



## Air Quality Analysis for Lead

To determine if an area surrounding a monitor is in compliance with the national ambient air quality standard (NAAQS) for lead, EPA and the Missouri Department of Natural Resources look at the average of three months of data. Does that average exceed the standard? The lead standard has been 0.15 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) since 2008, when EPA tightened the standard by a factor of ten. The standard had been 1.5 micrograms per cubic meter.

Also in 2008, EPA required states to operate source-oriented monitors -- particularly near sources with one ton or more of annual lead emissions. Two years later, EPA strengthened the mandate, requiring states to operate monitors near sources annually emitting a half ton or more of lead. Today, the state of Missouri operates 10 lead monitoring stations near sources of lead emissions and one site in St. Louis. In addition, the department provides oversight and quality assurance for 10 lead monitoring sites operated by the Doe Run Co. Monitoring sites are shown on the following map.

The following table lists three-month average concentrations for airborne lead during the last twelve months. The data become part of EPA's Air Quality System database. Yellow highlighting draws attention to concentrations that exceeded the standard. In the past, data exceeded the lead standard near Doe Run's primary lead smelter in Herculaneum, which closed in 2013; near the Buick secondary smelter; and near the Forest City secondary smelter. Data from Glover and from Herculaneum after closure of that facility have also exceeded the standard; however, these upswings resulted from demolition at the facilities. By modifying its demolition procedure, Doe Run reduced the ambient air concentration of lead.

Since 2014, only air monitoring stations near the Buick and Herculaneum facilities have produced data exceeding the standard. Both Doe Run and the state operate lead air monitors near these facilities. The department's Air Pollution Control Program continues to work with Doe Run to help it come into compliance at all locations.

For more information about lead, see the following EPA website, which includes links to additional information on health effects, standards, implementation and other information:  
[epa.gov/lead-air-pollution](http://epa.gov/lead-air-pollution)



## Preliminary 3-Month Average Lead Concentrations, March 2017-April 2018, micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ )

Updated 6/15/2018

Site numbers correspond to map legend.

Blue highlight indicates non-ambient sites, i.e., sites within a facility fence-line.  
Yellow highlight (if any) indicates exceedance of the National Ambient Air Quality Standard (0.15 microgram per cubic meter).

Samples are collected for 24 hours every sixth day except as noted below.

EPA's Air Quality System (AQS) does not have a report that will calculate and provide three-month rolling averages for each month. The values in this table are calculated from data reported to AQS by the department. These values may differ slightly from subsequent AQS averages if reports of averages become available or from design values (maximum 3-month average in a 3-year period).

### State Sites

Area/Site	Mar-May 2017	Apr-Jun 2017	May-Jul 2017	Jun-Aug 2017	Jul-Sep 2017	Aug-Oct 2017	Sep-Nov 2017	Oct-Dec 2017	Nov-Jan 2017-18	Dec-Feb 2017-2018	Jan-Mar 2018	Feb-Apr 2018
<b>Forest City Area</b>												
1. Exide Levee	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
<b>St. Louis Area</b>												
2. Blair St.*	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01
<b>Herculaneum Area</b>												
3. Pevely**	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01				
4. Sherman^	0.02	0.02	0.03	0.02	0.02	0.01	0.02	0.02	0.04	0.04	0.04	0.02
5. Dunklin High School^	0.03	0.04	0.04	0.03	0.03	0.03	0.03	0.02	0.03	0.02	0.02	0.02
6. Mott St.^	0.07	0.06	0.06	0.06	0.08	0.20	0.20	0.20	0.09	0.11	0.08	0.10
7. Ursuline North	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01
<b>Old Lead Belt Area</b>												
8. St. Joe State Park	0.01	0.02	0.03	0.02	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00
<b>New Lead Belt Area</b>												
9. Glover	0.02	0.02	0.02	0.01	0.01	0.00	0.01	0.01	0.02	0.02	0.02	0.00
10. Buick Northeast	0.10	0.09	0.13	0.08	0.08	0.03	0.07	0.07	0.09	0.05	0.06	0.04
11. Oates	0.02	0.01	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04
12. Fletcher***	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.02	0.03	0.03

\*Blair St. measures PM10 lead by a federal equivalent method as part of the NATTS program. Analysis results are sometimes received later than from other sites.

\*\*Pevely discontinued at the end of 2017.

^Sherman and Dunklin High School sites sampled every 3 days through 2017, then every 6 days. Averages include all samples.

^^Mott St. site samples every day. Averages include all samples.

\*\*\*Fletcher collected valid sample on only 1 day out of 5 scheduled in March 2017.

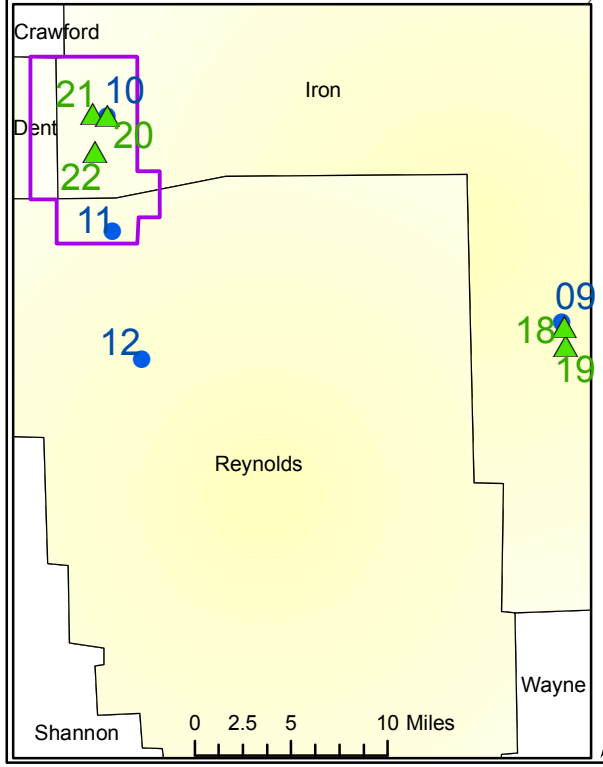
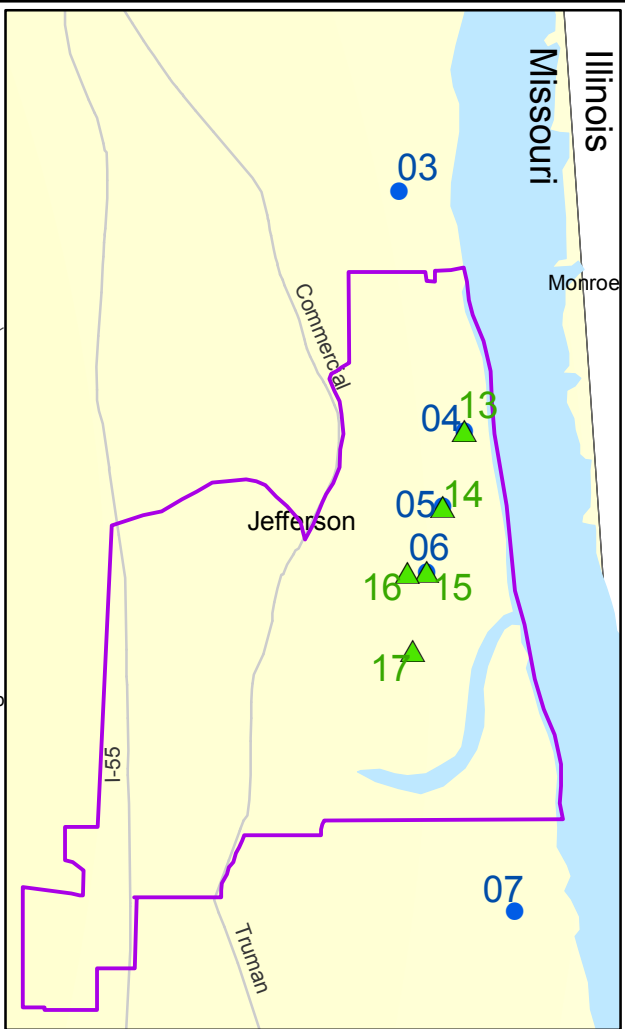
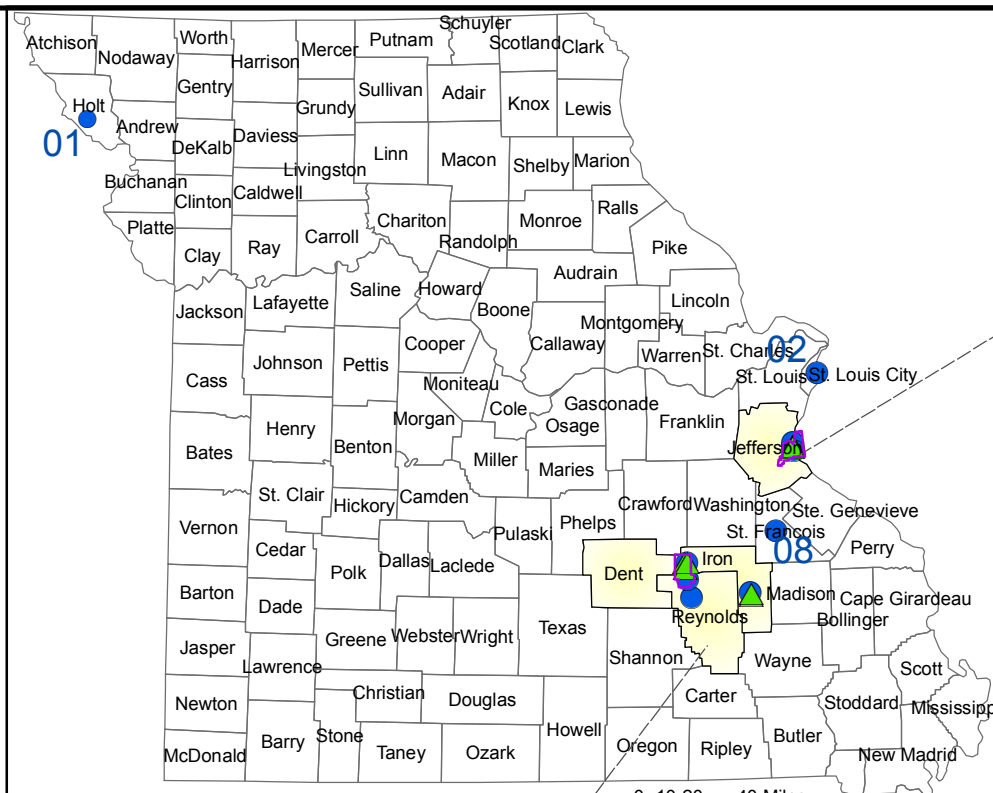
Preliminary 3-month average above (shown in blue) is therefore based on incomplete data. AQS will calculate final 3-month averages using substitution of earlier data; results may be slightly different.

### Doe Run Operated Sites

Area/Site	Mar-May 2017	Apr-Jun 2017	May-Jul 2017	Jun-Aug 2017	Jul-Sep 2017	Aug-Oct 2017	Sep-Nov 2017	Oct-Dec 2017	Nov-Jan 2017-18	Dec-Feb 2017-2018	Jan-Mar 2018	Feb-Apr 2018
<b>Herculaneum Area</b>												
13. Sherman	0.02	0.02	0.02	0.01	0.01	0.02	0.03	0.03	0.05	0.05	0.05	0.03
14. Dunklin High School*	0.05	0.08	0.09	0.05	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02
15. City Hall (Mott St.)**	0.07	0.07	0.06	0.06	0.09	0.23	0.23	0.22	0.08	0.11	0.10	0.12
16. N. Cross**	0.04	0.04	0.04	0.05	0.08	0.08	0.09	0.06	0.05	0.05	0.07	0.09
17. Church St. (non-ambient)	0.03	0.03	0.06	0.06	0.08	0.04	0.09	0.08	0.07	0.03	0.03	0.05
<b>New Lead Belt Area</b>												
18. Glover Post Office (non-ambient)	0.04	0.03	0.03	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.01
19. Glover Big Creek (non-ambient)	0.10	0.09	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.01
20. Buick Northeast**	0.10	0.10	0.12	0.09	0.08	0.06	0.07	0.07	0.08	0.08	0.07	0.04
21. Buick N (non-ambient)	0.29	0.26	0.11	0.11	0.09	0.07	0.10	0.11	0.27	0.28	0.29	0.14
22. Buick S (non-ambient)	0.23	0.12	0.19	0.24	0.22	0.17	0.18	0.18	0.20	0.34	0.37	0.35

\*Doe Run Dunklin High School site samples every 3 days. Averages include all samples.

\*\*Doe Run City Hall (Mott St.) site samples every day. Doe Run N. Cross site samples every day starting 2/11/2017. Doe Run Buick Northeast site samples every day starting 6/1/2017. Averages include all samples.



## Lead Air Monitors in Missouri

as of May 2018

### Legend

- ▲ Industry lead monitor
- State lead monitor
- Nonattainment area for lead



- ### State Sites
- Forest City Area**  
01 Exide Levee
- St. Louis Area**  
02 Blair Street+
- Herculaneum Area**  
03 Pevely\*  
04 Sherman  
05 Dunklin High School  
06 Mott Street  
07 Ursuline North
- Old Lead Belt Area**  
08 St. Joe State Park
- New Lead Belt Area**  
09 Glover  
10 Buick Northeast  
11 Oates  
12 Fletcher
- ### Doe Run-Operated Sites
- Herculaneum Area**  
13 Sherman  
14 Dunklin High School  
15 'City Hall' (Mott Street)  
16 North Cross  
17 Church Street^^
- New Lead Belt Area**  
18 Glover Post Office^^  
19 Glover Big Creek^^  
20 Buick Northeast  
21 Buick North^^  
22 Buick South^^

\*Discontinued monitor  
^^Non-ambient monitor  
+PM<sub>10</sub> lead -- lead component of particulate matter up to 10 micrometers