



## **Appendix 12.4**

### **Air Quality Data**

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name:

Project Name: Artesia GP-Existing

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	54.03	15.62	33.70	0.00	0.10	0.10	19,345.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	161.99	236.89	1,965.43	2.08	361.65	70.42	208,867.02

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	216.02	252.51	1,999.13	2.08	361.75	70.52	228,212.02

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	1.17	15.33	7.98	0.00	0.03	0.03	19,303.47
Hearth							
Landscape	4.53	0.29	25.72	0.00	0.07	0.07	41.53
Consumer Products	43.16						
Architectural Coatings	5.17						
<b>TOTALS (tons/year, unmitigated)</b>	<b>54.03</b>	<b>15.62</b>	<b>33.70</b>	<b>0.00</b>	<b>0.10</b>	<b>0.10</b>	<b>19,345.00</b>

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	43.14	60.19	512.60	0.53	92.04	17.94	53,445.26
Apartments low rise	16.31	22.06	187.89	0.20	33.74	6.58	19,590.37
Elementary school	2.55	3.72	30.74	0.03	5.69	1.11	3,283.32
Strip mall	93.31	141.68	1,156.36	1.24	215.95	42.02	124,310.16
General light industry	6.68	9.24	77.84	0.08	14.23	2.77	8,237.91
<b>TOTALS (tons/year, unmitigated)</b>	<b>161.99</b>	<b>236.89</b>	<b>1,965.43</b>	<b>2.08</b>	<b>361.65</b>	<b>70.42</b>	<b>208,867.02</b>

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	1,006.00	9.57	dwelling units	3,018.00	28,882.26	291,791.69
Apartments low rise	99.50	6.65	dwelling units	1,592.00	10,586.80	106,956.32
Elementary school		14.49	1000 sq ft	129.33	1,873.99	18,046.54
Strip mall		42.94	1000 sq ft	1,777.74	76,336.15	684,964.27
General light industry		6.97	1000 sq ft	603.62	4,207.23	45,122.56
					121,886.43	1,146,881.38

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.6	0.8	99.0	0.2
Light Truck < 3750 lbs	7.3	2.7	94.6	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.6	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	64.3	35.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Elementary school				20.0	10.0	70.0
Strip mall				2.0	1.0	97.0
General light industry				50.0	25.0	25.0

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name:

Project Name: Artesia GP-Existing

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	296.05	85.61	184.62	0.01	0.54	0.54	106,000.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	856.62	1,215.25	10,913.68	12.11	1,981.61	385.84	1,181,700.16

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	1,152.67	1,300.86	11,098.30	12.12	1,982.15	386.38	1,287,700.16

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	6.40	84.01	43.72	0.00	0.16	0.16	105,772.44
Hearth							
Landscape	24.84	1.60	140.90	0.01	0.38	0.38	227.56
Consumer Products	236.49						
Architectural Coatings	28.32						
<b>TOTALS (lbs/day, unmitigated)</b>	<b>296.05</b>	<b>85.61</b>	<b>184.62</b>	<b>0.01</b>	<b>0.54</b>	<b>0.54</b>	<b>106,000.00</b>

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	230.18	308.72	2,850.60	3.10	504.30	98.29	302,321.17
Apartments low rise	87.72	113.16	1,044.89	1.14	184.85	36.03	110,815.91
Elementary school	13.50	19.07	170.83	0.19	31.18	6.07	18,576.54
Strip mall	489.39	726.91	6,413.81	7.20	1,183.31	230.26	703,382.83
General light industry	35.83	47.39	433.55	0.48	77.97	15.19	46,603.71
<b>TOTALS (lbs/day, unmitigated)</b>	<b>856.62</b>	<b>1,215.25</b>	<b>10,913.68</b>	<b>12.11</b>	<b>1,981.61</b>	<b>385.84</b>	<b>1,181,700.16</b>

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	1,006.00	9.57	dwelling units	3,018.00	28,882.26	291,791.69
Apartments low rise	99.50	6.65	dwelling units	1,592.00	10,586.80	106,956.32
Elementary school		14.49	1000 sq ft	129.33	1,873.99	18,046.54
Strip mall		42.94	1000 sq ft	1,777.74	76,336.15	684,964.27
General light industry		6.97	1000 sq ft	603.62	4,207.23	45,122.56
					121,886.43	1,146,881.38

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.6	0.8	99.0	0.2
Light Truck < 3750 lbs	7.3	2.7	94.6	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.6	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	64.3	35.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Elementary school	20.0	10.0	70.0
Strip mall	2.0	1.0	97.0
General light industry	50.0	25.0	25.0

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name:

Project Name: Artesia GP-Existing

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	271.21	84.01	43.72	0.00	0.16	0.16	105,772.44

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	949.74	1,463.55	10,481.20	10.08	1,981.61	385.84	1,070,030.16

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	1,220.95	1,547.56	10,524.92	10.08	1,981.77	386.00	1,175,802.60

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	6.40	84.01	43.72	0.00	0.16	0.16	105,772.44
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	236.49						
Architectural Coatings	28.32						
<b>TOTALS (lbs/day, unmitigated)</b>	<b>271.21</b>	<b>84.01</b>	<b>43.72</b>	<b>0.00</b>	<b>0.16</b>	<b>0.16</b>	<b>105,772.44</b>

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	248.84	372.01	2,725.09	2.58	504.30	98.29	273,909.88
Apartments low rise	92.73	136.36	998.88	0.95	184.85	36.03	100,401.74
Elementary school	14.90	22.97	163.73	0.16	31.18	6.07	16,819.38
Strip mall	555.08	875.08	6,181.08	5.99	1,183.31	230.26	636,688.96
General light industry	38.19	57.13	412.42	0.40	77.97	15.19	42,210.20
<b>TOTALS (lbs/day, unmitigated)</b>	<b>949.74</b>	<b>1,463.55</b>	<b>10,481.20</b>	<b>10.08</b>	<b>1,981.61</b>	<b>385.84</b>	<b>1,070,030.16</b>

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	1,006.00	9.57	dwelling units	3,018.00	28,882.26	291,791.69
Apartments low rise	99.50	6.65	dwelling units	1,592.00	10,586.80	106,956.32
Elementary school		14.49	1000 sq ft	129.33	1,873.99	18,046.54
Strip mall		42.94	1000 sq ft	1,777.74	76,336.15	684,964.27
General light industry		6.97	1000 sq ft	603.62	4,207.23	45,122.56
					121,886.43	1,146,881.38

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.6	0.8	99.0	0.2
Light Truck < 3750 lbs	7.3	2.7	94.6	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.6	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	64.3	35.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Elementary school				20.0	10.0	70.0
Strip mall				2.0	1.0	97.0
General light industry				50.0	25.0	25.0

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name:

Project Name: Artesia GP-2030 Buildout

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	58.04	17.07	35.64	0.00	0.10	0.10	21,131.70

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	186.39	273.27	2,264.77	2.40	417.13	81.21	240,858.84

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	244.43	290.34	2,300.41	2.40	417.23	81.31	261,990.54

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	1.28	16.77	8.89	0.00	0.03	0.03	21,088.44
Hearth							
Landscape	4.69	0.30	26.75	0.00	0.07	0.07	43.26
Consumer Products	46.32						
Architectural Coatings	5.75						
<b>TOTALS (tons/year, unmitigated)</b>	<b>58.04</b>	<b>17.07</b>	<b>35.64</b>	<b>0.00</b>	<b>0.10</b>	<b>0.10</b>	<b>21,131.70</b>

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	44.47	62.05	528.40	0.55	94.87	18.49	55,092.18
Apartments low rise	19.46	26.42	224.96	0.23	40.39	7.87	23,455.05
Elementary school	2.71	3.96	32.74	0.03	6.06	1.18	3,496.32
Strip mall	112.00	170.05	1,387.97	1.49	259.21	50.44	149,208.69
General office building	1.30	1.87	15.61	0.02	2.87	0.56	1,659.25
General light industry	6.45	8.92	75.09	0.08	13.73	2.67	7,947.35
<b>TOTALS (tons/year, unmitigated)</b>	<b>186.39</b>	<b>273.27</b>	<b>2,264.77</b>	<b>2.40</b>	<b>417.13</b>	<b>81.21</b>	<b>240,858.84</b>

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	1,037.00	9.57	dwelling units	3,111.00	29,772.27	300,783.28
Apartments low rise	114.81	6.90	dwelling units	1,837.00	12,675.30	128,056.02
Elementary school		15.43	1000 sq ft	129.33	1,995.56	19,217.26
Strip mall		42.94	1000 sq ft	2,133.81	91,625.80	822,158.28
General office building		11.01	1000 sq ft	81.24	894.45	9,103.29
General light industry		6.97	1000 sq ft	582.33	4,058.84	43,531.06
					141,022.22	1,322,849.19

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.6	0.8	99.0	0.2
Light Truck < 3750 lbs	7.3	2.7	94.6	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.6	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	64.3	35.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Elementary school				20.0	10.0	70.0
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5
General light industry				50.0	25.0	25.0

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name:

Project Name: Artesia GP-2030 Buildout

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	318.03	93.58	195.34	0.01	0.57	0.56	115,790.11

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	985.07	1,401.84	12,574.95	13.96	2,285.63	445.01	1,362,709.03

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	1,303.10	1,495.42	12,770.29	13.97	2,286.20	445.57	1,478,499.14

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	6.99	91.91	48.74	0.00	0.17	0.17	115,553.08
Hearth							
Landscape	25.71	1.67	146.60	0.01	0.40	0.39	237.03
Consumer Products	253.83						
Architectural Coatings	31.50						
<b>TOTALS (lbs/day, unmitigated)</b>	<b>318.03</b>	<b>93.58</b>	<b>195.34</b>	<b>0.01</b>	<b>0.57</b>	<b>0.56</b>	<b>115,790.11</b>

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	237.28	318.23	2,938.45	3.20	519.84	101.32	311,637.23
Apartments low rise	104.55	135.48	1,251.02	1.36	221.32	43.14	132,677.00
Elementary school	14.32	20.31	181.91	0.20	33.20	6.46	19,781.65
Strip mall	587.41	872.51	7,698.46	8.64	1,420.32	276.38	844,265.96
General office building	6.94	9.59	86.85	0.10	15.73	3.06	9,387.22
General light industry	34.57	45.72	418.26	0.46	75.22	14.65	44,959.97
<b>TOTALS (lbs/day, unmitigated)</b>	<b>985.07</b>	<b>1,401.84</b>	<b>12,574.95</b>	<b>13.96</b>	<b>2,285.63</b>	<b>445.01</b>	<b>1,362,709.03</b>

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	1,037.00	9.57	dwelling units	3,111.00	29,772.27	300,783.28
Apartments low rise	114.81	6.90	dwelling units	1,837.00	12,675.30	128,056.02
Elementary school		15.43	1000 sq ft	129.33	1,995.56	19,217.26
Strip mall		42.94	1000 sq ft	2,133.81	91,625.80	822,158.28
General office building		11.01	1000 sq ft	81.24	894.45	9,103.29
General light industry		6.97	1000 sq ft	582.33	4,058.84	43,531.06
					141,022.22	1,322,849.19

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.6	0.8	99.0	0.2
Light Truck < 3750 lbs	7.3	2.7	94.6	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.6	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	64.3	35.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Elementary school				20.0	10.0	70.0
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5
General light industry				50.0	25.0	25.0

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name:

Project Name: Artesia GP-2030 Buildout

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	292.32	91.91	48.74	0.00	0.17	0.17	115,553.08

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	1,093.83	1,688.21	12,079.25	11.61	2,285.63	445.01	1,233,905.32

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	1,386.15	1,780.12	12,127.99	11.61	2,285.80	445.18	1,349,458.40

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	6.99	91.91	48.74	0.00	0.17	0.17	115,553.08
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	253.83						
Architectural Coatings	31.50						
<b>TOTALS (lbs/day, unmitigated)</b>	<b>292.32</b>	<b>91.91</b>	<b>48.74</b>	<b>0.00</b>	<b>0.17</b>	<b>0.17</b>	<b>115,553.08</b>

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Single family housing	256.51	383.47	2,809.07	2.66	519.84	101.32	282,350.44
Apartments low rise	110.80	163.26	1,195.94	1.13	221.32	43.14	120,208.39
Elementary school	15.84	24.46	174.35	0.17	33.20	6.46	17,910.49
Strip mall	666.26	1,050.36	7,419.11	7.19	1,420.32	276.38	764,213.73
General office building	7.57	11.55	82.91	0.08	15.73	3.06	8,500.85
General light industry	36.85	55.11	397.87	0.38	75.22	14.65	40,721.42
<b>TOTALS (lbs/day, unmitigated)</b>	<b>1,093.83</b>	<b>1,688.21</b>	<b>12,079.25</b>	<b>11.61</b>	<b>2,285.63</b>	<b>445.01</b>	<b>1,233,905.32</b>

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	1,037.00	9.57	dwelling units	3,111.00	29,772.27	300,783.28
Apartments low rise	114.81	6.90	dwelling units	1,837.00	12,675.30	128,056.02
Elementary school		15.43	1000 sq ft	129.33	1,995.56	19,217.26
Strip mall		42.94	1000 sq ft	2,133.81	91,625.80	822,158.28
General office building		11.01	1000 sq ft	81.24	894.45	9,103.29
General light industry		6.97	1000 sq ft	582.33	4,058.84	43,531.06
					141,022.22	1,322,849.19

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.6	0.8	99.0	0.2
Light Truck < 3750 lbs	7.3	2.7	94.6	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.6	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	64.3	35.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Elementary school	20.0	10.0	70.0
Strip mall	2.0	1.0	97.0
General office building	35.0	17.5	47.5
General light industry	50.0	25.0	25.0

**Emissions From Natural Gas Consumed By Land Uses**

Land Use	Amount	Cubic feet per unit/square feet/customer per month	CO	ROG	NO <sub>x</sub>	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>
			2.00E+01	5.30E+00	Residential 8.00E+01	Non-Residential 1.20E+02					
<b>Residential</b>											
Single Family Units	3,111	6,665	13.82	3.66	55.29	82.94	--	0.14	81,847.95	1.50	1.57
Multi-Family Units	1,837	4,011.5	4.91	1.30	19.65	29.48	--	0.05	29,088.65	0.53	0.56
<b>NonResidential</b>											
Industrial	582,331	25	9.71	2.57	38.82	58.23	--	0.10	57,466.88	1.05	1.10
Hotel/Motel		45	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00
Retail/Shopping Center	21333805	48	682.68	180.91	2,730.73	4,096.09	--	6.83	4,042,194.63	74.11	77.48
Office	81,240	35.7	1.93	0.51	7.73	11.60	--	0.02	11,448.43	0.21	0.22
Blank		5.0	0.00	0.00	0.00		--	0.00	0.00	0.00	0.00
<b>TOTAL - pounds per day</b>	--	--	<b>7.13E+02</b>	<b>1.89E+02</b>	<b>2.85E+03</b>	<b>4.28E+03</b>	--	<b>7.13E+00</b>	<b>4,222,046.54</b>	<b>77.40</b>	<b>80.92</b>
<b>TOTAL - tons per year</b>	--	--	<b>1.30E+02</b>	<b>3.45E+01</b>	<b>5.21E+02</b>	<b>7.81E+02</b>	--	<b>1.30E+00</b>	<b>770,523.4936</b>	<b>14.1263</b>	<b>14.7684</b>
<b>TOTAL - metric tons per year</b>	--	--	<b>1.18E+02</b>	<b>3.13E+01</b>	<b>4.72E+02</b>	<b>7.08E+02</b>	--	<b>1.18E+00</b>	<b>6.99E+05</b>	<b>1.28E+01</b>	<b>1.34E+01</b>

	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>
<b>metric tons per year</b>	699007.12	12.82	13.40
<b>metric tons CO<sub>2</sub>eq per year</b>	699,007.12	3,972.69	281.35

703,261.17

Notes:

1. Usage rate; average for SCE and LADWP.

Source:

South Coast Air Quality Management District, *CEQA Air Quality Handbook*, November 1993, Table A9-12.

**Emissions From Electricity Consumed By Land Uses**

<i>Land Use</i>	<i>Amount</i>	kilowatt-hours per year <sup>1</sup>	<b>CO 2.00E-04</b>	<b>ROG 1.00E-05</b>	<b>NO<sub>x</sub> 1.15E-03</b>	<b>SO<sub>x</sub> 1.20E-04</b>	<b>PM<sub>10</sub> 4.00E-05</b>	<b>CO<sub>2</sub> 0.772</b>	<b>N<sub>2</sub>O 6.59E-06</b>	<b>CH<sub>4</sub> 4.04E-05</b>
Residential (Dwelling Units)	4,948	5626.5	15.25	0.76	87.71	9.15	3.05	58,883.34	0.50	3.08
Food Store (SF)		53.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Restaurant (SF)		47.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hospitals (SF)		21.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Retail (SF)	21,333,805	13.55	158.40	7.92	910.78	95.04	31.68	611,409.32	5.22	31.97
College/University (SF)		11.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
High School (SF)		10.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Elementary School (SF)	129,333	5.9	0.42	0.02	2.40	0.25	0.08	1,613.93	0.01	0.08
Office (SF)	81,240	12.95	0.58	0.03	3.31	0.35	0.12	2,225.17	0.02	0.12
Hotel/Motel (SF)		9.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Warehouse (SF)	582,331	4.35	1.39	0.07	7.98	0.83	0.28	5,357.76	0.05	0.28
Miscellaneous (SF)		10.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Blank			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>TOTAL - pounds per day</b>	--	--	<b>1.76E-01</b>	<b>8.80E+00</b>	<b>1.01E+03</b>	<b>1.06E+02</b>	<b>3.52E+01</b>	<b>679,489.53</b>	<b>5.80</b>	<b>35.53</b>
<b>TOTAL - tons per year</b>	--	--	<b>3.21E-02</b>	<b>1.61E+00</b>	<b>1.85E+02</b>	<b>1.93E+01</b>	<b>6.43E+00</b>	<b>124,006.84</b>	<b>1.06</b>	<b>6.48</b>
<b>TOTAL - metric tons per year</b>	--	--	<b>2.91E-02</b>	<b>1.46E+00</b>	<b>1.68E+02</b>	<b>1.75E+01</b>	<b>5.83E+00</b>	<b>112497.11</b>	<b>0.96</b>	<b>5.88</b>

	<b>CO<sub>2</sub></b>	<b>N<sub>2</sub>O</b>	<b>CH<sub>4</sub></b>
<b>metric tons per year</b>	112,497.11	0.96	5.88
<b>metric tons CO<sub>2</sub>eq per year</b>	112,497.11	297.69	123.54

112,918.34

Notes:

1. Usage rate; average for SCE and LADWP.

Source for greenhouse gas emissions rates:

U.S. Energy Information Administration, *Domestic Electricity Emissions Factors 1999-2002*, October 2007. <http://www.eia.doe.gov/oiaf/1605/techassist.html>

### Water Consumption Indirect Emissions

	Acre Feet per year	Electricity Usage kWh/year	Units	CO	ROG	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>
				2.00E-04	1.00E-05	1.15E-03	1.20E-04	4.00E-05	0.772	6.59E-06	4.04E-05
Project Demand	3764	6,270,824	pounds/yr	1.25E+03	6.27E+01	7.21E+03	7.52E+02	2.51E+02	4.84E+06	4.13E+01	2.53E+02
			tons/yr	6.27E-01	3.14E-02	3.61E+00	3.76E-01	1.25E-01	2.42E+03	2.07E-02	1.27E-01
			mt/yr	5.69E-01	2.84E-02	3.27E+00	3.41E-01	1.14E-01	2.20E+03	1.87E-02	1.15E-01
<b>MTCO<sub>2</sub>EQ</b>									2195.88	6.41	2.66

Energy Factor            1666 kWh/acre-foot

Based on energy usage factors for water conveyance from the California Energy Commission, Water Energy Use in California, Accessed May 2009.  
<http://www.energy.ca.gov/research/iaw/industry/water.html>

### Mobile Source Emissions Calculations

	Total	Breakdown		Emission Factor		Total Emis Passenger	Total Emis Delivery	Passnger	Delivery	Total Emissions	
	VMT	Passnger	Delivery	Passnger	Delivery	pounds/day		tons/year	tons/year	tons/year	metric tons/year
CO	1,322,849	1256706.55	66142.45	0.00709228	0.01407778	8912.91	931.14	1626.61	169.93	1796.54	1629.79
NO <sub>x</sub>	11,322	10755.90	566.10	0.00071158	0.01577311	7.65	8.93	1.40	1.63	3.03	2.75
N <sub>2</sub> O <sup>1</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.15	0.13
ROG	1,322,849	1256706.55	66142.45	0.00074567	0.00206295	937.09	136.45	171.02	24.90	195.92	177.74
SO <sub>x</sub>	1,322,849	1256706.55	66142.45	0.00001072	0.00002682	13.47	1.77	2.46	0.32	2.78	2.52
PM <sub>10</sub>	1,322,849	1256706.55	66142.45	0.00009067	0.00059956	113.95	39.66	20.80	7.24	28.03	25.43
PM <sub>2.5</sub>	1,322,849	1256706.55	66142.45	0.00005834	0.00050174	73.32	33.19	13.38	6.06	19.44	17.63
CH <sub>4</sub>	1,322,849	1256706.55	66142.45	0.00006707	0.00009703	84.29	6.42	15.38	1.17	16.55	15.02
CO <sub>2</sub>	1,322,849	1256706.55	66142.45	1.10087435	2.78163459	1383476.01	183984.13	252484.37	33577.10	286061.47	259,510.59

	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	
metric tons per year	259,510.59	0.13	15.02	259,525.74
metric tons CO <sub>2</sub> eq per year	259,510.59	41.47	315.36	259,867.43

Notes:

1. VMT based upon URBEMIS 2007 model output.
2. Emission Factor based upon EMFAC 2007 (version 2.3), *Highest (Most Conservative) Emission Factors fo On-Road Passenger Vehicles and Delivery Trucks* .
3. Breakdown of Passenger and Delivery Trucks assumes 95% auto and 5% truck.
4. Emission Factor for N<sub>2</sub>O based upon a conversion ratio of 0.04873 from NO<sub>x</sub> to N<sub>2</sub>O. Based upon California Air Resources Board: *Estimates of Nitrous Oxide*