

Missouri Department of

**Natural Resources**

# **Revisions to the State Implementation Plan for the 2008 Lead National Ambient Air Quality Standard**

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Public Hearing  
Missouri Air Conservation Commission  
February 5, 2013  
Jefferson City, MO

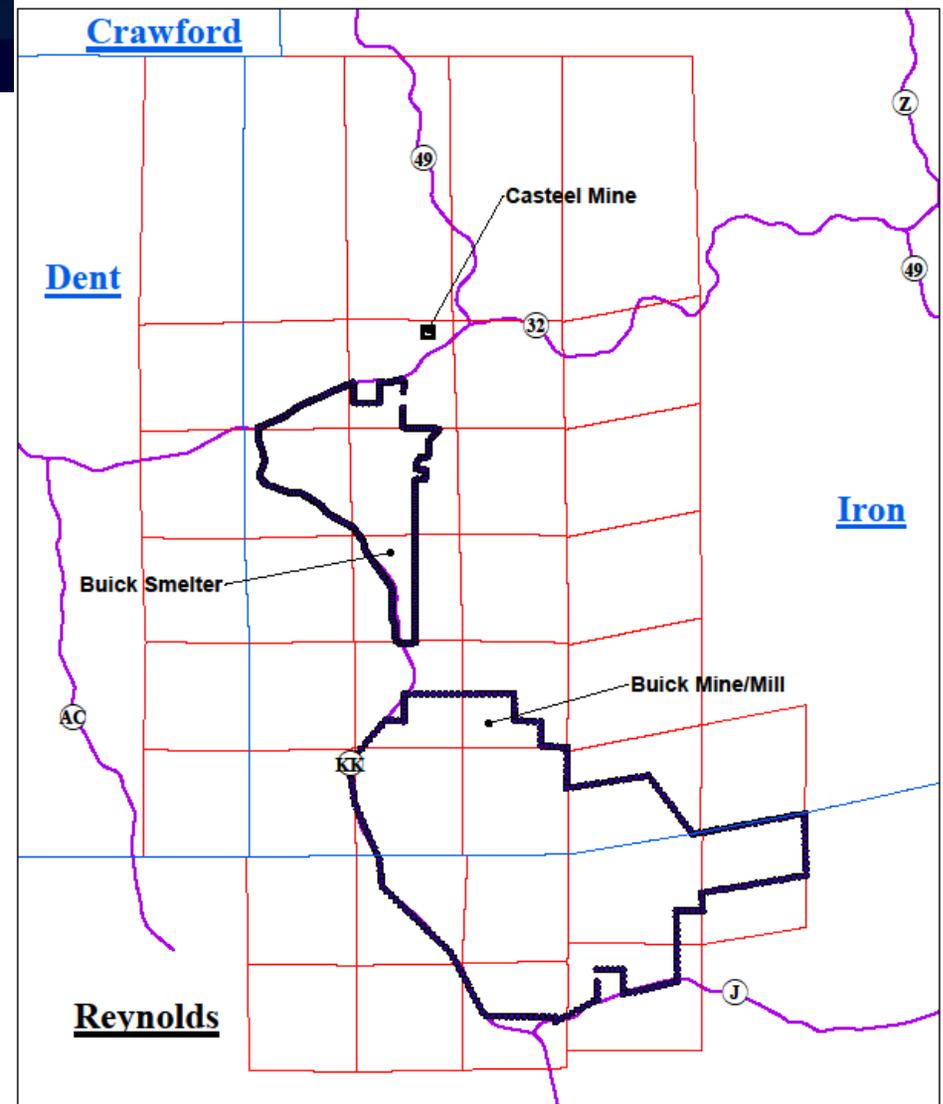
## **2008 Lead National Ambient Air Quality Standard (NAAQS)**

- New lead NAAQS established October 15, 2008
- Level of standard strengthened from  $1.5 \mu\text{g}/\text{m}^3$  to  $0.15 \mu\text{g}/\text{m}^3$
- Form of standard changed from quarterly to three-month rolling average

## Buick/Viburnum Trend

On November 22, 2010, EPA designated boundaries for the Buick/Viburnum Trend nonattainment area.

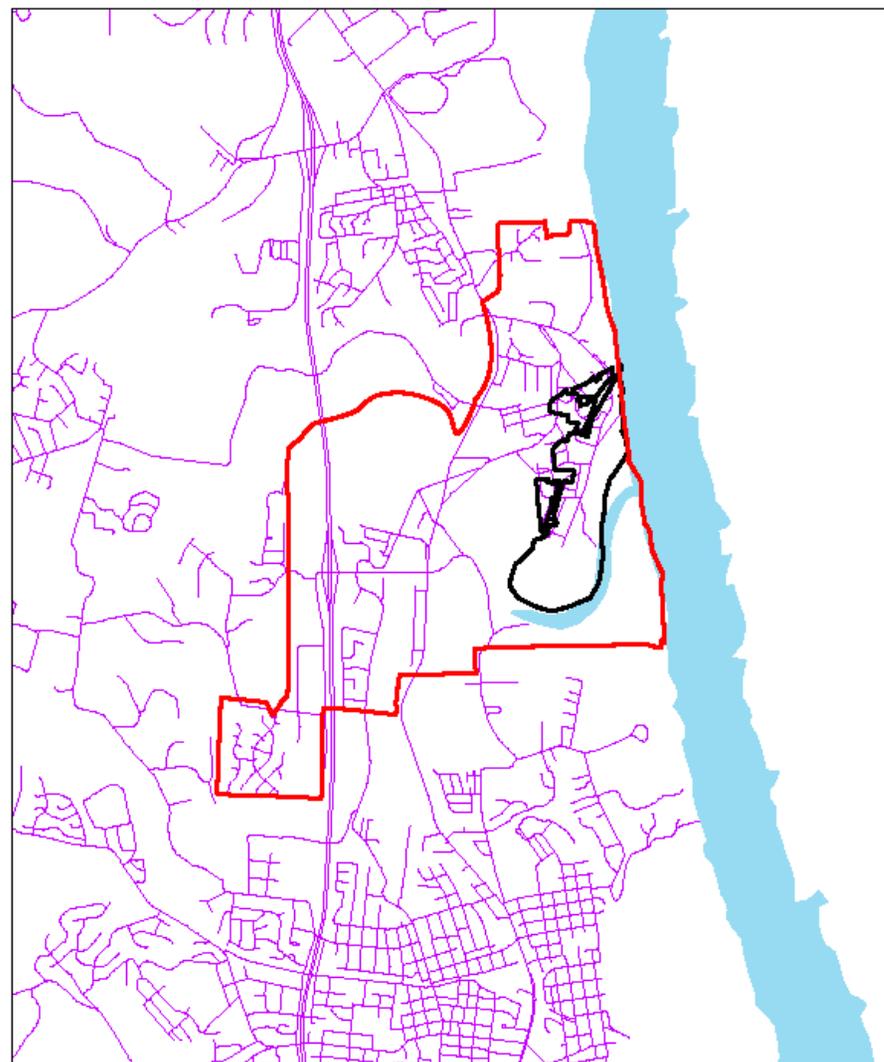
For the three-month rolling average ending in November 2010, the maximum monitored concentration was  $0.718 \mu\text{g}/\text{m}^3$ .



## Herculaneum NAA

On November 22, 2010, EPA designated boundaries for the Herculaneum nonattainment area.

For the three-month rolling average ending in November 2010, the maximum monitored concentration was  $0.730 \mu\text{g}/\text{m}^3$ .



## **Section 172(c) SIP Requirements**

- Ambient air monitoring and air quality data
- Emission inventory
- Control strategy and attainment demonstration
- Reasonably Available Control Measures (RACM) &  
Reasonably Available Control Technology (RACT)
- Reasonable Further Progress (RFP)
- Contingency measures

## **Air Dispersion Models**

- Base year emissions, monitoring, and meteorological data
- Future year model run
  - Emission rates associated with permanent and enforceable controls
- Result is best estimate of future ambient air concentrations

## 2013 Consent Judgments

- Permanent & Enforceable Measures, Including
  - New Control Measures & Projects
  - Production and Emission Limits
  - Required Practices and Procedures
  - Contingency Measures
  - Penalty Provisions
  - Dispute Resolution Provisions



## **Missouri State Implementation Plan Revision**

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### **Attainment Demonstration for the 2008 Lead National Ambient Air Quality Standard**

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### **Buick/Viburnum Trend Lead Nonattainment Area**

**Public Hearing  
February 5, 2013**

**Bob Randolph**



## **Recycling Facility Lead Process Areas**

- Drum Shredder
- Blast Furnace
- Reverberatory Furnace
- Sulfur/Particulate Removal Area
- Casting Area
- Refinery

**Maximum Achievable Control Technology  
40 CFR 63 Subpart X – Revised January 5, 2012**

**Requirements included in Attainment Demo**

- Total enclosure of process buildings and storage areas
- Ventilation of process buildings to achieve negative pressure
- Work practice procedures

## Secondary Lead Smelter Stack Emission Limits

<b>Stack Name</b>	<b>Stack ID</b>	<b>Emission Limitation</b>
<b>Main Stack</b>	<b>EP 8</b>	<b>0.7 lb/hour</b>
<b>New Blast Furnace Process &amp; Building Ventilation Baghouse</b>	<b>EP 100</b>	<b>0.7 lb/hour</b>
<b>Drum Shredder Baghouse</b>	<b>EP 31C</b>	<b>0.025 lb/hour</b>
<b>Reverberatory Furnace Slag Tap Ventilation Baghouse</b>	<b>EP 71</b>	<b>0.08 lb/hour</b>
<b>North Refinery Baghouse</b>	<b>EP 72</b>	<b>0.006 lb/hour</b>

## **Other Control Measures**

### **Recycling Facility**

- Install new baghouses & reconnect existing baghouses
- Install new stack & extend existing stack
- Improve truck washing, kettle ventilation, quick-close doors

### **Mines/Mills**

- Complete mine shaft vent modifications
- Install/extend exterior fences to preclude public access

## Attainment Modeling Results

<b>Maximum 3-Month Average Concentration</b>
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0.148 $\mu\text{g}/\text{m}^3$
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## **Contingency Measures**

- Ventilate reverberatory feed storage building
- Conduct fugitive emission reduction study and implement controls
- Pave inbound truck parking lot
- Evaluate ventilation capacity at main baghouse



## **Missouri State Implementation Plan Revision**

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### **Attainment Demonstration for the 2008 Lead National Ambient Air Quality Standard**

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### **Herculaneum Lead Nonattainment Area**

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**Current Operations:  
Doe Run – Herculaneum  
Primary Lead Smelter**

(Current lead production limit = 130,000 tons per year)

- **Sinter Plant** – converts mined lead ore concentrate (PbS) to sinter
  - Byproduct =  $\text{SO}_2$
- **Blast Furnace** – reducing furnace yields molten lead & slag
- **Refinery** – dross is skimmed off top, lead is refined & cast
- **Strip Mill** – casts long strips of flat rolled lead

## **2011 Federal Consent Decree Control Herculaneum Measures**

### **Shutdown**

#### Smelting Operations

- Sinter Plant: cease by 12/31/2013
- Blast Furnace: cease by 4/30/2014

## **Future Plans**

- Innovative “New Technology” Plant
  - **not** moving forward as of June 2012
- Retain some operations at
  - Strip mill
  - Building currently known as refinery
- No additional land reuse decisions at this time

## **Remaining Operations**

### **Strip Mill**

- Continue to “cast” lead strip for customers

### **Former Refinery**

- No longer refining / drossing. Lead brought in for:
  - Re-Melting
  - Casting
  - Alloy-Mixing

## **New Control Measures**

### Strip Mill:

- Production Limit: 3,750 tons cast lead per 3-months rolling

### Former Refinery:

1. Baghouse 8 Emission Limit: 3.5 pounds per day, &
2. Baghouse 9 Emission Limit: 3.5 pounds per day, &
3. Scenario A - Production Limit: 21,250 tons per 3-months, OR
4. Scenario B - Alternative to #3:
  - Production Limit: 62,500 tons per 3-months
  - Route the kettle heat stacks to baghouse 9 and increase capacity of baghouse 9

## Attainment Modeling Results

<b>Controls</b>	<b>Max 3-Month Average Conc.</b>
Scenario A – Production Limits @ strip mill & former refinery	0.117 $\mu\text{g}/\text{m}^3$
Scenario B – Same as A, but increased former refinery production limit & route kettle heat to baghouse 9	0.098 $\mu\text{g}/\text{m}^3$

## **Contingency Measures**

- Increase the in-plant road cleaning times
- Fugitive emission reduction study and implement controls
- Route emissions from kettle heat stacks to baghouse 9
- Route baghouse 9 emissions to the main stack
- Add baghouse ventilation to strip mill

## Comments

The public comment period closes on February 13, 2013.

<http://www.dnr.mo.gov/env/apcp/stateplanrevisions.htm>

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## Questions?