRITE EQUIPPED TO MEASURE TP+3. ADDL MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO AGR TOWER-1, 2, 3.

TYPED OR PRINTED
 Wexels, James R.
 MGR, GOVT & ENV AFFRS

CO 80201
 LOUISE MEYERKORD, UNIT MGR

NAME PUBLIC SERVICE CO-CHESTER, CO
 ADDRESS 1225 17TH STREET, SUITE 2000
 P.O. BOX #10
 DENVER CO 80201

(12-19) 001 A
 DISCHARGE NUMBER

MONITORING PERIOD
 YEAR 94 MO 02 DAY 01
 FROM (20-2) (22-2) (24-2) TO (26-2) (28-2) (30-2)

MAJOR: Form Approved.
 (SUBR EC) OMB NO. 2040-0004.
 H - INTERDISPATCH APPROVAL EXPIRES 6-30-91.
 FINAL TREATMENT TO SO PLATTE

ATTN: LOUISE MEYERKORD, UNIT MGR
 NO DISCHARGE
 NOTE: Read instructions before completing this form.

PARAMETER (32-37)	QUANTITY OR LOADING (46-53)			QUALITY OR CONCENTRATION (54-61)			NO. EX. ANALYSIS (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	AVERAGE (46-53)	MAXIMUM (46-53)	UNITS (46-53)	AVERAGE (54-61)	MAXIMUM (54-61)	UNITS (54-61)			
TEMPERATURE, WATER				53.65	67.80	(15)	0	28/28	
DEG. FAHRENHEIT				REPORT 30DA AVG	86 MAXIMUM	DEG.F		DAILY	MSITU
00011 1 0 0				OPTIONAL MINIMUM	7.15	(12)	0	28/28	
EFFLUENT GROSS VALUE				6.5 MINIMUM	9.0 MAXIMUM	SH	0	DAILY	CONTIN
PH					11.28	(19)	0	5/28	
00400 1 0 0				30 30DA AVG	84 DAILY MX	MG/L	0	WEEKLY	GRAD
EFFLUENT GROSS VALUE				Contingent	17 INST MAX	(19)	0	0/28	
SOLIDS, TOTAL				13.5 30DA AVG	0.388	MG/L	0	CONTIN	GRAD
SUSPENDED				0.388	REPORT 30DA AVG	MG/L	0	ONCE/ MONTH	
00530 1 0 0				16.99	REPORT 30DA AVG	MG/L	0	1/28	
EFFLUENT GROSS VALUE				1.42	REPORT 30DA AVG	MG/L	0	ONCE/ MONTH	
OIL AND GREASE				REPORT 30DA AVG	1.42	MG/L	0	ONCE/ MONTH	
FREON FXTR-GRV METH				REPORT 30DA AVG	1.42	MG/L	0	ONCE/ MONTH	
00556 1 0 0				REPORT 30DA AVG	1.42	MG/L	0	ONCE/ MONTH	
EFFLUENT GROSS VALUE				REPORT 30DA AVG	1.42	MG/L	0	ONCE/ MONTH	
NITROGEN, AMMONIA				REPORT 30DA AVG	1.42	MG/L	0	ONCE/ MONTH	
TOTAL (AS N)				REPORT 30DA AVG	1.42	MG/L	0	ONCE/ MONTH	
00610 1 0 0				REPORT 30DA AVG	1.42	MG/L	0	ONCE/ MONTH	
EFFLUENT GROSS VALUE				REPORT 30DA AVG	1.42	MG/L	0	ONCE/ MONTH	
NITROGEN, NITRATE				REPORT 30DA AVG	1.42	MG/L	0	ONCE/ MONTH	
TOTAL (AS N)				REPORT 30DA AVG	1.42	MG/L	0	ONCE/ MONTH	
00620 1 0 0				REPORT 30DA AVG	1.42	MG/L	0	ONCE/ MONTH	
EFFLUENT GROSS VALUE				REPORT 30DA AVG	1.42	MG/L	0	ONCE/ MONTH	
PHOSPHORUS, TOTAL				REPORT 30DA AVG	1.42	MG/L	0	ONCE/ MONTH	
(AS P)				REPORT 30DA AVG	1.42	MG/L	0	ONCE/ MONTH	
00665 1 0 0				REPORT 30DA AVG	1.42	MG/L	0	ONCE/ MONTH	
EFFLUENT GROSS VALUE				REPORT 30DA AVG	1.42	MG/L	0	ONCE/ MONTH	

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 Wexels, James R.
 MGR, GOVT & ENV AFFRS

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER
 303 294-2808

TELEPHONE
 303 294-2808

DATE
 94 03 14

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 REPORT TOTAL RECOVERABLE CR#3. ONE-TIME 9949 ANALYSIS FOR TR FF, TR FF 9 WITHIN 60 DAYS AT SITE. NO CHARGE. ADD'L MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO 1500 BUCKET. 1.2.

DISCHARGE MONITORING REPORT (DMR)
 (2-16)

MAJOR Form Approved.
 (SUHR EC) OMB No. 2040-0004.
 M - INTER-APPROVAL expires 6-30-91.
 FINAL TREATMENT TO SO PLANTS

PERMIT NUMBER: C00001104
 DISCHARGE NUMBER: 001A

MONITORING PERIOD
 YEAR: 90 MO: 02 DAY: 28
 FROM: (20-21) (22-23) (24-25) TO: (26-27) (28-29) (30-31)

MAJOR: LOUISE MEYERKORD, UNIT MGR
 FACILITY: CO 80201
 LOCATION: DERVER

NO DISCHARGE
 NOTE: Read instructions before completing this form.

PARAMETER (32-37)	QUANTITY OR LOADING (46-51)			QUALITY OR CONCENTRATION (54-61)			NO. EX ANALYSIS (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	AVERAGE (46-53)	MAXIMUM (46-53)	UNITS (46-53)	AVERAGE (54-57)	MAXIMUM (54-57)	UNITS (54-57)			
CHROMIUM, TRIVALENT (AS CR)	***	***	***	<0.030	<0.030	(19)	0	5/28	WEEKLY GRAB
EFFLUENT GROSS VALUE	***	***	***	REPORT 30DA AVG	DAILY MX	MG/L	0	5/28	WEEKLY GRAB
ZINC, TOTAL (AS ZN)	***	***	***	0.065	0.088	(19)	0	5/28	WEEKLY GRAB
EFFLUENT GROSS VALUE	***	***	***	0.35 30DA AVG	DAILY MX	MG/L	0	5/28	WEEKLY GRAB
COPPER	***	***	***	0.061	0.081	(19)	0	5/28	WEEKLY GRAB
TOTAL RECOVERABLE (1119 1 9 0)	***	***	***	0.12 30DA AVG	DAILY MX	MG/L	0	5/28	WEEKLY GRAB
EFFLUENT GROSS VALUE	***	***	***	<0.025	<0.025	(19)	0	5/28	WEEKLY GRAB
CHROMIUM, HEXAVALENT DISSOLVED (AS CR)	***	***	***	REPORT 30DA AVG	DAILY MX	MG/L	0	5/28	WEEKLY GRAB
EFFLUENT GROSS VALUE	***	***	***	***	***	***	0	28/28	DAILY INSTAN
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	***	***	***	<0.05	<0.05	(19)	0	5/28	WEEKLY GRAB
50050 1 0 0	***	***	***	OPTIONAL 30DA AVG	INST MAX	MG/L	0	28/28	DAILY INSTAN
EFFLUENT GROSS VALUE	***	***	***	***	***	***	0	5/28	WEEKLY GRAB
CHLORINE, TOTAL RESIDUAL	***	***	***	***	***	***	0	5/28	WEEKLY GRAB
50060 1 0 0	***	***	***	***	***	***	0	5/28	WEEKLY GRAB
EFFLUENT GROSS VALUE	***	***	***	***	***	***	0	5/28	WEEKLY GRAB
OIL AND GREASE VISUAL	***	***	***	***	***	***	0	5/28	WEEKLY GRAB
84066 1 0 0	***	***	***	***	***	***	0	5/28	WEEKLY GRAB
EFFLUENT GROSS VALUE	***	***	***	***	***	***	0	5/28	WEEKLY GRAB

NAME/TITLE: Wexels, James R. MGR, GOVT & ENV AFFRS
 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER: *James R. Wexels*
 OFFICER OR AUTHORIZED AGENT: *James R. Wexels*
 TELEPHONE: 294-2808
 AREA CODE: 303
 NUMBER: 294-2808
 DATE: 94 03 14
 TYPED OR PRINTED

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 REPORT TOTAL RECOVERABLE CR+3. ONE-TIME GRAB ANALYSIS FOR TR FB, TR SE & TRPITS EQUIPPED BY PERMITS DI-CHARGE. ADD'L MONITORING EQUIPPED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO ADD'D BOUNDS-I.P.P.

City Name/Location (if different)

NAME PUBLIC SERVICE CO-CHEROKEE

ADDRESS 1225 17TH STREET, SUITE 2000

P.O. BOX 840

DENVER CO 80201

DISCHARGE NUMBER (17-19) 001 A
PERMIT NUMBER 000301104
MONITORING PERIOD YEAR 94 MO 03 DAY 31
FROM (20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

MAJOR Form Approved (SUSR EC) OMB No. 2040-0004
M - INTER approval expires 6-30-91
FINAL TREATMENT TO SO PLATTE

NO DISCHARGE
NOTE: Read instructions before completing this form.

PARAMETER (32-37)
TEMPERATURE, WATER
EG. FAHRENHEIT
0011 1 0 0
EFFLUENT GROSS VALUE
PH
0000 1 0 0
EFFLUENT GROSS VALUE
SOLIDS, TOTAL
SUSPENDED
00530 1 0 0
EFFLUENT GROSS VALUE
OIL AND GREASE
PERCON EXTR-GRAV METH
00556 1 0 0
EFFLUENT GROSS VALUE
NITROGEN, AMMONIA
TOTAL (AS N)
00610 1 0 0
EFFLUENT GROSS VALUE
NITROGEN, NITRATE
TOTAL (AS N)
00620 1 0 0
EFFLUENT GROSS VALUE
PHOSPHORUS, TOTAL
(AS P)
00665 1 0 0
EFFLUENT GROSS VALUE

PARAMETER (32-37)	QUANTITY OR LOADING (34-51)			QUALITY OR CONCENTRATION (38-43)			UNITS	MAXIMUM (54-61)	AVERAGE (46-53)	MINIMUM (38-43)	OPTIONAL MINIMUM	REPORT 30DA AVG	MAXIMUM (54-61)	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	AVERAGE (46-53)	MAXIMUM (34-51)	UNITS	MINIMUM (38-43)	OPTIONAL MINIMUM	REPORT 30DA AVG											
TEMPERATURE, WATER	61.829	68.000	(15)	61.829	68.000		68.000								0	31/31	
EG. FAHRENHEIT	OPTIONAL MINIMUM	REPORT 30DA AVG	MAXIMUM	OPTIONAL MINIMUM	REPORT 30DA AVG	MAXIMUM	REPORT 30DA AVG	MAXIMUM	OPTIONAL MINIMUM	REPORT 30DA AVG	MAXIMUM	REPORT 30DA AVG	MAXIMUM	UNITS	0	31/31	DAILY INSTU
PH	6.98	7.75	(12)	6.98	7.75		7.75								0	31/31	
0000 1 0 0	6.5	9.0		6.5	9.0		9.0								0	31/31	DAILY CONTIN
EFFLUENT GROSS VALUE	17.70	22.00	(19)	17.70	22.00		22.00								0	4/31	
SOLIDS, TOTAL	30	84		30	84		84								0	WEEKLY GRAB	
SUSPENDED	30DA AVG	DAILY MAX	MG/L	30DA AVG	DAILY MAX	MG/L	DAILY MAX	MG/L	30DA AVG	DAILY MAX	MG/L	DAILY MAX	MG/L	UNITS	0	0/31	
00530 1 0 0	Contingent	13.5	(19)	Contingent	13.5		17								0	CONTIN GRAB	
EFFLUENT GROSS VALUE	0.353	0.353		0.353	0.353		0.353								0	1/31	
OIL AND GREASE	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	UNITS	0	ONCE/ MONTH	
PERCON EXTR-GRAV METH	12.618	12.618	(19)	12.618	12.618		12.618								0	1/31	
00556 1 0 0	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	UNITS	0	ONCE/ MONTH	
EFFLUENT GROSS VALUE	0.845	0.845		0.845	0.845		0.845								0	1/31	
NITROGEN, AMMONIA	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	UNITS	0	ONCE/ MONTH	
TOTAL (AS N)	12.618	12.618	(19)	12.618	12.618		12.618								0	1/31	
00610 1 0 0	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	UNITS	0	ONCE/ MONTH	
EFFLUENT GROSS VALUE	0.845	0.845		0.845	0.845		0.845								0	1/31	
NITROGEN, NITRATE	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	UNITS	0	ONCE/ MONTH	
TOTAL (AS N)	12.618	12.618	(19)	12.618	12.618		12.618								0	1/31	
00620 1 0 0	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	UNITS	0	ONCE/ MONTH	
EFFLUENT GROSS VALUE	0.845	0.845		0.845	0.845		0.845								0	1/31	
PHOSPHORUS, TOTAL	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	UNITS	0	ONCE/ MONTH	
(AS P)	12.618	12.618	(19)	12.618	12.618		12.618								0	1/31	
00665 1 0 0	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	REPORT 30DA AVG	DAILY MAX	MG/L	REPORT 30DA AVG	DAILY MAX	UNITS	0	ONCE/ MONTH	
EFFLUENT GROSS VALUE	0.845	0.845		0.845	0.845		0.845								0	ONCE/ MONTH	

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 Wexels, James R.
 MGR, GOVT & ENV AFFRS

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER
 OFFICER OR AUTHORIZED AGENT

TELEPHONE
 303 294-2808

DATE
 94 04 12

AREA CODE
 303

NUMBER
 294-2808

YR
 94

MO
 04

DAY
 12

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

REPORT TOTAL RECOVERABLE CR#3. ONE-TIME GRAB ANALYSIS FOR TR PE, TR SE & VIBRITS RECOVERED AT STREET OFS-CHARGE. ADD'L MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO ASH TONS-T. (P.P.).

EMITTER NAME/ADDRESS (Include Facility Name/Location if different)
AME PUBLIC SERVICE CO-CHEROKEE
88891225 17TH STREET, SUITE 2000
8-O- BOX 800
DENVER CO 80201

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)
 (17-19)
001 A
 DISCHARGE NUMBER

MAJOR Form Approved.
 (SUBR EC) OMB No. 8040-0004.
 INTER Approval expires 6-30-91.
 FINAL TREATMENT TO 50 PLATTS

MONITORING PERIOD
 FROM (20-21) (22-23) (24-25) TO (26-27) (28-29) (30-31)
 YEAR MO DAY YEAR MO DAY
 94 03 31 94 03 31

NO DISCHARGE
 NOTE: Read Instructions before completing this form.

PARAMETER (22-27)	QUANTITY OR LOADING (34-35)		QUALITY OR CONCENTRATION (34-35)		NO. EX (62-63)	FREQUENCY ANALYSIS (64-65)	SAMPLE TYPE (65-70)
	AVERAGE (46-53)	MAXIMUM (46-53)	AVERAGE (46-53)	MAXIMUM (46-53)			
CHROMIUM, TRIVALENT (AS CR)	***	***	<0.03	<0.03	0	4/31	RAB
EFFLUENT GROSS VALUE	***	***	30DA AVG	DAILY MX	0	WEEKLY	RAB
ZINC, TOTAL (AS ZN)	***	***	0.042	0.047	0	4/31	RAB
EFFLUENT GROSS VALUE	***	***	30DA AVG	DAILY MX	0	WEEKLY	RAB
COPIER	***	***	0.038	0.043	0	4/31	RAB
TOTAL RECOVERABLE	***	***	0.12	0.24	0	WEEKLY	RAB
EFFLUENT GROSS VALUE	***	***	30DA AVG	DAILY MX	0	WEEKLY	RAB
CHROMIUM, HEXAVALENT DISSOLVED (AS CR)	***	***	<0.025	<0.025	0	4/31	RAB
EFFLUENT GROSS VALUE	***	***	REPORT	DAILY MX	0	WEEKLY	RAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	3.76	(03)	30DA AVG	DAILY MX	0	DAILY	INST
EFFLUENT GROSS VALUE	5.5	MGD	30DA AVG	DAILY MX	0	WEEKLY	RAB
CHLORINE, TOTAL RESIDUAL	***	***	<0.05	<0.05	0	4/31	RAB
EFFLUENT GROSS VALUE	0	INST MAX	OPTIONAL	INST MAX	0	WEEKLY	RAB
OIL AND GREASE VISUAL	***	***	30DA AVG	DAILY MX	0	31/31	INST
EFFLUENT GROSS VALUE	0	INST MAX	30DA AVG	DAILY MX	0	WEEKLY	RAB
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	James R. Wexels		OFFICER OR AUTHORIZED AGENT		DATE		
Wexels, James R. MGR, GOVT & ENV AFFRS		303 294-2808		94 04 12		YEAR MO DAY	

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY WITH THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 USC 1001 AND 33 USC 1319. Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of 5 years and 3 years.

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

REPORT TOTAL RECOVERABLE CR+3. ONE-TIME GRAB ANALYSIS FOR TR FC, TR SE & NITRITE PROVIDED AT 8:00 AM DIC-CHAFG2. ADD'L MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO 45# BOUNDS-1, 4, 5.

DISCHARGE MONITORING REPORT (DMR) (12-19)
 MAJOR Form Approved (SUBR EC) OMB NO. 12940-0004
 M - INTERIM APPROVAL EXPIRES 6-30-91
 FINAL TREATMENT TO SOL PLANT

PERMIT NUMBER: CO0001104
 DISCHARGE NUMBER: 001 A

MONITORING PERIOD
 YEAR: 94
 MONTH: 04
 DAY: 01
 TO YEAR: 94
 MONTH: 08
 DAY: 30

QUALITY OR CONCENTRATION (54-51)
 AVERAGE: 65.150
 MINIMUM: 7.09
 MAXIMUM: 74.60

QUANTITY OR LOADING (54-51)
 AVERAGE: 19.65
 MINIMUM: Contingent
 MAXIMUM: 23.60

UNIT NO. 001
 UNIT NAME: LOUISE MEYERKORD, UNIT MGR

PARAMETER (12-37)	AVERAGE (46-53)	MAXIMUM (54-51)	MINIMUM (54-51)	UNIT NO. (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER	65.150	74.60	7.09	0	30/30	(69-70)
DEG. FAHRENHEIT						
00011						
EFFLUENT GROSS VALUE						
00400						
EFFLUENT GROSS VALUE						
SOLIDS, TOTAL						
00530						
EFFLUENT GROSS VALUE						
OIL AND GREASE						
00556						
EFFLUENT GROSS VALUE						
NITROGEN, AMMONIA						
00610						
EFFLUENT GROSS VALUE						
NITROGEN, NITRATE						
00620						
EFFLUENT GROSS VALUE						
PHOSPHORUS, TOTAL						
00665						
EFFLUENT GROSS VALUE						

NAME/TITLE: James R. Wexels, MGR, GOVT & ENV AFFERS
 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER
 OFFICER AUTHORIZED AGENT

TELEPHONE: 294-2808
 AREA CODE: 303
 NUMBER: 294-2808

DATE: 94 05 11
 YEAR: 94
 MONTH: 05
 DAY: 11

NOTE: Read instructions before completing this form.
 *** NO DISCHARGE ***
 I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY KNOWLEDGE AND BELIEF I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING 33 USC 1319 (Penalties under these statute may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 3 years.)

REPORT TOTAL RECOVERABLE: CR-3; ONE-TIME GRAB ANALYSIS FOR TRAPE, TRAPERS, WITRITE REQUIRED AT FIRST DISCHARGE. ADDL MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO ASH PONDS-I.B.3.B.

(11-19) 001 A DISCHARGE NUMBER. (2-16) CO0001104 PERMIT NUMBER. MONITORING PERIOD: YEAR 94 MO 04 DAY 30. FROM (20-21) (22-23) (24-25) (26-27) (28-29) (30-31) TO (28-27) (28-29) (30-31).

PARAMETER (32-37)	QUANTITY OR LOADING (34-61)			QUALITY OR CONCENTRATION (34-61)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	AVERAGE (46-53)	MAXIMUM (46-53)	UNITS (46-53)	AVERAGE (46-53)	MAXIMUM (46-53)	UNITS (46-53)			
ARSENIC, TRIVALENT (AS CR)	*****	*****	*****	<0.03	<0.03	(19)	0	4/30	WEEKLY GRAB
1033 1 0 0	*****	*****	*****	REPORT: 0.055	0.055	MG/L	0	WEEKLY GRAB	
EFFLUENT GROSS VALUE	*****	*****	*****	SODA AVG DAILY MX	0.105	(19)	0	WEEKLY GRAB	
INC, TOTAL AS ZH)	*****	*****	*****	0.067	0.115	MG/L	0	WEEKLY GRAB	
1092 1 0 0	*****	*****	*****	0.068	0.115	(19)	0	WEEKLY GRAB	
EFFLUENT GROSS VALUE	*****	*****	*****	0.12	0.24	MG/L	0	WEEKLY GRAB	
OPPER	*****	*****	*****	SODA AVG DAILY MX	<0.025	(19)	0	WEEKLY GRAB	
TOTAL RECOVERABLE	*****	*****	*****	<0.025	<0.025	MG/L	0	WEEKLY GRAB	
1119 1 9 0	*****	*****	*****	REPORT: 0.018	0.018	MG/L	0	WEEKLY GRAB	
EFFLUENT GROSS VALUE	*****	*****	*****	SODA AVG DAILY MX	*****	*****	0	WEEKLY GRAB	
ARSENIC, HEXAVALENT DISSOLVED (AS CR)	*****	*****	*****	*****	*****	*****	0	WEEKLY GRAB	
1220 1 0 0	*****	*****	*****	*****	*****	*****	0	WEEKLY GRAB	
EFFLUENT GROSS VALUE	*****	*****	*****	*****	*****	*****	0	WEEKLY GRAB	
LOW, IN CONDUIT OR HRU, TREATMENT PLANT	*****	3.74	(03)	*****	*****	*****	0	30/30	DAILY INSTAN
0050 1 0 0	*****	5.5	MGD	*****	*****	*****	0	4/30	WEEKLY GRAB
EFFLUENT GROSS VALUE	*****	3.1	*****	*****	*****	*****	0	30/30	DAILY VISUAL
CHLORINE, TOTAL RESIDUAL	*****	3.04 AVG	*****	*****	*****	*****	0	WEEKLY GRAB	
0060 1 0 0	*****	*****	*****	*****	*****	*****	0	WEEKLY GRAB	
EFFLUENT GROSS VALUE	*****	*****	*****	*****	*****	*****	0	WEEKLY GRAB	
IL AND GREASE	*****	0	(94)	*****	*****	*****	0	30/30	DAILY VISUAL
ISUAL	*****	0	ES=1	*****	*****	*****	0	30/30	DAILY VISUAL
4066 1 0 0	*****	*****	*****	*****	*****	*****	0	30/30	DAILY VISUAL
EFFLUENT GROSS VALUE	*****	*****	*****	*****	*****	*****	0	30/30	DAILY VISUAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: *James R. Wexels*
 Wexels, James R.
 MGR, GOVT & ENV AFFRS
 TELEPHONE: 303 294-2808
 DATE: 94 05 11
 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT: *James R. Wexels*
 AREA CODE: 303 NUMBER: 294-2808
 I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 USC 1001 AND 33 USC 1319. Penalties under these statutes may include fines up to \$100,000 and/or maximum imprisonment of between 6 months and 3 years.

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):
 REPORT TOTAL RECOVERABLE CR#3, ONE-TIME GRAB ANALYSIS FOR TR FE, TRIBE & NITRITE REQUIRED AT FIRST DISCHARGE. ADD'L MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO ASH PONDS-I.B.3.D.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

Facility Name/Location (if different)
WAMS PUBLIC SERVICE CO-CHEROKEE
ADDRESS 1225 17TH STREET, SUITE 2000
P.O. BOX 840
DENVER CO 80201

Permit Number
CO0001104

Discharge Number
001 A

MAJOR Form Approved
 (SUBR EC) OMB NO. 72040-0004
 INTERIM APPROVAL EXPIRES 6-30-91
 FINAL TREATMENT TO SO PLATTK

NO DISCHARGE
 NOTE: Read instructions before completing this form.

PARAMETER (32-37)	QUANTITY OR LOADING (34-41)			QUALITY OR CONCENTRATION (34-41)			NO. OF EX ANALYSIS (64-68)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	AVERAGE (46-53)	MAXIMUM (46-53)	UNITS (46-53)	AVERAGE (46-53)	MAXIMUM (46-53)	UNITS (46-53)			
TEMPERATURE, WATER	68.45	75.60	(15)	68.45	75.60	(15)	0	31/31	
20. FARENHEIT									
0011 1 0 0									
EFFLUENT GROSS VALUE									
PH									
0400 1 0 0									
EFFLUENT GROSS VALUE									
SOLIDS, TOTAL									
0530 1 0 0									
EFFLUENT GROSS VALUE									
OIL AND GREASE									
0556 1 0 0									
EFFLUENT GROSS VALUE									
NITROGEN, AMMONIA									
0610 1 0 0									
EFFLUENT GROSS VALUE									
NITROGEN, NITRATE									
0620 1 0 0									
EFFLUENT GROSS VALUE									
PHOSPHORUS, TOTAL									
0665 1 0 0									
EFFLUENT GROSS VALUE									
I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these provisions may include fines up to \$10,000 and/or maximum imprisonment of 5 years and 3 years.)									
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER								DATE	
Wexels, James R.									
MGR, GOVT & ENV AFFRS									
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER								TELEPHONE	
303 294-2808								DATE	
OFFICER OR AUTHORIZED AGENT								YEAR	
303 294-2808								MO	
AREA CODE								DAY	
303 294-2808								13	
COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)									
TYPED OR PRINTED									

MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO ASH PONDS-J.B.3.4.

ONE-TIME GRAB ANALYSIS FOR TR FE, TR SE & NITRITE REQUIRED AT FIRST DIS- REPORT TOTAL RECOVERABLE CR+3.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)
(17-19)

Facility Name/Location (if different)
WABE PUBLIC SERVICE CO-CHEROKEE
ADDRESS 1225 17TH STREET, SUITE 2000
P.O. BOX 840
DENVER CO 80201

Permit Number
C00001104

Discharge Number
001 A

MAJOR Form Approved.
(SUBR EC) OMB NO. 40-0004.
INTERAPPROVAL EXPIRES 6-30-91.
PENAL TREATMENT TO SO PLATE

Monitoring Period
YEAR 94 MO 05 DAY 31

Quantity or Loading (34-61)
AVERAGE ***
MINIMUM ***
MAXIMUM ***

Quantity or Concentration (34-41)
AVERAGE <0.030
MINIMUM ***
MAXIMUM <0.030

Units

Frequency of Analysis (84-68)
0 5/31

Sample Type (89-70)

PARAMETER (32-37)	QUANTITY OR LOADING (34-61)			QUALITY OR CONCENTRATION (34-41)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (84-68)	SAMPLE TYPE (89-70)
	AVERAGE (46-53)	MINIMUM (48-55)	MAXIMUM (50-57)	AVERAGE (46-53)	MINIMUM (48-55)	MAXIMUM (50-57)			
CHROMIUM, TRIVALENT (AS CP)	***	***	***	<0.030	***	<0.030	0	5/31	
C1033 1 0 0	***	***	***	0.035	***	0.045	0	5/31	
ZINC, TOTAL (AS 2N)	***	***	***	0.029	***	0.040	0	5/31	
C1092 1 0 0	***	***	***	0.112	***	0.120	0	5/31	
EFFLUENT GROSS VALUE	***	***	***	<0.025	***	<0.025	0	5/31	
COPPER	***	***	***	REPORT REQUIRED	***	***	0	5/31	
TOTAL RECOVERABLE	***	***	***	***	***	***	0	5/31	
C1119 1 9 0	***	***	***	***	***	***	0	5/31	
EFFLUENT GROSS VALUE	***	***	***	***	***	***	0	5/31	
CHROMIUM, HEXAVALENT DISSOLVED (AS CR)	***	***	***	***	***	***	0	5/31	
C1220 1 0 0	***	***	***	***	***	***	0	5/31	
EFFLUENT GROSS VALUE	***	***	***	***	***	***	0	5/31	
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	1.908	***	2.660	***	***	***	0	31/31	
C0050 1 0 0	***	***	***	***	***	***	0	31/31	
EFFLUENT GROSS VALUE	***	***	***	***	***	***	0	31/31	
CHLORINE, TOTAL RESIDUAL	***	***	***	<0.05	***	<0.05	0	5/31	
C0060 1 0 0	***	***	***	***	***	***	0	5/31	
EFFLUENT GROSS VALUE	***	***	***	***	***	***	0	5/31	
OIL AND GREASE USUAL	***	***	***	***	***	***	0	5/31	
4066 1 0 0	***	***	***	***	***	***	0	5/31	
EFFLUENT GROSS VALUE	***	***	***	***	***	***	0	5/31	
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	Wexels, James R.			SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER			DATE		
	MGR, GOVT & ENV AFFRS			OFFICER OR AUTHORIZED AGENT			TELEPHONE		
				303 294-2808			AREA CODE NUMBER		
				94 06 13			YEAR MO DAY		

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY KNOWLEDGE OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 USC § 1001 AND 33 USC § 1319. Penalties under these statutes may include fines up to \$100,000 and/or maximum imprisonment of 6 months and 5 years.

STATEMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

REPORT TOTAL RECOVERABLE CR+3. ONE-TIME GRAB ANALYSIS FOR TR FE, TR SE & NITRITE REQUIRED AT FIRST DISCHARGE. ADD'L MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO ASH PONDS-T.8.3.1.

PUBLIC SERVICE CO-CHEMUNALE
 1225 17TH STREET, SUITE 2000
 P.O. BOX 410
 DENVER CO 80201

PERMIT NUMBER
 001104
 DISCHARGE NUMBER
 001 A

MONITORING PERIOD
 YEAR 94 MO 03 DAY 01
 YEAR 94 MO 03 DAY 03

QUALITY CONTROL
 FROM 2021 (2223) (2423) TO 2021 (2829) (3031)
 NOTE: Read instructions before completing this form.

PARAMETER (22-37)	(1 Card Only) QUANTITY OR LOADING (34-41)			(4 Card Only) QUALITY OR CONCENTRATION (34-41)			NO. EX. ANALYSIS (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	AVERAGE (46-51)	MAXIMUM (46-51)	UNITS (46-51)	MINIMUM (46-51)	AVERAGE (46-51)	MAXIMUM (46-51)			
TEMPERATURE, WATER	***	***	***	***	79.85	84.90	0	30/30	
36. FAHRENHEIT	***	***	***	OPTIONAL MINIMUM	REPORT 30DA AVG	MAXIMUM	0	DAILY	INSITU
0011 I C	***	***	***	6.76	***	7.54	0	30/30	
EFFLUENT GROSS VALUE	***	***	***	6.5 MINIMUM	***	9.0 MAXIMUM	0	DAILY	CONTIN
H	***	***	***	***	10.20	19.80	0	5/30	
0400 I C O	***	***	***	***	30	84 DAILY MX	0	WEEKLY	GRAB
EFFLUENT GROSS VALUE	***	***	***	***	30DA AVG	DAILY MX	0	0/30	
SOLIDS, TOTAL	***	***	***	***	Contingent	17 INST MAX	0	CONTIN	GRAB
USED	***	***	***	***	13.5	30DA AVG	0	0/30	
0530 I C O	***	***	***	***	0.098	0.098	0	1/30	
EFFLUENT GROSS VALUE	***	***	***	***	REPORT	REPORT DAILY MX	0	ONCE/	GRAB
IL AND GREASE	***	***	***	***	30DA AVG	DAILY MX	0	MONTH	
REC N FTR-GRAY METH	***	***	***	***	2.152	2.152	0	1/30	
0556 I C O	***	***	***	***	REPORT	REPORT DAILY MX	0	ONCE/	GRAB
EFFLUENT GROSS VALUE	***	***	***	***	30DA AVG	DAILY MX	0	MONTH	
ITTOGEN, AMMONIA	***	***	***	***	0.200	0.200	0	1/30	
OTAL (AS N)	***	***	***	***	REPORT	REPORT DAILY MX	0	ONCE/	GRAB
0610 I C O	***	***	***	***	30DA AVG	DAILY MX	0	MONTH	
EFFLUENT GROSS VALUE	***	***	***	***	2.152	2.152	0	1/30	
ITTOGEN, NITRAT	***	***	***	***	REPORT	REPORT DAILY MX	0	ONCE/	GRAB
OTAL (AS N)	***	***	***	***	30DA AVG	DAILY MX	0	MONTH	
0620 I C O	***	***	***	***	0.200	0.200	0	1/30	
EFFLUENT GROSS VALUE	***	***	***	***	REPORT	REPORT DAILY MX	0	ONCE/	GRAB
PHOSPHORUS, TOTAL	***	***	***	***	30DA AVG	DAILY MX	0	MONTH	
(AS P)	***	***	***	***	0.200	0.200	0	1/30	
0630 I C O	***	***	***	***	REPORT	REPORT DAILY MX	0	ONCE/	GRAB
EFFLUENT GROSS VALUE	***	***	***	***	30DA AVG	DAILY MX	0	MONTH	

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 Crawford, Clegg
 V.P. Eng. & Ops. Support

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER
 303
 AREA CODE
 294-8000
 NUMBER

TELEPHONE DATE
 07 18

TYPE OR PRINTED
 07 18

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

ANS PUBLIC SERVICE CO-CHEROKEE
 1222 17TH STREET, SUITE 200
 P.O. BOX 040
 DEVER CO 80201

CO001114
 PERMIT NUMBER

FORM APPROVED
 (SUPER) OMB NO. 2640-0004
 APPROVAL EXPIRES 6-30-91
 FINAL TREATMENT TO 50 PPM

MONITORING PERIOD
 FROM (20-21) (22-23) (24-25) TO (26-27) (28-29) (30-31)
 YEAR 91 MO 11 DAY 11
 YEAR 91 MO 11 DAY 11

HO DISCHARGE

ATTN: LOUISE NEYFRKORD, UNIT MGR

NOTE: Read instructions before completing this form.

PARAMETER (22-37)	(1 Card Only) QUANTITY OR LOADING (34-45)		(1 Card Only) QUANTITY OR CONCENTRATION (34-45)		FREQUENCY OF ANALYSIS (64-68)	NO. EX. (62-64)	SAMPLE TYPE (69-70)
	AVERAGE	MAXIMUM	MINIMUM	MAXIMUM			
CHROMIUM, TRIVALENT (AS CR)	***	***	<0.03	<0.03	4/30	0	
EFFLUENT GROSS VALUE	***	***	REPORT 30DA AVG	DAILY MX	WEEKLY	0	RAH
ZINC, TOTAL (AS ZH)	***	***	0.031	0.080	4/30	0	
EFFLUENT GROSS VALUE	***	***	0.35 30DA AVG	DAILY MX	WEEKLY	0	RAH
COPPER	***	***	0.022	0.027	4/30	0	
TOTAL RECOVERABLE	***	***	0.12 30DA AVG	DAILY MX	WEEKLY	0	RAH
EFFLUENT GROSS VALUE	***	***	<0.025	<0.025	4/30	0	
CHROMIUM, HEXAVALENT DISSOLVED (AS CH)	***	***	REPORT 30DA AVG	DAILY MX	WEEKLY	0	RAH
EFFLUENT GROSS VALUE	***	***	<0.025	<0.025	30/30	0	INSTAN
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	3.140	3.140	***	***	DAILY	0	
EFFLUENT GROSS VALUE	5.5	5.5	30DA AVG	DAILY MX	4/30	0	RAH
CHLORINE, TOTAL RESIDUAL	***	***	<0.05	<0.05	WEEKLY	0	
EFFLUENT GROSS VALUE	0	0	OPTIONAL 30DA AVG	INST MAX	30/30	0	RAH
GIL AND REASE VISUAL	INST MAX	INST MAX	***	***	DAILY	0	RAH
EFFLUENT GROSS VALUE	INST MAX	INST MAX	***	***	DAILY	0	RAH

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 Signature: *V.P. Eng. & Ops. Support*
 TITLE: V.P. Eng. & Ops. Support

TELEPHONE: 303 294-8000
 AREA NUMBER: 303
 DATE: 94 07 18
 YEAR MO DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 REPORT TOTAL RECOVERABLE CR+3. ON-TIME GRAB ANALYSIS FOR CR+3, PERIOD WITHIN PERMIT
 CHARGE. ADDL MONITORING REQUIRED EACH TIME CHEMICAL CLEANING SUBJECT APT 2600. TO BE

(1719) **RAJUK Form Approved (5010-108)**
 (SUBR FC) OMB NO. 2840-0004
 INTER-AGENCY APPROVAL EXPIRES 6-30-91
 ACUTE WST TESTING FOR ...

(216) **COC051104**
 PERMIT NUMBER
 (1719) **001 W**
 DISCHARGE NUMBER

MONITORING PERIOD
 FROM YEAR MONTH DAY TO YEAR MONTH DAY
 (20 21) (22 23) (24 25) (26 27) (28 29) (30 31)

QUALITY OR CONCENTRATION (34-67)
 AVERAGE MINIMUM MAXIMUM UNITS
 (46-53) (38-45)

QUANTITY OR LOADING (54-51)
 AVERAGE MINIMUM MAXIMUM UNITS
 (46-53) (38-45)

NOTE: Read Instructions before completing this form.
 *** NO DISCHARGE ***

PARAMETER (32-37)	QUANTITY OR LOADING (54-51)				QUALITY OR CONCENTRATION (34-67)				NO. EX (62-61)	FREQUENCY OF ANALYSIS (64-63)	SAMPLE TYPE (69-70)
	AVERAGE	MINIMUM	MAXIMUM	UNITS	AVERAGE	MINIMUM	MAXIMUM	UNITS			
E/P STATE 40HR ACU	*****	0	0	(94)	*****	0	0	(94)	0	1/90	
PERIOD PHNIA	*****	REPORT	REPORT	*****	*****	REPORT	REPORT	*****	0	TRLY CRAB	
E/P STATE 96HR ACU	*****	0	0	(13)	*****	0	0	(13)	0	1/90	
PIMPHALS PROMFLAS	*****	REPORT	REPORT	*****	*****	REPORT	REPORT	*****	0	TRLY CRAB	
TGHC 1 ()	*****	REPORT	REPORT	*****	*****	REPORT	REPORT	*****	0	TRLY CRAB	
E/P FLUENT GROSS VALUE	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 Crawford, Cle88
 V.P. Eng. & Ops. Support

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
A. Hoff
 TELEPHONE NUMBER: 303 294-8000
 AREA CODE: 303

DATE: 94 07 18
 YEAR MO DAY

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC 1001 AND 18 USC 1011. Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of 5 years and 6 months.

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 SEE PART I OF PERMIT FOR DETAILS OF THIS PROGRAM. I HAVE REVIEWED THE PROGRAM AND ATTACHED AGENT CERTIFICATE TO THE PERMIT.

(17-19) MAJUM (SUBR EC) FADWMBGVED.
 (2-16) C00001104 PERMIT NUMBER
 (17-19) 001 Q DISCHARGE NUMBER
 P - FINAL OMB No. 2040-0004
 SPECIAL QX ANSWERS 10/1/801

PUBLIC SERVICE CO-CHESTER
 1225 17TH STREET, SUITE 2000
 P.O. BOX 849
 DENVER CO 80201

MONITORING PERIOD
 YEAR 94 MO 04 DAY 01 TO YEAR 94 MO 06 DAY 30
(30-31) (22-31) (34-35) (26-27) (28-29) (40-41)

*** NO DATA ***
 NOTE: Read Instructions before completing this form.

PARAMETER (1-17)	AVERAGE (46-51)	MAXIMUM (54-61)	UNITS	MINIMUM (18-45)	AVERAGE (46-51)	MAXIMUM (54-61)	UNITS	FREQUENCY OF ANALYSIS (68-68)	SAMPLE TYPE (69-70)
D, 5-DAY (20 DRG. C) 0310 1 0 0 EFFLUENT GROSS VALUE	*****	*****		*****	< 5	< 5	(19)	0	2/90
	*****	*****	OPTIONAL 30DA AVG	*****	REPORT DAILY MX	MG/L			DIRTY COMPOS
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY KNOWLEDGE OF THESE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC 1001 AND 37 USC 1119. (Publishes under these statutes may include links up to 3 months and/or maximum imprisonment of between 6 months and 5 years.)

NAME/TITLE: **Principal Executive Officer**
 Signature: *[Signature]*
 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: 294-8000
 AREA CODE: 303
 NUMBER: 294-8000

DATE: 94 07 18
 YEAR: 94 MO: 07 DAY: 18

TYPED OR PRINTED
 COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 QUARTERLY SAMPLING AND REPORTING INSTRUCTIONS--SEE FOOTNOTE D/, PG 2.

NAME PUBLIC SERVICE CO-CORPORATED
 ADDRESS 1245 17TH STREET, SUITE 2000
 P.O. BOX 840
 DIVERK CO 82201
 FACILITY
 LOCATION
 AUTH: LOUISE MEYERKORD, UNIT NGK

CO001144
 PERMIT NUMBER
 (17-19)
 UCI A
 DISCHARGE NUMBER

(SUBR EC) For removed.
 F - FINAL OMB No. 2040-0004
 FINAL TREATMENT REPORTS SO-39-A-TITE
 *** NO DISCHARGE ***
 NOTE: Read Instructions before completing this form.

PARAMETER (12-17)	QUANTITY OR LOADING (14-61)			QUALITY OR CONCENTRATION (14-61)			NO. EX. (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	AVERAGE (46-51)	MAXIMUM (34-61)	UNITS	AVERAGE (46-51)	MAXIMUM (34-61)	UNITS			
TEMPERATURE, WATER				76.877	84.60	(15)	0	31/31	
Deg. Fahrenheit				REPORT	86	DEG.F		DAILY	INSITU
COJ011 1 0 0				30DA AVG	MAXIMUM				
EFFLUENT GROSS VALUE									
PH					8.19	(12)	0	31/31	
CJ400 1 C C					9.0	SU		DAILY	CONTIN
EFFLUENT GROSS VALUE					MAXIMUM				
SOLIDS, TOTAL				7.05	8.00	(19)	0	4/31	
SUSPENDED				30	84	MG/L		WEEKLY	GRAB
C0530 1 0 0				30DA AVG	DAILY MX				
EFFLUENT GROSS VALUE									
OIL AND GREASE				Contingent		(19)	0	0/31	
FRECQ EXTRA-GRAV MET				13.5	17	MG/L		CONTIN	GRAB
C0556 1 0 0				30DA AVG	INST MAX			GRAB	
EFFLUENT GROSS VALUE									
NITROGEN, AMMONIA				0.185	0.185	(19)	0	1/31	
TOTAL (AS N)				REPORT	REPORT			ONCE/	GRAB
C0610 1 C 0				30DA AVG	DAILY MX			MONTH	
EFFLUENT GROSS VALUE									
NITROGEN, NITRATE				5.062	5.062	(19)	0	1/31	
TOTAL (AS N)				REPORT	REPORT			ONCE/	GRAB
C0620 1 C C				30DA AVG	DAILY MX			MONTH	
EFFLUENT GROSS VALUE									
PHOSPHORUS, TOTAL				0.270	0.270	(19)	0	1/31	
(AS P)				REPORT	REPORT			ONCE/	GRAB
C0605 1 C 0				30DA AVG	DAILY MX			MONTH	
EFFLUENT GROSS VALUE									
PHOSPHORUS, TOTAL				0.270	0.270	(19)	0	1/31	
(AS P)				REPORT	REPORT			ONCE/	GRAB
C0605 1 C 0				30DA AVG	DAILY MX			MONTH	
EFFLUENT GROSS VALUE									

NAME/TITLE: PRINCIPAL EXECUTIVE OFFICER
 Crawford, A. Clegg
 V.P. Eng. & Ops. Support
 TYPED OR PRINTED
 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER
 OFFICER OR AUTHORIZED AGENT
 TELEPHONE NUMBER
 DATE
 AREA CODE
 NUMBER
 YEAR
 MO
 DAY
 COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 REPORT TOTAL RECOVERY TABLE CH#3. ONE-TIME GRAB ANALYSIS FOR TP FT, IR SE & NITRITE REQUIRED AT FIRST DISCHARGE. ADD'L MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO ASH POND-1.4.3.B.
 1.4.3.B. FEDERAL REQUIREMENTS-SEE PART I-4.1-4.6-11. OIL-GRAVE-FOOTNOTES P. 4-3.

NAME PUBLIC SERVICE CO-CHEMOKER
 ADDRESS 1225 17TH STREET, SUITE 2000
 P.O. BOX 840
 DUNVER CO 80201
 FACILITY
 LOCATION
 ATTN: LOUISE MEYERKORD, UNIT MGR

MAJOR (SUBR EC) F-0000000000
 F - FINAL OMB No. 2040-0004
 FINAL TREATMENT REPORT

(17-19) 001 A
 DISCHARGE NUMBER

(2-16) C00001104
 PERMIT NUMBER

MONITORING PERIOD
 YEAR MO DAY
 FROM 94 07 01 TO 94 07 31
 (20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

*** NO DISCHARGE ***
 NOTE: Read Instructions before completing this form.

PARAMETER (12-17)	QUANTITY OR LOADING (14-61)		QUALITY OR CONCENTRATION (14-61)		NO EX (67-61)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	AVERAGE (46-51)	MAXIMUM (54-61)	MINIMUM (18-45)	AVERAGE (46-51)			
CHROMIUM, TRIVALENT (AS CP)	***	***	***	<0.03	0	4/31	WEEKLY GRAB
EFFLUENT GROSS VALUE	***	***	***	REPORT 30DA AVG			
ZINC, TOTAL (AS ZN)	***	***	***	0.036	0	4/31	WEEKLY GRAB
EFFLUENT GROSS VALUE	***	***	***	0.35 30DA AVG			
CHROMIUM, HEXAVALENT DISSOLVED (AS CR)	***	***	***	<0.025	0	4/31	WEEKLY GRAB
EFFLUENT GROSS VALUE	***	***	***	REPORT 30DA AVG			
COPPER, POTENTIALLY DISSOLVED	***	***	***	0.020	0	4/31	WEEKLY GRAB
EFFLUENT GROSS VALUE	***	***	***	0.053 30DA AVG			
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	2.228	3.960	(03)	***	0	31/31	DAILY INSTANT
EFFLUENT GROSS VALUE	3.1 30DA AVG	DAILY MX	MGD	***			
CHLORINE, TOTAL RESIDUAL	***	***	***	<0.05	0	5/31	WEEKLY GRAB
EFFLUENT GROSS VALUE	***	***	***	OPTIONAL 30DA AVG			
OIL AND GREASE VISUAL	***	0	***	INST MAX	0	31/31	DAILY VISUAL
EFFLUENT GROSS VALUE	***	INST MAX	NO=0	***			

TELEPHONE
 303 294-8000
 AREA CODE NUMBER

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
K. P. Eng & Ops Support

DATE
 94 08 16
 YEAR MO DAY

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY KNOWLEDGE AND BELIEF, I BELIEVE THE INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 USC § 1001 AND 18 USC § 1319 (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 Crawford, A. Clegg
 V.P. Eng. & Ops. Support

TYPED OR PRINTED

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 REPORT TOTAL RECOVERABLE CR#3. ONE-TIME GRAB ANALYSIS FOR TR FE, TR SE & NITRITE REQUIRED AT FIRST DISCHARGE. ADD'L MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO ASH PONDS-1, 4, 3, B.

FACILITY NAME: PUBLIC SERVICE CO-CHEROKEE
 ADDRESS: 1225 17TH STREET, SUITE 2000
 P.O. BOX 840
 DENVER CO 80201

PERMIT NUMBER: CO001104
 DISCHARGE NUMBER: 001 A

MONITORING PERIOD: FROM 9/10/94 TO 10/31/94
 NO DISCHARGE

NOTE: Read Instructions before completing this form.

PARAMETER (12-17)	QUANTITY OR LOADING (14-51)		QUALITY OR CONCENTRATION (14-51)		NO. EX. (62-61)	FREQUENCY ANALYSIS (64-61)	SAMPLE TYPE (69-70)
	AVERAGE (46-51)	MAXIMUM (54-51)	MINIMUM (38-51)	AVERAGE (46-51)			
TEMPERATURE, WATER							
LEG. FAHRLNHFT							
COU11 1 0 0					1*	35/31	DAILY INSITU
EFFLUENT GROSS VALUE							
PH							
CONCO 1 0 0					0	30/31	DAILY CONTIN
EFFLUENT GROSS VALUE							
SOLIDS, TOTAL							
SUSPENDED							
00530 1 0 0					0	5/31	WEEKLY GRAB
EFFLUENT GROSS VALUE							
OIL AND GREASE							
FREON EXTR-GRAV NET							
00556 1 0 0					0	0/31	CONTIN GRAB
EFFLUENT GROSS VALUE							
NITROGEN, AMONIA							
TOTAL (AS N)							
00610 1 0 0					0	1/31	ONCE/ MONTH GRAB
EFFLUENT GROSS VALUE							
NITROGEN, NITRATE							
TOTAL (AS N)							
00620 1 0 0					0	1/31	ONCE/ MONTH GRAB
EFFLUENT GROSS VALUE							
PHOSPHORUS, TOTAL							
(AS P)							
00665 1 0 0					0	1/31	ONCE/ MONTH GRAB
EFFLUENT GROSS VALUE							

NAME/TITLE: PRINCIPAL EXECUTIVE OFFICER
 SIGNATURE: Crawford, A. Clegg
 V.P. Eng. & Ops. Support
 TELEPHONE: 294-8000
 DATE: 94 09 14
 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT: [Signature]
 AREA CODE: 303
 NUMBER: 294-8000
 COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here): * As reported to Kathleen Kalamen on August 11, 1994, REPORT TOTAL RECOVERABLE CR#3, ONE-TIME GRAB ANALYSIS FOR PCBs, TALS & METALS RECEIVED AT FIRST DISCHARGE. ADD'L MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO ASH PONDS-1.3.3.B. LABEL GENERAL REQUIREMENTS-SEE PART I.A.1, PCBs, OIL & GREASE-FOOTNOTES 1, PG. 3.
 REPLACES EPA FORM T-40 WHICH MAY NOT BE USED!
 EPA Form 3320-1 (Rev. 9-88) Previous editions may be used.

NAME PUBLIC SERVICE CO-CHEROKEE
 ADDRESS 1225 17TH STREET, SUITE 200C
 P.O. BOX 840
 DENVER CO 80201

COUPLICH PERMIT NUMBER
 001 A DISCHARGE NUMBER

MONITORING PERIOD
 YEAR 98 MO 08 DAY 31
 FROM 20-21 (22-21) (24-25) TO 26-27 (28-29) (30-31)

MAJOR (SUBR EC) F - FINAL OMB No. 2040-0004
 FINAL TREATMENT OPERATIONS PERMITS

NO DISCHARGE
 NOTE: Read instructions before completing this form.

QUALITY OR CONCENTRATION (34-61)
 QUANTITY OR LOADING (54-61)

PARAMETER (12-17)
 CHROMIUM, TRIVALENT (AS CR)
 EFFLUENT GROSS VALUE

CHROMIUM, TRIVALENT (AS CR)
 EFFLUENT GROSS VALUE

ZINC, TOTAL (AS ZN)
 EFFLUENT GROSS VALUE

CHROMIUM, HEXAVALENT DISSOLVED (AS CR)
 EFFLUENT GROSS VALUE

COPPER, POTENTIALLY DISSOLVED
 EFFLUENT GROSS VALUE

EFFLUENT GROSS VALUE THRU TREATMENT PLANT

EFFLUENT GROSS VALUE CHLORINE, TOTAL RESIDUAL

EFFLUENT GROSS VALUE OIL AND GREASE

EFFLUENT GROSS VALUE VISUAL

EFFLUENT GROSS VALUE

PARAMETER (12-17)	QUANTITY OR LOADING (54-61)		QUALITY OR CONCENTRATION (34-61)		NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	AVERAGE	MAXIMUM	MINIMUM	AVERAGE			
CHROMIUM, TRIVALENT (AS CR)				<0.03	0	5/31	WEEKLYGRAB
EFFLUENT GROSS VALUE				REPORT 0.055 30DA AVG DAILY MX			MG/L
ZINC, TOTAL (AS ZN)				0.0406	0	5/31	WEEKLYGRAB
EFFLUENT GROSS VALUE				0.35 30DA AVG DAILY MX			MG/L
CHROMIUM, HEXAVALENT DISSOLVED (AS CR)				<0.025	0	5/31	WEEKLYGRAB
EFFLUENT GROSS VALUE				REPORT 0.018 30DA AVG DAILY MX			MG/L
COPPER, POTENTIALLY DISSOLVED				0.033	0	5/31	WEEKLYGRAB
EFFLUENT GROSS VALUE				0.053 30DA AVG DAILY MX			MG/L
THRU TREATMENT PLANT	2.08	3.52					
EFFLUENT GROSS VALUE	3.1	5.5					
CHLORINE, TOTAL RESIDUAL				<0.05	0	30/31	DAILY INSTANT
EFFLUENT GROSS VALUE				OPTIONAL 0.021 30DA AVG INST MAX			MG/L
OIL AND GREASE		0					
VISUAL		0					
EFFLUENT GROSS VALUE					0	30/31	DAILY VISUAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 Crawford, A. Clegg
 V.P. Eng. & Ops. Support

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
 X *A. Clegg*

TELEPHONE DATE
 303 294-8000 94 09 14

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

REPORT TOTAL RECOVERABLE CH+3. ONE-TIME GHAN ANALYSIS FOR IP FL, TR SE & NITRITE REQUIRED AT FIRST DISCHARGE. ADD'L MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO ASH POND-1.3.3.R.

REPLACES EPA FORM 1-40 WHICH MAY NOT BE USED

EPA Form 3320-1 (Rev. 9-88) Previous editions may be used

PAGE 2 OF 2

NAME PUBLIC SERVICE CO-CHEMURGE
 ADDRESS 1225 17TH STREET, SUITE 2000
 K.O. BOX 040
 DENVER CO 80201

00001134 PERMIT NUMBER
 001 A DISCHARGE NUMBER

(SUBR EC) FOR APPROVED
 F - FINAL OMB NO. 2040-0004
 FINAL TREATMENT REQUIRED 9-3 P.P.A.T.E

MONITORING PERIOD
 YEAR 94 MO 09 DAY 30
 FROM 94 TO 94
 (20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

*** NO DISCHARGE ***
 NOTE: Read instructions before completing this form.

PARAMETER (12-37)	QUANTITY OR LOADING (14-61)			QUALITY OR CONCENTRATION (14-61)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	AVERAGE (46-51)	MAXIMUM (54-61)	UNITS	MINIMUM (38-45)	AVERAGE (46-51)	MAXIMUM (54-61)			
TEMPERATURE, WATER	***	***	***	68.1	74.28	(15)	0	30/30	
DEG. FAHRENHEIT	***	***	***	OPTIONAL MINIMUM	REPORT 30DA AVG	DEG.F		DAILY	INSITU
EFFLUENT GROSS VALUE	***	***	***	6.96	8.00	(12)	0	30/30	
PH	***	***	***	MINIMUM	MAXIMUM	SU		DAILY	CONTIN
EFFLUENT GROSS VALUE	***	***	***	8.0	13.0	(19)	0	4/30	
SOLIDS, TOTAL SUSPENDED	***	***	***	30	84	MG/L		WEEKLY	GRAB
EFFLUENT GROSS VALUE	***	***	***	30DA AVG	DAILY MAX	MG/L		0/30	
OIL AND GREASE	***	***	***	Contingent	17	MG/L	0	CONTINGENT	GRAB
FREON EXTR-GRAV METHOD	***	***	***	13.5	INST MAX	MG/L		1/30	
EFFLUENT GROSS VALUE	***	***	***	0.212	REPORT	MG/L	0	ONCE/MONTH	
NITROGEN, AMMONIA TOTAL (AS N)	***	***	***	REPORT	DAILY MAX	MG/L		ONCE/MONTH	GRAB
EFFLUENT GROSS VALUE	***	***	***	12.95	REPORT	MG/L	0	ONCE/MONTH	
NITROGEN, NITRATE TOTAL (AS N)	***	***	***	REPORT	DAILY MAX	MG/L		ONCE/MONTH	GRAB
EFFLUENT GROSS VALUE	***	***	***	0.20	REPORT	MG/L	0	ONCE/MONTH	
PHOSPHORUS, TOTAL (AS P)	***	***	***	REPORT	DAILY MAX	MG/L		ONCE/MONTH	GRAB
EFFLUENT GROSS VALUE	***	***	***	0.20	REPORT	MG/L	0	ONCE/MONTH	

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 Crawford, A. Clegg
 V.P. Eng. & Ops. Support
 TYPED OR PRINTED

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER
 OFFICER OR AUTHORIZED AGENT

TELEPHONE
 DATE

AREA NUMBER
 103 294-8000
 YEAR 94 MO 10 DAY 10

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 REPORT TOTAL RECOVERABLE CR#3. ONE-TIME GHAB ANALYSIS FOR TR FE, TR SE & NITRITE REQUIRED AT FIRST DISCHARGE. ADD'L MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO ASH PONDS-I.B.3.B.
 UNIT-CENTRAL EQUIPMENTS-SEE PART I-A.17 PG 1A-OIL & GREASE-FOOTNOTE F/, PG 3.
 PA Form 3320-1 (Rev. 9-88) Previous editions may be used
 (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED)

00070/940719-1039

PAGE 1 OF 2

ADDRESS 1225 17TH STREET, SUITE 2000
 P.O. BOX 340
 DENVER, CO 80201

PERMIT NUMBER
 001 A
 DISCHARGE NUMBER

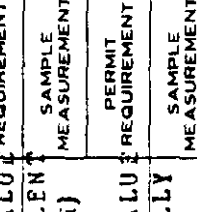
(SUBR EC) F-00000000
 F - FINAL OMB No. 2040-0004
 FINAL TREATMENT REQUIRED

MONITORING PERIOD
 FROM YEAR 94 MO 01 DAY 01 TO YEAR 94 MO 01 DAY 30
 (20-21) (22-21) (23-31) (24-31) (25-29) (26-29) (27-29) (28-29) (29-29) (30-31)

QUALITY OR CONCENTRATION (34-61)
 QUANTITY OR LOADING (54-61)
 AVERAGE (46-51)
 MINIMUM (38-45)
 MAXIMUM (46-51)
 UNITS (46-51)

PARAMETER (12-17)	AVERAGE (46-51)	MAXIMUM (46-51)	UNITS (46-51)	MINIMUM (38-45)	AVERAGE (46-51)	MAXIMUM (46-51)	UNITS (46-51)	NO. EX. ANALYSIS (62-61)	FREQUENCY OF ANALYSIS (62-68)	SAMPLE TYPE (69-70)
CHROMIUM, TRIVALENT (AS CR)	0.006	0.009	(19)	0.006	0.009	0.009	(19)	0	4/30	WEEKLY GRAB
EFFLUENT GROSS VALUE	REPORT 30DA AVG	0.055 DAILY MAX	MG/L	REPORT 30DA AVG	0.089	0.089	(19)	0	4/30	WEEKLY GRAB
ZINC, TOTAL (AS ZN)	0.066	0.089	(19)	0.066	0.089	0.089	(19)	0	4/30	WEEKLY GRAB
EFFLUENT GROSS VALUE	0.35 30DA AVG	0.4 DAILY MAX	MG/L	0.35 30DA AVG	0.4	0.4	(19)	0	4/30	WEEKLY GRAB
CHROMIUM, HEXAVALENT DISSOLVED (AS CR)	<0.025	<0.025	(19)	<0.025	<0.025	<0.025	(19)	0	4/30	WEEKLY GRAB
EFFLUENT GROSS VALUE	REPORT 30DA AVG	0.018 DAILY MAX	MG/L	REPORT 30DA AVG	0.051	0.051	(19)	0	4/30	WEEKLY GRAB
COOPER, POTENTIALLY DISSOLVED	0.044	0.051	(19)	0.044	0.051	0.051	(19)	0	4/30	WEEKLY GRAB
EFFLUENT GROSS VALUE	0.053 30DA AVG	0.06 DAILY MAX	MG/L	0.053 30DA AVG	0.06	0.06	(19)	0	4/30	WEEKLY GRAB
FLOCCULANT TREATMENT PLANT	1.38	2.33	(03)	1.38	2.33	2.33	(03)	0	30/30	DAILY INSTANT
EFFLUENT GROSS VALUE	3.1 30DA AVG	5.5 DAILY MAX	MGD	3.1 30DA AVG	5.5	5.5	(94)	0	4/30	WEEKLY GRAB
CHLORINE, TOTAL RESIDUAL	<0.05	<0.05	(19)	<0.05	<0.05	<0.05	(19)	0	4/30	WEEKLY GRAB
EFFLUENT GROSS VALUE	OPTIONAL 30DA AVG	0.021 INST MAX	MG/L	OPTIONAL 30DA AVG	0.021	0.021	(19)	0	30/30	DAILY VISUAL
OIL AND GREASE VISUAL	0	INST MAX	YES=1 NO=0	0	INST MAX	INST MAX	YES=1 NO=0	0	30/30	DAILY VISUAL
EFFLUENT GROSS VALUE	0	INST MAX	YES=1 NO=0	0	INST MAX	INST MAX	YES=1 NO=0	0	30/30	DAILY VISUAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 Crawford, A. Clegg
 V.P. Eng. & Ops. Support

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER


OFFICER OR AUTHORIZED AGENT
 303 294-8000

TELEPHONE
 303 294-8000

DATE
 94 10 10

NOTE: Read instructions before completing this form.
 NO DISCHARGE

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 REPORT TOTAL RECOVERABLE CR+3. ONE-TIME GRAB ANALYSIS FOR TR FE, TR SE & NITRITE REQUIRED AT FIRST DISCHARGE. ADD'L MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO ASH PONDS-I.B.3.B.
 PERMIT GENERAL REQUIREMENTS-SEE PART I.A.1, PG 1A. OIL & GREASE-FOOTNOTE F/, PG 3.
 (REPLACES EPA FORM 1-40 WHICH MAY NOT BE USED) 00071/940719-1039

ADDRESS 1425 17TH STREET, SUITE 2000
 P.O. BOX 940
 DENVER, CO 80201

PERMIT NUMBER
 00001104

DISCHARGE NUMBER
 001 N

MONITORING PERIOD
 FROM YEAR 94 MO 07 DAY 01 TO YEAR 94 MO 09 DAY 30

QUALITY OR CONCENTRATION
 (4 Card Only) (28-45)

QUANTITY OR LOADING
 (54-61)

UNIT NO DISCHARGE
 1-1-1 ***

NOTE: Read instructions before completing this form.

Facility: LOUISE MEYFROND, UNIT MGR

LOCATION: DENVER, CO 80201

PARAMETER (12-17)	AVERAGE (46-51)			MAXIMUM (54-61)			MINIMUM (28-45)			QUALITY OR CONCENTRATION (4 Card Only) (28-45)			QUANTITY OR LOADING (54-61)			UNITS	NO. EX (62-67)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	MEASUREMENT	PERMIT REQUIREMENT	UNITS	MEASUREMENT	PERMIT REQUIREMENT	UNITS	MEASUREMENT	PERMIT REQUIREMENT	UNITS	MEASUREMENT	PERMIT REQUIREMENT	UNITS	MEASUREMENT	PERMIT REQUIREMENT	UNITS				
F STATRE 48HR ACU	***	***	***	0	REPORT	***	0	REPORT	0	REPORT	0	REPORT	0	REPORT	0	0	1/90	CRAB	
R10DAPHNIA	***	***	***	0	REPORT	***	0	REPORT	0	REPORT	0	REPORT	0	REPORT	0	0	1/90	CRAB	
M3B 1 0 0	***	***	***	0	REPORT	***	0	REPORT	0	REPORT	0	REPORT	0	REPORT	0	0	1/90	CRAB	
EFFLUENT GROSS VALUE	***	***	***	0	REPORT	***	0	REPORT	0	REPORT	0	REPORT	0	REPORT	0	0	1/90	CRAB	
F STATRE 96HR ACU	***	***	***	0	REPORT	***	0	REPORT	0	REPORT	0	REPORT	0	REPORT	0	0	1/90	CRAB	
MEPHALES PROMELAS	***	***	***	0	REPORT	***	0	REPORT	0	REPORT	0	REPORT	0	REPORT	0	0	1/90	CRAB	
N6C 1 0 0	***	***	***	0	REPORT	***	0	REPORT	0	REPORT	0	REPORT	0	REPORT	0	0	1/90	CRAB	
EFFLUENT GROSS VALUE	***	***	***	0	REPORT	***	0	REPORT	0	REPORT	0	REPORT	0	REPORT	0	0	1/90	CRAB	

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 Crawford, A. Clegg
 V.P. Eng. & Ops. Support

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER
A. Clegg

TELEPHONE
 303 294-8000

DATE
 94 10 10

AREA CODE
 303

NUMBER
 294-8000

OFFICER OR AUTHORIZED AGENT

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

2 PART I.B OF PERMIT FOR DETAILS OF TEST PROCEDURE. REPORT RESULTS OF I.M.C TEST AS "MINIMUM" AND 50% QUALITY TEST (ANY CONCENTRATION) AS "MAXIMUM" AND ATTACH ACUTE TOXICITY TEST REPORT FORM TO DMR. COPIES OF ALL INFORMATION MUST BE SENT TO EPA. (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED)

ADDRESS 1225 17TH STREET, SUITE 2000
 P.O. BOX 840
 DENVER CO 80201

CO00C1104
 PERMIT NUMBER

001 A
 DISCHARGE NUMBER

MONITORING PERIOD
 YEAR 94 TO 94
 MO 10 TO 10
 DAY 31 TO 31

FROM 28-27 (28-29) (30-31)
 (20-21) (22-23) (24-25)

QUALITY OR CONCENTRATION
 (46-53)

QUANTITY OR LOADING
 (54-61)

NO. EX (62-71)
 FREQUENCY OF ANALYSIS (64-68)

SAMPLE TYPE (69-70)

PARAMETER (12-17)

AVERAGE (46-53)

MINIMUM (18-45)

MAXIMUM (54-61)

UNITS

PERMIT REQUIREMENT

PERMIT REQUIREMENT

PERMIT REQUIREMENT

PERMIT REQUIREMENT

PERMIT REQUIREMENT

PARAMETER (12-17)	AVERAGE (46-53)	MINIMUM (18-45)	MAXIMUM (54-61)	UNITS	PERMIT REQUIREMENT	PERMIT REQUIREMENT	PERMIT REQUIREMENT	PERMIT REQUIREMENT	PERMIT REQUIREMENT	NO. EX (62-71)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER	68.67	63.8	73.8	(15)	REPORT	30DA AVG	86	DEG.F	DAILY	0	31/31	INSITU
DEG. FAHRENHEIT	63.8	7.05	7.64	(12)	OPTIONAL	30DA AVG	9.0	SU	DAILY	0	31/31	CONTIN
EFFLUENT GROSS VALUE	7.40	6.5	16.0	(19)	MINIMUM	30DA AVG	84	MG/L	WEEKLY	0	5/31	GRAB
PH	30	Contingent	17	(19)	30DA AVG	0.270	INST MAX	MG/L	CONTIN	0	0/31	GRAB
TEMPERATURE, WATER	13.5	0.270	0.270	(19)	Contingent	REPORT	DAILY MI	MG/L	ONCE/	0	1/31	GRAB
DEG. FAHRENHEIT	0.270	18.14	18.14	(19)	30DA AVG	REPORT	DAILY MI	MG/L	ONCE/	0	1/31	GRAB
EFFLUENT GROSS VALUE	18.14	0.29	0.29	(19)	REPORT	30DA AVG	0.29	MG/L	ONCE/	0	1/31	GRAB
PH	0.29	REPORT	REPORT	(19)	30DA AVG	REPORT	DAILY MI	MG/L	ONCE/	0	1/31	GRAB
TEMPERATURE, WATER	18.14	0.29	0.29	(19)	REPORT	30DA AVG	0.29	MG/L	ONCE/	0	1/31	GRAB
DEG. FAHRENHEIT	0.29	REPORT	REPORT	(19)	30DA AVG	REPORT	DAILY MI	MG/L	ONCE/	0	1/31	GRAB
EFFLUENT GROSS VALUE	18.14	0.29	0.29	(19)	REPORT	30DA AVG	0.29	MG/L	ONCE/	0	1/31	GRAB
PH	0.29	REPORT	REPORT	(19)	30DA AVG	REPORT	DAILY MI	MG/L	ONCE/	0	1/31	GRAB

NOTE: Read instructions before completing this form.
 *** NO DISCHARGE ***
 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER: Crawford, A. Clegg
 V.P. Eng. & Ops. Support
 TYPED OR PRINTED

TELEPHONE: 303 294-8000
 AREA CODE: 303
 NUMBER: 294-8000
 DATE: 94 11 10

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 31 USC § 1319 (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)
 COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):
 REPORT TOTAL RECOVERABLE CR+3. ONE-TIME GRAB ANALYSIS FOR TR FC, TR SE & NITRITE REQUIRED AT FIRST DISCHARGE. ADD'L MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO ASH PONDS-J.B.3.R.
 PERMIT REQUIREMENTS-SEE PART I-A-1, PG 1A-OIL & GREASE-FOOTNOTES F-7, PG 3.
 REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.

NAME PUBLIC SERVICE CO-CHEMURKEE
 ADDRESS 1225 17TH STREET, SUITE 2000
 P.O. BOX 840
 DENVER CO 80201

PERMIT NUMBER
 001 A
 DISCHARGE NUMBER

MAJOR (SUBR EC) F00A08060ved.
 F - FINAL OMB No. 2040-0004
 FINAL TREATMENT OPERATIONS REPORT

MONITORING PERIOD
 FROM YEAR 94 MO 01 DAY 01 TO YEAR 94 MO 10 DAY 31
 (20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

QUANTITY OR LOADING (54-61)
 AVERAGE MAXIMUM UNITS

PARAMETER (12-17)
 CHROMIUM, TRIVALENT (AS CR)
 C1033 1 0 0
 EFFLUENT GROSS VALUE
 ZINC, TOTAL (AS ZN)
 C1092 1 0 0
 EFFLUENT GROSS VALUE
 CHROMIUM, HEXAVALENT DISSOLVED (AS CR)
 C1220 1 0 0
 EFFLUENT GROSS VALUE
 COPPER, POTENTIALLY DISSOLVED
 C1306 1 0 0
 EFFLUENT GROSS VALUE
 FLOW, IN CONDUIT OR THRU TREATMENT PLANT
 S0050 1 0 0
 EFFLUENT GROSS VALUE
 CHLORINE, TOTAL RESIDUAL
 S0060 1 0 0
 EFFLUENT GROSS VALUE
 OIL AND GREASE VISUAL
 S4066 1 0 0
 EFFLUENT GROSS VALUE

PARAMETER (12-17)	QUANTITY OR LOADING (54-61)			QUALITY OR CONCENTRATION (54-61)			FREQUENCY OF ANALYSIS (64-68)	NO EX (62-63)	SAMPLE TYPE (69-70)	
	AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM				UNITS
CHROMIUM, TRIVALENT (AS CR) C1033 1 0 0 EFFLUENT GROSS VALUE	*****	*****	*****	*****	<0.007	0.014	(19)	0	5/31	WEEKLY GRAB
ZINC, TOTAL (AS ZN) C1092 1 0 0 EFFLUENT GROSS VALUE	*****	*****	*****	*****	0.057	0.069	(19)	0	5/31	WEEKLY GRAB
CHROMIUM, HEXAVALENT DISSOLVED (AS CR) C1220 1 0 0 EFFLUENT GROSS VALUE	*****	*****	*****	*****	0.35 30DA AVG	0.4 DAILY MX	MG/L	0	5/31	WEEKLY GRAB
COPPER, POTENTIALLY DISSOLVED C1306 1 0 0 EFFLUENT GROSS VALUE	*****	*****	*****	*****	<0.025	<0.025	(19)	0	5/31	WEEKLY GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT S0050 1 0 0 EFFLUENT GROSS VALUE	*****	*****	*****	*****	0.035	0.049	(19)	0	5/31	WEEKLY GRAB
CHLORINE, TOTAL RESIDUAL S0060 1 0 0 EFFLUENT GROSS VALUE	*****	*****	*****	*****	0.053 30DA AVG	0.06 DAILY MX	MG/L	0	5/31	WEEKLY GRAB
OIL AND GREASE VISUAL S4066 1 0 0 EFFLUENT GROSS VALUE	*****	*****	*****	*****	<0.05	<0.05	(19)	0	5/31	WEEKLY GRAB
	*****	*****	*****	*****	OPTIONAL 30DA AVG	0.021 INST MAX	MG/L	0	31/31	DAILY INSTAN
	*****	*****	*****	*****	*****	*****	*****	0	31/31	DAILY VISUAL

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
 V.P. Eng. & Ops. Support

TELEPHONE NUMBER
 294-8000

DATE
 YEAR 94 MO 11 DAY 10

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 REPORT TOTAL RECOVERABLE CR#3. ONE-TIME GRAB ANALYSIS FOR TR FE, TR SE & NITRITE REQUIRED AT FIRST DISCHARGE. ADD'L MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO ASH PONDS-I.B.3.R.
 PA Form 3320-1 (Rev. 9-88) Previous editions may be used.

ADDRESS **1225 1/TH STREET, SUITE 2000**
 P.O. BOX **840**
 DENVER, CO **80201**

FACILITY LOCATION **ATTN: LOUISE MEYERKORD, UNIT MGR**

PERMIT NUMBER **00001104** UUI A **DISCHARGE NUMBER**
 YEAR **94** MO **11** DAY **30**
 MONITORING PERIOD FROM (20-21) (22-23) (24-25) TO (26-27) (28-29) (30-31)
 QUANTITY OR CONCENTRATION (46-53) (54-61) (62-69)

PARAMETER (12-37)	AVERAGE	QUANTITY OR LOADING (54-61)		QUANTITY OR CONCENTRATION (46-53)			AVERAGE	MONITORING PERIOD (20-21) (22-23) (24-25) TO (26-27) (28-29) (30-31)		NO. EX (67-68)	FREQUENCY OF ANALYSIS (69-70)	SAMPLE TYPE (69-70)
		MAXIMUM	MINIMUM	MAXIMUM	MINIMUM	OPTIONAL MINIMUM		UNITS	MAXIMUM			
TEMPERATURE, WATER	★★★★★	★★★★★	★★★★★	51.4	OPTIONAL MINIMUM	58.62	(15)	★★★★★	0	30/30		
DEG. FAHRENHEIT	★★★★★	★★★★★	★★★★★	7.20	★★★★★	REPORT 30DA AVG	DEG.F	★★★★★		DAILY INSTANT		
COU011 1 0 0	★★★★★	★★★★★	★★★★★	6.5	MINIMUM	7.94		★★★★★	0	30/30		
EFFLUENT GROSS VALUE	★★★★★	★★★★★	★★★★★	10.00	★★★★★	9.0 MAXIMUM	SU	★★★★★	0	4/30		
PH	★★★★★	★★★★★	★★★★★	30	★★★★★	14.0		★★★★★	0	WEEKLY GRAB		
COU400 1 0 0	★★★★★	★★★★★	★★★★★	30DA AVG	★★★★★	DAILY MAX	MG/L	★★★★★	0	0/30		
EFFLUENT GROSS VALUE	★★★★★	★★★★★	★★★★★	Contingent	★★★★★	INST MAX		★★★★★	0	CONTINGENT		
SOLIDS, TOTAL	★★★★★	★★★★★	★★★★★	13.5	★★★★★	17		★★★★★	0	ONCE/ MONTH		
SUSPENDED	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	1/30		
COU530 1 0 0	★★★★★	★★★★★	★★★★★	30DA AVG	★★★★★	DAILY MAX		★★★★★	0	ONCE/ MONTH		
EFFLUENT GROSS VALUE	★★★★★	★★★★★	★★★★★	21.032	★★★★★	REPORT		★★★★★	0	1/30		
OIL AND GREASE	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
FREON EXTR-GRAV MPT	★★★★★	★★★★★	★★★★★	30DA AVG	★★★★★	30DA AVG		★★★★★	0	1/30		
COU556 1 0 0	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
EFFLUENT GROSS VALUE	★★★★★	★★★★★	★★★★★	21.032	★★★★★	REPORT		★★★★★	0	ONCE/ MONTH		
OIL AND GREASE	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
FREON EXTR-GRAV MPT	★★★★★	★★★★★	★★★★★	30DA AVG	★★★★★	30DA AVG		★★★★★	0	1/30		
COU556 1 0 0	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
EFFLUENT GROSS VALUE	★★★★★	★★★★★	★★★★★	21.032	★★★★★	REPORT		★★★★★	0	ONCE/ MONTH		
OIL AND GREASE	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
FREON EXTR-GRAV MPT	★★★★★	★★★★★	★★★★★	30DA AVG	★★★★★	30DA AVG		★★★★★	0	ONCE/ MONTH		
COU556 1 0 0	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
EFFLUENT GROSS VALUE	★★★★★	★★★★★	★★★★★	21.032	★★★★★	REPORT		★★★★★	0	ONCE/ MONTH		
OIL AND GREASE	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
FREON EXTR-GRAV MPT	★★★★★	★★★★★	★★★★★	30DA AVG	★★★★★	30DA AVG		★★★★★	0	ONCE/ MONTH		
COU556 1 0 0	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
EFFLUENT GROSS VALUE	★★★★★	★★★★★	★★★★★	21.032	★★★★★	REPORT		★★★★★	0	ONCE/ MONTH		
OIL AND GREASE	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
FREON EXTR-GRAV MPT	★★★★★	★★★★★	★★★★★	30DA AVG	★★★★★	30DA AVG		★★★★★	0	ONCE/ MONTH		
COU556 1 0 0	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
EFFLUENT GROSS VALUE	★★★★★	★★★★★	★★★★★	21.032	★★★★★	REPORT		★★★★★	0	ONCE/ MONTH		
OIL AND GREASE	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
FREON EXTR-GRAV MPT	★★★★★	★★★★★	★★★★★	30DA AVG	★★★★★	30DA AVG		★★★★★	0	ONCE/ MONTH		
COU556 1 0 0	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
EFFLUENT GROSS VALUE	★★★★★	★★★★★	★★★★★	21.032	★★★★★	REPORT		★★★★★	0	ONCE/ MONTH		
OIL AND GREASE	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
FREON EXTR-GRAV MPT	★★★★★	★★★★★	★★★★★	30DA AVG	★★★★★	30DA AVG		★★★★★	0	ONCE/ MONTH		
COU556 1 0 0	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
EFFLUENT GROSS VALUE	★★★★★	★★★★★	★★★★★	21.032	★★★★★	REPORT		★★★★★	0	ONCE/ MONTH		
OIL AND GREASE	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
FREON EXTR-GRAV MPT	★★★★★	★★★★★	★★★★★	30DA AVG	★★★★★	30DA AVG		★★★★★	0	ONCE/ MONTH		
COU556 1 0 0	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
EFFLUENT GROSS VALUE	★★★★★	★★★★★	★★★★★	21.032	★★★★★	REPORT		★★★★★	0	ONCE/ MONTH		
OIL AND GREASE	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
FREON EXTR-GRAV MPT	★★★★★	★★★★★	★★★★★	30DA AVG	★★★★★	30DA AVG		★★★★★	0	ONCE/ MONTH		
COU556 1 0 0	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
EFFLUENT GROSS VALUE	★★★★★	★★★★★	★★★★★	21.032	★★★★★	REPORT		★★★★★	0	ONCE/ MONTH		
OIL AND GREASE	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
FREON EXTR-GRAV MPT	★★★★★	★★★★★	★★★★★	30DA AVG	★★★★★	30DA AVG		★★★★★	0	ONCE/ MONTH		
COU556 1 0 0	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
EFFLUENT GROSS VALUE	★★★★★	★★★★★	★★★★★	21.032	★★★★★	REPORT		★★★★★	0	ONCE/ MONTH		
OIL AND GREASE	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
FREON EXTR-GRAV MPT	★★★★★	★★★★★	★★★★★	30DA AVG	★★★★★	30DA AVG		★★★★★	0	ONCE/ MONTH		
COU556 1 0 0	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
EFFLUENT GROSS VALUE	★★★★★	★★★★★	★★★★★	21.032	★★★★★	REPORT		★★★★★	0	ONCE/ MONTH		
OIL AND GREASE	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
FREON EXTR-GRAV MPT	★★★★★	★★★★★	★★★★★	30DA AVG	★★★★★	30DA AVG		★★★★★	0	ONCE/ MONTH		
COU556 1 0 0	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
EFFLUENT GROSS VALUE	★★★★★	★★★★★	★★★★★	21.032	★★★★★	REPORT		★★★★★	0	ONCE/ MONTH		
OIL AND GREASE	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
FREON EXTR-GRAV MPT	★★★★★	★★★★★	★★★★★	30DA AVG	★★★★★	30DA AVG		★★★★★	0	ONCE/ MONTH		
COU556 1 0 0	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
EFFLUENT GROSS VALUE	★★★★★	★★★★★	★★★★★	21.032	★★★★★	REPORT		★★★★★	0	ONCE/ MONTH		
OIL AND GREASE	★★★★★	★★★★★	★★★★★	0.231	★★★★★	REPORT	MG/L	★★★★★	0	ONCE/ MONTH		
FREON EXTR-GRAV MPT	★★★★★	★★★★★	★★★★★	30DA AVG	★★★★★	30DA AVG		★★★★★	0	ONCE/ MONTH		

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY KNOWLEDGE OF THE INFORMATION I BELIEVE THE INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 19 USC § 1001 AND 33 USC § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 Crawford, A. Clegg
 V.P. Eng. & Ops. Support

TYPED OR PRINTED

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
 303 294-8000
 AREA CODE NUMBER

TELEPHONE DATE
 YEAR 1994 MONTH 11 DAY 30

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 REPORT TOTAL RECOVERY IS 3000. ONE-TIME GPAB ANALYSIS FOR TR PF, TR SE & NITRITE REQUIRED AT FIRST DISCHARGE. ADD'L MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO ASH PONDS-I.B.3.B.
 EPA Form 3320-1 (Rev. 9-88) Previous editions may be used.

DATE OF PREVIOUS EDITION (If applicable) 9/1/88
 PAGE 1 OF 2

Facility Name: PUBLIC SERVICE CO-CHEKOEKE
 Address: 1225 17TH STREET, SUITE 2000
 P.O. BOX 840
 DENVER CO 80201

Permit Number: C00001104

Discharge Number: U01 A

Monitoring Period: From 9/12/91 to 9/31/91

NO DISCHARGE []

NOTE: Read Instructions before completing this form.

PARAMETER (12-17)	QUANTITY OR LOADING (14-61)			QUALITY OR CONCENTRATION (14-61)			UNITS	NO EX (14-61)	ANALYSIS (14-61)	SAMPLE TYPE (14-70)
	AVERAGE (14-51)	MAXIMUM (14-61)	MINIMUM (14-51)	AVERAGE (14-51)	MAXIMUM (14-61)	MINIMUM (14-51)				
ROHIUM, TRIVALENT (AS CR)	*****	*****	*****	<0.0055	0.007		(19)	0	4/31	WEEKLYGRAB
FLUENT GROSS VALUE	*****	*****	*****	REPORT 30DA AVG	0.055 DAILY MX		MG/L			
NC, TOTAL	*****	*****	*****	0.032	0.045		(19)	0	4/31	WEEKLYGRAB
FLUENT GROSS VALUE	*****	*****	*****	0.35	0.4		MG/L			
ROHIUM, HEXAVALENT	*****	*****	*****	30DA AVG	DAILY MX		(19)	0	4/31	WEEKLYGRAB
DISSOLVED (AS CR)	*****	*****	*****	<0.025	<0.025		MG/L			
FLUENT GROSS VALUE	*****	*****	*****	REPORT 30DA AVG	0.018 DAILY MX		(19)	0	4/31	WEEKLYGRAB
OPPER, POTENTIALLY	*****	*****	*****	0.043	0.072		MG/L	1*	4/31	WEEKLYGRAB
DISSOLVED	*****	*****	*****	0.053	0.06		MG/L			
FLUENT GROSS VALUE	*****	*****	*****	30DA AVG	DAILY MX		(19)	0	31/31	DAILY INSTAN
OM, IN CONDUIT OR	*****	*****	*****							
RU TREATMENT PLANT	*****	*****	*****							
OSU 1 0 0	*****	*****	*****	2.96						
FLUENT GROSS VALUE	*****	*****	*****	5.5	DAILY MX	MGD				
LCRINE, TOTAL	*****	*****	*****	3.1						
SIDUAL	*****	*****	*****	30DA AVG						
FLUENT GROSS VALUE	*****	*****	*****							
L AND GREASE	*****	*****	*****	<0.05	<0.05		(19)	0	4/31	WEEKLYGRAB
SUAL	*****	*****	*****	OPTIONAL 30DA AVG	0.021 INST HAI		MG/L			
FLUENT GROSS VALUE	*****	*****	*****							
FLUENT GROSS VALUE	*****	*****	*****							
FLUENT GROSS VALUE	*****	*****	*****							

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 USC 1001 AND 33 USC 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 3 years.)

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: Crawford, A. Clegg
 V.P. Eng. & Ops. Support

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER: *A. Clegg*

OFFICER OR AUTHORIZED AGENT: []

TELEPHONE: 303 294-8000

DATE: 95 01 17

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here): * As reported to Kathleen Kalamen on 1/6/95. PCHT TOTAL RECOVERABLE CR+3. ONE-TIME GRAB ANALYSIS FOR TH FE, TH SE & NITRITE REQUIRED AT FIRST DIS-ARGE. ADD'L MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO ASH PONDS-I.O.J.U.

REQUIREMENTS: SEE PART I, A, 1, PG 1A. OIL & GREASE FOOTNOTE F-7, PG 3.

REPLACES EPA FORM T-10 WHICH MAY NOT BE USED.

00077/940719-1030

PAGE 2 OF 2

NAME: INDIANA UNIVERSITY
 ADDRESS: 1225 17TH STREET, SUITE 2000
P.O. BOX 840
DENVER, CO 80201

PERMIT NUMBER
C00001104

DISCHARGE NUMBER
001 W

MONITORING PERIOD
 FROM YEAR 94 MO 10 DAY 01 TO YEAR 94 MO 12 DAY 31
 (20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

*** NO DISCHARGE ***
 NOTE: Read Instructions before completing this form.

PARAMETER (1, 17)	(1 Card Only) QUANTITY OR LOADING (54-61)			(4 Card Only) QUALITY OR CONCENTRATION (54-61)			NO EX (67-69)	THEORY AGENCY (62-66)	SAMPLE TYPE (69-70)
	AVERAGE (46-51)	MAXIMUM (54-61)	UNITS (54-61)	MINIMUM (38-45)	AVERAGE (46-51)	MAXIMUM (54-61)			
F STAIRS 40HR ACU	*****	*****	*****	0	0	(9A)	0	1/90	GRAB
RIODA MINIA	*****	*****	*****	REPORT	REPORT	PASS=0		OTRLY	
M30 1 C 0	*****	*****	*****	0	0	SINGSAMP			
FLUENT GROSS VALU	*****	*****	*****	REPORT	REPORT	FAIL=1		1/90	GRAB
F STAIRS 96HR ACU	*****	*****	*****	0	0	(9A)	0	OTRLY	
ALPHALSS PROMFIAS	*****	*****	*****	REPORT	REPORT	PASS=0			
NEG 1 0 0	*****	*****	*****	0	0	SINGSAMP			
FLUENT GROSS VALU	*****	*****	*****	REPORT	REPORT	FAIL=1			
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 Crawford, A. Clegg
 V.P. Eng. & Ops. Support

TYPED OR PRINTED

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
A. Clegg

TELEPHONE NUMBER
 303 294-8000

DATE
 95 01 17

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

EPA Form 3320-1 (Rev. 9-88) Previous editions may be used

REPLACES EPA FORM T-40 WHICH MAY NOT BE USED!

REPORT RESULTS OF IWC TEST AS "MINIMUM" AND 50%
 MAXIMUM TEST (ANY CONCENTRATION) AS "MAXIMUM" AND ATTACH ACUTE TOXICITY TEST REPORT FORM TO DMR.
 COPIES OF ALL INFORMATION MUST BE SENT TO EPA.

00080/940719-1039 PAGE 1 OF 1

NAME PUBLIC SERVICE CO-OPERATIVE
 ADDRESS 1225 17TH STREET, SUITE 2000
 P.O. BOX 840
 DENVER CO 80201

0001104
 PERMIT NUMBER

001 X
 DISCHARGE NUMBER

(SUBR EC) F000000000
 P - FINAL OMB No. 2040-0004
 CHRONIC HEALTH EFFECTS REPORT 1000000000

MONITORING PERIOD
 FROM YEAR 94 MO 07 DAY 01 TO YEAR 94 MO 12 DAY 31
 (20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

*** NO DISCHARGE ***
 NOTE: Read instructions before completing this form.

FACILITY LOCATION
 UNIT: LUCISE MEYERKORD, UNIT MGR

PARAMETER (11-17)	(3 Card Only) QUANTITY OR LOADING (14-61)			(4 Card Only) QUANTITY OR CONCENTRATION (15-61)			NO EX (16-61)	FIM. REQ. IN (17-61)	SAMPLE TYPE (18-70)
	AVERAGE (14-51)	MAXIMUM (14-61)	UNITS (14-61)	MINIMUM (18-45)	AVERAGE (14-51)	MAXIMUM (15-61)			
SEATRE 7DAY CHR	*****	*****	*****	*****	*****	*****	1*	2/180	CK REQ
PHODAPHNIA	*****	*****	*****	*****	*****	*****	1	5BMI-ANNUAL	CK REQ
PLUENT GROSS VALU	*****	*****	*****	*****	*****	*****	0	1/180	CK REQ
PLUENT GROSS VALU	*****	*****	*****	*****	*****	*****	1	5BMI-ANNUAL	CK REQ
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
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SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									
SAMPLE MEASUREMENT									
PERMIT REQUIREMENT									

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 Crawford, A. Clegg
 V.P. Eng. & Ops. Support
 TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
A. Clegg

TELEPHONE NUMBER 303 294-8000
 AREA CODE 303

DATE YEAR 95 MO 01 DAY 17

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here) * A single dilution on the initial test failed. Subsequent test passed. RE PART 1.9 OF PERMIT FOR DETAILS OF TEST PROCEDURE. "PASS" INDICATES TEST WAS PERFORMED AND RESULTS ARE REPORTED. ATTACH CHRONIC TEST REPORT FORM TO DMR. COPIES OF ALL INFORMATION MUST BE SENT TO EPA.

EPA Form 3320-1 (Rev. 9-88) Previous editions may be used. (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED)

00082/940719-1039 PAGE 1 OF 1

DISCHARGE MONITORING REPORT (DMR)
(17-19)

MAJOR (STRR EC) EPA Approved.
P - FINAL OMB No. 2040-0004
FINAL TREATMENT APPROVAL expires 10-31-94 (TTP)

001 A
DISCHARGE NUMBER

000001104
PERMIT NUMBER

MONITORING PERIOD
YEAR MO DAY TO YEAR MO DAY
1995 01 11 TO 1995 01 11

FROM (20-21) (22-23) (24-25) (26-27) (28-29) (30-31)
TO (46-51)

PARAMETER (12-37)	QUANTITY OR LOADING (54-61)		QUALITY OR CONCENTRATION (54-61)		UNITS	MAXIMUM (67-68)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	AVERAGE (46-51)	MAXIMUM (46-51)	MINIMUM (18-45)	AVERAGE (46-51)				
TEMPERATURE, WATER	54.93	58.8	51.7	54.93	(15)	0	31/31	
DOS. FURNISHMENT	OPTIONAL	REPORT	MINIMUM	30DA AVG	MAXIMUM	0	DAILY	INSITU
00011 1 0 0	6.89	7.83	6.5	30DA AVG	MAXIMUM	0	31/31	
EFFLUENT CROSS VALVE	13.4	17	MINIMUM	30DA AVG	MAXIMUM	0	DAILY	CONTIN
PH	Contingent	INST MAX	*****	30DA AVG	MAXIMUM	0	5/31	
00400 1 0 0	30DA AVG	DAILY MAX	*****	30DA AVG	MAXIMUM	0	WEEKLY	GRAB
EFFLUENT CROSS VALVE	13.5	17	*****	30DA AVG	MAXIMUM	0	0/31	
SOLIDS, TOTAL	0.516	0.516	*****	30DA AVG	MAXIMUM	0	CONTIN	GRAB
SUSPENDED	REPORT	REPORT	*****	30DA AVG	MAXIMUM	0	ONCE/	GRAB
00530 1 0 0	21.9	21.9	*****	30DA AVG	MAXIMUM	0	1/31	
EFFLUENT CROSS VALVE	REPORT	REPORT	*****	30DA AVG	MAXIMUM	0	ONCE/	GRAB
OIL AND GREASE	0.53	0.53	*****	30DA AVG	MAXIMUM	0	1/31	
00556 1 0 0	REPORT	REPORT	*****	30DA AVG	MAXIMUM	0	ONCE/	GRAB
EFFLUENT CROSS VALVE	21.9	21.9	*****	30DA AVG	MAXIMUM	0	1/31	
WITROGEN, AMMONIA	REPORT	REPORT	*****	30DA AVG	MAXIMUM	0	ONCE/	GRAB
TOTAL (AS N)	0.53	0.53	*****	30DA AVG	MAXIMUM	0	1/31	
00610 1 0 0	REPORT	REPORT	*****	30DA AVG	MAXIMUM	0	ONCE/	GRAB
EFFLUENT CROSS VALVE	21.9	21.9	*****	30DA AVG	MAXIMUM	0	1/31	
WITROGEN, NITRATE	0.53	0.53	*****	30DA AVG	MAXIMUM	0	ONCE/	GRAB
TOTAL (AS N)	REPORT	REPORT	*****	30DA AVG	MAXIMUM	0	ONCE/	GRAB
00620 1 0 0	21.9	21.9	*****	30DA AVG	MAXIMUM	0	1/31	
EFFLUENT CROSS VALVE	0.53	0.53	*****	30DA AVG	MAXIMUM	0	ONCE/	GRAB
PHOSPHORUS, TOTAL	REPORT	REPORT	*****	30DA AVG	MAXIMUM	0	ONCE/	GRAB
(AS P)	21.9	21.9	*****	30DA AVG	MAXIMUM	0	ONCE/	GRAB
00655 1 0 0	0.53	0.53	*****	30DA AVG	MAXIMUM	0	ONCE/	GRAB
EFFLUENT CROSS VALVE	REPORT	REPORT	*****	30DA AVG	MAXIMUM	0	ONCE/	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
Crawford, A. Clegg
V.P. Eng. & Ops. Support

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER
303 294-8000
AREA CODE NUMBER

TELEPHONE DATE

OFFICER OR AUTHORIZED AGENT
303 294-8000
AREA CODE NUMBER

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER
95 02 13
YEAR MO DAY

TYPED OR PRINTED

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

REPORT TOTAL RECOVERY GRAB. ONP-TIME GRAB ANALYSIS FOR TR 57, TR 65 & NITRITE REQUIRED AT FIRST DIS-
CHARGE. ADDITIONAL MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO 15H PONDS-J.9.3.9.
EPA Form 3320-1 (Rev 9-88) Previous editions may be used. (REPLACES EPA FORM 1-40 WHICH MAY NOT BE USED)

PAGE 1 OF 2

DISCHANGE MONITORING REPORT (DMR) (17-19)

MAJOR (SMR RC) FROM APPROVED
 F - FINAL OMB No. 2040-0004
 FINAL TRPA APPROVAL # 10-31-94 TTB

*** NO DISCHARGE ***

NOTE: Read instructions before completing this form.

001 A
 DISCHARGE NUMBER

MONITORING PERIOD
 YEAR MO DAY YEAR MO DAY
 95 01 01 95 01 31

00001100
 PERMIT NUMBER

FROM YEAR MO DAY TO YEAR MO DAY
 95 01 01 95 01 31

NAME - PUBLIC SERVICE CO - CHAROKEE
 ADDRESS 1225 17TH STREET, SUITE 2000
 P.O. BOX 940
 RIVER CO 90201

PARAMETER (12-17)	(3 Card Only) QUANTITY OR LOADING (54-61)			(4 Card Only) QUALITY OR CONCENTRATION (46-53)			UNITS	MAXIMUM (54-61)	AVERAGE (46-53)	MINIMUM (38-45)	PERMIT REQUIREMENT	NO. EX (67-71)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	AVERAGE (46-53)	MAXIMUM (54-61)	UNITS (54-61)	AVERAGE (46-53)	MINIMUM (38-45)	PERMIT REQUIREMENT								
CHROMIUM, TRIVALENT (AS CR)	***	***	***	<0.005 REPORT	***	***	(19)	<0.005	***	***	***	0	WEEKLY	GRAB
EFFLUENT GROSS VALUE	***	***	***	30DA AVG	***	***	MG/L	0.055 DAILY MX	***	***	***	0	WEEKLY	GRAB
ZINC, TOTAL (AS ZN)	***	***	***	0.036 30DA AVG	***	***	(19)	0.086 DAILY MX	***	***	***	0	WEEKLY	GRAB
EFFLUENT GROSS VALUE	***	***	***	***	***	***	MG/L	0.018 DAILY MX	***	***	***	0	WEEKLY	GRAB
CHROMIUM, HEXAVALENT DISSOLVED (AS CR)	***	***	***	<0.025 REPORT	***	***	(19)	<0.025	***	***	***	0	WEEKLY	GRAB
EFFLUENT GROSS VALUE	***	***	***	30DA AVG	***	***	MG/L	0.06 DAILY MX	***	***	***	0	WEEKLY	GRAB
COPPER, POTENTIALLY DISSOLVED	***	***	***	0.025 30DA AVG	***	***	(19)	0.053 DAILY MX	***	***	***	0	WEEKLY	GRAB
EFFLUENT GROSS VALUE	***	***	***	***	***	***	MG/L	***	***	***	***	0	WEEKLY	GRAB
THRU TREATMENT PLANT	***	***	***	2.59	***	***	(13)	***	***	***	***	0	DAILY	INSTAN
EFFLUENT GROSS VALUE	***	***	***	3.1 30DA AVG	***	***	DAILY MX	<0.05	***	***	***	0	WEEKLY	GRAB
CHLORINE, TOTAL RESIDUAL	***	***	***	***	***	***	***	0.021 DAILY MX	***	***	***	0	WEEKLY	GRAB
EFFLUENT GROSS VALUE	***	***	***	***	***	***	MG/L	***	***	***	***	0	WEEKLY	GRAB
OIL AND GREASE VISUAL	***	***	***	0	***	***	(91)	***	***	***	***	0	DAILY	VISUAL
EFFLUENT GROSS VALUE	***	***	***	INS ^m MAX	***	***	***	***	***	***	***	0	DAILY	VISUAL

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years)

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 Crawford, A. Clegg
 V.P. Eng. & Ops. Support

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER
 [Signature]

OFFICER OR AUTHORIZED AGENT
 303 294-8000
 AREA NUMBER

TELEPHONE
 DATE

TYPED OR PRINTED

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

30000 TOTAL RECOVERABLE CR+3. ONE-TIME GROSS ANALYSIS FOR TRUB, TRUBS & WITPIPS REQUIRED AT FIRST DYS-
 24000. ADDL MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO 154 COMDS-I.3.3.3.
 95000. ADDL MONITORING REQUIRED EACH TIME CHEMICAL CLEANING WASTES ARE ADDED TO 154 COMDS-I.3.3.3.
 EPA Form 3320-1 (Rev. 9-88) Previous editions may be used.

REPLACES EPA FORM T-10 WHICH MAY NOT BE USED

PAGE OF 7

APPENDIX B

EXCESS EMISSIONS AND OPACITY REPORTS



Public Service®

Public Service
Company of Colorado
P.O. Box 840
Denver, CO 80201-0840

July 29, 1993

Mr. Roy Doyle
Air Pollution Control Division
Colorado Department of Health
4300 Cherry Creek Drive South
Denver, CO 80222-1530

RE: Second Quarter, 1993 Excess Emissions Report, Cherokee S.E.G.S., Units #1-4

Dear Roy:

Attached is the second quarter, 1993 excess emissions report for the Public Service Company of Colorado Cherokee Station Units #1-4.

Unit #1 operated 705 hours, Unit #2 operated 2,049 hours, Unit #3 operated 1,856 hours and Unit #4 operated 2,006 hours.

Feel free to contact me at 294-2810 with any questions in this regard.

Sincerely,

A handwritten signature in cursive script that reads "Peter J. Cohlma".

Peter J. Cohlma
Chief Environmental Scientist

PJC:tc

Attachment

QUARTERLY EXCESS EMISSIONS REPORT (EER)

for

Fossil Fuel-Fired Steam Generators, Subpart D

Suggested Format for Sources in Region VIII*

Minimum Requirements Under Section 60.7 (See instructions)

Part 1. This report includes all the required information under section 60.7 for:

a. Quarterly emission reporting period ending: (circle one)

March 31 June 30 Sept. 30 Dec. 31

b. Reporting year: 1993

c. Reporting date: July 9, 1993

d. Person completing report: Thomas M. Kennedy

e. Station name: Cherokee SEGS Units 1-4

f. Plant location: Denver, CO 80216

g. Person responsible for review
and integrity of report: Peter J. Cohlma

h. Mailing address for person in 1-g above:

Public Service Company of Colorado P.O. Box 840
Denver CO 80201-0840

i. Phone number for 1-g above: 294-2810

Part 2. Instrument Information, complete for each instrument.

a. Opacity Monitor:	Unit 1	Unit 2	Unit 3	Unit 4
	Lear	Lear	Lear	Lear
b. Manufacturer:	<u>Siegler</u>	<u>Siegler</u>	<u>Siegler</u>	<u>Siegler</u>
c. Model No.:	<u>RM-41</u>	<u>RM-41</u>	<u>RM-41</u>	<u>RM-41</u>
d. Serial No.:	<u>985</u>	<u>989</u>	<u>982</u>	<u>14824993</u>
e. Installation date:	<u>10/27/78</u>	<u>10/27/78</u>	<u>10/27/78</u>	<u>06/07/85</u>

f. SO2 Monitor:	Unit 1	Unit 2	Unit 3	Unit 4
g. Manufacturer:	<u>Rosemount</u>	<u>Rosemount</u>	<u>Rosemount</u>	<u>Altech</u>
h. Model No.:	<u>EC960</u>	<u>EC960</u>	<u>EC960</u>	<u>MCS100</u>
i. Serial No.:	<u>133</u>	<u>130</u>	<u>129</u>	<u>ACS132</u>
j. Installation date:	<u>12/19/88</u>	<u>04/25/88</u>	<u>04/28/88</u>	<u>06/09/91</u>

Part 3. Excess emissions (by pollutant)

Use Table I: attach separate narrative per instructions.

Part 4. Conversion factors (not for diluent monitor report)

a. Diluent measured: O₂/CO₂(UNIT 4)

b. F-Factor value used: _____

 i. Published or developed _____

 ii. F, Fc, or Fw 10640

c. Basis for gas measurement data: (wet or dry) wet/dry(unit 4)

d. Zero and Cal values used, by instrument:

	Unit 1		Unit 2	
	Opacity(%)	SO ₂ (ppm)	Opacity(%)	SO ₂ (ppm)
Zero	<u>0.0</u>	<u>300</u>	<u>0.0</u>	<u>300</u>
Cal	<u>57.0</u>	<u>750</u>	<u>60.0</u>	<u>750</u>

	Unit 3		Unit 4	
	Opacity(%)	SO ₂ (ppm)	Opacity(%)	SO ₂ (ppm)
Zero	<u>0.0</u>	<u>300</u>	<u>0.0</u>	<u>0</u>
Cal	<u>64.0</u>	<u>750</u>	<u>47.5</u>	<u>450</u>

Part 5. Continuous Monitoring System operation failures

See Table II: Complete one sheet for each monitor;
attach separate narrative per instructions.

Part 6. Certification of report integrity by person in 1-g above:

THIS IS TO CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, THE INFORMATION
PROVIDED IN THE ABOVE REPORT IS COMPLETE AND ACCURATE.

NAME	<u>Peter J. Cohlma</u>
SIGNATURE	<u>Pete J. Cohlma</u>
TITLE	<u>Chief Environmental Scientist</u>
DATE	<u>7/29/93</u>

* Suggested Format for Subpart D sources in: Colorado, Montana,
North Dakota, South
Dakota, Utah, Wyoming

TABLE I

EXCESS EMISSIONS (SULFUR DIOXIDE)

<u>DATE</u>	<u>POLLUTANT</u>	<u>MAGNITUDE*</u> <u>LB./10⁶ BTU</u>
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There were no excess SO₂ emissions for the second quarter, 1993.

Narrative of Maximum Theoretical SO₂ Emissions:

Calculated maximum possible SO₂ emissions from the sample with the highest sulfur content taken on 5/3/93 was 1.004 lb/MMBtu. This value was obtained using modified procedures specified in the "Coal Sampling and Analysis Certification Protocol". Because the CSA Protocol has no provision to compensate for SO₂ removal by processes within the power plant system, this value represents maximum hypothetical SO₂ emissions. Actual stack emissions would be lower than those calculated from coal samples. The average maximum theoretical SO₂ emissions for the quarter was 0.90 lb/MMBtu, which is well below the 1.2 lb/MMBtu standard.

* Narrative of causes attached.

TABLE I
NARRATIVE OF OPACITY EXCESSES
UNIT #1

<u>DATE</u>	<u>NARRATIVE</u>	<u>NUMBER OF SIX MIN. EXCESSES</u>
04/02/93	Unspecified	1
04/22/93	Unspecified	1
04/24/93	Unspecified	1
04/29/93	Black start - Lear Seiglers powered down	18
04/30/93	Unit off line	6
05/03/93	Unspecified	1
05/05/93	Unit off line	11
05/21/93	Unspecified	5
06/04/93	Unspecified	1
06/26/92	Unit off line	22
06/29/93	Unit startup	22

TABLE I

NARRATIVE OF OPACITY EXCESSES

UNIT #2

<u>DATE</u>	<u>NARRATIVE</u>	<u>NUMBER OF SIX MIN. EXCESSES</u>
05/06/93	Unspecified	1
05/21/93	Unspecified	1

TABLE I
NARRATIVE OF OPACITY EXCESSES

UNIT #3

<u>DATE</u>	<u>NARRATIVE</u>	<u>NUMBER OF SIX MIN. EXCESSES</u>
04/03/93	Unit startup	15
04/18/93	Unspecified	1
04/22/93	Unspecified	2
04/29/93	Unspecified	1
04/30/93	Unit startup	24
05/05/93	Unit startup	12
05/06/93	Unspecified	2
05/09/93	Unit startup	44
05/10/93	Unit startup	14
05/31/93	Unspecified	1
06/05/93	Unspecified	1
06/17/93	Unit startup	52
06/21/93	Unspecified	21

TABLE II

SO₂ Continuous Emissions Monitor FailuresUnit 4
Altech MCS 100

<u>From</u> <u>Date Time</u>	<u>To</u> <u>Date Time</u>	<u>Reason</u>	<u>Corrective Action</u>
05/13 18:22	05/14 11:26	Pump failure	Replaced diaphragms
06/11 22:00	06/12 23:14	Inlet sample line plug	Self-corrected

TABLE II**Continuous Monitoring System Operation Failures**

<u>Date</u>	<u>From Time</u>	<u>Date</u>	<u>To Time</u>	<u>Unit</u>	<u>Instrument</u>	<u>Effect on Instrument Output</u>
04/17/93	10:02	04/17/93	21:16	4	RM41	Incorrect Output
04/29/93	11:25	04/29/93	15:10	3	RM41	No Output
04/29/93	11:25	04/29/93	15:10	4	RM41	No Output
04/29/93	11:25	04/29/93	15:36	1	RM41	No Output
04/29/93	11:25	04/29/93	16:14	2	RM41	No Output
05/07/93	16:44	05/07/93	17:46	1	RM41	No Output
05/07/93	16:44	05/07/93	17:46	2	RM41	No Output
05/12/93	17:59	05/19/93	15:09	1	RM41	No Output
06/17/93	23:05	06/18/93	00:22	2	RM41	No Output
06/28/93	12:39	06/28/93	13:14	4	RM41	No Output

TABLE I

NARRATIVE OF OPACITY EXCESSES

UNIT #4

<u>DATE</u>	<u>NARRATIVE</u>	<u>NUMBER OF SIX MIN. EXCESSES</u>
04/25/93	Unspecified	1
04/26/93	Unspecified	3
06/10/93	Unspecified	5



Public Service
Company of Colorado
Governmental and
Environmental Affairs
P. O. Box 840
Denver, CO 80201 - 0840

October 28, 1993

Mr. Roy Doyle
Air Pollution Control Division
Colorado Department of Health
4300 Cherry Creek Drive South
Denver, CO 80222-1530

RE: Third Quarter, 1993 Excess Emissions Report, Cherokee S.E.G.S., Units #1-4

Dear Roy:

Attached is the third quarter, 1993 excess emissions report for the Public Service Company of Colorado Cherokee Station Units #1-4.

Unit #1 operated 1,959 hours, Unit #2 operated 2,119 hours, Unit #3 operated 2,065 hours and Unit #4 operated 1,971 hours.

Feel free to contact me at 294-2810 with any questions in this regard.

Sincerely,

A handwritten signature in black ink that reads "Peter J. Cohlmi".

Peter J. Cohlmi
Chief Environmental Scientist

PJC:tc

Attachment

TABLE II**Continuous Monitoring System Operation Failures**

<u>Date</u>	<u>Time From - To</u>	<u>Unit</u>	<u>Instrument</u>	<u>Effect on Instrument Output</u>
07/14/93	08:14-08:47	4	RM41	No Output
07/19/93	07:54-11:53	2	RM41	No Output
07/19/93	13:44-15:03	2	RM41	Incorrect Output
07/20/93	05:37-06:11	2	RM41	Incorrect Output
07/20/93	06:44-07:12	2	RM41	Incorrect Output
07/20/93	15:55-17:43	2	RM41	Incorrect Output
07/20/93	18:07-21:27	2	RM41	Incorrect Output
07/21/93	01:03-04:21	2	RM41	Incorrect Output
07/21/93	04:51-05:51	2	RM41	Incorrect Output
07/22/93	05:55-06:26	2	RM41	Incorrect Output
07/22/93	19:23-19:30	3	RM41	No Output
07/23/93	14:55-23:59	2	RM41	Incorrect Output
07/24/93	00:00-08:16	2	RM41	Incorrect Output
07/25/93	08:20-09:26	2	RM41	Incorrect Output
07/26/93	09:29-10:20	2	RM41	Incorrect Output
07/27/93	00:04-00:20	1	RM41	No Output
07/29/93	08:51-09:14	1	RM41	No Output
07/29/93	10:11-13:10	1	RM41	No Output
08/16/93	12:22-13:51	1	RM41	No Output
08/16/93	15:12-15:20	1	RM41	No Output
08/17/93	10:33-23:59	2	RM41	No Output
08/18/93	00:00-23:59	2	RM41	No Output
08/19/93	00:00-15:58	2	RM41	Incorrect Output
08/30/93	09:58-13:46	2	RM41	No Output

TABLE II (cont.)

Continuous Monitoring System Operation Failures

<u>Date</u>	<u>Time From - To</u>	<u>Unit</u>	<u>Instrument</u>	<u>Effect on Instrument Output</u>
08/31/93	08:07-09:28	2	RM41	Incorrect Output
09/02/93	08:50-09:20	1	RM41	No Output
09/08/93	11:09-11:18	2	RM41	No Output
09/13/93	09:10-13:39	2	RM41	No Output
09/16/93	08:05-14:23	2	RM41	No Output
09/16/93	14:38-16:21	2	RM41	No Output
09/17/93	07:14-19:20	2	RM41	No Output
09/25/93	21:29-21:35	1	RM41	No Output
09/25/93	21:29-21:35	3	RM41	No Output
09/25/93	21:29-21:35	4	RM41	No Output
09/26/93	02:12-03:20	2	RM41	Incorrect Output
09/26/93	03:45-05:05	2	RM41	Incorrect Output



Public Service

**Public Service
Company of Colorado**
Governmental and
Environmental Affairs
P. O. Box 840
Denver, CO 80201 - 0840

January 27, 1994

Mr. Roy Doyle
Air Pollution Control Division
Colorado Department of Health
4300 Cherry Creek Drive South
Denver, CO 80222-1530

RE: Fourth Quarter, 1993 Excess Emissions Report, Cherokee S.E.G.S., Units #1-4

Dear Roy:

Attached is the fourth quarter, 1993 excess emissions report for the Public Service Company of Colorado Cherokee Station Units #1-4.

Unit #1 operated 2,208 hours, Unit #2 operated 2,208 hours, Unit #3 operated 2,201 hours and Unit #4 operated 714 hours.

Feel free to contact me at 294-2810 with any questions in this regard.

Sincerely,

A handwritten signature in cursive script that reads "Peter J. Cohlma".

Peter J. Cohlma
Chief Environmental Scientist

PJC:tc

Attachment

QUARTERLY EXCESS EMISSIONS REPORT (EER)

for

Fossil Fuel-Fired Steam Generators, Subpart D

Suggested Format for Sources in Region VIII*

Minimum Requirements Under Section 60.7 (See instructions)

Part 1. This report includes all the required information under section 60.7 for:

a. Quarterly emission reporting period ending: (circle one)

March 31 June 30 Sept. 30 Dec. 31

b. Reporting year: 1993

c. Reporting date: January 12, 1994

d. Person completing report: Thomas M. Kennedy

e. Station name: Cherokee SEGS Units 1-4

f. Plant location: Denver, CO 80216

g. Person responsible for review
and integrity of report: Peter J. Cohlma

h. Mailing address for person in 1-g above:

Public Service Company of Colorado P.O. Box 840
Denver CO 80201-0840

i. Phone number for 1-g above: 294-2810

Part 2. Instrument Information, complete for each instrument.

a. Opacity Monitor:	Unit 1 Lear	Unit 2 Lear	Unit 3 Lear	Unit 4 Lear
b. Manufacturer:	<u>Siegler</u>	<u>Siegler</u>	<u>Siegler</u>	<u>Siegler</u>
c. Model No.:	<u>RM-41</u>	<u>RM-41</u>	<u>RM-41</u>	<u>RM-41</u>
d. Serial No.:	<u>985</u>	<u>989</u>	<u>982</u>	<u>14824993</u>
e. Installation date:	<u>10/27/78</u>	<u>10/27/78</u>	<u>10/27/78</u>	<u>06/07/85</u>

f. SO2 Monitor:	Unit 1	Unit 2	Unit 3	Unit 4
g. Manufacturer:	<u>Rosemount</u>	<u>Rosemount</u>	<u>Rosemount</u>	<u>Altech</u>
h. Model No.:	<u>EC960</u>	<u>EC960</u>	<u>EC960</u>	<u>MCS100</u>
i. Serial No.:	<u>133</u>	<u>130</u>	<u>129</u>	<u>ACS132</u>
j. Installation date:	<u>12/19/88</u>	<u>04/25/88</u>	<u>04/28/88</u>	<u>06/09/91</u>

Part 3. Excess emissions (by pollutant)

Use Table I: attach separate narrative per instructions.

Part 4. Conversion factors (not for diluent monitor report)

a. Diluent measured: O₂/CO₂(UNIT 4)

b. F-Factor value used: _____
 i. Published or developed _____
 ii. F, Fc, or Fw 10640

c. Basis for gas measurement data: (wet or dry) wet/dry(unit 4)

d. Zero and Cal values used, by instrument:

	Unit 1		Unit 2	
	Opacity(%)	SO ₂ (ppm)	Opacity(%)	SO ₂ (ppm)
Zero	<u>0.0</u>	<u>300</u>	<u>0.0</u>	<u>300</u>
Cal	<u>57</u>	<u>750</u>	<u>62</u>	<u>750</u>

	Unit 3		Unit 4	
	Opacity(%)	SO ₂ (ppm)	Opacity(%)	SO ₂ (ppm)
Zero	<u>0.0</u>	<u>300</u>	<u>0.0</u>	<u>0</u>
Cal	<u>64</u>	<u>750</u>	<u>47</u>	<u>450</u>

Part 5. Continuous Monitoring System operation failures

See Table II: Complete one sheet for each monitor;
attach separate narrative per instructions.

Part 6. Certification of report integrity by person in 1-g above:

THIS IS TO CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, THE INFORMATION
PROVIDED IN THE ABOVE REPORT IS COMPLETE AND ACCURATE.

NAME	<u>Peter J. Cohlma</u>
SIGNATURE	<u>Pete J. Cohlma</u>
TITLE	<u>Chief Environmental Scientist</u>
DATE	<u>1/27/94</u>

* Suggested Format for Subpart D sources in: Colorado, Montana,
North Dakota, South
Dakota, Utah, Wyoming

TABLE I

EXCESS EMISSIONS (SULFUR DIOXIDE)

<u>DATE</u>	<u>POLLUTANT</u>	<u>MAGNITUDE*</u> <u>LB./10⁶ BTU</u>
-------------	------------------	--

There were no excess SO₂ emissions for the fourth quarter, 1993.

Narrative of Maximum Theoretical SO₂ Emissions:

Calculated maximum possible SO₂ emissions from the sample with the highest sulfur content taken on 10/13/93 was 0.926 lb/MMBtu. This value was obtained using modified procedures specified in the "Coal Sampling and Analysis Certification Protocol". Because the CSA Protocol has no provision to compensate for SO₂ removal by processes within the power plant system, this value represents maximum hypothetical SO₂ emissions. Actual stack emissions would be lower than those calculated from coal samples. The average maximum theoretical SO₂ emissions for the quarter was 0.75 lb/MMBtu, which is well below the 1.2 lb/MMBtu standard.

* Narrative of causes attached.

TABLE II

SO₂ Continuous Emissions Monitor Failures

Unit 4
Altech MCS 100

<u>From Date Time</u>	<u>To Date Time</u>	<u>Reason</u>	<u>Corrective Action</u>
10/08 07:03	10/08 07:08	Unknown	Self-corrected
12/20 00:10	12/20 00:12	Unknown	Self-corrected
12/20 00:50	12/20 00:57	Unknown	Self-corrected
12/20 01:33	12/20 01:38	Unknown	Self-corrected
12/20 01:42	12/20 01:44	Unknown	Self-corrected
12/20 03:29	12/20 03:32	Unknown	Self-corrected
12/20 03:44	12/20 03:45	Unknown	Self-corrected
12/20 06:11	12/20 06:13	Unknown	Self-corrected
12/20 07:43	12/20 07:44	Unknown	Self-corrected
12/22 08:04	12/22 08:06	Unknown	Self-corrected
12/22 08:09	12/22 08:24	Unknown	Self-corrected
12/23 08:04	12/23 08:05	Unknown	Self-corrected
12/23 08:11	12/23 08:24	Unknown	Self-corrected
12/23 16:28	12/23 16:29	Unknown	Self-corrected
12/23 22:02	12/27 13:51	Frozen sample line	Purged system
12/27 15:18	12/27 17:18	Residue from moisture	Cleaned
12/27 17:22	12/27 17:25	Residue from moisture	Cleaned, Heat Lamp
12/31 10:52	12/31 10:53	Unknown	Self-corrected

Cherokee Station SO2 Analyzer Availability Index Quarter 4 1993

MONTH 3 December

	Unit 1	Unit 2	Unit 3	Unit 4
Hours of Operation for the Month of December	744.00	744.00	737.00	301.00
Hours Analyzer in Malfunction	NA	NA	NA	90.87
Previous Month YTD Hours of Operation	6162.99	6042.48	5593.61	4866.39
Previous Month YTD Hours in Malfunction	NA	NA	NA	110.68
Current YTD Hours of Operation	6906.99	6786.48	6330.61	5167.39
Current YTD Hours in Malfunction	NA	NA	NA	201.55
Percent Availability for the Month	NA	NA	NA	69.81
Percent Availability Year-to-Date	NA	NA	NA	96.10

TABLE I
NARRATIVE OF OPACITY EXCESSES

UNIT #1

<u>DATE</u>	<u>NARRATIVE</u>	<u>NUMBER OF SIX MIN. EXCESSES</u>
10/19/93	Unspecified	2
10/20/93	Unspecified	1
11/06/93	Unspecified	1
12/03/93	Unspecified	1

TABLE I

NARRATIVE OF OPACITY EXCESSES

UNIT #2

<u>DATE</u>	<u>NARRATIVE</u>	<u>NUMBER OF SIX MIN. EXCESSES</u>
11/13/93	Unspecified	1
11/22/93	Unspecified	1

TABLE I

NARRATIVE OF OPACITY EXCESSES

UNIT #3

<u>DATE</u>	<u>NARRATIVE</u>	<u>NUMBER OF SIX MIN. EXCESSES</u>
10/27/93	Unspecified	1
11/16/93	Unspecified	1
12/02/93	Unspecified	1
12/03/93	Unspecified	1
12/04/93	Unspecified	1
12/05/93	Unspecified	2
12/06/93	Electricians repaired blower motor	10
12/20/93	Control air line froze, baghouse bypassed until thawed	28
12/23/93	Control air line froze, baghouse bypassed until thawed	29
12/24/93	Unspecified	3

TABLE I
NARRATIVE OF OPACITY EXCESSES
UNIT #4

<u>DATE</u>	<u>NARRATIVE</u>	<u>NUMBER OF SIX MIN. EXCESSES</u>
NO VALID VIOLATION PERIODS TO REPORT		

TABLE II**Continuous Monitoring System Operation Failures**

<u>Date</u>	<u>Time*</u> <u>From - To</u>	<u>Unit</u>	<u>Instrument</u>	<u>Effect on</u> <u>Instrument Output</u>
10:06/93	10:23-14:42	2	RM41	Incorrect Output
10/06/93	15:49-16:11	2	RM41	No Output
10/07/93	14:54-15:59	1	RM41	Incorrect Output
10/08/93	16:02-17:36	1	RM41	Incorrect Output
10/09/93	17:39-22:10	1	RM41	Incorrect Output
10/10/93	09:27-09:34	4	RM41	No Output
10/10/93	22:13-22:36	1	RM41	Incorrect Output
10/11/93	22:39 -	1	RM41	Incorrect Output
10/12/93	00:09			
10/12/93	00:11-07:44	1	RM41	Incorrect Output
10/13/93	07:47-11:42	1	RM41	Incorrect Output
10/14/93	11:45-	1	RM41	Incorrect Output
10/15/93	01:36			
10/15/93	01:40-07:48	1	RM41	Incorrect Output
10/16/93	07:51 -	1	RM41	Incorrect Output
10/17/93	00:24			
10/17/93	00:26 -	1	RM41	Incorrect Output
10/18/93	00:29			
10/18/93	00:30-07:21	1	RM41	Incorrect Output
10/19/93	07:24-15:41	1	RM41	No Output
10/20/93	07:58-13:58	1	RM41	No Output
10/20/93	14:51-15:06	1	RM41	No Output
10/22/93	12:44 -	4	RM41	No Output - Repairs
11/03/93	08:40			made on the shutter
11/15/93	10:46-16:41	2	RM41	No Output
11/15/93	21:10 -	2	RM41	No Output
11/16/93	07:54			

11/16/93	08:16-09:08	2	RM41	No Output
11/17/93	08:50-13:38	1	RM41	No Output
11/17/93	08:50-10:27	2	RM41	No Output
11/17/93	08:50-10:27	3	RM41	No Output
11/17/93	08:51-13:35	4	RM41	Incorrect Output
11/17/93	13:23-13:38	2	RM41	No Output
11/17/93	13:23-13:38	3	RM41	No Output
11/24/93	11:28-15:17	4	RM41	No Output
12/03/93	08:07-09:05	1	RM41	No Output
12/03/93	08:07-09:05	2	RM41	No Output
12/03/93	08:07-09:05	3	RM41	No Output
12/03/93	09:22 -	4	RM41	No Output
12/07/93	12:54			
12/04/93	07:56-09:23	3	RM41	No Output
12/04/93	11:06-14:30	3	RM41	No Output
12/13/93	14:32-15:53	1	RM41	No Output
12/13/93	14:32-15:53	2	RM41	No Output
12/13/93	14:32-15:53	2	RM41	No Output
12/13/93	14:32-14:09	4	RM41	No Output
12/15/93	07:50-08:33	1	RM41	No Output
12/15/93	07:50-08:33	2	RM41	No Output
12/15/93	07:50-08:04	3	RM41	No Output
12/15/93	08:20-08:33	3	RM41	No Output
12/15/93	10:46-11:01	1	RM41	No Output
12/15/93	10:46-11:01	3	RM41	No Output



Public Service
Company of Colorado

Governmental and
Environmental Affairs
P. O. Box 840
Denver, CO 80201 - 0840

April 26, 1994

Mr. Roy Doyle
Air Pollution Control Division
Colorado Department of Health
4300 Cherry Creek Drive South
Denver, CO 80222-1530

RE: First Quarter, 1994 Excess Emissions Report, Cherokee Station, Units #1-4

Dear Roy:

Attached is the first quarter, 1994 excess emissions report for the Public Service Company of Colorado Cherokee Station Units #1-4.

Unit #1 operated 2,160 hours, Unit #2 operated 2,157 hours, Unit #3 operated 1,084 hours and Unit #4 operated 2,017 hours this quarter.

Feel free to contact me at 294-2810 with any questions in this regard.

Sincerely,

A handwritten signature in cursive script that reads "Peter J. Cohlma".

Peter J. Cohlma
Chief Environmental Scientist

PJC:tc

Attachment

QUARTERLY EXCESS EMISSIONS REPORT (EER)

for

Fossil Fuel-Fired Steam Generators, Subpart D

Suggested Format for Sources in Region VIII*

Minimum Requirements Under Section 60.7 (See instructions)

Part 1. This report includes all the required information under section 60.7 for:

a. Quarterly emission reporting period ending: (circle one)

March 31 June 30 Sept. 30 Dec. 31

b. Reporting year: 1994

c. Reporting date: April 12, 1994

d. Person completing report: Thomas M. Kennedy

e. Station name: Cherokee SEGS Units 1-4

f. Plant location: Denver, CO 80216

g. Person responsible for review and integrity of report: Peter J. Cohlma

h. Mailing address for person in 1-g above:

Public Service Company of Colorado P.O. Box 840
Denver CO 80201-0840

i. Phone number for 1-g above: 294-2810

Part 2. Instrument Information, complete for each instrument.

a. Opacity Monitor:	Unit 1	Unit 2	Unit 3	Unit 4
	Lear	Lear	Lear	Lear
b. Manufacturer:	<u>Siegler</u>	<u>Siegler</u>	<u>Siegler</u>	<u>Siegler</u>
c. Model No.:	<u>RM-41</u>	<u>RM-41</u>	<u>RM-41</u>	<u>RM-41</u>
d. Serial No.:	<u>985</u>	<u>989</u>	<u>982</u>	<u>14824993</u>
e. Installation date:	<u>10/27/78</u>	<u>10/27/78</u>	<u>10/27/78</u>	<u>06/07/85</u>

g. Manufacturer:	<u>Rosemount</u>	<u>Rosemount</u>	<u>Rosemount</u>	<u>Altech</u>
h. Model No.:	<u>EC960</u>	<u>EC960</u>	<u>EC960</u>	<u>MCS100</u>
i. Serial No.:	<u>133</u>	<u>130</u>	<u>129</u>	<u>ACS132</u>
j. Installation date:	<u>12/19/88</u>	<u>04/25/88</u>	<u>04/28/88</u>	<u>06/09/91</u>

Part 3. Excess emissions (by pollutant)

use table 1: attach separate narrative per instructions.

Part 4. Conversion factors (not for diluent monitor report)

a. Diluent measured: O₂/CO₂(UNIT 4)

b. F-Factor value used: _____

 i. Published or developed _____

 ii. F, Fc, or Fw 10640

c. Basis for gas measurement data: (wet or dry) wet/dry(unit 4)

d. Zero and Cal values used, by instrument:

	Unit 1		Unit 2	
	Opacity(%)	SO ₂ (ppm)	Opacity(%)	SO ₂ (ppm)
Zero	<u>0.0</u>	<u>300</u>	<u>0.0</u>	<u>300</u>
Cal	<u>57</u>	<u>750</u>	<u>62</u>	<u>750</u>

	Unit 3		Unit 4	
	Opacity(%)	SO ₂ (ppm)	Opacity(%)	SO ₂ (ppm)
Zero	<u>0.0</u>	<u>300</u>	<u>0.0</u>	<u>0</u>
Cal	<u>64</u>	<u>750</u>	<u>47</u>	<u>450</u>

Part 5. Continuous Monitoring System operation failures

See Table II: Complete one sheet for each monitor;
attach separate narrative per instructions.

Part 6. Certification of report integrity by person in 1-g above:

THIS IS TO CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, THE INFORMATION
PROVIDED IN THE ABOVE REPORT IS COMPLETE AND ACCURATE.

NAME	<u>Peter J. Cohlma</u>
SIGNATURE	<u><i>Peter J. Cohlma</i></u>
TITLE	<u>Chief Environmental Scientist</u>
DATE	<u>4/26/94</u>

* Suggested Format for Subpart D sources in: Colorado, Montana,
North Dakota, South
Dakota, Utah, Wyoming

TABLE I

EXCESS EMISSIONS (SULFUR DIOXIDE)

<u>DATE</u>	<u>POLLUTANT</u>	<u>MAGNITUDE*</u> <u>LB./10⁶ BTU</u>
-------------	------------------	--

There were no excess SO₂ emissions for the first quarter, 1994.

Narrative of Maximum Theoretical SO₂ Emissions:

Calculated maximum possible SO₂ emissions from the sample with the highest sulfur content taken on 3/22/94 was 1.22 lb/MMBtu. The sulfur content of this sample was significantly higher than the average and is considered unrepresentative of the coal burned. This value was obtained using modified procedures specified in the "Coal Sampling and Analysis Certification Protocol". Because the CSA Protocol has no provision to compensate for SO₂ removal by processes within the power plant system, this value represents maximum hypothetical SO₂ emissions. Actual stack emissions would be lower than those calculated from coal samples. The average maximum theoretical SO₂ emissions for the quarter was 0.75 lb/MMBtu, which is well below the 1.2 lb/MMBtu standard.

* Narrative of causes attached.

TABLE I

NARRATIVE OF OPACITY EXCESSES

UNIT #1

<u>DATE</u>	<u>NARRATIVE</u>	<u>NUMBER OF SIX MIN. EXCESSES</u>
01/01/94	Unspecified	1
01/04/94	Power off	10
01/09/94	Unspecified	1
01/30/94	Unspecified	1
02/01/94	Unspecified	9
02/02/94	Unspecified	7
02/03/94	Unspecified	4
02/26/94	Unspecified	1
03/27/94	Unspecified	1

TABLE I

NARRATIVE OF OPACITY EXCESSES

UNIT #2

<u>DATE</u>	<u>NARRATIVE</u>	<u>NUMBER OF SIX MIN. EXCESSES</u>
01/09/94	Baghouse bypassed	1
02/17/94	Unspecified	3
03/11/94	Unspecified	2

TABLE I

NARRATIVE OF OPACITY EXCESSES

UNIT #3

<u>DATE</u>	<u>NARRATIVE</u>	<u>NUMBER OF SIX MIN. EXCESSES</u>
01/02/94	Unspecified	1
01/04/94	Unspecified	3
01/10/94	Unspecified	1
02/07/94	Calibration & audit	14
02/09/94	Unit off line	17
03/04/94	Unit off line	3
03/05/94	Unit startup	20
03/06/94	Unit startup	7
03/07/94	Baghouse bypassed, unit on 100% gas	14
03/09/94	Baghouse bypassed, unit on 100% gas	9
03/27/94	Baghouse CPU failure	77
03/28/94	Baghouse CPU failure	35

TABLE I

NARRATIVE OF OPACITY EXCESSES

UNIT #4

<u>DATE</u>	<u>NARRATIVE</u>	<u>NUMBER OF SIX MIN. EXCESSES</u>
01/08/94	Unspecified	1
02/22/94	Replaced PCB in transceiver	31
02/26/94	Unspecified	1
03/21/94	Adjusted compensation	8
03/23/94	Unspecified	2
03/31/94	Unspecified	2

SO₂ Continuous Emissions Monitor Failures

Unit 4
Altech MCS 100

<u>From</u> <u>Date Time</u>	<u>To</u> <u>Date Time</u>	<u>Reason</u>	<u>Corrective Action</u>
01/03 09:21	01/03 09:28	Unknown	Self-corrected
01/03 09:34	01/03 09:37	Unknown	Self-corrected
01/03 10:04	01/03 10:07	Unknown	Self-corrected
01/03 14:21	01/03 14:28	Unknown	Self-corrected
01/19 05:50	01/19 05:52	Unknown	Self-corrected
01/28 10:41	01/28 10:45	Unknown	Self-corrected
01/29 10:30	01/29 10:34	Unknown	Self-corrected
01/29 10:40	01/29 10:45	Unknown	Self-corrected
01/30 10:41	01/30 17:41	Intermittent (14 mins)	Self-corrected
01/31 00:31	01/31 11:22	Intermittent (20 mins)	Self-corrected
02/01 22:20	02/01 22:22	Unknown	Self-corrected
02/03 10:43	02/03 10:45	Unknown	Self-corrected
02/04 00:42	02/04 00:44	Unknown	Self-corrected
02/04 10:41	02/04 10:45	Unknown	Self-corrected
02/04 10:52	02/04 10:53	Unknown	Self-corrected
02/07 10:41	02/07 10:45	Unknown	Self-corrected
02/07 20:01	02/07 20:03	Unknown	Self-corrected
02/08 07:27	02/08 07:33	Unknown	Self-corrected
02/08 10:41	02/08 10:45	Unknown	Self-corrected
02/08 13:09	02/08 13:10	Unknown	Self-corrected
02/08 15:20	02/09 02:25	Intermittent (11 hrs, 5 mins)	Self-corrected
02/09 10:30	02/11 18:02	Intermittent (72 mins)	Self-corrected
02/11 19:15	02/11 23:40	Intermittent (4 hrs, 25 mins)	Self-corrected
02/12 02:08	02/12 02:10	Unknown	Self-corrected
02/12 08:13	02/12 08:14	Unknown	Self-corrected
02/12 08:40	02/12 10:53	Intermittent (2 hrs, 13 mins)	Self-corrected
02/12 17:31	02/13 00:53	Intermittent (7 hrs, 22 mins)	Self-corrected
02/13 05:14	02/13 06:08	Intermittent (72 mins)	Self-corrected
02/13 12:38	02/13 12:38	Unknown	Self-corrected
02/14 05:33	02/14 05:49	Unknown	Self-corrected
02/14 07:23	02/14 07:28	Unknown	Self-corrected
02/14 16:29	02/14 21:24	Intermittent (4 hrs, 55 mins)	Self-corrected

02/16 15:18	02/16 15:19	Unknown	Self-corrected
02/16 17:06	02/16 17:11	Unknown	Self-corrected
02/16 17:56	02/16 17:57	Unknown	Self-corrected
02/16 17:59	02/17 07:00	Intermittent (13 hrs, 1 min)	Self-corrected
02/17 07:25	02/17 10:10	Intermittent (2 hrs, 45 mins)	Broken sample line
02/17 17:51	02/17 17:52	Unknown	Self-corrected
02/17 18:00	02/17 18:02	Unknown	Self-corrected
02/18 11:51	02/18 11:54	Unknown	Self-corrected
02/18 14:08	02/18 14:09	Unknown	Self-corrected
02/19 09:08	02/19 09:09	Unknown	Self-corrected
02/20 04:59	02/20 05:00	Unknown	Self-corrected
02/20 06:01	02/20 06:02	Unknown	Self-corrected
02/20 07:27	02/20 10:44	Intermittent (3 hrs, 17 mins)	Self-corrected
02/20 17:27	02/20 17:29	Unknown	Self-corrected
02/22 07:20	02/22 09:53	Intermittent (2 hrs, 33 mins)	Self-corrected
02/22 12:49	02/23 15:11	Intermittent (26 hrs, 22 mins)	Self-corrected
02/24 09:10	02/24 16:57	Intermittent (7 hrs, 47 mins)	Moisture/ bad status bit

TABLE II**Continuous Monitoring System Operation Failures**

<u>Date</u>	<u>Time From - To</u>	<u>Unit</u>	<u>Instrument</u>	<u>Effect on Instrument Output</u>
01/04/94	08:42-10:00	1	RM41	No Output
01/04/94 : 01/05/94	08:42- 07:38	2	RM41	No Output
01/04/94	14:43-14:50	1	RM41	No Output
01/06/94	05:47-08:12	4	RM41	No Output
01/08/94	02:19-02:42	2	RM41	Incorrect Output
01/08/94	21:17-22:54	2	RM41	Incorrect Output
01/09/94	11:19-13:54	2	RM41	Incorrect Output
01/11/94 01/18/94	07:59- 10:14	2	RM41	No Output
01/24/94	06:58-07:39	1	RM41	No Output
02/03/94	07:28-08:07	2	RM41	No Output
02/03/94	07:37-09:44	1	RM41	No Output
02/03/94	11:13-11:25	1	RM41	No Output
02/04/94 02/07/94	09:59- 10:09	3	RM41	No Output
02/07/94	14:53-15:24	3	RM41	No Output
02/16/94 03/04/94	15:03- 16:31	3	RM41	No Output
02/17/94	07:22-12:56	2	RM41	No Output
02/17/94	15:00-15:55	2	RM41	No Output
02/22/94	00:15-00:45	4	RM41	No Output
02/22/94	10:06-12:39	1	RM41	No Output
02/27/94	13:46-13:52	4	RM41	No Output
02/28/94	09:57-14:44	1	RM41	No Output
03/04/94	10:09-13:33	2	RM41	No Output

03/04/94	10:09-23:59	1	RM41	No Output
03/04/94	10:47-	4	RM41	No Output
03/06/94	12:52			
03/05/94	00:00-	1	RM41	No Output
03/08/94	08:26			
03/17/94	23:07-23:47	4	RM41	Incorrect Output
03/18/94	00:14-00:20	4	RM41	Incorrect Output
03/18/94	04:44-04:53	4	RM41	Incorrect Output
03/18/94	05:18-05:26	4	RM41	Incorrect Output
03/18/94	07:52-07:58	4	RM41	Incorrect Output
03/18/94	08:24-12:30	4	RM41	Incorrect Output
03/21/94	12:58-13:13	1	RM41	No Output
03/21/94	12:58-13:13	2	RM41	No Output
03/21/94	12:58-13:13	3	RM41	No Output
03/21/94	13:55-	4	RM41	Incorrect Output
03/23/94	11:20			
03/23/94	15:31-15:58	4	RM41	No Output
03/31/94	07:20-10:50	4	RM41	No Output
03/31/94	12:36-12:50	4	RM41	No Output



Public Service
Company of Colorado
P. O. Box 840
Denver, CO 80201-0840

July 29, 1994

Mr. Roy Doyle
Air Pollution Control Division
Colorado Department of Health
4300 Cherry Creek Drive South
Denver, CO 80222-1530

RE: Second Quarter, 1994 Excess Emissions Report, Cherokee Station, Units #1-4

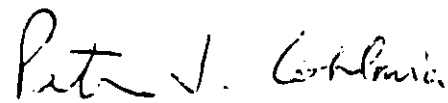
Dear Roy:

Attached is the second quarter, 1994 excess emissions report for the Public Service Company of Colorado Cherokee Station Units #1-4.

Unit #1 operated 1,908 hours, Unit #2 operated 2,156 hours, Unit #3 operated 2,182 hours and Unit #4 operated 1,948 hours this quarter.

Feel free to contact me at 294-2810 with any questions in this regard.

Sincerely,


Peter J. Cohlmiia
Chief Environmental Scientist

PJC:tc

Attachment

QUARTERLY EXCESS EMISSIONS REPORT (EER)

for

Fossil Fuel-Fired Steam Generators, Subpart D

Suggested Format for Sources in Region VIII*

Minimum Requirements Under Section 60.7 (See instructions)

Part 1. This report includes all the required information under section 60.7 for:

a. Quarterly emission reporting period ending: (circle one)

March 31 June 30 Sept. 30 Dec. 31

b. Reporting year: 1994

c. Reporting date: July 12, 1994

d. Person completing report: Thomas M. Kennedy

e. Station name: Cherokee SEGS Units 1-4

f. Plant location: Denver, CO 80216

g. Person responsible for review
and integrity of report: Peter J. Cohlma

h. Mailing address for person in 1-g above:

Public Service Company of Colorado P.O. Box 840
Denver CO 80201-0840

i. Phone number for 1-g above: 294-2810

Part 2. Instrument Information, complete for each instrument.

a. Opacity Monitor:	Unit 1	Unit 2	Unit 3	Unit 4
	Lear	Lear	Lear	Lear
b. Manufacturer:	<u>Siegler</u>	<u>Siegler</u>	<u>Siegler</u>	<u>Siegler</u>
c. Model No.:	<u>RM-41</u>	<u>RM-41</u>	<u>RM-41</u>	<u>RM-41</u>
d. Serial No.:	<u>985</u>	<u>989</u>	<u>982</u>	<u>14824993</u>
e. Installation date:	<u>10/27/78</u>	<u>10/27/78</u>	<u>10/27/78</u>	<u>06/07/85</u>

f. SO2 Monitor:	Unit 1	Unit 2	Unit 3	Unit 4
g. Manufacturer:	<u>Rosemount</u>	<u>Rosemount</u>	<u>Rosemount</u>	<u>Altech</u>
h. Model No.:	<u>EC960</u>	<u>EC960</u>	<u>EC960</u>	<u>MCS100</u>
i. Serial No.:	<u>133</u>	<u>130</u>	<u>129</u>	<u>ACS132</u>
j. Installation date:	<u>12/19/88</u>	<u>04/25/88</u>	<u>04/28/88</u>	<u>06/09/91</u>

Part 3. Excess emissions (by pollutant)

Use Table I: attach separate narrative per instructions.

Part 4. Conversion factors (not for diluent monitor report)

a. Diluent measured: O₂/CO₂(UNIT 4)

b. F-Factor value used:

 i. Published or developed _____

 ii. F, Fc, or Fw 10640

c. Basis for gas measurement data: (wet or dry) wet/dry(unit 4)

d. Zero and Cal values used, by instrument:

	Unit 1		Unit 2	
	Opacity(%)	SO ₂ (ppm)	Opacity(%)	SO ₂ (ppm)
Zero	<u>0.0</u>	<u>300</u>	<u>0.0</u>	<u>300</u>
Cal	<u>57</u>	<u>750</u>	<u>62</u>	<u>750</u>

	Unit 3		Unit 4	
	Opacity(%)	SO ₂ (ppm)	Opacity(%)	SO ₂ (ppm)
Zero	<u>0.0</u>	<u>300</u>	<u>0.0</u>	<u>0</u>
Cal	<u>64</u>	<u>750</u>	<u>47</u>	<u>450</u>

Part 5. Continuous Monitoring System operation failures

See Table II: Complete one sheet for each monitor;
attach separate narrative per instructions.

Part 6. Certification of report integrity by person in 1-g above:

THIS IS TO CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, THE INFORMATION
PROVIDED IN THE ABOVE REPORT IS COMPLETE AND ACCURATE.

NAME	<u>Peter J. Cohlma</u>
SIGNATURE	<u><i>Peter J. Cohlma</i></u>
TITLE	<u>Chief Environmental Scientist</u>
DATE	<u>7/27/04</u>

* Suggested Format for Subpart D sources in: Colorado, Montana,
North Dakota, South
Dakota, Utah, Wyoming

TABLE I

EXCESS EMISSIONS (SULFUR DIOXIDE)

<u>DATE</u>	<u>POLLUTANT</u>	<u>MAGNITUDE*</u> <u>LB./10⁶ BTU</u>
-------------	------------------	--

There were no excess SO₂ emissions for the second quarter, 1994.

Narrative of Maximum Theoretical SO₂ Emissions:

Calculated maximum possible SO₂ emissions from the sample with the highest sulfur content taken on 6/14/94 was 1.11 lb/MMBtu. The sulfur content of this sample was significantly higher than the average and is considered unrepresentative of the coal burned. This value was obtained using modified procedures specified in the "Coal Sampling and Analysis Certification Protocol". Because the CSA Protocol has no provision to compensate for SO₂ removal by processes within the power plant system, this value represents maximum hypothetical SO₂ emissions. Actual stack emissions would be lower than those calculated from coal samples. The average maximum theoretical SO₂ emissions for the quarter was 0.66 lb/MMBtu, which is well below the 1.2 lb/MMBtu standard.

* Narrative of causes attached.

TABLE II

SO₂ Continuous Emissions Monitor Failures

Unit 4
Altech MCS 100

<u>From</u> <u>Date Time</u>	<u>To</u> <u>Date Time</u>	<u>Reason</u>	<u>Corrective Action</u>
---------------------------------	-------------------------------	---------------	--------------------------

none

TABLE I

NARRATIVE OF OPACITY EXCESSES

UNIT #1

<u>DATE</u>	<u>NARRATIVE</u>	<u>NUMBER OF SIX MIN. EXCESSES</u>
04/24/94	Unspecified	1
04/29/94	Unspecified	1
05/02/94	Unspecified	1
05/05/94	Unspecified	5
05/06/94	Unspecified	6
05/27/94	Unspecified	1
06/12/94	Unspecified	1
06/20/94	Unspecified	1
06/24/94	Unspecified	1

TABLE I

NARRATIVE OF OPACITY EXCESSES

UNIT #2

<u>DATE</u>	<u>NARRATIVE</u>	<u>NUMBER OF SIX MIN. EXCESSES</u>
04/04/94	Unspecified	1
05/03/94	Unspecified	1
05/08/94	Unspecified	1

TABLE I
NARRATIVE OF OPACITY EXCESSES

UNIT #3

<u>DATE</u>	<u>NARRATIVE</u>	<u>NUMBER OF SIX MIN. EXCESSES</u>
04/10/94	Unspecified	2
04/19/94	Unspecified	1
04/24/94	Unspecified	2
04/29/94	Unspecified	4
04/30/94	Unspecified	4
05/02/94	Unspecified	2
05/03/94	Baghouse cells out of service	37
05/04/94	Baghouse cells out of service	22
05/05/93	Unspecified	2
05/12/94	Unspecified	2
06/04/94	Unspecified	1
06/14/94	Unspecified	1

TABLE I

NARRATIVE OF OPACITY EXCESSES

UNIT #4

<u>DATE</u>	<u>NARRATIVE</u>	<u>NUMBER OF SIX MIN. EXCESSES</u>
04/09/94	Unit off line	7
04/21/94	Receiver in constant calibration; replaced timer/power supply board	65
06/28/94	Unit startup	3

TABLE II

Continuous Monitoring System Operation Failures

<u>From</u> <u>Date</u>	<u>Time</u>	<u>To</u> <u>Date</u>	<u>Time</u>	<u>Unit</u>	<u>Instrument</u>	<u>Effect on</u> <u>Instrument Output</u>
04/04/94	08:14	04/04/94	09:07	1	RM41	Incorrect Output
04/04/94	08:14	04/04/94	09:07	2	RM41	Incorrect Output
04/04/94	08:33	04/04/94	08:47	4	RM41	Incorrect Output
04/08/94	12:43	04/08/94	14:56	4	RM41	No Output
04/11/94	07:33	04/11/94	09:55	4	RM41	No Output
04/20/94	10:07	04/20/94	11:24	1	RM41	No Output
04/20/94	10:07	04/20/94	11:24	2	RM41	No Output
04/21/94	12:52	04/21/94	13:36	4	RM41	No Output
04/26/94	11:34	04/26/94	12:34	1	RM41	No Output
04/26/94	11:34	04/26/94	12:34	2	RM41	No Output
05/13/94	11:45	05/16/94	07:11	1	RM41	No Output
05/13/94	11:45	05/16/94	07:11	2	RM41	No Output
05/13/94	14:42	05/13/94	14:49	4	RM41	No Output
05/17/94	12:23	05/17/94	12:39	4	RM41	Incorrect Output
05/26/94	07:57	05/26/94	09:42	1	RM41	No Output
05/26/94	07:57	05/26/94	09:42	2	RM41	No Output
06/02/94	07:55	06/02/94	16:51	2	RM41	No Output
06/03/94	05:25	06/03/94	05:31	1	RM41	Incorrect Output
06/03/94	05:25	06/03/94	05:31	2	RM41	Incorrect Output



Public Service
Company of Colorado
P. O. Box 840
Denver, CO 80201-0840

October 31, 1994

Mr. Roy Doyle
Air Pollution Control Division
Colorado Department of Health
4300 Cherry Creek Drive South
Denver, CO 80222-1530

RE: Third Quarter, 1994 Excess Emissions Report, Cherokee Station, Units #1-4

Dear Roy:

Attached is the third quarter, 1994 excess emissions report for the Public Service Company of Colorado Cherokee Station Units #1-4.

Unit #1 operated 2,113 hours, Unit #2 operated 385 hours, Unit #3 operated 2,067 hours and Unit #4 operated 2,087 hours this quarter.

Feel free to contact me at 294-2810 with any questions in this regard.

Sincerely,

Peter J. Cohlma
Chief Environmental Scientist

PJC:tc

Attachment

QUARTERLY EXCESS EMISSIONS REPORT (EER)

for

Fossil Fuel-Fired Steam Generators, Subpart D

Suggested Format for Sources in Region VIII*

Minimum Requirements Under Section 60.7 (See instructions)

Part 1. This report includes all the required information under section 60.7 for:

a. Quarterly emission reporting period ending: (circle one)

March 31 June 30 Sept. 30 Dec. 31

b. Reporting year: 1994

c. Reporting date: October 12, 1994

d. Person completing report: Thomas M. Kennedy

e. Station name: Cherokee SEGS Units 1-4

f. Plant location: Denver, CO 80216

g. Person responsible for review
and integrity of report: Peter J. Cohlma

h. Mailing address for person in 1-g above:

Public Service Company of Colorado P.O. Box 840
Denver CO 80201-0840

i. Phone number for 1-g above: 294-2810

Part 2. Instrument Information, complete for each instrument.

a. Opacity Monitor:	Unit 1 Lear	Unit 2 Lear	Unit 3 Lear	Unit 4 Lear
b. Manufacturer:	<u>Sieglar</u>	<u>Sieglar</u>	<u>Sieglar</u>	<u>Sieglar</u>
c. Model No.:	<u>RM-41</u>	<u>RM-41</u>	<u>RM-41</u>	<u>RM-41</u>
d. Serial No.:	<u>985</u>	<u>989</u>	<u>982</u>	<u>14824993</u>
e. Installation date:	<u>10/27/78</u>	<u>10/27/78</u>	<u>10/27/78</u>	<u>06/07/85</u>

f. SO2 Monitor:	Unit 1	Unit 2	Unit 3	Unit 4
g. Manufacturer:	<u>Rosemount</u>	<u>Rosemount</u>	<u>Rosemount</u>	<u>Altech</u>
h. Model No.:	<u>EC960</u>	<u>EC960</u>	<u>EC960</u>	<u>MCS100</u>
i. Serial No.:	<u>133</u>	<u>130</u>	<u>129</u>	<u>ACS132</u>
j. Installation date:	<u>12/19/88</u>	<u>04/25/88</u>	<u>04/28/88</u>	<u>06/09/91</u>

Part 3. Excess emissions (by pollutant)

Use Table I: attach separate narrative per instructions.

Part 4. Conversion factors (not for diluent monitor report)

a. Diluent measured: O₂/CO₂(UNIT 4)

b. F-Factor value used: _____

 i. Published or developed _____

 ii. F, Fc, or Fw 10640

c. Basis for gas measurement data: (wet or dry) wet/dry(unit 4)

d. Zero and Cal values used, by instrument:

	Unit 1		Unit 2	
	Opacity(%)	SO ₂ (ppm)	Opacity(%)	SO ₂ (ppm)
Zero	<u>0.0</u>	<u>300</u>	<u>0.0</u>	<u>300</u>
Cal	<u>57</u>	<u>750</u>	<u>62</u>	<u>750</u>

	Unit 3		Unit 4	
	Opacity(%)	SO ₂ (ppm)	Opacity(%)	SO ₂ (ppm)
Zero	<u>0.0</u>	<u>300</u>	<u>0.0</u>	<u>0</u>
Cal	<u>64</u>	<u>750</u>	<u>47</u>	<u>450</u>

Part 5. Continuous Monitoring System operation failures

See Table II: Complete one sheet for each monitor;
attach separate narrative per instructions.

Part 6. Certification of report integrity by person in 1-g above:

THIS IS TO CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, THE INFORMATION
PROVIDED IN THE ABOVE REPORT IS COMPLETE AND ACCURATE.

NAME	<u>Peter J. Cohlma</u>
SIGNATURE	<u><i>Peter J. Cohlma</i></u>
TITLE	<u>Chief Environmental Scientist</u>
DATE	<u>10/31/94</u>

* Suggested Format for Subpart D sources in: Colorado, Montana,
North Dakota, South
Dakota, Utah, Wyoming

TABLE I

EXCESS EMISSIONS (SULFUR DIOXIDE)

<u>DATE</u>	<u>POLLUTANT</u>	<u>MAGNITUDE*</u> <u>LB./10⁶ BTU</u>
-------------	------------------	--

There were no excess SO₂ emissions for the third quarter, 1994.

Narrative of Maximum Theoretical SO₂ Emissions:

Calculated maximum possible SO₂ emissions from the sample with the highest sulfur content taken on 8/8/94 was 1.00 lb/MMBtu. The sulfur content of this sample was significantly higher than the average and is considered unrepresentative of the coal burned. This value was obtained using modified procedures specified in the "Coal Sampling and Analysis Certification Protocol". Because the CSA Protocol has no provision to compensate for SO₂ removal by processes within the power plant system, this value represents maximum hypothetical SO₂ emissions. Actual stack emissions would be lower than those calculated from coal samples. The average maximum theoretical SO₂ emissions for the quarter was 0.77 lb/MMBtu, which is well below the 1.2 lb/MMBtu standard.

* Narrative of causes attached.

TABLE I

EXCESS EMISSIONS (OPACITY)

<u>DATE</u>	<u>UNIT</u>	<u>NUMBER OF EXCESSES</u>	<u>REASON</u>
07-09	1	6	UNSPECIFIED.
07-17	1	1	UNSPECIFIED.
08-20	1	3	CONTROL AIR TO BAGHOUSE OFF.
08-22	1	6	UNIT START-UP (BAGHOUSE BYPASSED).
09-09	1	1	UNSPECIFIED.
09-10	1	3	UNSPECIFIED.
09-23	1	1	UNSPECIFIED.
07-05	2	4	UNSPECIFIED.
07-25	2	6	UNIT WAS OFF AND A BLANK WAS IN THE DUCT AT THE
07-26	2	26	STACK. (FOR DUCT MODIFICATIONS: 7-9 TO 8-20)
09-14	2	7	LENSES WERE DIRTY.
09-16	2	5	UNIT START-UP.
09-17	2	4	UNSPECIFIED.
09-19	2	2	UNSPECIFIED.
09-22	2	1	UNSPECIFIED.
09-23	2	2	MISALIGNED REFLECTOR.
07-02	3	7	BAD BAGHOUSE COMPARTMENT.
07-06	3	44	LENSES WERE DIRTY.
07-07	3	4	UNSPECIFIED.
07-09	3	1	UNSPECIFIED.
07-14	3	1	UNSPECIFIED.
07-25	3	1	UNSPECIFIED.
07-26	3	2	UNSPECIFIED.
08-04	3	1	UNSPECIFIED.
08-24	3	2	BAGHOUSE CLEANING CYCLE PROBLEM.
08-27	3	2	UNSPECIFIED.
09-02	3	1	UNSPECIFIED.
09-11	3	3	UNSPECIFIED.
09-13	3	25	UNIT START-UP (BAGHOUSE BYPASSED).
09-14	3	18	BAGHOUSE COMP. BYPASSED BEFORE SHUTDOWN.
09-19	3	2	UNSPECIFIED.
09-16	4	3	UNSPECIFIED.
09-22	4	14	UNIT START-UP.
09-23	4	13	UNIT START-UP.

TABLE II

SO₂ Continuous Emissions Monitor Failures

Unit 4
Altech MCS 100

<u>From</u> <u>Date</u> <u>Time</u>	<u>To</u> <u>Date</u> <u>Time</u>	<u>Reason</u>	<u>Corrective Action</u>
08/03 09:27	08/03 11:21	Sample pump failure	Replaced diaphragm
09/02 08:09	09/02 08:11	Unknown	Self-corrected

TABLE II

Opacity Monitor Failures

Unit 1
Lear Siegler RM-41

<u>From</u> <u>Date</u> <u>Time</u>	<u>To</u> <u>Date</u> <u>Time</u>	<u>Reason</u>	<u>Corrective Action</u>
07-25 09:17	07-25 09:39	SYSTEM DOWN LOST DATA	RESTORED POWER TO SYS.
07-31 07:23	08-04 12:15	VXI CABLE DAMAGE	REPLACED CABLE.
08-04 22:25	08-04 22:35	SYSTEM DOWN LOST DATA	RESTARTED SYSTEM.
09-08 11:13	09-08 12:55	MONITOR MALFUNCTION	CLEANED OPTICS.
09-10 11:19	09-10 13:29	MONITOR MALFUNCTION	CHECKED/CLEANED OPTICS.
09-10 16:10	09-10 18:44	MONITOR MALFUNCTION	ADJUSTED MIRROR MOTOR.
09-10 18:44	09-10 19:11	MONITOR MALFUNCTION	REPLACED MIRROR MOTOR.
09-10 20:07	09-10 20:17	MONITOR MALFUNCTION	CALIBRATED + AUDITED.
09-12 08:43	09-12 09:53	MONITOR MALFUNCTION	REALIGNED REFLECTOR.
09-15 10:27	09-15 10:35	MONITOR MALFUNCTION	

TABLE II

Opacity Monitor Failures

Unit 2
Lear Siegler RM-41

<u>From</u> <u>Date</u> <u>Time</u>	<u>To</u> <u>Date</u> <u>Time</u>	<u>Reason</u>	<u>Corrective Action</u>
07-21 10:22	07-21 10:24	MONITOR MALFUNCTION	DUCT WAS BLANKED OFF AT STACK FROM 7-9 TO 8-20.
07-21 11:10	07-21 11:12	MONITOR MALFUNCTION	
07-21 11:17	07-21 11:19	MONITOR MALFUNCTION	
07-25 09:17	07-25 09:39	SYSTEM DOWN LOST DATA	RESTORED POWER TO SYS. REPLACED CABLE.
07-31 07:23	08-04 12:15	VXI CABLE DAMAGE	
08-04 12:15	08-15 08:37	MONITOR MALFUNCTION	FULL CALIBRATION+AUDIT.
08-17 08:37	08-23 08:59	MONITOR MALFUNCTION	
08-23 10:53	08-23 10:58	MONITOR MALFUNCTION	
09-09 08:52	09-09 08:55	MONITOR MALFUNCTION	
09-14 10:29	09-14 15:08	MONITOR MALFUNCTION	
09-14 15:12	09-14 15:18	MONITOR MALFUNCTION	
09-14 15:36	09-14 15:38	MONITOR MALFUNCTION	
09-14 15:56	09-14 16:00	OPAC QUALITY ST= 3AC	
09-14 16:25	09-14 16:33	MONITOR MALFUNCTION	
09-15 10:28	09-15 10:31	MONITOR MALFUNCTION	

TABLE II

Opacity Monitor Failures

Unit 3

Lear Siegler RM-41

<u>From</u> <u>Date</u> <u>Time</u>	<u>To</u> <u>Date</u> <u>Time</u>	<u>Reason</u>	<u>Corrective Action</u>
07-25 09:17	07-25 09:39	SYSTEM DOWN LOST DATA	RESTORED POWER TO SYS.
07-31 07:23	08-04 12:15	VXI CABLE DAMAGE	REPLACED CABLE.
08-04 22:25	08-04 22:35	SYSTEM DOWN LOST DATA	RESTARTED SYSTEM.
08-06 09:56	08-09 10:05	MONITOR MALFUNCTION	MANUALLY CALIBRATED.
08-10 10:08	08-15 10:15	MONITOR MALFUNCTION	INVESTIGATED PROBLEM.
08-15 10:23	08-15 10:38	MONITOR MALFUNCTION	REALIGNED UNIT.
08-28 11:01	08-28 11:04	MONITOR MALFUNCTION	
08-29 11:05	09-01 07:51	MONITOR MALFUNCTION	CLEANED LENS/REFLECTOR.
09-02 06:33	09-02 06:41	MONITOR MALFUNCTION	
09-03 06:35	09-03 06:41	MONITOR MALFUNCTION	
09-05 06:41	09-06 07:00	MONITOR MALFUNCTION	MANUALLY CALIBRATED.
09-06 13:49	09-06 13:53	MONITOR MALFUNCTION	
09-06 14:08	09-06 14:15	MONITOR MALFUNCTION	CHANGED CAL TIMER CARD.
09-07 07:27	09-07 07:30	MONITOR MALFUNCTION	
09-07 07:43	09-07 07:45	MONITOR MALFUNCTION	
09-07 07:46	09-07 07:49	MONITOR MALFUNCTION	
09-07 08:14	09-07 08:19	MONITOR MALFUNCTION	
09-07 08:25	09-07 08:27	MONITOR MALFUNCTION	
09-08 08:17	09-11 21:38	MONITOR MALFUNCTION	ADJ. MIRROR, CAL+AUDIT.
09-13 11:21	09-13 11:24	MONITOR MALFUNCTION	
09-23 20:35	09-23 20:37	MONITOR MALFUNCTION	

TABLE II

Opacity Monitor Failures

Unit 4

Lear Siegler RM-41

<u>From</u>		<u>To</u>		<u>Reason</u>	<u>Corrective Action</u>
<u>Date</u>	<u>Time</u>	<u>Date</u>	<u>Time</u>		
09-12	06:46	09-12	07:46	MONITOR MALFUNCTION	MANUAL CALIBRATION.
09-16	09:51	09-16	14:52	MONITOR MALFUNCTION	CLEANED LENSES.
09-16	14:55	09-16	14:57	MONITOR MALFUNCTION	
09-16	15:26	09-16	15:47	MONITOR MALFUNCTION	PREPARED TO BRING
09-16	15:50	09-16	15:54	OPAC QUALITY ST=3AC	UNIT INTO SHOP.
09-16	16:48	09-16	17:47	MONITOR MALFUNCTION	FULL CALIBRATION+AUDIT.



Public Service
Company of Colorado
P.O. Box 840
Denver, CO 80201-0840

January 31, 1995

Mr. Roy Doyle
Air Pollution Control Division
Colorado Department of Health
4300 Cherry Creek Drive South
Denver, CO 80222-1530

RE: Fourth Quarter, 1994 Excess Emissions Report, Cherokee Station, Units #1-4

Dear Roy:

Attached is the fourth quarter, 1994 excess emissions report for the Public Service Company of Colorado Cherokee Station Units #1-4.

Unit #1 operated 2,200 hours, Unit #2 operated 1,971 hours, Unit #3 operated 2,209 hours and Unit #4 operated 2,050 hours this quarter.

Feel free to contact me at 294-2810 or Mr. Mark Fox at 294-8179 with any questions in this regard.

Sincerely,

A handwritten signature in cursive script that reads "Peter J. Cohlmi".

Peter J. Cohlmi

Attachment

cc: Fox/Cohlmi

QUARTERLY EXCESS EMISSIONS REPORT (EER)

for

Fossil Fuel-Fired Steam Generators, Subpart D

Suggested Format for Sources in Region VIII*

Minimum Requirements Under Section 60.7 (See instructions)

Part 1. This report includes all the required information under section 60.7 for:

a. Quarterly emission reporting period ending: (circle one)

March 31 June 30 Sept. 30 Dec. 31

b. Reporting year: 1994

c. Reporting date: January 11, 1995

d. Person completing report: Thomas M. Kennedy

e. Station name: Cherokee SEGS Units 1-4

f. Plant location: Denver, CO 80216

g. Person responsible for review and integrity of report: Mark R. Fox

h. Mailing address for person in 1-g above:

Public Service Company of Colorado P.O. Box 840
Denver CO 80201-0840

i. Phone number for 1-g above: 294-8179

Part 2. Instrument Information, complete for each instrument.

a. Opacity Monitor:	Unit 1	Unit 2	Unit 3	Unit 4
	Lear	Lear	Lear	Lear
b. Manufacturer:	<u>Siegler</u>	<u>Siegler</u>	<u>Siegler</u>	<u>Siegler</u>
c. Model No.:	<u>RM-41</u>	<u>RM-41</u>	<u>RM-41</u>	<u>RM-41</u>
d. Serial No.:	<u>985</u>	<u>989</u>	<u>982</u>	<u>14824993</u>
e. Installation date:	<u>10/27/78</u>	<u>10/27/78</u>	<u>10/27/78</u>	<u>06/07/85</u>

f. SO2 Monitor:	Unit 1	Unit 2	Unit 3	Unit 4
g. Manufacturer:	<u>Rosemount</u>	<u>Rosemount</u>	<u>Rosemount</u>	<u>Altech</u>
h. Model No.:	<u>EC960</u>	<u>EC960</u>	<u>EC960</u>	<u>MCS100</u>
i. Serial No.:	<u>133</u>	<u>130</u>	<u>129</u>	<u>ACS132</u>
j. Installation date:	<u>12/19/88</u>	<u>04/25/88</u>	<u>04/28/88</u>	<u>06/09/91</u>

Part 3. Excess emissions (by pollutant)

Use Table I: attach separate narrative per instructions.

Part 4. Conversion factors (not for diluent monitor report)

a. Diluent measured: O₂/CO₂(UNIT 4)

b. F-Factor value used:

 i. Published or developed _____

 ii. F, Fc, or Fw 10640

c. Basis for gas measurement data:(wet or dry) wet/dry(unit 4)

d. Zero and Cal values used, by instrument:

	Unit 1		Unit 2	
	Opacity(%)	SO ₂ (ppm)	Opacity(%)	SO ₂ (ppm)
Zero	<u>0.0</u>	<u>300</u>	<u>0.0</u>	<u>300</u>
Cal	<u>57</u>	<u>750</u>	<u>62</u>	<u>750</u>

	Unit 3		Unit 4	
	Opacity(%)	SO ₂ (ppm)	Opacity(%)	SO ₂ (ppm)
Zero	<u>0.0</u>	<u>300</u>	<u>0.0</u>	<u>0</u>
Cal	<u>64</u>	<u>750</u>	<u>47</u>	<u>450</u>

Part 5. Continuous Monitoring System operation failures

See Table II: Complete one sheet for each monitor;
attach separate narrative per instructions.

Part 6. Certification of report integrity by person in 1-g above:

THIS IS TO CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, THE INFORMATION
PROVIDED IN THE ABOVE REPORT IS COMPLETE AND ACCURATE.

NAME	<u>Mark R. Fox</u>
SIGNATURE	<u>Mark R. Fox</u>
TITLE	<u>Air and Water Programs Team Lead</u>
DATE	<u>2-9-95</u>

* Suggested Format for Subpart D sources in: Colorado, Montana,
North Dakota, South
Dakota, Utah, Wyoming

TABLE I

EXCESS EMISSIONS (SULFUR DIOXIDE)

<u>DATE</u>	<u>POLLUTANT</u>	<u>MAGNITUDE*</u> <u>LB./10⁶ BTU</u>
-------------	------------------	--

There were no excess SO₂ emissions for the fourth quarter, 1994.

Narrative of Maximum Theoretical SO₂ Emissions:

Calculated maximum possible SO₂ emissions from the sample with the highest sulfur content taken on 11/14/94 was 1.23 lb/MMBtu. The sulfur content of this sample was significantly higher than the average and is considered unrepresentative of the coal burned. This value was obtained using modified procedures specified in the "Coal Sampling and Analysis Certification Protocol". Because the CSA Protocol has no provision to compensate for SO₂ removal by processes within the power plant system, this value represents maximum hypothetical SO₂ emissions. Actual stack emissions would be lower than those calculated from coal samples. The average maximum theoretical SO₂ emissions for the quarter was 0.74 lb/MMBtu, which is well below the 1.2 lb/MMBtu standard.

* Narrative of causes attached.

TABLE I

EXCESS EMISSIONS (OPACITY)

<u>DATE</u>	<u>UNIT</u>	<u>NUMBER OF EXCESSES</u>	<u>REASON</u>
10-08	1	1	UNSPECIFIED
10-11	1	3	UNSPECIFIED
10-13	1	5	BAGHOUSE TROUBLE
10-14	1	8	BAGHOUSE TROUBLE
10-15	1	11	BAGHOUSE TROUBLE
10-16	1	34	BAGHOUSE TROUBLE
10-17	1	32	BAGHOUSE TROUBLE
10-18	1	1	UNSPECIFIED
10-19	1	1	UNSPECIFIED
10-20	1	9	BAGHOUSE TROUBLE
10-21	1	6	SWITCHED FUEL (PUT BAGHOUSE BACK IN SERV.)
10-28	1	3	UNSPECIFIED
11-17	1	1	UNSPECIFIED
11-19	1	1	UNSPECIFIED
11-20	1	1	UNSPECIFIED
11-21	1	43	BAGHOUSE BYPASSED
11-22	1	4	UNSPECIFIED
11-23	1	1	UNSPECIFIED
12-04	1	2	UNSPECIFIED
12-05	1	2	UNSPECIFIED
12-08	1	1	UNSPECIFIED
12-14	1	30	BAGHOUSE BYPASSED
12-19	1	2	UNSPECIFIED
12-21	1	4	UNSPECIFIED
12-23	1	1	EXCITER TRIP
11-06	2	2	BAGHOUSE BYPASSED
11-18	2	14	UNSPECIFIED
12-02	2	6	BAGHOUSE BYPASSED
12-14	2	3	BAGHOUSE BYPASSED
12-16	2	2	UNSPECIFIED
12-23	2	3	BAGHOUSE BYPASSED

TABLE I

EXCESS EMISSIONS (OPACITY)

<u>DATE</u>	<u>UNIT</u>	<u>NUMBER OF EXCESSES</u>	<u>REASON</u>
10-15	3	1	UNSPECIFIED
10-28	3	1	UNSPECIFIED
11-01	3	9	BAGHOUSE BYPASSED (TESTING - 2 WEEKS IN A.M.)
11-02	3	5	BAGHOUSE BYPASSED
11-03	3	13	BAGHOUSE BYPASSED
11-04	3	7	BAGHOUSE BYPASSED
11-07	3	18	BAGHOUSE BYPASSED
11-08	3	26	BAGHOUSE BYPASSED
11-09	3	63	BAGHOUSE BYPASSED
11-10	3	13	BAGHOUSE BYPASSED
12-08	3	1	UNSPECIFIED
12-11	3	1	UNSPECIFIED
12-12	3	39	BAGHOUSE TROUBLE
12-13	3	3	UNSPECIFIED
12-14	3	13	BAGHOUSE TROUBLE
12-15	3	1	UNSPECIFIED
12-17	3	6	UNSPECIFIED
12-19	3	7	UNSPECIFIED
11-03	4	2	UNSPECIFIED
11-15	4	7	BAGHOUSE BYPASSED
11-16	4	2	UNSPECIFIED

TABLE II

SO₂ Continuous Emissions Monitor FailuresUnit 4
Altech MCS 100

<u>From</u> <u>Date</u> <u>Time</u>	<u>To</u> <u>Date</u> <u>Time</u>	<u>Reason</u>	<u>Corrective Action</u>
10/03 12:30	10/12 07:14	Collapsed Sample Line	Swapped lines
10/27 08:06	10/27 14:17	N ₂ Regulator & Moisture	Replaced Regulator & dried out sample line
10/31 08:55	10/31 09:49	UPS/Data Highway Trouble	Re-activated drops on data highway once power stabilized

TABLE II

Opacity Monitor Failures

Unit 1
Lear Siegler RM-41

<u>From</u> <u>Date Time</u>	<u>To</u> <u>Date Time</u>	<u>Reason</u>	<u>Corrective Action</u>
10-31 08:57	10-31 10:04	UPS/DATA HWY TROUBLE	REPLACED BOARD
11-21 08:57	11-21 09:20	MONITOR OVERRANGE	SCHEDULED AUDIT FOR DEC.
11-21 09:23	11-21 09:30	MONITOR MALFUNCTION	SAME AS ABOVE
11-23 10:04	11-23 10:26	MALF QUALITY ST=8020	SAME AS ABOVE
12-01 12:20	12-01 12:25	MONITOR OVERRANGE	FOUND NO PROBLEM

TABLE II

Opacity Monitor Failures

Unit 2
Lear Siegler RM-41

<u>From</u> <u>Date Time</u>	<u>To</u> <u>Date Time</u>	<u>Reason</u>	<u>Corrective Action</u>
10-19 10:49	10-19 11:05	MONITOR MALFUNCTION	CHECKED UNIT ALIGNMENT
10-31 08:57	10-31 10:04	UPS DATA HWY. TROUBLE	REPLACED BOARD
11-23 10:04	11-23 10:26	MONITOR MALFUNCTION	CLEANED LENSES

TABLE II

Opacity Monitor Failures

Unit 3

Lear Siegler RM-41

<u>From</u> <u>Date Time</u>	<u>To</u> <u>Date Time</u>	<u>Reason</u>	<u>Corrective Action</u>
10-31 08:57	10-31 10:04	UPS DATA HWY TROUBLE	REPLACED BOARD
11-01 09:16	11-01 09:38	MONITOR OVERRANGE	SCHEDULED AUDIT FOR DEC.
11-08 06:21	11-08 06:25	MONITOR OVERRANGE	SAME AS ABOVE
11-09 08:19	11-09 08:32	MONITOR OVERRANGE	SAME AS ABOVE
11-09 09:48	11-09 10:04	MONITOR OVERRANGE	SAME AS ABOVE
11-09 10:25	11-09 10:34	MONITOR MALFUNCTION	INVESTIGATED
11-23 10:04	11-23 10:26	MONITOR MALFUNCTION	CLEANED LENSES

TABLE II

Opacity Monitor Failures

Unit 4
Lear Siegler RM-41

<u>From</u> <u>Date</u> <u>Time</u>	<u>To</u> <u>Date</u> <u>Time</u>	<u>Reason</u>	<u>Corrective Action</u>
10-12 08:29	10-12 13:23	MONITOR MALFUNCTION	
10-31 08:55	10-31 09:49	UPS/DATA HWY TROUBLE	REPLACED BOARD
11-15 17:03	11-15 18:00	MONITOR MALFUNCTION	
11-16 07:44	11-16 07:49	MONITOR MALFUNCTION	
11-23 10:02	11-23 10:04	DATA HIGHWAY TIMEOUT	REPAIRED UPS TRIP
11-23 10:04	11-23 10:20	MONITOR MALFUNCTION	SAME AS ABOVE
12-04 20:27	12-04 20:32	MONITOR MALFUNCTION	FOUND NO PROBLEM