

APPENDIX E

**CHEMICAL ANALYSIS OF GYPSUM LEACHATE SAMPLES FROM
CUMBERLAND FOSSIL PLANT**

Chemical Analysis of Gypsum Leachate Samples from Cumberland Fossil Plant

Constituent	Units	MCL	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
Aluminum, total	ug/L	200	580		140	350	<
Antimony, total	ug/L	6	12		13	6	<
Arsenic, total	ug/L	50	<	<	1	1	<
Barium, total	ug/L	2000	130		120	30	30
Beryllium, total	ug/L	4	<	<	1		
Boron, total	ug/L	--	54000		54000	25000	37000
Cadmium, total	ug/L	5	9.2		3.5	22	13
Calcium, total	mg/L	--	870		880	760	790
Chloride, total	mg/L	250	1000	1200	1000	1400	1900
Chromium, total	ug/L	100	5	<	1		<
Cobalt, total	ug/L	--	10		9		
Copper, total	ug/L	1300	10	<	10	1	<
Fluoride, total	mg/L	4	18	1.2	20		
Iron, total	ug/L	300	790		10	10	<
Lead, total	ug/L	15	<	<	1	1	<
Magnesium, total	mg/L	--	350		350	650	790
Manganese, total	ug/L	50	2600		2500	110	750
Mercury, total	ug/L	2	0.2	<	0.2	13	0.2
Nickel, total	ug/L	100	97		85	167	77
pH (field)	pH	6.5-8.5	6.99	7.19	7.48		
Selenium, total	ug/L	50	25		28	396	99
Silver, total	ug/L	100	<	<	10	0.4	0.3
Sodium, total	mg/L	--	18		21		
TDS (180)	mg/L	500	6300	8100	6000		
Strontium, total	ug/L	--	4500		4500		
Sulfate, total	mg/L	250	3700	2100	3800	2700	2800
Thallium, total	ug/L	2	<	<	2		
Vanadium, total	ug/L	--	<	<	10		
Zinc, total	ug/L	5000	880		1000	840	140

1. Sample collected on 2/25/99 before effluent entered gypsum pond overflow weir.
2. Sample collected on 7/21/99 before effluent entered gypsum pond overflow weir.
3. Sample collected on 2/25/99 at RP-4.
4. Filtered sample collected on 9/23/03 at RP-3.
5. Filtered sample collected on 9/23/03 from end of gypsum effluent pipe.