MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION FOR AIR QUALITY
200 FAIR OAKS LANE, 1ST FLOOR
FRANKFORT, KENTUCKY 40601-1403
Web site: air.ky.gov

March 18, 2016

Mr. Gregg Worley, Chief
Air Analysis and Support Branch
Air, Pesticides and Toxics Management Division
U.S. Environmental Protection Agency, Region 4
Atlanta Federal Center
61 Forsyth Street
Atlanta, Georgia 30303-8960

Dear Mr. Worley:

The Division has entered all first, second, and third quarter 2015 ambient air data into the AQS database. While most of the criteria pollutant monitors in the network maintained acceptable data recovery during each of these quarters, the monitors outlined in the table on the following page achieved less than 75% data recovery during at least one of the quarters. AQS AMP430 Data Completeness Reports for each quarter are attached.

The Division recognizes that notification of data recovery deficiencies for each of these quarters is late. The Technical Services Branch has experienced substantial personnel turnover during the last two years. In 2015, the Quality Assurance Section conducted an ongoing review of all data throughout the year to ensure consistency in data handling despite changes in personnel. All fourth quarter 2015 sampling data, and associated QA data, are on schedule to be uploaded by the end of March 2016. As such, the Division believes that there should be no further delays on notifications of future data recovery deficiencies.

If you have any questions or concerns regarding ambient air quality data or the Kentucky air monitoring network, please contact Ms. Jennifer Miller, Environmental Scientist V with the Technical Services Branch, at (502) 564-3999, extension 4050.

Sincerely,

John Gowins, Manager
Technical Services Branch

JEG/jfm
Enclosures
c: Katherine Walther, USEPA Region 4

Table: Summary of KDAQ Monitors Achieving <75% Data Recovery

Quarter	Site	AQS ID	Pollutant	POC	% Recovery	Summary of Issue
1Q15	NKU (Campbell)	21-037-3002	$PM_{2.5}$ (88101)	1	67%	The sampler failed a one-point flow verification on 3/11/15. Despite recalibrating the sampler, a second flow verification on 3/24/15 also failed. An audit conducted on 3/24/15 confirmed the operator's results. The site operator successfully recalibrated the sampler following the audit. A re-audit of the sampler showed that the sampler was functioning correctly. Ultimately, nine samples were invalidated.
	Jackson Purchase RECC (McCracken)	21-145-1024	$PM_{2.5}$ (88101)	1	70%	The sampler failed a leak check on 2/12/15. The sampler was replaced on 2/17/15 and was initially shown to be functioning correctly, but leak checks conducted on 2/27/15 and 3/2/15 failed. Maintenance performed on 3/2/15 resolved the leak. A total of 11 samples, collected between 1/28/15-3/1/15, were invalidated.
	Jackson Purchase RECC (McCracken)	21-145-1024	$TEOM_{2.5}$ (88502)	3	38%	On 1/29/15, the sampler's firmware malfunctioned. The firmware was re-installed on 2/2/15, resulting in 97 hours of invalid data. A one-point flow verification conducted on 2/26/15 failed. Despite a subsequent recalibration, a 3/19/15 verification also failed, resulting in 1080 hours of invalid data. An additional 157 hours were invalid following a passing audit on 3/25/15 due to issues discovered during the second quarter.
2Q15	Jackson Purchase RECC (McCracken)	21-145-1024	$TEOM_{2.5}$ (88502)	3	52%	On 4/23/15, the sampler failed a one-point flow verification. In addition to data invalidated during the first quarter, 537 hours were invalidated in April. The sampler failed an audit on 5/12/15 and was subsequently replaced on 5/21/15, resulting in 501 hours of invalidated data. The sampler functioned acceptably for the remainder of the quarter.
	Buckner (Oldham)	21-185-0004	Ozone (44201)	1	45%	During an EPA TSA on 6/4/15, it was discovered that a ferrule on the sample line was cross threaded. Troubleshooting conducted on 6/8/15-6/9/15 confirmed the presence of a leak, causing the monitor to sample shelter air. All data collected between 4/20/15-6/9/15 was invalidated.
3Q15	Middlesboro (Bell)	21-013-0002	$PM_{2.5}$ (88101)	1	73%	The primary cause for not achieving data recovery is attributable to a software malfunction. Three sample-attempts, between 8/1/15 and 8/16/15, were invalidated due to insufficient sampling-times. The sampler was subsequently replaced. Additional samples were lost on 7/11/15 and on 9/27/15, due to an operator error during setup and a low sample-concentration, respectively.
	Owensboro Primary (Daviess)	21-059-0005	SO_2 (42401)	1	38%	On 9/22/15, QA auditors discovered that the sample line was disconnected from the analyzer, resulting in all data being invalidated back to a sample-line cleaning that was conducted on 7/23/15. No further issues have been detected.
	Baskett (Henderson)	21-101-0014	$TEOM_{2.5}$ (88502)	3	74%	Data was invalidated between 8/11/15-8/28/15 due to a faulty temperature sensor on the instrument. The sensor was replaced. Additional data was invalidated between 9/15/15-9/21/15 when the pump on the monitor failed. The pump was replaced.
	Franklin (Simpson)	21-213-0004	Ozone (44201)	1	63%	On 7/10/15, an auditor discovered moisture on the mace filter of the analyzer. Troubleshooting indicated that the monitor may have been compromised, as such it was replaced. A second attempt at an audit again revealed moisture within the instrument, resulting in replacement of both the analyzer and the sample line on 7/14/15. All data was invalidated between 6/29/15-7/14/15. A third attempt at an audit on 7/31/15 revealed an leak within the sampling system. Troubleshooting on 8/3/15 revealed that the leak was located at the sampling-rack's bulkhead, which resulted in all data being invalidated between the date of the sample-line replacement on 7/14/15 and correction of the leak on 8/3/15. An audit on 8/4/15 was successfully conducted and showed resolution of the issue.
	Ed Spear Park-Smiths Grove (Warren)	21-227-0009	$TEOM_{2.5}$ (88502)	3	44%	Two periods of dataloss, 7/9/15-7/14/15 and 7/20/15-8/5/15, occurred due high humidity causing excessive filter loadings and low flows. A third period of dataloss, 8/5/15-8/19/15, occurred when the monitor's flow controller malfunctioned, which resulted in replacement of the sampler. On 9/11/15, the monitor failed a one-point flow verification, resulting in the invalidation of data back to 8/27/15. No further issues have been detected.