



Quality Division Use Only

Quality Tracking #:	2020-068	Classification:	Incident
Non-Conformance Level:	N/A	Section:	Biology/DNA
Date of Discovery:	08/18/20	Date of Incident:	08/18/20

Forensic Case Number(s), if applicable:	Agency Case Number(s), if applicable:
2020-02309 2020-02736 2020-02445 2020-02080	019425120 024070420 021678120 014116220

Description of Non-conformance:

A forensic biology analyst chose an incorrect extraction protocol from the available instrument options which resulted in a higher final elution volume than is allowed by the standard operating procedure for differential samples.

Additional Information/Follow-Up:

While operating the extraction instrument an analyst mistakenly opted for a high elution (100uL) extraction protocol instead of the extraction protocol allowed by the DNA Analytical SOP which should elute to a final volume of 40uL. The samples that were eluted at a higher volume (100uL) were ran through the extraction instrument a second time using the approved extraction protocol, with a final elution volume of 40uL. When interviewed, the analyst recalled that during this day he was conducting more than one extraction protocol on different instruments and admitted resorting to muscle memory when entering the responses for the instrument's extraction protocol prompts. Since this incident the analyst has been implementing more mindfulness when conducting laboratory work. The acting technical leader at the time of the incident reviewed the incident in consultation with the previous technical leader and determined there was no evidence to support that the samples were adversely affected and theoretically, the second extraction should not interfere with the samples' ability to produce comparable profiles. In addition, in instances when the instrument elutes samples at a lower volume than the 40uL using the approved extraction protocol by the DNA Analytical SOP, the SOP allows for a second extraction to maximize volume. The following samples stopped at the quantification step due to insufficient DNA: for case 2020-02445 5.1.1SF, 5.2.1SF, 5.3.1SF, and 5.8.1.1SF; for case 2020-02080 1.3.1SF, and 1.6.1SF, for case 2020-02309 2.1.1SF; and for case 2020-02736 2.1.1SF, 2.2.1SF, 2.3.1SF, 2.4.1SF, 2.5.1SF, 2.6.1SF, 2.7.1SF, 2.8.1SF, 2.9.1SF and 2.10.1SF. Although most of the samples involved in this incident did not yield sufficient male DNA to continue further in the DNA process (did not proceed past the quantification step), there is



no evidence to support this is due to the high elution extraction protocol being mistakenly used. The technical leader reviewed the DNA profiles generated by the samples that proceeded past the quantification step to ensure that no unusual results were obtained. The following five samples were reviewed from case 2020-02080: 1.1.1SF, 1.2.1SF, 1.4.1SF, 1.5.1SF, and 1.7.1SF. The DNA profiles obtained are consistent with the associated quantification values.

Summary of Root Cause Analysis:

Note: Incidents are documented for tracking purposes and trend analysis. Root Cause Analysis is not required for incidents.

N/A

Actions Taken:

The manufacturer of the extraction instrument was contacted to determine if the higher elution protocol could be removed from the instrument to prevent this incident from occurring again, but the manufacturer indicated this is not a possibility. The following report statement was added to all reports of cases involved: A processing error occurred. See quality report 2020-068 for additional information.



Houston Forensic Science Center
Incident/Corrective Action Report
Quality Division

Section Manager: Courtney Head

Date: 12/29/21

Division Director: Amy Castillo

Date: 12/29/21

Incidents or Corrective Actions that involve the Biology/DNA section are reviewed by the Technical Leader and CODIS Administrator.

Technical Leader: Cheron Maxwell

Date: 12/22/2021

CODIS Administrator: Jennifer Clay

Date: 12/29/2021

Quality Director: Erika Ziemak

Date Closed: 12/30/21