

Missouri Department of dnr.mo.gov
NATURAL RESOURCES
Michael L. Parson, Governor Carol S. Comer, Director

April 30, 2020

Jim Gulliford
Regional Administrator
U.S. EPA, Region VII
11201 Renner Boulevard
Lenexa, KS 66219

Dear Jim Gulliford:

The Missouri Department of Natural Resources' Air Pollution Control Program (air program) hereby submits the following:

Area Boundary Recommendations for the 2010 1-hour Sulfur Dioxide Standard: December 2020 Designations

Through this submittal, the air program is requesting that EPA take these recommendations into consideration during the designation process to be completed by December 31, 2020.

The air program is revising its recommendations for area designations (e.g. attainment, nonattainment, unclassifiable) for the 2010 1-hour SO₂ standard. The recommendations are based on technical evaluations using monitoring data and air quality modeling to address two areas of the State of Missouri: the area surrounding the Magnitude 7 Metals and the Associated Electric Cooperative Inc. – New Madrid Power Plant located in New Madrid County and the area surrounding the Doe Run – Buick located in Iron County. The air program followed EPA's September 5, 2019, guidance document titled *Area Designations for the 2010 Primary Sulfur Dioxide National Ambient Air Quality Standard – Round 4* to inform the recommendations. For reference, the revised recommendations for these remaining areas are summarized in Table 1.

The Missouri Air Conservation Commission adopted the revised recommendations at the April 29, 2020, commission meeting. The commission has full legal authority to develop area boundary recommendations pursuant to Section 643.050 of the Missouri Air Conservation Law. A public hearing for the proposed recommendations was held on March 26, 2020. A 30-day public comment period opened by February 24, 2020, and closed on April 2, 2020. A summary of the comments received and our responses is attached.

In compliance with Attachment A of the "Regional Consistency for the Administrative Requirements of State Implementation Plan Submittals and the Use of 'Letter Notices'" memo dated April 6, 2011, we will email a searchable pdf version of this document to the EPA Regional Office and post the document to our website: <https://dnr.mo.gov/env/apcp/so2.htm>.



Jim Gulliford
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However, due to the size of the appendices, an electronic copy will be transferred to the Regional Office separately.

Thank you for your attention to this matter. If you have any questions regarding this submittal, please contact Emily Wilbur with the Missouri Department of Natural Resources' Air Pollution Control Program at P.O. Box 176, Jefferson City, MO 65102 or by telephone at (573) 751-4817.

Sincerely,

AIR POLLUTION CONTROL PROGRAM



Darcy A. Bybee
Director

DAB:aac

Enclosures:

Copy of recommendations
Summary of the comments and responses

c: Missouri Air Conservation Commission
Amy Bhesania, EPA Region 7
Stephen Brown, EPA Region 7
File# 2010-SO2-7-DRR Monitoring

Table 1. Summary of Missouri’s Revised Boundary Recommendations for the 2010 SO₂ Standard – December 2020 Designations

Affected Source	Area Boundary	Area Designation Recommendation
Magnitude 7 Metals and New Madrid Power Plant	Area encompassing the property boundaries of these two facilities - The portion of New Madrid County bounded by the Mississippi River to the east and the following the following Zone 16 Universal Transverse Mercator (UTM) coordinates (272016.6, 4042423.62), (268791.92, 4042564.43), (268957.29, 4045213.47), and (270362.07, 4045125.75)	Nonattainment
	Remainder of New Madrid County	Attainment/unclassifiable
Doe Run – Buick Resource Recycling Facility	Iron County	Attainment/unclassifiable

**Proposed Area Boundary Recommendations for the
2010 Sulfur Dioxide Standard:
December 2020 Designations**

**Prepared for the
Missouri Air Conservation Commission**



Adoption

April 29, 2020

**Missouri Department of Natural Resources
Division of Environmental Quality
Air Pollution Control Program
Jefferson City, Missouri**

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Appendix D – Modeling Files – Magnitude 7 Metals and New Madrid Power Plant

PURPOSE

The purpose of this document is to provide Missouri's updated recommendations for area boundary designations under the 2010 1-hour sulfur dioxide (SO₂) standard for two areas of the state. The Missouri Department of Natural Resources' Air Pollution Control Program (air program) recommends a nonattainment area boundary designation in a portion of New Madrid County surrounding Magnitude 7 Metals (M7M) and the Associated Electric Cooperative Inc. - New Madrid Power Plant (NMPP). The air program recommends attainment/unclassifiable designations for the remainder of New Madrid County and all of Iron County, which contains the Doe Run – Buick Resource Recycling Facility (Buick).

The air program is submitting these updated boundary recommendations pursuant to the federal Data Requirements Rule (DRR) based on refined technical evaluations for two areas that remain undesignated under the 2010 SO₂ standard. In the DRR for the 2010 SO₂ standard, EPA established an approach for evaluating SO₂ concentrations in areas that remained undesignated. The DRR required evaluation of air quality in areas surrounding sources that emitted more than 2,000 tons of SO₂ in the most recent emission year at the time (2014). The two areas discussed in this document contain the three sources in the state that exceed the emissions threshold, have not yet been designated under the 2010 SO₂ standard, and have elected to characterize the air quality surrounding their facilities through air monitoring. Per a court ordered consent decree, signed March 2, 2015, this fourth and final round of designations must occur by December 31, 2020.

SUMMARY OF AREA BOUNDARY RECOMMENDATIONS

The air program is recommending a nonattainment boundary for the area surrounding M7M and NMPP that chose monitoring as their preferred method of characterization. The air program determined the nonattainment boundary for the area based on the process outlined in EPA's boundary designations guidance. The air program used air dispersion modeling to inform the extent of the recommended nonattainment area. The air program is also proposing to recommend an attainment/unclassifiable designation for the remainder of New Madrid County and the entirety of Iron County based on the analysis provided in this document.

Table 1 summarizes the area boundary designation recommendations for the 2010 1-hour SO₂ standard discussed in this document and appendices. The respective appendices discuss in more detail the data and analysis used to support the recommendations. The map in Figure 1 graphically depicts the recommended nonattainment area boundary and the attainment/unclassifiable areas.

Table 1 – Missouri's Boundary Recommendation Summary for the 2010 SO₂ Standard Round - 4 Designations

Affected Source	Area Boundary	Area Designation Recommendation
Magnitude 7 Metals and New Madrid Power Plant	Area encompassing the property boundaries of these two facilities	Nonattainment
	Remainder of New Madrid County	Attainment/unclassifiable
Doe Run – Buick Resource Recycling Facility	Iron County	Attainment/unclassifiable

Project # 2010-SO2-7 DRR Monitoring



BACKGROUND

On June 22, 2010, the EPA established a new primary 1-hour SO₂ standard of 75 parts per billion (ppb), based on the three-year average of the annual 99th percentile of 1-hour daily maximum concentrations.¹ This new SO₂ standard replaces the previous 24-hour and annual primary SO₂ standards promulgated in 1971.² Once EPA establishes or revises a National Ambient Air Quality Standard (NAAQS), the Clean Air Act requires EPA to designate areas as "attainment" (meeting), "nonattainment" (not meeting), or "unclassifiable" (insufficient data).

The EPA has chosen a different approach to determine attainment status for the 1-hour SO₂ standard. Unlike other criteria pollutants, SO₂ is almost exclusively a point source-emitted pollutant. A monitoring network large enough to adequately cover all large sources would be prohibitively expensive and an affordable network would leave large gaps in coverage. Therefore, EPA has decided to use a hybrid monitoring-modeling approach for the boundary designations under the 1-hour SO₂ standard.

In a March 20, 2015 EPA guidance document titled "Updated Guidance for Area Designations for the 2010 Primary Sulfur Dioxide National Ambient Air Quality Standard," EPA defines area designation categories for this standard as follows:

- **Nonattainment:** An area that the EPA has determined violates the 2010 SO₂ standard, based on the most recent three years of ambient air quality monitoring data or an appropriate modeling analysis, or that EPA has determined contributes to a violation in a nearby area.
- **Attainment:** An area that the EPA has determined meets the 2010 SO₂ standard and does not contribute to a violation of the standard in a nearby area based on either: a) the most recent three years of ambient air quality monitoring data from a monitoring network in an area that is sufficient to be compared to the standard per EPA interpretations in the Monitoring Technical Assistance Document (TAD), or b) an appropriate modeling analysis.
- **Unclassifiable:** An area where the EPA cannot determine based on available information whether the area is or is not meeting the 2010 SO₂ standard and whether the area contributes to a violation in a nearby area.

EPA is promulgating designations under this standard for areas throughout the nation in multiple phases. In April 2013, after bringing the initial round designations through the public process and to the Missouri Air Conservation Commission (MACC), the air program submitted boundary designation recommendations addressing the entire state to the EPA for consideration. This action updates those recommendations for New Madrid County and Iron County. In the initial round, EPA designated certain areas as nonattainment based on monitoring data from existing monitors showing a violation of the standard but did not act to designate any other areas. In Missouri, EPA designated portions of Jackson and Jefferson Counties as nonattainment for the

¹ See 75 *FR* 35520; promulgated June 22, 2010

² See 36 *FR* 8187; promulgated April 30, 1971

2010 SO₂ standard, effective October 4, 2013, but did not designate any remaining areas of the state at that time.³

Since then, the SO₂ concentrations in both of these nonattainment areas have improved and are now in compliance with the standard. The air program submitted a maintenance plan and redesignation request to EPA for the Jefferson County area on December 21, 2017 and is currently in the process of developing a similar plan and request for the Jackson County area.

Subsequent rounds of designations are prescribed by a consent decree between EPA, the Sierra Club, and the Natural Resource Defense Council which was signed and entered by the court on March 2, 2015. The decree specified a schedule for EPA to complete SO₂ designations for the rest of the country in three additional rounds:

- Second round by July 2, 2016;
- Third round by December 31, 2017; and
- Final round by December 31, 2020.

To meet the first deadline, on June 30, 2016, EPA designated areas that contained either a newly violating monitor or a stationary source that according to the EPA's Air Markets Database:

- Emitted 16,000 tons of SO₂ in 2012; or
- Emitted 2,600 tons of SO₂ and had an average emission rate of at least 0.45 lbs. SO₂/MMBtu in 2012.

For this second round, Missouri updated its boundary designation recommendations for three areas in the state that met the thresholds identified in the consent decree. EPA finalized designations for these three areas through a federal register notice on July 12, 2016.⁴ In this round, EPA designated two areas in Missouri as unclassifiable including one area located in a portion of Jackson County, which was outside the original nonattainment area in Jackson County. The other unclassifiable area encompassed portions of Franklin and St. Charles counties. The third area EPA designated in Missouri under this second round was the entirety of Scott County, which EPA designated as attainment/unclassifiable.

The second designation deadline for EPA under the consent decree was December 31, 2017. The designations completed by this deadline were made pursuant to EPA's DRR for the 1-hour SO₂ standard, which EPA promulgated on August 21, 2015.⁵ The DRR established a timetable and other requirements for the characterization of current air quality around large sources of SO₂ emissions.

Per 40 CFR 51.1202 of the DRR, the air program was required to evaluate and characterize the SO₂ concentrations in areas surrounding sources that emitted more than 2,000 tons of SO₂ in 2014, excluding sources in previously designated nonattainment areas. The DRR details two characterization options available: modeling or monitoring. Another option per the DRR for such sources was for the state to develop a federally enforceable requirement for the source to limit SO₂ emissions to less than 2,000 tons per year. This option would forego the need to characterize

³ See 78 *FR* 47191; promulgated August 5, 2013

⁴ See 81 *FR* 45039; promulgated July 12, 2016

⁵ See 80 *FR* 51052; promulgated August 21, 2015

the air quality surrounding the source under the DRR. The rule required the air program to submit a list to EPA of all sources in the state meeting the criteria in the DRR along with the intended method to characterize air quality surrounding the source or the election for a new enforceable requirement limiting SO₂ emissions at the source to less than 2,000 tons per year.

The air program complied with the DRR requirements, and EPA promulgated final designations for the majority country in the third round of designations for the 2010 SO₂ standard.⁶ In the third round, EPA designated all areas surrounding DRR sources that elected to characterize air quality using dispersion modeling, all areas surrounding DRR sources where new enforceable limits were in place to address the DRR requirements, and all other areas of the country except for areas surrounding DRR sources that had installed new ambient SO₂ monitors as their method to characterize air quality for comparison to the 2010 SO₂ standard. In Missouri, all areas EPA designated under round three were designated as attainment/unclassifiable.

After the first three rounds of designations, there are two remaining areas in the state where EPA has not promulgated a final initial boundary designation under the 2010 SO₂ standard. These two areas encompass three sources that are subject to the DRR that elected to characterize air quality via new ambient SO₂ monitors. The three remaining undesignated DRR sources in Missouri include M7M (formerly Noranda), NMPP, and Buick, and the two areas include the entirety of Iron County and the entirety of New Madrid County. This document provides an update to the air program's April 2013 recommendations for area boundary designations for these two areas that EPA is required to designate by December 31, 2020.

⁶ See 83 *FR* 1098; promulgated January 9, 2018

2010 SO₂ ROUND - 4 DESIGNATIONS GUIDANCE

The air program developed the area boundary and designation recommendations presented in this document in accordance with EPA's September 5 2019, guidance document titled, "Area Designations for the 2010 Primary Sulfur Dioxide National Ambient Air Quality Standard – Round 4." This guidance provides information on the recommended process for designating all remaining undesignated areas under the 2010 SO₂ standard. In the guidance, EPA states they first intend to determine any new nonattainment boundaries for areas that monitored violations of the standard based on 2017-2019 certified ambient SO₂ monitoring data. The guidance states that a nonattainment area should contain the area violating the standard (e.g., the area around a violating monitor or encompassing modeled violations), as well as any nearby areas (e.g., counties or portions thereof) that contain emissions sources contributing to the violation. EPA states in the guidance they plan to consider county boundaries as the analytical starting point for determining SO₂ nonattainment areas. However, the guidance provides for smaller or larger than county-size boundaries based on an evaluation of five factors for each area. These five factors include:

- Monitoring/Modeling data
- Emissions information
- Meteorology
- Topography
- Jurisdictional boundaries

The guidance states that for areas where monitoring data indicates a violation of the 1-hour SO₂ standard, states may use source-oriented modeling to assess the geographic extent of sources causing the monitored violations in a particular location. The guidance explains that EPA's SO₂ NAAQS Designations Modeling Technical Assistance Document (TAD) provides further recommendations on using refined dispersion modeling for this type of air quality assessment. The guidance states that when using modeling to evaluate the extent of a monitored violation, the portion of the modeling domain encompassing the violating receptors is an appropriate reference point for determining a nonattainment area boundary.

The guidance also states that in certain cases there may be insufficient information to support a designation of nonattainment or attainment for an area. For example, there may be monitors that indicate an exceedance of the standard, but the monitoring data may be incomplete, or the monitors may not be operated in accordance with the regulatory requirements of 40 CFR part 58. In these cases, states may recommend unclassifiable designations and should consider which nearby sources contribute to ambient air quality within the impacted area when recommending a boundary for the unclassifiable area.

Finally, the guidance states that EPA may designate an area as attainment/unclassifiable if information indicates it meets the SO₂ standard and does not likely contribute to a violation in a nearby area based on the most recent three years (i.e., 2017-2019) of ambient air quality monitoring data. Once EPA has determined the boundaries for nonattainment areas (areas that are violating the standard or contributing to a nearby violation) and any unclassifiable areas, EPA intends to designate the remainder of the undesignated areas as attainment/unclassifiable.

2010 SO₂ ROUND - 4 TECHNICAL ANALYSIS

The air program developed the enclosed 1-hour SO₂ boundary recommendations based on analyses following the September 2019 guidance.

The air program developed the recommended nonattainment area boundary encompassing a portion of New Madrid County based on an analysis of the five factors listed in the guidance. Appendix A details the technical analysis performed for the two DRR sources located in New Madrid County, M7M and NMPP. The area analysis evaluates the five factors as they apply to this area and details the rationale for the boundary recommendation. Based on the analysis to define the nonattainment area boundary, the air program is recommending EPA designate the remainder of the county attainment/unclassifiable.

The modeling protocol that supplements the analysis in Appendix A details the general modeling conditions and procedures utilized in that technical evaluation. This modeling protocol was part of the documents submitted to EPA during the DRR round three submittal. Most of the contents of the modeling protocol are applicable to this area modeling analysis except that the air program used the most recent modeling software. The protocol is included in Appendix C. The supporting modeling files that supplement the analysis in Appendix A are included for reference in Appendix D. Certain lengthy modeling files are excerpted, but the complete set of all modeling files used for this analysis are available in digital format upon request to the air program.

As established in EPA's modeling TAD, modeling for designation purposes should be done using actual emissions to act as a surrogate for monitoring data. Hourly emissions, recorded by Continuous Emissions Monitoring Systems (CEMS), are the best option for source characterization. Additional justification is given for sources without hourly recorded emissions. Moreover, EPA has indicated that actual stack heights and hourly variable stack release parameters should be used in modeling for designation purposes when available.

The attainment/unclassifiable recommendation for Iron County is based on an evaluation of the 2017-2019 ambient air quality monitoring data surrounding the Buick facility, which verifies compliance with the 2010 SO₂ standard. Additional support for this recommendation including a summary of the most recent monitoring data in the area surrounding this DRR source along with a summary of the monitor placement in compliance with the DRR is provided in Appendix B.

PUBLIC PARTICIPATION

In accordance with section 643.100 of the Revised Statutes of Missouri, the MACC held a public hearing prior to adoption of this updated boundary designation recommendation and subsequent submittal to EPA. The air program notified the public and other interested parties of the public hearing and comment period at least thirty (30) days prior to the public hearing for this action. Specifically –

- Notice of availability of the proposed updated boundary recommendations and announcement of the public hearing was posted on the air program website by February 24, 2020.
- The MACC held a public hearing to receive comments for the proposed updated boundary recommendations on March 26, 2020.
- The air program opened a public comment period after posting the proposed updated boundary recommendations on the air program's website by February 24, 2020. The public comment period closed on April 2, 2020, seven (7) days after the public hearing.

CONCLUSION

Based on the analyses the air program performed for the remaining undesignated areas in Missouri under the 2010 SO₂ standard, the air program is updating the boundary designation recommendations for these areas. The following list provides the proposed updated boundary recommendations for Iron County and New Madrid County under the 2010 SO₂ standard the air program intends to submit to EPA following MACC adoption.

- Nonattainment – the portion of New Madrid County bounded by the Mississippi River to the east and the following the following Zone 16 Universal Transverse Mercator (UTM) coordinates (272016.6, 4042423.62) (268791.92, 4042564.43) (268957.29, 4045213.47) and (270362.07, 4045125.75)
- Attainment/Unclassifiable – the remainder of New Madrid County not encompassed by the recommended nonattainment area surrounding M7M and NMPP.
- Attainment/Unclassifiable – the entirety of Iron County

The air program developed these proposed recommendations in accordance with the federal Clean Air Act, corresponding federal regulations, Missouri statutes, and applicable EPA guidance documents.

COMMENTS AND RESPONSES ON
PROPOSED AREA BOUNDARY RECOMMENDATIONS
FOR THE 2010 SULFUR DIOXIDE STANDARD: DECEMBER 2020 DESIGNATIONS

The public comment period for the *Proposed Area Boundary Recommendations for the 2010 Sulfur Dioxide Standard: December 2020 Designations* opened on February 24, 2020 and closed on April 2, 2020. No revisions were made to the proposed recommended boundaries as a result of comments. However, revisions to the analysis included in the proposed action were made to include additional documentation as a result of comments.

The following is a summary of comments received and the Missouri Department of Natural Resources' Air Pollution Control Program's (air program's) corresponding responses.

SUMMARY OF COMMENTS: During the public comment period for the proposed action, the air program received oral comments from Commissioner Pendergrass during the public hearing, and written comments from Associated Electric Cooperative Inc. (AECI), Magnitude 7 Metals (Magnitude 7), and the Great Rivers Environmental Law Center (GRELC).

COMMENT #1: During the public hearing for the proposed action, Commissioner Pendergrass asked if any other entities were included in or affected by the recommended nonattainment boundary in New Madrid County.

RESPONSE: The air program responded that most of the recommended nonattainment boundary in New Madrid County encompasses the property boundaries of Magnitude 7 and the AECI New Madrid Power Plant. The remainder of the recommended nonattainment boundary contains three tracts of land to the west of these two facilities. No additional structures outside these two facilities' property boundaries are included in the recommended nonattainment boundary. Therefore, aside from Magnitude 7 and the New Madrid Power Plant, there are no other existing entities or facilities affected by or included in the recommended nonattainment area. No changes were made as a result of this comment.

COMMENT #2: AECI commented that they do not object to the nonattainment designation or the recommended nonattainment boundary for the portion of New Madrid County that includes the property boundary of the New Madrid Power Plant. However, AECI wants to make clear that the New Madrid Power Plant is not contributing to nonattainment in the area. They state that the modeling indicates the highest single contribution from the New Madrid Power Plant at the three monitors in the area is only 36 percent of the level of the standard and it occurs at the West Entrance monitor, which currently has a 2017-2019 design value below the level of the 2010 sulfur dioxide (SO₂) standard.

RESPONSE: The air program understands AECI's comment about their relatively small impact on SO₂ concentrations in the area when compared to the level of the standard and the contributions attributable to Magnitude 7. The air program points out that the modeling data

shared with the New Madrid Power Plant were based on continuous emissions monitoring system (CEMS) data that did not include hourly varying temperatures and exit velocities. The New Madrid Power Plant submitted the variable data to the air program, which was then used in the final modeling included in the proposed recommendations. As discussed in Section A-1 of Appendix A of the proposed recommendations, the highest 99th percentile maximum daily 1-hour concentration at the three monitors in the area in 2017 was 13 parts per billion (ppb), which is only 17 percent of the level of the standard. During this time, AECI was operating normally, and Magnitude 7 was idled. It was only after Magnitude 7 started ramping up operations that the monitors in the area began measuring elevated levels of SO₂ approaching or exceeding the level of the standard. This supports a conclusion that if not for the emissions from Magnitude 7, the emissions from AECI alone would likely not be causing violations of the standard to occur in the area. While this does not mean that AECI has no contribution to the SO₂ concentrations being measured in the area, the evidence supports that the contributions from AECI are not the cause of the violations recorded at the monitors. No changes were made as a result of this comment.

COMMENT #3: Magnitude 7 commented that they agree with the proposed nonattainment boundary that encompasses the property boundaries of their facility and the neighboring New Madrid Power Plant. However, they expressed concerns about the ability of the air dispersion model, AERMOD, to accurately characterize the dispersion of emissions from their aluminum plant. They state that in some of the modeled scenarios included in the proposed recommendations, the modeled concentrations far exceed the levels recorded by the monitors in the area. They further note that the building downwash algorithm included in AERMOD has not been evaluated for aluminum plants and could be biasing the results.

RESPONSE: The air program understands Magnitude 7's concerns with the building downwash algorithm in AERMOD as it has not yet been evaluated for aluminum plants. However, as explained in Appendix A of the proposed recommendations, the air program modeled numerous scenarios to determine how to appropriately characterize emissions with the goal of achieving stronger model performance that was comparable to the measured monitoring data. All modeling scenarios evaluated resulted in a conclusion that the 64-stack battery associated with the emission release point for Carbon Bake 2 at Magnitude 7 is by far the most significant driver in determining the maximum modeled SO₂ concentrations in the area. As Magnitude 7 states in their comment, the monitored concentrations in the area are violating the SO₂ standard, which necessitates a nonattainment designation for an area that includes the extent of the violations and the nearby sources that are contributing to the violation. The proposed recommendation for the nonattainment boundary is intended to accomplish this. No changes were made as a result of this comment.

COMMENT #4: GRELC commented to explain the importance of the SO₂ standard, including the health effects, the process the U.S. Environmental Protection Agency (EPA) used to establish the standard, and the need to ensure the residents of New Madrid County are protected from elevated levels of SO₂ concentrations.

RESPONSE: The air program understands the process EPA used to establish the SO₂ standard and the importance of ensuring that all ambient air quality throughout the state complies with the standards that EPA sets to protect public health. The air program's purpose with the proposed

recommendations is to determine a boundary that encompasses both the extent of the area experiencing violations and the nearby sources that are contributing to those violations as explained in EPA's guidance document for the SO₂ round four designations. No changes were made as a result of this comment.

COMMENT #5: GRELC commented that all or a significant portion of New Madrid County should be designated nonattainment. They state that the area must include all areas violating the standard and all nearby areas that contain emission sources that are contributing to the violation. They cite EPA guidance stating the county boundary is an appropriate "starting point" for assessing the appropriate geographic boundaries for an SO₂ nonattainment area. They state the air program is ignoring the guidance by recommending a limited site-specific area, and that the nonattainment area needs to include the other seven permitted emission sources in the county.

RESPONSE: EPA's Memorandum, titled – *Area Designations for the 2010 Primary Sulfur Dioxide National Ambient Air Quality Standard – Round 4* states that "a nonattainment area should contain the area violating the standard (e.g., the area around a violating monitor or encompassing modeled violations), as well as any nearby areas (e.g., counties or portions thereof) that contain emissions sources contributing to the violation." EPA also stated that they expect to continue to consider county boundaries as the analytical starting point for determining SO₂ nonattainment areas, and that an evaluation of five factors for each area may be considered in determining the geographic scope of a nonattainment boundary. The air program followed EPA's memorandum when it used the five factor technical analysis to determine the extent of the area violating the standard in New Madrid County.

The air program accounted for the other seven SO₂ emission sources in the county by establishing a fixed background concentration of 5 ppb or 13 micrograms per cubic meter (µg/m³). The air program utilized this approach as the other seven sources each reported less than half a ton of actual SO₂ emissions in 2018 and they emitted a total of 0.82 ton of SO₂ emissions in 2018. This fixed background concentration was added to the contributions from the two explicitly modeled sources for all hours included in the modeling analysis ensuring that all sources not explicitly modeled are accounted for in the analysis. The air program's dispersion modeling was based on six modeling scenarios along with other factors, and the analysis concluded that the violating area only included areas that were inside the property boundaries of Magnitude 7 and the New Madrid Power Plant. Though the extent of the violating receptors does not encompass both property boundaries in their entirety, the air program extended the nonattainment area to include the total property boundaries and some additional tracts of land to the west of the properties to make the nonattainment boundary a more well-defined area. No changes were made as a result of this comment

COMMENT #6: GRELC commented that the air program should have undertaken additional monitoring prior to proposing the nonattainment area boundaries. They state EPA guidance requires that for new or repurposed monitors designed to characterize air quality around sources that elect to monitor should be targeted with the primary objective to identify peak SO₂ concentrations in the ambient air that are attributable to an identified emission source or group of sources. They state the air program has ignored this guidance by not installing any new additional monitors, nor called for the need to do so. They suggest the air program require additional monitors and use that data to better evaluate the boundary recommendations.

RESPONSE: All three of the monitors in the area were newly installed and became operational in January of 2017 as part of Round 4 evaluations under the 2010 Sulfur Dioxide NAAQS. The monitors' locations were selected in accordance with the federal Data Requirements Rule (DRR) [80 FR 51052] with the purpose of capturing the area of maximum SO₂ concentrations around both Magnitude 7 and the New Madrid Power Plant, as Round 4 sources. EPA approved these monitors as meeting the requirements of the DRR when they approved the air program's 2017 annual monitoring network plan. EPA did not indicate that there was a need for additional monitoring sites at the time. EPA's memorandum referenced above indicates that existing monitors along with dispersion modeling is adequate to draw the extent of a nonattainment area. No changes were made as a result of this comment

COMMENT #7: GRELC commented that the air program should broaden its model to include SO₂ sources in the county other than Magnitude 7 and the New Madrid Power Plant. GRELC specifically cites two sources they believe should have been explicitly modeled in the analysis, Heartland Asphalt, which is located within 9 kilometers of Magnitude 7 and Bunge North American, which is within 12 kilometers of Magnitude 7. They state the air program failed to include any of the other seven sources in the county in its model, either as explicit sources, or as background concentrations. They state doing so fails to properly address the impact of the nonattainment designation on the nearby communities in the county. They state the model should be revised to include these sources, or employ a monitoring strategy instead.

RESPONSE: As mentioned in response to comment number five, those seven sources, including Heartland Asphalt Materials and Bunge North America, had total combined 2018 SO₂ emissions of 0.82 tons. For this analysis, the air program established a background concentration that is intended to capture the impacts of these seven sources as outlined in EPA modeling guidance. In comparison, Magnitude 7 had 1,772.02 tons and the New Madrid Power Plant had 14,865.61 tons.

In addition, the seven sources are not clustered in one area. Rather, they are located in different parts of New Madrid County. The three closest sources to the recommended nonattainment boundary had total combined 2018 SO₂ emissions of 0.02 tons for the entire year and are accounted for in the established background concentration. The two emission sources named in the comment, Heartland Asphalt Materials and Bunge North America, had total combined 2018 SO₂ emissions of 0.76 tons. These sources are both more than 8 kilometers away from the recommended nonattainment boundary. Therefore, the exclusion of these two sources from the nonattainment area is justified due to their distance from the recommended nonattainment boundary and their low potential concentration gradients associated with their low emission levels. The air program has accounted for the potential contributions to the violations in the area from all sources not explicitly modeled by using a conservative background concentration of 5 ppb or 13 µg/m³. This fixed background concentration is considered conservative because it is added to the modeled impacts for every hour of the years included in the analysis. No changes were made as a result of this comment.

COMMENT #8: GRELC commented that the air program needed to extend its receptor grid to encompass a larger area. They state the air program appears to have limited its receptor grid to the area surrounding Magnitude 7 and does not appear to extend into the farther reaches of the

county. They cite EPA guidance that in some cases two modeling runs may be needed. The first modeling run may include a moderate number of receptors in areas surrounding the source of concern and other areas of interest. Then a second modeling run could adjust the receptor grid to include denser arrays of receptors in the areas showing potential for high concentrations and possible violations, as indicated by the results of the first model run.

RESPONSE: The air program started the air dispersion modeling analysis by assigning receptors spacing 50 meters around the Magnitude 7 property boundary. This is a very high-resolution for a receptor grid intended to capture the maximum concentrations around the facility. Dispersion modeling guidance, in general, recommends a receptor grid with a resolution of 100 meter spacing going out one kilometer away from the modeled source. Then, the receptor grid decreases in resolution as you go further away from the modeled source. For most modeling applications, a receptor grid extending 10 kilometers from the modeled source and with ending resolution of up to one kilometer is more than adequate to characterize SO₂ concentrations attributable to the modeled source(s). However, the air program used a high resolution receptor grid of 100 meters for the entire modeled area in order to capture the maximum concentrations in areas extending several kilometers away from the modeled sources. The receptor grid the air program used extends 9 kilometers from the south to the north and up to 6.5 kilometers from the east to the west. In addition, the air program made sure all receptors towards the edges of the receptor grid showed continuously decreasing concentrations when moving away from the modeled sources by adding extra receptors where necessary. The applied receptors showed that the concentration gradients from the modeled sources diminished when moving further away from them and did not warrant the need to extend the receptors into the farther reaches of the county. This ensured the modeling analysis properly captured all potentially violating areas in the county. No changes were made as a result of this comment.

COMMENT #9: GRELC commented that the air program should revise its model to include allowable emissions instead of actual emissions for Magnitude 7. They state EPA guidance indicates that for sources lacking CEMS data that simply dividing the annual emissions by the number of hours in the year is not an accurate representation of actual emissions for sources that experience emissions rate variability throughout the year and should not be used. They also state that modeling should be based on three years of data, but the air program only modeled one year or less in several of its modeling scenarios. They state in cases where insufficient data exists that EPA allows the use of allowable emissions in these cases because allowable emissions would provide a conservative estimate. They also state EPA guidance recommends the use of actual stack heights and an accurate layout of the facility for modeling runs intended for use in determining the extent of a violating area. They state the proposed recommendations are not clear as to whether the EPA guidance was followed with respect to the stack heights and facility layout criteria.

RESPONSE AND EXPLANATION OF CHANGE: As discussed in subsection A.1.2 of Appendix A of the proposed recommendations, the actual stack parameters are used in the modeling analysis. The air program used, to the extent possible, the actual layout of the facility including building parameters provided by facility and by the air program's staff who collected these data during a site visit to the facility.

The air program followed EPA guidance titled – *SO₂ Designations Modeling Technical Assistance Document* or TAD throughout the modeling analysis. The TAD specifically states

that a minimum of the most recent 3 years of actual emissions should be used for designations. The guidance suggests the use of actual emissions instead of allowable emissions for designations. The guidance states that “designations are intended to address current actual air quality (*i.e.*, modeling simulates a monitor), and, thus, are unlike attainment plan modeling, which must provide assurances that attainment will occur.” The air program used the best estimates of emissions data from Magnitude 7 that closely simulated the monitoring data. Since Magnitude 7 only resumed operations during the middle of 2018 and had only one full year, 2019, of operation, the air program created six modeling scenarios in order to better characterize emissions from Magnitude 7. This is explained in subsection A.1.2 of Appendix A of the proposed recommendations. The air program concluded that the highest 12-month rolling emissions total from September 2018 to August 2019 are the best estimates of emissions to characterize emissions from the Carbon Bake 2 at Magnitude 7, which is the most critical emission point impacting the maximum SO₂ concentrations in the area. The air program modeled three years (2017-2019) as recommended by the TAD using the 12-month rolling emissions from September 2018 to August 2019. It is a common and conservative practice to use the highest emission year as representative emissions for the three modeling years, as the air program did in the proposed recommendations. In response to this comment, the air program has attached to Appendix A all of Magnitude 7’s 12-month rolling emissions mass balance worksheets that they submitted through the end of 2019. This ensures the public has the information needed to evaluate and reproduce the emission rates included in the analysis.

COMMENT #10: GRELC commented that the air program failed to adequately characterize background concentrations in the modeling analysis. They state the air program ignored the impact of all sources other than the New Madrid Power Plant and Magnitude 7 and failed to address the meteorological conditions for the background levels of other source impacts as well. They cite EPA guidance which suggests that wind and pollution roses be used to assess the representativeness of the background concentrations for use in the model. They state the air program ignored these criteria in the guidance and instead utilized a fixed background concentration for all sources other than Magnitude 7 and the New Madrid Power Plant. They recommend the analysis for the background concentration be updated to include such an analysis.

RESPONSE: The purpose of the EPA guidance regarding an analysis of the wind and pollution roses when determining a background concentration is to allow for the removal of certain hours when explicitly modeled sources were likely impacting the SO₂ concentrations recorded at the monitor. The purpose of this is to not double-count emission impacts from explicitly modeled sources. Using wind and pollution roses to characterize the background concentration in any of the three monitors surrounding Magnitude 7 would have certainly resulted in double-counting emission impacts from Magnitude 7 and New Madrid Power Plant. For example, the AECI water tower monitor cannot be used since it is located between these two facilities. The graveyard monitor is heavily influenced by Magnitude 7. The west entrance monitor is also impacted by both of the two explicitly modeled sources. Therefore, as allowed by TAD, the air program used a regional site, Mark Twain State Park, which is located away from the area of interest but is impacted by similar natural and distant man-made sources. As stated in the responses to previous comments, the total combined SO₂ emissions in 2018 for all seven of the permitted sources in the county not explicitly modeled are less than one ton. The established background concentration fully and conservatively accounts for the impacts from all emissions sources not explicitly modeled with the potential to impact SO₂ concentrations in the area. No changes were made as a

result of this comment.

COMMENT #11: GRELC commented that the air program failed to properly address weather and geography in its analysis. They state the air program did not use site-specific or localized weather data in its analysis. They cite EPA guidance indicating the preference for site-specific meteorological data in these types of modeling analyses. They state the air program did not follow the guidance because it used upper air data from Springfield, which is hundreds of miles away and surface weather data from Cape Girardeau, which is approximately 50 miles away. They also state it was not clear if the model adequately characterized the unique geography in New Madrid County. They state that consideration of geography is particularly important when sources are located on and near the shoreline of bodies of water, such as the case in New Madrid County with the Mississippi River on its eastern boundary. They also state the proposed recommendations are unclear how the model incorporates the geographic characteristics of the area and the model should be updated to address them.

RESPONSE: EPA states in the memorandum titled – *Area Designations for the primary Sulfur Dioxide National Ambient Air Quality Standard – Round 4* that “we intend to evaluate meteorological data to help determine how weather conditions, including wind speed and direction, affect the plume of sources contributing to ambient SO₂ concentrations. This factor also can be assessed in the context of source-oriented dispersion modeling as recommended in the SO₂ NAAQS Designations Modeling TAD.” Based on this, the air program has addressed the meteorological aspect of the five factor analysis through the use of the air dispersion modeling. Specifically, the air program used the AERMET model to develop the meteorological data inputs to the AERMOD model. These meteorological data include but are not limited to wind speed, wind direction, and temperature. The air program did not use site specific meteorological data from Magnitude 7 for the reason stated in subsection A.1.2 of Appendix A of the proposed recommendations. This subsection states the wind speed sensor operated in the area did not meet the quality assurance criteria for regulatory dispersion modeling, which is why the air program elected not to use the onsite data. However, when developing the analysis, the air program did conduct a modeling test using the on-site meteorological data at Magnitude 7. This test utilizing the on-site meteorological data predicted a smaller area experiencing modeled violations than the violating areas predicted by the model with the meteorological data from the national weather service stations. This means the analysis was more conservative due to the use of the national weather service meteorological data.

Prior to running AERMET, the air program evaluated many surface and upper air service stations’ surface characteristics and compared them the surface characteristics in the modeled area as explained in subsection A.1.2 of Appendix A of the proposed recommendations. The air program concluded that upper air data from Springfield Airport and surface data from Cape Girardeau Regional Airport closely represent the surface conditions in the modeling area. Another reason to choose Cape Girardeau Regional Airport is that it is similarly situated with the Mississippi River on its eastern boundary, therefore the use of that surface data does take into account both the meteorology and the geographic characteristics of the area. Therefore, the modeling analysis in the proposed recommendations adequately characterized both the meteorology and the unique geography in New Madrid County. No changes were made as a result of this comment.

COMMENT #12: GRELC commented that due to the evolving situation concerning the COVID-19 pandemic, it has impacted the public's ability to comment on proposed government actions. They requested the air program to extend the public comment period for at least an additional 45 days.

RESPONSE: The air program takes the concerns over the impacts of the pandemic seriously. When the governor closed the state office buildings to the public due to the pandemic on March 24, the public comment period for this action, which started on Feb. 24, 2020, had already been open for 30 days. In addition, the EPA is under a federal decree that orders them to finalize the SO₂ designations for all remaining areas in the country by December 31, 2020. According to EPA's guidance, they need revised state recommendations by May 1, 2020. This timeline will allow EPA sufficient time for review to incorporate and consider the information provided by states in time to meet the December deadline while also following their public notice process and the Clean Air Act requirement for 120-day letters. EPA is planning to release their 120-day letters for the SO₂ Round 4 Designations in August of this year. Those 120-day letters are expected to be followed by a federal public comment period allowing an additional chance for the public to provide comment on the designations. Due to these timing concerns, the air program would not be able to meet the May 1 deadline if we extended the public comment period deadline for the recommendations. This would hinder EPA's ability to review and consider the information in these recommendations before they are obligated to initiate designation actions for the remaining areas. Further, the federal designation process is expected to allow for an additional opportunity for public comment before the designations are finalized.

Since the opening of the public comment period for this action occurred multiple weeks before the social distancing guidelines associated with COVID-19 went into effect, and due to the timing concerns associated with EPA's requirement to issue these designations, the air program is not extending public comment period for this action. No changes were made as a result of this comment.

Appendix A

Magnitude 7 Metals and New Madrid Power Plant

A. MAGNITUDE 7 METALS AND NEW MADRID POWER PLANT

Magnitude 7 Metals (M7M) operates a primary aluminum reduction plant in New Madrid County. The company is an existing primary aluminum reduction installation with existing secondary aluminum production operations. New Madrid Power Plant (NMPP) operates two (2) coal-fired steam-generating boilers for the generation of electric power. Both facilities are major sulfur dioxide (SO₂) emitters.

The air program developed the boundary designation recommendations presented in this appendix in accordance with EPA's September 5, 2019 guidance document titled, "Area Designations for the 2010 Primary Sulfur Dioxide National Ambient Air Quality Standard – Round 4." This guidance provides information on the recommended process for designating the final remaining undesignated areas under the 2010 revised 1-hour SO₂ standard. In the guidance, EPA states they first intend to determine any new nonattainment boundaries for areas that monitored violations of the standard based on 2017-2019 certified ambient SO₂ monitoring data. The guidance states that a nonattainment area should contain the area violating the standard (e.g., the area around a violating monitor or encompassing modeled violations), as well as any nearby areas (e.g., counties or portions thereof) that contain emissions sources contributing to the violation. EPA states in the guidance they plan to consider county boundaries as the analytical starting point for determining SO₂ nonattainment areas. However, the guidance provides for smaller or larger than county-size boundaries based on an evaluation of five factors for each area. These five factors include:

- Monitoring/Modeling data
- Emissions information
- Meteorology
- Topography
- Jurisdictional boundaries

The guidance states that for areas where monitoring data indicates a violation of the 1-hour SO₂ standard, states may use source-oriented modeling to assess the geographic extent of sources causing the monitored violations in a particular location. The guidance explains that EPA's SO₂ National Ambient Air Quality Standard (NAAQS) Designations Modeling Technical Assistance Document (TAD) provides further recommendations on using refined dispersion modeling for this type of air quality assessment. The guidance states that when using modeling to evaluate the extent of a monitored violation, the portion of the modeling domain encompassing the violating receptors is an appropriate reference point for determining a nonattainment area boundary.

A.1 Monitoring/Modeling Data

A.1.1 Monitoring Data

There are three ambient SO₂ monitors near M7M and NMPP the air program relied on to characterize the air quality in the area around the two sources as shown in Figure 1. The three ambient air monitors exist around M7M, as required by the EPA's Data Requirements Rule (DRR) for the 2010 SO₂ standard. These monitors are located near the M7M fence-line. Monitor 1, also called the AECI Water Tower Monitor, sits at the north-eastern corner of the facility

Appendix A – Magnitude 7 Metals and New Madrid Power Plant

fence-line. Monitor 2, also called the East Graveyard Monitor, sits along the south-eastern fence-line almost directly south of the AECI Water Tower Monitor. Monitor 3, also called the West Entrance Monitor, sits along the western fence-line of the facility. The air program chose these sites based on frequent and high modeled concentrations, thus allowing the ability to accurately measure the peak SO₂ concentrations resulting from emissions from these two facilities.

Figure 1: Monitors near M7M and NMPP



The three monitors started collecting SO₂ concentration data on January 1, 2017. Throughout 2017, NMPP was operating at normal levels, but M7M operations were idled. During this first year of monitor operation, the three monitors showed SO₂ concentrations well below the 2010 1-hour SO₂ standard as shown in Table 1. However, in the summer of 2018, M7M restarted operations at their facility. By late 2018, monitors 1 and 2 recorded 99th percentile SO₂ values of 236 parts per billion (ppb) and 370 ppb, respectively, which are well above the 2010 1-hour SO₂ standard of 75 ppb. Table 1 shows the monitored concentration for the three monitors for 2017-2019 period along with the 3-year design values. The design values from monitors 1 and 2 indicate a violation of the 2010 1-hour SO₂ standard. Therefore, per EPA’s guidance the area encompassing these two monitors should be designated nonattainment along with any nearby areas with sources contributing to these violations. In addition, the nonattainment area needs to include any other areas surrounding these facilities that are not complying with the standard. However, the monitors only provide the SO₂ concentrations recorded in these three distinct areas and do not show the extent of the full area that is violating the standard. Therefore, the air program used air dispersion modeling to inform a recommended nonattainment area boundary that fully encompasses the full extent of the area that is violating the standard. This modeling analysis is provided in the following sections of this appendix.

Table 1: Monitors around M7M and NMPP - Annual 99th Percentile 1-Hour Values and 2017-2019 Design Values

Monitor	Location	2017	2018	2019*	2017-2019* Design Value
Monitor 1	AECI Water Tower Location	13	236	356	202
Monitor 2	East Graveyard	5	370	428	268
Monitor 3	West Entrance	7	43	90	47

*At the time this document was developed, the 2019 monitoring data was preliminary, and had not yet been quality assured or certified. Certification of the 2019 monitoring data is required by May 1, 2020.

A.1.2 Modeling Analysis

The air program performed air dispersion modeling to determine the extent of the area that is likely experiencing violations of the 2010 SO₂ standard. The modeling analysis followed EPA’s SO₂ NAAQS Designations Modeling TAD. The air program modeled the area using the most recent three years of representative meteorological data and corresponding emissions data to determine the recommended nonattainment area boundary. The following subsections summarize the modeling analysis the air program performed, and the modeling protocol in Appendix C contains more details on the general modeling procedures the air program used.

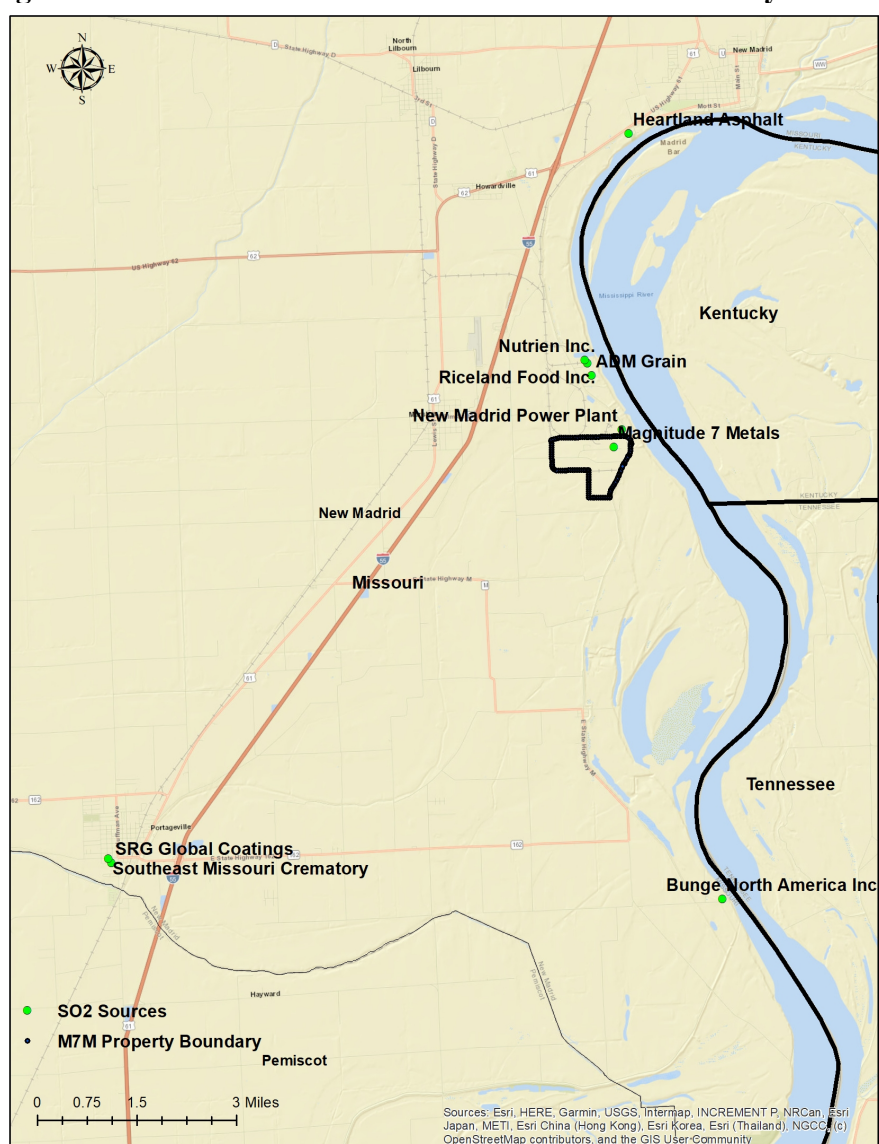
Emissions Data for Model Input

The air program evaluated the emission sources surrounding the area encompassing the monitored violations to determine the necessary emission sources to include in the dispersion modeling analysis. Table 2 lists all sources the air program evaluated for possible inclusion in the modeling inventory along with their 2016-2018 actual emissions. Figure 2 displays a map of the area along with all sources considered for inclusion in the modeling inventory.

Table 2: M7M and Interactive Source 2016-2018 SO₂ Emissions (tons/year)

Source Name	2016	2017	2018
New Madrid Power Plant	12,467.21	13,548.40	14,865.61
Magnitude 7 Metals	515.32	0.00	1,772.02
SRG Global Coatings, Inc.	0.02	0.04	0.03
Heartland Asphalt Materials New Madrid	0.44	0.44	0.44
Bunge North America Inc. Linda Elevator	0.32	0.32	0.32
Nutrien, Inc.	0.01	0.01	0.01
Southeast Missouri Crematory	0.00	0.01	0.01
ADM Grain Company	0.0004	0.0001	0.0026
Riceland Food Inc.	0.0028	0.0028	0.0028

Figure 2: SO₂ Sources in and around New Madrid County



The following bullets describe each of the sources included in Table 2 along with a discussion explaining the rationale and method the air program selected to use to characterize each source in the modeling analysis:

- Magnitude 7 Metals (M7M) – M7M (143-0008) operates a primary aluminum reduction plant in New Madrid County. The company is an existing primary aluminum reduction installation with existing secondary aluminum production operations. M7M dissolves raw aluminum-containing salts and oxides at high temperature and then uses electrolysis to isolate the aluminum metal. Electrolysis produces metallic aluminum as well as oxide gasses such as CO₂, CO, SO₂, NO_x and some fluoride compounds. Electrolysis requires carbon block anodes, which are consumed as the aluminum metal separates from the solution. These are produced on-site by heating a mixture of petroleum coke and pitch to remove impurities leaving mostly carbon behind. The M7M facility's SO₂ emissions come from two types of sources. The first type of source is an on-site carbon bake furnace, which produces carbon block anodes. Sulfur in the raw coke and pitch is "baked out" of the carbon block as SO₂. The second emission source type is from the electrolysis potlines. M7M has three pot lines, but only pot lines 1 and 2 have been operating during the past two years. Sulfur present in some of the aluminum salts as well as sulfur still present in the carbon blocks oxidizes in the potlines to form SO₂. Although, the process in the pot lines results in significantly more SO₂ emissions than the carbon bake furnace, preliminary analysis indicated that due to the relatively low emission release points of the carbon bake furnaces, they are the primary concern for causing elevated SO₂ concentrations in the area. There are three carbon bake structures. One of the carbon bake structures (carbon bake 1) is not currently operating and has not operated during the past three years. The other two (carbon bake 2 and carbon bake 3) have been operating since August of 2018. Carbon bake 2 contains a battery of 64 small individual stacks with relatively low stack heights. The emissions from Carbon bake 3 are routed to one single stack. In addition to the pot lines and carbon bakes, there are other insignificant SO₂ emission sources at this facility. However, due to the low emissions from these smaller sources, they have very little impact on SO₂ concentrations in the area. Therefore, the air program is not explicitly modeling these insignificant sources in this modeling analysis. Instead, the analysis accounts for the impacts from these sources through the use of a developed background concentration.
- New Madrid Power Plant (NMPP) – NMPP (143-0004) operates two (2) coal-fired steam generating boilers for the generation of electric power. The main sources of SO₂ emissions from this installation include two (2) coal-fired steam generating boilers. The emissions from these boilers are routed through a dual stack that uses continuous emissions monitoring systems (CEMS) to measure actual hourly SO₂ emissions from each of the boilers.
- Rest of Facilities – The rest of facilities listed in Table 2 all reported less than 1 ton of SO₂ emissions in 2016, 2017, and 2018. Due to the low emissions from these sources, the air program elected to characterize the impact from these small sources through the development of a fixed background concentration to be used in the analysis and added to the SO₂ concentration impact from the two explicitly modeled sources.

M7M started operating the facility in August 2018 after acquiring it from Noranda. Prior to that, the facility had set idle since 2016. When M7M started production for the first few months, it used raw materials that were left by Noranda. Beginning in October of 2018, the facility began providing emission data based on monthly mass balance worksheets. According to the mass balance worksheets, the total SO₂ emissions at the facility from October through December of 2018 was 1,244 tons. In addition to the mass balance worksheet from 2018, M7M also provided its 2018 annual SO₂ emissions in its Emissions Inventory Questionnaire (EIQ). In their EIQ, the facility reported total annual SO₂ emissions of 1,772 tons.

M7M also provided 2019 SO₂ emissions based on monthly mass balance worksheets for all months in 2019. However, several of the monthly mass balance worksheets in 2019 resulted in negative SO₂ emission from the carbon bake processes. During these same months with negative emissions reported through the mass balance worksheets, the monitoring data still showed elevated SO₂ concentrations, which casted doubt on the reliability of the monthly mass balance emissions data. The air program contacted the facility to get an explanation of the negative SO₂ emissions in some of the months. An M7M official stated that with their mass balance worksheet, they use the percent of sulfur received during the month to calculate the percent sulfur of the material going into the carbon bake furnace. However, in reality, the material going into the bake furnace may be coming from the coke and pitch that was received during a different month and been in storage until it was needed. The facility's official also said that they also carry an inventory of anodes that may be produced in one month, but are not put into the bake furnace until another month. It is for these reasons the facility's official does not think the short-term (monthly) calculations are as accurate as the 12-month rolling average.

Based on this explanation, the air program concluded that the monthly varying SO₂ emissions data from the mass balance worksheets likely should not be used in this modeling analysis to support the nonattainment area boundary recommendation. However, as discussed below in modeling scenario 1, the air program did include one preliminary modeling run to evaluate the model performance using the monthly varying mass balance emission data for 2018.

In August of 2019, M7M began providing rolling 12-month total emissions data along with their monthly mass balance worksheets. The first such rolling 12-month total covered the period from September of 2018 through August of 2019. The facility has also submitted rolling 12-month total emissions worksheets in September, October, November, and December of 2019. The mass balance worksheets are included in Attachment A1 to this Appendix for reference.

Based on all the available data sets, the air program has performed modeling runs to cover a variety of scenarios with differing emission rates at the M7M facility. However, the emission release parameters for M7M did not change in any of the scenarios evaluated. The Modeling Scenarios and Results section of this appendix includes a discussion of each of the six scenarios evaluated.

For all six modeling scenarios evaluated, the air program modeled NMPP using the most recent three years (2017-2019) of hourly emissions as measured with their CEMS and reported to EPA's Clean Air Markets Division program database (CAMD). NMPP provided hourly varying temperature and exit velocity matching the CEMS data for this time period, which was also used to characterize these emissions. NMPP also provided 2019 SO₂ CEMS data for the final calendar

quarter, which was not yet available on the CAMD website at the time of conducting this modeling analysis. Then, the air program formatted the CEMS and temperatures and exit velocities data for direct input into AERMOD. Table 3 details the emission release parameters used for M7M and NMPP, and Table 4 is an excerpt from the hourly emissions file for NMPP.

Table 3: M7M and NMPP Emission Release Parameters and their 2017-2019 SO₂ Emissions

Facility I.D.	Facility Name	Emission Point I.D.	Model ID	Description	Release Type
143-0008	M7M	EP-61	EP61	Prebaked Reduction Cell	Point
143-0008	M7M	EP-99	EP99	Carbone Bake 2 (Modeled as 32 individual stacks)	Point Cap
143-0008	M7M	EP-AA	EPAA	Carbon Bake 3	Point
143-0008	M7M	EP-59	BLINE1A BLINE1B	Prebaked: Fugitive Emissions (Potline 1)	Buoyant Line
143-0008	M7M	EP-60	BLINE2A BLINE2B	Prebaked: Fugitive Emissions (Potline 2)	Buoyant Line
143-0004	NMPP	EP-01	NMPP01	Cyclone Furnace	Point
143-0004	NMPP	EP-02	NMPP02	Cyclone Furnace	Point

Model ID	Easting (m)	Northing (m)	Base Elevation (m)	Actual Stack Height (m)	Stack Temperature (K)	Stack Exit Velocity (m/s)	Stack Diameter (m)
EP61	807987.80	4046002.36	91.14	89.92	349.00	8.35	7.92
EP99	807992.95	4046223.21	90.99	15.24	*	*	0.30
EPAA	808006.30	4046277.63	91.13	22.56	349.00	7.51	2.29
NMPP01	807904.53	4046548.55	91.14	243.84	390.92	20.78	6.10
NMPP02	807911.58	4046554.90	91.14	243.84	399.37	21.34	6.10

* Modeled as 32 individual stacks (see discussion in the modeling scenarios and results section)

Table 4: Excerpt from 2017-2019 Hourly CEMS Emission File for NMPP

Model Code	Year	Month	Day	Hour	Unit ID	SO ₂ ER (g/s)	Temp (K)	Velocity (m/s)
SO HOUREMIS	2018	1	1	1	NMPP01	252.35	432.66	28.23
SO HOUREMIS	2018	1	1	1	NMPP02	314.40	432.42	28.42
SO HOUREMIS	2018	1	1	2	NMPP01	249.43	433.37	28.21
SO HOUREMIS	2018	1	1	2	NMPP02	315.99	433.38	28.62
SO HOUREMIS	2018	1	1	3	NMPP01	256.02	433.67	28.35
SO HOUREMIS	2018	1	1	3	NMPP02	313.82	433.74	28.45
SO HOUREMIS	2018	1	1	4	NMPP01	263.31	434.04	28.52

SO HOUREMIS	2018	1	1	4	NMPP02	314.47	433.88	28.52
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Meteorological Data for Model Input

An air program staff meteorologist performed a technical evaluation to determine which National Weather Service (NWS) surface and upper air stations are most representative of M7M. M7M has on-site collected surface air meteorological data but the air program did not use this data in the analysis because the wind speed sensor did not meet the quality assurance criteria for regulatory dispersion modeling. In general, meteorological stations within 200 km of the facility of interest are preferred as their prevailing weather conditions would be most similar to the facility. However, locations more than 200 km from the facility of interest can be considered when surface conditions of nearby meteorological stations are not deemed representative.

For upper air data, the Springfield, MO NWS upper air station is closest to M7M at 209 km and best represents the vertical atmospheric characteristics of the region.

For surface data, the Poplar Bluff (74 km), Cape Girardeau (79 km), and Farmington (159 km) airports are the closest to M7M. Explicit criteria for each of the respective stations are compared below.

Poplar Bluff: The surface roughness values show significant differences due to land cover at these locations. M7M has 37% commercial/industrial/transportation cover, 28% water, and 22% row crops. Compared to Poplar Bluff with 51% row crops, 16% low intensity residential, and 9% pasture, M7M location shows dissimilar rough and smooth cover compared to Poplar Bluff's more uniform smooth cover. Surface roughness values differ by 27% to 70% by season. The albedos agree within 13%. The Bowen ratios differ by 24% to 105% across all seasons with winter having the most significant difference.

Cape Girardeau: The surface roughness values show significant differences due to land cover at these locations. M7M again shows a strong two-sided tendency toward smooth and rough surfaces within 1km, and Cape Girardeau is virtually all smooth with 100% row crops/pasture land. Despite this difference, the surface roughness values differ by 19-85% between these locations by season. The albedos agree within 12%. The Bowen ratios differ by 29-94% across the seasons with the largest differences again in the winter season.

Farmington: The surface roughness values differ by 40-75% across all seasons between Farmington and M7M. Farmington's surface cover is a mix of grasses, row crops, and pasture, whereas M7M has the mix of industrial rough and natural smooth surfaces. Albedo values agree within 7%. Bowen ratios are 33% to 132% different across the seasons and precipitation schemes.

There are no other surface meteorological stations that are located within 200 km of the area of interest. No single meteorological site is able to capture the strong influence of the industrial and water surface cover features near M7M. The proximity of either Poplar Bluff or Cape Girardeau make them candidates to capture the overall surface meteorological patterns near the facility of interest. In this case, the Cape Girardeau station has slightly better agreement M7M surface roughness values, though it is 5 km further from the facility of interest. Another reason to

choose Cape Girardeau is that it is located within the NNW-SSE oriented Mississippi River valley, as is M7M area. Poplar Bluff is not located near any large river or broad valley features, which may influence the surface meteorology. Despite the slightly further distance than Poplar Bluff, the best representation for M7M surface weather conditions is the Cape Girardeau NWS station.

Recommendation: The following meteorological data sets are recommended:

Facility of Interest	Upper Air Location	Surface Data Location
M7M	Springfield, MO	Cape Girardeau

AERMOD, EPA's recommended dispersion model per Appendix W, contains an option to model a source under either rural or urban dispersive conditions. Section 7.2.1.1 describes that land use or population should be used to characterize the urban or rural surroundings of a source being modeled. Of the two methods, land use is the preferred method as it directly influences meteorological variables. The land classification method of Auer (Correlation of Land Use and Cover with Meteorological Anomalies, Journal of Applied Meteorology, May 1978) results in a 3 km radius surrounding M7M with virtually no urban area. The eastern half of the 3km circle contains the Mississippi river water surface and the remaining is virtually 100% agricultural river bottom farm land. The western half of the 3km circle contains mixed forested, wetland, and industrial land use. Therefore, the area around M7M and NMPP is modeled as rural.

Much like the urban heat island effect that occurs on the regional scale, determining a representative regional background concentration must be given similar considerations for the entire modeled region. Since M7M and NMPP are not near any large metropolitan areas, it likely experiences low background concentrations than a more urban site would. There are no major SO₂ sources within 40 kilometers of M7M and NMPP. Therefore, the air program used background concentration from the outstate monitor located in Mark Twain State park, which the air program has used to determine modeled background concentrations in other regulatory applications located in rural areas. This monitor's design value based on 2016-2018 certified monitoring data was 5 ppb. This also matches the preliminary design value for the monitor based on 2017-2019 data; however the 2019 data is still preliminary and had not been quality assured or certified at the time of the analysis. Therefore, the air program used 5 ppb as the background concentration for this modeling analysis. This background concentration was added to model predicted concentrations to account for natural sources and any other sources not explicitly modeled in the analysis.

Modeling Scenarios and Results

The air program followed the Data Requirements Rule's *Modeling Protocol for Characterization of Air Quality* that the air program submitted to EPA in September 2016 to conduct the modeling analysis. This modeling protocol is provided as Appendix C to this document. The only deviations from the modeling protocol provided back in 2016, is that in this modeling analysis, the air program utilized the most recent EPA recommended air dispersion models for regulatory applications. Specifically, the air program used AERMOD and AERMET version 19191. In addition, the air program used receptor spacing of 50 meters for M7M fence-line receptors and

100 meters receptor for all other receptors included in the modeling domain. The receptor grid for the modeling domain for all scenarios modeled encompassed all areas expanding radially outward for up to 6 km from the M7M facility. However, receptors located over water (i.e. the Mississippi River) or in another state were not included in the modeling analysis.

The air program modeled six different scenarios to support the nonattainment boundary recommendation for this area. As discussed earlier, all six scenarios evaluated used actual CEMS recorded SO₂ emissions from NMPP along with the facility provided hourly varying stack temperatures and exit velocities. The critical differences between the scenarios were the modeled emission rates used at the M7M facility. The first five scenarios were intended to allow the air program to evaluate model performance with respect to the method of characterizing the emissions coming from the M7M facility. While these five scenarios altered the emissions rates associated with the carbon bake and the pot line processes, the air program was most interested in accurately characterizing the emissions associated with the 64 stack battery, which is the emission release point for carbon bake 2.

In all scenarios modeled, the 64 stack battery emissions were responsible for the vast majority of the modeled elevated SO₂ concentrations in the area. The method used to characterize the emission release points and stack parameters for this 64-stack battery was the same in all six scenarios modeled. Specifically, the air program modeled the carbon bake 2 emissions as 32 individual stacks as opposed to 64 stacks. The reason for this is to more accurately characterize the actual operating parameters at the facility. There are four fluoride scrubbers that serve to control fluoride emissions from carbon bake 2. On top of each of these four scrubbers are 16 individual stacks that are 0.299 meter in diameter each. The sixteen stacks are grouped into four stacks that are 0.152 meters apart. Each group of four stacks are about three meters apart. The stacks separated by different scrubber units are about 4.5 meters apart. At any given time, the facility can close guillotine doors to shut off flow to one or more of the four individual scrubber units while allowing emissions to flow to the other remaining scrubbers. According to correspondence with M7M, the typical operating parameters for these four scrubbers are to allow flow into two of the scrubbers at a time while preventing flow to the other two. This allows the remaining two units to serve as backups and also allows for maintenance of all four units to occur without disrupting facility operations.

The air program also conducted numerous preliminary unrefined modeling scenarios to determine the best method for characterizing the emission release parameters of the 64-stack battery. These preliminary scenarios included modeling carbon bake 2 with 64 stacks, 48 stacks, 32 stacks, and one single stack. The 64 and 48 stacks scenarios were over-predicting concentrations. The one single stack scenario, which matched the facility's recommendation for characterizing the carbon bake 2 emissions resulted in under-prediction from the model when compared to the monitored levels. The 32 stack scenario, while it resulted in slight over-predictions from the monitored levels, performed the best when comparing the modeled vs. monitored SO₂ concentrations. For this reason and the reasons regarding the actual operations at the facility discussed in the paragraph above, the air program determined the 32-stack scenario to be best approach for characterizing the emission release points associated with carbon bake 2 for the purpose of informing the nonattainment area boundary recommendation.

The stack parameters for carbon bake 2, including the exit temperatures and velocities, are based on actual observed levels during stack tests performed at the facility in January and February of 2019. During these stack tests, measurements were taken at four of the 64 individual stacks in the battery. The stack temperatures and velocities were variable among the four different stacks. Therefore, for the modeling analysis, the air program is using all four of these measured stack parameters to characterize the stacks for carbon bake 2. Specifically, each of the four respective measurements are used to characterize a separate set of eight out of the 32 individual stacks modeled in the analyses. All of the carbon bake 2 stacks have hinged rain caps that are opened by the force of the gas flow. Therefore, the air program used AERMOD's POINTCA option to characterize these 32 modeled emission release points. Carbon bake 3 emissions are routed to a single stack, making the emission release parameters from that process much simpler to characterize. Similarly, the emissions from both operating pot lines are routed to a common stack, making those emissions release parameters simple to characterize as well. The air program modeled the fugitive emissions from the pot lines as buoyant line sources on top of the two pot line buildings in operation. Each pot line building includes two of these buoyant line sources in the modeling analysis, which matches the actual set-up for these buildings at the facility.

The air program developed the first three scenarios to determine the appropriate emission rates to use in evaluating the facility operations in 2018. The years 2017 and 2019 were not included in these first three scenarios.

In the first scenario, the air program used the monthly mass balance worksheets provided by the facility to determine the monthly varying average hourly emission rates during the months of the October, November, and December and utilized these monthly varying emission rates in the analysis for these three months. Since the facility did not provide monthly mass balance worksheets in August or September due to their use of raw materials that had been left behind by Noranda, no emissions from the M7M facility were modeled during these two months.

In the second scenario, the air program used M7M's annual emissions for 2018 as reported on their emissions inventory questionnaire (EIQ). The air program divided these annual reported emissions from the EIQ by 3,672 hours (the total number of hours from August through December, which were the five months the facility was operating that year). This resulted in average hourly emission rates for all modeled emission points at M7M, which were held constant from August through December of 2018 in this scenario.

In the third scenario, the air program utilized the emissions reported by the facility in the first 12-month rolling total emissions worksheet the facility submitted. This worksheet covered the period from September 2018 through August of 2019. The air program then took these 12-month total emissions, divided the figures by 8,760 (the number of operating hours during the 12-month period) to determine fixed average hourly emission rates during that period. Since the facility stated that the 12-month rolling emission totals were more accurate than the monthly varying emission totals reported in their monthly mass-balance worksheets, this figure was likely more accurate than the emission figures used in both scenarios 1 and 2.

The air program developed the fourth and fifth scenarios to determine the appropriate emission rates to use in evaluating the facility operations in 2019. The years 2017 and 2018 were not included in these two scenarios.

The fourth scenario utilized the emissions reported in the 12-month rolling total emissions worksheet the facility submitted in January of 2020, which covered the period from January 2019 through December of 2019. The air program then took these total emissions, divided the figures by 8,760 (the number of operating hours during the 12-month period) to determine fixed average hourly emission rates during that period. However, as discussed earlier, several months in 2019 included negative emissions coming from the carbon bake at M7M, and this 12-month rolling total included much lower emission totals for the carbon bake than the 12-month period that was analyzed in scenario 3 when evaluating 2018 operations. This lower emission total at the carbon bake resulted in poor model performance where the model was significantly under-predicting maximum 99th percentile 1-hour SO₂ concentrations in the area.

Due to the under-prediction of maximum 99th percentile 1-hour SO₂ concentrations for 2019 in scenario 4, the air program utilized the same emission rates it used in scenario 3 (the 12-month total emissions reported for September 2018-August 2019) but evaluated those emissions using 2019 meteorological data. The use of these emission rates, drastically improved model performance for 2019. This also results in the use of the same emission rate to characterize 2019 operations as was used for the preferred method in 2018 (i.e. scenario 3).

The sixth and final scenario is the scenario used to inform the recommended boundary designations for the area. In this scenario, the air program modeled the same fixed emission rates at the M7M facility for all 36 months during the period from 2017-2019. Although M7M was not operating during all of 2017 and the first seven months of 2018, the air program evaluated this hypothetical scenario of continuous operation for the three-year period to ensure the inclusion of the 2017 actual emissions data where M7M was not operating would not exclude any areas from the recommended nonattainment boundary that may be expected to experience violations of the SO₂ standard after the M7M facility has been operating at normal levels for a full three-year period.

Modeling Scenario 1

In this modeling scenario, the air program only evaluated SO₂ concentrations in the area during the months of October, November, and December of 2018. As mentioned above, the air program modeled NMPP using their actual varying hourly emissions and stack parameters. The emissions from M7M in this scenario varied by month and were based on the monthly mass balance emissions worksheets provided by M7M for the months of October through December. No emissions at the facility were modeled for the first nine months during the year.

The monthly varying average hourly SO₂ emissions from M7M the air program used as inputs in the AERMOD dispersion model for this first scenario are provided in Table 5. The parameters for the buoyant line sources associated with the pot lines, which were unchanged in all six scenarios modeled, are provided in Table 6.

Table 5: Scenario 1 – Modeling Emissions and Stack Parameters for M7M

Model ID	Emissions (g/s)		Temperature (K)	Exit Velocity (m/s)	Diameter (m)
EP61 (Pot line stack)	Oct	112.97	349.00	8.35	7.92
	Nov	145.49			
	Dec	121.48			
EP991 (1 st group of 8 individual stacks associated with carbon bake 2)	Oct	0.31	351.00	13.88	0.30
	Nov	0.10			
	Dec	0.11			
EP992 (2 nd group of 8 individual stacks associated with carbon bake 2)	Oct	0.31	351.00	9.71	0.30
	Nov	0.10			
	Dec	0.11			
EP993 (3 rd group of 8 individual stacks associated with carbon bake 2)	Oct	0.31	351.00	8.28	0.30
	Nov	0.10			
	Dec	0.11			
EP994 (4 th group of 8 individual stacks associated with carbon bake 2)	Oct	0.31	351.00	14.59	0.30
	Nov	0.10			
	Dec	0.11			
EPAA (single stack associated with carbon bake 3)	Oct	9.99	349.00	7.51	2.29
	Nov	3.15			
	Dec	3.56			
BLINE1A (fugitive emissions from pot line 1)	Oct	0.51	310.60	0.95	NA
	Nov	0.65			
	Dec	0.54			
BLINE1B (fugitive emissions from pot line 1)	Oct	0.51	310.60	0.95	NA
	Nov	0.65			
	Dec	0.54			
BLINE2A (fugitive emissions from pot line 2)	Oct	1.44	310.60	0.95	NA
	Nov	1.85			
	Dec	1.55			
BLINE2B (fugitive emissions from pot line 2)	Oct	1.44	310.60	0.95	NA
	Nov	1.85			
	Dec	1.55			

Table 6: Model Input Parameters for Buoyant Line Sources (Used in all modeling scenarios)

Parameter	BLINE1	BLINE2	Average
Building Length (m)	527.91	527.91	527.91
Building Height (m)	16.002	16.002	16.00
Building Width (m)	19.812	19.812	19.81
Line Source Width (m)	5.85	5.85	5.85
Building Separation (m)	19.81	19.81	19.81
Buoyancy Parameter (m^4/s^3)	1,538.21	1,538.21	1,538.21

Table 7 provides the modeled 99th percentile 1-hour SO₂ concentrations from all sources included in the modeling analysis for scenario 1. The maximum modeled 99th percentile 1-hour SO₂ concentration in this scenario when considering the combined effects of all explicitly modeled sources and the background concentration is 3,380.36 $\mu\text{g}/\text{m}^3$ or 1,292.19 parts per billion (ppb). Comparing this to the ambient SO₂ monitoring data area reveals significant discrepancy between the monitored and modeled levels under this modeling scenario. The highest 99th percentile 1-hour SO₂ concentration recorded by the three monitors in the area during 2018 was 370 ppb. This means the model in this scenario is over-predicting the maximum SO₂ concentrations in the area by approximately 350 percent. The location of the highest concentration in this modeling scenario is very close to the AECI Water Tower monitor as shown in Figure 3. The highest monitored 99th percentile concentration recorded by this monitor in 2018 is 236 ppb or 617.32 $\mu\text{g}/\text{m}^3$. Therefore, when comparing the modeled receptors near the water tower monitor in this scenario to the actual water tower monitoring data, the model in this scenario is over-predicting maximum concentrations by approximately 550 percent. Taken altogether, this modeling scenario is producing extremely over-predictive results when compared to actual measured SO₂ concentrations in the area.

Also of note, Table 7 shows the 32 modeled stacks associated with carbon bake 2 are by far the most significant contributor to the elevated modeled concentrations in this scenario. The maximum individual 99th percentile 1-hour concentration contribution from the carbon bake 2 emissions in this scenario is 3,367.28 $\mu\text{g}/\text{m}^3$ or 1,289.19 ppb. This individual contribution from carbon bake 2 dwarfs all other emission sources accounted for in the model combined. Based on these results, the air program concluded that AERMOD performance is unacceptably over-predictive when modeling M7M emissions based on the monthly mass balance worksheets, particularly those emissions associated with carbon bake 2. For these reasons, the air program does not intend to use the monthly varying emission rates based on the mass balance worksheets for M7M in 2018 to support the nonattainment area boundary recommendation.

Although this modeling scenario did not include 3-year design values, since only the year 2018 was modeled, the receptor locations for 2018 where the 99th percentile 1-hour SO₂ concentrations exceeded the 2010 SO₂ standard are provided in Figure 4 for reference. It is noted that the modeled receptors in this scenario show exceedances outside the property boundaries of the two explicitly modeled facilities.

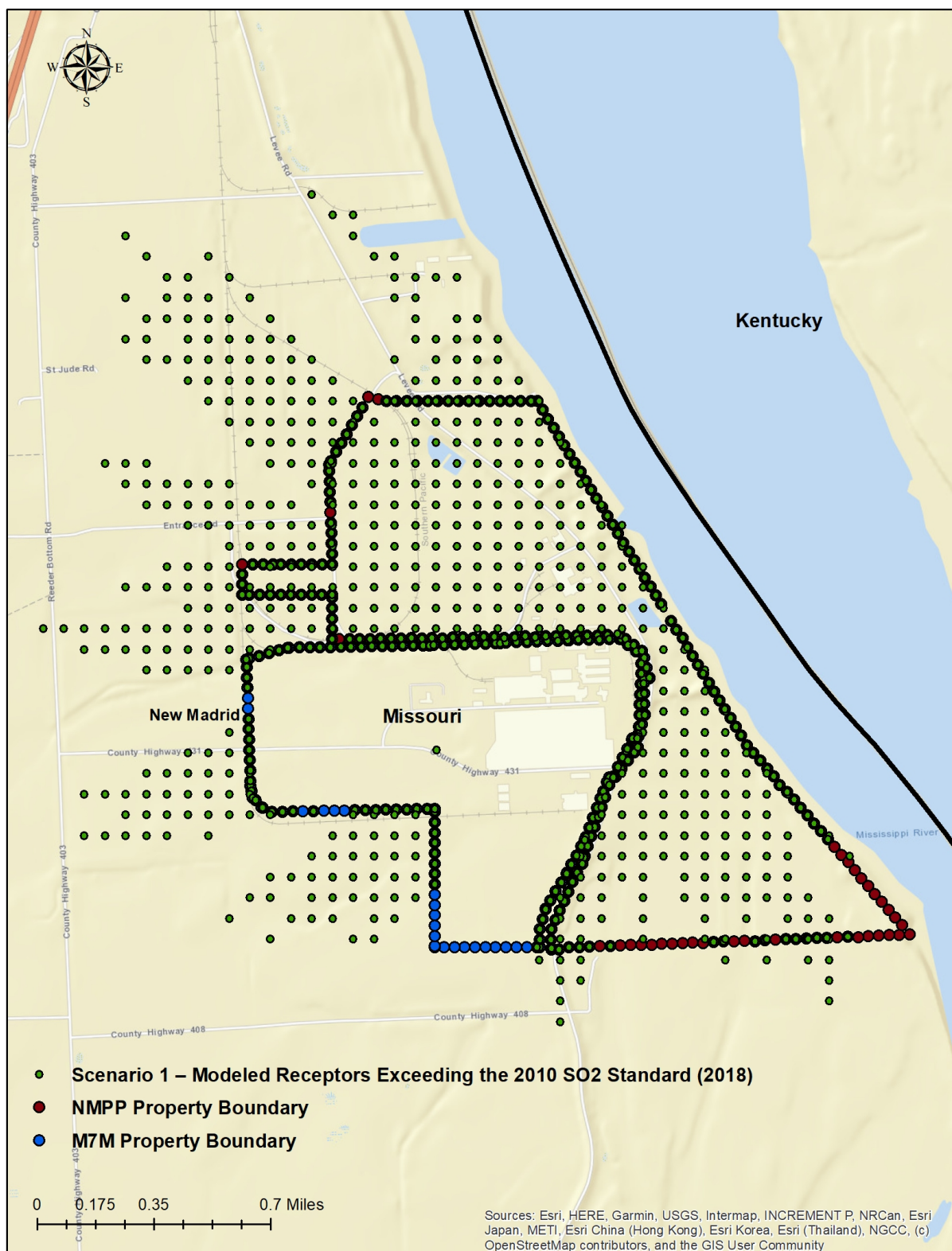
Table 7: Scenario 1 - Modeled 99th Percentile 1-Hour Concentrations and Locations (2018)

Model ID	Description	Concentration ($\mu\text{g}/\text{m}^3$)	Location	
			X (m)	Y (m)
EP61	Potline Stack	130.56	808294.34	4046403.24
EP99	Carbon Bake 2 64 Stacks	3,367.28	807991.10	4046399.20
EPAA	Carbon Bake 3	87.99	808102.63	4046448.22
BLINE	Potline Fugitives	64.70	807095.80	4045513.30
NMPP	New Madrid Power Plant	96.19	806502.57	4050565.76
Background	Background Concentration	13.08	Everywhere	Everywhere
ALL		3,380.36	807991.10	4046399.20

Figure 3: Scenario 1 - Locations of Maximum Modeled Concentration for Each Modeled Emission Source (2018)



Figure 4: Scenario 1 - Modeled Receptors Exceeding the 2010 SO₂ Standard (2018)



Modeling Scenario 2

This modeling scenario is similar to modeling scenario 1, with the only difference being that the air program modeled the M7M facility emissions by determining an average continuous emission rate for the months of August through December based on the facility reported annual SO₂ emissions in their EIQ. This average rate was determined by taking the facility's annual SO₂ emissions and dividing this figure by the number of operating hours during the year, specifically 3,672 operating hours from August through December. The concern with the approach used in this scenario is that although M7M did not provide mass-balance worksheets for August and September, the EIQ included estimates for all five months the facility was operating. When comparing the EIQ figures for 2018 to the monthly mass balance worksheets, if the air program were to subtract the EIQ totals from the monthly reported emissions from the facility on their mass balance worksheets from October through December, the August and September emissions would be the highest emission totals for the five months of operation in 2018. This contradicts the monitoring data and the known operational status for the facility. Since the facility was ramping up production during these two months, the emissions were likely lowest in these two months when compared to October through December, and the monitoring data shows that the SO₂ concentrations were steadily increasing at the facility through these five months as the facility was ramping up production.

Table 8: Scenario 2 - Modeling Emissions and Stack Parameters for M7M

Model ID	Emissions (g/s)		Temperature (K)	Exit Velocity (m/s)	Diameter (m)
EP61 (Pot line stack)	Aug	101.50	349.00	8.35	7.92
	Sep				
	Oct				
	Nov				
	Dec				
EP991 (1 st group of 8 individual stacks associated with carbon bake 2)	Aug	0.25	351.00	13.88	0.30
	Sep				
	Oct				
	Nov				
	Dec				
EP992 (2 nd group of 8 individual stacks associated with carbon bake 2)	Aug	0.25	351.00	9.71	0.30
	Sep				
	Oct				
	Nov				
	Dec				
EP993 (3 rd group of 8 individual stacks associated with carbon bake 2)	Aug	0.25	351.00	8.28	0.30
	Sep				
	Oct				
	Nov				
EP994 (4 th group of 8 individual stacks associated with carbon bake 2)	Aug	0.25	351.00	14.59	0.30
	Sep				
	Oct				
	Nov				
	Dec				

Appendix A – Magnitude 7 Metals and New Madrid Power Plant

EPAA (single stack associated with carbon bake 3)	Aug	8.03	349.00	7.51	2.29
	Sep				
	Oct				
	Nov				
	Dec				
BLINE1A (fugitive emissions from pot line 1)	Aug	0.53	310.60	0.95	NA
	Sep				
	Oct				
	Nov				
	Dec				
BLINE1B (fugitive emissions from pot line 1)	Aug	0.53	310.60	0.95	NA
	Sep				
	Oct				
	Nov				
	Dec				
BLINE2A (fugitive emissions from pot line 2)	Aug	1.50	310.60	0.95	NA
	Sep				
	Oct				
	Nov				
	Dec				
BLINE2B (fugitive emissions from pot line 2)	Aug	1.50	310.60	0.95	NA
	Sep				
	Oct				
	Nov				
	Dec				

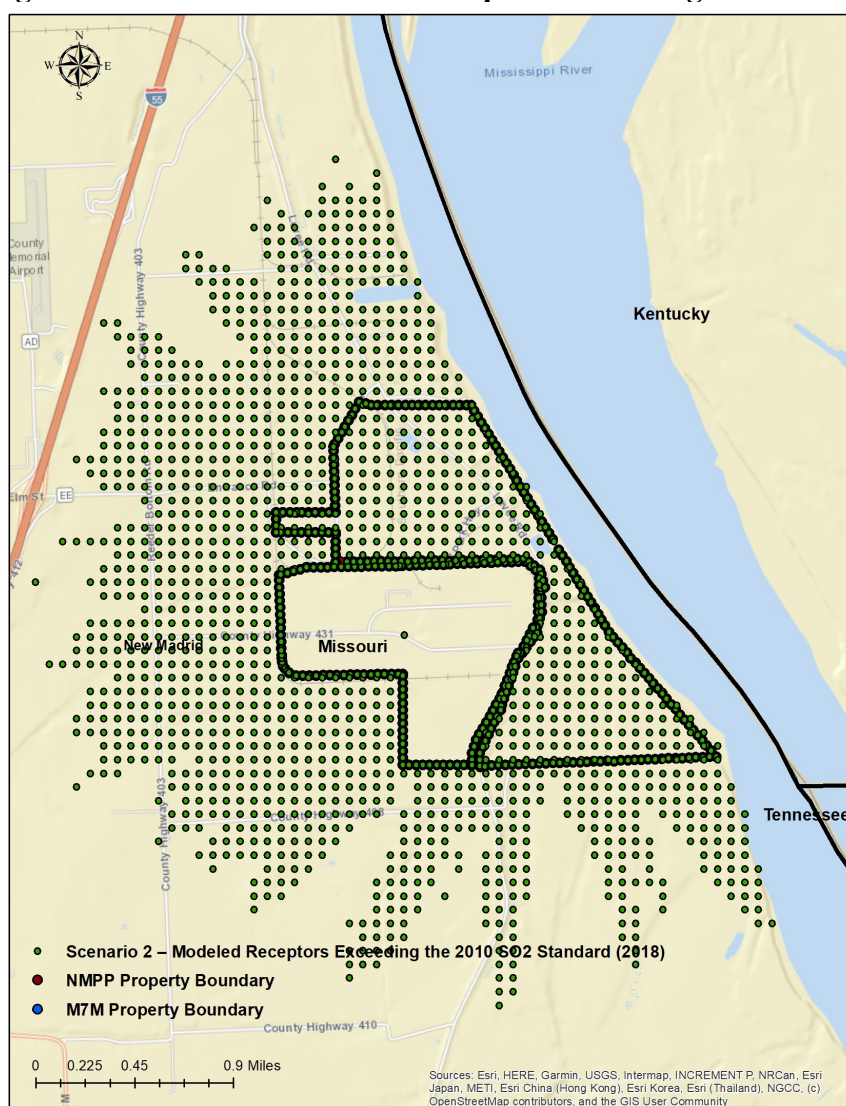
Table 9 provides the 2018 modeled 99th percentile SO₂ concentration from all sources in modeling scenario 2. The maximum modeled 99th percentile 1-hour SO₂ concentration in this scenario when considering the combined effects of all explicitly modeled sources and the background concentration is 3,192.35 µg/m³ or 1,220.32 ppb. Similar to scenario 1, comparing these modeled levels to the ambient SO₂ monitoring data area reveals significant discrepancy between the monitored and modeled concentrations under this modeling scenario. The model in this scenario is over-predicting the maximum SO₂ concentrations in the area by approximately 330 percent. For this reason, the air program determined that AERMOD performs poorly under this modeling scenario as well. For this reason, the air program elected to evaluate an additional scenario to characterize emissions from M7M in 2018.

Although this modeling scenario did not include 3-year design values, since only the year 2018 was modeled, the receptor locations for 2018 where the 99th percentile 1-hour SO₂ concentrations exceeded the 2010 SO₂ standard are provided in Figure 5 for reference. Similar to scenario 1, the modeled receptors in this scenario show exceedances outside the property boundaries of the two explicitly modeled facilities.

Table 9: Scenario 2 - Modeled 99th Percentile 1-Hour SO₂ Concentrations and Locations (2018)

Model ID	Description	99 th Percentile 1-Hour SO ₂ Concentration (µg/m ³)	Location	
			X (m)	Y (m)
EP61	Potline Stack	126.14	808317.60	4046358.98
EP99	Carbon Bake 2 (32 Stacks)	3,179.27	807991.10	4046399.20
EPAA	Carbon Bake 3	97.65	808473.68	4046102.78
BLINE	Potline Fugitives	70.02	808102.63	4045648.22
NMPP	New Madrid Power Plant	96.19	806502.57	4050565.76
Background	Background Concentration	13.08	Everywhere	Everywhere
ALL		3,192.35	807991.10	4046399.20

Figure 5: Scenario 2 - Modeled Receptors Exceeding the 2010 SO₂ Standard (2018)



Modeling Scenario 3

This modeling scenario is similar to modeling scenarios 1 and 2, with the only difference being that the air program modeled the M7M facility emissions by determining an average continuous emission rate for the months of August through December based on the facility's first reported rolling 12-month emissions total covering the period of September 2018 through August 2019. This 12-month emission total for each emission point was divided by 8,760 hours (the number of operating hours during this 12-month period) to determine the average hourly emission rate for the facility during normal operations. These fixed hourly emission rates were then input into AERMOD for the five months the facility was operating in 2018 (August through December). Table 10 shows modeled emission rates at M7M for this scenario.

As discussed above, correspondence with the facility indicates there is much higher confidence in the rolling 12-month emission totals than the monthly varying mass-balance worksheet figures. This approach also eliminates the concerns associated with the use of the 2018 EIQ figures from the facility where emission estimates particularly for carbon bake 2 appear to be higher than what was likely actually occurring at the facility. As discussed in the modeling scenario 2 subsection, this is especially true when comparing the mass-balance worksheets from October through December that year and the known operational status of the facility during the five-month period the facility was operating in 2018 (i.e. gradually ramping up production from August through December).

Table 11 shows that the 2018 maximum modeled 99th percentile 1-hour SO₂ concentration in this scenario when considering the combined effects of all explicitly modeled sources and the background concentration is 1,095.17 µg/m³ or 418.64 ppb. Comparing these modeled levels to the ambient SO₂ monitoring data in the area shows slight over-prediction from the model, but the performance is dramatically better than in scenarios 1 and 2. Combining these results with the concerns about using the 2018 EIQ figures and the monthly varying mass-balance worksheet figures, the air program determined this scenario, while slightly over-predictive and conservative in nature to be the best method of characterizing the emission rates during 2018 for M7M in the modeling analysis.

Although this modeling scenario did not include 3-year design values, since only the year 2018 was modeled, the receptor locations for 2018 where the 99th percentile 1-hour SO₂ concentration exceeded the 2010 SO₂ standard are provided in Figure 6 for reference. As seen in the figure, the property boundaries of the two explicitly modeled sources (M7M and NMPP) fully encompass the modeled receptors exceeding the standard in this scenario.

Table 10: Scenario 3 - Modeling Emissions and Stack Parameters for M7M

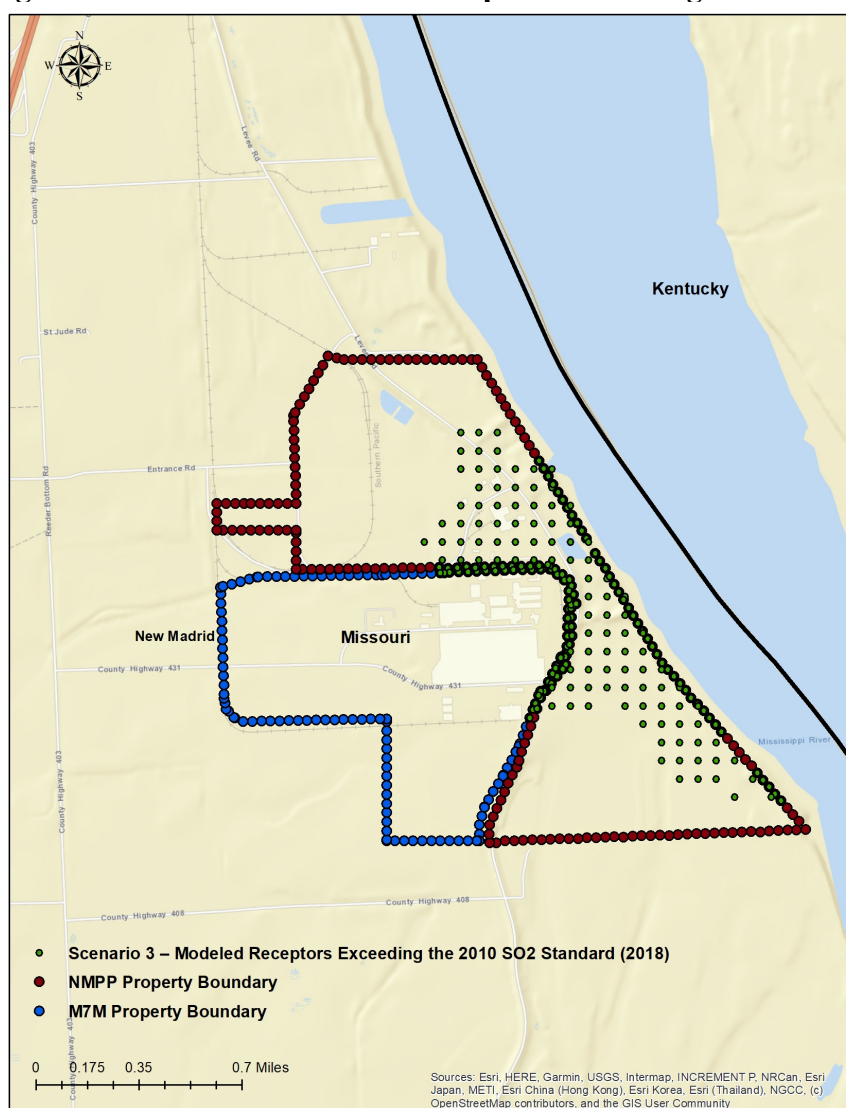
Model ID	Emissions (g/s)		Temperature (K)	Exit Velocity (m/s)	Diameter (m)
EP61 (Pot line stack)	Aug	106.57	349.00	8.35	7.92
	Sep				
	Oct				
	Nov				
	Dec				

Appendix A – Magnitude 7 Metals and New Madrid Power Plant

Model ID	Emissions (g/s)		Temperature (K)	Exit Velocity (m/s)	Diameter (m)
EP991 (1 st group of 8 individual stacks associated with carbon bake 2)	Aug	0.09	351.00	13.88	0.30
	Sep				
	Oct				
	Nov				
	Dec				
EP992 (2 nd group of 8 individual stacks associated with carbon bake 2)	Aug	0.09	351.00	9.71	0.30
	Sep				
	Oct				
	Nov				
	Dec				
EP993 (3 rd group of 8 individual stacks associated with carbon bake 2)	Aug	0.09	351.00	8.28	0.30
	Sep				
	Oct				
	Nov				
	Dec				
EP994 (4 th group of 8 individual stacks associated with carbon bake 2)	Aug	0.09	351.00	14.59	0.30
	Sep				
	Oct				
	Nov				
	Dec				
EPAA (single stack associated with carbon bake 3)	Aug	2.73	349.00	7.51	2.29
	Sep				
	Oct				
	Nov				
	Dec				
BLINE1A (fugitive emissions from pot line 1)	Aug	1.06	310.60	0.95	NA
	Sep				
	Oct				
	Nov				
	Dec				
BLINE1B (fugitive emissions from pot line 1)	Aug	1.06	310.60	0.95	NA
	Sep				
	Oct				
	Nov				
	Dec				
BLINE2A (fugitive emissions from pot line 2)	Aug	1.06	310.60	0.95	NA
	Sep				
	Oct				
	Nov				
	Dec				
BLINE2B (fugitive emissions from pot line 2)	Aug	1.06	310.60	0.95	NA
	Sep				
	Oct				
	Nov				
	Dec				

Table 11: Scenario 3 - Modeled 99th Percentile 1-Hour SO₂ Concentrations and Locations (2018)

Model ID	Description	99 th Percentile 1-Hour SO ₂ Concentration (µg/m ³)	Location	
			X (m)	Y (m)
EP61	Potline Stack	132.43	808317.60	4046358.98
EP99	Carbon Bake 2 (32 Stacks)	1,082.09	807991.10	4046399.20
EPAA	Carbon Bake 3	33.24	808473.68	4046102.78
BLINE	Potline Fugitives	52.57	807002.63	4047548.22
NMPP	New Madrid Power Plant	96.19	806502.57	4050565.76
Background	Background Concentration	13.08	Everywhere	Everywhere
ALL		1,095.17	807991.10	4046399.20

Figure 6: Scenario 3 - Modeled Receptors Exceeding the 2010 SO₂ Standard (2018)

Modeling Scenario 4

Modeling scenarios 4 and 5 were aimed at determining the appropriate emission rates to use at the M7M facility for the 2019 analysis year. Both scenarios only evaluated 2019 meteorological data and used 2019 CEMS data and facility-provided hourly varying stack parameter data for NMPP. The only difference between the two scenarios is the method used to determine the emission rates at the M7M facility.

The air program considered developing a modeling scenario for 2019 using monthly varying emissions for each month during the year based on their monthly submitted mass balance worksheets. However, as mentioned previously, several of the monthly mass-balance worksheets from 2019 submitted by the facility reported negative emissions from the carbon bake process, which all modeled scenarios indicate is the most significant source in predicting the maximum modeled 1-hour SO₂ concentrations in the area. The air program struggled with how to characterize and justify the use of such reported emissions in the model, and ultimately opted not to develop this modeling scenario for this reason. Therefore, both scenarios developed by the air program to evaluate model performance for 2019 used fixed hourly emission rates based on the average of two different 12-month periods as reported by the facility.

In scenario 4, the air program used the 12-month rolling emissions total reported by the facility in their December 2019 mass-balance worksheet. This worksheet covered emissions from January 2019 through December 2019. At the time of developing this analysis, the facility had not yet completed their 2019 EIQ, however, the air program believes this figure should match what the facility ultimately reports in their EIQ for 2019. In evaluating the 12-month emission total used in this scenario, the air program notes that the rolling 12-month emission total from January through December in 2019 are the lowest of all the rolling 12-month emission totals the facility has submitted since they began reporting the rolling 12-month totals in August of 2019. Since the air program is not utilizing monthly varying emission rates at the facility, and instead is determining a fixed hourly rate based on the annual emission figures, this relatively low reported rolling 12-month total may result in emission rates that reflect lower than actual rates for many hours throughout the 12-month period, particularly with regard to the emissions from the carbon bakes. Table 12 shows the modeled emission rates for this scenario.

Table 13 shows that the 2019 maximum modeled 99th percentile 1-hour SO₂ concentration in this scenario when considering the combined effects of all explicitly modeled sources and the background concentration is 586.48 µg/m³ or 224.19 ppb. While these concentrations are exceeding the 2010 SO₂ standard, they are under-predicting the maximum monitored 99th percentile 1-hour SO₂ concentration in the area (428 ppb) by nearly 50 percent. This casts doubt in the confidence of the modeled emission rates utilized in this scenario for M7M.

Although this modeling scenario did not include 3-year design values, since only the year 2019 was modeled, the receptor locations for 2019 where the 99th percentile 1-hour SO₂ concentration exceeded the 2010 SO₂ standard are provided in Figure 7 for reference. As seen in the figure, the property boundaries of the two explicitly modeled sources (M7M and NMPP) fully encompass the modeled receptors exceeding the standard in this scenario.

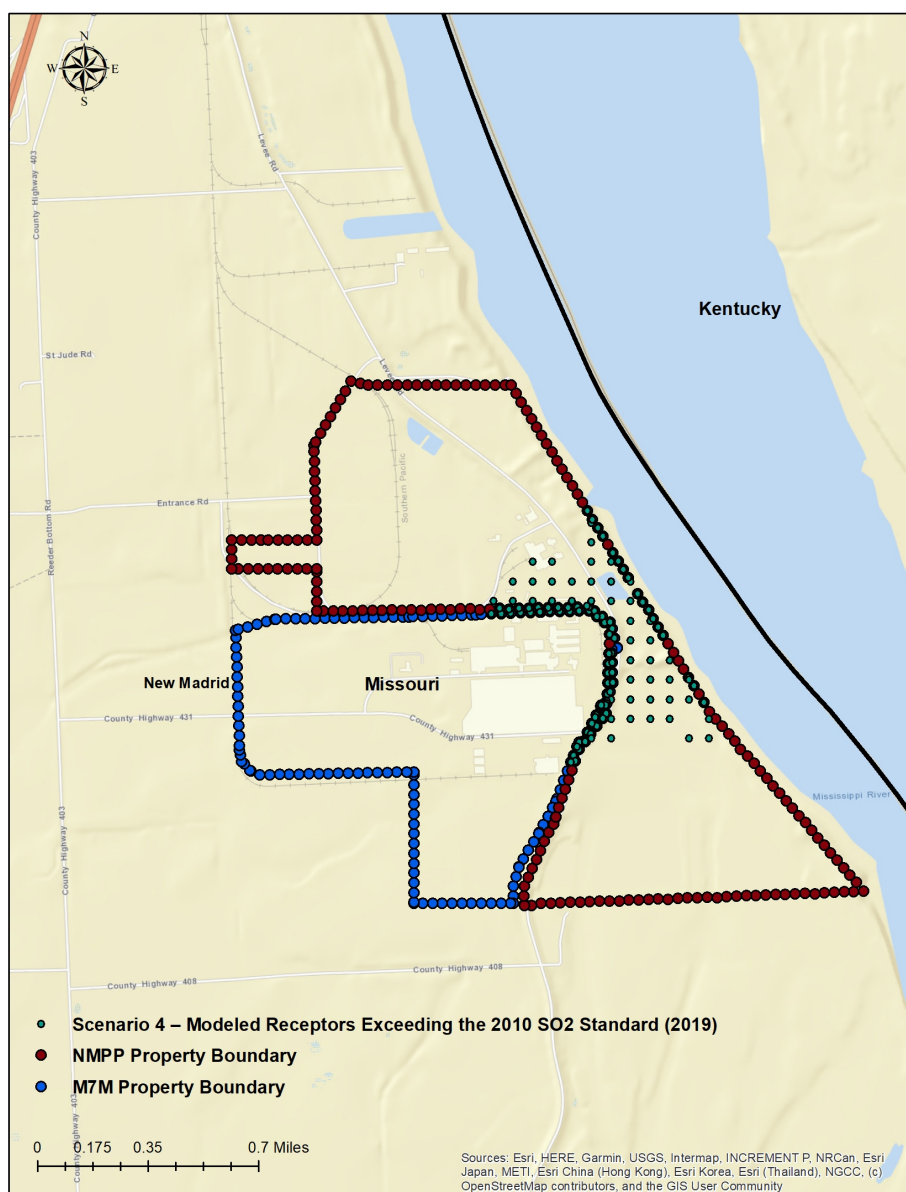
Table 12: Scenario 4 - Modeling Emissions and Stack Parameters for M7M

Model ID	Emissions (g/s)	Temperature (K)	Exit Velocity (m/s)	Diameter (m)
EP61 (Pot line stack)	99.79	349.00	8.35	7.92
EP991 (1 st group of 8 individual stacks associated with carbon bake 2)	0.04	351.00	13.88	0.30
EP992 (2 nd group of 8 individual stacks associated with carbon bake 2)	0.04	351.00	9.71	0.30
EP993 (3 rd group of 8 individual stacks associated with carbon bake 2)	0.04	351.00	8.28	0.30
EP994 (4 th group of 8 individual stacks associated with carbon bake 2)	0.04	351.00	14.59	0.30
EPAA (single stack associated with carbon bake 3)	1.42	349.00	7.51	2.29
BLINE1A (fugitive emissions from pot line 1)	0.95	310.60	0.95	NA
BLINE1B (fugitive emissions from pot line 1)	0.95	310.60	0.95	NA
BLINE2A (fugitive emissions from pot line 2)	1.04	310.60	0.95	NA
BLINE2B (fugitive emissions from pot line 2)	1.04	310.60	0.95	NA

Table 13: Scenario 4 - Modeled 99th Percentile 1-Hour SO₂ Concentrations and Locations (2019)

Model ID	Description	99 th Percentile 1-Hour SO ₂ Concentration (µg/m ³)	Location	
			X (m)	Y (m)
EP61	Potline Stack	127.59	808294.34	4046403.24
EP99	Carbon Bake 2 (32 Stacks)	573.40	807996.20	4046399.30
EPAA	Carbon Bake 3	22.51	808110.20	4046085.10
BLINE	Potline Fugitives	49.20	807002.63	4045048.22
NMPP	New Madrid Power Plant	90.37	806502.63	4042648.22
Background	Background Concentration	13.08	Everywhere	Everywhere
ALL		586.48	807996.20	4046399.30

Figure 7: Scenario 4 - Modeled Receptors Exceeding the 2010 SO₂ Standard (2019)



Modeling Scenario 5

This modeling scenario is identical to the method used in scenario 4 to determine the emission rates for M7M, except that instead of using the January – December 2019 rolling 12-month emission total, the air program utilized the highest rolling 12-month emission total that M7M submitted during the year. In evaluating the five rolling 12-month emission totals submitted by the facility from August 2019 through December 2019, the highest rolling 12-month emission total was from the period September 2018 through August 2019. This is the same emission total used to determine the fixed hourly emission rates at the facility in scenario 3, which was the preferred scenario to characterize the SO₂ concentrations in 2018. Table 14 show the modeled emission rates for this scenario.

Table 15 shows that the 2019 maximum modeled 99th percentile 1-hour SO₂ concentration in this scenario when considering the combined effects of all explicitly modeled sources and the background concentration is 1,113.54 µg/m³ or 425.65 ppb. Comparing these modeled levels to the ambient SO₂ monitoring data area shows the model is predicting within 0.55 percent of the monitored levels. This shows very strong model performance. This likely indicates that the modeled emission rates used in this scenario for M7M, particularly those associated with carbon bake 2 are adequately representative of the actual conditions at the facility. In addition, by utilizing the same modeled emission rates for both 2018 and 2019, it simplifies and provides consistency in the analysis. Therefore, the air program selected this scenario as the best for characterizing 2019 SO₂ concentration levels for use in the nonattainment area boundary recommendation.

Although this modeling scenario did not include 3-year design values, since only the year 2019 was modeled, the receptor locations for 2019 where the 99th percentile 1-hour SO₂ concentration exceeded the 2010 SO₂ standard are provided in Figure 8 for reference. As seen in the figure, the property boundaries of the two explicitly modeled sources (M7M and NMPP) fully encompass the modeled receptors exceeding the standard in this scenario.

Table 14: Scenario 5 - Modeling Emissions and Stack Parameters for M7M

Model ID	Emissions (g/s)	Temperature (K)	Exit Velocity (m/s)	Diameter (m)
EP61 (Pot line stack)	106.57	349.00	8.35	7.92
EP991 (1 st group of 8 individual stacks associated with carbon bake 2)	0.09	351.00	13.88	0.30
EP992 (2 nd group of 8 individual stacks associated with carbon bake 2)	0.09	351.00	9.71	0.30
EP993 (3 rd group of 8 individual stacks associated with carbon bake 2)	0.09	351.00	8.28	0.30

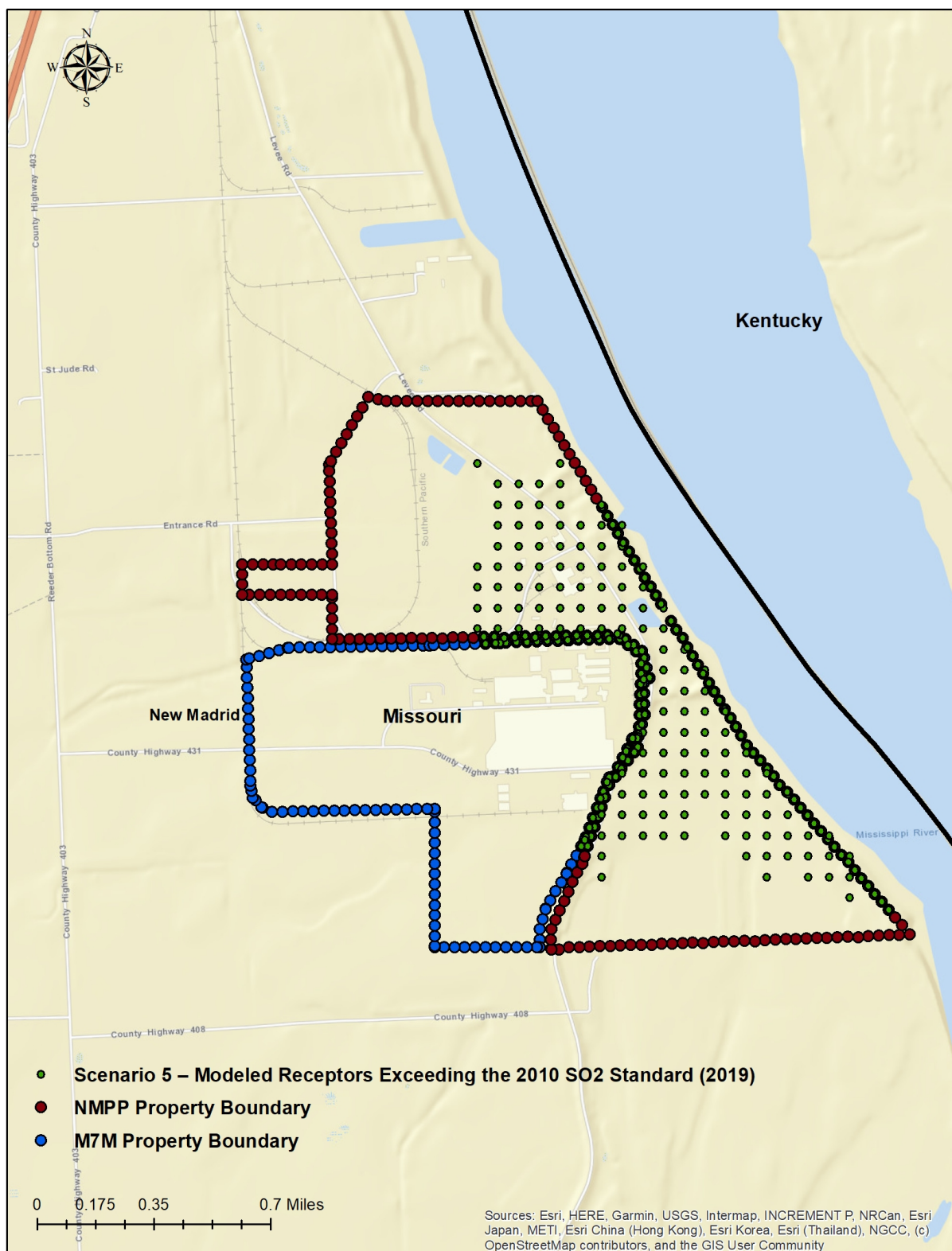
Appendix A – Magnitude 7 Metals and New Madrid Power Plant

Model ID	Emissions (g/s)	Temperature (K)	Exit Velocity (m/s)	Diameter (m)
EP994 (4 th group of 8 individual stacks associated with carbon bake 2)	0.09	351.00	14.59	0.30
EPAA (single stack associated with carbon bake 3)	2.73	349.00	7.51	2.29
BLINE1A (fugitive emissions from pot line 1)	1.06	310.60	0.95	NA
BLINE1B (fugitive emissions from pot line 1)	1.06	310.60	0.95	NA
BLINE2A (fugitive emissions from pot line 2)	1.06	310.60	0.95	NA
BLINE2B (fugitive emissions from pot line 2)	1.06	310.60	0.95	NA

Table 15: Scenario 5 - Modeled 99th Percentile 1-Hour SO₂ Concentrations and Locations (2019)

Model ID	Description	99 th Percentile 1-Hour SO ₂ Concentration (µg/m ³)	Location	
			X (m)	Y (m)
EP61	Potline Stack	136.26	808294.34	4046403.24
EP99	Carbon Bake 2 (32 Stacks)	1,100.46	807996.20	4046399.30
EPAA	Carbon Bake 3	43.21	808110.20	4046035.10
BLINE	Potline Fugitives	53.74	808002.63	4046548.22
NMPP	New Madrid Power Plant	90.37	806502.63	4042648.22
Background	Background Concentration	13.08	Everywhere	Everywhere
ALL		1,113.54	807996.20	4046399.30

Figure 8: Scenario 5 - Modeled Receptors Exceeding the 2010 SO₂ Standard (2019)



Modeling Scenario 6

In the sixth and final modeling scenario, the air program modeled a full three-year period from 2017-2019 to determine the model-predicted design values at receptors around the two explicitly modeled sources. This modeling scenario utilized actual hourly varying emissions and stack parameters from NMPP in all three years. For M7M, the air program utilized the same fixed hourly emission rates as used in modeling scenarios 3 and 5. This is the rate calculated by dividing the rolling 12-month emission totals at the facility from the period of September 2018 through August 2019 by 8,760 hours.

In order to ensure the evaluation adequately covered all potentially violating receptors, the evaluation assumed this fixed rate for the entire three year period. Although M7M was not actually operating during any of 2017 nor for the first seven months of 2018, the air program selected this conservative approach to ensure the recommended nonattainment boundary did not exclude any locations that may be expected to violate the 2010 SO₂ standard in a scenario where the facility is operating during a full three-year period. Table 16 shows the modeled emission rates for this scenario.

Table 17 provides the results of modeling scenario 6 for the 2017-2019 emission years. The table includes the individual maximum 99th percentile 1-hour SO₂ contributions for each of the modeled emission points each year along with the 2017-2019 maximum modeled 3-year design value for the area (1,112.54 µg/m³ or 425.28 ppb).

Figure 9 provides all the receptors in modeling scenario 6 where the modeled 3-year design value violates the 2010 SO₂ standard of 75 ppb. As seen in the figure, the property boundaries of the two explicitly modeled sources (M7M and NMPP) fully encompass the modeled violating receptors in this scenario.

Table 16: Scenario 6 - Modeling Emissions and Stack Parameters for M7M

Model ID	Emissions (g/s)	Temperature (K)	Exit Velocity (m/s)	Diameter (m)
EP61 (Pot line stack)	106.57	349.00	8.35	7.92
EP991 (1 st group of 8 individual stacks associated with carbon bake 2)	0.09	351.00	13.88	0.30
EP992 (2 nd group of 8 individual stacks associated with carbon bake 2)	0.09	351.00	9.71	0.30
EP993 (3 rd group of 8 individual stacks associated with carbon bake 2)	0.09	351.00	8.28	0.30
EP994 (4 th group of 8 individual stacks associated with carbon bake 2)	0.09	351.00	14.59	0.30

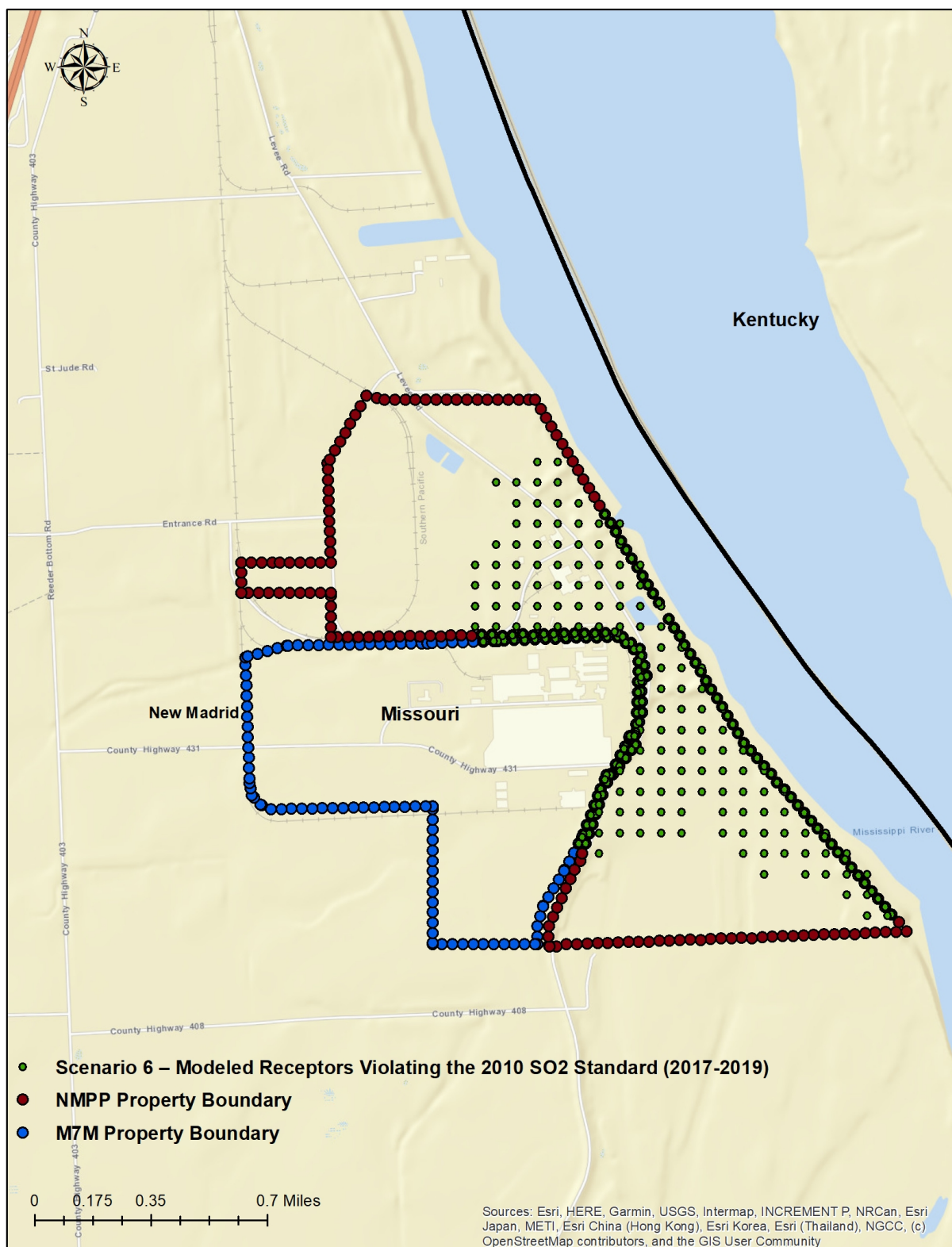
Appendix A – Magnitude 7 Metals and New Madrid Power Plant

EPAA (single stack associated with carbon bake 3)	2.73	349.00	7.51	2.29
BLINE1A (fugitive emissions from pot line 1)	1.06	310.60	0.95	NA
BLINE1B (fugitive emissions from pot line 1)	1.06	310.60	0.95	NA
BLINE2A (fugitive emissions from pot line 2)	1.06	310.60	0.95	NA
BLINE2B (fugitive emissions from pot line 2)	1.06	310.60	0.95	NA

Table 17: Scenario 6 - Modeled 2017-2019 Individual and Cumulative 99th Percentile 1-Hour SO₂ Concentrations and Modeled Design Value

Model ID	Description	99 th Percentile 1-Hour SO ₂ Concentration (µg/m ³)			
		2017	2018	2019	2017-2019 Design Value
EP61	Pot line Stack	147.22	155.25	136.26	
EP99	Carbon Bake 2 (32 Stacks)	1,099.12	1,098.82	1,100.46	
EPAA	Carbon Bake 3	41.95	40.93	43.21	
BLINE	Pot line Fugitives	54.56	52.57	53.74	
NMPP	New Madrid Power Plant	65.77	96.19	90.37	
Background	Background Concentration	13.08	13.08	13.08	1,112.54
ALL		1,112.20	1,111.90	1,113.54	

Figure 9: Scenario 6 - Modeled Receptors Violating the 2010 SO₂ Standard (2017-2019)



Modeling Scenarios Conclusion

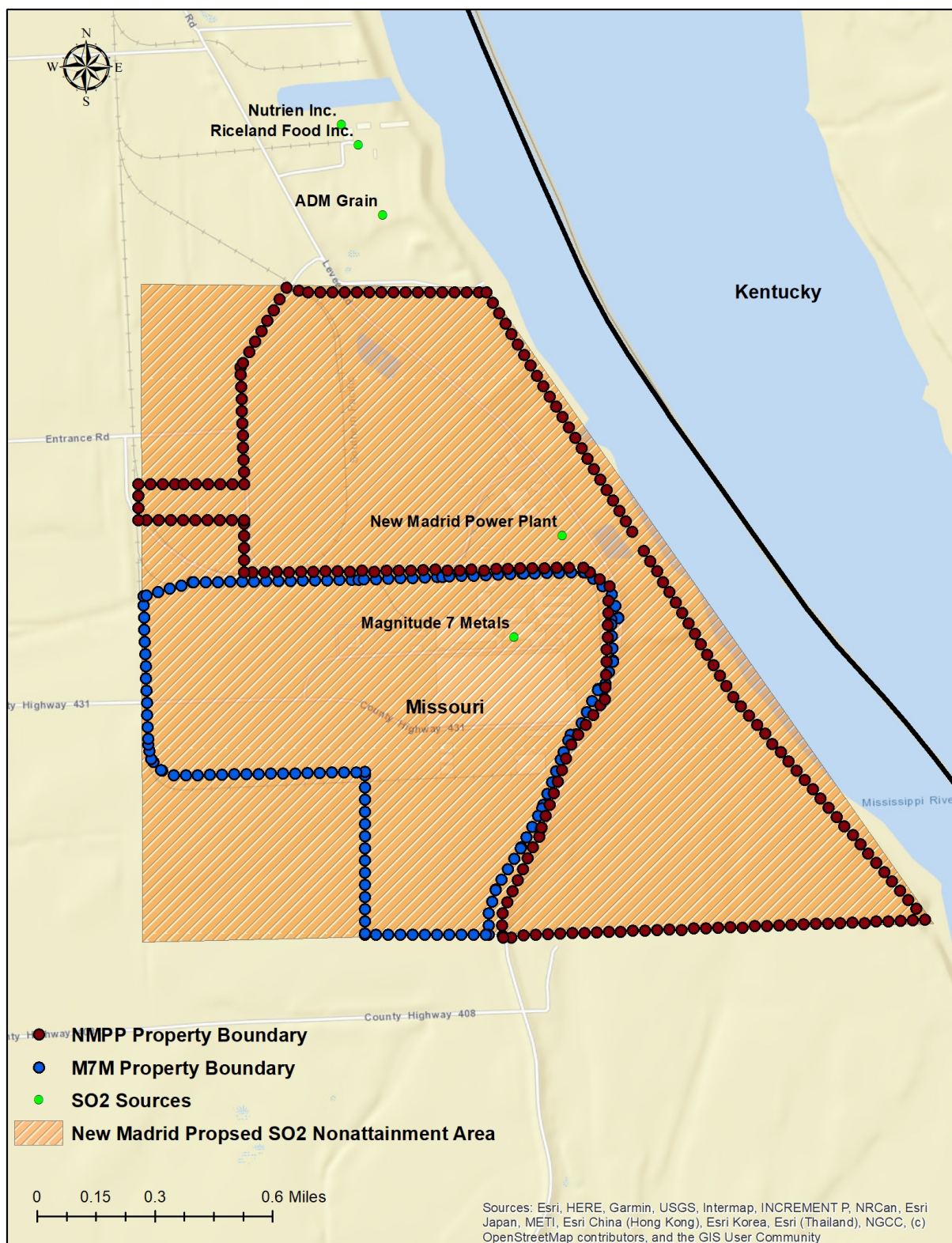
In all modeling scenarios evaluated, the most significant emission source contributing to the modeled maximum SO₂ concentrations in the area is the 64 stack battery associated with carbon bake 2. Determining the appropriate emission rate characterization for this emission source is critical to model performance for the area. The use of monthly varying emission rates at carbon bake 2 in 2018 causes the model to significantly over-predict the maximum SO₂ concentrations in the area. Similarly, for 2019, the use of monthly varying emission rates is difficult to explain and justify due to the fact that in some months the mass-balance worksheets report negative emissions from the carbon bakes. As shown in scenarios 3, 4, and 5, a fixed hourly emission rate based on assumed steady-state operations at M7M for a full 12-month period results in far greater model performance.

The fixed rate that results from using the rolling 12-month emission totals from September 2018 through August 2019 results in the best model performance out of all scenarios evaluated. This is true for both 2018 and 2019 when the M7M facility was in operation. This is also the highest rolling 12-month emission total reported by the facility since it restarted operations in 2018, making it a relatively conservative figure to use in determining the fixed hourly emission rates to use in the model.

As discussed in scenario 6, which is the scenario used to inform the nonattainment area boundary recommendation, the air program used the fixed hourly emission rates at M7M which were used in scenarios 3 and 5, which both demonstrated better model performance than any other scenarios. In addition, the air program assumed these fixed hourly emission rates for the facility were occurring during all hours from 2017 through 2019. The purpose for this assumption is to ensure the recommended boundary does not exclude any areas that may be expected to experience violations of the standard in a scenario where the M7M facility is operating normally for a full three-year period.

In modeling scenario 6, all receptors with a 2017-2019 modeled design value violating the 2010 SO₂ standard are located within the property boundaries of the two explicitly modeled DRR sources (M7M and NMPP). Therefore, a nonattainment area that encompasses both M7M and NMPP property boundaries is adequate to ensure the area covers the full extent of the area violating the standard. The proposed SO₂ nonattainment area for New Madrid County is shown in Figure 10.

Figure 10: New Madrid Proposed SO₂ Nonattainment Area



A.2 Emissions information

According to EPA’s September 5, 2019, guidance document for SO₂ Round – 4 Designations, EPA states that it intends to examine actual emissions of SO₂ from sources located in and around the violating area. Significant emission levels in a nearby area indicate potential for the area to contribute to observed or modeled violations of the standard.

A.2.1 Emissions

The air program evaluated all SO₂ emission sources near the violating monitors. There are only two major SO₂ emission sources in New Madrid County, M7M and NMPP. There are only seven other emission sources with any reported SO₂ emissions in New Madrid County during 2016-2018 and all seven of these sources reported fewer than one ton of SO₂ emissions for each year during this period.

All nine sources with reported SO₂ emissions during any year from 2016-2018 are listed in Table 18. Based on this evaluation of emission sources in the area, the only two sources potentially contributing to the violations are M7M and NMPP, both of which are included in the recommended nonattainment area boundary.

Table 18: M7M and Interactive Source 2016-2018 SO₂ Emissions

Source Name	2016	2017	2018
New Madrid Power Plant	12,467.21	13,548.40	14,865.61
Magnitude 7 Metals	515.32	0.00	1772.02
SRG Global Coatings, Inc.	0.02	0.04	0.03
Heartland Asphalt Materials New Madrid	0.44	0.44	0.44
Bunge North America Inc. Linda Elevator	0.32	0.32	0.32
Nutrien, Inc.	0.01	0.01	0.01
Southeast Missouri Crematory	0.00	0.01	0.01
ADM Grain Company	0.0004	0.0001	0.0026
Riceland Food Inc.	0.0028	0.0028	0.0028

A.3 Meteorology and Topography

Meteorology and topography are interrelated as significant topographical features often cause localized meteorological effects. Due to this related nature, these two factors were evaluated together. Topography and surrounding land features can have a significant impact on the wind patterns and thus the dispersion of air pollutants from emission sources. There are no significant terrain features in the area around M7M that would greatly impact dispersion, such as mountain ranges. However, the Mississippi river valley does form the eastern county boundary which could cause some localized meteorological effects in the eastern portion of the modeling domain. The surrounding terrain and meteorological effects were represented in M7M’s modeling analysis to best simulate monitoring of the area’s ambient air quality. Additional discussion regarding the modeling analysis used to inform the recommended nonattainment boundary is provided in section A.1. of this appendix.

A.4 Jurisdictional Boundaries

According to EPA's September 5, 2019, guidance document, EPA states that once the geographic area associated with the area violating the SO₂ standard and the nearby areas contributing to the violations are determined, they intend to evaluate existing jurisdictional boundaries for the purpose of providing a clearly defined legal boundary for carrying out the air quality planning and enforcement functions for the area.

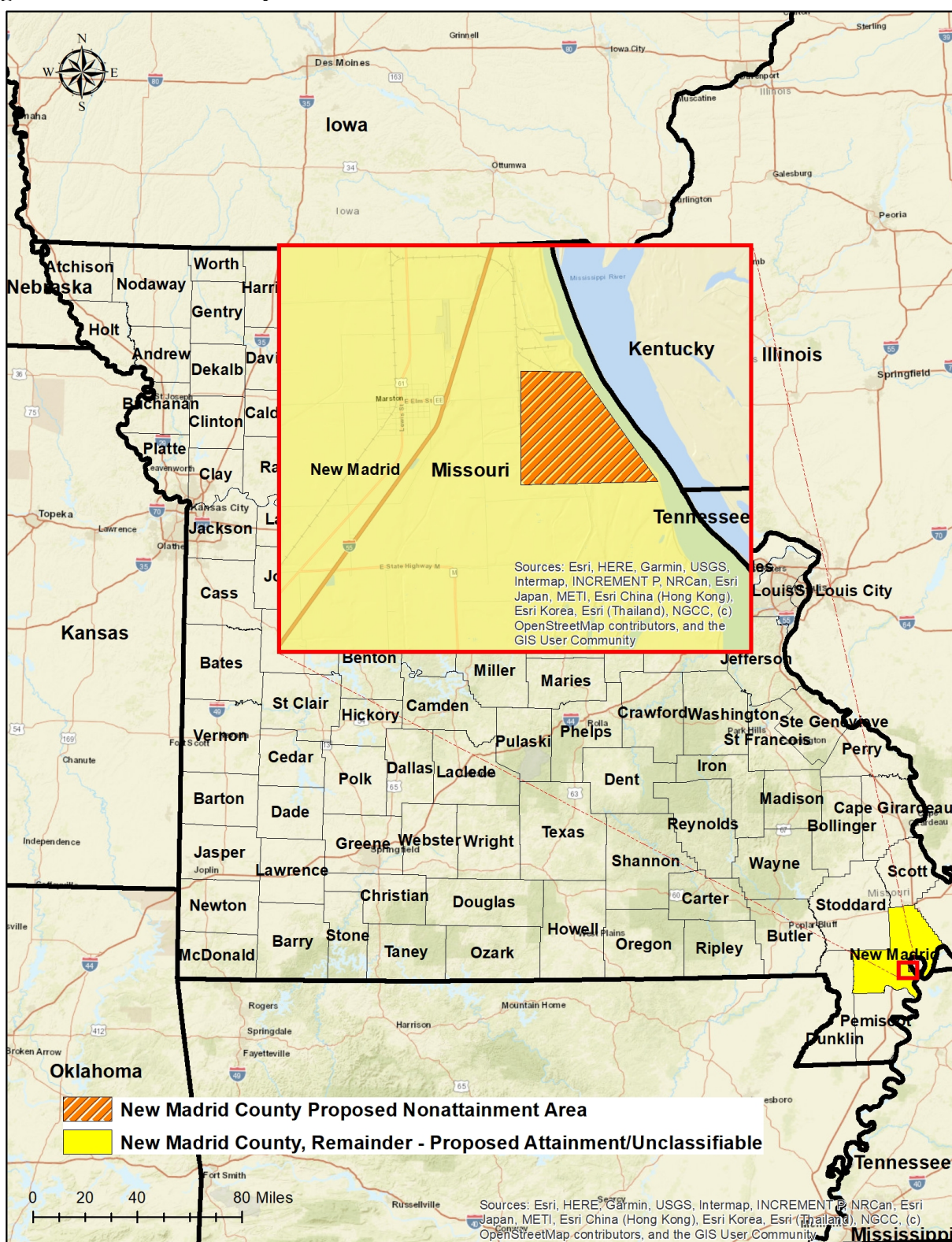
The guidance also states that where existing jurisdictional boundaries are not adequate to describe the nonattainment area, other clearly defined and permanent landmarks or physical features may be used. In certain cases, geographic coordinates may be appropriate, but geopolitical boundaries are preferred.

The air program evaluated the jurisdictional boundaries associated with the area meeting the definition for nonattainment. As discussed throughout the modeling scenarios, the combined property boundaries of the two DRR sources in New Madrid County (M7M and NMPP) fully encompass the area meeting the nonattainment definition. The air program evaluated the use of township or county boundaries to establish the recommended nonattainment area, but found that using either of these geopolitical boundaries would unnecessarily increase the size of the recommended boundary, which could potentially confound the mandatory planning and enforcement requirements that will be needed to address the nonattainment area. The use of facility property boundaries was also considered in establishing the nonattainment area boundary. However, property boundaries have the potential to change over time, which could cause confusion and similarly has potential to confound the planning and enforcement requirements needed in the area.

Therefore, the air program has elected to use a combination of geographical coordinates and the Mississippi river to describe the recommended nonattainment area boundary. The recommended boundary fully encompasses the extent of the modeled violating receptors in the air program's analysis and contains the only two emission sources that are potentially contributing to the violations measured in the area.

Figure 11 shows the recommended nonattainment boundary for New Madrid County which consists of the Mississippi river from the east and the following Zone 16 Universal Transverse Mercator (UTM) coordinates (272016.6, 4042423.62) (268791.92, 4042564.43) (268957.29, 4045213.47) and (270362.07, 4045125.75).

Figure 11: New Madrid Proposed 2010 1-hour SO₂ Standard Nonattainment Area



Attachment A1
Mass Balance Worksheets –
Magnitude 7 Metals

Attachment A: SO2 Compliance Worksheet

Noranda Aluminum, Inc.
 New Madrid County, S29, T22N, R14E
 Project Number: 2008-09-024
 Installation ID Number: 143-0008
 Permit Number: 082010-003

This sheet covers the period of Oct, 2018

Uses Work Table Monthly Basic

Item			
1	% S Pitch	0.53	*%S less than 0.8% is in compliance
2	% S Coke	2.50	*%S less than 3.0% is in compliance
3	% Pitch in Green Mix	14.14	
4	Pitch Received	482	
5	Coke Received	3,455	
6	Total S in Pitch and Coke Received	89	
7	Coke Used from Tanks*	-1903	
8	Pitch Used from Tanks*	-87	
9	Coke Used in Green Blocks*	1,594	*These values may be added or subtracted from received value based on increase or decrease in inventory
10	Pitch Used in Green Blocks*	263	
11	Coke in Green Scrap*	506	
12	Pitch in Green Scrap*	83	
13	Coke in Green Scrap Shipped*	0	
14	Pitch in Green Scrap Shipped*	0	
15	Total Weight of Material going into Carbon Bake Furnaces	8,374	$(\#4 + \#5 + \#9 + \#10 + \#11 + \#12) - (\#13 + \#14 + \#7 + \#8)$
16	% S going into Carbon Bakes	2.26%	
17	Total S Processed (into Carbon Bake Furnaces)	191	Item 6 plus sulfur in Coke inventory (Items 9, 11) minus (Items 7, 13) and sulfur in Pitch inventory (Items 10, 12) minus (Items 8, 14)
18	Average % Reduction in Material Weight During Baking	6.69%	
19	Estimated Weight of Baked Anodes Outgoing from Carbon Bakes (using weight baked vs. weight green)	7,813	Item 15 multiplied by Item 18
20	% S in Baked Anodes	2.07	
21	Total S Outgoing from Carbon Bake Furnaces	162	Item 19 multiplied by Item 20
22	Difference between Total S going into Carbon Bakes and Total Outgoing from Carbon Bakes	30	Item 17 minus Item 21
23	SO2 Emissions from all 3 Carbon Bakes	59	Item 22 multiplied by 1.998 (S to SO2)

Uses Calculations Monthly Basic

Incoming Materials to Carbon Bake Furnaces

Incoming S to Carbon Bake Furnaces

Outgoing S from Carbon Bake Furnaces

Attachment A: SO2 Compliance Worksheet

Noranda Aluminum, Inc.

New Madrid County, S29, T22N, R14E

Project Number: 2008-09-024

Installation ID Number: 143-0008

Permit Number: 082010-003

Incoming Materials to Potlines

Outgoing S
from Potlines

24	Coke in Addt'l Baked Blocks*	617	
25	Pitch in Addt'l Baked Blocks*	Assume no pitch here	
26	Coke in Butts, Rodding and Baked Scrap*	189	*These values may be added or subtracted from received value based on increase or decrease in inventory
27	Pitch in Butts, Rodding and Baked Scrap*	Assume no pitch here	
28	Coke in Butts and Carbon Shipped*	0	
29	Pitch in Butts and Carbon Shipped*	Assume no pitch here	
30	Weight of Baked Anodes into Potlines	8,242	$(\#19 + \#24 + \#25) - (\#26 + \#27 + \#28 + \#29)$
31	Total Weight of S Anodes Processed into Potlines	172	$\#19 * \#20/100 + (\#24 + \#25) * \#2/100 - (\#26 + \#27 + \#28 + \#29) * \#2/100$
32	SO2 Emissions from all 3 Potlines	345	Item 31 multiplied by 1.998 (S to SO2)
	Previous Month's Monthly SO2 Emissions from Coke and Pitch		Previous Month's item 33
33	Monthly SO2 Emissions from Coke and Pitch	404	Total of items 23 and 32

Attachment A: SO2 Compliance Worksheet

Noranda Aluminum, Inc.
 New Madrid County, S29, T22N, R14E
 Project Number: 2008-09-024
 Installation ID Number: 143-0008
 Permit Number: 082010-003

This sheet covers the period of Nov, 2018

Uses Work Table Monthly Basic

Item			
1	% S Pitch	0.57	*%S less than 0.8% is in compliance
2	% S Coke	2.63	*%S less than 3.0% is in compliance
3	% Pitch in Green Mix	14.06	
4	Pitch Received	1,126	
5	Coke Received	6,701	
6	Total S in Pitch and Coke Received	183	
7	Coke Used from Tanks*	466	
8	Pitch Used from Tanks*	-259	
9	Coke Used in Green Blocks*	651	*These values may be added or subtracted from received value based on increase or decrease in inventory
10	Pitch Used in Green Blocks*	106	
11	Coke in Green Scrap*	5	
12	Pitch in Green Scrap*	1	
13	Coke in Green Scrap Shipped*	0	
14	Pitch in Green Scrap Shipped*	0	
15	Total Weight of Material going into Carbon Bake Furnaces	8,382	(#4 + #5 + #9 + #10 + #11 + #12) - (#13 + #14 + #7 + #8)
16	% S going into Carbon Bakes	2.33%	
17	Total S Processed (into Carbon Bake Furnaces)	190	Item 6 plus sulfur in Coke inventory (Items 9, 11) minus (Items 7, 13) and sulfur in Pitch inventory (Items 10, 12) minus (Items 8, 14)
18	Average % Reduction in Material Weight During Baking	6.69%	
19	Estimated Weight of Baked Anodes Outgoing from Carbon Bakes (using weight baked vs. weight green)	7,821	Item 15 multiplied by Item 18
20	% S in Baked Anodes	2.31	
21	Total S Outgoing from Carbon Bake Furnaces	181	Item 19 multiplied by Item 20
22	Difference between Total S going into Carbon Bakes and Total Outgoing from Carbon Bakes	9	Item 17 minus Item 21
23	SO2 Emissions from all 3 Carbon Bakes	18	Item 22 multiplied by 1.998 (S to SO2)

Uses Calculations Monthly Basic

Incoming Materials to Carbon Bake Furnaces

Incoming S to Carbon Bake Furnaces

Outgoing S from Carbon Bake Furnaces

Attachment A: SO2 Compliance Worksheet

Noranda Aluminum, Inc.
New Madrid County, S29, T22N, R14E
Project Number: 2008-09-024
Installation ID Number: 143-0008
Permit Number: 082010-003

Incoming Materials to Potlines

Outgoing S
from Potlines

24	Coke in Addt'l Baked Blocks*	1,027	
25	Pitch in Addt'l Baked Blocks*	Assume no pitch here	
26	Coke in Butts, Rodding and Baked Scrap*	-285	*These values may be added or subtracted from received value based on increase or decrease in inventory
27	Pitch in Butts, Rodding and Baked Scrap*	Assume no pitch here	
28	Coke in Butts and Carbon Shipped*	0	
29	Pitch in Butts and Carbon Shipped*	Assume no pitch here	
30	Weight of Baked Anodes into Potlines	9,133	$(\#19 + \#24 + \#25) - (\#26 + \#27 + \#28 + \#29)$
31	Total Weight of S Anodes Processed into Potlines	215	$\#19 * \#20/100 + (\#24 + \#25) * \#2/100 - (\#26 + \#27 + \#28 + \#29) * \#2/100$
32	SO2 Emissions from all 3 Potlines	430	Item 31 multiplied by 1.998 (S to SO2)
	Previous Month's Monthly SO2 Emissions from Coke and Pitch		Previous Month's item 33
33	Monthly SO2 Emissions from Coke and Pitch	448	Total of items 23 and 32

Attachment A: SO2 Compliance Worksheet

Noranda Aluminum, Inc.

New Madrid County, S29, T22N, R14E

Project Number: 2008-09-024

Installation ID Number: 143-0008

Permit Number: 082010-003

This sheet covers the period of

Dec, 2018

Uses Work Table Monthly Basic

Item			
1	% S Pitch	0.56	*%S less than 0.8% is in compliance
2	% S Coke	2.55	*%S less than 3.0% is in compliance
3	% Pitch in Green Mix	14.13	
4	Pitch Received	1,316	
5	Coke Received	6,248	
6	Total S in Pitch and Coke Received	167	
7	Coke Used from Tanks*	548	
8	Pitch Used from Tanks*	-73	
9	Coke Used in Green Blocks*	1,175	*These values may be added or subtracted from received value based on increase or decrease in inventory
10	Pitch Used in Green Blocks*	193	
11	Coke in Green Scrap*	5	
12	Pitch in Green Scrap*	1	
13	Coke in Green Scrap Shipped*	0	
14	Pitch in Green Scrap Shipped*	0	
15	Total Weight of Material going into Carbon Bake Furnaces	8,463	(#4 + #5 + #9 + #10 + #11 + #12) - (#13 + #14 + #7 + #8)
16	% S going into Carbon Bakes	2.20%	
17	Total S Processed (into Carbon Bake Furnaces)	184	Item 6 plus sulfur in Coke inventory (Items 9, 11) minus (Items 7, 13) and sulfur in Pitch inventory (Items 10, 12) minus (Items 8, 14)
18	Average % Reduction in Material Weight During Baking	4.43%	
19	Estimated Weight of Baked Anodes Outgoing from Carbon Bakes (using weight baked vs. weight green)	8,088	Item 15 multiplied by Item 18
20	% S in Baked Anodes	2.15	
21	Total S Outgoing from Carbon Bake Furnaces	174	Item 19 multiplied by Item 20
22	Difference between Total S going into Carbon Bakes and Total Outgoing from Carbon Bakes	10	Item 17 minus Item 21
23	SO2 Emissions from all 3 Carbon Bakes	21	Item 22 multiplied by 1.998 (S to SO2)

Uses Calculations Monthly Basic

Attachment A: SO2 Compliance Worksheet

Noranda Aluminum, Inc.

New Madrid County, S29, T22N, R14E

Project Number: 2008-09-024

Installation ID Number: 143-0008

Permit Number: 082010-003

Incoming Materials to Potlines
Outgoing S from Potlines

24	Coke in Addt'l Baked Blocks*	440	
25	Pitch in Addt'l Baked Blocks*	Assume no pitch here	
26	Coke in Butts, Rodding and Baked Scrap*	-29	*These values may be added or subtracted from received value based on increase or decrease in inventory
27	Pitch in Butts, Rodding and Baked Scrap*	Assume no pitch here	
28	Coke in Butts and Carbon Shipped*	0	
29	Pitch in Butts and Carbon Shipped*	Assume no pitch here	
30	Weight of Baked Anodes into Potlines	8,557	$(\#19 + \#24 + \#25) - (\#26 + \#27 + \#28 + \#29)$
31	Total Weight of S Anodes Processed into Potlines	186	$\#19 * \#20/100 + (\#24 + \#25) * \#2/100 - (\#26 + \#27 + \#28 + \#29) * \#2/100$
32	SO2 Emissions from all 3 Potlines	371	Item 31 multiplied by 1.998 (S to SO2)
	Previous Month's Monthly SO2 Emissions from Coke and Pitch		Previous Month's item 33
33	Monthly SO2 Emissions from Coke and Pitch	392	Total of items 23 and 32

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC

New Madrid County, S29, T22N, R14E

Project Number: 2008-09-024

Installation ID Number: 143-0008

Permit Number: 082010-003

This sheet covers the period of Jan, 2019

Uses Work Table Monthly

Item			
1	% S Pitch	0.57	*%S less than 0.8% is in compliance
2	% S Coke	2.60	
3	% Pitch in Green Mix	14.04	*%S less than 3.0% is in compliance
4	Pitch Received	1,285	
5	Coke Received	2,666	
6	Total S in Pitch and Coke Received	77	
7	Coke Used from Tanks*	-2291	
8	Pitch Used from Tanks*	-59	*These values may be added or subtracted from received value based on increase or decrease in inventory
9	Coke Used in Green Blocks*	23	
10	Pitch Used in Green Blocks*	4	
11	Coke in Green Scrap*	-187	
12	Pitch in Green Scrap*	-31	
13	Coke in Green Scrap Shipped*	0	
14	Pitch in Green Scrap Shipped*	0	
15	Total Weight of Material going into Carbon Bake Furnaces	6,111	(#4 + #5 + #9 + #10 + #11 + #12) - (#13 + #14 + #7 + #8)
16	% S going into Carbon Bakes	1.94%	
17	Total S Processed (into Carbon Bake Furnaces)	132	Item 6 plus sulfur in Coke inventory (Items 9, 11) minus (Items 7, 13) and sulfur in Pitch inventory (Items 10, 12) minus (Items 8, 14)
18	Average % Reduction in Material Weight During Baking	6.26%	
19	Estimated Weight of Baked Anodes Outgoing from Carbon Bakes (using weight baked vs. weight green)	5,728	Item 15 - (Item 15 multiplied by Item 18)
20	% S in Baked Anodes	2.11	
21	Total S Outgoing from Carbon Bake Furnaces	121	Item 19 multiplied by Item 20
22	Difference between Total S going into Carbon Bakes and Total Outgoing from Carbon Bakes	11	Item 17 minus Item 21
23	SO2 Emissions from Carbon Bake Furnaces	23	Item 22 multiplied by 1.998 (S to SO2)

Incoming Materials to Carbon Bake Furnaces

Incoming S to Carbon Bake Furnaces

Outgoing S from Carbon Bake Furnaces

Uses Calculations for Work Table Monthly

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC
New Madrid County, S29, T22N, R14E
Project Number: 2008-09-024
Installation ID Number: 143-0008
Permit Number: 082010-003

Incoming Materials to Potlines

Outgoing S
from Potlines

24	Coke in Addt'l Baked Blocks*	-277	
25	Pitch in Addt'l Baked Blocks*	Assume no pitch here	
26	Coke in Butts, Rodding and Baked Scrap*	-77	*These values may be added or subtracted from received value based on increase or decrease in inventory
27	Pitch in Butts, Rodding and Baked Scrap*	Assume no pitch here	
28	Coke in Butts and Carbon Shipped*	297	
29	Pitch in Butts and Carbon Shipped*	Assume no pitch here	
30	Weight of Baked Anodes into Potlines	5,231	$(\#19 + \#24 + \#25) - (\#26 + \#27 + \#28 + \#29)$
31	Total Weight of S Anodes Processed into Potlines	108	$\#19 * \#20/100 + (\#24 + \#25) * \#2/100 - (\#26 + \#27 + \#28 + \#29) * \#2/100$
32	SO2 Emissions from Potlines	216	Item 31 multiplied by 1.998 (S to SO2)
	Previous Month's Monthly SO2 Emissions from Coke and Pitch		Previous Month's item 33
33	Monthly SO2 Emissions from Coke and Pitch	238	Total of items 23 and 32

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC
 New Madrid County, S29, T22N, R14E
 Project Number: 2008-09-024
 Installation ID Number: 143-0008
 Permit Number: 082010-003

This sheet covers the period of Feb, 2019

Uses Work Table Monthly

Item			
1	% S Pitch	0.62	*%S less than 0.8% is in compliance
2	% S Coke	2.73	*%S less than 3.0% is in compliance
3	% Pitch in Green Mix	14.24	
4	Pitch Received	1,333	
5	Coke Received	5,144	
6	Total S in Pitch and Coke Received	149	
7	Coke Used from Tanks*	-629	
8	Pitch Used from Tanks*	122	
9	Coke Used in Green Blocks*	-697	*These values may be added or subtracted from received value based on increase or decrease in inventory
10	Pitch Used in Green Blocks*	-116	
11	Coke in Green Scrap*	1029	
12	Pitch in Green Scrap*	171	
13	Coke in Green Scrap Shipped*	0	
14	Pitch in Green Scrap Shipped*	0	
15	Total Weight of Material going into Carbon Bake Furnaces	7,371	(#4 + #5 + #9 + #10 + #11 + #12) - (#13 + #14 + #7 + #8)
16	% S going into Carbon Bakes	2.30%	
17	Total S Processed (into Carbon Bake Furnaces)	175	Item 6 plus sulfur in Coke inventory (Items 9, 11) minus (Items 7, 13) and sulfur in Pitch inventory (Items 10, 12) minus (Items 8, 14)
18	Average % Reduction in Material Weight During Baking	6.40%	
19	Estimated Weight of Baked Anodes Outgoing from Carbon Bakes (using weight baked vs. weight green)	6,899	Item 15 - (Item 15 multiplied by Item 18)
20	% S in Baked Anodes	2.44	
21	Total S Outgoing from Carbon Bake Furnaces	168	Item 19 multiplied by Item 20
22	Difference between Total S going into Carbon Bakes and Total Outgoing from Carbon Bakes	6	Item 17 minus Item 21
23	SO2 Emissions from Carbon Bake Furnaces	12	Item 22 multiplied by 1.998 (S to SO2)

Incoming Materials to Carbon Bake Furnaces

Incoming S to Carbon Bake Furnaces

Outgoing S from Carbon Bake Furnaces

Uses Calculations for Work Table Monthly

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC
 New Madrid County, S29, T22N, R14E
 Project Number: 2008-09-024
 Installation ID Number: 143-0008
 Permit Number: 082010-003

Incoming Materials to Potlines

Outgoing S
 from Potlines

24	Coke in Addt'l Baked Blocks*	16	
25	Pitch in Addt'l Baked Blocks*	Assume no pitch here	
26	Coke in Butts, Rodding and Baked Scrap*	-152	
27	Pitch in Butts, Rodding and Baked Scrap*	Assume no pitch here	
28	Coke in Butts and Carbon Shipped*	42	
29	Pitch in Butts and Carbon Shipped*	Assume no pitch here	
30	Weight of Baked Anodes into Potlines	7,024	(#19 + #24 + #25) - (#26 + #27 + #28 + #29)
31	Total Weight of S Anodes Processed into Potlines	172	#19 * #20/100 + (#24 + #25)* #2/100 - (#26 + #27 + #28 + #29) * #2/100
32	SO2 Emissions from Potlines	343	Item 31 multiplied by 1.998 (S to SO2)
	Previous Month's Monthly SO2 Emissions from Coke and Pitch		Previous Month's item 33
33	Monthly SO2 Emissions from Coke and Pitch	356	Total of items 23 and 32

*These values may be added or subtracted from received value based on increase or decrease in inventory

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC
 New Madrid County, S29, T22N, R14E
 Project Number: 2008-09-024
 Installation ID Number: 143-0008
 Permit Number: 082010-003

This sheet covers the period of

Mar, 2019

Uses Work Table Monthly

Item			
1	% S Pitch	0.62	*%S less than 0.8% is in compliance
2	% S Coke	2.60	*%S less than 3.0% is in compliance
3	% Pitch in Green Mix	13.78	
4	Pitch Received	822	
5	Coke Received	6,360	
6	Total S in Pitch and Coke Received	170	
7	Coke Used from Tanks*	-465	
8	Pitch Used from Tanks*	-503	
9	Coke Used in Green Blocks*	-320	*These values may be added or subtracted from received value based on increase or decrease in inventory
10	Pitch Used in Green Blocks*	-51	
11	Coke in Green Scrap*	422	
12	Pitch in Green Scrap*	67	
13	Coke in Green Scrap Shipped*	0	
14	Pitch in Green Scrap Shipped*	0	
15	Total Weight of Material going into Carbon Bake Furnaces	8,269	(#4 + #5 + #9 + #10 + #11 + #12) - (#13 + #14 + #7 + #8)
16	% S going into Carbon Bakes	2.37%	
17	Total S Processed (into Carbon Bake Furnaces)	188	Item 6 plus sulfur in Coke inventory (Items 9, 11) minus (Items 7, 13) and sulfur in Pitch inventory (Items 10, 12) minus (Items 8, 14)
18	Average % Reduction in Material Weight During Baking	7.03%	
19	Estimated Weight of Baked Anodes Outgoing from Carbon Bakes (using weight baked vs. weight green)	7,688	Item 15 - (Item 15 multiplied by Item 18)
20	% S in Baked Anodes	2.48	
21	Total S Outgoing from Carbon Bake Furnaces	191	Item 19 multiplied by Item 20
22	Difference between Total S going into Carbon Bakes and Total Outgoing from Carbon Bakes	-2	Item 17 minus Item 21
23	SO2 Emissions from Carbon Bake Furnaces	-4	Item 22 multiplied by 1.998 (S to SO2)

Incoming Materials to Carbon Bake Furnaces

Incoming S to Carbon Bake Furnaces

Outgoing S from Carbon Bake Furnaces

Uses Calculations for Work Table Monthly

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC

New Madrid County, S29, T22N, R14E

Project Number: 2008-09-024

Installation ID Number: 143-0008

Permit Number: 082010-003

Incoming Materials to Potlines

Outgoing S
from Potlines

24	Coke in Addt'l Baked Blocks*	256	
25	Pitch in Addt'l Baked Blocks*	Assume no pitch here	
26	Coke in Butts, Rodding and Baked Scrap*	59	
27	Pitch in Butts, Rodding and Baked Scrap*	Assume no pitch here	
28	Coke in Butts and Carbon Shipped*	232	
29	Pitch in Butts and Carbon Shipped*	Assume no pitch here	
30	Weight of Baked Anodes into Potlines	7,653	(#19 + #24 + #25) - (#26 + #27 + #28 + #29)
31	Total Weight of S Anodes Processed into Potlines	190	#19 * #20/100 + (#24 + #25) * #2/100 - (#26 + #27 + #28 + #29) * #2/100
32	SO2 Emissions from Potlines	379	Item 31 multiplied by 1.998 (S to SO2)
	Previous Month's Monthly SO2 Emissions from Coke and Pitch		Previous Month's item 33
33	Monthly SO2 Emissions from Coke and Pitch	375	Total of items 23 and 32

*These values may be added or subtracted from received value based on increase or decrease in inventory

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC
 New Madrid County, S29, T22N, R14E
 Project Number: 2008-09-024
 Installation ID Number: 143-0008
 Permit Number: 082010-003

This sheet covers the period of Apr, 2019

Uses Work Table Monthly

Item			
1	% S Pitch	0.61	*%S less than 0.8% is in compliance
2	% S Coke	2.55	*%S less than 3.0% is in compliance
3	% Pitch in Green Mix	13.78	
4	Pitch Received	1,810	
5	Coke Received	7,720	
6	Total S in Pitch and Coke Received	208	
7	Coke Used from Tanks*	302	
8	Pitch Used from Tanks*	189	
9	Coke Used in Green Blocks*	810	*These values may be added or subtracted from received value based on increase or decrease in inventory
10	Pitch Used in Green Blocks*	129	
11	Coke in Green Scrap*	-283	
12	Pitch in Green Scrap*	-45	
13	Coke in Green Scrap Shipped*	0	
14	Pitch in Green Scrap Shipped*	0	
15	Total Weight of Material going into Carbon Bake Furnaces	9,649	(#4 + #5 + #9 + #10 + #11 + #12) - (#13 + #14 + #7 + #8)
16	% S going into Carbon Bakes	2.18%	
17	Total S Processed (into Carbon Bake Furnaces)	213	Item 6 plus sulfur in Coke inventory (Items 9, 11) minus (Items 7, 13) and sulfur in Pitch inventory (Items 10, 12) minus (Items 8, 14)
18	Average % Reduction in Material Weight During Baking	6.19%	
19	Estimated Weight of Baked Anodes Outgoing from Carbon Bakes (using weight baked vs. weight green)	9,052	Item 15 - (Item 15 multiplied by Item 18)
20	% S in Baked Anodes	2.32	
21	Total S Outgoing from Carbon Bake Furnaces	210	Item 19 multiplied by Item 20
22	Difference between Total S going into Carbon Bakes and Total Outgoing from Carbon Bakes	3	Item 17 minus Item 21
23	SO2 Emissions from Carbon Bake Furnaces	6	Item 22 multiplied by 1.998 (S to SO2)

Incoming Materials to Carbon Bake Furnaces

Incoming S to Carbon Bake Furnaces

Outgoing S from Carbon Bake Furnaces

Uses Calculations for Work Table Monthly

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC
 New Madrid County, S29, T22N, R14E
 Project Number: 2008-09-024
 Installation ID Number: 143-0008
 Permit Number: 082010-003

Incoming Materials to Potlines

Outgoing S
 from Potlines

24	Coke in Addt'l Baked Blocks*	-338	
25	Pitch in Addt'l Baked Blocks*	Assume no pitch here	
26	Coke in Butts, Rodding and Baked Scrap*	-8	
27	Pitch in Butts, Rodding and Baked Scrap*	Assume no pitch here	
28	Coke in Butts and Carbon Shipped*	164	
29	Pitch in Butts and Carbon Shipped*	Assume no pitch here	
30	Weight of Baked Anodes into Potlines	8,558	(#19 + #24 + #25) - (#26 + #27 + #28 + #29)
31	Total Weight of S Anodes Processed into Potlines	197	#19 * #20/100 + (#24 + #25)* #2/100 - (#26 + #27 + #28 + #29) * #2/100
32	SO2 Emissions from Potlines	394	Item 31 multiplied by 1.998 (S to SO2)
	Previous Month's Monthly SO2 Emissions from Coke and Pitch		Previous Month's item 33
33	Monthly SO2 Emissions from Coke and Pitch	400	Total of items 23 and 32

*These values may be added or subtracted from received value based on increase or decrease in inventory

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC
 New Madrid County, S29, T22N, R14E
 Project Number: 2008-09-024
 Installation ID Number: 143-0008
 Permit Number: 082010-003

This sheet covers the period of

May, 2019

Uses Work Table Monthly

Incoming Materials to Carbon Bake Furnaces

Item			
1	% S Pitch	0.62	*%S less than 0.8% is in compliance
2	% S Coke	2.50	*%S less than 3.0% is in compliance
3	% Pitch in Green Mix	14.14	
4	Pitch Received	1,526	
5	Coke Received	6,602	
6	Total S in Pitch and Coke Received	175	
7	Coke Used from Tanks*	1563	
8	Pitch Used from Tanks*	371	
9	Coke Used in Green Blocks*	-1,970	*These values may be added or subtracted from received value based on increase or decrease in inventory
10	Pitch Used in Green Blocks*	-325	
11	Coke in Green Scrap*	88	
12	Pitch in Green Scrap*	14	
13	Coke in Green Scrap Shipped*	0	
14	Pitch in Green Scrap Shipped*	0	
15	Total Weight of Material going into Carbon Bake Furnaces	4,001	(#4 + #5 + #9 + #10 + #11 + #12) - (#13 + #14 + #7 + #8)
16	% S going into Carbon Bakes	2.15%	
17	Total S Processed (into Carbon Bake Furnaces)	84	Item 6 plus sulfur in Coke inventory (Items 9, 11) minus (Items 7, 13) and sulfur in Pitch inventory (Items 10, 12) minus (Items 8, 14)
18	Average % Reduction in Material Weight During Baking	6.19%	
19	Estimated Weight of Baked Anodes Outgoing from Carbon Bakes (using weight baked vs. weight green)	3,754	Item 15 - (Item 15 multiplied by Item 18)
20	% S in Baked Anodes	2.27	
21	Total S Outgoing from Carbon Bake Furnaces	85	Item 19 multiplied by Item 20
22	Difference between Total S going into Carbon Bakes and Total Outgoing from Carbon Bakes	-1	Item 17 minus Item 21
23	SO2 Emissions from Carbon Bake Furnaces	-2	Item 22 multiplied by 1.998 (S to SO2)

Incoming S to Carbon Bake Furnaces

Outgoing S from Carbon Bake Furnaces

Uses Calculations for Work Table Monthly

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC
 New Madrid County, S29, T22N, R14E
 Project Number: 2008-09-024
 Installation ID Number: 143-0008
 Permit Number: 082010-003

Incoming Materials to Potlines

Outgoing S
 from Potlines

24	Coke in Addt'l Baked Blocks*	-944	
25	Pitch in Addt'l Baked Blocks*	Assume no pitch here	
26	Coke in Butts, Rodding and Baked Scrap*	284	
27	Pitch in Butts, Rodding and Baked Scrap*	Assume no pitch here	
28	Coke in Butts and Carbon Shipped*	289	
29	Pitch in Butts and Carbon Shipped*	Assume no pitch here	
30	Weight of Baked Anodes into Potlines	2,237	(#19 + #24 + #25) - (#26 + #27 + #28 + #29)
31	Total Weight of S Anodes Processed into Potlines	47	#19 * #20/100 + (#24 + #25)* #2/100 - (#26 + #27 + #28 + #29) * #2/100
32	SO2 Emissions from Potlines	94	Item 31 multiplied by 1.998 (S to SO2)
	Previous Month's Monthly SO2 Emissions from Coke and Pitch		Previous Month's item 33
33	Monthly SO2 Emissions from Coke and Pitch	92	Total of items 23 and 32

*These values may be added or subtracted from received value based on increase or decrease in inventory

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC
 New Madrid County, S29, T22N, R14E
 Project Number: 2008-09-024
 Installation ID Number: 143-0008
 Permit Number: 082010-003

This sheet covers the period of

Jun, 2019

Uses Work Table Monthly

Incoming Materials to Carbon Bake Furnaces

Item			
1	% S Pitch	0.55	*%S less than 0.8% is in compliance
2	% S Coke	2.53	*%S less than 3.0% is in compliance
3	% Pitch in Green Mix	14.27	
4	Pitch Received	1,440	
5	Coke Received	6,543	
6	Total S in Pitch and Coke Received	173	
7	Coke Used from Tanks*	-926	
8	Pitch Used from Tanks*	-115	
9	Coke Used in Green Blocks*	1,148	*These values may be added or subtracted from received value based on increase or decrease in inventory
10	Pitch Used in Green Blocks*	191	
11	Coke in Green Scrap*	-88	
12	Pitch in Green Scrap*	-15	
13	Coke in Green Scrap Shipped*	0	
14	Pitch in Green Scrap Shipped*	0	
15	Total Weight of Material going into Carbon Bake Furnaces	10,262	(#4 + #5 + #9 + #10 + #11 + #12) - (#13 + #14 + #7 + #8)
16	% S going into Carbon Bakes	2.17%	
17	Total S Processed (into Carbon Bake Furnaces)	225	Item 6 plus sulfur in Coke inventory (Items 9, 11) minus (Items 7, 13) and sulfur in Pitch inventory (Items 10, 12) minus (Items 8, 14)
18	Average % Reduction in Material Weight During Baking	5.70%	
19	Estimated Weight of Baked Anodes Outgoing from Carbon Bakes (using weight baked vs. weight green)	9,677	Item 15 - (Item 15 multiplied by Item 18)
20	% S in Baked Anodes	2.40	
21	Total S Outgoing from Carbon Bake Furnaces	232	Item 19 multiplied by Item 20
22	Difference between Total S going into Carbon Bakes and Total Outgoing from Carbon Bakes	-7	Item 17 minus Item 21
23	SO2 Emissions from Carbon Bake Furnaces	-14	Item 22 multiplied by 1.998 (S to SO2)

Incoming S to Carbon Bake Furnaces

Outgoing S from Carbon Bake Furnaces

Uses Calculations for Work Table Monthly

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC
 New Madrid County, S29, T22N, R14E
 Project Number: 2008-09-024
 Installation ID Number: 143-0008
 Permit Number: 082010-003

Incoming Materials to Potlines

Outgoing S
from Potlines

24	Coke in Addt'l Baked Blocks*	264	
25	Pitch in Addt'l Baked Blocks*	Assume no pitch here	
26	Coke in Butts, Rodding and Baked Scrap*	-165	*These values may be added or subtracted from received value based on increase or decrease in inventory
27	Pitch in Butts, Rodding and Baked Scrap*	Assume no pitch here	
28	Coke in Butts and Carbon Shipped*	641	
29	Pitch in Butts and Carbon Shipped*	Assume no pitch here	
30	Weight of Baked Anodes into Potlines	9,464	$(\#19 + \#24 + \#25) - (\#26 + \#27 + \#28 + \#29)$
31	Total Weight of S Anodes Processed into Potlines	227	$\#19 * \#20/100 + (\#24 + \#25) * \#2/100 - (\#26 + \#27 + \#28 + \#29) * \#2/100$
32	SO2 Emissions from Potlines	453	Item 31 multiplied by 1.998 (S to SO2)
	Previous Month's Monthly SO2 Emissions from Coke and Pitch		Previous Month's item 33
33	Monthly SO2 Emissions from Coke and Pitch	439	Total of items 32 and 32

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC
 New Madrid County, S29, T22N, R14E
 Project Number: 2008-09-024
 Installation ID Number: 143-0008
 Permit Number: 082010-003

This sheet covers the period of

Jul, 2019

Uses Work Table Monthly

Incoming Materials to Carbon Bake Furnaces

Item			
1	% S Pitch	0.64	*%S less than 0.8% is in compliance
2	% S Coke	2.53	*%S less than 3.0% is in compliance
3	% Pitch in Green Mix	14.22	
4	Pitch Received	1,590	
5	Coke Received	7,624	
6	Total S in Pitch and Coke Received	203	
7	Coke Used from Tanks*	-268	
8	Pitch Used from Tanks*	-49	
9	Coke Used in Green Blocks*	359	*These values may be added or subtracted from received value based on increase or decrease in inventory
10	Pitch Used in Green Blocks*	59	
11	Coke in Green Scrap*	-199	
12	Pitch in Green Scrap*	-33	
13	Coke in Green Scrap Shipped*	0	
14	Pitch in Green Scrap Shipped*	0	
15	Total Weight of Material going into Carbon Bake Furnaces	9,717	(#4 + #5 + #9 + #10 + #11 + #12) - (#13 + #14 + #7 + #8)
16	% S going into Carbon Bakes	2.20%	
17	Total S Processed (into Carbon Bake Furnaces)	214	Item 6 plus sulfur in Coke inventory (Items 9, 11) minus (Items 7, 13) and sulfur in Pitch inventory (Items 10, 12) minus (Items 8, 14)
18	Average % Reduction in Material Weight During Baking	3.29%	
19	Estimated Weight of Baked Anodes Outgoing from Carbon Bakes (using weight baked vs. weight green)	9,397	Item 15 - (Item 15 multiplied by Item 18)
20	% S in Baked Anodes	1.99	
21	Total S Outgoing from Carbon Bake Furnaces	187	Item 19 multiplied by Item 20
22	Difference between Total S going into Carbon Bakes and Total Outgoing from Carbon Bakes	27	Item 17 minus Item 21
23	SO2 Emissions from Carbon Bake Furnaces	55	Item 22 multiplied by 1.998 (S to SO2)

Incoming S to Carbon Bake Furnaces

Outgoing S from Carbon Bake Furnaces

Uses Calculations for Work Table Monthly

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC
 New Madrid County, S29, T22N, R14E
 Project Number: 2008-09-024
 Installation ID Number: 143-0008
 Permit Number: 082010-003

Incoming Materials to Potlines

Outgoing S
 from Potlines

24	Coke in Addt'l Baked Blocks*	-67	
25	Pitch in Addt'l Baked Blocks*	Assume no pitch here	
26	Coke in Butts, Rodding and Baked Scrap*	-191	*These values may be added or subtracted from received value based on increase or decrease in inventory
27	Pitch in Butts, Rodding and Baked Scrap*	Assume no pitch here	
28	Coke in Butts and Carbon Shipped*	507	
29	Pitch in Butts and Carbon Shipped*	Assume no pitch here	
30	Weight of Baked Anodes into Potlines	9,015	$(\#19 + \#24 + \#25) - (\#26 + \#27 + \#28 + \#29)$
31	Total Weight of S Anodes Processed into Potlines	177	$\#19 * \#20/100 + (\#24 + \#25) * \#2/100 - (\#26 + \#27 + \#28 + \#29) * \#2/100$
32	SO2 Emissions from Potlines	354	Item 31 multiplied by 1.998 (S to SO2)
	Previous Month's Monthly SO2 Emissions from Coke and Pitch		Previous Month's item 33
33	Monthly SO2 Emissions from Coke and Pitch	409	Total of items 23 and 32

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals, LLC

New Madrid County, S29, T22N, R14E

Installation ID Number: 143-0008

This sheet covers the period of Aug, 2019

Uses Work Table Monthly Basic

Incoming Materials to Carbon Bake Furnaces

Item			
1	% S Pitch	0.55	*%S less than 0.8% is in compliance
2	% S Coke	2.53	*%S less than 3.0% is in compliance
3	% Pitch in Green Mix	14.22	
4	Pitch Received	1,456	
5	Coke Received	8,308	
6	Total S in Pitch and Coke Received	218	
7	Coke Used from Tanks*	1322	
8	Pitch Used from Tanks*	101	
9	Coke Used in Green Blocks*	-253	*These values may be added or subtracted from received value based on increase or decrease in inventory
10	Pitch Used in Green Blocks*	-42	
11	Coke in Green Scrap*	-233	
12	Pitch in Green Scrap*	-39	
13	Coke in Green Scrap Shipped*	0	
14	Pitch in Green Scrap Shipped*	0	
15	Total Weight of Material going into Carbon Bake Furnaces	7,775	$(\#4 + \#5 + \#9 + \#10 + \#11 + \#12) - (\#13 + \#14 + \#7 + \#8)$
16	% S going into Carbon Bakes	2.23%	
17	Total S Processed (into Carbon Bake Furnaces)	171	Item 6 plus sulfur in Coke inventory (Items 9, 11) minus (Items 7, 13) and sulfur in Pitch inventory (Items 10, 12) minus (Items 8, 14)
18	Average % Reduction in Material Weight During Baking	3.05%	
19	Estimated Weight of Baked Anodes Outgoing from Carbon Bakes (using weight baked vs. weight green)	7,538	Item 15 multiplied by Item 18
20	% S in Baked Anodes	2.38	
21	Total S Outgoing from Carbon Bake Furnaces	179	Item 19 multiplied by Item 20
22	Difference between Total S going into Carbon Bakes and Total Outgoing from Carbon Bakes	-8	Item 17 minus Item 21
23	SO2 Emissions from all 3 Carbon Bakes	-16	Item 22 multiplied by 1.998 (S to SO2)

Incoming S to Carbon Bake Furnaces

Outgoing S from Carbon Bake Furnaces

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals, LLC
 New Madrid County, S29, T22N, R14E
 Installation ID Number: 143-0008

Incoming Materials to Potlines

Outgoing S
 from Potlines

24	Coke in Addt'l Baked Blocks*	700	
25	Pitch in Addt'l Baked Blocks*	Assume no pitch here	
26	Coke in Butts, Rodding and Baked Scrap*	243	
27	Pitch in Butts, Rodding and Baked Scrap*	Assume no pitch here	
28	Coke in Butts and Carbon Shipped*	685	
29	Pitch in Butts and Carbon Shipped*	Assume no pitch here	
30	Weight of Baked Anodes into Potlines	7,310	(#19 + #24 + #25) - (#26 + #27 + #28 + #29)
31	Total Weight of S Anodes Processed into Potlines	174	#19 * #20/100 + (#24 + #25)* #2/100 - (#26 + #27 + #28 + #29) * #2/100
32	SO2 Emissions from all 3 Potlines	347	Item 31 multiplied by 1.998 (S to SO2)
	Previous Month's Monthly SO2 Emissions from Coke and Pitch		Previous Month's item 33
33	Monthly SO2 Emissions from Coke and Pitch	331	Total of items 23 and 32

*These values may be added or subtracted from received value based on increase or decrease in inventory

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC

New Madrid County, S29, T22N, R14E

Project Number: 2008-09-024

Installation ID Number: 143-0008

Permit Number: 082010-003

This sheet covers the period of Sep, 2019

Uses Work Table Monthly

Item			
1	% S Pitch	0.61	*%S less than 0.8% is in compliance
2	% S Coke	2.53	*%S less than 3.0% is in compliance
3	% Pitch in Green Mix	14.17	
4	Pitch Received	1,302	
5	Coke Received	5,161	
6	Total S in Pitch and Coke Received	139	
7	Coke Used from Tanks*	-880	
8	Pitch Used from Tanks*	-42	
9	Coke Used in Green Blocks*	741	*These values may be added or subtracted from received value based on increase or decrease in inventory
10	Pitch Used in Green Blocks*	122	
11	Coke in Green Scrap*	-4	
12	Pitch in Green Scrap*	-1	
13	Coke in Green Scrap Shipped*	0	
14	Pitch in Green Scrap Shipped*	0	
15	Total Weight of Material going into Carbon Bake Furnaces	8,243	(#4 + #5 + #9 + #10 + #11 + #12) - (#13 + #14 + #7 + #8)
16	% S going into Carbon Bakes	2.14%	
17	Total S Processed (into Carbon Bake Furnaces)	180	Item 6 plus sulfur in Coke inventory (Items 9, 11) minus (Items 7, 13) and sulfur in Pitch inventory (Items 10, 12) minus (Items 8, 14)
18	Average % Reduction in Material Weight During Baking	6.75%	
19	Estimated Weight of Baked Anodes Outgoing from Carbon Bakes (using weight baked vs. weight green)	7,687	Item 15 - (Item 15 multiplied by Item 18)
20	% S in Baked Anodes	2.29	
21	Total S Outgoing from Carbon Bake Furnaces	176	Item 19 multiplied by Item 20
22	Difference between Total S going into Carbon Bakes and Total Outgoing from Carbon Bakes	4	Item 17 minus Item 21
23	SO2 Emissions from Carbon Bake Furnaces	9	Item 22 multiplied by 1.998 (S to SO2)

Incoming Materials to Carbon Bake Furnaces

Incoming S to Carbon Bake Furnaces

Outgoing S from Carbon Bake Furnaces

Uses Calculations for Work Table Monthly

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC

New Madrid County, S29, T22N, R14E

Project Number: 2008-09-024

Installation ID Number: 143-0008

Permit Number: 082010-003

12 MO

Incoming Materials to Potlines

Outgoing S
from Potlines

24	Coke in Addt'l Baked Blocks*	1,600	
25	Pitch in Addt'l Baked Blocks*	Assume no pitch here	
26	Coke in Butts, Rodding and Baked Scrap*	-71	
27	Pitch in Butts, Rodding and Baked Scrap*	Assume no pitch here	
28	Coke in Butts and Carbon Shipped*	2,857	
29	Pitch in Butts and Carbon Shipped*	Assume no pitch here	
30	Weight of Baked Anodes into Potlines	86,047	$(\#19 + \#24 + \#25) - (\#26 + \#27 + \#28 + \#29)$
31	Total Weight of S Anodes Processed into Potlines	1,928	$\#19 * \#20 / 100 + \text{SUM}(\#24, \#25) * \#2 / 100 - \text{SUM}(\#26 : \#29) * \#2 / 100$
32	SO2 Emissions from Potlines	3,852	Item 31 multiplied by 1.998 (S to SO2)
34	12-Month SO2 Emissions from Total from Previous Month's Worksheet		Item 36 from previous month's worksheet
35	Monthly SO2 Emissions Total from Previous Year's Worksheet		Item 33 from previous year's worksheet for the same month
36	Current 12-Month Total SO2 Emissions**	4,042	Total of items 23 and 32
** A total of less than 5544 tpy demonstrates compliance			

*These values may be added or subtracted from received value based on increase or decrease in inventory

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC

New Madrid County, S29, T22N, R14E

Project Number: 2008-09-024

Installation ID Number: 143-0008

Permit Number: 082010-003

12 MO

This sheet covers the period of

Sep, 2018 through Aug, 2019

Uses Work Table Combined

Incoming Materials to Carbon Bake Furnaces

Incoming S
to Carbon
Bake
Furnaces

Outgoing S from Carbon Bake Furnaces

Item			
1	% S Pitch	0.59	*%S less than 0.8% is in compliance
2	% S Coke	2.57	*%S less than 3.0% is in compliance
3	% Pitch in Green Mix	14.11	
4	Pitch Received	15,733	
5	Coke Received	74,207	
6	Total S in Pitch and Coke Received	1,997	
7	Coke Used from Tanks*	180	
8	Pitch Used from Tanks*	126	
9	Coke Used in Green Blocks*	758	*These values may be added or subtracted from received value based on increase or decrease in inventory
10	Pitch Used in Green Blocks*	125	
11	Coke in Green Scrap*	1571	
12	Pitch in Green Scrap*	258	
13	Coke in Green Scrap Shipped*	0	Converted to tons
14	Pitch in Green Scrap Shipped*	0	Converted to tons
15	Total Weight of Material going into Carbon Bake Furnaces	92,345	(#4 + #5 + #9 + #10 + #11 + #12) - (#13 + #14 + #7 + #8)
16	% S going into Carbon Bakes	2.22%	
17	Total S Processed (into Carbon Bake Furnaces)	2,054	Item 6 plus sulfur in Coke inventory (Items 9, 11) minus (Items 7, 13) and sulfur in Pitch inventory (Items 10, 12) minus (Items 8, 14)
18	Average % Reduction in Material Weight During Baking	5.54%	
19	Estimated Weight of Baked Anodes Outgoing from Carbon Bakes (using weight baked vs. weight green)	87,234	Item 15 - (item 15 multiplied by Item 18)
20	% S in Baked Anodes	2.25	
21	Total S Outgoing from Carbon Bake Furnaces	1,958	Item 19 multiplied by Item 20
22	Difference between Total S going into Carbon Bakes and Total Outgoing from Carbon Bakes	95	Item 17 minus Item 21
23	SO2 Emissions from Carbon Bake Furnaces	190	Item 22 multiplied by 1.998 (S to SO2)

Uses Calculations for Work Table 12 mo

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC
 New Madrid County, S29, T22N, R14E
 Project Number: 2008-09-024
 Installation ID Number: 143-0008
 Permit Number: 082010-003

Incoming Materials to Potlines

Outgoing S
 from Potlines

24	Coke in Addt'l Baked Blocks*	-70	
25	Pitch in Addt'l Baked Blocks*	Assume no pitch here	
26	Coke in Butts, Rodding and Baked Scrap*	70	*These values may be added or subtracted from received value based on increase or decrease in inventory
27	Pitch in Butts, Rodding and Baked Scrap*	Assume no pitch here	
28	Coke in Butts and Carbon Shipped*	340	
29	Pitch in Butts and Carbon Shipped*	Assume no pitch here	
30	Weight of Baked Anodes into Potlines	7,206	$(\#19 + \#24 + \#25) - (\#26 + \#27 + \#28 + \#29)$
31	Total Weight of S Anodes Processed into Potlines	164	$\#19 * \#20/100 + (\#24 + \#25) * \#2/100 - (\#26 + \#27 + \#28 + \#29) * \#2/100$
32	SO2 Emissions from Potlines	327	Item 31 multiplied by 1.998 (S to SO2)
	Previous Month's Monthly SO2 Emissions from Coke and Pitch		Previous Month's item 33
33	Monthly SO2 Emissions from Coke and Pitch	336	Total of items 23 and 32

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC

New Madrid County, S29, T22N, R14E

Project Number: 2008-09-024

Installation ID Number: 143-0008

Permit Number: 082010-003

12 MO

This sheet covers the period of

Oct, 2018 through Sep, 2019

Uses Work Table Combined

Incoming Materials to Carbon Bake Furnaces

Incoming S
to Carbon
Bake
Furnaces

Outgoing S from Carbon Bake Furnaces

Item			
1	% S Pitch	0.59	*%S less than 0.8% is in compliance
2	% S Coke	2.57	*%S less than 3.0% is in compliance
3	% Pitch in Green Mix	14.11	
4	Pitch Received	16,554	
5	Coke Received	75,912	
6	Total S in Pitch and Coke Received	2,049	
7	Coke Used from Tanks*	-1165	
8	Pitch Used from Tanks*	343	*These values may be added or subtracted from received value based on increase or decrease in inventory
9	Coke Used in Green Blocks*	849	
10	Pitch Used in Green Blocks*	140	
11	Coke in Green Scrap*	1048	
12	Pitch in Green Scrap*	172	
13	Coke in Green Scrap Shipped*	0	Converted to tons
14	Pitch in Green Scrap Shipped*	0	Converted to tons
15	Total Weight of Material going into Carbon Bake Furnaces	95,498	(#4 + #5 + #9 + #10 + #11 + #12) - (#13 + #14 + #7 + #8)
16	% S going into Carbon Bakes	2.22%	
17	Total S Processed (into Carbon Bake Furnaces)	2,127	Item 6 plus sulfur in Coke inventory (Items 9, 11) minus (Items 7, 13) and sulfur in Pitch inventory (Items 10, 12) minus (Items 8, 14)
18	Average % Reduction in Material Weight During Baking	5.54%	
19	Estimated Weight of Baked Anodes Outgoing from Carbon Bakes (using weight baked vs. weight green)	90,207	Item 15 - (item 15 multiplied by Item 18)
20	% S in Baked Anodes	2.26	
21	Total S Outgoing from Carbon Bake Furnaces	2,042	Item 19 multiplied by Item 20
22	Difference between Total S going into Carbon Bakes and Total Outgoing from Carbon Bakes	85	Item 17 minus Item 21
23	SO2 Emissions from Carbon Bake Furnaces	171	Item 22 multiplied by 1.998 (S to SO2)

Uses Calculations for Work Table 12 mo

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC

New Madrid County, S29, T22N, R14E

Project Number: 2008-09-024

Installation ID Number: 143-0008

Permit Number: 082010-003

12 MO

Incoming Materials to Potlines

Outgoing S
from Potlines

24	Coke in Addt'l Baked Blocks*	503	
25	Pitch in Addt'l Baked Blocks*	Assume no pitch here	
26	Coke in Butts, Rodding and Baked Scrap*	285	
27	Pitch in Butts, Rodding and Baked Scrap*	Assume no pitch here	
28	Coke in Butts and Carbon Shipped*	3,197	
29	Pitch in Butts and Carbon Shipped*	Assume no pitch here	
30	Weight of Baked Anodes into Potlines	87,228	(#19 + #24 + #25) - (#26 + #27 + #28 + #29)
31	Total Weight of S Anodes Processed into Potlines	1,965	#19*#20/100+SUM(#24,#25)*#2/100-SUM(#26:#29)*#2/100
32	SO2 Emissions from Potlines	3,926	Item 31 multiplied by 1.998 (S to SO2)
34	12-Month SO2 Emissions from Total from Previous Month's Worksheet		Item 36 from previous month's worksheet
35	Monthly SO2 Emissions Total from Previous Year's Worksheet		Item 33 from previous year's worksheet for the same month
36	Current 12-Month Total SO2 Emissions**	4,097	Total of items 23 and 32
** A total of less than 5544 tpy demonstrates compliance			

*These values may be added or subtracted from received value based on increase or decrease in inventory

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC
 New Madrid County, S29, T22N, R14E
 Project Number: 2008-09-024
 Installation ID Number: 143-0008
 Permit Number: 082010-003

REVIEWED**By JR at 12:14 pm, Nov 27, 2019**This sheet covers the period of Oct, 2019

Uses Work Table Monthly

Incoming Materials to Carbon Bake Furnaces

Item			
1	% S Pitch	0.62%	*%S less than 0.8% is in compliance
2	% S Coke	2.50%	*%S less than 3.0% is in compliance
3	% Pitch in Green Mix	14.21%	
4	Pitch Received	1,422	
5	Coke Received	5,362	
6	Total S in Pitch and Coke Received	143	
7	Coke Used from Tanks*	-1600	
8	Pitch Used from Tanks*	245	
9	Coke Used in Green Blocks*	339	*These values may be added or subtracted from received value based on increase or decrease in inventory
10	Pitch Used in Green Blocks*	56	
11	Coke in Green Scrap*	-201	
12	Pitch in Green Scrap*	-33	
13	Coke in Green Scrap Shipped*	0	
14	Pitch in Green Scrap Shipped*	0	
15	Total Weight of Material going into Carbon Bake Furnaces	8,300	(#4 + #5 + #9 + #10 + #11 + #12) - (#13 + #14 + #7 + #8)
16	% S going into Carbon Bakes	2.11%	
17	Total S Processed (into Carbon Bake Furnaces)	185	Item 6 plus sulfur in Coke inventory (Items 9, 11) minus (Items 7, 13) and sulfur in Pitch inventory (Items 10, 12) minus (Items 8, 14)
18	Average % Reduction in Material Weight During Baking	5.02%	
19	Estimated Weight of Baked Anodes Outgoing from Carbon Bakes (using weight baked vs. weight green)	7,883	Item 15 - (Item 15 multiplied by Item 18)
20	% S in Baked Anodes	2.23%	
21	Total S Outgoing from Carbon Bake Furnaces	176	Item 19 multiplied by Item 20
22	Difference between Total S going into Carbon Bakes and Total Outgoing from Carbon Bakes	9	Item 17 minus Item 21
23	SO2 Emissions from Carbon Bake Furnaces	18	Item 22 multiplied by 1.998 (S to SO2)

Incoming S to Carbon Bake Furnaces

Outgoing S from Carbon Bake Furnaces

Uses Calculations for Work Table Monthly

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC
 New Madrid County, S29, T22N, R14E
 Project Number: 2008-09-024
 Installation ID Number: 143-0008
 Permit Number: 082010-003

Incoming Materials to Potlines

Outgoing S
 from Potlines

24	Coke in Addt'l Baked Blocks*	-479	
25	Pitch in Addt'l Baked Blocks*	Assume no pitch here	
26	Coke in Butts, Rodding and Baked Scrap*	-124	
27	Pitch in Butts, Rodding and Baked Scrap*	Assume no pitch here	
28	Coke in Butts and Carbon Shipped*	289	
29	Pitch in Butts and Carbon Shipped*	Assume no pitch here	
30	Weight of Baked Anodes into Potlines	7,239	(#19 + #24 + #25) - (#26 + #27 + #28 + #29)
31	Total Weight of S Anodes Processed into Potlines	160	#19 * #20 + (#24 + #25)* #2 - (#26 + #27 + #28 + #29) * #2
32	SO2 Emissions from Potlines	319	Item 31 multiplied by 1.998 (S to SO2)
	Previous Month's Monthly SO2 Emissions from Coke and Pitch		Previous Month's item 33
33	Monthly SO2 Emissions from Coke and Pitch	337	Total of items 23 and 32

*These values may be added or subtracted from received value based on increase or decrease in inventory

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC
 New Madrid County, S29, T22N, R14E
 Project Number: 2008-09-024
 Installation ID Number: 143-0008
 Permit Number: 082010-003

12 MOThis sheet covers the period of Nov, 2018 through Oct, 2019

Uses Work Table Combined

Incoming Materials to Carbon Bake Furnaces

Incoming S
to Carbon
Bake
Furnaces

Outgoing S from Carbon Bake Furnaces

Item			
1	% S Pitch	0.60%	*%S less than 0.8% is in compliance
2	% S Coke	2.56%	*%S less than 3.0% is in compliance
3	% Pitch in Green Mix	14.12%	
4	Pitch Received	16,850	
5	Coke Received	74,573	
6	Total S in Pitch and Coke Received	2,009	
7	Coke Used from Tanks*	-3313	
8	Pitch Used from Tanks*	661	
9	Coke Used in Green Blocks*	14	*These values may be added or subtracted from received value based on increase or decrease in inventory
10	Pitch Used in Green Blocks*	2	
11	Coke in Green Scrap*	887	
12	Pitch in Green Scrap*	146	
13	Coke in Green Scrap Shipped*	0	Converted to tons
14	Pitch in Green Scrap Shipped*	0	Converted to tons
15	Total Weight of Material going into Carbon Bake Furnaces	95,123	(#4 + #5 + #9 + #10 + #11 + #12) - (#13 + #14 + #7 + #8)
16	% S going into Carbon Bakes	2.20%	
17	Total S Processed (into Carbon Bake Furnaces)	2,113	Item 6 plus sulfur in Coke inventory (Items 9, 11) minus (Items 7, 13) and sulfur in Pitch inventory (Items 10, 12) minus (Items 8, 14)
18	Average % Reduction in Material Weight During Baking	5.40%	
19	Estimated Weight of Baked Anodes Outgoing from Carbon Bakes (using weight baked vs. weight green)	89,986	Item 15 - (item 15 multiplied by Item 18)
20	% S in Baked Anodes	2.26%	
21	Total S Outgoing from Carbon Bake Furnaces	2,031	Item 19 multiplied by Item 20
22	Difference between Total S going into Carbon Bakes and Total Outgoing from Carbon Bakes	83	Item 17 minus Item 21
23	SO2 Emissions from Carbon Bake Furnaces	165	Item 22 multiplied by 1.998 (S to SO2)

Uses Calculations for Work Table 12 mo

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC

New Madrid County, S29, T22N, R14E

Project Number: 2008-09-024

Installation ID Number: 143-0008

Permit Number: 082010-003

12 MO

Incoming Materials to Potlines

Outgoing S
from Potlines

24	Coke in Addt'l Baked Blocks*	-416	
25	Pitch in Addt'l Baked Blocks*	Assume no pitch here	
26	Coke in Butts, Rodding and Baked Scrap*	189	
27	Pitch in Butts, Rodding and Baked Scrap*	Assume no pitch here	
28	Coke in Butts and Carbon Shipped*	3,487	
29	Pitch in Butts and Carbon Shipped*	Assume no pitch here	
30	Weight of Baked Anodes into Potlines	85,894	(#19 + #24 + #25) - (#26 + #27 + #28 + #29)
31	Total Weight of S Anodes Processed into Potlines	1,926	#19 * #20 + (#24 + #25) * #2 - (#26 + #27 + #28 + #29) * #2
32	SO2 Emissions from Potlines	3,848	Item 31 multiplied by 1.998 (S to SO2)
34	12-Month SO2 Emissions from Total from Previous Month's Worksheet		Item 36 from previous month's worksheet
35	Monthly SO2 Emissions Total from Previous Year's Worksheet		Item 33 from previous year's worksheet for the same month
36	Current 12-Month Total SO2 Emissions**	4,013	Total of items 23 and 32
** A total of less than 5544 tpy demonstrates compliance			

*These values may be added or subtracted from received value based on increase or decrease in inventory

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC

New Madrid County, S29, T22N, R14E

Project Number: 2008-09-024

Installation ID Number: 143-0008

Permit Number: 082010-003

This sheet covers the period of

Nov, 2019

Uses Work Table Monthly

Item			
1	% S Pitch	0.61%	*%S less than 0.8% is in compliance
2	% S Coke	2.45%	*%S less than 3.0% is in compliance
3	% Pitch in Green Mix	14.40%	
4	Pitch Received	917	
5	Coke Received	7,042	
6	Total S in Pitch and Coke Received	178	
7	Coke Used from Tanks*	1844	
8	Pitch Used from Tanks*	-77	
9	Coke Used in Green Blocks*	-1,516	*These values may be added or subtracted from received value based on increase or decrease in inventory
10	Pitch Used in Green Blocks*	-255	
11	Coke in Green Scrap*	116	
12	Pitch in Green Scrap*	19	
13	Coke in Green Scrap Shipped*	0	
14	Pitch in Green Scrap Shipped*	0	
15	Total Weight of Material going into Carbon Bake Furnaces	4,556	(#4 + #5 + #9 + #10 + #11 + #12) - (#13 + #14 + #7 + #8)
16	% S going into Carbon Bakes	2.24%	
17	Total S Processed (into Carbon Bake Furnaces)	98	Item 6 plus sulfur in Coke inventory (Items 9, 11) minus (Items 7, 13) and sulfur in Pitch inventory (Items 10, 12) minus (Items 8, 14)
18	Average % Reduction in Material Weight During Baking	6.75%	
19	Estimated Weight of Baked Anodes Outgoing from Carbon Bakes (using weight baked vs. weight green)	4,248	Item 15 - (Item 15 multiplied by Item 18)
20	% S in Baked Anodes	2.21%	
21	Total S Outgoing from Carbon Bake Furnaces	94	Item 19 multiplied by Item 20
22	Difference between Total S going into Carbon Bakes and Total Outgoing from Carbon Bakes	4	Item 17 minus Item 21
23	SO2 Emissions from Carbon Bake Furnaces	8	Item 22 multiplied by 1.998 (S to SO2)

Incoming Materials to Carbon Bake Furnaces

Incoming S to Carbon Bake Furnaces

Outgoing S from Carbon Bake Furnaces

Uses Calculations for Work Table Monthly

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC
New Madrid County, S29, T22N, R14E
Project Number: 2008-09-024
Installation ID Number: 143-0008
Permit Number: 082010-003

Incoming Materials to Potlines

Outgoing S
from Potlines

24	Coke in Addt'l Baked Blocks*	387	
25	Pitch in Addt'l Baked Blocks*	Assume no pitch here	
26	Coke in Butts, Rodding and Baked Scrap*	77	
27	Pitch in Butts, Rodding and Baked Scrap*	Assume no pitch here	
28	Coke in Butts and Carbon Shipped*	205	
29	Pitch in Butts and Carbon Shipped*	Assume no pitch here	
30	Weight of Baked Anodes into Potlines	4,353	(#19 + #24 + #25) - (#26 + #27 + #28 + #29)
31	Total Weight of S Anodes Processed into Potlines	96	#19 * #20 + (#24 + #25)* #2 - (#26 + #27 + #28 + #29) * #2
32	SO2 Emissions from Potlines	193	Item 31 multiplied by 1.998 (S to SO2)
	Previous Month's Monthly SO2 Emissions from Coke and Pitch		Previous Month's item 33
33	Monthly SO2 Emissions from Coke and Pitch	200	Total of items 23 and 32

*These values may be added or subtracted from received value based on increase or decrease in inventory

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC

New Madrid County, S29, T22N, R14E

Project Number: 2008-09-024

Installation ID Number: 143-0008

Permit Number: 082010-003

12 MO

This sheet covers the period of

Dec, 2018 through Nov, 2019

Uses Work Table Combined

Item			
1	% S Pitch	0.60%	*%S less than 0.8% is in compliance
2	% S Coke	2.55%	*%S less than 3.0% is in compliance
3	% Pitch in Green Mix	14.14%	
4	Pitch Received	16,450	
5	Coke Received	75,367	
6	Total S in Pitch and Coke Received	2,021	
7	Coke Used from Tanks*	-1791	
8	Pitch Used from Tanks*	182	
9	Coke Used in Green Blocks*	-1,266	*These values may be added or subtracted from received value based on increase or decrease in inventory
10	Pitch Used in Green Blocks*	-208	
11	Coke in Green Scrap*	461	
12	Pitch in Green Scrap*	76	
13	Coke in Green Scrap Shipped*	0	Converted to tons
14	Pitch in Green Scrap Shipped*	0	Converted to tons
15	Total Weight of Material going into Carbon Bake Furnaces	92,490	(#4 + #5 + #9 + #10 + #11 + #12) - (#13 + #14 + #7 + #8)
16	% S going into Carbon Bakes	2.20%	
17	Total S Processed (into Carbon Bake Furnaces)	2,044	Item 6 plus sulfur in Coke inventory (Items 9, 11) minus (Items 7, 13) and sulfur in Pitch inventory (Items 10, 12) minus (Items 8, 14)
18	Average % Reduction in Material Weight During Baking	5.59%	
19	Estimated Weight of Baked Anodes Outgoing from Carbon Bakes (using weight baked vs. weight green)	87,316	Item 15 - (item 15 multiplied by Item 18)
20	% S in Baked Anodes	2.26%	
21	Total S Outgoing from Carbon Bake Furnaces	1,975	Item 19 multiplied by Item 20
22	Difference between Total S going into Carbon Bakes and Total Outgoing from Carbon Bakes	69	Item 17 minus Item 21
23	SO2 Emissions from Carbon Bake Furnaces	139	Item 22 multiplied by 1.998 (S to SO2)

Incoming Materials to Carbon Bake Furnaces

Incoming S to Carbon Bake Furnaces

Outgoing S from Carbon Bake Furnaces

Uses Calculations for Work Table 12 mo

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC

New Madrid County, S29, T22N, R14E

Project Number: 2008-09-024

Installation ID Number: 143-0008

Permit Number: 082010-003

12 MO

Incoming Materials to Potlines

Outgoing S
from Potlines

24	Coke in Addt'l Baked Blocks*	-563	
25	Pitch in Addt'l Baked Blocks*	Assume no pitch here	
26	Coke in Butts, Rodding and Baked Scrap*	17	
27	Pitch in Butts, Rodding and Baked Scrap*	Assume no pitch here	
28	Coke in Butts and Carbon Shipped*	3,691	
29	Pitch in Butts and Carbon Shipped*	Assume no pitch here	
30	Weight of Baked Anodes into Potlines	83,044	(#19 + #24 + #25) - (#26 + #27 + #28 + #29)
31	Total Weight of S Anodes Processed into Potlines	1,866	#19 * #20 + (#24 + #25) * #2 - (#26 + #27 + #28 + #29) * #2
32	SO2 Emissions from Potlines	3,728	Item 31 multiplied by 1.998 (S to SO2)
34	12-Month SO2 Emissions from Total from Previous Month's Worksheet		Item 36 from previous month's worksheet
35	Monthly SO2 Emissions Total from Previous Year's Worksheet		Item 33 from previous year's worksheet for the same month
36	Current 12-Month Total SO2 Emissions**	3,867	Total of items 23 and 32
** A total of less than 5544 tpy demonstrates compliance			

*These values may be added or subtracted from received value based on increase or decrease in inventory

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC
 New Madrid County, S29, T22N, R14E
 Project Number: 2008-09-024
 Installation ID Number: 143-0008
 Permit Number: 082010-003

This sheet covers the period of Dec, 2019

Uses Work Table Monthly

Item			
1	% S Pitch	0.58%	*%S less than 0.8% is in compliance
2	% S Coke	2.50%	*%S less than 3.0% is in compliance
3	% Pitch in Green Mix	14.53%	
4	Pitch Received	1,076	
5	Coke Received	5,049	
6	Total S in Pitch and Coke Received	132	
7	Coke Used from Tanks*	103	
8	Pitch Used from Tanks*	-210	
9	Coke Used in Green Blocks*	1,070	*These values may be added or subtracted from received value based on increase or decrease in inventory
10	Pitch Used in Green Blocks*	182	
11	Coke in Green Scrap*	-447	
12	Pitch in Green Scrap*	-76	
13	Coke in Green Scrap Shipped*	0	
14	Pitch in Green Scrap Shipped*	0	
15	Total Weight of Material going into Carbon Bake Furnaces	6,960	(#4 + #5 + #9 + #10 + #11 + #12) - (#13 + #14 + #7 + #8)
16	% S going into Carbon Bakes	2.16%	
17	Total S Processed (into Carbon Bake Furnaces)	147	Item 6 plus sulfur in Coke inventory (Items 9, 11) minus (Items 7, 13) and sulfur in Pitch inventory (Items 10, 12) minus (Items 8, 14)
18	Average % Reduction in Material Weight During Baking	7.23%	
19	Estimated Weight of Baked Anodes Outgoing from Carbon Bakes (using weight baked vs. weight green)	6,457	Item 15 - (Item 15 multiplied by Item 18)
20	% S in Baked Anodes	2.16%	
21	Total S Outgoing from Carbon Bake Furnaces	139	Item 19 multiplied by Item 20
22	Difference between Total S going into Carbon Bakes and Total Outgoing from Carbon Bakes	8	Item 17 minus Item 21
23	SO2 Emissions from Carbon Bake Furnaces	16	Item 22 multiplied by 1.998 (S to SO2)

Incoming Materials to Carbon Bake Furnaces

Incoming S to Carbon Bake Furnaces

Outgoing S from Carbon Bake Furnaces

Uses Calculations for Work Table Monthly

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC
 New Madrid County, S29, T22N, R14E
 Project Number: 2008-09-024
 Installation ID Number: 143-0008
 Permit Number: 082010-003

Incoming Materials to Potlines

Outgoing S
 from Potlines

24	Coke in Addt'l Baked Blocks*	209	
25	Pitch in Addt'l Baked Blocks*	Assume no pitch here	
26	Coke in Butts, Rodding and Baked Scrap*	-54	
27	Pitch in Butts, Rodding and Baked Scrap*	Assume no pitch here	
28	Coke in Butts and Carbon Shipped*	45	
29	Pitch in Butts and Carbon Shipped*	Assume no pitch here	
30	Weight of Baked Anodes into Potlines	6,676	(#19 + #24 + #25) - (#26 + #27 + #28 + #29)
31	Total Weight of S Anodes Processed into Potlines	145	#19 * #20 + (#24 + #25)* #2 - (#26 + #27 + #28 + #29) * #2
32	SO2 Emissions from Potlines	290	Item 31 multiplied by 1.998 (S to SO2)
	Previous Month's Monthly SO2 Emissions from Coke and Pitch		Previous Month's item 33
33	Monthly SO2 Emissions from Coke and Pitch	305	Total of items 23 and 32

*These values may be added or subtracted from received value based on increase or decrease in inventory

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC
 New Madrid County, S29, T22N, R14E
 Project Number: 2008-09-024
 Installation ID Number: 143-0008
 Permit Number: 082010-003

12 MO

This sheet covers the period of Jan, 2019 through Dec, 2019

Uses Work Table Combined

Incoming Materials to Carbon Bake Furnaces

Item			
1	% S Pitch	0.60%	*%S less than 0.8% is in compliance
2	% S Coke	2.55%	*%S less than 3.0% is in compliance
3	% Pitch in Green Mix	14.17%	
4	Pitch Received	15,978	
5	Coke Received	73,582	
6	Total S in Pitch and Coke Received	1,969	
7	Coke Used from Tanks*	603	
8	Pitch Used from Tanks*	31	
9	Coke Used in Green Blocks*	-214	*These values may be added or subtracted from received value based on increase or decrease in inventory
10	Pitch Used in Green Blocks*	-35	
11	Coke in Green Scrap*	199	
12	Pitch in Green Scrap*	33	
13	Coke in Green Scrap Shipped*	0	Converted to tons
14	Pitch in Green Scrap Shipped*	0	Converted to tons
15	Total Weight of Material going into Carbon Bake Furnaces	88,908	(#4 + #5 + #9 + #10 + #11 + #12) - (#13 + #14 + #7 + #8)
16	% S going into Carbon Bakes	2.20%	
17	Total S Processed (into Carbon Bake Furnaces)	1,953	Item 6 plus sulfur in Coke inventory (Items 9, 11) minus (Items 7, 13) and sulfur in Pitch inventory (Items 10, 12) minus (Items 8, 14)
18	Average % Reduction in Material Weight During Baking	5.82%	
19	Estimated Weight of Baked Anodes Outgoing from Carbon Bakes (using weight baked vs. weight green)	83,733	Item 15 - (item 15 multiplied by Item 18)
20	% S in Baked Anodes	2.27%	
21	Total S Outgoing from Carbon Bake Furnaces	1,904	Item 19 multiplied by Item 20
22	Difference between Total S going into Carbon Bakes and Total Outgoing from Carbon Bakes	50	Item 17 minus Item 21
23	SO2 Emissions from Carbon Bake Furnaces	99	Item 22 multiplied by 1.998 (S to SO2)

Incoming S to Carbon Bake Furnaces

Outgoing S from Carbon Bake Furnaces

Attachment A: SO2 Compliance Worksheet

Magnitude 7 Metals LLC
 New Madrid County, S29, T22N, R14E
 Project Number: 2008-09-024
 Installation ID Number: 143-0008
 Permit Number: 082010-003

12 MO

Incoming Materials to Potlines

Outgoing S
from Potlines

24	Coke in Addt'l Baked Blocks*	-77	
25	Pitch in Addt'l Baked Blocks*	Assume no pitch here	
26	Coke in Butts, Rodding and Baked Scrap*	40	
27	Pitch in Butts, Rodding and Baked Scrap*	Assume no pitch here	
28	Coke in Butts and Carbon Shipped*	3,736	
29	Pitch in Butts and Carbon Shipped*	Assume no pitch here	
30	Weight of Baked Anodes into Potlines	79,879	(#19 + #24 + #25) - (#26 + #27 + #28 + #29)
31	Total Weight of S Anodes Processed into Potlines	1,805	#19 * #20 + (#24 + #25) * #2 - (#26 + #27 + #28 + #29) * #2
32	SO2 Emissions from Potlines	3,607	Item 31 multiplied by 1.998 (S to SO2)
34	12-Month SO2 Emissions from Total from Previous Month's Worksheet		Item 36 from previous month's worksheet
35	Monthly SO2 Emissions Total from Previous Year's Worksheet		Item 33 from previous year's worksheet for the same month
36	Current 12-Month Total SO2 Emissions**	3,706	Total of items 23 and 32
** A total of less than 5544 tpy demonstrates compliance			

*These values may be added or subtracted from received value based on increase or decrease in inventory

Appendix B

Doe Run – Buick Resource Recycling Facility

B. DOE RUN - BUICK RESOURCE RECYCLING FACILITY

Doe Run Buick Resource Recycling Facility (Buick) operates a battery recycling and secondary lead smelting operation in Iron County. Battery recycling, primarily automotive and industrial batteries, began in 1991. Buick is a major source of sulfur dioxide (SO₂) emissions.

The air program developed the boundary designation recommendation presented in this appendix in accordance with EPA's September 5, 2019 guidance document titled, "Area Designations for the 2010 Primary Sulfur Dioxide National Ambient Air Quality Standard – Round 4." This guidance provides information on the recommended process for designating all remaining undesignated areas under the 2010 SO₂ standard. In the guidance, EPA states they first intend to determine any new nonattainment boundaries for areas that monitored violations of the standard based on 2017-2019 certified ambient SO₂ monitoring data. The guidance states that a nonattainment area should contain the area violating the standard (e.g., the area around a violating monitor or encompassing modeled violations), as well as any nearby areas (e.g., counties or portions thereof) that contain emissions sources contributing to the violation. EPA states in the guidance they plan to consider county boundaries as the analytical starting point for determining SO₂ nonattainment areas. However, the guidance provides for smaller or larger than county-size boundaries based on an evaluation of five factors for each area. These five factors include:

- Monitoring/Modeling data
- Emissions information
- Meteorology
- Topography
- Jurisdictional boundaries

The guidance also states that in certain cases there may be insufficient information to support a designation of nonattainment or attainment for an area. For example, there may be monitors that indicate an exceedance of the standard, but the monitoring data may be incomplete, or the monitors may not be operated in accordance with the regulatory requirements of 40 CFR part 58. In these cases, states may recommend unclassifiable designations and should consider which nearby sources contribute to ambient air quality within the impacted area when recommending a boundary for the unclassifiable area.

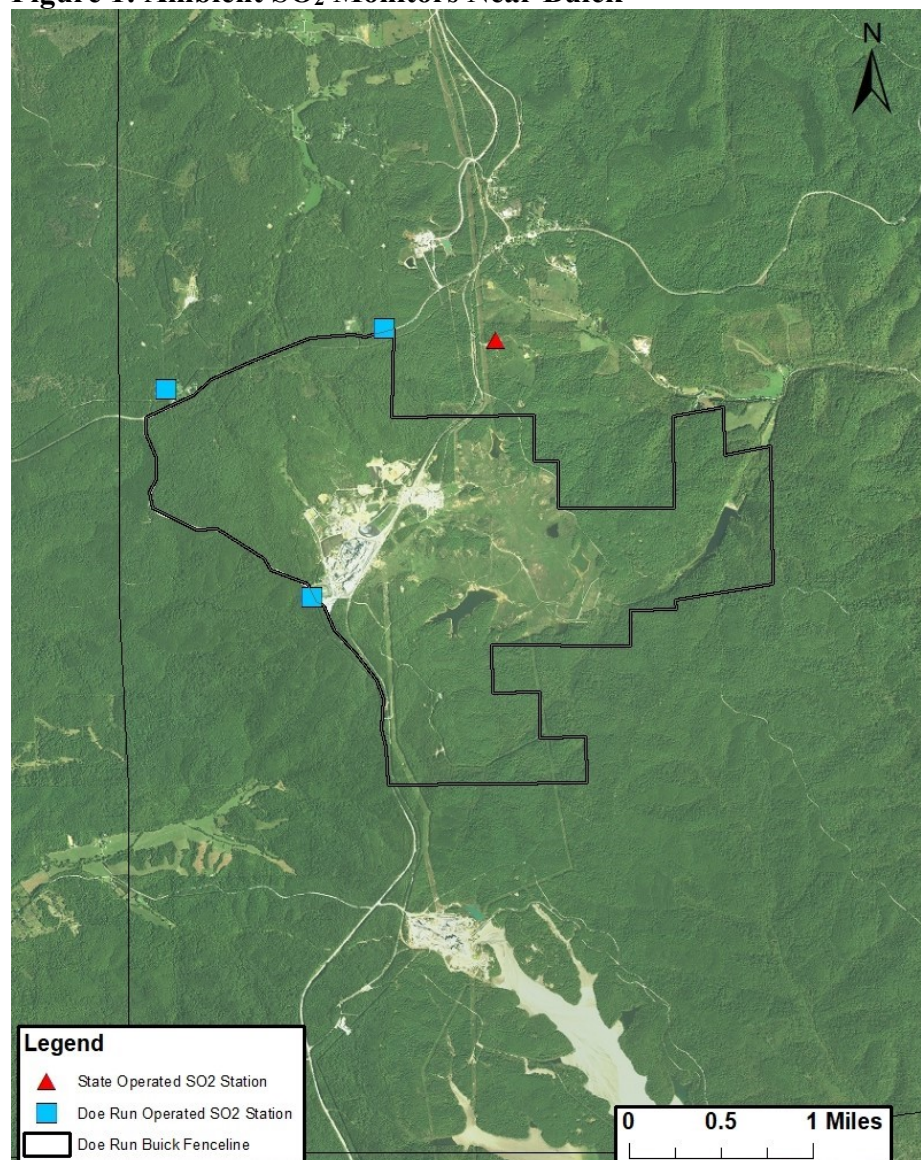
Finally, the guidance states that EPA may designate an area as attainment/unclassifiable if information indicates it meets the SO₂ standard and does not likely contribute to a violation in a nearby area based on the most recent three years (i.e., 2017-2019) of ambient air quality monitoring data. Once EPA has determined the boundaries for nonattainment areas (areas that are violating the standard or contributing to a nearby violation) and any unclassifiable areas, EPA intends to designate the remainder of the undesignated areas as attainment/unclassifiable.

B.1 Monitoring/Modeling Data

B.1.1 Monitoring Data

There are three ambient SO₂ monitors near Buick the air program relied on to characterize the air quality in the area surrounding the facility as shown in Figure 1. The air program sited these three ambient air monitors around Buick, as required by the 2015 federal Data Requirements Rule (DRR). These monitors are located near the Buick fence-line. Monitors include the West Entrance Monitor, which sits along the western fence-line of the facility, as well as the County Road 75 Monitor, and the Highway 32 Northeast Monitor. The air program chose these sites based on frequent and high modeled concentrations, thus allowing the ability to accurately measure the peak SO₂ concentrations resulting from emissions at the facility. A fourth, state-operated SO₂ monitoring site is also included in the evaluation, as shown in Figure 1.

Figure 1: Ambient SO₂ Monitors Near Buick



On January 1, 2017, data collection commenced at the three Doe Run-operated SO₂ monitors in the area surrounding Buick to meet the requirements of the DRR. On December 29, 2016, EPA approved the three Buick monitoring sites as meeting the requirements of the DRR as part of the 2016 Monitoring Network Plan Revision 1. The Department's EPA-approved 2016 Monitoring Network Plan, is available online on the Department's air pollutant monitoring webpage. In accordance with the DRR, the addition of the Buick SO₂ monitors is discussed on pages 16, 18, 20 and 21 of the 2016 Monitoring Network Plan,¹ and greater detail regarding the selection of SO₂ monitoring sites to best characterize peak SO₂ concentrations in the area is found in Appendix 3 of that plan.

In accordance with the DRR, the air program used three full years of monitoring data, specifically January 1, 2017 through December 31, 2019, to characterize ambient air quality surrounding Buick. Monitoring data for 2017 and 2018 are certified, while the 2019 monitoring data will be certified on or before May 1, 2020.

For the three Buick monitoring sites that began collecting data January 2, 2017, the preliminary maximum 2017-2019 design value per the 2010 1-hour SO₂ standard is 50 parts per billion (ppb) at the Highway 32 Northeast Buick monitoring site. This is approximately 67 percent of the level of the 2010 SO₂ standard. Similarly, the maximum 99th percentile SO₂ value for any of the four Buick monitors is 52 ppb (in 2018), which occurred at the state operated Buick Northeast monitor. Both the maximum design value of 50 ppb, and the maximum 99th percentile SO₂ value of 52 ppb indicate compliance with the 2010 1-hour SO₂ standard of 75 ppb or less. Table 1 shows the monitored concentrations for the three monitors for 2017-2019 period along with the respective monitored design values.

Table 1: Monitors around Buick and their 99th Percentile and Design Values*

Sites	99 th Percentile SO ₂ Values in parts per billion (ppb)			Design Value
	2017	2018	2019*	2017-2019*
State Site				
Buick Northeast	48	52	43	48
Buick Sites				
County Road 75	47	36	35	39
Hwy 32 Northeast	51	48	50	50
West Entrance	44	35	48	42

*At the time this document was developed, the 2019 monitoring data was preliminary, and had not yet been quality assured or certified. Certification of the 2019 monitoring data is required by May 1, 2020.

In 2017-2019, the four monitors surrounding Buick measured SO₂ 1-hour design values in compliance with the 2010 1-hour SO₂ standard as shown in Table 1. Since these monitors do not show any violations, and Buick is the only DRR source located in Iron County, the air program did not use air dispersion modeling to further characterize SO₂ concentrations in Iron County or the area surrounding Buick. Based on the monitored design values from 2017-2019 at the four monitors, the air program recommends that EPA designate all of Iron County as attainment/unclassifiable for the 2010 SO₂ standard.

¹ <https://dnr.mo.gov/env/apcp/docs/2016monitoringnetworkplan.pdf>

Appendix C

DRR Modeling Protocol – September 2016



Modeling Protocol for Characterization of Air Quality

Federal Data Requirements Rule for the 2010 Sulfur Dioxide Standard

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Division of Environmental Quality
Air Pollution Control Program
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Jefferson City, Missouri 65101
Telephone (573) 751-4817**

September 2016

Project # 2010-SO2-5-DRR

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Table 1: Missouri SO₂ Sources affected by the DRR (January 2016 Submittal)

Table 2: SO₂ Ambient Monitor Network Table

Modeling Protocol for Characterization of Air Quality Federal Data Requirements Rule for the 2010 SO₂ Standard

1.0 Introduction

1.1 Purpose

This protocol outlines the approaches used by the Missouri Department of Natural Resources' Air Pollution Control Program (air program) in the modeling analyses performed to support the recommendations for the sources that elected to model as their preferred method of characterization or for modeling used to support siting new monitors. The air program utilized the AERMOD dispersion modeling system for these purposes. 40 CFR Part 51.1203(d) states that for sources characterized through air quality modeling, the air agency shall submit by July 1, 2016, a technical protocol for conducting such modeling to the Regional Administrator for review. The submission of this protocol on June 28, 2016, fulfilled the requirement outlined in 40 CFR 51.1203(d). This protocol is a fluid document that has since been and will continue to be revised to reflect the most recent methodologies.

On August 21, 2015, the U.S. Environmental Protection Agency (EPA) published the final sulfur dioxide (SO₂) Data Requirements Rule¹ (DRR) to establish a timetable and other requirements for the characterization of current air quality around large sources of SO₂ emissions. As stated in §51.1202, sources that emitted more than 2,000 tons of SO₂ in the most recent emission year [2014] must be characterized under the DRR. The DRR details two characterization options available to sources: modeling or monitoring. Alternatively, a source may elect to adopt federally enforceable emissions limitations to less than 2,000 tons per year to forego characterization under the DRR.

In January 2016, the air program submitted a list of sources affected by the DRR around which to characterize air quality to fulfill the requirement outlined in §51.1203(a). The sources being evaluated under the DRR are listed in Table 1 and displayed graphically in Figure 1. The air program used the most recent, certified emissions year to compare to the threshold established in the DRR. At the time of developing the list for submission to EPA in January 2016, the latest certified emissions year was 2014. In June 2016, the air program submitted a document detailing the method with which each of the affected sources' air quality is to be characterized. The air program concurrently submitted this modeling protocol for characterization of air quality under the federal DRR. The air program also made the annual ambient monitoring network plan available for public inspection in May 2016. These three items together fulfill the requirement outlined in §51.1203(b).

Table 1. Missouri SO₂ Sources affected by the DRR (January 2016 Submittal)

Map ID	FID	Plant Name	2014 Annual Actual Emissions (tons)
1	071-0003	AMEREN MISSOURI-LABADIE PLANT*	33,091
2	143-0004	NEW MADRID POWER PLANT-MARSTON	16,672
3	175-0001	THOMAS HILL ENERGY CENTER POWER DIVISION-THOMAS HILL	16,575
4	189-0010	AMEREN MISSOURI-MERAMEC PLANT	11,702
5	083-0001	KANSAS CITY POWER AND LIGHT CO-MONTROSE GENERATING STATION	8,604

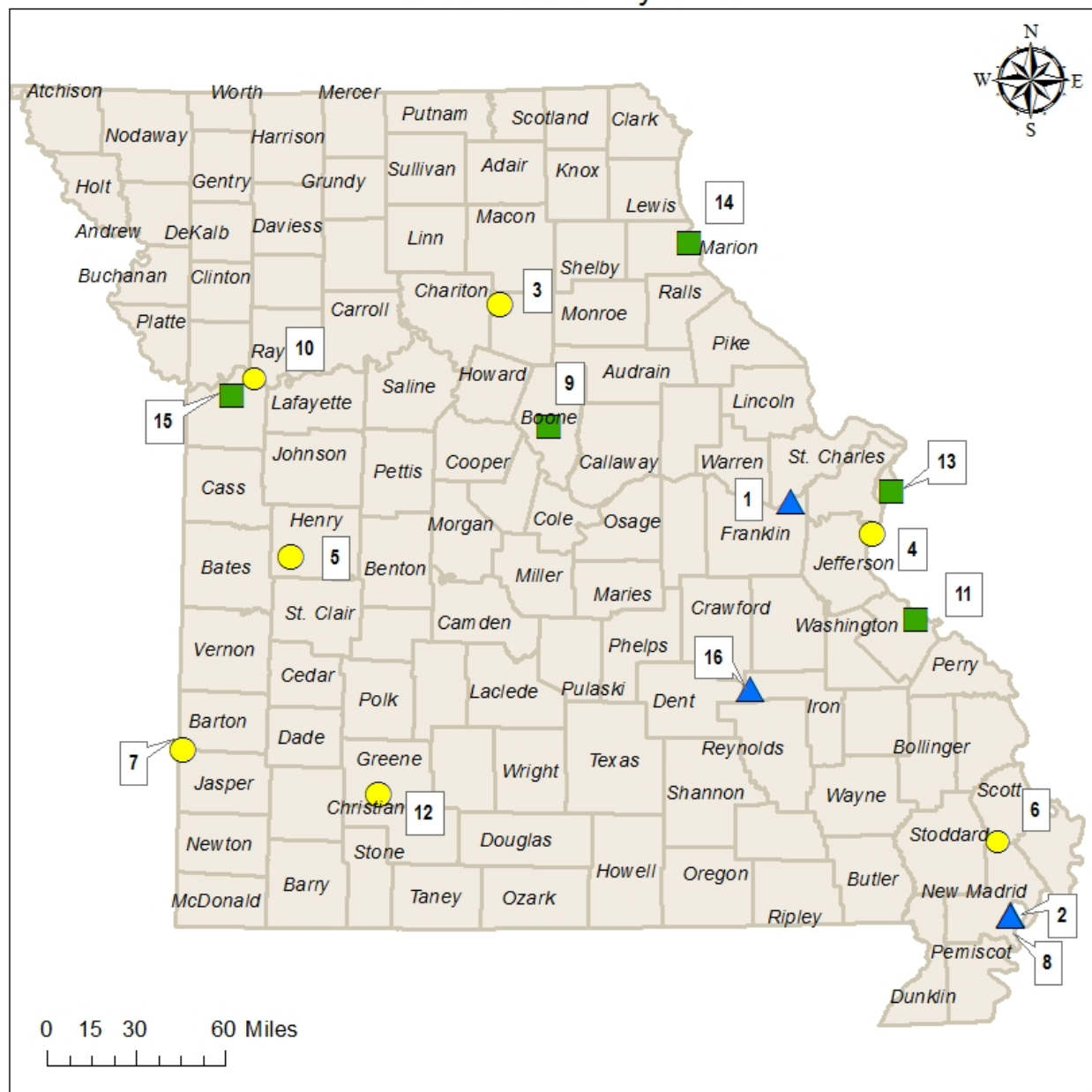
¹ EPA's Data Requirements Rule for the 2010 1-hour SO₂ Primary NAAQS; Final Rule, August 2015.
<https://www.gpo.gov/fdsys/pkg/FR-2015-08-21/pdf/2015-20367.pdf>

6	201-0017	SIKESTON POWER STATION-SIKESTON POWER STATION*	6,651
7	097-0001	EMPIRE DISTRICT ELECTRIC CO-ASBURY PLANT	6,318
8	143-0008	NORANDA ALUMINUM INC-NEW MADRID	5,323
9	019-0004	UNIVERSITY OF MISSOURI (MU)-POWER PLANT	5,171
10	095-0031	KCP AND L - GREATER MO OPERATIONS-SIBLEY GENERATING STATION*	4,847
11	186-0001	MISSISSIPPI LIME COMPANY-STE. GENEVIEVE	3,285
12	077-0039	CITY UTILITIES OF SPRINGFIELD MISSOURI-JOHN TWITTY ENERGY CENTER	3,021
13	510-0003	ANHEUSER-BUSCH INC-ST. LOUIS	2,867
14	127-0001	BASF CORPORATION-HANNIBAL PLANT	2,560
15	095-0050	INDEPENDENCE POWER AND LIGHT-BLUE VALLEY STATION	2,105
16	093-0009	DOE RUN –BUICK**	1,649

*Per the final DRR, sources identified in the March 2015 federal consent decree (CD) should be included on the list of sources required for characterization under the final DRR.

**Doe Run Buick's 2014 reported emissions are currently being reviewed for accuracy which may result in a change in the annual actual emissions for this facility.

2010 1-hour SO₂ Standard: Round 3 and 4 Sources affected by DRR



Legend

- Modeled Sources
- ▲ Monitoring Sources
- Limited Sources



Figure 1. Map of Missouri's affected sources in Table 1

1.2 Regulatory Discussion

On June 2, 2010, the EPA established a new 1-hour primary SO₂ National Ambient Air Quality Standard (NAAQS) of 75 parts per billion (ppb) [75 FR 35520, June 22, 2010] or approximately 196 micrograms per cubic meter (µg/m³). The 1-hour SO₂ NAAQS of 75 ppb replaced the 24-hour and annual primary SO₂ NAAQS of 140 ppb and 30 ppb, respectively. The 1-hour standard protects the public from adverse health impacts experienced during short-term exposures to SO₂. The form of the 1-hour standard is based upon a 3-year average of the 99th percentile of the annual distribution of daily maximum 1-hour average concentrations. The EPA finalized the secondary SO₂ standard on March 20, 2012, by retaining the current secondary standard, the 3-hour SO₂ standard of 500 ppb.

EPA is taking a phased approach to designations under the 2010 SO₂ standard. For the first round of designations, EPA designated 29 areas as nonattainment nationwide in July 2013. EPA designated two areas in Missouri as nonattainment, portions of Jackson and Jefferson Counties. This first round was based solely on monitored violations of the standard at existing monitor sites. The air program has addressed these two areas through separate nonattainment area plans submitted to EPA in 2015.

Subsequent rounds of designations are prescribed by a consent decree between EPA, the Sierra Club, and the Natural Resource Defense Council which was signed and entered by the court on March 2, 2015. The decree specifies a schedule for the EPA to complete SO₂ designations for the rest of the country in three additional rounds:

- Second round by July 2, 2016;
- Third round by December 31, 2017; and
- Final round by December 31, 2020.

To meet the first deadline, on June 30, 2016, EPA designated areas that contained either a newly violating monitor or a stationary source that according to the EPA's Air Markets Database:

- Emitted 16,000 tons of SO₂ in 2012; or
- Emitted 2,600 tons of SO₂ and had an average emission rate of at least 0.45 lbs. SO₂/MMBtu in 2012.

EPA designated the following areas of Missouri: portions of Jackson, St. Charles, and Franklin Counties as unclassifiable and Scott County as unclassifiable/attainment. [81 FR 45039]

The last two deadlines for EPA to complete remaining designations are December 31, 2017, and December 31, 2020. The designations completed by these later deadlines are to be made pursuant to the EPA's Data Requirements Rule (DRR) for the 1-hour SO₂ NAAQS. The final DRR was published in the Federal Register (FR) on August 21, 2015 [80 FR 51052]. The DRR establishes a timetable and other requirements for the characterization of current air quality around large sources of SO₂ emissions.

As stated in §51.1202, sources that emitted more than 2,000 tons of SO₂ in the most recent, quality assured emission year [2014], excluding sources in previously designated nonattainment areas, must be evaluated under the DRR. The DRR details two characterization options available to sources: modeling or monitoring. Alternatively, a source may elect to adopt federally enforceable emissions limitations to less than 2,000 tons per year to forego characterization under the DRR.

EPA established the "Data Requirements for Characterizing Air Quality for the Primary SO₂ NAAQS" in Subpart BB, §51.1200 through §51.1205. When EPA finalized the SO₂ DRR, they also released two draft guidance documents to aid state agencies in their characterization of air quality around affected sources. These two draft guidance documents are the "SO₂ NAAQS Designations Modeling Technical Assistance

Document²” and the “SO₂ NAAQS Designations Source-Oriented Monitoring Technical Assistance Document³” (TAD). The purpose of the TADs is to aid in the technical aspects of using these methods for designation purposes. Sources affected by the DRR that choose to install new ambient SO₂ monitors to characterize air quality must also rely on dispersion modeling to site the new monitoring stations. The source-oriented monitoring TAD details how dispersion modeling for monitor siting should be performed. Although similar to modeling for compliance determinations, differences do exist. These differences are explained in the applicable sections below.

EPA’s draft guidance document entitled “*Guidance for 1-hour SO₂ NAAQS SIP Submissions*⁴” recommends the use of the AERMOD modeling system, EPA’s preferred near-field dispersion model, for all SO₂ analyses. The EPA document titled “*Updated Guidance for Area Designations for the 2010 Primary Sulfur Dioxide National Ambient Air Quality Standard*⁵” released March 20, 2015, provides information on the recommended process for designating areas under the 2010 revised SO₂ NAAQS. This guidance also recommends the use of the AERMOD modeling system for the purpose of modeling to support area recommendations. Air program staff developed ambient air quality inputs based upon the criteria outlined in 40 CFR Part 51 Appendix W, “*Guideline on Air Quality Models*⁶.” EPA provides these guidelines to ensure consistency among agencies performing modeling for various regulatory and non-regulatory purposes. Appendix W covers many different modeling applications. EPA has proposed updates to the guidelines in Appendix W but the air program will continue to follow the existing provisions until the changes have been finalized.

The air program will submit final area boundary recommendations, for the areas surrounding affected sources, to EPA by January 13, 2017, for modeled areas. For areas with newly sited monitors, the recommendations will be based on quality assured data for 2017 through 2019. EPA is required by court order to finalize designations for modeled areas by December 31, 2017, and by December 31, 2020, for all remaining areas.

1.3 SO₂ Ambient Monitoring Sites

The department monitors ambient SO₂ levels at various locations throughout Missouri as shown in Table 2 and Figure 2. Nearby monitors in Kansas and Illinois are also included in the table and map. Since the SO₂ standard was revised in 2010, EPA has voiced concern over the currently limited coverage of the SO₂ ambient monitoring network nationwide. For this reason, EPA has adopted a hybrid approach to designations under the 2010 standard, relying on both monitoring and modeling data to characterize air quality across the nation.

SO₂ is a primarily source-oriented pollutant; therefore existing regional trend monitors would not be properly placed to capture peak impacts from a single source. Historically, most monitors were sited to measure multiple pollutant concentrations and regional trends, such as ozone. A monitor sited for ozone but that has a collocated SO₂ analyzer would be beneficial but may not be properly sited to capture source-specific SO₂ impacts.

² EPA’s draft SO₂ NAAQS Designations Modeling Technical Assistance Document, February 2016.

<https://www3.epa.gov/airquality/sulfurdioxide/pdfs/SO2ModelingTAD.pdf>

³ EPA’s draft SO₂ NAAQS Designations Source-Oriented Monitoring Technical Assistance Document, February 2016. <https://www3.epa.gov/airquality/sulfurdioxide/pdfs/SO2MonitoringTAD.pdf>

⁴ EPA’s draft Guidance for 1-hour SO₂ NAAQS SIP Submissions, October 2011. https://www3.epa.gov/airquality/sulfurdioxide/pdfs/DraftSO2Guidance_9-22-11.pdf

⁵ EPA’s Updated Guidance for Area Designations for the 2010 Primary Sulfur Dioxide National Ambient Air Quality Standard, March 2015. <http://www.epa.gov/airquality/sulfurdioxide/pdfs/20150320SO2designations.pdf>

⁶ EPA’s Guideline on Air Quality Models (Appendix W), November 2005. https://www3.epa.gov/scram001/guidance/guide/appw_05.pdf

The network of department-maintained monitors is currently not extensive enough to capture peak impacts from all sources affected by the DRR; therefore dispersion modeling or new source-oriented monitors must be used to characterize air quality. EPA is requiring the use of modeling for designation purposes unless new ambient monitors can be sited to capture peak impacts.

Table 2. SO₂ Ambient Monitor Network Table

Missouri Sulfur Dioxide Site Summary						
Site Name	AQS Site I.D.	County	Latitude	Longitude	Elevation (ft)	Design Value 13-15 (ppb)
Mark Twain State Park	29-137-0001	Monroe	39.48	-91.79	710	8
Buick NE	29-093-0034	Iron	37.65214	-91.11689	1458	60
Herculaneum Mott Street	29-099-0027	Jefferson	38.263394	-90.379667	468	66
Blair Street	29-510-0085	St. Louis City	38.656498	-90.198646	450	36
Margaretta	29-510-0086	St. Louis City	38.673221	-90.239166	514	19
Wildwood Lane	29-077-0040	Greene	37.108959	-93.25297	1231	*
James River South	29-077-0037	Greene	37.104461	-93.253337	1227	25
South Charleston	29-077-0026	Greene	37.12263	-93.263353	1234	26
Troost**	29-095-0034	Jackson	39.104758	-94.570796	971	141
Rider Trail I-70 Site	29-189-0016	St. Louis	38.75264	-90.44884	488	***
Kansas Sulfur Dioxide Site Summary						
JFK	20-209-0021	Wyandotte	39.117219	-94.635605	850	47
Illinois Sulfur Dioxide Site Summary						
East St. Louis	17-163-0010	Saint Clair	38.612034	-90.160477	410	22
South Roxana Grade School	17-119-1010	Madison	38.828303	-90.058433	440	18
Wood River Water Plant	17-119-3007	Madison	38.860669	-90.105851	430	26
*Monitoring Discontinued on 5/31/2014						
**Violating Monitor						
***Began monitoring SO ₂ at this site in May 2016						

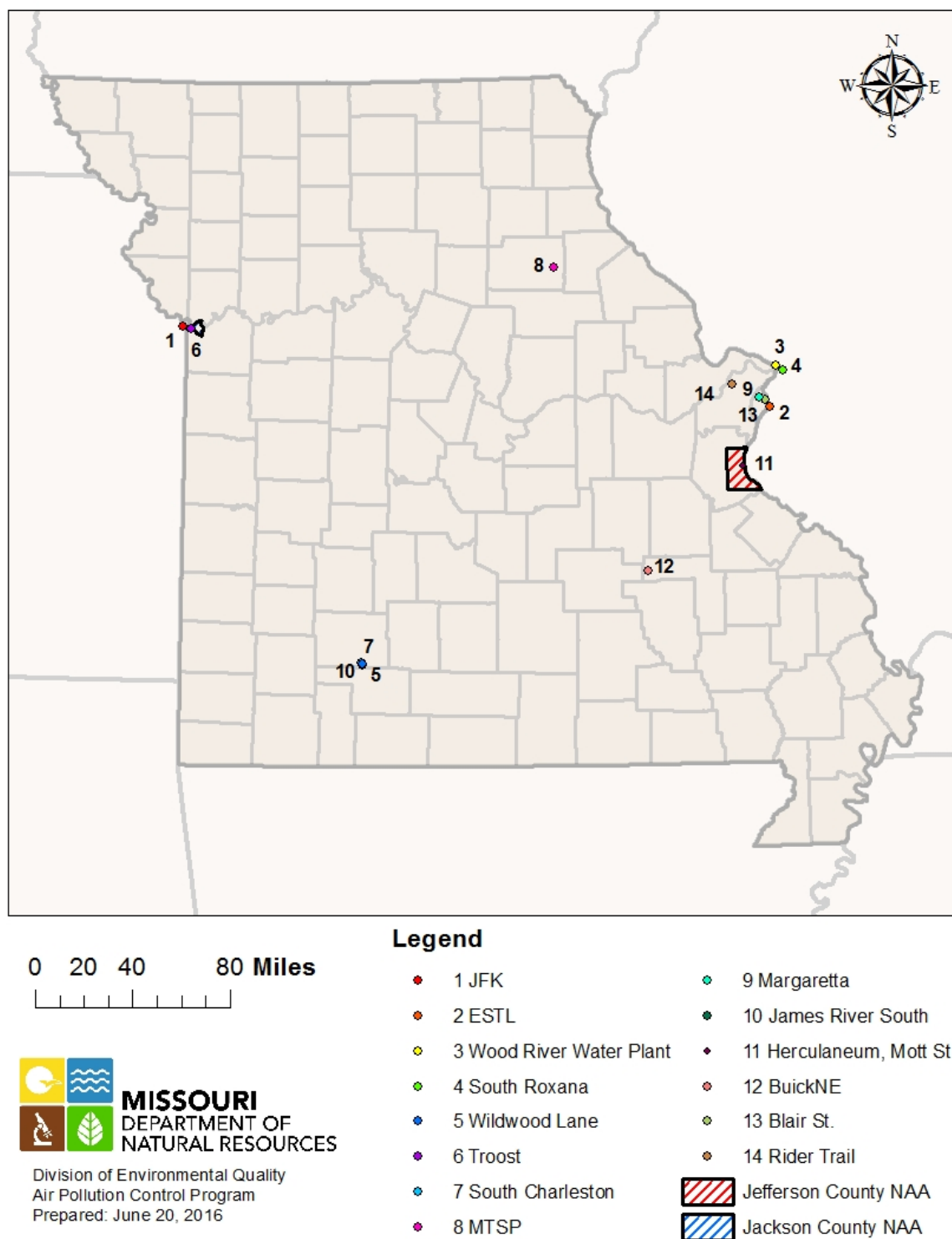


Figure 2. Map of Department-Maintained SO₂ Monitoring Network Sites

1.4 SO₂ Implementation

The preamble of the 1-hour SO₂ NAAQS rule states that SIPs must be submitted for all areas—whether designated attainment, nonattainment, or unclassifiable—demonstrating they are attaining and maintaining the standard through permanent and enforceable measures. The first round of designations was based solely on existing monitored violations. The two first round nonattainment areas in Missouri

are addressed through their respective nonattainment area plans that were submitted to EPA in 2015. EPA has acknowledged that the existing SO₂ monitoring network is limited in its scope so the agency adopted a new approach to designate areas as attaining or not attaining the standard. As previously mentioned, the final DRR and associated TADs detail the methods with which EPA expects to designate remaining areas under the 2010 1-hour SO₂ standard.

To date, EPA has provided the memoranda and guidance documents listed below to assist with implementation of this standard:

- Final Rule, “Data Requirements Rule for the 1-Hour Sulfur Dioxide (SO₂) Primary National Ambient Air Quality Standard (NAAQS),” published in the Federal Register on August 21, 2015. <https://www.gpo.gov/fdsys/pkg/FR-2015-08-21/pdf/2015-20367.pdf>
- “SO₂ NAAQS Designations Modeling Technical Assistance Document,” draft released August 2016. <https://www.epa.gov/sites/production/files/2016-06/documents/so2modelingtd.pdf>
- “SO₂ NAAQS Designations Source-Oriented Monitoring Technical Assistance Document,” draft released February 2016. <https://www.epa.gov/sites/production/files/2016-06/documents/so2monitoringtd.pdf>
- “Updated Guidance for Area Designations for the 2010 Primary Sulfur Dioxide National Ambient Air Quality Standard,” March 20, 2015. <https://www.epa.gov/sites/production/files/2016-06/documents/20150320so2designations.pdf>
- “Guidance for 1-Hour SO₂ Nonattainment Area State Implementation Plan (SIP) Submissions,” memorandum from Stephen D. Page, April 23, 2014. https://www.epa.gov/sites/production/files/2016-06/documents/20140423guidance_nonattainment_sip.pdf
- “Guidance Concerning the Implementation of the 1-hour SO₂ NAAQS for the Prevention of Significant Deterioration Program,” memorandum from Stephen D. Page, August 23, 2010 <https://www.epa.gov/sites/production/files/2015-07/documents/appwso2.pdf>
- “Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO₂ National Ambient Air Quality Standard,” memorandum from Tyler Fox, March 1, 2011 http://www.epa.gov/ttn/scram/guidance/clarification/Additional_Clarifications_AppendixW_Hourly-NO2-NAAQS_FINAL_03-01-2011.pdf
- Guideline on Air Quality Models, 40 CFR Part 51, Appendix W http://www.epa.gov/ttn/scram/guidance/guide/appw_05.pdf
- “Applicability of Appendix W Modeling Guidance for the 1-hour SO₂ National Ambient Air Quality Standard,” memorandum from Tyler Fox, August 23, 2010 http://www.epa.gov/ttn/scram/guidance/clarification/ClarificationMemo_AppendixW_Hourly-SO2-NAAQS_FINAL_08-23-2010.pdf

2.0 Air Quality Model

The AERMOD system was developed through a collaborative effort between the American Meteorological Society (AMS) and the EPA. AERMOD is a steady-state plume model that employs Gaussian and bi-Gaussian probability density functions to characterize the structure of the planetary boundary layer. AERMOD can predict the concentration distribution of pollutants from surface and elevated releases located within simple or complex terrain. The model allows for the input of multiple sources, terrain elevations, structure effects, various grid receptors, wet and dry depletion calculations, urban or rural terrain, and averaging periods ranging from one hour to one year.

The AERMOD modeling system was used to determine compliance with the 1-hour SO₂ NAAQS. AERMOD is the preferred model for determining pollutant impacts from industrial source complexes where emissions are released from a variety of source types. The most recent model versions (v) were

used in these analyses. The most recent versions, as of the time of protocol development, are as follows: AERMOD v15181, AERMET v15181, AERMAP v11103, AERSURFACE v13016, AERMINUTE v15272, and BPIPPRIME v04274.

2.1 Modeling Conditions

Staff executed AERMOD and its corresponding preprocessors in a disk operating system (DOS) windows interface. Regulatory default options within the modeling system are set using the MODELOPT keyword contained within the control pathway of the air quality model. Staff included terrain elevation data and stack-tip downwash calculations.

AERMOD contains a modeling option for urban areas that experience a nighttime heat island effect that creates a “convective-like” boundary layer with increased dispersion. The Guideline on Air Quality Models, Appendix W (November 2005) section 7.2.3 instructs users to define the urban or rural classification of the area considering land use and population density. The land use procedure in Appendix W 7.2.3(c) classifies urban areas based on industrial, commercial, and residential land use over 50% within a 3 km radius of the source. The population density threshold of the 3 km radius surrounding each facility is compared to the urban threshold of 750 people per square kilometer. Both the land use and population density guidelines in Appendix W were used to assess the urban characteristics of the area surrounding each facility.

The AERMOD Implementation Guide (March 2009) section 5.1 guides users to apply the urban option as in Appendix W, but provides additional guidance. Urban complexes should be considered together when making the urban determination, even if single sources would be considered rural. When the urban heat island effect is expected to influence the full modeling domain, the urban option is recommended to capture the regional nature of the nighttime dispersion effect. The guidance also considers tall stacks to be transported above an urban heat island boundary layer height. Both Appendix W and the Implementation Guide were considered when determining whether to use rural or urban nighttime dispersion characteristics to represent a facility’s surroundings.

3.0 Modeling Database Development

Refined air quality analyses included SO₂ sources, within each modeling domain, determined to have an impact near the area of interest and that are not accounted for as part of the regional background concentration. All permitted SO₂ sources, located within 20 km (and up to 50 km) of each affected source, were evaluated for a potential impact on the area being modeled based on the level of their actual emissions and their proximity to the primary source. The following paragraphs outline the procedures used to ensure consistent and comprehensive air quality reviews. The modeling source inventories and source parameters used in the modeling evaluations for each area are detailed in the final boundary recommendation document. All pertinent modeling files (or excerpts) are included as attachments to the final area recommendation document. Unless otherwise noted, the modeled source inventories are based on emission years 2013-2015, which is the most recent 3-year period available at the time of recommendations. The following paragraphs outline the assumptions employed by air program staff in the development of the model input files.

3.1 Base Run Analysis for Affected SO₂ Sources

A base run model analysis was performed for each source identified in Table 1 that elected to model. The base run model analysis reflects current actual emissions for each SO₂ source to be included in the model. Actual emissions were used in the modeling to act as a surrogate for monitored data where no monitors currently exist. The goal of the DRR is to characterize the actual, current, ambient air quality surrounding each of the affected sources.

Permanent and enforceable emission rates may alternatively be used in designations modeling if a source elects to do so. In addition, a combination of actual and enforceable emission rates can be used. Actual emissions were used unless otherwise noted, and the specifics of emission rates used are detailed in the final boundary recommendation document and appendices.

Affected sources and any nearby interactive sources were contacted to confirm the accuracy of site specific model input information on a case-by-case basis. Detailed information characterizing applicable sources was collected and confirmed. This information includes the following:

1. Facility wide SO₂ equipment list,
2. Actual reported emissions (or Potential to Emit (PTE)) for each piece of equipment identified in item #1, including information regarding varying load scenarios, if applicable,
3. A description of equipment usage in order to identify sources that fall into the intermittent source category,
4. Identification of federally enforceable limits contained within construction permits, operating permits, consent decrees or other state and federal rules (if applicable),
5. Release parameters and source locations for each process unit or stack,
6. Property boundary, and
7. Building locations and heights.

3.2 Source Emission Rates

As laid out in EPA's draft modeling TAD, modeling for designation purposes should be done using actual emissions to act as a surrogate for monitoring. Hourly emissions, recorded by Continuous Emissions Monitoring Systems (CEMS), are the best option for source characterization, but for sources without hourly recorded emissions, additional justification is given.

Unless otherwise noted, the emission rates utilized in the air quality model reflect recent actual emissions for the affected sources. If available, actual hourly emissions will be obtained through CEMS data reported to EPA's Clean Air Markets Division (CAMD) database and paired with corresponding hourly meteorological data to simulate actual conditions. Hourly varying emission rates will be input into the model using the SO HOUREMIS keyword. AERMOD has several options for emissions to temporally vary within the model, not only on an hourly basis.

If hourly measured emissions are not available, variable emission factors can be used based on production or operating schedules. Additional information on how varying emission rates/factors can be used in AERMOD can be found in the EPA's SO₂ Modeling TAD. If variable emission rates are not available, annual reported emissions must be used. The air program will evaluate whether a reduced or variable load emission rate would be more accurate to represent actual conditions. If a source chooses to model using permanent and enforceable emission rates, this deviation was noted.

Interactive sources, if applicable, were modeled using annual actual emissions as reported to the Missouri Emissions Inventory System (MoEIS) for 2014, unless variable emission rate data was available or as otherwise noted.

Modeling performed for the purpose of siting monitors is also performed using actual emissions. However, the monitoring TAD details using normalized emission rates for all sources, and this method was used where possible. Normalized emission rates are a relative percentage of actual emissions. Modeling of normalized emission rates results in normalized design values (NDVs) at each receptor. This allows the user to focus the analysis on peak impact areas.

3.3 Emission Release Parameters

Accurate emission release parameters are required inputs to the air quality model to predict pollutant dispersion. The document titled “User’s Guide for the AMS/EPA Regulatory Model AERMOD” outlines the source classification system that is used by the AERMOD modeling system in order to characterize emission releases within the input file.

In these SO₂ modeling analyses, the majority of emissions releases are stack driven releases with parameters based upon information provided by the facility or obtained from the MoEIS. Sources affected by 40 CFR Part 75, Part 60, or other regulations that require CEMS, may also be required to record volumetric flow rates (submitted in units of measure at standard conditions) to the EPA’s database. These sources also record hourly stack temperature. The hourly recorded temperatures allow the standard condition flow rates to be converted to actual condition flow rates. Actual condition flow rates are used to obtain hourly varying exit velocities. The hourly emissions file for AERMOD allows the input of hourly varying stack exit temperature and exit velocity. Certain facilities record exit velocity directly which bypasses the need for additional conversions or calculations. In that case, directly measured velocity was utilized in the modeling. However, as noted, most facilities only record and report flow in units of measure at standard conditions. To convert from standard to actual flow conditions the air program used 293 Kelvin (or 20 degrees Celsius) for standard temperature. This is referenced in Section 6 of Appendix F to 40 CFR Part 75⁷.

When gaps in hourly recorded data occur, the variable release parameter values were filled by averaging the surrounding hours’ measurements when nonzero emissions are reported. When emissions are zero, the release parameters may also be zero without consequence. These substitutions are performed in the calculation spreadsheet for each facility unless otherwise noted.

Using hourly varying parameters allows for the most accurate approximation of actual conditions, and was used where available. Otherwise, static release parameters were used. Any available release parameters were evaluated for use including: MoEIS reported values, stack testing values, and representative emission release parameters obtained through other trustworthy avenues. When necessary, the air program also considered variable or reduced load scenarios to ensure the most representative release parameters were used.

Point source emissions are vented through stacks or isolated vents. In order to assign the point source release parameters, the model requires the following information regarding the location and the nature of the emission releases:

1. Stack height,
2. Stack exit temperature,
3. Stack exit velocity, and
4. Stack diameter.

Stack parameters provided by affected sources and all modeled facilities were verified and are included in appendices to the final boundary recommendation document. AERMOD and its preprocessors require all inputs to be in the metric system so parameters were converted to metric where necessary.

When specific stack data is unavailable, the release point was characterized as a volume source within the model input file. Each volume source release is limited to the size of openings from which emissions escape, such as doorways. If no site-specific release characteristics are available, parameters for common volume sources were assigned, such as emergency generators, heaters, etc. The model input files included as appendices to the final recommendation document detail the specific parameters utilized.

⁷ 40 CFR Part 75 Appendix F. <https://www.gpo.gov/fdsys/pkg/CFR-2014-title40-vol17/pdf/CFR-2014-title40-vol17-part75-appF.pdf>

3.4 Model Domain & Receptor Grid

The modeling domain is centered on each affected source/area. This is to determine the interactive contribution from surrounding sources. Each modeling domain extends sufficiently far in an effort to define the impact from any source that may cause or contribute to a violation of the 1-hour SO₂ NAAQS. All NAAQS compliance determinations considered the maximum impact area and the addition of alternative domain configurations if necessary. The modeling domain was determined on a case-by-case basis in order to properly address interactive source impacts.

The air program developed the receptor grid for input into the air quality model. It is resolved enough to adequately identify the area of maximum impact from fugitive and point source releases and encompasses the full extent of possible modeled NAAQS violations. For each affected source/area, receptors are placed at 50-meter (m) intervals along the property/area boundary. From the domain origin, a multi-tier grid of varied receptor spacing was used to account for both nearby and distant concentration gradients. For these analyses, onsite receptors (i.e. areas located inside a plant boundary or which are precluded from public access) are not defined as ambient air, therefore are not compared to the NAAQS.

Receptors were spaced as follows:

- Center to 1 kilometer (km), receptors are placed at 100m intervals
- 1km to 3.5km, receptors are placed at 250m intervals
- 3.5km to 10km, receptors are placed at 500m intervals
- 10km to 20km, receptors are placed at 1000m intervals

In certain cases, the receptor grid was extended to cover an entire geographic area, such as a full county or group of counties to aid in the setting of attainment area boundaries that are made up of easily identifiable jurisdictional boundaries. When the receptor grid varies from as outlined above, it is noted in the final recommendation document and appendices.

The receptor grid, like the domain, is centered on the affected source/area. If necessary, additional receptors were placed upon each area of maximum impact that is identified. These ‘hot spot analyses’ were performed when necessary to ensure maximum impacts were properly captured.

When determining compliance with the NAAQS, the EPA requires that, at a minimum, all nearby sources be modeled. Historically, nearby has been defined as any source that is expected to cause a significant concentration gradient in the vicinity of a monitor/source that is under review. The air program has deemed 20 kilometers a sufficient distance to capture impacts from all nearby sources that are expected to cause or contribute to violations near an affected source/area. This is consistent with recently issued notification letters EPA sent to states regarding the federal consent decree and affected sources. In these letters, EPA referenced 20 km as a threshold for indicating if an affected source was ‘nearby’ a neighboring state.⁸ Where special instances arise they were reviewed on a case-by-case basis.

Actual emissions from SO₂ sources, located within 20 km (or up to 50 km) of an affected source/area, were used to determine inclusion in the model. A one (1) ton per year emissions threshold was the basis to determine if a source should be explicitly included in the modeling inventory. The data needed to execute the air quality analysis was obtained from MoEIS. Since the model domain extended beyond the state boundary in certain analyses, interactive source inventories were obtained from bordering states, and the data was incorporated into the air quality analysis as necessary.

⁸ <https://www.epa.gov/sulfur-dioxide-designations/so2-designations-round-2-state-recommendations-and-epa-responses>
<https://www.epa.gov/sites/production/files/2016-04/documents/states-tribes-within-20km-of-cd-source.pdf>

The receptor grid for modeling for monitor siting is similar but less rigid since the modeling is not being used for compliance determinations. The grid would be comprised of receptors spaced at 250 m from the origin to 10 km and receptors spaced at 500 m from 10 km to 20 km. Receptors may be removed where a monitor could not feasibly be sited, such as bodies of water.

3.5 Terrain Elevations

In addition to assigning receptor locations, the AERMOD system allows the user to input information regarding the terrain surrounding the facility. AERMOD is capable of calculating air pollutant concentrations for terrain that can be classified as simple, flat, complex, or mountainous land. To calculate concentrations in complex or mountainous terrain situations, AERMOD must have information about the surrounding terrain and its features. To aid in the definition of the terrain features, EPA developed a pre-processor, AERMAP (version 11103) to search terrain data for base elevations and features that may influence the dispersion of pollutants within the modeling domain. Outstanding features are assigned an elevation that is referred to as the hill height scale and that value must be included in the AERMOD input file.

The air program used National Elevation Data (NED) in the GeoTIFF format from the United States Geological Survey (USGS) Seamless Data Server, processed through the AERMAP program, to obtain the base elevation for each receptor and source within the modeling domain. In addition, the hill height scale for each receptor was extracted to determine terrain influences within the modeling domain. All source, receptor, and terrain elevation data was converted to UTM Zone 15 in the NAD83 geodetic datum.

3.6 Determination of Surface Characteristics & Meteorological Data Selection

Because AERMOD does not accept raw meteorological data, it must be processed through AERMET (version 15181), the meteorological data pre-processor for the AERMOD modeling system. AERMET extracts and processes meteorological data to calculate the boundary layer parameters that are used to estimate pollutant concentrations within the atmosphere.

To accurately calculate the boundary layer parameters in AERMET, the meteorological model must have information about the land use that surrounds the meteorological site, specifically: surface roughness, albedo, and Bowen ratio. To provide a consistent method for determining surface characteristics, the EPA developed a mathematical tool, AERSURFACE, to determine surface roughness, Bowen ratio, and albedo values for input into AERMET. The AERSURFACE user guide⁹ describes how these three surface characteristics relate to approximating convective and thereby dispersion conditions,

“The surface roughness length is related to the height of obstacles to the wind flow and is, in principle, the height at which the mean horizontal wind speed is zero based on a logarithmic profile. The surface roughness length influences the surface shear stress and is an important factor in determining the magnitude of mechanical turbulence and the stability of the boundary layer. The albedo is the fraction of total incident solar radiation reflected by the surface back to space without absorption. The daytime Bowen ratio, an indicator of surface moisture, is the ratio of sensible heat flux to latent heat flux and, together with albedo and other meteorological observations, is used for determining planetary boundary layer parameters for convective conditions driven by the surface sensible heat flux.”

Air program staff executed AERSURFACE (version 13016) with the default values described below:

Bowen ratio

- Ten kilometer by ten kilometer domain centered on the site.

⁹ AERSURFACE User's Guide, January 2008.

https://www3.epa.gov/scram001/7thconf/aermod/aersurface_userguide.pdf

Albedo

- Ten kilometer by ten kilometer domain centered on the site.

Surface roughness length

- Default upwind distance of one kilometer centered on the site.
- Twelve, 30 degree meteorological sectors.

Air program staff executed AERSURFACE using default options, including seasonal assignment intervals. Where onsite meteorological data are collected for the facility being modeled, no additional surface characteristics analysis is needed. For the modeled sources to be designated by December 2017, sufficient onsite data is not currently available. Therefore, the air program determined the most representative meteorological stations operated by the National Weather Service (NWS) for evaluation.

Because the surface characteristics significantly influence the dispersion profiles within AERMOD, the user must determine if the surface characteristics at the meteorological site are representative of the conditions at the facility site. To accomplish this, air program staff developed surface characteristics for multiple airports across the state for each moisture condition: average, dry, and wet conditions. The results from the AERSURFACE analysis for each airport were summarized in an excel template developed by the air program to help analyze NWS data. This template enables the user to input facility surface characteristics from AERSURFACE for comparison to each airport based upon characteristics of surface roughness, albedo, Bowen ratio, land use classifications, proximity, and aerial photography.

Air program staff executed AERSURFACE for each affected source/area for input into the excel template described above. The most representative surface and upper air reporting sites were then selected for each source/area (see Section 3.7 for selection details).

3.7 Meteorological Data

As laid out in the SO₂ Modeling TAD, the most recent three (3) years of representative meteorological data is to be used with concurrent emissions data (hourly as available) to act as a surrogate for monitoring data for designations purposes under the 1-hour SO₂ standard.

Air program staff selected meteorological data based upon the spatial and temporal characteristics of each affected source/area. Ultimately, site selection considers the proximity of the collection site to the area of interest, the complexity of the terrain in the area surrounding the source/area, the exposure of the meteorological sensor, and temporal variations in the local climate.

Meteorological data is collected by NWS reporting stations located at most large airports. Most NWS meteorological datasets include 1-minute Automated Surface Observing System (ASOS) wind data. The 1-minute ASOS data is obtained from the National Climatic Data Center in the TD-6405 data format that includes the 2-minute average wind speed and direction for each minute within an hour. The use of 1-minute ASOS data more accurately depicts the average hourly wind flow than single instantaneous readings of wind speed and direction. The 1-minute ASOS data was processed through AERMINUTE (v15272) prior to input into the AERMET processor. Where possible the air program used minute-level ASOS data.

It is important to note that the Bowen ratio characteristics applied in Stage 3 AERMET processing are determined based upon the precipitation totals from the meteorological record for the time period being processed. For example, if the meteorological period reported above-average precipitation totals for 2015, the Bowen ratio values for wet surface moisture will be chosen for Stage 3 processing in AERMET for 2015. Each of the weather reporting stations in Missouri has a climatological comparison site in cases where the historical precipitation record is not available for the required full 30 year comparison. The comparison sites are noted in the AERSURFACE template along with the full precipitation record.

The map contained in Figure 3 visually depicts the regional choices available for surface and upper air reporting sites.

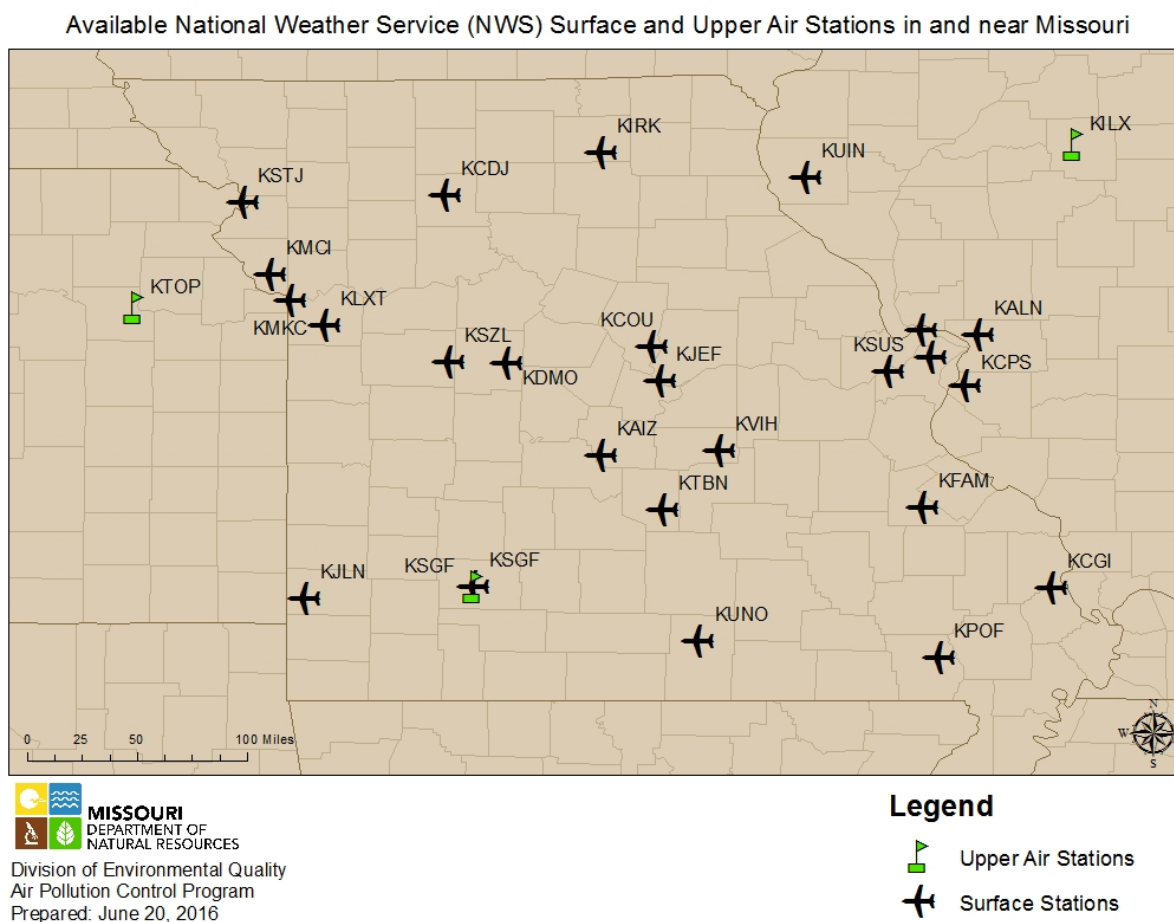


Figure 3. Surface and Upper Air Reporting Sites

The air program provides documentation for each affected source/area detailing the selection of the most representative meteorological station for use in the modeling demonstration, along with all supporting evidence. An air program staff meteorologist performed the meteorological evaluation for each source/area and developed a recommendation memorandum for the chosen meteorological dataset. Excerpts of these memorandums are included in the respective appendices to the recommendation document and are available in full for review upon request.

3.8 Building Downwash

Building downwash is calculated using the Building Profile Input Program (BPIP) with plume rise model enhancements (PRIME), version 04274. Information required to execute BPIP PRIME includes the heights and locations of structures which may contribute to building downwash and the stack locations in relation to these structures. Based upon facility configuration, the air program determined if a stack is subjected to wake effects from a surrounding structure(s). If structure wake effects are evident, flags will be set to indicate which stacks are affected by building wake zones. For stacks influenced by a structure, BPIP PRIME calculates the building heights and widths to be included in the dispersion model so that

building downwash effects are considered. Staff evaluated building parameter information for all pertinent sources in the modeling analyses.

3.9 Good Engineering Practice Stack Height

Good engineering practice (GEP) stack height refers to the height at which emission releases from isolated stacks or vents will not cause excessive ground level concentrations in the immediate vicinity of a source due to building downwash effects, or complex terrain. Section 123 of the CAA limits the modeling stack height to GEP when performing air quality analyses in an effort to prevent facilities from installing excessively tall stacks to meet air quality standards. When modeling permanent and enforceable (or potential-to-emit) emission rates, GEP stack height is used. However, as outlined in the SO₂ modeling TAD, when modeling for designation purposes using actual emissions; actual stack height is used to allow the model to act as a surrogate for monitoring.

If GEP stack height was determined, air program staff referenced EPA's *Guideline for Determination of Good Engineering Practice Stack Height (Technical Support Document for the Stack Height Regulations)*¹⁰.

4.0 Background Concentrations

4.1 Background Concentrations Analysis

According to 40 CFR Part 51, Appendix W, background concentrations must be considered when determining compliance with the NAAQS. To account for natural source impacts, sources that are not explicitly modeled, and unidentified sources: recent monitoring data is to be used to establish background concentrations. Established background concentrations are then incorporated into the model results. The following paragraphs outline the procedures that were used to determine representative background concentrations.

The air program developed and submitted to EPA Nonattainment Area (NAA) plans for the two first round NAAs: portions of Jackson and Jefferson Counties. During the development of these plans, thorough background concentration analyses were performed. These analyses yielded an urban background concentration of 13 ppb used for Jackson County and a rural background concentration of 9 ppb used for Jefferson County. These established 'rural' and 'urban' concentrations may be used in the future for areas of each respective classification. The land use classification procedure is discussed in section 2.1 Modeling Conditions of this protocol. The choice of background SO₂ concentration is dependent on many factors other than the urban heat island effect (or land use classification). The outstate monitor located in Mark Twain State Park (AQS Site ID: 29-137-0001) may also be used to represent background concentrations in model analyses. The three year design value for the Mark Twain State Park monitor for 2013-2015 is 8 ppb. Background concentration analyses and their corresponding justification are specific to each modeled area therefore explicit documentation of the chosen background concentration is discussed in the final boundary recommendation document and appendices for each area separately.

4.2 Monitor Analysis

The following paragraphs detail the procedures used in establishing the background concentrations used in the first round nonattainment area plans. These concentrations may also be used for model analyses of other areas if deemed representative.

¹⁰ EPA's Guideline for Determination of Good Engineering Practice Stack Height (Technical Support Document for the Stack Height Regulations), June 1985. <https://www3.epa.gov/scram001/guidance/guide/gep.pdf>

EPA guidance notes that ambient air quality data should generally be used to account for background concentrations. During NAA plan development, staff used 1-hour design value data for the most recent 3-year period, at that time, (2010-2012) to develop background concentrations and to perform a thorough background analysis using monitored values. Monitored background values are based on the design value of the nearest representative air quality monitor that is the least influenced by nearby SO₂ sources.

Background concentrations include impacts attributable to natural sources, nearby sources (excluding primary and interactive modeled sources), and unidentified sources. This derived background concentration accounts for all sources of SO₂ not already included in the model runs. Emissions from nearby point source facilities that are included in the model run as an interactive source will not be included in the background concentration.

In general, the background value was calculated similarly to design values at air quality monitors, in order to be comparable to the SO₂ NAAQS. A monitoring site near but outside the immediate area of source impact, that has SO₂ concentrations and wind direction measurements for the most recent certified three-year period, was selected for further analysis. Threshold concentrations were used to limit the monitored value sample size (and associated back trajectories). Statistical analyses including an Excel pivot table and chart were performed to visualize the frequency of the measured concentrations from certain wind directions. This is helpful in targeting a sector with the least amount of monitored days above the threshold concentration, which can most likely be attributed to the primary source(s). Using the Linux-based Hybrid Single-Particle Lagrangian Integrated Trajectory (HYSPLIT) model script, back trajectories were plotted to show where certain air parcels originated on days that monitored concentrations are above the threshold concentration. Impacts from primary sources are evident with groupings of trajectories. A sector with little to no source influence was chosen for further analysis. Considering measured concentrations from the chosen sector, the fourth highest (or 99th percentile) value is chosen as representative of the area's background concentration.

Due to the limited number of SO₂ air quality monitoring sites located within Missouri, staff reviewed the regional characteristics within five kilometers of the area to determine what monitoring station best represents the observed land use in and around each nonattainment area.

Since an urban monitor site was selected for both background analyses, staff determined which meteorological corridors are not influenced by explicitly modeled sources. The meteorological corridors are defined according to ten degree wind direction sectors. Staff reviewed the 1-hour profile for each meteorological corridor in order to determine a representative background value. As mentioned, statistical measures were employed in the determination of each background concentration.

For more detailed explanation of the methods used to approximate background concentrations for the first round nonattainment area plans, please refer to the full submittals located here:

<http://dnr.mo.gov/env/apcp/sips.htm#sulfurdioxide>

5.0 Post-processing for Siting Monitors

Specific post-processing of model results is performed to determine where new ambient air quality monitors should be sited to properly characterize areas of high impacts due to the primary source's SO₂ emissions. EPA's monitoring TAD details how the model results should be used to site new ambient air quality monitors. Modeling of normalized emission rates results in normalized design values (NDVs) at each modeled receptor location. These NDVs are then analyzed to determine the most desirable siting locations. In the TAD, the post-processing includes using the MAXDAILY output option in AERMOD for the highest concentration receptors, for example the highest 300 receptors can be used. This output option allows us to determine the frequency with which a receptor registers a daily maximum concentration. The MAXDAILY option gives the maximum 1-hour concentration for each receptor for

each day. This output is used to rank the areas by the total number of days that an individual receptor has a 1-hour daily maximum concentration for the modeled time period. Sorting by this frequency/number of occurrences is one way to determine a desirable monitoring site location.

The monitoring TAD also describes a method of scoring to determine possible monitoring locations. The scoring method creates a relative prioritized list of receptor locations for monitor siting using both NDVs and 1-hour daily maximum concentration frequencies. This strategy provides a list of receptor locations, ranked in general order of desirability with regard to potential siting of permanent source-oriented SO₂ monitors. Lower numerical scores indicate higher probability of capturing peak 1-hour SO₂ concentrations in the modeled domain. The score is the best way to determine potential monitoring site locations as it accounts for both modeled high concentrations and the frequency with which a receptor models high concentrations.

All the post-processing as described was utilized to determine the most desirable monitor site locations for sources that elected to install new ambient air quality monitors. Once the modeling analysis was complete, the site locations were visited and reviewed for siting criteria. Quality Assurance Project Plans (QAPPs) were also required to be submitted prior to final site approval. All monitors being sited to comply with the DRR are included in Missouri's 2016 annual Monitoring Network Plan. The network plan undergoes public inspection and must be submitted to EPA annually. The air quality analysis section of the air program oversees this effort and worked closely with the planning section as the monitors were being sited.

Appendix D

Modeling Files – Magnitude 7 Metals and New Madrid Power Plant

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

This appendix includes modeling files used in the technical evaluation of Magnitude 7 Metals and New Madrid Power Plant. Some files are included in full while others are excerpted due to size, however all files are available in full digital format by request to the air program.

Full AERMOD Input file

```
CO STARTING
  TITLEONE Magnitude 7 Metals - MDNR Analysis
  TITLETWO SO2 NAAQS
  MODELOPT DEFAULT CONC
  AVERTIME 1
  POLLUTID SO2
  RUNORNOT RUN
  ERRORFIL NEWMADRID-M7M.ERR
CO FINISHED
**
*****
** AERMOD Source Pathway
*****
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
  LOCATION EP61      POINT    807987.800 4046002.360    91.140
  LOCATION EP98      POINT    807987.890 4046305.850    90.940
** DESCRSRC Not Active - 64 Pipes
  LOCATION EPAA      POINT    808006.300 4046277.630    91.130
  LOCATION EP991     POINTCAP  807982.953 4046223.205    90.940
** DESCRSRC 0.153253803 ->48 stacks , 0.114940352 -> 64 stacks
  LOCATION EP992     POINTCAP  807983.404 4046223.205    90.940
  LOCATION EP993     POINTCAP  807983.855 4046223.205    90.950
  LOCATION EP994     POINTCAP  807984.306 4046223.205    90.950
  LOCATION EP995     POINTCAP  807987.953 4046223.205    90.970
  LOCATION EP996     POINTCAP  807988.404 4046223.205    90.970
  LOCATION EP997     POINTCAP  807988.855 4046223.205    90.970
  LOCATION EP998     POINTCAP  807989.306 4046223.205    90.970
  LOCATION EP999     POINTCAP  807992.953 4046223.205    90.990
  LOCATION EP9910    POINTCAP  807993.404 4046223.205    91.000
  LOCATION EP9911    POINTCAP  807993.855 4046223.205    91.000
  LOCATION EP9912    POINTCAP  807994.306 4046223.205    91.000
  LOCATION EP9913    POINTCAP  807997.953 4046223.205    91.020
  LOCATION EP9914    POINTCAP  807998.404 4046223.205    91.030
  LOCATION EP9915    POINTCAP  807998.855 4046223.205    91.030
  LOCATION EP9916    POINTCAP  807999.306 4046223.205    91.030
  LOCATION EP9917    POINTCAP  807982.953 4046226.120    90.970
  LOCATION EP9918    POINTCAP  807983.404 4046226.120    90.970
  LOCATION EP9919    POINTCAP  807983.855 4046226.120    90.980
  LOCATION EP9920    POINTCAP  807984.306 4046226.120    90.980
  LOCATION EP9921    POINTCAP  807987.953 4046226.120    90.990
  LOCATION EP9922    POINTCAP  807988.404 4046226.120    91.000
  LOCATION EP9923    POINTCAP  807988.855 4046226.120    91.000
  LOCATION EP9924    POINTCAP  807989.306 4046226.120    91.000
  LOCATION EP9925    POINTCAP  807992.953 4046226.120    91.020
  LOCATION EP9926    POINTCAP  807993.404 4046226.120    91.020
  LOCATION EP9927    POINTCAP  807993.855 4046226.120    91.020
  LOCATION EP9928    POINTCAP  807994.306 4046226.120    91.020
  LOCATION EP9929    POINTCAP  807997.953 4046226.120    91.040
  LOCATION EP9930    POINTCAP  807998.404 4046226.120    91.040
  LOCATION EP9931    POINTCAP  807998.855 4046226.120    91.050
  LOCATION EP9932    POINTCAP  807999.306 4046226.120    91.050
  LOCATION EP9933    POINTCAP  807982.953 4046229.034    91.000
  LOCATION EP9934    POINTCAP  807983.404 4046229.034    91.000
  LOCATION EP9935    POINTCAP  807983.855 4046229.034    91.000
  LOCATION EP9936    POINTCAP  807984.306 4046229.034    91.010
  LOCATION EP9937    POINTCAP  807987.953 4046229.034    91.020
```

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

LOCATION EP9938	POINTCAP	807988.404	4046229.034	91.020		
LOCATION EP9939	POINTCAP	807988.855	4046229.034	91.020		
LOCATION EP9940	POINTCAP	807989.306	4046229.034	91.030		
LOCATION EP9941	POINTCAP	807992.953	4046229.034	91.040		
LOCATION EP9942	POINTCAP	807993.404	4046229.034	91.040		
LOCATION EP9943	POINTCAP	807993.855	4046229.034	91.040		
LOCATION EP9944	POINTCAP	807994.306	4046229.034	91.040		
LOCATION EP9945	POINTCAP	807997.953	4046229.034	91.060		
LOCATION EP9946	POINTCAP	807998.404	4046229.034	91.060		
LOCATION EP9947	POINTCAP	807998.855	4046229.034	91.060		
LOCATION EP9948	POINTCAP	807999.306	4046229.034	91.060		
LOCATION EP9949	POINTCAP	807982.953	4046231.949	91.030		
LOCATION EP9950	POINTCAP	807983.404	4046231.949	91.030		
LOCATION EP9951	POINTCAP	807983.855	4046231.949	91.030		
LOCATION EP9952	POINTCAP	807984.306	4046231.949	91.040		
LOCATION EP9953	POINTCAP	807987.953	4046231.949	91.050		
LOCATION EP9954	POINTCAP	807988.404	4046231.949	91.050		
LOCATION EP9955	POINTCAP	807988.855	4046231.949	91.050		
LOCATION EP9956	POINTCAP	807989.306	4046231.949	91.050		
LOCATION EP9957	POINTCAP	807992.953	4046231.949	91.060		
LOCATION EP9958	POINTCAP	807993.404	4046231.949	91.060		
LOCATION EP9959	POINTCAP	807993.855	4046231.949	91.060		
LOCATION EP9960	POINTCAP	807994.306	4046231.949	91.070		
LOCATION EP9961	POINTCAP	807997.953	4046231.949	91.080		
LOCATION EP9962	POINTCAP	807998.404	4046231.949	91.080		
LOCATION EP9963	POINTCAP	807998.855	4046231.949	91.080		
LOCATION EP9964	POINTCAP	807999.306	4046231.949	91.080		
LOCATION NMPP01	POINT	807904.530	4046548.550	91.140		
** DESCRSRC 206.918437						
LOCATION NMPP02	POINT	807911.580	4046554.900	91.140		
** DESCRSRC 220.689						
LOCATION BLINE2B	BUOYLINE	807393.998	4045915.173	807897.284	4045938.140	89.920
** DESCRSRC EP-60						
LOCATION BLINE2A	BUOYLINE	807392.535	4045954.310	807897.772	4045978.840	89.920
** DESCRSRC EP-60						
LOCATION BLINE1B	BUOYLINE	807391.072	4045995.448	807898.260	4046019.878	89.920
** DESCRSRC EP-59						
LOCATION BLINE1A	BUOYLINE	807396.763	4046035.459	807894.198	4046058.426	90.140
** DESCRSRC EP-59						
BACKGRND ANNUAL 5.0						
BACKUNIT PPB						
** Source Parameters **						
SRCPARAM EP61	1.0	89.920	349.000	8.35000	7.920	
SRCPARAM EP98	0.0	17.070	343.889	19.67100	1.676	
SRCPARAM EPAA	1.0	22.560	349.000	7.51000	2.286	
SRCPARAM EP991	0.0	15.240	351.000	13.87900	0.299	
SRCPARAM EP992	0.0	15.240	351.000	14.59100	0.299	
SRCPARAM EP993	0.0	15.240	351.000	9.71400	0.299	
SRCPARAM EP994	0.0	15.240	351.000	8.27700	0.299	
SRCPARAM EP995	1.0	15.240	351.000	13.87900	0.299	
SRCPARAM EP996	1.0	15.240	351.000	14.59100	0.299	
SRCPARAM EP997	1.0	15.240	351.000	9.71400	0.299	
SRCPARAM EP998	1.0	15.240	351.000	8.27700	0.299	
SRCPARAM EP999	0.0	15.240	351.000	13.87900	0.299	
SRCPARAM EP9910	0.0	15.240	351.000	14.59100	0.299	
SRCPARAM EP9911	0.0	15.240	351.000	9.71400	0.299	
SRCPARAM EP9912	0.0	15.240	351.000	8.27700	0.299	
SRCPARAM EP9913	1.0	15.240	351.000	13.87900	0.299	
SRCPARAM EP9914	1.0	15.240	351.000	14.59100	0.299	
SRCPARAM EP9915	1.0	15.240	351.000	9.71400	0.299	
SRCPARAM EP9916	1.0	15.240	351.000	8.27700	0.299	
SRCPARAM EP9917	0.0	15.240	351.000	13.87900	0.299	
SRCPARAM EP9918	0.0	15.240	351.000	14.59100	0.299	
SRCPARAM EP9919	0.0	15.240	351.000	9.71400	0.299	
SRCPARAM EP9920	0.0	15.240	351.000	8.27700	0.299	
SRCPARAM EP9921	1.0	15.240	351.000	13.87900	0.299	
SRCPARAM EP9922	1.0	15.240	351.000	14.59100	0.299	
SRCPARAM EP9923	1.0	15.240	351.000	9.71400	0.299	
SRCPARAM EP9924	1.0	15.240	351.000	8.27700	0.299	
SRCPARAM EP9925	0.0	15.240	351.000	13.87900	0.299	

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

SRCPARAM EP9926	0.0	15.240	351.000	14.59100	0.299
SRCPARAM EP9927	0.0	15.240	351.000	9.71400	0.299
SRCPARAM EP9928	0.0	15.240	351.000	8.27700	0.299
SRCPARAM EP9929	1.0	15.240	351.000	13.87900	0.299
SRCPARAM EP9930	1.0	15.240	351.000	14.59100	0.299
SRCPARAM EP9931	1.0	15.240	351.000	9.71400	0.299
SRCPARAM EP9932	1.0	15.240	351.000	8.27700	0.299
SRCPARAM EP9933	0.0	15.240	351.000	13.87900	0.299
SRCPARAM EP9934	0.0	15.240	351.000	14.59100	0.299
SRCPARAM EP9935	0.0	15.240	351.000	9.71400	0.299
SRCPARAM EP9936	0.0	15.240	351.000	8.27700	0.299
SRCPARAM EP9937	1.0	15.240	351.000	13.87900	0.299
SRCPARAM EP9938	1.0	15.240	351.000	14.59100	0.299
SRCPARAM EP9939	1.0	15.240	351.000	9.71400	0.299
SRCPARAM EP9940	1.0	15.240	351.000	8.27700	0.299
SRCPARAM EP9941	0.0	15.240	351.000	13.87900	0.299
SRCPARAM EP9942	0.0	15.240	351.000	14.59100	0.299
SRCPARAM EP9943	0.0	15.240	351.000	9.71400	0.299
SRCPARAM EP9944	0.0	15.240	351.000	8.27700	0.299
SRCPARAM EP9945	1.0	15.240	351.000	13.87900	0.299
SRCPARAM EP9946	1.0	15.240	351.000	14.59100	0.299
SRCPARAM EP9947	1.0	15.240	351.000	9.71400	0.299
SRCPARAM EP9948	1.0	15.240	351.000	8.27700	0.299
SRCPARAM EP9949	0.0	15.240	351.000	13.87900	0.299
SRCPARAM EP9950	0.0	15.240	351.000	14.59100	0.299
SRCPARAM EP9951	0.0	15.240	351.000	9.71400	0.299
SRCPARAM EP9952	0.0	15.240	351.000	8.27700	0.299
SRCPARAM EP9953	1.0	15.240	351.000	13.87900	0.299
SRCPARAM EP9954	1.0	15.240	351.000	14.59100	0.299
SRCPARAM EP9955	1.0	15.240	351.000	9.71400	0.299
SRCPARAM EP9956	1.0	15.240	351.000	8.27700	0.299
SRCPARAM EP9957	0.0	15.240	351.000	13.87900	0.299
SRCPARAM EP9958	0.0	15.240	351.000	14.59100	0.299
SRCPARAM EP9959	0.0	15.240	351.000	9.71400	0.299
SRCPARAM EP9960	0.0	15.240	351.000	8.27700	0.299
SRCPARAM EP9961	1.0	15.240	351.000	13.87900	0.299
SRCPARAM EP9962	1.0	15.240	351.000	14.59100	0.299
SRCPARAM EP9963	1.0	15.240	351.000	9.71400	0.299
SRCPARAM EP9964	1.0	15.240	351.000	8.27700	0.299
SRCPARAM BLINE2B	1.0	16.000			
SRCPARAM BLINE2A	1.0	16.000			
SRCPARAM BLINE1B	1.0	16.000			
SRCPARAM BLINE1A	1.0	16.000			
SRCPARAM NMPP01	0.0	243.840	390.920	20.77700	6.100
SRCPARAM NMPP02	0.0	243.840	399.370	21.33600	6.100

** Building Downwash **

BUILDHGT EP61	29.11	16.00	16.00	16.00	24.16	24.16
BUILDHGT EP61	24.16	25.60	25.60	25.60	25.60	25.60
BUILDHGT EP61	25.60	25.60	23.09	23.09	23.09	9.20
BUILDHGT EP61	16.00	16.00	16.00	16.00	24.16	24.16
BUILDHGT EP61	24.16	25.60	25.60	24.16	24.16	25.60
BUILDHGT EP61	25.60	25.60	9.20	29.11	29.11	29.11
BUILDHGT EP98	10.70	10.70	10.70	20.42	20.42	24.69
BUILDHGT EP98	24.69	24.69	24.69	10.70	10.70	10.70
BUILDHGT EP98	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP98	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP98	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP98	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EPAA	10.70	10.70	10.70	20.42	20.42	20.42
BUILDHGT EPAA	20.42	24.69	24.69	24.69	24.69	0.00
BUILDHGT EPAA	0.00	10.70	10.70	10.70	10.70	10.70
BUILDHGT EPAA	10.70	10.70	0.00	10.70	0.00	0.00
BUILDHGT EPAA	0.00	0.00	0.00	0.00	0.00	0.00
BUILDHGT EPAA	0.00	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP991	23.09	23.09	23.09	23.09	23.09	20.42
BUILDHGT EP991	20.42	20.42	20.42	20.42	24.69	24.69

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

BUILDHGT EP991	24.69	24.69	24.69	10.70	10.70	10.70
BUILDHGT EP991	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP991	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP991	10.70	20.42	20.00	20.00	10.70	23.09
BUILDHGT EP992	23.09	23.09	23.09	23.09	23.09	20.42
BUILDHGT EP992	20.42	20.42	20.42	20.42	24.69	24.69
BUILDHGT EP992	24.69	24.69	24.69	10.70	10.70	10.70
BUILDHGT EP992	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP992	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP992	10.70	20.42	20.00	20.00	10.70	23.09
BUILDHGT EP993	23.09	23.09	23.09	23.09	23.09	20.42
BUILDHGT EP993	20.42	20.42	20.42	20.42	24.69	24.69
BUILDHGT EP993	24.69	24.69	24.69	10.70	10.70	10.70
BUILDHGT EP993	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP993	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP993	10.70	20.42	20.00	20.00	10.70	23.09
BUILDHGT EP994	23.09	23.09	23.09	23.09	23.09	20.42
BUILDHGT EP994	20.42	20.42	20.42	20.42	24.69	24.69
BUILDHGT EP994	24.69	24.69	24.69	10.70	10.70	10.70
BUILDHGT EP994	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP994	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP994	10.70	20.42	20.00	20.00	10.70	23.09
BUILDHGT EP995	23.09	23.09	23.09	23.09	23.09	20.42
BUILDHGT EP995	20.42	20.42	20.42	20.42	24.69	24.69
BUILDHGT EP995	24.69	24.69	10.70	10.70	10.70	10.70
BUILDHGT EP995	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP995	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP995	10.70	20.42	20.00	20.00	10.70	10.70
BUILDHGT EP996	23.09	23.09	23.09	23.09	23.09	20.42
BUILDHGT EP996	20.42	20.42	20.42	20.42	24.69	24.69
BUILDHGT EP996	24.69	24.69	10.70	10.70	10.70	10.70
BUILDHGT EP996	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP996	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP996	10.70	20.00	20.00	20.00	20.00	10.70
BUILDHGT EP997	23.09	23.09	23.09	23.09	23.09	20.42
BUILDHGT EP997	20.42	20.42	20.42	20.42	24.69	24.69
BUILDHGT EP997	24.69	24.69	10.70	10.70	10.70	10.70
BUILDHGT EP997	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP997	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP997	10.70	20.00	20.00	20.00	20.00	10.70
BUILDHGT EP998	23.09	23.09	23.09	20.37	20.37	20.42
BUILDHGT EP998	20.42	20.42	20.42	20.42	24.69	24.69
BUILDHGT EP998	24.69	24.69	10.70	10.70	10.70	10.70
BUILDHGT EP998	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP998	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP998	10.70	20.00	20.00	20.00	20.00	10.70
BUILDHGT EP999	23.09	23.09	23.09	20.37	20.37	20.42
BUILDHGT EP999	20.42	20.42	20.42	24.69	24.69	24.69
BUILDHGT EP999	24.69	24.69	10.70	10.70	10.70	10.70
BUILDHGT EP999	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP999	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP999	10.70	20.00	20.00	20.00	20.00	10.70
BUILDHGT EP9910	23.09	23.09	23.09	20.37	20.37	20.42
BUILDHGT EP9910	20.42	20.42	20.42	24.69	24.69	24.69
BUILDHGT EP9910	24.69	24.69	10.70	10.70	10.70	10.70
BUILDHGT EP9910	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP9910	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP9910	10.70	20.00	20.00	20.00	20.00	10.70
BUILDHGT EP9911	23.09	23.09	23.09	20.37	20.37	20.42
BUILDHGT EP9911	20.42	20.42	20.42	24.69	24.69	24.69

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

[illegible]

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

[illegible]

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

[illegible]

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

[illegible]

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

[illegible]

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

BUILDHGT EP9961	24.69	24.69	10.70	10.70	10.70	10.70
BUILDHGT EP9961	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP9961	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP9961	10.70	10.70	20.00	20.00	20.00	10.70
BUILDHGT EP9962	20.37	20.37	20.37	20.37	20.37	20.42
BUILDHGT EP9962	20.42	20.42	20.42	24.69	24.69	24.69
BUILDHGT EP9962	24.69	24.69	10.70	10.70	10.70	10.70
BUILDHGT EP9962	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP9962	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP9962	10.70	10.70	20.00	20.00	20.00	10.70
BUILDHGT EP9963	20.37	20.37	20.37	20.37	20.37	20.42
BUILDHGT EP9963	20.42	20.42	20.42	24.69	24.69	24.69
BUILDHGT EP9963	24.69	24.69	10.70	10.70	10.70	10.70
BUILDHGT EP9963	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP9963	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP9963	10.70	10.70	20.00	20.00	20.00	10.70
BUILDHGT EP9964	20.37	20.37	20.37	20.37	20.37	20.42
BUILDHGT EP9964	20.42	20.42	20.42	24.69	24.69	24.69
BUILDHGT EP9964	24.69	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP9964	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP9964	10.70	10.70	10.70	10.70	10.70	10.70
BUILDHGT EP9964	10.70	10.70	20.00	20.00	20.00	10.70
BUILDHGT NMPP01	23.01	23.01	23.01	0.00	0.00	0.00
BUILDHGT NMPP01	0.00	0.00	23.01	23.01	63.18	63.18
BUILDHGT NMPP01	63.18	63.18	54.86	54.86	54.86	23.01
BUILDHGT NMPP01	23.01	23.01	23.01	0.00	0.00	0.00
BUILDHGT NMPP01	0.00	0.00	23.01	23.01	63.18	63.18
BUILDHGT NMPP01	63.18	63.18	23.01	54.86	54.86	23.01
BUILDHGT NMPP02	23.01	23.01	0.00	0.00	0.00	0.00
BUILDHGT NMPP02	0.00	23.01	23.01	47.24	63.18	63.18
BUILDHGT NMPP02	63.18	63.18	54.86	54.86	54.86	23.01
BUILDHGT NMPP02	23.01	23.01	0.00	0.00	0.00	0.00
BUILDHGT NMPP02	0.00	23.01	23.01	47.24	63.18	63.18
BUILDHGT NMPP02	23.01	63.18	23.01	54.86	54.86	23.01
BUILDWID EP61	40.97	624.21	623.15	603.16	29.19	28.30
BUILDWID EP61	27.53	29.07	29.52	29.07	27.74	28.52
BUILDWID EP61	57.72	52.76	34.19	34.89	36.27	56.99
BUILDWID EP61	606.30	624.21	623.15	603.16	29.19	60.18
BUILDWID EP61	61.50	29.07	29.52	62.85	59.44	28.52
BUILDWID EP61	57.72	52.76	70.69	39.09	40.97	41.60
BUILDWID EP98	26.71	27.92	28.27	106.13	94.75	79.55
BUILDWID EP98	61.63	41.84	31.54	17.84	21.38	24.27
BUILDWID EP98	26.42	27.77	28.27	27.92	26.71	24.70
BUILDWID EP98	26.71	27.92	28.27	27.77	26.42	24.27
BUILDWID EP98	21.38	17.84	13.76	17.84	21.38	24.27
BUILDWID EP98	26.42	27.77	28.27	27.92	26.71	24.70
BUILDWID EPAA	51.55	51.81	50.50	105.23	93.78	79.48
BUILDWID EPAA	62.76	41.84	31.54	51.95	70.78	0.00
BUILDWID EPAA	0.00	27.77	51.21	27.92	26.71	24.70
BUILDWID EPAA	26.71	27.92	0.00	47.65	0.00	0.00
BUILDWID EPAA	0.00	0.00	0.00	0.00	0.00	0.00
BUILDWID EPAA	0.00	27.77	51.21	51.90	51.00	49.72
BUILDWID EP991	35.72	33.80	48.93	73.71	68.64	79.48
BUILDWID EP991	62.76	44.14	34.37	53.72	70.78	87.46
BUILDWID EP991	101.49	112.43	119.95	51.90	51.00	49.72
BUILDWID EP991	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP991	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP991	45.25	135.72	41.99	37.30	51.00	36.55
BUILDWID EP992	35.72	33.80	48.93	73.71	68.64	79.48
BUILDWID EP992	62.76	44.14	34.37	53.72	70.78	87.46

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BUILDWID EP992	101.49	112.43	119.95	51.90	51.00	49.72
BUILDWID EP992	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP992	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP992	45.25	135.72	41.99	37.30	51.00	36.55
BUILDWID EP993	35.72	33.80	48.93	73.71	68.64	79.48
BUILDWID EP993	62.76	44.14	34.37	53.72	70.78	87.46
BUILDWID EP993	101.49	112.43	119.95	51.90	51.00	49.72
BUILDWID EP993	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP993	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP993	45.25	135.72	41.99	37.30	51.00	36.55
BUILDWID EP994	35.72	33.80	48.93	73.71	68.64	79.48
BUILDWID EP994	62.76	44.14	34.37	53.72	70.78	87.46
BUILDWID EP994	101.49	112.43	119.95	51.90	51.00	49.72
BUILDWID EP994	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP994	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP994	45.25	135.72	41.99	37.30	51.00	36.55
BUILDWID EP995	35.72	33.80	48.93	73.71	68.64	79.48
BUILDWID EP995	62.76	44.14	34.37	53.72	70.78	87.46
BUILDWID EP995	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP995	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP995	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP995	45.25	135.72	41.99	37.30	51.00	49.72
BUILDWID EP996	35.72	33.80	48.93	73.71	68.64	79.48
BUILDWID EP996	62.76	44.14	34.37	53.72	70.78	87.46
BUILDWID EP996	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP996	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP996	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP996	45.25	45.40	41.99	37.30	31.48	49.72
BUILDWID EP997	35.72	33.80	48.93	73.71	68.64	79.48
BUILDWID EP997	62.76	44.14	34.37	53.72	70.78	87.46
BUILDWID EP997	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP997	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP997	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP997	45.25	45.40	41.99	37.30	31.48	49.72
BUILDWID EP998	35.72	33.80	32.60	59.97	68.64	79.48
BUILDWID EP998	62.76	44.14	34.37	53.72	70.78	87.46
BUILDWID EP998	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP998	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP998	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP998	45.25	45.40	41.99	37.30	31.48	49.72
BUILDWID EP999	35.72	33.80	32.60	59.97	68.64	79.48
BUILDWID EP999	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP999	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP999	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP999	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP999	45.25	45.40	41.99	37.30	31.48	49.72
BUILDWID EP9910	35.72	33.80	32.60	59.97	68.64	79.48
BUILDWID EP9910	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9910	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9910	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9910	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9910	45.25	45.40	41.99	37.30	31.48	49.72
BUILDWID EP9911	35.72	33.80	32.60	59.97	68.64	79.48
BUILDWID EP9911	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9911	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9911	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9911	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9911	45.25	45.40	41.99	37.30	31.48	49.72
BUILDWID EP9912	35.72	33.80	32.60	59.97	68.64	79.48
BUILDWID EP9912	62.76	44.14	34.37	51.95	70.78	87.46

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BUILDWID EP9912	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9912	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9912	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9912	45.25	45.40	41.99	37.30	31.48	49.72
BUILDWID EP9913	35.72	33.80	32.60	45.26	68.64	79.48
BUILDWID EP9913	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9913	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9913	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9913	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9913	45.25	48.98	41.99	37.30	31.48	49.72
BUILDWID EP9914	35.72	33.80	32.60	45.26	68.64	79.48
BUILDWID EP9914	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9914	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9914	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9914	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9914	45.25	48.98	41.99	37.30	31.48	49.72
BUILDWID EP9915	35.72	33.80	32.60	45.26	68.64	79.48
BUILDWID EP9915	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9915	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9915	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9915	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9915	45.25	48.98	41.99	37.30	31.48	49.72
BUILDWID EP9916	35.72	33.80	32.60	45.26	68.64	79.48
BUILDWID EP9916	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9916	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9916	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9916	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9916	45.25	48.98	41.99	37.30	31.48	49.72
BUILDWID EP9917	35.72	33.80	48.93	59.97	68.64	79.48
BUILDWID EP9917	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9917	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9917	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9917	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9917	45.25	135.72	41.99	37.30	51.00	36.55
BUILDWID EP9918	35.72	33.80	48.93	59.97	68.64	79.48
BUILDWID EP9918	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9918	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9918	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9918	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9918	45.25	135.72	41.99	37.30	51.00	36.55
BUILDWID EP9919	35.72	33.80	48.93	59.97	68.64	79.48
BUILDWID EP9919	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9919	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9919	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9919	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9919	45.25	135.72	41.99	37.30	51.00	36.55
BUILDWID EP9920	35.72	33.80	48.93	59.97	68.64	79.48
BUILDWID EP9920	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9920	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9920	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9920	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9920	45.25	135.72	41.99	37.30	51.00	36.55
BUILDWID EP9921	35.72	33.80	48.93	59.97	68.64	79.48
BUILDWID EP9921	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9921	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9921	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9921	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9921	45.25	135.72	41.99	37.30	31.48	49.72
BUILDWID EP9922	35.72	33.80	48.93	59.97	68.64	79.48
BUILDWID EP9922	62.76	44.14	34.37	51.95	70.78	87.46

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BUILDWID EP9922	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9922	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9922	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9922	45.25	135.72	41.99	37.30	31.48	49.72
BUILDWID EP9923	35.72	33.80	48.93	59.97	68.64	79.48
BUILDWID EP9923	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9923	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9923	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9923	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9923	45.25	135.72	41.99	37.30	31.48	49.72
BUILDWID EP9924	35.72	33.80	48.93	59.97	68.64	79.48
BUILDWID EP9924	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9924	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9924	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9924	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9924	45.25	135.72	41.99	37.30	31.48	49.72
BUILDWID EP9925	35.72	33.80	32.60	59.97	68.64	79.48
BUILDWID EP9925	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9925	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9925	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9925	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9925	45.25	45.40	41.99	37.30	31.48	49.72
BUILDWID EP9926	35.72	33.80	32.60	59.97	68.64	79.48
BUILDWID EP9926	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9926	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9926	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9926	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9926	45.25	45.40	41.99	37.30	31.48	49.72
BUILDWID EP9927	35.72	33.80	32.60	59.97	68.64	79.48
BUILDWID EP9927	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9927	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9927	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9927	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9927	45.25	48.98	41.99	37.30	31.48	49.72
BUILDWID EP9928	35.72	33.80	32.60	59.97	68.64	79.48
BUILDWID EP9928	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9928	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9928	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9928	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9928	45.25	48.98	41.99	37.30	31.48	49.72
BUILDWID EP9929	35.72	33.80	32.60	59.97	68.64	79.48
BUILDWID EP9929	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9929	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9929	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9929	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9929	45.25	48.98	41.99	37.30	31.48	49.72
BUILDWID EP9930	35.72	33.80	32.60	59.97	68.64	79.48
BUILDWID EP9930	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9930	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9930	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9930	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9930	45.25	48.98	41.99	37.30	31.48	49.72
BUILDWID EP9931	35.72	33.80	32.60	59.97	68.64	79.48
BUILDWID EP9931	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9931	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9931	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9931	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9931	45.25	48.98	41.99	37.30	31.48	49.72
BUILDWID EP9932	35.72	33.80	32.60	59.97	68.64	79.48
BUILDWID EP9932	62.76	44.14	34.37	51.95	70.78	87.46

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BUILDWID EP9932	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9932	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9932	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9932	45.25	48.98	41.99	37.30	31.48	49.72
BUILDWID EP9933	35.72	33.80	48.93	73.71	68.64	79.48
BUILDWID EP9933	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9933	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9933	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9933	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9933	131.39	135.72	41.99	37.30	51.00	36.55
BUILDWID EP9934	35.72	33.80	48.93	73.71	68.64	79.48
BUILDWID EP9934	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9934	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9934	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9934	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9934	131.39	135.72	41.99	37.30	51.00	36.55
BUILDWID EP9935	35.72	33.80	48.93	73.71	68.64	79.48
BUILDWID EP9935	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9935	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9935	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9935	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9935	131.39	135.72	41.99	37.30	51.00	36.55
BUILDWID EP9936	35.72	33.80	48.93	73.71	68.64	79.48
BUILDWID EP9936	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9936	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9936	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9936	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9936	45.25	135.72	41.99	37.30	51.00	36.55
BUILDWID EP9937	35.72	33.80	48.93	59.97	68.64	79.48
BUILDWID EP9937	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9937	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9937	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9937	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9937	45.25	135.72	41.99	37.30	31.48	49.72
BUILDWID EP9938	35.72	33.80	48.93	59.97	68.64	79.48
BUILDWID EP9938	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9938	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9938	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9938	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9938	45.25	135.72	41.99	37.30	31.48	49.72
BUILDWID EP9939	35.72	33.80	48.93	59.97	68.64	79.48
BUILDWID EP9939	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9939	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9939	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9939	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9939	45.25	135.72	41.99	37.30	31.48	49.72
BUILDWID EP9940	35.72	33.80	48.93	59.97	68.64	79.48
BUILDWID EP9940	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9940	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9940	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9940	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9940	45.25	135.72	41.99	37.30	31.48	49.72
BUILDWID EP9941	35.72	33.80	32.60	59.97	68.64	79.48
BUILDWID EP9941	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9941	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9941	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9941	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9941	45.25	135.72	41.99	37.30	31.48	49.72
BUILDWID EP9942	35.72	33.80	32.60	59.97	68.64	79.48
BUILDWID EP9942	62.76	44.14	34.37	51.95	70.78	87.46

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BUILDWID EP9942	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9942	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9942	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9942	45.25	135.72	41.99	37.30	31.48	49.72
BUILDWID EP9943	35.72	33.80	32.60	59.97	68.64	79.48
BUILDWID EP9943	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9943	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9943	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9943	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9943	45.25	135.72	41.99	37.30	31.48	49.72
BUILDWID EP9944	35.72	33.80	32.60	59.97	68.64	79.48
BUILDWID EP9944	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9944	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9944	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9944	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9944	45.25	135.72	41.99	37.30	31.48	49.72
BUILDWID EP9945	54.73	51.72	55.85	59.97	68.64	79.48
BUILDWID EP9945	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9945	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9945	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9945	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9945	45.25	48.98	41.99	37.30	31.48	49.72
BUILDWID EP9946	54.73	51.72	55.85	59.97	68.64	79.48
BUILDWID EP9946	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9946	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9946	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9946	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9946	45.25	48.98	41.99	37.30	31.48	49.72
BUILDWID EP9947	54.73	51.72	55.85	59.97	68.64	79.48
BUILDWID EP9947	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9947	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9947	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9947	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9947	45.25	48.98	41.99	37.30	31.48	49.72
BUILDWID EP9948	54.73	51.72	55.85	59.97	68.64	79.48
BUILDWID EP9948	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9948	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9948	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9948	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9948	45.25	48.98	41.99	37.30	31.48	49.72
BUILDWID EP9949	35.72	33.80	48.93	73.71	93.78	79.48
BUILDWID EP9949	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9949	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9949	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9949	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9949	131.39	135.72	41.99	37.30	51.00	36.55
BUILDWID EP9950	35.72	33.80	48.93	73.71	93.78	79.48
BUILDWID EP9950	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9950	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9950	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9950	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9950	131.39	135.72	41.99	37.30	51.00	36.55
BUILDWID EP9951	35.72	33.80	48.93	73.71	93.78	79.48
BUILDWID EP9951	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9951	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9951	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9951	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9951	131.39	135.72	41.99	37.30	51.00	36.55
BUILDWID EP9952	35.72	33.80	48.93	73.71	68.64	79.48
BUILDWID EP9952	62.76	44.14	34.37	51.95	70.78	87.46

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BUILDWID EP9952	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9952	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9952	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9952	131.39	135.72	41.99	37.30	51.00	36.55
BUILDWID EP9953	54.73	51.72	55.85	59.97	68.64	79.48
BUILDWID EP9953	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9953	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9953	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9953	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9953	45.25	135.72	41.99	37.30	31.48	49.72
BUILDWID EP9954	54.73	51.72	55.85	59.97	68.64	79.48
BUILDWID EP9954	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9954	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9954	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9954	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9954	45.25	135.72	41.99	37.30	31.48	49.72
BUILDWID EP9955	54.73	51.72	55.85	59.97	68.64	79.48
BUILDWID EP9955	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9955	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9955	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9955	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9955	45.25	135.72	41.99	37.30	31.48	49.72
BUILDWID EP9956	54.73	51.72	55.85	59.97	68.64	79.48
BUILDWID EP9956	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9956	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9956	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9956	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9956	45.25	135.72	41.99	37.30	31.48	49.72
BUILDWID EP9957	54.73	51.72	55.85	59.97	68.64	79.48
BUILDWID EP9957	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9957	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9957	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9957	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9957	45.25	135.72	41.99	37.30	31.48	49.72
BUILDWID EP9958	54.73	51.72	55.85	59.97	68.64	79.48
BUILDWID EP9958	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9958	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9958	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9958	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9958	45.25	135.72	41.99	37.30	31.48	49.72
BUILDWID EP9959	54.73	51.72	55.85	59.97	68.64	79.48
BUILDWID EP9959	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9959	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9959	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9959	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9959	45.25	135.72	41.99	37.30	31.48	49.72
BUILDWID EP9960	54.73	51.72	55.85	59.97	68.64	79.48
BUILDWID EP9960	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9960	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9960	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9960	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9960	45.25	135.72	41.99	37.30	31.48	49.72
BUILDWID EP9961	54.73	51.72	55.85	59.97	68.64	79.48
BUILDWID EP9961	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9961	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9961	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9961	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9961	45.25	48.98	41.99	37.30	31.48	49.72
BUILDWID EP9962	54.73	51.72	55.85	59.97	68.64	79.48
BUILDWID EP9962	62.76	44.14	34.37	51.95	70.78	87.46

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BUILDWID EP9962	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9962	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9962	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9962	45.25	48.98	41.99	37.30	31.48	49.72
BUILDWID EP9963	54.73	51.72	55.85	59.97	68.64	79.48
BUILDWID EP9963	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9963	101.49	112.43	51.21	51.90	51.00	49.72
BUILDWID EP9963	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9963	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9963	45.25	48.98	41.99	37.30	31.48	49.72
BUILDWID EP9964	54.73	51.72	55.85	59.97	68.64	79.48
BUILDWID EP9964	62.76	44.14	34.37	51.95	70.78	87.46
BUILDWID EP9964	101.49	48.97	51.21	51.90	51.00	49.72
BUILDWID EP9964	51.55	51.81	50.50	47.65	43.36	37.75
BUILDWID EP9964	30.99	23.29	18.32	26.47	33.82	40.15
BUILDWID EP9964	45.25	48.98	41.99	37.30	31.48	49.72
BUILDWID NMPP01	35.49	35.13	33.71	0.00	0.00	0.00
BUILDWID NMPP01	0.00	0.00	31.35	33.56	114.84	102.01
BUILDWID NMPP01	86.09	67.55	103.87	104.80	130.45	34.76
BUILDWID NMPP01	35.49	35.13	33.71	0.00	0.00	0.00
BUILDWID NMPP01	0.00	0.00	31.35	33.56	114.84	102.01
BUILDWID NMPP01	86.09	67.55	29.08	104.80	130.45	34.76
BUILDWID NMPP02	35.49	35.13	0.00	0.00	0.00	0.00
BUILDWID NMPP02	0.00	28.19	31.35	135.53	114.84	102.01
BUILDWID NMPP02	86.09	67.55	103.87	104.80	130.45	34.76
BUILDWID NMPP02	35.49	35.13	0.00	0.00	0.00	0.00
BUILDWID NMPP02	0.00	28.19	31.35	144.24	114.84	102.01
BUILDWID NMPP02	33.96	67.55	29.08	104.80	130.45	34.76
BUILDLN EP61	40.97	483.37	552.39	605.12	29.19	28.30
BUILDLN EP61	27.53	29.07	29.52	29.07	27.74	28.52
BUILDLN EP61	55.41	59.95	25.04	21.45	18.96	44.41
BUILDLN EP61	401.12	483.37	552.39	605.12	29.19	43.28
BUILDLN EP61	36.76	29.07	29.52	37.99	42.42	28.52
BUILDLN EP61	55.41	59.95	62.67	39.09	40.97	41.60
BUILDLN EP98	17.84	21.38	24.27	99.89	109.76	119.95
BUILDLN EP98	123.83	123.95	123.13	26.71	27.92	28.27
BUILDLN EP98	27.77	26.42	24.27	21.38	17.84	13.76
BUILDLN EP98	17.84	21.38	24.27	26.42	27.77	28.27
BUILDLN EP98	27.92	26.71	24.70	26.71	27.92	28.27
BUILDLN EP98	27.77	26.42	24.27	21.38	17.84	13.76
BUILDLN EPAA	26.47	33.82	40.15	99.92	109.74	116.23
BUILDLN EPAA	119.19	123.95	123.13	124.87	122.81	0.00
BUILDLN EPAA	0.00	26.42	37.75	21.38	17.84	13.76
BUILDLN EPAA	17.84	21.38	0.00	45.25	0.00	0.00
BUILDLN EPAA	0.00	0.00	0.00	0.00	0.00	0.00
BUILDLN EPAA	0.00	26.42	37.75	30.99	23.29	18.32
BUILDLN EP991	22.09	24.44	38.88	54.60	61.64	116.23
BUILDLN EP991	119.19	118.53	117.47	120.05	122.81	117.02
BUILDLN EP991	107.67	95.06	79.55	30.99	23.29	18.32
BUILDLN EP991	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP991	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP991	47.65	132.57	45.31	45.25	23.29	19.07
BUILDLN EP992	22.09	24.44	38.88	54.60	61.64	116.23
BUILDLN EP992	119.19	118.53	117.47	120.05	122.81	117.02
BUILDLN EP992	107.67	95.06	79.55	30.99	23.29	18.32
BUILDLN EP992	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP992	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP992	47.65	132.57	45.31	45.25	23.29	19.07
BUILDLN EP993	22.09	24.44	38.88	54.60	61.64	116.23
BUILDLN EP993	119.19	118.53	117.47	120.05	122.81	117.02

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BUILDLLEN EP993	107.67	95.06	79.55	30.99	23.29	18.32
BUILDLLEN EP993	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP993	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP993	47.65	132.57	45.31	45.25	23.29	19.07
BUILDLLEN EP994	22.09	24.44	38.88	54.60	61.64	116.23
BUILDLLEN EP994	119.19	118.53	117.47	120.05	122.81	117.02
BUILDLLEN EP994	107.67	95.06	79.55	30.99	23.29	18.32
BUILDLLEN EP994	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP994	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP994	47.65	132.57	45.31	45.25	23.29	19.07
BUILDLLEN EP995	22.09	24.44	38.88	54.60	61.64	116.23
BUILDLLEN EP995	119.19	118.53	117.47	120.05	122.81	117.02
BUILDLLEN EP995	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP995	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP995	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP995	47.65	132.57	45.31	45.25	23.29	18.32
BUILDLLEN EP996	22.09	24.44	38.88	54.60	61.64	116.23
BUILDLLEN EP996	119.19	118.53	117.47	120.05	122.81	117.02
BUILDLLEN EP996	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP996	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP996	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP996	47.65	45.05	45.31	45.25	44.09	18.32
BUILDLLEN EP997	22.09	24.44	38.88	54.60	61.64	116.23
BUILDLLEN EP997	119.19	118.53	117.47	120.05	122.81	117.02
BUILDLLEN EP997	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP997	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP997	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP997	47.65	45.05	45.31	45.25	44.09	18.32
BUILDLLEN EP998	22.09	24.44	27.80	47.86	86.94	116.23
BUILDLLEN EP998	119.19	118.53	117.47	120.05	122.81	117.02
BUILDLLEN EP998	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP998	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP998	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP998	47.65	45.05	45.31	45.25	44.09	18.32
BUILDLLEN EP999	22.09	24.44	27.80	47.86	86.94	116.23
BUILDLLEN EP999	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP999	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP999	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP999	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP999	47.65	45.05	45.31	45.25	44.09	18.32
BUILDLLEN EP9910	22.09	24.44	27.80	47.86	86.94	116.23
BUILDLLEN EP9910	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP9910	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9910	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9910	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9910	47.65	45.05	45.31	45.25	44.09	18.32
BUILDLLEN EP9911	22.09	24.44	27.80	47.86	86.94	116.23
BUILDLLEN EP9911	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP9911	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9911	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9911	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9911	47.65	45.05	45.31	45.25	44.09	18.32
BUILDLLEN EP9912	22.09	24.44	27.80	47.86	86.94	116.23
BUILDLLEN EP9912	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP9912	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9912	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9912	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9912	47.65	45.05	45.31	45.25	44.09	18.32
BUILDLLEN EP9913	22.09	24.44	27.80	44.58	86.94	116.23
BUILDLLEN EP9913	119.19	118.53	117.47	124.87	122.81	117.02

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BUILDLN EP9913	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLN EP9913	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9913	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9913	47.65	43.36	45.31	45.25	44.09	18.32
BUILDLN EP9914	22.09	24.44	27.80	44.58	86.94	116.23
BUILDLN EP9914	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLN EP9914	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLN EP9914	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9914	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9914	47.65	43.36	45.31	45.25	44.09	18.32
BUILDLN EP9915	22.09	24.44	27.80	44.58	86.94	116.23
BUILDLN EP9915	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLN EP9915	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLN EP9915	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9915	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9915	47.65	43.36	45.31	45.25	44.09	18.32
BUILDLN EP9916	22.09	24.44	27.80	44.58	86.94	116.23
BUILDLN EP9916	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLN EP9916	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLN EP9916	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9916	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9916	47.65	43.36	45.31	45.25	44.09	18.32
BUILDLN EP9917	22.09	24.44	38.88	47.86	86.94	116.23
BUILDLN EP9917	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLN EP9917	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLN EP9917	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9917	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9917	47.65	132.57	45.31	45.25	23.29	19.07
BUILDLN EP9918	22.09	24.44	38.88	47.86	86.94	116.23
BUILDLN EP9918	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLN EP9918	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLN EP9918	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9918	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9918	47.65	132.57	45.31	45.25	23.29	19.07
BUILDLN EP9919	22.09	24.44	38.88	47.86	86.94	116.23
BUILDLN EP9919	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLN EP9919	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLN EP9919	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9919	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9919	47.65	132.57	45.31	45.25	23.29	19.07
BUILDLN EP9920	22.09	24.44	38.88	47.86	86.94	116.23
BUILDLN EP9920	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLN EP9920	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLN EP9920	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9920	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9920	47.65	132.57	45.31	45.25	23.29	19.07
BUILDLN EP9921	22.09	24.44	38.88	47.86	86.94	116.23
BUILDLN EP9921	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLN EP9921	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLN EP9921	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9921	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9921	47.65	132.57	45.31	45.25	44.09	18.32
BUILDLN EP9922	22.09	24.44	38.88	47.86	86.94	116.23
BUILDLN EP9922	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLN EP9922	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLN EP9922	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9922	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9922	47.65	132.57	45.31	45.25	44.09	18.32
BUILDLN EP9923	22.09	24.44	38.88	47.86	86.94	116.23
BUILDLN EP9923	119.19	118.53	117.47	124.87	122.81	117.02

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BUILDLLEN EP9923	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9923	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9923	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9923	47.65	132.57	45.31	45.25	44.09	18.32
BUILDLLEN EP9924	22.09	24.44	38.88	47.86	86.94	116.23
BUILDLLEN EP9924	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP9924	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9924	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9924	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9924	47.65	132.57	45.31	45.25	44.09	18.32
BUILDLLEN EP9925	22.09	24.44	27.80	47.86	86.94	116.23
BUILDLLEN EP9925	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP9925	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9925	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9925	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9925	47.65	45.05	45.31	45.25	44.09	18.32
BUILDLLEN EP9926	22.09	24.44	27.80	47.86	86.94	116.23
BUILDLLEN EP9926	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP9926	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9926	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9926	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9926	47.65	45.05	45.31	45.25	44.09	18.32
BUILDLLEN EP9927	22.09	24.44	27.80	47.86	86.94	116.23
BUILDLLEN EP9927	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP9927	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9927	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9927	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9927	47.65	43.36	45.31	45.25	44.09	18.32
BUILDLLEN EP9928	22.09	24.44	27.80	47.86	86.94	116.23
BUILDLLEN EP9928	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP9928	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9928	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9928	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9928	47.65	43.36	45.31	45.25	44.09	18.32
BUILDLLEN EP9929	22.09	24.44	27.80	47.86	86.94	116.23
BUILDLLEN EP9929	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP9929	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9929	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9929	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9929	47.65	43.36	45.31	45.25	44.09	18.32
BUILDLLEN EP9930	22.09	24.44	27.80	47.86	86.94	116.23
BUILDLLEN EP9930	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP9930	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9930	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9930	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9930	47.65	43.36	45.31	45.25	44.09	18.32
BUILDLLEN EP9931	22.09	24.44	27.80	47.86	86.94	116.23
BUILDLLEN EP9931	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP9931	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9931	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9931	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9931	47.65	43.36	45.31	45.25	44.09	18.32
BUILDLLEN EP9932	22.09	24.44	27.80	47.86	86.94	116.23
BUILDLLEN EP9932	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP9932	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9932	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9932	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9932	47.65	43.36	45.31	45.25	44.09	18.32
BUILDLLEN EP9933	22.09	24.44	38.88	85.53	86.94	116.23
BUILDLLEN EP9933	119.19	118.53	117.47	124.87	122.81	117.02

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BUILDLN EP9933	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLN EP9933	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9933	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9933	139.62	132.57	45.31	45.25	23.29	19.07
BUILDLN EP9934	22.09	24.44	38.88	85.53	86.94	116.23
BUILDLN EP9934	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLN EP9934	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLN EP9934	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9934	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9934	139.62	132.57	45.31	45.25	23.29	19.07
BUILDLN EP9935	22.09	24.44	38.88	85.53	86.94	116.23
BUILDLN EP9935	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLN EP9935	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLN EP9935	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9935	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9935	139.62	132.57	45.31	45.25	23.29	19.07
BUILDLN EP9936	22.09	24.44	38.88	85.53	86.94	116.23
BUILDLN EP9936	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLN EP9936	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLN EP9936	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9936	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9936	47.65	132.57	45.31	45.25	23.29	19.07
BUILDLN EP9937	22.09	24.44	38.88	47.86	86.94	116.23
BUILDLN EP9937	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLN EP9937	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLN EP9937	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9937	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9937	47.65	132.57	45.31	45.25	44.09	18.32
BUILDLN EP9938	22.09	24.44	38.88	47.86	86.94	116.23
BUILDLN EP9938	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLN EP9938	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLN EP9938	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9938	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9938	47.65	132.57	45.31	45.25	44.09	18.32
BUILDLN EP9939	22.09	24.44	38.88	47.86	86.94	116.23
BUILDLN EP9939	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLN EP9939	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLN EP9939	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9939	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9939	47.65	132.57	45.31	45.25	44.09	18.32
BUILDLN EP9940	22.09	24.44	38.88	47.86	86.94	116.23
BUILDLN EP9940	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLN EP9940	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLN EP9940	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9940	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9940	47.65	132.57	45.31	45.25	44.09	18.32
BUILDLN EP9941	22.09	24.44	27.80	47.86	86.94	116.23
BUILDLN EP9941	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLN EP9941	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLN EP9941	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9941	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9941	47.65	132.57	45.31	45.25	44.09	18.32
BUILDLN EP9942	22.09	24.44	27.80	47.86	86.94	116.23
BUILDLN EP9942	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLN EP9942	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLN EP9942	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9942	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9942	47.65	132.57	45.31	45.25	44.09	18.32
BUILDLN EP9943	22.09	24.44	27.80	47.86	86.94	116.23
BUILDLN EP9943	119.19	118.53	117.47	124.87	122.81	117.02

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BUILDLLEN EP9943	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9943	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9943	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9943	47.65	132.57	45.31	45.25	44.09	18.32
BUILDLLEN EP9944	22.09	24.44	27.80	47.86	86.94	116.23
BUILDLLEN EP9944	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP9944	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9944	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9944	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9944	47.65	132.57	45.31	45.25	44.09	18.32
BUILDLLEN EP9945	61.98	63.05	52.02	47.86	86.94	116.23
BUILDLLEN EP9945	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP9945	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9945	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9945	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9945	47.65	43.36	45.31	45.25	44.09	18.32
BUILDLLEN EP9946	61.98	63.05	52.02	47.86	86.94	116.23
BUILDLLEN EP9946	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP9946	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9946	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9946	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9946	47.65	43.36	45.31	45.25	44.09	18.32
BUILDLLEN EP9947	61.98	63.05	52.02	47.86	86.94	116.23
BUILDLLEN EP9947	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP9947	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9947	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9947	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9947	47.65	43.36	45.31	45.25	44.09	18.32
BUILDLLEN EP9948	61.98	63.05	52.02	47.86	86.94	116.23
BUILDLLEN EP9948	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP9948	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9948	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9948	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9948	47.65	43.36	45.31	45.25	44.09	18.32
BUILDLLEN EP9949	22.09	24.44	38.88	85.53	109.74	116.23
BUILDLLEN EP9949	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP9949	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9949	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9949	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9949	139.62	132.57	45.31	45.25	23.29	19.07
BUILDLLEN EP9950	22.09	24.44	38.88	85.53	109.74	116.23
BUILDLLEN EP9950	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP9950	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9950	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9950	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9950	139.62	132.57	45.31	45.25	23.29	19.07
BUILDLLEN EP9951	22.09	24.44	38.88	85.53	109.74	116.23
BUILDLLEN EP9951	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP9951	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9951	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9951	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9951	139.62	132.57	45.31	45.25	23.29	19.07
BUILDLLEN EP9952	22.09	24.44	38.88	85.53	86.94	116.23
BUILDLLEN EP9952	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLLEN EP9952	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLLEN EP9952	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLLEN EP9952	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLLEN EP9952	139.62	132.57	45.31	45.25	23.29	19.07
BUILDLLEN EP9953	61.98	63.05	52.02	47.86	86.94	116.23
BUILDLLEN EP9953	119.19	118.53	117.47	124.87	122.81	117.02

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BUILDLIN EP9953	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLIN EP9953	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLIN EP9953	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLIN EP9953	47.65	132.57	45.31	45.25	44.09	18.32
BUILDLIN EP9954	61.98	63.05	52.02	47.86	86.94	116.23
BUILDLIN EP9954	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLIN EP9954	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLIN EP9954	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLIN EP9954	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLIN EP9954	47.65	132.57	45.31	45.25	44.09	18.32
BUILDLIN EP9955	61.98	63.05	52.02	47.86	86.94	116.23
BUILDLIN EP9955	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLIN EP9955	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLIN EP9955	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLIN EP9955	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLIN EP9955	47.65	132.57	45.31	45.25	44.09	18.32
BUILDLIN EP9956	61.98	63.05	52.02	47.86	86.94	116.23
BUILDLIN EP9956	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLIN EP9956	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLIN EP9956	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLIN EP9956	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLIN EP9956	47.65	132.57	45.31	45.25	44.09	18.32
BUILDLIN EP9957	61.98	63.05	52.02	47.86	86.94	116.23
BUILDLIN EP9957	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLIN EP9957	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLIN EP9957	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLIN EP9957	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLIN EP9957	47.65	132.57	45.31	45.25	44.09	18.32
BUILDLIN EP9958	61.98	63.05	52.02	47.86	86.94	116.23
BUILDLIN EP9958	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLIN EP9958	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLIN EP9958	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLIN EP9958	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLIN EP9958	47.65	132.57	45.31	45.25	44.09	18.32
BUILDLIN EP9959	61.98	63.05	52.02	47.86	86.94	116.23
BUILDLIN EP9959	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLIN EP9959	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLIN EP9959	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLIN EP9959	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLIN EP9959	47.65	132.57	45.31	45.25	44.09	18.32
BUILDLIN EP9960	61.98	63.05	52.02	47.86	86.94	116.23
BUILDLIN EP9960	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLIN EP9960	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLIN EP9960	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLIN EP9960	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLIN EP9960	47.65	132.57	45.31	45.25	44.09	18.32
BUILDLIN EP9961	61.98	63.05	52.02	47.86	86.94	116.23
BUILDLIN EP9961	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLIN EP9961	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLIN EP9961	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLIN EP9961	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLIN EP9961	47.65	43.36	45.31	45.25	44.09	18.32
BUILDLIN EP9962	61.98	63.05	52.02	47.86	86.94	116.23
BUILDLIN EP9962	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLIN EP9962	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLIN EP9962	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLIN EP9962	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLIN EP9962	47.65	43.36	45.31	45.25	44.09	18.32
BUILDLIN EP9963	61.98	63.05	52.02	47.86	86.94	116.23
BUILDLIN EP9963	119.19	118.53	117.47	124.87	122.81	117.02

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BUILDLN EP9963	107.67	95.06	37.75	30.99	23.29	18.32
BUILDLN EP9963	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9963	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9963	47.65	43.36	45.31	45.25	44.09	18.32
BUILDLN EP9964	61.98	63.05	52.02	47.86	86.94	116.23
BUILDLN EP9964	119.19	118.53	117.47	124.87	122.81	117.02
BUILDLN EP9964	107.67	43.36	37.75	30.99	23.29	18.32
BUILDLN EP9964	26.47	33.82	40.15	45.25	48.97	51.21
BUILDLN EP9964	51.90	51.00	49.72	51.55	51.81	50.50
BUILDLN EP9964	47.65	43.36	45.31	45.25	44.09	18.32
BUILDLN NMPP01	33.56	34.75	34.89	0.00	0.00	0.00
BUILDLN NMPP01	0.00	0.00	34.76	35.49	117.26	126.16
BUILDLN NMPP01	131.24	132.33	48.99	56.74	131.35	31.35
BUILDLN NMPP01	33.56	34.75	34.89	0.00	0.00	0.00
BUILDLN NMPP01	0.00	0.00	34.76	35.49	117.26	126.16
BUILDLN NMPP01	131.24	132.33	23.63	56.74	131.35	31.35
BUILDLN NMPP02	33.56	34.75	0.00	0.00	0.00	0.00
BUILDLN NMPP02	0.00	32.98	34.76	106.68	117.26	126.16
BUILDLN NMPP02	131.24	132.33	48.99	56.74	131.35	31.35
BUILDLN NMPP02	33.56	34.75	0.00	0.00	0.00	0.00
BUILDLN NMPP02	0.00	32.98	34.76	183.18	117.26	126.16
BUILDLN NMPP02	31.27	132.33	23.63	56.74	131.35	31.35
XBADJ EP61	-110.23	-441.68	-524.77	-591.93	-74.44	-77.36
XBADJ EP61	-78.42	-75.57	-79.44	-80.90	-79.90	-77.95
XBADJ EP61	-100.11	-98.57	-120.75	-121.60	-119.60	-63.24
XBADJ EP61	-55.97	-41.69	-27.62	-13.19	45.25	34.08
XBADJ EP61	41.66	46.50	49.92	42.90	37.48	49.42
XBADJ EP61	44.70	38.62	-77.03	-111.98	-114.88	-114.29
XBADJ EP98	-2.16	-2.19	-2.15	-175.87	-187.10	-176.67
XBADJ EP98	-184.16	-186.06	-183.62	-2.74	-4.67	-6.47
XBADJ EP98	-8.07	-9.42	-10.48	-11.23	-11.64	-11.69
XBADJ EP98	-15.68	-19.19	-22.11	-24.37	-25.88	-26.61
XBADJ EP98	-26.53	-25.65	-23.98	-23.98	-23.24	-21.80
XBADJ EP98	-19.70	-17.00	-13.78	-10.15	-6.20	-2.07
XBADJ EPAA	-60.56	-62.79	-63.12	-197.14	-208.69	-213.90
XBADJ EPAA	-212.61	-199.29	-202.03	-202.03	-195.88	0.00
XBADJ EPAA	0.00	-42.87	20.04	-44.05	-42.63	-39.91
XBADJ EPAA	-40.27	-39.41	0.00	16.28	0.00	0.00
XBADJ EPAA	0.00	0.00	0.00	0.00	0.00	0.00
XBADJ EPAA	0.00	16.45	-57.79	-58.55	-57.53	-56.48
XBADJ EP991	-128.52	-129.25	-137.99	-158.66	-156.10	-166.47
XBADJ EP991	-172.06	-172.42	-170.94	-173.41	-192.55	-190.78
XBADJ EP991	-183.20	-170.06	-151.75	-15.59	-15.30	-16.26
XBADJ EP991	-23.57	-30.16	-35.83	-40.42	-43.77	-45.80
XBADJ EP991	-46.44	-45.66	-44.08	-43.47	-41.54	-38.34
XBADJ EP991	-33.99	37.50	-128.04	-126.77	-7.99	-123.88
XBADJ EP992	-128.60	-129.41	-138.22	-158.95	-156.45	-166.86
XBADJ EP992	-172.48	-172.86	-171.39	-173.86	-192.98	-191.17
XBADJ EP992	-183.55	-170.35	-151.98	-15.75	-15.38	-16.26
XBADJ EP992	-23.49	-30.00	-35.61	-40.13	-43.43	-45.41
XBADJ EP992	-46.02	-45.22	-43.63	-43.03	-41.12	-37.95
XBADJ EP992	-33.64	37.78	-127.81	-126.62	-7.91	-123.88
XBADJ EP993	-128.67	-129.56	-138.44	-159.24	-156.79	-167.25
XBADJ EP993	-172.90	-173.30	-171.84	-174.30	-193.40	-191.56
XBADJ EP993	-183.89	-170.64	-152.20	-15.90	-15.45	-16.26
XBADJ EP993	-23.41	-29.85	-35.38	-39.84	-43.09	-45.02
XBADJ EP993	-45.59	-44.78	-43.18	-42.58	-40.69	-37.56
XBADJ EP993	-33.30	38.07	-127.59	-126.47	-7.83	-123.88
XBADJ EP994	-128.75	-129.72	-138.67	-159.53	-157.14	-167.65
XBADJ EP994	-173.34	-173.76	-172.30	-174.75	-193.83	-191.95

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XBADJ	EP994	-184.24	-170.94	-152.43	-16.06	-15.53	-16.26
XBADJ	EP994	-23.33	-29.69	-35.15	-39.54	-42.73	-44.62
XBADJ	EP994	-45.16	-44.32	-42.72	-42.13	-40.26	-37.17
XBADJ	EP994	-32.94	38.37	-127.36	-126.31	-7.75	-123.88
XBADJ	EP995	-129.39	-130.96	-140.49	-161.87	-159.93	-170.80
XBADJ	EP995	-176.76	-177.34	-175.94	-178.34	-197.25	-195.11
XBADJ	EP995	-187.03	-173.28	-17.91	-17.30	-16.17	-16.26
XBADJ	EP995	-22.70	-28.45	-33.33	-37.20	-39.94	-41.47
XBADJ	EP995	-41.74	-40.74	-39.08	-38.55	-36.84	-34.01
XBADJ	EP995	-30.16	40.71	-125.54	-125.06	-7.12	-2.06
XBADJ	EP996	-129.46	-131.12	-140.72	-162.16	-160.28	-171.19
XBADJ	EP996	-177.18	-177.79	-176.39	-178.78	-197.68	-195.50
XBADJ	EP996	-187.38	-173.57	-18.14	-17.46	-16.24	-16.26
XBADJ	EP996	-22.62	-28.29	-33.11	-36.91	-39.60	-41.08
XBADJ	EP996	-41.32	-40.30	-38.63	-38.10	-36.42	-33.62
XBADJ	EP996	-29.81	-121.90	-125.31	-124.91	-120.71	-2.06
XBADJ	EP997	-129.54	-131.27	-140.94	-162.45	-160.62	-171.58
XBADJ	EP997	-177.60	-178.23	-176.84	-179.22	-198.10	-195.89
XBADJ	EP997	-187.72	-173.85	-18.36	-17.61	-16.32	-16.26
XBADJ	EP997	-22.54	-28.14	-32.88	-36.62	-39.26	-40.69
XBADJ	EP997	-40.89	-39.85	-38.18	-37.66	-35.99	-33.23
XBADJ	EP997	-29.47	-121.62	-125.09	-124.76	-120.64	-2.06
XBADJ	EP998	-129.62	-131.43	-130.09	-125.08	-160.97	-171.98
XBADJ	EP998	-178.03	-178.68	-177.30	-179.68	-198.53	-196.28
XBADJ	EP998	-188.07	-174.15	-18.59	-17.77	-16.40	-16.26
XBADJ	EP998	-22.46	-27.98	-32.65	-36.33	-38.90	-40.29
XBADJ	EP998	-40.46	-39.40	-37.72	-37.21	-35.56	-32.84
XBADJ	EP998	-29.11	-121.32	-124.86	-124.60	-120.56	-2.06
XBADJ	EP999	-130.25	-132.67	-131.91	-127.42	-163.76	-175.13
XBADJ	EP999	-181.45	-182.27	-180.94	-198.33	-201.95	-199.44
XBADJ	EP999	-190.86	-176.49	-20.41	-19.01	-17.03	-16.26
XBADJ	EP999	-21.83	-26.74	-30.83	-33.99	-36.11	-37.14
XBADJ	EP999	-37.04	-35.81	-34.08	-33.62	-32.14	-29.68
XBADJ	EP999	-26.33	-118.98	-123.04	-123.35	-119.92	-2.06
XBADJ	EP9910	-130.33	-132.83	-132.13	-127.71	-164.11	-175.52
XBADJ	EP9910	-181.88	-182.71	-181.39	-198.77	-202.37	-199.83
XBADJ	EP9910	-191.21	-176.78	-20.64	-19.17	-17.11	-16.26
XBADJ	EP9910	-21.75	-26.58	-30.61	-33.70	-35.77	-36.75
XBADJ	EP9910	-36.62	-35.37	-33.63	-33.18	-31.72	-29.29
XBADJ	EP9910	-25.98	-118.69	-122.81	-123.20	-119.85	-2.06
XBADJ	EP9911	-130.41	-132.98	-132.36	-128.00	-164.45	-175.91
XBADJ	EP9911	-182.30	-183.15	-181.84	-199.21	-202.80	-200.22
XBADJ	EP9911	-191.55	-177.07	-20.86	-19.32	-17.19	-16.26
XBADJ	EP9911	-21.67	-26.43	-30.38	-33.41	-35.42	-36.36
XBADJ	EP9911	-36.20	-34.93	-33.18	-32.73	-31.30	-28.90
XBADJ	EP9911	-25.64	-118.40	-122.59	-123.05	-119.77	-2.06
XBADJ	EP9912	-130.49	-133.14	-132.59	-128.29	-164.80	-176.31
XBADJ	EP9912	-182.73	-183.61	-182.30	-199.67	-203.23	-200.61
XBADJ	EP9912	-191.90	-177.36	-21.09	-19.48	-17.27	-16.26
XBADJ	EP9912	-21.59	-26.27	-30.15	-33.12	-35.07	-35.96
XBADJ	EP9912	-35.76	-34.48	-32.72	-32.28	-30.86	-28.51
XBADJ	EP9912	-25.28	-118.11	-122.36	-122.89	-119.69	-2.06
XBADJ	EP9913	-131.12	-134.38	-134.41	-144.32	-167.59	-179.46
XBADJ	EP9913	-186.15	-187.19	-185.94	-203.25	-206.65	-203.77
XBADJ	EP9913	-194.69	-179.70	-22.91	-20.72	-17.90	-16.26
XBADJ	EP9913	-20.96	-25.03	-28.33	-30.78	-32.28	-32.81
XBADJ	EP9913	-32.34	-30.89	-29.08	-28.70	-27.44	-25.35
XBADJ	EP9913	-22.50	-18.95	-120.54	-121.64	-119.06	-2.06
XBADJ	EP9914	-131.20	-134.54	-134.63	-144.61	-167.94	-179.85
XBADJ	EP9914	-186.58	-187.63	-186.39	-203.70	-207.07	-204.16

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XBADJ	EP9914	-195.04	-179.99	-23.14	-20.88	-17.98	-16.26
XBADJ	EP9914	-20.88	-24.87	-28.11	-30.49	-31.94	-32.42
XBADJ	EP9914	-31.92	-30.45	-28.63	-28.25	-27.02	-24.96
XBADJ	EP9914	-22.15	-18.66	-120.31	-121.49	-118.98	-2.06
XBADJ	EP9915	-131.28	-134.69	-134.86	-144.90	-168.28	-180.24
XBADJ	EP9915	-187.00	-188.08	-186.84	-204.14	-207.49	-204.55
XBADJ	EP9915	-195.38	-180.28	-23.36	-21.03	-18.06	-16.26
XBADJ	EP9915	-20.81	-24.72	-27.88	-30.20	-31.59	-32.03
XBADJ	EP9915	-31.50	-30.00	-28.18	-27.81	-26.60	-24.57
XBADJ	EP9915	-21.81	-18.37	-120.09	-121.34	-118.90	-2.06
XBADJ	EP9916	-131.36	-134.85	-135.09	-145.20	-168.63	-180.64
XBADJ	EP9916	-187.43	-188.53	-187.30	-204.59	-207.93	-204.94
XBADJ	EP9916	-195.74	-180.58	-23.59	-21.19	-18.14	-16.26
XBADJ	EP9916	-20.73	-24.56	-27.65	-29.90	-31.24	-31.63
XBADJ	EP9916	-31.06	-29.55	-27.72	-27.36	-26.16	-24.18
XBADJ	EP9916	-21.45	-18.08	-119.86	-121.18	-118.82	-2.06
XBADJ	EP9917	-131.38	-131.99	-140.51	-123.22	-157.97	-167.92
XBADJ	EP9917	-173.05	-172.92	-170.94	-187.97	-191.56	-189.32
XBADJ	EP9917	-181.33	-167.83	-12.89	-12.86	-12.43	-13.35
XBADJ	EP9917	-20.70	-27.42	-33.31	-38.19	-41.90	-44.35
XBADJ	EP9917	-45.44	-45.16	-44.08	-43.97	-42.53	-39.80
XBADJ	EP9917	-35.86	35.27	-130.56	-129.51	-10.85	-126.79
XBADJ	EP9918	-131.46	-132.14	-140.74	-123.51	-158.32	-168.31
XBADJ	EP9918	-173.48	-173.37	-171.39	-188.42	-191.98	-189.71
XBADJ	EP9918	-181.68	-168.12	-13.12	-13.01	-12.51	-13.35
XBADJ	EP9918	-20.62	-27.27	-33.09	-37.90	-41.56	-43.96
XBADJ	EP9918	-45.02	-44.71	-43.63	-43.53	-42.11	-39.41
XBADJ	EP9918	-35.51	35.56	-130.33	-129.35	-10.78	-126.79
XBADJ	EP9919	-131.54	-132.29	-140.96	-123.80	-158.66	-168.70
XBADJ	EP9919	-173.90	-173.81	-171.84	-188.86	-192.40	-190.10
XBADJ	EP9919	-182.02	-168.41	-13.34	-13.17	-12.59	-13.35
XBADJ	EP9919	-20.54	-27.11	-32.86	-37.61	-41.21	-43.57
XBADJ	EP9919	-44.60	-44.27	-43.18	-43.09	-41.69	-39.02
XBADJ	EP9919	-35.17	35.84	-130.11	-129.20	-10.70	-126.79
XBADJ	EP9920	-131.62	-132.45	-141.19	-124.09	-159.01	-169.10
XBADJ	EP9920	-174.33	-174.26	-172.30	-189.31	-192.84	-190.50
XBADJ	EP9920	-182.37	-168.71	-13.57	-13.32	-12.67	-13.35
XBADJ	EP9920	-20.46	-26.96	-32.63	-37.31	-40.86	-43.17
XBADJ	EP9920	-44.16	-43.82	-42.72	-42.64	-41.26	-38.62
XBADJ	EP9920	-34.81	36.14	-129.88	-129.04	-10.62	-126.79
XBADJ	EP9921	-132.25	-133.70	-143.01	-126.43	-161.80	-172.25
XBADJ	EP9921	-177.75	-177.85	-175.94	-192.90	-196.26	-193.65
XBADJ	EP9921	-185.16	-171.05	-15.39	-14.57	-13.30	-13.35
XBADJ	EP9921	-19.83	-25.71	-30.81	-34.97	-38.07	-40.02
XBADJ	EP9921	-40.74	-40.23	-39.08	-39.05	-37.83	-35.47
XBADJ	EP9921	-32.03	38.48	-128.06	-127.80	-123.66	-4.97
XBADJ	EP9922	-132.33	-133.85	-143.24	-126.72	-162.15	-172.64
XBADJ	EP9922	-178.17	-178.29	-176.39	-193.34	-196.68	-194.04
XBADJ	EP9922	-185.51	-171.34	-15.62	-14.72	-13.38	-13.35
XBADJ	EP9922	-19.75	-25.56	-30.59	-34.68	-37.73	-39.63
XBADJ	EP9922	-40.32	-39.79	-38.63	-38.61	-37.41	-35.08
XBADJ	EP9922	-31.68	38.77	-127.83	-127.64	-123.58	-4.97
XBADJ	EP9923	-132.41	-134.00	-143.46	-127.01	-162.49	-173.03
XBADJ	EP9923	-178.60	-178.73	-176.84	-193.79	-197.10	-194.43
XBADJ	EP9923	-185.85	-171.63	-15.84	-14.88	-13.46	-13.35
XBADJ	EP9923	-19.68	-25.40	-30.36	-34.40	-37.38	-39.24
XBADJ	EP9923	-39.90	-39.35	-38.18	-38.16	-36.99	-34.69
XBADJ	EP9923	-31.34	39.06	-127.61	-127.49	-123.50	-4.97
XBADJ	EP9924	-132.49	-134.16	-143.69	-127.31	-162.85	-173.43
XBADJ	EP9924	-179.03	-179.19	-177.30	-194.24	-197.53	-194.83

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XBADJ	EP9924	-186.20	-171.92	-16.07	-15.03	-13.54	-13.35
XBADJ	EP9924	-19.60	-25.25	-30.13	-34.10	-37.03	-38.84
XBADJ	EP9924	-39.47	-38.89	-37.72	-37.71	-36.56	-34.29
XBADJ	EP9924	-30.98	39.35	-127.38	-127.33	-123.42	-4.97
XBADJ	EP9925	-133.12	-135.41	-134.43	-129.65	-165.63	-176.58
XBADJ	EP9925	-182.45	-182.77	-180.94	-197.82	-200.96	-197.98
XBADJ	EP9925	-188.99	-174.26	-17.89	-16.28	-14.17	-13.35
XBADJ	EP9925	-18.96	-24.00	-28.31	-31.76	-34.24	-35.69
XBADJ	EP9925	-36.05	-35.31	-34.08	-34.13	-33.14	-31.14
XBADJ	EP9925	-28.20	-121.21	-125.56	-126.09	-122.79	-4.97
XBADJ	EP9926	-133.20	-135.56	-134.65	-129.94	-165.98	-176.97
XBADJ	EP9926	-182.87	-183.21	-181.39	-198.27	-201.38	-198.37
XBADJ	EP9926	-189.34	-174.55	-18.12	-16.43	-14.25	-13.35
XBADJ	EP9926	-18.89	-23.85	-28.09	-31.47	-33.90	-35.30
XBADJ	EP9926	-35.62	-34.87	-33.63	-33.68	-32.71	-30.75
XBADJ	EP9926	-27.85	-120.92	-125.33	-125.93	-122.71	-4.97
XBADJ	EP9927	-133.28	-135.71	-134.88	-130.23	-166.32	-177.36
XBADJ	EP9927	-183.30	-183.66	-181.84	-198.71	-201.80	-198.76
XBADJ	EP9927	-189.68	-174.84	-18.34	-16.59	-14.33	-13.35
XBADJ	EP9927	-18.81	-23.69	-27.86	-31.18	-33.55	-34.91
XBADJ	EP9927	-35.20	-34.42	-33.18	-33.24	-32.29	-30.36
XBADJ	EP9927	-27.51	-23.82	-125.11	-125.78	-122.63	-4.97
XBADJ	EP9928	-133.36	-135.87	-135.11	-130.52	-166.68	-177.76
XBADJ	EP9928	-183.73	-184.11	-182.30	-199.16	-202.23	-199.16
XBADJ	EP9928	-190.03	-175.13	-18.57	-16.74	-14.41	-13.35
XBADJ	EP9928	-18.73	-23.54	-27.63	-30.89	-33.20	-34.51
XBADJ	EP9928	-34.77	-33.97	-32.72	-32.79	-31.86	-29.96
XBADJ	EP9928	-27.15	-23.52	-124.88	-125.62	-122.55	-4.97
XBADJ	EP9929	-133.99	-137.12	-136.93	-132.86	-169.46	-180.91
XBADJ	EP9929	-187.15	-187.70	-185.94	-202.75	-205.65	-202.31
XBADJ	EP9929	-192.82	-177.47	-20.39	-17.99	-15.04	-13.35
XBADJ	EP9929	-18.10	-22.29	-25.81	-28.55	-30.41	-31.36
XBADJ	EP9929	-31.35	-30.39	-29.08	-29.20	-28.44	-26.81
XBADJ	EP9929	-24.37	-21.18	-123.06	-124.38	-121.92	-4.97
XBADJ	EP9930	-134.07	-137.27	-137.15	-133.15	-169.81	-181.30
XBADJ	EP9930	-187.57	-188.14	-186.39	-203.19	-206.08	-202.70
XBADJ	EP9930	-193.17	-177.76	-20.62	-18.14	-15.12	-13.35
XBADJ	EP9930	-18.02	-22.14	-25.59	-28.26	-30.07	-30.97
XBADJ	EP9930	-30.92	-29.94	-28.63	-28.76	-28.01	-26.42
XBADJ	EP9930	-24.02	-20.89	-122.83	-124.22	-121.84	-4.97
XBADJ	EP9931	-134.15	-137.42	-137.38	-133.44	-170.15	-181.69
XBADJ	EP9931	-187.99	-188.58	-186.84	-203.63	-206.50	-203.09
XBADJ	EP9931	-193.51	-178.05	-20.84	-18.30	-15.19	-13.35
XBADJ	EP9931	-17.94	-21.98	-25.36	-27.97	-29.72	-30.58
XBADJ	EP9931	-30.50	-29.50	-28.18	-28.32	-27.59	-26.03
XBADJ	EP9931	-23.68	-20.60	-122.61	-124.07	-121.77	-4.97
XBADJ	EP9932	-134.23	-137.58	-137.61	-133.74	-170.51	-182.09
XBADJ	EP9932	-188.43	-189.03	-187.30	-204.09	-206.93	-203.49
XBADJ	EP9932	-193.86	-178.35	-21.07	-18.45	-15.27	-13.35
XBADJ	EP9932	-17.86	-21.83	-25.13	-27.67	-29.37	-30.18
XBADJ	EP9932	-30.07	-29.05	-27.72	-27.86	-27.16	-25.63
XBADJ	EP9932	-23.32	-20.31	-122.38	-123.91	-121.69	-4.97
XBADJ	EP9933	-134.25	-134.72	-143.03	-163.12	-159.84	-169.38
XBADJ	EP9933	-174.05	-173.43	-170.94	-187.47	-190.56	-187.87
XBADJ	EP9933	-179.46	-165.60	-10.37	-10.12	-9.57	-10.44
XBADJ	EP9933	-17.84	-24.69	-30.79	-35.96	-40.03	-42.89
XBADJ	EP9933	-44.45	-44.65	-44.08	-44.48	-43.53	-41.25
XBADJ	EP9933	39.84	33.04	-133.08	-132.24	-13.72	-129.70
XBADJ	EP9934	-134.33	-134.87	-143.26	-163.41	-160.19	-169.77
XBADJ	EP9934	-174.47	-173.87	-171.39	-187.91	-190.99	-188.26

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XBADJ	EP9934	-179.81	-165.89	-10.60	-10.28	-9.65	-10.44
XBADJ	EP9934	-17.76	-24.53	-30.57	-35.67	-39.69	-42.50
XBADJ	EP9934	-44.02	-44.21	-43.63	-44.04	-43.11	-40.86
XBADJ	EP9934	40.19	33.33	-132.85	-132.09	-13.64	-129.70
XBADJ	EP9935	-134.41	-135.03	-143.48	-163.70	-160.53	-170.16
XBADJ	EP9935	-174.89	-174.32	-171.84	-188.36	-191.41	-188.65
XBADJ	EP9935	-180.15	-166.18	-10.82	-10.43	-9.72	-10.44
XBADJ	EP9935	-17.68	-24.38	-30.34	-35.38	-39.34	-42.11
XBADJ	EP9935	-43.60	-43.77	-43.18	-43.59	-42.68	-40.47
XBADJ	EP9935	40.53	33.62	-132.63	-131.94	-13.56	-129.70
XBADJ	EP9936	-134.49	-135.19	-143.71	-163.99	-160.89	-170.56
XBADJ	EP9936	-175.33	-174.77	-172.30	-188.81	-191.84	-189.04
XBADJ	EP9936	-180.50	-166.48	-11.05	-10.59	-9.80	-10.44
XBADJ	EP9936	-17.60	-24.22	-30.11	-35.08	-38.99	-41.71
XBADJ	EP9936	-43.17	-43.31	-42.72	-43.14	-42.25	-40.08
XBADJ	EP9936	-36.68	33.91	-132.40	-131.78	-13.48	-129.70
XBADJ	EP9937	-135.12	-136.43	-145.53	-128.66	-163.67	-173.71
XBADJ	EP9937	-178.75	-178.35	-175.94	-192.39	-195.26	-192.20
XBADJ	EP9937	-183.29	-168.82	-12.87	-11.83	-10.44	-10.44
XBADJ	EP9937	-16.97	-22.98	-28.29	-32.74	-36.20	-38.56
XBADJ	EP9937	-39.75	-39.73	-39.08	-39.56	-38.83	-36.92
XBADJ	EP9937	-33.90	36.25	-130.58	-130.53	-126.52	-7.88
XBADJ	EP9938	-135.20	-136.59	-145.76	-128.95	-164.02	-174.10
XBADJ	EP9938	-179.17	-178.80	-176.39	-192.84	-195.68	-192.59
XBADJ	EP9938	-183.64	-169.11	-13.10	-11.99	-10.51	-10.44
XBADJ	EP9938	-16.89	-22.82	-28.07	-32.46	-35.86	-38.17
XBADJ	EP9938	-39.33	-39.28	-38.63	-39.11	-38.41	-36.53
XBADJ	EP9938	-33.55	36.54	-130.35	-130.38	-126.45	-7.88
XBADJ	EP9939	-135.27	-136.74	-145.98	-129.24	-164.36	-174.49
XBADJ	EP9939	-179.59	-179.24	-176.84	-193.28	-196.11	-192.98
XBADJ	EP9939	-183.98	-169.40	-13.32	-12.14	-10.59	-10.44
XBADJ	EP9939	-16.81	-22.67	-27.84	-32.17	-35.51	-37.78
XBADJ	EP9939	-38.90	-38.84	-38.18	-38.67	-37.98	-36.14
XBADJ	EP9939	-33.21	36.83	-130.13	-130.23	-126.37	-7.88
XBADJ	EP9940	-135.35	-136.90	-146.21	-129.54	-164.72	-174.89
XBADJ	EP9940	-180.02	-179.69	-177.30	-193.73	-196.54	-193.37
XBADJ	EP9940	-184.33	-169.69	-13.55	-12.30	-10.67	-10.44
XBADJ	EP9940	-16.73	-22.51	-27.61	-31.87	-35.16	-37.38
XBADJ	EP9940	-38.47	-38.39	-37.72	-38.22	-37.55	-35.75
XBADJ	EP9940	-32.85	37.13	-129.90	-130.07	-126.29	-7.88
XBADJ	EP9941	-135.99	-138.14	-136.95	-131.88	-167.50	-178.04
XBADJ	EP9941	-183.44	-183.28	-180.94	-197.32	-199.96	-196.53
XBADJ	EP9941	-187.12	-172.03	-15.37	-13.54	-11.30	-10.44
XBADJ	EP9941	-16.10	-21.27	-25.79	-29.53	-32.37	-34.23
XBADJ	EP9941	-35.05	-34.80	-34.08	-34.63	-34.13	-32.59
XBADJ	EP9941	-30.07	39.46	-128.08	-128.82	-125.66	-7.88
XBADJ	EP9942	-136.06	-138.30	-137.17	-132.17	-167.85	-178.43
XBADJ	EP9942	-183.87	-183.72	-181.39	-197.76	-200.38	-196.92
XBADJ	EP9942	-187.47	-172.32	-15.60	-13.70	-11.38	-10.44
XBADJ	EP9942	-16.02	-21.11	-25.57	-29.24	-32.03	-33.84
XBADJ	EP9942	-34.63	-34.36	-33.63	-34.19	-33.71	-32.20
XBADJ	EP9942	-29.72	39.75	-127.85	-128.67	-125.58	-7.88
XBADJ	EP9943	-136.14	-138.45	-137.40	-132.45	-168.19	-178.82
XBADJ	EP9943	-184.29	-184.16	-181.84	-198.20	-200.81	-197.31
XBADJ	EP9943	-187.81	-172.61	-15.82	-13.85	-11.46	-10.44
XBADJ	EP9943	-15.94	-20.96	-25.34	-28.95	-31.68	-33.45
XBADJ	EP9943	-34.20	-33.92	-33.18	-33.75	-33.29	-31.81
XBADJ	EP9943	-29.38	40.04	-127.63	-128.52	-125.50	-7.88
XBADJ	EP9944	-136.22	-138.61	-137.63	-132.75	-168.55	-179.22
XBADJ	EP9944	-184.72	-184.62	-182.30	-198.66	-201.24	-197.70

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XBADJ	EP9944	-188.16	-172.91	-16.05	-14.01	-11.54	-10.44
XBADJ	EP9944	-15.86	-20.80	-25.11	-28.66	-31.33	-33.05
XBADJ	EP9944	-33.77	-33.46	-32.72	-33.29	-32.85	-31.42
XBADJ	EP9944	-29.02	40.34	-127.40	-128.36	-125.42	-7.88
XBADJ	EP9945	-141.89	-148.01	-139.45	-135.09	-171.33	-182.37
XBADJ	EP9945	-188.14	-188.20	-185.94	-202.24	-204.66	-200.86
XBADJ	EP9945	-190.95	-175.25	-17.87	-15.25	-12.17	-10.44
XBADJ	EP9945	-15.23	-19.56	-23.29	-26.32	-28.54	-29.90
XBADJ	EP9945	-30.35	-29.88	-29.08	-29.71	-29.43	-28.26
XBADJ	EP9945	-26.24	-23.41	-125.58	-127.11	-124.79	-7.88
XBADJ	EP9946	-141.97	-148.17	-139.67	-135.38	-171.68	-182.76
XBADJ	EP9946	-188.57	-188.64	-186.39	-202.68	-205.08	-201.25
XBADJ	EP9946	-191.30	-175.53	-18.10	-15.41	-12.25	-10.44
XBADJ	EP9946	-15.15	-19.40	-23.07	-26.03	-28.20	-29.51
XBADJ	EP9946	-29.93	-29.44	-28.63	-29.26	-29.01	-27.87
XBADJ	EP9946	-25.89	-23.12	-125.35	-126.96	-124.71	-7.88
XBADJ	EP9947	-142.05	-148.32	-139.90	-135.67	-172.02	-183.15
XBADJ	EP9947	-188.99	-189.09	-186.84	-203.13	-205.50	-201.64
XBADJ	EP9947	-191.64	-175.82	-18.32	-15.56	-12.33	-10.44
XBADJ	EP9947	-15.07	-19.25	-22.84	-25.74	-27.85	-29.12
XBADJ	EP9947	-29.51	-28.99	-28.18	-28.82	-28.59	-27.48
XBADJ	EP9947	-25.55	-22.83	-125.13	-126.81	-124.63	-7.88
XBADJ	EP9948	-142.13	-148.48	-140.13	-135.96	-172.38	-183.55
XBADJ	EP9948	-189.42	-189.54	-187.30	-203.58	-205.94	-202.03
XBADJ	EP9948	-191.99	-176.12	-18.55	-15.72	-12.41	-10.44
XBADJ	EP9948	-14.99	-19.09	-22.61	-25.44	-27.50	-28.72
XBADJ	EP9948	-29.07	-28.54	-27.72	-28.37	-28.16	-27.09
XBADJ	EP9948	-25.19	-22.54	-124.90	-126.65	-124.55	-7.88
XBADJ	EP9949	-137.13	-137.46	-145.56	-165.35	-161.44	-170.84
XBADJ	EP9949	-175.05	-173.94	-170.94	-186.96	-189.56	-186.41
XBADJ	EP9949	-177.58	-163.37	-7.84	-7.38	-6.69	-7.52
XBADJ	EP9949	-14.96	-21.94	-28.26	-33.72	-38.16	-41.43
XBADJ	EP9949	-43.45	-44.14	-44.08	-44.99	-44.53	-42.71
XBADJ	EP9949	37.96	30.80	-135.61	-134.99	-16.60	-132.62
XBADJ	EP9950	-137.20	-137.62	-145.79	-165.64	-161.78	-171.23
XBADJ	EP9950	-175.47	-174.38	-171.39	-187.41	-189.99	-186.80
XBADJ	EP9950	-177.93	-163.66	-8.07	-7.53	-6.77	-7.52
XBADJ	EP9950	-14.88	-21.79	-28.04	-33.43	-37.81	-41.04
XBADJ	EP9950	-43.03	-43.70	-43.63	-44.54	-44.10	-42.32
XBADJ	EP9950	38.31	31.09	-135.38	-134.83	-16.52	-132.62
XBADJ	EP9951	-137.28	-137.77	-146.01	-165.93	-162.13	-171.62
XBADJ	EP9951	-175.89	-174.82	-171.84	-187.85	-190.41	-187.19
XBADJ	EP9951	-178.27	-163.95	-8.29	-7.69	-6.85	-7.52
XBADJ	EP9951	-14.80	-21.64	-27.81	-33.14	-37.47	-40.65
XBADJ	EP9951	-42.60	-43.26	-43.18	-44.10	-43.68	-41.93
XBADJ	EP9951	38.65	31.38	-135.16	-134.68	-16.44	-132.62
XBADJ	EP9952	-137.36	-137.93	-146.24	-166.23	-162.76	-172.02
XBADJ	EP9952	-176.32	-175.28	-172.30	-188.30	-190.84	-187.58
XBADJ	EP9952	-178.63	-164.24	-8.52	-7.84	-6.93	-7.52
XBADJ	EP9952	-14.72	-21.48	-27.58	-32.85	-37.11	-40.25
XBADJ	EP9952	-42.17	-42.81	-42.72	-43.65	-43.25	-41.54
XBADJ	EP9952	39.01	31.67	-134.93	-134.52	-16.36	-132.62
XBADJ	EP9953	-143.03	-147.34	-136.98	-130.90	-165.55	-175.17
XBADJ	EP9953	-179.75	-178.86	-175.94	-191.89	-194.26	-190.74
XBADJ	EP9953	-181.41	-166.58	-10.34	-9.09	-7.56	-7.52
XBADJ	EP9953	-14.09	-20.23	-25.76	-30.51	-34.33	-37.10
XBADJ	EP9953	-38.75	-39.22	-39.08	-40.06	-39.83	-38.38
XBADJ	EP9953	-35.77	34.01	-133.11	-133.28	-129.40	-10.80
XBADJ	EP9954	-143.11	-147.49	-137.20	-131.19	-165.90	-175.56
XBADJ	EP9954	-180.17	-179.30	-176.39	-192.33	-194.69	-191.13

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XBADJ	EP9954	-181.76	-166.87	-10.57	-9.24	-7.64	-7.52
XBADJ	EP9954	-14.01	-20.08	-25.54	-30.22	-33.98	-36.71
XBADJ	EP9954	-38.33	-38.78	-38.63	-39.62	-39.41	-37.99
XBADJ	EP9954	-35.43	34.30	-132.88	-133.12	-129.32	-10.80
XBADJ	EP9955	-143.19	-147.65	-137.43	-131.48	-166.24	-175.95
XBADJ	EP9955	-180.59	-179.75	-176.84	-192.77	-195.11	-191.52
XBADJ	EP9955	-182.10	-167.16	-10.79	-9.40	-7.72	-7.52
XBADJ	EP9955	-13.93	-19.93	-25.31	-29.93	-33.64	-36.32
XBADJ	EP9955	-37.90	-38.33	-38.18	-39.18	-38.98	-37.60
XBADJ	EP9955	-35.08	34.59	-132.66	-132.97	-129.24	-10.80
XBADJ	EP9956	-143.27	-147.80	-137.66	-131.77	-166.59	-176.35
XBADJ	EP9956	-181.02	-180.20	-177.30	-193.23	-195.54	-191.91
XBADJ	EP9956	-182.46	-167.45	-11.02	-9.55	-7.80	-7.52
XBADJ	EP9956	-13.86	-19.77	-25.08	-29.63	-33.28	-35.92
XBADJ	EP9956	-37.47	-37.88	-37.72	-38.72	-38.55	-37.21
XBADJ	EP9956	-34.73	34.89	-132.43	-132.81	-129.16	-10.80
XBADJ	EP9957	-143.90	-149.05	-139.48	-134.11	-169.38	-179.50
XBADJ	EP9957	-184.44	-183.78	-180.94	-196.81	-198.96	-195.07
XBADJ	EP9957	-185.24	-169.79	-12.84	-10.80	-8.43	-7.52
XBADJ	EP9957	-13.22	-18.52	-23.26	-27.29	-30.50	-32.77
XBADJ	EP9957	-34.05	-34.30	-34.08	-35.14	-35.13	-34.05
XBADJ	EP9957	-31.94	37.23	-130.61	-131.57	-128.53	-10.80
XBADJ	EP9958	-143.98	-149.20	-139.70	-134.40	-169.73	-179.89
XBADJ	EP9958	-184.87	-184.23	-181.39	-197.25	-199.38	-195.46
XBADJ	EP9958	-185.59	-170.08	-13.07	-10.95	-8.51	-7.52
XBADJ	EP9958	-13.14	-18.37	-23.04	-27.00	-30.15	-32.38
XBADJ	EP9958	-33.63	-33.85	-33.63	-34.70	-34.71	-33.66
XBADJ	EP9958	-31.60	37.52	-130.38	-131.41	-128.45	-10.80
XBADJ	EP9959	-144.06	-149.36	-139.93	-134.69	-170.07	-180.28
XBADJ	EP9959	-185.29	-184.67	-181.84	-197.70	-199.81	-195.85
XBADJ	EP9959	-185.93	-170.37	-13.29	-11.11	-8.58	-7.52
XBADJ	EP9959	-13.07	-18.22	-22.81	-26.72	-29.81	-31.99
XBADJ	EP9959	-33.21	-33.41	-33.18	-34.25	-34.28	-33.27
XBADJ	EP9959	-31.25	37.81	-130.16	-131.26	-128.37	-10.80
XBADJ	EP9960	-144.14	-149.51	-140.16	-134.99	-170.42	-180.68
XBADJ	EP9960	-185.72	-185.12	-182.30	-198.15	-200.24	-196.24
XBADJ	EP9960	-186.29	-170.67	-13.52	-11.26	-8.66	-7.52
XBADJ	EP9960	-12.99	-18.06	-22.58	-26.42	-29.45	-31.59
XBADJ	EP9960	-32.77	-32.96	-32.72	-33.80	-33.85	-32.88
XBADJ	EP9960	-30.90	38.10	-129.93	-131.10	-128.29	-10.80
XBADJ	EP9961	-144.77	-150.76	-141.98	-137.33	-173.21	-183.83
XBADJ	EP9961	-189.14	-188.71	-185.94	-201.73	-203.66	-199.40
XBADJ	EP9961	-189.08	-173.01	-15.34	-12.51	-9.30	-7.52
XBADJ	EP9961	-12.35	-16.81	-20.76	-24.08	-26.67	-28.44
XBADJ	EP9961	-29.35	-29.37	-29.08	-30.21	-30.43	-29.72
XBADJ	EP9961	-28.11	-25.65	-128.11	-129.86	-127.66	-10.80
XBADJ	EP9962	-144.85	-150.91	-142.20	-137.62	-173.56	-184.22
XBADJ	EP9962	-189.56	-189.15	-186.39	-202.18	-204.08	-199.79
XBADJ	EP9962	-189.42	-173.30	-15.57	-12.66	-9.37	-7.52
XBADJ	EP9962	-12.28	-16.66	-20.54	-23.79	-26.32	-28.05
XBADJ	EP9962	-28.93	-28.93	-28.63	-29.77	-30.01	-29.33
XBADJ	EP9962	-27.77	-25.36	-127.88	-129.70	-127.58	-10.80
XBADJ	EP9963	-144.92	-151.07	-142.43	-137.91	-173.90	-184.61
XBADJ	EP9963	-189.99	-189.59	-186.84	-202.62	-204.51	-200.18
XBADJ	EP9963	-189.76	-173.59	-15.79	-12.82	-9.45	-7.52
XBADJ	EP9963	-12.20	-16.51	-20.31	-23.50	-25.98	-27.66
XBADJ	EP9963	-28.51	-28.49	-28.18	-29.33	-29.59	-28.94
XBADJ	EP9963	-27.42	-25.07	-127.66	-129.55	-127.51	-10.80
XBADJ	EP9964	-145.00	-151.22	-142.66	-138.20	-174.25	-185.01
XBADJ	EP9964	-190.42	-190.05	-187.30	-203.07	-204.94	-200.57

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XBADJ	EP9964	-190.12	-18.58	-16.02	-12.97	-9.53	-7.52
XBADJ	EP9964	-12.12	-16.35	-20.08	-23.21	-25.62	-27.26
XBADJ	EP9964	-28.08	-28.03	-27.72	-28.88	-29.15	-28.55
XBADJ	EP9964	-27.07	-24.77	-127.43	-129.39	-127.43	-10.80
XBADJ	NMPP01	17.12	13.39	9.25	0.00	0.00	0.00
XBADJ	NMPP01	0.00	0.00	-60.00	-63.19	-233.23	-248.92
XBADJ	NMPP01	-257.05	-257.37	-169.47	-164.80	-221.51	-51.68
XBADJ	NMPP01	-50.68	-48.14	-44.14	0.00	0.00	0.00
XBADJ	NMPP01	0.00	0.00	25.24	27.70	115.97	122.76
XBADJ	NMPP01	125.81	125.04	24.29	108.06	90.16	20.33
XBADJ	NMPP02	9.64	5.01	0.00	0.00	0.00	0.00
XBADJ	NMPP02	0.00	-63.03	-67.05	-248.64	-237.68	-251.85
XBADJ	NMPP02	-258.37	-257.04	-167.50	-161.25	-216.48	-45.33
XBADJ	NMPP02	-43.20	-39.76	0.00	0.00	0.00	0.00
XBADJ	NMPP02	0.00	30.06	32.29	65.45	120.42	125.69
XBADJ	NMPP02	31.19	124.71	22.32	104.50	85.13	13.98
YBADJ	EP61	-29.42	274.29	237.09	192.68	24.63	13.86
YBADJ	EP61	2.67	26.34	15.34	3.88	-7.71	-19.06
YBADJ	EP61	-15.67	-28.02	24.90	5.69	-13.68	26.29
YBADJ	EP61	-303.16	-274.29	-237.09	-192.68	-24.63	-29.80
YBADJ	EP61	-19.66	-26.34	-15.34	13.01	23.56	19.06
YBADJ	EP61	15.67	28.02	0.48	19.39	3.05	-13.39
YBADJ	EP98	-10.62	-9.28	-7.67	47.31	24.74	42.88
YBADJ	EP98	22.05	0.56	-21.81	6.76	8.50	9.98
YBADJ	EP98	11.16	12.00	12.48	12.57	12.29	11.63
YBADJ	EP98	10.62	9.28	7.67	5.82	3.79	1.65
YBADJ	EP98	-0.54	-2.72	-4.81	-6.76	-8.50	-9.98
YBADJ	EP98	-11.16	-12.00	-12.48	-12.57	-12.29	-11.63
YBADJ	EPAA	-4.15	-12.30	-20.08	51.25	24.91	-2.18
YBADJ	EPAA	-29.20	31.55	6.41	-18.10	-42.05	0.00
YBADJ	EPAA	0.00	16.04	-27.24	4.93	-0.94	-6.78
YBADJ	EPAA	-12.41	-17.67	0.00	27.25	0.00	0.00
YBADJ	EPAA	0.00	0.00	0.00	0.00	0.00	0.00
YBADJ	EPAA	0.00	-16.04	27.24	20.07	12.28	4.13
YBADJ	EP991	7.46	-13.09	-25.10	-17.01	-38.40	33.28
YBADJ	EP991	13.95	-5.80	16.54	-3.19	17.07	-5.92
YBADJ	EP991	-28.74	-50.69	-71.09	20.49	20.16	19.22
YBADJ	EP991	17.70	15.63	13.09	10.16	6.92	3.46
YBADJ	EP991	-0.10	-3.65	-7.10	-10.33	-13.25	-15.76
YBADJ	EP991	-17.79	62.33	4.66	-13.40	-20.16	27.77
YBADJ	EP992	7.90	-12.67	-24.71	-16.67	-38.11	33.50
YBADJ	EP992	14.10	-5.72	16.54	-3.27	16.92	-6.15
YBADJ	EP992	-29.03	-51.03	-71.48	20.07	19.72	18.77
YBADJ	EP992	17.25	15.21	12.71	9.81	6.63	3.24
YBADJ	EP992	-0.25	-3.73	-7.10	-10.25	-13.09	-15.53
YBADJ	EP992	-17.50	62.68	5.05	-12.97	-19.72	28.22
YBADJ	EP993	8.34	-12.24	-24.32	-16.32	-37.82	33.73
YBADJ	EP993	14.26	-5.64	16.54	-3.35	16.77	-6.37
YBADJ	EP993	-29.32	-51.38	-71.87	19.64	19.27	18.32
YBADJ	EP993	16.81	14.79	12.32	9.47	6.34	3.01
YBADJ	EP993	-0.41	-3.81	-7.10	-10.17	-12.94	-15.31
YBADJ	EP993	-17.21	63.02	5.44	-12.55	-19.27	28.67
YBADJ	EP994	8.79	-11.81	-23.92	-15.97	-37.52	33.96
YBADJ	EP994	14.42	-5.56	16.54	-3.43	16.61	-6.60
YBADJ	EP994	-29.62	-51.73	-72.27	19.21	18.82	17.86
YBADJ	EP994	16.36	14.35	11.92	9.12	6.04	2.78
YBADJ	EP994	-0.56	-3.89	-7.10	-10.09	-12.78	-15.08
YBADJ	EP994	-16.92	63.38	5.84	-12.12	-18.82	29.13
YBADJ	EP995	12.38	-8.39	-20.77	-13.18	-35.18	35.78
YBADJ	EP995	15.66	-4.93	16.54	-4.06	15.36	-8.42

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YBADJ	EP995	-31.96	-54.52	15.86	15.79	15.24	14.22
YBADJ	EP995	12.77	10.93	8.76	6.33	3.70	0.96
YBADJ	EP995	-1.81	-4.52	-7.10	-9.46	-11.54	-13.26
YBADJ	EP995	-14.58	66.16	8.99	-8.70	-15.24	-14.22
YBADJ	EP996	12.82	-7.97	-20.38	-12.84	-34.89	36.00
YBADJ	EP996	15.81	-4.85	16.54	-4.14	15.21	-8.65
YBADJ	EP996	-32.25	-54.86	15.48	15.37	14.79	13.77
YBADJ	EP996	12.33	10.51	8.38	5.98	3.41	0.74
YBADJ	EP996	-1.96	-4.60	-7.10	-9.38	-11.38	-13.03
YBADJ	EP996	-14.29	26.76	9.38	-8.28	-25.68	-13.77
YBADJ	EP997	13.27	-7.55	-19.99	-12.49	-34.60	36.23
YBADJ	EP997	15.97	-4.78	16.54	-4.21	15.06	-8.87
YBADJ	EP997	-32.54	-55.21	15.09	14.95	14.35	13.32
YBADJ	EP997	11.88	10.09	7.99	5.64	3.12	0.51
YBADJ	EP997	-2.12	-4.68	-7.10	-9.31	-11.23	-12.81
YBADJ	EP997	-14.00	27.10	9.77	-7.85	-25.24	-13.32
YBADJ	EP998	13.72	-7.11	-27.76	-33.07	-34.31	36.46
YBADJ	EP998	16.13	-4.70	16.54	-4.29	14.90	-9.10
YBADJ	EP998	-32.83	-55.56	14.69	14.51	13.90	12.86
YBADJ	EP998	11.43	9.66	7.59	5.29	2.83	0.28
YBADJ	EP998	-2.27	-4.76	-7.10	-9.23	-11.07	-12.58
YBADJ	EP998	-13.71	27.45	10.17	-7.42	-24.79	-12.86
YBADJ	EP999	17.30	-3.69	-24.60	-30.29	-31.97	38.28
YBADJ	EP999	17.37	-4.06	16.54	37.82	13.65	-10.92
YBADJ	EP999	-35.17	-58.35	11.53	11.09	10.31	9.22
YBADJ	EP999	7.85	6.24	4.43	2.50	0.49	-1.54
YBADJ	EP999	-3.52	-5.39	-7.10	-8.59	-9.83	-10.76
YBADJ	EP999	-11.37	30.24	13.32	-4.00	-21.20	-9.22
YBADJ	EP9910	17.75	-3.27	-24.21	-29.94	-31.68	38.50
YBADJ	EP9910	17.52	-3.99	16.54	37.74	13.50	-11.15
YBADJ	EP9910	-35.46	-58.69	11.15	10.67	9.87	8.77
YBADJ	EP9910	7.40	5.81	4.05	2.15	0.20	-1.76
YBADJ	EP9910	-3.67	-5.47	-7.10	-8.52	-9.67	-10.53
YBADJ	EP9910	-11.08	30.59	13.71	-3.58	-20.76	-8.77
YBADJ	EP9911	18.19	-2.85	-23.82	-29.60	-31.39	38.73
YBADJ	EP9911	17.68	-3.91	16.54	37.66	13.35	-11.37
YBADJ	EP9911	-35.75	-59.04	10.76	10.25	9.43	8.32
YBADJ	EP9911	6.96	5.39	3.66	1.81	-0.09	-1.99
YBADJ	EP9911	-3.83	-5.55	-7.10	-8.44	-9.52	-10.31
YBADJ	EP9911	-10.79	30.93	14.10	-3.15	-20.32	-8.32
YBADJ	EP9912	18.64	-2.42	-23.42	-29.24	-31.09	38.96
YBADJ	EP9912	17.84	-3.83	16.54	37.58	13.19	-11.60
YBADJ	EP9912	-36.04	-59.39	10.36	9.81	8.97	7.86
YBADJ	EP9912	6.51	4.96	3.26	1.46	-0.39	-2.22
YBADJ	EP9912	-3.98	-5.63	-7.10	-8.36	-9.36	-10.08
YBADJ	EP9912	-10.49	31.28	14.50	-2.72	-19.86	-7.86
YBADJ	EP9913	22.23	1.00	-20.27	-33.81	-28.75	40.78
YBADJ	EP9913	19.08	-3.20	16.54	36.95	11.94	-13.42
YBADJ	EP9913	-38.38	-62.18	7.20	6.39	5.39	4.22
YBADJ	EP9913	2.92	1.54	0.10	-1.33	-2.73	-4.04
YBADJ	EP9913	-5.23	-6.26	-7.10	-7.72	-8.12	-8.26
YBADJ	EP9913	-8.15	-7.80	17.65	0.70	-16.28	-4.22
YBADJ	EP9914	22.67	1.43	-19.88	-33.47	-28.47	41.00
YBADJ	EP9914	19.23	-3.12	16.54	36.87	11.79	-13.65
YBADJ	EP9914	-38.67	-62.52	6.81	5.97	4.95	3.77
YBADJ	EP9914	2.48	1.11	-0.29	-1.68	-3.02	-4.26
YBADJ	EP9914	-5.38	-6.34	-7.10	-7.65	-7.96	-8.03
YBADJ	EP9914	-7.86	-7.45	18.04	1.12	-15.83	-3.77
YBADJ	EP9915	23.11	1.85	-19.49	-33.12	-28.18	41.23
YBADJ	EP9915	19.39	-3.04	16.54	36.79	11.64	-13.87

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YBADJ	EP9915	-38.96	-62.87	6.43	5.55	4.50	3.32
YBADJ	EP9915	2.04	0.69	-0.67	-2.02	-3.30	-4.49
YBADJ	EP9915	-5.54	-6.42	-7.10	-7.57	-7.81	-7.81
YBADJ	EP9915	-7.57	-7.11	18.43	1.54	-15.39	-3.32
YBADJ	EP9916	23.57	2.28	-19.09	-32.77	-27.88	41.46
YBADJ	EP9916	19.55	-2.96	16.54	36.71	11.48	-14.10
YBADJ	EP9916	-39.26	-63.22	6.03	5.12	4.05	2.86
YBADJ	EP9916	1.58	0.26	-1.07	-2.37	-3.60	-4.72
YBADJ	EP9916	-5.69	-6.50	-7.10	-7.49	-7.65	-7.58
YBADJ	EP9916	-7.28	-6.75	18.83	1.98	-14.94	-2.86
YBADJ	EP9917	6.95	-14.09	-26.55	-39.82	-40.63	30.76
YBADJ	EP9917	11.22	-8.67	13.63	36.69	14.34	-8.44
YBADJ	EP9917	-30.97	-52.56	18.74	19.49	19.66	19.22
YBADJ	EP9917	18.20	16.63	14.55	12.03	9.14	5.98
YBADJ	EP9917	2.64	-0.79	-4.19	-7.46	-10.51	-13.24
YBADJ	EP9917	-15.56	64.20	6.12	-12.40	-19.66	27.77
YBADJ	EP9918	7.39	-13.66	-26.16	-39.47	-40.34	30.98
YBADJ	EP9918	11.37	-8.59	13.63	36.61	14.18	-8.67
YBADJ	EP9918	-31.26	-52.90	18.35	19.07	19.21	18.77
YBADJ	EP9918	17.76	16.20	14.16	11.69	8.86	5.76
YBADJ	EP9918	2.48	-0.87	-4.19	-7.39	-10.36	-13.01
YBADJ	EP9918	-15.27	64.55	6.51	-11.98	-19.21	28.22
YBADJ	EP9919	7.84	-13.24	-25.77	-39.13	-40.05	31.21
YBADJ	EP9919	11.52	-8.51	13.63	36.53	14.03	-8.89
YBADJ	EP9919	-31.55	-53.25	17.96	18.65	18.77	18.32
YBADJ	EP9919	17.31	15.78	13.77	11.34	8.57	5.53
YBADJ	EP9919	2.33	-0.95	-4.19	-7.31	-10.20	-12.79
YBADJ	EP9919	-14.99	64.89	6.90	-11.56	-18.77	28.67
YBADJ	EP9920	8.29	-12.81	-25.38	-38.78	-39.75	31.44
YBADJ	EP9920	11.68	-8.43	13.63	36.45	13.87	-9.12
YBADJ	EP9920	-31.85	-53.60	17.56	18.22	18.32	17.86
YBADJ	EP9920	16.86	15.35	13.37	10.99	8.27	5.30
YBADJ	EP9920	2.17	-1.03	-4.19	-7.23	-10.05	-12.56
YBADJ	EP9920	-14.69	65.25	7.30	-11.12	-18.32	29.13
YBADJ	EP9921	11.87	-9.39	-22.22	-35.99	-37.41	33.26
YBADJ	EP9921	12.93	-7.80	13.63	35.82	12.63	-10.94
YBADJ	EP9921	-34.19	-56.39	14.41	14.80	14.73	14.22
YBADJ	EP9921	13.28	11.93	10.22	8.20	5.93	3.48
YBADJ	EP9921	0.93	-1.66	-4.19	-6.60	-8.80	-10.74
YBADJ	EP9921	-12.35	68.03	10.45	-7.70	-25.62	-14.22
YBADJ	EP9922	12.32	-8.96	-21.83	-35.64	-37.12	33.48
YBADJ	EP9922	13.08	-7.72	13.63	35.74	12.47	-11.17
YBADJ	EP9922	-34.48	-56.73	14.02	14.37	14.29	13.77
YBADJ	EP9922	12.83	11.51	9.83	7.86	5.64	3.26
YBADJ	EP9922	0.77	-1.74	-4.19	-6.52	-8.65	-10.51
YBADJ	EP9922	-12.06	68.38	10.84	-7.28	-25.18	-13.77
YBADJ	EP9923	12.76	-8.54	-21.44	-35.30	-36.83	33.71
YBADJ	EP9923	13.23	-7.64	13.63	35.66	12.32	-11.39
YBADJ	EP9923	-34.76	-57.08	13.63	13.95	13.85	13.32
YBADJ	EP9923	12.39	11.08	9.44	7.51	5.35	3.03
YBADJ	EP9923	0.62	-1.81	-4.19	-6.44	-8.49	-10.29
YBADJ	EP9923	-11.77	68.72	11.23	-6.86	-24.73	-13.32
YBADJ	EP9924	13.21	-8.11	-21.05	-34.95	-36.54	33.94
YBADJ	EP9924	13.39	-7.56	13.63	35.58	12.16	-11.62
YBADJ	EP9924	-35.06	-57.43	13.23	13.52	13.39	12.86
YBADJ	EP9924	11.94	10.65	9.04	7.16	5.06	2.80
YBADJ	EP9924	0.46	-1.89	-4.19	-6.36	-8.34	-10.06
YBADJ	EP9924	-11.48	69.08	11.63	-6.43	-24.28	-12.86
YBADJ	EP9925	16.80	-4.69	-26.06	-32.16	-34.20	35.76
YBADJ	EP9925	14.64	-6.93	13.63	34.95	10.92	-13.44

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YBADJ	EP9925	-37.40	-60.22	10.08	10.10	9.81	9.22
YBADJ	EP9925	8.35	7.23	5.89	4.37	2.72	0.98
YBADJ	EP9925	-0.78	-2.53	-4.19	-5.73	-7.09	-8.24
YBADJ	EP9925	-9.14	32.11	14.78	-3.00	-20.70	-9.22
YBADJ	EP9926	17.24	-4.27	-25.67	-31.81	-33.91	35.98
YBADJ	EP9926	14.79	-6.85	13.63	34.87	10.76	-13.67
YBADJ	EP9926	-37.69	-60.56	9.69	9.67	9.36	8.77
YBADJ	EP9926	7.91	6.81	5.50	4.02	2.43	0.76
YBADJ	EP9926	-0.94	-2.60	-4.19	-5.65	-6.94	-8.01
YBADJ	EP9926	-8.85	32.46	15.17	-2.58	-20.25	-8.77
YBADJ	EP9927	17.68	-3.84	-25.28	-31.47	-33.62	36.21
YBADJ	EP9927	14.94	-6.77	13.63	34.79	10.61	-13.89
YBADJ	EP9927	-37.98	-60.91	9.30	9.25	8.92	8.32
YBADJ	EP9927	7.47	6.39	5.11	3.68	2.14	0.53
YBADJ	EP9927	-1.09	-2.68	-4.19	-5.57	-6.78	-7.79
YBADJ	EP9927	-8.56	-9.07	15.56	-2.16	-19.81	-8.32
YBADJ	EP9928	18.14	-3.41	-24.88	-31.11	-33.32	36.44
YBADJ	EP9928	15.10	-6.69	13.63	34.71	10.45	-14.12
YBADJ	EP9928	-38.27	-61.26	8.90	8.82	8.47	7.86
YBADJ	EP9928	7.01	5.95	4.71	3.33	1.84	0.30
YBADJ	EP9928	-1.25	-2.76	-4.19	-5.49	-6.63	-7.56
YBADJ	EP9928	-8.26	-8.71	15.96	-1.73	-19.36	-7.86
YBADJ	EP9929	21.72	0.01	-21.73	-28.33	-30.98	38.26
YBADJ	EP9929	16.35	-6.06	13.63	34.08	9.21	-15.94
YBADJ	EP9929	-40.61	-64.05	5.75	5.40	4.88	4.22
YBADJ	EP9929	3.43	2.53	1.56	0.54	-0.50	-1.52
YBADJ	EP9929	-2.49	-3.39	-4.19	-4.86	-5.38	-5.74
YBADJ	EP9929	-5.92	-5.93	19.11	1.69	-15.77	-4.22
YBADJ	EP9930	22.17	0.43	-21.34	-27.98	-30.69	38.48
YBADJ	EP9930	16.50	-5.98	13.63	34.00	9.05	-16.17
YBADJ	EP9930	-40.90	-64.39	5.36	4.98	4.44	3.77
YBADJ	EP9930	2.99	2.11	1.17	0.19	-0.79	-1.74
YBADJ	EP9930	-2.65	-3.47	-4.19	-4.78	-5.23	-5.51
YBADJ	EP9930	-5.63	-5.58	19.50	2.12	-15.33	-3.77
YBADJ	EP9931	22.61	0.86	-20.95	-27.64	-30.41	38.71
YBADJ	EP9931	16.65	-5.91	13.63	33.93	8.90	-16.39
YBADJ	EP9931	-41.19	-64.74	4.97	4.55	4.00	3.32
YBADJ	EP9931	2.54	1.69	0.78	-0.15	-1.08	-1.97
YBADJ	EP9931	-2.80	-3.55	-4.19	-4.70	-5.07	-5.29
YBADJ	EP9931	-5.34	-5.24	19.89	2.54	-14.89	-3.32
YBADJ	EP9932	23.06	1.29	-20.55	-27.28	-30.11	38.94
YBADJ	EP9932	16.81	-5.83	13.63	33.85	8.74	-16.62
YBADJ	EP9932	-41.49	-65.09	4.57	4.12	3.54	2.86
YBADJ	EP9932	2.09	1.25	0.38	-0.50	-1.37	-2.20
YBADJ	EP9932	-2.96	-3.63	-4.19	-4.62	-4.92	-5.06
YBADJ	EP9932	-5.05	-4.88	20.29	2.97	-14.43	-2.86
YBADJ	EP9933	6.44	-15.08	-28.01	-20.75	-42.85	28.24
YBADJ	EP9933	8.48	-11.53	10.72	33.82	11.60	-10.96
YBADJ	EP9933	-33.20	-54.43	17.29	18.50	19.15	19.22
YBADJ	EP9933	18.71	17.62	16.01	13.90	11.37	8.50
YBADJ	EP9933	5.37	2.08	-1.28	-4.60	-7.78	-10.72
YBADJ	EP9933	48.15	66.07	7.57	-11.41	-19.15	27.77
YBADJ	EP9934	6.89	-14.66	-27.62	-20.41	-42.57	28.46
YBADJ	EP9934	8.64	-11.45	10.72	33.74	11.45	-11.19
YBADJ	EP9934	-33.49	-54.77	16.90	18.08	18.71	18.77
YBADJ	EP9934	18.26	17.20	15.62	13.56	11.08	8.28
YBADJ	EP9934	5.22	2.00	-1.28	-4.52	-7.62	-10.49
YBADJ	EP9934	48.44	66.42	7.96	-10.98	-18.71	28.22
YBADJ	EP9935	7.33	-14.24	-27.23	-20.06	-42.28	28.69
YBADJ	EP9935	8.79	-11.38	10.72	33.66	11.30	-11.41

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YBADJ	EP9935	-33.78	-55.12	16.51	17.65	18.26	18.32
YBADJ	EP9935	17.82	16.78	15.23	13.21	10.80	8.05
YBADJ	EP9935	5.06	1.92	-1.28	-4.44	-7.47	-10.27
YBADJ	EP9935	48.73	66.76	8.35	-10.56	-18.26	28.67
YBADJ	EP9936	7.78	-13.80	-26.83	-19.71	-41.98	28.92
YBADJ	EP9936	8.95	-11.30	10.72	33.58	11.14	-11.64
YBADJ	EP9936	-34.08	-55.47	16.11	17.22	17.81	17.86
YBADJ	EP9936	17.37	16.35	14.83	12.86	10.50	7.82
YBADJ	EP9936	4.91	1.84	-1.28	-4.36	-7.31	-10.04
YBADJ	EP9936	-12.46	67.12	8.75	-10.13	-17.81	29.13
YBADJ	EP9937	11.37	-10.38	-23.68	-37.86	-39.64	30.74
YBADJ	EP9937	10.19	-10.66	10.72	32.95	9.89	-13.46
YBADJ	EP9937	-36.42	-58.26	12.95	13.80	14.23	14.22
YBADJ	EP9937	13.78	12.92	11.67	10.07	8.16	6.00
YBADJ	EP9937	3.66	1.21	-1.28	-3.73	-6.07	-8.22
YBADJ	EP9937	-10.12	69.91	11.90	-6.71	-25.12	-14.22
YBADJ	EP9938	11.81	-9.96	-23.29	-37.51	-39.35	30.96
YBADJ	EP9938	10.35	-10.59	10.72	32.87	9.74	-13.69
YBADJ	EP9938	-36.70	-58.60	12.57	13.38	13.78	13.77
YBADJ	EP9938	13.34	12.50	11.29	9.73	7.87	5.78
YBADJ	EP9938	3.51	1.13	-1.28	-3.65	-5.91	-7.99
YBADJ	EP9938	-9.83	70.25	12.29	-6.28	-24.67	-13.77
YBADJ	EP9939	12.26	-9.54	-22.90	-37.17	-39.06	31.19
YBADJ	EP9939	10.50	-10.51	10.72	32.80	9.59	-13.91
YBADJ	EP9939	-36.99	-58.95	12.18	12.95	13.34	13.32
YBADJ	EP9939	12.90	12.08	10.90	9.38	7.58	5.55
YBADJ	EP9939	3.35	1.05	-1.28	-3.57	-5.76	-7.77
YBADJ	EP9939	-9.54	70.59	12.68	-5.86	-24.23	-13.32
YBADJ	EP9940	12.71	-9.10	-22.50	-36.82	-38.77	31.42
YBADJ	EP9940	10.66	-10.43	10.72	32.72	9.43	-14.14
YBADJ	EP9940	-37.29	-59.30	11.78	12.52	12.89	12.86
YBADJ	EP9940	12.44	11.65	10.50	9.03	7.29	5.32
YBADJ	EP9940	3.20	0.97	-1.28	-3.49	-5.60	-7.54
YBADJ	EP9940	-9.25	70.95	13.08	-5.43	-23.78	-12.86
YBADJ	EP9941	16.29	-5.68	-27.51	-34.03	-36.43	33.24
YBADJ	EP9941	11.90	-9.80	10.72	32.08	8.18	-15.96
YBADJ	EP9941	-39.63	-62.09	8.62	9.10	9.30	9.22
YBADJ	EP9941	8.86	8.23	7.34	6.24	4.95	3.50
YBADJ	EP9941	1.95	0.34	-1.28	-2.86	-4.36	-5.72
YBADJ	EP9941	-6.91	73.74	16.23	-2.01	-20.19	-9.22
YBADJ	EP9942	16.74	-5.26	-27.12	-33.68	-36.14	33.46
YBADJ	EP9942	12.06	-9.72	10.72	32.01	8.03	-16.19
YBADJ	EP9942	-39.92	-62.43	8.24	8.68	8.86	8.77
YBADJ	EP9942	8.41	7.80	6.96	5.90	4.66	3.28
YBADJ	EP9942	1.80	0.26	-1.28	-2.78	-4.20	-5.49
YBADJ	EP9942	-6.62	74.08	16.62	-1.59	-19.75	-8.77
YBADJ	EP9943	17.18	-4.84	-26.73	-33.34	-35.85	33.69
YBADJ	EP9943	12.21	-9.64	10.72	31.93	7.88	-16.41
YBADJ	EP9943	-40.21	-62.78	7.85	8.26	8.42	8.32
YBADJ	EP9943	7.97	7.38	6.57	5.55	4.37	3.05
YBADJ	EP9943	1.64	0.18	-1.28	-2.71	-4.05	-5.27
YBADJ	EP9943	-6.33	74.42	17.01	-1.16	-19.31	-8.32
YBADJ	EP9944	17.63	-4.41	-26.33	-32.99	-35.55	33.92
YBADJ	EP9944	12.37	-9.56	10.72	31.85	7.72	-16.64
YBADJ	EP9944	-40.50	-63.13	7.45	7.82	7.96	7.86
YBADJ	EP9944	7.52	6.95	6.17	5.20	4.07	2.82
YBADJ	EP9944	1.49	0.10	-1.28	-2.63	-3.89	-5.04
YBADJ	EP9944	-6.03	74.78	17.41	-0.73	-18.85	-7.86
YBADJ	EP9945	30.72	7.98	-11.56	-30.20	-33.21	35.74
YBADJ	EP9945	13.61	-8.93	10.72	31.22	6.47	-18.46

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YBADJ	EP9945	-42.84	-65.92	4.29	4.40	4.38	4.22
YBADJ	EP9945	3.93	3.53	3.01	2.41	1.73	1.00
YBADJ	EP9945	0.24	-0.53	-1.28	-1.99	-2.65	-3.22
YBADJ	EP9945	-3.69	-4.06	20.56	2.69	-15.27	-4.22
YBADJ	EP9946	31.17	8.40	-11.17	-29.85	-32.92	35.96
YBADJ	EP9946	13.77	-8.85	10.72	31.14	6.32	-18.69
YBADJ	EP9946	-43.13	-66.26	3.90	3.98	3.93	3.77
YBADJ	EP9946	3.49	3.10	2.62	2.07	1.44	0.78
YBADJ	EP9946	0.09	-0.61	-1.28	-1.92	-2.49	-2.99
YBADJ	EP9946	-3.40	-3.71	20.95	3.11	-14.82	-3.77
YBADJ	EP9947	31.61	8.82	-10.78	-29.51	-32.63	36.19
YBADJ	EP9947	13.92	-8.77	10.72	31.06	6.17	-18.91
YBADJ	EP9947	-43.42	-66.61	3.52	3.56	3.49	3.32
YBADJ	EP9947	3.05	2.68	2.24	1.72	1.15	0.55
YBADJ	EP9947	-0.07	-0.68	-1.28	-1.84	-2.34	-2.77
YBADJ	EP9947	-3.11	-3.37	21.34	3.53	-14.38	-3.32
YBADJ	EP9948	32.06	9.25	-10.38	-29.16	-32.34	36.42
YBADJ	EP9948	14.08	-8.69	10.72	30.98	6.01	-19.14
YBADJ	EP9948	-43.72	-66.96	3.12	3.13	3.04	2.86
YBADJ	EP9948	2.59	2.25	1.84	1.37	0.86	0.32
YBADJ	EP9948	-0.22	-0.76	-1.28	-1.76	-2.18	-2.54
YBADJ	EP9948	-2.82	-3.01	21.74	3.97	-13.93	-2.86
YBADJ	EP9949	5.94	-16.08	-29.47	-22.63	44.90	25.71
YBADJ	EP9949	5.74	-14.41	7.80	30.95	8.86	-13.49
YBADJ	EP9949	-35.44	-56.31	15.83	17.50	18.64	19.22
YBADJ	EP9949	19.21	18.62	17.47	15.78	13.61	11.03
YBADJ	EP9949	8.11	4.95	1.64	-1.72	-5.03	-8.19
YBADJ	EP9949	50.39	67.95	9.03	-10.41	-18.64	27.77
YBADJ	EP9950	6.38	-15.66	-29.08	-22.29	45.19	25.93
YBADJ	EP9950	5.89	-14.33	7.80	30.87	8.71	-13.72
YBADJ	EP9950	-35.73	-56.65	15.44	17.08	18.20	18.77
YBADJ	EP9950	18.77	18.20	17.08	15.43	13.32	10.81
YBADJ	EP9950	7.96	4.87	1.64	-1.64	-4.88	-7.96
YBADJ	EP9950	50.68	68.30	9.42	-9.98	-18.20	28.22
YBADJ	EP9951	6.82	-15.23	-28.69	-21.94	45.48	26.16
YBADJ	EP9951	6.05	-14.25	7.80	30.79	8.55	-13.94
YBADJ	EP9951	-36.02	-56.99	15.05	16.65	17.76	18.32
YBADJ	EP9951	18.33	17.78	16.69	15.09	13.03	10.58
YBADJ	EP9951	7.81	4.80	1.64	-1.57	-4.72	-7.74
YBADJ	EP9951	50.97	68.64	9.81	-9.56	-17.76	28.67
YBADJ	EP9952	7.28	-14.80	-28.29	-21.59	-44.22	26.39
YBADJ	EP9952	6.20	-14.17	7.80	30.71	8.40	-14.17
YBADJ	EP9952	-36.31	-57.35	14.65	16.22	17.30	17.86
YBADJ	EP9952	17.87	17.34	16.29	14.74	12.74	10.35
YBADJ	EP9952	7.65	4.72	1.64	-1.49	-4.57	-7.51
YBADJ	EP9952	51.26	68.99	10.21	-9.13	-17.30	29.13
YBADJ	EP9953	20.37	-2.42	-21.68	-39.73	-41.88	28.21
YBADJ	EP9953	7.45	-13.54	7.80	30.08	7.15	-15.99
YBADJ	EP9953	-38.65	-60.14	11.49	12.80	13.72	14.22
YBADJ	EP9953	14.29	13.92	13.13	11.95	10.40	8.53
YBADJ	EP9953	6.40	4.08	1.64	-0.85	-3.32	-5.69
YBADJ	EP9953	-7.88	71.78	13.36	-5.71	-24.61	-14.22
YBADJ	EP9954	20.81	-2.00	-21.29	-39.39	-41.59	28.43
YBADJ	EP9954	7.60	-13.46	7.80	30.00	7.00	-16.22
YBADJ	EP9954	-38.94	-60.48	11.11	12.38	13.28	13.77
YBADJ	EP9954	13.85	13.50	12.75	11.60	10.11	8.31
YBADJ	EP9954	6.25	4.01	1.64	-0.78	-3.17	-5.46
YBADJ	EP9954	-7.59	72.13	13.75	-5.29	-24.17	-13.77
YBADJ	EP9955	21.26	-1.57	-20.90	-39.04	-41.30	28.66
YBADJ	EP9955	7.76	-13.38	7.80	29.92	6.84	-16.44

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YBADJ	EP9955	-39.23	-60.82	10.72	11.96	12.83	13.32
YBADJ	EP9955	13.40	13.08	12.36	11.26	9.82	8.08
YBADJ	EP9955	6.10	3.93	1.64	-0.70	-3.01	-5.24
YBADJ	EP9955	-7.31	72.47	14.14	-4.86	-23.72	-13.32
YBADJ	EP9956	21.71	-1.14	-20.50	-38.69	-41.00	28.89
YBADJ	EP9956	7.91	-13.30	7.80	29.84	6.69	-16.67
YBADJ	EP9956	-39.53	-61.18	10.32	11.52	12.38	12.86
YBADJ	EP9956	12.95	12.65	11.96	10.91	9.52	7.85
YBADJ	EP9956	5.94	3.85	1.64	-0.62	-2.86	-5.01
YBADJ	EP9956	-7.01	72.82	14.54	-4.43	-23.27	-12.86
YBADJ	EP9957	25.29	2.28	-17.35	-35.90	-38.66	30.71
YBADJ	EP9957	9.16	-12.67	7.80	29.21	5.44	-18.49
YBADJ	EP9957	-41.87	-63.97	7.16	8.10	8.80	9.22
YBADJ	EP9957	9.36	9.22	8.80	8.12	7.18	6.03
YBADJ	EP9957	4.69	3.22	1.64	0.01	-1.61	-3.19
YBADJ	EP9957	-4.67	75.61	17.69	-1.01	-19.68	-9.22
YBADJ	EP9958	25.74	2.70	-16.96	-35.56	-38.37	30.93
YBADJ	EP9958	9.31	-12.59	7.80	29.13	5.29	-18.72
YBADJ	EP9958	-42.16	-64.31	6.78	7.68	8.35	8.77
YBADJ	EP9958	8.92	8.80	8.42	7.77	6.89	5.81
YBADJ	EP9958	4.54	3.14	1.64	0.09	-1.46	-2.96
YBADJ	EP9958	-4.38	75.96	18.08	-0.59	-19.24	-8.77
YBADJ	EP9959	26.18	3.12	-16.57	-35.21	-38.09	31.16
YBADJ	EP9959	9.47	-12.51	7.80	29.05	5.13	-18.94
YBADJ	EP9959	-42.44	-64.66	6.39	7.26	7.91	8.32
YBADJ	EP9959	8.48	8.38	8.03	7.43	6.60	5.58
YBADJ	EP9959	4.39	3.06	1.64	0.17	-1.30	-2.74
YBADJ	EP9959	-4.09	76.30	18.47	-0.16	-18.80	-8.32
YBADJ	EP9960	26.63	3.56	-16.17	-34.86	-37.79	31.39
YBADJ	EP9960	9.62	-12.44	7.80	28.97	4.98	-19.17
YBADJ	EP9960	-42.74	-65.01	5.99	6.83	7.46	7.86
YBADJ	EP9960	8.03	7.95	7.63	7.08	6.31	5.35
YBADJ	EP9960	4.23	2.98	1.64	0.25	-1.15	-2.51
YBADJ	EP9960	-3.80	76.65	18.87	0.27	-18.35	-7.86
YBADJ	EP9961	30.22	6.98	-13.02	-32.07	-35.45	33.21
YBADJ	EP9961	10.87	-11.80	7.80	28.34	3.73	-20.99
YBADJ	EP9961	-45.08	-67.80	2.83	3.40	3.87	4.22
YBADJ	EP9961	4.44	4.53	4.47	4.29	3.97	3.53
YBADJ	EP9961	2.98	2.35	1.64	0.88	0.10	-0.69
YBADJ	EP9961	-1.46	-2.18	22.02	3.69	-14.76	-4.22
YBADJ	EP9962	30.66	7.40	-12.63	-31.73	-35.16	33.43
YBADJ	EP9962	11.02	-11.72	7.80	28.26	3.58	-21.22
YBADJ	EP9962	-45.37	-68.14	2.44	2.98	3.43	3.77
YBADJ	EP9962	4.00	4.10	4.08	3.94	3.68	3.31
YBADJ	EP9962	2.83	2.27	1.64	0.96	0.25	-0.46
YBADJ	EP9962	-1.17	-1.83	22.41	4.11	-14.32	-3.77
YBADJ	EP9963	31.10	7.82	-12.24	-31.38	-34.87	33.66
YBADJ	EP9963	11.18	-11.65	7.80	28.18	3.42	-21.44
YBADJ	EP9963	-45.66	-68.49	2.06	2.56	2.98	3.32
YBADJ	EP9963	3.55	3.68	3.70	3.60	3.39	3.08
YBADJ	EP9963	2.68	2.19	1.64	1.04	0.41	-0.24
YBADJ	EP9963	-0.88	-1.49	22.80	4.53	-13.87	-3.32
YBADJ	EP9964	31.56	8.25	-11.84	-31.03	-34.58	33.89
YBADJ	EP9964	11.33	-11.57	7.80	28.10	3.26	-21.67
YBADJ	EP9964	-45.95	1.14	1.66	2.13	2.53	2.86
YBADJ	EP9964	3.10	3.25	3.30	3.25	3.09	2.85
YBADJ	EP9964	2.52	2.11	1.64	1.12	0.56	-0.01
YBADJ	EP9964	-0.58	-1.14	23.20	4.97	-13.42	-2.86
YBADJ	NMPP01	15.35	21.07	26.14	0.00	0.00	0.00
YBADJ	NMPP01	0.00	0.00	19.60	11.94	80.01	48.74

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

YBADJ	NMPP01	15.99	-17.25	-21.51	-45.72	-81.36	-9.17
YBADJ	NMPP01	-15.35	-21.07	-26.14	0.00	0.00	0.00
YBADJ	NMPP01	0.00	0.00	-19.60	-11.94	-80.01	-48.74
YBADJ	NMPP01	-15.99	17.25	-10.23	45.72	81.36	9.17
YBADJ	NMPP02	21.19	25.52	0.00	0.00	0.00	0.00
YBADJ	NMPP02	0.00	21.64	13.25	86.98	71.64	39.72
YBADJ	NMPP02	6.60	-26.73	-30.79	-54.52	-89.41	-16.22
YBADJ	NMPP02	-21.19	-25.52	0.00	0.00	0.00	0.00
YBADJ	NMPP02	0.00	-21.64	-13.25	-91.34	-71.64	-39.72
YBADJ	NMPP02	21.65	26.73	-0.95	54.52	89.41	16.22

** Variable Emissions Type: "By Month (MONTH)"

** Variable Emission Scenario: "Scenario 2"

[illegible]

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

[illegible]

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

```
EMISFACT EP9963    MONTH 0.085400961 0.085400961 0.085400961 0.085400961 0.085400961 0.085400961
EMISFACT EP9964    MONTH 0.085400961 0.085400961 0.085400961 0.085400961 0.085400961 0.085400961
EMISFACT EP9964    MONTH 0.085400961 0.085400961 0.085400961 0.085400961 0.085400961 0.085400961

** Variable Emissions Type: "By Month (MONTH)"
** Variable Emission Scenario: "EP-61"
EMISFACT EP61      MONTH 106.5651138 106.5651138 106.5651138 106.5651138 106.5651138 106.5651138
EMISFACT EP61      MONTH 106.5651138 106.5651138 106.5651138 106.5651138 106.5651138 106.5651138

** Variable Emissions Type: "By Month (MONTH)"
** Variable Emission Scenario: "EP-AA"
EMISFACT EPAA      MONTH 2.732830743 2.732830743 2.732830743 2.732830743 2.732830743 2.732830743
EMISFACT EPAA      MONTH 2.732830743 2.732830743 2.732830743 2.732830743 2.732830743 2.732830743

** Variable Emissions Type: "By Month (MONTH)"
** Variable Emission Scenario: "BLINE1"
EMISFACT BLINE1B   MONTH 1.060995283 1.060995283 1.060995283 1.060995283 1.060995283 1.060995283
EMISFACT BLINE1B   MONTH 1.060995283 1.060995283 1.060995283 1.060995283 1.060995283 1.060995283
EMISFACT BLINE1A   MONTH 1.060995283 1.060995283 1.060995283 1.060995283 1.060995283 1.060995283
EMISFACT BLINE1A   MONTH 1.060995283 1.060995283 1.060995283 1.060995283 1.060995283 1.060995283
EMISFACT BLINE2B   MONTH 1.060995283 1.060995283 1.060995283 1.060995283 1.060995283 1.060995283
EMISFACT BLINE2B   MONTH 1.060995283 1.060995283 1.060995283 1.060995283 1.060995283 1.060995283
EMISFACT BLINE2A   MONTH 1.060995283 1.060995283 1.060995283 1.060995283 1.060995283 1.060995283
EMISFACT BLINE2A   MONTH 1.060995283 1.060995283 1.060995283 1.060995283 1.060995283 1.060995283
HOUREMIS "P:\MODELING\SI\PS\ADEL\M7M\AERMOD\CEMS DATA\2018-NMPP-CEMS.TXT" NMPP01 NMPP02
BLPINPUT 527.910 16.000 19.810 5.850 19.810 1538.208
SRCGROUP BACKGRND BACKGROUND
SRCGROUP BLINE BLINE2B BLINE2A BLINE1B BLINE1A
SRCGROUP EP-61 EP61
SRCGROUP EP-99 EP991 EP992 EP993 EP994 EP995 EP996 EP997 EP998 EP999
SRCGROUP EP-99 EP9910 EP9911 EP9912 EP9913 EP9914 EP9915 EP9916 EP9917
SRCGROUP EP-99 EP9918 EP9919 EP9920 EP9921 EP9922 EP9923 EP9924 EP9925
SRCGROUP EP-99 EP9926 EP9927 EP9928 EP9929 EP9930 EP9931 EP9932 EP9933
SRCGROUP EP-99 EP9934 EP9935 EP9936 EP9937 EP9938 EP9939 EP9940 EP9941
SRCGROUP EP-99 EP9942 EP9943 EP9944 EP9945 EP9946 EP9947 EP9948 EP9949
SRCGROUP EP-99 EP9950 EP9951 EP9952 EP9953 EP9954 EP9955 EP9956 EP9957
SRCGROUP EP-99 EP9958 EP9959 EP9960 EP9961 EP9962 EP9963 EP9964
SRCGROUP EP-AA EPAA
SRCGROUP NMPP NMPP01 NMPP02
SRCGROUP ALL BACKGROUND
SO FINISHED
**
*****
** AERMOD Receptor Pathway
*****
**
**
RE STARTING
** DESCRREC "UCART1" "Receptors generated from Uniform Cartesian Grid"
DISCCART 804202.63 4041648.22 87.02 87.02
DISCCART 804302.63 4041648.22 87.47 87.47
DISCCART 804402.63 4041648.22 88.03 88.03
DISCCART 804502.63 4041648.22 88.42 88.42
DISCCART 804602.63 4041648.22 88.50 88.50
DISCCART 804702.63 4041648.22 88.51 88.51
DISCCART 804802.63 4041648.22 88.64 88.64
DISCCART 804902.63 4041648.22 88.25 88.25
DISCCART 805002.63 4041648.22 88.49 88.49
DISCCART 805102.63 4041648.22 88.58 88.58
DISCCART 805202.63 4041648.22 88.52 88.52
DISCCART 805302.63 4041648.22 88.52 88.52
DISCCART 805402.63 4041648.22 88.35 88.35
DISCCART 805502.63 4041648.22 88.14 88.14
DISCCART 805602.63 4041648.22 88.01 88.01
DISCCART 805702.63 4041648.22 88.69 88.69
DISCCART 805802.63 4041648.22 87.14 87.14
DISCCART 805902.63 4041648.22 87.01 87.01
DISCCART 806002.63 4041648.22 87.03 87.03
DISCCART 806102.63 4041648.22 87.01 87.01
DISCCART 806202.63 4041648.22 88.16 88.16
```

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

DISCCART	806302.63	4041648.22	89.63	89.63
DISCCART	806402.63	4041648.22	89.39	89.39
DISCCART	806502.63	4041648.22	88.53	88.53
DISCCART	806602.63	4041648.22	88.69	88.69
DISCCART	806702.63	4041648.22	89.26	89.26
DISCCART	806802.63	4041648.22	89.64	89.64
DISCCART	806902.63	4041648.22	89.90	89.90
DISCCART	807002.63	4041648.22	89.37	89.37
DISCCART	807102.63	4041648.22	88.63	93.10
DISCCART	807202.63	4041648.22	89.02	89.02
DISCCART	807302.63	4041648.22	89.08	89.08
DISCCART	807402.63	4041648.22	89.13	89.13
DISCCART	807502.63	4041648.22	89.38	89.38
DISCCART	807602.63	4041648.22	89.51	89.51
DISCCART	807702.63	4041648.22	89.63	89.63
DISCCART	807802.63	4041648.22	89.78	89.78
DISCCART	807902.63	4041648.22	84.33	84.33
DISCCART	808002.63	4041648.22	85.59	85.59
DISCCART	808102.63	4041648.22	87.18	87.18
DISCCART	808202.63	4041648.22	86.94	86.94
DISCCART	808302.63	4041648.22	86.26	86.26
DISCCART	808402.63	4041648.22	85.58	85.58
DISCCART	808502.63	4041648.22	85.20	85.20
DISCCART	808602.63	4041648.22	85.17	85.17
DISCCART	808702.63	4041648.22	83.75	83.75
DISCCART	808802.63	4041648.22	85.32	85.32
DISCCART	808902.63	4041648.22	86.09	86.09
DISCCART	809002.63	4041648.22	82.46	82.46
DISCCART	809102.63	4041648.22	82.46	82.46
DISCCART	809202.63	4041648.22	82.46	82.46
DISCCART	809302.63	4041648.22	83.26	83.26
DISCCART	809402.63	4041648.22	83.20	83.20
DISCCART	809502.63	4041648.22	83.36	83.36
DISCCART	809602.63	4041648.22	83.90	83.90
DISCCART	809702.63	4041648.22	84.57	84.57
DISCCART	809802.63	4041648.22	84.81	84.81
DISCCART	809902.63	4041648.22	84.98	84.98
DISCCART	810002.63	4041648.22	85.40	85.40
DISCCART	810102.63	4041648.22	88.67	88.67
DISCCART	804202.63	4041748.22	87.18	87.18
DISCCART	804302.63	4041748.22	87.60	87.60
DISCCART	804402.63	4041748.22	88.10	88.10
DISCCART	804502.63	4041748.22	88.43	88.43
DISCCART	804602.63	4041748.22	88.49	88.49
DISCCART	804702.63	4041748.22	88.51	88.51
DISCCART	804802.63	4041748.22	88.62	88.62
DISCCART	804902.63	4041748.22	87.98	87.98
DISCCART	805002.63	4041748.22	88.20	88.20
DISCCART	805102.63	4041748.22	88.40	88.40
DISCCART	805202.63	4041748.22	88.52	88.52
DISCCART	805302.63	4041748.22	88.42	88.42
DISCCART	805402.63	4041748.22	87.90	87.90
DISCCART	805502.63	4041748.22	87.52	87.52
DISCCART	805602.63	4041748.22	87.36	87.36
DISCCART	805702.63	4041748.22	87.12	87.12
DISCCART	805802.63	4041748.22	87.06	87.06
DISCCART	805902.63	4041748.22	87.39	87.39
DISCCART	806002.63	4041748.22	87.76	87.76
DISCCART	806102.63	4041748.22	87.21	87.21
DISCCART	806202.63	4041748.22	88.04	88.04
DISCCART	806302.63	4041748.22	88.73	88.73
DISCCART	806402.63	4041748.22	88.91	88.91
DISCCART	806502.63	4041748.22	87.94	87.94
DISCCART	806602.63	4041748.22	88.58	88.58
DISCCART	806702.63	4041748.22	88.49	88.49
DISCCART	806802.63	4041748.22	88.72	88.72
DISCCART	806902.63	4041748.22	89.18	89.18
DISCCART	807002.63	4041748.22	88.94	88.94
DISCCART	807102.63	4041748.22	92.75	92.75
DISCCART	807202.63	4041748.22	88.70	88.70

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

DISCCART	807302.63	4041748.22	88.79	88.79
DISCCART	807402.63	4041748.22	88.65	88.65
DISCCART	807502.63	4041748.22	88.94	88.94
DISCCART	807602.63	4041748.22	89.46	89.46
DISCCART	807702.63	4041748.22	89.43	89.43
DISCCART	807802.63	4041748.22	89.35	89.35
DISCCART	807902.63	4041748.22	84.33	84.33
DISCCART	808002.63	4041748.22	85.25	85.25
DISCCART	808102.63	4041748.22	86.80	86.80
DISCCART	808202.63	4041748.22	86.89	86.89
DISCCART	808302.63	4041748.22	86.17	86.17
DISCCART	808402.63	4041748.22	85.43	85.43
DISCCART	808502.63	4041748.22	85.33	85.33
DISCCART	808602.63	4041748.22	86.56	86.56
DISCCART	808702.63	4041748.22	83.57	83.57
DISCCART	808802.63	4041748.22	85.03	85.03
DISCCART	808902.63	4041748.22	85.49	85.49
DISCCART	809002.63	4041748.22	86.05	86.05
DISCCART	809102.63	4041748.22	82.46	82.46
DISCCART	809202.63	4041748.22	82.46	82.46
DISCCART	809302.63	4041748.22	82.47	82.47
DISCCART	809402.63	4041748.22	82.76	82.76
DISCCART	809502.63	4041748.22	83.08	83.08
DISCCART	809602.63	4041748.22	83.72	83.72
DISCCART	809702.63	4041748.22	84.59	84.59
DISCCART	809802.63	4041748.22	85.28	85.28
DISCCART	809902.63	4041748.22	86.71	86.71
DISCCART	810002.63	4041748.22	87.57	87.57
DISCCART	810102.63	4041748.22	87.76	87.76
DISCCART	804202.63	4041848.22	87.40	87.40
DISCCART	804302.63	4041848.22	87.77	87.77
DISCCART	804402.63	4041848.22	88.22	88.22
DISCCART	804502.63	4041848.22	88.49	88.49
DISCCART	804602.63	4041848.22	88.50	88.50
DISCCART	804702.63	4041848.22	88.51	88.51
DISCCART	804802.63	4041848.22	88.52	88.52
DISCCART	804902.63	4041848.22	87.87	87.87
DISCCART	805002.63	4041848.22	87.87	87.87
DISCCART	805102.63	4041848.22	87.88	87.88
DISCCART	805202.63	4041848.22	87.81	87.81
DISCCART	805302.63	4041848.22	88.44	88.44
DISCCART	805402.63	4041848.22	88.70	88.70
DISCCART	805502.63	4041848.22	88.40	88.40
DISCCART	805602.63	4041848.22	87.83	87.83
DISCCART	805702.63	4041848.22	87.68	87.68
DISCCART	805802.63	4041848.22	87.69	87.69
DISCCART	805902.63	4041848.22	87.98	87.98
DISCCART	806002.63	4041848.22	88.29	88.29
DISCCART	806102.63	4041848.22	88.27	88.27
DISCCART	806202.63	4041848.22	88.72	88.72
DISCCART	806302.63	4041848.22	88.50	88.50
DISCCART	806402.63	4041848.22	87.47	87.47
DISCCART	806502.63	4041848.22	86.90	86.90
DISCCART	806602.63	4041848.22	88.55	88.55
DISCCART	806702.63	4041848.22	87.54	87.54
DISCCART	806802.63	4041848.22	87.78	87.78
DISCCART	806902.63	4041848.22	87.71	87.71
DISCCART	807002.63	4041848.22	88.44	88.44
DISCCART	807102.63	4041848.22	89.06	93.07
DISCCART	807202.63	4041848.22	88.18	88.18
DISCCART	807302.63	4041848.22	88.52	88.52
DISCCART	807402.63	4041848.22	88.54	88.54
DISCCART	807502.63	4041848.22	88.91	88.91
DISCCART	807602.63	4041848.22	89.43	89.43
DISCCART	807702.63	4041848.22	89.43	89.43
DISCCART	807802.63	4041848.22	89.33	89.33
DISCCART	807902.63	4041848.22	84.37	89.16
DISCCART	808002.63	4041848.22	84.36	84.36
DISCCART	808102.63	4041848.22	85.87	85.87
DISCCART	808202.63	4041848.22	87.17	87.17

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DISCCART	808302.63	4041848.22	86.23	86.23
DISCCART	808402.63	4041848.22	85.69	85.69
DISCCART	808502.63	4041848.22	85.45	85.45
DISCCART	808602.63	4041848.22	86.96	86.96
DISCCART	808702.63	4041848.22	84.78	84.78
DISCCART	808802.63	4041848.22	84.00	84.00
DISCCART	808902.63	4041848.22	85.13	85.13
DISCCART	809002.63	4041848.22	86.19	86.19
DISCCART	809102.63	4041848.22	86.67	86.67
DISCCART	809202.63	4041848.22	82.76	82.76
DISCCART	809302.63	4041848.22	82.47	82.47
DISCCART	809402.63	4041848.22	82.46	82.46
DISCCART	809502.63	4041848.22	83.25	83.25
DISCCART	809602.63	4041848.22	83.54	83.54
DISCCART	809702.63	4041848.22	84.09	84.09
DISCCART	809802.63	4041848.22	86.19	86.19
DISCCART	809902.63	4041848.22	87.39	87.39
DISCCART	810002.63	4041848.22	88.08	88.08
DISCCART	810102.63	4041848.22	88.69	88.69
DISCCART	804202.63	4041948.22	87.78	87.78
DISCCART	804302.63	4041948.22	87.99	87.99
DISCCART	804402.63	4041948.22	88.38	88.38
DISCCART	804502.63	4041948.22	88.51	88.51
DISCCART	804602.63	4041948.22	88.54	88.54
DISCCART	804702.63	4041948.22	88.61	88.61
DISCCART	804802.63	4041948.22	88.63	88.63
DISCCART	804902.63	4041948.22	88.68	88.68
DISCCART	805002.63	4041948.22	88.93	88.93
DISCCART	805102.63	4041948.22	88.45	88.45
DISCCART	805202.63	4041948.22	88.76	88.76
DISCCART	805302.63	4041948.22	88.89	88.89
DISCCART	805402.63	4041948.22	88.52	88.52
DISCCART	805502.63	4041948.22	88.49	88.49
DISCCART	805602.63	4041948.22	88.39	88.39
DISCCART	805702.63	4041948.22	88.24	88.24
DISCCART	805802.63	4041948.22	88.23	88.23
DISCCART	805902.63	4041948.22	88.30	88.30
DISCCART	806002.63	4041948.22	88.45	88.45
DISCCART	806102.63	4041948.22	88.62	88.62
DISCCART	806202.63	4041948.22	88.91	88.91
DISCCART	806302.63	4041948.22	89.05	89.05
DISCCART	806402.63	4041948.22	88.73	88.73
DISCCART	806502.63	4041948.22	88.61	88.61
DISCCART	806602.63	4041948.22	87.38	87.38
DISCCART	806702.63	4041948.22	87.18	87.18
DISCCART	806802.63	4041948.22	87.12	87.12
DISCCART	806902.63	4041948.22	87.12	87.12
DISCCART	807002.63	4041948.22	87.28	87.28
DISCCART	807102.63	4041948.22	90.23	90.23
DISCCART	807202.63	4041948.22	88.31	92.77
DISCCART	807302.63	4041948.22	88.44	88.44
DISCCART	807402.63	4041948.22	88.68	88.68
DISCCART	807502.63	4041948.22	89.01	89.01
DISCCART	807602.63	4041948.22	89.40	89.40
DISCCART	807702.63	4041948.22	89.40	89.40
DISCCART	807802.63	4041948.22	89.40	89.40
DISCCART	807902.63	4041948.22	88.48	88.48
DISCCART	808002.63	4041948.22	84.63	84.63
DISCCART	808102.63	4041948.22	84.67	84.67
DISCCART	808202.63	4041948.22	86.17	86.17
DISCCART	808302.63	4041948.22	86.59	86.59
DISCCART	808402.63	4041948.22	86.05	86.05
DISCCART	808502.63	4041948.22	85.63	85.63
DISCCART	808602.63	4041948.22	86.41	86.41
DISCCART	808702.63	4041948.22	85.60	85.60
DISCCART	808802.63	4041948.22	84.20	84.20
DISCCART	808902.63	4041948.22	84.59	84.59
DISCCART	809002.63	4041948.22	85.72	85.72
DISCCART	809102.63	4041948.22	86.45	86.45
DISCCART	809202.63	4041948.22	86.03	86.03

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DISCCART	809302.63	4041948.22	83.72	83.72
DISCCART	809402.63	4041948.22	83.40	83.40
DISCCART	809502.63	4041948.22	83.63	83.63
DISCCART	809602.63	4041948.22	83.87	83.87
DISCCART	809702.63	4041948.22	84.33	84.33
DISCCART	809802.63	4041948.22	86.71	86.71
DISCCART	809902.63	4041948.22	88.49	88.49
DISCCART	810002.63	4041948.22	88.47	88.47
DISCCART	810102.63	4041948.22	87.91	87.91
DISCCART	804202.63	4042048.22	88.11	88.11
DISCCART	804302.63	4042048.22	88.17	88.17
DISCCART	804402.63	4042048.22	88.43	88.43
DISCCART	804502.63	4042048.22	88.52	88.52
DISCCART	804602.63	4042048.22	88.53	88.53
DISCCART	804702.63	4042048.22	88.65	88.65
DISCCART	804802.63	4042048.22	88.66	88.66
DISCCART	804902.63	4042048.22	88.54	88.54
DISCCART	805002.63	4042048.22	88.54	88.54
DISCCART	805102.63	4042048.22	88.53	88.53
DISCCART	805202.63	4042048.22	88.67	88.67
DISCCART	805302.63	4042048.22	88.73	88.73
DISCCART	805402.63	4042048.22	88.65	88.65
DISCCART	805502.63	4042048.22	88.57	88.57
DISCCART	805602.63	4042048.22	88.49	88.49
DISCCART	805702.63	4042048.22	88.49	88.49
DISCCART	805802.63	4042048.22	88.45	88.45
DISCCART	805902.63	4042048.22	88.43	88.43
DISCCART	806002.63	4042048.22	88.48	88.48
DISCCART	806102.63	4042048.22	88.53	88.53
DISCCART	806202.63	4042048.22	88.69	88.69
DISCCART	806302.63	4042048.22	88.64	88.64
DISCCART	806402.63	4042048.22	88.54	88.54
DISCCART	806502.63	4042048.22	88.51	88.51
DISCCART	806602.63	4042048.22	88.52	88.52
DISCCART	806702.63	4042048.22	88.61	88.61
DISCCART	806802.63	4042048.22	88.90	88.90
DISCCART	806902.63	4042048.22	89.39	89.39
DISCCART	807002.63	4042048.22	88.52	88.52
DISCCART	807102.63	4042048.22	88.86	88.86
DISCCART	807202.63	4042048.22	90.95	92.88
DISCCART	807302.63	4042048.22	88.04	88.04
DISCCART	807402.63	4042048.22	88.77	88.77
DISCCART	807502.63	4042048.22	89.13	89.13
DISCCART	807602.63	4042048.22	89.48	89.48
DISCCART	807702.63	4042048.22	89.39	89.39
DISCCART	807802.63	4042048.22	89.40	89.40
DISCCART	807902.63	4042048.22	89.37	89.37
DISCCART	808002.63	4042048.22	84.40	84.40
DISCCART	808102.63	4042048.22	85.31	85.31
DISCCART	808202.63	4042048.22	85.30	85.30
DISCCART	808302.63	4042048.22	86.38	86.38
DISCCART	808402.63	4042048.22	86.17	86.17
DISCCART	808502.63	4042048.22	85.59	85.59
DISCCART	808602.63	4042048.22	86.62	86.62
DISCCART	808702.63	4042048.22	86.74	86.74
DISCCART	808802.63	4042048.22	84.82	84.82
DISCCART	808902.63	4042048.22	83.62	83.62
DISCCART	809002.63	4042048.22	85.93	85.93
DISCCART	809102.63	4042048.22	86.51	86.51
DISCCART	809202.63	4042048.22	86.93	86.93
DISCCART	809302.63	4042048.22	85.61	85.61
DISCCART	809402.63	4042048.22	83.85	83.85
DISCCART	809502.63	4042048.22	84.04	84.04
DISCCART	809602.63	4042048.22	84.17	84.17
DISCCART	809702.63	4042048.22	84.38	84.38
DISCCART	809802.63	4042048.22	86.75	86.75
DISCCART	809902.63	4042048.22	86.69	86.69
DISCCART	810002.63	4042048.22	87.57	87.57
DISCCART	810102.63	4042048.22	87.59	87.59
DISCCART	804202.63	4042148.22	88.17	88.17

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DISCCART	804302.63	4042148.22	88.24	88.24
DISCCART	804402.63	4042148.22	88.48	88.48
DISCCART	804502.63	4042148.22	88.54	88.54
DISCCART	804602.63	4042148.22	88.46	88.46
DISCCART	804702.63	4042148.22	88.56	88.56
DISCCART	804802.63	4042148.22	88.61	88.61
DISCCART	804902.63	4042148.22	88.54	88.54
DISCCART	805002.63	4042148.22	88.51	88.51
DISCCART	805102.63	4042148.22	88.54	88.54
DISCCART	805202.63	4042148.22	88.54	88.54
DISCCART	805302.63	4042148.22	88.55	88.55
DISCCART	805402.63	4042148.22	88.54	88.54
DISCCART	805502.63	4042148.22	88.58	88.58
DISCCART	805602.63	4042148.22	88.56	88.56
DISCCART	805702.63	4042148.22	88.64	88.64
DISCCART	805802.63	4042148.22	88.49	88.49
DISCCART	805902.63	4042148.22	88.48	88.48
DISCCART	806002.63	4042148.22	88.49	88.49
DISCCART	806102.63	4042148.22	88.54	88.54
DISCCART	806202.63	4042148.22	88.50	88.50
DISCCART	806302.63	4042148.22	88.57	88.57
DISCCART	806402.63	4042148.22	88.59	88.59
DISCCART	806502.63	4042148.22	88.53	88.53
DISCCART	806602.63	4042148.22	88.50	88.50
DISCCART	806702.63	4042148.22	87.98	87.98
DISCCART	806802.63	4042148.22	87.92	87.92
DISCCART	806902.63	4042148.22	89.31	89.31
DISCCART	807002.63	4042148.22	89.22	89.22
DISCCART	807102.63	4042148.22	89.65	89.65
DISCCART	807202.63	4042148.22	90.89	93.16
DISCCART	807302.63	4042148.22	88.87	88.87
DISCCART	807402.63	4042148.22	89.49	89.49
DISCCART	807502.63	4042148.22	89.98	89.98
DISCCART	807602.63	4042148.22	89.62	89.62
DISCCART	807702.63	4042148.22	89.36	89.36
DISCCART	807802.63	4042148.22	89.86	89.86
DISCCART	807902.63	4042148.22	89.68	89.68
DISCCART	808002.63	4042148.22	85.42	89.74
DISCCART	808102.63	4042148.22	85.56	85.56
DISCCART	808202.63	4042148.22	84.54	84.54
DISCCART	808302.63	4042148.22	85.79	85.79
DISCCART	808402.63	4042148.22	86.03	86.03
DISCCART	808502.63	4042148.22	85.56	85.56
DISCCART	808602.63	4042148.22	86.76	86.76
DISCCART	808702.63	4042148.22	86.84	86.84
DISCCART	808802.63	4042148.22	84.93	84.93
DISCCART	808902.63	4042148.22	85.16	85.16
DISCCART	809002.63	4042148.22	84.36	84.36
DISCCART	809102.63	4042148.22	86.06	86.06
DISCCART	809202.63	4042148.22	86.88	86.88
DISCCART	809302.63	4042148.22	86.95	86.95
DISCCART	809402.63	4042148.22	86.32	86.32
DISCCART	809502.63	4042148.22	83.99	83.99
DISCCART	809602.63	4042148.22	84.07	84.07
DISCCART	809702.63	4042148.22	84.01	84.01
DISCCART	809802.63	4042148.22	86.47	86.47
DISCCART	809902.63	4042148.22	87.74	87.74
DISCCART	810002.63	4042148.22	88.05	88.05
DISCCART	810102.63	4042148.22	89.34	89.34
DISCCART	804202.63	4042248.22	88.10	88.10
DISCCART	804302.63	4042248.22	88.27	88.27
DISCCART	804402.63	4042248.22	88.47	88.47
DISCCART	804502.63	4042248.22	88.51	88.51
DISCCART	804602.63	4042248.22	88.53	88.53
DISCCART	804702.63	4042248.22	88.49	88.49
DISCCART	804802.63	4042248.22	88.50	88.50
DISCCART	804902.63	4042248.22	88.54	88.54
DISCCART	805002.63	4042248.22	88.47	88.47
DISCCART	805102.63	4042248.22	88.46	88.46
DISCCART	805202.63	4042248.22	88.46	88.46

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DISCCART	805302.63	4042248.22	88.50	88.50
DISCCART	805402.63	4042248.22	88.55	88.55
DISCCART	805502.63	4042248.22	88.56	88.56
DISCCART	805602.63	4042248.22	88.61	88.61
DISCCART	805702.63	4042248.22	88.60	88.60
DISCCART	805802.63	4042248.22	88.54	88.54
DISCCART	805902.63	4042248.22	88.51	88.51
DISCCART	806002.63	4042248.22	88.50	88.50
DISCCART	806102.63	4042248.22	88.49	88.49
DISCCART	806202.63	4042248.22	88.53	88.53
DISCCART	806302.63	4042248.22	88.52	88.52
DISCCART	806402.63	4042248.22	88.49	88.49
DISCCART	806502.63	4042248.22	88.51	88.51
DISCCART	806602.63	4042248.22	88.51	88.51
DISCCART	806702.63	4042248.22	88.02	88.02
DISCCART	806802.63	4042248.22	88.53	88.53
DISCCART	806902.63	4042248.22	88.94	88.94
DISCCART	807002.63	4042248.22	88.93	88.93
DISCCART	807102.63	4042248.22	89.85	89.85
DISCCART	807202.63	4042248.22	90.53	90.53
DISCCART	807302.63	4042248.22	89.26	89.26
DISCCART	807402.63	4042248.22	89.86	89.86
DISCCART	807502.63	4042248.22	90.18	90.18
DISCCART	807602.63	4042248.22	90.10	90.10
DISCCART	807702.63	4042248.22	90.10	90.10
DISCCART	807802.63	4042248.22	90.07	90.07
DISCCART	807902.63	4042248.22	89.97	89.97
DISCCART	808002.63	4042248.22	90.35	90.35
DISCCART	808102.63	4042248.22	84.83	84.83
DISCCART	808202.63	4042248.22	84.72	84.72
DISCCART	808302.63	4042248.22	85.26	85.26
DISCCART	808402.63	4042248.22	85.63	85.63
DISCCART	808502.63	4042248.22	85.91	85.91
DISCCART	808602.63	4042248.22	86.61	86.61
DISCCART	808702.63	4042248.22	86.67	86.67
DISCCART	808802.63	4042248.22	86.15	86.15
DISCCART	808902.63	4042248.22	85.10	85.10
DISCCART	809002.63	4042248.22	83.55	83.55
DISCCART	809102.63	4042248.22	84.83	84.83
DISCCART	809202.63	4042248.22	86.66	86.66
DISCCART	809302.63	4042248.22	86.66	86.66
DISCCART	809402.63	4042248.22	86.36	86.36
DISCCART	809502.63	4042248.22	86.73	86.73
DISCCART	809602.63	4042248.22	84.17	84.17
DISCCART	809702.63	4042248.22	84.61	84.61
DISCCART	809802.63	4042248.22	88.44	88.44
DISCCART	809902.63	4042248.22	88.42	88.42
DISCCART	810002.63	4042248.22	89.39	89.39
DISCCART	810102.63	4042248.22	89.48	89.48
DISCCART	804202.63	4042348.22	88.01	88.01
DISCCART	804302.63	4042348.22	88.28	88.28
DISCCART	804402.63	4042348.22	88.48	88.48
DISCCART	804502.63	4042348.22	88.50	88.50
DISCCART	804602.63	4042348.22	88.49	88.49
DISCCART	804702.63	4042348.22	88.49	88.49
DISCCART	804802.63	4042348.22	88.55	88.55
DISCCART	804902.63	4042348.22	88.54	88.54
DISCCART	805002.63	4042348.22	88.45	88.45
DISCCART	805102.63	4042348.22	88.41	88.41
DISCCART	805202.63	4042348.22	88.42	88.42
DISCCART	805302.63	4042348.22	88.47	88.47
DISCCART	805402.63	4042348.22	88.54	88.54
DISCCART	805502.63	4042348.22	88.54	88.54
DISCCART	805602.63	4042348.22	88.61	88.61
DISCCART	805702.63	4042348.22	88.62	88.62
DISCCART	805802.63	4042348.22	88.57	88.57
DISCCART	805902.63	4042348.22	88.53	88.53
DISCCART	806002.63	4042348.22	88.51	88.51
DISCCART	806102.63	4042348.22	88.49	88.49
DISCCART	806202.63	4042348.22	88.49	88.49

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DISCCART	806302.63	4042348.22	88.49	88.49
DISCCART	806402.63	4042348.22	88.49	88.49
DISCCART	806502.63	4042348.22	88.54	88.54
DISCCART	806602.63	4042348.22	88.55	88.55
DISCCART	806702.63	4042348.22	88.23	88.23
DISCCART	806802.63	4042348.22	88.34	88.34
DISCCART	806902.63	4042348.22	88.14	88.14
DISCCART	807002.63	4042348.22	89.96	89.96
DISCCART	807102.63	4042348.22	90.12	90.12
DISCCART	807202.63	4042348.22	90.48	90.48
DISCCART	807302.63	4042348.22	89.57	93.23
DISCCART	807402.63	4042348.22	89.80	89.80
DISCCART	807502.63	4042348.22	90.24	90.24
DISCCART	807602.63	4042348.22	90.28	90.28
DISCCART	807702.63	4042348.22	90.22	90.22
DISCCART	807802.63	4042348.22	90.12	90.12
DISCCART	807902.63	4042348.22	90.23	90.23
DISCCART	808002.63	4042348.22	90.35	90.35
DISCCART	808102.63	4042348.22	84.92	90.33
DISCCART	808202.63	4042348.22	85.20	85.20
DISCCART	808302.63	4042348.22	85.21	85.21
DISCCART	808402.63	4042348.22	85.78	85.78
DISCCART	808502.63	4042348.22	86.01	86.01
DISCCART	808602.63	4042348.22	86.59	86.59
DISCCART	808702.63	4042348.22	86.95	86.95
DISCCART	808802.63	4042348.22	87.18	87.18
DISCCART	808902.63	4042348.22	84.58	84.58
DISCCART	809002.63	4042348.22	85.22	85.22
DISCCART	809102.63	4042348.22	83.59	83.59
DISCCART	809202.63	4042348.22	86.10	86.10
DISCCART	809302.63	4042348.22	86.46	86.46
DISCCART	809402.63	4042348.22	86.90	86.90
DISCCART	809502.63	4042348.22	87.54	87.54
DISCCART	809602.63	4042348.22	86.67	86.67
DISCCART	809702.63	4042348.22	84.89	84.89
DISCCART	809802.63	4042348.22	88.06	88.06
DISCCART	809902.63	4042348.22	88.10	88.10
DISCCART	810002.63	4042348.22	87.92	87.92
DISCCART	810102.63	4042348.22	88.99	88.99
DISCCART	804202.63	4042448.22	87.94	87.94
DISCCART	804302.63	4042448.22	88.32	88.32
DISCCART	804402.63	4042448.22	88.51	88.51
DISCCART	804502.63	4042448.22	88.50	88.50
DISCCART	804602.63	4042448.22	88.49	88.49
DISCCART	804702.63	4042448.22	88.55	88.55
DISCCART	804802.63	4042448.22	88.54	88.54
DISCCART	804902.63	4042448.22	88.51	88.51
DISCCART	805002.63	4042448.22	88.48	88.48
DISCCART	805102.63	4042448.22	88.46	88.46
DISCCART	805202.63	4042448.22	88.50	88.50
DISCCART	805302.63	4042448.22	88.55	88.55
DISCCART	805402.63	4042448.22	88.55	88.55
DISCCART	805502.63	4042448.22	88.54	88.54
DISCCART	805602.63	4042448.22	88.60	88.60
DISCCART	805702.63	4042448.22	88.60	88.60
DISCCART	805802.63	4042448.22	88.56	88.56
DISCCART	805902.63	4042448.22	88.53	88.53
DISCCART	806002.63	4042448.22	88.51	88.51
DISCCART	806102.63	4042448.22	88.50	88.50
DISCCART	806202.63	4042448.22	88.50	88.50
DISCCART	806302.63	4042448.22	88.49	88.49
DISCCART	806402.63	4042448.22	88.51	88.51
DISCCART	806502.63	4042448.22	88.49	88.49
DISCCART	806602.63	4042448.22	88.51	88.51
DISCCART	806702.63	4042448.22	88.53	88.53
DISCCART	806802.63	4042448.22	88.62	88.62
DISCCART	806902.63	4042448.22	89.60	89.60
DISCCART	807002.63	4042448.22	88.67	88.67
DISCCART	807102.63	4042448.22	88.44	88.44
DISCCART	807202.63	4042448.22	89.12	89.12

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DISCCART	807302.63	4042448.22	93.00	93.00
DISCCART	807402.63	4042448.22	89.15	89.15
DISCCART	807502.63	4042448.22	90.06	90.06
DISCCART	807602.63	4042448.22	90.24	90.24
DISCCART	807702.63	4042448.22	90.22	90.22
DISCCART	807802.63	4042448.22	90.15	90.15
DISCCART	807902.63	4042448.22	90.16	90.16
DISCCART	808002.63	4042448.22	90.10	90.10
DISCCART	808102.63	4042448.22	90.13	90.13
DISCCART	808202.63	4042448.22	84.76	84.76
DISCCART	808302.63	4042448.22	85.30	85.30
DISCCART	808402.63	4042448.22	85.65	85.65
DISCCART	808502.63	4042448.22	85.84	85.84
DISCCART	808602.63	4042448.22	86.02	86.02
DISCCART	808702.63	4042448.22	86.99	86.99
DISCCART	808802.63	4042448.22	87.44	87.44
DISCCART	808902.63	4042448.22	85.36	85.36
DISCCART	809002.63	4042448.22	86.16	86.16
DISCCART	809102.63	4042448.22	84.89	84.89
DISCCART	809202.63	4042448.22	84.48	84.48
DISCCART	809302.63	4042448.22	87.27	87.27
DISCCART	809402.63	4042448.22	87.28	87.28
DISCCART	809502.63	4042448.22	87.73	87.73
DISCCART	809602.63	4042448.22	87.54	87.54
DISCCART	809702.63	4042448.22	86.81	86.81
DISCCART	809802.63	4042448.22	87.00	87.00
DISCCART	809902.63	4042448.22	87.45	87.45
DISCCART	810002.63	4042448.22	89.03	89.03
DISCCART	810102.63	4042448.22	86.07	89.55
DISCCART	804202.63	4042548.22	87.98	87.98
DISCCART	804302.63	4042548.22	88.36	88.36
DISCCART	804402.63	4042548.22	88.51	88.51
DISCCART	804502.63	4042548.22	88.51	88.51
DISCCART	804602.63	4042548.22	88.49	88.49
DISCCART	804702.63	4042548.22	88.54	88.54
DISCCART	804802.63	4042548.22	88.54	88.54
DISCCART	804902.63	4042548.22	88.54	88.54
DISCCART	805002.63	4042548.22	88.54	88.54
DISCCART	805102.63	4042548.22	88.55	88.55
DISCCART	805202.63	4042548.22	88.55	88.55
DISCCART	805302.63	4042548.22	88.55	88.55
DISCCART	805402.63	4042548.22	88.55	88.55
DISCCART	805502.63	4042548.22	88.58	88.58
DISCCART	805602.63	4042548.22	88.60	88.60
DISCCART	805702.63	4042548.22	88.58	88.58
DISCCART	805802.63	4042548.22	88.57	88.57
DISCCART	805902.63	4042548.22	88.55	88.55
DISCCART	806002.63	4042548.22	88.53	88.53
DISCCART	806102.63	4042548.22	88.51	88.51
DISCCART	806202.63	4042548.22	88.50	88.50
DISCCART	806302.63	4042548.22	88.53	88.53
DISCCART	806402.63	4042548.22	88.56	88.56
DISCCART	806502.63	4042548.22	88.54	88.54
DISCCART	806602.63	4042548.22	88.49	88.49
DISCCART	806702.63	4042548.22	88.53	88.53
DISCCART	806802.63	4042548.22	89.12	89.12
DISCCART	806902.63	4042548.22	89.98	89.98
DISCCART	807002.63	4042548.22	90.04	90.04
DISCCART	807102.63	4042548.22	90.06	90.06
DISCCART	807202.63	4042548.22	89.79	89.79
DISCCART	807302.63	4042548.22	90.35	93.46
DISCCART	807402.63	4042548.22	89.29	89.29
DISCCART	807502.63	4042548.22	89.62	89.62
DISCCART	807602.63	4042548.22	89.73	89.73
DISCCART	807702.63	4042548.22	90.09	90.09
DISCCART	807802.63	4042548.22	90.36	90.36
DISCCART	807902.63	4042548.22	89.93	89.93
DISCCART	808002.63	4042548.22	90.06	90.06
DISCCART	808102.63	4042548.22	90.07	90.07
DISCCART	808202.63	4042548.22	90.18	90.18

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DISCCART	808302.63	4042548.22	85.54	85.54
DISCCART	808402.63	4042548.22	85.07	85.07
DISCCART	808502.63	4042548.22	85.39	85.39
DISCCART	808602.63	4042548.22	85.65	85.65
DISCCART	808702.63	4042548.22	85.80	85.80
DISCCART	808802.63	4042548.22	86.48	86.48
DISCCART	808902.63	4042548.22	85.58	85.58
DISCCART	809002.63	4042548.22	86.08	86.08
DISCCART	809102.63	4042548.22	86.31	86.31
DISCCART	809202.63	4042548.22	84.99	84.99
DISCCART	809302.63	4042548.22	86.18	86.18
DISCCART	809402.63	4042548.22	87.86	87.86
DISCCART	809502.63	4042548.22	87.86	87.86
DISCCART	809602.63	4042548.22	87.62	87.62
DISCCART	809702.63	4042548.22	87.15	87.15
DISCCART	809802.63	4042548.22	86.51	86.51
DISCCART	809902.63	4042548.22	87.52	87.52
DISCCART	810002.63	4042548.22	89.45	89.45
DISCCART	810102.63	4042548.22	88.65	88.65
DISCCART	804202.63	4042648.22	88.03	88.03
DISCCART	804302.63	4042648.22	88.36	88.36
DISCCART	804402.63	4042648.22	88.52	88.52
DISCCART	804502.63	4042648.22	88.55	88.55
DISCCART	804602.63	4042648.22	88.48	88.48
DISCCART	804702.63	4042648.22	88.62	88.62
DISCCART	804802.63	4042648.22	88.49	88.49
DISCCART	804902.63	4042648.22	88.59	88.59
DISCCART	805002.63	4042648.22	88.57	88.57
DISCCART	805102.63	4042648.22	88.53	88.53
DISCCART	805202.63	4042648.22	88.68	88.68
DISCCART	805302.63	4042648.22	88.53	88.53
DISCCART	805402.63	4042648.22	88.57	88.57
DISCCART	805502.63	4042648.22	88.60	88.60
DISCCART	805602.63	4042648.22	88.54	88.54
DISCCART	805702.63	4042648.22	88.62	88.62
DISCCART	805802.63	4042648.22	88.64	88.64
DISCCART	805902.63	4042648.22	88.58	88.58
DISCCART	806002.63	4042648.22	88.54	88.54
DISCCART	806102.63	4042648.22	88.53	88.53
DISCCART	806202.63	4042648.22	88.50	88.50
DISCCART	806302.63	4042648.22	88.54	88.54
DISCCART	806402.63	4042648.22	88.52	88.52
DISCCART	806502.63	4042648.22	88.54	88.54
DISCCART	806602.63	4042648.22	88.55	88.55
DISCCART	806702.63	4042648.22	88.72	88.72
DISCCART	806802.63	4042648.22	89.52	89.52
DISCCART	806902.63	4042648.22	90.02	90.02
DISCCART	807002.63	4042648.22	90.02	90.02
DISCCART	807102.63	4042648.22	90.02	90.02
DISCCART	807202.63	4042648.22	89.91	89.91
DISCCART	807302.63	4042648.22	90.41	90.41
DISCCART	807402.63	4042648.22	89.49	93.06
DISCCART	807502.63	4042648.22	90.00	90.00
DISCCART	807602.63	4042648.22	89.53	89.53
DISCCART	807702.63	4042648.22	89.91	89.91
DISCCART	807802.63	4042648.22	90.03	90.03
DISCCART	807902.63	4042648.22	89.47	89.47
DISCCART	808002.63	4042648.22	89.53	89.53
DISCCART	808102.63	4042648.22	90.00	90.00
DISCCART	808202.63	4042648.22	90.11	90.11
DISCCART	808302.63	4042648.22	87.21	89.89
DISCCART	808402.63	4042648.22	85.39	85.39
DISCCART	808502.63	4042648.22	85.98	85.98
DISCCART	808602.63	4042648.22	86.15	86.15
DISCCART	808702.63	4042648.22	86.16	86.16
DISCCART	808802.63	4042648.22	86.14	86.14
DISCCART	808902.63	4042648.22	86.25	86.25
DISCCART	809002.63	4042648.22	86.36	86.36
DISCCART	809102.63	4042648.22	86.14	86.14
DISCCART	809202.63	4042648.22	86.14	86.14

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DISCCART	809302.63	4042648.22	86.02	86.02
DISCCART	809402.63	4042648.22	87.98	87.98
DISCCART	809502.63	4042648.22	87.82	87.82
DISCCART	809602.63	4042648.22	86.89	86.89
DISCCART	809702.63	4042648.22	86.79	86.79
DISCCART	809802.63	4042648.22	87.91	87.91
DISCCART	809902.63	4042648.22	88.06	88.06
DISCCART	810002.63	4042648.22	87.93	87.93
DISCCART	810102.63	4042648.22	89.02	89.02
DISCCART	804202.63	4042748.22	87.83	87.83
DISCCART	804302.63	4042748.22	88.30	88.30
DISCCART	804402.63	4042748.22	88.65	88.65
DISCCART	804502.63	4042748.22	88.69	88.69
DISCCART	804602.63	4042748.22	88.45	88.45
DISCCART	804702.63	4042748.22	88.79	88.79
DISCCART	804802.63	4042748.22	88.51	88.51
DISCCART	804902.63	4042748.22	88.41	88.41
DISCCART	805002.63	4042748.22	88.30	88.30
DISCCART	805102.63	4042748.22	88.52	88.52
DISCCART	805202.63	4042748.22	88.72	88.72
DISCCART	805302.63	4042748.22	88.53	88.53
DISCCART	805402.63	4042748.22	88.57	88.57
DISCCART	805502.63	4042748.22	88.57	88.57
DISCCART	805602.63	4042748.22	88.49	88.49
DISCCART	805702.63	4042748.22	88.59	88.59
DISCCART	805802.63	4042748.22	88.57	88.57
DISCCART	805902.63	4042748.22	88.46	88.46
DISCCART	806002.63	4042748.22	88.52	88.52
DISCCART	806102.63	4042748.22	88.53	88.53
DISCCART	806202.63	4042748.22	88.49	88.49
DISCCART	806302.63	4042748.22	88.49	88.49
DISCCART	806402.63	4042748.22	88.54	88.54
DISCCART	806502.63	4042748.22	88.54	88.54
DISCCART	806602.63	4042748.22	89.06	89.06
DISCCART	806702.63	4042748.22	89.70	89.70
DISCCART	806802.63	4042748.22	89.90	89.90
DISCCART	806902.63	4042748.22	90.01	90.01
DISCCART	807002.63	4042748.22	90.04	90.04
DISCCART	807102.63	4042748.22	90.04	90.04
DISCCART	807202.63	4042748.22	90.02	90.02
DISCCART	807302.63	4042748.22	90.21	90.21
DISCCART	807402.63	4042748.22	91.86	93.38
DISCCART	807502.63	4042748.22	90.14	90.14
DISCCART	807602.63	4042748.22	89.67	89.67
DISCCART	807702.63	4042748.22	89.59	89.59
DISCCART	807802.63	4042748.22	90.18	90.18
DISCCART	807902.63	4042748.22	89.31	89.31
DISCCART	808002.63	4042748.22	89.12	89.12
DISCCART	808102.63	4042748.22	89.46	89.46
DISCCART	808202.63	4042748.22	89.26	89.26
DISCCART	808302.63	4042748.22	86.55	86.55
DISCCART	808402.63	4042748.22	85.82	85.82
DISCCART	808502.63	4042748.22	86.16	86.16
DISCCART	808602.63	4042748.22	86.13	86.13
DISCCART	808702.63	4042748.22	86.26	86.26
DISCCART	808802.63	4042748.22	86.31	86.31
DISCCART	808902.63	4042748.22	86.36	86.36
DISCCART	809002.63	4042748.22	87.04	87.04
DISCCART	809102.63	4042748.22	86.73	86.73
DISCCART	809202.63	4042748.22	86.07	86.07
DISCCART	809302.63	4042748.22	85.77	85.77
DISCCART	809402.63	4042748.22	87.00	87.00
DISCCART	809502.63	4042748.22	87.85	87.85
DISCCART	809602.63	4042748.22	87.72	87.72
DISCCART	809702.63	4042748.22	87.08	87.08
DISCCART	809802.63	4042748.22	88.19	88.19
DISCCART	809902.63	4042748.22	89.34	89.34
DISCCART	810002.63	4042748.22	88.46	88.46
DISCCART	810102.63	4042748.22	87.76	87.76
DISCCART	804202.63	4042848.22	87.23	87.23

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DISCCART	804302.63	4042848.22	87.72	87.72
DISCCART	804402.63	4042848.22	88.69	88.69
DISCCART	804502.63	4042848.22	88.52	88.52
DISCCART	804602.63	4042848.22	88.22	88.22
DISCCART	804702.63	4042848.22	89.14	89.14
DISCCART	804802.63	4042848.22	88.53	88.53
DISCCART	804902.63	4042848.22	87.29	87.29
DISCCART	805002.63	4042848.22	87.48	87.48
DISCCART	805102.63	4042848.22	87.94	87.94
DISCCART	805202.63	4042848.22	88.31	88.31
DISCCART	805302.63	4042848.22	88.37	88.37
DISCCART	805402.63	4042848.22	88.66	88.66
DISCCART	805502.63	4042848.22	88.37	88.37
DISCCART	805602.63	4042848.22	88.40	88.40
DISCCART	805702.63	4042848.22	88.46	88.46
DISCCART	805802.63	4042848.22	88.24	88.24
DISCCART	805902.63	4042848.22	88.20	88.20
DISCCART	806002.63	4042848.22	88.40	88.40
DISCCART	806102.63	4042848.22	88.49	88.49
DISCCART	806202.63	4042848.22	88.47	88.47
DISCCART	806302.63	4042848.22	88.48	88.48
DISCCART	806402.63	4042848.22	88.49	88.49
DISCCART	806502.63	4042848.22	88.59	88.59
DISCCART	806602.63	4042848.22	89.16	89.16
DISCCART	806702.63	4042848.22	90.06	90.06
DISCCART	806802.63	4042848.22	90.15	90.15
DISCCART	806902.63	4042848.22	90.08	90.08
DISCCART	807002.63	4042848.22	90.08	90.08
DISCCART	807102.63	4042848.22	90.09	90.09
DISCCART	807202.63	4042848.22	90.07	90.07
DISCCART	807302.63	4042848.22	90.05	90.05
DISCCART	807402.63	4042848.22	90.64	93.40
DISCCART	807502.63	4042848.22	89.91	89.91
DISCCART	807602.63	4042848.22	90.03	90.03
DISCCART	807702.63	4042848.22	89.46	89.46
DISCCART	807802.63	4042848.22	90.00	90.00
DISCCART	807902.63	4042848.22	89.40	89.40
DISCCART	808002.63	4042848.22	89.18	89.18
DISCCART	808102.63	4042848.22	89.17	89.17
DISCCART	808202.63	4042848.22	88.48	88.48
DISCCART	808302.63	4042848.22	85.80	85.80
DISCCART	808402.63	4042848.22	86.50	86.50
DISCCART	808502.63	4042848.22	86.93	86.93
DISCCART	808602.63	4042848.22	86.49	86.49
DISCCART	808702.63	4042848.22	86.39	86.39
DISCCART	808802.63	4042848.22	86.44	86.44
DISCCART	808902.63	4042848.22	86.58	86.58
DISCCART	809002.63	4042848.22	87.00	87.00
DISCCART	809102.63	4042848.22	87.07	87.07
DISCCART	809202.63	4042848.22	86.56	86.56
DISCCART	809302.63	4042848.22	85.62	85.62
DISCCART	809402.63	4042848.22	86.47	86.47
DISCCART	809502.63	4042848.22	86.92	86.92
DISCCART	809602.63	4042848.22	87.79	87.79
DISCCART	809702.63	4042848.22	87.98	87.98
DISCCART	809802.63	4042848.22	87.95	87.95
DISCCART	809902.63	4042848.22	86.93	87.63
DISCCART	810002.63	4042848.22	88.35	88.35
DISCCART	810102.63	4042848.22	87.48	87.48
DISCCART	804202.63	4042948.22	86.66	86.66
DISCCART	804302.63	4042948.22	86.78	86.78
DISCCART	804402.63	4042948.22	87.28	87.28
DISCCART	804502.63	4042948.22	87.09	87.09
DISCCART	804602.63	4042948.22	87.06	87.06
DISCCART	804702.63	4042948.22	87.66	87.66
DISCCART	804802.63	4042948.22	87.93	87.93
DISCCART	804902.63	4042948.22	88.68	88.68
DISCCART	805002.63	4042948.22	88.92	88.92
DISCCART	805102.63	4042948.22	89.09	89.09
DISCCART	805202.63	4042948.22	88.75	88.75

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DISCCART	805302.63	4042948.22	88.42	88.42
DISCCART	805402.63	4042948.22	87.76	87.76
DISCCART	805502.63	4042948.22	87.63	87.63
DISCCART	805602.63	4042948.22	87.85	87.85
DISCCART	805702.63	4042948.22	88.15	88.15
DISCCART	805802.63	4042948.22	87.92	87.92
DISCCART	805902.63	4042948.22	87.95	87.95
DISCCART	806002.63	4042948.22	88.48	88.48
DISCCART	806102.63	4042948.22	88.39	88.39
DISCCART	806202.63	4042948.22	88.31	88.31
DISCCART	806302.63	4042948.22	88.42	88.42
DISCCART	806402.63	4042948.22	88.49	88.49
DISCCART	806502.63	4042948.22	88.79	88.79
DISCCART	806602.63	4042948.22	88.62	88.62
DISCCART	806702.63	4042948.22	88.66	88.66
DISCCART	806802.63	4042948.22	88.66	88.66
DISCCART	806902.63	4042948.22	89.08	89.08
DISCCART	807002.63	4042948.22	90.06	90.06
DISCCART	807102.63	4042948.22	90.12	90.12
DISCCART	807202.63	4042948.22	90.09	90.09
DISCCART	807302.63	4042948.22	90.06	90.06
DISCCART	807402.63	4042948.22	90.26	90.26
DISCCART	807502.63	4042948.22	89.30	89.30
DISCCART	807602.63	4042948.22	90.23	90.23
DISCCART	807702.63	4042948.22	89.56	89.56
DISCCART	807802.63	4042948.22	89.62	89.62
DISCCART	807902.63	4042948.22	89.76	89.76
DISCCART	808002.63	4042948.22	89.41	89.41
DISCCART	808102.63	4042948.22	89.45	89.45
DISCCART	808202.63	4042948.22	89.32	89.32
DISCCART	808302.63	4042948.22	85.85	85.85
DISCCART	808402.63	4042948.22	86.46	86.46
DISCCART	808502.63	4042948.22	86.83	86.83
DISCCART	808602.63	4042948.22	86.19	86.19
DISCCART	808702.63	4042948.22	86.15	86.15
DISCCART	808802.63	4042948.22	86.48	86.48
DISCCART	808902.63	4042948.22	86.59	86.59
DISCCART	809002.63	4042948.22	87.09	87.09
DISCCART	809102.63	4042948.22	87.16	87.16
DISCCART	809202.63	4042948.22	86.96	86.96
DISCCART	809302.63	4042948.22	86.47	86.47
DISCCART	809402.63	4042948.22	85.74	85.74
DISCCART	809502.63	4042948.22	87.20	87.20
DISCCART	809602.63	4042948.22	86.51	86.51
DISCCART	809702.63	4042948.22	87.28	87.28
DISCCART	809802.63	4042948.22	88.18	88.18
DISCCART	809902.63	4042948.22	88.26	88.26
DISCCART	810002.63	4042948.22	88.90	88.90
DISCCART	810102.63	4042948.22	88.32	88.32
DISCCART	804202.63	4043048.22	86.97	86.97
DISCCART	804302.63	4043048.22	87.42	87.42
DISCCART	804402.63	4043048.22	88.49	88.49
DISCCART	804502.63	4043048.22	88.75	88.75
DISCCART	804602.63	4043048.22	88.42	88.42
DISCCART	804702.63	4043048.22	88.49	88.49
DISCCART	804802.63	4043048.22	88.54	88.54
DISCCART	804902.63	4043048.22	88.53	88.53
DISCCART	805002.63	4043048.22	88.57	88.57
DISCCART	805102.63	4043048.22	89.04	89.04
DISCCART	805202.63	4043048.22	88.84	88.84
DISCCART	805302.63	4043048.22	88.60	88.60
DISCCART	805402.63	4043048.22	88.53	88.53
DISCCART	805502.63	4043048.22	88.75	88.75
DISCCART	805602.63	4043048.22	87.61	87.61
DISCCART	805702.63	4043048.22	87.98	87.98
DISCCART	805802.63	4043048.22	88.30	88.30
DISCCART	805902.63	4043048.22	88.54	88.54
DISCCART	806002.63	4043048.22	88.64	88.64
DISCCART	806102.63	4043048.22	88.52	88.52
DISCCART	806202.63	4043048.22	88.49	88.49

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DISCCART	806302.63	4043048.22	88.16	88.16
DISCCART	806402.63	4043048.22	88.03	88.03
DISCCART	806502.63	4043048.22	88.00	88.00
DISCCART	806602.63	4043048.22	88.19	88.19
DISCCART	806702.63	4043048.22	88.31	88.31
DISCCART	806802.63	4043048.22	87.91	87.91
DISCCART	806902.63	4043048.22	87.85	87.85
DISCCART	807002.63	4043048.22	88.56	88.56
DISCCART	807102.63	4043048.22	89.69	89.69
DISCCART	807202.63	4043048.22	90.05	90.05
DISCCART	807302.63	4043048.22	90.20	90.20
DISCCART	807402.63	4043048.22	90.91	90.91
DISCCART	807502.63	4043048.22	91.66	93.74
DISCCART	807602.63	4043048.22	90.42	90.42
DISCCART	807702.63	4043048.22	90.13	90.13
DISCCART	807802.63	4043048.22	89.78	89.78
DISCCART	807902.63	4043048.22	90.24	90.24
DISCCART	808002.63	4043048.22	90.20	90.20
DISCCART	808102.63	4043048.22	89.71	89.71
DISCCART	808202.63	4043048.22	88.75	88.75
DISCCART	808302.63	4043048.22	85.54	88.44
DISCCART	808402.63	4043048.22	86.41	86.41
DISCCART	808502.63	4043048.22	86.67	86.67
DISCCART	808602.63	4043048.22	85.62	88.93
DISCCART	808702.63	4043048.22	85.24	88.33
DISCCART	808802.63	4043048.22	86.10	86.10
DISCCART	808902.63	4043048.22	86.29	86.29
DISCCART	809002.63	4043048.22	87.22	87.22
DISCCART	809102.63	4043048.22	86.99	86.99
DISCCART	809202.63	4043048.22	87.03	87.03
DISCCART	809302.63	4043048.22	87.05	87.05
DISCCART	809402.63	4043048.22	86.10	86.10
DISCCART	809502.63	4043048.22	86.90	86.90
DISCCART	809602.63	4043048.22	87.57	87.57
DISCCART	809702.63	4043048.22	88.96	88.96
DISCCART	809802.63	4043048.22	88.27	88.27
DISCCART	809902.63	4043048.22	88.80	88.80
DISCCART	810002.63	4043048.22	88.11	88.11
DISCCART	810102.63	4043048.22	88.79	88.79
DISCCART	804202.63	4043148.22	87.10	87.10
DISCCART	804302.63	4043148.22	87.73	87.73
DISCCART	804402.63	4043148.22	88.53	88.53
DISCCART	804502.63	4043148.22	88.51	88.51
DISCCART	804602.63	4043148.22	88.49	88.49
DISCCART	804702.63	4043148.22	88.49	88.49
DISCCART	804802.63	4043148.22	88.50	88.50
DISCCART	804902.63	4043148.22	88.52	88.52
DISCCART	805002.63	4043148.22	88.52	88.52
DISCCART	805102.63	4043148.22	88.68	88.68
DISCCART	805202.63	4043148.22	88.80	88.80
DISCCART	805302.63	4043148.22	88.56	88.56
DISCCART	805402.63	4043148.22	88.51	88.51
DISCCART	805502.63	4043148.22	88.51	88.51
DISCCART	805602.63	4043148.22	87.72	87.72
DISCCART	805702.63	4043148.22	88.11	88.11
DISCCART	805802.63	4043148.22	88.21	88.21
DISCCART	805902.63	4043148.22	88.50	88.50
DISCCART	806002.63	4043148.22	88.54	88.54
DISCCART	806102.63	4043148.22	88.58	88.58
DISCCART	806202.63	4043148.22	88.49	88.49
DISCCART	806302.63	4043148.22	88.47	88.47
DISCCART	806402.63	4043148.22	88.47	88.47
DISCCART	806502.63	4043148.22	88.37	88.37
DISCCART	806602.63	4043148.22	88.47	88.47
DISCCART	806702.63	4043148.22	88.43	88.43
DISCCART	806802.63	4043148.22	88.37	88.37
DISCCART	806902.63	4043148.22	88.28	88.28
DISCCART	807002.63	4043148.22	88.49	88.49
DISCCART	807102.63	4043148.22	88.62	88.62
DISCCART	807202.63	4043148.22	89.30	89.30

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DISCCART	807302.63	4043148.22	89.95	89.95
DISCCART	807402.63	4043148.22	90.18	90.18
DISCCART	807502.63	4043148.22	90.82	90.82
DISCCART	807602.63	4043148.22	89.47	89.47
DISCCART	807702.63	4043148.22	90.25	90.25
DISCCART	807802.63	4043148.22	90.11	90.11
DISCCART	807902.63	4043148.22	89.98	89.98
DISCCART	808002.63	4043148.22	89.96	89.96
DISCCART	808102.63	4043148.22	89.94	89.94
DISCCART	808202.63	4043148.22	87.28	87.28
DISCCART	808302.63	4043148.22	85.64	85.64
DISCCART	808402.63	4043148.22	86.38	86.38
DISCCART	808502.63	4043148.22	87.12	87.12
DISCCART	808602.63	4043148.22	86.98	86.98
DISCCART	808702.63	4043148.22	85.82	85.82
DISCCART	808802.63	4043148.22	87.14	87.14
DISCCART	808902.63	4043148.22	87.29	87.29
DISCCART	809002.63	4043148.22	87.76	87.76
DISCCART	809102.63	4043148.22	87.95	87.95
DISCCART	809202.63	4043148.22	87.69	87.69
DISCCART	809302.63	4043148.22	87.73	87.73
DISCCART	809402.63	4043148.22	86.48	86.48
DISCCART	809502.63	4043148.22	86.15	86.15
DISCCART	809602.63	4043148.22	89.68	89.68
DISCCART	809702.63	4043148.22	88.90	88.90
DISCCART	809802.63	4043148.22	88.77	88.77
DISCCART	809902.63	4043148.22	89.13	89.13
DISCCART	810002.63	4043148.22	88.16	88.16
DISCCART	804202.63	4043248.22	87.49	87.49
DISCCART	804302.63	4043248.22	87.98	87.98
DISCCART	804402.63	4043248.22	88.47	88.47
DISCCART	804502.63	4043248.22	88.52	88.52
DISCCART	804602.63	4043248.22	88.50	88.50
DISCCART	804702.63	4043248.22	88.50	88.50
DISCCART	804802.63	4043248.22	88.49	88.49
DISCCART	804902.63	4043248.22	88.49	88.49
DISCCART	805002.63	4043248.22	88.54	88.54
DISCCART	805102.63	4043248.22	88.50	88.50
DISCCART	805202.63	4043248.22	88.49	88.49
DISCCART	805302.63	4043248.22	88.49	88.49
DISCCART	805402.63	4043248.22	88.49	88.49
DISCCART	805502.63	4043248.22	88.50	88.50
DISCCART	805602.63	4043248.22	88.47	88.47
DISCCART	805702.63	4043248.22	88.02	88.02
DISCCART	805802.63	4043248.22	87.66	87.66
DISCCART	805902.63	4043248.22	88.34	88.34
DISCCART	806002.63	4043248.22	88.49	88.49
DISCCART	806102.63	4043248.22	88.53	88.53
DISCCART	806202.63	4043248.22	88.49	88.49
DISCCART	806302.63	4043248.22	88.49	88.49
DISCCART	806402.63	4043248.22	88.50	88.50
DISCCART	806502.63	4043248.22	88.53	88.53
DISCCART	806602.63	4043248.22	88.51	88.51
DISCCART	806702.63	4043248.22	88.63	88.63
DISCCART	806802.63	4043248.22	88.68	88.68
DISCCART	806902.63	4043248.22	88.37	88.37
DISCCART	807002.63	4043248.22	88.97	88.97
DISCCART	807102.63	4043248.22	88.57	88.57
DISCCART	807202.63	4043248.22	88.47	88.47
DISCCART	807302.63	4043248.22	88.99	88.99
DISCCART	807402.63	4043248.22	89.62	89.62
DISCCART	807502.63	4043248.22	90.26	90.26
DISCCART	807602.63	4043248.22	91.04	93.59
DISCCART	807702.63	4043248.22	90.49	90.49
DISCCART	807802.63	4043248.22	90.26	90.26
DISCCART	807902.63	4043248.22	90.30	90.30
DISCCART	808002.63	4043248.22	89.94	89.94
DISCCART	808102.63	4043248.22	90.19	90.19
DISCCART	808202.63	4043248.22	86.16	86.16
DISCCART	808302.63	4043248.22	85.44	85.44

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DISCCART	808402.63	4043248.22	86.24	86.24
DISCCART	808502.63	4043248.22	87.28	87.28
DISCCART	808602.63	4043248.22	87.64	87.64
DISCCART	808702.63	4043248.22	85.73	85.73
DISCCART	808802.63	4043248.22	87.36	87.36
DISCCART	808902.63	4043248.22	87.78	87.78
DISCCART	809002.63	4043248.22	88.46	88.46
DISCCART	809102.63	4043248.22	88.54	88.54
DISCCART	809202.63	4043248.22	88.05	88.05
DISCCART	809302.63	4043248.22	87.79	87.79
DISCCART	809402.63	4043248.22	87.06	87.06
DISCCART	809502.63	4043248.22	88.19	88.19
DISCCART	809602.63	4043248.22	88.71	88.71
DISCCART	809702.63	4043248.22	88.82	88.82
DISCCART	809802.63	4043248.22	88.82	88.82
DISCCART	809902.63	4043248.22	88.89	88.89
DISCCART	804202.63	4043348.22	87.69	87.69
DISCCART	804302.63	4043348.22	88.08	88.08
DISCCART	804402.63	4043348.22	88.44	88.44
DISCCART	804502.63	4043348.22	88.56	88.56
DISCCART	804602.63	4043348.22	88.60	88.60
DISCCART	804702.63	4043348.22	88.69	88.69
DISCCART	804802.63	4043348.22	88.52	88.52
DISCCART	804902.63	4043348.22	88.51	88.51
DISCCART	805002.63	4043348.22	88.52	88.52
DISCCART	805102.63	4043348.22	88.49	88.49
DISCCART	805202.63	4043348.22	88.49	88.49
DISCCART	805302.63	4043348.22	88.49	88.49
DISCCART	805402.63	4043348.22	88.49	88.49
DISCCART	805502.63	4043348.22	88.49	88.49
DISCCART	805602.63	4043348.22	88.52	88.52
DISCCART	805702.63	4043348.22	88.52	88.52
DISCCART	805802.63	4043348.22	88.56	88.56
DISCCART	805902.63	4043348.22	87.78	87.78
DISCCART	806002.63	4043348.22	88.50	88.50
DISCCART	806102.63	4043348.22	88.49	88.49
DISCCART	806202.63	4043348.22	88.49	88.49
DISCCART	806302.63	4043348.22	88.49	88.49
DISCCART	806402.63	4043348.22	88.53	88.53
DISCCART	806502.63	4043348.22	88.71	88.71
DISCCART	806602.63	4043348.22	88.69	88.69
DISCCART	806702.63	4043348.22	88.98	88.98
DISCCART	806802.63	4043348.22	88.92	88.92
DISCCART	806902.63	4043348.22	88.40	88.40
DISCCART	807002.63	4043348.22	88.90	88.90
DISCCART	807102.63	4043348.22	88.66	88.66
DISCCART	807202.63	4043348.22	88.53	88.53
DISCCART	807302.63	4043348.22	88.47	88.47
DISCCART	807402.63	4043348.22	88.72	88.72
DISCCART	807502.63	4043348.22	89.15	89.15
DISCCART	807602.63	4043348.22	90.74	93.78
DISCCART	807702.63	4043348.22	89.39	89.39
DISCCART	807802.63	4043348.22	90.46	90.46
DISCCART	807902.63	4043348.22	90.41	90.41
DISCCART	808002.63	4043348.22	90.14	90.14
DISCCART	808102.63	4043348.22	90.01	90.01
DISCCART	808202.63	4043348.22	85.73	85.73
DISCCART	808302.63	4043348.22	85.61	85.61
DISCCART	808402.63	4043348.22	86.59	86.59
DISCCART	808502.63	4043348.22	87.31	87.31
DISCCART	808602.63	4043348.22	87.53	87.53
DISCCART	808702.63	4043348.22	87.58	87.58
DISCCART	808802.63	4043348.22	86.13	86.13
DISCCART	808902.63	4043348.22	86.47	86.47
DISCCART	809002.63	4043348.22	88.27	88.27
DISCCART	809102.63	4043348.22	88.34	88.34
DISCCART	809202.63	4043348.22	87.87	87.87
DISCCART	809302.63	4043348.22	87.17	87.17
DISCCART	809402.63	4043348.22	86.48	86.48
DISCCART	809502.63	4043348.22	88.09	88.09

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DISCCART	809602.63	4043348.22	88.68	88.68
DISCCART	809702.63	4043348.22	89.19	89.19
DISCCART	809802.63	4043348.22	89.05	89.05
DISCCART	809902.63	4043348.22	88.50	88.50
DISCCART	804202.63	4043448.22	87.69	87.69
DISCCART	804302.63	4043448.22	88.04	88.04
DISCCART	804402.63	4043448.22	88.41	88.41
DISCCART	804502.63	4043448.22	88.64	88.64
DISCCART	804602.63	4043448.22	88.97	88.97
DISCCART	804702.63	4043448.22	89.15	89.15
DISCCART	804802.63	4043448.22	88.96	88.96
DISCCART	804902.63	4043448.22	88.66	88.66
DISCCART	805002.63	4043448.22	88.52	88.52
DISCCART	805102.63	4043448.22	88.52	88.52
DISCCART	805202.63	4043448.22	88.53	88.53
DISCCART	805302.63	4043448.22	88.49	88.49
DISCCART	805402.63	4043448.22	88.52	88.52
DISCCART	805502.63	4043448.22	88.49	88.49
DISCCART	805602.63	4043448.22	88.50	88.50
DISCCART	805702.63	4043448.22	88.49	88.49
DISCCART	805802.63	4043448.22	88.50	88.50
DISCCART	805902.63	4043448.22	88.32	88.32
DISCCART	806002.63	4043448.22	88.24	88.24
DISCCART	806102.63	4043448.22	88.50	88.50
DISCCART	806202.63	4043448.22	88.56	88.56
DISCCART	806302.63	4043448.22	88.54	88.54
DISCCART	806402.63	4043448.22	88.69	88.69
DISCCART	806502.63	4043448.22	88.92	88.92
DISCCART	806602.63	4043448.22	89.00	89.00
DISCCART	806702.63	4043448.22	89.36	89.36
DISCCART	806802.63	4043448.22	89.24	89.24
DISCCART	806902.63	4043448.22	88.51	88.51
DISCCART	807002.63	4043448.22	88.83	88.83
DISCCART	807102.63	4043448.22	88.80	88.80
DISCCART	807202.63	4043448.22	88.75	88.75
DISCCART	807302.63	4043448.22	88.63	88.63
DISCCART	807402.63	4043448.22	88.52	88.52
DISCCART	807502.63	4043448.22	88.56	88.56
DISCCART	807602.63	4043448.22	90.33	90.33
DISCCART	807702.63	4043448.22	91.08	93.80
DISCCART	807802.63	4043448.22	90.00	90.00
DISCCART	807902.63	4043448.22	89.96	89.96
DISCCART	808002.63	4043448.22	90.08	90.08
DISCCART	808102.63	4043448.22	89.08	89.08
DISCCART	808202.63	4043448.22	85.70	85.70
DISCCART	808302.63	4043448.22	85.73	85.73
DISCCART	808402.63	4043448.22	86.47	86.47
DISCCART	808502.63	4043448.22	87.37	87.37
DISCCART	808602.63	4043448.22	87.60	87.60
DISCCART	808702.63	4043448.22	87.55	87.55
DISCCART	808802.63	4043448.22	86.58	86.58
DISCCART	808902.63	4043448.22	86.86	86.86
DISCCART	809002.63	4043448.22	87.42	87.42
DISCCART	809102.63	4043448.22	87.88	87.88
DISCCART	809202.63	4043448.22	88.11	88.11
DISCCART	809302.63	4043448.22	87.23	87.23
DISCCART	809402.63	4043448.22	86.26	86.26
DISCCART	809502.63	4043448.22	87.71	87.71
DISCCART	809602.63	4043448.22	89.07	89.07
DISCCART	809702.63	4043448.22	89.31	89.31
DISCCART	809802.63	4043448.22	88.58	88.58
DISCCART	804202.63	4043548.22	87.74	87.74
DISCCART	804302.63	4043548.22	88.07	88.07
DISCCART	804402.63	4043548.22	88.41	88.41
DISCCART	804502.63	4043548.22	88.75	88.75
DISCCART	804602.63	4043548.22	89.38	89.38
DISCCART	804702.63	4043548.22	89.69	89.69
DISCCART	804802.63	4043548.22	89.40	89.40
DISCCART	804902.63	4043548.22	88.79	88.79
DISCCART	805002.63	4043548.22	88.53	88.53

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DISCCART	805102.63	4043548.22	88.53	88.53
DISCCART	805202.63	4043548.22	88.51	88.51
DISCCART	805302.63	4043548.22	88.63	88.63
DISCCART	805402.63	4043548.22	88.67	88.67
DISCCART	805502.63	4043548.22	88.51	88.51
DISCCART	805602.63	4043548.22	88.50	88.50
DISCCART	805702.63	4043548.22	88.50	88.50
DISCCART	805802.63	4043548.22	88.49	88.49
DISCCART	805902.63	4043548.22	88.53	88.53
DISCCART	806002.63	4043548.22	87.87	87.87
DISCCART	806102.63	4043548.22	88.51	88.51
DISCCART	806202.63	4043548.22	88.52	88.52
DISCCART	806302.63	4043548.22	88.65	88.65
DISCCART	806402.63	4043548.22	88.89	88.89
DISCCART	806502.63	4043548.22	89.18	89.18
DISCCART	806602.63	4043548.22	89.39	89.39
DISCCART	806702.63	4043548.22	89.73	89.73
DISCCART	806802.63	4043548.22	89.71	89.71
DISCCART	806902.63	4043548.22	88.74	88.74
DISCCART	807002.63	4043548.22	88.89	88.89
DISCCART	807102.63	4043548.22	89.12	89.12
DISCCART	807202.63	4043548.22	88.90	88.90
DISCCART	807302.63	4043548.22	88.87	88.87
DISCCART	807402.63	4043548.22	88.53	88.53
DISCCART	807502.63	4043548.22	88.99	88.99
DISCCART	807602.63	4043548.22	88.83	88.83
DISCCART	807702.63	4043548.22	90.27	93.97
DISCCART	807802.63	4043548.22	88.88	88.88
DISCCART	807902.63	4043548.22	89.70	89.70
DISCCART	808002.63	4043548.22	90.11	90.11
DISCCART	808102.63	4043548.22	87.94	87.94
DISCCART	808202.63	4043548.22	85.74	85.74
DISCCART	808302.63	4043548.22	86.01	86.01
DISCCART	808402.63	4043548.22	86.98	86.98
DISCCART	808502.63	4043548.22	87.39	87.39
DISCCART	808602.63	4043548.22	87.53	87.53
DISCCART	808702.63	4043548.22	87.37	87.37
DISCCART	808802.63	4043548.22	87.26	87.26
DISCCART	808902.63	4043548.22	86.47	86.47
DISCCART	809002.63	4043548.22	86.98	86.98
DISCCART	809102.63	4043548.22	87.76	87.76
DISCCART	809202.63	4043548.22	88.13	88.13
DISCCART	809302.63	4043548.22	87.55	87.55
DISCCART	809402.63	4043548.22	87.86	87.86
DISCCART	809502.63	4043548.22	84.92	84.92
DISCCART	809602.63	4043548.22	88.95	88.95
DISCCART	809702.63	4043548.22	88.96	88.96
DISCCART	809802.63	4043548.22	89.55	89.55
DISCCART	804202.63	4043648.22	87.81	87.81
DISCCART	804302.63	4043648.22	88.19	88.19
DISCCART	804402.63	4043648.22	88.46	88.46
DISCCART	804502.63	4043648.22	89.09	89.09
DISCCART	804602.63	4043648.22	89.96	89.96
DISCCART	804702.63	4043648.22	90.03	90.03
DISCCART	804802.63	4043648.22	89.76	89.76
DISCCART	804902.63	4043648.22	88.88	88.88
DISCCART	805002.63	4043648.22	88.52	88.52
DISCCART	805102.63	4043648.22	88.52	88.52
DISCCART	805202.63	4043648.22	88.64	88.64
DISCCART	805302.63	4043648.22	89.00	89.00
DISCCART	805402.63	4043648.22	89.02	89.02
DISCCART	805502.63	4043648.22	88.53	88.53
DISCCART	805602.63	4043648.22	88.55	88.55
DISCCART	805702.63	4043648.22	88.50	88.50
DISCCART	805802.63	4043648.22	88.51	88.51
DISCCART	805902.63	4043648.22	88.55	88.55
DISCCART	806002.63	4043648.22	88.00	88.00
DISCCART	806102.63	4043648.22	88.49	88.49
DISCCART	806202.63	4043648.22	88.55	88.55
DISCCART	806302.63	4043648.22	88.71	88.71

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DISCCART	806402.63	4043648.22	89.03	89.03
DISCCART	806502.63	4043648.22	89.48	89.48
DISCCART	806602.63	4043648.22	89.77	89.77
DISCCART	806702.63	4043648.22	89.95	89.95
DISCCART	806802.63	4043648.22	90.04	90.04
DISCCART	806902.63	4043648.22	89.82	89.82
DISCCART	807002.63	4043648.22	89.75	89.75
DISCCART	807102.63	4043648.22	89.78	89.78
DISCCART	807202.63	4043648.22	89.63	89.63
DISCCART	807302.63	4043648.22	89.22	89.22
DISCCART	807402.63	4043648.22	89.27	89.27
DISCCART	807502.63	4043648.22	89.90	89.90
DISCCART	807602.63	4043648.22	89.54	89.54
DISCCART	807702.63	4043648.22	89.61	89.61
DISCCART	807802.63	4043648.22	90.48	93.62
DISCCART	807902.63	4043648.22	90.05	90.05
DISCCART	808002.63	4043648.22	89.33	89.33
DISCCART	808102.63	4043648.22	87.72	87.72
DISCCART	808202.63	4043648.22	86.69	86.69
DISCCART	808302.63	4043648.22	86.21	86.21
DISCCART	808402.63	4043648.22	86.58	86.58
DISCCART	808502.63	4043648.22	87.53	87.53
DISCCART	808602.63	4043648.22	87.57	87.57
DISCCART	808702.63	4043648.22	87.33	87.33
DISCCART	808802.63	4043648.22	87.01	87.01
DISCCART	808902.63	4043648.22	87.42	87.42
DISCCART	809002.63	4043648.22	86.81	86.81
DISCCART	809102.63	4043648.22	87.35	87.35
DISCCART	809202.63	4043648.22	87.52	87.52
DISCCART	809302.63	4043648.22	87.98	87.98
DISCCART	809402.63	4043648.22	87.80	87.80
DISCCART	809502.63	4043648.22	85.98	85.98
DISCCART	809602.63	4043648.22	87.57	87.57
DISCCART	809702.63	4043648.22	87.20	89.63
DISCCART	809802.63	4043648.22	84.34	89.44
DISCCART	804202.63	4043748.22	87.85	87.85
DISCCART	804302.63	4043748.22	88.25	88.25
DISCCART	804402.63	4043748.22	88.55	88.55
DISCCART	804502.63	4043748.22	89.56	89.56
DISCCART	804602.63	4043748.22	90.02	90.02
DISCCART	804702.63	4043748.22	90.02	90.02
DISCCART	804802.63	4043748.22	90.05	90.05
DISCCART	804902.63	4043748.22	89.03	89.03
DISCCART	805002.63	4043748.22	88.53	88.53
DISCCART	805102.63	4043748.22	88.53	88.53
DISCCART	805202.63	4043748.22	88.74	88.74
DISCCART	805302.63	4043748.22	89.21	89.21
DISCCART	805402.63	4043748.22	89.27	89.27
DISCCART	805502.63	4043748.22	88.69	88.69
DISCCART	805602.63	4043748.22	88.49	88.49
DISCCART	805702.63	4043748.22	88.49	88.49
DISCCART	805802.63	4043748.22	88.50	88.50
DISCCART	805902.63	4043748.22	88.63	88.63
DISCCART	806002.63	4043748.22	88.05	88.05
DISCCART	806102.63	4043748.22	88.15	88.15
DISCCART	806202.63	4043748.22	88.50	88.50
DISCCART	806302.63	4043748.22	88.68	88.68
DISCCART	806402.63	4043748.22	89.09	89.09
DISCCART	806502.63	4043748.22	89.78	89.78
DISCCART	806602.63	4043748.22	90.02	90.02
DISCCART	806702.63	4043748.22	90.03	90.03
DISCCART	806802.63	4043748.22	89.99	89.99
DISCCART	806902.63	4043748.22	88.55	88.55
DISCCART	807002.63	4043748.22	90.06	90.06
DISCCART	807102.63	4043748.22	90.23	90.23
DISCCART	807202.63	4043748.22	90.06	90.06
DISCCART	807302.63	4043748.22	89.79	89.79
DISCCART	807402.63	4043748.22	89.49	89.49
DISCCART	807502.63	4043748.22	90.07	90.07
DISCCART	807602.63	4043748.22	90.02	90.02

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DISCCART	807702.63	4043748.22	89.70	89.70
DISCCART	807802.63	4043748.22	90.51	93.60
DISCCART	807902.63	4043748.22	88.29	88.29
DISCCART	808002.63	4043748.22	88.91	88.91
DISCCART	808102.63	4043748.22	87.73	87.73
DISCCART	808202.63	4043748.22	87.97	87.97
DISCCART	808302.63	4043748.22	86.11	86.11
DISCCART	808402.63	4043748.22	86.74	86.74
DISCCART	808502.63	4043748.22	86.97	86.97
DISCCART	808602.63	4043748.22	87.13	87.13
DISCCART	808702.63	4043748.22	87.32	87.32
DISCCART	808802.63	4043748.22	86.63	86.63
DISCCART	808902.63	4043748.22	86.92	86.92
DISCCART	809002.63	4043748.22	86.47	86.47
DISCCART	809102.63	4043748.22	86.25	86.25
DISCCART	809202.63	4043748.22	86.65	86.65
DISCCART	809302.63	4043748.22	87.09	87.09
DISCCART	809402.63	4043748.22	87.62	87.62
DISCCART	809502.63	4043748.22	88.12	88.12
DISCCART	809602.63	4043748.22	87.17	87.17
DISCCART	809702.63	4043748.22	89.85	89.85
DISCCART	809802.63	4043748.22	82.71	88.92
DISCCART	804202.63	4043848.22	87.76	87.76
DISCCART	804302.63	4043848.22	88.15	88.15
DISCCART	804402.63	4043848.22	88.45	88.45
DISCCART	804502.63	4043848.22	89.63	89.63
DISCCART	804602.63	4043848.22	90.01	90.01
DISCCART	804702.63	4043848.22	90.01	90.01
DISCCART	804802.63	4043848.22	90.06	90.06
DISCCART	804902.63	4043848.22	89.35	89.35
DISCCART	805002.63	4043848.22	88.53	88.53
DISCCART	805102.63	4043848.22	88.52	88.52
DISCCART	805202.63	4043848.22	88.68	88.68
DISCCART	805302.63	4043848.22	88.97	88.97
DISCCART	805402.63	4043848.22	88.97	88.97
DISCCART	805502.63	4043848.22	88.66	88.66
DISCCART	805602.63	4043848.22	88.51	88.51
DISCCART	805702.63	4043848.22	88.49	88.49
DISCCART	805802.63	4043848.22	88.51	88.51
DISCCART	805902.63	4043848.22	88.93	88.93
DISCCART	806002.63	4043848.22	88.78	88.78
DISCCART	806102.63	4043848.22	88.32	88.32
DISCCART	806202.63	4043848.22	88.36	88.36
DISCCART	806302.63	4043848.22	88.58	88.58
DISCCART	806402.63	4043848.22	88.97	88.97
DISCCART	806502.63	4043848.22	89.76	89.76
DISCCART	806602.63	4043848.22	90.13	90.13
DISCCART	806702.63	4043848.22	90.31	90.31
DISCCART	806802.63	4043848.22	89.60	89.60
DISCCART	806902.63	4043848.22	88.31	88.31
DISCCART	807002.63	4043848.22	90.18	90.18
DISCCART	807102.63	4043848.22	90.20	90.20
DISCCART	807202.63	4043848.22	90.11	90.11
DISCCART	807302.63	4043848.22	89.96	89.96
DISCCART	807402.63	4043848.22	89.99	89.99
DISCCART	807502.63	4043848.22	89.87	89.87
DISCCART	807602.63	4043848.22	90.09	90.09
DISCCART	807702.63	4043848.22	90.17	90.17
DISCCART	807802.63	4043848.22	90.58	90.58
DISCCART	807902.63	4043848.22	89.48	89.48
DISCCART	808002.63	4043848.22	87.77	87.77
DISCCART	808102.63	4043848.22	87.45	87.45
DISCCART	808202.63	4043848.22	88.49	88.49
DISCCART	808302.63	4043848.22	86.12	86.12
DISCCART	808402.63	4043848.22	86.69	86.69
DISCCART	808502.63	4043848.22	87.61	87.61
DISCCART	808602.63	4043848.22	87.75	87.75
DISCCART	808702.63	4043848.22	87.06	87.06
DISCCART	808802.63	4043848.22	85.97	85.97
DISCCART	808902.63	4043848.22	86.90	86.90

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DISCCART	809002.63	4043848.22	86.32	86.32
DISCCART	809102.63	4043848.22	86.74	86.74
DISCCART	809202.63	4043848.22	86.03	86.03
DISCCART	809302.63	4043848.22	86.39	86.39
DISCCART	809402.63	4043848.22	86.95	86.95
DISCCART	809502.63	4043848.22	87.63	87.63
DISCCART	809602.63	4043848.22	88.65	88.65
DISCCART	809702.63	4043848.22	89.54	89.54
DISCCART	804202.63	4043948.22	87.52	87.52
DISCCART	804302.63	4043948.22	87.87	87.87
DISCCART	804402.63	4043948.22	88.50	88.50
DISCCART	804502.63	4043948.22	89.20	89.20
DISCCART	804602.63	4043948.22	90.03	90.03
DISCCART	804702.63	4043948.22	90.03	90.03
DISCCART	804802.63	4043948.22	90.11	90.11
DISCCART	804902.63	4043948.22	89.68	89.68
DISCCART	805002.63	4043948.22	88.52	88.52
DISCCART	805102.63	4043948.22	88.52	88.52
DISCCART	805202.63	4043948.22	88.54	88.54
DISCCART	805302.63	4043948.22	88.55	88.55
DISCCART	805402.63	4043948.22	88.54	88.54
DISCCART	805502.63	4043948.22	88.51	88.51
DISCCART	805602.63	4043948.22	88.49	88.49
DISCCART	805702.63	4043948.22	88.49	88.49
DISCCART	805802.63	4043948.22	88.51	88.51
DISCCART	805902.63	4043948.22	89.09	89.09
DISCCART	806002.63	4043948.22	90.15	90.15
DISCCART	806102.63	4043948.22	89.21	89.21
DISCCART	806202.63	4043948.22	88.17	88.17
DISCCART	806302.63	4043948.22	88.48	88.48
DISCCART	806402.63	4043948.22	88.70	88.70
DISCCART	806502.63	4043948.22	89.43	89.43
DISCCART	806602.63	4043948.22	89.96	89.96
DISCCART	806702.63	4043948.22	90.14	90.14
DISCCART	806802.63	4043948.22	89.43	89.43
DISCCART	806902.63	4043948.22	88.94	88.94
DISCCART	807002.63	4043948.22	90.01	90.01
DISCCART	807102.63	4043948.22	90.11	90.11
DISCCART	807202.63	4043948.22	90.04	90.04
DISCCART	807302.63	4043948.22	90.02	90.02
DISCCART	807402.63	4043948.22	90.01	90.01
DISCCART	807502.63	4043948.22	90.10	90.10
DISCCART	807602.63	4043948.22	89.92	89.92
DISCCART	807702.63	4043948.22	89.89	89.89
DISCCART	807802.63	4043948.22	90.60	90.60
DISCCART	807902.63	4043948.22	90.24	90.24
DISCCART	808002.63	4043948.22	87.44	87.44
DISCCART	808102.63	4043948.22	87.58	87.58
DISCCART	808202.63	4043948.22	88.40	88.40
DISCCART	808302.63	4043948.22	86.49	86.49
DISCCART	808402.63	4043948.22	86.68	86.68
DISCCART	808502.63	4043948.22	87.67	87.67
DISCCART	808602.63	4043948.22	87.71	87.71
DISCCART	808702.63	4043948.22	87.67	87.67
DISCCART	808802.63	4043948.22	86.46	86.46
DISCCART	808902.63	4043948.22	87.43	87.43
DISCCART	809002.63	4043948.22	86.74	86.74
DISCCART	809102.63	4043948.22	86.34	86.34
DISCCART	809202.63	4043948.22	86.28	86.28
DISCCART	809302.63	4043948.22	85.84	85.84
DISCCART	809402.63	4043948.22	86.57	86.57
DISCCART	809502.63	4043948.22	88.24	88.24
DISCCART	809602.63	4043948.22	88.40	88.40
DISCCART	809702.63	4043948.22	89.16	89.16
DISCCART	804202.63	4044048.22	87.18	87.18
DISCCART	804302.63	4044048.22	87.34	87.34
DISCCART	804402.63	4044048.22	87.93	87.93
DISCCART	804502.63	4044048.22	88.64	88.64
DISCCART	804602.63	4044048.22	89.87	89.87
DISCCART	804702.63	4044048.22	90.02	90.02

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DISCCART	804802.63	4044048.22	90.05	90.05
DISCCART	804902.63	4044048.22	89.87	89.87
DISCCART	805002.63	4044048.22	88.52	88.52
DISCCART	805102.63	4044048.22	88.53	88.53
DISCCART	805202.63	4044048.22	88.52	88.52
DISCCART	805302.63	4044048.22	88.49	88.49
DISCCART	805402.63	4044048.22	88.49	88.49
DISCCART	805502.63	4044048.22	88.49	88.49
DISCCART	805602.63	4044048.22	88.49	88.49
DISCCART	805702.63	4044048.22	88.49	88.49
DISCCART	805802.63	4044048.22	88.50	88.50
DISCCART	805902.63	4044048.22	88.54	88.54
DISCCART	806002.63	4044048.22	89.87	89.87
DISCCART	806102.63	4044048.22	90.21	90.21
DISCCART	806202.63	4044048.22	88.33	88.33
DISCCART	806302.63	4044048.22	88.41	88.41
DISCCART	806402.63	4044048.22	88.52	88.52
DISCCART	806502.63	4044048.22	89.07	89.07
DISCCART	806602.63	4044048.22	89.58	89.58
DISCCART	806702.63	4044048.22	89.98	89.98
DISCCART	806802.63	4044048.22	89.66	89.66
DISCCART	806902.63	4044048.22	89.08	89.08
DISCCART	807002.63	4044048.22	88.39	88.39
DISCCART	807102.63	4044048.22	88.83	88.83
DISCCART	807202.63	4044048.22	90.16	90.16
DISCCART	807302.63	4044048.22	90.15	90.15
DISCCART	807402.63	4044048.22	90.03	90.03
DISCCART	807502.63	4044048.22	90.09	90.09
DISCCART	807602.63	4044048.22	90.03	90.03
DISCCART	807702.63	4044048.22	90.01	90.01
DISCCART	807802.63	4044048.22	90.69	90.69
DISCCART	807902.63	4044048.22	88.51	88.51
DISCCART	808002.63	4044048.22	87.62	87.62
DISCCART	808102.63	4044048.22	87.86	87.86
DISCCART	808202.63	4044048.22	88.06	88.06
DISCCART	808302.63	4044048.22	86.89	86.89
DISCCART	808402.63	4044048.22	86.36	86.36
DISCCART	808502.63	4044048.22	87.49	87.49
DISCCART	808602.63	4044048.22	87.95	87.95
DISCCART	808702.63	4044048.22	88.10	88.10
DISCCART	808802.63	4044048.22	86.83	88.12
DISCCART	808902.63	4044048.22	87.66	87.66
DISCCART	809002.63	4044048.22	87.55	87.55
DISCCART	809102.63	4044048.22	87.35	87.35
DISCCART	809202.63	4044048.22	86.49	86.49
DISCCART	809302.63	4044048.22	85.97	85.97
DISCCART	809402.63	4044048.22	85.72	85.72
DISCCART	809502.63	4044048.22	87.50	87.50
DISCCART	809602.63	4044048.22	89.00	89.00
DISCCART	809702.63	4044048.22	85.17	89.61
DISCCART	804202.63	4044148.22	87.00	87.00
DISCCART	804302.63	4044148.22	87.03	87.03
DISCCART	804402.63	4044148.22	87.49	87.49
DISCCART	804502.63	4044148.22	88.44	88.44
DISCCART	804602.63	4044148.22	89.54	89.54
DISCCART	804702.63	4044148.22	90.04	90.04
DISCCART	804802.63	4044148.22	90.01	90.01
DISCCART	804902.63	4044148.22	89.93	89.93
DISCCART	805002.63	4044148.22	88.93	88.93
DISCCART	805102.63	4044148.22	88.53	88.53
DISCCART	805202.63	4044148.22	88.50	88.50
DISCCART	805302.63	4044148.22	88.49	88.49
DISCCART	805402.63	4044148.22	88.49	88.49
DISCCART	805502.63	4044148.22	88.49	88.49
DISCCART	805602.63	4044148.22	88.49	88.49
DISCCART	805702.63	4044148.22	88.49	88.49
DISCCART	805802.63	4044148.22	88.49	88.49
DISCCART	805902.63	4044148.22	88.50	88.50
DISCCART	806002.63	4044148.22	89.11	89.11
DISCCART	806102.63	4044148.22	90.20	90.20

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DISCCART	806202.63	4044148.22	89.47	89.47
DISCCART	806302.63	4044148.22	88.45	88.45
DISCCART	806402.63	4044148.22	88.42	88.42
DISCCART	806502.63	4044148.22	88.58	88.58
DISCCART	806602.63	4044148.22	88.71	88.71
DISCCART	806702.63	4044148.22	89.75	89.75
DISCCART	806802.63	4044148.22	90.10	90.10
DISCCART	806902.63	4044148.22	90.14	90.14
DISCCART	807002.63	4044148.22	89.97	89.97
DISCCART	807102.63	4044148.22	88.50	88.50
DISCCART	807202.63	4044148.22	90.72	90.72
DISCCART	807302.63	4044148.22	90.59	90.59
DISCCART	807402.63	4044148.22	90.04	90.04
DISCCART	807502.63	4044148.22	90.02	90.02
DISCCART	807602.63	4044148.22	90.03	90.03
DISCCART	807702.63	4044148.22	89.99	89.99
DISCCART	807802.63	4044148.22	91.11	91.11
DISCCART	807902.63	4044148.22	87.83	87.83
DISCCART	808002.63	4044148.22	87.31	87.31
DISCCART	808102.63	4044148.22	87.57	87.57
DISCCART	808202.63	4044148.22	87.82	87.82
DISCCART	808302.63	4044148.22	87.78	87.78
DISCCART	808402.63	4044148.22	85.63	85.63
DISCCART	808502.63	4044148.22	87.20	87.20
DISCCART	808602.63	4044148.22	87.84	87.84
DISCCART	808702.63	4044148.22	88.12	88.12
DISCCART	808802.63	4044148.22	86.97	87.85
DISCCART	808902.63	4044148.22	87.45	87.45
DISCCART	809002.63	4044148.22	87.92	87.92
DISCCART	809102.63	4044148.22	87.07	87.07
DISCCART	809202.63	4044148.22	87.31	87.31
DISCCART	809302.63	4044148.22	86.03	86.03
DISCCART	809402.63	4044148.22	85.43	85.43
DISCCART	809502.63	4044148.22	87.40	87.73
DISCCART	809602.63	4044148.22	85.12	89.04
DISCCART	809702.63	4044148.22	82.38	89.07
DISCCART	804202.63	4044248.22	87.08	87.08
DISCCART	804302.63	4044248.22	87.00	87.00
DISCCART	804402.63	4044248.22	87.61	87.61
DISCCART	804502.63	4044248.22	88.54	88.54
DISCCART	804602.63	4044248.22	89.44	89.44
DISCCART	804702.63	4044248.22	90.06	90.06
DISCCART	804802.63	4044248.22	90.22	90.22
DISCCART	804902.63	4044248.22	90.19	90.19
DISCCART	805002.63	4044248.22	89.50	89.50
DISCCART	805102.63	4044248.22	88.52	88.52
DISCCART	805202.63	4044248.22	88.48	88.48
DISCCART	805302.63	4044248.22	88.49	88.49
DISCCART	805402.63	4044248.22	88.48	88.48
DISCCART	805502.63	4044248.22	88.48	88.48
DISCCART	805602.63	4044248.22	88.49	88.49
DISCCART	805702.63	4044248.22	88.49	88.49
DISCCART	805802.63	4044248.22	88.49	88.49
DISCCART	805902.63	4044248.22	88.49	88.49
DISCCART	806002.63	4044248.22	88.73	88.73
DISCCART	806102.63	4044248.22	89.61	89.61
DISCCART	806202.63	4044248.22	90.11	90.11
DISCCART	806302.63	4044248.22	89.23	89.23
DISCCART	806402.63	4044248.22	88.33	88.33
DISCCART	806502.63	4044248.22	88.46	88.46
DISCCART	806602.63	4044248.22	88.75	88.75
DISCCART	806702.63	4044248.22	89.58	89.58
DISCCART	806802.63	4044248.22	90.14	90.14
DISCCART	806902.63	4044248.22	90.27	90.27
DISCCART	807002.63	4044248.22	90.05	90.05
DISCCART	807102.63	4044248.22	90.91	90.91
DISCCART	807202.63	4044248.22	88.85	88.85
DISCCART	807302.63	4044248.22	90.38	90.38
DISCCART	807402.63	4044248.22	90.16	90.16
DISCCART	807502.63	4044248.22	90.05	90.05

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DISCCART	807602.63	4044248.22	90.10	90.10
DISCCART	807702.63	4044248.22	90.67	90.67
DISCCART	807802.63	4044248.22	91.98	91.98
DISCCART	807902.63	4044248.22	87.77	87.77
DISCCART	808002.63	4044248.22	87.67	87.67
DISCCART	808102.63	4044248.22	87.68	87.68
DISCCART	808202.63	4044248.22	87.68	87.68
DISCCART	808302.63	4044248.22	87.89	87.89
DISCCART	808402.63	4044248.22	87.52	87.52
DISCCART	808502.63	4044248.22	86.78	86.78
DISCCART	808602.63	4044248.22	87.58	87.58
DISCCART	808702.63	4044248.22	88.05	88.05
DISCCART	808802.63	4044248.22	88.20	88.20
DISCCART	808902.63	4044248.22	87.68	87.68
DISCCART	809002.63	4044248.22	88.05	88.05
DISCCART	809102.63	4044248.22	87.28	87.28
DISCCART	809202.63	4044248.22	87.61	87.61
DISCCART	809302.63	4044248.22	87.62	87.62
DISCCART	809402.63	4044248.22	85.89	85.89
DISCCART	809502.63	4044248.22	85.37	85.37
DISCCART	809602.63	4044248.22	84.84	84.84
DISCCART	804202.63	4044348.22	86.97	86.97
DISCCART	804302.63	4044348.22	87.03	87.03
DISCCART	804402.63	4044348.22	87.56	87.56
DISCCART	804502.63	4044348.22	88.47	88.47
DISCCART	804602.63	4044348.22	88.93	88.93
DISCCART	804702.63	4044348.22	89.74	89.74
DISCCART	804802.63	4044348.22	90.28	90.28
DISCCART	804902.63	4044348.22	90.38	90.38
DISCCART	805002.63	4044348.22	90.04	90.04
DISCCART	805102.63	4044348.22	89.34	89.34
DISCCART	805202.63	4044348.22	88.68	88.68
DISCCART	805302.63	4044348.22	88.49	88.49
DISCCART	805402.63	4044348.22	88.50	88.50
DISCCART	805502.63	4044348.22	88.49	88.49
DISCCART	805602.63	4044348.22	88.49	88.49
DISCCART	805702.63	4044348.22	88.49	88.49
DISCCART	805802.63	4044348.22	88.49	88.49
DISCCART	805902.63	4044348.22	88.50	88.50
DISCCART	806002.63	4044348.22	88.49	88.49
DISCCART	806102.63	4044348.22	88.96	88.96
DISCCART	806202.63	4044348.22	89.77	89.77
DISCCART	806302.63	4044348.22	90.03	90.03
DISCCART	806402.63	4044348.22	89.06	89.06
DISCCART	806502.63	4044348.22	88.48	88.48
DISCCART	806602.63	4044348.22	88.63	88.63
DISCCART	806702.63	4044348.22	89.29	89.29
DISCCART	806802.63	4044348.22	90.04	90.04
DISCCART	806902.63	4044348.22	90.06	90.06
DISCCART	807002.63	4044348.22	90.02	90.02
DISCCART	807102.63	4044348.22	90.36	90.36
DISCCART	807202.63	4044348.22	88.41	88.41
DISCCART	807302.63	4044348.22	89.84	89.84
DISCCART	807402.63	4044348.22	90.17	90.17
DISCCART	807502.63	4044348.22	90.02	90.02
DISCCART	807602.63	4044348.22	90.10	90.10
DISCCART	807702.63	4044348.22	90.83	90.83
DISCCART	807802.63	4044348.22	91.92	91.92
DISCCART	807902.63	4044348.22	87.29	87.29
DISCCART	808002.63	4044348.22	87.80	87.80
DISCCART	808102.63	4044348.22	88.15	88.15
DISCCART	808202.63	4044348.22	88.11	88.11
DISCCART	808302.63	4044348.22	88.08	88.08
DISCCART	808402.63	4044348.22	87.31	87.31
DISCCART	808502.63	4044348.22	86.38	86.38
DISCCART	808602.63	4044348.22	87.61	87.61
DISCCART	808702.63	4044348.22	88.01	88.01
DISCCART	808802.63	4044348.22	88.22	88.22
DISCCART	808902.63	4044348.22	87.26	87.26
DISCCART	809002.63	4044348.22	88.18	88.18

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DISCCART	809102.63	4044348.22	87.78	87.78
DISCCART	809202.63	4044348.22	87.83	87.83
DISCCART	809302.63	4044348.22	87.96	87.96
DISCCART	809402.63	4044348.22	87.11	87.11
DISCCART	809502.63	4044348.22	86.72	86.72
DISCCART	809602.63	4044348.22	84.50	84.50
DISCCART	804202.63	4044448.22	87.14	87.14
DISCCART	804302.63	4044448.22	86.99	86.99
DISCCART	804402.63	4044448.22	87.25	87.25
DISCCART	804502.63	4044448.22	88.09	88.09
DISCCART	804602.63	4044448.22	88.42	88.42
DISCCART	804702.63	4044448.22	88.94	88.94
DISCCART	804802.63	4044448.22	89.91	89.91
DISCCART	804902.63	4044448.22	90.22	90.22
DISCCART	805002.63	4044448.22	90.19	90.19
DISCCART	805102.63	4044448.22	90.07	90.07
DISCCART	805202.63	4044448.22	89.25	89.25
DISCCART	805302.63	4044448.22	88.50	88.50
DISCCART	805402.63	4044448.22	88.48	88.48
DISCCART	805502.63	4044448.22	88.52	88.52
DISCCART	805602.63	4044448.22	88.50	88.50
DISCCART	805702.63	4044448.22	88.52	88.52
DISCCART	805802.63	4044448.22	88.49	88.49
DISCCART	805902.63	4044448.22	88.50	88.50
DISCCART	806002.63	4044448.22	88.54	88.54
DISCCART	806102.63	4044448.22	88.61	88.61
DISCCART	806202.63	4044448.22	89.05	89.05
DISCCART	806302.63	4044448.22	89.76	89.76
DISCCART	806402.63	4044448.22	89.97	89.97
DISCCART	806502.63	4044448.22	88.66	88.66
DISCCART	806602.63	4044448.22	88.52	88.52
DISCCART	806702.63	4044448.22	88.73	88.73
DISCCART	806802.63	4044448.22	89.97	89.97
DISCCART	806902.63	4044448.22	89.68	89.68
DISCCART	807002.63	4044448.22	89.25	89.25
DISCCART	807102.63	4044448.22	89.50	89.50
DISCCART	807202.63	4044448.22	89.74	89.74
DISCCART	807302.63	4044448.22	88.67	88.67
DISCCART	807402.63	4044448.22	90.32	90.32
DISCCART	807502.63	4044448.22	90.14	90.14
DISCCART	807602.63	4044448.22	90.05	90.05
DISCCART	807702.63	4044448.22	90.40	90.40
DISCCART	807802.63	4044448.22	90.93	92.91
DISCCART	807902.63	4044448.22	87.43	87.43
DISCCART	808002.63	4044448.22	87.11	87.11
DISCCART	808102.63	4044448.22	87.77	87.77
DISCCART	808202.63	4044448.22	88.09	88.09
DISCCART	808302.63	4044448.22	87.77	87.77
DISCCART	808402.63	4044448.22	87.62	87.62
DISCCART	808502.63	4044448.22	85.73	85.73
DISCCART	808602.63	4044448.22	87.82	87.82
DISCCART	808702.63	4044448.22	88.15	88.15
DISCCART	808802.63	4044448.22	88.47	88.47
DISCCART	808902.63	4044448.22	87.59	87.59
DISCCART	809002.63	4044448.22	87.71	87.71
DISCCART	809102.63	4044448.22	87.88	87.88
DISCCART	809202.63	4044448.22	87.97	87.97
DISCCART	809302.63	4044448.22	88.19	88.19
DISCCART	809402.63	4044448.22	87.05	87.05
DISCCART	809502.63	4044448.22	86.76	86.76
DISCCART	809602.63	4044448.22	82.88	82.88
DISCCART	804202.63	4044548.22	87.03	87.03
DISCCART	804302.63	4044548.22	86.97	86.97
DISCCART	804402.63	4044548.22	87.03	87.03
DISCCART	804502.63	4044548.22	87.07	87.07
DISCCART	804602.63	4044548.22	87.09	87.09
DISCCART	804702.63	4044548.22	88.44	88.44
DISCCART	804802.63	4044548.22	89.31	89.31
DISCCART	804902.63	4044548.22	89.97	89.97
DISCCART	805002.63	4044548.22	90.16	90.16

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DISCCART	805102.63	4044548.22	90.10	90.10
DISCCART	805202.63	4044548.22	89.73	89.73
DISCCART	805302.63	4044548.22	88.60	88.60
DISCCART	805402.63	4044548.22	88.48	88.48
DISCCART	805502.63	4044548.22	88.50	88.50
DISCCART	805602.63	4044548.22	88.50	88.50
DISCCART	805702.63	4044548.22	88.50	88.50
DISCCART	805802.63	4044548.22	88.51	88.51
DISCCART	805902.63	4044548.22	88.49	88.49
DISCCART	806002.63	4044548.22	88.53	88.53
DISCCART	806102.63	4044548.22	88.53	88.53
DISCCART	806202.63	4044548.22	88.45	88.45
DISCCART	806302.63	4044548.22	88.42	88.42
DISCCART	806402.63	4044548.22	88.42	88.42
DISCCART	806502.63	4044548.22	88.43	88.43
DISCCART	806602.63	4044548.22	88.46	88.46
DISCCART	806702.63	4044548.22	88.46	88.46
DISCCART	806802.63	4044548.22	89.37	89.37
DISCCART	806902.63	4044548.22	90.15	90.15
DISCCART	807002.63	4044548.22	89.49	89.49
DISCCART	807102.63	4044548.22	89.19	89.19
DISCCART	807202.63	4044548.22	90.04	90.04
DISCCART	807302.63	4044548.22	90.19	90.19
DISCCART	807402.63	4044548.22	89.99	89.99
DISCCART	807502.63	4044548.22	90.06	90.06
DISCCART	807602.63	4044548.22	90.40	90.40
DISCCART	807702.63	4044548.22	90.78	90.78
DISCCART	807802.63	4044548.22	90.00	90.00
DISCCART	807902.63	4044548.22	88.35	88.35
DISCCART	808002.63	4044548.22	87.24	87.24
DISCCART	808102.63	4044548.22	87.74	87.74
DISCCART	808202.63	4044548.22	88.17	88.17
DISCCART	808302.63	4044548.22	88.13	88.13
DISCCART	808402.63	4044548.22	88.13	88.13
DISCCART	808502.63	4044548.22	87.53	87.53
DISCCART	808602.63	4044548.22	87.23	87.23
DISCCART	808702.63	4044548.22	88.19	88.19
DISCCART	808802.63	4044548.22	88.14	88.14
DISCCART	808902.63	4044548.22	87.00	87.00
DISCCART	809002.63	4044548.22	88.11	88.11
DISCCART	809102.63	4044548.22	87.57	87.57
DISCCART	809202.63	4044548.22	88.02	88.02
DISCCART	809302.63	4044548.22	88.10	88.10
DISCCART	809402.63	4044548.22	87.64	87.64
DISCCART	809502.63	4044548.22	86.94	87.80
DISCCART	809602.63	4044548.22	82.40	82.40
DISCCART	804202.63	4044648.22	86.10	86.10
DISCCART	804302.63	4044648.22	86.60	86.60
DISCCART	804402.63	4044648.22	86.96	86.96
DISCCART	804502.63	4044648.22	87.02	87.02
DISCCART	804602.63	4044648.22	87.89	87.89
DISCCART	804702.63	4044648.22	88.43	88.43
DISCCART	804802.63	4044648.22	88.80	88.80
DISCCART	804902.63	4044648.22	89.39	89.39
DISCCART	805002.63	4044648.22	89.79	89.79
DISCCART	805102.63	4044648.22	89.87	89.87
DISCCART	805202.63	4044648.22	89.57	89.57
DISCCART	805302.63	4044648.22	88.54	88.54
DISCCART	805402.63	4044648.22	88.50	88.50
DISCCART	805502.63	4044648.22	88.50	88.50
DISCCART	805602.63	4044648.22	88.50	88.50
DISCCART	805702.63	4044648.22	88.51	88.51
DISCCART	805802.63	4044648.22	88.54	88.54
DISCCART	805902.63	4044648.22	88.52	88.52
DISCCART	806002.63	4044648.22	88.55	88.55
DISCCART	806102.63	4044648.22	88.53	88.53
DISCCART	806202.63	4044648.22	88.43	88.43
DISCCART	806302.63	4044648.22	88.77	88.77
DISCCART	806402.63	4044648.22	89.51	89.51
DISCCART	806502.63	4044648.22	90.14	90.14

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DISCCART	806602.63	4044648.22	90.38	90.38
DISCCART	806702.63	4044648.22	89.94	89.94
DISCCART	806802.63	4044648.22	90.09	90.09
DISCCART	806902.63	4044648.22	89.56	89.56
DISCCART	807002.63	4044648.22	89.27	89.27
DISCCART	807102.63	4044648.22	89.62	89.62
DISCCART	807202.63	4044648.22	89.51	89.51
DISCCART	807302.63	4044648.22	89.73	89.73
DISCCART	807402.63	4044648.22	90.59	90.59
DISCCART	807502.63	4044648.22	90.24	90.24
DISCCART	807602.63	4044648.22	90.93	90.93
DISCCART	807702.63	4044648.22	90.75	90.75
DISCCART	807802.63	4044648.22	89.81	89.81
DISCCART	807902.63	4044648.22	88.45	88.45
DISCCART	808002.63	4044648.22	87.75	87.75
DISCCART	808102.63	4044648.22	88.26	88.26
DISCCART	808202.63	4044648.22	88.45	88.45
DISCCART	808302.63	4044648.22	88.36	88.36
DISCCART	808402.63	4044648.22	88.75	88.75
DISCCART	808502.63	4044648.22	87.27	87.27
DISCCART	808602.63	4044648.22	86.86	86.86
DISCCART	808702.63	4044648.22	88.33	88.33
DISCCART	808802.63	4044648.22	88.39	88.39
DISCCART	808902.63	4044648.22	88.78	88.78
DISCCART	809002.63	4044648.22	88.35	88.35
DISCCART	809102.63	4044648.22	87.76	87.76
DISCCART	809202.63	4044648.22	87.69	87.69
DISCCART	809302.63	4044648.22	88.29	88.29
DISCCART	809402.63	4044648.22	89.18	89.18
DISCCART	809502.63	4044648.22	85.17	88.16
DISCCART	804202.63	4044748.22	85.51	85.51
DISCCART	804302.63	4044748.22	86.19	86.19
DISCCART	804402.63	4044748.22	87.04	87.04
DISCCART	804502.63	4044748.22	87.04	87.04
DISCCART	804602.63	4044748.22	87.51	87.51
DISCCART	804702.63	4044748.22	87.78	87.78
DISCCART	804802.63	4044748.22	88.29	88.29
DISCCART	804902.63	4044748.22	88.55	88.55
DISCCART	805002.63	4044748.22	88.95	88.95
DISCCART	805102.63	4044748.22	89.19	89.19
DISCCART	805202.63	4044748.22	89.06	89.06
DISCCART	805302.63	4044748.22	88.47	88.47
DISCCART	805402.63	4044748.22	88.52	88.52
DISCCART	805502.63	4044748.22	88.53	88.53
DISCCART	805602.63	4044748.22	88.49	88.49
DISCCART	805702.63	4044748.22	88.50	88.50
DISCCART	805802.63	4044748.22	88.49	88.49
DISCCART	805902.63	4044748.22	88.53	88.53
DISCCART	806002.63	4044748.22	88.53	88.53
DISCCART	806102.63	4044748.22	88.52	88.52
DISCCART	806202.63	4044748.22	88.51	88.51
DISCCART	806302.63	4044748.22	89.71	89.71
DISCCART	806402.63	4044748.22	89.97	89.97
DISCCART	806502.63	4044748.22	90.44	90.44
DISCCART	806602.63	4044748.22	90.64	90.64
DISCCART	806702.63	4044748.22	90.52	90.52
DISCCART	806802.63	4044748.22	90.24	90.24
DISCCART	806902.63	4044748.22	90.37	90.37
DISCCART	807002.63	4044748.22	90.97	90.97
DISCCART	807102.63	4044748.22	91.22	91.22
DISCCART	807202.63	4044748.22	91.13	91.13
DISCCART	807302.63	4044748.22	90.84	90.84
DISCCART	807402.63	4044748.22	91.06	91.06
DISCCART	807502.63	4044748.22	91.03	91.03
DISCCART	807602.63	4044748.22	91.14	91.14
DISCCART	807702.63	4044748.22	93.15	93.15
DISCCART	807802.63	4044748.22	88.89	88.89
DISCCART	807902.63	4044748.22	88.87	88.87
DISCCART	808002.63	4044748.22	88.77	88.77
DISCCART	808102.63	4044748.22	88.79	88.79

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DISCCART	808202.63	4044748.22	88.71	88.71
DISCCART	808302.63	4044748.22	88.47	88.47
DISCCART	808402.63	4044748.22	88.63	88.63
DISCCART	808502.63	4044748.22	87.63	87.63
DISCCART	808602.63	4044748.22	86.57	86.57
DISCCART	808702.63	4044748.22	87.85	87.85
DISCCART	808802.63	4044748.22	88.34	88.34
DISCCART	808902.63	4044748.22	88.60	88.60
DISCCART	809002.63	4044748.22	87.78	87.78
DISCCART	809102.63	4044748.22	87.81	87.81
DISCCART	809202.63	4044748.22	87.47	87.47
DISCCART	809302.63	4044748.22	88.31	88.31
DISCCART	809402.63	4044748.22	89.23	89.23
DISCCART	809502.63	4044748.22	82.66	89.31
DISCCART	804202.63	4044848.22	85.49	85.49
DISCCART	804302.63	4044848.22	85.93	85.93
DISCCART	804402.63	4044848.22	87.02	87.02
DISCCART	804502.63	4044848.22	87.02	87.02
DISCCART	804602.63	4044848.22	87.09	87.09
DISCCART	804702.63	4044848.22	87.13	87.13
DISCCART	804802.63	4044848.22	88.02	88.02
DISCCART	804902.63	4044848.22	88.45	88.45
DISCCART	805002.63	4044848.22	88.58	88.58
DISCCART	805102.63	4044848.22	88.70	88.70
DISCCART	805202.63	4044848.22	88.73	88.73
DISCCART	805302.63	4044848.22	88.54	88.54
DISCCART	805402.63	4044848.22	88.59	88.59
DISCCART	805502.63	4044848.22	88.51	88.51
DISCCART	805602.63	4044848.22	88.51	88.51
DISCCART	805702.63	4044848.22	88.51	88.51
DISCCART	805802.63	4044848.22	88.52	88.52
DISCCART	805902.63	4044848.22	88.51	88.51
DISCCART	806002.63	4044848.22	88.51	88.51
DISCCART	806102.63	4044848.22	88.52	88.52
DISCCART	806202.63	4044848.22	88.72	88.72
DISCCART	806302.63	4044848.22	90.08	90.08
DISCCART	806402.63	4044848.22	90.03	90.03
DISCCART	806502.63	4044848.22	90.06	90.06
DISCCART	806602.63	4044848.22	90.22	90.22
DISCCART	806702.63	4044848.22	90.35	90.35
DISCCART	806802.63	4044848.22	90.48	90.48
DISCCART	806902.63	4044848.22	90.87	90.87
DISCCART	807002.63	4044848.22	91.45	91.45
DISCCART	807102.63	4044848.22	91.57	91.57
DISCCART	807202.63	4044848.22	91.55	91.55
DISCCART	807302.63	4044848.22	91.56	91.56
DISCCART	807402.63	4044848.22	91.60	91.60
DISCCART	807502.63	4044848.22	91.78	91.78
DISCCART	807602.63	4044848.22	91.78	91.78
DISCCART	807702.63	4044848.22	90.48	90.48
DISCCART	807802.63	4044848.22	89.19	89.19
DISCCART	807902.63	4044848.22	88.05	88.05
DISCCART	808002.63	4044848.22	88.09	88.09
DISCCART	808102.63	4044848.22	88.93	88.93
DISCCART	808202.63	4044848.22	88.84	88.84
DISCCART	808302.63	4044848.22	88.63	88.63
DISCCART	808402.63	4044848.22	88.36	88.36
DISCCART	808502.63	4044848.22	88.33	88.33
DISCCART	808602.63	4044848.22	87.30	87.30
DISCCART	808702.63	4044848.22	89.49	89.49
DISCCART	808802.63	4044848.22	88.30	88.30
DISCCART	808902.63	4044848.22	88.25	88.25
DISCCART	809002.63	4044848.22	88.00	88.00
DISCCART	809102.63	4044848.22	87.30	87.30
DISCCART	809202.63	4044848.22	86.02	86.02
DISCCART	809302.63	4044848.22	89.34	89.34
DISCCART	809402.63	4044848.22	87.80	87.80
DISCCART	804202.63	4044948.22	85.72	85.72
DISCCART	804302.63	4044948.22	85.54	85.54
DISCCART	804402.63	4044948.22	86.51	86.51

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DISCCART	804502.63	4044948.22	86.98	86.98
DISCCART	804602.63	4044948.22	87.05	87.05
DISCCART	804702.63	4044948.22	87.11	87.11
DISCCART	804802.63	4044948.22	87.76	87.76
DISCCART	804902.63	4044948.22	88.40	88.40
DISCCART	805002.63	4044948.22	88.63	88.63
DISCCART	805102.63	4044948.22	88.64	88.64
DISCCART	805202.63	4044948.22	89.09	89.09
DISCCART	805302.63	4044948.22	88.93	88.93
DISCCART	805402.63	4044948.22	88.35	88.35
DISCCART	805502.63	4044948.22	88.41	88.41
DISCCART	805602.63	4044948.22	88.51	88.51
DISCCART	805702.63	4044948.22	88.50	88.50
DISCCART	805802.63	4044948.22	88.56	88.56
DISCCART	805902.63	4044948.22	89.18	89.18
DISCCART	806002.63	4044948.22	88.73	88.73
DISCCART	806102.63	4044948.22	88.51	88.51
DISCCART	806202.63	4044948.22	88.68	88.68
DISCCART	806302.63	4044948.22	89.64	89.64
DISCCART	806402.63	4044948.22	90.13	90.13
DISCCART	806502.63	4044948.22	90.08	90.08
DISCCART	806602.63	4044948.22	90.09	90.09
DISCCART	806702.63	4044948.22	90.12	90.12
DISCCART	806802.63	4044948.22	90.38	90.38
DISCCART	806902.63	4044948.22	91.09	91.09
DISCCART	807002.63	4044948.22	91.55	91.55
DISCCART	807702.63	4044948.22	90.46	90.46
DISCCART	807802.63	4044948.22	89.10	93.77
DISCCART	807902.63	4044948.22	89.10	93.40
DISCCART	808002.63	4044948.22	89.10	93.48
DISCCART	808102.63	4044948.22	89.20	93.72
DISCCART	808202.63	4044948.22	89.73	93.97
DISCCART	808302.63	4044948.22	90.54	94.17
DISCCART	808402.63	4044948.22	91.69	94.27
DISCCART	808502.63	4044948.22	93.71	93.71
DISCCART	808602.63	4044948.22	93.86	94.23
DISCCART	808702.63	4044948.22	94.02	94.02
DISCCART	808802.63	4044948.22	93.43	94.11
DISCCART	808902.63	4044948.22	92.96	94.02
DISCCART	809002.63	4044948.22	92.43	93.99
DISCCART	809102.63	4044948.22	90.01	94.02
DISCCART	809202.63	4044948.22	88.71	88.71
DISCCART	809302.63	4044948.22	88.66	88.66
DISCCART	809402.63	4044948.22	86.04	86.04
DISCCART	804202.63	4045048.22	87.02	87.02
DISCCART	804302.63	4045048.22	85.48	85.48
DISCCART	804402.63	4045048.22	85.72	85.72
DISCCART	804502.63	4045048.22	87.04	87.04
DISCCART	804602.63	4045048.22	86.98	86.98
DISCCART	804702.63	4045048.22	87.07	87.07
DISCCART	804802.63	4045048.22	87.32	87.32
DISCCART	804902.63	4045048.22	87.65	87.65
DISCCART	805002.63	4045048.22	88.34	88.34
DISCCART	805102.63	4045048.22	88.50	88.50
DISCCART	805202.63	4045048.22	88.91	88.91
DISCCART	805302.63	4045048.22	89.57	89.57
DISCCART	805402.63	4045048.22	87.49	87.49
DISCCART	805502.63	4045048.22	88.10	88.10
DISCCART	805602.63	4045048.22	88.48	88.48
DISCCART	805702.63	4045048.22	88.51	88.51
DISCCART	805802.63	4045048.22	88.51	88.51
DISCCART	805902.63	4045048.22	89.83	89.83
DISCCART	806002.63	4045048.22	89.84	89.84
DISCCART	806102.63	4045048.22	88.46	88.46
DISCCART	806202.63	4045048.22	88.57	88.57
DISCCART	806302.63	4045048.22	88.63	88.63
DISCCART	806402.63	4045048.22	88.67	88.67
DISCCART	806502.63	4045048.22	88.66	88.66
DISCCART	806602.63	4045048.22	90.38	90.38
DISCCART	806702.63	4045048.22	90.09	90.09

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DISCCART	806802.63	4045048.22	90.12	90.12
DISCCART	806902.63	4045048.22	90.81	90.81
DISCCART	807002.63	4045048.22	91.40	91.40
DISCCART	807702.63	4045048.22	91.96	93.56
DISCCART	807802.63	4045048.22	89.12	89.12
DISCCART	807902.63	4045048.22	89.09	89.09
DISCCART	808002.63	4045048.22	89.09	89.09
DISCCART	808102.63	4045048.22	89.09	89.09
DISCCART	808202.63	4045048.22	89.09	89.09
DISCCART	808302.63	4045048.22	89.09	89.09
DISCCART	808402.63	4045048.22	89.08	89.08
DISCCART	808502.63	4045048.22	90.01	94.14
DISCCART	808602.63	4045048.22	86.53	86.53
DISCCART	808702.63	4045048.22	86.50	86.50
DISCCART	808802.63	4045048.22	86.91	86.91
DISCCART	808902.63	4045048.22	87.22	87.22
DISCCART	809002.63	4045048.22	87.50	94.11
DISCCART	809102.63	4045048.22	89.45	94.15
DISCCART	809202.63	4045048.22	89.15	89.15
DISCCART	809302.63	4045048.22	89.34	89.34
DISCCART	809402.63	4045048.22	85.17	89.87
DISCCART	804202.63	4045148.22	87.01	87.01
DISCCART	804302.63	4045148.22	87.02	87.02
DISCCART	804402.63	4045148.22	85.65	85.65
DISCCART	804502.63	4045148.22	87.11	87.11
DISCCART	804602.63	4045148.22	87.04	87.04
DISCCART	804702.63	4045148.22	86.99	86.99
DISCCART	804802.63	4045148.22	86.98	86.98
DISCCART	804902.63	4045148.22	87.03	87.03
DISCCART	805002.63	4045148.22	87.02	87.02
DISCCART	805102.63	4045148.22	88.44	88.44
DISCCART	805202.63	4045148.22	89.30	89.30
DISCCART	805302.63	4045148.22	89.23	89.23
DISCCART	805402.63	4045148.22	87.28	87.28
DISCCART	805502.63	4045148.22	87.89	87.89
DISCCART	805602.63	4045148.22	88.34	88.34
DISCCART	805702.63	4045148.22	88.50	88.50
DISCCART	805802.63	4045148.22	88.47	88.47
DISCCART	805902.63	4045148.22	88.70	88.70
DISCCART	806002.63	4045148.22	89.71	89.71
DISCCART	806102.63	4045148.22	88.38	88.38
DISCCART	806202.63	4045148.22	89.29	89.29
DISCCART	806302.63	4045148.22	89.31	89.31
DISCCART	806402.63	4045148.22	89.94	89.94
DISCCART	806502.63	4045148.22	90.00	90.00
DISCCART	806602.63	4045148.22	89.22	89.22
DISCCART	806702.63	4045148.22	89.24	89.24
DISCCART	806802.63	4045148.22	90.24	90.24
DISCCART	806902.63	4045148.22	90.27	90.27
DISCCART	807002.63	4045148.22	90.86	90.86
DISCCART	807702.63	4045148.22	91.27	93.90
DISCCART	807802.63	4045148.22	89.29	89.29
DISCCART	807902.63	4045148.22	89.08	89.08
DISCCART	808002.63	4045148.22	89.08	89.08
DISCCART	808102.63	4045148.22	89.08	89.08
DISCCART	808202.63	4045148.22	89.08	89.08
DISCCART	808302.63	4045148.22	89.07	89.07
DISCCART	808402.63	4045148.22	89.07	89.07
DISCCART	808502.63	4045148.22	88.63	94.00
DISCCART	808602.63	4045148.22	86.50	86.50
DISCCART	808702.63	4045148.22	86.50	86.50
DISCCART	808802.63	4045148.22	87.07	87.07
DISCCART	808902.63	4045148.22	87.28	87.28
DISCCART	809002.63	4045148.22	91.84	94.19
DISCCART	809102.63	4045148.22	89.13	89.13
DISCCART	809202.63	4045148.22	89.45	89.45
DISCCART	809302.63	4045148.22	89.59	89.59
DISCCART	804202.63	4045248.22	86.84	86.84
DISCCART	804302.63	4045248.22	87.03	87.03
DISCCART	804402.63	4045248.22	87.58	87.58

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DISCCART	804502.63	4045248.22	85.62	85.62
DISCCART	804602.63	4045248.22	86.18	86.18
DISCCART	804702.63	4045248.22	86.90	86.90
DISCCART	804802.63	4045248.22	86.99	86.99
DISCCART	804902.63	4045248.22	86.98	86.98
DISCCART	805002.63	4045248.22	86.96	86.96
DISCCART	805102.63	4045248.22	87.00	87.00
DISCCART	805202.63	4045248.22	87.77	87.77
DISCCART	805302.63	4045248.22	88.09	88.09
DISCCART	805402.63	4045248.22	86.80	86.80
DISCCART	805502.63	4045248.22	87.15	87.15
DISCCART	805602.63	4045248.22	87.16	87.16
DISCCART	805702.63	4045248.22	88.27	88.27
DISCCART	805802.63	4045248.22	87.86	87.86
DISCCART	805902.63	4045248.22	87.94	87.94
DISCCART	806002.63	4045248.22	88.10	88.10
DISCCART	806102.63	4045248.22	88.29	88.29
DISCCART	806202.63	4045248.22	90.08	90.08
DISCCART	806302.63	4045248.22	90.06	90.06
DISCCART	806402.63	4045248.22	90.04	90.04
DISCCART	806502.63	4045248.22	90.26	90.26
DISCCART	806602.63	4045248.22	90.33	90.33
DISCCART	806702.63	4045248.22	90.03	90.03
DISCCART	806802.63	4045248.22	89.20	89.20
DISCCART	806902.63	4045248.22	90.54	90.54
DISCCART	807002.63	4045248.22	90.62	90.62
DISCCART	807802.63	4045248.22	92.60	94.04
DISCCART	807902.63	4045248.22	89.10	89.10
DISCCART	808002.63	4045248.22	89.26	89.26
DISCCART	808102.63	4045248.22	89.15	89.15
DISCCART	808202.63	4045248.22	89.07	89.07
DISCCART	808302.63	4045248.22	89.06	89.06
DISCCART	808402.63	4045248.22	89.06	89.06
DISCCART	808502.63	4045248.22	88.11	93.86
DISCCART	808602.63	4045248.22	86.51	86.51
DISCCART	808702.63	4045248.22	87.15	87.15
DISCCART	808802.63	4045248.22	87.07	87.07
DISCCART	808902.63	4045248.22	88.78	94.12
DISCCART	809002.63	4045248.22	88.43	88.43
DISCCART	809102.63	4045248.22	89.19	89.19
DISCCART	809202.63	4045248.22	89.88	89.88
DISCCART	804202.63	4045348.22	86.59	86.59
DISCCART	804302.63	4045348.22	86.93	86.93
DISCCART	804402.63	4045348.22	87.05	87.05
DISCCART	804502.63	4045348.22	87.10	87.10
DISCCART	804602.63	4045348.22	86.33	86.33
DISCCART	804702.63	4045348.22	85.60	85.60
DISCCART	804802.63	4045348.22	86.79	86.79
DISCCART	804902.63	4045348.22	86.98	86.98
DISCCART	805002.63	4045348.22	86.96	86.96
DISCCART	805102.63	4045348.22	86.98	86.98
DISCCART	805202.63	4045348.22	87.06	87.06
DISCCART	805302.63	4045348.22	86.97	86.97
DISCCART	805402.63	4045348.22	88.59	88.59
DISCCART	805502.63	4045348.22	89.06	89.06
DISCCART	805602.63	4045348.22	89.15	89.15
DISCCART	805702.63	4045348.22	89.15	89.15
DISCCART	805802.63	4045348.22	89.08	89.08
DISCCART	805902.63	4045348.22	88.62	88.62
DISCCART	806002.63	4045348.22	88.81	88.81
DISCCART	806102.63	4045348.22	88.75	88.75
DISCCART	806202.63	4045348.22	89.52	89.52
DISCCART	806302.63	4045348.22	89.84	89.84
DISCCART	806402.63	4045348.22	90.03	90.03
DISCCART	806502.63	4045348.22	90.06	90.06
DISCCART	806602.63	4045348.22	90.10	90.10
DISCCART	806702.63	4045348.22	90.07	90.07
DISCCART	806802.63	4045348.22	89.81	89.81
DISCCART	806902.63	4045348.22	89.45	89.45
DISCCART	807002.63	4045348.22	89.80	89.80

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DISCCART	807802.63	4045348.22	92.31	92.31
DISCCART	807902.63	4045348.22	93.84	93.84
DISCCART	808002.63	4045348.22	94.19	94.19
DISCCART	808102.63	4045348.22	91.71	95.54
DISCCART	808202.63	4045348.22	90.12	94.71
DISCCART	808302.63	4045348.22	89.26	94.99
DISCCART	808402.63	4045348.22	89.06	94.29
DISCCART	808502.63	4045348.22	88.03	94.33
DISCCART	808602.63	4045348.22	91.65	93.98
DISCCART	808702.63	4045348.22	88.51	93.58
DISCCART	808802.63	4045348.22	89.55	93.36
DISCCART	808902.63	4045348.22	89.08	94.14
DISCCART	809002.63	4045348.22	88.86	88.86
DISCCART	809102.63	4045348.22	89.50	89.50
DISCCART	804202.63	4045448.22	86.65	86.65
DISCCART	804302.63	4045448.22	86.80	86.80
DISCCART	804402.63	4045448.22	87.01	87.01
DISCCART	804502.63	4045448.22	87.03	87.03
DISCCART	804602.63	4045448.22	87.11	87.11
DISCCART	804702.63	4045448.22	85.87	85.87
DISCCART	804802.63	4045448.22	85.59	85.59
DISCCART	804902.63	4045448.22	86.74	86.74
DISCCART	805002.63	4045448.22	86.94	86.94
DISCCART	805102.63	4045448.22	86.98	86.98
DISCCART	805202.63	4045448.22	87.00	87.00
DISCCART	805302.63	4045448.22	86.78	86.78
DISCCART	805402.63	4045448.22	87.95	87.95
DISCCART	805502.63	4045448.22	88.32	88.32
DISCCART	805602.63	4045448.22	88.38	88.38
DISCCART	805702.63	4045448.22	89.39	89.39
DISCCART	805802.63	4045448.22	90.02	90.02
DISCCART	805902.63	4045448.22	89.89	89.89
DISCCART	806002.63	4045448.22	89.39	89.39
DISCCART	806102.63	4045448.22	88.98	88.98
DISCCART	806202.63	4045448.22	89.28	89.28
DISCCART	806302.63	4045448.22	89.82	89.82
DISCCART	806402.63	4045448.22	90.03	90.03
DISCCART	806502.63	4045448.22	90.02	90.02
DISCCART	806602.63	4045448.22	90.03	90.03
DISCCART	806702.63	4045448.22	90.05	90.05
DISCCART	806802.63	4045448.22	90.03	90.03
DISCCART	806902.63	4045448.22	90.22	90.22
DISCCART	807002.63	4045448.22	91.09	91.09
DISCCART	807902.63	4045448.22	95.64	95.64
DISCCART	808002.63	4045448.22	95.08	99.77
DISCCART	808102.63	4045448.22	93.00	99.17
DISCCART	808202.63	4045448.22	92.99	98.71
DISCCART	808302.63	4045448.22	93.20	93.20
DISCCART	808402.63	4045448.22	93.04	93.04
DISCCART	808502.63	4045448.22	91.82	91.82
DISCCART	808602.63	4045448.22	91.58	91.58
DISCCART	808702.63	4045448.22	91.58	91.58
DISCCART	808802.63	4045448.22	93.33	93.73
DISCCART	808902.63	4045448.22	89.22	89.22
DISCCART	809002.63	4045448.22	88.26	88.26
DISCCART	804202.63	4045548.22	86.94	86.94
DISCCART	804302.63	4045548.22	86.88	86.88
DISCCART	804402.63	4045548.22	87.02	87.02
DISCCART	804502.63	4045548.22	87.02	87.02
DISCCART	804602.63	4045548.22	87.09	87.09
DISCCART	804702.63	4045548.22	86.75	86.75
DISCCART	804802.63	4045548.22	86.28	86.28
DISCCART	804902.63	4045548.22	85.54	85.54
DISCCART	805002.63	4045548.22	86.80	86.80
DISCCART	805102.63	4045548.22	86.81	86.81
DISCCART	805202.63	4045548.22	86.97	86.97
DISCCART	805302.63	4045548.22	86.55	86.55
DISCCART	805402.63	4045548.22	87.63	87.63
DISCCART	805502.63	4045548.22	88.15	88.15
DISCCART	805602.63	4045548.22	88.19	88.19

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DISCCART	805702.63	4045548.22	88.57	88.57
DISCCART	805802.63	4045548.22	89.83	89.83
DISCCART	805902.63	4045548.22	90.05	90.05
DISCCART	806002.63	4045548.22	90.05	90.05
DISCCART	806102.63	4045548.22	89.23	89.23
DISCCART	806202.63	4045548.22	89.83	89.83
DISCCART	806302.63	4045548.22	90.03	90.03
DISCCART	806402.63	4045548.22	89.99	89.99
DISCCART	806502.63	4045548.22	90.02	90.02
DISCCART	806602.63	4045548.22	90.03	90.03
DISCCART	806702.63	4045548.22	90.03	90.03
DISCCART	806802.63	4045548.22	90.07	90.07
DISCCART	806902.63	4045548.22	90.30	90.30
DISCCART	807002.63	4045548.22	91.24	91.24
DISCCART	807902.63	4045548.22	93.71	94.43
DISCCART	808002.63	4045548.22	95.07	97.64
DISCCART	808102.63	4045548.22	95.58	96.32
DISCCART	808202.63	4045548.22	95.01	96.36
DISCCART	808302.63	4045548.22	94.18	96.00
DISCCART	808402.63	4045548.22	92.77	92.77
DISCCART	808502.63	4045548.22	91.58	91.58
DISCCART	808602.63	4045548.22	91.58	91.58
DISCCART	808702.63	4045548.22	91.58	91.58
DISCCART	808802.63	4045548.22	89.74	89.74
DISCCART	804202.63	4045648.22	87.00	87.00
DISCCART	804302.63	4045648.22	87.02	87.02
DISCCART	804402.63	4045648.22	86.99	86.99
DISCCART	804502.63	4045648.22	87.05	87.05
DISCCART	804602.63	4045648.22	87.02	87.02
DISCCART	804702.63	4045648.22	87.04	87.04
DISCCART	804802.63	4045648.22	87.30	87.30
DISCCART	804902.63	4045648.22	86.30	86.30
DISCCART	805002.63	4045648.22	85.57	85.57
DISCCART	805102.63	4045648.22	86.23	86.23
DISCCART	805202.63	4045648.22	86.83	86.83
DISCCART	805302.63	4045648.22	86.30	86.30
DISCCART	805402.63	4045648.22	87.45	87.45
DISCCART	805502.63	4045648.22	87.94	87.94
DISCCART	805602.63	4045648.22	88.08	88.08
DISCCART	805702.63	4045648.22	88.21	88.21
DISCCART	805802.63	4045648.22	88.70	88.70
DISCCART	805902.63	4045648.22	89.00	89.00
DISCCART	806002.63	4045648.22	89.36	89.36
DISCCART	806102.63	4045648.22	89.34	89.34
DISCCART	806202.63	4045648.22	90.03	90.03
DISCCART	808002.63	4045648.22	93.57	98.23
DISCCART	808102.63	4045648.22	95.19	96.72
DISCCART	808202.63	4045648.22	94.57	96.63
DISCCART	808302.63	4045648.22	93.32	93.32
DISCCART	808402.63	4045648.22	93.00	93.00
DISCCART	808502.63	4045648.22	92.20	92.20
DISCCART	808602.63	4045648.22	91.76	91.76
DISCCART	808702.63	4045648.22	88.69	93.72
DISCCART	808802.63	4045648.22	87.76	89.91
DISCCART	804202.63	4045748.22	86.95	86.95
DISCCART	804302.63	4045748.22	87.01	87.01
DISCCART	804402.63	4045748.22	86.99	86.99
DISCCART	804502.63	4045748.22	86.98	86.98
DISCCART	804602.63	4045748.22	86.98	86.98
DISCCART	804702.63	4045748.22	87.03	87.03
DISCCART	804802.63	4045748.22	87.05	87.05
DISCCART	804902.63	4045748.22	86.96	86.96
DISCCART	805002.63	4045748.22	85.74	85.74
DISCCART	805102.63	4045748.22	85.57	85.57
DISCCART	805202.63	4045748.22	86.45	86.45
DISCCART	805302.63	4045748.22	86.18	86.18
DISCCART	805402.63	4045748.22	87.32	87.32
DISCCART	805502.63	4045748.22	87.77	87.77
DISCCART	805602.63	4045748.22	87.96	87.96
DISCCART	805702.63	4045748.22	88.11	88.11

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DISCCART	805802.63	4045748.22	88.24	88.24
DISCCART	805902.63	4045748.22	88.35	88.35
DISCCART	806002.63	4045748.22	88.52	88.52
DISCCART	806102.63	4045748.22	88.90	88.90
DISCCART	806202.63	4045748.22	90.05	90.05
DISCCART	808002.63	4045748.22	94.74	97.90
DISCCART	808102.63	4045748.22	94.72	94.72
DISCCART	808202.63	4045748.22	93.64	96.49
DISCCART	808302.63	4045748.22	93.52	93.52
DISCCART	808402.63	4045748.22	93.02	93.02
DISCCART	808502.63	4045748.22	92.86	92.86
DISCCART	808602.63	4045748.22	93.06	93.57
DISCCART	808702.63	4045748.22	88.40	88.40
DISCCART	804202.63	4045848.22	86.91	86.91
DISCCART	804302.63	4045848.22	86.90	86.90
DISCCART	804402.63	4045848.22	87.01	87.01
DISCCART	804502.63	4045848.22	87.00	87.00
DISCCART	804602.63	4045848.22	86.98	86.98
DISCCART	804702.63	4045848.22	87.04	87.04
DISCCART	804802.63	4045848.22	87.07	87.07
DISCCART	804902.63	4045848.22	86.81	86.81
DISCCART	805002.63	4045848.22	85.81	85.81
DISCCART	805102.63	4045848.22	85.58	85.58
DISCCART	805202.63	4045848.22	85.67	85.67
DISCCART	805302.63	4045848.22	86.07	86.07
DISCCART	805402.63	4045848.22	86.93	86.93
DISCCART	805502.63	4045848.22	87.35	87.35
DISCCART	805602.63	4045848.22	87.66	87.66
DISCCART	805702.63	4045848.22	87.86	87.86
DISCCART	805802.63	4045848.22	87.99	87.99
DISCCART	805902.63	4045848.22	88.12	88.12
DISCCART	806002.63	4045848.22	88.37	88.37
DISCCART	806102.63	4045848.22	88.50	88.50
DISCCART	808102.63	4045848.22	95.60	98.58
DISCCART	808202.63	4045848.22	95.40	96.61
DISCCART	808302.63	4045848.22	93.40	93.40
DISCCART	808402.63	4045848.22	93.02	93.02
DISCCART	808502.63	4045848.22	92.33	92.33
DISCCART	808602.63	4045848.22	88.66	88.66
DISCCART	804202.63	4045948.22	89.03	89.03
DISCCART	804302.63	4045948.22	87.37	87.37
DISCCART	804402.63	4045948.22	86.92	86.92
DISCCART	804502.63	4045948.22	87.01	87.01
DISCCART	804602.63	4045948.22	86.99	86.99
DISCCART	804702.63	4045948.22	86.98	86.98
DISCCART	804802.63	4045948.22	87.07	87.07
DISCCART	804902.63	4045948.22	87.10	87.10
DISCCART	805002.63	4045948.22	86.68	86.68
DISCCART	805102.63	4045948.22	85.94	85.94
DISCCART	805202.63	4045948.22	85.60	85.60
DISCCART	805302.63	4045948.22	86.50	86.50
DISCCART	805402.63	4045948.22	86.68	86.68
DISCCART	805502.63	4045948.22	86.69	86.69
DISCCART	805602.63	4045948.22	86.94	86.94
DISCCART	805702.63	4045948.22	87.21	87.21
DISCCART	805802.63	4045948.22	87.47	87.47
DISCCART	805902.63	4045948.22	87.73	87.73
DISCCART	806002.63	4045948.22	88.05	88.05
DISCCART	806102.63	4045948.22	88.43	88.43
DISCCART	808102.63	4045948.22	93.76	93.76
DISCCART	808202.63	4045948.22	94.77	94.77
DISCCART	808302.63	4045948.22	92.82	92.82
DISCCART	808402.63	4045948.22	93.08	93.08
DISCCART	808502.63	4045948.22	89.44	93.67
DISCCART	804202.63	4046048.22	89.49	89.49
DISCCART	804302.63	4046048.22	88.47	88.47
DISCCART	804402.63	4046048.22	87.07	87.07
DISCCART	804502.63	4046048.22	86.98	86.98
DISCCART	804602.63	4046048.22	87.03	87.03
DISCCART	804702.63	4046048.22	87.04	87.04

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DISCCART	804802.63	4046048.22	87.09	87.09
DISCCART	804902.63	4046048.22	87.23	87.23
DISCCART	805002.63	4046048.22	87.13	87.13
DISCCART	805102.63	4046048.22	87.14	87.14
DISCCART	805202.63	4046048.22	86.86	86.86
DISCCART	805302.63	4046048.22	86.98	86.98
DISCCART	805402.63	4046048.22	85.51	85.51
DISCCART	805502.63	4046048.22	86.64	86.64
DISCCART	805602.63	4046048.22	86.78	86.78
DISCCART	805702.63	4046048.22	86.73	86.73
DISCCART	805802.63	4046048.22	86.75	86.75
DISCCART	805902.63	4046048.22	86.97	86.97
DISCCART	806002.63	4046048.22	87.38	87.38
DISCCART	806102.63	4046048.22	88.01	88.01
DISCCART	808202.63	4046048.22	98.73	101.17
DISCCART	808302.63	4046048.22	94.74	94.74
DISCCART	808402.63	4046048.22	93.49	93.49
DISCCART	808502.63	4046048.22	88.26	89.74
DISCCART	804202.63	4046148.22	89.79	89.79
DISCCART	804302.63	4046148.22	89.12	89.12
DISCCART	804402.63	4046148.22	88.51	88.51
DISCCART	804502.63	4046148.22	87.00	87.00
DISCCART	804602.63	4046148.22	87.04	87.04
DISCCART	804702.63	4046148.22	87.02	87.02
DISCCART	804802.63	4046148.22	87.11	87.11
DISCCART	804902.63	4046148.22	87.28	87.28
DISCCART	805002.63	4046148.22	87.26	87.26
DISCCART	805102.63	4046148.22	87.31	87.31
DISCCART	805202.63	4046148.22	87.15	87.15
DISCCART	805302.63	4046148.22	87.12	87.12
DISCCART	805402.63	4046148.22	86.97	86.97
DISCCART	805502.63	4046148.22	85.97	85.97
DISCCART	805602.63	4046148.22	86.92	86.92
DISCCART	805702.63	4046148.22	85.65	85.65
DISCCART	805802.63	4046148.22	86.13	86.13
DISCCART	805902.63	4046148.22	86.98	86.98
DISCCART	806002.63	4046148.22	86.71	86.71
DISCCART	806102.63	4046148.22	87.45	87.45
DISCCART	808202.63	4046148.22	92.94	92.94
DISCCART	808302.63	4046148.22	88.34	94.43
DISCCART	808402.63	4046148.22	92.05	94.28
DISCCART	804202.63	4046248.22	90.04	90.04
DISCCART	804302.63	4046248.22	89.41	89.41
DISCCART	804402.63	4046248.22	90.21	90.21
DISCCART	804502.63	4046248.22	87.68	87.68
DISCCART	804602.63	4046248.22	87.16	87.16
DISCCART	804702.63	4046248.22	87.01	87.01
DISCCART	804802.63	4046248.22	87.13	87.13
DISCCART	804902.63	4046248.22	87.22	87.22
DISCCART	805002.63	4046248.22	87.22	87.22
DISCCART	805102.63	4046248.22	87.27	87.27
DISCCART	805202.63	4046248.22	87.14	87.14
DISCCART	805302.63	4046248.22	87.30	87.30
DISCCART	805402.63	4046248.22	86.75	86.75
DISCCART	805502.63	4046248.22	86.97	86.97
DISCCART	805602.63	4046248.22	86.99	86.99
DISCCART	805702.63	4046248.22	87.09	87.09
DISCCART	805802.63	4046248.22	87.31	87.31
DISCCART	805902.63	4046248.22	87.29	87.29
DISCCART	806002.63	4046248.22	86.79	86.79
DISCCART	806102.63	4046248.22	85.89	85.89
DISCCART	808202.63	4046248.22	88.97	88.97
DISCCART	808302.63	4046248.22	88.75	88.75
DISCCART	808402.63	4046248.22	88.35	88.35
DISCCART	804202.63	4046348.22	90.06	90.06
DISCCART	804302.63	4046348.22	89.68	89.68
DISCCART	804402.63	4046348.22	89.87	89.87
DISCCART	804502.63	4046348.22	89.62	89.62
DISCCART	804602.63	4046348.22	88.71	88.71
DISCCART	804702.63	4046348.22	87.61	87.61

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DISCCART	804802.63	4046348.22	87.27	87.27
DISCCART	804902.63	4046348.22	87.20	87.20
DISCCART	805002.63	4046348.22	87.21	87.21
DISCCART	805102.63	4046348.22	87.55	87.55
DISCCART	805202.63	4046348.22	87.16	87.16
DISCCART	805302.63	4046348.22	87.29	87.29
DISCCART	805402.63	4046348.22	86.70	86.70
DISCCART	805502.63	4046348.22	86.81	86.81
DISCCART	805602.63	4046348.22	86.80	86.80
DISCCART	805702.63	4046348.22	86.85	86.85
DISCCART	805802.63	4046348.22	87.05	87.05
DISCCART	805902.63	4046348.22	87.03	87.03
DISCCART	806002.63	4046348.22	87.03	87.03
DISCCART	806102.63	4046348.22	87.61	87.61
DISCCART	806202.63	4046348.22	86.98	86.98
DISCCART	806302.63	4046348.22	87.18	87.18
DISCCART	808102.63	4046348.22	91.63	93.69
DISCCART	808202.63	4046348.22	89.43	89.43
DISCCART	808302.63	4046348.22	89.67	89.67
DISCCART	804202.63	4046448.22	90.14	90.14
DISCCART	804302.63	4046448.22	89.98	89.98
DISCCART	804402.63	4046448.22	89.86	89.86
DISCCART	804502.63	4046448.22	90.04	90.04
DISCCART	804602.63	4046448.22	89.76	89.76
DISCCART	804702.63	4046448.22	88.33	88.33
DISCCART	804802.63	4046448.22	87.64	87.64
DISCCART	804902.63	4046448.22	87.47	87.47
DISCCART	805002.63	4046448.22	87.46	87.46
DISCCART	805102.63	4046448.22	88.11	88.11
DISCCART	805202.63	4046448.22	88.16	88.16
DISCCART	805302.63	4046448.22	87.07	87.07
DISCCART	805402.63	4046448.22	86.64	86.64
DISCCART	805502.63	4046448.22	86.66	86.66
DISCCART	805602.63	4046448.22	86.71	86.71
DISCCART	805702.63	4046448.22	86.73	86.73
DISCCART	805802.63	4046448.22	86.95	86.95
DISCCART	805902.63	4046448.22	87.00	87.00
DISCCART	806002.63	4046448.22	87.01	87.01
DISCCART	806102.63	4046448.22	87.63	87.63
DISCCART	806202.63	4046448.22	86.88	86.88
DISCCART	806302.63	4046448.22	87.23	87.23
DISCCART	806402.63	4046448.22	87.06	87.06
DISCCART	806502.63	4046448.22	87.74	87.74
DISCCART	806602.63	4046448.22	88.34	88.34
DISCCART	806702.63	4046448.22	88.39	88.39
DISCCART	806802.63	4046448.22	88.45	88.45
DISCCART	806902.63	4046448.22	88.53	88.53
DISCCART	807002.63	4046448.22	88.45	88.45
DISCCART	807102.63	4046448.22	88.56	88.56
DISCCART	807202.63	4046448.22	88.55	88.55
DISCCART	807302.63	4046448.22	88.55	88.55
DISCCART	807402.63	4046448.22	89.67	89.67
DISCCART	807502.63	4046448.22	90.03	90.03
DISCCART	807602.63	4046448.22	90.02	90.02
DISCCART	807702.63	4046448.22	90.21	90.21
DISCCART	807802.63	4046448.22	90.57	90.57
DISCCART	807902.63	4046448.22	91.31	91.31
DISCCART	808002.63	4046448.22	91.27	91.27
DISCCART	808102.63	4046448.22	92.27	92.27
DISCCART	808202.63	4046448.22	90.76	91.70
DISCCART	804202.63	4046548.22	90.38	90.38
DISCCART	804302.63	4046548.22	90.04	90.04
DISCCART	804402.63	4046548.22	89.94	89.94
DISCCART	804502.63	4046548.22	90.10	90.10
DISCCART	804602.63	4046548.22	90.44	90.44
DISCCART	804702.63	4046548.22	90.39	90.39
DISCCART	804802.63	4046548.22	89.26	89.26
DISCCART	804902.63	4046548.22	88.28	88.28
DISCCART	805002.63	4046548.22	88.18	88.18
DISCCART	805102.63	4046548.22	88.34	88.34

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DISCCART	805202.63	4046548.22	88.69	88.69
DISCCART	805302.63	4046548.22	87.01	87.01
DISCCART	805402.63	4046548.22	87.30	87.30
DISCCART	805502.63	4046548.22	87.25	87.25
DISCCART	805602.63	4046548.22	87.29	87.29
DISCCART	805702.63	4046548.22	87.02	87.02
DISCCART	805802.63	4046548.22	86.93	86.93
DISCCART	805902.63	4046548.22	87.22	87.22
DISCCART	806002.63	4046548.22	87.11	87.11
DISCCART	806102.63	4046548.22	88.52	88.52
DISCCART	806202.63	4046548.22	87.24	87.24
DISCCART	806302.63	4046548.22	87.77	87.77
DISCCART	806402.63	4046548.22	87.60	87.60
DISCCART	806502.63	4046548.22	87.42	87.42
DISCCART	806602.63	4046548.22	87.84	87.84
DISCCART	806702.63	4046548.22	87.91	87.91
DISCCART	806802.63	4046548.22	87.92	87.92
DISCCART	806902.63	4046548.22	88.19	88.19
DISCCART	807002.63	4046548.22	88.39	88.39
DISCCART	807102.63	4046548.22	88.48	88.48
DISCCART	807202.63	4046548.22	88.50	88.50
DISCCART	807302.63	4046548.22	88.51	88.51
DISCCART	807402.63	4046548.22	90.29	90.29
DISCCART	807502.63	4046548.22	90.02	90.02
DISCCART	807602.63	4046548.22	90.09	90.09
DISCCART	807702.63	4046548.22	90.34	90.34
DISCCART	807802.63	4046548.22	91.29	91.29
DISCCART	807902.63	4046548.22	91.32	91.32
DISCCART	808002.63	4046548.22	93.42	94.80
DISCCART	808102.63	4046548.22	89.66	104.16
DISCCART	808202.63	4046548.22	86.83	92.00
DISCCART	804202.63	4046648.22	90.79	90.79
DISCCART	804302.63	4046648.22	90.07	90.07
DISCCART	804402.63	4046648.22	90.03	90.03
DISCCART	804502.63	4046648.22	90.05	90.05
DISCCART	804602.63	4046648.22	90.49	90.49
DISCCART	804702.63	4046648.22	91.21	91.21
DISCCART	804802.63	4046648.22	90.64	90.64
DISCCART	804902.63	4046648.22	89.86	89.86
DISCCART	805002.63	4046648.22	88.83	88.83
DISCCART	805102.63	4046648.22	88.40	88.40
DISCCART	805202.63	4046648.22	88.44	88.44
DISCCART	805302.63	4046648.22	87.03	87.03
DISCCART	805402.63	4046648.22	87.05	87.05
DISCCART	805502.63	4046648.22	87.06	87.06
DISCCART	805602.63	4046648.22	88.32	88.32
DISCCART	805702.63	4046648.22	88.82	88.82
DISCCART	805802.63	4046648.22	89.43	89.43
DISCCART	805902.63	4046648.22	89.18	89.18
DISCCART	806002.63	4046648.22	88.16	88.16
DISCCART	806102.63	4046648.22	88.59	88.59
DISCCART	806202.63	4046648.22	88.72	88.72
DISCCART	806302.63	4046648.22	88.57	88.57
DISCCART	806402.63	4046648.22	88.25	88.25
DISCCART	806502.63	4046648.22	88.18	88.18
DISCCART	806602.63	4046648.22	88.50	88.50
DISCCART	806702.63	4046648.22	88.51	88.51
DISCCART	806802.63	4046648.22	88.80	88.80
DISCCART	806902.63	4046648.22	88.92	88.92
DISCCART	807002.63	4046648.22	88.78	88.78
DISCCART	807102.63	4046648.22	88.87	88.87
DISCCART	807202.63	4046648.22	88.90	88.90
DISCCART	807302.63	4046648.22	88.52	88.52
DISCCART	807402.63	4046648.22	90.19	90.19
DISCCART	807502.63	4046648.22	90.05	90.05
DISCCART	807602.63	4046648.22	90.53	90.53
DISCCART	807702.63	4046648.22	90.76	90.76
DISCCART	807802.63	4046648.22	90.95	90.95
DISCCART	807902.63	4046648.22	91.46	91.46
DISCCART	808002.63	4046648.22	90.56	104.16

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DISCCART	808102.63	4046648.22	91.66	104.16
DISCCART	804202.63	4046748.22	90.57	90.57
DISCCART	804302.63	4046748.22	91.55	91.55
DISCCART	804402.63	4046748.22	91.04	91.04
DISCCART	804502.63	4046748.22	90.26	90.26
DISCCART	804602.63	4046748.22	90.05	90.05
DISCCART	804702.63	4046748.22	91.53	91.53
DISCCART	804802.63	4046748.22	91.42	91.42
DISCCART	804902.63	4046748.22	90.58	90.58
DISCCART	805002.63	4046748.22	89.86	89.86
DISCCART	805102.63	4046748.22	88.68	88.68
DISCCART	805202.63	4046748.22	88.52	88.52
DISCCART	805302.63	4046748.22	87.18	87.18
DISCCART	805402.63	4046748.22	87.56	87.56
DISCCART	805502.63	4046748.22	87.28	87.28
DISCCART	805602.63	4046748.22	87.67	87.67
DISCCART	805702.63	4046748.22	88.47	88.47
DISCCART	805802.63	4046748.22	88.90	88.90
DISCCART	805902.63	4046748.22	88.96	88.96
DISCCART	806002.63	4046748.22	88.44	88.44
DISCCART	806102.63	4046748.22	88.90	88.90
DISCCART	806202.63	4046748.22	88.63	88.63
DISCCART	806302.63	4046748.22	88.62	88.62
DISCCART	806402.63	4046748.22	88.52	88.52
DISCCART	806502.63	4046748.22	88.50	88.50
DISCCART	806602.63	4046748.22	88.50	88.50
DISCCART	806702.63	4046748.22	88.66	88.66
DISCCART	806802.63	4046748.22	88.94	88.94
DISCCART	806902.63	4046748.22	89.05	89.05
DISCCART	807002.63	4046748.22	89.09	89.09
DISCCART	807102.63	4046748.22	89.14	89.14
DISCCART	807202.63	4046748.22	89.34	89.34
DISCCART	807302.63	4046748.22	89.64	89.64
DISCCART	807402.63	4046748.22	90.26	90.26
DISCCART	807502.63	4046748.22	90.33	90.33
DISCCART	807602.63	4046748.22	90.73	90.73
DISCCART	807702.63	4046748.22	91.67	91.67
DISCCART	807802.63	4046748.22	91.33	91.33
DISCCART	807902.63	4046748.22	94.00	94.00
DISCCART	808002.63	4046748.22	90.31	104.16
DISCCART	808102.63	4046748.22	84.13	104.16
DISCCART	804202.63	4046848.22	91.89	91.89
DISCCART	804302.63	4046848.22	94.81	94.81
DISCCART	804402.63	4046848.22	92.90	95.96
DISCCART	804502.63	4046848.22	91.06	94.14
DISCCART	804602.63	4046848.22	90.52	90.52
DISCCART	804702.63	4046848.22	91.86	91.86
DISCCART	804802.63	4046848.22	91.87	91.87
DISCCART	804902.63	4046848.22	91.16	91.16
DISCCART	805002.63	4046848.22	90.48	90.48
DISCCART	805102.63	4046848.22	89.69	89.69
DISCCART	805202.63	4046848.22	88.99	88.99
DISCCART	805302.63	4046848.22	88.75	88.75
DISCCART	805402.63	4046848.22	88.54	88.54
DISCCART	805502.63	4046848.22	88.50	88.50
DISCCART	805602.63	4046848.22	88.38	88.38
DISCCART	805702.63	4046848.22	88.39	88.39
DISCCART	805802.63	4046848.22	88.58	88.58
DISCCART	805902.63	4046848.22	89.13	89.13
DISCCART	806002.63	4046848.22	88.12	88.12
DISCCART	806102.63	4046848.22	88.55	88.55
DISCCART	806202.63	4046848.22	87.84	87.84
DISCCART	806302.63	4046848.22	88.65	88.65
DISCCART	806402.63	4046848.22	88.60	88.60
DISCCART	806502.63	4046848.22	88.50	88.50
DISCCART	806602.63	4046848.22	88.53	88.53
DISCCART	806702.63	4046848.22	88.66	88.66
DISCCART	806802.63	4046848.22	88.85	88.85
DISCCART	806902.63	4046848.22	88.86	88.86
DISCCART	807002.63	4046848.22	88.88	88.88

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DISCCART	807102.63	4046848.22	89.04	89.04
DISCCART	807202.63	4046848.22	89.37	89.37
DISCCART	807302.63	4046848.22	89.86	89.86
DISCCART	807402.63	4046848.22	90.20	90.20
DISCCART	807502.63	4046848.22	90.81	90.81
DISCCART	807602.63	4046848.22	91.35	91.35
DISCCART	807702.63	4046848.22	92.58	92.58
DISCCART	807802.63	4046848.22	94.24	94.24
DISCCART	807902.63	4046848.22	93.92	93.92
DISCCART	808002.63	4046848.22	88.05	88.05
DISCCART	804202.63	4046948.22	92.36	92.36
DISCCART	804302.63	4046948.22	92.02	92.02
DISCCART	804402.63	4046948.22	89.68	89.68
DISCCART	804502.63	4046948.22	90.50	90.50
DISCCART	804602.63	4046948.22	90.12	90.12
DISCCART	804702.63	4046948.22	91.73	91.73
DISCCART	804802.63	4046948.22	91.97	91.97
DISCCART	804902.63	4046948.22	91.54	91.54
DISCCART	805002.63	4046948.22	91.03	91.03
DISCCART	805102.63	4046948.22	90.32	90.32
DISCCART	805202.63	4046948.22	90.01	90.01
DISCCART	805302.63	4046948.22	89.78	89.78
DISCCART	805402.63	4046948.22	89.63	89.63
DISCCART	805502.63	4046948.22	89.38	89.38
DISCCART	805602.63	4046948.22	89.07	89.07
DISCCART	805702.63	4046948.22	88.64	88.64
DISCCART	805802.63	4046948.22	88.51	88.51
DISCCART	805902.63	4046948.22	88.29	88.29
DISCCART	806002.63	4046948.22	87.75	87.75
DISCCART	806102.63	4046948.22	87.72	87.72
DISCCART	806202.63	4046948.22	87.80	87.80
DISCCART	806302.63	4046948.22	87.92	87.92
DISCCART	806402.63	4046948.22	88.12	88.12
DISCCART	806502.63	4046948.22	88.27	88.27
DISCCART	806602.63	4046948.22	88.36	88.36
DISCCART	806702.63	4046948.22	88.41	88.41
DISCCART	806802.63	4046948.22	88.45	88.45
DISCCART	806902.63	4046948.22	88.45	88.45
DISCCART	807002.63	4046948.22	88.48	88.48
DISCCART	807102.63	4046948.22	88.76	88.76
DISCCART	807202.63	4046948.22	89.21	89.21
DISCCART	807302.63	4046948.22	89.66	89.66
DISCCART	807402.63	4046948.22	90.08	90.08
DISCCART	807502.63	4046948.22	91.08	91.08
DISCCART	807602.63	4046948.22	92.02	92.02
DISCCART	807702.63	4046948.22	92.11	94.03
DISCCART	807802.63	4046948.22	90.99	93.66
DISCCART	807902.63	4046948.22	89.65	94.24
DISCCART	808002.63	4046948.22	83.15	94.00
DISCCART	804202.63	4047048.22	91.56	91.56
DISCCART	804302.63	4047048.22	90.41	90.41
DISCCART	804402.63	4047048.22	90.10	90.10
DISCCART	804502.63	4047048.22	90.08	90.08
DISCCART	804602.63	4047048.22	90.14	90.14
DISCCART	804702.63	4047048.22	91.09	91.09
DISCCART	804802.63	4047048.22	91.43	91.43
DISCCART	804902.63	4047048.22	91.79	91.79
DISCCART	805002.63	4047048.22	91.65	91.65
DISCCART	805102.63	4047048.22	91.27	91.27
DISCCART	805202.63	4047048.22	90.78	90.78
DISCCART	805302.63	4047048.22	90.19	90.19
DISCCART	805402.63	4047048.22	90.07	90.07
DISCCART	805502.63	4047048.22	90.07	90.07
DISCCART	805602.63	4047048.22	89.82	89.82
DISCCART	805702.63	4047048.22	89.43	89.43
DISCCART	805802.63	4047048.22	88.89	88.89
DISCCART	805902.63	4047048.22	88.49	88.49
DISCCART	806002.63	4047048.22	88.09	88.09
DISCCART	806102.63	4047048.22	87.89	87.89
DISCCART	806202.63	4047048.22	87.93	87.93

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DISCCART	806302.63	4047048.22	87.81	87.81
DISCCART	806402.63	4047048.22	88.25	88.25
DISCCART	806502.63	4047048.22	88.27	88.27
DISCCART	806602.63	4047048.22	88.39	88.39
DISCCART	806702.63	4047048.22	88.35	88.35
DISCCART	806802.63	4047048.22	88.56	88.56
DISCCART	806902.63	4047048.22	88.81	88.81
DISCCART	807002.63	4047048.22	88.81	88.81
DISCCART	807102.63	4047048.22	88.84	88.84
DISCCART	807202.63	4047048.22	89.57	89.57
DISCCART	807302.63	4047048.22	89.71	89.71
DISCCART	807402.63	4047048.22	90.59	90.59
DISCCART	807502.63	4047048.22	91.81	91.81
DISCCART	807602.63	4047048.22	93.39	93.39
DISCCART	807702.63	4047048.22	89.52	89.52
DISCCART	807802.63	4047048.22	89.51	89.51
DISCCART	807902.63	4047048.22	89.28	89.28
DISCCART	804202.63	4047148.22	91.52	91.52
DISCCART	804302.63	4047148.22	90.74	90.74
DISCCART	804402.63	4047148.22	90.12	90.12
DISCCART	804502.63	4047148.22	90.11	90.11
DISCCART	804602.63	4047148.22	90.09	90.09
DISCCART	804702.63	4047148.22	90.51	90.51
DISCCART	804802.63	4047148.22	91.31	91.31
DISCCART	804902.63	4047148.22	91.78	91.78
DISCCART	805002.63	4047148.22	91.52	91.52
DISCCART	805102.63	4047148.22	91.06	91.06
DISCCART	805202.63	4047148.22	91.01	91.01
DISCCART	805302.63	4047148.22	90.37	90.37
DISCCART	805402.63	4047148.22	90.22	90.22
DISCCART	805502.63	4047148.22	90.29	90.29
DISCCART	805602.63	4047148.22	90.10	90.10
DISCCART	805702.63	4047148.22	90.02	90.02
DISCCART	805802.63	4047148.22	89.62	89.62
DISCCART	805902.63	4047148.22	89.79	89.79
DISCCART	806002.63	4047148.22	88.79	88.79
DISCCART	806102.63	4047148.22	89.32	89.32
DISCCART	806202.63	4047148.22	89.45	89.45
DISCCART	806302.63	4047148.22	88.64	88.64
DISCCART	806402.63	4047148.22	88.36	88.36
DISCCART	806502.63	4047148.22	88.52	88.52
DISCCART	806602.63	4047148.22	88.42	88.42
DISCCART	806702.63	4047148.22	88.65	88.65
DISCCART	806802.63	4047148.22	88.70	88.70
DISCCART	806902.63	4047148.22	88.95	88.95
DISCCART	807002.63	4047148.22	88.86	88.86
DISCCART	807102.63	4047148.22	88.73	88.73
DISCCART	807202.63	4047148.22	90.37	90.37
DISCCART	807302.63	4047148.22	89.98	89.98
DISCCART	807402.63	4047148.22	91.00	91.00
DISCCART	807502.63	4047148.22	93.59	93.59
DISCCART	807602.63	4047148.22	93.50	93.50
DISCCART	807702.63	4047148.22	89.41	94.60
DISCCART	807802.63	4047148.22	89.19	89.19
DISCCART	804202.63	4047248.22	90.88	90.88
DISCCART	804302.63	4047248.22	90.45	90.45
DISCCART	804402.63	4047248.22	90.11	90.11
DISCCART	804502.63	4047248.22	90.08	90.08
DISCCART	804602.63	4047248.22	90.77	90.77
DISCCART	804702.63	4047248.22	90.10	90.10
DISCCART	804802.63	4047248.22	91.04	91.04
DISCCART	804902.63	4047248.22	91.29	91.29
DISCCART	805002.63	4047248.22	90.71	90.71
DISCCART	805102.63	4047248.22	90.09	90.09
DISCCART	805202.63	4047248.22	90.20	90.20
DISCCART	805302.63	4047248.22	90.54	90.54
DISCCART	805402.63	4047248.22	90.57	90.57
DISCCART	805502.63	4047248.22	90.46	90.46
DISCCART	805602.63	4047248.22	90.31	90.31
DISCCART	805702.63	4047248.22	90.20	90.20

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DISCCART	805802.63	4047248.22	90.05	90.05
DISCCART	805902.63	4047248.22	90.37	90.37
DISCCART	806002.63	4047248.22	89.37	89.37
DISCCART	806102.63	4047248.22	89.19	89.19
DISCCART	806202.63	4047248.22	90.13	90.13
DISCCART	806302.63	4047248.22	88.56	88.56
DISCCART	806402.63	4047248.22	88.48	88.48
DISCCART	806502.63	4047248.22	88.50	88.50
DISCCART	806602.63	4047248.22	88.46	88.46
DISCCART	806702.63	4047248.22	88.51	88.51
DISCCART	806802.63	4047248.22	88.50	88.50
DISCCART	806902.63	4047248.22	88.53	88.53
DISCCART	807002.63	4047248.22	88.56	88.56
DISCCART	807102.63	4047248.22	88.56	88.56
DISCCART	807202.63	4047248.22	90.47	90.47
DISCCART	807302.63	4047248.22	90.79	93.98
DISCCART	807402.63	4047248.22	89.43	94.36
DISCCART	807502.63	4047248.22	88.40	88.40
DISCCART	807602.63	4047248.22	91.86	91.86
DISCCART	807702.63	4047248.22	91.50	93.73
DISCCART	804202.63	4047348.22	90.31	90.31
DISCCART	804302.63	4047348.22	90.10	90.10
DISCCART	804402.63	4047348.22	90.10	90.10
DISCCART	804502.63	4047348.22	90.11	90.11
DISCCART	804602.63	4047348.22	90.31	90.31
DISCCART	804702.63	4047348.22	90.35	90.35
DISCCART	804802.63	4047348.22	90.78	90.78
DISCCART	804902.63	4047348.22	90.75	90.75
DISCCART	805002.63	4047348.22	90.09	90.09
DISCCART	805102.63	4047348.22	90.09	90.09
DISCCART	805202.63	4047348.22	90.10	90.10
DISCCART	805302.63	4047348.22	90.58	90.58
DISCCART	805402.63	4047348.22	90.69	90.69
DISCCART	805502.63	4047348.22	90.53	90.53
DISCCART	805602.63	4047348.22	90.39	90.39
DISCCART	805702.63	4047348.22	90.28	90.28
DISCCART	805802.63	4047348.22	90.09	90.09
DISCCART	805902.63	4047348.22	90.08	90.08
DISCCART	806002.63	4047348.22	90.01	90.01
DISCCART	806102.63	4047348.22	89.12	89.12
DISCCART	806202.63	4047348.22	90.02	90.02
DISCCART	806302.63	4047348.22	89.48	89.48
DISCCART	806402.63	4047348.22	88.53	88.53
DISCCART	806502.63	4047348.22	88.52	88.52
DISCCART	806602.63	4047348.22	88.68	88.68
DISCCART	806702.63	4047348.22	88.50	88.50
DISCCART	806802.63	4047348.22	88.53	88.53
DISCCART	806902.63	4047348.22	88.38	88.38
DISCCART	807002.63	4047348.22	89.73	89.73
DISCCART	807102.63	4047348.22	89.01	89.01
DISCCART	807202.63	4047348.22	92.64	94.50
DISCCART	807302.63	4047348.22	89.10	94.62
DISCCART	807402.63	4047348.22	88.53	88.53
DISCCART	807502.63	4047348.22	88.75	88.75
DISCCART	807602.63	4047348.22	89.21	89.21
DISCCART	807702.63	4047348.22	87.84	91.02
DISCCART	804202.63	4047448.22	90.09	90.09
DISCCART	804302.63	4047448.22	90.10	90.10
DISCCART	804402.63	4047448.22	90.23	90.23
DISCCART	804502.63	4047448.22	90.57	90.57
DISCCART	804602.63	4047448.22	90.11	90.11
DISCCART	804702.63	4047448.22	90.23	90.23
DISCCART	804802.63	4047448.22	90.58	90.58
DISCCART	804902.63	4047448.22	90.38	90.38
DISCCART	805002.63	4047448.22	90.09	90.09
DISCCART	805102.63	4047448.22	90.10	90.10
DISCCART	805202.63	4047448.22	90.21	90.21
DISCCART	805302.63	4047448.22	90.48	90.48
DISCCART	805402.63	4047448.22	90.57	90.57
DISCCART	805502.63	4047448.22	90.49	90.49

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DISCCART	805602.63	4047448.22	90.41	90.41
DISCCART	805702.63	4047448.22	90.26	90.26
DISCCART	805802.63	4047448.22	90.20	90.20
DISCCART	805902.63	4047448.22	90.06	90.06
DISCCART	806002.63	4047448.22	90.02	90.02
DISCCART	806102.63	4047448.22	89.01	89.01
DISCCART	806202.63	4047448.22	90.16	90.16
DISCCART	806302.63	4047448.22	90.01	90.01
DISCCART	806402.63	4047448.22	89.32	89.32
DISCCART	806502.63	4047448.22	89.61	89.61
DISCCART	806602.63	4047448.22	89.65	89.65
DISCCART	806702.63	4047448.22	88.71	88.71
DISCCART	806802.63	4047448.22	88.54	88.54
DISCCART	806902.63	4047448.22	88.82	88.82
DISCCART	807002.63	4047448.22	89.55	89.55
DISCCART	807102.63	4047448.22	93.97	94.55
DISCCART	807202.63	4047448.22	89.21	89.21
DISCCART	807302.63	4047448.22	89.16	89.16
DISCCART	807402.63	4047448.22	88.67	88.67
DISCCART	807502.63	4047448.22	88.72	88.72
DISCCART	807602.63	4047448.22	89.68	89.68
DISCCART	804202.63	4047548.22	90.10	90.10
DISCCART	804302.63	4047548.22	90.06	90.06
DISCCART	804402.63	4047548.22	90.46	90.46
DISCCART	804502.63	4047548.22	91.32	91.32
DISCCART	804602.63	4047548.22	91.96	91.96
DISCCART	804702.63	4047548.22	90.13	90.13
DISCCART	804802.63	4047548.22	90.40	90.40
DISCCART	804902.63	4047548.22	90.15	90.15
DISCCART	805002.63	4047548.22	90.09	90.09
DISCCART	805102.63	4047548.22	90.09	90.09
DISCCART	805202.63	4047548.22	90.23	90.23
DISCCART	805302.63	4047548.22	90.50	90.50
DISCCART	805402.63	4047548.22	90.56	90.56
DISCCART	805502.63	4047548.22	90.45	90.45
DISCCART	805602.63	4047548.22	90.38	90.38
DISCCART	805702.63	4047548.22	90.21	90.21
DISCCART	805802.63	4047548.22	90.22	90.22
DISCCART	805902.63	4047548.22	90.05	90.05
DISCCART	806002.63	4047548.22	89.95	89.95
DISCCART	806102.63	4047548.22	89.30	89.30
DISCCART	806202.63	4047548.22	90.92	90.92
DISCCART	806302.63	4047548.22	90.06	90.06
DISCCART	806402.63	4047548.22	89.11	89.11
DISCCART	806502.63	4047548.22	90.01	90.01
DISCCART	806602.63	4047548.22	90.08	90.08
DISCCART	806702.63	4047548.22	89.98	89.98
DISCCART	806802.63	4047548.22	89.79	89.79
DISCCART	806902.63	4047548.22	89.26	89.26
DISCCART	807002.63	4047548.22	94.10	94.10
DISCCART	807102.63	4047548.22	88.30	88.30
DISCCART	807202.63	4047548.22	88.91	88.91
DISCCART	807302.63	4047548.22	88.97	88.97
DISCCART	807402.63	4047548.22	86.61	89.01
DISCCART	807502.63	4047548.22	87.81	90.23
DISCCART	807602.63	4047548.22	84.62	89.34
DISCCART	804202.63	4047648.22	90.03	90.03
DISCCART	804302.63	4047648.22	90.02	90.02
DISCCART	804402.63	4047648.22	90.03	90.03
DISCCART	804502.63	4047648.22	91.28	91.28
DISCCART	804602.63	4047648.22	91.57	91.57
DISCCART	804702.63	4047648.22	90.97	90.97
DISCCART	804802.63	4047648.22	90.31	90.31
DISCCART	804902.63	4047648.22	90.10	90.10
DISCCART	805002.63	4047648.22	90.07	90.07
DISCCART	805102.63	4047648.22	90.08	90.08
DISCCART	805202.63	4047648.22	90.30	90.30
DISCCART	805302.63	4047648.22	90.93	90.93
DISCCART	805402.63	4047648.22	90.85	90.85
DISCCART	805502.63	4047648.22	90.55	90.55

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DISCCART	805602.63	4047648.22	90.35	90.35
DISCCART	805702.63	4047648.22	90.17	90.17
DISCCART	805802.63	4047648.22	90.06	90.06
DISCCART	805902.63	4047648.22	90.06	90.06
DISCCART	806002.63	4047648.22	89.99	89.99
DISCCART	806102.63	4047648.22	89.58	89.58
DISCCART	806202.63	4047648.22	90.64	90.64
DISCCART	806302.63	4047648.22	89.88	89.88
DISCCART	806402.63	4047648.22	89.09	89.09
DISCCART	806502.63	4047648.22	89.84	89.84
DISCCART	806602.63	4047648.22	90.30	90.30
DISCCART	806702.63	4047648.22	90.63	90.63
DISCCART	806802.63	4047648.22	90.74	90.74
DISCCART	806902.63	4047648.22	91.83	91.83
DISCCART	807002.63	4047648.22	88.70	94.28
DISCCART	807102.63	4047648.22	88.68	89.53
DISCCART	807202.63	4047648.22	90.20	90.20
DISCCART	807302.63	4047648.22	91.74	91.74
DISCCART	807402.63	4047648.22	92.28	92.28
DISCCART	807502.63	4047648.22	89.22	89.22
DISCCART	804202.63	4047748.22	89.96	89.96
DISCCART	804302.63	4047748.22	90.02	90.02
DISCCART	804402.63	4047748.22	88.70	88.70
DISCCART	804502.63	4047748.22	87.75	87.75
DISCCART	804602.63	4047748.22	90.61	90.61
DISCCART	804702.63	4047748.22	90.22	90.22
DISCCART	804802.63	4047748.22	89.99	89.99
DISCCART	804902.63	4047748.22	90.07	90.07
DISCCART	805002.63	4047748.22	90.07	90.07
DISCCART	805102.63	4047748.22	90.07	90.07
DISCCART	805202.63	4047748.22	90.40	90.40
DISCCART	805302.63	4047748.22	91.58	91.58
DISCCART	805402.63	4047748.22	91.27	91.27
DISCCART	805502.63	4047748.22	90.73	90.73
DISCCART	805602.63	4047748.22	90.32	90.32
DISCCART	805702.63	4047748.22	90.10	90.10
DISCCART	805802.63	4047748.22	89.92	89.92
DISCCART	805902.63	4047748.22	90.15	90.15
DISCCART	806002.63	4047748.22	91.34	91.34
DISCCART	806102.63	4047748.22	90.36	90.36
DISCCART	806202.63	4047748.22	90.51	90.51
DISCCART	806302.63	4047748.22	90.00	90.00
DISCCART	806402.63	4047748.22	89.80	89.80
DISCCART	806502.63	4047748.22	89.88	89.88
DISCCART	806602.63	4047748.22	90.54	90.54
DISCCART	806702.63	4047748.22	91.47	91.47
DISCCART	806802.63	4047748.22	91.62	91.62
DISCCART	806902.63	4047748.22	92.67	94.03
DISCCART	807002.63	4047748.22	89.62	89.62
DISCCART	807102.63	4047748.22	91.69	91.69
DISCCART	807202.63	4047748.22	92.46	92.46
DISCCART	807302.63	4047748.22	93.02	93.02
DISCCART	807402.63	4047748.22	92.61	92.61
DISCCART	807502.63	4047748.22	83.67	92.62
DISCCART	804202.63	4047848.22	89.89	89.89
DISCCART	804302.63	4047848.22	90.03	90.03
DISCCART	804402.63	4047848.22	88.36	88.36
DISCCART	804502.63	4047848.22	87.23	87.23
DISCCART	804602.63	4047848.22	86.95	92.13
DISCCART	804702.63	4047848.22	91.64	91.64
DISCCART	804802.63	4047848.22	89.69	89.69
DISCCART	804902.63	4047848.22	90.08	90.08
DISCCART	805002.63	4047848.22	90.07	90.07
DISCCART	805102.63	4047848.22	90.07	90.07
DISCCART	805202.63	4047848.22	90.51	90.51
DISCCART	805302.63	4047848.22	91.66	91.66
DISCCART	805402.63	4047848.22	91.50	91.50
DISCCART	805502.63	4047848.22	90.84	90.84
DISCCART	805602.63	4047848.22	90.31	90.31
DISCCART	805702.63	4047848.22	90.06	90.06

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DISCCART	805802.63	4047848.22	89.81	89.81
DISCCART	805902.63	4047848.22	90.25	90.25
DISCCART	806002.63	4047848.22	91.58	91.58
DISCCART	806102.63	4047848.22	90.87	90.87
DISCCART	806202.63	4047848.22	90.82	90.82
DISCCART	806302.63	4047848.22	90.20	90.20
DISCCART	806402.63	4047848.22	89.79	89.79
DISCCART	806502.63	4047848.22	90.06	90.06
DISCCART	806602.63	4047848.22	90.87	90.87
DISCCART	806702.63	4047848.22	91.90	91.90
DISCCART	806802.63	4047848.22	92.81	92.81
DISCCART	806902.63	4047848.22	89.37	89.37
DISCCART	807002.63	4047848.22	91.57	91.57
DISCCART	807102.63	4047848.22	91.63	91.63
DISCCART	807202.63	4047848.22	92.27	92.27
DISCCART	807302.63	4047848.22	91.63	91.63
DISCCART	807402.63	4047848.22	90.62	90.62
DISCCART	804202.63	4047948.22	89.90	89.90
DISCCART	804302.63	4047948.22	90.01	90.01
DISCCART	804402.63	4047948.22	88.07	88.07
DISCCART	804502.63	4047948.22	87.16	87.16
DISCCART	804602.63	4047948.22	87.66	87.66
DISCCART	804702.63	4047948.22	91.69	91.69
DISCCART	804802.63	4047948.22	89.64	89.64
DISCCART	804902.63	4047948.22	90.05	90.05
DISCCART	805002.63	4047948.22	90.09	90.09
DISCCART	805102.63	4047948.22	90.09	90.09
DISCCART	805202.63	4047948.22	90.65	90.65
DISCCART	805302.63	4047948.22	91.58	91.58
DISCCART	805402.63	4047948.22	91.49	91.49
DISCCART	805502.63	4047948.22	90.85	90.85
DISCCART	805602.63	4047948.22	90.30	90.30
DISCCART	805702.63	4047948.22	90.07	90.07
DISCCART	805802.63	4047948.22	89.99	89.99
DISCCART	805902.63	4047948.22	90.14	90.14
DISCCART	806002.63	4047948.22	90.11	90.11
DISCCART	806102.63	4047948.22	90.85	90.85
DISCCART	806202.63	4047948.22	91.05	91.05
DISCCART	806302.63	4047948.22	90.31	90.31
DISCCART	806402.63	4047948.22	89.84	89.84
DISCCART	806502.63	4047948.22	90.42	90.42
DISCCART	806602.63	4047948.22	91.18	91.18
DISCCART	806702.63	4047948.22	92.43	92.43
DISCCART	806802.63	4047948.22	91.22	94.25
DISCCART	806902.63	4047948.22	90.69	90.69
DISCCART	807002.63	4047948.22	91.78	91.78
DISCCART	807102.63	4047948.22	91.70	91.70
DISCCART	807202.63	4047948.22	91.78	91.78
DISCCART	807302.63	4047948.22	91.56	91.56
DISCCART	804202.63	4048048.22	90.01	90.01
DISCCART	804302.63	4048048.22	90.13	90.13
DISCCART	804402.63	4048048.22	89.75	89.75
DISCCART	804502.63	4048048.22	89.17	89.17
DISCCART	804602.63	4048048.22	89.64	89.64
DISCCART	804702.63	4048048.22	90.09	90.09
DISCCART	804802.63	4048048.22	90.03	90.03
DISCCART	804902.63	4048048.22	90.05	90.05
DISCCART	805002.63	4048048.22	90.08	90.08
DISCCART	805102.63	4048048.22	90.10	90.10
DISCCART	805202.63	4048048.22	91.36	91.36
DISCCART	805302.63	4048048.22	91.59	91.59
DISCCART	805402.63	4048048.22	91.43	91.43
DISCCART	805502.63	4048048.22	90.81	90.81
DISCCART	805602.63	4048048.22	90.34	90.34
DISCCART	805702.63	4048048.22	90.14	90.14
DISCCART	805802.63	4048048.22	90.23	90.23
DISCCART	805902.63	4048048.22	90.21	90.21
DISCCART	806002.63	4048048.22	89.70	89.70
DISCCART	806102.63	4048048.22	91.53	91.53
DISCCART	806202.63	4048048.22	91.30	91.30

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DISCCART	806302.63	4048048.22	90.36	90.36
DISCCART	806402.63	4048048.22	89.70	89.70
DISCCART	806502.63	4048048.22	90.63	90.63
DISCCART	806602.63	4048048.22	91.37	91.37
DISCCART	806702.63	4048048.22	92.58	94.62
DISCCART	806802.63	4048048.22	93.16	93.16
DISCCART	806902.63	4048048.22	91.97	92.75
DISCCART	807002.63	4048048.22	91.91	91.91
DISCCART	807102.63	4048048.22	91.73	91.73
DISCCART	807202.63	4048048.22	91.83	91.83
DISCCART	807302.63	4048048.22	91.66	91.66
DISCCART	804202.63	4048148.22	89.87	89.87
DISCCART	804302.63	4048148.22	89.98	89.98
DISCCART	804402.63	4048148.22	90.07	90.07
DISCCART	804502.63	4048148.22	90.07	90.07
DISCCART	804602.63	4048148.22	90.18	90.18
DISCCART	804702.63	4048148.22	90.06	90.06
DISCCART	804802.63	4048148.22	90.03	90.03
DISCCART	804902.63	4048148.22	90.08	90.08
DISCCART	805002.63	4048148.22	89.90	89.90
DISCCART	805102.63	4048148.22	89.95	89.95
DISCCART	805202.63	4048148.22	91.58	91.58
DISCCART	805302.63	4048148.22	91.45	91.45
DISCCART	805402.63	4048148.22	91.22	91.22
DISCCART	805502.63	4048148.22	90.81	90.81
DISCCART	805602.63	4048148.22	90.49	90.49
DISCCART	805702.63	4048148.22	90.39	90.39
DISCCART	805802.63	4048148.22	90.67	90.67
DISCCART	805902.63	4048148.22	90.80	90.80
DISCCART	806002.63	4048148.22	90.09	90.09
DISCCART	806102.63	4048148.22	91.60	91.60
DISCCART	806202.63	4048148.22	90.96	90.96
DISCCART	806302.63	4048148.22	90.09	90.09
DISCCART	806402.63	4048148.22	89.98	89.98
DISCCART	806502.63	4048148.22	91.52	91.52
DISCCART	806602.63	4048148.22	91.00	91.00
DISCCART	806702.63	4048148.22	94.36	94.36
DISCCART	806802.63	4048148.22	94.09	94.09
DISCCART	806902.63	4048148.22	93.73	93.73
DISCCART	807002.63	4048148.22	93.15	93.15
DISCCART	807102.63	4048148.22	93.50	93.50
DISCCART	807202.63	4048148.22	93.93	93.93
DISCCART	807302.63	4048148.22	93.25	93.25
DISCCART	804202.63	4048248.22	89.77	89.77
DISCCART	804302.63	4048248.22	89.98	89.98
DISCCART	804402.63	4048248.22	90.10	90.10
DISCCART	804502.63	4048248.22	90.03	90.03
DISCCART	804602.63	4048248.22	90.09	90.09
DISCCART	804702.63	4048248.22	90.04	90.04
DISCCART	804802.63	4048248.22	90.03	90.03
DISCCART	804902.63	4048248.22	90.08	90.08
DISCCART	805002.63	4048248.22	89.87	89.87
DISCCART	805102.63	4048248.22	90.40	90.40
DISCCART	805202.63	4048248.22	91.53	91.53
DISCCART	805302.63	4048248.22	91.37	91.37
DISCCART	805402.63	4048248.22	91.21	91.21
DISCCART	805502.63	4048248.22	90.95	90.95
DISCCART	805602.63	4048248.22	90.79	90.79
DISCCART	805702.63	4048248.22	90.71	90.71
DISCCART	805802.63	4048248.22	91.05	91.05
DISCCART	805902.63	4048248.22	91.44	91.44
DISCCART	806002.63	4048248.22	91.70	91.70
DISCCART	806102.63	4048248.22	91.31	91.31
DISCCART	806202.63	4048248.22	90.04	90.04
DISCCART	806302.63	4048248.22	89.95	89.95
DISCCART	806402.63	4048248.22	90.02	90.02
DISCCART	806502.63	4048248.22	90.61	90.61
DISCCART	806602.63	4048248.22	93.67	95.02
DISCCART	806702.63	4048248.22	93.28	93.28
DISCCART	806802.63	4048248.22	92.54	92.54

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DISCCART	806902.63	4048248.22	92.80	92.80
DISCCART	807002.63	4048248.22	93.04	93.04
DISCCART	807102.63	4048248.22	93.06	93.06
DISCCART	807202.63	4048248.22	93.32	93.32
DISCCART	807302.63	4048248.22	87.12	94.04
DISCCART	804202.63	4048348.22	89.83	89.83
DISCCART	804302.63	4048348.22	90.01	90.01
DISCCART	804402.63	4048348.22	90.03	90.03
DISCCART	804502.63	4048348.22	90.03	90.03
DISCCART	804602.63	4048348.22	90.07	90.07
DISCCART	804702.63	4048348.22	90.07	90.07
DISCCART	804802.63	4048348.22	90.03	90.03
DISCCART	804902.63	4048348.22	90.08	90.08
DISCCART	805002.63	4048348.22	89.87	89.87
DISCCART	805102.63	4048348.22	90.08	90.08
DISCCART	805202.63	4048348.22	91.27	91.27
DISCCART	805302.63	4048348.22	91.45	91.45
DISCCART	805402.63	4048348.22	91.37	91.37
DISCCART	805502.63	4048348.22	91.29	91.29
DISCCART	805602.63	4048348.22	91.19	91.19
DISCCART	805702.63	4048348.22	91.07	91.07
DISCCART	805802.63	4048348.22	91.26	91.26
DISCCART	805902.63	4048348.22	91.46	91.46
DISCCART	806002.63	4048348.22	91.76	91.76
DISCCART	806102.63	4048348.22	90.91	90.91
DISCCART	806202.63	4048348.22	90.04	90.04
DISCCART	806302.63	4048348.22	90.05	90.05
DISCCART	806402.63	4048348.22	90.06	90.06
DISCCART	806502.63	4048348.22	91.79	91.79
DISCCART	806602.63	4048348.22	93.67	93.67
DISCCART	806702.63	4048348.22	92.22	92.22
DISCCART	807202.63	4048348.22	82.60	93.47
DISCCART	804202.63	4048448.22	89.96	89.96
DISCCART	804302.63	4048448.22	90.03	90.03
DISCCART	804402.63	4048448.22	90.07	90.07
DISCCART	804502.63	4048448.22	90.06	90.06
DISCCART	804602.63	4048448.22	90.03	90.03
DISCCART	804702.63	4048448.22	90.10	90.10
DISCCART	804802.63	4048448.22	90.10	90.10
DISCCART	804902.63	4048448.22	90.03	90.03
DISCCART	805002.63	4048448.22	89.98	89.98
DISCCART	805102.63	4048448.22	90.08	90.08
DISCCART	805202.63	4048448.22	91.41	91.41
DISCCART	805302.63	4048448.22	91.54	91.54
DISCCART	805402.63	4048448.22	91.55	91.55
DISCCART	805502.63	4048448.22	91.57	91.57
DISCCART	805602.63	4048448.22	91.52	91.52
DISCCART	805702.63	4048448.22	91.43	91.43
DISCCART	805802.63	4048448.22	91.40	91.40
DISCCART	805902.63	4048448.22	91.17	91.17
DISCCART	806002.63	4048448.22	91.83	91.83
DISCCART	806102.63	4048448.22	90.87	90.87
DISCCART	806202.63	4048448.22	89.98	89.98
DISCCART	806302.63	4048448.22	90.03	90.03
DISCCART	806402.63	4048448.22	90.34	90.34
DISCCART	806502.63	4048448.22	93.99	95.03
DISCCART	806602.63	4048448.22	93.94	93.94
DISCCART	806702.63	4048448.22	93.35	93.35
DISCCART	806802.63	4048448.22	92.79	92.79
DISCCART	806902.63	4048448.22	92.69	92.69
DISCCART	807002.63	4048448.22	92.09	92.09
DISCCART	807102.63	4048448.22	90.33	92.84
DISCCART	807202.63	4048448.22	82.69	92.90
DISCCART	804202.63	4048548.22	90.04	90.04
DISCCART	804302.63	4048548.22	90.04	90.04
DISCCART	804402.63	4048548.22	90.07	90.07
DISCCART	804502.63	4048548.22	90.05	90.05
DISCCART	804602.63	4048548.22	90.05	90.05
DISCCART	804702.63	4048548.22	90.09	90.09
DISCCART	804802.63	4048548.22	90.10	90.10

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DISCCART	804902.63	4048548.22	90.03	90.03
DISCCART	805002.63	4048548.22	90.08	90.08
DISCCART	805102.63	4048548.22	90.39	90.39
DISCCART	805202.63	4048548.22	91.53	91.53
DISCCART	805302.63	4048548.22	91.55	91.55
DISCCART	805402.63	4048548.22	91.64	91.64
DISCCART	805502.63	4048548.22	91.68	91.68
DISCCART	805602.63	4048548.22	91.58	91.58
DISCCART	805702.63	4048548.22	91.55	91.55
DISCCART	805802.63	4048548.22	91.48	91.48
DISCCART	805902.63	4048548.22	91.20	91.20
DISCCART	806002.63	4048548.22	91.15	91.15
DISCCART	806102.63	4048548.22	91.34	91.34
DISCCART	806202.63	4048548.22	90.06	90.06
DISCCART	806302.63	4048548.22	90.03	90.03
DISCCART	806402.63	4048548.22	91.71	91.71
DISCCART	806502.63	4048548.22	93.64	93.64
DISCCART	806602.63	4048548.22	93.67	93.67
DISCCART	806702.63	4048548.22	93.65	93.65
DISCCART	806802.63	4048548.22	93.35	93.35
DISCCART	806902.63	4048548.22	93.76	93.76
DISCCART	807002.63	4048548.22	93.61	93.61
DISCCART	807102.63	4048548.22	92.88	92.88
DISCCART	804202.63	4048648.22	90.02	90.02
DISCCART	804302.63	4048648.22	90.04	90.04
DISCCART	804402.63	4048648.22	90.05	90.05
DISCCART	804502.63	4048648.22	90.05	90.05
DISCCART	804602.63	4048648.22	90.14	90.14
DISCCART	804702.63	4048648.22	90.12	90.12
DISCCART	804802.63	4048648.22	90.08	90.08
DISCCART	804902.63	4048648.22	90.08	90.08
DISCCART	805002.63	4048648.22	90.49	90.49
DISCCART	805102.63	4048648.22	91.60	91.60
DISCCART	805202.63	4048648.22	91.61	91.61
DISCCART	805302.63	4048648.22	91.72	91.72
DISCCART	805402.63	4048648.22	91.79	91.79
DISCCART	805502.63	4048648.22	91.76	91.76
DISCCART	805602.63	4048648.22	91.62	91.62
DISCCART	805702.63	4048648.22	91.56	91.56
DISCCART	805802.63	4048648.22	91.52	91.52
DISCCART	805902.63	4048648.22	91.40	91.40
DISCCART	806002.63	4048648.22	91.51	91.51
DISCCART	806102.63	4048648.22	91.07	91.07
DISCCART	806202.63	4048648.22	90.11	90.11
DISCCART	806302.63	4048648.22	90.31	90.31
DISCCART	806402.63	4048648.22	93.67	93.67
DISCCART	806502.63	4048648.22	91.80	93.10
DISCCART	806602.63	4048648.22	92.34	92.34
DISCCART	806702.63	4048648.22	92.77	92.77
DISCCART	806802.63	4048648.22	93.03	93.03
DISCCART	806902.63	4048648.22	93.22	93.22
DISCCART	807002.63	4048648.22	93.09	93.09
DISCCART	807102.63	4048648.22	85.71	93.32
DISCCART	804202.63	4048748.22	89.83	89.83
DISCCART	804302.63	4048748.22	90.00	90.00
DISCCART	804402.63	4048748.22	90.03	90.03
DISCCART	804502.63	4048748.22	90.06	90.06
DISCCART	804602.63	4048748.22	90.26	90.26
DISCCART	804702.63	4048748.22	90.21	90.21
DISCCART	804802.63	4048748.22	89.86	89.86
DISCCART	804902.63	4048748.22	90.68	90.68
DISCCART	805002.63	4048748.22	91.47	91.47
DISCCART	805102.63	4048748.22	91.55	91.55
DISCCART	805202.63	4048748.22	91.80	91.80
DISCCART	805302.63	4048748.22	91.95	91.95
DISCCART	805402.63	4048748.22	91.97	91.97
DISCCART	805502.63	4048748.22	91.85	91.85
DISCCART	805602.63	4048748.22	91.64	91.64
DISCCART	805702.63	4048748.22	91.58	91.58
DISCCART	805802.63	4048748.22	91.55	91.55

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DISCCART	805902.63	4048748.22	91.57	91.57
DISCCART	806002.63	4048748.22	91.86	91.86
DISCCART	806102.63	4048748.22	91.13	91.13
DISCCART	806202.63	4048748.22	90.03	90.03
DISCCART	806302.63	4048748.22	91.72	91.72
DISCCART	806402.63	4048748.22	89.24	89.24
DISCCART	806502.63	4048748.22	90.39	90.39
DISCCART	806602.63	4048748.22	90.63	90.63
DISCCART	806702.63	4048748.22	90.68	90.68
DISCCART	806802.63	4048748.22	90.65	90.65
DISCCART	806902.63	4048748.22	90.79	90.79
DISCCART	807002.63	4048748.22	91.00	91.00
DISCCART	804202.63	4048848.22	89.67	89.67
DISCCART	804302.63	4048848.22	89.91	89.91
DISCCART	804402.63	4048848.22	90.03	90.03
DISCCART	804502.63	4048848.22	90.04	90.04
DISCCART	804602.63	4048848.22	90.20	90.20
DISCCART	804702.63	4048848.22	90.12	90.12
DISCCART	804802.63	4048848.22	90.02	90.02
DISCCART	804902.63	4048848.22	91.63	91.63
DISCCART	805002.63	4048848.22	91.30	91.30
DISCCART	805102.63	4048848.22	91.67	91.67
DISCCART	805202.63	4048848.22	91.92	91.92
DISCCART	805302.63	4048848.22	92.13	92.13
DISCCART	805402.63	4048848.22	92.12	92.12
DISCCART	805502.63	4048848.22	91.93	91.93
DISCCART	805602.63	4048848.22	91.65	91.65
DISCCART	805702.63	4048848.22	91.57	91.57
DISCCART	805802.63	4048848.22	91.56	91.56
DISCCART	805902.63	4048848.22	91.71	91.71
DISCCART	806002.63	4048848.22	92.28	92.28
DISCCART	806102.63	4048848.22	91.60	91.60
DISCCART	806202.63	4048848.22	90.37	90.37
DISCCART	806302.63	4048848.22	93.69	93.69
DISCCART	806402.63	4048848.22	88.71	90.41
DISCCART	806502.63	4048848.22	90.55	90.55
DISCCART	806602.63	4048848.22	90.61	90.61
DISCCART	806702.63	4048848.22	90.28	90.28
DISCCART	806802.63	4048848.22	90.54	90.54
DISCCART	806902.63	4048848.22	90.75	90.75
DISCCART	807002.63	4048848.22	90.41	90.41
DISCCART	804202.63	4048948.22	89.52	89.52
DISCCART	804302.63	4048948.22	89.77	89.77
DISCCART	804402.63	4048948.22	89.93	89.93
DISCCART	804502.63	4048948.22	89.97	89.97
DISCCART	804602.63	4048948.22	90.10	90.10
DISCCART	804702.63	4048948.22	90.12	90.12
DISCCART	804802.63	4048948.22	90.69	90.69
DISCCART	804902.63	4048948.22	91.56	91.56
DISCCART	805002.63	4048948.22	90.07	90.07
DISCCART	805102.63	4048948.22	91.64	91.64
DISCCART	805202.63	4048948.22	91.95	91.95
DISCCART	805302.63	4048948.22	92.21	92.21
DISCCART	805402.63	4048948.22	92.21	92.21
DISCCART	805502.63	4048948.22	91.98	91.98
DISCCART	805602.63	4048948.22	91.68	91.68
DISCCART	805702.63	4048948.22	91.52	91.52
DISCCART	805802.63	4048948.22	91.50	91.50
DISCCART	805902.63	4048948.22	91.75	91.75
DISCCART	806002.63	4048948.22	92.44	92.44
DISCCART	806102.63	4048948.22	91.98	91.98
DISCCART	806202.63	4048948.22	91.27	91.27
DISCCART	806302.63	4048948.22	90.46	94.13
DISCCART	806402.63	4048948.22	90.13	90.13
DISCCART	806502.63	4048948.22	90.67	90.67
DISCCART	806602.63	4048948.22	90.54	90.54
DISCCART	806702.63	4048948.22	90.44	90.44
DISCCART	806802.63	4048948.22	90.64	90.64
DISCCART	806902.63	4048948.22	90.66	90.66
DISCCART	807002.63	4048948.22	86.42	90.67

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DISCCART	804202.63	4049048.22	89.36	89.36
DISCCART	804302.63	4049048.22	89.56	89.56
DISCCART	804402.63	4049048.22	89.68	89.68
DISCCART	804502.63	4049048.22	89.84	89.84
DISCCART	804602.63	4049048.22	90.13	90.13
DISCCART	804702.63	4049048.22	91.02	91.02
DISCCART	804802.63	4049048.22	91.62	91.62
DISCCART	804902.63	4049048.22	91.94	91.94
DISCCART	805002.63	4049048.22	90.61	90.61
DISCCART	805102.63	4049048.22	90.20	90.20
DISCCART	805202.63	4049048.22	91.89	91.89
DISCCART	805302.63	4049048.22	92.26	92.26
DISCCART	805402.63	4049048.22	92.22	92.22
DISCCART	805502.63	4049048.22	91.97	91.97
DISCCART	805602.63	4049048.22	91.65	91.65
DISCCART	805702.63	4049048.22	91.50	91.50
DISCCART	805802.63	4049048.22	91.38	91.38
DISCCART	805902.63	4049048.22	91.59	91.59
DISCCART	806002.63	4049048.22	91.88	91.88
DISCCART	806102.63	4049048.22	91.92	91.92
DISCCART	806202.63	4049048.22	91.61	91.61
DISCCART	806302.63	4049048.22	89.45	89.45
DISCCART	806402.63	4049048.22	90.43	90.43
DISCCART	806502.63	4049048.22	90.58	90.58
DISCCART	806602.63	4049048.22	90.54	90.54
DISCCART	806702.63	4049048.22	90.56	90.56
DISCCART	806802.63	4049048.22	90.77	90.77
DISCCART	806902.63	4049048.22	90.68	90.68
DISCCART	807002.63	4049048.22	83.46	90.60
DISCCART	804202.63	4049148.22	89.21	89.21
DISCCART	804302.63	4049148.22	89.37	89.37
DISCCART	804402.63	4049148.22	89.48	89.48
DISCCART	804502.63	4049148.22	89.64	89.64
DISCCART	804602.63	4049148.22	90.01	90.01
DISCCART	804702.63	4049148.22	91.33	91.33
DISCCART	804802.63	4049148.22	91.83	91.83
DISCCART	804902.63	4049148.22	91.87	91.87
DISCCART	805002.63	4049148.22	91.07	91.07
DISCCART	805102.63	4049148.22	89.47	89.47
DISCCART	805202.63	4049148.22	91.89	91.89
DISCCART	805302.63	4049148.22	92.16	92.16
DISCCART	805402.63	4049148.22	92.06	92.06
DISCCART	805502.63	4049148.22	91.91	91.91
DISCCART	805602.63	4049148.22	91.64	91.64
DISCCART	805702.63	4049148.22	91.46	91.46
DISCCART	805802.63	4049148.22	91.29	91.29
DISCCART	805902.63	4049148.22	91.12	91.12
DISCCART	806002.63	4049148.22	91.21	91.21
DISCCART	806102.63	4049148.22	91.33	91.33
DISCCART	806202.63	4049148.22	92.07	93.76
DISCCART	806302.63	4049148.22	89.10	89.10
DISCCART	806402.63	4049148.22	90.54	90.54
DISCCART	806502.63	4049148.22	90.57	90.57
DISCCART	806602.63	4049148.22	90.50	90.50
DISCCART	806702.63	4049148.22	90.72	90.72
DISCCART	806802.63	4049148.22	90.92	90.92
DISCCART	806902.63	4049148.22	90.94	90.94
DISCCART	804202.63	4049248.22	89.03	89.03
DISCCART	804302.63	4049248.22	89.25	89.25
DISCCART	804402.63	4049248.22	89.41	89.41
DISCCART	804502.63	4049248.22	89.58	89.58
DISCCART	804602.63	4049248.22	89.91	89.91
DISCCART	804702.63	4049248.22	91.11	91.11
DISCCART	804802.63	4049248.22	91.75	91.75
DISCCART	804902.63	4049248.22	91.57	91.57
DISCCART	805002.63	4049248.22	90.12	90.12
DISCCART	805102.63	4049248.22	88.74	88.74
DISCCART	805202.63	4049248.22	91.34	91.34
DISCCART	805302.63	4049248.22	91.69	91.69
DISCCART	805402.63	4049248.22	91.70	91.70

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DISCCART	805502.63	4049248.22	91.77	91.77
DISCCART	805602.63	4049248.22	91.72	91.72
DISCCART	805702.63	4049248.22	91.55	91.55
DISCCART	805802.63	4049248.22	91.22	91.22
DISCCART	805902.63	4049248.22	90.73	90.73
DISCCART	806002.63	4049248.22	90.82	90.82
DISCCART	806102.63	4049248.22	91.18	91.18
DISCCART	806202.63	4049248.22	93.18	94.14
DISCCART	806302.63	4049248.22	89.91	90.20
DISCCART	806402.63	4049248.22	90.57	90.57
DISCCART	806502.63	4049248.22	90.57	90.57
DISCCART	806602.63	4049248.22	90.65	90.65
DISCCART	806702.63	4049248.22	90.74	90.74
DISCCART	806802.63	4049248.22	90.86	90.86
DISCCART	806902.63	4049248.22	91.02	91.02
DISCCART	804202.63	4049348.22	88.90	88.90
DISCCART	804302.63	4049348.22	89.22	89.22
DISCCART	804402.63	4049348.22	89.46	89.46
DISCCART	804502.63	4049348.22	89.66	89.66
DISCCART	804602.63	4049348.22	90.08	90.08
DISCCART	804702.63	4049348.22	91.35	91.35
DISCCART	804802.63	4049348.22	91.58	91.58
DISCCART	804902.63	4049348.22	91.56	91.56
DISCCART	805002.63	4049348.22	89.13	89.13
DISCCART	805102.63	4049348.22	88.57	88.57
DISCCART	805202.63	4049348.22	90.44	90.44
DISCCART	805302.63	4049348.22	90.59	90.59
DISCCART	805402.63	4049348.22	90.53	90.53
DISCCART	805502.63	4049348.22	91.49	91.49
DISCCART	805602.63	4049348.22	91.67	91.67
DISCCART	805702.63	4049348.22	91.65	91.65
DISCCART	805802.63	4049348.22	91.17	91.17
DISCCART	805902.63	4049348.22	90.43	90.43
DISCCART	806002.63	4049348.22	90.09	90.09
DISCCART	806102.63	4049348.22	90.76	90.76
DISCCART	806202.63	4049348.22	89.92	94.24
DISCCART	806302.63	4049348.22	89.98	89.98
DISCCART	806402.63	4049348.22	90.38	90.38
DISCCART	806502.63	4049348.22	90.58	90.58
DISCCART	806602.63	4049348.22	90.60	90.60
DISCCART	806702.63	4049348.22	90.68	90.68
DISCCART	806802.63	4049348.22	90.80	90.80
DISCCART	806902.63	4049348.22	86.89	91.37
DISCCART	804202.63	4049448.22	88.54	88.54
DISCCART	804302.63	4049448.22	89.08	89.08
DISCCART	804402.63	4049448.22	89.47	89.47
DISCCART	804502.63	4049448.22	89.78	89.78
DISCCART	804602.63	4049448.22	90.45	90.45
DISCCART	804702.63	4049448.22	91.56	91.56
DISCCART	804802.63	4049448.22	91.61	91.61
DISCCART	804902.63	4049448.22	91.55	91.55
DISCCART	805002.63	4049448.22	89.68	89.68
DISCCART	805102.63	4049448.22	89.74	89.74
DISCCART	805202.63	4049448.22	88.84	88.84
DISCCART	805302.63	4049448.22	91.05	91.05
DISCCART	805402.63	4049448.22	89.77	89.77
DISCCART	805502.63	4049448.22	90.66	90.66
DISCCART	805602.63	4049448.22	91.07	91.07
DISCCART	805702.63	4049448.22	91.03	91.03
DISCCART	805802.63	4049448.22	90.62	90.62
DISCCART	805902.63	4049448.22	90.14	90.14
DISCCART	806002.63	4049448.22	89.97	89.97
DISCCART	806102.63	4049448.22	91.54	91.54
DISCCART	806202.63	4049448.22	88.96	88.96
DISCCART	806302.63	4049448.22	90.09	90.09
DISCCART	806402.63	4049448.22	90.50	90.50
DISCCART	806502.63	4049448.22	90.55	90.55
DISCCART	806602.63	4049448.22	90.55	90.55
DISCCART	806702.63	4049448.22	90.73	90.73
DISCCART	806802.63	4049448.22	91.17	91.17

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DISCCART	804202.63	4049548.22	87.73	87.73
DISCCART	804302.63	4049548.22	88.79	88.79
DISCCART	804402.63	4049548.22	89.36	89.36
DISCCART	804502.63	4049548.22	89.82	89.82
DISCCART	804602.63	4049548.22	90.80	90.80
DISCCART	804702.63	4049548.22	91.57	91.57
DISCCART	804802.63	4049548.22	91.58	91.58
DISCCART	804902.63	4049548.22	91.62	91.62
DISCCART	805002.63	4049548.22	89.97	89.97
DISCCART	805102.63	4049548.22	87.66	89.77
DISCCART	805202.63	4049548.22	89.83	89.83
DISCCART	805302.63	4049548.22	91.66	91.66
DISCCART	805402.63	4049548.22	90.06	90.06
DISCCART	805502.63	4049548.22	90.05	90.05
DISCCART	805602.63	4049548.22	90.09	90.09
DISCCART	805702.63	4049548.22	90.14	90.14
DISCCART	805802.63	4049548.22	90.05	90.05
DISCCART	805902.63	4049548.22	89.80	89.80
DISCCART	806002.63	4049548.22	89.96	89.96
DISCCART	806102.63	4049548.22	93.95	94.06
DISCCART	806202.63	4049548.22	88.54	88.54
DISCCART	806302.63	4049548.22	90.07	90.07
DISCCART	806402.63	4049548.22	90.61	90.61
DISCCART	806502.63	4049548.22	90.55	90.55
DISCCART	806602.63	4049548.22	90.55	90.55
DISCCART	806702.63	4049548.22	90.97	90.97
DISCCART	806802.63	4049548.22	91.15	91.15
** DESCRREC	"Site 2" ""			
DISCCART	808022.40	4045855.41	91.47	98.58
** DESCRREC	"Site 1" ""			
DISCCART	807979.40	4046422.79	91.30	91.30
** DESCRREC	"Site 3" ""			
DISCCART	807105.44	4045863.57	89.63	89.63
** DESCRREC	"UCART1" "Receptors generated from Uniform Cartesian Grid"			
DISCCART	804167.97	4049591.69	87.71	87.71
DISCCART	804297.67	4049591.69	88.60	88.60
DISCCART	804427.37	4049591.69	89.37	89.37
DISCCART	804557.07	4049591.69	90.28	90.28
DISCCART	804686.77	4049591.69	91.56	91.56
DISCCART	804816.47	4049591.69	91.54	91.54
DISCCART	804946.17	4049591.69	91.02	91.02
DISCCART	805075.87	4049591.69	89.92	89.92
DISCCART	805205.57	4049591.69	89.91	89.91
DISCCART	805335.27	4049591.69	90.92	90.92
DISCCART	805464.97	4049591.69	90.06	90.06
DISCCART	805594.67	4049591.69	90.02	90.02
DISCCART	805724.37	4049591.69	90.02	90.02
DISCCART	805854.07	4049591.69	89.86	89.86
DISCCART	805983.77	4049591.69	89.82	89.82
DISCCART	806113.47	4049591.69	90.85	93.97
DISCCART	806243.17	4049591.69	88.82	88.82
DISCCART	806372.87	4049591.69	90.55	90.55
DISCCART	806502.57	4049591.69	90.57	90.57
DISCCART	806632.27	4049591.69	90.58	90.58
DISCCART	806761.97	4049591.69	91.13	91.13
DISCCART	804167.97	4049699.92	87.97	87.97
DISCCART	804297.67	4049699.92	88.48	88.48
DISCCART	804427.37	4049699.92	88.99	88.99
DISCCART	804557.07	4049699.92	90.36	90.36
DISCCART	804686.77	4049699.92	91.58	91.58
DISCCART	804816.47	4049699.92	91.43	91.43
DISCCART	804946.17	4049699.92	90.82	90.82
DISCCART	805075.87	4049699.92	90.55	90.55
DISCCART	805205.57	4049699.92	88.56	88.56
DISCCART	805335.27	4049699.92	89.56	89.56
DISCCART	805464.97	4049699.92	90.18	90.18
DISCCART	805594.67	4049699.92	90.04	90.04
DISCCART	805724.37	4049699.92	90.06	90.06
DISCCART	805854.07	4049699.92	89.51	89.51
DISCCART	805983.77	4049699.92	89.39	89.39

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DISCCART	806113.47	4049699.92	89.83	89.83
DISCCART	806243.17	4049699.92	89.95	89.95
DISCCART	806372.87	4049699.92	90.32	90.32
DISCCART	806502.57	4049699.92	90.10	90.10
DISCCART	806632.27	4049699.92	90.33	90.33
DISCCART	806761.97	4049699.92	89.77	91.13
DISCCART	804167.97	4049808.15	88.04	88.04
DISCCART	804297.67	4049808.15	88.43	88.43
DISCCART	804427.37	4049808.15	88.88	88.88
DISCCART	804557.07	4049808.15	90.20	90.20
DISCCART	804686.77	4049808.15	91.56	91.56
DISCCART	804816.47	4049808.15	91.31	91.31
DISCCART	804946.17	4049808.15	91.29	91.29
DISCCART	805075.87	4049808.15	90.93	90.93
DISCCART	805205.57	4049808.15	85.27	89.72
DISCCART	805335.27	4049808.15	89.34	89.34
DISCCART	805464.97	4049808.15	90.26	90.26
DISCCART	805594.67	4049808.15	89.79	89.79
DISCCART	805724.37	4049808.15	89.48	89.48
DISCCART	805854.07	4049808.15	89.46	89.46
DISCCART	805983.77	4049808.15	89.81	89.81
DISCCART	806113.47	4049808.15	89.60	89.60
DISCCART	806243.17	4049808.15	90.16	90.16
DISCCART	806372.87	4049808.15	90.03	90.03
DISCCART	806502.57	4049808.15	89.68	89.68
DISCCART	806632.27	4049808.15	90.16	90.16
DISCCART	806761.97	4049808.15	83.01	90.70
DISCCART	804167.97	4049916.38	88.05	88.05
DISCCART	804297.67	4049916.38	88.40	88.40
DISCCART	804427.37	4049916.38	88.80	88.80
DISCCART	804557.07	4049916.38	89.81	89.81
DISCCART	804686.77	4049916.38	91.16	91.16
DISCCART	804816.47	4049916.38	91.05	91.05
DISCCART	804946.17	4049916.38	91.56	91.56
DISCCART	805075.87	4049916.38	91.06	91.06
DISCCART	805205.57	4049916.38	90.54	90.54
DISCCART	805335.27	4049916.38	90.03	90.03
DISCCART	805464.97	4049916.38	89.72	89.72
DISCCART	805594.67	4049916.38	88.97	88.97
DISCCART	805724.37	4049916.38	88.62	88.62
DISCCART	805854.07	4049916.38	89.23	89.23
DISCCART	805983.77	4049916.38	90.64	90.64
DISCCART	806113.47	4049916.38	88.77	88.77
DISCCART	806243.17	4049916.38	89.92	89.92
DISCCART	806372.87	4049916.38	90.12	90.12
DISCCART	806502.57	4049916.38	89.88	89.88
DISCCART	806632.27	4049916.38	90.15	90.15
DISCCART	804167.97	4050024.61	88.09	88.09
DISCCART	804297.67	4050024.61	88.45	88.45
DISCCART	804427.37	4050024.61	88.51	88.51
DISCCART	804557.07	4050024.61	89.46	89.46
DISCCART	804686.77	4050024.61	90.21	90.21
DISCCART	804816.47	4050024.61	90.53	90.53
DISCCART	804946.17	4050024.61	91.45	91.45
DISCCART	805075.87	4050024.61	91.10	91.10
DISCCART	805205.57	4050024.61	90.14	90.14
DISCCART	805335.27	4050024.61	90.07	90.07
DISCCART	805464.97	4050024.61	88.77	88.77
DISCCART	805594.67	4050024.61	88.47	88.47
DISCCART	805724.37	4050024.61	88.83	88.83
DISCCART	805854.07	4050024.61	89.81	89.81
DISCCART	805983.77	4050024.61	91.56	91.56
DISCCART	806113.47	4050024.61	88.25	88.25
DISCCART	806243.17	4050024.61	90.01	90.01
DISCCART	806372.87	4050024.61	90.25	90.25
DISCCART	806502.57	4050024.61	90.08	90.08
DISCCART	806632.27	4050024.61	90.38	90.38
DISCCART	804167.97	4050132.84	88.29	88.29
DISCCART	804297.67	4050132.84	88.53	88.53
DISCCART	804427.37	4050132.84	88.58	88.58

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

DISCCART	804557.07	4050132.84	89.19	89.19
DISCCART	804686.77	4050132.84	90.00	90.00
DISCCART	804816.47	4050132.84	90.21	90.21
DISCCART	804946.17	4050132.84	91.21	91.21
DISCCART	805075.87	4050132.84	90.61	90.61
DISCCART	805205.57	4050132.84	89.99	89.99
DISCCART	805335.27	4050132.84	88.53	88.53
DISCCART	805464.97	4050132.84	88.36	88.36
DISCCART	805594.67	4050132.84	88.82	88.82
DISCCART	805724.37	4050132.84	89.89	89.89
DISCCART	805854.07	4050132.84	90.60	90.60
DISCCART	805983.77	4050132.84	94.09	94.09
DISCCART	806113.47	4050132.84	88.30	88.30
DISCCART	806243.17	4050132.84	89.80	89.80
DISCCART	806372.87	4050132.84	90.29	90.29
DISCCART	806502.57	4050132.84	90.30	90.30
DISCCART	806632.27	4050132.84	90.63	90.63
DISCCART	804167.97	4050241.07	88.46	88.46
DISCCART	804297.67	4050241.07	88.60	88.60
DISCCART	804427.37	4050241.07	88.78	88.78
DISCCART	804557.07	4050241.07	89.46	89.46
DISCCART	804686.77	4050241.07	90.03	90.03
DISCCART	804816.47	4050241.07	90.42	90.42
DISCCART	804946.17	4050241.07	91.26	91.26
DISCCART	805075.87	4050241.07	89.77	89.77
DISCCART	805205.57	4050241.07	89.22	89.22
DISCCART	805335.27	4050241.07	88.66	88.66
DISCCART	805464.97	4050241.07	89.43	89.43
DISCCART	805594.67	4050241.07	90.43	90.43
DISCCART	805724.37	4050241.07	90.55	90.55
DISCCART	805854.07	4050241.07	90.88	90.88
DISCCART	805983.77	4050241.07	90.11	94.02
DISCCART	806113.47	4050241.07	90.49	90.49
DISCCART	806243.17	4050241.07	88.65	88.65
DISCCART	806372.87	4050241.07	90.34	90.34
DISCCART	806502.57	4050241.07	90.33	90.33
DISCCART	806632.27	4050241.07	90.79	90.79
DISCCART	804167.97	4050349.30	88.51	88.51
DISCCART	804297.67	4050349.30	88.83	88.83
DISCCART	804427.37	4050349.30	88.97	88.97
DISCCART	804557.07	4050349.30	89.47	89.47
DISCCART	804686.77	4050349.30	89.99	89.99
DISCCART	804816.47	4050349.30	90.54	90.54
DISCCART	804946.17	4050349.30	91.50	91.50
DISCCART	805075.87	4050349.30	89.58	89.58
DISCCART	805205.57	4050349.30	88.72	88.72
DISCCART	805335.27	4050349.30	88.51	88.51
DISCCART	805464.97	4050349.30	90.19	90.19
DISCCART	805594.67	4050349.30	90.33	90.33
DISCCART	805724.37	4050349.30	90.33	90.33
DISCCART	805854.07	4050349.30	90.54	90.54
DISCCART	805983.77	4050349.30	90.53	90.53
DISCCART	806113.47	4050349.30	90.54	90.54
DISCCART	806243.17	4050349.30	90.09	90.09
DISCCART	806372.87	4050349.30	89.32	89.32
DISCCART	806502.57	4050349.30	89.90	89.90
DISCCART	806632.27	4050349.30	90.74	90.74
DISCCART	804167.97	4050457.53	88.23	88.23
DISCCART	804297.67	4050457.53	89.07	89.07
DISCCART	804427.37	4050457.53	89.30	89.30
DISCCART	804557.07	4050457.53	89.52	89.52
DISCCART	804686.77	4050457.53	89.86	89.86
DISCCART	804816.47	4050457.53	91.19	91.19
DISCCART	804946.17	4050457.53	91.77	91.77
DISCCART	805075.87	4050457.53	89.36	89.36
DISCCART	805205.57	4050457.53	88.69	88.69
DISCCART	805335.27	4050457.53	88.56	88.56
DISCCART	805464.97	4050457.53	89.99	89.99
DISCCART	805594.67	4050457.53	90.03	90.03
DISCCART	805724.37	4050457.53	90.09	90.09

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DISCCART	805854.07	4050457.53	90.58	90.58
DISCCART	805983.77	4050457.53	91.46	92.99
DISCCART	806113.47	4050457.53	90.75	90.75
DISCCART	806243.17	4050457.53	90.49	90.49
DISCCART	806372.87	4050457.53	90.17	90.17
DISCCART	806502.57	4050457.53	88.73	88.73
DISCCART	806632.27	4050457.53	87.90	90.22
DISCCART	804167.97	4050565.76	87.25	87.25
DISCCART	804297.67	4050565.76	88.45	88.45
DISCCART	804427.37	4050565.76	89.53	89.53
DISCCART	804557.07	4050565.76	89.35	89.35
DISCCART	804686.77	4050565.76	89.32	89.32
DISCCART	804816.47	4050565.76	90.16	90.16
DISCCART	804946.17	4050565.76	89.03	89.03
DISCCART	805075.87	4050565.76	88.87	88.87
DISCCART	805205.57	4050565.76	88.70	88.70
DISCCART	805335.27	4050565.76	88.93	88.93
DISCCART	805464.97	4050565.76	87.85	87.85
DISCCART	805594.67	4050565.76	90.02	90.02
DISCCART	805724.37	4050565.76	90.26	90.26
DISCCART	805854.07	4050565.76	90.51	90.51
DISCCART	805983.77	4050565.76	90.82	94.03
DISCCART	806113.47	4050565.76	91.06	91.06
DISCCART	806243.17	4050565.76	90.26	90.26
DISCCART	806372.87	4050565.76	90.12	90.12
DISCCART	806502.57	4050565.76	89.46	89.46
DISCCART	806632.27	4050565.76	83.62	88.77
** DESCRREC "UCART2" "Receptors generated from Uniform Cartesian Grid"				
DISCCART	803717.79	4041632.48	85.95	85.95
DISCCART	803817.79	4041632.48	86.57	86.57
DISCCART	803917.79	4041632.48	86.98	86.98
DISCCART	804017.79	4041632.48	86.94	86.94
DISCCART	804117.79	4041632.48	86.96	86.96
DISCCART	803717.79	4041732.48	86.11	86.11
DISCCART	803817.79	4041732.48	86.77	86.77
DISCCART	803917.79	4041732.48	86.99	86.99
DISCCART	804017.79	4041732.48	86.97	86.97
DISCCART	804117.79	4041732.48	87.00	87.00
DISCCART	803717.79	4041832.48	86.51	86.51
DISCCART	803817.79	4041832.48	86.95	86.95
DISCCART	803917.79	4041832.48	87.04	87.04
DISCCART	804017.79	4041832.48	87.01	87.01
DISCCART	804117.79	4041832.48	87.17	87.17
DISCCART	803717.79	4041932.48	86.67	86.67
DISCCART	803817.79	4041932.48	86.96	86.96
DISCCART	803917.79	4041932.48	86.97	86.97
DISCCART	804017.79	4041932.48	87.25	87.25
DISCCART	804117.79	4041932.48	87.72	87.72
DISCCART	803717.79	4042032.48	86.84	86.84
DISCCART	803817.79	4042032.48	86.87	86.87
DISCCART	803917.79	4042032.48	86.98	86.98
DISCCART	804017.79	4042032.48	88.07	88.07
DISCCART	804117.79	4042032.48	88.42	88.42
DISCCART	803717.79	4042132.48	87.07	87.07
DISCCART	803817.79	4042132.48	86.87	86.87
DISCCART	803917.79	4042132.48	87.11	87.11
DISCCART	804017.79	4042132.48	88.53	88.53
DISCCART	804117.79	4042132.48	88.45	88.45
DISCCART	803717.79	4042232.48	87.16	87.16
DISCCART	803817.79	4042232.48	86.95	86.95
DISCCART	803917.79	4042232.48	87.50	87.50
DISCCART	804017.79	4042232.48	88.51	88.51
DISCCART	804117.79	4042232.48	88.21	88.21
DISCCART	803717.79	4042332.48	87.05	87.05
DISCCART	803817.79	4042332.48	86.94	86.94
DISCCART	803917.79	4042332.48	87.21	87.21
DISCCART	804017.79	4042332.48	88.16	88.16
DISCCART	804117.79	4042332.48	87.96	87.96
DISCCART	803717.79	4042432.48	86.86	86.86
DISCCART	803817.79	4042432.48	86.87	86.87

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DISCCART	803917.79	4042432.48	86.97	86.97
DISCCART	804017.79	4042432.48	87.27	87.27
DISCCART	804117.79	4042432.48	87.63	87.63
DISCCART	803717.79	4042532.48	86.67	86.67
DISCCART	803817.79	4042532.48	86.80	86.80
DISCCART	803917.79	4042532.48	86.95	86.95
DISCCART	804017.79	4042532.48	87.08	87.08
DISCCART	804117.79	4042532.48	87.53	87.53
DISCCART	803717.79	4042632.48	86.48	86.48
DISCCART	803817.79	4042632.48	86.76	86.76
DISCCART	803917.79	4042632.48	86.96	86.96
DISCCART	804017.79	4042632.48	87.15	87.15
DISCCART	804117.79	4042632.48	87.60	87.60
DISCCART	803717.79	4042732.48	86.24	86.24
DISCCART	803817.79	4042732.48	86.75	86.75
DISCCART	803917.79	4042732.48	87.02	87.02
DISCCART	804017.79	4042732.48	87.18	87.18
DISCCART	804117.79	4042732.48	87.52	87.52
DISCCART	803717.79	4042832.48	85.96	85.96
DISCCART	803817.79	4042832.48	86.30	86.30
DISCCART	803917.79	4042832.48	86.87	86.87
DISCCART	804017.79	4042832.48	86.98	86.98
DISCCART	804117.79	4042832.48	87.11	87.11
DISCCART	803717.79	4042932.48	85.27	85.27
DISCCART	803817.79	4042932.48	85.87	85.87
DISCCART	803917.79	4042932.48	86.98	86.98
DISCCART	804017.79	4042932.48	86.53	86.53
DISCCART	804117.79	4042932.48	86.59	86.59
DISCCART	803717.79	4043032.48	85.67	85.67
DISCCART	803817.79	4043032.48	85.60	85.60
DISCCART	803917.79	4043032.48	86.04	86.04
DISCCART	804017.79	4043032.48	86.99	86.99
DISCCART	804117.79	4043032.48	86.97	86.97
DISCCART	803717.79	4043132.48	85.68	85.68
DISCCART	803817.79	4043132.48	85.92	85.92
DISCCART	803917.79	4043132.48	86.53	86.53
DISCCART	804017.79	4043132.48	86.96	86.96
DISCCART	804117.79	4043132.48	86.97	86.97
DISCCART	803717.79	4043232.48	85.76	85.76
DISCCART	803817.79	4043232.48	86.23	86.23
DISCCART	803917.79	4043232.48	86.78	86.78
DISCCART	804017.79	4043232.48	86.98	86.98
DISCCART	804117.79	4043232.48	87.18	87.18
DISCCART	803717.79	4043332.48	86.04	86.04
DISCCART	803817.79	4043332.48	86.54	86.54
DISCCART	803917.79	4043332.48	86.94	86.94
DISCCART	804017.79	4043332.48	87.12	87.12
DISCCART	804117.79	4043332.48	87.40	87.40
DISCCART	803717.79	4043432.48	85.90	85.90
DISCCART	803817.79	4043432.48	86.40	86.40
DISCCART	803917.79	4043432.48	86.99	86.99
DISCCART	804017.79	4043432.48	87.02	87.02
DISCCART	804117.79	4043432.48	87.38	87.38
DISCCART	803717.79	4043532.48	85.51	85.51
DISCCART	803817.79	4043532.48	85.77	85.77
DISCCART	803917.79	4043532.48	87.12	87.12
DISCCART	804017.79	4043532.48	87.02	87.02
DISCCART	804117.79	4043532.48	87.38	87.38
DISCCART	803717.79	4043632.48	85.91	85.91
DISCCART	803817.79	4043632.48	86.81	86.81
DISCCART	803917.79	4043632.48	87.53	87.53
DISCCART	804017.79	4043632.48	86.68	86.68
DISCCART	804117.79	4043632.48	87.18	87.18
DISCCART	803717.79	4043732.48	86.06	86.06
DISCCART	803817.79	4043732.48	86.67	86.67
DISCCART	803917.79	4043732.48	87.07	87.07
DISCCART	804017.79	4043732.48	86.88	86.88
DISCCART	804117.79	4043732.48	87.24	87.24
DISCCART	803717.79	4043832.48	85.22	85.22
DISCCART	803817.79	4043832.48	86.42	86.42

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DISCCART	803917.79	4043832.48	86.98	86.98
DISCCART	804017.79	4043832.48	86.99	86.99
DISCCART	804117.79	4043832.48	87.30	87.30
DISCCART	803717.79	4043932.48	86.97	86.97
DISCCART	803817.79	4043932.48	86.12	86.12
DISCCART	803917.79	4043932.48	87.09	87.09
DISCCART	804017.79	4043932.48	87.00	87.00
DISCCART	804117.79	4043932.48	87.16	87.16
DISCCART	803717.79	4044032.48	87.00	87.00
DISCCART	803817.79	4044032.48	86.97	86.97
DISCCART	803917.79	4044032.48	86.52	86.52
DISCCART	804017.79	4044032.48	87.00	87.00
DISCCART	804117.79	4044032.48	87.05	87.05
DISCCART	803717.79	4044132.48	86.98	86.98
DISCCART	803817.79	4044132.48	86.98	86.98
DISCCART	803917.79	4044132.48	85.28	85.28
DISCCART	804017.79	4044132.48	86.97	86.97
DISCCART	804117.79	4044132.48	86.97	86.97
DISCCART	803717.79	4044232.48	87.00	87.00
DISCCART	803817.79	4044232.48	86.98	86.98
DISCCART	803917.79	4044232.48	87.34	87.34
DISCCART	804017.79	4044232.48	87.47	87.47
DISCCART	804117.79	4044232.48	86.97	86.97
DISCCART	803717.79	4044332.48	87.01	87.01
DISCCART	803817.79	4044332.48	86.99	86.99
DISCCART	803917.79	4044332.48	86.93	86.93
DISCCART	804017.79	4044332.48	86.00	86.00
DISCCART	804117.79	4044332.48	86.97	86.97
DISCCART	803717.79	4044432.48	86.98	86.98
DISCCART	803817.79	4044432.48	87.05	87.05
DISCCART	803917.79	4044432.48	87.00	87.00
DISCCART	804017.79	4044432.48	86.30	86.30
DISCCART	804117.79	4044432.48	86.98	86.98
DISCCART	803717.79	4044532.48	86.95	86.95
DISCCART	803817.79	4044532.48	87.04	87.04
DISCCART	803917.79	4044532.48	86.98	86.98
DISCCART	804017.79	4044532.48	86.98	86.98
DISCCART	804117.79	4044532.48	86.47	86.47
DISCCART	803717.79	4044632.48	86.92	86.92
DISCCART	803817.79	4044632.48	86.97	86.97
DISCCART	803917.79	4044632.48	86.98	86.98
DISCCART	804017.79	4044632.48	87.01	87.01
DISCCART	804117.79	4044632.48	85.51	85.51
DISCCART	803717.79	4044732.48	86.95	86.95
DISCCART	803817.79	4044732.48	86.98	86.98
DISCCART	803917.79	4044732.48	87.01	87.01
DISCCART	804017.79	4044732.48	87.00	87.00
DISCCART	804117.79	4044732.48	86.12	86.12
DISCCART	803717.79	4044832.48	86.78	86.78
DISCCART	803817.79	4044832.48	87.00	87.00
DISCCART	803917.79	4044832.48	87.01	87.01
DISCCART	804017.79	4044832.48	86.99	86.99
DISCCART	804117.79	4044832.48	87.22	87.22
DISCCART	803717.79	4044932.48	86.82	86.82
DISCCART	803817.79	4044932.48	86.80	86.80
DISCCART	803917.79	4044932.48	87.01	87.01
DISCCART	804017.79	4044932.48	86.96	86.96
DISCCART	804117.79	4044932.48	87.05	87.05
DISCCART	803717.79	4045032.48	87.25	87.25
DISCCART	803817.79	4045032.48	87.03	87.03
DISCCART	803917.79	4045032.48	87.01	87.01
DISCCART	804017.79	4045032.48	86.96	86.96
DISCCART	804117.79	4045032.48	87.01	87.01
DISCCART	803717.79	4045132.48	87.74	87.74
DISCCART	803817.79	4045132.48	86.98	86.98
DISCCART	803917.79	4045132.48	86.83	86.83
DISCCART	804017.79	4045132.48	87.00	87.00
DISCCART	804117.79	4045132.48	86.88	86.88
DISCCART	803717.79	4045232.48	88.68	88.68
DISCCART	803817.79	4045232.48	87.70	87.70

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DISCCART	803917.79	4045232.48	86.86	86.86
DISCCART	804017.79	4045232.48	87.01	87.01
DISCCART	804117.79	4045232.48	86.69	86.69
DISCCART	803717.79	4045332.48	88.98	88.98
DISCCART	803817.79	4045332.48	88.71	88.71
DISCCART	803917.79	4045332.48	87.09	87.09
DISCCART	804017.79	4045332.48	87.01	87.01
DISCCART	804117.79	4045332.48	86.73	86.73
DISCCART	803717.79	4045432.48	89.25	89.25
DISCCART	803817.79	4045432.48	88.92	88.92
DISCCART	803917.79	4045432.48	86.91	86.91
DISCCART	804017.79	4045432.48	86.85	86.85
DISCCART	804117.79	4045432.48	86.97	86.97
DISCCART	803717.79	4045532.48	89.77	89.77
DISCCART	803817.79	4045532.48	89.58	89.58
DISCCART	803917.79	4045532.48	88.48	88.48
DISCCART	804017.79	4045532.48	87.15	87.15
DISCCART	804117.79	4045532.48	87.01	87.01
DISCCART	803717.79	4045632.48	90.05	90.05
DISCCART	803817.79	4045632.48	89.75	89.75
DISCCART	803917.79	4045632.48	89.01	89.01
DISCCART	804017.79	4045632.48	87.89	87.89
DISCCART	804117.79	4045632.48	86.86	86.86
DISCCART	803717.79	4045732.48	89.87	89.87
DISCCART	803817.79	4045732.48	90.04	90.04
DISCCART	803917.79	4045732.48	89.74	89.74
DISCCART	804017.79	4045732.48	88.87	88.87
DISCCART	804117.79	4045732.48	87.09	87.09
DISCCART	803717.79	4045832.48	89.66	89.66
DISCCART	803817.79	4045832.48	90.00	90.00
DISCCART	803917.79	4045832.48	90.02	90.02
DISCCART	804017.79	4045832.48	89.55	89.55
DISCCART	804117.79	4045832.48	88.94	88.94
DISCCART	803717.79	4045932.48	89.41	89.41
DISCCART	803817.79	4045932.48	89.82	89.82
DISCCART	803917.79	4045932.48	90.03	90.03
DISCCART	804017.79	4045932.48	89.83	89.83
DISCCART	804117.79	4045932.48	89.47	89.47
DISCCART	803717.79	4046032.48	89.16	89.16
DISCCART	803817.79	4046032.48	89.62	89.62
DISCCART	803917.79	4046032.48	89.94	89.94
DISCCART	804017.79	4046032.48	90.04	90.04
DISCCART	804117.79	4046032.48	89.87	89.87
DISCCART	803717.79	4046132.48	89.02	89.02
DISCCART	803817.79	4046132.48	89.41	89.41
DISCCART	803917.79	4046132.48	89.75	89.75
DISCCART	804017.79	4046132.48	90.02	90.02
DISCCART	804117.79	4046132.48	90.03	90.03
DISCCART	803717.79	4046232.48	88.78	88.78
DISCCART	803817.79	4046232.48	89.11	89.11
DISCCART	803917.79	4046232.48	89.58	89.58
DISCCART	804017.79	4046232.48	90.17	90.17
DISCCART	804117.79	4046232.48	90.06	90.06
DISCCART	803717.79	4046332.48	88.75	88.75
DISCCART	803817.79	4046332.48	89.17	89.17
DISCCART	803917.79	4046332.48	89.84	89.84
DISCCART	804017.79	4046332.48	90.56	90.56
DISCCART	804117.79	4046332.48	90.28	90.28
DISCCART	803717.79	4046432.48	89.22	89.22
DISCCART	803817.79	4046432.48	89.75	89.75
DISCCART	803917.79	4046432.48	90.45	90.45
DISCCART	804017.79	4046432.48	91.02	91.02
DISCCART	804117.79	4046432.48	90.69	90.69
DISCCART	803717.79	4046532.48	89.98	89.98
DISCCART	803817.79	4046532.48	90.54	90.54
DISCCART	803917.79	4046532.48	91.08	91.08
DISCCART	804017.79	4046532.48	91.53	91.53
DISCCART	804117.79	4046532.48	91.21	91.21
DISCCART	803717.79	4046632.48	89.60	89.60
DISCCART	803817.79	4046632.48	90.03	90.03

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

DISCCART	803917.79	4046632.48	90.76	90.76
DISCCART	804017.79	4046632.48	91.66	91.66
DISCCART	804117.79	4046632.48	91.71	91.71
DISCCART	803717.79	4046732.48	88.87	88.87
DISCCART	803817.79	4046732.48	89.29	89.29
DISCCART	803917.79	4046732.48	89.94	89.94
DISCCART	804017.79	4046732.48	91.30	91.30
DISCCART	804117.79	4046732.48	92.19	92.19
DISCCART	803717.79	4046832.48	88.57	88.57
DISCCART	803817.79	4046832.48	88.88	88.88
DISCCART	803917.79	4046832.48	89.17	89.17
DISCCART	804017.79	4046832.48	89.87	89.87
DISCCART	804117.79	4046832.48	91.76	91.76
DISCCART	803717.79	4046932.48	88.57	88.57
DISCCART	803817.79	4046932.48	88.89	88.89
DISCCART	803917.79	4046932.48	89.17	89.17
DISCCART	804017.79	4046932.48	90.05	90.05
DISCCART	804117.79	4046932.48	91.80	91.80
DISCCART	803717.79	4047032.48	88.74	88.74
DISCCART	803817.79	4047032.48	89.19	89.19
DISCCART	803917.79	4047032.48	89.83	89.83
DISCCART	804017.79	4047032.48	91.24	91.24
DISCCART	804117.79	4047032.48	92.47	92.47
DISCCART	803717.79	4047132.48	88.96	88.96
DISCCART	803817.79	4047132.48	89.89	89.89
DISCCART	803917.79	4047132.48	90.55	90.55
DISCCART	804017.79	4047132.48	91.52	91.52
DISCCART	804117.79	4047132.48	91.81	91.81
DISCCART	803717.79	4047232.48	89.11	89.11
DISCCART	803817.79	4047232.48	90.00	90.00
DISCCART	803917.79	4047232.48	90.85	90.85
DISCCART	804017.79	4047232.48	91.65	91.65
DISCCART	804117.79	4047232.48	91.31	91.31
DISCCART	803717.79	4047332.48	89.72	89.72
DISCCART	803817.79	4047332.48	90.25	90.25
DISCCART	803917.79	4047332.48	90.88	90.88
DISCCART	804017.79	4047332.48	91.17	91.17
DISCCART	804117.79	4047332.48	90.69	90.69
DISCCART	803717.79	4047432.48	90.04	90.04
DISCCART	803817.79	4047432.48	90.08	90.08
DISCCART	803917.79	4047432.48	90.30	90.30
DISCCART	804017.79	4047432.48	90.69	90.69
DISCCART	804117.79	4047432.48	90.09	90.09
DISCCART	803717.79	4047532.48	90.00	90.00
DISCCART	803817.79	4047532.48	89.99	89.99
DISCCART	803917.79	4047532.48	90.17	90.17
DISCCART	804017.79	4047532.48	90.35	90.35
DISCCART	804117.79	4047532.48	90.09	90.09
DISCCART	803717.79	4047632.48	89.58	89.58
DISCCART	803817.79	4047632.48	89.65	89.65
DISCCART	803917.79	4047632.48	90.00	90.00
DISCCART	804017.79	4047632.48	90.09	90.09
DISCCART	804117.79	4047632.48	90.02	90.02
DISCCART	803717.79	4047732.48	89.17	89.17
DISCCART	803817.79	4047732.48	89.43	89.43
DISCCART	803917.79	4047732.48	89.77	89.77
DISCCART	804017.79	4047732.48	89.84	89.84
DISCCART	804117.79	4047732.48	89.87	89.87
DISCCART	803717.79	4047832.48	88.95	88.95
DISCCART	803817.79	4047832.48	89.30	89.30
DISCCART	803917.79	4047832.48	89.46	89.46
DISCCART	804017.79	4047832.48	89.60	89.60
DISCCART	804117.79	4047832.48	89.69	89.69
DISCCART	803717.79	4047932.48	88.74	88.74
DISCCART	803817.79	4047932.48	88.98	88.98
DISCCART	803917.79	4047932.48	89.18	89.18
DISCCART	804017.79	4047932.48	89.39	89.39
DISCCART	804117.79	4047932.48	89.59	89.59
DISCCART	803717.79	4048032.48	88.57	88.57
DISCCART	803817.79	4048032.48	88.71	88.71

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DISCCART	803917.79	4048032.48	88.93	88.93
DISCCART	804017.79	4048032.48	89.21	89.21
DISCCART	804117.79	4048032.48	89.54	89.54
DISCCART	803717.79	4048132.48	88.50	88.50
DISCCART	803817.79	4048132.48	88.56	88.56
DISCCART	803917.79	4048132.48	88.76	88.76
DISCCART	804017.79	4048132.48	89.10	89.10
DISCCART	804117.79	4048132.48	89.50	89.50
DISCCART	803717.79	4048232.48	88.50	88.50
DISCCART	803817.79	4048232.48	88.53	88.53
DISCCART	803917.79	4048232.48	88.68	88.68
DISCCART	804017.79	4048232.48	89.04	89.04
DISCCART	804117.79	4048232.48	89.47	89.47
DISCCART	803717.79	4048332.48	88.50	88.50
DISCCART	803817.79	4048332.48	88.52	88.52
DISCCART	803917.79	4048332.48	88.69	88.69
DISCCART	804017.79	4048332.48	89.05	89.05
DISCCART	804117.79	4048332.48	89.50	89.50
DISCCART	803717.79	4048432.48	88.50	88.50
DISCCART	803817.79	4048432.48	88.55	88.55
DISCCART	803917.79	4048432.48	88.74	88.74
DISCCART	804017.79	4048432.48	89.12	89.12
DISCCART	804117.79	4048432.48	89.62	89.62
DISCCART	803717.79	4048532.48	88.51	88.51
DISCCART	803817.79	4048532.48	88.59	88.59
DISCCART	803917.79	4048532.48	88.79	88.79
DISCCART	804017.79	4048532.48	89.19	89.19
DISCCART	804117.79	4048532.48	89.80	89.80
DISCCART	803717.79	4048632.48	88.52	88.52
DISCCART	803817.79	4048632.48	88.61	88.61
DISCCART	803917.79	4048632.48	88.83	88.83
DISCCART	804017.79	4048632.48	89.21	89.21
DISCCART	804117.79	4048632.48	89.73	89.73
DISCCART	803717.79	4048732.48	88.52	88.52
DISCCART	803817.79	4048732.48	88.62	88.62
DISCCART	803917.79	4048732.48	88.83	88.83
DISCCART	804017.79	4048732.48	89.17	89.17
DISCCART	804117.79	4048732.48	89.58	89.58
DISCCART	803717.79	4048832.48	88.50	88.50
DISCCART	803817.79	4048832.48	88.61	88.61
DISCCART	803917.79	4048832.48	88.81	88.81
DISCCART	804017.79	4048832.48	89.09	89.09
DISCCART	804117.79	4048832.48	89.44	89.44
DISCCART	803717.79	4048932.48	88.45	88.45
DISCCART	803817.79	4048932.48	88.55	88.55
DISCCART	803917.79	4048932.48	88.75	88.75
DISCCART	804017.79	4048932.48	89.01	89.01
DISCCART	804117.79	4048932.48	89.31	89.31
DISCCART	803717.79	4049032.48	88.17	88.17
DISCCART	803817.79	4049032.48	88.39	88.39
DISCCART	803917.79	4049032.48	88.62	88.62
DISCCART	804017.79	4049032.48	88.89	88.89
DISCCART	804117.79	4049032.48	89.18	89.18
DISCCART	803717.79	4049132.48	87.56	87.56
DISCCART	803817.79	4049132.48	87.82	87.82
DISCCART	803917.79	4049132.48	88.28	88.28
DISCCART	804017.79	4049132.48	88.63	88.63
DISCCART	804117.79	4049132.48	88.99	88.99
DISCCART	803717.79	4049232.48	86.98	86.98
DISCCART	803817.79	4049232.48	87.13	87.13
DISCCART	803917.79	4049232.48	87.58	87.58
DISCCART	804017.79	4049232.48	87.80	87.80
DISCCART	804117.79	4049232.48	88.61	88.61
DISCCART	803717.79	4049332.48	86.94	86.94
DISCCART	803817.79	4049332.48	87.09	87.09
DISCCART	803917.79	4049332.48	86.98	86.98
DISCCART	804017.79	4049332.48	87.05	87.05
DISCCART	804117.79	4049332.48	88.23	88.23
DISCCART	803717.79	4049432.48	86.98	86.98
DISCCART	803817.79	4049432.48	87.07	87.07

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DISCCART	803917.79	4049432.48	87.25	87.25
DISCCART	804017.79	4049432.48	87.23	87.23
DISCCART	804117.79	4049432.48	87.33	87.33
DISCCART	803717.79	4049532.48	86.99	86.99
DISCCART	803817.79	4049532.48	87.01	87.01
DISCCART	803917.79	4049532.48	87.43	87.43
DISCCART	804017.79	4049532.48	87.56	87.56
DISCCART	804117.79	4049532.48	87.43	87.43
DISCCART	803717.79	4049632.48	87.00	87.00
DISCCART	803817.79	4049632.48	87.03	87.03
DISCCART	803917.79	4049632.48	87.41	87.41
DISCCART	804017.79	4049632.48	87.72	87.72
DISCCART	803717.79	4049732.48	86.98	86.98
DISCCART	803817.79	4049732.48	87.08	87.08
DISCCART	803917.79	4049732.48	87.40	87.40
DISCCART	804017.79	4049732.48	87.74	87.74
DISCCART	803717.79	4049832.48	86.78	86.78
DISCCART	803817.79	4049832.48	87.07	87.07
DISCCART	803917.79	4049832.48	87.31	87.31
DISCCART	804017.79	4049832.48	87.61	87.61
DISCCART	803717.79	4049932.48	86.84	86.84
DISCCART	803817.79	4049932.48	87.03	87.03
DISCCART	803917.79	4049932.48	87.34	87.34
DISCCART	804017.79	4049932.48	87.56	87.56
DISCCART	803717.79	4050032.48	87.07	87.07
DISCCART	803817.79	4050032.48	87.16	87.16
DISCCART	803917.79	4050032.48	87.28	87.28
DISCCART	804017.79	4050032.48	87.87	87.87
DISCCART	803717.79	4050132.48	87.25	87.25
DISCCART	803817.79	4050132.48	87.29	87.29
DISCCART	803917.79	4050132.48	87.47	87.47
DISCCART	804017.79	4050132.48	88.54	88.54
DISCCART	803717.79	4050232.48	87.39	87.39
DISCCART	803817.79	4050232.48	87.42	87.42
DISCCART	803917.79	4050232.48	87.57	87.57
DISCCART	804017.79	4050232.48	88.24	88.24
DISCCART	803717.79	4050332.48	87.45	87.45
DISCCART	803817.79	4050332.48	87.47	87.47
DISCCART	803917.79	4050332.48	87.76	87.76
DISCCART	804017.79	4050332.48	88.14	88.14
DISCCART	803717.79	4050432.48	86.72	86.72
DISCCART	803817.79	4050432.48	87.28	87.28
DISCCART	803917.79	4050432.48	87.52	87.52
DISCCART	804017.79	4050432.48	87.80	87.80
DISCCART	803717.79	4050532.48	87.29	87.29
DISCCART	803817.79	4050532.48	86.82	86.82
DISCCART	803917.79	4050532.48	87.00	87.00
DISCCART	804017.79	4050532.48	87.19	87.19
DISCCART	803717.79	4050632.48	87.86	87.86
DISCCART	803817.79	4050632.48	87.78	87.78
DISCCART	803917.79	4050632.48	87.26	87.26
DISCCART	804017.79	4050632.48	87.00	87.00
DISCCART	804117.79	4050632.48	86.83	86.83
** DESCRREC "" ""				
DISCCART	806600.89	4046397.65	88.48	88.48
DISCCART	806600.89	4046612.44	88.50	88.50
DISCCART	806166.19	4046612.44	88.47	88.47
DISCCART	806166.19	4046760.75	87.93	87.93
DISCCART	806600.89	4046760.75	88.50	88.50
DISCCART	806585.54	4047241.47	88.48	88.48
DISCCART	806774.76	4047568.77	90.23	90.23
DISCCART	806861.70	4047548.32	89.24	89.24
DISCCART	807593.01	4047548.32	87.03	89.17
DISCCART	808605.60	4045886.25	85.20	93.61
DISCCART	809393.13	4044970.83	85.39	85.39
DISCCART	807659.50	4044904.35	91.61	91.61
DISCCART	807659.50	4044996.40	91.62	91.62
DISCCART	807818.03	4045344.16	91.84	93.87
DISCCART	807940.77	4045691.91	92.20	98.23
DISCCART	808078.85	4045876.02	93.33	98.58

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DISCCART	808099.31	4046341.40	91.39	93.59
DISCCART	807991.91	4046418.11	91.31	91.31
DISCCART	806600.89	4046397.65	88.48	88.48
DISCCART	806600.89	4046397.65	88.48	88.48
DISCCART	806600.89	4046447.65	88.33	88.33
DISCCART	806600.89	4046497.65	88.46	88.46
DISCCART	806600.89	4046547.65	87.84	87.84
DISCCART	806600.89	4046597.65	88.51	88.51
DISCCART	806600.89	4046612.44	88.50	88.50
DISCCART	806550.89	4046612.44	88.14	88.14
DISCCART	806500.89	4046612.44	87.88	87.88
DISCCART	806450.89	4046612.44	87.88	87.88
DISCCART	806400.89	4046612.44	88.03	88.03
DISCCART	806350.89	4046612.74	88.20	88.20
DISCCART	806300.89	4046612.44	88.32	88.32
DISCCART	806250.89	4046612.44	88.44	88.44
DISCCART	806200.89	4046612.44	88.46	88.46
DISCCART	806166.19	4046612.44	88.47	88.47
DISCCART	806166.19	4046662.44	88.37	88.37
DISCCART	806166.19	4046712.44	88.51	88.51
DISCCART	806166.19	4046760.75	87.93	87.93
DISCCART	806216.19	4046760.75	88.59	88.59
DISCCART	806266.19	4046760.75	88.59	88.59
DISCCART	806316.19	4046760.75	88.55	88.55
DISCCART	806352.00	4046760.75	88.53	88.53
DISCCART	806402.00	4046760.75	88.51	88.51
DISCCART	806452.00	4046760.75	88.52	88.52
DISCCART	806502.00	4046760.75	88.52	88.52
DISCCART	806552.00	4046760.75	88.50	88.50
DISCCART	806600.89	4046760.75	88.50	88.50
DISCCART	806599.29	4046810.72	88.50	88.50
DISCCART	806597.70	4046860.70	88.52	88.52
DISCCART	806596.10	4046910.67	88.57	88.57
DISCCART	806594.51	4046960.65	88.20	88.20
DISCCART	806592.91	4047010.62	88.54	88.54
DISCCART	806591.32	4047060.60	88.54	88.54
DISCCART	806589.72	4047110.57	88.55	88.55
DISCCART	806588.12	4047160.55	88.52	88.52
DISCCART	806586.53	4047210.52	88.44	88.44
DISCCART	806596.03	4047259.61	88.48	88.48
DISCCART	806621.05	4047302.90	88.52	88.52
DISCCART	806646.08	4047346.18	88.51	88.51
DISCCART	806671.10	4047389.47	88.53	88.53
DISCCART	806696.13	4047432.76	88.63	88.63
DISCCART	806721.15	4047476.04	88.86	88.86
DISCCART	806746.18	4047519.33	89.39	89.39
DISCCART	806774.76	4047568.77	90.23	90.23
DISCCART	806823.43	4047557.32	89.82	89.82
DISCCART	806861.70	4047548.32	89.24	89.24
DISCCART	806911.70	4047548.32	89.30	89.30
DISCCART	806961.70	4047548.32	90.90	90.90
DISCCART	807011.70	4047548.32	93.37	94.28
DISCCART	807061.70	4047548.32	88.94	94.47
DISCCART	807111.70	4047548.32	88.11	88.11
DISCCART	807161.70	4047548.32	88.38	88.38
DISCCART	807211.70	4047548.32	88.87	88.87
DISCCART	807261.70	4047548.32	88.73	88.73
DISCCART	807311.70	4047548.32	88.79	88.79
DISCCART	807361.70	4047548.32	88.62	88.62
DISCCART	807411.70	4047548.32	86.71	89.01
DISCCART	807461.70	4047548.32	87.08	89.99
DISCCART	807511.70	4047548.32	88.88	90.23
DISCCART	807561.70	4047548.32	89.26	89.26
DISCCART	807593.01	4047548.32	87.03	89.17
DISCCART	807619.02	4047505.62	85.81	89.53
DISCCART	807645.04	4047462.92	86.98	89.80
DISCCART	807671.05	4047420.22	87.44	89.88
DISCCART	807697.07	4047377.52	85.85	91.44
DISCCART	807723.08	4047334.82	83.81	92.15
DISCCART	807749.09	4047292.12	83.80	94.51

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DISCCART	807775.11	4047249.42	86.47	94.11
DISCCART	807801.12	4047206.72	87.03	89.90
DISCCART	807827.14	4047164.02	88.04	89.95
DISCCART	807853.15	4047121.32	88.06	89.73
DISCCART	807879.17	4047078.62	89.56	89.56
DISCCART	807905.18	4047035.92	89.36	89.36
DISCCART	807931.19	4046993.22	89.24	89.24
DISCCART	807957.21	4046950.52	88.48	88.48
DISCCART	807983.22	4046907.82	88.11	88.11
DISCCART	808009.24	4046865.12	87.66	87.66
DISCCART	808035.25	4046822.42	88.06	88.06
DISCCART	808061.26	4046779.73	89.73	104.16
DISCCART	808087.28	4046737.03	89.27	104.16
DISCCART	808113.29	4046694.33	88.84	104.16
DISCCART	808139.31	4046651.63	87.22	104.16
DISCCART	808165.32	4046608.93	85.89	104.16
DISCCART	808191.33	4046566.23	85.78	104.16
DISCCART	808239.66	4046486.90	88.87	90.38
DISCCART	808265.67	4046444.20	89.40	89.40
DISCCART	808294.34	4046403.24	89.46	89.95
DISCCART	808317.60	4046358.98	89.54	89.54
DISCCART	808343.61	4046316.28	88.90	88.90
DISCCART	808369.63	4046273.58	88.63	88.63
DISCCART	808395.64	4046230.88	88.51	88.51
DISCCART	808421.66	4046188.18	88.40	94.08
DISCCART	808447.67	4046145.48	87.19	94.28
DISCCART	808473.68	4046102.78	86.98	89.51
DISCCART	808499.70	4046060.08	87.20	89.73
DISCCART	808525.71	4046017.38	87.00	89.79
DISCCART	808551.73	4045974.68	87.51	89.63
DISCCART	808577.74	4045931.98	88.12	89.80
DISCCART	808605.60	4045886.25	85.20	93.61
DISCCART	808638.21	4045848.35	87.39	88.29
DISCCART	808670.82	4045810.44	87.72	87.72
DISCCART	808703.43	4045772.54	87.80	87.80
DISCCART	808736.52	4045735.06	88.60	89.41
DISCCART	808764.82	4045693.84	88.31	89.66
DISCCART	808800.91	4045659.23	85.73	89.93
DISCCART	808833.51	4045621.32	86.03	90.11
DISCCART	808866.12	4045583.42	86.22	89.40
DISCCART	808898.73	4045545.52	86.04	89.39
DISCCART	808931.34	4045507.61	88.12	89.18
DISCCART	808963.95	4045469.71	89.54	89.54
DISCCART	808996.56	4045431.81	88.56	88.56
DISCCART	809029.16	4045393.90	88.72	88.72
DISCCART	809061.77	4045356.00	89.07	89.07
DISCCART	809096.18	4045319.72	89.55	89.55
DISCCART	809126.91	4045280.28	89.62	89.62
DISCCART	809159.52	4045242.38	89.58	89.58
DISCCART	809192.13	4045204.47	89.53	89.53
DISCCART	809224.74	4045166.57	89.43	89.43
DISCCART	809257.35	4045128.66	89.65	89.65
DISCCART	809289.95	4045090.76	89.49	89.49
DISCCART	809322.25	4045052.59	89.41	89.41
DISCCART	809356.39	4045016.06	89.25	89.51
DISCCART	809393.13	4044970.83	85.39	85.39
DISCCART	809343.17	4044968.91	88.40	88.40
DISCCART	809293.20	4044967.00	89.07	89.07
DISCCART	809243.24	4044965.08	88.87	88.87
DISCCART	809193.28	4044963.17	88.92	88.92
DISCCART	809143.55	4044957.92	89.01	89.01
DISCCART	809093.57	4044959.34	91.23	94.02
DISCCART	809043.61	4044957.43	93.32	93.94
DISCCART	808993.65	4044955.51	93.37	93.99
DISCCART	808943.68	4044953.59	93.35	94.02
DISCCART	808893.72	4044951.68	93.41	94.02
DISCCART	808843.76	4044949.76	93.42	94.05
DISCCART	808793.79	4044947.85	93.43	94.10
DISCCART	808743.83	4044945.93	93.56	93.56
DISCCART	808693.87	4044944.02	93.63	94.21

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

DISCCART	808644.27	4044937.67	93.27	93.27
DISCCART	808594.34	4044940.20	93.65	93.65
DISCCART	808544.37	4044938.28	93.25	94.17
DISCCART	808494.41	4044936.37	92.68	94.24
DISCCART	808444.45	4044934.45	92.74	94.21
DISCCART	808394.76	4044928.87	91.88	94.27
DISCCART	808344.79	4044930.63	92.85	94.12
DISCCART	808294.83	4044928.71	92.94	94.14
DISCCART	808244.86	4044926.80	93.00	94.00
DISCCART	808194.90	4044924.88	93.05	93.76
DISCCART	808145.06	4044920.93	92.94	92.94
DISCCART	808095.06	4044921.05	93.14	93.14
DISCCART	808045.09	4044919.14	93.24	93.24
DISCCART	807995.15	4044916.86	93.25	93.25
DISCCART	807945.17	4044915.30	93.31	93.31
DISCCART	807895.21	4044913.39	93.28	93.28
DISCCART	807845.24	4044911.47	93.48	93.48
DISCCART	807795.28	4044909.56	93.49	93.49
DISCCART	807745.32	4044907.64	93.67	93.67
DISCCART	807696.34	4044897.59	92.70	94.30
DISCCART	807661.69	4044896.59	91.98	91.98
DISCCART	807657.36	4044946.40	91.93	91.93
DISCCART	807659.50	4044996.40	91.62	91.62
DISCCART	807680.24	4045041.90	92.94	92.94
DISCCART	807699.85	4045087.89	93.77	93.77
DISCCART	807721.71	4045132.86	93.83	93.83
DISCCART	807742.45	4045178.36	93.55	93.55
DISCCART	807763.19	4045223.85	92.95	93.92
DISCCART	807783.93	4045269.35	92.49	94.22
DISCCART	807811.37	4045311.14	93.55	94.13
DISCCART	807820.44	4045349.69	91.68	93.83
DISCCART	807836.67	4045396.98	92.34	94.29
DISCCART	807853.32	4045444.13	92.61	94.57
DISCCART	807869.96	4045491.28	93.03	93.03
DISCCART	807886.60	4045538.43	92.88	92.88
DISCCART	807903.24	4045585.58	92.93	92.93
DISCCART	807919.88	4045632.73	92.66	98.23
DISCCART	807940.77	4045691.91	92.20	98.23
DISCCART	807970.77	4045731.91	92.75	97.87
DISCCART	808000.77	4045771.91	93.64	98.05
DISCCART	808030.77	4045811.91	94.22	98.49
DISCCART	808060.77	4045851.91	93.74	98.58
DISCCART	808078.85	4045876.02	93.33	98.58
DISCCART	808081.05	4045925.97	91.76	94.68
DISCCART	808083.24	4045975.92	92.20	92.20
DISCCART	808085.67	4046031.11	91.75	91.75
DISCCART	808087.86	4046081.06	91.69	91.69
DISCCART	808090.93	4046130.97	91.76	91.76
DISCCART	808091.43	4046180.96	91.53	91.53
DISCCART	808094.45	4046230.87	91.55	91.55
DISCCART	808094.91	4046280.87	91.71	91.71
DISCCART	808099.31	4046341.40	91.39	93.59
DISCCART	808058.62	4046370.46	91.41	91.41
DISCCART	808017.94	4046399.52	91.38	91.38
DISCCART	807991.91	4046418.11	91.31	91.31
DISCCART	807932.81	4046417.24	91.32	91.32
DISCCART	807882.81	4046416.51	91.20	91.20
DISCCART	807832.82	4046415.77	90.71	90.71
DISCCART	807782.82	4046415.03	90.10	90.10
DISCCART	807732.83	4046414.30	90.09	90.09
DISCCART	807682.85	4046412.78	90.11	90.11
DISCCART	807632.85	4046412.83	90.08	90.08
DISCCART	807583.29	4046406.20	89.82	89.82
DISCCART	807532.66	4046411.36	89.98	89.98
DISCCART	807482.95	4046406.01	89.43	89.43
DISCCART	807432.95	4046405.29	88.76	88.76
DISCCART	807383.10	4046409.16	88.84	88.84
DISCCART	807333.11	4046408.42	88.76	88.76
DISCCART	807283.21	4046405.18	88.69	88.69
DISCCART	807233.22	4046406.21	88.79	88.79

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

DISCCART	807183.22	4046406.22	88.81	88.81
DISCCART	807133.55	4046400.50	88.31	88.31
DISCCART	807083.73	4046404.75	88.87	88.87
DISCCART	807033.90	4046400.62	88.62	88.62
DISCCART	806983.97	4046403.28	88.25	88.25
DISCCART	806933.98	4046402.55	88.78	88.78
DISCCART	806883.98	4046401.81	88.69	88.69
DISCCART	806833.99	4046401.08	88.74	88.74
DISCCART	806784.02	4046399.33	88.56	88.56
DISCCART	806734.02	4046399.61	88.50	88.50
DISCCART	806684.03	4046398.87	88.52	88.52
** Discrete Cartesian Plant Boundary - Primary Receptors				
** Plant Boundary Name PLBN1				
** DESCRREC "FENCEPRI" ""				
DISCCART	807897.40	4045628.70	92.09	92.09
DISCCART	807879.60	4045582.00	92.90	92.90
DISCCART	807861.90	4045535.20	93.68	93.68
DISCCART	807844.10	4045488.50	93.91	93.91
DISCCART	807826.30	4045441.80	93.63	93.63
DISCCART	807821.20	4045428.30	93.02	93.02
DISCCART	807804.40	4045396.90	92.89	92.89
DISCCART	807780.80	4045352.80	92.68	92.68
DISCCART	807757.20	4045308.80	92.44	92.44
DISCCART	807736.50	4045270.20	91.74	91.74
DISCCART	807733.30	4045264.80	91.64	91.64
DISCCART	807707.70	4045221.90	91.47	91.47
DISCCART	807682.00	4045179.00	91.52	91.52
DISCCART	807656.40	4045136.10	91.70	91.70
DISCCART	807632.00	4045095.20	91.69	91.69
DISCCART	807631.30	4045092.90	91.71	91.71
DISCCART	807617.60	4045044.80	91.59	91.59
DISCCART	807603.90	4044996.70	91.53	91.53
DISCCART	807603.80	4044996.50	91.53	91.53
DISCCART	807603.80	4044946.70	91.66	91.66
DISCCART	807603.80	4044909.00	91.55	91.55
DISCCART	807591.50	4044909.00	91.72	91.72
DISCCART	807541.50	4044909.00	91.99	91.99
DISCCART	807491.50	4044909.00	91.89	91.89
DISCCART	807441.50	4044909.00	91.83	91.83
DISCCART	807391.50	4044909.00	91.82	91.82
DISCCART	807341.50	4044909.00	91.83	91.83
DISCCART	807291.50	4044909.00	91.72	91.72
DISCCART	807241.50	4044909.00	91.64	91.64
DISCCART	807191.50	4044909.00	91.55	91.55
DISCCART	807141.50	4044909.00	91.53	91.53
DISCCART	807095.80	4044909.00	91.55	91.55
DISCCART	807095.80	4044913.30	91.55	91.55
DISCCART	807095.80	4044963.30	91.57	91.57
DISCCART	807095.80	4045013.30	91.56	91.56
DISCCART	807095.80	4045063.30	91.49	91.49
DISCCART	807095.80	4045113.30	91.32	91.32
DISCCART	807095.80	4045163.30	91.11	91.11
DISCCART	807095.80	4045213.30	90.83	90.83
DISCCART	807095.80	4045263.30	90.40	90.40
DISCCART	807095.80	4045313.30	90.15	90.15
DISCCART	807095.80	4045363.30	90.02	90.02
DISCCART	807095.80	4045413.30	90.55	90.55
DISCCART	807095.80	4045463.30	91.19	91.19
DISCCART	807095.80	4045513.30	91.56	91.56
DISCCART	807095.80	4045563.30	91.23	91.23
DISCCART	807095.80	4045577.90	91.05	91.05
DISCCART	807060.40	4045577.30	90.98	90.98
DISCCART	807010.40	4045576.40	90.81	90.81
DISCCART	806960.50	4045575.50	90.47	90.47
DISCCART	806910.50	4045574.60	90.14	90.14
DISCCART	806860.50	4045573.70	90.08	90.08
DISCCART	806810.50	4045572.80	90.06	90.06
DISCCART	806760.50	4045571.90	90.07	90.07
DISCCART	806710.50	4045571.00	90.03	90.03
DISCCART	806660.50	4045570.10	90.03	90.03

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

DISCCART	806610.50	4045569.20	90.03	90.03
DISCCART	806560.50	4045568.30	90.02	90.02
DISCCART	806510.50	4045567.40	90.00	90.00
DISCCART	806460.50	4045566.50	89.97	89.97
DISCCART	806410.50	4045565.60	89.93	89.93
DISCCART	806360.60	4045564.70	89.96	89.96
DISCCART	806311.10	4045563.80	90.03	90.03
DISCCART	806310.60	4045564.00	90.03	90.03
DISCCART	806264.90	4045584.30	90.05	90.05
DISCCART	806260.30	4045586.40	90.06	90.06
DISCCART	806229.50	4045619.10	90.03	90.03
DISCCART	806217.90	4045631.50	90.03	90.03
DISCCART	806211.70	4045664.00	90.03	90.03
DISCCART	806206.60	4045690.80	90.03	90.03
DISCCART	806205.90	4045713.50	90.03	90.03
DISCCART	806204.30	4045763.40	90.06	90.06
DISCCART	806202.60	4045813.40	89.58	89.58
DISCCART	806201.00	4045863.40	88.73	88.73
DISCCART	806199.40	4045913.40	88.49	88.49
DISCCART	806197.80	4045963.30	88.49	88.49
DISCCART	806196.20	4046013.30	88.50	88.50
DISCCART	806194.60	4046063.30	88.51	88.51
DISCCART	806193.00	4046113.30	88.53	88.53
DISCCART	806191.30	4046163.20	88.21	88.21
DISCCART	806189.70	4046213.20	87.51	87.51
DISCCART	806188.10	4046263.20	86.70	86.70
DISCCART	806186.90	4046300.50	86.93	86.93
DISCCART	806199.10	4046303.90	87.05	87.05
DISCCART	806247.20	4046317.50	87.04	87.04
DISCCART	806295.30	4046331.00	87.12	87.12
DISCCART	806343.50	4046344.60	87.13	87.13
DISCCART	806387.30	4046356.90	87.11	87.11
DISCCART	806391.80	4046357.00	87.10	87.10
DISCCART	806441.80	4046357.80	87.00	87.00
DISCCART	806491.80	4046358.60	88.48	88.48
DISCCART	806541.70	4046359.50	88.35	88.35
DISCCART	806591.70	4046360.30	87.78	87.78
DISCCART	806641.70	4046361.10	88.12	88.12
DISCCART	806691.70	4046361.90	88.00	88.00
DISCCART	806741.70	4046362.80	87.99	87.99
DISCCART	806791.70	4046363.60	87.94	87.94
DISCCART	806841.70	4046364.40	87.88	87.88
DISCCART	806891.70	4046365.20	87.77	87.77
DISCCART	806941.70	4046366.10	87.70	87.70
DISCCART	806991.70	4046366.90	87.41	87.41
DISCCART	807041.70	4046367.70	87.56	87.56
DISCCART	807070.30	4046368.20	87.59	87.59
DISCCART	807091.70	4046368.90	87.67	87.67
DISCCART	807141.60	4046370.60	87.69	87.69
DISCCART	807191.60	4046372.20	88.14	88.14
DISCCART	807241.60	4046373.90	88.21	88.21
DISCCART	807291.60	4046375.50	88.29	88.29
DISCCART	807341.50	4046377.20	88.37	88.37
DISCCART	807391.50	4046378.80	88.44	88.44
DISCCART	807411.90	4046379.50	88.47	88.47
DISCCART	807441.50	4046380.80	88.51	88.51
DISCCART	807491.40	4046382.90	89.18	89.18
DISCCART	807541.40	4046385.00	89.78	89.78
DISCCART	807591.30	4046387.10	89.79	89.79
DISCCART	807641.30	4046389.20	89.90	89.90
DISCCART	807691.20	4046391.30	89.95	89.95
DISCCART	807741.20	4046393.40	89.99	89.99
DISCCART	807744.90	4046393.60	90.00	90.00
DISCCART	807791.20	4046394.60	90.03	90.03
DISCCART	807841.20	4046395.80	90.83	90.83
DISCCART	807891.20	4046396.90	91.20	91.20
DISCCART	807941.10	4046398.10	91.34	91.34
DISCCART	807991.10	4046399.20	91.30	91.30
DISCCART	807996.20	4046399.30	91.31	91.31
DISCCART	808031.30	4046371.20	91.41	91.41

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

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DISCCART 808070.30 4046340.00 91.51 91.51
DISCCART 808109.10 4046309.00 91.42 91.42
DISCCART 808109.20 4046308.70 91.41 91.41
DISCCART 808121.60 4046260.20 91.69 91.69
DISCCART 808134.10 4046211.80 91.95 91.95
DISCCART 808134.50 4046210.20 91.98 91.98
DISCCART 808106.20 4046204.50 91.53 91.53
DISCCART 808106.80 4046185.00 91.63 91.63
DISCCART 808108.50 4046135.10 92.18 92.18
DISCCART 808110.20 4046085.10 91.98 101.17
DISCCART 808111.80 4046035.10 93.12 94.17
DISCCART 808111.90 4046032.30 93.53 94.17
DISCCART 808097.30 4045987.40 92.58 94.27
DISCCART 808081.90 4045939.90 91.87 94.35
DISCCART 808075.20 4045919.40 91.70 94.68
DISCCART 808052.60 4045919.40 91.36 91.36
DISCCART 808050.00 4045914.10 91.41 91.41
DISCCART 808027.90 4045869.30 91.43 98.58
DISCCART 808005.80 4045824.40 91.46 98.49
DISCCART 807983.80 4045779.60 91.58 98.05
DISCCART 807961.70 4045734.70 91.86 98.22
DISCCART 807959.50 4045730.30 91.80 98.22
DISCCART 807939.70 4045730.30 91.42 98.22
DISCCART 807930.00 4045707.00 91.44 98.23
DISCCART 807910.80 4045660.80 91.68 98.23
RE FINISHED
**
*****
** AERMOD Meteorology Pathway
*****
**
**
ME STARTING
SURFFILE "P:\Modeling\SIPs\AdeI\M7M\Met Data\STAGE_3\KCGI_KSGF_AERMINUTE_2018-USTAR.SFC"
PROFFILE "P:\Modeling\SIPs\AdeI\M7M\Met Data\STAGE_3\KCGI_KSGF_AERMINUTE_2018-USTAR.PFL"
SURFDATA 3935 2018
UAIRDATA 13995 2018 SPRINGFIELD/REGIONAL_ARPT
PROFBASE 104.0 METERS
ME FINISHED
**
*****
** AERMOD Output Pathway
*****
**
**
OU STARTING
RECTABLE ALLAVE 1ST 4TH
RECTABLE 1 1ST 4TH
PLOTFILE 1 ALL 1ST 1ST_NAQ-M7M-2018.PLT 31
PLOTFILE 1 ALL 4TH 4TH_NAQ-M7M-2018.PLT 32
OU FINISHED
**
*****
** Project Parameters
*****
** PROJCTN CoordinateSystemUTM
** DESCPTN UTM: Universal Transverse Mercator
** DATUM North American Datum 1983
** DTMRGN CONUS
** UNITS m
** ZONE 15
** ZONEINX 0
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Excerpt of Hourly Emissions file for New Madrid Power Plant (First 24 hours of each year, 2017-2019)

2017

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

SO HOUREMIS	17	1	1	1	NMPP01	243.7303	409.23	24.53
SO HOUREMIS	17	1	1	1	NMPP02	207.3295	411.68	20.522
SO HOUREMIS	17	1	1	2	NMPP01	249.5766	409.43	25.006
SO HOUREMIS	17	1	1	2	NMPP02	200.4374	411.83	20.133
SO HOUREMIS	17	1	1	3	NMPP01	256.9601	409.73	25.355
SO HOUREMIS	17	1	1	3	NMPP02	196.9725	412.11	20.054
SO HOUREMIS	17	1	1	4	NMPP01	250.3704	409.8	25.39
SO HOUREMIS	17	1	1	4	NMPP02	203.6252	412.04	20.35
SO HOUREMIS	17	1	1	5	NMPP01	232.3527	409.58	24.445
SO HOUREMIS	17	1	1	5	NMPP02	191.0884	411.9	18.914
SO HOUREMIS	17	1	1	6	NMPP01	251.9706	409.87	25.189
SO HOUREMIS	17	1	1	6	NMPP02	213.5538	412.04	20.452
SO HOUREMIS	17	1	1	7	NMPP01	258.9508	410.24	25.063
SO HOUREMIS	17	1	1	7	NMPP02	204.3812	412.46	20.698
SO HOUREMIS	17	1	1	8	NMPP01	247.1826	410.54	24.846
SO HOUREMIS	17	1	1	8	NMPP02	193.0036	412.66	19.49
SO HOUREMIS	17	1	1	9	NMPP01	249.6522	410.83	25.338
SO HOUREMIS	17	1	1	9	NMPP02	201.647	413.08	19.641
SO HOUREMIS	17	1	1	10	NMPP01	250.887	411.35	25.583
SO HOUREMIS	17	1	1	10	NMPP02	206.0443	413.43	20.184
SO HOUREMIS	17	1	1	11	NMPP01	238.9802	411.28	24.586
SO HOUREMIS	17	1	1	11	NMPP02	215.3178	413.43	20.889
SO HOUREMIS	17	1	1	12	NMPP01	257.9681	411.13	25.458
SO HOUREMIS	17	1	1	12	NMPP02	221.7059	413.29	21.478
SO HOUREMIS	17	1	1	13	NMPP01	252.4242	409.73	24.976
SO HOUREMIS	17	1	1	13	NMPP02	216.099	412.11	21.226
SO HOUREMIS	17	1	1	14	NMPP01	248.8206	409.73	24.851
SO HOUREMIS	17	1	1	14	NMPP02	215.595	412.11	21.12
SO HOUREMIS	17	1	1	15	NMPP01	242.9869	409.87	24.619
SO HOUREMIS	17	1	1	15	NMPP02	212.6844	412.53	20.879
SO HOUREMIS	17	1	1	16	NMPP01	237.4934	410.24	24.357
SO HOUREMIS	17	1	1	16	NMPP02	210.3283	412.66	20.698
SO HOUREMIS	17	1	1	17	NMPP01	223.621	410.32	22.629
SO HOUREMIS	17	1	1	17	NMPP02	198.7365	412.73	20.118
SO HOUREMIS	17	1	1	18	NMPP01	240.719	410.39	23.319
SO HOUREMIS	17	1	1	18	NMPP02	209.9251	412.87	20.503
SO HOUREMIS	17	1	1	19	NMPP01	239.2196	410.69	22.835
SO HOUREMIS	17	1	1	19	NMPP02	212.886	413.15	20.315
SO HOUREMIS	17	1	1	20	NMPP01	232.4283	410.83	22.266
SO HOUREMIS	17	1	1	20	NMPP02	207.5059	413.22	19.856
SO HOUREMIS	17	1	1	21	NMPP01	234.0285	410.91	22.542
SO HOUREMIS	17	1	1	21	NMPP02	211.6638	413.22	20.202
SO HOUREMIS	17	1	1	22	NMPP01	218.4803	410.83	21.452
SO HOUREMIS	17	1	1	22	NMPP02	194.2257	413.29	18.767
SO HOUREMIS	17	1	1	23	NMPP01	182.1677	410.83	18.816
SO HOUREMIS	17	1	1	23	NMPP02	180.1518	413.29	17.66
SO HOUREMIS	17	1	1	24	NMPP01	173.9275	411.06	17.935
SO HOUREMIS	17	1	1	24	NMPP02	161.8821	413.36	16.32

2018

SO HOUREMIS	18	1	1	1	NMPP01	252.3486	432.66	28.225
SO HOUREMIS	18	1	1	1	NMPP02	314.4025	432.42	28.417
SO HOUREMIS	18	1	1	2	NMPP01	249.4254	433.37	28.209
SO HOUREMIS	18	1	1	2	NMPP02	315.9901	433.38	28.624
SO HOUREMIS	18	1	1	3	NMPP01	256.0151	433.67	28.352
SO HOUREMIS	18	1	1	3	NMPP02	313.8229	433.74	28.451
SO HOUREMIS	18	1	1	4	NMPP01	263.3104	434.04	28.522
SO HOUREMIS	18	1	1	4	NMPP02	314.4655	433.88	28.519
SO HOUREMIS	18	1	1	5	NMPP01	253.2431	434.41	28.744
SO HOUREMIS	18	1	1	5	NMPP02	313.9615	434.16	28.491
SO HOUREMIS	18	1	1	6	NMPP01	253.4447	434.93	28.75
SO HOUREMIS	18	1	1	6	NMPP02	310.1942	434.72	28.187
SO HOUREMIS	18	1	1	7	NMPP01	251.4918	435.68	28.816
SO HOUREMIS	18	1	1	7	NMPP02	311.0006	435.29	28.297
SO HOUREMIS	18	1	1	8	NMPP01	252.3234	436.27	28.864
SO HOUREMIS	18	1	1	8	NMPP02	312.0086	435.71	28.416

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

SO HOUREMIS 18 1 1 9 NMPP01 266.3091 436.79 29.146
SO HOUREMIS 18 1 1 9 NMPP02 309.5516 436.14 28.22
SO HOUREMIS 18 1 1 10 NMPP01 262.1764 437.46 29.152
SO HOUREMIS 18 1 1 10 NMPP02 313.5457 436.91 28.634
SO HOUREMIS 18 1 1 11 NMPP01 257.3507 437.84 29.248
SO HOUREMIS 18 1 1 11 NMPP02 311.87 437.34 28.509
SO HOUREMIS 18 1 1 12 NMPP01 255.0071 437.24 29.184
SO HOUREMIS 18 1 1 12 NMPP02 312.7141 436.84 28.554
SO HOUREMIS 18 1 1 13 NMPP01 265.0491 436.27 29.156
SO HOUREMIS 18 1 1 13 NMPP02 315.4735 435.99 28.75
SO HOUREMIS 18 1 1 14 NMPP01 276.8047 435.53 29.113
SO HOUREMIS 18 1 1 14 NMPP02 318.7116 435.36 29.002
SO HOUREMIS 18 1 1 15 NMPP01 269.9883 435.3 29.083
SO HOUREMIS 18 1 1 15 NMPP02 316.7335 435.36 28.823
SO HOUREMIS 18 1 1 16 NMPP01 266.5359 435.3 29.022
SO HOUREMIS 18 1 1 16 NMPP02 314.4277 435.43 28.618
SO HOUREMIS 18 1 1 17 NMPP01 274.4486 435.45 29.051
SO HOUREMIS 18 1 1 17 NMPP02 315.9145 435.57 28.762
SO HOUREMIS 18 1 1 18 NMPP01 271.7018 435.6 28.898
SO HOUREMIS 18 1 1 18 NMPP02 317.7415 435.71 28.938
SO HOUREMIS 18 1 1 19 NMPP01 264.3562 435.6 28.642
SO HOUREMIS 18 1 1 19 NMPP02 313.6213 435.78 28.567
SO HOUREMIS 18 1 1 20 NMPP01 265.0995 435.9 28.791
SO HOUREMIS 18 1 1 20 NMPP02 318.888 435.78 29.047
SO HOUREMIS 18 1 1 21 NMPP01 264.7719 435.6 28.67
SO HOUREMIS 18 1 1 21 NMPP02 316.8469 435.71 28.857
SO HOUREMIS 18 1 1 22 NMPP01 260.2486 435.53 28.546
SO HOUREMIS 18 1 1 22 NMPP02 318.6612 435.5 29.007
SO HOUREMIS 18 1 1 23 NMPP01 250.9248 435.01 28.553
SO HOUREMIS 18 1 1 23 NMPP02 317.8297 434.87 28.889
SO HOUREMIS 18 1 1 24 NMPP01 252.1848 434.78 28.547
SO HOUREMIS 18 1 1 24 NMPP02 314.0371 434.51 28.522

2019

SO HOUREMIS 19 1 1 1 NMPP01 172.0123 406.77 19.697
SO HOUREMIS 19 1 1 1 NMPP02 185.6579 418.42 19.473
SO HOUREMIS 19 1 1 2 NMPP01 172.8565 407.48 20.046
SO HOUREMIS 19 1 1 2 NMPP02 188.644 419.06 19.175
SO HOUREMIS 19 1 1 3 NMPP01 169.7065 408.05 19.746
SO HOUREMIS 19 1 1 3 NMPP02 182.0921 419.56 18.424
SO HOUREMIS 19 1 1 4 NMPP01 171.0169 408.47 19.603
SO HOUREMIS 19 1 1 4 NMPP02 181.9787 419.84 18.236
SO HOUREMIS 19 1 1 5 NMPP01 184.8137 408.62 21.084
SO HOUREMIS 19 1 1 5 NMPP02 193.2681 419.7 18.929
SO HOUREMIS 19 1 1 6 NMPP01 204.5198 409.9 22.615
SO HOUREMIS 19 1 1 6 NMPP02 231.5337 421.04 22.18
SO HOUREMIS 19 1 1 7 NMPP01 256.4057 410.47 26.86
SO HOUREMIS 19 1 1 7 NMPP02 237.7958 421.81 23.022
SO HOUREMIS 19 1 1 8 NMPP01 282.7896 411.75 28.273
SO HOUREMIS 19 1 1 8 NMPP02 234.6207 423.01 23.108
SO HOUREMIS 19 1 1 9 NMPP01 281.8699 412.81 28.364
SO HOUREMIS 19 1 1 9 NMPP02 236.9768 423.93 23.224
SO HOUREMIS 19 1 1 10 NMPP01 278.5687 413.67 28.325
SO HOUREMIS 19 1 1 10 NMPP02 239.207 424.99 22.943
SO HOUREMIS 19 1 1 11 NMPP01 281.1517 413.88 28.286
SO HOUREMIS 19 1 1 11 NMPP02 239.3456 425.27 22.897
SO HOUREMIS 19 1 1 12 NMPP01 281.2903 413.24 27.75
SO HOUREMIS 19 1 1 12 NMPP02 237.9848 424.56 22.865
SO HOUREMIS 19 1 1 13 NMPP01 276.9685 412.81 27.656
SO HOUREMIS 19 1 1 13 NMPP02 233.6127 424.21 22.745
SO HOUREMIS 19 1 1 14 NMPP01 283.155 412.81 28.104
SO HOUREMIS 19 1 1 14 NMPP02 233.4363 424.35 23.091
SO HOUREMIS 19 1 1 15 NMPP01 280.1815 412.95 28.033
SO HOUREMIS 19 1 1 15 NMPP02 229.2153 424.42 23.325
SO HOUREMIS 19 1 1 16 NMPP01 280.1815 413.17 28.203
SO HOUREMIS 19 1 1 16 NMPP02 225.6874 424.71 23.222
SO HOUREMIS 19 1 1 17 NMPP01 275.0156 413.45 28.803

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

SO HOUREMIS 19 1 1 17 NMPP02 231.2313 424.78 22.555
SO HOUREMIS 19 1 1 18 NMPP01 275.9858 413.74 28.725
SO HOUREMIS 19 1 1 18 NMPP02 233.2347 425.06 22.544
SO HOUREMIS 19 1 1 19 NMPP01 279.5641 414.16 28.541
SO HOUREMIS 19 1 1 19 NMPP02 233.8521 425.48 22.963
SO HOUREMIS 19 1 1 20 NMPP01 281.1013 414.31 28.389
SO HOUREMIS 19 1 1 20 NMPP02 234.1923 425.48 23.252
SO HOUREMIS 19 1 1 21 NMPP01 279.9421 414.31 28.896
SO HOUREMIS 19 1 1 21 NMPP02 232.5669 425.55 23.395
SO HOUREMIS 19 1 1 22 NMPP01 278.8963 414.02 28.884
SO HOUREMIS 19 1 1 22 NMPP02 232.7307 425.2 23.458
SO HOUREMIS 19 1 1 23 NMPP01 289.5305 413.59 27.862
SO HOUREMIS 19 1 1 23 NMPP02 233.5623 424.64 23.484
SO HOUREMIS 19 1 1 24 NMPP01 281.0635 413.31 28.084
SO HOUREMIS 19 1 1 24 NMPP02 230.8659 424.21 23.06

Excerpt of AERMOD Output File (With maximum impact highlighted)

*** AERMOD - VERSION 19191 *** *** Magnitude 7 Metals - MDNR Analysis *** 02/04/20
*** AERMET - VERSION 19191 *** *** SO2 NAAQS *** 13:04:30
PAGE 1006
*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U* BUOYLINE
*** THE SUMMARY OF MAXIMUM 4TH-HIGHEST MAX DAILY 1-HR RESULTS AVERAGED OVER 1 YEARS ***
** CONC OF SO2 IN MICROGRAMS/M**3 **

2017

GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
ALL 1ST HIGHEST VALUE IS	1112.19537	AT (807996.20, 4046399.30, 91.31, 91.31, 0.00) DC
2ND HIGHEST VALUE IS	1087.94362	AT (807991.10, 4046399.20, 91.30, 91.30, 0.00) DC
3RD HIGHEST VALUE IS	1045.92164	AT (807991.91, 4046418.11, 91.31, 91.31, 0.00) DC
4TH HIGHEST VALUE IS	1045.92164	AT (807991.91, 4046418.11, 91.31, 91.31, 0.00) DC
5TH HIGHEST VALUE IS	998.86345	AT (808002.63, 4046448.22, 91.27, 91.27, 0.00) DC
6TH HIGHEST VALUE IS	939.60603	AT (807979.40, 4046422.79, 91.30, 91.30, 0.00) DC
7TH HIGHEST VALUE IS	924.73126	AT (808017.94, 4046399.52, 91.38, 91.38, 0.00) DC
8TH HIGHEST VALUE IS	811.64753	AT (808002.63, 4046548.22, 93.42, 94.80, 0.00) DC
9TH HIGHEST VALUE IS	810.39784	AT (808087.86, 4046081.06, 91.69, 91.69, 0.00) DC
10TH HIGHEST VALUE IS	766.04945	AT (808111.90, 4046032.30, 93.53, 94.17, 0.00) DC

2018

GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
ALL 1ST HIGHEST VALUE IS	1111.89869	AT (807996.20, 4046399.30, 91.31, 91.31, 0.00) DC
2ND HIGHEST VALUE IS	1105.10641	AT (807991.10, 4046399.20, 91.30, 91.30, 0.00) DC
3RD HIGHEST VALUE IS	1046.78326	AT (807991.91, 4046418.11, 91.31, 91.31, 0.00) DC
4TH HIGHEST VALUE IS	1046.78326	AT (807991.91, 4046418.11, 91.31, 91.31, 0.00) DC
5TH HIGHEST VALUE IS	1012.79555	AT (808002.63, 4046448.22, 91.27, 91.27, 0.00) DC
6TH HIGHEST VALUE IS	977.79488	AT (807979.40, 4046422.79, 91.30, 91.30, 0.00) DC
7TH HIGHEST VALUE IS	878.07154	AT (808017.94, 4046399.52, 91.38, 91.38, 0.00) DC
8TH HIGHEST VALUE IS	867.63353	AT (808087.86, 4046081.06, 91.69, 91.69, 0.00) DC
9TH HIGHEST VALUE IS	819.51906	AT (808085.67, 4046031.11, 91.75, 91.75, 0.00) DC
10TH HIGHEST VALUE IS	788.31705	AT (808002.63, 4046548.22, 93.42, 94.80, 0.00) DC

2019

GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
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Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

ALL 1ST HIGHEST VALUE IS 1113.53890 AT (807996.20, 4046399.30, 91.31, 91.31, 0.00) DC
 2ND HIGHEST VALUE IS 1105.17706 AT (807991.10, 4046399.20, 91.30, 91.30, 0.00) DC
 3RD HIGHEST VALUE IS 1041.56088 AT (807991.91, 4046418.11, 91.31, 91.31, 0.00) DC
 4TH HIGHEST VALUE IS 1041.56088 AT (807991.91, 4046418.11, 91.31, 91.31, 0.00) DC
 5TH HIGHEST VALUE IS 996.80326 AT (807979.40, 4046422.79, 91.30, 91.30, 0.00) DC
 6TH HIGHEST VALUE IS 995.98179 AT (808002.63, 4046448.22, 91.27, 91.27, 0.00) DC
 7TH HIGHEST VALUE IS 856.32355 AT (808017.94, 4046399.52, 91.38, 91.38, 0.00) DC
 8TH HIGHEST VALUE IS 778.30983 AT (808085.67, 4046031.11, 91.75, 91.75, 0.00) DC
 9TH HIGHEST VALUE IS 770.85424 AT (808002.63, 4046548.22, 93.42, 94.80, 0.00) DC
 10TH HIGHEST VALUE IS 752.15052 AT (808087.86, 4046081.06, 91.69, 91.69, 0.00) DC

Excerpt of Meteorological Files (KCGI/KSGF 2017-2019) First 24 hours of each file (surface .sfc and profile .pfl files)

Surface (.sfc)

37.2255N 89.5786W UA_ID: 13995 SF_ID: 03935 OS_ID: VERSION: 19191 THRESH_1MIN = 0.50 m/s; ADJ_U*
 CCVR_Sub TEMP_Sub
 17 1 1 1 1 -24.7 0.245 -9.000 -9.000 -999. 292. 66.2 0.0200 0.68 1.00 3.86 11.0 7.9 278.8 2.0 0 0.00 85. 1002. 10 ADJ-
 SFC NoSubs
 17 1 1 1 2 -18.1 0.179 -9.000 -9.000 -999. 184. 35.4 0.0200 0.68 1.00 2.86 28.0 7.9 278.1 2.0 0 0.00 88. 1003. 10 ADJ-
 SFC NoSubs
 17 1 1 1 3 -28.4 0.281 -9.000 -9.000 -999. 357. 86.7 0.0210 0.68 1.00 4.36 44.0 7.9 278.1 2.0 0 0.00 85. 1004. 10 ADJ-
 SFC NoSubs
 17 1 1 1 4 -31.8 0.314 -9.000 -9.000 -999. 423. 108.8 0.0210 0.68 1.00 4.86 43.0 7.9 278.1 2.0 0 0.00 85. 1004. 10 ADJ-
 SFC NoSubs
 17 1 1 1 5 -24.8 0.245 -9.000 -9.000 -999. 294. 66.2 0.0210 0.68 1.00 3.83 47.0 7.9 278.1 2.0 0 0.00 85. 1003. 10 ADJ-
 A1 NoSubs
 17 1 1 1 6 -27.6 0.273 -9.000 -9.000 -999. 342. 81.8 0.0210 0.68 1.00 4.24 51.0 7.9 277.5 2.0 0 0.00 85. 1004. 10 ADJ-
 A1 NoSubs
 17 1 1 1 7 -29.3 0.290 -9.000 -9.000 -999. 374. 92.2 0.0210 0.68 1.00 4.49 53.0 7.9 277.5 2.0 0 0.00 85. 1004. 10 ADJ-
 A1 NoSubs
 17 1 1 1 8 -22.5 0.228 -9.000 -9.000 -999. 262. 56.9 0.0200 0.68 0.65 3.59 65.0 7.9 277.5 2.0 0 0.00 85. 1005. 10 ADJ-
 A1 NoSubs
 17 1 1 1 9 -6.9 0.282 -9.000 -9.000 -999. 359. 292.4 0.0200 0.68 0.35 4.29 70.0 7.9 278.1 2.0 0 0.00 82. 1005. 10 ADJ-
 A1 NoSubs
 17 1 1 1 10 7.5 0.306 0.196 0.008 35. 405. -340.1 0.0200 0.68 0.25 4.51 62.0 7.9 278.1 2.0 0 0.00 82. 1006. 10 ADJ-
 A1 NoSubs
 17 1 1 1 11 14.6 0.251 0.292 0.007 61. 304. -97.7 0.0200 0.68 0.22 3.61 62.0 7.9 278.8 2.0 0 0.00 78. 1005. 10 ADJ-
 A1 NoSubs
 17 1 1 1 12 18.3 0.224 0.353 0.007 86. 255. -55.2 0.0210 0.68 0.20 3.12 38.0 7.9 279.2 2.0 0 0.00 79. 1005. 10 ADJ-
 A1 NoSubs
 17 1 1 1 13 18.5 0.291 0.380 0.008 106. 376. -119.0 0.0200 0.68 0.20 4.20 28.0 7.9 279.9 2.0 0 0.00 78. 1003. 10 ADJ-
 A1 NoSubs
 17 1 1 1 14 15.1 0.252 0.364 0.007 114. 305. -95.0 0.0210 0.68 0.21 3.59 35.0 7.9 280.4 2.0 0 0.00 76. 1003. 10 ADJ-
 A1 NoSubs
 17 1 1 1 15 8.3 0.251 0.302 0.007 117. 302. -169.6 0.0210 0.68 0.25 3.63 41.0 7.9 280.4 2.0 0 0.00 76. 1003. 10 ADJ-
 A1 NoSubs
 17 1 1 1 16 -2.5 0.192 -9.000 -9.000 -999. 203. 257.2 0.0210 0.68 0.35 2.91 50.0 7.9 280.9 2.0 0 0.00 73. 1003. 10 ADJ-
 A1 NoSubs
 17 1 1 1 17 -24.9 0.259 -9.000 -9.000 -999. 316. 73.8 0.0210 0.68 0.62 4.03 51.0 7.9 280.4 2.0 0 0.00 76. 1004. 10 ADJ-
 A1 NoSubs
 17 1 1 1 18 -20.1 0.200 -9.000 -9.000 -999. 216. 44.2 0.0200 0.68 1.00 3.18 66.0 7.9 280.4 2.0 0 0.00 76. 1004. 10 ADJ-
 A1 NoSubs
 17 1 1 1 19 -23.1 0.230 -9.000 -9.000 -999. 265. 58.2 0.0200 0.68 1.00 3.63 73.0 7.9 279.9 2.0 0 0.00 82. 1004. 10 ADJ-
 A1 NoSubs
 17 1 1 1 20 -18.5 0.184 -9.000 -9.000 -999. 190. 37.2 0.0200 0.68 1.00 2.93 79.0 7.9 279.9 2.0 0 0.00 82. 1004. 10 ADJ-
 A1 NoSubs
 17 1 1 1 21 -7.0 0.102 -9.000 -9.000 -999. 80. 13.6 0.0200 0.68 1.00 1.69 67.0 7.9 279.9 2.0 0 0.00 85. 1004. 10 ADJ-
 A1 NoSubs
 17 1 1 1 22 -6.7 0.100 -9.000 -9.000 -999. 76. 13.4 0.0210 0.68 1.00 1.65 59.0 7.9 279.9 2.0 0 0.00 88. 1004. 10 ADJ-
 A1 NoSubs

Appendix D - Modeling Files - Magnitude 7 Metals and New Madrid Power Plant

17 1 1 1 23 -6.2 0.096 -9.000 -9.000 -999. 71. 12.8 0.0200 0.68 1.00 1.60 26.0 7.9 279.9 2.0 0 0.00 88. 1004. 10 ADJ-
A1 NoSubs
17 1 1 1 24 -5.2 0.088 -9.000 -9.000 -999. 62. 11.6 0.0200 0.68 1.00 1.47 28.0 7.9 279.9 2.0 0 0.00 88. 1004. 10 ADJ-
A1 NoSubs

Profile (.pfl)

17	1	1	1	7.9	1	11.0	3.86	5.60	99.00	99.00
17	1	1	2	7.9	1	28.0	2.86	5.00	99.00	99.00
17	1	1	3	7.9	1	44.0	4.36	5.00	99.00	99.00
17	1	1	4	7.9	1	43.0	4.86	5.00	99.00	99.00
17	1	1	5	7.9	1	47.0	3.83	5.00	99.00	99.00
17	1	1	6	7.9	1	51.0	4.24	4.40	99.00	99.00
17	1	1	7	7.9	1	53.0	4.49	4.40	99.00	99.00
17	1	1	8	7.9	1	65.0	3.59	4.40	99.00	99.00
17	1	1	9	7.9	1	70.0	4.29	5.00	99.00	99.00
17	1	1	10	7.9	1	62.0	4.51	5.00	99.00	99.00
17	1	1	11	7.9	1	62.0	3.61	5.60	99.00	99.00
17	1	1	12	7.9	1	38.0	3.12	6.10	99.00	99.00
17	1	1	13	7.9	1	28.0	4.20	6.70	99.00	99.00
17	1	1	14	7.9	1	35.0	3.59	7.20	99.00	99.00
17	1	1	15	7.9	1	41.0	3.63	7.20	99.00	99.00
17	1	1	16	7.9	1	50.0	2.91	7.80	99.00	99.00
17	1	1	17	7.9	1	51.0	4.03	7.20	99.00	99.00
17	1	1	18	7.9	1	66.0	3.18	7.20	99.00	99.00
17	1	1	19	7.9	1	73.0	3.63	6.70	99.00	99.00
17	1	1	20	7.9	1	79.0	2.93	6.70	99.00	99.00
17	1	1	21	7.9	1	67.0	1.69	6.70	99.00	99.00
17	1	1	22	7.9	1	59.0	1.65	6.70	99.00	99.00
17	1	1	23	7.9	1	26.0	1.60	6.70	99.00	99.00
17	1	1	24	7.9	1	28.0	1.47	6.70	99.00	99.00



www.aeci.org • 417-881-1204 • FAX 417-885-9252
2814 S. Golden, P.O. Box 754 Springfield, Missouri 65801-0754

April 2, 2020

Air Pollution Control Program
Missouri Department of Natural Resources
PO Box 176
Jefferson City, MO 65102

To Whom It May Concern;

**Re: Comments on 2010 1-hour Sulfur Dioxide (SO₂) Standard: December 2020 Designations:
Proposed Area Boundary Recommendations – New Madrid County**

These comments are filed on behalf of AECI regarding the above-referenced matter.

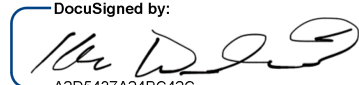
AECI appreciates the MDNR's willingness to accept input from the regulated community as it has developed the recommendation regarding designating a portion of the St. Jude Industrial Park as non-attainment for the one-hour SO₂ Standard. This comment is not an objection either to the designation or to the boundary to which the designation applies. Instead, AECI is providing these comments to underscore that the administrative record reflects that, although the boundary of the nonattainment area includes AECI's power plant property, AECI is NOT contributing to one-hour SO₂ non-attainment in the area proposed for designation.

The additional information shared with MDNR during the development of the proposed designation that supports AECI's lack of impact on one-hour SO₂ non-attainment is as follows:

- February 2015 – Sharing of air dispersion modeling files with MDNR to verify modeling results. That modeling shows the New Madrid Power Plant's highest single impact for SO₂ was 70.65 µg/m³ (36% of the 1-hour SO₂ NAAQS of 196 µg/m³) at monitor 3 (the West Entrance monitor) which monitor shows attainment of the 1-hour SO₂ NAAQS. See MDNR Proposed Area Boundary Recommendation Appendix A at Table 1 p. 3 (March 26, 2020 Public Hearing).

We appreciate the opportunity to comment on the above-referenced designation and welcome any questions regarding this comment.

Sincerely,

DocuSigned by:

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April 2, 2020

Via Electronic Mail

Air Pollution Control Program
Missouri Department of Natural Resources
P.O. Box 176
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Re: Comments to Proposed Area Boundary Recommendations for the 2010 Sulfur Dioxide Standard: December 2020 Designations

To Whom It May Concern:

Please accept these comments regarding the Proposed Area Boundary Recommendations for the 2010 Sulfur Dioxide Standard prepared by the Missouri Department of Natural Resources (“MDNR”) for the Missouri Air Conservation Commission (hereinafter, “Proposed Recommendations”). As is outlined below, the Proposed Recommendations propose a non-attainment area that is too limited in scope, and therefore, would fail to adequately protect the health of residents of New Madrid County. Further, the Proposed Recommendations contravene clear EPA regulatory guidance regarding the designation of non-attainment boundaries, as well as the modeling and monitoring for compliance with the sulfur dioxide (“SO₂”) National Ambient Air Quality Standards (“NAAQS”). As a result, the undersigned respectfully requests that the MDNR revise the Proposed Recommendations to address their serious failings.

I. Elevated Levels of Sulfur Dioxide Pollution Pose a Serious Public Health Threat in New Madrid County, an Area Clearly Overburdened With Pollution.

Several industries located in the New Madrid area emit thousands of tons of SO₂ into the air that people who live, work, and recreate in the community breathe. An overwhelming weight of scientific evidence shows that even short-term exposure to elevated levels of SO₂ pollution poses a serious public health threat. The 1-hour SO₂ NAAQS was revised in 2010 to help reduce the exact public health threat that New Madrid County residents face every day.

A. Sulfur Dioxide Pollution Poses a Serious Public Health Threat.

Current scientific evidence on the harmful health effects of sulfur dioxide is well-established. Sulfur dioxide, a colorless gas with a pungent odor, enters the body primarily through inhalation¹ and reacts with the mucous membranes of the lungs and upper respiratory tract to form sulfurous acid, a severe irritant.² According to the Agency for Toxic Substances and Disease Registry (a federal public health agency of the U.S. Department of Health and Human Services):

People with asthma can experience increased airway resistance with sulfur dioxide concentrations of less than 0.1 ppm [“parts per million”] when exercising. Healthy adults experience increased airway resistance at 5 ppm, sneezing and coughing at 10 ppm, and bronchospasm at 20ppm. Respiratory protection is required for exposures at or above 20 ppm. Exposures of 50 to 100 ppm may be tolerated for more than 30 to 60 minutes, but higher or longer exposures can cause death from airway obstruction. Sulfur dioxide is heavier than air; thus, exposure in poorly ventilated, enclosed, or low-lying areas can result in asphyxiation.

Children exposed to the same levels of sulfur dioxide as adults may receive a larger dose because they have greater lung surface area [to] body weight ratios and increased minute volumes [to] weight ratios. In addition, they may be exposed to higher levels than adults in the same location because of their short stature and the higher levels of sulfur dioxide found nearer to the ground and because they are slow to leave the site of an exposure.³

¹ Sulfur dioxide can also be absorbed through the skin and other mucous membranes (like the eyes) where the chemical also acts as an extreme irritant. Agency for Toxic Substances & Disease Registry, *Sulfur Dioxide (SO₂)* CAS 7446-09-5; UN 1079, at 5-6, available at <http://www.atsdr.cdc.gov/MHMI/mmg116.pdf> (emphasis added) (hereinafter “ATSDR Sulfur Dioxide”).

² *Id.* at 1. Sulfur dioxide in the ambient air can also react with other chemicals and convert to a small particle that can lodge deeply in the most sensitive part of the lung. EPA, *Sulfur Dioxide Basics*, available at <https://www.epa.gov/so2-pollution/sulfur-dioxide-basics#what-is-so2> (last visited April 1, 2020).

³ ATSDR Sulfur Dioxide at 1-2; see also Agency for Toxic Substances & Disease Registry, *Public Health Statement Sulfur Dioxide* 2-3 (Dec. 1998), available at <http://www.atsdr.cdc.gov/ToxProfiles/tp116-c1-b.pdf>.

Symptoms of sulfur dioxide inhalation include “sneezing, sore throat, wheezing, shortness of breath, chest tightness, and a feeling of suffocation.”⁴ Sulfur dioxide respiratory irritation can also induce fluid accumulation in the larynx and lungs and inflammation of lung tissue. Strikingly, many of these adverse respiratory effects can occur even with only short-term exposure to sulfur dioxide (five minutes to 24 hours). The negative health impacts of sulfur dioxide inhalation become much more prevalent in asthmatics, children, the elderly, and those with cardiovascular or chronic lung disease (bronchitis, emphysema), all of whom are especially sensitive to the effects of sulfur dioxide and may be affected by lower concentrations than healthy adults.

B. The 1-Hour SO₂ NAAQS.

U.S. EPA promulgated initial primary and secondary NAAQS for SO₂ in 1971.⁵ On June 2, 2010, U.S. EPA revised the primary SO₂ NAAQS, recognizing that the prior 24-hour and annual primary SO₂ standards did not adequately protect the public against adverse respiratory effects associated with short term (five minutes to 24 hours) SO₂ exposure.⁶ The new 2010 SO₂ NAAQS standard is a 1-hour standard set at 196 micrograms per cubic meter (“μg/m³”) or 75 parts per billion (“ppb”).⁷ The “standard is met...when the three-year average of the annual (99th percentile) of the daily maximum 1-hour average concentrations is less than or equal to 75 ppb.”⁸ Due to both the shorter averaging time and the numerical difference, the new 1-hour SO₂ NAAQS is far more stringent than the prior standard. On July 20, 2012, the U.S. Circuit Court of Appeals for the District of Columbia upheld the 1-hour SO₂ NAAQS.⁹

U.S. EPA must set the NAAQS at a level adequate to protect public health with an adequate margin of safety.¹⁰ Relying upon years of research, and an extensive notice and comment process, U.S. EPA established the new 1-hour SO₂ NAAQS because a substantial body of scientific evidence demonstrated that exposure to SO₂ in even very short time periods—such as five minutes—causes decrements in lung function, aggravation of asthma, and respiratory and cardiovascular morbidity, and that the then-existing NAAQS were inadequate to protect public health from such impacts. These findings were thoroughly documented in an Integrated Science Assessment¹¹ completed as part of the NAAQS evaluation, and in the final NAAQS rule itself.¹²

⁴ ATSDR Sulfur Dioxide at 5.

⁵ EPA originally set the primary standard for SO₂ at 0.14 parts per million (“ppm”), 24-hour average, and 0.03 ppm, annual average. EPA, *Sulfur Dioxide (SO₂) Primary Standards - Table of Historical SO₂ NAAQS*, available at http://www.epa.gov/ttn/naaqs/standards/so2/s_so2_history.html (last visited April 1, 2020).

⁶ EPA, *Final Rule for the Primary National Ambient Air Quality Standard for Sulfur Dioxide*, 75 Fed. Reg. 35,520, 35,550 (June 22, 2010) (hereinafter “2010 SO₂ NAAQS”).

⁷ 40 C.F.R. § 50.17(a).

⁸ *Id.* § 50.17(b).

⁹ *Nat’l Envtl. Defense Ass’n’s Clean Air Project v. EPA*, 686 F.3d 803 (D.C. Cir. 2012).

¹⁰ 42 U.S.C. § 7409(b).

¹¹ EPA, *Integrated Science Assessment for Sulfur Oxides—Health Criteria*, EPA/600/R-08/047F, at 5-3–5-4, Tables 5-1, 5-2 (2008).

¹² 75 Fed. Reg. at 35,524-29.

Based on this strong scientific evidence, U.S. EPA has estimated that the 1-hour SO₂ NAAQS will prevent 2,300-5,900 premature deaths and 54,000 asthma attacks a year.¹³

C. The Impact of the New SO₂ NAAQS on New Madrid County.

The promulgation of the new 1-hour SO₂ NAAQS triggered a process by which U.S. EPA is required to designate areas that are failing to attain the NAAQS.¹⁴ EPA has promulgated designations under this standard in multiple phases. During initial phases, EPA designated only portions of Jackson and Jefferson County. Subsequent rounds of designations are required pursuant to a consent decree between the Sierra Club, the Natural Resources Defense Council and EPA. Two additional rounds of SO₂ non-attainment designations have taken place pursuant to that consent decree. The final round, which must be completed by December 31, 2020, requires EPA to designate all remaining undesignated areas. Areas violating the new 2010 SO₂ standard must be designated as non-attainment. Non-attainment areas should encompass the area violating a standard, as well as nearby areas that contain sources contributing to the violation. EPA considers county boundaries to be the “analytical starting point for non-attainment designations.

New Madrid County exceeds the new SO₂ standard, and falls within the final round of areas to be designated. Pursuant to that final round, MDNR has prepared the Proposed Recommendations that it intends to submit to EPA. The Proposed Recommendations make clear that the area contains two sources that significantly exceed the new SO₂ standard, as well as several other sources that appear to further contribute to the area’s exceedances. However, rather than address all of these sources in its Proposed Recommendations, MDNR has chosen to endorse a significantly limited approach that will designate as nonattainment only the boundaries of the two sources with significant exceedances. This approach fails to address the health concerns of New Madrid County. Further, it fails to follow clear EPA regulatory guidance on the subject. In order to properly address all sources of SO₂ in the County and to follow EPA guidance, MDNR must revise and broaden its recommendations for nonattainment designations to incorporate all or most of New Madrid County.

The dangers posed to human health by SO₂ pollution are especially concerning in New Madrid County, which has been dealing with high concentrations of SO₂ and other air pollutants for decades. This pollution has caused significant adverse and cumulative health effects such as respiratory disorders. Health data collected by the Missouri Department of Health shows that residents of New Madrid County experience persistent negative respiratory health effects.¹⁵ In particular, New Madrid County inhabitants experience more ER visits, hospitalizations and deaths as a result of chronic obstructive pulmonary disease (“COPD”) and generalized chronic

¹³ EPA, *Final Regulatory Impact Analysis (RIA) for the SO₂ National Ambient Air Quality Standards (NAAQS)*, at 5-35, Table 5.14 (2010).

¹⁴ 42 U.S.C. § 7407(d)(1)(B)(i).

¹⁵ Missouri Department of Health and Senior Services, “Missouri Resident Chronic Disease Comparisons Profile,” available at <https://healthapps.dhss.mo.gov/MoPhims/ProfileBuilder?pc=5> (last visited April 2, 2020).

lower respiratory disease than other residents of Missouri.¹⁶ In addition, chronic lower respiratory disease is the third leading cause of death for residents of New Madrid County.¹⁷ The death rate due to such conditions is almost twice as high within the County as it is statewide. Whether or not these health effects have been caused by air pollution in New Madrid County, they certainly increase the susceptibility of the County's community to health effects resulting from the elevated SO₂ present in the County, driving home the need for MDNR and EPA to address this issue properly.

In addition to these persistent health effects, pollution in New Madrid County appears to be taking a toll on educational achievement in the County. This is consistent with scholarship that has shown that schools located in areas with high levels of air pollution often fail to meet state educational standards.¹⁸ True to that form, New Madrid County R-I School District consistently performs below state averages for academic achievement in language arts, math and science.¹⁹ Additionally, schools located in areas with high air pollution levels often experience lower school attendance rates, as attendance rates are a potential indicator of poor health.²⁰ Consistent with this finding, students in New Madrid County have lower attendance rates than statewide averages.²¹ MDNR should properly address SO₂ issues within the County, to ensure that air pollution does not continue to contribute to these educational failings.

III. The Proposed Recommendations for New Madrid County Are Seriously Deficient and Must be Revised to Better Protect Residents' Health and to Comply with Clear EPA Regulatory Guidance.

To better protect the health of residents of New Madrid County and to comply with clear EPA regulatory guidance, MDNR must: (1) designate a significant area of New Madrid County as non-attainment; (2) undertake additional monitoring prior to designating a non-attainment area in New Madrid County; (3) broaden its model to include SO₂ sources in the county other than only M7M and NMPP, or employ a monitoring strategy instead; (4) include sufficient numbers or locations of receptors in its model; (5) revise its model to incorporate allowable emissions rather than actual emissions, so that the model relies on sufficient data; (6) adequately characterize background concentrations; and (7) properly address area weather and geography in its model. Without consideration of these concerns, MDNR risks causing negative public health impacts to residents in New Madrid County in violation of the CAA.

¹⁶ *Id.*

¹⁷ Missouri Department of Health and Senior Services, "Missouri Resident Death – Leading Causes Profile," available at <https://healthapps.dhss.mo.gov/MoPhims/ProfileBuilder?pc=10> (last visited April 2, 2020).

¹⁸ Paul Mohai et al., *Air Pollution Around Schools Is Linked To Poorer Student Health And Academic Performance*, Health Affairs vol. 30, no. 5, 852-62 (May 2011), available at <http://content.healthaffairs.org/content/30/5/852.full.html> (last visited April 1, 2020).

¹⁹ Missouri Department of Education, "Missouri School Improvement Program District APR Summary Report for New Madrid County R-I school District," available at https://apps.dese.mo.gov/MCDS/Reports/SSRS_Print.aspx?Reportid=5b421746-8f31-475e-b736-ae83f1329b74 (last visited April 2, 2020).

²⁰ See note 18.

²¹ See Note 19.

A. MDNR Improperly Failed to Designate a Significant Area of New Madrid County as Non-Attainment.

MDNR should designate the entirety of New Madrid County as nonattainment, rather than the extremely limited site-specific area it has proposed to designate. Nonattainment is defined as “[a]n area that, based on available information including (but not limited to) monitoring data and/or appropriate modeling analyses, EPA has determined either: (1) does not meet the 2010 SO₂ NAAQS, or (2) contributes to ambient air quality in a nearby area that does not meet the NAAQS.”²² As a result, “[a] nonattainment area should contain the area violating the NAAQS (e.g., the area around a violating monitor or encompassing modeled violations), as well as any nearby areas (e.g., counties or portions thereof) that contain emissions sources contributing to the violation. (See CAA section 107(d)(1)(A)(i)).”²³ EPA has indicated that it “intends to use the county boundary as the analytical starting point for assessing the appropriate geographic boundaries of an SO₂ nonattainment area.”²⁴ In direct conflict with this policy, however, MDNR has proposed limiting the New Madrid County nonattainment area to a specific and extremely limited site-specific area. Doing so makes no sense, especially when MDNR acknowledges there are no less than seven other SO₂ sources located within the County that are potentially contributing to the New Madrid area’s violation of the 2010 SO₂ NAAQS.

Even if a partial county boundary were to be used as the designation, EPA “recommends the use of well-defined jurisdictional lines such as township borders or other well-established geopolitical boundaries, and immovable landmarks such as major roadways or other permanent and readily identifiable physical features.”²⁵ To comply with this recommendation, MDNR could draw proposed boundaries to include Interstate 55 to the west, and the northern city limits of New Madrid to the north. Doing so would incorporate all nine SO₂ sources in the County, and be significantly more inclusive of the impact those sources have on the County.

EPA has explained that “[a]ny information provided to support a boundary recommendation for a nonattainment area should show that: 1) violations are not occurring in nearby portions that are excluded from the recommended nonattainment area; and 2) the excluded portions of the recommended nonattainment area do not contain emission sources that contribute to the violation.”²⁶ MDNR has failed to make this showing, other than by stating that:

The air program evaluated the use of township or county boundaries to establish the recommended nonattainment area, but found that using either of these geopolitical boundaries would unnecessarily increase the size of the recommended boundary, which

²² U.S. EPA Memorandum, “Area Designations for the 2010 Primary Sulfur Dioxide National Ambient Air Quality Standard – Round 4” at Attachment 2, Sept. 25, 2019.

²³ *Id.* at 5.

²⁴ *Id.*

²⁵ *Id.* at 6.

²⁶ *Id.*

could potentially confound the mandatory planning and enforcement requirements that will be needed to address the nonattainment area.²⁷

In other words, MDNR did not want to place the remainder of the sources in the County in the non-attainment area so that these sources would not have to limit their SO₂ emissions. This is a disturbing strategy, in light of the serious health effects that will result from their decision. The model should be revised to address these concerns and the additional SO₂ sources should be included within the non-attainment area to ensure public health is protected as required by the CAA.

B. MDNR Should Have Undertaken Additional Monitoring Prior to Proposing the Area Boundaries.

MDNR should have undertaken or required additional monitoring before it issued the Proposed Recommendations. It is clear from the record that insufficient monitoring data exists in New Madrid County, and that MDNR accepted this dearth of monitoring data. EPA explained in the Technical Assistance Document issued to assist states implementing the new SO₂ NAAQS that “[s]tates have the flexibility to characterize air quality using modeling of actual emissions or using appropriately sited existing and new monitors. These data would be used in two future rounds of designations in 2017 (based on modeling) and 2020 (based on new monitoring).”²⁸ In addition, EPA explained that “[a]lthough there is already an existing SO₂ monitoring network, the EPA expects that some air agencies may consider using new or repurposed monitoring resources to provide additional air quality data to satisfy the SO₂ DRR. The EPA expects monitoring conducted in response to the SO₂ DRR to be targeted, source-oriented monitoring, for which the primary objective would be to identify peak SO₂ concentrations in the ambient air that are attributable to an identified emission source or group of sources.”²⁹ MDNR has not conducted any additional new monitoring, nor has it called for the need to do so. Instead, it bases its recommendations entirely upon modeling. This is contrary to EPA guidance. MDNR should require additional monitoring, and use that data to better evaluate its boundary recommendations.

C. MDNR Should Broaden its Model to Include SO₂ Sources in the County Other Than Only M7M and NMPP, or Employ a Monitoring Strategy Instead.

EPA guidance calls for the inclusion in modeling of any sources contributing to emissions exceedances. Yet MDNR has included only two SO₂ sources in its model, contrary to this clear guidance. In its Modeling TAD, EPA explains that “[t]he determination of modeling domains and number of sources to consider for modeling should begin with analyzing the spatial distributions of sources that meet or exceed the emissions threshold established in the data requirements rule. The modeling domains could be centered over these sources.”³⁰ It further

²⁷ Proposed Recommendations, Appendix A at 35.

²⁸ U.S. EPA, SO₂ NAAQS Designations Modeling Technical Assistance Document (hereinafter, “Modeling TAD”) at 2, August 2016.

²⁹ *Id.*

³⁰ Modeling TAD at 7.

explains that “[t]he goal of determining other sources to model is to determine those sources that could cause or contribute to a NAAQS violation in the vicinity of the source that exceeds the EPA emissions threshold. Emissions, source parameters, and proximity to the target source are items for consideration.”³¹ EPA considers sources within a few kilometers of each other to be appropriate for modeling together.³² Heartland Asphalt is located within 9 kilometers of M7M. Bunge North American is within 12 kilometers. Both are close enough that they should have been included in MDNR’s model.

Alternatively, the distribution of SO₂ sources within New Madrid County may have made a monitoring strategy more appropriate in this case. EPA has explained that “[i]n many cases, there may also be sources that are below the anticipated EPA thresholds within the potential modeling domains of the large sources. If there are sufficient numbers of these types of sources near the large sources, then these areas may wish to consider a monitoring strategy rather than conducting modeling that characterizes (either by explicit modeling or background concentrations) all of the sources.”³³ Monitoring may provide a more appropriate strategy in this case.

As a last resort, EPA mandates that other sources be taken into account through the establishment of background concentrations. “Other sources in the area, i.e. those not causing significant concentration gradients in the vicinity of the source of interest, should be included in the modeling via monitored background concentrations.”³⁴ MDNR has failed to include any of the other seven SO₂ sources within the County in its model, either as explicit sources, or as background concentrations. The net effect of this approach is that MDNR’s proposed area boundary fails to properly address the impact of the nonattainment designation on the nearby communities of New Madrid, Howardville or Marston. The residents of the County risk suffering serious health consequences as a result. MDNR should broaden its model to include other sources, or should employ a monitoring strategy instead.

D. MDNR Did Not Include Sufficient Numbers or Locations of Receptors in its Model.

MDNR’s model fails to include a sufficient number of receptors to evaluate all sources of SO₂ in the County, or to properly evaluate the impact of M7M or NMPP on the remainder of the County. EPA has indicated that modeling receptors should be “of sufficient density to provide resolution needed to detect significant gradients in the concentrations.”³⁵ Receptors should be placed closer together near the source to detect local gradients and placed farther apart away from the source.³⁶ In addition, receptors should be placed around key ambient air boundaries for individual sources.³⁷ “If modeling indicates elevated levels of SO₂ (near or above the standard)

³¹ *Id.*

³² *Id.*

³³ *Id.*

³⁴ *Id.*

³⁵ *Id.* at 9.

³⁶ *Id.*

³⁷ *Id.*

near the edge of the receptor grid, expanding the grid or conducting an additional modeling run centered on the area of concern should be considered.”³⁸ Here, the receptors appear to have been limited to M7M, and do not extend to any of the farther reaches of the County.

In such circumstances, EPA has indicated that:

Depending on the complexities of the source and the environment to which the source is located, a dense array of receptors may be required in some cases. In order to avoid unreasonably large computer runs due to an excessively large array of receptors, it is often desirable to model the area twice. The first model run would use a moderate number of receptors more resolved near the new or modifying source and over areas of interest. The second model run would modify the receptor network from the first model run with a denser array of receptors in areas showing potential for high concentrations and possible violations, as indicated by the results of the first model run.³⁹

It is possible that MDNR needs to conduct two models in order to properly address all of the impacts of SO₂ on New Madrid County. In any event, it is clear that the current model is insufficient.

E. MDNR’s Model for New Madrid Relies on Insufficient Data and Should Be Revised to Incorporate Allowable Rather than Actual Emissions.

MDNR’s model for New Madrid relies on insufficient data. EPA has made clear that “[i]n the absence of CEMS data, simply dividing the annual emissions by the number of hours in the year ... is not an accurate representation of actual emissions for sources that experience emissions rate variability throughout the year and should not be used.”⁴⁰ As no CEMS data exists for M7M, MDNR appears to have determined M7M’s emissions through mass balance worksheets and by dividing monthly emissions by number of hours. For the same reason that annual emissions data is insufficient, this type of data fails to satisfy EPA’s minimum requirements for models pursuant to its guidance.

In addition, EPA mandates that models be based on at least 3 years of data.⁴¹ Here, MDNR admits it does not have three years of data from M7M, and as a result, considered only one year or less in several of its scenarios. This clearly does not comply with the minimum requirements of proper modeling technique required by EPA guidance.

In circumstances where insufficient data exists such as in the case of M7M, EPA suggests instead modeling through the use of allowable emissions. “It also remains acceptable to use allowable emissions instead of actuals for designations purposes because allowable emissions

³⁸ *Id.*

³⁹ U.S. EPA, “The Guideline on Air Quality Models” (hereinafter, “Modeling Guidance”), 40 C.F.R. Part 51, Appendix W at § 9.2.2(d).

⁴⁰ Modeling TAD at 11.

⁴¹ *Id.*

would provide a more conservative estimate.”⁴² It would make more sense for MDNR to utilize M7M’s allowable emissions in its model instead of the inadequate data it is relying on in its proposed non-attainment designation.

Finally, the Modeling TAD recommends use of actual stack heights for modeling.⁴³ The Proposed Recommendations do not indicate whether the New Madrid model complies with this requirement for either M7M or NMPP. Further, the Modeling TAD mandates accurate characterization of the modeled physical layout of the source.⁴⁴ Again, MDNR has not made clear whether it addressed this issue in its model. Both issues should be clarified prior to any designation to ensure compliance with EPA guidance.

F. MDNR Has Failed to Adequately Characterize Background Concentrations.

MDNR’s model for New Madrid County fails to adequately characterize background concentrations. The model ignores the impact of sources other than M7M and NMPP on background concentrations, and fails to address the impact of meteorological conditions on such levels as well. EPA clearly mandates the use of a multi-source model to establish the impact of multiple sources on background concentrations.⁴⁵ MDNR ignored this clear requirement, and instead utilizes a fixed background concentration for all sources other than M7M and NMPP.

Further, EPA guidance documents suggest agencies include, at a minimum, a wind rose and a pollution rose (“i.e., a depiction of monitored pollutant concentrations as a function of wind direction and/or other meteorological factors”), for purposes of assessing the representativeness of the background concentrations.⁴⁶ MDNR appears to have omitted these required elements as well in its proposed designation. The Proposed Recommendations should be updated to ensure compliance with EPA guidance.

G. MDNR Model for New Madrid Fails to Properly Address Area Weather and Geography.

MDNR’s model fails to adequately address New Madrid area weather and geography. MDNR has failed to utilize any localized weather data in its models in direct contravention to clear EPA guidance. Further, MDNR has failed to adequately address the unique geography of the New Madrid area. The model needs to be revised to address both issues.

EPA has time and time again made it clear that site-specific measured data are vastly preferred for model input.⁴⁷ EPA has explained its rationales for this preference:

⁴² Modeling TAD at 10.

⁴³ *Id.* at 22.

⁴⁴ *Id.* at 23.

⁴⁵ Modeling Guidance at § 8.3.3; U.S. EPA, “Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO₂ Ambient Air Quality Standard (Hereinafter, “Additional Clarification Memo,”) at 13, March 1, 2011.

⁴⁶ Additional Clarification Memo at 14.

⁴⁷ *See, e.g.*, Modeling Guidance at §§ 8.4.4.1(a) and 8.4.4.2(a); Modeling TAD at 27.

There are a number of sources from which meteorological data might be obtained for the monitoring site evaluation process, including on-site data, the National Weather Service (NWS), the Federal Aviation Administration (FAA), AQS, AIRNow-Tech, universities, and military facilities, among others. Of these data sources, the most valuable data for this application are meteorological data collected very nearby or even on the property of an identified SO₂ emitting facility (i.e., on-site or “site specific” data), if those data are of adequate quality. These on-site data typically have very good spatial representativeness of the area in which the identified SO₂ source is situated, and thus, provide the best information to understand the actual conditions in which SO₂ emissions are being dispersed.⁴⁸

NWS data is only to be used when site specific data is not available, or in addition to such site specific data.⁴⁹

In the event that local or otherwise similar and suitable meteorological data sources are not available, there may be merit in considering installing instrumentation for a more localized data record going forward, for use in future evaluations of monitoring or modeling data.⁵⁰

In the Proposed Recommendations, MDNR has ignored this clear guidance. MDNR should have used site specific weather data, not NWS data from hundreds of miles away in Springfield, or even 80 kilometers away in Cape Girardeau. If such data is truly not available, MDNR must utilize data from other sources in the New Madrid area, reflecting the meteorological conditions of the area. In addition, MDNR should consider installing additional instrumentation for use in future modeling or monitoring of the area.

Further, it is not clear from the New Madrid models that MDNR properly considered the unique geography of the area in its models. EPA has explained that:

The geographic setting of an SO₂ source can have substantial impacts on emissions dispersion and thus on the appropriate location or locations of any source-oriented SO₂ monitors. States should evaluate both the immediate and larger scale geographic setting of each potential identified SO₂ source to understand if plume or emissions behavior are routinely subject to topographic, terrain, or water-body influenced air flows, particularly if they are not choosing to model to inform their monitoring site placement process.⁵¹

⁴⁸ U.S. EPA, “SO₂ NAAQS Designations Source-Oriented Monitoring Technical Assistance Document” (hereinafter, “Monitoring TAD”) at 6, February 2016.

⁴⁹ Modeling Guidance at §§ 8.4.3.2(d) and 8.4.3.2(e).

⁵⁰ *Id.*

⁵¹ Monitoring Guidance at 6-7.

In many parts of the United States, the ground is neither flat nor is the ground cover (or land use) uniform. These geographical variations can generate local winds and circulations, and modify the prevailing ambient winds and circulations.⁵²

These issues are particularly important when sources are located on and near the shoreline of bodies of water, such as is the case in the New Madrid area.⁵³ While MDNR admits that “the Mississippi river valley does form the eastern county boundary which could cause some localized meteorological effects in the eastern portion of the modeling domain,” it is unclear how exactly it has incorporated those potential effects into its model. Similarly, it is not clear that MDNR’s model integrates any other unique geographical characteristics of the New Madrid area. The model must be updated to address such characteristics.

III. Conclusion

It is indisputable that New Madrid County has experienced elevated levels of SO₂ pollution for a significant time. It is also indisputable that SO₂ pollution poses a serious public health threat. Accordingly, it cannot be argued that the residents of New Madrid County, as well as its communities of New Madrid, Howardville and Marston, have been and will continue to be at increased risk of suffering adverse health effects until regulatory authorities address this pollution. The Proposed Recommendations purport to commence the process of doing so by designating a non-attainment area, but fall seriously short. Not only are the Proposed Recommendations under-inclusive, but they fail to comply with applicable EPA guidance. To ensure adequate protection of New Madrid County residents’ health, and to comply with applicable EPA regulatory guidance, MDNR must: (1) designate a significant area of New Madrid County as non-attainment; (2) undertake additional monitoring prior to designating a non-attainment area in New Madrid County; (3) broaden its model to include SO₂ sources in the county other than only M7M and NMPP, or employ a monitoring strategy instead; (4) include sufficient numbers or locations of receptors in its model; (5) revise its model to incorporate allowable emissions rather than actual emissions, so that the model relies on sufficient data; (6) adequately characterize background concentrations; and (7) properly address area weather and geography in its model. Until it properly addresses these issues, MDNR will allow negative public health impacts to continue to impact residents in New Madrid County in violation of the CAA.

Finally, while we urge you to consider our comments, we also request that you extend the comment period for the Proposed Recommendations in light of the evolving situation concerning the coronavirus (“COVID-19”) pandemic. The global public health pandemic has already reached over 213,000 cases here in the United States, and claimed the lives of more than 4,500 Americans.⁵⁴ It is also increasingly affecting all aspects of public life in the United States. Americans engage in the administrative process in numerous ways, including by attending public

⁵² Modeling Guidance at § 7.2.1.2(a).

⁵³ Modeling Guidance at § 7.2.1.2(a)(ii).

⁵⁴ Centers for Disease Control and Prevention, “Cases in U.S.,” available at <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html> (last visited April 2, 2020).

hearings or submitting comments on agency actions subject to notice and comment procedures. The right of the American people to comment on proposed government actions is invariably affected by the ongoing pandemic. We are concerned that the disruptions caused by COVID-19 will deprive citizens, local communities, and other stakeholders the opportunity to engage with MDNR on the Proposed Recommendations. Accordingly, we respectfully request you extend the comment deadline by at least 45 days.

Thank you for your attention to this matter.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Sarah Rubenstein', with a stylized, flowing script.

Sarah Rubenstein
Staff Attorney
Great Rivers Environmental Law Center



MAGNITUDE 7 Metals

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April 2, 2020

Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, Missouri 65102-0176

RE: Magnitude 7 Metals, Installation No. 143-008
Comments on MDNR's Proposed Area Boundary Recommendations for the 2010 Sulfur Dioxide Standard

To whom it may concern:

Magnitude 7 Metals (M7M) appreciates the opportunity to comment on the MDNR's recent publication: *Proposed Area Boundary Recommendations for the 2010 Sulfur Dioxide Standard: December 2020 Designations*. M7M owns and operates the aluminum plant in New Madrid County. The MDNR is proposing to designate the area that encompasses the M7M aluminum plant as well as the neighboring Associated Electric Cooperative, Inc. (AECI) power plant as nonattainment. The nonattainment boundary would be the property boundary of the two plants. The MDNR is proposing to designate the rest of New Madrid County as attainment/unclassifiable.

M7M has reviewed the MDNR's publication and related technical documentation and agrees with the MDNR's proposed nonattainment boundary recommendation. M7M recognizes that there have been measured SO₂ concentrations in the vicinity of the plant that result in design values that are in excess of the 1-hour NAAQS. M7M also understands that in addition to the measured SO₂ concentrations, MDNR relied on the EPA's air dispersion model, AERMOD, to characterize the possible peaks and extent of the SO₂ concentrations in the area around the plant. M7M has concerns about the ability of AERMOD to appropriately characterize the dispersion of emissions from the aluminum plant. The model results represented in the MDNR's publication for the nonattainment boundary in some scenarios are much higher than the measured SO₂ concentrations. One of the algorithms used in the model, the algorithm for predicting the impact of buildings on stack plumes, has not been evaluated for its accuracy at aluminum plants, and could be biasing the results.

Please call me at 573-643-0023 if you have questions or comments on the above comments.

Sincerely,

Charles Reali, CEO
Magnitude 7 Metals LLC

cc: Kasi Dubbs, Trinity Consultants