Attachment 1: Supplemental Technical Support for Missouri's Area Recommendations for the 2010 1-hour SO_2 Standard: July 2016 Designations

The state recommended area designations for three parts of the state: the areas surrounding the Sikeston Power Station, Sibley Generating Station, and Ameren Labadie Energy Center. The EPA identified these three areas as meeting the criteria specified in the March 2, 2015 Federal Consent Decree for the next round of SO_2 designations. EPA's February 16, 2016 letter served as notification to the state that EPA intends to modify Missouri's original recommendation. This technical analysis provides detailed information that supports Missouri's original recommendation as well as addresses the concerns and issues raised by EPA in the received letter and TSD.

We have performed additional analyses including updating all modeling to reflect the most recent year of emissions and meteorological data (2015) that was not available at the time of our initial recommendations. We also utilized the most recent version of EPA's dispersion model and processors to take advantage of improvements made in the most recent version (version 15181).

Our original area recommendations and the associated modeling files are available on our webpage: http://dnr.mo.gov/env/apcp/naaqsboundarydesignations.htm#SO2. The changes made to the previously submitted modeling are outlined in this technical documentation. Excerpts of updated modeling files are included in Attachment 3. The modeling performed for this updated technical support adheres to the modeling protocol submitted with the original recommendations.

There has been a general decrease in SO_2 emissions nationwide due to the implementation of other federal regulations that have affected the highest SO_2 emitters. Therefore it is not surprising that updating our modeling to include 2015 emissions does result in a slight decrease in modeled impacts in most cases. As detailed in EPA's February 2016 draft, *SO_2 NAAQS Designations Modeling Technical Assistance Document* (TAD), the goal of modeling for designation purposes is to approximate actual conditions as if a monitor were present and had three years of quality assured data (an approximate design value) to compare to the standard for compliance determination.

Attainment Area Recommendations:

Sikeston Power Station

For the area surrounding the Sikeston Power Station (Sikeston), the air program reaffirms the recommendation of an attainment designation for Scott County. EPA has indicated they agree with Missouri's proposed area boundaries and attainment classification[1]. The previously submitted modeling has been updated to reflect the most recent emissions and meteorological data, 2013 through 2015. The resulting approximate design value for the area still demonstrates

[1] EPA has reviewed the state's assessment, supporting documentation, and all available data. EPA agrees that the area is attaining the standard and intends to designate Scott County as unclassifiable/attainment.

compliance with the standard at 96 µg/m^3 (or 37 ppb). The analysis further supports the recommended attainment designation for Scott County.

Sibley Generating Station

For the area surrounding the Sibley Generating Station (Sibley), the air program reaffirms the recommendation of an attainment designation for a portion of Jackson County. EPA has indicated they agree with Missouri's proposed area boundaries, but has modified Missouri's recommendation of attainment to unclassifiable. The previously submitted modeling has been updated to reflect the most recent emissions and meteorological data, 2013 through 2015. The resulting approximate design value for the area still demonstrates compliance with the standard at 189 µg/m^3 (or 72.7 ppb), and supports an attainment designation.

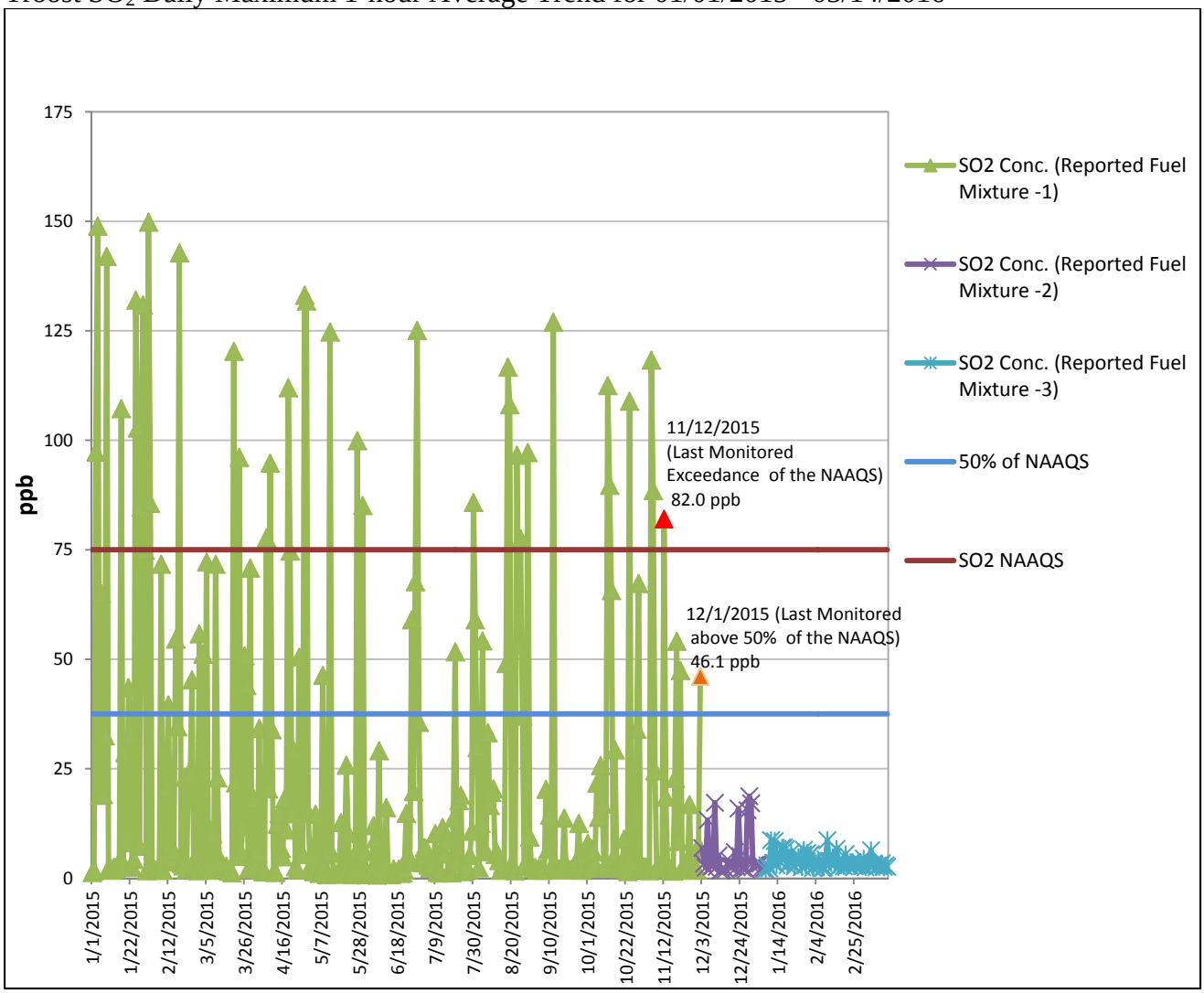
EPA voiced concern regarding three sources in the vicinity of the Sibley plant that could potentially interfere with attainment: the Veolia Energy steam plant (Veolia), the Blue Valley plant, and the Missouri City plant. As mentioned in the original recommendations, the Veolia plant is being addressed through Missouri's Jackson County nonattainment area (NAA) plan (submitted to EPA on October 9, 2015). The main control strategy of the Jackson County NAA plan is the new federally enforceable limit for the Veolia plant. As indicated in EPA's letter, Veolia's historical emissions do model violations, but the new limitations set through the NAA plan demonstrate compliance with the standard. The new limits have a compliance date of January 1, 2017, per EPA's April 2014 *Guidance for 1-hour SO_2 Nonattainment Area SIP Submissions*. EPA's concern that this compliance date occurs after this round's designation date of July 2, 2016 is the reason Veolia was included in Sibley's modeling analysis as an interactive source at their actual emission rates as reported in 2014. This is despite the fact the actual emission rates are approximately 80% higher than the new emission limits. It should be noted that modeling the higher emission rates for Veolia does not cause modeled violations within the attainment area boundary proposed for the Sibley plant.

Furthermore, the air program has evaluated monitoring value trends at the nearby Troost monitor. Recent fuel mixture changes at the Veolia plant have had an apparent effect on the latest Troost monitor values, as shown in the figure below. Since December 2015, the Veolia plant has reportedly changed fuel combustion mixtures. Previously, Veolia primarily burned a mixture of 95% coal/5% Natural Gas. On December 3, 2015, Veolia reportedly began burning a mixture of 80% Natural Gas/15% Coal due to the low cost of natural gas and to reduce their coal inventory. The Veolia plant has reportedly been burning 100% natural gas since January 7, 2016 due to the continued low price of natural gas. Veolia plans to continue burning 100% natural gas unless it becomes cost prohibitive in which case they will resume burning coal until their new emission limits become effective.

In the figure below, the last monitored exceedance and the last monitored value above 50% of the NAAQS are depicted. The chart indicates a strong correlation between decreases in monitored values and the recent changes in Veolia's fuel mix as discussed above. This not only strongly indicates that the Jackson County nonattainment area will demonstrate compliance by the attainment date but also that the Veolia plant will not interfere with attainment around the Sibley plant. Attachment 2 includes a table of recent monitoring values for all Missouri's SO_2

monitors including Troost. As of April 4, 2016, the 99th percentile 1-hour average for Troost in 2016 is 7 ppb, which is a drastic decrease from the 99th percentile 1-hour average for 2015 of 142 ppb.

Troost SO_2 Daily Maximum 1-hour Average Trend for 01/01/2015 - 03/14/2016



The Blue Valley plant was included in Sibley's modeling analysis as an interactive source at natural gas combustion emission rates. EPA's concern regarding the Blue Valley plant is that those emission rates were not federally enforceable at the time of our recommendations, even though Blue Valley had already switched to exclusively burning natural gas. In an email dated September 30, 2015, the Blue Valley Environmental Program Supervisor confirmed the fuel combustion changes reflected in the facility's permit renewal as submitted June 17, 2015. Blue Valley's three primary units were built to be tri-fuel units (oil, natural gas, and coal), and are subject to federal regulations. Units 1 & 2 are subject to the Industrial Boiler Maximum Achievable Control Technology (MACT) while Unit 3 is subject to the Mercury and Air Toxics Standard (MATS) which have compliance dates of January 31, 2016, and April 15, 2015,

respectively. The compliance strategy for these units as documented in their permit renewal is to cease burning coal and burn exclusively natural gas after January 31, 2016. Blue Valley emptied their coal reserves as of September 9, 2015, and indicated they do not intend to purchase more coal. This means that at the time of our original recommendations and with no coal reserves, the three Blue Valley units were already effectively only natural gas units. The federal regulations provide the enforceability to Blue Valley's documented early switch to exclusively burning natural gas. Together these points demonstrate that the Blue Valley plant will not interfere with attainment around the Sibley plant.

Lastly, the Missouri City plant was not included in Sibley's modeling analysis as an interactive source as they have reportedly shut down. The Missouri City plant ceased burning coal effective January 31, 2016 in order to comply with the Industrial Boiler MACT. This compliance strategy was detailed in a City of Independence letter to the department dated July 1, 2014. Since the plant is not capable of burning natural gas, the cessation of coal burning effectively is the shutdown of the plant. This is reflected in our modeling analysis by excluding them as an interactive source. Since this plant is no longer emitting SO_2, it will not interfere with attainment around the Sibley plant.

Given these updates to our technical analysis and supporting information, we reaffirm our recommendation of attainment for the portion of Jackson County containing the Sibley plant.

Unclassifiable Area Recommendation:

Ameren Labadie Energy Center

For the area surrounding the Ameren Labadie Energy Center (Labadie), the air program reaffirms the recommendation of an unclassifiable area designation. EPA has indicated they agree with Missouri's proposed area boundaries, but has modified Missouri's recommendation of unclassifiable to nonattainment. The previously submitted modeling was updated to reflect the most recent emissions and meteorological data, 2013 through 2015. These model results further support an unclassifiable classification.

The air program performed two modeling scenarios to characterize the air quality around the Labadie facility. In the first scenario, the only change made to the modeling submitted with our original recommendation was to include 2015 hourly emissions and meteorological data. This scenario resulted in a decrease in the approximate design value of the area from 234 $\mu g/m^3$ (or 90 ppb) to 201 $\mu g/m^3$ (or 77 ppb). In the second scenario, units 3 and 4 were modeled as a single release, or merged plume, as described below. This resulted in an approximate design value of 175 $\mu g/m^3$ (or 67 ppb) which is in compliance with the 1-hour standard of 75 ppb.

Two EPA Model Clearinghouse Information Storage and Retrieval System records (MCHISRS), 91-II-01 [2]and 96-V-10[3] describe situations in which multiple stacks/flues were allowed to be

[2] *91-II-01*, EPA Model Clearinghouse Information and Storage Retrieval System: EPA Region II Correspondence re NJ PSD Source, August 1990.
https://cfpub.epa.gov/oarweb/MCHISRS/index.cfm?fuseaction=main.resultdetails&recnum=91-II%20%20-01

treated/modeled as a single source. Units 3 and 4 at Labadie are vented through two flues contained in a singular outer annulus or stack. This fits the description in the records of a multi-flued stack that could be treated as a single source. In addition, EPA Region VII has indicated that treating the flues as one stack is reasonable for designation purposes in order to approximate actual dispersion conditions. To be complete, both scenarios, where the flues are modeled separately and as a single source, are included in this analysis.

As described in the two referenced EPA records, it is reasonable to treat multi-flued stacks as a single source in most cases. When modeled as a single source the flow parameters are combined. A general guideline is if the flues/stacks are closer together than their respective widths/diameters then they may be treated as a single source. This is based upon the logic laid out in the GEP stack height guideline regarding treating buildings that are closer than their individual widths as a single building when using the stack height formula.

The air program employed the below methodology when combining the flues. This facility-supplied approach was determined to be a reasonable method for accurately combining the flues' release parameters.

1) Emission rate: The emission rate for Unit 3 and Unit 4 were summed.
2) Temperature: The combined temperature for Units 3 and 4 was calculated from the weighted average of the: (Unit 3 temperature * Unit 3 velocity) + (Unit 4 temperature * Unit 4 velocity) / (Unit 3 velocity + Unit 4 velocity)
3) Velocity: The combined velocity for Units 3 and 4 was calculated from the: sum of the Unit 3 and 4 velocities * (pi * (6.25 (single flue diameter)^2) / (pi * 8.84 (equivalent dual flue diameter)^2)

In addition to these two modeling evaluations of the Labadie facility, preliminary data from new ambient SO_2 monitors near the plant is available. Since the start of operation in April 2015, these monitors have been measuring SO_2 concentrations below the 1-hour SO_2 standard of 75 ppb. The state statute, Section 643.650, RSMo, (SB 445 and HB 92 from the 2015 legislative session), which became effective August 28, 2015, directs the department to consider SO_2 monitoring data for sources that choose to monitor to characterize their air quality. Though the dataset from Labadie's new SO_2 monitors is not yet complete, it further supports the unclassifiable designation for the area and we must consider it, consistent with state law. Attachment 2 includes a table of recent monitoring values for all Missouri's SO_2 monitors including the two newly sited monitors near Labadie, the Valley and Northwest sites.

Because it cannot be determined with certainty based on available information whether the area is or is not meeting the 1-hour SO_2 standard, the air program again recommends an unclassifiable designation for the area near Labadie.

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[3] *96-V-10*, EPA Model Clearinghouse Information and Storage Retrieval System: EPA Region V Correspondence re Ohio Bubble, August 1996.
https://cfpub.epa.gov/oarweb/MCHISRS/index.cfm?fuseaction=main.resultdetails&recnum=96-V%20%20%20-10

Attachment 2: Missouri SO_2 Monitoring Summary (As of 4/4/16)

MISSOURI DEPARTMENT OF NATURAL RESOURCES

1-HOUR Sulfur Dioxide (SO_2)[a]

Report Date 4/4/2016

Site	County	99th Percentile 1-hour Average (ppb)						# of Exceedances 75 ppb (2010 Std)	Design Value Year-to-Date		
		2012	2013	2014	2015	2016[cd]	CV - 75	2016[c]	12-14	13-15	14-16[c]
St. Louis											
Herc. Mott	Jefferson	268	143	18	38	9	172	0	143	66	22
Blair Steet	St. Louis City	56	42	41	24	5	163	0	46	36	23
Margaretta	St. Louis City	36	20	22	17	8	189	0	26	19	16
Valley*	Franklin				30	5	N/A	0	***	***	***
Northwest*	St. Charles				28	9	N/A	0	***	***	***
Natchez^	Jefferson				9	10	N/A	0			***
Weaver^	Jefferson				3	8	N/A	0			***
Kansas City											
Troost	Jackson	167	156	125	142	7	CV exceeded	0	149	141	91
Springfield											
Wildwood Lane	Greene	52	29	†			N/A	0	***	***	***
James River South	Greene	36	27	34	16	3	178	0	32	25	18
South Charleston	Greene	41	31	33	14	2	181	0	35	26	16
Outstate											
Buick Northeast	Iron	91	85	52	42	36	134	0	76	60	43
Mark Twain S.P.**	Monroe	8	8	9	6	4	213	0	***	8	6
								0			

[a]Quality assured data through December 31, 2015.

[c]Year-to-date data has not been quality assured and is preliminary data. Do not quote, do not cite.

[d]For 2016 the 1-hour SO_2 concentrations are the 4th highest daily maximum 1-hour SO_2 average concentration measured year-to-date.

*Monitoring began on 4/22/2015.

**Mark Twain State Park resumed background SO_2 monitoring on 7/1/2012.

^Monitoring began on 12/16/2015

†Monitoring discontinued on 5/31/2014.

***3-year design value can not be calculated. Design values in red are violations of the standard.

CV - 75: The Critical Value (CV) is the current Year's 99th percentile which, if monitored, could yield a violation of the SO_2 NAAQS for the most current three year period. (CV = 228ppb – Last year's 99th percentile – previous year's 99th percentile)

The highlighted field indicates that the data set does not meet the completeness criteria of 40 CFR Part 50 Appendix T, Section 3 for the given site. Use of incomplete data for designation purposes is subject to EPA approval consistent with 40 CFR Part 50 Appendix T, 3. (d).)

Data Disclaimer:
Recent monitoring data is raw data. It has not been validated and may contain errors.

1. The data is obtained from automated, continuous instruments; no human has reviewed or checked the accuracy of recent data.

2. The recent data has been subject to only preliminary automated quality assurance procedures.

3. Special conditions such as power outages and equipment malfunction can produce data that is invalid.

4. This data is made available for the purpose of public awareness and should not be used in any medical or other scientific study and should not be relied on for any particular regulatory purpose.

5. Data rounding differences may exist between this report and reports generated by EPA's Air Quality System (AQS). In most cases historical data should be close to values calculated in AQS but differences are possible.

6. Quality assured data can be obtained by contacting the Missouri Department of Natural Resources Air Pollution Control Program. Typically, quality assured data is available in EPA's AQS System 90 days after the calendar quarter in which the data was measured. Ambient air monitoring data for a given year is not typically certified in AQS until May 1st of the following year. (e.g. For data monitored from January 1, 2015 through December 31, 2015, the data will not be certified in AQS until May 1, 2016.)

http://dnr.mo.gov/env/apcp/docs/so2monitoringdata.pdf

Attachment 3: Updated Modeling File Excerpts

This attachment includes: excerpts of AERMOD Input, Output, and Hourly Emission Files for Sikeston, Sibley, and Labadie (both Labadie scenarios described in Attachment 1)

(See original recommendation for receptor grid information, http://dnr.mo.gov/env/apcp/naaqsboundarydesignations.htm#SO2)

Excerpt of AERMOD Input File for Sikeston

```
CO STARTING
CO TITLEONE  SO2 SIKESTON POWER STATION (201-0017) Sikeston with Hourly CEMS file Run with Interactive sources and extended Rec Grid
CO TITLETWO  2013-2015 Met/CEMS And varying temp and velocity from facility

CO MODELOPT  DFAULT  CONC
CO RUNORNOT  RUN
CO AVERTIME  1
CO POLLUTID  SO2
CO ERRORFIL  Sikeston.err
CO FINISHED

SO STARTING
SO ELEVUNIT  METERS

**Noranda Aluminum included as Interactive Source at PSD application rates unless noted
**Updated to baseline emissions (from PSD app) where available otherwise still scenario 2
SO LOCATION  EP61     POINT    807991.1  4045990.4  91.81999
SO LOCATION  EP62     POINT    807771.1  4045812.9  91.06001
SO LOCATION  EP63     POINT    807554.2  4045812.5  90.87999

SO LOCATION  EP94     POINT    807953.7  4046131.9  92.07999
SO LOCATION  EP95     POINT    808018.8  4046106.8  91.52001
SO LOCATION  EP96     POINT    808018.8  4046092.7  91.32
SO LOCATION  EP97     POINT    807708.6  4046131.9  90.41999
**SO LOCATION  EPAAA     POINT     808011.7  4046226.34  92.85001

SO LOCATION EP98 POINT 808034.2 4046184.0 85
SO LOCATION EP99 POINT 808011.7 4046211.1 85
SO LOCATiON EPAA POINT 808030.0 4046254.9 85

SO LOCATION  EPAB     POINT    807561.4  4046135.6  90.10001
SO LOCATION  EPAD     POINT    807610.1  4046135.6  90.11001
SO LOCATION  EPAE     POINT    807623.1  4046134.8  90.12
SO LOCATION  EPAF     POINT    807596.8  4046135.6  90.10001
SO LOCATION  EPAG     POINT    807583.5  4046135.2  90.10001
SO LOCATION  EPAH     POINT    807513  4046135.6  90.08001
SO LOCATION  EPAI     POINT    807500.5  4046135.6  90.08001
SO LOCATION  EPAJ     POINT    807644.8  4046166  90.10001
SO LOCATION  EPAK     POINT    807645.2  4046182.7  90.08001
SO LOCATION  EPAL     POINT    807645.6  4046196.5  90.06998
SO LOCATION  EPAN     POINT    807529.7  4046135.6  90.09001
SO LOCATION  EPBA     POINT    807789.9  4045619.4  91.45999
SO LOCATION  EPBB     POINT    807790.3  4045599.4  91.57
SO LOCATION  EPBC     POINT    807813.2  4045619.4  91.38001
SO LOCATION  EPBD     POINT    807812.8  4045599.4  91.52001
SO LOCATION  EPBH     POINT    807790.7  4045572.7  91.56
SO LOCATION  EPBI     POINT    807086.7  4046127.9  88.55001
SO LOCATION  EPBJ     POINT    807305.2  4046097.1  89.94998
SO LOCATION  EPBK     POINT    807337.2  4046097.1  90.03
SO LOCATION  EP113  POINT 807789.8 4045590.50 91.44
SO LOCATION  EP114  POINT 807790.3 4045584.10 91.44
```

```
**Emission Rates from PSD app using baseline 2002/03 emissions (Table B-2)
SO SRCPARAM  EP61  71.5  72.03  360.37  11.71139  7.92
**Original Stack Height 65-Meters, Requested Update, Run Based Upon 42-Meters
SO SRCPARAM  EP62   21.3  42  357.82  11.7348  4.359999
**Original Stack Height 65-Meters, Requested Update, Run Based Upon 42-Meters
SO SRCPARAM  EP63   21.3  42  359.48  11.7348  4.359999

SO SRCPARAM  EP94      0.000504  6.401001  298.15  5  0.6100002
SO SRCPARAM  EP95      0.000454  5.181999  298.15  5  0.457
SO SRCPARAM  EP96      0.000454  4.572  298.15  5  0.3659999
SO SRCPARAM  EP97      0.000413  3.049999  298.15  5  0.4299999

**Rerouted Emissions w/o addition of control device prohibited under CAA
**Existing stacks raised to 65-meters
**A second analysis was completed to ensure the new stack being built won't exceed
**SO SRCPARAM  EPAAA     2.097744  65  343.71  30.48  2.18
**Baseline Emission rates from PSD App Table B-16
SO SRCPARAM EP98 13.227 65.00 343.889 19.671 1.676
SO SRCPARAM EP99 13.227 65.00 343.889 19.671 1.676
SO SRCPARAM EPAA 13.227 65.00 343.889 10.579 2.286
SO SRCPARAM  EPAB      0.001584  30.48  866.4833  0.78  1.13
SO SRCPARAM  EPAD      0.001584  30.48  866.4833  1.55  0.9099999
SO SRCPARAM  EPAE      0.000936  30.48  755.3722  0.5200001  0.98
SO SRCPARAM  EPAF      0.001584  30.48  866.4833  1.55  0.9099999
SO SRCPARAM  EPAG      0.000936  30.48  755.3722  0.5200001  0.98
SO SRCPARAM  EPAH      0.002362  30.48  866.4833  0.9899998  1.22
SO SRCPARAM  EPAI      0.000936  27.43  755.3722  0.6099999  0.98
SO SRCPARAM  EPAJ      0.000108  14.94  533.15  0.3099999  0.9099999
SO SRCPARAM  EPAK      0.000108  14.94  533.15  0.3099999  0.9099999
SO SRCPARAM  EPAL      0.000108  14.94  533.15  0.16  1.28
SO SRCPARAM  EPAN      0.002016  30.48  866.4833  0.78  1.13
**Exit Velocity Update
SO SRCPARAM  EPBA      0.001872  15.24  866.4833  10.9728  1.13
**Exit Velocity Update
SO SRCPARAM  EPBB      0.000720  15.24  755.3722  8.2296  1.13
**Exit Velocity Update
SO SRCPARAM  EPBC      0.001872   15.24  866.4833  10.9728  1.13
**Exit Velocity Update
SO SRCPARAM  EPBD      0.000720  15.24  755.3722  8.2296  1.13
SO SRCPARAM  EPBH      0.000432  15.24  866.4833  0.03  0.6099999
SO SRCPARAM  EPBI      0.000104  5.486001  298.15  0.208  0.183
SO SRCPARAM  EPBJ      0.000147  5.790999  298.15  0.132  0.213
SO SRCPARAM  EPBK      0.000147  5.790999  298.15  0.122  0.3049999
SO SRCPARAM EP113 1.436E-03 15.24 449.82 18.873 0.9144
SO SRCPARAM EP114 1.436E-03 15.24 449.82 18.873 0.9144

SO BUILDHGT EP61      16.00   16.00   16.00   24.16   24.16   24.16
SO BUILDHGT EP61      24.16   25.60   25.60   25.60   25.60   25.60
SO BUILDHGT EP61      25.60   28.80   28.80   28.80   23.09   23.09
SO BUILDHGT EP61      16.00   16.00   16.00   24.16   24.16   24.16
SO BUILDHGT EP61      24.16   25.60   25.60   25.60   25.60   25.60
SO BUILDHGT EP61      25.60   25.60   25.60   25.60   24.84   24.84
SO BUILDWID EP61      84.36   87.76   88.50   29.19   29.19   29.30
SO BUILDWID EP61      29.19   29.41   29.52   29.41   29.41   29.52
SO BUILDWID EP61      29.42   47.29   42.87   37.70   58.06   58.98
SO BUILDWID EP61      84.36   87.76   88.50   29.19   29.19   29.30
SO BUILDWID EP61      29.19   29.41   29.52   29.41   29.41   29.52
SO BUILDWID EP61      29.42   29.42   49.95   43.63   41.44   41.60
SO BUILDLEN EP61      53.53   64.94   74.37   29.19   29.19   29.30
SO BUILDLEN EP61      29.19   29.41   29.52   29.41   29.41   29.52
SO BUILDLEN EP61      29.42   56.50   59.86   61.40   26.30   19.28
SO BUILDLEN EP61      53.53   64.94   74.37   29.19   29.19   29.30
SO BUILDLEN EP61      29.19   29.41   29.52   29.41   29.41   29.52
SO BUILDLEN EP61      29.42   29.42   63.39   66.33   41.44   41.60
SO XBADJ    EP61     -67.25  -67.25  -65.21  -61.08  -64.05  -65.57
SO XBADJ    EP61     -65.44  -58.57  -61.66  -63.22  -63.36  -62.07
SO XBADJ    EP61     -59.25 -164.62 -168.63 -167.51 -115.12 -108.60
SO XBADJ    EP61      13.71    2.31   -9.16   31.89   34.86   36.27
SO XBADJ    EP61      36.25   29.15   32.14   33.81   33.95   32.56
SO XBADJ    EP61      29.83   25.70   20.30   13.93 -121.17 -118.90
```

SO YBADJ EP61 -29.20 -35.82 -41.34 21.17 12.78 4.00
SO YBADJ EP61 -4.91 21.34 13.40 5.05 -3.45 -11.85
SO YBADJ EP61 -19.88 27.35 3.92 -19.91 -8.43 -26.01
SO YBADJ EP61 29.20 35.82 41.34 -21.17 -12.78 -4.00
SO YBADJ EP61 4.91 -21.34 -13.40 -5.05 3.45 11.85
SO YBADJ EP61 19.88 27.31 23.70 32.38 -4.73 -22.10

SO BUILDHGT EP62 16.76 16.76 16.76 16.76 16.76 16.76
SO BUILDHGT EP62 16.76 16.76 16.76 16.76 16.76 16.76
SO BUILDHGT EP62 16.76 16.76 16.76 16.76 16.76 16.76
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SO BUILDHGT EP62 16.76 16.76 16.76 16.76 16.76 16.76
SO BUILDHGT EP62 16.76 16.76 16.76 16.76 16.76 16.76
SO BUILDWID EP62 603.77 590.20 558.70 517.74 465.49 399.10
SO BUILDWID EP62 320.58 232.32 137.00 173.86 271.64 361.16
SO BUILDWID EP62 439.72 504.91 554.76 587.75 602.88 599.70
SO BUILDWID EP62 603.77 590.20 558.70 517.74 465.49 399.10
SO BUILDWID EP62 320.58 232.32 137.00 173.86 271.64 361.16
SO BUILDWID EP62 439.72 504.91 554.76 587.75 602.88 599.70
SO BUILDLEN EP62 173.86 271.64 361.16 439.72 504.91 554.76
SO BUILDLEN EP62 587.75 602.88 599.70 603.77 590.20 558.70
SO BUILDLEN EP62 517.74 465.49 399.10 320.58 232.32 137.00
SO BUILDLEN EP62 173.86 271.64 361.16 439.72 504.91 554.76
SO BUILDLEN EP62 587.75 602.88 599.70 603.77 590.20 558.70
SO BUILDLEN EP62 517.74 465.49 399.10 320.58 232.32 137.00
SO XBADJ EP62 -108.07 -175.55 -237.70 -292.63 -338.67 -374.41
SO XBADJ EP62 -398.78 -411.04 -410.80 -411.27 -399.94 -376.46
SO XBADJ EP62 -349.05 -315.49 -272.34 -220.92 -162.78 -99.70
SO XBADJ EP62 -65.79 -96.09 -123.46 -147.09 -166.24 -180.34
SO XBADJ EP62 -188.97 -191.85 -188.90 -192.51 -190.27 -182.24
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SO YBADJ EP62 72.77 86.21 97.04 104.91 109.59 110.95

SO BUILDHGT EP63 16.76 16.76 16.76 29.87 29.87 29.87
SO BUILDHGT EP63 16.76 16.76 16.76 16.76 16.76 16.76
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SO BUILDHGT EP63 29.87 29.87 29.87 29.87 29.87 29.87
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SO BUILDHGT EP63 16.76 16.76 16.76 16.76 16.76 16.76
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SO XBADJ EP63 -183.16 -176.38 -164.24 -147.11 -125.51 -100.10
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SO YBADJ EP63 66.95 80.20 91.01 99.05 104.08 105.95
SO YBADJ EP63 35.27 20.72 5.54 -9.80 -24.85 -39.15
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SO BUILDHGT	EP94	28.80	28.80	28.80	28.80	28.80	28.80
SO BUILDHGT	EP94	28.80	28.80	28.80	28.80	28.80	28.80
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SO BUILDHGT	EP94	28.80	28.80	28.80	28.80	28.80	28.80
SO BUILDHGT	EP94	28.80	28.80	28.80	28.80	25.60	25.60
SO BUILDWID	EP94	27.89	36.78	44.78	51.42	56.50	59.86
SO BUILDWID	EP94	61.40	61.08	59.10	58.68	56.68	53.81
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SO BUILDWID	EP94	27.89	36.78	44.78	51.42	56.50	59.86
SO BUILDWID	EP94	61.40	61.08	59.10	58.68	56.68	53.81
SO BUILDWID	EP94	51.33	47.29	42.87	37.70	36.98	29.52
SO BUILDLEN	EP94	58.68	56.68	53.81	51.33	47.29	42.87
SO BUILDLEN	EP94	37.70	31.37	24.30	27.89	36.78	44.78
SO BUILDLEN	EP94	51.42	56.50	59.86	61.40	64.11	59.60
SO BUILDLEN	EP94	58.68	56.68	53.81	51.33	47.29	42.87
SO BUILDLEN	EP94	37.70	31.37	24.30	27.89	36.78	44.78
SO BUILDLEN	EP94	51.42	56.50	59.86	61.40	68.26	29.52
SO XBADJ	EP94	-55.57	-59.06	-60.75	-60.59	-58.60	-55.88
SO XBADJ	EP94	-52.01	-46.56	-39.70	-40.61	-40.28	-38.73
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SO XBADJ	EP94	-3.11	2.38	6.93	9.26	11.31	13.01
SO XBADJ	EP94	14.32	15.19	15.40	12.72	3.50	-6.05
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SO YBADJ	EP94	-8.95	-15.08	-20.85	-26.23	-30.72	-33.84
SO YBADJ	EP94	-34.93	-34.95	-34.45	-33.16	-26.92	-19.90
SO YBADJ	EP94	-26.66	-21.89	-16.34	-10.29	-3.93	2.55
SO YBADJ	EP94	8.95	15.08	20.85	26.23	30.72	33.84
SO YBADJ	EP94	34.93	34.95	34.45	33.16	27.82	9.50

SO BUILDHGT	EP95	16.00	24.16	25.60	25.60	25.60	25.60
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SO BUILDHGT	EP95	20.37	20.42	20.42	20.42	20.42	0.00
SO BUILDHGT	EP95	0.00	20.00	23.09	23.09	23.09	23.09
SO BUILDHGT	EP95	23.09	23.09	23.09	23.09	23.09	20.37
SO BUILDHGT	EP95	20.37	20.00	20.00	20.00	16.00	16.00
SO BUILDWID	EP95	649.40	42.16	29.52	29.42	59.20	63.39
SO BUILDWID	EP95	61.40	61.08	59.10	58.68	56.68	26.23
SO BUILDWID	EP95	25.63	205.93	199.87	187.74	175.75	0.00
SO BUILDWID	EP95	0.00	36.30	66.51	50.15	45.26	39.60
SO BUILDWID	EP95	33.15	26.30	111.75	106.27	98.26	57.30
SO BUILDWID	EP95	53.32	45.40	41.99	37.30	667.82	653.00
SO BUILDLEN	EP95	253.73	62.29	29.52	29.42	55.44	49.95
SO BUILDLEN	EP95	37.70	31.37	24.30	27.89	36.78	21.45
SO BUILDLEN	EP95	23.54	213.06	204.98	190.68	170.58	0.00
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SO BUILDLEN	EP95	55.99	58.06	60.20	68.24	76.93	36.79
SO BUILDLEN	EP95	43.66	45.05	45.31	45.25	244.43	160.05
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SO XBADJ	EP95	21.15	-39.42	-35.20	-29.91	-189.24	-208.70
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SO YBADJ	EP95	-15.27	-1.61	-33.09	-63.56	-95.03	0.00
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SO YBADJ	EP95	-1.98	7.85	22.08	36.61	50.19	21.29
SO YBADJ	EP95	29.12	-24.37	-26.64	-28.10	311.40	292.50

SO BUILDHGT	EP96	16.00	20.00	25.60	25.60	25.60	25.60
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SO BUILDHGT	EP96	0.00	20.00	23.09	23.09	23.09	23.09
SO BUILDHGT	EP96	23.09	23.09	23.09	23.09	23.09	23.09

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SO BUILDWID EPAB     177.06  143.41  110.90  144.22  174.96  126.12
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SO XBADJ    EPAB     -98.66  -87.36  -75.20  -77.62  -77.68  -28.25
SO XBADJ    EPAB     -10.51    7.55   25.38  -44.98  -33.25  -22.30
SO YBADJ    EPAB      43.85   63.80   73.31   80.60   49.64   47.31
SO YBADJ    EPAB      43.55   38.46   33.15   26.12   19.19   48.81
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SO BUILDWID EPAD     177.06  143.41  110.90  144.22   91.66  126.12
SO BUILDWID EPAD     156.76  182.63  202.95  217.11  224.67  227.20
SO BUILDWID EPAD     225.95  217.84  250.24  242.48  227.36  205.33
SO BUILDWID EPAD     177.06  143.41  110.90  144.22   91.66  126.12
SO BUILDWID EPAD     156.76  238.21  246.43  247.16  240.38  228.10
SO BUILDLEN EPAD     144.22   91.66  200.53  222.76  238.21  246.43
SO BUILDLEN EPAD     247.16  240.38  228.10  242.94  217.84  203.11
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SO BUILDLEN EPAD     182.21  227.36  205.33  177.06  143.41  110.90
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SO XBADJ    EPAD     -52.90  -39.40  -26.50  -29.66    0.64   13.93
SO XBADJ    EPAD      26.80  -32.74  -31.00  -28.33  -24.79  -22.30
SO YBADJ    EPAD      91.81  109.56   91.92   87.76   80.94   71.66
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SO YBADJ EPAD -3.99 44.39 58.43 70.68 80.79 87.55

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SO BUILDHGT EP114     10.06  10.06  10.06  10.06  10.06  10.06
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SO BUILDHGT EP114     10.06  10.06  10.06  10.06  10.06  10.06
SO BUILDHGT EP114     10.06  10.06  10.06  10.06  10.06  10.06
SO BUILDWID EP114    133.59 139.32 141.77 140.30 134.57 124.75
```

```
SO BUILDWID EP114    111.14  94.15  74.30  90.71 105.67 117.42
SO BUILDWID EP114    125.60 129.96 130.38 126.83 124.70 124.40
SO BUILDWID EP114    133.59 139.32 141.77 140.30 134.57 124.75
SO BUILDWID EP114    111.14  94.15  74.30  90.71 105.67 117.42
SO BUILDWID EP114    125.60 129.96 130.38 126.83 124.70 124.40
SO BUILDLEN EP114     90.71 105.67 117.42 125.60 129.96 130.38
SO BUILDLEN EP114    126.83 124.70 124.40 133.59 139.32 141.77
SO BUILDLEN EP114    140.30 134.57 124.75 111.14  94.15  74.30
SO BUILDLEN EP114     90.71 105.67 117.42 125.60 129.96 130.38
SO BUILDLEN EP114    126.83 124.70 124.40 133.59 139.32 141.77
SO BUILDLEN EP114    140.30 134.57 124.75 111.14  94.15  74.30
SO XBADJ    EP114    -28.55 -40.24 -50.71 -59.63 -66.74 -71.83
SO XBADJ    EP114    -74.73 -80.63 -89.70 -96.68 -101.12 -103.44
SO XBADJ    EP114   -103.01 -99.44 -92.86 -83.45 -71.51 -57.40
SO XBADJ    EP114    -62.16 -65.43 -66.71 -65.97 -63.22 -58.55
SO XBADJ    EP114    -52.10 -44.07 -34.70 -36.91 -38.20 -38.33
SO XBADJ    EP114    -37.29 -35.12 -31.89 -27.68 -22.63 -16.90
SO YBADJ    EP114     29.88  31.46  32.56  32.86  32.16  30.49
SO YBADJ    EP114     27.89  24.44  20.25  16.80  12.59   8.00
SO YBADJ    EP114      3.17  -1.76  -6.64 -11.31 -18.28 -27.50
SO YBADJ    EP114    -29.88 -31.46 -32.56 -32.86 -32.16 -30.49
SO YBADJ    EP114    -27.89 -24.44 -20.25 -16.80 -12.59  -8.00
SO YBADJ    EP114     -3.17   1.76   6.64  11.31  18.28  27.50
```

**AECI New Madrid included as Interactive Source Inputs -Hourly CEMS emissions for AECI New Madrid boilers 1 and 2 years 13-15

**AECI Boiler 1
SO LOCATION B1 POINT 807904.53 4046548.55 91.14

**AECI Boiler 2
SO LOCATION B2 POINT 807911.58 4046554.90 91.14

**Sikeston Inputs
**Boiler 1
SO LOCATION SIKE1 POINT 801211.2145 4086783.627 91.72

**USING ACTUAL STACK HEIGHT FOR DESIGNATIONS MODELING FOR USE WITH ACTUAL EMISSIONS TO BE A SURROGATE FOR MONITORING PER draft DRR/MODELING TAD
**USING HOURLY CEMS EMISSIONS FOR 2013 TO 2015 FOR NEW MADRID BOILERS 1 AND 2
**USING HOURLY CEMS EMISSIONS FOR 2013 TO 2015 FOR SIKESTON BOILER 1

SO SRCPARAM B1 337.95 243.84 579.26 29.49 6.10
SO SRCPARAM B2 300.3 243.84 581.48 29.23 6.10

SO SRCPARAM SIKE1 206.243 137.16 410.92 1.63 4.572

SO HOUREMIS Sikeston-Newmadrid-Hourly-CEMS-Emis-13-15.txt B1 B2 SIKE1

**BPIP Outputs

```
SO BUILDHGT B1      23.01  23.01  23.01   0.00   0.00   0.00
SO BUILDHGT B1       0.00   0.00  23.01  23.01  63.18  63.18
SO BUILDHGT B1      63.18  63.18  54.86  54.86  54.86  23.01
SO BUILDHGT B1      23.01  23.01  23.01   0.00   0.00   0.00
SO BUILDHGT B1       0.00   0.00  23.01  23.01  63.18  63.18
SO BUILDHGT B1      63.18  63.18  23.01  54.86  54.86  23.01
SO BUILDWID B1      35.49  35.13  33.71   0.00   0.00   0.00
SO BUILDWID B1       0.00   0.00  31.35  33.56 114.84 102.01
SO BUILDWID B1      86.09  67.55 103.87 104.80 130.45  34.76
SO BUILDWID B1      35.49  35.13  33.71   0.00   0.00   0.00
SO BUILDWID B1       0.00   0.00  31.35  33.56 114.84 102.01
SO BUILDWID B1      86.09  67.55  29.08 104.80 130.45  34.76
SO BUILDLEN B1      33.56  34.75  34.89   0.00   0.00   0.00
SO BUILDLEN B1       0.00   0.00  34.76  35.49 117.26 126.16
SO BUILDLEN B1     131.24 132.33 129.39  56.74 131.35  31.35
SO BUILDLEN B1      33.56  34.75  34.89   0.00   0.00   0.00
SO BUILDLEN B1       0.00   0.00  34.76  35.49 117.26 126.16
SO BUILDLEN B1     131.24 132.33  23.63  56.74 131.35  31.35
SO XBADJ    B1      17.12  13.39   9.25   0.00   0.00   0.00
SO XBADJ    B1       0.00   0.00 -60.00 -63.19 -233.23 -248.92
```

```
SO XBADJ    B1    -257.05 -257.37 -249.87 -164.80 -221.51  -51.68
SO XBADJ    B1     -50.68  -48.14  -44.14    0.00    0.00    0.00
SO XBADJ    B1       0.00    0.00   25.24   27.70  115.97  122.76
SO XBADJ    B1     125.81  125.04   24.29  108.06   90.16   20.33
SO YBADJ    B1      15.35   21.07   26.14    0.00    0.00    0.00
SO YBADJ    B1       0.00    0.00   19.60   11.94   80.01   48.74
SO YBADJ    B1      15.99  -17.25  -21.51  -45.72  -81.36   -9.17
SO YBADJ    B1     -15.35  -21.07  -26.14    0.00    0.00    0.00
SO YBADJ    B1       0.00    0.00  -19.60  -11.94  -80.01  -48.74
SO YBADJ    B1     -15.99   17.25  -10.23   45.72   81.36    9.17


SO BUILDHGT B2       23.01   23.01    0.00    0.00    0.00    0.00
SO BUILDHGT B2        0.00   23.01   23.01   47.24   63.18   63.18
SO BUILDHGT B2       63.18   63.18   54.86   54.86   54.86   23.01
SO BUILDHGT B2       23.01   23.01    0.00    0.00    0.00    0.00
SO BUILDHGT B2        0.00   23.01   23.01   47.24   63.18   63.18
SO BUILDHGT B2       23.01   63.18   23.01   54.86   54.86   23.01
SO BUILDWID B2       35.49   35.13    0.00    0.00    0.00    0.00
SO BUILDWID B2        0.00   28.19   31.35  135.53  114.84  102.01
SO BUILDWID B2       86.09   67.55  103.87  104.80  130.45   34.76
SO BUILDWID B2       35.49   35.13    0.00    0.00    0.00    0.00
SO BUILDWID B2        0.00   28.19   31.35  144.24  114.84  102.01
SO BUILDWID B2       33.96   67.55   29.08  104.80  130.45   34.76
SO BUILDLEN B2       33.56   34.75    0.00    0.00    0.00    0.00
SO BUILDLEN B2        0.00   32.98   34.76  106.68  117.26  126.16
SO BUILDLEN B2      131.24  132.33  129.39   56.74  131.35   31.35
SO BUILDLEN B2       33.56   34.75    0.00    0.00    0.00    0.00
SO BUILDLEN B2        0.00   32.98   34.76  183.18  117.26  126.16
SO BUILDLEN B2       31.27  132.33   23.63   56.74  131.35   31.35
SO XBADJ    B2        9.64    5.01    0.00    0.00    0.00    0.00
SO XBADJ    B2        0.00  -63.03  -67.05 -248.64 -237.68 -251.85
SO XBADJ    B2     -258.37 -257.04 -247.90 -161.25 -216.48  -45.33
SO XBADJ    B2      -43.20  -39.76    0.00    0.00    0.00    0.00
SO XBADJ    B2        0.00   30.06   32.29   65.45  120.42  125.69
SO XBADJ    B2       31.19  124.71   22.32  104.50   85.13   13.98
SO YBADJ    B2       21.19   25.52    0.00    0.00    0.00    0.00
SO YBADJ    B2        0.00   21.64   13.25   86.98   71.64   39.72
SO YBADJ    B2        6.60  -26.73  -30.79  -54.52  -89.41  -16.22
SO YBADJ    B2      -21.19  -25.52    0.00    0.00    0.00    0.00
SO YBADJ    B2        0.00  -21.64  -13.25  -91.34  -71.64  -39.72
SO YBADJ    B2       21.65   26.73   -0.95   54.52   89.41   16.22


SO BUILDHGT SIKE1     0.00   35.66   35.66   35.66   35.66   35.66
SO BUILDHGT SIKE1    35.66   57.91   57.91   57.91   57.91   35.66
SO BUILDHGT SIKE1    35.66   35.66   35.66   30.78   25.90    0.00
SO BUILDHGT SIKE1     0.00   35.66   35.66   35.66   35.66   35.66
SO BUILDHGT SIKE1    35.66   30.78   30.78   35.66   35.66   35.66
SO BUILDHGT SIKE1    35.66   35.66   35.66   30.78   25.90    0.00
SO BUILDWID SIKE1     0.00   33.02   34.69   35.31   34.86   33.35
SO BUILDWID SIKE1    30.82   35.85   32.81   36.99   36.99   34.13
SO BUILDWID SIKE1    35.25   35.29   34.26   30.96   11.34    0.00
SO BUILDWID SIKE1     0.00   33.02   34.69   35.31   34.86   33.35
SO BUILDWID SIKE1    30.82   45.09   42.53   28.86   31.98   34.13
SO BUILDWID SIKE1    35.25   35.29   34.26   30.96   11.34    0.00
SO BUILDLEN SIKE1     0.00   31.98   34.13   35.25   35.29   34.26
SO BUILDLEN SIKE1    32.19   32.26   29.04   34.03   37.99   34.69
SO BUILDLEN SIKE1    35.31   34.86   33.35   25.16   11.34    0.00
SO BUILDLEN SIKE1     0.00   31.98   34.13   35.25   35.29   34.26
SO BUILDLEN SIKE1    32.19   32.45   27.12   30.34   33.02   34.69
SO BUILDLEN SIKE1    35.31   34.86   33.35   25.16   11.34    0.00
SO XBADJ    SIKE1     0.00  -31.20  -37.72  -43.09  -47.16  -49.79
SO XBADJ    SIKE1   -50.91 -141.93 -143.17 -144.46 -141.36  -46.93
SO XBADJ    SIKE1   -43.21  -38.19  -32.00  -41.82    4.84    0.00
SO XBADJ    SIKE1     0.00   -0.78    3.59    7.85   11.87   15.53
SO XBADJ    SIKE1    18.71   18.03   22.54   19.67   16.20   12.24
SO XBADJ    SIKE1     7.90    3.32   -1.35   16.66  -16.19    0.00
SO YBADJ    SIKE1     0.00   32.71   29.58   25.56   20.76   15.32
SO YBADJ    SIKE1     9.42   26.57    4.30  -18.08  -39.91  -20.65
```

```
SO YBADJ    SIKE1     -25.47  -29.51  -32.66  -27.93    9.69    0.00
SO YBADJ    SIKE1       0.00  -32.71  -29.58  -25.56  -20.76  -15.32
SO YBADJ    SIKE1      -9.42  -12.10   -5.72    9.31   15.21   20.65
SO YBADJ    SIKE1      25.47   29.51   32.66   27.93   -9.69    0.00

**Havco Wood Products  - Interactive Source (2014 Reported Actuals)
SO LOCATION HAVCO20 POINT 804982.086  4126679.779 102.46
SO LOCATION HAVCO30 POINT 804982.086  4126679.514  102.46
SO SRCPARAM HAVCO20  0.066  13.716  477.59  10.769  0.6096
SO SRCPARAM HAVCO30  0.0565 13.1064 477.59  10.3378 0.762

** Buzzi Unicem Kiln Stack
SO LOCATION BK  POINT   807079.804 4130354.775   125
SO SRCPARAM BK  16.009  64.01  405.37  22.352  3.35

**QC Corp
SO LOCATION QC5 POINT 801633.158  4126757.96  120
SO SRCPARAM QC5 0.041 7.62  349.8  12.8  0.762
SO LOCATION QC6 POINT 801633.158  4126757.96  120
SO SRCPARAM QC6 0.8135 10.668  355.37  10.03  0.6096

  BACKGRND ANNUAL 9.0
  BACKUNIT PPB

SO SRCGROUP AECI B1 B2
SO SRCGROUP SIKES SIKE1
SO SRCGROUP HAVCO HAVCO20 HAVCO30
SO SRCGROUP Buzzi BK
SO SRCGROUP QC QC5 QC6
SO SRCGROUP  NORANDA  EP61  EP62  EP63 EPAB  EPAD  EPAE  EPAF  EPAG  EPAH EPAN  EPBA
SO SRCGROUP  NORANDA  EPAI  EPAJ  EPAK  EPAL EPBB  EPBC  EPBD EP61 EP62 EP63
SO SRCGROUP  NORANDA  EPAB  EPAD  EPAE  EPAF  EPAG  EPAH  EPAI  EPAJ  EPAK  EPAL
SO SRCGROUP  NORANDA  EPAN  EPBA  EPBB  EPBC  EPBD  EPBH
**SO SRCGROUP  PLSTKSS  EP61  EP62  EP63
**SO SRCGROUP  MELTHOL  EPAB  EPAD  EPAE  EPAF  EPAG  EPAH  EPAI  EPAJ  EPAK  EPAL
**SO SRCGROUP  MELTHOL  EPAN  EPBA  EPBB  EPBC  EPBD
**SO SRCGROUP  EP61  EP61
**SO SRCGROUP  EP62  EP62
**SO SRCGROUP  EP63  EP63
**SO SRCGROUP  EP98  EP98
**SO SRCGROUP  EP99  EP99
**SO SRCGROUP  EPAA  EPAA
**SO SRCGROUP  EPAB  EPAB
**SO SRCGROUP  EPAD  EPAD
**SO SRCGROUP  EPAE  EPAE
**SO SRCGROUP  EPAF  EPAF
**SO SRCGROUP  EPAG  EPAG
**SO SRCGROUP  EPAH  EPAH
**SO SRCGROUP  EPAI  EPAI
**SO SRCGROUP  EPAJ  EPAJ
**SO SRCGROUP  EPAK  EPAK
**SO SRCGROUP  EPAL  EPAL
**SO SRCGROUP  EPAN  EPAN
**SO SRCGROUP  EPBA  EPBA
**SO SRCGROUP  EPBB  EPBB
**SO SRCGROUP  EPBC  EPBC
**SO SRCGROUP  EPBD  EPBD
**SO SRCGROUP  EPBH  EPBH
SO SRCGROUP  ALL BACKGROUND
SO FINISHED

RE STARTING
RE ELEVUNIT METERS
**Receptor Grid unchanged from original recommendation
RE FINISHED

ME STARTING
**AERMET Outputs Dated 3-29-16
ME SURFFILE  KCGI-KSGF-13-15.SFC
ME PROFFILE  KCGI-KSGF-13-15.PFL
```

```
ME SURFDATA  03935  2013  CapeGirardeau,MO
ME UAIRDATA  13995  2013  SPRINGFIELD,MO
ME PROFBASE  107 METERS
ME FINISHED
OU STARTING
OU RECTABLE  ALLAVE 4-10
OU MAXDCONT ALL 4 THRESH  196.5  Sikeston-Hourly-CEMS-Int-Sources-13-15-Ext.DAT
OU SUMMFILE Sikeston-Hourly-CEMS-Int-Sources-13-15-Ext.SUM
OU PLOTFILE 1 ALL 4 Sikeston-Hourly-CEMS-Int-Sources-13-15-Ext.PLT
OU FINISHED
```

Excerpt of Hourly Emissions File for Sikeston (Includes AECI New Madrid B1 & B2 as an Interactive Source)

```
SO HOUREMIS   13   1   1   1   B1    245.7953811    579.2611111    29.49448
SO HOUREMIS   13   1   1   1   B2    266.8243175    581.4833333    29.22524
SO HOUREMIS   13   1   1   1   SIKE1    263.8129839    405.4069    26.79314126
SO HOUREMIS   13   1   1   2   B1    270.6168339    579.2611111    29.49448
SO HOUREMIS   13   1   1   2   B2    267.1393106    581.4833333    29.22524
SO HOUREMIS   13   1   1   2   SIKE1    270.0624461    405.3019    26.81136697
SO HOUREMIS   13   1   1   3   B1    277.1686894    579.2611111    29.49448
SO HOUREMIS   13   1   1   3   B2    265.5895447    581.4833333    29.22524
SO HOUREMIS   13   1   1   3   SIKE1    269.8734503    403.783    26.78759606
SO HOUREMIS   13   1   1   4   B1    272.2169986    579.2611111    29.49448
SO HOUREMIS   13   1   1   4   B2    271.6374114    581.4833333    29.22524
SO HOUREMIS   13   1   1   4   SIKE1    267.1393106    404.0559    26.80421833
SO HOUREMIS   13   1   1   5   B1    286.4042858    579.2611111    29.49448
SO HOUREMIS   13   1   1   5   B2    222.5236942    581.4833333    29.22524
SO HOUREMIS   13   1   1   5   SIKE1    267.6306997    404.7419    26.78759606
SO HOUREMIS   13   1   1   6   B1    271.9902036    579.2611111    29.49448
SO HOUREMIS   13   1   1   6   B2    221.5157164    581.4833333    29.22524
SO HOUREMIS   13   1   1   6   SIKE1    268.8654725    400.003    26.04929412
SO HOUREMIS   13   1   1   7   B1    302.5823292    579.2611111    29.49448
SO HOUREMIS   13   1   1   7   B2    268.3236844    581.4833333    29.22524
SO HOUREMIS   13   1   1   7   SIKE1    260.3354606    401.319    26.08425828
SO HOUREMIS   13   1   1   8   B1    304.6738831    579.2611111    29.49448
SO HOUREMIS   13   1   1   8   B2    270.5916344    581.4833333    29.22524
SO HOUREMIS   13   1   1   8   SIKE1    262.7042083    400.654    26.03663766
SO HOUREMIS   13   1   1   9   B1    306.62684    579.2611111    29.49448
SO HOUREMIS   13   1   1   9   B2    293.2837342    581.4833333    29.22524
SO HOUREMIS   13   1   1   9   SIKE1    261.5072347    405.0149    26.82954277
SO HOUREMIS   13   1   1   10   B1    307.08043    579.2611111    29.49448
SO HOUREMIS   13   1   1   10   B2    293.2711344    581.4833333    29.22524
SO HOUREMIS   13   1   1   10   SIKE1    269.3568617    401.501    26.06865056
SO HOUREMIS   13   1   1   11   B1    298.6008169    579.2611111    29.49448
SO HOUREMIS   13   1   1   11   B2    293.2081358    581.4833333    29.22524
SO HOUREMIS   13   1   1   11   SIKE1    263.0318011    401.564    26.01718517
SO HOUREMIS   13   1   1   12   B1    298.4244208    579.2611111    29.49448
SO HOUREMIS   13   1   1   12   B2    291.7339683    581.4833333    29.22524
SO HOUREMIS   13   1   1   12   SIKE1    263.1451986    401.984    26.01345754
SO HOUREMIS   13   1   1   13   B1    307.3576239    579.2611111    29.49448
SO HOUREMIS   13   1   1   13   B2    298.6764153    581.4833333    29.22524
SO HOUREMIS   13   1   1   13   SIKE1    263.9011819    402.292    26.02243471
SO HOUREMIS   13   1   1   14   B1    306.4504439    579.2611111    29.49448
SO HOUREMIS   13   1   1   14   B2    309.4995767    581.4833333    29.22524
SO HOUREMIS   13   1   1   14   SIKE1    264.4555697    402.39    25.89388052
SO HOUREMIS   13   1   1   15   B1    305.0266753    579.2611111    29.49448
SO HOUREMIS   13   1   1   15   B2    307.6474175    581.4833333    29.22524
SO HOUREMIS   13   1   1   15   SIKE1    264.6319658    401.368    25.90836378
SO HOUREMIS   13   1   1   16   B1    300.8057683    579.2611111    29.49448
SO HOUREMIS   13   1   1   16   B2    304.9258775    581.4833333    29.22524
SO HOUREMIS   13   1   1   16   SIKE1    262.7924064    401.816    25.9243684
SO HOUREMIS   13   1   1   17   B1    296.8116564    579.2611111    29.49448
SO HOUREMIS   13   1   1   17   B2    305.7448594    581.4833333    29.22524
SO HOUREMIS   13   1   1   17   SIKE1    263.5987886    402.152    25.89767185
SO HOUREMIS   13   1   1   18   B1    293.0443394    579.2611111    29.49448
SO HOUREMIS   13   1   1   18   B2    310.5327539    581.4833333    29.22524
SO HOUREMIS   13   1   1   18   SIKE1    264.2035753    401.739    25.92281598
```

SO HOUREMIS 13 1 1 19 B1 292.4395528 579.2611111 29.49448
SO HOUREMIS 13 1 1 19 B2 312.8637025 581.4833333 29.22524
SO HOUREMIS 13 1 1 19 SIKE1 263.4601917 400.528 25.93878537
SO HOUREMIS 13 1 1 20 B1 295.0980942 579.2611111 29.49448
SO HOUREMIS 13 1 1 20 B2 307.3450242 581.4833333 29.22524
SO HOUREMIS 13 1 1 20 SIKE1 261.2804397 400.192 25.92592025
SO HOUREMIS 13 1 1 21 B1 295.2492908 579.2611111 29.49448
SO HOUREMIS 13 1 1 21 B2 302.99812 581.4833333 29.22524
SO HOUREMIS 13 1 1 21 SIKE1 260.6756531 400.08 25.96155717
SO HOUREMIS 13 1 1 22 B1 293.6869253 579.2611111 29.49448
SO HOUREMIS 13 1 1 22 B2 295.7910789 581.4833333 29.22524
SO HOUREMIS 13 1 1 22 SIKE1 260.4740575 400.227 25.89611158
SO HOUREMIS 13 1 1 23 B1 282.1707792 579.2611111 29.49448
SO HOUREMIS 13 1 1 23 B2 289.1258258 581.4833333 29.22524
SO HOUREMIS 13 1 1 23 SIKE1 260.7386517 399.2331 25.90457818
SO HOUREMIS 13 1 1 24 B1 290.2220017 579.2611111 29.49448
SO HOUREMIS 13 1 1 24 B2 296.0430733 581.4833333 29.22524
SO HOUREMIS 13 1 1 24 SIKE1 258.9494911 398.8201 25.89075739

Excerpt of AERMOD Output File for Sikeston

*** AERMOD - VERSION 15181 *** *** SO2 SIKESTON POWER STATION (201-0017) Sikeston with Hourly CEMS fil ***
04/07/16
*** AERMET - VERSION 15181 *** *** 2013-2015 Met/CEMS And varying temp and velocity from facility *** 14:57:09
PAGE 3359
**MODELOPTs: RegDFAULT CONC ELEV RURAL
*** THE SUMMARY OF MAXIMUM 4TH-HIGHEST MAX DAILY 1-HR RESULTS AVERAGED OVER 3 YEARS ***
** CONC OF SO2 IN MICROGRAMS/M**3 **
NETWORK
GROUP ID AVERAGE CONC RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
- -

AECI 1ST HIGHEST VALUE IS 28.75960 AT (811209.50, 4066785.25, 93.06, 93.06, 0.00) DC
2ND HIGHEST VALUE IS 28.55316 AT (810209.50, 4066785.25, 93.25, 93.25, 0.00) DC
3RD HIGHEST VALUE IS 28.14306 AT (812209.50, 4066785.25, 93.29, 93.29, 0.00) DC
4TH HIGHEST VALUE IS 27.80940 AT (810209.50, 4067785.25, 93.32, 93.32, 0.00) DC
5TH HIGHEST VALUE IS 27.70652 AT (813209.50, 4066785.25, 91.91, 91.91, 0.00) DC
6TH HIGHEST VALUE IS 27.58164 AT (811209.50, 4067785.25, 93.74, 93.74, 0.00) DC
7TH HIGHEST VALUE IS 27.25454 AT (805209.50, 4066785.25, 88.49, 88.49, 0.00) DC
8TH HIGHEST VALUE IS 27.23149 AT (808209.50, 4066785.25, 92.57, 92.57, 0.00) DC
9TH HIGHEST VALUE IS 27.17177 AT (814209.50, 4066785.25, 87.09, 87.09, 0.00) DC
10TH HIGHEST VALUE IS 26.80603 AT (809209.50, 4066785.25, 92.97, 92.97, 0.00) DC

SIKES 1ST HIGHEST VALUE IS 69.38284 AT (801459.50, 4089035.25, 100.58, 100.58, 0.00) DC
2ND HIGHEST VALUE IS 68.81452 AT (801459.50, 4089285.25, 101.48, 101.48, 0.00) DC
3RD HIGHEST VALUE IS 67.15245 AT (798959.50, 4090035.25, 91.61, 91.61, 0.00) DC
4TH HIGHEST VALUE IS 67.12198 AT (801709.50, 4089535.25, 100.73, 100.73, 0.00) DC
5TH HIGHEST VALUE IS 66.93902 AT (803209.50, 4088035.25, 99.84, 99.84, 0.00) DC
6TH HIGHEST VALUE IS 66.64003 AT (798709.50, 4090285.25, 91.56, 91.56, 0.00) DC
7TH HIGHEST VALUE IS 66.54212 AT (802959.50, 4088035.25, 100.66, 100.66, 0.00) DC
8TH HIGHEST VALUE IS 66.28809 AT (803459.50, 4088285.25, 99.20, 99.20, 0.00) DC
9TH HIGHEST VALUE IS 66.28398 AT (801709.50, 4089785.25, 100.70, 100.70, 0.00) DC
10TH HIGHEST VALUE IS 66.10538 AT (801709.50, 4088785.25, 100.67, 100.67, 0.00) DC

HAVCO 1ST HIGHEST VALUE IS 3.92160 AT (805209.50, 4126785.25, 102.08, 102.08, 0.00) DC
2ND HIGHEST VALUE IS 3.32029 AT (808209.50, 4125785.25, 136.80, 140.98, 0.00) DC
3RD HIGHEST VALUE IS 2.94802 AT (811209.50, 4126785.25, 136.64, 159.61, 0.00) DC
4TH HIGHEST VALUE IS 2.41563 AT (802209.50, 4129785.25, 131.87, 140.49, 0.00) DC
5TH HIGHEST VALUE IS 2.10699 AT (805209.50, 4123785.25, 129.68, 129.68, 0.00) DC
6TH HIGHEST VALUE IS 2.02658 AT (810209.50, 4126785.25, 152.49, 152.49, 0.00) DC
7TH HIGHEST VALUE IS 1.88892 AT (798209.50, 4121785.25, 141.94, 174.84, 0.00) DC
8TH HIGHEST VALUE IS 1.86473 AT (817209.50, 4129785.25, 139.25, 182.02, 0.00) DC
9TH HIGHEST VALUE IS 1.73162 AT (804209.50, 4120785.25, 136.45, 159.28, 0.00) DC
10TH HIGHEST VALUE IS 1.70183 AT (800209.50, 4120785.25, 145.99, 152.26, 0.00) DC

BUZZI 1ST HIGHEST VALUE IS 11.28625 AT (807209.50, 4129785.25, 103.29, 109.25, 0.00) DC
2ND HIGHEST VALUE IS 9.45021 AT (804209.50, 4129785.25, 110.62, 110.62, 0.00) DC
3RD HIGHEST VALUE IS 9.24859 AT (805209.50, 4129785.25, 121.29, 138.81, 0.00) DC

```
       4TH HIGHEST VALUE IS      9.08730 AT (  806209.50,  4129785.25,   104.89,   104.89,    0.00)  DC
       5TH HIGHEST VALUE IS      8.85223 AT (  803209.50,  4129785.25,   119.60,   121.87,    0.00)  DC
       6TH HIGHEST VALUE IS      8.72285 AT (  807209.50,  4127785.25,   101.00,   101.00,    0.00)  DC
       7TH HIGHEST VALUE IS      8.49412 AT (  808209.50,  4129785.25,    99.51,    99.51,    0.00)  DC
       8TH HIGHEST VALUE IS      8.30532 AT (  807209.50,  4128785.25,   102.22,   102.22,    0.00)  DC
       9TH HIGHEST VALUE IS      8.29183 AT (  800209.50,  4129785.25,   117.16,   131.62,    0.00)  DC
      10TH HIGHEST VALUE IS      8.27105 AT (  802209.50,  4129785.25,   131.87,   140.49,    0.00)  DC

 *** AERMOD - VERSION  15181 ***   ***  SO2 SIKESTON POWER STATION (201-0017) Sikeston with Hourly CEMS fil ***
04/07/16
 *** AERMET - VERSION  15181 ***   ***  2013-2015 Met/CEMS And varying temp and velocity from facility      ***        14:57:09
                                                                                                 PAGE  3360
 **MODELOPTs:   RegDFAULT CONC      ELEV     RURAL

               *** THE SUMMARY OF MAXIMUM   4TH-HIGHEST MAX DAILY  1-HR RESULTS AVERAGED OVER   3 YEARS ***


                          ** CONC OF SO2      IN MICROGRAMS/M**3                     **

                                                                                             NETWORK
GROUP ID                    AVERAGE CONC              RECEPTOR  (XR, YR, ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

QC       1ST HIGHEST VALUE IS     25.55744 AT (  801209.50,  4126785.25,   101.69,   101.69,    0.00)  DC
       2ND HIGHEST VALUE IS     22.54204 AT (  802209.50,  4126785.25,   100.70,   100.70,    0.00)  DC
       3RD HIGHEST VALUE IS     19.19756 AT (  798209.50,  4121785.25,   141.94,   174.84,    0.00)  DC
       4TH HIGHEST VALUE IS     16.81207 AT (  801209.50,  4127785.25,   100.44,   100.44,    0.00)  DC
       5TH HIGHEST VALUE IS     15.60943 AT (  802209.50,  4127785.25,   100.16,   100.16,    0.00)  DC
       6TH HIGHEST VALUE IS     15.53999 AT (  801209.50,  4125785.25,   100.90,   100.90,    0.00)  DC
       7TH HIGHEST VALUE IS     15.26076 AT (  800209.50,  4126785.25,   102.32,   102.32,    0.00)  DC
       8TH HIGHEST VALUE IS     15.10877 AT (  799209.50,  4121785.25,   149.29,   152.86,    0.00)  DC
       9TH HIGHEST VALUE IS     15.03967 AT (  802209.50,  4125785.25,   101.20,   101.20,    0.00)  DC
      10TH HIGHEST VALUE IS     13.80512 AT (  800209.50,  4120785.25,   145.99,   152.26,    0.00)  DC

NORANDA   1ST HIGHEST VALUE IS     23.35244 AT (  821209.50,  4129785.25,   202.43,   215.39,    0.00)  DC
       2ND HIGHEST VALUE IS     23.27028 AT (  821209.50,  4128785.25,   208.38,   212.06,    0.00)  DC
       3RD HIGHEST VALUE IS     21.36951 AT (  808209.50,  4066785.25,    92.57,    92.57,    0.00)  DC
       4TH HIGHEST VALUE IS     21.17817 AT (  806209.50,  4066785.25,    94.19,    94.19,    0.00)  DC
       5TH HIGHEST VALUE IS     20.99877 AT (  809209.50,  4066785.25,    92.97,    92.97,    0.00)  DC
       6TH HIGHEST VALUE IS     20.95595 AT (  805209.50,  4066785.25,    88.49,    88.49,    0.00)  DC
       7TH HIGHEST VALUE IS     20.56458 AT (  808209.50,  4067785.25,    92.96,    92.96,    0.00)  DC
       8TH HIGHEST VALUE IS     20.42746 AT (  807209.50,  4066785.25,    93.02,    93.02,    0.00)  DC
       9TH HIGHEST VALUE IS     20.35764 AT (  821209.50,  4126785.25,   188.38,   188.38,    0.00)  DC
      10TH HIGHEST VALUE IS     20.27038 AT (  809209.50,  4067785.25,    93.04,    93.04,    0.00)  DC

ALL      1ST HIGHEST VALUE IS     96.13588 AT (  801459.50,  4089035.25,   100.58,   100.58,    0.00)  DC
       2ND HIGHEST VALUE IS     95.74763 AT (  801709.50,  4089535.25,   100.73,   100.73,    0.00)  DC
       3RD HIGHEST VALUE IS     95.09257 AT (  801459.50,  4089285.25,   101.48,   101.48,    0.00)  DC
       4TH HIGHEST VALUE IS     94.12717 AT (  801709.50,  4089785.25,   100.70,   100.70,    0.00)  DC
       5TH HIGHEST VALUE IS     93.20476 AT (  801709.50,  4089035.25,   101.03,   101.03,    0.00)  DC
       6TH HIGHEST VALUE IS     92.65962 AT (  801709.50,  4088785.25,   100.67,   100.67,    0.00)  DC
       7TH HIGHEST VALUE IS     92.19156 AT (  800709.50,  4089785.25,    91.60,    91.60,    0.00)  DC
       8TH HIGHEST VALUE IS     92.18148 AT (  801709.50,  4089285.25,   100.70,   100.70,    0.00)  DC
       9TH HIGHEST VALUE IS     91.87248 AT (  801459.50,  4089535.25,   100.70,   100.70,    0.00)  DC
      10TH HIGHEST VALUE IS     91.71063 AT (  801709.50,  4088535.25,   100.12,   100.12,    0.00)  DC
```

Excerpt of AERMOD Input file for Sibley

```
**
**
****************************************
** AERMOD Control Pathway
****************************************
**
**
CO STARTING
   TITLEONE SO2 Sibley Designations Modeling 3-28-16
CO TITLETWO Hourly CEMS emissions 2013-2015 for KCPL Sibley 20 km tiered grid around facility
```

```
**Run with Interactive Sources and hourly CEMS for other sources as available
  MODELOPT DFAULT CONC
  AVERTIME 1
  POLLUTID SO2
  RUNORNOT RUN
  ERRORFIL Sibley.err
CO FINISHED
**
****************************************
** AERMOD Source Pathway
****************************************
**
**
SO STARTING
**Interactive Sources
**KS SOURCES
SO LOCATION   BPUN1   POINT   353394     4337135     231
SO LOCATION   BPUNCT4   POINT   353778    4337052     231
SO LOCATION   BPUNNE   VOLUME   353308    4337016     232
SO LOCATION   BPUNAUX   VOLUME   353370   4337090     232
SO LOCATION   BPUNBSG   VOLUME   353796   4337142    232
SO LOCATION   BPUN480   VOLUME   353387   4337195    233
SO LOCATION   BPUN481   VOLUME   353359   4337186    232

SO SRCPARAM  BPUN1  367.8782966  121.92  424.8166667  13.4112  6.096
**BPUNCT4 at ULSD
SO SRCPARAM  BPUNCT4  0.182  17.0688  810.9277778  39.0144  4.51104
**SO SRCPARAM  BPUN1  367.8782966  121.92  424.8166667  13.4112  6.096
**SO SRCPARAM  BPUNCT4  3.971450656  17.0688  810.9277778  39.0144  4.51104
SO SRCPARAM  BPUNNE  0.000057  5  1.1628  4.651
SO SRCPARAM  BPUNAUX  0.004481  5  1.1628  4.651
SO SRCPARAM  BPUNBSG  0.017704  5  1.1628  4.651
SO SRCPARAM  BPUN480  0.000  5  1.1628  4.651
SO SRCPARAM  BPUN481  0.000  5  1.1628  4.651

**Quindaro
SO LOCATION   BPUQ1    POINT    358576    4334818     236
SO LOCATION   BPUQ2    POINT    358581    4334786     236
SO LOCATION   BPUQCT1  POINT    358367    4334546     236
SO LOCATION   BPUQCT2  POINT    358367    4334550     236
SO LOCATION   BPUQCT3  POINT    358367    4334553     236
SO LOCATION   BPUQAC   VOLUME   358500    4334792     232
SO LOCATION   BPUQDC   VOLUME   358500    4334794     232
SO LOCATION   BPUQAUX   VOLUME   358502   4334844     232

**QUindaro Units at CEMS
SO SRCPARAM  BPUQ1  97.965  106.68  438.7055556  11.8872  2.538984
SO SRCPARAM  BPUQ2  124.53  106.68  436.4833333  25.2984  3.3528

**CT's at ULSD
SO SRCPARAM  BPUQCT1  0.0494  12.74765  499.8167   16.82496   4.069385
SO SRCPARAM  BPUQCT2  0.1256  9.7536    499.8167   16.82496   4.255008
SO SRCPARAM  BPUQCT3  0.1256  9.7536    499.8167   16.82496   4.06908
SO SRCPARAM  BPUQAC  0.043659  5  1.1628  4.651
SO SRCPARAM  BPUQDC  0.001336  5  1.1628  4.651
SO SRCPARAM  BPUQAUX  0.082183  5  1.1628  4.651

**KCPL-Hawthorn
SO LOCATION   HAWTH6   POINT   372276.71   4332321.199   225.8568
SO LOCATION   HAWTH701   POINT   371923.1724   4332658.793   224.028
SO LOCATION   HAWTH801   POINT   371898.7906   4332659.731   224.028
SO LOCATION   HAWTH901   POINT   372377.0487   4332171.157   225.8568

**Hawthorn 6 at CEMS (with actual stack height)
SO SRCPARAM  HAWTH6  192.76  183.49  368.15  24.3545  6.2002
***Hawth CTs at ULSD below
SO SRCPARAM  HAWTH701  0.1641  17.0688  690.5574  41.799  4.49746
SO SRCPARAM  HAWTH801  0.1641  17.0688  690.5574  41.799  4.49746
SO SRCPARAM  HAWTH901  0.4942  62.1792  457.5944  18.5985  6.0944
```

**SIBLEY
SO LOCATION SIB5A POINT 397714.92 4337276.49 221.89
SO LOCATION SIB5B POINT 397714.92 4337276.49 221.89
SO LOCATION SIB5C POINT 397714.92 4337276.49 221.89

**SIBLEY 5A, 5B, 5C at CEMS
SO SRCPARAM SIB5A 254.35 212.14 427.761111 30.1212515 4.1148
SO SRCPARAM SIB5B 250.66 212.14 427.761111 30.1212515 4.1148
SO SRCPARAM SIB5C 1759.42 212.14 427.761111 30.1212515 4.1148

**Veolia, KC, MO
SO LOCATION VEP1A POINT 363390.05 4330416.81 232.2576
SO LOCATION VEP2 POINT 363376.5 4330434 232.2576
SO LOCATION VEP3 POINT 363422.9 4330428 232.2576
**Veolia at 2014 actuals
SO SRCPARAM VEP1A 0.0001245308 47.55 588.71 14.6 2.13
SO SRCPARAM VEP2 223.818 85.95 395.93 1.81 5.11
SO SRCPARAM VEP3 0.00012942 85.95 412.04 1.53 5.11

**Interactive Sources
**Not including IPL MO City shutting down

**St. Mary's Hospital of Blue Springs (Not incl Em Gen)
SO LOCATION STMARY1 POINT 390663.646 4320101.739 286.512
SO LOCATION STMARY2 POINT 390663.646 4320101.739 286.512
SO SRCPARAM STMARY1 0.001546 6.096 344.2611 0.001 0.6096
SO SRCPARAM STMARY2 0.0001839 6.096 344.2611 0.001 0.6096

**Missouri Rock Inc - Orrick
SO LOCATION MR20 VOLUME 401944.943 4343861.337 249.94
SO SRCPARAM MR20 0.016144 5 1.1628 4.651

**Little Blue Valley Sewer District - Atherton (EXCL. Em Gen/Space heating/zero emitting units)
SO LOCATION LBV1 POINT 385527.547 4335529.775 224.028
SO LOCATION LBV2 POINT 385527.547 4335529.775 224.028
SO LOCATION LBV6 POINT 385527.547 4335529.775 224.028
SO LOCATION LBV7 POINT 385527.547 4335529.775 224.028
SO LOCATION LBV15 POINT 385527.547 4335529.775 224.028
SO LOCATION LBV16 POINT 385527.547 4335529.775 224.028

SO SRCPARAM LBV1 2.012E-05 7.4676 433.15 6.5532 0.405384
SO SRCPARAM LBV2 2.587E-05 7.4676 433.15 6.5532 0.405384
SO SRCPARAM LBV6 0.001963 25.908 318.70556 17.16024 0.710184
SO SRCPARAM LBV7 3.737E-05 13.716 755.3722 5.08 0.9144
SO SRCPARAM LBV15 1.724E-05 7.62 608.4833 8.2296 0.583997
SO SRCPARAM LBV16 0.007712954 25.908 316.48333 32.1858 0.70104

**Alliant Techsystems Operations - Lake City Army Ammunitions Plant (Excl Em Gen/space heating units and zero emitters)

SO LOCATION AT1 POINT 391390.445 4328793.502 227.076
SO LOCATION AT2 POINT 391390.445 4328793.502 227.076
SO LOCATION AT3 POINT 391390.445 4328793.502 227.076
SO LOCATION AT4 POINT 391390.445 4328793.502 227.076
SO LOCATION AT20 POINT 391390.445 4328793.502 227.076
SO LOCATION AT20A POINT 391390.445 4328793.502 227.076
SO LOCATION AT20B POINT 391390.445 4328793.502 227.076
SO LOCATION AT20C POINT 391390.445 4328793.502 227.076
SO LOCATION AT20D POINT 391390.445 4328793.502 227.076
SO LOCATION AT20E POINT 391390.445 4328793.502 227.076
SO LOCATION AT20F POINT 391390.445 4328793.502 227.076
SO LOCATION AT21 POINT 391390.445 4328793.502 227.076
SO LOCATION AT24B POINT 391390.445 4328793.502 227.076
SO LOCATION AT44 POINT 391390.445 4328793.502 227.076
SO LOCATION AT48 VOLUME 391390.445 4328793.502 227.076

SO SRCPARAM AT1 0.000316 20.7264 449.81667 2.159 1.8288
SO SRCPARAM AT2 0.0003823 20.7264 449.81667 2.159 1.8288
SO SRCPARAM AT3 0.000359 20.7264 449.81667 2.159 1.8288
SO SRCPARAM AT4 0.00018225 20.7264 449.81667 2.159 1.8288
SO SRCPARAM AT20 0.00165 17.73936 497.5944 8.41248 0.73152

SO SRCPARAM AT20A 0.0001437 7.3152 949.81667 11.16076 0.609
SO SRCPARAM AT20B 5.1745E-05 2.4384 422.0388 11.41984 0.762
SO SRCPARAM AT20C 0.00012074 2.4384 477.5944 6.18744 0.762
SO SRCPARAM AT20D 0.000109241 7.3152 949.81667 11.16076 0.6096
SO SRCPARAM AT20E 3.737E-05 7.3152 949.816667 11.16076 0.6096
SO SRCPARAM AT20F 0.000091992 7.3152 949.81667 11.16076 0.6096
SO SRCPARAM AT21 0.00012074 10.668 322.03889 14.58468 0.3048
SO SRCPARAM AT24B 0.018639 11.1252 500.927778 6.2788 0.51816
SO SRCPARAM AT44 0.0006238 4.2672 338.70556 22.12848 0.12192
SO SRCPARAM AT48 0.000347845 5 1.1628 4.651

**Kansas City Aggregate LLC
SO LOCATION KCA15 POINT 380524.85 4332004.45 235
SO SRCPARAM KCA15 0.067 3.048 422.038 1.442 0.204

**Courtney Ridge Landfill
SO LOCATION CRL09 VOLUME 380017.63 4333789.377 240
SO SRCPARAM CRL09 0.0094 2.5 0.6977 2.3256
SO LOCATION CRL11 VOLUME 380017.63 4333789.377 240
SO SRCPARAM CRL11 0.0078 2.5 0.6977 2.3256

**APAC-KS-095-0048
SO LOCATION APACKS6 VOLUME 380041.157 4333792.426 240
SO SRCPARAM APACKS6 0.0316 5 1.1628 4.651

**APAC-KS-095-0061
SO LOCATION APACKS3 POINT 380246.996 4332741.075 247.93
SO LOCATION APACKS4 VOLUME 380246.996 4332741.075 247.93
SO SRCPARAM APACKS3 0.0219 7.949 391.92 1.6 1.61
SO SRCPARAM APACKS4 0.0752 5 1.1628 4.651

**Audubon Materials
SO LOCATION AUD77 POINT 379109.3 4333859.45 243.58
SO SRCPARAM AUD77 3.358 127.4064 432.15 15.1330152 2.7432

**Blue Valley Units at reported 2014 actual emissions
SO LOCATION BV3 POINT 385311.902 4327808.31 238.22
SO LOCATION BV4 POINT 385313.564 4327821.132 238.25
SO LOCATION BV5 POINT 385329.948 4327832.292 238.16
SO LOCATION BV9 POINT 385299.08 4327842.502 238.32
**SO SRCPARAM BV3 10.72 46.6344 434.8166667 14.35608 1.6764
**SO SRCPARAM BV4 21.113 46.6344 453.15 15.78864 1.6764
**SO SRCPARAM BV5 28.713 75.5 433.15 29.8267374 2.0574
SO SRCPARAM BV9 0.00001725 34.1376 477.5944 6.88848 0.51816

**BLue valley at natural gas rates as required by MACT by Jan 2016 and MO Rule by Jan 2017
SO SRCPARAM BV3 0.0209 46.6344 434.8166667 14.35608 1.6764
SO SRCPARAM BV4 0.0209 46.6344 453.15 15.78864 1.6764
SO SRCPARAM BV5 0.0400 75.5 433.15 29.8267374 2.0574

SO HOUREMIS Combined-Hourly-CEMS-13-15.txt BPUN1 BPUQ1 BPUQ2 HAWTH6 SIB5A SIB5B SIB5C

**BPIP OUTPUTS DATED 3-4-15

SO BUILDHGT SIB5A 60.66 49.38 49.38 60.66 60.66 60.66
SO BUILDHGT SIB5A 60.66 60.66 60.66 60.66 60.66 60.66
SO BUILDHGT SIB5A 60.66 60.66 60.66 60.66 60.66 60.66
SO BUILDHGT SIB5A 60.66 49.38 49.38 60.66 60.66 60.66
SO BUILDHGT SIB5A 60.66 60.66 60.66 60.66 60.66 60.66
SO BUILDHGT SIB5A 60.66 60.66 60.66 60.66 60.66 60.66
SO BUILDWID SIB5A 53.34 49.82 103.07 49.66 59.72 67.97
SO BUILDWID SIB5A 74.16 78.09 79.65 78.79 75.53 76.58
SO BUILDWID SIB5A 80.43 81.84 80.76 77.23 71.36 63.31
SO BUILDWID SIB5A 53.34 49.82 103.07 49.66 59.72 67.97
SO BUILDWID SIB5A 74.16 78.09 79.65 78.79 75.53 76.58
SO BUILDWID SIB5A 80.43 81.84 80.76 77.23 71.36 63.31
SO BUILDLEN SIB5A 78.79 57.39 76.59 80.43 81.84 80.76
SO BUILDLEN SIB5A 77.23 71.36 63.31 53.34 41.75 38.08
SO BUILDLEN SIB5A 49.66 59.72 67.97 74.16 78.09 79.65
SO BUILDLEN SIB5A 78.79 57.39 76.59 80.43 81.84 80.76

SO BUILDLEN SIB5A 77.23 71.36 63.31 53.34 41.75 38.08
SO BUILDLEN SIB5A 49.66 59.72 67.97 74.16 78.09 79.65
SO XBADJ SIB5A -84.86 -62.44 -78.75 -76.52 -71.97 -65.23
SO XBADJ SIB5A -56.51 -46.07 -34.23 -21.35 -7.82 2.03
SO XBADJ SIB5A 2.99 3.87 4.62 5.23 5.69 5.97
SO XBADJ SIB5A 6.07 5.05 2.16 -3.91 -9.87 -15.53
SO XBADJ SIB5A -20.73 -25.29 -29.08 -31.99 -33.93 -40.12
SO XBADJ SIB5A -52.65 -63.59 -72.59 -79.39 -83.78 -85.62
SO YBADJ SIB5A -5.32 49.23 11.42 -27.82 -33.73 -38.61
SO YBADJ SIB5A -42.31 -44.73 -45.79 -45.46 -43.75 -40.46
SO YBADJ SIB5A -36.31 -31.05 -24.85 -17.89 -10.39 -2.57
SO YBADJ SIB5A 5.32 -49.23 -11.42 27.82 33.73 38.61
SO YBADJ SIB5A 42.31 44.73 45.80 45.46 43.75 40.46
SO YBADJ SIB5A 36.31 31.05 24.85 17.89 10.39 2.57

SO BUILDHGT SIB5B 60.66 49.38 49.38 60.66 60.66 60.66
SO BUILDHGT SIB5B 60.66 60.66 60.66 60.66 60.66 60.66
SO BUILDHGT SIB5B 60.66 60.66 60.66 60.66 60.66 60.66
SO BUILDHGT SIB5B 60.66 49.38 49.38 60.66 60.66 60.66
SO BUILDHGT SIB5B 60.66 60.66 60.66 60.66 60.66 60.66
SO BUILDHGT SIB5B 60.66 60.66 60.66 60.66 60.66 60.66
SO BUILDWID SIB5B 53.34 49.82 103.07 49.66 59.72 67.97
SO BUILDWID SIB5B 74.16 78.09 79.65 78.79 75.53 76.58
SO BUILDWID SIB5B 80.43 81.84 80.76 77.23 71.36 63.31
SO BUILDWID SIB5B 53.34 49.82 103.07 49.66 59.72 67.97
SO BUILDWID SIB5B 74.16 78.09 79.65 78.79 75.53 76.58
SO BUILDWID SIB5B 80.43 81.84 80.76 77.23 71.36 63.31
SO BUILDLEN SIB5B 78.79 57.39 76.59 80.43 81.84 80.76
SO BUILDLEN SIB5B 77.23 71.36 63.31 53.34 41.75 38.08
SO BUILDLEN SIB5B 49.66 59.72 67.97 74.16 78.09 79.65
SO BUILDLEN SIB5B 78.79 57.39 76.59 80.43 81.84 80.76
SO BUILDLEN SIB5B 77.23 71.36 63.31 53.34 41.75 38.08
SO BUILDLEN SIB5B 49.66 59.72 67.97 74.16 78.09 79.65
SO XBADJ SIB5B -84.86 -62.44 -78.75 -76.52 -71.97 -65.23
SO XBADJ SIB5B -56.51 -46.07 -34.23 -21.35 -7.82 2.03
SO XBADJ SIB5B 2.99 3.87 4.62 5.23 5.69 5.97
SO XBADJ SIB5B 6.07 5.05 2.16 -3.91 -9.87 -15.53
SO XBADJ SIB5B -20.73 -25.29 -29.08 -31.99 -33.93 -40.12
SO XBADJ SIB5B -52.65 -63.59 -72.59 -79.39 -83.78 -85.62
SO YBADJ SIB5B -5.32 49.23 11.42 -27.82 -33.73 -38.61
SO YBADJ SIB5B -42.31 -44.73 -45.79 -45.46 -43.75 -40.46
SO YBADJ SIB5B -36.31 -31.05 -24.85 -17.89 -10.39 -2.57
SO YBADJ SIB5B 5.32 -49.23 -11.42 27.82 33.73 38.61
SO YBADJ SIB5B 42.31 44.73 45.80 45.46 43.75 40.46
SO YBADJ SIB5B 36.31 31.05 24.85 17.89 10.39 2.57

SO BUILDHGT SIB5C 60.66 49.38 49.38 60.66 60.66 60.66
SO BUILDHGT SIB5C 60.66 60.66 60.66 60.66 60.66 60.66
SO BUILDHGT SIB5C 60.66 60.66 60.66 60.66 60.66 60.66
SO BUILDHGT SIB5C 60.66 49.38 49.38 60.66 60.66 60.66
SO BUILDHGT SIB5C 60.66 60.66 60.66 60.66 60.66 60.66
SO BUILDHGT SIB5C 60.66 60.66 60.66 60.66 60.66 60.66
SO BUILDWID SIB5C 53.34 49.82 103.07 49.66 59.72 67.97
SO BUILDWID SIB5C 74.16 78.09 79.65 78.79 75.53 76.58
SO BUILDWID SIB5C 80.43 81.84 80.76 77.23 71.36 63.31
SO BUILDWID SIB5C 53.34 49.82 103.07 49.66 59.72 67.97
SO BUILDWID SIB5C 74.16 78.09 79.65 78.79 75.53 76.58
SO BUILDWID SIB5C 80.43 81.84 80.76 77.23 71.36 63.31
SO BUILDLEN SIB5C 78.79 57.39 76.59 80.43 81.84 80.76
SO BUILDLEN SIB5C 77.23 71.36 63.31 53.34 41.75 38.08
SO BUILDLEN SIB5C 49.66 59.72 67.97 74.16 78.09 79.65
SO BUILDLEN SIB5C 78.79 57.39 76.59 80.43 81.84 80.76
SO BUILDLEN SIB5C 77.23 71.36 63.31 53.34 41.75 38.08
SO BUILDLEN SIB5C 49.66 59.72 67.97 74.16 78.09 79.65
SO XBADJ SIB5C -84.86 -62.44 -78.75 -76.52 -71.97 -65.23
SO XBADJ SIB5C -56.51 -46.07 -34.23 -21.35 -7.82 2.03
SO XBADJ SIB5C 2.99 3.87 4.62 5.23 5.69 5.97
SO XBADJ SIB5C 6.07 5.05 2.16 -3.91 -9.87 -15.53

```
SO XBADJ    SIB5C      -20.73  -25.29  -29.08  -31.99  -33.93  -40.12
SO XBADJ    SIB5C      -52.65  -63.59  -72.59  -79.39  -83.78  -85.62
SO YBADJ    SIB5C       -5.32   49.23   11.42  -27.82  -33.73  -38.61
SO YBADJ    SIB5C      -42.31  -44.73  -45.79  -45.46  -43.75  -40.46
SO YBADJ    SIB5C      -36.31  -31.05  -24.85  -17.89  -10.39   -2.57
SO YBADJ    SIB5C        5.32  -49.23  -11.42   27.82   33.73   38.61
SO YBADJ    SIB5C       42.31   44.73   45.80   45.46   43.75   40.46
SO YBADJ    SIB5C       36.31   31.05   24.85   17.89   10.39    2.57

  BACKGRND ANNUAL 13.0
  BACKUNIT PPB

SO SRCGROUP BPUN BPUN1 BPUNCT4 BPUNNE BPUNAUX BPUNBSG BPUN480 BPUN481
SO SRCGROUP BPUQ BPUQ1 BPUQ2 BPUQCT1 BPUQCT2 BPUQCT3 BPUQAC BPUQDC BPUQAUX
SO SRCGROUP Hawthorn HAWTH6 HAWTH701 HAWTH801 HAWTH901
SO SRCGROUP Veolia VEP1A VEP2 VEP3
SO SRCGROUP STMARY STMARY1 STMARY2
SO SRCGROUP MR MR20
SO SRCGROUP LBV LBV1-LBV16
SO SRCGROUP AT AT1-AT48
SO SRCGROUP SIBLEY SIB5A  SIB5B  SIB5C
SO SRCGROUP APACKS34 APACKS3 APACKS4
SO SRCGROUP APACKS6 APACKS6
SO SRCGROUP BV  BV3 BV4 BV5 BV9
SO SRCGROUP CRL CRL09 CRL11
SO SRCGROUP AUD AUD77
SO SRCGROUP KCA KCA15
SO SRCGROUP ALL BACKGROUND

SO FINISHED

**
****************************************
** AERMOD Receptor Pathway
****************************************
**20 km tiered grid around Sibley
**
RE STARTING

** AERMAP - VERSION 11103                                  03/03/15
**                                              16:40:55
** KCPL Sibley Elevation Extraction
** MDNR 3-3-15
** A total of      18  NED files were used
** A total of    4022  receptors were processed
** DOMAINXY 364205 4304582 15 427441 4365172 15
** ANCHORXY  397714.92   4337276.49  397714.92   4337276.49  15 4
** Terrain heights were extracted by default

RE ELEVUNIT METERS
**Receptor Grid unchanged from original recommendation
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**Met data files dated 3-28-16
ME STARTING
  SURFFILE KMCI-KTOP-13-15.SFC
  PROFFILE KMCI-KTOP-13-15.PFL
  SURFDATA 03947 2013 KCI 39.29 94.73
  UAIRDATA 13996 2013 TOPEKA/MUNICIPAL_ARPT
  PROFBASE 313.0 METERS
ME FINISHED
**
****************************************
** AERMOD Output Pathway
****************************************
**
```

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**
OU STARTING
  RECTABLE ALLAVE 4-10
OU SUMMFILE Sibley-CEMS-INT-MAXDCONTALL20kgrid-13-15.SUM
OU MAXDCONT ALL 4 THRESH 196.5 Sibley-CEMS-INT-MAXDCONTALL20kgrid-13-15.DAT
OU PLOTFILE 1 ALL 4TH Sibley-CEMS-INT-01H4GALL20kgrid-13-15.PLT

OU FINISHED
```

Excerpt of Hourly Emissions File for Sibley (Includes Interactive Source Hourly Emissions; BPU Quindaro, BPU Nearman, and KCPL Hawthorn)

```
SO HOUREMIS  13  1  1  1  BPUN1  105.9888633  424.82  13.41
SO HOUREMIS  13  1  1  1  BPUQ1  0  438.71  11.89
SO HOUREMIS  13  1  1  1  BPUQ2  43.22964694  436.48  25.3
SO HOUREMIS  13  1  1  1  HAWTH6  40.53330639  368.15  24.3545
SO HOUREMIS  13  1  1  1  SIB5A  0  427.76111  30.12125
SO HOUREMIS  13  1  1  1  SIB5B  0  427.76111  30.12125
SO HOUREMIS  13  1  1  1  SIB5C  140.3987047  427.76111  30.12125
SO HOUREMIS  13  1  1  2  BPUN1  109.1387939  424.82  13.41
SO HOUREMIS  13  1  1  2  BPUQ1  0  438.71  11.89
SO HOUREMIS  13  1  1  2  BPUQ2  43.28004583  436.48  25.3
SO HOUREMIS  13  1  1  2  HAWTH6  68.45429083  368.15  24.3545
SO HOUREMIS  13  1  1  2  SIB5A  0  427.76111  30.12125
SO HOUREMIS  13  1  1  2  SIB5B  0  427.76111  30.12125
SO HOUREMIS  13  1  1  2  SIB5C  140.8144956  427.76111  30.12125
SO HOUREMIS  13  1  1  3  BPUN1  111.4193436  424.82  13.41
SO HOUREMIS  13  1  1  3  BPUQ1  0  438.71  11.89
SO HOUREMIS  13  1  1  3  BPUQ2  43.96043083  436.48  25.3
SO HOUREMIS  13  1  1  3  HAWTH6  42.72565806  368.15  24.3545
SO HOUREMIS  13  1  1  3  SIB5A  0  427.76111  30.12125
SO HOUREMIS  13  1  1  3  SIB5B  0  427.76111  30.12125
SO HOUREMIS  13  1  1  3  SIB5C  140.8522947  427.76111  30.12125
SO HOUREMIS  13  1  1  4  BPUN1  112.4777203  424.82  13.41
SO HOUREMIS  13  1  1  4  BPUQ1  0  438.71  11.89
SO HOUREMIS  13  1  1  4  BPUQ2  43.46904167  436.48  25.3
SO HOUREMIS  13  1  1  4  HAWTH6  43.75883528  368.15  24.3545
SO HOUREMIS  13  1  1  4  SIB5A  0  427.76111  30.12125
SO HOUREMIS  13  1  1  4  SIB5B  0  427.76111  30.12125
SO HOUREMIS  13  1  1  4  SIB5C  141.7972739  427.76111  30.12125
SO HOUREMIS  13  1  1  5  BPUN1  112.03673  424.82  13.41
SO HOUREMIS  13  1  1  5  BPUQ1  0  438.71  11.89
SO HOUREMIS  13  1  1  5  BPUQ2  43.46904167  436.48  25.3
SO HOUREMIS  13  1  1  5  HAWTH6  46.26618  368.15  24.3545
SO HOUREMIS  13  1  1  5  SIB5A  0  427.76111  30.12125
SO HOUREMIS  13  1  1  5  SIB5B  0  427.76111  30.12125
SO HOUREMIS  13  1  1  5  SIB5C  154.67419  427.76111  30.12125
SO HOUREMIS  13  1  1  6  BPUN1  132.5112786  424.82  13.41
SO HOUREMIS  13  1  1  6  BPUQ1  0  438.71  11.89
SO HOUREMIS  13  1  1  6  BPUQ2  43.98563028  436.48  25.3
SO HOUREMIS  13  1  1  6  HAWTH6  48.43333222  368.15  24.3545
SO HOUREMIS  13  1  1  6  SIB5A  0  427.76111  30.12125
SO HOUREMIS  13  1  1  6  SIB5B  0  427.76111  30.12125
SO HOUREMIS  13  1  1  6  SIB5C  169.8316558  427.76111  30.12125
SO HOUREMIS  13  1  1  7  BPUN1  163.6577919  424.82  13.41
SO HOUREMIS  13  1  1  7  BPUQ1  0  438.71  11.89
SO HOUREMIS  13  1  1  7  BPUQ2  44.03602917  436.48  25.3
SO HOUREMIS  13  1  1  7  HAWTH6  47.26155806  368.15  24.3545
SO HOUREMIS  13  1  1  7  SIB5A  0  427.76111  30.12125
SO HOUREMIS  13  1  1  7  SIB5B  0  427.76111  30.12125
SO HOUREMIS  13  1  1  7  SIB5C  169.8568553  427.76111  30.12125
SO HOUREMIS  13  1  1  8  BPUN1  133.5696553  424.82  13.41
SO HOUREMIS  13  1  1  8  BPUQ1  0  438.71  11.89
SO HOUREMIS  13  1  1  8  BPUQ2  44.90541  436.48  25.3
SO HOUREMIS  13  1  1  8  HAWTH6  48.58452889  368.15  24.3545
SO HOUREMIS  13  1  1  8  SIB5A  0  427.76111  30.12125
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SO HOUREMIS  13  1  1  8  SIB5B  0  427.76111  30.12125
SO HOUREMIS  13  1  1  8  SIB5C  176.1945156  427.76111  30.12125
SO HOUREMIS  13  1  1  9  BPUN1  114.30468  424.82  13.41
SO HOUREMIS  13  1  1  9  BPUQ1  0  438.71  11.89
SO HOUREMIS  13  1  1  9  BPUQ2  48.21913694  436.48  25.3
SO HOUREMIS  13  1  1  9  HAWTH6  44.30062333  368.15  24.3545
SO HOUREMIS  13  1  1  9  SIB5A  0  427.76111  30.12125
SO HOUREMIS  13  1  1  9  SIB5B  0  427.76111  30.12125
SO HOUREMIS  13  1  1  9  SIB5C  172.8807886  427.76111  30.12125
SO HOUREMIS  13  1  1  10  BPUN1  98.69362417  424.82  13.41
SO HOUREMIS  13  1  1  10  BPUQ1  0  438.71  11.89
SO HOUREMIS  13  1  1  10  BPUQ2  57.13974028  436.48  25.3
SO HOUREMIS  13  1  1  10  HAWTH6  45.38419944  368.15  24.3545
SO HOUREMIS  13  1  1  10  SIB5A  0  427.76111  30.12125
SO HOUREMIS  13  1  1  10  SIB5B  0  427.76111  30.12125
SO HOUREMIS  13  1  1  10  SIB5C  170.7010367  427.76111  30.12125
SO HOUREMIS  13  1  1  11  BPUN1  92.25516611  424.82  13.41
SO HOUREMIS  13  1  1  11  BPUQ1  0  438.71  11.89
SO HOUREMIS  13  1  1  11  BPUQ2  61.72603917  436.48  25.3
SO HOUREMIS  13  1  1  11  HAWTH6  44.46441972  368.15  24.3545
SO HOUREMIS  13  1  1  11  SIB5A  0  427.76111  30.12125
SO HOUREMIS  13  1  1  11  SIB5B  0  427.76111  30.12125
SO HOUREMIS  13  1  1  11  SIB5C  170.4742417  427.76111  30.12125
SO HOUREMIS  13  1  1  12  BPUN1  85.19932167  424.82  13.41
SO HOUREMIS  13  1  1  12  BPUQ1  0  438.71  11.89
SO HOUREMIS  13  1  1  12  BPUQ2  61.65044083  436.48  25.3
SO HOUREMIS  13  1  1  12  HAWTH6  44.64081583  368.15  24.3545
SO HOUREMIS  13  1  1  12  SIB5A  0  427.76111  30.12125
SO HOUREMIS  13  1  1  12  SIB5B  0  427.76111  30.12125
SO HOUREMIS  13  1  1  12  SIB5C  169.5166628  427.76111  30.12125
SO HOUREMIS  13  1  1  13  BPUN1  85.98050444  424.82  13.41
SO HOUREMIS  13  1  1  13  BPUQ1  0  438.71  11.89
SO HOUREMIS  13  1  1  13  BPUQ2  62.63321917  436.48  25.3
SO HOUREMIS  13  1  1  13  HAWTH6  43.62023833  368.15  24.3545
SO HOUREMIS  13  1  1  13  SIB5A  0  427.76111  30.12125
SO HOUREMIS  13  1  1  13  SIB5B  0  427.76111  30.12125
SO HOUREMIS  13  1  1  13  SIB5C  168.3448886  427.76111  30.12125
SO HOUREMIS  13  1  1  14  BPUN1  89.30683111  424.82  13.41
SO HOUREMIS  13  1  1  14  BPUQ1  0  438.71  11.89
SO HOUREMIS  13  1  1  14  BPUQ2  63.21280639  436.48  25.3
SO HOUREMIS  13  1  1  14  HAWTH6  44.96840861  368.15  24.3545
SO HOUREMIS  13  1  1  14  SIB5A  0  427.76111  30.12125
SO HOUREMIS  13  1  1  14  SIB5B  0  427.76111  30.12125
SO HOUREMIS  13  1  1  14  SIB5C  169.3906656  427.76111  30.12125
SO HOUREMIS  13  1  1  15  BPUN1  93.86793056  424.82  13.41
SO HOUREMIS  13  1  1  15  BPUQ1  0  438.71  11.89
SO HOUREMIS  13  1  1  15  BPUQ2  62.62061944  436.48  25.3
SO HOUREMIS  13  1  1  15  HAWTH6  45.57319528  368.15  24.3545
SO HOUREMIS  13  1  1  15  SIB5A  0  427.76111  30.12125
SO HOUREMIS  13  1  1  15  SIB5B  0  427.76111  30.12125
SO HOUREMIS  13  1  1  15  SIB5C  173.044585  427.76111  30.12125
SO HOUREMIS  13  1  1  16  BPUN1  96.40047472  424.82  13.41
SO HOUREMIS  13  1  1  16  BPUQ1  0  438.71  11.89
SO HOUREMIS  13  1  1  16  BPUQ2  62.16702944  436.48  25.3
SO HOUREMIS  13  1  1  16  HAWTH6  43.79663444  368.15  24.3545
SO HOUREMIS  13  1  1  16  SIB5A  0  427.76111  30.12125
SO HOUREMIS  13  1  1  16  SIB5B  0  427.76111  30.12125
SO HOUREMIS  13  1  1  16  SIB5C  172.7925906  427.76111  30.12125
SO HOUREMIS  13  1  1  17  BPUN1  112.5785181  424.82  13.41
SO HOUREMIS  13  1  1  17  BPUQ1  0  438.71  11.89
SO HOUREMIS  13  1  1  17  BPUQ2  61.90243528  436.48  25.3
SO HOUREMIS  13  1  1  17  HAWTH6  45.6991925  368.15  24.3545
SO HOUREMIS  13  1  1  17  SIB5A  0  427.76111  30.12125
SO HOUREMIS  13  1  1  17  SIB5B  0  427.76111  30.12125
SO HOUREMIS  13  1  1  17  SIB5C  173.0697844  427.76111  30.12125
SO HOUREMIS  13  1  1  18  BPUN1  140.3105067  424.82  13.41
SO HOUREMIS  13  1  1  18  BPUQ1  0  438.71  11.89
SO HOUREMIS  13  1  1  18  BPUQ2  62.04103222  436.48  25.3
SO HOUREMIS  13  1  1  18  HAWTH6  44.52741833  368.15  24.3545
SO HOUREMIS  13  1  1  18  SIB5A  0  427.76111  30.12125
```

SO HOUREMIS 13 1 1 18 SIB5B 0 427.76111 30.12125
SO HOUREMIS 13 1 1 18 SIB5C 178.0214753 427.76111 30.12125
SO HOUREMIS 13 1 1 19 BPUN1 140.5877006 424.82 13.41
SO HOUREMIS 13 1 1 19 BPUQ1 0 438.71 11.89
SO HOUREMIS 13 1 1 19 BPUQ2 61.39844639 436.48 25.3
SO HOUREMIS 13 1 1 19 HAWTH6 45.2456025 368.15 24.3545
SO HOUREMIS 13 1 1 19 SIB5A 0 427.76111 30.12125
SO HOUREMIS 13 1 1 19 SIB5B 0 427.76111 30.12125
SO HOUREMIS 13 1 1 19 SIB5C 174.7203481 427.76111 30.12125
SO HOUREMIS 13 1 1 20 BPUN1 138.9749361 424.82 13.41
SO HOUREMIS 13 1 1 20 BPUQ1 0 438.71 11.89
SO HOUREMIS 13 1 1 20 BPUQ2 61.81423722 436.48 25.3
SO HOUREMIS 13 1 1 20 HAWTH6 45.05660667 368.15 24.3545
SO HOUREMIS 13 1 1 20 SIB5A 0 427.76111 30.12125
SO HOUREMIS 13 1 1 20 SIB5B 0 427.76111 30.12125
SO HOUREMIS 13 1 1 20 SIB5C 171.7090144 427.76111 30.12125
SO HOUREMIS 13 1 1 21 BPUN1 141.97367 424.82 13.41
SO HOUREMIS 13 1 1 21 BPUQ1 0 438.71 11.89
SO HOUREMIS 13 1 1 21 BPUQ2 61.52444361 436.48 25.3
SO HOUREMIS 13 1 1 21 HAWTH6 44.52741833 368.15 24.3545
SO HOUREMIS 13 1 1 21 SIB5A 0 427.76111 30.12125
SO HOUREMIS 13 1 1 21 SIB5B 0 427.76111 30.12125
SO HOUREMIS 13 1 1 21 SIB5C 168.9244758 427.76111 30.12125
SO HOUREMIS 13 1 1 22 BPUN1 154.4095958 424.82 13.41
SO HOUREMIS 13 1 1 22 BPUQ1 0 438.71 11.89
SO HOUREMIS 13 1 1 22 BPUQ2 62.20482861 436.48 25.3
SO HOUREMIS 13 1 1 22 HAWTH6 44.36362194 368.15 24.3545
SO HOUREMIS 13 1 1 22 SIB5A 0 427.76111 30.12125
SO HOUREMIS 13 1 1 22 SIB5B 0 427.76111 30.12125
SO HOUREMIS 13 1 1 22 SIB5C 168.8614772 427.76111 30.12125
SO HOUREMIS 13 1 1 23 BPUN1 144.7708083 424.82 13.41
SO HOUREMIS 13 1 1 23 BPUQ1 0 438.71 11.89
SO HOUREMIS 13 1 1 23 BPUQ2 61.90243528 436.48 25.3
SO HOUREMIS 13 1 1 23 HAWTH6 45.45979778 368.15 24.3545
SO HOUREMIS 13 1 1 23 SIB5A 0 427.76111 30.12125
SO HOUREMIS 13 1 1 23 SIB5B 0 427.76111 30.12125
SO HOUREMIS 13 1 1 23 SIB5C 170.9152319 427.76111 30.12125
SO HOUREMIS 13 1 1 24 BPUN1 130.7095183 424.82 13.41
SO HOUREMIS 13 1 1 24 BPUQ1 0 438.71 11.89
SO HOUREMIS 13 1 1 24 BPUQ2 51.15487222 436.48 25.3
SO HOUREMIS 13 1 1 24 HAWTH6 47.34975611 368.15 24.3545
SO HOUREMIS 13 1 1 24 SIB5A 0 427.76111 30.12125
SO HOUREMIS 13 1 1 24 SIB5B 0 427.76111 30.12125
SO HOUREMIS 13 1 1 24 SIB5C 170.1466489 427.76111 30.12125

Excerpt of AERMOD Output file for Sibley

```
 *** AERMOD - VERSION  15181 ***   *** SO2 Sibley Designations Modeling 3-28-16                ***        04/04/16
 *** AERMET - VERSION  15181 ***   *** Hourly CEMS emissions 2013-2015 for KCPL Sibley 20 km tiered grid ar ***        09:20:04
                                                                                 PAGE  5768
 **MODELOPTs:   RegDFAULT CONC      ELEV      RURAL

           *** THE SUMMARY OF MAXIMUM   4TH-HIGHEST MAX DAILY  1-HR RESULTS AVERAGED OVER   3 YEARS ***

                  ** CONC OF SO2      IN MICROGRAMS/M**3                      **

                                                                      NETWORK
GROUP ID                   AVERAGE CONC            RECEPTOR  (XR, YR, ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

BPUN      1ST HIGHEST VALUE IS      15.48971 AT (  377714.91,  4333276.50,   301.48,   302.10,    0.00)  DC
          2ND HIGHEST VALUE IS      14.89970 AT (  378714.91,  4333276.50,   265.88,   297.66,    0.00)  DC
          3RD HIGHEST VALUE IS      14.78827 AT (  377714.91,  4334276.50,   222.99,   311.99,    0.00)  DC
          4TH HIGHEST VALUE IS      14.56822 AT (  378714.91,  4332276.50,   256.80,   268.06,    0.00)  DC
          5TH HIGHEST VALUE IS      14.54065 AT (  377714.91,  4332276.50,   267.98,   289.51,    0.00)  DC
          6TH HIGHEST VALUE IS      14.42405 AT (  379714.91,  4332276.50,   276.48,   276.48,    0.00)  DC
          7TH HIGHEST VALUE IS      14.40166 AT (  379714.91,  4333276.50,   253.22,   266.38,    0.00)  DC
```

8TH HIGHEST VALUE IS 14.26859 AT (378714.91, 4334276.50, 263.65, 300.65, 0.00) DC
9TH HIGHEST VALUE IS 14.24339 AT (380714.91, 4332276.50, 258.14, 274.33, 0.00) DC
10TH HIGHEST VALUE IS 14.20520 AT (377714.91, 4346276.50, 263.91, 302.48, 0.00) DC

BPUQ 1ST HIGHEST VALUE IS 12.28610 AT (377714.91, 4333276.50, 301.48, 302.10, 0.00) DC
2ND HIGHEST VALUE IS 11.66383 AT (378714.91, 4333276.50, 265.88, 297.66, 0.00) DC
3RD HIGHEST VALUE IS 11.57953 AT (377714.91, 4326276.50, 313.76, 313.76, 0.00) DC
4TH HIGHEST VALUE IS 11.53196 AT (377714.91, 4332276.50, 267.98, 289.51, 0.00) DC
5TH HIGHEST VALUE IS 11.43366 AT (378714.91, 4332276.50, 256.80, 268.06, 0.00) DC
6TH HIGHEST VALUE IS 11.26586 AT (379714.91, 4333276.50, 253.22, 266.38, 0.00) DC
7TH HIGHEST VALUE IS 11.17851 AT (377714.91, 4342276.50, 246.75, 251.19, 0.00) DC
8TH HIGHEST VALUE IS 11.16609 AT (377714.91, 4323276.50, 285.22, 285.22, 0.00) DC
9TH HIGHEST VALUE IS 11.11071 AT (379714.91, 4332276.50, 276.48, 276.48, 0.00) DC
10TH HIGHEST VALUE IS 11.07901 AT (377714.91, 4334276.50, 222.99, 311.99, 0.00) DC

HAWTHORN 1ST HIGHEST VALUE IS 10.56864 AT (377714.91, 4335276.50, 221.67, 221.67, 0.00) DC
2ND HIGHEST VALUE IS 10.33711 AT (377714.91, 4333276.50, 301.48, 302.10, 0.00) DC
3RD HIGHEST VALUE IS 10.09959 AT (377714.91, 4337276.50, 221.43, 221.43, 0.00) DC
4TH HIGHEST VALUE IS 10.07122 AT (378714.91, 4334276.50, 263.65, 300.65, 0.00) DC
5TH HIGHEST VALUE IS 9.66188 AT (377714.91, 4343276.50, 249.11, 253.94, 0.00) DC
6TH HIGHEST VALUE IS 9.64896 AT (377714.91, 4334276.50, 222.99, 311.99, 0.00) DC
7TH HIGHEST VALUE IS 9.62940 AT (379714.91, 4334276.50, 249.62, 249.62, 0.00) DC
8TH HIGHEST VALUE IS 9.51973 AT (379714.91, 4336276.50, 215.45, 222.47, 0.00) DC
9TH HIGHEST VALUE IS 9.32592 AT (379714.91, 4338276.50, 221.69, 221.69, 0.00) DC
10TH HIGHEST VALUE IS 9.22861 AT (377714.91, 4342276.50, 246.75, 251.19, 0.00) DC

VEOLIA 1ST HIGHEST VALUE IS 155.92416 AT (377714.91, 4327276.50, 317.15, 317.15, 0.00) DC
2ND HIGHEST VALUE IS 126.79148 AT (377714.91, 4326276.50, 313.76, 313.76, 0.00) DC
3RD HIGHEST VALUE IS 115.42452 AT (377714.91, 4329276.50, 312.58, 312.58, 0.00) DC
4TH HIGHEST VALUE IS 115.18735 AT (377714.91, 4325276.50, 311.19, 311.19, 0.00) DC
5TH HIGHEST VALUE IS 93.27986 AT (377714.91, 4324276.50, 311.13, 311.13, 0.00) DC
6TH HIGHEST VALUE IS 74.38667 AT (379714.91, 4330276.50, 305.71, 307.11, 0.00) DC
7TH HIGHEST VALUE IS 73.77869 AT (378714.91, 4350276.50, 309.34, 309.34, 0.00) DC
8TH HIGHEST VALUE IS 72.71642 AT (377714.91, 4328276.50, 304.84, 304.84, 0.00) DC
9TH HIGHEST VALUE IS 71.00608 AT (402714.91, 4354276.50, 323.65, 323.65, 0.00) DC
10TH HIGHEST VALUE IS 66.61897 AT (378714.91, 4329276.50, 304.54, 310.49, 0.00) DC

**MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE SUMMARY OF MAXIMUM 4TH-HIGHEST MAX DAILY 1-HR RESULTS AVERAGED OVER 3 YEARS ***

** CONC OF SO2 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	NETWORK RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE	GRID-ID

STMARY 1ST HIGHEST VALUE IS 3.14451 AT (390714.91, 4320276.50, 287.56, 287.56, 0.00) DC
2ND HIGHEST VALUE IS 0.84340 AT (389714.91, 4320276.50, 292.64, 292.64, 0.00) DC
3RD HIGHEST VALUE IS 0.58011 AT (389714.91, 4319276.50, 285.51, 285.51, 0.00) DC
4TH HIGHEST VALUE IS 0.54889 AT (391714.91, 4320276.50, 285.03, 286.28, 0.00) DC
5TH HIGHEST VALUE IS 0.48876 AT (390714.91, 4319276.50, 273.21, 278.08, 0.00) DC
6TH HIGHEST VALUE IS 0.46733 AT (390714.91, 4321276.50, 282.04, 282.04, 0.00) DC
7TH HIGHEST VALUE IS 0.44872 AT (389714.91, 4321276.50, 296.11, 296.11, 0.00) DC
8TH HIGHEST VALUE IS 0.34597 AT (391714.91, 4319276.50, 273.96, 278.17, 0.00) DC
9TH HIGHEST VALUE IS 0.31216 AT (391714.91, 4321276.50, 282.83, 282.83, 0.00) DC
10TH HIGHEST VALUE IS 0.31010 AT (388714.91, 4320276.50, 286.98, 286.98, 0.00) DC

MR 1ST HIGHEST VALUE IS 16.67417 AT (401714.91, 4343776.50, 225.14, 300.01, 0.00) DC
2ND HIGHEST VALUE IS 7.34093 AT (401714.91, 4343276.50, 220.46, 300.01, 0.00) DC
3RD HIGHEST VALUE IS 6.17427 AT (401214.91, 4343776.50, 220.07, 220.07, 0.00) DC
4TH HIGHEST VALUE IS 5.18919 AT (401214.91, 4343276.50, 220.85, 220.85, 0.00) DC
5TH HIGHEST VALUE IS 5.02602 AT (402214.91, 4343276.50, 262.64, 300.01, 0.00) DC
6TH HIGHEST VALUE IS 4.94819 AT (401214.91, 4344776.50, 246.96, 258.73, 0.00) DC
7TH HIGHEST VALUE IS 4.86348 AT (401214.91, 4344276.50, 221.28, 289.72, 0.00) DC
8TH HIGHEST VALUE IS 4.75444 AT (402714.91, 4344276.50, 241.35, 297.14, 0.00) DC

9TH HIGHEST VALUE IS 4.38133 AT (401714.91, 4344776.50, 261.27, 291.11, 0.00) DC
10TH HIGHEST VALUE IS 4.00011 AT (402214.91, 4342776.50, 218.69, 300.01, 0.00) DC

LBV 1ST HIGHEST VALUE IS 0.27177 AT (383714.91, 4336276.50, 265.88, 273.73, 0.00) DC
2ND HIGHEST VALUE IS 0.23536 AT (387714.91, 4333776.50, 270.30, 285.88, 0.00) DC
3RD HIGHEST VALUE IS 0.23245 AT (384714.91, 4333276.50, 263.57, 265.73, 0.00) DC
4TH HIGHEST VALUE IS 0.22924 AT (382714.91, 4335276.50, 267.50, 267.50, 0.00) DC
5TH HIGHEST VALUE IS 0.22674 AT (388214.91, 4335776.50, 267.32, 267.32, 0.00) DC
6TH HIGHEST VALUE IS 0.21635 AT (387714.91, 4335276.50, 265.83, 267.39, 0.00) DC
7TH HIGHEST VALUE IS 0.21491 AT (383714.91, 4333276.50, 263.52, 268.95, 0.00) DC
8TH HIGHEST VALUE IS 0.20327 AT (387714.91, 4334276.50, 277.69, 279.67, 0.00) DC
9TH HIGHEST VALUE IS 0.19828 AT (388214.91, 4334776.50, 269.22, 274.10, 0.00) DC
10TH HIGHEST VALUE IS 0.18348 AT (384714.91, 4334276.50, 257.19, 263.03, 0.00) DC

AT 1ST HIGHEST VALUE IS 0.64699 AT (391214.91, 4328776.50, 226.77, 226.77, 0.00) DC
2ND HIGHEST VALUE IS 0.43022 AT (391714.91, 4328776.50, 226.35, 226.35, 0.00) DC
3RD HIGHEST VALUE IS 0.34840 AT (391214.91, 4328276.50, 227.50, 227.50, 0.00) DC
4TH HIGHEST VALUE IS 0.32590 AT (391214.91, 4329276.50, 224.38, 224.38, 0.00) DC
5TH HIGHEST VALUE IS 0.30366 AT (390714.91, 4328776.50, 228.23, 228.23, 0.00) DC
6TH HIGHEST VALUE IS 0.28674 AT (391714.91, 4329276.50, 225.12, 226.20, 0.00) DC
7TH HIGHEST VALUE IS 0.28635 AT (391714.91, 4328276.50, 225.87, 274.15, 0.00) DC
8TH HIGHEST VALUE IS 0.26831 AT (390714.91, 4328276.50, 227.46, 227.46, 0.00) DC
9TH HIGHEST VALUE IS 0.26300 AT (392214.91, 4328776.50, 227.90, 287.16, 0.00) DC
10TH HIGHEST VALUE IS 0.24872 AT (391214.91, 4329776.50, 229.79, 229.79, 0.00) DC

**MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE SUMMARY OF MAXIMUM 4TH-HIGHEST MAX DAILY 1-HR RESULTS AVERAGED OVER 3 YEARS ***

** CONC OF SO2 IN MICROGRAMS/M**3 **

NETWORK
GROUP ID AVERAGE CONC RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID

SIBLEY 1ST HIGHEST VALUE IS 56.51757 AT (394214.91, 4337026.50, 251.81, 251.81, 0.00) DC
2ND HIGHEST VALUE IS 56.00207 AT (394464.91, 4337026.50, 260.61, 260.61, 0.00) DC
3RD HIGHEST VALUE IS 55.60451 AT (394714.91, 4337026.50, 258.95, 258.95, 0.00) DC
4TH HIGHEST VALUE IS 55.55629 AT (394964.91, 4337026.50, 256.93, 256.93, 0.00) DC
5TH HIGHEST VALUE IS 52.46254 AT (395214.91, 4337026.50, 246.30, 249.77, 0.00) DC
6TH HIGHEST VALUE IS 51.16999 AT (394714.91, 4336776.50, 261.33, 261.33, 0.00) DC
7TH HIGHEST VALUE IS 50.99695 AT (394464.91, 4336776.50, 261.20, 261.20, 0.00) DC
8TH HIGHEST VALUE IS 50.63888 AT (394214.91, 4336776.50, 261.08, 261.08, 0.00) DC
9TH HIGHEST VALUE IS 50.49220 AT (394214.91, 4337276.50, 257.69, 257.69, 0.00) DC
10TH HIGHEST VALUE IS 50.22113 AT (394214.91, 4336526.50, 258.83, 258.83, 0.00) DC

APACKS34 1ST HIGHEST VALUE IS 36.26474 AT (379714.91, 4333276.50, 253.22, 266.38, 0.00) DC
2ND HIGHEST VALUE IS 30.05753 AT (380714.91, 4332276.50, 258.14, 274.33, 0.00) DC
3RD HIGHEST VALUE IS 15.49622 AT (379714.91, 4334276.50, 249.62, 249.62, 0.00) DC
4TH HIGHEST VALUE IS 15.08462 AT (380714.91, 4334276.50, 254.38, 259.85, 0.00) DC
5TH HIGHEST VALUE IS 13.09800 AT (378714.91, 4332276.50, 256.80, 268.06, 0.00) DC
6TH HIGHEST VALUE IS 11.52920 AT (379714.91, 4332276.50, 276.48, 276.48, 0.00) DC
7TH HIGHEST VALUE IS 9.72791 AT (381714.91, 4334276.50, 258.34, 263.05, 0.00) DC
8TH HIGHEST VALUE IS 8.04515 AT (378714.91, 4334276.50, 263.65, 300.65, 0.00) DC
9TH HIGHEST VALUE IS 7.93041 AT (380714.91, 4333276.50, 280.05, 284.26, 0.00) DC
10TH HIGHEST VALUE IS 6.59464 AT (379714.91, 4335276.50, 222.72, 222.72, 0.00) DC

APACKS6 1ST HIGHEST VALUE IS 17.03571 AT (379714.91, 4334276.50, 249.62, 249.62, 0.00) DC
2ND HIGHEST VALUE IS 10.07658 AT (379714.91, 4333276.50, 253.22, 266.38, 0.00) DC
3RD HIGHEST VALUE IS 6.68007 AT (380714.91, 4334276.50, 254.38, 259.85, 0.00) DC
4TH HIGHEST VALUE IS 5.62174 AT (379714.91, 4335276.50, 222.72, 222.72, 0.00) DC
5TH HIGHEST VALUE IS 4.52102 AT (380714.91, 4335276.50, 221.03, 264.41, 0.00) DC
6TH HIGHEST VALUE IS 3.90457 AT (378714.91, 4335276.50, 223.30, 225.87, 0.00) DC
7TH HIGHEST VALUE IS 3.11522 AT (377714.91, 4334276.50, 222.99, 311.99, 0.00) DC
8TH HIGHEST VALUE IS 3.07693 AT (381714.91, 4334276.50, 258.34, 263.05, 0.00) DC
9TH HIGHEST VALUE IS 3.06387 AT (378714.91, 4332276.50, 256.80, 268.06, 0.00) DC

10TH HIGHEST VALUE IS 2.98816 AT (380714.91, 4332276.50, 258.14, 274.33, 0.00) DC

BV 1ST HIGHEST VALUE IS 0.13329 AT (377714.91, 4325276.50, 311.19, 311.19, 0.00) DC
2ND HIGHEST VALUE IS 0.13275 AT (377714.91, 4326276.50, 313.76, 313.76, 0.00) DC
3RD HIGHEST VALUE IS 0.13201 AT (377714.91, 4327276.50, 317.15, 317.15, 0.00) DC
4TH HIGHEST VALUE IS 0.13078 AT (377714.91, 4324276.50, 311.13, 311.13, 0.00) DC
5TH HIGHEST VALUE IS 0.12794 AT (385714.91, 4328276.50, 232.48, 232.48, 0.00) DC
6TH HIGHEST VALUE IS 0.12552 AT (377714.91, 4329276.50, 312.58, 312.58, 0.00) DC
7TH HIGHEST VALUE IS 0.11328 AT (384714.91, 4328276.50, 240.83, 240.83, 0.00) DC
8TH HIGHEST VALUE IS 0.11323 AT (385714.91, 4327276.50, 227.74, 227.74, 0.00) DC
9TH HIGHEST VALUE IS 0.10728 AT (384714.91, 4327276.50, 234.72, 234.72, 0.00) DC
10TH HIGHEST VALUE IS 0.09075 AT (379714.91, 4330276.50, 305.71, 307.11, 0.00) DC

**MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE SUMMARY OF MAXIMUM 4TH-HIGHEST MAX DAILY 1-HR RESULTS AVERAGED OVER 3 YEARS ***

** CONC OF SO2 IN MICROGRAMS/M**3 **

NETWORK
GROUP ID AVERAGE CONC RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
- -

CRL 1ST HIGHEST VALUE IS 12.01876 AT (379714.91, 4334276.50, 249.62, 249.62, 0.00) DC
2ND HIGHEST VALUE IS 7.42736 AT (379714.91, 4333276.50, 253.22, 266.38, 0.00) DC
3RD HIGHEST VALUE IS 4.37150 AT (380714.91, 4334276.50, 254.38, 259.85, 0.00) DC
4TH HIGHEST VALUE IS 3.80519 AT (379714.91, 4335276.50, 222.72, 222.72, 0.00) DC
5TH HIGHEST VALUE IS 2.98914 AT (380714.91, 4335276.50, 221.03, 264.41, 0.00) DC
6TH HIGHEST VALUE IS 2.70472 AT (378714.91, 4335276.50, 223.30, 225.87, 0.00) DC
7TH HIGHEST VALUE IS 2.16365 AT (378714.91, 4332276.50, 256.80, 268.06, 0.00) DC
8TH HIGHEST VALUE IS 2.03730 AT (380714.91, 4332276.50, 258.14, 274.33, 0.00) DC
9TH HIGHEST VALUE IS 1.99668 AT (381714.91, 4334276.50, 258.34, 263.05, 0.00) DC
10TH HIGHEST VALUE IS 1.97359 AT (377714.91, 4334276.50, 222.99, 311.99, 0.00) DC

AUD 1ST HIGHEST VALUE IS 1.63532 AT (379714.91, 4334276.50, 249.62, 249.62, 0.00) DC
2ND HIGHEST VALUE IS 1.59084 AT (378714.91, 4333276.50, 265.88, 297.66, 0.00) DC
3RD HIGHEST VALUE IS 1.57904 AT (378714.91, 4334276.50, 263.65, 300.65, 0.00) DC
4TH HIGHEST VALUE IS 1.56195 AT (379714.91, 4333276.50, 253.22, 266.38, 0.00) DC
5TH HIGHEST VALUE IS 1.52617 AT (378714.91, 4336276.50, 221.11, 221.11, 0.00) DC
6TH HIGHEST VALUE IS 1.50547 AT (377714.91, 4333276.50, 301.48, 302.10, 0.00) DC
7TH HIGHEST VALUE IS 1.46315 AT (379714.91, 4337276.50, 221.72, 221.72, 0.00) DC
8TH HIGHEST VALUE IS 1.46286 AT (379714.91, 4336276.50, 215.45, 222.47, 0.00) DC
9TH HIGHEST VALUE IS 1.45577 AT (378714.91, 4331276.50, 277.63, 277.63, 0.00) DC
10TH HIGHEST VALUE IS 1.45053 AT (378714.91, 4332276.50, 256.80, 268.06, 0.00) DC

KCA 1ST HIGHEST VALUE IS 18.19540 AT (380714.91, 4332276.50, 258.14, 274.33, 0.00) DC
2ND HIGHEST VALUE IS 7.95163 AT (379714.91, 4333276.50, 253.22, 266.38, 0.00) DC
3RD HIGHEST VALUE IS 6.97266 AT (379714.91, 4334276.50, 249.62, 249.62, 0.00) DC
4TH HIGHEST VALUE IS 5.29293 AT (379714.91, 4332276.50, 276.48, 276.48, 0.00) DC
5TH HIGHEST VALUE IS 4.73863 AT (380714.91, 4334276.50, 254.38, 259.85, 0.00) DC
6TH HIGHEST VALUE IS 4.57006 AT (380714.91, 4331276.50, 284.30, 295.10, 0.00) DC
7TH HIGHEST VALUE IS 4.55097 AT (381714.91, 4328276.50, 244.80, 268.73, 0.00) DC
8TH HIGHEST VALUE IS 4.45160 AT (379714.91, 4335276.50, 222.72, 222.72, 0.00) DC
9TH HIGHEST VALUE IS 4.12246 AT (378714.91, 4335276.50, 223.30, 225.87, 0.00) DC
10TH HIGHEST VALUE IS 4.03041 AT (378714.91, 4332276.50, 256.80, 268.06, 0.00) DC

ALL 1ST HIGHEST VALUE IS 189.93019 AT (377714.91, 4327276.50, 317.15, 317.15, 0.00) DC
2ND HIGHEST VALUE IS 164.00217 AT (377714.91, 4326276.50, 313.76, 313.76, 0.00) DC
3RD HIGHEST VALUE IS 149.43043 AT (377714.91, 4329276.50, 312.58, 312.58, 0.00) DC
4TH HIGHEST VALUE IS 149.20741 AT (377714.91, 4325276.50, 311.19, 311.19, 0.00) DC
5TH HIGHEST VALUE IS 133.67974 AT (377714.91, 4324276.50, 311.13, 311.13, 0.00) DC
6TH HIGHEST VALUE IS 111.23659 AT (379714.91, 4330276.50, 305.71, 307.11, 0.00) DC
7TH HIGHEST VALUE IS 110.67340 AT (377714.91, 4328276.50, 304.84, 304.84, 0.00) DC
8TH HIGHEST VALUE IS 107.78456 AT (378714.91, 4350276.50, 309.34, 309.34, 0.00) DC
9TH HIGHEST VALUE IS 105.01823 AT (402714.91, 4354276.50, 323.65, 323.65, 0.00) DC
10TH HIGHEST VALUE IS 104.02545 AT (378714.91, 4329276.50, 304.54, 310.49, 0.00) DC

Labadie Scenario 1: Modeled as Separate Source Releases

Excerpt of AERMOD Input file for Ameren Labadie

```
CO STARTING
CO TITLEONE Ameren Missouri Labadie Facility Hourly Emissions File Run 13-15 20 km multi tier rec grid
CO TITLETWO Including Interactive sources
CO MODELOPT DFAULT CONC
CO AVERTIME 1
CO POLLUTID SO2
CO RUNORNOT RUN
CO FINISHED

SO STARTING
SO ELEVUNIT METERS

**Ameren Labadie

**Boiler #1
**
SO LOCATION LABADIE1 Point 688352.17  4270445.59  149.66
SO SRCPARAM LABADIE1 681.056344 213.36 443.0648912  34.72064305  6.2484
SO HOUREMIS .\Labadie_13-15_Hourly_Emissions.txt LABADIE1

**Boiler #2
**
SO LOCATION LABADIE2 Point 688387.01  4270400.40  149.66
SO SRCPARAM LABADIE2 537.229763  213.36 442.4920016  35.55833613  6.2484
SO HOUREMIS .\Labadie_13-15_Hourly_Emissions.txt LABADIE2

**Boiler #3
**
SO LOCATION LABADIE3 Point 688435.47  4270332.33  149.66
SO SRCPARAM LABADIE3 605.810409 213.36 433.2043723  34.51691769  6.2484
SO HOUREMIS .\Labadie_13-15_Hourly_Emissions.txt LABADIE3

**Boiler #4
**
SO LOCATION LABADIE4 Point 688439.28  4270327.43  149.66
SO SRCPARAM LABADIE4 637.788672  213.36 441.7078451  34.94594478  6.2484
SO HOUREMIS .\Labadie_13-15_Hourly_Emissions.txt LABADIE4

**Emergency Diesel Generator
**operates 8736 hr per year so it was included. Emission are released through a stack
SO LOCATION LABADIE5 Point 688439.28  4270327.43  149.66
SO SRCPARAM LABADIE5 0.002307653 9.144 866.4833333 7.112 0.3048


**BPIP Outputs Dated January 11, 2012
SO BUILDHGT LABADIE1      78.44   78.44   78.44   78.44   78.44   78.44
SO BUILDHGT LABADIE1      78.44   78.44   78.44   78.44   78.44   78.44
SO BUILDHGT LABADIE1      78.44   25.37   27.71   78.44   78.44   78.44
SO BUILDHGT LABADIE1      78.44   78.44   78.44   78.44   78.44   78.44
SO BUILDHGT LABADIE1      78.44   78.44   78.44   78.44   78.44   78.44
SO BUILDHGT LABADIE1      78.44   25.37   27.71   78.44   78.44   78.44
SO BUILDWID LABADIE1     195.26  212.09  222.49  226.12  222.88  222.69
SO BUILDWID LABADIE1     220.81  212.22  197.19  176.16  149.79  118.86
SO BUILDWID LABADIE1      84.32   43.39   61.83  112.08  144.48  172.49
SO BUILDWID LABADIE1     195.26  212.09  222.49  226.12  222.88  222.69
SO BUILDWID LABADIE1     220.81  212.22  197.19  176.16  149.79  118.86
SO BUILDWID LABADIE1      84.32   43.39   61.83  112.08  144.48  172.49
SO BUILDLEN LABADIE1     176.16  149.79  118.86   84.32   47.21   76.28
SO BUILDLEN LABADIE1     112.08  144.48  172.49  195.26  212.09  222.49
SO BUILDLEN LABADIE1     226.12  220.00  229.51  220.81  212.22  197.19
SO BUILDLEN LABADIE1     176.16  149.79  118.86   84.32   47.21   76.28
SO BUILDLEN LABADIE1     112.08  144.48  172.49  195.26  212.09  222.49
SO BUILDLEN LABADIE1     226.12  220.00  229.51  220.81  212.22  197.19
```

SO XBADJ LABADIE1 -88.14 -56.63 -23.40 10.55 44.17 41.54
SO XBADJ LABADIE1 34.41 26.23 17.26 7.76 -1.97 -11.65
SO XBADJ LABADIE1 -20.97 -30.23 -28.68 -57.59 -69.96 -80.21
SO XBADJ LABADIE1 -88.02 -93.15 -95.46 -94.86 -91.38 -117.82
SO XBADJ LABADIE1 -146.49 -170.71 -189.75 -203.02 -210.12 -210.84
SO XBADJ LABADIE1 -205.15 -189.77 -200.83 -163.22 -142.26 -116.98
SO YBADJ LABADIE1 -105.39 -104.07 -99.60 -92.09 -81.79 -67.87
SO YBADJ LABADIE1 -52.81 -36.15 -18.38 -0.06 18.26 36.03
SO YBADJ LABADIE1 52.71 25.71 -16.96 90.45 98.47 103.50
SO YBADJ LABADIE1 105.39 104.07 99.60 92.09 81.79 67.87
SO YBADJ LABADIE1 52.81 36.15 18.38 0.06 -18.26 -36.03
SO YBADJ LABADIE1 -52.71 -25.71 16.96 -90.45 -98.47 -103.51

SO BUILDHGT LABADIE2 78.44 78.44 78.44 78.44 78.44 78.44
SO BUILDHGT LABADIE2 78.44 78.44 78.44 78.44 78.44 78.44
SO BUILDHGT LABADIE2 78.44 25.37 78.44 78.44 78.44 78.44
SO BUILDHGT LABADIE2 78.44 78.44 78.44 78.44 78.44 78.44
SO BUILDHGT LABADIE2 78.44 78.44 78.44 78.44 78.44 78.44
SO BUILDHGT LABADIE2 78.44 25.37 78.44 78.44 78.44 78.44
SO BUILDWID LABADIE2 195.26 212.09 222.49 226.12 222.88 222.69
SO BUILDWID LABADIE2 220.81 212.22 197.19 176.16 149.79 118.86
SO BUILDWID LABADIE2 84.32 43.39 76.28 112.08 144.48 172.49
SO BUILDWID LABADIE2 195.26 212.09 222.49 226.12 222.88 222.69
SO BUILDWID LABADIE2 220.81 212.22 197.19 176.16 149.79 118.86
SO BUILDWID LABADIE2 84.32 43.39 76.28 112.08 144.48 172.49
SO BUILDLEN LABADIE2 176.16 149.79 118.86 84.32 47.21 76.28
SO BUILDLEN LABADIE2 112.08 144.48 172.49 195.26 212.09 222.49
SO BUILDLEN LABADIE2 226.12 220.00 222.69 220.81 212.22 197.19
SO BUILDLEN LABADIE2 176.16 149.79 118.86 84.32 47.21 76.28
SO BUILDLEN LABADIE2 112.08 144.48 172.49 195.26 212.09 222.49
SO BUILDLEN LABADIE2 226.12 220.00 222.69 220.81 212.22 197.19
SO XBADJ LABADIE2 -49.69 -26.08 -1.68 22.77 46.53 33.97
SO XBADJ LABADIE2 17.13 -0.23 -17.58 -34.40 -50.17 -64.41
SO XBADJ LABADIE2 -76.70 -87.24 -100.02 -111.97 -120.52 -125.40
SO XBADJ LABADIE2 -126.47 -123.70 -117.17 -107.09 -93.74 -110.24
SO XBADJ LABADIE2 -129.21 -144.25 -154.91 -160.86 -161.93 -158.07
SO XBADJ LABADIE2 -149.41 -132.76 -122.66 -108.84 -91.71 -71.79
SO YBADJ LABADIE2 -63.23 -55.88 -46.83 -36.35 -24.78 -11.32
SO YBADJ LABADIE2 1.57 14.40 26.81 38.39 48.81 57.75
SO YBADJ LABADIE2 64.93 28.07 72.10 73.17 72.01 68.66
SO YBADJ LABADIE2 63.23 55.88 46.83 36.35 24.78 11.32
SO YBADJ LABADIE2 -1.57 -14.40 -26.81 -38.39 -48.81 -57.75
SO YBADJ LABADIE2 -64.93 -28.07 -72.10 -73.17 -72.01 -68.66

SO BUILDHGT LABADIE3 78.44 78.44 78.44 78.44 78.44 78.44
SO BUILDHGT LABADIE3 78.44 78.44 78.44 78.44 78.44 78.44
SO BUILDHGT LABADIE3 27.71 27.71 78.44 78.44 78.44 78.44
SO BUILDHGT LABADIE3 78.44 78.44 78.44 78.44 78.44 78.44
SO BUILDHGT LABADIE3 78.44 78.44 78.44 78.44 78.44 78.44
SO BUILDHGT LABADIE3 27.71 27.71 78.44 78.44 78.44 78.44
SO BUILDWID LABADIE3 195.26 212.09 222.49 226.12 222.88 222.69
SO BUILDWID LABADIE3 220.81 212.22 197.19 176.16 149.79 118.86
SO BUILDWID LABADIE3 69.54 30.46 76.28 112.08 144.48 172.49
SO BUILDWID LABADIE3 195.26 212.09 222.49 226.12 222.88 222.69
SO BUILDWID LABADIE3 220.81 212.22 197.19 176.16 149.79 118.86
SO BUILDWID LABADIE3 69.54 30.46 76.28 112.08 144.48 172.49
SO BUILDLEN LABADIE3 176.16 149.79 118.86 84.32 47.21 76.28
SO BUILDLEN LABADIE3 112.08 144.48 172.49 195.26 212.09 222.49
SO BUILDLEN LABADIE3 230.71 230.36 222.69 220.81 212.22 197.19
SO BUILDLEN LABADIE3 176.16 149.79 118.86 84.32 47.21 76.28
SO BUILDLEN LABADIE3 112.08 144.48 172.49 195.26 212.09 222.49
SO BUILDLEN LABADIE3 230.71 230.36 222.69 220.81 212.22 197.19
SO XBADJ LABADIE3 8.93 21.31 33.04 43.77 53.16 26.03
SO XBADJ LABADIE3 -5.13 -36.13 -66.04 -93.94 -118.99 -140.42
SO XBADJ LABADIE3 -177.41 -174.21 -183.20 -192.51 -195.97 -193.47
SO XBADJ LABADIE3 -185.09 -171.09 -151.89 -128.08 -100.38 -102.31
SO XBADJ LABADIE3 -106.95 -108.35 -106.45 -101.32 -93.11 -82.07
SO XBADJ LABADIE3 -53.30 -56.15 -39.48 -28.30 -16.26 -3.72

```
SO YBADJ    LABADIE3      -3.69   12.94   29.17   44.52   58.52   71.86
SO YBADJ    LABADIE3      82.11   89.86   94.88   97.01   96.20   92.47
SO YBADJ    LABADIE3     -13.38  -23.94   64.17   50.91   36.11   20.20
SO YBADJ    LABADIE3       3.69  -12.94  -29.17  -44.52  -58.52  -71.86
SO YBADJ    LABADIE3     -82.11  -89.86  -94.88  -97.01  -96.20  -92.47
SO YBADJ    LABADIE3      13.38   23.94  -64.17  -50.91  -36.11  -20.20


SO BUILDHGT LABADIE4      78.44   78.44   78.44   78.44   78.44   78.44
SO BUILDHGT LABADIE4      78.44   78.44   78.44   78.44   78.44   78.44
SO BUILDHGT LABADIE4      27.71   27.71   78.44   78.44   78.44   78.44
SO BUILDHGT LABADIE4      78.44   78.44   78.44   78.44   78.44   78.44
SO BUILDHGT LABADIE4      78.44   78.44   78.44   78.44   78.44   78.44
SO BUILDHGT LABADIE4      27.71   27.71   78.44   78.44   78.44   78.44
SO BUILDWID LABADIE4     195.26  212.09  222.49  226.12  222.88  222.69
SO BUILDWID LABADIE4     220.81  212.22  197.19  176.16  149.79  118.86
SO BUILDWID LABADIE4      69.54   30.46   76.28  112.08  144.48  172.49
SO BUILDWID LABADIE4     195.26  212.09  222.49  226.12  222.88  222.69
SO BUILDWID LABADIE4     220.81  212.22  197.19  176.16  149.79  118.86
SO BUILDWID LABADIE4      69.54   30.46   76.28  112.08  144.48  172.49
SO BUILDLEN LABADIE4     176.16  149.79  118.86   84.32   47.21   76.28
SO BUILDLEN LABADIE4     112.08  144.48  172.49  195.26  212.09  222.49
SO BUILDLEN LABADIE4     230.71  230.36  222.69  220.81  212.22  197.19
SO BUILDLEN LABADIE4     176.16  149.79  118.86   84.32   47.21   76.28
SO BUILDLEN LABADIE4     112.08  144.48  172.49  195.26  212.09  222.49
SO BUILDLEN LABADIE4     230.71  230.36  222.69  220.81  212.22  197.19
SO XBADJ    LABADIE4      13.09   24.61   35.38   45.07   53.39   25.18
SO XBADJ    LABADIE4      -7.03  -39.03  -69.85  -98.54 -124.24 -146.17
SO XBADJ    LABADIE4    -183.47 -180.41 -189.35 -198.42 -201.45 -198.37
SO XBADJ    LABADIE4    -189.26 -174.40 -154.23 -129.39 -100.61 -101.46
SO XBADJ    LABADIE4    -105.05 -105.45 -102.64  -96.72  -87.85  -76.32
SO XBADJ    LABADIE4     -47.23  -49.95  -33.33  -22.39  -10.77    1.18
SO YBADJ    LABADIE4       0.91   18.20   34.92   50.59   64.72   78.01
SO YBADJ    LABADIE4      88.01   95.34   99.78  101.18   99.50   94.81
SO YBADJ    LABADIE4     -12.08  -23.71   63.32   49.01   33.21   16.39
SO YBADJ    LABADIE4      -0.91  -18.20  -34.92  -50.59  -64.72  -78.01
SO YBADJ    LABADIE4     -88.01  -95.34  -99.78 -101.18  -99.50  -94.81
SO YBADJ    LABADIE4      12.08   23.71  -63.32  -49.01  -33.21  -16.39
```

**Using Reported Actual 2013 Emissions for Interactive SOurces Below

**Purina Animal Nutrition Center
**Corrected UTM from aerial photo
**100 HP Boiler
**Reported as Stack but no release parameters given, assume volume paramters for boiler.

```
SO LOCATION EU_10 VOLUME 689107.65 4262863.7 172
SO SRCPARAM EU_10 0.0409  5  1.1628  4.651
```

**N.B. West Contracting CO INC
**Drag Slat Conveyer
**No information regarding this source so assume volume source parameters for boiler w/o parameters.

```
SO LOCATION EP17 Volume 695196.752  4262475.068 159
SO SRCPARAM EP17 0.07385 5  1.1628  4.651
```

**Aggregate Dryer w/Burner and rotary mixer
**Corrected UTMs from aerial

```
SO LOCATION EP5 Point 695174.86 4262540.03 159
SO SRCPARAM EP5 0.0116 7.62 376.15 5.526 0.9144
```

**AC Heater/Burner
**Corrected UTMs from aerial
**No exit temp or emission velocity provided. Assumed Temp=298.15K Emission Velocity=0.001 m/s

```
SO LOCATION S2 Point 695174.86 4262540.03 159
SO SRCPARAM S2 0.01759 2.7432 298.15 0.001 0.24384

  BACKGRND ANNUAL 9.0
  BACKUNIT PPB

SO SRCGROUP Purina  EU_10
```

```
SO SRCGROUP NBWEST  EP17 EP5 S2
SO SRCGROUP Lab LABADIE1 LABADIE2 LABADIE3 LABADIE4 LABADIE5
SO SRCGROUP ALL BACKGROUND

SO FINISHED

RE STARTING
**20 km Extent Tiered Rec Grid
** AERMAP - VERSION 11103                    10/29/14
**                                  13:09:02
** Labadie
** Receptor Elevations
** A total of       5  NED files were used
** A total of    5628  receptors were processed
** DOMAINXY 665000 4245000 15 715000 4295000 15
** ANCHORXY 688484.5 4270373.88 688484.5 4270373.88 15 4
** Terrain heights were extracted by default

RE ELEVUNIT METERS
**Receptor Grid unchanged from original recommendation
RE FINISHED

ME STARTING
ME SURFFILE .\JEFILX_13-15.SFC
ME PROFFILE .\JEFILX_13-15.PFL
ME SURFDATA  03963 2013 Jefferson_City,MO
ME UAIRDATA  04833 2013 Lincoln, Ill
ME PROFBASE 167 Meters
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE 4-10
OU SUMMFILE Ameren_Labadie-20km-13-15-Int.SUM
OU PLOTFILE 1 ALL 4 Ameren_Labadie_Plotfile_20km-13-15-Int.PLT
OU MAXDCONT All 4 THRESH 196.5 Ameren_Labadie_MAXDCONT_20km-13-15-Int.DAT
OU FINISHED
```

Excerpt of Hourly Emissions File for Labadie

```
SO HOUREMIS    13    1    1    1    LABADIE1    422.3678883    443.06    34.72
SO HOUREMIS    13    1    1    1    LABADIE2    339.6129128    442.49    35.558
SO HOUREMIS    13    1    1    1    LABADIE3    244.6866056    433.204    34.52
SO HOUREMIS    13    1    1    1    LABADIE4    494.3123022    441.707    34.95
SO HOUREMIS    13    1    1    2    LABADIE1    428.3023575    443.06    34.72
SO HOUREMIS    13    1    1    2    LABADIE2    336.11019    442.49    35.558
SO HOUREMIS    13    1    1    2    LABADIE3    239.3191239    433.204    34.52
SO HOUREMIS    13    1    1    2    LABADIE4    485.6436933    441.707    34.95
SO HOUREMIS    13    1    1    3    LABADIE1    439.5665092    443.06    34.72
SO HOUREMIS    13    1    1    3    LABADIE2    340.7468878    442.49    35.558
SO HOUREMIS    13    1    1    3    LABADIE3    238.6387389    433.204    34.52
SO HOUREMIS    13    1    1    3    LABADIE4    486.7272694    441.707    34.95
SO HOUREMIS    13    1    1    4    LABADIE1    419.2557569    443.06    34.72
SO HOUREMIS    13    1    1    4    LABADIE2    340.419295    442.49    35.558
SO HOUREMIS    13    1    1    4    LABADIE3    342.5990469    433.204    34.52
SO HOUREMIS    13    1    1    4    LABADIE4    456.2863406    441.707    34.95
SO HOUREMIS    13    1    1    5    LABADIE1    397.1558442    443.06    34.72
SO HOUREMIS    13    1    1    5    LABADIE2    346.5553597    442.49    35.558
SO HOUREMIS    13    1    1    5    LABADIE3    423.879855    433.204    34.52
SO HOUREMIS    13    1    1    5    LABADIE4    436.3787794    441.707    34.95
SO HOUREMIS    13    1    1    6    LABADIE1    416.0176283    443.06    34.72
SO HOUREMIS    13    1    1    6    LABADIE2    350.17148    442.49    35.558
SO HOUREMIS    13    1    1    6    LABADIE3    429.6757272    433.204    34.52
SO HOUREMIS    13    1    1    6    LABADIE4    441.6832625    441.707    34.95
SO HOUREMIS    13    1    1    7    LABADIE1    425.6186167    443.06    34.72
SO HOUREMIS    13    1    1    7    LABADIE2    348.6847128    442.49    35.558
SO HOUREMIS    13    1    1    7    LABADIE3    433.3422464    433.204    34.52
SO HOUREMIS    13    1    1    7    LABADIE4    467.0339036    441.707    34.95
SO HOUREMIS    13    1    1    8    LABADIE1    441.6202639    443.06    34.72
```

SO HOUREMIS	13	1	1	8	LABADIE2	356.9249311	442.49	35.558
SO HOUREMIS	13	1	1	8	LABADIE3	458.4786922	433.204	34.52
SO HOUREMIS	13	1	1	8	LABADIE4	483.6277378	441.707	34.95
SO HOUREMIS	13	1	1	9	LABADIE1	447.3909367	443.06	34.72
SO HOUREMIS	13	1	1	9	LABADIE2	375.8245144	442.49	35.558
SO HOUREMIS	13	1	1	9	LABADIE3	468.7096667	433.204	34.52
SO HOUREMIS	13	1	1	9	LABADIE4	491.6285614	441.707	34.95
SO HOUREMIS	13	1	1	10	LABADIE1	480.578605	443.06	34.72
SO HOUREMIS	13	1	1	10	LABADIE2	376.93329	442.49	35.558
SO HOUREMIS	13	1	1	10	LABADIE3	473.321165	433.204	34.52
SO HOUREMIS	13	1	1	10	LABADIE4	516.4374144	441.707	34.95
SO HOUREMIS	13	1	1	11	LABADIE1	486.9540644	443.06	34.72
SO HOUREMIS	13	1	1	11	LABADIE2	376.9962886	442.49	35.558
SO HOUREMIS	13	1	1	11	LABADIE3	479.4194306	433.204	34.52
SO HOUREMIS	13	1	1	11	LABADIE4	524.0854458	441.707	34.95
SO HOUREMIS	13	1	1	12	LABADIE1	455.2153642	443.06	34.72
SO HOUREMIS	13	1	1	12	LABADIE2	379.1004422	442.49	35.558
SO HOUREMIS	13	1	1	12	LABADIE3	481.6999803	433.204	34.52
SO HOUREMIS	13	1	1	12	LABADIE4	486.7776683	441.707	34.95
SO HOUREMIS	13	1	1	13	LABADIE1	463.3547847	443.06	34.72
SO HOUREMIS	13	1	1	13	LABADIE2	369.1718611	442.49	35.558
SO HOUREMIS	13	1	1	13	LABADIE3	485.114505	433.204	34.52
SO HOUREMIS	13	1	1	13	LABADIE4	482.9599525	441.707	34.95
SO HOUREMIS	13	1	1	14	LABADIE1	456.7399306	443.06	34.72
SO HOUREMIS	13	1	1	14	LABADIE2	349.1761019	442.49	35.558
SO HOUREMIS	13	1	1	14	LABADIE3	461.2758306	433.204	34.52
SO HOUREMIS	13	1	1	14	LABADIE4	484.7491131	441.707	34.95
SO HOUREMIS	13	1	1	15	LABADIE1	469.5916472	443.06	34.72
SO HOUREMIS	13	1	1	15	LABADIE2	357.0887275	442.49	35.558
SO HOUREMIS	13	1	1	15	LABADIE3	475.7025125	433.204	34.52
SO HOUREMIS	13	1	1	15	LABADIE4	475.4379183	441.707	34.95
SO HOUREMIS	13	1	1	16	LABADIE1	465.7739314	443.06	34.72
SO HOUREMIS	13	1	1	16	LABADIE2	356.4587414	442.49	35.558
SO HOUREMIS	13	1	1	16	LABADIE3	468.2308772	433.204	34.52
SO HOUREMIS	13	1	1	16	LABADIE4	464.4383608	441.707	34.95
SO HOUREMIS	13	1	1	17	LABADIE1	458.0251022	443.06	34.72
SO HOUREMIS	13	1	1	17	LABADIE2	341.7548656	442.49	35.558
SO HOUREMIS	13	1	1	17	LABADIE3	460.4190494	433.204	34.52
SO HOUREMIS	13	1	1	17	LABADIE4	468.2056778	441.707	34.95
SO HOUREMIS	13	1	1	18	LABADIE1	454.8625719	443.06	34.72
SO HOUREMIS	13	1	1	18	LABADIE2	341.7170664	442.49	35.558
SO HOUREMIS	13	1	1	18	LABADIE3	430.683705	433.204	34.52
SO HOUREMIS	13	1	1	18	LABADIE4	463.9469717	441.707	34.95
SO HOUREMIS	13	1	1	19	LABADIE1	443.2834272	443.06	34.72
SO HOUREMIS	13	1	1	19	LABADIE2	337.5087592	442.49	35.558
SO HOUREMIS	13	1	1	19	LABADIE3	435.4715994	433.204	34.52
SO HOUREMIS	13	1	1	19	LABADIE4	434.2872256	441.707	34.95
SO HOUREMIS	13	1	1	20	LABADIE1	440.7634828	443.06	34.72
SO HOUREMIS	13	1	1	20	LABADIE2	320.1841411	442.49	35.558
SO HOUREMIS	13	1	1	20	LABADIE3	427.0423853	433.204	34.52
SO HOUREMIS	13	1	1	20	LABADIE4	450.8936594	441.707	34.95
SO HOUREMIS	13	1	1	21	LABADIE1	438.394735	443.06	34.72
SO HOUREMIS	13	1	1	21	LABADIE2	315.1694517	442.49	35.558
SO HOUREMIS	13	1	1	21	LABADIE3	419.3691544	433.204	34.52
SO HOUREMIS	13	1	1	21	LABADIE4	441.1036753	441.707	34.95
SO HOUREMIS	13	1	1	22	LABADIE1	434.8794125	443.06	34.72
SO HOUREMIS	13	1	1	22	LABADIE2	316.5302217	442.49	35.558
SO HOUREMIS	13	1	1	22	LABADIE3	406.8954294	433.204	34.52
SO HOUREMIS	13	1	1	22	LABADIE4	440.4484897	441.707	34.95
SO HOUREMIS	13	1	1	23	LABADIE1	433.1910497	443.06	34.72
SO HOUREMIS	13	1	1	23	LABADIE2	312.9015017	442.49	35.558
SO HOUREMIS	13	1	1	23	LABADIE3	400.1797775	433.204	34.52
SO HOUREMIS	13	1	1	23	LABADIE4	424.3964436	441.707	34.95
SO HOUREMIS	13	1	1	24	LABADIE1	404.8920736	443.06	34.72
SO HOUREMIS	13	1	1	24	LABADIE2	304.3336906	442.49	35.558
SO HOUREMIS	13	1	1	24	LABADIE3	361.6876261	433.204	34.52
SO HOUREMIS	13	1	1	24	LABADIE4	338.2773422	441.707	34.95

Excerpt of AERMOD Output File for Labadie

**MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE SUMMARY OF MAXIMUM 4TH-HIGHEST MAX DAILY 1-HR RESULTS AVERAGED OVER 3 YEARS ***

** CONC OF SO2 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	NETWORK RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
PURINA	1ST HIGHEST VALUE IS	42.66702 AT (688846.44, 4263075.50, 165.70, 178.75, 0.00)	DC	
	2ND HIGHEST VALUE IS	41.82770 AT (689346.44, 4262575.50, 181.07, 202.63, 0.00)	DC	
	3RD HIGHEST VALUE IS	23.59439 AT (688346.44, 4263075.50, 175.90, 175.90, 0.00)	DC	
	4TH HIGHEST VALUE IS	23.59439 AT (688346.44, 4263075.50, 175.90, 175.90, 0.00)	DC	
	5TH HIGHEST VALUE IS	20.81422 AT (688346.44, 4262575.50, 179.35, 182.68, 0.00)	DC	
	6TH HIGHEST VALUE IS	19.26734 AT (689346.44, 4262075.50, 183.19, 183.19, 0.00)	DC	
	7TH HIGHEST VALUE IS	19.26734 AT (689346.44, 4262075.50, 183.19, 183.19, 0.00)	DC	
	8TH HIGHEST VALUE IS	18.38084 AT (688846.44, 4263575.50, 182.34, 182.34, 0.00)	DC	
	9TH HIGHEST VALUE IS	16.80324 AT (689846.44, 4262575.50, 183.79, 203.43, 0.00)	DC	
	10TH HIGHEST VALUE IS	16.73039 AT (689346.44, 4263075.50, 188.46, 188.46, 0.00)	DC	
NBWEST	1ST HIGHEST VALUE IS	127.20166 AT (695346.44, 4262575.50, 166.43, 247.17, 0.00)	DC	
	2ND HIGHEST VALUE IS	104.20032 AT (695346.44, 4262075.50, 157.77, 196.69, 0.00)	DC	
	3RD HIGHEST VALUE IS	104.20032 AT (695346.44, 4262075.50, 157.77, 196.69, 0.00)	DC	
	4TH HIGHEST VALUE IS	103.69656 AT (694846.44, 4262575.50, 162.23, 245.02, 0.00)	DC	
	5TH HIGHEST VALUE IS	72.04175 AT (695846.44, 4262075.50, 156.96, 156.96, 0.00)	DC	
	6TH HIGHEST VALUE IS	65.72825 AT (694846.44, 4262075.50, 164.99, 221.97, 0.00)	DC	
	7TH HIGHEST VALUE IS	39.96304 AT (695346.44, 4261575.50, 146.36, 146.36, 0.00)	DC	
	8TH HIGHEST VALUE IS	38.20016 AT (695846.44, 4261575.50, 152.29, 152.29, 0.00)	DC	
	9TH HIGHEST VALUE IS	31.31004 AT (695846.44, 4261075.50, 163.11, 163.11, 0.00)	DC	
	10TH HIGHEST VALUE IS	30.68238 AT (696346.44, 4261575.50, 146.89, 229.43, 0.00)	DC	
LAB	1ST HIGHEST VALUE IS	177.61451 AT (685846.44, 4273075.50, 174.41, 266.61, 0.00)	DC	
	2ND HIGHEST VALUE IS	177.61451 AT (685846.44, 4273075.50, 174.41, 266.61, 0.00)	DC	
	3RD HIGHEST VALUE IS	176.96240 AT (686096.44, 4272825.50, 164.71, 266.77, 0.00)	DC	
	4TH HIGHEST VALUE IS	176.54238 AT (686096.44, 4272075.50, 164.47, 164.47, 0.00)	DC	
	5TH HIGHEST VALUE IS	176.11487 AT (685846.44, 4272575.50, 165.60, 165.60, 0.00)	DC	
	6TH HIGHEST VALUE IS	176.11487 AT (685846.44, 4272575.50, 165.60, 165.60, 0.00)	DC	
	7TH HIGHEST VALUE IS	174.62512 AT (686096.44, 4272325.50, 160.92, 259.59, 0.00)	DC	
	8TH HIGHEST VALUE IS	174.49146 AT (686596.44, 4272575.50, 182.88, 259.59, 0.00)	DC	
	9TH HIGHEST VALUE IS	174.11406 AT (686346.44, 4272575.50, 172.33, 259.59, 0.00)	DC	
	10TH HIGHEST VALUE IS	174.11406 AT (686346.44, 4272575.50, 172.33, 259.59, 0.00)	DC	
ALL	1ST HIGHEST VALUE IS	201.16975 AT (685846.44, 4273075.50, 174.41, 266.61, 0.00)	DC	
	2ND HIGHEST VALUE IS	201.16975 AT (685846.44, 4273075.50, 174.41, 266.61, 0.00)	DC	
	3RD HIGHEST VALUE IS	200.52429 AT (686096.44, 4272825.50, 164.71, 266.77, 0.00)	DC	
	4TH HIGHEST VALUE IS	200.09267 AT (686096.44, 4272075.50, 164.47, 164.47, 0.00)	DC	
	5TH HIGHEST VALUE IS	199.67232 AT (685846.44, 4272575.50, 165.60, 165.60, 0.00)	DC	
	6TH HIGHEST VALUE IS	199.67232 AT (685846.44, 4272575.50, 165.60, 165.60, 0.00)	DC	
	7TH HIGHEST VALUE IS	198.18543 AT (686096.44, 4272325.50, 160.92, 259.59, 0.00)	DC	
	8TH HIGHEST VALUE IS	198.04969 AT (686596.44, 4272575.50, 182.88, 259.59, 0.00)	DC	
	9TH HIGHEST VALUE IS	197.67566 AT (686346.44, 4272575.50, 172.33, 259.59, 0.00)	DC	
	10TH HIGHEST VALUE IS	197.67566 AT (686346.44, 4272575.50, 172.33, 259.59, 0.00)	DC	

Labadie Scenario 2: Modeled as Merged/Single Source Release

Excerpt of AERMOD Input file for Ameren Labadie

```
CO STARTING
CO TITLEONE Ameren Missouri Labadie Facility Hourly Emissions File Run 13-15 20 km multi tier rec grid
CO TITLETWO Including Interactive sources Merged Plume
CO MODELOPT DFAULT CONC
CO AVERTIME 1
CO POLLUTID SO2
CO RUNORNOT RUN
CO FINISHED

SO STARTING
SO ELEVUNIT METERS

**Ameren Labadie

**Boiler #1
**
SO LOCATION LABADIE1 Point 688352.17  4270445.59  149.66
SO SRCPARAM LABADIE1 681.056344 213.36 443.0648912  34.72064305  6.2484
SO HOUREMIS .\Labadie_13-15_Hourly_Emissions-Merged.txt LABADIE1

**Boiler #2
**
SO LOCATION LABADIE2 Point 688387.01  4270400.40  149.66
SO SRCPARAM LABADIE2 537.229763  213.36 442.4920016  35.55833613  6.2484
SO HOUREMIS .\Labadie_13-15_Hourly_Emissions-Merged.txt LABADIE2

**Boiler #3 & 4 Merged Plume according to email from Ken on how to merge plumes
**
SO LOCATION LAB34 Point 688435.47  4270332.33  149.66
SO SRCPARAM LAB34 605.810409 213.36 441.71  34.95  8.84
SO HOUREMIS .\Labadie_13-15_Hourly_Emissions-Merged.txt LAB34

**Boiler #4
**
**SO LOCATION LABADIE4 Point 688439.28  4270327.43  149.66
**SO SRCPARAM LABADIE4 637.788672  213.36 441.7078451  34.94594478  6.2484
**SO HOUREMIS .\Labadie_13-15_Hourly_Emissions.txt LABADIE4

**Emergency Diesel Generator
**operates 8736 hr per year so it was included. Emission are released through a stack
SO LOCATION LABADIE5 Point 688439.28  4270327.43  149.66
SO SRCPARAM LABADIE5 0.002307653 9.144 866.4833333 7.112 0.3048


**BPIP Outputs Dated January 11, 2012
SO BUILDHGT LABADIE1      78.44  78.44  78.44  78.44  78.44  78.44
SO BUILDHGT LABADIE1      78.44  78.44  78.44  78.44  78.44  78.44
SO BUILDHGT LABADIE1      78.44  25.37  27.71  78.44  78.44  78.44
SO BUILDHGT LABADIE1      78.44  78.44  78.44  78.44  78.44  78.44
SO BUILDHGT LABADIE1      78.44  78.44  78.44  78.44  78.44  78.44
SO BUILDHGT LABADIE1      78.44  25.37  27.71  78.44  78.44  78.44
SO BUILDWID LABADIE1     195.26 212.09 222.49 226.12 222.88 222.69
SO BUILDWID LABADIE1     220.81 212.22 197.19 176.16 149.79 118.86
SO BUILDWID LABADIE1      84.32  43.39  61.83 112.08 144.48 172.49
SO BUILDWID LABADIE1     195.26 212.09 222.49 226.12 222.88 222.69
SO BUILDWID LABADIE1     220.81 212.22 197.19 176.16 149.79 118.86
SO BUILDWID LABADIE1      84.32  43.39  61.83 112.08 144.48 172.49
SO BUILDLEN LABADIE1     176.16 149.79 118.86  84.32  47.21  76.28
SO BUILDLEN LABADIE1     112.08 144.48 172.49 195.26 212.09 222.49
SO BUILDLEN LABADIE1     226.12 220.00 229.51 220.81 212.22 197.19
SO BUILDLEN LABADIE1     176.16 149.79 118.86  84.32  47.21  76.28
SO BUILDLEN LABADIE1     112.08 144.48 172.49 195.26 212.09 222.49
SO BUILDLEN LABADIE1     226.12 220.00 229.51 220.81 212.22 197.19
SO XBADJ    LABADIE1    -88.14 -56.63 -23.40  10.55  44.17  41.54
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SO XBADJ    LABADIE1      34.41   26.23   17.26    7.76   -1.97  -11.65
SO XBADJ    LABADIE1     -20.97  -30.23  -28.68  -57.59  -69.96  -80.21
SO XBADJ    LABADIE1     -88.02  -93.15  -95.46  -94.86  -91.38 -117.82
SO XBADJ    LABADIE1    -146.49 -170.71 -189.75 -203.02 -210.12 -210.84
SO XBADJ    LABADIE1    -205.15 -189.77 -200.83 -163.22 -142.26 -116.98
SO YBADJ    LABADIE1    -105.39 -104.07  -99.60  -92.09  -81.79  -67.87
SO YBADJ    LABADIE1     -52.81  -36.15  -18.38   -0.06   18.26   36.03
SO YBADJ    LABADIE1      52.71   25.71  -16.96   90.45   98.47  103.50
SO YBADJ    LABADIE1     105.39  104.07   99.60   92.09   81.79   67.87
SO YBADJ    LABADIE1      52.81   36.15   18.38    0.06  -18.26  -36.03
SO YBADJ    LABADIE1     -52.71  -25.71   16.96  -90.45  -98.47 -103.51


SO BUILDHGT LABADIE2      78.44   78.44   78.44   78.44   78.44   78.44
SO BUILDHGT LABADIE2      78.44   78.44   78.44   78.44   78.44   78.44
SO BUILDHGT LABADIE2      78.44   25.37   78.44   78.44   78.44   78.44
SO BUILDHGT LABADIE2      78.44   78.44   78.44   78.44   78.44   78.44
SO BUILDHGT LABADIE2      78.44   78.44   78.44   78.44   78.44   78.44
SO BUILDHGT LABADIE2      78.44   25.37   78.44   78.44   78.44   78.44
SO BUILDWID LABADIE2     195.26  212.09  222.49  226.12  222.88  222.69
SO BUILDWID LABADIE2     220.81  212.22  197.19  176.16  149.79  118.86
SO BUILDWID LABADIE2      84.32   43.39   76.28  112.08  144.48  172.49
SO BUILDWID LABADIE2     195.26  212.09  222.49  226.12  222.88  222.69
SO BUILDWID LABADIE2     220.81  212.22  197.19  176.16  149.79  118.86
SO BUILDWID LABADIE2      84.32   43.39   76.28  112.08  144.48  172.49
SO BUILDLEN LABADIE2     176.16  149.79  118.86   84.32   47.21   76.28
SO BUILDLEN LABADIE2     112.08  144.48  172.49  195.26  212.09  222.49
SO BUILDLEN LABADIE2     226.12  220.00  222.69  220.81  212.22  197.19
SO BUILDLEN LABADIE2     176.16  149.79  118.86   84.32   47.21   76.28
SO BUILDLEN LABADIE2     112.08  144.48  172.49  195.26  212.09  222.49
SO BUILDLEN LABADIE2     226.12  220.00  222.69  220.81  212.22  197.19
SO XBADJ    LABADIE2     -49.69  -26.08   -1.68   22.77   46.53   33.97
SO XBADJ    LABADIE2      17.13   -0.23  -17.58  -34.40  -50.17  -64.41
SO XBADJ    LABADIE2     -76.70  -87.24 -100.02 -111.97 -120.52 -125.40
SO XBADJ    LABADIE2    -126.47 -123.70 -117.17 -107.09  -93.74 -110.24
SO XBADJ    LABADIE2    -129.21 -144.25 -154.91 -160.86 -161.93 -158.07
SO XBADJ    LABADIE2    -149.41 -132.76 -122.66 -108.84  -91.71  -71.79
SO YBADJ    LABADIE2     -63.23  -55.88  -46.83  -36.35  -24.78  -11.32
SO YBADJ    LABADIE2       1.57   14.40   26.81   38.39   48.81   57.75
SO YBADJ    LABADIE2      64.93   28.07   72.10   73.17   72.01   68.66
SO YBADJ    LABADIE2      63.23   55.88   46.83   36.35   24.78   11.32
SO YBADJ    LABADIE2      -1.57  -14.40  -26.81  -38.39  -48.81  -57.75
SO YBADJ    LABADIE2     -64.93  -28.07  -72.10  -73.17  -72.01  -68.66


SO BUILDHGT LAB34       78.44   78.44   78.44   78.44   78.44   78.44
SO BUILDHGT LAB34       78.44   78.44   78.44   78.44   78.44   78.44
SO BUILDHGT LAB34       27.71   27.71   78.44   78.44   78.44   78.44
SO BUILDHGT LAB34       78.44   78.44   78.44   78.44   78.44   78.44
SO BUILDHGT LAB34       78.44   78.44   78.44   78.44   78.44   78.44
SO BUILDHGT LAB34       27.71   27.71   78.44   78.44   78.44   78.44
SO BUILDWID LAB34      195.26  212.09  222.49  226.12  222.88  222.69
SO BUILDWID LAB34      220.81  212.22  197.19  176.16  149.79  118.86
SO BUILDWID LAB34       69.54   30.46   76.28  112.08  144.48  172.49
SO BUILDWID LAB34      195.26  212.09  222.49  226.12  222.88  222.69
SO BUILDWID LAB34      220.81  212.22  197.19  176.16  149.79  118.86
SO BUILDWID LAB34       69.54   30.46   76.28  112.08  144.48  172.49
SO BUILDLEN LAB34      176.16  149.79  118.86   84.32   47.21   76.28
SO BUILDLEN LAB34      112.08  144.48  172.49  195.26  212.09  222.49
SO BUILDLEN LAB34      230.71  230.36  222.69  220.81  212.22  197.19
SO BUILDLEN LAB34      176.16  149.79  118.86   84.32   47.21   76.28
SO BUILDLEN LAB34      112.08  144.48  172.49  195.26  212.09  222.49
SO BUILDLEN LAB34      230.71  230.36  222.69  220.81  212.22  197.19
SO XBADJ    LAB34        8.93   21.31   33.04   43.77   53.16   26.03
SO XBADJ    LAB34       -5.13  -36.13  -66.04  -93.94 -118.99 -140.42
SO XBADJ    LAB34     -177.41 -174.21 -183.20 -192.51 -195.97 -193.47
SO XBADJ    LAB34     -185.09 -171.09 -151.89 -128.08 -100.38 -102.31
SO XBADJ    LAB34     -106.95 -108.35 -106.45 -101.32  -93.11  -82.07
SO XBADJ    LAB34      -53.30  -56.15  -39.48  -28.30  -16.26   -3.72
SO YBADJ    LAB34       -3.69   12.94   29.17   44.52   58.52   71.86
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SO YBADJ    LAB34        82.11   89.86   94.88   97.01   96.20   92.47
SO YBADJ    LAB34       -13.38  -23.94   64.17   50.91   36.11   20.20
SO YBADJ    LAB34         3.69  -12.94  -29.17  -44.52  -58.52  -71.86
SO YBADJ    LAB34       -82.11  -89.86  -94.88  -97.01  -96.20  -92.47
SO YBADJ    LAB34        13.38   23.94  -64.17  -50.91  -36.11  -20.20


**Using Reported Actual 2013 Emissions for Interactive SOurces Below

**Purina Animal Nutrition Center
**Corrected UTM from aerial photo
**100 HP Boiler
**Reported as Stack but no release parameters given, assume volume paramters for boiler.
SO LOCATION EU_10 VOLUME 689107.65 4262863.7 172
SO SRCPARAM EU_10 0.0409  5  1.1628  4.651


**N.B. West Contracting CO INC
**Drag Slat Conveyer
**No information regarding this source so assume volume source parameters for boiler w/o parameters.
SO LOCATION EP17 Volume 695196.752  4262475.068 159
SO SRCPARAM EP17 0.07385 5  1.1628  4.651

**Aggregate Dryer w/Burner and rotary mixer
**Corrected UTMs from aerial
SO LOCATION EP5 Point 695174.86 4262540.03 159
SO SRCPARAM EP5 0.0116 7.62 376.15 5.526 0.9144

**AC Heater/Burner
**Corrected UTMs from aerial
**No exit temp or emission velocity provided. Assumed Temp=298.15K Emission Velocity=0.001 m/s
SO LOCATION S2 Point 695174.86 4262540.03 159
SO SRCPARAM S2 0.01759 2.7432 298.15 0.001 0.24384

   BACKGRND ANNUAL 9.0
   BACKUNIT PPB

SO SRCGROUP Purina  EU_10
SO SRCGROUP NBWEST  EP17 EP5 S2
SO SRCGROUP Lab1 LABADIE1
SO SRCGROUP Lab2 LABADIE2
SO SRCGROUP Lab34 LAB34
SO SRCGROUP Lab5 LABADIE5
SO SRCGROUP Lab LABADIE1 LABADIE2 LAB34 LABADIE5
SO SRCGROUP ALL BACKGROUND

SO FINISHED

RE STARTING
**20 km Extent Tiered Rec Grid
** AERMAP - VERSION 11103                              10/29/14
**                                            13:09:02
** Labadie
** Receptor Elevations
** A total of       5  NED files were used
** A total of    5628  receptors were processed
** DOMAINXY 665000 4245000 15 715000 4295000 15
** ANCHORXY 688484.5 4270373.88 688484.5 4270373.88 15 4
** Terrain heights were extracted by default

RE ELEVUNIT METERS
**Receptor Grid unchanged from original recommendation
RE FINISHED

ME STARTING
ME SURFFILE .\JEFILX_13-15.SFC
ME PROFFILE .\JEFILX_13-15.PFL
ME SURFDATA  03963 2013 Jefferson_City,MO
ME UAIRDATA  04833 2013 Lincoln, Ill
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ME PROFBASE 167 Meters
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE 4-10
OU SUMMFILE Ameren_Labadie-20km-13-15-Int-Merge.SUM
OU PLOTFILE 1 ALL 4 Ameren_Labadie_Plotfile_20km-13-15-Int-Merge.PLT
OU MAXDCONT All 4 THRESH 196.5 Ameren_Labadie_MAXDCONT_20km-13-15-Int-Merge.DAT
OU FINISHED
```

Excerpt of Hourly Emissions File for Labadie

```
SO HOUREMIS    13    1    1    1    LABADIE1    422.377    443.06    34.72
SO HOUREMIS    13    1    1    1    LABADIE2    339.62    442.49    35.558
SO HOUREMIS    13    1    1    1    LAB34    739.015    437.4818156    34.72584349
SO HOUREMIS    13    1    1    2    LABADIE1    428.312    443.06    34.72
SO HOUREMIS    13    1    1    2    LABADIE2    336.118    442.49    35.558
SO HOUREMIS    13    1    1    2    LAB34    724.979    437.4818156    34.72584349
SO HOUREMIS    13    1    1    3    LABADIE1    439.576    443.06    34.72
SO HOUREMIS    13    1    1    3    LABADIE2    340.754    442.49    35.558
SO HOUREMIS    13    1    1    3    LAB34    725.382    437.4818156    34.72584349
SO HOUREMIS    13    1    1    4    LABADIE1    419.265    443.06    34.72
SO HOUREMIS    13    1    1    4    LABADIE2    340.427    442.49    35.558
SO HOUREMIS    13    1    1    4    LAB34    798.903    437.4818156    34.72584349
SO HOUREMIS    13    1    1    5    LABADIE1    397.165    443.06    34.72
SO HOUREMIS    13    1    1    5    LABADIE2    346.563    442.49    35.558
SO HOUREMIS    13    1    1    5    LAB34    860.278    437.4818156    34.72584349
SO HOUREMIS    13    1    1    6    LABADIE1    416.027    443.06    34.72
SO HOUREMIS    13    1    1    6    LABADIE2    350.179    442.49    35.558
SO HOUREMIS    13    1    1    6    LAB34    871.378    437.4818156    34.72584349
SO HOUREMIS    13    1    1    7    LABADIE1    425.628    443.06    34.72
SO HOUREMIS    13    1    1    7    LABADIE2    348.692    442.49    35.558
SO HOUREMIS    13    1    1    7    LAB34    900.396    437.4818156    34.72584349
SO HOUREMIS    13    1    1    8    LABADIE1    441.63    443.06    34.72
SO HOUREMIS    13    1    1    8    LABADIE2    356.933    442.49    35.558
SO HOUREMIS    13    1    1    8    LAB34    942.127    437.4818156    34.72584349
SO HOUREMIS    13    1    1    9    LABADIE1    447.401    443.06    34.72
SO HOUREMIS    13    1    1    9    LABADIE2    375.833    442.49    35.558
SO HOUREMIS    13    1    1    9    LAB34    960.359    437.4818156    34.72584349
SO HOUREMIS    13    1    1    10    LABADIE1    480.589    443.06    34.72
SO HOUREMIS    13    1    1    10    LABADIE2    376.942    442.49    35.558
SO HOUREMIS    13    1    1    10    LAB34    989.78    437.4818156    34.72584349
SO HOUREMIS    13    1    1    11    LABADIE1    486.965    443.06    34.72
SO HOUREMIS    13    1    1    11    LABADIE2    377.005    442.49    35.558
SO HOUREMIS    13    1    1    11    LAB34    1003.527    437.4818156    34.72584349
SO HOUREMIS    13    1    1    12    LABADIE1    455.225    443.06    34.72
SO HOUREMIS    13    1    1    12    LABADIE2    379.109    442.49    35.558
SO HOUREMIS    13    1    1    12    LAB34    968.499    437.4818156    34.72584349
SO HOUREMIS    13    1    1    13    LABADIE1    463.365    443.06    34.72
SO HOUREMIS    13    1    1    13    LABADIE2    369.18    442.49    35.558
SO HOUREMIS    13    1    1    13    LAB34    968.096    437.4818156    34.72584349
SO HOUREMIS    13    1    1    14    LABADIE1    456.75    443.06    34.72
SO HOUREMIS    13    1    1    14    LABADIE2    349.184    442.49    35.558
SO HOUREMIS    13    1    1    14    LAB34    946.046    437.4818156    34.72584349
SO HOUREMIS    13    1    1    15    LABADIE1    469.602    443.06    34.72
SO HOUREMIS    13    1    1    15    LABADIE2    357.097    442.49    35.558
SO HOUREMIS    13    1    1    15    LAB34    951.161    437.4818156    34.72584349
SO HOUREMIS    13    1    1    16    LABADIE1    465.784    443.06    34.72
SO HOUREMIS    13    1    1    16    LABADIE2    356.467    442.49    35.558
SO HOUREMIS    13    1    1    16    LAB34    932.69    437.4818156    34.72584349
SO HOUREMIS    13    1    1    17    LABADIE1    458.035    443.06    34.72
SO HOUREMIS    13    1    1    17    LABADIE2    341.762    442.49    35.558
SO HOUREMIS    13    1    1    17    LAB34    928.645    437.4818156    34.72584349
SO HOUREMIS    13    1    1    18    LABADIE1    454.873    443.06    34.72
SO HOUREMIS    13    1    1    18    LABADIE2    341.725    442.49    35.558
SO HOUREMIS    13    1    1    18    LAB34    894.65    437.4818156    34.72584349
SO HOUREMIS    13    1    1    19    LABADIE1    443.293    443.06    34.72
SO HOUREMIS    13    1    1    19    LABADIE2    337.516    442.49    35.558
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SO HOUREMIS    13    1    1    19    LAB34    869.778    437.4818156    34.72584349
SO HOUREMIS    13    1    1    20    LABADIE1    440.773    443.06    34.72
SO HOUREMIS    13    1    1    20    LABADIE2    320.191    442.49    35.558
SO HOUREMIS    13    1    1    20    LAB34    877.955    437.4818156    34.72584349
SO HOUREMIS    13    1    1    21    LABADIE1    438.404    443.06    34.72
SO HOUREMIS    13    1    1    21    LABADIE2    315.176    442.49    35.558
SO HOUREMIS    13    1    1    21    LAB34    860.492    437.4818156    34.72584349
SO HOUREMIS    13    1    1    22    LABADIE1    434.889    443.06    34.72
SO HOUREMIS    13    1    1    22    LABADIE2    316.537    442.49    35.558
SO HOUREMIS    13    1    1    22    LAB34    847.363    437.4818156    34.72584349
SO HOUREMIS    13    1    1    23    LABADIE1    433.201    443.06    34.72
SO HOUREMIS    13    1    1    23    LABADIE2    312.908    442.49    35.558
SO HOUREMIS    13    1    1    23    LAB34    824.594    437.4818156    34.72584349
SO HOUREMIS    13    1    1    24    LABADIE1    404.901    443.06    34.72
SO HOUREMIS    13    1    1    24    LABADIE2    304.34    442.49    35.558
SO HOUREMIS    13    1    1    24    LAB34    699.98    437.4818156    34.72584349
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Excerpt of AERMOD Output File for Labadie

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*** AERMOD - VERSION  15181 ***   *** Ameren Missouri Labadie Facility Hourly Emissions File Run 13-15 20  ***       03/24/16
 *** AERMET - VERSION  15181 ***   *** Including Interactive sources Merged Plume                        ***       11:35:08
                                                                                   PAGE  4048
 **MODELOPTs:   RegDFAULT CONC      ELEV      RURAL

          *** THE SUMMARY OF MAXIMUM   4TH-HIGHEST MAX DAILY  1-HR RESULTS AVERAGED OVER   3 YEARS ***


                    ** CONC OF SO2      IN MICROGRAMS/M**3                    **

                                                                   NETWORK
GROUP ID                    AVERAGE CONC              RECEPTOR  (XR, YR, ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

PURINA    1ST HIGHEST VALUE IS      42.66702 AT (  688846.44,  4263075.50,   165.70,   178.75,    0.00)  DC
        2ND HIGHEST VALUE IS      41.82770 AT (  689346.44,  4262575.50,   181.07,   202.63,    0.00)  DC
        3RD HIGHEST VALUE IS      23.59439 AT (  688346.44,  4263075.50,   175.90,   175.90,    0.00)  DC
        4TH HIGHEST VALUE IS      23.59439 AT (  688346.44,  4263075.50,   175.90,   175.90,    0.00)  DC
        5TH HIGHEST VALUE IS      20.81422 AT (  688346.44,  4262575.50,   179.35,   182.68,    0.00)  DC
        6TH HIGHEST VALUE IS      19.26734 AT (  689346.44,  4262075.50,   183.19,   183.19,    0.00)  DC
        7TH HIGHEST VALUE IS      19.26734 AT (  689346.44,  4262075.50,   183.19,   183.19,    0.00)  DC
        8TH HIGHEST VALUE IS      18.38084 AT (  688846.44,  4263575.50,   182.34,   182.34,    0.00)  DC
        9TH HIGHEST VALUE IS      16.80324 AT (  689846.44,  4262575.50,   183.79,   203.43,    0.00)  DC
       10TH HIGHEST VALUE IS      16.73039 AT (  689346.44,  4263075.50,   188.46,   188.46,    0.00)  DC

NBWEST    1ST HIGHEST VALUE IS     127.20166 AT (  695346.44,  4262575.50,   166.43,   247.17,    0.00)  DC
        2ND HIGHEST VALUE IS     104.20032 AT (  695346.44,  4262075.50,   157.77,   196.69,    0.00)  DC
        3RD HIGHEST VALUE IS     104.20032 AT (  695346.44,  4262075.50,   157.77,   196.69,    0.00)  DC
        4TH HIGHEST VALUE IS     103.69656 AT (  694846.44,  4262575.50,   162.23,   245.02,    0.00)  DC
        5TH HIGHEST VALUE IS      72.04175 AT (  695846.44,  4262075.50,   156.96,   156.96,    0.00)  DC
        6TH HIGHEST VALUE IS      65.72825 AT (  694846.44,  4262075.50,   164.99,   221.97,    0.00)  DC
        7TH HIGHEST VALUE IS      39.96304 AT (  695346.44,  4261575.50,   146.36,   146.36,    0.00)  DC
        8TH HIGHEST VALUE IS      38.20016 AT (  695846.44,  4261575.50,   152.29,   152.29,    0.00)  DC
        9TH HIGHEST VALUE IS      31.31004 AT (  695846.44,  4261075.50,   163.11,   163.11,    0.00)  DC
       10TH HIGHEST VALUE IS      30.68238 AT (  696346.44,  4261575.50,   146.89,   229.43,    0.00)  DC

LAB1      1ST HIGHEST VALUE IS      48.14743 AT (  685846.44,  4272825.50,   171.70,   220.14,    0.00)  DC
        2ND HIGHEST VALUE IS      48.14330 AT (  685846.44,  4272575.50,   165.60,   165.60,    0.00)  DC
        3RD HIGHEST VALUE IS      48.14330 AT (  685846.44,  4272575.50,   165.60,   165.60,    0.00)  DC
        4TH HIGHEST VALUE IS      48.03805 AT (  685846.44,  4272325.50,   160.08,   160.08,    0.00)  DC
        5TH HIGHEST VALUE IS      47.99712 AT (  684846.44,  4272575.50,   214.95,   237.81,    0.00)  DC
        6TH HIGHEST VALUE IS      47.99712 AT (  684846.44,  4272575.50,   214.95,   237.81,    0.00)  DC
        7TH HIGHEST VALUE IS      47.64460 AT (  686096.44,  4272575.50,   159.10,   265.93,    0.00)  DC
        8TH HIGHEST VALUE IS      47.37300 AT (  686096.44,  4272075.50,   164.47,   164.47,    0.00)  DC
        9TH HIGHEST VALUE IS      47.23412 AT (  686096.44,  4272325.50,   160.92,   259.59,    0.00)  DC
       10TH HIGHEST VALUE IS      47.11491 AT (  685846.44,  4273075.50,   174.41,   266.61,    0.00)  DC

LAB2      1ST HIGHEST VALUE IS      47.41555 AT (  686096.44,  4273075.50,   177.20,   266.77,    0.00)  DC
        2ND HIGHEST VALUE IS      47.11723 AT (  686346.44,  4272825.50,   171.18,   266.77,    0.00)  DC
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3RD HIGHEST VALUE IS 46.28026 AT (685846.44, 4273325.50, 176.26, 266.77, 0.00) DC
4TH HIGHEST VALUE IS 45.61637 AT (686346.44, 4272575.50, 172.33, 259.59, 0.00) DC
5TH HIGHEST VALUE IS 45.61637 AT (686346.44, 4272575.50, 172.33, 259.59, 0.00) DC
6TH HIGHEST VALUE IS 45.58764 AT (686596.44, 4272575.50, 182.88, 259.59, 0.00) DC
7TH HIGHEST VALUE IS 45.44779 AT (686096.44, 4272825.50, 164.71, 266.77, 0.00) DC
8TH HIGHEST VALUE IS 45.16708 AT (686596.44, 4272325.50, 171.86, 259.59, 0.00) DC
9TH HIGHEST VALUE IS 45.12449 AT (685846.44, 4272325.50, 160.08, 160.08, 0.00) DC
10TH HIGHEST VALUE IS 45.03828 AT (686846.44, 4272825.50, 187.85, 266.77, 0.00) DC

**MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE SUMMARY OF MAXIMUM 4TH-HIGHEST MAX DAILY 1-HR RESULTS AVERAGED OVER 3 YEARS ***

** CONC OF SO2 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	NETWORK RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE	GRID-ID

LAB34 1ST HIGHEST VALUE IS 70.96686 AT (686096.44, 4272575.50, 159.10, 265.93, 0.00) DC
2ND HIGHEST VALUE IS 70.85822 AT (685846.44, 4272825.50, 171.70, 220.14, 0.00) DC
3RD HIGHEST VALUE IS 69.88410 AT (686096.44, 4273325.50, 201.59, 266.77, 0.00) DC
4TH HIGHEST VALUE IS 69.67560 AT (686346.44, 4272325.50, 170.81, 259.59, 0.00) DC
5TH HIGHEST VALUE IS 69.58261 AT (686346.44, 4273325.50, 203.41, 266.77, 0.00) DC
6TH HIGHEST VALUE IS 69.39269 AT (686346.44, 4273575.50, 221.41, 266.77, 0.00) DC
7TH HIGHEST VALUE IS 69.39269 AT (686346.44, 4273575.50, 221.41, 266.77, 0.00) DC
8TH HIGHEST VALUE IS 69.22568 AT (685846.44, 4273575.50, 170.35, 266.77, 0.00) DC
9TH HIGHEST VALUE IS 69.22568 AT (685846.44, 4273575.50, 170.35, 266.77, 0.00) DC
10TH HIGHEST VALUE IS 69.18338 AT (686346.44, 4273075.50, 181.79, 266.77, 0.00) DC

LAB5 1ST HIGHEST VALUE IS 0.31066 AT (690846.44, 4268575.50, 174.43, 238.58, 0.00) DC
2ND HIGHEST VALUE IS 0.31066 AT (690846.44, 4268575.50, 174.43, 238.58, 0.00) DC
3RD HIGHEST VALUE IS 0.30358 AT (690096.44, 4268325.50, 177.78, 215.37, 0.00) DC
4TH HIGHEST VALUE IS 0.30358 AT (690096.44, 4268325.50, 177.78, 215.37, 0.00) DC
5TH HIGHEST VALUE IS 0.27364 AT (689596.44, 4267575.50, 175.98, 245.21, 0.00) DC
6TH HIGHEST VALUE IS 0.27364 AT (689596.44, 4267575.50, 175.98, 245.21, 0.00) DC
7TH HIGHEST VALUE IS 0.26272 AT (690346.44, 4267575.50, 173.18, 245.21, 0.00) DC
8TH HIGHEST VALUE IS 0.26272 AT (690346.44, 4267575.50, 173.18, 245.21, 0.00) DC
9TH HIGHEST VALUE IS 0.26195 AT (689346.44, 4267575.50, 179.53, 245.21, 0.00) DC
10TH HIGHEST VALUE IS 0.26195 AT (689346.44, 4267575.50, 179.53, 245.21, 0.00) DC

LAB 1ST HIGHEST VALUE IS 151.86308 AT (686096.44, 4272825.50, 164.71, 266.77, 0.00) DC
2ND HIGHEST VALUE IS 151.57891 AT (686346.44, 4272575.50, 172.33, 259.59, 0.00) DC
3RD HIGHEST VALUE IS 151.57891 AT (686346.44, 4272575.50, 172.33, 259.59, 0.00) DC
4TH HIGHEST VALUE IS 150.27113 AT (685846.44, 4272825.50, 171.70, 220.14, 0.00) DC
5TH HIGHEST VALUE IS 150.25145 AT (687346.44, 4273325.50, 189.99, 266.77, 0.00) DC
6TH HIGHEST VALUE IS 149.75333 AT (685846.44, 4273075.50, 174.41, 266.61, 0.00) DC
7TH HIGHEST VALUE IS 149.75333 AT (685846.44, 4273075.50, 174.41, 266.61, 0.00) DC
8TH HIGHEST VALUE IS 149.65462 AT (687096.44, 4273325.50, 215.37, 266.77, 0.00) DC
9TH HIGHEST VALUE IS 149.38163 AT (687096.44, 4273575.50, 238.37, 264.41, 0.00) DC
10TH HIGHEST VALUE IS 148.77844 AT (687346.44, 4272825.50, 189.15, 259.59, 0.00) DC

ALL 1ST HIGHEST VALUE IS 175.41317 AT (686096.44, 4272825.50, 164.71, 266.77, 0.00) DC
2ND HIGHEST VALUE IS 175.12435 AT (686346.44, 4272575.50, 172.33, 259.59, 0.00) DC
3RD HIGHEST VALUE IS 175.12435 AT (686346.44, 4272575.50, 172.33, 259.59, 0.00) DC
4TH HIGHEST VALUE IS 173.81933 AT (685846.44, 4272825.50, 171.70, 220.14, 0.00) DC
5TH HIGHEST VALUE IS 173.79840 AT (687346.44, 4273325.50, 189.99, 266.77, 0.00) DC
6TH HIGHEST VALUE IS 173.30314 AT (685846.44, 4273075.50, 174.41, 266.61, 0.00) DC
7TH HIGHEST VALUE IS 173.30314 AT (685846.44, 4273075.50, 174.41, 266.61, 0.00) DC
8TH HIGHEST VALUE IS 173.20776 AT (687096.44, 4273325.50, 215.37, 266.77, 0.00) DC
9TH HIGHEST VALUE IS 172.92853 AT (687096.44, 4273575.50, 238.37, 264.41, 0.00) DC
10TH HIGHEST VALUE IS 172.33163 AT (687346.44, 4272825.50, 189.15, 259.59, 0.00) DC