

Methamphetamine Contamination – Q&A

How/when was the methamphetamine contamination initially identified?

Between October 2018 and early June 2019, 3 separate cases were identified where confirmation (quantitative) results for methamphetamine were not comparable to the initial positive screening results. A second round of confirmation testing verified the negative methamphetamine results in these 3 cases. Initial investigation of the first isolated occurrence found no root cause for the screening and confirmation discrepancy. After the second case discrepancy occurred, it was hypothesized that contamination could be the cause. In mid-June 2019, while procuring services to test the facility for environmental methamphetamine, 5 additional cases were found to have the same discrepancy, where the initial positive screening result was not replicated in subsequent confirmation testing.

Further investigation determined that in all 8 cases, the sample preparation for one or more of the analyses was performed by a scientist occupying lab and office areas previously utilized for chemical/materials analysis work by the Crime Laboratory Division (CLD). These 'annex' lab and office areas had been acquired for use by the Toxicology Laboratory Division (TLD), beginning in March 2018.

What drugs were identified as possible contaminants in casework?

Methamphetamine was the only drug identified as a contaminant. It was the only drug where initial screening results and subsequent confirmation testing were not in agreement. The TLD practice of comparing screening results to confirmation results as the case moves through the examination process is what led to the identification of the potential contamination issue. Documentation of the discrepant results was included in the case files for affected cases.

How many cases were known to be affected?

Eight cases were found to have discrepant results, including 7 death investigation cases and 1 law enforcement (DUI) case. Although only 8 cases had discrepant results, between March 2018 and June 2019, a total of 3,832 cases had at least one test performed by scientists occupying the annex office and/or lab areas previously used by the CLD. This included 872 death investigation cases, 2,857 DUI/DRE law enforcement cases, and 103 other miscellaneous cases.

What actions were taken by the TLD in response to the identified contamination?

In June 2019, when it was confirmed that a potential methamphetamine contamination existed, TLD personnel immediately discontinued work in the sample preparation lab area, as well as in the office space previously utilized by the CLD.

A review of testing work was performed to determine if other cases were affected. Results from initial testing and confirmation testing were compared to ensure agreement between all results. For methamphetamine positive cases, the presence of the metabolite amphetamine in blood was also used to support agreement in results, as amphetamine is commonly found with methamphetamine, at an expected ratio.

The TLD's accrediting body, ANAB, was notified of the environmental methamphetamine contamination.

A certified external service, BioClean, was contracted to perform environmental (wipe method) testing to aid in determination of the overall extent and impact of the contamination in the CLD and TLD. Any

lab or office area that tested positive for methamphetamine was cleaned and decontaminated by BioClean. Subsequent wipe sample analysis found all sampled areas were below the Washington State Decontamination Standard for methamphetamine.

TLD personnel have not returned to, and testing has not been performed in, the affected CLD lab and office areas since June 2019.

What tests were performed in the annex lab area, by scientists stationed in the annex office area?

The scope of tests performed in this area included the majority of testing performed by the TLD (alcohol/volatiles, drug screening, and drug confirmation tests).

Were the actual evidence items (submitted blood tubes) contaminated?

No. The TLD has determined that the blood tubes themselves were not contaminated. During sample preparation, one blood tube at a time is opened, only for the amount of time needed to remove a sample for testing. Retesting of the blood from the same evidence tubes where methamphetamine was initially identified yielded results that were negative for methamphetamine. Other blood specimens, initially negative for methamphetamine, but analyzed in the same testing batch as affected cases, were retested. Retest results for those cases were again negative for methamphetamine.

Were any incorrect results reported/released to the customer?

No. The TLD's internal quality assurance policies and procedures identified the issue during the course of testing, prior to results being reported to the customer.

Was there any impact on ethanol/volatile test results for casework?

No. Ethanol and other volatile compounds (acetone, isopropanol and methanol) are tested by headspace gas chromatography. This test method only detects volatile compounds. The presence of any non-volatile compounds (e.g., methamphetamine) does not affect ethanol test results.

Were any instruments used in testing affected by this issue?

No. Sample preparation/extraction (where the contamination is suspected to have occurred) is not performed in the areas of the laboratory designated for instrumentation. After sample preparation, extracts are transferred to auto-sampler vials and capped, prior to transfer to the instrument for analysis. For EMIT immunoassay testing, the extracts are transferred to sample cups and immediately loaded on the analyzer.

Does the TLD implement practices to ensure quality and accuracy of reported results?

Yes. Policies and procedures are in place to ensure the quality of work performed within the laboratory and the accuracy of results reported to the customer. This is demonstrated throughout the process of examination, from ethanol testing and drug screens through confirmation and/or quantitation of drugs present.

- Forensic Scientists are required to follow evidence handling procedures to protect the integrity of the specimens.

- Standard Operating Procedures (SOPs) for alcohol and drug analysis include use of a negative quality control sample and/or a blank sample and positive quality control samples.
- Prior to running a testing batch on an instrument, maintenance is performed by the scientist to confirm instrumentation is functioning properly.
- Laboratory policy requires 100% technical review of all testing batch data.
- As cases move through the examination process, screening results are compared to confirmation test results, as well as information provided in the Request for Analysis.
- For a qualitative or quantitative result to be reported, two independent tests (independent sampling from submitted blood tube and acquisition on the instrument) are required.
- Laboratory policy requires 100% technical review of the Toxicology Test Report and associated case files prior to release.