

**TABLE 3-1
SUMMARY OF AERMOD FENCLINE PARAMETERS
1-HR SO₂ AMBIENT AIR QUALITY ANALYSIS
PHENIX CITY PLANT
CONTINENTAL CARBON COMPANY**

Fenceline

Easting (m)	Northing (m)
690,340.0	3,589,870.0
690,664.0	3,589,875.0
690,647.5	3,590,208.0
690,590.0	3,590,205.0
690,590.0	3,590,215.0
690,511.5	3,590,211.5
690,511.5	3,590,201.5
690,324.0	3,590,194.5

**TABLE 3-2
SUMMARY OF AERMOD BUILDING PARAMETERS
1-HR SO₂ AMBIENT AIR QUALITY ANALYSIS
PHENIX CITY PLANT
CONTINENTAL CARBON COMPANY**

<i>Building Parameters</i>													
Building Name	Number of Tiers	Tier Number	Base Elevation (m)	Tier Height (ft)	Number of Corners	Corner 1 East (X) (m)	Corner 1 North (Y) (m)	Corner 2 East (X) (m)	Corner 2 North (Y) (m)	Corner 3 East (X) (m)	Corner 3 North (Y) (m)	Corner 4 East (X) (m)	Corner 4 North (Y) (m)
B1	8	1	69.64	21.25	4	690,360.0	3,590,050.5	690,391.0	3,590,051.5	690,388.0	3,590,113.0	690,358.0	3,590,112.0
B1	*	2	*	22.5	4	690,361.9	3,590,050.6	690,389.1	3,590,051.4	690,386.1	3,590,112.9	690,359.9	3,590,112.1
B1	*	3	*	23.75	4	690,363.9	3,590,050.6	690,387.1	3,590,051.4	690,384.3	3,590,112.9	690,361.8	3,590,112.1
B1	*	4	*	25	4	690,365.8	3,590,050.7	690,385.2	3,590,051.3	690,382.4	3,590,112.8	690,363.6	3,590,112.2
B1	*	5	*	26.25	4	690,367.8	3,590,050.8	690,383.3	3,590,051.3	690,380.5	3,590,112.8	690,365.5	3,590,112.3
B1	*	6	*	27.5	4	690,369.7	3,590,050.8	690,381.3	3,590,051.2	690,378.6	3,590,112.7	690,367.4	3,590,112.3
B1	*	7	*	28.75	4	690,371.6	3,590,050.9	690,379.4	3,590,051.1	690,376.8	3,590,112.6	690,369.3	3,590,112.4
B1	*	8	*	30	4	690,373.6	3,590,050.9	690,377.4	3,590,051.1	690,374.9	3,590,112.6	690,371.1	3,590,112.4
B2	8	1	69.55	21.25	4	690,391.0	3,590,051.5	690,413.0	3,590,052.5	690,410.0	3,590,135.0	690,387.5	3,590,134.0
B2	*	2	*	22.5	4	690,392.4	3,590,051.6	690,411.6	3,590,052.4	690,408.6	3,590,134.9	690,388.9	3,590,134.1
B2	*	3	*	23.75	4	690,393.8	3,590,051.6	690,410.3	3,590,052.4	690,407.2	3,590,134.9	690,390.3	3,590,134.1
B2	*	4	*	25	4	690,395.1	3,590,051.7	690,408.9	3,590,052.3	690,405.8	3,590,134.8	690,391.7	3,590,134.2
B2	*	5	*	26.25	4	690,396.5	3,590,051.8	690,407.5	3,590,052.3	690,404.4	3,590,134.8	690,393.1	3,590,134.3
B2	*	6	*	27.5	4	690,397.9	3,590,051.8	690,406.1	3,590,052.2	690,403.0	3,590,134.7	690,394.5	3,590,134.3
B2	*	7	*	28.75	4	690,399.3	3,590,051.9	690,404.8	3,590,052.1	690,401.6	3,590,134.6	690,395.9	3,590,134.4
B2	*	8	*	30.00	4	690,400.6	3,590,051.9	690,403.4	3,590,052.1	690,400.2	3,590,134.6	690,397.3	3,590,134.4
B3	8	1	70.19	12.38	4	690,566.5	3,590,144.0	690,566.0	3,590,155.0	690,475.5	3,590,151.5	690,476.0	3,590,141.0
B3	*	2	*	12.75	4	690,566.5	3,590,144.7	690,566.0	3,590,154.3	690,475.5	3,590,150.8	690,476.0	3,590,141.7
B3	*	3	*	13.13	4	690,566.4	3,590,145.4	690,566.1	3,590,153.6	690,475.6	3,590,150.2	690,475.9	3,590,142.3
B3	*	4	*	13.50	4	690,566.4	3,590,146.1	690,566.1	3,590,152.9	690,475.6	3,590,149.5	690,475.9	3,590,143.0
B3	*	5	*	13.88	4	690,566.4	3,590,146.8	690,566.1	3,590,152.3	690,475.6	3,590,148.9	690,475.9	3,590,143.6
B3	*	6	*	14.25	4	690,566.3	3,590,147.4	690,566.2	3,590,151.6	690,475.7	3,590,148.2	690,475.8	3,590,144.3
B3	*	7	*	14.63	4	690,566.3	3,590,148.1	690,566.2	3,590,150.9	690,475.7	3,590,147.6	690,475.8	3,590,144.9
B3	*	8	*	15.00	4	690,566.3	3,590,148.8	690,566.2	3,590,150.2	690,475.7	3,590,146.9	690,475.8	3,590,145.6
B4	8	1	70.01	21.25	4	690,524.0	3,590,104.3	690,537.0	3,590,104.3	690,537.0	3,590,129.0	690,524.0	3,590,129.0
B4	*	2	*	22.50	4	690,524.8	3,590,104.3	690,536.2	3,590,104.3	690,536.2	3,590,129.0	690,524.8	3,590,129.0
B4	*	3	*	23.75	4	690,525.6	3,590,104.3	690,535.4	3,590,104.3	690,535.4	3,590,129.0	690,525.6	3,590,129.0
B4	*	4	*	25.00	4	690,526.4	3,590,104.3	690,534.6	3,590,104.3	690,534.6	3,590,129.0	690,526.4	3,590,129.0
B4	*	5	*	26.25	4	690,527.3	3,590,104.3	690,533.8	3,590,104.3	690,533.8	3,590,129.0	690,527.3	3,590,129.0
B4	*	6	*	27.5	4	690,528.1	3,590,104.3	690,532.9	3,590,104.3	690,532.9	3,590,129.0	690,528.1	3,590,129.0
B4	*	7	*	28.75	4	690,528.9	3,590,104.3	690,532.1	3,590,104.3	690,532.1	3,590,129.0	690,528.9	3,590,129.0
B4	*	8	*	30	4	690,529.7	3,590,104.3	690,531.3	3,590,104.3	690,531.3	3,590,129.0	690,529.7	3,590,129.0
B5	8	1	70.05	21.25	4	690,547.5	3,590,105.0	690,560.0	3,590,105.0	690,560.0	3,590,130.0	690,547.5	3,590,130.0
B5	*	2	*	22.5	4	690,548.3	3,590,105.0	690,559.2	3,590,105.0	690,559.2	3,590,130.0	690,548.3	3,590,130.0
B5	*	3	*	23.75	4	690,549.1	3,590,105.0	690,558.4	3,590,105.0	690,558.4	3,590,130.0	690,549.1	3,590,130.0
B5	*	4	*	25	4	690,549.8	3,590,105.0	690,557.7	3,590,105.0	690,557.7	3,590,130.0	690,549.8	3,590,130.0
B5	*	5	*	26.25	4	690,550.6	3,590,105.0	690,556.9	3,590,105.0	690,556.9	3,590,130.0	690,550.6	3,590,130.0
B5	*	6	*	27.5	4	690,551.4	3,590,105.0	690,556.1	3,590,105.0	690,556.1	3,590,130.0	690,551.4	3,590,130.0
B5	*	7	*	28.75	4	690,552.2	3,590,105.0	690,555.3	3,590,105.0	690,555.3	3,590,130.0	690,552.2	3,590,130.0
B5	*	8	*	30	4	690,553.0	3,590,105.0	690,554.5	3,590,105.0	690,554.5	3,590,130.0	690,553.0	3,590,130.0
B6	8	1	70.07	12.375	4	690,526.0	3,590,048.0	690,535.0	3,590,048.0	690,535.0	3,590,096.5	690,526.0	3,590,096.5
B6	*	2	*	12.75	4	690,526.6	3,590,048.0	690,534.4	3,590,048.0	690,534.4	3,590,096.5	690,526.6	3,590,096.5
B6	*	3	*	13.125	4	690,527.1	3,590,048.0	690,533.9	3,590,048.0	690,533.9	3,590,096.5	690,527.1	3,590,096.5
B6	*	4	*	13.5	4	690,527.7	3,590,048.0	690,533.3	3,590,048.0	690,533.3	3,590,096.5	690,527.7	3,590,096.5
B6	*	5	*	13.875	4	690,528.3	3,590,048.0	690,532.8	3,590,048.0	690,532.8	3,590,096.5	690,528.3	3,590,096.5
B6	*	6	*	14.25	4	690,528.8	3,590,048.0	690,532.2	3,590,048.0	690,532.2	3,590,096.5	690,528.8	3,590,096.5
B6	*	7	*	14.625	4	690,529.4	3,590,048.0	690,531.6	3,590,048.0	690,531.6	3,590,096.5	690,529.4	3,590,096.5
B6	*	8	*	15	4	690,529.9	3,590,048.0	690,531.1	3,590,048.0	690,531.1	3,590,096.5	690,529.9	3,590,096.5
B7	8	1	70.16	21.5	4	690,524.0	3,590,020.0	690,535.0	3,590,020.0	690,535.0	3,590,032.0	690,524.0	3,590,032.0
B7	*	2	*	21.75	4	690,524.7	3,590,020.0	690,534.3	3,590,020.0	690,534.3	3,590,032.0	690,524.7	3,590,032.0
B7	*	3	*	22	4	690,525.4	3,590,020.0	690,533.6	3,590,020.0	690,533.6	3,590,032.0	690,525.4	3,590,032.0
B7	*	4	*	22.25	4	690,526.1	3,590,020.0	690,532.9	3,590,020.0	690,532.9	3,590,032.0	690,526.1	3,590,032.0
B7	*	5	*	22.5	4	690,526.8	3,590,020.0	690,532.3	3,590,020.0	690,532.3	3,590,032.0	690,526.8	3,590,032.0
B7	*	6	*	22.75	4	690,527.4	3,590,020.0	690,531.6	3,590,020.0	690,531.6	3,590,032.0	690,527.4	3,590,032.0
B7	*	7	*	23	4	690,528.1	3,590,020.0	690,530.9	3,590,020.0	690,530.9	3,590,032.0	690,528.1	3,590,032.0
B7	*	8	*	23.25	4	690,528.8	3,590,020.0	690,530.2	3,590,020.0	690,530.2	3,590,032.0	690,528.8	3,590,032.0

**TABLE 3-3
SUMMARY OF AERMOD TANK PARAMETERS
1-HR SO₂ AMBIENT AIR QUALITY ANALYSIS
PHENIX CITY PLANT
CONTINENTAL CARBON COMPANY**

Tank Parameters

Tank Name	Description	Base Elevation (m)	Center East (X) (m)	Center North (Y) (m)	Tank Height (ft)	Tank Diameter (ft)
T1	Tank 1	69.63	690,425.0	3,590,068.0	80	42
T2	Tank 2	69.67	690,424.5	3,590,083.5	80	42
T3	Tank 3	69.74	690,423.5	3,590,099.0	80	42
T4	Tank 4	69.82	690,422.5	3,590,114.0	80	42
T5	Tank 5	70.28	690,596.0	3,590,061.0	40	60
T6	Tank 6	70.18	690,569.0	3,590,060.0	40	60
T7	Tank 7	70.19	690,569.0	3,590,029.0	40	80

TABLE 3-4
SUMMARY OF AERSURFACE LAND COUNTS
1-HR SO₂ AMBIENT AIR QUALITY ANALYSIS
PHENIX CITY PLANT
CONTINENTAL CARBON COMPANY

Land Cover Counts: Surface Roughness		
	SECTOR:	1
	Starting Direction:	0

0	Missing, Out-of-Bounds, or Undefined:	0
11	Open Water:	1263
12	Perennial Ice/Snow:	0
21	Low Intensity Residential:	5032
22	High Intensity Residential:	1951
23	Commercial/Industrial/Transp:	4543
31	Bare Rock/Sand/Clay:	0
32	Quarries/Strip Mines/Gravel:	177
33	Transitional:	284
41	Deciduous Forest:	8093
42	Evergreen Forest:	747
43	Mixed Forest:	3275
51	Shrubland:	0
61	Orchards/Vineyard/Other:	0
71	Grasslands/Herbaceous:	0
81	Pasture/Hay:	2560
82	Row Crops:	1221
83	Small Grains:	0
84	Fallow:	0
85	Urban/Recreational Grasses:	950
91	Woody Wetlands:	837
92	Emergent Herbaceous Wetlands:	429

	Total:	31362

**TABLE 4-1
SUMMARY OF AERMOD SOURCE PARAMETERS AND EMISSION RATES
1-HR SO₂ AMBIENT AIR QUALITY ANALYSIS
PHENIX CITY PLANT
CONTINENTAL CARBON COMPANY**

Point Source Parameters

Source ID	Source Description	Easting (X) (m)	Northing (Y) (m)	Base Elevation (m)	Stack Height (ft)	Temperature (°F)	Exit Velocity (fps)	Stack Diameter (ft)	SO2 (lb/hr)
PHENIX CITY PLANT SOURCE									
TO1	Thermal Oxidizer	690,436.72	3,590,043.79	69.65	199.00	1,700.01	109.29	10.00	2,181.00
INVENTORY SOURCE									
EP-101	Cupola No. 1 and Filterhouse No. 1	690,130.00	3,589,889.89	220.00	200.00	161.00	47.05	8.42	7.72

**TABLE 5-1
 ISHD AND ESRL STATION INFORMATION
 1-HR SO₂ AMBIENT AIR QUALITY ANALYSIS
 PHENIX CITY PLANT
 CONTINENTAL CARBON COMPANY**

METEROLOGICAL STATION INFORMATION

Call Sign	USAF #	WBAN #	Name	County	State	Latitude	Longitude	Elev. (m)
ISHD Station								
KCSG	722255	93842	Columbus Metropolitan Airport	Muscogee	GA	32.516	-84.942	119.5
ESRL STATION								
BMX	72230	53823	Birmingham (Shelby Airport)	Jefferson	AL	33.100	-86.700	178.0

TABLE 5-2
METEOROLOGICAL STATION SURFACE CHARACTERISTICS
1-HR SO₂ AMBIENT AIR QUALITY ANALYSIS
PHENIX CITY PLANT
CONTINENTAL CARBON COMPANY

KCSG Meteorological Station Surface Characteristics

Season	Sector	Albedo	Bowen Ratio (Average)	Bowen Ratio (Wet)	Bowen Ratio (Dry)	Surface Roughness
Winter	1	0.17	0.99	0.51	2.13	0.232
Winter	2	0.17	0.99	0.51	2.13	0.148
Winter	3	0.17	0.99	0.51	2.13	0.113
Winter	4	0.17	0.99	0.51	2.13	0.149
Winter	5	0.17	0.99	0.51	2.13	0.071
Winter	6	0.17	0.99	0.51	2.13	0.101
Winter	7	0.17	0.99	0.51	2.13	0.046
Winter	8	0.17	0.99	0.51	2.13	0.028
Winter	9	0.17	0.99	0.51	2.13	0.081
Winter	10	0.17	0.99	0.51	2.13	0.071
Winter	11	0.17	0.99	0.51	2.13	0.145
Winter	12	0.17	0.99	0.51	2.13	0.196
Spring	1	0.16	0.78	0.45	1.76	0.267
Spring	2	0.16	0.78	0.45	1.76	0.175
Spring	3	0.16	0.78	0.45	1.76	0.130
Spring	4	0.16	0.78	0.45	1.76	0.183
Spring	5	0.16	0.78	0.45	1.76	0.086
Spring	6	0.16	0.78	0.45	1.76	0.119
Spring	7	0.16	0.78	0.45	1.76	0.057
Spring	8	0.16	0.78	0.45	1.76	0.035
Spring	9	0.16	0.78	0.45	1.76	0.097
Spring	10	0.16	0.78	0.45	1.76	0.082
Spring	11	0.16	0.78	0.45	1.76	0.156
Spring	12	0.16	0.78	0.45	1.76	0.214
Summer	1	0.16	0.57	0.39	1.24	0.274
Summer	2	0.16	0.57	0.39	1.24	0.189
Summer	3	0.16	0.57	0.39	1.24	0.142
Summer	4	0.16	0.57	0.39	1.24	0.211
Summer	5	0.16	0.57	0.39	1.24	0.099
Summer	6	0.16	0.57	0.39	1.24	0.136
Summer	7	0.16	0.57	0.39	1.24	0.065
Summer	8	0.16	0.57	0.39	1.24	0.041
Summer	9	0.16	0.57	0.39	1.24	0.107
Summer	10	0.16	0.57	0.39	1.24	0.089
Summer	11	0.16	0.57	0.39	1.24	0.167
Summer	12	0.16	0.57	0.39	1.24	0.222
Fall	1	0.16	0.57	0.39	1.24	0.271
Fall	2	0.16	0.57	0.39	1.24	0.179
Fall	3	0.16	0.57	0.39	1.24	0.135
Fall	4	0.16	0.57	0.39	1.24	0.196
Fall	5	0.16	0.57	0.39	1.24	0.091
Fall	6	0.16	0.57	0.39	1.24	0.129
Fall	7	0.16	0.57	0.39	1.24	0.059
Fall	8	0.16	0.57	0.39	1.24	0.036
Fall	9	0.16	0.57	0.39	1.24	0.101
Fall	10	0.16	0.57	0.39	1.24	0.084
Fall	11	0.16	0.57	0.39	1.24	0.162
Fall	12	0.16	0.57	0.39	1.24	0.217

Note:

Winter - Dec, Jan, Feb

Spring - Mar, Apr, May

Summer - Jun, Jul, Aug, Sep

Fall - Oct, Nov

**TABLE 5-3
 KCSG METEOROLOGICAL STATION SURFACE MOISTURE CONDITIONS
 1-HR SO₂ AMBIENT AIR QUALITY ANALYSIS
 PHENIX CITY PLANT
 CONTINENTAL CARBON COMPANY**

KCSG Meteorological Station Surface Moisture Conditions

Year	2010	2011	2012	2013	2014
Moisture	D	W	D	A	D

Note:

Moisture conditions based on data from ADEM.

A - Average (precipitation in the middle 40th percentile)

D - Dry (precipitation in the lower 30th percentile)

W - Wet (precipitation in the upper 30th percentile)

**TABLE 7-1
MODELING RESULTS
1-HR SO₂ AMBIENT AIR QUALITY ANALYSIS
PHENIX CITY PLANT
CONTINENTAL CARBON COMPANY**

Pollutant	Averaging Period	Year	Receptor Location (UTM)		Modeled Concentration	Concentration (µg/m ³)		NAAQS	Compliance Demonstrated?
			Easting (m)	Northing (m)		Background Concentration ¹	Total Concentration		
SO ₂	1-hour	2010-2014	690,800	3,589,400	132.59	44.00	176.6	196	YES

Notes:

The 1-hour standard is based on the 4th highest high over 5 years.