

STATE OF COLORADO

Bill Ritter, Jr., Governor
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Dedicated to protecting and improving the health and environment of the people of Colorado

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Colorado Department
of Public Health
and Environment

November 9, 2010

To: Jeff Groff
Certification
CDPHE, Lab Services Division

Subject: Sample Mix-up

CONCERN:

On Friday, October 1, 2010, the CDPHE Toxicology Laboratory was informed of a possible sample mix-up involving blood alcohol samples. Chematox had performed a second analysis and obtained a significantly different result than the CDPHE Toxicology Lab's on a specific sample. Initial re-analysis by another analyst indicated a mix-up between two samples had occurred on 3/23/10 on the Agilent 6890 gas chromatograph.

CAUSE ANALYSIS:

Analysis by a third analyst confirmed the mix-up of the two samples and amended reports were issued. No other samples were involved and analytical results for the other samples from March 23rd were within acceptable variance.

In addition, re-analysis of other work performed by the original analyst matched the original results. Samples checked included several analytical runs from before and after the March 23rd run. It also included re-analysis of recent work performed by the original analyst. The work of a second employee who analyzed blood alcohol samples around the March 23rd time frame was also re-analyzed. No mix-ups or other issues were found in over two hundred samples.

Analysis of the analytical process indicated two possible sources: 1) loading samples on the auto-sampler and 2) pipeting the blood.

Auto-sampler -

Several possible actions that might result in the mix-up were studied. No reasonable scenario could be determined that would have resulted in the observed problem.

Pipeting –

Samples could have been pipeted into the wrong headspace vials. This is unlikely because it would have been easily seen. Pipeting the wrong sample could have occurred if the analyst did not accurately check the sample tubes' lab ID numbers and the vial numbers. While no cause can be determined with absolute certainty, in part due to the elapsed time, this scenario is the most likely.

CORRECTION and PREVENTION:

Amended reports were issued.

Analysts have been re-trained to carefully check sample tube identification when pipeting. The importance of carefully checking sample identification has been discussed with all Toxicology personnel. Reminders to match seal numbers and vial numbers have been placed conspicuously on hoods used for pipeting.

cc:

C. Burbach

L. Peterson-Wright

Respectfully,

Handwritten signature of H.L. Wells and the date 11-11-10.

H.L. Wells

Work Lead, CDPHE Toxicology Laboratory